Geotechnical Investigation

Proposed Road and Site Servicing Works

Tunney's Pasture, Ottawa, Ontario

Prepared for Arcadis IBI Group (CLC)

Report PG6348-1 dated June 20, 2024

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Appendices

1.0 Introduction

Paterson Group (Paterson) was commissioned by Arcadis IBI Group (CLC) to conduct a geotechnical investigation for proposed roadway and site servicing works to be completed at the subject site located in the City of Ottawa (refer to Figure 1 - Key Plan in Appendix 2 of this report).

The objective of the geotechnical investigation was to:

- Determine the subsoil and groundwater conditions at this site by means of boreholes.

- Provide geotechnical recommendations for the design of the proposed roads and site services including construction considerations which may affect the design.

The following report has been prepared specifically and solely for the aforementioned project which is described herein. It contains our findings and includes geotechnical recommendations pertaining to the design and construction of the subject roadways and site services as they are understood at the time of writing this report.

Investigating the presence or potential presence of contamination on the subject property was not part of the scope of work of the present investigation. Therefore, the present report does not address environmental issues.

2.0 Proposed Works

It is understood that Public Services and Procurement Canada (PSPC) presently owns and maintains all roads and site servicing infrastructure within the subject site. It is anticipated that the roadways and site servicing infrastructure are approaching the end of their service lives and may not have the capacity to sustain the site's proposed future 25-year re-development into a mixed-use community and will require upgrading. Therefore, upgrading of the site services along with re-construction of the roadways within the subject site are required. In preparation for the re-development, the watermains on the site were recently upgraded. In addition, building heating and cooling systems are presently in the process of being upgraded to low-temperature hot water under the Energy Services Acquisitions (ESAP) program.

It should be noted that further design details of the proposed site servicing upgrades including service alignment locations, pipe materials/diameters, and invert/obvert pipe levels were not available at the time of preparation of this report. Generally, the proposed roadway reconstruction will follow the current right-of-way alignments at the site, with the following exceptions:

- ❑ A proposed roadway running east-west through the location of the current Department of National Defense Building (Building 16) located at 101 Goldenrod Driveway.
- ❑ A proposed roadway running north-south through the current parking area located on the northwest side of the site adjacent to the Brooke Claxton Building.
- ❑ A proposed roadway running north-south through the location of the current Environmental Health Center (Building 8) located at 50 Columbine Driveway.
- ❑ An optional proposed roadway running northwest-southeast through the location of the Health Protection Building located at Columbine and Tunney's Pasture Driveway, and the parking area located adjacent to Parkdale Avenue on the northeast side of the site.

Further, there is a proposed woonerf located within the southeast portion of the site adjacent to the OC Transpo Transitway. It is anticipated that the subject site services and roadways will be turned over to the City of Ottawa at a later date.

3.0 Method of Investigation

3.1 Field Investigation

Field Program

The field program for the current geotechnical investigation was conducted between April 2, 2024, and April 5, 2024, and consisted of 18 boreholes advanced to a maximum depth of 11.9 m below the existing ground surface. Previous field investigations were conducted at the site by Paterson in 2019 and 2020, and by others over the last several decades from approximately 1950 to 2020.

The test hole locations were determined in the field by Paterson personnel and distributed in a manner to provide general coverage of the subject site taking into consideration site features and underground utilities. The test hole locations are presented on Drawing PG6348-6 - Test Hole Location Plan included in Appendix 2.

The boreholes were advanced using a truck-mounted auger drill rig operated by a two-person crew. The test hole procedure consisted of augering to the required depths at the selected locations and sampling the overburden. All fieldwork was conducted under the full-time supervision of our personnel under the direction of a senior engineer from our geotechnical department.

Sampling and In Situ Testing

Soil samples were collected from the boreholes using two different techniques, namely, sampled directly from the auger flights (AU) or collected using a 50 mm diameter split spoon (SS) sampler. The bedrock was cored to assess the bedrock quality. All samples were visually inspected and initially classified on site. The auger and split-spoon samples were placed in sealed plastic bags, and rock cores (RC) were placed in cardboard boxes.

All samples were transported to our laboratory for further examination and classification. The depths at which the auger, split spoon and rock core samples were recovered from the boreholes are shown as AU, SS and RC, respectively, on the Soil Profile and Test Data sheets presented in Appendix 1.

The Standard Penetration Test (SPT) was conducted in conjunction with the recovery of the split-spoon samples. The SPT results are recorded as "N" values on the Soil Profile and Test Data sheets. The "N" value is the number of blows required to drive the split-spoon sampler 300 mm into the soil after a 150 mm initial penetration using a 63.5 kg hammer falling from a height of 760 mm.

Diamond drilling was completed at select borehole locations to confirm the bedrock quality. A recovery value and a Rock Quality Designation (RQD) value were calculated for each drilled section of bedrock and are presented as RC on the Soil Profile and Test Data sheets in Appendix 1. The recovery value is the ratio of the bedrock sample length recovered over the drilled section length, in percentage.

The RQD value is the total length ratio of intact rock core length more than 100 mm in one drilled section over the length of the drilled section, in percentage. These values are indicative of the quality of the bedrock.

Slug testing (falling and rising head testing) was completed at select groundwater monitoring well locations installed during the field program to establish the estimated hydraulic conductivity of the underlying bedrock.

The subsurface conditions observed in the test holes were recorded in detail in the field. The soil profiles are logged on the Soil Profile and Test Data sheets in Appendix 1 of this report. Further, historical borehole data from Paterson and other firms is presented in Appendix 1 of this report.

Groundwater

Monitoring wells were installed in eight (8) boreholes and ten (10) boreholes were fitted with a flexible polyethylene standpipe to allow groundwater level monitoring. The groundwater level readings were obtained after a suitable stabilization period subsequent to the completion of the field investigation.

The groundwater observations are discussed in Subsection 4.3 and presented in the Soil Profile and Test Data sheets in Appendix 1 of this report.

Monitoring Well Installation

Typical monitoring well construction details are described below:

- ❑ Up to 1.5 m of slotted 32 mm diameter PVC screen at the base of the boreholes.
- ❑ 32 mm diameter PVC riser pipe from the top of the screen to the ground surface.

- ❑ No.3 silica sand backfill within annular space around screen.
- ❑ 300 mm thick bentonite hole plug directly above PVC slotted screen.
- ❑ Clean backfill from top of bentonite plug to the ground surface.

Refer to the Soil Profile and Test Data sheets in Appendix 1 for specific well construction details.

Sample Storage

All samples and rock cores will be stored in the laboratory for a period of one (1) month after issuance of this report. They will then be discarded unless we are otherwise directed.

3.2 Field Survey

The test hole locations were selected by Paterson to provide general coverage of the subject site. The test hole locations and ground surface elevation at each test hole location were surveyed by Paterson using a high precision, handheld GPS and referenced to a geodetic datum. The location of the boreholes is presented on Drawing PG6348- 6 - Test Hole Location Plan in Appendix 2.

3.3 Laboratory Testing

Soil samples and rock cores were recovered from the subject site and visually examined in our laboratory to review the results of the field logging.

3.4 Analytical Testing

One (1) soil sample was submitted for analytical testing to assess the corrosion potential for exposed ferrous metals and the potential of sulphate attacks against subsurface concrete structures. The sample was submitted to determine the concentration of sulphate and chloride, the resistivity, and the pH of the sample. The results are presented in Appendix 1 and are discussed further in Subsection 6.7.

3.5 Hydraulic Conductivity (Slug) Testing

Hydraulic conductivity (slug) testing was conducted at the monitoring well locations to provide insight on the hydraulic properties of the underlying bedrock at the subject site. The test data was analyzed as per the method set out by Hvorslev (1951). Assumptions inherent in the Hvorslev method include a homogeneous and isotropic aquifer of infinite extent with zero-storage assumption, and a screen length significantly greater than the monitoring well diameter.

The assumption regarding aquifer storage is considered to be appropriate for groundwater inflow through the bedrock aquifer. The assumption regarding screen length and well diameter is considered to be met based on a saturated screen length of 1.5 m and a diameter of 0.03 m. While the idealized assumptions regarding aquifer extent, homogeneity, and isotropy are not strictly met in this case (or in any real-world situation), it has been our experience that the Hvorslev method produces effective point estimates of hydraulic conductivity in conditions similar to those encountered at the subject site.

The Horslev analysis is based on the line of best fit through the field data (hydraulic head recovery vs. time), plotted on a semi-logarithmic scale. The semi-log drawdown vs. time plots for rising and falling head tests at each borehole location are presented in Appendix 1.

The results of testing and hydrogeological recommendations are further discussed in Subsections 4.4.

4.0 Observations

4.1 Surface Conditions

Based on available information provided by the client, it is understood that the site consists of approximately 49 hectares of federally owned land located west of downtown Ottawa near the Ottawa River. The site hosts a variety of federal agencies and ministries within seventeen low to high rise buildings. The site is bordered by Sir John A. Macdonald Parkway to the north, Parkdale Avenue to the east, Scott Street and the LRT alignment to the south, and by a residential development to the west.

Reference should be made to Figure 1 - Key Plan, attached to the current memorandum.

The existing ground surface across the subject site varies gradually from approximate geodetic elevations of 58 to 64 m. The subject site is generally at grade with the surrounding roadways and developments.

4.2 Subsurface Profile

Overburden

Generally, the subsurface profile throughout the subject site generally consists of fill material, with an approximate thickness of 0.5 to over 4.0 m, underlying topsoil or a pavement structure. The fill materials were generally observed to directly overlay the bedrock surface or overlay a glacial till deposit. The glacial till deposit was generally observed to consist of silty sand with trace clay, gravel, cobbles and boulders, which in turn was observed to overlay the bedrock surface.

Reference should be made to the Soil Profile and Test Data sheets in Appendix 1 for the details of the soil profile encountered at each test hole location.

Bedrock

Based on available geological mapping, the bedrock across the majority of the site consists of limestone with dolomite interbedding of the Gull River formation and limestone of the Bobcaygeon formation on the east portion of the site.

Based on the above noted geotechnical investigation and historical investigations done by others, the bedrock surface elevations vary across the entire site. Generally, the bedrock surface elevations in the middle portion of the subject site range from approximately 60 to 62 m. The bedrock surface generally slopes downward, reaching an elevation of approximately 56 m, near the north property line. Further, the bedrock surface slopes down toward the south property line to an elevation of approximately 57 m. In addition, on the western side of the site, the bedrock elevation slopes up to a maximum elevation of approximately 64 m.

Based on bedrock coring completed as part of the current and previous field investigations, the bedrock generally consists of limestone or limestone with dolomite interbedding and shale partings in some locations. Generally, the upper 1 to 2 m portion of the bedrock is weathered, and the bedrock quality generally improves with depth.

Based on available mapping it is understood that the Gloucester Fault runs across the subject site striking in an approximate north-south direction and dipping towards the east. Reference should be made to drawing PG6348-7 – Bedrock Geology Plan attached to Appendix 2 for the location of the Gloucester Fault and bedrock formation locations.

Reference should be made to Drawing PG6348-8 – Bedrock Contour Plan attached to Appendix 2 for the bedrock surface elevations at the subject site.

4.3 Groundwater

Groundwater levels were manually measured in the installed piezometers and monitoring wells on April 23, 2024. The groundwater level readings are presented in the Soil Profile and Test Data sheets in Appendix 1. The measured groundwater levels and observed depth of infiltration are presented in Table 1 below:

Table 1 – Summary of Groundwater Levels				
Borehole Number	Ground Surface Elevation (m)	Measured Groundwater Level		Date Recorded
		Depth (m)	Elevation (m)	
BH 1-24	58.00	3.03	54.97	April 23, 2024
BH 4-24	63.38	6.85	56.53	
BH 5-24	60.75	1.98	58.77	
BH 6-24	63.87	2.65	61.22	
BH 9-24	62.55	Dry	n/a	
BH 10-24	62.28	3.09	59.19	
BH 11-24	61.48	3.29	58.19	
BH 16-24	61.81	5.78	56.03	
BH 17-24	62.38	3.43	58.95	
BH 18-24	60.70	5.70	55.00	
Note: The ground surface elevation at each borehole location was surveyed using a handheld GPS using a geodetic datum.				

Furthermore, groundwater level readings were recorded at the borehole locations at the site for the previous investigations. The groundwater level readings are presented in the Soil Profile and Test Data sheets in the attachments. It is generally anticipated that the long-term groundwater table at the subject site is located within the upper 3 m of the bedrock surface, with the depth fluctuating with the depth of the bedrock across the site. It should be noted that surface water can become trapped within a backfilled borehole that can lead to higher than typical groundwater level observations. It should be noted that groundwater levels are subject to seasonal fluctuations, therefore the groundwater levels could vary at the time of construction.

4.4 Hydraulic Conductivity Testing Results

Hydraulic conductivity (slug) tests were conducted at six (6) monitoring well locations on April 23, 2024, to provide information regarding the hydraulic properties of the underlying bedrock at the subject site. The hydraulic conductivity results are shown in Table 2 below and summarized in Appendix 1.

Table 2 – Summary of Hydraulic Conductivity Testing Results.

Test Hole ID	Ground Surface Elevation (m)	Testing Depth Interval (m)	Testing Elevation Interval (m)	K (m/sec)	Test Type	Soil Type
BH 1-24	58.00	7.0-8.5	49.5-51.0	1.63E-07	Falling Head	Bedrock
				3.61E-07	Rising Head	Bedrock
BH 6-24	63.38	3.8-5.3	58.08-59.58	1.46E-07	Falling Head	Bedrock
				2.00E-07	Rising Head	Bedrock
BH 10-24	63.87	4.0-5.5	58.37-59.87	3.82E-05	Falling Head	Bedrock
				4.61E-05	Rising Head	Bedrock
BH 16-24	62.55	5.6-7.1	55.45-56.95	1.82E-06	Falling Head	Bedrock
				1.11E-06	Rising Head	Bedrock
BH 17-24	62.28	7.1-8.6	53.68-55.18	3.67E-05	Falling Head	Bedrock
				4.60E-05	Rising Head	Bedrock
BH 18-24	61.81	10.05-11.55	50.26-51.76	2.21E-06	Falling Head	Bedrock
				2.18E-06	Falling Head	Bedrock

Summary of Results

Hydraulic conductivity testing conducted at the monitoring wells screened within the bedrock formation yielded hydraulic conductivity values ranging from 1.46×10^{-7} m/s to 4.61×10^{-5} m/s.

These values are generally consistent with typical published values for limestone bedrock. It should be noted that the range in testing results noted above can be attributed to the variability in bedrock quality at a given monitoring well location.

5.0 Discussion

5.1 Geotechnical Assessment

From a geotechnical perspective, the subject site is generally considered suitable for the proposed roadway and site servicing works. Geotechnical constraints such as bedrock blasting and an associated vibration monitoring program to limit disturbance that could occur due to blasting at adjacent structures must be considered. Also, the presence of vibration sensitive structures such as research laboratories within the development complex will require special provisions for bedrock removal at nearby servicing alignments to limit vibrations to an agreed upon site specific standard. It is expected that any vibration sensitive structures will be consulted to determine tolerable vibration and/or noise levels.

It is anticipated that bedrock removal will be required for road construction and site servicing activities. All contractors should be prepared for bedrock removal within the subject site.

The above and other considerations are further discussed in the following sections.

5.2 Site Grading and Preparation

Stripping Depth

Existing asphalt, topsoil and deleterious fill, such as those containing organic materials or construction debris, should be stripped from under any paved areas, pipe bedding and other settlement sensitive structures. It is anticipated that the existing fill, free of significant amounts of deleterious material and organics, can be left in place below proposed pipes and pavement structures. The existing fill, where free of organics and deleterious materials, should be proof-rolled by a suitable sized vibratory smooth drum roller making several passes and approved by Paterson personnel. Areas with poor performing fill should be removed and reinstated with a compacted engineered fill as detailed below.

Fill Placement

Fill used for grading beneath the paved areas and pipe bedding should consist, unless otherwise specified, of clean imported granular fill, such as Ontario Provincial Standard Specifications (OPSS) Granular A or Granular B Type II material. The fill should be placed in lifts no greater than 300 mm thick and compacted using suitable compaction equipment for the lift thickness.

Non-specified existing fill along with site-excavated soil can be placed as general landscaping fill where the settlement of the ground surface is of minor concern. These materials should be spread in thin lifts compacted by the tracks of the spreading equipment to minimize voids. If the material is to be placed to increase the subgrade level for areas to be paved, the fill should be compacted in a maximum of 300 mm lifts and compacted to 95% of the material's SPMDD.

Where blast rock is to be used as site grading fill below areas to be paved, it should be suitably fragmented to produce a well-graded material with a maximum particle size of 400 mm, which is placed in a maximum of 600 mm loose lifts and compacted using a large smooth drum vibratory roller making several passes per lift and approved by the geotechnical consultant at the time of placement. Any blast rock greater than 400 mm in diameter should be segregated and hoe-rammed into acceptable fragments.

Bedrock Removal

In areas where shallow bedrock is encountered, and only a small quantity of bedrock is to be removed, bedrock removal may be possible by hoe-ramming. However, dependent on the quantity and condition of the bedrock, line-drilling in conjunction with hoe-ramming may be required to remove the bedrock. Sound bedrock may be removed by line drilling and controlled blasting and/or hoe ramming. All contractors should be prepared for bedrock removal within the subject site.

Prior to considering blasting operations, the blasting effects on the existing services, buildings and other structures should be addressed. A pre-blast or pre-construction survey of the existing structures located in proximity of the blasting operations should be completed prior to commencing site activities. The extent of the survey should be determined by the blasting consultant and should be sufficient to respond to any inquiries/claims related to the blasting operations. The blasting operations should be planned and conducted under the supervision of a licensed professional engineer who is also an experienced blasting consultant. It should be noted that the campus is host to highly sensitive federal uses such as laboratories and associated sensitive equipment. The blasting consultant should review the sensitivity of the subject buildings on a case-by-case basis to determine the requirements for enhanced blasting considerations. Vibration considerations for sensitive buildings is further discussed in the following section.

Vibration Considerations

Construction operations are the cause of vibrations and possibly, sources of nuisance to the community. Therefore, means to reduce the vibration levels as much as possible should be incorporated into the construction operations to maintain, as much as possible, a cooperative environment with the residents. The following construction equipment could be the source of vibrations: hoe ram, compactor, dozer, crane, truck traffic, etc. Vibrations, whether caused by blasting operations or by construction operations, could be the source of detrimental vibrations on the nearby buildings and structures. Therefore, all vibrations are recommended to be limited.

Two parameters are used to determine the permissible vibrations, namely, the maximum peak particle velocity and the frequency. For low frequency vibrations, the maximum allowable peak particle velocity is less than that for high frequency vibrations. As per Table 2 in OPSS.MUNI 120 – General Specification for the Use of Explosives, dated November 2019, the peak particle velocity should be less than 20 mm/s for frequencies below 40 Hz and 50 mm/s for frequencies above 40 Hz. The guidelines are for current construction standards. Considering that these guidelines are above perceptible human level and, in some cases, could be very disturbing to some people, a pre-construction survey is recommended to be completed to minimize the risks of claims during or following the proposed construction works.

For heritage buildings located in proximity to construction, the following vibration limits are recommended:

- ❑ 3 to 15 mm/s for frequencies from 1 to 4 Hz, interpolated
- ❑ 15 mm/s for frequencies from 4 to 15 Hz
- ❑ 15 to 20 mm/s for frequencies from 15 to 40 Hz, interpolated
- ❑ 20 mm/s for frequencies greater than 40 Hz

For sensitive structures/buildings, such as those housing research and/or laboratory equipment, the vibration limits should be reviewed on a case-by-case basis dependent on the specifics of the research and equipment. As a generalized recommendation, the following limits could be implemented prior to an in-depth review:

- 3 to 10 mm/s for frequencies between 1 to 4 Hz, interpolated,
- 10 mm/s for frequencies 4 to 15 Hz,
- 10 to 15 mm/s for frequencies between 15 and 40 Hz, interpolated,
- 15 mm/s for frequencies greater than 40 Hz.

It should be noted that the heritage and sensitive structure vibrational limits provided are general guidelines and are dependent on the condition of the building and/or the laboratory equipment and work being completed. More stringent vibration limits may be required with further information. A vibration Monitoring and Control Plan (VMCP) completed by the blasting consultant is recommended. A VMCP will provide further insight to the recommended limits for the heritage and/or sensitive structures at the Tunney's Pasture Campus as well as additional recommendations and procedures to follow, should the limits be exceeded. This report should be completed prior to the start of construction activities.

Drainage and Low-Impact Development (LID) Techniques

Due to the shallow depth and relative impermeability of the bedrock extending throughout the subject site, conventional LID measures are not generally considered suitable anywhere in the study area, from a geotechnical perspective. This is due to the likelihood for surface water to flow laterally and upon the bedrock surface and within the upper-most soil layers rather than seeping vertically into the ground. While small amounts of groundwater recharge and discharge could potentially take place on a localized scale, neither the topographical nor geological conditions are suitable for recharge or discharge to be occurring on a large scale at the subject site.

5.3 Municipal Infrastructure

Municipal service infrastructure will be able to be installed and implemented satisfactorily within the subject site from a geotechnical perspective.

Further, due to the low permeable nature of the bedrock, hydrostatic pressures and groundwater influx will likely not impact service design due to the soils nature to confine and retain in-situ moisture. From a geotechnical perspective, the subject site and study area are favourable for water retention-style-design measures.

Roadway design will generally be incorporated into the geotechnical design of localized areas as part of pavement structure design. These recommendations are typically incorporated in the civil grading plan design, such that no constraints are anticipated throughout the subject site for this item from a geotechnical perspective.

Bedding and backfill requirements are further discussed in Section 6.4

5.4 Pavement Structure

For design purposes, the pavement structures presented in the following tables could be used for the design of car only parking areas, local streets, and roadways with bus traffic. It should be noted that for car only parking areas, an Ontario Traffic Category A is applicable. For local roadways and roadways with bus traffic, Ontario Traffic Category B and Category D should be used for design purposes, respectively.

If soft spots develop in the subgrade during compaction or due to construction traffic, the affected areas should be excavated and replaced with OPSS Granular B Type II material. Weak subgrade conditions may be experienced over service trench fill materials. This may require the use of a geotextile, thicker subbase or other measures that can be recommended at the time of construction as part of the field observation program.

Table 3 - Recommended Pavement Structure – Parking Areas – Ontario Traffic Category A

Thickness (mm)	Material Description
50	**Wear Course** - HL 3 or Superpave 12.5 Asphaltic Concrete
150	**BASE** - OPSS Granular A Crushed Stone
300	**SUBBASE** - OPSS Granular B Type II
SUBGRADE - Either fill, in situ soil or OPSS Granular B Type I or II material placed over in situ soil or fill.	
Note: Minimum Performance Graded (PG) 58-34 asphalt cement should be used for driveways.	

Table 4 - Recommended Pavement Structure - Local Roadways, Access Lanes, and Heavy Vehicle Parking – Ontario Traffic Category B

Thickness (mm)	Material Description
40	**Wear Course** - Superpave 12.5 Asphaltic Concrete
50	**Binder Course** - Superpave 19.0 Asphaltic Concrete
150	**BASE** - OPSS Granular A Crushed Stone
450	**SUBBASE** - OPSS Granular B Type II
SUBGRADE - Either fill, in situ soil or OPSS Granular B Type I or II material placed over in situ soil or fill. **Note**: Minimum Performance Graded (PG) 58-34 asphalt cement should be used for local roadways.	

Table 5 - Recommended Pavement Structure – Roadways with Bus Traffic – Ontario Traffic Category D

Thickness (mm)	Material Description
40	**Wear Course -** Superpave 12.5 Asphaltic Concrete
50	**Upper Binder Course** - Superpave 19.0 Asphaltic Concrete
50	**Lower Binder Course -** Superpave 19.0 Asphaltic Concrete
150	**BASE** - OPSS Granular A Crushed Stone
600	**SUBBASE** - OPSS Granular B Type II
SUBGRADE - Either fill, in situ soil or OPSS Granular B Type I or II material placed over in situ soil or fill **Note:** Minimum Performance Graded (PG) 64-34 asphalt cement should be used for roadways with bus traffic.	

Minimum Performance Graded (PG) 58-34 asphalt cement should be used for this project where the pavement structures outlined in Tables 1 and 2 are considered. Minimum Performance Graded (PG) 64-34 asphalt cement should be used for this project where the pavement structure outlined in Table 3 is considered.

Pavement Structure Drainage

Satisfactory performance of the pavement structure is largely dependent on keeping the contact zone between the subgrade material and the base stone in a dry condition where the subgrade consists of soils. Failure to provide adequate drainage under conditions of heavy wheel loading can result in the fine subgrade soils being pumped into the voids in the stone subbase, thereby reducing its load carrying capacity.

Consideration should be given to installing sub-drains during the pavement construction. The sub-drain inverts should be approximately 300 mm below the subgrade level and run longitudinally along the curb lines. The subgrade surface should be crowned to promote water flow to the drainage lines.

6.0 Design and Construction Precautions

6.1 Groundwater Control for Construction

It is anticipated that groundwater infiltration into the excavations should be low through the sides of the excavation and controllable using open sumps. Pumping from open sumps should be sufficient to control the groundwater influx through the sides of shallow excavations. The contractor should be prepared to direct water away from all bearing surfaces and subgrades, regardless of the source, to prevent disturbance to the founding medium.

A temporary Ministry of the Environment, Conservation and Parks (MECP) permit to take water (PTTW) may be required for this project if more than 400,000 L/day of ground and/or surface water is to be pumped during the construction phase. A minimum of 4 to 5 months should be allowed for the completion of the PTTW application package and issuance of the permit by the MECP.

For typical ground or surface water volumes, being pumped during the construction phase, between 50,000 to 400,000 L/day, it is required to register on the Environmental Activity and Sector Registry (EASR). A minimum of two to four weeks should be allotted for completion of the EASR registration and the Water Taking and Discharge Plan to be prepared by a Qualified Person as stipulated under O.Reg. 63/16. If a project qualifies for a PTTW based upon anticipated conditions, an EASR will not be allowed as a temporary dewatering measure while awaiting the MECP review of the PTTW application.

Paterson has access to the current water taking records associated with the ESAP construction, building and transmission line. However, it should be noted that the ESAP project water taking requirements may differ from the water taking requirements for the current site servicing project based on the depth and extent of the excavations. A detailed review of the proposed site servicing depths should be completed prior to determining the water taking requirements for the current project.

6.2 Protection Against Frost Action

Soil cover of 2.2 m is considered sufficient for adequate protection of proposed watermain services. Soil cover of 1.8 m is considered adequate protection of proposed storm and sanitary sewer services. Where insufficient frost protection is provided, it is recommended that Paterson complete a review to provide frost protection details where needed.

6.3 Excavation and Service Trenches

Trench Support

The installation of service infrastructure may be carried out safely within the confines of a trench box or in a stable open cut. Open cuts in overburden materials will generally require that all side slopes be cut back at a 1H:1V or shallower to maintain stability. Appropriately designed trench boxes may otherwise be used where this is considered unsuitable.

Trenches can be excavated through the bedrock with near vertical sidewalls. Bedrock stabilization measures may be required to be implemented within the trenches where weathered bedrock, or where seams or joints are observed at the trench sidewalls. This should be determined at the time of construction when the bedrock is exposed and reviewed in the field.

Where faults are encountered during excavations for the proposed development, additional subgrade treatment, such as subexcavation and infilled concrete trenches, may be required within the impacted fault areas. The required treatment should be assessed on a case-by-case basis, based on the observed quality and condition of the bedrock once the faults are exposed during construction. The contractor should be prepared to undertake fault treatments during construction.

Trenchless Service Installation

Deep service installation excavations may be accomplished using conventional excavation and soil support techniques or other techniques such as horizontal direction drilling, pipe jacking, micro-tunnelling, and jack and bore methods. Design details of the proposed services were not known at the time of preparation of this report, therefore appropriate trenchless methods should be determined when design details are known.

6.4 Pipe Bedding and Backfill

Bedding and backfill materials should be in accordance with the most recent Materials Specifications & Standard Detail Drawings from the Department of Public Works and Services, Infrastructure Services Branch of the City of Ottawa.

At least 150 mm of OPSS Granular A crushed stone should be used for pipe bedding for sewer and water pipes. However, the bedding thickness should be increased to 300 mm for areas over a bedrock subgrade. The bedding should extend to the spring line of the pipe. Cover material, from the spring line to at least 300 mm above the obvert of the pipe, should consist of OPSS Granular A or Granular B Type II with a maximum size of 25 mm. The bedding and cover materials should be placed in a maximum of 225 mm thick lifts compacted to 99% of the material's SPMDD.

Based on the soil profile encountered, the subgrade for the services will be placed in both bedrock and overburden soils. It is recommended that the subgrade medium be inspected in the field to determine how steeply the bedrock surface, where encountered, drops off. A transition should be provided where the bedrock slopes more than 3H:1V. At these locations, the bedrock should be excavated and replaced with additional bedding materials to provide a 3H:1V (or flatter) transition from the bedrock subgrade towards the soil subgrade. This treatment reduces the propensity for bending stress to occur in the services.

Where hard surface areas are considered above the trench backfill, the trench backfill material within the frost zone (about 1.8 m below finished grade) should consist of the soils exposed at the trench walls to minimize differential frost heaving. The trench backfill should be placed in maximum 300 mm thick loose lifts and compacted to a minimum of 95% of the SPMDD.

It should generally be possible to re-use the dry to moist (not wet) overburden materials above the cover material if the excavation and filling operations are carried out in dry weather conditions. Any stones greater than 200 mm in their longest dimension should be removed from these materials prior to placement.

6.5 Maintenance Chambers and Catch Basins

Maintenance chambers and catch basins founded on an undisturbed glacial till, approved proof rolled in-situ fill, engineered fill, or bedrock subgrade can be designed using the allowable bearing pressures presented in Table 6 below. Engineered fill under maintenance chambers should consist of OPSS Granular A or Granular B Type II material placed in maximum 225 mm thick lifts and compacted to a minimum of 98% SPMDD. It is recommended that a woven geotextile such as Terrafix 200W, or equivalent be placed over the approved subgrade surface to reduce soil pumping during compaction efforts.

Consideration should be given to the placement of a biaxial geogrid such as Terrafix TBX2000, or equivalent, to improve subgrade strength for placement of heavy catch basin structures.

Table 6 – Allowable Bearing Pressures for Maintenance Chambers and Catch Basins

Bearing Surface	Allowable Bearing Pressure (kPa)
Compact Glacial Till	150
Approved Proof Rolled In-Situ Fill	100
*Engineered Fill (Granular A or B Type II)	150
Bedrock	500
Note: Engineered fill to be placed over a woven geotextile followed by a biaxial geogrid.	

6.6 Winter Construction

Precautions must be taken if winter construction is considered for this project.

The subsoil conditions at this site consist of frost susceptible materials. In the presence of water and freezing conditions, ice could form within the soil mass. Heaving and settlement upon thawing could occur.

In the event of construction during below zero temperatures, the founding stratum should be protected from freezing temperatures by the use of straw, propane heaters and tarpaulins or other suitable means. In this regard, the base of the excavations should be insulated from sub-zero temperatures immediately upon exposure and until such time as the pipes are protected with sufficient soil cover to prevent freezing at subgrade level.

Trench excavations and pavement construction are also difficult activities to complete during freezing conditions without introducing frost in the subgrade or in the excavation walls and bottoms. Precautions should be taken if such activities are to be carried out during freezing conditions. Additional information could be provided, if required.

6.7 Corrosion Potential and Sulphate

The results of analytical testing show that the sulphate content is less than 0.1%. This result is indicative that Type 10 Portland cement (normal cement) would be appropriate for this site. The chloride content and the pH of the sample indicate that they are not significant factors in creating a corrosive environment for exposed ferrous metals at this site, whereas the resistivity is indicative of a moderate to very aggressive corrosive environment.

7.0 Recommendations

The following is recommended to be completed once the preliminary site servicing and grading plans are determined:

- ❑ Review detailed site servicing plan(s) from a geotechnical perspective, once available.
- ❑ Observation of all bearing surfaces prior to the placement of concrete or pipe bedding material.
- ❑ Review and observation of trenchless excavation methods, where applicable.
- ❑ Periodic observation of the condition of unsupported excavation side slopes in excess of 3 m in height, if applicable.
- ❑ Observation of all subgrades prior to backfilling.
- ❑ Field density tests to determine the level of compaction achieved.
- ❑ Sampling and testing of the bituminous concrete including mix design reviews, where applicable.

All excess soils must be handled as per ***Ontario Regulation 406/19: On-Site and Excess Soil Management***.

A report confirming that these works have been conducted in general accordance with our recommendations could be issued upon the completion of a satisfactory inspection program by the geotechnical consultant.

8.0 Statement of Limitations

The recommendations provided are in accordance with the present understanding of the project. Paterson requests permission to review the recommendations when the drawings and specifications are completed.

A soils investigation is a limited sampling of a site. Should any conditions at the site be encountered which differ from those at the test locations, Paterson requests immediate notification to permit reassessment of our recommendations.

The recommendations provided herein should only be used by the design professionals associated with this project. They are not intended for contractors bidding on or undertaking the work. The latter should evaluate the factual information provided in this report and determine the suitability and completeness for their intended construction schedule and methods. Additional testing may be required for their purposes.

The present report applies only to the project described in this document. Use of this report for purposes other than those described herein or by person(s) other than Arcadis IBI Group (CLC) or their agents is not authorized without review by Paterson for the applicability of our recommendations to the alternative use of the report.

Paterson Group Inc.

LICENSED PROFESSIONAL ENGINEER
June 20, 2024
D. J. GILBERT
100116130
PROVINCE OF ONTARIO

Nicole R.L. Patey, B.Eng.

David J. Gilbert, P.Eng.

Report Distribution:

- ❑ Arcadis IBI Group (CLC) (E-mail copy)
- ❑ Paterson Group (1 copy)

APPENDIX 1

SOIL PROFILE AND TEST DATA SHEETS

SYMBOLS AND TERMS

HISTORICAL SOIL PROFILE AND TEST DATA SHEETS BY PATERSON AND OTHERS

LIST OF REPORTS REFERENCED

ANALYTICAL TESTING RESULTS

HYDRAULIC CONDUCTIVITY TESTING RESULTS

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364528.989 **NORTHING:** 5030250.644 **ELEVATION:** 58.00

DATUM: Geodetic

REMARKS:

BORINGS BY: Truck-mounted Auger **DATE:** April 2, 2024

FILE NO. PG6348

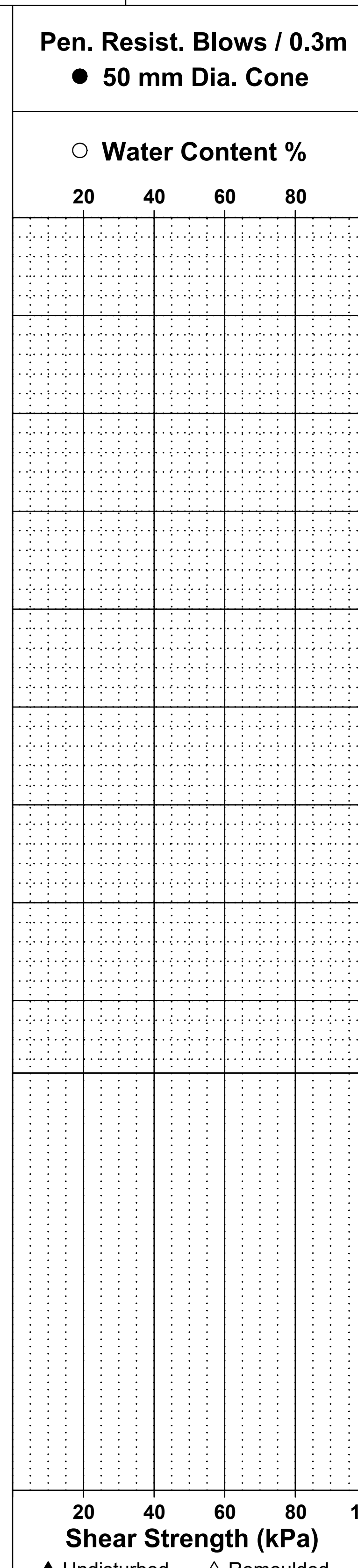
HOLE NO. BH 1-24

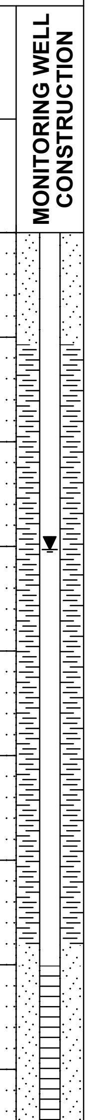
SAMPLE DESCRIPTION	Depth to base (m)	TYPE	NUMBER	% RECOVERY	N VALUE or RQD
GROUND SURFACE					
ASPHALT	0.08				
FILL: Brown silty sand, some gravel and crushed stone, trace clay and asphalt fragments	1.09	AU	1		
		SS	2	100	+50
BEDROCK: Fair to excellent quality, grey limestone bedrock - mud seam at 1.4m depth	8.74	RC	1	100	59
		RC	2	100	88
		RC	3	100	95
		RC	4	100	98
		RC	5	100	100

End of Borehole

(GWL @ 3.03m - April 23, 2024)

DEPTH (m)	ELEV. (m)
0	58.00
1	57.00
2	56.00
3	55.00
4	54.00
5	53.00
6	52.00
7	51.00
8	50.00





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9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364458.153 **NORTHING:** 5030223.205 **ELEVATION:** 57.53

DATUM: Geodetic

REMARKS:

BORINGS BY: Truck-mounted Auger **DATE:** April 2, 2024

FILE NO. PG6348

HOLE NO. BH 2-24

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone / ○ Water Content % (20 40 60 80)	PIEZOMETER CONSTRUCTION
Ground Surface						0	57.53		
ASPHALT 0.06									
FILL: Brown silty sand, some gravel and crushed stone		AU	1						
0.84		SS	2	0	+50				
End of Borehole Practical refusal to augering at 0.84m depth									

Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded

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9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364371.119 **NORTHING:** 5030175.195 **ELEVATION:** 59.38

DATUM: Geodetic

REMARKS:

BORINGS BY: Truck-mounted Auger **DATE:** April 2, 2024

FILE NO. PG6348

HOLE NO. BH 3-24

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone / ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface						0	59.38		
ASPHALT 0.06									
FILL: Brown silty sand, some gravel and crushed stone 0.69		AU	1						
FILL: Brown silty clay, some sand, trace gravel 1.09		SS	2	69	+50	1	58.38		
FILL: Crushed stone, trace sand 2.03		SS	3	100	+50	2	57.38		
End of Borehole Practical refusal to augering at 2.03m depth									

Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded

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9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364152.092 **NORTHING:** 5029930.624 **ELEVATION:** 63.38

DATUM: Geodetic

REMARKS:

BORINGS BY: Truck-mounted Auger **DATE:** April 2, 2024

FILE NO. PG6348

HOLE NO. BH 4-24

SAMPLE DESCRIPTION	Depth to base (m)	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD
GROUND SURFACE					
ASPHALT	0.08				
FILL: Brown silty sand, some gravel and crushed stone	0.76	AU	1		
		SS	2	0	+50
BEDROCK: Fair to excellent quality, grey limestone bedrock	7.06	RC	1	100	72
		RC	2	100	85
		RC	3	100	93
		RC	4	100	97
End of Borehole					
(GWL @ 6.84m - April 23, 2024)					

DEPTH (m)	ELEV. (m)
0	63.38
1	62.38
2	61.38
3	60.38
4	59.38
5	58.38
6	57.38
7	56.38

Pen. Resist. Blows / 0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

MONITORING WELL CONSTRUCTION

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364664.169 **NORTHING:** 5030109.055 **ELEVATION:** 60.75

DATUM: Geodetic

REMARKS:

BORINGS BY: Truck-mounted Auger **DATE:** April 2, 2024

FILE NO. PG6348

HOLE NO. BH 5-24

SAMPLE DESCRIPTION	Depth (m) to base	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD
Ground Surface					
ASPHALT	0.05				
FILL: Brown silty sand, with gravel and crushed stone - trace clay by 0.3m depth		AU	1		
		AU	2		
		SS	3	50	9
		SS	4	75	20
	2.39	SS	5	50	+50
End of Borehole					

DEPTH (m)	ELEV. (m)
0	60.75
1	59.75
2	58.75

End of Borehole

Practical refusal to augering at 2.39m depth

(GWL @ 1.98m - April 23, 2024)

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

PIEZOMETER CONSTRUCTION

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364139.224 **NORTHING:** 5029871.797 **ELEVATION:** 63.87

DATUM: Geodetic

REMARKS:

BORINGS BY: Truck-mounted Auger **DATE:** April 2, 2024

FILE NO. PG6348

HOLE NO. BH 6-24

SAMPLE DESCRIPTION	Depth to base (m)	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	63.87
ASPHALT	0.08						
FILL: Brown silty sand with gravel, crushed stone, cobbles and boulders - trace clay by 0.8m depth	1.32	AU	1				
		SS	2	100	+50	1	62.87
BEDROCK: Good to excellent quality, grey limestone bedrock		RC	1	100	83	2	61.87
- mud seam at 3.1m depth		RC	2	100	93	3	60.87
						4	59.87
	5.79	RC	3	100	100	5	58.87
End of Borehole (GWL @ 2.65m - April 23, 2024)							

Pen. Resist. Blows / 0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

MONITORING WELL CONSTRUCTION

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9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364227.31 **NORTHING:** 5029669.436 **ELEVATION:** 62.78

DATUM: Geodetic

REMARKS:

BORINGS BY: Truck-mounted Auger **DATE:** April 3, 2024

FILE NO. PG6348

HOLE NO. BH 7-24

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone / ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface						0	62.78		
ASPHALT 0.08									
FILL: Brown silty sand, with gravel and crushed stone		AU	1						
0.81		SS	2	100	+50				
End of Borehole Practical refusal to augering at 0.81m depth									

Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded

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9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364282.434 **NORTHING:** 5029542.709 **ELEVATION:** 62.39

DATUM: Geodetic

REMARKS:

BORINGS BY: Truck-mounted Auger **DATE:** April 3, 2024

FILE NO. PG6348

HOLE NO. BH 8-24

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone / ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface						0	62.39		
ASPHALT 0.06									
FILL: Brown silty sand, some gravel and crushed stone 0.76		AU	1						
Loose, black **PEAT**, trace clay and gravel 1.12		SS	2	64	+50	1	61.39		
End of Borehole Practical refusal to augering at 1.12m depth									

Water Content % axis: 20 40 60 80

Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded

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9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364326.761 **NORTHING:** 5029429.399 **ELEVATION:** 62.55

DATUM: Geodetic

REMARKS:

BORINGS BY: Truck-mounted Auger **DATE:** April 3, 2024

FILE NO. PG6348

HOLE NO. BH 9-24

SAMPLE DESCRIPTION	Depth to base (m)	TYPE	NUMBER	% RECOVERY	N VALUE or RQD
GROUND SURFACE					
ASPHALT	0.06				
FILL: Brown silty sand, with gravel and crushed stone		AU	1		
- some clay and cobbles by 1m	1.04	SS	2	78	+50
BEDROCK: Excellent quality, grey limestone bedrock		RC	1	100	95
		RC	2	100	94
	5.77	RC	3	100	92

End of Borehole

- Monitoring Well dry - April 23, 2024

DEPTH (m)	ELEV. (m)
0	62.55
1	61.55
2	60.55
3	59.55
4	58.55
5	57.55

Pen. Resist. Blows / 0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

MONITORING WELL CONSTRUCTION

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364273.383 **NORTHING:** 5029626.197 **ELEVATION:** 62.28

DATUM: Geodetic

REMARKS:

BORINGS BY: Truck-mounted Auger **DATE:** April 3, 2024

FILE NO. PG6348

HOLE NO. BH10-24

SAMPLE DESCRIPTION	Depth to base (m)	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD
GROUND SURFACE					
ASPHALT	0.05				
FILL: Brown silty sand, with gravel and crushed stone, trace clay, cobbles and boulders	1.37	AU	1		
		SS	2	100	+50
BEDROCK: Fair to excellent quality, grey limestone bedrock - mud seam at 1.7 depth	5.66	RC	1	100	62
		RC	2	100	89
		RC	3	100	97
End of Borehole					
(GWL @ 3.08m - April 23, 2024)					

DEPTH (m)	ELEV. (m)
0	62.28
1	61.28
2	60.28
3	59.28
4	58.28
5	57.28

Pen. Resist. Blows / 0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

MONITORING WELL CONSTRUCTION

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9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364563.513 **NORTHING:** 5030017.067 **ELEVATION:** 61.48
DATUM: Geodetic
REMARKS:
BORINGS BY: Truck-mounted Auger **DATE:** April 3, 2024

FILE NO. PG6348
HOLE NO. BH11-24

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
Ground Surface						0	61.48
TOPSOIL with organics, trace gravel and clay (to 0.30)		SS	1	88	8		
FILL: Brown silty sand with clay and gravel		SS	2	71	8	1	60.48
- crushed stone by 1.2m depth (to 2.21)		SS	3	29	7	2	59.48
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles and boulders, trace clay		SS	4	92	13		
(to 3.51)		SS	5	100	+50	3	58.48
End of Borehole Practical refusal to augering at 3.51m depth (GWL @ 3.29m - April 23, 2024)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

PIEZOMETER CONSTRUCTION

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364397.235 **NORTHING:** 5030044.77 **ELEVATION:** 61.53

DATUM: Geodetic

REMARKS:

BORINGS BY: Truck-mounted Auger **DATE:** April 4, 2024

FILE NO. PG6348

HOLE NO. BH12-24

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
Ground Surface						0	61.53
ASPHALT 0.13							
FILL: Brown silty sand, with gravel and crushed stone 0.48		AU	1				
FILL: Brown silty sand, some clay and gravel, trace organics and crushed stone 1.04		SS	2	91	+50	1	60.53
End of Borehole Practical refusal to augering at 1.04m depth							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone

○ Water Content %
20 40 60 80

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

PIEZOMETER CONSTRUCTION

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364306.698 **NORTHING:** 5030004.063 **ELEVATION:** 62.39

DATUM: Geodetic

REMARKS:

BORINGS BY: Truck-mounted Auger **DATE:** April 4, 2024

FILE NO. PG6348

HOLE NO. BH13-24

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone / ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface						0	62.39		
ASPHALT 0.08									
FILL: Brown silty sand, with gravel and crushed stone 0.66		AU	1						
End of Borehole Practical refusal to augering at 0.66m depth									

Water Content % scale: 20 40 60 80

Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364350.148 **NORTHING:** 5030054.744 **ELEVATION:** 62.40

DATUM: Geodetic

REMARKS:

BORINGS BY: Truck-mounted Auger **DATE:** April 4, 2024

FILE NO. PG6348

HOLE NO. BH14-24

SAMPLE DESCRIPTION	Depth to base (m)	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
Ground Surface						0	62.40
ASPHALT	0.05						
FILL: Brown silty sand, with gravel and crushed stone, trace clay	0.30	AU	1				
FILL: Brown silty clay, with sand, trace gravel	0.69	AU	2				
FILL: Brown silty sand, with gravel and crushed stone, trace clay and asphalt fragments	1.37	SS	3	75	34	1	61.40
End of Borehole Practical refusal to augering at 1.37m depth							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

PIEZOMETER CONSTRUCTION

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364346.835 **NORTHING:** 5029657.886 **ELEVATION:** 62.26

DATUM: Geodetic

REMARKS:

BORINGS BY: Truck-mounted Auger **DATE:** April 4, 2024

FILE NO. PG6348

HOLE NO. BH15-24

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone / ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface						0	62.26		
ASPHALT 0.04									
FILL: Brown silty sand with gravel and crushed stone		AU	1						
- trace clay by 0.9m depth		SS	2	33	21	1	61.26		
1.65		SS	3	100	+50				
End of Borehole Practical refusal to augering at 1.65m depth Piezometer was observed to be damaged on April 23, 2024									

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364335.704 **NORTHING:** 5030131.964 **ELEVATION:** 61.81
DATUM: Geodetic
REMARKS:
BORINGS BY: Truck-mounted Auger **DATE:** April 4, 2024

FILE NO. PG6348
HOLE NO. BH16-24

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	61.81
ASPHALT 0.10		AU	1				
FILL: Brown silty sand with gravel, crushed stone, some clay, trace asphalt fragments		AU	2				
		AU	3				
- cobbles and boulders by 1.1m		SS	4	33	14	1	60.81
2.24		SS	5	29	22	2	59.81
BEDROCK: Good to excellent quality, grey limestone bedrock - mud seam at 2.4m depth		RC	1	100	75	3	58.81
		RC	2	100	88	4	57.81
		RC	3	100	87	5	56.81
		RC	4	100	93	6	55.81
7.29						7	54.81
End of Borehole							
(GWL @ 5.78m - April 23, 2024)							

Pen. Resist. Blows / 0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

MONITORING WELL CONSTRUCTION

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364443.211 **NORTHING:** 5029594.14 **ELEVATION:** 62.38

DATUM: Geodetic

REMARKS:

BORINGS BY: Truck-mounted Auger **DATE:** April 5, 2024

FILE NO. PG6348

HOLE NO. BH17-24

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	62.38
ASPHALT 0.08		AU	1				
FILL: Brown silty sand with gravel and crushed stone; - cobbles by 1.1m depth 1.27		SS	2	80	42	1	61.38
BEDROCK: Fair to excellent quality, grey limestone bedrock - bedrock voids between 1.7 to 2.0m		RC	1	83	62	2	60.38
						3	59.38
		RC	2	100	80	4	58.38
		RC	3	100	92	5	57.38
						6	56.38
		RC	4	100	97	7	55.38
		RC	5	100	98	8	54.38
8.84							

End of Borehole

(GWL @ 3.43m - April 23, 2024)

Pen. Resist. Blows / 0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

MONITORING WELL CONSTRUCTION

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Site Servicing and Right-of-Way Works
Tunney's Pasture - Ottawa, Ontario

EASTING: 364536.185 **NORTHING:** 5030104.559 **ELEVATION:** 60.70

DATUM: Geodetic

REMARKS:

BORINGS BY: Truck-mounted Auger **DATE:** April 5, 2024

FILE NO. PG6348

HOLE NO. BH18-24

SAMPLE DESCRIPTION	Layer depth (m)	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	60.70
ASPHALT	0.10	AU	1				
FILL: Brown silty sand, some gravel and crushed stone, trace cobbles	0.69	AU	2				
FILL: Crushed stone and gravel with sand and clay, trace asphalt fragments		SS	3	67	32	1	59.70
		SS	4	25	11	2	58.70
- boulders and blast rock by 2.6m depth		SS	5	17	20	3	57.70
- trace concrete fragments by 3.7m depth	4.88	SS	6	100	15	4	56.70
BEDROCK: Fair to good quality, grey limestone bedrock		RC	1	100	63	5	55.70
		RC	2	100	83	6	54.70
		RC	3	100	73	7	53.70
		RC	4	100	80	8	52.70
						9	51.70
						10	50.70
- mud seam at 11m depth	11.86	RC	5	100	73	11	49.70
End of Borehole							
(GWL @ 5.7m - April 23, 2024)							

STRATA PLOT

Pen. Resist. Blows / 0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

MONITORING WELL CONSTRUCTION

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

SYMBOLS AND TERMS

SOIL DESCRIPTION

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

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

The standard terminology to describe the strength of cohesionless soils is the relative density, usually inferred from the results of the Standard Penetration Test (SPT) 'N' value. The SPT N value is the number of blows of a 63.5 kg hammer, falling 760 mm, required to drive a 51 mm O.D. split spoon sampler 300 mm into the soil after an initial penetration of 150 mm.

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

The standard terminology to describe the strength of cohesive soils is the consistency, which is based on the undisturbed undrained shear strength as measured by the in situ or laboratory vane tests, penetrometer tests, unconfined compression tests, or occasionally by Standard Penetration Tests.

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

SYMBOLS AND TERMS (continued)

SOIL DESCRIPTION (continued)

Cohesive soils can also be classified according to their “sensitivity”. The sensitivity is the ratio between the undisturbed undrained shear strength and the remoulded undrained shear strength of the soil.

Terminology used for describing soil strata based upon texture, or the proportion of individual particle sizes present is provided on the Textural Soil Classification Chart at the end of this information package.

ROCK DESCRIPTION

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

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

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

SAMPLE TYPES

SS	-	Split spoon sample (obtained in conjunction with the performing of the Standard Penetration Test (SPT))
TW	-	Thin wall tube or Shelby tube
PS	-	Piston sample
AU	-	Auger sample or bulk sample
WS	-	Wash sample
RC	-	Rock core sample (Core bit size AXT, BXL, etc.). Rock core samples are obtained with the use of standard diamond drilling bits.

SYMBOLS AND TERMS (continued)

GRAIN SIZE DISTRIBUTION

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

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

CONSOLIDATION TEST

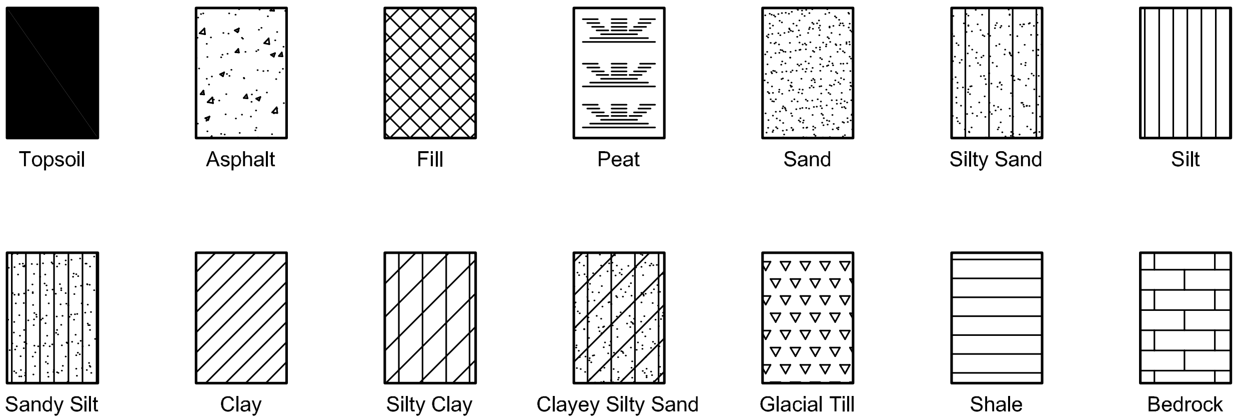
p'_o	-	Present effective overburden pressure at sample depth
p'_c	-	Preconsolidation pressure of (maximum past pressure on) sample
Ccr	-	Recompression index (in effect at pressures below p'_c)
Cc	-	Compression index (in effect at pressures above p'_c)
OC Ratio		Overconsolidaton ratio = p'_c / p'_o
Void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

PERMEABILITY TEST

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

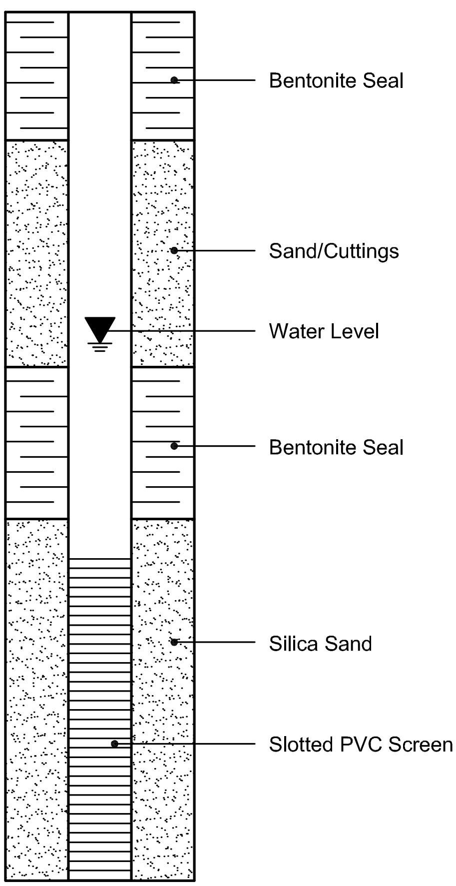
SYMBOLS AND TERMS (continued)

STRATA PLOT

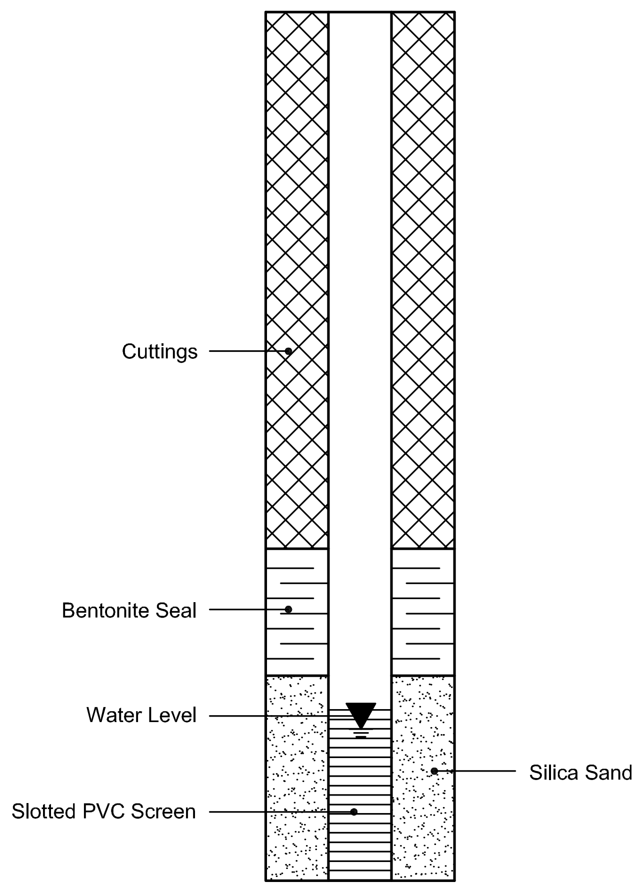


MONITORING WELL AND PIEZOMETER CONSTRUCTION

MONITORING WELL CONSTRUCTION



PIEZOMETER CONSTRUCTION



PATERSON GROUP

SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Blocks 3 & 4, Ottawa, Ontario

DATUM: Geodetic **EASTING:** 364494.695 **NORTHING:** 5029696.462 **ELEVATION:** 62.23

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 13, 2023

FILE NO. **PE6035**

HOLE NO. BH 1-23

SAMPLE DESCRIPTION	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	ANALYTICAL TESTS	PID (ppm)
Ground Surface EL 62.23 m					
FILL: Brown silty sand with gravel and crushed stone, some clay (0.25 m, EL 61.98 m)	AU1				1.4
FILL: Light brown silty sand with crushed stone, trace clay (2.87 m, EL 59.36 m)	SS2	42	12		2.2
	SS3	33	17		1.5
	SS4	36	50+		3.3
BEDROCK: Good to excellent quality, grey limestone (5.79 m, EL 56.44 m)	RC1	100	84		
	RC2	100	98		
End of Borehole					
(GWL @ 3.71m - Nov. 20, 2023)					

Column headings also printed: STRATA PLOT; DEPTH (m) 0–8; PID (ppm) scale 0, 16.67, 33.33, 50; Gas Tech (ppm) scale 0, 50, 100, 150, 200; Monitoring Well Construction.

SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Blocks 3 & 4, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364559.908 **NORTHING:** 5029658.115 **ELEVATION:** 62.55

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 13, 2023

FILE NO. **PE6035**

HOLE NO. BH 2-23

SAMPLE DESCRIPTION	Depth / Elevation	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	ANALYTICAL TESTS	PID (ppm)
Ground Surface	EL 62.55 m					
FILL: Light brown silty sand with gravel and crushed stone, occasional cobbles	0.23 m / EL 62.32 m	AU1				1.2
FILL: Brown silty sand, trace gravel, crushed stone, cobbles and clay		SS2	67	20		11.4
	2.21 m / EL 60.34 m	SS3	100	27		1.0
GLACIAL TILL: Compact, brown silty sand, some gravel, trace clay, occasional cobbles and boulders	3 m / EL 59.55 m	SS4	83	27		1.3
BEDROCK: Good to excellent quality, grey limestone		RC1	100	77		
	5.94 m / EL 56.61 m	RC2	100	100		
End of Borehole						
(GWL @ 3.02m - Nov. 20, 2023)						

STRATA PLOT | DEPTH (m): 0, 1, 2, 3, 4, 5, 6, 7, 8

PID (ppm): 0, 16.67, 33.33, 50 | Gas Tech (ppm): 0, 50, 100, 150, 200 | Monitoring Well Construction

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SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Blocks 3 & 4, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364580.523 **NORTHING:** 5029671.931 **ELEVATION:** 62.55

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 13, 2023

FILE NO. PE6035

HOLE NO. BH 3-23

SAMPLE DESCRIPTION	Depth / Elevation	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	PID (ppm)
Ground Surface	EL 62.55 m				
FILL: Light brown silty sand with gravel and crushed stone	0.18 m, EL 62.37 m	AU1			0.8
FILL: Brown silty sand, some to trace gravel and crushed stone, trace clay		SS2	12	30	0.9
	2.36 m, EL 60.19 m	SS3	67	28	1.7
GLACIAL TILL: Dense, brown silty sand, some gravel, trace clay, occasional cobbles and boulders	3.07 m, EL 59.48 m	SS4	54	40	0.9
BEDROCK: Very poor to good quality, grey limestone		RC1	100	17	
	5.87 m, EL 56.68 m	RC2	100	79	
End of Borehole					
(GWL @ 2.61m - Nov. 20, 2023)					

Other column headings: STRATA PLOT, ANALYTICAL TESTS, DEPTH (m) (0–8), PID (ppm) scale 0, 16.67, 33.33, 50; Gas Tech (ppm) scale 0, 50, 100, 150, 200; Monitoring Well Construction.

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SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Blocks 3 & 4, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364608.106 **NORTHING:** 5029704.029 **ELEVATION:** 62.64

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 13, 2023

FILE NO. PE6035

HOLE NO. BH 4-23

SAMPLE DESCRIPTION	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	PID (ppm)
Ground Surface EL 62.64 m				
FILL: Gravel with crushed stone, trace sand and cobbles (0.08 m, EL 62.56 m)	AU1			1.0
FILL: Brown silty sand, trace gravel and clay, occasional cobbles and crushed stone	SS2	75	20	1.2
	SS3	67	16	1.7
	SS4	62	14	5.1
(3.2 m, EL 59.44 m)	SS5	60	50+	1.4
BEDROCK: Good quality, grey limestone	RC1	91	76	
(5.89 m, EL 56.75 m)	RC2	100	77	
End of Borehole				
(GWL @ 3.78m - Nov. 20, 2023)				

Column headings: STRATA PLOT; ANALYTICAL TESTS; DEPTH (m) 0–8; PID (ppm) 0, 16.67, 33.33, 50; Gas Tech (ppm) 0, 50, 100, 150, 200; Monitoring Well Construction

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SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Blocks 1 & 2, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364157.01 **NORTHING:** 5029594.662 **ELEVATION:** 63.33

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: CME-55 Low Clearance Power Drill

REMARKS:

DATE: November 13, 2023

FILE NO. PE6034

HOLE NO. BH 5-23

SAMPLE DESCRIPTION	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	DEPTH (m)	PID (ppm)
Ground Surface EL 63.33 m					
Asphaltic concrete (0.05 m, EL 63.28 m)	AU1			0	2.3
FILL: Brown silty sand with gravel and crushed stone (0.6 m, EL 62.73 m)	SS2	50	50+		1.6
GLACIAL TILL: Dense, brown silty sand with clay and gravel (0.99 m, EL 62.34 m)	RC1	98	30	1	
BEDROCK: Good to excellent quality, grey limestone	RC2	100	90	2	
- 25mm mud seam at 3.8m depth	RC3	100	98	3–4	
(6.07 m, EL 57.26 m)	RC4	100	84	5–6	
End of Borehole					
(GWL @ 3.27m - Nov. 24, 2023)					

Other columns: STRATA PLOT; ANALYTICAL TESTS; PID (ppm) scale 0, 16.67, 33.33, 50; Gas Tech (ppm) scale 0, 50, 100, 150, 200; Monitoring Well Construction. Depth scale 0–8 m.

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SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Blocks 1 & 2, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364252.794 **NORTHING:** 5029511.857 **ELEVATION:** 62.71

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: CME-55 Low Clearance Power Drill

REMARKS:

DATE: November 13, 2023

FILE NO. PE6034

HOLE NO. BH 6-23

SAMPLE DESCRIPTION	Depth / Elevation	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	ANALYTICAL TESTS	PID (ppm)
Ground Surface	EL 62.71 m					
Asphaltic concrete	0.05 m, EL 62.66 m	AU1				3.0
FILL: Brown silty sand with gravel and crushed stone	0.6 m, EL 62.11 m	SS2	0	50+		0.8
GLACIAL TILL: Brown silty sand with gravel	0.69 m, EL 62.02 m	RC1	100	60		
BEDROCK: Fair to excellent quality, grey limestone		RC2	97	91		
		RC3	100	98		
	6.02 m, EL 56.69 m	RC4	100	100		
End of Borehole						
(GWL @ 3.73m - Nov. 24, 2023)						

DEPTH (m): 0, 1, 2, 3, 4, 5, 6, 7, 8

PID (ppm): 0, 16.67, 33.33, 50

Gas Tech (ppm): 0, 50, 100, 150, 200

Monitoring Well Construction

SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Blocks 1 & 2, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364304.832 **NORTHING:** 5029416.939 **ELEVATION:** 64.80

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: CME-55 Low Clearance Power Drill

REMARKS:

DATE: November 13, 2023

FILE NO. PE6034

HOLE NO. BH 7-23

SAMPLE DESCRIPTION	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	ANALYTICAL TESTS	DEPTH (m)	PID (ppm)
Ground Surface EL 64.8 m					0	
TOPSOIL 0.15 m EL 64.65 m	AU1					3.7
FILL: Brown silty sand with gravel, cobbles and boulders, some clay	SS2	36	50+		1	2.1
	SS3	67	9		2	2.6
	SS4	25	25			4.3
3.1 m EL 61.7 m GLACIAL TILL: Compact, brown silty sand with gravel, occasional cobbles and boulders	SS5	77	50+		3	3.7
3.38 m EL 61.42 m BEDROCK: Fair to excellent quality, grey limestone	RC1	100	69		4	
	RC2	100	100		5	
6.17 m EL 58.63 m End of Borehole					6	
(GWL @ 3.04m - Nov. 24, 2023)					7	
					8	

PID (ppm) scale: 0 16.67 33.33 50

Gas Tech (ppm) scale: 0 50 100 150 200

STRATA PLOT

Monitoring Well Construction

RSLog / Environmental Borehole - Geodetic / paterson-group / admin / November 29, 2023 01:44 PM

SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Block 6, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364274.209 **NORTHING:** 5029821.404 **ELEVATION:** 64.01

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 14, 2023

FILE NO. PE6037

HOLE NO. BH 8-23

SAMPLE DESCRIPTION	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	DEPTH (m)	PID (ppm)
Ground Surface EL 64.01 m				0	
FILL: Gravel, some crushed stone, trace silty sand (0.2 m, EL 63.81 m)	AU1				3.3
FILL: Brown silty sand, some gravel and crushed stone, occasional brick and cobbles (1.14 m, EL 62.87 m)	SS2	60	50+	1	16.7
BEDROCK: Good to excellent quality, grey limestone	RC1	100	82	2	
	RC2	97	91	3	
	RC3	100	100	4–5	
(5.92 m, EL 58.09 m)	RC4	100	100		
End of Borehole				6	
(GWL @ 2.69m - Nov. 21, 2023)				7–8	

PID (ppm) scale: 0, 16.67, 33.33, 50. Gas Tech (ppm) scale: 0, 50, 100, 150, 200.

Column headings: STRATA PLOT; ANALYTICAL TESTS; Monitoring Well Construction.

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SOIL PROFILE AND TEST DATA
PHASE II - ENVIRONMENTAL SITE ASSESSMENT
Tunney's Pasture - Block 6, Ottawa, Ontario

DATUM: Geodetic **EASTING:** 364296.302 **NORTHING:** 5029845.332 **ELEVATION:** 63.89

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 14, 2023

FILE NO. PE6037

HOLE NO. BH 9-23

SAMPLE DESCRIPTION	STRATA PLOT	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	ANALYTICAL TESTS	DEPTH (m)	PID (ppm) 0 16.67 33.33 50	Gas Tech (ppm) 0 50 100 150 200	Monitoring Well Construction
Ground Surface EL 63.89 m									
FILL: Gravel, some crushed stone, trace silty sand 0.15 m EL 63.74 m		AU1				0	3.8		
FILL: Brown silty sand, some gravel and crushed stone, occasional brick and cobbles		SS2	54	23		1	4.1		
2.51 m EL 61.38 m		SS3	12	19		2	6.5		
BEDROCK: Good to excellent quality, grey limestone		RC1	100	90		3			
		RC2	100	87		4–5			
6.22 m EL 57.67 m		RC3	100	93		6			
End of Borehole						7			
(GWL @ 2.95m - Nov. 21, 2023)						8			

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RSLog / Environmental Borehole - Geodetic / paterson-group / admin / November 30, 2023 10:30 AM

SOIL PROFILE AND TEST DATA
PHASE II - ENVIRONMENTAL SITE ASSESSMENT
Tunney's Pasture - Block 6, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364220.349 **NORTHING:** 5029834.121 **ELEVATION:** 64.19

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 14, 2023

FILE NO. **PE6037**

HOLE NO. BH10-23

SAMPLE DESCRIPTION	STRATA PLOT	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	ANALYTICAL TESTS	DEPTH (m)	PID (ppm) 0 16.67 33.33 50	Gas Tech (ppm) 0 50 100 150 200	Monitoring Well Construction
Ground Surface EL 64.19 m						0			
Asphaltic concrete 0.05 m EL 64.14 m		AU1					5.3		
FILL: Gravel with crushed stone, some silty sand 0.41 m EL 63.78 m									
FILL: Brown silty sand, some clay, gravel and crushed stone 1.22 m EL 62.97 m		SS2	41	50+		1	4.47		
BEDROCK: Poor quality, grey limestone		RC1	93	44		2			
- excellent quality by 2.7m depth		RC2	100	98		3			
		RC3	100	100		4, 5			
6.22 m EL 57.97 m		RC4	100	100		6			
End of Borehole						7			
(GWL @ 3.14m - Nov. 21, 2023)						8			

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SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Block 5, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364241.462 **NORTHING:** 5029721.983 **ELEVATION:** 63.19

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 14, 2023

FILE NO. **PE6036**

HOLE NO. BH11-23

SAMPLE DESCRIPTION	Depth / Elevation	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	ANALYTICAL TESTS	PID (ppm)
Ground Surface	EL 63.19 m					
Asphaltic concrete	0.05 m / EL 63.14 m	AU1				1.9
FILL: Brown silty sand with gravel and crushed stone	0.6 m / EL 62.59 m					
GLACIAL TILL: Very dense, brown silty sand with gravel, cobbles and boulders, some clay	1.5 m / EL 61.69 m	SS2	50	50+		1.4
		SS3	40	50+		2.0
BEDROCK: Good to excellent quality, grey limestone	6 m / EL 57.19 m	RC1	100	77		
		RC2	98	98		
		RC3	100	100		

End of Borehole

(GWL @ 2.14m - Nov. 24, 2023)

Column headings: STRATA PLOT; DEPTH (m) 0–8; PID (ppm) 0, 16.67, 33.33, 50; Gas Tech (ppm) 0, 50, 100, 150, 200; Monitoring Well Construction

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SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Block 5, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364276.274 **NORTHING:** 5029682.098 **ELEVATION:** 63.01

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 14, 2023

FILE NO. **PE6036**

HOLE NO. BH12-23

SAMPLE DESCRIPTION	Depth / Elevation	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	ANALYTICAL TESTS	PID (ppm)
Ground Surface	EL 63.01 m					
Asphaltic concrete	0.05 m / EL 62.96 m	AU1				1.5
FILL: Brown silty sand with gravel and crushed stone	0.6 m / EL 62.41 m					
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles and boulders, some clay	1.47 m / EL 61.54 m	SS2	75	28		2.3
BEDROCK: Excellent quality, grey limestone		RC1	100	92		
		RC2	98	98		
	6.1 m / EL 56.91 m	RC3	100	95		
End of Borehole						
(GWL @ 3.70m - Nov. 24, 2023)						

DEPTH (m): 0, 1, 2, 3, 4, 5, 6, 7, 8

PID (ppm): 0, 16.67, 33.33, 50

Gas Tech (ppm): 0, 50, 100, 150, 200

Monitoring Well Construction

SOIL PROFILE AND TEST DATA
PHASE II - ENVIRONMENTAL SITE ASSESSMENT
Tunney's Pasture - Block 5, Ottawa, Ontario

DATUM: Geodetic **EASTING:** 364357.988 **NORTHING:** 5029691.315 **ELEVATION:** 62.78

PROJECT: Phase II - Environmental Site Assessment **FILE NO.** **PE6036**

BORINGS BY: Truck-Mount Power Auger **HOLE NO.** BH13-23

REMARKS: **DATE:** November 14, 2023

SAMPLE DESCRIPTION	STRATA PLOT	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	ANALYTICAL TESTS	DEPTH (m)	PID (ppm) 0 16.67 33.33 50	Gas Tech (ppm) 0 50 100 150 200	Monitoring Well Construction
Ground Surface EL 62.78 m									
TOPSOIL 0.2 m EL 62.58 m		AU1				0	4.0		
GLACIAL TILL: Very dense to compact, brown silty sand with gravel, cobbles and boulders, some clay		SS2	24	50+		1	1.3		
		SS3	57	12		2	1.9		
2.77 m EL 60.01 m		RC1	100	100		3			
BEDROCK: Excellent quality, grey limestone		RC2	98	92		4			
		RC3	100	100		5			
6.17 m EL 56.61 m						6			
End of Borehole						7			
(GWL @ 3.51m - Nov. 24, 2023)						8			

RSLog / Environmental Borehole - Geodetic / paterson-group / admin / December 05, 2023 10:32 AM

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SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment
Tunney's Pasture Block 10
Ottawa, Ontario

EASTING: 364325.628 **NORTHING:** 5030096.587 **ELEVATION:** 62.11

DATUM: Geodetic

REMARKS:

BORINGS BY: Truck-Mounted Power Auger **DATE:** November 15, 2023

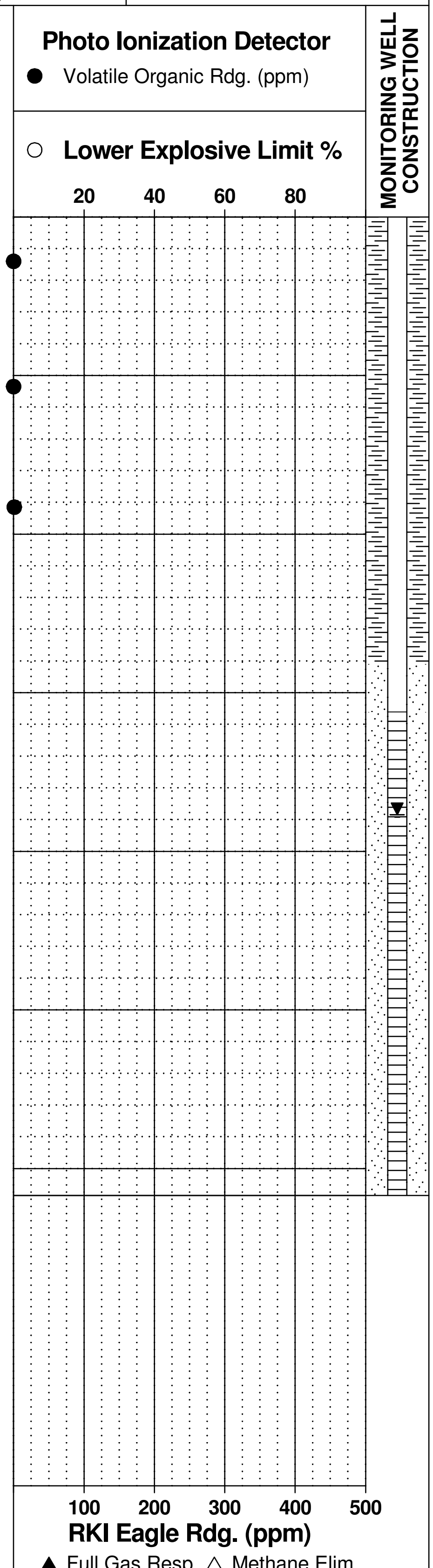
FILE NO. PE6040

HOLE NO. BH 14-23

SAMPLE DESCRIPTION	Depth to base (m)
GROUND SURFACE	
ASPHALTIC CONCRETE	0.05
FILL: Gravel with crushed stone, some silty sand	0.30
FILL: Brown silty clay, trace sand	0.41
FILL: Brown silty sand, trace clay, gravel and crushed stone	1.45
FILL: Dark brown silty clay, trace sand, gravel, occasional cobbles	2.39
BEDROCK: Excellent quality, grey limestone	6.17
End of Borehole	
(GWL @ 3.77m - Nov. 22, 2023)	

SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD
AU	1		
SS	2	25	11
SS	3	58	12
RC	1	100	100
RC	2	100	92
RC	3	100	100
RC	4	100	100

DEPTH (m)	ELEV. (m)
0	62.11
1	61.11
2	60.11
3	59.11
4	58.11
5	57.11
6	56.11



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SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment
Tunney's Pasture Block 10
Ottawa, Ontario

EASTING: 364393.964 **NORTHING:** 5030112.795 **ELEVATION:** 62.57

DATUM: Geodetic

REMARKS:

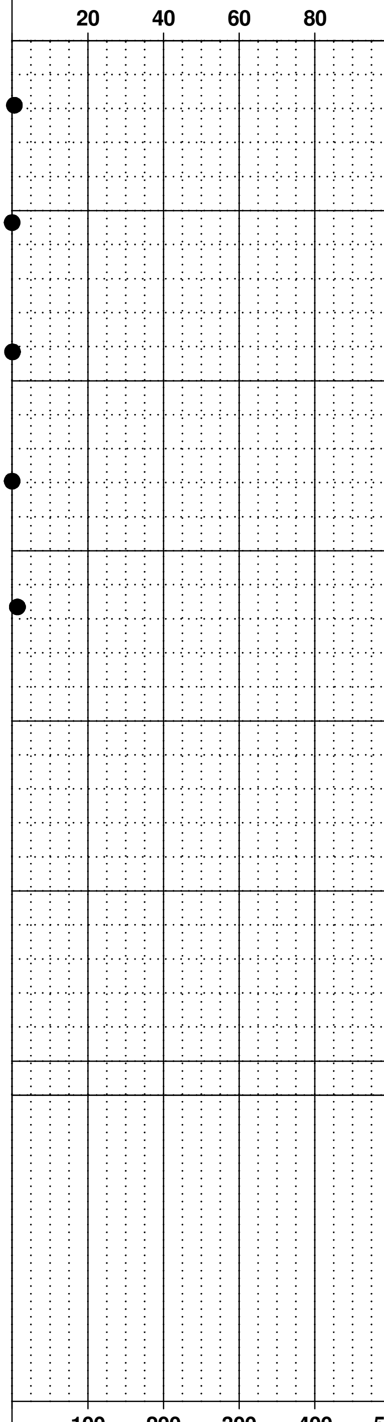
BORINGS BY: Truck-Mounted Power Auger **DATE:** November 15, 2023

FILE NO. PE6040

HOLE NO. BH 15-23

SAMPLE DESCRIPTION	Depth to base (m)	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	62.57
ASPHALTIC CONCRETE	0.05						
FILL: Gravel with crushed stone, some silty sand	0.60	AU	1				
FILL: Brown silty sand, trace gravel, brick and concrete, occasional cobbles		SS	2	58	13	1	61.57
		SS	3	54	12	2	60.57
		SS	4	38	14		
	3.81	SS	5	45	50	3	59.57
BEDROCK: Fair to good quality, grey limestone		RC	1	100	40	4	58.57
		RC	2	100	50	5	57.57
	6.20	RC	3	100	67	6	56.57
End of Borehole							
(GWL @ 6.14m - Nov. 22, 2023)							

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



RKI Eagle Rdg. (ppm)
▲ Full Gas Resp. △ Methane Elim.

MONITORING WELL CONSTRUCTION

SOIL PROFILE AND TEST DATA
PHASE II - ENVIRONMENTAL SITE ASSESSMENT
Tunney's Pasture - Block 9, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364662.321 **NORTHING:** 5030050.027 **ELEVATION:** 62.13

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 15, 2023

FILE NO. PE6039

HOLE NO. BH16-23

SAMPLE DESCRIPTION	Depth / Elevation	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	PID (ppm)
Ground Surface	EL 62.13 m				
FILL: Brown silty sand with gravel and crushed stone	0.69 m / EL 61.44 m	AU1			0.6
FILL: Brown silty sand, some gravel	2.21 m / EL 59.92 m	SS2	75	25	0.9
		SS3	75	28	1.8
FILL: Brown silty sand	2.9 m / EL 59.23 m	SS4	33	4	0.8
FILL: Brown silty sand with gravel, cobbles and boulders	4.65 m / EL 57.48 m	SS5	42	4	0.9
		SS6	33	25	1.9
		SS7	67	50+	6.6
BEDROCK: Good to excellent quality, grey limestone	7.6 m / EL 54.53 m	RC1	100	80	
		RC2	100	100	
End of Borehole					
(GWL @ 3.65m - Nov. 23, 2023)					

Columns: STRATA PLOT; ANALYTICAL TESTS; DEPTH (m) 0–9; PID (ppm) 0, 16.67, 33.33, 50; Gas Tech (ppm) 0, 50, 100, 150, 200; Monitoring Well Construction

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SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Block 9, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364650.197 **NORTHING:** 5030073.011 **ELEVATION:** 61.53

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 15, 2023

FILE NO. PE6039

HOLE NO. BH17-23

Ground Surface EL 61.53 m

SAMPLE DESCRIPTION	Depth / Elevation
FILL: Brown silty sand, trace gravel	3.05 m, EL 58.48 m
FILL: Brown silty sand with gravel, cobbles and boulders	3.81 m, EL 57.72 m
BEDROCK: Good quality, grey limestone	5.92 m, EL 55.61 m
End of Borehole	
(GWL @ 3.22m - Nov. 23, 2023)	

Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	ANALYTICAL TESTS	PID (ppm)
AU1				4.3
SS2	75	20		2.6
SS3	50	17		1.8
SS4	33	1		1.5
SS5	50	19		1.4
RC1	100	80		
RC2	100	84		

DEPTH (m): 0–9

PID (ppm) scale: 0, 16.67, 33.33, 50

Gas Tech (ppm) scale: 0, 50, 100, 150, 200

Monitoring Well Construction

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SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Block 9, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364679.995 **NORTHING:** 5030071.639 **ELEVATION:** 61.62

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 15, 2023

FILE NO. PE6039

HOLE NO. BH18-23

SAMPLE DESCRIPTION	Depth / Elevation	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	PID (ppm)
Ground Surface	EL 61.62 m				
Asphaltic concrete	0.05 m, EL 61.57 m	AU1			1.3
FILL: Brown silty sand, some clay and gravel	1.22 m, EL 60.4 m	SS2	100	7	1.3
FILL: Brown silty sand with gravel		SS3	33	23	1.0
		SS4	8	16	0.9
	3.35 m, EL 58.27 m	SS5	17	50+	
BEDROCK: Fair to excellent quality, grey limestone		RC1	100	73	
	5.97 m, EL 55.65 m	RC2	100	93	
End of Borehole					
(GWL @ 3.19m - Nov. 23, 2023)					

Column headings: STRATA PLOT; ANALYTICAL TESTS; DEPTH (m) 0–9; PID (ppm) 0, 16.67, 33.33, 50; Gas Tech (ppm) 0, 50, 100, 150, 200; Monitoring Well Construction

SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Block 9, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364757.955 **NORTHING:** 5030109.232 **ELEVATION:** 60.37

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 15, 2023

FILE NO. PE6039

HOLE NO. BH19-23

SAMPLE DESCRIPTION	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	ANALYTICAL TESTS	PID (ppm)
Ground Surface EL 60.37 m					
Asphaltic concrete 0.03 m EL 60.34 m					
FILL: Gravel with crushed stone, some silty sand, trace clay 0.66 m EL 59.71 m	AU1				0.3
FILL: Brown silty clay, trace gravel, sand and wood 1.22 m EL 59.15 m	SS2	59	50+		9.6
BEDROCK: Excellent quality, grey limestone	RC1	100	100		
	RC2	100	100		
	RC3	100	100		
5.74 m EL 54.63 m	RC4	100	100		
End of Borehole					
(GWL @ 1.54m -Nov. 23, 2023)					

DEPTH (m): 0 – 9

PID (ppm) scale: 0, 16.67, 33.33, 50

Gas Tech (ppm) scale: 0, 50, 100, 150, 200

Monitoring Well Construction

SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Block 9, Ottawa, Ontario

DATUM: Geodetic **EASTING:** 364617.243 **NORTHING:** 5030010.328 **ELEVATION:** 62.01

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 16, 2023

FILE NO. PE6039

HOLE NO. BH20-23

SAMPLE DESCRIPTION	Depth / Elevation	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	PID (ppm)
Ground Surface	EL 62.01 m				
FILL: Brown silty sand with organics, trace gravel	0.15 m, EL 61.86 m	AU1			1.2
FILL: Brown silty sand, trace gravel		SS2	50	10	2.2
		SS3	50	7	0.4
		SS4	4	5	1.0
		SS5	8	4	0.5
	4.32 m, EL 57.69 m	SS6	40	50+	3.5
BEDROCK: Excellent to good quality, grey limestone		RC1	100	92	
	7.64 m, EL 54.37 m	RC2	100	83	
End of Borehole					
(GWL @ 3.67m -Nov. 23, 2023)					

Columns: STRATA PLOT, ANALYTICAL TESTS, DEPTH (m) 0–9, PID (ppm) 0 16.67 33.33 50, Gas Tech (ppm) 0 50 100 150 200, Monitoring Well Construction

SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture Block 8, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364535.067 **NORTHING:** 5029792.031 **ELEVATION:** 62.19

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 23, 2023

FILE NO. PE6038

HOLE NO. BH21-23

SAMPLE DESCRIPTION	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	PID (ppm)
Ground Surface EL 62.19 m				
Asphaltic concrete 0.08 m EL 62.11 m	AU1			0.7
FILL: Gravel with crushed stone, some silty sand 0.33 m EL 61.86 m	SS2	60	50+	7.2
FILL: Brown silty sand, some gravel, occasional cobbles and boulders 1.09 m EL 61.1 m	RC1	100	14	
BEDROCK: Very poor to fair quality, grey limestone	RC2	100	62	
- excellent quality by 3.9m depth	RC3	100	95	
6.04 m EL 56.15 m	RC4	100	95	
End Borehole				
(GWL @ 3.12m - Nov. 29, 2023)				

Columns also shown: STRATA PLOT, ANALYTICAL TESTS, DEPTH (m) 0–8, PID (ppm) 0 16.67 33.33 50, Gas Tech (ppm) 0 50 100 150 200, Monitoring Well Construction

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SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture Block 8, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364526.726 **NORTHING:** 5029822.759 **ELEVATION:** 62.24

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 23, 2023

FILE NO. PE6038

HOLE NO. BH22-23

SAMPLE DESCRIPTION	Depth / Elevation	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	PID (ppm)
Ground Surface	EL 62.24 m				
Asphaltic concrete	0.08 m, EL 62.16 m	AU1			1.2
FILL: Gravel with crushed stone, some silty sand	0.43 m, EL 61.81 m	SS2	76	50+	1.8
FILL: Brown silty sand, some gravel, trace clay, occasional cobbles and boulders	1.32 m, EL 60.92 m				
BEDROCK: Fair to good quality, grey limestone		RC1	100	53	
- excellent quality by 5.7m depth		RC2	100	75	
		RC3	100	83	
	6.2 m, EL 56.04 m	RC4	100	100	
End of Borehole					
(GWL @ 3.75m - Nov. 29, 2023)					

STRATA PLOT | ANALYTICAL TESTS | DEPTH (m): 0–8 | PID (ppm): 0, 16.67, 33.33, 50 | Gas Tech (ppm): 0, 50, 100, 150, 200 | Monitoring Well Construction

SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture Block 8, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364496.676 **NORTHING:** 5029812.181 **ELEVATION:** 62.63

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 23, 2023

FILE NO. PE6038

HOLE NO. BH23-23

SAMPLE DESCRIPTION	Depth / Elevation	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	ANALYTICAL TESTS	PID (ppm)
Ground Surface	EL 62.63 m					
Asphaltic concrete	0.08 m / EL 62.55 m	AU1				1.6
FILL: Gravel with crushed stone, some silty sand	0.23 m / EL 62.4 m					
Asphaltic concrete	0.38 m / EL 62.25 m	RC1	100	94		
FILL: Gravel with crushed stone, some silty sand	0.74 m / EL 61.89 m					
BEDROCK: Good to excellent quality, grey limestone	6.2 m / EL 56.43 m	RC2	100	78		
		RC3	100	97		
		RC4	97	94		
		RC5	95	95		
End of Borehole						
(GWL @ 3.84m - Nov. 29, 2023)						

STRATA PLOT | DEPTH (m): 0, 1, 2, 3, 4, 5, 6, 7, 8

PID (ppm): 0, 16.67, 33.33, 50

Gas Tech (ppm): 0, 50, 100, 150, 200

Monitoring Well Construction

SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

PATERSON GROUP

Tunney's Pasture Block 8, Ottawa, Ontario

DATUM: Geodetic **EASTING:** 364472.875 **NORTHING:** 5029786.562 **ELEVATION:** 62.71

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 23, 2023

FILE NO. PE6038

HOLE NO. BH24-23

SAMPLE DESCRIPTION	STRATA PLOT	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	ANALYTICAL TESTS	DEPTH (m)	PID (ppm) 0 16.67 33.33 50	Gas Tech (ppm) 0 50 100 150 200	Monitoring Well Construction
Ground Surface EL 62.71 m									
Asphaltic concrete 0.08 m EL 62.63 m		AU1				0	1.4		
FILL: Gravel with crushed stone, some silty sand 0.33 m EL 62.38 m		SS2	100	50+			2.0		
FILL: Brown silty sand, occasional crushed stone 1.12 m EL 61.59 m						1			
BEDROCK: Fair to excellent quality, grey limestone		RC1	100	54		2			
		RC2	100	98		3			
		RC3	100	95		4–5			
6.22 m EL 56.49 m		RC4	96	96		6			
End of Borehole						7			
(GWL @ 3.20m - Nov. 29, 2023)						8			

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SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture Block 8, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364497.878 **NORTHING:** 5029860.972 **ELEVATION:** 62.54

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 23, 2023

FILE NO. PE6038

HOLE NO. BH25-23

SAMPLE DESCRIPTION	Depth / Elevation	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	ANALYTICAL TESTS	PID (ppm)
Ground Surface	EL 62.54 m					
TOPSOIL	0.23 m / EL 62.31 m	AU1				0.4
FILL: Brown silty sand	0.69 m / EL 61.85 m					
GLACIAL TILL: Very dense, brown silty sand to sandy silt with gravel, cobbles and boulders	1.27 m / EL 61.27 m	SS2	100	50+		0.9
BEDROCK: Excellent quality, grey limestone - vertical fractures from 2.7 to 4.2m depth		RC1	100	96		
		RC2	100	53		
		RC3	100	98		
	6.12 m / EL 56.42 m	RC4	100	100		
End of Borehole (GWL @ 3.47m - Nov. 29, 2023)						

DEPTH (m): 0, 1, 2, 3, 4, 5, 6, 7, 8

PID (ppm): 0, 16.67, 33.33, 50

Gas Tech (ppm): 0, 50, 100, 150, 200

Monitoring Well Construction

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SOIL PROFILE AND TEST DATA

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture Block 8, Ottawa, Ontario

PATERSON GROUP

DATUM: Geodetic **EASTING:** 364515.072 **NORTHING:** 5029752.491 **ELEVATION:** 62.72

PROJECT: Phase II - Environmental Site Assessment

BORINGS BY: Truck-Mount Power Auger

REMARKS:

DATE: November 23, 2023

FILE NO. PE6038

HOLE NO. BH26-23

SAMPLE DESCRIPTION	Depth / Elevation	Sample No.	SAMPLE % RECOVERY	N VALUE or RQD	ANALYTICAL TESTS	PID (ppm)
Ground Surface	EL 62.72 m					
TOPSOIL	0.36 m, EL 62.36 m	AU1				0.5
FILL: Brown silty sand	0.91 m, EL 61.81 m	SS2	43	50+		1.1
FILL: Brown silty clay, trace sand, gravel, organics, occasional cobbles and boulders	1.58 m, EL 61.14 m					
BEDROCK: Poor to excellent quality, grey limestone	6.2 m, EL 56.52 m	RC1	100	33		
		RC2	100	76		
		RC3	100	97		
		RC4	100	80		
End of Borehole						
(GWL @ 4.17m - Nov. 29, 2023)						

Column headings also printed: STRATA PLOT; DEPTH (m) 0–8; PID (ppm) scale 0, 16.67, 33.33, 50; Gas Tech (ppm) scale 0, 50, 100, 150, 200; Monitoring Well Construction.

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SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment
Tunney's Pasture Block 10
Ottawa, Ontario

EASTING: 364504.248 **NORTHING:** 5030156.140 **ELEVATION:** 57.43

DATUM: Geodetic

REMARKS:

BORINGS BY: Portable Drill **DATE:** December 7, 2023

FILE NO. PE6040

HOLE NO. BH 27-23

SAMPLE DESCRIPTION	Depth to base (m)	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	57.43
Concrete Floor Slab	0.18	AU	1				
FILL: Compact, brown silty sand, some gravel and crushed stone	0.89	SS	2	21	P		
		SS	3	39	P		
						1	56.43
BEDROCK: Excellent quality, grey limestone bedrock	5.38	RC	1	98	98		
						2	55.43
		RC	2	100	96		
						3	54.43
						4	53.43
		RC	3	95	97		
						5	52.43
End of Borehole							
(GWL @ 2.46m - Dec. 11, 2023)							

Photo Ionization Detector
● Volatile Organic Rdg. (ppm)

○ **Lower Explosive Limit %**

20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

MONITORING WELL CONSTRUCTION

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment
Tunney's Pasture Block 10
Ottawa, Ontario

EASTING: 364535.551 **NORTHING:** 5030144.336 **ELEVATION:** 58.05

DATUM: Geodetic

REMARKS:

BORINGS BY: Portable Drill **DATE:** December 7, 2023

FILE NO. PE6040

HOLE NO. BH 28-23

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)	Photo Ionization Detector ● Volatile Organic Rdg. (ppm) / ○ Lower Explosive Limit %	MONITORING WELL CONSTRUCTION
GROUND SURFACE						0	58.05		
Concrete Floor Slab 0.15		AU	1						
FILL: Compact, brown silty sand with gravel and crushed stone 0.51		SS	2	45	P				
End of Borehole									
Practical refusal to augering at 0.51m depth									

Photo Ionization Detector scale: 20 40 60 80

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

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Tunney's Pasture
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE 2020 December 15

FILE NO. PG4826

HOLE NO. BH 1 - 20

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone / ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	59.81		
TOPSOIL 0.18									
FILL: Brown silty sand trace gravel and clay		AU	1						
		SS	2	25	22	1	58.81		
1.57		SS	3	0	50+				
End of Borehole Practical refusal to augering at 1.57 m depth									

Water Content % axis: 20, 40, 60, 80

Shear Strength (kPa) axis: 20, 40, 60, 80, 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Tunney's Pasture
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE 2020 December 15

FILE NO. PG4826

HOLE NO. BH 2 - 20

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	60.87
TOPSOIL (to 0.17)							
FILL: Brown silty sand, with gravel, some clay, trace cobbles (0.17 to 2.18)		AU	1				
						1	59.87
		SS	2	54	22		
		SS	3	42	30		
						2	58.87
End of Borehole (2.18)							

Practical refusal to augering at 2.18 m depth

(GWL @ 2.03 m - Dec 15, 2020)

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone

○ Water Content %
20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Tunney's Pasture
Ottawa, Ontario

DATUM Geodetic

FILE NO. PG4826

REMARKS

HOLE NO. BH 3 - 20

BORINGS BY CME-55 Low Clearance Drill **DATE** 2020 December 15

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	61.41
TOPSOIL (to 0.12)							
FILL: Brown silty sand with gravel and cobbles (0.12 to 1.42)		AU	1				
		SS	2	33	23	1	60.41
BEDROCK: Limestone (1.42 to 1.54)		SS	3	50	50+		
End of Borehole Practical refusal to augering at 1.54 m depth							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded

Piezometer Construction

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Tunney's Pasture
Ottawa, Ontario

DATUM Geodetic

FILE NO. PG4826

REMARKS

HOLE NO. BH 4 - 20

BORINGS BY CME-55 Low Clearance Drill **DATE** 2020 December 15

SOIL DESCRIPTION	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE					0	61.79
TOPSOIL (to 0.15)						
FILL: Brown silty sand trace gravel and cobbles	AU	1				
	SS	2	54	9	1	60.79
(to 1.91)	SS	3	0	50+		
End of Borehole Practical refusal to augering at 1.91 m depth						

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Tunney's Pasture
Ottawa, Ontario

DATUM Geodetic

FILE NO. PG4826

REMARKS

HOLE NO. BH 5 - 20

BORINGS BY CME-55 Low Clearance Drill **DATE** 2020 December 15

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone / ○ Water Content % (20, 40, 60, 80)	Piezometer Construction
GROUND SURFACE						0	62.14		
TOPSOIL 0.07									
FILL: Brown silty sand some gravel, and cobbles		AU	1						
		SS	2	33	24	1	61.14		
1.32									
End of Borehole Practical refusal to augering at 1.32 m depth									

Shear Strength (kPa): 20, 40, 60, 80, 100

▲ Undisturbed △ Remoulded

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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Tunney's Pasture
Ottawa, Ontario

DATUM Geodetic

FILE NO. PG4826

REMARKS

HOLE NO. BH 6 - 20

BORINGS BY CME-55 Low Clearance Drill

DATE 2020 December 15

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	62.45
TOPSOIL 0.07							
FILL: Brown silty sand, trace gravel 0.76		AU	1				
GLACIAL TILL: Brown silty sand, with gravel, possible cobbles and boulders						1	61.45
		SS	2	52	37		
1.75		SS	3	8	50+		
End of Borehole Practical refusal to augering at 1.75 m depth							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Tunney's Pasture
Ottawa, Ontario

DATUM Geodetic

FILE NO. PG4826

REMARKS

HOLE NO. BH 7 - 20

BORINGS BY CME-55 Low Clearance Drill

DATE 2020 December 15

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone / ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	62.41		
TOPSOIL 0.13									
FILL: brown silty sand trace gravel		AU	1						
		SS	2	29	21	1	61.41		
2.13		SS	3	0	18	2	60.41		
GLACIAL TILL: Brown silty sand with gravel possible cobbles and boulders 2.59		SS	4	38	50+				
End of Borehole Practical refusal to augering at 2.59 m									

Pen. Resist. scale: 20 40 60 80

Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded

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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Tunney's Pasture
Ottawa, Ontario

DATUM Geodetic

FILE NO. PG4826

REMARKS

HOLE NO. BH 8 - 20

BORINGS BY CME-55 Low Clearance Drill

DATE 2020 December 15

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone / ○ Water Content % (20, 40, 60, 80)	Piezometer Construction
GROUND SURFACE						0	63.70		
TOPSOIL 0.13									
FILL: Brown silty sand, trace gravel 0.61		AU	1	75	50+				
End of Borehole Practical refusal to augering at 0.61 m depth									

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Tunney's Pasture
Ottawa, Ontario

DATUM Geodetic

FILE NO. **PG4826**

REMARKS

HOLE NO. **BH 9 - 20**

BORINGS BY CME-55 Low Clearance Drill

DATE 2020 December 15

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone / ○ Water Content % (20, 40, 60, 80)	Piezometer Construction
GROUND SURFACE						0	63.72		
TOPSOIL 0.10									
FILL: Brown silty clay with sand and trace gravel 0.61		AU	1						
End of Borehole Practical refusal to augering 0.61 m depth									

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Tunney's Pasture
Ottawa, Ontario

DATUM Geodetic

FILE NO. PG4826

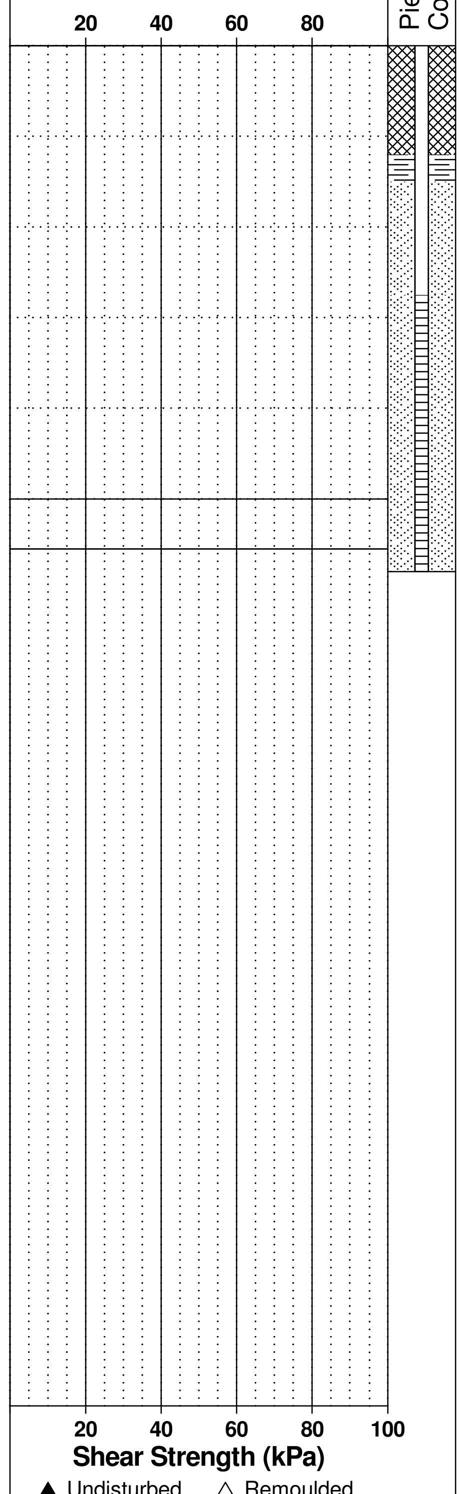
REMARKS

HOLE NO. BH10 - 20

BORINGS BY CME-55 Low Clearance Drill

DATE 2020 December 15

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone / ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	63.06		
TOPSOIL 0.10									
FILL: Brown silty sand, with gravel		AU	1						
		SS	2	17	50+	1	62.06		
1.11									
End of Borehole Practical refusal to augering at 1.01 m depth									



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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Tunney's Pasture
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE 2020 December 16

FILE NO. PG4826

HOLE NO. BH11 - 20

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	62.93
TOPSOIL (to 0.12)							
FILL: Brown silty sand with gravel and cobbles		AU	1				
		SS	2	21	6	1	61.93
		SS	3	4	5	2	60.93
(to 2.49)		SS	4	3	50+		
End of Borehole Practical refusal to augering 2.51 m depth							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

Piezometer Construction

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Tunney's Pasture
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE 2020 December 16

FILE NO. PG4826

HOLE NO. BH12 - 20

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone / ○ Water Content % (20, 40, 60, 80)	Piezometer Construction
GROUND SURFACE						0	60.60		
TOPSOIL 0.10									
FILL: Brown silty sand with gravel		AU	1						
		SS	2	63	50+	1	59.60		
1.35									
End of Borehole Practical refusal to augering at 1.35 m depth									

Shear Strength (kPa): 20, 40, 60, 80, 100

▲ Undisturbed △ Remoulded

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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment
Tunney's Pasture CHCP
Ottawa, Ontario

DATUM Ground surface elevations provided by Annis, O'Sullivan, Vollebekk Ltd.

FILE NO. PE4651

REMARKS

HOLE NO. BH 1

BORINGS BY CME 55 Power Auger **DATE** 2019 September 18

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)	Photo Ionization Detector ● Volatile Organic Rdg. (ppm) ○ Lower Explosive Limit %	Monitoring Well Construction
GROUND SURFACE						0	63.90		
TOPSOIL 0.25									
FILL: Brown sand with gravel 0.56		SS	1	67	19				
FILL: Brown sandy silt, some gravel 0.97		SS	2	50	5	1	62.90		
		RC	1	100	66	2	61.90		
						3	60.90		
BEDROCK: Fair to excellent quality, grey limestone interbedded with shale		RC	2	91	90	4	59.90		
		RC	3	97	97	5	58.90		
		RC	4	100	98	6	57.90		
6.70 End of Borehole									

20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment
Tunney's Pasture CHCP
Ottawa, Ontario

DATUM Ground surface elevations provided by Annis, O'Sullivan, Vollebekk Ltd.

FILE NO. PE4651

REMARKS

HOLE NO. BH 2

BORINGS BY CME 55 Power Auger

DATE 2019 September 17

SOIL DESCRIPTION	Depth to base (m)	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD
GROUND SURFACE					
TOPSOIL	0.20				
FILL: Brown silty sand, trace gravel	0.94	SS	1	71	26
		SS	2	69	50+
BEDROCK: Fair to excellent quality, grey limestone interbedded with shale	8.76	RC	1	84	55
		RC	2	98	91
		RC	3	100	95
		RC	4	97	93
		RC	5	100	98
End of Borehole					

DEPTH (m)	ELEV. (m)
0	63.84
1	62.84
2	61.84
3	60.84
4	59.84
5	58.84
6	57.84
7	56.84
8	55.84

Photo Ionization Detector
● Volatile Organic Rdg. (ppm)

○ Lower Explosive Limit %

20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

Monitoring Well Construction

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment
Tunney's Pasture CHCP
Ottawa, Ontario

DATUM Ground surface elevations provided by Annis, O'Sullivan, Vollebekk Ltd.

REMARKS

BORINGS BY CME 55 Power Auger

DATE 2019 September 17

FILE NO. PE4651

HOLE NO. BH 3

SOIL DESCRIPTION	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE					0	63.35
TOPSOIL (0.15)						
FILL: Brown sand, some silt (0.76)	SS	1	79	19		
FILL: Brown clayey silt with wood/organics, trace sand and gravel (1.37)	SS	2	53	17	1	62.35
BEDROCK: Fair to excellent quality, grey limestone interbedded with shale	RC	1	100	82	2	61.35
					3	60.35
	RC	2	100	72		
					4	59.35
	RC	3	98	86	5	58.35
					6	57.35
	RC	4	100	95		
					7	56.35
	RC	5	100	100	8	55.35
(8.74) End of Borehole						

Photo Ionization Detector
● Volatile Organic Rdg. (ppm)

○ **Lower Explosive Limit %**

20 40 60 80

100 200 300 400 500
RKI Eagle Rdg. (ppm)
▲ Full Gas Resp. △ Methane Elim.

Monitoring Well Construction

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment
Tunney's Pasture CHCP
Ottawa, Ontario

DATUM Ground surface elevations provided by Annis, O'Sullivan, Vollebekk Ltd.

FILE NO. PE4651

REMARKS

HOLE NO. BH 4

BORINGS BY CME 55 Power Auger **DATE** 2019 September 18

SOIL DESCRIPTION	Strata depth (m)	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	63.97
Asphaltic concrete	0.05						
FILL: Brown sand, some silt	0.60	AU	1				
FILL: Brown sandy silt with gravel, trace clay		SS	2		18	1	62.97
	1.65	SS	3	60	50+		
BEDROCK: Good to excellent quality, grey limestone interbedded with shale		RC	1	95	82	2	61.97
		RC	2	100	88	3	60.97
						4	59.97
		RC	3	100	98	5	58.97
						6	57.97
		RC	4	100	100	7	56.97
	8.79	RC	5	98	94	8	55.97
End of Borehole							

Photo Ionization Detector
● Volatile Organic Rdg. (ppm)

○ **Lower Explosive Limit %**

20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

Monitoring Well Construction

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment
Tunney's Pasture CHCP
Ottawa, Ontario

DATUM Ground surface elevations provided by Annis, O'Sullivan, Vollebekk Ltd.

FILE NO. **PE4651**

REMARKS

HOLE NO. **BH 5**

BORINGS BY CME 55 Power Auger

DATE 2019 September 17

SOIL DESCRIPTION	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE					0	64.13
Asphaltic concrete (to 0.08)						
FILL: Brown sand with gravel (to 0.76)	AU	1				
Weathered **BEDROCK** (to 1.27)	SS	2	85	50+	1	63.13
BEDROCK: Fair to excellent quality, grey limestone interbedded with shale (to 8.71)	RC	1	78	66	2	62.13
					3	61.13
	RC	2	100	83	4	60.13
	RC	3	100	100	5	59.13
					6	58.13
	RC	4	100	98	7	57.13
	RC	5	100	98	8	56.13
End of Borehole (8.71)						

Photo Ionization Detector
● Volatile Organic Rdg. (ppm)

○ **Lower Explosive Limit %**

20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

Monitoring Well Construction

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment
Tunney's Pasture CHCP
Ottawa, Ontario

DATUM Ground surface elevations provided by Annis, O'Sullivan, Vollebekk Ltd.

FILE NO. PE4651

REMARKS

HOLE NO. BH 7

BORINGS BY CME 55 Power Auger **DATE** 2019 September 17

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)	Photo Ionization Detector ● Volatile Organic Rdg. (ppm) / ○ Lower Explosive Limit %	Monitoring Well Construction
GROUND SURFACE						0	63.95		
Asphaltic concrete 0.08									
FILL: Brown sand with gravel 0.99		AU	1						
		SS	2	73	50+	1	62.95		
BEDROCK: Fair to excellent quality, grey limestone interbedded with shale		RC	1	63	45	2	61.95		
						3	60.95		
		RC	2	93	91	4	59.95		
		RC	3	98	960	5	58.95		
						6	57.95		
7.21		RC	4	98	97	7	56.95		
End of Borehole									

Lower Explosive Limit % scale: 20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment
Tunney's Pasture CHCP
Ottawa, Ontario

DATUM Ground surface elevations provided by Annis, O'Sullivan, Vollebekk Ltd.

FILE NO. PE4651

REMARKS

HOLE NO. BH 8

BORINGS BY CME 55 Power Auger **DATE** 2019 September 18

SOIL DESCRIPTION	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE					0	63.98
FILL: Brown sand with gravel (to 0.38)	SS	1	5	42		
FILL: Brown silty sand with gravel (0.38 to 2.49)	SS	2	67	30	1	62.98
	SS	3	33	26	2	61.98
	SS	4	0	50+		
BEDROCK: Fair to excellent quality, grey limestone interbedded with shale (2.49 to 7.21)	RC	1	75	0		
	RC	2	100	98	3	60.98
					4	59.98
	RC	3	93	71	5	58.98
					6	57.98
	RC	4	97	97	7	56.98
End of Borehole (7.21)						

Photo Ionization Detector
● Volatile Organic Rdg. (ppm)

○ **Lower Explosive Limit %**

20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

Monitoring Well Construction

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment
Tunney's Pasture CHCP
Ottawa, Ontario

DATUM Ground surface elevations provided by Annis, O'Sullivan, Vollebekk Ltd.

REMARKS

BORINGS BY CME 55 Power Auger

DATE 2019 September 18

FILE NO. PE4651

HOLE NO. BH 9

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	63.78
FILL: Brown silty sand, trace gravel		SS	1	55	50+		
		SS	2	54	32	1	62.78
		SS	3	79	8	2	61.78
		SS	4	46	5		
3.35		SS	5	25	50+	3	60.78
BEDROCK: Good to excellent quality, grey limestone interbedded with shale		RC	1	100	92	4	59.78
		RC	2	92	88	5	58.78
		RC	3	100	100	6	57.78
						7	56.78
8.76		RC	4	100	100	8	55.78
End of Borehole							

Photo Ionization Detector
● Volatile Organic Rdg. (ppm)

○ **Lower Explosive Limit %**

20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

Monitoring Well Construction

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Sir John A. MacDonald - Wellington - Maisonneuve
Ottawa, Ontario

DATUM

REMARKS

BORINGS BY CME 55 Power Auger

DATE 2019 November 5

FILE NO. PG4826

HOLE NO. BH 1

SOIL DESCRIPTION	Depth to base (m)	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	
TOPSOIL	0.15						
FILL: Brown silty sand	0.91	AU	1				
FILL: Brown silty sand with crushed stone and gravel	2.74	SS	2	42	18	1	
		SS	3	21	7	2	
		SS	4		50+		
BEDROCK: Poor to good quality, grey limestone interbedded with shale	4.67	RC	1	100	30	3	
		RC	2	100	84	4	
End of Borehole							
(GWL @ 2.25m - Nov. 11, 2019)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

Monitoring Well Construction

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Sir John A. MacDonald - Wellington - Maisonneuve
Ottawa, Ontario

DATUM

REMARKS

BORINGS BY CME 55 Power Auger

DATE 2019 October 30

FILE NO. PG4826

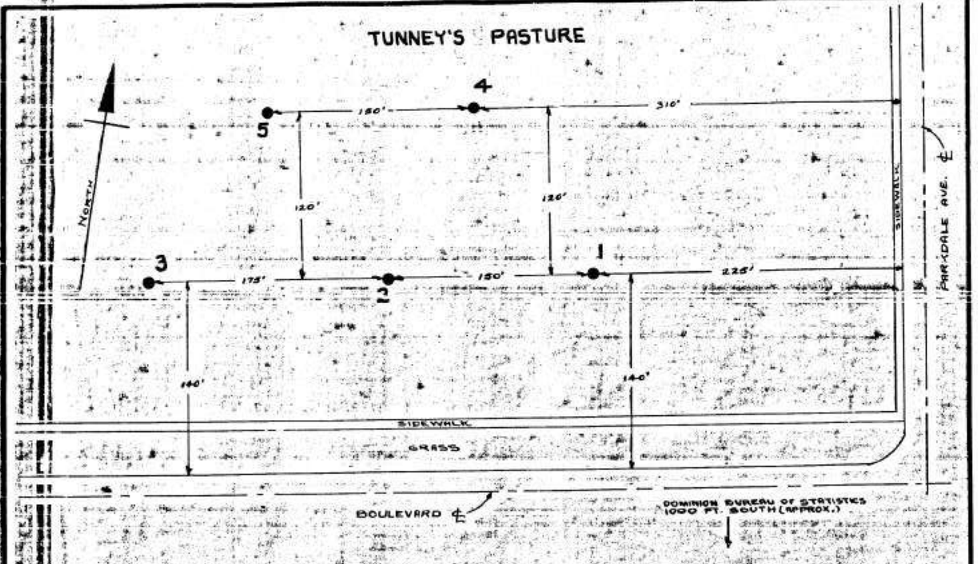
HOLE NO. BH 2

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone / ○ Water Content %	Piezometer Construction
GROUND SURFACE						0			
TOPSOIL 0.20									
FILL: Brown silty sand, some gravel and crushed stone		SS	1	67	4				
		SS	2	79	11	1			
1.88		SS	3	46	4				
GLACIAL TILL: Brown silty sand with gravel and cobbles						2			
2.36		SS	4	33	50+				
End of Borehole Practical refusal to augering at 2.36m depth (Piezometer dry/blocked to 0.62m depth - Nov. 11, 2019)									

Water content scale: 20 40 60 80

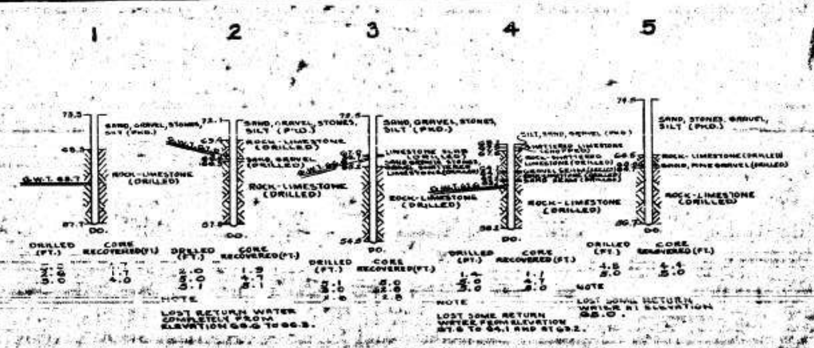
Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded



LOCATION OF BORINGS

SCALE:- 1 IN. = 50 FT.



DETAIL OF BORINGS

SCALES: VERTICAL - 1 IN. = 10 FT.
HORIZ. - NOT TO SCALE

LEGEND
THE GROUND WATER TABLE ELEVATION SHOWN THUS: G.W.T.

NOTE
ALL ELEVATIONS ARE REFERRED TO CITY DATUM. TO OBTAIN GEODETIC DATUM ADD 121.97 FT. TO EACH ELEVATION.
LEVELS WERE RUN FROM CITY B.M. x 7 GEODETIC ELEVATIONS 200.12 LOCATED ON THE NORTH EAST CORNER OF HOUSE 2 HERON AVE.

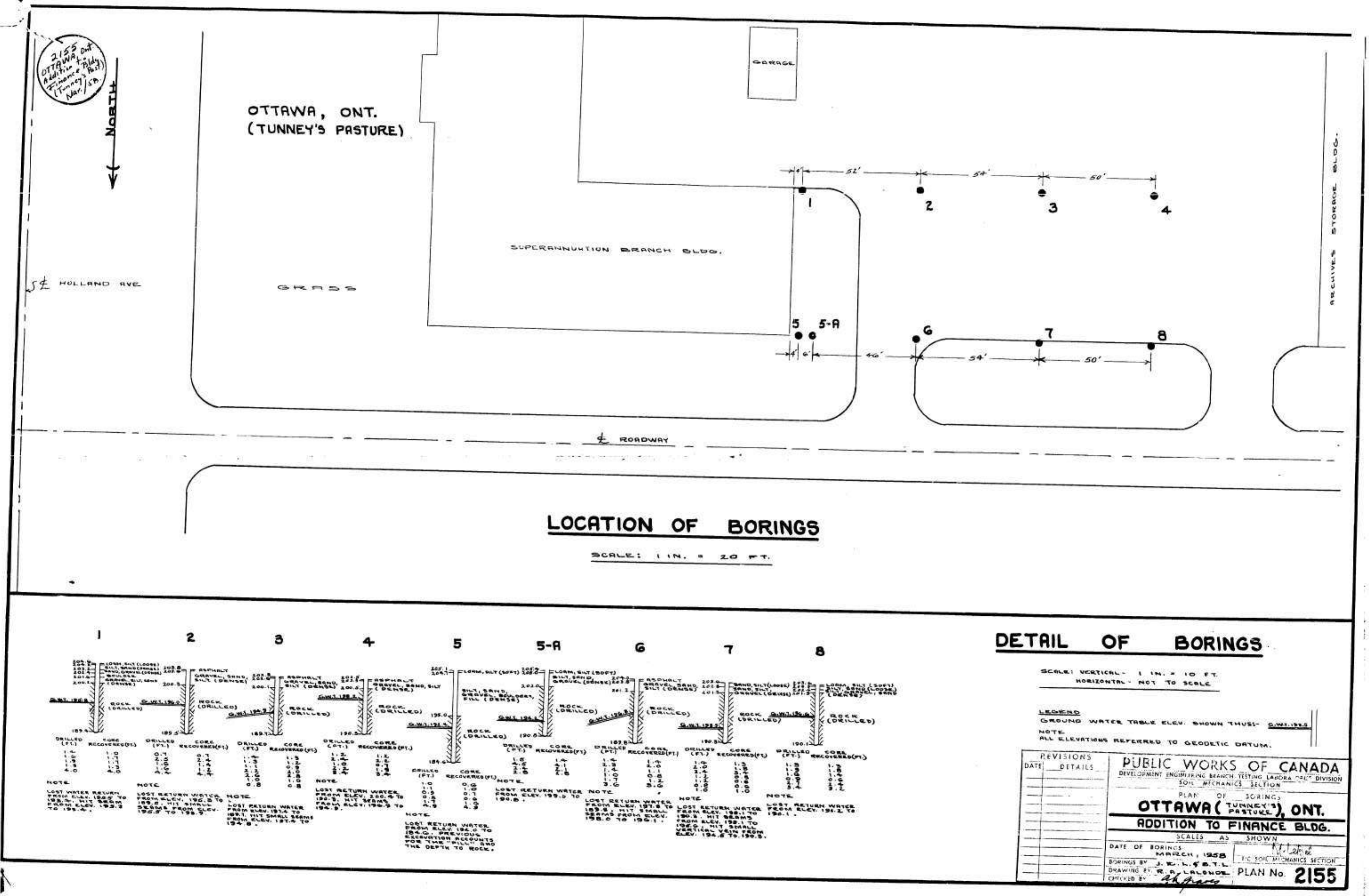
REVISIONS	
DATE	DETAILS

PUBLIC WORKS OF CANADA
DEVELOPMENT ENGINEERING BRANCH TESTING LABORATORIES DIVISION
SOIL MECHANICS SECTION
PLAN OF BORINGS
OTTAWA (TUNNEY'S PASTURE), ONT.
ENVIRONMENTAL HEALTH CENTRE
SCALES AS SHOWN
DATE OF BORINGS OCTOBER, 1957
BORINGS BY J. E. LEBLANC
DRAWING BY R. A. LALONDE
CHECKED BY [signature]
M. LeBel
I/C SOIL MECHANICS SECTION
PLAN No. 2130

2130 Ottawa Ont. Env. Health Cent. Oct./57

2130

24X



NORTH
OTTAWA, ONT.
(TUNNEY'S PASTURE)
GARAGE
SUPERANNUATION BRANCH BLDG.
ARCHIVES STORAGE BLDG.
HOLLAND AVE
GRASS
ROADWAY
LOCATION OF BORINGS
SCALE: 1 IN. = 20 FT.
DETAIL OF BORINGS
SCALE: VERTICAL - 1 IN. = 10 FT.
HORIZONTAL - NOT TO SCALE
LEGEND
GROUND WATER TABLE ELEV. SHOWN THUS:-
NOTE
ALL ELEVATIONS REFERRED TO GEODETIC DATUM.
REVISIONS
DATE DETAILS
PUBLIC WORKS OF CANADA
DEVELOPMENT ENGINEERING BRANCH TESTING LABORA... DIVISION
SOIL MECHANICS SECTION
PLAN OF BORINGS
OTTAWA (TUNNEY'S PASTURE), ONT.
ADDITION TO FINANCE BLDG.
SCALES AS SHOWN
DATE OF BORINGS MARCH, 1958
PLAN No. 2155

2155

24X

REPORT # 2346

ML/bL

E.A. Gardner, Chief Architect.
Attention: I. B. Simpson

750-221

P. Rubec, Acting Chief,
Testing Laboratories.

32-2338

Tunney's Pasture, Ottawa
Eldorado Mining & Refining Ltd.
Rod Soundings Exploration

Dec. 8/60

1. This is to acknowledge your letter of November 23, 1960 requesting a sub-soil investigation by the rod sounding method at the subject site.

2. The exploration was undertaken to establish the thickness of the overburden along the proposed Fire Hydrant Protection Lines. It has been agreed between your Mr. Ward and our Mr. Ismaily to relocate line B-B in order to meet the site and existing buildings requirements. Rod sounding work was carried down to what can be expected to be solid rock but not proven by diamond drilling operations.

3. Depths of overburden below ground level are as follows:

Bore Hole No.	Depths	Halfway between	Depth
1	1.9 ft.		
2	2.4 ft.	B.H. 1 and B.H. 2	1.6 ft.
3	3.7 ft.	B.H. 2 and B.H. 3	3.9 ft.
4	3.5 ft.	B.H. 3 and B.H. 4	2.4 ft.
5	3.8 ft.	B.H. 4 and B.H. 5	3.2 ft.
6	2.8 ft.		
7	3.1 ft.	B.H. 6 and B.H. 7	2.5 ft.
8	3.4 ft.	B.H. 7 and B.H. 8	3.4 ft.
9	2.5 ft.	B.H. 8 and B.H. 9	3.0 ft.

4. A site plan showing the location of bore-hole lines and borings explored at the subject site is herewith attached for your convenience.

5. It is hoped that this information will meet your immediate requirements.

M. LeBel
P. Rubec,
Acting Chief,
Testing Laboratories.

Encl.

BORING REPORT N° 2330 | RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, ONTARIO

HOLE N°	CHECKED	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
1-A	DWN. H. LETTING; APPROVED	4 MAY 1961; BORING TECH. A. SCOTT	COMPUTER BUILDING	OTTAWA, ONT. (TUNNEY'S PASTURE); FILE N° 32-5365

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	178.8	GEODETIC	201.3	191.8	200.1

LEGEND
SAMPLING METHOD: 2" DIA. SPLIT TUBE; 3" SHELBY TUBE
PENETRATION RESISTANCE – N: 2" SPLIT TUBE; 2" DIA. CONE; CASING
STRENGTH: UNCONFINED COMPRESSION (QU); VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY: NATURAL MOISTURE AND LIQUIDITY INDEX (LI); LIQUID LIMIT; PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.
				201.3
			ROCK, SCATTERED (DRILLED)	200.1 / 199.1
			9.4	191.8
			ROCK (DRILLED)	
				178.8

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
2.0	2.0
2.0	2.0
1.9	1.9
5.0	5.0
5.1	5.0
5.5	5.0

NOTE: LOST RETURN WATER AT ELEV. 187.6

STRENGTH + PENETRATION RESISTANCE | CONSISTENCY | UNIT WT. LBS/C.F.

200.0 | 190.0 | 180.0 | 170.0

BORING REPORT N° 2330 | RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, ONTARIO

HOLE N°	CHECKED	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
3-A	DWN. H. LETTING; APPROVED	25 & 26 MAY 1961; BORING TECH. A. SCOTT	COMPUTER BUILDING	OTTAWA, ONT. (TUNNEY'S PASTURE); FILE N° 32-5365

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	176.6	GEODETIC	197.6	197.5	195.7

LEGEND
SAMPLING METHOD: 2" DIA. SPLIT TUBE; 3" SHELBY TUBE
PENETRATION RESISTANCE – N: 2" SPLIT TUBE; 2" DIA. CONE; CASING
STRENGTH: UNCONFINED COMPRESSION (QU); VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY: NATURAL MOISTURE AND LIQUIDITY INDEX (LI); LIQUID LIMIT; PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.
			ORGANIC SILT	197.6 / 197.5
			CLAY	196.5 / 195.7
			ROCK (DRILLED)	
				176.6

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
5.1	5.0
1.0	1.0
5.0	5.0
5.0	5.0
5.0	5.0

NOTE: LOST RETURN WATER AT ELEV. 188.1

STRENGTH + PENETRATION RESISTANCE | CONSISTENCY | UNIT WT. LBS/C.F.

200.0 | 190.0 | 180.0 | 170.0

X24

BORING REPORT Nº 2380	RECORD – SUBSURFACE EXPLORATION – SOILS TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH DEPARTMENT OF PUBLIC WORKS, OTTAWA, ONTARIO.		PROPOSED STRUCTURE	LOCATION
HOLE Nº 23-A	CHECKED + R.K. DWN. H. LETTING APPROVED M. LeBlois	DATE OF BORING 30 MAY 1961 BORING TECH. A. SCOTT	COMPUTER BUILDING	OTTAWA, ONT. (TUNNEY'S PASTURE) FILE Nº 33-2365

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
——	191.0	GEODETIC	200.6	194.3	200.8

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE – N
2" SPLIT TUBE
2" DIA. CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI)
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE Nº	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (KSF / BLOWS/FT)	CONSISTENCY	UNIT WT LBS/C.F.
				200.8				
			GRL ROCK (DRILLED)	198.3				200.0
				191.0				195.0
			BOTTOM OF HOLE DRILLED FT. RECOVERED FT. 1.8 1.8 1.5 1.5 1.8 1.8 5.0 5.0					

BORING REPORT Nº 2380	RECORD – SUBSURFACE EXPLORATION – SOILS TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH DEPARTMENT OF PUBLIC WORKS, OTTAWA, ONTARIO		PROPOSED STRUCTURE	LOCATION
HOLE Nº 29-A	CHECKED + R.K. DWN. H. LETTING APPROVED M. LeBlois	DATE OF BORING 9 MAY 1961 BORING TECH. A. SCOTT	COMPUTER BUILDING	OTTAWA, ONT. (TUNNEY'S PASTURE) FILE Nº 33-2365

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
	180.4	GEODETIC	201.3		180.4

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE – N
2" SPLIT TUBE
2" DIA. CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI)
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE Nº	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (KSF / BLOWS/FT)	CONSISTENCY	UNIT WT LBS/C.F.
				201.3				200.0
			GRL ROCK (DRILLED)	195.9				190.0
				180.4				185.0
			BOTTOM OF HOLE DRILLED FT. RECOVERED FT. 2.0 2.0 2.0 2.0 1.9 1.9 5.0 5.0 5.0 5.0 5.0 5.0 NOTE: LOST RETURN WATER AT ELEV. 181.8					

X24

BORING REPORT N° 2380 — RECORD – SUBSURFACE EXPLORATION – SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	35
CHECKED	RWL & RLK
DWN.	H. LETTING
APPROVED	
DATE OF BORING	2 MAY 1961
BORING TECH	A. SCOTT
PROPOSED STRUCTURE	COMPUTER BUILDING
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2365

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	181.8	GEODETIC	201.8	196.8	199.8

LEGEND
SAMPLING METHOD: 2" DIA. SPLIT TUBE; 3" SHELBY TUBE
PENETRATION RESISTANCE – N: 2" SPLIT TUBE; 2" DIA. CONE; CASING
STRENGTH: UNCONFINED COMPRESSION (QU); VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY: NATURAL MOISTURE AND LIQUIDITY INDEX (LI); LIQUID LIMIT; PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE	CONSISTENCY	UNIT WT. LBS/C.F.
				201.8				
			SAND, GRAVEL	199.3				
			ROCK, BROKEN (DRILLED)	197.4				
			G.W.	196.8				200.0
			ROCK (DRILLED)					190.0
				181.8				
			BOTTOM OF HOLE					180.0

DRILLED FT.	RECOVERED FT.
6.6	3.0
5.0	5.0
5.0	5.0

NOTE:
LOST RETURN WATER AT ELEV. 184.8

BORING REPORT N° 2380 — RECORD – SUBSURFACE EXPLORATION – SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, ONTARIO

HOLE N°	35-A
CHECKED	RWL & RLK
DWN.	H. LETTING
APPROVED	
DATE OF BORING	11 MAY 1961
BORING TECH	A. SCOTT
PROPOSED STRUCTURE	COMPUTER BUILDING
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2365

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	178.2	GEODETIC	200.9	195.2	198.8

LEGEND
SAMPLING METHOD: 2" DIA. SPLIT TUBE; 3" SHELBY TUBE
PENETRATION RESISTANCE – N: 2" SPLIT TUBE; 2" DIA. CONE; CASING
STRENGTH: UNCONFINED COMPRESSION (QU); VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY: NATURAL MOISTURE AND LIQUIDITY INDEX (LI); LIQUID LIMIT; PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE	CONSISTENCY	UNIT WT. LBS/C.F.
				200.9				
			SAND, GRAVEL	198.8				
			ROCK, SHATTERED (DRILLED)	198.4				200.0
			G.W.	195.2				
			ROCK (DRILLED)					190.0
				178.2				
			BOTTOM OF HOLE					180.0
								170.0

DRILLED FT.	RECOVERED FT.
2.7	1.0
7.9	7.4
2.1	2.0
5.0	5.0
5.0	5.0

NOTE:
LOST RETURN WATER AT ELEV. 176.2

X24

BORING REPORT N° 2429 — HOLE N° 5

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, ONTARIO

CHECKED	RHL / [illegible]
DWN.	H. LETTING
APPROVED	M. LeBel
DATE OF BORING	31 OCT. 1961
BORING TECH.	S. LEAFLOOR
PROPOSED STRUCTURE	ANIMAL BREEDING BLDG. (DEPT. OF N.H. & W.)
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2409

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
3" SHELBY TUBE
PENETRATION RESISTANCE - N
2" SPLIT TUBE
2" DIA. CONE
CASING — AX
CORE SIZE — AXT
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — x LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	190.0	GEODETIC	206.0	202.8	200.9

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (KSF / BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				206.0				210.0
		GW	SAND, SOME GRAVEL, FIL (DRILLED)	202.8				
			COBBLES / BOULDERS	202.4				
			SAND, SOME GRAVEL (DRILLED)	200.9				200.0
			ROCK (DRILLED)	190.0				190.0
			BOTTOM OF HOLE					

DRILLED FT. / RECOVERED FT.
5.1 / 4.7
4.5 / 4.4
1.3 / 1.2

NOTE:-
SEAM OR SOFT LAYER ENCOUNTERED AT ELEV. 197.4

BORING REPORT N° 2429 — HOLE N° 6

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, ONTARIO

CHECKED	RHL / [illegible]
DWN.	H. LETTING
APPROVED	M. LeBel
DATE OF BORING	30 OCT. 1961
BORING TECH.	S. LEAFLOOR
PROPOSED STRUCTURE	ANIMAL BREEDING BLDG. (DEPT. OF N.H. & W.)
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2409

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
3" SHELBY TUBE
PENETRATION RESISTANCE - N
2" SPLIT TUBE
2" DIA. CONE
CASING — AX
CORE SIZE — AXT
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — x LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	194.0	GEODETIC	206.4	205.0	204.3

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (KSF / BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				206.4				210.0
		GW	SAND, SOME GRAVEL, [illegible]	205.0				
			ROCK (DRILLED)	204.3				200.0
				194.0				190.0
			BOTTOM OF HOLE					

DRILLED FT. / RECOVERED FT.
1.4 / 1.2
4.5 / 4.3
4.3 / 4.4

X24

BORING REPORT N° 2429

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, ONTARIO.

HOLE N° 7

CHECKED: RMC [illegible]
DRN. H. LETTING
APPROVED: M. LeBel [illegible]
DATE OF BORING: 20 OCT. 1961
BORING TECH.: B. LEAFLOOR

PROPOSED STRUCTURE: ANIMAL BREEDING BLDG. (DEPT. OF N.H.&W.)
LOCATION: OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N° 32-2409

LEGEND
SAMPLING METHOD: 2" DIA. SPLIT TUBE; 2" SHELBY TUBE
PENETRATION RESISTANCE: 2" SPLIT TUBE; 2" DIA. CONE; CASING — AX; CORE SIZE — AXT
STRENGTH: UNCONFINED COMPRESSION (QU); VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY: NATURAL MOISTURE AND LIQUIDITY INDEX (L.I.); LIQUID LIMIT; PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	192.6	GEODETIC	206.6	204.3	[illegible]

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE	CONSISTENCY	UNIT WT. LBS/C.F.
				206.6				210.0
			SAND, SOME GRAVEL (DRILLED)	204.1				
		G.W.	ROCK LAYER, [illegible] (DRILLED)	203.8				
				202.9				
			ROCK (DRILLED)					200.0
				192.6				
			BOTTOM OF HOLE					190.0
			DRILLED FT. 8.2, 5.1 — RECOVERED FT. 8.1, 5.1					
			NOTE: A SEAM WAS ENCOUNTERED FROM ELEV. 203.8 TO 202.9 FT.					

BORING REPORT N° 2429

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, ONTARIO.

HOLE N° 8

CHECKED: RMC [illegible]
DRN. H. LETTING
APPROVED: M. LeBel [illegible]
DATE OF BORING: 27 OCT. 1961
BORING TECH.: B. LEAFLOOR

PROPOSED STRUCTURE: ANIMAL BREEDING BLDG. (DEPT. OF N.H.&W.)
LOCATION: OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N° 32-2409

LEGEND
SAMPLING METHOD: 2" DIA. SPLIT TUBE; 2" SHELBY TUBE
PENETRATION RESISTANCE: 2" SPLIT TUBE; 2" DIA. CONE; CASING — AX; CORE SIZE — AXT
STRENGTH: UNCONFINED COMPRESSION (QU); VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY: NATURAL MOISTURE AND LIQUIDITY INDEX (L.I.); LIQUID LIMIT; PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	192.1	GEODETIC	207.2	202.9	205.9

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE	CONSISTENCY	UNIT WT. LBS/C.F.
				207.2				210.0
		G.W.	SAND, SOME GRAVEL (DRILLED)	205.9				
			ROCK (DRILLED)					200.0
				192.1				
			BOTTOM OF HOLE					190.0
			DRILLED FT. 0.8, 4.2, 9.8 — RECOVERED FT. 0.6, 2.3, 4.5					
			NOTE: SEAMS OR SOFT FORMATION ENCOUNTERED AT ELEV. 200.6/200.[illegible]					

X24

McROSTIE SETO GENEST
& ASSOCIATES LTD. & ASSOCIÉS LTÉE
CONSULTING ENGINEERS – INGÉNIEURS CONSEILS
OTTAWA CANADA

SOIL PROFILE & TEST SUMMARIES
PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

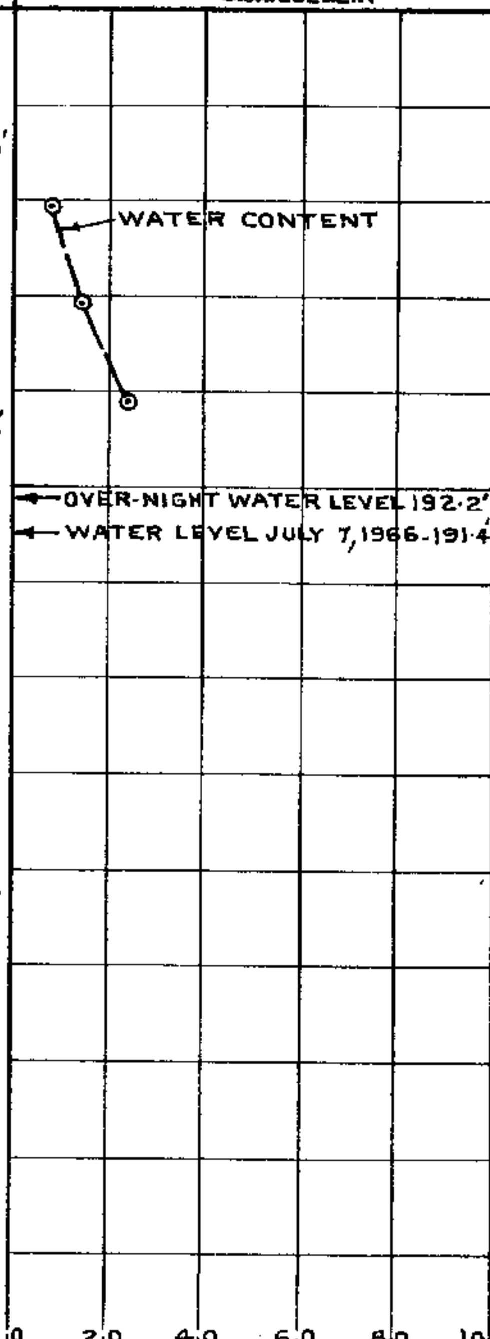
PARKDALE AT BURNSIDE

ELEVATION OF GROUND SURFACE (ZERO DEPTH) / NIVEAU DU SOL (PROFONDEUR ZÉRO): 199.5′ DATE: JUNE 17, 1966
HOLE / FORAGE No. 1

NOTES: B.M. (EL. 210.99′) GEODETIC TABLET IN NORTH FACE OF STONE COLUMN AT SOUTH SIDE OF PARKDALE ENTRANCE TO DOMINION BUREAU OF STATISTICS BUILDING

Compressive Strength K.S.F. / Résistance à la Compression K/Pd.2	Small Scale Penetrometer K.S.F. / Petit Pénétromètre K/Pd.2	Essai-Standard Penetration Blows/ft.-Coups/pd	Sample No. / Echantillon	DESCRIPTION OF SOIL / DU SOL (Ground Surface – Niveau du Sol)	Depth in Feet / Profondeur - Pied	Elevation / Niveau
					0′	199.5′
		18 for 6″	1-1	FILL SANDY GRAVEL		
					2.5′	
		42	1-2	FILL BROWNISH GRAY CLAY & BROKEN ROCK		
		86	1-3			
					6′	193.5′
	1″ DROP & LOST WATER			ROCK CORE RECOVERY 93%		
					10.9′	
				ROCK CORE RECOVERY 100%		
					15.9′	183.6′
				BOTTOM OF HOLE		

PROBING OR VANE TEST / SONDAGE OU ESSAI AU MOULINET
MARTEAU----HAMMER / CHUTE LIBRE---DROP
NO CASING / SANS TUBAGE
BARRE-----DIA. ROD
BLOWS/FOOT OR SHEAR STRENGTH K.S.F. / COUPS/PIED OU RÉSISTANCE AU CISAILLEMENT K/PD.2



% WATER CONTENT / TENEUR EN EAU
NATURAL / NATURELLE ⊙
LIQUID LIMIT / LIMITE DE LIQUIDITÉ ⊡
PLASTIC LIMIT / LIMITE DE PLASTICITÉ △

R = REMOULDED-REMANIÉ
CR = CORE RECOVERY / CAROTTE RÉCUPÉRÉE

PLATE / PLAQUE No. 2

McROSTIE SETO GENEST

& ASSOCIATES LTD. & ASSOCIÉS LTÉE

CONSULTING ENGINEERS – INGÉNIEURS CONSEILS

OTTAWA CANADA

SOIL PROFILE & TEST SUMMARIES

PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

PARKDALE AT BURNSIDE

ELEVATION OF GROUND SURFACE (ZERO DEPTH) / NIVEAU DU SOL (PROFONDEUR ZERO) 201·7' DATE OCT. 19, 1966

HOLE / FORAGE No. 5

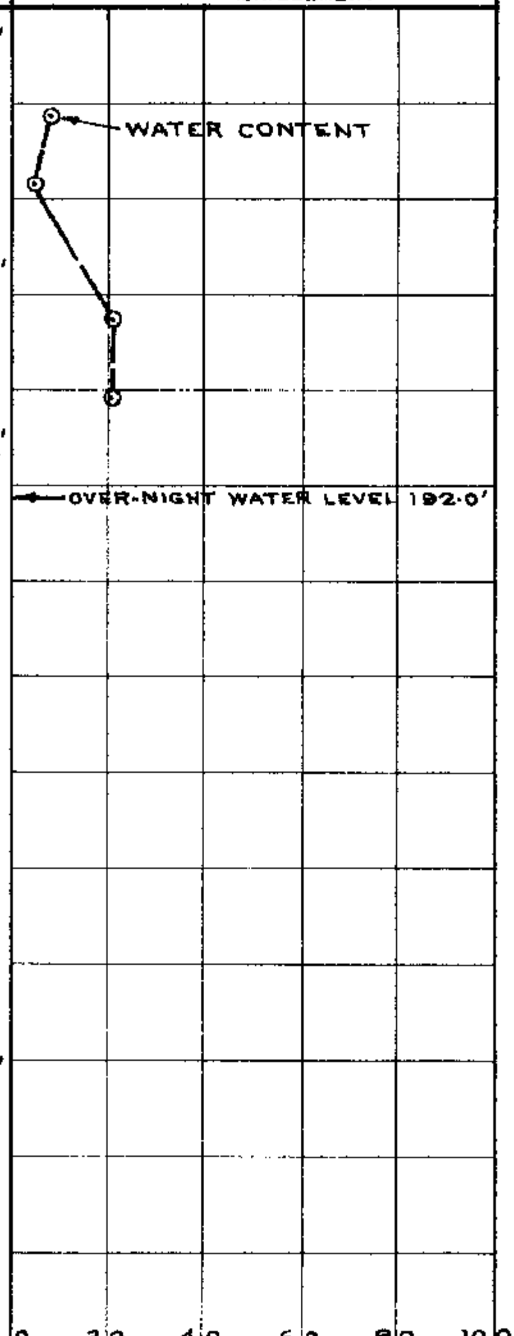
NOTES B.M. (EL. 210·99') GEODETIC-TABLET IN NORTH FACE OF STONE COLUMN AT SOUTH SIDE OF PARKDALE ENTRANCE TO DOMINION BUREAU OF STATISTICS BUILDING.

Compressive Strength K.S.F. / Résistance à la Compression K/Pd.2	Small Scale Penetrometer K.S.F. / Petit Pénétromètre K/Pd.2	Essai-Standard Penetration Blows/ft.-Coups/pd	Sample No. / Echantillon	DESCRIPTION OF SOIL / DU SOL	Depth in Feet / Profondeur-Pied	Elevation / Niveau
				Ground Surface – Niveau du Sol	0'	201·7'
		14	5.1	FILL SAND BROKEN ROCK WITH SOME TOPSOIL		
		26	5.2			
					5'	196·7'
		7	5.3	LOOSE TILL		
					7·5'	
		31 for 2"	5.4	DENSE TILL		
					8·5'	193·2'
				ROCK CORE RECOVERY 100%		
					11·5'	
	WATER LOST			ROCK CORE RECOVERY 100%		
					16·5'	
	1/4" DROP			ROCK CORE RECOVERY 100%		
					21·5'	180·2'
				BOTTOM OF HOLE		

PROBING OR VANE TEST / SONDAGE OU ESSAI AU MOULINET

MARTEAU----HAMMER / CHUTE LIBRE---DROP / NO CASING SANS TUBAGE / BARRE-----DIA. ROD

BLOWS/FOOT OR SHEAR STRENGTH K.S.F. / COUPS/PIED OU RÉSISTANCE AU CISAILLEMENT, K/PD.2



WATER CONTENT % TENEUR EN EAU

NATURAL / NATURELLE ⊙

LIQUID LIMIT / LIMITE DE LIQUIDITÉ □

PLASTIC LIMIT / LIMITE DE PLASTICITÉ △

PLATE / PLAQUE No. 4

R = REMOULDED-REMANIE

CR = CORE RECOVERY / CAROTTE RECUPEREE

DWG NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT
PROJECT:	OFFICE BUILDING
DATE:	12 Apr 67
HOLE NO.:	X 3
BORING BY:	JD PERREAULT
FILE NO.:	32-3166
BORING RECORD NO.:	2873
DRAWN:	K Clay
CHECKED:	
APPROVED:	

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 205.9
GROUND WATER:	BEDROCK SURFACE: 202.9
GAUGE READING:	BOTTOM OF HOLE: 172.8

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT
		Asphalt Pavement	205.9		
			205.7		
		SAND - GRAVEL	202.9		
		LIMESTONE	201.6		
		DOLOMITE	196.7		
		LIMESTONE	186.4		
		LIMESTONE, Mottled	184.9		
		DOLOMITIC LIMESTONE & LIMESTONE	179.6		
		LIMESTONE, Fossiliferous	176.9		
		DOLOMITE & LIMESTONE	172.8		

Drilled (ft)	Recovery (ft)
2.7	2.7
3.1	3.1
5.0	5.0
4.0	4.0
5.0	5.0
5.0	5.0
4.8	4.8

Notes:
1. Weathered, buff, dolomite seam 0.3 ft thick at elev. 199.8 ft.
2. Badly weathered Dolomite seams >0.1 ft. thick at elevations 198.2 ft. and 197.7 ft.
3. Weathered Shale seam (partly Silty mud) 0.3 ft. thick at elev. 196.7 ft.
4. Weathered bedrock above elevation 196.6 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	Apr. 25/68
HOLE NO.:	3
PROJECT:	D.B.S. NEW BUILDING
BORING BY:	M.B. Rabb
FILE NO.:	32-3289
BORING RECORD NO.:	2935
DRAWN:	
CHECKED:	akg
APPROVED:	RWJ

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- NX ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 205.1
- GROUND WATER:
- BEDROCK SURFACE: 201.0
- GAUGE READING:
- BOTTOM OF HOLE: 163.7

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, c_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		TOPSOIL-CLAYEY TO	205.1	0.0
5		SANDY SILT, dark brownish grey to brown	202.1	
6		SILTY SAND, yellowish brown	201.0	4.1
		LIMESTONE few shaly partings and stylolites, mainly fine grained, dark grey to grey, some rust coated joints and broken rock in top 4 ft.	190.0	
		LIMESTONE with brecciated and mineralized zones few slickensides (evidence of faulting) fractures and veins are steep dipping, dark grey to grey		
			163.7	41.4

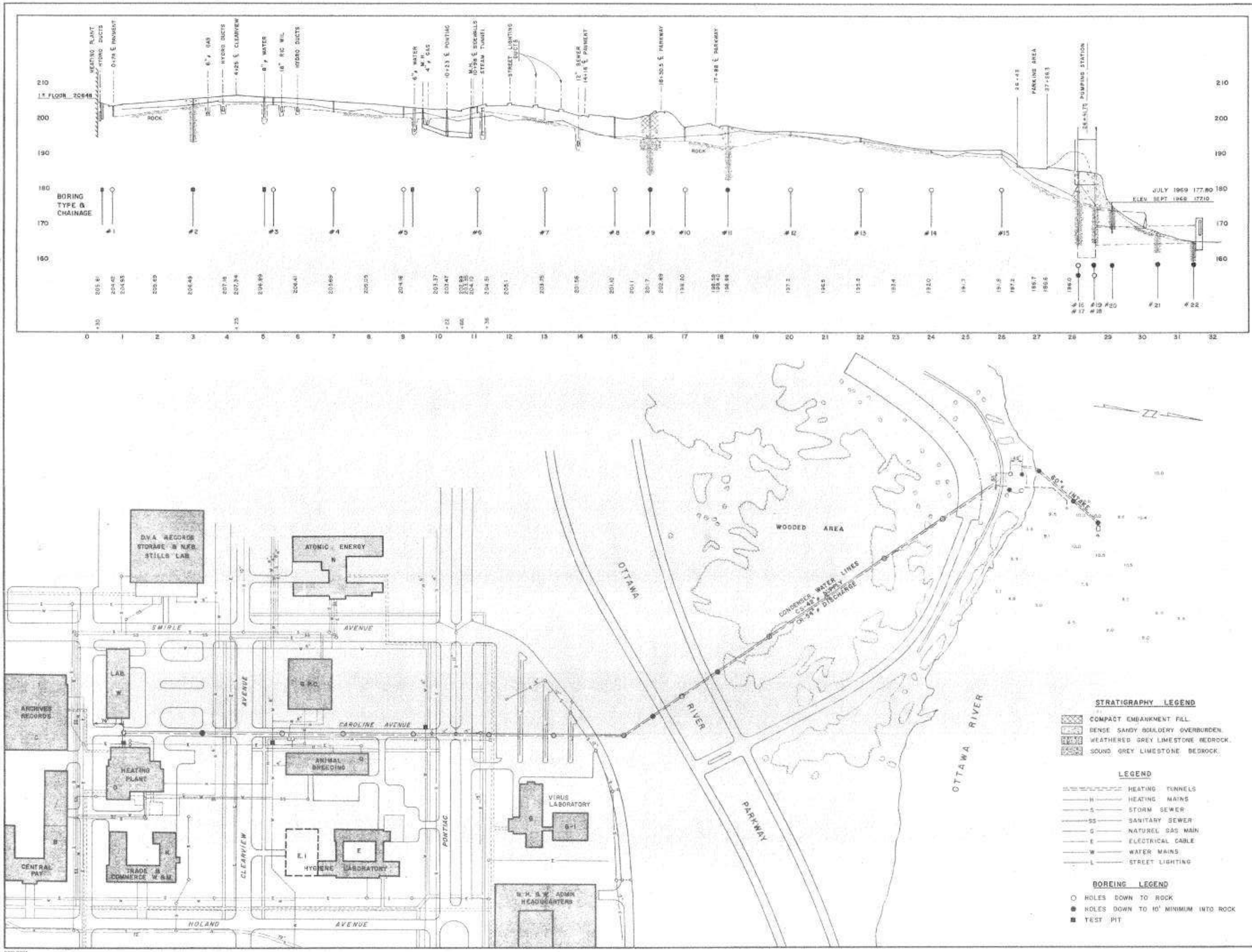
N 5 10 15 BLOWS/FT

Drilled	Recovery (ft.)
1.1	0.7
4.9	4.5
5.0	5.0
3.1	3.2
5.0	4.7
4.8	5.0
3.6	3.0
5.1	4.9
4.7	4.3

Notes:
1. Rusty coated joints and fractures above elev. 182 ft.
2. Minerals are calcite, cellestite and possibly gypsum.
3. About 50% loss of drilling water during rock coring.

REMARKS

FORM TL/TF 213



Department of Public Works | Ministère des Travaux publics

LALONDE - GIROUARD - LETENDRE
CONSULTING ENGINEERS
DATE: JANUARY 1969
PLAN Nº 247 - 1

A. detail no. / détail no.
B. location dwg. no. / sur dessin no.
C. dwg. no. / dessin no.

date	revisions
MAY 1969	ROCK ELEVATIONS BOREHOLES

Job title: / Titre du projet:
OTTAWA, ONTARIO - TUNNEY & PASTURE
CENTRAL CHILLED WATER PLANT
STEAM AND CHILLED WATER DISTRIBUTION SYSTEM
PHASE - I

Drawing title: / Titre du dessin:
BORING LOCATION

SCALE: HOR. - 1" = 100'-0" VERT. - 1" = 10'-0"

drawn by: / dessiné par: D.N.

job number: / no du projet: 98014
dwg. no. / dessin no: C-101

RECORD OF BORE HOLE DEPARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES	LOCATION: TUNNEY'S PASTURE, OTTAWA, ONT. PROJECT: Basement Ext., Proposed DBS Bldg.	DATE: Nov. 21/69 BORING BY: Lafrange	HOLE NO.: 119 FILE NO.: 32-3289

BORING RECORD NO.: 3011	DRAWN: G.F.	CHECKED:	APPROVED:

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic		GROUND SURFACE:	203.2
GROUND WATER: –		BEDROCK SURFACE:	198.5
GAUGE READING: –		BOTTOM OF HOLE:	183.9

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

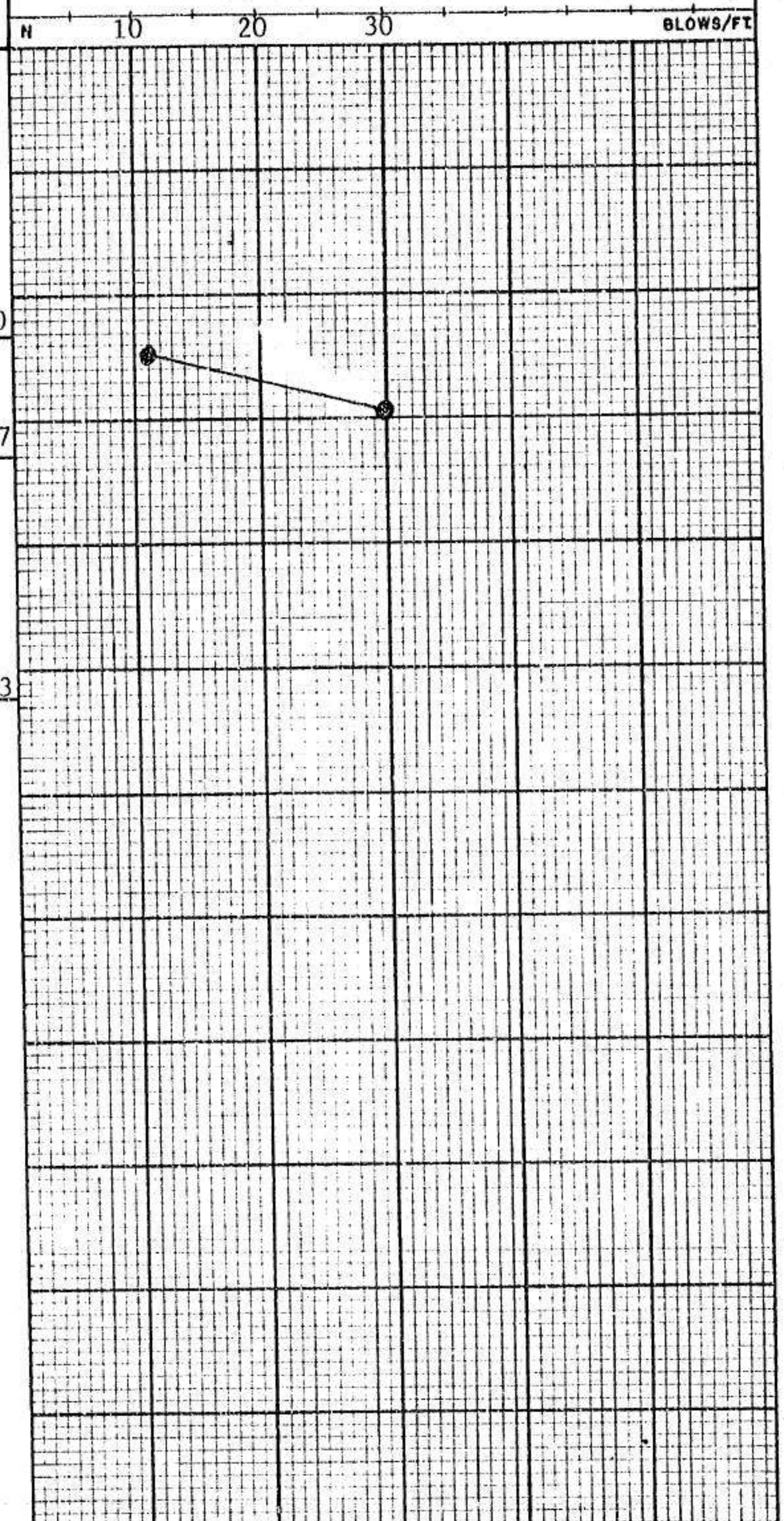
CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			203.2	0.0
105 106		TOPSOIL covering SILTY SAND-GRAVEL (compact)	198.5	4.7
		Top 0.5 ft. fractured remainder of LIMESTONE, sound, zones with small unconnected pores at elev. 187 (5" thick) and elev. 184.5 (5" thick)	183.9	19.3

BEDROCK

Drilled	Recovered
2.3 ft.	2.3 ft.
5.1	5.1
4.7	4.6
2.5	2.5
14.6 ft.	14.5 ft.

NOTE: Water returned during drilling



REMARKS

DWG. NO. A475

RECORD OF BORE HOLE DEPARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES	LOCATION: TUNNEY'S PASTURE, OTTAWA, ONT.	DATE: Nov. 7/69	HOLE NO.: 122
	PROJECT: Basement Ext., Proposed DBS Bldg.	BORING BY: Lafrange	FILE NO.: 32-3289

BORING RECORD NO.: 3011 | DRAWN: G.F. | CHECKED: Rldo | APPROVED: [illegible]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 203.0
GROUND WATER: -	BEDROCK SURFACE: 199.5
GAUGE READING: -	BOTTOM OF HOLE: 182.2

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			203.0	0.0
		TOPSOIL covering SILTY SAND-GRAVEL	199.5	3.5
	ROCK CORE	Top 0.5 ft. may be fractured, remainder of LIMESTONE, sound with horiz. water stained joints at elev. 198.5, 197.5, 197 and 195, zones with small unconnected pores at elev. 185.5 (12" thick) and elev. 183.5 (6" thick)	182.2	20.8

BEDROCK

Drilled	Recovered
2.3 ft.	2.3 ft.
5.0	5.0
5.0	5.0
5.0	5.0
17.3 ft.	17.3 ft.

NOTE: Water lost at elev. 195.5

N — BLOWS/FT.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: TUNNEY'S PASTURE, OTTAWA, ONT.	DATE: Dec. 9/69	HOLE NO.: 136	
PROJECT: Proposed D.B.S. Building	BORING BY: Perreault	FILE NO.: 32-3289	

BORING RECORD NO.: 3011	DRAWN: G F	CHECKED:	APPROVED:

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 204.6
GROUND WATER: —	BEDROCK SURFACE: 201.5
GAUGE READING: —	BOTTOM OF HOLE: 181.6

PENETRATION RESISTANCE
STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING
UNDRAINED SHEAR STRENGTH, s_u
FORMS;
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY
NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_P
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.6	0.0
		TOPSOIL covering SAND-GRAVEL	201.5	3.1
	Rock core	LIMESTONE, fractured core badly broken	198.0	6.6
	Rock core	LIMESTONE, questionable soundness, vt. celestite joints elev. 198 to 197 and elev. 194.6 to 193, 2" weathered zone at 192.3	191.5	13.1
	Rock core	LIMESTONE, sound with zones of small unconnected pores at elev. 189.1 (8"), and 186.8 (5")	181.6	23.0

N — BLOWS/FT.

BEDROCK

Drilled	Recovered
2.4 ft.	1.1 ft.
1.1	0.6
1.0	0.9
2.4	2.4
3.0	3.0
5.0	5.0
5.0	5.0
19.9 ft.	18.0 ft.

NOTE: Water lost at elev. 198.6

REMARKS

FORM TL/TF 213

DWG NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA
PROJECT:	Steam and Chill Water Distribution System (Phase 3)
DATE:	Nov. 17/69
HOLE NO.:	203
BORING BY:	Lafrange
FILE NO.:	32-3341
BORING RECORD NO.:	3014
DRAWN:	Dg
CHECKED:	RLeK
APPROVED:	BLG

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	203.9
GROUND WATER:		BEDROCK SURFACE:	201.4
GAUGE READING:		BOTTOM OF HOLE:	191.4

PENETRATION RESISTANCE
STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING
UNDRAINED SHEAR STRENGTH, s_u
FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY
NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_p
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT.
			203.9	0.0	
		SILTY SAND-GRAVEL brown (loose)	201.4	2.5	
	Rock core	LIMESTONE intact near vertical ½" to ¾" calcite stringer running from elev. 200 ft. to 193 ft., one face of stringer water stained, driller lost water at elev. 198.9 ft.	200.0		
			191.4	12.5	

BEDROCK

Drilled	Recovered
2.7 ft.	2.7 ft.
2.3	1.3
5.0	5.0
10.0	9.0

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: TUNNEY'S PASTURE, OTTAWA
PROJECT: Steam and Chill Water Distribution System (Phase 3)

DATE: Nov. 17/69 | HOLE NO.: 204
BORING BY: Lafrange | FILE NO.: 32-3341

BORING RECORD NO.: 3014 | DRAWN: Dg | CHECKED: RLK | APPROVED: GLY

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND WATER:
- GAUGE READING:
- GROUND SURFACE: 203.7
- BEDROCK SURFACE: 201.1
- BOTTOM OF HOLE: 192.4

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N — BLOWS/FT.
			203.7	0.0	
		SILTY SAND-GRAVEL brown (loose)	201.1	2.6	
	Rock core		200.0		
	Rock core	LIMESTONE intact water stained fractures from elev. 201.1 ft. to elev. 199.7 ft. driller lost water at elev. 199.7 ft.	192.4	11.3	

BEDROCK

Drilled	Recovered
1.4	1.2
5.0	5.0
2.3	2.3
8.7	8.5

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE

DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA
PROJECT:	Steam and Chill Water Distribution System (Phase 3)
DATE:	Nov. 17/69
HOLE NO.:	205
BORING BY:	Perreault
FILE NO.:	32-3341
BORING RECORD NO.:	3014
DRAWN:	Dg
CHECKED:	RK
APPROVED:	GLS

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	203.5
GROUND WATER:	
BEDROCK SURFACE:	197.8
GAUGE READING:	
BOTTOM OF HOLE:	192.6

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:

- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N (BLOWS/FT)
			203.5	0.0	
3	Disturbed	ORGANIC SILTY SAND mixed with CRUSHED LIMESTONE and odd pieces of shale and sandstone dark grey to black (compact)	200.0		
			197.8	5.7	
	Rock core	LIMESTONE intact top 6" maybe fractured, 1/4" thick soft calcite stringer running between elev. 197.8 & 196.8 ft.	192.6	10.9	
		BEDROCK Drilled 5.2 ft. Recovered 5.0 ft.			

N scale: 10, 20 BLOWS/FT

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE

DEPARTMENT OF PUBLIC WORKS, CANADA

TESTING LABORATORIES

LOCATION: TUNNEY'S PASTURE, OTTAWA

PROJECT: Steam and Chill Water Distribution System (Phase 3)

DATE: Nov. 17/69 | HOLE NO.: 206

BORING BY: Perreault | FILE NO.: 32-3341

BORING RECORD NO.: 3014 | DRAWN: Dg. | CHECKED: RLek | APPROVED: Gll

SAMPLE TYPE: UNDISTURBED; DISTURBED; ROCK CORE

ELEVATION (FT.): DATUM: Geodetic | GROUND SURFACE: 203.4 | GROUND WATER: | BEDROCK SURFACE: 201.1 | GAUGE READING: | BOTTOM OF HOLE: 190.6

PENETRATION RESISTANCE: STD. PEN. RESISTANCE, N; 2 INCH DIA. CONE; CASING

UNDRAINED SHEAR STRENGTH, s_u FORMS: UNCONFINED COMPRESSION ($c_u/2$); QUICK TRIAXIAL; FIELD VANE

CONSISTENCY: NATURAL WATER CONTENT, w; LIQUID LIMIT, w_L; PLASTIC LIMIT, w_p; BULK DENSITY, γ; BUOYANT DENSITY, γ'; PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			203.4	0.0
		SILTY SAND-GRAVEL (compact)	201.1	2.3
			200.0	
	Rock core	LIMESTONE intact vertical water stained joint running from elev. 201.1 ft. to elev. 200 ft.	190.6	12.8

N — BLOWS/FT

BEDROCK

Drilled	Recovered
2.2 ft.	2.2 ft.
4.9	2.9
3.4	3.4
10.5	10.5

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: TUNNEY'S PASTURE, OTTAWA

PROJECT: Steam and Chill Water Distribution System (Phase 3)

DATE: Nov. 13/69

HOLE NO.: 208

BORING BY: Perreault

FILE NO.: 32-3341

BORING RECORD NO.: 3014

DRAWN: gg

CHECKED: Rlb

APPROVED: [illegible]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 203.0
- BEDROCK SURFACE: 198.8
- GROUND WATER:
- GAUGE READING:
- BOTTOM OF HOLE: 191.2

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			203.0	0.0
1	Disturbed	SILTY SAND containing odd pieces of Limestone light brown (compact)	200.0	
			198.8	4.2
	Rock core	LIMESTONE intact vertical water stained joint running from elev. 198.8 ft. to elev. 197 ft.	191.2	11.8

N — 10 — 20 — BLOWS/FT

BEDROCK

Drilled	Recovered
3.2 ft.	3.2 ft.
4.4	4.4
7.6	7.6

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA
PROJECT:	Steam and Chill Water Distribution System (Phase 3)
DATE:	Nov. 12/69
HOLE NO.:	209
BORING BY:	Perreault
FILE NO.:	32-3341
BORING RECORD NO.:	3014
DRAWN:	eg.
CHECKED:	Klek
APPROVED:	GES

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND WATER:	
GAUGE READING:	
GROUND SURFACE:	202.6
BEDROCK SURFACE:	200.9
BOTTOM OF HOLE:	190.5

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			202.6	0.0
		SILTY SAND with some Gravel	200.9	1.7
			200.0	
	Rock core	LIMESTONE intact water stained fractures between elevations 194.8 ft. and 194.3 ft., driller lost water at elev. 198.6	190.5	12.1

N — BLOWS/FT

BEDROCK

Drilled	Recovered
2.2 ft.	2.2 ft.
3.4	3.4
4.8	4.8
10.4	10.4

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE

DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PAST.) ONT.

DATE: 3 Sept. 70

HOLE NO.: 5

PROJECT: Hydro Duct

BORING BY: B. Leafloor

FILE NO.: 32-3289

BORING RECORD NO.: 3056

DRAWN: [signature] CHECKED: [signature] APPROVED: [signature]

SAMPLE TYPE: UNDISTURBED; DISTURBED; ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic

GROUND WATER:

GAUGE READING:

GROUND SURFACE: 203.5

BEDROCK SURFACE: 200.3

BOTTOM OF HOLE: 200.3

PENETRATION RESISTANCE
STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING
UNDRAINED SHEAR STRENGTH, s_u
FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY
NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_p
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N — BLOWS/FT
			203.5	0.0	
		SILTY SANDY TOPSOIL brown		1.3	
		SILTY SAND, some Gravel (yellowish - brown)	200.3	3.2	
		BEDROCK OR BOULDER			

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE), ONT.
PROJECT: Food and Drug Laboratory
DATE: Sept.15/70
HOLE NO.: 2
BORING BY: Leafloor & Gubb
FILE NO.: 32-185

BORING RECORD NO.: 3060
DRAWN: Dg.
CHECKED: RKok
APPROVED: Dud

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
DATUM: Geodetic
GROUND WATER: -
GAUGE READING:
GROUND SURFACE: 208.7
BEDROCK SURFACE: 207.5
BOTTOM OF HOLE: 178.3

PENETRATION RESISTANCE
STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING
UNDRAINED SHEAR STRENGTH, s_u
FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY
NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_P
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N 10 20 30 40 50 BLOWS/FT
			208.7	0.0	
		SILTY SAND & GRAVEL pcs. of Limestone greyish brown	207.5	1.2	
		Weathered BEDROCK	203.5	5.2	
		LIMESTONE and DOLOMITE with occasional Shale bands; thin to massive bedding, sound			
			180.5	28.2	
		Marker Bed	179.0	29.7	
			178.3	30.4	

Drilled	Recovered
0.6 ft.	0.2 ft.
0.7	0.6
3.2	3.1
5.0	4.7
4.8	4.8
5.0	5.0
4.9	4.9
5.0	5.0
29.2	28.3

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT:	Food and Drug Laboratory
DATE:	Sept. 14/70
HOLE NO.:	T.P. 13
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	Bg
CHECKED:	R.Le..
APPROVED:	DuD

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	207.8
GROUND WATER:		BEDROCK SURFACE:	205.7
GAUGE READING:		BOTTOM OF HOLE:	205.7

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			207.8	0.0
		SILTY SAND to SANDY SILT, grey with small shale slabs and pcs. of concrete and brick	205.7	2.1
		BEDROCK		

N — BLOWS/FT.

REMARKS

FORM TL/TF 213

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OTTAWA CANADA

SOIL PROFILE & TEST SUMMARIES
PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

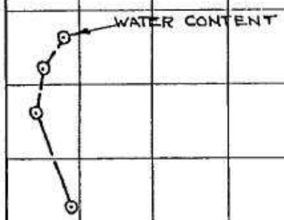
PARKDALE AVENUE
TUNNEY'S PASTURE CENSUS BUILDING

ELEVATION OF GROUND SURFACE (ZERO DEPTH) / NIVEAU DU SOL (PROFONDEUR ZERO): 202.5'
DATE: NOV. 13, 1974
HOLE / FORAGE No.: 101

NOTES: BM (ELEV. 205.31) GEODETIC, SPINDLE TOP OF HYDRANT No. 66 FROM TOPOGRAPHICAL SURVEY PLAN BY C.W. FAIRHALL, O.L.S.

Compressive Strength K.S.F. / Résistance à la Compression K/Pd.2	Small Scale Penetrometer K.S.F. / Petit Pénétromètre K/Pd.2	Essai-Standard Penetration Blows/ft.-Coups/pd	Sample / Échantillon No.	DESCRIPTION OF SOIL / DU SOL (Ground Surface – Niveau du Sol)	Depth in Feet / Profondeur-Pied	Elevation / Niveau
				FILL- SANDY TOPSOIL	0'	202.5'
					0.8'	201.7'
		8	101-1	FILL- SAND WITH SOME TOPSOIL, GRAVEL & CLAY & A FEW 1" TO 1¼" PIECES OF BROKEN ROCK		
		24 FOR 6	101-1A			
		36 / 30 FOR 6	101-2			
		20 / 41	101-3			
					7.0'	195.5'
POSSIBLE BEDROCK-MATERIAL REQUIRING DRILLING					7.5'	195.0'
				LIMESTONE ROCK — CORE RECOVERY 98 %	12.7'	189.8'
25%-WATER LOST AT EL. 184.8'				LIMESTONE ROCK — CORE RECOVERY 100 %	17.7'	184.8'
40%-WATER LOST AT EL. 182.2'				LIMESTONE ROCK		
ALL WATER LOST AT EL. 180.2'				CORE RECOVERY 100 %	22.3'	180.2'
				LIMESTONE ROCK — CORE RECOVERY 100 %	27.3'	175.2'
½" SOIL LAYER AT EL. 174.2'				LIMESTONE ROCK — CORE RECOVERY 98 %	31.7'	170.8'
				BOTTOM OF HOLE		

~~PROBING OR VANE TEST~~ / ~~SONDAGE OU ESSAI AU MOULINET~~
MARTEAU----HAMMER / CHUTE LIBRE---DROP
NO CASING / SANS TUBAGE / BARRE-----DIA. ROD
~~BLOWS/FOOT OR SHEAR STRENGTH K.S.F.~~ / ~~COUPS/PIED OU RÉSISTANCE AU CISAILLEMENT K/PD.2~~



WATER LEVEL DEC. 12, 1974 - EL. 182.7'
WATER LEVEL NOV. 27, 1974 - EL. 182.3'
OVERNIGHT WATER LEVEL - EL. 180.5'

0 20 40 60 80 100

WATER CONTENT / % TENEUR EN EAU
NATURAL / NATURELLE ⊙
LIQUID LIMIT / LIMITE DE LIQUIDITÉ ⊡
PLASTIC LIMIT / LIMITE DE PLASTICITÉ △

R = REMOULDED - REMANIÉ
CR = CORE RECOVERY / CAROTTE RECUPEREE

PLATE / PLAQUE No. 2

McROSTIE GENEST MIDDLEMISS
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OTTAWA CANADA

SOIL PROFILE & TEST SUMMARIES
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PARKDALE AVENUE
TUNNEY'S PASTURE CENSUS BUILDING

ELEVATION OF GROUND SURFACE (ZERO DEPTH) NIVEAU DU SOL (PROFONDEUR ZÉRO) 202.9'
DATE NOV. 15, 1974
HOLE FORAGE No. 102
NOTES SEE PLATE No. 2

Compressive Strength K.S.F. Résistance à la Compression K/Pd.2	Small Scale Penetrometer K.S.F. Petit Pénétromètre K/Pd.2	Equal-Standard Penetration Blows/ft Coups/pd	Sample No. Échantillon	DESCRIPTION OF SOIL DU SOL — Ground Surface – Niveau du Sol	Depth in Feet Profondeur-Pied	Elevation Niveau
				FILL – SANDY TOPSOIL	0'	202.9'
		14, 22 Ft/6"	102-1	FILL – SAND & PIECES OF BROKEN ROCK WITH A LITTLE TOPSOIL & CLAY	0.7'	202.2'
		25 Ft/6"	102-2		2.9'	200.0'
POSSIBLE BEDROCK-MATERIAL REQUIRING DRILLING				LIMESTONE ROCK — CORE RECOVERY 100%	3.4'	199.5'
ALL WATER LOST AT EL. 195.3				LIMESTONE ROCK — CORE RECOVERY 100%	5.8'	197.1'
				LIMESTONE ROCK — CORE RECOVERY 100%	10.8'	192.1'
				LIMESTONE ROCK — CORE RECOVERY 99%	15.8'	187.1'
2" TILL LAYER AT EL. 179.1' / 1/2" SOIL LAYER AT EL. 177.5				LIMESTONE ROCK — CORE RECOVERY 96%	19.5'	183.4'
				LIMESTONE ROCK — CORE RECOVERY 99%	24.2'	178.7'
				LIMESTONE ROCK — CORE RECOVERY 93%	28.8'	174.1'
				BOTTOM OF HOLE	33.3'	169.6'

~~PROBING OR VANE TEST~~ — ~~SONDAGE OU ESSAI AU MOULINET~~
MARTEAU---HAMMER
CHUTE LIBRE---DROP
NO CASING SANS TUBAGE
BARRE----DIA. ROD
~~BLOWS/FOOT OR SHEAR STRENGTH K.S.F. COUPS/PIED OU RÉSISTANCE AU, K/PD.2 CISAILLEMENT~~

WATER CONTENT

WATER LEVEL DEC 12, 1974 - EL. 188.1'
WATER LEVEL NOV. 27, 1974 - EL. 187.7'
WATER LEVEL NOV. 18, 1974 - EL. 187.6'

0 20 40 60 80 100
WATER CONTENT % TENEUR EN EAU
NATURAL NATURELLE ⊙
LIQUID LIMIT LIMITE DE LIQUIDITÉ ⊡
PLASTIC LIMIT LIMITE DE PLASTICITÉ △

R = Remoulded – Remanié
CR = Core Recovery, Carotte Recupérée

Plate Plaque No. 3

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SOIL PROFILE & TEST SUMMARIES
PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

PARKDALE AVE.
TUNNEY'S PASTURE CENSUS BLDG.

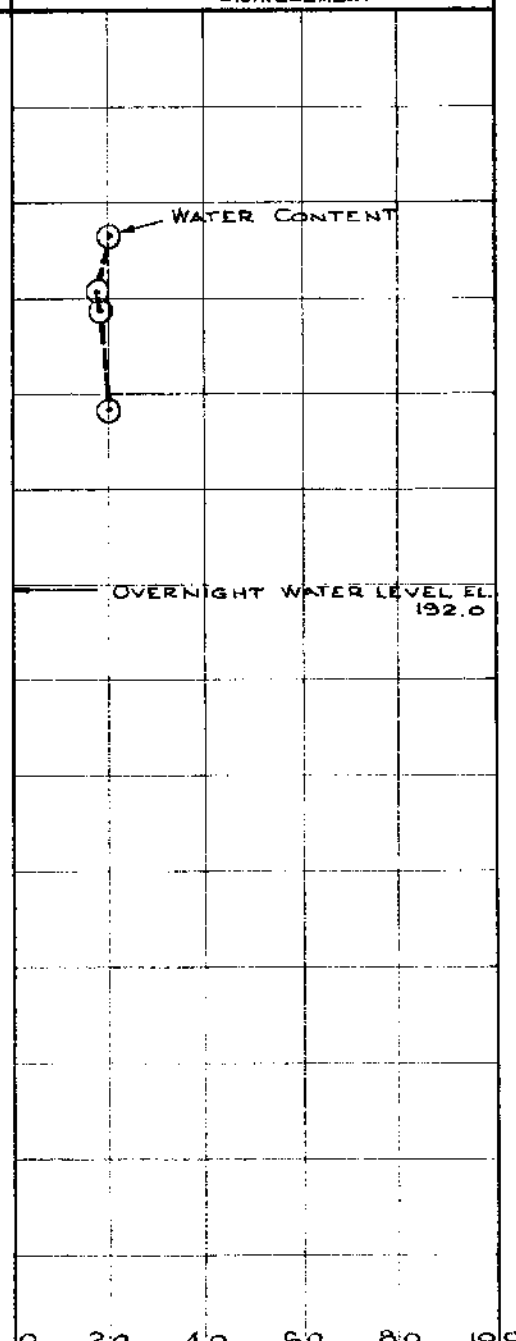
ELEVATION OF GROUND SURFACE (ZERO DEPTH) / NIVEAU DU SOL (PROFONDEUR ZERO) 201.0 DATE DEC. 11/74

HOLE / FORAGE No. 113

NOTES SEE PLATE No. 2

Compressive Strength K.S.F. / Résistance à la Compression K/Pd.2	Small Scale Penetrometer K.S.F. / Petit Pénétromètre K/Pd.2	Essai-Standard Penetration Blows/ft.-Coups/pd.	Sample No. / Échantillon	DESCRIPTION OF SOIL / DU SOL (Ground Surface – Niveau du Sol)	Depth in Feet / Profondeur-Pied	Elevation / Niveau
					0'	201.0
				FILL - SANDY TOPSOIL	0.7'	200.3
		6 (9 FOR 6")	113-1	FILL SAND WITH SOME SILT A LITTLE CLAY & A TRACE OF GRAVEL		
		10 FOR 6"	113-2A			
		26 FOR 4"	113-2B		3.3'	197.7
				FILL CLAY WITH SOME TOPSOIL & PIECES OF BROKEN ROCK & A LITTLE SAND	5'	196.0
		36 FOR 6"	113-3	VERY DENSE SANDY FILL WITH SOME 1/2" TO 1/2" PIECES OF BROKEN ROCK	5.5'	195.5
				POSSIBLE BEDROCK MATERIAL REQUIRING DRILLING	6.3'	194.7
1" DROP AT EL. 189.9 ALL WATER LOST AT EL. 189.7				LIMESTONE ROCK CORE RECOVERY 95%	11.3'	189.7
				LIMESTONE ROCK CORE RECOVERY 98%	16.3'	184.7
				LIMESTONE ROCK CORE RECOVERY 98%	21.3'	179.7
				BOTTOM OF HOLE		

~~PROBING OR VANE TEST~~ ~~SONDAGE OU ESSAI AU MOULINET~~
MARTEAU----HAMMER
CHUTE LIBRE---DROP
NO CASING / SANS TUBAGE
BARRE-----DIA. ROD
~~BLOWS/FOOT OR SHEAR STRENGTH K.S.F.~~
~~COUPS/PIED OU~~ ~~RÉSISTANCE AU CISAILLEMENT K/PD.2~~



WATER CONTENT
% TENEUR EN EAU
NATURAL / NATURELLE ⊙
LIQUID LIMIT / LIMITE DE LIQUIDITÉ ⊡
PLASTIC LIMIT

R = REMOULDED-REMANIE

PLATE / PLAQUE No. 15

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OTTAWA CANADA

SOIL PROFILE & TEST SUMMARIES
PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

PARKDALE AVE.
TUNNEY'S PASTURE CENSUS BLDG.

ELEVATION OF GROUND SURFACE (ZERO DEPTH) / NIVEAU DU SOL (PROFONDEUR ZERO): 199.9
DATE: Nov. 22 / 74
HOLE / FORAGE No. 114
NOTES: SEE PLATE No. 2

Compressive Strength K.S.F. / Résistance à la Compression K/Pd.2	Small Scale Penetrometer K.S.F. / Petit Pénétromètre K/Pd.2	Essai-Standard Penetration Blows/ft.-Coups/pd	Sample / Echantillon No.	DESCRIPTION OF SOIL / DU SOL (Ground Surface – Niveau du Sol)	Depth in Feet / Profondeur-Pied	Elevation / Niveau
				ASPHALT	0' – 0.3'	199.9 – 199.6
		54	114-1	VERY DENSE SANDY TILL WITH SOME 1/2" TO 1" PIECES OF WEATHERED ROCK	2.3'	197.6
				LIMESTONE ROCK – CORE RECOVERY 30 %	2.9'	197.0
25 % OF WATER LOST AT EL. 195.6				LIMESTONE ROCK CORE RECOVERY 97 %	7.9'	192.0
50% OF WATER LOST AT EL. 192.0				LIMESTONE ROCK CORE RECOVERY 95 %	12.9'	187.0
				BH #114 ABANDONED SEE BH #114 A		

~~PROBING OR VANE TEST~~ / ~~SONDAGE OU ESSAI AU MOULINET~~
MARTEAU----HAMMER
CHUTE LIBRE---DROP
NO CASING / SANS TUBAGE
BARRE-----DIA. ROD
~~BLOWS/FOOT OR SHEAR STRENGTH K.S.F.~~
~~COUPS/PIED OU RÉSISTANCE AU CISAILLEMENT K/PD.2~~

WATER CONTENT

0 20 40 60 80 100

% WATER CONTENT / TENEUR EN EAU
NATURAL / NATURELLE ——— ⊙
LIQUID LIMIT / LIMITE DE LIQUIDITÉ ——— ⊡
PLASTIC LIMIT

R = REMOULDED-REMANIE
CORE RECOVERY

PLATE / PLAQUE No. 16

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OTTAWA CANADA

SOIL PROFILE & TEST SUMMARIES

PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

PARKDALE AVENUE

TUNNEY'S PASTURE CENSUS BUILDING

ELEVATION OF GROUND SURFACE (ZERO DEPTH) / NIVEAU DU SOL (PROFONDEUR ZERO): 200.7' DATE: DEC. 2, 1974

HOLE / FORAGE No. 115

NOTES: SEE PLATE No. 2

Compressive Strength K.S.F. / Résistance à la Compression K/Pd.2	Small Scale Penetrometer K.S.F. / Petit Pénétromètre K/Pd.2	Essai-Standard Penetration Blows/ft.-Coups/pd	Sample No. / Echantillon	DESCRIPTION OF SOIL / DU SOL (Ground Surface – Niveau du Sol)	Depth in Feet / Profondeur - Pied	Elevation / Niveau
				ASPHALT	0'	200.7'
				CRUSHED STONE	0.3'	200.4'
		15 & R6"	115-1	FILL - PIECES OF BROKEN ROCK WITH SOME SANDY TILL, A LITTLE TOPSOIL & A TRACE OF SAND	1.0'	199.7'
		20				
		16	115-2			
		11 & R6"				
POSSIBLE BEDROCK - MATERIAL REQUIRING DRILLING					4.0'	196.7'
					4.3'	196.4'
LIMESTONE Rock CORE RECOVERY 100%				LIMESTONE ROCK	4.8'	195.9'
				CORE RECOVERY 90%	9.8'	190.9'
				LIMESTONE ROCK		
				CORE RECOVERY 100%	14.8'	185.9'
				LIMESTONE ROCK		
				CORE RECOVERY 97%	19.8'	180.9'
				BOTTOM OF HOLE		

~~PROBING OR VANE TEST~~ ~~SONDAGE OU ESSAI AU MOULINET~~

MARTEAU----HAMMER NO CASING / SANS TUBAGE

CHUTE LIBRE---DROP BARRE-----DIA. ROD

~~BLOWS/FOOT OR SHEAR STRENGTH K.S.F.~~

~~COUPS/PIED OU~~ ~~RÉSISTANCE AU CISAILLEMENT~~ ~~K/PD.2~~

WATER CONTENT

←OVERNIGHT WATER LEVEL - ALSO, DEC. 4, 1974 - EL. 193.4'

0 20 40 60 80 100

% WATER CONTENT / TENEUR EN EAU

NATURAL / NATURELLE ⊙

LIQUID LIMIT / LIMITE DE LIQUIDITÉ ☐

PLASTIC LIMIT

PLATE / PLAQUE No. 18

R = REMOULDED-REMANIE

CORE RECOVERY

Form G.A.-D-1. Project No. 791-2017

RECORD OF BOREHOLES 1, 2 & 3

LOCATION See Figure 2 BORING DATE FEB. 12, 1979 DATUM GEODETIC

SAMPLER HAMMER WEIGHT 140 LB., DROP 30 IN. PENETRATION TEST HAMMER WEIGHT 140 LB., DROP 30 IN.

Column headings: BORING METHOD | SOIL PROFILE: ELEV'N. DEPTH, DESCRIPTION, STRAT. PLOT | SAMPLES: NUMBER, TYPE, BLOWS/FT. | ELEVATION SCALE | DYNAMIC PENETRATION RESISTANCE, BLOWS/FT. (20, 40, 60, 80); SHEAR STRENGTH Cu., LB./SQ.FT. NAT. V. - + Q. - ● REM.V. - ⊕ U. - O | COEFFICIENT OF PERMEABILITY, k, CM./SEC. (1x10, 1x10, 1x10, 1x10); WATER CONTENT, PERCENT W_p W W_L | ADDITIONAL LAB. TESTING | PIEZOMETER OR STANDPIPE INSTALLATION

BH. 1

Boring Method	Elev'n. / Depth	Description	Number	Type	Blows/Ft.	Remarks
	204.4	GROUND SURFACE				
ROTARY DRILLING – BX CASING	0.0	TOPSOIL				
	0.5	COMPACT BROWN MEDIUM SAND (FILL)	1	2" D.O.	16	
	198.9 / 5.5	DENSE BROWN SILTY SAND, TRACE CLAY, OCCASIONAL GRAVEL, COBBLE, BOULDER AND CONCRETE (FILL)				
ROTARY DRILLING – BX CORE	194.9 / 9.5	FAIRLY SOUND GREY LIMESTONE BEDROCK	2	BX R.C.	—	R.Q.D. (%) 54; CORE RECOVERY (%) 100
	193.6 / 10.8	SOUND GREY LIMESTONE BEDROCK				R.Q.D. (%) 74
	190.8 / 13.6	END OF HOLE				

W.L. IN OPEN BOREHOLE AT ELEV. 197.2, FEB. 12, 1979

BH. 2

Boring Method	Elev'n. / Depth	Description	Number	Type	Blows/Ft.
	206.4	GROUND SURFACE			
POWER AUGER – 6" DIAM. (HOLLOW STEM)	0.0	TOPSOIL			
	0.6	LOOSE BROWN SAND, OCCASIONAL SILT SEAMS (FILL)	1	2" D.O.	8
	200.3 / 6.1	COMPACT BROWN SANDY SILT, TRACE CLAY, OCCASIONAL GRAVEL AND COBBLE (FILL)	2	A.S.	
	195.3 / 11.1	END OF HOLE REFUSAL TO AUGERING			

BH. 3

Boring Method	Elev'n. / Depth	Description	Number	Type	Blows/Ft.
	202.3	GROUND SURFACE			
POWER AUGER – 6" DIAM. (HOLLOW STEM)		TOPSOIL			
	0.3	LOOSE BROWN MEDIUM SAND, OCCASIONAL SILT POCKET (FILL)	1	A.S.	
	198.3 / 4.0	COMPACT BROWN SANDY SILT, TRACE CLAY, OCCASIONAL GRAVEL AND COBBLE (FILL)	2	A.S.	
	193.3 / 9.0	END OF HOLE REFUSAL TO AUGERING			

15 —5 Percent axial strain at failure (0, 10)

VERTICAL SCALE 1 IN. TO 5 FT.

Golder Associates

DRAWN DN

CHECKED [illegible]

RECORD OF BOREHOLE 16

SHEET 1 OF 1

LOCATION SEE FIGURE 2

BORING DATE NOV. 10 & 11, 1982 DATUM GEODETIC

SAMPLER / PENETRATION TEST HAMMER WEIGHT 63.5 kg., DROP 760mm

INCLINATION 60° AZIMUTH

DRILLING RECORD	DESCRIPTION	ELEV. / DEPTH	SAMPLE NUMBER	TYPE	BLOWS / 0.3 m	WATER CONTENT, % / DISCONTINUITY DATA: TYPE AND SURFACE DESCRIPTION	ADDITIONAL TESTING % SHALE	% SANDSTONE	INSTRUMENTATION, WATER LEVELS AND NOTES
	STA. 12+743 - 11.4 m LT.								
									PIPE AND CAP
	GROUND SURFACE	61.02							GROUND SURFACE
BW CASING	CRUSHED STONE (FILL)	0.06							BENTONITE SEAL
	Compact Brown, Fine SAND (FILL)	60.49	1	50 mm D.O.	20				
	Compact Brown SILTY SAND, Trace GRAVEL (FILL)	0.61 / 60	2	"	21				
		59.70 / 1.52	3	"	9	264			
	Dark Brown Fibrous PEAT		4	"	10	125			
			5	"	4	168			
		58							NATIVE BACKFILL
ROTARY DRILLING / BXL CORE	OTTAWA FORMATION 4.42-13.99m UNIT C3 Fresh, medium to dark grey, fine grained, thinly to medium bedded, interbedded laminar and massive textured LIMESTONE	57.19 / 4.42	6	BXL R.C.	—	Argillaceous Bedding Partings			
		56	7	"	—				
	Laminated argillaceous partings 1 to 30 mm thick plus styolite form bedding separations		8	"	—		1 to 3	0	
		54	9	"	—	Joints			
	Lithoclastic Limestone marker bed	52.10 / 10.30	10	"	—				
	UNIT C4 Fresh, light grey, fine grained, medium to thickly bedded massive textured LIMESTONE	51.78 / 10.67	11	"	—		<1	0	
	Argillite Parting	50							
	Black Shale Parting		12	"	—				STANDPIPE
	END OF HOLE	48.90 / 13.99							WATER LEVEL IN STANDPIPE AT ELEV. 54.84 ON NOV. 20, 1982
	* NOTE: Overburden thicknesses are given in vertical depth. Bedrock Lithology depths are as measured along the length of the borehole.	48							

DEPTH SCALE (ALONG HOLE) 0 1 2 3 SCALE IN METRES

Golder Associates

ROCK LOGGED ____ DRAWN D.N.

DATE DEC. 1, 1982 CHECKED TJN

RECORD OF BOREHOLES 17 & 18

SHEET 1 OF 1

LOCATION SEE FIGURE 2 — BORING DATE OCT. 19, 1982 — DATUM GEODETIC

INCLINATION 90° AZIMUTH — SAMPLER / PENETRATION TEST HAMMER WEIGHT 63.5 kg., DROP 760mm

DEPTH METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH	SAMPLES NUMBER	TYPE	BLOWS/0.3m	WATER CONTENT, % / DISCONTINUITY DATA	ADDITIONAL TESTING	INSTRUMENTATION WATER LEVELS AND NOTES
		BH.17 STA.12+769 - 8.5m RT.								
0		GROUND SURFACE	(1)	60.62						
	POWER AUGER 200mm DIAM. (HOLLOW STEM)	TOPSOIL		0.12						
		Brown, SILTY SAND and GRAVEL, Occasional Cobbles (FILL)	(7)	60 / 59.71 / 0.91						
1		Loose Dark Brown Fibrous PEAT			1	50 mm D.O.	3	167		
2			(12)		2	"	1	548 Org.M = 90%		BOREHOLE DRY DURING DRILLING
				58	3	"	1	521		
3		Light Brown MARL TR.SHELLS	(13)	57.72 / 2.90 / 57.39	4	"	100	232		
		END OF HOLE AUGER TO REFUSAL PROBABLY BEDROCK		3.23						
4										
		BH.18 STA.12+795 - 11.5m LT.								
0		GROUND SURFACE	(1)	60.82						
	POWER AUGER 200mm DIAM. (HOLLOW STEM)	TOPSOIL		0.15						
		Brown SILTY fine SAND Trace Gravel, (FILL)	(7)	60 / 59.60	1	50 mm D.O.	14		M	BOREHOLE DRY DURING DRILLING
1				1.22						
2		Stiff to Firm Dark Brown Fibrous PEAT	(12)		2	"	3	358		
				58	3	"	1	644		
3		Light brown MARL Trace Shells	(13)	57.92 / 2.90 / 57.47	4	"		306		
		END OF HOLE AUGER REFUSAL PROBABLY BEDROCK		3.35						
4										

DEPTH SCALE (ALONG HOLE) 0 1 2 3 SCALE IN METRES

Golder Associates

ROCK LOGGED ______ DRAWN D.N.

DATE DEC. 1, 1982 CHECKED TJN

RECORD OF BOREHOLE 21

SHEET 1 OF 1

LOCATION SEE FIGURE 2

BORING DATE OCT. 20 & 21, 1982

DATUM GEODETIC

INCLINATION 90° AZIMUTH

SAMPLER / PENETRATION TEST HAMMER WEIGHT 63.5 kg., DROP 760mm

DRILLING RECORD: POWER AUGER 200mm DIAM. (HOLLOW STEM); BW CASING; ROTARY DRILLING BXL CORE

DEPTH METRES	DESCRIPTION	ELEV. DEPTH	SAMPLE NUMBER	TYPE	BLOWS/0.3m	DISCONTINUITY DATA TYPE AND SURFACE DESCRIPTION	ADDITIONAL TESTING % SHALE	% SANDSTONE	INSTRUMENTATION WATER LEVELS AND NOTES
	STA. 12+861-11m LT.								PIPE & CAP
0	GROUND SURFACE	61.60							GROUND SURFACE
	TOPSOIL	0.15							SURFACE SEAL
	Loose Brown SILTY SAND (FILL)		1	50 mm D.O.	9				
1	Compact Brown SILTY SAND and GRAVEL, Numerous Cobbles and Boulders (FILL)	60.69 / 0.91	2	"	>100				
		60							
2	Dark Brown PEAT	59.68	3	"	12	121			PLASTIC TUBING
	Light Brown MARL	59.34 / 2.26							
	Grey SAND, GRAVEL and Boulders		4	BXL R.C.	-				
3		58.20	5	"	-				
	OTTAWA FORMATION 3.40-10.91m	3.40							
4	UNIT C3 Fresh, medium to dark grey, fine grained, thinly to medium bedded, interbedded laminar and massive textured LIMESTONE		6	"	—	Argillaceous Bedding Parting			NATIVE BACKFILL
5						Carbonate Vein			
	Laminar argillaceous partings 1 to 30 mm thick styolites form bedding separations.	56	7	"	—				
6						Planar Smooth Joint	1 to 3	0	
7			8	"	—	Joint			
		54				Bedding Partings			
8									
	Lithoclastic Limestone Marker bed	52.97 / 8.63	9	"	—				
9	UNIT C4 Fresh, light grey, fine grained, medium to thickly bedded, massive textured LIMESTONE.	52.64 / 8.96				Carbonite 5°TCA			
		52							
10	Argillite Parting		10	"	—		<1	0	STANDPIPE
11	END OF HOLE	50.69 / 10.91							WATER LEVEL IN STANDPIPE AT ELEV. 58.98 ON NOV. 20/82
		50							

DEPTH SCALE (ALONG HOLE) 0 1 2 SCALE IN METRES

Golder Associates

ROCK LOGGED ____ DRAWN D.N.

DATE DEC. 1, 1982 CHECKED TJN

RECORD OF BOREHOLES 27 & 28

SHEET 1 OF 1

LOCATION SEE FIGURE 2

BORING DATE OCT. 27 & 28, 1982

DATUM GEODETIC

INCLINATION 90° AZIMUTH

SAMPLER / PENETRATION TEST HAMMER WEIGHT 63.5 kg., DROP 760mm

Column headings: DEPTH METRES | DRILLING RECORD | DESCRIPTION | SYMBOLIC LOG | ELEV. DEPTH | SAMPLES (NUMBER, TYPE, BLOWS/0.3m) | WATER CONTENT, % (W_P, W, W_l; 10, 20, 30, 40) | RECOVERY (TOTAL CORE %, SOLID CORE %) | R.Q.D. % | FRACTURE INDEX PER 0.3m | DISCONTINUITY DATA (DIP° w.r.t. CORE AXIS; TYPE AND SURFACE DESCRIPTION) | HYDRAULIC CONDUCTIVITY k, cm/sec | ADDITIONAL TESTING (% SHALE, % SANDSTONE) | INSTRUMENTATION WATER LEVELS AND NOTES

BH. 27

STA. 12+942-16.5m LT.

Drilling record: POWER AUGER 200mm DIAM. (HOLLOW STEM); ROTARY DRILLING, BW CASING, BXL CORE

Description	Elev. / Depth	Sample No.	Type	Blows/0.3m	Discontinuity Data
GROUND SURFACE	61.69				
TOPSOIL Loose to Compact, Brown to Grey SILTY SAND, some Gravel & Cobbles (FILL)	0.09	1	50 mm D.O.	13	
OTTAWA FORMATION 0.94-4.05m UNIT C1 BLACK SHALE	60.75 / 0.94				
UNIT C2 Fresh, moderately weathered on bedding partings, medium grained and bedded crystalline LIMESTONES.	60.47 / 1.22	2	BXL R.C.	—	Argillaceous Bedding Partings moderately weathered 1.5m depth
UNIT C3 Fresh medium grey, fine grained, thinly to medium bedded, interbedded laminar and massive textured LIMESTONE.	59.37 / 2.32	3 4	" "	— —	
END OF HOLE	57.65 / 4.05				

Instrumentation: PIPE & CAP; GROUND SURFACE; SURFACE SEAL; PLASTIC TUBING; NATIVE BACKFILL; STANDPIPE

WATER LEVEL IN STANDPIPE AT ELEV. 59.37 ON NOV. 20/82

BH. 28

STA. 12+960-12m RT.

Drilling record: 200mm DIAM. (HOLLOW STEM); POWER AUGER; ROTARY DRILLING, BW CASING, BXL CORE

Description	Elev. / Depth	Sample No.	Type	Blows/0.3m	Discontinuity Data
GROUND SURFACE	62.23				
Dense Brown and Dark Brown SILTY SAND, Trace Gravel & Wood (FILL)	62	1 2	50 mm D.O. "	37 36	
OTTAWA FORMATION 1.22-4.05m UNIT C1 Fresh, medium to dark grey, fine grained, thinly bedded, argillaceous nodular LIMESTONE and BLACK SHALE.	61.01 / 1.22	3	BXL R.C.	—	Argillaceous Bedding Partings moderately weathered to 2m depth
	60.00 / 2.23				
UNIT C2 Fresh, moderately weathered on bedding partings, medium grained & bedded crystalline LIMESTONE.	59.67 / 2.56	4	"	—	
UNIT C3 Medium bedded LIMESTONE.	58.53 / 3.70				
END OF HOLE	58.18 / 4.05				

Instrumentation: PIPE & CAP; GROUND SURFACE; SURFACE SEAL; PLASTIC TUBING; NATIVE BACKFILL; STANDPIPE

WATER LEVEL IN STANDPIPE AT ELEV. 59.58 ON NOV. 20, 1982

DEPTH SCALE (ALONG HOLE) 1 2 3 SCALE IN METRES

Golder Associates

ROCK LOGGED ____ DRAWN D.N.

DATE DEC. 1, 1982 CHECKED TJN

RECORD OF BOREHOLES 35, 36 & 37

SHEET 1 OF 1

LOCATION SEE FIGURE 2

BORING DATE OCT. 29 & NOV. 1, 1982 DATUM GEODETIC

INCLINATION 90° AZIMUTH

SAMPLER / PENETRATION TEST HAMMER WEIGHT 63.5 kg., DROP 760mm

DRILLING RECORD: POWER AUGER, 200mm DIAM. (HOLLOW STEM)

Column headings: DEPTH METRES | DRILLING RECORD | DESCRIPTION | SYMBOLIC LOG | ELEV. DEPTH | SAMPLES: NUMBER, TYPE, BLOWS / 0.3m | WATER CONTENT, % (W_P, W, W_L; 10 20 30 40) | RECOVERY: TOTAL CORE %, SOLID CORE % | R.Q.D. % | FRACTURE INDEX PER 0.3m | DISCONTINUITY DATA: DIP° W.R.T. CORE AXIS, TYPE AND SURFACE DESCRIPTION | HYDRAULIC CONDUCTIVITY k, cm/sec | ADDITIONAL TESTING: % SHALE, % SANDSTONE | INSTRUMENTATION: WATER LEVELS AND NOTES

BH. 35
STA. 13+101 - 8m LT.

Depth (m)	Description	Elev. / Depth	Sample No.	Type	Blows / 0.3m	Additional Testing	Water Levels and Notes
0	GROUND SURFACE	62.26					
	TOPSOIL	62.02					
	Compact Brown SILTY FINE SAND (FILL)	0.24 / 61.44	1	50 mm D.O.	12		
1	BROWN ORGANIC, SANDY SILT						
	Compact to Dense Brown SANDY SILT, Some Gravel Trace Clay (TILL)	0.88	2	"	31		
2		60.28	3	"	19	MH	
	END OF HOLE AUGER REFUSAL PROBABLY BEDROCK	1.98					BOREHOLE DRY DURING DRILLING

BH. 36
STA. 13+124 - 10m RT.

Depth (m)	Description	Elev. / Depth	Sample No.	Type	Blows / 0.3m	Additional Testing	Water Levels and Notes
0	GROUND SURFACE	62.26 / 0.00					
	Compact Dark Grey SILTY SAND and Gravel (FILL)	61.77	1	50 mm D.O.	18		
	END OF BOREHOLE	0.49					
1	AUGER REFUSAL PROBABLY BEDROCK						BOREHOLE DRY DURING DRILLING

BH. 37
STA. 13+147.5 - 4.5m LT.

Depth (m)	Description	Elev. / Depth	Sample No.	Type	Blows / 0.3m	Additional Testing	Water Levels and Notes
0	GROUND SURFACE	61.93					
	TOPSOIL						
	Loose Brown SILTY FINE SAND, Tr. Organic Matter	0.12 / 61.14	1	50 mm D.O.	7		
1	END OF HOLE AUGER REFUSAL PROBABLY BEDROCK	0.79					BORE HOLE DRY DURING DRILLING

DEPTH SCALE (ALONG HOLE)
0 1 2 3
SCALE IN METRES

Golder Associates

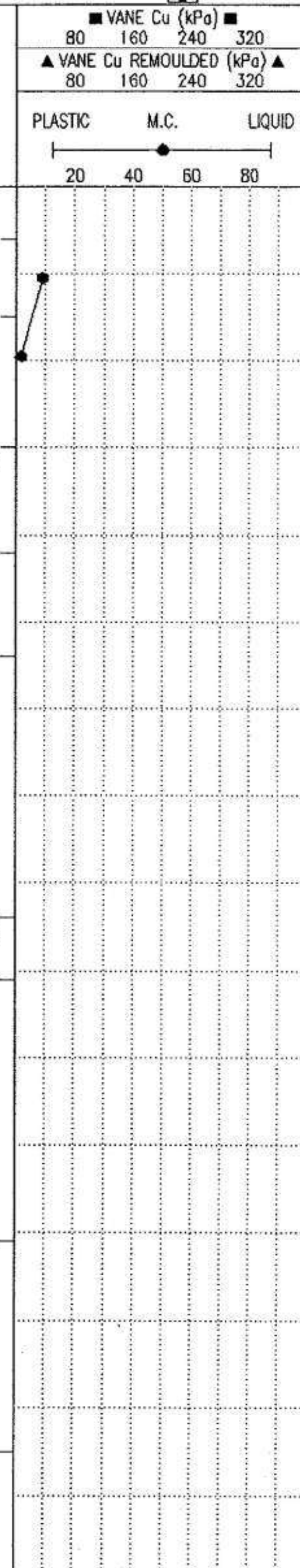
ROCK LOGGED ____ DRAWN D. V.

DATE DEC. 1, 1982 CHECKED TJW

TUNNEYS PASTURE FUEL STORAGE	B.M.(ELEV 63.60m)geodetic:Arrow on top	BOREHOLE NO: 94-4
CLIENT: PUBLIC WORKS CANADA	of fire hyd. N. side of De L'Eglantine	Project No: E - 7151
START DATE: 12/07/94	as per survey plan by P. Riddell OLS	ELEVATION: 62.95 (m)

SAMPLE TYPE: REMOULDED-AUGER, SHELBY TUBE, SPLIT-SPOON, NW-CASING, NO RECOVERY, NQ CORE

DEPTH (m)	SMALL PEN. (kPa)	SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION(m)
0.0						TOPSOIL	63.0
		6 10/15cm	SPLIT-SPOON	1		FILL – sand with pieces of broken rock, some topsoil 62.65	
1.0		10 5/15cm	SPLIT-SPOON	2		62.20 pieces of BROKEN ROCK	62.0
			NW-CASING / NQ CORE			LIMESTONE (C.R.=87%) 61.45 (steep inclined joint 1cm wide with calcite infill)	
2.0			NQ CORE			60.85 LIMESTONE (C.R.=100%) (broken rock conditions)	61.0
3.0			NQ CORE			60.25 LIMESTONE (C.R.=97%) (steep inclined joint 2 cm wide with calcite and pyrite infill)	60.0
4.0 WL						–Water level July 14/94 ELEV 58.98m	59.0
			NQ CORE			LIMESTONE (C.R.=100%) 58.75	
5.0			NQ CORE			58.40 LIMESTONE (C.R.=99%)	58.0
6.0							57.0
7.0			NQ CORE			56.90 LIMESTONE (C.R.=100%)	56.0
						Bottom of hole 55.70 C.R.=Core Recovery	
8.0							55.0



McROSTIE GENEST ST-LOUIS	LOGGED BY: JML	COMPLETION DEPTH: 7.3 m
Ottawa, Canada	REVIEWED BY:	COMPLETE: 12/07/94
	Fig. No:	Page 1 of 1

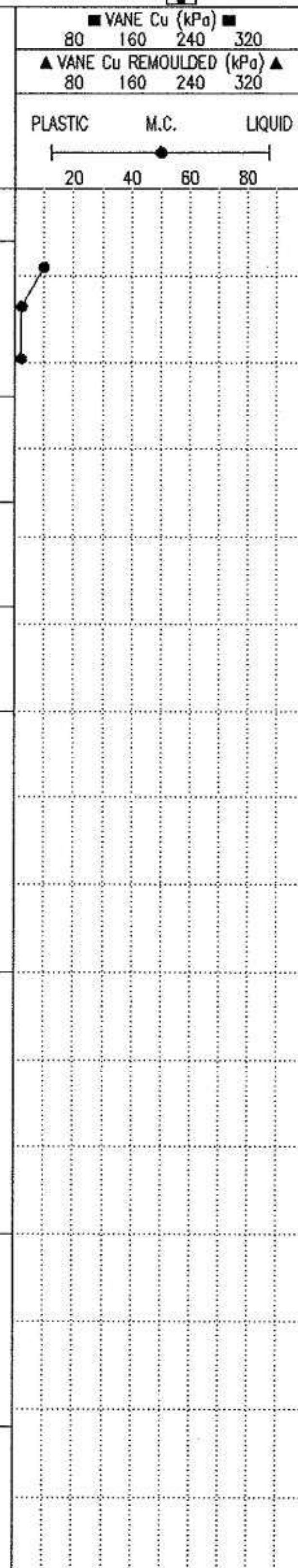
94/07/17 12:50PM

PLATE 5

TUNNEYS PASTURE FUEL STORAGE	B.M.(ELEV 63.60m)geodetic:Arrow on top	BOREHOLE NO: 94-5
CLIENT: PUBLIC WORKS CANADA	of fire hyd. N. side of De L'Eglantine	Project No: E - 7151
START DATE: 12/07/94	as per survey plan by P. Riddell OLS	ELEVATION: 62.65 (m)

SAMPLE TYPE: REMOULDED-AUGER, SHELBY TUBE, SPLIT-SPOON, NW-CASING, NO RECOVERY, NQ CORE

DEPTH (m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION (m)
0.0					TOPSOIL	62.7
	12 8/15cm		1		62.35 FILL sand, clay, topsoil and pieces of broken rock	
			2			
1.0	23 20/15cm		3			61.7
	power auger refusal				61.45 LIMESTONE (C.R.=92%)	
					60.85 LIMESTONE (C.R.=100%)	
2.0 WL					- Water level July 14/94 ELEV 60.65m	60.7
					60.25 LIMESTONE (C.R.=100%)	
3.0					59.65 LIMESTONE (C.R.=100%)	59.7
4.0						58.7
					58.15 LIMESTONE (C.R.=100%)	
5.0						57.7
6.0					56.65 LIMESTONE (C.R.=96%)	56.7
7.0						55.7
					Bottom of hole 55.55	
					C.R.=Core Recovery	
8.0						54.7



McROSTIE GENEST ST-LOUIS	LOGGED BY: JML	COMPLETION DEPTH: 7.1 m
Ottawa, Canada	REVIEWED BY:	COMPLETE: 12/07/94
	Fig. No:	Page 1 of 1

94/07/17 12:59PM

PLATE 6

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-2
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E - 7538
START DATE: 97/03/19	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 60.00 (m)

SAMPLE TYPE: REMOULDED-AUGER / SHELBY TUBE / SPLIT-SPOON / NW-CASING / NO RECOVERY / NQ CORE

DEPTH(m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	■ VANE Cu (kPa) ■ 80 160 240 320 / ▲ VANE Cu REMOULDED (kPa) ▲ 80 160 240 320 / PLASTIC M.C. LIQUID 20 40 60 80	ELEVATION(m)
0.0	ground frozen to 0.45m				FILL - topsoil, sand and gravel		60.0
	30/15cm 42	Split-spoon	1		FILL 59.70 sand and gravel with pieces of broken boulder	●	
	power auger refusal				LIMESTONE ROCK BLOCK 59.22 or ROCK		
1.0	13cm drop all water lost	NQ core					59.0
	WL				58.82 SOIL FILLED SEAM or SOIL; Water level March 24/97 Elev 58.47m		▼
2.0		NQ core		89	58.15 LIMESTONE		58.0
3.0		NQ core		57	LIMESTONE 57.16		57.0
					Bottom of hole 56.86		
4.0							56.0
5.0							55.0
6.0							54.0
7.0							53.0
8.0							52.0

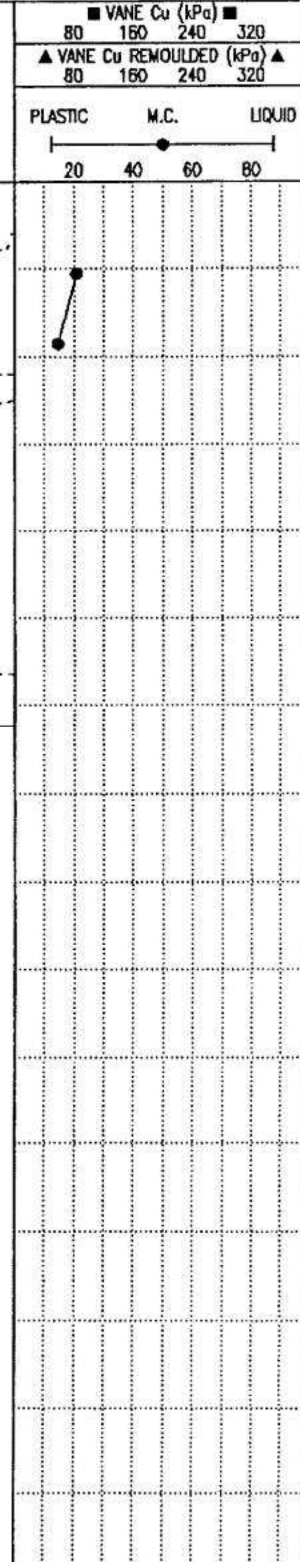
McROSTIE GENEST ST-LOUIS	LOGGED BY: JML	COMPLETION DEPTH: 3.1 m
Ottawa, Canada	REVIEWED BY: E.S.	COMPLETE: 97/03/19
	Fig. No: 3.	Page 1 of 1

97/04/01 11:25AM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-3
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E - 7538
START DATE: 97/03/18	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 60.24 (m)

SAMPLE TYPE: REMOULDED-AUGER / SHELBY TUBE / SPLIT-SPOON / NW-CASING / NO RECOVERY / NQ CORE

DEPTH(m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION(m)
0.0	ground frozen to 0.60m				FILL - clayey topsoil with traces of gravel	60.0
	65 8/15cm	SPLIT-SPOON	1		59.94 FILL sand with some clay and gravel	
1.0	55 80/15cm	SPLIT-SPOON	2			
		SPLIT-SPOON	2A		broken ROCK 59.14	59.0
	power auger refusal				58.99	
	20cm drop all water lost	NQ CORE			Water level March 24/97 Elev 58.43m	
2.0	WL			83	LIMESTONE	58.0
3.0		NQ CORE		100	LIMESTONE 57.42	
					Bottom of hole 57.12	57.0
4.0						56.0
5.0						55.0
6.0						54.0
7.0						53.0
8.0						



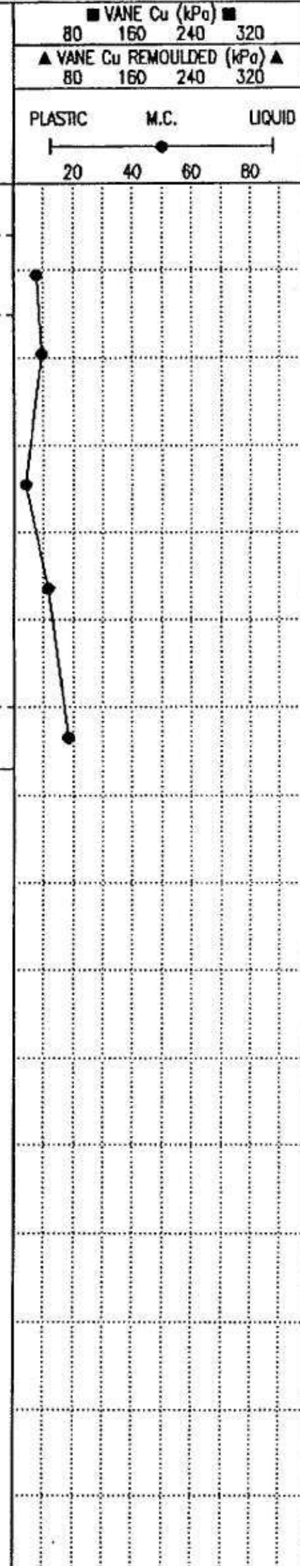
McROSTIE GENEST ST-LOUIS Ottawa, Canada	LOGGED BY: JML	COMPLETION DEPTH: 3.1 m
	REVIEWED BY: E.S.	COMPLETE: 97/03/18
	Fig. No: 4.	Page 1 of 1

97/04/01 11:51AM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-4
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E - 7538
START DATE: 97/03/19	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 60.51 (m)

SAMPLE TYPE: REMOULDED-AUGER / SHELBY TUBE / SPLIT-SPOON / NW-CASING / NO RECOVERY / NQ CORE

DEPTH(m)	SMALL PEN. (kPa)	SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION(m)
0.0						FILL - topsoil, sand and gravel	
		25 30/15cm	Split-spoon	1		FILL sand with pieces of crushed limestone	60.21
1.0		4/15cm 26	Split-spoon	2			59.76
		49/15cm 22	Split-spoon	3		FILL sand and gravel with pieces of broken rock and traces of topsoil	
2.0		45/15cm split spoon refusal-	Split-spoon	4			
WL						Water level March 24/97 Elev 58.05m	
3.0		1/15cm 9/15cm 11/5cm split spoon refusal-	Split-spoon	5		medium dense sandy TILL	57.51
						Bottom of hole	57.16



Depth scale: 0.0 – 8.0 m; Elevation scale: 60.0 – 53.0 m

McROSTIE GENEST ST-LOUIS
Ottawa, Canada

LOGGED BY: JML	COMPLETION DEPTH: 3.4 m
REVIEWED BY: E.S.	COMPLETE: 97/03/19
Fig. No: 5.	Page 1 of 1

97/04/01 02:15PM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-2
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E - 7538
START DATE: 97/03/19	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 60.00 (m)

SAMPLE TYPE: REMOULDED-AUGER, SHELBY TUBE, SPLIT-SPOON, NW-CASING, NO RECOVERY, NQ CORE

DEPTH(m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	■ VANE Cu (kPa) ■ 80 160 240 320 / ▲ VANE Cu REMOULDED (kPa) ▲ 80 160 240 320 / PLASTIC M.C. LIQUID 20 40 60 80	ELEVATION(m)
0.0	ground frozen to 0.45m				FILL - topsoil, sand and gravel		60.0
	30/15cm 42	Split-spoon	1		FILL 59.70 sand and gravel with pieces of broken boulder	●	
	power auger refusal				LIMESTONE ROCK BLOCK 59.22 or ROCK		
1.0	13cm drop all water lost	NQ core					59.0
	WL				58.82 SOIL FILLED SEAM or SOIL Water level March 24/97 Elev 58.47m		
2.0		NQ core		89	58.15 LIMESTONE		58.0
3.0		NQ core		57	LIMESTONE 57.16		57.0
					Bottom of hole 56.86		
4.0							56.0
5.0							55.0
6.0							54.0
7.0							53.0
8.0							52.0

McROSTIE GENEST ST-LOUIS	LOGGED BY: JML	COMPLETION DEPTH: 3.1 m
Ottawa, Canada	REVIEWED BY: E.S.	COMPLETE: 97/03/19
	Fig. No: 3.	Page 1 of 1

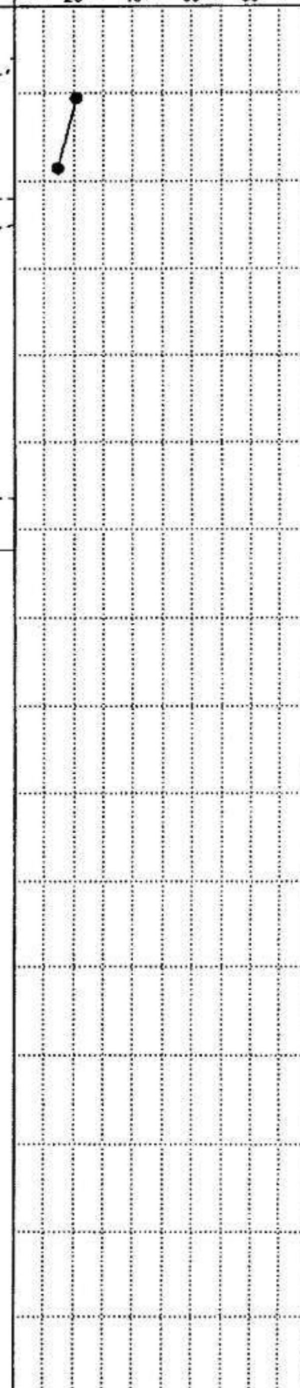
97/04/01 11:25AM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-3
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E - 7538
START DATE: 97/03/18	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 60.24 (m)

SAMPLE TYPE: REMOULDED-AUGER, SHELBY TUBE, SPLIT-SPOON, NW-CASING, NO RECOVERY, NQ CORE

DEPTH(m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION(m)
0.0	ground frozen to 0.60m				FILL - clayey topsoil with traces of gravel	60.0
	65 8/15cm	Split-spoon	1		59.94	
	55 80/15cm	Split-spoon	2		FILL sand with some clay and gravel	
1.0		Split-spoon	2A		broken ROCK 59.14	59.0
	power auger refusal	NQ core			58.99	
	20cm drop all water lost				Water level March 24/97 Elev 58.43m	
2.0	WL			83	LIMESTONE	58.0
3.0		NQ core		100	LIMESTONE 57.42	57.0
					Bottom of hole 57.12	
4.0						56.0
5.0						55.0
6.0						54.0
7.0						53.0
8.0						

■ VANE Cu (kPa) ■ 80 160 240 320
▲ VANE Cu REMOULDED (kPa) ▲ 80 160 240 320
PLASTIC M.C. LIQUID 20 40 60 80



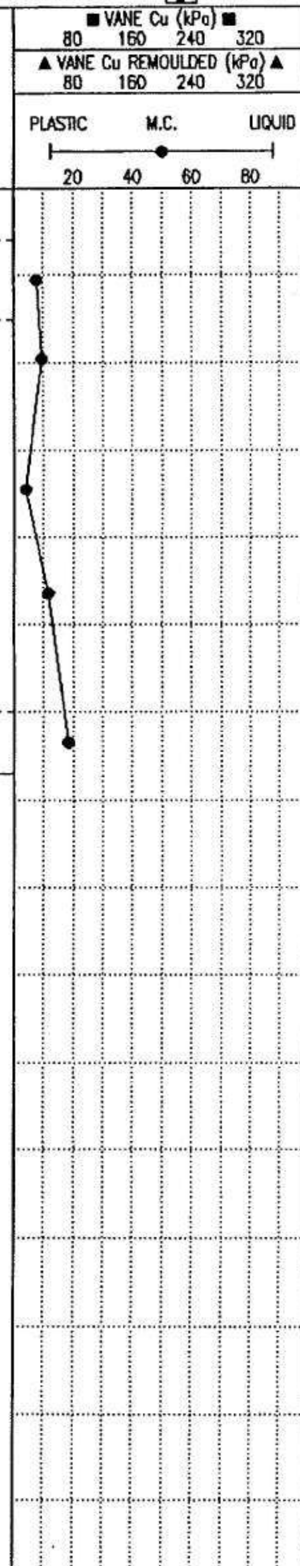
McROSTIE GENEST ST-LOUIS	LOGGED BY: JML	COMPLETION DEPTH: 3.1 m
	REVIEWED BY: E.S.	COMPLETE: 97/03/18
Ottawa, Canada	Fig. No: 4.	Page 1 of 1

97/04/01 11:51AM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-4
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E - 7538
START DATE: 97/03/19	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 60.51 (m)

SAMPLE TYPE: REMOULDED-AUGER, SHELBY TUBE, SPLIT-SPOON, NW-CASING, NO RECOVERY, NQ CORE

DEPTH (m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION (m)
0.0					FILL - topsoil, sand and gravel	
	25 30/15cm	SPLIT-SPOON	1		FILL 60.21 sand with pieces of crushed limestone	60.0
1.0	4/15cm 26	SPLIT-SPOON	2		59.76	
	49/15cm 22	SPLIT-SPOON	3		FILL sand and gravel with pieces of broken rock and traces of topsoil	59.0
2.0	45/15cm split spoon refusal-	SPLIT-SPOON	4			
WL					Water level March 24/97 Elev 58.05m	58.0
3.0	1/15cm 9/15cm 11/5cm split spoon refusal-	SPLIT-SPOON	5		medium dense sandy TILL 57.51	
					Bottom of hole 57.16	57.0
4.0						56.0
5.0						55.0
6.0						54.0
7.0						53.0
8.0						



McROSTIE GENEST ST-LOUIS	LOGGED BY: JML	COMPLETION DEPTH: 3.4 m
Ottawa, Canada	REVIEWED BY: E.S.	COMPLETE: 97/03/19
	Fig. No: 5.	Page 1 of 1

97/04/01 02:15PM

TUNNEY'S PASTURE WATERMAIN UPGRADE

CLIENT: P.W.G.S.C.

START DATE: 97/03/18

B.M.(ELEV 62.79m)geodetic: Tablet No. 56U2791 on west foundation wall of the Archives bldg. supplied by P.W.G.S.C.

BOREHOLE NO: 97-6

PROJECT NO: E - 7538

ELEVATION: 60.68 (m)

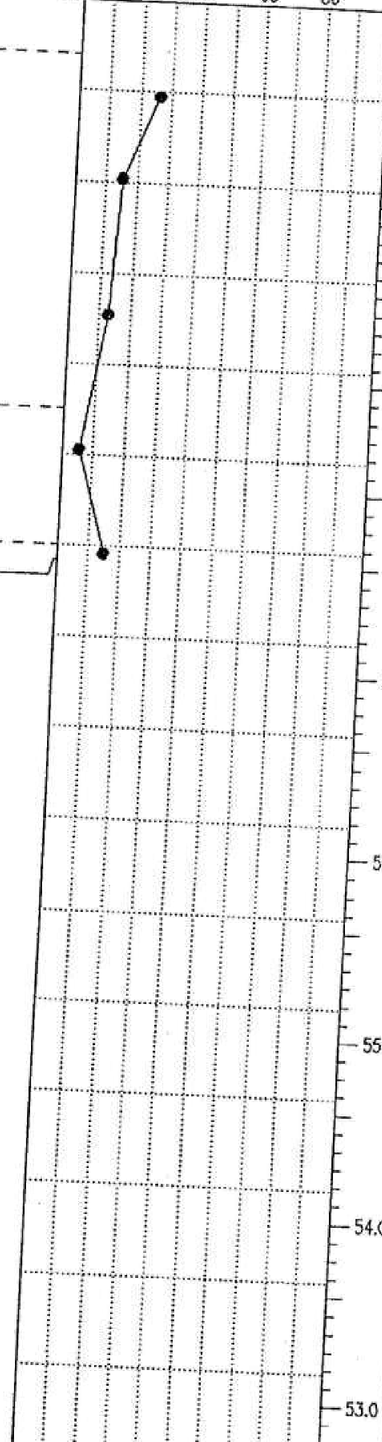
SAMPLE TYPE: REMOULDED-AUGER; SHELBY TUBE; SPLIT-SPOON; NW-CASING; NO RECOVERY; NQ CORE

DEPTH(m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION(m)
0.0	ground frozen to 0.45m				FILL - topsoil, sand and gravel	
					60.38	
	26/15cm 11	SPLIT-SPOON	1		FILL sand and clay with some gravel	
1.0	50/15cm 110	SPLIT-SPOON	2			60.0
	5 5/15cm	SPLIT-SPOON	3			
2.0						59.0
	4 6/15cm	SPLIT-SPOON	4		FILL - medium sand 58.43	
WL					Water level March 24/97 Elev 57.99m	
3.0	9/8cm	SPLIT-SPOON	5			58.0
	split spoon refusal-				medium dense sandy TILL 57.68	
					Bottom of hole 57.60	
4.0						57.0
5.0						56.0
6.0						55.0
7.0						54.0
8.0						53.0

VANE Cu (kPa): 80 160 240 320

VANE Cu REMOULDED (kPa): 80 160 240 320

PLASTIC M.C. LIQUID: 20 40 60 80



McROSTIE GENEST ST-LOUIS
Ottawa, Canada

LOGGED BY: JML

REVIEWED BY: E.S.

Fig. No: 7

COMPLETION DEPTH: 3.1 m

COMPLETE: 97/03/18

97/04/01 05:13PM

TUNNEY'S PASTURE WATERMAIN UPGRADE
CLIENT: P.W.G.S.C.
START DATE: 97/03/18

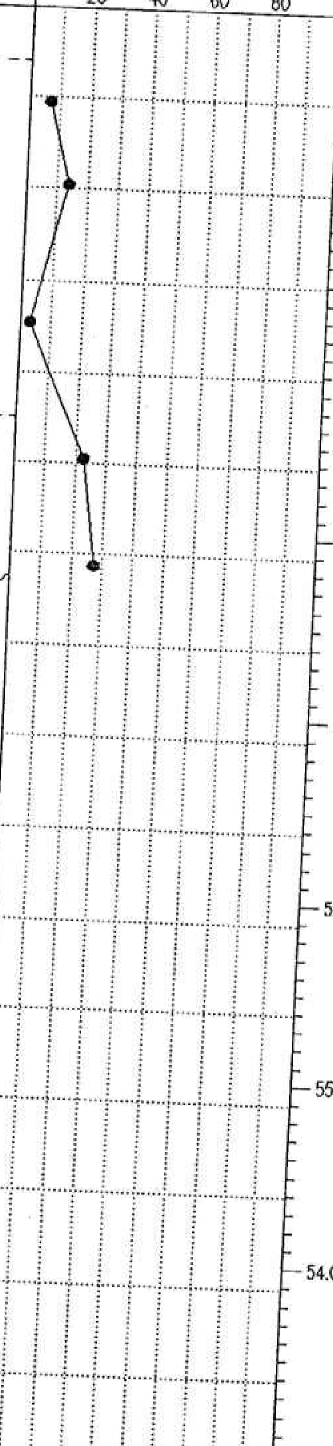
B.M.(ELEV 62.79m)geodetic: Tablet No. 56U2791 on west foundation wall of the Archives bldg. supplied by P.W.G.S.C.

BOREHOLE NO: 97-7
PROJECT NO: E - 7538
ELEVATION: 60.89 (m)

SAMPLE TYPE: REMOULDED-AUGER, SHELBY TUBE, SPLIT-SPOON, NW-CASING, NO RECOVERY, NQ CORE

DEPTH(m)	SMALL PEN. SPT (kPa) (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION(m)
0.0	ground frozen to 0.60m				FILL - topsoil, sand and gravel	
	42 12/15cm	SPLIT-SPOON	1		60.59	
1.0	4/15cm 10	SPLIT-SPOON	2		FILL sand and gravel with some topsoil and pieces of broken rock	60.0
	35 15/15cm	SPLIT-SPOON	3			
2.0						59.0
	12 4/15cm	SPLIT-SPOON	4		58.64 medium dense sandy TILL	
3.0 WL	19/13cm split spoon refusal-	SPLIT-SPOON	5		Water level March 24/97 Elev 57.90m	58.0
					Bottom of hole 57.76	
4.0						57.0
5.0						56.0
6.0						55.0
7.0						54.0
8.0						53.0

■ VANE Cu (kPa) ■ 80 160 240 320
▲ VANE Cu REMOULDED (kPa) ▲ 80 160 240 320
PLASTIC M.C. LIQUID 20 40 60 80



McROSTIE GENEST ST-LOUIS
Ottawa, Canada

LOGGED BY: JML
REVIEWED BY: E.S.
Fig. No: 8.

COMPLETION DEPTH: 3.1 m
COMPLETE: 97/03/18

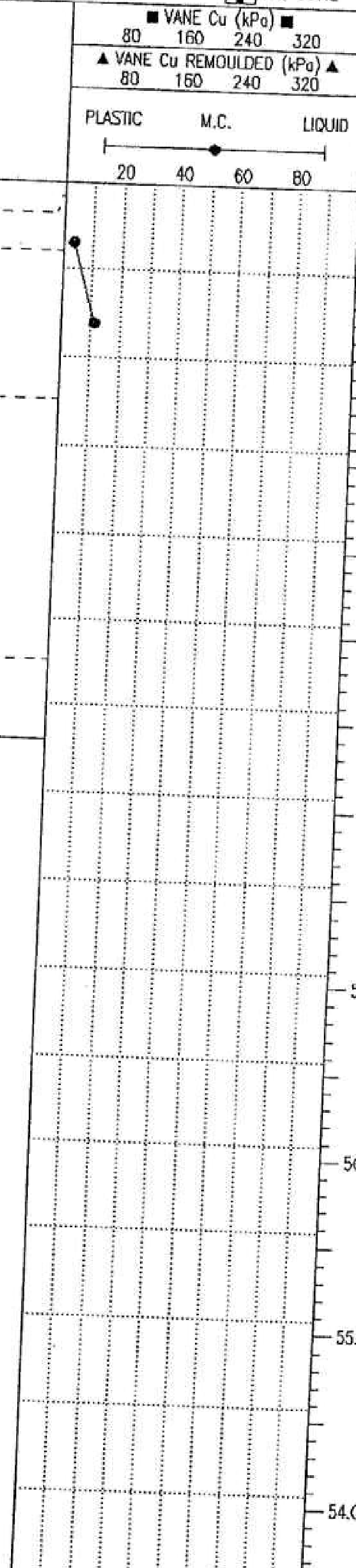
7/04/01 05:20PM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No. 56U2791 on west foundation wall of the Archives bldg. supplied by P.W.G.S.C.	BOREHOLE NO: 97-8
CLIENT: P.W.G.S.C.		PROJECT NO: E - 7538
START DATE: 97/03/19		ELEVATION: 61.58 (m)

SAMPLE TYPE: REMOULDED-AUGER; SHELBY TUBE; SPLIT-SPOON; NW-CASING; NO RECOVERY; NQ CORE

DEPTH(m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION
0.0	ground frozen to 0.60m				ASPHALT
					FILL - crushed limestone 61.50
	85/10cm	SPLIT-SPOON	1		FILL sand and gravel with traces of clay 61.18
1.0	38/11cm split spoon refusal	SPLIT-SPOON	2		
	power auger refusal				
		NQ CORE			60.34
2.0	10cm soil filled seam - 10cm soil filled seam -	NQ CORE		97	LIMESTONE
WL					Water level March 24/97 Elev 59.21m
3.0		NQ CORE		100	58.84 LIMESTONE
					Bottom of hole 58.38

Depth scale (m): 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0



ELEVATION(m): 61.0, 60.0, 59.0, 58.0, 57.0, 56.0, 55.0, 54.0

McROSTIE GENEST ST-LOUIS Ottawa, Canada	LOGGED BY: JML	COMPLETION DEPTH: 3.2 m
	REVIEWED BY: E.S.	COMPLETE: 97/03/19
	Fig. No: 9.	Page 1 of 1

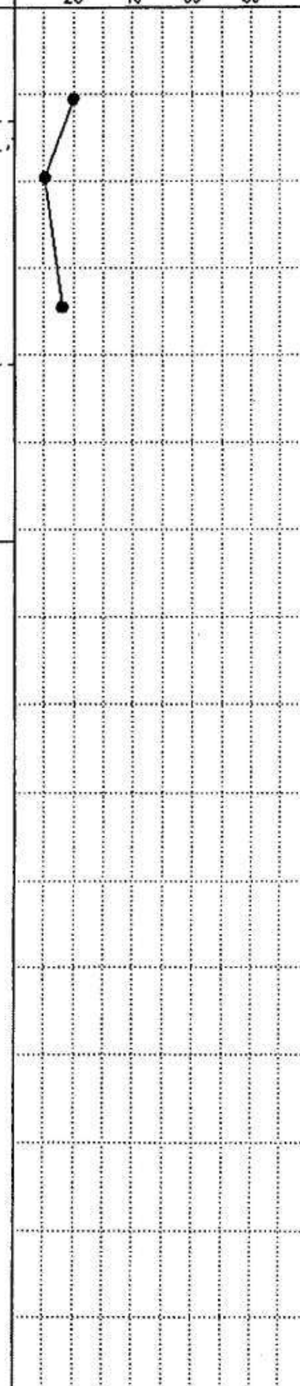
97/04/02 01:59PM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-9
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E - 7538
START DATE: 97/03/22	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 61.86 (m)

SAMPLE TYPE: REMOULDED-AUGER | SHELBY TUBE | SPLIT-SPOON | NW-CASING | NO RECOVERY | NQ CORE

DEPTH(m)	SMALL PEN. (kPa) SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION(m)
0.0					TOPSOIL	
	6 6/15cm	SPLIT-SPOON	1		FILL - medium sand 61.21	
1.0	8 10/15cm	SPLIT-SPOON	2		61.11	61.0
					FILL sand with some clay, topsoil and pieces of broken rock	
	5/15cm 10	SPLIT-SPOON	3			60.0
2.0	power auger refusal-				59.80	
		NQ CORE		47	LIMESTONE	59.0
3.0					Bottom of hole 58.79	
4.0					Water level March 24/97 lower than elev 58.97m	58.0
5.0						57.0
6.0						56.0
7.0						55.0
8.0						54.0

■ VANE Cu (kPa) ■ 80 160 240 320
▲ VANE Cu REMOULDED (kPa) ▲ 80 160 240 320
PLASTIC M.C. LIQUID 20 40 60 80



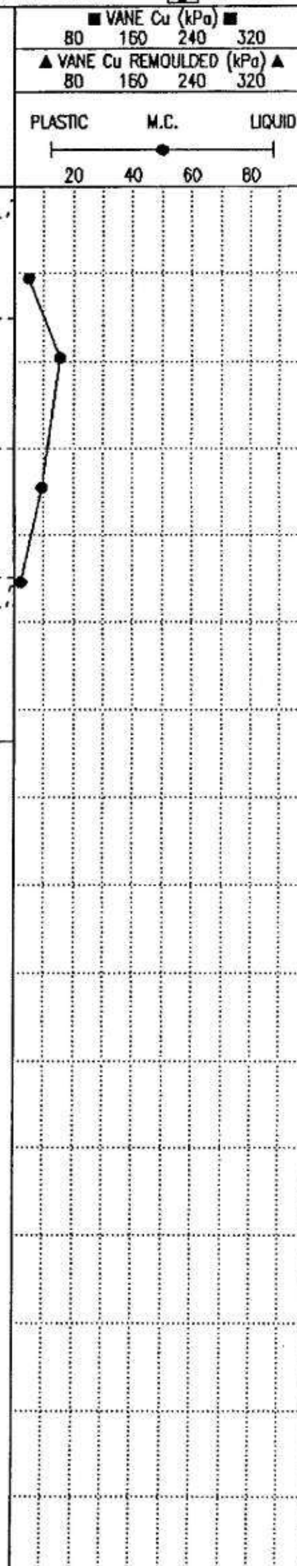
McROSTIE GENEST ST-LOUIS Ottawa, Canada	LOGGED BY: JML	COMPLETION DEPTH: 3.1 m
	REVIEWED BY: E.B.	COMPLETE: 97/03/22
	Fig. No: 10.	Page 1 of 1

97/04/02 02:01PM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-10
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E - 7538
START DATE: 97/03/19	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 61.67 (m)

SAMPLE TYPE: REMOULDED-AUGER / SHELBY TUBE / SPLIT-SPOON / NW-CASING / NO RECOVERY / NQ CORE

DEPTH(m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION(m)
0.0	ground frozen to 0.60m				ASPHALT	
					61.59	
	70 / 24/15cm	Split-spoon	1		FILL - crushed limestone	61.0
					60.92	
1.0	29 / 19/15cm	Split-spoon	2		FILL sand and gravel, traces of asphalt	
					60.17	60.0
	11/15cm 56	Split-spoon	3		medium dense sandy TILL	
2.0	33/5cm	Split-spoon	4		pieces of broken ROCK 59.42	
	split spoon refusal- power auger refusal-				59.37	
WL		NQ core		95	LIMESTONE	59
					Water level March 24/97 Elev 58.96m	
3.0					Bottom of hole 58.49	



McROSTIE GENEST ST-LOUIS	LOGGED BY: JML	COMPLETION DEPTH: 3.2 m
Ottawa, Canada	REVIEWED BY: E.S.	COMPLETE: 97/03/19
	Fig. No: 11.	Page 1 of 1

97/04/02 02:03PM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-11
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E - 7538
START DATE: 97/03/19	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 61.88 (m)

SAMPLE TYPE: REMOULDED-AUGER, SHELBY TUBE, SPLIT-SPOON, NW-CASING, NO RECOVERY, NQ CORE

DEPTH(m)	SMALL PEN. (kPa)	SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION(m)
0.0						ASPHALT	
		40/5cm		1		FILL – crushed limestone 61.80	
	split spoon refusal– power auger refusal–					61.47	
1.0					82	LIMESTONE with some soil filled seams	61.0
						60.70	
2.0					86	LIMESTONE	60.0
	WL					Water level March 24/97 Elev 59.32m	
3.0						Bottom of hole 58.98	59.0
4.0							58.0
5.0							57.0
6.0							56.0
7.0							55.0
8.0							54.0

Graph axes: ■ VANE Cu (kPa) ■ 80 160 240 320; ▲ VANE Cu REMOULDED (kPa) ▲ 80 160 240 320; PLASTIC M.C. LIQUID 20 40 60 80

McROSTIE GENEST ST-LOUIS
Ottawa, Canada

LOGGED BY: JML	COMPLETION DEPTH: 2.9 m
REVIEWED BY: E.S.	COMPLETE: 97/03/19
Fig. No: 12.	Page 1 of 1

97/04/02 08:43AM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-12
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E - 7538
START DATE: 97/03/20	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 62.15 (m)

SAMPLE TYPE: REMOULDED-AUGER, SHELBY TUBE, SPLIT-SPOON, NW-CASING, NO RECOVERY, NQ CORE

DEPTH(m)	SMALL PEN. (kPa)	SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION (m)
0.0						ASPHALT	
						FILL - crushed limestone	62.07
		139 40/5cm split spoon refusal-	SPLIT-SPOON	1		FILL crushed limestone with topsoil and clay	61.85
1.0			NQ CORE		65	LIMESTONE	61.50
			NQ CORE		100	LIMESTONE	60.88
			NQ CORE		91	LIMESTONE	60.60
2.0			NQ CORE		98	LIMESTONE	60.37
3.0						Bottom of hole	59.05

Chart column headings: ■ VANE Cu (kPa) ■ 80 160 240 320; ▲ VANE Cu REMOULDED (kPa) ▲ 80 160 240 320; PLASTIC M.C. LIQUID 20 40 60 80

Depth scale: 0.0 – 8.0 m; Elevation scale: 62.0 – 55.0 m

McROSTIE GENEST ST-LOUIS Ottawa, Canada	LOGGED BY: JML	COMPLETION DEPTH: 3.1 m
	REVIEWED BY: E.S.	COMPLETE: 97/03/20
	Fig. No: 13.	Page 1 of 1

97/04/02 08:44AM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-13
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E - 7538
START DATE: 97/03/20	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 62.79 (m)

SAMPLE TYPE: REMOULDED-AUGER, SHELBY TUBE, SPLIT-SPOON, NW-CASING, NO RECOVERY, NQ CORE

DEPTH(m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	VANE Cu (kPa) 80 160 240 320 / VANE Cu REMOULDED (kPa) 80 160 240 320 / PLASTIC M.C. LIQUID 20 40 60 80	ELEVATION(m)
0.0					ASPHALT		
	50 42/10cm	SPLIT-SPOON	1		FILL 62.71 crushed limestone, topsoil and clay	M.C. ≈ 22	
	split spoon refusal-	NQ CORE			62.24		62.0
1.0				83	LIMESTONE		
	standpipe blocked -				61.21		61.0
2.0				97	LIMESTONE		
3.0					Bottom of hole 59.69		60.0
4.0					Water level March 24/97 lower than Elev 61.16m		59.0
5.0							58.0
6.0							57.0
7.0							56.0
8.0							55.0

McROSTIE GENEST ST-LOUIS	LOGGED BY: JML	COMPLETION DEPTH: 3.1 m
Ottawa, Canada	REVIEWED BY: E.S.	COMPLETE: 97/03/20
	Fig. No: 14.	Page 1 of 1

97/04/02 02:09PM

TUNNEY'S PASTURE WATERMAIN UPGRADE
CLIENT: P.W.G.S.C.
START DATE: 97/03/20

B.M.(ELEV 62.79m)geodetic: Tablet No. 56U2791 on west foundation wall of the Archives bldg. supplied by P.W.G.S.C.

BOREHOLE NO: 97-14
PROJECT NO: E - 7538
ELEVATION: 63.31 (m)

SAMPLE TYPE: REMOULDED-AUGER | SHELBY TUBE | SPLIT-SPOON | NW-CASING | NO RECOVERY | NQ CORE

DEPTH(m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION(m)
0.0					ASPHALT	
					FILL - crushed limestone	63.23
	98 27/3cm	Split-spoon	1		FILL crushed limestone, sand and clay	63.01
	split spoon refusal			100	LIMESTONE	62.68
1.0		NQ core		100	LIMESTONE	62.32
	65mm soil seam			93	LIMESTONE	61.70
2.0	WL				Water level March 24/97 Elev 61.17m	
				100	LIMESTONE	61.00
3.0					Bottom of hole	60.19

VANE Cu (kPa): 80, 160, 240, 320
VANE Cu REMOULDED (kPa): 80, 160, 240, 320
PLASTIC — M.C. — LIQUID: 20, 40, 60, 80

Depth scale (m): 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0
Elevation scale (m): 63.0, 62.0, 61.0, 60.0, 59.0, 58.0, 57.0, 56.0

McROSTIE GENEST ST-LOUIS
Ottawa, Canada

LOGGED BY: JML
REVIEWED BY: E.S.
Fig. No: 15.

COMPLETION DEPTH: 3.1 m
COMPLETE: 97/03/20

17/04/02 09:44AM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No. 56U2791 on west foundation wall of the Archives bldg. supplied by P.W.G.S.C.	BOREHOLE NO: 97-15
CLIENT: P.W.G.S.C.		PROJECT NO: E - 7538
START DATE: 97/03/20		ELEVATION: 63.52 (m)

SAMPLE TYPE: REMOULDED-AUGER, SHELBY TUBE, SPLIT-SPOON, NW-CASING, NO RECOVERY, NQ CORE

DEPTH(m)	SMALL PEN. (kPa)	SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	Elev. (m)
0.0						ASPHALT	
	split spoon refusal -	22/8cm	Split-spoon	1		FILL - crushed limestone	63.44
			NQ core		99	LIMESTONE	63.14
					100	LIMESTONE	62.55
					100	LIMESTONE	62.13
					100	LIMESTONE	61.99
WL						Water level March 24/97 Elev 60.66m	
						Bottom of hole	60.46

Depth scale (m): 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0

Right-hand chart: VANE Cu (kPa) 80 160 240 320; VANE Cu REMOULDED (kPa) 80 160 240 320; PLASTIC M.C. LIQUID 20 40 60 80; ELEVATION(m) 63.0, 62.0, 61.0, 60.0, 59.0, 58.0, 57.0, 56.0

McROSTIE GENEST ST-LOUIS
Ottawa, Canada

LOGGED BY: JML	COMPLETION DEPTH: 3.1 m
REVIEWED BY: E.S.	COMPLETE: 97/03/20
Fig. No: 16.	

97/04/02 02:13PM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97–16
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E – 7538
START DATE: 97/03/21	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 63.67 (m)

SAMPLE TYPE: REMOULDED–AUGER, SHELBY TUBE, SPLIT–SPOON, NW–CASING, NO RECOVERY, NQ CORE

DEPTH (m)	SMALL PEN. (kPa)	SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION (m)
0.0						ASPHALT	
		72	SPLIT-SPOON	1		FILL – crushed limestone	63.59
	split spoon refusal –					FILL sand and gravel with some clay	63.37
			NQ CORE		100	LIMESTONE	63.07
					59	LIMESTONE	62.67
					94	LIMESTONE	62.40
	WL				100	LIMESTONE	62.08
					92	LIMESTONE	61.80
							61.68
						–Water level March 24/97 Elev 61.79m	
					100	LIMESTONE	
						Bottom of hole	60.54

Depth scale: 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0

Elevation scale: 63.0, 62.0, 61.0, 60.0, 59.0, 58.0, 57.0, 56.0

■ VANE Cu (kPa) ■ 80 160 240 320
▲ VANE Cu REMOULDED (kPa) ▲ 80 160 240 320
PLASTIC M.C. LIQUID
20 40 60 80

McROSTIE GENEST ST–LOUIS
Ottawa, Canada

LOGGED BY: JML	COMPLETION DEPTH: 3.1 m
REVIEWED BY: E.S.	COMPLETE: 97/03/21
Fig. No: 17.	

97/04/02 09:43AM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No. 56U2791 on west foundation wall of the Archives bldg. supplied by P.W.G.S.C.	BOREHOLE NO: 97-17
CLIENT: P.W.G.S.C.		PROJECT NO: E - 7538
START DATE: 97/03/21		ELEVATION: 63.93 (m)

SAMPLE TYPE: REMOULDED-AUGER / SHELBY TUBE / SPLIT-SPOON / NW-CASING / NO RECOVERY / NQ CORE

DEPTH(m)	SMALL PEN. (kPa)	SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION(m)
0.0						ASPHALT	
		99 45/15cm	SPLIT-SPOON	1		63.85 FILL crushed limestone	
1.0	power auger refusal-		NQ CORE		75	63.10 LIMESTONE	63.0
					96	LIMESTONE 62.59	
2.0						62.34	62.0
	WL				95	LIMESTONE	
3.0						Water level march 24/97 Elev 61.30m	61.0
						Bottom of hole 60.80	
4.0							60.0
5.0							59.0
6.0							58.0
7.0							57.0
8.0							56.0

■ VANE Cu (kPa) ■ 80 160 240 320
▲ VANE Cu REMOULDED (kPa) ▲ 80 160 240 320
PLASTIC M.C. LIQUID 20 40 60 80

McROSTIE GENEST ST-LOUIS
Ottawa, Canada

LOGGED BY: JML	COMPLETION DEPTH: 3.1 m
REVIEWED BY: E.S.	COMPLETE: 97/03/21
Fig. No: 18.	Page 1 of 1

7/04/03 08:44AM

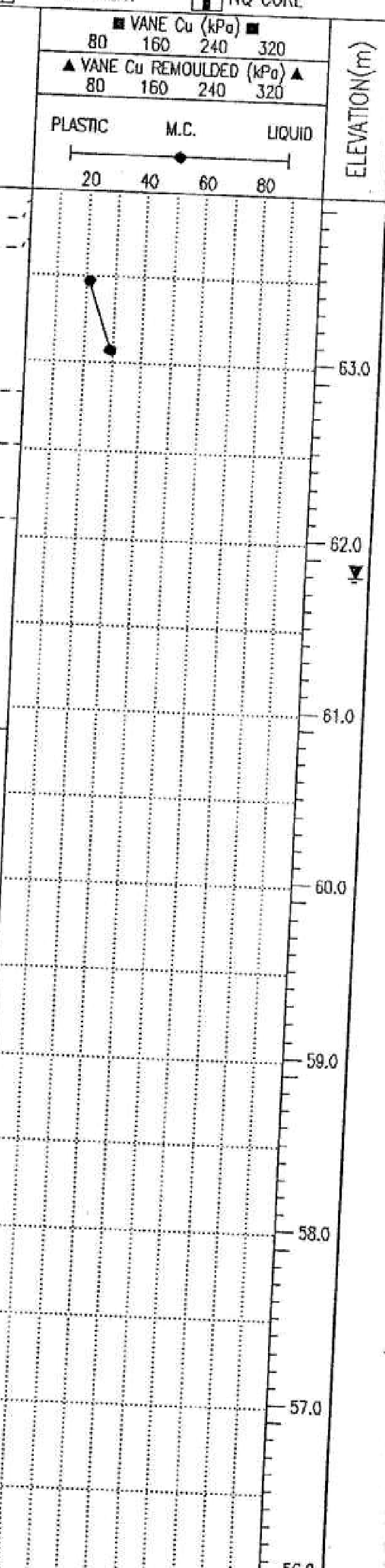
TUNNEY'S PASTURE WATERMAIN UPGRADE
CLIENT: P.W.G.S.C.
START DATE: 97/03/21

B.M.(ELEV 62.79m)geodetic: Tablet No. 56U2791 on west foundation wall of the Archives bldg. supplied by P.W.G.S.C.

BOREHOLE NO: 97-18
PROJECT NO: E - 7538
ELEVATION: 63.98 (m)

SAMPLE TYPE: REMOULDED-AUGER / SHELBY TUBE / SPLIT-SPOON / NW-CASING / NO RECOVERY / NQ CORE

DEPTH (m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION (m)
0.0					ASPHALT	
					FILL - crushed limestone	63.90
	30 13/15cm	SPLIT-SPOON	1		FILL sand, clay and pieces of broken rock	63.68
1.0	69 13/5cm	SPLIT-SPOON	2			
	split spoon refusal power auger refusal	NQ CORE		40	LIMESTONE	62.80
		NQ CORE		100	LIMESTONE	62.50
2.0	WL	NQ CORE		96	Water level March 24/97 Elev 61.80m LIMESTONE	62.08
3.0					Bottom of hole	60.85



McROSTIE GENEST ST-LOUIS
Ottawa, Canada

LOGGED BY: JML
REVIEWED BY: E.S.
Fig. No: 19.

COMPLETION DEPTH: 3.1 m
COMPLETE: 97/03/21

97/04/02 08:50AM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No. 56U2791 on west foundation wall of the Archives bldg. supplied by P.W.G.S.C.
CLIENT: P.W.G.S.C.	BOREHOLE NO: 97-19
START DATE: 97/03/22	PROJECT NO: E - 7538
	ELEVATION: 63.89 (m)

SAMPLE TYPE: REMOULDED-AUGER, SHELBY TUBE, SPLIT-SPOON, NW-CASING, NO RECOVERY, NQ CORE

DEPTH (m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEV.
0.0					ASPHALT	
	12/15cm 24	Split-spoon	1		FILL – crushed limestone	63.81
					FILL – crushed limestone	63.59
	22/15cm 46/10cm	Split-spoon	2		FILL	63.14
1.0	split spoon refusal – power auger refusal –	NQ Core		77	sand and pieces of broken rock	
					LIMESTONE	62.84
	WL					62.58
					Water level March 24/97 Elev 62.19m	
2.0		NQ Core		88	LIMESTONE	
3.0						61.03
		NQ Core		98	LIMESTONE	
					Bottom of hole	60.49

Chart headings: ■ VANE Cu (kPa) ■ 80 160 240 320; ▲ VANE Cu REMOULDED (kPa) ▲ 80 160 240 320; PLASTIC M.C. LIQUID 20 40 60 80; ELEVATION(m) 63.0 62.0 61.0 60.0 59.0 58.0 57.0 56.0; DEPTH(m) 0.0 – 8.0

McROSTIE GENEST ST-LOUIS
Ottawa, Canada

LOGGED BY: JML
REVIEWED BY: E.S.
Fig. No: 20.

COMPLETION DEPTH: 3.4 m
COMPLETE: 97/03/22

97/04/02 08:58AM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-20
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E - 7538
START DATE: 97/03/22	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 62.19 (m)

SAMPLE TYPE: REMOULDED-AUGER; SHELBY TUBE; SPLIT-SPOON; NW-CASING; NO RECOVERY; NQ CORE

DEPTH(m)	SMALL PEN. (kPa)	SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	Elev. (m)
0.0						ASPHALT	62.11
		30	SPLIT-SPOON	1		FILL - crushed limestone	61.89
	split spoon refusal -					FILL sand and pieces of broken rock	
	power auger refusal -		NQ CORE				61.59
1.0			NQ CORE		84	LIMESTONE	60.80
2.0			NQ CORE		92	LIMESTONE	
~2.9	WL					Water level March 24/97 Elev 59.29m	
3.0						Bottom of hole	59.20

Depth scale (m): 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0

Elevation scale (m): 62.0, 61.0, 60.0, 59.0, 58.0, 57.0, 56.0, 55.0

■ VANE Cu (kPa) ■ 80 160 240 320

▲ VANE Cu REMOULDED (kPa) ▲ 80 160 240 320

PLASTIC M.C. LIQUID 20 40 60 80

McROSTIE GENEST ST-LOUIS Ottawa, Canada	LOGGED BY: JML	COMPLETION DEPTH: 3.0 m
	REVIEWED BY: E.S.	COMPLETE: 97/03/22
	Fig. No: 21.	Page 1 of 1

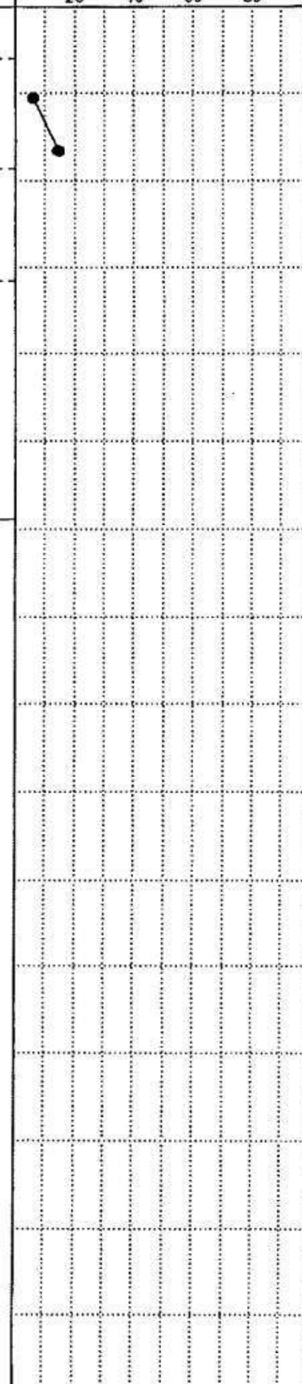
97/04/02 08:51AM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic; Tablet No.	BOREHOLE NO: 97-22
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E - 7538
START DATE: 97/03/22	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 62.48 (m)

SAMPLE TYPE: REMOULDED-AUGER, SHELBY TUBE, SPLIT-SPOON, NW-CASING, NO RECOVERY, NQ CORE

DEPTH(m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION(m)
0.0					TOPSOIL	
	6 18/15cm	Split-spoon	1		62.18 FILL sand with traces of topsoil and clay	62.0
	13/15cm split spoon refusal	Split-spoon	2			
1.0		NQ core		100	61.55 LIMESTONE	
	standpipe blocked –					61.0
2.0		NQ core		100	60.95 LIMESTONE	60.0
3.0					Bottom of hole 59.59	
					Water level March 24/97 lower than Elev 60.99m	59.0
4.0						
						58.0
5.0						
						57.0
6.0						
						56.0
7.0						
						55.0
8.0						

■ VANE Cu (kPa) ■ 80 160 240 320
▲ VANE Cu REMOULDED (kPa) ▲ 80 160 240 320
PLASTIC M.C. LIQUID 20 40 60 80



McROSTIE GENEST ST-LOUIS Ottawa, Canada	LOGGED BY: JML	COMPLETION DEPTH: 2.9 m
	REVIEWED BY: E.S.	COMPLETE: 97/03/22
	Fig. No: 23.	Page 1 of 1

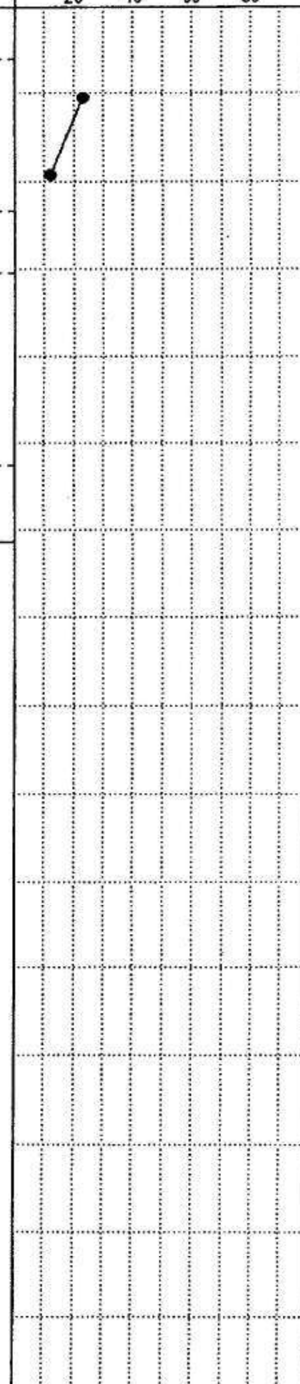
97/04/03 08:42AM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-23
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E - 7538
START DATE: 97/03/22	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 62.39 (m)

SAMPLE TYPE: REMOULDED-AUGER / SHELBY TUBE / SPLIT-SPOON / NW-CASING / NO RECOVERY / NQ CORE

DEPTH(m)	SMALL PEN. (kPa)	SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION(m)
0.0						TOPSOIL	
		6 11/15cm	Split-spoon	1		62.09 FILL sand with some topsoil, gravel and pieces of broken rock	62.0
1.0		15 40/12cm	Split-spoon	2			
	40mm soil filled seam–		NQ core		80	LIMESTONE 61.22	61.0
2.0			NQ core		94	60.87 LIMESTONE	60.0
WL			NQ core		98	LIMESTONE 59.76 Water level March 24/97 Elev 59.66m	
3.0						Bottom of hole 59.32	59.0
4.0							58.0
5.0							57.0
6.0							56.0
7.0							55.0
8.0							

■ VANE Cu (kPa) ■ 80 160 240 320
▲ VANE Cu REMOULDED (kPa) ▲ 80 160 240 320
PLASTIC M.C. LIQUID 20 40 60 80



McROSTIE GENEST ST-LOUIS Ottawa, Canada	LOGGED BY: JML	COMPLETION DEPTH: 3.1 m
	REVIEWED BY: E.S.	COMPLETE: 97/03/22
	Fig. No: 24.	Page 1 of 1

97/04/02 08:57AM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-24
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E - 7538
START DATE: 97/03/22	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 62.47 (m)

SAMPLE TYPE: REMOULDED-AUGER, SHELBY TUBE, SPLIT-SPOON, NW-CASING, NO RECOVERY, NQ CORE

DEPTH(m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION(m)
0.0					FILL - topsoil	
	15 17/15cm	SPLIT-SPOON	1		62.17 FILL sand with some pieces of broken boulders and traces of brick	62.0
1.0	20 47/5cm	SPLIT-SPOON	2			
	split spoon refusal - power auger refusal -					
		NQ CORE		79	61.27 LIMESTONE	61.0
2.0						
	WL	NQ CORE		95	60.29 LIMESTONE Water level March 24/97 Elev 59.87m	60.0
3.0					Bottom of hole 59.52	
4.0						59.0
5.0						58.0
6.0						57.0
7.0						56.0
8.0						55.0

Graph: VANE Cu (kPa) 80 160 240 320; VANE Cu REMOULDED (kPa) 80 160 240 320; PLASTIC M.C. LIQUID 20 40 60 80

McROSTIE GENEST ST-LOUIS Ottawa, Canada	LOGGED BY: JML	COMPLETION DEPTH: 3.0 m
	REVIEWED BY: E.S.	COMPLETE: 97/03/22
	Fig. No: 25.	Page 1 of 1

97/04/03 08:42AM

TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-25
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E - 7538
START DATE: 97/03/22	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 62.14 (m)

SAMPLE TYPE: REMOULDED-AUGER, SHELBY TUBE, SPLIT-SPOON, NW-CASING, NO RECOVERY, NQ CORE

DEPTH(m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION(m)
0.0					TOPSOIL	62.0
	2/15cm 10	SPLIT-SPOON	1		61.84 FILL - fine sand	
1.0	5/15cm 45	SPLIT-SPOON	2		61.39 FILL clay, topsoil, pieces of broken rock	61.0
	power auger refusal-	NQ CORE		100	LIMESTONE 60.70	
2.0	WL	NQ CORE		100	LIMESTONE 60.43	
					Water level March 24/97 Elev 60.19m	60.0
		NQ CORE		100	60.06 LIMESTONE	
3.0					Bottom of hole 59.09	59.0
4.0						58.0
5.0						57.0
6.0						56.0
7.0						55.0
8.0						

VANE Cu (kPa): 80, 160, 240, 320
VANE Cu REMOULDED (kPa): 80, 160, 240, 320
PLASTIC — M.C. — LIQUID: 20, 40, 60, 80

McROSTIE GENEST ST-LOUIS Ottawa, Canada	LOGGED BY: JML	COMPLETION DEPTH: 3.1 m
	REVIEWED BY: E.S.	COMPLETE: 97/03/22
	Fig. No: 26.	Page 1 of 1

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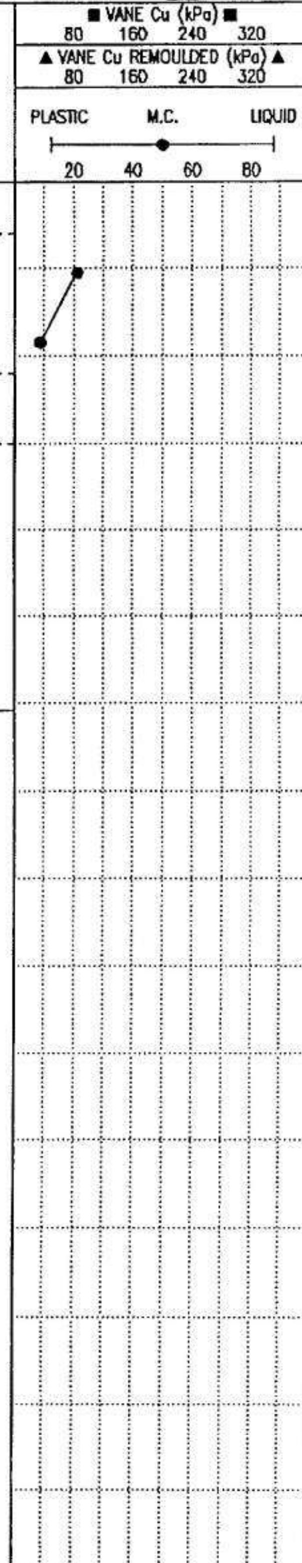
TUNNEY'S PASTURE WATERMAIN UPGRADE	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-26
CLIENT: P.W.G.S.C.	56U2791 on west foundation wall of the	PROJECT NO: E - 7538
START DATE: 97/03/22	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 62.03 (m)

SAMPLE TYPE: REMOULDED-AUGER, SHELBY TUBE, SPLIT-SPOON, NW-CASING, NO RECOVERY, NQ CORE

DEPTH(m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	ELEVATION(m)
0.0					TOPSOIL	62.0
	6/15cm 12	Split-spoon	1		61.73 FILL sand and topsoil with pieces of broken rock	
1.0	37 27/5cm	Split-spoon	2			61.0
	split spoon refusal-	NQ core		100	LIMESTONE 60.93	
	WL				60.53 Water level March 24/97 Elev 60.48m	
2.0		NQ core		97	LIMESTONE	60.0
3.0					Bottom of hole 58.99	59.0
4.0						58.0
5.0						57.0
6.0						56.0
7.0						55.0
8.0						



McROSTIE GENEST ST-LOUIS Ottawa, Canada	LOGGED BY: JML	COMPLETION DEPTH: 3.0 m
	REVIEWED BY: E.S.	COMPLETE: 97/03/22
	Fig. No: 27.	Page 1 of 1

97/04/02 09:00AM

Table 1

RECORD OF AUGERHOLES

Augerhole Number	Depth (metres)	Description	Laboratory Testing
04-1	0.00 - 0.20	ASPHALTIC CONCRETE	
	0.20 – 0.75	Brown fine to medium sand, some gravel (BASE)	
	0.75	Auger Refusal	
		Note: Augerhole Dry upon completion	
		Sample 1 — Depth (m) 0.20 – 0.40	
04-2	0.00 - 0.20	ASPHALTIC CONCRETE	
	0.20 - 0.40	Grey Crushed Stone (BASE)	
	0.40 - 0.70	Brown SILTY SAND, some gravel, trace clay (Glacial Till)	
	0.70	Auger Refusal	
		Note: Augerhole Dry upon completion	
04-3	0.00 - 0.15	ASPHALTIC CONCRETE	
	0.15 - 0.60	Grey Crushed Stone (BASE)	
	0.60 – 0.65	Weathered BEDROCK	
	0.65	Auger Refusal	
		Note: Augerhole Dry upon completion	
		Sample 1 — Depth (m) 0.15 - 0.40	Sieve

Table 1 (continued)

RECORD OF AUGERHOLES

Augerhole Number	Depth (metres)	Description	Laboratory Testing
04-4	0.00 - 0.15	ASPHALTIC CONCRETE	
	0.15 - 0.50	Grey Crushed Stone (BASE)	
	0.50 – 0.80	Brown SILTY SAND, some gravel, trace clay (Glacial Till)	
	0.80	Auger Refusal	
		Note: Augerhole Dry upon completion	
04-5	0.00 - 0.13	ASPHALTIC CONCRETE	
	0.13 - 0.50	Grey Crushed Stone (BASE)	
	0.50 – 0.65	Brown SILTY SAND, some gravel, trace clay (Glacial Till)	
	0.65	Auger Refusal	
		Note: Augerhole Dry upon completion	

Sample	Depth (m)
1	0.15 – 0.50

Augerhole Number	Depth (metres)	Description	Laboratory Testing
04-6	0.00 - 0.18	ASPHALTIC CONCRETE	
	0.18 - 0.60	Grey Crushed Stone (BASE)	
	0.60 - 0.65	Brown SILTY SAND, some gravel, trace clay (Glacial Till)	
	0.65	Auger Refusal	
		Note: Augerhole Dry upon completion	

Sample	Depth (m)
1	0.20 - 0.60

Table 1 (continued)

RECORD OF AUGERHOLES

Augerhole Number	Depth (metres)	Description	Laboratory Testing
04-7	0.00 - 0.10	ASPHALTIC CONCRETE	
	0.10 - 0.60	Grey Crushed Stone (BASE)	
	0.60 – 0.71	Brown silty sand, some gravel, trace clay, trace wood (FILL)	
	0.71	Auger Refusal	
		Note: Augerhole Dry upon completion	

Sample	Depth (m)
1	0.10 – 0.40
2	0.60 – 0.70

Augerhole Number	Depth (metres)	Description	Laboratory Testing
04-8	0.00 - 0.10	ASPHALTIC CONCRETE	
	0.10 - 0.50	Grey Crushed Stone (BASE)	
	0.50 – 0.60	Brown SILTY SAND, some gravel, trace clay (Glacial Till)	
	0.60	Auger Refusal	
		Note: Augerhole Dry upon completion	

Sample	Depth (m)
1	0.10 - 0.40

Augerhole Number	Depth (metres)	Description	Laboratory Testing
04-9	0.00 - 0.10	ASPHALTIC CONCRETE	
	0.10 - 0.50	Grey Crushed Stone (BASE)	
	0.50 - 0.60	Brown SILTY SAND, some gravel, trace clay (Glacial Till)	
	0.60	Auger Refusal	
		Note: Augerhole Dry upon completion	

Sample	Depth (m)
1	0.10 – 0.30
2	0.30 – 0.50

Table 1 (continued)

RECORD OF AUGERHOLES

Augerhole Number	Depth (metres)	Description	Laboratory Testing
04-10	0.00 - 0.08	ASPHALTIC CONCRETE	
	0.08 - 0.60	Grey Crushed Stone (BASE)	
	0.60 – 1.57	Brown silty sand, some gravel, trace clay, trace wood and brick (FILL)	
	1.57	End of Augerhole	
		Note: Augerhole Dry upon completion	
		Sample 1 — Depth (m) 0.10 – 0.30	
		Sample 2 — Depth (m) 0.30 – 0.50	
		Sample 3 — Depth (m) 1.00 – 1.50	
04-11	0.00 - 0.10	ASPHALTIC CONCRETE	
	0.10 - 0.55	Grey Crushed Stone (BASE)	
	0.55 - 0.70	Brown SILTY SAND, some gravel, trace clay (Glacial Till)	
	0.70	Auger Refusal	
		Note: Augerhole Dry upon completion	
		Sample 1 — Depth (m) 0.10 – 0.35	
		Sample 2 — Depth (m) 0.35 – 0.55	Sieve
04-13	0.00 - 0.09	ASPHALTIC CONCRETE	
	0.09 - 0.37	Grey Crushed Stone (BASE)	
	0.37	Auger Refusal	
		Note: Augerhole Dry upon completion	
		Sample 1 — Depth (m) 0.15 – 0.35	

Table 1 (continued)

RECORD OF AUGERHOLES

Augerhole Number	Depth (metres)	Description		Laboratory Testing
04-14	0.00 - 0.10	ASPHALTIC CONCRETE		
	0.10 - 0.70	Grey Crushed Stone (BASE)		
	0.70	Auger Refusal		
		Note: Augerhole Dry upon completion		
		Sample	Depth (m)	
		1	0.10 – 0.45	Sieve
04-16	0.00 - 0.18	ASPHALTIC CONCRETE		
	0.18 - 0.60	Grey Crushed Stone (BASE)		
	0.60 - 0.80	Grey to grey black SILTY SAND, some gravel, trace clay, with organic matter (Glacial Till)		
	0.80	Auger Refusal		
		Note: Augerhole Dry upon completion		
		Sample	Depth (m)	
		1	0.20 – 0.50	
		2	0.60 – 0.80	
04-17	0.00 - 0.10	ASPHALTIC CONCRETE		
	0.10 - 0.50	Grey Crushed Stone (BASE)		
	0.50 - 0.62	Grey to grey black SILTY SAND. some gravel, trace clay (GLACIAL TILL)		
	1.52	End of Augerhole		
		Note: Augerhole Dry upon completion		
		Sample	Depth (m)	
		1	0.10 – 0.30	
		2	0.30 – 0.50	Sieve
		3	0.50 – 0.60	

Table 1 (continued)

RECORD OF AUGERHOLES

Augerhole Number	Depth (metres)	Description	Laboratory Testing
04-19	0.00 - 0.09	ASPHALTIC CONCRETE	
	0.09 - 0.36	Grey Crushed Stone (BASE)	
	0.36 - 0.57	Brown fine to medium Sand, some Gravel (Subbase)	
	0.57 - 0.64	ASPHALTIC CONCRETE	
	0.64 – 1.10	Brown silty sand (FILL)	
	1.10 – 1.55	Brown SILTY SAND. some gravel, trace clay (GLACIAL TILL)	
	1.55	End of Augerhole	

Note: Augerhole Dry upon completion

Sample	Depth (m)
1	0.10 - 0.30
2	0.40 - 0.57

Augerhole Number	Depth (metres)	Description	Laboratory Testing
04-20	0.00 - 0.13	ASPHALTIC CONCRETE	
	0.13 - 0.50	Grey Crushed Stone (BASE)	
	0.50 - 0.55	Brown SILTY SAND, some gravel, trace clay (Glacial Till)	
	0.55	Auger Refusal	

Note: Augerhole Dry upon completion

Sample	Depth (m)
1	0.13 - 0.30
2	0.30 – 0.50

Augerhole Number	Depth (metres)	Description	Laboratory Testing
04-21	0.00 - 0.13	ASPHALTIC CONCRETE	
	0.13 - 0.80	Grey Crushed Stone (BASE)	
	0.80 – 1.37	Brown SILTY SAND, some gravel, trace clay (Glacial Till)	
	1.37	Auger Refusal	

Note: Augerhole Dry upon completion

Sample	Depth (m)
1	0.20 - 0.50

Table 1 (continued)

RECORD OF AUGERHOLES

Augerhole Number	Depth (metres)	Description	Laboratory Testing
04-22	0.00 - 0.14	ASPHALTIC CONCRETE	
	0.14 - 0.65	Grey Crushed Stone (BASE)	
	0.65 – 0.97	Brown SILTY SAND, some gravel, trace clay (Glacial Till)	
	0.97	Auger Refusal	
		Note: Augerhole Dry upon completion	
		Sample 1, Depth (m) 0.15 – 0.40	
		Sample 2, Depth (m) 0.40 – 0.65	
04-23	0.00 - 0.10	ASPHALTIC CONCRETE	
	0.10 - 0.60	Grey Crushed Stone (BASE)	
	0.60 - 1.10	Brown SILTY SAND, some gravel, trace clay (Glacial Till)	
	1.10	Auger refusal	
		Note: Augerhole Dry upon completion	
		Sample 1, Depth (m) 0.10 – 0.40	
04-24	0.00 - 0.16	ASPHALTIC CONCRETE	
	0.16 - 0.65	Grey Crushed Stone (BASE)	
	0.65 – 0.73	Brown SILTY SAND, some gravel, trace clay (Glacial Till)	
	0.73	Auger refusal	
		Note: Augerhole Dry upon completion	
		Sample 1, Depth (m) 0.16 – 0.40	
		Sample 2, Depth (m) 0.40 – 0.65	

Table 1 (continued)

RECORD OF AUGERHOLES

Augerhole Number	Depth (metres)	Description			Laboratory Testing
04-25	0.00 - 0.14	ASPHALTIC CONCRETE			
	0.14 - 0.50	Grey Crushed Stone (BASE)			
	0.50 – 0.75	Brown SILTY SAND, some gravel, trace clay (Glacial Till)			
	0.75	Auger refusal			
		Note: Augerhole Dry upon completion			
			Sample	Depth (m)	
			1	0.14 – 0.50	Sieve
04-26	0.00 - 0.14	ASPHALTIC CONCRETE			
	0.14 - 0.55	Grey Crushed Stone (BASE)			
	0.55 - 0.80	Brown SILTY SAND, some gravel, trace clay (Glacial Till)			
	0.80	Auger refusal			
		Note: Augerhole Dry upon completion			
			Sample	Depth (m)	
			1	0.15 - 0.50	Sieve

Log of Borehole BH 931

Project No: OTT-00227118-P0

Project: Energy Services Acquisition Program (ESAP) Pipeline

Location: Tunney's Pasture

Date Drilled: 'August 2, 2018

Drill Type: CME-55 Truck Mounted Drill Rig

Datum: Geodetic

Logged by: MAD   Checked by: SP

Figure No. F-2

Page. 1 of 1

Split Spoon Sample
Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Shear Strength by Vane Test

Combustible Vapour Reading
Natural Moisture Content
Atterberg Limits
Undrained Triaxial at % Strain at Failure
Shear Strength by Penetrometer Test

SOIL DESCRIPTION	Geodetic m	Depth	SPT N Value	Natural Moisture Content %	Samples
	62.49	0			
ASPHALTIC CONCRETE ~ 50 mm	62.4				
GRANULAR FILL (BASE) ~250 mm crushed gravel with silt and sand, grey, damp, no odours, no stains	62.1		30	25	SS1
FILL Gravel with silt and sand, cobbles, boulders, grey, damp, no odours, no stains, (compact)		1	26	40	SS2
boulder from 1.6 m to 2.1 m depths			50 for 50 mm		SS3
	60.4	2			
GLACIAL TILL Sand and gravel, cobbles and boulders, brown, damp to moist, no odours, no stains			Refusal	40	
	59.8				
LIMESTONE BEDROCK With shaley partings, 100 mm thick gravel seam at 2.9 m, 3.5 m and 3.8 m depths, grey, (good quality)		3			Run 1
Depth (m) RQD (%) Quality of Rock 2.7-4.2 86 Good	58.81				
	58.3	4			
Borehole Terminated in Bedrock at 4.2 m Depth					

NOTES:
1. Borehole data requires interpretation by EXP before use by others
2. 32 mm diameter monitoring well installed as shown.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-00227118-P0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
13 days	3.7	

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	2.7 - 4.2	100	86

Log of Borehole BH 932

Project No: OTT-00227118-P0

Project: Energy Services Acquisition Program (ESAP) Pipeline

Location: Tunney's Pasture

Date Drilled: 'July 31, 2018

Drill Type: CME-55 Truck Mounted Drill Rig

Datum: Geodetic

Logged by: MAD   Checked by: SP

Figure No. F-3

Page. 1 of 1

Legend	Symbol	Legend	Symbol
Split Spoon Sample	⊠	Combustible Vapour Reading	□
Auger Sample	◧	Natural Moisture Content	X
SPT (N) Value	O	Atterberg Limits	├─O
Dynamic Cone Test	——	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■	Shear Strength by Penetrometer Test	▲
Shear Strength by Vane Test	+ S		

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic m	Depth	Standard Penetration Test N Value (20, 40, 60, 80) / Shear Strength kPa (50, 100, 150, 200)	Combustible Vapour Reading (ppm) (250, 500, 750) / Natural Moisture Content % / Atterberg Limits (% Dry Weight) (20, 40, 60)	SAMPLES	Natural Unit Wt. kN/m³
			62.86	0				
		ASPHALTIC CONCRETE ~ 115 mm	62.8					
		GRANULAR FILL (BASE) ~190 mm crushed gravel with silt and sand, grey, damp, no odours, no stains	62.6		13	35	⊠	SS1
		FILL Silty sand and gravel with clay, dark brown, damp, no odours, no stains, (compact)		1	Refusal	10	⊠	SS2
		LIMESTONE BEDROCK With shaley partings, vertical fractures, grey (poor quality)	61.5					
		Depth (m) / RQD (%) / Quality of Rock: 1.4-2.7 / 31 / Poor; 2.7-4.2 / 44 / Poor	60.57	2				Run 1
				3				Run 2
			58.7	4				
		Borehole Terminatd in Bedrock at 4.2 m depth						

NOTES:
1. Borehole data requires interpretation by EXP before use by others
2. 32 mm diameter monitoring well installed as shown.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-00227118-P0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
15 days	2.3	

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	1.4 - 2.7	100	31
2	2.7 - 4.2	99	44

Log of Borehole BH 933

Project No: OTT-00227118-P0

Figure No. F-4

Page. 1 of 1

Project: Energy Services Acquisition Program (ESAP) Pipeline

Location: Tunney's Pasture

Date Drilled: 'July 31, 2018

Drill Type: CME-55 Truck Mounted Drill Rig

Datum: Geodetic

Logged by: MAD   Checked by: SP

Legend	Symbol	Legend	Symbol
Split Spoon Sample	⊠	Combustible Vapour Reading	□
Auger Sample	◧	Natural Moisture Content	✕
SPT (N) Value	○	Atterberg Limits	⊢—⊖
Dynamic Cone Test	——	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■		
Shear Strength by Vane Test	+ S	Shear Strength by Penetrometer Test	▲

Geodetic (m)	Depth (m)	SOIL DESCRIPTION	Standard Penetration Test N Value / Shear Strength (kPa)	Samples	Natural Unit Wt. kN/m³
63.54	0				
63.4		**ASPHALTIC CONCRETE** ~ 90 mm			
63.1		**GRANULAR FILL (BASE)** ~270 mm crushed gravel with silt and sand, grey, damp, no odours, no stains	50 for 125 mm; 15	SS1	
62.8		**FILL** Silty sand with gravel, grey, damp, no odours, no stains		AS2	
	1	**LIMESTONE BEDROCK** With shaley partings, 19 mm thick silty gravel seam at 1.4 m depth, grey, (fair to good quality)		Run 1	
61.3	2			Run 2	

Standard Penetration Test N Value scale: 20, 40, 60, 80. Shear Strength scale (kPa): 50, 100, 150, 200.

Combustible Vapour Reading (ppm): 250, 500, 750. Natural Moisture Content % / Atterberg Limits (% Dry Weight): 20, 40, 60.

Depth (m)	RQD (%)	Quality of Rock
0.7-1.1	54	Fair
1.1-2.2	81	Good

Depth (m)	UCS (MPa)	UW (kN/m3)
1.3-1.4	151.2 (Very Strong)	25.8

Note:
UCS - Unconfined Compressive Strength
UW - Unit Weight

Borehole Terminated in Bedrock at 2.2 m depth

NOTES:
1. Borehole data requires interpretation by EXP before use by others
2. The borehole was backfilled upon completion of drilling.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-00227118-P0

WATER LEVEL RECORDS

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

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	0.7 - 1.1	100	54
2	1.1 - 2.2	99	81

Log of Borehole BH 934

Project No: OTT-00227118-P0

Project: Energy Services Acquisition Program (ESAP) Pipeline

Location: Tunney's Pasture

Date Drilled: 'August 1, 2018

Drill Type: CME-55 Truck Mounted Drill Rig

Datum: Geodetic

Logged by: MAD   Checked by: SP

Figure No. F-5

Page. 1 of 1

Symbol	Legend	Symbol	Legend
Split Spoon Sample	⊠	Combustible Vapour Reading	□
Auger Sample	◧	Natural Moisture Content	X
SPT (N) Value	O	Atterberg Limits	├─O
Dynamic Cone Test	──	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■		
Shear Strength by Vane Test	+ S	Shear Strength by Penetrometer Test	▲

SOIL DESCRIPTION	Geodetic m	Depth	Standard Penetration Test N Value (20, 40, 60, 80) / Shear Strength kPa (50, 100, 150, 200)	Combustible Vapour Reading (ppm) (250, 500, 750) / Natural Moisture Content % / Atterberg Limits (% Dry Weight) (20, 40, 60)	SAMPLES	Natural Unit Wt. kN/m³
	61.83	0				
ASPHALTIC CONCRETE ~ 100 mm	61.7					
GRANULAR FILL (BASE) ~200 mm crushed gravel with silt and sand, grey, damp, no odours, no stains	61.5		20	10	⊠	SS1
FILL Silty sand and gravel, grey, damp, no odours, no stains, (compact)		1	12	5	⊠	SS2
COBBLES AND BOULDERS	60.3					Run 1
LIMESTONE BEDROCK With shaley partings, 50 mm thick gravel seam at 2.3 m depth, grey (very poor to fair quality)	59.7	2				Run 2
						Run 3
		3				Run 4
	58.11					
	57.8	4				

Limestone bedrock rock quality:

Depth (m)	RQD (%)	Quality of Rock
1.5-2.1	0	Very Poor
2.1-2.6	67	Fair
2.6-2.9	0	Very Poor
2.9-4.0	11	Very Poor

Depth (m)	UCS (MPa)	UW (kN/m3)
3.6-3.7	124.9 (Very Strong)	26.0

Note:
UCS - Unconfined Compressive Strength
UW - Unit Weight

Borehole Terminated in Bedrock at 4.0 m Depth

NOTES:
1. Borehole data requires interpretation by EXP before use by others
2. 32 mm diameter monitoring well installed as shown.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-00227118-P0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
14 days	3.7	

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	1.5 - 2.1	57	0
2	2.1 - 2.6	95	67
3	2.6 - 2.9	93	0
4	2.9 - 4	94	11

Log of Borehole BH 935

Project No: OTT-00227118-P0

Project: Energy Services Acquisition Program (ESAP) Pipeline

Location: Tunney's Pasture

Date Drilled: 'August 1, 2018

Drill Type: CME-55 Truck Mounted Drill Rig

Datum: Geodetic

Logged by: MAD   Checked by: SP

Figure No. F-6

Page. 1 of 1

Legend	Symbol	Legend	Symbol
Split Spoon Sample	⊠	Combustible Vapour Reading	□
Auger Sample	◨	Natural Moisture Content	X
SPT (N) Value	O	Atterberg Limits	⊢—⊖
Dynamic Cone Test	——	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■	Shear Strength by Penetrometer Test	▲
Shear Strength by Vane Test	+ S		

SOIL DESCRIPTION	Geodetic m	Depth (m)	SPT N Value	Natural Moisture Content %	Samples
	62.37	0			
ASPHALTIC CONCRETE ~ 80 mm	62.3				
GRANULAR FILL (BASE) ~730 mm crushed gravel with silt and sand, grey, damp, no odours, no stains, (compact)			20	10	SS1
FILL Silty sand and gravel with clay, brown and grey, damp, no odours, no stains, (loose to compact)	61.6	1	13	5	SS2
			9	5	SS3
		2	50 for 75 mm	5	SS4
LIMESTONE BEDROCK With shaley partings, gravel seams, grey, (very poor to fair quality)	60.0				Run 1
Depth (m) RQD (%) Quality of Rock 2.4-3.2 19 Very Poor 3.2-4.2 71 Fair		3			Run 2
	58.2	4			
Borehole Terminated in Bedrock at 4.2 m Depth					

Chart axes: Standard Penetration Test N Value 20, 40, 60, 80; Shear Strength kPa 50, 100, 150, 200; Combustible Vapour Reading (ppm) 250, 500, 750; Natural Moisture Content %, Atterberg Limits (% Dry Weight) 20, 40, 60; Natural Unit Wt. kN/m^3

NOTES:
1. Borehole data requires interpretation by EXP before use by others
2. The borehole was backfilled upon completion of drilling.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-00227118-P0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	Dry	

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	2.4 - 3.2	97	19
2	3.2 - 4.2	100	71

Log of Borehole BH 936

Project No: OTT-00227118-P0

Project: Energy Services Acquisition Program (ESAP) Pipeline

Location: Tunney's Pasture

Figure No. F-7

Page. 1 of 1

Date Drilled: 'August 1, 2018

Drill Type: CME-55 Truck Mounted Drill Rig

Datum: Geodetic

Logged by: MAD   Checked by: SP

Legend	Symbol	Legend	Symbol
Split Spoon Sample	⊠	Combustible Vapour Reading	□
Auger Sample	▥	Natural Moisture Content	X
SPT (N) Value	O	Atterberg Limits	├─O
Dynamic Cone Test	──	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■	Shear Strength by Penetrometer Test	▲
Shear Strength by Vane Test	+ S		

GWL	SOIL DESCRIPTION	Geodetic m	Depth	Standard Penetration Test N Value (20, 40, 60, 80) / Shear Strength kPa (50, 100, 150, 200)	Natural Moisture Content %	Samples	Natural Unit Wt. kN/m³
		61.82	0				
	ASPHALTIC CONCRETE ~ 90 mm	61.7					
	GRANULAR FILL (BASE) ~290 mm crushed gravel with silt and sand, grey, damp, no odours, no stains	61.4		49	X	SS1	
	FILL Sand and gravel, cobbles and boulders, brown and grey, damp, no odours, no stains, (dense to very dense) hard augering from 0.3 m to 0.8 m depths	60.6	1	50 for 75 mm	X	SS2	
	LIMESTONE BEDROCK With shaley partings, 13 mm and 25 mm thick gravel seams at 2.0 m and 2.4 m depths, grey, (very poor to excellent quality)		2			Run 1	
						Run 2	
		57.9	3			Run 3	

Depth (m)	RQD (%)	Quality of Rock
1.2-2.1	0	Very Poor
2.1-2.7	98	Excellent
2.7-3.9	32	Poor

Borehole Terminated in Bedrock at 3.9 m Depth

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. The borehole was backfilled upon completion of drilling.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-00227118-P0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	N/A	

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	1.2 - 2.1	79	0
2	2.1 - 2.7	100	98
3	2.7 - 3.9	82	32

Log of Borehole BH 937

Project No: OTT-00227118-P0

Figure No. F-8

Page. 1 of 1

Project: Energy Services Acquisition Program (ESAP) Pipeline

Location: Tunney's Pasture

Date Drilled: 'August 2, 2018

Drill Type: CME-55 Truck Mounted Drill Rig

Datum: Geodetic

Logged by: MAD Checked by: SP

Legend	Symbol	Legend	Symbol
Split Spoon Sample	⊠	Combustible Vapour Reading	□
Auger Sample	◧	Natural Moisture Content	X
SPT (N) Value	O	Atterberg Limits	⊢—⊖
Dynamic Cone Test	——	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■		
Shear Strength by Vane Test	+ S	Shear Strength by Penetrometer Test	▲

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic m	Depth	Standard Penetration Test N Value (20, 40, 60, 80); Shear Strength kPa (50, 100, 150, 200)	Combustible Vapour Reading (ppm) (250, 500, 750); Natural Moisture Content %; Atterberg Limits (% Dry Weight) (20, 40, 60)	SAMPLES	Natural Unit Wt. kN/m³
			62.23	0				
		TOPSOIL ~ 125 mm	62.0					
		FILL Silty sand and gravel, brown and grey, moist, no odours, no stains, (compact)	61.6		13	15	⊠	SS1
		FILL Silty sand with gravel, cobbles and boulders, brown, moist, no odours, no stains	61.2	1	50 for 75 mm	35	⊠	SS2
		LIMESTONE BEDROCK With shaley partings, grey, (fair quality) **Depth (m) RQD (%) Quality of Rock** 1.0-2.7 62 Fair **Depth (m) UCS (MPa) UW (kN/m3)** 1.2-1.4 195.2 26.2 (Very Strong)	59.5	2				Run 1

Note:
UCS - Unconfined Compressive Strength
UW - Unit Weight

Borehole Terminated in Bedrock at 2.7 m Depth

NOTES:
1. Borehole data requires interpretation by EXP before use by others
2. The borehole was backfilled upon completion of drilling.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-00227118-P0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	N/A	

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	1 - 2.7	100	62

Log of Borehole BH 938

Project No: OTT-00227118-P0

Figure No. F-9

Page. 1 of 1

Project: Energy Services Acquisition Program (ESAP) Pipeline

Location: Tunney's Pasture

Date Drilled: 'July 31, 2018

Drill Type: CME-55 Truck Mounted Drill Rig

Datum: Geodetic

Logged by: MAD   Checked by: SP

Legend	Symbol	Legend	Symbol
Split Spoon Sample	☒	Combustible Vapour Reading	□
Auger Sample	◨	Natural Moisture Content	✕
SPT (N) Value	○	Atterberg Limits	⊢⊖
Dynamic Cone Test	—	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■		
Shear Strength by Vane Test	+ S	Shear Strength by Penetrometer Test	▲

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic m	Depth	Standard Penetration Test N Value (20 40 60 80) / Shear Strength kPa (50 100 150 200)	Combustible Vapour Reading (ppm) (250 500 750) / Natural Moisture Content % / Atterberg Limits (% Dry Weight) (20 40 60)	SAMPLES	Natural Unit Wt. kN/m^3
			62.02	0				
		ASPHALTIC CONCRETE ~ 80 mm	61.9					
		GRANULAR FILL (BASE) ~120 mm crushed gravel with silt and sand, grey, damp, no odours, no stains	61.8		21	70	☒	SS1/AS2
		FILL Gravel with silt and sand, dark brown and dark grey, damp, no odours, no stains, (compact)	61.3	1	22	70	☒	SS3
		INFERRED COBBLES AND BOULDERS OR WEATHERED BEDROCK With sand and gravel, dark grey, damp, no odours, no stains, (compact)	60.5					
		LIMESTONE BEDROCK With shaley partings, grey, (fair to good quality)		2				Run 1
				3				Run 2
▼			58.35					
			57.9	4				

Depth (m)	RQD (%)	Quality of Rock
1.5-2.7	64	Fair
2.7-4.1	84	Good

Borehole Terminated in Bedrock at 4.1 m Depth

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. 32 mm diameter monitoring well installed as shown.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-00227118-P0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	N/A	
16 days	3.7	

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	1.5 - 2.7	100	64
2	2.7 - 4.1	98	84

Log of Borehole BH 939

Project No: OTT-00227118-P0

Project: Energy Services Acquisition Program (ESAP) Pipeline

Location: Tunney's Pasture

Figure No. F-10

Page. 1 of 1

Date Drilled: 'August 2, 2018

Drill Type: CME-55 Truck Mounted Drill Rig

Datum: Geodetic

Logged by: MAD Checked by: SP

Legend		Legend	
Split Spoon Sample	⊠	Combustible Vapour Reading	□
Auger Sample		Natural Moisture Content	X
SPT (N) Value	O	Atterberg Limits	
Dynamic Cone Test		Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■	Shear Strength by Penetrometer Test	▲
Shear Strength by Vane Test	+ S		

SOIL DESCRIPTION	Geodetic m	Depth	Standard Penetration Test N Value / Shear Strength kPa	Combustible Vapour Reading (ppm) / Natural Moisture Content % / Atterberg Limits (% Dry Weight)	SAMPLES	Natural Unit Wt. kN/m^3
	61.63	0				
ASPHALTIC CONCRETE ~ 100 mm	61.5					
GRANULAR FILL (BASE) ~200 mm crushed gravel with silt and sand, grey, damp, no odours, no stains	61.3		31	10	⊠	SS1
FILL Silty sand and gravel, dark brown and dark grey, damp, no odours, no stains, (dense)	60.8	1	29	15	⊠	SS2
INFERRED COBBLES AND BOULDERS OR WEATHERED BEDROCK With sand and gravel, grey, damp, no odours, no stains, (compact)	60.2					
LIMESTONE BEDROCK With shaley partings, grey, (poor to excellent quality)		2				Run 1
Depth (m) RQD (%) Quality of Rock 1.4-2.7 46 Poor 2.7-4.1 91 Excellent						
Depth (m) UCS (MPa) UW (kN/m3) 2.9-3.1 158.8 26.3 (Very Strong)	58.42	3				Run 2
Note: UCS - Unconfined Compressive Strength UW - Unit Weight	57.5	4				
Borehole Terminated in Bedrock at 4.1 m Depth						

LOG OF BOREHOLE LOGS OF BOREHOLES - ESAP JULY 2018.GPJ TROW OTTAWA.GDT 10/2/18

NOTES:
1. Borehole data requires interpretation by EXP before use by others
2. 32 mm diameter monitoring well installed as shown.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-00227118-P0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	N/A	
14 days	3.2	

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	1.4 - 2.7	100	46
2	2.7 - 4.1	100	91

Log of Borehole BH 940

Project No: OTT-00227118-P0

Figure No. F-11

Project: Energy Services Acquisition Program (ESAP) Pipeline

Page. 1 of 1

Location: Tunney's Pasture

Date Drilled: 'July 30, 2018

Drill Type: CME-55 Truck Mounted Drill Rig

Datum: Geodetic

Logged by: MAD   Checked by: SP

Legend	Symbol	Legend	Symbol
Split Spoon Sample	⊠	Combustible Vapour Reading	□
Auger Sample	◨	Natural Moisture Content	X
SPT (N) Value	○	Atterberg Limits	├─○
Dynamic Cone Test	──	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■	Shear Strength by Penetrometer Test	▲
Shear Strength by Vane Test	+ S		

GWL	SOIL DESCRIPTION	Geodetic m	Depth	Standard Penetration Test N Value (20, 40, 60, 80) / Shear Strength kPa (50, 100, 150, 200)	Combustible Vapour Reading (ppm) (250, 500, 750) / Natural Moisture Content % / Atterberg Limits (% Dry Weight) (20, 40, 60)	SAMPLES	Natural Unit Wt. kN/m^3
		61.23	0				
	TOPSOIL ~ 150 mm	61.0					
	GRANULAR FILL ~150 mm crushed gravel with silt and sand, grey, damp, no odours, no stains	60.9		18	5		SS1
	FILL Silty sand, brown, moist, no odours, no stains, (loose to compact)		1	18	5		SS2
				5	10		SS3
			2				
	INFERRED COBBLES AND BOULDERS OR WEATHERED BEDROCK With sand and gravel, brown and grey, damp, no odours, no stains (very dense)	58.8		50 for 125 mm	15		SS4
			3	50 for 125 mm	20		SS5
		57.9					

Auger Refusal on Inferred Cobbles, Boulders or Bedrock at 3.3 m Depth

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. The borehole was backfilled upon completion of drilling.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-00227118-P0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	Dry	

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

Log of Borehole BH 941

Project No: OTT-00227118-P0

Figure No. B-1

Project: Energy Services Acquisition Program (ESAP) Pipeline

Page. 1 of 1

Location: Proposed CHP Building -Tunney's Pasture, Ottawa, ON.

Date Drilled: 'September 7, 2018

Drill Type: CME-55 Truck Mounted Drill Rig

Datum: Geodetic

Logged by: ML Checked by: SP

Legend		Legend	
Split Spoon Sample	☒	Combustible Vapour Reading	□
Auger Sample	◧	Natural Moisture Content	X
SPT (N) Value	○	Atterberg Limits	⊢⊖
Dynamic Cone Test	—	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■	Shear Strength by Penetrometer Test	▲
Shear Strength by Vane Test	+ S		

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic m	Depth	Standard Penetration Test N Value (20, 40, 60, 80) / Shear Strength kPa (50, 100, 150, 200)	Combustible Vapour Reading (ppm) (250, 500, 750) / Natural Moisture Content % / Atterberg Limits (% Dry Weight) (20, 40, 60)	SAMPLES	Natural Unit Wt. kN/m³
			64.2	0				
		GRANULAR FILL ~200 mm crushed gravel with silt and sand, grey, damp, no odours, no stains	64.0		49	0	SS1	
		FILL Silty sand and gravel with clay, brick, concrete and grout debris, brown and grey, damp to moist, no odours, no stains, (dense)		1	41	10	SS2	
				2	40	15	SS3	
					50 for 100 mm	10	SS4	
		LIMESTONE BEDROCK With shaley partings, 25 mm and 75 mm thick grey clay seams at 3.0 m and 3.3 m depths, 100 mm and 200 mm long vertical fracture at 2.9 m and 3.4 m depths, grey, (fair to good quality)	61.7					
			61.4	3			Run 1	
				4				
				5			Run 2	
			58.7					

Depth (m)	RQD (%)	Quality of Rock
2.5-4.0	58	Fair
4.0-5.5	77	Good

Depth (m)	UCS (MPa)	UW (kN/m3)
2.5-2.7	118.6 (very strong)	25.5

Note:
UCS - Unconfined Compresssive Strength
UW - Unit Weight

Borehole Terminated in Bedrock at 5.5 m Depth

NOTES:
1. Borehole data requires interpretation by EXP before use by others
2. 32 mm diameter monitoring well installed as shown.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-00227118-P0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	N/A	
10 days	2.8	

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	2.5 - 4	100	58
2	4 - 5.5	100	77

Log of Borehole BH 942

Project No: OTT-00227118-P0

Project: Energy Services Acquisition Program (ESAP) Pipeline

Location: Proposed CHP Building -Tunney's Pasture, Ottawa, ON.

Date Drilled: 'September 7, 2018

Drill Type: CME-55 Truck Mounted Drill Rig

Datum: Geodetic

Logged by: ML Checked by: SP

Figure No. B-2

Page. 1 of 1

Legend	Symbol	Legend	Symbol
Split Spoon Sample	⊠	Combustible Vapour Reading	□
Auger Sample	◧	Natural Moisture Content	X
SPT (N) Value	○	Atterberg Limits	⊢⊖
Dynamic Cone Test	—	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■		
Shear Strength by Vane Test	+ S	Shear Strength by Penetrometer Test	▲

Geodetic m	Depth (m)	SOIL DESCRIPTION	SPT N Value	Combustible Vapour Reading (ppm)	Natural Moisture Content %	Samples
64.03	0	**GRANULAR FILL** ~350 mm crushed gravel with silt and sand, grey, damp, no odours, no stains, (compact)	26	0		SS1
63.6		**FILL** Silty sand, brown, moist, no odours, no stains				
63.3	1	**FILL** Sandy silty clay, 13 mm thick black silty sand seam, dark brown and brown, damp to moist, no odours, no stains, (firm)	7; 50 for 75 mm	15	X	SS2
62.7	2	**LIMESTONE BEDROCK** With shaley partings, 200 mm long vertical fracture at 2.0 m depth, grey, (fair to excellent quality)				Run 1
61.23	3					Run 2
60.4		**Borehole Terminated in Bedrock at 3.6 m Depth**				

Depth (m)	RQD (%)	Quality of Rock
1.3-2.8	64	Fair
2.8-3.6	97	Excellent

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. 32 mm diameter monitoring well installed as shown.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-00227118-P0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	N/A	
10 days	2.8	

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	1.3 - 2.8	100	64
2	2.8 - 3.6	100	97

Log of Borehole BH 943

Project No: OTT-00227118-P0

Project: Energy Services Acquisition Program (ESAP) Pipeline

Location: Proposed CHP Building -Tunney's Pasture, Ottawa, ON.

Date Drilled: 'September 6, 2018

Drill Type: CME-55 Truck Mounted Drill Rig

Datum: Geodetic

Logged by: ML   Checked by: SP

Figure No. B-3

Page. 1 of 1

Legend	Symbol	Legend	Symbol
Split Spoon Sample	⊠	Combustible Vapour Reading	□
Auger Sample	◧	Natural Moisture Content	✕
SPT (N) Value	○	Atterberg Limits	⊢—⊖
Dynamic Cone Test	——	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■	Shear Strength by Penetrometer Test	▲
Shear Strength by Vane Test	+ S		

SOIL DESCRIPTION	Geodetic m	Depth (m)	SPT N Value	Combustible Vapour Reading (ppm)	Natural Moisture Content %	Samples	Natural Unit Wt. kN/m³
	64.47	0					
ASPHALTIC CONCRETE ~ 50 mm	64.4						
GRANULAR FILL (BASE) ~200 mm crushed gravel with silt and sand, grey, damp, no odours, no stains	64.3		41	0		SS1	
FILL Silty sand and gravel, grey and brown, damp to moist, no odours, no stains, (dense to very dense)		1	65	0		SS2	
LIMESTONE BEDROCK With shaley partings, grey, (good to excellent quality) Highly weathered from 1.7 m to 1.8 m depths	62.9	2				Run 1	
		3				Run 2	
	60.57						
	60.4	4					
Borehole Terminated in Bedrock at 4.1 m Depth							

Chart scales: Standard Penetration Test N Value 20, 40, 60, 80; Shear Strength 50, 100, 150, 200 kPa; Combustible Vapour Reading (ppm) 250, 500, 750; Natural Moisture Content % / Atterberg Limits (% Dry Weight) 20, 40, 60.

Depth (m)	RQD (%)	Quality of Rock
1.7-2.6	79	Good
2.6-4.1	98	Excellent

NOTES:
1. Borehole data requires interpretation by EXP before use by others
2. 32 mm diameter monitoring well installed as shown.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-00227118-P0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	N/A	
10 days	3.9	

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	1.7 - 2.6	100	79
2	2.6 - 4.1	100	98

Log of Borehole BH 944

Project No: OTT-00227118-P0

Project: Energy Services Acquisition Program (ESAP) Pipeline

Location: Proposed CHP Building -Tunney's Pasture, Ottawa, ON.

Figure No. B-4

Page. 1 of 1

Date Drilled: 'September 6, 2018

Drill Type: CME-55 Truck Mounted Drill Rig

Datum: Geodetic

Logged by: ML   Checked by: SP

Legend	
Split Spoon Sample	Combustible Vapour Reading
Auger Sample	Natural Moisture Content
SPT (N) Value	Atterberg Limits
Dynamic Cone Test	Undrained Triaxial at % Strain at Failure
Shelby Tube	Shear Strength by Penetrometer Test
Shear Strength by Vane Test (S)	

SOIL DESCRIPTION	Geodetic m	Depth (m)	SPT N Value	Combustible Vapour Reading (ppm)	Natural Moisture Content %	Samples	Natural Unit Wt. kN/m³
GRANULAR FILL ~500 mm crushed gravel with silt and sand, grey, damp, no odours, no stains, (dense)	63.95	0	35	5		SS1	
FILL ~ 50 mm Silty sand with gravel, black, moist, organic odour, no stains	63.5 / 63.4				X		
FILL Silty sand with clay and gravel, brown and grey, damp, no odours, no stains	63.0	1	50 for 125 mm	20	X	SS2	
LIMESTONE BEDROCK With shaley partings, 25 mm thick brown clay seam at 1.5 m depth, grey, (good quality)		2				Run 1	
		3				Run 2	
Borehole Terminated in Bedrock at 3.3 m Depth	60.7						

Depth (m)	RQD (%)	Quality of Rock
1.2-2.7	80	Good
2.7-3.3	83	Good

Depth (m)	UCS (MPa)	UW (kN/m3)
1.8-2.0	132.7 (very strong)	25.8

Note:
UCS - Unconfined Compresssive Strength
UW - Unit Weight

Borehole Terminated in Bedrock at 3.3 m Depth

NOTES:
1. Borehole data requires interpretation by EXP before use by others
2. The borehole was backfilled upon completion of drilling.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-00227118-P0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	N/A	

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	1.2 - 2.7	98	80
2	2.7 - 3.3	100	83

Log of Borehole BH 945

Project No: OTT-00227118-P0

Project: Energy Services Acquisition Program (ESAP) Pipeline

Location: Proposed CHP Building -Tunney's Pasture, Ottawa, ON.

Date Drilled: 'September 6, 2018

Drill Type: CME-55 Truck Mounted Drill Rig

Datum: Geodetic

Logged by: ML   Checked by: SP

Figure No. B-5

Page. 1 of 1

Legend	Symbol	Legend	Symbol
Split Spoon Sample	⊠	Combustible Vapour Reading	□
Auger Sample	◨	Natural Moisture Content	✕
SPT (N) Value	○	Atterberg Limits	├─○
Dynamic Cone Test	──	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■	Shear Strength by Penetrometer Test	▲
Shear Strength by Vane Test	+ S		

GWL	SOIL DESCRIPTION	Geodetic m	Depth (m)	SPT N Value	Combustible Vapour Reading (ppm)	Natural Moisture Content %	Samples	Natural Unit Wt. kN/m^3
	GRANULAR FILL ~400 mm crushed gravel with silt and sand, grey, damp, no odours, no stains (dense)	64.09	0	47	20		⊠	SS1
	FILL Gravel with silt and sand, asphalt, brick and concrete debris, brown and grey, damp, no odours, no stains, (compact)	63.7	0.4	28	25	✕	⊠	SS2
				18	20	✕	⊠	SS3
				50 for 75 mm	20	✕	⊠	SS4
	LIMESTONE BEDROCK With shaley partings, 25 mm thick brown clay seam at 2.7 m and 2.8 m depths, 200 mm thick sand and gravel layer at 3.1 m depth, grey, (very poor to good quality)	61.6	2.5				Run 1	Run 1
							Run 2	Run 2
							Run 3	Run 3
		58.9	5.2					

Depth (m) RQD (%) Quality of Rock

Depth (m)	RQD (%)	Quality of Rock
2.5-2.8	0	Very Poor
2.8-4.4	62	Fair
4.4-5.2	88	Good

Depth (m)	UCS (MPa)	UW (kN/m3)
5.0-5.2	133.3 (very strong)	26.1

Note:
UCS - Unconfined Compresssive Strength
UW - Unit Weight

Borehole Terminated in Bedrock at 5.2 m Depth

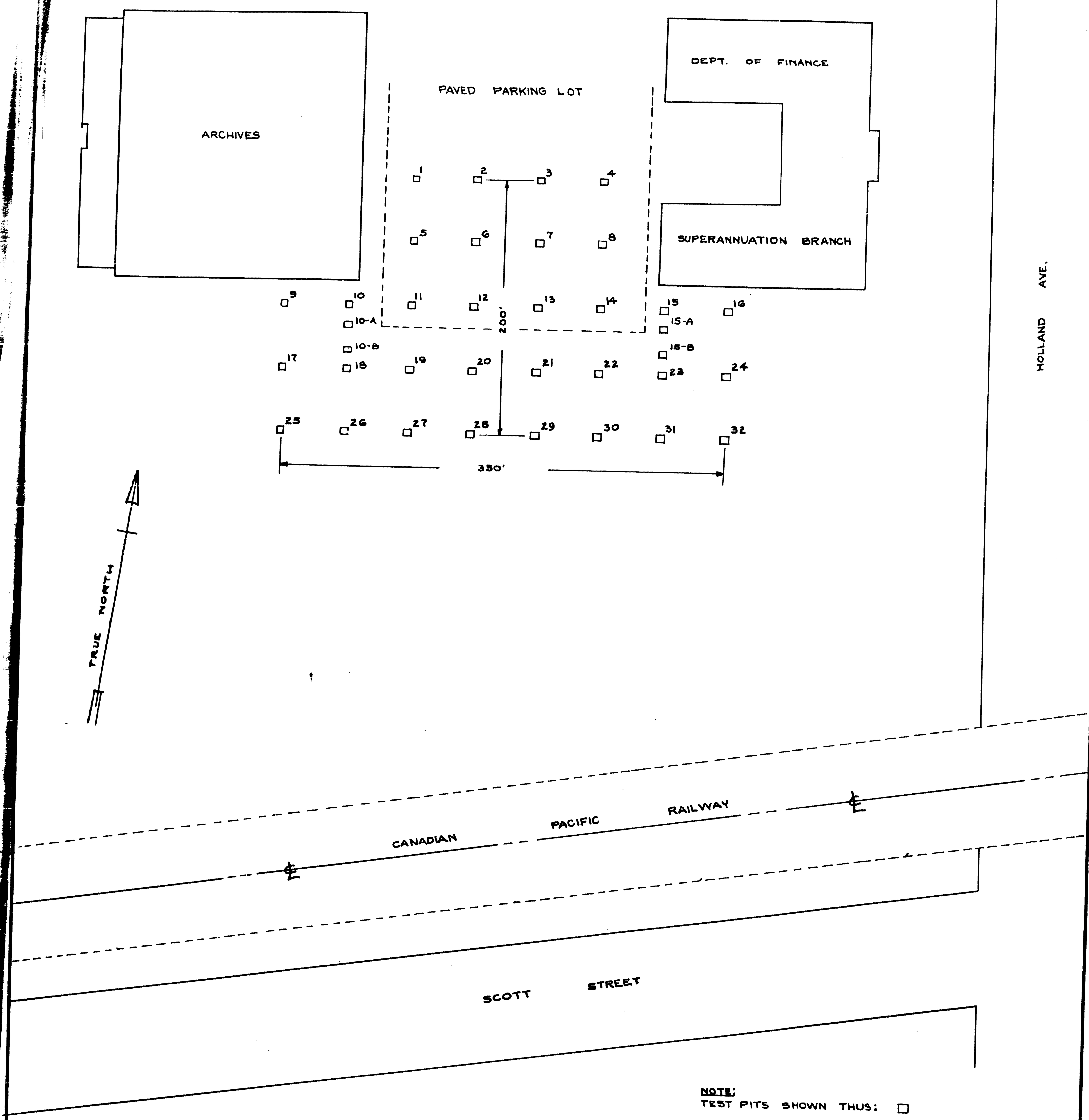
NOTES:
1. Borehole data requires interpretation by EXP before use by others
2. The borehole was backfilled upon completion of drilling.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-00227118-P0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	N/A	

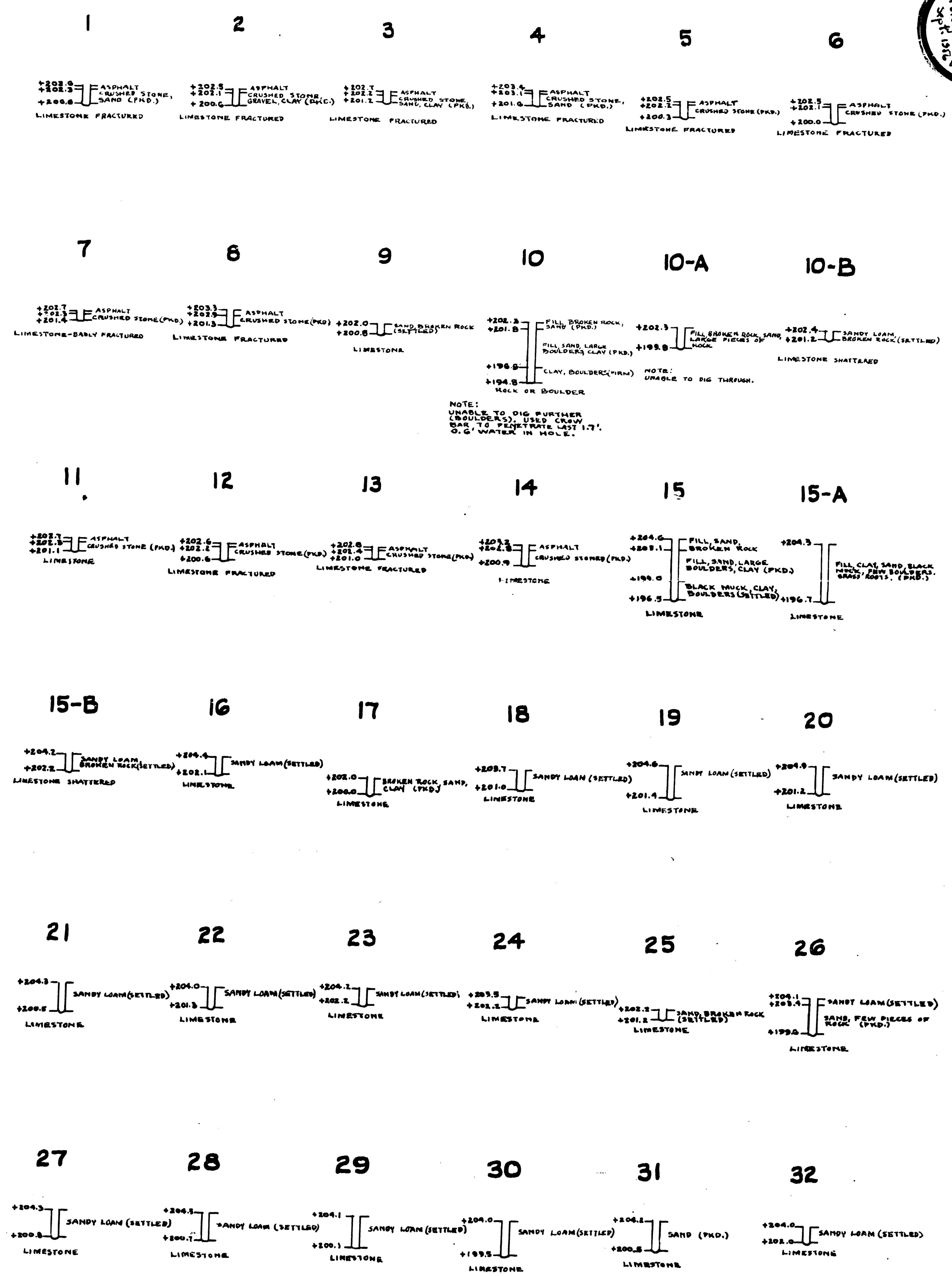
CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	2.5 - 2.8	100	0
2	2.8 - 4.4	100	62
3	4.4 - 5.2	100	88



LOCATION OF BORINGS

SCALE 1 IN. = 30 FT.



DETAIL OF BORINGS

SCALE 1 IN. = 10 FT.

REVISIONS	
DATE	DETAILS

PUBLIC WORKS OF CANADA
DEVELOPMENT ENGINEERING BRANCH · TESTING LABORATORIES DIVISION
SOIL MECHANICS SECTION

PLAN OF BORINGS

OTTAWA (TUNNEY'S PASTURE), ONT.

COMPTROLLER OF TREASURY STORAGE BLDG.

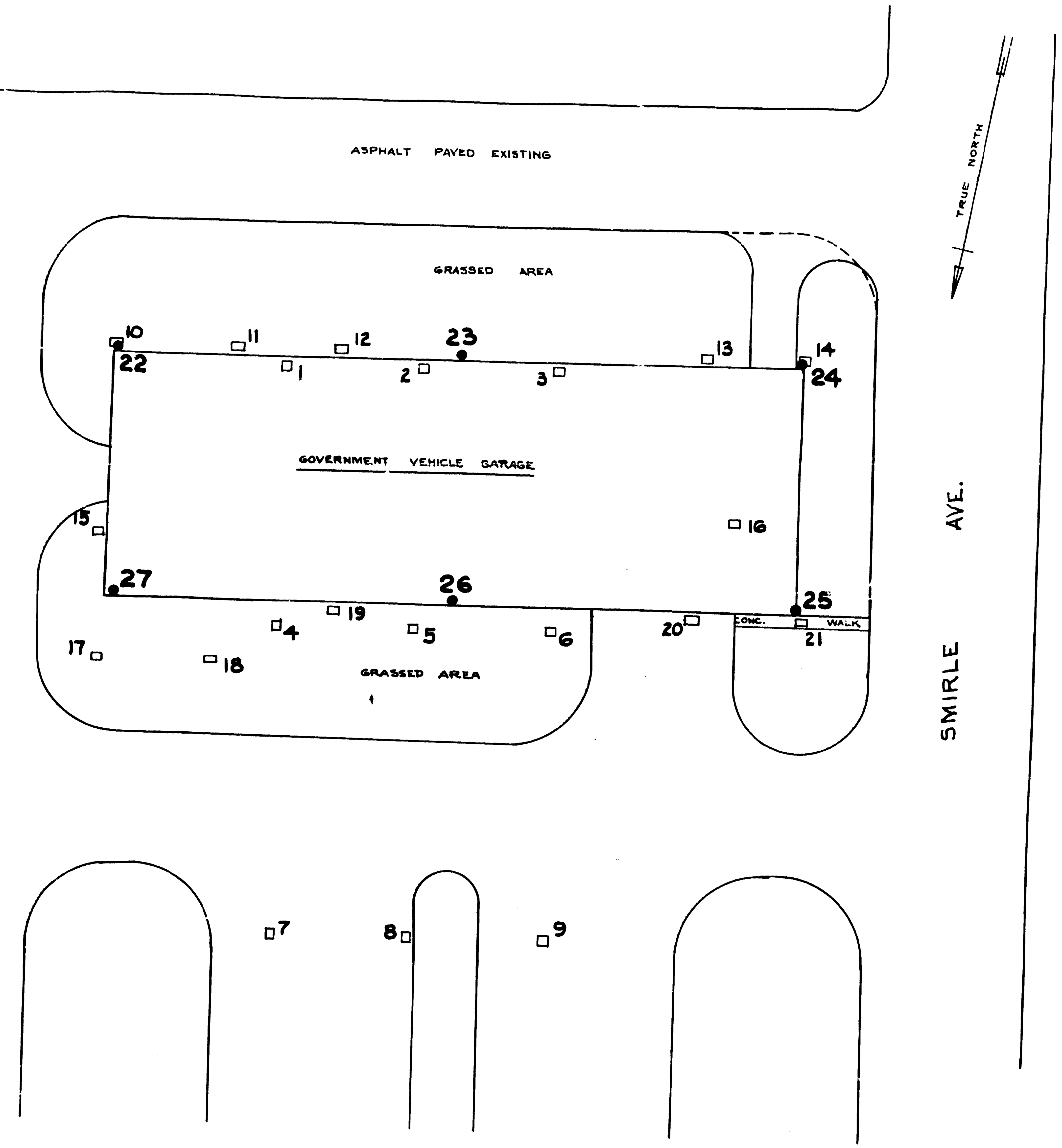
SCALES AS SHOWN

DATE OF BORINGS: SEPT. 1956
BORINGS BY: D. R. PRIOR
DRAWING BY: R. A. LALONDE
CHECKED BY:

M. LeBel
I/C SOIL MECHANICS SECTION

PLAN No. 2067

2067

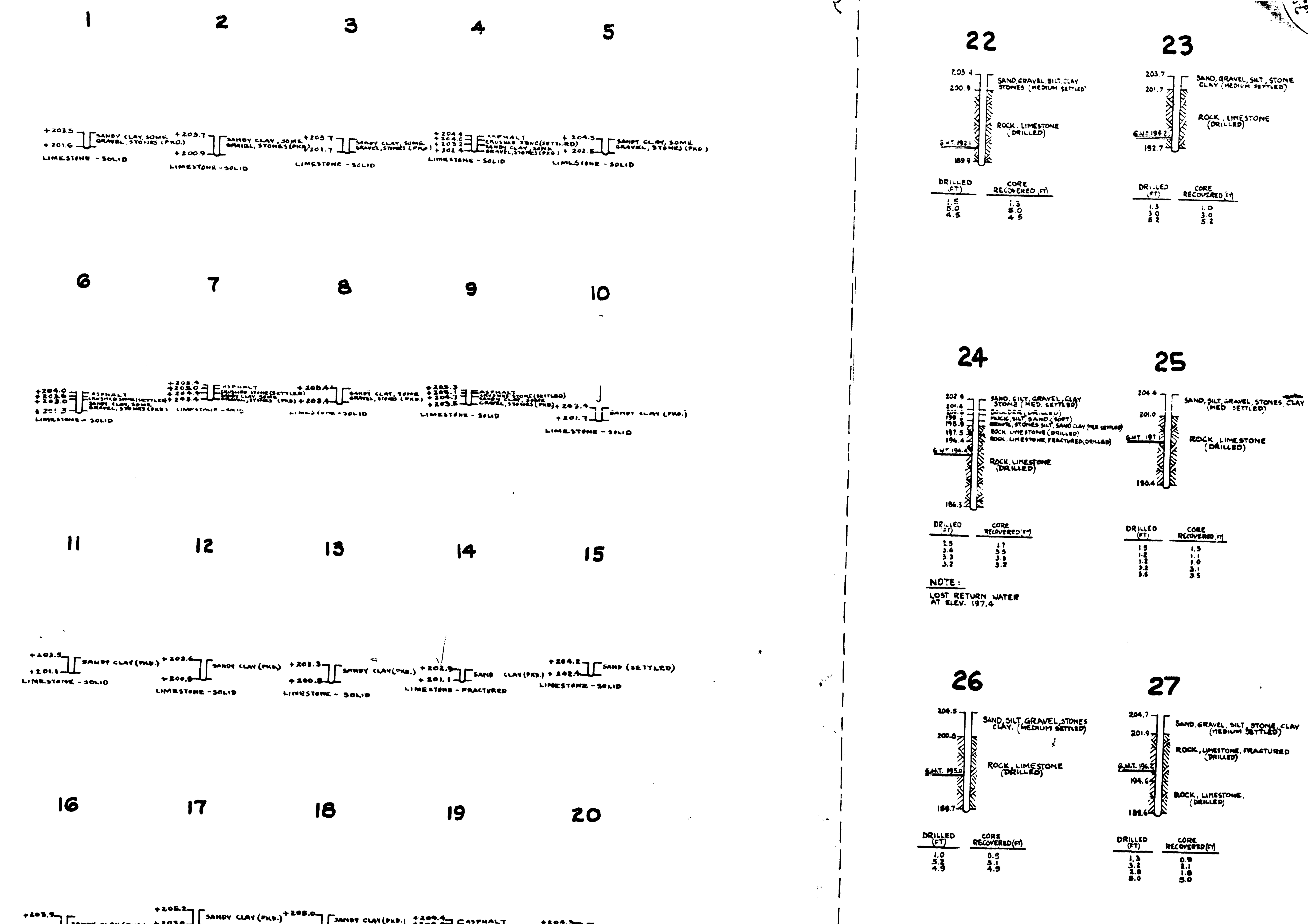


LEGEND

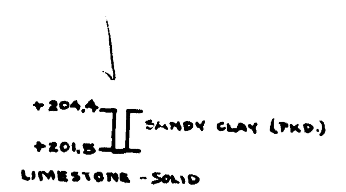
TEST PITS SHOWN THUS: □
BORINGS SHOWN THUS: ●

LOCATION OF TEST PITS & BORINGS

SCALE: 1 IN. = 20 FT.



NOTES:
GROUND WATER TABLE ELEVATION SHOWN THUS: G.W.T. 192.1
ALL ELEVATIONS ARE REFERRED TO THE GEODETIC DATUM.



DETAIL OF TEST PITS & BORINGS

SCALE: 1 IN. = 10 FT.

NOTE:
ALL TEST PITS ARE DRY.

REVISIONS	
DATE	DETAILS
12.DEC.'58	THE LOCATION AND DETAIL OF BORINGS NOS. 22 TO 27 HAVE BEEN ADDED TO THIS PLAN. THESE BORINGS WERE MADE IN SEPTEMBER 1958. DWG. BY: M.S.H. CHECKED BY: R.L. BH. BORINGS BY: J.E.L. APPROVED: akq.

PUBLIC WORKS OF CANADA
DEVELOPMENT ENGINEERING BRANCH - TESTING LABORATORIES DIVISION
SOIL MECHANICS SECTION

PLAN OF BORINGS

OTTAWA (TUNNEY'S PASTURE), ONT.

GOVERNMENT VEHICLE GARAGE

SCALES AS SHOWN

DATE OF BORINGS: AUG.-SEPT. 1956
BORINGS BY: R.C.K. & D.R.P.
DRAWING BY: R.A. LALONDE
CHECKED BY: R.C.K.

M. LeBel
I/C SOIL MECHANICS SECTION

PLAN No. 2068

2068


2155 OTTAWA Ont. Addition to Finance Bldg (Tunney's Past.) Mar./58.
NORTH
OTTAWA, ONT.
(TUNNEY'S PASTURE)
GARAGE
SUPERANNUATION BRANCH BLDG.
GRASS
HOLLAND AVE
ARCHIVES STORAGE BLDG.
ROADWAY
1 2 3 4 5 5-A 6 7 8
52' 54' 50' 46' 54' 50'
LOCATION OF BORINGS
SCALE: 1 IN. = 20 FT.
DETAIL OF BORINGS
SCALE: VERTICAL - 1 IN. = 10 FT.
HORIZONTAL - NOT TO SCALE
LEGEND
GROUND WATER TABLE ELEV. SHOWN THUS:- G.W.T. 193.5
NOTE
ALL ELEVATIONS REFERRED TO GEODETIC DATUM.
REVISIONS
DATE DETAILS
PUBLIC WORKS OF CANADA
DEVELOPMENT ENGINEERING BRANCH - TESTING LABORATORIES DIVISION
SOIL MECHANICS SECTION
PLAN OF BORINGS
OTTAWA (TUNNEY'S PASTURE), ONT.
ADDITION TO FINANCE BLDG.
SCALES AS SHOWN
DATE OF BORINGS: MARCH, 1958
BORINGS BY J. E. L. & B. T. L.
DRAWING BY: R. A. LALONDE
CHECKED BY
I/C SOIL MECHANICS SECTION
PLAN No. 2155

2155

24X

BORING REPORT N° 2324 — HOLE N° 1

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

CHECKED	RAL
DWN:	H. LETTING
APPROVED	M. LeBel for N.C. LAYCRAFT
DATE OF BORING	18 & 19 AUG. 1960
BORING TECH.	J. DUFRESNE DRILLING CO.
PROPOSED STRUCTURE	NATIONAL HEALTH & WELFARE BLD'G
LOCATION	OTTAWA, ONT. (TUNNEYS PASTURE)
FILE N°	32-2295

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND
LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

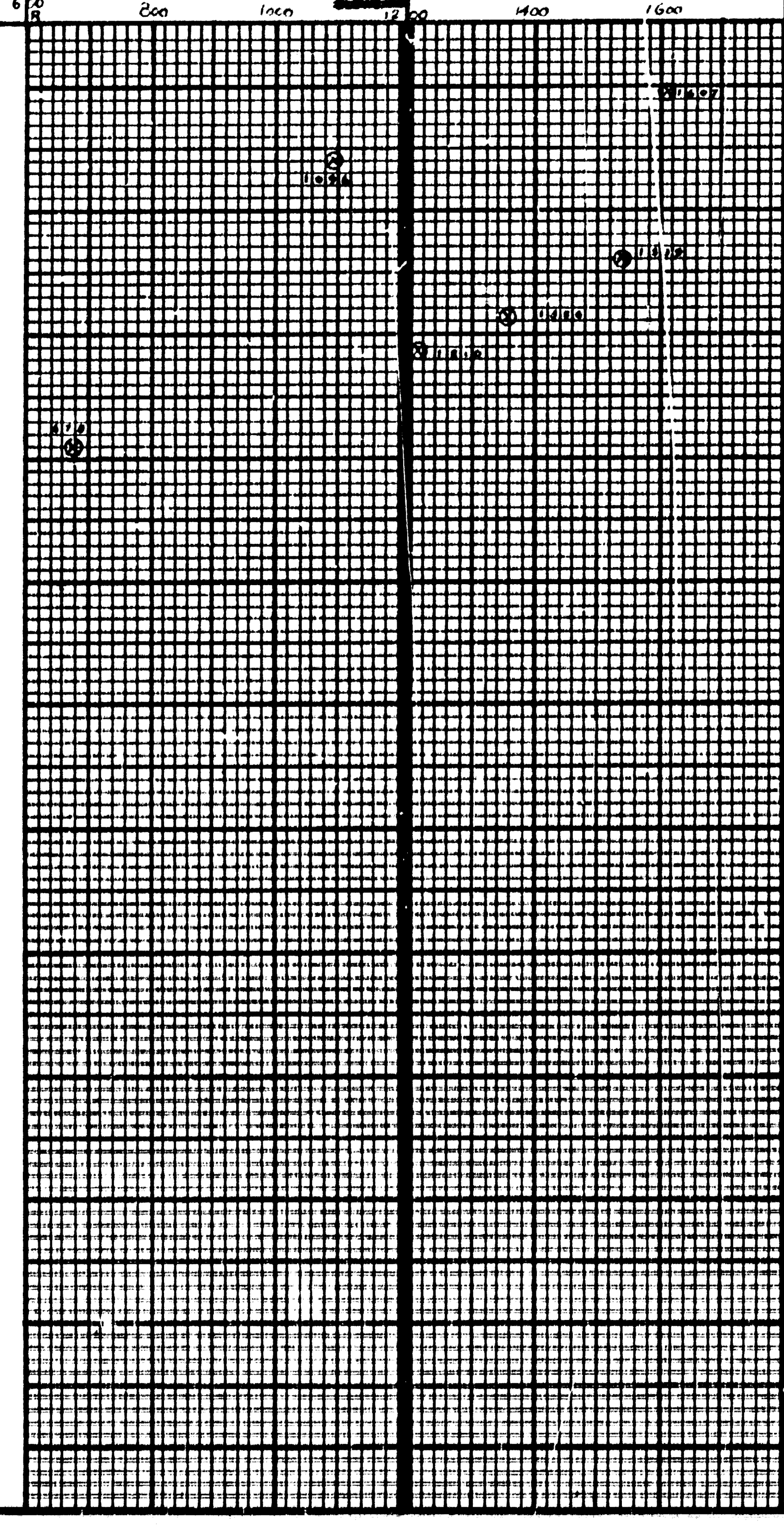
ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	157.7	GEODETIC	190.0	—	190.0

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT
				190.0
			→ ½" SEAM AT ELEV. 181.9	
			ROCK (DRILLED)	157.7
			BOTTOM OF HOLE	

DRILLED FT.	RECOVERED FT.
0.8	0.8
1.0	1.0
4.7	4.4
5.3	4.8
5.2	5.0
5.3	5.0
5.2	5.1
4.9	5.0

DEPTH FT. | ~~STRENGTH + PENETRATION RESISTANCE~~ COMPRESSIVE | ~~CONSISTENCY~~ STRENGTH (TONS/FT²) | ~~UNIT WT. LBS/C.F.~~ ELEV. FT.



ELEV. FT.: 190, 180, 170, 160, 150

BORING REPORT N° 2324 — HOLE N° 2

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

CHECKED	RAL
DWN.	H. LETTING
APPROVED	M. LeBel for N.E. LAYCRAFT
DATE OF BORING	19-22 AUG. 1960
BORING TECH.	J. DUFRESNE DRILLING CO.
PROPOSED STRUCTURE	NATIONAL HEALTH & WELFARE BLD'G
LOCATION	OTTAWA, ONT. TUNNEYS PASTURE
FILE N°	32-2295

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND
LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

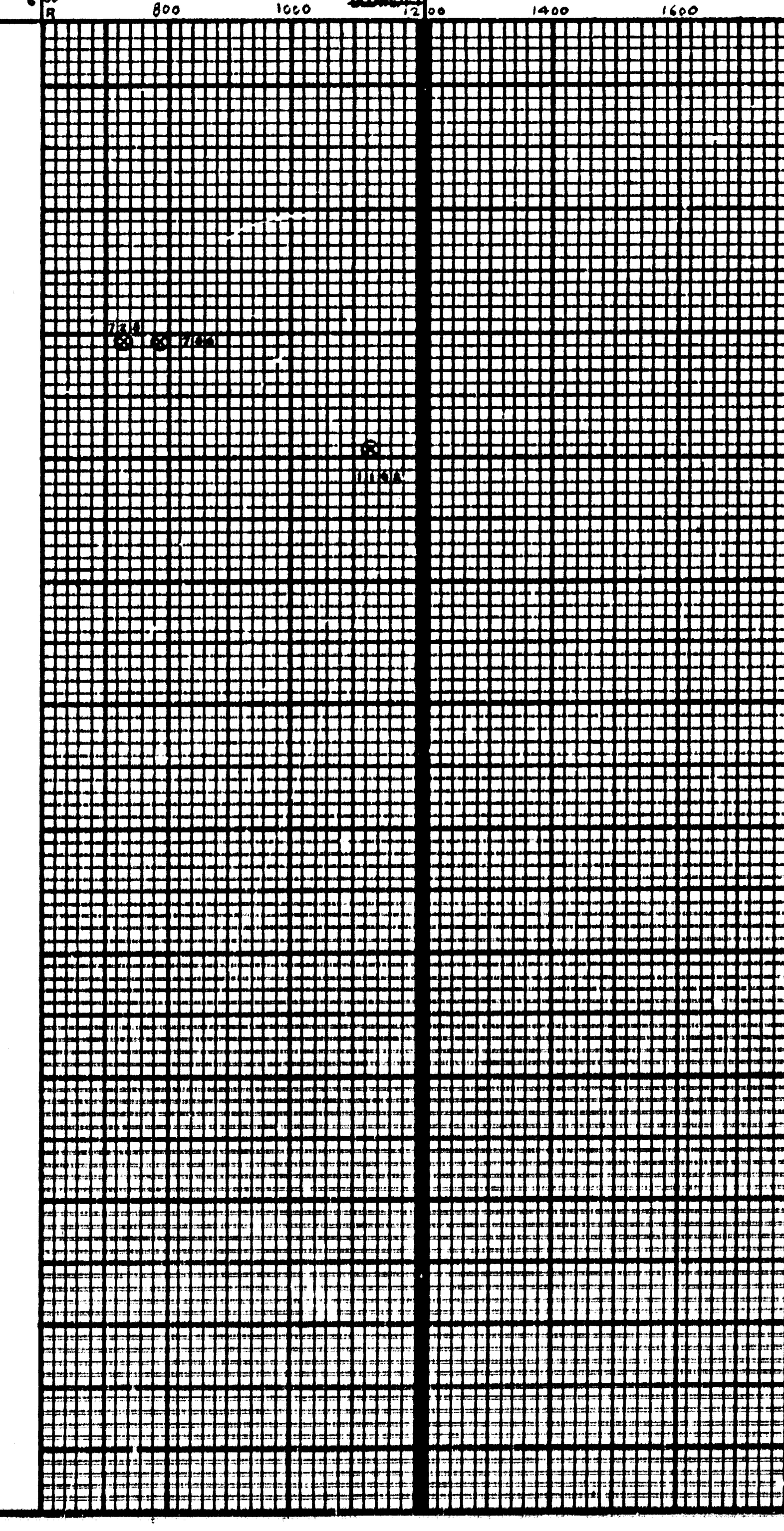
ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	169.9	GEODETIC	198.3	—	190.0

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT
				198.3
			OVERBURDEN, MOSTLY BOULDERS (DRILLED)	190.0
			ROCK (DRILLED)	169.9
			BOTTOM OF HOLE	

DRILLED FT.	RECOVERED FT.
5.0	5.0
4.4	4.4
5.3	5.3
5.4	5.4

DEPTH FT. | ~~STRENGTH + PENETRATION RESISTANCE~~ COMPRESSIVE | ~~CONSISTENCY~~ STRENGTH (TONS/FT²) | ~~UNIT WT. LBS/C.F.~~ ELEV. FT.



ELEV. FT.: 190, 180, 170

X24

BORING REPORT N° 2324 — HOLE N° 3

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

CHECKED	RH, WM
DWN.	H. LETTING
APPROVED	M. LeBel for N.E. LAYCRAFT
DATE OF BORING	24 AUG. 1960
BORING TECH.	J. DUFRESNE DRILLING CO.
PROPOSED STRUCTURE	NATIONAL HEALTH & WELFARE BLD'G
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2295

LEGEND
SAMPLING METHOD
2" DIA SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU) ⊕
VANE TEST (C) AND SENSITIVITY (S) +S
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) X LI
LIQUID LIMIT
PLASTIC LIMIT

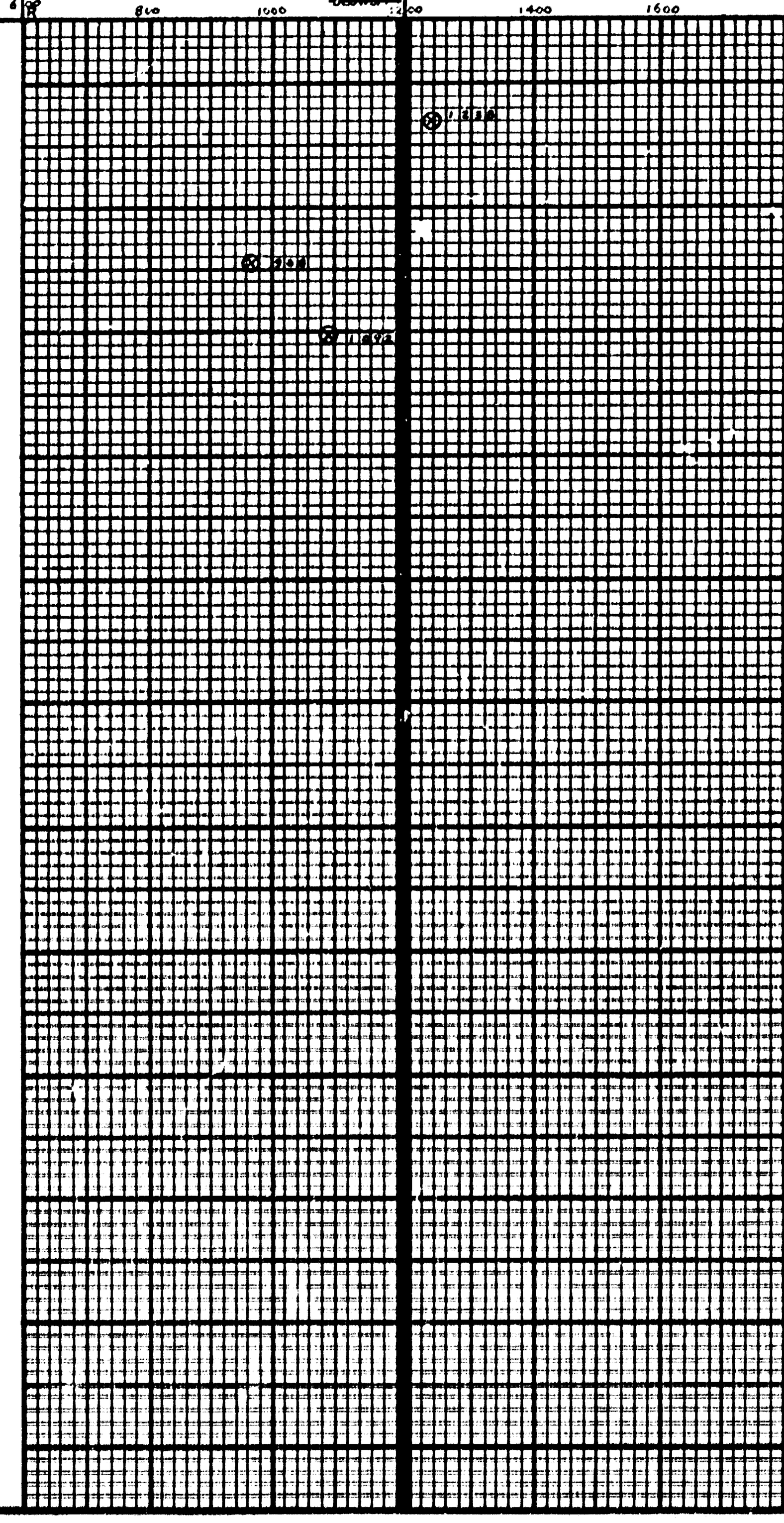
ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
———	167.1	GEODETIC	194.0	———	188.7

~~STRENGTH + PENETRATION RESISTANCE~~ ~~C~~ ~~QU~~ COMPRESSIVE ~~KSF~~ ~~BLOWS/FT~~ — ~~CONSISTENCY~~ STRENGTH (TONS/FT²) — ~~UNIT WT. LBS/C.F~~ ELEV. FT.

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT	DEPTH FT.
				194.0	
			OVERBURDEN, MOSTLY BOULDERS (DRILLED)	188.7	
			ROCK (DRILLED) → < 1/4" SEAM AT ELEV. 177.0	167.1	
			BOTTOM OF HOLE		

DRILLED FT.	RECOVERED FT.
1.0	0.0 GROUND CORE
5.4	5.3
4.8	4.3
4.9	4.8
5.5	5.4



BORING REPORT N° 2324 — HOLE N° 4

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

CHECKED	RH, WM
DWN.	H. LETTING
APPROVED	M. LeBel for N.E. LAYCRAFT
DATE OF BORING	23 AUG. 1960
BORING TECH.	J. DUFRESNE DRILLING CO.
PROPOSED STRUCTURE	NATIONAL HEALTH & WELFARE BLD'G
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2295

LEGEND
SAMPLING METHOD
2" DIA SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU) ⊕
VANE TEST (C) AND SENSITIVITY (S) +S
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) X LI
LIQUID LIMIT
PLASTIC LIMIT

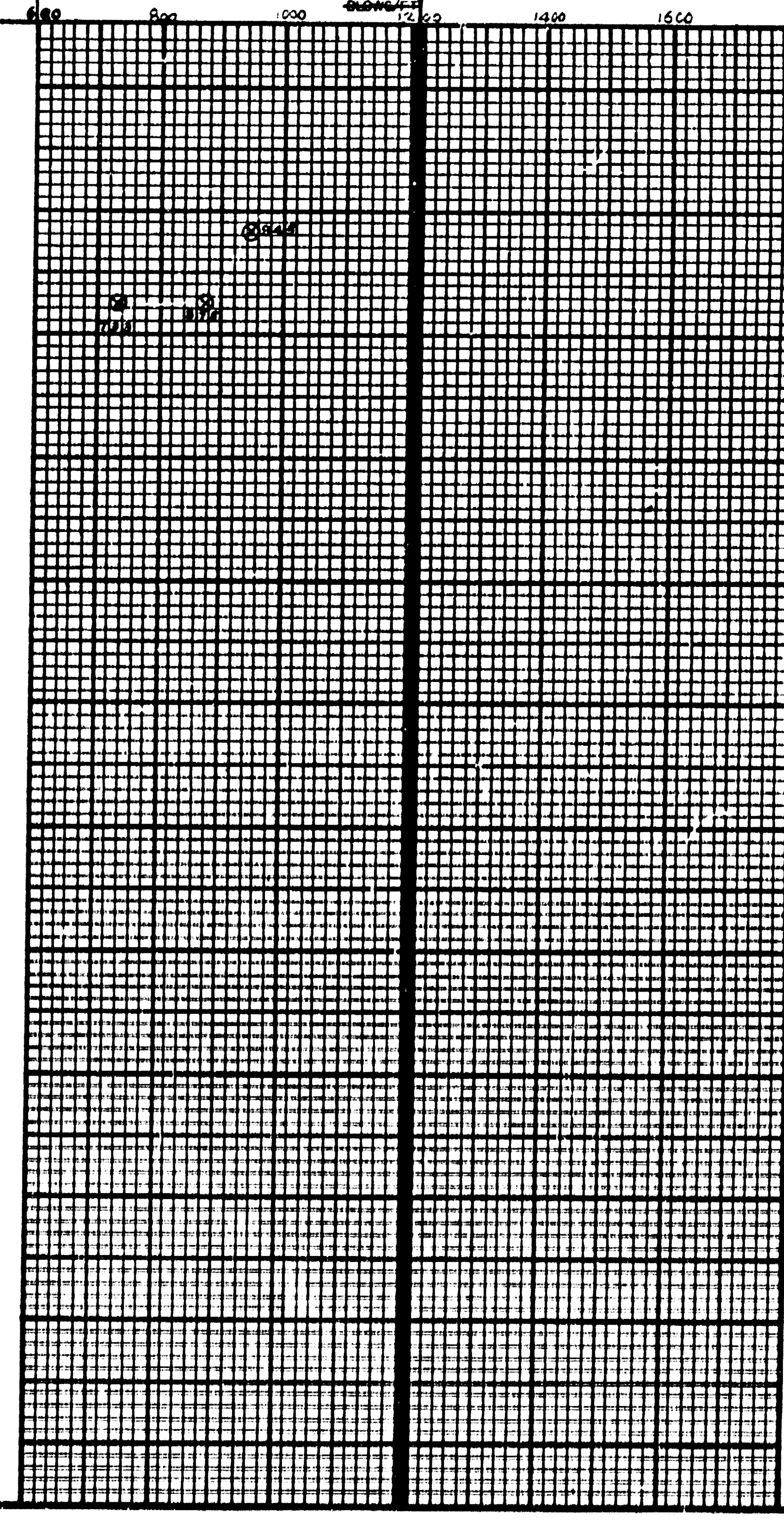
ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
———	167.5	GEODETIC	195.5	———	190.3

~~STRENGTH + PENETRATION RESISTANCE~~ ~~C~~ ~~QU~~ COMPRESSIVE ~~KSF~~ ~~BLOWS/FT~~ — ~~CONSISTENCY~~ STRENGTH (TONS/FT²) — ~~UNIT WT. LBS/C.F~~ ELEV. FT.

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT	DEPTH FT.
				195.5	
			OVERBURDEN, MOSTLY BOULDERS (DRILLED)	190.3	
			→ < 1/4" SEAM AT ELEV. 182.5 ROCK (DRILLED)	167.5	
			BOTTOM OF HOLE		

DRILLED FT.	RECOVERED FT.
1.0	0.0 GROUND CORE
5.3	5.3
5.4	5.4
5.3	5.3
5.8	5.0



X24

BORING REPORT Nº 2324 — HOLE Nº 3

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE Nº	3
CHECKED	RHL ???
DWN.	H. LETTING
APPROVED	M. LeBel fw N.E. LAYCRAFT
DATE OF BORING	24 AUG. 1960
BORING TECH.	J. DUFRESNE DRILLING CO.
PROPOSED STRUCTURE	NATIONAL HEALTH & WELFARE BLD'G
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE Nº	32-2295

LEGEND

SAMPLING METHOD
- 2" DIA SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA CONE
- CASING

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S)

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
- LIQUID LIMIT
- PLASTIC LIMIT

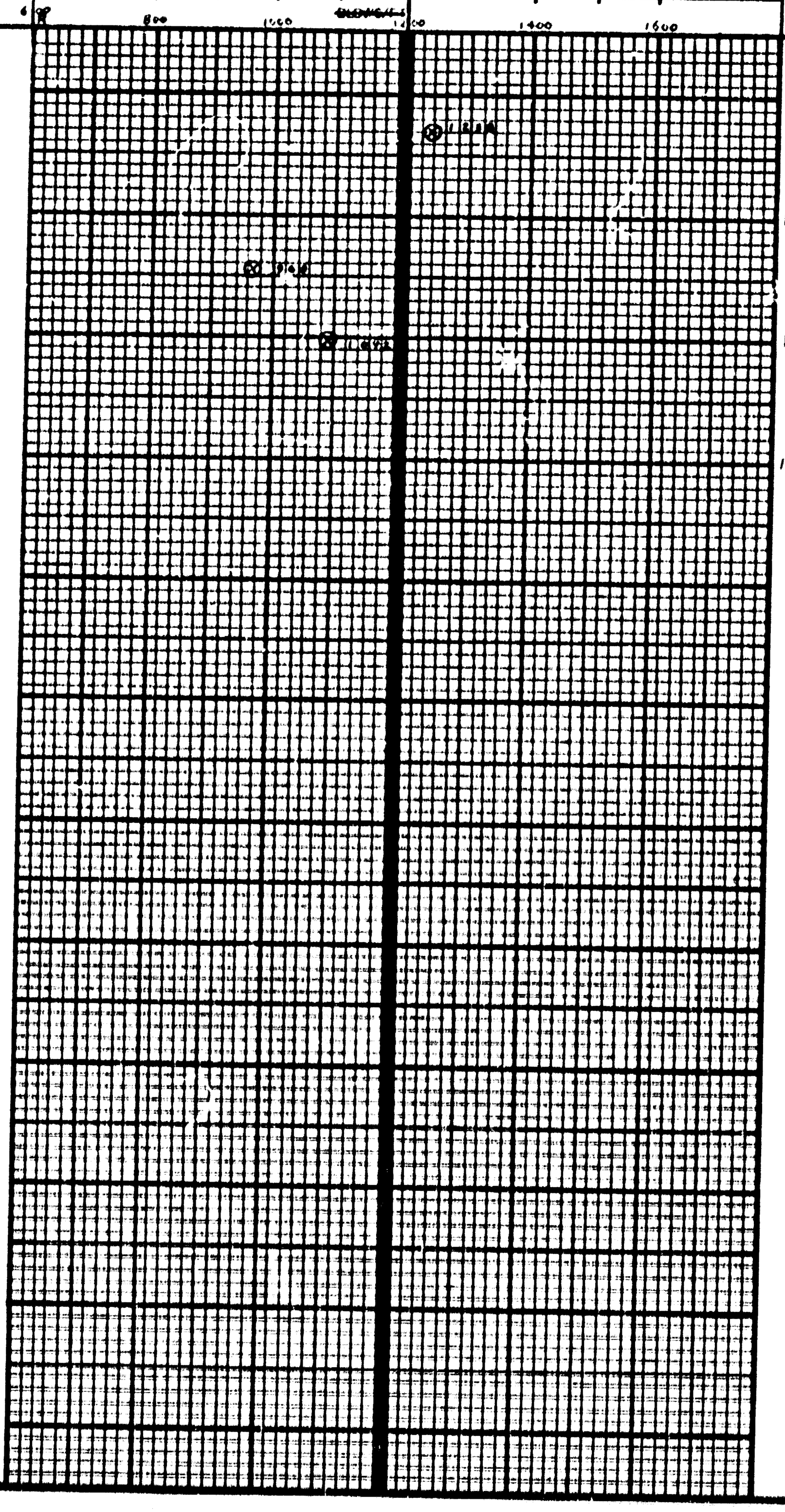
ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	167.1	GEODETIC	194.0	—	188.7

SAMPLE Nº	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT	DEPTH FT
				194.0	
			OVERBURDEN, MOSTLY BOULDERS (DRILLED)	188.7	
			ROCK (DRILLED) < 1/4" SEAM AT ELEV. 177.0	167.1	
			BOTTOM OF HOLE		

DRILLED FT.	RECOVERED FT.
1.0	0.0 GROUND CORE
5.4	5.3
4.8	4.3
4.9	4.8
5.5	5.4

~~STRENGTH & PENETRATION RESISTANCE~~ COMPRESSIVE ~~CONSISTENCY~~ STRENGTH (TONS/FT²) ~~UNIT WT. LBS/C.F.~~ ELEV. FT.



BORING REPORT Nº 2324 — HOLE Nº 4

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE Nº	4
CHECKED	RHL ???
DWN.	H. LETTING
APPROVED	M. LeBel. fw N.E. LAYCRAFT
DATE OF BORING	23 AUG. 1960
BORING TECH.	J. DUFRESNE DRILLING CO.
PROPOSED STRUCTURE	NATIONAL HEALTH & WELFARE BLD'G
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE Nº	32-2295

LEGEND

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA. CONE
- CASING

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S)

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
- LIQUID LIMIT
- PLASTIC LIMIT

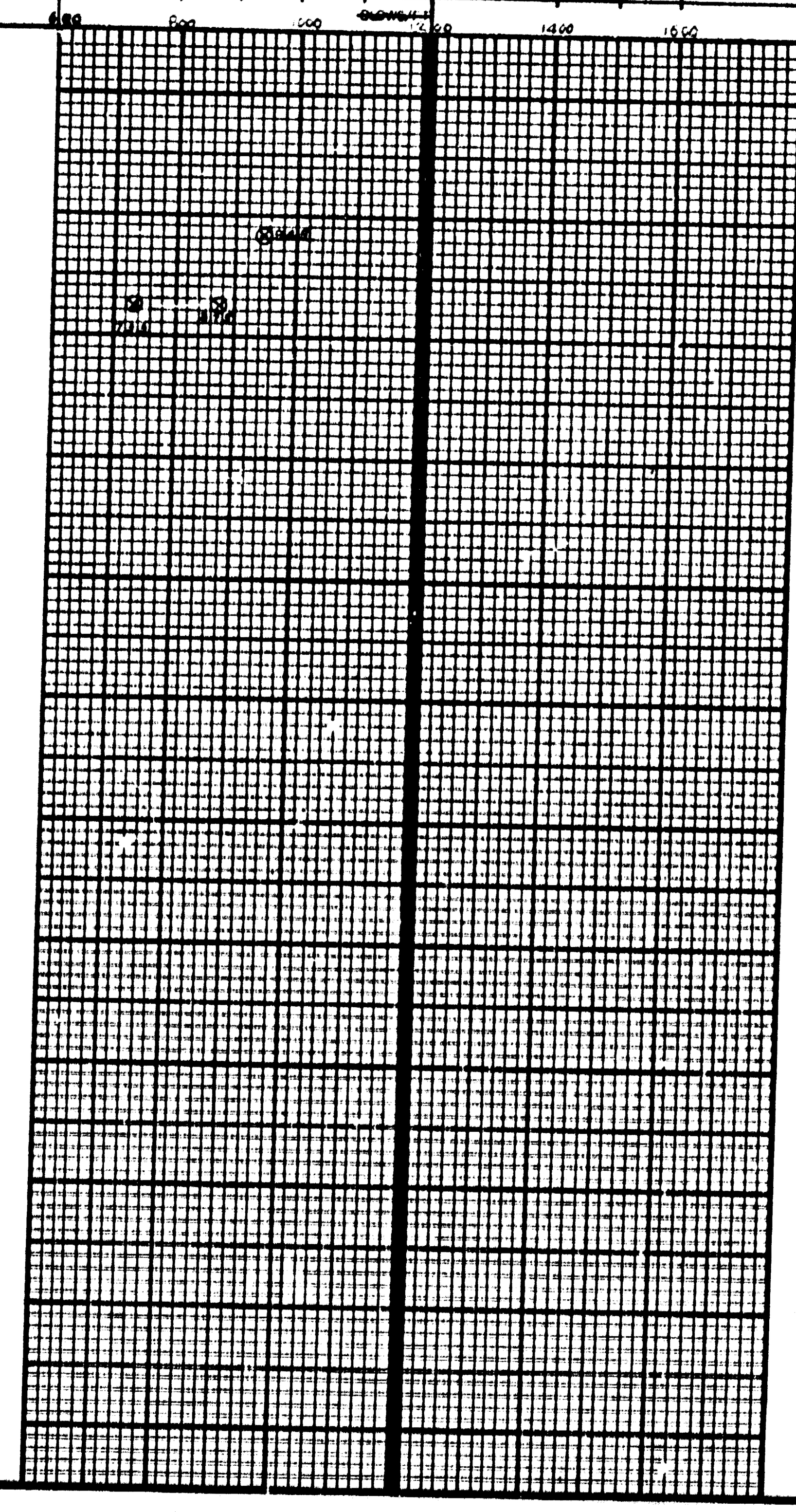
ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	167.5	GEODETIC	195.5	—	190.3

SAMPLE Nº	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT	DEPTH FT
				195.5	
			OVERBURDEN, MOSTLY BOULDERS (DRILLED)	190.3	
			< 1/4" SEAM AT ELEV. 182.5 ROCK (DRILLED)	167.5	
			BOTTOM OF HOLE		

DRILLED FT.	RECOVERED FT.
1.0	0.5 GROUND CORE
5.3	5.3
5.4	5.4
5.3	5.3
5.8	5.0

~~STRENGTH & PENETRATION RESISTANCE~~ COMPRESSIVE ~~CONSISTENCY~~ STRENGTH (TONS/FT²) ~~UNIT WT. LBS/C.F.~~ ELEV. FT.



X24

BORING REPORT N° 2324

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING
5	RAL	25 AUG. 1960
	DWN. H. LETTING	
	APPROVED M. LeBel. for N.E. LAYCRAFT	BORING TECH. J. DUFRESNE DRILLING CO.

PROPOSED STRUCTURE: NATIONAL HEALTH & WELFARE BLD'G

LOCATION: OTTAWA, ONT. (TUNNEY'S PASTURE)

FILE N° 32-2295

LEGEND

SAMPLING METHOD
2" DIA SPLIT TUBE
2" SHELBY TUBE

PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)

CONSISTENCY
NATURAL MOISTURE AND
LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

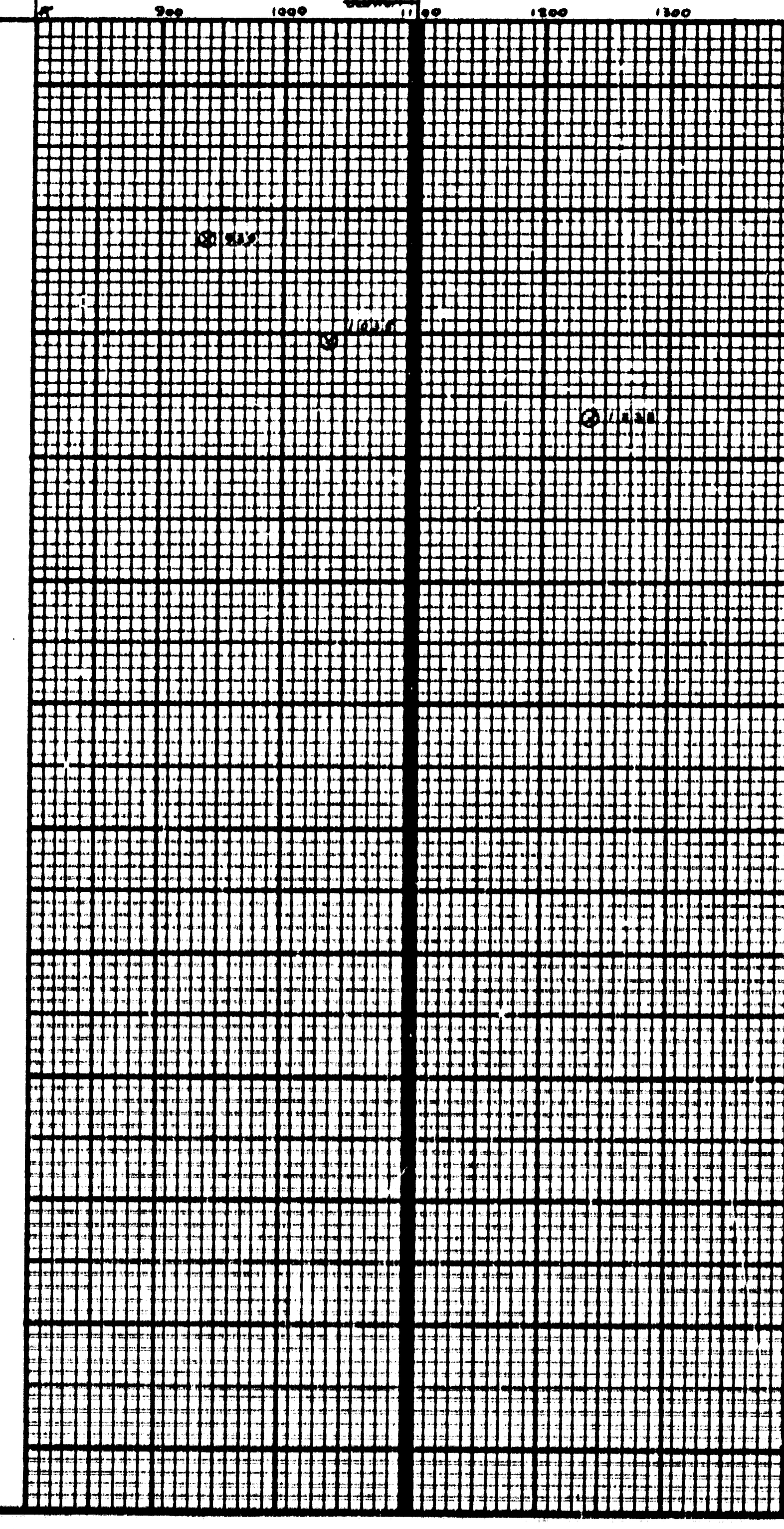
WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
——	168.0	GEODETIC	198.2
		GROUND WATER	ROCK
		——	189.7

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT	DEPTH FT
				198.2	
			OVERBURDEN, MOSTLY BOULDERS (DRILLED)	189.8	
			ROCK (DRILLED)	168.0	
			BOTTOM OF HOLE		

DRILLED FT. — RECOVERED FT
1.5 — 0.0 GROUND CORE
3.5 — 3.5
5.5 — 3.5
5.5 — 5.5
5.7 — 5.5

~~STRENGTH + PENETRATION RESISTANCE~~ COMPRESSIVE ~~KGF~~ — ~~CONSISTENCY~~ STRENGTH (TONS/FT²) — ~~UNIT WT. LBS/C.F.~~ ELEV. FT.

900 1000 ~~BLOWS/FT~~ 1100 1200 1300



ELEV. FT.: 200, 190, 180, 170, 160

BORING REPORT N° 2324

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING
6	RAL	26 AUG. 1960
	DWN. H. LETTING	
	APPROVED M. LeBel. for N.E. LAYCRAFT	BORING TECH. J. DUFRESNE DRILLING CO.

PROPOSED STRUCTURE: NATIONAL HEALTH & WELFARE BLDG

LOCATION: OTTAWA, ONT. (TUNNEY'S PASTURE)

FILE N° 32-2295

LEGEND

SAMPLING METHOD
2" DIA SPLIT TUBE
2" SHELBY TUBE

PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)

CONSISTENCY
NATURAL MOISTURE AND
LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

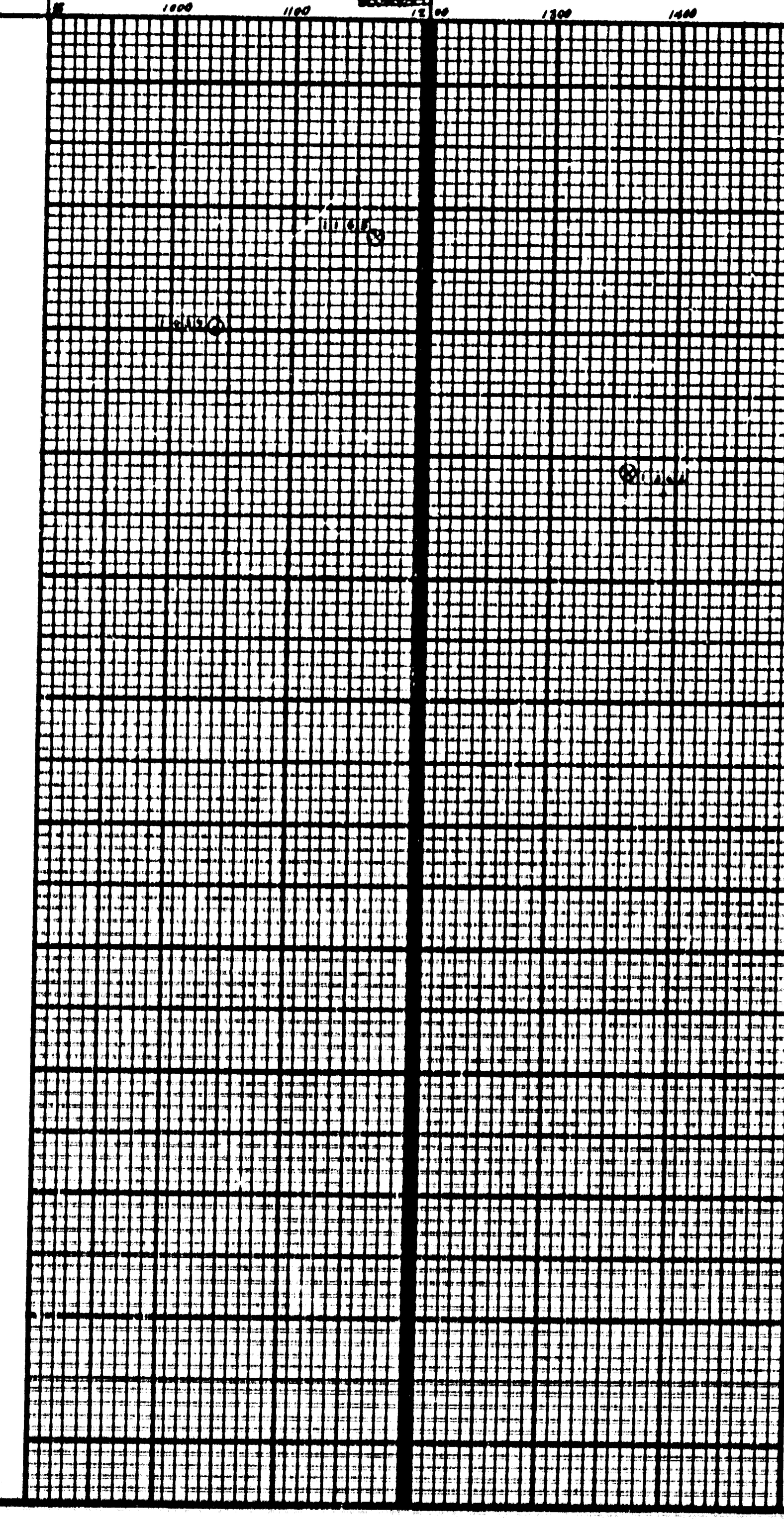
WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
——	167.0	GEODETIC	198.7
		GROUND WATER	ROCK
		——	190.7

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT	DEPTH FT
				198.7	
			OVERBURDEN, MOSTLY BOULDERS (DRILLED)	190.7	
			→ < 1/4" SEAM AT ELEV. 182.7 ROCK (DRILLED)	167.0	
			BOTTOM OF HOLE		

DRILLED FT. — RECOVERED FT.
2.0 — 0.0 GROUND CORE
5.4 — 5.4
5.6 — 5.4
5.5 — 5.2
5.4 — 5.4

~~STRENGTH + PENETRATION RESISTANCE~~ COMPRESSIVE ~~KGF~~ — ~~CONSISTENCY~~ STRENGTH (TONS/FT²) — ~~UNIT WT. LBS/C.F.~~ ELEV. FT.

1000 1100 ~~BLOWS/FT~~ 1200 1300 1400



ELEV. FT.: 200, 190, 180, 170, 160

X24

BORING REPORT N° 2324

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N° 9

CHECKED KAD
DWN. H. LETTING
APPROVED M.W. / W.E. LAYCRAFT

DATE OF BORING: 29 AUG. 1960

BORING TECH.: J. DUFRESNE DRILLING Co.

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
——	178.6	GEODETIC	201.1
		GROUND WATER	ROCK
		——	191.6

LEGEND

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE

PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) — +S

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

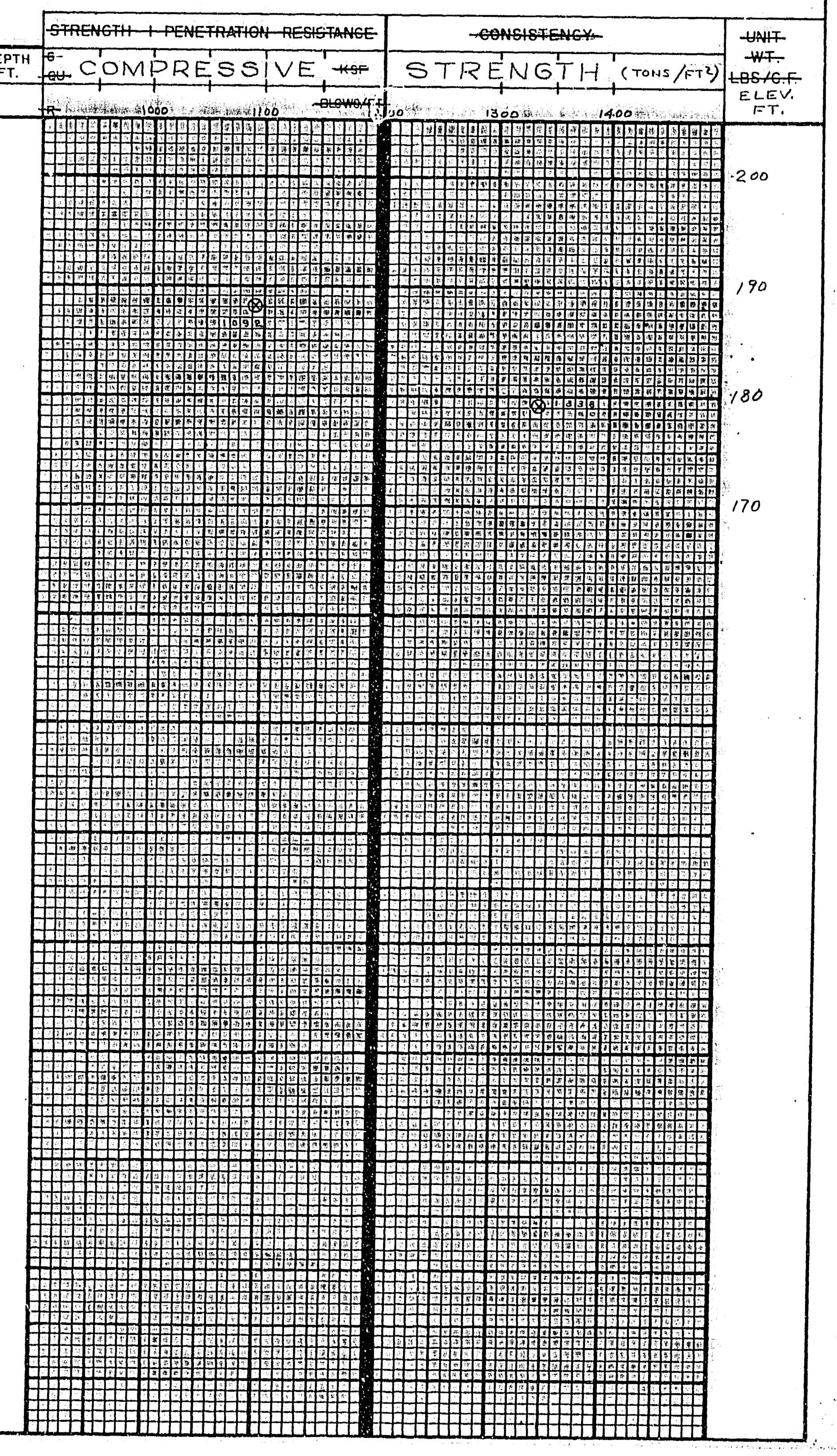
PROPOSED STRUCTURE: NATIONAL HEALTH & WELFARE BLDG.

LOCATION: OTTAWA, ONT. (TUNNEYS PASTURE)

FILE N° 32-2295

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.
				201.1	
			OVERBURDEN, MOSTLY BOULDERS (DRILLED)	191.6	
			ROCK (DRILLED) → <¼" SEAM AT ELEV. 182.6	178.6	
			BOTTOM OF HOLE		

DRILLED FT.	RECOVERED FT.
2.3	0.0 GROUND CORE
5.2	5.2
5.5	5.3



X24

BORING REPORT Nº 2327 — HOLE Nº 1

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

BORING REPORT Nº	2327
HOLE Nº	1
CHECKED	RAL NMR
DWN.	R. CLOUTHIER
APPROVED	M. LeBel for N.E. LAYCRAFT
DATE OF BORING	1ST SEPT., 1960
BORING TECH.	J.B. DUFRESNE CO.
PROPOSED STRUCTURE	ADDITION TO THE CENTRAL HEATING PLANT
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE Nº	32-2303

LEGEND

SAMPLING METHOD
2" DIA. SPLIT TUBE ▨
2" SHELBY TUBE ■

PENETRATION RESISTANCE - R
2" SPLIT TUBE ⊙—⊙
2" DIA. CONE ——
CASING ......

STRENGTH
UNCONFINED COMPRESSION (QU) ⊕
VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) ⊢×—● X LI
LIQUID LIMIT ——o
PLASTIC LIMIT ⊢—

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
———	190.8	GEODETIC	205.8	———	202.3

SAMPLE Nº	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU — KSF; R — BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				205.8				
			OVERBURDEN	202.3				
			ROCK (DRILLED)	190.8				
			BOTTOM OF HOLE					

BOTTOM OF HOLE

DRILLED (FT.)	RECOVERED (FT.)
2.0	2.0
4.5	4.5
5.0	5.0

NOTE: NO SEAM ENCOUNTERED

BORING REPORT Nº 2327 — HOLE Nº 2

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

BORING REPORT Nº	2327
HOLE Nº	2
CHECKED	RAL NMR
DWN.	R. CLOUTHIER
APPROVED	M. LeBel for N.E. LAYCRAFT
DATE OF BORING	2-SEPT., 1960
BORING TECH.	J.B. DUFRESNE CO.
PROPOSED STRUCTURE	ADDITION TO THE CENTRAL HEATING PLANT.
LOCATION	OTTAWA, ONT. TUNNEY'S PASTURE
FILE Nº	32-2303

LEGEND

SAMPLING METHOD
2" DIA. SPLIT TUBE ▨
2" SHELBY TUBE ■

PENETRATION RESISTANCE - R
2" SPLIT TUBE ⊙—⊙
2" DIA. CONE ——
CASING ......

STRENGTH
UNCONFINED COMPRESSION (QU) ⊕
VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) ⊢×—● X LI
LIQUID LIMIT ——o
PLASTIC LIMIT ⊢—

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
———	199.6	GEODETIC	205.6	———	202.1

SAMPLE Nº	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU — KSF; R — BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				205.6				
			OVERBURDEN	202.1				
			ROCK (DRILLED)	199.6				
			BOTTOM OF HOLE					

BOTTOM OF HOLE
DRILLED (FT.) - PLUG BIT
2.5

NOTE: SMALL SEAM ENCOUNTERED AT ELEV. 200.1

X24

BORING REPORT N° 2327

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING
3	DWN. R. CLOUTHIER	2 SEPT, 1960
	APPROVED M. LeBel for N.E. LAYCRAFT	BORING TECH. J.B. DUFRESNE

PROPOSED STRUCTURE: ADDITION TO THE CENTRAL HEATING PLANT

LOCATION: OTTAWA, ONT. (TUNNEY'S PASTURE)

FILE N° 32-2303

LEGEND

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA. CONE
- CASING

STRENGTH
- UNCONFINED COMPRESSION (QU) ⊕
- VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) X LI
- LIQUID LIMIT
- PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
———	200.0	GEODETIC	206.0
		GROUND WATER	ROCK
		———	202.5

SAMPLE N°	SAMPLE TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				206.0				
			OVERBURDEN	202.5				
			ROCK (DRILLED)	200.0				
			BOTTOM OF HOLE					
			DRILLED (FT.) - PLUG BIT 2.5					
			NOTE: SMALL SEAM ENCOUNTERED AT ELEV. 200.5					

BORING REPORT N° 2327

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO

HOLE N°	CHECKED	DATE OF BORING
4	DWN. R. CLOUTHIER	2 SEPT. 1960
	APPROVED M. LeBel for N.E. LAYCRAFT	BORING TECH. J.B. DUFRESNE CO.

PROPOSED STRUCTURE: ADDITION TO THE CENTRAL HEATING PLANT

LOCATION: OTTAWA, ONT. (TUNNEY'S PASTURE)

FILE N° 32-2303

LEGEND

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA. CONE
- CASING

STRENGTH
- UNCONFINED COMPRESSION (QU) ⊕
- VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) X LI
- LIQUID LIMIT
- PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
———	200.7	GEODETIC	205.2
		GROUND WATER	ROCK
		———	202.7

SAMPLE N°	SAMPLE TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				205.2				
			OVERBURDEN	202.7				
			ROCK (DRILLED)	200.7				
			BOTTOM OF HOLE					
			DRILLED (FT.) - PLUG BIT 2.0					
			NOTE: NO SEAM ENCOUNTERED.					

X24

BORING REPORT N° 2327

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	5
CHECKED	RHL MAR.
DWN.	R. CLOUTHIER
APPROVED	M. LeBel for N.E. LAYCRAFT
DATE OF BORING	31. AUGUST, 1960
BORING TECH.	J. B. DUFRESNE CO.
PROPOSED STRUCTURE	ADDITION TO THE CENTRAL HEATING PLANT
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2303

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
———	- 200.0	GEODETIC	206.0	———	- 202.5

LEGEND

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE

PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) X LI
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU — KSF; R — BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				204.9				
			OVERBURDEN	201.9				
			ROCK (DRILLED)	178.6				

BOTTOM OF HOLE

DRILLED (FT.)	RECOVERED (FT.)
1.7	0.0
5.4	5.4
5.4	5.4
5.4	5.4
5.4	5.4

NOTE: SMALL SEAM ENCOUNTERED AT ELEV. 197.8

BORING REPORT N° 2327

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	6
CHECKED	RHL MAR.
DWN.	R. CLOUTHIER
APPROVED	M. LeBel for N.E. LAYCRAFT
DATE OF BORING	2 SEPT., 1960
BORING TECH.	J. B. DUFRESNE CO.
PROPOSED STRUCTURE	ADDITION TO THE CENTRAL HEATING PLANT
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2303

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
———	199.2	GEODETIC	205.2	———	202.2

LEGEND

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE

PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) X LI
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU — KSF; R — BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				205.2				
			OVERBURDEN	202.2				
			ROCK (DRILLED)	199.2				

BOTTOM OF HOLE
DRILLED (FT.) - PLUG BIT.
3.0

NOTE: SMALL SEAM ENCOUNTERED AT ELEV. 200.2

X24

RECORD — SUBSURFACE EXPLORATION — SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

BORING REPORT Nº 2327	CHECKED RAL WM.	DATE OF BORING 1ST SEPT., 1960	PROPOSED STRUCTURE ADDITION TO THE CENTRAL HEATING PLANT
HOLE Nº 7	DWN. R. CLOUTHIER	BORING TECH. J. B. DUFRESNE CO.	LOCATION OTTAWA, ONT. (TUNNEY'S PASTURE
	APPROVED M. LeBel. for N.E. LAYCRAFT		FILE Nº 32-2303

LEGEND

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE

PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
—	200.8	GEODETIC	204.8
		GROUND WATER	ROCK
		—	202.3

SAMPLE Nº	SAMPLE TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU — KSF; R — BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				204.8				
			OVERBURDEN	202.3				
			ROCK (DRILLED)	200.8				
			BOTTOM OF HOLE					
			DRILLED (FT.) - PLUG BIT 1.5					
			NOTE: NO SEAM ENCOUNTERED.					

RECORD — SUBSURFACE EXPLORATION — SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

BORING REPORT Nº 2327	CHECKED RAL WM.	DATE OF BORING 2 SEPT., 1960	PROPOSED STRUCTURE ADDITION TO THE CENTRAL HEATING PLANT
HOLE Nº 8	DWN. R. CLOUTHIER	BORING TECH. J.B. DUFRESNE CO.	LOCATION OTTAWA, ONT. (TUNNEY'S PASTURE)
	APPROVED M. LeBel. for N.E. LAYCRAFT		FILE Nº 32-2303

LEGEND

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE

PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
—	200.1	GEODETIC	205.1
		GROUND WATER	ROCK
		—	202.6

SAMPLE Nº	SAMPLE TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU — KSF; R — BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				205.1				
			OVERBURDEN	202.6				
			ROCK (DRILLED)	200.1				
			BOTTOM OF HOLE					
			DRILLED (FT.) - PLUG BIT 2.5					
			NOTE: NO SEAM ENCOUNTERED.					

X24

BORING REPORT N° 2327	RECORD — SUBSURFACE EXPLORATION — SOILS TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.		PROPOSED STRUCTURE ADDITION TO THE CENTRAL HEATING PLANT	LOCATION OTTAWA, ONT. (TUNNEY'S PASTURE) FILE N° 32-2303
HOLE N° 9	CHECKED RAL WR. DWN. R. CLOUTHIER APPROVED M. LeBel. fN N.E. LAYCRAFT	DATE OF BORING SEPT. 1, 1960 BORING TECH. J.B. DUFRESNE CO.		

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
——	191.9	GEODETIC	205.3	——	202.7 •

LEGEND

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA. CONE
- CASING

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) X LI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE N°	SAMPLE TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				205.3				
			OVERBURDEN	202.7				
			ROCK (DRILLED)	191.7				
			BOTTOM OF HOLE					

DRILLED (FT)	RECOVERED (FT)
1.0	0.0
4.4	4.4
5.4	5.4

NOTE: SMALL SEAM ENCOUNTERED AT ELEV. 200.7

X24

BORING REPORT N° 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	1-A
CHECKED	[illegible]
DWN.	H. LETTING
APPROVED	[illegible]
DATE OF BORING	8 MAY 1961
BORING TECH.	A. SCOTT
PROPOSED STRUCTURE	COMPUTER BUILDING
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2365

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	278.8	GEODETIC	201.3	191.8	200.1

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				201.3				
			SAND, SILTY, GRAVEL	200.1				200.0
			ROCK, SHATTERED (DRILLED)	199.1				
			G.W.	191.8				190.0
			ROCK (DRILLED)					
				178.8				180.0
			BOTTOM OF HOLE					170.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
2.0	2.0
2.0	2.0
1.9	1.9
5.0	5.0
5.1	5.0
5.3	5.0

NOTE:
LOST RETURN WATER AT ELEV. 189.8

BORING REPORT N° 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	3-A
CHECKED	[illegible]
DWN.	H. LETTING
APPROVED	[illegible]
DATE OF BORING	25 & 26 MAY 1961
BORING TECH.	A. SCOTT
PROPOSED STRUCTURE	COMPUTER BUILDING
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2365

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	176.6	GEODETIC	197.6	197.5	195.7

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				197.6				200.0
		G.W.	ORGANIC SILT	197.5				
				196.6				
			CLAY	195.7				
			ROCK (DRILLED)					190.0
				176.6				180.0
			BOTTOM OF HOLE					170.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
2.1	2.0
2.0	2.0
5.0	5.0
5.0	5.0
5.0	5.0

NOTE:
LOST RETURN WATER AT ELEV. 183.1

X24

BORING REPORT Nº 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE Nº	CHECKED	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
4-A	[illegible]	26 - 29 MAY 1961	COMPUTER BUILDING	OTTAWA, ONT. (TUNNEY'S PASTURE)
	DWN. H. LETTING	BORING TECH. A. SCOTT		FILE Nº 32 - 2365
	APPROVED [illegible]			

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	173.5	GEODETIC	202.7	—	195.5

SAMPLE Nº	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C F
				202.7				
			SAND, GRAVEL, ROCK, BROKEN	195.5				200.0
			ROCK (DRILLED)	173.5				190.0 / 180.0 / 170.0
			BOTTOM OF HOLE					

NOTE:
1) LOST RETURN WATER AT ELEV. 190.7
2) UNABLE TO RECORD GROUND WATER TABLE BECAUSE OF HOLE CAVING.

DRILLED FT.	RECOVERED FT.
3.1	2.7
5.0	5.0
3.9	3.9
5.0	5.0
5.0	5.0

BORING REPORT Nº 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE Nº	CHECKED	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
5-A	[illegible]	19 MAY 1961	COMPUTER BUILDING	OTTAWA, ONT. (TUNNEY'S PASTURE)
	DWN. H. LETTING	BORING TECH. A. SCOTT		FILE Nº 32 - 2365
	APPROVED [illegible]			

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
	175.5	GEODETIC	202.7	196.2	194.2

SAMPLE Nº	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				202.7				
			SAND, GRAVEL	200.7				200.0
			SAND, GRAVEL, ROCK, BROKEN	196.7				
		G.W.		196.2				
			SILT, CLAY, SAND (SOFT)	194.2				
			ROCK (DRILLED)	175.5				190.0 / 180.0 / 170.0
			BOTTOM OF HOLE					

DRILLED FT.	RECOVERED FT.
4.2	3.7
2.6	2.5
5.0	5.0
2.0	2.0
5.0	5.0

NOTE:
LOST RETURN WATER AT ELEV. 182.7

X24

BORING REPORT N° 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED RAL & RLK	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
7	DWN. H. LETTING	3 & 4 MAY 1961	COMPUTER BUILDING	OTTAWA, ONT. (TUNNEY'S PASTURE)
	APPROVED M. LeBel a/g. P.W.C. Eng'r	BORING TECH. A. SCOTT		FILE N° 32-2365

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
------	180.6	GEODETIC	200.1	195.9	195.8

LEGEND

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE

PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING

STRENGTH
UNCONFINED COMPRESSION (QU) ⊕
VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) X LI
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				200.1				
			SAND, GRAVEL, ROCK BROKEN	195.9				200.0
		G.W.		195.8				
			ROCK (DRILLED)					190.0
				180.6				180.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
2.0	2.0
1.0	1.0
5.0	5.0
5.2	5.0
2.0	2.0

NOTE:
LOST RETURN WATER AT ELEV. 184.1

BORING REPORT N° 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED RAL & RLK	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
10-A	DWN. H. LETTING	29 MAY 1961	COMPUTER BUILDING	OTTAWA, ONT. (TUNNEY'S PASTURE)
	APPROVED M. LeBel a/g. P.W.C. Eng'r	BORING TECH. A. SCOTT		FILE N° 32-2365

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
------	176.1	GEODETIC	201.2	196.4	196.5

LEGEND

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE

PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING

STRENGTH
UNCONFINED COMPRESSION (QU) ⊕
VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) X LI
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				201.2				
			SAND, GRAVEL, ROCK, BROKEN	196.5				200.0
			G.W.	196.4				
			ROCK (DRILLED)					190.0
				176.1				180.0
								170.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
5.2	5.0
5.1	5.0
5.1	5.0
5.0	5.0

NOTE:
LOST RETURN WATER AT ELEV. 189.2

X24

BORING REPORT N° 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N° 15-A	CHECKED [illegible]	DATE OF BORING 24 MAY 1961
	DWN. H. LETTING	
	APPROVED [illegible]	BORING TECH. A. SCOTT

PROPOSED STRUCTURE: COMPUTER BUILDING

LOCATION: OTTAWA, ONT. (TUNNEY'S PASTURE)

FILE N° 32-2365

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
———	180.0	GEODETIC	200.0
		GROUND WATER	ROCK
		192.6	199.5

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU) ⊕
VANE TEST (C) AND SENSITIVITY (S) +S
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) X LI
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
			SAND, GRAVEL	200.0 / 199.5				200.0
			G.W.	192.6				190.0
			ROCK (DRILLED)	180.0				180.0

BOTTOM OF HOLE

DRILLED FT	RECOVERED FT.
2.5	2.0
2.0	2.0
5.0	5.0
5.0	5.0
5.0	5.0

NOTE:
LOST RETURN WATER AT ELEV 188.0

BORING REPORT N° 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N° 16-A	CHECKED [illegible]	DATE OF BORING 31 MAY 1961
	DWN. H. LETTING	
	APPROVED [illegible]	BORING TECH. A. SCOTT

PROPOSED STRUCTURE: COMPUTER BUILDING

LOCATION: OTTAWA, ONT. (TUNNEY'S PASTURE)

FILE N° 32-2365

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
———	182.3	GEODETIC	200.6
		GROUND WATER	ROCK
		192.2	194.6

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU) ⊕
VANE TEST (C) AND SENSITIVITY (S) +S
CONSISTENCY.
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) X LI
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				200.6				200.0
			SAND, GRAVEL	196.6				
			SAND, GRAVEL, ROCK BROKEN	194.6				
			G.W.	192.2				190.0
			ROCK (DRILLED)	182.3				180.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
2.0	1.0
5.2	5.0
5.1	5.0

NOTE:
LOST RETURN WATER AT ELEV. 188.4

X24

BORING REPORT N° 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
17-A	RAL + RLK	16 MAY 1961	COMPUTER BUILDING	OTTAWA, ONT. (TUNNEY'S PASTURE)
	DWN. H. LETTING	BORING TECH. A. SCOTT		FILE N° 32-2365
	APPROVED M. LeBel for N.C. Lougueuil			

LEGEND

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE

PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
NATURAL MOISTURE AND
LIQUIDITY INDEX (LI) X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	174.5	GEODETIC	202.6	194.8	195.6

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU — KSF; R — BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				202.6				
			SAND, GRAVEL	201.1				
			SAND, GRAVEL, ROCK, BROKEN	195.6				200.0
			G.W.	194.8				
			ROCK (DRILLED)	174.5				190.0 / 180.0
			BOTTOM OF HOLE					170.0

DRILLED FT.	RECOVERED FT.
6.0	5.0
5.0	5.0
5.0	5.0
5.1	5.0

NOTE:
LOST RETURN WATER AT ELEV. 178.6

BORING REPORT N° 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
18-A	RAL + RLK	10 MAY 1961	COMPUTER BUILDING	OTTAWA, ONT. (TUNNEY'S PASTURE)
	DWN. H. LETTING	BORING TECH. A. SCOTT		FILE N° 32-2365
	APPROVED [illegible]			

LEGEND

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE

PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
NATURAL MOISTURE AND
LIQUIDITY INDEX (LI) X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	177.2	GEODETIC	202.9	192.0	197.7

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU — KSF; R — BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				202.9				
			SAND, GRAVEL	201.4				
			ROCK, SHATTERED, BOULDERS	197.7				200.0
			G.W.	192.0				190.0
			ROCK (DRILLED)	177.2				180.0
			BOTTOM OF HOLE					170.0

DRILLED FT.	RECOVERED FT.
5.8	5.0
4.5	4.5
5.2	5.0
5.0	5.0

NOTE:
LOST RETURN WATER AT ELEV. 187.9 (APPROX.)

X24

BORING REPORT N° 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING
19-A	RH + RKK	15 & 16 MAY 1961
	DWN. H. LETTING	
	APPROVED M. LeBel	BORING TECH. A. SCOTT

PROPOSED STRUCTURE: COMPUTER BUILDING
LOCATION: OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N° 32-2365

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	174.9	GEODETIC	202.5	195.9	195.0

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU, KSF; R, BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				202.5				
			SAND, GRAVEL	200.5				200.0
			SAND, GRAVEL, ROCK, BROKEN	196.5				
		G.W.	SILT, CLAY, SAND (SOFT)	195.9				
				195.0				190.0
			ROCK (DRILLED)					180.0
				174.9				170.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
5.0	5.0
5.1	5.0
5.0	5.0
5.0	5.0

NOTE:
LOST RETURN WATER AT ELEV. 178.5.

BORING REPORT N° 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING
21-A	RH + RKK	12 - 15 MAY 1961
	DWN. H. LETTING	
	APPROVED M. LeBel	BORING TECH. A. SCOTT

PROPOSED STRUCTURE: COMPUTER BUILDING
LOCATION: OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N° 32-2365

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	175.3	GEODETIC	203.2	196.5	195.7

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU, KSF; R, BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				203.2				
			SAND, GRAVEL, ROCK, BROKEN	200.7				200.0
			ROCK, SHATTERED, BOULDERS	197.8				
		G.W.	SILT, CLAY, SAND (SOFT)	196.5				
				195.7				190.0
			ROCK (DRILLED)					180.0
				175.3				170.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
5.0	5.0
5.0	5.0
0.5	0.5
2.9	2.9
5.0	5.0
2.0	2.0

NOTE:
LOST RETURN WATER AT ELEV. 185.7.

X24

BORING REPORT N° 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
23-A	RAL + RLK	30 MAY 1961	COMPUTER BUILDING	OTTAWA, ONT. (TUNNEY'S PASTURE)
	DWN. H. LETTING	BORING TECH. A. SCOTT		FILE N° 32-2365
	APPROVED M. LeBel			

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	191.0	GEODETIC	200.8	198.3	200.8

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				200.8				
			G.W.	198.3				200.0
			ROCK (DRILLED)					
				191.0				
			BOTTOM OF HOLE					190.0

DRILLED FT.	RECOVERED FT.
1.5	1.5
1.5	1.5
1.8	1.8
5.0	5.0

BORING REPORT N° 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
29-A	RAL + RLK	9 MAY 1961	COMPUTER BUILDING	OTTAWA, ONT. (TUNNEY'S PASTURE)
	DWN. H. LETTING	BORING TECH. A. SCOTT		FILE N° 32-2365
	APPROVED M. LeBel			

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
	180.4	GEODETIC	201.3		180.4

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				201.3				200.0
			G.W.	191.9				190.0
			ROCK (DRILLED)					
				180.4				180.0
			BOTTOM OF HOLE					

DRILLED FT.	RECOVERED FT.
2.0	2.0
2.0	2.0
1.9	1.9
5.0	5.0
5.0	5.0
5.0	5.0

NOTE:
LOST RETURN WATER AT ELEV. 181.8

X24

BORING REPORT N° 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING
31-A	RAL + RAL. / DWN. H. LETTING	18 MAY 1961
	APPROVED M. LeBel o.f.q. p. Mc Jessup	BORING TECH. A. SCOTT

PROPOSED STRUCTURE: COMPUTER BUILDING

LOCATION: OTTAWA, ONT. (TUNNEY'S PASTURE)

FILE N° 32-2365

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
	176.9	GEODETIC	200.7
		GROUND WATER	ROCK
		192.6	198.9

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
NATURAL MOISTURE AND
LIQUIDITY INDEX (LI) X LI
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE N°	SAMPLE TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				200.7				
			SAND, GRAVEL, ROCK, BROKEN	198.9				200.0
		G.W.		192.6				
			ROCK (DRILLED)					190.0
				176.9				180.0
			BOTTOM OF HOLE					170.0

DRILLED FT.	RECOVERED FT.
2.0	1.8
2.0	1.9
2.0	1.8
5.0	5.0
1.5	1.5
5.0	5.0
3.0	3.0
2.0	2.0

NOTE:
LOST RETURN WATER AT ELEV. 180.7

BORING REPORT N° 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING
33-A	RAL + RAL / DWN. H. LETTING	23 MAY 1961
	APPROVED M. LeBel o.f.q. p. Mc Jessup	BORING TECH. A. SCOTT

PROPOSED STRUCTURE: COMPUTER BUILDING

LOCATION: OTTAWA, ONT. (TUNNEY'S PASTURE)

FILE N° 32-2365

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
	174.3	GEODETIC	200.1
		GROUND WATER	ROCK
		196.6	196.1

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
NATURAL MOISTURE AND
LIQUIDITY INDEX (LI) X LI
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE N°	SAMPLE TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				200.1				
			SAND, GRAVEL	199.1				
			SAND, GRAVEL, ROCK, BROKEN	197.6				200.0
		G.W.		196.6				
			SILT, CLAY, SAND (SOFT)	196.1				
			ROCK (DRILLED)					190.0
				174.3				180.0
			BOTTOM OF HOLE					170.0

DRILLED FT.	RECOVERED FT.
1.8	1.8
5.0	5.0
5.0	5.0
5.0	5.0

NOTE:
LOST RETURN WATER AT ELEV. 180.1

X24

BORING REPORT N° 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
35	RAL & RWK DWN. H. LETTING	2 MAY 1961	COMPUTER BUILDING	OTTAWA, ONT. (TUNNEY'S PASTURE)
	APPROVED N. LeBel	BORING TECH. A. SCOTT		FILE N° 32-2365

LEGEND
SAMPLING METHOD: 2" DIA. SPLIT TUBE; 2" SHELBY TUBE
PENETRATION RESISTANCE - R: 2" SPLIT TUBE; 2" DIA. CONE; CASING
STRENGTH: UNCONFINED COMPRESSION (QU); VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY: NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI; LIQUID LIMIT; PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	181.8	GEODETIC	201.8	196.8	199.8

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C F
				201.8				
			SAND, GRAVEL	199.8				200.0
			ROCK, BROKEN (DRILLED)	197.3				
			G.W.	196.8				
			ROCK (DRILLED)					190.0
				181.8				180.0
			BOTTOM OF HOLE					

DRILLED FT. / RECOVERED FT.

DRILLED FT.	RECOVERED FT.
5.6	3.0
5.0	5.0
5.0	5.0

NOTE:
LOST RETURN WATER AT ELEV. 184.8.

BORING REPORT N° 2380

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
35-A	RAL & RWK DWN. H. LETTING	11 MAY 1961	COMPUTER BUILDING	OTTAWA, ONT. (TUNNEY'S PASTURE)
	APPROVED N. LeBel	BORING TECH. A. SCOTT		FILE N° 32-2365

LEGEND
SAMPLING METHOD: 2" DIA. SPLIT TUBE; 2" SHELBY TUBE
PENETRATION RESISTANCE - R: 2" SPLIT TUBE; 2" DIA. CONE; CASING
STRENGTH: UNCONFINED COMPRESSION (QU); VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY: NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI; LIQUID LIMIT; PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	178.2	GEODETIC	200.9	195.2	198.8

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				200.9				200.0
			SAND, GRAVEL	198.8				
			ROCK, SHATTERED (DRILLED)	197.9				
			G.W.	195.2				
			ROCK (DRILLED)					190.0
				178.2				180.0
			BOTTOM OF HOLE					170.0

DRILLED FT.	RECOVERED FT.
2.7	1.0
1.9	1.9
5.1	5.0
5.0	5.0
5.0	5.0

NOTE:
LOST RETURN WATER AT ELEV. 196.9.

X24

BORING REPORT N° 2429

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	1
CHECKED	RAL & akg
DWN.	H. LETTING
APPROVED	M. LeBel / J.N.E. Lafg…
DATE OF BORING	24 & 25 OCT. 1961
BORING TECH.	B. LEAFLOOR
PROPOSED STRUCTURE	ANIMAL BREEDING BLDG. (DEPT. OF N.H. & W.)
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2409

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	191.4	GEODETIC	205.5	202.8	202.8

LEGEND

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA. CONE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU) — ⊕
- VANE TEST (C) AND SENSITIVITY (S) — +S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU — KSF; R — BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				205.5				210.0
		G.W.	FILL, SAND, GRAVEL, SOME CLAY (DRILLED)	202.8				
			ROCK (DRILLED)					200.0
				191.4				190.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
2.3	2.3
5.3	5.1
3.8	3.8

NOTE:
SMALL SEAM ENCOUNTERED AT ELEV. 197.6 FT.

BORING REPORT N° 2429

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	2
CHECKED	RAL & akg
DWN.	H. LETTING
APPROVED	M. LeBel / J.N.E. Lafg…
DATE OF BORING	25 & 26 OCT. 1961
BORING TECH.	B. LEAFLOOR
PROPOSED STRUCTURE	ANIMAL BREEDING BLDG. (DEPT. OF N.H. & W)
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2409

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	187.1	GEODETIC	205.6	198.2	203.1

LEGEND

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA. CONE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU) — ⊕
- VANE TEST (C) AND SENSITIVITY (S) — +S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU — KSF; R — BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				205.6				210.0
			FILL, SAND, SOME GRAVEL (DRILLED)	203.1				
			G.W.	198.2				200.0
			ROCK (DRILLED)					
				187.1				190.0
								180.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
2.3	2.2
3.1	2.0
2.4	2.4
1.8	1.8
5.1	5.1
1.3	1.3

NOTE:
1) SMALL SEAM ENCOUNTERED FROM ELEV. 201.4 FT. TO 201.3 FT.
2) SEAMS AND SOFT LAYERS ENCOUNTERED FROM ELEV. 200.8 FT. TO 197.7 FT.

X24

BORING REPORT N° 2429

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N° 3

CHECKED RAL ʃ a.k.g
DWN. H. LETTING
APPROVED M. LeBel.

DATE OF BORING: 26 OCT. 1961
BORING TECH.: B. LEAFLOOR

PROPOSED STRUCTURE: ANIMAL BREEDING BLDG. (DEPT. OF N.H. & W)
LOCATION: OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N° 32-2409

LEGEND

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE

PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING — AX
CORE SIZE — AXT

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) — +S

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF.

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
—	192.3	GEODETIC	205.7
		GROUND WATER	ROCK
		201.4	202.8

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				205.7				210.0
			FILL, SAND, SOME GRAVEL & CLAY (DRILLED)	202.8				
			G.W.	201.4				200.0
			ROCK (DRILLED)	192.3				
			BOTTOM OF HOLE					190.0

DRILLED FT.	RECOVERED FT.
1.2	1.2
5.1	4.8
4.2	4.2

BORING REPORT N° 2429

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N° 4

CHECKED RAL ʃ a.k.g
DWN. H. LETTING
APPROVED M. LeBel.

DATE OF BORING: 26 & 27 OCT. 1961
BORING TECH.: B. LEAFLOOR

PROPOSED STRUCTURE: ANIMAL BREEDING BLDG. (DEPT. OF N.H. & W)
LOCATION: OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N° 32-2409

LEGEND

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE

PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING — AX
CORE SIZE — AXT

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) — +S

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
—	191.6	GEODETIC	206.4
		GROUND WATER	ROCK
		—	202.5

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				206.4				210.0
			FILL, SAND, SOME GRAVEL (DRILLED)	203.9				
			SAND, COBBLES (DRILLED)	202.5				
			ROCK (DRILLED)	191.6				200.0
			BOTTOM OF HOLE					190.0

DRILLED FT.	RECOVERED FT.
5.2	4.8
3.7	3.3
2.0	2.0

NOTE:
1) HOLE CAVED AT ELEV. 203.3 FT. DRY TO THAT DEPTH.
2) SOFT LAYERS ENCOUNTERED FROM ELEV. 199.8 FT TO 199.3 FT.
3) SMALL SEAMS OR SOFT LAYERS AT ELEV. 196.4 FT & 194.9 FT.

X24

BORING REPORT N° 2429

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
5	RHL & abg	31 OCT. 1961	ANIMAL BREEDING BLDG. (DEPT. OF N.H. & W.)	OTTAWA, ONT. (TUNNEY'S PASTURE)
	DWN. H. LETTING	BORING TECH. B. LEAFLOOR		FILE N° 32-2409
	APPROVED M. LeBel for N.E. Raycraft			

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING — AX
CORE SIZE — AXT
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	190.0	GEODETIC	206.0	202.8	200.9

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				206.0				210.0
		G.W.	SAND, SOME GRAVEL, FILL (DRILLED)	202.8				
			COBBLE (DRILLED)	202.4 / 201.9				
			SAND, SOME GRAVEL (DRILLED)	200.9				200.0
			ROCK (DRILLED)	190.0				190.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
5.1	4.7
4.5	4.4
1.3	1.2

NOTE:
SEAM OR SOFT LAYER ENCOUNTERED AT ELEV. 197.4

BORING REPORT N° 2429

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
6	RHL & abg	30 OCT. 1961	ANIMAL BREEDING BLDG. (DEPT. OF N.H. & W.)	OTTAWA, ONT. (TUNNEY'S PASTURE)
	DWN. H. LETTING	BORING TECH. B. LEAFLOOR		FILE N° 32-2409
	APPROVED M. LeBel for N.E. Raycraft			

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING — AX
CORE SIZE — AXT
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	194.0	GEODETIC	206.4	205.0	204.3

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				206.4				210.0
		G.W.	SAND, SOME GRAVEL (DRILLED)	205.0 / 204.3				
			ROCK (DRILLED)	194.0				200.0
								190.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
1.3	1.2
4.5	4.5
4.5	4.4

X24

BORING REPORT N° 2429

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	7
CHECKED	[illegible]
DWN.	H. LETTING
APPROVED	M. LeBel
DATE OF BORING	30 OCT. 1961
BORING TECH.	B. LEAFLOOR
PROPOSED STRUCTURE	ANIMAL BREEDING BLDG. (DEPT. OF N.H. & W.)
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2409

LEGEND

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA. CONE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — +S

CONSISTENCY
- NATURAL MOISTURE AND
- LIQUIDITY INDEX (LI) — X LI
- LIQUID LIMIT
- PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	192.6	GEODETIC	206.6	203.2	202.9

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				206.6				210.0
			SAND, SOME GRAVEL (DRILLED)	204.1				
		G.W.	ROCK LAYER (SOFT) (DRILLED)	203.2				
				202.9				
			ROCK (DRILLED)					200.0
				192.6				
			BOTTOM OF HOLE					190.0

DRILLED FT. — RECOVERED FT.
5.2 — 5.1
5.1 — 5.1

NOTE:
A SEAM WAS ENCOUNTERED FROM ELEV. 203.2 TO 202.9 FT.

BORING REPORT N° 2429

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	8
CHECKED	[illegible]
DWN.	H. LETTING
APPROVED	M. LeBel
DATE OF BORING	27 OCT. 1961
BORING TECH.	B. LEAFLOOR
PROPOSED STRUCTURE	ANIMAL BREEDING BLDG. (DEPT. OF N.H. & W.)
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2409

LEGEND

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA. CONE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — +S

CONSISTENCY
- NATURAL MOISTURE AND
- LIQUIDITY INDEX (LI) — X LI
- LIQUID LIMIT
- PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	192.1	GEODETIC	207.2	202.9	202.9

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				207.2				210.0
		G.W.	SAND, SOME GRAVEL (DRILLED)	202.9				
			ROCK (DRILLED)					200.0
				192.1				
			BOTTOM OF HOLE					190.0

DRILLED FT. — RECOVERED FT.
0.8 — 0.6
5.2 — 5.0
4.8 — 4.8

NOTE:
SEAMS OR SOFT FORMATION ENCOUNTERED AT ELEV. 200.6 & 200.

X24

BORING REPORT Nº 2437 — HOLE Nº 10

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

CHECKED	RAL & atg
DWN.	R. CLOUTHIER
APPROVED	M. LeBel for N.C. Longcraft
DATE OF BORING	21-22 NOV. & DEC. 12, 1961
BORING TECH.	B. LEAFLOOR
PROPOSED STRUCTURE	ADMINISTRATION BUILDING (N.H. & W.)
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE Nº	32-2295

LEGEND

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE

PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
CORE SIZE NX

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	151.8	GEODETIC	186.4	177.9	186.4

SAMPLE Nº	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.
			ROCK, SHATTERED (DRILLED)	186.4 / 185.2	
			G.W.	177.9	
			ROCK (DRILLED)		
			BOTTOM OF HOLE	151.8	

STRENGTH + PENETRATION RESISTANCE: C, QU — KSF; R — BLOWS/FT
CONSISTENCY
UNIT WT. LBS/C.F.: 190.0, 180.0, 170.0, 160.0, 150.0

NOTES:
1) LOST RETURN WATER AT ELEV. 179.3
2) SMALL SEAMS ENCOUNTERED AT ELEV. 179.3, 156.7, & 152.3

DRILLED (FT.)	RECOVERED (FT.)
1.2	0.8
1.9	1.9
5.1	5.0
5.1	5.1
5.0	4.9
5.0	5.0
2.7	2.7
5.2	5.0
3.4	3.0

BORING REPORT Nº 2437 — HOLE Nº 11

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

CHECKED	RAL & atg
DWN.	R. CLOUTHIER
APPROVED	M. LeBel for N.C. Longcraft
DATE OF BORING	21-22 NOV. & DEC. 11, 1961
BORING TECH.	B. LEAFLOOR
PROPOSED STRUCTURE	ADMINISTRATION BUILDING (N.H. & W.)
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE Nº	32-2295

LEGEND

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE

PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
CORE SIZE NX

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	155.1	GEODETIC	186.3	177.7	186.3

SAMPLE Nº	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.
			ROCK, SHATTERED WITH A WHITE SEAM	186.3 / 185.3	
			G.W.	177.7	
			ROCK (DRILLED)		
			BOTTOM OF HOLE	155.1	

STRENGTH + PENETRATION RESISTANCE: C, QU — KSF; R — BLOWS/FT
CONSISTENCY
UNIT WT. LBS/C.F.: 190.0, 180.0, 170.0, 160.0, 150.0

NOTES:
1) SMALL SEAMS ENCOUNTERED AT ELEVATIONS 181.9, 180.3, 175.8.
2) LOST RETURN WATER AT ELEV. 181.9

DRILLED (FT.)	RECOVERED (FT.)
1.4	0.8
2.2	2.2
5.0	4.9
5.1	5.0
2.8	2.8
1.7	1.7
5.1	5.1
5.1	5.1
2.8	2.6

NOTE:
SOFT SHALE SEAM FROM ELEV. 157.8 TO 157.6

X24

BORING REPORT N° 2437

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	12
CHECKED	RAL [illegible]
DWN.	R. CLOUTHIER
APPROVED	M. LeBel for N.E. Laycraft
DATE OF BORING	20-22 NOV., 1961
BORING TECH.	B. LEAFLOOR
PROPOSED STRUCTURE	ADMINISTRATION BUILDING (N.H. & W.)
LOCATION	OTTAWA, ONT. (TUNNY'S PASTURE)
FILE N°	32-2295

LEGEND

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA. CONE
- CASING
- CORE SIZE NX

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) X LI
- LIQUID LIMIT
- PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	160.8	GEODETIC	186.6	177.8	186.6

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
								190.0
				186.6				
			G.W.	177.8				180.0
			ROCK (DRILLED)					170.0
				160.8				160.0

BOTTOM OF HOLE

DRILLED (FT.)	RECOVERED (FT.)
2.9	2.8
2.8	2.8
5.2	5.1
5.0	5.0
5.0	4.9
4.9	4.9

NOTES:
1) LOST RETURN WATER AT ELEV. 180.1
2) SMALL SEAMS ENCOUNTERED AT ELEVATION 180.1 AND 178.4

BORING REPORT N° 2437

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	13
CHECKED	RAL [illegible]
DWN.	H. LETTING
APPROVED	M. LeBel for N.E. Laycraft
DATE OF BORING	29 NOV. 1961
BORING TECH.	B. LEAFLOOR
PROPOSED STRUCTURE	ADMIN. BLDG. (N.H. AND W.)
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2295

LEGEND

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA. CONE
- CASING
- CORE SIZE NX

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) X LI
- LIQUID LIMIT
- PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	167.6	GEODETIC	183.6	179.0	183.6

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
								190.0
				183.6				
			ROCK, BROKEN (DRILLED)	182.1				
			G.W.	179.0				180.0
			ROCK (DRILLED)					170.0
				167.6				160.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
1.5	1.2
2.7	[illegible]
5.0	5.1
5.1	5.1
1.7	1.7

NOTE:
3 SMALL SEAMS ENCOUNTERED BETWEEN ELEV. 183.6 & 182.1

X24

BORING REPORT N° 2437

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	14
CHECKED	KAL [illegible]
DWN.	H. LETTING
APPROVED	M. LeBel for N.E. Longcraft
DATE OF BORING	22-24 NOV. 1961
BORING TECH.	B. LEAFLOOR
PROPOSED STRUCTURE	ADMIN. BLDG. (N.H. AND W.)
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2295

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
———	160.3	GEODETIC	187.0	179.2	187.0

LEGEND

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA. CONE
- CASING
- CORE SIZE — NX

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — +S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				187.0				190.0
			G.W.L.	179.2				180.0
			ROCK (DRILLED)					170.0
				160.3				160.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
1.2	1.1
2.8	2.7
1.1	1.0
4.8	4.9
4.7	4.7
5.1	5.1
2.2	2.2
4.8	4.8

NOTE:
1) SMALL SEAMS ENCOUNTERED AT ELEV. 186.8, 185.2 & 182.8
2) BROKEN CORE AT ELEV. 182.8

BORING REPORT N° 2437

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	15
CHECKED	KAL [illegible]
DWN.	H. LETTING
APPROVED	M. LeBel for N.E. Longcraft
DATE OF BORING	6 NOV. 1961
BORING TECH.	B. LEAFLOOR
PROPOSED STRUCTURE	ADMIN. BLDG. (N. H. AND W.)
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2295

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
———	155.2	GEODETIC	174.8	———	174.8

LEGEND

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA. CONE
- CASING
- CORE SIZE — NX.

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — +S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
								180.0
				174.8				170.0
			ROCK (DRILLED)					160.0
				155.2				150.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
2.0	1.9
2.8	2.9
5.1	5.1
5.0	5.0
4.7	4.7

NOTE:
SMALL SEAM ENCOUNTERED AT ELEV. 156.9.

X24

BORING REPORT N° 2437

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	16
CHECKED	[illegible]
DWN.	H. LETTING
APPROVED	M. LeBel
DATE OF BORING	1 DEC. 1961
BORING TECH.	B. LEAFLOOR
PROPOSED STRUCTURE	ADMIN. BLDG. (N. H. AND W.)
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32 - 2295

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
CORE SIZE — NX
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) — +S

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
———	141.5	GEODETIC	176.7	———	176.7

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU: KSF; R: BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				176.7				180.0
			ROCK, BROKEN (DRILLED)	174.7				170.0
			ROCK (DRILLED)					160.0
				141.5				150.0
			BOTTOM OF HOLE					140.0

NOTE
1) SEAMS ENCOUNTERED BETWEEN ELEV. 176.7 AND 174.7, SEAM AT ELEV. 158.9 (FULL OF MUD AND SHALE CHIPS) AND A WHITE SEAM FROM ELEV. 157.5 TO 156.4 ALSO A SEAM AT ELEV. 149.0
2) LOST RETURN WATER AT ELEV. 174.7

DRILLED FT.	RECOVERED FT.
1.2	0.9
2.8	2.8
5.0	4.9
4.8	4.8
3.8	3.8
3.0	2.2
5.0	5.1
5.0	5.0
4.6	4.6

BORING REPORT N° 2437

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	17
CHECKED	[illegible]
DWN.	H. LETTING
APPROVED	M. LeBel
DATE OF BORING	8 DEC. 1961
BORING TECH.	B. LEAFLOOR
PROPOSED STRUCTURE	ADMIN. BLDG. (N. H. AND W.)
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32 - 2295

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
CORE SIZE — NX
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) — +S

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
———	147.8	GEODETIC	173.5	———	173.5

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU: KSF; R: BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
								180.0
				173.5				170.0
			ROCK (DRILLED)					160.0
				147.8				150.0
			BOTTOM OF HOLE					140.0

DRILLED FT.	RECOVERED FT.
2.8	2.8
2.8	2.8
5.1	5.1
5.1	5.1
2.0	2.0
5.1	5.1
2.8	2.8

NOTE:
SMALL SEAM ENCOUNTERED AT ELEV. 169.4

X24

BORING REPORT N° 2437

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
18	RAL for LG	28 & 29 NOV. 1961	ADMIN. BLDG. (N.H. AND W.)	OTTAWA, ONT. (TUNNEY'S PASTURE)
	DWN. H. LETTING	BORING TECH. B. LEAFLOOR		FILE N° 32-2295
	APPROVED M. LeBel for N.E. Langcraft			

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
CORE SIZE NX
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
—	165.5	GEODETIC	181.1
		GROUND WATER 179.5	ROCK 181.1

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				181.1				
			G.W.	179.5				180.0
			ROCK (DRILLED)					170.0
				165.5				160.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
2.8	2.8
2.6	2.6
2.8	2.8
4.7	4.9
2.5	2.5

NOTE:
SMALL SEAM ENCOUNTERED AT ELEV. 172.0

BORING REPORT N° 2437

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
19	RAL for LG	23 & 24 NOV. 1961	ADMIN. BLDG. (N.H. AND W.)	OTTAWA, ONT. (TUNNEY'S PASTURE)
	DWN. H. LETTING	BORING TECH. B. LEAFLOOR		FILE N° 32-2295
	APPROVED M. LeBel for N.E. Langcraft			

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
CORE SIZE NX
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)
CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
—	170.8	GEODETIC	186.6
		GROUND WATER 178.3	ROCK 186.6

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F
				186.6				190.0
			G.W.	178.3				180.0
			ROCK (DRILLED)					
				170.8				170.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
2.8	2.8
2.8	2.8
5.0	4.9
5.0	5.0

NOTE:
1) SMALL SEAMS ENCOUNTERED AT ELEV. 184.8 AND 178.0.
2) BROKEN CORE AT ELEV. 178.0

X24

BORING REPORT N° 2437

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	20
CHECKED	[illegible]
DWN.	H. LETTING
APPROVED	M. LeBel for N.E. Raycraft
DATE OF BORING	7 & 8 DEC. 1961
BORING TECH.	B. LEAFLOOR
PROPOSED STRUCTURE	ADMIN. BLDG. (N. H. AND W.)
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2295

LEGEND

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA. CONE
- CASING
- CORE SIZE — NX

STRENGTH
- UNCONFINED COMPRESSION (QU) ⊕
- VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
- LIQUID LIMIT
- PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	149.6	GEODETIC	174.7	174.7	174.7

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU — KSF; R — BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
								180.0
			G.W.	174.7				
			ROCK (DRILLED)					170.0
								160.0
				149.6				150.0
			BOTTOM OF HOLE					140.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
2.9	2.9
2.6	2.6
5.1	5.1
5.0	4.7
2.2	2.5
5.1	5.1
2.2	2.2

NOTE:
1) SMALL SEAM ENCOUNTERED AT ELEV. 156.8
2) WATER FLOWING OUT OF BORE HOLE.

BORING REPORT N° 2437

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	21
CHECKED	[illegible]
DWN.	H. LETTING
APPROVED	M. LeBel for N.E. Raycraft
DATE OF BORING	1-5 DEC. 1961
BORING TECH.	B. LEAFLOOR
PROPOSED STRUCTURE	ADMIN. BLDG. (N.H. AND W.)
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2295

LEGEND

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA. CONE
- CASING
- CORE SIZE — NX

STRENGTH
- UNCONFINED COMPRESSION (QU) ⊕
- VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
- LIQUID LIMIT
- PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	151.0	GEODETIC	177.1	177.1	177.1

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU — KSF; R — BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				177.1				180.0
			ROCK, BROKEN (DRILLED)	175.1				
			ROCK (DRILLED)					170.0
								160.0
				151.0				150.0
			BOTTOM OF HOLE					

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
2.0	1.8
1.7	1.8
5.1	5.1
5.0	5.0
4.0	4.0
5.1	5.0
3.2	3.2

NOTE:
1) LOST RETURN WATER AT ELEV. 175.9
2) SEAM ENCOUNTERED AT ELEV. 158.9

X24

BORING REPORT N° 2437

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
22	RAL & BDK	30 NOV. & 1 DEC. 1961	ADMIN. BLDG. (N. H. AND W.)	OTTAWA, ONT. (TUNNEY'S PASTURE)
	DWN. H. LETTING	BORING TECH. B. LEAFLOOR		FILE N° 32-2295
	APPROVED M. LeBel for N.E. Ravencraft			

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
CORE SIZE — NX
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) — +S

CONSISTENCY
NATURAL MOISTURE AND
LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	150.7	GEODETIC	176.1	176.1	176.1

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
								180.0
			G.W.	176.1				
			ROCK, BROKEN (DRILLED)	174.2				170.0
			ROCK (DRILLED)					160.0
			BOTTOM OF HOLE	150.7				150.0

DRILLED FT.	RECOVERED FT.
0.2	0.0
1.7	1.4
2.8	2.8
4.9	4.9
5.1	5.1
2.8	2.8
4.6	4.6
3.3	3.3

NOTE:
SMALL SEAMS ENCOUNTERED BETWEEN ELEV. 176.1 AND 174.2

BORING REPORT N° 2437

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	CHECKED	DATE OF BORING	PROPOSED STRUCTURE	LOCATION
23	RAL & [illegible]	17 NOV. 1961	ADMIN. BLDG. (N. H. AND W.)	OTTAWA, ONT. (TUNNEY'S PASTURE)
	DWN. H. LETTING	BORING TECH. B. LEAFLOOR		FILE N° 32-2295
	APPROVED M. LeBel for N.E. Ravencraft			

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
CORE SIZE — NX
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) — +S

CONSISTENCY
NATURAL MOISTURE AND
LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
—	167.4	GEODETIC	183.2	177.0	183.2

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
								190.0
				183.2				
			G.W.	177.0				180.0
			ROCK (DRILLED)					
			BOTTOM OF HOLE	167.4				170.0
								160.0

DRILLED FT.	RECOVERED FT.
2.9	2.8
2.8	2.7
5.0	5.1
5.1	5.1

NOTE:
LOST RETURN WATER AT ELEV. 178.2

X24

BORING REPORT N° 2437

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	24
CHECKED	RAL galg
DWN.	H. LETTING
APPROVED	M. LeBel. for N.E. Raycraft
DATE OF BORING	27-29 NOV. 1961
BORING TECH.	B. LEAFLOOR
PROPOSED STRUCTURE	ADMIN. BLDG. (N. H. AND W.)
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2295

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
------	161.1	GEODETIC	187.8	179.2	187.8

LEGEND

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA. CONE
- CASING
- CORE SIZE — NX

STRENGTH
- UNCONFINED COMPRESSION (QU) ⊕
- VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				187.8				190.0
			G.W.)	179.2				180.0
			ROCK (DRILLED)					170.0
				161.1				160.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
2.9	2.8
2.8	2.8
2.4	2.3
3.7	3.7
5.0	5.0
4.9	4.9
5.0	5.0

NOTE:
1) LOST RETURN WATER AT ELEV. 181.8
2) SMALL SEAMS ENCOUNTERED AT ELEV. 186.3, 172.8 AND A LARGER SEAM ENCOUNTERED BETWEEN ELEV. 181.8 & 181.7

BORING REPORT N° 2437

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N°	25
CHECKED	RAL galg
DWN.	H. LETTING
APPROVED	M. LeBel. for N.E. Raycraft
DATE OF BORING	14 & 15 NOV. 1961
BORING TECH.	B. LEAFLOOR
PROPOSED STRUCTURE	ADMIN. BLDG. (N. H. AND W.)
LOCATION	OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N°	32-2295

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
------	171.0	GEODETIC	186.2	176.6	186.2

LEGEND

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA. CONE
- CASING
- CORE SIZE — NX

STRENGTH
- UNCONFINED COMPRESSION (QU) ⊕
- VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU KSF; R BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
				186.2				190.0
			G.W.)	176.6				180.0
			ROCK (DRILLED)	171.0				170.0

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
2.8	2.8
2.8	2.8
4.6	4.6
5.0	5.0

X24

BORING REPORT N° 2437

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N° 26
CHECKED RAL [illegible]
DWN. H. LETTING
APPROVED M. LeBel. for N.E. [illegible]
DATE OF BORING: 14 & 15 NOV. 1961
BORING TECH.: B. LEAFLOOR

PROPOSED STRUCTURE: ADMIN. BLDG. (N.H. AND W.)
LOCATION: OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N° 32-2295

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
CORE SIZE NX
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
—	159.2	GEODETIC	184.5
		GROUND WATER	ROCK
		177.0	184.5

SAMPLE: N° | TYPE | SYMBOLS | DESCRIPTION OF SOIL | ELEV. FT. | DEPTH FT. | STRENGTH + PENETRATION RESISTANCE (C, QU — KSF; R — BLOWS/FT) | CONSISTENCY | UNIT WT. LBS/C.F

DESCRIPTION OF SOIL	ELEV. FT.
	184.5
G.W.	177.0
ROCK (DRILLED)	
	159.2

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
2.2	2.2
0.7	0.7
4.9	4.8
5.2	5.1
5.1	5.1
5.0	5.0
2.2	2.2

NOTE:
1) LOST RETURN WATER AT ELEV. 181.0
2) SMALL SEAM ENCOUNTERED AT ELEV. 181.0

190.0
180.0
170.0
160.0
150.0

BORING REPORT N° 2437

RECORD — SUBSURFACE EXPLORATION — SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.

HOLE N° 27
CHECKED RAL [illegible]
DWN. H. LETTING
APPROVED M. LeBel. for N.E. [illegible]
DATE OF BORING: 15-17 NOV. 1961
BORING TECH.: B. T. LEAFLOOR

PROPOSED STRUCTURE: ADMIN. BLDG. (N.H. AND W.)
LOCATION: OTTAWA, ONT. (TUNNEY'S PASTURE)
FILE N° 32-2295

LEGEND
SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE
PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING
CORE SIZE NX
STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S)

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — X LI
LIQUID LIMIT
PLASTIC LIMIT

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
—	168.9	GEODETIC	184.7
		GROUND WATER	ROCK
		176.8	184.7

SAMPLE: N° | TYPE | SYMBOLS | DESCRIPTION OF SOIL | ELEV. FT. | DEPTH FT. | STRENGTH + PENETRATION RESISTANCE (C, QU — KSF; R — BLOWS/FT) | CONSISTENCY | UNIT WT. LBS/C.F

DESCRIPTION OF SOIL	ELEV. FT.
	184.7
ROCK, SPLIT & BROKEN (DRILLED)	182.8
G.W.	176.8
ROCK (DRILLED)	
	168.9

BOTTOM OF HOLE

DRILLED FT.	RECOVERED FT.
1.1	0.8
0.8	0.6
1.1	1.1
2.8	2.8
5.1	5.1
[illegible]	[illegible]
[illegible]	[illegible]

NOTE:
LOST RETURN WATER AT ELEV. 178.9

190.0
180.0
170.0
160.0

X24

BORING REPORT N° 2437	RECORD — SUBSURFACE EXPLORATION — SOILS TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.	PROPOSED STRUCTURE	LOCATION
HOLE N° 28	CHECKED K.H. Gaby DRAWN. R. CLOUTHIER APPROVED M. LeBel for N. E. Bayliff	ADMIN. BLDG. (N.H. AND W.)	OTTAWA, ONT. (TUNNEY'S PASTURE)
	DATE OF BORING: 16 & 17 NOV., 1961 BORING TECH.: B. LEAFLOOR		FILE N° 32-2295

ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND
———	158.3	GEODETIC	183.9
		GROUND WATER	ROCK
		179.2	183.9

LEGEND

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" SHELBY TUBE

PENETRATION RESISTANCE - R
- 2" SPLIT TUBE
- 2" DIA. CONE
- CASING

CORE SIZE NX

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
- NATURAL MOISTURE AND
- LIQUIDITY INDEX (L.I.) X LI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE N°	TYPE	SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (C, QU — KSF; R — BLOWS/FT)	CONSISTENCY	UNIT WT. LBS/C.F.
								190.0
				183.9				
			G.W.	179.2				180.0
			ROCK (DRILLED)					170.0
				158.3				160.0
			BOTTOM OF HOLE					150.0

DRILLED (FT.)	RECOVERED (FT.)
2.8	2.8
2.8	2.8
5.0	5.0
5.1	5.1
5.0	5.0
4.9	4.9

NOTE:
SMALL SEAM ENCOUNTERED AT ELEV. 171.0
RETURN WATER AT ALL TIMES WHILE DRILLING

X24

TRIM LINE

BORING RECORD No. 2522

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

PROPOSED STRUCTURE: ENVIRONMENTAL HEALTH LABORATORY
LOCATION: TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO. 32-2535

BORE HOLE No.	DATE OF BORING	BORING TECH.	DRAWN BY	CHECKED BY	APPROVED BY
1-F	Nov. 5, 1962	F.A. Smith	A. Hartl	RHL	R.W. Vogan

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic	—	188.4	181.2	200.3	173.1

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)
SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			200.3	
7		LOAM MIXED WITH GRAVEL COBBLES AND BOULDERS, FILL (FIRM)		
			188.4	
G.W.		ROCK SHALY LIMESTONE WITH INTERBEDDED SHALE (DRILLED)	181.2	
			173.1	

BOTTOM OF HOLE

DRILLED	RECOVERED
5.1	5.1
5.1	5.1
5.1	5.1

C q_u · S.P.T. 10 20 30 BLOWS/FT. · K/S.F. · W L.L., P.L. · γ, γ' · % · LBS/C.F.

TRIM LINE

BORING RECORD No. 2522

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

PROPOSED STRUCTURE: ENVIRONMENTAL HEALTH LABORATORY
LOCATION: TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO. 32-2535

BORE HOLE No.	DATE OF BORING	BORING TECH.	DRAWN BY	CHECKED BY	APPROVED BY
1-W	Nov. 22, 1962	F.A. Smith	A. Hartl	RHL	R.W. Vogan

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic	—	187.3	188.5	193.7	182.2

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			193.7	
18	G.W.	GRAVEL IN LOAMY MATRIX, COBBLES AND BOULDERS (LOOSE TO FIRM)	188.5	
		ROCK, SHALY LIMESTONE (DRILLED)	187.3	
			182.2	

BOTTOM OF HOLE

DRILLED	RECOVERED
5.1	5.0

TRIM LINE

BORING RECORD No. 2522

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

PROPOSED STRUCTURE: ENVIRONMENTAL HEALTH LABORATORY
LOCATION: TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO. 32-2535

BORE HOLE No.	DATE OF BORING	BORING TECH.	DRAWN BY	CHECKED BY	APPROVED BY
1-D	Nov. 1-2, 1962	F.A. Smith	A. Hartl	RHL	R.W. Vogan

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic	—	187.5	182.8	199.9	171.7

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			199.9	
5		SAND-GRAVEL IN CLAYEY MATRIX, COBBLES AND ODD BOULDERS (FIRM)		
6			187.5	
G.W.		ROCK SHALY LIMESTONE WITH INTERBEDDED SHALE (DRILLED)	182.8	
			171.7	

BOTTOM OF HOLE

DRILLED	RECOVERED
0.4	0.4
5.1	5.1
5.1	5.1
5.2	5.1

TRIM LINE

BORING RECORD No. 2522

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

PROPOSED STRUCTURE: ENVIRONMENTAL HEALTH LABORATORY
LOCATION: TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO. 32-2535

BORE HOLE No.	DATE OF BORING	BORING TECH.	DRAWN BY	CHECKED BY	APPROVED BY
2-W	Nov. 23, 1962	F.A. Smith	A. Hartl	RHL	R.W. Vogan

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic	—	189.9	185.8	193.2	183.8

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
		BOULDERS	193.2	
		ROCK SHALY LIMESTONE (DRILLED)	189.9	
G.W.			185.8	
			183.8	

BOTTOM OF HOLE

DRILLED	RECOVERED
2.0	1.7
1.6	1.5
2.5	1.9

TRIM LINE

BORING RECORD No. 2522

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

PROPOSED STRUCTURE: ENVIRONMENTAL HEALTH LABORATORY
LOCATION: TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO. 32-2535

BORE HOLE No.	DATE OF BORING	BORING TECH.	DRAWN BY	CHECKED BY	APPROVED BY
1-B	Nov. 6, 1962	F.A. Smith	A. Hartl	RHL	R.W. Vogan

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic	—	187.6	193.2	202.7	172.2

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			202.7	
8	G.W.	SAND-GRAVEL, COBBLES AND BOULDERS, FILL (FIRM)	193.2	
			187.6	
		ROCK SHALY LIMESTONE (DRILLED)		
			172.2	

6 BLOWS FOR 0.4 FT.

BOTTOM OF HOLE

DRILLED	RECOVERED
2.7	2.4
2.4	2.4
5.1	5.1
5.2	5.1

TRIM LINE

BORING RECORD No. 2522

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

PROPOSED STRUCTURE: ENVIRONMENTAL HEALTH LABORATORY
LOCATION: TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO. 32-2535

BORE HOLE No.	DATE OF BORING	BORING TECH.	DRAWN BY	CHECKED BY	APPROVED BY
3-B	Nov. 6, 1962	F.A. Smith	A. Hartl	RHL	R.W. Vogan

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic	—	187.4	189.5	199.0	171.6

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			199.0	
9		SAND-GRAVEL, COBBLES AND BOULDERS, FILL (FIRM)		
G.W.			189.5	
			187.4	
		ROCK SHALY LIMESTONE WITH INTERBEDDED SHALE (DRILLED)		
			171.6	

BOTTOM OF HOLE

DRILLED	RECEIVED
1.1	1.1
2.5	2.0
5.1	4.8
5.1	5.1
2.0	1.9

X24

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	3-W
DATE OF BORING	Nov. 26, 1962.
BORING TECH.	F.A. Smith
DRAWN BY	A. Hartl
CHECKED BY	RAL
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic	—	186.3	187.8	193.2	181.2

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. · S.P.T. BLOWS/FT 10 20 30 · W, LL., P.L. % · γ, γ' LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			193.2	
	G.W.	Loam mixed with gravel, cobbles, and some boulders	187.8	
19			186.3	
		Rock shaly limestone (drilled)	181.2	

Bottom of Hole

Drilled	Recovered
5.1	4.9

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	4-C
DATE OF BORING	Nov. 21-22, 1962.
BORING TECH.	F.A. Smith
DRAWN BY	A. Hartl
CHECKED BY	RAL
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic		187.2	189.6	192.8	181.8

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. · S.P.T. BLOWS/FT · W, LL., P.L. % · γ, γ' LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			192.8	
	G.W.	Boulders and cobbles mixed with sand-gravel	189.6	
			187.2	
		Rock shaly limestone (drilled)	181.8	

Bottom of Hole

Drilled	Recovered
2.8	2.8
2.6	2.5

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	3-F
DATE OF BORING	Nov. 8, 1962.
BORING TECH.	F. A. Smith
DRAWN BY	A. Hartl
CHECKED BY	RAL
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic		188.7	183.6	201.4	172.7

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. · S.P.T. BLOWS/FT 10 20 30 · W, LL., P.L. % · γ, γ' LBS/C.F.

5 BLOWS FOR 0.3 FT.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			201.4	
		Sand mixed with gravel fill (firm)		
10				
11			188.7	
	G.W.		183.6	
		Rock shaly limestone with interbedded shale (drilled)	172.7	

Bottom of Hole

Drilled	Recovered
1.4	1.4
5.2	5.1
5.1	5.1
4.3	4.2

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	4-W
DATE OF BORING	Nov. 26, 1962.
BORING TECH.	F. A. Smith
DRAWN BY	A. Hartl
CHECKED BY	RAL
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic		185.8	186.9	192.6	178.8

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. · S.P.T. BLOWS/FT 10 20 30 · W, LL., P.L. % · γ, γ' LBS/C.F.

12 BLOWS FOR 0.4 FT.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			192.6	
	G.W.	Gravel in loamy matrix, cobbles and many boulders	186.9	
20			185.8	
		Rock shaly limestone (drilled)	178.8	

Bottom of Hole

Drilled	Recovered
3.3	3.2
3.7	3.6

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	3-D
DATE OF BORING	Oct 31 - Nov. 1, 62
BORING TECH.	F. A. Smith
DRAWN BY	A. Hartl
CHECKED BY	RAL
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic		187.3	180.8	199.9	170.3

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. · S.P.T. BLOWS/FT 10 20 30 · W, LL., P.L. % · γ, γ' LBS/C.F.

14 BLOWS FOR 0.8 FT.

4 BLOWS FOR 0.6 FT.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			199.9	
4		Sand - gravel, cobbles and boulders, fill. (firm)		
			187.3	
	G.W.		180.8	
		Rock shaly limestone with interbedded shale (drilled)	170.3	

Bottom of Hole

Drilled	Recovered
1.8	1.8
5.0	4.9
5.1	6.1
5.1	5.1

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	5-A-W
DATE OF BORING	Nov. 25, 1962
BORING TECH.	F. A. Smith
DRAWN BY	A. Hartl
CHECKED BY	RAL
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic		190.7	185.3	191.7	179.9

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. · S.P.T. BLOWS/FT · W, LL., P.L. % · γ, γ' LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
		Gravel	191.7	
			190.7	
	G.W.	Rock shaly limestone with interbedded shale (drilled)	185.3	
			179.9	

Bottom of Hole

Drilled	Recovered
2.2	2.2
1.8	1.7
4.3	4.0
2.5	2.5

X24

TRIM LINE

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No. 2522 — BORE HOLE No. 5-F

DATE OF BORING:	Nov. 13, 1962
BORING TECH.	F. A. SMITH
DRAWN BY:	A. HARTL
CHECKED BY:	RHL
APPROVED BY:	R. W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	187.3
GROUND WATER	189.3	GROUND SURFACE	201.5	BOTTOM OF BORE HOLE	171.8

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. — S.P.T. 10 20 30 BLOWS/FT — W. L.L., P.L. % — γ, γ' LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			201.5	
		SAND FILL (LOOSE)	193.2	
12		SAND-GRAVEL, COBBLES AND MANY BOULDERS (FIRM)	189.3	
	G.W.		187.3	
		ROCK SHALY LIMESTONE WITH INTERBEDDED SHALE (DRILLED)	171.8	

BOTTOM OF HOLE

DRILLED	RECOVERED
5.1	5.1
5.2	5.2
5.2	5.1

TRIM LINE

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No. 2522 — BORE HOLE No. 6-W

DATE OF BORING:	Nov. 29, 1962.
BORING TECH.	F. A. SMITH
DRAWN BY:	A. HARTL
CHECKED BY:	RHL
APPROVED BY:	R. W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	184.7
GROUND WATER	186.3	GROUND SURFACE	192.5	BOTTOM OF BORE HOLE	179.7

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. — S.P.T. 10 20 30 40 50 60 BLOWS/FT — W. L.L., P.L. % — γ, γ' LBS/C.F.

42 BLOWS FOR 0.8 FT.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			192.5	
		SILTY SAND-GRAVEL, SOME COBBLES (FIRM)	189.0	
21	G.W.	BROKEN ROCK MIXED WITH SILTY SAND-GRAVEL (DENSE)	186.3	
			184.7	
		ROCK SHALY LIMESTONE (DRILLED)	179.7	

BOTTOM OF HOLE

DRILLED	RECOVERED
5.0	4.4

TRIM LINE

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No. 2522 — BORE HOLE No. 5-D

DATE OF BORING:	Oct. 29, 1962.
BORING TECH.	F. A. SMITH
DRAWN BY:	A. HARTL
CHECKED BY:	RHL
APPROVED BY:	R. W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	188.9
GROUND WATER	189.1	GROUND SURFACE	194.6	BOTTOM OF BORE HOLE	164.4

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. — S.P.T. BLOWS/FT — W. L.L., P.L. % — γ, γ' LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			194.6	
		SAND-GRAVEL, SOME COBBLES (FIRM)	189.1	
	G.W.			
		ROCK SHALY LIMESTONE WITH INTERBEDDED SHALE (DRILLED)	164.4	

BOTTOM OF HOLE

DRILLED	RECOVERED
5.2	3.0
3.8	3.5
5.1	3.2
5.2	5.1
5.2	5.1

TRIM LINE

TRIM LINE

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No. 2522 — BORE HOLE No. 6-C

DATE OF BORING:	Nov. 21, 1962.
BORING TECH.	F. A. SMITH
DRAWN BY:	A. HARTL
CHECKED BY:	RHL
APPROVED BY:	R. W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	187.9
GROUND WATER	188.9	GROUND SURFACE	192.8	BOTTOM OF BORE HOLE	182.9

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. — S.P.T. BLOWS/FT — W. L.L., P.L. % — γ, γ' LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			192.8	
	G.W.	SAND-GRAVEL AND COBBLES	188.9	
			187.9	
		ROCK SHALY LIMESTONE (DRILLED)	182.9	

BOTTOM OF HOLE

DRILLED	RECOVERED
5.0	4.7

TRIM LINE

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No. 2522 — BORE HOLE No. 5-B

DATE OF BORING:	Oct. 17, 1962.
BORING TECH.	F. A. SMITH
DRAWN BY:	A. HARTL
CHECKED BY:	RHL
APPROVED BY:	R. W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	187.5
GROUND WATER	188.6	GROUND SURFACE	192.2	BOTTOM OF BORE HOLE	177.5

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. — S.P.T. BLOWS/FT — W. L.L., P.L. % — γ, γ' LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			192.2	
	G.W.	SILTY SAND-GRAVEL, COBBLES AND ODD BOULDERS, FILL (FIRM)	188.6	
			187.5	
		ROCK SHALY LIMESTONE (DRILLED)	177.5	

BOTTOM OF HOLE

DRILLED	RECOVERED
0.5	0.5
1.8	1.5
5.1	5.1
2.6	2.4

TRIM LINE

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No. 2522 — BORE HOLE No. 5-W

DATE OF BORING:	Nov. 27, 1962.
BORING TECH.	F. A. SMITH
DRAWN BY:	A. HARTL
CHECKED BY:	RHL
APPROVED BY:	R. W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	190.7
GROUND WATER	—	GROUND SURFACE	191.7	BOTTOM OF BORE HOLE	186.5

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. — S.P.T. BLOWS/FT — W. L.L., P.L. % — γ, γ' LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
		SAND-GRAVEL	191.7	
			190.7	
		ROCK - LIMESTONE WITH INTERBEDDED SHALE (DRILLED)	186.5	

BOTTOM OF HOLE

DRILLED BY CASING, NO RECOVERY, SEE HOLE 5-A-W.

X24

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	7-D
DATE OF BORING	Oct. 26, 1962.
BORING TECH.	F. A. Smith
DRAWN BY	A. Hartl
CHECKED BY	[signatures]
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE
Geodetic	—	187.6
GROUND WATER	**GROUND SURFACE**	**BOTTOM OF BORE HOLE**
190.3	194.3	172.3

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C q_u · S.P.T. 10 20 30 · K/S.F. BLOWS/FT · W L.L., P.L. · γ, γ' · % LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			194.3	
		Gravel and boulders, fill	190.3	
3	G.W.		187.6	
		Rock, shaly limestone with interbedded shale (drilled)	172.3	
		Bottom of hole		

Drilled	Recovered
5.0	5.0
5.1	5.1
5.2	5.1

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	7-F
DATE OF BORING	Nov 14, 1962.
BORING TECH.	F. A. Smith
DRAWN BY	A. Hartl
CHECKED BY	[signatures]
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE
Geodetic	—	188.0
GROUND WATER	**GROUND SURFACE**	**BOTTOM OF BORE HOLE**
189.3	200.2	172.7

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C q_u · S.P.T. 10 20 30 · K/S.F. BLOWS/FT · W L.L., P.L. · γ, γ' · % LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			200.2	
		Sand fill (loose)	190.7	
13	G.W.		189.3	
		Sand-gravel & cobbles (firm)	188.0	
		Rock, shaly limestone (drilled)	172.7	
		Bottom of hole		

Drilled	Recovered
5.0	4.8
5.1	5.1
5.2	5.1

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	7-B
DATE OF BORING	Oct. 18, 1962.
BORING TECH.	F. A. Smith
DRAWN BY	A. Hartl
CHECKED BY	[signatures]
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE
Geodetic	—	187.3
GROUND WATER	**GROUND SURFACE**	**BOTTOM OF BORE HOLE**
189.4	193.4	176.0

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C q_u · S.P.T. · K/S.F. BLOWS/FT · W L.L., P.L. · γ, γ' · % LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			193.4	
	G.W.	Silty sand-gravel and cobbles, fill (firm)	189.4	
			187.3	
		Rock, shaly limestone (drilled)	176.0	
		Bottom of hole		

Drilled	Recovered
0.5	0.4
0.6	0.5
5.1	5.1
5.1	5.1

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	7-W
DATE OF BORING	Nov. 29, 1962.
BORING TECH.	F. A. Smith
DRAWN BY	A. Hartl
CHECKED BY	[signatures]
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE
Geodetic	—	184.2
GROUND WATER	**GROUND SURFACE**	**BOTTOM OF BORE HOLE**
185.3	191.4	176.4

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C q_u · S.P.T. 10 20 30 · K/S.F. BLOWS/FT · W L.L., P.L. · γ, γ' · % LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			191.4	
22	G.W.	Silty sand-gravel, odd cobbles (loose to firm)	185.3	
			184.2	
		Rock, shaly limestone (drilled)	176.4	
		Bottom of hole		

Drilled	Recovered
4.7	4.1
3.1	3.0

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	7-A
DATE OF BORING	Oct. 12, 1962
BORING TECH.	F. A. Smith
DRAWN BY	A. Hartl
CHECKED BY	[signatures]
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE
Geodetic	—	186.7
GROUND WATER	**GROUND SURFACE**	**BOTTOM OF BORE HOLE**
189.0	196.3	175.9

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C q_u · S.P.T. · K/S.F. BLOWS/FT · W L.L., P.L. · γ, γ' · % LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			196.3	
		Silty sand-gravel and cobbles, fill	191.4	
	G.W.	Broken rock and boulders	189.0	
			186.7	
		Rock, shaly limestone with interbedded shale (drilled)	175.9	
		Bottom of hole		

Drilled	Recovered
4.7	1.2 (Broken Rock)
1.2	1.1
1.0	0.9
4.2	4.2
4.4	4.4

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	8-A
DATE OF BORING	Oct. 15-16, 1962
BORING TECH.	F. A. Smith
DRAWN BY	A. Hartl
CHECKED BY	[signatures]
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE
Geodetic	—	189.2
GROUND WATER	**GROUND SURFACE**	**BOTTOM OF BORE HOLE**
189.0	196.3	179.2

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C q_u · S.P.T. 10 20 30 · K/S.F. BLOWS/FT · W L.L., P.L. · γ, γ' · % LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			196.3	
		Sand-gravel, cobbles and boulders, fill (firm)	189.2	
1	G.W.		189.0	
		Rock, shaly limestone (drilled)	179.2	
		Bottom of hole		

Drilled	Recovered
1.0	0.8
4.0	3.8
5.0	5.0

X24

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	9-D
DATE OF BORING	Oct. 25, 1962.
BORING TECH.	F. A. Smith
DRAWN BY	A. Hartl
CHECKED BY	RH
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TURKEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic	—	183.4	—	194.1	173.4

UNDISTURBED SAMPLE / DISTURBED SAMPLE / ROCK CORE / STD. PENETRATION RESIST. (S.P.T.) ○ / UNCONFINED COMPRESSION (q_u) ⊕ / VANE SHEAR STRENGTH (C) +

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) / LIQUID LIMIT (L.L.) / PLASTIC LIMIT (P.L.) / BULK DENSITY (γ) ▽ / BUOYANT DENSITY (γ') △

C, q_u — K/S.F. — S.P.T. 10 20 30 BLOWS/FT — W. L.L., P.L. — γ, γ' — % — LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			194.1	
		SAND - GRAVEL, SOME COBBLES (FIRM)	183.4	
		ROCK SHALY LIMESTONE WITH INTERBEDDED SHALE (DRILLED)	173.4	
		BOTTOM OF HOLE		

13 BLOWS FOR 0.6 FT.

DRILLED	RECOVERED
5.0	4.6
5.0	5.0
5.0	5.0

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	9-F
DATE OF BORING	Nov. 15, 1962.
BORING TECH.	F. A. Smith
DRAWN BY	A. Hartl
CHECKED BY	RH
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TURKEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic	—	190.5	190.0	201.8	174.8

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			201.8	
		SAND FILL (LOOSE)	196.2	
14		SILTY SAND - GRAVEL, COBBLES AND BOULDERS, SOME ORGANIC CLAYEY SILT (FIRM)		
15			190.5	
G.W.			190.0	
		ROCK SHALY LIMESTONE (DRILLED)	[illegible]	
		BOTTOM OF HOLE		

6 BLOWS FOR 0.4 FT.

DRILLED	RECOVERED
2.5	2.3
5.2	5.1
5.2	5.1
2.8	2.7

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	9-B
DATE OF BORING	Oct. 18-19, 1962.
BORING TECH.	F.A. Smith
DRAWN BY	A. Hartl
CHECKED BY	RH
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TURKEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic	—	188.8	189.7	194.9	173.5

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			194.9	
	G.W.	SILTY SAND - GRAVEL AND COBBLES, FILL (FIRM)	189.7	
2			188.8	
		ROCK SHALY LIMESTONE (DRILLED)	173.5	
		BOTTOM OF HOLE		

DRILLED	RECOVERED
5.1	5.0
5.1	5.1
5.2	5.1

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	9-W
DATE OF BORING	Dec. 3, 1962
BORING TECH.	F. A. Smith
DRAWN BY	A. Hartl
CHECKED BY	RH
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TURKEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic	—	183.5	184.0	189.9	178.3

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			189.9	
	G.W.	SILTY SAND - GRAVEL AND COBBLES (LOOSE)	184.0	
		ROCK SHALY LIMESTONE (DRILLED)	183.5	
			178.3	
		BOTTOM OF HOLE		

DRILLED	RECOVERED
5.2	5.1

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	8-W
DATE OF BORING	Nov. 30, 1962.
BORING TECH.	F.A. Smith
DRAWN BY	A. Hartl
CHECKED BY	RH
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TURKEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic	—	184.0	186.3	191.3	178.8

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			191.3	
23	G.W.	SILTY SAND - GRAVEL, ODD COBBLES (LOOSE)	186.3	
		ROCK SHALY LIMESTONE (DRILLED)	184.0	
			178.8	
		BOTTOM OF HOLE		

DRILLED	RECOVERED
5.2	5.1

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2522
BORE HOLE No.	10-W
DATE OF BORING	Dec. 3, 1962.
BORING TECH.	F. A. Smith
DRAWN BY	A. Hartl
CHECKED BY	RH
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TURKEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE	GROUND WATER	GROUND SURFACE	BOTTOM OF BORE HOLE
Geodetic	—	183.3	183.8 (SURFACE)	183.8	176.5

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
	G.W.	TOPSOIL	183.8	
		ROCK SHALY LIMESTONE WITH INTERBEDDED SHALE (DRILLED)	183.3	
			176.5	
		BOTTOM OF HOLE		

DRILLED	RECOVERED
2.1	2.1
2.1	2.1
2.2	2.2

X24

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

C TRIM LINE ⊃

BORING RECORD No.	2522
BORE HOLE No.	11-F
DATE OF BORING	Nov. 16, 1962.
BORING TECH.	F. A. SMITH
DRAWN BY	A. HARTL
CHECKED BY	RHL
APPROVED BY	R. W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	190.5
GROUND WATER	190.2	GROUND SURFACE	200.9	BOTTOM OF BORE HOLE	172.6

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. · S.P.T. 10 20 30 BLOWS/FT · W. L.L., P.L. % · γ, γ' LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			200.9	
		SAND FILL (LOOSE)	196.4	
16		SAND-GRAVEL SOME COBBLES (FIRM)	190.5	
G.W.			190.2	
		ROCK SHALY LIMESTONE (DRILLED)		
		BOTTOM OF HOLE		

DRILLED	RECOVERED
2.4	1.2
5.1	5.0
5.2	5.1
5.2	5.1

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

C TRIM LINE ⊃

BORING RECORD No.	2522
BORE HOLE No.	11-W
DATE OF BORING	DEC. 4, 1962.
BORING TECH.	F. A. SMITH
DRAWN BY	A. HARTL
CHECKED BY	RHL
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	183.4
GROUND WATER	—	GROUND SURFACE	185.0	BOTTOM OF BORE HOLE	177.6

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			185.0	
		SAND-GRAVEL (LOOSE)	183.4	
		ROCK SHALY LIMESTONE (DRILLED)	177.6	
		BOTTOM OF HOLE		

DRILLED	RECOVERED
1.6	1.6
2.1	2.1
2.1	2.0

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

C TRIM LINE ⊃

BORING RECORD No.	2522
BORE HOLE No.	11-D
DATE OF BORING	OCT. 24, 1962.
BORING TECH.	F. A. SMITH
DRAWN BY	A. HARTL
CHECKED BY	RHL
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	190.9
GROUND WATER	189.8	GROUND SURFACE	193.8	BOTTOM OF BORE HOLE	173.0

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			193.8	
		SILTY SAND-GRAVEL AND COBBLES, FILL	190.9	
G.W.			189.8	
		ROCK SHALY LIMESTONE WITH INTERBEDDED SHALE (DRILLED)	173.0	
		BOTTOM OF HOLE		

DRILLED	RECOVERED
2.8	2.6
5.0	4.8
5.1	5.1
5.0	4.8

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

C TRIM LINE ⊃

BORING RECORD No.	2522
BORE HOLE No.	12-W
DATE OF BORING	DEC. 4, 1962.
BORING TECH.	F. A. SMITH
DRAWN BY	A. HARTL
CHECKED BY	RHL
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	181.8
GROUND WATER	181.6	GROUND SURFACE	183.0	BOTTOM OF BORE HOLE	171.8

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			183.0	
		LOAM	181.8	
G.W.			181.6	
		ROCK SHALY LIMESTONE (DRILLED)	171.8	
		BOTTOM OF HOLE		

DRILLED	RECOVERED
2.2	2.0
3.5	3.4
4.3	4.2

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

C TRIM LINE ⊃

BORING RECORD No.	2522
BORE HOLE No.	11-B
DATE OF BORING	OCT. 19-22, 1962.
BORING TECH.	F. A. SMITH
DRAWN BY	A. HARTL
CHECKED BY	RHL
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	190.2
GROUND WATER	189.5	GROUND SURFACE	195.4	BOTTOM OF BORE HOLE	174.4

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			195.4	
		SILTY SAND-GRAVEL, COBBLES AND ODD BOULDERS	190.2	
G.W.			189.5	
		ROCK SHALY LIMESTONE (DRILLED)	174.4	
		BOTTOM OF HOLE		

DRILLED	RECOVERED
4.4	4.2
1.3	1.2
5.0	4.9
5.1	5.1

SUBSURFACE EXPLORATION
TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

C TRIM LINE ⊃

BORING RECORD No.	2522
BORE HOLE No.	13-W
DATE OF BORING	DEC. 5, 1962
BORING TECH.	F.A. SMITH
DRAWN BY	A. HARTL
CHECKED BY	RHL
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	181.9
GROUND WATER	183.4 (SURFACE)	GROUND SURFACE	183.4	BOTTOM OF BORE HOLE	175.5

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
G.W.		LOAM (LOOSE)	183.4	
			181.9	
		ROCK SHALY LIMESTONE (DRILLED)	175.5	
		BOTTOM OF HOLE		

DRILLED	RECOVERED
2.2	2.1
2.0	1.9
2.2	2.1

X24

TRIM LINE

BORING RECORD No. 2522

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORE HOLE No.	14-F
DATE OF BORING	Nov. 19-20, 1962.
BORING TECH.	F. A. SMITH
DRAWN BY	A. HARTL
CHECKED BY	KH.
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	191.2
GROUND WATER	189.1	GROUND SURFACE	199.8	BOTTOM OF BORE HOLE	173.9

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. · S.P.T. BLOWS/FT 10 20 30 · W, L.L., P.L. % · γ, γ' LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			199.8	
		SAND FILL (LOOSE)	196.6	
17		SAND-GRAVEL AND COBBLES (FIRM)	191.2	
G.W.			189.1	
		ROCK SHALY LIMESTONE (DRILLED)	173.9	
		BOTTOM OF HOLE		

DRILLED	RECOVERED
2.1	1.7
2.3	1.7
5.1	5.1
5.2	5.1
2.6	2.5

TRIM LINE

BORING RECORD No. 2522

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORE HOLE No.	14-W
DATE OF BORING	DEC. 6, 1962.
BORING TECH.	F. A. SMITH
DRAWN BY	A. HARTL
CHECKED BY	KH.
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	181.7
GROUND WATER	181.9	GROUND SURFACE	182.9	BOTTOM OF BORE HOLE	173.3

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. · S.P.T. BLOWS/FT · W, L.L., P.L. % · γ, γ' LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			182.9	
G.W.		LOAM MIXED WITH COBBLES (LOOSE)	181.9	
			181.7	
		ROCK SHALY LIMESTONE (DRILLED)	173.3	
		BOTTOM OF HOLE		

DRILLED	RECOVERED
2.1	1.1
1.6	1.5
4.7	4.6

TRIM LINE

BORING RECORD No. 2522

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORE HOLE No.	14-D
DATE OF BORING	OCT. 23, 1962.
BORING TECH.	F.A. SMITH
DRAWN BY	A HARTL
CHECKED BY	KH.
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	191.5
GROUND WATER	189.4	GROUND SURFACE	191.9	BOTTOM OF BORE HOLE	176.9

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. · S.P.T. BLOWS/FT · W, L.L., P.L. % · γ, γ' LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
		GRAVEL	191.9	
G.W.			191.5	
			189.4	
		ROCK SHALY LIMESTONE (DRILLED)	176.9	
		BOTTOM OF HOLE		

DRILLED	RECOVERED
2.2	2.2
2.2	2.2
5.1	5.0
5.1	5.0

TRIM LINE

BORING RECORD No. 2522

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORE HOLE No.	15-W
DATE OF BORING	DEC. 7, 1962.
BORING TECH.	F. A. SMITH
DRAWN BY	A. HARTL
CHECKED BY	KH.
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	178.8
GROUND WATER	—	GROUND SURFACE	184.4	BOTTOM OF BORE HOLE	173.7

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. · S.P.T. BLOWS/FT · W, L.L., P.L. % · γ, γ' LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			184.4	
		SAND-GRAVEL AND BOULDERS (ROAD BED) (FIRM)	178.8	
		ROCK SHALY LIMESTONE (DRILLED)	173.7	
		BOTTOM OF HOLE		

DRILLED	RECOVERED
5.1	5.1

TRIM LINE

BORING RECORD No. 2522

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORE HOLE No.	14-B
DATE OF BORING	OCT. 22, 1962.
BORING TECH.	F.A. SMITH
DRAWN BY	A. HARTL
CHECKED BY	KH.
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	190.2
GROUND WATER	189.0	GROUND SURFACE	190.9	BOTTOM OF BORE HOLE	175.8

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. · S.P.T. BLOWS/FT · W, L.L., P.L. % · γ, γ' LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
		TOPSOIL	190.9	
G.W.			190.2	
			189.0	
		ROCK SHALY LIMESTONE (DRILLED)	175.8	
		BOTTOM OF HOLE		

DRILLED	RECOVERED
2.2	2.2
2.2	2.2
4.6	4.6
5.1	5.1

TRIM LINE

BORING RECORD No. 2522

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORE HOLE No.	16-W
DATE OF BORING	DEC. 7, 1962.
BORING TECH.	F. A. SMITH
DRAWN BY	A. HARTL
CHECKED BY	KH.
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	ENVIRONMENTAL HEALTH LABORATORY
LOCATION	TUNNEY'S PASTURE OTTAWA, ONTARIO
FILE NO.	32-2535

ELEVATION IN FEET OF

DATUM	GEODETIC	WATER SURFACE	—	BEDROCK SURFACE	179.8
GROUND WATER	180.3	GROUND SURFACE	185.1	BOTTOM OF BORE HOLE	173.7

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (C)

SOIL CONSISTENCY: NATURAL WATER CONTENT (W) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

C, q_u K/S.F. · S.P.T. BLOWS/FT · W, L.L., P.L. % · γ, γ' LBS/C.F.

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			185.1	
		SAND-GRAVEL AND RUBBLE FILL (LOOSE)		
G.W.			180.3	
			179.8	
		ROCK SHALY LIMESTONE WITH INTERBEDDED SHALE (DRILLED)	173.7	
		BOTTOM OF HOLE		

DRILLED	RECOVERED
2.9	2.6
3.2	3.2

X24

RECORD – SUBSURFACE EXPLORATION – SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	1
DATE OF BORING	Nov. 6, 1962.
BORING BY	H. B. Rabb
DRAWN BY	A. Hartl
CHKD. BY	[illegible]
APPROVED BY	[illegible]
PROPOSED STRUCTURE	D.V.A. Records Storage & N.F.B. Stills Lab.
LOCATION	Tunneys Pasture Ottawa Ont.
FILE NO.	32 - 2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
Geodetic		205.0
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
	200.2	177.9

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" DIA. SHELBY TUBE
- PENETRATION RESISTANCE — R
- 2" DIA. SPLIT TUBE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — + S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — XLI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (BLOWS PER FOOT: 10 20 30 40 50 60 70 80 90 100 110)	SCALE
				205.0			
			Sand, Gravel & Boulders (Drilled)	200.2			
			Rock With Small Seams (Drilled)	194.9			
			Rock (Drilled)	177.9			

Bottom Of Hole

Drilled	Recovered
5.3	5.1
10.1	9.9
6.9	6.9

Note:
Hole Caved At Elev. 200.0
No Water To That Depth.

RECORD – SUBSURFACE EXPLORATION – SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	2
DATE OF BORING	Nov. 16, 1962
BORING BY	H.B. Rabb
DRAWN BY	A. Hartl
CHKD. BY	[illegible]
APPROVED BY	[illegible]
PROPOSED STRUCTURE	D.V.A. Records Storage & N.F.B. Stills Lab.
LOCATION	Tunneys Pasture Ottawa Ont.
FILE NO.	32 - 2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
Geodetic		204.0
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
	201.2	176.0

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" DIA. SHELBY TUBE
- PENETRATION RESISTANCE — R
- 2" DIA. SPLIT TUBE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — + S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — XLI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (BLOWS PER FOOT: 10 20 30 40 50 60 70 80 90 100 110)	SCALE
				204.0			
			Loam & Rock Slabs (Drilled)	201.2			
			Rock With Small Seams (Drilled)	198.2			
			Rock (Drilled)	176.0			

Bottom Of Hole

Drilled	Recovered
5.0	4.6
10.2	10.0
10.0	10.0

Note:
Lost Some Return Water While Drilling Rock.

Hole Caved At Elev. 202.3

X24

RECORD – SUBSURFACE EXPLORATION – SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	3
DATE OF BORING	Nov. 15, 1962.
BORING BY	H. B. Rabb
DRAWN BY	A. Hartl
CHKD. BY	RAL B
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. Records Storage & N.F.B. Stills Lab.
LOCATION	Tunneys Pasture Ottawa Ont.
FILE NO.	32 - 2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
Geodetic	—	205.3
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
200.8	203.7	178.3

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" DIA. SHELBY TUBE
- PENETRATION RESISTANCE — R
- 2" DIA. SPLIT TUBE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — + S

CONSISTENCY
- NATURAL MOISTURE
- AND LIQUIDITY INDEX (LI) — XLI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE NO.	TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (BLOWS PER FOOT 10 20 30 40 50 60 70 80 90 100 110)	SCALE
				205.3			
			Loam	203.7			
		G.W.		200.8			
			Rock With Small Seams (Drilled)	191.7			
			Rock (Drilled)	178.3			

Bottom Of Hole

Drilled	Recovered
5.4	4.5
10.0	10.0
10.0	10.0

RECORD – SUBSURFACE EXPLORATION – SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	4
DATE OF BORING	Nov. 9, 1962
BORING BY	H. B. Rabb
DRAWN BY	Anthony Hartl
CHKD. BY	RAL B
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. Records Storage & N.F.B. Stills Lab.
LOCATION	Tunneys Pasture Ottawa Ont.
FILE NO.	32 - 2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
Geodetic	—	209.0
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
—	204.5	179.7

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" DIA. SHELBY TUBE
- PENETRATION RESISTANCE — R
- 2" DIA. SPLIT TUBE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — + S

CONSISTENCY
- NATURAL MOISTURE
- AND LIQUIDITY INDEX (LI) — XLI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE NO.	TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (BLOWS PER FOOT 10 20 30 40 50 60 70 80 90 100 110)	SCALE
				209.0			
			Boulders, Sand (Fill)	204.5			
			Rock With Small Seams (Drilled)	201.0			
			Rock (Drilled)	179.7			

Bottom Of Hole

Drilled	Recovered
2.0	1.4
10.0	10.0
10.0	10.0
2.7	2.7

Note:
Hole Caved At Elev. 205.3
No Water To That Depth.

X24

RECORD – SUBSURFACE EXPLORATION – SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO. 2528
HOLE NO. 5
DATE OF BORING: Nov. 20, 1962.
BORING BY: H. B. RABB
DRAWN BY: A. HARTL
CHKD. BY: [illegible]
APPROVED BY: [illegible]

PROPOSED STRUCTURE: D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION: TUNNEYS PASTURE OTTAWA ONT.
FILE NO. 32 - 2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
GEODETIC	—	198.7
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
197.3	198.3	172.1

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" DIA. SHELBY TUBE
PENETRATION RESISTANCE — R
2" DIA. SPLIT TUBE
CASING — AX
CORE SIZE — AXT

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) — + S
CONSISTENCY
NATURAL MOISTURE
AND LIQUIDITY INDEX (LI) — XLI
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.
		G.W.	SANDY LOAM	198.7	198.3
				197.3	
			ROCK, WITH SEAMS (DRILLED)		
				172.1	
			BOTTOM OF HOLE		

STRENGTH + PENETRATION RESISTANCE
BLOWS PER FOOT
10 20 30 40 50 60 70 80 90 100 110
SCALE

DRILLED	RECOVERED
1.1	0.9
5.6	4.4
2.9	2.7
7.6	7.1
9.0	9.0

RECORD – SUBSURFACE EXPLORATION – SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO. 2528
HOLE NO. 6
DATE OF BORING: Nov. 19, 1962
BORING BY: H. B. RABB
DRAWN BY: A. HARTL
CHKD. BY: [illegible]
APPROVED BY: [illegible]

PROPOSED STRUCTURE: D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB
LOCATION: TUNNEYS PASTURE OTTAWA ONT.
FILE NO. 32 - 2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
GEODETIC	—	203.0
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
200.1	199.1	173.9

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" DIA. SHELBY TUBE
PENETRATION RESISTANCE — R
2" DIA. SPLIT TUBE
CASING — AX
CORE SIZE — AXT

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) — + S
CONSISTENCY
NATURAL MOISTURE
AND LIQUIDITY INDEX (LI) — XLI
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.
				203.0	
		G.W.	SAND, GRAVEL & ROCK SLABS (DRILLED	200.1	
				199.1	
			ROCK WITH A FEW SMALL SEAMS (DRILLED)		
				188.1	
			ROCK (DRILLED)		
				173.9	
			BOTTOM OF HOLE		

STRENGTH + PENETRATION RESISTANCE
BLOWS PER FOOT
10 20 30 40 50 60 70 80 90 100 110
SCALE

DRILLED	RECOVERED
3.0	2.9
3.4	3.4
4.6	4.0
10.1	10.1
4.1	4.1

X24

RECORD – SUBSURFACE EXPLORATION – SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	7
DATE OF BORING	NOV. 14, 1962.
BORING BY	H. B. RABB
DRAWN BY	A. HARTL
CHKD. BY	RAB B
APPROVED BY	R.W. [illegible]
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEYS PASTURE OTTAWA ONT.
FILE NO.	32 - 2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
GEODETIC		208.7
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
	202.4	181.3

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" DIA. SHELBY TUBE
- PENETRATION RESISTANCE — R
- 2" DIA. SPLIT TUBE
- CASING — AX.
- CORE SIZE — A.X.T.

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — XLI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE NO.	TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (BLOWS PER FOOT 10 20 30 40 50 60 70 80 90 100 110)	SCALE
				208.7			
			BOULDERS & SAND (DRILLED)	202.4			
			ROCK WITH SMALL SEAMS (DRILLED)	194.4			
			ROCK (DRILLED)	181.3			

BOTTOM OF HOLE

DRILLED	RECOVERED
5.0	4.7
6.1	6.1
10.0	10.0

RECORD – SUBSURFACE EXPLORATION – SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	8
DATE OF BORING	NOV. 13, 1962
BORING BY	H. B. RABB
DRAWN BY	A. HARTL
CHKD. BY	RAB B
APPROVED BY	R.W. [illegible]
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
GEODETIC		209.9
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
	202.9	177.9

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" DIA. SHELBY TUBE
- PENETRATION RESISTANCE — R
- 2" DIA. SPLIT TUBE
- CASING — AX.
- CORE SIZE — AXT.

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — XLI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE NO.	TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (BLOWS PER FOOT 10 20 30 40 50 60 70 80 90 100 110)	SCALE
				209.9			
			BOULDERS & SAND (FILL) (DRILLED)	202.9			
			ROCK WITH SMALL SEAMS (DRILLED)	198.9			
			ROCK (DRILLED)	177.9			

BOTTOM OF HOLE

DRILLED	RECOVERED
5.0	4.6
10.0	10.0
10.0	10.0

NOTE:
HOLE CAVED AT ELEV. 206.6
NO WATER TO THAT DEPTH.

X24

RECORD – SUBSURFACE EXPLORATION – SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	9
DATE OF BORING:	Nov. 21, 1962
BORING BY:	H. B. Rabb
DRAWN BY:	A. Hartl
CHKD. BY:	RAL B
APPROVED BY:	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEY'S PASTURE, OTTAWA, ONTARIO
FILE NO.	32-2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
Geodetic		201.0
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
	198.7	173.6

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" DIA. SHELBY TUBE
- PENETRATION RESISTANCE — R
- 2" DIA. SPLIT TUBE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — + S

CONSISTENCY
- NATURAL MOISTURE
- AND LIQUIDITY INDEX (LI) — XLI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.
				201.0	
			Sand & Rockslabs (Drilled)	198.7	
			Rock (Drilled)	173.6	

STRENGTH + PENETRATION RESISTANCE — BLOWS PER FOOT: 10 20 30 40 50 60 70 80 90 100 110 — SCALE

Bottom Of Hole

Drilled	Recovered
4.7	4.7
4.7	4.0
2.5	1.7
6.2	6.2
3.8	3.7
3.2	3.2

Note:
Seams Encountered At Elev. 193.5, 190.6, 188.8 And 187.9

Hole Caved At Elev. 199.0
No Water To That Depth.

RECORD – SUBSURFACE EXPLORATION – SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	10
DATE OF BORING:	Nov. 26, 1962
BORING BY:	H. B. Rabb
DRAWN BY:	A. Hartl
CHKD. BY:	RAL B
APPROVED BY:	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEY'S PASTURE, OTTAWA, ONTARIO
FILE NO.	32-2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
Geodetic		202.2
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
	199.4	172.4

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" DIA. SHELBY TUBE
- PENETRATION RESISTANCE — R
- 2" DIA. SPLIT TUBE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — + S

CONSISTENCY
- NATURAL MOISTURE
- AND LIQUIDITY INDEX (LI) — XLI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.
				202.2	
			Sandy Loam	200.7	
			Rock Slabs With Sand Seams (Drilled)	199.4	
			Rock With Seams (Drilled)	172.4	

STRENGTH + PENETRATION RESISTANCE — BLOWS PER FOOT: 10 20 30 40 50 60 70 80 90 100 110 — SCALE

Bottom Of Hole

Drilled	Recovered
1.8	1.6
4.8	4.7
6.6	4.3
4.0	3.9
6.1	5.9
3.7	3.7

Note:
Lost Some Return Water While Drilling Rock

Hole Caved At Elev. 199.3
No Water To That Depth.

X24

RECORD – SUBSURFACE EXPLORATION – SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	11
DATE OF BORING:	Nov. 23, 1962.
BORING BY:	H. B. RABB
DRAWN BY:	A. HARTL
CHKD. BY:	RAL
APPROVED BY:	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEY'S PASTURE, OTTAWA, ONTARIO
FILE NO.	32-2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
GEODETIC		203.5
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
197.6	201.5	176.5

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" DIA. SHELBY TUBE
- PENETRATION RESISTANCE — R
- 2" DIA. SPLIT TUBE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — + S

CONSISTENCY
- NATURAL MOISTURE
- AND LIQUIDITY INDEX (LI) — XLI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (BLOWS PER FOOT 10–110)	SCALE
			SANDY LOAM	203.5	202.9		
			ROCK SLABS WITH SAND LAYERS	201.5			
		G.W.		197.6			
			ROCK WITH SEAMS (DRILLED)	176.5			

BOTTOM OF HOLE

DRILLED	RECOVERED
3.2	2.4
4.8	4.7
3.8	3.0
3.1	1.8
5.0	4.5
5.1	5.0

NOTE:
LOST SOME RETURN WATER WHILE DRILLING ROCK.

RECORD – SUBSURFACE EXPLORATION – SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	12
DATE OF BORING:	Nov. 22, 1962.
BORING BY:	H. B. RABB
DRAWN BY:	A. HARTL
CHKD. BY:	RAL
APPROVED BY:	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEY'S PASTURE, OTTAWA, ONTARIO
FILE NO.	32-2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
GEODETIC		206.8
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
	202.6	175.9

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" DIA. SHELBY TUBE
- PENETRATION RESISTANCE — R
- 2" DIA. SPLIT TUBE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — + S

CONSISTENCY
- NATURAL MOISTURE
- AND LIQUIDITY INDEX (LI) — XLI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (BLOWS PER FOOT 10–110)	SCALE
				206.8			
			SAND, ROCK SLABS & BRICK (FILL) (DRILLED)	202.6			
			ROCK, WITH SEAMS (DRILLED)	175.9			

BOTTOM OF HOLE

DRILLED	RECOVERED
2.3	1.6
5.1	5.0
7.8	6.8
6.5	6.2
5.0	4.8

NOTE:
HOLE CAVED AT ELEV. 204.7
NO WATER TO THAT DEPTH.

X24

RECORD – SUBSURFACE EXPLORATION – SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	13
DATE OF BORING:	Nov. 7, 1962.
BORING BY:	H. B. RABB
DRAWN BY:	A. HARTL
CHKD. BY:	[illegible]
APPROVED BY:	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
GEODETIC		202.4
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
	198.4	173.4

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" DIA. SHELBY TUBE
PENETRATION RESISTANCE — R
2" DIA. SPLIT TUBE
CASING — AX
CORE SIZE — AXT

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) — + S

CONSISTENCY
NATURAL MOISTURE
AND LIQUIDITY INDEX (LI) — XLI
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.
				202.4	
			SAND, GRAVEL & BOULDERS (DRILLED)	198.4	
			ROCK WITH SMALL SEAMS (DRILLED)	192.9	
			ROCK (DRILLED)	173.4	
			BOTTOM OF HOLE		

STRENGTH + PENETRATION RESISTANCE — BLOWS PER FOOT: 10 20 30 40 50 60 70 80 90 100 110 — SCALE

BOTTOM OF HOLE

DRILLED	RECOVERED
5.5	5.1
10.1	10.1
9.4	9.4

NOTE:
HOLE CAVED AT ELEV. 198.4
NO WATER TO THAT DEPTH.

RECORD – SUBSURFACE EXPLORATION – SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	14
DATE OF BORING:	Nov. 28, 1962.
BORING BY:	H. B. RABB
DRAWN BY:	A. HARTL
CHKD. BY:	[illegible]
APPROVED BY:	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
GEODETIC		202.8
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
195.5	200.8	176.1

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" DIA. SHELBY TUBE
PENETRATION RESISTANCE — R
2" DIA. SPLIT TUBE
CASING — AX
CORE SIZE — AXT

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) — + S

CONSISTENCY
NATURAL MOISTURE
AND LIQUIDITY INDEX (LI) — XLI
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.
				202.8	
			SAND, GRAVEL	200.8	
		G.W.		195.5	
			ROCK WITH SEAMS (DRILLED)	176.1	
			BOTTOM OF HOLE		

STRENGTH + PENETRATION RESISTANCE — BLOWS PER FOOT: 10 20 30 40 50 60 70 80 90 100 110 — SCALE

BOTTOM OF HOLE

DRILLED	RECOVERED
5.0	4.7
6.6	5.9
2.5	1.4
1.4	1.0
5.1	4.9
4.1	4.1

X24

RECORD – SUBSURFACE EXPLORATION – SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	15
DATE OF BORING:	Nov. 27, 1962.
BORING BY:	H. B. RABB
DRAWN BY:	A: HARTL
CHKD. BY:	RAL
APPROVED BY:	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
GEODETIC	—	205.8
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
—	201.8	175.5

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" DIA. SHELBY TUBE
- PENETRATION RESISTANCE — R
- 2" DIA. SPLIT TUBE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — S

CONSISTENCY
- NATURAL MOISTURE
- AND LIQUIDITY INDEX (LI) — XLI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (BLOWS PER FOOT 10 20 30 40 50 60 70 80 90 100 110)	SCALE
				205.8			
			SANDY LOAM (FILL)	203.0			
			ROCK SLABS WITH SAND LAYERS (DRILLED)	201.8			
			ROCK WITH SEAMS (DRILLED)	175.5			

BOTTOM OF HOLE

DRILLED	RECOVERED
5.0	4.7
7.7	6.6
3.4	2.7
4.3	4.1
5.9	5.5

NOTE:
LOST RETURN WATER AT ELEV. 193.4 WATER RETURNED AT ELEV. 183.8 LOST WATER AGAIN AT ELEV. 181.8

HOLE CAVED AT ELEV. 200.0
NO WATER TO THAT DEPTH.

RECORD – SUBSURFACE EXPLORATION – SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	16
DATE OF BORING:	Nov. 8, 1962
BORING BY:	H. B. RABB
DRAWN BY:	A. HARTL
CHKD. BY:	RAL
APPROVED BY:	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
GEODETIC	—	206.0.
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
—	202.7	177.7

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" DIA. SHELBY TUBE
- PENETRATION RESISTANCE — R
- 2" DIA. SPLIT TUBE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — S

CONSISTENCY
- NATURAL MOISTURE
- AND LIQUIDITY INDEX (LI) — XLI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (BLOWS PER FOOT 10 20 30 40 50 60 70 80 90 100 110)	SCALE
				206.0			
			SAND, GRAVEL & BOULDERS (DRILLED)	202.7			
			ROCK WITH SMALL SEAMS (DRILLED)	199.7			
			ROCK (DRILLED)	177.7			

BOTTOM OF HOLE

DRILLED	RECOVERED
5.0	4.8
10.0	10.0
10.0	10.0

NOTE:
HOLE CAVED AT ELEV. 202.6
NO WATER TO THAT DEPTH.

X24

RECORD – SUBSURFACE EXPLORATION – SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	17
DATE OF BORING	Dec 6-7, 1962
BORING BY	H.B. Rabb
DRAWN BY	A. Hartl
CHKD. BY	[signature]
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
Geodetic	—	204.6
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
—	201.6	176.9

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" DIA. SHELBY TUBE
PENETRATION RESISTANCE — R
2" DIA. SPLIT TUBE
CASING — AX
CORE SIZE — AXT

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) — + S

CONSISTENCY
NATURAL MOISTURE
AND LIQUIDITY INDEX (L.I) — XLI
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (BLOWS PER FOOT 10 20 30 40 50 60 70 80 90 100 110)	SCALE
			Sandy Loam	204.6			
			Sand & Rock Slabs (Drilled)	204.1			
			Rock With Seams (Drilled)	201.6			
			Rock (Drilled)	197.1			
			Bottom Of Hole	176.9			

Drilled | Recovered
4.5 | 4.4
10.2 | 10.0
10.0 | 10.0

Note:
Lost Some Return Water While Drilling.

Hole Caved At Elev. 201.1
No Water To That Depth.

RECORD – SUBSURFACE EXPLORATION – SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	18
DATE OF BORING	Dec. 7-10, 1962.
BORING BY	H.B. Rabb
DRAWN BY	A. Hartl
CHKD. BY	[signature]
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
Geodetic	—	205.8
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
203.1	202.3	176.6

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" DIA. SHELBY TUBE
PENETRATION RESISTANCE — R
2" DIA. SPLIT TUBE
CASING — AX
CORE SIZE — AXT

STRENGTH
UNCONFINED COMPRESSION (QU)
VANE TEST (C) AND SENSITIVITY (S) — + S

CONSISTENCY
NATURAL MOISTURE
AND LIQUIDITY INDEX (LI) — XLI
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (BLOWS PER FOOT 10 20 30 40 50 60 70 80 90 100 110)	SCALE
			Sandy Loam	205.8			
		G.W.		203.1			
			Rock With Seams (Drilled)	202.3			
			Rock (Drilled)	196.7			
			Bottom Of Hole	176.6			

Drilled | Recovered
5.6 | 5.0
10.1 | 10.1
10.0 | 10.0

X24

RECORD – SUBSURFACE EXPLORATION – SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	19
DATE OF BORING	DEC. 10, 1962.
BORING BY	H. B. RABB
DRAWN BY	A. HARTL
CHKD. BY	[illegible]
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
GEODETIC	—	208.1
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
—	205.6	181.2

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" DIA. SHELBY TUBE
- PENETRATION RESISTANCE — R
- 2" DIA. SPLIT TUBE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — S

CONSISTENCY
- NATURAL MOISTURE
- AND LIQUIDITY INDEX (LI) — XLI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (BLOWS PER FOOT 10–110)	SCALE
			SANDY LOAM	208.1			
			SAND & ROCK SLABS (DRILLED)	207.6			
			ROCK WITH SEAMS (DRILLED)	205.6			
			ROCK (DRILLED)	191.3			
			BOTTOM OF HOLE	181.2			

BOTTOM OF HOLE

DRILLED	RECOVERED
4.0	3.9
10.3	10.0
10.1	10.1

NOTE:
LOST MOST OF THE RETURN WATER WHILE DRILLING ROCK.

RECORD – SUBSURFACE EXPLORATION – SOILS
TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	20
DATE OF BORING	DEC. 5-6, 1962.
BORING BY	H. B. RABB
DRAWN BY	A. HARTL
CHKD. BY	[illegible]
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEY'S PASTURE OTTAWA ONTARIO
FILE NO.	32-2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
GEODETIC	—	199.4
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
198.0	199.0	174.6

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" DIA. SHELBY TUBE
- PENETRATION RESISTANCE — R
- 2" DIA. SPLIT TUBE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — S

CONSISTENCY
- NATURAL MOISTURE
- AND LIQUIDITY INDEX (LI) — XLI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (BLOWS PER FOOT 10–110)	SCALE
			SANDY LOAM	199.4	199.0		
		G.W.	ROCK (DRILLED)	198.0			
			BOTTOM OF HOLE	174.6			

BOTTOM OF HOLE

DRILLED	RECOVERED
4.9	4.9
10.1	10.0
9.4	9.4

X24

RECORD – SUBSURFACE EXPLORATION – SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	21
DATE OF BORING	Dec 4-5, 1962
BORING BY	H. B. Rabb
DRAWN BY	A. Hartl
CHKD. BY	
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEY'S PASTURE, OTTAWA, ONTARIO
FILE NO.	32-2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
Geodetic	—	203.4
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
—	201.6	176.6

SAMPLING METHOD: 2" DIA. SPLIT TUBE; 2" DIA. SHELBY TUBE; PENETRATION RESISTANCE — R; 2" DIA. SPLIT TUBE; CASING — AX; CORE SIZE — AXT

STRENGTH: UNCONFINED COMPRESSION (QU); VANE TEST (C) AND SENSITIVITY (S) — S

CONSISTENCY: NATURAL MOISTURE; AND LIQUIDITY INDEX (LI) — XLI; LIQUID LIMIT; PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.
				203.4	
			Sandy Loam	201.6	
			Rock With Seams (Drilled)	198.9	
			Rock (Drilled)	176.6	
			Bottom Of Hole		

STRENGTH + PENETRATION RESISTANCE — BLOWS PER FOOT: 10 20 30 40 50 60 70 80 90 100 110 — SCALE

Drilled	Recovered
2.7	2.2
2.4	2.4
10.1	10.1
9.8	9.8

RECORD – SUBSURFACE EXPLORATION – SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	22
DATE OF BORING	Dec. 3-4, 1962
BORING BY	H. B. Rabb
DRAWN BY	A. Hartl
CHKD. BY	
APPROVED BY	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEY'S PASTURE, OTTAWA, ONTARIO
FILE NO.	32-2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
Geodetic	—	204.6
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
202.1	203.1	178.1

SAMPLING METHOD: 2" DIA. SPLIT TUBE; 2" DIA. SHELBY TUBE; PENETRATION RESISTANCE — R; 2" DIA. SPLIT TUBE; CASING — AX; CORE SIZE — AXT

STRENGTH: UNCONFINED COMPRESSION (QU); VANE TEST (C) AND SENSITIVITY (S) — S

CONSISTENCY: NATURAL MOISTURE; AND LIQUIDITY INDEX (LI) — XLI; LIQUID LIMIT; PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.
				204.6	
			Sandy Loam	203.1	
		G.W.		202.1	
			Rock With Small Seams (Drilled)	199.1	
			Rock (Drilled)	178.1	
			Bottom Of Hole		

STRENGTH — PENETRATION RESISTANCE — BLOWS PER FOOT: 10 20 30 40 50 60 70 80 90 100 110 — SCALE

Drilled	Recovered
5.0	4.7
10.0	10.0
10.0	10.0

Note:
Lost Return Water At Elev. 200.6 Water Returned At Elev. 198.6

X24

RECORD – SUBSURFACE EXPLORATION – SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	23
DATE OF BORING:	Nov. 30, 1962
BORING BY:	H. B. RABB
DRAWN BY:	A. HARTL
CHKD. BY:	RAL
APPROVED BY:	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEY'S PASTURE, OTTAWA, ONTARIO
FILE NO.	32-2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
GEODETIC		200.5
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
198.8	200.0	175.0

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" DIA. SHELBY TUBE
- PENETRATION RESISTANCE — R
- 2" DIA. SPLIT TUBE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — + S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — XLI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (BLOWS PER FOOT: 10 20 30 40 50 60 70 80 90 100 110)	SCALE
			SANDY LOAM	200.5			
		G.W.		200.0			
				198.8			
			ROCK WITH SEAMS (DRILLED)	194.6			
			ROCK (DRILLED)	175.0			

BOTTOM OF HOLE

DRILLED	RECOVERED
5.4	5.1
10.1	10.1
9.5	9.5

RECORD – SUBSURFACE EXPLORATION – SOILS

TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING REPORT NO.	2528
HOLE NO.	24
DATE OF BORING:	Nov. 29, 1962
BORING BY:	H. B. RABB
DRAWN BY:	A. HARTL
CHKD. BY:	RAL
APPROVED BY:	R.W. Vogan
PROPOSED STRUCTURE	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.
LOCATION	TUNNEY'S PASTURE, OTTAWA, ONTARIO
FILE NO.	32-2524

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
GEODETIC		202.9
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
196.5	199.9	176.0

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" DIA. SHELBY TUBE
- PENETRATION RESISTANCE — R
- 2" DIA. SPLIT TUBE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — + S

CONSISTENCY
- NATURAL MOISTURE AND LIQUIDITY INDEX (LI) — XLI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.	STRENGTH + PENETRATION RESISTANCE (BLOWS PER FOOT: 10 20 30 40 50 60 70 80 90 100 110)	SCALE
			SAND, GRAVEL	202.9	202.1		
			ROCK SLAB: WITH SAND LAYERS	199.9			
			ROCK WITH SEAMS (DRILLED)	198.2			
		G.W.		196.5			
			ROCK (DRILLED)	176.0			

BOTTOM OF HOLE

DRILLED	RECOVERED
1.7	1.0
2.1	2.1
5.2	5.1
10.1	10.1
4.8	4.8

X24

BORING REPORT NO. 2528	**RECORD – SUBSURFACE EXPLORATION – SOILS** TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA	PROPOSED STRUCTURE D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.	LOCATION TUNNEY'S PASTURE OTTAWA ONTARIO FILE NO. 32-2524
HOLE NO. 25	DATE OF BORING: Nov.30 - Dec.3, 1962. BORING BY: H. B. RABB DRAWN BY: A. HARTL	CHKD. BY: [illegible] APPROVED BY: R.W. Vogan	

ELEVATION IN FEET OF

DATUM	WATER SURFACE	GROUND
GEODETIC	—	204.8
GROUND WATER	**ROCK**	**BOTTOM OF HOLE**
198.4	201.8	176.8

SAMPLING METHOD
- 2" DIA. SPLIT TUBE
- 2" DIA. SHELBY TUBE
- PENETRATION RESISTANCE — R
- 2" DIA. SPLIT TUBE
- CASING — AX
- CORE SIZE — AXT

STRENGTH
- UNCONFINED COMPRESSION (QU)
- VANE TEST (C) AND SENSITIVITY (S) — + S

CONSISTENCY
- NATURAL MOISTURE
- AND LIQUIDITY INDEX (LI) — XLI
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE NO.	SAMPLE TYPE	SYMBOL	DESCRIPTION OF SOIL	BORING ELEV. FT.	BORING DEPTH FT.
			SANDY LOAM	204.8	
				204.0	
			ROCK SLABS WITH SAND LAYERS (DRILLED)	201.8	
		G.W.	ROCK; FEW SMALL SEAMS (DRILLED)	198.4	
				196.8	
			ROCK (DRILLED)	176.8	

STRENGTH + PENETRATION RESISTANCE — BLOWS PER FOOT: 10 20 30 40 50 60 70 80 90 100 110 — SCALE

BOTTOM OF HOLE

DRILLED	RECOVERED
5.0	4.8
10.1	10.1
9.9	9.9

NOTE:
LOST RETURN WATER AT ELEV. 199.8

X24

SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2609
BORE HOLE No.	4
DATE OF BORING	13 & 14 NOV. 63
BORING TECH.	H. B. RABB
DRAWN BY	H. LETTING
CHECKED BY	RWW
APPROVED BY	S. A. Ismaily
PROPOSED STRUCTURE	ADDITION TO FOOD AND DRUG LAB. (N.H. & W.)
LOCATION	OTTAWA, ONT. (TUNNEYS PASTURE)
FILE NO.	32-185

ELEVATION IN FEET OF

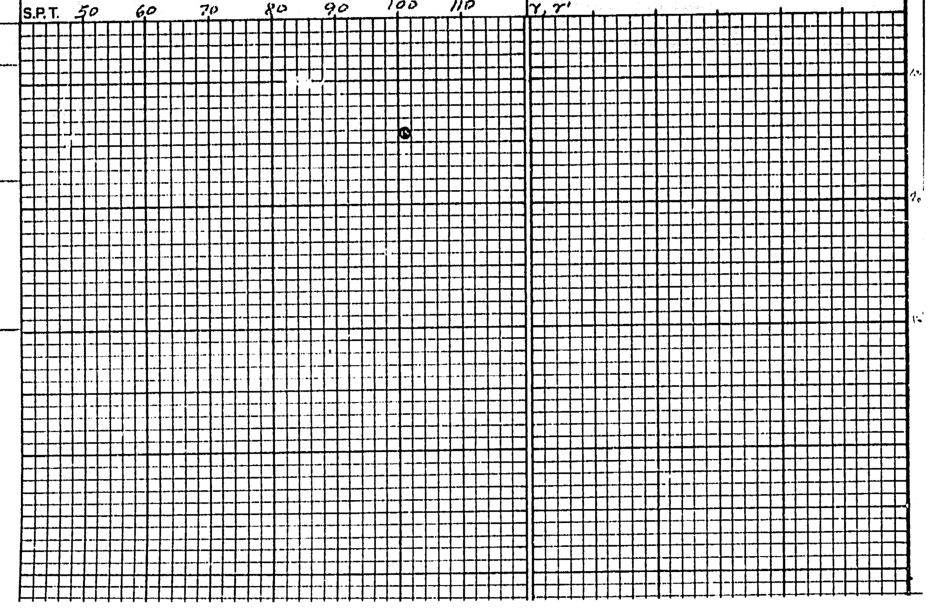
DATUM	WATER SURFACE	BEDROCK SURFACE
ASSUMED		92.2
GROUND WATER	GROUND SURFACE 101.7	BOTTOM OF BORE HOLE 80.1

UNDISTURBED SAMPLE · DISTURBED SAMPLE · ROCK CORE · STD. PENETRATION RESIST. (S.P.T.) · UNCONFINED COMPRESSION (q_u) · VANE SHEAR STRENGTH (s)

SOIL CONSISTENCY: NATURAL WATER CONTENT (w) · LIQUID LIMIT (L.L.) · PLASTIC LIMIT (P.L.) · BULK DENSITY (γ) · BUOYANT DENSITY (γ')

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			101.7	
1		FILL - SAND, GRAVEL, LOAM, WOOD, BRICKS	92.2	
		BEDROCK	80.1	

DRILLED FT.	RECOVERED FT.
0.9	0.9
5.0	4.9
1.2	1.0
5.0	5.0



SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2609
BORE HOLE No.	3
DATE OF BORING	19 NOV. 63
BORING TECH.	H. B. RABB
DRAWN BY	H. LETTING
CHECKED BY	RWW
APPROVED BY	S. A. Ismaily
PROPOSED STRUCTURE	ADDITION TO FOOD AND DRUG LAB. (N.H. & W.)
LOCATION	OTTAWA, ONT. (TUNNEYS PASTURE)
FILE NO.	32-185

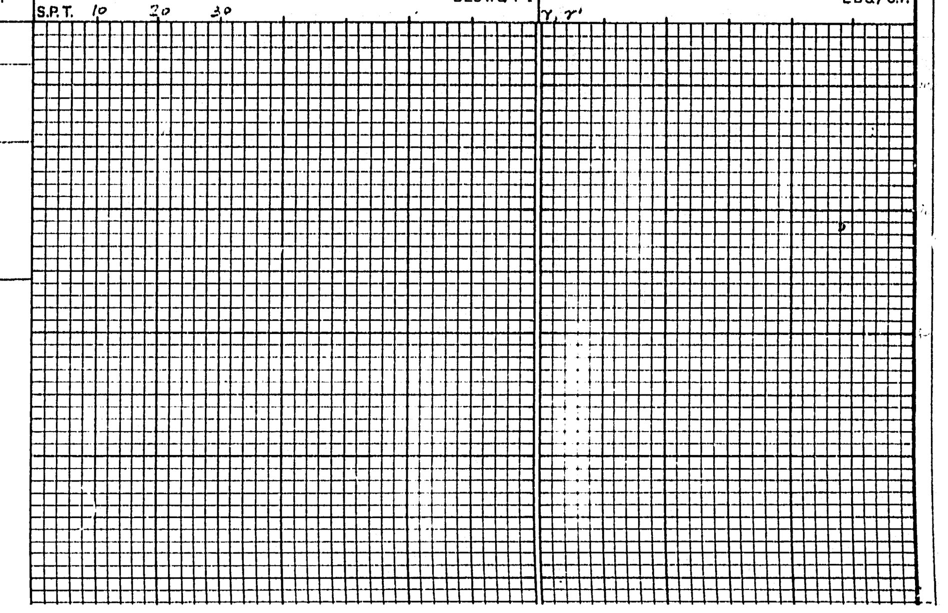
ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE
ASSUMED		95.4
GROUND WATER 90.7 TO 91.0	GROUND SURFACE 101.7	BOTTOM OF BORE HOLE 84.2

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			101.7	
4		FILL - SAND, GRAVEL SOME WOOD	95.4	
		BEDROCK	84.2	

DRILLED FT.	RECOVERED FT.
3.0	2.9
3.2	3.2
5.0	5.0

NOTE: LOST RETURN WATER IN FIRST FT. OF ROCK DRILLING.



SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2609
BORE HOLE No.	5
DATE OF BORING	18 NOV. 63
BORING TECH.	H. B. RABB
DRAWN BY	H. LETTING
CHECKED BY	RWW
APPROVED BY	S. A. Ismaily
PROPOSED STRUCTURE	ADDITION TO FOOD AND DRUG LAB. (N.H. & W.)
LOCATION	OTTAWA, ONT. (TUNNEYS PASTURE)
FILE NO.	32-185

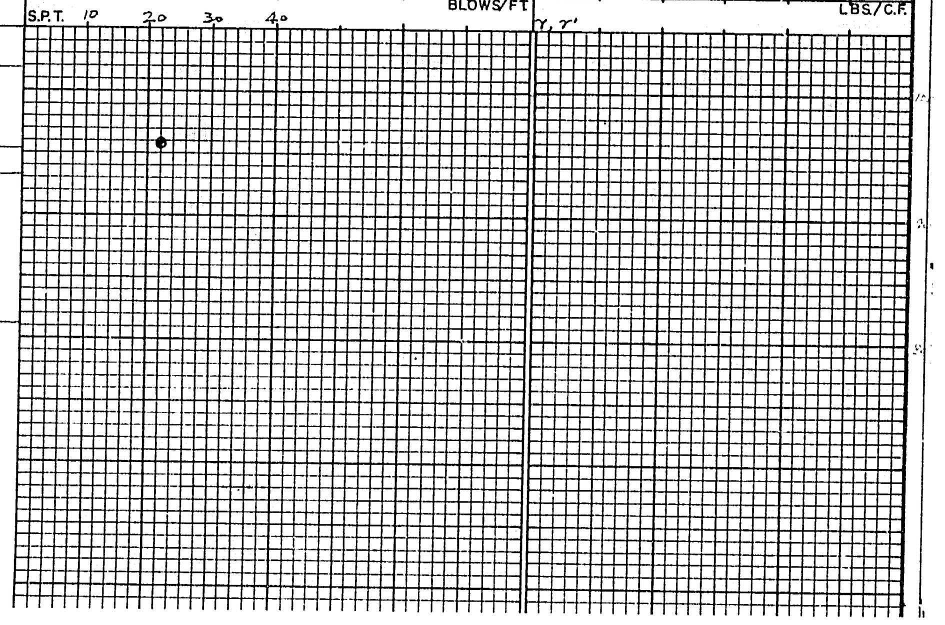
ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE
ASSUMED		93.1
GROUND WATER 90.9 TO 91.2	GROUND SURFACE 101.9	BOTTOM OF BORE HOLE 81.1

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			101.9	
3		FILL — SAND, GRAVEL, LOAM, BRICKS	95.2	
		LIMESTONE SLABS OR JOINTED BEDROCK	93.1	
		BEDROCK	81.1	

DRILLED FT.	RECOVERED FT.
2.0	1.9
5.0	5.0
5.0	5.0

NOTE: LOST RETURN WATER IN FIRST FT. OF ROCK DRILLING.



SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2609
BORE HOLE No.	2
DATE OF BORING	15 NOV. 63
BORING TECH.	H. B. RABB
DRAWN BY	H. LETTING
CHECKED BY	RWW
APPROVED BY	S. A. Ismaily
PROPOSED STRUCTURE	ADDITION TO FOOD AND DRUG LAB. (N.H. & W.)
LOCATION	OTTAWA, ONT. (TUNNEYS PASTURE)
FILE NO.	32-185

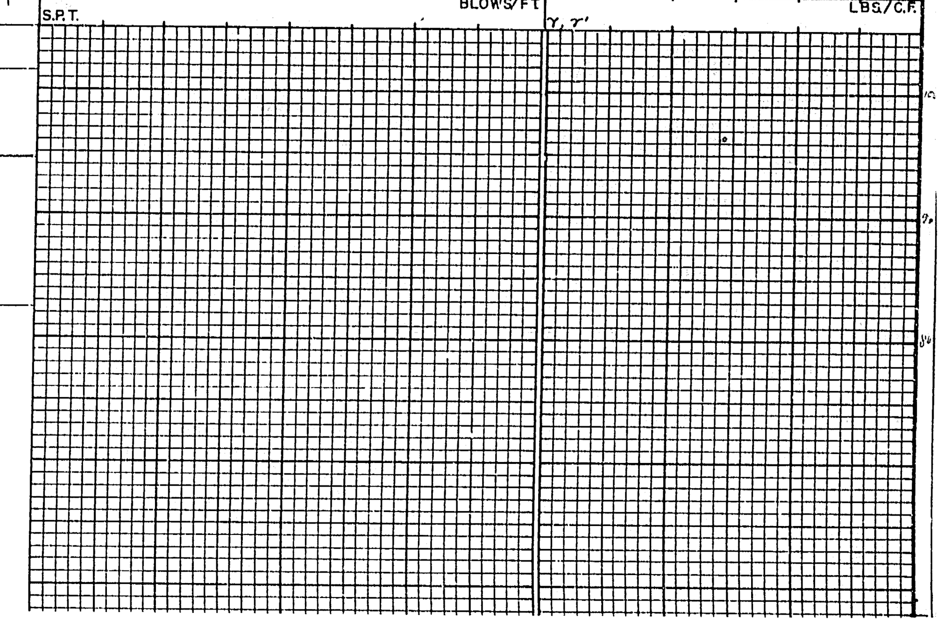
ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE
ASSUMED		94.5
GROUND WATER	GROUND SURFACE 101.5	BOTTOM OF BORE HOLE 82.4

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			101.5	
		FILL — SAND, GRAVEL, BOULDERS	94.5	
		BEDROCK	82.4	

DRILLED FT.	RECOVERED FT.
1.2	1.2
2.6	2.6
4.7	4.7
3.6	3.6

NOTE: LOST RETURN WATER IN FIRST 2 FT. OF ROCK DRILLING. SMALL SEAMS.



SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

BORING RECORD No.	2609
BORE HOLE No.	6
DATE OF BORING	19 NOV. 63
BORING TECH.	H. B. RABB
DRAWN BY	H. LETTING
CHECKED BY	RWW
APPROVED BY	S. A. Ismaily
PROPOSED STRUCTURE	ADDITION TO FOOD AND DRUG LAB. (N.H. & W.)
LOCATION	OTTAWA, ONT. (TUNNEYS PASTURE)
FILE NO.	32-185

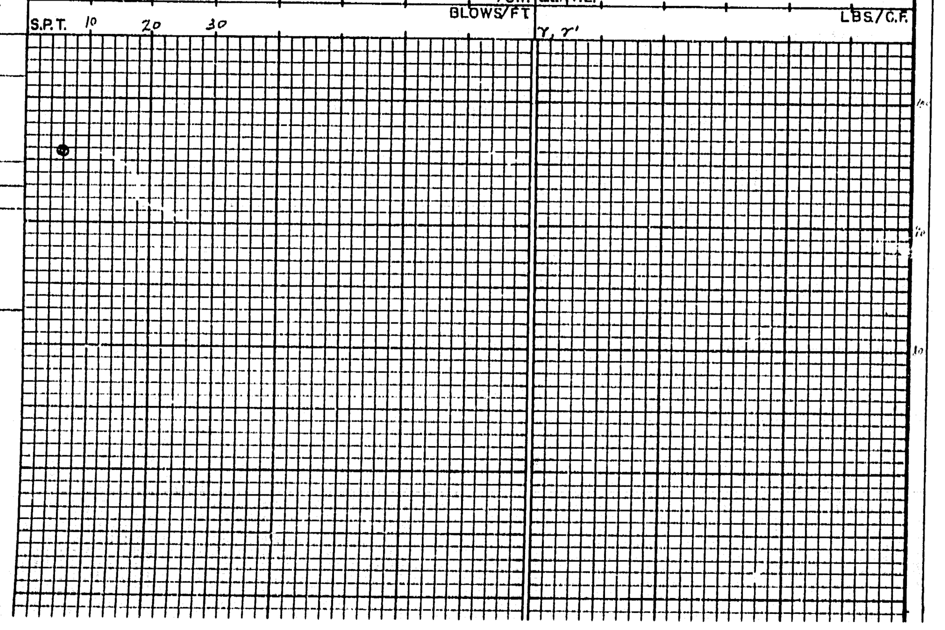
ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE
ASSUMED		92.9
GROUND WATER 91.0	GROUND SURFACE 101.7	BOTTOM OF BORE HOLE 82.7

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			101.7	
		FILL - SAND, LOAM	94.7	
		LIMESTONE SLABS & SAND OR BEDROCK WITH SAND SEAMS	92.9	
		G.W.	91.0	
		BEDROCK	82.7	

DRILLED FT.	RECOVERED FT.
5.2	5.0
5.0	5.0

NOTE: LOST RETURN WATER FIRST 1½ FT. OF ROCK DRILLING



SUBSURFACE EXPLORATION

TESTING LABORATORIES DIV., DEVELOPMENT ENGINEERING BRANCH
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA

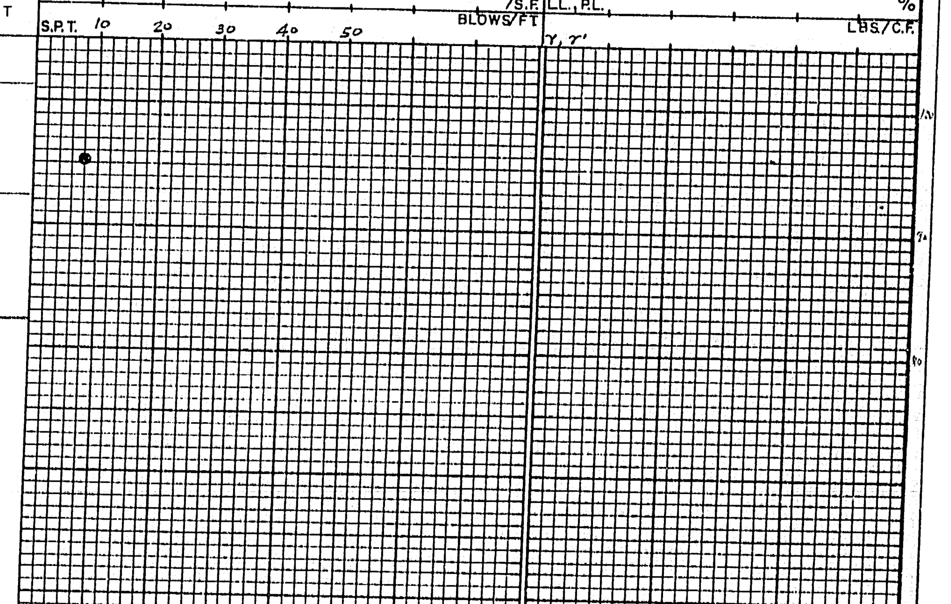
BORING RECORD No.	2609
BORE HOLE No.	1
DATE OF BORING	14 & 15 NOV. 63
BORING TECH.	H. B. RABB
DRAWN BY	H. LETTING
CHECKED BY	RWW
APPROVED BY	S. A. Ismaily
PROPOSED STRUCTURE	ADDITION TO FOOD AND DRUG LAB. (N.H. & W.)
LOCATION	OTTAWA, ONT. (TUNNEYS PASTURE)
FILE NO.	32-185

ELEVATION IN FEET OF

DATUM	WATER SURFACE	BEDROCK SURFACE
ASSUMED		92.2
GROUND WATER 90.0 TO 90.6	GROUND SURFACE 101.2	BOTTOM OF BORE HOLE 82.2

SAMPLE No.	TYPE	DETAILED DESCRIPTION OF SUBSOIL AND BEDROCK	ELEVATION FEET	DEPTH FEET
			101.2	
2		FILL - SAND, GRAVEL, LOAM BRICKS	92.2	
		BEDROCK	82.2	

DRILLED FT.	RECOVERED FT.
1.0	0.5
4.2	4.2
4.8	4.7



X24

Log of Borehole 1

Trow

Project No: OTGE00019353B

Project: Geotechnical Investigation. Proposed New Subsurface Building Addition to

Location: Building 16. 101 Goldenrod Drive. Tunney's Pasture Complex, Ottawa, ON

Figure No. 2

Page. 1 of 1

Date Drilled: 'February 10, 2009

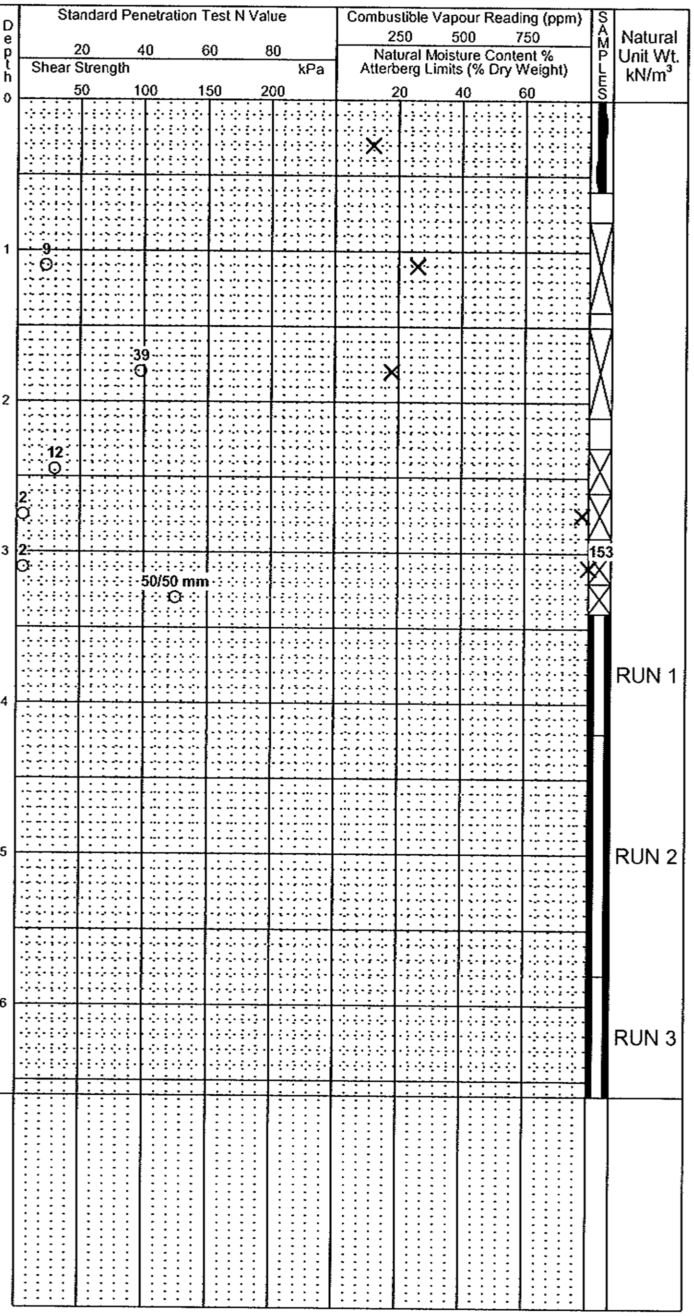
Drill Type:

Datum: Geodetic

Logged by: Checked by:

Legend	Symbol	Legend	Symbol
Split Spoon Sample	☒	Combustible Vapour Reading	□
Auger Sample	◨	Natural Moisture Content	X
SPT (N) Value	O	Atterberg Limits	⊢⊖
Dynamic Cone Test	———	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■	Shear Strength by Penetrometer Test	▲
Shear Strength by Vane Test	+ S		

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic m	Depth
			62.6	0
		TOPSOIL ~125 mm	62.5	
		FILL Silty sand and gravel, some organics staining or seams (topsoil) dark brown, moist to wet (loose)		1
		FILL Rock fill mixed with silty sand and gravel, trace clay, brown, wet (dense to compact)	61.1	2
		ORGANIC SILT AND MARL Some shells, slightly cohesive, light brown to yellow, moist to wet (very loose)	60.0	3
		LIMESTONE BEDROCK Some shale partings, grey (good to excellent quality)	59.2	4
▼		- Good Water Recovery Throughout the coring operation - Coring wash Water - Milky	58.3	5, 6
		Borehole Terminated @ 6.6 m depth	56.0	



NOTES:
1. Borehole/Test Pit data requires interpretation by Trow before use by others
2. A 19 mm slotted standpipe installed upon completion of drilling
3. Field work supervised by a Trow representative
4. See Notes on Sample Descriptions
5. This Figure is to read with Trow Associates Inc. report OTGE00019353B

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	NA	6.6
10 days	4.3	-
36 days	4.3	-

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	3.4 - 4.2	100	82
2	4.2 - 5.8	93	88
3	5.8 - 6.6	97	97

Log of Borehole 2

Trow

Project No: OTGE00019353B

Project: Geotechnical Investigation. Proposed New Subsurface Building Addition to

Location: Building 16. 101 Goldenrod Drive. Tunney's Pasture Complex, Ottawa, ON

Figure No. 3

Page. 1 of 1

Date Drilled: 'February 11, 2009

Drill Type:

Datum: Geodetic

Logged by: Checked by:

Legend	Symbol	Legend	Symbol
Split Spoon Sample	⊠	Combustible Vapour Reading	□
Auger Sample	◧	Natural Moisture Content	X
SPT (N) Value	O	Atterberg Limits	├—O
Dynamic Cone Test	——	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■	Shear Strength by Penetrometer Test	▲
Shear Strength by Vane Test	+ S		

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic m	Depth	Standard Penetration Test N Value (20, 40, 60, 80) / Shear Strength kPa (50, 100, 150, 200)	Combustible Vapour Reading (ppm) (250, 500, 750) / Natural Moisture Content % / Atterberg Limits (% Dry Weight) (20, 40, 60)	SAMPLES	Natural Unit Wt. kN/m³
		TOPSOIL ~100 mm	62.5	0				
		FILL Silty sand to clayey silt, some organic seams (topsoil), brown, moist to wet (loose)	62.4		7			
					6			
				1				
					8			
			60.4	2				
		Refusal to Augers @ 2.1 m depth						

NOTES:
1. Borehole/Test Pit data requires interpretation by Trow before use by others
2. Borehole backfilled upon completion of drilling
3. Field work supervised by a Trow representative
4. See Notes on Sample Descriptions
5. This Figure is to read with Trow Associates Inc. report OTGE00019353B

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	Dry	2.1

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

Log of Borehole 3

Trow

Project No: OTGE00019353B

Project: Geotechnical Investigation. Proposed New Subsurface Building Addition to

Location: Building 16. 101 Goldenrod Drive. Tunney's Pasture Complex, Ottawa, ON

Figure No. 4

Page. 1 of 1

Date Drilled: 'February 10, 2009

Drill Type:

Datum: Geodetic

Logged by: Checked by:

Legend	Symbol	Legend	Symbol
Split Spoon Sample	⊠	Combustible Vapour Reading	□
Auger Sample	◫	Natural Moisture Content	X
SPT (N) Value	○	Atterberg Limits	⊢—⊖
Dynamic Cone Test	——	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■		
Shear Strength by Vane Test	+ S	Shear Strength by Penetrometer Test	▲

SOIL DESCRIPTION	Geodetic m	Depth (m)	Standard Penetration Test N Value (20, 40, 60, 80) / Shear Strength kPa (50, 100, 150, 200)	Combustible Vapour Reading (ppm) (250, 500, 750) / Natural Moisture Content % / Atterberg Limits (% Dry Weight) (20, 40, 60)	Natural Unit Wt. kN/m³
	62.6	0			
TOPSOIL ~75 mm	62.5				
FILL Clayey silt to silty sand, organic staining or seams, occasional boulders or rock fill pieces, brown, moist (compact)		1	24		
FILL Silty sand and gravel to medium to coarse sand, some rock fill pieces (rough augering) or boulders, brown, wet compact to loose)	61.1	2	13; 4		
		3	5; 50/125 mm		
LIMESTONE BEDROCK Fractured in upper levels, some shale partings, vertical seam between 6.3 m and 6.5 m depth, grey (very poor to fair quality) - Poor Water Recovery Throughout the coring operation - Coring wash Water - Milky	59.3 58.9	4 5 6			RUN 1 RUN 2 RUN 3
Borehole Terminated @ 6.5 m depth	56.1				

NOTES:
1. Borehole/Test Pit data requires interpretation by Trow before use by others
2. A 19 mm slotted standpipe installed upon completion of drilling
3. Field work supervised by a Trow representative
4. See Notes on Sample Descriptions
5. This Figure is to read with Trow Associates Inc. report OTGE00019353B

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	NA	6.5
10 days	4.4	-
36 days	3.7	-

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	3.4 - 4.2	75	16
2	4.2 - 5.7	87	53
3	5.7 - 6.5	97	70

Log of Borehole 4

Trow

Project No: OTGE00019353B

Project: Geotechnical Investigation. Proposed New Subsurface Building Addition to

Location: Building 16. 101 Goldenrod Drive. Tunney's Pasture Complex, Ottawa, ON

Figure No. 5

Page. 1 of 1

Date Drilled: 'February 11, 2009

Drill Type:

Datum: Geodetic

Logged by: Checked by:

Split Spoon Sample ⊠
Auger Sample
SPT (N) Value ○
Dynamic Cone Test
Shelby Tube ■
Shear Strength by Vane Test + S

Combustible Vapour Reading □
Natural Moisture Content ×
Atterberg Limits
Undrained Triaxial at % Strain at Failure ⊕
Shear Strength by Penetrometer Test ▲

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic m	Depth	Standard Penetration Test N Value (20, 40, 60, 80) / Shear Strength kPa (50, 100, 150, 200)	Combustible Vapour Reading (ppm) (250, 500, 750) / Natural Moisture Content % / Atterberg Limits (% Dry Weight) (20, 40, 60)	SAMPLES	Natural Unit Wt. kN/m³
		TOPSOIL ~100 mm	62.5	0				
		FILL Silty sand and gravel, some rock fill pieces or boulders, organics staining and/or seams, brown, moist (dense to very loose)	62.4		42	×	⊠	
				1	23	×	⊠	
					11	×	⊠	
				2				
▼			59.7		3	×	⊠	
			59.4	3	50/25 mm	×	⊠	
		Refusal to Auger @ 3.1 m depth						

NOTES:
1. Borehole/Test Pit data requires interpretation by Trow before use by others
2. A 19 mm slotted standpipe installed upon completion of drilling
3. Field work supervised by a Trow representative
4. See Notes on Sample Descriptions
5. This Figure is to read with Trow Associates Inc. report OTGE00019353B

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	Dry	3.0
9 days	2.8	-
35 days	2.8	-

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

LOG OF BOREHOLE BH1TO1~1.GPJ TROW OTTAWA.GDT 3/26/09

Log of Borehole 5

Trow

Project No: OTGE00019353B

Project: Geotechnical Investigation. Proposed New Subsurface Building Addition to

Location: Building 16. 101 Goldenrod Drive. Tunney's Pasture Complex, Ottawa, ON

Figure No. 6

Page. 1 of 1

Date Drilled: 'February 9, 2009

Drill Type:

Datum: Geodetic

Logged by: Checked by:

Legend		Legend	
Split Spoon Sample	⊠	Combustible Vapour Reading	□
Auger Sample	◧	Natural Moisture Content	X
SPT (N) Value	○	Atterberg Limits	├—○
Dynamic Cone Test	——	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■	Shear Strength by Penetrometer Test	▲
Shear Strength by Vane Test	+ S		

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic m	Depth	Standard Penetration Test N Value (20, 40, 60, 80); Shear Strength kPa (50, 100, 150, 200)	Combustible Vapour Reading (ppm) (250, 500, 750); Natural Moisture Content %; Atterberg Limits (% Dry Weight) (20, 40, 60)	SAMPLES	Natural Unit Wt. kN/m³
		TOPSOIL ~140 mm	62.6	0				
		FILL Clayey silt to silty sand with some gravel, recycled crushed asphalt and concrete in upper levels, some boulders and/or rock fill, brown, moist to wet (very dense)	62.5					
				1	58			
					64			
			60.8					
		Refusal to Augers @ 1.8 m depth						

NOTES:
1. Borehole/Test Pit data requires interpretation by Trow before use by others
2. Borehole backfilled upon completion of drilling
3. Field work supervised by a Trow representative
4. See Notes on Sample Descriptions
5. This Figure is to read with Trow Associates Inc. report OTGE00019353B

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	Dry	1.5

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT:	Office Building
DATE:	11 Oct 67
HOLE NO.:	A 1
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	[illegible]
APPROVED:	CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	206.9
GROUND WATER:	
BEDROCK SURFACE:	205.2
GAUGE READING:	
BOTTOM OF HOLE:	179.6

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.9	0.0
		SAND-GRAVEL, tr. Silt	206.6	
			205.2	1.7
		LIMESTONE to LIMY DOLOMITE		
			196.8	
		LIMESTONE		
			185.5	
		LIMESTONE, mottled	183.9	
		DOLOMITE to DOLOMITIC LIMESTONE	179.6	27.3

N BLOWS/FT.

Drilled	Recovery (ft)
1.7	1.3
1.7	1.7
5.0	4.9
5.0	5.0
5.0	5.0
5.0	5.0
2.2	2.1

Notes:
1. Rock badly broken above elevation 203.5 ft.
2. Bedrock weathered above elevation 201.6 ft.
3. Thin, broken, limestone and mud seam at elevation 201.6 ft.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
DATE: 11 Oct 67
HOLE NO.: A 2
PROJECT: Office Building
BORING BY: N.B. & S.
FILE NO.: 32-3166

BORING RECORD NO.: 2916
DRAWN: KC
CHECKED:
APPROVED: CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
DATUM: Geodetic
GROUND SURFACE: 206.9
GROUND WATER:
BEDROCK SURFACE: 203.6
GAUGE READING:
BOTTOM OF HOLE: 178.4

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.9	0.0
		SAND-GRAVEL with Silt trace	206.6	
			203.6	3.3
	Rock core	LIMY DOLOMITE to DOLOMITIC LIMESTONE	194.7	
	Rock core	LIMESTONE	185.8	
	Rock core	LIMESTONE, mottled	184.1	
	Rock core	DOLOMITIC LIMESTONE	178.4	28.5

N — BLOWS/FT

Drilled	Recovery (ft)
2.6	2.3
4.9	4.9
5.0	5.0
5.0	5.0
5.0	5.0
2.7	2.7

Notes:
1. Bedrock weathered above elevation 201.0 ft.

REMARKS

DWG. NO. A473

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
DATE: 11 Oct 67
HOLE NO.: A 3
PROJECT: Office Building
BORING BY: N.B. & S.
FILE NO.: 32-3166

BORING RECORD NO.: 2916 | DRAWN: KC | CHECKED: [signature] | APPROVED: COT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
DATUM: Geodetic | GROUND SURFACE: 206.8
GROUND WATER: | BEDROCK SURFACE: 203.6
GAUGE READING: | BOTTOM OF HOLE: 178.9

PENETRATION RESISTANCE
STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING
UNDRAINED SHEAR STRENGTH, s_u
FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY
NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_p
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.8	0.0
		SAND-GRAVEL with Silt trace	206.5 203.6	3.2
	Rock core	LIMY DOLOMITE to DOLOMITIC LIMESTONE	197.3	
	Rock core	LIMESTONE	185.7	
	Rock core	LIMESTONE, mottled	184.2	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	178.9	27.9

N — BLOWS/FT.

Drilled	Recovery (ft)
1.7	1.7
5.1	5.1
5.1	4.9
4.8	4.7
4.8	4.8
3.2	3.1

Notes:
1. Bedrock weathered above elevation 200.7 ft.
2. Limestone and mud seam at elevation 199.7 ft. (0.2 ft. thick)
3. Weak, broken limestone seam at elevation 196.5 ft. (0.2 ft. thick)

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
DATE: 11 Oct 67
HOLE NO.: A 4
PROJECT: Office Building
BORING BY: N.B. & S.
FILE NO.: 32-3166

BORING RECORD NO.: 2916
DRAWN: KC
CHECKED: [signature]
APPROVED: [initials]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 206.3
- GROUND WATER:
- BEDROCK SURFACE: 203.0
- GAUGE READING:
- BOTTOM OF HOLE: 178.4

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.3	0.0
		SAND-GRAVEL with Silt trace	206.0 203.0	3.3
	Rock core	LIMY DOLOMITE to DOLOMITIC LIMESTONE	195.2	
	Rock core	LIMESTONE	186.3	
	Rock core	LIMESTONE, mottled	184.7	
	Rock core	LIMY DOLOMITE to DOLOMITIC LIMESTONE	178.4	27.9

Drilled	Recovery (ft)
1.9	1.9
4.3	4.3
5.0	5.0
5.0	5.0
3.9	3.9
4.3	4.3

Notes:
1. Bedrock weathered above elevation 198.2 ft.
2. Weak limestone and mud seam (0.2 ft. thick) at elevation 199.7 ft.
3. Very weak limestone seam (0.2 ft. thick) at elevation 196.7 ft.

N — BLOWS/FT.

REMARKS

DWG. NO. A473

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	22 Sept 67
HOLE NO.:	A 5
PROJECT:	Office Building
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	[illegible]
APPROVED:	CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	206.4
GROUND WATER:		BEDROCK SURFACE:	203.7
GAUGE READING:		BOTTOM OF HOLE:	178.6

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.4	0.0
		SAND-GRAVEL, Silt tr.	206.1 203.7	2.7
	Rock core	LIMY DOLOMITE	197.1	
	Rock core	LIMESTONE	185.9	
	Rock core	LIMESTONE, mottled	184.4	
	Rock core	LIMY DOLOMITE to DOLOMITIC LIMESTONE	178.6	27.8

N BLOWS/FT

Drilled	Recovery (ft)
2.0	1.7
5.4	5.0
5.0	4.9
4.9	4.9
4.9	4.9
2.9	2.9

Notes:
1. Bedrock weathered above elevation 199.7 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE

DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT
DATE: 23 Sept 67
HOLE NO.: A 6
PROJECT: Office Building
BORING BY: N.B. & S.
FILE NO.: 32-3166

BORING RECORD NO.: 2916 | DRAWN: KC | CHECKED: [illegible] | APPROVED: COT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 206.4
- GROUND WATER:
- BEDROCK SURFACE: 202.9
- GAUGE READING:
- BOTTOM OF HOLE: 178.8

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.4	0.0
			206.1	
		SAND-GRAVEL with Silt trace	202.9	3.5
		~~Badly weathered~~	~~202.0~~	~~4.4~~
	Rock core	LIMESTONE		
	Rock core	LIMY DOLOMITE to DOLOMITIC LIMESTONE	195.4	
	Rock core	LIMESTONE	185.9	
	Rock core	LIMESTONE, mottled	184.4	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	178.8	

Drilled	Recovery (ft)
1.5	1.5
4.1	4.0
5.0	5.0
5.0	4.9
4.9	5.0
2.7	2.8

Notes:
1. Weak shale seam (0.2 ft. thick) at elevation 199.7 ft.
2. Weak shaly limestone seam (0.2 ft. thick) at elevation 196.5 ft.

N — BLOWS/FT.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE DEPARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES	LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.	DATE: 23 Sept 67	HOLE NO.: A 7
	PROJECT: Office Building	BORING BY: N.B. & S.	FILE NO.: 32-3166

BORING RECORD NO.: 2916	DRAWN: KC	CHECKED:	APPROVED: CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 206.2
GROUND WATER:	BEDROCK SURFACE: 202.0
GAUGE READING:	BOTTOM OF HOLE: 180.2

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.2	0.0
			205.9	
		SAND-GRAVEL with Silt trace	202.0	4.2
	Rock core	LIMY DOLOMITE to DOLOMITIC LIMESTONE	196.1	
	Rock core	LIMESTONE	186.4	
	Rock core	LIMESTONE, mottled	184.8	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	180.2	26.0

N — BLOWS/FT.

Drilled	Recovery (ft)
4.9	4.7
5.1	4.9
4.8	4.8
4.8	5.0
2.2	2.2

Notes:
1. Bedrock weathered above elevation 195.9 ft.
2. Weathered limestone and mud seam (0.2 ft. thick) at elevation 200.0 ft.
3. Weathered zone elevation 197.9 to 197.5 ft.
4. Weak limestone seam (0.3 ft. thick) at elevation 196.9 ft.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT
DATE:	22 Sept 6
HOLE NO.:	A 8
PROJECT:	Office Building
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	
APPROVED:	C.O.T.

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	206.0
GROUND WATER:	
BEDROCK SURFACE:	202.5
GAUGE READING:	
BOTTOM OF HOLE:	177.9

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.0	0.0
		SAND-GRAVEL with some Silt	205.7 202.5	3.5
	Rock core	DOLOMITE to LIMESTONE	186.6	
	Rock core	LIMESTONE, mottled	185.1	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	177.9	28.1

N — BLOWS/FT.

Drilled	Recovery (ft)
5.0	5.0
4.9	4.9
4.9	4.9
5.0	4.9
4.8	4.9

Notes:
1. Bedrock weathered above elevation 196.9 ft.
2. Weak shaly Limestone and mud seam at elevation 200.1 ft.
3. Thin Shale and mud seam at elevation 196.9 ft.

REMARKS

DWG. NO. A473

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	DATE:	HOLE NO.:
OTTAWA (TUNNEY'S PASTURE) ONT.	11 Oct 67	B 1
PROJECT: Office Building	BORING BY: N.B.& S	FILE NO.: 32-3166

BORING RECORD NO.:	DRAWN:	CHECKED:	APPROVED:
2916	KC		CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 207.0
GROUND WATER:	BEDROCK SURFACE: 205.2
GAUGE READING:	BOTTOM OF HOLE: 179.4

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.0	0.0
			206.7	
		SAND-GRAVEL, Silt tr.	205.2	1.8
		LIMESTONE to DOLOMITIC LIMESTONE	197.0	
		LIMESTONE	185.7	
		LIMESTONE, mottled	184.1	
		LIMY DOLOMITE	179.4	27.6

N — BLOWS/FT

Drilled	Recovery (ft)
1.5	1.4
1.8	1.8
4.9	4.9
5.1	5.1
5.1	5.1
4.9	4.9
2.5	2.5

Notes:
1. 75° calcite lined joint at elevation 204.5 ft.
2. Limestone and mud seam (0.3 ft. thick) at elev. 201.8 ft.
3. Thin broken limestone seam elevation 200.1 ft.

REMARKS

DWG. NO. A473

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.	DATE: 10 Oct 67	HOLE NO.: B 2	
PROJECT: Office Building	BORING BY: N.B. & S.	FILE NO.: 32-3166	
BORING RECORD NO.: 2916	DRAWN: KC	CHECKED: [signature]	APPROVED: CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 207.0		
GROUND WATER:	BEDROCK SURFACE: 203.7		
GAUGE READING:	BOTTOM OF HOLE: 179.7		

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.0	0.0
			206.7	
		SAND-GRAVEL with Silt trace	203.7	3.3
		LIMY DOLOMITE to DOLOMITIC LIMESTONE	195.0	
		LIMESTONE	185.8	
		LIMESTONE, mottled	184.2	
		LIMY DOLOMITE	179.7	27.3

N — BLOWS/FT

Drilled	Recovery (ft)
1.8	1.8
4.8	4.7
5.1	5.1
5.0	5.0
4.9	4.9
2.4	2.4

Notes:
1. Bedrock weathered above elevation 200.3 ft.

REMARKS

FORM TL/TF 23

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	10 Oct 67
HOLE NO.:	B 3
PROJECT:	Office Building
BORING BY:	N.B.& S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	[illegible]
APPROVED:	C.D.T.

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	206.8
GROUND WATER:		BEDROCK SURFACE:	203.8
GAUGE READING:		BOTTOM OF HOLE:	179.4

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.8	0.0
		SAND-GRAVEL with Silt trace	206.5 203.8	3.0
	Rock core	LIMY DOLOMITE to DOLOMITIC LIMESTONE	194.4	
	Rock core	LIMESTONE	185.8	
	Rock core	LIMESTONE, mottled	184.1	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	179.4	27.4

N — BLOWS/FT.

Drilled	Recovery (ft)
1.8	1.8
4.9	4.7
4.9	4.9
3.2	3.2
4.9	4.9
4.7	4.9

Notes:
1. Bedrock weathered above elevation 197.1 ft.
2. Broken limestone and mud seam (0.3 ft. thick) at elevation 196.2 ft.

REMARKS

DWG. NO. A473

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
DATE: 10 Oct 67
HOLE NO.: B 4
PROJECT: Office Building
BORING BY: N. B. & S.
FILE NO.: 32-3166

BORING RECORD NO.: 2916
DRAWN: KC
CHECKED: RWN
APPROVED: C D T

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 206.4
- GROUND WATER:
- BEDROCK SURFACE: 203.4
- GAUGE READING:
- BOTTOM OF HOLE: 179.1

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.4	0.0
			206.1	
		SAND-GRAVEL, Silt tr.	203.4	3.0
	Rock core	LIMY DOLOMITE to DOLOMITIC LIMESTONE		
			195.2	
		LIMESTONE		
			186.1	
		LIMESTONE, mottled	184.5	
		DOLOMITE to DOLOMITIC LIMESTONE	179.1	27.3

N — BLOWS/FT.

Drilled	Recovery (ft)
1.8	1.7
5.0	5.0
5.1	5.1
5.1	5.1
4.8	4.8
2.5	2.5

Notes:
1. Bedrock weathered above elevation 197.7 ft.
2. Weak limestone and mud seam (0.2 ft. thick) at elevation 199.6 ft.
3. Mud seam at elevation 196.6 ft.
4. Broken limestone seam at elevation 195.1 ft.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.	DATE: 26 Sept 67	HOLE NO.: B 5	
PROJECT: Office Building	BORING BY: N.B. & S.	FILE NO.: 32-3166	
BORING RECORD NO.: 2916	DRAWN: KC	CHECKED:	APPROVED: CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 206.4
- GROUND WATER:
- BEDROCK SURFACE: 205.0
- GAUGE READING:
- BOTTOM OF HOLE: 179.9

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_0

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.4	0.0
		SAND-GRAVEL, Silt tr.	206.1	
			205.0	1.4
	Rock core	LIMESTONE to DOLOMITE	195.0	
	Rock core	LIMESTONE	185.7	
	Rock core	LIMESTONE, mottled	183.9	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	179.9	26.5

N — BLOWS/FT

Drilled	Recovery (ft)
2.0	1.5
1.0	1.0
5.3	4.9
5.0	4.8
5.0	4.6
4.6	5.0
2.2	2.2

Notes:
1. Bedrock weathered above elevation 196.5 ft.
2. Very weak limestone and mud seam at elevation 200.0 ft.
3. Very weak limestone seam at elevation 196.5 ft.
4. Lost drilling water at elevation 201.2 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT: Office Building
DATE: 25 Sept 67
HOLE NO.: B 6
BORING BY: N.B. & S.
FILE NO.: 32-3166

BORING RECORD NO.: 2916
DRAWN: KC
CHECKED: [signature]
APPROVED: CDT

ELEVATION (FT.)
DATUM: Geodetic
GROUND SURFACE: 206.6
GROUND WATER:
BEDROCK SURFACE: 203.6
GAUGE READING:
BOTTOM OF HOLE: 179.1

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.6	0.0
			206.3	
		SAND-GRAVEL, Silt tr.	203.6	3.0
	Rock core	DOLOMITE, few Limy Zones	193.4	
	Rock core	LIMESTONE	186.2	
	Rock core	LIMESTONE, mottled	184.5	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	179.1	27.5

N — BLOWS/FT.

Drilled	Recovery (ft)
1.8	1.5
4.7	4.7
5.2	5.0
5.0	4.9
4.9	5.0
2.9	2.9

Notes:
1. Bedrock weathered above elevation 199.9 ft. on joints and bedding planes.
2. Weak shale and mud seam at elevation 196.7 ft.
3. Calcite stringer 1/8 " thick, near-vertical, between elevations 188.4 and 187.2 ft.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT: Office Building
DATE: 25 Sept 67
HOLE NO.: B 7
BORING BY: N.B. & S.
FILE NO.: 32-3166

BORING RECORD NO.: 2916 | DRAWN: KC | CHECKED: | APPROVED: C D T

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 206.3
- GROUND WATER:
- BEDROCK SURFACE: 202.4
- GAUGE READING:
- BOTTOM OF HOLE: 179.7

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION $(q_u/2)$
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.3	0.0
			206.0	
		OVERBURDEN	202.4	3.9
	Rock core	DOLOMITE to LIMESTONE	186.1	
	Rock core	LIMESTONE, mottled	184.5	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	179.7	26.6

N — BLOWS/FT.

Drilled	Recovery (ft)
5.1	4.8
4.8	4.9
5.2	4.9
4.6	4.8
3.0	3.1

Notes:
1. Bedrock weathered above elevation 201.8 ft.
2. Weak limy and mud seam at elevation 199.9 ft.)
3. Very weak limestone and mud seam (0.3 ft. thick) at elev 196.6 ft.
4. Fracture between elevations 194.3 and 193.0 ft., near-vertical

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	25 Sept 67
HOLE NO.:	B 8
PROJECT:	Office Building
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	
APPROVED:	CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 206.1
- BEDROCK SURFACE: 202.7
- GROUND WATER:
- GAUGE READING:
- BOTTOM OF HOLE: 179.5

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.1	0.0
			205.8	
		OVERBURDEN	202.7	3.4
	Rock core	LIMY DOLOMITE	195.6	
	Rock core	LIMESTONE	186.4	
	Rock core	LIMESTONE, mottled	185.1	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	179.5	26.6

N — BLOWS/FT.

Drilled	Recovery (ft)
5.2	5.1
5.1	5.0
5.0	5.0
4.9	5.0
3.0	3.0

Notes:
1. Weathered joint dips 45°, at elevation 200.8 ft.
2. Bedrock weathered above elev. 197.0 ft.
3. Mud seam elevation 200.2 ft.
4. Weathered limestone seam 198.1 ft.
5. Weak limestone and mud seam at elevation 197.2 ft.
6. Weak shale seam at elevation 195.6 ft.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT
PROJECT:	Office Building
DATE:	6 Oct 67
BORING BY:	N.B. & S.
HOLE NO.:	C 1
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	
APPROVED:	CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	207.1
GROUND WATER:	
BEDROCK SURFACE:	205.5
GAUGE READING:	
BOTTOM OF HOLE:	178.7

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.1	0.0
		SAND-GRAVEL, tr. Silt	206.8	
			205.5	1.6
		DOLOMITE TO DOLOMITIC LIMESTONE		
			196.4	
		LIMESTONE		
			185.5	
		LIMESTONE, mottled	184.0	
		DOLOMITE TO DOLOMITIC LIMESTONE		
			178.7	28.4

N — BLOWS/FT

Drilled	Recovery (ft)
1.8	1.6
2.1	2.1
5.2	5.0
0.8	0.8
5.0	5.0
5.1	5.1
4.9	4.9
1.9	2.2

Notes:
1. Bedrock slightly weathered above elevation 196.8 ft.
2. Thin Shale and mud seam at elevation 199.0 ft.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT

DATE: 10 Oct 67 | HOLE NO.: C 2

PROJECT: Office Building

BORING BY: N.B. & S. | FILE NO.: 32-3166

BORING RECORD NO.: 2916 | DRAWN: KC | CHECKED: | APPROVED: C.D.T.

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 207.0
- GROUND WATER:
- BEDROCK SURFACE: 204.6
- GAUGE READING:
- BOTTOM OF HOLE: 179.3

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.0	0.0
			206.7	
		SAND-GRAVEL, Silt trace	204.6	2.4
	Rock core	LIMY DOLOMITE TO DOLOMITIC LIMESTONE	194.7	
	Rock core	LIMESTONE	185.6	
	Rock core	LIMESTONE, mottled	184.0	
	Rock core	DOLOMITE TO DOLOMITIC LIMESTONE	179.3	27.7

N | BLOWS/FT.

210 · 200 · 190 · 180 · 170

Drilled	Recovery (ft)
0.9	0.5
1.0	1.0
0.9	0.8
4.9	4.7
5.0	5.0
5.0	5.0
4.9	4.9
2.7	2.7

Notes:
1. Bedrock weathered above elevation 200.0 ft.
2. Possible near-vertical, tight, fractures between elevations 195.7 and 192.7 ft.

REMARKS

DWG. NO. A-473

FORM TL/TF 213

RECORD OF BORE HOLE

DEPARTMENT OF PUBLIC WORKS, CANADA

TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT
PROJECT:	Office Building
DATE:	6 Oct 67
HOLE NO.:	C 3
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	RWN
APPROVED:	CDT

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	206.9
GROUND WATER:		BEDROCK SURFACE:	204.5
GAUGE READING:		BOTTOM OF HOLE:	179.5

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.9	0.0
			206.6	
		SAND-GRAVEL, Silt tr.	204.5	2.4
	Rock core	LIMY DOLOMITE TO DOLOMITIC LIMESTONE	197.7	
	Rock core	LIMESTONE	186.0	
	Rock core	LIMESTONE, mottled	184.5	
	Rock core	DOLOMITE TO DOLOMITIC LIMESTONE	179.5	27.4

N — BLOWS/FT

Drilled	Recovery (ft)
1.7	1.5
5.1	5.1
3.8	3.8
4.4	4.2
5.0	5.0
5.0	4.9

Notes:
1. Bedrock weathered and jointed above elevation 200.5 ft.
2. Calcite stringer, ¼" thick, partly porous, some pyrite, between elevations 187.3 and 186.2 ft.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT
PROJECT: Office Building
DATE: 7 Oct 67
HOLE NO.: C 4
BORING BY: N.B. & S.
FILE NO.: 32-3166

BORING RECORD NO.: 2916
DRAWN: KC
CHECKED: TWN
APPROVED: CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
DATUM: Geodetic
GROUND SURFACE: 206.6
GROUND WATER:
BEDROCK SURFACE: 203.8
GAUGE READING:
BOTTOM OF HOLE: 178.6

PENETRATION RESISTANCE
STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING
UNDRAINED SHEAR STRENGTH, s_u
FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY
NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_p
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.6	0.0
			206.3	
		SAND-GRAVEL, Silt tr.	203.8	2.8
		DOLOMITE TO LIMY DOLOMITE	197.0	
		LIMESTONE	185.8	
		LIMESTONE, mottled	184.4	
		LIMY DOLOMITE TO DOLOMITIC LIMESTONE	178.6	28.0

N BLOWS/FT.

Drilled	Recovery (ft)
2.3	1.9
5.0	4.8
4.6	4.6
4.8	4.8
4.8	4.8
3.7	3.6

Notes:
1. Bedrock weathered above elevation 200.8 ft.
2. 60° joint at elevation 196.1 ft.
3. Few hairline calcite stringers below elevation 185.5 ft.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE

DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT
PROJECT:	Office Building
DATE:	26 Sept 67
HOLE NO.:	C 5
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	
APPROVED:	

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	206.5
GROUND WATER:	
BEDROCK SURFACE:	203.6
GAUGE READING:	
BOTTOM OF HOLE:	180.0

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N (BLOWS/FT)
		Asphalt Pavement	206.5	0.0	
			206.2		
		SAND-GRAVEL, Silt tr.	203.6	2.9	
		LIMY DOLOMITE	197.2		
		LIMESTONE	186.1		
		LIMESTONE, mottled	184.6		
		DOLOMITE TO DOLOMITIC LIMESTONE	180.0	26.5	

Drilled	Recovery (ft)
2.0	1.7
5.1	5.0
4.9	4.9
4.9	4.9
4.9	4.9
1.8	1.8

Notes:
1. Bedrock weathered above elevation 197.2 ft.
2. Weak limestone seam at elevation 196.4 ft.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT
PROJECT: Office Building
DATE: 27 Sept 67
HOLE NO.: C 6
BORING BY: N.B. & S.
FILE NO.: 32-3166

BORING RECORD NO.: 2916
DRAWN: KC
CHECKED: [illegible]
APPROVED: CDT

SAMPLE TYPE
UNDISTURBED
DISTURBED
ROCK CORE

ELEVATION (FT.)
DATUM: Geodetic
GROUND SURFACE: 206.7
GROUND WATER:
BEDROCK SURFACE: 203.9
GAUGE READING:
BOTTOM OF HOLE: 180.2

PENETRATION RESISTANCE
STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING
UNDRAINED SHEAR STRENGTH, s_u
FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY
NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_p
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.7	0.0
			206.4	
		SAND-GRAVEL, Silt tr.	203.9	2.8
		LIMY DOLOMITE, some LIMESTONE	195.1	
		LIMESTONE	185.7	
		LIMESTONE, mottled	184.1	
		DOLOMITE TO DOLOMITIC LIMESTONE	180.2	26.5

N — BLOWS/FT.

Drilled	Recovery (ft)
1.3	1.3
5.1	4.7
4.9	4.8
4.8	4.1
4.1	5.1
3.5	3.5

Notes:
1. Bedrock weathered above elevation 196.0 ft.
2. Weak limestone and mud seam 0.2 ft. thick at elevation 196.6 ft.
3. Rock badly broken in top 1.3 ft. Lost drilling water.

REMARKS

DWG.

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT
PROJECT: Office Building
DATE: 26 Sept 67
HOLE NO.: C 7
BORING BY: N.B. & S.
FILE NO.: 32-3166

BORING RECORD NO.: 2916
DRAWN: KC
CHECKED: [illegible]
APPROVED: CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
DATUM: Geodetic
GROUND SURFACE: 206.5
GROUND WATER:
BEDROCK SURFACE: 202.5
GAUGE READING:
BOTTOM OF HOLE: 179.6

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

BLOWS/FT.

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			206.5	0.0
		Asphalt Pavement	206.2	
		SAND-GRAVEL with Silt trace	202.5	4.0
		DOLOMITE TO DOLOMITIC LIMESTONE	197.5	
		LIMESTONE	186.5	
		LIMESTONE, mottled	184.9	
		DOLOMITE TO LIMY DOLOMITE	179.6	26.9

Drilled	Recovery (ft)
5.0	4.7
4.8	5.1
5.0	4.9
4.9	4.9
3.2	3.1

Notes:
1. Bedrock weathered above elevation 200.0 ft.
2. Badly weathered limestone seam at elevation 200.7 ft.
3. Weak limestone & mud seam (0.2 ft. thick) at elevation 196.8 ft.
4. Calcite inclusion at elevation 189.0 ft.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT
DATE:	26 Sept 67
HOLE NO.:	C 7
PROJECT:	Office Building
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	
APPROVED:	CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	206.5
GROUND WATER:		BEDROCK SURFACE:	202.5
GAUGE READING:		BOTTOM OF HOLE:	179.6

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.5	0.0
		SAND-GRAVEL with Silt trace	206.2	
			202.5	4.0
	Rock core	DOLOMITE TO DOLOMITIC LIMESTONE	197.5	
	Rock core	LIMESTONE	186.5	
	Rock core	LIMESTONE, mottled	184.9	
	Rock core	DOLOMITE TO LIMY DOLOMITE	179.6	26.9

N BLOWS/FT

Drilled	Recovery (ft)
5.0	4.7
4.8	5.1
5.0	4.9
4.9	4.9
3.2	3.1

Notes:
1. Bedrock weathered above elevation 200.0 ft.
2. Badly weathered limestone seam at elevation 200.7 ft.
3. Weak limestone & mud seam (0.2 ft. thick) at elevation 196.8 ft.
4. Calcite inclusion at elevation 189.0 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT
PROJECT:	Office Building
DATE:	26 Sept 67
HOLE NO.:	C 8
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	TWN
APPROVED:	CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 206.3
GROUND WATER:	BEDROCK SURFACE: 202.6
GAUGE READING:	BOTTOM OF HOLE: 179.8

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.3	0.0
			206.0	
		SAND-GRAVEL with Silt trace	202.6	3.7
	Rock core	LIMY DOLOMITE TO DOLOMITIC LIMESTONE	195.5	
	Rock core	LIMESTONE	186.6	
	Rock core	LIMESTONE, mottled	184.9	
	Rock core	DOLOMITE TO DOLOMITIC LIMESTONE	179.8	26.5

N — BLOWS/FT

Drilled	Recovery (ft)
5.1	4.8
4.9	4.9
4.8	4.8
4.9	4.8
3.1	3.2

Notes:
1. Bedrock weathered above elevation 197.7 ft.
2. Very weak limestone seam at elevation 200.1 ft.
3. Very weak limestone and mud seam (0.2 ft thick) at elevation 196.8 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
DATE: 10 Oct 67
HOLE NO.: D1
PROJECT: Office Building
BORING BY: N.B. & S.
FILE NO.: 32-3166

BORING RECORD NO.: 2916
DRAWN: KC
CHECKED: RW
APPROVED: C-GT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 207.2
- GROUND WATER:
- BEDROCK SURFACE: 205.3
- GAUGE READING:
- BOTTOM OF HOLE: 179.5

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N — BLOWS/FT.
		Asphalt Pavement	207.2	0.0	
			206.9		
		SAND-GRAVEL, Silt tr.	205.3	1.9	
	Rock core	LIMY DOLOMITE	196.8		
	Rock core	LIMESTONE	185.6		
	Rock core	LIMESTONE, mottled	184.1		
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	179.5	27.7	

Drilled	Recovery (ft)
2.2	1.9
5.1	5.1
5.1	5.1
4.5	4.5
3.9	3.9
5.0	5.0

Notes:
1. Bedrock weathered above elevation 201.7 ft.
2. Thin mud seams at elevations 202.0 and 201.7 ft.
3. Weak limestone seam at elevation 199.1 ft.
4. Calcite stringer, 1/8" thick, near-vertical, between elevations 182.9 and 182.0 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.	DATE: 6 Oct 67	HOLE NO.: D 2	
PROJECT: Office Building	BORING BY: N.B. & S.	FILE NO.: 32-3166	
BORING RECORD NO.: 2916	DRAWN: KC	CHECKED: RW	APPROVED: CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 207.1
- GROUND WATER:
- BEDROCK SURFACE: 205.2
- GAUGE READING:
- BOTTOM OF HOLE: 179.0

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.1	0.0
		SAND-GRAVEL, Silt tr.	206.8	
	Rock core		205.2	1.9
	Rock core	LIMESTONE to LIMY DOLOMITE	196.9	
	Rock core	LIMESTONE	185.7	
	Rock core	LIMESTONE, mottled	184.0	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	179.0	28.1

N — BLOWS/FT

Drilled	Recovery (ft)
2.0	1.9
5.0	4.8
5.0	5.0
5.0	5.0
5.0	4.9
2.9	2.9

Notes:
1. Bedrock weathered above elevation 199.6 ft.
2. Thin mud seams at elevations 201.8 and 196.0 ft.
3. Occasional, near-vertical, hairline, calcite stringers.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
DATE: 5 Oct 67
HOLE NO.: D 3
PROJECT: Office Building
BORING BY: N.B. & S.
FILE NO.: 32-3166

BORING RECORD NO.: 2916 | DRAWN: KC | CHECKED: [illegible] | APPROVED: COT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
DATUM: Geodetic | GROUND SURFACE: 206.9
GROUND WATER: | BEDROCK SURFACE: 204.5
GAUGE READING: | BOTTOM OF HOLE: 179.2

PENETRATION RESISTANCE
STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING
UNDRAINED SHEAR STRENGTH, s_u
FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY
NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_P
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.9	0.0
		SAND-GRAVEL, Silt tr.	206.6	
			204.5	2.4
		LIMY DOLOMITE, some LIMESTONE		
			194.6	
		LIMESTONE		
			185.6	
		LIMESTONE, mottled	183.9	
		DOLOMITE to DOLOMITIC LIMESTONE		
			179.2	27.7

Drilled	Recovery (ft)
1.9	1.6
5.0	5.0
1.5	1.3
4.8	4.7
4.8	4.1
4.0	4.7
3.3	3.8

Note:
1. Bedrock weathered above elev. 201.2 ft.
2. Possible 60° fracture at elevation 182.5 ft.

N — BLOWS/FT

REMARKS

FORM TL/TF 213

DWG. NO. A475

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.	DATE: 6 Oct 67	HOLE NO.: D 4	
PROJECT: Office Building	BORING BY: N.B. & S.	FILE NO.: 32-3166	
BORING RECORD NO.: 2916	DRAWN: KC	CHECKED:	APPROVED: CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 206.6
GROUND WATER:	BEDROCK SURFACE: 203.8
GAUGE READING:	BOTTOM OF HOLE: 179.3

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.6	0.0
			206.3	
		SAND-GRAVEL, Silt tr.	203.8	2.8
		LIMY DOLOMITE	196.8	
		LIMESTONE	186.1	
		LIMESTONE, mottled	184.3	
		DOLOMITE to DOLOMITIC LIMESTONE	179.3	27.3

N — BLOWS/FT

Drilled	Recovery (ft)
1.2	0.5
4.8	5.0
4.5	5.0
5.0	5.0
5.0	4.9
4.0	4.1

Notes:
1. Bedrock weathered above elevation 200.2 ft.
2. Thin mud seams at elevations 201.6 and 201.2 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	27 Sept 67
HOLE NO.:	D 5
PROJECT:	Office Building
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KO
CHECKED:	RWN
APPROVED:	CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	206.6
GROUND WATER:	
BEDROCK SURFACE:	203.8
GAUGE READING:	
BOTTOM OF HOLE:	180.0

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT.
		Asphalt Pavement	206.6	0.0	
			206.3		
		SAND-GRAVEL, Silt tr.	203.8	2.8	
	Rock core	DOLOMITIC LIMESTONE to LIMESTONE	185.7		
	Rock core	LIMESTONE, mottled	184.3		
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	180.0	26.6	

Drilled	Recovery (ft)
1.6	1.1
5.2	4.8
4.9	4.7
4.8	4.9
4.8	4.9
2.8	2.8

Notes:
1. Bedrock weathered above elevation 195.3 ft.
2. Weak limestone and mud seam 0.2 ft thick at elev 199.4 ft.
3. Weak limestone seam 0.2 ft. thick at elevation 196.2 ft.
4. Few near-vertical fractures and calcite stringers.
5. Calcite stringer some pyrite, 3/8" thick, elevs 196.1 to 195.3 ft. ¼" displacement - minor fault.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT:	Office Building
DATE:	27 Sept 67
HOLE NO.:	D6
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	RWH
APPROVED:	CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	206.7
GROUND WATER:	
BEDROCK SURFACE:	204.1
GAUGE READING:	
BOTTOM OF HOLE:	179.5

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.7	0.0
		SAND-GRAVEL, Silt tr.	206.4 204.1	2.6
	Rock core	DOLOMITE and LIMESTONE, Interlayered	192.3	
	Rock core	LIMESTONE	185.9	
	Rock core	LIMESTONE, mottled	184.6	
	Rock core	DOLOMITIC LIMESTONE to LIMY DOLOMITE	179.5	27.2

Drilled	Recovery (ft)
1.0	0.5
1.5	2.0
5.2	4.9
5.0	5.0
4.9	5.0
5.0	4.7
2.0	2.3

Notes:
1. Bedrock weathered above elevation 199.7 ft.
2. Calcite lined, weathered joint, near-vertical, elevs 201.5 to 201.1 ft.
3. Few near-vertical, calcite stringers between elevations 196.4 and 191.4 ft.

N | BLOWS/FT

REMARKS

DWG. NO. A473

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE

DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	27 Sept 67
HOLE NO.:	D 7
PROJECT:	Office Building
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	RWN
APPROVED:	CDT

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	206.6
GROUND WATER:	
BEDROCK SURFACE:	203.8
GAUGE READING:	
BOTTOM OF HOLE:	179.9

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.6	0.0
		SAND-GRAVEL, with Silt trace	206.3 203.8	2.8
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	195.4	
	Rock core	LIMESTONE	186.5	
	Rock core	LIMESTONE, mottled	184.9	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	179.9	26.7

N — BLOWS/FT

210

200

190

180

Drilled	Recovery (ft)
2.0	1.7
5.0	5.0
5.0	4.8
4.9	5.0
5.0	5.0
2.0	2.0

Notes:

1. Bedrock weathered above elevation 196.8 ft.
2. Weak limestone and mud seams, 0.2 to 0.3 ft. thick, at elevations 199.8 and 196.8 ft.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT:	Office Building
DATE:	29 July 67
BORING BY:	N.B. & S.
HOLE NO.:	D 8
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	RW
APPROVED:	CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 206.4
- GROUND WATER:
- BEDROCK SURFACE: 202.4
- GAUGE READING:
- BOTTOM OF HOLE: 179.5

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.4	0.0
		SAND-GRAVEL with Silt trace	206.1	
			202.4	4.0
	Rock core	LIMY DOLOMITE to DOLOMITE	197.4	
	Rock core	LIMESTONE	186.9	
	Rock core	LIMESTONE, mottled	185.1	
	Rock core	DOLOMITE to LIMY DOLOMITE	179.5	26.9

N — BLOWS/FT — 210 — 200 — 190 — 180

Drilled	Recovery (ft)
4.9	4.5
5.0	4.1
3.9	5.2
5.1	5.1
4.0	4.0

Notes:
1. Bedrock weathered above elevation 199.7 ft.
2. Weak limestone seam at elevation 200.0 ft.
3. Broken limestone and mud seam at elevation 196.5 ft.
4. Calcite inclusions and hairline stringers between elevations 190.0 and 189.0 ft.

REMARKS

DWG. NO. A473

FORM TL/TF 213

RECORD OF BORE HOLE

DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT:	Office Building
DATE:	5 Oct 67
HOLE NO.:	E 1
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	TWN
APPROVED:	COT

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	207.2
GROUND WATER:	
BEDROCK SURFACE:	205.9
GAUGE READING:	
BOTTOM OF HOLE:	180.4

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.2	0.0
		SAND-GRAVEL, Silt tr.	206.9	
	Rock core		205.9	1.3
	Rock core	LIMESTONE to DOLOMITE		
	Rock core		194.5	
	Rock core	LIMESTONE		
	Rock core		185.4	
	Rock core	LIMESTONE, mottled	184.1	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	180.4	26.8

N — BLOWS/FT

Drilled	Recovery (ft)
0.5	0.3
1.9	1.6
5.1	5.1
5.0	5.0
5.1	5.1
5.1	5.1
2.8	2.8

Notes:
1. No significant weathering
2. Broken limestone and mud seam at elevation 201.7 ft.

REMARKS

DWG. NO. A473

RECORD OF BORE HOLE

DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.

DATE: 6 Oct 67

HOLE NO.: E 2

PROJECT: Office Building

BORING BY: N.B. & S.

FILE NO.: 32-3166

BORING RECORD NO.: 2916

DRAWN: KC

CHECKED: [signature]

APPROVED: CDT

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic		GROUND SURFACE:	207.2
GROUND WATER:		BEDROCK SURFACE:	205.3
GAUGE READING:		BOTTOM OF HOLE:	178.5

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_0

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.2	0.0
		SAND-GRAVEL, Silt tr.	206.9	
			205.3	1.9
	Rock core	LIMESTONE to DOLOMITE		
			196.9	
	Rock core	LIMESTONE to DOLOMITE to DOLOMITIC LIMESTONE		
			178.5	28.7

N — BLOWS/FT

Drilled Recovery (ft)
26.8 26.7

Notes:
1. Bedrock slightly weathered above elevation 199.2 ft.
2. Thin weak shale seams at elevations 199.4 and 199.2 ft.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT:	Office Building
DATE:	5 Oct 67
HOLE NO.:	E 3
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	[illegible]
APPROVED:	CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	207.0
GROUND WATER:		BEDROCK SURFACE:	203.8
GAUGE READING:		BOTTOM OF HOLE:	179.1

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.0	0.0
			206.7	
		SAND-GRAVEL, Silt tr.	203.8	3.2
	Rock core	LIMY DOLOMITE to DOLOMITIC LIMESTONE	195.0	
	Rock core	LIMESTONE	185.8	
	Rock core	LIMESTONE, mottled	184.3	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	179.1	27.9

N BLOWS/FT.

Drilled	Recovery (ft)
4.6	4.6
4.7	4.7
3.5	3.5
4.9	4.9
3.9	3.9
3.1	3.1

Notes:
1. Bedrock weathered above elevation 200.9 ft.
2. Few hairline calcite stringers between elevations 200.4 & 198.0 ft.

REMARKS

DWG. NO. A473

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE

DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	3 Oct 67
HOLE NO.:	E 4
PROJECT:	Office Building
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	TWI
APPROVED:	COT

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	207.0
GROUND WATER:		BEDROCK SURFACE:	204.1
GAUGE READING:		BOTTOM OF HOLE:	179.0

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.0	0.0
		SAND-GRAVEL with Silt trace	206.7 204.1	2.9
	Rock core	LIMY DOLOMITE	195.1	
	Rock core	LIMESTONE	186.3	
	Rock core	LIMESTONE, mottled	184.5	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	179.0	28.0

N — BLOWS/FT.

Drilled	Recovery (ft)
1.8	1.7
5.0	5.0
0.9	0.9
5.0	5.0
5.0	5.0
4.9	4.9
2.5	2.5

Note:
1. Bedrock weathered above elevation 201.0 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE

DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT:	Office Building
DATE:	29 Sept 67
HOLE NO.:	E 5
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	[illegible]
APPROVED:	CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	206.7
GROUND WATER:	
BEDROCK SURFACE:	204.2
GAUGE READING:	
BOTTOM OF HOLE:	180.1

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.7	0.0
		SAND-GRAVEL, Silt tr.	206.4 204.2	2.5
	Rock core	LIMY DOLOMITE to DOLOMITIC LIMESTONE	195.0	
	Rock core	LIMESTONE	185.9	
	Rock core	LIMESTONE, mottled	184.5	
	Rock core	DOLOMITE	180.1	26.6

N — BLOWS/FT

Drilled	Recovery (ft)
1.9	1.8
5.1	4.8
4.9	4.7
4.7	4.7
4.7	4.6
2.8	2.8

Notes:
1. Bedrock weathered above elevation 199.6 ft.
2. Thin mud seam at elevation 202.3 ft.
3. Weak limestone seam at elevation 199.6 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE

DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	29 Sept 67
HOLE NO.:	E 6
PROJECT:	Office Building
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	FWW
APPROVED:	COT

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 206.9
GROUND WATER:	BEDROCK SURFACE: 203.9
GAUGE READING:	BOTTOM OF HOLE: 180.5

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:

- UNCONFINED COMPRESSION $(q_u/2)$
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.9	0.0
		SAND-GRAVEL, Silt tr.	206.6 203.9	3.0
	Rock core	LIMESTONE, badly weathered and broken	202.2	
	Rock core	LIMY DOLOMITE to DOLOMITIC LIMESTONE	195.2	
	Rock core	LIMESTONE	186.2	
	Rock core	LIMESTONE, mottled	184.5	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	180.5	26.4

Drilled	Recovery (ft)
1.7	0.5
5.1	5.0
5.1	4.9
4.9	4.8
4.9	4.9
1.7	1.7

Notes:

1. Weak limestone and mud seam 0.2 ft. thick at elevation 196.7 ft.
2. Lost drilling water at elevation 200.4 ft.

N — BLOWS/FT.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	29 Sept 67
HOLE NO.:	E 7
PROJECT:	Office Building
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	RW
APPROVED:	COT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 206.8
GROUND WATER:	BEDROCK SURFACE: 204.3
GAUGE READING:	BOTTOM OF HOLE: 180.3

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.8	0.0
		SAND-GRAVEL, Silt tr.	206.5 204.3	2.5
	Rock core	LIMY DOLOMITE to DOLOMITIC LIMESTONE	195.6	
	Rock core	LIMESTONE	186.5	
	Rock core	LIMESTONE, mottled	184.8	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	180.3	26.5

Drilled	Recovery (ft)
1.8	1.7
5.0	4.9
1.1	1.1
4.9	4.9
4.9	4.9
4.8	4.8
1.5	1.1

Notes:
1. Bedrock badly weathered above elevation 202.1 ft.
2. Broken limestone seam at elevation 196.6 ft.
3. Few hairline calcite stringers, near-vertical, between elev. 201.0 and 198.0. ft.

N — BLOWS/FT

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT:	Office Building
DATE:	29 Sept 67
HOLE NO.:	E 8
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	
APPROVED:	CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	206.9
GROUND WATER:	
BEDROCK SURFACE:	204.1
GAUGE READING:	
BOTTOM OF HOLE:	180.3

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_0

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.9	0.0
		SAND-GRAVEL with Silt trace	206.6 204.1	2.8
	Rock core	LIMY DOLOMITE to DOLOMITIC LIMESTONE	196.1	
	Rock core	LIMESTONE	186.9	
	Rock core	LIMESTONE, mottled	185.3	
	Rock core	DOLOMITE	180.3	26.6

N — BLOWS/FT

Drilled	Recovery (ft)
1.4	0.8
2.5	1.5
5.0	4.9
4.9	4.9
3.2	3.2
5.0	4.9
1.8	1.8

Notes:
1. Bedrock weatherdd above elevation 197.7 ft.
2. Limestone and mud seam 0.2 ft. thick at elevation 200.7 ft.
3. Open joint (70°) at elevation 197.7 ft.
4. Near-vertical calcite stringers between elevs. 184.0 & 180.3 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	5 Oct 67
HOLE NO.:	F1
PROJECT:	Office Building
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	TWW
APPROVED:	CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	207.3
GROUND WATER:		BEDROCK SURFACE:	206.0
GAUGE READING:		BOTTOM OF HOLE:	179.4

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.3	0.0
		SAND-GRAVEL, Silt tr.	207.0	
	Rock core		206.0	1.3
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	194.8	
	Rock core	LIMESTONE	185.3	
	Rock core	LIMESTONE, mottled	183.5	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	179.4	27.9

N — BLOWS/FT

Drilled	Recovery (ft)
2.2	2.2
2.3	1.8
5.1	5.1
4.9	5.0
5.0	4.8
4.9	4.9
2.2	2.8

Notes:
1. Bedrock weathered above elevation 201.3 ft.
2. Possible, near-vertical, fracture between elevations 191.7 and 190.8 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	4 Oct 68
HOLE NO.:	F 2
PROJECT:	Office Building
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	RW
APPROVED:	CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	207.3
GROUND WATER:		BEDROCK SURFACE:	205.8
GAUGE READING:		BOTTOM OF HOLE:	179.7

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION $(q_u/2)$
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.3	0.0
		SAND-GRAVEL, Silt tr.	207.0	
	Rock core		205.8	1.5
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE		
	Rock core		194.6	
	Rock core	LIMESTONE		
	Rock core		185.1	
	Rock core	LIMESTONE, mottled	183.8	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	179.7	27.6

N — BLOWS/FT

Drilled	Recovery (ft)
1.7	1.4
2.1	2.0
5.2	5.0
5.0	5.0
5.0	4.8
4.8	4.8
2.3	2.3

Notes:
1. Bedrock weathered above elevation 201.9 ft.
2. Calcite stringer with pyrite, 3/8" thick, partly porous, near-vertical, between elevs. 186.8 and 185.1 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
DATE: 4 Oct 67
HOLE NO.: F 3
PROJECT: Office Building
BORING BY: N.B. & S.
FILE NO.: 32-3166

BORING RECORD NO.: 2916 | DRAWN: KC | CHECKED: [signature] | APPROVED: COT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 207.3
- GROUND WATER:
- BEDROCK SURFACE: 203.9
- GAUGE READING:
- BOTTOM OF HOLE: 179.2

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.3	0.0
		SAND-GRAVEL with Silt trace	207.0 203.9	3.4
	Rock core	DOLOMITIC LIMESTONE to LIMY DOLOMITE	195.1	
	Rock core	LIMESTONE	186.0	
	Rock core	LIMESTONE, mottled	184.5	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	179.2	28.1

N — BLOWS/FT

Drilled	Recovery (ft)
0.5	0.3
4.9	4.9
5.0	5.0
5.0	4.9
5.0	5.0
4.3	4.3

Notes:
1. Bedrock weathered above elevation 198.2 ft.
2. Thin mud seam at elevation 202.0 ft.
3. Thin calcite stringers between elevations 203.0 and 200.2 ft.
4. Calcite inclusion at elev. 196.1 ft.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.

PROJECT: Office Building

DATE: 4 Oct 67

HOLE NO.: F 4

BORING BY: N.B. & S.

FILE NO.: 32-3166

BORING RECORD NO.: 2916 | DRAWN: KC | CHECKED: RW | APPROVED: CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 206.9
- GROUND WATER:
- BEDROCK SURFACE: 203.9
- GAUGE READING:
- BOTTOM OF HOLE: 179.7

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.9	0.0
		SAND-GRAVEL with Silt trace	206.6 203.9	3.0
	Rock core	LIMY DOLOMITE to DOLOMITIC LIMESTONE	196.9	
	Rock core	LIMESTONE	186.1	
	Rock core	LIMESTONE, mottled	184.6	
	Rock core	DOLOMITE to LIMESTONE	179.7	27.2

N — BLOWS/FT

Drilled	Recovery (ft)
1.9	1.8
5.0	5.0
5.0	5.0
4.9	4.9
4.8	4.8
2.6	2.6

Notes:
1. Bedrock weathered above elevation 200.2 ft.
2. Near-vertical joint, weathered, between elevs. 203.9 & 202.0 ft.
3. Calcite stringer, 3/8" thick, near-vertical, partly porous, elevations 181.6 to 179.7 ft..

REMARKS

DWG. NO. A473

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
DATE: 30 Sept 67
HOLE NO.: F 5
PROJECT: Office Building
BORING BY: N.B. & S.
FILE NO.: 32-3166

BORING RECORD NO.: 2916 | DRAWN: KC | CHECKED: RW | APPROVED: CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic		GROUND SURFACE:	206.9
GROUND WATER:		BEDROCK SURFACE:	203.9
GAUGE READING:		BOTTOM OF HOLE:	180.1

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.9	0.0
		SAND-GRAVEL with Silt trace	206.6 203.9	3.0
	Rock core	DOLOMITE to LIMESTONE	185.9	
	Rock core	LIMESTONE, mottled	184.3	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	180.1	26.8

N — BLOWS/FT.

Drilled	Recovery (ft)
1.7	1.7
4.9	4.8
3.6	3.5
4.9	4.9
4.5	4.4
4.2	4.2

Note:
1. Bedrock weathered above elevation 199.6 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT:	Office Building
DATE:	2 Oct 67
HOLE NO.:	F 6
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	RMJ
APPROVED:	CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	207.0
GROUND WATER:	
BEDROCK SURFACE:	204.0
GAUGE READING:	
BOTTOM OF HOLE:	178.8

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.0	0.0
		SAND-GRAVEL with Silt trace	206.7 204.0	3.0
	Rock core	LIMY DOLOMITE	197.3	
	Rock core	LIMESTONE	186.1	
	Rock core	LIMESTONE, mottled	184.7	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	178.8	28.2

N — BLOWS/FT

Drilled	Recovery (ft)
1.4	1.4
5.3	5.0
1.0	0.9
4.8	4.7
4.3	4.4
4.8	4.8
3.6	3.6

Notes:
1. Bedrock weathered above elevation 200.4 ft.
2. Broken limestone seams at elevation 197.3 and 196.3 ft.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
DATE: 30 Sept 67
HOLE NO.: F 7
PROJECT: Office Building
BORING BY: N.B. & S.
FILE NO.: 32-3166

BORING RECORD NO.: 2916
DRAWN: KC
CHECKED: RWJ
APPROVED: CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 206.9
- GROUND WATER:
- BEDROCK SURFACE: 204.3
- GAUGE READING:
- BOTTOM OF HOLE: 180.3

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT.
		Asphalt Pavement	206.9	0.0	
		SAND-GRAVEL with Silt trace	206.6 204.3	2.6	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	195.6		
	Rock core	LIMESTONE	186.5		
	Rock core	LIMESTONE, mottled	184.8		
	Rock core	DOLOMITE to LIMY DOLOMITE	180.3	26.6	

Drilled	Recovery (ft)
1.8	1.6
5.1	5.1
5.0	4.9
5.0	4.9
4.9	4.9
2.2	2.2

Notes:
1. Bedrock weathered above elevation 199.5 ft.
2. Weak limestone seam, 0.2 ft. thick, at elevation 199.7 ft.
3. Broken shale and mud seam 0.2 ft. thick at elev. 196.9 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	2 Oct 67
HOLE NO.:	F 8
PROJECT:	Office Building
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	RW
APPROVED:	CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	206.6
GROUND WATER:		BEDROCK SURFACE:	204.9
GAUGE READING:		BOTTOM OF HOLE:	179.4

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	206.6	0.0
		SAND-GRAVEL, Silt tr.	206.3	
	Rock core		204.9	1.7
	Rock core	LIMESTONE to LIMY DOLOMITE	195.6	
	Rock core	LIMESTONE	186.9	
	Rock core	LIMESTONE, mottled	185.1	
	Rock core	DOLOMITE TO DOLOMITIC LIMESTONE	179.4	27.2

N — BLOWS/FT

Drilled	Recovery (ft)
1.1	1.1
5.0	4.7
5.0	5.0
5.0	5.0
5.0	4.9
3.4	3.5

Notes:
1. Bedrock weathered above elevation 198.1 ft.
2. Mud seams, 0.2 ft. thick, at elevations 204.0 & 200.3 ft.
3. Weak limestone seams at elevations 198.1 and 197.0 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE

DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	3 Oct 67
HOLE NO.:	G 2
PROJECT:	Office Building
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	RWN
APPROVED:	CDT

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 207.4
GROUND WATER:	BEDROCK SURFACE: 205.8
GAUGE READING:	BOTTOM OF HOLE: 179.1

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:

- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.4	0.0
		SAND-GRAVEL, Silt tr.	207.2	
			205.8	1.6
		LIMY DOLOMITE to DOLOMITIC LIMESTONE		
			194.4	
		LIMESTONE		
			185.7	
		LIMESTONE, mottled	183.9	
		DOLOMITE to DOLOMITIC LIMESTONE		
			179.1	28.3

N — BLOWS/FT.

Drilled	Recovery (ft)
2.2	1.9
1.8	1.8
5.2	5.1
5.0	4.8
4.9	4.9
4.8	4.8
2.8	2.8

Notes:

1. Bedrock slightly weathered above elevation 203.6 ft.
2. Hairline calcite stringers, near-vertical, between elevs. 204.0 and 201.9 and elevs. 197.0 and 195.0 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	3 Oct 67
HOLE NO.:	G 3
PROJECT:	Office Building
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	[signature]
APPROVED:	CNT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 207.3
GROUND WATER:	BEDROCK SURFACE: 206.5
GAUGE READING:	BOTTOM OF HOLE: 179.4

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.3	0.0
		SAND-GRAVEL, Silt tr.	207.1	
	Rock core		206.5	0.8
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	196.8	
	Rock core	LIMESTONE	185.9	
	Rock core	LIMESTONE, mottled	183.8	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	179.4	27.9

N — BLOWS/FT.

Drilled	Recovery (ft)
1.6	1.5
1.7	1.7
3.0	2.8
5.0	5.0
4.8	4.8
5.0	4.8
4.8	4.8

Notes:
1. Top 1.2 ft. of bedrock drilled with BX casing, no core.
2. Bedrock weathered above elevation 201.7 ft.
3. 80° joint at elevation 204.3 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE

DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	4 Oct 67
HOLE NO.:	G 4
PROJECT:	Office Building
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	[signature]
APPROVED:	[signature]

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	207.3
GROUND WATER:		BEDROCK SURFACE:	204.5
GAUGE READING:		BOTTOM OF HOLE:	178.9

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT
		Asphalt Pavement	207.3	0.0	
		SAND-GRAVEL with Silt trace	207.0 204.5	2.8	
	Rock core	DOLOMITE to LIMESTONE	186.4		
	Rock core	LIMESTONE, mottled	184.5		
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	178.9	28.4	

Drilled	Recovery (ft)
1.9	1.9
5.0	5.0
4.9	4.8
5.0	5.0
5.0	5.0
3.8	3.8

Notes:
1. Bedrock weathered above elevation 202.3 ft.
2. Broken, thin limestone seams at elevations 199.7 & 197.5 ft.
3. Calcite stringers to 3/8", slight displacement (minor fault), between elevs. 198.0 & 193.8 ft.
4. Hairline calcite stringer between elevs. 184.5 & 183.0 ft.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT:	Office Building
DATE:	3 Oct 67
HOLE NO.:	G 5
BORING BY:	N.B. & S.
FILE NO.:	32-3166
BORING RECORD NO.:	2916
DRAWN:	KC
CHECKED:	RWL
APPROVED:	CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 207.0
- GROUND WATER:
- BEDROCK SURFACE: 204.2
- GAUGE READING:
- BOTTOM OF HOLE: 179.5

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.0	0.0
		SAND-GRAVEL with Silt trace	206.7 204.2	2.8
	Rock core	LIMY DOLOMITE to DOLOMITIC LIMESTONE	197.2	
	Rock core	LIMESTONE	186.1	
	Rock core	LIMESTONE, mottled	184.3	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	179.5	27.5

N — BLOWS/FT

Drilled	Recovery (ft)
2.1	2.1
4.9	4.3
3.4	3.4
4.7	4.7
4.8	4.8
4.8	4.8

Note:
1. Bedrock weathered above elevation 202.5 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
DATE: 3 Oct 67
HOLE NO.: G 6
PROJECT: Office Building
BORING BY: N.B. & S.
FILE NO.: 32-3166

BORING RECORD NO.: 2916
DRAWN: KC
CHECKED: [signature]
APPROVED: CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
DATUM: Geodetic
GROUND SURFACE: 207.1
GROUND WATER:
BEDROCK SURFACE: 203.9
GAUGE READING:
BOTTOM OF HOLE: 179.1

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION $(q_u/2)$
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.1	0.0
		SAND-GRAVEL with Silt trace	206.8 203.9	3.2
	Rock core	DOLOMITE AND LIMESTONE	194.9	
	Rock core	LIMESTONE	186.1	
	Rock core	LIMESTONE, mottled	184.7	
	Rock core	DOLOMITE to DOLOMITIC LIMESTONE	179.1	28.0

Drilled	Recovery (ft)
1.8	1.7
5.0	4.6
4.7	5.0
4.7	4.7
5.0	5.0
3.6	3.6

Note:
1. Bedrock weathered above elevation 202.1 ft.
2. Calcite inclusion at elevation 203.5 ft.

N — BLOWS/FT

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
DATE: 2 Oct 67
HOLE NO.: G 7
PROJECT: Office Building
BORING BY: N.B. & S.
FILE NO.: 32-3166

BORING RECORD NO.: 2916 | DRAWN: KC | CHECKED: RW | APPROVED: CDT

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
DATUM: Geodetic | GROUND SURFACE: 207.0
GROUND WATER: | BEDROCK SURFACE: 204.7
GAUGE READING: | BOTTOM OF HOLE: 179.3

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		Asphalt Pavement	207.0	0.0
		SAND-GRAVEL, Silt tr.	206.7	
			204.7	2.3
		LIMY DOLOMITE		
			197.6	
		LIMESTONE		
			186.2	
		LIMESTONE, mottled	184.7	
		DOLOMITE to DOLOMITIC LIMESTONE		
			179.3	27.7

N — BLOWS/FT

Drilled	Recovery (ft)
1.8	1.5
5.3	5.2
3.7	3.7
4.8	4.8
4.8	4.8
5.0	5.0

Notes:
1. Bedrock weathered above elevation 202.4 ft.
2. Weathered, near-vertical joint elevs. 204.4 to 203.4 ft.
3. Seam of limestone pebbles at elevation 202.8 ft.
4. Thin calcite stringers between elevs. 199.9 and 197.6 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	Apr. 26/68
HOLE NO.:	1
PROJECT:	D.B.S. NEW BUILDING
BORING BY:	M.B. Rabb
FILE NO.	32-3289
BORING RECORD NO.:	2935
DRAWN:	
CHECKED:	DKG
APPROVED:	RWI

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- NX ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	204.6
GROUND WATER:		BEDROCK SURFACE:	200.4
GAUGE READING:		BOTTOM OF HOLE:	158.9

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		TOPSOIL-CLAYEY SANDY	204.6	0.0
7	Disturbed	SILT, dark grey-brown to brown (loose)	202.3	2.3
8	Disturbed	SILTY SAND, few roots yellowish brown (loose)	200.4	4.2
	Rock core	LIMESTONE, few shaly partings and stylolites, mainly fine grained, dark grey to grey, beds to at least 1.4 ft. thick.	178.0	
	Rock core	DOLOMITIC LIMESTONE	173.9	
	Rock core	LIMESTONE (as above) beds to at least 2.0 ft. thick	158.9	45.7

N 5 10 15 BLOWS/FT

3 bl. for 0.5 ft.

Drilled	Recovery (ft.)
2.0	1.8
4.8	4.4
5.1	5.0
4.9	4.8
4.7	4.5
5.0	4.9
5.0	4.8
5.0	4.8
5.0	5.0

NOTES:
1. Top 2 ft. of bedrock broken and jointed.
2. Porous zones at elevs. 188.0, 176.2, 164.3 and 159.1 ft.
3. Near-vertical, mineralized joints at elevs. 186.9 and 171.9 ft.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	Apr. 23/68
HOLE NO.:	2
PROJECT:	D.B.S. NEW BUILDING
BORING BY:	M.B. Rabb
FILE NO.:	32-3289
BORING RECORD NO.:	2935
DRAWN:	
CHECKED:	[signature]
APPROVED:	[signature]

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- NX ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	204.8
GROUND WATER:		BEDROCK SURFACE:	199.8
GAUGE READING:		BOTTOM OF HOLE:	162.8

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:

- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		TOPSOIL-CLAYEY SANDY	204.8	0.0
3	Disturbed	SILT to SILTY SAND, dark grey to brown	201.8	
4	Disturbed	FINE SAND with some silt, yellowish brown (compact)	199.8	5.0
	Rock core	LIMESTONE, few shaly partings and stylolites, mainly fine grained, dark grey to grey, beds to at least 2.4 ft. thick	178.6	
	Rock core	DOLOMITIC LIMESTONE	174.2	
	Rock core	LIMESTONE (as above) beds to at least 2.0 ft. thick	162.8	42.0

N 5 10 15 BLOWS/FT

7 bl. for 0.5 ft.

Drilled	Recovery (ft.)
2.0	1.9
5.2	4.7
5.0	5.0
4.8	4.8
5.0	5.0
5.0	5.0
5.0	5.0
5.0	5.0

NOTES:

1. Top 2-1/2 ft. of bedrock broken with rust coated joints, sand seam reported at elev. 197.2 ft.
2. Few tight fractures and hairline calcite stringers in bedrock.
3. Full return of drilling water during rock coring.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	Apr. 25/68
HOLE NO.:	3
PROJECT:	D.B.S. NEW BUILDING
BORING BY:	M.B. Rabb
FILE NO.:	32-3289
BORING RECORD NO.:	2935
DRAWN:	
CHECKED:	akg
APPROVED:	RWJ

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE NX

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	205.1
GROUND WATER:		BEDROCK SURFACE:	201.0
GAUGE READING:		BOTTOM OF HOLE:	163.7

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, c_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		TOPSOIL-CLAYEY TO	205.1	0.0
5	Disturbed	SANDY SILT, dark brownish grey to brown	202.1	
6	Disturbed	SILTY SAND, yellowish brown	201.0	4.1
	Rock core	LIMESTONE few shaly partings and stylolites, mainly fine grained, dark grey to grey, some rust coated joints and broken rock in top 4 ft.	190.0	
	Rock core	LIMESTONE with brecciated and mineralized zones few slickensides (evidence of faulting) fractures and veins are steep dipping, dark grey to grey	163.7	41.4

N 5 10 15 BLOWS/FT

Drilled	Recovery (ft.)
1.1	0.7
4.9	4.5
5.0	5.0
3.1	3.2
5.0	4.7
4.8	5.0
3.6	3.0
5.1	4.9
4.7	4.3

Notes:
1. Rusty coated joints and fractures above elev. 182 ft.
2. Minerals are calcite, cellestite and possibly gypsum.
3. About 50% loss of drilling water during rock coring.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE

DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	Apr. 23/68
HOLE NO.:	4
PROJECT:	D.B.S. NEW BUILDING
BORING BY:	M.B. Rabb
FILE NO.:	32-3289
BORING RECORD NO.:	2935
DRAWN:	
CHECKED:	ahg
APPROVED:	RWD

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- NX ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	204.5
GROUND WATER:		BEDROCK SURFACE:	202.1
GAUGE READING:		BOTTOM OF HOLE:	162.3

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
2	Disturbed	TOPSOIL-CLAYEY SANDY SILT to SANDY SILT dark grey to brown	204.5 / 202.1	0.0 / 2.4
	Rock core	LIMESTONE few shaly partings and stylolites, mainly fine grained, dark grey to grey, beds to at least 1.7 ft. thick	162.3	42.2

N 5 10 15 BLOWS/FT

Drilled	Recovery (ft.)
2.3	1.5
1.0	0.9
1.7	2.2
4.9	4.9
5.1	5.0
5.1	5.0
5.0	5.0
4.7	4.8
5.3	4.8
4.7	4.4

Notes:
1. Top 5 ft. of bedrock broken, with rust coated joints.
2. Porous zones at elevs. 191.0 and 175.8 ft.
3. Slickensided, weak shaly seam at elev. 186.0 ft.
4. Numerous thin weak seams reported between elevs. 166.2 and 165.1 ft.

REMARKS
5. Occasional, near vertical, hairline, calcite stringers in the limestone.

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	Apr. 23/68
HOLE NO.:	5
PROJECT:	D.B.S. NEW BUILDING
BORING BY:	M.B. Rabb
FILE NO.:	32-3289
BORING RECORD NO.:	2935
DRAWN:	
CHECKED:	[signature]
APPROVED:	[signature]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- NX ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	204.1
GROUND WATER:	
BEDROCK SURFACE:	202.3
GAUGE READING:	
BOTTOM OF HOLE:	164.4

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
- FORMS: UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		TOPSOIL-SANDY SILT	204.1	0.0
1	Disturbed	dark grey to light br.	202.3	1.8
	Rock core	LIMESTONE few shaly partings and stylolites, mainly fine grained, dark grey to grey, beds to at least 1.5 ft. thick	175.8	
	Rock core	DOLOMITIC LIMESTONE beds to at least 1.9 ft. thick	169.4	
	Rock core	LIMESTONE (as above) beds to at least 1.3 ft. thick	164.4	39.7

N — 5 — 10 — 15 — BLOWS/FT

Drilled	Recovery (ft.)
1.8	0.6
3.1	2.2
3.5	3.8
4.8	4.7
5.1	5.1
5.0	5.0
5.2	5.1
4.4	4.4
5.0	4.9

Notes:
1. Top 5 ft. of bedrock badly broken with rust coated joints and sandy infilling.
2. Porous zones at elevs. 196.3, 188.9, 185.3, 183.4 and 174.0 ft.
3. Lost drilling water at elev. 179 ft.

REMARKS

DWG. NO. 2473

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
PROJECT:	Proposed D.B.S. Bldg.
DATE:	Nov. 27/69
HOLE NO.:	125
BORING BY:	Perreault
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	G.F.
CHECKED:	RBB
APPROVED:	JDB

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	205.1
GROUND WATER:	192 ☆
BEDROCK SURFACE:	198.0
GAUGE READING:	–
BOTTOM OF HOLE:	169.1

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			205.1	0.0
		TOPSOIL covering SAND-GRAVEL	198.0	7.1
	Rock core	LIMESTONE, appears to be sound, thin celestite filled 80° joint at elev. 197.	190.5	14.6
	Rock core	thick vt. celestite seam full dia. of core in spots, 80° mud stained jt. at 189.3	187.0	18.1
	Rock core	LIMESTONE, sound, water stained joints at elev. 182 and 175	169.1	36.0
		NOTE: Water lost at elev. 189		

N — BLOWS/FT

BEDROCK

Drilled	Recovered
2.5 ft.	2.5 ft.
5.0	5.0
3.3	3.0
5.0	5.0
1.3	1.3
2.9	2.9
2.7	2.6
1.2	1.2
5.0	5.0
28.9 ft.	28.5 ft.

REMARKS ☆ Water level ½ hour after pumping bore hole down to elev. 190

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: TUNNEY'S PASTURE, OTTAWA, ONT.
DATE: 27 Nov. 69
HOLE NO.: 126
PROJECT: Proposed D.B.S. Building
BORING BY: Perreault
FILE NO.: 32-3289

BORING RECORD NO.: 3011 | DRAWN: GF | CHECKED: [signature] | APPROVED: [signature]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 205.0
GROUND WATER: 190*	BEDROCK SURFACE: 200.0
GAUGE READING: -	BOTTOM OF HOLE: 167.3

PENETRATION RESISTANCE
STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING
UNDRAINED SHEAR STRENGTH, s_u
FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY
NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_P
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p'_0

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			205.0	0.0
		SIDEWALK covering SAND-GRAVEL	200.0	5.0
		LIMESTONE, fractured	199.0	6.0
		LIMESTONE, sound, vertical calcite stringers present from elevation 200 to elevation 185	185.0	20.0
		LIMESTONE-FAULT BRECCIA well recemented with calcite, competent, 70° mud stained joint at elevation 181	178.0	27.0
		LIMESTONE, sound	167.3	37.7

N — BLOWS/FT

BEDROCK

Drilled	Recovered
4.6 ft.	4.6 ft.
5.0	5.0
3.0	3.0
5.1	5.0
5.0	5.0
5.0	5.0
5.0	5.0
32.7 ft.	32.6 ft.

NOTE:

Water returned during drilling

REMARKS * Water level 1/2 hr. after pumping bore hole down to elevation 187.

DWG. NO. A473

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: TUNNEY'S PASTURE, OTTAWA, ONT.
DATE: Dec. 3/69
HOLE NO.: 127
PROJECT: Proposed D.B.S. Bldg.
BORING BY: Lafrange
FILE NO.: 32-3289

BORING RECORD NO.: 3011 | DRAWN: G.F. | CHECKED: Rlk | APPROVED: Gls

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 205.1
- GROUND WATER: 193☆
- BEDROCK SURFACE: 199.5
- GAUGE READING: -
- BOTTOM OF HOLE: 178.5

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
- FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_0

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			205.1	0.0
		TOPSOIL covering SILTY SAND-GRAVEL	199.5	5.6
	Rock core	LIMESTONE, fractured	198.5	6.6
	Rock core	LIMESTONE, sound with fault breccia zones well recemented with calcite between elev. 197 and 195, and between elev. 191 and 190, and 70° tight mud filled seam at elev. 195	178.5	26.6

N — BLOWS/FT

BEDROCK

Drilled	Recovered
2.4 ft.	2.4 ft.
2.0	2.0
1.6	1.6
5.0	5.0
5.0	5.0
5.0	5.0
21.0 ft.	21.0 ft.

NOTE: Water returned during drilling

REMARKS ☆ Water level measured 12 hours after completing bore hole.

DWG. NO. A475

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	DATE:	HOLE NO.:
TUNNEY'S PASTURE, OTTAWA, ONT.	Nov. 28/69	128
PROJECT:	**BORING BY:**	**FILE NO.:**
Proposed D.B.S. Bldg.	Lafrange	32-3289

BORING RECORD NO.:	DRAWN:	CHECKED:	APPROVED:
3011	G.F.	KWK	GDS

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	204.9
GROUND WATER:	–	BEDROCK SURFACE:	200.7
GAUGE READING:	–	BOTTOM OF HOLE:	179.3

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_0

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.9	0.0
		SILTY SAND-GRAVEL	200.7	4.2
	Rock core	LIMESTONE, fractured	199.0	5.9
	Rock core	LIMESTONE sound	179.3	25.6

N — BLOWS/FT

BEDROCK

Drilled	Recovered
2.0 ft.	1.5 ft.
4.4	4.4
5.0	5.0
5.0	5.0
5.0	5.0
21.4 ft.	20.9 ft.

NOTES: Water returned during drilling
BORE HOLE caved at elev. 200.4

REMARKS

FORM TL/TF 213

DWG. NO. A475

DWG. NO. A475

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
DATE:	Nov. 28/69
HOLE NO:	129
PROJECT:	Proposed D.B.S. Bldg.
BORING BY:	Lafrange
FILE NO:	32-3289
BORING RECORD NO.:	3011
DRAWN:	G.F.
CHECKED:	RGK
APPROVED:	GLS

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 204.8
GROUND WATER: 193☆	BEDROCK SURFACE: 200.2
GAUGE READING: -	BOTTOM OF HOLE: 176.8

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.8	0.0
		TOPSOIL covering SILTY SAND-GRAVEL	200.2	4.6
	Rock core	LIMESTONE, fractured	199.0	5.8
	Rock core	LIMESTONE, sound with 3" thick leached zone at 185.5	176.8	28.0

N ... BLOWS/FT.

BEDROCK

Drilled	Recovered
2.1 ft.	2.1 ft.
1.3	1.3
5.0	5.0
5.0	5.0
5.0	5.0
5.0	5.0
23.4 ft.	23.4 ft.

NOTE: Water returned during drilling

REMARKS ☆ Water level 1 hour after pumping bore hole down to elev. 185

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE

DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: TUNNEY'S PASTURE, OTTAWA, ONT.

DATE: Dec. 15/69

HOLE NO.: 130

PROJECT: Proposed D.B.S. Bldg.

BORING BY: Perreault

FILE NO.: 32-3289

BORING RECORD NO.: 3011

DRAWN: C F CHECKED: [illegible] APPROVED: [illegible]

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 204.6
GROUND WATER: –	BEDROCK SURFACE: 200.9
GAUGE READING: –	BOTTOM OF HOLE: 176.9

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:

- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

N — BLOWS/FT.

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.6	0.0
		TOPSOIL covering SAND-GRAVEL	200.9	3.7
		LIMESTONE, weathered sections, thin mud/seams, evidence of water movement soundness, questionable	195.6	9.0
		LIMESTONE, sound with tight mud or water stained horizontal joints at elev. 188.2, 186.8, 182.8 & 178.1; 45° tight jt. at 183.5; 2" thick zone of small unconnected pores at elev. 185.5	176.9	27.7

BEDROCK

Drilled	Recovered
1.3 ft.	0.8 ft.
1.0	1.0
1.3	1.2
5.1	5.0
5.1	5.0
5.1	5.0
5.1	5.0
24.0 ft.	23.0 ft.

NOTE: Water returned during drilling

REMARKS: Casing had to be drilled down to elev. 198.6 to prevent caving.

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	DATE:	HOLE NO.:
TUNNEY'S PASTURE, OTTAWA, ONT.	Dec. 12/69	131
PROJECT:	**BORING BY:**	**FILE NO.:**
Proposed D.B.S. Bldg.	Perreault	32-3289

BORING RECORD NO.: 3011 | DRAWN: C.F. | CHECKED: | APPROVED:

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	GROUND SURFACE:	GROUND WATER:	BEDROCK SURFACE:	GAUGE READING:	BOTTOM OF HOLE:
Geodetic	204.6	-	200.3	-	179.3

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.6	0.0
		TOPSOIL covering SAND-GRAVEL	200.3	4.3
	Rock core	LIMESTONE, weathered, core broken, soundness questionable	197.0	7.6
	Rock core	LIMESTONE, sound with tight horiz. joints at elev. 191.5, 191.1, 184.8 and 183.4; 2" thick zone of small unconnected pores at elev. 188.	179.3	25.3

N — BLOWS/FT

BEDROCK

Drilled	Recovered
0.7 ft.	0.5 ft.
5.0	5.0
5.1	5.0
5.1	5.0
5.1	5.0
21.0 ft.	20.5 ft.

NOTE: Water lost at elev. 198

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: TUNNEY'S PASTURE, OTTAWA, ONT.
DATE: Dec. 10/69
HOLE NO.: 132
PROJECT: Proposed D.B.S. Building
BORING BY: Perreault
FILE NO.: 32-3289

BORING RECORD NO.: 3011
DRAWN: G F
CHECKED:
APPROVED:

SAMPLE TYPE
UNDISTURBED
DISTURBED
BXF ROCK CORE

ELEVATION (FT.)
DATUM: Geodetic
GROUND SURFACE: 204.4
GROUND WATER: –
BEDROCK SURFACE: 201.2
GAUGE READING: –
BOTTOM OF HOLE: 178.4

PENETRATION RESISTANCE
STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING
UNDRAINED SHEAR STRENGTH, s_u
FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY
NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_p
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.4	0.0
		TOPSOIL covering SAND-GRAVEL	201.2	3.2
	Rock core	LIMESTONE, intact, weathered appearance, soundness questionable	197.5	6.9
	Rock core	LIMESTONE, sound with zones of small unconnected pores at elev. 198 (6" thick), 191.6 (2"), 190.5 (2") 186.6 (2"), 183.2 (2") vertical silt stained joint running from elev. 184.2 to 183.1	178.4	26.0

N — BLOWS/FT.

BEDROCK

Drilled	Recovered
2.7 ft.	2.6 ft.
5.0	5.0
5.0	5.0
5.1	5.1
5.0	5.0
22.8 ft.	22.7 ft.

NOTE: Water returned during drilling

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
PROJECT:	Basement Ext., Proposed D.B.S. Bldg.,
DATE:	26 Nov. 69
HOLE NO.:	104
BORING BY:	Lafrange
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	GLG
CHECKED:	Rld
APPROVED:	[illegible]

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

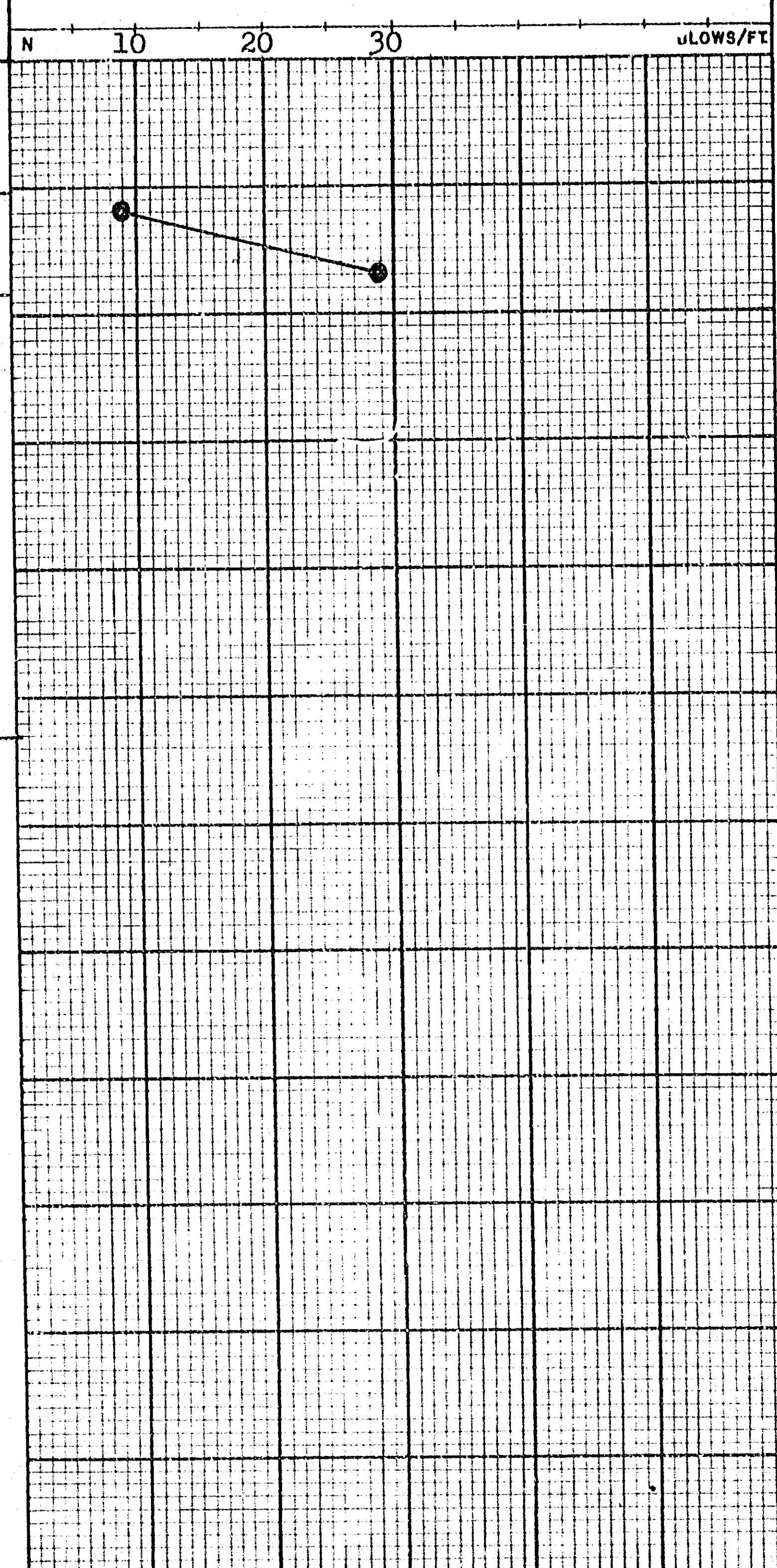
DATUM:	Geodetic	GROUND SURFACE:	204.9
GROUND WATER:	–	BEDROCK SURFACE:	200.7
GAUGE READING:	–	BOTTOM OF HOLE:	183.4

PENETRATION RESISTANCE
STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
UNCONFINED COMPRESSION $(q_u/2)$
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY
NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_p
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.9	0.0
109	Disturbed	TOPSOIL covering SILTY SAND with some Gravel,		
110	Disturbed	(loose to compact)	200.7	4.2
	Rock core	LIMESTONE, intact, top 6" may be broken	197.9	7.0
	Rock core	LIMESTONE, sound, with tight mud stained, 60° joint at elev. 195.4 ft.	183.4	21.5



BEDROCK

Drilled	Recovered
2.5 ft.	2.5 ft.
2.5	2.5
5.0	5.0
5.1	5.1
2.2	2.2
17.3 ft.	17.3 ft.

NOTE: Water returned during drilling

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
DATE:	12 Nov. 69
HOLE NO.:	105
PROJECT:	Basement Ext., Proposed D.B.S. Bldg.
BORING BY:	Perreault
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	GLG
CHECKED:	KLK
APPROVED:	GLG

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	204.6
GROUND WATER:	191*	BEDROCK SURFACE:	200.8
GAUGE READING:		BOTTOM OF HOLE:	183.0

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.6	0.0
		TOPSOIL covering SILTY SAND-GRAVEL	200.8	3.8
		LIMESTONE, sound with tight mud stained horizontal fractures at elev. 200.7, 199.8, 199.2 and 198.8 ft. also tight mud stained 70° joints at elev. 194, 189 and 184.5.	183.0	21.6

BEDROCK

Drilled	Recovered
4.8 ft.	4.8 ft.
5.0	5.0
5.0	5.0
3.0	3.0
17.8 ft.	17.8 ft.

NOTE: Water returned during drilling

N — BLOWS/FT

REMARKS: * Water level measured 1/2 hour after completing bore hole.

FORM TL/T 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
DATE:	7 Nov. 69
HOLE NO.:	106
PROJECT:	Basement Ext., Proposed D.B.S. Building
BORING BY:	Perreault
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	GLG
CHECKED:	RLK
APPROVED:	BLG

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	204.5
GROUND WATER:	190*	BEDROCK SURFACE:	200.5
GAUGE READING:		BOTTOM OF HOLE:	181.6

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

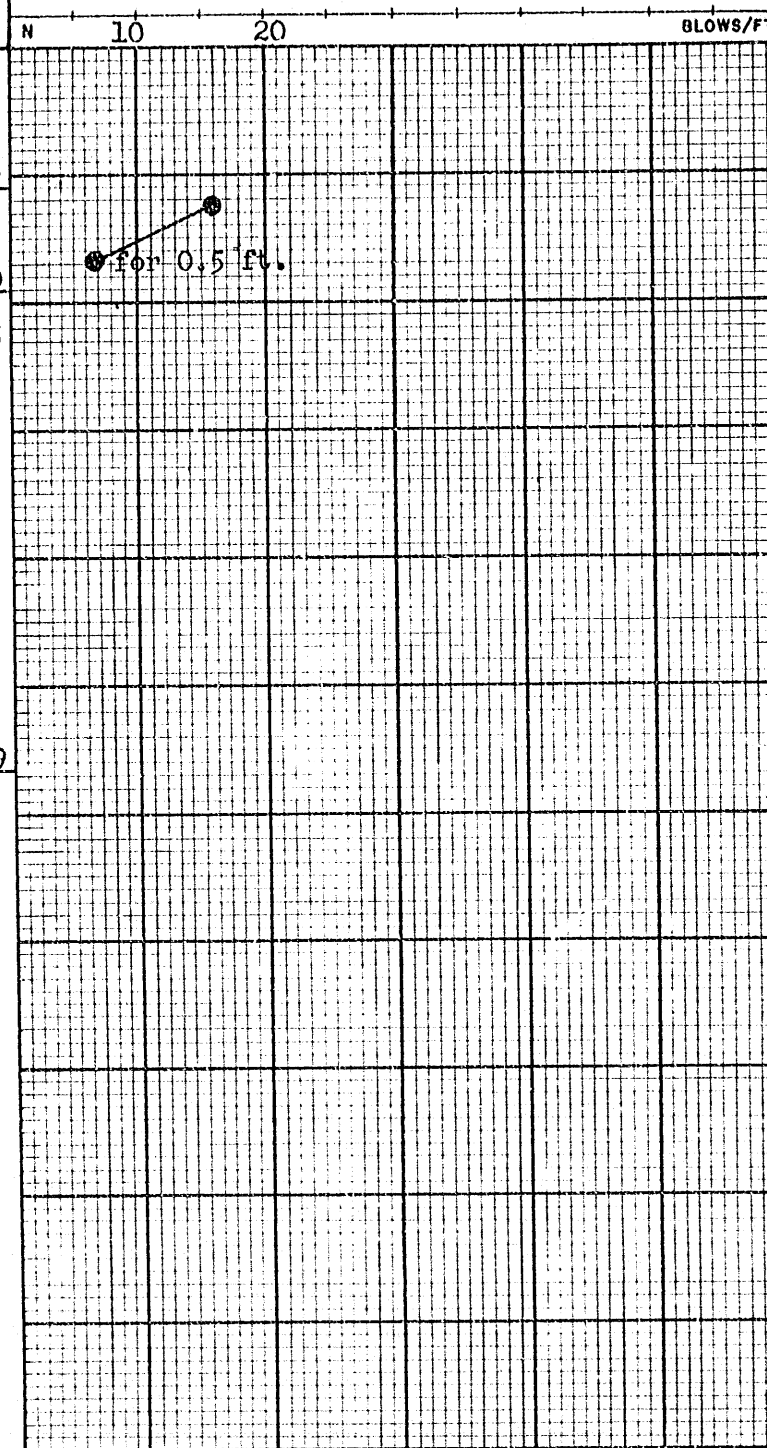
UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.5	0.0
4	Disturbed	TOPSOIL, SILTY SAND, and SAND-GRAVEL (compact)	200.5	4.0
	Rock core	LIMESTONE, intact soundness, questionable	198.0	6.5
	Rock core	LIMESTONE, sound with tight mud or water stained horizontal fractures at elev. 194, 191, 190 and 189.5 also zones of small unconnected pores at elev. 192 (2" thick) and elev. 185.5 (2" thick)	181.6	22.9



BEDROCK

Drilled	Recovered
2.2 ft.	2.2 ft.
0.8	0.8
5.3	5.0
0.6	0.6
5.0	5.0
5.0	5.0
18.9 ft.	18.6 ft.

NOTE: Water returned during drilling

REMARKS: * Water level measured 1/2 hour after completing bore hole.

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
DATE:	6 Nov. 69
HOLE NO.:	107
PROJECT:	Basement Ext., Proposed D.B.S. Bldg.
BORING BY:	Perreault
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	GLG
CHECKED:	RLK
APPROVED:	GLG

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE — BXF

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 204.5
GROUND WATER: 187*	BEDROCK SURFACE: 200.2
GAUGE READING:	BOTTOM OF HOLE: 182.2

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.5	0.0
		TOPSOIL covering SAND GRAVEL	200.2	4.3
	Rock core	LIMESTONE, intact soundness, questionable	199.2	5.3
	Rock core	LIMESTONE, sound with water stained fractures at elev. 197.5 ft.	182.2	22.3

N — BLOWS/FT.

BEDROCK

Drilled	Recovered
2.2 ft.	2.2 ft.
5.0	5.0
2.7	2.7
3.3	3.3
4.8	4.8
18.0 ft.	18.0 ft.

NOTE: Water lost at elev. 197 ft.

REMARKS * Water level measured 12 hours after completing bore hole.

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
PROJECT:	Basement Extension, Proposed D.B.S. Building.
DATE:	5 Nov. 69
HOLE NO.:	108
BORING BY:	Perreault
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	GF
CHECKED:	Rlck
APPROVED:	DW

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE (BXF)

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	204.5
GROUND WATER:	191*	BEDROCK SURFACE:	200.1
GAUGE READING:	–	BOTTOM OF HOLE:	180.9

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

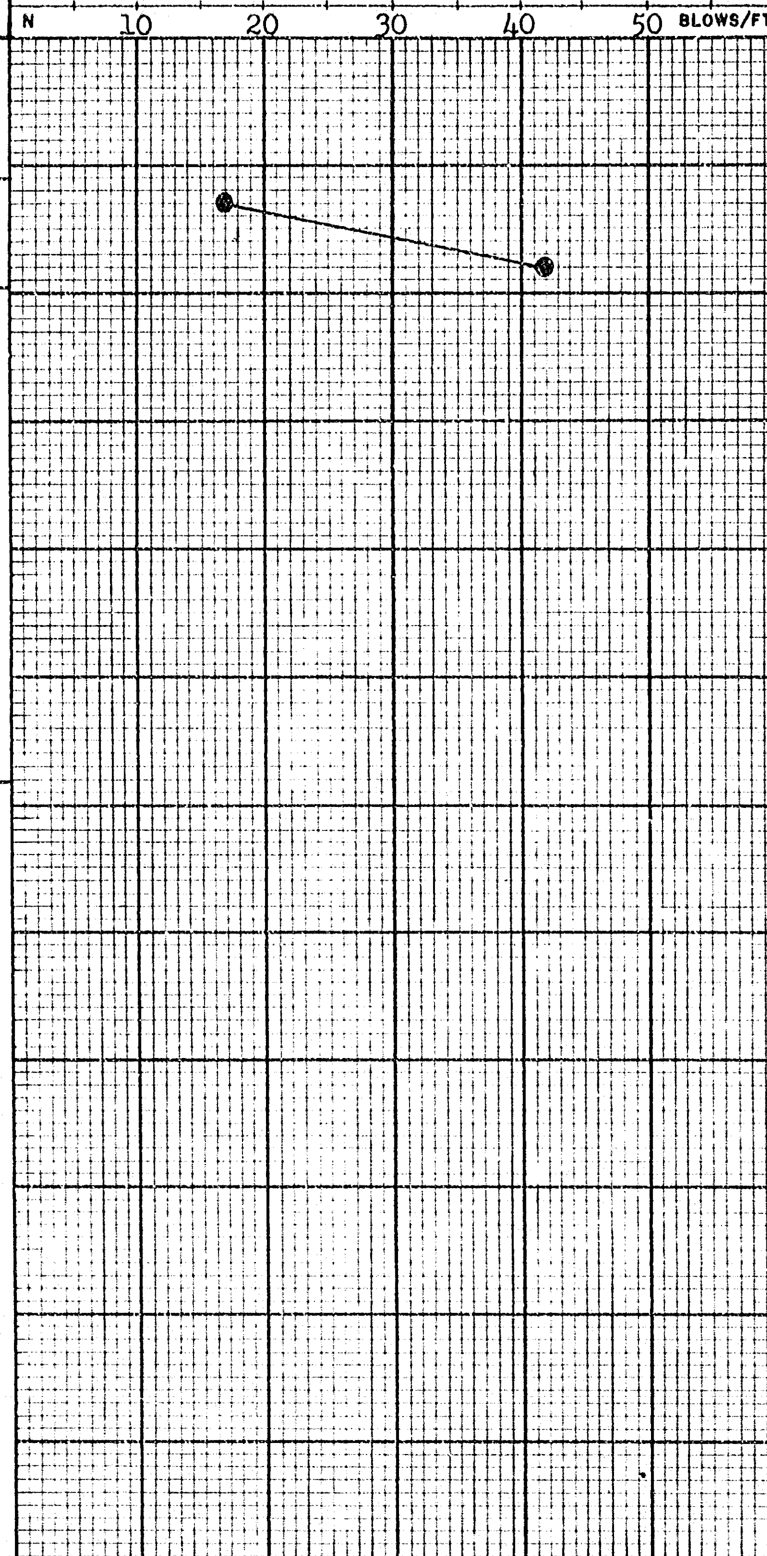
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.5	0.0
1, 2	Disturbed	TOPSOIL, SILTY SAND, and SAND-GRAVEL (compact to dense)	200.1	4.4
3	Rock core	LIMESTONE, calcite joint, soundness questionable.	199.0	5.5
	Rock core	LIMESTONE, sound, with tight 60° to 80° mud or water stained joints at elevation 197, 192, 189, and 184	180.9	23.6

BEDROCK

Drilled	Recovered
1.8 ft.	1.8 ft.
4.8	4.2
2.8	2.8
4.9	4.9
4.9	4.9
19.2 ft.	18.6 ft.

NOTE: Water returned during drilling



REMARKS *Water level measured 12 hours after completing bore hole.

DWG. NO. A473

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
PROJECT:	Basement Extension, Proposed D.B.S. Building.
DATE:	26 Nov. 69
BORING BY:	Perreault
HOLE NO.:	110
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	GF
CHECKED:	KEK
APPROVED:	GEY

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	204.9
GROUND WATER:	–	BEDROCK SURFACE:	199.7
GAUGE READING:	–	BOTTOM OF HOLE:	194.7

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.9	0.0
		SIDEWALK covering SAND-GRAVEL	199.7	5.2
	Rock core	LIMESTONE, sound	194.7	10.2
		BEDROCK Drilled: 5.0 ft. Recovered: 5.0 ft. NOTE: Water returned during drilling		

N — BLOWS/FT.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
DATE:	Nov. 25/69
HOLE NO.:	111
PROJECT:	Basement Ext. Proposed DBS Bldg.
BORING BY:	Perreault
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	G.F.
CHECKED:	RLK
APPROVED:	GES

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	204.9
GROUND WATER:	193☆	BEDROCK SURFACE:	200.3
GAUGE READING:	-	BOTTOM OF HOLE:	181.8

PENETRATION RESISTANCE

STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING

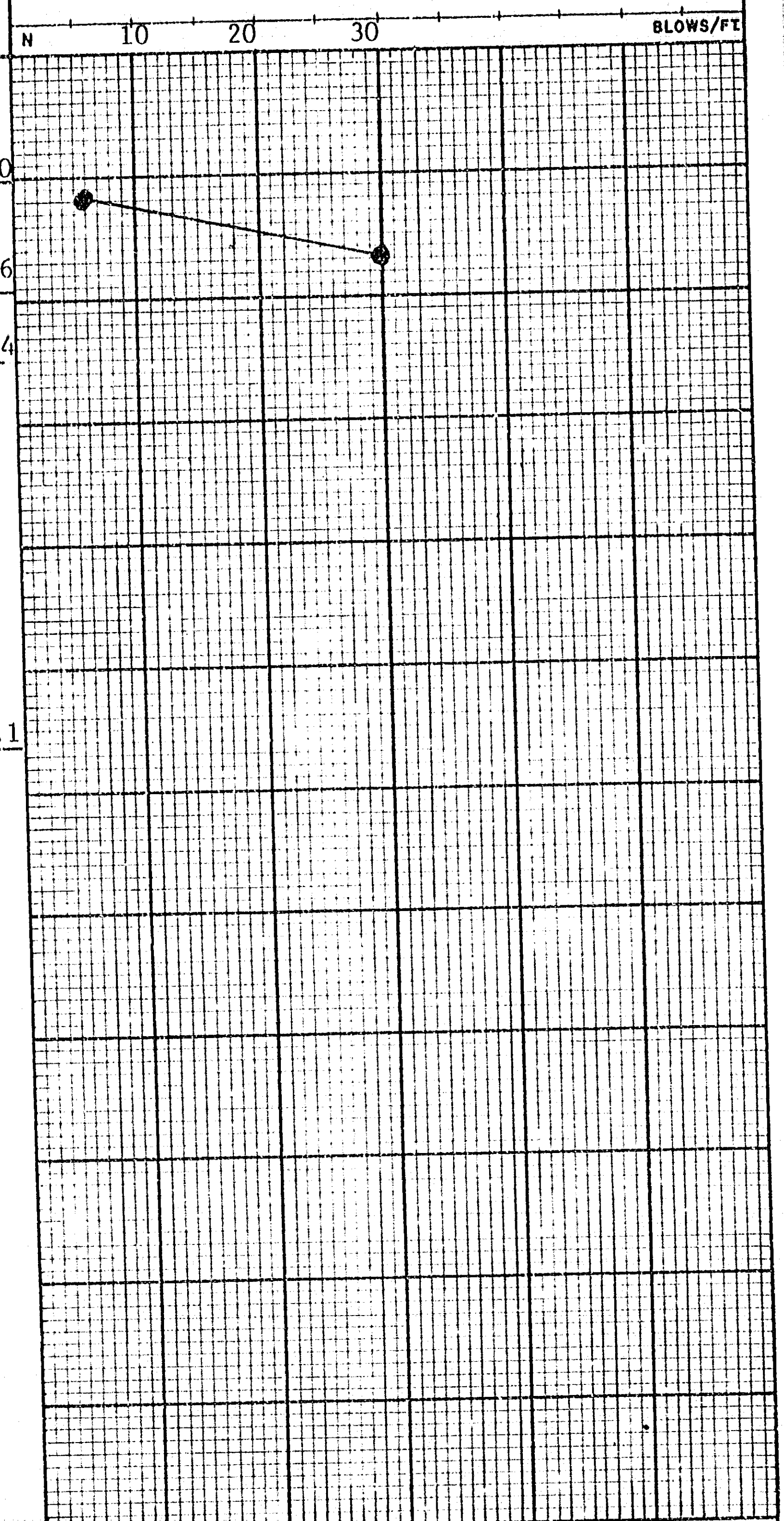
UNDRAINED SHEAR STRENGTH, s_u

FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY

NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_p
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.9	0.0
9	Disturbed	TOPSOIL covering SILTY SAND-GRAVEL		
10	Disturbed	(loose to compact)	200.3	4.6
	Rock core	LIMESTONE, intact, 80° celestite stringer, soundness questionable	197.5	7.4
	Rock core	LIMESTONE, sound	181.8	23.1



BEDROCK

Drilled	Recovered
6.0 ft.	5.0 ft.
5.0	5.0
5.0	5.0
2.5	2.5
18.5 ft.	17.5 ft.

NOTE: Water returned during drilling

REMARKS ☆ Water level measured 1 hour after completing bore hole

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
DATE:	Nov. 25/69
HOLE NO.:	112
PROJECT:	Basement Ext. Proposed DBS Bldg.
BORING BY:	Perreault
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	G.F.
CHECKED:	RLeb
APPROVED:	GES

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	204.9
GROUND WATER:	191☆	BEDROCK SURFACE:	200.2
GAUGE READING:	–	BOTTOM OF HOLE:	183.6

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
- FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT
			204.9	0.0	
		TOPSOIL covering SAND-GRAVEL	200.2	4.7	
	Rock core	LIMESTONE, fractured	199.0	5.9	
	Rock core	LIMESTONE, sound with near vertical celestite stringer from elev. 199 to 198, also one light water stained joint at elev. 188.5	183.6	21.3	

BEDROCK

Drilled	Recovered
1.6 ft.	1.5 ft.
5.0	5.0
5.0	5.0
5.0	5.0
16.6 ft.	16.5 ft.

NOTE: Water returned during drilling

REMARKS ☆ Water level measured 1 hour after completing bore hole

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
PROJECT:	Basement Ext. Proposed DBS Bldg.
DATE:	Nov. 24/69
HOLE NO.:	113
BORING BY:	Perreault
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	G. F.
CHECKED:	[signature]
APPROVED:	[signature]

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	204.8
GROUND WATER:	197☆	BEDROCK SURFACE:	199.4
GAUGE READING:	–	BOTTOM OF HOLE:	181.9

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

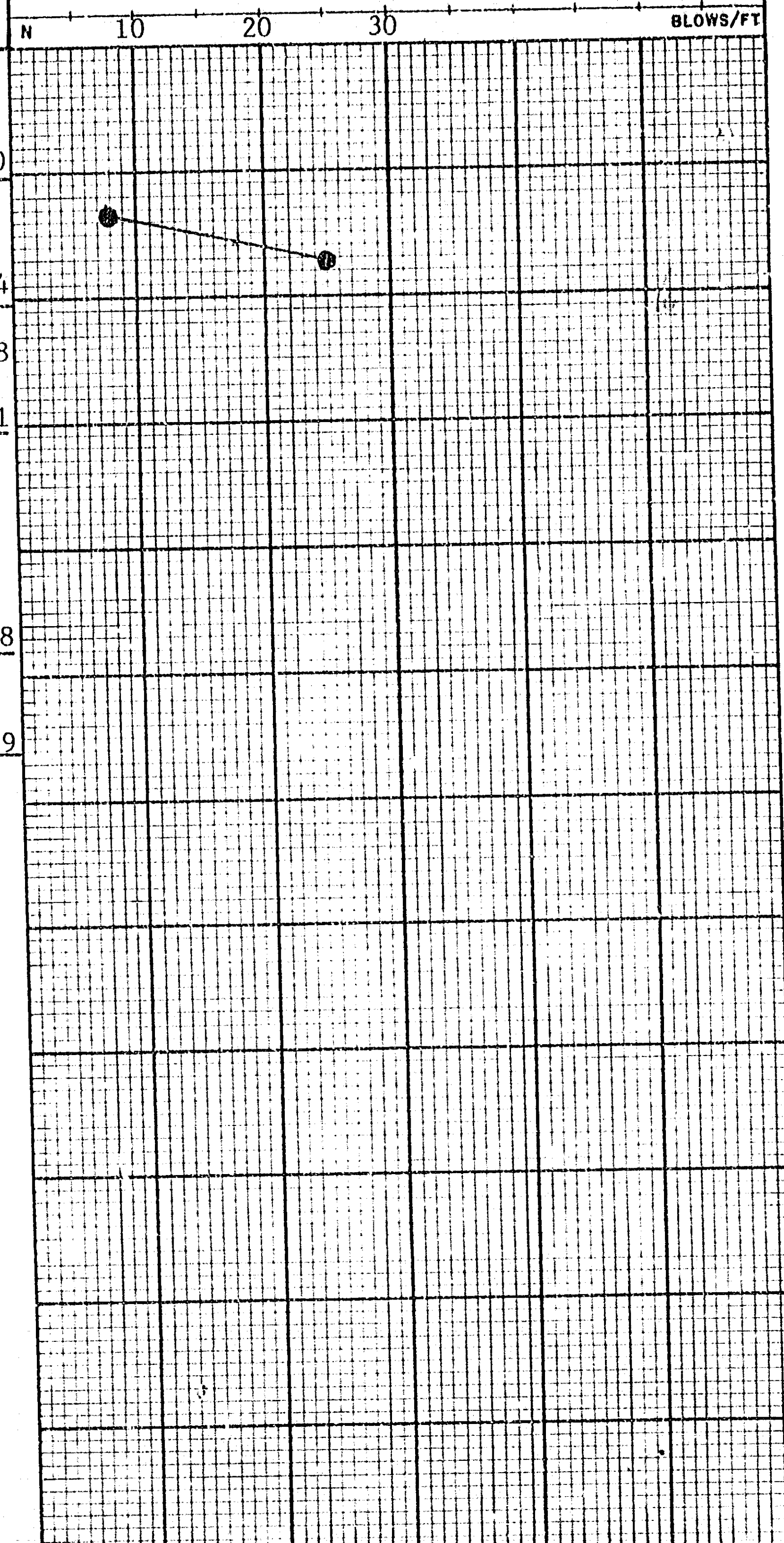
FORMS:

- UNCONFINED COMPRESSION $(q_u/2)$
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_0

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.8	0.0
7 8	disturbed disturbed	SIDEWALK covering SILTY SAND (loose to compact)	199.4	5.4
	rock core	LIMESTONE, sound minor horiz. slickensides	197.0	7.8
	rock core	LIMESTONE, soundness questionable, mud seams	194.7	10.1
	rock core	LIMESTONE - FAULT BRECCIA well recemented with calcite, competent, with water stained joint at elev. 188.5 ft., and 70° clay seam with thick calcite rehealed zone at elev. 187. Clay seam probably on fault.	186.0	18.8
	rock core	LIMESTONE, sound	181.9	22.9



BEDROCK

Drilled	Recovered
4.7 ft.	4.7 ft.
5.0	5.0
4.7	4.7
3.1	3.1
17.5 ft.	17.5 ft.

NOTE: Water returned during drilling

REMARKS ☆ Water level measured ½ hour after completing bore hole

DWG. NO. A473

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA
DATE:	Nov. 21/69
HOLE NO.:	114
PROJECT:	Basement Ext. Proposed DBS Bldg.
BORING BY:	Perreault
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	G.F.
CHECKED:	RLK
APPROVED:	GEG

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	204.5
GROUND WATER:	198☆	BEDROCK SURFACE:	200.7
GAUGE READING:		BOTTOM OF HOLE:	183.4

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N — BLOWS/FT
			204.5	0.0	
		TOPSOIL covering SAND-GRAVEL	200.7	3.8	
	BXF	LIMESTONE, intact, water stained fractures soundness questionable	198.5	6.0	
	BXF	LIMESTONE, sound, with horizontal slickensides at elev. 184.5 ft.	183.4	21.1	

BEDROCK

Drilled	Recovered
2.2 ft.	2.2 ft.
5.1	5.0
5.0	5.0
5.0	5.0
17.3 ft.	17.2 ft.

NOTE: Water returned during drilling

REMARKS ☆ Water level measured 1 hour after completing bore hole

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
DATE:	Nov. 20/69
HOLE NO.:	115
PROJECT:	Basement Ext. Proposed DBS Bldg.
BORING BY:	Perreault
FILE NO:	32-3289
BORING RECORD NO.:	3011
DRAWN:	G.F.
CHECKED:	RLeK
APPROVED:	[illegible]

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	204.6
GROUND WATER:	194☆	BEDROCK SURFACE:	201.0
GAUGE READING:	-	BOTTOM OF HOLE:	182.5

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

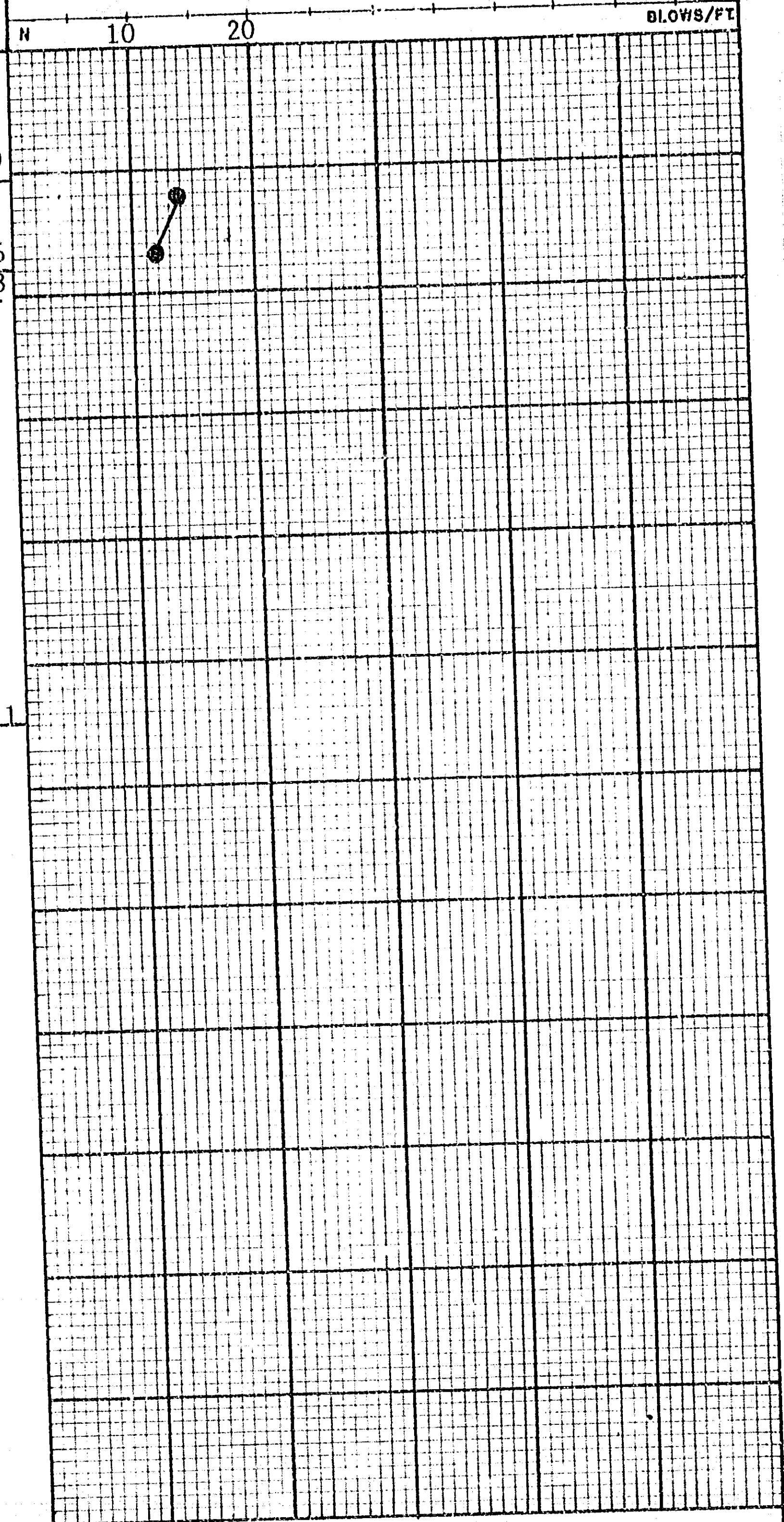
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.6	0.0
5		TOPSOIL covering SILTY SAND	201.0	3.6
6		LIMESTONE, broken	199.8	4.8
		LIMESTONE, sound with thin 90° celestite filled joint at elev. 187 ft.	182.5	22.1

N 10 20 BLOWS/FT.



BEDROCK

Drilled	Recovered
1.2 ft.	0.5 ft.
5.0	5.0
5.0	5.0
3.2	3.2
4.1	4.1
18.5 ft.	17.8 ft.

NOTE: Water returned during drilling

REMARKS ☆ Water level measured ½ hour after completing bore hole

FORM TL/TF 213

DWG. NO. A475

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: TUNNEY'S PASTURE, OTTAWA, ONT.
PROJECT: Basement Ext. Proposed DBS Bldg.
DATE: Nov. 18/69
BORING BY: Perreault
HOLE NO.: 116
FILE NO.: 32-3289

BORING RECORD NO.: 3011
DRAWN: G.F.
CHECKED: RGK
APPROVED: GLS

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 204.4
- GROUND WATER: -
- BEDROCK SURFACE: 200.8
- GAUGE READING: -
- BOTTOM OF HOLE: 182.5

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.4	0.0
		TOPSOIL covering SAND-GRAVEL	200.8	3.6
		LIMESTONE, intact water stained fractures soundness questionable	198.5	5.9
		LIMESTONE, sound with vertical water stained joint elev. 194.5 to 193.5 also zones of small unconnected pores at elev. 188 (5" thick) and elev. 185.5 (4" thick)	182.5	21.9

N — BLOWS/FT.

BEDROCK

Drilled	Recovered
2.2 ft.	2.2 ft.
1.2	1.1
5.1	5.0
1.0	0.9
5.2	5.0
3.6	3.6
18.3 ft.	17.8 ft.

NOTE: Water lost at elev. 200 ft.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
DATE:	Nov. 25/69
HOLE NO.:	117
PROJECT:	Basement Ext. Proposed DBS Bldg.
BORING BY:	Lafrange
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	G.F.
CHECKED:	RLeK
APPROVED:	[illegible]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

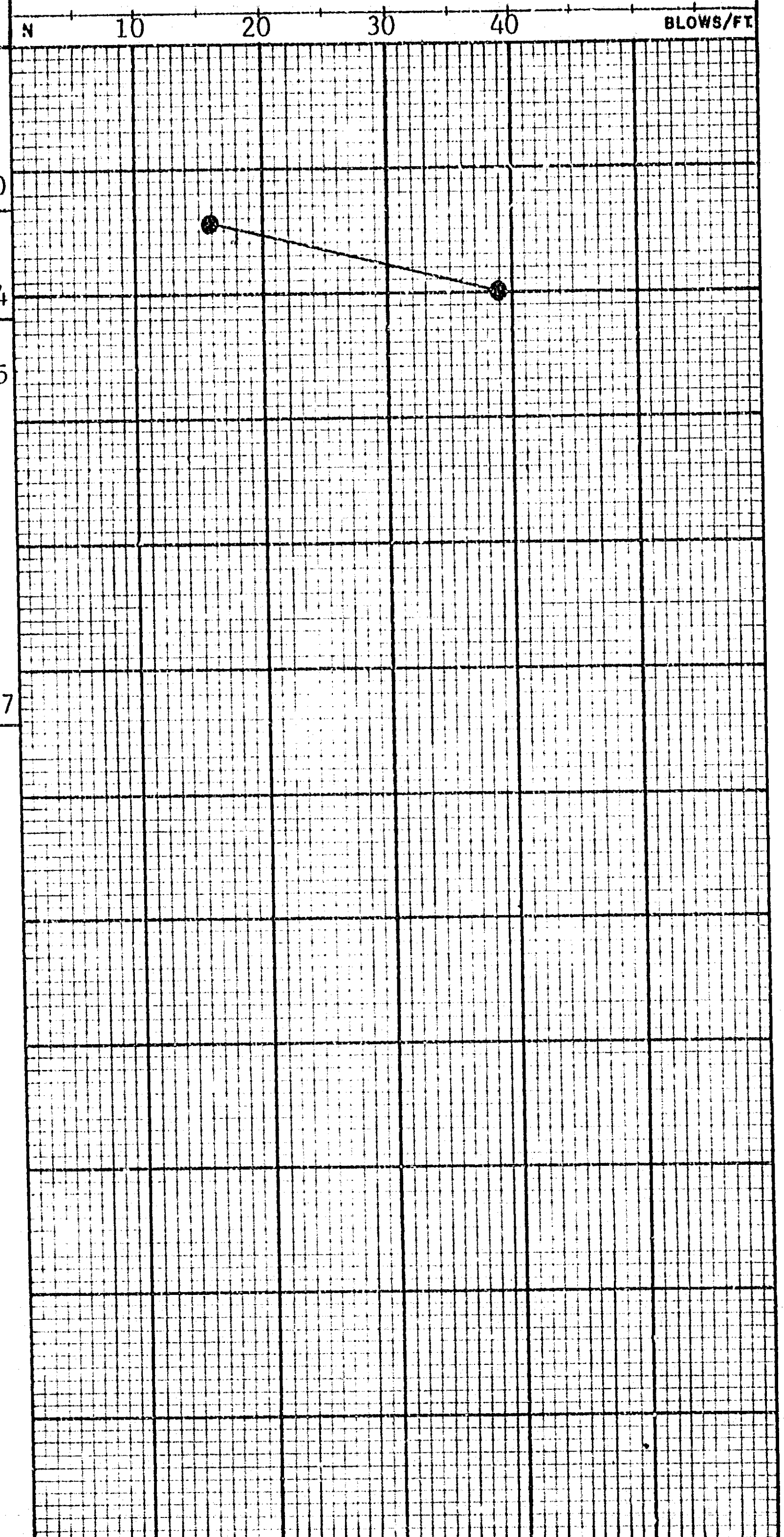
DATUM:	Geodetic	GROUND SURFACE:	203.5
GROUND WATER:	-	BEDROCK SURFACE:	199.1
GAUGE READING:	-	BOTTOM OF HOLE:	182.8

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			203.5	0.0
107	Disturbed	TOPSOIL covering SILTY SAND-GRAVEL		
108	Disturbed	(compact to dense)	199.1	4.4
	Rock core	LIMESTONE, fractured water stains	196.0	7.5
	Rock core	LIMESTONE, sound zone with small unconnected pores at elev. 188.5 (5" thick)	182.8	20.7



BEDROCK

Drilled	Recovered
1.9 ft.	1.9 ft.
0.7	0.7
1.2	1.0
5.0	5.0
5.0	5.0
2.5	2.5
16.3 ft.	16.1 ft.

NOTES:
Water returned during drilling. Bore Hole caved at elev. 197.

REMARKS

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
DATE:	Nov. 24/69
HOLE NO.:	118
PROJECT:	Basement Ext. Proposed DBS Bldg.
BORING BY:	Lafrange
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	G. F.
CHECKED:	[signature]
APPROVED:	[signature]

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	203.4
GROUND WATER:	–	BEDROCK SURFACE:	199.2
GAUGE READING:	–	BOTTOM OF HOLE:	182.2

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			203.4	0.0
		TOPSOIL covering SILTY SAND-GRAVEL	199.2	4.2
	Rock core	LIMESTONE, soundness questionable	197.2	6.2
	Rock core	LIMESTONE, sound zone with small unconnected pores at elev. 188.5 (6" thick)	182.2	21.2

N — BLOWS/FT.

BEDROCK

Drilled	Recovered
2.0 ft.	2.0 ft.
5.0	5.0
5.0	5.0
5.0	5.0
17.0 ft.	17.0 ft.

NOTE: Water returned during drilling

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
DATE:	Nov. 21/69
HOLE NO.:	119
PROJECT:	Basement Ext., Proposed DBS Bldg.
BORING BY:	Lafrange
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	G.F.
CHECKED:	RK
APPROVED:	GWS

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	203.2
GROUND WATER:	–	BEDROCK SURFACE:	198.5
GAUGE READING:	–	BOTTOM OF HOLE:	183.9

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

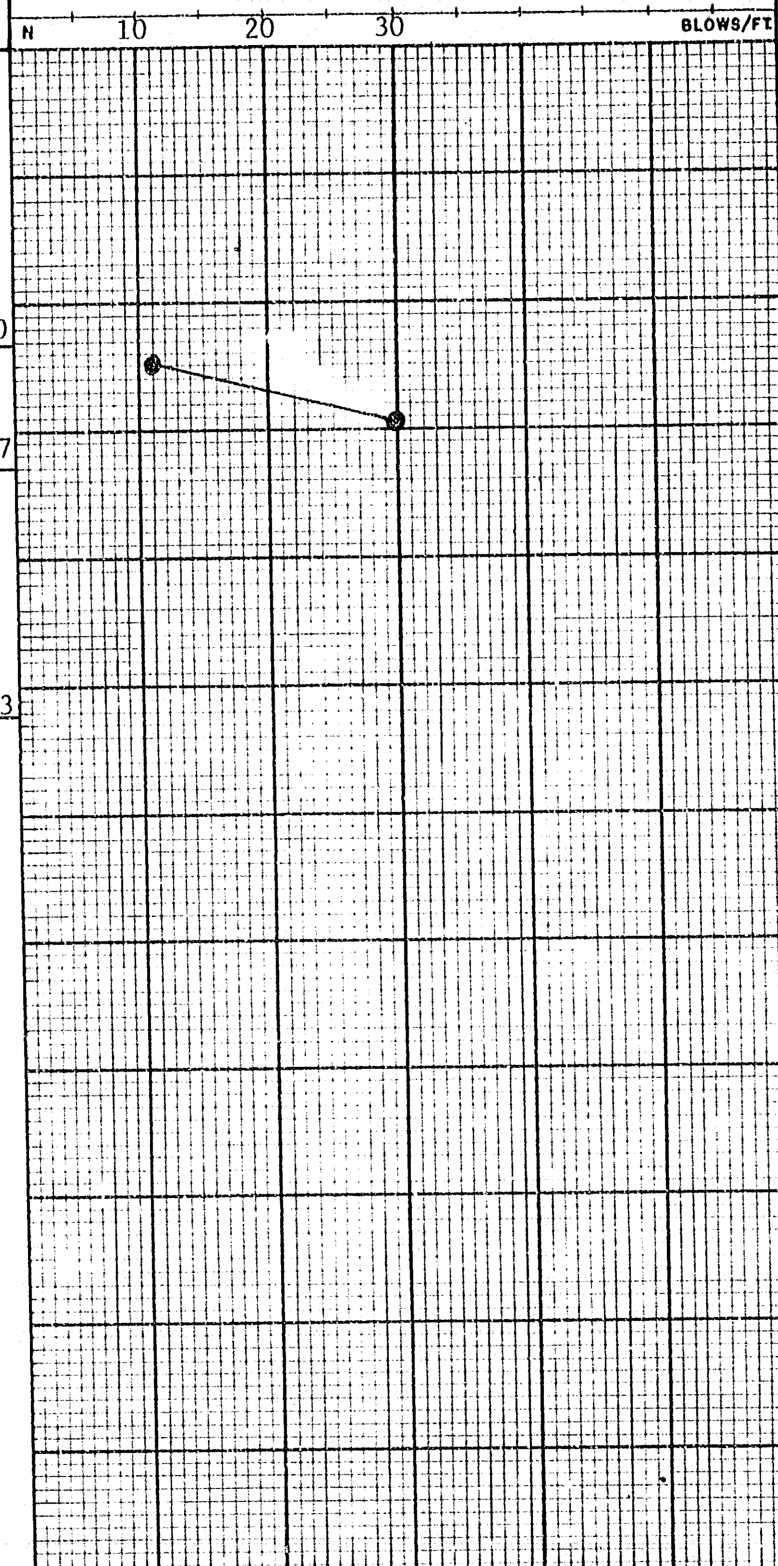
CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			203.2	0.0
105	Disturbed	TOPSOIL covering SILTY SAND-GRAVEL (compact)		
106	Disturbed		198.5	4.7
	Rock core	Top 0.5 ft. fractured remainder of LIMESTONE, sound, zones with small unconnected pores at elev. 187 (5" thick) and elev. 184.5 (5" thick)	183.9	19.3

BEDROCK

Drilled	Recovered
2.3 ft.	2.3 ft.
5.1	5.1
4.7	4.6
2.5	2.5
14.6 ft.	14.5 ft.

NOTE: Water returned during drilling



REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
DATE:	Nov. 19/69
HOLE NO.:	120
PROJECT:	Basement Ext. Proposed DBS Bldg.
BORING BY:	Lafrange
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	G.F.
CHECKED:	
APPROVED:	

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	203.1
GROUND WATER:	–	BEDROCK SURFACE:	199.6
GAUGE READING:	–	BOTTOM OF HOLE:	182.7

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:

- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT)	DEPTH (FT.)
			203.1	0.0
		TOPSOIL covering SILTY SAND-GRAVEL	199.6	3.5
	Rock core	Top 0.5 ft. may be fractured, remainder of LIMESTONE, sound zones with small unconnected pores at elev. 186.5 (2" thick) and elev. 184.5 (2" thick)	182.7	20.4

N — BLOWS/FT

BEDROCK

Drilled	Recovered
2.2 ft.	2.2 ft.
1.3	1.3
2.3	2.3
2.0	2.0
2.6	2.6
4.2	4.2
2.3	2.3
16.9 ft.	16.9 ft.

NOTE: Water lost at elev. 199

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
PROJECT:	Basement Ext., Proposed DBS Bldg.
DATE:	Nov. 18/69
HOLE NO.:	121
BORING BY:	Lafrange
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	G.F.
CHECKED:	RbK
APPROVED:	GeS

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	+203.1
GROUND WATER:	–	BEDROCK SURFACE:	197.6
GAUGE READING:	–	BOTTOM OF HOLE:	183.6

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

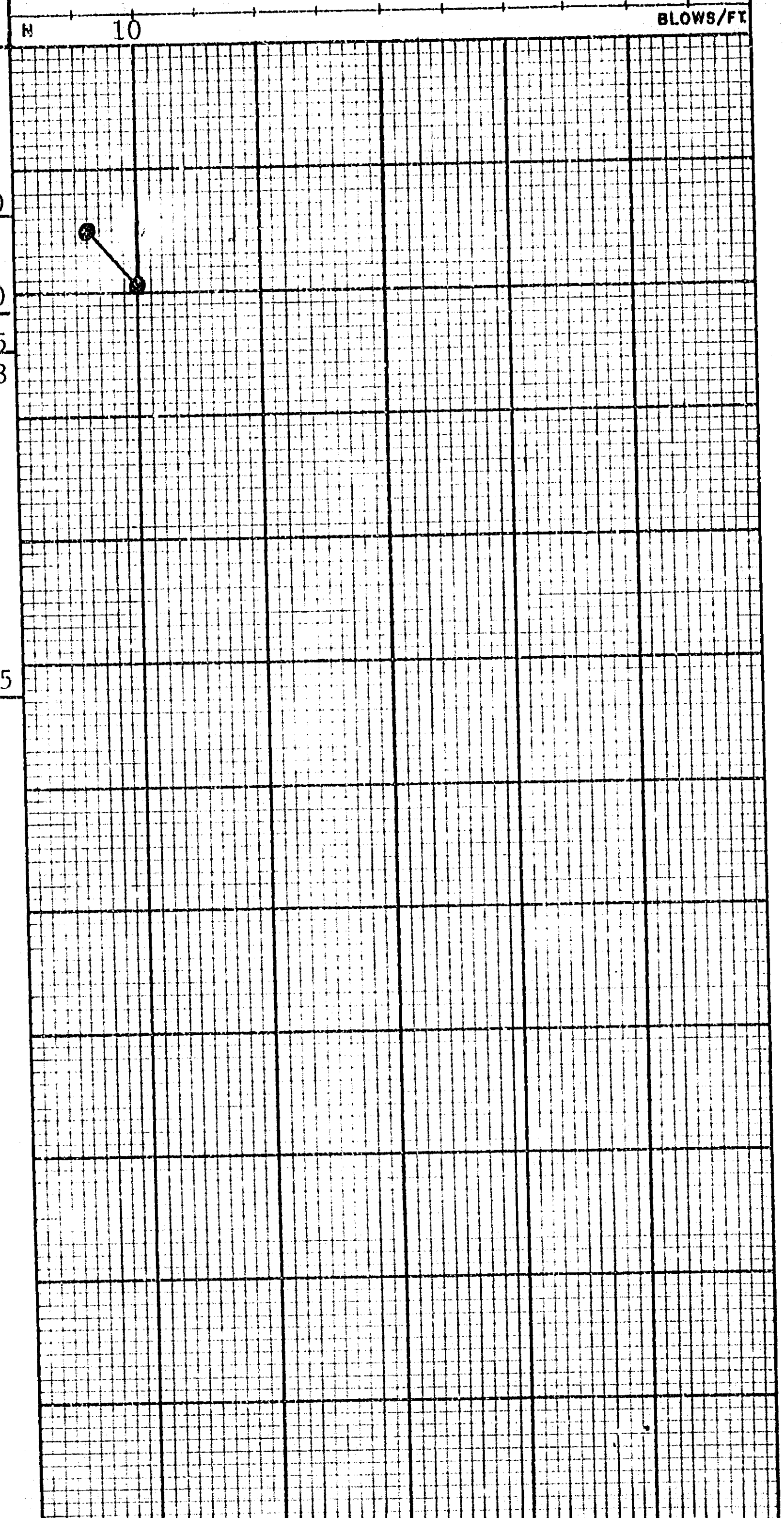
CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_0

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			203.1	0.0
103	Disturbed	TOPSOIL covering CLAYEY SILT (stiff)		
104	Disturbed		199.1	4.0
		BR. ROCK or CR. STONE	197.6	5.5
	Rock core	LIMESTONE, fractured	196.3	6.8
	Rock core	LIMESTONE, sound water stained vertical joint joint running from elev. 191.5 to 186, zones with small unconnected pores at elev. 186 (12" thick) and elev. 184 (3" thick)	183.6	19.5

BEDROCK

Drilled	Recovered
2.5 ft.	2.5 ft.
5.0	5.0
1.5	1.5
5.0	5.0
14.0 ft.	14.0 ft.

NOTE: Water returned during drilling



REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: TUNNEY'S PASTURE, OTTAWA, ONT.
DATE: Nov. 7/69
HOLE NO.: 122
PROJECT: Basement Ext., Proposed DBS Bldg.
BORING BY: Lafrange
FILE NO.: 32-3289

BORING RECORD NO.: 3011
DRAWN: G.F.
CHECKED: Kld
APPROVED: DLS

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 203.0
- GROUND WATER: -
- BEDROCK SURFACE: 199.5
- GAUGE READING: -
- BOTTOM OF HOLE: 182.2

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			203.0	0.0
		TOPSOIL covering SILTY SAND-GRAVEL	199.5	3.5
	Rock core	Top 0.5 ft. may be fractured, remainder of LIMESTONE, sound with horiz. water stained joints at elev. 198.5, 197.5, 197 and 195, zones with small unconnected pores at elev. 185.5 (12" thick) and elev. 183.5 (6" thick)	182.2	20.8

BEDROCK

Drilled	Recovered
2.3 ft.	2.3 ft.
5.0	5.0
5.0	5.0
5.0	5.0
17.3 ft.	17.3 ft.

NOTE: Water lost at elev. 195.5

N — BLOWS/FT.

REMARKS

DWG. NO. A475

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
DATE:	Nov. 6/69
HOLE NO.:	123
PROJECT:	Basement Ext., Proposed DBS Bldg.
BORING BY:	Lafrange
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	G.F.
CHECKED:	Rlelo
APPROVED:	DDS

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	203.0
GROUND WATER:	-	BEDROCK SURFACE:	199.8
GAUGE READING:	-	BOTTOM OF HOLE:	182.3

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

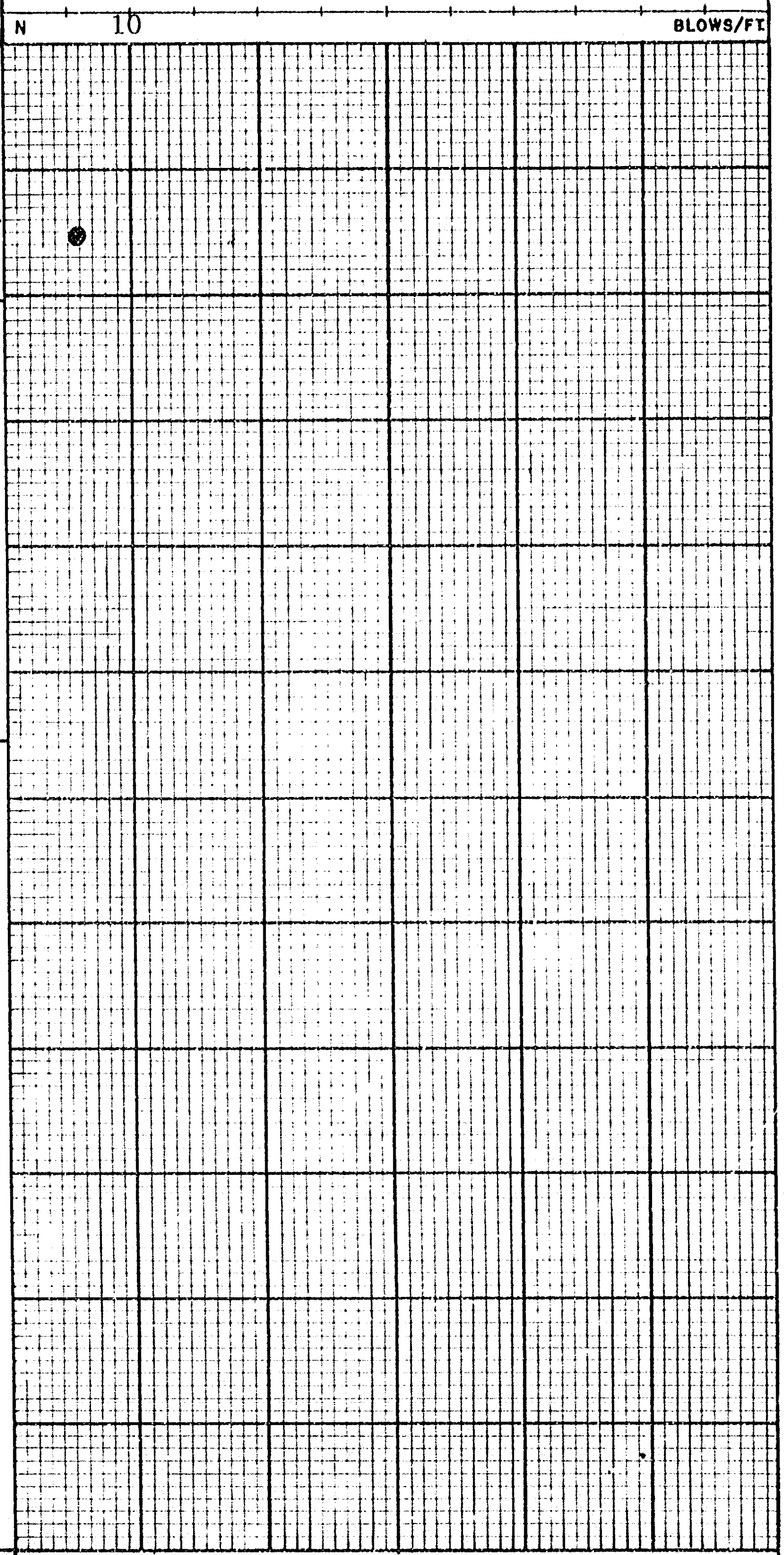
UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			203.0	0.0
101		TOPSOIL covering		
102		CLAYEY SANDY SILT (firm)	199.8	3.2
		LIMESTONE, soundness questionable, vt. calcite filled joint, water stains	196.5	6.5
		LIMESTONE, sound with tight vertical joint from elev. 191.5 to 189, zone with small unconnected pores at elev. 186 (6" thick)	182.3	20.7



BEDROCK

Drilled	Recovered
5.0 ft.	5.0 ft.
5.0	5.0
5.0	5.0
2.5	2.5
17.5 ft.	17.5 ft.

NOTE: Water returned during drilling

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
DATE:	Nov. 5/69
HOLE NO.:	124
PROJECT:	Basement Ext. Proposed DBS Bldg.
BORING BY:	Lafrange
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	G.F.
CHECKED:	
APPROVED:	

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 203.0
GROUND WATER: 190☆	BEDROCK SURFACE: 199.6
GAUGE READING: -	BOTTOM OF HOLE: 182.9

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_0

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			203.0	0.0
		TOPSOIL covering SILTY SAND-GRAVEL	199.6	3.4
		Top 1.0 ft. may be fractured, remainder of LIMESTONE, sound with horiz. water stained joints at elev. 198, 197, & 193, zones with small unconnected pores at elev. 186 (12" thick) and elev. 184 (6" thick)	182.9	20.1

N | BLOWS/FT

BEDROCK

Drilled	Recovered
1.7 ft.	1.7 ft.
5.0	5.0
5.0	5.0
5.0	5.0
16.7 ft.	16.7 ft.

NOTE: Water returned during drilling

REMARKS ☆ Water level measured ½ hour after completing bore hole

FORM TL/TF 215

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
DATE:	4 Dec. 69
HOLE NO.:	133
PROJECT:	Basement Ext. Proposed DBS Bldg.
BORING BY:	Perreault
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	GLG
CHECKED:	RLoK
APPROVED:	[illegible]

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	205.3
GROUND WATER:	185*	BEDROCK SURFACE:	199.8
GAUGE READING:		BOTTOM OF HOLE:	181.6

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION $(q_u/2)$
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			205.3	0.0
		TOPSOIL covering SAND-GRAVEL	199.8	5.5
	Rock core	LIMESTONE, fractured	198.0	7.3
	Rock core	LIMESTONE, sound	181.6	23.7

N — BLOWS/FT.

BEDROCK

Drilled	Recovered
1.5 ft.	0.6 ft.
4.4	4.4
2.4	2.4
4.9	4.9
5.0	5.0
18.2 ft.	17.3 ft.

NOTE:

Water lost at elev. 194

REMARKS * Water level measured 1 hour after completing bore hole.

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: TUNNEY'S PASTURE, OTTAWA, ONT.
DATE: 5 Dec. 69
HOLE NO.: 134
PROJECT: Basement Ext., Proposed DBS Bldg
BORING BY: Perreault
FILE NO.: 32-3289

BORING RECORD NO.: 3011
DRAWN: GLG
CHECKED: RLK
APPROVED: GLG

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 205.1
- GROUND WATER: 190*
- BEDROCK SURFACE: 200.9
- GAUGE READING:
- BOTTOM OF HOLE: 182.3

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			205.1	0.0
		TOPSOIL covering SAND-GRAVEL	200.9	4.2
		LIMESTONE, fractured	200.0	5.1
		LIMESTONE, sound with tight horizontal water stained joints or fractures at elevation 199.5, 199, 196, 188, and 181, and 45° water stained joints at 198.5, 197 and 192	182.3	22.8

N — BLOWS/FT.

BEDROCK

Drilled	Recovered
1.7 ft.	1.7 ft.
5.0	5.0
0.9	0.6
5.0	5.0
6.0	6.0
17.6 ft.	17.3 ft.

NOTE

Water lost at elevation 192

GLG

REMARKS: * Water level measured 1 hour after completing bore hole.

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	DATE:	HOLE NO.:
TUNNEY'S PASTURE, OTTAWA, ONT.	Dec. 8/69	135
PROJECT: Proposed D.B.S. Building	**BORING BY:** Perreault	**FILE NO.:** 32-3289

BORING RECORD NO.:	DRAWN:	CHECKED:	APPROVED:
3011	G. F	[illegible]	[illegible]

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- BXF ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 204.7
GROUND WATER: –	BEDROCK SURFACE: 200.9
GAUGE READING: –	BOTTOM OF HOLE: 179.9

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION $(q_u/2)$
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.7	0.0
		TOPSOIL covering SAND-GRAVEL	201.1	3.6
		LIMESTONE, fractured weathered, not sound	199.0	5.7
		LIMESTONE, core broken, water stained joints, soundness questionable	195.0	9.7
		LIMESTONE, sound with thin celestite joint at elev. 185	179.9	24.8

N — BLOWS/FT.

BEDROCK

Drilled	Recovered
3.9 ft.	3.9 ft.
3.4	3.4
4.1	4.1
5.0	5.0
4.8	4.8
21.2 ft.	21.2 ft.

NOTE: Water returned during drilling

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	TUNNEY'S PASTURE, OTTAWA, ONT.
DATE:	Dec. 9/69
HOLE NO.:	136
PROJECT:	Proposed D.B.S. Building
BORING BY:	Perreault
FILE NO.:	32-3289
BORING RECORD NO.:	3011
DRAWN:	G F
CHECKED:	
APPROVED:	

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	204.6
GROUND WATER:	—	BEDROCK SURFACE:	201.5
GAUGE READING:	—	BOTTOM OF HOLE:	181.6

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_0

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.6	0.0
		TOPSOIL covering SAND-GRAVEL	201.5	3.1
	Rock core	LIMESTONE, fractured core badly broken	198.0	6.6
	Rock core	LIMESTONE, questionable soundness, vt. celestite joints elev. 198 to 197 and elev. 194.6 to 193, 2" weathered zone at 192.3	191.5	13.1
	Rock core	LIMESTONE, sound with zones of small unconnected pores at elev. 189.1 (8"), and 186.8 (5")	181.6	23.0

N — BLOWS/FT.

BEDROCK

Drilled	Recovered
2.4 ft.	1.1 ft.
1.1	0.6
1.0	0.9
2.4	2.4
3.0	3.0
5.0	5.0
5.0	5.0
19.9 ft.	18.0 ft.

NOTE: Water lost at elev. 198.6

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA, (TUNNEY'S PASTURE) ONT.
DATE: Sept.14/70
HOLE NO.: 1
PROJECT: Food and Drug Laboratory
BORING BY: Leafloor & Gubb
FILE NO.: 32-185

BORING RECORD NO.: 3060
DRAWN: Dg
CHECKED: RCK
APPROVED: DWD

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: GEODETIC
- GROUND SURFACE: 210.5
- GROUND WATER: 184.5
- BEDROCK SURFACE: 209.5 ?
- GAUGE READING:
- BOTTOM OF HOLE: 180.9

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			210.5	0.0
		SILTY SAND, Limestone pes & Slabs, brown	209.5	1.0
	Rock core	Weathered BEDROCK	202.2	8.3
	Rock core	LIMESTONE & DOLOMITE with occasional Shale bands; thin to massive bedding, sound	186.5	24.0
	Rock core	Marker Bed	184.7	25.8
	Rock core		180.9	29.6

N — BLOWS/FT

Drilled	Recovered
4.9 ft.	4.6 ft.
5.0	4.7
4.7	4.7
5.0	5.0
5.0	5.0
4.0	4.0
28.6	28.0

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE), ONT.
DATE:	Sept. 15/70
HOLE NO.:	2
PROJECT:	Food and Drug Laboratory
BORING BY:	Leafloor & Gubb
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	Dg.
CHECKED:	RLak
APPROVED:	Sud

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	208.7
GROUND WATER:	-	BEDROCK SURFACE:	207.5
GAUGE READING:		BOTTOM OF HOLE:	178.3

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
- FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			208.7	0.0
		SILTY SAND & GRAVEL	207.5	1.2
		pcs. of Limestone greyish brown		
		Weathered BEDROCK	203.5	5.2
		LIMESTONE and DOLOMITE with occasional Shale bands; thin to massive bedding, sound		
			180.5	28.2
		Marker Bed	179.0	29.7
			178.3	30.4

N 10 20 30 40 50 BLOWS/FT

Drilled	Recovered
0.6 ft.	0.2 ft.
0.7	0.6
3.2	3.1
5.0	4.7
4.8	4.8
5.0	5.0
4.9	4.9
5.0	5.0
29.2	28.3

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	9 Sept. 70
HOLE NO.:	3
PROJECT:	Food & Drug Laboratory
BORING BY:	Gubb & Leafloor
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	DF
CHECKED:	RBK
APPROVED:	[illegible]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	206.2
GROUND WATER:	192.3	BEDROCK SURFACE:	204.7
GAUGE READING:		BOTTOM OF HOLE:	170.7

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
- FORMS:
- UNCONFINED COMPRESSION $(q_u/2)$
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			206.2	0.0
1		SILTY SANDY Topsoil black, loose	205.9	0.3
		SILTY SAND & GRAVEL Limestone Slabs, greyish brown (loose)	204.7	1.5
		Weathered Bedrock	201.7	4.5
		LIMESTONE and DOLOMITE with occasional Shale bands; thin to massive bedding, sound	174.8	31.4
		Marker Bed	173.2	33.0
			170.7	35.5

N 10 20 30 40 50 BLOWS/FT

Drilled	Recovered
0.5 ft.	0.5 ft.
3.0	2.8
4.9	4.9
4.4	4.4
2.3	2.2
4.4	4.4
4.9	4.9
4.9	4.9
4.7	4.7
34.0	33.7

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE), ONT.
DATE:	Sept. 10/70
HOLE NO.:	4
PROJECT:	Food and Drug Laboratory
BORING BY:	Leafloor & Gubb
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	Dg
CHECKED:	Klbk
APPROVED:	Ous

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	204.6
GROUND WATER:	191.3	BEDROCK SURFACE:	203.3
GAUGE READING:		BOTTOM OF HOLE:	160.8

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.6	0.0
2	Disturbed	SILTY SAND & GRAVEL, pcs. Shale, dk. brown to greyish brown (compact)	203.3	1.3
	Rock core	Weathered Bedrock	202.1	2.5
	Rock core	LIMESTONE and DOLOMITE with occasional Shale bands; thin to massive bedding, Sound. Most of core cut by a vertical joint.	162.1	42.5
	Rock core	Marker Bed	160.8	43.8

N: 10 20 30 40 50 BLOWS/FT

⊗ for 1st foot penetrated

Drilled	Recovered
0.4 ft.	0.3 ft.
4.1	4.1
5.0	5.0
4.8	4.8
5.0	5.0
4.1	4.1
4.7	4.7
4.7	4.7
5.0	5.0
5.0	5.0
42.8	42.7

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE), ONT.
DATE: Sept. 11/70
HOLE NO.: 5
PROJECT: Food and Drug Laboratory
BORING BY: Leafloor & Gubb
FILE NO.: 32-185

BORING RECORD NO.: 3060 | DRAWN: Dg | CHECKED: KLdS | APPROVED: DuD

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
DATUM: Geodetic | GROUND SURFACE: 206.8
GROUND WATER: 200.5 | BEDROCK SURFACE: 204.8
GAUGE READING: | BOTTOM OF HOLE: 166.3

PENETRATION RESISTANCE
STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING
UNDRAINED SHEAR STRENGTH, s_u
FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY
NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_p
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			206.8	0.0
		CRUSHED LIMESTONE, Silty Sand & Gravel	204.8	2.0
		Limestone Slabs (Fill)		
		Weathered Bedrock	201.1	5.7
		LIMESTONE and DOLOMITE with occasional Shale bands; thin to massive bedding, sound	167.4	39.4
		Marker Bed	166.3	40.5

N — BLOWS/FT.

Drilled	Recovered
0.6 ft.	0.5 ft.
3.1	2.8
5.0	5.0
4.1	4.1
4.8	4.8
4.6	4.6
4.9	4.9
2.0	2.0
1.4	1.4
3.9	3.9
4.1	4.1
38.5	38.1

REMARKS

PENETRATION RESISTANCE

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE), ONT.
DATE: Sept. 14/70
HOLE NO.: T.P. 1
PROJECT: Food & Drug Laboratory
BORING BY:
FILE NO.: 32-185

BORING RECORD NO.: 3060
DRAWN: DJ
CHECKED: RLK
APPROVED:

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 210.8
- GROUND WATER:
- BEDROCK SURFACE: 208.4
- GAUGE READING:
- BOTTOM OF HOLE: 208.4

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N — BLOWS/FT.
			211.9	0.0	
		TOPSOIL: SILTY SAND dark grey	211.2	0.7	
		Shale Slabs with SAND-GRAVEL brownish-grey	208.4	3.5	
		BEDROCK			

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE), ONT.
PROJECT:	Food & Drug Laboratory
DATE:	Sept. 14/70
BORING BY:	
HOLE NO.:	T.P. 2
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	DJ.
CHECKED:	[signature]
APPROVED:	[signature]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	210.8
GROUND WATER:		BEDROCK SURFACE:	209.5
GAUGE READING:		BOTTOM OF HOLE:	209.5

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT.
			210.8	0.0	
		TOPSOIL: SILTY SAND greyish-brown with pcs. of Shale and Concrete slabs	209.5	1.3	
		BEDROCK			

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE), ONT.	DATE: Sept. 14/70	HOLE NO.: T.P. 3	
PROJECT: Food & Drug Laboratory	BORING BY:	FILE NO.: 32-185	

BORING RECORD NO.: 3060 | DRAWN: [illegible] | CHECKED: [illegible] | APPROVED: [illegible]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 209.7
GROUND WATER:	BEDROCK SURFACE: 209.0
GAUGE READING:	BOTTOM OF HOLE: 209.0

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT.
			209.7	0.0	
		TOPSOIL: SILTY SAND with Shale Slabs	209.0	0.7	
		BEDROCK			

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE), ONT.
DATE:	14/9/70
HOLE NO.:	T.P. 4
PROJECT:	Food & Drug Laboratory
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	DF
CHECKED:	RDK
APPROVED:	

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	210.4
GROUND WATER:	
BEDROCK SURFACE:	209.7
GAUGE READING:	
BOTTOM OF HOLE:	209.7

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_0

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			210.4	0.0
		TOPSOIL: SILTY SAND few Cobbles, odd Boulder	209.7	0.7
		BEDROCK (sloping to 209.3)		

N — BLOWS/FT

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE), ONT.
PROJECT:	Food & Drug Laboratory
DATE:	Sept. 14/70
HOLE NO.:	T.P. 5
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	Bg.
CHECKED:	KLeKo
APPROVED:	Aus

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	211.0
GROUND WATER:		BEDROCK SURFACE:	207.6
GAUGE READING:		BOTTOM OF HOLE:	207.6

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N ... BLOWS/FT
			211.0	0.0	
		TOPSOIL: SILTY SAND grey	210.5	0.5	
11	Disturbed	SAND-GRAVEL with BOULDERS, SLABS, greyish brown	207.6	3.4	
		BEDROCK			

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE

DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE), ONT.
DATE:	Sept. 14/70
HOLE NO.:	T.P. 6
PROJECT:	Food & Drug Laboratory
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	Dg
CHECKED:	KLK
APPROVED:	[illegible]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	211.6
GROUND WATER:	
BEDROCK SURFACE:	206.9
GAUGE READING:	
BOTTOM OF HOLE:	206.9

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			211.6	0.0
		FILL - SAND, grey, with pcs. wire	210.6	1.0
12	Disturbed	SANDY SILT and SAND-GRAVEL with pcs. of rubber hose, drinking straws etc., few shells near the bottom	206.9	4.7
		BEDROCK		

N — BLOWS/FT.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA, (TUNNEY'S PASTURE), ONT.
DATE: Sept. 14/70
HOLE NO.: T.P. 7
PROJECT: Food & Drug Laboratory
BORING BY:
FILE NO.: 32-185

BORING RECORD NO.: 3060
DRAWN: Dg.
CHECKED: Klek
APPROVED: [illegible]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 211.1
- GROUND WATER:
- BEDROCK SURFACE: 207.2
- GAUGE READING:
- BOTTOM OF HOLE: 207.2

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			211.1	0.0
		BOULDERS & SLABS (Fill) with SANDY SILT	208.9	2.2
		SANDY SILT brown	208.1	3.0
		SANDY SILT grey and brown with SLABS	207.2	3.9
		BEDROCK		

N — BLOWS/FT.

REMARKS: Located in a pile of slabs and fill.

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE), ONT.
DATE: 14 Sept. 70
T.P. 8
PROJECT: Food and Drug Laboratory
BORING BY:
FILE NO.: 32-185

BORING RECORD NO.: 3060
DRAWN: Dg.
CHECKED: RLK
APPROVED: [illegible]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 210.7
- GROUND WATER:
- BEDROCK SURFACE: 207.8
- GAUGE READING:
- BOTTOM OF HOLE: 207.8

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			210.7	0.0
		SILTY SAND, SLABS and BOULDERS, dark grey to grey	207.8	2.9
		BEDROCK		

N — BLOWS/FT

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT:	Food & Drug Laboratory
DATE:	Sept. 14/70
HOLE NO.:	T.P. 10
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	Dg
CHECKED:	Rlek
APPROVED:	[illegible]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	210.6
GROUND WATER:		BEDROCK SURFACE:	209.1
GAUGE READING:		BOTTOM OF HOLE:	209.1

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			210.6	0.0
		TOPSOIL: SILTY SAND greyish brown	209.8	0.8
		Slabs mixed with Silty Sand	209.1	1.5
		BEDROCK		

N BLOWS/FT

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	Sept. 14/70
HOLE NO.:	T.P. 11
PROJECT:	Food & Drug Laboratory
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	
CHECKED:	
APPROVED:	

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 209.7
GROUND WATER:	BEDROCK SURFACE: 208.2
GAUGE READING:	BOTTOM OF HOLE: 208.2

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_0

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT.
			209.7	0.0	
		TOPSOIL: SILTY SAND Dk. brown to Rusty Brown	209.0	0.7	
		SLABS and Silty Sand	208.2	1.5	
		BEDROCK			

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE DEPARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES	LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.	DATE: Sept. 14/70	HOLE NO.: T.P. 13
	PROJECT: Food and Drug Laboratory	BORING BY:	FILE NO.: 32-185

BORING RECORD NO.: 3060	DRAWN:	CHECKED:	APPROVED:

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 207.8
GROUND WATER:	BEDROCK SURFACE: 205.7
GAUGE READING:	BOTTOM OF HOLE: 205.7

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N — BLOWS/FT
			207.8	0.0	
		SILTY SAND to SANDY SILT, grey with small shale slabs and pcs. of concrete and brick	205.7	2.1	
		BEDROCK			

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
DATE: Sept. 14/70
HOLE NO.: TP. 14
PROJECT: Food & Drug Laboratory
BORING BY:
FILE NO.: 32-185

BORING RECORD NO.: 3060
DRAWN: DG
CHECKED: [signature]
APPROVED: [signature]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
DATUM: GEODETIC
GROUND SURFACE: 207.0
GROUND WATER:
BEDROCK SURFACE: 205.8
GAUGE READING:
BOTTOM OF HOLE: 205.8

PENETRATION RESISTANCE
STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING
UNDRAINED SHEAR STRENGTH, s_u
FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY
NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_p
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			207.0	0.0
		TOPSOIL: SILTY SAND, dark brown	206.1	0.9
		SHALE SLAB	205.8	1.2
		BEDROCK		

N — BLOWS/FT

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT:	Food & Drug Laboratory
DATE:	Sept. 14/70
HOLE NO.:	T.P. 15
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	DG.
CHECKED:	R.L.K.
APPROVED:	D.W.D.

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: GEODETIC	GROUND SURFACE: 208.8
GROUND WATER:	BEDROCK SURFACE: 207.1
GAUGE READING:	BOTTOM OF HOLE: 207.1

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT
			208.8	0.0	
		TOPSOIL: SILTY SAND, dark brown	208.0	0.8	
		Broken Shale Slabs mixed with Silty Sand-Gravel	207.1	1.7	
		BEDROCK			

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT

DATE: SEPT 14/70

HOLE NO.: T.P.16

PROJECT: Food & Drug Laboratory

BORING BY:

FILE NO.: 32-185

BORING RECORD NO.: 3060

DRAWN: Dg

CHECKED: KSCB

APPROVED: DWD

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: GEODETIC	GROUND SURFACE: 209.5
GROUND WATER:	BEDROCK SURFACE: 208.6
GAUGE READING:	BOTTOM OF HOLE: 208.6

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N ... BLOWS/FT
			209.5	0.0	
		TOPSOIL: SILTY SAND-GRAVEL, rusty brown, Full of Shale slabs	208.6	0.9	
		BEDROCK			

REMARKS

FORM TL/TF 215

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.	DATE: Sept. 14/70	HOLE NO.: T.P. 17	
PROJECT: Food and Drug Laboratory	BORING BY:	FILE NO.: 32-185	
BORING RECORD NO.: 3060	DRAWN: Bg	CHECKED: RLeK	APPROVED: DUB

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	206.3
GROUND WATER:		BEDROCK SURFACE:	204.4
GAUGE READING:		BOTTOM OF HOLE:	204.4

PENETRATION RESISTANCE

STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY

NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_p
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			206.3	0.0
		CLAYEY SILT grey	205.1	1.2
		SANDY SILT brownish-grey	204.4	1.9
		BEDROCK		

N — BLOWS/FT

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT
DATE: 14 Sept 70
T.P. #18
PROJECT: Food & Drug Laboratory
BORING BY:
FILE NO.: 32-185

BORING RECORD NO.: 3060
DRAWN: Dg
CHECKED: RbK
APPROVED: Dwd

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
DATUM: Geodetic
GROUND SURFACE: 205.6
GROUND WATER:
BEDROCK SURFACE: 204.7
GAUGE READING:
BOTTOM OF HOLE: 204.7

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			205.6	0.0
		TOPSOIL: SILTY SAND, dark brown, full of shale slabs	204.7	0.9
		BEDROCK		

N BLOWS/FT

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT
PROJECT: Food & Drug Laboratory
DATE: 14 Sept 70 — T.P. #19
BORING BY:
FILE NO.: 32-185

BORING RECORD NO.: 3060 | DRAWN: DG | CHECKED: RLeK | APPROVED: DuD

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 207.8
GROUND WATER:	BEDROCK SURFACE: 206.9
GAUGE READING:	BOTTOM OF HOLE: 206.9

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			207.8	0.0
		TOPSOIL: SILTY SAND full of Shaley slabs	206.9	0.9
		BEDROCK		

N — BLOWS/FT.

REMARKS

RECORD OF BORE HOLE DEPARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES	LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT	DATE: 14 Sept 70	T.P. #20
	PROJECT: Food and Drug Laboratory	BORING BY:	FILE NO.: 32-185

BORING RECORD NO.: 3060 | DRAWN: Dg. | CHECKED: RL | APPROVED: DWS

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 210.2
GROUND WATER:	BEDROCK SURFACE: 209.3
GAUGE READING:	BOTTOM OF HOLE: 209.3

PENETRATION RESISTANCE

STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY

NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_p
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N — BLOWS/FT
			210.2	0.0	
		TOPSOIL: SILTY SAND, dark brown, full of Shale slabs	209.3	0.9	
		BEDROCK			

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT:	Food and Drug Laboratory
DATE:	Sept. 14/70
HOLE NO.:	T.P. 21
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	Dg.
CHECKED:	RLK
APPROVED:	Deig

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	206.1
GROUND WATER:		BEDROCK SURFACE:	204.4
GAUGE READING:		BOTTOM OF HOLE:	204.4

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			206.1	0.0
		SILTY SAND greyish-brown with some Slabs and Boulders	204.4	1.7
		BEDROCK		

N BLOWS/FT

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	14 Sept 70
	T.P. #22
PROJECT:	Food & Drug Laboratory
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	DJ
CHECKED:	Klik
APPROVED:	lowd

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	207.8
GROUND WATER:		BEDROCK SURFACE:	207.8
GAUGE READING:		BOTTOM OF HOLE:	207.8

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N — BLOWS/FT
			207.8	0.0	
		BEDROCK at surface or to depth of 0.2' below mucky Topsoil			

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	Sept. 14/70
HOLE NO.:	T.P. 23
PROJECT:	Food & Drug Laboratory
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	Dg.
CHECKED:	KLok
APPROVED:	DW

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	208.7
GROUND WATER:	
BEDROCK SURFACE:	207.3
GAUGE READING:	
BOTTOM OF HOLE:	207.3

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			208.7	0.0
14	Disturbed	SILTY SAND, dark brown, full of Slabs and Boulders	207.3	1.4
		BEDROCK		

N — BLOWS/FT

REMARKS

PENETRATION RESISTANCE

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	Sept. 14/70
HOLE NO.:	T.P. 24
PROJECT:	Food & Drug Laboratory
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	Dg.
CHECKED:	RVK
APPROVED:	OWD

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	208.5
GROUND WATER:		BEDROCK SURFACE:	208.3
GAUGE READING:		BOTTOM OF HOLE:	208.3

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			208.5	0.0
		SILTY SAND with Shale slabs	208.3	0.2
		BEDROCK		

N — BLOWS/FT

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	Sept. 14/70
HOLE NO.:	T.P. 25
PROJECT:	Food and Drug Laboratory
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	DG
CHECKED:	KLeK
APPROVED:	OuD

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	205.7
GROUND WATER:		BEDROCK SURFACE:	202.0
GAUGE READING:		BOTTOM OF HOLE:	202.0

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_0

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			205.7	0.0
		SAND-GRAVEL and BOULDERS (to 2' long) grey	204.7	1.0
		SILTY SAND-GRAVEL with BOULDERS and SHALE SLABS	202.0	3.7
		BEDROCK		

N — BLOWS/FT

REMARKS: Tile Pipe Laid About 2' B.G.L. - filled with soil

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT:	Food & Drug Laboratory
DATE:	Sept. 14/70
HOLE NO.:	T.P. 27
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	DY
CHECKED:	KLK
APPROVED:	OWD

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 206.9
GROUND WATER:	BEDROCK SURFACE: 205.9
GAUGE READING:	BOTTOM OF HOLE: 205.9

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT
			206.9	0.0	
		SILTY SAND, brown, with SHALE SLABS	205.9	1.0	
		BEDROCK			

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.	DATE: Sept. 14/70	HOLE NO.: T.P. 28	
PROJECT: Food & Drug Laboratory	BORING BY:	FILE NO.: 32-185	

BORING RECORD NO.: 3060	DRAWN: DJ	CHECKED: RKK	APPROVED: [illegible]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 205.5
GROUND WATER:	BEDROCK SURFACE: 204.1
GAUGE READING:	BOTTOM OF HOLE: 204.1

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			205.5	0.0
		SILTY SAND, brown, with Shale and Limestone slabs	204.1	1.4
		BEDROCK		

N BLOWS/FT

REMARKS

RECORD OF BORE HOLE DEPARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES	LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.	DATE: Sept. 14/70	HOLE NO. T.P. 29
	PROJECT: Food and Drug Laboratory	BORING BY:	FILE NO. 32-185

BORING RECORD NO.: 3060 | DRAWN: Dq | CHECKED: RLd | APPROVED: SWD

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic		GROUND SURFACE:	205.1
GROUND WATER:		BEDROCK SURFACE:	203.1
GAUGE READING:		BOTTOM OF HOLE:	203.1

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:

- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			205.1	0.0
		SILTY SAND, SLABS, BOULDERS, old pce. of timber	203.1	2.0
		BEDROCK		

N BLOWS/FT.

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT:	Food & Drug Laboratory
DATE:	Sept. 14/70
HOLE NO.:	T.P. 30
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	Dg
CHECKED:	KRdo
APPROVED:	Louis

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	205.5
GROUND WATER:		BEDROCK SURFACE:	202.0
GAUGE READING:		BOTTOM OF HOLE:	202.0

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT.
			205.5	0.0	
		SAND, brown	205.0	0.5	
		SHALE Slabs in Silty Sand and Sandy Silt, black, also some Boulders	202.0	3.5	
		BEDROCK			

REMARKS

FORM 127 (1) 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	Sept. 14/70
HOLE NO.:	T.P. 31
PROJECT:	Food and Drug Laboratory
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	DJ
CHECKED:	KLoko
APPROVED:	DWD

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	207.5
GROUND WATER:		BEDROCK SURFACE:	207.3
GAUGE READING:		BOTTOM OF HOLE:	207.3

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV (FT.)	DEPTH (FT.)	N BLOWS/FT.
			207.5	0.0	
15	Disturbed	SAND, brown			
			207.3	0.2	
		BEDROCK			

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	Sept. 14/70
HOLE NO.:	T.P. 31
PROJECT:	Food and Drug Laboratory
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	DJ
CHECKED:	KK
APPROVED:	[illegible]

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 207.5
GROUND WATER:	BEDROCK SURFACE: 207.3
GAUGE READING:	BOTTOM OF HOLE: 207.3

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N — BLOWS/FT
			207.5	0.0	
15	Disturbed	SAND, brown			
		BEDROCK	207.3	0.2	

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
DATE: Sept.14/70
HOLE NO.: T.P. 32
PROJECT: Food and Drug Laboratory
BORING BY:
FILE NO.: 32-185

BORING RECORD NO.: 3060
DRAWN: [signature]
CHECKED: [signature]
APPROVED: [signature]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	207.9
GROUND WATER:		BEDROCK SURFACE:	205.5
GAUGE READING:		BOTTOM OF HOLE:	205.5

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			207.9	0.0
		SAND-GRAVEL to SILTY SAND-GRAVEL, brown, full of Shale Slabs	205.5	2.4
		BEDROCK		

N — BLOWS/FT.

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE), ONT.
PROJECT:	Food and Drug Laboratory
DATE:	14 Sept 70
	T.P. 33
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	Dg
CHECKED:	Kl
APPROVED:	

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	204.4
GROUND WATER:		BEDROCK SURFACE:	204.0
GAUGE READING:		BOTTOM OF HOLE:	204.0

PENETRATION RESISTANCE
STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY
NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_p
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.4	0.0
		SAND-GRAVEL (brown) with thin shale slabs	204.0	0.4
		BEDROCK		

N BLOWS/FT.

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT:	Food & Drug Laboratory
DATE:	14 Sept. 70
	T.P. #34
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	Dg
CHECKED:	Kloth
APPROVED:	Duss

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	205.5
GROUND WATER:		BEDROCK SURFACE:	204.2
GAUGE READING:		BOTTOM OF HOLE:	204.2

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N — BLOWS/FT.
			205.5	0.0	
		SAND to SILTY SAND, brown, some slabs*	204.2	1.3	
		BEDROCK			

REMARKS *One large slab measured 4' x 2' x 9"

RECORD OF BORE HOLE DEPARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES	LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.	DATE: 14 Sept 70	T.P. #35
	PROJECT: Food and Drug Laboratory	BORING BY:	FILE NO.: 32-185

BORING RECORD NO.: 3060	DRAWN: Dg	CHECKED: Klef	APPROVED: Qud

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic		GROUND SURFACE:	208.1
GROUND WATER:		BEDROCK SURFACE:	206.6
GAUGE READING:		BOTTOM OF HOLE:	206.6

PENETRATION RESISTANCE

STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY

NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_p
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N — BLOWS/FT.
			208.1	0.0	
		SILTY SAND, dark brown, with Shale and Limestone slabs	206.6	1.5	
		BEDROCK			

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
DATE: Sept 14/70
HOLE NO.: B.P. 36
PROJECT: Food and Drug Laboratory
BORING BY:
FILE NO.: 32-185

BORING RECORD NO.: 3060
DRAWN: DJ
CHECKED: RLK
APPROVED: DWB

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
DATUM: Geodetic
GROUND SURFACE: 207.2
GROUND WATER:
BEDROCK SURFACE: 206.1
GAUGE READING:
BOTTOM OF HOLE: 206.1

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT
			207.2	0.0	
		SAND to SILTY SAND many Shale and Limestone slabs and pieces	206.1	1.1	
		BEDROCK			

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
DATE: 14 Sept 70
T.P. #38
PROJECT: Food & Drug Laboratory
BORING BY:
FILE NO.: 32-185

BORING RECORD NO.: 3060
DRAWN: Dg.
CHECKED: R.V.K.
APPROVED: D.W.D.

SAMPLE TYPE	
UNDISTURBED	
DISTURBED	
ROCK CORE	

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	206.7
GROUND WATER:		BEDROCK SURFACE:	205.7
GAUGE READING:		BOTTOM OF HOLE:	205.7

PENETRATION RESISTANCE
STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING
UNDRAINED SHEAR STRENGTH, s_u
FORMS:
UNCONFINED COMPRESSION $(q_u/2)$
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY
NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_p
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			206.7	0.0
		SILTY SAND, greyish brown, full of Limestone and Shale slabs	205.7	1.0
		BEDROCK		

N — BLOWS/FT

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	14 Sept. 70
	T.P. #39
PROJECT:	Food & Drug Laboratory
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	[illegible]
CHECKED:	[illegible]
APPROVED:	[illegible]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	208.1
GROUND WATER:		BEDROCK SURFACE:	206.8
GAUGE READING:		BOTTOM OF HOLE:	206.8

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N — BLOWS/FT.
			208.1	0.0	
		TOPSOIL: SILTY SAND, full of Shale and Limestone slabs	206.8	1.3	
		BEDROCK			

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE), ONT.
DATE:	Sept. 14/70
HOLE NO.:	T.P. 41
PROJECT:	Food & Drug Laboratory
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	Dg
CHECKED:	KLK
APPROVED:	DWS

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic
GROUND SURFACE:	204.4
GROUND WATER:	
BEDROCK SURFACE:	204.2
GAUGE READING:	
BOTTOM OF HOLE:	204.2

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N — BLOWS/FT
			204.4	0.0	
		SILTY SAND-GRAVEL (brown) with Shaley Slabs	204.2	0.2	
		BEDROCK			

REMARKS

RECORD OF BORE HOLE DEPARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES	LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.	DATE: Sept. 14/70	HOLE NO.: T.P. 42
	PROJECT: Food & Drug Laboratory	BORING BY:	FILE NO.: 32-185

BORING RECORD NO.: 3060	DRAWN: Dg	CHECKED: Kl	APPROVED:

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	205.7
GROUND WATER:		BEDROCK SURFACE:	205.4
GAUGE READING:		BOTTOM OF HOLE:	205.4

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:

- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N ... BLOWS/FT
			205.7	0.0	
		TOPSOIL: SILTY SAND, brown, full of pcs. of Shale & Limestone	205.4	0.3	
		BEDROCK			

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	14 Sept. 70
	T.P. #43
PROJECT:	Food and Drug Laboratory
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	DG
CHECKED:	KLK
APPROVED:	DWB

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	207.3
GROUND WATER:		BEDROCK SURFACE:	206.4
GAUGE READING:		BOTTOM OF HOLE:	206.4

PENETRATION RESISTANCE

STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY

NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_p
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT
			207.3	0.0	
		TOPSOIL: SILTY SAND, brown, with slabs of Shale and Limestone	206.4	0.9	
		BEDROCK			

REMARKS

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
DATE: 14 Sept. 70 T.P. #44
PROJECT: Food & Drug Laboratory
BORING BY:
FILE NO.: 32-185

BORING RECORD NO.: 3060
DRAWN: Dg
CHECKED: KLoks
APPROVED: DuD

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	209.5
GROUND WATER:		BEDROCK SURFACE:	209.1
GAUGE READING:		BOTTOM OF HOLE:	209.1

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT
			209.5	0.0	
		TOPSOIL: SILTY SAND, dark brown, some Shaley slabs	209.1	0.4	
		BEDROCK			

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE), ONT.

PROJECT: Food & Drug Laboratory

DATE: Sept. 14/70

HOLE NO.: T.P. 45

BORING BY:

FILE NO.: 32-185

BORING RECORD NO.: 3060

DRAWN: [handwritten initials]

CHECKED: [handwritten initials]

APPROVED: [handwritten initials]

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 204.2
- GROUND WATER:
- BEDROCK SURFACE: 203.3
- GAUGE READING:
- BOTTOM OF HOLE: 203.3

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			204.2	0.0
		SILTY SAND to SILTY SAND-GRAVEL, pcs. Shale, greyish brown	203.3	0.9
		BEDROCK		

N — BLOWS/FT.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.

PROJECT: Food & Drug Laboratory

DATE: Sept. 14/70

HOLE NO.: T.P. 46

BORING BY:

FILE NO.: 32-185

BORING RECORD NO.: 3060 | DRAWN: Dg | CHECKED: RLK | APPROVED: Ccus

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 205.8
GROUND WATER:	BEDROCK SURFACE: 205.5
GAUGE READING:	BOTTOM OF HOLE: 205.5

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			205.8	0.0
		TOPSOIL: SILTY SAND, brown, some Shale and Limestone Slabs	205.5	0.3
		BEDROCK		

N — BLOWS/FT

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
DATE:	Sept. 14/70
HOLE NO.:	T.P. 47
PROJECT:	Food & Drug Laboratory
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	Dg
CHECKED:	KLK
APPROVED:	DWD

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	207.4
GROUND WATER:		BEDROCK SURFACE:	206.2
GAUGE READING:		BOTTOM OF HOLE:	206.2

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			207.4	0.0
		TOPSOIL: SILTY-SAND, brown, many Limestone and Shale Slabs		
			206.2	1.2
		BEDROCK		

N — BLOWS/FT

REMARKS

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.

DATE: Sept. 14/70

HOLE NO.: T.P. 48

PROJECT: Food & Drug Laboratory

BORING BY:

FILE NO.: 32-185

BORING RECORD NO.: 3060

DRAWN: Sg

CHECKED: KLO

APPROVED: Dus

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic		GROUND SURFACE:	208.3
GROUND WATER:		BEDROCK SURFACE:	206.9
GAUGE READING:		BOTTOM OF HOLE:	206.9

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			208.3	0.0
		SANDY SILT to SAND brown, full of Shale and Limestone slabs	206.9	1.4
		BEDROCK		

N BLOWS/FT

REMARKS

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.	DATE: 14 Sept 70	HOLE NO.: T.P. 49	
PROJECT: Food and Drug Laboratory	BORING BY:	FILE NO.: 32-185	

BORING RECORD NO.: 3060	DRAWN: DJG	CHECKED: KLK	APPROVED: DWD

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 203.1
GROUND WATER:	BEDROCK SURFACE: 202.2
GAUGE READING:	BOTTOM OF HOLE: 202.2

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			203.1	0.0
		SAND, brown	202.2	0.9
		BEDROCK		

N — BLOWS/FT.

REMARKS

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA (TUNNEY'S PASTURE) ONT.
PROJECT:	Food & Drug Laboratory
DATE:	Sept. 14/70
HOLE NO.:	T.P. 50
BORING BY:	
FILE NO.:	32-185
BORING RECORD NO.:	3060
DRAWN:	Dg
CHECKED:	RLoK
APPROVED:	Dub

SAMPLE TYPE

- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 205.1
GROUND WATER:	BEDROCK SURFACE: 204.5
GAUGE READING:	BOTTOM OF HOLE: 204.5

PENETRATION RESISTANCE

- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:

- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY

- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			205.1	0.0
		SILTY SANDY Topsoil over Shale Slabs	204.9	0.2
		Shale Slabs & Topsoil	204.5	0.6
		BEDROCK		

N BLOWS/FT.

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.	DATE: Sept. 14/70	HOLE NO.: T.P. 51	
PROJECT: Food & Drug Laboratory	BORING BY:	FILE NO.: 32-185	
BORING RECORD NO.: 3060	DRAWN: Dg	CHECKED: Kleks	APPROVED: Dis

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	207.2
GROUND WATER:		BEDROCK SURFACE:	206.5
GAUGE READING:		BOTTOM OF HOLE:	206.5

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT.
			207.2	0.0	
		TOPSOIL: SILTY SAND brown, full of boulders and shale slabs	206.5	0.7	
		BEDROCK			

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA (TUNNEY'S PASTURE) ONT.
DATE: Sept. 14/70
HOLE NO.: T.P. 52
PROJECT: Food & Drug Laboratory
BORING BY:
FILE NO.: 32-185

BORING RECORD NO.: 3060
DRAWN: DG
CHECKED: KLeKo
APPROVED: DUD

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 208.5
- GROUND WATER:
- BEDROCK SURFACE: 207.2
- GAUGE READING:
- BOTTOM OF HOLE: 207.2

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_o

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			208.5	0.0
		SILTY SAND-GRAVEL full of Limestone & Shale slabs (pcs. of concrete and glass near surface)	207.2	1.3
		BEDROCK		

N BLOWS/FT

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: Ottawa - Tunney's Pasture
DATE: 17/9/71
HOLE NO.: 6
PROJECT: Prop. Food and Drug Lab.
BORING BY: J.D.P.
FILE NO. 32/4-383

BORING RECORD NO.: 3397
DRAWN:
CHECKED:
APPROVED:

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
DATUM: Geodetic
GROUND SURFACE: 211.6
GROUND WATER:
BEDROCK SURFACE: 208.6
GAUGE READING:
BOTTOM OF HOLE: 161.4

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			211.6	0
		Asphalt	211.2	0.4
		FILL - SAND, Gravel, Boulders	208.6	3.0
	Rock core	Dolomite - weathered seams	205.6	6.0
	Rock core	Limestone and Dolomite occasional shale bands thin to thick bedding Sound	183.5	28.1
	Rock core	Marker Bed	181.9	29.7
	Rock core	Drilled (NXF) Recovered 3.2 2.4 3.6 3.5 5.2 4.9 5.0 4.9 1.5 1.5 3.5 3.5 5.0 5.0 5.0 5.0 5.0 4.9 4.9 4.9 5.1 5.0 47.0 45.5	161.4	50.2

N BLOWS/FT

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA - TUNNEY'S PASTURE

DATE: 22/9/71

HOLE NO.: 7

PROJECT: Prop. Food & Drug Lab.

BORING BY: J.D.P.

FILE NO.: 32/4-383

BORING RECORD NO.: 3397

DRAWN:

CHECKED:

APPROVED:

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 211.2
- GROUND WATER:
- BEDROCK SURFACE: 207.4
- GAUGE READING:
- BOTTOM OF HOLE: 161.4

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			211.2	0
		Asphalt	210.8	0.4
		Sand, gravel & boulders	207.4	3.8
		Weathered Limestone	204.9	6.3
		Limestone and Dolomite, occasional shale bands, massive to thin bedding Sound.	186.5	24.7
		Marker bed	184.8	26.4
		Drilled (NXF) Recovered (see below)	161.4	49.8

Drilled (NXF)	Recovered
1.0	0.7
5.2	5.0
4.9	4.8
5.1	5.0
4.6	4.6
5.1	5.0
5.0	5.0
5.2	5.0
4.8	4.6
5.1	5.0
46.0	44.7

N — BLOWS/FT

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA - TUNNEY'S PASTURE	DATE: 30/9/71	HOLE NO.: 8	
PROJECT: Prop. Food & Drug Lab.	BORING BY: J.D.P.	FILE NO.: 32/4-383	
BORING RECORD NO.: 3397	DRAWN:	CHECKED:	APPROVED:

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 211.5		
GROUND WATER:	BEDROCK SURFACE: 208.5		
GAUGE READING:	BOTTOM OF HOLE: 202.5		

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		ASPHALT	211.5	0
			211.1	0.4
		FILL - Crushed Stone, Sand, Gravel	208.5	3.0
	Rock core	Dolomitic Limestone thin Clay seams at 4.5, 4.7, 5.6, 6.0	202.5	9.0

Drilled	Recovered
1.0	0.9
5.0	4.8
6.0	5.7

NXF Core

N — BLOWS/FT.

REMARKS

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA - TUNNEY'S PASTURE	DATE: 28/9/71	HOLE NO.: 9	
PROJECT: Prop. Food & Drug Lab.	BORING BY: J.D.P.	FILE NO.: 32/4-383	
BORING RECORD NO.: 3397	DRAWN: G.H.	CHECKED: RLK	APPROVED:

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 211.0
GROUND WATER:	BEDROCK SURFACE: 207.9
GAUGE READING:	BOTTOM OF HOLE: 202.9

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_0'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
		ASPHALT	211.0 210.6	0 0.4
		FILL - Crushed Stone, Sand, Gravel	207.9	3.1
	Rock core	Dolomitic Limestone weathered in top 6"	202.9	8.1
		Drilled 5.0 / Recovered 5.0 NXF Core		

N — BLOWS/FT

REMARKS

DWG. NO. A473

FORM TL/TF 2:3

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA - TUNNEY'S PASTURE
PROJECT:	Prop. Food and Drug Lab.
DATE:	28/9/71
HOLE NO.:	10
BORING BY:	J.D.P.
FILE NO.:	32/4-383
BORING RECORD NO.:	3397
DRAWN:	E. Z.
CHECKED:	Klab
APPROVED:	

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 211.4
GROUND WATER:	BEDROCK SURFACE: 208.7
GAUGE READING:	BOTTOM OF HOLE: 203.9

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			211.4	0
		ASPHALT	211.0	0.4
		FILL - Crushed Stone over Sand and Gravel	208.7	2.7
	Rock core	Limestone Bedrock Mud Seams at 3.3 and 5.6	203.9	7.5

Drilled	Recovered
4.8	4.7

NXF Core

N — BLOWS/FT

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA - TUNNEY'S PASTURE

DATE: 27/9/71

HOLE NO.: 11

PROJECT: Prop. Food and Drug Lab.

BORING BY: J.D.P.

FILE NO.: 32/4-383

BORING RECORD NO.: 3397 | DRAWN: | CHECKED: | APPROVED:

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 211.3
- GROUND WATER:
- BEDROCK SURFACE: 208.8
- GAUGE READING:
- BOTTOM OF HOLE: 204.1

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			211.3	0
		FILL - SAND - Gravel	208.8	2.5
	Rock core	Limestone Bedrock Sound	204.1	7.2
		Drilled 4.7 Recovered 4.5 NXF Core		

N — BLOWS/FT

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

DWG. NO. A473

LOCATION:	OTTAWA - TUNNEY'S PASTURE
DATE:	23/9/71
HOLE NO.:	12
PROJECT:	Prop. Food & Drug Lab.
BORING BY:	J.D.P.
FILE NO.:	32/4-383
BORING RECORD NO.:	3397
DRAWN:	
CHECKED:	
APPROVED:	

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 210.5
- GROUND WATER:
- BEDROCK SURFACE: 202.0
- GAUGE READING:
- BOTTOM OF HOLE: 197.2

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p'_c

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			210.5	0
		Fill - Sand - Gravel (Loose)	207.5	3.0
		Sand - Gravel with boulders and cobbles (granite & limestone)	202.0	8.5
	Rock core	Limestone - weathered in top foot	197.2	13.3
		Drilled 4.8, Recovered 4.2 NXF Core		

N — BLOWS/FT.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA - TUNNEY'S PASTURE | DATE: 28/9/71 | HOLE NO.: 13

PROJECT: Prop. Food and Drug Lab. | BORING BY: J.D.P. | FILE NO. 32/4-383

BORING RECORD NO.: 3397 | DRAWN: G. H. | CHECKED: R.K. | APPROVED:

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 211.5
- GROUND WATER:
- BEDROCK SURFACE: 208.5
- GAUGE READING:
- BOTTOM OF HOLE: 203.5

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			211.5	0
		ASPHALT	211.1	0.4
		FILL - Crushed Stone over Sand - Gravel	208.5	3.0
	Rock core	Limestone Bedrock Sound	203.5	8.0
		Drilled 5.0 Recovered 4.9 NXF Core		

N — BLOWS/FT.

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA - TUNNEY'S PASTURE
DATE: 29/9/71
HOLE NO.: 14
PROJECT: Prop Food & Drug Lab.
BORING BY: J.D.P.
FILE NO.: 32/4-383
BORING RECORD NO.: 3397
DRAWN:
CHECKED:
APPROVED:

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
DATUM: Geodetic
GROUND SURFACE: 210.5
GROUND WATER:
BEDROCK SURFACE: 209.4
GAUGE READING:
BOTTOM OF HOLE: 204.4

PENETRATION RESISTANCE
STD. PEN. RESISTANCE, N
2 INCH DIA. CONE
CASING
UNDRAINED SHEAR STRENGTH, s_u
FORMS:
UNCONFINED COMPRESSION ($q_u/2$)
QUICK TRIAXIAL
FIELD VANE

CONSISTENCY
NATURAL WATER CONTENT, w
LIQUID LIMIT, w_L
PLASTIC LIMIT, w_P
BULK DENSITY, γ
BUOYANT DENSITY, γ'
PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			210.5	0
		Asphalt	210.1	0.4
		Fill - Cr Stone	209.4	1.1
	Rock core	Limestone Bedrock Numerous clay filled joints.	204.4	6.1
		Drilled 5.0 Recovery 5.0 NXF Core		

N BLOWS/FT

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA - TUNNEY'S PASTURE
DATE: 29/9/71
HOLE NO.: 15
PROJECT: Prof. Food and Drug Lab.
BORING BY: J.D.P.
FILE NO.: 32/4-383

BORING RECORD NO.: 3397
DRAWN: ...
CHECKED: ...
APPROVED:

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 210.6
GROUND WATER:	BEDROCK SURFACE: 209.0
GAUGE READING:	BOTTOM OF HOLE: 204.5

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			210.6	0
		ASPHALT	210.2	0.4
		FILL	209.0	1.6
	Rock core	Limestone bedrock with weathered joints	204.5	6.1

Drilled 4.5 Recovered 4.3

NXF core

N BLOWS/FT

REMARKS

DWG. NO. A473

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	DATE:	HOLE NO.:
OTTAWA - TUNNEY'S PASTURE	27/9/71	16
PROJECT: Prop. Food and Drug Lab.	BORING BY: J.D.P.	FILE NO.: 32/4-383

BORING RECORD NO.: 3397 | DRAWN: | CHECKED: | APPROVED:

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)
- DATUM: Geodetic
- GROUND SURFACE: 210.6
- GROUND WATER:
- BEDROCK SURFACE: 208.6
- GAUGE READING:
- BOTTOM OF HOLE: 203.6

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			210.6	0
		ASPHALT	210.2	0.4
		CRUSHED STONE, SAND, GRAVEL	208.6	2.0
	Rock core	Limestone Bedrock Clay Seam at 4.0, 6.3	203.6	7.0

Drilled	Recovered
5.0	4.8

NXF Core

N | BLOWS/FT

REMARKS

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION: OTTAWA - TUNNEY'S PASTURE

DATE: 24/9/71

HOLE NO.: 17

PROJECT: Prop. Food and Drug Lab.

BORING BY: J.D.P.

FILE NO.: 32/4-383

BORING RECORD NO.: 3397

DRAWN: G. H.

CHECKED: R.K.

APPROVED:

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic

GROUND SURFACE: 209.4

GROUND WATER: -

BEDROCK SURFACE: 207.1

GAUGE READING: -

BOTTOM OF HOLE: 201.9

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u

FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			209.4	0
		FILL - SAND, Gravel, cobbles	207.1	2.3
	ROCK CORE	Limestone with some clay seams	201.9	7.5

Drilled	Recovered
2.2	2.2
3.3	3.2
5.5	5.4

NXF core

N — BLOWS/FT

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA, ONTARIO
DATE:	Oct. 14/71
HOLE NO.:	1
PROJECT:	D.B.S. Tower Water Main
BORING BY:	B.Leafloor
FILE NO.:	32/4-380
BORING RECORD NO.:	3487
DRAWN:	
CHECKED:	
APPROVED:	

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	202.9
GROUND WATER:		BEDROCK SURFACE:	
GAUGE READING:		BOTTOM OF HOLE:	198.6

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($s_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_c'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			202.9	0.0
		TOPSOIL (Black)	202.1	0.8
		SILTY FINE SAND (Grey)	201.4	1.5
		SILTY SAND, some GRAVEL and COBBLES (D. Brown to Black)	199.0	3.9
		Probable Bedrock (Augered)	198.6	4.3

N BLOWS/FT

REMARKS

DWG. NO. A473

FORM TL/TF 213

DWG. NO. A473

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA, ONTARIO
DATE:	Oct. 14/71
HOLE NO.:	2
PROJECT:	D.B.S. Tower Water Main
BORING BY:	B. Leafloor
FILE NO.:	32/4-380
BORING RECORD NO.:	3487
DRAWN:	
CHECKED:	
APPROVED:	

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM: Geodetic	GROUND SURFACE: 203.2
GROUND WATER:	BEDROCK SURFACE:
GAUGE READING:	BOTTOM OF HOLE: 200.2

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION $(q_u/2)$
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_P
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			203.2	0.0
		TOPSOIL (Black)	202.6	0.6
		SILTY FINE SAND Trace GRAVEL (Brown to Grey)	201.4	1.8
		SILTY SAND & GRAVEL (Grey & Brown)	200.2	3.0

N — BLOWS/FT

REMARKS

FORM TL/TF 213

RECORD OF BORE HOLE
DEPARTMENT OF PUBLIC WORKS, CANADA
TESTING LABORATORIES

LOCATION:	OTTAWA, ONTARIO
PROJECT:	D.B.S. Tower Water Main
DATE:	Oct. 14/71
HOLE NO.:	3
BORING BY:	B. Leafloor
FILE NO.:	32/4-380
BORING RECORD NO.:	3487
DRAWN:	
CHECKED:	
APPROVED:	

SAMPLE TYPE
- UNDISTURBED
- DISTURBED
- ROCK CORE

ELEVATION (FT.)

DATUM:	Geodetic	GROUND SURFACE:	203.4
GROUND WATER:		BEDROCK SURFACE:	200.6
GAUGE READING:		BOTTOM OF HOLE:	193.5

PENETRATION RESISTANCE
- STD. PEN. RESISTANCE, N
- 2 INCH DIA. CONE
- CASING

UNDRAINED SHEAR STRENGTH, s_u
FORMS:
- UNCONFINED COMPRESSION ($q_u/2$)
- QUICK TRIAXIAL
- FIELD VANE

CONSISTENCY
- NATURAL WATER CONTENT, w
- LIQUID LIMIT, w_L
- PLASTIC LIMIT, w_p
- BULK DENSITY, γ
- BUOYANT DENSITY, γ'
- PRECONSOLIDATION PRESSURE, p_o'

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)
			203.4	0.0
		TOPSOIL (Brownish Black)	202.8	0.6
		SAND (Brown) Trace of CLAY Odd Gravel	200.6	2.8
	Rock core	BEDROCK		
			193.5	9.9

BEDROCK

Drilled (ft.)	Recovered (ft.)
2.1	2.1
5.0	5.0
7.1	7.1

N BLOWS/FT.

N

REMARKS

DWG. NO. A473

FORM TL/TF 213

1.

SHEET 1 OF 1

LOCATION: OTTAWA, (TUNNEYS PASTURE)	PROJECT: GOVT. OF CANADA, NEW BLDG. #8.
BORE HOLE POSITION: LOC. AS PER STAKE.	
D.P.W. TECHNICIAN: LEHFLOUR E. PERREAULT	DATE AND TIME: STARTED 25 APR. 74 FINISHED 26 APR. 74
CONTRACTOR: .... DRILLER:	DATUM: GEODETIC · GROUND SURFACE ELEVATION: 203.1' · GAUGE READING: ....
BORING METHOD: SOIL RUNNING CASING ROCK BXF. DIA. BIT.	CASING SIZE: BX · CASING HAMMER: WEIGHT........LBS; DROP........INCHES

SAMPLE SYMBOL *

- ______ UNDISTURBED
- ________ DISTURBED
- ____________ LOST

SAMPLE TYPE: **

- S. _____ SPLIT BARREL
- T. ____ THIN WALL TUBE
- P. ____ PISTON SAMPLER
- C. ________ CORE BARREL
- A. ____________ AUGER
- W. ____________ WASH
- Y. ....

SHIPPING CONTAINER: **

- T. ______________ TUBE
- G. ____________ GLASS JAR
- C. ____________ CLOTH BAG
- P. __________ PLASTIC BAG
- B. ____________ CORE BOX
- Z. ....

DESCRIPTION OF STRATA	DEPTH (FT.)	ELEVATION (FT.)	BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE SYMBOL *	SAMPLE TYPE *	SAMPLE RET'D (FT.)	BLOWS 6 INCHES	SAMPLE NUMBER	SAMPLE DESCRIPTION AND BORING NOTES
0.0' TO 2.7'	0.0'	203.1'								
OVERBURDEN										CLOUDY, SUNNY PERIODS, MILD. TEMP. 55°
	2.7	200.0'								DRILLED BX CASING, 0.0 TO 2.8'
2.7' TO 42.5'										DRILLED WITH BXF DIA. BIT.
BEDROCK (DRILLED)										FROM TO FOR REC.
						BXF C.B. #4				2.7' 6.7' 4.0 3.8'
										LOST ALL RETURN WATER AT 6.7' BGL
										6.7' 7.5' 0.8' 0.8
										END OF THE DAY 4:00 P.M.
										APR. 26, 74 WATER 7.4' B.G.L.
										CLEAR, WINDY, MILD., TEMP. 40° TO 55°
										7.5' 9.6' 2.1' 2.1'
						BXF C.B. #5				9.6' 14.4 4.8' 4.8'
										14.4' 19.1' 4.7' 4.7'
										19.1' 24.0' 4.9' 4.9'
										24.0' 29.1' 5.1' 5.1'
						BXF C.B. #6				29.1' 33.9' 4.8' 4.8'
										33.9' 38.7' 4.8' 4.8'
										38.7' 42.5' 3.8' 3.8'
										TOTALS 39.8' 39.6'
										PULLED THE BX CASING.
BOTTOM OF THE HOLE	42.5'	161.2'								

FIELD BORE HOLE LOG

2.

SHEET ....1.... OF ....1....

LOCATION: OTTAWA (TUNNEYS PASTURE).

PROJECT: GOVT OF CANADA, NEW BLDG. #8

BORE HOLE POSITION: LOC. AS PER PLAN.

D.P.W. TECHNICIAN: LEAFLOOR & PERREAULT

DATE AND TIME: STARTED 26 APR. 71 FINISHED 26 APR. 71

CONTRACTOR: .... DRILLER: ....

DATUM: GEODETIC GROUND SURFACE ELEVATION: 204.0' GAUGE READING: ....

BORING METHOD: SOIL RUNNING CASING ROCK BXF DIA. BIT

CASING SIZE: BX CASING HAMMER: WEIGHT .... LBS; DROP .... INCHES

SAMPLE SYMBOL *

- ______ UNDISTURBED
- ______ DISTURBED
- ______ LOST

SAMPLE TYPE: **

- S. _____ SPLIT BARREL
- T. _____ THIN WALL TUBE
- P. _____ PISTON SAMPLER
- C. _____ CORE BARREL
- A. _____ AUGER
- W. _____ WASH
- Y. ....

SHIPPING CONTAINER: **

- T. _____ TUBE
- G. _____ GLASS JAR
- C. _____ CLOTH BAG
- P. _____ PLASTIC BAG
- B. _____ CORE BOX
- Z. ....

DESCRIPTION OF STRATA	DEPTH (FT.)	ELEVATION (FT.)	BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE SYMBOL *	SAMPLE TYPE *	SAMPLE REC'D (FT.)	BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DESCRIPTION AND BORING NOTES
	0.0'	204.0'								
0.0' TO 6.7' OVERBURDEN.										SUNNY, WINDY, MILD. TEMP. 55°
										DRILLED BX CASING TO 7.2'
	6.7	197.3								DRILLED WITH BXF D.A. BIT.
6.7' TO 10.9' BEDROCK (DRILLED)						BXF C.B. #6				FROM 6.7' TO 7.6' FOR 0.9' REC. 0.6'; FROM 7.6' TO 10.9' FOR 3.3' REC. 3.2'; TOTALS 4.2' 3.8'
										FULL RETURN WATER AT ALL TIMES WHILE DRILLING.
BOTT. OF THIS HOLE	10.9'	193.1'								PULLED THE BX CASING.

3

ION: OTTAWA, TUNNEYS PASTURE
PROJECT: GOV'T OF CANADA NEW BLDG # 8
HOLE POSITION: AS PER PLAN
TECHNICIAN: LEFEBVRE & PERREAULT
DATE AND TIME: STARTED 22 MAR. 74 FINISHED 23 MAR. 74
ACTOR: DRILLER:
DATUM: GEODETIC GROUND SURFACE ELEVATION: 204.8' GAUGE READING:
METHOD: SOIL: RUNNING CASING ROCK: BXF DIA. BIT
CASING SIZE: BX
CASING HAMMER WEIGHT: ... LBS; DROP ... INCHES

SAMPLE SYMBOL *
UNDISTURBED
DISTURBED
LOST

SAMPLE TYPE: **
S. SPLIT BARREL
T. THIN WALL TUBE
P. PISTON SAMPLER
C. CORE BARREL
A. AUGER
W. WASH
Y.

SHIPPING CONTAINER: **
T. TUBE
G. GLASS JAR
C. CLOTH BAG
P. PLASTIC BAG
B. CORE BOX
Z.

DESCRIPTION OF STRATA	DEPTH (FT.)	ELEVATION (FT.)	BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE SYMBOL *	SAMPLE TYPE *	SAMPLE RETD (FT.)	BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DESCRIPTION AND BORING NOTES
										OVERCAST, WINDY, SHOWERS, COOL. TEMP. 52° TO 45°
0 TO 1.7'	0.0	204.8'								
... SANDY TOPSOIL ... GRAVEL								NOTE		DRILLING CASING DOESN'T LET ME TELL EXACTLY WHAT THE SOIL STRATA IS OR WHERE IT STARTS.
	1.7'	203.1								
... YELLOWISH SAND										
								-		DRILLED BX CASING TO 7.8'
	3.7'	201.1'								
3.7' TO 7.4' ... RETURN WATER HERE, ... CASING WENT EASY. PROBABLY FILL.								NOTE		LOST ... RETURN WATER IN THE OVERBURDEN AT 3.5'
										DRILLED WITH BXF DIA. BIT.
										FROM TO FOR REC.
										7.4' 8.3' 0.9' 0.8'
	7.4	197.4'						-		LOST ALL RETURN WATER AT 7.8'
7.4' TO 26.9' BEDROCK (DRILLED)										8.3' 12.1' 3.8' 3.4'
						BXF C.C. #1				DRILLED BX CASING TO 8.1', HOLE CAVING.
										12.1' 17.0' 4.9' 4.9'
										17.0' 22.0' 5.0' 5.0'
										22.0' 26.9' 4.9' 4.9'
										TOTALS 19.5' 19.0'
								-		PULLED THE BX CASING.
								NOTE -		BEDROCK IS BROKEN & SEAMY FROM 7.4' TO 8.9'. SOLID FROM 8.9' TO 26.9'
BOTT. OF THE HOLE	26.9	177.9'								

4

LOCATION: OTTAWA (TUNNEYS PASTURE)
PROJECT: NEW GOVT. BLDG. #8
BORE HOLE POSITION: LOC AS PER PLAN
D.P.W. TECHNICIAN: LEMELUOR & PERREAULT
DATE AND TIME: STARTED 29 APR. 71 FINISHED 29 APR. 71
CONTRACTOR: .... DRILLER: ....
DATUM: GEODETIC GROUND SURFACE ELEVATION: 204.1' GAUGE READING: ....
BORING METHOD: SOIL RUNNING CASING ROCK BXF DIA. BIT
CASING SIZE: BX CASING HAMMER: WEIGHT .... LBS; DROP .... INCHES

SAMPLE SYMBOL *

UNDISTURBED
DISTURBED
LOST

SAMPLE TYPE: **
S. SPLIT BARREL
T. THIN WALL TUBE
P. PISTON SAMPLER
C. CORE BARREL
A. AUGER
W. WASH
Y. ....

SHIPPING CONTAINER: **
T. TUBE
G. GLASS JAR
C. CLOTH BAG
P. PLASTIC BAG
B. CORE BOX
Z. ....

DESCRIPTION OF STRATA	DEPTH (FT.)	ELEVATION (FT.)	BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE SYMBOL *	SAMPLE TYPE *	RETD (FT.)	INCHES PER BLOWS	SAMPLE NUMBER	SAMPLE DESCRIPTION AND BORING NOTES
										OVERCAST, SHOWERS, WARM. TEMP. 60° TO 70°
	0.0	204.1'								
0.0' TO 5.9' OVERBURDEN										
										DRILLED BX CASING, 0.0' TO 6.3'
	5.9'	198.2'								DRILLED WITH BXF DIA. BIT.
5.9' TO 12.0' BEDROCK (DRILLED)						BXF C.B. #7				FROM 5.9' TO 7.0' FOR 1.1' REC. 0.8'
										FROM 7.0' TO 12.0' FOR 5.0' REC. 5.0'
										TOTALS 6.1' 5.8'
										FULL RETURN WATER AT ALL TIMES WHILE DRILLING.
										PULLED THE BX CASING
BOTT. OF THIS HOLE	12.0'	192.1'								

5

LOCATION: OTTAWA, (TUNNEY'S PASTURE). PROJECT: NEW GOVT. BLDG. # 8.

HOLE POSITION: LOC. AS PER PLAN

TECHNICIAN: LEBLANC & [illegible]

DATE AND TIME: STARTED 29 APR. 74 FINISHED 30 APR. 74

CONTRACTOR: DRILLER:

DATUM: GEODETIC GROUND SURFACE ELEVATION: 204.9' GAUGE READING:

BORING METHOD: SOIL RUNNING CASING ROCK BXF. D.D. BIT

CASING SIZE: BX CASING HAMMER: WEIGHT .... LBS; DROP .... INCHES

SAMPLE SYMBOL *

- UNDISTURBED
- DISTURBED
- LOST

SAMPLE TYPE **
S. SPLIT BARREL
T. THIN WALL TUBE
P. PISTON SAMPLER
C. CORE BARREL
A. AUGER
W. WASH
Y.

SHIPPING CONTAINER: **
T. TUBE
G. GLASS JAR
C. CLOTH BAG
P. PLASTIC BAG
B. CORE BOX
Z.

DESCRIPTION OF STRATA	DEPTH (FT.)	ELEVATION (FT.)	BLOWS PER FOOT	SAMPLE NUMBER	SYMBOL	TYPE	
0.0' TO 2.7' OVERBURDEN	0.0'	204.9'					
	2.7	201.2					
2.7' TO 41.5' BEDROCK (DRILLED)							
	10.0'					BXF C.B. 47	
	20.0'					BXF C.B. 48	
	30.0'					BXF C.B. 49	
BOTTOM OF THIS HOLE	41.5'	162.4'					

SAMPLE DESCRIPTION AND BORING NOTES

OVERCAST TO RAIN, MILD TEMP. 70°

DRILLED BY CASING 0.0' TO 3.4'

RAIN 1:45 P.M. TO 4:00 P.M.

APR. 30/74, SUNNY, CLOUDY PERIODS COOL TEMP. 50° TO 60°

DRILLED WITH BXF DIA. BIT:

FROM	TO	FOR	REC.
2.7'	5.3'	2.6'	2.2'
5.3'	6.2'	0.9'	0.9'
6.2'	7.3'	1.1'	1.1'
7.3'	9.9'	2.6'	2.5'

NOTE:- LOST ALL RETURN WATER IN 7.3' TO 9.9' RUN

9.9'	12.2'	2.3'	2.3'
12.2'	16.5'	4.3'	4.3'
16.5'	17.8'	1.3'	1.2'
17.8'	19.9'	2.1'	2.1'
19.9'	24.6'	4.7'	4.7'
24.6'	29.5'	4.9'	4.9'
29.5'	34.4'	4.9'	4.9'
34.4'	39.4'	5.0'	5.0'
39.4'	41.5'	2.1'	2.1'
	TOTALS	38.8'	38.2'

NOTE:- THE DRILL WATER RETURNED AGAIN AT 19.9' & LASTED TILL THE END OF THE DRILLING.

PULLED THE BX CASING.

LOCATION: OTTAWA, (TUNNEY'S PASTURE)	PROJECT: GOVT. OF CANADA, NEW BLDG. # 8
BORE HOLE POSITION: LOC. 1' SOUTH OF THE BORE HOLE STAKE. (BROKE A LAWN SERVICE WATER AT THE STAKE)	
D.P.W. TECHNICIAN: LEFEBVRE & PERREAULT	DATE AND TIME: STARTED 25 APR. 74 FINISHED 25 APR. 74
CONTRACTOR: DRILLER:	DATUM: GEODETIC GROUND SURFACE ELEVATION: 201.8' GAUGE READING:
BORING METHOD: SOIL RUNNING CASING ROCK BXF. DIA. BIT	CASING SIZE: BX CASING HAMMER: WEIGHT LBS; DROP INCHES

SAMPLE SYMBOL *
- UNDISTURBED
- DISTURBED
- LOST

SAMPLE TYPE: **
- S. SPLIT BARREL
- T. THIN WALL TUBE
- P. PISTON SAMPLER
- C. CORE BARREL
- A. AUGER
- W. WASH
- Y.

SHIPPING CONTAINER: **
- T. TUBE
- G. GLASS JAR
- C. CLOTH BAG
- P. PLASTIC BAG
- B. CORE BOX
- Z.

DESCRIPTION OF STRATA	DEPTH (FT.)	ELEVATION (FT.)	BLOWS PER FOOT	SAMPLE NUMBER	SYMBOL *	TYPE **	RET'D (FT.)	BLOWS 6 INCHES	SAMPLE NUMBER	SAMPLE DESCRIPTION AND BORING NOTES
0.0' TO 2.5'	0.0'	201.8'								CLOUDY, SUNNY PERIODS, MILD. TEMP. 55°
OVERBURDEN										
SILTY SANDY TOPSOIL TO SAND, SILT & GRAVEL										DRILLED BX CASING TO 2.9'
	2.5'	199.3'								
2.5' TO 9.3' BEDROCK (DRILLED)						BXF C.B.	#4			DRILLED WITH BXF DIA. BIT.
										FROM 2.5' TO 4.8' FOR 2.3' REC. 2.2'
										FROM 4.8' TO 9.3' FOR 4.5' REC. 4.5'
										TOTALS 6.8' 6.7'
										LOST ALL RETURN WATER AT 6.4' B.G.L.
										PULLED THE BX CASING.
BOTT. OF THIS HOLE	9.3'	192.5'								

FIELD BORE HOLE LOG

7.

SHEET 1 OF 1

LOCATION: OTTAWA, (TUNNEYS PASTURE)	PROJECT: GOVT. OF CANADA, NEW BLDG. #8
BORE HOLE POSITION: AS PER PLAN	
D.P.W. TECHNICIAN: LEAFLOOR & PERREAULT	DATE AND TIME: STARTED 24 APR. 74 FINISHED 25 APR. 74
CONTRACTOR: .... DRILLER:	DATUM: GEODETIC GROUND SURFACE ELEVATION: 202.1' GAUGE READING: ......
BORING METHOD: SOIL RUNNING CASING ROCK BXF. DIA. BIT	CASING SIZE: BX CASING HAMMER: WEIGHT .... LBS; DROP .... INCH

SAMPLE SYMBOL *

- ______ UNDISTURBED
- ______ DISTURBED
- ______ LOST

SAMPLE TYPE: **

- S. ______ SPLIT BARREL
- T. ______ THIN WALL TUBE
- P. ______ PISTON SAMPLER
- C. ______ CORE BARREL
- A. ______ AUGER
- W. ______ WASH
- Y. ....

SHIPPING CONTAINER: **

- T. ______ TUBE
- G. ______ GLASS JAR
- C. ______ CLOTH BAG
- P. ______ PLASTIC BAG
- B. ______ CORE BOX
- Z. ....

DESCRIPTION OF STRATA	DEPTH (FT.)	ELEVATION (FT.)	BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE SYMBOL *	SAMPLE TYPE *	SAMPLE RET'D (FT.)	6 INCHES BLOWS PER	SAMPLE NUMBER	SAMPLE DESCRIPTION AND BORING NOTES
										CLOUDY, SUNNY PERIODS, WINDY, COOL TEMP. 42°
	0.0'	202.1'								
0.0' TO 4.4' OVERBURDEN										DRILLED BX CASING TO 5.0'
										DRILLED WITH BXF DIA. BIT
	4.4	197.7'								
4.4' TO 39.8' BEDROCK (DRILLED)						BXF C.B. #2				
								NOTE -		LOST ALL RETURN WATER AT 8.1' DRILLED BX CASING TO 8.4'
						BXF C.B. #3				
										END OF THE DAY 4:00 P.M.
										APR. 25/74 WATER 10.6' B.G.L. CLEAR, SUNNY, COOL TO MILD. TEMP. 35° TO 55°
						BXF C.B. #4				
										PULLED THE BX CASING.
BOTTOM OF THIS HOLE	39.8'	162.3'								

FROM	TO	FOR	REC.
4.4'	5.7'	1.3'	1.2'
5.7'	6.2'	0.5'	0.2'
6.2'	7.3'	1.1'	0.7'
7.3'	12.3'	5.0'	5.0'
12.3'	16.3'	4.0'	4.0'
16.3'	21.0'	4.7'	4.7'
21.0'	25.0'	4.0'	4.0'
25.0'	30.0'	5.0'	5.0'
30.0'	35.0'	5.0'	5.0'
35.0'	39.8'	4.8'	4.8
	TOTALS	35.4'	34.6'

LOCATION: OTTAWA, TUNNEYS PASTURE

PROJECT: GOVT. OF CANADA, NEW BLDG. # 8

BORE HOLE POSITION: AS PER PLAN.

D.P.W. TECHNICIAN: LEAFLOOR & PERREAULT

DATE AND TIME: STARTED 21 APR. 71 FINISHED 21 APR. 71

CONTRACTOR:

DRILLER:

DATUM: GEODETIC

GROUND SURFACE ELEVATION: 202.6

GAUGE READING:

BORING METHOD: SOIL RUNNING CASING ROCK BXF DIA. BIT

CASING SIZE: BX

CASING HAMMER: WEIGHT LBS; DROP INCHES

SAMPLE SYMBOL *

UNDISTURBED

DISTURBED

LOST

SAMPLE TYPE: * :
S. SPLIT BARREL
T. THIN WALL TUBE
P. PISTON SAMPLER
C. CORE BARREL
A. AUGER
W. WASH
Y.

SHIPPING CONTAINER: * *
T. TUBE
G. GLASS JAR
C. CLOTH BAG
P. PLASTIC BAG
B. CORE BOX
Z.

DESCRIPTION OF STRATA	DEPTH (FT.)	ELEVATION (FT.)	BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE TYPE	RET'D (FT.)	6 INCHES BLOWS PER	SAMPLE NUMBER	SAMPLE DESCRIPTION AND BORING NOTES
										OVERCAST, WINDY, COOL TO CLEARING
0.0' TO 3.7'	0.0'	202.6'								TEMP. 39° TO 44°
OVERBURDEN										
TOPSOIL TO SAND, SOME GRAVEL										DRILLED BX CASING TO 4.0'
										LOST ALL RETURN WATER IN THE OVERBURDEN AT 3.4'.
3.7' TO 5.7'	3.7'	198.9'								
~~POSSIBLE LIMESTONE SLABS~~										DRILLED WITH BXF DIA. BIT
POSSIBLE BEDROCK										FROM / TO / FOR / REC.
(DRILLED)	5.7'	196.9'				BXF				3.7' / 5.1' / 1.4' / 0.6'
						C.B. #2				5.1' / 6.7' / 1.6' / 1.1'
5.7' TO 11.6'										DRILLED BX CASING TO 6.0' HOLE CAVING
BEDROCK (DRILLED)										6.7' / 7.6' / 0.9' / 0.9'
										7.6' / 11.6' / 4.0' / 4.0'
										TOTALS 7.9' 6.6'
								NOTE -		FROM 3.7' TO 5.7' THE RECOVERY IS BROKEN LIMESTONE, POSSIBLY BEDROCK BUT THE RECOVERY IS ONLY 0.8'. I FEEL BEDROCK STARTS AT 5.7'.
BOTTOM OF THE HOLE	11.6'	191.0'								
								NOTE -		NO RETURN WATER WHILE DRILLING BEDROCK.
										PULLED THE BX CASING.

FIELD BORE HOLE LOG

BORE HOLE NO. 9. SHEET 1 OF 1

LOCATION: OTTAWA, ONT. (CLINEYS PASTURE)

PROJECT: NEW GOV. BLDG. #8.

BORE HOLE POSITION: LOC. AS PER PLAN

D.P.W. TECHNICIAN: LEMIEUX, PERREAULT & ROBINSON

DATE AND TIME: STARTED [illegible] FINISHED [illegible] May 79

CONTRACTOR: .... DRILLER: ....

DATUM: GEODETIC GROUND SURFACE ELEVATION: 202.6' GAUGE READING: ......

BORING METHOD: SOIL DRIVING CASING ROCK BXF DIA. BIT.

CASING SIZE: BX

CASING HAMMER: WEIGHT .... LBS; DROP .... INCHES

SAMPLE SYMBOL *

______ UNDISTURBED

______ DISTURBED

______ LOST

SAMPLE TYPE: **
- S. _____ SPLIT BARREL
- T. _____ THIN WALL TUBE
- P. _____ PISTON SAMPLER
- C. _____ CORE BARREL
- A. _____ AUGER
- W. _____ WASH
- Y. ....

SHIPPING CONTAINER: **
- T. _____ TUBE
- G. _____ GLASS JAR
- C. _____ CLOTH BAG
- P. _____ PLASTIC BAG
- B. _____ CORE BOX
- Z. ....

DESCRIPTION OF STRATA	DEPTH (FT.)	ELEVATION (FT.)	BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE SYMBOL *	SAMPLE TYPE *	SAMPLE RET'D (FT.)	BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DESCRIPTION AND BORING NOTES
										SUNNY, CLOUDY PERIODS, [illegible] COOL. TEMP. 45° TO 50°
0.0' TO 2.6	0.0	202.6								
OVERBURDEN										DRILLED BX CASING TO 2.8'
										DRILLED WITH BXF DIA. BIT.
										FROM / TO / FOR / REC.
	2.6'	200.0								2.6' / 4.8' / 2.2' / 1.6'
2.6' TO 40.5'						BXF C.B. #9		NOTE –		LOST ALL RETURN WATER AT 3.6'
BEDROCK (DRILLED)										4.8' / 6.3' / 1.5' / 1.4'
										DRILLED BX CASING 2.8' TO [illegible]
										6.3' / 11.3' / 5.0 / 5.0'
						BXF				11.3' / 16.3' / 5.0' / 4.9'
						C.B. #10				16.3' / 21.2' / 4.9' / 4.9'
										21.2' / 26.2' / 5.0' / 5.0'
										26.2' / 30.7' / 4.5' / 4.5'
										END OF THE DAY 3:00 P.M.
										MAY 2/79 SUNNY TEMP. 30° TO 45
						BXF				30.7' / 35.7' / 5.0' / 5.0
						C.B. #11				35.7' / 40.5' / 4.8' / 4.8'
										TOTALS / 37.9' / 37.1'
										PULLED THE BX CASING
BOTTOM OF THE HOLE	40.5	162.1								

Bore Hole 10

LOCATION: OTTAWA (T[illegible] PASTURE)	PROJECT: NEW GOVT. BLDG. #8
BORE HOLE POSITION: LOC AS PER PLAN	
D.P.W. TECHNICIAN: [illegible] & [illegible]	DATE AND TIME: STARTED [illegible] May [illegible] FINISHED [illegible]
CONTRACTOR: .... DRILLER:	DATUM: [illegible] GROUND SURFACE ELEVATION: [illegible].9' GAUGE READING: ....
BORING METHOD: SOIL [illegible] CASING ROCK BXF DIA. BIT	CASING SIZE: BX CASING HAMMER: WEIGHT .... LBS; DROP .... INCHES

SAMPLE SYMBOL *

- ______ UNDISTURBED
- ______ DISTURBED
- ______ LOST

SAMPLE TYPE: **

- S. _____ SPLIT BARREL
- T. _____ THIN WALL TUBE
- P. _____ PISTON SAMPLER
- C. _____ CORE BARREL
- A. _____ AUGER
- W. _____ WASH
- Y. ....

SHIPPING CONTAINER: **

- T. _____ TUBE
- G. _____ GLASS JAR
- C. _____ CLOTH BAG
- P. _____ PLASTIC BAG
- B. _____ CORE BOX
- Z. ....

DESCRIPTION OF STRATA	DEPTH (FT.)	ELEVATION (FT.)	BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE SYMBOL *	SAMPLE TYPE *	SAMPLE RET'D (FT.)	BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DESCRIPTION AND BORING NOTES
										SUNNY, CLOUDY PERIODS, COOL, WINDY. TEMP. 12° TO 55°
0.0' TO 2.6' [illegible]	[illegible]	[illegible]								DRILLED BX CASING, 0.0' TO 3.0'
2.6' TO 4.1' OVERBURDEN	2.6'	200.3'								DRILLED WITH BXF DIA. BIT FROM 2.6' TO 4.3' FOR 1.7' REC. 0.5'
	4.1'	198.8'								THE RECOVERY IS BROKEN LIMESTONE NOT SURE IF IT'S BEDROCK.
4.1' TO 8.2' BEDROCK (DRILLED)						BXF C.B.	#9			DRILLED BX CASING 3.0' TO 4.8'
										DRILLED WITH BXF DIA. BIT FROM 4.3' TO 5.6' FOR 1.5' REC. 1.5'
~~BOTT. OF THE HOLE~~	8.2'	194.7'								LOST ALL RETURN WATER AT 5.1' & 6.[illegible]
										5.6' 8.2' 2.6' 2.6'
										BEDROCK TOTALS 4.1' 4.1'
										PULLED THE BX CASING.
										THE BEDROCK STARTS AT 4.1'. THE RECOVERY IS EXCELLENT BUT THE CORE IS SPLIT & BREA[KS] UP WHEN EXPOSED TO THE AIR.

FIELD BORE HOLE LOG 13. SHEET 1 OF 1

LOCATION: OTTAWA, ONT. (TUNNEYS PASTURE)
PROJECT: NEW GOVT. BLDG. #8.
BORE HOLE POSITION: LOC. 2.3' SOUTH OF ACTUAL B.H. LOC.
D.P.W. TECHNICIAN: LEAFLOUR & PERREAULT
DATE AND TIME: STARTED 8 MAY 74 FINISHED 10 MAY 74
CONTRACTOR: DRILLER:
DATUM: GEODETIC GROUND SURFACE ELEVATION: 201.1' GAUGE READING:
BORING METHOD: SOIL RUNNING CASING ROCK BXF. DIA. BIT.
CASING SIZE: BX CASING HAMMER: WEIGHT LBS; DROP INCHES

SAMPLE SYMBOL *
- UNDISTURBED
- DISTURBED
- LOST

SAMPLE TYPE: **
S. SPLIT BARREL
T. THIN WALL TUBE
P. PISTON SAMPLER
C. CORE BARREL
A. AUGER
W. WASH
Y.

SHIPPING CONTAINER **
T. TUBE
G. GLASS JAR
C. CLOTH BAG
P. PLASTIC BAG
B. CORE BOX
Z.

DESCRIPTION OF STRATA	DEPTH (FT.)	ELEVATION (FT.)	BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE SYMBOL *	SAMPLE TYPE **	RETD (FT.)	6 INCHES BLOWS	SAMPLE NUMBER	SAMPLE DESCRIPTION AND BORING NOTES
										CLOUDY, SUNNY PERIODS COOL. TEMP. 45°
0.0' TO 0.3'	0.0'	201.1'								
ASPHALT	0.3'	200.8'								
0.3' TO 4.1'										DRILLED BX CASING 0.0' TO 4.4'
CRUSHED STONE TO										
SILTY SAND & GRAVEL										
COBBLES.										
										DRILLED WITH BXF DIA. BIT
	4.1'	197.0'								FROM / TO / FOR / REC.
4.1' TO 41.6'						BXF				4.1' / 8.9' / 4.8' / 4.8'
BEDROCK (DRILLED)						C.B. #16				LOST ALL RETURN WATER AT 6.0' S.S.L.
										END OF THE DAY 4:00 P.M.
										MAY 10/74, OVERCAST SHOWERS COOL. TEMP. 37° TO 50°
										8.9' / 13.8' / 4.9' / 4.9'
										13.8' / 18.2' / 4.4' / 4.4
						BXF				18.2' / 23.2' / 5.0' / 5.0'
						C.B. #17				23.2' / 28.1' / 4.9' / 4.9'
										28.1' / 33.1' / 5.0' / 5.0'
						BXF				33.1' / 38.0' / 4.9' / 4.9'
						C.B. #18				38.0' / 41.6' / 3.6' / 3.6'
										TOTALS / 37.5' / 37.5'
										PULLED THE BX CASING.
BOTT. OF THE HOLE	41.6'	159.5'								

FIELD BORE HOLE LOG

[illegible] 14.	SHEET 1 OF 1
LOCATION: Ottawa, Ont (Tunney's Pasture)	PROJECT: [illegible] Govt Bldg. #8
BORE HOLE POSITION: Loc 3' South of Actual Plan Loc.	
D.P.W. TECHNICIAN: [illegible] & [illegible]	DATE AND TIME: STARTED 2 May 74 FINISHED 2 May 74
CONTRACTOR:	DRILLER:
DATUM: [illegible]	GROUND SURFACE ELEVATION: 201.4
GAUGE READING:	
BORING METHOD: SOIL [illegible] ROCK BXF DIA. BIT.	CASING SIZE: BX
CASING HAMMER: WEIGHT .... LBS; DROP .... INCHES	

SAMPLE SYMBOL *

- UNDISTURBED
- DISTURBED
- LOST

SAMPLE TYPE: **

- S. SPLIT BARREL
- T. THIN WALL TUBE
- P. PISTON SAMPLER
- C. CORE BARREL
- A. AUGER
- W. WASH
- Y.

SHIPPING CONTAINER: **

- T. TUBE
- G. GLASS JAR
- C. CLOTH BAG
- P. PLASTIC BAG
- B. CORE BOX
- Z.

DESCRIPTION OF STRATA	DEPTH (FT.)	ELEVATION (FT.)	BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE SYMBOL *	SAMPLE TYPE *	SAMPLE RET'D (FT.)	BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DESCRIPTION AND BORING NOTES
										Sunny, Temp. 45°
0.0' to 0.3	0.0	201.4'								
[illegible]	0.3	201.1'								DRILLED BX CASING 0.0' TO 1.4
0.3' to 1.4'										
SAND & GRAVEL	1.4	200.0'								DRILLED WITH BXF DIA. BIT.
1.4' TO 3.5'						BXF				FROM 1.4' TO 3.5' FOR 2.1' REC. 2.0
BEDROCK (DRILLED)						C.B.	#12			
BOTT. OF THE HOLE	3.5'	197.9'								
										PULLED THE BX CASING.

15

(LOCAT)ION: OTTAWA, ONT. (TUNNEYS PASTURE)	PROJECT: NEW GOVT. BLDG. #8
HOLE POSITION: LOC. 3.0' SOUTH OF PLAN HOLE LOC.	
TECHNICIAN: LEFEBVRE & PERREAULT	DATE AND TIME: STARTED 7 MAY 74 FINISHED 8 MAY 74
(CONT)RACTOR:	DRILLER:
DATUM: GEODETIC	GROUND SURFACE ELEVATION: 201.6'	GAUGE READING:
(BORIN)G METHOD: SOIL RUNNING CASING ROCK BXF. DIA. BIT.	CASING SIZE: BX	CASING HAMMER: WEIGHT ... LBS; DROP ... INCHES

(SAM)PLE SYMBOL *
- UNDISTURBED
- DISTURBED
- LOST

SAMPLE TYPE: **
- S. SPLIT BARREL
- T. THIN WALL TUBE
- P. PISTON SAMPLER
- C. CORE BARREL
- A. AUGER
- W. WASH
- Y.

SHIPPING CONTAINER: **
- T. TUBE
- G. GLASS JAR
- C. CLOTH BAG
- P. PLASTIC BAG
- B. CORE BOX
- Z.

DESCRIPTION OF STRATA	DEPTH (FT.)	ELEVATION (FT.)	BLOWS PER FOOT	SAMPLE NUMBER	SYMBOL *	TYPE *	RET'D (FT.)	BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DESCRIPTION AND BORING NOTES
0.0' TO 0.3' ASPHALT	0.0'	201.6								RAIN, OVERCAST, COLD, TEMP. 37° TO 42°
0.3' TO 5.7' CRUSHED STONE TO SILTY SAND & GRAVEL	0.3'	201.3								DRILLED BX CASING 0.0' TO 3.3'
										DRILLED WITH BXF DIA. BIT
	5.7'	195.9'				BXF C.B. #14				
5.7' TO 41.1' BEDROCK (DRILLED)						BXF C.B. #15				
						BXF C.B. #16				
BOTT. OF THE HOLE 41.1 160.5'										

FROM	TO	FOR	REC.
2.7'	4.6'	1.9'	0.6'

THE RECOVERY IS GRAVEL.

DRILLED BX CASING 3.3' TO 5.8'

DRILLED WITH BXF DIA. BIT.

FROM	TO	FOR	REC.
5.7'	6.8'	1.1'	1.1'
6.8'	8.0'	1.2'	1.0'
8.0'	9.1'	1.1'	1.1'
9.1'	9.7'	0.6'	0.6'
9.7'	12.7'	3.0'	3.0'
12.7'	13.8'	1.1'	1.1'
13.8'	14.5'	0.7'	0.7'

MUD SEAMS & SOFT SHALE

FROM	TO	FOR	REC.
14.5'	18.2'	3.7'	3.7'

RAIN ALL THIS P.M.

MAY 8/74 WATER 14.6' B.G.L.
OVERCAST, WINDY, SHOWERS, COOL
TEMP. 35° TO 48°

FROM	TO	FOR	REC.
18.2'	20.1'	1.9'	1.9'
20.1'	22.4'	2.3'	2.3'
22.4'	25.5'	3.1'	3.1'
25.5'	27.8'	2.3'	1.3'
27.8'	29.4'	1.6'	1.6'
29.4'	30.4'	1.0'	1.0'
30.4'	32.3'	1.9'	1.9'
32.3'	36.7'	4.4'	4.4'
36.7'	41.1'	4.4'	4.4'
	TOTALS	35.4'	34.2'

PULLED THE BX CASING.

NOTE - LOST THE RETURN WATER AT 5.7' COMPLETELY, IT RETURNED IN A SHORT TIME & PARTIALLY CAME BACK TILL APPROXIMATELY 19' THEN COMPLETELY LOST.

THE CORE FROM 18.2' TO 27.8' IS BROKEN WITH MUD SEAMS & CALCITE SEAMS.

LOCATION: OTTAWA ONT. (TUNNEYS PASTURE)
PROJECT: NEW GOVT BLDG # 8
BORE HOLE POSITION: LOC. AS PER PLAN
D.P.W. TECHNICIAN: PERREAULT, ROBINSON & LEFEBVRE
DATE AND TIME STARTED: 2 MAY 74 FINISHED: 6 MAY 74
CONTRACTOR: .... DRILLER: ....
DATUM: GEODETIC GROUND SURFACE ELEVATION: 202.5' GAUGE READING: ....
BORING METHOD: SOIL: WASHING CASING ROCK: BXF DIA. BIT
CASING SIZE: BX CASING HAMMER WEIGHT: .... LBS; DROP .... INCHES

SAMPLE SYMBOL *
- ______ UNDISTURBED
- ______ DISTURBED
- ______ LOST

SAMPLE TYPE: **
- S. ______ SPLIT BARREL
- T. ______ THIN WALL TUBE
- P. ______ PISTON SAMPLER
- C. ______ CORE BARREL
- A. ______ AUGER
- W. ______ WASH
- Y. ....

SHIPPING CONTAINER: **
- T. ______ TUBE
- G. ______ GLASS JAR
- C. ______ CLOTH BAG
- P. ______ PLASTIC BAG
- B. ______ CORE BOX
- Z. ....

DESCRIPTION OF STRATA	DEPTH (FT.)	ELEVATION (FT.)	BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE SYMBOL *	SAMPLE TYPE *	SAMPLE REC'D (FT.)	BLOWS 6 INCHES	SAMPLE NUMBER	SAMPLE DESCRIPTION AND BORING NOTES
										MAY 2/74 SUNNY TEMP 35° TO 50°
	0.0	202.5'								
0.0' TO 4.2'										DRILLED BX CASING 0.0' TO 4.2'
SAND & GRAVEL										DRILLED IN BOULDERS WITH
										BXF DIA. BIT 4.2' TO 8.4'
										END OF THE DAY
										MAY 3/74 SUNNY TO RAIN
	4.2	198.3'								TEMP 35° TO 50°
4.2' TO 8.4' SAND, GRAVEL, BOULDERS										DRILLED WITH BXF DIA. BIT
										FROM TO FOR REC.
										8.4' 11.3' 2.9' 2.9'
										11.3' 16.2' 4.9' 4.9'
										16.2' 21.2' 5.0' 5.0'
										21.2' 26.2' 5.0' 5.0'
										26.2' 31.2' 5.0' 5.0'
	8.4	194.1								RAIN ALL AFTERNOON.
8.4' TO 41.2' BEDROCK (DRILLED)						BXF CB #12				MAY 6/74 RAIN, WINDY, COLD TEMP 36° TO 45°
										31.2' 36.2' 5.0' 5.0'
										36.2' 41.2' 5.0' 5.0'
						BXF CB #13				TOTALS 32.8 32.8
										PULLED THE BX CASING.
						BXF CB #14				
BOTT. OF THE HOLE	41.2'	161.3'								

FIELD BORE HOLE LOG

BORE HOLE NO. 24 — SHEET 1 OF 1

LOCATION: OTTAWA, ONT (TUNNEYS PASTURE)

PROJECT: NEW GOVT. BLDG. #8

BORE HOLE POSITION: LOC. AS PER PLAN

D.P.W. TECHNICIAN: LEAFLOUR & PERREAULT

DATE AND TIME: STARTED 6 MAY 74 FINISHED 6 MAY 74

CONTRACTOR: .... DRILLER: ....

DATUM: GEODETIC GROUND SURFACE ELEVATION: 203.0 GAUGE READING: ....

BORING METHOD: SOIL RUNNING CASING ROCK BXF DIA. BIT

CASING SIZE: BX CASING HAMMER: WEIGHT .... LBS; DROP .... INCHES

SAMPLE SYMBOL *

- UNDISTURBED
- DISTURBED
- LOST

SAMPLE TYPE: **

- S. SPLIT BARREL
- T. THIN WALL TUBE
- P. PISTON SAMPLER
- C. CORE BARREL
- A. AUGER
- W. WASH
- Y. ....

SHIPPING CONTAINER: **

- T. TUBE
- G. GLASS JAR
- C. CLOTH BAG
- P. PLASTIC BAG
- B. CORE BOX
- Z. ....

DESCRIPTION OF STRATA	DEPTH (FT.)	ELEVATION (FT.)	BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE SYMBOL *	SAMPLE TYPE *	SAMPLE RET'D (FT.)	6 INCHES BLOWS PER	SAMPLE NUMBER	SAMPLE DESCRIPTION AND BORING NOTES
0.0' TO 9.7'	0.0'	203.0'								
OVERBURDEN TOPSOIL TO SILTY SAND & GRAVEL COBBLES										OVERCAST, WINDY, SHOWERS, COLD TEMP. 35° TO 40°
										DRILLED BX CASING FROM 0.0' TO 4.8'
										DRILLED WITH BXF DIA. BIT FROM 4.8' TO 6.8' & RECOVERED GRAVEL & COBBLES.
										DRILLED BX CASING 4.8' TO 10.0'
	9.7'	193.3'								DRILLED WITH BXF DIA. BIT. FROM / TO / FOR / RE.
9.7' TO 13.8' BEDROCK (DRILLED)						BXF C.B. #15				9.7' / 10.5' / 0.8' / 0.6'; 10.5' / 11.2' / 0.7' / 0.6'
										LOST ALL RETURN WATER AT 9.9' B.G.L.
										11.2' / 13.8' / 2.6' / 2.6'
										TOTALS 4.1 / 3.8'
BOTT. OF THE HOLE	13.8'	189.2'								PULLED THE BX CASING

PROJECT: 191-12784-07

RECORD OF BOREHOLE: TP - Exploratory Borehole

LOCATION: Tunney's Pasture, Ottawa, Ontario

BORING DATE: October 4 and 5, 2021

DATUM: Geodetic
NORTHING: 5030014
EASTING: 364217

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE - DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES NUMBER	TYPE	BLOWS/0.30m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80); SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}); WATER CONTENT PERCENT Wp —○W— Wl (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		62.60							
0	Air Rotary - Drilling Rate: 44 m/hr; Estimated Flows (L/min): 0 - 1 (0-0.25 GPM)	**FILL-** Sand and Gravel trace silt, grey, dry		0.60							
		LIMESTONE WITH INTERBEDDED SHALE-Grey, low gamma ray limestone with significant dark grey shale interbedding									
		SHALE-Dark Grey, minimal limestone interbedding		25.10 / 37.50							
		LIMESTONE-Light grey, high gamma ray limestone with little interbedded dark grey shale		11.40 / 51.20							
		LIMESTONE WITH INTERBEDDED SHALE-Light grey, with significant dark grey shale interbedding		-33.21 / 95.80							
105											

Depth scale: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105

CONTINUED NEXT PAGE

DEPTH SCALE
1 : 525

LOGGED: SW
CHECKED: MS

PROJECT: 191-12784-07

RECORD OF BOREHOLE: TP - Exploratory Borehole

SHEET 2 OF 3

LOCATION: Tunney's Pasture, Ottawa, Ontario

BORING DATE: October 4 and 5, 2021

DATUM: Geodetic

NORTHING: 5030014

EASTING: 364217

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.30m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80); SHEAR STRENGTH Cu, kPa nat V. + Q - ● rem V. ⊕ U - ○ (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}); WATER CONTENT PERCENT Wp ⊢—○W—⊣ Wl (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		--- CONTINUED FROM PREVIOUS PAGE ---									
105	Air Rotary - Drilling Rate: 37 m/hr; Estimated Flows (L/min): 65 (17 GPM)	**LIMESTONE WITH INTERBEDDED SHALE**-Light grey, with significant dark grey shale interbedding									
115		*Water infiltration noted, flow rate approximately 60 liters per minute									
162.20	Air Rotary - Drilling Rate: 20 m/hr; Estimated Flows (L/min): 65 (17 GPM)	**SANDSTONE**-Fine grained with consistent interbedded shale		-99.61 162.20							
172		*Becoming clean sandstone									
184	Air Rotary - Drilling Rate: 20 m/hr; Estimated Flows (L/min): 73 (19 GPM)	*Becoming clean sandstone with isolated shale seams *Some additional water infiltration noted fom approximately 184 to 187 m, flow rate approximately 4 to 8 liters per minute									
193.10		**SANDSTONE**-Fine grained, interbedded with minor shale seams		-130.51 193.10							
201.60		**SCHIST**-Metasedimentary precambrian bedrock		-139.01 201.60							
210		*CONTINUED NEXT PAGE*									

DEPTH SCALE

1 : 525

LOGGED: SW

CHECKED: MS

PROJECT: 191-12784-07

RECORD OF BOREHOLE: TP - Exploratory Borehole

LOCATION: Tunney's Pasture, Ottawa, Ontario

BORING DATE: October 4 and 5, 2021

DATUM: Geodetic
NORTHING: 5030014
EASTING: 364217

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.30m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20, 40, 60, 80); SHEAR STRENGTH Cu, kPa nat V. + Q - ● rem V. ⊕ U - ○ (20, 40, 60, 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6}, 10^{-5}, 10^{-4}, 10^{-3}); WATER CONTENT PERCENT Wp ⊢—○W—⊣ Wl (20, 40, 60, 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		--- CONTINUED FROM PREVIOUS PAGE ---									
210–244	Air Rotary - Drilling Rate: 20 m/hr; Estimated Flows (L/min): 73 (19 GPM)	**SCHIST-** Metasedimentary precambrian bedrock									
244–306	Air Rotary - Drilling Rate: 12 m/hr; Estimated Flows (L/min): 73 (19 GPM)			-243.41 306.00							
		Borehole Terminated at 306 mbgs in schist bedrock									

Depth scale marks: 210, 215, 220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 285, 290, 295, 300, 305, 310, 315

DEPTH SCALE
1 : 525

LOGGED: SW
CHECKED: MS

Borehole Log: BH/MW15-1

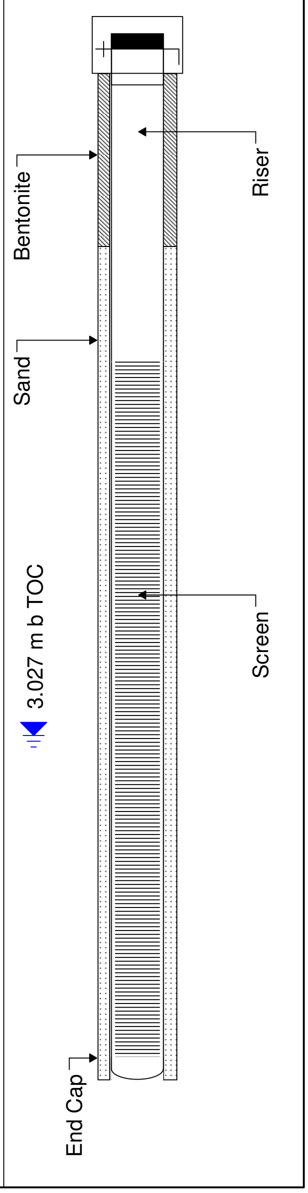
Project No: 1761-1501

Project: Phase III ESA	**Drill date: March 30, 2015**
Client: PWGSC	**Site ID: Tunneys Pasture - EHC, Bldg. 8**
Location: Ottawa, Ontario	**Logged By: Ryan Fletcher**

SUBSURFACE PROFILE / SAMPLE

Depth (m)	Description	Sample Number	Laboratory Analysis	Organic Vapour Reading (PPM)
0	***Ground Surface***			
0 – 1.2	***Fill*** Grey/brown silty sand and gravel, moist, no odour	-1	PHC, PAH	0.2 ppm
1.2 – 4.6	***Bedrock*** Limestone	-2	PHC, PAH (DUP1)	
	Strong PHC odour from bedrock cuttings starting at 3.1 m bgs			
4.6	***End of Borehole***			

Monitoring well installation details



Drilled By: Strata Drilling	Hole Diameter: 20.32 cm	Well Diameter: 5.08 cm (2")
Drill Method: Air Hammer - GM100 GT	T.O.C. Elevation (m): 0	
	Water Level (m TOC):	

Comments: Sample BH15-1-2 collected from broken bedrock

Borehole Log: BH/MW15-2

Project No: 1761-1501

Project: Phase III ESA | ***Drill date: March 30, 2015***

Client: PWGSC | ***Site ID: Tunneys Pasture - EHC, Bldg. 8***

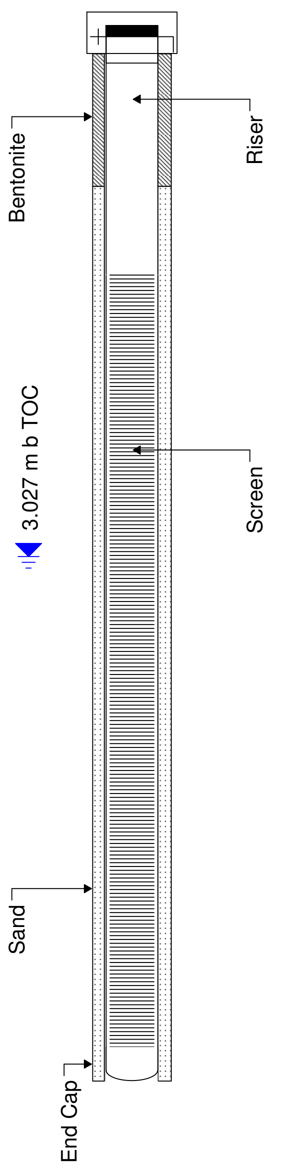
Location: Ottawa, Ontario | ***Logged By: Ryan Fletcher***

SUBSURFACE PROFILE / SAMPLE

Depth (m)	Symbol	Description	Number	Type	Laboratory Analysis	Organic Vapour Reading (PPM 0–100)
0		***Ground Surface***				
0 – 1.18		***Gravelly Silt*** Dark grey gravelly silt, moist, no odour	-1		PHC, PAH	5.2 ppm
1.18 – 6.1		***Bedrock*** Limestone				
6.1		***End of Borehole***				

Depth scale: ft 0–21; m 0–6

Monitoring well installation details



Drilled By: Strata Drilling | Hole Diameter: 20.32 cm | Well Diameter: 5.08 cm (2")

Drill Method: Air Hammer - GM100 GT | T.O.C. Elevation (m): 0

Water Level (m TOC):

Comments:

Borehole Log: BH/MW15-3

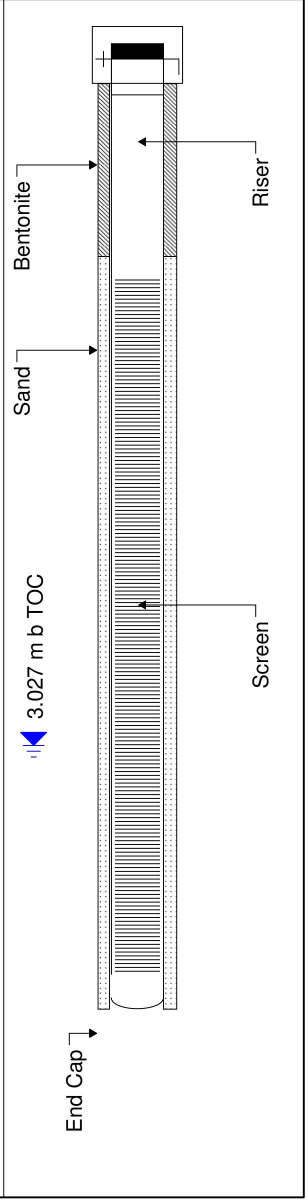
Project No: 1761-1501

Project: Phase III ESA | **Drill date: March 30, 2015**

Client: PWGSC | **Site ID: Tunneys Pasture - EHC, Bldg. 8**

Location: Ottawa, Ontario | **Logged By: Ryan Fletcher**

SUBSURFACE PROFILE			SAMPLE			Organic Vapour Reading	Monitoring well installation details
Depth (m)	Symbol	Description	Number	Type	Laboratory Analysis	PPM 0 25 50 75 100	
0		***Ground Surface***					
0 – 1.1		***Gravelly Silt*** Brown gravelly silt, most, no odour	-1		PHC, PAH	Insufficient Volume	
1.1 – 4.25		***Bedrock*** Limestone					
4.25		***End of Borehole***					



Drilled By: Strata Drilling

Drill Method: Air Hammer - GM100 GT

Hole Diameter: 20.32 cm

T.O.C. Elevation (m): 0

Water Level (m TOC):

Well Diameter: 5.08 cm (2")

Comments:

Borehole Log: BH/MW15-4

Project No: 1761-1501

Project: Phase III ESA — **Drill date: March 30, 2015**

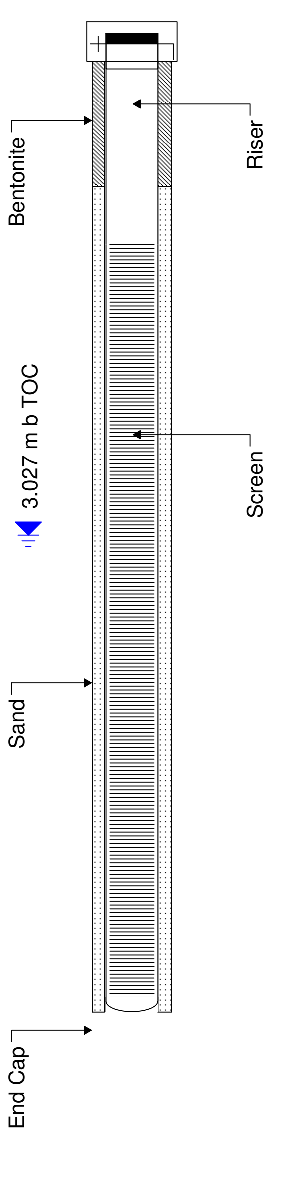
Client: PWGSC — **Site ID: Tunneys Pasture - EHC, Bldg. 8**

Location: Ottawa, Ontario — **Logged By: Ryan Fletcher**

SUBSURFACE PROFILE / SAMPLE

Depth (m)	Symbol	Description	Number	Type	Laboratory Analysis	Organic Vapour Reading (PPM)
0 (0 ft)		***Ground Surface***				
0 – ~0.65 (0 – ~6 ft)		***Silty Sand*** Light brown fine to coarse silty sand, moist, no odour	-1		PHC, PAH	Insufficient Sample
~0.65 – 6.0 (~6 – ~20 ft)		***Bedrock*** Limestone				
6.0		***End of Borehole***				

Monitoring well installation details



Drilled By: Strata Drilling

Drill Method: Air Hammer - GM100 GT

Hole Diameter: 20.32 cm

T.O.C. Elevation (m): 0

Water Level (m TOC):

Well Diameter: 5.08 cm (2")

Comments:

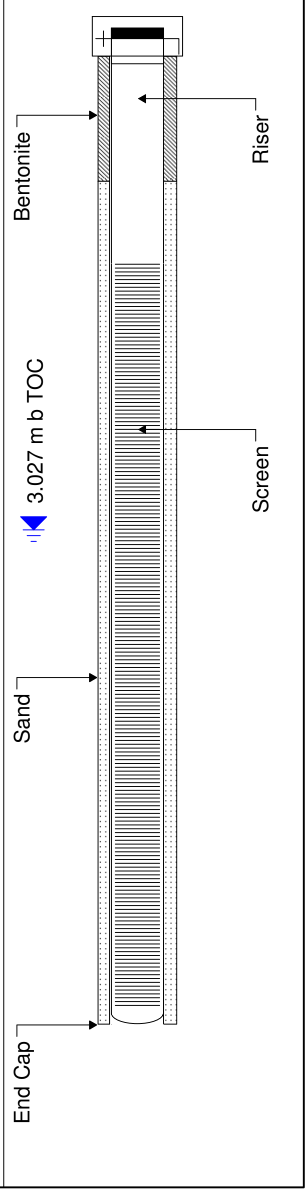
Borehole Log: BH/MW15-5

Project No: 1761-1501

Project: Phase III ESA	**Drill date: March 30, 2015**
Client: PWGSC	**Site ID: Tunneys Pasture - EHC, Bldg. 8**
Location: Ottawa, Ontario	**Logged By: Ryan Fletcher**

SUBSURFACE PROFILE			SAMPLE			Organic Vapour Reading	Monitoring well installation details
Depth (m)	Symbol	Description	Number	Type	Laboratory Analysis	PPM 0 25 50 75 100	
ft 0 / m 0		***Ground Surface***					
0–5 ft / 0–1.5 m	Silty gravel	***Silty Gravel*** Grey/brown silty gravel, moist to wet, no odour. Organic topsoil layer at 1.4 m (5 cm thick)	-1		PHC, PAH	Insufficient Sample	
5–20 ft / 1.5–6.2 m	Limestone	***Bedrock*** Limestone					
20 ft / 6.2 m		***End of Borehole***					

Depth scale: ft 0–23; m 0–7



Drilled By: Strata Drilling

Drill Method: Air Hammer - GM100 GT

Hole Diameter: 20.32 cm

T.O.C. Elevation (m): 0

Water Level (m TOC):

Well Diameter: 5.08 cm (2")

Comments:

Log of Borehole DH-1

Project No: OTT-00212365-D0

Project: Seismic Site Class Characterisation, PSPC Project : R.062517.421

Location: Tunney's Pasture Campus, City of Ottawa, Ontario

Figure No. A.1

Date Drilled: 'February 13 to 14, 2017

Drill Type: CME-55 Truck-mount

Datum: Geodetic

Logged by: RA Checked by: ZG

Legend		Legend	
Split Spoon Sample	⊠	Combustible Vapour Reading	□
Auger Sample	◨	Natural Moisture Content	X
SPT (N) Value	○	Atterberg Limits	⊢—○
Dynamic Cone Test	—	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■	Shear Strength by Penetrometer Test	▲
Shear Strength by Vane Test	+ S		

Chart axes: Standard Penetration Test N Value (20, 40, 60, 80); Shear Strength kPa (50, 100, 150, 200); Combustible Vapour Reading (ppm) (250, 500, 750); Natural Moisture Content %, Atterberg Limits (% Dry Weight) (20, 40, 60); Depth 0 to 19 m.

Geodetic (m)	Soil Description	SPT N Value	Samples	Run/ Unit Wt. kN/m^3
62.82 / 62.7	**TOPSOIL** ~75 mm	8	⊠	SS-1
	FILL Medium to coarse sand with some gravel, brown to grey, loose to compact.	4	⊠	SS-2
		26	⊠	SS-3
	Cobbles and/or boulders between 1.8 m to 3 m depth.	19	⊠	SS-4
		13	⊠	SS-5
59.8	**WEATHERED/FRACTURED LIMESTONE BEDROCK** Signs of oxidation, frequent silty clay seams/pockets (poor to fair quality)			RUN1
57.8	**LIMESTONE BEDROCK** Fine grained, light to medium grey, interbedded with shale seams. Bedding joints are generally horizontal, rough undulating and are at very close to wide spacing. (fair to excellent quality)			RUN2
				RUN3
				RUN4
	Rc=96 MPa at 9.0 m depth, (Strong).			
	Frequent near vertical calcite veins between 9.6 m and 11.7 m depth.			RUN5 26.4
				RUN6
				RUN7
	Multi-directionnal, fine to medium calcite veinules between 13.9 m and 23.6 m depth			RUN8
				RUN9
	Signs of oxidation at 16.9 m depth			RUN10

Continued Next Page

NOTES:
1. Borehole data requires interpretation by exp. before use by others
2. a 50 mm PVC pipe was installed in the borehole and adequately grouted upon completion
3. Field work supervised by an **exp** representative.
4. See Notes on Sample Descriptions
5. This Figure is to read with exp. Services Inc. report OTT-00212365-D0

WATER LEVEL RECORDS

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

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

Log of Borehole DH-1

Project No: OTT-00212365-D0

Project: Seismic Site Class Characterisation, PSPC Project : R.062517.421

Figure No. A.1

Page. 2 of 2

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic m	Depth	Standard Penetration Test N Value (20, 40, 60, 80) / Shear Strength kPa (50, 100, 150, 200)	Combustible Vapour Reading (ppm) (250, 500, 750) / Natural Moisture Content % / Atterberg Limits (% Dry Weight) (20, 40, 60)	SAMPLES	Run/ Unit Wt. kN/m³
		LIMESTONE BEDROCK Fine grained, light to medium grey, interbedded with shale seams. Bedding joints are generally horizontal, rough undulating and are at very close to wide spacing. (fair to excellent quality) *(continued)* Nodular textured, interbedded with shale seams below about 20.7 m depth. Poor quality between 24.3 and 27.3 m depth. Occasional to frequent dark grey to black shaley limestone to shale partings below about 23 m depth. Rc=50 MPa at 29.0 m depth, (Medium strong to strong). Multi-directionnal, fine to medium calcite venules below 32 m depth	43.82 27.8	19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35				RUN11 RUN12 RUN13 RUN14 RUN15 RUN16 RUN17 RUN18 27.0 RUN19 RUN20 RUN21 RUN22
		Borehole Terminated at 35 m Depth For details refer to Structural Rock Description. Rc: Unconfined compressive strength						

NOTES:
1. Borehole data requires interpretation by exp. before use by others
2. a 50 mm PVC pipe was installed in the borehole and adequately grouted upon completion
3. Field work supervised by an **exp** representative.
4. See Notes on Sample Descriptions
5. This Figure is to read with exp. Services Inc. report OTT-00212365-D0

WATER LEVEL RECORDS

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

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

LOG OF BOREHOLE BH LOGS - 212365-DO TUNNEY'S PATURE.GPJ TROW OTTAWA.GDT 3/29/17

Log of Borehole DH-1A

Project No: OTT-00212365-D0

Project: Seismic Site Class Characterisation, PSPC Project : R.062517.421

Location: Tunney's Pasture Campus, City of Ottawa, Ontario

Figure No. A.2

Date Drilled: 'February 15 to 16, 2017

Drill Type: CME-55 Truck-mount

Datum: Geodetic

Logged by: RA Checked by: ZG

Legend	Symbol	Legend	Symbol
Split Spoon Sample	⊠	Combustible Vapour Reading	□
Auger Sample	◧	Natural Moisture Content	×
SPT (N) Value	○	Atterberg Limits	├─○
Dynamic Cone Test	───	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■		
Shear Strength by Vane Test	+ S	Shear Strength by Penetrometer Test	▲

Soil Description	Geodetic (m)	Depth (m)	SPT N Value	Samples	Run/Unit Wt. kN/m³
	62.21	0			
TOPSOIL ~100 mm	62.1		9	⊠	SS-1
FILL Sand, some gravel, brown, loose to dense. Cobbles and/or boulders.			41	⊠	SS-2
	60.7		50 for 150 mm	⊠	SS-3
WEATHERED LIMESTONE BEDROCK Signs of oxidation. Frequent silty clay seams/pockets. (poor quality)	60.1				RUN1
LIMESTONE BEDROCK Fine grained, light to medium grey, interbedded with shale seams. Bedding joints are generally horizontal, rough undulating and are at very close to wide spacing. (good to excellent quality)					RUN2, RUN3, RUN4
					RUN5 25.6
Rc=170 MPa at 8.0 m depth, (Very strong)					RUN6, RUN7
Nodular textured, interbedded with shale seams below about 11.0 m depth.					RUN8, RUN9
Frequent near vertical calcite veins between 14.5 m and 15.6 m depth.					RUN10, RUN11, RUN12
		19			

Column headings: GWL; SYMBOL; SOIL DESCRIPTION; Geodetic m; Depth; Standard Penetration Test N Value (20, 40, 60, 80); Shear Strength kPa (50, 100, 150, 200); Combustible Vapour Reading (ppm) (250, 500, 750); Natural Moisture Content %, Atterberg Limits (% Dry Weight) (20, 40, 60); SAMPLES; Run/Unit Wt. kN/m³

Continued Next Page

NOTES:
1. Borehole data requires interpretation by exp. before use by others
2. a 50 mm PVC pipe was installed in the borehole and adequately grouted upon completion
3. Field work supervised by an **exp** representative.
4. See Notes on Sample Descriptions
5. This Figure is to read with exp. Services Inc. report OTT-00212365-D0

WATER LEVEL RECORDS

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

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

Log of Borehole DH-1A

Project No: OTT-00212365-D0

Project: Seismic Site Class Characterisation, PSPC Project : R.062517.421

Figure No. A.2

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic m	Depth	Standard Penetration Test N Value (20, 40, 60, 80) / Shear Strength kPa (50, 100, 150, 200)	Combustible Vapour Reading (ppm) (250, 500, 750) / Natural Moisture Content % / Atterberg Limits (% Dry Weight) (20, 40, 60)	SAMPLES	Run/ Unit Wt. kN/m³
		LIMESTONE BEDROCK Fine grained, light to medium grey, interbedded with shale seams. Bedding joints are generally horizontal, rough undulating and are at very close to wide spacing. (good to excellent quality) *(continued)* Frequent dark grey to black shaley limestone to shale partings below about 20 m depth. Frequent multi-directionnal fine calcite venules below 27.5 m depth. Rc=115 MPa at 29.0 m depth (Very strong). Orange quartzite intrusions were observed within the fractured bedrock, between 30 m and 30.7 m depth.	43.21 27.2	19–35				RUN13 RUN14 RUN15 RUN16 RUN17 RUN18 RUN19 26.6 RUN20 RUN21 RUN22 RUN23
		Borehole Terminated at 35 m Depth For details refer to Structural Rock Description. Rc: Unconfined compressive strength						

NOTES:
1. Borehole data requires interpretation by exp. before use by others
2. a 50 mm PVC pipe was installed in the borehole and adequately grouted upon completion
3. Field work supervised by an **exp** representative.
4. See Notes on Sample Descriptions
5. This Figure is to read with exp. Services Inc. report OTT-00212365-D0

WATER LEVEL RECORDS

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

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

Log of Borehole DH-3

Project No: OTT-00212365-D0

Figure No. A.3

Project: Seismic Site Class Characterisation, PSPC Project : R.062517.421

Location: Tunney's Pasture Campus, City of Ottawa, Ontario

Date Drilled: 'February 07 to 08, 2017

Drill Type: CME-55 Truck-mount

Datum: Geodetic

Logged by: RA Checked by: ZG

Symbol legend			
Split Spoon Sample	⊠	Combustible Vapour Reading	□
Auger Sample	◨	Natural Moisture Content	✕
SPT (N) Value	○	Atterberg Limits	⊢—○
Dynamic Cone Test	——	Undrained Triaxial at % Strain at Failure	⊕
Shelby Tube	■		
Shear Strength by Vane Test	+ S	Shear Strength by Penetrometer Test	▲

SOIL DESCRIPTION	Geodetic m	Depth (m)	Samples	Run/ Unit Wt. kN/m³
	62.21	0		
ASPHALT~100 mm	62.1			
GRANULAR FILL Crusher-Run Limestone. Hydrovac to 1.9 m depth.	60.3	0–1.9	○ (SPT)	
WEATHERED LIMESTONE BEDROCK Signs of oxidation, frequent silty clay seams/pockets. (poor quality)	58.2	1.9–4.0		RUN1, RUN2
LIMESTONE TO DOLOMITE LIMESTONE BEDROCK Fine grained, light to medium grey, interbedded with shale seams. Bedding joints are generally horizontal, rough undulating and are at very close to wide spacing. (good to excellent quality). Rc=104 MPa at 6.4 m depth, (very strong)		4.0–		RUN3, RUN4 24.8
Quartzite intrusions were observed in the fractured bedrock between 8 m and 8.7 m depth.				RUN5, RUN6
Frequent near vertical calcite veins between 10.5 m and 11m depth.				RUN7, RUN8
Frequent shaley limestone to shale beddings, below 13.6 m depth. Nodular textured, interbedded with shale seams below 14 m depth.		–19		RUN9, RUN10, RUN11

Chart axes: Standard Penetration Test N Value 20 40 60 80; Shear Strength kPa 50 100 150 200; Combustible Vapour Reading (ppm) 250 500 750; Natural Moisture Content % / Atterberg Limits (% Dry Weight) 20 40 60.

Continued Next Page

NOTES:
1. Borehole data requires interpretation by exp. before use by others
2. a 50 mm PVC pipe was installed in the borehole and adequately grouted upon completion
3. Field work supervised by an **exp** representative.
4. See Notes on Sample Descriptions
5. This Figure is to read with exp. Services Inc. report OTT-00212365-D0

WATER LEVEL RECORDS

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

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

Log of Borehole DH-3

Project No: OTT-00212365-D0

Figure No. A.3

Project: Seismic Site Class Characterisation, PSPC Project : R.062517.421

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic m	Depth	Standard Penetration Test N Value (20, 40, 60, 80) / Shear Strength kPa (50, 100, 150, 200)	Combustible Vapour Reading (ppm) (250, 500, 750) / Natural Moisture Content % / Atterberg Limits (% Dry Weight) (20, 40, 60)	SAMPLES	Run/ Unit Wt. kN/m³
		LIMESTONE TO DOLOMITE LIMESTONE BEDROCK Fine grained, light to medium grey, interbedded with shale seams. Bedding joints are generally horizontal, rough undulating and are at very close to wide spacing. (good to excellent quality). *(continued)*	43.21	19				RUN12
				20				RUN13
				21				
				22				RUN14
				23				RUN15
				24				
				25				RUN16
				26				RUN17
				27				
				28				RUN18
				29				RUN19
				30				
				31				RUN20
				32				RUN21
				33				
				34				RUN22
				35				RUN23
				36				
			25.3					RUN24

Borehole Terminated at 36.9 m Depth

For details refer to Structural Rock Description.

Rc: Unconfined compressive strength

NOTES:
1. Borehole data requires interpretation by exp. before use by others
2. a 50 mm PVC pipe was installed in the borehole and adequately grouted upon completion
3. Field work supervised by an **exp** representative.
4. See Notes on Sample Descriptions
5. This Figure is to read with exp. Services Inc. report OTT-00212365-D0

WATER LEVEL RECORDS

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

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

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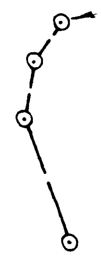
TUNNEY'S PASTURE CENSUS BUILDING

SURFACE ZERO DEPTH / FOND DE FORO: 202.5'   DATE NOV. 13, 1974   HOLE / FORAGE No. 101

(B.M. ELEV. 205.31) GEODETIC. SPINDLE TOP OF HYDRANT No. 66 FROM TOPOGRAPHICAL SURVEY PLAN BY C.W. FAIRHALL, O.L.S.

Blows / Sample No.	DESCRIPTION OF SOIL / DU SOL (Ground Surface – Niveau du Sol)	Depth Feet – Elevation / Niveau	~~PROBING OR VANE TEST~~ / ~~SONDAGE OU ESSAI AU MOULINET~~
	FILL – SANDY TOPSOIL	0' - 202.5'	
8 101-1; 24 FOR 6" 101-1A; 36 30 FOR 6" 101-2; 20 41 101-3	FILL – SAND WITH SOME TOPSOIL, GRAVEL & CLAY & A FEW 1" TO 1¼" PIECES OF BROKEN ROCK	0.8' - 201.7'	WATER CONTENT
POSSIBLE BEDROCK-MATERIAL REQUIRING DRILLING		7.0' - 195.5'	
	LIMESTONE ROCK. CORE RECOVERY 98 %	7.5' - 195.0'	
	LIMESTONE ROCK. CORE RECOVERY 100 %	12.7' - 189.8'	
25% WATER LOST AT EL. 184.8'	LIMESTONE ROCK. CORE RECOVERY 100 %	17.7' - 184.8'	WATER LEVEL DEC 12, 1974 - EL. 182.7'; WATER LEVEL NOV. 27, 1974 - EL. 182.3'
40% - WATER LOST AT EL. 182.2'			
ALL WATER LOST AT EL. 180.2'	LIMESTONE ROCK. CORE RECOVERY 100 %	22.3' - 180.2'	OVERNIGHT WATER LEVEL - EL. 180.5'
		27.3' - 175.2'	
½" SOIL LAYER AT EL. 174.2'	LIMESTONE ROCK		



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TUNNEY'S PASTURE CENSUS BUILDING

ELEVATION OF GROUND SURFACE (ZERO DEPTH) / NIVEAU DU SOL (PROFONDEUR ZÉRO): 202.9'
DATE: NOV. 15, 1974
HOLE / FORAGE No.: 102
NOTES: SEE PLATE N. 8

Compressive Strength K.S.F. / Résistance à la Compression K/Pd.²	Small Scale Penetrometer K.S.F. / Petit Pénétromètre K/Pd.²	Standard Penetration Blows/Ft / Essai-Standard Coups/Pd	Sample No. / Échantillon	DESCRIPTION OF SOIL / DU SOL (Ground Surface – Niveau du Sol)	Depth in Feet / Profondeur-Pied – Elevation / Niveau
					0' - 202.9'
				FILL - SANDY TOPSOIL	0.7' - 202.2'
		14 / 22 FOR 6"	102-1	FILL - SAND & PIECES OF BROKEN ROCK WITH A LITTLE TOPSOIL & CLAY	
		26 FOR 5"	102-2		2.5 - 200.0'
POSSIBLE BEDROCK-MATERIAL REQUIRING DRILLING					3.4' - 199.5'
				LIMESTONE ROCK, CORE RECOVERY 100%	5.8 - 197.1'
ALL WATER LOST AT EL. 195.3'				LIMESTONE ROCK, CORE RECOVERY 100%	10.8 - 192.1'
				LIMESTONE ROCK, CORE RECOVERY 100%	15.8 - 187.1'
				LIMESTONE ROCK, CORE RECOVERY 99%	19.5 - 183.4'
2" TILL LAYER AT EL. 179.1'				LIMESTONE ROCK, CORE RECOVERY 96%	24.2 - 178.7'
1/2" SOIL LAYER AT EL. 177.5'				LIMESTONE ROCK, CORE RECOVERY 99%	28.8 - 174.1'
				LIMESTONE ROCK, CORE RECOVERY 93%	33.3 - 169.6'
				BOTTOM OF HOLE	

~~PROBING OR VANE TEST~~ / ~~SONDAGE OU ESSAI AU MOULINET~~
MARTEAU---HAMMER / NO CASING – SANS TUBAGE
CHUTE LIBRE---DROP / BARRE---DIA. ROD
~~BLOWS/FOOT OR SHEAR STRENGTH K.S.F.~~ / ~~COUPS/PIED OU RÉSISTANCE AU K/PD.² CISAILLEMENT~~

WATER CONTENT

WATER LEVEL DEC.12, 1974 EL. 188.1'
WATER LEVEL NOV.27, 1974 EL. 187.7'
WATER LEVEL NOV.18, 1974 EL. 187.6'

0 20 40 60 80 100
WATER CONTENT

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TUNNEY'S PASTURE CENSUS BUILDING

ELEVATION OF GROUND SURFACE (ZERO DEPTH) 203.4' DATE NOV. 15, 1974

NIVEAU DU SOL (PROFONDEUR ZÉRO)

NOTES SEE PLATE No. 2

HOLE / FORAGE No. 103

Compressive Strength K.S.F. / Résistance à la Compression K/Pd.²	Small Scale Penetrometer K.S.F. / Petit Pénétromètre K/Pd.²	Dynamic Standard Penetration Blows/Foot / Coups/Pied	Sample No. / Échantillon No.	DESCRIPTION OF SOIL / DU SOL (Ground Surface - Niveau du Sol)	Depth in Feet / Profondeur - Pied	Elevation / Niveau
				SANDY TOPSOIL	0'	203.4'
		10	103-1	LOOSE FINE SAND	0.5'	202.9'
			103-1A	WITH SOME VERY FINE SAND & A TRACE OF CLAY	2.0'	201.4'
		30 For 6"	103-1B	PIECES OF BROKEN ROCK		
		39 For 6"	103-2	WITH A LITTLE SANDY TILL	3.0'	200.4'
POSSIBLE BEDROCK MATERIAL REQUIRING DRILLING					3.5'	199.9'
				LIMESTONE ROCK / CORE RECOVERY 97%	4.8'	198.6'
5" TILL LAYER AT EL. 198.3'				LIMESTONE ROCK / CORE RECOVERY 89%	9.3'	194.1'
				LIMESTONE ROCK / CORE RECOVERY 100%	14.0'	189.4'
25% WATER LOST AT EL. 184.7'				LIMESTONE ROCK / CORE RECOVERY 100%	18.7'	184.7'
				LIMESTONE ROCK / CORE RECOVERY 98%	23.4'	180.0'
50% WATER LOST AT EL. 176.3'				LIMESTONE ROCK / CORE RECOVERY 100%	27.1'	176.3'
				LIMESTONE ROCK / CORE RECOVERY 100%	31.8'	171.6'
				BOTTOM OF HOLE		

~~PROBING OR VANE TEST~~ ~~SONDAGE OU ESSAI AU MOULINET~~

MARTEAU----HAMMER NO CASING / SANS TUBAGE

CHUTE LIBRE----DROP BARRE----DIA. ROD

~~BLOWS/FOOT OR SHEAR STRENGTH K.S.F.~~

~~COUPS/PIED OU RÉSISTANCE AU K/PD.² CISAILLEMENT~~

WATER CONTENT

WATER LEVEL DEC. 12, 1974 EL. 182.1'

WATER LEVEL NOV. 18, 1974 EL. 179.5'

0 20 40 60 80 100

WATER CONTENT % TENEUR EN EAU

NATURAL / NATURELLE ⊙

LIQUID LIMIT / LIMITE DE LIQUIDITÉ □

PLASTIC LIMIT / LIMITE DE PLASTICITÉ △

Plate / Plaque No. 4

R = Remoulded - Remanié

CR = Core Recovery - Carotte Récupérée

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TUNNEY'S PASTURE CENSUS BUILDING

ELEVATION OF GROUND SURFACE (ZERO DEPTH) / NIVEAU DU SOL (PROFONDEUR ZÉRO) 202.6' DATE DEC. 3, 1974

HOLE / FORAGE No. 104

NOTES SEE PLATE No. 2

~~PROBING OR VANE TEST~~ ~~SONDAGE OU ESSAI AU MOULINET~~
MARTEAU---HAMMER / CHUTE LIBRE---DROP
NO CASING / SANS TUBAGE
BARRE----DIA. ROD
~~BLOWS/FOOT OR SHEAR STRENGTH K.S.F.~~
~~COUPS/PIED OU RÉSISTANCE AU, K/PD.² CISAILLEMENT~~

Compressive Strength K.S.F. / Résistance à la Compression K/Pd.²	Small Scale Penetrometer K.S.F. / Petit Pénétromètre K/Pd.²	Essai-Standard Penetration Blows/ft-Coups/pd	Sample No. / Échantillon	DESCRIPTION OF SOIL / DU SOL (Ground Surface – Niveau du Sol)	Depth in Feet / Profondeur - Pied – Elevation / Niveau	
					0' - 202.6'	
				FILL- SANDY TOPSOIL	1.0 - 201.6'	WATER CONTENT
		12 / 37 for 6	104-1	FILL- SAND & BROKEN ROCK WITH A LITTLE CLAY, SILT & GRAVEL WITH A TRACE OF ROOTS		
POSSIBLE BEDROCK		29	104-2		3.8 - 198.8'	
MATERIAL REQUIRING DRILLING					4.0' - 198.6'	
75% WATER LOST AT EL. 197.6'				LIMESTONE ROCK		
ALL WATER LOST AT EL. 196.6'				CORE RECOVERY 95%	9.0 - 193.6'	
2" SOFT DRILLING AT EL. 193.0'				LIMESTONE ROCK		
				CORE RECOVERY 98%	14.0 - 188.6'	
				LIMESTONE ROCK		WATER LEVEL DEC. 12, 1974-EL. 185.3
				CORE RECOVERY 98%	18.8 - 183.8	OVERNIGHT WATER LEVEL EL. 182.8'
				LIMESTONE ROCK		
				CORE RECOVERY 100%	23.7 - 178.9'	
				LIMESTONE ROCK		
				CORE RECOVERY 100%	28.7 - 173.9'	
				LIMESTONE ROCK		
				CORE RECOVERY 100%	33.1 - 169.5	
				BOTTOM OF HOLE		

0 20 40 60 80
WATER CONTENT
TENEUR EN EAU
NATURAL
NATURELLE

R - Remoulded - Remanié
CR = Core Recovery / Carotte Récupérée

5

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TUNNEY'S PASTURE CENSUS BUILDING

ELEVATION OF GROUND SURFACE ZERO DEPTH

NIVEAU DU SOL PROFONDEUR ZÉRO

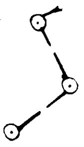
NOTES

DATE NOV. 1974

HOLE No. FORAGE 105

Compressive Strength K.S.F. Résistance à la Compression K/Pd.²	Small Scale Penetrometer K.S.F.	Penetrometer K/Pd.²	Standard Penetration Blows/ft.	Sample No. Échantillon	DESCRIPTION	Depth	Elevation
					ASPHALT		201.3
					FILL		
			42	105-1			
				105-2A		3.4	197.9
				105-2B			
				105-3		4.3	
					LIMESTONE		
					LIMESTONE		
					LIMESTONE		
					LIMESTONE		
					LIMESTONE		
					LIMESTONE		
					BOTTOM OF HOLE		

WATER CONTENT



WATER LEVEL NOV. 1974 EL. 191.9

OVERNIGHT WATER LEVEL EL. 188

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PARKDALE AVENUE
TUNNEY'S PASTURE CENSUS BUILDING

ELEVATION OF GROUND SURFACE (ZERO DEPTH) / NIVEAU DU SOL (PROFONDEUR ZERO): 204.0'

DATE: NOV. 18, 1974

HOLE / FORAGE No. 106

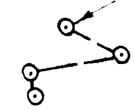
NOTES: SEE PLATE No 2

PROBING OR VANE TEST / SONDAGE OU ESSAI AU MOULINET (struck out)

MARTEAU----HAMMER; CHUTE LIBRE---DROP; NO CASING / SANS TUBAGE; BARRE-----DIA. ROD

Remarks	Penetration Blows/ft (Coups/pd)	Sample No. / Échantillon	Description	Depth in Feet / Profondeur en Pied	Elevation / Niveau
			Ground Surface – Niveau du Sol		
			FILL – SANDY TOPSOIL	0' – 0.8'	204.0' – 203.2'
	4 FOR 6"	106-1	FILL – SAND WITH SOME TOPSOIL, CLAY & PIECES OF BROKEN ROCK	0.8' – 2.5'	203.2' – 201.5'
	53	106-1A			
		106-1B			
	19 FOR 4"	106-2	DENSE SANDY TILL	2.5' – 2.8'	201.5' – 201.2'
POSSIBLE BEDROCK – MATERIAL REQUIRING DRILLING				2.8' – 3.1'	201.2' – 200.9'
50% WATER LOST AT EL. 198.9			LIMESTONE ROCK — CORE RECOVERY 46%	3.1' – 7.3'	200.9' – 196.7'
			LIMESTONE ROCK — CORE RECOVERY 94%	7.3' – 11.2'	196.7' – 192.8'
			LIMESTONE ROCK — CORE RECOVERY 98%	11.2' – 15.3	192.8' – 188.7'
50% WATER LOST AT EL. 188.7'; 75% WATER LOST AT EL. 185.2'			LIMESTONE ROCK — CORE RECOVERY 100%	15.3 – 20.3	188.7' – 183.7'
			LIMESTONE ROCK — CORE RECOVERY 100%	20.3 – 25.3	183.7' – 178.7'
50% WATER RETURNING AT EL. 178.0			LIMESTONE ROCK — CORE RECOVERY 98%	25.3 – 30.4	178.7' – 173.6'
			BOTTOM OF HOLE	30.4	173.6'

WATER CONTENT



WATER LEVEL DEC. 12, 1974 – EL. 184.2'

WATER LEVEL NOV. 20, 1974 – EL. 182.2'

0 20 40 60 80 100

WATER CONTENT % / TENEUR EN EAU	
NATURAL / NATURELLE	⊙
LIQUID LIMIT / LIMITE DE LIQUIDITÉ	[illegible]
PLASTIC LIMIT / LIMITE DE PLASTICITÉ	[illegible]

No. 7

D REMOULDED / REMANIÉ [illegible]

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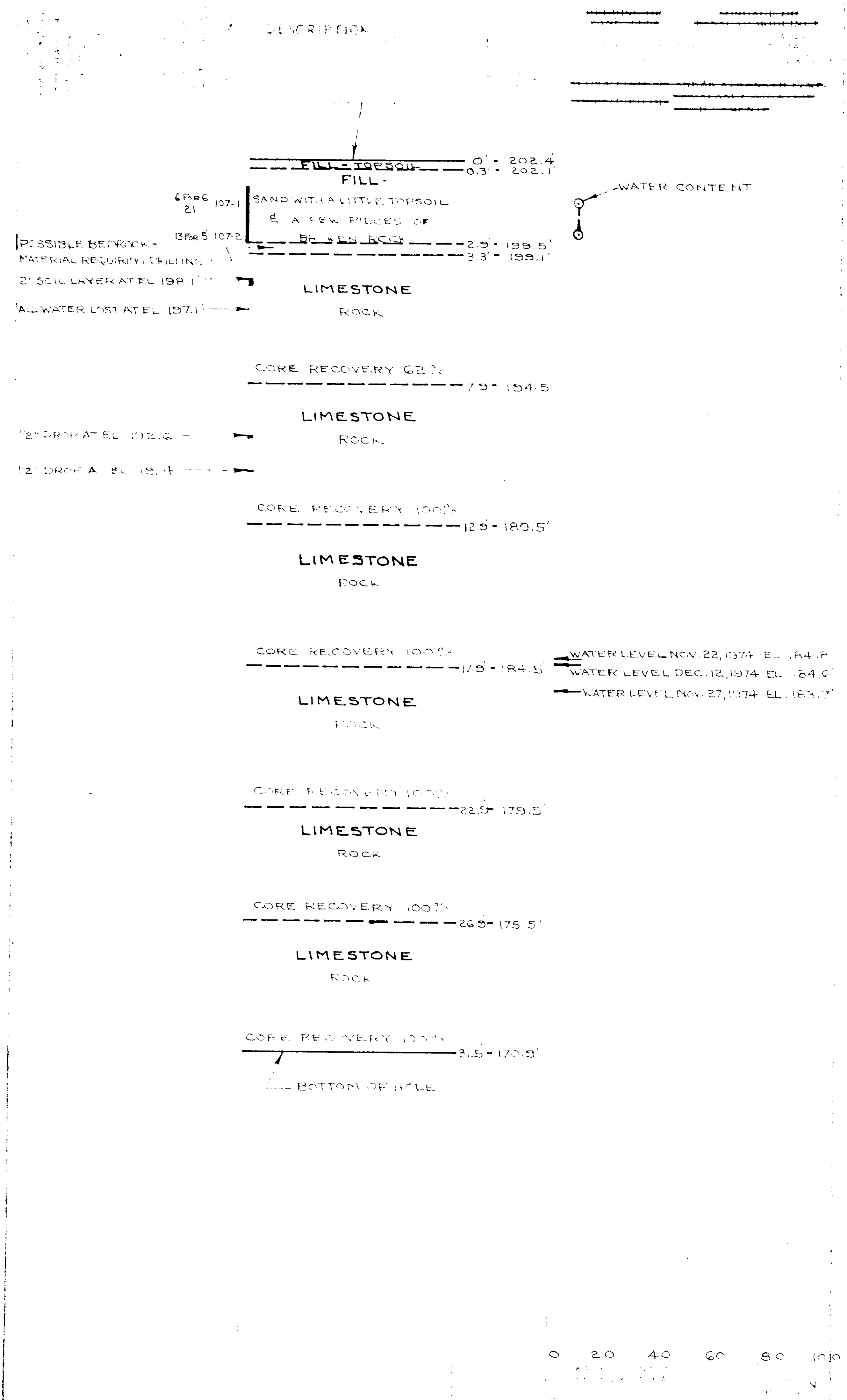
OTTAWA CANADA

SOIL PROFILE & TEST SUMMARIES
PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS
PARKDALE AVENUE
TUNNEY'S PASTURE CENSUS BUILDING

202.4'
NOV. 20, 1974
107
SEE PLATE No. 2



R = Remoulded Resistance
R = Core Recovery

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PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

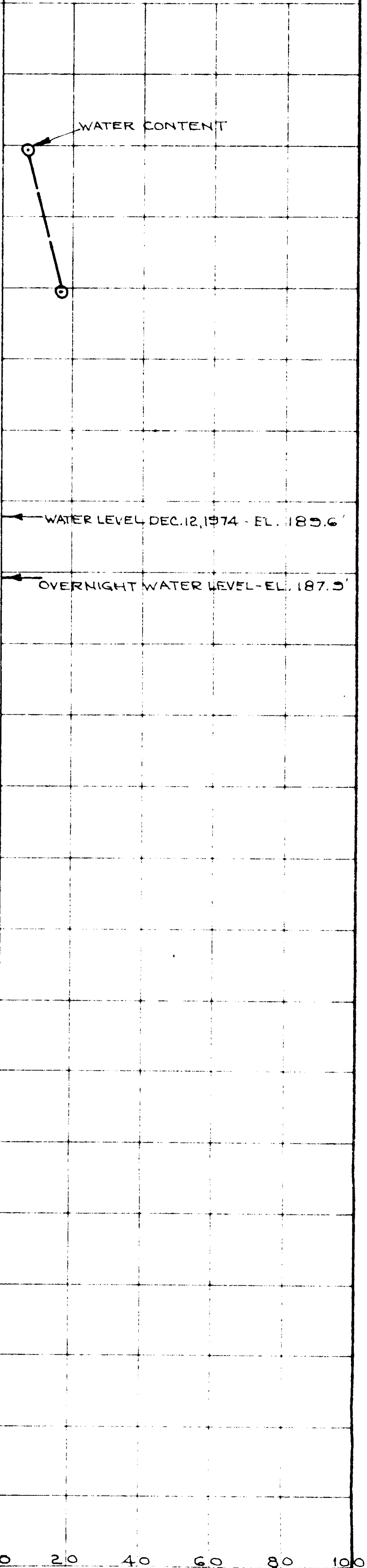
PARKDALE AVENUE
TUNNEY'S PASTURE CENSUS BUILDING

ELEVATION OF GROUND SURFACE (ZERO DEPTH) / NIVEAU DU SOL (PROFONDEUR ZÉRO): 201.6' DATE: DEC. 4, 1974
NOTES: SEE PLATE No. 2

HOLE / FORAGE No. 108

~~PROBING OR VANE TEST~~ ~~SONDAGE OU ESSAI AU MOULINET~~
MARTEAU---HAMMER / CHUTE LIBRE---DROP
NO CASING / SANS TUBAGE / BARRE----DIA. ROD
~~BLOWS/FOOT OR SHEAR STRENGTH K.S.F.~~ ~~COUPS/PIED OU~~ RÉSISTANCE AU ~~CISAILLEMENT~~ K/PD.²

Compressive Strength K.S.F. / Résistance à la Compression K/Pd.²	Small Scale Penetrometer K.S.F. / Petit Pénétromètre K/Pd.²	Essai-Standard Penetration Blows/ft-Coups/pd	Sample No. / Échantillon	DESCRIPTION OF SOIL / DU SOL (Ground Surface – Niveau du Sol)	Depth in Feet / Profondeur-Pied	Elevation / Niveau
					0'	201.6'
				FILL - SANDY TOPSOIL	0.7'	200.9'
		24 / 34 for 5"	108-1	FILL - SANDY TILL WITH SOME 1" PIECES OF BROKEN ROCK & A TRACE OF TOPSOIL	5.0'	196.6'
		23 / 50 for 6"	108-2	PIECES OF BROKEN ROCK WITH SOME SANDY TILL	6.5'	195.1'
				POSSIBLE BEDROCK MATERIAL REQUIRING DRILLING	7.6'	194.0'
25% WATER LOST AT EL. 190.7'				LIMESTONE ROCK — CORE RECOVERY 95%	10.9'	190.7'
ALL WATER RETURNING AT EL. 187.3'				LIMESTONE ROCK — CORE RECOVERY 100%	15.9'	185.7'
				LIMESTONE ROCK — CORE RECOVERY 98%	20.9'	180.7'
50% WATER LOST AT EL. 175.7'				LIMESTONE ROCK — CORE RECOVERY 100%	25.9'	175.7'
75% WATER RETURNING AT EL. 174.6'				LIMESTONE ROCK — CORE RECOVERY 100%	29.4'	172.2'
				BOTTOM OF HOLE		



WATER CONTENT / % TENEUR EN EAU
NATURAL / NATURELLE ⊙
LIQUID LIMIT / LIMITE DE LIQUIDITÉ □
PLASTIC LIMIT / LIMITE DE PLASTICITÉ △

R = Remoulded–Remanié
CR = Core Recovery / Carotte Récupérée

Plate / Plaque No. 9

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CONSULTING ENGINEERS — INGÉNIEURS CONSEILS

OTTAWA CANADA

SOIL PROFILE & TEST SUMMARIES

PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

PARKDALE AVENUE

TUNNEY'S PASTURE CENSUS BUILDING

ELEVATION OF GROUND SURFACE (ZERO DEPTH) / NIVEAU DU SOL (PROFONDEUR ZERO) 200.6'

DATE NOV. 21, 1974

HOLE / FORAGE No. 109

NOTES: SEE PLATE [illegible]

Sample / Échantillon No.	DESCRIPTION OF SOIL / DU SOL (Ground Surface / Niveau du Sol)	Depth – Feet / Profondeur	Elevation / Niveau	Remarks
	~~ASPHALT~~	0'	200.6'	
		0.3'	200.3'	
G+ 109-1	FILL - PIECES OF BROKEN ROCK WITH SOME SAND & A LITTLE TOPSOIL			WATER CONTENT
20 [illegible] 109-2 25				
		4.0'	196.6'	
[illegible] REFUSAL ON [illegible] DRILLING AT EL. 195.[illegible]	POSSIBLE BEDROCK MATERIAL REQUIRING DRILLING	5.0'	195.6'	
	LIMESTONE ROCK CORE RECOVERY 96 %	8.8'	191.8'	
	LIMESTONE ROCK CORE RECOVERY 98 %	13.8'	186.8'	OVERNIGHT WATER LEVEL EL. 187.3' WATER LEVEL DEC. 12, 1974 EL. 187.1'
	LIMESTONE ROCK CORE RECOVERY 100 %	18.8'	181.8'	
	LIMESTONE ROCK CORE RECOVERY 98 %	23.8'	176.8'	
	BOTTOM OF HOLE			

~~PROBING OR VANE TEST~~ / ~~SONDAGE OU ESSAI AU MOULINET~~

MARTEAU — HAMMER / CHUTE — DROP; NO CASING / SANS TUBAGE; BARRE — DIA. ROD

~~BLOWS/FOOT OR SHEAR STRENGTH K.S.F.~~ / ~~COUPS/PIED OU RÉSISTANCE AU CISAILLEMENT K/PI²~~

0 20 40 60 80 100

% WATER CONTENT / TENEUR EN EAU

NATURAL / NATURELLE ⊙

LIQUID LIMIT / LIMITE DE LIQUIDITÉ □

PLASTIC LIMIT / LIMITE DE PLASTICITÉ △

PLATE No. 10

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PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

PARKDALE AVENUE

TUNNEY'S PASTURE CENSUS BUILDING

ELEVATION OF GROUND SURFACE REFERRED TO DATUM / NIVEAU DU SOL — PROFONDEUR ZÉRO: 203.8'

DATE DEC. 6, 1974

HOLE / FORAGE No. 110

NOTES: SEE PLATE No. 2

Compressive Strength K.S.F. / Résistance à la Compression K P.S.F.	Shear Strength K.S.F.	Penetrometer / Pénétromètre K P.S.F.	Essai Standard Penetration Blows / ft.	Sample / Échantillon No.	DESCRIPTION OF SOIL / DU SOL — Ground Surface / Niveau du Sol	Depth Feet / Profondeur Pieds — Elevation / Niveau	~~PROBING OR VANE TEST~~ / ~~SONDAGE OU ESSAI AU MOULINET~~ — MARTEAU ——— HAMMER, NO CASING / SANS TUBAGE
					FILL - SANDY TOPSOIL	0' - 203.8'	
						0.5 - 203.3'	WATER CONTENT
			5 FOR 6" 16	110-1	FILL - SAND WITH SOME SILT, A LITTLE TOPSOIL & GRAVEL & A TRACE OF WOOD & CLAY		
			7 FOR 6" 10	110-2			
			10	110-3			
POSSIBLE BEDROCK MATERIAL			3 FOR 6	110-3A	PIECES OF BROKEN ROCK	6.0 - 197.8'	
REQUIRING DRILLING				110-4	SANDY TILL WITH A 2" PIECE OF BROKEN ROCK	6.7' - 197.1'	
50% WATER LOST AT EL. 196.1'					LIMESTONE ROCK	7.3' - 196.5'	
75% WATER LOST AT EL. 195.2'					CORE RECOVERY 73%	7.7' - 196.1'	
						8.2 - 195.6'	
1" DROP AT EL. 193.5' / ALL WATER LOST AT EL. 193.4'					LIMESTONE ROCK		
					CORE RECOVERY 98%	13.6' - 190.2'	WATER LEVEL DEC. 9, 1974 - EL. 190.6'
					LIMESTONE ROCK		WATER LEVEL DEC. 12, 1974 - EL. 187
					CORE RECOVERY 98%	18.5' - 185.3'	
					LIMESTONE ROCK		
					CORE RECOVERY 100%	23.7' - 180.1'	
					BOTTOM OF HOLE		

0 20 40 60 80 100

WATER CONTENT / TENEUR EN EAU

NATURAL / NATURELLE ⊙

LIQUID LIMIT / LIMITE DE LIQUIDITÉ □

PLASTIC LIMIT / LIMITE DE PLASTICITÉ △

PLATE No. 11

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OTTAWA CANADA

SOIL PROFILE & TEST SUMMARIES
PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

PARKDALE AVENUE
TUNNEY'S PASTURE CENSUS BUILDING

ELEVATION OF GROUND AREA ZERO DEPTH / NIVEAU DU SOL (PROFONDEUR ZERO): 201.8'
DATE DEC. 5, 1974
HOLE / FORAGE No. 111
NOTES: SEE PLATE No. 2

Compressive Strength K.S.F. / Résistance à la Compression K Pd.²	Shear Penetrometer K.S.F. / Petit Pénétromètre K Pd.²	Essai Standard Penetration Blows ft. / Coups pi.	Sample No. / Echantillon	DESCRIPTION OF SOIL / DU SOL (Ground Surface - Niveau du Sol)	Depth in Feet / Profondeur Pied - Elevation / Niveau	~~PROBING OR VANE TEST~~ ~~SONDAGE OU ESSAI AU MOULINET~~ (MARTEAU----HAMMER; CHUTE LIBRE---DROP; NO CASING SANS TUBAGE; BARRE-----DIA. ROD; ~~BLOWS/FOOT OR SHEAR STRENGTH K.S.F.~~ ~~COUPS/PIED OU RÉSISTANCE AU CISAILLEMENT~~ K/Pd.²)
					0' - 201.8'	
				FILL - SANDY TOPSOIL	0.7' - 201.1'	WATER CONTENT
		7 / 12 in 6	111-1	FILL - SAND WITH SOME CLAY, A LITTLE GRAVEL & A TRACE OF TOPSOIL	2.5' - 199.3'	
POSSIBLE BEDROCK MATERIAL REQUIRING DRILLING				LIMESTONE ROCK	2.8' - 199.0'	
50% WATER LOST AT EL. 198.6				CORE RECOVERY 64%	3.9' - 197.9'	
POSSIBLE BEDROCK MATERIAL REQUIRING DRILLING					4.5' - 197.3'	
ALL WATER LOST AT EL. 196.1				LIMESTONE ROCK		
1" DROP AT EL. 194.8				CORE RECOVERY 97%	9.6' - 192.2'	
				LIMESTONE ROCK		WATER LEVEL DEC. 12, 1974 - EL. 191.6'; OVERNIGHT WATER LEVEL - EL. 190.8'
2" SOFT DRILLING AT EL. 188.7				CORE RECOVERY 97%	14.6' - 187.2'	
				LIMESTONE ROCK; CORE RECOVERY 97%	19.6' - 182.2'	
				BOTTOM OF HOLE		

0 20 40 60 80 100

WATER CONTENT % TENEUR EN EAU
NATURAL / NATURELLE ⊙
LIQUID LIMIT / LIMITE DE LIQUIDITÉ □
PLASTIC LIMIT / LIMITE DE PLASTICITÉ △

R - REFUSAL / REFUS
CR - CORE RECOVERY / CAROTTE RECUPEREE

PLATE / PLAQUE No. 12

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OTTAWA CANADA

SOIL PROFILE & TEST SUMMARIES

PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

PARKDALE AVE.

TUNNEY'S PASTURE CENSUS BLDG.

ELEVATION OF GROUND SURFACE (ZERO DEPTH) / NIVEAU DU SOL PROFONDEUR ZÉRO: 201.0

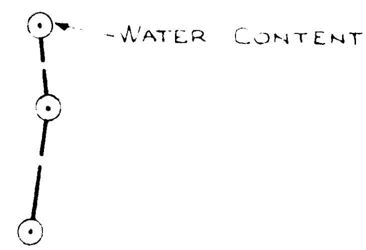
DATE: DEC. 6/74

HOLE / FORAGE No. 112

NOTES: SEE PLATE No. 2

Column headings: Compressive Strength K.S.F. / Résistance à Compression K Pd.²; Small Scale Penetrometer K.S.F. / Petit Pénétromètre K Pd.²; Essai-Standard Penetration Blows ft. / Coups pd.; Sample No. / Échantillon No.; DESCRIPTION OF SOIL / DU SOL (Ground Surface / Niveau du Sol); Depth Feet / Profondeur Pied; Elevation / Niveau; ~~PROBING OR VANE TEST~~ / ~~SONDAGE OU ESSAI AU MOULINET~~; MARTEAU----HAMMER; CHUTE LIBRE---DROP; NO CASING / SANS TUBAGE; BARREL-----DIA. R.; ~~BLOWS/FOOT OR SHEAR STRENGTH K.S.F.~~ ~~COUPS/PIED OU RÉSISTANCE AU CISAILLEMENT K/PD.²~~

Blows	Sample No.	Description	Depth	Elevation
			0'	201.0
		FILL - SANDY TOPSOIL		
			0.7'	200.3
8 FOR 6", 13	112-1	**FILL** SAND WITH SOME CLAY, A LITTLE TOPSOIL & GRAVEL		
			2.5	198.5
18	112-2	MEDIUM DENSE TO DENSE SANDY **TILL** WITH SOME 1" TO 1 2" PIECES OF BROKEN ROCK		
12, 24 FOR 6"	112-3			
			6.7'	194.3
2" DROP AT EL. 193.6; ALL WATER LOST AT EL. 193.4		**LIMESTONE** ROCK, CORE RECOVERY 80%		
			7.9'	193.1
		LIMESTONE ROCK, CORE RECOVERY 88%		
			12.9'	188.1
		BH #112 ABANDONED, SEE BH #112 A		



0 20 40 60 80 100

% WATER CONTENT / TENEUR EN EAU

NATURAL / NATURELLE ⊙

LIQUID LIMIT / LIMITE DE LIQUIDITÉ □

PLASTIC LIMIT / LIMITE DE PLASTICITÉ △

R REMOULDED / REMANIÉ

CR CORE RECOVERY / CAROTTE RECUPEREE

PLATE / PLANCHE No. 13

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OTTAWA CANADA

SOIL PROFILE & TEST SUMMARIES

PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

PARKDALE AVE.

TUNNEY'S PASTURE CENSUS BLDG.

ELEVATION OF GROUND SURFACE (ZERO DEPTH) / NIVEAU DU SOL (PROFONDEUR ZERO): 201.0

DATE: DEC 10/74

HOLE / FORAGE No. 112 A

NOTES: SEE PLATE No. 2

Compressive Strength K.S.F. / Résistance à la Compression K Pd.2	Small Scale Penetrometer K.S.F. / Petit Pénétromètre K Pd.2	Essai Standard Penetration Blows ft. / Coups pd	Sample No. / Echant. No.	DESCRIPTION OF SOIL / DU SOL — Ground Surface – Niveau du Sol	Depth – Feet / Profondeur – Pied / Elevation – Niveau	~~PROBING OR VANE~~ TEST — ~~SONDAGE OU ESSAI AU MOULINET~~ — MARTEAU---HAMMER, CHUTE LIBRE---DROP, NO CASING / SANS TUBAGE, BARRE----- À ROD — ~~BLOWS/FOOT OR SHEAR STRENGTH K.S.F / COUPS/PIED OU RÉSISTANCE AU CISAILLEMENT K. PD.2~~
					0' – 201.0	
				SOIL — SEE BH #112	4' – 197.0	
					8' – 193.0	OVERNIGHT WATER LEVEL EL 192.8; WATER LEVEL DEC. 12 74 EL 192.4
50% OF WATER LOST AT EL 192.5; 1" DROP AT EL. 190.7; ALL WATER LOST AT EL 190.6				**LIMESTONE** ROCK — CORE RECOVERY 93%	13' – 188.0	
				LIMESTONE ROCK — CORE RECOVERY 97%	18' – 183.0	
				BOTTOM OF HOLE		

0 20 40 60 80 100

WATER CONTENT % TENEUR EN EAU
- NATURAL / NATURELLE ⊙
- LIQUID LIMIT / LIMITE DE LIQUIDITÉ □
- PLASTIC LIMIT / LIMITE DE PLASTICITÉ △

PLATE No. 14

R — RECOVERY … / CR — CORE RECOVERY …

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SOIL PROFILE & TEST SUMMARIES
PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

PARKDALE AVE.
TUNNEY'S PASTURE CENSUS BLDG.

ELEVATION OF GROUND SURFACE OR ZERO DEPTH / NIVEAU DE SURFACE OU PROFONDEUR ZERO: 201.0 — SEE PLATE No 2

DATE: DEC 11, 74

HOLE / FORAGE No. 113

NOTES

Sample No.	DESCRIPTION (Ground Surface / Elevation)	Depth – Elev.	Water content / remarks
		0' – 201.0	
	FILL - SANDY TOPSOIL	0.7' – 200.3	
9 FOR 6" 113-1	FILL SAND WITH SOME SILT A LITTLE CLAY & A TRACE OF GRAVEL		WATER CONTENT
10 FOR 6 113-2A 26 FOR 4 113-2B		3.3' – 197.7	
	FILL CLAY WITH SOME TOPSOIL & PIECES OF BROKEN ROCK & A LITTLE SAND	5' – 196.0	
36 FOR 6" 113-3	VERY DENSE SANDY TILL WITH SOME 1/2" TO 2" PIECES OF BROKEN ROCK	5.5' – 195.5	
	POSSIBLE BEDROCK MATERIAL REQUIRING DRILLING	6.3' – 194.7	
	LIMESTONE ROCK		OVERNIGHT WATER LEVEL EL 192.0
1" DROP AT EL 189.9 ALL WATER LOST AT EL 189.7	CORE RECOVERY 95%	11.3' – 189.7	
	LIMESTONE ROCK CORE RECOVERY 98%	16.3' – 184.7	
	LIMESTONE ROCK CORE RECOVERY 98%	21.3' – 179.7	
	BOTTOM OF HOLE		

0 20 40 60 80 100

WATER CONTENT % TENEUR EN EAU
NATURAL / NATURELLE ⊙
LIQUID LIMIT / LIMITE DE LIQUIDITÉ ☐
PLASTIC LIMIT / LIMITE DE PLASTICITÉ △

PLATE No. 15

R — REMOULDED / REMANIÉ
CR — CORE RECOVERY / CAROTTE RÉCUPÉRÉE

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SOIL PROFILE & TEST SUMMARIES

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PARKDALE AVE.

TUNNEY'S PASTURE CENSUS BLDG.

ELEVATION OF GROUND SURFACE (ZERO DEPTH)
NIVEAU DU SOL (PROFONDEUR ZERO) 199.9

DATE Nov. 22 / 74

HOLE / FORAGE **No.** 114

NOTES SEE PLATE No. 2

Compressive Strength K.S.F. / Résistance à la Compression K/Pd.2	Small Scale Penetrometer K.S.F. / Petit Pénétromètre K/Pd.2	Essai-Standard Penetration Blows/ft.-Coups/pd	Sample / Echantillon No.	DESCRIPTION OF SOIL / DU SOL — Ground Surface – Niveau du Sol	Depth Feet / Profondeur-Pied	Elevation / Niveau	~~PROBING OR VANE TEST~~ ~~SONDAGE OU ESSAI AU MOULINET~~ — MARTEAU----HAMMER, CHUTE LIBRE---DROP, NO CASING / SANS TUBAGE, BARRE-----DIA. ROD, ~~BLOWS/FOOT OR SHEAR STRENGTH K.S.F.~~ ~~COUPS/PIED OU~~ ~~RÉSISTANCE AU CISAILLEMENT~~, ~~K/PD.2~~
				ASPHALT	0'	199.9	
		54	114-1	VERY DENSE SANDY TILL WITH SOME 1/2" TO 1" PIECES OF WEATHERED ROCK	0.3'	199.6	⊙ WATER CONTENT
				LIMESTONE ROCK - CORE RECOVERY 80 %	2.3'	197.6	
25 % OF WATER LOST AT EL. 195.6				LIMESTONE ROCK — CORE RECOVERY 97 %	2.9'	197.0	
50 % OF WATER LOST AT EL. 192.0				LIMESTONE ROCK — CORE RECOVERY 95 %	7.9'	192.0	
				BH #114 ABANDONED SEE BH #114 A	12.9'	187.0	

0 20 40 60 80 100

WATER CONTENT
% TENEUR EN EAU

NATURAL / NATURELLE ⊙

LIQUID LIMIT / LIMITE DE LIQUIDITÉ □

PLASTIC LIMIT / LIMITE DE PLASTICITÉ △

PLATE / PLANCHE No. 16

R = REMOULDED-REMANIE

CR = CORE RECOVERY / CAROTTE RECUPEREE

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OTTAWA CANADA

SOIL PROFILE & TEST SUMMARIES
PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

PARKDALE AVE.
TUNNEY'S PASTURE CENSUS BLDG

ELEVATION OF GROUND SURFACE (ZERO DEPTH) / NIVEAU DU SOL (PROFONDEUR ZERO) 199.9

DATE NOV. 29/74

HOLE / FORAGE No. 114 A

NOTES SEE PLATE No. 2

~~PROBING OR VANE TEST~~ ~~SONDAGE OU ESSAI AU MOULINET~~

MARTEAU----HAMMER NO CASING / SANS TUBAGE

CHUTE LIBRE---DROP BARRE-----DIA. ROD

~~BLOWS/FOOT OR SHEAR STRENGTH K.S.F.~~

~~COUPS/PIED OU~~ ~~RÉSISTANCE AU, K/PD.2 CISAILLEMENT~~

Compressive Strength K.S.F. / Résistance à la Compression K/Pd.2	Small Scale Penetrometer K.S.F. / Petit Pénétromètre K/Pd.2	Essai-Standard Penetration Blows ft.-Coups pd	Sample No. / Echantillon	DESCRIPTION OF SOIL / DU SOL	Depth in Feet / Profondeur - Pied	Elevation / Niveau
				Ground Surface – Niveau du Sol		
					0'	199.9
				SOIL SEE BH # 114		
					2.5'	197.4
ALL WATER LOST AT EL. 196.4				LIMESTONE ROCK CORE RECOVERY 91%		
					7'	192.9
2" SOFT DRILLING AT EL. 190.6				LIMESTONE ROCK CORE RECOVERY 95%		
					12'	187.9
				LIMESTONE ROCK CORE RECOVERY 100%		
					17'	182.9
				LIMESTONE ROCK CORE RECOVERY 100%		
					22'	177.9
				BOTTOM OF HOLE		

WATER LEVEL DEC. 2/74 EL. 188.6

0 20 40 60 80 100

% WATER CONTENT / TENEUR EN EAU

NATURAL / NATURELLE ⊙

LIQUID LIMIT / LIMITE DE LIQUIDITÉ □

PLASTIC LIMIT / LIMITE DE PLASTICITÉ △

R = REMOULDED - REMANIE

CR = CORE RECOVERY / CAROTTE RECUPEREE

PLATE / PLAQUE No. 17

McROSTIE GENEST MIDDLEMISS

& ASSOCIATES LTD. & ASSOCIÉS LTÉE

CONSULTING ENGINEERS – INGENIEURS CONSEILS

OTTAWA CANADA

SOIL PROFILE & TEST SUMMARIES
PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

PARKDALE AVENUE
TUNNEY'S PASTURE CENSUS BUILDING

ELEVATION OF GROUND SURFACE (ZERO DEPTH) / NIVEAU DU SOL (PROFONDEUR ZERO): 200.7'

DATE: DEC. 2, 1974

HOLE / FORAGE No. 115

NOTES: SEE PLATE No. 2

Column headings: Compressive Strength K.S.F. / Résistance à la Compression K/Pd.2 | Small Scale Penetrometer K.S.F. / Petit Pénétromètre K/Pd.2 | Essai-Standard Penetration Blows/ft.-Coups pd | Sample / Echantillon No. | DESCRIPTION OF SOIL / DU SOL (Ground Surface – Niveau du Sol) | Depth in Feet / Profondeur-Pied | Elevation / Niveau | ~~PROBING OR VANE TEST~~ MARTEAU----HAMMER, CHUTE LIBRE---DROP | ~~SONDAGE OU ESSAI AU MOULINET~~ NO CASING / SANS TUBAGE, BARRE-----DIA. ROD | ~~BLOWS/FOOT OR SHEAR STRENGTH K.S.F.~~ ~~COUPS/PIED OU RÉSISTANCE AU CISAILLEMENT, K/PD.2~~

Tests / Samples	Description	Depth	Elevation
	ASPHALT	0'	200.7'
	CRUSHED STONE	0.3'	200.4'
15 for 6" 115-1; 20; 16; 11 for 6" 115-2	FILL - PIECES OF BROKEN ROCK WITH SOME SANDY TILL, A LITTLE TOPSOIL & A TRACE OF SAND	1.0'	199.7'
POSSIBLE BEDROCK - MATERIAL REQUIRING DRILLING		4.0'	196.7'
		4.3'	196.4'
LIMESTONE ROCK CORE RECOVERY 100%	LIMESTONE ROCK; CORE RECOVERY 90%	4.8'	195.9'
	LIMESTONE ROCK; CORE RECOVERY 100%	9.8'	190.9'
	LIMESTONE ROCK; CORE RECOVERY 97%	14.8'	185.9'
	BOTTOM OF HOLE	19.8'	180.9'

WATER CONTENT

OVERNIGHT WATER LEVEL – ALSO, DEC. 4, 1974 · EL. 193.4'

0 20 40 60 80 100

WATER CONTENT % TENEUR EN EAU
NATURAL / NATURELLE ⊙
LIQUID LIMIT / LIMITE DE LIQUIDITÉ □
PLASTIC LIMIT / LIMITE DE PLASTICITÉ △

R REMOULDED-REMANIÉ
CR CORE RECOVERY / CAROTTE RECUPERÉE

PLATE / PLANCHE No. 18

JACQUES, WHITFORD LIMITED

TEST PIT RECORD

CLIENT: Public Works & Government Services Canada

LOCATION: Central Heating Plant, Tunney's Pasture, Ottawa, Ontario

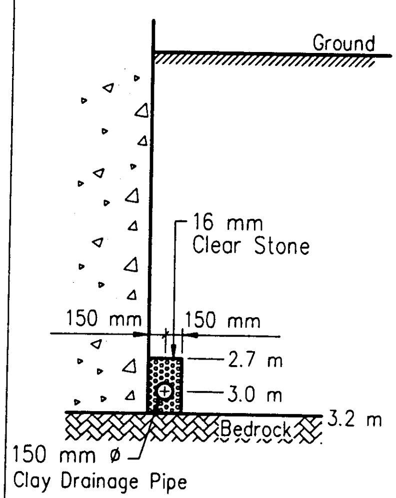
DATES: BORING 96-03-08 WATER LEVEL 96-03-08

TEST PIT No. 96-1

PROJECT No. 10740

DATUM Geodetic

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	SAMPLES: TYPE	NUMBER	RECOVERY (mm)	N-VALUE OR RQD
0	62.83	Grass				
	62.6	Frozen, dark brown SILTY TOPSOIL, trace gravel, rootlets in top 150 mm	BS	1		
		Very loose, brown medium to fine sand, trace gravel, trace silt, presence of grey silty clay lumps: FILL	BS	2		
2	60.8	Loose, brown medium to fine sand, trace to some gravel, presence of rock fill: FILL	BS	3		
			BS	4		
3	59.6	Bedrock				
		End of Test Pit				



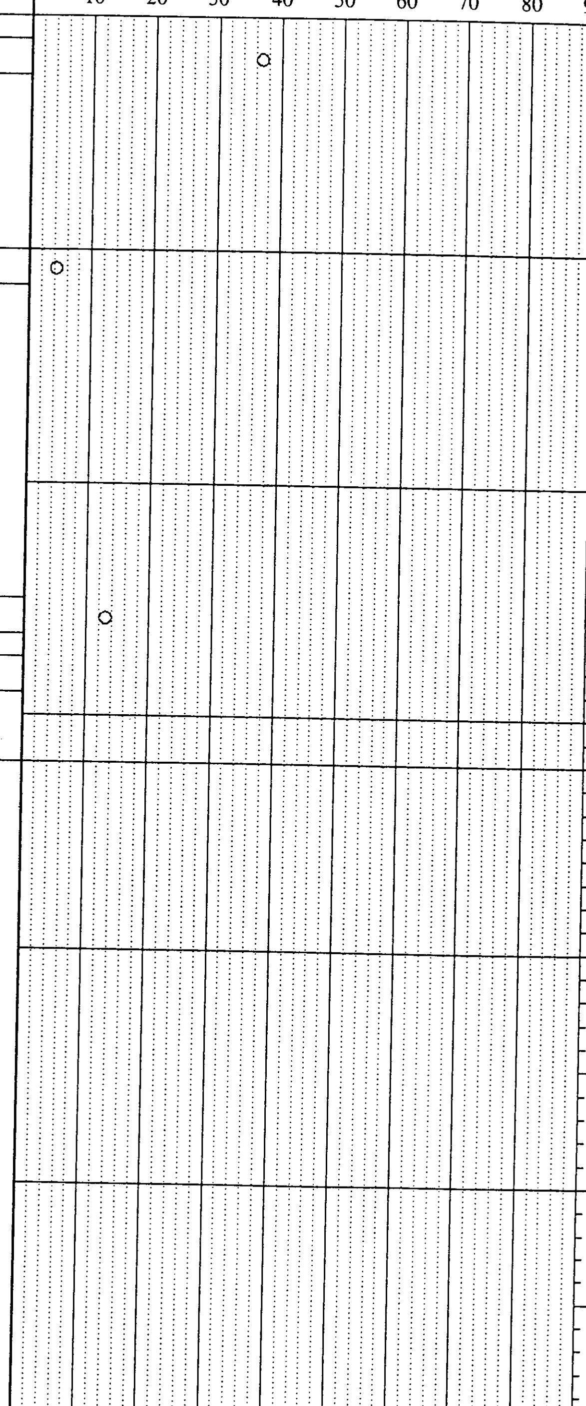
UNDRAINED SHEAR STRENGTH - kPa: 50 100 150 200

WATER CONTENT & ATTERBERG LIMITS W_P W W_L

DYNAMIC PENETRATION TEST, BLOWS/0.3m ★

STANDARD PENETRATION TEST, BLOWS/0.3m ●

10 20 30 40 50 60 70 80 90



Groundwater Level

Proposed Pipe Invert

Field Vane Test, kPa

Remoulded Vane Test, kPa

Pocket Penetrometer Test, kPa

JACQUES, WHITFORD
LIMITED

TEST PIT RECORD

CLIENT Public Works & Government Services Canada

LOCATION Central Heating Plant, Tunney's Pasture, Ottawa, Ontario

DATES: BORING 96-03-08 WATER LEVEL 96-03-08

TEST PIT No. 96-2

PROJECT No. 10740

DATUM Geodetic

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	NUMBER	RECOVERY mm	N-VALUE OR RQD
0	62.58	Grass						
	62.4	Frozen, dark brown SILTY TOPSOIL, trace gravel, rootlets in top 150 mm			BS	1		
		Very loose, brown medium to fine sand, trace gravel, trace silt: FILL			BS	2		
	61.8	Bedrock						
1		End of Test Pit						

UNDRAINED SHEAR STRENGTH - kPa: 50, 100, 150, 200

WATER CONTENT & ATTERBERG LIMITS W_P W W_L

DYNAMIC PENETRATION TEST, BLOWS/0.3m ★

STANDARD PENETRATION TEST, BLOWS/0.3m ●

10 20 30 40 50 60 70 80 90

Depth scale: 0, 1, 2, 3, 4, 5, 6

Groundwater Level

Proposed Pipe Invert

Field Vane Test, kPa

Remoulded Vane Test, kPa

Pocket Penetrometer Test, kPa

JACQUES, WHITFORD LIMITED

TEST PIT RECORD

CLIENT: Public Works & Government Services Canada

LOCATION: Central Heating Plant, Tunney's Pasture, Ottawa, Ontario

DATES: BORING 96-03-08 WATER LEVEL 96-03-08

TEST PIT No. 96-3

PROJECT No. 10740

DATUM Geodetic

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	NUMBER	RECOVERY mm	N-VALUE OR RQD
0	62.59	Grass						
	62.2	Frozen, dark brown SILTY TOPSOIL, trace gravel, rootlets in top 150 mm			BS	1		
	62.1	Frozen, brown medium to fine sand, trace gravel, trace silt: FILL			BS	2		
1	61.6	Rock fill with some brown medium to fine sand, trace gravel: FILL						
		Bedrock						
		End of Test Pit						

UNDRAINED SHEAR STRENGTH - kPa: 50, 100, 150, 200

WATER CONTENT & ATTERBERG LIMITS W_P W W_L

DYNAMIC PENETRATION TEST, BLOWS/0.3m ★

STANDARD PENETRATION TEST, BLOWS/0.3m ●

10 20 30 40 50 60 70 80 90

Groundwater Level

Proposed Pipe Invert

Field Vane Test, kPa

Remoulded Vane Test, kPa

Pocket Penetrometer Test, kPa

JACQUES, WHITFORD LIMITED

TEST PIT RECORD

CLIENT: Public Works & Government Services Canada

LOCATION: Central Heating Plant, Tunney's Pasture, Ottawa, Ontario

DATES: BORING 96-03-08 — WATER LEVEL 96-03-08

TEST PIT No. 96-4

PROJECT No. 10740

DATUM Geodetic

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES: TYPE	SAMPLES: NUMBER	SAMPLES: RECOVERY (mm)	SAMPLES: N-VALUE OR RQD
0	62.87	Grass						
	62.4	Frozen, dark brown SILTY TOPSOIL, trace gravel, rootlets in top 150 mm						
	61.9	Very loose, brown medium to fine sand, some rock fill, trace gravel, trace silt: FILL			BS	1		
1		Rock fill with some brown medium to fine sand, trace gravel: FILL						
2								
3	59.7							
		Bedrock End of Test Pit						
4								
5								
6								

UNDRAINED SHEAR STRENGTH - kPa: 50, 100, 150, 200

WATER CONTENT & ATTERBERG LIMITS: W_P, W, W_L

DYNAMIC PENETRATION TEST, BLOWS/0.3m ★

STANDARD PENETRATION TEST, BLOWS/0.3m ●

10 20 30 40 50 60 70 80 90

Groundwater Level

Proposed Pipe Invert

◘ Field Vane Test, kPa

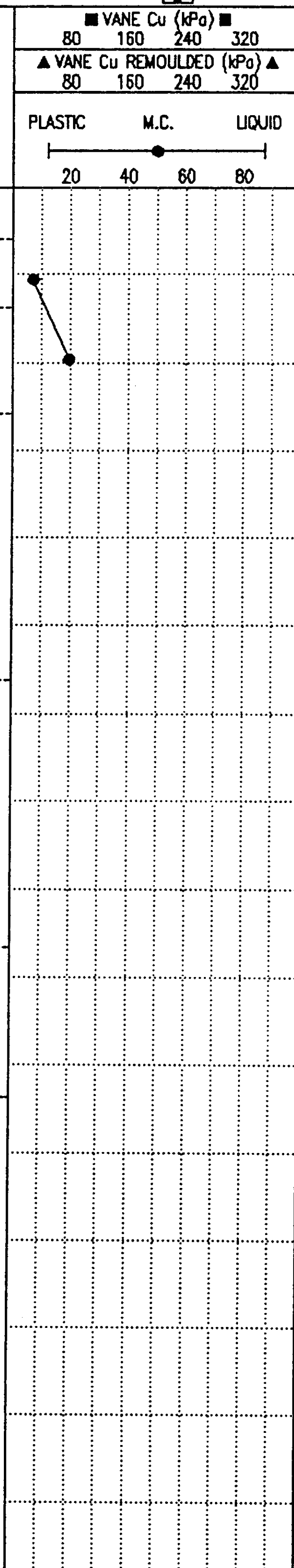
□ Remoulded Vane Test, kPa

△ Pocket Penetrometer Test, kPa

DISEASE CONTROL CENTRE CANADA	B.M.(EL 63.60m)geodetic : Arrow on fire	BOREHOLE No. 92-1
PUBLIC WORKS CANADA	hydrant near S-W corner of proposed bldg	Project No: E-6735
START DATE: 22/01/92 - :	- as per survey plan by P.A.Riddell Ltd.	ELEVATION 62.89 (m)

SAMPLE TYPE: DISTURBED / SHELBY TUBE / SPLIT SPOON / BW - CASING / BX -NO RECOVERY / BX - CORE

DEPTH (m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	USC	SOIL/ROCK DESCRIPTION	ELEVATION(m)
0.0	Frost to 0.30m				TOPSOIL	62.9
	4/15cm 10	Split spoon	1		Medium dense Medium SAND 62.59	
1.0	7/15cm 26	Split spoon	2		Dense to very dense Sandy TILL 62.19	61.9
	Auger refusal				61.60	
2.0		BX - Core			LIMESTONE (C.R. = 100%)	60.9
					Water level Jan 24/92 - EL 60.49m	
3.0		BX - Core			60.08 LIMESTONE (C.R. = 100%)	59.9
4.0						58.9
		BX - Core			58.56 LIMESTONE (C.R. = 100%)	
5.0						57.9
					Bottom of hole 57.71	
6.0					C.R. = Core Recovery	56.9
7.0						55.9
8.0						54.9



McROSTIE GENEST ST-LOUIS Ottawa, Canada	COMPLETION DEPTH 5.2 m		COMPLETE 22/01/92
	LOGGED BY CNM	DWG NO. 3	Page 1 of 1

DISEASE CONTROL CENTRE CANADA	B.M.(EL 63.60m)geodetic : Arrow on fire	BOREHOLE No. 92-2
PUBLIC WORKS CANADA	hydrant near S-W corner of proposed bldg	Project No: E-6735
START DATE: 21/01/92 - :	- as per survey plan by P.A.Riddell Ltd.	ELEVATION 62.39 (m)

SAMPLE TYPE: DISTURBED | SHELBY TUBE | SPLIT SPOON | BW - CASING | BX -NO RECOVERY | BX - CORE

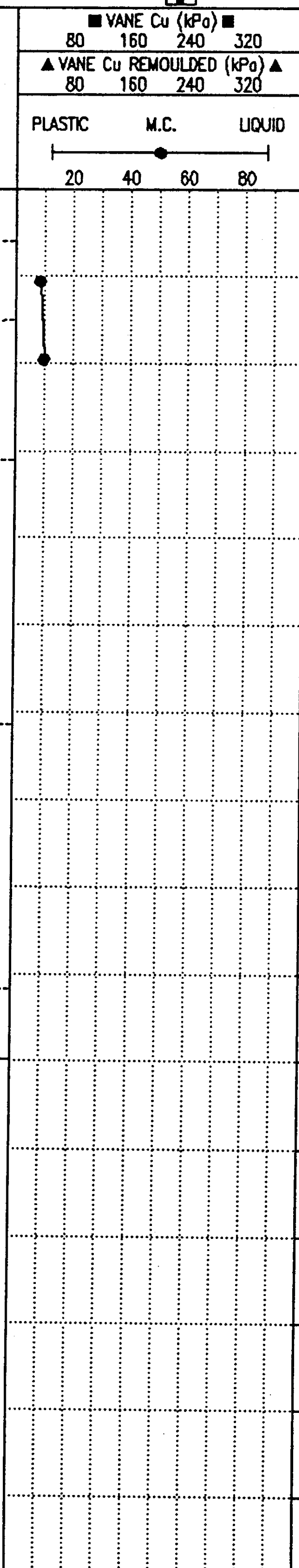
DEPTH (m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	USC	SOIL/ROCK DESCRIPTION	■ VANE Cu (kPa) ■ 80 160 240 320 / ▲ VANE Cu REMOULDED (kPa) ▲ 80 160 240 320 / PLASTIC M.C. LIQUID 20 40 60 80	ELEVATION (m)
0.0	Frost to 0.15m				TOPSOIL		62.4
	5/15cm 16	Split spoon	1		62.09 FILL - Sand, topsoil gravel and till		
	8/15cm Split spoon refusal	Split spoon	2				
1.0		BX - Core			61.48 LIMESTONE (C.R. = 81%)		61.4
2.0		BX - Core			60.39 LIMESTONE (C.R. = 98%)		60.4
3.0							59.4
		BX - Core			58.87 LIMESTONE (C.R. = 95%)		
4.0							58.4
5.0					Bottom of hole 57.37		57.4
6.0					C.R. = Core Recovery		56.4
7.0					- Piezometer damaged by vandals No water levels available		55.4
8.0							54.4

McROSTIE GENEST ST-LOUIS Ottawa, Canada	COMPLETION DEPTH 5.0 m	COMPLETE 21/01/92
	LOGGED BY CNM / DWG NO. 4	Page 1 of 1

DISEASE CONTROL CENTRE CANADA	B.M.(EL 63.60m)geodetic : Arrow on fire	BOREHOLE No. 92-3
PUBLIC WORKS CANADA	hydrant near S-W corner of proposed bldg	Project No: E-6735
START DATE: 22/01/92 - :	- as per survey plan by P.A.Riddell Ltd.	ELEVATION 62.97 (m)

SAMPLE TYPE: DISTURBED, SHELBY TUBE, SPLIT SPOON, BW - CASING, BX -NO RECOVERY, BX - CORE

DEPTH (m)	SMALL PEN. (kPa)	SPT (N)	SAMPLE TYPE	SAMPLE NO	USC	SOIL/ROCK DESCRIPTION	ELEVATION (m)
0.0	Frost to 0.30m					TOPSOIL	63.0
		11/15cm 32	Split spoon	1		62.67 Very dense Medium SAND with clay lenses and a little gravel	
1.0		34 16/15cm	Split spoon	2		62.22 Very dense Sandy TILL	62.0
		37/5cm Auger refusal		3 N/R			
2.0			BX - Core			61.42 LIMESTONE (C.R. = 92%)	61.0
3.0						Water level Jan 24/92 - EL 60.12m	60.0
						59.90 LIMESTONE (C.R. = 99%)	
4.0							59.0
						58.38 LIMESTONE (C.R. = 100%)	
5.0						Bottom of hole 57.98	58.0
6.0						C.R. = Core Recovery	57.0
7.0							56.0
8.0							55.0



McROSTIE GENEST ST-LOUIS Ottawa, Canada	COMPLETION DEPTH 5.0 m		COMPLETE 22/01/92
	LOGGED BY CNM	DWG NO. 5	Page 1 of 1

DISEASE CONTROL CENTRE CANADA	B.M.(EL 63.60m)geodetic : Arrow on fire	BOREHOLE No. 92–4
PUBLIC WORKS CANADA	hydrant near S–W corner of proposed bldg	Project No: E–6735
START DATE: 22/01/92 – :	– as per survey plan by P.A.Riddell Ltd.	ELEVATION 62.13 (m)

SAMPLE TYPE: DISTURBED | SHELBY TUBE | SPLIT SPOON | BW – CASING | BX –NO RECOVERY | BX – CORE

DEPTH (m)	SMALL PEN. (kPa)	SPT (N)	SAMPLE TYPE	SAMPLE NO	USC	SOIL/ROCK DESCRIPTION	ELEVATION (m)
0.0	Frost to 0.15m					Sandy TOPSOIL	62.1
		18/15cm 40	Split spoon	1		61.83 Very dense Silty medium SAND and GRAVEL	
1.0		15/15cm 32	Split spoon	2			61.1
						Water level Jan 24/92 – EL 60.38m	
	Split spoon refusal	40/15cm	Split spoon	3 N/R		60.49	
			BX – Core			LIMESTONE (C.R. = 85%)	
2.0						60.08 LIMESTONE (C.R. = 77%)	60.1
						59.78	
3.0						LIMESTONE (C.R. = 96%)	59.1
						58.66	
4.0						LIMESTONE (C.R. = 84%)	58.1
5.0						Bottom of hole 57.14	57.1
6.0						C.R. = Core Recovery	56.1
7.0							55.1
8.0							54.1

■ VANE Cu (kPa) ■ 80 160 240 320

▲ VANE Cu REMOULDED (kPa) ▲ 80 160 240 320

PLASTIC M.C. LIQUID

20 40 60 80

McROSTIE GENEST ST–LOUIS Ottawa, Canada	COMPLETION DEPTH 5.0 m	COMPLETE 22/01/92
	LOGGED BY CNM	DWG NO. 6

DISEASE CONTROL CENTRE CANADA	B.M.(EL 63.60m)geodetic : Arrow on fire	BOREHOLE No. 92-5
PUBLIC WORKS CANADA	hydrant near S-W corner of proposed bldg	Project No: E-6735
START DATE: 21/01/92 – :	– as per survey plan by P.A.Riddell Ltd.	ELEVATION 62.29 (m)

SAMPLE TYPE: DISTURBED | SHELBY TUBE | SPLIT SPOON | BW – CASING | BX –NO RECOVERY | HX – CORE

DEPTH (m)	SMALL PEN. (kPa) / SPT (N)	SAMPLE TYPE	SAMPLE NO	USC	SOIL/ROCK DESCRIPTION	■ VANE Cu (kPa) ■ 80 160 240 320 / ▲ VANE Cu REMOULDED (kPa) ▲ 80 160 240 320 / PLASTIC M.C. LIQUID 20 40 60 80	ELEVATION(m)
0.0	Frost to 0.35m				FILL – Sand and gravel		62.3
	50/5cm Auger refusal		1 N/R		61.99		
					TILL with limestone rock blocks and pieces of weathered limestone (Possible fill)		
1.0	Soft drilling – All water lost						61.3
	40/15cm Split spoon refusal		2		60.54		
2.0	No water returning				LIMESTONE (C.R. = 92%)		60.3
					60.02		
					Water level Jan 22/92 – EL 60.33m		
3.0					LIMESTONE (C.R. = 93%)		59.3
					58.71		
4.0					LIMESTONE (C.R. = 100%)		58.3
5.0					Bottom of hole 57.18		57.3
6.0					C.R. = Core Recovery		56.3
7.0							55.3
8.0							54.3

McROSTIE GENEST ST–LOUIS Ottawa, Canada	COMPLETION DEPTH 5.1 m	COMPLETE 21/01/92
	LOGGED BY CNM	DWG NO. 7

Stantec

BOREHOLE RECORD

N: 5 028 607 E: 442 376

BH15-1

CLIENT Public Works and Government Services Canada

LOCATION Ottawa

DATES: BORING November 16, 2015 WATER LEVEL December 7, 2015

BOREHOLE No. BH15-1

PROJECT No. 122411146

DATUM Geodetic

UNDRAINED SHEAR STRENGTH - kPa: 50, 100, 150, 200

WATER CONTENT & ATTERBERG LIMITS (W_P, W, W_L)

DYNAMIC PENETRATION TEST, BLOWS/0.3m ★

STANDARD PENETRATION TEST, BLOWS/0.3m ●

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	SAMPLE TYPE	NUMBER	RECOVERY (mm)	N-VALUE OR RQD
0	61.28	TOPSOIL: Dark brown TOPSOIL with occasional gravel and cobbles	GS	1		
	60.7	FILL: Brown Sand	SS	2	150	12
	59.8	FILL: Brown sand with frequent gravel, cobbles and boulders	SS	3	300	17
	59.1	TILL: Dense grey silty SAND with gravel (SM)	SS	4	450	30
			SS	5	50	38
			SS	6		40/150 mm
4	57.3	End of Borehole Auger Refusal Monitoring Well Installed Monitoring well Dry on December 7, 2015.				

Inferred Groundwater Level

Groundwater Level Measured in Standpipe

Field Vane Test, kPa

Remoulded Vane Test, kPa

Pocket Penetrometer Test, kPa

App'd

Date

Stantec

BOREHOLE RECORD

N: 5 028 643 E: 442 453

BH15-2

CLIENT Public Works and Government Services Canada
LOCATION Ottawa
DATES: BORING November 16, 2015 WATER LEVEL

BOREHOLE No. BH15-2
PROJECT No. 122411146
DATUM Geodetic

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	NUMBER	RECOVERY (mm)	N-VALUE OR RQD
0	61.09	TOPSOIL: Dark brown TOPSOIL with occasional gravel and cobbles			GS	1		
	60.5	FILL: Brown silty GRAVEL with sand (GM) with frequent cobbles and boulders						
1					SS	2	340	8
2					SS	3	150	16
					SS	4	150	29
3	58.0				SS	5	50	50/50 mm
		End of Borehole Auger Refusal						

UNDRAINED SHEAR STRENGTH - kPa: 50, 100, 150, 200

WATER CONTENT & ATTERBERG LIMITS W_P W W_L

DYNAMIC PENETRATION TEST, BLOWS/0.3m ★

STANDARD PENETRATION TEST, BLOWS/0.3m ●

10 20 30 40 50 60 70 80 90

Depth scale: 0 1 2 3 4 5 6 7 8 9 10

∇ Inferred Groundwater Level
▼ Groundwater Level Measured in Standpipe

■ Field Vane Test, kPa
□ Remoulded Vane Test, kPa
△ Pocket Penetrometer Test, kPa

App'd ________
Date ________

STN13-STAN-GEO 122411146 ENVIRONMENTAL HEALTH CENTER BUILDING DEMOLITION.GPJ SMART.GDT 1/6/16

Stantec

BOREHOLE RECORD

N: 5 028 679 E: 442 441

BH15-3

CLIENT Public Works and Government Services Canada

BOREHOLE No. BH15-3

LOCATION Ottawa

PROJECT No. 122411146

DATES: BORING November 16, 2015 WATER LEVEL

DATUM Geodetic

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY (mm)	SAMPLES N-VALUE OR RQD
0	59.96	TOPSOIL: Dark brown TOPSOIL with occasional gravel and cobbles			GS	1		
	59.4	FILL: Brown silty SAND with gravel (SM)			SS	2	300	15
	58.3				SS	3	150	50/100 mm
		End of Borehole Auger Refusal						

Depth scale: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

UNDRAINED SHEAR STRENGTH - kPa: 50, 100, 150, 200

WATER CONTENT & ATTERBERG LIMITS W_P W W_L

DYNAMIC PENETRATION TEST, BLOWS/0.3m ★

STANDARD PENETRATION TEST, BLOWS/0.3m ●

10 20 30 40 50 60 70 80 90

Inferred Groundwater Level

Groundwater Level Measured in Standpipe

Field Vane Test, kPa

Remoulded Vane Test, kPa

Pocket Penetrometer Test, kPa

App'd

Date

Stantec

BOREHOLE RECORD

N: 5 028 647 E: 442 356

BH15-4

CLIENT Public Works and Government Services Canada
BOREHOLE No. BH15-4

LOCATION Ottawa
PROJECT No. 122411146

DATES: BORING November 16, 2015 WATER LEVEL
DATUM Geodetic

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY (mm)	SAMPLES N-VALUE OR RQD
	59.30	**Elevation estimated from Demolition Site Plan Drawing, A100**						
0		TOPSOIL: Dark brown TOPSOIL with occasional gravel and cobbles			GS	1		
	58.7	FILL: Poorly Graded SAND (SP) with frequent cobbles and boulders			SS	2	50	50/100 mm
	58.4	End of Borehole Auger Refusal						

UNDRAINED SHEAR STRENGTH - kPa: 50, 100, 150, 200

WATER CONTENT & ATTERBERG LIMITS (W_P, W, W_L)

DYNAMIC PENETRATION TEST, BLOWS/0.3m ★

STANDARD PENETRATION TEST, BLOWS/0.3m ●

10 20 30 40 50 60 70 80 90

Depth scale: 0 1 2 3 4 5 6 7 8 9 10

▽ Inferred Groundwater Level

▼ Groundwater Level Measured in Standpipe

▣ Field Vane Test, kPa

□ Remoulded Vane Test, kPa

△ Pocket Penetrometer Test, kPa

App'd

Date

Stantec

BOREHOLE RECORD

N: 5 028 647 E: 442 356

BH15-4b

CLIENT Public Works and Government Services Canada

LOCATION Ottawa

DATES: BORING November 16, 2015 WATER LEVEL

BOREHOLE No. BH15-4b

PROJECT No. 122411146

DATUM Geodetic

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES: TYPE	NUMBER	RECOVERY (mm)	N-VALUE OR RQD	UNDRAINED SHEAR STRENGTH - kPa / WATER CONTENT & ATTERBERG LIMITS / DYNAMIC PENETRATION TEST, BLOWS/0.3m / STANDARD PENETRATION TEST, BLOWS/0.3m
	59.30	**Elevation estimated from Demolition Site Plan Drawing, A100**							
0 – 0.6	58.7	TOPSOIL: Dark brown TOPSOIL with occasional gravel and cobbles							
0.6 – 1.5	57.8	FILL: Brown poorly graded SAND (SP)							
1.5 – 2.1	57.2	FILL: Brown silty SAND with gravel (SM) with frequent cobbles and boulders			SS	1	400	25	
		End of Borehole Auger Refusal							

Undrained shear strength scale (kPa): 50, 100, 150, 200

Water content / blow count scale: 10, 20, 30, 40, 50, 60, 70, 80, 90

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

Legend: W_P W W_L

▽ Inferred Groundwater Level

▼ Groundwater Level Measured in Standpipe

■ Field Vane Test, kPa

□ Remoulded Vane Test, kPa

△ Pocket Penetrometer Test, kPa

App'd ______

Date ______

BORING REPORT N° 2324	RECORD — SUBSURFACE EXPLORATION — SOILS TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.		PROPOSED STRUCTURE	LOCATION
HOLE N° 7	CHECKED [illegible] DWN. H. LETTING APPROVED M. LeBel for N.C. LAYCRAFT	DATE OF BORING 30 & 31 AUG. 1960 BORING TECH. J. DUFRESNE DRILLING CO.	NATIONAL HEALTH & WELFARE BLDG.	OTTAWA, ONT. (TUNNEY'S PASTURE) FILE N° 32-2295

LEGEND

SAMPLING METHOD
2" DIA SPLIT TUBE
2" SHELBY TUBE

PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING

STRENGTH
UNCONFINED COMPRESSION (QU) ⊕
VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) X LI
LIQUID LIMIT
PLASTIC LIMIT

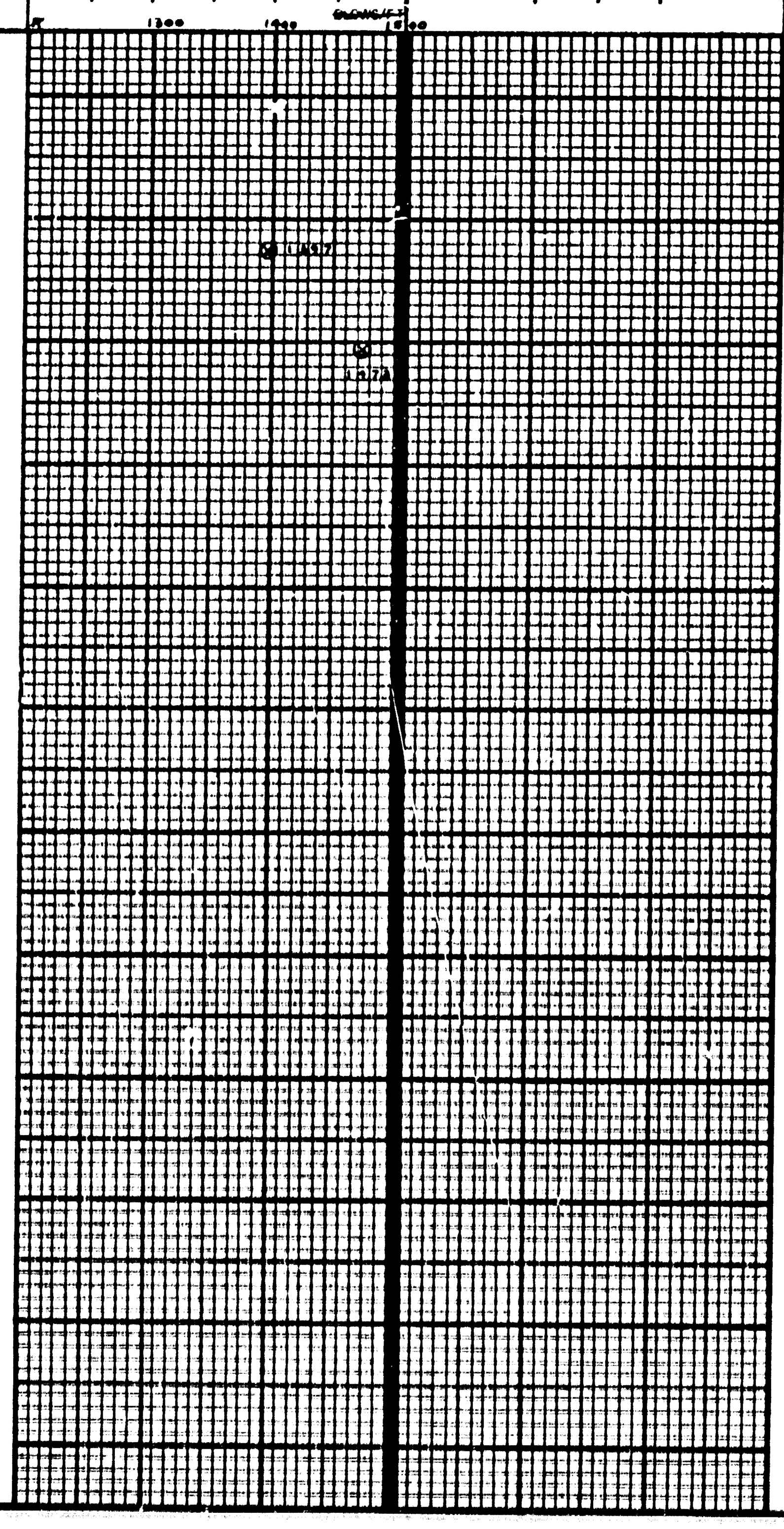
ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
——	177.7	GEODETIC	198.2	——	189.2

DESCRIPTION OF SOIL	ELEV. FT
	198.2
OVERBURDEN, MOSTLY BOULDERS (DRILLED)	189.2
ROCK (DRILLED)	177.7
BOTTOM OF HOLE	

DRILLED FT.	RECOVERED FT.
1.3	0.0 GROUND CORE
4.7	4.7
5.5	5.3

~~STRENGTH + PENETRATION RESISTANCE~~ COMPRESSIVE ~~KSF~~ ~~CONSISTENCY~~ STRENGTH (TONS/FT²) ~~UNIT WT. LBS/C.F.~~ ELEV. FT.



BORING REPORT N° 2324	RECORD — SUBSURFACE EXPLORATION — SOILS TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.		PROPOSED STRUCTURE	LOCATION
HOLE N° 8	CHECKED [illegible] DWN. H. LETTING APPROVED M. LeBel for N.C. LAYCRAFT	DATE OF BORING 30 AUG. 1960 BORING TECH. J. DUFRESNE DRILLING CO.	NATIONAL HEALTH & WELFARE BLDG.	OTTAWA, ONT. (TUNNEY'S PASTURE) FILE N° 32-2295

LEGEND

SAMPLING METHOD
2" DIA. SPLIT TUBE
2" SHELBY TUBE

PENETRATION RESISTANCE - R
2" SPLIT TUBE
2" DIA. CONE
CASING

STRENGTH
UNCONFINED COMPRESSION (QU) ⊕
VANE TEST (C) AND SENSITIVITY (S) +S

CONSISTENCY
NATURAL MOISTURE AND LIQUIDITY INDEX (LI) X LI
LIQUID LIMIT
PLASTIC LIMIT

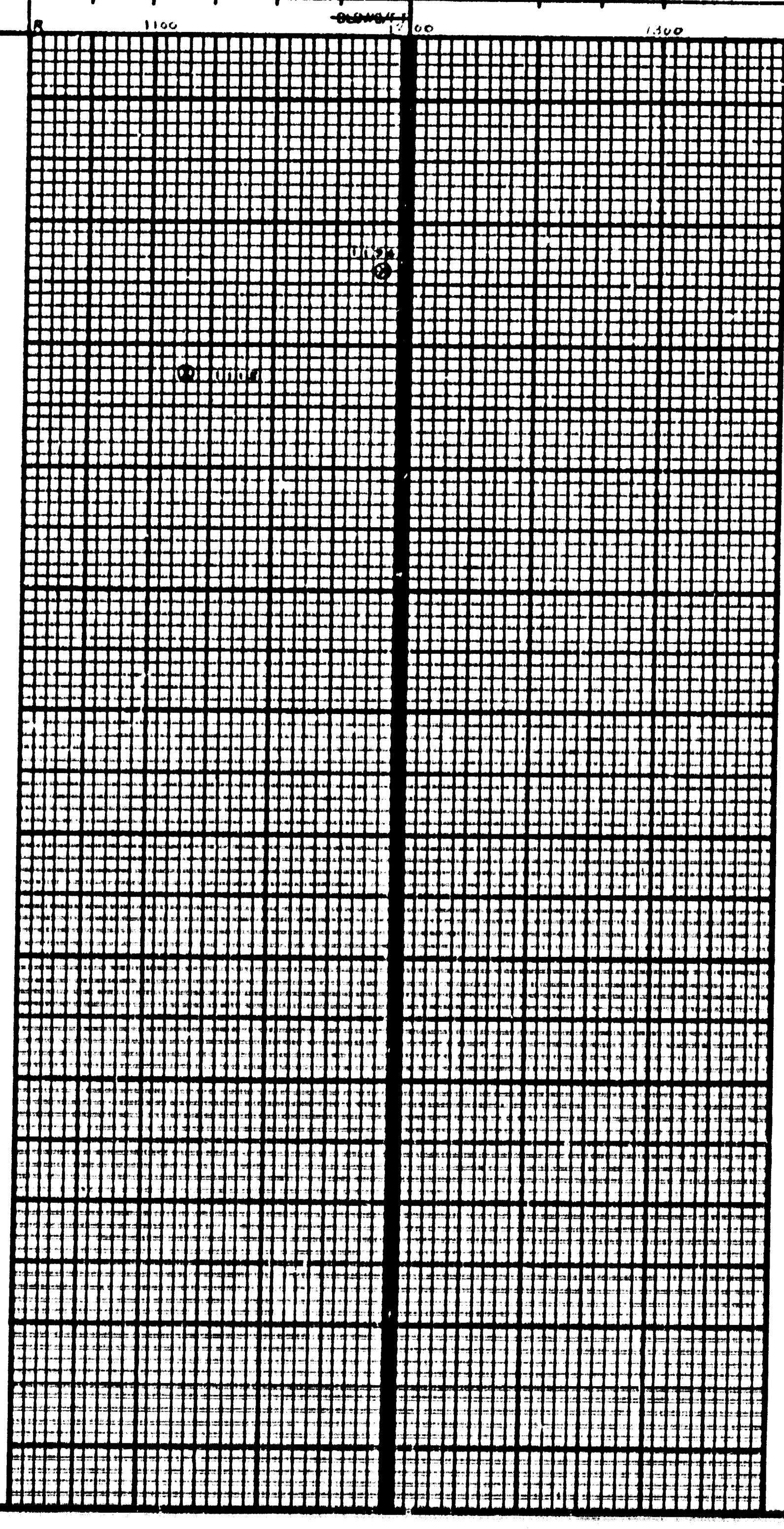
ELEVATION IN FEET OF

WATER SURFACE	BOTTOM OF HOLE	DATUM	GROUND	GROUND WATER	ROCK
——	176.4	GEODETIC	199.7	——	189.7

DESCRIPTION OF SOIL	ELEV. FT
	199.7
OVERBURDEN, MOSTLY BOULDERS (DRILLED)	189.7
ROCK (DRILLED)	176.4
BOTTOM OF HOLE	

DRILLED FT.	RECOVERED FT.
1.5	0.0 GROUND CORE
5.4	5.3
5.4	5.3

~~STRENGTH + PENETRATION RESISTANCE~~ COMPRESSIVE ~~KSF~~ ~~CONSISTENCY~~ STRENGTH (TONS/FT²) ~~UNIT WT. LBS/C.F.~~ ELEV. FT.



X24

List of Reports Referenced

Boring Report No. 2067, Department of Public Works Testing Laboratories, Comptroller of Treasury Storage Building, Tunney's Pasture, dated September, 1956.

Boring Report No. 2068, Department of Public Works Testing Laboratories, Government Vehicle Storage, Tunney's Pasture, dated September, 1956.

Boring Report No. 2155, Department of Public Works Testing Laboratories, Addition to Finance Building, Tunney's Pasture, dated March, 1958.

Boring Report No. 2324, Department of Public Works Testing Laboratories, Subsurface Investigations for National Health and Welfare Headquarters Building, Tunney's Pasture, File No. 32-3166, dated September, 1960.

Boring Report No. 2327, Department of Public Works Testing Laboratories, Subsoil Investigation for Power Plant Extension, Tunney's Pasture, dated September, 1960.

Boring Report No. 2429, Department of Public Works Testing Laboratories, Subsoil Investigation for Proposed Animal Breeding Building, Tunney's Pasture, dated December, 1961.

Boring Report No. 2380, Department of Public Works Testing Laboratories, Subsoil Investigation for Building for Computing Devices Department of Revenue, Tunney's Pasture, dated June, 1961.

Boring Report No. 2428, Department of Public Works Testing Laboratories, Subsoil Investigation for DVA Records Storage and NFB Stills Laboratory, Tunney's Pasture, dated January, 1962.

Boring Report No. 2437, Department of Public Works Testing Laboratories, Presence of Weak Shale Seam Underneath the Area of Heavily Loaded Footings, National Health and Welfare Headquarters Building, Tunney's Pasture, dated January, 1962.

Boring Report No. 2522, Department of Public Works Testing Laboratories, Subsoil Investigation for Environmental Health Laboratory and Water Line to Ottawa River, Ottawa, dated January, 1963.

Boring Report No. 2609, Department of Public Works Testing Laboratories, Subsurface Investigation for Proposed Addition to N.H. & W. Food and Drug Laboratory, Tunney's Pasture, Ottawa, Report No. 2935, dated December, 1963.

Boring Report No. 2916, Department of Public Works Testing Laboratories, Tunney's Pasture, not dated.

Boring Report No. 2935, Department of Public Works Testing Laboratories, D.B.S. Headquarters Building, Tunney's Pasture, Ottawa, Report No. 2935, File No. 32-3289, dated August, 1968.

Boring Report No. 3011, Department of Public Works Testing Laboratories, D.B.S. Headquarters Building, Tunney's Pasture, Ottawa, Report No. S-5/70, File No. 32-3166, dated February 18, 1970.

Boring Report No. 3657, Department of Public Works Testing Laboratories, dated May, 1970.

Boring Report No. 3060, Department of Public Works Testing Laboratories, Control of Blasting Vibrations for Service Lines for Food and Drug Directorate, Tunney's Pasture, April 1971.

Boring Report No. 3487, Department of Public Works Testing Laboratories, Revised Steam and Water Lines D.B.S. Tower, Tunney's Pasture, Ottawa, Project No. 3487, File No. 32/4-380, dated October, 1971.

Golder Associates Report No. 73803-1 dated October, 1974.

Geotechnical Investigation Proposed Census Building, Tunney's Pasture, McRostie Genest Middlemiss & Associates, dated November 4, 1974.

Department of Public Works, Research and Development Laboratories, Ottawa, Ontario, Geotechnical Aspects of Site Development, Confederation Heights, dated May, 1975.

Subsurface Investigation for Disease Control Centre Canada, Tunney's Pasture, McRostie Genest St. Louis & Associates, Report No. SF-4074, dated January 31, 1992.

Geotechnical Investigation Central Heating Plant Expansion, Tunney's Pasture, Jacques, Whitford Limited, Project No. 10740, dated March 13, 1996.

DST Report, Limited Radiological Survey, 20 Goldenrod Street, dated April, 2001.

Subsurface Investigation Proposed New Sub-grade Building Addition Building 16, Tunney's Pasture, Trow Associates Inc., Project No. OTGE00019353B, dated March 26, 2009.

Geotechnical Site Characterization, Tunney's Pasture Complex, Golder Associates, Report No. 09-1121-0007, DRAFT, dated November 2009.

Geotechnical Desktop Review Paterson Group Report PG3734-1 dated January, 2016.

Supplemental Phase III ESA, Tunney's Environmental Health Centre Building, Arcadis, DFRP No. 50064, Version 4, dated January 6, 2016.

Shear-Wave Velocity Soundings, Geophysics GPR International Inc., 150 Tunney's Pasture Driveway, Ottawa, Project No. 634609, dated January 25, 2016.

Environmental Health Centre Building Demolition, Stantec, Project No. 122411146, February 2016.

Geotechnical Investigation and Seismic Site Class Assessment, Houle Chevrier, Jean Talon and Jeanne Mance Buildings, Tunney's Pasture Complex, Project No. 64151.16, dated March 7, 2016.

Seismic Site Classification, Banting Building, Tunney's Pasture, Golder Associates, Report No. 11-1121-0244, dated May 2016.

DST Report No. TS-SO-022371, dated June 14, 2016.

SPL Report, Geotechnical Report, Project No. 10001599 Rev. 1 dated October, 2016.

Seismic Site Class Characterization, Tunney's Pasture, exp, Project No. OTT-00212365-D0, dated June 12, 2017.

Geotechnical Data Report, exp, Project No. OTT-00212365-D0 dated October 3, 2018.

Supplemental Modified Phase II ESA – Project No. OTT-00212365-D0 dated October 12, 2018.

Paterson Group Report PG4826-LET.03 dated September 26, 2019.

Stantec Report, Phase One Environmental Site Assessment, Tunney's Pasture Complex, Ottawa, Ontario dated January 30, 2020.

Geotechnical Investigation Report Paterson Group Report PG4826-7 Revision 3 dated January 25, 2021.

Deeper Greening Project (ESAP Stage II) Final Geotechnical Report – Tunney's Pasture, WSP, dated May 5, 2022.

Englobe, Report No. 02206323.000 dated September 22, 2022.

Phase II – Environmental Assessment Report Paterson Group Report PE6034-2 dated March 22, 2024.

Phase II – Environmental Assessment Report Paterson Group Report PE6035-2R dated March 22, 2024.

Phase II – Environmental Assessment Report Paterson Group Report PE6036-2 dated March 22, 2024.

Phase II – Environmental Assessment Report Paterson Group Report PE6037-2 dated March 22, 2024.

Phase II – Environmental Assessment Report Paterson Group Report PE6038-2 dated March 27, 2024.

Phase II – Environmental Assessment Report Paterson Group Report PE6039-2 dated March 28, 2024.

Phase II – Environmental Assessment Report Paterson Group Report PE6040-2 dated March 27, 2024.

Certificate of Analysis

Report Date: 12-Apr-2024

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

Order Date: 8-Apr-2024

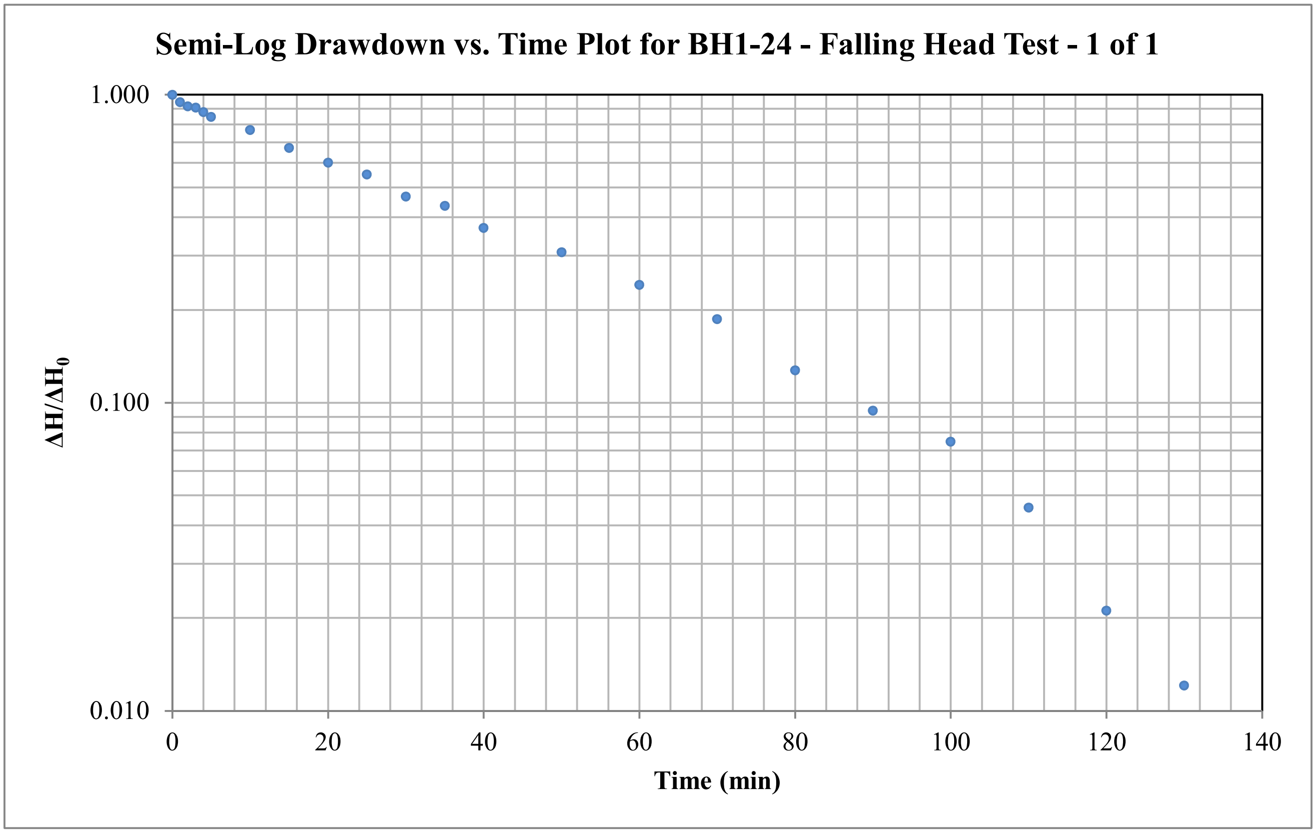
Client PO: 59890

Project Description: PG6348

	Client ID:	BH11_24_SS4	-	-	-	-	-
	Sample Date:	03-Apr-24 09:00	-	-	-		
	Sample ID:	2415083-01	-	-	-		
	Matrix:	Soil	-	-	-		
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	90.7	-	-	-	-	-
General Inorganics							
pH	0.05 pH Units	7.22	-	-	-	-	-
Resistivity	0.1 Ohm.m	21.1	-	-	-	-	-
Anions							
Chloride	10 ug/g	165	-	-	-	-	-
Sulphate	10 ug/g	31	-	-	-	-	-

Hvorslev Hydraulic Conductivity Analysis

Project: Arcadis IBI Group (CLC)
Test Location: BH1-24
Test: Falling Head - 1 of 1
Date: April 23, 2024



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

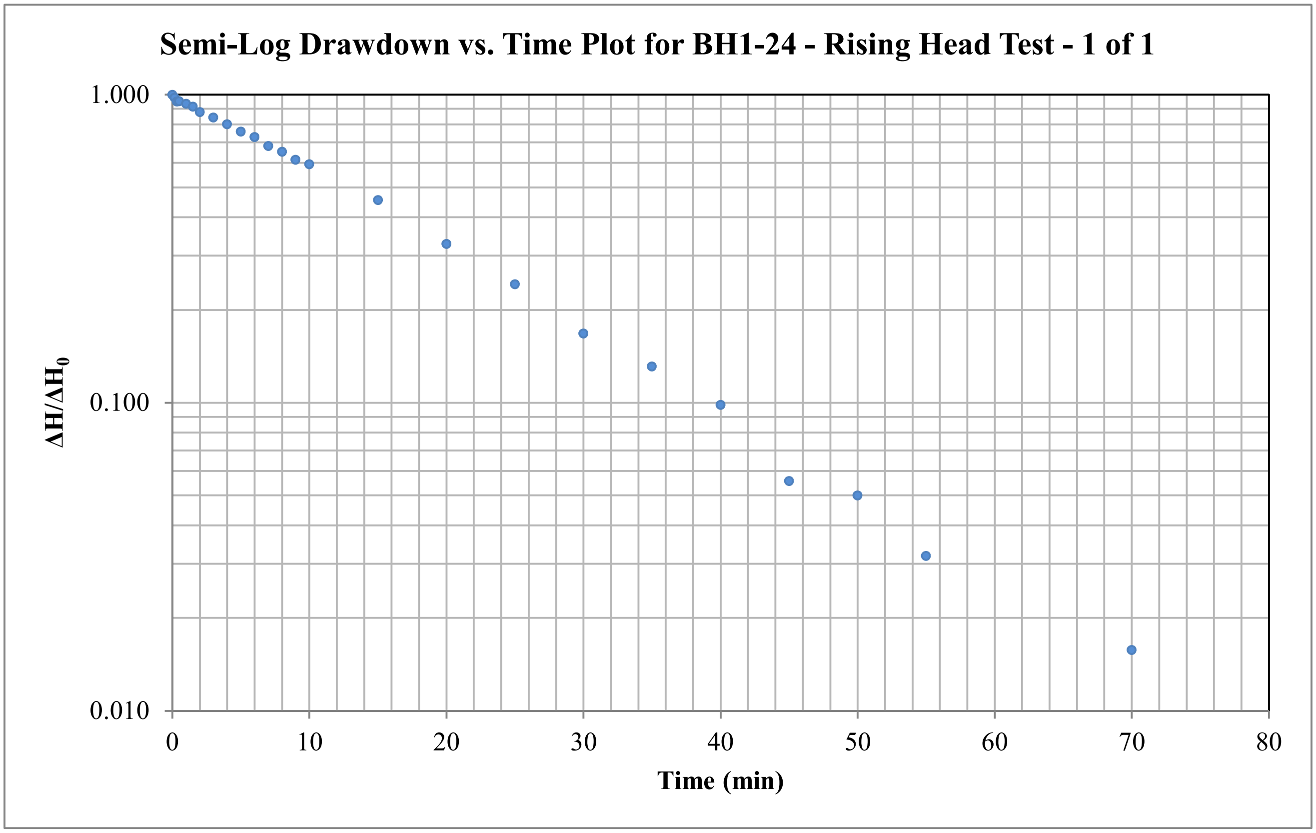
Data Points (from plot):

t^*: 38.916 minutes $\Delta H^*/\Delta H_0$: 0.37

Horizontal Hydraulic Conductivity
K = 1.63E-07 m/sec

Hvorslev Hydraulic Conductivity Analysis

Project: Arcadis IBI Group (CLC)
Test Location: BH1-24
Test: Rising Head - 1 of 1
Date: April 23, 2024



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

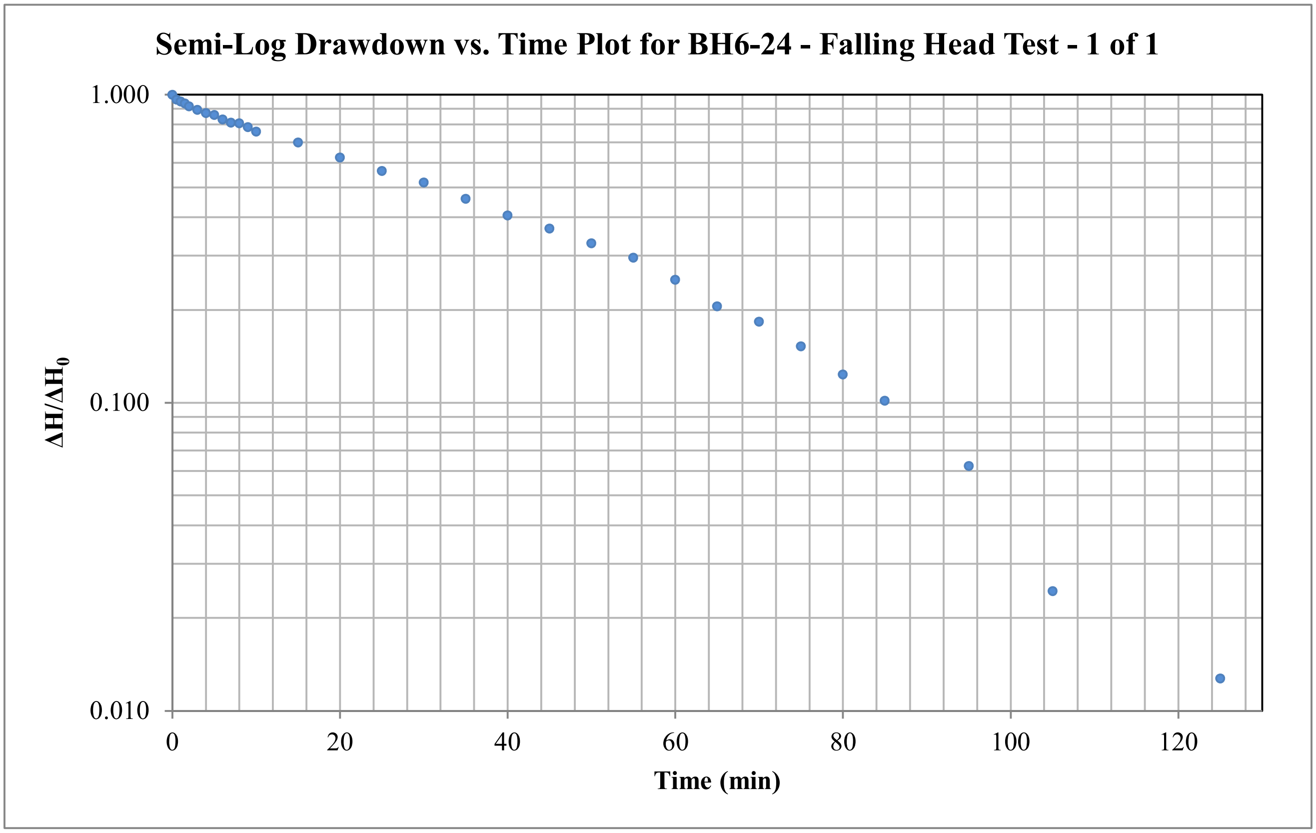
Data Points (from plot):

t^*: 17.531 minutes $\Delta H^*/\Delta H_0$: 0.37

Horizontal Hydraulic Conductivity
K = 3.61E-07 m/sec

Hvorslev Hydraulic Conductivity Analysis

Project: Arcadis IBI Group (CLC)
Test Location: BH6-24
Test: Falling Head - 1 of 1
Date: April 23, 2024



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

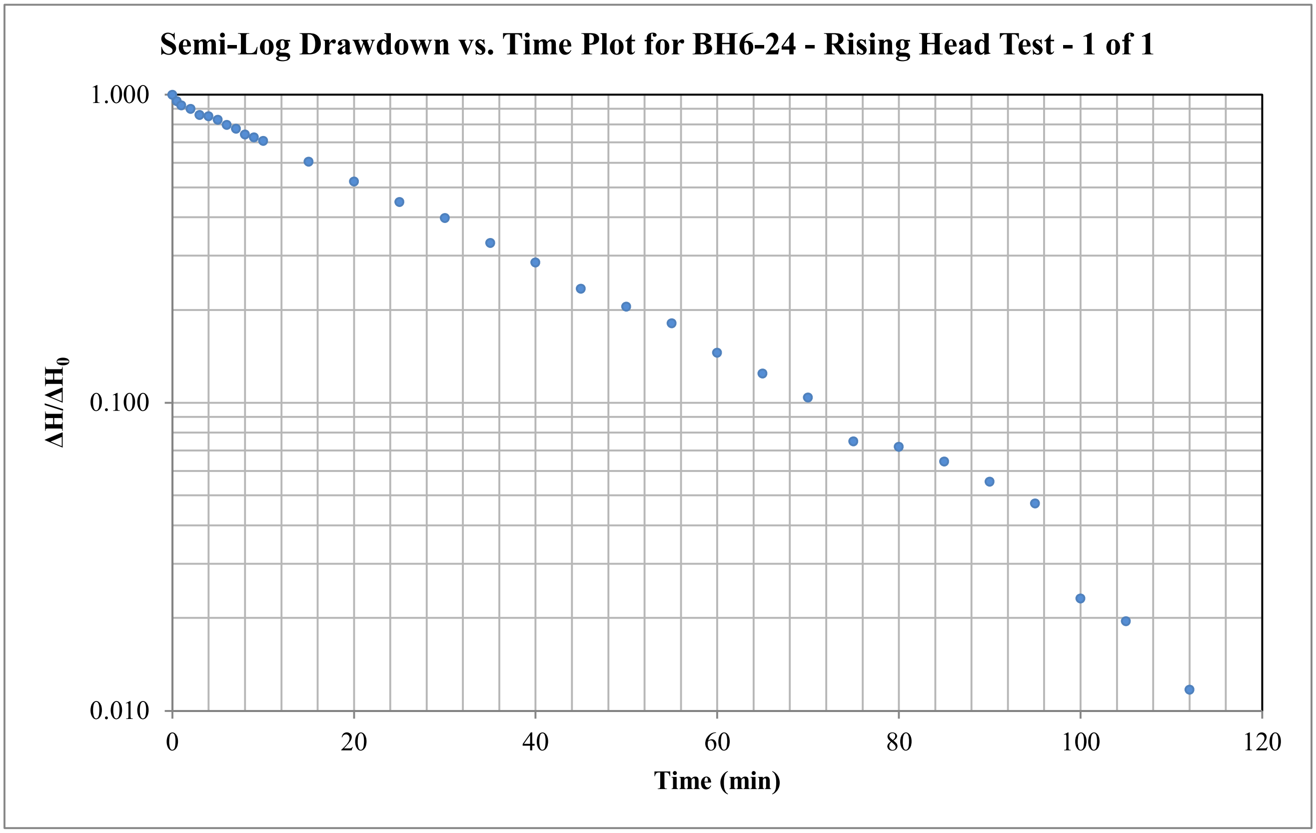
Data Points (from plot):

t^*: 43.432 minutes $\Delta H^*/\Delta H_0$: 0.37

Horizontal Hydraulic Conductivity
K = 1.46E-07 m/sec

Hvorslev Hydraulic Conductivity Analysis

Project: Arcadis IBI Group (CLC)
Test Location: BH6-24
Test: Rising Head - 1 of 1
Date: April 23, 2024



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^{2}}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

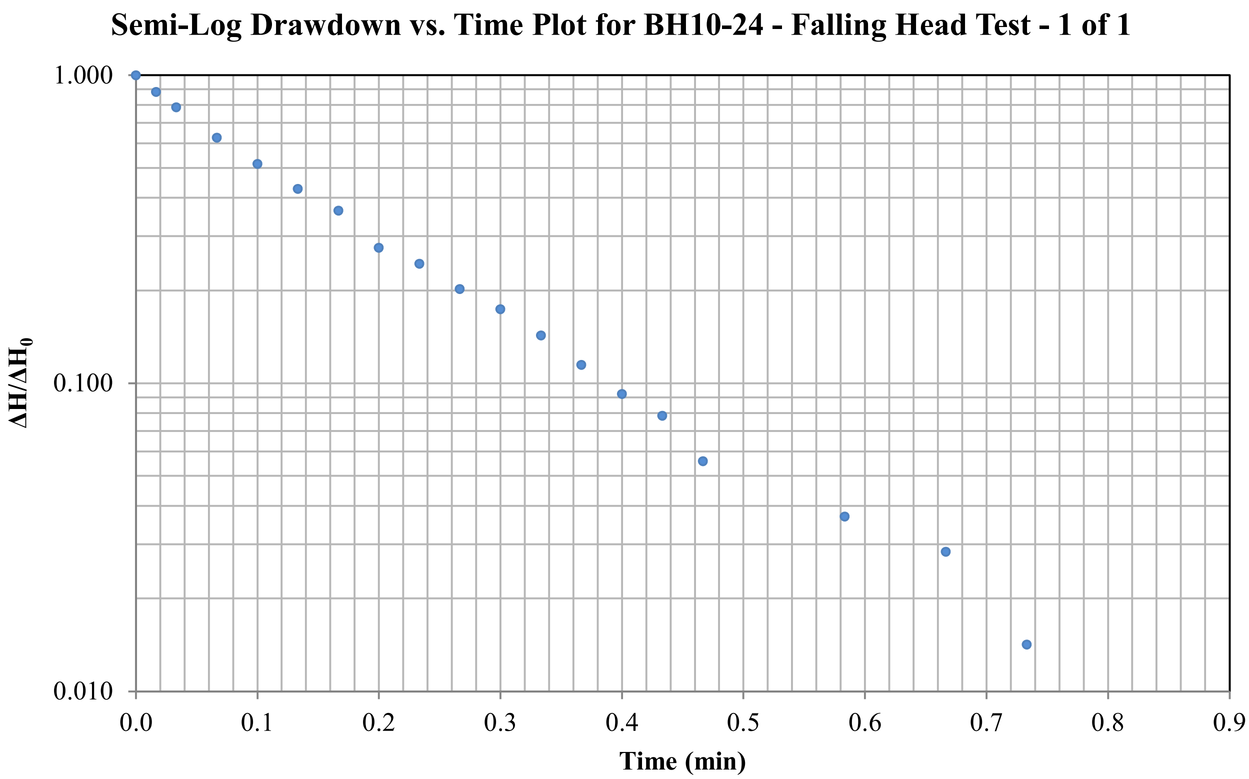
Data Points (from plot):

t^*: 31.593 minutes $\Delta H^*/\Delta H_0$: 0.37

Horizontal Hydraulic Conductivity
K = 2.00E-07 m/sec

Hvorslev Hydraulic Conductivity Analysis

Project: Arcadis IBI Group (CLC)
Test Location: BH10-24
Test: Falling Head - 1 of 1
Date: April 23, 2024



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

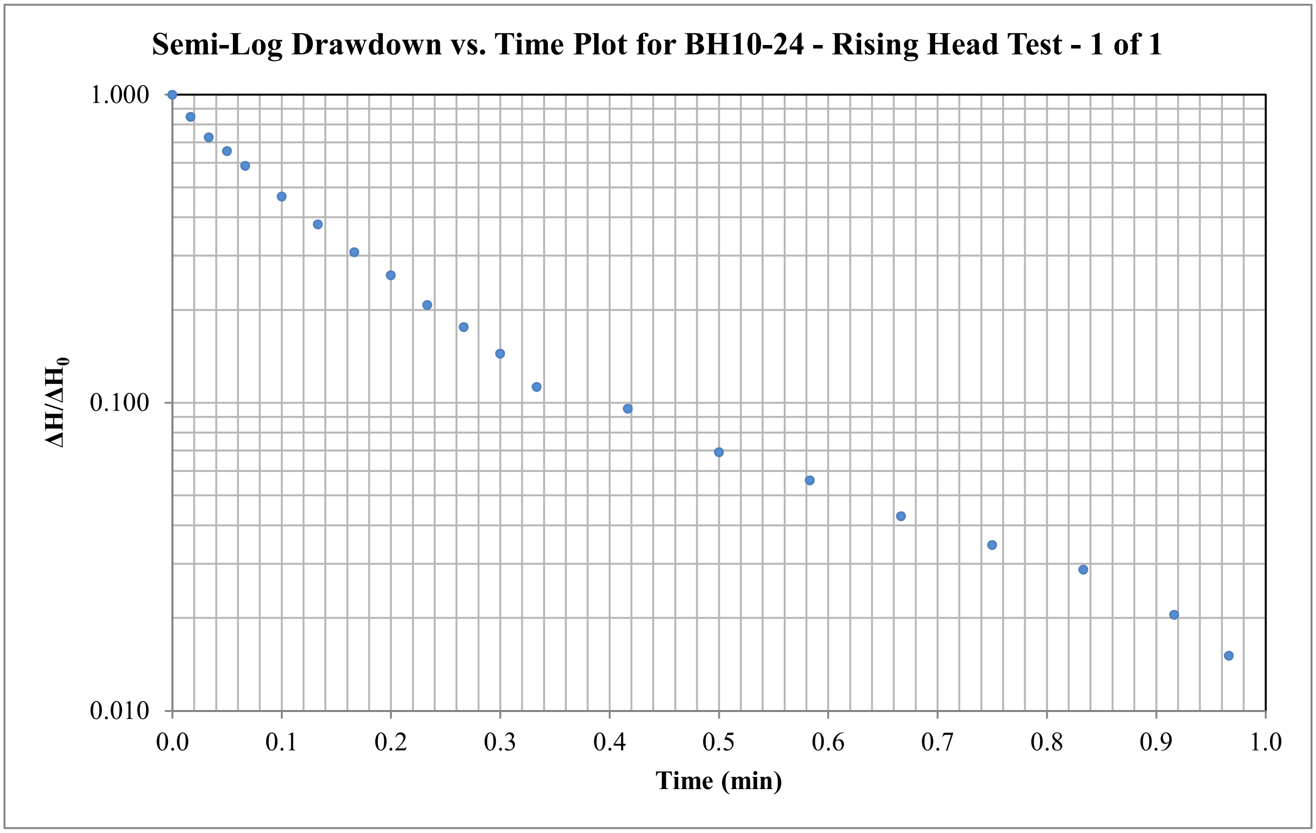
Data Points (from plot):

t^*: 0.166 minutes $\Delta H^*/\Delta H_0$: 0.37

Horizontal Hydraulic Conductivity
K = 3.82E-05 m/sec

Hvorslev Hydraulic Conductivity Analysis

Project: Arcadis IBI Group (CLC)
Test Location: BH10-24
Test: Rising Head - 1 of 1
Date: April 23, 2024



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^{\,2}}{F} \frac{1}{t^*} \ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

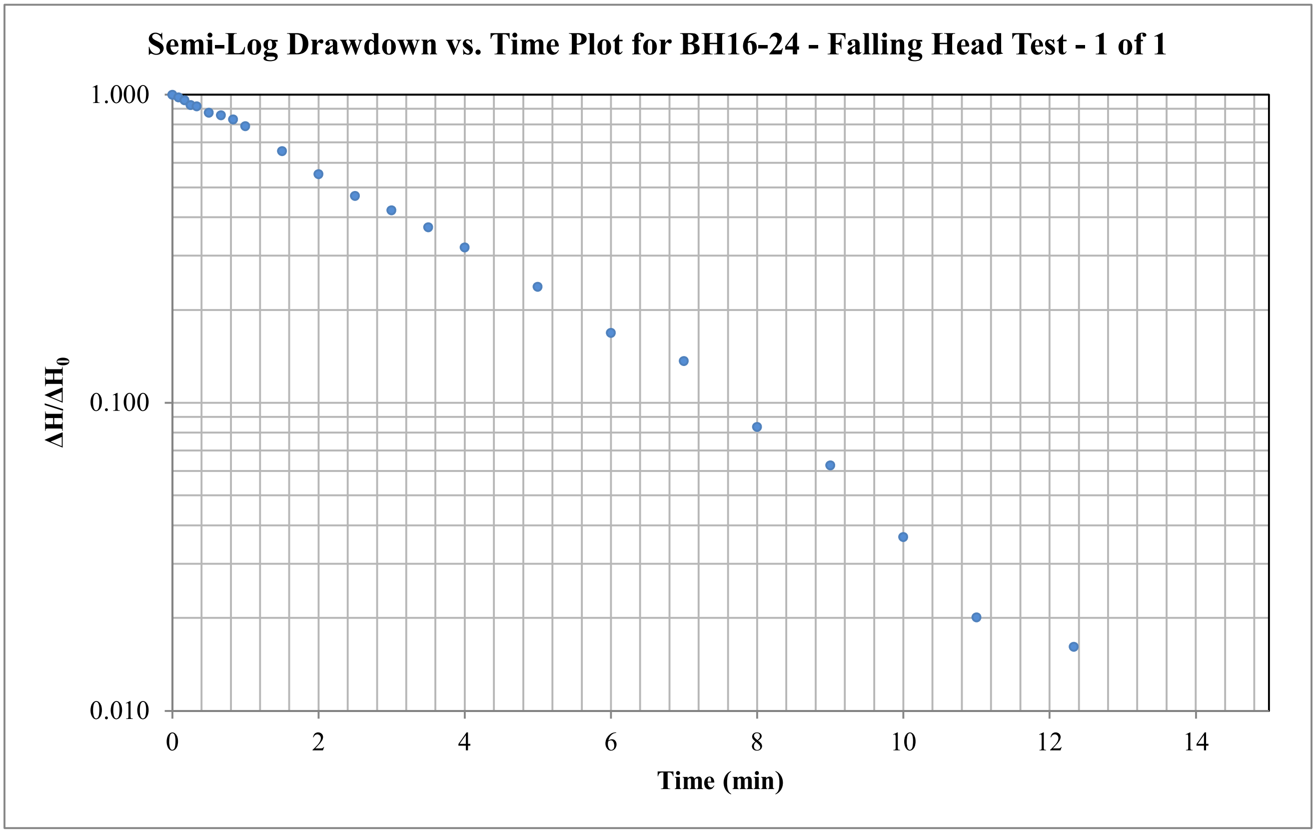
Data Points (from plot):

t^*: 0.137 minutes $\Delta H^*/\Delta H_0$: 0.37

Horizontal Hydraulic Conductivity
K = 4.61E-05 m/sec

Hvorslev Hydraulic Conductivity Analysis

Project: Arcadis IBI Group (CLC)
Test Location: BH16-24
Test: Falling Head - 1 of 1
Date: April 23, 2024



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

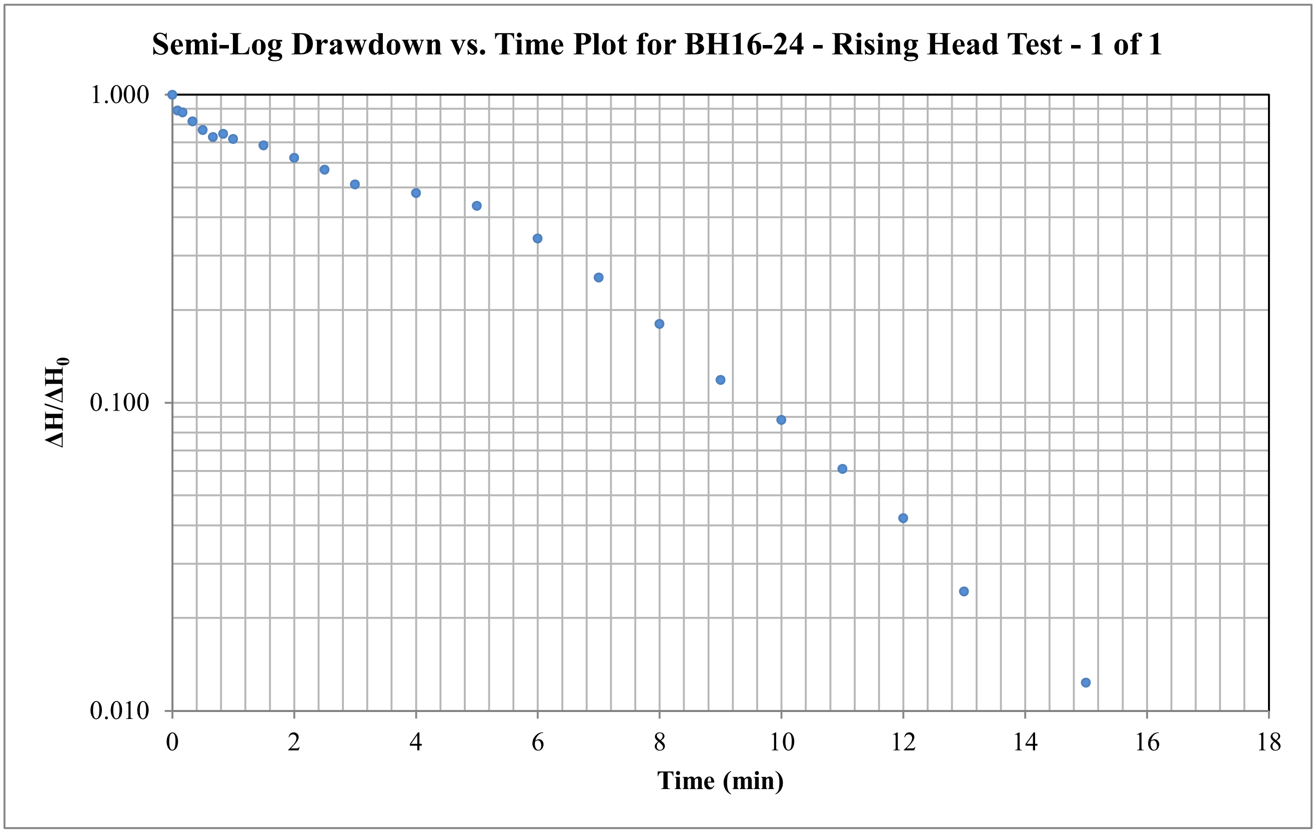
Data Points (from plot):

t^*: 3.470 minutes $\Delta H^*/\Delta H_0$: 0.37

Horizontal Hydraulic Conductivity
K = 1.82E-06 m/sec

Hvorslev Hydraulic Conductivity Analysis

Project: Arcadis IBI Group (CLC)
Test Location: BH16-24
Test: Rising Head - 1 of 1
Date: April 23, 2024



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

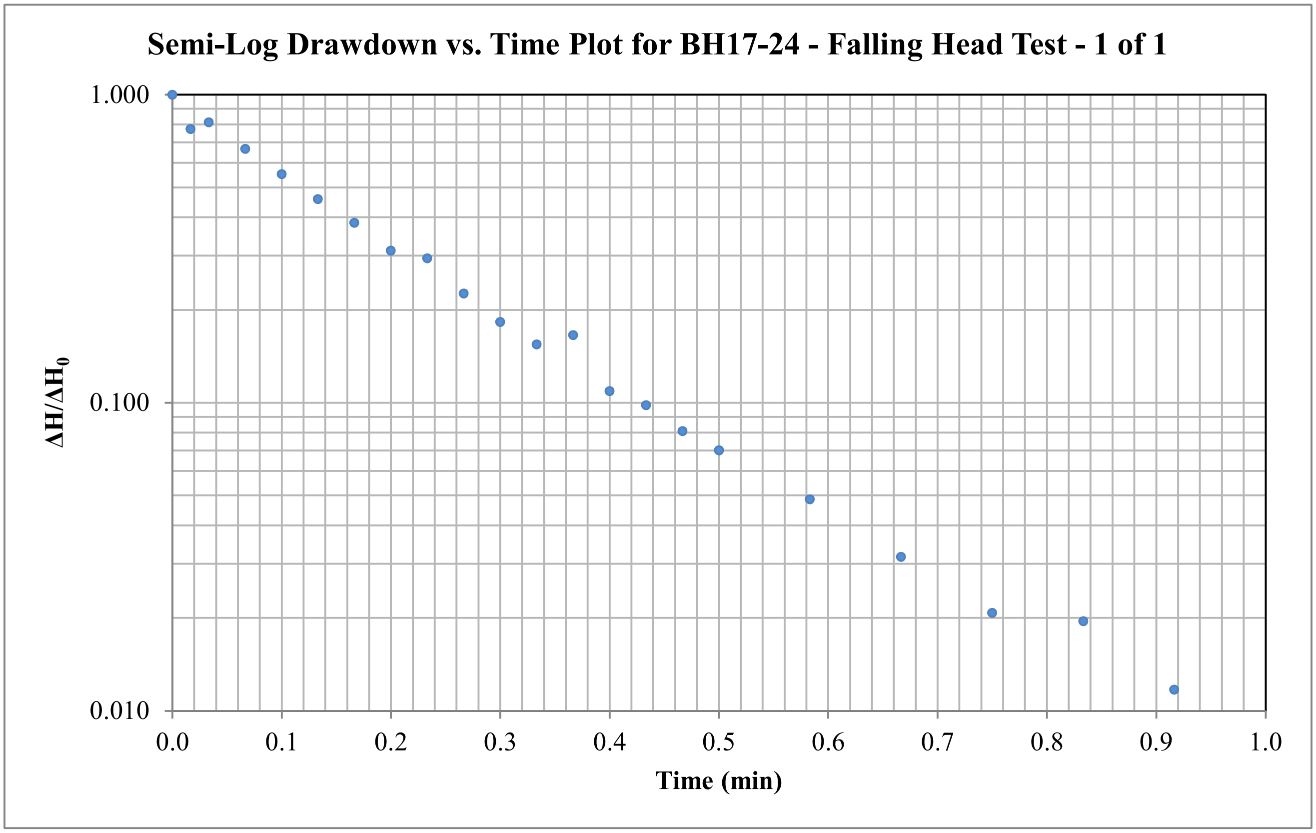
Data Points (from plot):

t^*: 5.709 minutes $\Delta H^*/\Delta H_0$: 0.37

Horizontal Hydraulic Conductivity
K = 1.11E-06 m/sec

Hvorslev Hydraulic Conductivity Analysis

Project: Arcadis IBI Group (CLC)
Test Location: BH17-24
Test: Falling Head - 1 of 1
Date: April 23, 2024



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

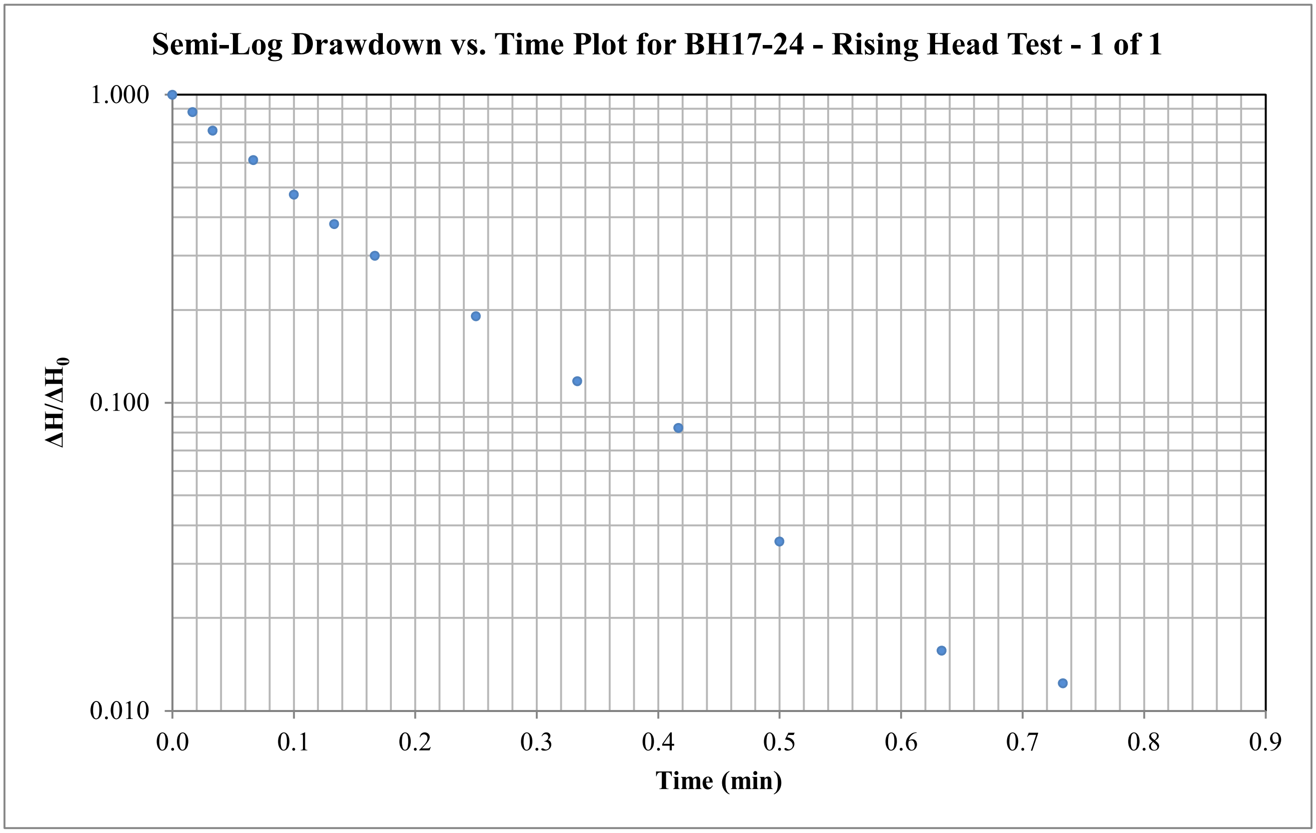
Data Points (from plot):

t^*: 0.173 minutes $\Delta H^*/\Delta H_0$: 0.37

Horizontal Hydraulic Conductivity
K = 3.67E-05 m/sec

Hvorslev Hydraulic Conductivity Analysis

Project: Arcadis IBI Group (CLC)
Test Location: BH17-24
Test: Rising Head - 1 of 1
Date: April 23, 2024



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5 m	Saturated length of screen or open hole
D	0.03175 m	Diameter of well
r_c	0.01588 m	Radius of well

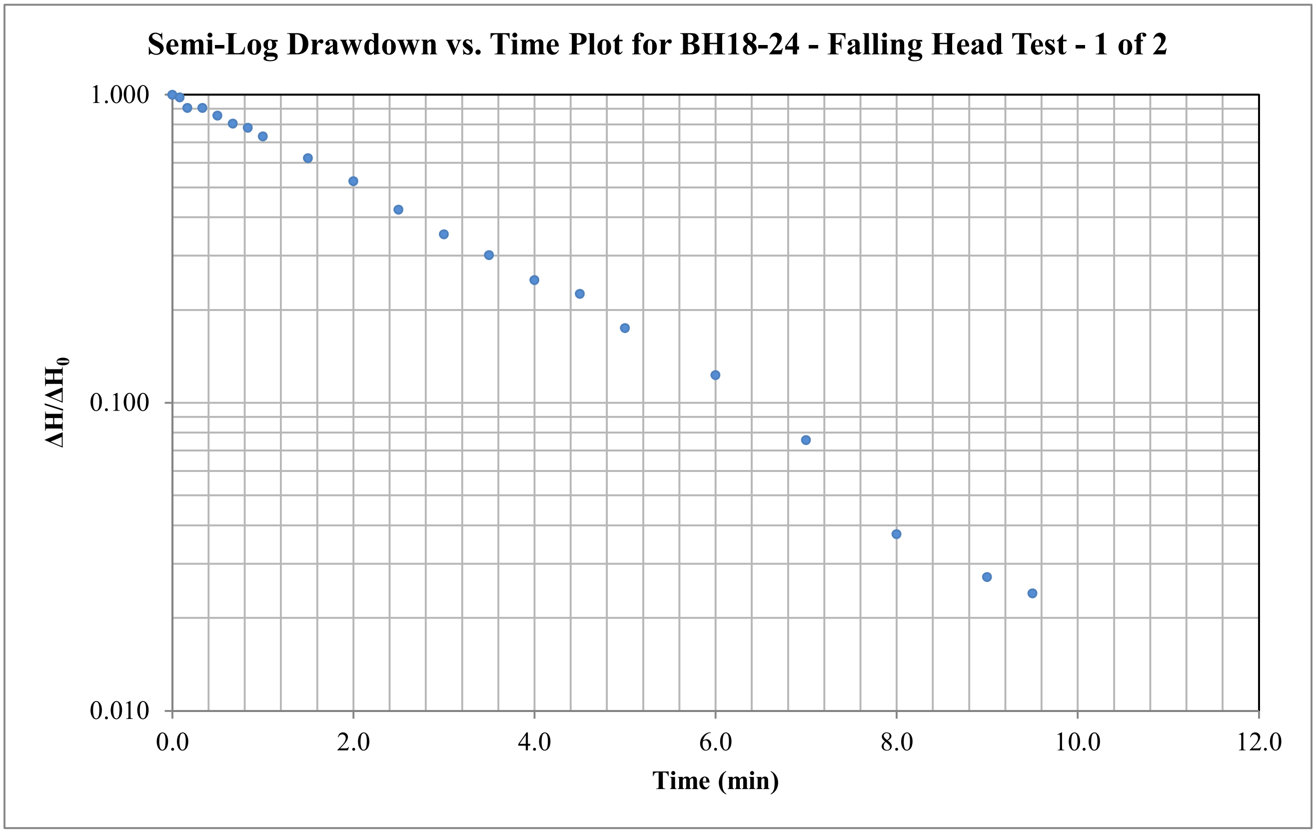
Data Points (from plot):

t^*: 0.138 minutes $\Delta H^*/\Delta H_0$: 0.37

Horizontal Hydraulic Conductivity
K = 4.60E-05 m/sec

Hvorslev Hydraulic Conductivity Analysis

Project: Arcadis IBI Group (CLC)
Test Location: BH18-24
Test: Falling Head - 1 of 2
Date: April 23, 2024



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

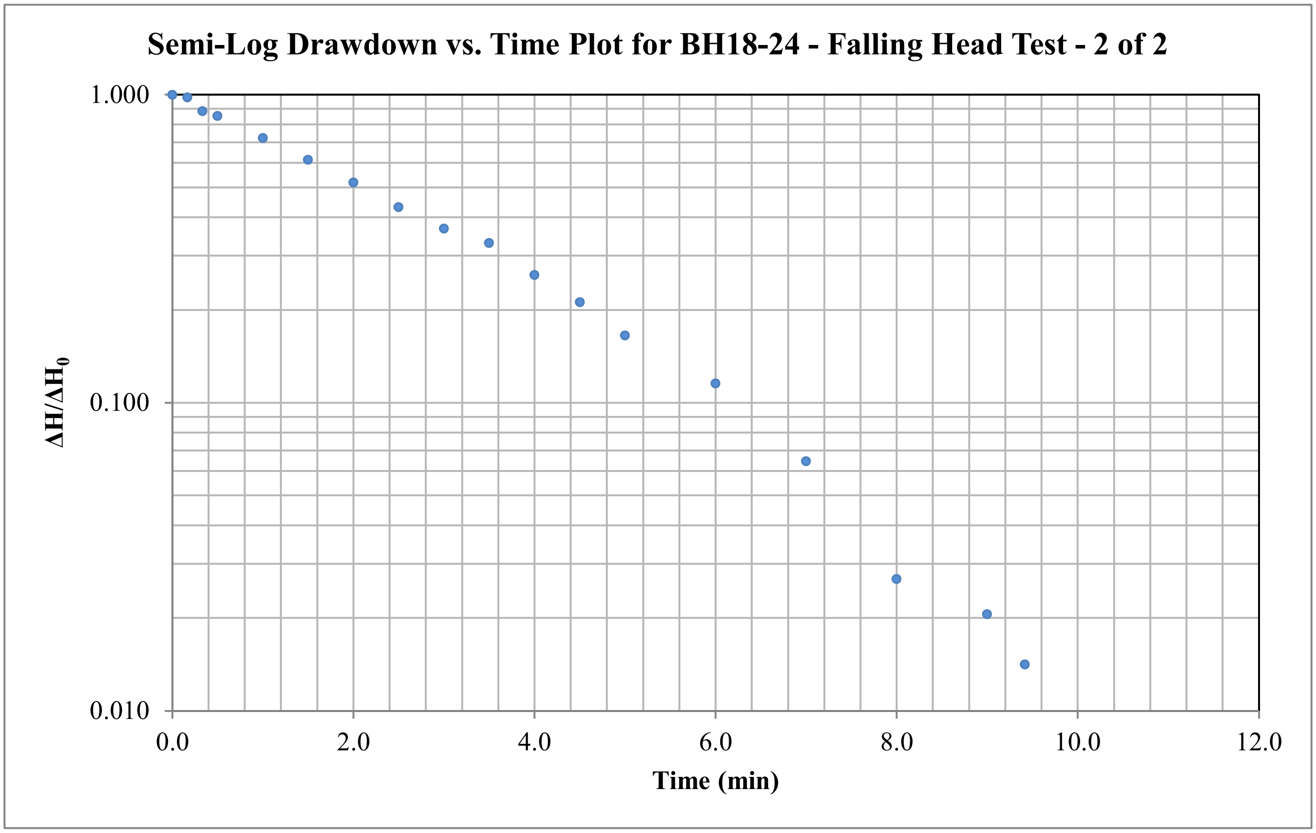
Data Points (from plot):

t^*: 2.861 minutes $\Delta H^*/\Delta H_0$: 0.37

Horizontal Hydraulic Conductivity
K = 2.21E-06 m/sec

Hvorslev Hydraulic Conductivity Analysis

Project: Arcadis IBI Group (CLC)
Test Location: BH18-24
Test: Falling Head - 2 of 2
Date: April 23, 2024



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t^*: 2.902 minutes $\Delta H^*/\Delta H_0$: 0.37

Horizontal Hydraulic Conductivity
K = 2.18E-06 m/sec

APPENDIX 2

FIGURE 1 - KEY PLAN

DRAWING PG6348-6 – TEST HOLE LOCATION PLAN

DRAWING PG6348-7 – BEDROCK GEOLOGY PLAN

DRAWING PG6348-8 – BEDROCK CONTOUR PLAN

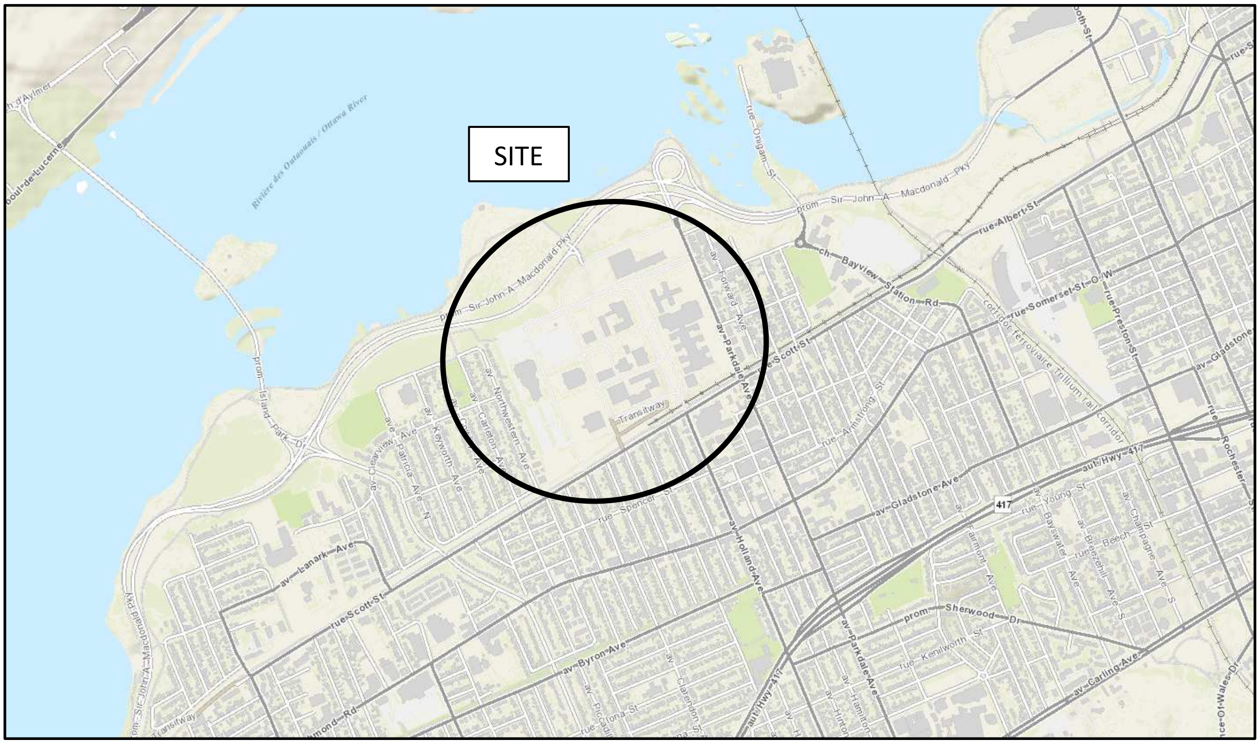
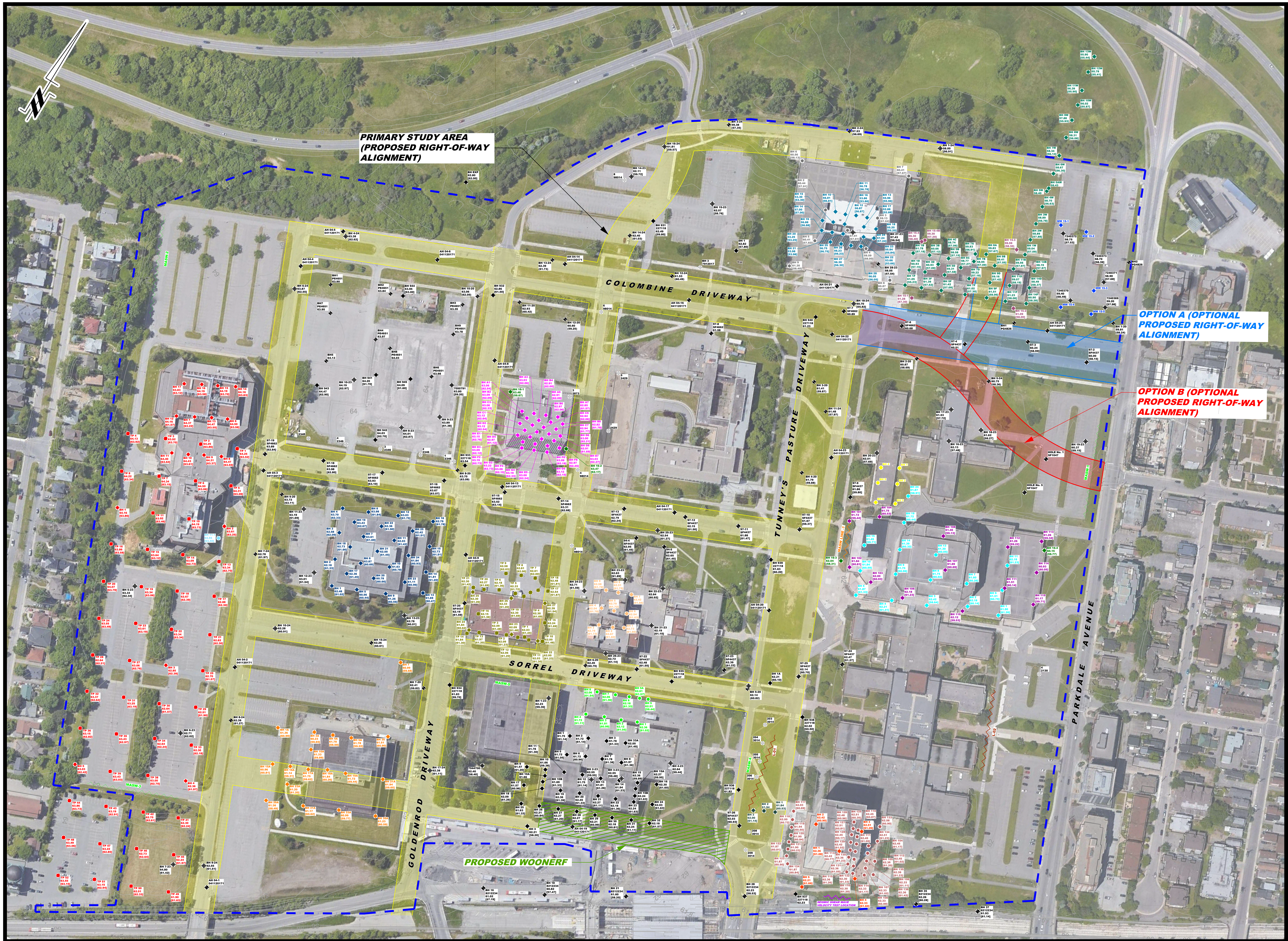


FIGURE 1

KEY PLAN

PATERSON GROUP



LEGEND:

- BOREHOLE LOCATION (BY PATERSON GROUP)
- BOREHOLE WITH MONITORING WELL LOCATION (PATERSON GROUP)
- BOREHOLE LOCATION, PREVIOUS INVESTIGATION (EXP, 2018)
- BOREHOLE WITH MONITORING WELL LOCATION, (EXP, 2018)
- BOREHOLE LOCATION, (GOLDER AND ASSOCIATES)
- BOREHOLE LOCATION, (DEPARTMENT OF PUBLIC WORKS)
- BOREHOLE LOCATION, (BY OTHERS)
- BOREHOLE WITH MONITORING WELL LOCATION, (MOE)
- BOREHOLE LOCATION (BY HOULE CHEVRIER, 2016)
- BOREHOLE LOCATION (BY GOLDER, 2016)
- BOREHOLE LOCATION (BY ARCADIS, 2015)
- BOREHOLE LOCATION (BY STANTEC, 2015)
- BOREHOLE LOCATION (BY McROSTIE GENEST MIDDLEMISS AND ASSOCIATES 1974)
- BOREHOLE LOCATION (DEPT. OF PUBLIC WORKS REPORT 3487, 1971)
- BOREHOLE LOCATION (DEPT. OF PUBLIC WORKS REPORT 3060, 1971)
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- BOREHOLE LOCATION (DEPT. OF PUBLIC WORKS REPORT 2380, 1961)
- BOREHOLE LOCATION (DEPT. OF PUBLIC WORKS REPORT 2327, 1960)
- BOREHOLE LOCATION (BY STANTEC 2324, 1960, 2016)
- BOREHOLE LOCATION (REPORT 2155, 1958)
- BOREHOLE LOCATION (REPORT 2068, 1956)
- TEST PIT LOCATION (REPORT 2068, 1956)
- BOREHOLE LOCATION (DEPT. OF PUBLIC WORKS REPORT 2067, 1956)
- BOREHOLE LOCATION (DEPT. OF PUBLIC WORKS REPORT 2916)
- 64.79 GROUND SURFACE ELEVATION (m)
- [62.73] BEDROCK SURFACE ELEVATION (m)
- (63.11) PRACTICAL REFUSAL TO AUGERING ELEVATION (m)
- SEISMIC SHEAR WAVE VELOCITY TEST LOCATION (PATERSON GROUP PG3741, 2016)
- SEISMIC SHEAR WAVE VELOCITY TEST LOCATION (HOULE CHEVRIER , 2016)
- SEISMIC SHEAR WAVE VELOCITY TEST LOCATION (GPR INTERNATIONAL INC., 2016)
- SEISMIC SHEAR WAVE VELOCITY TEST LOCATION (EXP, 2017)

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

SCALE: 1:1500

0 25 50 75 100m

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

NO.	REVISIONS	DATE	INITIAL

ARCADIS IBI GROUP (CLC)

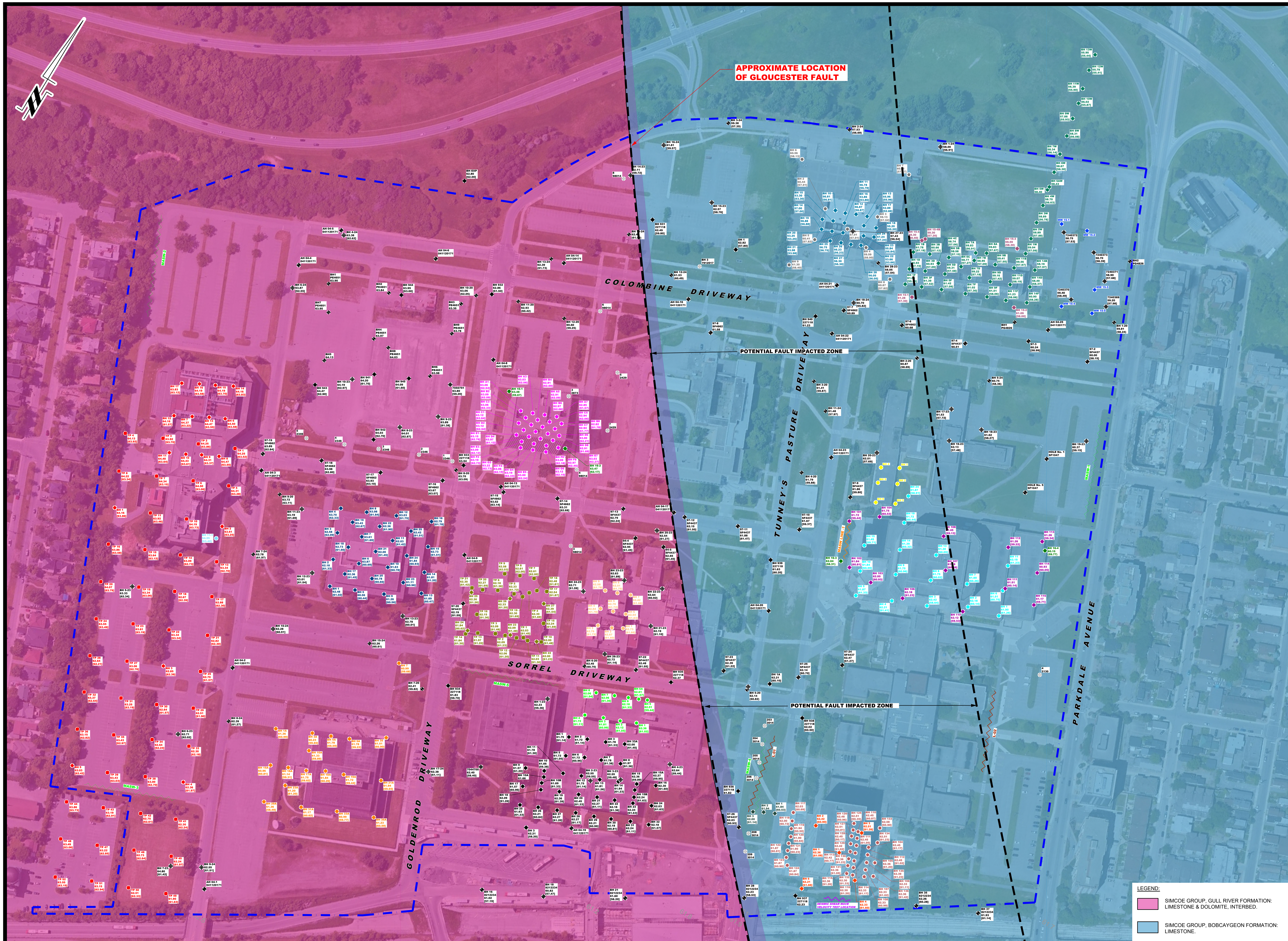
GEOTECHNICAL INVESTIGATION
PROPOSED SITE SERVICING AND RIGHT-OF-WAY WORKS
TUNNEY'S PASTURE

OTTAWA, ONTARIO

Title:

TEST HOLE LOCATION PLAN

Scale:	1:1500
Date:	05/2024
Drawn by:	YA
Checked by:	NP
Approved by:	DJG
Report No.:	PG6348-1
Drawing No.:	PG6348-6
Revision No.:	



LEGEND:

- BOREHOLE LOCATION (BY PATERSON GROUP)
- BOREHOLE WITH MONITORING WELL LOCATION (BY PATERSON GROUP)
- BOREHOLE LOCATION, PREVIOUS INVESTIGATION (EXP, 2018)
- BOREHOLE WITH MONITORING WELL LOCATION, (EXP, 2018)
- BOREHOLE LOCATION, (GOLDER AND ASSOCIATES)
- BOREHOLE LOCATION, (DEPARTMENT OF PUBLIC WORKS)
- BOREHOLE LOCATION, (BY OTHERS)
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64.79 GROUND SURFACE ELEVATION (m)

[62.73] BEDROCK SURFACE ELEVATION (m)

(63.11) PRACTICAL REFUSAL TO AUGERING ELEVATION (m)

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

SCALE: 1:1500

0 25 50 75 100m

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NO.	REVISIONS	DATE	INITIAL

ARCADIS IBI GROUP (CLC)

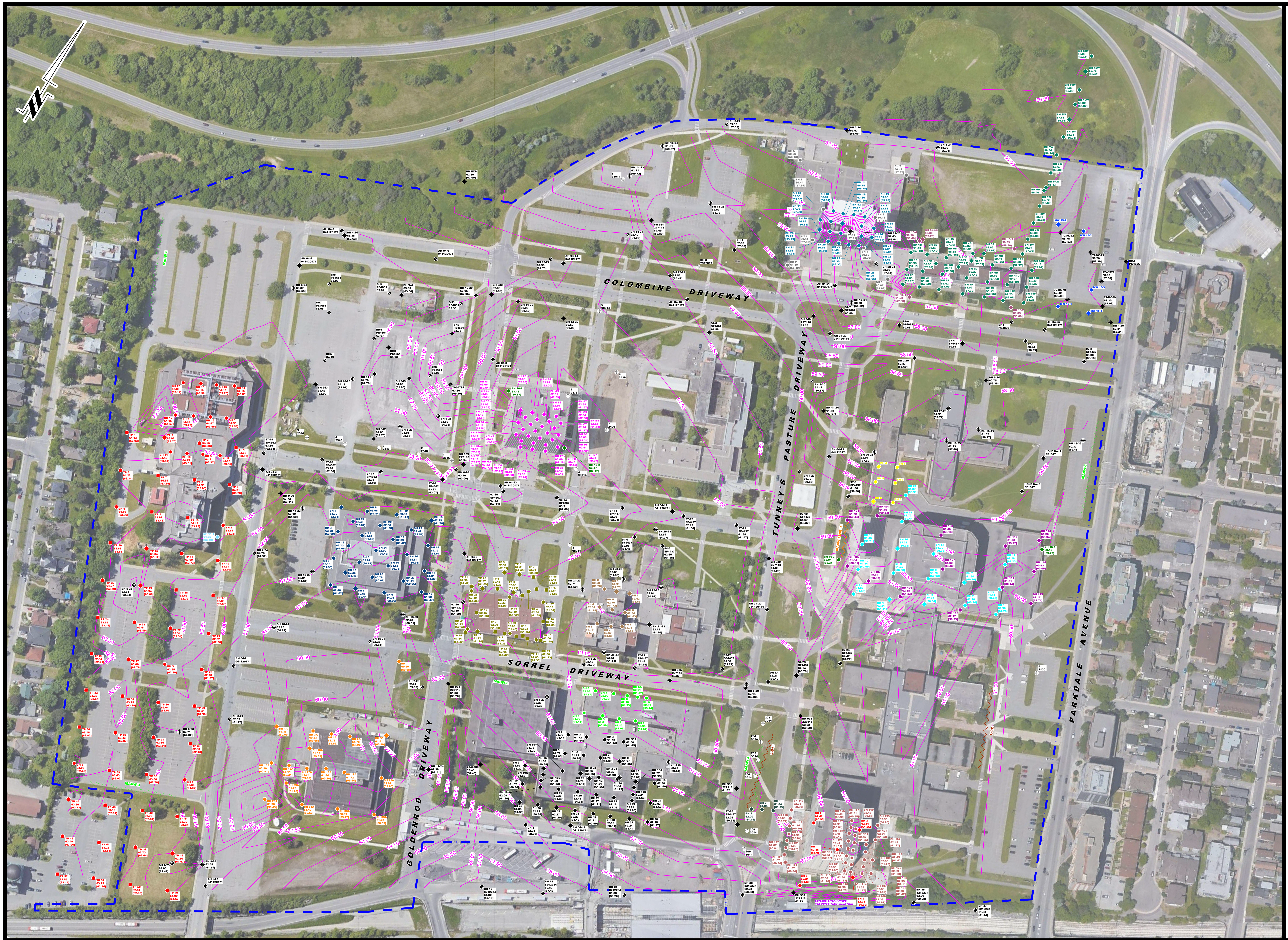
GEOTECHNICAL INVESTIGATION
PROPOSED SITE SERVICING AND RIGHT-OF-WAY WORKS
TUNNEY'S PASTURE

OTTAWA, ONTARIO

Title:

BEDROCK GEOLOGY PLAN

Scale:	1:1500
Date:	05/2024
Drawn by:	YA
Checked by:	NP
Approved by:	DJG
Report No.:	PG6348-1
Drawing No.:	PG6348-7
Revision No.:	



LEGEND:

- BOREHOLE LOCATION (BY PATERSON GROUP)
- BOREHOLE WITH MONITORING WELL LOCATION (BY PATERSON GROUP)
- BOREHOLE LOCATION, PREVIOUS INVESTIGATION (EXP, 2018)
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- SEISMIC SHEAR WAVE VELOCITY TEST LOCATION (EXP, 2017)
- 96.00 BEDROCK CONTOUR (m)

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

SCALE: 1:1500

0 25 50 75 100m

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ARCADIS IBI GROUP (CLC)

GEOTECHNICAL INVESTIGATION
PROPOSED SITE SERVICES AND RIGHT-OF-WAY WORKS
TUNNEY'S PASTURE

OTTAWA, ONTARIO

Title:

BEDROCK CONTOUR PLAN

Scale:	1:1500
Date:	05/2024
Drawn by:	YA
Checked by:	NP
Approved by:	DJG
Report No.:	PG6348-1
Drawing No.:	PG6348-8
Revision No.:	