

# **Geotechnical Investigation**

Proposed Road and Site Servicing Works
Tunney's Pasture, Ottawa, Ontario

Prepared for Arcadis Professional Services (Canada) Inc.





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**Appendix 1** Soil Profile and Test Data Sheets

Symbols and Terms

Historical Soil Profile and Test Data Sheets by Paterson and Others

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#### 1.0 Introduction

Paterson Group (Paterson) was commissioned by Arcadis Professional Services (Canada) Inc. 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 for the general site location).

In 2021, Public Service and Procurement Canada (PSPC) partnered with Canada Lands Company (CLC) under a collaboration project to leverage the strengths of each organization to deliver the long-term vision of Tunney's Pasture that includes the site's transition from a federal employment centre into a mixed-use, sustainable, transit-oriented community. CLC is a self-financing federal Crown corporation specializing in real estate and development with a mandate to transform former Government of Canada properties and reintegrates them into local communities while ensuring their long-term goals. Since the launch of this collaboration project, CLC has been committed to working with the community to define amendments to the TPMP and proposed upgrades to the existing roadway and servicing infrastructure that support both federal priorities and future development.

The objectives of the geotechnical investigation were 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 reconstruction 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 and 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 8 boreholes and 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**

□ 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.

Typical monitoring well construction details are described below:

#### 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 Subsection 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 presence of peat was noted within one borehole location completed during the current investigation (BH 8-24). The peat material at this location was observed to consist of fibrous organic material with trace clay and gravel, with an approximate thickness of 0.3 m. Generally, the fill material encountered across the subject site consisted of brown silty sand to silty clay with gravel, crushed stone, cobbles, trace organics, and some construction debris. The fill materials were generally observed to directly overlay the glacial till deposit or bedrock surface. 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.

From 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.

The bedrock coring completed as part of the current and previous field investigations indicates that this bedrock at this site consists of limestone or limestone with dolomite interbedding, as well as 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. It should be noted that as per the Geological Survey of Canada, the identified Gloucester fault structure within the subject site is considered tectonically inactive and is not associated with any known seismic activity. 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 on the next page:



Table 1 – Summary of Groundwater Levels				
	Ground	Measured G	roundwater Level	
Borehole Number	Surface Elevation (m)	Depth (m)	Elevation (m)	Date Recorded
BH 1-24	58.00	3.03	54.97	
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	April 23, 2024
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 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 on the next page, and are also 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
DIT 1-24	38.00	7.0-8.3	49.5-51.0	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
	03.30		58.08-59.58	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
DIT 10-24			30.37-39.07	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
ын 10-24			33.43-30.93	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
DIT 10-24				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 1.46x10<sup>-7</sup> m/s to 4.61x10<sup>-5</sup> 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 Material Description (mm)			
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

an	d 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.

The following is recommended to be completed once the preliminary site servicing

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 Professional Services (Canada) Inc. 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.

Nicole R.L. Patey, P.Eng.



Scott S. Dennis, P.Eng.

#### **Report Distribution:**

- ☐ Arcadis Professional Services (Canada) Inc. (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



# **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



### **SOIL PROFILE AND TEST DATA**

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

EASTING: DATUM: 364458.153 Geodetic NORTHING:

5030223.205 **ELEVATION**: 57.53

FILE NO.

HOLE NO.

PG6348

REMARKS:

BORINGS BY: Truck-mounted Aug	İ			DATE:	April 2	, 2024	1		LE NC		1 2-2	_		
SAMPLE DESCRIPTION		PLOT		SAN	IPLE .	I	DEPTH (m)	ELEV. (m)	Pen. Re			ows / 0. a. Cone		G WELL
		STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(111)	(111)	0 W	/ater	Cor	itent %	)	MONITORING WELL
GROUND SURFACE				Z	2	2	0-	-57.53	20	40	•	8 0	0	ĕ
ASPHALT FILL: Compact to dense, brown silty sand, some gravel and crushed stone  End of Borehole	0.06 0.84		AU SS	1 2	0	+50	, and the second	67.00						
Practical refusal to augering at 0.84m depth														
									20 Shea ▲ Undist		reng	50 8 th (kPa	1)	00



### **SOIL PROFILE AND TEST DATA**

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

EASTING: DATUM: 364371.119

Geodetic

NORTHING:

5030175.195 **ELEVATION**: 59.38

FILE NO.

HOLE NO.

PG6348

REMARKS:

BORINGS BY: Truck-mounted Auger					DATE:	, will 2	, 2024		<u> </u>	BH 3-2	1
SAMPLE DESCRIPTION	PLOT			IPLE -		DEPTH (m)	ELEV. (m)			Blows / 0.3m Dia. Cone	I WE
	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD					Content %	I IBW GNIGOTINOM
GROUND SURFACE	1.00		_	~		0-	-59.38	20	40	60 80	Ž
ASPHALT 0.00  FILL: Compact to dense, brown silty sand, some gravel and crushed stone		AU	1								
FILL: Dense, brown silty clay, some sand, trace gravel  FILL: Dense crushed stone,		ss	2	69	+50	1-	-58.38				
trace sand		× SS	3	100	+50						
2.03 End of Borehole	3					2-	-57.38				
Practical refusal to augering at 2.03m depth											
								20 Shea	40 r Stre	60 80 1 ngth (kPa)	<b>↓</b> 00



### **SOIL PROFILE AND TEST DATA**

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

EASTING: DATUM: 364152.092 Geodetic NORTHING:

5029930.624 **ELEVATION**: 63.38

FILE NO.

HOLE NO.

PG6348

REMARKS:

RH 4-24

	uger					DATE:	April 2	, 2024			BH 4-2	4
SAMPLE DESCRIPTION	١	PLOT		SAN	IPLE		DEPTH	ELEV.		esist. Blo 0 mm Dia	ws / 0.3m . Cone	3 WELL
		STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)	○ W	ater Con	tent %	MONITORING WEL
ROUND SURFACE		1		Z	2	2	<u></u>	-63.38	20	40 6	0 80	§ S
SPHALT  ILL: Compact to dense, brown lty sand, some gravel and rushed stone  EDROCK: Fair to excellent	0.08 0.76		& AU ≅ SS	1 2	0	+50		-62.38				
uality, grey limestone bedrock			RC	1	100	72	2-	-61.38				
			RC	2	100	85	3-	-60.38				
			_				4-	-59.38				
			RC -	3	100	93	5-	-58.38				
			RC	4	100	97	6-	-57.38				
nd of Borehole	<u>7</u> . <u>0</u> 6	3	_				7-	-56.38				
GWL @ 6.84m - April 23, 2024	)								20	40 6	0 80 1	000



### **SOIL PROFILE AND TEST DATA**

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

**EASTING**: DATUM:

364664.169 Geodetic

NORTHING:

5030109.055 **ELEVATION**: 60.75

FILE NO.

**PG6348** 

HOLE NO.

**REMARKS:** 

BORINGS BY: Truck-mounted Auger					DATE:	April 2	, 2024			BH 5-2	4
SAMPLE DESCRIPTION	PLOT		SAN	/IPLE		DEPTH	ELEV.			lows / 0.3m lia. Cone	
	STRATA P	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)	0 W		ontent %	
GROUND SURFACE ASPHALT 0.05				2	_	0-	60.75	20	40	60 80	1=1
ASPHALT 0.05 FILL: Loose to dense, brown silty sand, with gravel and crushed stone trace clay by 0.3m depth	)     	AU	1 2								
		ss	3	50	9	1-	-59.75				
		ss	4	75	20	2-	-58.75				
2. <u>3</u> 9 End of Borehole		∑ ⊠ SS	5	50	+50						
Practical refusal to augering at 2.39m depth											
(GWL @ 1.98m - April 23, 2024)											
								20 Shea ▲ Undist		60 80 1 <b>gth (kPa)</b> △ Remoulded	100



5029871.797 **ELEVATION**: 63.87

### **SOIL PROFILE AND TEST DATA**

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

**EASTING:** DATUM:

**REMARKS:** 

364139.224

Geodetic

**NORTHING:** 

Δnril 2 2024

**PG6348** 

FILE NO.

HOLE NO.

						DATE:	7 (2111 2	, 2024			BH 6-24
SAMPLE DESCRIPTION	l	PLOT			IPLE	_	DEPTH (m)	ELEV. (m)		esist. Blow mm Dia. 0	
SPHALT  ILL: Compact to dense, brown lty sand with gravel, crushed one, cobbles and boulders trace clay by 0.8m depth  EDROCK: Good to excellent uality, grey limestone bedrock  mud seam at 3.1m depth		STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(***)	()	○ W	ater Conte	nt %
	0.08	\\ \tag{\chi} \\					0-	-63.87			
L: Compact to dense, brown y sand with gravel, crushed one, cobbles and boulders ace clay by 0.8m depth			& AU ⊠ SS	1 2	100	+50	1-	-62.87			
ality, grey limestone bedrock	at 3.1m depth  RC 2 100  RC 3 100	100	83	2-	-61.87						
nud seam at 3.1m depth		2	100	93	3-	-60.87					
				4-	-59.87						
	<u>5</u> .79_		RC -	3	100	100	5-	-58.87			
WL @ 2.65m - April 23, 2024)											



### **SOIL PROFILE AND TEST DATA**

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

**EASTING**: DATUM:

364227.31 Geodetic

NORTHING:

5029669.436 **ELEVATION**: 62.78

FILE NO.

**PG6348** 

HOLE NO.

**REMARKS:** 

BORINGS BY: Truck-mounted Auger		1			DATE:	April 3	, 2024			E NO. Bł	1 7-24	
SAMPLE DESCRIPTION	PLOT		SAN	IPLE		DEPTH (m)	ELEV. (m)			Blows / 0		G WELL
	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(111)	(111)			Content %		MONITORING WELL
GROUND SURFACE ASPHALT 0.08				~			-62.78	20	40	60 8	U	Σ
ASPHALT0.08  FILL: Compact to dense, brown silty sand, with gravel and crushed stone		AU	1									
		≖ SS	2	100	+50							
Practical refusal to augering at 0.81m depth								20 Shea ▲ Undistr		60 8ength (kPa	1)	10



### **SOIL PROFILE AND TEST DATA**

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

EASTING: DATUM: 364282.434

Geodetic

NORTHING:

5029542.709 **ELEVATION**: 62.39

FILE NO.

HOLE NO.

PG6348

**REMARKS:** 

BORINGS BY: Truck-mounted Auger					DATE:	April 3	, 2024		HOLE		I 8-24
SAMPLE DESCRIPTION	PLOT		SAN	IPLE	Π	DEPTH (m)	ELEV. (m)			Blows / 0. Dia. Cone	3m   1
	STRATA	TYPE TYPE IUMBER % VALUE or RQD			Content %	3					
GROUND SURFACE	1			2	_	0-	62.39	20	40	60 80	) }
O.00  FILL: Compact to dense, brown silty sand, some gravel and crushed stone		AU	1								
olack <b>PEAT</b> , trace clay and ravel	<u> </u>	SS	2	64	+50	1-	-61.39				
nd of Borehole		Ī									
Practical refusal to augering at .12m depth								20 Shea ▲ Undistr		60 80 n <b>gth (kPa</b> △ Remould	)



### **SOIL PROFILE AND TEST DATA**

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

EASTING: DATUM: 364326.761 Geodetic

NORTHING:

5029429.399 **ELEVATION**: 62.55

FILE NO.

HOLE NO.

PG6348

REMARKS:

BORINGS BY: Truck-mounted Auger					DATE:	April 3	, 2024	1			BH 9-2	4
SAMPLE DESCRIPTION	PLOT		SAN	/IPLE		DEPTH (m)	ELEV. (m)	Pen. Re ● 50		Blows		
GROUND SURFACE	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD		(111)	○ W	ater (	Conten	it %	
ASPHALT 0.0	1.0.0	2		<u> </u>		0-	62.55	20	+0			
FILL: Compact to dense, brown silty sand, with gravel and crushed stone 1.0 some clay and cobbles by 1m		& AU ΣSS	1 2	78	+50	1-	-61.55					
BEDROCK: Excellent quality, grey limestone bedrock		RC	1	100	95	2-	-60.55					
		RC	2	100	94	3-	-59.55					
		_				4-	-58.55					
5.7 End of Borehole	77	RC	3	100	92	5-	-57.55					
Monitoring Well dry - April 23, 2024												
								20 Shea ▲ Undisti		60 ength (		00



## **SOIL PROFILE AND TEST DATA**

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

EASTING: DATUM: 364273.383 Geodetic NORTHING:

5029626.197 **ELEVATION**: 62.28

FILE NO.

HOLE NO.

PG6348

REMARKS:

BORINGS BY: Truck-mounted Auger					DATE:	April 3	, 2024	T			BH	10-2	4
SAMPLE DESCRIPTION	PLOT		SAN	//PLE		DEPTH (m)	ELEV. (m)	Pen. Ro ● 50		Blow Dia. 0			- IIM
CROUND SUBSACS	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(111)	(111)	○ W		Conte			MONITOPING WEI
GROUND SURFACE ASPHALT 0.05				<u> </u>		0-	-62.28	20	40	60	80	<u> </u>	2
FILL: Compact to dense, brown silty sand, with gravel and crushed stone, trace clay, cobbles and boulders 1.37		ÃAU ≊SS	1 2	100	+50	1-	-61.28						
<b>BEDROCK</b> : Fair to excellent quality, grey limestone bedrock - mud seam at 1.7 depth		RC -	1	100	62	2-	-60.28						<u>  ՄՈՐՈՐՈՐՈՐՈՐՈՐՈՐՈՐՈՐՈՐՈՐՈՐՈՐՈՐՈՐՈՐՈՐՈՐՈ</u>
		RC	2	100	89	3-	-59.28						
		_				4-	-58.28						
		RC	3	100	97	5-	-57.28						
(GWL @ 3.08m - April 23, 2024)													
								20 Shea ▲ Undist		60 ength	80 (kPa)	)	0



## **SOIL PROFILE AND TEST DATA**

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

**EASTING:** DATUM:

364563.513 Geodetic

**NORTHING:** 

5030017.067 **ELEVATION**: 61.48

FILE NO.

**PG6348** 

HOLE NO.

**REMARKS:** 

BORINGS BY: Truck-mounted Auger	Ŀ		CAR	/IPLE	DATE:	April 3		Don D	noi-t	Dis		H11-2	
SAMPLE DESCRIPTION	A PLOT					DEPTH (m)	ELEV. (m)	Pen. Re ● 50			ws / u . Con		NA GI
	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD			0 W	ater	Con	tent %	<b>,</b>	I I MONITODINO WEI
GROUND SURFACE	S.		Z	A H	Z	0-	-61.48	20	40	6	8 0	30	2
OPSOIL with organics, trace ravel and clay0.3 ILL: Compact to dense, brown illty sand with clay and gravel	0 \( \hat{\lambda} \)	ss	1	88	8		01.40						
crushed stone by 1.2m depth		ss	2	71	8	1-	-60.48						
2.2	1	ss	3	29	7	2-	-59.48						
LACIAL TILL: Compact to ense, brown silty sand with ravel, cobbles and boulders, ace clay		ss	4	92	13								
<u>3.5</u> nd of Borehole	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ss	5	100	+50	3-	-58.48						
ractical refusal to augering at 51m depth													
GWL @ 3.29m - April 23, 2024)													
								20 Shea ▲ Undistu			0 8 h (kPa Remou	a)	⊣ 100



#### **SOIL PROFILE AND TEST DATA**

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

EASTING: DATUM: 364397.235

Geodetic

NORTHING: 503

5030044.77

ELEVATION: 61.53

FILE NO.

PG6348

HOLE NO.

**REMARKS:** 

BORINGS BY: Truck-mounted Auger					DATE:	April 4	, 2024		HOLE NO.	BH12-24
SAMPLE DESCRIPTION	PLOT		SAN	/IPLE	1	DEPTH			esist. Blows 0 mm Dia. C	s / 0.3m
	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)	0 W	/ater Conte	nt %
GROUND SURFACE				~		0-	61.53	20	40 60	80
ASPHALT 0.13  FILL: Compact to dense, brown silty sand, with gravel and crushed stone 0.44		AU	1							
FILL: Compact to dense, brown silty sand, some clay and gravel, trace organics and crushed stone		\ √ ss	2	91	+50	4	60.53			
End of Borehole	<b>4</b> XXX	1				1-	-60.53			
Practical refusal to augering at 1.04m depth										
								20 Shea ▲ Undist	40 60 ar Strength (urbed $\triangle$ Re	80 100 ( <b>kPa)</b> moulded



## **SOIL PROFILE AND TEST DATA**

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

EASTING: DATUM: 364306.698 Geodetic NORTHING:

5030004.063 **ELEVATION**: 62.39

FILE NO.

HOLE NO.

PG6348

**REMARKS:** 

					DATE:	Арпі 4	, 2024				BH13-2	_
SAMPLE DESCRIPTION	PLOT		SAN	//PLE		DEPTH	ELEV.	Pen. Re		Blows Dia. C		3 WELL
	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)	0 W	ater (	Conter	nt %	MONITORING WELL
GROUND SURFACE			_	<u>~</u>		0-	-62.39	20	40	60	80	Ž
FILL: Compact to dense, brown silty sand, with gravel and crushed stone	6	AU	1				-62.39	20	40	60 ength (		000



## **SOIL PROFILE AND TEST DATA**

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

**EASTING:** DATUM:

364350.148 Geodetic

NORTHING:

5030054.744 **ELEVATION**: 62.40

FILE NO.

**PG6348** 

HOLE NO.

**REMARKS:** 

**BORINGS BY:** Truck-mounted Auger

April 4, 2024

SAMPLE DESCRIPTION	LOT		SAN	IPLE		DEPTH	ELEV.				t. Bl n Di				WELL
OAMI EE BEGGINI HOIV	STRATA PLOT	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)				r Co				MONITORING WELL CONSTRUCTION
GROUND SURFACE	ST	_	N	REC	źδ			2	20	40		60	8	0	WON
ASPHALT 0.05  FILL: Compact to dense, brown silty sand, with gravel and crushed stone, trace clay	$\mathbb{X}\!\!\times\!\!\!\times\!\!\!\times$	AU AU	1 2			0-	-62.40								
FILL: Compact to dense, brown silty clay, with sand, trace gravel 0.69			_												
FILL: Compact to dense, brown silty sand, with gravel and crushed stone, trace clay and asphalt fragments		ss	3	75	34	1-	-61.40								
End of Borehole															
Practical refusal to augering at 1.37m depth															
									200	400		60	98	0 41	000
								S		40 ar St urbed	renç	<b>60</b> g <b>th (</b> ∆ Rer		1)	UU



## **SOIL PROFILE AND TEST DATA**

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

**EASTING**: DATUM:

364346.835 Geodetic

NORTHING:

5029657.886 **ELEVATION**: 62.26

FILE NO.

HOLE NO.

**PG6348** 

**REMARKS:** 

ORINGS BY: Truck-mounted Auge					DATE:	April 4	, 2024		HOLL NO	BH15-2	24
SAMPLE DESCRIPTION	PLOT		SAN	/IPLE		DEPTH (m)	ELEV. (m)		esist. Blo ) mm Dia	ws / 0.3m . Cone	G WELI
GROUND SURFACE	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(111)	(111)	○ W	ater Con		MONITORING WELI
	0.04	X		-		0-	62.26				
ILL: Compact to dense, brown ilty sand with gravel and crushed tone		AU	1								
trace clay by 0.9m depth		ss	2	33	21	1-	-61.26				
nd of Borehole	1.65	× ss	3	100	+50						
ractical refusal to augering at .65m depth											
riezometer was observed to be amaged on April 23, 2024								20	40 6 r Strengt		



#### **SOIL PROFILE AND TEST DATA**

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

EASTING: DATUM: 364335.704 Geodetic NORTHING:

5030131.964 **ELEVATION**: 61.81

FILE NO.

HOLE NO.

PG6348

REMARKS:

BORINGS BY: Truck-mounted Auger			CAL		DATE:	April 4	, _ <b></b> -	Dam Dariet Di	BH16-2	
SAMPLE DESCRIPTION	A PLOT			IPLE	ш	DEPTH (m)	ELEV. (m)	Pen. Resist. Blo  ● 50 mm Dia		N. O.N.
CDOUND SUDEACE	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD			O Water Cor		MONITOPING WEI
GROUND SURFACE ASPHALT 0	.10	⇔ AU	1	<u> </u>		0-	61.81	20 40 6	80 80	2
FILL: Compact to dense, brown silty sand with gravel, crushed stone, some clay, trace asphalt ragments		AU AU SS	2 3 4	33	14	1-	-60.81			
cobbles and boulders by 1.1m	.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					
		_					-57.81			
		RC	3	100	87	5-	-56.81			
		RC	4	100	93	6-	-55.81			
<u>7</u> End of Borehole	.29					7-	-54.81			
(GWL @ 5.78m - April 23, 2024)										
								20 40 6 Shear Streng		00



#### **SOIL PROFILE AND TEST DATA**

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

**EASTING:** DATUM:

364443.211 Geodetic

NORTHING:

5029594.14

ELEVATION: 62.38

FILE NO.

**PG6348** 

HOLE NO.

**REMARKS:** 

**BORINGS BY:** Truck-mounted Auger

DATE: April 5, 2024

BH17-24 Pen. Resist. Blows / 0.3m

OAMBLE DECORPORTION		PLOT		SAN	IPLE		DEPTH	ELEV.	Pen. Resist. Blows / 0.3m
SAMPLE DESCRIPTION		STRATA P	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)	Pen. Resist. Blows / 0.3m  • 50 mm Dia. Cone  O Water Content %  20 40 60 80
GROUND SURFACE				z	2	_	0-	-62.38	20 40 60 80
FILL: Compact to dense, brown silty sand with gravel and crushed stone	0.08		ÃAU	1	80	42		-61.38	
- cobbles by 1.1m depth  BEDROCK: Fair to excellent quality, grey limestone bedrock - bedrock voids between 1.7 to	1.27		∆ RC	1	83	73	2-	-60.38	
2.0m	- - - - - - - - -		-	•		10			
	: :		RC	2	100	80		-59.38	
	: : :		-				4-	-58.38	
	: : :		RC	3	100	92	5-	-57.38	
	: : :		- RC	4	100	97	6-	-56.38	
			_				7-	-55.38	
	- - - - - - - - -		RC	5	100	98	8-	-54.38	
End of Borehole	8.84	1 1	_						
(GWL @ 3.43m - April 23, 2024)									
									20 40 60 80 100 Shear Strength (kPa)  ▲ Undisturbed △ Remoulded



#### **SOIL PROFILE AND TEST DATA**

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

**EASTING**: DATUM:

364536.185

NORTHING:

5030104.559 **ELEVATION**: 60.70

FILE NO.

HOLE NO.

**PG6348** 

**REMARKS:** 

Geodetic

BORINGS BY: Truck-mounted Auger		ı			DATE:	April 5, 2	2024	1		В	H18-2	24
SAMPLE DESCRIPTION	PLOT		SAN	IPLE			ELEV.	Pen. Re	esist. B ) mm D			WELL
GROUND SURFACE	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)		ater Co	ontent '		MONITORING WEL
	10 🔆	~ ^ 1 I	1			0+6	60.70	20				≥
	69	Z AU Z AU	2	0.7		1_5	59.70					
FILL: Compact to dense Crushed stone and gravel with	-	∦ ss	3	67	32		39.70					
and and clay, trace asphalt ragments		ss	4	25	11	2-5	58.70					
boulders and blast rock by 2.6m epth		ss	5	17	20	3+5	57.70					
trace concrete fragments by .7m depth		ss	6	100	15	4+5	56.70					
·	88	RC	1	100	63	5-5	55.70					
		RC	2	100	83	6-5	54.70					
				100		7+5	53.70					
		RC	3	100	73	8+5	52.70					
		RC	4	100	80	9+5	51.70					
		_				10+5	50.70					
mud seam at 11m depth		RC	5	100	73	11-4	19.70					
11. nd of Borehole	86											
GWL @ 5.7m - April 23, 2024)												
								20	40	60	80 1	100
								-	r Stren		Pa)	

#### **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, %

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'<sub>0</sub> - 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

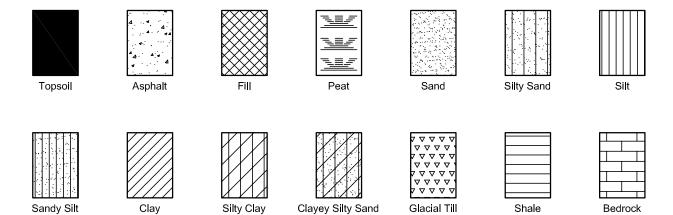
Wo - Initial water content (at start of consolidation test)

#### PERMEABILITY TEST

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





### 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 FILE NO. **PE6035** BORINGS BY: Truck-Mount Power Auger HOLE NO. BH 1-23 **REMARKS:** DATE: November 13, 2023 RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) VALUE or PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** 100 150 200 16.67 33.33 50 0 50 Ground Surface EL 62.23 m 0 FILL: Brown silty sand with gravel and crushed stone, some clay SS2 42 12 FILL: Light brown silty sand with crushed stone trace clay 1.5 SS3 33 17 .2 ● 3.3 SS4 36 50+ paterson-group / admin / January 26, 2024 05:14 PM BEDROCK: Good to excellent quality, grey RC1 100 84 limestone -5 RC2 100 98 End of Borehole RSLog / Environmental Borehole - Geodetic - MW / (GWL @ 3.71m - Nov. 20, 2023) DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS PRODUCED. THIS LOG SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT



### PHASE II - ENVIRONMENTAL SITE ASSESSMENT

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

**DATUM:** Geodetic **EASTING:** 364559.908 **NORTHING:** 5029658.115 **ELEVATION: 62.55 PROJECT:** Phase II - Environmental Site Assessment FILE NO. **PE6035** BORINGS BY: Truck-Mount Power Auger HOLE NO. BH 2-23 **REMARKS:** DATE: November 13, 2023 RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) N VALUE or PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 62.55 m FILL: Light brown silty sand with gravel and 1.2 AU1 crushed stone, occasional cobbles SS2 67 20 FILL: Brown silty sand, trace gravel, crushed stone, cobbles and clay 1.0 100 27 .2 GLACIAL TILL: Compact, brown silty sand, 1.3 SS4 83 27 some gravel, trace clay, occasional cobbles an boulders 3 m EL 59.55 m RC1 100 77 BEDROCK: Good to excellent quality, grey limestone paterson-group / admin / January 26, -5 RC2 100 100 End of Borehole (GWL @ 3.02m - Nov. 20, 2023) RSLog / Environmental Borehole DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS PRODUCED. THIS LOG SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT



### PHASE II - ENVIRONMENTAL SITE ASSESSMENT

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

**DATUM:** Geodetic **EASTING:** 364580.523 NORTHING: 5029671.931 **ELEVATION: 62.55 PROJECT:** Phase II - Environmental Site Assessment FILE NO. **PE6035** BORINGS BY: Truck-Mount Power Auger HOLE NO. BH 3-23 **REMARKS:** DATE: November 13, 2023 RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) VALUE or PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 62.55 m FILL: Light brown silty sand with gravel and 0.8 AU1 crushed stone SS2 30 12 FILL: Brown silty sand, some to trace gravel and crushed stone, trace clay 1.7 SS3 28 .2 0.9 GLACIAL TILL: Dense, brown silty sand, some SS4 40 gravel, trace clay, occasional cobbles and boulders RC1 100 17 BEDROCK: Very poor to good quality, grey limestone paterson-group / admin / January 26, -5 RC2 100 79 End of Borehole (GWL @ 2.61m - Nov. 20, 2023) RSLog / Environmental Borehole DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS PRODUCED. THIS LOG SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT



### PHASE II - ENVIRONMENTAL SITE ASSESSMENT

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

**DATUM:** Geodetic **EASTING:** 364608.106 NORTHING: 5029704.029 **ELEVATION: 62.64 PROJECT:** Phase II - Environmental Site Assessment FILE NO. **PE6035** BORINGS BY: Truck-Mount Power Auger HOLE NO. BH 4-23 **REMARKS:** DATE: November 13, 2023 RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) N VALUE or PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** 100 150 200 16.67 33.33 50 0 50 Ground Surface EL 62.64 m FILL: Gravel with crushed stone, trace sand 1.0 AU1 and cobbles SS2 75 20 FILL: Brown silty sand, trace gravel and clay, occasional cobbles and crushed stone 1.7 SS3 67 16 .2 SS4 62 14 1.4 50+ 60 MW / paterson-group / admin / January 26, 2024 05:14 PN RC1 91 76 BEDROCK: Good quality, grey limestone -5 RC2 100 77 End of Borehole (GWL @ 3.78m - Nov. 20, 2023) RSLog / Environmental Borehole DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS PRODUCED. THIS LOG SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT



son-group / admin / November 29, 2023 01:44 PM

RSLog /

# **SOIL PROFILE AND TEST DATA**

#### PHASE II - ENVIRONMENTAL SITE ASSESSMENT

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

**DATUM:** Geodetic **EASTING: 364157.01** NORTHING: 5029594.662 **ELEVATION: 63.33** PROJECT: Phase II - Environmental Site Assessment FILE NO. **PE6034** BORINGS BY: CME-55 Low Clearance Power Drill HOLE NO. BH 5-23 **REMARKS:** DATE: November 13, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō Gas Tech (ppm) PID (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 63.33 m Asphaltic concrete 2.3 AU1 FILL: Brown silty sand with gravel and crushed stone 50 50+ GLACIAL TILL: Dense, brown silty sand with RC1 30 98 clay and gravel 0.99 m EL 62.34 m -2 BEDROCK: Good to excellent quality, grey RC2 100 90 limestone 25mm mud seam at 3.8m depth RC3 100 98 -5 RC4 100 84 End of Borehole (GWL @ 3.27m - Nov. 24, 2023) DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS



#### PHASE II - ENVIRONMENTAL SITE ASSESSMENT

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

**EASTING:** 364252.794 **DATUM:** Geodetic NORTHING: 5029511.857 **ELEVATION: 62.71** PROJECT: Phase II - Environmental Site Assessment FILE NO. **PE6034** BORINGS BY: CME-55 Low Clearance Power Drill HOLE NO. BH 6-23 **REMARKS:** DATE: November 13, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō Gas Tech (ppm) PID (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 100 Ground Surface EL 62.71 m 0 3.0 Asphaltic concrete AU1 FILL: Brown silty sand with gravel and crushed stone 8.0 50+ 0 GLACIAL TILL: Brown silty sand with gravelm RC1 100 60 EL 62.02 m -2 BEDROCK: Fair to excellent quality, grey RC2 97 91 limestone -group / admin / November 29, 2023 01:44 PM RC3 100 98 -5 RC4 100 100 End of Borehole (GWL @ 3.73m - Nov. 24, 2023) RSLog / Environmental Borehole DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS



### PHASE II - ENVIRONMENTAL SITE ASSESSMENT

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

**DATUM:** Geodetic **EASTING:** 364304.832 **NORTHING:** 5029416.939 **ELEVATION: 64.80** PROJECT: Phase II - Environmental Site Assessment FILE NO. **PE6034** BORINGS BY: CME-55 Low Clearance Power Drill HOLE NO. BH 7-23 **REMARKS:** DATE: November 13, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō Gas Tech (ppm) PID (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 64.8 m **TOPSOIL** 0.15 m EL 64.65 m ● 3.7 AU1 2.1 SS2 36 50+ FILL: Brown silty sand with gravel, cobbles and boulders, some clay 2.6 SS3 67 9 -2 • 4.3 SS4 25 25 -3 3.7 SS5 77 50+ GLACIAL TILL: Compact, brown silty sand with gravel, occasional cobbles and boulders EL 61.42 m 29, 2023 01:44 PN RC1 69 BEDROCK: Fair to excellent quality, grey limestone -5 RC2 100 100 End of Borehole (GWL @ 3.04m - Nov. 24, 2023) RSLog / Environmental Borehole DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS



### PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Block 6, Ottawa, Ontario

**DATUM:** Geodetic **EASTING:** 364274.209 NORTHING: 5029821.404 **ELEVATION: 64.01** PROJECT: Phase II - Environmental Site Assessment FILE NO. **PE6037 BORINGS BY:** Truck-Mount Power Auger HOLE NO. BH 8-23 **REMARKS:** DATE: November 14, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface FILL: Gravel, some crushed stone, trace silty ● 3.3 AU1 FILL: Brown silty sand, some gravel and crushed stone, occasional brick and cobbles 16.7 SS2 60 50+ RC1 100 82 -2 BEDROCK: Good to excellent quality, grey limestone RC2 97 91 paterson-group / admin / November 30, 2023 10:30 AM RC3 100 100 -5 RC4 100 100 End of Borehole RSLog / Environmental Borehole - Geodetic / (GWL @ 2.69m - Nov. 21, 2023) DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS



### 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 FILE NO. **PE6037 BORINGS BY:** Truck-Mount Power Auger HOLE NO. BH 9-23 **REMARKS:** DATE: November 14, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 63.89 m FILL: Gravel, some crushed stone, trace silty ● 3.8 AU1 sand SS2 23 54 FILL: Brown silty sand, some gravel and crushed stone, occasional brick and cobbles -2 SS3 12 19 RC1 100 90 BEDROCK: Good to excellent quality, grey limestone paterson-group / admin / November 30, 2023 10:30 AM RC2 87 100 -5 RC3 100 93 6.22 m EL 57.67 m End of Borehole (GWL @ 2.95m - Nov. 21, 2023) RSLog / Environmental Borehole DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS PRODUCED. THIS LOG SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT



#### PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Block 6, Ottawa, Ontario

**DATUM:** Geodetic **EASTING:** 364220.349 NORTHING: 5029834.121 **ELEVATION: 64.19** PROJECT: Phase II - Environmental Site Assessment FILE NO. **PE6037 BORINGS BY:** Truck-Mount Power Auger HOLE NO. BH10-23 **REMARKS:** DATE: November 14, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō Gas Tech (ppm) PID (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 64.19 m Asphaltic concrete AU1 FILL: Gravel with crushed stone, some silty **9**.4.47 SS2 41 50+ FILL: Brown silty sand, some clay, gravel and crushed stone RC1 93 44 -2 BEDROCK: Poor quality, grey limestone - excellent quality by 2.7m depth RC2 100 98 paterson-group / admin / November 30, 2023 10:30 AM RC3 100 100 -5 RC4 100 100 6.22 m EL 57.97 m End of Borehole (GWL @ 3.14m - Nov. 21, 2023) RSLog / Environmental Borehole DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS PRODUCED. THIS LOG SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT



son-group / admin / December 05, 2023 10:32 AM

RSLog / Environmental Borehole

# **SOIL PROFILE AND TEST DATA**

#### PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Block 5, Ottawa, Ontario

**EASTING:** 364241.462 **DATUM:** Geodetic NORTHING: 5029721.983 **ELEVATION: 63.19** PROJECT: Phase II - Environmental Site Assessment FILE NO. **PE6036 BORINGS BY:** Truck-Mount Power Auger HOLE NO. BH11-23 **REMARKS:** DATE: November 14, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 63.19 m Asphaltic concrete 1.9 AU1 FILL: Brown silty sand with gravel and crushed stone 50+ SS2 50 GLACIAL TILL: Very dense, brown silty sand with gravel, cobbles and boulders, some clay 2.0 40 50+ .2 RC1 100 77 BEDROCK: Good to excellent quality, grey limestone RC2 98 98 -5 RC3 100 100 End of Borehole (GWL @ 2.14m - Nov. 24, 2023) DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS



### **PHASE II - ENVIRONMENTAL SITE ASSESSMENT**

Tunney's Pasture - Block 5, Ottawa, Ontario

**DATUM:** Geodetic **EASTING:** 364276.274 NORTHING: 5029682.098 **ELEVATION: 63.01** PROJECT: Phase II - Environmental Site Assessment FILE NO. **PE6036 BORINGS BY:** Truck-Mount Power Auger HOLE NO. BH12-23 **REMARKS:** DATE: November 14, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 63.01 m Asphaltic concrete 1.5 AU1 FILL: Brown silty sand with gravel and crushed stone GLACIAL TILL: Compact to dense, brown silty SS2 75 28 sand with gravel, cobbles and boulders, some clay -2 RC1 100 92 BEDROCK: Excellent quality, grey limestone rson-group / admin / December 05, 2023 10:32 AM RC2 98 98 -5 RC3 100 95 End of Borehole RSLog / Environmental Borehole - Geodetic / (GWL @ 3.70m - Nov. 24, 2023) DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS



### 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 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 62.78 m 0 TOPSOIL AU1 ● 4.0 SS2 24 50+ GLACIAL TILL: Very dense to compact, brown silty sand with gravel, cobbles and boulders, some clay 1.9 SS3 57 12 -2 RC1 100 100 2.77 m EL 60.01 m paterson-group / admin / December 05, 2023 10:32 BEDROCK: Excellent quality, grey limestone RC2 98 92 -5 RC3 100 100 End of Borehole (GWL @ 3.51m - Nov. 24, 2023) RSLog / Environmental Borehole DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS

# patersongroup Consulting Engineers

**SOIL PROFILE AND TEST DATA** 

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

9 Auriga Drive, Ottawa, Ontario K2E 7T9

364325.628

EASTING:

NORTHING: 5030096.587 ELEVATION: 62.11

FILE NO. PE6040

DATUM: Geodetic

REMARKS:

HOLE NO.

BORINGS BY: Truck-Mounted Power Au	ger				DATE:	Noven	nber 15,	2023	BH 14-2	23
SAMPLE DESCRIPTION	ГОТ		SAN	IPLE		DEPTH	ELEV.		onization Detector  e Organic Rdg. (ppm)	WELL
GROUND SURFACE	STRATA PLOT	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)		er Explosive Limit %	MONITORING WELL CONSTRUCTION
ASPHALTIC CONCRETE 0.05 FILL: Gravel with crushed stone, 0.30 Some silty sand 0.41 FILL: Brown silty clay, trace sand		AU	1	_		0-	-62.11	•		
FILL: Brown silty sand, trace clay, gravel and crushed stone  1.45		ss	2	25	11	1-	61.11	•		
FILL: Dark brown silty clay, trace sand, gravel, occasional cobbles		ss	3	58	12	2-	-60.11	•		արևարկանում անուրարդությունը անուրարդությունը ու ուսանում ուսանում ուսանում ուսանում ուսանում ուսանում ուսանու
BEDROCK: Excellent quality, grey limestone		RC RC	1	100	100	3-	-59.11			
		RC	2	100	92	3-	-59.11			
		_				4-	-58.11			
		RC	3	100	100	5-	-57.11			
End of Borehole		RC	4	100	100	6-	-56.11			
(GWL @ 3.77m - Nov. 22, 2023)										
									200 300 400 50 Eagle Rdg. (ppm) as Resp. △ Methane Elim.	<b>00</b>

# patersongroup Consulting Engineers

**SOIL PROFILE AND TEST DATA** 

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

9 Auriga Drive, Ottawa, Ontario K2E 7T9

364393.964

**NORTHING:** 5030112.795 **ELEVATION:** 62.57

FILE NO.

**PE6040** 

DATUM: **REMARKS:** 

**EASTING:** 

Geodetic

HOLE NO.

POPINGS BY. Truck-Mounted Power Auger

BH 15-22

BORINGS BY: Truck-Mounted Power Auger				DATE:		November 1	5, 2023	BH 15-2	3	
SAMPLE DESCRIPTION	PLOT	SAMPLE		IPLE		DEPTH ELE	V.   Volati	Photo Ionization Detector  Volatile Organic Rdg. (ppm)		
	STRATA F	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m) (m		ORING		
GROUND SURFACE	ST	•	ž	REC	z	0 00 5		40 60 80	δΩ	
ASPHALTIC CONCRETE 0.05  FILL: Gravel with crushed stone, some silty sand 0.60		AU	1			0+62.5	•			
FILL: Brown silty sand, trace gravel, brick and concrete, occasional cobbles		ss	2	58	13	1-61.5	7			
		ss	3	54	12	2+60.57	7			
		ss	4	38	14		•			
		ss	5	45	50	3-59.57	7			
BEDROCK: Fair to good quality, grey limestone  6.20		A E RC	1	100	40	4-58.5	7			
		RC	2	100	50	5-57.5	7			
		RC	3	100	67	6+56.5	7		<u> </u>	
End of Borehole (GWL @ 6.14m - Nov. 22, 2023)										
								200 300 400 500 <b>Eagle Rdg. (ppm)</b> Gas Resp. △ Methane Elim.	0	



### **PHASE II - ENVIRONMENTAL SITE ASSESSMENT**

Tunney's Pasture - Block 9, Ottawa, Ontario

**DATUM:** Geodetic **EASTING:** 364662.321 NORTHING: 5030050.027 **ELEVATION: 62.13** PROJECT: Phase II - Environmental Site Assessment FILE NO. **PE6039 BORINGS BY:** Truck-Mount Power Auger HOLE NO. BH16-23 **REMARKS:** DATE: November 15, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 62.13 m FILL: Brown silty sand with gravel and crushed 0.6 AU1 SS2 75 25 FILL: Brown silty sand, some gravel 1.8 SS3 75 28 2 FILL: Brown silty sand 8.0 SS4 33 -3 0.9 SS5 42 4 FILL: Brown silty sand with gravel, cobbles and boulders 1.9 SS6 33 25 paterson-group / admin / November 30, 2023 02:43 PM 67 50+ RC1 80 100 BEDROCK: Good to excellent quality, grey limestone RC2 100 100 End of Borehole (GWL @ 3.65m - Nov. 23, 2023) DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS RSLog / PRODUCED. THIS LOG SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT



#### PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Block 9, Ottawa, Ontario

**DATUM:** Geodetic **EASTING:** 364650.197 NORTHING: 5030073.011 **ELEVATION: 61.53** PROJECT: Phase II - Environmental Site Assessment FILE NO. **PE6039 BORINGS BY:** Truck-Mount Power Auger HOLE NO. BH17-23 **REMARKS:** DATE: November 15, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 61.53 m AU1 SS2 75 20 FILL: Brown silty sand, trace gravel 1.8 SS3 50 17 2 SS4 33 -3 FILL: Brown silty sand with gravel, cobbles and 1.4 SS5 50 19 boulders RC1 100 80 RSLog / Environmental Borehole - Geodetic / paterson-group / admin / November 30, 2023 02:43 PM BEDROCK: Good quality, grey limestone RC2 100 84 End of Borehole (GWL @ 3.22m - Nov. 23, 2023) DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS



### PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Block 9, Ottawa, Ontario

**EASTING:** 364679.995 **DATUM:** Geodetic **NORTHING:** 5030071.639 **ELEVATION: 61.62** PROJECT: Phase II - Environmental Site Assessment FILE NO. **PE6039 BORINGS BY:** Truck-Mount Power Auger HOLE NO. BH18-23 **REMARKS:** DATE: November 15, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 61.62 m Asphaltic concrete 0.05 m EL 61.57 m 1.3 AU1 FILL: Brown silty sand, some clay and gravel SS2 100 7 1.22 m EL 60.4 m 1.0 SS3 33 23 2 FILL: Brown silty sand with gravel 0.9 SS4 8 16 -3 SS5 17 50+ RC1 73 100 BEDROCK: Fair to excellent quality, grey / December 06, 2023 04:10 limestone RC2 100 93 RSLog / Environmental Borehole - Geodetic / paterson-group / admin / End of Borehole (GWL @ 3.19m - Nov. 23, 2023) DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS



### PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture - Block 9, Ottawa, Ontario

**DATUM:** Geodetic **EASTING:** 364757.955 NORTHING: 5030109.232 **ELEVATION: 60.37** PROJECT: Phase II - Environmental Site Assessment FILE NO. **PE6039 BORINGS BY:** Truck-Mount Power Auger HOLE NO. BH19-23 **REMARKS:** DATE: November 15, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 60.37 m Asphaltic concrete 0.3 AU1 FILL: Gravel with crushed stone, some silty sand, trace clay SS2 59 50+ FILL: Brown silty clay, trace gravel, sand and wood RC1 100 100 2 .3 BEDROCK: Excellent quality, grey limestone RC2 100 / November 30, 2023 02:43 PM RC3 100 100 RC4 100 100 End of Borehole RSLog / Environmental Borehole - Geodetic / paterson-group / (GWL @ 1.54m -Nov. 23, 2023) DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS



### 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 FILE NO. **PE6039 BORINGS BY:** Truck-Mount Power Auger HOLE NO. BH20-23 **REMARKS:** DATE: November 16, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 62.01 m FILL: Brown silty sand with organics, trace 1.2 AU1 gravel 0.15 m EL 61.86 m SS2 50 10 0.4 SS3 50 2 FILL: Brown silty sand, trace gravel SS4 5 .3 0.5 SS5 8 4 <u>3.5</u> SS6 40 50+ paterson-group / admin / November 30, 2023 02:43 RC1 100 92 BEDROCK: Excellent to good quality, grey limestone RC2 100 83 End of Borehole (GWL @ 3.67m -Nov. 23, 2023) DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS RSLog / PRODUCED. THIS LOG SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT



## **PHASE II - ENVIRONMENTAL SITE ASSESSMENT**

Tunney's Pasture Block 8, Ottawa, Ontario

**DATUM:** Geodetic **EASTING:** 364535.067 NORTHING: 5029792.031 **ELEVATION: 62.19** PROJECT: Phase II - Environmental Site Assessment FILE NO. **PE6038 BORINGS BY:** Truck-Mount Power Auger HOLE NO. BH21-23 **REMARKS:** DATE: November 23, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō Gas Tech (ppm) PID (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 62.19 m Asphaltic concrete AU1 FILL: Gravel with crushed stone, some silty sand ● 7.2 60 50+ FILL: Brown silty sand, some gravel, occasional cobbles and boulders 1.09 m EL 61.1 m RC1 100 14 -2 BEDROCK: Very poor to fair quality, grey limestone RC2 100 62 excellent quality by 3.9m depth son-group / admin / December 04, 2023 03:33 PM RC3 100 95 -5 RC4 100 95 6.04 m EL 56.15 m End Borehole (GWL @ 3.12m - Nov. 29, 2023) RSLog / Environmental Borehole DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS PRODUCED. THIS LOG SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT



#### **PHASE II - ENVIRONMENTAL SITE ASSESSMENT**

Tunney's Pasture Block 8, Ottawa, Ontario

**DATUM:** Geodetic **EASTING:** 364526.726 **NORTHING:** 5029822.759 **ELEVATION: 62.24** PROJECT: Phase II - Environmental Site Assessment FILE NO. **PE6038 BORINGS BY:** Truck-Mount Power Auger HOLE NO. BH22-23 **REMARKS:** DATE: November 23, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō Gas Tech (ppm) PID (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 62.24 m Asphaltic concrete AU1 1.2 FILL: Gravel with crushed stone, some silty sand 1.8 SS2 76 50+ FILL: Brown sitty samu, 30.... 3 clay, occasional cobbles and boulders 1.32 m EL 60.92 m FILL: Brown silty sand, some gravel, trace RC1 53 100 -2 BEDROCK: Fair to good quality, grey limestone - excellent quality by 5.7m depth RC2 100 75 paterson-group / admin / December 04, 2023 03:33 PM RC3 100 83 -5 RC4 100 100 End of Borehole (GWL @ 3.75m - Nov. 29, 2023) RSLog / Environmental Borehole DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS



### **PHASE II - ENVIRONMENTAL SITE ASSESSMENT**

Tunney's Pasture Block 8, Ottawa, Ontario

**DATUM:** Geodetic **EASTING:** 364496.676 NORTHING: 5029812.181 **ELEVATION: 62.63** PROJECT: Phase II - Environmental Site Assessment FILE NO. **PE6038 BORINGS BY:** Truck-Mount Power Auger HOLE NO. BH23-23 **REMARKS:** DATE: November 23, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 62.63 m Asphaltic concrete AU1 1.6 FILL: Gravel with crushed stone, some silty sand RC1 100 94 Asphaltic concrete FILL: Gravel with crushed stone, some silty sand RC2 78 100 -2 BEDROCK: Good to excellent quality, grey limestone RC3 100 97 paterson-group / admin / December 04, 2023 03:34 PM RC4 97 94 -5 RC5 95 95 End of Borehole (GWL @ 3.84m - Nov. 29, 2023) RSLog / Environmental Borehole DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS



### PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture Block 8, Ottawa, Ontario

**EASTING:** 364472.875 **DATUM:** Geodetic NORTHING: 5029786.562 **ELEVATION: 62.71** PROJECT: Phase II - Environmental Site Assessment FILE NO. **PE6038 BORINGS BY:** Truck-Mount Power Auger HOLE NO. BH24-23 **REMARKS:** DATE: November 23, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 62.71 m Asphaltic concrete AU1 FILL: Gravel with crushed stone, some silty 2.0 100 50+ FILL: Brown silty sand, occasional crushed RC1 100 54 -2 BEDROCK: Fair to excellent quality, grey limestone RC2 100 98 paterson-group / admin / December 04, 2023 03:34 PM RC3 100 95 -5 RC4 96 96 6.22 m EL 56.49 m End of Borehole (GWL @ 3.20m - Nov. 29, 2023) RSLog / Environmental Borehole DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS PRODUCED. THIS LOG SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT



paterson-group / admin / December 04, 2023 03:34 PM

#### **SOIL PROFILE AND TEST DATA**

#### PHASE II - ENVIRONMENTAL SITE ASSESSMENT

Tunney's Pasture Block 8, Ottawa, Ontario

**DATUM:** Geodetic **EASTING:** 364497.878 NORTHING: 5029860.972 **ELEVATION: 62.54** PROJECT: Phase II - Environmental Site Assessment FILE NO. **PE6038 BORINGS BY:** Truck-Mount Power Auger HOLE NO. BH25-23 **REMARKS:** DATE: November 23, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 62.54 m **TOPSOIL** AU1 FILL: Brown silty sand GLACIAL TILL: Very dense, brown silty sand 0.9 SS2 50+ 100 to sandy silt with gravel, cobbles and boulders 1.27 m EL 61.27 m RC1 100 96 -2 BEDROCK: Excellent quality, grey limestone - vertical fractures from 2.7 to 4.2m depth RC2 100 53 RC3 100 98 -5 RC4 100 100 End of Borehole RSLog / Environmental Borehole - Geodetic / (GWL @ 3.47m - Nov. 29, 2023) DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS PRODUCED. THIS LOG SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT

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#### **SOIL PROFILE AND TEST DATA**

#### **PHASE II - ENVIRONMENTAL SITE ASSESSMENT**

Tunney's Pasture Block 8, Ottawa, Ontario

**DATUM:** Geodetic **EASTING:** 364515.072 NORTHING: 5029752.491 **ELEVATION: 62.72** PROJECT: Phase II - Environmental Site Assessment FILE NO. **PE6038 BORINGS BY:** Truck-Mount Power Auger HOLE NO. BH26-23 **REMARKS:** DATE: November 23, 2023 ANALYTICAL TESTS RQD Monitoring Well Construction STRATA PLOT SAMPLE % RECOVERY Sample No. DEPTH (m) ō PID (ppm) Gas Tech (ppm) **SAMPLE DESCRIPTION** N VALUE 150 200 16.67 33.33 50 0 50 100 Ground Surface EL 62.72 m TOPSOIL 0.5 AU1 FILL: Brown silty sand 1.1 SS2 43 50+ FILL: Brown silty clay, trace sand, gravel, organics, occasional cobbles and boulders -2 RC1 100 33 BEDROCK: Poor to excellent quality, grey limestone RC2 100 76 paterson-group / admin / December 04, 2023 03:34 PM RC3 100 97 -5 RC4 100 80 End of Borehole (GWL @ 4.17m - Nov. 29, 2023) RSLog / Environmental Borehole DISCLAIMER: THE DATA PRESENTED IN THIS LOG IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHO IT WAS PRODUCED. THIS LOG SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT

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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: DATUM:

364504.248 Geodetic

**NORTHING**: 5030156.140

ELEVATION: 57.43

FILE NO.

HOLE NO.

**PE6040** 

**REMARKS:** 

BORINGS BY: Portable Drill					DATE:	Decer	nber 7, 2	023	BH 27-23
SAMPLE DESCRIPTION	LOT		SAN	IPLE		DEPTH	1		onization Detector e Organic Rdg. (ppm)
GROUND SURFACE	STRATA  TYPE  NUMBEF  N VALUE  OF RQD					(m)	(m)		r Explosive Limit % 40 60 80
	^^^^					0-	57.43		
FILL: Compact, brown silty sand, some gravel and crushed stone  0.89		SS SS SS	1 2 3	21 39	P P		,		
BEDROCK: Excellent quality, grey limestone bedrock		_				1-	-56.43		
		RC -	1	98	98	2-	-55.43		
		RC	2	100	96	3-	54.43		
		_				4-	-53.43		
		RC	3	95	97	5-	-52.43		
5.38 End of Borehole									
(GWL @ 2.46m - Dec. 11, 2023)									
									200 300 400 500 Eagle Rdg. (ppm) as Resp. △ Methane Elim.

**SOIL PROFILE AND TEST DATA** 

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

9 Auriga Drive, Ottawa, Ontario K2E 7T9

364535.551

Geodetic

EASTING:

**REMARKS:** 

DATUM:

5030144.336 **ELEVATION**: 58.05 NORTHING:

FILE NO. **PE6040** 

HOLE NO.

BORINGS BY: Portable Drill	DATE: December 7, 2023 HOLE NO. BH 2									
SAMPLE DESCRIPTION	PLOT		SAN	/IPLE		DEPTH (m)	ELEV. (m)	Photo Ionization Detector  Volatile Organic Rdg. (ppm)		
ODOLIND CUREAGE	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(111)	(111)	Photo Ionization Detector  Volatile Organic Rdg. (ppm)  Lower Explosive Limit %  20 40 60 80		
GROUND SURFACE				<u> </u>		0-	58.05	20 40 60 80		
Concrete Floor Slab 0.15 FILL: Compact, brown silty sand with gravel and crushed stone 0.51 End of Borehole Practical refusal to augering at 0.51m depth		SS SS	1 2	45	Р	Š				
								100 200 300 400 500 <b>RKI Eagle Rdg. (ppm)</b> ▲ Full Gas Resp. △ Methane Elim.		

**SOIL PROFILE AND TEST DATA** 

Geotechnical Investigation
Tunney's Pasture
Ottown Ontorio

154 Colonnade Road South, Ottawa, Ontario K2E 7J5 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG4826 REMARKS** HOLE NO. BH 1 - 20 BORINGS BY CME-55 Low Clearance Drill DATE 2020 December 15 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT **DEPTH** ELEV. Piezometer Construction **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+59.81**TOPSOIL** FILL: Brown silty sand trace gravel 1 and clay 1 + 58.81SS 2 22 25 3 0 50+ End of Borehole Practical refusal to augering at 1.57 m depth 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

**SOIL PROFILE AND TEST DATA** 

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geotechnical Investigation Tunney's Pasture Ottawa. Ontario

			· <del>-</del>		01	itawa, Or	ntario				
<b>DATUM</b> Geodetic									FILE NO.	PG4826	
REMARKS									HOLE NO.	2110 00	`
BORINGS BY CME-55 Low Clearance	Drill			D	ATE :	2020 Dec	ember 1	5	l l	3H 2 - 20	) 
SOIL DESCRIPTION	PLOT		SAN	/IPLE		DEPTH (m)	ELEV. (m)		esist. Blows 0 mm Dia. C		ا On
		Ħ	3ER	RECOVERY	N VALUE or RQD	(111)	(111)				Piezometer Construction
	STRATA	TYPE	NUMBER	% N	VA Or E			° V	/ater Conte	nt %	ezo
GROUND SURFACE		×		2	2 -	0-	60.87	20	40 60	80	E O
FILL: Brown silty sand, with gravel, some clay, trace cobbles		88888888888888888888888888888888888888	1								
		SS	2	54	22	1-	-59.87				
2.18		SS	3	42	30	2-	-58.87				- W
End of Borehole											this History
Practical refusal to augering at 2.18 m depth  (GWL @ 2.03 m - Dec 15, 2020)											
									40 60 ar Strength ( urbed △ Re	(kPa)	00

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 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT **DEPTH** ELEV. Piezometer Construction **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+61.41**TOPSOIL** FILL: Brown silty sand with gravel 1 and cobbles 1 + 60.41SS 2 23 33 **BEDROCK:** Limestone 1.54 ×.SS 3 50 50+ End of Borehole Practical refusal to augering at 1.54 m 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

**SOIL PROFILE AND TEST DATA** 

Geotechnical Investigation
Tunney's Pasture
Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG4826 REMARKS** HOLE NO. **BH 4 - 20** BORINGS BY CME-55 Low Clearance Drill DATE 2020 December 15 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT **DEPTH** ELEV. Piezometer Construction **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20  $0 \pm 61.79$ **TOPSOIL** FILL: Brown silty sand trace gravel 1 and cobbles 1 + 60.79SS 2 9 54 SS 3 50+ 0 End of Borehole Practical refusal to augering at 1.91 m depth 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

**SOIL PROFILE AND TEST DATA** 

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geotechnical Investigation Tunney's Pasture Ottawa. Ontario

· · · · ·					U	iawa, Or	itario					
<b>DATUM</b> Geodetic									FILE	NO.	34826	
REMARKS  BORINGS BY CME-55 Low Clearance [	⊃rill			-	ATE '	2020 Dec	ombor 1	5	HOL	E NO.	5 - 20	 )
SOIL DESCRIPTION	PLOT		SAN	/IPLE	DATE A	DEPTH	ELEV.	Pen. R		Blows/0	.3m	
SOL BESONII HON		田(	3ER	ÆRY	LUE	(m)	(m)					meter
GROUND SURFACE	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD			O W	/ater	Content 9	% 80	Piezometer Construction
TOPSOIL 0.07		—————————————————————————————————————				0-	-62.14					
FILL: Brown silty sand some gravel, and cobbles		AU	1									
1.32		SS	2	33	24	1-	-61.14					
End of Borehole		<u> </u>										
Practical refusal to augering at 1.32 m depth										60 ength (kP	a)	000

**SOIL PROFILE AND TEST DATA** 

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

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 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT **DEPTH** ELEV. Piezometer Construction **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+62.45**TOPSOIL** 0.07 FILL: Brown silty sand, trace gravel 1 GLACIAL TILL: Brown silty sand, with gravel, possible cobbles and boulders 1 + 61.45SS 2 52 37 SS 3 8 50+ End of Borehole Practical refusal to augering at 1.75 m depth 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

**SOIL PROFILE AND TEST DATA** 

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geotechnical Investigation Tunney's Pasture Ottawa. Ontario

,,					O	tawa, Or	ntario				
<b>DATUM</b> Geodetic									FILE NO	DG4826	j
REMARKS									HOLE N	O. D.I. 7	
BORINGS BY CME-55 Low Clearance I	Drill	ı			DATE	2020 Dec	ember 1	5		BH 7 - 20	U
SOIL DESCRIPTION	PLOT		SAN	/IPLE		DEPTH (m)	ELEV. (m)		esist. B 0 mm Di	lows/0.3m a. Cone	) io
	1	田	3ER	RECOVERY	N VALUE or RQD	(111)	(111)				Piezometer Construction
	STRATA	TYPE	NUMBER	% \ GCOV	Y VA			° V	/ater Co	ntent %	ezo onst
GROUND SURFACE		~		2	Z	0-	-62.41	20	40	60 80	ω O
<b>TOPSOIL</b> 0.13		& & &									
		<del>\tilde{\</del>									
FILL: brown silty sand trace gravel		AU	1								
, , ,		× 70	'								
		<b>X</b>									
	$\bowtie$										
		*									
	$\bowtie$										
		ss	2	29	21	1-	-61.41				
			_	25							
		$\backslash\!\!\!\backslash$									
	$\bowtie$										
	$\bowtie$	ss	3	0	18						
		33	3		10						
		$\Lambda$				2-	-60.41				
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<b>GLACIAL TILL:</b> Brown silty sand with gravel possible cobbles and boulders	\^^^^	<u> </u>									
g o. p	[^^^^	M									
	[^^^^^	ss	4	38	50+						
	<u> </u>	<b>/</b> \									
End of Borehole											
Practical refusal to augering at 2.59 m											
								20	40	60 80 1	⊣ 100
								Shea	ır Strenç	gth (kPa)	
					1			■ Undist	urbed /	∆ Remoulded	

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. **BH8-20** BORINGS BY CME-55 Low Clearance Drill DATE 2020 December 15 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT DEPTH ELEV. Piezometer Construction **SOIL DESCRIPTION**  50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER **Water Content % GROUND SURFACE** 80 20 0+63.70**TOPSOIL** FILL: Brown silty sand, trace gravel ΑU 1 75 50+ End of Borehole Practical refusal to augering at 0.61 m depth 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

**SOIL PROFILE AND TEST DATA** 

Geotechnical Investigation Tunney's Pasture Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5 **DATUM** Geodetic FILE NO. **PG4826 REMARKS** HOLE NO. **BH 9 - 20** BORINGS BY CME-55 Low Clearance Drill DATE 2020 December 15 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT DEPTH ELEV. Piezometer Construction **SOIL DESCRIPTION**  50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER **Water Content % GROUND SURFACE** 80 20  $0 \pm 63.72$ **TOPSOIL** <u>0.10</u> FILL: Brown silty clay with sand and trace gravel 1 End of Borehole Practical refusal to augering 0.61 m depth 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

**SOIL PROFILE AND TEST DATA** 

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geotechnical Investigation Tunney's Pasture Ottawa Ontario

Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG4826 REMARKS** HOLE NO. BH10 - 20 BORINGS BY CME-55 Low Clearance Drill DATE 2020 December 15 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT **DEPTH** ELEV. Piezometer Construction **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+63.06**TOPSOIL** FILL: Brown silty sand, with gravel 1 SS 2 17 50+ 1 + 62.06End of Borehole Practical refusal to augering at 1.01 m depth 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

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. BH11 - 20 BORINGS BY CME-55 Low Clearance Drill DATE 2020 December 16 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT **DEPTH** ELEV. Piezometer Construction **SOIL DESCRIPTION**  50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+62.93**TOPSOIL** FILL: Brown silty sand with gravel 1 and cobbles 1 + 61.93SS 2 21 6 SS 3 5 4 2+60.93SS 4 3 50 +2.49 End of Borehole Practical refusal to augering 2.51 m depth 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

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. BH12 - 20 BORINGS BY CME-55 Low Clearance Drill DATE 2020 December 16 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT DEPTH ELEV. Piezometer Construction **SOIL DESCRIPTION** • 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER **Water Content % GROUND SURFACE** 80 20 0+60.60**TOPSOIL** 0.10 FILL: Brown silty sand with gravel 1 SS 2 63 50 +1+59.60End of Borehole Practical refusal to augering at 1.35 m depth 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

**SOIL PROFILE AND TEST DATA** 

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

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 1

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**SOIL PROFILE AND TEST DATA** 

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

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

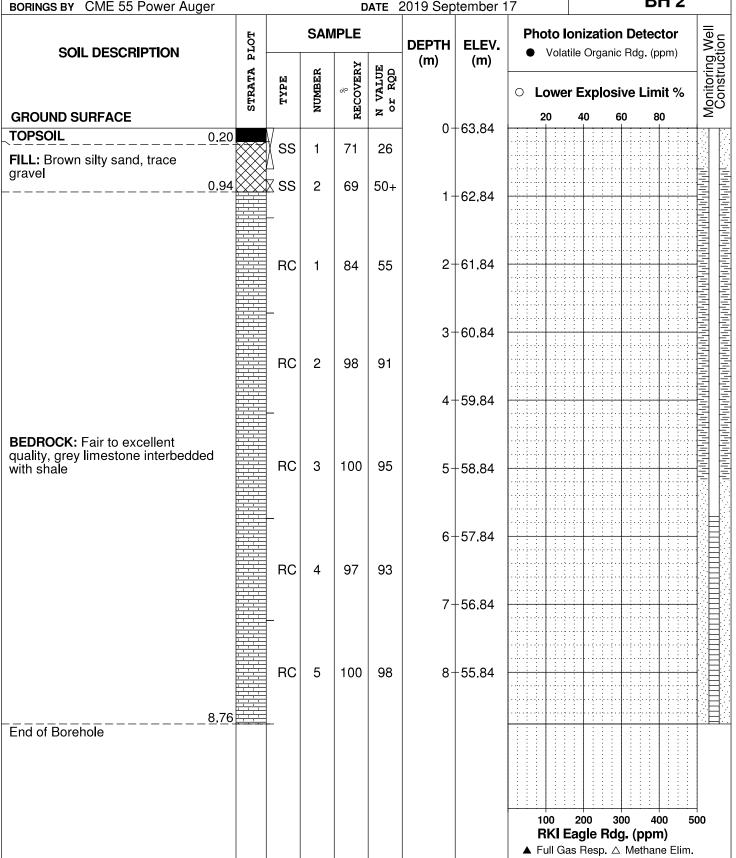
**DATUM** 

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 PROFILE AND TEST DATA** 

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

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

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

**REMARKS** 

DATUM

FILE NO. PE4651

BORINGS BY CME 55 Power Auger				D	ATE 2	2019 Sep	tember 1	7	HOL	E NO.	В	H 3	
SOIL DESCRIPTION	PLOT		SAN	IPLE		DEPTH	ELEV.	Photo I			<b>Dete</b> c Rdg. (p		3 Well
	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)	O Lowe	r Exp	olosiv	/e Lin	nit %	Monitoring Well Construction
GROUND SURFACE	W		z	A. A.	z °		00.05	20	40	60	) (	80	Σ
TOPSOIL 0.15  FILL: Brown sand, some silt  0.76	$\bowtie$	ss	1	79	19	0-	-63.35						
FILL: Brown clayey silt with wood/organics, trace sand and gravel 1.37		ss	2	53	17	1 -	-62.35						
		RC	1	100	82	2-	-61.35						នាក់ក្រៅក្រៅក្រៅក្រៅក្រៅក្រៅក្រៅក្រៅក្រៅក្រៅ
		- RC	2	100	72	3-	-60.35						
		=	_		,,_	4-	-59.35						
<b>BEDROCK:</b> Fair to excellent quality, grey limestone interbedded with shale		RC	3	98	86	5-	-58.35						
		= RC	4	100	95	6-	-57.35						
		_	-			7-	-56.35						
		RC	5	100	100	8-	-55.35						
8.74 End of Borehole													
								100 <b>RKI E</b> ▲ Full Ga			. (ppr	n)	500 -

**SOIL PROFILE AND TEST DATA** 

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

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

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

DATUM **REMARKS**  FILE NO. PE4651

BORINGS BY CME 55 Power Auger				<b>C</b>	ATE 2	2019 Sep	otember 1	18	HOL	E NO.	В	H 4	
SOIL DESCRIPTION	PLOT		SAN	/IPLE		DEPTH	ELEV.	Photo I		ation ganic f			Well tion
	STRATA 1	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)	O Lowe					Monitoring Well Construction
GROUND SURFACE	0		Z	E	z °		00.07	20	40	60	ε	30	≥
Asphaltic concrete 0.05  FILL: Brown sand, some silt 0.60		AU	1			0-	63.97						
FILL: Brown sandy silt with gravel, trace clay		ss	2		18	1-	-62.97						
1.65		⊠ SS	3	60	50+	2-	-61.97						
		RC -	1	95	82								
		RC	2	100	88	3-	60.97						
		_				4-	-59.97						
BEDROCK: Good to excellent quality, grey limestone interbedded with shale		RC	3	100	98	5-	-58.97						
		- RC	4	100	100	6-	-57.97						
		_				7-	-56.97						
		RC	5	98	94	8-	-55.97						
End of Borehole	1 1 1												
								100	000			00 -	
								100 <b>RKI I</b> ▲ Full G		<b>300</b> • <b>Rdg.</b> sp. △ 1	(ppr	n)	00

**SOIL PROFILE AND TEST DATA** 

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

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Ground surface elevations provided by Annis, O'Sullivan, Vollebekk Ltd. DATUM FILE NO. PE4651 **REMARKS** HOLE NO. **BH 5** BORINGS BY CMF 55 Power Auger DATE 2019 September 17

BORINGS BY CME 55 Power Auger				D	ATE 2	2019 Sep	tember 1	7			3H 5	
SOIL DESCRIPTION	PLOT		SAN	IPLE		DEPTH	ELEV.		lonization			Well tion
	STRATA P	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)		er Explo	sive Lir	nit %	Monitoring Well Construction
GROUND SURFACE	· A A. A.		- '	<b>K</b>		0-	64.13	20	40	60	80	
Asphaltic concrete 0.08  FILL: Brown sand with gravel 0.76		AU	1				04.10					
Weathered <b>BEDROCK</b>		ss -	2	85	50+	1 -	-63.13					
		RC	1	78	66	2-	-62.13					արարարարարարարարարարարարարարարարարարար
		-	•	100		3-	-61.13					
BEDROCK: Fair to excellent		RC	2	100	83	4-	-60.13					
quality, grey limestone interbedded with shale		RC	3	100	100	5-	-59.13					
		RC	4	100	98		-58.13					
		-	F	100	00		-57.13					
		RC	5	100	98	8-	-56.13					
									200 <b>Eagle R</b> ias Resp.	dg. (pp	m)	00

**SOIL PROFILE AND TEST DATA** 

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

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

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

FILE NO. PE4651

**REMARKS** 

**DATUM** 

HOLE NO.

▲ Full Gas Resp. △ Methane Elim.

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

**BH7 SAMPLE Photo Ionization Detector** STRATA PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** Volatile Organic Rdg. (ppm) (m) (m) N VALUE or RQD RECOVERY NUMBER **Lower Explosive Limit % GROUND SURFACE** 80 0+63.95Asphaltic concrete 0.08 1 FILL: Brown sand with gravel SS 2 0.99 73 50 +1+62.95RC 1 63 45 2+61.95 3 + 60.952 RC 93 91 **BEDROCK:** Fair to excellent 4+59.95quality, grey limestone interbedded with shale RC 3 960 98 5+58.95 6+57.95 RC 4 98 97 7+56.95 End of Borehole 200 300 500 RKI Eagle Rdg. (ppm)

**SOIL PROFILE AND TEST DATA** 

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

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

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

DATUM **REMARKS**  FILE NO. PE4651

BORINGS BY CME 55 Power Auger				D	ATE 2	2019 Sep	otember	18	HOI	LE NO.	BH 8	
SOIL DESCRIPTION	PLOT		SAN	/IPLE	ı	DEPTH	ELEV.	Photo I		ation De		Mell
	STRATA 1	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)	O Lowe	r Exp	plosive L	_imit %	Monitoring Well
GROUND SURFACE	XXXI	.1		<b>A</b>		0-	63.98	20	40	60	80	_
FILL: Brown sand with gravel 0.38		ss	1	5	42							
FILL: Brown silty sand with gravel		ss	2	67	30	1-	62.98					
, ·		ss	3	33	26	2-	61.98					
2.49		∑SS _RC	4 1	0 75	50+ 0							
		RC	2	100	98	3-	60.98					
		_				4-	-59.98					
BEDROCK: Fair to excellent quality, grey limestone interbedded with shale	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	RC	3	93	71	5-	-58.98					
		_				6-	-57.98					.
7.21		RC	4	97	97	7-	-56.98					
End of Borehole												
										300 e <b>Rdg. (p</b> sp. △ Met		500 -

**SOIL PROFILE AND TEST DATA** 

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

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

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

DATUM **REMARKS**  FILE NO. PE4651

BORINGS BY CME 55 Power Auger				D	ATE 2	2019 Sep	tember 1	8	HOLE	E NO.	Bl	<b>1</b> 9	
SOIL DESCRIPTION	PLOT		SAN	IPLE		DEPTH	ELEV.	Photo I ● Vola	<b>oniza</b> t tile Org				) Well
	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)	O Lowe	r Expl	losive	e Lim	it %	Monitoring Well
GROUND SURFACE		X ss	1	55	50+	0-	-63.78	20	40	60	80	) 	2
		∑ ss	2	54	32	1 -	-62.78						
FILL: Brown silty sand, trace gravel		ss	3	79	8	2-	-61.78						
		ss	4	46	5	_							
3.35		ss	5	25	50+	3-	-60.78						
		RC -	1	100	92	4-	-59.78						
		RC	2	92	88	5-	-58.78						
BEDROCK: Good to excellent quality, grey limestone interbedded with shale		- RC	3	100	100	6-	-57.78						
		_				7-	-56.78						
8.76		RC	4	100	100	8-	-55.78						
End of Borehole		-											
								100 RKI E ▲ Full Ga	200 Eagle as Resp			1)	00

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

#### **SOIL PROFILE AND TEST DATA**

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

DATUM									FILE	NO.	PG48	26	
REMARKS									HOLE	E NO.	BH 1		
BORINGS BY CME 55 Power Auger					ATE :	2019 Novem	ber 5				ВПІ		
SOIL DESCRIPTION	PLOT		SAN	/IPLE		<b>-</b>	_EV. m)		lesist. 60 mm		vs/0.3m Cone	Well	 on
	STRATA	TYPE	NUMBER	% RECOVERY	VALUE r RQD	(,	,	0 V	Vater (	Conte	ent %	— Intoring	Construction
GROUND SURFACE	מַ	-	N	E E	N or V			20	40	60	80	8	: 8
TOPSOIL 0.19	5	<b>X</b>				0+							Ī
FILL: Brown silty sand		AU	1										
<u>0.9</u> -	1	ss	2	42	18	1-							
FILL: Brown silty sand with crushed stone and gravel		ss	3	21	7	2+							
		∐ ∑ss	4		50+	2							
2.74	4	RC	1	100	30	3-							
<b>BEDROCK:</b> Poor to good quality, grey limestone interbedded with shale		RC	2	100	84								
						4+							
End of Borehole	/	-					1.7						⊒.:
(GWL @ 2.25m - Nov. 11, 2019)													
								20 Shea ▲ Undis	40 ar Stre turbed		80 (kPa) Remoulde	<b>100</b>	

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

#### **SOIL PROFILE AND TEST DATA**

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

DATUM									FILE NO.	PG4826				
REMARKS				_		0010 Oatak	a a w 20		HOLE NO.	BH 2				
BORINGS BY CME 55 Power Auger	DATE 2019 October 30  SAMPLE F								Pen. Resist. Blows/0.3m					
SOIL DESCRIPTION	PLOT					DEPTH (m)	ELEV. (m)		0 mm Dia.		ter			
	STRATA	TYPE	NUMBER	% RECOVERY	VALUE r RQD			0 W	ater Cont	tent %	Piezometer Construction			
GROUND SURFACE	SI	H	NO	REC	N C	0+		20	40 60	80	Pie;			
TOPSOIL 0.20		$\bigvee$												
		SS	1	67	4									
FILL: Brown silty sand, some gravel and crushed stone														
and crushed stone		SS	2	79	11	1+								
		$\sqrt{}$												
1.88		ss	3	46	4									
GLACIAL TILL: Brown silty sand with gravel and cobbles						2+								
End of Borehole		⊠ SS	4	33	50+									
Practical refusal to augering at 2.36m														
depth														
(Piezometer dry/blocked to 0.62m depth - Nov. 11, 2019)														
								20	40 60	) 80 10	00			
									r Strengtl	<b>h (kPa)</b> Remoulded				

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REPORT # 2346

(Psta

R.A. Gardner, Chief Architect.
Attention: I. B. Simoson

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	Danth
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.
14	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.		1 <del>11</del> 622
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 £t.
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.

P. Rubec,
Acting Chief,
Testing Laboratories.

Phol.

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#### McROSTIE SETO GENEST

& ASSOCIATES LTD. & ASSOCIÉS LTÉE CONSULTING ENGINEERS - INGÉNIEURS CONSEILS

#### SOIL PROFILE & TEST SUMMARIES

PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

#### PARKDALE AT BURNSIDE

OTTAWA CANADA

ELEVATE		IND SE		CE (ZERO DEPTH) 199.5'	· · · · · · · · · · · · · · · · · · ·		1916.	17 1000	HOLE	
NIVEAU D	U SOL (PRO	FOND	EUR .	CE (ZERO DEPTH) 199.5'			DATE JUNE		FORAG	E Po.
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& ASSOCIATES LTD. & ASSOCIÉS LTÉE CONSULTING ENGINEERS - INGÉNIEURS CONSEILS SOIL PROFILE & TEST SUMMARIES

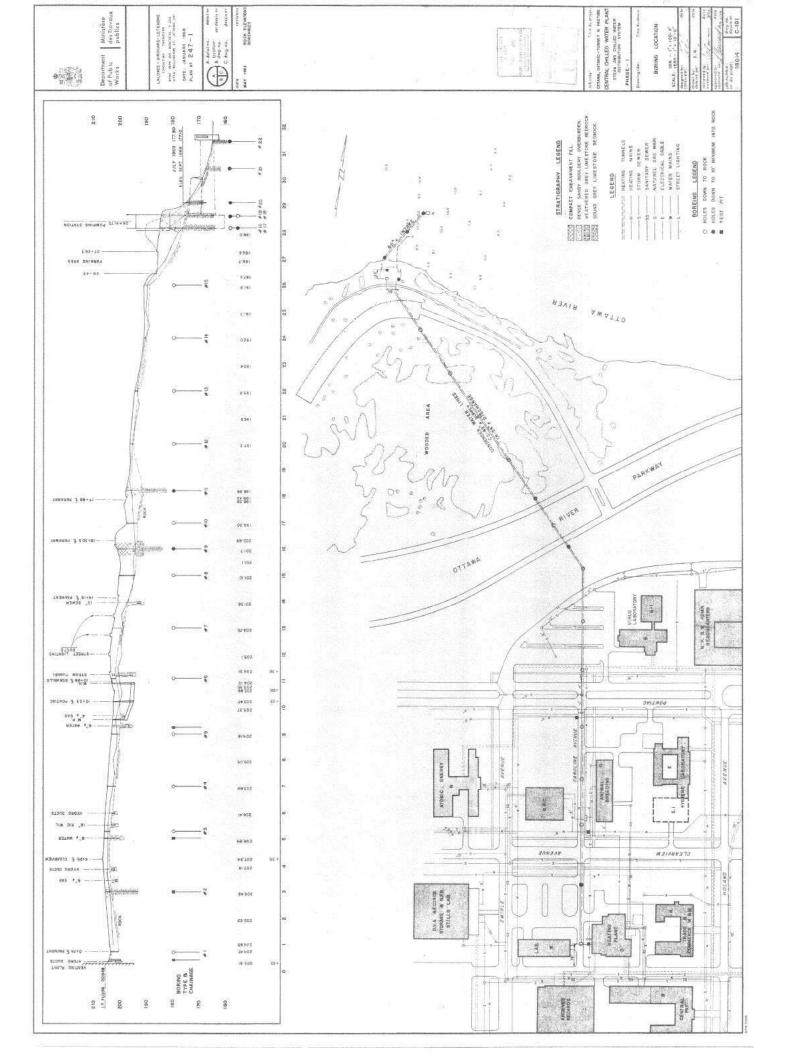
PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

#### PARKDALE AT BURNSIDE

OTTAWA CANADA ELEVATION OF GROUND SURFACE (ZERO DEPTH) 201-7'
NIVEAU DU SOL (PROFONDEUR ZERO) DATE OCT. 19, 1966 FORAGE No. 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. SONDAGE OU Compressive Strength K.S.F. Résistance à la Compression K/Pd,2 Small Scale Penetrometer K.S.F. Petit Penetrometer Essai - Standard Penetrisian Slowe/ft.-Coups/p DESCRIPTION OF SOIL DU SOL Depth in Feet Profondaur-Pied VANE TEST ESSAL AU MOULINET Elevetion Nivesu NO CASING SANS TUBAGE MARTEAU---HAMMER CHUTE LIBRE---OROP BARRE----DIA. ROD Sample Echantil BLOWS/FOOT OR SHEAR STRENGTH K.S.F. COUPS/PIED OU RÉSISTANCE AU, K/PD.2 Ground Surface 7 Niveau du Sol 201.7 FILL 5-1 WATER CONTENT SAND BROKEN ROCK 26 5\_2 WITH SOME TOPSOIL 5' 196.7 5.3 LOOSE TILL 7.5 31 or 2 5 - 4 DENSE TILL 8.5 193.2 --- OVER-NIGHT WATER LEVEL 192.0' ROCK CORE RECOVERY 100% 11.5 ROCK CORE RECOVERY 100% WATER LOST-16.5 1/4" DROP ROCK CORE RECOVERY 100% 21.5 180.2' BOTTOM OF HOLE --Alo. 100 2:0 WATER CONTENT PLATE PLAQUE TO. TENEUR EN EAU NATURAL NATURELLE 0 LIQUID LIMIT LIMITE DE LIQUIDITÉ R - REMOULDED-REMARK PLASTIC LIMIT LIMITE DE PLASTICITÉ

EPARTMENT OF	OF BORE H PUBLIC WOR LABORATOR	RKS, CAN	ADA	DO IFOT	(TUNNEY FFICE BU	S PASTUR	E) ONT	JD FET	Apr 6'	No. 3;	<b>x</b> 3
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SAMPLE TYPE		LEVATIO			2 INCH DIA.	ONE		LIQUID L	IMIT, WL		
UNDISTURB					UNDRAINED	SHEAR STE		PLASTIC	LIMIT, WP	••••	
DISTURE	GROUND WATER:		BEDROCK SURFACE;	202.9	UNCONFINED	COMPRESSION (	9u/2)	BUCK DE	DENSITY,	8'	
ROCK CO	GAUGE RE READING:		BOTTOM	172.8	FIELD VANE		··········· #				URE, p'
	ESCRIPTION		HOLE:	DEPTH			A				
TYPE OVERBUR	OF DEN AND BEI	DROCK	(F T.)	(FT.)	N			**********	1111	( <del>                                      </del>	BLOWS/
	•			İ	F::::						
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Aspna	lt Pavemen		205.7			1 1 1 1 1 1 1 1	.1111111				
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			179.	6	-	1,					
LIMES	STONE, FOR	Bilife	176.	9							
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	en man mineral de la fina de la f		172.	8	-	Hillimin					
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4.8		5.0 4.8		77							
otes: 1. We			olomit	e seam			1111111		<del>                                      </del>		Hilli
0.	3 ft thick	at el	ev. 19	19,8 ft.			1111111				
2. Ba	dly weathe	red Do	of omite	e seams							
	1.1 ft. thi			cions			1-1		++++		
3. We	athered Sh	nale se	oam (p	artly S	ilty					1:111:	
mi	d) 0.3 ft.	thick	at el	ev, 196	.7 10.						
1. We	athered be	sdrock	above	elevat	1.0n	. خاندادانال	لتلتلتك		بلللنتا	1:111	1111111

TESTING LABORATORIES	and an	PROJECT!	D.B.S.						M.I		labb	With a Burgleton	6.f 3
8. A.K	9	Run	STO, PEN.	hksist		N	8	-0	NAVI	MAN THE	25 1 1 1 1 2 2	SIST CON	123 c/07 has
	TON (FT.)		2 INCH D						LIQUI	b Lik	IIT, w		
Geodetic Geodetic	SURFACE!		UNDRAIN	IED S	HEAR	STR	ENGT	H,c <sub>U</sub>	PLAS	TIC L	IMIT, W SITY .	y	, , , , ,
MX. GAUGE	BEDROCK SURFACE:		FORMS: UNCONFIL GUICK TR	IAXIAL	MPRESS	SION (	(a/5)	**	BUOY	ANT	ensit	Y, W.	
NX. ROCK CORE READING:	HOLE!	163.7	FIELD V	ANE					PRE	ONS	DLIDA	TIONP	RESS
SAMPLE DESCRIPTION OF NO. TYPE OVERBURDEN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N	5'			<del></del> -	7	<del> </del>				
- WENDONDER AND DECISIONS				Ħ	HH	HII		HI		囯	H		
					ĦĦ								
TOPSOIL-CLAYEY TO	205.1	0.0		##				1111			Щ	Щ	
SANDY SILT, dark brownish grey to brown	202.1					詌		魽					
6 SILTY SAND, yellowish	201,,0	\$10 CO. SERVINE - 100 CO.											
brown "						剒							
few shaly partings						텚			曲				
and stylolites, mainly fine grained,												Ш	
dark grey to grey,												掛	
joints and broken	1,000							Hii				攂.	
rock in top 4 ft.	190.0	'l				$\mathbb{H}$			H	##	HH	##	
<b>K</b> ]										Ш	Ш	胐	
LIMESTONE						剒			魽				
with brecciated and mineralized zones									Ш	ĦĦ		1111	
few slickensides (evidence of faulting								Hi	Ш		Ш		
fractures and veins	57					Ш	Ш		Ш,	Ш	Ш		
are steep dipping, dark grey to grey			出掛		DC11	1   C	Hec	2 <b>Ve</b> 1	7	II.	4	卌	
dark grey to grey					4.	9		+•5			Hi	詽	
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			Hill	卌	3,	6		3.0	H			##	
N					15.			+.9				111	
			FIIII	卌	4/			+• 2					
	163.7	41.4		#			##	Ш	#		##	$\mathbb{H}$	#
(a. L. ) ] Bucks and 3 10			11111	Ш			###		Ш				Ш
Notes: 1. Rusty coated join fractures above e		eft.	抽描	掛					#	#		Ш	#
2. Minerals are calc	ite,					Ш							詌
cellestite and por	PalrorA												
3. About 50% loss of				Ш		Ш	1		Ш	#	Ш		Ш
water during rock	coring,			##		H							#
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REMARKS		<u> L.                                    </u>	####	Ш	шш.	ШΞ		ШE	Ш	ШЕ	Ш	田田	Ш



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	RECORD OF TMENT OF F TESTING L	UBLIC WO	RKS, CAN	IADA	PROJECT:	BORING BY: FILE	1.22 32-328
	3011	G.F.	CHEEKE	Z AP	71113	PENETRATION RESISTANCE D. PENERESISTANCE, N	CY
SAMP	LE TYPE	DAPUM:	LEVATIO	ON (FT.)		INCH DIA.CONE LIQUID LITT, WL	
100000	····· UNDISTURBED	Ge	odetic	SURFACE!		IDRA NED SHEAR STRENGTH, SU PLASTIC LIMIT, WP	
	DISTURBED			BEDROCK SURFACE:	199.5	ICONTINED COMPRESSION(Qu/2)	
2BX	FROCK CORE	A	-	ROTTOM OF HOLE:	182.2	PRECONSCILIDATION PRES	SURE, Po
MPLE		OF		ELEV. (FT.)	DEPTH (FT.)		BLOW
). TYPE	OVERBURDI	EN AND BE	DROCK	(4.4)			
		- 900 X C - 200 Y C - 200 X C - 200 X C		203.0	0.0		
	TOPSOI SILTY SA	L coveri ND-GRAVE		199.5	3.5		
	Top 0.5 fracture LIMESTON	d, remai	nder o	ef			
	wi horiz. w joints a 197.5, 1	t elev.	198.5,				
	zones wi unconnec elev. 18 and elev	ted pore 5.5 (12)	es at 'thick				
	thick)			182.	2 20.8		
		BEDROCK	Loud				
	2.3 ft. 5.0		3 ft.				
	5.0 5.0 17.3 ft.	5. 5.	0				
	NOTE:	Water lo	st at				
		elev. 19	J. J				
	2 ,				-		
٠							

DE			BORE HOLE			'S PASTURE, OTTAWA, ONT Dec. 9/69 No.: 136	
		TESTING L	ABORATORIES			ed D.B.S. Building Perreault No.:32-3289	
CORC	}	3011	DRAWN: CHECK	DI AP	HUS	PENETRATION RESISTANCE CONSISTENCY STD. PEN. RESISTANCE, N	<u>.                                    </u>
S	AMPL	E TYPE	ELEVATION			STD. PEN. RESISTANCE, N	
		··· UNDISTURBED	Geodetic		204.6	UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, WD	
99000		······ DISTURBED			201.5	QUICK TRIAXIAL BUOYANT DENSITY, 8	
<b>3</b>	••••••	····ROCK CORE		BOTTOM OF HOLE:	181.6	FIELD VANE PRECONSOLIDATION PRESSURE, p'	
AMP	-		CRIPTION OF	ELEV.	DEPTH (FT.)	N BLOWS	8/1
0.	TYPE	OVERBURDE	N AND BEDROCK	<u> </u>	<del> </del>		$\prod$
							#
				204.6	0.0		
	-	TOPSOIL SAND-GRA	Market Commence of the Commenc	201.5	3.1		F
	111	LIMESTON	E, fractured				1
	X		ly broken	198.0	6.6		1
		soundnes		1			1
		198 to 1	e joints elev. 97 and elev. 193, 2"	191.5	13.1		+
	M		ed zone at 192	<u>- 31</u>			-
			NE, sound nes of small		Į.		
	M	unconnec	ted pores at				
		elev. 18 186.8 (5	39.1 (8"), and	1			-
	X	100.0 (		181.6	23.0		
	227	n).	EDROCK				
		Drilled	Recovered		1		
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		1.1	0.6				-
		1.0 2.4	0.9 2.4		1		-
	ĺ	3.0	3.0				
		5.0 5.0	5.0 5.0				-
		3.0	J.U				
		19.9 ft.	18.0 ft.		ā ā		
			ater lost at lev. 198.6				-
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		200.9					-
	5						-
					1 2		Í
		1 10 10					1
	ARKS						1

DEPART	MENT OF P	BORE HOLE	IADA F	ROJECT : S	PASTURE, OTTAWA Nov. 1 eam and Chill Water BORINGBY:	FILE NO.:
CORD 3	014	ABORATORIES  ORAWN: CHECKE	APP	istribu U	OTD. PEN. RESISTANCE, II	CONSISTENCY WATER CONTENT, W
	E TYPE  UNDISTURBED  UNDISTURBED	Geodetic GROUND WATER:	GROUND SURFACE; BEDROCK SURFACE;	203,9 201,4	CASING  INDRAINED SHEAR STRENGTH, SUBJUNCT DE SHEAR STRENG	IIT, WL
BXF	ROCK CORE	READING:	BOTTOM OF HOLE:	191.4	FIELD VANE PRECONSO	LIDATION PREI SURE, p'
AMPLE		CRIPTION OF	ELEV. (FT.)	DEPTH (FT.)	N	BLOWS/F
O. TYPE	OVERBURDE	N AND BEDROCK				
-		AND-GRAVEL	203.9	0.0		
		ose)	201.4	2.5		
		ESTONE ntact	200.0			
	near ve %" calc running 200 ft. one fac water s driller	rtical ½" to ite stringer from elev. to 193 ft., se of stringer stained, 10st water 198.9 ft.	191.4	12.		
777	Drilled 2.7 ft 2.3 5.0	Recovered  2.7 ft. 1.3 5.0	-			
	10.0	9.0				
REMARKS	THE REPL					

			BARE HALE		OCATION:	The same and the s	DATE:	NO.
			BORE HOLE PUBLIC WORKS, CAI	NADA 7	runney '	S PASTURE, OTTAWA	Nov. 17/69	204
)EI			ABORATORIES	MADA P	PROJECT: S	team and Chill Water	Lafrange	32-3341
NG	energy earli		DRAWN CHECK	ED) / APP	ROYED:	ution System (Phase 3) PENETRATION RESISTANCE	<ol> <li>and the property of the property</li></ol>	STENCY
M8	30	14	De R	eks 1	409	STD PEN. RESISTANCE, N	NATURAL WATER C	OHTENT, W
SA	AMPL	E TYPE	FERRINGS (100 100 100 100 100 100 100 100 100 10	ON (FT.)		2 INCH DIA. CONE	LIQUID LIMIT, W	0
-		"UNDISTURBED	I CANDIDITE	GROUND SURFACE:	203.7	UNDRAINED SHEAR STRENGTH, S.		
<b>a</b>		DISTURBED	GROUND WATER!	BEDROCK SURFACE:	201 1	FORMS: UNCONFINED COMPRESSION(Qu/2)	BULK DENSITY	8;···· □
<b>M</b>		ROCK CORE	GAUGE	BOTTOM	192.4	FIELD VANE	PRECONSOLIDATIO	H PRESSURE, P
			CRIPTION	HOLE:	DEPTH		51	
-	LE		OF EN AND BEDROCK	15-51	(FT.)	N The state of the	-1	BI.OWS/F
+		OVENDUMEN	N MYD DIEVINA	1				
				1				
				203.7	0.0			
					A CONTRACTOR PRINCIPAL			
			SAND-GRAVEL					
			own oose)	201.1	2.0			
	177		0367	_	1			
	X			200.0	<u> </u>		++++++	
	N)							
	K		ESTONE	100			4-4	<del>:::::::::::::::::::::::::::::::::::::</del>
	N							
	X		ures from					
	KV	elev.	stact stained	14				
	X	driiie at el	ov. 199.7 ft.					
	1/1	ac or		192.4	4 11.	3		
	77							
							F#111211111	
					1			
		B	EDROCK					
		Drilled	Recovered	,				
		1.4	1 2					
		5.0	5.0					
		2.3	2.3		122			
		8.7	8.5					
					1			
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				Av.				

	Ċ	ECOPO OF	BORE HOLE	li	OCATION:	DATE: HOLE NO.: OOF
DE			PUBLIC WORKS, CAN	IADA .	TUNNEY	'S PASTURE, OTTAWA Nov. 17/69 205 Steam and Chill Water BORINGBY: FILE NO.:
U.C.	ran i		ABORATORIES	J. J.	Distri	bution System (Phase 3) Perreault 32-3341
COAC			DRAWN: CHEGIE	47 JAPI	**************************************	PENETRATION RESISTANCE CONSISTENCY
		3014	log Klo		1313	STO. PEN. RESISTANCE, N
S	AMPL	E TYPE	ELEVATIO	OROUND		CASING
HO 1023		···· UNDISTURBED	Geodetic	SURFACE:	203.5	UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, Wp.
		DISTURBED		BEDROCK SURFACE:	197.8	OURCK TRIANIAL
<u> </u>	BX	FROCK CORE	GAUGE FEADING:	BOTTOM OF HOLE:	192.6	FIELD VANE PRECONSOLIDATION PRESSURE, p' 水
AMP			CRIPTION	ELEV.	DEPTH	
0.	TYPE	OVERBURDE	OF EN AND BEDROCK	(F T.)	(FT.)	N 10 20 BLOWS/
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				203.5	0.0	4.14.14.14.14.14.14.14.14.14.14.14.14.14
		ORGANIC	SILTY SAND			
			d with			
			LIMESTONE pieces of			
~	777		d sandstone	200.0	)	
3	111	dark gre	y to black			
		(co	ompact)			
	-			197.8	5.	<u> </u>
	$\otimes$	1.78	4ESTONE			
	K	1	ntact	1		
	11		maybe fracture	d,		
	X		ick soft stringer			
	K		hetween			
	11	elev. 19	97.8 & 196.8 f	t.192.	6 10.	9
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		BEI	DROCK			
		Drilled	Recovered			
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	WARKS					هنده مستوانية بالمواحد والمواجعة وال

		BORE HOLE		CATION:	S PASTURE, OTTAWA team and Chill Water	Nov. 17/69	HOLE NO.: 206
JEPARI	PECTING I	ADOBATORIES		ROJECT: S Distrib	ution System (Phase 3)	Perreault	32-3341
ORD 30	014	DRAWN OG. CHECK	APP		PENETRATION RESISTANCE		ONTENT, W
	E TYPE	The same of the sa	ON (FT.)		2 INCH DIA. CONE	LIQUID LIMIT, WL-	
	UNDISTURBED	Geodetic	SURFACE:	203.4	UNDRAINED SHEAR STRENGTH, &U	DILL DENSITY Y	<u></u>
<b>2</b>	DISTURBED	GROUND WATER:	BEDROCK SURFACE:	201.1	UNCONFINED COMPRESSION(cu/2)	BUOYANT DENSITY,	<b>ķ</b> !□
	ROCK CORE		SOTTOM OF HOLE:	190.6	FIELD VARE	PRECONSOLIDATIO	N PRESSURE, P' A
MPLE	DES	CRIPTION OF	ELEV.	DEPTH			BLOWS/FT
D. TYPE	OVERBURD	N AND BEDROCK	(F 7.)	(F1:)			
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	elev.	200 ft.					
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	BE	DROCK					
	2.2 ft 4.9						
	3.4 10.5	10.5	~				
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ARTMENT O	F PUBLIC WOR		101		''S PASTURE, OTTAWA Nov. 12/69 209
			PROJEC	CT: S	Steam and Chill Water   BORINGBY:   NO.:
TESTIN	G LABORATORIE		Dis	stri	bution System (Phase 3) Perreault   32-3341
3014	DRAWN:	Rick	APPROVEC	<u>ÿ</u>	PENETRATION RESISTANCE CONSISTENCY  STD. PEN. RESISTANCE, N
MPLE TYPE		EVATION (F	T.)		2 INCH DIA. CONE
	OATUM:		F: 000		UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, Wp.
	George	tic BEDRO	ck. 202	<u>. 6</u>	
		SURFAC	E: 200.	. 9	UNCONFINED COMPRESSION (Qu/2) BUOYANT DENSITY, & BU
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	WATER OVERBU	MPLE TYPE  UNDISTURBED  DISTURBED  BXF ROCK CORE  DESCRIPTION OF OVERBURDEN AND BED  LIMESTONE intact water stained fractures betwee elevations 194.8 and 194.3 ft., driller lost wat at elev. 198.6  BEDROCK  Drilled Recove 2.2 ft. 2.2 3.4 4.8 4.8 10.4  10.4  Recove	MPLE TYPE  UNDISTURBED GATUW: Geodetic GROUND: SURFACE SURFACE GROUND: SURFACE GROUND: SURFACE GROUND: SURFACE GROUND: SURFACE GROUND: GROUND: SURFACE GROUND: GROUND: SURFACE GROUND:	MPLE TYPE UNDISTURBED GEODETIC GROUND GEOTOM GEOTOM GEODETIC GROUND GEODETIC GROUND GEOTOM GEODETIC GROUND GEOTOM GEODETIC GROUND GEOTOM GEODETIC GROUND GEODETIC GROUND GEODETIC GROUND GEODETIC GROUND GEODETIC GROUND GEOTOM GEODETIC GEOD	MPLE TYPE UNDISTURBED GROUND STURBED GROUND BXF ROCK CORE READING:  WATER:  DESCRIPTION OF OVERRURDEN AND BEDROCK  SILTY SAND With some Gravel  LIMESTONE intact water stained fractures between elevations 194.8 ft. and 194.3 ft., driller lost water at elev. 198.6  BEDROCK  Drilled Recovered 2.2 ft. 3.4 3.4 4.8 4.8 4.8 4.8 4.8 4.8 10.4 10.4

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	DISTURBED	GROUND WATER:	BEDROCK SURFACE:	207.5	UNC	ONF	INED	CO	MPR	ESSI	OH	0/2	····	1	BUG	AYC	TO	ENS	TY,	¥'		. ,	• • • •		C
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DRM TL/TF 213

DE		TESTING L	F BORE HOLE PUBLIC WORKS, CAN ABORATORIES	NADA	LOCATION: OTTAWA PROJECT: Food an	-	popular.		EY g		_				1		ON	rr.	.	Se Bo	p	t.	37:				FIL	E	32	P.			
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		DISTURBED	OROUND WATER:	BEDROCK SURFACE	205.7	0	ICO ICO	NF	NEC RIA)	CIA	OM L.	PRI	E 6 5	ION	1(9,	1/2	)			au	YO	AH	TO	EN	SIT	4,8	•	٠	٠	•••	•••	•••	a
		ROCK CORE	GAUGE READING:	OF HOLE:	205.7	1	IEL	D V	AN	E	••••	,,	•••	• • • •	• • • •				*	PF	REC	:01	180	LI	DAT	101	I PI	RES	80	RE,	Po		Δ
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FORM TL/TF 213

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& ASSOCIATES LTD. & ASSOCIÉS LTÉE

SOIL PROFILE & TEST SUMMARIES

PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

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PARKDALE AVENUE CONSULTING ENGINEERS - INGÉNIEURS CONSEILS TUNNEY'S PASTURE CENSUS BUILDING OTTAWA CANADA HOLE ELEVATION OF GROUND SURFACE (ZERO DEPTH)
NIVEAU DU SOL (PROFONDEUR ZERO) FORAGE No. DATE NOV. 13, 1974 NOTES BM (FLEY 205.31) GEODETIC. SPINDLE TOP OF HYDRANT NO. GG FROM JOPOGRAPHICAL SURVEY PLAN BY C.W. FAIRHALL, O.L.S. 101 LO BOYDINGS NO CASING SANS TUBAGE DESCRIPTION OF SOIL Depth in Feet Profondeur - Pied MARTEAU----HAMMER CHUTE LIBRE---DROP BARRE----DIA. ROD BLOWS/FOOT OR SHEAR STRENGTH K.S.F. COUPS/PIED OU PÉSISTANCE AU, K/PD.2 Ground Surface - Niveau du Sol 0 202.5 SANDY TOPSOIL 701.7 WATER CONTENT FILL-8 24 FOR 6 101-1A WITH SOME 36 101-5 TOPSOIL, GRAVEL & CLAY & A FEW I" TO I'4" PIECES OF 50 BROKEN ROCK 101-3 41 7.0 POSSIBLE BEDROCK-MATERIA 7.5 REQUIRING DRILLING LIMESTONE ROCK CORE RECOVERY 98 % 12.7 F 189. B LIMESTONE ROCK CORE RECOVERY 100% 7.7 - 184.8 25%-WATER LOST ATEL 184. LIMESTONE ROCK WATER LEVEL DEC. 12, 974 - EL. 182.7 40%-WATER LOST AT EL. 1822 CORE RECOVERY 100% OVERNIGHT WATER LEVEL-EL. 180.5 ALL WATER LOST AT EL. 180. 2.081 180.2 LIMESTONE ROCK CORE RECOVERY 100% 27.3 175.2 LIMESTONE YZ' SOIL LAYER AT EL. 174. ROCK CORE RECOVERY 58% 31.7 - 170.8 BOTTOM OF HOLE WATER CONTENT %TENEUR EN EAU PLOVE NO. NATURAL NATURELLE 0

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R = E MOULDED-REMANE CR CORE RECOVERY

& ASSOCIATES LTD. & ASSOCIÉS LTÉE CONSULTING ENGINEERS - INGÉNIEURS CONSEILS

OTTAWA CANADA

SOIL PROFILE & TEST SUMMARIES

PROFIL SOUTERRAIN ET RÉSUME DES ESSAIS

PARKDALE AVENUE TUNNEY'S PASTURE CENSUS BUILDING

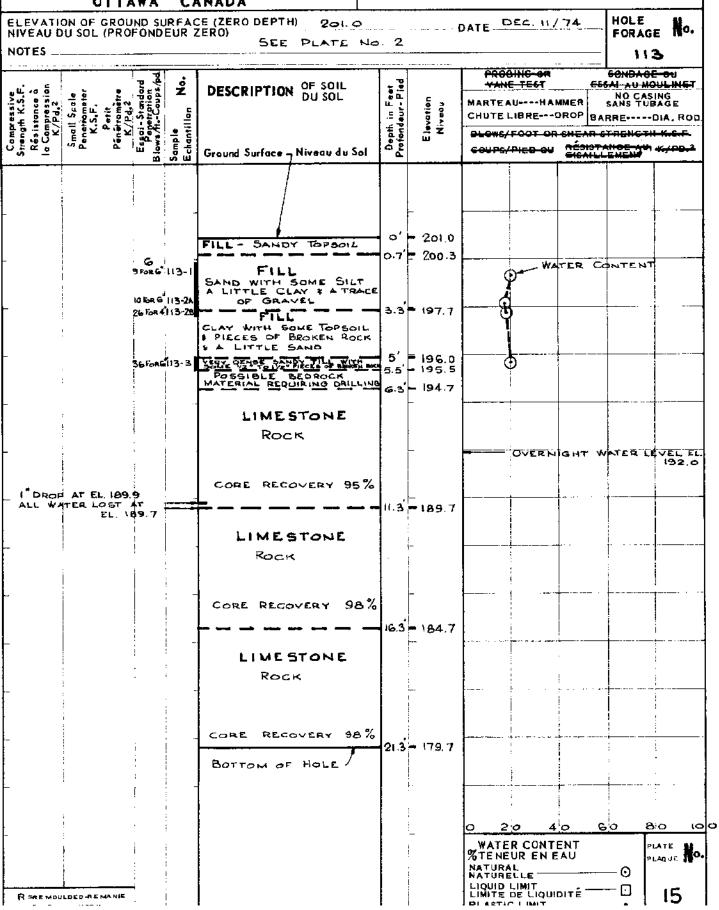
ELEVATION OF GROUND SURFACE (ZERO DEPTH) 202.9' HOLE No. DATE NOV. 15. 1974-NOTES. SEE PLATE NO.2 102 ESSAL AU MOULDIET CANADAIG OF DESCRIPTION OF SOIL MARTEAU---HAMMER CHUTE LIBRE---DROP BARRE---- DIA. ROL Ground Surface 7 Niveau du Sol 0 SANDY TOPSOIL
FILLSAND & PIECES OF
BROKEN ROCK
WITH A LITTLE
TOPSOIL & CLAY e. 505 5.505 2 Fee 6 102-1 WATER CONTENT 0.005 139.5 REQUIRING DRILLING LIMESTONE ROCK CORE RECOVERY 100% LIMESTONE ROCK ALL WATER LOST AT EL 195. CORE RECOVERY 100% 1.561 - 8.01 LIMESTONE ROCK WATER LEVE CORE RECOVERY 100% WATER LEVEL NOV. 27 1974-EL. 187.7 15.8- 187.1 LIMESTONE ROCK CORE RECOVERY 99% 9.5- 183.4 LIMESTONE ROCK CORE RECOVERY 96% 2" TILL LANER AT EL. 179.1" LIMESTONE CORE RECOVERY 99% 28.8- 174.1 LIMESTONE CORE RECOVERY 93% 33.3 ICB. C' BOTTOM OF HOLE WATER CONTENT NATURAL NATURELLE LIQUID LIMIT LIMITE DE LIQUIDITÉ 0 3 R \* Remoulded-Remanie Care Recovery Carotte Recuperee PLASTIC LIMIT

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PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

PARKDALE AVE. TUNNEY'S PASTURE CENSUS BLOG.

CANADA AWATTO



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PARKDALE AVE.

PLASTIC LIMIT

TUNNEY'S PASTURE CENSUS BLOG.

OTTAWA CANADA DATE Nov. 22 /74 ELEVATION OF GROUND SURFACE (ZERO DEPTH)
NIVEAU DU SOL (PROFONDEUR ZERO) 199.9 HOLE FORAGE No. SEE PLATE No. 2 114 SONDAGE OU SESAL AU MOULINET PROBING OR ģ Compressive Strength K.S.F. Résistance à la Compression K/Pd,2 Depth in Feet Profondeur-Pied DESCRIPTION OF SOIL DU SOL YANE TEST Small Scale Penstrometer K.S.F. Perit Penfromètre K/Pd.2 NO CASING Elevation Niveou MARTEAU----HAMMER Echantillon CHUTE LIBRE --- DROP BARRE ---- DIA. ROD. BLOWS/FOOT OR SHEAR STRENGTH K:S.F. -COUPS/PIED-OU RÉSISTANCE AU. K/PD.2 Ground Surface - Niveau du Sol 0' 199.9 oʻ VERY DENSE SANDY TILL WITH ! 1/2" TO !" PIECES OF WATER CONTENT WITH SOME 54 114-1 0" WEATHERED ROCK 2.3 197. G 2.9' 197. O LIMASTENS POCKS 25% of WATER LOST LIMESTONE AT EL. 195.G. ROCK CORE RECOVERY 97% 50% OF WATER LOST AT 7.9 - (92.0 EL. 192.0 LIMESTONE ROCK CORE RECOVERY 95 % 129 - 187.0 BH \*114 ABANDONED 2 0 4 0 60 80 100 n WATER CONTENT %TENEUR EN EAU PLAGUE NO. PLATE NATURAL NATURELLE 0 LIQUID LIMIT LIMITE DE LIQUIDITÉ  $\odot$ 16 R TRE MOULDED-REMANIE

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#### OTTAWA CANADA

SOIL PROFILE & TEST SUMMARIES

PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

PARKDALE AVENUE TUNNEY'S PASTURE CENSUS BUILDING

PLASTIC LIMIT

ELEVATION OF GROUND SURFACE (ZERO DEPTH) 200.7' DATE DEC. 2, 1974 FORAGE No. SEE PLATE No. 2 115 PROBING OR SONDAGE OU ż Depth in Feet Profondeur-Pied DESCRIPTION OF SOIL VANE TEST ESSAL AU MOULINET Rasistance of Compressic K/Pd.2 Compressive Strength K.S.F NO CASING MARTEAU----HAMMER CHUTE LIBRE---DROP BARRE----DIA. ROD PLONE/FOOT OR CHEAR STRENGTH KIS.F. COUPS/PIED OU PRESETANCE AU, K/PD.2 Ground Surface - Niveau du Soi O, 200.7 0.3 CRUSHED STONE 199.7 FILL. 15686 (15-) PIECES OF BROKEN ROCK 20 . WATER CONTEN WITH SOME SAMPY TILL, đ 115-2 A LITTLE TOPSOIL H RORG E A TRACE OF SAND 4.0 - 19G.7 4.3 - 19G.4 4.8 - 195.9 POSSIBLE BEDROCK-MATERIAL REQUIRING DRILLING LIMESTONE ROCK CORE RECOVERY 100% LIMESTONE ROCK OVERNIGHT WATER LEVEL! ALSO, DEC. 4, 1974 | EL. 193 . 4' CORE RECOVERY 90% e.oe/ 18.e LIMESTONE ROCK CORE RECOVERY 100% 14.8 185.5 LIMESTONE ROCK CORE RECOVERY 97% 8.081 ises BOTTOM OF HOLE GD. WATER CONTENT PLATE PLATE PLAQUE TO TENEUR EN EAU NATURAL NATURELLE •0 LIQUID LIMIT LIMITE DE LIQUIDITÉ  $\Box$ R -REMOULDED-REMANIE

#### RECORD OF BOREHOLES 1, 2 & 3 BORING DATE FEB. 12, 1975 LOCATION See Figure 2 DATUM GEODETIC SAMPLER HAMMER WEIGHT 140 LB., DROP 30 IN. PENETRATION TEST HAMMER WEIGHT 140 LB., DROP 30 IN. SOIL PROFILE SAMPLES DYNAMIC PENETRATION RESISTANCE, BLOWS/FT. COEFFICIENT OF PERMEABILITY, k., CM. / SEC. GOH ELEVATION SCALE PIEZOMETER MET 20 40 60 80 1x10 IxIO IxIO SHEAR STRENGTH Cu., LB./SQ.FT. NAT. V.-+ Q.-NUMBER STANDPIPE ELEV'N. WATER CONTENT, PERCENT BORING DESCRIPTION INSTALLATION Wp \_\_ŏ\_ BH. I 0.0 TOPSOIL 205 COMPACT BROWN MEDIUM SAND DRILLING (FILL) 2" 1G ï 200 198.9 5.5 DEUSE BROWN SHITY SAND, TRACE CLAY, OCCASIONAL GRAVEL, COBBLE BOULDER AND CONCRETE (FILL) 5.5 FARLY SOUND GREY 193.6 BETROCK 10.8 SOUND GREY LIMESTONE × ROTARY W.L. IN OPEN CORE 2 BX 195 BOREHOLE AT ELEV. 197.2, FEB.12,1979 100 × BEDROCK 190,8 CORE RECOVERY (% 190 BH. 206.4 GROUND SURFACE LOOSE BROWN SAND OCCASIONAL SILT SEAMS (FILL) 205 AUGER 1 D.0 8 200. COMPACT BROWN SANDY SILT, TRACE CLAY, OCCASIONAL GRAVEL AND COBBLE (FILL) 200 POWER DIAM 2 AS END OF HOLE 195 REFUSAL TO AUGERING 205 BH. 3 202.3 GROUND SURFACE GROUND SURFA TOPSOIL LOOSE BROWN MEDIUM SAND, DECASIONAL SILT POCKET DIAM. CHOLLOW STEM 0.3 AUGER 200 A.S. (FILL) COMPACT BROWN SANDY SILT, TRACE CLAY, OCCASIONAL GRAVEL AND COBBLE (FILL) POWER 2 A.S. 195 U 193. END OF HOLE REFUSAL TO 190 5 Percent axial strain at failure DRAWN \_\_\_ DN VERTICAL SCALE Golder Associates IIN. TO 5 FT. CHECKED \_\_\_\_\_\_\_

u	OCAT	ION SEE FIGURE 2				-	′′′	_			808	RIN	G D	STA		10	٧.	10	E 16 ¢11,1982 test hammer	we	ien.						DETIC		
16		NATION GO AZIMUTH	П	-	SAI	MPL	.ES	Т		4500		- 91	ER ON		-	-	ATI	ON	TEST HAMMEN	T	168		33.5		taras	T	7 700		
PES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH	NUMBER	TYPE	BLOW3/0.3m	883	ECC	8	RY LUD RE,%		2.D.,	1	CTAR	7:	0:50	٩٠,	NTINUITY DATA  YPE AND SURFACE DESCRIPTION	20	TOR NOW NOW	AUICTA OF THE	LIC Y	TES	TIONA	١.	WATER LEVELS	MENTATI	10
1		STA. 12+743 -11.4m LT.																											
0 1 2 3 4 5 6 7 8 9 10 11 12 3 14	ROTARY DRILLING   BW CAS	OTTAWA FORMATION 4.42-1399 UNIT C3 Fresh, medium to dark grey, fine grained, thinly to me dium bedded, interbedded laminar and massive tex- tured LIMESTONE Laminated argillaceous partings 1 to 30 mm thick plus styolite form bedding separations		54 54 52.10 50 50 50 50	3 4 5 7 8 7	BX:	21 9 10 4		5										-264 -125 -168  Argillaceou Bedding Partings	5				1 tt 3		4	STAND NATIVE BACKFI M STA		7 Line Visit Marie
DE	L	1			1						11	11	Ш	11	Ш	11	Ш	11	L		Ц	RO	CKI	LOGG	E0_		DRA	WN D.N	7

# E # \*\*

					F	E	co	R	D	0							LE:			18	3				T   OF
			FIGURE 2														. 19, TION TE			we	IGHT				DROP 750mm
DEPTH METRE		DE	ESCRIPTION	BYMBOLIC LOG	ELEV. DEPTH	E.R.	APL!	/0.3m	REC	io io	RY	ER C	ONT SW	PENT	, % Wi 40		CONTI	NUITY	DATA	32.	YDRA	ULIC	ADOI TES	T TING	INSTRUMENTAT
-	RO	Aldress more and Table	1.17 69 - 8.5 m RT.	8			1	3		-10	299	25	92	60:	2	99	P P	ESCRIP	TION	-(a)	OH!	2 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	1	AND NOTES
huduudandandandanka	SOOT DIAM CHOI OW STEEN	Loose Dar Fibrous P	LTY SAND and ccasional Cobbles k Brown EAT	×@	60.62 60.62 60 59.71 0.91 58 57.72 2 70 57.39 3.23	2	50	3 1 1 00									548 521 232	Org.	M = 90%						BORENOLE DRY DURING DRILLING
համասիավոտիուխո <sub>ր</sub>		AVGER PROBABLY	TO REFUSAL BEDROCK		3.23																				
2	POWER AUGER	GROUND TOPSOIL Brown SILI Trace Grav Stiff to F Dark Brown Fibrous PE	SURFACE TY fine SAND rel, (FILL)		58	2 3	0.				•						358						₩.	The second secon	Borenole Dry
4	Jŵ	Light brow Trace Shell END OF H AUGER RI PROBABLY	IS HOLE EFUSAL Y BEDROCK		1-90 57.4-7 3-3-5												J								
		CALE ( ALONG H					Ļ	1	der	Ш.	111	111	<u>   </u>		Ш	Ш	L			Ш,	носи	LOGG	ED	(92	DRAWN D.N.

RECORD OF BOREHOLE 2! SHEET ! OF ! DATUM GEODETIC BORING DATE OCT. 20 \$ 21, 1982 LOCATION SEE FIGURE 2 INCLINATION 90° AZIMUTH SAMPLER / PENETRATION TEST HAMMER WEIGHT 63.5 kg., DROP 760mm SAMPLES DRILLING RECK BLOWS / D.Sm TYPE RECOVERY ROLD MACUNE DISCONTINUITY DATA
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WO INSTRUMENTATION DESCRIPTION , i 2000 0000 0000 0000 PIPE ¢ CAP 5TA. 12+861-11m LT. SURFACEZ GROUND SURFACE 61.60 SURFACE -0.15 Loose Brown SILTY SAND (FILL) 0.91 Compact Brown SILTY SAND and GRAVEL, Numerous Cobbles and Boulders (FILL) 60 dizi 59.68 PLASTIC Dark Brown PEAT Light Brown MARL 2 Grey SAND, GRAVEL and Boulders 3 3.40-OTTAWA FORMATION Argillaceous Bedding Parting 10.91m UNIT C3 NATIVE . Fresh, medium to dark grey, BACKFILL fine grained, thinly to medium bedded, interbedded laminar and massive textured S Carbonate Vein LIMESTONE Laminar argillaceous part-DRILLIA lites form bedding separa-Planar Smoth Joint F 0 to 3 8 7 Joint Bedding Partings 3 Lithoclastic Limestone Marker bed Carbonite 5°TCA UNIT C4 Fresh, light grey, fine grained, medium to thickly 0 bedded, massive textured LIMESTONE. Argillite Parting 150.69 END OF HOLE 10.91 WATER LEVEL IN STANDPIPE AT ELEV. 58.98 ON NOV. 20182 50 DRAWN D.N. ROCK LOGGED DEPTH SCALE (ALONG HOLE) DATE DEC. 1,1962 CHECKED TJA Golder Associates SCALE IN METRES

			SEE FIGURE 2		F	E	CC	R	D	0	8	ORU	NG (	ATE	Ē.	00	۲.	ES 27¢	98	2		UM G	and the second of the second
_	_	HOITANI	90° AZIMUTH	Т	-	ISA	MPL	ES			_	ER	CON	TEN	-	_	ATI	ON TEST HAMMER	WEI	нт с	63.5	kg.,	OROP 760mm
DEPT) METPE			DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH	ER		OW9/0.5m	REC	IOV	ER1	20	ow,	77.4	CTURE OEX 105m	DO	ISC Const	ONTINUITY DATA TYPE AND SURFACE DESCRIPTION	CON TY	RAUI	TOY TOY	ADOITIONA TESTING	INSTRUMENTATION
իտվավավավավավակակակակակակակակակակակակա	400mm	GROUNT CONTAMA UNITAMA UNIT	Fresh, moderately red on bedding part- medium grained and crystalline ONES.  medium grey, fine d, thinly to medium ,interbedded laminar ssive textured		61.69 0.09 60.75 60.47 1.72 60 59.37 2.32 58 57.65 4.05	2	SO D.O. BXL R.C.	- -			6			(5)				Argillaceous Bedding Part- ings moderate- ly weathered 1.3m depth					GROUND SURFACE7 SURFACE7 SURFACE - SEAL PLASTIC TUBING NATIVE BACKFILL WATER LEVEL IN STANDPIPE AT ELDV. 59.37 ON NOV. 20/02
2 3 4 5	ROTARY BYL CORE B	GROUP Dense SILTY Wood  OTTAWA LINIT CL dark gr thinly prodular SHALE.  UNIT C weather ings, r ded cr UNIT C LIMEST END	OF HOLE		G1.01 1.22 G0.00 2.23	3	20	37	9 0									Argillaceous Bedding Part- ings moder- ately weath- ered to 2m					GROUND SURFACE SEAL PLASTIC TUBING NATIVE BACKFILL STANDPIPE STANDPIPE AT ELEV. 59. 58 ON NOV. ZO, 1982
DEP	00	CALE (AL	ONG HOLE )				(	Gol	de	r	As	so	cia	tes	s				R C	TE C	OGG EC	ED	DRAWN D.N.

	LO	CATION 5	EE FIGURE 2		R	E	CC	R	D	1	0								LES 35,			3		SHI TUM GE		I OF I	
L	INC	COF HOITANIA	AZIMUTH		~													AT	ON TEST HAMME	R W	EIG	HT	63.	5 kg.,	DR	OP 760mm	
DEPT MÉTR			SCRIPTION	BYMBOLIC LOG		NUMBER S	TYPE	70.8m	RI TO COR	CO	VE	RY	R	-453	0	CTURE DEX 103-	10	DISC CORE	ONTINUITY DATA	<u>1</u>	HYCON	RAL	TIC ON MINISTRA	ADDITION TEST IN	6	NSTRUMENTATION WATER LEVELS	אכ
-		STA.13+10	. 35 01 - 8 m LT,			NS 200-1100														1							
		SAND (FIL	own SILTY FINE	DXX	62.26 62.82 0-24 61.44	-	SO DO	12		0																	adambanhan
ևասևալ Հ		Compact to SANDY SILT Trace Clay	Dense Brown , Some Gravel (TILL)	0	1 1	3		31		Θ														-мн			-
ահավոտեա	STEM	AUGER R PROBABLY			1.36																				800	OREHOLE BY DURING PRILLING	minnimi
համիավորկավորիակակավորիակավորվորիակավորիակա	GER, 200mm DIAM. (HOLLOW	GROUND S Compact Day SAND and G END O AUGER RE	EC EC	<b>X</b>	62.26 526 61.17 0.49	5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	010	8																	a 5 0	OREHOLE RY DURING - RILLING	
<b>[</b>	POWER AUG	BH. STA.13+147	.37 .5-4.5 <sub>m</sub> LT.			1	+																				
		Loose Brown SAND, Tr. 0	SILTY FINE rganic Matter	× 4	0·12 1	SE	252				0								18								
0 -		AUGER RE	of Hole Fusal Probably Rock		0.79														SW						BOODE	RE HOLF PURING	nastation en en en en en en en en en en en en en
DEPT	TH S	ALE (ALONG HO	LEI				G	old	iei		As	so	ci	ate	95					1	ROC	K LC	EC	1,1932	DR	AWN D. IV.	

TUNNE	YS PASTURE FUEL	STORAGE				B.M.(ELEV 63.60m)geodetic:Arrow on top	BOREHOLE NO: 94-4
	: PUBLIC WORKS (	CANADA				of fire hyd. N. side of De L'Eglantine	Project No: E - 7151
	DATE: 12/07/94					as per survey plan by P. Riddell OLS	ELEVATION: 62.95 (m)
SAMPI	E TYPE REMO	DULDED-AUG	ER	SHE	LBY TUBI	SPLIT-SPOON NW-CASING	NO RECOVERY NO CORE
DEPTH (m)	SMALL PEN		LE TYPE	SAMPLE NO	CORE RECOVERY	SOIL / ROCK	# VANE Cu (kPa) # 80 160 240 320
	(kPa)	(N)	SAMPLE	SAM	% CORE	DESCRIPTION	20 40 60 80
0.0						TOPSOIL	63.0
		6 10/15cm	X	1		FILL — sand with pieces of broken 62.65 rock, some topsoil	<del>-</del>
- 1.0	8	10 5/15cm	X	2		pieces of BROKEN ROCK	62.0
- 2.0						LIMESTONE (C.R.=87%) 61.45 (steep inclined joint 1cm wide with calcite infill)	61.0
-						60.85 LIMESTONE (C.R.=100%) (broken rock conditions) 60.25	
- 3.0						LIMESTONE (C.R.=97%) ( steep inclined joint 2 cm wide with calcite and pyrite infill )	60.0
- <sub>4.0</sub> ⊻	WL					-Water level July 14/94 ELEV 58.98m LIMESTONE (C.R.=100%) 58.75	59.0
- 5.0						58.40	- 58.0
						LIMESTONE (C.R.=99%)	
- 6.0						56.90	57.0
- 7.0						LIMESTONE (C.R.=100%)	56.0
						Bottom of hale 55.70 C.R.=Core Recovery	
8.0	M Doom	TO AE	Щ		OFF	LOTTIC LIGORED BY, IIII	COMPLETION DEPTH, 7.3 m
	McROST	TE GE	ΝĽ	ST	ST-	LOUIS LOGGED BY: JML REVIEWED BY:	COMPLETION DEPTH: 7.3 m COMPLETE: 12/07/94
		Ottawa	ı, C	ana	da	Fig. No:	Page 1 of 1
/03/17 12	HIOPH		-				1 77

TUNNE	YS PASTURE FUEL S	STORAGE				B.M.(ELEV 63.60m)geodetic:Arrow on top	BOREHOLE NO: 94-5
CLIENT	: PUBLIC WORKS CA	NADA				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)
SAMPI	LE TYPE REMOU	ILDED-AUG	ER	SHE	LBY TUBE	SPLIT-SPOON NW-CASING	NO RECOVERY NO CORE
	136		ىيا		₹	V=	■ VANE Cu (kPa) ■ 80 160 240 320 ⓒ
DEPTH (m)	SMALL PEN.	SPT	E TYP	SAMPLE NO	CORE RECOVERY	SOIL / ROCK	80 160 240 320  ▲ VANE CU REMOULDED (kPa) ▲ 80 160 240 320  PLASTIC M.C. LIQUID
DEP1	(kPa)	(N)	SAMPLE	SAMP	% CORE	DESCRIPTION	PLASTIC M.C. LIQUID
0.0			-		84	70000	20 40 60 80 62.7
200	34 25	12	$\nabla$	1		TOPSOIL 62.35	
		8/15cm	$\Diamond$	2		FILL	Z
- 1.0	3	23 20/15cm		3		sand, clay, topsoil and pieces of broken rock	61.7
	. power auger refu	usal			0.	61.45	
•						LIMESTONE (C.R.=92%)	
- 2.0▼	WL		t		I	LIMESTONE (C.R.=100%) 60.8	35 − 60.₹
						- Water level July 14/94 ELEV 60.65m	
			I			60.25 LIMESTONE (C.R.=100%)	
- 3.0							
3.0						59.65	59.7
						LIMESTONE	
- 4.0				15		(C.R.=100%)	58.7
			۱				
			Ħ		-	58.15	
- 5.0							57.7
						LIMESTONE (C.R.=100%)	
e						. ,	
6.0					-	56.65	56.7
						30.03	
6						LIMESTONE	
						(C.R.=96%)	
7.0			Ц				55.7
						Bottom of hale 55.55	
		(2)				CR -Core Passage	
	82					C.R.=Core Recovery	
8.0	M Doomi	ם מדי	NTT.	IOM	Om	LOGGED BY: JML	COMPLETION DEPTH: 7.1 m
	McROSTI					LOUIS REVIEWED BY:	COMPLETION DEPTH: 7.1 m COMPLETE: 12/07/94
		Ottawa		ana	da	Fig. No:	Page 1 of 1

			onada	REVIEWED BY: E.S. Fig. No: 3.		TE: 97/03,		
8.0	McROSTIE GE	NE	פידי פידי	LOGGED BY: JML		TION DEPTH		52.
								-
- 7.0								[ - - 53.
- 6.0								_ 54.
								‡
5.0								- - - - 55
4.0								- 56. - -
- 3.0		H	57	Bottom of hole 56.86				57  
		Ш		LIMESTONE 57.16				<u>-</u>
- 2.0			89	LIMESTONE				- 58. - -
	WL			or SOIL Water level March 24/97 Elev 58.47m 58.15	-			
 ¥	13cm drop - all water lost	╢		or ROCK 58.82 SOIL FILLED SEAM				
- 1.0	power auger refusal		1	sand and gravel with pieces of broken_boulder LIMESTONE ROCK BLOCK 59.22				- - - - - - 59.
0.0	ground frozen to 0.45m 30/15cm 42	M		FILL — topsoil, sand and gravel FILL 59.70				E
	(kPa) (N)	SAMF	SAN	DESCRIPTION	PLASTIC 120	M.C.	80	S ELEV
DEPTH(m)	SMALL PEN. SPT	SAMPLE TYPE	SAMPLE NO CORE RECOVERY	SOIL / ROCK	A VANE C	ANE Cu (kPa 160 240 U REMOULDED 160 240	320 (kPa) ▲	FI EVATION(m)
	LE TYPE REMOULDED-AU	GEB/	SHELBY TUE		O RECOVERY	T N	Q CORE	_
V	r: P.W.G.S.C. DATE: 97/03/19			56U2791 on west foundation wall of the Archives bldg. supplied by P.W.G.S.C.	ELEVATION:			
	Y'S PASTURE WATERMAIN UPG	KAUL		B.M.(ELEV 62.79m)geodetic: Tablet No.	PROJECT N			

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	's pasture watermain upgra	DE .	Lie.	B.M.(ELEV 62.79m)geodetic: Tablet No.		NO: 97-		
	P.W.G.S.C.			56U2791 on west foundation wall of the		NO: E - 753	8	
	DATE: 97/03/18			Archives bldg. supplied by P.W.G.S.C.		: 60.24 (m)		
SAMPLE	TYPE REMOULDED-AUG	B SHELL	BY TUB	E SPLIT-SPOON NW-CASING	NO RECOVER		CORE	
(m)	SMALL PEN. SPT	2 S	CORE RECOVERY	SOIL / ROCK	80 A VANE 80	VANE Cu (kPa) 1 160 240 Cu Remoulded 160 240	320 (kPa) ▲ 320	FI FVATION(m)
DEPTH(m)	(kPa) (N)	SAMPLE IYPE SAMPLE NO	% CORE R	DESCRIPTION	PLASTIC 1-20	M.C. 40 60	LIQUID BO	FI FVAT
0.0	ground frozen to 0.60m 65 8/15cm 55	1 2		FILL — clayey topsoil with traces of gravel 59.94 FILL sand with some clay and gravel		40 60	80	- 60
- 1.0	80/15cm power auger refusal –	A 2A 2A 2A		broken ROCK 59.14 58.99 -Water level March 24/97 Elev 58.43m	-			- 59 - 59
- 2.0	20cm drop – all water lost WL		83	LIMESTONE			4	<u> </u>
								F 54
- 3.0			100	LIMESTONE 57.42	-			E
				Bottom of hole 57.12				-5
4.0								- - - - -
5.0			*					-5
6.0								- - - - - 5
7.0								- - - - - - - - - - - - - - - - - - -
8.0	Madacrie cen	I FOT	Cur	LOTTIC LOGGED BY: JML	COMPL	etion depth:	3.1 m	<u> </u>
	McROSTIE GEN	I Gal	D1-	-LOUIS REVIEWED BY: E.S.		ETE: 97/03/		

2. 20. Commission Centerburgues record

 $c_{\rm e}(t)/J_{\rm e} = t_{\rm e} = t_{\rm e}(t_{\rm e})$  , then a substance to state of  $c_{\rm e}$ 

TUNNE	Y'S PASTURE WATER	MAIN UPGI	RADE			B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOL	E NO: 9	7-4	
	f: P.W.G.S.C.					56U2791 on west foundation wall of the		NO: E -		
START	DATE: 97/03/19					Archives bldg. supplied by P.W.G.S.C.	Laboration and the same of the	N: 60.51		
SAMP	LE TYPE REM	oulded-au	GEB/	SHE	LBY TUBE	SPLIT-SPOON NW-CASING III	NO RECOVER		NQ CORE	
ОЕРТН(m)	SMALL PEN		SAMPLE TYPE	SAMPLE NO	CORE RECOVERY	SOIL / ROCK	80 ANAV A 08	160 2	DED (kPa) ▲ 40 320	ELEVATION(m)
DEP.	(kPa)	(N)	SAMP	SAM	% CORE	DESCRIPTION	PLASTIC 1—— 20	M.C.	UQUID 	ELEW
0.0		3				FILL - topsoil, sand and gravel			Î	E
		25 30/15cm	W	1		FILL 60.21 sand with pieces of crushed limestone				60.0
- - 1.0		4/15cm 26	X	2		59.76				
- 2.0		49/15cm 22	X	3		FILL sand and gravel with pieces of broken rock and traces of topsoil	<b>\</b>			59.0 -
Ť	split spaon i WL	45/15cm refusal-	'X	4		LWater level March 24/97 Elev 58.05m				58.0
- 3.0		1/15cm 9/15cm	IXI	5		medium dense sandy TILL 57.51				
	split spoon	11/5cm refusal-				Bottom of hole 57.16				- 57.0
— 4.0 —										56.0
- - 5.0										
					3	19				55.0
- 6.0 										-
	a									- 54.0 -
— 7.0 - - -										- - - - - 53.0
8.0	M-DOCM	ie de		Om.	CIM	LOGGED BY: JML	COMP	ETION DE	PTH: 3.4 m	
	McROST					REVIEWED BY: E.S.		LETE: 97/		
	2·15PM	Ottawa	. C	ana	da	Fig. No: 5.			Page 1	of 1

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			onada	REVIEWED BY: E.S. Fig. No: 3.		TE: 97/03,		
8.0	McROSTIE GE	NE	פידי פידי	LOGGED BY: JML		TION DEPTH		52.
								-
- 7.0								[ - - 53.
- 6.0								_ 54.
								‡
5.0								- - - - 55
4.0								- 56. - -
- 3.0		H	57	Bottom of hole 56.86				57  
		Ш		LIMESTONE 57.16				<u>-</u>
- 2.0			89	LIMESTONE				- 58. - -
	WL			or SOIL Water level March 24/97 Elev 58.47m 58.15	-			
 ¥	13cm drop - all water lost	╢		or ROCK 58.82 SOIL FILLED SEAM				
- 1.0	power auger refusal		1	sand and gravel with pieces of broken_boulder LIMESTONE ROCK BLOCK 59.22				- - - - - - 59.
0.0	ground frozen to 0.45m 30/15cm 42	M		FILL — topsoil, sand and gravel FILL 59.70				E
	(kPa) (N)	SAMF	SAN	DESCRIPTION	PLASTIC 120	M.C.	80	S ELEV
DEPTH(m)	SMALL PEN. SPT	SAMPLE TYPE	SAMPLE NO CORE RECOVERY	SOIL / ROCK	A VANE C	ANE Cu (kPa 160 240 U REMOULDED 160 240	320 (kPa) ▲	FI EVATION(m)
	LE TYPE REMOULDED-AU	GEB/	SHELBY TUE		O RECOVERY	T N	Q CORE	_
V	r: P.W.G.S.C. DATE: 97/03/19			56U2791 on west foundation wall of the Archives bldg. supplied by P.W.G.S.C.	ELEVATION:			
	Y'S PASTURE WATERMAIN UPG	KAUL		B.M.(ELEV 62.79m)geodetic: Tablet No.	PROJECT N			

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	's pasture watermain upgra	DE .	Lie.	B.M.(ELEV 62.79m)geodetic: Tablet No.		NO: 97-		
	P.W.G.S.C.			56U2791 on west foundation wall of the		NO: E - 753	8	
	DATE: 97/03/18			Archives bldg. supplied by P.W.G.S.C.		: 60.24 (m)		
SAMPLE	TYPE REMOULDED-AUG	B SHELL	BY TUB	E SPLIT-SPOON NW-CASING	NO RECOVER		CORE	
(m)	SMALL PEN. SPT	2 S	CORE RECOVERY	SOIL / ROCK	80 A VANE 80	VANE Cu (kPa) 1 160 240 Cu Remoulded 160 240	320 (kPa) ▲ 320	FI FVATION(m)
DEPTH(m)	(kPa) (N)	SAMPLE IYPE SAMPLE NO	% CORE R	DESCRIPTION	PLASTIC 1-20	M.C. 40 60	LIQUID BO	FI FVAT
0.0	ground frozen to 0.60m 65 8/15cm 55	1 2		FILL — clayey topsoil with traces of gravel 59.94 FILL sand with some clay and gravel		40 60	80	- 60
- 1.0	80/15cm power auger refusal –	A 2A 2A 2A		broken ROCK 59.14 58.99 -Water level March 24/97 Elev 58.43m	-			- 59 - 59
- 2.0	20cm drop – all water lost WL		83	LIMESTONE			4	<u> </u>
								F 54
- 3.0			100	LIMESTONE 57.42	-			E
				Bottom of hole 57.12				-5
4.0								- - - - -
5.0			*					-5
6.0								- - - - - 5
7.0								- - - - - - - - - - - - - - - - - - -
8.0	Madacrie cen	I FOT	Cur	LOTTIC LOGGED BY: JML	COMPL	etion depth:	3.1 m	<u> </u>
	McROSTIE GEN	I Gal	D1-	-LOUIS REVIEWED BY: E.S.		ETE: 97/03/		

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 $c_{\rm e}(t)/J_{\rm e} = t_{\rm e} = t_{\rm e}(t_{\rm e})$  , then a substance to state of  $c_{\rm e}$ 

TUNNE	Y'S PASTURE WATER	MAIN UPGI	RADE			B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOL	E NO: 9	7-4	
	f: P.W.G.S.C.					56U2791 on west foundation wall of the		NO: E -		
START	DATE: 97/03/19					Archives bldg. supplied by P.W.G.S.C.	Laboration and the same of the	N: 60.51		
SAMP	LE TYPE REM	oulded-au	GEB/	SHE	LBY TUBE	SPLIT-SPOON NW-CASING III	NO RECOVER		NQ CORE	
ОЕРТН(m)	SMALL PEN		SAMPLE TYPE	SAMPLE NO	CORE RECOVERY	SOIL / ROCK	80 ANAV A 08	160 2	DED (kPa) ▲ 40 320	ELEVATION(m)
DEP.	(kPa)	(N)	SAMP	SAM	% CORE	DESCRIPTION	PLASTIC 1—— 20	M.C.	UQUID 	ELEW
0.0		3				FILL - topsoil, sand and gravel			Î	E
		25 30/15cm	W	1		FILL 60.21 sand with pieces of crushed limestone				60.0
- - 1.0		4/15cm 26	X	2		59.76				
- 2.0		49/15cm 22	X	3		FILL sand and gravel with pieces of broken rock and traces of topsoil	<b>\</b>			59.0 -
Ť	split spaon i WL	45/15cm refusal-	'X	4		LWater level March 24/97 Elev 58.05m				58.0
- 3.0		1/15cm 9/15cm	IXI	5		medium dense sandy TILL 57.51				
	split spoon	11/5cm refusal-				Bottom of hole 57.16				- 57.0
— 4.0 —										56.0
- - 5.0										
					3	19				55.0
- 6.0 										-
	a									- 54.0 -
— 7.0 - - -										- - - - - 53.0
8.0	M-DOCM	ie de		Om.	CIM	LOGGED BY: JML	COMP	ETION DE	PTH: 3.4 m	
	McROST					REVIEWED BY: E.S.		LETE: 97/		
	2·15PM	Ottawa	. C	ana	da	Fig. No: 5.			Page 1	of 1

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TUNN	EY'S PASTURI	e watermain upo	GRADE		B.M.(ELEV 62.79m)geodetic: Tablet No.			
CLIEN	I: P.W.G.S.C.				56U2791 on west foundation wall of the	BOREHO	)LE NO: 97	7-6
START	DATE: 97/0	3/18			Orchwood bld-	PROJEC	T NO: E - 7	538
SAMP	LE TYPE	REMOULDED-AL	ICEB SH	HELBY TUBE	SPLIT-SPOON NW-CASING	ELEVATION	N: 60.68 (n	n)
-			1	>	E NW-CASING	NO RECOVE	RY [	NQ CORE
투	SMALL	PEN. SPT	2 3	) SE	SOII / DOOR	80	■ VANE Cu (kPc 160 240	320
DEPTH(m)	(kPa)	(37)	빌빌	8	SOIL / ROCK	▲ VAN	VANE Cu (kPc 160 240 Cu REMOULDE 160 240	D (kPa) ▲
0	(Kra)	(N)	SAMPLE TYPE SAMPLE NO	CORE RECOVERY	DESCRIPTION	PLASTIC		320
0.0	ground fo		0)	24	- Lockii Holy	I bolic	M.C.	320 0 (kPa) ▲ 320 LIQUID
E	ground th	ozen to 0.45m			FILL - topsoil, sand and gravel	20	40 60	80
F 1		26/15cm	$\Box$	-				
<b>!</b>		11	XI 1		60.38	777		
F .		50/15cm				1		
-1.0		50/15cm 110	X 2					- 80.0
		ř	7 1		FILL sand and clay with	1		<del></del>
	*:		1		some gravel			I I E
		5 5/15cm	131		grava			<u> </u>
- 2.0		J/ IJCM	7 .					59.0
		4 1						1111
¥ W	1	6/15cm	4		FILL - medium sand 58.43	1/1		[ E
1	<b>L</b> .	-		Lw	oter level March 34 (07 5)			1 1
- 3.0		9/8cm 🔀	5	"	ater level March 24/97 Elev 57.99m			<u></u> 58. <b>¥</b>
	split spoo	on refusal-	1 1	1	medium dense sandy TILL 57.68		<b>   -</b>	
					Bottom of hole 57.60	$\neg$		
						<u> </u>		L E I
4.0								57.0
								EF
5.0				1				56.0
						<u> </u>		
		11						F
				1				1 F 1
.0								55.0
-				1				- 33.0
			1					† t
								F
							<del>    </del>	<u></u> E
)				1				- 54.0
						<u>   </u>		
			1					- 1
					Tr.			<u> </u>
			1	1	ri			<u>-</u>
) (	- DO OTT	D. O'D						53.0
M	CKUSTI	E GENES	ST-	-LOU	S LOGGED BY: JML	COMPLETION	DEPTH: 3.1	
05-13РМ		<u>Ottawa, Can</u>	ada		REVIEWED BY: E.S. Fig. No: 7.	COMPLETE: 97	7/03/18	
					TEIG. NO.		Account to	

Activities of the second

TUNNEY'S PASTURE WATERMAIN UPGRADE CLIENT: P.W.G.S.C.	B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-7	
START DATE: 97/03/18	5602791 on west foundation wall of the		
SAMPLE TYPE REMOULDED-AUGER SHELBY	Archives bldg, supplied by P.W.G.S.C.	ELEVATION: 60.89 (m)	
JACKET ACOUNT SHEEP	TW -CASING	NO RECOVERY NO CORE	
SMALL PEN. SPT HALE NO (kPa) (N) WE SOWE BECOME		80 150 240 320 €	
SMALL PEN. SPT JAWN (N) WANDLE NO (N) WANDLE	SOIL / ROCK	80 150 240 320 E	
(kPa) (N) SAMPLE SAMPLE	DEGCDIDMICAN	A VANE Cu REMOULDED (kPa) ▲ 80 160 240 320	
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		80 150 240 320  A VANE CU REMOULDED (kPa) A 80 160 240 320  PLASTIC M.C. LIQUID	
0.0 ground frozen to 0.60m		20 40 60 80	
	FILL — topsoil, sand and gravel		
12/15cm 1	60.59		
-1.0 4/15cm 2			
10 M-1	FILL	- 60.0	
	sand and gravel with some topsoil		
35	and pieces of broken rock	<i> </i>	
15/15cm X 3	1	7 1 1 1 1 1 1 1 1	
2.0		N	
		59.0	
12 4/15cm 4	58.64	1 N               E	
7.55	medium dense		
5.0¥ WL	sandy TILL		
19/13cm 5	Water level March 24/97 Elev 57.90m		
split spoon refusal—	Bottom of hole 57.76		
0			
		57.0	
		-	
		-56,0	
		1111111E 1	
		1.11111E1	
		54.0	
	wat		
McROSTIE GENEST ST-L	OIIIS LOGGED BY: JML	COMPLETION DEPTH: 3.1 m	
Ottawa, Canada	REVIEWED BY: E.S.	COMPLETE: 97/03/18	

LUMM	EY'S PASTURE WATERMAIN I T: P.W.G.S.C.	JPGRAD	E	B.M.(ELEV 62.	79m)geodetic: Tab	olet No.	BOREHO	LE NO: 9	7 0	
	DATE: 97/03/19			56U2791 on w	est foundation wo	all of the	PROJECT	NO: E -	7570	
				Archives bldg.	supplied by P.W.G	LS.C.	FLEVATIO	N: 61.58 (	/558	
D/ HVII	LE TYPE REMOULDED	-AUGER	SHELBY TU	BE SPLIT-			NO RECOVE		NQ CORE	
=	CMALL DEN OF	띰	0 1				l l	VANE Cu (ki 160 24	Pa) =	
눌	SMALL PEN. SPT	1. 1	E NO	S	SOIL / RO	)CK	80	160 24	0 320 FD (kPa) 4	- [
DEPTH(m)	(kPa) (N)	SAMPLE	SAMPLE NO CORE RECOVERY				80	Cu REMOULD 160 24	320	
		107	S SA	L	ESCRIPT	ION	PLASTIC	M.C.	LIQUI	FI FVATION/m
0.0	ground frozen to 0.60			fil in	ASPHALT		20	40 60	80	1 -
1	85/10	cm	1	FILL -	crushed limestone	6150				_
					FILL	61.18				E
	38/116	cm	.	sand a	nd gravel with tro	ices			1-1-4	···- <u>-</u> -61.
1.0	split spoon refusal		2		of clay		1			ļ
- 1	DOWOE GUGAS [ ]		1 1						.]	t
- 1	power auger refusal		1 1							-
- 1						60.34				
- 1	10cm soil filled seam -		1 1						<u> </u>	- 60.0
2.0	10cm soil filled seam -		97		Lucaro					ţ.
			1 "		LIMESTONE		<u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u>		<u>   </u>	ļ.
Ā /	WL		1 1	SOLV W						F
			1 1	Water level Marc	th 24/97 Elev 59	).21m				Ā
		H	1 -			•••				59.0
0			100			58.84	7111			-
		Щ			LIMESTONE			1-1-1-		
				Bot	tom of hole	58.38	1			
										- 8
			1 1							58.0
)			1 1							
1										_
										. 1
1								<u></u>		
									11	- 57.0
									11	
									<b>***</b>	. 1
1									1 1 F	- 1
									F	
									I I F	56.0
1	41								1 I E	- 1
- 50	1	11				I			MF	
	1	11				1			I I F	
	1	11				1	$\neg \uparrow \neg \uparrow \neg \uparrow \neg \uparrow$		E	55.0
		1 1	1						Į E	73.0
			1			]	<u> </u>		E	1
									I	
						1			E	
						ļ		†		4.0
									I E	
	McROSTIE GEN	FOT	ST IA	IIIC	LOGGED BY: JML		Inou in i			
	OH GEN	α. ΠΩΙ	ハエーT()	019	REVIEWED BY: E.	S.	COMPLETION	DEPTH: 3.2	m	
SPPM	Ottawa,	Lanac	la		Fig. No: 9.		COMPLETE: 9		age 1 of	

97/04/02 02		Ottawa				REVIEWED BY: E.S. Fig. No: 10.	COMPLI	ETE: 97/03		e 1 of
V.V 1	McROS	TIE GE	NE	ST	ST-	LOGGED BY: JML		ETION DEPT		-
8.0										-5
<u> </u>				100						
7.0					Š.				+	E
										-5
E										<u></u> F
6.0		3								E
										Ē
										Ē
- - 5.0										Ē
Ė						SHORES ESSENCERES				E
- 4.0						Water level March 24/97 lower than elev 58.97m				Ę
					8					Ė
					38	And charlesterates areas. Village control processes are				<u>E</u>
3.0			L	322 (tabbook		Bottom of hole 58.79	+			F
•			П		47	LIMESTONE				Ē
ŧ l					. March	59.80				Ē
2.0	power auge	32				50.90				
		5/15cm 10	M	3		pieces of broken rock				Ē
		10/1301	Ά	N - 1700/1255	-	FILL sand with some clay, topsoil and				Ē
-1.0		8 10/15cm	()	2		FILL — medium sand61.21 61.11				<u></u> E
		6 6/15cm	X	1		TOPSOIL	<b>,</b>			-F
0.0		<b>**</b> **********************************	H				20	40 60	80	ŧ
DEPT	(kPa)	(N)	SAMPLE	SAMP	% CORE RECOVERY	DESCRIPTION	PLASTIC	M.C.	LIQU	ID
ОЕРТН(м)	SMALL PE	EN. SPT	E TYP	SAMPLE NO	RECOVE	SOIL / ROCK	▲ VANE 80	VANE Cu (kP 160 240 Cu REMOULD 160 240	ED (kPa) ▲ 320	
	E TYPE R	REMOULDED-AU	1		1.55		NO RECOVER	VANE Cu (kP 160 240	NQ CORE	
	DATE: 97/03/22		ode	7	FLDV TIL	Archives bldg. supplied by P.W.G.S.C.	ELEVATION NO RECOVER		-	
	P.W.G.S.C.	ILIMBUT OF O	VIVI			B.M.(ELEV 62.79m)geodetic: Tablet No. 56U2791 on west foundation wall of the	PROJECT	NO: 97	V=2//	1900

TUNNE	Y'S PASTURE WAT	ERMAIN UPG	RADE			B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-10	
	r: P.W.G.S.C.		. 2181525	911.6		56U2791 on west foundation wall of the	PROJECT NO: E - 7538	
START	DATE: 97/03/19			790227111	1 87-57	Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 61.67 (m)	
SAMPI	LE TYPE	EMOULDED-AL	IGEB/	SHE	LBY TUBE	SPLIT-SPOON NW-CASING	NO RECOVERY NO CORE	
DEРТН(m)	SMALL PE	n. 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	ELEVATION(m)
- 0.0			Ľ		34		20 40 60 80	ш
- 1.0	ground froze	70 24/15cm 29 19/15cm	$\mathbb{H}$	1	_	ASPHALT 61.59  FILL - crushed limestone  60.92  FILL  sand and gravel, traces of asphalt		— 61,0 -
- 2.0		11/15cm 56	H	3		60.17 medium dense sandy TILL		60.0 
<b>▼</b> - 3.0	split spoc power au WL	33/5cm on refusal- ger refusal-		4	95	pieces_of_broken_ROCK59.42 59.37 LIMESTONE -Water level March 24/97 Elev 58.96m Bottom of hole 58.49		- 
- 4.0								58. 5
- 5.0								– 57. –
- 6.0						¥6		56. 
- 7.0								– 55.¢ -
8.0						LOCOTO DV. IM	COMPLETION STATE AS	- 54.0
	McROS'	l'IE GE	NE	ST	ST-	LOUIS LOGGED BY: JML REVIEWED BY: E.S.	COMPLETION DEPTH: 3.2 m COMPLETE: 97/03/19	
		Ottawa	C	ana	da	Fig. No: 11.	Page 1	· · ·

E. S. H. L. L. D. et afferen Co. | d al. A. affere frequence Co. Co. Co.

	ey's pasture watermai	n upgrade		B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97	-11
	T: P.W.G.S.C.			56U2791 on west foundation wall of the	PROJECT NO: E - 75	
_	DATE: 97/03/19			Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 61.88 (m	
SAME	LE TYPE REMOULD	DED-AUGER	SHELBY TUE	E SPLIT-SPOON NW-CASING		Q CORE
DEPTH(m)	SMALL PEN. SI (kPa) (N	Lul 날	% CORE RECOVERY	SOIL / ROCK DESCRIPTION	80 150 240  ▲ VANE Cu REMOULDED 80 160 240  PLASTIC M.C.	(kPa) ▲ 320 LIQUID
1.0	split spoon refuso power auger refus	o/5cm sec 1	82	ASPHALT FILL — crushed limestone 61.80 61.47 LIMESTONE with some soil filled seams 60.70  LIMESTONE	20 40 60	60
3.0	WL			-Water level March 24/97 Elev 59.32m  Bottom of hole 58.98		-5
.0.				٠		-58
.0						-57
0						-56.
						55.0
	McROSTIE G	ENEST	ST-L	OUIS LOGGED BY: JML	COMPLETION DEPTH: 2	54.0 9 m
08-43A	Ottar	wa. Cana		REVIEWED BY: E.S. Fig. No: 12.	COMPLETE: 97/03/19	Page 1 of 1

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-	'S PASTURE WATER	MAIN UPG	RAD	E		B.M.(ELEV 62.79m)geodetic: Tablet No.	T	BOREHOLE	NO: 97	-12	
	P.W.G.S.C.					56U2791 on west foundation wall of the		PROJECT N			
	DATE: 97/03/20					Archives bldg. supplied by P.W.G.S.C.		ELEVATION:	62.15 (m	1)	
SAMPLE	LIYPE REMO	ULDED-AL	JGER	SHE	LBY TUBE	SPLIT-SPOON NW-CASING	N	RECOVERY		NO CORE	
DEPTH(m)	SMALL PEN.		LE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK		A VANE C	ANE Cu (kPa 160 240 I REMOULDEI 160 240	320	FI FVATION(m)
	(kPa)	(N)	SAMPLE	SA	% COR	DESCRIPTION		PLASTIC	M.C.	LIQUID	FI FVA
- 1.0	split spoon ref	139 40/5cm usal-	X	1	65	ASPHALT  FILL — crushed limestone 62.07  FILL 61.85  crushed limestone with topsoil and clay 61.50	: : :	20	40 60	80	F 62
1.0			Щ			LIMESTONE					- 61
			Ш		100	LIMESTONE 60,88		<u>i. I. I. I.</u>			Ŀ
2.0		5	l		91	LIMESTONE 60.60 60.37					
					98	LIMESTONE	ļ				⊢ 60.
3.0		ï	1			Bottom of hole 59.05	.				- - - - - - - -
1.0											- 58.0
5.0											- - 57.0
0											- 56.0
0							ļ				55.0
	McROSTIE	CENT	יסי	l Ci		TITS LOGGED BY: JML	Ц	COMPLETION	I DEDT	LLE	
154	THOMOSTIE	ULLIN	ָ (טְרַ	LD.	1 - T(	REVIEWED BY: E.S.		COMPLETION COMPLETE:			$\dashv$
2 08-4444	Uti	tawa. (	an	ada	11500000	Fig. No: 13.		DITH LLIL		Page 1 of	

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88

	O-	ttawa. (	Cana	da	Fig. No: 14.	7.7	338	Page 1	of 1
	McROSTIE				REVIEWED BY: E.S.		TE: 97/03		
8.0	M. Doomin	CENT	- Om	CIT.	LOGGED BY: JML	COMPLI	TION DEP	H: 3.1 m	55.0
- 7.0									— 56.
- 6.0					220				- 57.
- 5.0									- 58.
- 4.0					Water level March 24/97 lower than Elev 61.16m				- - - 59.
					Bottom of hole 59.69				
- 3.0									- 60
				97	LIMESTONE				
- 2.0					VIIZI				- 61 -
	standpipe blocked	<u>-</u> 0,			61.21	-			Ė
- 1.0				83	LIMESTONE				- 62.
	42 split spoon refus	50 2/10cm al-	1		crushed limestone, topsoil and clay	-  -			Ē
0.0				36	ASPHALT FILL 62.71	20	40 60	80	-
DEРТН(m)	(kPa) (	SPT Lidwy	SAMPLE NO	CORE RECOVERY	DESCRIPTION	PLASTIC	M,C.	I	ELEVATION(m)
(m)	SMALL PEN. S	SPT 🖹	오	COVERY	SOIL / ROCK	80 ▲ VANE	VANE Cu (kP 160 240 Cu REMOULD 160 240	ED (kPa) A	(m)NC
		DED-AUGE	SHE	LBY TUB		NO RECOVER		NQ CORE	_
	P.W.G.S.C. DATE: 97/03/20	1100		-	Archives bldg. supplied by P.W.G.S.C.	ELEVATION			
MIENT.		IN UPGRAD	W-t-III		B.M.(ELEV 62.79m)geodetic: Tablet No. 56U2791 on west foundation wall of the	PROJECT I	10. F = 7	538	

1992 Too to or opposite a first opposition of the roll in the

the contract of the second second section is the set of

TUNN	EY'S PASTURE W	IATERMAIN UPO	GRADE		B.M.(FLEV 62.79m)geodetic: Tablet No.		DODELIAL	F.110 C		
	T: P.W.G.S.C.		Carlos III		56U2791 on west foundation wall of the			E NO: 9		
SIARI	DATE: 97/03/2			413 × 100 × 100	Archives bldg supplied by DWOCD			NO: E -		
SAMP	LE TYPE	REMOULDED-AL	JCEB	SHELBY T	UBE SPLIT-SPOON NW-CASING		ELEVATION	V: 63.31 (		
			lu	≿	THE CASING	Ши	RECOVER		NQ CORE	
ОЕРТН(м)	SMALL P	EN. SPT	SAMPLE TYPE	CORE RECOVERY	SOIL / DOOK	1	80	VANE Cu (kP 160 240	(a) <b>M</b> ) 320	1 -
H	65	94V	UH H	되 없	SOIL / ROCK		▲ VANE	Cu REMOULDI 160 240	ED (kPa)	1 5
띰	(kPa)	(N)	AN AN	S S	DESCRIPTION				7.1. J. (110-	ELEVATION(m)
			S	1 24	DESCRIT TION	1	PLASTIC	M.C.	LIQUID	B
0.0			$\vdash$	+	ASPHALT		20	40 60	80	日日
		98			FILL - crushed limestone 63.23	1				-
	- was Citizenson	27/3cm	X 1	f .	FILL 63.01					63.
1	split spoon i	retusal –			crushed limestone, sand and clay	ŀ	•			F
-1.0		i		100	LIMESTONE 62,68	1				
1.0										
		1	11	100	62.32	1				_
	0.5	. 1			LIMESTONE	1				- 62.0
- 1	b)mm s	soil seam -	Н			-	-		<u> </u>	
20					61.70					
2.0	WL			93	LIMESTONE					n
		L			LWater level March 24/97 Elev 61.17m					Ţ
		1		I	61.00				lit	-61.0
- 1				400		ļ	ļļļ	ļļ		V1.0
				100	LIMESTONE	-			116	
3.0				- 1					1 1 E	
			7	F	Bottom of hole 60.19				minit	
					00.19				1 I L	60.0
			1 1						<u>_</u>	00.0
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			1						"†" <b>:</b>	
1									F_56.	
					20			<u></u>	F-36.	1
			1						I E	1
1	Madagaria	I OUNDA	- I		19				E	1
i	McROSTIE	5 GENES	TS	T-L	OUIS LOGGED BY: JML	COM	PLETION I	DEPTH: 3.1	m	1
08-4444		<u>)ttawa. Ca</u>	nada		REVIEWED BY: E-S. Fig. No: 15.	COM	PLETE: 97	/03/20		1
					Indiana 10				ge 1 of 1	1

CLIENT	Y'S PASTURE V		VIVIE	/L		B.M.(ELEV 62.79	m)geodetic: Ta	blet No.		BOREHO	LE NO:	97-15	0
	DATE: 97/03/	20				56U2791 on we	st foundation w	all of the		PROJECT	NO: E -	7538	
SAMPL		REMOULDED-	AUGFR	7 51	IFI RY TUD	Archives bldg. s	Jpplied by P.W.	G.S.C.		ELEVATIO	N: 63.52	(m)	
	1000	Times dis-	T	1 3		E ⊠ SPLIT-S	POON I	NW-CASING	Ⅲ N	O RECOVE	RY [	NO COR	₹F
DEPTH(m)	SMALL F	EN. SPT	TYPE	우	CORE RECOVERY	~				80	VANE Cu	(kPa) <b>s</b> 240 320 LDEO (kPa) 240 320	
三		III. DI I	L L	SAMPLE NO	8	S	OIL / R	OCK -		▲ VANE	Cu REMOII	240 320 IDED (kPa)	
임	(kPa)	(N)	SAMPLE	P P	器	Di		UOLI		80	160 2	240 320	_
		. ,	S	is	8	ות	ESCRIPT	ION		PLASTIC	M.C.	LIQ	UID
0.0			+				-			20	40	50 80	1
E		22/8cm			[-	FIIT	ASPHALT		;	ΤĬ	N I	80 80	
E	split spoon	refusal -	Î	1	F		shed limestone			•	1		
		81		- 1	99		LIMESTONE	63.14					[
				- 1	33								F
- 1.0			H		F								F
					100	7	LIMESTONE	62.55	ľ		********		····F
			H		100		Marin Carlos Committee		- 1				F
				- 1	100		IMESTONE	62.13		<u>.   .</u>			F
			Ш		1			61.99					F
- 2.0				1	1				- 1				F
			Ш		100	***				·•	1		
1					100	L	IMESTONE						F
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.¥ W[	· ·				L				- 1				F
3.0			1		LV	later level March	24/97 Elev 60	).66m					F
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1			1										E
1					- 1			₩0.			<b>  </b>		E.
4.0		ľ		1									F
4.0		- 1	1		1								F
1			1		- 1								E
- 1			1	1				×					E
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1		- 11	- 1		1						1-1	TTE	
1	×	- 11										1 1 E	
			- 1						ļļ		ļļi	<u>,      E</u>	5 <i>c</i> 0
1		11										ΙF	56.0
1.4	DACTI	1 OFFICE						34011				I I F	
. IVI	CKOZIII	GENE	ST	ST	'-LOI	JIS 🖁	OGGED BY: JML REVIEWED BY: E		CON	PLETION	DEPTH: 3	1 m	-
		<u> Ittawa, Ca</u>								PLETE: 9			

.,	TUNN	NEY'S PASTURE WATERN	MAIN UPG	RAD	E		B.M.(ELEV 62.79m)geodetic: Tablet No. BOREHOLE NO:	07.40	
		VT: P.W.G.S.C.					56U2791 on west foundation wall of the PROJECT NO: E -		
	SIAR	T DATE: 97/03/21					Archives bldg supplied by PWCSC		
	SAME	PLE TYPE REMOR	ULDED-AL	IGER.	] SH	ELBY TUBE	SPLIT-SPOON NW-CASING NO RECOVERY		
	ОЕРТН(м)	SMALL PEN.		LE TYPE	SAMPLE NO	CORE RECOVERY	SOIL / ROCK	NQ CORE (kPa) = 240 320 LDED (kPa) = 240 320	ELEVATION(m)
	님	(kPa)	(N)	SAMPLE	SAM	% CORE	DESCRIPTION PLASTIC M.C.		EVATIC
ļ	0.0		114	H			20 40	60 80	급
		split spoon refuso	72 al –	X	1		ASPHALT  FILL - crushed limestone 63.59  FILL 63.37  sand and gravel with some clay		
E	- 1.0					100	LIMESTONE 63,07		- 63.0
Ė				$\mathbb{H}$		59	LIMESTONE 62.67		
ŧ	- 1		1			94	LIMESTONE 62.40		
E	Ţ	WL				100	LIMESTONE 62.08		- 62.0
F	2.0			H	1	92	LIMESTONE 61.80	E	Ā
ŀ						-1	61.68 Vater level March 24/97 Elev 61.79m		
E						100	LIMESTONE	E	
ŧ.				II		4			61.0
E,	3.0			Ц				<u> </u>	-
Ė	- 1						Bottom of hole 60.54		
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£						İ			1
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Ē								E	1
E								. <b></b>	1
8.0		- Committee of the Comm						- 56.0	
		McROSTIE G	ENES	ST	S	[-L0]	JIS LOGGED BY: JML COMPLETION DEPTH:	1   <u>                                   </u>	
17/04/02	68-Atm	Otta	wa. Ca	ma	da		REVIEWED BY: E.S. COMPLETE: 97/03/2: Fig. No: 17.		1
- Julyuz	UN 43RM						11 NJ. NO. 1 ( .	Page 1 of 1	]

CLIENT	: P.W.G.S.C.	WATERMAIN UP	VIVIDE		56U2791 on	2.79m)geodetic: T west foundation	ablet No.	BOREHOL	E NO: 97	-17	
START	DATE: 97/03/				Archiver blde	supplied by P.W	wall of the	PROJECT	NO: E - 75	38	-
SAMPL	E TYPE	REMOULDED-A	UGER	SHELBY 1	UBE SPL	IT-SPOON	.U.S.U.	ELEVATION	l: 63.93 (m	)	
1_1			1	>	1	1 STOON	NW-CASING	NO RECOVER	Y III	Q CORE	
DEPTH(m)	SMALL I	PEN. SPT (N)	SAMPLE TYPE	ZORE RECOVERY		SOIL / R DESCRIP'	OCK TION	80 A VANE 80 PLASTIC	VANE Cu (kPo 160 240 Cu REMOULDED 160 240 M.C.	320 (kPa) A 320	ELEVATION(m)
. 0.0			++	+		ACDUM		20	40 60	80	Н
-1.0	power aug	99 45/15cm er refusal—			cı	ASPHALT FILL rushed limestone	63.85				
				75		LIMESTONE	63.10				63.0
				96		LIMESTONE	62.59			]	
- 2.0							62.34			E 60	2.0
¥ WL	L			95		LIMESTONE					
3.0					-Water level ma	rch 24/97 Elev (	31.30m				Ā
					Во	ottom of hole	60,80			<u>-</u> 61.	
4.0										60.0	,
.0										59.0	
										58.0	
										57.0	
	1										
M	cROSTIF	GENES	TS	T-IO	IIIC	LOGGED BY: JML		loover -		56.0	
		ttawa, Car	LU	T TO	UID	REVIEWED BY: E		COMPLETION DI COMPLETE: 97/	PTH: 3.1 m		

CLIF	NEY'S PASTURE W. NT: P.W.G.S.C.	ALEKMAIN UPGF	KADE		B.M.(ELEV 62.79rn)geodetic: Tablet No.	BUBEROI E	0. 07.10
	RT DATE: 97/03/2				56U2791 on west foundation wall of the	PPO IFOT NO	0: 97-18
SAM			de 2	18	Archives bldg. supplied by P.W.G.S.C.	PROJECT NO	7.09 ( )
27 (17)	1	REMOULDED-AUG		SHELBY T	IPE COLUMN COLUMN	ELEVATION: 6	
=	CHITT		W/c	, È		□ NO VECOVERA	NQ CORE
DEPTH(m)	SMALL PI	EN. SPT	SAMPLE TYPE	CORE RECOVERY	SOIL / ROCK	80 16	E Cu (kPa) <b>≡</b> O 240 320
1	(kPa)	/x1\	비금	. E	40	■ VANE Cu F	EMOULDED (kPa) A 0 240 320
0	(Ma)	(N)	* A	8	DESCRIPTION	PLASTIC	200
0.0			23	24	DESCRIPTION	- POSIIC	M.C. LIQUID
					ASPHALT	20 40	60 80
	1	70	-	1	FILL - crushed limestone 63.90		
	1	30 13/15cm	1		63.68		
		V	1		FILL		
- 1.0		69 13/5cm	1 2	·	sand, clay and pieces of broken rock		
	split spoon r	ofusal	٦- لا			7	
8 1	power auger	refusal	7	40	LIMESTONE 62.80		
		H	4	40	LIMESTONE 62.80		
- 1				100	62.50		
-20				100	LIMESTONE		
- 2.0 <b>Y</b>	WL				62.08		1
-	AAT.			+			
		11			Water level March 24/97 Elev 61.80m		
				96	LIMESTONE		<u> </u>
7.0							I I TTF
3.0							1111F
				-	Bottom of hole 60.85	JTTT	
		11			Bottom of hole 60.85		$\mathbb{H} \mathbb{H} \mathbb{H} \mathbb{F}$
							<u>I. I</u> I I F
							IIIF
4.0		11					1 1 1 1 E
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							IIIIF
							1111E
							I I I I I F
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9		11					1 1 1 F
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			L				
	McROSTIE	GENEST	S	r-10	IIIS LOGGED BY: JML	COMPLETION: ==	56.0
	Ot	tawa, Cana	പ്പ	r TIO	REVIEWED BY: E.S.	COMPLETION DEPT COMPLETE: 97/03	H: 3.1 m
OB-50AM	111	vawa Lana	1/12		Fig. No: 19.	VVINITLE 11: 9//03	//1

CLIEN	IT: P.W.G.S.C.	WATERMAIN U	PGRAD	)E		B.M.(EL	EV 62.79m)ged	detic: Tablet No.		BOREHO	DLE NO:	97-	-1Q	
	DATE: 97/03,	/22		_	-	560279	I on west four	ndation wall of the	B.	PROJEC	T NO: E	- 753	8	
SAMP		REMOULDED-	Alledo	71 00	ICLOV TO	Archives	bldg. supplied	by P.W.G.S.C.		ELEVATI				
		THE THE PERSON OF THE PERSON O	ACOUNT	] an	LELBI IL	BF X	SPLIT-SPOON	NW-CASING	; <u> </u>	O RECOV	ERY	NQ		
3	SMALL	PEN. SPT		2	ER.						W VANE C	u (kPo)	JANO	
DEРТН(m)	DWALL	PEN. SPT	TYPE.	SAMPLE NO	CORE RECOVERY		SOIL	/ ROCK		80 A VAN	160 E.C., PCV	240	320	1.
<u>a</u>	(kPa)	(N)	딞	Æ	22	t				80	E Cu REMO 160	240	kPo) ▲ 320	7.00
	(iti d)	(11)	SAMPLE	SA	S		DESC	RIPTION		PLASTIC			LIQUID	
0.0			0,		24					<del> </del>				1
- 1							ASPI	IALT		20	40	60	80	1
- 1		12/150	KAm			F	LL - crushed	limestone 63	.81					Ė
-2		24	IXI	1		FI	LL - crushed	limestone 63	.59					t
-		22/15c	m( )	- 1						7		···[····[··		ţ
-1.0	onlik an	46/10c	mΧ	2	- 1		FILL	63.1	4					t
	split spoon power auge	retusal -			77	sand	and pieces o	f_broken_rock			ļļļ			- 63
	power dage	r refusal -	$\mathbf{H}$		''		LIMESTO	NE 62.	84					
_	***			1				62.58	3					
Ĭ	WL				-	-Water lev	el March 24/9	7 Elev 62.19m	ľ	***		······································		
- 2.0					- 1		-		1					
					88		LIMESTO	VF.	,		<u>[                                  </u>		1	<del>- 62.</del>
1								,,,	1					
				1	- 1								1 F	65 86
			111	1										
3.0			H		-							1 1	1 F	
					98		LIMECTON	61.03		<u> </u>			I F	- 61.0
							LIMESTON	E					F	
					-	- 1	Bottom of	hole co io					1 F	
- 1							COLLOIN OF	hole 60.49	ļ	1				
4.0			1	1									i F	
													F	60.0
				1					1				-	
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λ	Ma DACTIT	E CENT			90000		linas	- Vi					F 56.0	
P	McROSTI	L GENE	ST	ST	-L()	UIS	LOGGED	BY: JML	CO	MPLETION	DEPTH:	3.4 m	1 30.1	4
08-50AM		Ottawa, C	anad	la			Fig. No:	D BY: E.S.	CO	MPLETE: S	97/03/2	2		1
			-				Irig. 140:	20.			17)	Page	1 -4 +	4

TUNNE	Y'S PASTURE WATERMAIN UPG	RADI			B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-20	
	T: P.W.G.S.C.				56U2791 on west foundation wall of the	PROJECT NO: E - 7538	
START	DATE: 97/03/22	1000 160	.0011/00/40		Archives bldg. supplied by P.W.G.S.C.	ELEVATION: 62.19 (m)	
SAMP	LE TYPE REMOULDED-AL	JGEB.	SHI	LBY TUBE	SPLIT-SPOON NW-CASING III N	IO RECOVERY IN NO CORE	
ОЕРТН(m)	SMALL PEN. SPT (kPa) (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	ELEVATION(m)
0.0	30		1		ASPHALT FILL - crushed limestone 62.11 FILL 61.89	20 40 60 B0	- 62.0
- 1.0	split spoan refusal — power auger refusal —	Î	•	84	sand and pieces of broken rock 61.59  LIMESTONE	, 1	- - - - 61.0
- 2.0					60.80		
				92	LIMESTONE -Water level March 24/97 Elev 59.29m		60.0
- <b>3</b> .0	WL	$\mathbf{L}$		F	Bottom of hole 59.20		ļ <sup>3</sup>
- 4.0		The second secon	Mark.				- 59.0
- 5.0				*			57.0
- 6.0							- - - 56.0
- 7.0	in the second se				n <sup>2</sup>		
8.0		Щ			Logoro av. IIII		
	McROSTIE GE				INLVIEWED DI. C.S.	COMPLETE: 97/03/22	
	Ottawa	<u>. U</u>	ana	ua	Fig. No: 21.	Page 1	of 1

in a distance term addition time of in-

TUNNE	Y'S PASTURE WATER	MAIN UPG	RADI	E		B.M.(ELEV 62.79m)geodetic; Tablet No.	BOREHOLE	No: 97	-22	
-	: P.W.G.S.C.				•	56U2791 on west foundation wall of the	PROJECT			
START	DATE: 97/03/22			-04/15/6		Archives bldg. supplied by P.W.G.S.C.	ELEVATION		n)	
SAMPL	LE TYPE REMO	OULDED-AU	GER	SHI	ELBY TUE	E SPLIT-SPOON NW-CASING	NO RECOVER		NQ CORE	
			W.	0	ERY		08	VANE Cu (kP 160 240	320	æ
E)	SMALL PEN.	SPT	M	EN	ECO	SOIL / ROCK	A VANE	THE REMOULDS	0 (kPa) ▲ 320	)NOI
ОЕРТН(м)	(kPa)	(N)	SAMPLE TYPE	SAMPLE NO	CORE RECOVERY	DESCRIPTION	PLASTIC	M.C.	FIGUID	ELEVATION(m)
0.0		.XX	ļ.,		34		20	40 60	80	
. 0.0		c				TOPSOIL				E
		18/15cm		1		62.18				- 62.0
		13/15cm	$\Lambda$			FILL sand with traces of topsoil and clay	1			F
	split spoon refu	sal	×	2			_     •			Ē
- 1.0						61.55				-
					100	LIMESTONE				5
	standpipe bl	locked -	1		) 				111	- 61.0 -
.						60.95				
- 2.0					8	8				<u> </u>
			П		100	LIMESTONE				Ė
										- 60.0
			1				_			
- 3.0						Bottom of hole 59.59				_
						Water level March 24/97 lower			- - -	— 59.0 -
					1	than Elev 60.99m				-
- 4.0										Ė
										_ 30.0
				1						8
- 5.0								-h-h-h	111	<u>.</u>
			П							57.0
- 6.0										
										-
			П					TTT		56.0 
- 7.0										
	X						[	.		- 55.0
	80									
8.0			Ш							
	McROSTI	E GE	NF	ST	ST-	LOGGED BY: JML		TION DEPT		
		Ottawa				REVIEWED BY: E.S. Fig. No: 23.	COMPLI	TE: 97/03	722 Page 1	of 1
/04/03 08	1·42AM	V VVAII O		WILL	.ии	programs, pro-			i oge i	01 1

- Harry - Theoretical distriction of the exploration of the contract of the co

E E E

B.M.(ELEV 62.79m)geodetic: Tablet No. BOREHOLE NO: 97-23 TUNNEY'S PASTURE WATERMAIN UPGRADE PROJECT NO: E - 7538 CLIENT: P.W.G.S.C. 56U2791 on west foundation wall of the ELEVATION: 62.39 (m) Archives bldg. supplied by P.W.G.S.C. START DATE: 97/03/22 NO RECOVERY SPLIT-SPOON NQ CORE SAMPLE TYPE REMOULDED-AUGER SHELBY TUBE NW-CASING VANE Cu (kPa) ■
80 150 240 320

A VANE Cu REMOULDED (kPa) A
80 160 240 320 ELEVATION(m) CORE RECOVERI SAMPLE NO SOIL / ROCK SMALL PEN. SPT DESCRIPTION PLASTIC M.C. LIQUID (kPa) (N) 0,0 **TOPSOIL** - 62.0 62.09 11/15cm sand with some topsoil, gravel and 15 pieces of broken rock - 1.0 40/12cm LIMESTONE 61.22 80 61.0 40mm soil filled seam-60.87 - 2.0 LIMESTONE 94 60.0 LIMESTONE Ţ Ţ WL 59.76 98 -Water level March 24/97 Elev 59.66m 3.0 Bottom of hole - 59.0 4.0 58.0 5.0 -57.0 6.0 - 56.0 - 7.0 - 55.0 McROSTIE GENEST ST-LOUIS COMPLETION DEPTH: 3.1 m LOGGED BY: JML REVIEWED BY: E.S. COMPLETE: 97/03/22 Ottawa, Canada Fig. No: 24. Page 1 of 1 97/04/02 08:37AV

and the second of the second o

TUNNE	Y'S PASTURE WATERM	IAIN UPGR	ADE		B.M.(ELEV 62.79m)geodetic: Tablet No.	BOREHOLE NO: 97-24
	T: P.W.G.S.C.		200		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)
SAMP	LE TYPE REMOL	JLDED-AUG	岖	SHELBY TUE	E SPLIT-SPOON NW-CASING	NO RECOVERY NO CORE
DEPTH(m)	SMALL PEN.	SPT (N)	SAMPLE TYPE	CORE RECOVERY	SOIL / ROCK DESCRIPTION	80 160 240 320 €  80 160 240 320 €  A VANE CU REMOULDED (kPa) ▲ 80 160 240 320  PLASTIC M.C. LIQUID
August Au	- CO	NE 1230	3	, ×		20 40 60 80
0.0		15			FILL - topsoil 62.17	-62.0
- 1.0		17/15cm 20 47/5cm	$\left( \cdot \right)$	2	FILL sand with some pieces of broken boulders and traces of brick	<b>7</b>
	power auger refu	usal –	Ī	79	LIMESTONE	-61.4
- 2.0		7.				
<b>▼</b> - 3.0	WL			95	LIMESTONE - Water level March 24/97 Elev 59.87m	
					Bottom of hole 59.52	59.6
<b>- 4.</b> 0						58.0
- 5.0					#2	
- 6.0						57.0
						56.0 E
- 7.0						55.0
8.0					LOCOTO DV. HII	CONTRICTION DESIGNATION
	McROSTIE	E GEN	IES	T ST-	LOGGED BY: JML REVIEWED BY: E.S.	COMPLETION DEPTH: 3.0 m
		Ottawa.	C		Fig. No: 25.	Page 1 of 1

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		9						100	3		
TUNNE	Y'S PASTURE WATER	MAIN UPG	RADE		- Colored	B.M.(ELEV 62.79m)geodetic: Tablet No. BOREHOLE NO: S					
	r: P.W.G.S.C.	Was a sale				56U2791 on west foundation wall of the		PROJECT NO: E - 7538			
	DATE: 97/03/22					Archives bldg. supplied by P.W.G.S.C.			: 62.14 (m		
SAMP	LE TYPE REMO	OULDED-AU	IGER/	SHE	LBY TUB	E SPLIT-SPOON NW-CASING	∭ NO	RECOVERY		NQ CORE	
ОЕРТН(м)	SMALL PEN.		SAMPLE TYPE	SAMPLE NO	Z CORE RECOVERY	SOIL / ROCK	}	A VANE I	VANE Cu (kPc 160 240 Cu remoulde 160 240	D (kPa) ▲ 320	ELEVATION(m)
9	(kPa)	(N)	SAMP	SAM	CORE	DESCRIPTION		PLASTIC	M.C.		ELEV
0.0	Augusta		-		26			20	40 60	80	
- 1.0		2/15cm 10 5/15cm 45	$\triangle$	1 2		TOPSOIL  61.84  FILL — fine sand  61.39  FILL  clay, topsoil, pieces of broken rock					62.0
- 2.0 <b>▼</b>	power auger ref	fusal-	I		100	LIMESTONE 60.70  LIMESTONE 60.43					
- 2.0					100	Water level March 24/97 Elev 60.19m 60.06 LIMESTONE	1				60.6
- 3.0						Bottom of hale 59,09					59.
- 4.0						*					- - - - - - - - - - - - - - - - - - -
- 5.0											[ ] [ 57.
- 6.0										-	- - - - - - 56.0
- 7.0					21.2						55.0
8.0	M-DACE	ם מפיי	NE	Cun	Cun	LOTTIC LOGGED BY: JML		СОМРІ	ETION DEPT	H; 3.1 m	
	McROSTI					REVIEWED BY: E.S.	84554		ETE: 97/03		
	B-59AM	Ottawa	. C	ana	da	Fig. No: 26.		200		Page 1	of 1

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TUNNE	Y'S PASTURE WATER	MAIN UPG	RAD	E	12	B.M.(ELEV 62.79rn)geodetic: Tablet No.	BO	REHOLE	No: 97	-26	
	r: P.W.G.S.C.				- Sup.5	56U2791 on west foundation wall of the	_		NO: E - 7		
START	DATE: 97/03/22	10.77				Archives bldg. supplied by P.W.G.S.C.	EL	EVATION	: 62.03 (n	n)	
SAMPI	LE TYPE REMO	OULDED-AL	JGER	SH	ELBY TUB	SPLIT-SPOON NW-CASING	NO F	ECOVER'		NQ CORE	200
	- Market System (Market) (10		سا		₹			80	VANE Cu (kP 160 240	a) <b>=</b> 320	2
E	SMALL PEN.	SPT	SAMPLE TYPE	SAMPLE NO	% CORE RECOVERY	SOIL / ROCK		A VANE	Cu REMOULDS	D (kPa) A	ELEVATION(m)
ОЕРТН(т)	1000 50		ш	님	. REC				AT BOUNDS		l 을
덩	(kPa)	(N)	APP	SAM	SORE	DESCRIPTION	1	PLASTIC	M.C.	LIQUID	
	W2555 1 8854		S	0,	34			20	40 60	80	
0.0		1909 - 000	T			TOPSOIL					62.
2 V		6/150	L	1	1	61.73					F
		6/15cm 12	ΊX	1		FILL	***	•			F
						sand and topsoil with pieces of	-	/			F
- 1.0		37 27/5cm	.IX	2		broken rock		4			F
- 1.0	split spoon refu	isal—	1	1	}	LIMESTONE 60.93					<del>- 61</del> .
8	opine opeon total	.00.			100	EIMESTONE 00.30					F
Ā	WL		H	1		60.53	-+	1-1-1		-	E :
	3311300					Water level March 24/97 Elev 60.48m					-
- 2.0								.][]			- - 60.
						LINECTONE					- 00
					97	LIMESTONE					E
											E
			Н								E
- 3.0			Ц							_	- 59
8						Bottom of hole 58.99					-
9											Ł
											Ė
											E
- 4.0			l v				]	.jj			- - 58.
33311			0								ļ
			8								ŧ
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- 5.0								4-4-4			- - 57.
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- 6.0								ļļļ			- 56.
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- 7.0								<b>   </b>			- - 55.
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8.0	M Doomi	D OF	Ш			LOGGED BY: JML		COMPLE	TION DEPT	H: 30 m	-
	McROSTI					LOUIS REVIEWED BY: E.S.			TE: 97/03		-
		Ottawa	ı. C	ana	da	Fig. No: 27.				Page 1	of 1

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### Table 1

# RECORD OF AUGERHOLES

Augerhole <u>Number</u>	Depth (metres)	<u>Description</u>		<u>Laboratory</u> <u>Testing</u>
04-1	0.00 - 0.20 0.20 - 0.75 0.75	ASPHALTIC CONCRETE Brown fine to medium sand, some gravel (BAS Auger Refusal	SE)	
		Note: Augerhole Dry upon completion		
8 8 <sup>3</sup>		Sample 1	Depth (m) 0.20 - 0.40	
04.0		4	,	
04-2	0.00 - 0.20 0.20 - 0.40 0.40 - 0.70 0.70	ASPHALTIC CONCRETE Grey Crushed Stone (BASE) Brown SILTY SAND, some gravel, trace clay (Auger Refusal	(Glacial Till)	
	411	Note: Augerhole Dry upon completion	19 8 1	
04-3	0.00 - 0.15	ASPHALTIC CONCRETE	z) (2)	
	0.15 - 0.60	Grey Crushed Stone (BASE)	24	# #
5. (#	0.60 - 0.65 $0.65$	Weathered BEDROCK Auger Refusal	25 dil 81	122
		Note: Augerhole Dry upon completion		8
		Sample	Depth (m)	

1

0.15 - 0.40

Sieve

# RECORD OF AUGERHOLES

Augerhole <u>Number</u>	Depth (metres)	<u>Description</u>		<u>Laboratory</u> <u>Testing</u>
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 (C	Blacial Till)	a ja E
	0.80	Auger Refusal		
× w		Note: Augerhole Dry upon completion	14 20 20 20 20 20 20 20 20 20 20 20 20 20	
		8 8		8
		2 3 2	₩.	22
			88	3 90 1
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 (C	Hacial Till)	
	0.65	Auger Refusal	Jacian Tim)	
		Note: Augerhole Dry upon completion		
50	5 3	* 5		
	32.7 (2)	Sample	Depth (m)	
		1	0.15 - 0.50	
		e e	₩	
04-6	0.00 - 0.18	ASPHALTIC CONCRETE		ē.
6850E. 25	0.18 - 0.60	Grey Crushed Stone (BASE)	×	
	0.60 - 0.65	Brown SILTY SAND, some gravel, trace clay (C	Glacial Till)	67
	0.65	Auger Refusal		
	*	Note: Augerhole Dry upon completion		en <sup>en</sup>
(Gg)	ii	Sample 1	Depth (m) 0.20 - 0.60	

## **RECORD OF AUGERHOLES**

Augerhole <u>Number</u>	Depth (metres)	<u>Description</u>	<u>Laboratory</u> <u>Testing</u>	
04-7	0.00 - 0.10 0.10 - 0.60 0.60 - 0.71	ASPHALTIC CONCRETE Grey Crushed Stone (BASE) Brown silty sand, some gravel, trace clay, trace	e wood (FILL)	70
	0.71	Auger Refusal	# 2 B	5
		Note: Augerhole Dry upon completion		
		Sample	Depth (m)	
		1	0.10 - 0.40	
		2	0.60 - 0.70	
* *				
04-8	0.00 - 0.10	ASPHALTIC CONCRETE		
01-0	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	(0)	VS
			K ×	W
		Note: Augerhole Dry upon completion		
		Sample	Depth (m)	
		* <b>1</b>	0.10 - 0.40	
			State opera	
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)	

0.10 - 0.300.30 - 0.50

# RECORD OF AUGERHOLES

Augerhole <u>Number</u>	Depth (metres)	<u>Description</u>	et 98	<u>Laboratory</u> <u>Testing</u>
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 v (FILL)	wood and brick	
	1.57	End of Augerhole		
120		Note: Augerhole Dry upon completion		
		Sample	Depth (m)	
		1	0.10 - 0.30	
10)		2	0.30 - 0.50	13 24 00
		3	1.00 - 1.50	
8		g (81)	**	
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 (C	Blacial Till)	4 ≥
	0.70	Auger Refusal		<b>5</b> 0 41
		Nata Associate Design		¥
		Note: Augerhole Dry upon completion		100000 Sec. 100000
**			5)	
		Sample	Depth (m)	6
		1	0.10 - 0.35	
		2	0.35 - 0.55	Sieve
		*		\$10 \$10
04-13	0.00 - 0.09	A SDITAL TIC CONCRETE		
04-13	0.00 - 0.09	ASPHALTIC CONCRETE Grey Crushed Stone (BASE)		
	0.09 - 0.37	Auger Refusal		
		-		
	22	Note: Augerhole Dry upon completion	额	0 200
		Sample	Depth (m)	
7 S		1	0.15 - 0.35	(6)
3		8 12		

## **RECORD OF AUGERHOLES**

Augerhole <u>Number</u>	Depth (metres)	<u>Description</u>		<u>Laboratory</u> <u>Testing</u>
04-14	0.00 - 0.10	ASPHALTIC CONCRETE		
	0.10 - 0.70	Grey Crushed Stone (BASE)	8	
9 9	0.70	Auger Refusal	* * * * *	*
		Note: Augerhole Dry upon completion		i
		Sample	Depth (m)	
	2	1	0.10 - 0.45	Sieve
		×		0
04-16	0.00 - 0.18	ASPHALTIC CONCRETE		
	0.18 - 0.60	Grey Crushed Stone (BASE)		
10	0.60 - 0.80	Grey to grey black SILTY SAND, some gravel, tra	ace clay, with	
		organic matter (Glacial Till)	A CONTRACTOR OF THE PARTY OF TH	
	0.80	Auger Refusal		
		Note: Augerhole Dry upon completion	* * *	<b>8</b> 9
		Trotte. Tangermore Day apon completion		*
		Sample	Depth (m)	
		1	0.20 - 0.50	
		2	0.60 - 0.80	$v_{\rm g}$
		9	70 E	
04.17	0.00 0.10	A ODIVATE CONTOURS	8	a a
04-17	0.00 - 0.10	ASPHALTIC CONCRETE		10
	0.10 - 0.50	Grey Crushed Stone (BASE)		*
	0.50 - 0.62	Grey to grey black SILTY SAND. some gravel, tr	ace clay	16
	1.52	(GLACIAL TILL) End of Augerhole		
	1.32	End of Augernole		
		Note: Augerhole Dry upon completion	# 1.20 E	: =
76		Sample	Depth (m)	0C
0 2	09	ı ı	0.10 - 0.30	
		2	0.30 - 0.50	Sieve
	\$4 At	3	0.50 - 0.60	

# RECORD OF AUGERHOLES

Augerhole <u>Number</u>	Depth (metres)	<u>Description</u>		<u>Laboratory</u> <u>Testing</u>
04-19	0.00 - 0.09	ASPHALTIC CONCRETE		2
25	0.09 - 0.36	Grey Crushed Stone (BASE)		Si Vi
	0.36 - 0.57	Brown fine to medium Sand, some Gravel (	Subbase)	89
	0.57 - 0.64	ASPHALTIC CONCRETE		
	0.64 - 1.10	Brown silty sand (FILL)		e ×
. Œ	1.10 - 1.55	Brown SILTY SAND. some gravel, trace cl	lay (GLACIAL TILL)	
	1.55	End of Augerhole	¥	8 D W
ä		Note: Augerhole Dry upon completion		
		Sample	Depth (m)	
		×1	0.10 - 0.30	98 22
		2	0.40 - 0.57	
			· i	
04-20	0.00 - 0.13	ASPHALTIC CONCRETE		
04-20	0.00 - 0.13			W 505
9 S	0.13 - 0.30	Grey Crushed Stone (BASE) Brown SILTY SAND, some gravel, trace cl	lov (Glocial Till)	25
	0.55	Auger Refusal	lay (Glaciai Tili)	
		Note: Augerhole Dry upon completion	i ii	u se o Se
102		Sample	Depth (m)	
*	\$ <del>6</del>	1	0.13 - 0.30	
	*	2	0.30 - 0.50	a * -
	a	£		V/93
04-21	0.00 - 0.13	ASPHALTIC CONCRETE		
	0.13 - 0.80	Grey Crushed Stone (BASE)	12 m 12 m	
	0.80 - 1.37	Brown SILTY SAND, some gravel, trace cl	lay (Glacial Till)	
13	1.37	Auger Refusal		
		7930 C W 12 PAGE N 2	E) 107046	2
	8	Note: Augerhole Dry upon completion	\$ 50 Access	s s *
		Sample	Depth (m)	

1

0.20 - 0.50

# **RECORD OF AUGERHOLES**

Augerhole <u>Number</u>	Depth (metres)	<u>Description</u>	a a a	<u>Laboratory</u> <u>Testing</u>
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	only (Chaonai Tin)	
*		and the second s		
章		Note: Augerhole Dry upon completion	W .	
		Sample	Depth (m)	W 17 138
	14	1	0.15 - 0.40	26
		2	0.40 - 0.65	
@ ** @ **				
		*		
04-23	0.00 - 0.10	ASPHALTIC CONCRETE		
W W	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	¥r	
		Sample	Depth (m)	
		1	0.10 - 0.40	
			0.10 - 0.40	
04-24	0.00 - 0.16	ASPHALTIC CONCRETE	8 B	
	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	Depth (m)	

Sample	Depth (m)
1	0.16 - 0.40
2	0.40 - 0.65

# **RECORD OF AUGERHOLES**

Augerhole <u>Number</u>	Depth (metres)	<u>Description</u>	l e	<u>Laboratory</u> <u>Testing</u>
04-25	0.00 - 0.14 0.14 - 0.50	ASPHALTIC CONCRETE Grey Crushed Stone (BASE)	e esti	, .
	0.50 - 0.75 0.75	Brown SILTY SAND, some gravel, trace Auger refusal	clay (Glacial Till)	¥
		Note: Augerhole Dry upon completion	w 9	
		Sample	Depth (m)	
		1.	0.14 – 0.50	Sieve
W W			85	
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	e clay (Glacial Till)	
	0.80	Auger refusal	£	
			10 0	
		Note: Augerhole Dry upon completion		
		Sample	Depth (m)	
10%		1	0.15 - 0.50	Sieve

Pr	oject No:	Log of	Boı	~	eho	ole	_	Bł	<del>1</del> 9	<u>31</u>	1			**(	9	XĽ
	oject:	Energy Services Acquisition Program (ESAP) Pipeline					I	Figure N	۸o	F-2	_					
	cation:	Tunney's Pasture		111 15	<u> </u>					_	Pa	ge	1_ of	1_		
	ite Drilled:	'August 2, 2018			Split Spo Auger Sa		ple				Combus Natural I		our Read	ding		□ <b>X</b>
Dr	ill Type:	CME-55 Truck Mounted Drill Rig			SPT (N)				0		Atterberg		Content	⊢		$\stackrel{\frown}{\circ}$
Da	tum:	Geodetic			Dynamic Shelby T		est	•	_		Undraine % Strain					$\oplus$
Lo	gged by:	MAD Checked by: SP	_		Shear St Vane Te	trength b	ру		+ s		Shear Si Penetror					<b>A</b>
G≶∟	SYMBOL	SOIL DESCRIPTION	Geodetic m	Depth	Shear S	Strength	enetr 40 100	ation Te 60 15	) 8	ue 80 kPa 00	25 Nat	50 5 ura <b>l</b> Moist	our Readir 00 7 ture Conte s (% Dry V	50 nt %	ഗ∢≥െ⊣⊔ഗ	Natural Unit Wt. kN/m <sup>3</sup>
П		HALTIC CONCRETE ~ 50 mm	62.49 62.4	0	*****	Ĩ	<del> </del>		· · · · · · ·							
	~250	.NULAR FILL (BASE) ) mm crushed gravel with silt and sand,	62.1			30. Q.					25 <b>X</b>				M	SS1
	FILL Grav	damp, no odours, no stains : el with silt and sand, cobbles, boulders, damp, no odours, no stains, (compact)			 	26		1.3.0	-2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -		40					
	<b>XX</b>	der from 1.6 m to 2.1 m depths		1		ō					<b>X</b> I				$\bigwedge$	SS2
	<b>X</b> -	-					50 fc	or 50 mi ○ :	m : : :						X	SS3
	<b>XX</b> -	-	60.4	2					·							
	Sand	CIAL TILL d and gravel, cobbles and boulders, n, damp to moist, no odours, no stains					R	efusal			40					
			59.8					0			L <b>X</b>				$\bigwedge$	
	——	ESTONE BEDROCK shaley partings, 100 mm thick gravel		3		1::::::: 1::::::::: 1:::::::::::::::::			·			· ; · ; · ; · ; · ; · ; · ; · ;		· · · · · · · · · · · · · · · · · · ·		
	grey	n at 2.9 m, 3.5 m and 3.8 m depths, (good quality)														D 4
$\blacksquare$	Dept 2.7-4	th (m) RQD (%) Quality of Rock 1.2 86 Good	58.81				+:	1.5.				.;.;.;				Run 1
		-		4				1.3.5	· · · · · · · · · · · · · · · · · · ·							
⊞.	Bore	ehole Terminated in Bedrock at 4,2 m	58.3				#		·		1 2 2 2 2 2				Ц	
	Buil	Depth														

### NOTES:

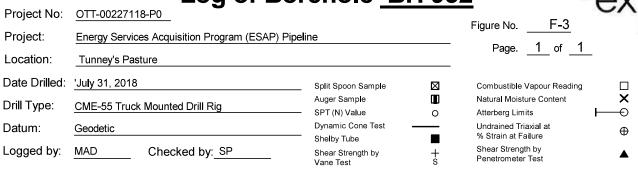
LOG OF BOREHOLE LOGS OF

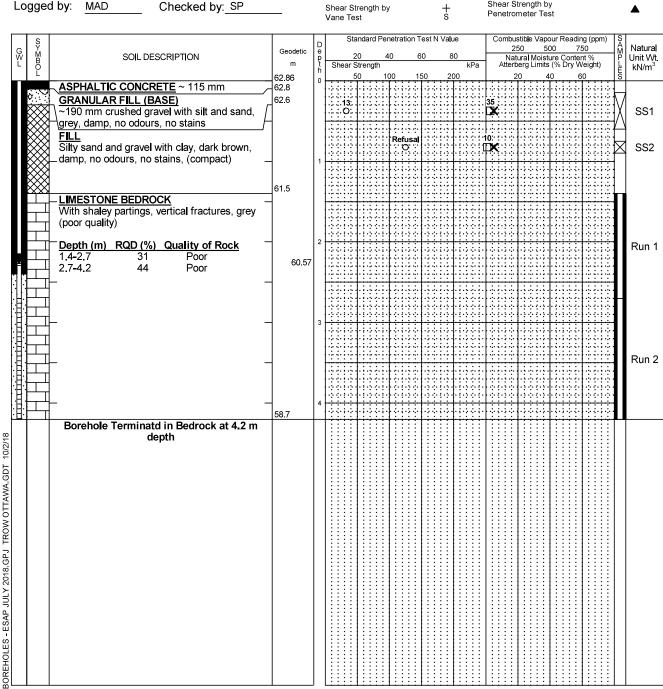
BOREHOLES - ESAP JULY 2018.GPJ TROW OTTAWA.GDT 10/2/18

- 1.Borehole data requires interpretation by EXP before use by others
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- 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	10 (11)				
•						

CORE DRILLING RECORD							
Run No.	Depth (m)	% Rec.	RQD %				
1	2.7 - 4.2	100	86				





### NOTES:

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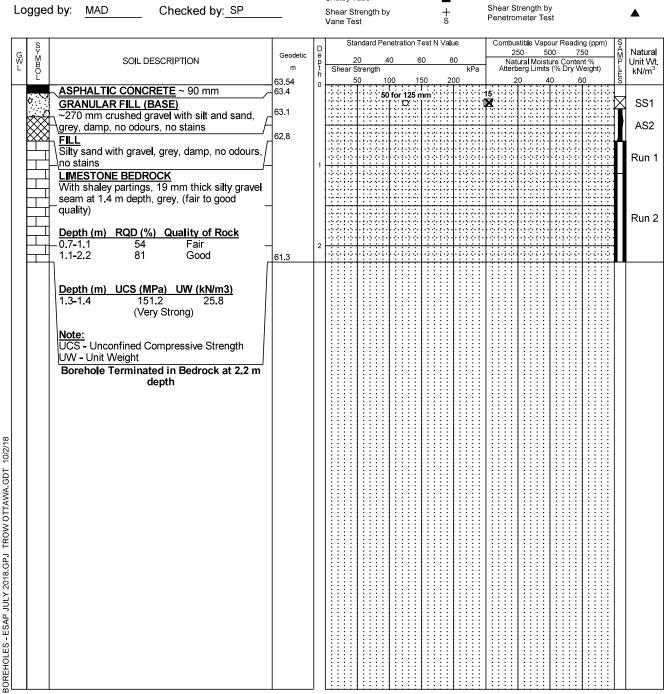
LOG OF

- Borehole data requires interpretation by EXP before use by others
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- 4. See Notes on Sample Descriptions
- 5. Log to be read with EXP Report OTT-00227118-P0

WA	WATER LEVEL RECORDS					
Elapsed	Water	Hole Open				
Time	Level (m)	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	Bor	(	ehole E	3H	933			V
Project No:	OTT-00227118-P0								<u>'</u> ^
Project:	Energy Services Acquisition Program (ES,	AP) Pipel	line	е					- 1
Location:	Tunney's Pasture						Page. <u>1</u> of <u>1</u>		
Date Drilled:	'July 31, 2018			Split Spoon Sample		$\boxtimes$	Combustible Vapour Reading		
Drill Type:	CME-55 Truck Mounted Drill Rig			Auger Sample SPT (N) Value		•	Natural Moisture Content Atterberg Limits	<u> </u>	× →
Datum:	Geodetic			Dynamic Cone Test Shelby Tube	_	_	Undrained Triaxial at % Strain at Failure		$\oplus$
Logged by:	MAD Checked by: SP	_		Shear Strength by Vane Test		+ s	Shear Strength by Penetrometer Test		•
S Y M B O L	SOIL DESCRIPTION	Geodetic m 63,54	Depth	Standard Penetration  20 40  Shear Strength  50 100	60 150	80 kPa 200	20 40 60	AMP-LES	Natural Unit Wt kN/m <sup>3</sup>
ASP		63.4	١	50 for 1	25 mm :	· · · · · · · · · · · · · · · · · · ·	15		



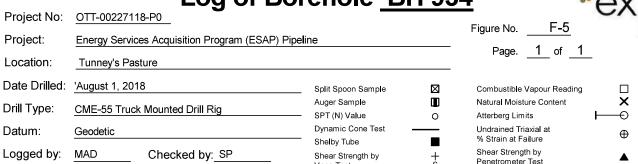
LOGS OF

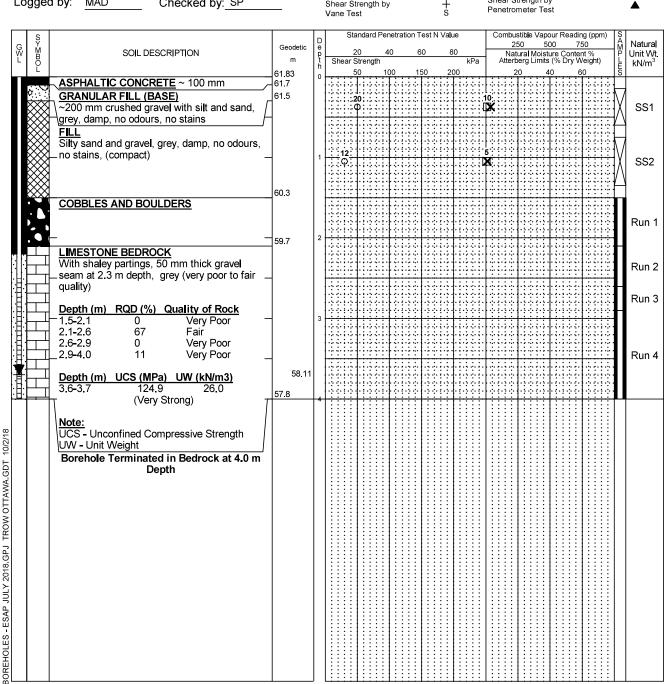
LOG OF BOREHOLE

- Borehole data requires interpretation by EXP before use by others
- 2. The borehole was backfilled upon completion of drilling.
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- 4. See Notes on Sample Descriptions
- 5.Log to be read with EXP Report OTT-00227118-P0

WATER LEVEL RECORDS					
Elapsed	Water	Hole Open			
Time	Level (m)	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			





### NOTES:

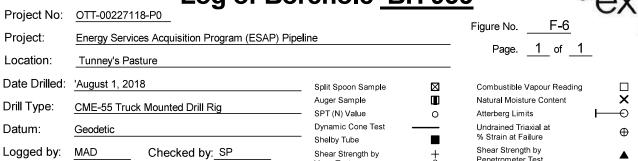
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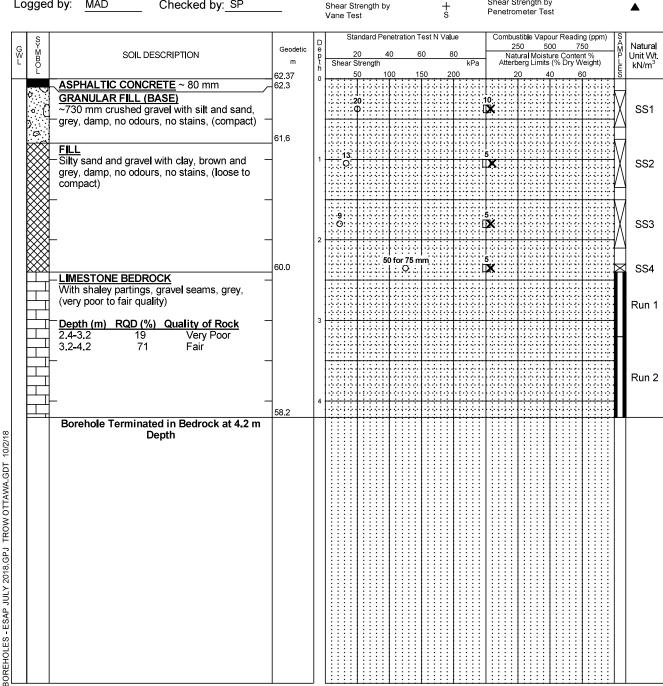
LOG OF

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- $2.32\ mm$  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

WA <sup>-</sup>	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				





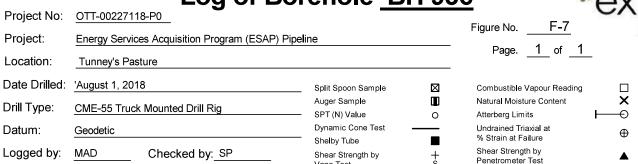
### NOTES

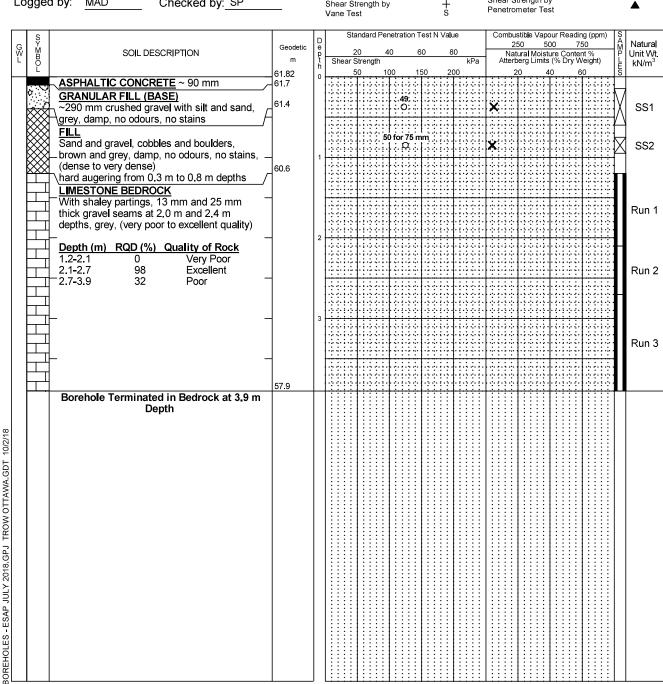
Ы

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- 4. See Notes on Sample Descriptions
- 5.Log to be read with EXP Report OTT-00227118-P0

WA <sup>-</sup>	TER LEVEL RECO	RDS
Elapsed	Water	Hole Open
Time	Level (m)	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			
		% Rec.	RQD %
1	2.4 - 3.2	97	19
2	3.2 - 4.2	100	71





### NOTES:

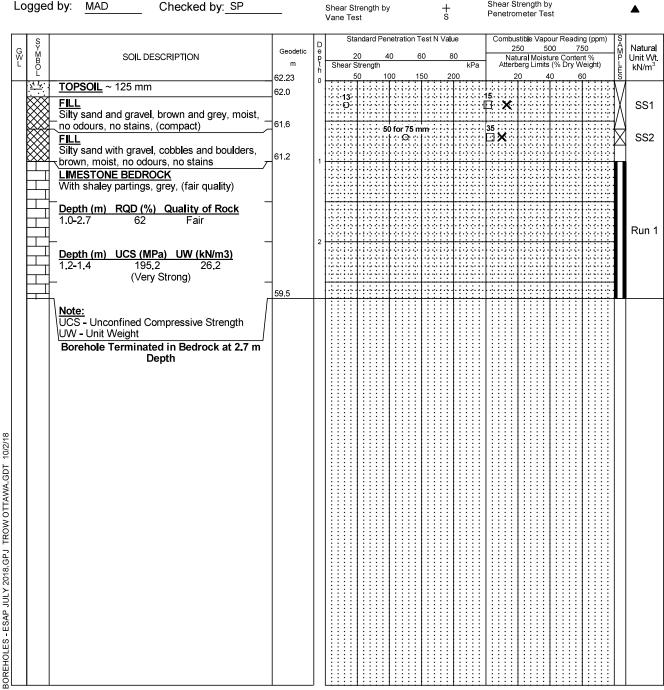
Я

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- 2. The borehole was backfilled upon completion of drilling.
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- 4. See Notes on Sample Descriptions
- 5. Log to be read with EXP Report OTT-00227118-P0

WA <sup>-</sup>	TER LEVEL RECO	RDS
Elapsed	Water	Hole Open
Time	Level (m)	To (m)
Completion	N/A	

	CORE DF	RILLING RECOR	D
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	Boi	(	ehole E	3H	937	7	~	Y
Project No:	OTT-00227118-P0								<u>'^ </u>
Project:	Energy Services Acquisition Program (ES								
Location:	Tunney's Pasture						Page. <u>1</u> of <u>1</u>	_	
Date Drilled:	'August 2, 2018			Split Spoon Sample		$\boxtimes$	Combustible Vapour Reading		
Drill Type:	CME-55 Truck Mounted Drill Rig			Auger Sample			Natural Moisture Content		X
Datum:	Geodetic			SPT (N) Value  Dynamic Cone Test  Shelby Tube		<u> </u>	Atterberg Limits Undrained Triaxial at % Strain at Failure	1	<b>→</b> ⊕
Logged by:	MAD Checked by: SP	_		Shear Strength by Vane Test		+ s	Shear Strength by Penetrometer Test		<b>A</b>
SYMBOL	SOIL DESCRIPTION	Geodetic m 62.23	Depth	Standard Penetrat  20 40  Shear Strength  50 100	60 150	Value 80 kF 200	Combustible Vapour Reading (p 250 500 750  Natural Moisture Content % Atterberg Limits (% Dry Weigh 20 40 60	<u> </u>	Natura Unit W kN/m <sup>3</sup>



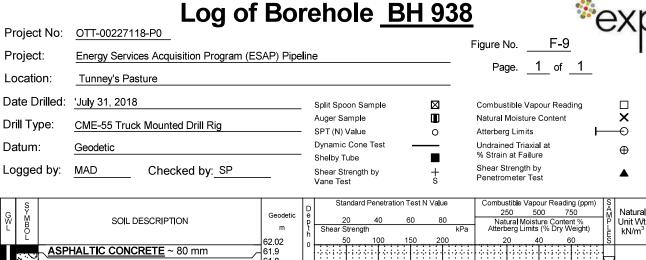
LOGS OF

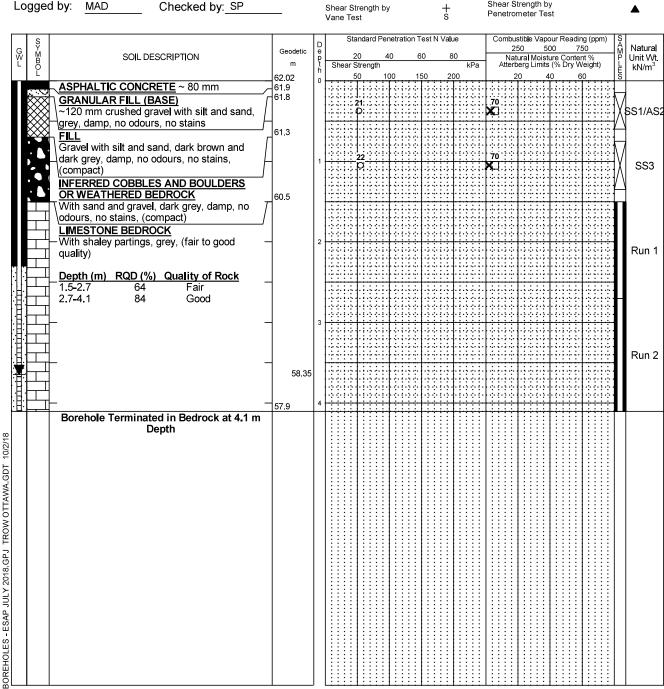
- 1.Borehole data requires interpretation by EXP before use by others
- 2. The borehole was backfilled upon completion of drilling.
- 3. Field work was supervised by an EXP representative.
- 4. See Notes on Sample Descriptions
- 5. Log to be read with EXP Report OTT-00227118-P0

WA	TER LEVEL RECO	RDS
Elapsed	Water	Hole Open
Time	Level (m)	To (m)
Completion	N/A	

CORE DRILLING RECORD								
Run No.	Depth (m)	% Rec.	RQD %					
1	1 - 2.7	100	62					

0.9





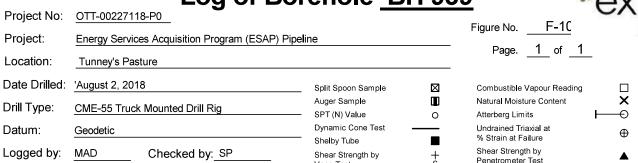
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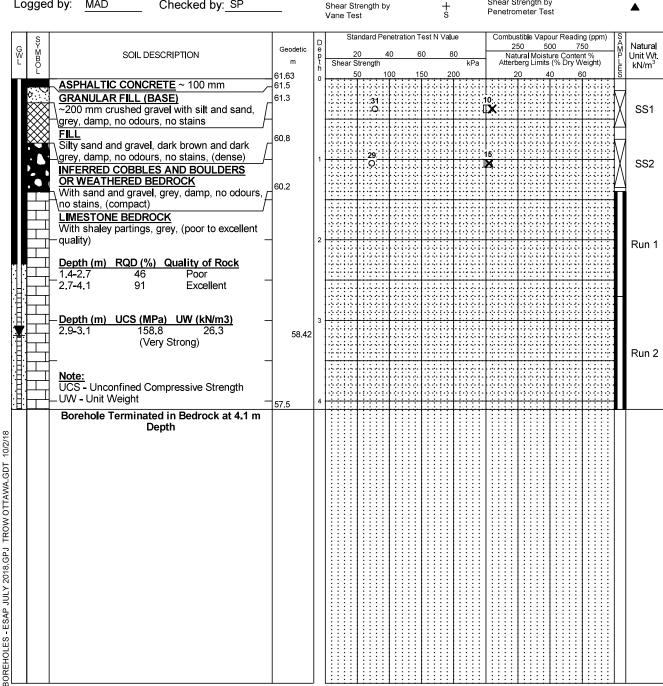
LOG OF

- 1. Borehole data requires interpretation by EXP before
- 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

WA	TER LEVEL RECO	RDS
Elapsed	Water	Hole Open
Time	Level (m)	To (m)
Completion	N/A	
16 days	3.7	
	l .	

	CORE DRILLING RECORD					
Run No.	Depth (m)	% Rec.	RQD %			
1	1.5 - 2.7	100	64			
2	2.7 - 4.1	98	84			
1						





### NOTES

P

LOG OF

- 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  $\,$

WA	TER LEVEL RECO	RDS
Elapsed	Water	Hole Open
Time	Level (m)	To (m)
Completion	N/A	
14 days	3.2	

CORE DRILLING RECORD   Run   Depth   % Rec.   RQD %				
		% Rec.	RQD %	
1	1.4 - 2.7	100	46	
2	27-41	100	91	

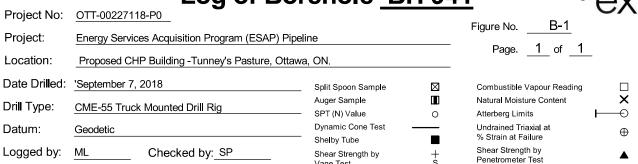
Project No:	OTT-00227118-P0	g of Bo	r	ehol	е <u>В</u>	<u>H 9</u>		i Figure N	0	F-11	**(	9	xp											
Project:	Energy Services Acquisition Pr	ogram (ESAP) Pipe	elir	eline				Pag	_	1 of														
_ocation:	Tunney's Pasture							Pay	e	01 _	<u>'</u>													
Date Drilled:	'July 30, 2018		_	Split Spoon S	Sample	×	]	Combust	ib <b>l</b> e Va	pour Read	ing													
Orill Type:	CME-55 Truck Mounted Drill R	ig	_	Auger Sampl SPT (N) Valu			-	Natural M Atterberg			⊢		<b>×</b> ⊕											
Datum:	Geodetic		_	Dynamic Cor		_	, -	Undraine % Strain	d Triaxi	al at	•		<b>⊕</b>											
.ogged by:	MAD Checked by:	SP		Shelby Tube Shear Streng Vane Test	th by	+ s	-	Shear Str Penetron	ength I	оу			<b>A</b>											
SYMBOL	SOIL DESCRIPTION	Geodetic m	E e p	20 Shear Streng	gth	50	80 kPa	25 Natu	0 :	oour Readir 500 75 sture Conter s (% Dry W	nt % /eight)	SAMP-IIIO	Natural Unit Wt. kN/m <sup>3</sup>											
TOP GRA ~150 grey, FILL Silty	NULAR FILL I mm crushed gravel with silt and damp, no odours, no stains sand, brown, moist, no odours, rs, (loose to compact)	——/]	1	18 	100 1	50	200	5 III <b>X</b>		40 6	0		SS1											
- INFE	IFERRED COBBLES AND BOULDERS R WEATHERED BEDROCK /ith sand and gravel, brown and grey, amp, no odours, no stains (very dense)		2	5.	50 for 125	nm		10					SS3											
With damp		se)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	50 for 125	mm.: : : :		20	· · · · · · · · · · · · · · · · · · ·			
	uger Refusal on Inferred Cobl oulders or Bedrock at 3.3 m D																							
NOTES:		\\\\\ATF	_'  ≣R '	LEVEL RECO	RDS		<del></del>	CO	RE DR	ILLING RE	CORD													
Borehole data i use by others	requires interpretation by EXP before	Elapsed		Water	Hole Op		Run	Deptl		% Red		R	QD %											
2. The borehole w	ras backfilled upon completion of	Time Completion		Level (m) Dry	To (m)	_	No.	(m)																

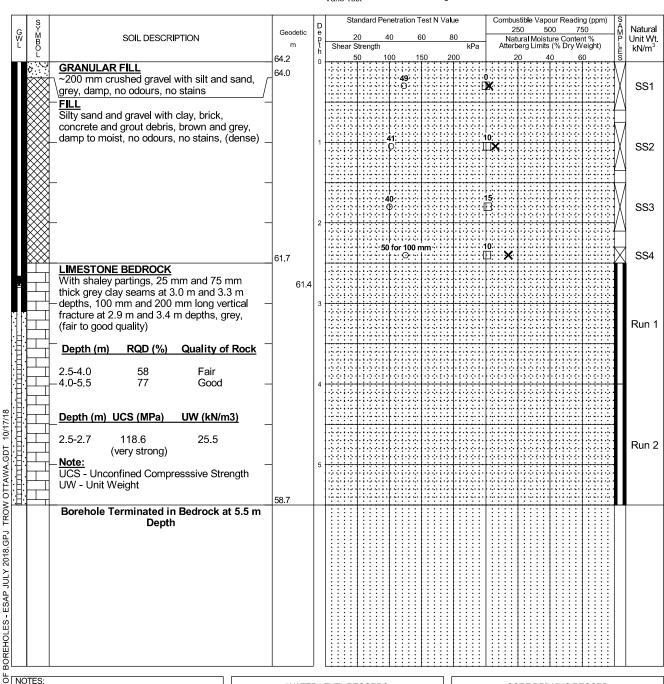
LOG OF BOREHOLE LOGS OF BOREHOLES - ESAP JULY 2018.GPJ TROW OTTAWA.GDT 10/2/18

3. Field work was supervised by an EXP representative.

5.Log to be read with EXP Report OTT-00227118-P0

4. See Notes on Sample Descriptions



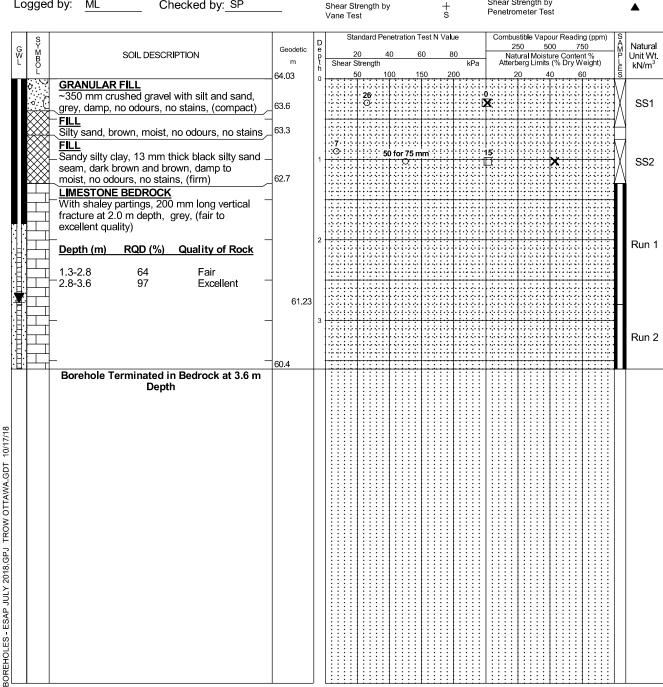


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- 4. See Notes on Sample Descriptions
- 5. Log to be read with EXP Report OTT-00227118-P0

WA <sup>-</sup>	TER LEVEL RECO	RDS
Elapsed	Water	Hole Open
Time	Level (m)	To (m)
Completion	N/A	
10 days	2.8	

	CORE DE	KILLING RECOR	ט
Run No.	Depth (m)	% Rec.	RQD %
1	2.5 - 4	100	58
2	4 - 5.5 100	77	

Project No: OTT-00227118-P0 Figure No. 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 Split Spoon Sample  $\boxtimes$ Combustible Vapour Reading X Auger Sample Natural Moisture Content Drill Type: CME-55 Truck Mounted Drill Rig 0 SPT (N) Value 0 Atterberg Limits Dynamic Cone Test Undrained Triaxial at Datum: Geodetic  $\oplus$ % Strain at Failure Shelby Tube Shear Strength by Logged by: ML Checked by: SP Shear Strength by Penetrometer Test



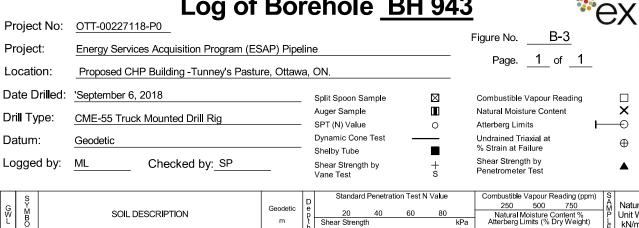
### NOTES

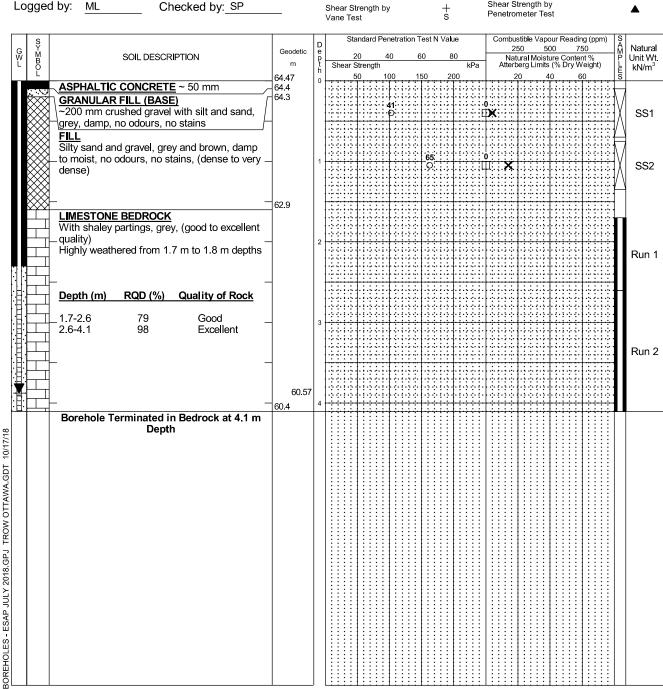
Я

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- 4. See Notes on Sample Descriptions
- 5. Log to be read with EXP Report OTT-00227118-P0

WA <sup>-</sup>	TER LEVEL RECO	RDS
Elapsed	Water	Hole Open
Time	Level (m)	To (m)
Completion	N/A	
10 days	2.8	

	CORE DE	RILLING RECOR	D
Run No.	Depth (m)	% Rec.	RQD %
1	1.3 - 2.8	100	64
2	2.8 - 3.6	100	97



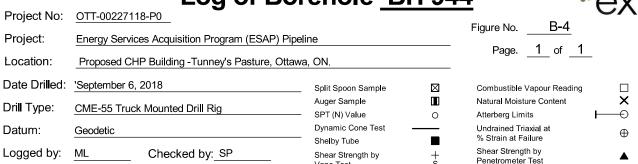


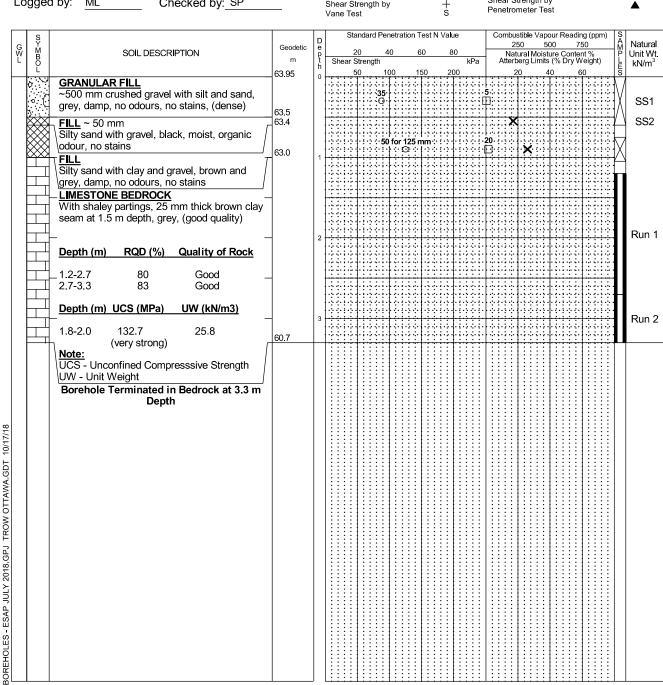
Я

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- 4. See Notes on Sample Descriptions
- 5. Log to be read with EXP Report OTT-00227118-P0

WA	TER LEVEL RECO	RDS
Elapsed	Water	Hole Open
Time	Level (m)	To (m)
Completion	N/A	
10 days	3.9	

	CORE DRILLING RECORD								
Run Depth % Rec. RQD % No. (m)									
1	1.7 - 2.6	100	79						
2	2.6 - 4.1	100	98						
l									





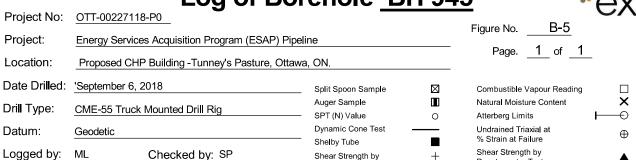
### NOTES

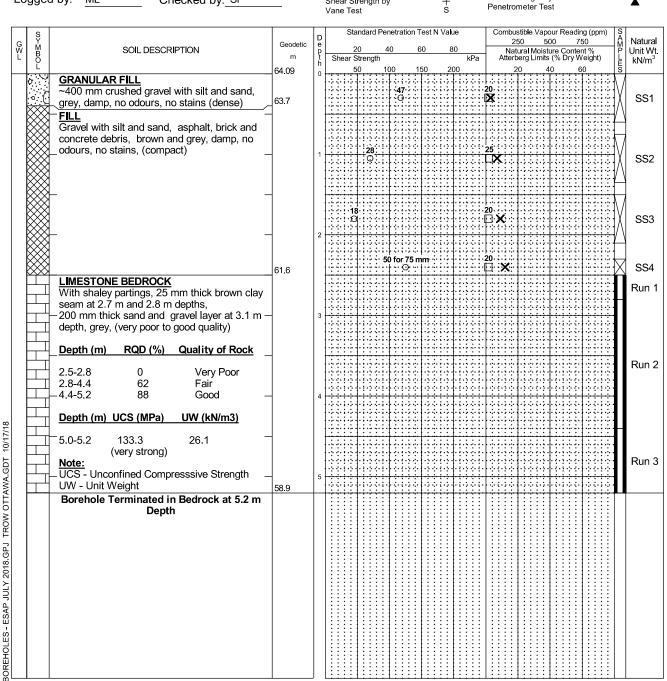
Я

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- 4. See Notes on Sample Descriptions
- 5.Log to be read with EXP Report OTT-00227118-P0

WA	TER LEVEL RECO	RDS
Elapsed	Water	Hole Open
Time	Level (m)	To (m)
Completion	N/A	

	CORE DE	RILLING RECOR	D
Run No.	Depth (m)	% Rec.	RQD %
1	1.2 - 2.7	98	80
2	2.7 - 3.3	100	83





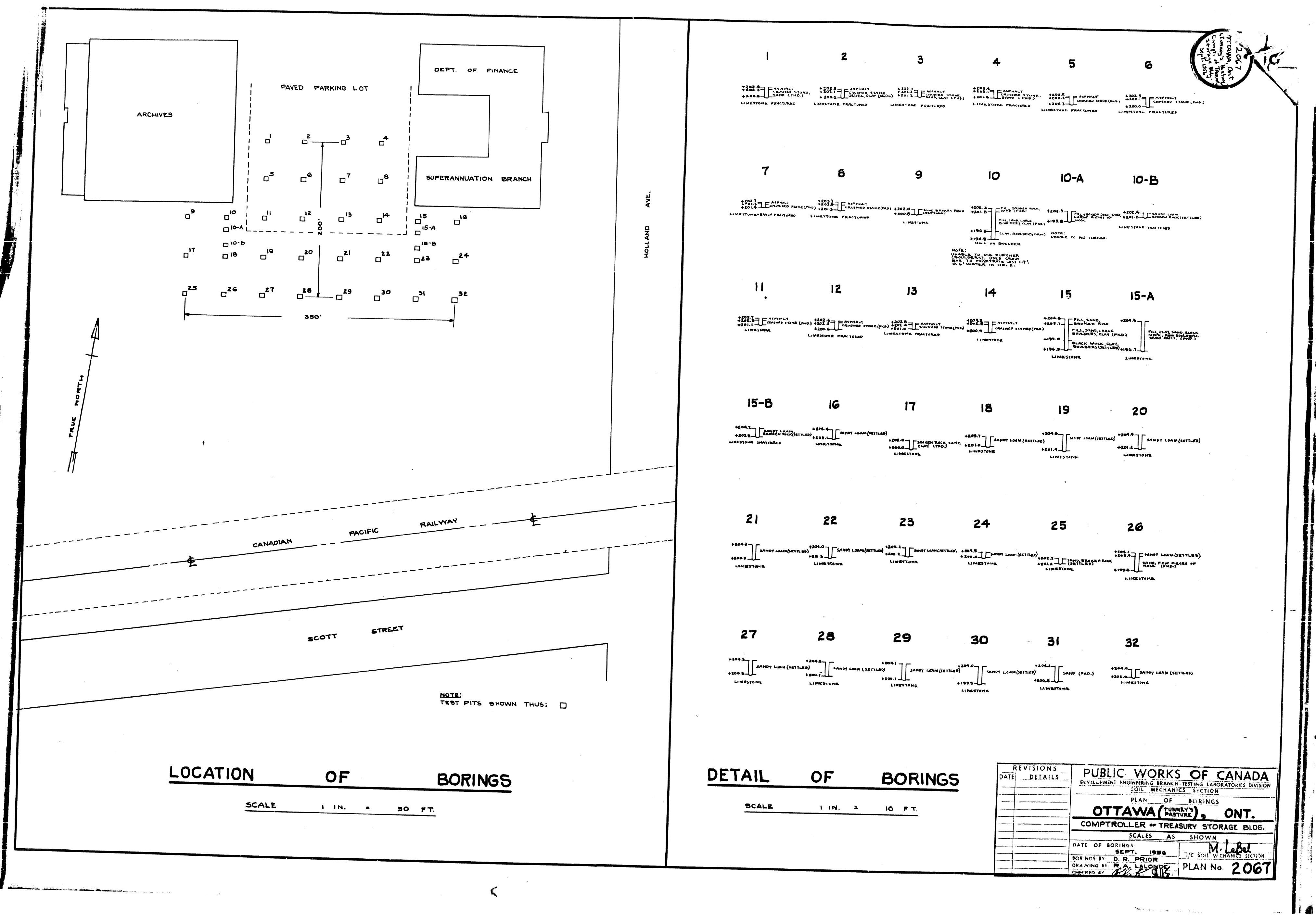
### NOTES:

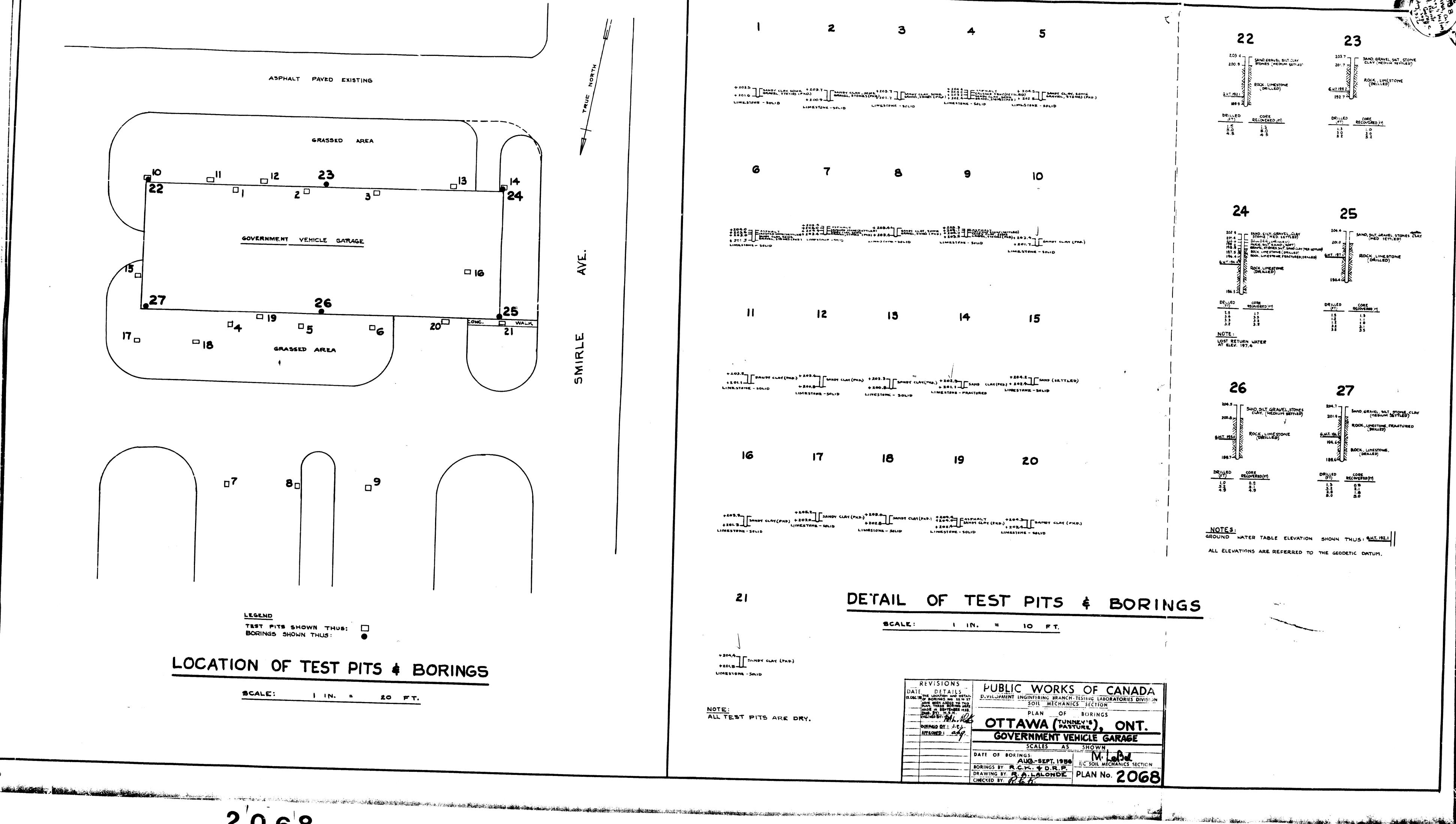
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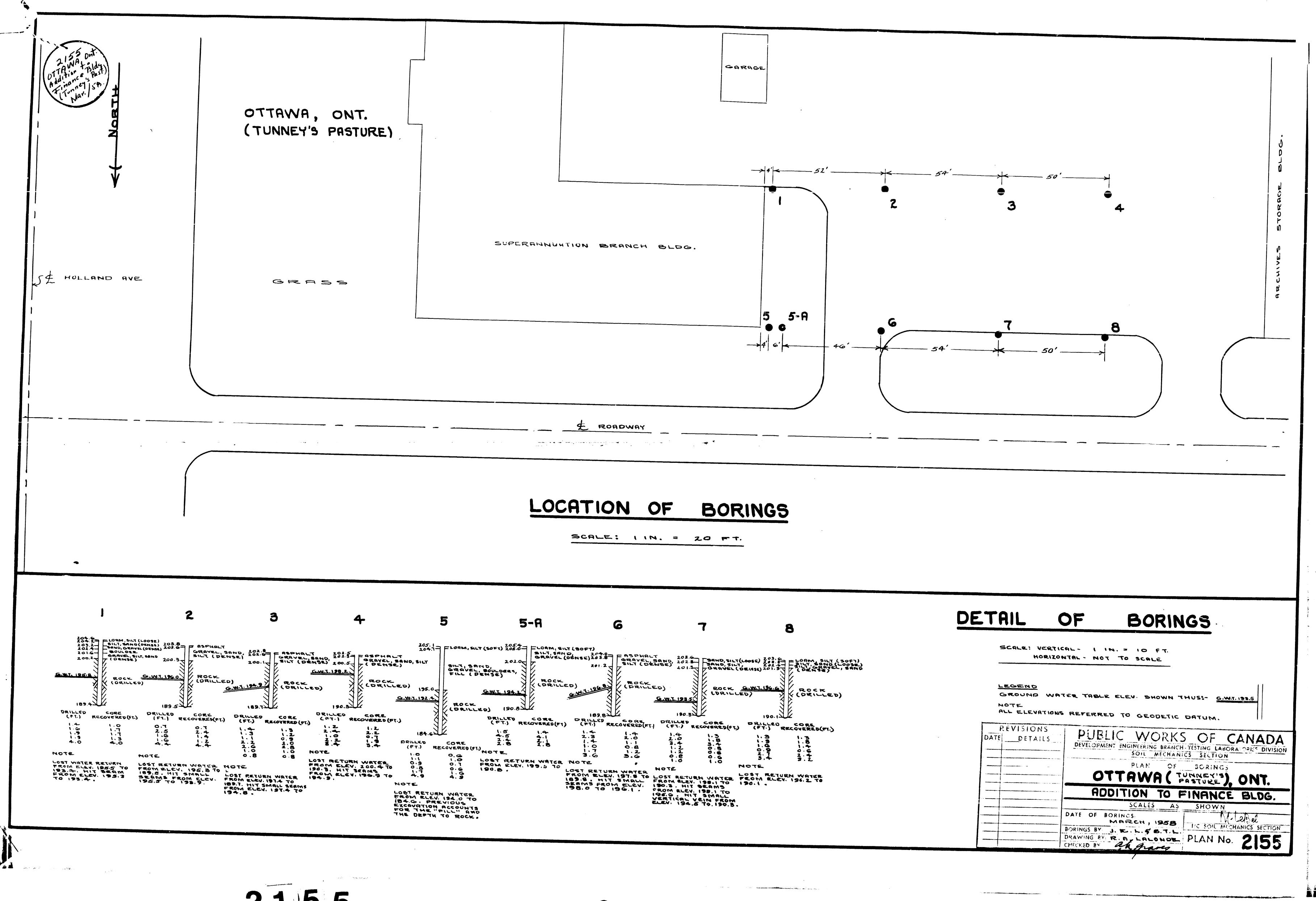
- Borehole data requires interpretation by EXP before use by others
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- 4. See Notes on Sample Descriptions
- 5. Log to be read with EXP Report OTT-00227118-P0

WA <sup>-</sup>	TER LEVEL RECO	RDS
Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	N/A	

	CORE DRILLING RECORD								
Run Depth % Rec. RQD % No. (m)									
1	2.5 - 2.8	100	0						
2	2.8 - 4.4	100	62						
3	4.4 - 5.2	4.4 - 5.2	100	88					







REPORT TESTING	RECORD - SUBSURFACE EXPLORATION - SOILS ESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.	LEGEND SAMPLING METHOD -2" DIA. SPLIT TUBE	PROPOSED STRU	<b>1</b>	ATION TTAWA , ONT. V.V.S.Y.S. P.A.S.TURE)
JWN: APPROV	HECKED AND DATE OF BORING  IN: H. LETTING 18 \$ 19 AUG., 1960  PPROVED MILES BORING TECH.  IN N.E. AYERAFT J. DUFRESNE DRILLING CO.	2" SHELBY TUBE PENETRATION RESISTANCE - R  2" SPLIT TUBE @ @  2" DIA. CONE CASING	L	BLD G FILE	N° 32-2295
	ELEVATION IN FEET OF	STRENGTH  UNCONFINED COMPRESSION (QU)  VANE TEST (C) AND SENSITIVITY (S)  STRENGTH	⊕ +s	NATURAL MOISTURE AND LIQUIDITY INDEX (L LIQUID LIMIT PLASTIC LIMIT	× LI 0 
SAMPLE	DESCRIPTION OF SOIL ELEV.	DEPTH COMPOSESSIVE	<del> </del>	TRENGTH (	<del></del>
Nº TYPE SYMBOLS		400	12 00		ELEV.
	190.0   190.0   190.0				190

BORING	RECO	RD - SUBSUR	FACE EXPLORATIO	N- SOILS	LEGENO		PROPOSED	STRUCTURE	LOCATION	
REPORT N° <i>2524</i>			DEVELOPMENT ENGINE PLIC WORKS, OTTAWA			NG METHOD	MATIALIA	, , , , , , , , , , , , , , , , , , ,	OTTAWA,	ONT.
HOLE Nº	<u></u>		DATE OF	·				(74746) (7	TUNNEY'S A	
HULE Nº		OKK)	L		l	ATION RESISTANCE - R	& WELFA	RE 3LD'G		
2		u. Letting Ed Milebe	19-22 A		2" SP	LIT TUBE 0-0	L		FILE Nº 32- 2	273
	₹~ N	ELAYERAF	T. J. DUFRESNS			A. CONE		CONSISTENCY		
	V	ELEVATION IN	FEET OF		STREM				RE AND X-	•
WATER SUF	FACE BO	TTOM OF HOLE	DATUM	GROUND	1	KILL IFINED COMPRESSION (QU)	⊕		DEX (LI) X LI	
***************************************			GEODETIC	193.3	VANE	TEST (C) AND SENSITIVITY(S)	+\$	PLASTIC LIMIT		
		169.9	GROUND WATER	ROCK 190. 0		STOPHATH PENETRATION		-cousist	MAN.	±1141¥=
	<del></del>	T		ELEV.	DEPTH	c	,		T T	-WT-
SAMPLE	]	DESCRIPTI	ON OF SOIL	FT		COMPRESSIV	E +cr	STRENGTH	(TONS/FT2)	LBS/G.F.
Nº TYPE	SYMBOLS				6	<u> </u>	000 BLONG/FI	06 1400	1600	ET.
				198.3						#
					1					#
		OVERBURDE	EN, MOSTLY BOUL	DERS						#
		i .	RILLED)	190.0						#
	1	<u> </u>		770.0	1					
				ļ						#1
										#
1		FORL	(DRILLED)	1						180
1		1,000	( 20000 )						<b></b>	#
										#
						<b>. .</b>				5 <b>=</b>
	1		ngalagyakak alba sakkakan albakak kenancak kini berancak albak kenanca dan	169.9						170
		1	DAY OF HOLE				111614			#
		DRILLED FT. S.O								
		4,4 5.3	S. 0 4. 4 5. 3							#
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FORING	REC	ORD - SUBSUR	FACE EXPLORATIO	N - SUILS	I.E.C	GEND	PROPOSED S		LOCATION	·
REPORT 1°2324			EVELOPMENT ENGIN		H SAI	MPLING METHOD			OTTAWA TUNNEYS PA FILE Nº 32 - 23	ONT
						2" DIA SPLIT TUBE 2" SHELBY TUBE =	1,74T10N2	al HEALTH.	TIMES 2	577181
IOLE Nº	<del></del>		DATE OF			NETRATION RESISTANCE - R	& WESF.	1.85 3106	FILE Nº 32 - 23	0.011
3	APPROV	En M. ( 0/300	24 AU	CH	2	2" SPLIT TUBE 🕒 🕒			FILE Nº 32 - 22	· : : : : : : : : : : : : : : : : : : :
		N.E.LAYCR.	AFT J. DUFRESK'S	BRILLING C	<i>U.</i> 1	2" DIA. CONE		CONSISTENCY		
	V	ELEVATION IN	FEET OF		l l	RENGTH			TE AND X LI	
ATER SUF	RFACE B	OTTOM OF HOLE	DATUM	GROUND	U	INCONFINED COMPRESSION (QU)		LIQUID LIMIT		
		167.1	/	194.0		VANE TEST (C) AND SENSITIVITY(S)	+S	PLASTIC LIMIT		
			GROUND WATER	ROCK /88.7		STRENGTH . PENETRATION	RESISTANCE	- <del>************************************</del>	IN-84-	- <del>10015-</del>
SAMPLE	1	DESCRIPTION	ON OF SOIL	ELE	. DEP	TH COMPRESSIV	/E #5=	STRENG	TH (TONS/FT4)	WT.
				FT	F	1 1 1	SHOWE/FI	<u> </u>		ELEV.
1º TYPE	SYMBOL:	3		194	0		12	∞ (400 []]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]	1600	r.T.
		OVERBURDEN	MOSTLY BOULDE							
		(DRI.	MOSTLY BOULDE LLED)	186	. 7					190
l				İ						
		70000	marram i							180
		KUEK ()	DRILLED) "SEAM AT ELEV. 1	77.0				* : : : : : : : : : : : : : : : : : : :	*************	
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1		Ś		167	. ,		BUBBBBBBBBB			1, 70
		307.701	7 OF HOLE							
			RECOVERA	OFT.						
		1.0 5.4	0.9 GR3UNG <b>5.3</b>	CORE						160
		4.8	4.5							,
		. 4.9 5.5	4.8 5.4							
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RUCTURE	LOCATION			BORING	REC	CORD - SUBSUE	FACE EXPLORATIO	W COULC	1.565	^					
		0.6-		REPORT	TESTING		DEVELOPMENT ENGINE		LEGEN	U ING METHOD	i	PROPOSED		LOCATION	
MEAITM	OTTAWA TUNNEYS ,94 FILE Nº 32 - 23	UN.		N.533	≠ DE	PARTMENT OF PU	PLIC WORKS, OTTAWA	A, ONTARIO.	2" 0	A SPLIT TURF	Ø	1/1-10-	AL HEALTH RE BLD'G	OTTAWA	ONT.
ne minia	TUNNENS PA	(STURE)		HOLE N	CHECK	ED PAL MA	DATE OF	BORING	2 s	A SPLIT TUBE		NATION	al HEALTH	CHILLENC 2	15710=1
15 3106	EU E No 32 - 22	, 0=	1		<del></del>	H. LETTING			1	RATION RESISTAN	ICE - R	\$ NIEL FA	RE BLD'G	(10,0,0,5,7)	לבאט ונא
	FILE Nº 32 - 23	, , , ,	1	4						PLIT TUBE	~ ~	, w == 1/-1/		FILE Nº 32-2	275
ONSISTENCY		1	1		1	N.E. LAYERA	P. BORING TE	EDRILLING CO.	2 0	A. CONE			CONSISTENCY		
	RE ANDX-	1			V	ELEVATION IN			CASI	NG				E AND	
	DEX (LI) X LI	1		WATER	SUPERCE TO			Lancina	STREA			-		EX (L1) X L1	•
		1	l	WATER S	ourract 18	OTTOM OF HOLE	GEODETIC	GROUND 195.5	2	NFINED COMPRESSI			LIQUID LIMIT		
PLASTIC LIMIT				ye-ye		167.5		ROCK	VANE	TEST (C) AND SEN	(5) TIVITY (5)	+ <sup>5</sup>	PLASTIC LIMIT		
******************************	inou-	-					ONCORD WATER	190.3	1	STRENGTH +	PENETRATION	RESISTANCE	CONSISTS	ace:	
STOPNIC	TH (TONS/FT4)	₩ <del>T.</del>	[	SAMPLE		DESCRIPTI	ON OF SOIL	ELEV.	DEPTH FT.						
3111111	1	ELEV.	į	<del></del>				FT	FT.	COMP	WE 221 A	/E ++s=	SIKENO	TH (TONS/FT")	L05/6.F-
1400	1600	ŗτ.	er the control of the	Nº TYP	E SYMBOL	S				800	100	DLOWE/F	651466	1600	ELEV.
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		'				1			1	F77777111111	<del>┇╏╏╏╏</del>			++++	200
7 3 9								195.5						<del>╁┇┇╏</del> ┇	1
<b>┼┼┼┼┼┼┼</b>	<del>                                      </del>				1 1	OVSRBURDEN	I, MUSTLY BOULD		1						1
						(3814	I, MOSTLY" BOULD (150)	190.3	1	<b>                                      </b>	<del>                                      </del>				]
		180						1,70.3	1				<del>┇</del>	<del>                                      </del>	190
╀╀╀┼┼╂┼┼┼	<del>╏┇╏╏</del>				1 1						12944			<u> </u>	1
					1 1	,,									}
						<b>├</b> → < ½	Seam at elev. 10	12.5	1	<del>┇</del> ┋┋					}
		170	•			Pare	SEAM AT ELEV. 18 (DRILLED)				374				
						1 2002	( WKILLED)	1	I						180
						1			1				╒╃╃╀╃╃╀┼┼┼┼┼┼┼┼┼┼	<del>                                      </del>	
<b>+++++++</b>		160													
		100						167.5							170
						BOTTON	TOP HOLF		1					<b>                                      </b>	
医医肾经检验检验 化氯甲磺胺							RECOVERED FI	ا بىر	1					<del>                                      </del>	
						1.0	0.0 GROWN	li l	I						
						5.3	5.5		[			+++++			160
						5.4 5.3	I, 4 S.9	j							
						5.8	5.0		1						
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		1, 1									111111111		<del>                                      </del>		
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BORING REPORT	TESTING	LABORATORIES, C	FACE EXPLORATION ENGINEERS OF THE PROPERTY OF	EERING BRANCH	LEGEN		PROPOSED		LOCATION	
N°2324	DE	PARTMENT OF PU	FLIC WORKS, UTTAWA	, ONTARIO.	2" 0	A SPLIT TUBE	NATION	AL HEALTH	OTTAWA	ONT.
HOLE Nº		H.LETTING	DATE OF		1	HELBY TUBE	& WELF	4.85 3106	TUNNSY'S ,2	ISTURE,
3		ED M'Ce/3el	BORING TE	<i>G. 1960</i> CH.	2° S	PLIT TUBE @	777577		FILE Nº 32 - 23	
		N.E.LAYCR	AFT J. DUFRESN'S	DRILLING CO.	2 0	A CONE		CONSISTENCY		
-	v	ELEVATION IN			STREM				E AND	
ATER SURI	FACE B	OTTOM OF HOLE	DATUM GEODETIC	GROUND 194,0	E .	NFINED COMPRESSION (QU)		LIQUIDITY IND	EX (LI) X LI	
	-	167.1	GROUND WATER	ROCK	V	TEST (C) AND SENSITIVITY (S)		PLASTIC LIMIT	<b>,</b>	
SAMOUS T				188.7		***************************************	-0000014460	************	W <b>O</b> 4	-
SAMPLE	<b>-</b>		ON OF SOIL	ELEV. FT	DEPTH FT.	COMPRESSIV	E HOE	STRENG	TH (1045/514)	<del>WT.</del>
Y TYPE	SYMBOLS			194.0	6	<b>800</b> (∪0	O OLONGAL	co 1400	1600	ØLŒV. F.T.
		OVERBURUSN,	MOSTLY BOULDER							
		(DRIL	.450)	183.7						190
								<b>OUNTER</b>		
		ROCK (	RILLED) SEAM AT ELEN 17.					₿ <del></del> ₽₹₽ <del>₽₽₽₽₽₽₽₽₽₽</del> ₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽	<b>7</b>	180
		7	SEAM AT BLEV. 17	7.0						
	The state of the s									170
		BOTTOM	of Holf	167.1						
		DRILLED FT.	RECOVERED							
		1. <b>0</b> 5 · 4	2.0 GROUNG E	704 E						
		4.8 4.9	4.3 4.8							160
		5.5	<b>5.4</b>		ŀ					
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BORING REPORT N° 232 4	TESTING LABORATO	UBSURFACE EXPLORATION OF PUPLIC WORKS, OTTAK	NEEDING PRANCH	LEGEND SAMPLING METHOD	PROPOSED STRUCTURE	LOCATION
	CHECKED RAL	PLATE OF		2" DIA. SPLIT TUBE	NATIONAL HEALTH	OTTAWA, ONT.
	APPROVED MIL		5. 1960	PENETRATION RESISTANCE - R	\$ WELFARE BLD'G	FILE Nº 32-2295
	N.E.LA	-eldel Boring t Ycraft J.Dufres	ech. Ve zuilling co.	2° SPLIT TUBE G-O	CONSISTENCY	TRICE Nº 32-2273
		N IN FEET OF		STRENGTH		RE AND
	CE BOTTOM OF	GEODETIC	GROUND 195.5	UNCONFINED COMPRESSION (QU)		DEX (LI) X LI
The Mark State of the Control of the	167.5	GROUND WATER	ROCK		PLASTIC LIMIT	
SAMPLE	DESC	CRIPTION OF SOIL	190.3 ELEV.	DEPTH COMPRESSI		
Nº TYPE SY			FT	COMPRESSI	VE + STRENCE	TH (1045/FT4) LBO-44-F
		•			CO 9500 1400	1660 ELEV.
	Ro	RUSN, MOSTLY BOULD  (DRILLED)  ( Z SSAM AT SISV. 16  CK (DRILLED)	7,70.3			190
	## ## ## ## ## ## ## ## ## ## ## ## ##	FT. RECOVERSO FY OR WOLLE FT. RECOVERSO FY OR GRUND S.3 U.4 S.3 S.0	CONS			

Boring REPORT				FACE EXPLORATION DEVELOPMENT ENGIN		LEGEN		PROPOSED	STRUCTURE	LOCATION	
2324	'28	DEP	MINENT OF PU	PLIC WORKS, OTTAW	A, ONTARIO.	2" DI	NG METHOD  A SPLIT TUBE [2]	111-1011	11 11-11-11	OTTAWA,	ONT
HOLE Nº	СН	ECKE	YRAN M	DATE OF	BORING	4	ELBY TUBE	1 /	AL HEALTH	イセルハミング だん	ובירוני וו
5	DW	W, A	1.LETTING	25 AUG		PENET	RATION RESISTANCE - R	G WEST		FILE Nº 32-22	
_	API	POVE	D M.LeBe	L. BORING TE A T 1 J. DUFRESNE	ECH.	2" 01	A. CONE		CONSISTENCY		<del>-</del>
	<u> </u>	7	ELEVATION IN		<u> </u>	l				E AND	
ATER SUR	FACE		TTOM OF HOLE		GROUND	STREM	GTH NFINED COMPRESSION (QU)	⊕		EX (LI) X LI	
				GSODETIC	198.2	ı	TEST (C) AND SENSITIVITY (S)		LIQUID LIMIT PLASTIC LIMIT		
i i marangahada masar basa agas.	Medial C		168.0	GROUND WATER	ROCK 189.7		STRENGTH 1-PENETRATION	DECIOTANCE.	-consiste	ACK.	<del>UNIT</del>
SAMPLE		4	DESCRIPTION	ON OF SOIL	ELEV.	DEPTH	2		<del></del>		₩7-
1º TYPE	SYMI	201 G			PT	FT	COMPRESS	100	SIRENO	TH (TONS/F74)	ELEV.
	7,,,,,						7•• (°		111111111111111	1300	FT.
			f Alberthelisiskiskismuskumusuum estumumus	ann aire ann an t-aireann ann an airean an t-aireann an t-aireann ann an t-aireann an t-aireann an t-aireann a	198.2						200
			OVERBURDEM	MOSTLY ANDER							
			(DR	MOSTLY BOULD	•						
		7	enalle Miller dels die die Meneral Construit George 4 enalle inne 2.0	nera desentantantan antaren esta en entre un entre eta esta esta esta esta esta esta esta	1898						190
			POCK (	DRILLED)				1036			180
			1,000,000								
											170
	ł		BOTTOM	OF HOLE	158.0						
	İ	1	DRILLED FT.	RECOVERED	ET						
			1.5 3 <b>.5</b>	0.0 TRUUUD 3.5	CONF						14.5
	1	l	5.5 5.5	<i>ેઇ.ક</i> ક.ક ક.ક							160
			7.7	.s. <b>క</b>							
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BORING REPORT	1 759	TING	LABORATORIES, D	FACE EXPLORATION ENGINEERS	EERING BRANCH	LEGEN	_	4ETHOD	PROPOSED	STRUCTURE	LOCATION	
N°2324		DEP	ARTMENT OF PU	PLIC WORKS, OTTAWI	A, ONTARIO.	2" D	A SPL	17 TUBE	WITING	1/ 1/22/200	OFTAILA,	D.V.T.
HOLE Nº			ORAL	17 91 F1 88 1				RESISTANCE - R	IVALIUNA	L HEALTH	TUNIVEYS PA	1577185
6		PROVI	ED M·Lesse	A. BORING TE	ECH.	2 5	PLIT 1	RESISTANCE - R	9 115-50	15 2624	FILE Nº 32-22	95
<del></del>		0			UE DELLLING CO.			····		CONSISTENCY		
NATER S	URFACE		ELEVATION IN		GROUND	STREN			•		EX (LI) X LI	
		1		JEODETIC	198.7			COMPRESSION (QU)		LIQUID LIMIT		
			167.0	GROUND WATER	190. 7		STRE	NGTH + PENETRATION	DECIGTANCE	-consists		
SAMPLE			DESCRIPT	ON OF SOL	ELEV.	DEPTH	<b>+</b>	OMPRESSI			TH (TOUS/ET)	<del>-11117</del>
Nº TYP	ESYM	BOLS						1000 110	Bronder.		111 (1041/24-)	ELEV.
			OVERBURDEN (D)	MOSTLY BOULD	198.7 190.7							200
			> < ½. Roun	(54M .4 <b>T E</b> LEK. 181 (500)	2.7			// e/A/5/c/\				180
				0.0 HOLE  RECOVERSO #  0.0 GROUND  5.4  5.4  5.2  5.4								170
						20 CO CO CO CO CO CO CO CO CO CO CO CO CO						
						The state of the s					201155568BB66	

	RING	TE			FACE EXPLORATION			LEGEN	_	i koniĝi.		PROPOSED	STRUCTURE	LOCATION	
N°,	2324		DEF	ARTMENT OF PUI	PLIC WORKS, OTTAW	A , ONTAR	IO.	2" DI	NG MET A. SPLIT	TUBE		WATING	41 "711=4111	OTTAWA,	OX/7
101	E Nº	ļ		OKAD NO	C. DATE OF			2" SF	ELBY TO	JBE	- 🖾	NAL WING	AL HEALIM	OFTAWA, (TUNNEYS P. FILE Nº 32 - 2	ISTURE
	9	-		LETTINE	29 AU		60			E	– R	& WELL	AKE BLDG.	FILE Nº 32 - 2	295
		AF	PROV		DORING TE	ECH. V <i>E DRI</i>	LING Co.	2" DI	A. CONE		_		CONSISTENCY		
	e design			ELEVATION IN	FEET OF			STREN						URE ANDX-	
AT	ER SU	RFACE	ВС	TTOM OF HOLE		GROUN	ID	4		OMPRESSION	(QU)	⊕		NDEX (LI) X LI	
		_		178.6	GEODETIC		21.1	VANE	TEST (C)	AND SENSIT	VITY(S)	+ S			
				.,,,,	GROUND WATER	ROCK	71.6		STRENC	TH PE	NETRATIO	N RESISTANCE	-consist	ENCY-	-UNIT-
SA	MPLE	T	<del> </del>	DESCRIPTION	ON OF SOIL	·	ELEV.	DEPTH FT.	f			VE WAF		STH (TONS/FT3)	-W-T-
lo	TYPE	SYN	BOLS						Buddonia tela	successive Parc	- cookin - sada	Fig. Diowolf	JOTALING	7 1 1 (1042) 1 1 9	ELEV.
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SAMPLE	<u> </u>	DESCRIPTION OF SOIL	202.5 ELEV.	DEPTH	STRENGTH + PENETRATION	r	CONSISTE	NCY	UNIT WT.				200.7 GROUND	WATER F	ROCK 202.7
N° TYPE	SYMBOLS		FT.	FT.	Qu t t	KSF BLOWS/FT	<del></del>		LBS/C.F.	•	SAMPLE	4	DESCRIPTION OF	SOIL	ELE F
		OVERBURDEN  ROCK (DRILLED)  BOTTOM OF HOLE  DRILLED(FT) - PLUG BIT  2.5  NOTE: SMALL SEAM ENCOUNT AT ELEV. 200.5									N° TYPE	The state of the s	OVERBUR ROCK (DR BOTTOM O DRILLED(FT) - P 2.0 NOTE: NO SEAM E	ILLED) F HOLE LUG BIT	

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BORING	PECOPO CUPOUPEACE EXPLORATION				1 <b>3614104</b>		·		- 
REPORT	RECORD — SUBSURFACE EXPLORATION — SOIL: TESTING LABORATORIES, DEVELOPMENT ENGINEERING BE		LEGEN	<u>)</u> NG METHOD		PROPOSED S	STRUCTURE	LOCATION	
2327	DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO			A. SPLIT TUBE	3	ADDITIC	N "TO THE	OTTAWA	, ON
HOLE Nº	CHECKED RAL WAR. DATE OF BORING			ELEY TUBE		CEI	VTRAL	(TUNNEY'S	PASTUI
4	DWN. R. CLOUTHIER 2 SEPT. 1963	<u>,                                    </u>		RATION RESISTANCE -	₹ =	HEATIN	C CI ANIT		
'	APPROVED MICHBUL BORING TECH.	NECO		A. CONE	\ <del>)                                    </del>			FILE Nº 32-2	303
	ELEVATION IN FEET OF	VE CO.		IG			CONSISTENCY	<u> </u>	
ATED CUD			STREN	<del></del>				RE AND X LI	
AILN JON	FACE BOTTOM OF HOLE DATUM GROUND GROUND GEODETIC 205.			NFINED COMPRESSION ( TEST (C) AND SENSITIVE			LIQUID LIMIT	<del></del>	
	200.7 GROUND WATER ROCK					+~	PLASTIC LIMIT		
	2.C.2	.7		STRENGTH + PENE	FRATION	RESISTANCE	CONSISTE	NCY	UNIT
SAMPLE	DESCRIPTION OF SOIL	ELEV. FT.	DEPTH FT.	C		KSF			WT.
Nº TYPE	SYMBOLS			B	- }	BLOWS/FT		<b>—</b>	LBS/C.F.
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		205.2			:			+++++++	1
		202.7			:			<del></del>	1
	ROCK (DRILLED) Z	200.7			:'###			<del></del>	
	DRILLEDIFT - PLUG BIT	1			:				200
	2.0	.					<del>                                      </del>	<del></del>	
	NOTE: NO SEAM ENCOUNTERELI.								
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80 RE	RING			RFACE EXPLORATION		LEGI		P	ROPOSED	STRUCTURE	LOCATION	
N°		· DE	PARTMENT OF P	DEVELOPMENT ENGI LIPLIC WORKS, OTTAW	NEERING BRANG A,ONTARIO.		PLING METHOD  DIA. SPLIT TUBE	AL	DDITIC	ON TO THE	OTTAW.	A, ONT.
,	LE Nº	CHECK	ED RA	MAR DATE OF	BORING		SHELBY TUBE		CEI	NTRAL	TUNNEY'S	S PASTURE)
:	5		R. CLOUTHIE		157, 1960		TRATION RESISTANCE	E-R H	EATI	NG PLANT	FILE Nº 32	· 1
	J	APPROV		BORING T			SPLIT TUBE				Trice No 32	-2303
	78:Himmanaga		ELEVATION IN		KEJIVE CE	CA	SING			CONSISTENCY	25 AAID	
WAT	ER SUR	FACE IN	OTTOM OF HOLE		GROUND	<del></del>	ENGTH		•	NATURAL MOISTUF LIQUIDITY INI	RE AND <del>  X</del> DEX (LI) X L	
	0011		ON OF HOLE	GEODETIC	206.0		CONFINED COMPRESSION IE TEST (C) AND SENSIT			LIQUID LIMIT		
-			- 200.0	GROUND WATER	ROCK					PLASTIC LIMIT		
	AMPLE		DECCE!	10N 05 33"	- 202.5	, , ,	STRENGTH + PE	ENETRATION RE	ESISTANCE	CONSISTE	NCY	UNIT
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No	TYPE	SYMBOLS					R	*	BLOWS/FT			
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URE LOCATION	BORIN	G RI	ECORD - SUBSURFACE EXPLORATION - SOILS		LEGEND		DDODOCCO	CTDUCTURE	10017100	
THE OTTAWA, ONT.	l pro	RT TEST	ING LABORATORIES, DEVELOPMENT ENGINEERING BRAI	1 -	SAMPLING	METHOD	PROPOSED		LOCATION	
AL TUNNEY'S PASTURE	$\left[ \frac{237}{2} \right]$	• /	DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.		2" DIA. S	72	THE	ION TO ENTRAL	CTIMINEUR D	, UN 1.
DIANT	/ I HOLL		CKED AT MAR. DATE OF BORING		2 3/166	1082	HEATI	NG PLANT	(IUNINETS PI	13/UKE)
FILE Nº 32-2303	- 6		ROVED MILES BORING TECH.	-		TION RESISTANCE - R T TUBE G-G	, , , , , , , , , , , , , , , , , , ,		FILE Nº 32-2	303
STENCY		1-10	ROVED MILESSIE BORING TECH.  NICHTON OF BORING TECH.  J.B. DUFRESNE	co.	2" DIA. (	CONE		CONSISTENCY		
JRAL MOISTURE AND → X → ● LIQUIDITY INDEX (LI) X LI		Ų –	ELEVATION IN FEET OF		CASING .	н		-	E ANDX	
ID LIMIT	WATER	SURFACE	BOTTOM OF HOLE DATUM GROUND			H NED COMPRESSION (QU)	_ ⊕	LIQUIDITY IND	EX (LI) X LI	
STIC LIMIT		-	GEODETIC 205.2			ST (C) AND SENSITIVITY(S)		LIQUID LIMIT PLASTIC LIMIT		
CONSISTENCY UNIT			GROUND WATER ROCK		S	TRENGTH + PENETRATION	RESISTANCE	CONSISTE	NCY	UNIT
WT.	SAME	LE	DESCRIPTION OF SOIL EL	EV. I	DEPTH C	1 1 1		001313121		WT.
25070.11	N° T	YPE SYMBO		Т.	FT. QU	<del>)                                    </del>	KSF			LBS/C.F.
	<del>                                      </del>	11 2 10111111111	020		R		BLOWS/FT			
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				5.2						
<del>                                      </del>			OVERBURDEN	2.2						
<del>                                      </del>			50011 (50111 50)	9.2	H					
<del>                                      </del>			BOTTOM OF HOLE		F					
			DRILLED (FT.) - PLUG BIT.		田					
			3.0 NOTE: 5444 / SE 44 ENCOUNTERED	,	曲					
<del>┍╇╅╇╇╇╇╃╃╃┩</del>			NOTE: SMALL SEAM ENCOUNTERED AT ELEV. 200.2							
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BORING REPOR				FACE EXPLORATION		LEGEN	<b>-</b>		PROPOSED	STRUCTURE	LOCATION	
N° 232				DEVELOPMENT ENGIN PLIC WORKS, OTTAW		SAMPL 2" D	ING ME	TUBE	ADDIT	ION TO	OTTAWA	, ONT.
HOLE N		CHECKE	D RAL 2	DATE OF	BORING	2" SI	HELBY	TUBE	THE C	FNTRAL	(TUNINIFY'S P.	ASTIJRE
7		والمراجع والمراجع والمراجع والمراجع والمراجع	R.CLOUTHIE		FPT., 1960			RESISTANCE - R BE O-O	HEATI	NG PLANT	FILE Nº 32 - 2	303
		APPROV.	ED M·Le/3e J.E. LAYCKA!	BORING TO	ech. <i>JFRESNE CO.</i>	2" D	A. CONE			CONSISTENCY		
		U	ELEVATION IN	FEET OF		STREN		•••••			RE ANDX-	
WATER	SUR	FACE BO	TTOM OF HOLE		GROUND	1		COMPRESSION (QU)			DEX (LI) X LI	
***********			200.8	GEODETIC GROUND WATER	204.8 ROCK	VAIVE	1231 (0	AND SENSITIVITY(S)	+3	PLASTIC LIMIT		
			7		202.3		STREM	IGTH + PENETRATION	RESISTANCE	CONSIST	ENCY	UNIT WT.
SAMPL			<del></del>	ON OF SOIL	ELEV. FT.	DEPTH FT.	QU	· · · · · · · · · · · · · · · · · · ·	KSF	<u>'</u>	· · ·	LBS/C.F.
Nº TY	PE	SYMBOLS		10		ļ	R		BLOWS/FT			
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					204.8							
	Ì			R BURDEN ( ( DRILLED)	202.3	1						
			EOTT	OM OF HOLE								
			1.5	<u>7)</u> - PLUG BI	1							
			NOTE: NO SE	EAM ENCOUNT	ERED.			<del></del>				
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						8	1-1-1-1-1	<del>┈╿┈╿┈┞┈┋╺╿┉╿</del> ╌ <del>╿┈┃┈┃┈┃┈╿┈╿┈╿</del> ┈╂╌	<del>·∮≈∮┈╽┈╽┈</del> ┟┈┟┈┟╼┟╼ <b>┼═</b> ╬╼	<del>┞╸┞╸┞┈┞┈┞┈┞┈┞┉╏┉╏┉╏╸<u>┡</u>┈╏┈╏┈╽┈╽</del> ┈╏┈╏		
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REPORT TESTING	ORD - SUBSURFACE E LABORATORIES, DEVELOPM PARTMENT OF PUPLIC WO	MENT ENGINEERIN	IG BRANCH	LEGENI SAMPLI 2" DI	<u>)</u> NG METHO A. SPLIT T	<u>DD</u> UBE		PROPOSED ADDIT	ION TO	LOCATION OTTAWA	, ONT.
DWN.	R. CLOUTHIER	DATE OF BORN  2 SEPT.,  BORNG TECH.		2" SH PENETE	ELBY TUB RATION RES	E	- R	HEATII	ENTRAL VG PLANT	FILE Nº 32-	•
	ELEVATION IN FEET	J.B. DUFR	ESNE CO.	2" DI	A. CONE				CONSISTENCY NATURAL MOIST	URE AND + X	)
WATER SURFACE BO	<del> </del>		205./	UNCO	VFINED COM				LIQUID LIMIT	NDEX (LI) X LI	
SAMPLE	DESCRIPTION OF		202.6 ELEV. FT.	DEPTH	С	H + PEN	ETRATION	RESISTANCE KSF	CONSIST	TENCY	UNIT WT.
N° TYPE SYMBOLS			FI.	FT.	QU R	<del></del>		BLOWS/FT		<del></del>	LBS/C.F.
	OVERBURI ROCK (DR BOTTOM O DRILLED (FT.) -1 2.5 NOTE: NO SEAM E	PLUG BIT	205./ 202.6 200./								

RE	RING PORT	1	•	REACE EXPLORATION DEVELOPMENT ENGINEE		LEGEND SAMPLING METHOD	PROPOSED		LOCATION	
	2327	İ	KED DA	UPLIC WORKS, OTTAWA, O		2" DIA. SPLIT TUBE Z			OTTAWA (TUNNEY'S F	
HU	LE Nº		R. CLOUTHIA	<u>/// .</u>		PENETRATION RESISTANCE - R		NG PLANT		
ı	9	APPR	OVED M.CeBo	BORING TECH		2" SPLIT TUBE — — U		CONSISTENCY	11CL N 32 - 23	,00
		0	ו ELEVATION וו		ALONE CO.	CASING			RE AND X	
WAT	TER SUI	RFACE	BOTTOM OF HOLE		ROUND	STRENGTH  UNCONFINED COMPRESSION (QU)	⊕	LIQUIDITY INC	DEX (LI) X LI	
_			191.9	GEODETIC  GROUND WATER F	2 <i>05</i> ,3	VANE TEST (C) AND SENSITIVITY(S)	+S	PLASTIC LIMIT	·-	
				GROOMB WATER	202.7	STRENGTH + PENETRATION	RESISTANCE	CONSISTE	ENCY	UNIT
S	AMPLE		DESCRIPT	TION OF SOIL	ELEV. FT.	DEPTH C FT. QU	KSF			WT. LBS/C.F.
N°	TYPE	SYMBO	LS			R	BLOWS/FT			
					·					
				1/200/1000	205.3					
			x	VERBURDEN	202.7					
			$\mathcal{L}$	OCK (DRILLED)						
			BOT	TOM OF HOLE	191.7					
			DRILLED	(FT) RECOVERED	) (FT)					·
			1.0	0.0 4.4						
			5.4. NOTE: SMAL	5.4 L SEAM ENCOUNTER	ED					
				LEV. 200.7						,
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HOLE N° CHECKED  BUNN. A  APPROVED  EI	VT. VRE)	LOCATION  OTTAWA, ONT.  (TUNINEY'S PASTURE,  FILE Nº 32 - 2365	11100.0	PROPOSED S	<u>)                                    </u>	LEGEND SAMPLING METHO	DILS Branch	FACE EXPLORATION - SOIL	CORD - SUBSURF	RING R
N°2380  DEPAR  HOLE N° CHECKED  DWN. F.  APPROVED  EL  WATER SURFACE BOT	(RE) 5	(TUNNEY'S PASTURE)  FILE Nº 32 - 2365	MPUTER	COL	<u>,</u> 621	SAMPLING METHO	BRANCH	EVELOPMENT ENGINEERING		
HOLE N° CHECKED  3-A  APPROVED  EI  WATER SURFACE BOT	(RE)	(TUNNEY'S PASTURE)	· · · · · · · · · · · · · · · · · · ·		RF Y/A	O" DIA COLIT TI	NO.	IL WORKS OTTAWA ONTARIO	G LABORATORIES, DE	PORT TEST
3-A APPROVED  E WATER SURFACE BOT	5	FILE Nº 32 - 2365	11 01/A/A L	211		2" DIA. SPLIT TU 2" SHELBY TUBE		LIC WORKS, OTTAWA, ONTARIO	· //	-
APPROVED  E  WATER SURFACE BOT		11100 11	-21.19		STANCE - R	PENETRATION RES		• • •	KERRAL 4 RG	
WATER SURFACE BOT						2" SPLIT TUBE _	761		H. LETTING	- /
WATER SURFACE BOT		IDE AND	CONSISTENCY			2" DIA. CONE		BORING TECH.  A. SCOTT	OVED M. C. Jana	APPI
WATER SURFACE BOT		URE AND <del>\ X•</del> NDEX (LI) X LI			••••	STRENGTH			1	/
			LIQUID LIMIT	⊕	PRESSION (QU)	UNCONFINED COM	ND		ELEVATION IN	
SAMDI E			PLASTIC LIMIT	+S	SENSITIVITY(S)	VANE TEST (C) AND	21. 3	1 54.5	BOTTOM OF HOLE	ER SURFACE
SAMDLE	IT	TENCY UNIT	CONSISTE	DECISTANCE				GROUND WATER ROCK	278.8	
CAMPLE	1		- 1 1	N RESISTANCE	+ PENETRATIO	STRENGT	200.1			
SAMIFUL	/G.F.	I.BS/C.F		KSF		DEPTH C FT. QU	ELEV.	ON OF SOIL	DESCRIPTION	AMPLE
Nº TYPE SYMBOLS				BLOWS/FT		<u> </u>	+			
						R	+		DLS	TYPE SYME
		200.0			<del>┆┆╏</del> ┼┼┼┼┼┼┼┼┼		201.3		1	
		200.0	<del>┖┆┆╏┆╏</del> ┼┼┼┼┼				200.1	TERED (DRILLED)	JANO, 31477	
G.W		<del>┤╏┤╎</del> ┼┼┼╂┼┼┼╂┼┼┼┩		111111111	<del>┆╏╏╏</del>			The second secon	AUCK , SHAI	
7.7			<del>┇┆┆┆┆┆┆┆┆</del> ┼┼┼┼┼							
		<del>                                      </del>		<del>┇┆╏╏╏</del>	╁┼╂┼┼┼┼┼┼		191.8		G.W.	
	.0	190.0	<del>┇┆┆┆┆╏┆╎┆╏</del> ╇┼┼┼┼					<u> </u>		
				╂┼┼┼┼┼┼┼				(DRILLED)	ROCK	
		<del>┆╏┆┆┆┆</del>			+++++++++++++++++++++++++++++++++++++++					
		+++++++++++++++++++++++++++++++++++++++		╂┼┼╎╏┼┼┼┤						
	٠.٠	180. C					178.8		4 S	
			<del>┇┆┼┆┼</del> ╃╫╫╫╫			<u>                                    </u>	1,0.0	0 05 40/5	<u> </u>	
		<del></del>					·_	7 OF HOLE FT: RECOVERED FT	BOTTOM	
			<del>┇┆╏╏╏</del> ┇				1	2.0	2.0	
	.0	170.0						2.0 1.9	2.0	
		<del>┊</del> ┼┼┼┼┼┼┼┼┼┼┼┼					}	5.0	1.9	
			<del>┇┆╏╏</del> ┇	╂┼┼┼┼				5.0 5.0	5. / 5. 3	
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							×.	RN WATER AT ELEV.	LOST RETUR	
		┝┽┺┼┼┽┼╉┼┽┼┼╂┼┼┼┦			<del>┇┇╃┋╏╏╏╏╏</del>				/07.0	
		<u>                                     </u>	<del>█▕╁┆┆╏</del> ╃┼┼┼╂┼┼╂┼┼┼			<b>                                    </b>				
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								RN WATER AT ELEV	I I	

7. re)	REPORT TESTING	ORD — SUBSURFACE EXPLORATION — SOILS  LABORATORIES, DEVELOPMENT ENGINEERING BRANCH PARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.	LEGEND SAMPLING METHOD	PROPOSED STRUCTURE	LOCATION  OT. AWA ONT.
75)			2" DIA. SPLIT TUBE Z	PUNCUIEN	CTUNNEY'S PASTURE)
	DWW	ED RHY GREAT DATE OF BORING  H. LETTING 25 5 26 MAY 1961	PENETRATION RESISTANCE - R	COMPUTER BUILDING	FILE Nº 32 - 2365
	3-A APPROV	/ED) MELETSEL BORING TECH.	2" SPLIT TUBE — — —		
	34.7-	VACOUTT A.SCOTT	CASING	<u>CONSISTENCY</u> Natural moistu	RE AND ► X
	, august To	ELEVATION IN FEET OF	STRENGTH	LIQUIDITY IN	DEX (LI) X LI
	WATER SURFACE B	OTTOM OF HOLE DATUM GROUND  GEODETIC 197.6	UNCONFINED COMPRESSION (QU) VANE TEST (C) AND SENSITIVITY (S)	2.40.0 2	
1		GROUND WATER ROCK	CTREMETIL L DENETRATIO		
	<u> </u>	197.5 195.7	STRENGTH + PENETRATIO	<del></del>	ENCY UNIT WT.
	SAMPLE	PESCHII TION OF SOIL FT	FT. QU	KSF	LBS/C.F.
1	N° TYPE SYMBOL	S	R	BLOWS/FT	
		ORGANIC SILT 197.6			200.0
	9.10	ORGANIC SILT 197.5			
					190.0
		ROCK (DRILLED)			
					<del>+++++</del>
					180.0
		BOTTOM OF HOLE			
		DRILLED FT. RECOVERED FT.			
		2.0 2.0			170.0
		5.0 5.0 5.0		<del>┇</del> ┼╫┼╫╫	<b>┼┼┼┼╂┼┼┼┼┼┼┼</b>
		5.0 5.0	<b>┣┼┼┼╂┼┼┼╂┼┼┼┼┼┼┼┼┼┼┼</b>	┋┼┽┼┼╂┼┼┼┼═╾┼┼┼┼╂┼┼┼┼┼┼┼	
		NOTE:			<u> </u>
ĺ		LOST RETURN WATER AT ELEV.			
<u> </u>					<del>+ + + + + + + + + + + + + + + + + + + </del>
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BORING REPORT	1		REVELOPMENT ENG		LEGEN	_		PROPOSED		LOCATION	
N° 2380			DEVELOPMENT ENG PLIC WORKS, OTTA	INEERING BRANCH WA,ONTARIO.		NG METHOD  A. SPLIT TUBE	<b>Ø</b>	CO	MPUTER LDING	07.74187	4,000
HOLE Nº	CHECKE	BRIL , DI	DATE OF	BORING		ELBY TUBE		RII	11.711/	TUNNEYS	, T S. PASTURS
4-4		HILETTING		MAY 1961	1	RATION RESISTAL			121149	FILE N° 32	- 22/-
7-4		ED/ N/CZON, &				PLIT TUBE A. CONE		<u> </u>		THE N. 22.	- 2263
	- /	1				IG			CONSISTENCY NATURAL MOIST	URE AND <del>├──X</del>	_
WATER OUR		ELEVATION IN		lessinis	STREN	<del></del>				INDEX (LI) X L	
WATER SUR	HACE BO	TTOM OF HOLE	DATUM GEODE, IC	GROUND 202.7	1	NFINED COMPRES: TEST(C) AND SER					-0
	1	173.5	GROUND WATER	ROCK	-			T	PLASTIC LIMIT _		
	<u> </u>	<del></del>		195.5		STRENGTH +	PENETRATION	RESISTANCE	CONSIS	TENCY	UNIT
SAMPLE		DESCRIPT	ON OF SOIL	ELEV. FT.	DEPTH FT.	C QU	•	KSF			LBS/C
Nº TYPE	SYMBOLS					R	7	BLOWS/FT			
				202.7							
											600.0
		SAND, GRAV	EL, ROCK, BRI	1							200.0
	75.2			195.5	-						
											190.0
			_								
		Rock	(DRILLED	.							
											130.0
				173.5							
		30770	M OF HOLE		1						#
		NOTE:									170.0
	1 1		URN WATER A	AT ELEV.							
				ŀ							
		UNABLE WATER TA	TO RECORD G	E OF							
		HOLE C.91	ng,	1							
		DRILLED FT.	RECOVERE	DFT.							
		3.1 5.0	2	2.7							
		3.9	ئى چ	5.0 .9							
		5.0 5.0	4	.0							
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BORIN REPOI	RT	REC	CORD — SUBSU 6 LABORATORIES.	JRFACE EXPLORAT DEVELOPMENT ENG	10N - SOILS	LEGEN	-			PROPOSED	STRUCTURE	LOCATION	
N°25		DE	PARTMENT OF P	PUPLIC WORKS, OTTA	WA, ONTARIO.		ING MET	TUBE	. 13	COM	ישני ביי	OTTAWA	ONT
HOLE		DWN.	HILETTING		BORING 17 1961			BE		1	DING	(TUNNEY'S	PASTURE)
5-7	4	APPRO	VED ALLERS	BORING	TECH.	<b>−</b> 2* s	PLIT TUBE		· <del>) - 0</del>			FILE Nº 32-	_
	L	1	ELEVATION IN		SCOTT						CONS STENCY		
WATER	SURF	ACE B	OTTOM OF HOLE		GROUNI)	STREN UNCO		MPRESSION	(0.1)	<b>A</b>	LIQUIDITY I	URE AND <del>  X -</del>	
		}	175,5	GEODSTIC GROUND WATER	200.7 ROCK			ND SENSITI					
				196.2	194.3		STRENG	TH + PEN	E (RATION	RESISTANCE	CONSIST	TENCY	UNIT
SAMP				TION OF SOIL	ELEV. FT.	DEPTH FT.	C QU			KSF		T T	WT.
Nº T	PE	SYMBOLS	5				R		7	BLOWS/F1			- LBS/C.F.
			54.00, 904	1752	202,7 200.7	-		<del>╏</del> ╾╏ <b>┛</b>	#				
			8	VII., ROCK, BRO	1 102 11								200.0
		9.14.	2/47.00	PY, SAND (SOF	1942								
									<b>‡</b>				#
ļ			Pos	K (DRILLE)									190.0
				r (Deres									#
									- <del> </del>				Ħ
													180.0
			BOTTOM	OF HOLE									
İ			DRILLED FT	TECOVEREL	1			<del>┇</del>					
			4.C. 6.0 6.0	2.	.7 5								170.0
			2.0 5.0	5. 2. 5.	U	Ė							1
			NOTE:	<b>.</b>		E							1
			LOST RETURN	WATER AT	ELEV.						<del>┇┇┇┇</del> ┼┼┼┼╂╸┼┼╂╂┼┼┼		
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N° 2380	TESTING DEF	LABORATORIES,	RFACE EXPLORATION - DEVELOPMENT ENGINEER UPLIC WORKS, OTTAWA, OF	ING BRANCH Itario.	2" DI	NG METHOD  A SPLIT TUBE		PUTER	CONNEY'S P	01
HOLE Nº	CHECKE	KAM- 9 K	DATE OF BOR	ING	1	RATION RESISTANCE - R	301	:D:.VG		
/		ED M. LETTIN	BUT BORING TECH		2" SI	PLIT TUBE 0-0			FILE Nº 32-5	36.
		11 N.C. Jun 0.		<i>TT</i>	1	A. CONE		CONSISTENCY		
	• • •	ELEVATION I	N FEET OF		STREN	<u> </u>			RE AND X LI	
WATER SURFA	CE BC	TTOM OF HOLE	1	OUND 200./		NFINED COMPRESSION (QU) TEST (C) AND SENSITIVITY(S)		LIQUID LIMIT		
****		180.6	GEODETIC  GROUND WATER RO	OCK	-	TEST (C) AND SENSITIVITY (S)	+°	PLASTIC LIMIT	<b>}</b>	<del></del>
			195.9	195.8		STRENGTH + PENETRATION	N RESISTANCE	CONSIST	ENCY	UN.
SAMPLE		DESCRIPT	TION OF SOIL	ELEV. FT.	DEPTH FT.	C   Ου	KSF		· · ·	LBS
Nº TYPE S'	YMBOLS					R	BLOWS/FT			
				200.1	-					200
	G.W.	SAND, GRA	VEL, ROCK BROKE	( 195.9 (195.8)						
		The control of the state of the	and the second s							
										190.
		ROCK	(DRILLED)		j					'
	8 3			180.6						
	į	-	NO OF HOLE							180.
		DE111ED FT. 2.0 1.0	, RECOVERED F 2.0	7.						
		1,0 5.0	1.0 <b>5</b> .0							
		5.2 2.0	5.0 2.0							
		NOTE: LOST RETU	IRN WATER AT EC	50						
		184.1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							
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BORING REPORT	REC	ORD - SUBSUI	RFACE EXPLORATIO	N - SOILS	LEGEND		PROPOSED	STRUCTURE	LOCATION	
N°2380	TESTING DE	LABORATORIES, PARTMENT/ OF PL	DEVELOPMENT ENGIN JPLIC WORKS, OTTAWA	EERING BRANCH		G METHOD			1	
HOLE Nº		ED RAL Y R				SPLIT TUBE	COM	PUTER	OTTAWA	, 0
1.		HILSTYNO			4	ATION RESISTANCE - R	3011	DING	(TU.VNEY'S P.	ASTU.
' (	APPROV	reg MiceB	el BORING TE	CH.	2" SP	.IT TUBE ⊖⊖		-/	FILE Nº 32 - 2	36.
	a.kg.	10 10 - 6 Buy Ca	41 A. S	COTT		. CONE		CONSISTENCY		<del></del>
		ELEVATION IN		_	STRENG			NATURAL MOISTU	RE AND FX	•
WATER SURFA	CE BO	OTTOM OF HOLE	1	GROUND	UNCON	FINED COMPRESSION (QU)			DEX (LI) X LI	
Pri Asset for accounting	}	176.1	GROUND WATER	201.2 ROCK	VANE	ES) (C) AND SENSITIVITY(S)	+S	PLASTIC LIMIT		
			196,4	196.5		STRENGTH + PENETRATION	RESISTANCE	CONSISTE	NC V	1
SAMPLE		DESCRIPT	ION OF SOIL	ELEV.	DEPTH	, , , , , , , , , , , , , , , , , , ,		001431311	7	UN W
N° TYPE S	YMBOLS			FT	FT.	<u> </u>	KSF		<del> </del>	LBS
11112	Timboli	<u> </u>	<del></del>			? ! []	BLOWS/FT			
	j			201.2						-
		SAND, GRAVE	EL, ROCK, BROK		]					200.
	1200	(611)		196.4	F				<del></del>	1
		4.14.							<del>                                      </del>	1
					E					1
					F					190.0
		ROCK	(DRILLED)						<del></del>	Í
			,							1
				j						
				,	F					180.
		Borre	OM OF HOLE	176.1						
		DRILLED F			E					
		5.2 5.1	5.0 5.0		E					
		5.1 5.0	5.0 5.0	·	E					170.0
.			<i>ن.</i> د		E					
		NOTE:			E					
		1087 RETU 51EV. 189.2	IRN WATERAT		E					
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BORING REPORT	1			RFACE EXPLORATION		LEGEN							PRO	OPOSED	STF	ŖUCT	URE			LOCA				
N°2380		DEPA	RTMENT OF PU	DEVELOPMENT ENGINE	, ONTARIO.		IA. SF	LIT	TUBE					CO						0		414	4,	ONT.
HOLE Nº				DATE OF B		PENET	RATIO	ON R		NCE	- R			BU	12	D11	VG	,	<u> </u>					STURE) 365
15-1	APPE	ROVE	P Miler	Del BORING TEC 11 A. S.	CH.				E				L			ONS	ISTEN	C Y		TILE	14"	. غر	ر ک	
	7		LEVATION IN			CASI			<del></del>		••••	••			¥		URAL	MOIST						
WATER SUF	RFACE	B01	TOM OF HOLE	DATUM GEODETIC	GROUND	UNCO	NFINE		OMPRES								JID LI	DITY MIT						
dida di Armagaman	<del></del>		180.0	GROUND WATER	ROCK	1								SISTANCE	T	PLA		ONSIS		<del></del>				UNIT
SAMPLE		<del>-</del>	DESCRIPTI	/.92.6 ION OF SOIL	199. 5 ELEV.	DEPTH	С	RENG		T	IE I KA	T	HES	KSF	-			1	TEN		1			WT.
<del></del>	SYMB	OLS			FT	FT.	QU			<del> </del>		+		BLOWS/F	т			+			+			LBS/C.F.
					200.0																			
	2,7	X\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	SAND, G	FRAVEL																				200.0
	(C)																			#			#	
			G.W.	tioning to the contract of the track of the terms	192.6								TTT											190.0
			ROCK	(DRILLED)																				190.0
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				180.0																		++-	180.0
			BOTT DRILLED FT	OM OF HOLE RECOVER	<b>I</b>																			
			2.5 2.0 5.0	2.0	0																			
			5.0 5.0	5.0 5.0 5.0																				
			Note:										#					╂┼┼┼				##		
			LOST RETUR 188.0	RN WATER AT	ELEU																			
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BORING REPORT N° 2380 HOLE N°	TESTING DEF	LABORATORIES, I PARTMENT OF PU ED H. LETTIN		G BRANCH ARIO.	2" DI 2" SH PENETI	NG METHOD  A. SPLIT TUBE	1		LOCATION  OTTAWA  (TUNNEY'S PA	
WATER SUI		ELEVATION IN OTTOM OF HOLE	FEET OF GRO	UND 200.6	CASII STREN UNCO	A. CONE  NG  GTH  NFINED COMPRESSION (QU)  TEST (C) AND SENSITIVITY (S)  STRENGTH + PENETRATION	+ <sup>S</sup>	LIQUIDITY IN		UNIT
SAMPLE	0,4400		ON OF SOIL	ELEV. FT.	DE.PTH FT.	gu l	KSF		<del>                                     </del>	WT.
N° TYPE	SYMBOLS	SAND, GRA SAND, GRA G.W.  ROCK  BOT!  DRILLED FT.  2.0 5.2 5.1	OVEL, ROCK BROKEN  C (DRILLED)  FOM OF HOLE  RECOVERED F  1.0 5.0 5.0	192.2						200.0

BORING REPORT	- 1			RFACE EXPLOR			LEGEN	•••••		PROPOSED	STRUCTURE	LOCATION	
N°2380				DEVELOPMENT E IPLIC WORKS, OT				A. SPLIT TUBE	<b>13</b>	COM	DUTTO	OTTAWA,	O.V.
HOLE Nº				DATE				HELBY TUBE		1	PUTER	(TUNNEY'S PA	
				19 16			•	RATION RESISTANCE -		1 2016	DING	FILE Nº 52 - 2	
17-A				BORING			1	PLIT TUBE			001015	1112 11 02 0	<u>~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ </u>
	1		1				ì	NG			CONSISTENCY NATURAL MOISTU	RE ANDX	
WATER O	DEACE		LEVATION IN		GROUN	10	STREN		0143	Ф	LIQUIDITY IN	DEX (LI) X LI	
WAIER SU	HFACE	BOI	TOM OF HOLE	GEODET	1	02.6	4	NFINED COMPRESSION ( TEST (C) AND SENSITIV			LIQUID LIMIT PLASTIC LIMIT		
-			174.5	GROUND WATE	1			CERTAIN L DEN	TO ATION	DECICTANCE			T
	<del> </del>	<u>'</u>		194.8		195.6 ELEV.	DEPTH	STRENGTH + PEN	RATION		CONSIST	ENCY	UNIT WT.
SAMPLE	4	-	DESCRIPTI	ION OF SOIL		FT	FT.	QU 1	+	KSF		<del></del>	LBS/C
Nº TYPE	SYMBO	LS				<u> </u>		R		BLOWS/FT			
		-	SAND, GRA	V.S.C.		202.6							
				AVEL, ROCK,	BROKEN								200.0
		- 1				195.6							
		X	HOUSE ANDROPORT	<u> </u>	A NOW WAY	174.8							
													190.0
			ROCK	(DRILL)	ed)								
ĺ													100 0
													130.0
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					174.5							
				M OF 140 T. RECO									
			6.0	ν. χασον	5.0								170.0
			5.0 5.0 5.1		5.0 5.0 5.0								
			<b>-</b> , /		3.0								
		- 1	NOTE: LOST RETUR	N WATER ,	OT ELEN								
			78.6	,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,, , , , , , , , , , , , , , , , , , , ,								
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BORING REPORT	RI	ECORD — SUBSUI	RFACE EXPLORATION	- SOILS	LEGEND			PROPOSED	STRUCTURE	LOCA	TION	
N°2380	) '''	DEPARTMENT OF PL	DEVELOPMENT ENGINE JPLIC WORKS, OTTAWA,	ERING BRANCH Ontario.	SAMPLING M	<u>ETHOD</u> T TUBE	<b>2</b> 21	ارم اسر	· / / / /	10	TTAWA	ON!
HOLE Nº	CHE	KEDRAL - P	DATE OF BE	ORING		TUBE			PUTER	/;-,	WNEY'S	7 0 7 7 7 4 4 7 1 1
18-A	DWN	. H. 45TT/A	16 10 MAY	19:61	PENETRATION			1 2013	LDING			
, , , , , ,	APPR	OVED PARCET	BORING TEC	H. 277	2" SPLIT TI 2" DIA. CONI	UBE	. <del>⊙ . ⊙</del> ¹	L		Trice	N° 32 - 2	365
	/	ELEVATION IN			CASING				COMSISTENCY . NATURAL MOIST	URF AND	<u></u>	
WATER SU	RFACE	BOTTOM OF HOLE	DATUM	GROUIND	STRENGTH UNCONFINED	COMPRESSION	(QU)	Ф	LIQUIDITY	INDEX (LI	) × L i	
	····	177.2	GEODETIC GROUND WATER	202.9		C) AND SENSITI			LIQUID LIMIT P.ASTIC LIMIT _			
			192.0	ROCK	STRE	NGTH + PEI	ETRATION	RESISTANCE	CONSIS	TENCY		UNIT
SAMPLE		DESCRIPT	ION OF SOIL	ELEV.	DEPTH C	T - T -		KSF	1		T	<b>⊣</b> wт.
Nº TYPE	SYMBO	LS			FT. QU	+	-++	BLOWS/FT	<del> </del>		<del>                                     </del>	LBS/C
				302.9 201.4			1111111					<u> </u>
		JAND, GE		201.4								]
		\(\lambda\)	TERED BOULDERS	197.7								200.0
												1
		Gold Darry Santa		192.0								1
		ROCK	(DRILLED)				####					190.0
			· ·									
							1 1 1 1 1 1 1 1 1 1				+++++	
· }				177.2								180.0
		307701	7 OF HOLE									
		DRILLED FT.	RECOVERED	A T.								
		4.5 5.2	5.0 4.5 5.0 5.0									170.0
		5.0	5.0							<del>                                      </del>	<del>                                     </del>	
		NOTE:										
		187.9. (APPRO	RN WATER AT EC X.)	-liPV,								
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BORING REPORT T	HECORD ESTING LABOR	SUBSURFAC	CE EXPLORATION ENGINEELOPMENT ENGIN	ON - SO	ILS	LEGEN	-		PROPOSED	STRUCTURE	LOCATION	
N°2380	DEPARTMENT	OF PUPLIC	WORKS, OTTAW	ALERING A, ONTARIO	BRANCH 0.		N <u>G METHOD</u> A SPLIT TUE		CON	1011-50	OTTOWA	121
HOLE Nº	HECKED RA	T ROK	DATE OF	BORING			ELBY TUBE		R111	IPUTER	CHANNEN'S	1000
19.1 2	WN. H.15	•	15 \$ 16	MAY 1.	961		ATION RESIS			2,16	FILE NO 700	7-1. U.K.
1 -	PPROVED	N.C.13.6	BORING TI	ECH.		2" SP 2" DI	LIT TUBE	<u> </u>	L		FILE Nº 32 - 2	365
	7 0	ION IN F	_		<del></del>			***************************************		CONSISTENCY NATURAL MOISTIN	IDE AND	
WATER SUPFAC				GROUND	<u> </u>	STREN	<del></del>	room /	Φ.		RE AND X LI	•
	į	، ا	GEODETIC		2,5	1		ESSION (QU) SENSITIVITY(S)		LIQUID LIMIT PLASTIC LIMIT		
	174.	Joh	OUND WATER	ROCK			CTOCHOT		· · · · · · · · · · · · · · · · · · ·			<del></del>
SAMPLE		SCRIPTION	195.9	195	ELEV.	DEPTH	STRENGTH	+ PENETRATION	N RESISTANCE	CONSIST	ENCY	UNIT WT.
<del></del>		SCRIPTION	OF SUIL		FT.		QU		KSF		· .	LBS/C.I
N° TYPE SY	MBOLS						R		BLOWS/FT			1
	FANT	, GRAVE			202.5							
					200.5							200.0
	1 1		OCK, BROKEN		196.5						<u> </u>	1
					195.00							1
						ļ						190.0
	R	OCK C	DRILLED)		l	Ė						
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			•									180.0
						F						780.0
	.5	OTTOM O	OF HOLE		174.9	Ē						
	DRILLE	DFT.	RECOVERSI	777								
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	5.0			1,0								
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	LOST	RETURN H	VATER AT E	250	i	E						
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BORING REPORT			REACE EXPLORATION		LEGEND			PROPOSED	STRUCTURE	LOCATION	
N°2380			DEVELOPMENT ENGIN PLIC WORKS, OTTAWA		SAMPLII	G METHOD SPLIT TUBE	Ø	COM	PUTER	OTTAWA	ONT.
HOLE Nº	CHECKE	PAL - RE	DATE OF	BORING	2" SH	LBY TUBE				(TUNINEY'S P.	
21-A	DWN.	4. 15771119	7 12 - 15	MAY 1961		TION RESIST			7	FILE Nº 32 -	
المر- ات	APPROVE	P Miles	/2 - /5  ( BORING TE	ICH. シアア	2" DI	CONE	—— <del>⊙—</del>	<b></b>	CONSISTENCY		
	/	ELEVATION IN			•					RE AND FX-	•
NATER SUR		TTOM OF HOLE		GROUND	STRENC UNCOM		SSION (QU)	⊕		DEX (LI) X LI	
		17 <b>5.</b> 5	GEODETIC		1		ENSITIVITY(S)		PLASTIC LIMIT		
			GROUND WATER	ROCK 195.7		STRENGTH	+ PENETRATION	RESISTANCE	CONSISTE	ENCY	UNIT
SAMPLE		DESCRIPTI	ON OF SOIL	ELEV.	DEPTH FY.	, T	7	KSF		7	⊢ w⊤.
Nº TYPE	SYMBOLS		•		'''	<u> </u>	<del>  </del>	BLOWS/FT		<del>                                     </del>	LBS/C.F.
				205.2							
		C-2 2	EL, COCK, BRO								700.0
	9.W.	SILT. C	ERED, BOULDERS LAY JAND (SOFT	197.8							Z00.υ
	7	James College	<u> </u>	195.7							4
						╀┼┼╂┼┼┼					<b>.</b> .
						╀┼┼┼					190.0
		ROCK	(DRILLED,	/							1
											1
											180.0
				175.3							1
		BOTTON DRILLED FI	7 OF HOLE T. RECOVER	E.G.D. E.T							
		5.0	5.	0							170.0
		5.0 0.5	5. 0.	5							
		2.9 5.0	2. 5.	2							
		2.0 NOTS:	Z.								
		LOST RETURN	WATER AT ELL	ΞV.							
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REPORT	TESTING LABORATORIES, DE	ACE EXPLORATION — VELOPMENT ENGINEERIN		LEGEND SAMPLING METHOD	PROPOSED S	1 -	OCATION	
N°2380	DEPARTMENT OF PUPL	IC WORKS, OTTAWA, ONT	ARIO.	2" DIA SPLIT TUBE	COMP	UTER	OTTAWA	, ON
HOLE Nº	CHECKED CHE + Play	DATE OF BORIN		2" SHELBY TUBE	BUILD	DING	OTTAWA TUNNSYS	r.p.45.70
23-A	APPROVED WILEY	30 MAY  BORING TECH.	1961	PENETRATION RESISTANCE - R 2" SPLIT TUBE O O		· · · · · · · · · · · · · · · · · · ·	LE Nº 32	
	aby the offer	A. SCOT	7	2" DIA. CONE		CONSISTENCY		
	ELEVATION IN			STRENGTH		NATURAL MOISTURE		•
WATER SURF	FACE BOTTOM OF HOLE	DATUM GRO	UND 300.8	UNCONFINED COMPRESSION (QU) VANE TEST (C) AND SENSITIVITY (S)		LIQUIDITY INDEX	0	
The state of the s	- 191.0 G	ROUND WATER ROC		VANE TEST (C) AND SENSITIVITY (S)	+ <sup>5</sup>	PLASTIC LIMIT		
			200.8	STRENGTH + PENETRATION	RESISTANCE	CONSISTENC	Y	UNIT
SAMPLE	DESCRIPTION	OF SOIL	ELEV.	DEPTH C FT. QU	KSF			WT.
N° TYPE	SYMBOLS			R	BLOWS/FT			1
			200.8					
	G.W.)	(						200.c
	ROCK	(DRILLED)						1
								1
	BOTTO	M OF HOLE	191.0					1
	1 1	RECOVERED FT						190.0
	1.5 1.5	1.5 1.5						1
	1.8 5.0	1.8 5.0						-
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				<del>╒┋┆┆┆┋┋</del>		<u>┖╴╀╶┞╴╂┈┞┼╏┼</u> ┼┼┼┼┼┼┼┼┼┼		
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	580 1	ESTIN D	G L EPAR	ABORATORIES, DE	FACE EXPLORATION EVELOPMENT ENGINERATION FOR THE PROPERTY OF T	NEERING A , ONTARI	BRANCH	2" DIA	IG METH	OD_ UBE		COM:				LOCATI O7	ON TAWA NEY'S F	, 01 pas=0
HOLE	1 -			RAL & RE	DATE OF		761	PENETR	ATION RE	SISTANCE	– R	BUIL	200	G			· 32 · 3	
29	· A	APPRO	OVEC		( BORING T			2" DI	. CONE				CONS	SISTENC		•		
		1	1	LEVATION IN				CASIN STREN			••••		NA				× L1	•
WATE	R SURFA	CE	BOT	TOM OF HOLE	DATUM GSODETIC	GROUN	D 27. ع			MPRESSION ND SENSITI				UID LIM	ıT		—	
		ł		180.4	GROUND WATER	ROCK	<del></del>					N RESISTANCE	T		NSISTE			Τυ
SAA	APLE		Т	DESCRIPTION	ON OF SOIL	/3	O. 4	DEPTH	С	1	T	KSF	┪		1	· · · · · ·		LBS
	TYPE S	YMBO	LS	D200111111			FT	FT.	QU		<del></del>	BLOWS/F	T		<del> </del>	<del>  -</del>	_	
	-	T	1				20:.3											
		7				AND IN THE PERSON NAMED IN												50
				G.W.			191.9											
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		-	-	7400/4	(DR111.5D) "													
				POT TOM	OF HOLE	<del></del>	130.4											18
					r. Recov					+++++								
				2.0 5.0	3	7.0 7.0												
				i.9 5.0		1.9 5.0												
				5.0 5.0		5, <i>O</i> 5, <i>O</i>				11111								
				NOTE:														
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BORING REPORT N° 2380	RECORD — SUBSURFACE EXPLORATION ESTING LABORATORIES, DEVELOPMENT ENGINE DEPARTMENT OF PUPLIC WORKS, OTTAWA	ERING BRANCH	LEGEND  SAMPLING METHOD  2" DIA. SPLIT TUBE	PROPOSED STRUCTURE	LOCATION  OTTAWA O
31-11 3	PPROVED MILE OF B	Y 1561	2" SHELBY TUBE PENETRATION RESISTANCE - R 2" SPLIT TUBE @	COMPUTER BUILDING	OTTAWA , OF (TUXXSY'S PASTU FILE Nº 32-2565
	ELEVATION IN FEET OF	GROUND	2" DIA. CONE  CASING  STRENGTH  UNCONFINED COMPRESSION (QU)	LIQUIDITY IN	RE AND X LI
	176.9 95005710	200.7 ROCK 198.9	VANE TEST (C) AND SENSITIVITY (S)  STRENGTH + PENETRATION	+S PLASTIC LIMIT	
SAMPLE N° TYPE SYM	DESCRIPTION OF SOIL	ELEV. FT	DEPTH C T	KSF	WT.
	BOTTOM OF HOLE  BOTTOM OF HOLE  DRILLED FT. RECOVERE.  2.0 1.8 5.0 5.0 1.5 1.5 5.0 5.0 2.0 2.0  NOTE:  LOST RETURN WATER AT ELE	176.9 0 FT.			190.0

REPORT	REC	JRU - SUBŞL	JRFACE EXPLORATION -	- SOILS	LEGEND			PROPOSEII)	STRUCTURE	LOCATION	
N° 2580	DEF	LABORATORIES, PARTMENT, OF P	, DEVELOPMENT ENGINEER Puplic Works , otta va , o	RING BRANCH Ntario.	SAMPLING		622)				08/1
HOLE Nº		DRAL 71				TUE :		1	MPUTER	OTTAWA,	DA GELLOS
33-1	DWN.	H. LETTING	23 MAY			N RE ISTANCE		#12	12D:NG		
	APPROV	ED NO GOOGE	BORING TECH	-		TUBE				FILE Nº 32 - 2	365
	7	ELEVATION II	-		CASING				CONSISTENCY NATURAL MOISTIN	TITE AND	
WATER SUR	FACE BO	TTOM OF HOLE	E DATUM GF	ROUND	STRENGTH UNCONFINE	COI PRESSION	(011)	æ	LIQUIDITY IN	RE AND FX-	•
		174.5	GEODETIC	200.1	1	(C) AND SENSITI			LIQUID LIMIT PLASTIC LIMIT		
		,,,,,	GROUND WATER R	OCK 196.1	STR	FNG1H + PFI	NE TRATION	RESISTANCE	T		T
SAMPLE		DESCRIPT	TION OF SOIL	ELEV.	DEPTH C	<del></del>	T		CONSIST	ENCY	UNIT WT.
N° TYPE	SYMBOLS			FT.	FT. QU	<del></del>		K S F	-	<del>                                     </del>	LBS/C.F.
					R			BL044 /F1			
				200.1							1
	G.10.	SAND, GRAV	VEL EL, ROCK, BROKEN	199.1		<b>                                      </b>				<del>┖╸╸╸╸╸╸╸╸╸╸╸╸╸╸</del> ╾╾╾╾	200.0
	9.101	S127, CLA	Y, SAND ("OFT)	196.6					`		1
		,	,	, 5			<u> </u>				1
							#####				190.0
		ROCK	K (DRILLED)				####				]
			•								
					H÷						
				174.3							
			y of hole		<b>F++</b> 1-1	<del>╺</del> ╂┼┥┼┼╂ <del>╽</del> ┼┼	╀╀┼┼				
		DRILLED FT. 1.8	RSCOVERED F 1.E	r.			1 <b>1</b> 1 1 1 2 1				170.0
		.5.0 .5.0	5.0 5.0			<del>┇</del> ┼╛ <del>┞┞╏</del> ┽┼╌					770.0
		5.0	5.0		F+++-				<del>╒╏╏╒╏┋┋┋┋</del> ┋┼ <del>╏╒╏</del> ┋	<del>┞╍┞╌┞╌┋╌┞╌┞╌╏╶┩╌╏╌╏</del> ╌ <del>╏</del>	
		NOTE;			┠╾┼┼┼┤			<del>                                      </del>	<del>╡</del> ┼┼┼┼┼┼┼		
		LOST RETUR 180.1	N WATER AT ELE	v.	┠┼┼╀┦	╉ <del>┦</del> ╌┩ <del>┩╍┠╌╂┼┼┞</del> ┋					
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BORING REPORT N°2380	TESTI	NG LABORATORIES	JRFACE EXPLORATION DEVELOPMENT ENGINE PUPLIC WORKS, OTTAW	VEERING BRANCH		ING METHOD		STRUCTURE	LOCATION	
HOLE Nº	CHEC	KED RHL9K	DATE OF		2" 9	IA SPLIT TUBE  HELBY TUBE		PUTER	OT, AWA CTUNNEY'S	0/1
35	DWN.	DYED MILE	BORING TI	ECH.	2" 5	RATION RESISTANCE - R PLIT TUBE O-O	٢٥٥٠	1D:NG	FILE Nº 32 - 2	
	-/	ELEVATION IN	(+ A. SC	07,7	2" 0	NG		CONSISTENCY		
WATER SUR	FACE	BOTTOM OF HOLE	DATUM	GROUND	STREM	GTH  NFINED COMPRESSION (QU)	Ф	LIQUIDITY IN	RE AND <del>  X    </del> DEX (LI) X LI	•
	-	181.8	GROUND WATER	201.8 ROCK	VANE	TEST (C) AND SENSITIVITY(S)	+s	LIQUID LIMIT PLASTIC LIMIT		
SAMPLE		DESCRIPT	196.ଫ ION OF SOIL	/99.8 ELEV.	DEDTU	STRENGTH + PENETRATION	RESISTANCE	CONSISTE	INCY	UNI
N° TYPE	SYMBOL		TON OF SUIL	FT	DEPTH FT.	QU I I I	KSF			LBS/
				201.8			BLOWS/FT			
		SAND, GA	PAVEL PAVEL	199 8						1
		G.W. 3	POKEN (DRILL	ED) 197.3 196.83						200.0
		ROCK	(DRILLED)	)						190,0
			·							
	X.sc		MOF HOLE	181.8						
		DRILLED FT.	RECOVERED	FT.	Ė		╺┼╌┼╾┼┈┼┈┼┈┼┈			180.0
		5.6 5.0	3.0 5.0							
		5.0	<b>.</b>		1					
		NOTE:	N WATER AT E	ZEU						
		184.8								
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BORII REPO	RT	I TECTING	UNU — SUBSUI	RFACE EXPLORATION DEVELOPMENT ENGINE	V- SOILS	LEGEN		PROPOSED	STRUCTURE	LOCATION	
N°Z.	<i>380</i>	DE	PARIMENT OF PL	UPLIC WORKS, OTTAWA	ERING BRANCH , ONTARIO.		G METHOD				A 01/7
HOLE	No	CHECK	ED RAL TR	DATE OF B	ORING		SPLIT TUBE		PUTER	OTTAWA	4, 0187
3.	5-A	DWW.	H.LETTIN	19 11 MA	r 1961	PENETR	TION RESISTANCE - R	$\mid BUI1$	DING	(TUNNEY'S	
	. /-1	APPROV	FO Michael	BORING TE	CH.	2" SP	T TUBE 0-0	<u></u>	·	FILE Nº 32 -	2365
					.0//				CONSISTENCY		
WATER	SUE	FACE INC	ELEVATION IN			STREN	<del></del>			JRE AND + X-	•
		BOL BO	DITOM OF HOLE	DATUM GEODETIC	GROUND 200,9		INED COMPRESSION (QU) EST (C) AND SENSITIVITY(S)		LIQUID LIMIT	NDEX (LI) X LI	
			178.2		ROCK	-	EST (C) AND SENSITIVITY(S)	+8		<u> </u>	
			γ	195.2	198.8		STRENGTH + PENETRATION	N RESISTANCE	CONSIST	ENCY	UNIT
SAM	PLE		DESCRIPTI	ION OF SOIL	ELEV.	DEPTH FT.	U	KSF	7	T - T	─ wt.
Nº 1	YPE	SYMBOLS					<del></del>	BLOWS/FT		+	LBS/C.F
								5			
	İ		6.3	***	200.9	]					3
		Z.	ROCK, SHAT	RAVEL TEREP (DRIMLED	198.8						200.0
							+				
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			KOCK	(DRILLED)							190.0
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			BOTTO	OM OF HOLE	178.2	E					100.0
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		1 1	1.9 5.1	1.9 5.0 5.0 5.0		Ē					1
			5.0 5.0	5.0 5.0							170.0
				5,0							
			NOTE:			E					1
			LOST RETURN 196.9.	Y WATER AT EL	EV.						i
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BORING REPORT	RECORD	SUBSURFACE EXPLORATORIES, DEVELOPMENT	RATION - SOILS	LEGEND	PROPOSED	STRUCTURE	LOCATION	
N°2429	DEPARTMEN	T UF PUPLIC WORKS, O	TTAWA, ONTARIO.	SAMPLING METHOD	i i			بر ارم سواري (مر
HOLE Nº	CHECKED KAL	<i>y</i>	OF BORING	2" DIA. SPLIT TUBE 2" SHELBY TUBE	ANNITAL.	BREEDING BLDG OF N. H. & W.)	(TILANIA)	0181.
/ =	DKW. H.LET	rring 24¢	25 007. 1961	PENETRATION RESISTANCE -	$R = \int \mathcal{D}\mathcal{E} \mathcal{P} \mathcal{T}$	OF N. H. & W.)	(IUNNETS A	PAST UI
/	APPROVED I	MILESSEE   BORING	TECH. 254F200R	2" SPLIT TUBE	<u> —                                    </u>		FILE Nº 32- 2	2409
	U		LBAFLOOR	2" DIA. CONE  CASING  CORE	AX	CONSISTENCY		
WATER SURFA		ON IN FEET OF		STRENGTH	AXT		RE ANDX	•
		GEODET!	GROUND 205.5	UNCONFINED COMPRESSION (Q		LIQUIDITY IN LIQUID LIMIT	DEX (LI)O	
-	191.	GROUND WATE	R ROCK	VANE TEST (C) AND SENSITIVIT	Y(S)+S	PLASTIC LIMIT		
SAMPLE		202.8	202.8	STRENGTH + PENE	TRATION RESISTANCE	CONSISTE	ENCY	UNIT
	<del></del>	SCRIPTION OF SOIL	ELEV. FT.	DEPTH C FT. QU	KSF			WT.
N° TYPE S'	MBOLS			R	BLOWS/FT		<del> </del>	LBS/C.I
								-
	1 1							1
			205 -					210.0
	G.W. FILL, SA	IND GRAVEL, SOME CLAY	205.5 (DRULED) 702.9		<del></del>		#######################################	1
		<del>,,,,,,,,,</del> ,	702.8				<del>                                      </del>	1
								200.0
	RC	DCK (DRILLED)		<u>┇┼┼┼╂┼┼┼┼</u>		<del>┍┍╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒</del>		
		<u>.</u>	191.4					
		TTOM OF HOLE					<del>┝╏╏╏╏╏</del>	
	DRICE 2.3	D FT. RECOVER	RED FT.					190.0
	5.3 3.8	ع ڪ	5.7	<del>┍╏╌┟╌┟╌╏╌┇╌┆╌╂╌╏</del> ╌		<del>╺╊╏┩┋</del> ╋ <del>╇╇╇╇╇╇╇╇</del>		
	NOTE!	<b></b>						
	ELEV.	SEAM ENCOUNTERS. 197.6 FT.	OAT K					
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REPORT N°2429	S L LESTIN	LABORATORIES	URFACE EXPLORATI	NEEDING DEANGLE	LEGEN	<u>ID</u> ING ME	HOD			STRUCTURE	LOCATION	
HOLE Nº	CHECK	ED RA	PUPLIC WORKS, OT AN	VA, ONTARIO.	2" 0	IA. SPLIT	TUBE	<b>a</b>	ANTAGAT	BREEDING RIDA	OTTAWA	ONT
<u>-</u>	DWW.	H = = T = 1	atg DATE (#	BORING	2 5	HELBY 1	T 18E		(nepr	3REEDING BLDG. VF.N.H. &W)	MINNEY'S	21 (71/25
2	APPRO	VED Mile	Bel BORING T	CCT. 1961	PENET	RATION	I ESISTANCE - R		ن المستوت مند)	N.H. EW)	757775	AJIUNZ
-		OI N.E. Pun	auf 3. 25	AFLOOR	2" 0	IA. CONE		—— L	-		FILE Nº 32-	2409
		ELEVATION I			1 40/	C 3/1/~	A	9 X • • • • •		CONSISTENCY		
VATER SU	RFACE B	OTTOM OF HOLE	E DATUM	GROUND	<b>-</b>		MPRESSION (QU)	•		NATURAL MOISTUR LIQUIDITY INI	RE AND X LI	<b>-•</b> .
		187.1	GEODETIC:	205.6	VANE	TEST (C)	AND SENSITIVITY	'(S)	₩ 1S	LIQUID LIMIT		
	!		GROUND WATER	ROCK = 03.1	7					PLASTIC LIMIT		
SAMPLE		DESCRIPT	TION OF SOIL	ELEV.	DEPTH		TH + PENET	RATION	RESISTANCE	CONSISTE	NCY	·UNIT
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BORING REPORT		ING	LABORATORIES	RFACE EXPLORATION DEVELOPMENT ENG	ION — S	OILS	LEGEN			PROPOSED	STRUCTURE	LOCATION	
N°2429	-	DEPA	RTMENT OF PL	JPLIC WORKS, OTTA	INLERING NA , ONTAR	BRANCH		ING METHOD	(72)	1		LOCATION	A
HOLE Nº			771V	Ley DATE OF			2" D	A. SPLIT TUBE		HIVINAL	BREEDING BLDG PF N.H. &W)	JULIAWA,	CAVT.
Ņ			11111	26 \$ 2						(DEPT. C	FN.H.EW)	(TUNNEY'S)	PASTURE
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	·	<u> </u>			20	2.5		STRENGTH + PENE	TRATION	RECICTATION	T		
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BORING REPORT	TEST	ECORD — SUBSUI			LEGEND	1	STRUCTURE	LOCATION			RE	RING	1 TF0=:	ORD - SUBSUR
N°2429	7	DEPARTMENT OF PL	JPLIC WURKS, OTTAK	VA, ONTARIO.	SAMPLING METHOD  2" DIA. SPLIT TUBE  2" SHELBY TUBE  PENETRATION RESISTANCE - R  2" SPLIT TUBE	ANIMAL	RPEEDING RIDG	OTTAWA,	ONT.		No	2429	DE	LABORATORIES, D. PARTMENT , OF PUP
HOLE Nº		CKED RAL &	<del>/</del>	BORING	2" SHELBY TUBE	(3EDF 01	TREEDING DEDG.	CTUNNVEY'S	ASTURE)		НО	LE Nº		ED BIHL & a
5		I. H.LETTING			PENETRATION RESISTANCE - R 2° SPLIT TUBE O	1 (DE)-1. OF	(X.H. 9 PV. )	FILE Nº 37 - 2	409	1		6		HILETTING
	APPI	ROVED MILER	BORING T		2" DIA. CONE	<del></del>	CONSISTENCY		,,,,				APPROV	FD Miles
		ELEVATION IN			CASING			E AND +-X				***************************************	1	,
NATER SI	JRFACE	BOTTOM OF HOLE		GROUND	STRENGTH  UNCONFINED COMPRESSION (QU)	Ф	LIQUIDITY IND	EX(LI)XLI			WAT	ER SURI		ELEVATION IN
*** **** * 4,000	***	180 0	GEODETIC	206.0	VANE TEST (C) AND SENSITIVITY (S)		LIQUID LIMIT PLASTIC LIMIT					-11 00111	ACE BU	TTOM OF HOLE
		190.0	GROUND WATER	ROCK 200.9	STRENGTH + PENETRATION	050074405	<u> </u>		<del></del>				.	194.0
SAMPLE	7	DESCRIPTI	ON OF SOIL	ELEV.	DEPTH C	RESISTANCE	CONSISTE	NCY	UNIT WT.			MD1 5		
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		ROCK	(DRILLED)						1					
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		80770	0 F 1121 -	190.0					100 5	<b>!</b>				BOTTOM O
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BORING REPORT	REC	ORD - SUBS	URFACE EXPLORATION	- SOU S	LECEN					
N°2429	1 2211140	LABORATORIES	DEVELOPMENT ENGINEE	DIA16	LEGEN SAMPL	INC METALOS		STRUCTURE	LOCATION	
HOLE Nº		ED KIHL &	ata DATE OF BO			IA. SPLIT TUBE	ANIMAI	BREEDING BLDG. OF N. H. & W.)	OTTAWA	ONT.
6	DWN.	H. 257-17	VS 30 007	1061		RATION RESISTANCE - R	DEPT	OF N LI ENIL	(TUNNEY'S	PAST12:
	APPROV	ED VILE	以の BORING TECH	1767	7 2's	PLIT TUBE O-O	(2011)	7. N.M. 9 W. )	FILE Nº 32- 2	409
		ELEVATION I		LOOK	CASI	IA. CONEAX		CONSISTENCY		
NATER SUF		TTOM OF HOLE		ROUND	4			NATURAL MOISTUR	E AND	•
	_	194.0	GEODETIC	206.4	VANE	NFINED COMPRESSION (QU) TEST (3) AND SENSITIVITY(S)	<b></b> ⊕	LIQUID LIMIT	EX (II) X LI	
			GROUND WATER IR	204.3				PLASTIC LIMIT		
SAMPLE		DESCRIPT	TION OF SOIL	ELEV.	DEPTH	STRENGTH + PENETRATION	RESISTANCE	CONSISTE	VCY	UNIT
N° TYPE	SYMBOLS		•	FT.	FT.	QU + + + +	KSF			WT.
							BLOWS/F	T		1
		SALID SOME		206.4						210.0
	G.W.	- WANTER	ARRYTH LARKES BR	205.0						
		PARK	(DRILLED)	1.04.37						
		,,,,,,,	( 4K146 ED )		ŀ		<del></del>			200.0
	<b>202</b>			194.0	F					
		BOTTOM DR/LLED FT	OF HOLE  RECOVERED F		Ē					
1 1		1.3 4.5	1.2							122.0
		4.5	4.5 4.4							190.0
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1 17 2	PORT <i>2429</i>	TESTI	NG LABORATORIES,	IRFACE EXPLORATION DEVELOPMENT ENGINEERS	NEEDING BRANCH	LEGEN	D ING METHO	0	4		RUCTURE	LOCATION	
	E Nº		CFARIMENT OF P	UPLIC WORKS, OTTAW	VA, ONTARIO.	2" 0	A. SPLIT TU	BE	ANIM	AL BRI	EDING BLDG. N.H. &W.)	OTTAWA	1, 01
	,		H. LETTING	<del></del>					(DE)	T. OF	N.H.SW)	(TUNNEY'S	94.57 UK
1/	7	APPRO	DVED MILES	PO BORING T	<i>CT. 1961</i> ECH.	<b>−</b>   2's	RATION RESI		ا هـ			FILE Nº 32	
-	· · · · · · · · · · · · · · · · · · ·	<u></u>	Tri N.C. Lang	1 3. LE	AFLOOR	2" D	A. CONE		<del>x</del>		CONSISTENCY	, J2	
WATE	R SUF	EACE TO	ELEVATION IN			STREN	E SIZE		xr	·	NATURAL MOISTUR	E AND X	•
	301	IFACE	SOTTOM OF HOLE	DATUM GEODETIC	GROUND 206.6	UNCO	NENED COMP	RESSION (QU)	—— ⊕		LIQUIDITY IND	EX (LI) X LI	
		_	192.6	GROUND WATER	ROCK	VAIVE	TEST (C) AND	SENSITIVITY (S	s)+s		PLASTIC LIMIT		
SAI	APLE		DESCRIPTI	203,2	202.9			+ PENETRA	ATION RESIST	ANCE	CONSISTER	NCY	UNIT
	-	SYMBOL		ON OF SOIL	EL.EV. FT.	DEPTH FT.	C '		1	KSF	1 1		→ wT.
-		31MBOL	3				R		BL	OWS/FT			LBS/C.
						·							210.0
	1	ļ	SAND, SOME	TRAVEL (DRILLE	206.6								] ""
		7 W.	ROCK LAYER	CARED LEGISLE	202.97								
	İ		ROCK	(DRILLED)									1
				(-1,1222)									200,0
			POTTOM	OF HOLE	192.6	Ė							
				RECOVERED	ET.	E							
			5.2	<i>5</i> .	1 1	J-	######################################						190.0
			5.1	5.	'	E				<del>┼</del> ┼╌┋╌┼┼┤			
			NOTE:			E			<del>┊</del> ┇╃╃╃╃╃				
			A SEAM WAS FROM ELEV.	S ENCOUNTERE. 203, <b>2</b> ro 202.	2 9 FT								
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BORIN REPO N°24	RT	1 E 3 I II V G	LABURATORIES	URFACE EXPLORATIO	FF 31NO	LEGEN			PROPOSED	STRUCTURE	LOCATION	
HOLE			ANTIMENT OF I	PUPLIC WORKS, OTTAWA	, ONTARIO.		ING METHOD A. SPLIT TUB	<b>.</b> Ø	ANIMA			AUT
	· +	THECKE	BKHL &	and DATE OF E		2" S	HELBY TUBE_		MINITIAL L	EREEDING BLDG.	CTUNINEY'C	OW. Darenoe
8	ŀ	APPROVI	H. LETTING	BORING TE	1961	PENET	RATION RESIS	NINCE - R	DEPT. C	N. H. & W.)		
			OF ME BOLY	walt B. LEA	UH. HLOOR	2 D	A. CONE	<u> </u>			FILE Nº 32-2	409
·			ELEVATION I	N FEET OF		CASI	IG E_ <i></i> GTH			CONSISTENCY		
WATER	SURF	ACE BO	TTOM OF HOLE	1	GROUND	ł		I-SION (QU)	•	NATURAL MOISTUR LIQUIDITY IND	EX(LI) X LI	•
			192.1	GROUND WATER	207.2	VANE	TEST (C) AND S	ENSITIVITY(S)	— ♥ — +\$	LIQUID LIMIT		
	······································			202.9	202.9		STRENGTU	DEMEST		PLASTIC LIMIT	<del></del>	
SAMP	LE		DESCRIPT	TION OF SOIL	ELEV.	DEPTH	C	PENETRATION	RESISTANCE	CONSISTE	NCY	UNIT
Nº TY	PE S	YMBOLS			FT.	FT.	QU	<del> </del>	KSF			WT. LBS/C.F
	T						R		BLOWS/FT			1
		11										
		1 -			207.2							
			SAND, SOI	ME GRAVEL (DRI								210.0
	-	9.11.	<del>ک در خوص مدم</del>	~ <del>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</del>	202.9		<del>┇┋</del>					
			son.			l					<del>                                      </del>	
			NOCK.	(DRILLED)		E				<u>┆╪╪┼</u> ╅┼┼┼┼		200.0
					100	į						
				m OF HULE	192.1			<del>▗▀▐▀▐▀▊▀▊▀▍▞▗▊▃</del> ▋▃▋				
		2	DRILLED FT. 0,8	7,2007,2,2	0,77	F						
			5.2 4.8	0.6 5.0		F	<del>                                      </del>	+++++++				190,0
			4.0 UTE :	4.9		E	++++++	++++++++				
		J.	EAMS OR SO	DET FORMATION		E				·· <del>·</del> · <del>·</del> · <del>·</del> ·· <del>·</del> ····················	<del>                                      </del>	1
		2,	NCOUNTERS	ED AT SLEV. 200.6	20al			<del>*************************************</del>				
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SORING REPORT	1		R <mark>FACE EXPLORATI</mark> DEVELOPMENT ENGIN		LEGEN	<del></del>	PROPUSED		LOCATION	
N° 2437			JPLIC WORKS, OTTAW		2" C	LING METHOD  DIA. SPLIT TUBE	ADM/N	VISTRATION	OTTAWA,	$\bigcirc \land \land \uparrow$
HOLE Nº		· 411~ 7	and DATE OF		2" S	SHELBY TUBE	BUIL	LDING	(TUNNEY'S	PASTU
10	DWN.	R. GLOUTHI.	ER 21-22 NOV.	& DEC.12,1961	PENET	TRATION RESISTANCE - R	(iv. H		FILE Nº 32-2	
	APPRO'	YED MILEX	BORING TI	ECH. AFLOOR	1 2 3	SPLIT TUBE G			02 21	
		ELEVATION IN	· ·		CASI	ING		CONSISTENCY NATURAL MOISTUR	E AND X	
WATER SUI	REACE IN	OTTOM OF HOLE		GROUND	SIRE	NGTH ONFINED COMPRESSION (QU)	Ф	LIQUIDITY INC	DEX (LI) X LI	
			GEODETIC	186.4	1	E TEST (C) AND SENSITIVITY (S)		LIQUID LIMIT PLASTIC LIMIT		
		151.8	GROUND WATER / 77.9	ROCK		CTDENCTU I DENCTRATION	250074405			
SAMPLE	T i	DESCRIPTI	ON OF SOIL	186.4 EL.EV.	DEPTH	STRENGTH + PENETRATION	RESISTANCE	CONSISTE	NCY	UNIT WT.
<del></del>	}		ON OF SUIL	FT.	FT.	QU + + + +	KSF		<b></b>	LBS/C.F.
Nº TYPE	SYMBOL	S	<del></del>			R	BLOWS/FT			
				İ						
	1 1						1			190.0
	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ROCK, SH	IATTERED (DRIL	184.4 (ED) 185.2						
			•							
		₹								
		<u>G.W.</u>	^^^	\^ <u>/77.9</u>	<u>-</u>  .					180.0
		ROCA	K (DRILLED)							170.0
		*							<del>                                     </del>	160.0
										750.0
	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	BOTT	OM OFHOLE	151.8	-					
										50.0
		NOTES:								
	-	17205T RET	URN WATER AT	ELEV.						•
		2) SMALL SE	AMSENCOUNTE	RED 152 3						
	j	DRILLED (FT.)	RECOVERED	(FT.)						
	Ì	1,2	0.8							
		1, 9 5,1	1, 9 5,0							
		5.1 5.0	5,1 4,9	ļ						
		5.0 2.7	5.0 2.7							
		572 3.4	5.0 3.0						<del></del>	
									<del>+++++++++++++++++++++++++++++++++++++</del>	
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					i - F	<del>▀▐▀▐▝▐▝▐▀▊▀▊▀▍▀▍▀▊▀▊▀▊▀▊▀▊</del> ▀▊▀▊	<del>┋╶┪</del> ╌╂╼ <del>┇┈╉╌╏</del> ╼ <del>┇╌</del>	<del>╿╌┩═┩═┩═┫═┩═╇═┡</del> ╌ <del>╏┈╏┈╏┈╏┈╏</del> ┯╏┯╏┯╏		
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14	TESTING	LABORATORIES,	DEVELOPMENT ENGINE	EERING BRANCH	LEGEN SAMPL	 .ING METHOD	PRC POSED		LOCATION	
2437 HOLE Nº	CHECK	<del></del>	DATE OF E		::" □	DIA. SPLIT TUBE	RII.	ISTRATION ILDING	CI /AVVA	U/V/.
1		4111 9 W	DATE OF E			FRATION RESISTANCE - R		& IV.)	FILE Nº 32-2	
//	APPROV	ED Mile	3el BORING TE	CH.	2* S	SPLIT TUBE — — — — — — — — — — — — — — — —			FILE Nº 32-2	295
		ELEVATION I		AFLOOR		RE SIZE NX		CONSISTENCY	RE AND <del>- X</del> ●	
WATER SURF	ACE BO	OTTOM OF HOLE		GROUND	SIRE	NGTH  ONFINED COMPRESSION (QU)		LIQUIDITY IN	DEX (LI) X LI	
		155.1	GEODETIC	186.3		TEST (C) AND SENSITIVITY (S)		LIQUID LIMIT		
		, , ,	GROUND WATER	ROCK /84,3		STRENGTH + PENETRATI	ON RES STANCE	CONSIST		UNIT
SAMPLE		DESCRIPT	TION OF SOIL	ELEV.	DEPTH FT.	С	KSF		T	WT.
N° TYPE S	SYMBOLS	3			<u> </u>	QU 1 1	BLOWS/F1		+	LBS/C.F.
		EOTTO NOTES 1) S.MALL S. AT ELEVA 175.8. 2) LOST RE ELEV. 10 DRILLED (F 1.4 2.2 5.1 2.8 1.7 5.1 2.8 NOTE:	ET.) RECOVERE  0.8 2.2 4.9 5.0 2.8 1.7 5.1 5.1 2.6	177.7  ERED 80.3,						

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BORING REPORT N°	TESTING	LABORATORIES,	RFACE EXPLORATION DEVELOPMENT ENGINATION OF THE PROPERTY OF TH	NEERING BRANCH	LEGEN SAMPL	ING METHOD		1	STRUCTURE	LOCATION VOTTAWA	<b>Ω</b> Λ/7
2437 HOLE Nº	CHECK		DATE OF			IA. SPLIT TUBE				(TUNNY'S P	
, ,	1	R. GLOUTHIE	77	VOV., 1961		RATION RESISTANCE - I					
12	APPROV	ED Miles	SOR BORING T	ECH.	ر 2 s	PLIT TUBE (	<del>}</del> -••	( ''' )		FILE Nº 32-2	2295
	1	ELEVATION IN	And the second second	AFLOOR	CASI	IA. CONE  NG  E 5/ZE			CONSISTENCY		
WATER SU	RFACE BO	TTOM OF HOLE		GROUND	STREN	<u>GTH</u>		•		JRE AND <del>  X  </del> NDEX(LI) X LI	•
			GEODETIC	186.6		NFINED COMPRESSION (QU TEST (C) AND SENSITIVITY			LIQUID LIMIT PLASTIC LIMIT		
		160.8	GROUND WATER	ROCK 186.6	1	STRENGTH + DENGT	DATION	050054445	1		1
SAMPLE	1	DESCRIPTION	ON OF SOIL	ELEV.	DEPTH	STRENGTH + PENET	RATION	<del></del>	CONSIST	ENCY	UNIT WT.
Nº TYPE	SYMBOLS			FT.	FT.	QU 1 1	1	KSF		<del>                                     </del>	LBS/C.F
						R		BLOWS/FT			
										<del>┇╏┇┇</del>	190.0
				186.6	-						1
											1
		G.W.		177.8							180.0
		l	<b>////</b>	111110							
		ROCK	(DRILLED)								ł
					·						170.0
		ROTT	OM OF HOLE	160.8							
		PRILLED (FT.		D(FT.)	ł						160.0
		2.9 2.8	2. <i>8</i> 2.8		L						
		5.2 5.0	5. / 5.0								
		5.0 4.9	4.9 4.9								
		NOTES:									
			URN WATER AT	-	Ė						
		2) SMALL SEAL	MS ENCOUNTER	PED				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
		178.4	TION 180.1 A	vo	E						
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BORING REPORT N°2437	RECORD — TESTING LABORA DEPARTMENT	TORIES, DEVEL		EERING BRANCH		ING METHOD		STRUCTURE	LOCATION	4 012
HOLE Nº	CHECKED PH	<i>(</i> )	DATE OF		2" :	IA. SPLIT TUBE	ADM	IN . B:DG. (. AND W.)	TUNNEY'S PA	I DRS ASTUR
/3	APPROVED N	1. LeBel	BORING TI	<i>v. 1961</i> ECH.	2* :	RATION RESISTANCE - R PLIT TUBE O-	e [		FILE Nº 32-2	295
	()	. 1		FLOUR		IA. CONE		CONSISTENCY		
WATER SUR		ON IN FE	TUM	GROUND	STRE	NATIONAL COMPRESSION (QU)		LIQUIDITY IN	RE AND \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
	167.	<u> </u>	SUDSTILL	183.6 ROCK		TEST (C) AND SENSITIVITY		LIQUID LIMIT Plástic limit		
<del></del>		John	179. U	100K		STRENGTH + PENETRA	TION RESISTANCE	CONSIST	ENCY	UNIT
SAMPLE	<del></del>	SCRIPTION (	OF SOIL	ELEV. FT.	DEPTH FT.	QU I	KSF			WT.
N° TYPE	SYMBOLS					R	BLOWS/F	7		1
	BO DEILL 1 3 5 117 NOTE: 3.3MA.	TTOM O	ENCOUNTER 183.6 \$ 18	179. 167.						170.0

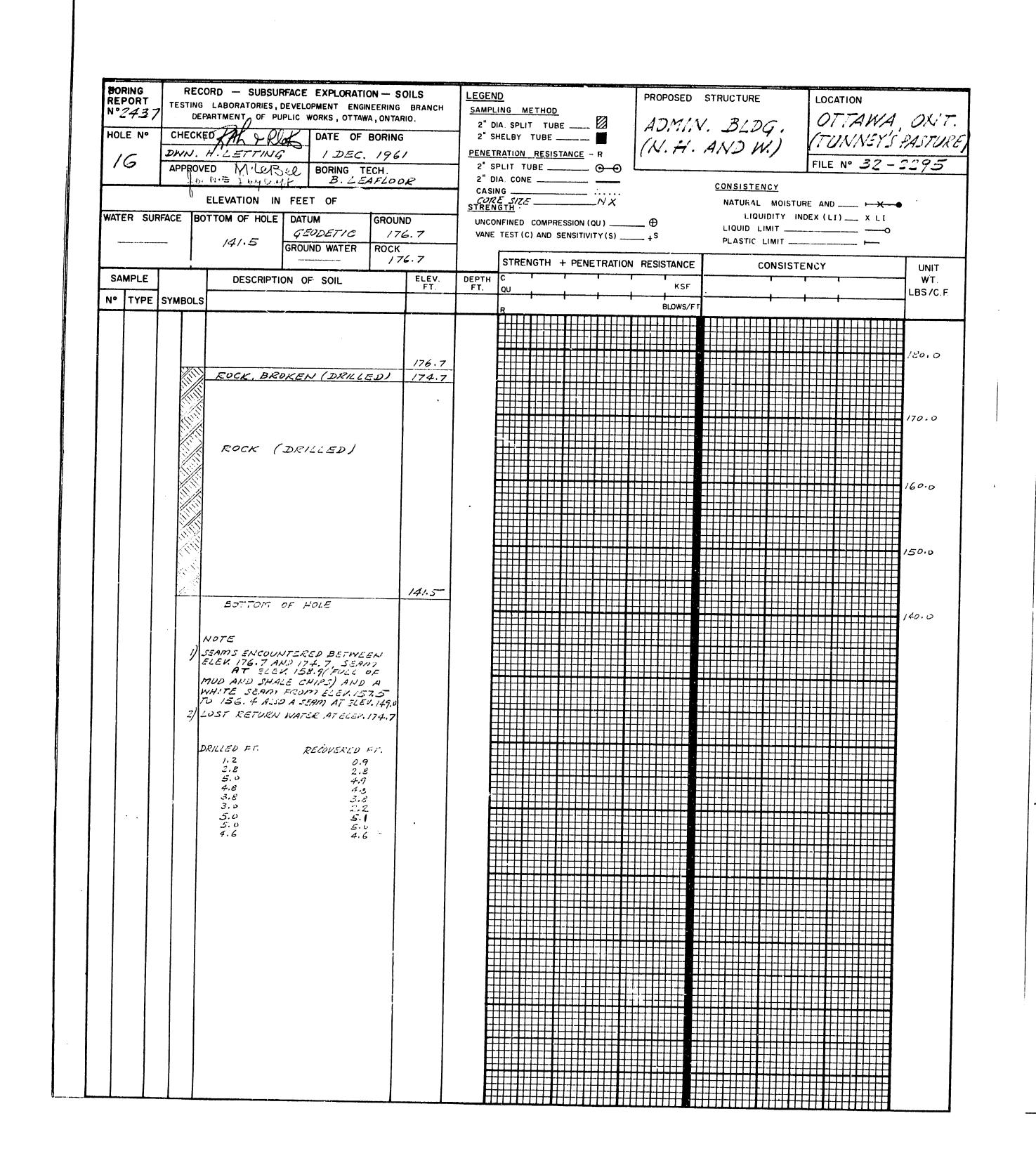
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BORING REPORT N°2437	TESTING LABOR	ATORIES , DEVE	ELOPMENT ENGIN	IEERING	BRANCH	LEGEN	D ING METHOD		PROPOSED		LOCATION	
HOLE Nº			DATE OF			2" DI	A. SPLIT TUBE		ADMI	N. BLDG. AND W.)	OLIAWA	, ONT.
	CHECKED PAR	- Garage	DATE OF			l .	-		(N.H.	AND W.)	(TUNNEYS F.	ASTURE,
14	APPROVED	MileBel.	22-24 BORING TE		1961	2° SF	RATION RESISTANCE - R PLIT TUBE 😙	e [			FILE Nº 32-2	295
		E Fry Oral	F B. 4.57	4FL00	K	2" DI	A. CONE	_		CONSISTENCY		
	ELEVAT	ION IN FE	ET OF			CORE	NG S 5/ZE NA GTH	••			RE AND FX	•
WATER SUF	RFACE BOTTOM C	i		GROUN	_	t	NFINED COMPRESSION (QU) _		_ ⊕		DEX (II) X LI	
***************************************	- 160		OUND WATER		7. U	VANE	TEST (C) AND SENSITIVITY (S	)	+S	LIQUID LIMIT PLASTIC LIMIT		
	!	ORC	17%2	ROCK /	37. U		STRENGTH + PENETRA	TION	RESISTANCE	CONSISTS	MAY	T
SAMPLE	DE	SCRIPTION	OF SOIL		ELEV.	DEPTH			<del></del>	CONSISTE	NCY	UNIT WT.
Nº TYPE	SYMBOLS		·		FT.	FT.	QU + + -		KSF		<b></b>	LBS/CF
	015025						R		BLOWS/FT		•	
								###				
					187.0			<del>+++</del> +				190.0
					707.0			$\prod$				1
	G.W.	AAAA	····		179.2		<del></del>	##			<del></del>	ł
			V Y Y \	~ <del></del>		F					<del></del>	180.0
	ROC	K (S	DRILLED)			Ē						
		ι -	J			Ē						
						Ė						170.0
				1		1			<del>┼╌┞╼┞┈╂╌┦╾╁╌┟╌┇</del> ╌ <b>╂</b> ═			770.0
						F						
					160.3	Ē						
	1 1	TTOM OF				E		<b>+</b>				160.0
			RECOVEREP 1.1	. 1		E						
	2.0	3	2.7	7		L						
	4.5 4.7 5.1	3	4.9 4.7 5.1 2.2 4.8	,		F						
	2.2 4.8	•	<b>5.1</b> 2.2	<u>.</u>				###				
		1	4.8	·		E		+#++				
	1) SMALL	SEAMS EN	NCOUNTERE			E		<b>+</b>				
	AT EL	EV. 186.0	NCOUNTERE 8, 185.2 & 18	32.8				<b>+#</b> ++				
	2) BROKE	N CORE,	AT ELEV. 18	2.8								
					-	H		$\blacksquare$				
						F		<del>!</del>				
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								<b>!</b>		┠═┩┈┩┈┩┈╀╾┦ <del>┈┦╸┤</del> ╌ <b>╂╌┤╌┼</b> ╌┼╺┼╌┩╌┦╌┼╾	╾┞╌┞╌ <b>╂</b> ╾ <del>┞╼┞╼┞</del> ╌ <del>┠</del> ╍ <del>┠</del> ╼┠╼┠╼┠╼┠╼╏┈╏┈╏	
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DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.  CHECKED FILE g and DATE OF BORING  DWW. H. 15TTING   6 NOV. 1961  APPROVED MILED   BORING TECH.  B. 15AFLOOR  ELEVATION IN FEET OF  FILE N° 32 - 2295  CONSISTENCY  CASING  CONSISTENCY  CARREST NATURAL MOISTURE AND  STRENGTH  UNCONFINED COMPRESSION (QU)  DESCRIPTION OF SOIL  DESCRIPTION OF SOIL  ELEV. DEPTH C  TIME DATUM  ADMIN . BLDG .  OTTAWA ONT.  TUNNSY'S PASTURE)  ADMIN . BLDG .  OTTAWA ONT.  TUNNSY'S PASTURE)  ADMIN . BLDG .  OTTAWA ONT.  TUNNSY'S PASTURE)  FILE N° 32 - 2295  CONSISTENCY  CONSISTENCY  VANE TEST (C) AND SENSITIVITY(S) + S  PLASTIC LIMIT — O  PLASTIC LIMIT — O  UNIT WT.	BORING REPORT	REC	ORD — SUBSURF	ACE EXPLORATION	- SOILS	LEGEN	D		PROPOSED	STRUCTURE	LOCATION	
ELEVATION IN PERT OF A CONSTRUCTION OF MICE DATE OF THE PROPERTY OF A CONSTRUCTION OF MICE DATE OF THE PROPERTY OF A CONSTRUCTION OF MICE DATE OF THE PROPERTY OF A CONSTRUCTION OF MICE DATE OF THE PROPERTY OF A CONSTRUCTION OF MICE DATE OF THE PROPERTY O	N°.2437	DEF	ARTMENT OF PUPI	LIC WORKS, OTTAWA,	ONTARIO.			<b>123</b> 1			OTTAINA	DAIT
ELEVATION IN FEET OF  STATE DESCRIPTION OF ROLE DATE  FORCE  FORE	HOLE Nº	CHECKE	ORAL gas	DATE OF BO	ORING	2" SI	HELBY TUBE	<b>[</b>	AUM	N. BLDG.	(TIMNISEY CZ	PACTURE I
ELEVATION IN PECT OF  SOUTH OF ROLE DATE OF THE PROPERTY OF TH	1.5			· · · · · · · · · · · · · · · · · · ·				NCE - R	(N. H.	AND W.)	=======================================	ASTORES
ELEMATON IN PEET OF SILE SET O				BORING TEC	H. -LODE	2" SI 2" DI	PLIT TUBE IA. CONE	— <del>-</del>	L		FILE Nº 32-2	295
ACC   STATE		V	1 7/			CASII	NG					
## PACE   PACE	WATER SURF				ROUND	SINEM	GIN		•			•
STRENOTH + PENETRATION RESISTANCE DESCRIPTION OF SOIL LEV DESTR. FOR STRENOTH + PENETRATION RESISTANCE COMSISTENCY WIT. STRENOTS LEG F. S.  ROCK (DRILLSD)	77 To 6 Above 11 17 (Million organi	l	155.2	GEODETIC						LIQUID LIMIT		
OSCRETION OF SOIL  THE STATE OF				GROUND WATER F					·			
THOUS  THOUS  THOUS  THOUS  TO BE SHOULD SEE TO BE SHOULD	SAMPLE		DESCRIPTION	N OF SOIL	·····	DEPTH	C T	PENETRATION	RESISTANCE	CONSISTE	NCY	
ROCK (DRILLED)  ROCK (DRILLED)  SOTTON OF HOLE  DRILLED IT. RECOVERD IT.  SOTTON OF HOLE  DRILLED IT.  SOTTON OF HOLE	N° TYPE	SYMBOLS					QU		KSF			1
ROCK (DOLLSD)  ROCK (DOLLSD)  155.2  BOTTOM OF MALE DET  SOLUTION OF MALE DE  SOLUTION OF MALE DE  SOLU							R		BLOWS/FT			
ROCK (DOLLSD)  ROCK (DOLLSD)  155.2  BOTTOM OF MULE  PRILSD FT. RESOURCE FT.  159.2  160.0  150.0  160.0  1				·								
ROCK (DRILLED)  SOTTOM OF MOLE DRILLED FT. RECOVERED FT.  SOLUTION OF MOLE SOLUTION SALUTIONS AT SIGN ISSUED AT												180.0
ROCK (DRILLED)  SOTTOM OF MOLE  DRILLED FT. RESOURCED FT.  150.0		177			174.8							
ROCK (DRILLED)  SOTTOM OF MOLE DRILLED FT. RESOURCED FT.  SO SI SI SI SI SI SI SI SI SI SI SI SI SI							<del>┖╸┞╸┞╶┞╸╏╶╎╶╏╸┞</del> ╶╂ <del>╸</del> ╂	<del>┞╸┞╸┦╶┧╶╂</del> ╌╂ <del>╸╏</del> ╺╂	┼═╀╌╀╌╂╌╂╌╂╌╂			
ROCK (DRILLED)  SOTTOM OF MOLE  DRILLED IT. RELOWERD FT.  SOLUTION  A. S. S. S. S. S. S. S. S. S. S. S. S. S.							<del>┝╶╂╍┞╌┞╌┞╶┫╍┩╌╂╍╃╍╏╌┋</del>	<del>┞╸┠┈┞┈╂</del> ╌ <del>┠╸┠</del> ╸ <del>╏</del> ╌╏╌╂╍ <b>届</b> ╸	╂╼╂╼╂╼╂╼╂╼╁╾╏╸			
ROCK (DRILLED)  SOTTOM OF MOLE  DRILLED IT. RELOWERS FT.  SOLUTION  ASSESSMENT OF MOLE  THE SECONDARY SHEWATTERSD AT  THE SECONDARY SHEWATTERSD AT  THE SECONDARY SHEWATTERSD AT												170.0
SOTTOM OF MOLE  DOULD IT. RECOVERED FT.  S. S. S. S. S. S. S. S. S. S. S. S. S. S			ROCK (.	DRILLED)		I						
BOTTOM OF NOLE  DRILED FT. RECOVERED FT. 2.9 2.9 2.9 2.9 2.9 2.9 2.9 2.9 2.9 2.							<del>╶</del> ┼┼┼╂┼┼┼┼	<del>╒┇╏┋</del>				l
BOTTOM OF MOLE DIRLED FT. RECOVERED FT.  50 50 50 50 50 50 50 50 50 50 50 50 50						ŀ	<del>┩</del> ┼┼┼╂┼┼┼			<del>┠╸╏╶┇═╏╶╏═╏┈┞╶╏╒╃╌┞</del> ╼╂ <del>╌╏</del> ╼╏╼┼╌┼╾╏╼╏╼	<del>┍┾╍┼╸╂╸╉╌╂╌╏╌╏╶╏</del> ╸ <del>╏╸╏╸┩╸╃╸╃</del> ╺┹	160.0
DRILSO FT. RECOVERED FT.  200 251 251 250 250 250 250 250 250 250 250 250 250			80==0.00	0.7	155.2	. [				<del>┍╄╼╊╌╂╌╂╌╏╌╏╶╏╌╏╌╏╌╏</del> ╌╏		
SO SO SO SO SO SO SO SO SO SO SO SO SO S						E						
SIT SO SO SO SOUNTSKED AT SIEM ISG. 9.			2.0		1 1	-				<del>┊┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋┋</del>	┽┽┼╂┿╅┾╂╂┼╀┸	<u> </u>
NOTE; STATE SHOWN TEKED AT SEEN 156.9.			5.1	2.9 5.1		F					<del>╶╏╸╏╶┇╶┇╶╏</del> ╌╂ <del>╸╏</del> ╌╂╼╂╌╂ <del>╶╏</del> ╌╂╌ <b>╂</b>	150.0
STALL SEM ENCOUNTERED AT			12.7	4.7								
STATE SERVICE STATE OF THE STAT			YOTE:			F				. 1. 1   1   1   1   1   1   1   1   1		
		ا غ	MALL SEAM ENC	OUNTERED AT								
			20.7.						<del>1:1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1</del>	<del>┸┦╏┩┩┩┩┩┩┩┩┩┩┩</del>		
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						<b>I</b> -1-1	┠ <del>╸┠┈╂┈╉┈╂</del> ╍ <del>╂</del> ╾╂ <del>┈╏</del> ╌╉╼ <del>╏</del> ┉╂	<del>┤╶┞╶┞┈┞┈╎╶╎╶╏╸╏╸</del> ╏			<del>┆╸┞╶┫╸┞╶┞╸┞╸┨╸╽╶╽</del> ╺╂ <del>╸╏</del>	
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RECORD — SUBSURFACE EXPLORATION — SOILS TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH DEPARTMENT OF PUPILIC WORKS OF TAWA ON TRUE					LEGEND	G METHOD		PRCPOSED	STRUCTURE	LOCATION	
HOLE Nº CHECKED LAND DATE OF BORING				2" DIA	SP_IT TUBE	<b>2</b>	ADMIN. BLDG. (N. H. AND W.)		OTTAWA ONT.		
	DWW	NED JIL &	DATE: OF BO	ORING	2" SHI	LB) TUBE	- 📕	W. H	AND W.)	(TUNNEY'S	PASTURE
17	APPRO	)YED 1/1/_0/	NG 8 DEC	. 1961 H	2" SP	TION RESISTANCE	- R - <del>Q</del> Q			FILE Nº 32 -	22.95
		AWN. E. Poyc	Bel. BORNG TEC A. B. LEAF	LOOR	I S DIA	CCNE			CONSISTENCY		
		ELEVATION		•	CORE	S/, E	_ WX			RE AND FX-	•
ITER SL	RFACE	BOTTOM OF HOL	1 _ 1	GROUND	ŧ ·	INED COMPRESSION		<u> </u>	LIQUIDITY IN	DEX (LI) X LI	
<u> </u>		147.8	GROUND WATER	173.5	VANE 1	EST (C) AND SENSITI	VITY(S)	+s	PLASTIC LIMIT		
	·		- TATEN	173.5		STRENGTH + PEN	ETRATION	RESISTANCE			T
SAMPLE		DESCRIP	TION OF SOIL	ELEV.	DEPTH		· · · · · · · · · · · · · · · · · · ·	KSF	CONSIST	1	UNIT WT.
° TYPE	SYMBOL	.s			FT.	1	<del></del>			<del>                                     </del>	LBS/C.F.
							11111	9LOWS/F1			
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				173.5	E	#	<del>                                      </del>				3
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<b>,</b>		ROCK	(DETLED)								160.0
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ING ORT	RECORD — SUBSURFACE EXPLORATION — SOILS TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANC	LEGEND		PROPOSED STRUCTU	JRE LOC	ATION	******	_				
/-/	DEPARTMENT OF PUPLIC WORKS, OTTAWA, ONTARIO.		METHOD PLIT TUBE		1	<b>.</b>	BORING REPORT	TESTING	CORD - SUBSURFACE EXPLORATION - SOILS	LEGEND		
	DWN. H. LETTING 285 29 MON. 1961	2" SHELB	/ TURE	ADMIN. Z (N. 14. ANI	5-19.	NAWA ONT.	N°2437 HOLE N°	DE	EPARTMENT OF PUPILIC WORKS OF THE BRANCH		PROPOSED STRUCTURE	LOCATION
3	APPROVED MILEGIA BORING TECH.	2° SPLIT	TUBE ( <del>) (</del>	[.Y.17. 2014		Nº 32-2295	19	DWN.	KED RALLEGATOR DATE OF BORING  H. LETTING 25 3 24 MOVE 1861	2" DIA. SPLIT TUBE 2" SHELBY TUBE	ADMIN. BLD. (N. H. AND W.	G. OTTAWA,
L	ELEVATION IN FEET OF	2" DIA. C CASING _	ONE	CONSIS	STENCY		1 / 7	APPROV	VED MILEBEL BORING TECH	PENETRATION RESISTANCE - R 2" SPLIT TUBE O O	(N. H. AND W.	(TUNNEY'S PAS
R SURF	ACE BOTTOM OF HOLE DATUM GROUND	STRENGTH	£	NATUR	RAL MOISTURE AND LIQUIDITY INDEX (LI	<del>- ×-•</del>			ELEVATION IN FEET OF	I Z DIA. CONE		11.EE N 32-229
	165.5 GEODETIC 181.1	VANE TEST	D COMPRESSION (QU) (C) AND SENSITIVITY(S)	LIQUIC	D LIMIT		WATER SURF	FACE BO	OTTOM OF HOLE I DATUM	CASING	NATURAL MO	DISTURE ANDX
<del></del>	GROUND WATER ROCK 179.5 181.1	STF	ENGTH + PENETRATION		CONSISTENCY			1	173 0 GEUDETIC 186.6	UNCONFINED COMPRESSION (QU) VANE TEST (C) AND SENSITIVITY(S) _		Y INDEX (LI) X LI
IPLE	DESCRIPTION OF SOIL ELEV.	DEPTH C FT. QU		KSF	T	UNIT WT.			GROUND WATER ROCK 178.3 186.6		PLASTIC LIMI	
TYPE S	SYMBOLS	R	<del></del>	BLOWS/FT		LBS/C.F	SAMPLE Nº TYPE C	••••	DESCRIPTION OF SOIL ELEV.	STRENGTH + PENETRATIO	N RESISTANCE CONS	ISTENCY
	181.1						N° TYPE S	SYMBOLS		FT. QU	KSF	LBS
	G.W.)	-				.'BO. 0					BLOWS/FT	
	ROCK (DRILLED)											190
									186.6			190
						170.0	1					
	BOTTOM OF HOLE  DRILLED FT. RECOVERED FT								5.W.) 178.3			
	DRILLED FT. RECOVERED FT.								ROCK (DRILLED)			180
	2.8					160.0			BOTTOM OF 110.8			
	NOTE: 2.5							2	BOTTOM OF HOLE  DRILLED FT. RECOVERED FT.			
	SMALL SEAM ENCOUNTERED.								2.8 2.8 2.8 2.8			170.0
									5.E 5.0 4.9 5.0			
					<del>                                      </del>				VOTE:			
									TELEV. 184.8 AND 178.0.			
								3 5	ROKEN CORE AT FLEW. 178.0			
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BORING REPORT	TESTIN	CORD - SUBSU	RFACE EXPLORATION DEVELOPMENT ENGIN	ON - SOILS	LEGEN			STRUCTURE	LOCATION	
N°2437	. 0	EPARTMEN'T OF PL	JPLIC WORKS, OTTAW	A, ONTARIO.		ING METHOD  IA. SPLIT TUBE	17414	. BLDG. AND W.)	OTTAWA	ONT
HOLE Nº			A DATE OF		2" S	HELBY TUBE		, DLDG,	(TTINNEY'S	, DIVI., DASTICE
20	DWN	. H.LETTIN	16 7 8 Z	EC. 1961	PENET	RATION RESISTANCE - R	(N. H.	AND W.)	5115 110 20	TANTONS)
	APPRO	WED MILER	el. BORING TI		2" S 2" D	PLIT TUBE O-O			FILE Nº 32 - 3	295
· · · · · · · · · · · · · · · · · · ·		ELEVATION IN			CASI	NG		CONSISTENCY		
WATER SURI	FACE TO	SOTTOM OF HOLE		GROUND	SIREN	GIH			RE AND X LI	•
			GEODETIC	174.7		NFINED COMPRESSION (QU) TEST (C) AND SENSITIVITY(S) _		LIQUID LIMIT	<del></del>	
		149.6	GROUND WATER	ROCK 174.7	1	r		PLASTIC LIMIT	<del> </del>	
SAMPLE		DESCRIPTI	ON OF SOIL	ELEV.	DEPTH	STRENGTH + PENETRATIO	N RESISTANCE	CONSISTE	NCY	UNIT
	0.44501		ON OF SUIL	FT.	FT.	QU	KSF			WT. LBS/C.F.
N° TYPE	SYMBOL	.S				R	BLOWS/FT			1
				•						
										,,,,
		C 11.								180.0
	深	G.N.	<del>ۿ؈؞؞؞ڔ؞؞ڔ؞؞؞؞؞؞؞؞؞؞؞؞؞؞؞؞؞؞؞؞</del>	174.7						1
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		ROCK	(DRILLED)			<del></del>				
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		1			l					160.0
					1				<del>┆┊╏┋┋┋┋</del>	750.0
					H					
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	(7/2)	BOTTO	m OF HOLE	149.6	ŀ				<del>┍╶┩┈┩┈┩┈┩┈╿┈╿┈╿┈╿┈╿┈╿┈╿</del>	150.0
			RECOVERED	0 FT.			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			150.0
		2.9	2.9		E		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
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		5.0 2.2	4.7 2.3 5.1	5						140.0
		5.1 2.2	5.1 2.2	,	þ					, 70.0
		NOTE:			E					
	1)	SMALL SEAM	ENCOUNTERED ,	7	Ė				4	ł
	1	2601.126.8		1 1	E					
	2/	BURE HOL	JING OUT OF	•					┼┼┼╂┼┼┼┼╢	
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BORING REPORT N°2437	TESTING	LABORATORIES,	RFACE EXPLORATION DEVELOPMENT ENGINE	FRING BRANCH	LEGEN	-	00		PROPOSED	STRUCTURE	· LOC	ATION	
HOLE Nº	DEF	ARIMEN OF PI	JPLIC WORKS, OTTAWA,	ONTARIO.	2" DI	NG METH	UBE		ADMI	N BIDG	0	TAWA	ONT
		DE TE			2" 51	ELBY TUE	E		N.H	N. BLDG. AND W.)	17	INNEY'S	PASTURO
21	APPROVI	H.CETTING	BORING TEC	H	2" SF	LIT TUBE	SISTANCE - R	-a L		- W. J	FILE	N° 32 - 2	2295
	l l	1116. This	B. ZEAR	COOR	2" DI	CONE _				CONSISTENCY			
VATER SI		ELEVATION IN			STREN	\$/2E STH		•••		NATURAL MOIS			•
	MACE 180		DATUM (	ROUND			PRESSION (QU)			LIQUIDITY LIQUID LIMIT	INDEX (L	1) X LI	
		151.0	GROUND WATER	ROCK	1	· · · · · · · · · · · · · · · · · · ·			·	PLASTIC LIMIT			
SAMPLE	<del></del>	DESCRIPTI	ON OF SOIL	/77./ ELEV.	DEPTH	STRENGT	+ PENETRA	ATION R	ESISTANCE	CONSIS	TENCY		UNIT
N° TYPE	SYMBOLS	0200111111	ON SOIL	FT.	1	QU	· · · · ·	· 	KSF		-		WT.
1	01501.5					R		'	BLOWS/F1			<del> </del>	
		10000	<u> </u>	177.1		<del>┇┇┇</del>	<del>┇┇┇┇</del> ┇	<del>                                      </del>			++++		180.0
		ROCK, BROK	EN (DRILLED)	175.1									1
					I			<del>                                      </del>	<del>                                      </del>				1
					[								],70
		_			E								170,0
		ROCK	(DRILLED)		Ė								
					E								]
					E						<del>╺╋╏╸╏</del>		160.0
					E	<del>-┤┤╏╏</del> ┼┥		╌┼╌╂╶╂╌╂╌╏					
				151.0	E	<del>┇</del>	┼╂┼┼┼┼┼┼	<del>                                     </del>					1
			OF HULE		F	╀┼╂┼┼	╀	+++++					150.0
		2,0	RECOVERED	F/:	<u> </u>	<del>┼┼╂╏┼╎</del>	<del>                                      </del>	<del>┆┇┇</del> ┼┼				<del>                                      </del>	
		1.7 5.1	1.8 1.8 <b>5.</b> 1		F	<del>┇┋┋</del>	<b>                                      </b>	<del>                                     </del>	<del>+++++</del>		1 1 1 1 1 1		
		5.0 4.0	5.0 4.0			<del>┇</del> <del>┇</del> <del>┇</del> <del>┇</del> <del>┇</del> <del>┇</del> <del>┇</del> <del>┇</del> <del>┇</del> <del>┇</del>	<del>╎╏╏╏╏╏</del>	┼┼╂┼┼┼		<del>┇┋┋┋</del>	╁┼┼┼╂		
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			WATER AT ELEV. !					<del>┤</del> <b>┋</b> ┤┤┼					
		IAPI ENCOUX 58.9	ITECED AT ELEV.										
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					<b>₽</b>	<del>╾╽╴╏╸</del> ┦╍╂╍╂╶╂╼	<del>┠</del> ╍╀ <del>┈┦┈┦╍╃╸┦╶┦</del> ═╏╼╅	┝┸┵┵		<del>╏╏╏╏╏╏╏╏╏╏╏</del>	<del>┍┦╍┨╍┇╌<b>┋╶</b>╏╶╏</del>	<del>┞╏╏</del> ┩╃┼┼┼┩	
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BORING REPORT			JRFACE EXPLORATION DEVELOPMENT ENGIN			LEGEN	_		PROPOSED	STRUCTURE	LOCATION	
N°2437	DEP	ARTMENT OF F	PUPLIC WORKS, OTTAW	A, ONTARIO.	ANCH	SAMPL 2" D	ING MI	THOD 🛛	ATIM	MI DIA	OTTAWA	0.07
HOLE Nº		PHAL SA				2" SI	IA. SPLIT HELBY	TUBE	14011	14. DLDG.	174111151516	) シロマー ゴイフアン
22	DWW.	H. LETTING	30 NOV. 3 /	DEC. 196	6/	PENET	RATION	RESISTANCE - R	(N, P)	N. BLDG. L. AND W.)	11011/14/3	791 UN
22	APPROVE	ED MILER	BORING TE	ECH.	•			BE <del>O</del>	) [		FILE Nº 32-2.	(75
	0	ELEVATION II		LUUK		CASII	NG		<del>-</del> :	CONSISTENCY	DE 41:-	
WATER SURI		TTOM OF HOLE		GROUND		SIKEN	011	COMPRESSION (QU)	•		RE AND FX	•
		1.50.7	GEODETIC	· · · · ·				COMPRESSION (QU) ) AND SENSITIVITY(S)				
		1.30.7	GROUND WATER	ROCK 176	./		STREA	ICTU I DENETOAT	201 550.55	T		<del></del>
SAMPLE		DESCRIPT	TION OF SOIL	E	LEV.	DEPTH	C	GTH + PENETRAT	T - T	CONSISTE	ENCY	UNIT WT.
N° TYPE	SYMBOLS				FT.	1	QU	<del></del>	KSF		t	LBS/C.F.
	711110020						R		BLOWS/F	T		
												180.0
	<b>3</b> //	G.W.	OKEN (DRILLE	<del>,, ,,</del>	76.1							1
		NOCK, DX	OKEN (DXILLE	$\mathcal{D}I$	4.2							
				ļ								
					İ							170.0
									<del>                                      </del>			
		ROCK	(DRILLED)									
					ĺ							16
							<u> </u>	<del>╏╏╏</del> ┩┪	<del>┦╏</del> ┦┦┦┦			160.0
							++++					
					50.7	ŧ	<del>                                      </del>					
			OF HOLE			F						150.0
		DRILLED FT. 0.2	RECOVERED O	P F T:		E						
	] ]	1.7 2.8		.4		Ė	<del>                                      </del>	<del>╶┤╸</del> ┼╶╂╶┼╶┼╶┼				
		4.9 5.1	<i>4</i> 5	.9		F			<del>▎</del> ▘▊▔▍▔▍▔▍▔▍▔▍▀▍▀▍▀▍▀▍▀▍			
		2.8 4.6	2	9 9		F						
		3.3	3.			E						
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	\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \	MALL SEAMS EN LEV. 176.1 A	NCOUNTERED BETWI ND 174.2	FEN					┝╌╫╼┼╼┼╼┼╼┼╍╂╼┼╾┼╾┼┈╏┄╴			
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				Market State Control		47.	2/				
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BLDG. AND W.)	LOCATION  OTTAWN  (TSN/NE)'S  FILE Nº 32-2	A, ONT. PASTURE) 295	BORING REPORT N° 243 HOLE Nº	TESTING DEF	ORD — SUBSURFACE EXPLORATION —  LABORATORIES, DEVELOPMENT ENGINEERIN PARTMENT OF PUPLIC WORKS, OTTAWA, ONT  ED PARTMENT OF BORIN	G FIRANCH TARIO.	LEGEND  SAMPLING METHOD  2" DIA. SPLIT TUBE Z" SHELBY TUBE	PROPOSED ST	RUCTUREBLDG. (AL) W.)	LOCATION  OTTAWA  (TUNNEY'S	4 , ON
NSISTENCY ATURAL MOISTURE LIQUIDITY INDE	E AND X LI		WATER S	APPROV	ELEVATION OF HOLE DATUM  17 NOV. 19 BORING TECH.  B. LEAF:  B. LEAF:  GROUND GR	OUR UN)	PENETRATION RESISTANCE - R  2" SPLIT TUBE		CONSISTENCY  NATURAL MOISTUR  LIQUIDITY IND	FILE Nº 32  E AND X LI	2295
CONSISTEN	NCY	UNIT WT. LBS/C.F.	SAMPLE		GROUND WATER ROC	12.3.2	STRENGTH + PENI TRATION	+S	PLASTIC LIMIT CONSISTE		UNIT
			<del> </del>	E SYMBOLS	DESCRIPTION OF SOIL	ELEV. FT	DEPTH C T T T T T T T T T T T T T T T T T T	KSF BLOWS/FT			LBS/C
						183.2					190.0
		7,0.0			EOCK (DRILLED)	177.0					180.0
		150,0			#077000 OF MOLE  DRILLED FT. RECOVERED FT.  2.9	167.4					170.0
					LOST RETURN WATER AT ELEW. 1782						
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REPORT Nº 243	TESTI	NG LABORATORIES, I	RFACE EXPLORATION OF THE PROPERTY OF THE PROPE	RING BRANCH		ING N	METHOD	<b></b>	į.	STRUCTURE	LOCATION	_
HOLE Nº	`	KED RILL & COLOR	IPLIC WORKS, OTTAWA, O		2" 0	DIA. SPLI	IT TUBE		ADM.	IN. BLDG.	01/1/11/4	, 01
					i		TUBE		IN. A	'. AND W.)	(IUNNEY'S	PAST
24		V. H.ZETTING		DV. 1961			RESISTANCE -	о н О н			FILE Nº 32 - 2	294
		to N.E. Lug cha	BORING TECH	LOOK	2" 0	IA. CON	IE			CONSISTENCY		
		ELEVATION IN			CASI ごの人ご STREN	NG & \$/3 ugtu	<u> </u>	~ X			RE ANDX	)
WATER SU	RFACE	BOTTOM OF HOLE	DATUM GF	ROUND	1 SIME	VUIN	COMPRESSION (		Ф	LIQUIDITY IN	DEX (LI) X LI	
		161.1	GEODETIC	187.8			C) AND SENSITIVE			LIQUID LIMIT PLASTIC LIMIT		
				OCK <i>187. S</i>		STDE	NGTH + DEN	TDATION	DECIOTALIST			<del></del>
SAMPLE	T	DESCRIPTION	ON OF SOIL	ELEV.	DEPTH	C	NGTH + PENE	THAILON	RESISTANCE	CONSIST	ENCY	UNI.
<del></del>	-	<del></del>	ON OF SOIL	FT.	FT.	QU	<del></del>		KSF		<u> </u>	LBS/C
Nº TYPE	SYMBO	LS	****			R		•	BLOWS/F1			7
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					İ							190,0
				187.8		HH		<del>                                      </del>				1
						HH	╂┼┼┼┼					
		GIVS		170 7								l
			14 14 14 14 14 14 14 14 14 14 14 14 14 1	179.2								180.0
								#####				
		FOCK 1	DRILLEDI					<del>                                      </del>				
			المند في الله المند الله	·								
												170.0
		Ž										
	200	<u> </u>		16111								
		•	OF HOLE  RECOVERED									160.0
		2.9	2.8 2.8	""								
	İ	2.8	2.3									
		3.7 5.0	3.7 5.0									
		4.9 5.0	4.9 5.0									
	/)	NOTE:	I WATER AT ELEV. 18	, ,	ŀ							
		SMALL SEAM	S ENCOUNTERED	1								
	'	AT ECEV. 186	.3, 172.8 AND EAM ENCOUNTS	.e.	E			<del>       </del>				
		BETWEEN ELEV	181.8 \$ 181.7		Ė							
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BORING REPORT N°2437	DEF	LABORATORIES. PARTMENT OF F	JRFACE EXPLORATION, DEVELOPMENT ENGINE PUPLIC WORKS, OTTAW	FERING BRANCH		G METHOD	1	STRUCTURE	LOCATION OTTAWA	DAIT
HOLE Nº	CHECK	ORAL &	deay DATE OF	BORING	2" DI 2" SH	SPLIT TUBE	ADMIN	I. BLDG. AND W.)	OTTAWA, (TUNNEY'S	DASTINE
25	<b>⊅</b> ₩₩ APPROV	. H.LSTT11	VG 14 \$15	VOV. 1961	PENETI 2" SE	IT TUBE O-O	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	AND W.)	FILE Nº 32	PAJIUKE
	(5)	H-C Low C	BORING TO	CH. 4 <i>F_100R</i>	2" DI	CONE		CONSISTENCY	FILE Nº 24-	4473
WATER CUE		ELEVATION II			STREN	SIZE NX			RE AND	•
WIER SUN	FACE BO	TTOM OF HOLE	E DATUM GEODETIC	GROUND 186.2		INED COMPRESSION (QU)			DEX (LI) X LI	
•		/71.0	GROUND WATER	ROCK /86.2	- VAINE	EST (C) AND SENSITIVITY(S)		PLASTIC LIMIT		
SAMPLE	<del></del>	DESCRIPT	TION OF SOIL	ELEV.	DEPTH	STRENGTH + PENETRATION	RESISTANCE	CONSISTE	INCY	UNIT
N° TYPE	SYMBOLS		3012	FT.	1 ~- 1	<u>.</u>	KSF			WT. LBS/C.F.
	T						BLOWS/FT			
	k47,+-4			186.2					<del>┇┋┇┋</del> <del>┇</del> ┋╃╃	ن. 190
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		G.IV.)	<u>~^ ^</u> ^, <u>^</u> ^, ~	176.6					<del></del>	130.0
			(DRILLED)						<del>┇┋┋</del>	1
				171,0						
		DRILLED F.	TOF HOLE T. RECOVERE	ויי, א ס	<b>-</b>					
		2.8 2.8	2.8 2.8		F				╼┾╼╄╼╀╼╂╼╀╼┦╌┦╌┦╌╏╌╏╌╏	
		4.6 5.0	4.6 5.0		F					
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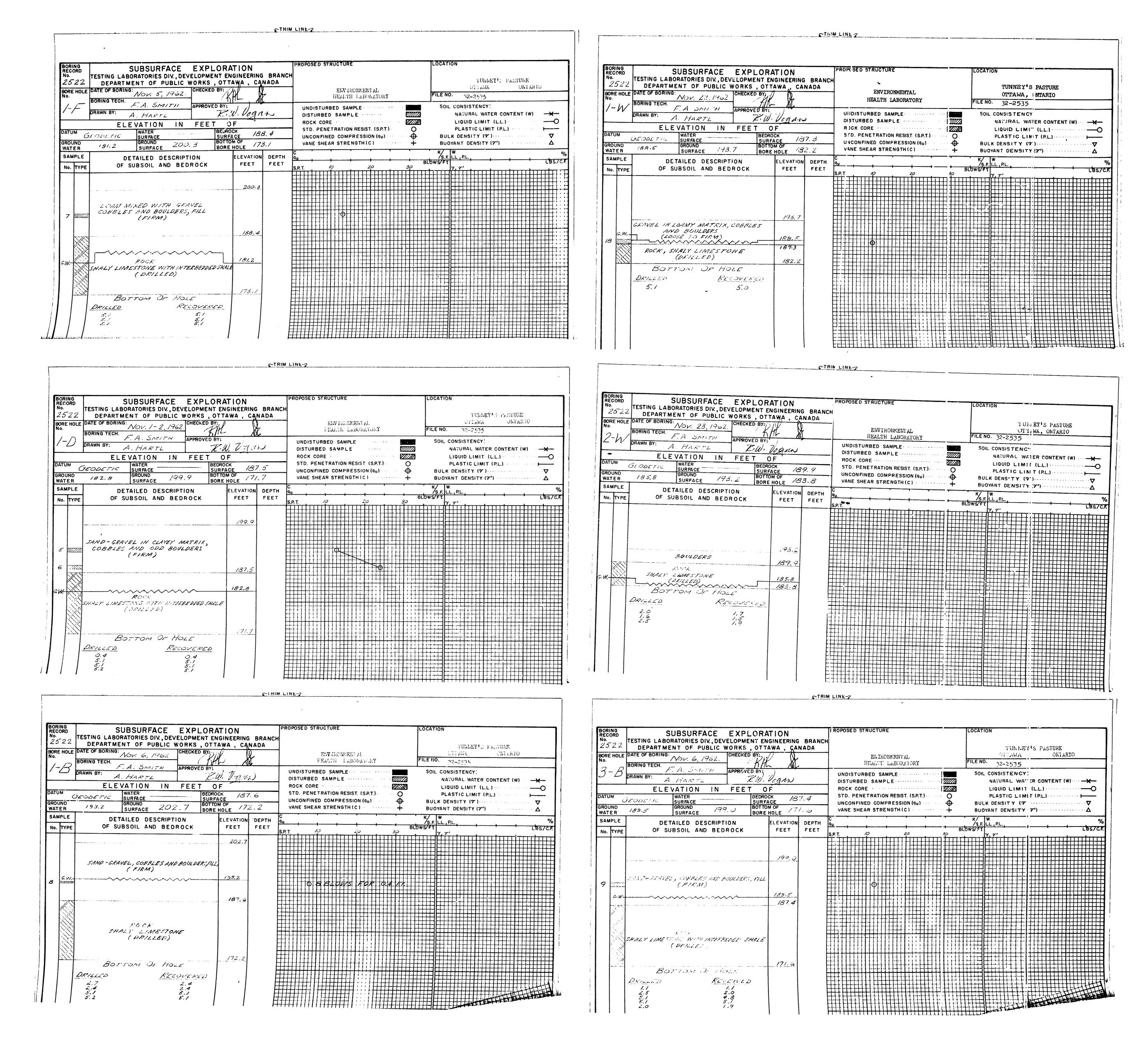
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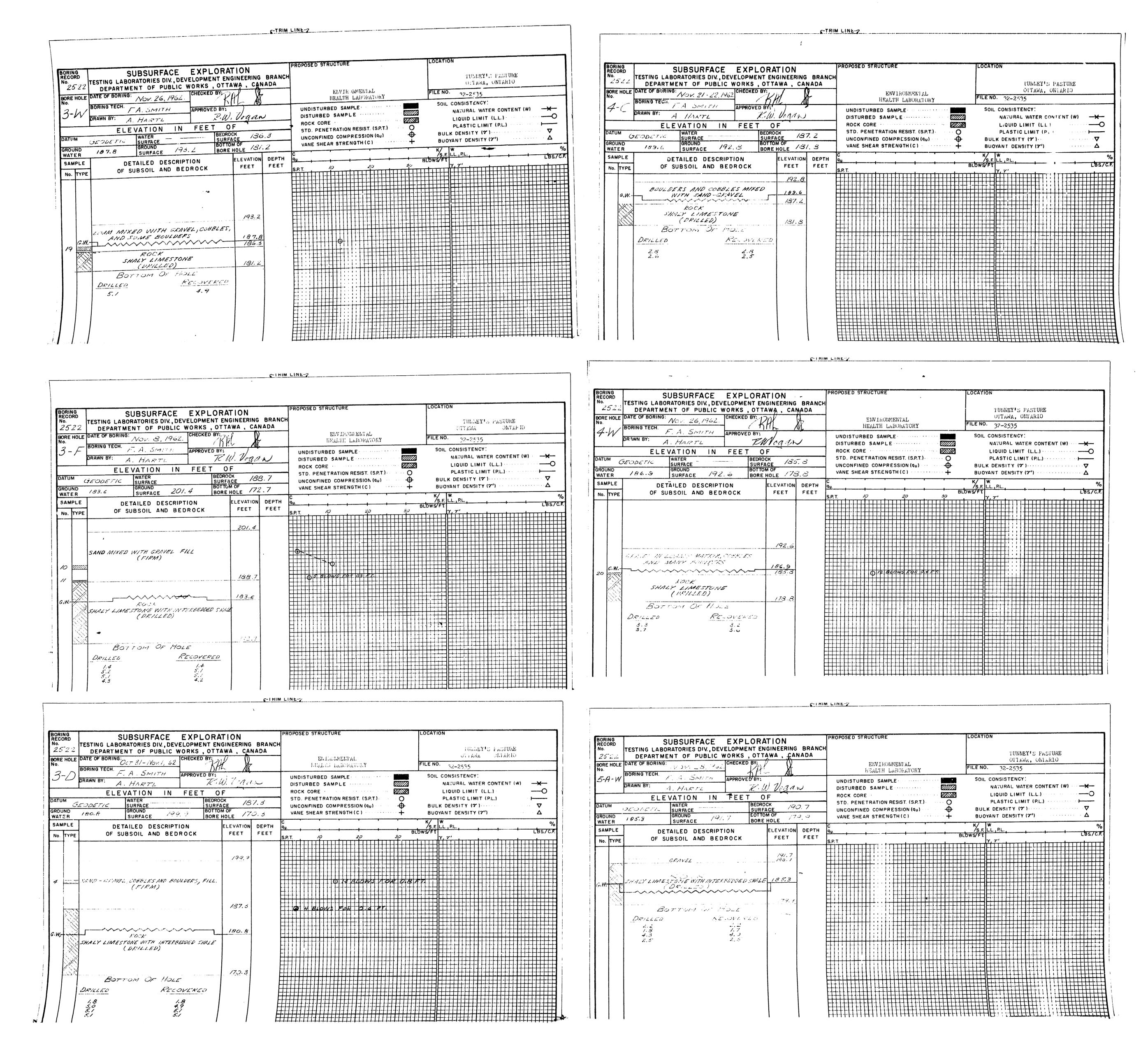
BORING REPORT	TECT	ECORD - SUBSU	RFACE EXPLORATION DEVELOPMENT ENGIN	N - SOILS	LEGEND	PROPOSED STRUCTURE	LOCATION	
N°2437		DEPARTMENT OF P	UPLIC WORKS, OTTAWA	A, ONTARIO.	SAMPLING METHOD  2" DIA. SPLIT TUBE	ADMIN. BLDG. (N. H. AND W.)	OTTAWA ONT	, <b></b> -
HOLE Nº			aty DATE OF		2" SHELBY TUBE	ALIMA DECIG.	(TUNNEY'S PAST	URi
26	DWA	1.4.2.557140	14 5 15	NOV. 1961	PENETRATION RESISTANCE - R	(N. H. AND W.)	FUE NO 27 - 27 QF	
	APPR	OVED MILES	BUR BORING TE	CH. AFLOOF	2" SPLIT TUBE @@ 2" DIA. CONE		TFILE Nº 32-2293	
		ELEVATION IN	V		CORE SIZE NX	CONSISTENCY		
VATER SUR	FACE	BOTTOM OF HOLE		GROUND	SIRENGIH	LIGHTLY	RE AND X	
			GEODETIC	184.5	UNCONFINED COMPRESSION (QU) VANE TEST (C) AND SENSITIVITY(S)	LIQUID LIMIT		
		159.2		ROCK		PLASTIC LIMIT		
CAMPI E	······································	T	177.0	184.5	STRENGTH + PENETRATION	N RESISTANCE CONSISTE	1	
SAMPLE		}—————————————————————————————————————	ION OF SOIL	ELEV. FT.	PEPTH C FT. QU	KSF	WT LBS/	
N° TYPE	SYMBO	LS			R	BLOWS/FT		0.1
							190.0	,
	7			184.5				
		GWD		177 /5			180.0	ı
		*******	· ^.^^	177.0			<del>+++++++++++</del>	
				.				
		ROCK	(DRILLED)					
							170.0	
							<del></del>	
	1	BOTTO	PN OF HOLE	159.2			160.0	,
		2	RECOVERE	o et				
		<u> </u>	2,2	:				
		4.9 5.2	0.7 4.8	.				
		5.1 5.0	5.1 5.1 5.0				150.0	
		2.Z	2.2					
		NOTE:						
	1	LOST RETURN Y	VATER AT SLEV. I	81.0				
	2)	SMALL SEAM ELEV. 181.0	SNCOUNTERED	AT				
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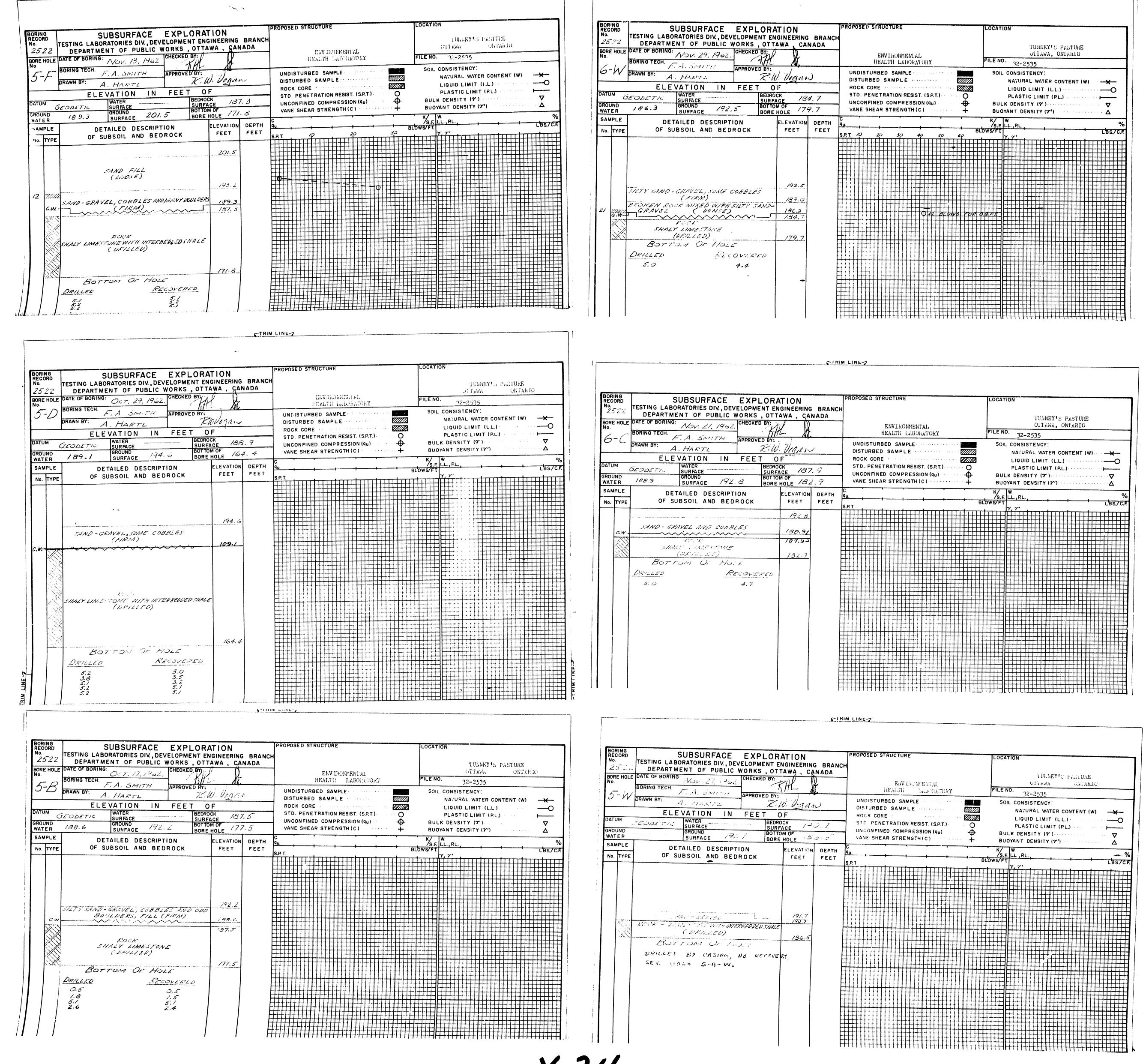
BORING REPORT	TESTING LABORATORI	SURFACE EXPLORATION	ING BRANCH	LEGEN			PROPOSED	STRUCTURE	LOCATION	
1°2437	DEPARTMENT	PUPLIC WORKS, OTTAWA, ON	NTARIO.		ING METHO DIA SPLIT TU	D BE 🔯	ADMI	N.BiDG	OTTAWA, (TUNNSY'S, FILE Nº 32-	ONT.
HOLE Nº	CHECKED KH	gala DATE OF BOR	ING	2" s	HELBY TUBE		(N.H	N.BLDG. AND W.)	TUNNEY'S	PASTURE
27	APPROVED NAT	NG 1 15-17 NOV	1. 1961	PENE	RATION RESI	STANCE - R		71.0 VV. J	FILE Nº 32-	2295
	W.E. H	BORING TECH	HFLOOR	2" [	IA. CONE		<u> </u>	CONSISTENCY	THEE IN WAR	24/5
		IN FEET OF		CASI CO STREI	NG RE SIZE				PRE ANDX	•
ATER SUR	FACE BOTTOM OF HO	1	OUND	4		RESSION (QU)	⊕	LIQUIDITY IN	NDEX (LI) X LI	-
	- 168.9	GROUND WATER RO	184.7	VANE	TEST (C) AND	SENSITIVITY(S)_	+S	PLASTIC LIMIT		
		1	184.7		STRENGTH	+ PENETRATIO	ON RESISTANCE	CONSIST	ENCY	
SAMPLE	DESCR	PTION OF SOIL	ELEV.	DEPTH FT.	C	1 1	KSF	0013131	T T	UNIT WT.
I° TYPE	SYMBOLS				QU		BLOWS/FT		1	LBS/C.F.
				<del> </del>			365W3/F1			
				}						190,0
	Some ca	IT & BALLETIN	134.7							1
	NOCK, SPE,	TÉ BROKEN (DRILLED)	182.8							1
										180.0
	4.07	^^^\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	176.8							1
	FOCK	(DRILLED)								1
		<u>-</u>	163.9							1
		IN OF HOLE								170.0
	DRILLED .	FT. RECOVERED F. O.S	7.							j
	0.8	0.6 1.1								
	2.3 5.1 2.2	2.8 5.1								160.0
	2.7	2.8 5.1 2.2 2.7								
	NOTE;	_ ,				<b>╼╂┼┼┼┼┼┼┼</b>				
	LOST RETUR	N WATER AT SLEV. 178.	9							
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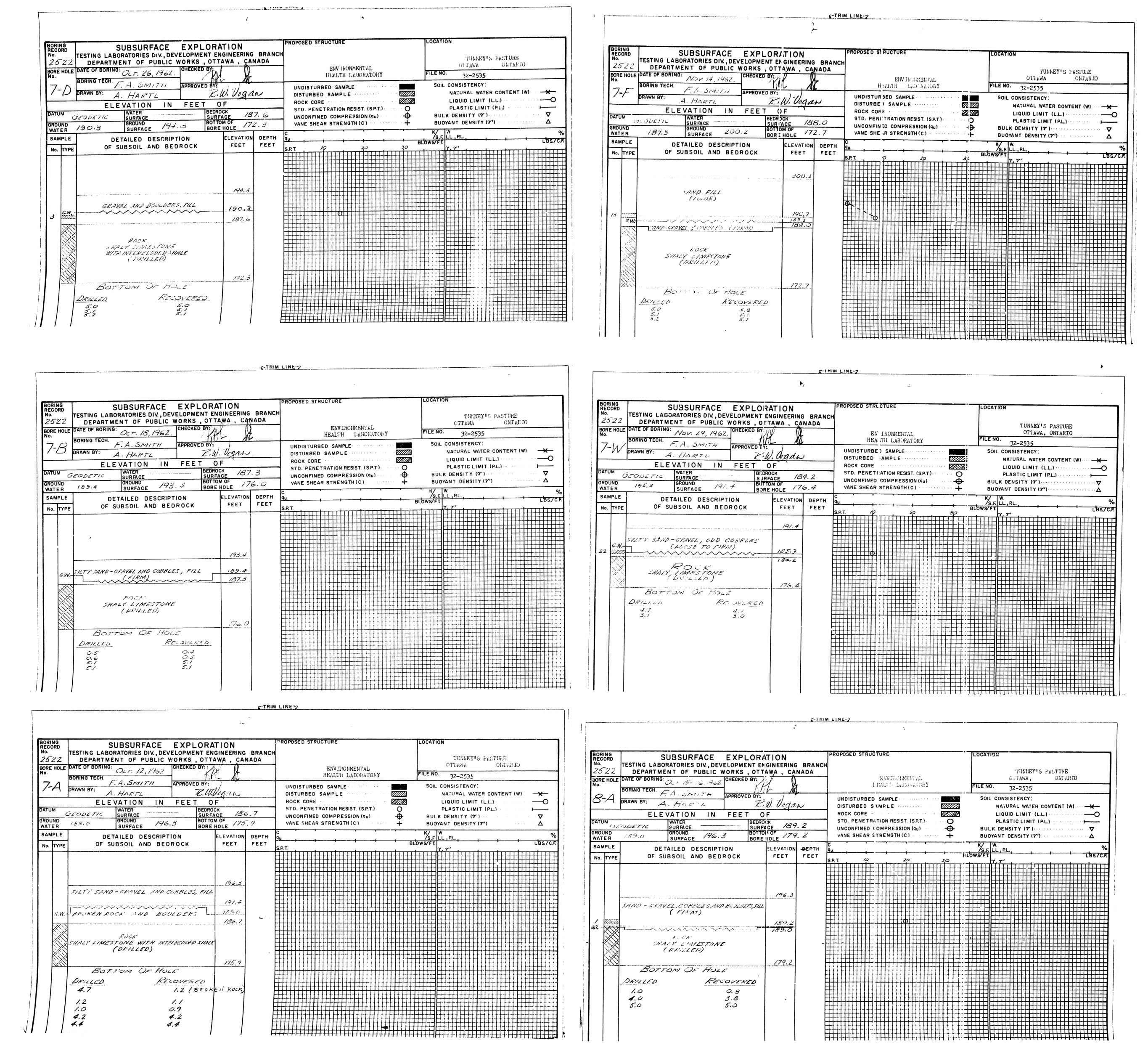
BORING REPORT	TESTING	LABORATORIES	SURFACE EXPLORATION OF THE PROPERTY OF THE PRO	EERING BRANCH	LEGENI SAMPLI	_	FTUAR					STRUCTU		LOC	CATION		
2437 HOLE Nº	DE	ARTMENT OF	PUPLIC WORKS, OTTAWA	, ONTARIO.	2" DI	A. SPLI	T TUB	E		AL	>MII	V. B	LDG.	C	TTA	AMA	1, ONT.
28	DRAWA	I. R. CLOUTH	TER 16817 A	OV., 1961	PENETE	RATION	RESIS.	TANCE -	R	(N.	H.,	4ND	W.)	FILE	JNNE	. Y S' / フ - ラ	1, ONT. PASTURE) 295
	_	w W. E. In	y Conff B. LEAF	CH. LOOR	2" DI	A. CONE	E	7.000				CONSIS		1,,,,,,	- 14 0 2		293
ATER SUF		TTOM OF HOL	IN FEET OF	GROUND	STREN	<u>STH</u>	COMPRE		WX	Ф		L.	AL MOISTUR	DEX (I	.:)x	LI	
		158.3		183.9 ROCK	VANE	TEST (C	) AND S	BENSITIVIT	Y(S)	+S		LIQUID	C LIMIT			<del></del> 0	
SAMPLE	<u> </u>	DESCRIP	779.2	/83.9 ELEV.	DEPTH	STREM	NGTH T	+ PENE	TRATION	RESISTA	ANCE		CONSISTE	ENCY			UNIT WT.
I° TYPE	SYMBOLS			FT.	1 1	QU	<del> </del>	+	++		KSF DWS/FT			· 	<del>'</del>	L	.BS/C.F.
																,	90.0
				163.9													
		G.W.7	~~~~~	/79.2												10	50.0
		ROO	CK (DRILLED)				++++	┇╁┼┼┼╏	<del>                                      </del>								70.0
																	70.0
							<del></del>	<del>┠</del> ╌┼╌┼╌╂╌╂╌╂	╂╂╂╂	1 1 1 1 1 1							
	2.3	BOTTO PRILLED (F	M OF HOLE	(FF)		, , , ,											0.0
		2.8 2.8	2.8 2.8			1111	<del>           </del>		<del>                                      </del>								
		5.0 5.1 5.0	5.0 5.1 5.0													150	0.0
		4.9 Vote:	<b>4.9</b> •		F					<del>                                     </del>							
	1.	AT ELEV.	M ENCOUNTERED 171.0 TEE AT ALL TUSS	1 1													
		WHILE DRIL	TER AT ALL TIMES		Ħ												
										<del></del>							
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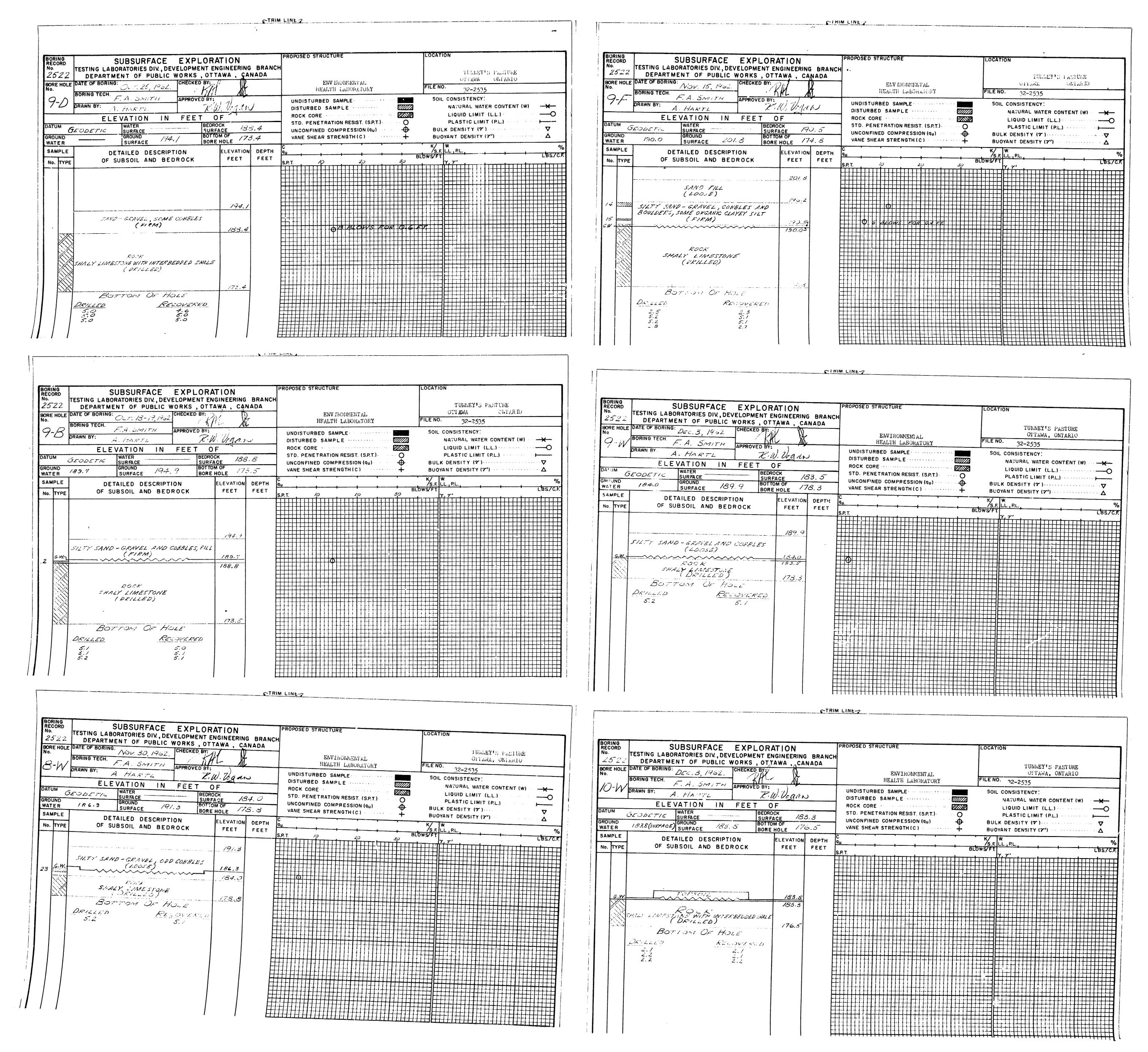
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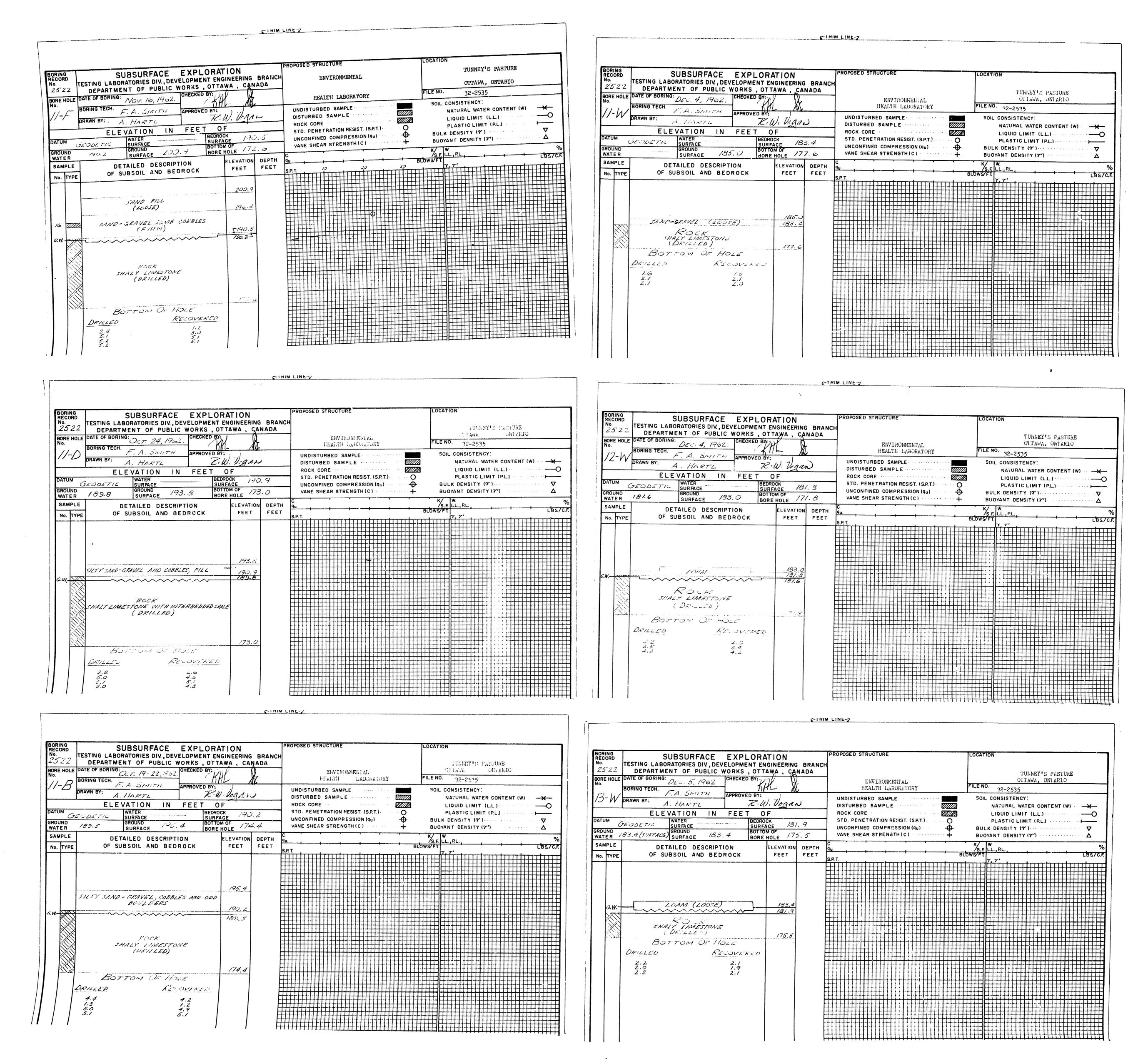


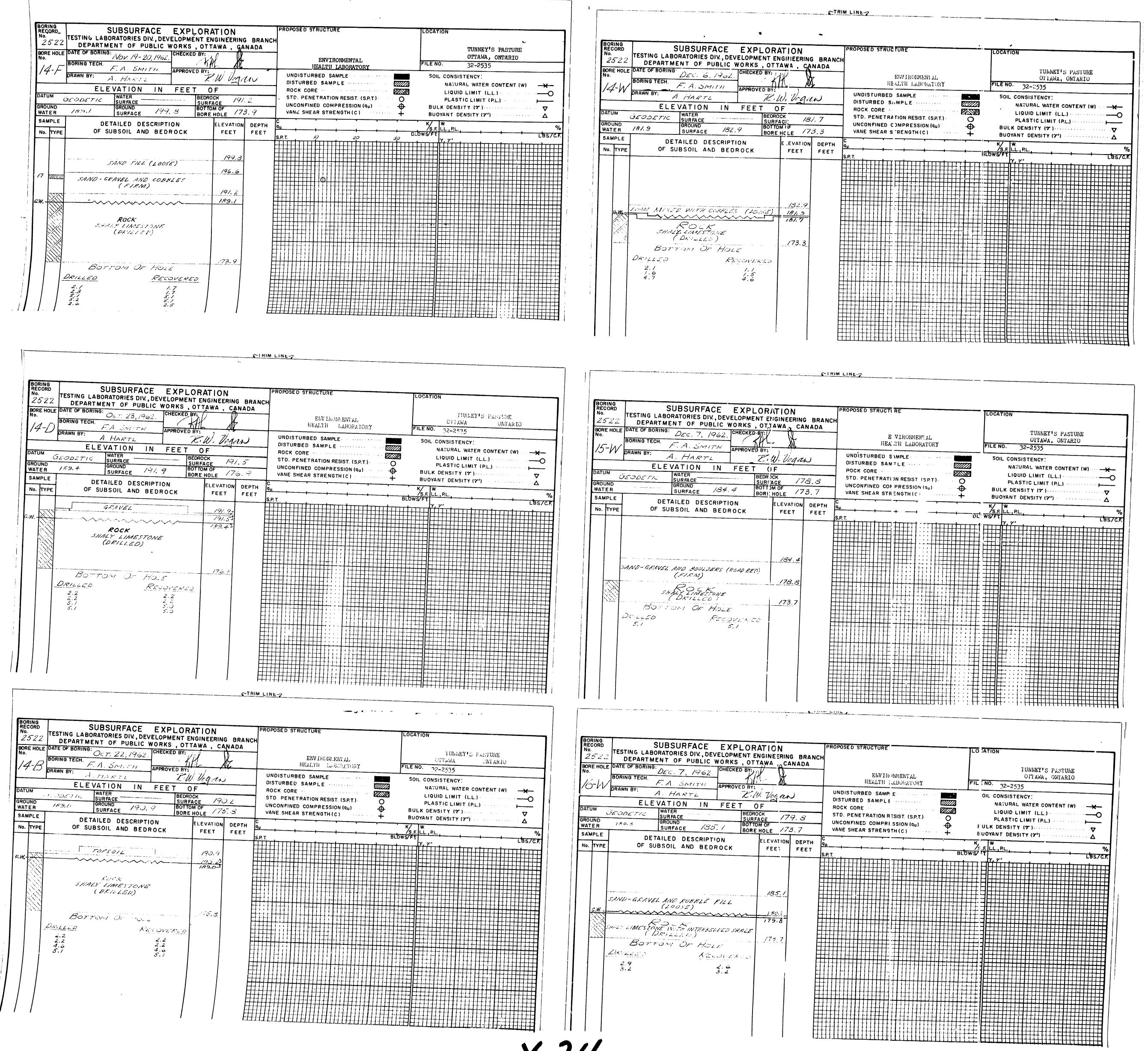












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BORING REPORT NO.	TESTING LA	- SUBSURFACE EXIABORATORIES, DEVELOPME	NT ENGINEERING	BRANCH	
2528	DATE OF BORING	IMENI OF PUBLIC WORK	S, OT TAWA, CANA	DA	D.V.A. RECORDS STORAGE TUNNEYS PASTURE
HOLE NO	BORING BY:	Nov. 6, 1962.	A A		FN.F.B. STILLS LAB. OFTAWA ONT.
/	/	H. B. RABB APPRO	VED BY:		32 - 2524
	DRAWN BY:	1. HARTL	R.W. bgan		SAMPLING METHOD UNCONFINED COMPRESSION (QU)
	E	LEVATION IN FE	T OF		2"DIA SPLIT TUBE VANE TEST (C) AND SENSITIVITY(S) + S
DATUM	FODETIC	WATER SURFACE	GROUND		PENETRATION RESISTANCE
GROUND V		ROCK	205.	O	CASING
SAMPLE	T	200.2	177.9	<u> </u>	CORE SIZE — AXT PLASTIC LIMIT — —
NO. TYP	SYMBOL	DESCRIPTION OF SO	DIL BOR		STRENGTH + PENETRATION RESISTANCE
10. 1177			FT.	DEPTH FT.	S L O W S P E R F O O T 10 20 30 40 50 60 70 60 90 100 110
					<del>                                      </del>
	1 11		205.0	ŀ	<del>                                      </del>
		SAND, GRAVEL & BO	OULDERS	Ė	<del>                                      </del>
		(DRILLED)	200.2	E	
		ROCK WITH SMALL SE (DRILLED)		E	
			194.9	E	
				E	
	<b>,</b>	ROCK		E	
		(DRILLED)			
		•		<u> -</u>	
			177.9		
	,	BOTTOM OF HOLE	777.7		
		ILLED - RECOVER	ED	H	
	i 1	3 5./		H	
	10	·/ 9.9 9. 6.9			
		TE:			
	No h	LE CAVED AT ELEV. Z VATER TO THAT DEPTH.	00.0		
		The state of the s			
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				F	┠ <u>╏╏╎╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫</u>
	<b> </b>				
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				F-1-	╌┦╌╟╌╏╌┦┍┦┍┦┍┦┍┦┍┪┍┪┍┪┪┪┪┪┪┪┪┪ <del>┩╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇</del>
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2528	I LOTING LA	BURATURIES, DEVEL	OPMENT (	FNGINEEDIN	C DDAMAU	PROPOSED STRUCTURE	• .	LOCATION		
	DEPAR DATE OF BORING	IMENI OF PUBLIC	WORKS, O	TTAWA, CAN	IADA			TUNI	NEYS PASTU	110
IOLE NO.	BORING BY:	Nov. 16, 1962	CHKD. BY:	Al a		D.V.A. RECOR.	OS STORAGE	1077	AWA ON:	7.
2	DRAWN BY:	B. RABB	APPROVED B	γ <sub>1</sub> γ <sub>5</sub>		FN.F.B. STIL	LS LAB.	FILE NO.	32-2524	
	1	. HARTL	7	Z.W. Vogan	) .	SAMPLING METHOD		STRENGTH		
	Ε	LEVATION IN	FEET			2" DIA. SPLIT TUBE — 2" DIA. SHELBY TUBE	<u> </u>	VANE TEST	D COMPRESSION (QU) - (C) AND SENSITIVITY(S)	)
ATUM	ODETIC	WATER SURFACE		ROUND		PENETRATION RESISTAN	E R	NATURAL M	<u>Y</u> Oisture ————	
ROUND WA	TER TER	ROCK	BO	204 OTTOM OF HOLE		2" DIA. SPLIT TUBE CASING	—	AND LIQUID	DITY INDEX (LI)	
SAMPLE		201.2		176.0		CORE SIZE	-AxT	PLASTIC LI	MIT	
	SYMBOL	DESCRIPTION OF	F SOIL	<b>-</b>	RING	STRENGTH	+ PENETR	ATION RE	ESISTANCE	Т
O. TYPE				ELEV, FT.	DEPTH FT.	10	BLOWS PE 40 50 60		90 100 110	: إ
	Roll   Roll	0 4 .2 10 .0 10.	MS (DRILL OLE COVERED . O . O	(176.0						

RECORD — SUBSURFACE EXPLORATION — SOIL TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCE		LOCATION	RECORD - SUBSURFACE EXPLORATION - SO	ILS PROPOSED S'RUCTURE	LOCATION
DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA  DATE OF BORING: ICHKD. BY: ()	D.V.A. RECORDS STORAGE	E OTTAWA ONT.	TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRADE DEPARTMENT OF PUBLIC WORKS, OT TAWA, CANADA		TUNNEYS PASTURE
BORING BY:  H.B. RAEB  APPROVED BY:  APPROVED BY:	FN.F.B. STILLS LAB.	FILE NO. 32 - 2524	HOLE NO. BORING BY:	D.V.A. RECORDS STORAGE	OTTAWA ONT.  FILE NO. 32 - 2524
DRAWN BY: A. HARTL R.W. Volas	SAMPLING METHOD 2" DIA. SPLIT TUBE	STRENGTH  UNCONFINED COMPRESSION (QU)	DRAWN BY: ANTHONY HARTLE RIW. JOSAN	SAMPLING WETHOD	STRENGTH
ELEVATION IN FEET OF TUM WATER SURFACE GROUND	2"DIA. SHELBY TUBE	VANE TEST (C) AND SENSITIVITY(S) — + S  CONSISTENCY  NATURAL MOISTURE —	ELEVATION IN FEET OF	2"DIA. SPIT TUBE	UNCONFINED COMPRESSION (QU) —— ⊕  VANE TEST (C) AND SENSITIVITY(S) — + S  CONSISTENCY
GEODETIC 205.3  DUND WATER ROCK BOTTOM OF HOLE	2" DIA. SPLIT TUBE - O	AND LIQUIDITY INDEX (LI) ————————————————————————————————————	DATUM  GEODETIC  WATER SURFACE  GROUND  GROUND WATER  ROCK  GROUND WATER  ROCK	PENETRAT DN RESISTANCE - R 2" DIA. SI'LIT TUBE - O O	AND LIQUIDITY INDEX (LI) XLI
200.8 203.7 178.3  AMPLE SYMPOL DESCRIPTION OF DOIS	STRENGTH + PENE	TRATION RESISTANCE	204.5 179.7	CASING	PLASTIC LIMIT
SYMBOL DESCRIPTION OF SOIL ELEV. DEPTH FT. FT.	·	SCALE	NO. TYPE SYMBOL DESCRIPTION OF SOIL ELEV. DE		SCALE SCALE
			BOULDERS, SAND (FILL):		

BORING REPORT NO.	TESTIN	RD — SUBSURFACE G LABORATORIES, DEVELO	OPMENT ENGIN	EERING BRANCH	THOPOSED S RUCTURE	LOCATION
2528	DATE OF B	PARTMENT OF PUBLIC	WORKS, OT TAN	A, CANADA		TUNNEYS PASTURE
HOLE NO.		Nov. 9, 1962	CHKD. BY	B	DV.A. RECORDS STORAGE	FILE NO. 20 0000
4	BORING BY	H.B. RABB	APPROVED BY	)	574.7.13. 371628 LAB.	32 - 2524
	DRAWN BY	ANTHONY HARTL	-72W	· Jogan	SAMPLING WETHOD	STRENGTH UNCONFINED COMPRESSION (QU)
·		ELEVATION IN	FEET OF		2" DIA. S'LIT TUBE	VANE TEST (C) AND SENSITIVITY(S) - + S CONSISTENCY
DATUM G	EODET	WATER SURFACE	GR DUND	209.0	PENETRAT DN RESISTANCE	NATURAL MOISTURE
ROUND WA	TER	ROCK 204.5	всттом	OF HOLE /79. 7	CASING	LIQUID LIMIT ———————————————————————————————————
SAMPLE				BORING	STRENGTH + PENEIR	<u>'</u>
NO. TYPE	SYMBOL	DESCRIPTION OF	F \$01L	ELEV. DEPTH FT. FT.	BLOWSPE	RFOOT
					<u> </u>	70 80 90 100 110
				209.0		
		BOULDERS, SAND	O (FILL)	_		
		ROCK WITH SMALL SEAL	MS (DR1:120)	204.5		
				201.0		
		ROCK	·			
		(DRILLED)				
		•				
		BOTTOM OF F	-4215	179.7		
			ECOVERED			
		2.0	1.4			<del>                                      </del>
			10.0	1		
		2.7	2.7			<del>                                      </del>
		NOTE:				
		HOLE CAVED AT E	EZEV. 205.3	1 [		
		NO WATER TO THAT	DEFTH.			
						╡╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫
					╼╂╼╊═╃═╃═╀╸╀╴╃╾╊═┩┈╉╴╉═╉┅┨┈╂╼╀╌┨╶┡═╊╌╃╼┩╼╂┈╂╌╏╼╁╴┟╾╃╌╂╴╏╸┟╶╏╴╺╍╏	
	<u>ll:</u>			b	<u>┲═┲╻┱═╂╌╏╸╏╌╏╼╊</u> <u>╏╾╏╌╂╌╂╼╂╌╏</u> ╌╏╌╂┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼	<u>┠╫╍╀╼┦╶╀╒╀╶╀</u> ╌┦╼┦╌╂╾╃╌┩╌╂╌┼┼┼╀╇┸ <del>╇</del> ╃╇╇╇

BORING REPORT NO.		- SUBSURFACE				
2528	DEPA	ABORATORIES, DEVEL RTMENT OF PUBLIC	WORKS, OTT	AWA, CANA	DRANCH Ada	D.V.A. RECORDS STORAGE   TUNIVEYS PASTURE
HOLE NO.	DATE OF BORIN	16: Nov. 20, 1962.	CHKD. BY:	0	****	FN.F.B. STILLS LAB. OTTAWA ONT
	BORING BY:		MA	<i>(</i> K		FILE NO. 32 - 25-24
5	DRAWN BY:	H.B. RABB	APPROVED BY:	)	***	STRENGTH
·	DIAMIT BY:	A. HARTL	K.O	V. Jagas	,	SAMPLING METHOD UNCONFINED COMPRESSION (QU)
		ELEVATION IN				2" DIA. SPLIT TUBE — WANE TEST (C) AND SENSITIVITY (S) — CONSISTENCY
ATUM		WATER SURFACE	● GROUN	ID		PENETRATION RESISTANCE R NATURAL MOISTURE
ROUND WA	FEODETIC			198.	7	2" DIA. SPLIT TUBE — $\Theta \Theta$ AND LIQUIDITY INDEX (LI) — LIQUID LIMIT — LIQUID L
MUUNU WA	197.3	ROCK 198.3	Вотто	)M OF HOLE /72./	,	CASING AX LIQUID LIMIT
SAMPLE					RING	STRENGTH + PENETRATION RESISTANCE
NO. TYPE	SYMBOL	DESCRIPTION O	F \$01L	ELEV.	DEPTH	BLOWS PER FOOT
				FT.	FT.	10 20 30 40 50 60 70 80 90 100 110
		SANDY LO	4M	198.7	/98.3	
	G.W~	<b>~</b>		197.3		
		ROCK,	WITH SEAMS			
		(DRILLED)	)			
					-	
		Botton Ot	//	172./	F	
		BOTTOM OF,				
		RILLED RI				
		5.6 2.9	0.9 4.4 2.7 7.1 9.0		E	
		7.6 2.9 7.6 9.0	7.1		E	
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BORING REPORT NO. 2528	DE	PARTM	SUBSURFACE PRATORIES, DEVELOR SENT OF PUBLIC W	MENT FN	GINEFPING		PROPOSED STRUCTURE LOCATION  TUNNEYS PASTO	1,62 E
HOI.E NO.	BORING BY		VOV. 19, 1962	HKD, BY:	B.		D.V.A. RECORDS STORAGE OTTAWA ON FILE NO. 32-2524	
0	DRAWN BY:  A. HARTL  A. HARTL  TO M. Voad (1)						SAMPLING METHOD UNCONFINED COMPRESSION (QU) -	
DATUM		ELE		FEET (	ÖF		2"DIA. SHELBY TUBE CONSISTENCY	) — ;+
GE	ODETIC	<u>-</u>	WATER SURFACE	GROU	203. C	)	PENETRATION RESISTANCE - R NATURAL MOISTURE -	<b>⊢</b> ×−
ROUND WA	TER 200	/	ROCK 199.1	вотт	OM OF HOLE	<del></del>	CASING AX LIQUID LIMIT	
SAMPLE		<u> </u>	/77-/		/73.9	······································	CORE SIZE	
NO. TYPE	SYMBOL		DESCRIPTION OF	SOIL	BORI ELEV.	N G DEPTH	STRENGTH + PENETRATION RESISTANCE	s
+					FT.	FT.	FLOWS PERFOOT 10 20 30 44 50 60 70 80 90 100 110	] "
	G.W	~~~	SAND, GRAVEL		203.0			H
			ROCK SLABS (DRIL	LED	199.1			Ħ
		Roc	K WITH A FEW SI	AA.1 5-1				
		,	(DRILLED)	MALL UEAT	75			
			,					
			<del></del>	-	188.1			
1 1								
			ROCK					]
			(DRILLED)			F		-
						Ē		
		E	BOTTOM OF HO	7/ F	/73.9			1
			ED REC			E		
		3.0		2.9		ŀ		
		3.4	ž	.4		F		]
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					ļ	<b>├</b> ┼┼	╀╤ <u>╒╎╶╏</u> ┆┆┇┆╌┆╌┆┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼	

10. 2528	TESTIN	G LABORATORIE Partment of	S, DEVELOPMI Public wor	ENT ENGIN	NEERING BRA Wa, canada	TUNNEYS PASTO	ر. چې
OLE NO.	DATE OF B	ORING:	Тснко	). BY: ()		D.K.A. RECORDS STORAGE OTTAWA ON	
	BORING BY	Nov. 14, H.B. RABA		KMD	B	FN.F.13. STILLS LAB. FILE NO. 32 - 2524	
DRAWN BY:  A. HARTL  A. HARTL  A. HARTL					Willes	SAMPLING METHOD UNCONFINED COMPRESSION (QU)	4
		ELEVATION	I IN FE			2" DIA. SPLIT TUBE VANE TEST (C) AND SENSITIVITY	-
ATUM WATER SURFACE GROUND						PENETRATION RESISTANCE R NATURAL MOISTURE	- <del>×</del> -€
عے ت ROUND WA	ODETIC TER	ROCK		ВОТТОМ	208.7 OF HOLE	2" DIA. SPLIT TUBE — $\Theta \Theta$ AND LIQUIDITY INDEX (LI) ——  CASING — $AX$ LIQUID LIMIT — —————————————————————————————————	
			202.4		181.3	CORE SIZE A.X.T. PLASTIC LIMIT	
SAMPLE	SYMBOL	DESCRIPT	ION OF S	SOIL	BORING ELEV. DEI	STRENGTH + PENETRATION RESISTANCE	SCA
O. TYPE					FT. F	10 20 30 40 50 60 70 80 90 100 110	
							#
					208.7		$\blacksquare$
		BOULDER.	s ESAND (D.	RILLED)			#
					202.4		#
		ROCK WITH	Y SMALL SL	EAMS			$\blacksquare$
		(DX	CLLED)		194.4		
							#
		ROCK	(DRILLED	ا ر			#
					181.3		
			1 OF HOL	•			
			RECOL	1			拑
		5.0 6./	4. 6.				H
		10.0	10.				
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TRUCTURE	LOCATION	BORING REPORT	RECO	RD - SUBSURFACE	EXPLORAT	ION - S	011 8	PROPOSED STRUCTURE	LOCATION
) —	TUNNEYS PASTURE	no. 2528	TESTIN	G LABORATORIES, DEVEL PARTMENT OF PUBLIC	OPMENT ENGI	SERING R	RANCH		TUNNEY'S PASTURE
ECORDS STORAGE 8. STILLS LAB.	OTTAWA ONT.  FILE NO. 32 - 2524	HOLE NO.	DATE OF B	ORING:	CHKD. BY	VA, CANADA	Α	D.V.A. RECORDS STOKAGE & N.F.B. STILLS LAB.	OTTAWA ONTARIO
	STRENGTH	i i	BORING BY	4 #59%	KAL	13	~··	G. N.P.D. STILLS DAB.	FILE NO. 32-2524
METHOD PLIT TUBE	UNCONFINED COMPRESSION (QU)		DRAWN BY	A. HARTL	APPROVED BY:	Jogan	)	SAMPLING METHOD	STRENGTH  UNCONFINED COMPRESSION (QU) +
ION RESISTANCE R	NATURAL MOISTURE		•	ELEVATION IN	FEET OF			2" DIA. SPLIT TUBE	VANE TEST (C) AND SENSITIVITY (S) + S CONSISTENCY
PLIT TUBE ⊕ ⊕	AND LIQUIDITY INDEX (LI) — XLI LIQUID LIMIT — O	DATUM G2	EODETIC	WATER SURFACE	GROUND	209.9		PENETRATION RESISTANCE - R 2" DIA. SPLIT TUBE - O O	NATURAL MOISTURE
2E — A.X.T.	PLASTIC LIMIT	GROUND WA	TER	ROCK 202.9	ВОТТОМ	OF HOLE /77. 9		CASING AX  CORE SIZE AX7	LIQUID LIMIT ———————————————————————————————————
STRENGTH + PENETR	RFOOT	SAMPLE	SYMBOL	DESCRIPTION O		BORIN	ı G	STRENGTH + PENET	
30 40 50 60	70 80 90 100 110	NO. TYPE		DESCRIPTION O	F \$01L	ELEV. FT.	DEPTH FT.	BLOWS P 10 20 30 40 50 60	
				BOULDERS É SAND	(Fu)	209.9			
				(DRILLED)	· · · · · · · /	202.9	ŀ		
				ROCK WITH SMALL SEAL	MS (DRILLED)		Ē		
						198.9	F		
							Ē		
				ROCK (DRILLED)			E		
				( DKIZZEO)			F		
				·			Ē		
						177.9			
				BOTTOM OF	ı		-		
					4.6				
					10.0				
							H		
				NOTE: HOLE CAVED AT EL	EV 206 6				
				NO WATER TO THAT	DEPTH.				
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									┞ <sup>╶</sup> ╊╌╬═┞╌╂╌╀╌╂╌╂╌┨╌┦╌ <del>╽╺┇╺╏</del> ╾┩╌┦╌┟╌╂╌╂╌╂ <del>╸</del> ┼┉╃╼╇╼ <b>┛</b>
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BORING REPORT NO.	TESTING	RD — SUBSURFACE LABORATORIES, DEVEL	OPMENT ENGI	NEERING B	RANCH	PROPOSED STRUCTURE LOCATION
2528	DE	PARTMENT OF PUBLIC	WORKS, OT TA	WA, CANAD	A	D.V.A. RECORDS STORAGE TUNNEY'S PASTURE
HOLE NO.	DATE OF BO	Nov. 21, 1962	CHKD. BY:	0		& N.F.B. STILLS LAB. OTTAWA ONTARIO
9	BORING BY:	H.B. RABB	APPROVED BY:	75		FILE NO. 32-2524
/	DRAWN BY: A. HARTL K.W. VORAN				STRENGTH  SAMPLING METHOD UNCONFINED COMPRESSION (QU)	
		ELEVATION IN				2"DIA. SPLIT TUBE VANE TEST (C) AND SENSITIVITY (S) + S
ATUM		WATER SURFACE	GROUND			2"DIA. SHELBY TUBE R CONSISTENCY PENETRATION RESISTANCE R NATURAL MOISTURE
GA ROUND WA	ODETIC			201.0		2" DIA. SPLIT TUBE O AND LIQUIDITY INDEX (LI) XLI
HOURD WA		госк 198.7	BOTTON	173.6		CASING ————————————————————————————————————
SAMPLE	SYMBOL	DECORUTION		BORIN	I G	STRENGTH + PENETRATION RESISTANCE
NO. TYPE	SIMBUL	DESCRIPTION O	F SOIL	ELEV. FT.	DEPTH FT.	BLOWS PERFOOT SCAL
					71.	10 20 30 40 50 60 70 80 90 100 110
		SAND & ROCKSLABS (	DRULEDY	201.0	Ė	
		h		/78.7	Ė	
					Ė	
		ROCK		1	E	
		(DRILLED)	)		E	
					Ė	
1 1		BOTTOM OF H	/	/73.6		
		DRILLED K			E	
		4.7	4.7			
		4.7 2.5	4.0 1.7		-	
		6.2 3.8 3.2	6.2 3.7 3.2			
		3.2	3.2			
		NOTE:				
		SEAMS ENCOUNTER			H	
		EZ.EV. 193.5, 190.6, 1 187.9	188.8 Ario		H	
		YOLE CAVED AT EL VO WATER TO THAT	EV. 199.0			
		CONTEN 10 MAIN	122 1111		H	
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2-2524 HOLE NO.	DEPARTMENT OF PUBL DATE OF BORING: Nov. 26, 196.	ICHKD, BY: A		& N.F.B. STILLS LAB.	TUNNEY'S PASTURE OTT:WA ONTARIO FILE NO.
	BORING BY: H.B. RABB	APPROVED BY:	<u>B</u>		32-2524
ED COMPRESSION (QU) ———   (C) AND SENSITIVITY(S) — + S	DRAWN BY: A. HARTL	7.1	J. Vogan)	SAMPLING METHOD	STRENGTH  UNCONFINED COMPRESSION (QU)
OISTURE	ELE VATION I	N FEET OF		2"DIA. SPLIT TUBE	VANE FEST (C) AND SENSITIVITY (S) -+ S CONSISTENCY
ITY INDEX (LI) XLI DATUM	WATER SURFACE	GROUND		PENETRATION RESISTANCE R	NATURAL MOISTURE
	ER ROCK	ВОТТОМ	202.2	2" DIA. SFLIT TUBE — $\bigcirc$ — $\bigcirc$ — $\bigcirc$ CASING — $\bigcirc$	i-IQUII) LIMIT - XL
SISTANCE	199.	4	172.4	CORE SIZE ————————————————————————————————————	PLASTIC LIMIT
SCALE SAMPLE	SYMBOL DESCRIPTION	OF SOIL	BORING	STRENGTH + PENET	
90 100 110 NO. TYPE			FT. FT.	BLOWS P 10 20 30 40 50 60	70 80 90 100 110
	ROCK WITH SAME  ROCK WITH  (DRILLED  1.8  4.8  6.6  4.0  6.1  3.7  NOTE:  LOST SOME RE WHILE DRILLING  HOLE CAVED AT  NO WATER TO TO	SEAMS  SEAMS  SEAMS  DF HOLE  RECOVERED  1.6  4.7  4.3  3.9  5.9  3.7  TURN WATER  ELEV. 199.3	202.2 2007		

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BORING RECORD - SUBSURFACE EXPLORATION - SOILS	PROPOSED STRUCTURE	LOCATION	BORING IDEAC DO COMPANY		
NO. TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH	•	THE MEVIC DECEMBED	RECORD - SUBSURFACE EXPLORATION - SOILS  NO. TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH	PROPOSED STRUCTURE	LOCATION
2528 DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA DATE OF BORING: CHKD. BY: 0	& N.F.B. STILLS LAB.	TUNNEY'S PASTURE OTTAWA ONTARIO	2528 DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA	D.V.A. RECORDS STORAGE	TUNNEY'S PASTURE
HOLE NO. NOV. 23, 1962.	o was eet brillian bab.	FILE NO. 32-2524	HOLE NO. DATE OF BORING:  NOV. 22, 1962.  CHKD. BY:	& N.F.B. STILLS LAB.	CITAWA ONTARIO
H. B. RABB APPROVED BY:		STRENGTH	BORING BY:		FILE NO. 32-2524
A. HARTL R. W. WAAN	SAMPLING METHOD 2"DIA. SPLIT TUBE	UNCONFINED COMPRESSION (QU) + S	DRAWN BY:  A. HARTL  A. HARTL  A. HARTL	SAMPLING METHOD	STRENGTH  UNCONFINED COMPRESSION (QU) ——
ELEVATION IN FEET OF	2" DIA. SHELBY TUBE	CONSISTENCY	ELEVATION IN FEET OF	2" DIA. SPLIT TUBE	VANE TEST (C) AND SENSITIVITY(S) + S
DATUM WATER SURFACE GROUND 203.5	PENETRATION RESISTANCE R 2" DIA. SPLIT TUBE	NATURAL MOISTURE	DATUM WATER SURFACE GROUND	PENETRATION RESISTANCE R	CONSISTENCY NATURAL MOISTURE
GROUND WATER ROCK BOTTOM OF HOLE 197.6 201.5 176.5	CASING ————————————————————————————————————	PLASTIC LIMIT	GEODETIC 206.8  GROUND WATER ROCK BOTTOM OF HOLE	2" DIA. SPLIT TUBE $\Theta$ $\Theta$ CASING	AND LIQUIDITY INDEX (LI) ————————————————————————————————————
SAMPLE	STRENGTH + PENETS	RATION RESISTANCE	202.6 175.9	CORE SIZE AX.T.	PLASTIC LIMIT
NO. TYPE SYMBOL DESCRIPTION OF SOIL ELEV. DEPTH FT. FT.	B L O W S P E	COALE	SAMPLE SYMBOL DESCRIPTION OF SOIL BORING ELEV. DEPTH	STRENGTH + PENET	
SANDY LOAM 203.5 202.9			NO. TYPE ELEV. DEPTH FT. FT.	BLOWS P 10 20 30 40 50 60	70 80 90 100 110
ROCK SLABS WITH SAND LAYERS 201.5					<del>┆┍┇┇╒┊┊┍╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒╒</del>
G.W		<del>+++++++++++++++++++++++++++++++++++++</del>			
			SAND, ROCK SLABS & BRICK (FILL) (DRILLED) 202.6		
ROCK WITH SEAMS			(FILL) (DRILLED) 202.6	<del>╼╃╃╃╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇</del>	
(DRILLED)					<del>                                      </del>
		<del>                                      </del>	POCK MITH STANK		
		<del>                                      </del>	ROCK, WITH SEAMS (DRILLED)		
176.5					
BOTTOM OF HOLE					
DRILLED RECOVERED					<del>┍╅┍╇╍┧╘┲╈╍┢┸╂┧╂╂╂╂╂╂╂╂╂╂</del> <del>┍╅╃╃╃╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇</del> <del>┍╅╃╃╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇</del>
3.2 2.4 4.7					
3.8			175.9		
3.1 1.8 5.0 4.5			BOTTOM OF HOLE		
5./			DRILLED RECOVERED 2.3 1.6		
Note:			5./		
LOST SOME RETURN WATER			7.8 6.8		
WHILE DRILLING ROCK.			6.5		<del>╃┼┇┍┤┸┊┩╂┼┼╀╃╎╎┦┩┩╅┿┼╃╃╂╇╇</del> ╃╫╃╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫
			5.0 4.8		<del>**                                   </del>
			NOTE:		
			HOLE CAVED AT ELEV. 204.7 NO WATER TO THAT DEPTH.		
					<del>                                      </del>
	<del>┩╸┩╸┩╸┩╸┩╸┩╸┩╸┩╸┩╸┩╸┩╸┩╸┩╸┩╸┩╸┩╸┩╸┩╸</del> ╅═╫╫╫╫				
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				<del>┸╏┇╏╏┇┇┇┇┇┇┇</del> <del>┇┇┇┇┇┇┇┇┇┇</del>	<u>-                                      </u>
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no. 2528	DEPA	ABORATORIES, DEVELO	WORKS, OTTA	WA, CANA	DA BRANCH	D.V.R. RECORDS			TUNNEY'S PASTURE	
HOLE NO.	DATE OF BORI	NG: Nov. 22, 1962.	CHKD. BY:	₩.		% N.F.B. STILLS	LAB.	CITAVIA FILE NO.	ONTA	RIO
12		H.B.RABB	) 7/			STRENGTH	32-2524			
	DRAWN BY:	A. HARTL	Zill).	Jogar	SAMPLING METHOD 2" DIA. SPLIT TUBE		UNCONFIN	NED COMPRESSION (QU) — BT (C) AND SENSITIVITY(S)		
DATUM		ELEVATION IN	FEET OF			2" DIA. SHELBY TUBE — PENETRATION RESISTANCE		CONSISTEN	ICY	•
G	EODETIC		206.	3	2" DIA. SPLIT TUBE	· O O	AND LIQU	MOISTURE	` <u>,</u>	
GROUND WA	TER	ROCK 202.6		M OF HOLE /75. 9	?	CASING			MIT	
SAMPLE	SYMBOL	DESCRIPTION O	F SOIL		RING	STRENGTH	+ PENETR	ATION	RESISTANCE	T
NO. TYPE		2230 1.01	3012	ELEV. FT.	DEPTH FT.	10 20 30 4	BLOWS PE 0 50 60	70 80	90 100 110	s
				206.8						
		SAND, ROCK SLA (FILL) (DRI	BS & BRICK							
		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		202.6						
		ROCK, WITH								
		(DRILLED	)							
				175.9						
		BOTTOM OF								
	2	2.3	1.6							
		5./	5.0		·					-
		7.8 6.5	6.8 6.2						<del></del>	-
		5.0	4.8							
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	1 7	YOLE CAVED AT ELL								
		6 WATER TO THAT	DEPTH.						<del>┇</del> ┩╗┩┩	
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2528 HOLE NO.	/Vov. 7, 1962.	MENT ENGINE	ERING BRANCH , CANADA	D.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.	TUNNEY'S PASTURE OTTAWA ONTAR
70 [	DRAWN BY: A. HARTL	ROVED BY:		SAMPLING METHOD . 2" DIA. SPLIT TUBE	STRENGTH  UNCONFINED COMPRESSION (QU)  VANE TEST (C) AND SENSITIVITY (C)
ATUM GET	WATER SURFACE	GROUND BOTTOM OF	202.4	_ 11 .	VANE TEST (C) AND SENSITIVITY (S) —  CONSISTENCY  NATURAL MOISTURE — — — — — — — — — — — — — — — — — — —
SAMPLE NO. TYPE	198.4	SOII /	73, 4 BORING ELEV. DEPTH	STRENGTH + PENETR	ATION RESISTANCE
	SAND, GRAVEL & B.  (DRILLED)  ROCK WITH SMALL (DRILLED)  ROCK (DRILLED)  ROCK (DRILLED)  BOTTOM OF HO DRILLED RECOV  5.5 S 10.1 10. 9.4 9.  MOTE: HOLE CAVED AT ELEV. NO WATER TO THAT DE	SOULDERS  SEAMS  OLE  MERED  1,1  1,4	FT. FT.  202.4  198.4  192.9		70 80 90 100 110

528 TESTING	D — SUBSURFACE E LABORATORIES, DEVELOPM ARTMENT OF PUBLIC WO	MENT ENGINEERING BRAIRKS, OTTAWA, CANADA	CH D.V.A. RECORDS STORAGE TUNNEY'S PASTURE	
LE NO.	Ng: Nov. 28, 1962.	O. BY:	& N.F.B. STILLS LAB. OTTAWA	ONTARIO
BORING BY:	H. B. RABB APP	ROVED BY:	32-2524 STRENGTH	
	A. HARTL	R.W. Vegan	SAMPLING METHOD UNCONFINED COMPRESSION (Q	
M	ELEVATION IN F		2" DIA. SHELBY TUBE CONSISTENCY	•
GEODETIC		GROUND	PENETRATION RESISTANCE — R NATURAL MOISTURE — AND LIQUIDITY INDEX (LI) —	
IND WATER 195. 3	ROCK 200.8	BOTTOM OF HOLE /76,/	CASING — AX LIQUID LIMIT — PLASTIC PLASTIC PLA	
MPLE	DESCRIPTION OF	SOIL BORING	STRENGTH + PENETRATION RESISTANCE	
TYPE	5250mm 110m 01	ELEV. DEF FT. F		s
	SAND, GRAVEL	202.8		
		200.3		
G.W.	···	195.5		
	ROCK WITH SE	AMS		
	(DRILLED)			
	BOTTOM OF HO			
	DRILLED RECO			
	5.0 4. 6.6 5.	7		
	2.5 /.4 /.6	<i>4</i>		
	5.1	9		
	4./	/		
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EPORT 10.	TESTING	RD — SUBSURF Blaboratories, d Partment of Pue	EVELOPMENT ENG	INEERING	BRANCH	PROPOSED STRUCTURE  D.V.A. RECORDS STORAGE  LOCATION  TUNNEY'S PASTURE
OLE NO.	DATE OF BO	PRING: Nov. 27, 196	CHKD. BY:	My CANA	- UM	# N.F.B. STILLS LAB. OTTAWA ONTARIO
5	DRAWN BY:  A: HARTL  A: HARTL  R.W. Vogan			<del>-                                    </del>	en	SAMPLING METHOD UNCONFINED COMPRESSION (QU) ———
		ELEVATION	IN FEET O			2"DTA. SHELBY TUBE CONSISTENCY
TUM G2	EODETI	WATER SURFACE	GROUN	205.	<i>.</i>	PENETRATION RESISTANCE R NATURAL MOISTURE
AW DNUC	ATER	ROCK	01. 8 BOTTO	M OF HOLE /75. 3	5	CASING ————————————————————————————————————
AMPLE	SYMBOL	DESCRIPTION	05 6011	ВОР	RING	STRENGTH + PENETRATION RESISTANCE
D. TYPE		DESCRIPTION	OF SOIL	ELEV. FT.	DEPTH FT.	BLOWS PERFOOT 10 20 30 40 50 60 70 80 90 100 110
		5.0 7.7 3.4 4.3 5.9 <u>MOTE:</u> LOST RETURN ELEV. 193.4 WA AT ELEV. 183.8 AGAIN AT ELEV. HOLE CANTO AT	OF HOLE  RECOVERED  4.7  6.6  2.7  4.1  5.5  WATER AT  TER RETURNED  LOST WATER  181.8	205.8 203.0 201.8		
		NO WATER 75 7	MAT WEFFH.	,		

BORING REPORT NO.	RECO	RD -	SUBSUR	FACE E	XPLORAT	ION -	SOILS	Pi	OPOSED STRUCTURE		LOCATION		
2528	DE	PARTM	ENT OF PL	DEVELOP	WENT ENGIN	NEERING Na. cana	BRANCH		D.V.A. RECORDS STO			TUMNEY'S PASTURE	
HOLE NO.	DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA  DATE OF BORING:  Nov. 8, 1962				-	& N.F.B. STILLS LA	ā.	OTTAWA ONTARIO					
	BORING BY	•		162	SHL.	B			•		FILE NO.	32-2524	
16	DRAWN BY	H. [	B. RABB	AF	PROVED BY:		-	+		•	STRENGTH	72-2324	
		A.	HARTL		TC.W.	logars			SAMPLING METHOD		UNCONFINI	ED COMPRESSION (QU) -	— ⊕
		ELE	VATION	IN I	FEET OF	,			2" DIA. SPLIT TUBE		VANE TEST	「(C)AND SENSITIVITY(S)-	+ s
ATUM	EODET	,	WATER SURFA	ACE	GROUND	201			PENETRATION RESISTANCE	· R	NATURAL N	OISTURE	-×-
ROUND WA			ROCK		BOTTOM	206	. 0.	ł	CASING ————	AX	AND LIQUI	DITY INDEX (LI)	- XL1
		T	2	02.7		/77.	7		CORE SIZE -	: <u>4×7.</u>	PLASTIC L	IMIT	
SAMPLE	SYMBOL	1	DESCRIPTIO	N OF	SOIL	BOR			STRENGTH +	PENETR	ATION R	ESISTANCE	
NO. TYPE						ELEV. FT.	DEPTH FT.	L.	10 20 30 40	. O W S P E	R F O O T	90 100 110	SCA
							•	#:					
						206.0	<u></u>				<del>                                      </del>		1
		SAND,	GRAVEL & E	BOULDERS	(DRILLED)	202.7		#		3 + + + + + + + + + + + + + + + + + + +			1
	X	ROCK	WITH SMAL	L SEAMS	(DRILLED)		Ė	井					
					( DAILLED)	199.7	· [-	#					
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	X	B	OTTOM	OF 40	24.6	/77.7.		开.					
		DRILL	ED	RECO	DVERED			田					
		5.0		410	1.8							<del></del>	
1 1		10.0		10	.0		H						
				,0			H						
1 1		NOTE											
1 1		HOLE No W	ATER TO	AT ELEV	. 202.6								
		VO VV	4/6/2 /0	111117 10	EPTH.			#:					
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BORING RECORD — SUBSURFACE EXPLORATION — TESTING LABORATORIES, DEVELOPMENT ENGINEERIN DEPARTMENT OF PUBLIC WORKS, OTTAWA, CAI  HOLE NO.  BORING BY: HOLE NO.  BORING BY: HOLE RECORD — SUBSURFACE EXPLORATION — TESTING LABORATORIES, DEVELOPMENT ENGINEERIN DEC 6-7, 1962 HOLE NO.  BORING BY: HOLE NO.	D.V. a RECORDS STORAGE	TURNEY!O PASTURE OFFAMA ONTARIO FILE NO: 32-2524	BORING RECORD — SUBSURFACE EXPLORATION — SOILS PROPOSED STRUCTURE TESTING LABORATORIES, DEVELOPMENT ENGINEERING BRANCH DEPARTMENT OF PUBLIC WORKS, OTTAWA, CANADA  HOLE NO. DATE OF BORING: CHKO. BY: 1/7	LOCATION TUNNEY'S PASTURE
I TO STABOLI DESCRIPTION OF SOIL	SAMPLING METHOD  2" DIA. SPLIT TUBE	UNCONFINED COMPRESSION (QU) —  VANE TEST (C) AND SENSITIVITY(S) — + S CONSISTENCY  NATURAL MOISTURE —  AND LIQUIDITY INDEX (I.I) — XLI LIQUID LIMIT —  PLASTIC LIMIT —  TION RESISTANCE	BORING BY:    BORING BY:   A. B. STILLS LAB.	STRENGTH  UNCONFINED COMPRESSION (QU) —  VANE TEST (C) AND SENSITIVITY(S) — + S  CONSISTENCY  NATURAL MOISTURE — — XLI LIQUID LIMIT — — XLI
BOTTOM OF HOLE  BOTTOM OF HOLE  BOTTOM OF HOLE  DRILLED  M.  BOTTOM OF HOL	DEPTH FT. 10 20 30 40 50 60 7	REFOOT 70 80 90 100 110	SAMPLE SYMBOL DESCRIPTION OF SOIL  BORING STRENGTH + PENETE BLOWS PE	PLASTIC LIMIT  RATION RESISTANCE  ER FOOT  70 80 90 100 110

DE SON STATE OF THE PROPERTY O	ORING REPORT NO.	LI FOLING FA	PURATURIES, DEVELOPMEN	LORATION - SOILS	PROPOSED STRUCTURE	LOCATION
DINNER BY A THOUGH THE PROPERTY OF SOLD STREET OF SOLD SHITT THE STREET	2528	DEPART	MENT OF PUBLIC WORK	S, OT TAWA, CANADA		
SOLUTION OF SOLL  SAME MAN AND AND AND AND AND AND AND AND AND A	IOLE NO.			I W	D.V. t. DEGOVERS of the	
### FLEVATION IN FEET OF 2015 STORM 2015 STO	10	BURING BY:	1 /	• • • • • • • • • • • • • • • • • • • •	& N.F.B. STILLS LAB.	FILE NO
TOWN GROOTTIVE WATER SUPERIOR OF SOIL SOTTON OF SOIL SOUND STRENGT WEEK STRENGT WEEK SOND STRENGT WEEK	10	INKAMN BA:				STRENGTH
100.0					2"DIA. SPLIT TUBE	UNCONFINED COMPRESSION (QU)
CONSTRUCTION OF SOIL  STRENGT FOR THE OF SOIL	ATUM				2 DIA. SHELBY TUBE	CONSISTENCY
Mark   Strength   Pentration				205.8	2" DIA. SPLIT TUBE - O O	AND LIQUIDITY INDEX (LI) X
DESCRIPTION OF SOIL					CORE SIZE — AXT	LIQUID LIMIT
## 10 to 10 0 0 0 0 0 10 10 10 10 10 10 10 10 10	SAMPLE	SYMBOL	DESCRIPTION OF SO	BORING		
SAMOY LOAM DOLLED PROT.  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)  SOCIAL MATH SEAMS (DOLLED)	O. TYPE		SESSIM FIGHT OF SU	ELEV.   DEPTH	BLOWSPE	R FOOT SC
		Dell.	BOTTONI OF HOLL	205.8 203.1 202.3 211(Eb) 196.7		70
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	1			1 I FFF	┞ <del>┩╏┩┩┩┩╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇</del>	<u> </u>

2528	DATE OF BOR	D - SUBSURFACE LABORATORIES, DEVEL ARTMENT OF PUBLIC ING:	OPMENT ENGI	NEFRING BRANCI	PROPOSED STRUCTURE	LOCATION  TUNNEY'S FASTURE
HOLE NO.	BORING BY:	DEC. 10, 1962.	120	B	L.V.A. RECORDS STORAGE & N.F.B. STILLS LAB.	FILE NO. 32-2524
	DRAWN BY:	A. HARTL	T.W	1. Vegans	SAMPLING METHOD  2"DIA. SPLIT TUBE	STRENGTH  UNCONFINED COMPRESSION (QU)
DATUM		ELEVATION IN	FEET OF	<del></del>	2"DIA. SHELBY TUBE PENETRATION RESISTANCE R	VANE TEST (C) AND SENSITIVITY (S) — + S CONSISTENCY NATURAL MOISTURE —
GROUND WA	TEQUETTO ATER	ROCK		208.1 M OF HOLE 181.2	2" DIA. SPLIT TUBE — $\bigcirc$ — $\bigcirc$ CASING — $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$	AND LIQUIDITY INDEX (LI) - XLI LIQUID LIMIT
SAMPLE	SYMBOL	DESCRIPTION OF		BORING	STRENGTH + PENET	FRATION RESISTANCE
NO. TYPE			JUIL	ELEV. DEPTH FT. FT.	B L. O W S P 10 20 30 40 50 60	ER FOOT SCAL
	- A	SANDY LOAD  SANDY LOAD  SANDY LOAD  ROCK SLABS (  ROCK WITH SEAT  ROCK (  DRILLED)  BOTTOM OF THE  A.O.  10.3  10.1  COTE:  DST MOST OF THE KATER WHILE DRILLING	OLE COVERED 10.0 10.1	208.1		

BORING BY:    CORNING BY:   CORNING BY:   CONTINUE   CO	
TURNET'S TASTRIBE OTRANO CREATED  70-25/2h  FINED COMPRESSION (QU)  PEST (C) AND SENSITIVITY(S) — S  ENCY  AL MOISTURE  DATUM SENSITIVITY(S)  AND SENSITIVITY(S)  AND SENSOR SENSOR SE	
BORNG SY:  MEDICOMPRESSION (QU)  DRAWN BY:  APPROVED BY:  BORNG SY:  H.B. RABS  APPROVED BY:  CST.C. D. CTLLS LAN.  STERNETH  VALUE TILLS LAN.  STERNETH  VALUE TILLS LAN.  STERNETH  VALUE TO A SPECIAL STORAGE  STERNETH  VALUE TO A SPECIAL STORAGE  STERNETH  VALUE TO A SPECIAL STORAGE  STERNETH  VALUE TO A SPECIAL STORAGE  STERNETH  VALUE TO A SPECIAL STORAGE  STERNETH  VALUE TO A SPECIAL STORAGE  VALUE TO A SPECIAL STORAGE  STERNETH  VALUE TO A SPECIAL STORAGE  VALUE TO A SPECIAL STORAGE  STERNETH  VALUE TO A SPECIAL STORAGE  VA	URE TARLO
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BORING REPORT	RECO	RD -	SUBSURFACE EXPL	ORATIO	ON - S	OILS	PROPOSED STRUCTURE	LOCATION
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GROUND W	VATER		ROCK 201. 6	BOTTOM O	F HOLE		CASING ————————————————————————————————————	LIQUID LIMIT
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2528	TESTING LAS	BORATORIES, DEVELOPME MENT OF PUBLIC WORK	NT ENGIN	EERING BRANCH	D.V.A. RECORDS STORAGE . TUNNEY'S PASTURE
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. Hillian G	EODETIC			200.5	2" DIA. SPLIT TUBE AND LIQUIDITY INDEX (LI) - XI
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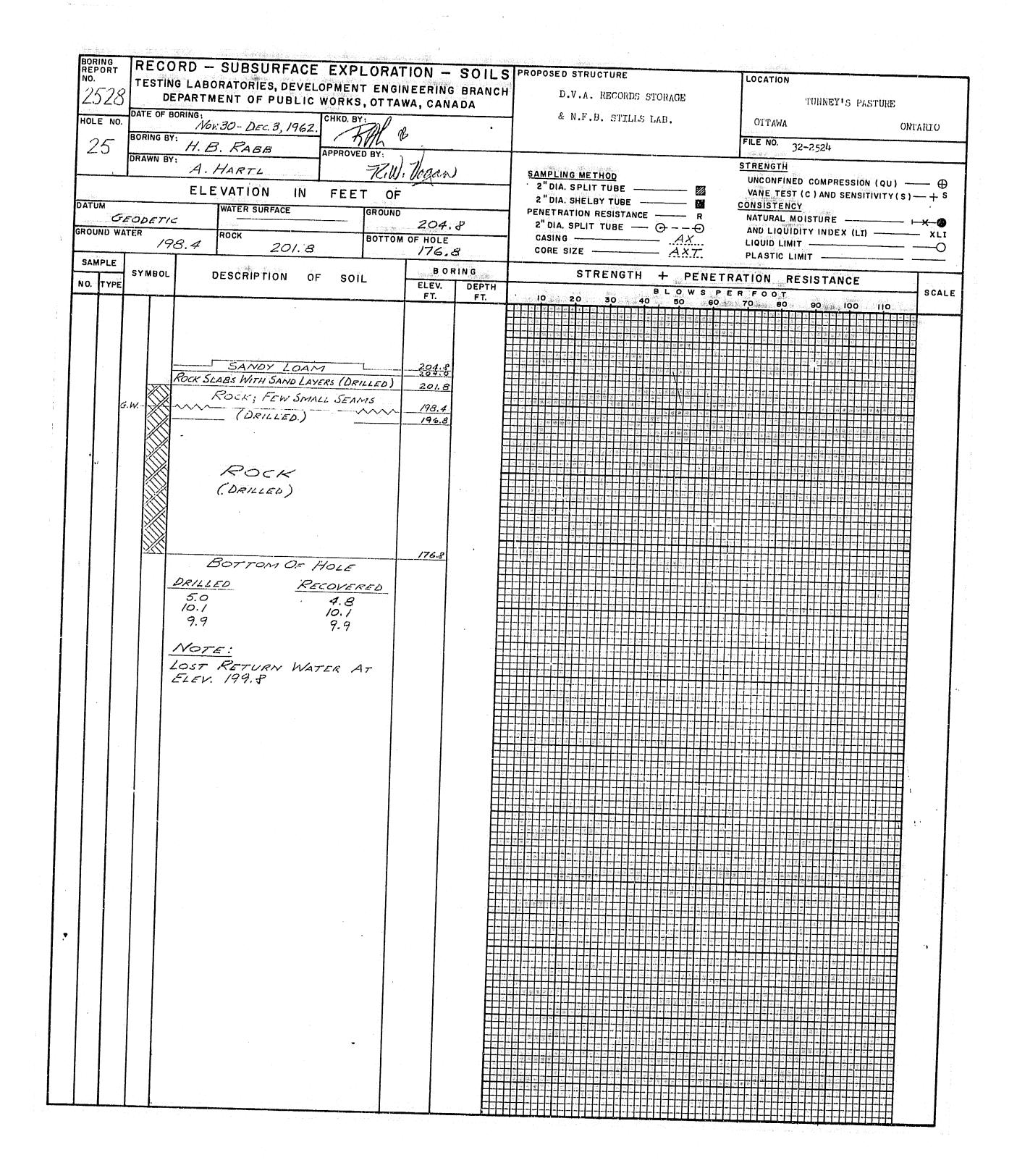
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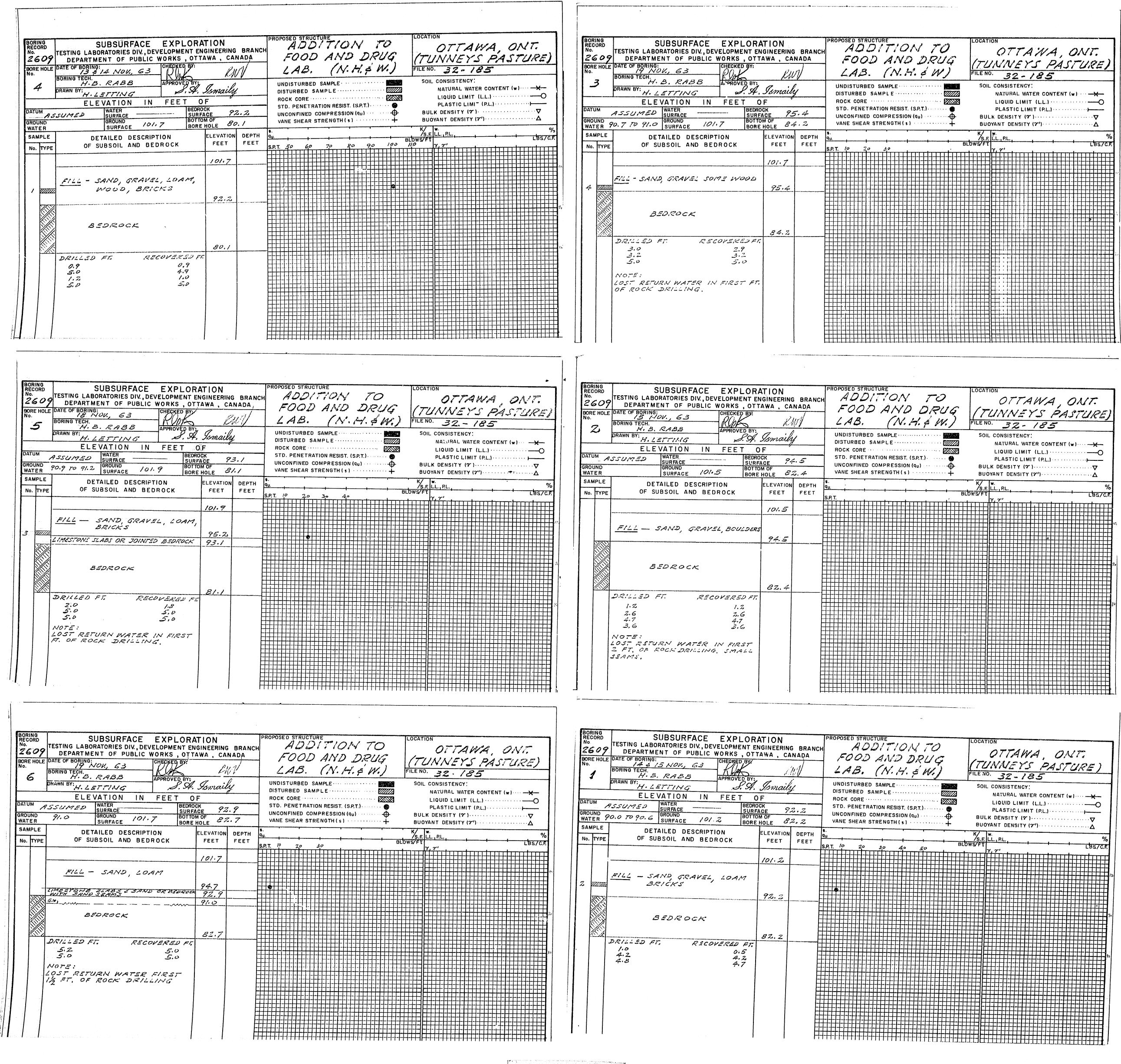
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setus. Egy.	DEPARTN	ENT OF PUBLIC	WORKS, OT TA	WA, CANADA	& N.F.B. STILLS LAB.		OTTAWA	
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ROUND WA	196.5	ROCK 199.9	ВОТТОМ	OF HOLE	CASING	1X	AND LIQUIDITY INDEX (	
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Project No: OTGE00019353B Figure No. Geotechnical Investigation. Proposed New Subsurface Building Addition to Project: Page. 1 of 1 Location: Building 16. 101 Goldenrod Drive. Tunney's Pasture Complex, Ottawa, ON Date Drilled: 'February 10, 2009 Split Spoon Sample  $\boxtimes$ Combustible Vapour Reading Auger Sample X Natural Moisture Content Drill Type: SPT (N) Value Atterbera Limits 0 Θ Datum: Geodetic Dynamic Cone Test Undrained Triaxial at Φ % Strain at Failure Shelby Tube Logged by: Checked by: Shear Strength by Shear Strength by Penetrometer Test Vane Test Standard Penetration Test N Value Combustible Vapour Reading (ppm) 250 500 750

Natural Moisture Content %
Atterberg Limits (% Dry Weight) Natural SOIL DESCRIPTION Unit Wt. m 62.6 ~125 mm 62.5 FILL Silty sand and gravel, some organics staining or seams (topsoil) dark brown, moist to wet (loose) 61.1 Rock fill mixed with silty sand and gravel, trace clay, brown, wet (dense to compact) 60.0 ORGANIC SILT AND MARL Some shells, slightly cohesive, light brown to yellow, moist to wet (very loose) 59.2 • • LIMESTONE BEDROCK Some shale partings, grey (good to excellent quality) RUN 1 - Good Water Recovery Throughout the 58.3 coring operation Coring wash Water - Milky RUN 2 RUN 3 56.0 Borehole Terminated @ 6.6 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

TROW OTTAWA.GDT

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							



Project No: OTGE00019353B Figure No. Project: Geotechnical Investigation. Proposed New Subsurface Building Addition to Location: Building 16. 101 Goldenrod Drive. Tunney's Pasture Complex, Ottawa, ON Date Drilled: 'February 11, 2009  $\boxtimes$ Split Spoon Sample Combustible Vapour Reading Auger Sample X Natural Moisture Content Drill Type: SPT (N) Value 0 Atterberg Limits Ю Datum: Geodetic Dynamic Cone Test Undrained Triaxial at Ф % Strain at Failure Shelby Tube Logged by: Checked by: Shear Strength by Shear Strength by Penetrometer Test Vane Test Standard Penetration Test N Value Combustible Vapour Reading (ppm) Natural 250 750 500 Geodetic SOIL DESCRIPTION Shear Strength kN/m<sup>3</sup> 62.5 TOPSOIL ~100 mm 7 0 **FILL** Silty sand to clayey silt, some organic seams (topsoil), brown, moist to wet 6 Q 60.4 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

Field work supervised by a Trow representative

See Notes on Sample Descriptions

TROW OTTAWA.GDT

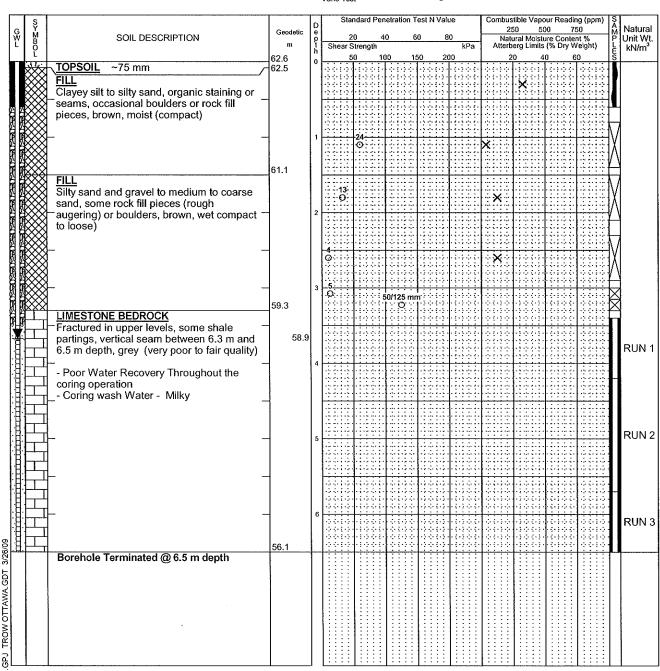
5. This Figure is to read with Trow Associates Inc. report OTGE00019353B

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 %									



OTGE00019353B Project No: Figure No. Project: Geotechnical Investigation. Proposed New Subsurface Building Addition to Page. Location: Building 16. 101 Goldenrod Drive. Tunney's Pasture Complex, Ottawa, ON Date Drilled: 'February 10, 2009 Split Spoon Sample  $\boxtimes$ Combustible Vapour Reading X Auger Sample Natural Moisture Content Drill Type: SPT (N) Value Ю 0 Atterberg Limits Dynamic Cone Test Undrained Triaxial at Datum: Geodetic Ф % Strain at Failure Shelby Tube Shear Strength by Logged by: Checked by: Shear Strength by Penetrometer Test Vane Test Standard Penetration Test N Value Combustible Vapour Reading (ppm) 250 500 750 Geodetic



JOG OF BOREHOLE

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

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								



Project No: OTGE00019353B Figure No. Project: Geotechnical Investigation. Proposed New Subsurface Building Addition to Page. Location: Building 16. 101 Goldenrod Drive. Tunney's Pasture Complex, Ottawa, ON Date Drilled: 'February 11, 2009 Split Spoon Sample  $\boxtimes$ Combustible Vapour Reading Auger Sample Natural Moisture Content × Drill Type: SPT (N) Value 0 Atterberg Limits Ф Datum: **Dynamic Cone Test** Geodetic Undrained Triaxial at 0 Shelby Tube % Strain at Failure Logged by: Shear Strength by Checked by: Shear Strength by Penetrometer Test Standard Penetration Test N Value Combustible Vapour Reading (ppm) 500 250 750 Natural Geodetic SOIL DESCRIPTION Natural Moisture Content % Atterberg Limits (% Dry Weight) kN/m³ 62.5 ~100 mm 62.4 Silty sand and gravel, some rock fill pieces or boulders, organics staining and/or seams, brown, moist (dense to very loose) 59.7 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 stotted standpipe installed upon completion of drilling

3. Field work supervised by a Trow representative

4. See Notes on Sample Descriptions

TROW OTTAWA.GDT

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 %									



Project No:							' F	Figure No.		6			
Project:	Geotechnical Investigation. F						_	Page.	1	of	1		
Location:	Building 16. 101 Goldenrod E	orive. Tunney's Pas	ture Con	plex, C	Ottawa,	ON	<del></del>			_			
	'February 9, 2009			oon Samp	le	×		Combustible			ng		
Drill Type:			Auger S SPT (N)					Natural Mois Atterberg Lin		ntent		X -—-€	-
Datum:	Geodetic		Dynamic Shelby 1	Cone Te	st		•	Undrained To % Strain at F		t		•	<del>)</del>
Logged by:	Checked by	<u>:</u>		lrength by		+		Shear Streng Penetromete	glh by			•	L
S Y M B C L	SOIL DESCRIPTION	Geodelic	וטו	andard Per				Combustible 250	500	7	50	M Na	
i B	SOIL DESCRIPTION	m	t Shear	Strength			kPa	Natural Atterberg	Moisture Limits (°			P Un	
TOPS	OIL ~140 mm	62.6 62.5	0	50 1	00 1:	50 2	200 	20	40	e	0 ·÷····	<u>  S                                   </u>	_
FILL Claye	ey silt to silty sand with some g	ravel,	0010		01.70	· · · · · · · · · · · · · · · · · · ·		>	(		0 (+)+ 0 (+)+ 0 (+)+		
<b>XXX</b>	led crushed asphalt and concr r levels, some boulders and/or	ete in 🗍 📗	2012									- 11	
fill, br	own, moist to wet (very dense)	]										H	
					0			×					
<b></b>		_				64							
<b>X</b>	sal to Augers @ 1.8 m depth	60.8				Θ		×	::×			M	
										Production of the state of the			
IOTES: .Borehole/Test Pit	data requires Interpretation by Trow	WATER	LEVEL RE	CORDS				CORE D	)RII I II	AC DE	COPP		
before use by other	ers	Elapsed	Water		lole Ope	n	Run	Depth		% Rec		RQD 9	7
. porenole backfille	d upon completion of drilling	Completion	Level (m)		To (m)		No.	(m)					

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 %									

D

FORM TL/TF 213

DF			F BORE HOLE	MADA	COCATION: OTTAWA	(TUNNI	ĽΥ	រន	PAST	UR	e) on	т.		1 (		67	HOLI NO.:	A		
		TESTING !	ABODATOBIES	NAUA	PROJECT:	fice	Bu:	Lld	i.ng				HOP N.	B.	8. 1	s.	FILE NO.:	32-	-31	66
BORIN RECOR NO.:	8 %	2916	DRAWN: KC CHECKE	DI AF	PROVED:						TANCE			CONSISTENCY						
9	AMP	LE TYPE	ELEVATION		)	STD. PEN. 2 INCH D	I۸.					<b>-</b>				ATER C				
		OBRAUYSIONU ·····	Ge cde tic	GROUND SURFACE!	206;9	UNDRAING	EC	SH	EAR	STF	ENGTH	.s,,				T, w <sub>L</sub>				
222		······ DISTURBED	GROUND WATER:	BEDROCK SURFACE:	205.2	FORMS: UNCONFIL QUICK TR	IED	COM	PRESS	1011(	lu/2)	φ.	91/1	LK D	131	TY, ¥ NSITY,			• • • • •	இ
<b>S</b>	********	·······ROCK CORE		BOTTOM OF HOLE:	179.6	FIELD V				• • • • • •	· · · · · · · · · · · · · · · · · · ·	・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・				IDATIC				
SAM			CRIPTION OF	ELEV.	DEPTH			· · · · · · · · · · · · · · · · · · ·					ł							
NO.	TYPE	OVERBURDE	(F T.)	(FT.)	N	T		TITI	TT	Hara.	! !	111	ш	TTT	Υ			BLO	WS/F1	
		Asphalt P	avement	206.9	0.0															
		SAND-GRAVI	EL, tr. Silt	206.6								 								
		LIMESTON LIMY DOL	-	205.2	2 1.7															
				<u>1</u> 96 <u>.</u> 8	3															
		I.IMESTONI	G																	
	$X \rightarrow$	I TMF CTON		_18 <u>5.</u> 5																
	$\times // \times$	DOLOMITE	to C LIMESTONE	179.6																
		Drilled	Recovery (ft) 1.3 1.7																	
		5.0 5.0 5.0 5.0 2.2	4.9 5.0 5.0 5.0 2.1																The second secon	
		Notes: 1. Rock 1	padly broken a																The second secon	
			ck weathered a tion 201.6 ft.	bove																
			broken, limes eam at elevati																	
na-				Anconomic and account																
REMA	CAN					ļ			···											

d.				BORE HOLE		OCATION:	(TUNNEY'S PA	DATE: HOLE NO.: A 2			
	DEPARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES				PROJECT:	fice Buildin	g	BORINGBY: N.B. & S.	FILE 32-3166		
	BORING RECORD NO.:	29	)16	DRAWN: KC CHECKE	P: / API	PROVED:	PENETRATION	RESISTANCE	CONSIS		
	SAMPLE TYPE ELEVATION			and office and the series		TO. PEN. RESISTANCE 2 INCH DIA . CONE …		NATURAL WATER CO			
A. C.			··· UNDISTURBED	Geodetic	GROUND SURFACE;	206.9	NDRAINED SHEA	R STRENGTH.s.	PLASTIC LIMIT, Wp		
	2223	•••••	DISTURBED	GROUND WATER:	BEDROCK SURFACE:		ORMS: INCONFINED COMPRES DUICK TRIAXIAL	ssion(q <sub>u</sub> / <sub>2</sub> )·····⊕	BULK DENSITY, Y BUOYANT DENSITY, Y		
	ı		·····ROCK CORE		BOTTOM OF HOLE:		PUICK TRIAXIAL Field vane		PRECONSOLIDATION		
	SAMPL			CRIPTION	ELEV.	DEPTH		· · · · · · · · · · · · · · · · · · ·			
			OVERBURDE	OF N AND BEDROCK	(F Y.)	(FY.)	N		. An anhanism to astronom and an article of a section to a section to a section to a section to a section to a	BLOWS/F	
			Asphalt I		206.9						
			SAND-GRAV		206.6						
		LIM	LIMY DOLO	DOLOMITE to	203,6	3.3					
					194.7						
			LIMESTON		185.8	'					
		DOLOMITIC LIME		184,1							
		Z	2.6 2.3		178.4	28.5					
			4.9 5.0 5.0 5.0 2.7	4.9 5.0 5.0 5.0							
			Notes: 1. Bedro	2.7 ok weathered a tion 201.0 ft							
			J.2374								
, <b>X</b> . <b>L</b>											
()	REMAR	we									

			BORE HOLE		COCATION: OTTAWA	(TUNNEY	'S PAST	URE) ONT	DATE:	67 HOLE	A 3
DE	PAR		UBLIC WORKS, CAI Aboratories	NADA \	PROJECT:	Office	Buildin	g	BORINGBY: N.B. &	S. FILE	32-3166
BORIN RECOR NO.:	8	2916	DRAWN: CHECK		PROVED!			SISTANCE	co	- 1	
9	AMP	LE TYPE	ELEVATIO			2 INCH DIA.	CONE			rer content, , w <sub>l</sub>	
		····· UNDISTURBED	Geodetic	GROUND SURFACE:	206.8	UNDRAINED	SHEAR S	TRENGTH, su	PLASTIC LIMI	Υ, w <sub>p</sub>	
		······ DISTURBED	GROUND WATER;	BEDROCK SURFACE	203.6	UNCONFINED OUICK TRIAX	COMPRESSIO	N(qu/2)	BULK DENSIT	Y, & Sity,&	
1888	**********	·····ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	1.78.9	FIELD VANE		······································	PRECONSOLI	DATION PRESSI	
SAM			CRIPTION OF	El.EV.	DEPTH						ni owe ter
NO.	TYPE	OVERBURDE	N AND BEDROCK	(F T.)	(FT.)	j n Literatura	HHHH				ULOWS/FT
		Asphalt P	avement	206.	g 0.0						
		SAND-GRAV		206.	5						
	<b>X</b>	Silt tr	ace	203.	6 3.2						
		LIMY DOLC	MITE to LIMESTONE								and the second s
				197.	3						
	X				T						
		LIMESTONE									
				185.	7						
	K	LIMESTONE	E, mottled	184.							
		DOLOMITE	+-								
		ľ	LIMESTONE								
				178.	9 27.9						
		Drilled	Recovery (ft)								
		1.7	1.7								
		5.1 5.1	5.1 4.9								
		4.8	4.7								
		4.8 3.2	4.8 3.1								
		Notes:									
			ck weathered a	pove							
		eleva	tion 200.7 ft.								
			tone and mud s								
		eleva	elevation 199.7 ft. (0.2		ft. thi	ck)					
		3. Weak, broken limestone selevation 196.5 ft. (0.2)		one s	om at	Egilli					
				(0.2	ft. thi	rek)					
REM	ARKS	rada rana-lan antikeling-tiranere dikiralismekin	· · · · · · · · · · · · · · · · · · ·								

DE			F BORE HOLE		LOCATION: OTTAWA	(TUNNEY'	S PASTUR	E) ONT.	DATE: 11 Oct	6 7 FILE	A 4
TESTING LABORATORIES			PROJECT:	Office Building			CONSISTENCY				
			PENETRATION RESISTANCE STO. PEN. RESISTANCE, N		··········· ØØ						
CATULE					CASING				LIQUID LIMIT, WL		
DISTURBED				SURFACE: 206.3 BEDROCK: 203.0 BOTTOM 178.4		UNDRAINED SHEAR STRENGTH, SU FIGHT OF THE PRECONSOLIDATION PRESSURE, PORTOR OF THE PRESSURE, PORTOR OF THE PRESSURE, PORTOR OF THE PRESSURE, PORTOR OF THE PRESSURE, PORTOR OF THE PRESSURE, PORTOR OF THE PRESSURE, PORTOR OF THE PRESSURE, PORTO					
			READING: CRIPTION	in hall a Continuence	<del></del>	, , , , , , , , , , , , , , , , , , ,		**************************************	PRECORSOL	IDATION PRES	) anus' b' 57
SAMI			OF N AND BEDROCK	ELEV. (FT.)	OEPTH (FT.)			ł	· <del> </del>		BLOWS/FT
		TAKEUDAUAR	IN AIND DEDUCED	z (M. Alfrida J. palent lende S. naberten erreit salzene	24 - 164 6249 at 2019 at 2019 at 2019 at 2019						HEHLEH
		^ a - <b>1</b> - 1 - 1	Da	200							
		Asphalt 1		206.0							
		SAND-GRA' Silt		203.0	1						
	X		01000	203.0	3.3						
	N	LIMY DOI	CM TITTE I								
	M		C LIMESTONE								
			O MARBOTOM								
				195.2	<u> </u>						
	K										
	M										
		LIMESTON	E		·						
				1.86.	2						
	K	LIMESTON	E, mottled	184.7	1						
			noon.	104,7							
		LIMY DOL	OMITE to								
		DOLOMITIC LIMESTONE			İ						
				178.7	27.9						
			Recovery (ft 1.9 4.3								
		Drilled		t )							
		1.9 4.3									
		5.0 5.0 5.0 5.0 3.9 3.9 4.3 4.3									
			5.0 3.9								
					1						
		4.7	4.5								
		Notes:	ock weathered	above							
		elevation 198.2 ft			[						
		2. Weak limestone and (0.2 ft. thick) at									
			199.7 ft.								
			weak limestone ft. thick) at ft.		on						
REMA	ARKS	<u></u>	arian and an annual and a second and a second and a second and a second and a second and a second and a second	1			LILLLIL			шшШ	
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6)

	TMENT OF P	BORE HOLE UBLIC WORKS, CAN ABORATORIES	LADA	LOCATION: OTTAWA PROJECT:	(TUNNEY'S PASTURE) ONT. 22 Sept 67 No.: A 5  Office Building N.B. & S. File No.: 32-316				
ORING ECORD IO.:	2916	DRAWN: KC CHECKE		PROVED:	PENETRATION RESISTANCE CONSISTENCY  STD. PEN. RESISTANCE, N D NATURAL WATER CONTENT. WWW. 36				
000000000000000000000000000000000000000	LE TYPE	ELEVATION:			CASING LIQUID LIMIT, WL				
	····· UNDISTURBED	oayum: Geodetic			UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, WP				
	······ DISTURBED	Y	BEDROCK SURFACE:		QUICK TRIAXIAL BUOYANT DENSITY, V				
<b>XX</b>	ROCK CORE	READING:	BOTTOM OF HOLE:	178,6	FIELD VANE PRECONSOLIDATION PRESSURE, p'o #				
SAMPLE		OF	El.EV. (FT.)	OEPYH (FT.)	N BLOWS/				
NO. ITTE	OAFKBORDE	N AND BEDROCK							
	Asphalt 1	Pavement	206,2						
	SAND-GRAY	ÆL, Silt tr.	206.1	2.7					
	, ====		203.7	~ ~ (					
	TIMA DOI'	OMITE							
			197.1	L					
	1 IMESTON	ß.							
		E, mottled	185.9 1 <u>84</u> .7						
	DOLOMITI	OMITE to C LIMESTONE							
	Drilled	Recovery (ft	178.6	6 27.8					
	2.0 5.4 5.0 4.9 4.9	1.7 5.0 4.9 4.9 4.9 2.9							
	2.9 Notes:								
	1. Bedrock we	ck weathered a tion 199.7 ft							
REMARKS				<u> </u>	<u>. FEBERARIA BELINDIA BUNDUL BUNDUL BUNDUL BUNDU</u>				



REMARKS

DE	PARTI	MENT OF P	BORE HOLE UBLIC WORKS, CAN	IADA-	OTTAWA PROJECT:	TUNNEY'S PASTURE) ONT. 23 Sept 67 No.: A 7 Office Building N.B. & S. No.: 32-316
BORING RECORD NO.:		16	ABORATORIES  ORAWN: KC CHECKE	W) AF	PROVED!	PENETRATION RESISTANCE CONSISTENCY STO. PEN. RESISTANCE, N
ALB TREEFURGATION	With A Company of Lond	TYPE	ELEVATION			LIQUID LIMIT, W.
		UNDISTURBED				INDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, WO
<i>222</i> 3		DISTURBED	GROUND WATER:	BEDROCK	202.0	UNCONFINED COMPRESSION(Qu/2) BUOYANT DENSITY, E
125521··		ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	180.2	FIELD VANE PRECONSOLIDATION PRESSURE, por
SAME		DES	CRIPTION	ELEV.	DEPTH	BLOWS
NO.	TYPE	OVERBURDI	OF N AND BEDROCK	(FT.)	(FT.)	
		Asphalt	Pavement	206.	2 0.0	
		SAND_GR	AVEL with	205.	9	
		Silt t		202.	0 4.2	
	RY					
	M	LIMY DO	LOMITE to			
		DOLOMIT	IC LIMESTONE	106	,	
				196	•=	
		LIMESTO	NE			
				186	•4	
		LIMESTO	NE, mottled	184	.8	
		DOLOMI				
			ric limestone	180	2 26.	
		Drille		ft)		
		4.9 5.1	4.7 4.9			
		4.8	4.8			
		4.8	5.0 2.2			
		Notes	: drock weather	ed abo	ve	
		el.	evation 195.9	ſŧ.		
		2 1/2	athered limes	tone a	nd	
		mu	d seam (0.2 f	t.  thi	.ck)	
		at	elevation 20	0. <b>0</b> ft	•	
		3 1.14	athered zone	elevat	ion	
		19	97.9 to 197.5	ft.		
		(	eak limestone 0.3 ft. thick	at		
		è	levation 196.9	ft.		
		Sange San San San San San San San San San San				

			BORE HOLE		COCATION: OTTAWA	(TU	NNI	ΞY	s	P/	ST	URI	E )	ON	T		17E 22		e p	t	6 '	THO	LE ).)	A	8	POT SANCES	
DE	PAR		UBLIC WORKS, CAI ABORATORIES	NADA	PROJECT:	Of	fL	00	Bı	i	di	ng	e uchodnie	-	ACT		orii N				A-2	FII	.E	32	3:	1.60	5
BORING RECORD	}	291.6	DRAWN: KC CHECKE		PROVED!	Pf	NE	TR	ATI	ON	RE	ESIS	TA	NC	**************************************	1		-				STE	NC	Y	FC11092	*********	
-		LE TYPE	ELEVATION	H. Harten anno brown	***************************************	STD.	CH C	ΝA.	cor	Æ.		• • • • •	••••	·· 🚱		1.,							ENT				
102N		UNDISTURBED	Goodetic			UNDI								GTI	i,s <sub>u</sub>	þ	LAS	TIC	LIR	dir,	Ab.		• • • •	• • • •	••••		-
		······ DISTURBED		1	202.5	UNCO	9; NFI K TA	NED	CO.	MPR	ESSI	ON	qu/2	)		B											
5503·		·····ROCK CORE		BOYTOM OF HOLE:	177.9	FIEL.	D V	AHE		•••••		• • • •			· · · · *		REC	ON	801	.10/	TIO	N PI	7ESS	URE	, P'o		Δ
SAME			CRIPTION OF	EI.EV. (FT.)	DEPTH (FT.)		-+		·+		+	+											1	<b></b> .	H 0	ws/	FT
NO.	TYPE	OVERBURDE	N AND BEDROCK	(r (.)	***************************************				I			H			71		T				Щ	П		П		T	
		A 1	<b></b>	206 (																						1	
		Asphalt Pa		206.0																		1					
		SAND-GRA	VEL with Silt	202.					Ħ																		
	X	D OIIIO			1														Ë								
									-										1-			1			#		
	X	72 A 7 A 7 A 1 A 10 A	L TMCQUONE								11			1. L 1. L													
		DOTOWILE	to LIMESTONE																-  -  -		-   -   -						
	X																									1	
									+	<u> </u>		++				-		-					ļ	<b>}</b> -i-i	44		
				1																							
	X	LIMESTON	E, mottled	$\frac{186.}{185.}$																							
		17111103.01		T	<u> </u>				1		++	++-													-		
		DOLOMITE	to																					-			
			C LIMESTONE																	1	  -		<u> </u>				
			rigad angularan karandin alat di di di di di di di di di di di di di	177.	9 28,1																						
		r																									
		Drilled 5.0	Recovery (ft 5.0	T)				- - -	+	++			$\dagger \dagger \dagger$			+	H	$\dagger \dagger$	+	$\dagger \dagger$			+	†	1		-
		4.9	4.9																								
		4.9	4.9 4.9																								
		4.8	4.9																				11				
		Notes:											1 to 1 to 1 to 1														
}			ock weathered ation 196.9 ft					++			╂┼╌	<del>       </del>	$\vdash$			1		-		#	7	+		+	1		
		İ																									
			shaly Limesto seam at elevat													$\perp$						i					
		2 This	Shale and muc	1 casm											ili.												
			ation 196.9 f		90																					+	
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REM	ARKS		CONTRACTOR OF THE PERSON IS NOW O SHAPE A STREET OF THE PERSON IS NOT THE PERSON IN TH					enin'i	بالمك	parlach.	alestado.	akadayi.	e Na samuel						****						**********		

De			BORE HOLE	14534		(TUNNEY'S PASTURE) ONT. 11 Oct 67 HOLE NO. B 1
	PAIN I	TESTING I	ARORATORIES			Office Building BonNesy: S N.B. S No.: 32-3166
BORING RECORD	3 2	916	DRAWN: CHECKE		PROVED!	PENETRATION RESISTANCE CONSISTENCY
		E TYPE	ELEVATION	-		STD. PEN. RESISTANCE, N
		··· UNDISTURBED	Geodetic	GROUND SURFACE:	207.0	INDRAINED SHEAR STRENGTHE PLASTIC LIMIT, WO
		······ DISTURBED	GROUND WATER:	BEDROCK SURFACE:	205.2	FORMS: UNCONFINED COMPRESSION(40/2)
5 <u>%</u> 3-	· • • • • • • • • • • • • • • • • • • •	ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	179.4	FIELD VANE PRECONSOLIDATION PRESSURE, po 本
SAME	PLE	DES	CRIPTION	ELEV.	DEPTH	BLOWS/F
NO.	TYPE	OVERBURDE	N AND BEDROCK	(F Y.)	(F T.)	N BLOWS/F
		Asphalt	Pavement	207.	0.0	
	ŀ		VEL, Silt tr.	206.	7	
			en en en e	205.	2 1.8	
	M	LIMESTON	E to			
			C LIMESTONE			
	M			7.00		
				197.	<u> </u>	
		t maiaman	ın.			
		LIMESTON	E			
		T TMF CTON	E, mottled	185. 184.		
		PTMESTON	more in each	1.04.	<u></u>	
		LIMX DOI	OMITE			
	K			179.	4 27.6	
		Drilled	Recovery (ft	k		
		1,5	1.4			
		1.8	1.8 4.9			
		5.1	5.1			
		5.1	5.1 4.9			
1		2.5	2.5			
		Notes:				
			calcite lined		at	
		6 T 9 A	ation 204.5 ft	•		
			stone and mud			
		thic	k) at elev. 201	8 It.	•	
		1	broken limest		38m	
		elev	ation 200,1 ft	5.		
REA	IARKS		The state of the s			<del></del>

······································			BORE HOLE		LOCATION: OTTAVA	(TUNNEY'S PASTURE) ONT. 10 Oct 67 No.: B 2
DE	PART		UBLIC WORKS, CAN ABORATORIES	IADA	PROJECT:	Office Building N.B. & S. FILE NO.: 32-3:166
BORING RECOR NO.:		91.6	DRAWN: KC CHECKE	WL	PROVED!	PENETRATION RESISTANCE CONSISTENCY STO. PEN. RESISTANCE, N
l -		E TYPE	ELEVATION : Geodetic			CASING LIQUID LIMIT, WL LUNDRAINED SHEAR STRENGTH, B., PLASTIC LIMIT, WD
		···· UNDISTURBED		SURFACE: BEDROCK SURFACE:		ALL REPORTS
1//2	•••••	DISTURBED	1	SURFACE :	179.7	UNCONFINED COMPRESSION(qu/2)
OCCUPATION OF			CRIPTION	ELEV.	DEPTH	*
NO.			OF N AND BEDROCK	(FT.)	(FT.)	N (ILOWS/
A CONTRACTOR OF THE PARTY OF TH		Asphalt P		207.	0 0.0	
		SAND-GRAV		206.		
			trace	203.	7 3.3	
	K	LIMY DOLO	MITE to			
		DOLOGILLE	/ Infinite Cities			
	K			195.	9	
	X	LIMESTONE	1			
		Lightedione	ı			
	X					
	1			185		
	X	TIMESTONE	E, mottled	184.		
		TIMA DOIY	OMITE			
				179.	7 27.3	
		Drilled	Recovery (ft)	)		
		1.8	1.8 4.7			
		5.1	5.1		1	
		5.0 4.9	5.0 4.9			
		2.4	2.4			
		Notes:				
-		1. Bedro	ck weathered s			
		eleva	tion 200.3 ft.	• }		
255	JARKS					

DE			BORE HOLE		OTTAWA	ADDIMONY FILE
<b></b>		TESTING L	ABORATORIES			Office Building N.B.& S. No.: 32-3166
BORING RECOR	3 2	916	DRAWN: KO CHECKE		PROVED!	PENETRATION RESISTANCE CONSISTENCY STD. PEN. RESISTANCE, N
THE OWNER OF THE OWNER	-	E TYPE	ELEVATIO			2 INCH DIA, CONE LIQUID LIMIT, WL
		··· UNDISTURAED	Ge ode tic	GROUND SURFACE:	206.8	UNDRAINED SHEAR STRENGTH, 8, PLASTIC LIMIT, WO.
1222		DISTURBED	GROUND WATER:	BEDROCK SURFACE!	203.8	UNCONFINED COMPRESSION (qu/2) BUOYANT DENSITY, 8
12523.		ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	179.4	FIELD VANE
SAM	MENTAL PROPERTY.	DES	CRIPTION	ELEV.	DEPTH	BLOWS/FT
NO.	TYPE	OVERBURDE	N AND BEDROCK	(F Y.)	(FT.)	BEOURS/F.
		Asphalt F	Pavement	206.8		
		SAND-GRAV	/EL with t trace	206.5		
		LIMY DO	LOMITE to	194.4		
		LIMESTO	NE	1.85 .1	3	
		LIMESTO	NE, mottled	184.	]	
		PIMOLOD PIMOLOD	TE to	179.	4 27.4	
		Drilled 1.8 4.9 4.9 3.2 4.9 4.7	Recovery (f 1.8 4.7 4.9 3.2 4.9 4.9	t)		
		Notes: 1. Bedr elev	ock weathered ation 197,1 ft	above		
		(0.3	en limestone o ft. thick) at 2 ft.	and muc t elev	d seam atton	
RE	MARKS					

0.0			BORE HOLE		OCATION: OTTAWA	(T	JNNE	Ϋ́	S	PΛ	STU	JRE	) (	rno	1.		0	0c.			1101 110.		В		
UE		TESTING L	ABORATORIES	TABLE I	ROJECT: (	Off	i.ce	Bu	ii.1	d.t.	ng			drawns:	_[	Ň,	В	. (	§ S	Š.	NO.	. 3	32-	31	56
ECON	29	16	DRAWN KO CHECKE		PROVED!	P	ENET	'RA	TIO	N	RES	IST	AN	CE								NC'			
NAME OF TAXABLE PARTY.	AND AND THE ST	E TYPE	ELEVATION	N (FT.)	200), p. 194	SIN	PEN. I	A . C	ONI	<u> </u>															O -}
-		··· UNDISTURBED	Ge coletic	GROUND SURFACE:	206.4	UND	INO RAIN	ED	SH	E.A	RS	TRE				PLA	STI	C LI	MIT,	Wn"		• • • •		j-	
<i></i>		DISTURBED	GROUND WATER:	BEDROCK SURFACE:	203.4	UNC	15: Dnfin K tri	ED C	COM AL…	PRE	5310 	N(q	/2)			BUC	YAN	מ דו	ENSI	TY,	<b>k</b>			• • • •	
(XX)-		·····ROCK CORE	GAUGE READING:	GOTTOM OF HOLE:	179,1	FIE	D VA	NE.	• • • • •	· · · · · ·					* *	PRI	ECO	NBO	LID	ATIO	N PR	1259	URE	Po.	Δ
SAME	-	DES	CRIPTION OF	ELEV.	DEPTH	<u> </u>								.+			+						·	LOV	NS/FT
NO.	TYPE	OVERBURDE	N AND BEDROCK	(FT.)	(FT.)	N	HH	H	$\mathbb{H}$	HT	H	ŢŢ	H	H		H					T			H	H
				004			1111		#												#				
		Asphalt	Pavement	206.4		=																			
		SAND-GRA	VEL, Silt tr.	203.4																					
	M	and the second second second second second second																							
			OMITE to									1							$\bot$				$\left\{ \cdot \right\}$		
	M	DOLOMITI	CHOICOMENT O.																		H				
				305																##					
	X			195.7	~ -	-		$\pm \pm$				+											1		##
	M																$\parallel$								
		LIMESTON	IE														11	- - -							
																						- 1			
	X			186.	,															1			1	+	
		LIMESTON	WE, mottled	184.										1				<u> </u>			Щ		- -		
					-											li								-	
		DOLOMIT																							
	X	DOLOMIT.	IC LIMESTONE	179.	1 27.3				+		-	++	++		$\frac{1}{1}$	+			+						
	27		THE STATE OF THE S	and married reserved		-																			
		Drilled 1.8	Recovery (f	24)		1																			
		5.0	5.0													П									
		5.1 5.1	5.1 5.1																						
		4.8	4.8												4							4			444
		2.5	2.5															1 1 1							
		Notes:				H																			
			ock weathered ration 197.7 f			-		+++	+	-	<del>                                     </del>		-					1		$\mathbf{f}$	H	+			+++
		2. Weak	limestone an	d mud s	зевт													-							
			ft. thick) a 6 ft.	t elev	ati.on																				
		3. Mud	seam at eleva	tion 19	96,6 ft	٠. [			1																
			ken limestone vation 195.1 f		t	E						111													
		619/	ACONON TANAT T						1			Щ				1		44		1.		1			
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DE	PARTI	MENT OF P	BORE HOLE	IADA	OTTAWA		Annual tentr	****	1,000	PAS'I	*****	B)	ONT.	808	ING	Set ev:		2.1	FILE NO.:	32	B 5		
PING COND		TESTING L	ABORATORIES  ORAWN: KC CHECKE	WIC	PHOVED:	Pf sto.	NET PEN. F	RA	TIO	N RE	SIS		♦•		-	*****	ON	SIS	TEN	ICY			
a tracerous teles	PER SPECIAL VALUE	E TYPE	ELEVATIO	N (FT	)	2 INC	H DI	A.C	ON					1.10	UID	LIM	T, w	L***		• • • • •			~(
<b>MR</b>		·· UNDISTURBED	Geodetic			UND	MAF	ED		EAR				1	AST	ic LII	AIT, v	ķ		• • • •			٠.
///2··		DISTURBED	GROUND WATER:	BEUROCK SURFACE	205.0	UNCO	NFIN K TRI	ED (	COM AL.	PRESSI	ON(q	u/2)	·····•	BU	OYA	AT DE	HSIT	4,8	<b>!</b>	••••	••••		٠ť
		····ROCK CORE		BOTTOM	179.9	FIEL	D VA	HE		••••••			···· *	ЯЧ	ECO	N 8 0	LIDA	1101	PRE	SSU	RE,	,,,	٠.
SAMF			CRIPTION	HOLE:	DEPTH								4										
		OVERBURDI	OF EN AND BEDROCK	(FT.)	(FT.)	N	777	1777	77						111	TII		FTT-	П	П	BI TTT	OW9	-
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		SAND-GRAY	ÆL, Silt tr.	206.	1						111					11			++	44	+++		+
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				195.			111	4	 	###						-	-	++			+		
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		LIMESTO	NE, mottled	183	•9	-													1				-
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		DOLOMIT	TIC LIMESTONE	179	.9 26.	5					4			$\downarrow\downarrow\downarrow$	-		$\!$			1	$\left\{ \cdot \right\}$		+
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		4.6	5.0 2.2						1.					$\longrightarrow$	H	+++	44.	+	++			+	-
		2.2	£. <b>€</b> £																				
		Notes:				H																	
		1. Bed	rock weathered vetion 196.5 f	l above	•	1			+		$+\!\!+\!\!\!+$	44+			-	44	<del>├</del> <del>├</del> ┼	+	╁┷┼	+			ļ.
		2 Ver	y weak limesto	one and	d mud	f																	-
		Bea	m at elevation	1 200,1	Offt.																		
		3. Ver	y weak limesto	one sea	am at			4			44			+++	4		+++		+	+-	+	+++-	-
		6.1.9	vation 196.5 to drilling wat	ter at		E																	
		ele	vation 201.2	ft			111					##								111		#	-
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	T	ESTING I.	UBLIC WORKS, CAN ABORATORIES DRAWN: KC CHECKET	T / APPR	OVED:		ENE PEN	TR		)N	RI	ESIS	TA	NC	E.	<b>3</b>	 Y A V	UR	A : '	WAT	ER	CO	TEI	NT.	M		·} <b>է</b> ···	-
0			FLEVATIO	N (FT.)		S 1H	CH	IA.	CON	E						-1.	in	iin	1.11	ALT.	. w.			• • • •		• • • •		וי
,,,		TYPE UNDISTURSED	DAYUM: Gardetic	SURFACE: 2	06,6	INC	RAI	NF'D	SI	IE/	AR	ST	REI	IGT	H,s						. 1	ν.,						A1
				BEDROCK 2	03.6	UNC	MS: ONF	NED	COL	4PR	£89	ION	(qu/	5)	•••	1	0116	SVAI	17 1	RN	SIT	Y.8		• • • •	• • •		٠١	L,
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-	-	ROCK CORE		ELEV.	DEPTH								ļ	+		+					<b></b>				<b>+</b> -	81.0	WS/	FT.
HPL	E C		OF.	(FT.)	(FT.)	N	]]]	111	1	FFI	TT	TT	H	T		ΞŢ		H		H					1			$\blacksquare$
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	\ A	asphalt I	Pavement	206.6	0.0		#					甘									1							
	F			206.3	1		+ + +	+		+			1								1							
		DOLOMITE, few Limy Zones  193.4  LIMESTONE  186.2  LIMESTONE, mottled  DOLOMITE to DOLOMITIC LIMESTONE  179.1  27.5  Drilled Recovery (ft  1.8  1.7  4.7  5.2  5.0  5.0  4.9  4.9  5.0  2.9  Notes:  1. Bedrock weathered above elevation 199.9 ft. and bedding planes: 2. Weak shale and mud elevation 196.7 ft. 3. Calcite stringer 1/8 " thick, mear-vertical, between elevations 188.4 and 187.2 ft.				1																						
Ī	W.								#					甘					#			1						1-1-
ĺ	K	ود مسومات الداران	E ELEVATION GROUND GROU	, de			+++	444	#		+			+++			1			11-				#				#
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· · · · · · · · · · · · · · · · · · ·	TESTING L	ABORATORIES		į.	AFFER PRO			****	-			-				+	N,	В.		***							) T (	00	pi gra
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			10#	179.7	FIE	LD	VAH	E							•••	<u>بر</u>	PRI	CO	N 8	OL	ID/	<b>ATI</b>	H	PRE	.881	JRE	, P'0	)   	
MPLE	DES	CRIPTION	ELEV.	1		+								<del></del>							-+				+		BLO	W5	7
TYPE	OVERBURD	EN AND BEDROCK	PARTINAL PROPERTY OF SE		Ħ				H	H																			E
	Acabal+	Povament.	206.	3 0.0								#																	-
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	1	NOSTURBED NOSTUR																											
	5.1	DESCRIPTION DESCRIPTION DESCRIPTION Sphalt Pavement 206.3 0.0  DOLOMITE to LIMESTONE  DOLOMITE to LIMESTONE  DOLOMITE to LIMESTONE  DOLOMITE to LIMESTONE  DOLOMITE to LIMESTONE  DOLOMITE to LIMESTONE  DOLOMITE to LIMESTONE  DOLOMITE to LIMESTONE  T/9.7 26.6  Drilled Recovery (ft 5.1 4.8 4.9 5.2 4.9 4.6 4.8 3.0 3.1  Notes:  Description Dolomite to Limestone  Drilled Recovery (ft 5.1 4.8 3.0 3.1  Notes:  Description Dolomite to Limestone  Drilled Recovery (ft 5.1 4.8 3.0 3.1  Notes:  Description Dolomite to Limestone  Drilled Recovery (ft 5.1 4.8 3.0 3.1  Notes:  Description Dolomite to Limestone  Drilled Recovery (ft 5.1 4.8 3.0 3.1  Notes:  Description Dolomite to Limestone Drilled Recovery (ft 5.1 4.8 3.0 3.1  Notes:  Description Dolomite to Limestone Drilled Recovery (ft 5.1 4.8 3.0 3.1  Notes:  Description D																											
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	1. Bed	rock weathered	d above	9								-																	
	ele 2 Wea	k limy and much	meek b				44		4	<u>                                     </u>		4		$  \frac{1}{1}  $	1		-					$H_1$		<u> </u>	+		+	+	-
		MESTONE, mottled 186,1 184.5  CMITE to LIMESTONE 179.7 26.6  Lilled Recovery (ft 5.1 4.8 4.9 5.2 4.9 4.6 4.8 3.0 3.1 3.1 3.0 3.1 3.1 3.0 3.1 3.1 3.0 3.1 3.1 3.0 3.1 3.1 3.1 3.1 3.1 3.1 3.1 3.1 3.1 3.1																											
	1 (0.	3 ft. thick)	at ele	v 196.6	f																								-
	/ Fre	etura batwaan	eleva	tions	- 1			1			$\prod$										$\prod$								
	13/	TAD and TAD.O.	104, 116			- i - i - - i - i - - i - i -																	1			##			
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4 1				3.50		山	14	1-1-	Ţ. j		111	11		11		ŦÌ	+						17			11	1		i

DWG. N.C. A473

OF IN S	916	ABORATORIES DRAWN: KC CHECKET	APP C	NOVED:	STD. P	NET!	RAT	1OI NAT	1 0	FSI	STA	NO	E •	•	NAT	UR	Δ١.	WAT	rER	col	NTE	NC)	M	:   <b>160 A 1</b> 60	*
SAMPLE	TYPE	ELEVATIO DATUM: Geodetic	OROUND		2 INC CASI	אוט או אוט או								-	LIG	UID	LII	HIT	W W			• • • • •	· · · · · ·		
7777	UNDISTURBED		BEDROCK SURFACE:	202.7	UNCO	s: NFINI	D C	ОМР	RES	SION	l(qu	/21		4	nilla	AYO	NT'	DEN	SIT	4,8	• • • • •	ESS			• • • •
	ROCK CORE	READING:	BOTTOM OF HOLE:	179.5	FIEL	D VA	WE.							*	PR	ECC	) N 5	01.1							
Married or other Designation of the	<u> Trs</u>	CRIPTION OF N AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N	- <del> </del>		11.1			4	FIT	<del></del>	17	, []]	H			T	H	FEI		H	81.0	WS
NO. ITTE		Pavement	206.3	0.0																					
	OVERBURI		205.8	l l																					
	OVERTOOLE	7.13.1	ZUZ.	7 2.4																					
	LIMX DO	LOMITE	195.	.6																					
		ANG.	= 22																						
	LIMESTO	ONE	186	.4																					
	DOLOMI	ONE, mottled TE to	185	.1																					
	<b>-</b>	TIC LIMESTONE	179	26,	.6																				
	Drille 5.2 5.1	5.1 5.0 5.0																							
	5.0 4.9 3.0	5.0																							
		athered joint			3.00		Ç.L																		
	2. Ba	evation 200.6 drock weathered d seam elevations sathered limes eak limestone	ion 200 tone se	oam 198	.1 f	t.	¥ ¥																		
	6. W	bak limestone Levation 197.2 eak shale seam 95.6 ft.	T T. 1	l l																					
<b>&gt;</b>	1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,																							++

	COARD OF	PORE HOLF		OCATION:	(TITN	NEX		p	\S'	URE	(	TNC		TAC	0	ct	6	7	N	O.I		ן נ		A K LOW P	
EPART	MENT OF P	UBLIC WORKS, CAN			-	**********		-	***					BOR N	HG B.	8Y:	S	,	FIN	LE O.:	32	2-3	31.6	6	
	TECTING 1	TOF PUBLIC WORKS, CANADA TING LABORATORIES    CHECKED!   APPROVED.	ROVED:	bc	MET	PΛ1	101	J F	RESIS	TAN	ICE				· · · · · · ·	CO	NS								
NO 2	291.6		0.7	STD. F	EN. F	ESIS	TAR	CE,	N		8		HA1	rur	AL '	WAT	ER (	CON	TEN	1 <b>7,</b> ic		<del>-</del> } 	-0 +		
SAMPL	E TYPE		00N 1	CASI	N 0 ··	, , , , ,			 GT1	PF N	 BTH		-		101	13417	r. 🛥 🗆							1	
	UNDISTURBED		NAME AND ADDRESS OF THE OWNER, WHEN PERSONS ADDRESS ADDRESS OF THE OWNER, WHEN PERSONS ADDRESS OF THE OWNER, WHEN PERSONS ADDRESS OF THE OWNER, WHEN PERSONS ADDRESS OF THE OWNER, WHEN PERSONS ADDRESS OF THE OWNER, WHEN PERSONS ADDRESS OF THE OWNER, WHEN PERSONS ADDRESS OF THE OWNER, WHEN PERSONS ADDRESS OF THE OWNER, WHEN PERSONS ADDRESS OF THE OWNER, WHEN PERSONS ADDRESS OF THE OWNER, WHEN PERSONS ADDRESS OF THE OWNER, WHEN PERSONS	FORM	(A IN S: NFIN	ED C	OHE	HES	SION	911/2	)	Φ.				eirv	, ,						. 102		
<b>3</b>	DISTURBED		MANAGEMENT OF STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET,	PIEL	C TRI	AXIA	L···			• • • •		4	PR	ECO.	NS	OLI	PATI	ION	PHE	830	RE,	p'	Δ		
<b>4</b>	ROCK CORE	READING:	HOLE:	mafer a second or second or second or second or second or second or second or second or second or second or se		هر دور دور	. 2 *********		of themse				工工	.L									- 4	- 10	֡֡֞֞֞֩֞֩֩֡֩֡֩֞֩֩֡֩֡֩֞֩֩֡֩֞֩֩֞֩֓֡֡֡֡֡֡
MPLE	DES	OF BEDROCK		(FT.)	N	-+					r"r T T			1	TI			H	П	T	ŦŢ	8 	LOW	5/F	1
. TYPE	OVERBURD	EN AND REVIOUS	ANTERNATIVE SECURITION SHEET SEC.						挂														- - -	11	$\ddagger$
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- T	SAND-GRA	VEL, tr. Silt			3									+		1				++					1
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	DOLUMITE	TO THE CHONE				44																			
	BOIUMILL	IC TIMESTONE								##		#						T				#			
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			196.	4	-		111										11			Щ			4.	11	
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	DOLOMI	TE TO																							
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	5.1	5.1				111						Ť													
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	1.7	,		PITANA (TUNNET'S PASTURE) ONT  RROSET: Office Building  OFFIce Building  OFFIce Building  OFFIce Building  OFFIce Building  ONBISTERCY  N.B. & S. III. 32-3166  CONSISTERCY  NAURAL WARE CONTENT, — A  LIGHO LIMIT, », — O  PLASTIC LIMIT, », — O  PLASTIC LIMIT, », — O  PLASTIC LIMIT, », — O  PLASTIC LIMIT, », — O  PLASTIC LIMIT, », — O  PLASTIC LIMIT, », — O  PRECONSOLIDATION PRESSURE, », — A  OO, O  O																					
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	T. Be	ove elevation	196.8	ft.		-   -	11														Ш	_ 		<u> </u>	-
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RECORD	OF BORE HOLE		OTTAW	A (TU	NNE	ris	P	AST	URI	E)	ON			10			6	1	1				water	paren	
EPARTMENT C	F PUBLIC WORKS, CAI	NADA P	ROJECT:	Office Building  PENETRATION RESISTANCE STO. PEN. RESISTANCE STO. PEN. RESISTANCE STO. PEN. RESISTANCE CASINO UNDRAINED SHEAR STRENGTH, AU FIELD VANE  N  N  N  N  N  N  N  N  N  N  N  N																					
2916			APPROVED:																						
SAMPLE TYPE	ELEVATI	ON (FT.)	APPROVED:   PENETRATION RESISTANCE   STOP, PEN. RESI																						
UNDIST	DATUM:	STONE   179.3   27.7   270.   27.7   27.0   27.7   27.0   27.7   27.0   27.7   27.0   27.7   27.0   27.7   27.0   27.7   27.0   27.7   27.0   27.7   27.7   27.7   27.7   27.7   27.7   27.0   27.7																							
		BEDROCK SURFACE	APPROVED:   PENETRATION RESISTANCE   STOP, PEN. RESI																						
32ROCN	GAUGE READING!	ATOMIESTONE   197, 3   27.7																							
AMPLE	DESCRIPTION	ANNER OF THE PROVENCE OF THE P																							
	IRDEN AND BEDROCK	ABORATORIES  PARTY (C O'RECTED)  PARTY (C O'RE																							
Aspl	alt Pavement			<u></u>																				#	
		206.	7 2	,川									+	-		1	ĻĻ.								
Z 5	,	PENETRATION REGISTANCE   PENETRATION REGISTA																							
	ያ ከስተለነፈቸዋ <u></u> ፎ		APPROVED   Office Building   N.B. & S.   10.5   32-3166     APPROVED   Office Building   N.B. & S.   10.5   32-3166     APPROVED   Office Building   N.B. & S.   10.5   32-3166     APPROVED   Office Building   N.B. & S.   10.5   32-3166     APPROVED   Office Building   N.B. & S.   10.5   32-3166     APPROVED   Office Building   N.B. & S.   10.5   32-3166     APPROVED   Office Building   N.B. & S.   10.5   32-3166     APPROVED   Office Building   N.B. & S.   10.5   32-3166     APPROVED   Office Building   Offic																						
<b>1</b> 20	TO				Office Building  PENETRATION REGISTANCE  PENETRATION REGISTANCE  STO. PEN. RESISTANCE, N																				
DO:	OMITIC LIMESTONE		OPTIMA																						
		197	Coation: OTTAWA (TUNNEY'S PASTURE) ONT   10 Oct 67   10. G 2   1																						
<del>-</del> <del>-</del>		WORKS, CANADA  ATORIES  WORKS, CANADA  FREETO OFFIce Building  TO PELEVATION (FIT)  ELEVATION (FIT)  GOOde tile Surrace: 207, 0  UNDANNED SHEAR STRENTH, should built, should be served by the served																							
			TOTTAWA (TUNNEY'S PASTURE) OWT  FROJECT**  Office Building  APPROVED:  Office Building  PENETRATION RESISTANCE STO PENERSISTANCE, STO PENERSISTANC																						
II	MESTONE				444		$\left\{ \cdot \right\}$	++	++-	BORING BY:  N.B. & S.  GISTANCE  CONSISTENCY  NATURAL WATER CONTENT, W															
								BORING BY: N.B. & S.  RESISTANCE  CE, N  AR STRENGTH, SU  RESSION(qu/2)  PLASTIC LIMIT, Wp  BUCK DENSITY, & BUOYANT DENSITY, & CD  PHECONSOLIDATION PRESSURE, pu  BLOWS/FT  217																	
		185	6	Ħ											#								Ш		
<b>₩</b> -1.	MESTONE, mottled		- 1	- ]		111	<b>†</b> †			11					$\prod$										
K T -			APPROVED:   PENETRATION RESISTANCE   TO   TO   PENETRATION RESISTANCE   TO   PENETRATION RESIS																						
Di Di	LOMITIC LIMESTON	E		, , <u> </u>							1					4	44			H	+!-	4	H		-
		$\frac{179}{}$	2.3 2	7.7.	PENETRATION REGISTANCE D. PEN. RESISTANCE NCH DIA. CONE USING DIRAINED SHEAR STRENGTH, 50 DICONFINED COMPRESSION(q <sub>0</sub> /2) PLASTIC LIMIT, w <sub>1</sub>																				
D	illed Recovery	(11)						RESISTANCE CE, N																	
	- ·			Ē	14		$\frac{1}{1}$	+++	+++	#	++		$\frac{1}{1}$	+	$\parallel$	$\dagger$	+	$\dagger \dagger$	H	++++	-		$\dagger \dagger$		+
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	above elevation	200.0	ft.												-										-
		į	1					+					- 1	-	+	+	$\dagger \dagger$	#		$\dagger \dagger$	1	1			+
2	-tight, fracture	eward as	sen [									1-1-1							H						
	elevations 195.	7 and	1.92.7	ft.											#					11					-
																			F	H		+			-
						H							1.1.1			11									The second second

29:	TESTING L	JBLIC WORKS, CAN ABORATORIES SHAWN: KO CHECKE	DI ) TAPP	ROJECT:	TICLO BUILDING BORING BY: N.B. & S.  PENETRATION RESISTANCE ONSISTENCY HATURAL WATER CONTENT, W	ţ
	E TYPE	ELEVATIO	ATTENDED	20/ 0	CASING	-0
	DISTURBED	Geodetic	HEDROCK SURFACE:		ORMS: UNCONFINED COMPRESSION(qu/2)	· 🖂
	ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	179.5	FIELD VANE	A L + # /**
PLE	DES	CRIPTION OF N AND BEDROCK	ELEV. (FT.)	OEPTH (FT.)	N BLOWS	5/F1
1 1	Asphalt \		206.			
		VEL, Silt tr.	206. 204.			
	LIMY DOLD	OMITE TO C LIMESTONE				
X			197.	-		
	LIMESTON	lE				
	LIMESTO	NE, mottled	18 <u>6</u> 184	į		
	DOLOMIT					
	Drilled	Recovery (f	(t)	9.5 27	4	
	5.1 3.8 4.4	5.1 3.8 4.2				
	5.0 5.0	5.0 4.9				
	مطيفا	rock weathere we elevation cite stringer	といいしょう コ	1. U . I		
	pan ber	rtly porous, s tween elevations, 2 ft.	OMEL DY.	11049		
	1.00	y <sub>4</sub> ≈ 3.0 €				

LOCATION! OTTAWA (TUNNEY'S PASTURE) ONT 7 Oct 67 RECORD OF BORE HOLE BORING BY! DEPARTMENT OF PUBLIC WORKS, CANADA 32-3166 PROJECT: N.B. & S. Office Building TESTING LABORATORIES CONSISTENCY APPROVED: PENETRATION RESISTANCE NATURAL WATER CONTENT, W..... 2916 2 INCH DIA. CONE ..... LIQUID LIMIT, WL------ELEVATION (FT.) PLASTIC LIMIT, Wp. SAMPLE TYPE 5AYUM Ge ode tic GROUND SURFACE: 206.6 UNDRAINED SHEAR STRENGTH, Su .....UNDISTURBED FORMS: UNCONFINED COMPRESSION(qu/2)..... BUOYANT DENSITY, & ..... BEDROCK 203.8 GROUND WATER: QUICK TRIAXIAL..... PRECONSOLIDATION PRESSURE, p. ....... FIELD VAHE ROCK CORE READING: 178.6 DESCRIPTION DEPTH BLOWS/FT F.I.EV. SAMPLE OF (FT.) (F Y.) OVERBURDEN AND BEDROCK NO. TYPE 0.0 206.6 Asphalt Pavement 206.3 SAND-GRAVEL, Silt tr. 203.8 DOLOMITE TO LIMY DOLOMITE 197.0 LIMESTONE 185.8 184.4 LIMESTONE, mottled LIMY DOLOMITE TO DOLOMITIC LIMESTONE 1.78,6 28.0 Drilled Recovery (ft 1.9 2.3 4.8 5.0 4.6 4.6 4.8 4.8 4.8 4.8 3.6 3.7 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

RECORD OF	BORE HOLE	0'		(TUNNEY'S PASTURE) ONT 26 Sept 67 HO.: C 5  Office Building DATE: 160 HO.: C 5  BORINGBY: N.B. & S. FILE NO.: 32-3166	
	ABORATORIES		OVED:	Office Building N.B. & C. CONSISTENCY	
2916	DRAWN: KC CHECKE	NC	0-1	PENETRATION RESISTANCE STD. PEN. RESISTANCE, N	
SAMPLE TYPE	ELEVATIO	GROUND SURFACE: 2	206.5	UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, WP.	
WILLIAM UNDISTURBED		BEDROCK SURFACE:		UNCONFINED COMPRESSION (Qu/2)	1
ROCK CORE	GAUGE READING:	SOTTOM J	180.0	OUICK TRIAXIAL	1
SAMPLE DE	CRIPTION	ELEV. (FT.)	DEPTH (FT.)	BLOWS/F	
NO. TYPE OVERBURD		206.5	0.0		± = = = 1
	Pavement Cilt to	206.2			
	AVEL, Silt tr.	203,6	2.9		
L'IMA DO	TWT IL	1.97.2	2		
	-				
LIMESTO	)ne				
		186.	1		
LIMEST	ONE, mottled	184.	.6		
DOTOWI	TE TO TIC LIMESTONE	1.80,	.0 26	5	
Drille 2.0	1.7	Ct)			
5.1	5.0 4.9 4.9 4.9				
4.9 1.8 Notes	1.8				
1. Be	drock weathere evation 197.2 ak limestone	1.0	1		
el	evation 196.4	ft.			

АМ		Ó TYPE UNDISTURBED WOSTURBED ROCK CORE	GROUND WATER! GAUGE READING:	NIC	80.2	STD. I 2 INC CASI UNDI FORM UNCC	ING ING ING	IA. C	SH	EA PRE	, N R S	TR	EN	GTH	 	L.	ULK ULK UOY	D L TIC DE ANT	IMI LIL NSI	AYE T, v AIT, TY :	R C	STE ONT	ren	T, w	₹E, p		· 100 · 100	-
PLE	E	DES	CRIPTION	ELEV.	DEPTH (FT.)	N			ļ	·					ar 6 males	) 						 TT			В	LOW	5/F	
TYI	-	Asphalt B	EN AND REDROCK	206.7 206.4 203.9	0.0																							
	7	LIMY DOL	OMITE,	195.1																								
		LIMESTON	dig.	185.5	,																							
		DOLOMIT	NE, mottled E TO IC LIMESTONE	184.I		5																						
		Drilled 1.3 5.1 4.9 4.8 4.1 3.5	Recovery (f. 1.3 4.7 4.8 4.1 5.1 3.5	t)																								
		ele 2. Wes 0.2 196	rock weathered vation 196.0 k limestone at ft, thick at 6.6 ft.	nd mud olevat	7.011	ſt.								And the state of t														
		Los	at drilling wa	ter.																								

DTMF	NT OF PL	JBLIC WORKS, CAN		AWATTO	Andread in Street, or other party of	ALCOHOLD BANK DANS	*****			, UN	-	BORIN N. B	O BY	្ន			*****		****	316	66	
TE	STING LA	ORAWN KC CHECK	W A	TOT	PENE	TRAT	ON	RES	SISTA	NCE	•			. WA	TER	col	KTE	<b>нт,</b>			~~	
MPLE	TYPE		ON (FT.)		CASING	MED S	HF.	AR S	TRE	NGTH	,8 <sub>U</sub>	PLA	STIC	LIM	17, w	P					(6)	<b> </b>
u	110101010	40000			FORMS: UNCONF	INED C	MFF	ESSI	oN(qu	/2)		منتدا	VA MI	THE	HAIT	Y. ¥		• • • •	• • • •		(")	
		WAIEN .			1 -1 -1.5	AHE					· 半	PRI	CON	SOL	IDA	1101	PRI	E551		Po"	C.7	1
	ROCK CORE	READING.		DEPTH				. سىسىدى				-+	<del> </del>				<b></b>		<u> </u>	LOV	15/F	
LE		A P	(FT.)	(FT.)	N		HF	EFF	H				Ш	H	$\prod$	H						
\			206,	5 0.0																		
====			206.	2							+++											
	Silt	trace	202	.5 4.	<u> </u>																	
	DOLOMIT	TO LIMESTONE	197	.5																		
	manufacture of special																					
	LIMEST	ONE																				
			18	6,5			#													<u>                                     </u>	<u> </u>	
X	LIMEST	TONE, mottled	18	4.9 -		++++	+	11														
	DOLOM	ITE TO																				
		A		79.6	20.3																	
	5.0	5.1																				
	4.9	4.9														-						
	ם ר	adrock weather	rad abo	ove																		-
	2, B	Badly weathers	ion 20	seam																		
		(0,2 ft. thick 196.8 ft. Calcita inclus	ion at	2.010	<b>~</b>																	
															++1					1-1-1		
	ARTME TE 2916 MPLE U	TESTING LA  2916  MPLE TYPE  UNDISTURBED  ROCK CORE  ROCK CORE  PYPE OVERBURD  Asphalt  SAND-GR Silt  DOLOMIT  DOLOMIT  DOLOMIT  DOLOMIT  1. IMEST  A. S. S. S. S. S. S. S. S. S. S. S. S. S.	TESTING LABORATUMES  2916  MPLE TYPE  MATUM GOOD CHECKY  MATURE CLEVATION  MATURE CONTINUES  MATURE CO	RECORD OF BORE HOLE RITMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916  MPLE TYPE  UNDISTURBED OF SUMPLY CONCOUND SURFACE:  OBSTURBED OF SUMPLY CONCOUND SURFACE:  OR OUND SURFACE:  OR OUND SURFACE:  OR OUND SURFACE:  OF OVERBURDEN AND BEDROCK  SAND-GRAVEL with Silt trace  DOLOMITE TO DOLOMITE TO DOLOMITE TO LIMESTONE  LIMESTONE  LIMESTONE  LIMESTONE  DOLOMITE TO LIMESTONE  1977  LIMESTONE  LIMESTONE  18  LIMESTONE  1977  LIMESTONE  DOLOMITE TO LIMESTONE  1977  LIMESTONE  LIMESTONE  18  LIMESTONE  18  LIMESTONE  1977  LIMESTONE  18  LIMESTONE  1977  LIMESTONE  18  LIMESTONE  1977  LIMESTONE  1977  LIMESTONE  1978  LIMESTONE  1979  LIMESTONE  1970  LIMESTONE  1970  LIMESTONE  1971  LIMESTONE  1971  LIMESTONE  1971  LIMESTONE  1971  LIMESTONE  1971  LIMESTONE  1971  LIMESTONE  1972  LIMESTONE  1973  LIMESTONE  1974  1975  LIMESTONE  1976  LIMESTONE  1977  LIMESTONE  1977  LIMESTONE  1977  LIMESTONE  1978  LIMESTONE  1978  LIMESTONE  1978  LIMESTONE  1978  LIMESTONE  1978  LIMESTONE  1979  LIMESTONE  1979  LIMESTONE  1970	TESTING LABORATORIES  2916    DRAWN: KC   CHECKED   APPROVED:	RECORD OF BORE HOLE RITMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916  DRAWN: KC  MPLE TYPE  UNDISTURBED  UNDISTORIE  ROCK CORE READING:  ROCK CORE READING:  ROCK CORE READING:  AND DESCRIPTION OF OF OVERBURDEN AND BEDROCK  ASPHALT PAVAMENT  UNDISTURBED  UNDISTORIE  UNDISTURBED  UNDISTURBED  UNDISTURBED  UNDISTURBED  UNDISTORIE  UNDISTURBED  UNDISTURBED  UNDISTURBED  UNDISTURBED  UNDISTORIE  UNDISTURBED  UNDI	RECORD OF BORE HOLE RITMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916 ORANN' KO CHECKED OF TO PENETRAT STO. PEN. RESISTING POPULATION (FT.)  MPLE TYPE ONTOW GOODS OF STREAMS (202.5)  MPLE TYPE OF THE ORANN' CO CHECKED OF STREAMS (202.5)  MACHINE TO PUBLIC WORKS, CANADA  ROCK CORE READING: GREEN (202.5)  MORDANIED OF STREAMS (	RECORD OF BORE HOLE RETMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916   DAXWH: KG   CHESYED:   APPROVED:   DISTURBED   WATER:   STERGOV:   206.5   MPLE TYPE   DATUM: GO GOOD   SURFACE:   206.5   MPLE TYPE   STUDIC:   STORY   179.6   MPLE TYPE   OATUM: GO GOOD   SURFACE:   202.5   MARCH:   SURFACE:   202.5   MARCH:   SURFACE:   202.5   MARCH:   SURFACE:   202.5   MARCH:   SURFACE:   202.5   MARCH:   SURFACE:   202.5   MARCH:   SURFACE:   202.5   MARCH:   SURFACE:   202.5   MARCH:   SURFACE:   202.5   MARCH:   SURFACE:   202.5   MARCH:   SURFACE:   202.5   MARCH:	RECORD OF BORE HOLE RITHENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916   ORAWN'KO   CHECKED!   APPROVED. 2916   ORAWN'KO   CHECKED!   APPROVED.	RECORD OF BORE HOLE RITMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916   DRAWH; KC   CHECKEL   PERSECUT:  2916   ORTHON   CHECKEL   CONTINUE   CONTINUE   CHECKEL   CHEC	RECORD OF BORE HOLE RITMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916  ORANN' KC  PROJECT:  OCTION BUILDING  ORANN' KC  ELEVATION (F.T.)  CANDUL TYPE  UNDOISTURBED  ONTOWN COME ONTOWN ONTOWN COME ONTOWN ONTOW	RECORD OF BORE HOLE  RITMENT OF PUBLIC WORKS, CANADA  TESTING LABORATORIES  2916 ORAWN' KQ CHEEKS PROVED  2917 ORAWN' COLUMN ORA	RECORD OF BUBLIC WORKS, CANADA TESTING LABORATORIES  2916	RECORD OF BORE HOLLE RETMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916   DAWN'RO   CHECKED   PROPERTY   OFFICE	RECORD OF BORE HOLE  TESTING LABORATORIES  2916   DRAWF' KO   STEEKED!   DEPONVE)   Office Bullding   Deponve   Office Bullding	RECORD OF BUBLIC WORKS, CANADA TESTING LAGORATORIES  2916 PRAWF KO CHESSED POSTING TO PUBLIC WORKS, CANADA TESTING LAGORATORIES  2916 PRAWF KO CHESSED POSTING TO PUBLIC WORKS, CANADA  MPLE TYPE  UNDISTURBED WORKS, CANADA  DISTURBED WORKS, CANADA  ROCK CORE STORM CONE  DISTURBED WORKS, CANADA  ROCK CORE STORM CONE  ROCK CORE  ROC	RECORD OF BORE HOLE RIMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916   DRAWN   KO   ORFEST   APPROVED   OFFICe   DILIZING   ORFEST   OFFICe   DILIZING   ORFEST   OFFICe   OFFIce   OFFICe   OFFICe   OFFICe   OFFICe   OFFICe   OFFICe   OFFIce   OFFICe   OFF	RECORD OF BORE HOLE RITMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916 ORNAWN KG OFFICE AND PROJECT OFFICE BUILDING RESISTANCE.  2916 ORNAWN KG OFFICE AND PROJECT OFFICE BUILDING RESISTANCE.  2916 ON THE COLOR OF THE PROJECT OFFICE BUILDING RESISTANCE.  WHELE TYPE UNDISTURBED DUMPACE 206, 5 UNDOBANCE SHEARS STRENDTS, a processor of the public works of the public works of the public works. The public works of the public works of the public works of the public works of the public works of the public works of the public works of the public works of the public works. The public works of the publ	RECORD OF BORE HOLE RITMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916 ONTAWN KO OFFICE CO. T.  WHOSTORIES  UNDITURBOO OF CO. T.  WHOSTORIES  UNDITURBOO OFFICE CO. T.  WHOSTORIES  UNDITURBOO OFFICE CO. T.  WHOSTORIES  UNDITURBOO OFFICE CO. T.  WHOSTORIES  UNDITURBOO OFFICE CO. T.  WHOSTORIES  UNDITURBOO OFFICE CO. T.  WHOSTORIES  UNDITURBOO OFFICE CO. T.  WHOSTORIES  UNDITURBOO OFFICE CO. T.  WHOSTORIES  UNDITURBOO OFFICE CO. T.  WHOSTORIES  UNDITURBOO OFFICE CO. T.  WHOSTORIES  UNDITURBOO OFFICE CO. T.  WHOSTORIES  UNDITURBOO OFFICE CO. T.  WHOSTORIES  UNDITURBOO OFFICE CO. T.  WHOSTORIES  UNDITURBOO OFFICE CO. T.  WHOSTORIES  RATURAL WATER CONTENT, LIGHTOLINE, WASTURAL WATER CONTENT, V.  WASTURAL WATER CO. T.  WHOSTORIES  N. B. S. S.  CO. SISTENCY  PERTITATION RESISTANCE  UNDITURBOO OFFI  WAST	RECORD OF BORE HOLE  RETMENT OF PUBLIC WORKS, CANADA  2916    DRAWN KO   DRESSED   DEPRESSED   DEPRESSED OF STATES   DEPARTMENT OF STATES   DE	RECORD OF BORE HOLE  RITMENT OF PUBLIC WORKS, CANADA  TESTING LABORATORIES  2916    DEASWIT KG   ORTESTAL   APPROVED	RECORD OF BORE HOLE  RETMENT OF PUBLIC WORKS, CANADA  TESTINO LABORATORIES  2916  DEARWY KO DEFENSION  ELEVATION (FT)  MINISTURES  MINISTU

eriorius (s. 1283) Periorius (s. 1283)	RECORD OF				AWATTO	
DEPA	RTMENT OF P TESTING L	ABORATORIE		IADA	PROJECT:	Office Building N.B. & S. No.: 32-3166
ORING ECOAR	2916	DRAWN!KC	CHECKE		PROVED:	PENETRATION RESISTANCE CONSISTENCY
Character mary property ages ;	PLE TYPE	MILITARIA TO REPORT THE	EVATIO	N (FT.)		STD. PEN. RESISTANCE, N
	UNDISTURBED	oatunige ode	ti.c	GROUND SURFACE!	206.5	INDRAINED SHEAR STRENGTH . PLASTIC LIMIT, VD.
<i>222</i>	DISTURBED			BEDROCK SURFACE:	202,5	FORMS: UNCONFINED COMPRESSION(Qu/2) BULK DENSITY, V
<b>SSS</b>	ROCK CORE	GAUGE READING:	arve barned with	BOTTOM OF HOLE:	179.6	FIELD VANE
SAMPLE	DES	CRIPTION	CONTRACTOR STATE	ELEV.	DEPTH	N SLOWS/F
NO. TYP	E OVERBURDE	N AND BED	ROCK	(F T.)	(F T.)	
	Asphalt	Pavement		206.5		
	SAND-GRA Silt t			206.7		
	DOLOMITE	TO C LIMESTO	MF.			
	DOLONITA			197.	5	
	LIMESTON	מו				
	TIMESTON	I.Ca				
	I TMESTON	IE, mottle		186. 184.	1	
	DOLOMITE LIMY DOI	ТО	Sauce of American	179.		
	Drilled 5.0	Recovery	, (ft			
	4.8 5.0 4.9 3.2	5.1 4.9 4.9 3.1				
	eleve	ock weathe	.o ft			
	3. Weak	y weathere at eleva limestone ft. thic	tion a & m	200.7 ud sea	ft.	
	4. Calc	8 ft. ite inclus ation 189	ion Oft	at.		
REMARY	(S	THE RESERVE AND INCOMES AND ADDRESS OF THE PARTY OF THE P				

DEBA		F BORE HOLE	1	OTTAWA	т)	UN	NE	្រន	PAS	)T	RE	) 01	T		6 8		ot	67	HÖ	E	0 8	3	er making
		PUBLIC WORKS, CA ABORATORIES	NAUA	PROJECT:	C	ff	Loc	Bı	illo	lin	ıg	** ***	******	BOI	· B	VEY.	÷ ន	•	FII.	Ē	32.	-31	166
RORING HECORD NO.	2916	DRAWN: CHECKI KO 70	D AF	PROVED: C-OT					N F								CO	VSIS	STE	NC	Y	-	HAVE SEE MARRIED
SAME	PLE TYPE	ELEVATION DATUM			SIN	CH	ŅΑ,	CONE	NCE,	• • • • •	• • • • •			1									0
i .	······· UNDISTURBED	Geodetio	GROUND SURFACE:		UND	RAI	NEC	SH	EAR	ST	REN	JGTH	<b>A</b>	PL	AST	IC L	IMIT,	wp**	• • •			••••	
1	DISTURBED		BEDROCK SURFACE:	-	ONIC	ONFI K TE	NED	COM	PRESS	3101	(qu/	5)	•	BU	OYAI	מדו	ENS	TY,1	¢!	,		• • • •	··· III
MCN Del CHIRAL STATES CO.	ROCK CORE	READING: CRIPTION	COTTOM OF HOLE:	179.8	FIE	L:D V	AHE			•••			· 光	PH	ECO	NSC	LID	ATIO	N PR	E88	URE,	, P'0"	Д
NO. TYPE		OF N AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N			<b>+</b>		~ ~ ~ ~ ~	<del> </del>	+		<b>}</b>				-	<b></b>	+	<u>-</u>	aLÓV	VS/FT
NATURAL DESCRIPTION OF STREET	The last of the same of the sa	**************************************	***************************************	and and an extended and an extended		H				H								+	TH			H	
	Asphalt	Pavement ~	206.3	0.0														#		==			
	SAND GRA	VEL with Silt	206.0						44					<b>!</b>	111		4				+1-		
777		trace	202.6	3.7																			
	LIMY DOP	OMTERIA MA								<b>1</b>													
		C LIMESTONE							111							++-				-			
			3.04																				
1			195.4	<u> </u>		14			<u> </u>														
	<b>9</b> .					#	++																
	LIMESTON	Š.																					
																	-		+		+++	+	
			186.6				#		1 1 1										- - -		-	-	
	LIMESTON	E, mottled	184.9									-											
	DOLOMITE	TO			#::																		
	vI	CLIMESTONE	7 500 6																				
	<u> </u>		179.8	26.5						+			+	H			+						
	Drilled	Recovery (ft)				Ш				H		-   -   -   -											
	5.1	4.8 4.9					-																
	4.8	4.8									-												
	3.1	4.8 3.2																			1		
	Notes:								-					┞┼┼			╁	+++	$H_{\Gamma}$	+	111	4	
	1. Bedroo	ck weathered a																					
		tion 197.7 ft. weak limestone																					
	at ole	evation 200.1	ft.																			-	
	mud se	weak limestone sam (0.2 ft t	and hick)																				
		evation 196.8				+-			111				-				#		H				
																				ijĺ	$\prod$		
REMARKS	ANTICAL NEW PERSONAL NAME OF THE PERSONAL NAME OF T	T. M. C. Teller (1987) S. Teller (1987) St. Additional St. Teller (1987) St. Teller (1987) St. Teller (1987) St. Teller (1987)				H		Ш	LL		Ш		IJĹ		Ш	للا	Ш	IL.	Ш	Ш	Ш		
1									+					+					·				

		BORE HOLE		OTTAW.	A (TUNNEY'S PASTURE) ONT. 10 Oct 67 No.: D1
		ABORATORIES			Office Building   N.B. & S.   No.: 32-3166
ORING ECORD O.:	2916 LE TYPE		TION (FT.	C-OT	PENETRATION RESISTANCE CONSISTENCY STD. PEN. RESISTANCE, N
-	UNDISTURBED	Ge odetic		207.2	UNDRAINED SHEAR STRENGTH, B. PLASTIC LIMIT, W.
<i></i>	DISTURAED	GROUND WATER:	BEDNOCK	205.3	HULK DENSITY, &
	······ROCK CORE	CATION	BOTTOM OF HOLE:	179.5	QUICK TRIAXIAL
SAMPLE		CRIPTION	ELEV.	DEPTH	The state of the s
NO. TYPE	OVERBURDE	OF IN AND BEDROCK	(FY.)	(FT.)	N BLOWS
	Aspholt P	avement	207.2		
1	SAND-GRAV	EL, Silt tr.	206.9 205.3	1	
	LIMY DOL	OMITE			
			196.8		
	LIMESTON	E			
	LIMESTON	E, mottled	185.6 184.1		
	DOLOMITE		179.5		
	Drilled 2.2 5.1	Recovery (f			
	5.1 4.5 3.9 5.0	5.1 4.5 3.9 5.0			
	t .	ck weathered tion 201.7 f			
	2. Thin 202.0 3, Weak	mud seams at and 201.7 f limestone se tion 199.1 f	elevet t. am at	ions	
	4. Calci	te stringer, vertical, be tions 182.9	1/8" t		

	DEPARTA	MENT OF P	F BORE HOLE PUBLIC WORKS, CAN ABORATORIES	ADA	PROJECT:	(TUNNEY'	AL SPECIAL COMPANY OF COMPANY	wal out	BORING	ot 6'		D 2 32-31	
	PODING		DRAWN) CHECKE	D) AP	PROVED:		TION RES	ISTANCE	N, E		NSISTE		
		***	ELEVATION ELEVATION NECESTRAL PROPERTY NECESTRAL PR	Ck-maraham	***************************************	STO. PEN. RESI	STANCE, N	······································	NATU		····	ENT, w	•
	SAMPLE		Geodetic			CASING					-		
				BEDROCK SURFACE:		UNDRAINED FORMS: UNCONFINED QUICK TRIAXI	SHEAR ST	HENGTH, SU	BULK	DENSITY		· · · · · · · · · · · · · · · · · · ·	
	(222)		GAUGE	BOYTOM	179.0	QUICK TRIAXI	• • • • • • • • • • • • •		npecc			ESAURE, p	
	SAMPLE		CRIPTION	HOLE:	DEPTH		e e	*************	1				0
			OF N AND BEDROCK	(FY.)	(FT.)	N				·		BLO	٥¥
													+
	===	sphalt P		207,1	0.0								1
		AND-GRAVI	EL, Silt tr.	205,2	1.9				<del>                                      </del>				#
													Ť
	1 1 1	LIMESTON											- -
		LIMY DOD	OHLTIV						1::::			####	1
	1 1			3.96.9					1:11				+
													‡
													‡ ‡
		LIMESTON	rr.										‡
		TITE HELD TON											1
er izi													
				706 19									1
		LIMESTON	E, mottled	185.7 184.0		-			<del>                                      </del>			11111	1
				104.0	<del></del>	<b>-</b>							1
		DOLOMITE	to C LIMESTONE										
		D 0 20 0111.1 1		179.0	28.1							<del></del>	+
		Drilled	Recovery (ft										1
		2.0	1.9										
		5.0	4.8								#	<b></b>	1
		5.0 5.0	5.0 5.0										-
		5.0	4.9										
		2.9	2.9										1
		Notes:											-
			ck weathered attion 199.6 ft.										-
													-
			mud seams at a		ione								-
										<u> </u>			1
			ional, near-ve										1
(A)		nalll	ine, calcité	goring	013.								1
													1
			andrews the second second second second second second second second second second second second second second										J
	REMARKS						·						-+



4.0		BORE HOLE				
OLIMI	TESTING L	ABORATORIES			Office Building N.B. & S. File 32-3166	6
		THE CHECKE	W	COT	PENETRATION RESISTANCE CONSISTENCY STO. PEN. RESISTANCE, N	African .
	LE TYPE	ELEVATION!			CASING LIQUID LIMIT, WL	0
		Geodetic			UNDRAINED SHEAR STRENGTH, & PLASTIC LIMIT, WP.	
<i>W</i>	······· DISTURBED			204.5	QUICK TRIAXIAL BUOYANT DENSITY, K	. 🗆
<b>SSS</b>	ROCK CORE		BOTTOM OF HOLE:	179.2	FIELD VANE 中RECONSOLIDATION PRESSURE, Po 来	Δ
SAMPLE		CRIPTION OF	ELZV. (FT.)	DEPTH	N BLOWS	e /e:
NO. TYPE	OVERBURDE	N AND BEDROCK	(1.1)	(FT)	N BLOWS	H
	Asphalt	Pavement	206.			
	SAND-GRA	VEL, Silt tr.	206.			
	TTO DOL	v v e trava		7		
	LIMY DOL					
		***************************************	194.	6		
	LIMESTON	E	7.00			
	LIMESTON	E, mottled	185 <u>.</u> 183.	)		++-
	DOLOMITE	to C LIMESTONE	179.	2 27.7		
	Drilled 1.9	Recovery (ft				
	5,0 1,5 4,8 4,8	5.0 1.3 4.7 4.1				
	4.0 3.3 Note:	4.7 3.8				
	1, Bedro 201,2					
		ble 60° fract tion 182.5 ft				
REMARKS"	<b></b>	n epossel pal <sub>e</sub> raproproprio de englesca el motorio de adestro de escala en el compositor de en el compositor de en				

				BORE HOLE		LOCATION: OTTAWA PROJECT:		MAL PROPERTY	66-WF1 PK7 SAFARE			) OI						•	). I			
475		30106	TESTING L	ABORATORIES DRAWN: KC CHECKE	. 1	PROVED:	·	*****************		ding N RES		ANCE		N.Y	3.	ς ( χ:			5.7 3/ ENCY	A 940	3166	
5.45.NO. A475		SAMPL	E TYPE	ELEVATIO	ON (FT.)		STD.F	EN. RE H DIA	SISTAI	NCE, N		···· 🚱		LIQ	ו סונ	L WA	ren c	OHT	ENT,	W		0
δ.			DISTURBED		GROUND SURFACE; SEDROCK SURFACE;		UNDE FORM! UNCO	AINE	COMP	PRESSIO	TRE	NGTH (2)	,8 <sub>U</sub> ⊕.	BUL	K DE	NSIT	Y , Y	••••		• • • •	••••••	m
4.			ROCK CORE		BOTTOM OF HOLE:	179.3	FIEL	VAN	E				· <del>*</del>								p'	
		NO. TYPE		OF N AND BEDROCK	ELEV. (FT.)	(FT.)	N	• •	- <b>-</b>	 Titli	- <b>-</b>		 	 F	<b>,</b> -	 111		- <del></del> -	<b>-</b> FH	<del>в</del> ПП	Lóws/	FT
			Asphalt P	avement	206.0																	
			SAND-GRAV	EL, Silt tr.	206.2																	
			LIMY DOLO	MITE																		
					196.	8																
			LIMESTONE																			
	<b>(9)</b>		I TMW GTONIE		186.	-T																
			DOLOMITE		184.	1	-															
			DOLOMITIC	LIMESTONE	1.79.	3 27.3																
			Drillod 1.2 4.8	Recovery (ft) 0.5 5.0																		
			4.5 5.0 5.0	5.0 5.0 4.9																		
			4.0	4.1																		
			1. Bedroo	ck weathered a tion 200.2 ft.																		
				mud seams at e and 201.2 ft.		Lons																
L/TF 213				a watermake trappeterior spell takende anakonder side ber												111						
FORM TL/TF		REMARKS	regioner a sant, market av eller eller eller eller eller eller eller eller eller eller eller eller eller eller	galan y amangalahanna arayongaha di yank antan napan Caminada addidaha											+							
	e exercise		OTERNIE COM			NEW YORK										20132	D.					

OCATION: 27 Sept 67 RECORD OF BORE HOLE (TUNNEY'S PASTURE) ONT. AWATTO DEPARTMENT OF PUBLIC WORKS, CANADA BORINGBY: PROJECT: 32-3166 N.B. & S. Office Building TESTING LABORATORIES TORAWN: KO PPROVED: CONSISTENCY PENETRATION RESISTANCE RECORD 2916 STD. PEH. RESISTANCE, N ...... NATURAL WATER CONTENT, W..... ELEVATION (FT.) 2 IHCH DIA. CONE ..... LIQUID LIMIT, WL ..... SAMPLE TYPE GHOUND 206.6 Ge ode tic PLASTIC LIMIT, Wa-----UNDRAINED SHEAR STRENGTH, SU UNDISTURBED HEDROCK 203.8 UNCONFINED COMPRESSION (94/2)..... BUOYANT DENSITY, & ..... OROUND WATER: QUICK TRIAXIAL..... OFTON PRECONSOLIDATION PRESSURE, PARTIE A FIELD VANE..... ROCK CORE READING: 180.0 DESCRIPTION DEPTH ELEV. SAMPLE BLOWS/FT OF (F T.) (FT.) OVERBURDEN AND BEDROCK NO. TYPE Asphalt Pavement 206.6 0.0 206.3 SAND-GRAVEL, Silt tr. 2.8 203.8 DOLOMITIC LIMESTONE to LIMESTONE 185.7 184.3 LIMESTONE, mottled DOLOMITE to DOLOMITIC LIMESTONE 1.80.0 26.6 Drilled Recovery (ft 1.1 1.6 4.8 5.2 4.7 4.9 4.8 4.8 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. displacement - minor fault. REMARKS

TORM TL/TF 213

ne.			BORE HOLE	IANA	4.0	(TUNNEY'S PASTURE) ONT. 27 Sept 67 No.: D6
176	FMIX		ABORATORIES			Office Building N.B. & S. No.: 32-3166
BORIN RECOR NO. :	3 29	916	SRAWN; CHECKE	D: AP	PROVED!	PENETRATION RESISTANCE CONSISTENCY
-		E TYPE	ELEVATION	Chefrents managemen	)	STD. PEN. RESISTANCE, N
		···· UNDISTURBED	Geodetic	GROUND SURFACE!	206.7	UNDRAINED SHEAR STRENGTHA. PLASTIC LIMIT, W.
1		······ DISTURBED	1	BEDROCK SURFACE:	204.1	FORMS: UNCONFINED COMPRESSION(QU/2)
<b>SSS</b>		ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	179.5	FIELD VANE PRECONSOLIDATION PRESSURE, PO
SAMI			CRIPTION OF	ELEV.	DEPTH	N BLOWS/F
NO.	TYPE	OVERBURDE	N AND BEDROCK	(FT.)	(FT.)	N BLOWS/F
		Asphalt	Pavement	206.	0.0	
				206.4		
		UNIVUNIX	VEL, Silt tr.	204.	2.6	
		DOLOMITE	and LIMESTONE	<b>,</b>		
		Interla	yerad			
				192.	3	
		LIMESTO	NE			
				1.85.0		
	X	LIMESTON	E, mottled	184.6		
		DOLOMITT	C LIMESTONE			
		to LIMY				
			***	179.	5 27.2	
		Drilled	Recovery (ft			
		1.0	0.5 2.0			
		5.2	4.9			
		5.0 4.9	5.0 5.0			
		5.0	4.7			
		2.0	2,3			
		Notes:				
			ck weathered a tion 199.7 ft	1		
			to lined, wear vertical, ele			
			ol, 1 ft.	1 201	1	
		3. Fau n	ear-vertical,	nalat	ta	
		strin	igers between	elevat		
		196.4	and 191.4 ft	•		
REM	ARKS	Ji	DESTRUCTION OF THE SECRET OF T	<u></u>	andrament a	4-14-14-14-14-14-14-14-14-14-14-14-14-14

DEF		MENT OF P	BORE HOLE	NADA	OTTAWA PROJECT:	(TUNNEY'S PASTURE) ONT, DATE: 27 Sept 67 No.: D 7 Office Building Bornoby: N B & S No.: 32-3166
PING CORB	<u> </u>	TESTING L	ABORATORIES  DRAWN KO CHECK	EDI) AI	PROVED:	PENETRATION RESISTANCE CONSISTENCY
***********		E TYPE	ELEVATI	ON (FT.	)	STD. PEN. RESISTANCE, N
		UNDISTURBED	Geodetic	SURFACE	206.6	INDRAINED SHEAR STRENGTH.S. PLASTIC LIMIT, Wp
		DISTURBED		BEDROCK SURFACE		DULK DENSITY, &
((LA)		····ROCK CORE	OAUOE	BOTTOM	179.9	FIELD VANE T PRECONSOLIDATION PRESSURE, p
SAMP	-		CRIPTION	HOLE:	DEPTH	
			OF EN AND BEDROCK	(F T.)	(FT.)	N BLOWS
		Asphalt F		206.	6 0.0	
		SAND-GRA		206.		
ļ		with Si	It trace	203.	8 2.8	
l						
	X	DOLOMITA	to CLIMESTONE			
		DOTWELL		70"		
	X			195	ு	
		1 71 63 0000	113			
		LIMESTO	NE			
				7.04		
		T TMP CTO	NE, mottled	186		
			MB, MOUOTOG	184		
		DOLOMIT				
	X	DOTORITI	IC LIMESTONE	179	9 26.	
	/×			1		
		Drilled 2.0	Recovery (f	t g		
		5.0	5.0			
		5.0 4.9	4.8 5.0			
		5.0	5.0			
		2.0	2.0			
		Notes:				
		1. Bedr	ock weathered			
		elev	ation 196.8 f	τ		
		2. Weal	: limestone an	d mud	seems,	
		0.2	to 0.3 ft. the vations 199.8	ick, a	t	
		9.63	antone TAA's	and I	70, P 10,	
					!	
	1.					

DWG, NO. A473

		BORE HOLE		LOCATION: OTTAWA	(1	UN	NE	Υ:	S	PA	SI	'UR	E)	(	)N'	r,	1		J				/ [	HOI NO.					ersenti
. ran			AUA	PROJECT:	01	fi	CO	В	ui.	1.d	in	g					80	RIN 1	В,	Y: &		3.	-	FIL NO.	3	2-	-35	16	6
	2916	KO M		COT	91	D. PI	en.	RES	STA	NC	É, N				CE.	- <b>(</b>				L W	/AT	ER	IS'	TE.	NC	Y	,,,,,		¥
	UNDISTURBED			206.4	LIN	DR	ΔIN	FD	ŝн	F۸	R	ST	RF	NĠ	TH	ie.	PI	.AS	TIC	LI	HIT	. Wn						-	
	DISTURBED	GROUND	BEDROCK SURFACE:	202.4	FO UN	CON	FIN	ED	OM	PRE	ESS	ION	(q <sub>u</sub> /	/z)·		•ф	В	İLK	DE	NS	ΙΤΥ	ý			•••		• • •	• • •	··· ĝ
			BOTTOM	179.5	FI	ELD	TRI VA	HE	. L.		• • • •		• • • •	• • •	• • • •	بن. بند	PI	REC	ON	30	LID	AT	ON.	PR	<b>E</b> 89	URI	., p	····	
PLE		CRIPTION	ELEV.	DEPTH	<del> -</del>											· *		en was											
TYPE	OVERBURDE	N AND BEDROCK	(F T.)	(FT.)	N	ا المالار		7771	17			TT		1			7.7		11	TT	T		TI	T.1			BLO	WC	5/1
	Asphalt	Pavement	206,4	0,0																									
	SAND-GRA	VEL with	206.1	L					-			-		11		-	1	-	$\dashv$	44	1	Щ	1	$\downarrow \downarrow$	-			$\pm$	$\exists$
7	Silt	trace	202,2	4.0													H											H	
	1											Į.		-	1		L					İ							-
	to DOLOM	ITC 	197.4	, + 												ļ., ļ													#
																											 	#	
	LIMESTON	E																											
					F				#			#									$\prod$			-					+
	I TMP OPON	T			H					11.		11																	
			185,1	<u> </u>	H		H	#-	+	╁.		+		_	+		$\frac{1}{1}$	╁┼-			+	+					+	+-	
X										$\parallel$														-					-   -
			179.	26.9				#	-							++-	$\coprod$					<u> </u>			1	Ш			
	Drilled														11														
	5.0	4.1						#		#		H					#	#			+	#		-	1	+		+	
	3.9 5.1	5.2					-																						
	4.0	4.0	.*			Щ			Щ				<u> </u>								$\prod$	1				$\prod$		لله	
																							Average of the second						
	N .		- 1						Щ	$\coprod$			+			11		11	#			<del> </del>	4	-		+	-		+
	eleva 3. Broke	tion 200,0 ft n limestone a	nd mud	seam	1																								
				alrline				H			#		+			-	4	$\frac{1}{1}$	#		+		十	1		$\frac{1}{1}$			
	strin	igers between o	elevat:				Ħ				H													H					
	1,70,0	SHO TOYAU LU		•	+		#	Ш								1								#		#	#		
							#																#	#					
							#				#												#	#		H	#	H	H
	PAR  AMP	PARTMENT OF TESTING LESTING LESTING LESTING LESTON DISTURGED CORE PLE OVERBURDE Asphalt SAND-GRASilt LIMY DOLL TO DOLOMITE LIMY DOLL LIMY DOLL DOLOM CORE LIMY DOLL CONTROL CO	PARTMENT OF PUBLIC WORKS, CANTESTING LABORATORIES  8 2916	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  8 2916  AMPLE TYPE  ONSTURBED SATUR. GOOD OF TO SURFACE:  ONSTURBED OF READING:  PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  8 2916  AMPLE TYPE  UNDISTURBED SATUR. GOOD OF TO SURFACE:  ONSTURBED OF READING:  PROCK CORE READING:  OVERRURDEN AND REDROCK  TYPE OVERRURDEN AND REDROCK  LIMY DOLOMITE  TO DOLOMITE  TO DOLOMITE  LIMESTONE  LIMESTONE  LIMESTONE  DOLOMITE to LIMY DOLOMITE  197.4  LIMESTONE  DOLOMITE to LIMY DOLOMITE  197.4  Drilled Recovery (ft)  4.9  4.5  5.0  4.1  3.9  5.2  5.1  4.0  4.0  Notes:  1. Bedrock weathered shove elevation 199.5  1. Bedrock weathered at elevation 190.0  Hotes:  1. Broken limestone and mud at elevation 200.0  A Calcite inclusions and he	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  8 2916  AMPLE TYPE  UNDISTURBED  OBSTURGED  OBOUND  OBSTURGED  OBSTURGED  OBSTURGED  OBSTURGED  OBOUND  OBSTURGED  OBOUND  OBSTURGED  OBOUND  OBSTURGED  OBOUND  OBSTURGED  OBOUND	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  8 2916  AMPLE TYPE  ONTURE CATUM: Geodetic GROUND: CATUM: Geodetic GROUND: CATUM: Geodetic GROUND: CATUM: Geodetic GROUND: GROU	PARTMENT OF PUBLIC WORKS, CANADA  TESTING LABORATORIES  8 2916    AMPLE TYPE	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES    Second   Content	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916    PRAWN: KC   CHECKED!   APPROVED: CANADA   CANADA	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916    Part	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916  2916  AMPLE TYPE  UNDISTURED ON COMPANY: KO CHECKED: COMPANY COMP	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES    2916	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916  AMPLE TYPE  UNDISTURBED  OBTUNE  OBTUNE  OBTUNE  ROCK CORE  RACHNOS  ROCK CORE	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916    PRAWN: KO   PROJECT: Office Building	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  8 2916   GRAWN: KO   CHECKED!   APPROVED:	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  \$2916	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  8 2916   DRAWN: KC   CHECKEL   APPROVED: CATTON   PROJECT: Office Building   PENETRATION RESISTANCE   PENETRATION RE	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916    DAMM: KO   CHECKED!   PAPROVEC   CVT	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916    Part	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916    PRANKE   CHEEKED   PROJECT   Office Building   PROJECT	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916    PARTMENT NO   CHECKED!   APPROVED   OFFIce Building   PRANT   N	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  \$ 2916   PRAWE KG   CHECKED!   APPROVED: Office Building   SORINGS   R. S. & C. S. & CHECKED!   APPROVED: OFFI   SORINGS   SORINGS   R. S. & C.	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916   ORANNE KO   CHECKED!   APPROVED!   OFFICIAL STATES   OFFIC	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916   ONANN: KD   ONE COUNTY   ONE COUNT	PARTMENT OF PUBLIC WORKS, CANADA  PARTMENT OF PUBLIC WORKS, CANADA  2916  2916  AMPLE TYPE  ELEVATION (FT)  WHOSTURED  WH	PARTMENT OF PUBLIC WORKS, CANADA  2916   DARAWN   KO   POWER   Office Building   CONSISTENCE   ST. D. P. R. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. P. R. STANCE   ST. D. D. R. STANCE   ST. D. P. R	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916   MARKER RO   GREEKEDT   APPROVED    BOTH RO   GROUND   APPROVED    STOLL WATCH   RO   GROUND    WINDSTANDED   RO   GROUND    WINDSTANDED   RO   GROUND    WATCH   RO   G	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916   PARKET   PUBLIC WORKS, CANADA	PARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  2916    PARAMET   OF PUBLIC WORKS, CANADA   ABORATORIES   ABORATORIES   ABORATORIES

-			BORE HOLE		COCATION: OTTAWA	(TUNNEY'S PASTURE) ONT. 5 Oot 67 HOLE E J.
DEF			UBLIC WORKS, CA ABORATORIES	NADA	PROJECT:	Office Building BORING BY: N.B. & S. NO.: 32-3166
DORING RECORD NO.:			DRAWN: KC CHECK	ED! AF	PROVED:	PENETRATION RESISTANCE CONSISTENCY
NAME OF TAXABLE PARTY.		E TYPE		ON (FT.	***	STD. PEN. RESISTANCE, N
		··· UNDISTURBED	Ge cdetic	SURFACE	207.2	HINDDAINED CHEAD STRENGTH . PLASTIC LIMIT, WO
<i>2773</i>		····· DISTURBED	GROUND WATER:	BEDROCK	205.9	UNCONFINED COMPRESSION (QU/2) BULK DENSITY, &
		ROCK CORE	CAUGE	BOTTOM OF HOLE:	180.4	FIELD VANE
SAMP			CRIPTION	ELEV.	ОЕРТН	BLOWS/FT
NO. 1	YPE	OVERBURDE	N AND BEDROCK	(FT.)	(FY.)	
		Asphalt F	Payament.	207.	2 0.0	
	=		EL, Silt tr.	206.	9	
, }	$\langle \rangle$			205.	9 1.3	
	$\langle k \rangle$					
		LIMESTONE	to DOLOMITE			
	$\setminus $					
	XI					
				194	.5	
			and the second s			
		LIMESTON	2			
				185	.4	
		LIMESTON	E, mottled_	184		
	$\nearrow$	DOLOMITE				
		DOLOMITI	C LIMESTONE	180	.4 26.8	
		Drilled	Recovery (f	t)		
		0.5	0.3 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 si	ignificant wea	atherin	ng	
		2. Broke	en limestone	and muc	l seam	
			Levation 201.			
REM	ARKS		NAME OF THE OWNER, BOOK & STREET, STRE		<u> </u>	

			BORE HOLE		CTTAWA	(TUNNEY'S PASTURE) ONT, 6 Oct 67 HOLE E 2
DE		TESTING L	UBLIC WORKS, CAI ABORATORIES	NAUA	PROJECT:	Office Building Boringey: N.B. & S. No.: 32-316
	8 29	16	DRAWN: KC CHECK	axu	PPROVED:	PENETRATION RESISTANCE SYD. PEN. RESISTANCE, N
-		E TYPE	ELEVATI		207.2	CASING LIQUID LIMIT, WL
			Ge odetic			
	•••••	····· DISTURBED			:205.3	BULK DENSITY, &
<b>200</b>	**********	ROCK CORE	1	OF HOLE:	178.5	FIELD VANE PRECONSOLIDATION PRESSURE, P'o ※
SAM	PLE	DES	CRIPTION OF	ELEV.	DEPTH (FT.)	BLOW
NO.	TYPE	OVERBURDE	EN AND BEDROCK	(F T.)	(1-1.7	
		Asphalt F	avement	207.2	0.0	
	1 1-		EL, Silt tr.	206.9		
	X	DIMD - GIMI	Lizzy Date Ozy	205.		
	N					
		LIMESTONE	to DOLOMITE			
	M	The same of the Contract				
				196.	9	
	X	and the second s	and the second s	+		
	M					
	K					
	M	LIMESTON	E to			
		DOLOMITE				
		DOTOMILIO	C LIMESTONE			
				178.	5 28.7	
		25 122 1	Recovery (f		7	
		Drilled 26.8	Recovery (f	4		
			· - •			
		Notes:	الماد الماد الماد الماد الماد الماد الماد الماد الماد الماد الماد الماد الماد الماد الماد الماد الماد الماد الم	ad+ha-	md	
		above	ock slightly we elevation 19	9.2 ft	t.	
		2. Thin	weak shale se ations 199.4 a	ans at	b	
	Ì	6.16 / 8	iorons 197.4 o	ind Th	7, 2, 10.	
-1						
-	- 1	1.			4	
				1	1	▗▗▗▐▀ <sup>▗▗▗</sup> ▀▞▗▀▞▗▀▞▗▛▗▛▗▛▗▛▗▛▗▛▗▛▗▊▗▊▗▊▗▊▗▊▗▊▗▊▗▊▗▊▗▊▗▊▗▊▗

<u> </u>			BORE HOLE		OTTAWA	
DI	EPART		UBLIC WORKS, CAN ABORATORIES	ADA	PROJECT!	Office Building N.B. & S. No.:32-3166
BURIL RECO	16		DRAWN: KC CHECKE	DI) AP	PROVED:	PENETRATION RESISTANCE CONSISTENCY
-		E TYPE	EL.EVATIO			STD. PEN. RESISTANCE, N
ł		···· UNDISTURBED	Ge odetic			UNDRAINED SHEAR STRENGTH, S., PLASTIC LIMIT, Wp
<b>222</b>		DISTURBED	GROUND WATER:		203.8	QUICK TRIAXIAL BUOYANT DENSITY, 8
1 SSS		·····ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	179,1	FIELD VAHE
	MPLE		CRIPTION OF	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT
NO.	TYPE	OVERBURDE	N AND BEDROCK			
		Asphalt	Pavement	207.		
		SAND-GRA	VEL, Silt tr.	206.		
	X	- Onno - Gran		203.	8 3.2	
			OMITE to			
		DOLOMITI	C LIMESTONS			
				195.	0	
		LIMESTON	IR.			
		1.1.PEDIO	119			
				185.		
		LIMESTON	E, mottled	184.	<u> </u>	
		DOLONIUM:	ð 4			
		DOLOMITE DOLOMIT	r to IC LIMESTONE	179.	1 27.9	
	5-24	Drilled	Recomery (ft			
		4.6	4.6	'1		
		4.7 3.5	4.7 3.5		ļ	
		4.9	4.9			
		3.9	3.9 3.1			
		Notes:	ock weathered	above		
		elev	ation 200.9 f	t.		
		2. Few	hairline calc	ite st	ringers	
		betw	een elevation	3 200.	4 8 198	.Oift.
3						
			merakannya di Senggaraniahah 2,5340 May 1 tek ambandan Sengga			
F	EMARKS	3				

RECORD OF BORE HOLE	eri a sai a	OTTAWA	(TUNNEY'S PASTURE) ONT. 3 Oct 67 No. E 4	
DEPARTMENT OF PUBLIC WORKS, CA	ANADA	PROJECT!	ffice Building BORINGBY: N.B. & S. NO.: 32-	3166
DRING IDRAWN: ICHECH	CED: A	PPROVED:	PENETRATION RESISTANCE CONSISTENCY	
SAMPLE TYPE ELEVAT	ION (FT.	)	TO. PEN. RESISTANCE, N	
UNDISTURBED CATUM: Go coleti	GROUND SURFACE	207.0	NODAINED CHEAD STRENGTH . PLASTIC LIMIT, WE	
GROUND WATER:		: 204.1	NCONFINED COMPRESSION(qu/2) BULK DENSITY, VUICK TRIAXIAL.	
CAUGE READING:	BOTTOM OF HOLE:	179.0	TELD VANE 中RECONSOLIDATION PRESSURE,	۵′∆
SAMPLE DESCRIPTION OF	ELEV.	DEPTH		LOWS/F
NO. TYPE OVERBURDEN AND BEDROCK	(F T.)	(F T.)	N 	
Asphalt Pavement	207.			
SAND-GRAVEL with Silt trace	206. 204.	1		
With Sir trace	, , ,			
LIMY DOLOMITE				
LIMI DOLOMITE				
	7.00			
X	195.	┵┼		
LIMESTONE				
	186.	.3		
LIMESTONE, mottled	184,			
DOLOMITE to				
DOLOMITIC LIMESTONE				
	179.	<u>.0 28.0</u>		
Drilled Recovery (f	t)			
1,8 1.7 5.0 5.0				
0.9				
5.0 5.0 5.0 5.0			1	
4.9 4.9				+++
2.5				
Note:				
1. Bedrock weathered elevation 201.0 f	1			
arevalun zor.or	. •			
				┸╃╃╀
		1	_ No. 2	1-1-1-1
				4444

D	EPART	MENT OF P	BORE HOLE	VADA	OFTION BUILDING RESISTANCE STO. PEN. RESISTANCE STO. PEN. RESISTANCE STO. PEN. RESISTANCE STO. PEN. RESISTANCE STO. PEN. RESISTANCE STO. PEN. RESISTANCE STO. PEN. RESISTANCE CASINO CAS	
ROFI RECO NO.:		TESTING L	ABORATORIES  DRAWN: KC CHECK	W	PROVED:	PENETRATION RESISTANCE CONSISTENCY STD. PEN. RESISTANCE, N NATURAL WATER CONTENT, W
1			Geodetic	GROUND SURFACE	: 206.7	JNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, Wp.
		DISTURBED		BOTTOM		QUICK TRIAXIAL
SA	MPLE	DES	CRIPTION OF	ELEV.	DEPTH	N BLOWS/
NO	O. TYPE	Asphalt I	Pavement	206.	7 0.0	
		LIMY DOL				
		DOLOMITI	C LIMESTONE	195.	0	
		LIMESTON	E			
		— — — LIMESTON	IE, mottled			
		DOLOMITE				
		Drilled 1.9 5.1	Recovery (ft 1.8 4.8	<b>(</b> 2)		
•		4.9 4.7 4.7 2.8	4.7 4.7 4.6 2.8			
		Notes: 1. Bedr	ock weathered ation 199.6 f	above		
		2. Thin 202.	mud seam at 3 ft. limestone servation 199.6 f	elevat am at	ion	
		3237				

		BORE HOLE		OTTAWA	TUNNEY'S PASTURE) ONT. 29 Sept 67 No.: E 6	
DEPART		UBLIC WORKS, CAI ABORATORIES	ADA	PROJECT:	Office Building N.B. & S. File No.: 32-3	166
PINO CORD 5.1		DRAWN: CHECKE	D! AP	PROVED!	PENETRATION RESISTANCE CONSISTENCY	
	E TYPE	ELEVATION OF THE PROPERTY OF T	XX		TID. PEN. RESISTANCE, N	- <del>}\</del> 0
6-7	UNDISTURBED	Ge ode tic	CALIDANT	206.9	PLASTIC LIMIT, WATER CTREATER PLASTIC LIMIT, WATER	
	DISTURBED		1	203.9	INDITATION SHEAR STRENGTH, BULK DENSITY, FORMS, INCONFINED COMPRESSION (qu/2)	… 仅
///A	·····ROCK CORE	GAUGE .	BOTTOM	180,5	FIELD VANE	····· Z
	DES	CRIPTION	HOLE:	DEPTH		
AMPLE IO. TYPE		OF N AND BEDROCK	(FT.)	(F7.)	N BLO	WS/
	Asphalt	Pavement	206.9			Ħ
	SAND-GRA	VEL, Silt tr.	206.6			H
X		E, badly	202.2			Ħ
N		d and broken	10000			
	THAT DOL	OMITE to				
		C LIMESTONE				
			195.2	2		
$\times$	LIMESTO	AID.				
	TITUDESTO	AD.				
			186.	2		
	L TAME (MA)		184.			+
	T '	NE, mottled	-1.071 • J	2		
	DOLOMIT	e to IC LIMESTONE	2.00			
				5 26.4	<u> </u>	++
	Drilled 1.7	Recovery (f	t]			
	5.1	5.0				
	5.1	4.9				
	4.9 4.9	4.8 4.9		ļ		
	1.7	1.7				
	Notes:					TT 
	1. Weal	c limestone ar	nd mud	seam		
		ft, thick at	elevat	sion		4
	196,	,7 ft.				
	2, Los	t drilling wat	ter at			
	refe	vation 200.4	LT.			<del>                                      </del>
						#
1 1						

(10)

		BORE HOLE		OTTAWA	TUNNEY'S PASTURE) ONT. 29 Sept 67 HOLE E 7	
		UBLIC WORKS, CAN ABORATORIES	IADA	PROJECT:	five Building Boring 8. 8. File No. 32-31	66
ORING RECORD NO.:	2916	DRAWN: KO CHECKE	W/	PROVED:	PENETRATION RESISTANCE STO. PEN. RESISTANCE, N	<b>→</b> {
SAMPL	E TYPE		GROUND SURFACE:		MODAINED CHEAD CTDENGTHE PLASTIC LIMIT, WO.	<b> </b>
	····· DISTURBED		BEDROCK SURFACE:		INDITION OF THE ART STRENGTH OF THE PROPERTY O	···· []
NZO	····ROCK CORE	GAUGE BEADING:	BOTTOM	180.3	FIELD VANE	,Δ
SAMPLE	DES	CRIPTION	OF HOLE: ELEV.	DEPTH		WS/FT
	OVERBURDE	OF N AND BEDROCK	(F Y.)	(FT.)	N BLO	
	Asphalt	Pavement		8 0.0		
	SAND-GRA	VEL, Silt tr.	206. 204.			
	LIMY DOI	OMITE to				
			195.	6		
	LIMESTO	NE				
			186			
	DOLOMIT	NE, mottled E to IC LIMESTONE	184			
	DODOUTE	IO MINDSTOND	$+\frac{180}{}$	.3 26.5	<u></u>	+++
	Drilled	1.7	t			
	5.0 1.1 4.9 4.9	4.9 1.1 4.9 4.9				
	1.5	4.8				
	abo 2. Bro	rock badly wesve elevation a ken limestone vation 196.6	202.1 seam : ft	ft.		
	3. Few	hairline cal- r-vertical, b .0 and 198.0.	cite s etween	tringer elev.	,	

	ECORD OF	BORE HOLE		OCATION: OTTAWA	(TUNI	NEY	S	PA	STUI	Æ)	ON	T.	DAT 29	S	өр	t	67		iŏ.	F	; g	}			
EPART	MENT OF P	ublic works, can		75 (855)	ffic	-		v	Water of Steel				BOI	BORINGBY: N.B. & S. NO.: 32-3166											
		DRAWN: CHECKE	DI JAPP	ROVED:	PEN	JF TR	ΔΤΙ	)N	RES	IST/	NC	E	<u> </u>			CC	NS	SIS.	TEI	VCY	(			٦	
AB 2	2916	KC   911	<u> </u>		STD. PE	N. RES	SIST	HC	, N		6	•	THE PARTY OF THE P												
SAMPL	E TYPE		CONTIND		CASIN	ğ						 	PL	AST	ric	LIM	17. W	h		• • • •		··· Ի-		-	
	UNDISTURBED	Geodetic	SURFACE:	206.9	UNDRA FORMS	TINEL	COL	1E.P.	SSIO	line.	/a)···	…⊕ Մահ		II K	DEN	VSIT	Υ	٧			• • • •	• • • • •		9	
	DISTURBED	[ = ·	BEDHOCK SURFACE:		FORMS UNCON QUICK FIELD	TRIAX	IAL					<b></b>	BL	ioya Rec	INT ON S	DEN 30L	ISIT IDĀT	Y,B Tion	PR	ESSI	JRE.	, p'o	٠۷	7	
	HOCK CORE	READING:	BOTTOM OF HOLE:	180.3								*	L.				-								
APLE		OF	ELEV. (FT.)	DEPTH (FT)	N	<del></del>			<b>+</b>							<del></del>	4				-	BLOV	WS/I	FX	
TYPE	OVERBURD	N AND BEDROCK			THE		T																		
	Asphalt P	avement	206.9	0.0	<u> </u>		di										‡								
	SAND-GRAV		206.6	0.0									4			4	#	111	1		$\mathbb{H}$	+++	11	+	
	with Sil	t trace	204,1	2.8	-																				
																1:									
	TIMA DOTO					##		Щ					-	-		+-	+		+			#		#	
	DOLOMITIO	LIMESTONE			脚																				
	1		196.1		_ [																		H		
							#	+++			+++			H	$\dagger$	H				<b>†</b> ††	1				
	1																								
	LIMESTON	E																							
					1	+++	1	+++		$\ \cdot\ $				++	++	1-1	$\dagger$	11			1			П	
			206.0	,																1		+++			
K	L TAGGORIAN	PUBLIC WORKS, CAL LABORATORIES  ORAWR: KC CHECK  ELEVATION CATUM! Geodetic CATUM! GEOMETIC CATUM! GEOMETIC CATUM! GEOMETIC CATUM! GEOMETIC CATUM! GEOMETIC CAT	18 <u>6.</u> 9		-														:				Ш		
	TIMESTON	m , m O C G 1 O C	+ 2.	<del> </del>		+++		-		11															
		ELEVATION  CATUM: Geodetic  CATUM: GEOROTIC  CATUM: GEORO			Ħ:																				
	DOLOMITE		180.	3 26.	6																	111	1	H	
-	<b>&gt;</b>											1			1										
	Drilled		t)			- - - - - - - - - - - - - - - - - -																			
	1.4																+		1	1			+		
	5.0	4.9											1					1							
	4.9	4.9 3.2																							
	5.0	4.9								1	<b> </b>			$oldsymbol{+}$		4	-+-	++	+			للبا	+	+	
	1.8	1.8			H																				
	Notes:				1																				
	1. Bed	rock weathere	avoda f	,				-	┼┼┼		+	+		+	+		$\dagger \dagger \dagger$	-		$\parallel$	$\forall$	$\dagger \dagger$	詌	i	
	ale of the	vation 197.7	it. d seam	0.2 ft.																					
	1 4.54	ck at elevati	on 1200.	,7 IT.	1.4																				
Ì	3 Ope	on joint (70°)	at ele	svation.	- 1		+	+	+++	+ + +	+	$\dagger \dagger$				+++	$\dagger \dagger$	#		#		$\Pi$	T		
	/ No	an vertical ca	lcite	stringe	rs																				
	be	tween elevs. 1	.84.0 &	180.3	ft.		##			##									#					1	
								+			1			$\dagger$		#					H	$\prod$		Ŧ	
9					E	-	11													##	1		井	1	
1 1	}				ŀ		H						$ \mathbf{r} $							$\mathbb{H}$		1	Ш		
]	1			1								1.1	1 1 1					,,,	1_1 ,	اللث	A Parker			-	

DE I			BORE HOLE	1	LOCATION: OTTAWA PROJECT:	(TUNNEY'S PASTURE) ONT. 5 Oct 67
		TESTING L	ABORATORIES		PROVED:	Office Building  BORINGBY: N.B. & S.  PENETRATION RESISTANCE  CONSISTENCY
DORING RECORD NO.:		916 E TYPE	ELEVATION		COT	PENETRATION RESISTANCE  STD. PEN. RESISTANCE, N
-				GROUND		UNDRAINED SHEAR STRENGTH, S. PLASTIC LIMIT, WP.
		····· DISTURBED			206.0	FORMS: UNCONFINED COMPRESSION(Qu/2)  QUICK TRIAXIAL  BUOYANT DENSITY, 8'
		····ROCK CORE			179.4	FIELD VANE PRECONSOLIDATION PRESSURE, P'o
SAMP		DES	CRIPTION	HOLE:	DEPTH	
		OVERBURDE	OF N AND BEDROCK	(F T.)	(FT.)	N BLOWS/
			Pavement	207.		
	- X	SAND-GRAV	EL, Silt tr.	207.		
		DOLOMITE DOLOMITIC	to LIMESTONE			
				194.	8	
				1 ''		
		LIMMSTON	S	185.	.3	
		LIMESTON	E, mottled	183		
		DOLOMITE		179		
		Drilled 2.2	Recovery (ft			
		2.3 5.1 4.9 5.0	1,8 5,1 5,0 4,8			
		4.9 2.2	4.9 2.8			
		elevs 2. Possi	ock weathered ation 201.3 ft ible, near-ver	tical,		
			ture between e 7 and 190.8 ft		ons	
REI	MARKS		hand a fit Mar maghasian benganyak kabanasan arawa na padama			

			BORE HOLE			(TUNNEY'S PASTURE) ONT. 4 Oct 68 HOLE F 2
0			UBLIC WORKS, CAI ABORATORIES	AVOV	PROJECT:	ffice Building Boring BY: N.B. & S. FILE NO.: 32-3166
BOR REC NO.:			DRAWNING CHECK		PROVED:	PENETRATION RESISTANCE CONSISTENCY
NO. 1		E TYPE	ELEVATION	Andrew Commencer		STD. PEN. RESISTANCE, N
			Geodetic	GROUND SURFACE:		INDRAINED SHEAR STRENGTHIS PLASTIC LIMIT, Wp.
122	<b>a</b>	DISTURBED	GROUND WATER:	BEDROCK SURFACE:	205.8	DICONFINED CORPRESSION (QU/2) BUOYANT DENSITY, 8
525	<b>23</b>	ROCK CORE	CAUGE READING!	BOTTOM OF HOLE:	179.7	FIELD VANE PRECONSOLIDATION PRESSURE, p' 米
	MPLE		CRIPTION	ELEV.	DEPTH	BLOWS.
NO	TYPE	OVERBURDE	N AND BEDROCK	(F T.)	(FT.)	
		Asphalt	Pavement	207.	3 0.0	
			VEL, Silt tr.	207.		
				205.	3 1.5	
	N	DOLOMITE				
		DOLOMITI	C LIMESTONE			
				194.	6	
	N					
		LIMESTO	NE			
				3.85.	1	
		LIMESTO	NE, mottled	1.83.		
		DOLOMIT				
		DOLOMIT	IC LIMESTONE	179.	7 27.6	
	->					
		Drilled	Recovery (f	t)		
		2.1	2.0			
		5.2	5.0			
		5.0 5.0	5.0 4.8			
		4,8	4.8 2.3			
		2.3	~ . J			
		Notes:		hova		
		elev	rock weathered vation 201.9 1	t.		
		2. Calc	cite stringer " thick, part]	with p Ly bord	yrice,	
		nea	r-vertical, be	etween	elevs.	
		186	.8 and 185.1	r t		
1						

DI			BORE HOLE	l l	PROJECT:	-	UNN							)	ON'	T.	IB.	ATE A ORII	00	BY:			٠	HO					
		TESTING L	ABORATORIES  ORAWN: KC		PROVED:	[	fic PEN	IET	RAT	10	N	RES	SIS	TAI	VCE		T	N.			cc	NS	SIS	TE	N	Y			
RECOF NO.:		2916 LE TYPE	ELEVATION OF THE PROPERTY OF T	I di		STI	D. PE	N. R	ESIS	TA	4CE	N			6			IAT	UR/	LIA	WAT	rer	co	H T	EN	r, u			( )
		UNDISTURBED	Ge cdetic			UN	DR/	AINE	D:	SHI	EAI	 २ <u>ऽ</u>	TR	EN	GTH	l,s		LA	STI	C L	IMI	T, w	٥			• • •	• • • •	٠ ١	
		DISTURBED		BEDROCK SURFACE:	AND RESIDENCE AND PARTY OF THE	UN	CON	FINE TRIA	D C	OME	PRES	3510	N (9	u/2	)		}   6	no.	YAN	T	EN	SIT	Y, <b>t</b>	; <b>!</b>			• • •	• • •	•• (
<b>XX</b>	· }	ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	179.2	FI	ELD	VAI	NE.						• • • •	· · · · · · · · · · · · · · · · · · ·	<u> </u>	PRE	COI	NSC	DL1	DAT	101	N PI	RES	SUF	Ε, ;	·'o'''	••••
	MPLE		CRIPTION OF	ELEV. (FT.)	DEPTH (FT.)	N					<b></b>				+-				+-			<b> </b>		<b>+</b>		<del>-</del>	BI	.0W	5/
NO.	TYPE	OVERBURDE	N AND BEDROCK	(+1.)	(17.7				П						Ŧ		П		$\prod$	T	H		H	H	E		H		
		Asphalt	Pavement	207.															-						-				
		SAND-GRA		207.0																$\downarrow \downarrow$				4	1		#		
	ישלא	Silt	trace	203.9	3.4	-				$\parallel$						1						H		-   -				#	
						-													1									+	
		DOLOMITE to	C LIMESTONE									#		+		#						+		-					
	K	LIMA DOI	OMITE															1											
				195.	1											#													1
	$\nearrow$			1.2.	T	-																		-					+
																													1
		LIMESTON	Æ						4						11				$\!$	4	<del>      -   -                            </del>	-		1		$\dashv$	₩		1
	K	1				E									1:		11												
				186.	0		Ħ								11														
		LIMESTO	WE, mottled	184.	5	_  -				+		++-	+			-	-				$\frac{1}{1}$	$\dagger \dagger$			+		$\dagger \dagger$	1	
		DOLOMIT	r to			F																							
			IC LIMESTONE																										
	Z			179.	2 28.1									T				I											
		Drilled	Recovery (f	t)																									
		0.5 4.9	0.3 4.9				1	-						-				+	#		-	$\dashv$	+-	1			-	-	
		5.0	5.0																										
		5.0 5.0	4.9 5.0																										-
		4.3	4.3											1						+	+		#	†					1
		Notes:																											
		1. Bedr	rock weathered										Ш							$\prod$	1				<u> </u>			-	
		elev 2 Thir	ration 198.2 f n mud seam at	t. elevat	j.on 202	.0	£	<b>5</b> ,																					
		3. Thir	n calcite stri	ngers.	petheeu	ì												1					  - -					$\parallel$	
		olev A. Calo	vations 203.0 cite inclusion	and 20 n at el	ev. 196	.1	1	t.	+	+	+-		$\left  \frac{1}{1} \right $	+		-		+		$\pm i$	+	$\dagger \dagger$	-	+	+	Ħ	+	#	
	-										- -					#		$\frac{1}{1}$											
																#												#	
									#									#								Ħ	ļ		1
									4			##					#		#							1			T
										Ш		Ш					1			11	Ц.	Ш		Ш.	Ш	Ш	11	Ш	1

DE	PARTI	MENT OF P	BORE HOLE UBLIC WORKS, CAN	IADA F	OTTAWA	(TUNNEY'S PASTURE) ONT. 4 Oct 67 F 4  fice Building Rolling N.B. & S. File No.: 32-3166
ORING RECOR			ABORATORIES  TRAWN: KC CHECKE	D! API	ROVED:	PENETRATION RESISTANCE STD. PEN. RESISTANCE, N
THE OWNER AND ADDRESS.		TYPE	ELEVATIO			ZINCH DIA. CONE LIQUID LIMIT, WL
		UNDISTURBED	Ge odetic		206.9	INDRAINED SHEAR STRENGTH, SILL PLASTIC LIMIT, WP.
		DISTURBED	GROUND WATER:	BEDROCK SURFACE:	203.9	DUICONFINED COMPRESSION (QU /2)
<b>XX</b>		ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	179.7	FIELD VANE PRECONSOLIDATION PRESSURE, po
SAH			CRIPTION	ELEV.	DEPTH	BLOWS
NO.	TYPE	OVERBURDE	N AND BEDROCK	(FT.)	(FT.)	
	1	Asphalt P	avement	206.9		
		SAND-GRAV		206.6		
		with Sil	MITE to	200,	/ J.O	
			LIMESTONE	196.9	9	
		LIMESTONE	}			
				186.	1	
		T TME STONE	E, mottled	184.	i	
		DOLOMITE LIMES	to			
				179.	7 27.2	
		Drilled 1.9	Recovery (ft	<b>:</b> )		
		5.0 5.0 4.9	5.0 5.0 4.9 4.8			
		4.8 2.6	2.6			
			rock weathered ration 200.2 f			
		2. Near	r-vertical joi ween elevs. 20	nt, we	athered 202.0 f	5.
		nea	cite stringer, r-vertical, pa vations 181.6	rtfly p	orque,	
					v	

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RECORD OF BORE HOLE		OTTAWA	TUNNEY'S PASTURE) ONT. 30 Sept 67 No.: F 5	
DEPARTMENT OF PUBLIC WORKS, CA TESTING LABORATORIES	NADA	PROJECT:	Office Building N.B. & S. No.: 32-3	166
	/	PROVED	PENETRATION RESISTANCE CONSISTENCY	
NO.,	ON (FT.)	07	TO. PEN. RESISTANCE, H AND NATURAL WATER CONTENT, W	
DATUM: 0 1 1 1			CASING LIQUID CIMIT, WE	· <del> </del>
Branes			ORMS: BULK DENSITY, V	
GROUND WATER:	BEDROCK SURFACE:		DUICK TRIAXIAL BUOYANT DENSITY, E	
ROCK CORE READING:	BOTTOM OF HOLE:	180,1	FIELD VARE	
SAMPLE DESCRIPTION OF	ELEV. (F7.)	DEPTH (FT.)	N BI	LOWS/FT
NO. TYPE OVERBURDEN AND BEDROCK	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			
Asphalt Pavement	206.9	0.0		
SAND-GRAVEL with	206.6			
Silt trace	203.9			
DOLOMITE to				
LIMESTONE				
	1			
	185.	9		
LIMESTONE, mottled_	184.			
DOLOMITE to DOLOMITIC LIMESTONE	7.00	2 06 6		
DOLORITIO PRINCETONIC	1.80.	1 26.8		
To a 22 a de Paramero (	e+ \			
Drilled Recovery (	10)			
4.9 4.8				
3.6 3.5				
4.5				
4.2 4.2				
Note:				
1. Bedrock weathere	d above	∍		
elevation 199.6	ith			
				لللخليل
REMARKS				in the same

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DE PAF	REC	CORD OF	BORE HOUBLIC WOR	OLE KS, CANA		CATION: TTAWA		-					E )	ON		30 ORIN N.E					ILE		7	316	56
	TE	STING L	ABORATORI DRAWN: KC	ES TCHECKED	I APPI	OVED:	ffi	NF.	TRA	TIO	N R	ESIS	TAT	VCE.	十	e anne true		CC	ONS			ICY		page 32 57 57 57 58 58 58 58 58 58 58 58 58 58 58 58 58	
CORD 2				_ <u>RW</u>	Language Avenue	27	STD.	PEN.	RESI	STAR	ICE,	N		• • 🚱	-	NAT L	IRAL ID L	. WA	TER	ĊO1	NTE	NŤ, V	4	<del>-</del>	0
		TYPE	DATUM: Coo	dottal	ROUND SURFACE:	206.9	CAS	NO .			 EAR	ST	REN	GTH,	. 1	DI A	TIC	LIM	17. W			• • • •	• • • • •	-	
		INDISTURBED	1		EDROCK SURFACE:		FORK	S:	NED	COMI	PRES	SION	qu/2	)	\$	BULK	ANT	DE	ISIT	A' R,		••••	••••		
(Z)		DISTURBED	WATER:	1	TESTI	180.3	FIE	K TR	ANE	A L		٠٠٠٠			<del>十</del>	PRE	CON	soL	IDAT	TION	PRE	ssu	RE, p	٠,, ٥	Δ
		ROCK CORE	CRIPTION		ELEV.	DEPTH	-												+			-+-	Al	.ows	/F
NO. TYP			OF N AND BE	DROCK	(F T.)	(FT.)	N	LLL	TTT.	[]]		TIT		TH	T		ŦП	Ш	Til		ΠŦ	H	ΠĒ		Ħ
			Pavement		206.9	0.0																			
		SAND-GRA	VEL		206.6												+	4	1.		+++	╫		#	
		DOLOMITE	ilt trace	!	204.3	2.6																			
		DOLOMITI	C LIMEST	ONE	195.6																				
		LIMESTO	NE																						
					186.	_1																			
		DOLOMIT		l <u>ed</u> _	184.	3 26.	4																		
		Drilled 1.8 5.1 5.0 5.0	Recove 1.6 5.1 4.9	) )		20.0																			
		4.9 2.2 Notes: 1. Bed	4.9 4.9 2.2 rock weat	the red	above																				
		2. Wea	vation 10 k limest ck, at o	one se levati	am, 0, on 199	.7 116.																			
		3. Bro	oken shal thick a	e and t elev	mud se	am  0.2 9 ft.																			

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	F	RECORD OF	BORE HOLE		LOCATION:	(TUNNEY'S PASTURE) ONT. 2 Oct 67 F 8
DE	PART		UBLIC WORKS, CAN	ADA	PROJECT:	BORINGBY; FILE
808100	)	TESTING L	ABORATORIES  DRAWN: CHECKE  KC PH	D TAF	PROVEU:	
BORILLO RECORD NO.:				<u> </u>	CAT	PENETRATION RESISTANCE CONSISTENCY STD. PEN. RESISTANCE, N
S/	AMPL	E TYPE	ELEVATION:			CASING LIQUID LIMIT, WL
		···· UNDISTURBED	Geodetic			UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, WO
1		······ DISTURBED		BEDROCK SURFACE:	204.9	QUICK TRIAXIAL BUOYANT DENSITY, 8'
<b>200</b>	• • • • • • • • • • • • • • • • • • • •	·····ROCK CORE	READING:	BOTTOM OF HOLE:	179.4	FIELD VANE
SAMP			CRIPTION OF	ELEV.	DEPTH	
NO.	TYPE	OVERBURDE	N AND BEDROCK	(FT.)	(FT.)	N BLOWS/FT
		Asphalt I	Pavement	206.6		
		SAND-GRAY	ML, Silt tr.	206.3		
		LIMESTONE		204.9		
		LIMESTONE		195.6		
		DOLOMITE	TO C LIMESTONE	179.		
		Drilled 1.1 5.0 5.0 5.0 5.0 3.4 Notes: 1. Bedro	Recovery (ft) 1.1 4.7 5.0 5.0 4.9 3.5			
		2. Mud seleva 3. Weak	tion 198.1 ft. eams, 0.2 ft. tions 204.0 & limestone sear tions 198.1 ar	thick 200.3	ft.	
REMAR	RKS					

		BORE HOLE		COCATION: OTTAWA	(TUNNEY'S PASTURE) ONT. 3 Oct 67 HOLE NO.: G 2
DEPART		UBLIC WORKS, CAN ABORATORIES		PROJECT:	Office Building Borned St. 8. S. No.: 32-3166
BORING RECORD 2 No.:	916	DRAWN: CHECKE	DI AF	CAT	PENETRATION RESISTANCE CONSISTENCY STO, PEN. RESISTANCE, N
	E TYPE	ELEVATIO			2 INCH DIA. CONE
	···· UNDISTURBED	Geodetic	SURFACE:	207.4	UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, WP.
	DISTURBED		BURFACE	: 205.8	DUICK TRIANIAL BUOYANT DENSITY, &
	ROCK CORE	READING:	OF HOLE:	179.1	FIELD VANE
SAMPLE NO. TYPE		CRIPTION OF N AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT
1112			200	0.0	
	. Asphalt		207.2		
	SAND-GRAV	EL, Silt tr.	205.8		
	LIMY DOL				
	DOLOMITI	C LIMESTONE			
			194.	,	
			1 / /	<b>-</b>	
	LIMESTON	E			
			li i		
			185.	7	
	LIMESTON	E, mottled	1 <u>83</u> .	2	
	DOLOMITE	to			
		C LIMESTONE	179.	1 28.3	
1 }			1.79	20.7	
	Drilled	Recovery (ft	)		
	2.2	1.9 1.8			
	5.2	5.1			
	5.0	4.8 4.9			
	4.8	4.8 2.8			
	2.8	<b>≈.</b> 0			
	Notes:	ock slightly w	anthe	red	
		e elevation 20			
	0 17-4	line calcite s	t mil sice	are	
	near	-vertical, bet	tween	elevs.	
	204.	0 and 201.9 at 0 and 195.0 f	nd ele	vs	
	197.	O SING TAD OF	•	1 18 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
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SAMPLE TYPE  SAMPLE TYPE  DATUM: GO Odo tic Surface: 207.3  GROUND  BERROCK  DATUM: GO Odo tic Surface: 207.3  BERROCK  DATUM: GO Odo tic Surface: 207.3  BERROCK  DATUM: GO Odo tic Surface: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3  BERROCK  DATUM: GO ODO TIC SURFACE: 207.3		(TUNNEY'		BORE HOLE		
SAMPLE TYPE  WINDSTURSES  UNDISTURSES  UNDISTURSES  SAPPLE  SAPPLE  OSTURIES  OSTURIES  SAPPLE  OSTURIES	N.B. & S. No. 32-3166	Office Bu		ABORATORIES	TESTING LA	
SAMPLE TYPE  UNDISTURES  UNDIS				CHECKED! AP	29 <b>1</b> 6	CORD
DESTURBED WATER  DISTURBED WATER  DESTURBED WATER  SUPRACE  DESTURBED WATER  SUPRACE	LIQUID LIMIT, WL.	CASING				SAMPI
South   Sout	PLASTIC LIMIT, WD	UNDRAINED			l.	
BANDLE DESCRIPTION  DOLONITE OF OVERBURDEN AND SECROCK (ri) (ri) (ri) (ri) (ri) (ri) (ri) (ri)	BUOYANT DENSITY, 8				1	<b>Z</b>
No   First OverBuilden   No   No   No   No   No   No   No   N	·····································	FIELD VANE	·	READING: OF HOLE:	ROCK CORE	
Asphalt Pavement 207.3 0.0    SAND-GRAVEL, Silt tr.  207.1   206.5   0.8     DOLOMITE to DOLOMITIC LIMESTONE   196.8	BLOWS/F	N		OF I		
DOLOMITE to DOLOMITIC LIMESTONE  196.8  LIMESTONE  185.9  LIMESTONE  183.8  DOLOMITE to DOLOMITIC LIMESTONE  179.4 27.9  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				Pavement 207.3		
DOLOMITIC LIMESTONE   196.8   196.8   196.8   196.8   185.9   183.8   183.8   183.8   196.8				CELLIA DELLA LECALE	SAND-GRAV	
LIMESTONE  LIMESTONE, mottled 183.8  DOLOMITE to DOLOMITIC LIMESTONE 179.4 27.9  Drilled Recovery (ft) 1.6 1.5 1.7 1.7 3.0 2.8 5.0 5.0 5.0 4.8 4.8 5.0 4.8 4.8 5.0 4.8 4.8 1.8 Notes:  1. Top 1.2 ft. of bedrock drilled						
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Drilled Recovery (ft)  1.6		9 =	4 27.9	C LIMESTONE		
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5.0 4.8 4.8 4.8 Notes: 1. Top 1.2 ft. of bedrock drilled				2.8 5.0	3.0 5.0	
1. Top 1.2 ft. of bedrock drilled				4.8	5.0 4.8	
					1. Top 1	
2. Bedrock weathered above elevation 201.7 ft.						
3. 80° joint at elevation 204.3 ft.						

DEPARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES  Office Building N.B. & S			BORE HOLE		OTTAWA	(TUNNEY'S PASTURE) ONT. 4 Oct 67
DOLOMITE to   DOLOMITE to	DEPART			IADA	PROJECT:	Office Building N.B. & S. File No.: 32-3166
SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SUPPLY OF COLORS COLO	OC SANS		DRAWN: CHECKE		PROVED:	PENETRATION RESISTANCE CONSISTENCY
SANUTE TIPE  STORY OF					************	STO. PEN. RESISTANCE, N
DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE to DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE TO DOLOMITE LIMESTONE  DOLOMITE to DOLOMITE TO DOLOMITE LIMESTONE  DOLOMITE TO DOLOMITE LIMESTONE  DOLOMITE TO DOLOMITE TO DOLOMITE LIMESTONE  DOLOMITE TO DOLOMITE LIMESTONE  DOLOMITE TO DOLOMITE LIMESTONE  DOLOMITE TO DOLOMITE LIMESTONE  DOLOMITE TO DOLOMITE LIMESTONE  DOLOMITE NO DOLOMITE LIMESTONE  DOLOMITE NO DOLOMITE NO DOLOMITE LIMESTONE  DOLOMITE NO DOLOMI			DATUM!			CASING
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Packer   P	////	DISTURBED	1			QUICK TRIAXIAL
DOLOMITE	<b>XX</b>	ROCK CORE	GAUGE READING:	BOTTOM OF	178.9	FIELD VANE PRECONSOLIDATION PRESSURE, p'o 水
Notes:   1.   1.   1.   1.   1.   1.   1.   1	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		CRIPTION	1	L .	a over the
SAND-GRAVEL with Silt trees 204.5 2.8  DOLOMITE to LIMESTONE  DOLOMITE to DOLOMITIC LIMESTONE  DOLOMITIC LIMESTONE  178.9 28.4  Drilled Recovery (ftt 1.9 1.9 5.0 5.0 4.9 4.8 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0		OVERBURDS		(FT.)	(FT.)	N BLOWS/
SAND-GRAVEL with Silt trees 204.5 2.8  DOLOMITE to LIMESTONE  DOLOMITE to DOLOMITIC LIMESTONE  Drilled Recovery (ft) 1.9 1.9 5.0 5.0 4.9 4.8 5.0 5.0 5.0 5.0 5.0 5.0 3.8 3.8  Notes:  1. Bedrock weathered shove elevations 190.7 & 197.5 ft. 2. Broken, thin limestone seams at elevations 190.7 & 197.5 ft. 3. Calcite stringers to 3/8", slight displacement (minor faul by between elevs. 198.0 & 193.8 ft. 4. Rairline calcite stringer between elevs. 184.5 & 183.0 ft.				200 3		
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LIMESTONE  186.4  LIMESTONE, mottled  184.5  DOLOMITE to DOLOMITIC LIMESTONE  178.9  28.4  Drilled Recovery (ft)  1.9  1.9  5.0  5.0  5.0  5.0  5.0  5.0  3.8  Notes:  1. Bedrock weathered above alevation 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 by between elevs. 184.5 & 183.0 ft.  4. Hairline calcite stringer between elevs. 184.5 & 183.0 ft.						
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DOLOMITIC LIMESTONE  178.9  28.4  Drilled Recovery (ft)  1.9  1.9  5.0  5.0  5.0  5.0  5.0  5.0  3.8  Notes:  1. Bedrock weathered above alevation 202.3 ft.  2. Broken, thin limestone seams at elevations 199.7 % 197.5 ft.  3. Calcite stringers to 3/8", slight displacement (minor faul by between elevs. 198.0 & 193.8 ft.  4. Hairline calcite stringer between elevs. 184.5 & 183.0 ft.		1				
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between elevs. 184.5 & 183.0 ft		bet	ween elevs. 19	gtnin	TA3.0	***************************************
		4. mai	ween elevs. 18	34,5 &	183.0	ft
DELIADAS		1,50	nigora omortus mi			
DEMARKS						
DEWARKS						
	BEWARE					

R	ECORD OF	BORE HOLE	1	OTTAWA	(1	UNNE	y 's	PA	STU	re )			E: Oc Inge		5 7		HOLE HO.:		G 5		
DEPART	MENT OF P	UBLIC WORKS, CAN ABORATORIES	AUA P	ROJECT:	) f f	.ce B	uil	dir	ig			N	.B.	8	8.		NO.	32	-3	.66	) 
HING CORD	2916	DRAWN KC CHECKE	DI APP	AOVED:	T	ENETI	ATIO	NC	RESI	STAN	ICE		TURA	***		SIS	TEN	ICY			
	E TYPE	ELEVATIO	N (FT.)		2 11	ICH DIA	CON	E				Lia	UID	LIMI	T, w						-0
	··· UNDISTURBED	DATUM	GROUND SURFACE:	207.0	UNI	RAINE	D SI	İΕΛ	RST	REN	STH,8 <sub>U</sub>	PL	ASTI	C LIN	117, 6	45***	• • •	• • • •	• • • • •	٠,	
	DISTURBED		BEDROCK SURFACE:	204.2	UNC	MS; ONFINE CK TRIA	D COI	apre	SSION	(qu/2	)······ <b>\$</b>	ви	OYAN	T DE	NEIT	'Y, 8	•	••••	••••	• • • • •	· 🗆
///	ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	179.5	FIE	LD VA	E				* * * * * * * * * * * * * * * * * * * *	PR	ECO	1501	-IDA	TION	PRE	SSU	RE, p	ò	
SAMPLE	DES	CRIPTION	ELEV.	DEPTH				+		+		-+				-	ı		BL	.ows	3/F
	OVERBURDE	OF N AND BEDROCK	(F T.)	(F T.)	N	HHAT	TT	H		HE		П	ТП	Ш	П	EJE			HE		F
		n	207.0	0.0																	
	Asphalt SAND-GRA	VEL with	206.7	7	1									Ш							$\parallel$
	Silt tr		204.2	2.8	_																Ħ
	LIMY DOI	OMITE to										4			-					#	#
	DOLOMITI	C LIMESTONE			H																
			197.3	4	- [																
						#			1											+	
	LIMESTO			Ė														Ш			
	1					$\dagger \dagger \dagger$			+												
					E		$\parallel \parallel$						44		$\  \ $				$\ \cdot\ $	$\parallel \parallel$	H
			186.	·											Ш		###		$\downarrow\downarrow\downarrow$	44	11
	LIMESTO	NE, mottled	184.	3	[																
	DOLOMIT	E to																			
	DOLOMIT	TO LIMESTONE	179,	.5 27.	5			44					+++-		+			+-		#	+
	<del>\</del>																				
	Drilled		t)																		
	2.1.	2.1 4.3			}		+++		++++				$\parallel \parallel$	Ш	1	$\top$			1		Π
	3.4	3.4					1.11-														
	4.7	4.7 4.8																			Ц
	4.8	4.8																			Ħ
	Note:																				
	1. Bed	rock weathered	l above	,								44				1	+++	11		₩	$\frac{1}{1}$
	ele	vation 202.5	it.																		
																					+
							#	+		+	++++		${\mathbb H}$	${\mathbb H}$	++	#			$\parallel \parallel$		İ
				4. 4			#										扯				
																	##			Ш	H
											###				詌			H		II	F
						井井								#		1	##	##		#	Ħ
														Ш	Ш	Ш		Ш	Ш	Ш	Ш
REMAR	kš	and the second s						111		لتللا									1		

D.N. C. N. C.

			BORE HOLE	1	COCATION: OTTAWA	(TUNNEY'S PASTURE) ONT. 3 Oct 67 HOLE NO. G 6
DE	PART		UBLIC WORKS, CAN ABORATORIES	IADA	PROJECT:	Office Building BORINGBY: N.B. & S. No. 32-3166
BORING RECORD NO. :		2916	TRAWN: CHECKE	<del></del>	PROVED:	PENETRATION RESISTANCE  STD. PEN. RESISTANCE, N
-		E TYPE	ELEVATION Geodetic			2 INCH DIA, CONE LIQUID LIMIT, WE LOUID LIMIT,
		UNDISTURBED		BEDROCK SURFACE:		UNCONFINED COMPRESSION (94/2)
		ROCK CORE		BOTTOM		FIELD VANE
			CRIPTION	OF HOLE: ELEV.	1.79.1 DEPTH	*
SAMP NO.			OF N AND BEDROCK	(FT.)	(FT.)	N BLOWS/FI
		Asphalt		207.	1 0.0	
	f	SAND-GRA		206.	1	
			Silt trace	203.		
		LIMESTO	 Ve	186		
		LIMESTO	WE, mottled	184		
		DOLOMIT	E to IC LIMESTONE	<b>17</b> 9	.1 28.0	
			Recovery (ft 1.7 4.6 5.0 4.7 5.0 3.6 rock weathere	d abov		
		2. Cal	vation 202.1 cite inclusio vation 203.5	n at		
REI	MARKS					

			BORE HOLE		COCATION: OTTAWA	
DE	PAR		PUBLIC WORKS, CAI ABORATORIES	AUA	PROJECT:	Office Building Boringby: N.B. & S. File No.: 32-3166
ORIN ECOR	8 29	91.6	DRAWN: KC CHECKE	D) AP	PROVED:	PENETRATION RESISTANCE CONSISTENCY
S	AMPL	E TYPE	ELEVATIO			STD. PEN. RESISTANCE, N
		···· UNDISTURBED	Ge odetic	GROUND SURFACE:		UNDRAINED SHEAR STRENGTH, & PLASTIC LIMIT, Wp
	********	DISTURBED	GROUND WATER:	BEDROCK SURFACE:	204.7	QUICK TRIAXIAL
		·····ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	179.3	FIELD VANE
SAMI	<b></b>		CRIPTION OF	ELEV. (FT.)	DEPTH (FT.)	N BLOWS/FT
NO.	TYPE	OVERBURDE	N AND BEDROCK		<del>                                     </del>	
		Asphalt P	avement	207.0	0.0	
		SAND-GRAV	EL, Silt tr.	206.7	0.3	
	X			204.7	7.03	
		LIMY DOLO	MITE			
	X					
				197.6		
		LIMESTONE				
		LILIDIO TONE	•			
	X					
			-	186.2		
		LIMESTONE	, mottled	184.7	<u> </u>	
		DOLOMITE				
	X	DOLOMITIO	C LIMESTONE	380 3	200 0	
				179.3	27.7	
		Drilled 1.8	Recovery (ft)			
		5.3	5.2			
		3.7 4.8	3.7 4.8			
		4.8	4.8			
		5.0	5.0			
		Notes:				
			ck weathered attion 202.4 ft.			
		2. Weath	ered, near-ve	rtical	joint	
		3. Seam	of limestone	opbble:	s at	
		eleva	tion 202,8 ft	.		
		elevs	calcite string. 199.9 and 1	37.6 f	t.	
Dev	ARKS	1				
"E"	MITNO					

DEPA	化二十二烷二甲基苯甲酚 医克罗斯氏试验检尿病 化二氯甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基	oublic Works, cai Laboratories	NADA	PROJECT!	(TÜÑ		<u> </u>		Vitraii				ORIN	I Q BY		70 E	FILE NO.2	32-3	2000	 O
PEINS	2935	DRAWN: CHECK	ا ۱۹۸۱ اور	PROVED	D.B.	200 A	6.0		<del></del>		NCE		M.	B,	Rab	o Vsis	337 (2.5)	27.00	720	7
•	PLE TYPE	ELEVA		<u> </u>	STD. PEN. RESISTANCE, N															
	UNDISTURBEO	DATUM: Geodetic	GROUND SURFACE:	204.6	OASI:	40 ···		ny a saya Mahamanan			לור זוי	280 1884			MIT, LIMIT,					
	OISTURBED	GROUND GROUND WATER!	BEDROCK SURFACE:	200.4	UNCO	NFINE	o co	XPRE:	SSION	10.1	2,374,52	A	BÜLK	DEN	SITY	, <b>y</b>	• • •			7
	X ROCK CORE	1. 12. 14年12.6 (19)	BOTTOM -	1.58.9	FIEL						(,,,,,, (,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				dens Olid					
SAMPLE		CRIPTION OF	ELEV.	DEPTH	<u> </u>							*1							teologi	
VO. TYPE	OVERBURDE	N AND BEDROCK	(FT.)	(FT.)	N	TITI	5 TT			.0 111		19	) TI:T		77 T				BLO\	WS
					雦		詌						諎		##				詌	
	TOPSOTT-O	LAYEY SANDY	204.6	0.0																H
~ 777	SILT, darl	c grey-brown L		-			Ш			$\mathbf{H}$					##			詌		Ħ
7   722	to brown SILTY SAN	(loose) D, few roots (	202.3	2.3			詌								##				掛	I
3 777	yellowish	brown (loose)	200.4	4.2	Ш	0	3	ы.	h		) 5	۴۱,								
K		11. 현실 시간 기업		卌	詌	Ħ			詌										H	
					Ш										排					H
	LIMES	STONE,				$\mathbb{H}$									#			##	#	
K	few sha:	ly partings											詌		詌					
		lolites, Cine grained,				##	H			卌			詌					##		
	dark gre	ey to grey,				Ш									詽			${\mathbb H}$	$\mathbf{H}$	1
	l.4 ft.	at least				Ш									111					
							苴						詌		##			詌		
										H					+11			$\prod$		
															Ш			$\coprod$		
					Ш		#		Ш	4			#	3	44			Щ.	븨	H
N			178.0			掛	벖				詌		$\parallel$	描	Ш					
	TTTMO.TOG	LIMESTONE				剒		$\frac{111}{210}$	eo.		1,8			 	徘					
			173.9				H	418		#	4,4	2	#	Hi	+			#		Н
					Ш			541			5.0				111					H
\\							##			H	415				111			11		
		STONE above)						919			4.9		Ţij.					$\prod$		F
					鼬			5.0			418									
		at least thick			##		##	5.0		44	5.0		Щ		444	111	Ш	1		Ц
	2.0 IO.	GILCK							Ш											
$   \rangle$										111							Ш		Ш	
			158.9	45.7			₩	H	拙	剒	肼	HH	#		井		#	#		
	NOTES: 1.	Top 2 ft. of		4	瞓	#			HH	#	卌			H				肼		
	2.	broken and jo Porous zones		ws.	闡	Ш				掛		Ш	Ш		Ш	腁		肼		
		188.0, 176.2,	164.3		圃						曲	Ш	$\boxplus$				Ħ	#		Ħ
	4	and 159.1 ft. Near-vertical	, mine	nalized		#			$\coprod$	${\mathbb H}$	腁	鬪			$\mathbb{H}$	H			H	H
		joints at ele 186.9 and 171	rs.	10	鬪	朏	1	HH	$\mathbb{H}$	H	HH		#	誧	Ħ	卌	詌	詌	咁	1

DE	Carlotte State of	TMENT OF	F BORE HOLE Public Works, cai .aboratories			(TUNNEY'S PASTURE) ONT. Apr. 23/68 WELL 2  D.B.S. NEW BUILDING BORINGBY: M.B. Rabb Well 32-32
AECOAC NO.:	-	2935 LE TYPE	DRAWN: CHECKI (A)A2 ELEVATION	بللب	PROVED!	PENETRATION RESISTANCE CONSISTENCY STOLPEN RESISTANCE, N
		DISTURBEDDISTURBEDDISTURBED	Geodetic Geodetic GROUND WAYER:	GROUND SURFACE! BEDROCK SURFACE:	204.8	CASING  UNDRAINED SHEAR STRENGTH, SU  PLASTIC LIMIT, Wp.  PLASTIC LIMIT, Wp.  BULK DENSITY, V  BUCK TRIAXIAL.  BUOYANT DENSITY, V.
SAMP	LE	DES	CRIPTION	HOLE: ELEV. (FY.)	DEPTH (FY.)	N 5 10 15 BLO
3		TOPSOIL-C	LAYEY SANDY LITY SANDY	204.8		
lı.	7777	FINE SAND		199.8		7 bl., for 0.5 ft.
		few shand st mainly dark a beds t	mestone, maly partings cylolites, fine grained grey to grey, to at least thick	178		Drillied Recovery (St.)
		I.: ( ;	IMESTONE as above) to at least t. thick	162.	8 42.0	- 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0
NOT	IS:	with seam 2. Few thairlin bear 3. Full	-1/2 ft. of be rust coated jo reported at el ight fractures ine calcite st drock. return of dril during rock o	ints, lev. 19 and ringer	sand 7.2 ft. s	

ρŧ	8 79 30 30 30	deleteradorializado de la como de la como	F BORE HOLE PUBLIC WORKS, CAN	/4.4.4	F 18 (19) 18 (48) 18 18 12	(TUNNEY'S PASTURE) ONT. Apr. 25/68 No.: 3
	NY Y	· 1. 成 · 1. · 1. · 1. · 1. · 1. · 1. · 1	ABORATORIES		PROJECTI	D.B.S. NEW BUILDING M.B. Rabb No.: 32-3289
OR IN	8	2935	DRAWN: CHECKE	DI AF	PROYED!	PENETRATION RESISTANCE CONSISTENCY
		LE TYPE	ELEVATA			2 INCH DIA CONE
		····· UNDISTURBED	1000000000		205.1	UNDRAINED SHEAR STRENGTHE PLASTIC LINIT, WA
		DISTURBED			2010	OUICK TRIANIAL
<b>200</b>	MX	······ROCK CORE		BOTTOM OF HOLE:	163.7	FIELD VANE
SAM			CRIPTION	ELEV.	DEPTH	
NO.	TYPE	OVERBÜRDE	OF N AND BEDROCK	(FT.)	(FT.)	N 5 10 15 BLOWS/F
		TOPSOIL-C	See all the second of the seco	205.	0.0	
5	724	사람들이 하는 사는 이 사람들이	grey to brown	202.	le d'Albanda (Ballan)	
6	7	SILTY SAN.  brown	D, yellowish	201,,(	4.1	
		few shal and styl mainly f dark gre some rus	ine grained,   y to grey, t coated			
			nd broken top 4 ft.	190.0	)	
		with bre minerali few slic (evidenc fracture	ESTONE cciated and zed zones kensides e of faulting) s and veins p dipping,			Drilled Recovery (Ift.)
			y to grey			74-9 350
						3.1 3.2 5.0 4.7 4.8 5.0 3.6 3.0
						5-10 4-77 4-39 4-77 4-39
	7			163.	7 41.4	
Vot	ds:	fract 2. Miner	coated joint ures above ele als are calcit	ev. 18.		
		gypsu 3. About	stite and poss m. 50% loss of a during rock of	drilli		
REM/	NK8					

FORW TL/TF 213

DE PA		F BORE HOLE	Wev-		(TUNNEY'S PASTURE) ONT, Apr. 23/68 HOLE 4
		ABORATORIES		PROJECT:	D.B.S. NEW BUILDING M.B. Rabb No. 32-3289
PECONO NO.	2935	ORAWN! CHECK	G. AP	PROVED:	PENETRATION RESISTANCE STO, PEN, RESISTANCE, N
SAM	PLE TYPE	ELEVATIO	Ж (FT.)		2 INCII DIA CONE
<b>E</b>	UNGISTURBED	Geodetic	GROUND SURFACE;	204.5	UNDRAINED SHEAR STRENGTHE FLASTIC LIMIT, W.
	······ DISTURBED		BEDROCK SURFACE!	202.1	UNCONFINED COMPRESSION(QU/2) BULK DENSITY, F. BUCK TRIANIAL. BUOYANT DENSITY, F.
N.	XROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	162.3	PIELD VANE
SAMPLE	A - Charles - Constant - Constant - Constant - Constant - Constant - Constant - Constant - Constant - Constant	CRIPTION	ELEV.	DEPTH	
NO. TYP	OVERBURDE	N AND BEDROCK	(FT)	(FT.)	N 5 10 15 BLOWS
		CLAYEY SANDY L SANDY SILT	204.5	0.0	
2 7		y to brown	202.1	2.4	
7	4				
K					
	the second of th	MESTONE			
		aly partings ylolites,		Maria Ma	
K	mainly	fine grained,			
		rey to grey, o at least			
		. thick			
	1				
					Drilled Recovery (fft.)
	4				11 11 11 11 11 11 11 11 11 11 11 11 11
					5.0
					5.0
					A THE PARTY OF THE
×		tulkus Suikkuus Suikk Liikus Sukki Suki Siik			4.8
k		기 등 등 등 기가 들어냈다. 참가 있다면 하는 것이 되었다.			
			160 5	3 42.2	
4			1.02.,	, 42.2	
Notes		ft. of bedroo		teh,	
		rust coated jo s zones at ele		olio	
	and 1	75.8 ft.			
		ensided, weak ev. 186.0 ft.	shaly	sþam	
		ous thin weak	seams		
	repor	ted between e	Levs.		
REMARK		and 165.1 ft ional, near v		ا زيا	
	hairl	ine, calcite			
	in Fr	e limestone.			

· 是 医 化 化 1. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TMENT OF P	F BORE HOLE Public Works, call Aboratories	THE PROPERTY AND A	OTTAWA Project (	(TUNNE D.B.S.			A CONTRACTOR	NT.		1.00000	211111111111	B HOL		5 1000				
JN8		DRAWN; CHECKE	PAPA TO	ROVED:		RATIO	RES	BISTANC	E			CONS	ISTER	VCY					
SAMPI	LE TYPE	ELEVATIO			I S INCH DIA	CONE	10 At 15 At 25	AND AND DESCRIPTION		NATURAL WATER CONTENT, WILL									
	····· UNDISTURBED			204.1	UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, WA														
1 No. 1 No. 1 No. 1	······ DISTURBED	· 在多数数据数据数据表示。	<b>有有有重要的</b> 的任何。这么	202.3	UNCONFINE	NAL.	PRESSIO	N(au/2)	····				<b>, y</b> 1						
JNX	ROCK CORE	* \$6.4 \$ \$4.4 \$ \$4.5 \$	IOLE!	164.4	PIELD VAI	lEistrei.			•••	PREC	38110	LIDAT	ion phe	SSURE	, P				
MPLE		CRIPTION OF	ELEV. (FT.)	DEPTH		-L		1		) <u>.                                    </u>	1				- 200				
1'YPE	OVERBURDE	N AND BEDROCK	1 11	(.71)	N HHHHHH		THE	10 	ΉH	招	HHH	HH	HH	HH	BLOW:				
									##	Щ				##	卌				
			isangan Pangangan				魽誰		扭			挪	긤田	掤	벮				
	Anna de la companya del la companya de la compa	SANDY SILT [_]	204.1	0,0					##	卌				#					
	dark groy	r to light br.	202.3	1.8		###	拙捷	<b>(4)</b>	剒					誰					
M													HH	##	Ш				
1/1									拑	卌		卌	HH	詌	詌				
$\mathbb{K}$	Ī	limestone					Ш		卌	Ш					卌				
M	few sha	ly partings				拙	+		##	卌					Ш				
KI		fine grained,				圃			詽	囲									
11		rey to grey,							詌	詌		詌			詌				
$ \zeta $	beds to	at least				Ш			掤	Ш				刞	囲				
KI	15 ft.	thick								$\mathbb{H}$									
						###			詌	卌	肼			卌	卌				
11									Ш			閸			ᇳ				
						HH			甜曲	HH	TH	ПH	肼		制				
									剒	H	H		卌						
11						拙				Щ	Щ.		Щ	Ш	Ш				
N						Pr	111 ec	Redo	Yen	14	1442	開告	HH		IH				
			175.8			鉪	331		13		$\coprod$				1				
17	DOT OM I'M'T	C LIMESTONE				##	3.5		8	Ш	Щ		圳井	ЩЩ	圳				
N	Product a Widdle Council of Driving Co.	at least					4.18												
	1.9 ft.		1			肼	816		İ					Щ					
			1.69.4	1		44	713	11115	虯	Ш		Ш	Ш	Ш	4				
1/1		(an above) 4					<b>716</b> 11	拙拔	[18]		圳			Ш					
	beds to a	t least	,						HH	H	##		HH		扣				
	1.3 ft. t	1	367,5390,61	39.7					Ш	##	$\mathbb{H}$	###		$\mathbb{H}\mathbb{H}$	44				
tes:		ft, of bedrock						抽措	HI	HII	Hi				HH				
		n with rust coa s and sandy ins									Ш	ШЦ			4				
	2. Porous	zones at elev	vs.		1	##				卌	$\mathbb{H}$	卌井			##				
		, 188.9, 185.3,							H	Ш	肼	抽曲		川田	Ш				
		and 174.0 ft. Irilling water	lat			曲井				魽	魽			聞	誰				
		1.79 ft.				卌			##	卌		卌	###	卌	肼				
										$\mathbb{H}$	Ш		龃		#				
										Ш	詌	1		HH	曲				
MARKS					THE PERSON NAMED IN	FLLL	بتلالئل	THHE	מוננו	LLL	ш	Щп	TITI	لتلثل	ЦЦ				

		SECORD OF	BORE HOLE		LOCATION:	DAYE: HOLE
DF			PUBLIC WORKS, CAN	ADA	TUNNEY!	S PASTURE, OTTAWA, ONT.   Nov. 27/69   125
			ABORATORIES		100000000000000000000000000000000000000	d D.B.S. Bldg. Perreault S2-3289
SORING	}		DRAWN: CHECKE	P1/  AF	PAGKED:	PENETRATION RESISTANCE CONSISTENCY
RECORU	) 	3011	G.F.	0101	When	STD. PEN. RESISTANCE, N
S	AMP	LE TYPE	ELEVATION		)	2 INCH DIA. CONE LIQUID LIMIT, WL
1883 ···		···· UNDISTURBED	Geodetic	GROUND SURFACE:	205.1	NORAINED SHEAR STRENGTH . PLASTIC LIMIT, WA
<i>222</i>		DISTURBED	GROUND	BEDROCK SURFACE		FORMS: UNCONFINED COMPRESSION(qu/2) BULK DENSITY, &
			1 1/24	BOTTOM	170.0	FIELD VANE
<b>8884</b>		FROCK CORE		HOLE	169.1	***************************************
SAMI			CRIPTION OF	ELEV. (FT.)	DEPTH (FT)	N BLOWS/FT
HO.	TYPE	OVERBURD	N AND BEDROCK	V 13		
				005 1		
		\$4 - A A A A A A A A A A A A A A A A A A		205.1	0.0	
		TOPSO	IL covering			
		SAND-	GRAVEL			
				100.0	, , ,	
	V			198.0	7.1	
	X	LIMESTON	E, appears to			
		be sound	, thin celesti O joint at	te		
	$\bigotimes$	elev. 19	o joint at 7			
		elev. 17	<b>*</b>	190.	5 14.6	
		thick ret	· celestite	<del> </del>		
	X		l dia. of core	,	ľ	
		_in spots	, 800 mud _	187.	0  18.1	
	$\otimes$	stained	jt. at 189.31			
	K					
1						
1	X	\$				
		}				
					4	
		LIMESTON	E, sound,			
		water st	ained joints			
		at elev.	182 and 175			
		}				
		}				
		9		169.	1 36.0	
	77			1000		<u>∽</u>
					l ·	Dr.11ed Recovered
			Vater lost			2.5 ft.
			at elev. 189			
						3.0
						5.0 S.0
.						2 6
						[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
						28.9 ft.
No.	IABUE		1 1. 1. 1	<u> </u>	1100100	
REA	IARKS		level ½ hour a			

FORM TL/IF 213

			BORE HOLE	IA PA		S PASTURE, OTTAWA, ONT. 27 Nov. 69 No.: 126
UE	PARI		UBLIC WORKS, CAI ABORATORIES	YAUA	PROJECT:	d D.B.S. Building   Bornogy:   File No.: 32-3289
ORING ECOR	8		DRAWN: CHECK	12:1/ A	PPINE	PENETRATION RESISTANCE CONSISTENCY
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		3011	GF C			STD. PEN, RESISTANCE, N
<u>s</u>	AMPL	E TYPE	ELEVATION:	ON (FI.		2 INCH DIA. CONE LIQUID LIMIT, WL-
		··· UNDISTURBED	Geodetic	SURFACE	205.0	UNDRAINED SHEAR STRENGTH, SU BULK DENSITY, &
		DISTURBED	GROUND 190#	BEDROCK SURFACE	: 200.0	UNCONFINED COMPRESSION (QU/2)
<b>200</b>	BXF	ROCK CORE	GAUGE READING: -	BOTTOM OF HOLE:	167.3	FIELD VANE
SAMI			CRIPTION	ELEV.	DEPTH	
		OVERBURDE	OF N AND BEDROCK	(FT.)	(F T.)	N BLOWS
<i>j</i>						
,				205.0	0.0	
	1 1	SIDEWALK				
		SAND-GRAV	EL	200.0	5.0	
	\S	LIMESTON	fractured	199.		
			•			
			E, sound,			
	X	vertical				
		from ale	s present vation 200			
		to eleva	tion 185			
Ì				185.	0 20.0	
		LIMESTON	E-FAULT BRECC	īħ —		
			emented with			
		calcite,	competent,			
}	<b>X</b>	70° mud at eleva	stained joint	1		
		ar ereva	OTOH TOT	178.	0 27.0	
	$\otimes$	<b>)</b>				
		LIMESTON	E, sound			
		1		1		BEDRO¢K
		3				
	$\Diamond$					Drilled Recovered
				167	.3 37.	7
		-				310
		NOTE:				5.0
1		NOID.				5.0
	-		returned		•	5.0 5.0 5.0
		during	g drilling			
						32.7 ft. 32.6 ft.
			•			
- L	MARKS	∦ Water	level 1/2 hr.	after	pumping	and the desired the state of th

DEDA		F BORE HOLE PUBLIC WORKS, CAN	404	OCATION: FUNNEY!	S	PA	AS'	rui	RE	,	01	T	AW	۸,	!	ON	T.		D		c.	3		69		Ŀ	O.		12	7			
UEPA		ABORATORIES	ľ	Propose	b	D.	B	S		В1	d۶	3.											igo	e .		FI	ō.:	3	2-	32	<u>28</u>	9	
BORING RECORD NO. :	3011	G.F. CHECKS	كبعر عف والمسمود	JAY C		PE	N	TF	₹A	rio	N	R	S	รา	Α	NO	E						-	-			EN		•				
	APLE TYPE	ELEVATIO	N (FT.)		12	TD.	H	DIA	. C	ONE	• • • •		٠.,,	•••	٠.,														w				
	UNDISTURBED	DATUM!	GROUND	205.1		ASI NDF													PI	LAS	571	C L	IMI	T, u	, .			•••	• • •	1			•
	DISTURBED	GROUND	BEDROCK	A riberto d state to management	F	NCO	S: NF	INE	D C	OM	PRE	:59	ION	(q,	1/2	)		φ.	В	JL	Ö	EN	SIT	Ϋ,	γ.		• •	• • •		• • •			1
	BXF ROCK CORE	GAUGE	SURFACE :		- ';	VIC	K T D '	RIA VAN	XIA E··	L	••••	 		• •	• • • •	• • •	• • •	4											RE,				
		READING:	HO'E:	1.78.5 DEPTH	+		.pqu-											米			~~						uni er				W-1000		
SAMPLI NO. TY	<u>-  </u>	OF EN AND BEDROCK	ELEV. (FY.)	(FT.)	-	N	-+-					<u></u> _		+		+			·}		+-	71.40		<b></b>		<del></del>			F	BLO	WS	/F	ī
AAAAAAAAAAA	ZA TUBOUR	in II. I blanckille blaich be bleich							П								- - -			Ħ	1						Ė					H	1
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		may and a consequence of the first through the Sandahan or the first or the first through	205.1	0.0	<u>) [</u>									L				-		$\coprod$		1	1		1		4	1	#	1			1
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		covering			Ī												1												11.	1			
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	LIMESTON	E, fractured_	198.5	6.6	6		#				Ħ												il										-
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	LIMESTONE	. sound					Ц		Щ		#	11	Ш	-		-				-	4	$\perp$	$\prod$	-	11				++	$\coprod$	#	+	-
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	and betwe elev. 191						#						#	1	1	1	H													$\prod$			
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1 8	70° tight	mud filled									-																						-
1 6	seam at e	elev. 195				1:1			-				<u>. </u>  -																				-
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REMAI	RKS A 27	level measured	12 1-	une et	F A	#	للا	11	L	1	LL	11	LI.	1	لل	Ш	Ц	Щ	L	11	11	Ш	Ш	Ш	نلـ		Ш.	Ш	Ш	Ш	للـ		Ĺ
		ting bore hole		aro art	-c	1				-+		+			+-					+		-+-					+		<del></del>				

oli transmini servici di tra

bore hole down to elev. 185

DEPARTMENT OF PUBLIC WORKS, CAMADA TISTING LABORATORIES  PRODESCO.  SAMPLE TYPE  WORKSTORN CONCENTRATION TETL  CONSISTENCY  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SON DESCRIPTION  COOCULI SUMPACE: 204.6 NORMANDE SHEAR STRENDING, 19  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SON DESCRIPTION  DESCRIPTION  DESCRIPTION  DESCRIPTION  DESCRIPTION  DESCRIPTION  COOCULI SUMPACE: 204.6 NORMANDESSIGN(2,1)  DOWN THANALL  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE NORMANDESSIGN(2,1)  DESCRIPTION  DESCRIPTION  DESCRIPTION  COMMITTEE TYPE  SAMPLE	TESTING LABORATORIES  SAMPLE TYPE  SAMPLE TYPE  UNDISTURED  DESTURED  OFFICIAL COVERTING  NO. TYPE  TOPSOIL covering SAND-GRAVEL  204.6  0.0  1709-0011  SAMPLE TYPE  SAMPLE TYPE  OFFICIAL COVERTING  OFFICIAL COVERTING  NO. TYPE  TOPSOIL covering SAND-GRAVEL  204.6  0.0  1709-0011  204.6  0.0  1709-0011  204.6  0.0  1709-0011  17
SAMPLE TYPE SAMPLE TYPE WORTHARD SAMPLE TYPE WORTHARD SAMPLE TYPE WORTHARD SAMPLE TYPE WORTHARD SAMPLE TYPE WORTHARD SAMPLE TYPE BELEVKTON (FT) Goodettc SAMPLE TYPE BENEVIEL 204,6 STORM	SAMPLE TYPE  SAMPLE TYPE  COOdetic  SAMPLE TYPE  SAMPLE T
SAMPLE TYPE UNDSTURED  Geodetic  STORE ALTER  DESTRIPTION  SAMPLE  NO. TYPE  OVERBURDEN AND REDROCK  204,6  010  TOPSOIL covering SAND-GRAVEL  200,9  TOPSOIL covering SAND-GRAVEL  201,6  TOPSOIL covering SAND-GRAVEL  200,9  TOPSOIL covering SAND-GRAVEL  200,9  TOPSOIL covering SAND-GRAVEL  200,9  TOPSOIL covering SAND-GRAVEL  200,9  TOPSOIL covering SAND-GRAVEL  200,9  TOPSOIL covering SAND-GRAVEL  200,9  TOPSOIL covering SAND-GRAVEL  200,9  TOPSOIL covering SAND-GRAVEL  200,9  TOPSOIL covering SAND-GRAVEL  200,9  TOPSOIL covering SAND-GRAVEL  200,9  TOPSOIL c	SAMPLE TYPE
### Condition	Description   Service
DESCRIPTION  SAMPLE  DESCRIPTION  SAMPLE  NO TIME  OVERRURDEN AND SERROCK  DYTH  OVERRURDEN AND SERROCK  DYTH  SAMPLE  SAMPLE  NO TIME  OVERRURDEN AND SERROCK  DYTH  SAMPLE	MST   SAMPLE   SEPROCK   176.9   STON   SOLE:   176.9   SOLE:   176.9   SAMPLE   SECONS   SOLE:   176.9   SO
ASK nock cose Favone: Solid: 176.9 FILLO VARE SAULDATION PRESURE OFFIN OLD OFFIN NO. TYPE OVERRURDEN AND SECROCK 971 Gril N. OFFIN NO. TOPSOIL covering SAND-GRAVEL 200.9 3.7 LIMESTONE, weathered sections, thin mad/seams, evidence of water movement soundness, questionable 195.6 9.0 LIMESTONE, sound with tight mad 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  BEDROCK  Drilled Recovered  1.3 ft. 0.8 ft. 1.0 1.0 1.0 1.3 1.2 5.1 5.0 5.1 5.	SAWP-LE   DESCRIPTION   SLEEP   OFFTH   OFFT
Casing had to be drilled down to   Casing had to   Casing had to	DESCRIPTION   SLEW OF   OVERBURDEN AND BEDROCK   OTI   OFT   N
O   TOPS   OYERBURDEN AND BEOROCK   STATE   O.0	No. TYPE OVERBURDEN AND BEDROCK
204.6	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, 188.8, 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 1.0 1.3 1.2 5.1 5.0 5.0 5.1 5.0 5.0 5.1 5.0 5.0 5.1 5.0 5.0 5.1 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	TOPSOIL covering SAND-GRAVEL  200.9  3.7  LIMESTONE, weathered sections, thin mud/seams, evidence of water movement soundness, questionable
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, 188.8, 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 1.0 1.3 1.2 5.1 5.0 5.0 5.1 5.0 5.0 5.1 5.0 5.0 5.1 5.0 5.0 5.1 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	TOPSOIL covering SAND-GRAVEL  200.9  3.7  LIMESTONE, weathered sections, thin mud/seams, evidence of water movement soundness, questionable
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, 188.8, 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 1.0 1.3 1.2 5.1 5.0 5.0 5.1 5.0 5.0 5.1 5.0 5.0 5.1 5.0 5.0 5.1 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	TOPSOIL covering SAND-GRAVEL  200.9  3.7  LIMESTONE, weathered sections, thin mud/seams, evidence of water movement soundness, questionable
SAND-GRAVEL   200.9   3.7	SAND-GRAVEL   200.9   3.7
LIMESTONE, weathered sections, thin mud/seams, evidence of water movement soundness, questionable _,	LIMESTONE, weathered sections, thin mud/seams, evidence of water movement soundness, questionable
Sections, thin mud/seams, evidence of water movement soundness, questionable	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  BEDROCK  Drilled Recovered  1.3 ft. 0.8 ft. 1.0 1.0 1.3 1.2 5.1 5.0 5.0 5.1 5.0 5.1 5.0 5.0 5.0 5.1 5.0 5.0 5.0 5.0 5.1 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0
Description   195.6   2.0	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  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 5.1 5.0 5.1 5.0 5.1 5.0  24.0 ft. 23.0 ft.  NOTE: Water returned during drilling	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 5.1 5.0 5.1 5.0 5.1 5.0 24.0 ft. 23.0 ft. NOTE: Water returned
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### ### ### ### ### ### ### ### ### ##	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  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 5.1 5.0 5.1 5.0 5.1 5.0 5.1 5.0 5.1 5.0 5.1 5.0 5.1 5.0 5.1 5.0 5.1 5.0 5.1 5.0 5.1 5.0
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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	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   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 5.1 5.0 5.1 5.0 5.1 5.0  24.0 ft. 23.0 ft.  NOTE: Water returned
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 5.1 5.0 24.0 ft. 23.0 ft.  NOTE: Water returned during drilling  REMARKS Casing had to be drilled down to	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 5.1 5.0 5.1 5.0 5.1 5.0  MOTE: Water returned
### 45° tight jt. at 183.5; 2" thick zone of small unconnected pores at elev. 185.5    176.9   27.7	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 5.1 5.0 5.1 5.0 5.1 5.0  MOTE: Water returned
2" thick zone of small unconnected pores at elev. 185.5    176.9   27.7	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 5.1 5.0 24.0 ft. 23.0 ft.  NOTE: Water returned
BEDROCK   Drilled   Recovered     1.3 ft.   0.8 ft.   1.0   1.0   1.3   1.2   5.1   5.0   5.0   5.1   5.0   5.0   5.1   5.0	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 5.1 5.0 5.1 5.0  MOTE: Water returned
BEDROCK   Drilled   Recovered     1.3 ft.   0.8 ft.   1.0   1.0   1.3   1.2   5.1   5.0   5.0   5.1   5.0   5.0   5.1   5.0	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 5.1 5.0  MOTE: Water returned
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Drilled   Recovered	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
Drilled   Recovered	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
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	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  MOTE: Water returned
1.0 1.0 1.3 1.2 5.1 5.0 5.1 5.0 5.1 5.0 5.1 5.0 5.1 5.0 5.1 during drilling  REMARKS  Casing had to be drilled down to	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.
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  Gasing had to be drilled down to	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.
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	5.1 5.0 5.1 5.0 5.1 5.0 24.0 ft. 23.0 ft. NOTE: Water returned
5.1 5.0 5.1 24.0 ft. 23.0 ft.  NOTE: Water returned during drilling  REMARKS  Casing had to be drilled down to	5.1 5.0 5.0 24.0 ft. NOTE: Water returned
5.1 5.0  24.0 ft. 23.0 ft.  NOTE: Water returned during drilling  REMARKS  Casing had to be drilled down to	5.1 5.0  24.0 ft. 23.0 ft.  NOTE: Water returned
NOTE: Water returned during drilling  REMARKS Casing had to be drilled down to	NOTE: Water returned
NOTE: Water returned during drilling  REMARKS Casing had to be drilled down to	NOTE: Water returned
during drilling  REMARKS Casing had to be drilled down to	
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Casing had to be drilled down to	REMARKS
l olay 198 6 to prevent caving.	Casing had to be drilled down to

		F BORE HOLE	IADA		S PASTURE, OTTAWA, ONT. Dec. 12/69
DEPART		Public Works, can Aboratories		PROJECT:	d D.B.S. Bldg. Perreault 32-3289
BOHING		DHAWN: CHECKE	O! AF	Propose	PENETRATION RESISTANCE CONSISTENCY
RECORD NO.:	3011	G.E Sy		1303	STO. PEN. RESISTANCE, N
SAMPL	E TYPE	ELEVATIO	ON (FT.	<u> </u>	CASING LIQUID LIMIT, WL
1	··· UNDISTURBED	Geodetic	SURFACE		UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, W.D.
223	······ DISTURBED	GROUND WATER:	BEDROCK SURFACE	200.3	FORMS: UNCONFINED COMPRESSION (Qu/2)
BX1	ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	179.3	FIELD VANE
SAMPLE		CRIPTION	HOLE:	DEPTH	
		OF EN AND BEDROCK	(FT.)	(FT.)	N BLOWS/F
	unitinadas (Status labilis dibinatura da Pinadi	Ri badhan simuldar balli'nasi qadi katiladidaook ishiaa Tadirdan sa			
			00/		
		the first of probability decisions where the probability and probability that is not the second of t	204.6	0.0	
		covering			
	SAND-GR		200.3	3 4.3	
	core bro	E, weathered,			
		s questichable	197.0	7.6	
	· Balla mini anim	personal frame sustaines from the section of	T -		
	* ~	en er en en en en en en en en en en en en en			
	LIMESTON wit				
		riz. joints			
	at elev.	191.5, 191.1,			
	184.8 an	d 183.4; zone of small			
	l .	ted pores at			
	elev. 18	-			
				}	
		ood was differen a popularido e a popularido e a popularido de como de como de como de como de como de como de	1 79.	3 25.3	<u>┨</u> <u>═╧╌╫╫╫</u> ╂ <del>┪┩┩┩╃╟┈┈┼┼┼╂╬┼┈┈┼┼</del> ╂╫┼╂┼┼┼┼┼┼┼┼┼┼
	BEI Drilled	ROCK			
					<del>┇┋</del> ╤╤╤╤╤╒╃╃╉ <del>┋┊┾╎┊</del> ╤╤┼╧╉╤╤══╤╤╬╂┼┼╬╒╒╃┼╟┢┊╧╤╘╒╒┪╒╇╒┼╬╪┼┿
	0.7 ft. 5.0	0.5 ft. 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					

vertical silt stained joint running from elev. 184.2 to 183.1

BEDROCK

Drilled

5.0

5.0

5.1

5.0

NOTE:

22.8 ft.

2.7 ft.

Recovered

5.0

5.1

5.0

Water returned during drilling

22.7 ft.

2.6 ft. 5.0

DROCK 2	01.2	FORMS: UNCONFINED COMPRESSION (qu/2)  BULK DENSITY, V
TTOW ,	78.4	FIELD VANE
ELEV.	DEPTH	***************************************
(FT.)	(FT.)	N BLOWS/FT
THE COURSE OF THE PARTY OF THE	MARCIN ANDREAS AND A MARCINIA	
204.4	0.0	
201.2	3.2	
197.5	6.9_	
/~ _Ab. ▼ carfee		
178.4	26.0	
		그는 사람들이 되는 것 같아. 그 집에 가는 사람들은 그 내가 가는 것 같아 그 것 같아. 그는 것 같아 없는 것 같아 없는 것 같아. 그는 것 같아 없는 것 같아. 그 것 같아 없는 것 같아 없는
<u></u>		

HOLE

132

32**-**3289)

REMARKS

RECORD OF BORE HOLE DEPARTMENT OF PUBLIC WORKS, CANADA YESTING LABORATORIES  BRANDLE TYPE SAMPLE TYPE OUTSTURBLE GENERAL OUTSTU	A
TESTING LABORATORIES  3011  SAMPLE TYPE  UNDSTURBLE  SAMPLE TYPE  UNDSTURBLE  SAMPLE TYPE  UNDSTURBLE  STORY  Geodetic  STORY  Geodetic  STORY  SERVING  SER	W
SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SECONDARY  Geodetic  SEPTIME	A
SAMPLE TYPE  SAMPLE TYPE  UNDISTURSED  GROUND GROUND CONTROL C	
UNIOSTURED  OBSURACE  Geodetic  Geodetic  Geodetic  Geodetic  Geodetic  Geodetic  SUBFACE  SU	
Geodetic   Survace   Oktober   Control   Con	
DISTURES   SAUNC   STATE   SOUNCE   S	
SAMPLE   DESCRIPTION   ELEV.   OPPTH   N   10   20   30	
DESCRIPTION   CFT   OVERBURDEN AND BEDROCK   CFT   OF   OVERBURDEN AND BEDROCK   CFT   OF   OVERBURDEN AND BEDROCK   CFT   OF   OVERBURDEN AND BEDROCK   200.7   4.2	RE, p'
NO.   TYPE   OVERBURDEN AND SEDROCK   O'T)   O'TO   O'TO	
TOPSOIL covering SILTY SAND with some Gravel, (loose to compact)  LIMESTONE, intact, top 6" may be broken  LIMESTONE, sound, with tight mud stained, 60° joint at elev. 195.4 ft.  BEDROCK  Drilled Recovered  2.5 ft. 2.5 ft. 2.5 5.0 5.0 5.1 5.1 5.1 2.2 2.2 17.3 ft. 17.3 ft.  NOTE: Water returned	JLOW
TOPSOIL covering SILTY SAND with some Gravel, (loose to compact)  LIMESTONE, intact, top 6" may be broken  197.9 7.0  LIMESTONE, sound, with tight mud stained, 60° joint at elev. 195.4 ft.  BEDROCK  Drilled Recovered  2.5 ft. 2.5 ft. 2.5 2.5 5.0 5.0 5.0 5.1 5.1 2.2 2.2 17.3 ft. 17.3 ft.  NOTE: Water returned	
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TOPSOIL covering SILTY SAND with some Gravel, (loose to compact) 200.7 4.2  LIMESTONE, intact, top 6" may be broken 197.9 7.0  LIMESTONE, sound, with tight mud stained, 60° joint at elev. 195.4 ft.  BEDROCK  Drilled Recovered  2.5 ft. 2.5 ft. 2.5 2.5 5.0 5.0 5.0 5.1 5.1 2.2 2.2 17.3 ft. 17.3 ft.  NOTE: Water returned	
SAND with some Gravel, (loose to compact) 200.7 4.2  LIMESTONE, intact, top 6" may be broken 197.9 7.0  LIMESTONE, sound, with tight mud stained, 60° joint at elev. 195.4 ft.  BEDROCK  Drilled Recovered  2.5 ft. 2.5 ft. 2.5 ft. 2.5 ft. 2.5 5.0 5.0 5.1 5.1 2.2 2.2 17.3 ft. 17.3 ft.  NOTE: Water returned	1111
110   (loose to compact)   200.7   4.2	
top 6" may be broken 197.9 7.0  LIMESTONE, sound, with tight mud stained, 60° joint at elev. 195.4 ft.  BEDROCK  Drilled Recovered  2.5 ft. 2.5 ft. 2.5 ft. 2.5 5.0 5.0 5.1 5.1 2.2 2.2 17.3 ft. 17.3 ft.  NOTE: Water returned	
ILIMESTONE, sound, with tight mud stained, 60° joint at elev. 195.4 ft.  BEDROCK  Drilled Recovered  2.5 ft. 2.5 ft. 2.5 ft. 2.5 5.0 5.0 5.1 5.1 2.2 2.2 17.3 ft. 17.3 ft.  NOTE: Water returned	
with tight mud stained, 60° joint at elev. 195.4 ft.  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	
with tight mud stained, 60° joint at elev. 195.4 ft.  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	
with tight mud stained, 60° joint at elev. 195.4 ft.  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	###
Joint at elev. 195.4 ft.  BEDROCK  Drilled Recovered  2.5 ft. 2.5 ft. 2.5 ft. 2.5 5.0 5.0 5.1 5.1 2.2 2.2 17.3 ft. 17.3 ft.  NOTE: Water returned	
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	
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	++++
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	
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.	
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	
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	
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	
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2.5 2.5 5.0 5.0 5.1 5.1 2.2 2.2 17.3 ft. 17.3 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	$\{+\}+\}$
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NOTE: Water returned	
NOTE: Water returned	$\blacksquare$
in a manufacture of the contraction of the contract	11111
	1++++
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REMARKS	

	RECORD OF	F BORE H	IOLE		LOCATION:	DATE: HOLE NO.:
DEPA	RTMENT OF F		Paulen Robert in	IADA	TUNNEY	A TA CONTINUE COMMANIA ANTO 170 Nove 60 1 100
	TESTING L				D.B.S.	pasemetro myo. Troposed   Inc. 30 3090
BORING RECORD NO:		DRAWN:	CHECKE	D AF	PROVED:	PENETRATION RESISTANCE CONSISTENCY
	3011	GLG	1 / \ / //			STD. PEN. RESISTANCE, N
	IPLE TYPE	SATIRITY	LEVATIO	GROUND	) 	Z INCH DIA. CONE LIQUID LIMIT, WL
	UNDISTURBED	Geo	detic	SURFACE	2014.6	UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, WO SHEAR STRENGTH, SU BULK DENSITY, Y
EZ	DISTURBED	GROUND WATER:			200.8	OUICK TRIAXIAL BUOYANT DENSITY, 8
SS B	XI RUCK CORE	GAUGE READING:		BOTTOM OF HOLE:	1.83.0	FIELD VAHE
SAMPLE	and market and an arrange of the first of th	CRIPTION		HOLE:	DEPTH	**************************************
	OVERBURDE	OF N AND BEI	DROCK	(F T.)	(FT.)	N BLOWS/FT
				i		
1 1				201 6		
	TOPSOIL o	overing		204.6	0.0	
	SILTY SAN		j			
			-	200.8	3.8	
	TIMOMOS	à				
	LIMESTONE	s, sound ith				
	tight muc		ì			
	horizonts	1. fracti	ires			
	at elev.					
	199.2 and	1 .L98.8 1 Lso	it.			
	tight muc		3 70°			
	joints at					
	$\gtrsim$ 189 and 1		•			
	S					
	$\otimes$			183.0	21.6	
	4			10,5.0	21.00	
	BI	EDROCK				
		_	_			
	Drilled	Recover	<u>red</u>			
	4.8 ft	. 4.81	ſt.			
	5.0	5.0	•			<u>┇╬╬╫╫╫╫╫╫╫╫╫╫╫╫╫╫╫</u>
	5.0	5.0				
	3.0	3.0 . 17.8 :	r+.			
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	PRESIDENCE OF STREET	ater reti				
	a.	uring dr	ııııng			
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REMARK	5 26 1/2-1	level me	0.0120	1 7/2	hour	<u></u>
The same	after co				nour.	

FORM TL/TT 213

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after completing bore hole.

			F BORE HOLE		ocation: TUNNEY	♦S PASTU	RE, OTTAK		DAYE! 5 Nov.	69 HOLE	108							
ان	LPAR		PUBLIC WORKS, CAI .ABORATORIES	AUA	PROJECT:	Basement ed D.B.S	Perreault No.: 32-328											
BORIA RECOI NO.	8	3011	DRAWN: CHECK	2 API	<b>777</b>	PENETR	ATION RESIS	TANCE	CONSISTENCY									
		LE TYPE	ELEVATION	ON (FT.)	<u> </u>	STD. PEN. RES 2 INCH DIA.	GONE	····· Ø	HATURAL WATER CONTENT, W									
KW1		····· UNDISTURBED	Geodetic	GROUND SURFACE!	204.5	CASING UNDRAINED	SHEAR STE	RENGTH,s.,	PLASTIC LIMIT, WL									
WZZ		DISTURBED	GROUND YATER: 797 *	BEDROCK SURFACE:	200.1	FORMS: UNCONFINED	COMPRESSION (	4 <sup>0</sup> √5)	BULK DENSIT	Ϋ, Ϋ	· · · · · · · · · · · · · · · · · · ·							
	ВX	FROCK CORE	GAUGE READING:	BOTTOM	180.9	FIELD VANE	(AL	· · · · · · · · · · · · · · · · · · ·			SURE, p'							
SAM			CRIPTION OF	ELEV.	DEPTH		<b></b>		L									
NO.	TYPE	OVERBURDE	N AND BEDROCK	(F T.)	(FT.)	N Ţ	0 20 	) 3	0 4 1111111111	O Hittii	50 BLOWS/FT							
				204.5	0.0													
1			SILTY SAND,	204.0	1 0.0													
2 3			to dense)	200.1	4.4					<b>.</b>								
	X	_LIMESTON	E, calcite soundness	199.0														
		quest:	ionable.															
		LIMESTON	E, sound, ith															
		tight 60°	o to 80° mud															
		or water	stained t elevation															
		197, 192	, 189, and															
	X	184																
	77			180.9	23.6													
		B	EDROCK															
		D 133	p															
		Drilled	Recovered															
		1.8 ft																
		4.8 2.8	4.2 2.8	,														
		4.9	4.9						<b>\</b>									
		4.9 19.2 ft	. 18.6 ft.															
		NOTE: W	ater returned															
		SECTION SHOWS THE PERSON NAMED IN	uring drilling	3														
			·															
	1																	
	ARKS		evel measured	12 hou	rs													
af	ter	completin	g bore hole.															

FORM TL/TF 213

		ECORD O	F BORE HOLE	-	LOCATION!	S PASTURE, OTTAWA, ONT. 26 Nov. 69 HOLE 110	, ]
			PUBLIC WORKS, CAI	NADA	TUNNEY	asement Extension, Boring By: FILE	
	<del> </del>		ABORATORIES		Propose	d D.B.S. Huilding. Perreault No.: 32-32	289
473	BORING RECORD NO.;	3011	ORAWH: GF CHECK	917 A	ALL!	PENETRATION RESISTANCE CONSISTENCY	
o was				771 Jan 1		STO. PEN. RESISTANCE, N	<del>X-</del> -
DWG. NO. A473		E TYPE	ELEVATION:	TGROUND		CASING LIQUID LIMIT, WL.	<u> </u>
6		··· UNDISTURBED	Geodetic	SURFACE	204.9		· · · 🖾
		DISTURBED		BEDROCK	: 199.7	ONICH TRIAXIAL BUOYANT DENSITY &	□
	BXF	·····ROCK CORE	GAUGE READING: -	BOTTOM OF HOLE:	194.7	FIELD VANE PRECONSOLIDATION PRESSURE, p'a	Δ
	SAMPLE		CRIPTION	ELEV.	DEPTH		7
		OVERBURD	OF EN AND BEDROCK	(F T.)	(FT)	N BLOW	VS/FT
					-		
				204.9	0.0		
			LK covering				
		SAND-G	RAVEL	199.7	7 5.2		
	1 1		and the second s	1270			###
		LIMEST	ONE, sound				詽
			-	1200	7 300		
				194.	7 10.2		
		BEDROC	К				‡##
		273274000					
		<u>Drille</u>	d Recovered				† † † †
عففات (		t ^ p	t. 5.0 ft.				444
		).U I	0. 9.0 x 0.	1			
			Artista Salaria				+++
		NOTE:	Water returned during drill				
			Curatie, Orienta-	700			+++
							+++
							44
				.			44
							1:11
				.			
/84				-	1		
<b>(</b>							$\  \Pi \ $
<b></b>							
7F 22							
7	REMARKS		Annual property of the State of				
FCRM							
Œ.	<del></del>					en de la composition de la composition de la composition de la composition de la composition de la composition La composition de la composition de la composition de la composition de la composition de la composition de la	
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SB 1417			ABORATORIES		Basemen											<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>		(ك.		CO 7	NS	Si	EV			-	3, marke
PINO ECORI O.:	3	011	G.F.	KNK2 I	374.)	STO.	NE.	RES	STA	NCI	E, N		••••	٠	<b>3</b>	0	NAT	UR	AL I	YAT	ER	100	TE	NT,	M		<b>-</b> ×
S	AMPLE	TYPE	ION (FT.)	N (FT.)				CON	£ ··	• • • • •	••••	• • • •	• • • •		_	NATURAL WATER CONTENT, W  LIQUID LIMIT, W  PLASTIC LIMIT, Wp											
		UNDISTURBED	000000	SURFACE:	204.9	UNDI	RAIN	ED	SH	HEA	IR	STF	REN	IGT	<u>H</u> ,s	u j	PLA BUL	STI	C L	IMIT SITY	, Wp	•••	• • •				
7//2		···· DISTURBED	GROUND HATER: 1934	BEDROCK SURFACE:	200.3	UNCO	HFIN	IED IAXI	COL	IPRI	ESSI	ON	9u/	5)	•••	الم	BUO	YAF	IT D	ENS	SITY	, ¥ :	• • • •	•••	• • •	• • •	• • •
SZ(3).	BXF	ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	181.8	FIEL	D V	AHE	••••		••••	• • • •		• • • •		7	PRE	CO	NSC	Lic	ATI	ON	PRE	SSU	RE,	P'o	
SAMI		DES	CRIPTION	ELEV.	DEPTH				·											+							<u></u>
		OVERBURDI	OF EN AND BEDROCK	(FT.)	(FT.)	N	7-1-1-7	1	0	11		20	1.1			30			T	П	11	П	T		ΤΠ	LO	1
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				,													-							:			
				204.	9 0.0	1			Ц		111	$\bot$		$\Box$	-	4	Н	$\frac{1}{1}$	++	+	+		++		+		
9	77	TOPSOIL	covering					+	$\dashv$	1	Ш			++													
• •			ND-GRAVEL	200.	3 4.6							4				-(		1							#		
10	4		co compact)		7.		#		$\downarrow \downarrow$	111							1	_		-   -		+	#	++	+	+	H
		LIMESTONE	E, intact, 80 stringer,	197.	5 7.4									#			1	1								E	
			s questionabl						1													#				#	#
		the second band period has	manufacture annual annu	_											1		-	+		+	╂┼	+		#	H	+	
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													1		1											#	#
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	$\mathbb{X}$	LIMEST	ONE, sound										1		++												
							444	4		<del>                                     </del>			-	-		<del>     </del>	-		+	$\left\{ +\right\}$	╫	++	╫		╁┼		
				1																							
				181.	8 23.	1					1.11																
1		BE	DROCK					111		<del> </del>				-		$+\!+$	+	-	+	++-	+	+	╁		$\dagger \dagger$	╁	-
		Drilled	<del></del>	,		==	#				11					11											
		6.0 ft	for successional and successive to be desired to the succession of												 					-		11					
		5.0	5.0					┿╅	+	++	+		++-	+	+		+	${\dagger}$	H	+	$\dagger \dagger \dagger$		+	+		+	$\dagger$
		5.0 2.5	5.0 2.5																								
		2.6 5		-						1			1		-11-	!		-   -   -						1			$\parallel$
		18.5 ft	17.5 ft.	•			1-1-1-1	+	+	+	++	+++	+	H	$\forall$		╁	+			++	-		#	+	#	#
		NOTE:	Water return			Ħ																					
			during drill	ing		+	+++		H	H	$\dagger \dagger \dagger$	++1	+	+-		-	$\dagger \dagger$	Hi	$\dagger \dagger$		$\dagger \dagger$		#		1		T
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								$\dagger \dagger \dagger$	#	H	廿	$\parallel \parallel$	$  \cdot  $	$\parallel$				#				T					
						E	Н	$\Box$			#					++									$\ $		Œ
									#		#					111				1		$\prod$				#	
						H			+	#	+		++				$  \uparrow  $	#		#		#		#	#		
													#				##	#	###	#	$\ \cdot\ $	#	Ħ	#		1	H
										11		詌	#		1			#	##	11		H		H			
_	EMARKS		level measur			-				11	LLL	111		لملما		لملط	لملتل	44.	لالل	LL-L	أسلسك	-1-1	أحندك				البت

DATE LOCATION: RECORD OF BORE HOLE TUNNEY'S PASTURE, OTTAWA, ONT. Nov. DEPARTMENT OF PUBLIC WORKS, CANADA BORING BY: PROJECT: 32-3289 TESTING LABORATORIES Basement Ext. Proposed DBS Bldg Perreault DRAWN: CONSISTENCY PENETRATION RESISTANCE PING 3011 G.F. STD. PEN. RESISTANCE, N ............ NATURAL WATER CONTENT, W..... ELEVATION (FT.) 2 INCH DIA CONE ..... SAMPLE TYPE LIQUID LIMIT, WL ..... CASING GROUND SURFACE: DATUM: PLASTIC LIMIT, Wp------UNDRAINED SHEAR STRENGTH, & u .....UNDISTURBED 204.9 Geodetic FORMS: UNCONFINED COMPRESSION(14/2)..... BEDROCK SURFACE: GROUND WATER: 191 A BUOYANT DENSITY, 8 ..... 200.2 QUICK TRIAXIAL BOTTON BXF ROCK CORE READING: 183.6 HOLE: DESCRIPTION DEPTH ELEV. SAMPLE BLOWS/FT (FT.) (F T.) HO. TYPE OVERBURDEN AND BEDROCK 204.9 TOPSOIL covering SAND-GRAVEL 200.2 199.0 LIMESTONE, fractured LIMESTONE, sound with near vertical celestite? stringer from elev. 199 to 198, also one lightwater stained joint at elev. 188.5 183.6 21.3 BEDROCK Recovered Drilled 1.5 ft. 1.6 ft. 5.0 5.0 5.0 5.0 5.0 5.0 16.5 ft. 16.6 ft. Water returned NOTE: during drilling \* Water level measured 1 hour after completing bore hole

DE	PART		UBLIC WORKS, CAN ABORATORIES	ADA	PROJECT:	B PASTURE, OTTAWA, ONT. Nov. 24/69 11.3  BORINGBY: FILE NO.: 32-328
ORIN ECOR O.:	8		G.F. CHECK	K API	2003	PENETRATION RESISTANCE CONSISTENCY STD. PEN. RESISTANCE, N
Ş	AMPL	E TYPE	ELEVATION!	GROUND		2 INCH DIA. CONE LIQUID LIMIT, WL
		··· UNDISTURBED	Geodetic	SURFACE:	204.8	FORMS: A BULK DENSITY, Y
		DISTURBED	GROUND WATER: 197	BEDROCK SURFACE:	199.4	QUICK TRIAXIAL BUOYANT DENSITY, &
<b>XX</b>	ВХ.	ROCK CORE	READING:	BOTTOM OF HOLE:	181.9	***************************************
SAM			OF N AND BEDROCK	ELEV. (FT.)	OEPTH (FT.)	N 10 20 30 BLOW
	†	AA CUBAUM!	ell fills blacking			
				204.8	0.0	
7	777		covering			
8	777	SILTY S	AND to compact)			•
U	222			199.4	5.4	
			E, sound minor lickensides	r)   197.0	7.8	
		TIMESTON	E. soundness	-		
	$\sim$		able, mud seam		7 10.1	
			; - FAULT BREC	CILA		
		calcite,	competent,			
		1. a	er stained joi 188.5 ft., an	al		
		70° clay	seam with thi	ck	18.8	
			cehealed zone 187. Clay sea		<u> </u>	
		probably	on fault.			
		Awar warmen amount	NE, sound	181,	9 22.	<u>2                                    </u>
		BEI	DROCK			
		Drilled	Recovered			
		4.7 ft.	4.7 ft. 5.0			
		5.0	4.7			
		3.1	3.1.			
		17.5 ft.	17.5 ft.			
			Water returned			
			during drilli	ng		
R	EMARK	5 4 17 4	level measure	d le ho	<u> </u>	and the state of t

FORM TL/TF 213

	R	ECORD OF	BORE HOLE	Ī	TUNNEY	1.9	3 p	λS'	rii	? F.		ro	 ЧТ'	WA				DAT	οV		2.1	./(	59	N	OLI		1	14		
DEP			UBLIC WORKS, CAN ABORATORIES	ADA	PROJECT: Basemer											l <sub>2</sub>	 11 d	B0	RIN	o ev	7: T1	·e	au	110	ILE O.:	3	2-	32	.89	9
RING			DRAWN: CHECKE	DY AP	Baselle	Γ	PE	NE'	TR/	111	ON	F	ES	IST	AN	CE		2			2	01	VSI	ST	EI	ICY	<u></u>		***	
ORB		3011	G.F.	<del></del>		s	TD. P	EN.	RES	IST	MA	CE,	N ··		i.		-0	NA	TÜ	RAL	. W	ATE	R	ON	TE	NT,	M		~ <b>X</b>	
		E TYPE	ELEVATIO	GROUND		10	ASI	10					••••	•••	• • • •			PL	AS.	D L Tic	1141. 11.1	IT, Alt,	Mr.		· · ·		••••	••••		<del>-</del> -
		UNDISTURBED	Geodetic	REDROCK		F	NDR orms incor	NEI	IED	co	MPI	RES	5101	illa.	(2)	,	• <b>*</b> Ⅱ		L.K	DE	NSI	TY	, ¥		• • •	• • •	• • •	• • •	• • • •	6
		····· DISTURBED		SURFACE !		19	UICK	TR	IAX	AL	• • • •	• • • •	• • •			• • • •	+	PI	REC	ANT ON:	501	LID	AT I	ON.	PRE	 SSL	JRE,	P	,	٠.۷
-	-		READING: CRIPTION	HOLE:	183.4	╀	M						• • •				**	J												
AMPL			OF N AND BEDROCK	ELEV. (FT)	(FT.)	$\mathbf{f}$	N	+		<b></b>							····	- <del> </del>			77		TTT		тт			3LO	WS.	万口
		XX EUDAUX								#					#															-
-															1															
				204.5	0.0	)		#		$\coprod$	#		-		#		1-1-	+			+	+		++	+	++		+		-
	T	TOPSOIL	covering			7				Ħ							1												-   -	-
		SAND-GR		200.	7 3.8	3							4																	-
	X	IMESTONE	, intact, wate	198.5	5 6.0	t T			H		#	H	#	+				1	Ħ			$\dagger$				Ħ		Ħ		1
K		stained f	ractures _questionable		1		+++							1									Ħ					+	#	+
	W		appear to the second supplies									#																		-
K	$\Diamond$						$\prod$												-				#							-
	$\langle\!\langle$						##		i i							#														
þ		LIMESTON	E, sound,			١						$\coprod$		$\parallel$		Щ	11:		4	4	-	1		4	Ц.	+			+	-
	$\bigotimes$	with hor	izontal																											
}		slickens elev. 18					H	+++																					1.1	
	$\langle \rangle \rangle$			102	4 21.	1		1		+	+-				+	.	+	+		+	$\dagger \dagger$	+		+	+		$\dagger$	+	++	
				183.	4 21.	<u>ı.</u>		- -								; ; ;	111													
		BI	EDROCK							H																		11		
			handler and the contribution of the																			T					П			
		<u>Drilled</u>	Recovered																1		+	+1								-
		2.2 ft. 5.1	2.2 ft. 5.0					:		$\prod$															- -	1		1	4	1
		5.0	5.0																											
		5.0	5.0													1												$\parallel$	$\parallel$	
		17.3 ft.	17.2 ft.						4	Щ	Н	4		$\coprod$	H	$\dashv$			+	+	Н.	-	+	+	+	+			H	-
			Water returned during drillin																											
			ddi ing di iii	.6					T	+	+				$\dagger \dagger$			++		1	Ħ			1	$\parallel$		T			П
										j								- 1				Ц				Щ	1			-
																	1				+							#		-
							1																		-[-]			#		1
														<u> </u>	1	#			H			#	#					$\sharp$		1
										#		$\parallel$		#					F			$\prod$	$\prod$			#		#		1
												#				#												$\prod$		-
	1		level measure			a			Ш			H	Ш	Ŧ		Ш	Ш	للنا	11				11	址	Ш	11	Ш	11	Ш	1.

ORIN ECOR	8	TESTING L	DRAWN: G.F.	CHECKED	KO L	Bass		PE Lare	NET	RAT	TAN	CE,	ESI	5 I A	N CE	-	MA.	ruR	AL.	WATI	ER C	ON	ENC	T, w		<b></b> ₩	ŧ
	SAMP	LE TYPE UNDISTURBED	Ger	detic	AMILIA	204	6	2 INC CASI UNDF FORM UNCO QUIC	NO ··	ED :	SHE	AR	ST	REN	GTH	I,8 <sub>U</sub> ⊕	PL	AST	IC L	MIT	WP.			• • • •			
	ВХ	DISTURBED	READING:		BOTTOM OF HOLE:	182	. 5	FIEL	t TRI	NE.	L						1 PR	ECC	NS	OLID	ATI	DN P	RES	SUR	iE, p	9	
SAN	IPLE	DES OVERBURD	CRIPTION	DROCK	ELEV. (FT.)	DEP (F		N		10		<del></del>	20	) CCC	<del>-</del>		-}·	 TI	 III	<del>-</del> -	T-11	 TT		TI	BI.	OW:	5
					204.6		0.0																				
5		SILTY			201.0	)	3.6 4.8				6	<b>9</b>															
		LIMESTON	E, broke	en	199.8	2	4.0																+ + + + + + + + + + + + + + + + + + +				
			And a second	والمراجع إلى																							
		thin 90°	NE, soun celest joint at 87 ft.	ite																							-
					182	5	22.	1																			
		B Drilled	EDROCK Reco	overed												T											-
		1.2 ft 5.0	. (	).5 ft. 5.0																							
		5.0 3.2 4.1		5.0 3.2 4.1	_																						
		18.5 f	Wat <b>er</b> r	7.8 ft.	d																						
			during	drilli	ng			-																			-
																											-

DWG. NO. R

DE			BORE HOLE		LOCATION: TUNNEY!	B PASTURE, OTTAWA, ONT. Nov. 25/69 NO.: 117
BORIN RECOR		TESTING L	ABORATORIES			Ext. Proposed DBS Bldg. Lafrange 32-3289 PENETRATION RESISTANCE CONSISTENCY
		3011.	G.F.			STO. PEN, RESISTANCE, N
		E TYPE	ELEVATIO	ON (F I.)		2 INCH DIA. CONE
		··· UNDISTURBED	Geodetic	SURFACE!		UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, WD
		DISTURBED		BEDROCK SURFACE:	199.1	QUICK TRIAXIAL
<b>20</b>	ВХ	F ·····ROCK CORE	READING: -	BOTYOM OP HOLE:	182.8	PIELD VANE PRECONSOLIDATION PRESSURE, p' 公
SAMI	-		CRIPTION	ELEV.	DEPTH	an own few
NO.	TYPE	OVERBURDE	OF N AND BEDROCK	(FT.)	(F T.)	N 10 20 30 40 BLOWS/FT
				203.5	0.0	
107			ND-GRAVEL	199.1		
1.08			to dense)	199.1	4.4	
		water st	E, fractured	196.0	7.5	
		LIMESTON zone wit unconnec elev. 18		182.8	3 20.7	
		BED	ROCK			
		1.9 ft. 0.7	1.9 ft. 0.7			
		1.2 5.0 5.0 2.5	1.0 5.0 5.0 2.5			
		16.3 ft.	16.1 ft.			
		NOTES: Water returned during drilling. Bore Hole caved at elev. 197.	3. Bore Hole			
RE	MARKS					

************	RECORD C	F BORE HOLE		OCATION:	S PASTURE, OTTAWA, ONT. Nov. 24/69 118
DEPA	RTMENT OF	PUBLIC WORKS, CAN	NAUA F	ROJECT:	BORING BY! FILE
	TESTING	LABORATORIES TORAWN: TOREGRE			t Ext. Proposed DBS Bldg. Lafrange 32-3289  PENETRATION RESISTANCE CONSISTENCY
OND	3011	G.F. RU	Kol		PENETRATION RESISTANCE CONSISTENCY STO. PEN. RESISTANCE, N
SAM	PLE TYPE	ELEVATION			2 INCH DIA. CONE
	······· UNDISTURBE	Geodetic	GROUND SURFACE:	203.4	UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, WA
<b>7</b> 2	DISTURBE	GROUND WATER: -	BEDROCK SURFACE:	199.2	UNCONFINED COMPRESSION(QU/2) BUOYANT DENSITY, "
BB	XF ROCK COR	GAUGE READING:	BOY TOM OF HOLZ:	182.2	FIELD VANE
AMPLE		SCRIPTION	ELEV.	DEPTH	
		OF EN AND BEDROCK	(FT.)	(FT.)	N BLOWS/F
			000		
			203.4	0.0	
		IL covering SAND-GRAVEL			
		- 14.	199.2	4.2	
$\triangleright$	LIMEST	ONE, soundness onable	197.2	6.2	
K	J,	and the second second second second		1	
K					
		ONE, sound		1	
		ith small ected pores			
	at ele	v. 188.5			
	(6" th				
	3				
$\triangleright$	<u> </u>	ann ann aire a bhailte an ainm ann ann ann ann aire ann ann an ann an ann ann an ann an ann an a	182.2	21.	2
	В	EDROCK			
	Drilled	Recovered		İ	
-	2.0 ft		}		
	5.0	5.0			
	5.0 5.0	5.0 5.0			
	3.0	. J. U			
	17.0 ft	. 17.0 ft.			
	NOTE:	Water returned during drilling			
- 1		during driffin	·g		
				1	
1					
Ì					
	185	No. of the last of			

[	2	RECORD OF	BORF H	OLE		LOCATION:	DATE: HOLE NO.: 119
DE		TMENT OF F			ADA	TUNNEY PROJECT:	BORING BY: FILE
		TESTING L			,	Basemen	t Ext., Proposed DBS Bldg. Lafrange No.: 32-3289
BORING RECORI NO.:	}	3011	G.F.	CHECKE		7005	PENETRATION RESISTANCE CONSISTENCY
-		E TYPE		_EVATIO	N (FT	)	STO. PEN. RESISTANCE, N
_			DATUM:		GROUND		CASING LIQUID LIMIT, WL
		···· UNDISTURBED	UCUUC	CIC	SURFACE	20362	The state of the s
1000 ··		DISTURBED	WATER:		BEDROCK SURFACE BOTTOM	198.5	UNCONFINED COMPRESSION (Qu/2)
	BX.	FROCK CORE	READING		OF HOLE:	183.9	PHECONSOLIDATION PRESSURE, P'o
SAME	LE	DES	CRIPTION OF		ELEV.	DEPTH	N 10 20 30 BLOWS/FT
NO.	TYPE	OVERBURD	N AND BE	ROCK	(F T.)	(FT.)	IN 10 20 30 SLOWS/ I
					203.	2 0.0	
105	ZZ		covering ND-GRAVE				
106	ZZ	4	pact)		100		
	~~				198.	5 4.	
	X	Top 0.5 f	t. fracti	ired			
		remaind	ler of				
	$\gg$	LIMESTONE	, sound,				
		zones wit unconnect		at			
		elev. 187	7 (5" thi	ck) an	ılı		
	X	elev. 184	<u>,5 (5" t</u>	<u>hick)</u>	183.	9 19.	<u>3</u>
		BEI	OROCK				
		Drilled	Recov	ered			
		2.3 ft.		ft.			
		5.1	5.1				
		4.7	4.6 2.5				
1		14.6 ft	. 14.5	ft.			
		NOTE:	Water ret	urned			
		*************	during dr	illin	g		
ae	MARKS						
100							

(4)

	the first first and a second of	BORE HOLE	/ IT	ocation: CUNNEY!	PASTURE, OTTAWA, ONT. Nov. 19/69 HOLE NO. 120	
NS	TESTING L	PUBLIC WORKS, CAN ABORATORIES 	IASA IP	ROJECT:	Ext. Proposed DBS Bldg. Lafrange 32-328  PENETRATION RESISTANCE CONSISTENCY	9_
	3011 LE TYPE	G.F. ELEVATIO	第 <b>21</b> 二/ (以 FT.)	د بعلا	STO. PEN. RESISTANCE, H NATURAL WATER CONTENT, WILL STORE LIQUID LIMIT, WILL STORE LIQUID LIQUID LIQUID LIQUID LIQUID LIQUID LIQUID LIQUID LIQUID LIQUID LIQUID LIQUID LIQUID LIQUID LIQUID LIQUID L	
		00000000			INDRAINED SHEAR STRENGTH, BU PLASTIC LIMIT, Wp-	
	······ DISTURBED	GROUND WATER:	T. T. 14 11 11 11 11 11 11 11 11 11 11 11 11	199.6	DINCORFINED COMPRESSION (QU/2) BUOYANT OF NITY, 8	··· C
1ВХ	FROCK CORE	READING:	HOLE:	182.7	FIELD VANE PRECONSOLIJATION PRESSURE, PO	(
MPLE		CRIPTION	EL,tV.	DEPTH (FT.)	N BLOW	S/F
1176	OVERBURDE	N AND BEDROCK	PARTY DE SECTION AND ADDRESS OF			
	TOPSOIL SILTY S	COVARING AND-GRAVEL	199.6			
K	fracture of LIMES zones wi unconnec elev. 18	ft. may be id, remainder TONE, sound th small ited pores at 36.5 (2" thick) 7. 184.5 (2"	182.	7 20.		
	ВІ	EDROCK				
	Drilled 2.2 ft. 1.3	Recovered 2.2 ft. 1.3				
	2.3 2.0 2.6 4.2 2.3	2.3 2.0 2.6 4.2 2.3				
	16.9 ft	Name of Advances of the Owner o	•			
		Water lost at elev. 199				

	RECORD OF	BORE HOLE	1	OCATION:	S PASTURE, OTTAWA, ONT. Nov. 18/69 HOLE NO.: 121
DEP	ARTMENT OF P	UBLIC WORKS, CAN	IADA F	PROJECT:	GORINGBY: NO.
5ABINA		ABORATORIES  ORAWN:   CHECKE			Ext., Proposed DBS Bldg. Lafrange 32-3289  PENETRATION RESISTANCE CONSISTENCY
RORING RECORD NO.:	3011	G.F.		APUS:	STD. PEN, RESISTANCE, N
SA	MPLE TYPE	ELEVATION:	ON (FT.)		2 INCH DIA. CONE LIQUID LIMIT, WL
	UNDISTURBED	Geodetic	SURFACE:	+203.1	UNDRAINED SHEAR STRENGTH, BU PLASTIC LIMIT, WD
	DISTURBED	Control of the contro	BEDROCK SURFACE:	197.6	UNCONFINED COMPRESSION(qu/2) BUOYANT DENSITY, V
<b>200</b>	BXFROCK CORE		BOTYOM OF HOLE:	183.6	I FIFI D VANE
SAMPL	E DES	CRIPTION	ELEV.	OEPTH (FT.)	BLOWS/F
110. T	PE OVERBURDE	EN AND BEDROCK	(FT.)	(r i.i	
			202 1		
103	TOPSOIL O	covering	203.1	0.0	
1 1	CLAYEY	SILT		1	
104			199.1	-	
1 }	BR. ROCK	or CR. STONE	197.6 196.3		**************************************
1 6	LTWE 21 O	NE, fractured	↓ L ZO • ≥	+	
1		, sound water			
		ertical joint			
	joint run elev. 191	.5 to 186,			
	zones wit	h small			
	unconnect	ed pores at (12" thick)			
	and elev.	184 (3" thick	()	10	
	<b>X</b>		183.6	19.5	
	В	BEDROCK			
	Drilled	Recovered			
	2.5 ft.	2.5 ft.			
	5.0	5.0 1.5			
	5.0	5.0			
		1 / O Ch			
	14.0 ft.	14.0 ft.			
		Water returned during drillin			
		Juring diffin	g		
1	i i		1		
			1 .		

ORIN	Q		ABORATORIES ORAWN: CHEEY	AP	Basement	Ext., Proposed DBS Bldg, Lafrange 32-32  PENETRATION RESISTANCE CONSISTENCY
ORIN ECOR O.:		011 E TYPE	G.F.	ON IFT.		STD. PEN RESISTANCE, N
		·· UNDISTURBED	1 OCOUCLIC	GROUND SURFACE!	203.0	UNDRA NED SHEAR STRENGTH, SIL PLASTIC LIMIT, WP
		OBBRUTZKI ·····	GROUND WATER:	BEDROCK SURFACE:	199.5	FORMS: BULK DENIITY, &
	BXF	ROCK CORE	GAUGE READING:	EOTTOM OF HOLE:	182.2	FIELD VANE + PRECONS('LIDATION PRESSURE, p
SAM	-		CRIPTION	ELEV.	DEPTH	
		OVERBURD	OF EN AND BEDROCK	(F T.)	(FT.)	N BL
				203.0	0.0	
			L covering ND-GRAVEL	199.5	3.5	
			ft. may be d, remainder E, sound	of		
		joints a	th ater stained it elev. 198.5 97 and 195,	,		
		elev. 18	th small ted pores at 5.5 (12" thic . 183.5 (6"	k)		
		thick)	BEDROCK	182.	2 20.8	3
		Drilled	Recovered			
		2.3 ft. 5.0 5.0 5.0 17.3 ft.	5.0 5.0 5.0			
		NOTE:	Water lost at elev. 195.5			
	•					

100	RECORD O	F BORE HOLE		LOCATION: TUNNEY	'S PASTURE, OTTAWA, ONT. Nov. 6/69 HOLE NO.: 123
DEPAR		PUBLIC WORKS, CA .ABORATORIES		PROJECT:	BORING BY: FILE
BORING RECORD NO.		DRAWN: CHEOK	DI/ AP	Basemen	t Ext., Proposed DBS Bldg. Lafrange 32-3289 PENETRATION RESISTANCE CONSISTENCY
_	3011	G.F.			STD. PEN. RESISTANCE, N
	LE TYPE	ELEVATI	GROUND		2 INCH DIA. CONE LIQUID LIMIT, WL
	······ UNDISTURBED	OCOGCELE	SURFACE:		UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, Wp
	······· DISTURBED		BEDROCK SURFACE:	199.8	
	ROCK CORE	3	HOLE:	182.3	FIELD VANE
SAMPLE	Į	CRIPTION OF EN AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N 10 BLOWS/F
100	VYERBURUI	IN AND BEDROCK			
			203.0	0.0	
101	TOPSOIL	covering			
102		ANDY SILT (fir	m199.8	3.2	
	Mguestiona	, soundness ble, vt. calci	.te		
	<b>J</b> filled jo	int, water	196.5	6.5	
	∮ ' <u> </u>	School branches makes			
	LIMESTO	NE, sound			
	w	ith			
		ertical joint ev. 191.5 to			
		e with small			
	unconne	cted pores at			
	erev. 1	86 (6" thick)	100 3	00.7	
	<b>}</b>		182.3	20.7	
	BE	DROCK			
	Drilled	Recovered	1		
	5.0 ft.	5.0 ft.			
	5.0 5.0	5.0 5.0			
	2.5	2.5			
	17.5 ft.	17.5 ft.	+		
	17.5 16.	17.5 10.	` ]		
	NOTE: W	ater returned			
	d	uring drilling	g		
REMARKS					

**************************************			BORE HOLE	1	OCATION:	S PASTURE, OTTAWA, O	DATE: NT. Nov. 5/69	HOLE NO.: 124
DE			UBLIC WORKS, CAN ABORATORIES	IADA	ROJECT:	t Ext. Proposed DBS	BORINGBY:	FILE No.: 32-3289
BORING RECOR NO.:			DHAWN: CHECKE G. F.	DIAPI	Basemer	PENETRATION RESISTANC	E CONS	STENCY
		E TYPE	ELEVATION	ON (FT.)	The state of the s	STD. PEN. RESISTANCE, N		CONTENT, WX-
_	4		Geodetic	GROUND SURFACE;	203.0	CASING UNDRAINED SHEAR STRENGT	LS. PLASTIC LIMIT, WO	
<i>277</i> 2·		····· DISTURBED	GROUND A	BEDROCK SURFACE:	199.6	FORMS: UNCONFINED COMPRESSION(Qu/2) QUICK TRIAXIAL	BUOYANT DENSITY	, <b>%</b> '
5%5}·	BXF	····ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	182.9	FIELD VANE	・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・	ON PRESSURE, p'o·······△
SAM		DES	CRIPTION	ELEV.	DEPTH			BLOWS/FT
NO.	TYPE	OVERBURDE	N AND BEDROCK	(FT.)	(FT.)	N 		
				203.0	0.0			
			covering AND-GRAVEL	199.6	3.4			
		Top 1.0	ft. may be					
		LIMESTON w horiz, w						
		197, & 1 small un	93, zones with connected elev. 186					
		elev. 18	4 (6" thick)	182.9	20.1			
		BE Drilled	Recovered					
		1.7 ft. 5.0	1.7 ft. 5.0					
		5.0 5.0	5.0 5.0					
		16.7 ft.	16.7 ft. Vater returned					
			luring drillin	8				

DE		MENT OF P	BORE HOLE		OCATION: TUNNEY!					•				,	В	ORII	De	Y:		29	HO HO FIL	LE D.: 3	1	33		
			ABORATORIES	517 7 146	Basemer	nt E	xt.	P	ro	pos	ed	DI	35	Bld	8.	Pe	err							328	89	1
BORIN RECOR NO.:	8	3011	GIG CHECKE	ok L	PROVED:	PE STD. I	NET	RA	TIC	NCF.	RES	IST/	ANC	E	. .							ENC'			<b>.</b>	
S	AMPL	E TYPE	ELEVATIO			2 INC	H DIA	۱. c	ONI	<u> </u>	• • • • • •	• • • •	•••		1							EHT				١
1284 ·		··· UNDISTURBED	Geodetic	GROUND SURFACE:	205.3	UND									P	LAS	STIC	: LIÀ	VIT,	"p"	• • • •		• • • • •	· · · }		
<b>223</b>	•••••	····· DISTURBED	GROUND 185*	BEDROCK SURFACE:	199.8	UNCO	S: NFINE ' Tria	D	COM	PRES	SION	(q <sub>u</sub>	/2)''	•	B	ULF	( DE	ENSI T DE	NSI	, ¥ · ity.'	۶ <u>۰</u> ۰۰				····· [[]	l
[ [ ]	BXI	ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	181.6	FIEL	D VA	NE.						ناب الا	P							RESS				
SAMI			CRIPTION	ELEV.	DEPTH	<del> </del>								3	`											1
NO.	TYPE	OVERBURDE	OF N AND BEDROCK	(F T.)	(FT.)	N	1111	— T	77			اللا الم	113	111		71		-				!:::::!		LOW	VS/F	
								H																		
				00" 2	0.0																					
	-			205.3	0.0				4	-					$\bot$	$\coprod$		4			-			$\prod$		H
		TOPSOIL o	overing																						11	
İ		SAND-GRAV	EL																							
1 .		and the second s		199.8	5.5				4			1			4							1			<del>         </del>	
		LIMESTON	fractured	1,98.0	7.3																H		1			
	X									$\mathbb{H}$		+			+	+	+	+	+	+++	##	<del> </del>	-	₩	井	
										$\vdots \downarrow \downarrow$													H		##	-
	$\bigotimes$																									
-									+										+		++	+	╁┼┼		##	
ļ		LIMESTON	E, sound											; ; ; ;								111				
	X		•								111.		<u>.                                    </u>				1									
								1		44		- -	-		4	1 1	+		4	+	4	#:	₩		44	H
	X																11									
	77			181.6	23.7	4: :																				
		P.	EDROCK					H				4			$\dashv$	+-							++	₩	╬	-
:		)	BBROOK						-																	-
		Drilled	Recovered																							I
		1.5 ft 4.4	. 0.6 ft.	'				$\dashv$	H			+				++		- <u>-</u>   -   1	$\mathbb{H}$	+	+		+	+	+#	+
		2.4	2.4			H		-																		1
1		4.9	4.9																					111		-
		5.0 18.2 ft	_ <u>5.0</u> 17.3 ft.		j			+	$\dashv$		╫	+		1 - 1		+	++		H		+		+	#		+
		10.2 10	. 2(.) 10.																							
		110000				H																				-
		NOTE:				++-		#	╁┼	++		+ -	-	+	$\vdash$	+	+	++-	H		+		+++	+	+++	+
		Wa	ter lost																							
		at	elev. 194																							-
						-			+	╫		-	+	++	╁┼┨	+	+++	+	H		H	+	Ш	++		+
									H												H					
					-	+			+	##		#		1	H				+	#	#	#	H	#		
												#														
																				Į Į Į		#				
REN	ARKS	* Water 1	evel measured	l hour	after	<b>-  </b>	ШL	Ш	Ш	Ш	Ш		Ш	لللا	للل	Ш		LLL	Ш	ш	Ш	Ш	Ш	Ш	Ш	ل
			ng bore hole.						-1		<del></del>			-		<b></b>		<del></del>		<del> </del>	-+				<del></del>	

DE			BORE HOLE		TUNNEY	STURE, OTTAWA, ONT. 5 Dec. 69	HOLE NO.: 134
		TESTING L	ABORATORIES	1		d., Proposed DBS Bldg Perreault	FILE No.: 32-3289
RECORING	8	3011	GLG CHECK	CK AF		NETRATION RESISTANCE CONSIS	
		E TYPE	ELEVATI	ON (FT.	)	DIA. CONE	MTENT, W
		··· UNDISTURBED	Geodetic	GROUND SURFACE:	205.1	AINED SHEAR STRENGTHIS PLASTIC LIMIT, Wp.	
<i>[]]</i>		····· DISTURBED		BEDROCK		FINED COMPRESSION (qu /2)	·····································
		ROCK CURE		BOTTOM OF HOLE:	182.3		N PRESSURE, P'o
SAME	Y		CRIPTION	ELEV.	DEPTH		
NO.	TYPE	OVERBURDE	OF N AND BEDROCK	(FT.)	(FT.)		BLOWS/FT
				205.1	0.0		
	-	ngangan and an and an anti-order and an anti-order and an anti-order and an anti-order and an anti-order and a		12070			
		TOPSOIL C					
			fractured	200.0			
	X			12001		nn: ::::::::::::::::::::::::::::::::::	
		LIMESTONE	E, sound tight				
	X	horizonta					
			joints or				
	X		s at elevation 99, 196, 188,				
		and 181,					
	$\otimes$		and r stained				
		joints a	t 198.5, 197				
	$\mathbb{Z}$	and 192		1673	118		
			a de la companya de l	182.	3 22.8		
		B.	EDROCK		1.6%		
					11.6		
		Drilled 1.7 ft	Recovered 1.7 ft.		8414		
		5.0	5.0		1/14		
		0.9	0.6 5.0		(A)		
		6.0	6.0				
		17.6 ft	. 17.3 ft.				
		NOTE					
		W-4 -	92				
			er lost at vation 192				
			•				
j							
	.   .						
REM	IARKS	L L L L	level measur	ed 1 h	our aft.		

(		RECORD OF	BORE HOLE	1	LOCATION:					<b></b>				- 1	DAT		α	16	<u> </u>	NO	LE	۳		
DE		TMENT OF P	UBLIC WORKS, CAN	ADA	TINNEY!								MT	-	BOR		BY:			FIL	E		35	
2000			ABORATORIES  DRAWN:   CHECKE	n: JAP	Propo	·		-							Per	re				<u></u>			32{	29
BORIN RECOR NO.:	3	3011	6. F 16	10/	yes	STD. PE	ETR.	AT SIS	TAN	RE. N	SIS	TAN	CE · Ø		NAT	riiRi	•				NCY ENT,	•		
S	AMPL	E TYPE	ELEVATIO			2 INCH	DIA.	co	NE .	• • • • • •	• • • •	• • • • •		_	LIQ	UID	LIM	IT,	w <sub>L</sub>	••••		• • • • •		
		···· UNDISTURBED	Geodetic	GROUND SURFACE;	204.7	UNDRA	INEC	9	HE	AR S	STR	ENG		-										. 602
		······ DISTURBED	GROUND WATER:	BEDROCK SURFACE:	200.9	ONICK .	FINED	CO	L···	ESSI	ON (d	Ju/2)	•••••	<b>P</b>	BUC	AAYC	TO	ENS	ITY,	k;	• • • •			
[2007-	BXF	ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	179.9	FIELD	VANE		• • • • •	••••	 	• • • • •	••••	*	PR	ECO	150	LID	ATIO	N PF	ESSU	RE,	p'	Δ
SAMI		DES	CRIPTION OF	ELEV.	DEPTH			4-					-+		)					-+				- /
NO.	TYPE	OVERBURDE	N AND BEDROCK	(FT.)	(FT.)	N	ПП	T		TIT		П		T		TTT	117		HL	1		TH	Lows	3/F L
																					-	$\mathbf{H}$		
				204.7	0.0_	-	+i+1	$\dagger$	+	+++	lit	+++		$\exists$	$\exists \exists$	$\dagger \dagger \dagger$	${\rm H}$	╁						
		TOPSOIL SAND-GR	covering											: }										
	~			201.1	3.6	4		-										$\  \ $						##
	$\otimes$	LIMESTONE weathered	, fractured , not sound,-	199.0	5.7_			+	<del> - - -</del>  - - -														Ħ	
		LIMESTONE	, core broken	,																				
		water sta	ined joints,	1.95.0	9.7							-										Ш		
		soundness	questionable					T																
	X	LIMESTO	NE, sound															Ш	11!				1	
		Vi	rith																					
	X	hhim oole	estite joint										1 1 1											
		ourn cere	SOLUG JOHNO					4		11;	-	4			-		1			11				+++
	X	at el	Lev. 185											11:		1						and the second		
	$\boxtimes$		a congress described for the construction of t	179.9	24.8			-	-		+-				+						-	$\parallel \parallel$	H	
		BRI	DROCK																					
								$\ $																
-		Drilled	Recovered	-											T									
		3.9 ft.	3.9 ft.																					
		3.4	3.4 4.1														Ш	Ш					Ш	
		5.0	5.0																					
		4.8 21.2 ft.	$\frac{4.8}{21.2}$ ft.																					
		21.2 It.	21.2 10.	· .				1	Ш	44	##	<del>                                     </del>	1	+			+++	#		-		$\left\{ \cdot \right\}$	#	+H
	-																							
		NOTE: W	ater returned																					
			uring drilling	3			+++		-+-	+++	+++	+-	<del>       </del>		+		+	++	-	H	HH	+	$\frac{1}{1}$	
			•																					
								Ħ									11							
												111	<b>†</b>		+		#		H			,		
REA	IARKS				·																	-+		

			BORE HOLE		TUNNEY	S PASTURE, OTTAWA, ONT Dec. 9/69 HOLE 136	
DE	PAR		UBLIC WORKS, CAN ABORATORIES	IAUA	PROJECT: Propos	ed D.B.S. Building BORINGBY: FILE NO.:32-32	289
BORIN RECOR NO.:	8	3011	DRAWN: CHECKE	D: AP	HUS	PENETRATION RESISTANCE TO. PEN. RESISTANCE, N	
9	AMPL	E TYPE	ELEVATIO			INCH DIA.CONE LIQUID LIMIT, WL	0
		··· UNDISTURBED	Geodetic		204.6	NDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, Wp	
		DISTURBED			201.5	DICK TRIAXIAL BUOYANT DENSITY, 81	□
		ROCK CORE		BOTTOM OF HOLE:	181.6	FIELD VANE	<u>P'</u> Δ
SAMI NO.	,		CRIPTION OF N AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N 8	LOWS/FT
		OAFUBOUDE	IN AND DEDNOOR				
				204.6	0.0		
		TOPSOIL	_	201.5	3.1		
			E, fractured				
			ly broken	198.0	6.6		
		soundnes	E,questionable ss, vt.				
			e joints elev .97 and elev.	1			
		194.6 to	193, 2" ed zone at 192.	191.5	13.1		
				<b>1</b>			
			NE, sound nes of small				
			cted pores at 89.1 (8"), and				
		186.8 (					
		The Control of the Co		181.6	23.0		
		Bl	EDROCK				
		<u>Drilled</u>	Recovered				
		2.4 ft.	1.1 ft.				
		1.1	0.6 0.9				
		2.4 3.0	2.4 3.0				
		5.0	5.0				
		5.0	5.0				
		19.9 ft.	18.0 ft.				
			ater lost at lev. 198.6				
		e	TEA • T20 • A				
REN	IARKS		<u>ئىلىدىن ئىلىدىن ئىلىدىن ئىلىدىن.</u> يىڭ دارىدىن ئىلىدىن ئىلىدىن ئىلىدىن ئىلىدىن				

K K K K K K K K K K K K K K K K K K K	3.45 51 31 4		ABORATORIES		Pus)	d Drug Laboratory Gubb 32-1:  PENETRATION RESISTANCE CONSISTENCY	
		3060	FLEVAT	ION (FT.)		STD. PEN. RESISTANCE, N	(
•		E TYPE	DATUM:	TOROUND		CASING MACRICAL CONTRACTOR OF THE CONTRACTOR OF	
		UNDISTURBED	I GIACIZIA ILG.	SURFACE: BEDROCK SURFACE:		UNCONFINED COMPRESSION (QU/2) BUCK DENSITY, & BUCK DENSITY, & BUCK DENSITY, & BUCK TRIAXIAL BUCK TRI	
		DISTURBED	GROUND 184.5		· · · · · · · · · · · · · · · · · · ·	PIELD VARE PRESSURE, P	
<b>%</b> 2		ROCK CORE	READING:	NOLE:			
	PLE		CRIPTION OF	ELEV.	DEPTH (FT:)	N al	.ows/
NO.	TYPE	OVERRURD	EN AND BEDROCK	AND DESCRIPTION OF THE PARTY	***************************************		
							肼
				210.5			
			SAND,	209.5	1.0		
	X		tone pes &				
		Language	CONTRACTOR OF THE PROPERTY OF				
			San and Language				
		Weather	ed BEDROCK	202.2	8.3		
		AT THE PARTY OF TH	and a second second desirable and the second		THE REAL PROPERTY.		##
	X	LIMESTON	E & DOLOMITE				##
		with occ bands; t	casional Shale	e			##
		massive	bedding,				111
		sound					
			Manager Statement (1998) - Section (1998) - Section (1998)	- 186.	5 24.9		
		Mark	er Bed		7 25.8		
		>	E desired to make the second s				414
	K	4	Market State Control of the Control	180.	9 29.6		
		THE PERSON NAMED IN COLUMN NAM					
		Drille	d Recover	ed			
		4.9		ft.			
		5.0	4.7				
		4.7	4.7	ja.			
			5.0				
		5.0					
		5.0	5.0				
		4.0	4.0	-			-444-1
		28.6	28.0				#
							##
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FORK TL/TF 213

		TESTING L	OUBLIC WORKS, CAN ABORATORIES TORAWN: TCHEOME		Food an	d Drug Lal	ON RESISTAN	ICE	Gubb.	consi	TENCY	<u>2-185</u>
863	5 2	3060	09. 1	M.S. Dollar Imme	SOUTH PROPERTY AND ADDRESS OF THE PARTY.	STD. PEH. RESIST	ANCE, N	· 69@	NATURA	AL WATER G	ONTENT, W	<del>)</del>
MINE .		E TYPE	ELEVATIO			2 INCH DIA. COL	(E		LIQUID	LIMIT, WL		, —— (
-		UHDISTURBED	Geodetic	GROUND SURFACE:	208.7	UNDRAINED S	HEAR STREN	3TH,su	1	C LIMIT, WATERSITY , &		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
		DISTURBED		BEDROCK SURFACE	207,5	UNCONFINED CO	MPRESSION(4 <sub>0</sub> /2	)·····•	BUOYAN	IT DENSITY,	<b>¥</b> 1	
(U/A)		······ROCK CORE	GAUGE	HOTYON	The state of the state of	LIEFD ANE			I PRECO	NEOLIDATIO	N PRESSUI	₹E, p'
<b>100</b>	******	WWW.BOCK CORE	CRIPTION	HOLE:	178.3				-L			
	PLE		OF	ELEV. (FT.)	(FT.)	N 10	20		30	40	50	BLOWS/
NO.	TAPE		EN AND BEDROCK	208.	THE RESERVE AND PARTY AND PERSONS.							
		SILTY	SAND & GRAVEL	207.	1.2							
	$\nabla$	рсв.	of Limestone									
	K	4	sh brown									
		Weath	ered BEDROCK r	-203.5	5 5.2							
		7										
	K	<b>)</b>										
				1								
	N/	3				開開開			11:11:			
	K	TIMEST	ONE and			出出出			╁╁╁╁	<del>┆┋</del>	#####	++++
			TE with									
	X	occasi	onal Shale									
	K	bands;	thin to						<u> </u>			
			e bedding,	1-				HH		-1+++++		
	X	sound								1111111		
	1	1										
	$\Diamond$							:::::::::::::::::::::::::::::::::::::::			THE	
	K											
		K							+411			
		- Marker	Bed	179.		Line had been been been been been been been bee	<del>                                      </del>	++++	+++++		+++++	<b>t</b> itttt
	(	7	MATERIAL STATE STATES S	178.	3 - 30.4						11111	
	To Bear									<u> </u>		
		Drilled	Recovered	.					4444	<del>┊</del> ┞┼┼┼	++++	-
		0.6 f								<u> </u>		
		0.7	0.6									11111
		3.2	3.1 4.7					1111				
		5.0 4.8	4.8					1111				
1		5.0	5.0					1111				
		4.9	4.9									<u> </u>
		5.0	5.0									
		29.2	28.3									
		27.4	2033						11111		11111	
									+++++			
			n de la companya de la Companya de la Companya de la Companya de la Companya de la Companya de la Companya de La companya de la companya de la Companya de la Companya de la Companya de la Companya de la Companya de la Co						###			
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						<b>自由</b>						排排
	- 1					計劃計						####
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L FM	TESTING L	ublic works, can aboratories		roject: Food &								-		&	Les	f1	00	r_L	NO.		2-1	185	-
¥8	3060	DRAWN ST CHESTS		aux)	PE STD. I	NET	RA	TAN	RI CE. N	<u> </u>	TAN	VCE	-0	MAI	(1) <b>(</b> ) ()		NAME OF PERSONS	ward many	TEN NTEN			}<-	
	PLE TYPE	ELEVATIO			2 INC	H DI	A.C	DNE						1.10	UID	LIMI	V, *	Ĺ•···			••••		O
-	UNDISTURBED	Geodetic	GROUND SURFACE;	206.2	UND	MAIN	ED	SHE	AR	STI				PL	AST!	C LIN	117, 1 TY .	Α qb	• • • • •	••••		l	
<b>3</b>	DISTURBED	GROUND 192.3	PEDROCK SURFACE:	204.7	UNCO	NFIN K TRI	ED (	OMP	RESS	IOH	qu/2	)····	4	OU	NAYO	T DE	NBIT	14.8		••••	••••		
 <b>L</b>	ROCK CORE	GAUGE READING:	BOTTOM OF HOLE!	170.7	FIEL	D VA	NE.				• • • •	,	. 1.	PR	ECO	JOSP	.IDA	TION	PRE	8905	IE, p	ė	۵,
MPLE		CRIPTION	ELEV.	DEPTH					<b></b>	-0/	·		<del></del>	<del>/</del>			iÒ.		<b></b>	50	- BL	548/	/F
	arri	OF N AND BEDROCK	(FT.)	(FT.)	TIT	HH	) I [[]	H	НН		, HI	П		ĬΠ	Ш	H	H	H	H	Ť	ŦĦ	$\prod$	Ŧ
					出					#													Ŧ
	The same of the sa	man particular commence and a second commenc	206.2	0.0																			
Z	SILTY SA	ANDY Topsoil	204.7	1.5	- Indonesia			#															E
	SILTY S	AND & GRAVEL	201.7	4.5																			
K	Limesto	ne Slabs, brown (loose)		A COLUMN CARLO PATE A MANAGEMENT OF THE A																			
	Weather	ed Bedrock		1							Ħ										詌		-
				-									##										-
	X				#				#	4				4+			#		#		+++	#	1
																					##	卌	+
																							-
	DOLOMIT						╁╁	計		+	++		$\dagger \dagger$	+++	H	$\prod$	$\parallel$		111	+	###		1
	occasio	onal Shale																				+	
K	bands;	thin to bedding,					##																
	sound	, beduring,						111	##	++				#									
K																#							
	$\searrow$																						E
P										$\prod$									計				-
						詌																	
			174.	8 31.	4								H		111		+		$\mathbb{H}$	+++	++	+++	1
	Marker	Bed	1.73	2 33	0																		-
			170.	7 35	5										##			Ш		+++			-
	Dud 11 o	d Recover		ALIEN CYCLE AND	 		-	╁╁┼							+++			1	++++		<b>-1</b> ++	##	-
	$\frac{\text{Drille}}{0.5}$	ft. 0.5													111								
	3.0	2.8 4.9			Ħ		$\mathbb{H}$															Ш	
	4.9	4.4			h h	詌													$\prod$				
	2.3	2.2 4.4																	Ш				
	4.4	4.9															1	-	#	Щ	1		
	4.9	4.9			E						##						#					墹	
	4.7	4.7			E					H			#								掛		-
	34.0	33.7									##		+++		H		#	╁╂╪	#	#	#	#	-
						囲					#	#			#					計			-
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	ARKS	THE RESERVE OF THE PARTY OF THE					Ш	<u>LLI</u>	للل	Ш	لتنا	11		للد	111	Ш	ш	II.L	لللا	للبنا	اسلماء	.4.4.4	_1

DEF	ART	MENT OF P	BORE HOLE UBLIC WORKS, CAN		TTAWA		CUNNEY	18	PASTURE), ONT	\   	Se	pts Vervi	<u>.07</u>	70] &		<b>F</b>	4		
		and the state of the section	ABORATORIES		Food at				boratory	Įč	ub	<b>h</b>		لنسنا	L	أفحوسه	32-	1.8	<u>}5</u> _
OAB	PARTA A BANK	3060	ORANN CHECAN	APPI	JULY)		PENETE	AT	ION RESISTANCE			100	-	1818					14
		E TYPE	ELEVATION		Militaria				TANCE, N	٠   ١	ATI	JRAL V ID LIM	PYAYE	# CO	)NTE	INT,	M		<del>}{</del> -
			DAYUM:	GROUND		-10	ISING		SUPAD CYDENOTUA	١١	LA	STIC LI	MIT.	Wh		• • • •	••••	. 1 }-	-
-		·· UNDISTURBEO	Geodetic	SURFACE!	204.6	- 50	RMS:	7 VV	HEAR STRENGTH,		ULI	DENS	ITY I	8	444				
<b>3</b>	.,,,,,,,	····· DISTURBED		BEDROCK SURFACE:	203.3	101	JICK TRIA	KIÁL	C(40/2)	A   B	NO	ANT D	ENSI	77,8	Mari Mari	 	i i i i	erii. Shee	• • (
<b>3</b>		····ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	160.8		ELD VAN	E		<u>*</u> L'		CONSO	LIDA	ATIO	H PRI	ESSI	Juc,	Po"	
ирі	THE PERSON NAMED AND ADDRESS OF	DES	CRIPTION	ELEV.	DEPTH	T						خنده ساونت			ئىنىدۇ.	- 근		LOY	
<u> </u>	YPE	OVERBURDE	OF N AND BEDROCK	(FY.)	(FT.)	1 N		10	) 20 	3( T	) [[1]	TTITI	40 11	ПТ	П	50 ⊞	щ	11	ŢŢ
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				204.6	0.0	) <u>[</u>				1	Ш				44				$\prod$
	-	SILTY SA	ND & GRAVEL,	203.3	1.3				for	r I	B	d fo	oti.	рe	net	re	te		$\dagger$
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	X	Weathere	d Bedrock				****					illi.		H					$\parallel$
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	TMENT OF P	F BORE HOLE Public Works, cai .aboratories		PROJECT:	TUNNEY'S PASTURE), ONT. Sept.11/70 NO.: 5    BORNOBY: Leafloor & File Gubb   100   32-185
gelwe Econo	3060	CHECKY ELEVATION	BL	Bud.	PENETRATION RESISTANCE CONSISTENCY STD. PEN. RESISTANCE, H
	LE TYPE	SATITAL	TOROUND	A DAY OF STREET, STREE	CASING LIQUID LIMIT, WL
	UNDISTURBED	Geodetic	BEDROCK		The state of the s
	DISTURBED		BEDROCK SURFACE:	204.8	DUICK TRIAXIAL
<b>XX</b>	ROCK CORE	READING:	HOLE:	166.3	FRECONSOLIDATION TRESSITE, 90
SAMPLE	1	CRIPTION OF	GLEV. (FT.)	OEPTH (PT)	N BLOWS
NO. TYPE	OVERBURD	EN AND BEDROCK		AND DESCRIPTIONS SAME	
	CRUSHE	D LIMESTONE,	206.	8 0.0	
	Silty	Sand & Gravel	204,	8 2.0	
		one Slabs			
	Weathe	F111) Fred Bedrock	201.	1 5.7	
	* * * * * *				
	) 	nour 1			
	7	PONE and ITE with			
	: I	ional Shale	-	- A - A - A - A - A - A - A - A - A - A	
		; thin to			Drilled Recovered
		ve bedding, und			0,6 ft. 0,5 ft.
$\rightarrow$	SC1	una			3,1 2,8
					4.8
	9				4,6
					2.0
	$\langle \cdot \rangle$				1,4
	K				3.9
X					
	K	•	167	.4 39.4	38.5
	Mor	ker Bed	1.67 1.66		
123	197	alitate de mante de la companie de l			
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DEI		TMENT OF P	BORE HOLE UBLIC WORKS, CAN ABORATORIES	ADA	OCATION: OTTAWA ROJECT! Food &	(T Dr									E)		Ol	VT.	B	Se	P INC	t.,	/ <u>.</u> 1	14	<u>/7</u>	d I				P.	100		4.
8 0 1 8 8 0 3 8	OWNERS OF THE PERSON		ORAWN DE CHESTE	KI	ail)	ST	PE D. P	NE EN,	TR RE	AT SIS	TAI	V ICR	RE, N	SIS	• • • •		•	6					W	ATE		001	ITE	NT	, W				
		UNDISTURBED	Geodetic		210.8	CA	SIN													PLA	181	ric	LIM	AIT,	Wp		• • •	• • •		• • •	. }-	-	•••
		DISTURBED	GROUND	BEDROCK SURFACE:	***************************************	FOUN	CON	VFI	HEC	C	DMF	RE	891	ON	90,	/2)		4	. 1	JUE	K.	DE	181	77	, 8	w!			• • •	•••	•		開
		ROCK CORE		BOTTOM	208.4	FI	er.d	97 V (	HAN!	IA)			• • •	• • • •	• • •	• • • •	•••	٠ ٦															
and his blackers.	name of		CRIPTION	HOLE:	208.4	╁~	-			a ner he	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		100	* 1 1	4 6 5 1 MR DEEMS			- 3		4000		upust.761	****	*****	E SOUTH A	***			ryactecs	rawa.		, rep. 14	
SAMP			OF	ELEV. (FT.)	DEPTH (FT)	IN		4		4		-+					4					<b></b> -		+					ł	81	.ow	3/	FT
NO.	TYPE	OVERBURD	N AND BEDROCK	Designation but have	DATE STATE OF PERSONS ASSESSED.	1	$\prod$	I	H	T		I	$\prod$	F			H	H	H	H	F												
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		*		211.9	0.0	#	4	#	+	+		+	+	+			+	+	+	+	H			$\dagger$				Ħ					+
		TOPSOIL:	SILTY SAND			I				1			#	1									H			$\left\{ \cdot \right\}$				#			
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DE	PARTMENT OF F	F BORE HOLE PUBLIC WORKS, CAN ABORATORIES	IADA P	ROJECT:	(TUNNEY'S PASTURE), ONT. Sept. 14/70 T.P. 2  Drug Laboratory 32-185
ORING ECORE	3060	DRAWH 199. CHEON	APP /	eup	PENETRATION RESISTANCE CONSISTENCY STD. PEN. RESISTANCE, N
	AMPLE TYPE		GROUND		CASING LIMIT WE
,	0388UT210NU0		SURFACE:		UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, WD
			BOTTOM	emeral promisers	FIELD VANE
	ROCK CORE	READING:	HOLE:	209.5 DEPTH	
NO.		OF EN AND BEDROCK	(FT.)	(FT.)	N BLOWS/91
	V ISTORIA	(A) Linear and Andrews and And	210.8	0.0	
	greyish.	SILTY SAND brown with Shale and slabs			
	Street work of the Annual Constitution of the		209.5	1.3	
	BEDR	UGK			

DEI		TESTING L	BORE HOLE UBLIC WORKS, CAN ABORATORIES	3. 7.3		(TUNNEY'S PASTURE), ONT. Sept. 14/70 No.: T.P. 3  Drug Laboratory Sept. 14/70 FILE No.: 32-185
NO COAS		3060	DRAWN: 99. CHESKS	DI AP	PROVED	PENETRATION RESISTANCE CONSISTENCY
R. SECRETAR PROPERTY.	-	E TYPE	ELEVATION	Charles and philosophics	· p	2 INCH DIA. CONE
			Geodetic	GROUND SURFACE:	209.7	UNDRAINED SHEAR STRENGTH, 8, PLASTIC LIMIT, WP
		DISTURBED			209.0	ONDMAINED SHEAR STRENGTHON UNCONFINED COMPRESSION(qu/2) QUICK TRIANIAL  BUCK DENSITY, 8  BUCYANT DENSITY, 8
		ROCK CORE	GAUGE READING:	BOTTOM	209.0	FIELD VANE
SAMP	-	DES	CRIPTION	HOLE:	DEPTH	
		OVERBURDE	OF N AND BEDROCK	(FT.)	(FT)	N BLÓWS/F1
			SILTY SAND	209.	7 0.0	
		with Sha BEDROCK	le Slabs	209,	0 0,7	

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DE		TMENT OF P	BORE HOLE UBLIC WORKS, CA		LUGATALL	(TUNNEY'S PASTURE), ONT, 14/9/70 T.P. 4  Drug Laboratory File No.: 32-185
BORING RELOR NO.	8	CATALOG CANCELLA MARTINISTA CONTRACTOR CONTR	DRAWN:	到一种	PROVED	PENETRATION RESISTANCE CONSISTENCY
ARTONIA VALUE AND			MANAGEMENT AND DESCRIPTION OF THE PARTY OF T	OK-L		STO. PEN. RESISTANCE, N
		LE TYPE	NATUM:	TOROUND	-	CASING CLOUD LIMIT, W.
		UNDISTURBED	000000	BEDROCK	210.4	The state of the s
		DISTURBED		SURFACE	209,7	OUICK TRIAXIAL
		ROCK CORE		HOLE:	209.7	PHECONSOLIDATION PRESSUR, PO
SAM	PLE		CRIPTION	ELEV.	DEPTH	BLOWS/FT
NO.	TYPE	OVERBURD	N AND BEDROCK	(F7.)	(FT.)	
		epunas technisasapabusi, Venezeense	maramanistakkumi ngindarik karimetak panjada	210.	4 0.0	
		TOPSOIL: few Cobbl Boul	SILTY SAND es, odd der	209.	7 0.7	
			(sloping to 209.3)	aman ay yani a aribu 4 ayi. 4		
RE	MARKS	}	THE RESERVE THE PROPERTY OF TH			

DEF	F PART	MENT OF P	BORE HOLE UBLIC WORKS, CAN ABORATORIES	NADA P	Food &	TUNNEY'S PASTURE), ONT. Sept. 14/70 NO.: T.P. aoRingsy: File No.: 32-18	
SECONS		060 E TYPE	CHECKE ELEVATION	APP	POVED:	PENETRATION RESISTANCE TO. PEN. RESISTANCE, N	•}(•™
- 4 , -		UNDISTURBED		GROUND SURFACE:	211.0	WODAWED CHEAD CEDENCELL PLASTIC LIMIT, WATER TO	
		OSTURBED		BEDROCK SURFACE:	207.6	NOMAINED SHEAR STRENGTH BUCK DENSITY, V	の
		ROCK CORK		BOTTOM		riela vansoumment of the resul	Δ
			CRIPTION	HOLE:	207.6. TOEPTH	***************************************	
SAMP	-		OF EN AND BEDROCK	ELEV. (FY.)	(FT.)	N BLOW	NS/FT
100		"ONEWBRICK!	S. J. S. S. L. Const. Land St. Const. Selection Selectio	A PROPERTY OF THE PARTY OF THE	AND DESCRIPTION OF		
				211.0	0.0		
		TOPSOIL:	SILTY SAND				
		makes management f management & course recovery	grey	210.5	0.5		
	<i>,</i> ,,,,,	SAND-GF	RAVEL				
1.1		with BO SLABS,	OULDERS, greyish				
		bı	own				
		AND THE PERSON OF THE PERSON O	- graffina di diligina ya aranda aran a sa sankan mi wasak ya sa sa sa ka mada mana sa sa sa sa sa sa sa sa sa	207.6	3.4		
		BEDI	ROCK				
			•		: .		
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DE		MENT OF P	BORE HOUBLIC WORK	ks, canada		PROJECT.	(TUNNEY'S PASTURE), ONT. Sept. 14/70 T.P. 6  BORNEY'S PASTURE), ONT. Sept. 14/70 T.P. 6  BORNEY'S PASTURE 32-18!	
BORIN RECOR NO.1		060 E TYPE	797	CHECKED!	AP 2 &	ACLUS!	PENETRATION RESISTANCE  STO. PEN. RESISTANCE, N	
		UNDISTURBED	<b>батим:</b> Geode	GROU SURF	ND FACE:	211 6	UNDRAINED SHEAR STRENGTH, & PLASTIC LIMIT, W.	
		······ disturbed		10011	UM	206.9	GUICK TRIAXIAL	·· 🗆
************	PLE	ROCK CORE	CRIPTION	HOLL	e: Lev.	206.9 DEPTH	¥	
		OVERBURDE	OF N AND BED!	BOCK (	7 T.)	(FT.)	N BLÓWS	s/fx
				21	11 /	5 0.0		
-		FILL - S with pcs	AND, grey	,	10.6			
1.2		GRAVEL w		ND- of king	06.			
		BEI	OROCK					
RE	WARKS							

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and the second second second	TMENT OF F	F BORE HOLE Public Works, can Aboratories		PRGJECT!	(TUNNEY'S PASTURE), ONTSept. 14/70 NO.: T.P. 7  BORINGBY: NO.: 32-185
BORING RECORD NO.:	3060	ORAWAY CHECKE		PROVED:	PENETRATION RESISTANCE STD. PEN. RESISTANCE, N
	LE TYPE	ELEVATION	ON (FT)		2 INCH DIA. CONE
	UNDISTURBED	Geodetic	GROUND SURFACE:	211 1	INDRAINED SHEAR STRENGTH PLASTIC LIMIT, WE
	DISTURBED	GROUND	BEDRÓCK SURFACE:		FORMS: UNCONFINED COMPRESSION(QU/S)
			HOTTON	207.2	FIELD VANE PRECONSOLIDATION PRESSURE, P.
<b>*************************************</b>	ROCK CORE		HOLE	207.2	THE COLOR OF LAND AND AND AND AND AND AND AND AND AND
SAMPLE	DES	CRIPTION OF	ELEV.	DEPTH	BLOWS/
NO. TYPE	OVERBURD	EN AND BEDROCK	(F T.)	(FT.)	N BLOWS/
		man sorre and antiques with the control of the cont	211.	1 0.0	
		and the second		1	
		ERS & SLABS			
	1	ll) with OY SILT			
	SMI	)I OTDI			
ĺ			208.	9 2.	
	Alexhamore mars are. Le	CONTROL OF THE CONTRO	200.		
	SANDY				
	brow	vn.	208.	1 3.0	
	SAND'	Y SILT d brown			
	with	SLABS	207.	2 3.	
	BED	ROCK			
REMARKS	Located	in a pile of	slabs .	and fill	•

		TESTING L	UBLIC WORKS, CA	TAPE	Food an											+	****			~~\	VSIS	<u> </u>	 - NIC	32-	LO	<u> </u>	1
RING		3060	DRAWN: 99 CHECK	ok L	- 1 1 1 I	STO.	ENE PEN	TR	SIST	ON	R E, F	ESIS	STA	NC 	<u>E</u>	, ,	IATI	URA			R C					<b>}</b>	×
	MPL.	E TYPE		ION (FT.)		2 IN	CHI	NA.	COL	NE .	• • • • •	• • • • •	• • • •			[]	.IQU	ID	LIM	IT,	WL		• • • •	• • • •	••••		
M		· UNDISTURBED	Geodetic	SURFACE:	210.7	UND	RAI	NEI	) S	HE	AR	ST	REN	IGT	H,8,		LA	STIC	C LI	MIT,	Ab.		• • •			<b>.</b>	
777		····· DISTURBED	GROUND WATER:	BEDROCK SURFACE:	207.8	UNC	ONF	NEC	CO	MPF	ESS	ION	9u/	2;		<u>}</u>	ano.	YAN	T Di	ENS	ITY,	R;··				•••	; • •
XCI		ROCK CORE	CAUCE READING:	BOTYOM OF HOLE:	207.8	FIEL	LD \	AN	£			• • • •	• • •			*					ATIO						
SAMPL	-		CRIPTION	ELEV.	DEPTH			AND MANAGEMENT																-4	سنند	4	
-		OVERBURDE	OF N AND BEDROCK	(FT.)	(FT.)	N	777	777		TIT		77				T		TT	TT	1	Ш	П		TF	TT	OWS	3
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			and the same of the same of the same of the same of the same of the same of the same of the same of the same of	210.7	0.0					#													$\mathbf{H}$				12
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	- 1	SILTY SA	ND, SLABS											#				Ŧ									-
1		and BOUL	DERS, dark																		11						-
		grey co	820)			-	1		-			+++		+	-		4		++	╫		++-		+			industry.
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	}					盽	Ш									;											
				207.8	2.9		14		#	╁┼┼	+	++	+		+++	++-	++	+++	+			+	-		++	-	
		Handrig Toron S. Dr. of Advantage (10.0 steel)	and ambounds by by time & - and an death that the Application of the former			1																					
		BEDROCK																									
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DEPA	RTMENT OF P	BORE HOLE UBLIC WORKS, CAN ABORATORIES		OTTAWA PROJECT: Food &	TUNNEY'S PASTURE) ONT. Sept. 14/70 NO.: T.P. BORINGBY: NO.: 32-1	. 11 .85
ORING ECOAD	3060	ORAWN: 104 CHERN	OKO 1	PROVED:	PENETRATION RESISTANCE CONSISTENCY  TO. PEN. RESISTANCE, N	}(
	UNDISTURBED	OATUM: Geodetic	GROUND SURFACE:	209.7	NORAINED SHEAR STRENGTH, SU PLASTIC LIMIT, WD	· · }
	DISTURBED	GAUGE	BEDROCK SURFACE:	208.2	UICK TRIAXIAL + BUOYANT DENSITY, &	·····□
SAMPLI	KEE	CRIPTION OF	HOLE:	208.2 DEPTH (FT.)		LOWS/FT
NO. TYI	PE OVERBURDE	N AND BEDROCK	209.7			
	TOPSOIL: Dk. brown	SILTY SAND to Rusty Bro				
	SLABS and	Silty	208.2	1.5		
	19191	DROCK				

HOLE T.P. 13 LOCATION: RECORD OF BORE HOLE Sept. 14/70 OTTAWA (TUNNEY'S PASTURE) ONT. 10. 32-185 DEPARTMENT OF PUBLIC WORKS, CANADA BORINGBY: PROJECT: TESTING LABORATORIES Food and Drug Laboratory CONSISTENCY PENETRATION RESISTANCE ORING 3060 STD. PEN. RESISTANCE, N ...... NATURAL WATER CONTENT, W .... 2 INCH DIA. CONE ..... ELEVATION (FT.) SAMPLE TYPE LIQUID LIMIT, WL .....O Geodetic GROUND SURFACE: 207.8 .....UNDISTURBED PLASTIC LIMIT, Wp------UNDRAINED SHEAR STRENGTH, BU UNCONFINED COMPRESSION (qu/2) BEDROCH SURFACE: 205.7 GROUND WATER: BUOYANT DENSITY, 82..... HOCK CORE READING: FIELD VANE PRECONSOLIDATION PRESSURE, p'........ 205.7 DESCRIPTION DEPTH ELEV. BLOWS/FT OF (FT.) (FT.) NO. TYPE OVERBURDEN AND BEDROCK 0.0 207.8 SILTY SAND to SANDY SILT, grey with small shale slabs and pcs. of concrete and brick 205.7 2.1 BEDROCK REMARKS

	F	RECORD OF	BORE HOLE		OCATION: OTTAWA	(1	run	N)	ΞY	ıs	F	ΑS	TU	IRI	3)	01	NT	.	SON				4	17	di Tr	O.	ŢĮ	) 	<u>L4</u>		
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LOCATION! RECORD OF BORE HOLE Sept. 14770 OTTAWA (TUNNEY'S PASTURE) ONT. DEPARTMENT OF PUBLIC WORKS, CANADA NO.: 32-185 PROJECT: BORINGBY! TESTING LABORATORIES Food & Drug Laboratory APPROVED: RECORD CONSISTENCY PENETRATION RESISTANCE 3060 STO. PEN. RESISTANCE, N ........... ELEVATION (FT.) 2 INCH DIA. CONE ..... SAMPLE TYPE GROUND SURFACE 208.8 CASING ...... DATUM: .....UNDISTURBED PLASTIC LIMIT, WD. UNDRAINED SHEAR STRENGTH, & U GEODETIC FORMS: UNCONFINED COMPRESSION(Qu/2)..... BEDROCK207.1 OSTURBED WATER: BUOYANT DENSITY, 8 ..... QUICK TRIAXIAL..... 801101 207.1 ROCK CORE READING: FIELD VANE..... PRECONSOLIDATION PRESSURE, P'....... DESCRIPTION SAMPLE DEPTH ELEV. OF NO. TYPE OVERBURDEN AND BEDROCK (FT.) (FT.) BLOWS/FT 208.8 TOPSOIL: SILTY SAND, 208.0 0.8 dark brown Broken Shale Slabs mixed with Silty 207.1 1.7 Sand-Gravel **BEDROCK** 

HOLE NO.T.P.16 LOCATION: RECORD OF BORE HOLE AWATTO (TUNNEY'S PASTURE) ONT SEPT 14/70 DEPARTMENT OF PUBLIC WORKS, CANADA BOHINGBY: FILE NO.: 32-185 PROJECT: TESTING LABORATORIES Food & Drug Laboratory AECONO 3060 PENETRATION RESISTANCE CONSISTENCY STD. PEN. RESISTANCE, N ...... NATURAL WATER CONTENT, W. .... 2 INCH DIA. CONE ..... ELEVATION (FT.) SAMPLE TYPE LIQUID LIMIT, W. ...... GROUND SURFACE: 209.5 CASING ..... OVION: PLASTIC LIMIT, Wp ..... UNDISTURBED JNDRAINED SHEAR STRENGTH, Su GEODETIC FORMS: UNCONFINED COMPRESSION(Qu/2)...... DISTURBED WATER: BEDPOCK 208.6 BUOYANT DENSITY, 8 ..... QUICK TRIAXIAL..... BOTTOM 208.6 GAUGE READING: PRECONSOLIDATION PRESSURE, P. ....... FIELD VANE ..... DESCRIPTION SAMPLE ELEV. DEPTH (FT.) NO. TYPE OVERBURDEN AND BEDROCK 209.5 0.0 TOPSOIL: SILTY SAND-GRAVEL, rusty brown, 208.6 0.9 Full of Shale slabs BEDROCK

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LOCATION: OTTAWA (TUNNEY'S PASTURE)ONT. Sept. 14/70 HOLE NO. T.P. 17 RECORD OF BORE HOLE DEPARTMENT OF PUBLIC WORKS, CANADA PROJECT: BORI IGBY! NO.: 32-185 TESTING LABORATORIES Food and Drug Laboratory ORING 3060 PENETRATION RESISTANCE CONSISTENCY STD. PEN. RESISTANCE, N ...... HATURAL WATER CONTENT, w..... .... ELEVATION (FT.) 2 INCH DIA. CONE ..... SAMPLE TYPE LIQUID LIMIT, W. ------CASING ..... Geodetic GROUND SURFACE: 206.3 UNDISTURBED UNDRAINED SHEAR STRENGTH, & U PLASTIC LIMIT, Water .... PORMS: UNCONFINED COMPRESSION(QU/II)...... BEDROCK SURFACE: 204.4 GROUND WATER: QUICK TRIAXIAL..... BUOYANT DENSITY, 8 ..... ROCK CORE READING: FIELD VANE ..... PRECONSOLIDATION PRESSURE, P. ....... 204.4 DESCRIPTION DEPTH SAMPLE ELEV. OF (F T.) NO. TYPE OVERBURDEN AND BEDROCK (FT) BLOWS/FT 206,3 0.0 CLAYEY SILT grey 205.1 1.2 SANDY SILT brownish-grey 204.4 1.9 BEDROCK REMARKS

LOCATION: RECORD OF BORE HOLE OTTAWA (TUNNEY'S PASTURE) ONT 14 Sept 70 T.P. #18 DEPARTMENT OF PUBLIC WORKS, CANADA PROJECT! BORINGBY: 32-185 TESTING LABORATORIES Food & Drug Laboratory PROVED CONSISTENCY PENETRATION RESISTANCE 3060 NATURAL WATER CONTENT, W..... 2 INCH DIA CONE ..... SAMPLE TYPE ELEVATION (FT.) CASING ..... Geodetic SURFACE: 205.6 .....UNDISTURBED UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, WD-----FORMS: UNCONFINED COMPRESSION(94/2)..... GROUND WATER! BEDROCK SURFACE: 204.7 BUOYANT DENSITY, V..... QUICK TRIAXIAL..... FIELD VANE GAUGE READING: PRECONSOLIDATION PRESSURE, p. ...... 204.7 HOLE DESCRIPTION SAMPLE DEPTH ELEV. OF (FT.) (FT.) BLOWS/FT NO. TYPE OVERBURDEN AND BEDROCK 205.6 0.0 TOPSOIL: SILTY SAND, dark brown, full of shale slabs 204.7 0.9 BEDROCK REMARKS

OCATION: RECORD OF BORE HOLE 14 Sept 70 T.P. #19 OTTAWA (TUNNEY'S PASTURE) ONT FILE 32-185 DEPARTMENT OF PUBLIC WORKS, CANADA PROJECT: BONINGBY! TESTING LABORATORIES Food & Drug Laboratory HECOND HECOND CONSISTENCY PENETRATION RESISTANCE 3060 NATURAL WATER CONTENT, W ..... ELEVATION (FT.) 2 INCH DIA. COHE ..... SAMPLE TYPE LIQUID LIMIT, W. ....... CASING ...... GROUND SURFACE: UNDISTURBED PLASTIC LIMIT, Wp ..... Geodetic 207.8 UNDRAINED SHEAR STRENGTH, & U FORMS: UNCONFINED COMPRESSION (94/2)..... BEDROCK SURFACE: MATER: 206.9 BUOYANT DENSITY, 8..... QUICK TRIAXIAL..... BOTTOM ROCK CORE READING! FIELD VANE" PRECONSOLIDATION PRESSURE, p'........ 206.9 HOLE: DESCRIPTION ELEV. DEPTH SAMPLE NO. TYPE OVERBURDEN AND BEDROCK (F T.) (FT.) BLOWS/FT 207.8 0.0 TOPSOIL: SILTY SAND full of Shaley slabs 206.9 0.9 BEDROCK

LOCATION: RECORD OF BORE HOLE 14 Sept 70 T.P. #20 OTTAWA (TUNNEY'S PASTURE) ONT DEPARTMENT OF PUBLIC WORKS, CANADA FILE 32-185 BORING BY: PROJECT: TESTING LABORATORIES Food and Drug Laboratory HECONS CONSISTENCY PENET ATION RESISTANCE 3060 NATURAL WATER CONTENT, ELEVATION (FT.) 2 INCH DIA. CONE ..... SAMPLE TYPE LIQUID LIMIT, WL ......O CASING GROUND SURFACE: PLASTIC LIMIT, Wp -----UNDISTURBED 210.2 UNDRAINED SHEAR STRENGTH, 8,1 Geodetic FORMS: UNCONFINED COMPRESSION(qu/2)...... DISTURBED GROUND WATER! BEDROCK SURFACE: 209.3 BUOYANT DENSITY, 8 ..... QUICK TRIAXIAL..... BOTTOM OF HOLE: FIELD VANE ROCK CORE READING: PRECONSOLIDATION PRESSURE, P. ...... 209.3 DESCRIPTION DEPTH ELEV. SAMPLE OF BLOWS/FT (F T.) (FT.) NO. TYPE OVERBURDEN AND BEDROCK 0.0 210.2 TOPSOIL: SILTY SAND, dark brown, full of Shale slabs 0.9 209.3 BEDROCK REMARKS

HOLE No.: T.P. 21 . RECORD OF BORE HOLE Sept. 14/70 OTTAWA (TUNNEY'S PASTURE) ONT. DEPARTMENT OF PUBLIC WORKS, CANADA FILE No.: 32-185 BORINGBY: PROJECT: TESTING LABORATORIES Food and Drug Laboratory PPROVEU: CONSISTENCY PENETRATION RESISTANCE RECORD NO. 3060 NATURAL WATER CONTENT, w..... STO. PEN. RESISTANCE, N ...... 2 INCH DIA. CONE ..... ELEVATION (FT.) SAMPLE TYPE LIQUID LIMIT, WL-------GROUND SURFACE: 206.1 UNDRAINED SHEAR STRENGTH, & U .....UNDISTURBED Geodetic FORMS: Unconfined compression(qu/2)..... BEDNOCK SURFACE: GROUND WATER: BUOYANT DENSITY, 8 ...... 204.4 QUICK TRIAXIAL..... BOTTOM OAUGE READING: PRECONSOLIDATION PRESSURE, po....... 204.4 OLE: DESCRIPTION DEPTH ELEV. BLOWS/ (FT.) OVERBURDEN AND BEDROCK 0.0 206.1 SILTY SAND greyish-brown with some Slabs and Boulders 204.4 1.7 BEDROCK REMARKS

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	DISTURBED	GROUND WATER:	BEDROCK SURFACE: BOTTON	207.3 207.3	PI	COL	TA V	NED IAX ANE	CO	MP	RES	310	N (	lu/2	)	• • • • • • • • • • • • • • • • • • • •	***	ρι	JOY	AN	171	E	151	TY,	8.	• • •	851		• • •	•••	···C
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DEP	ART	MENT OF P	BORE HOLE UBLIC WORKS, CAN ABORATORIES	IADA P	ROJECT:	NNEY'S PASTURE) ONT. Sept. 14/70 BORINGBY:	T.P. 24 0. 32-185
ORING ECORO		3060	DRAWN'DG CHECKE	P Are	ROVED:	NETRATION RESISTANCE CONSIST EN. RESISTANCE, N NATURAL WAYER CON	TENT, w>
*****		E TYPE	ELEVATION: Geodetic	ΛΕΛΙΙΝΑ	208 5	AINED CHEAD CTRENGTH . PLASTIC LIMIT, WETT	
		······ DISTURBED	GEOGELIC GROUND WATER:	BEDROCK SURFACE:	208.3	BUCK DENSITY, 8	C1
<b>XX</b>	*********	····ROCK CORE	GAUGE READING:	IBOTTON	208.3	VANE PRECONSOLIDATION	ressure, po
SAMPI			CRIPTION	ELEV. (FT.)	DEPTH (FT)		BLOWS/F
NO. I	TPE	OVERBURDE	N AND BEDROCK				
				208.5			
		SILTY S	AND with	208.3	0.2		
		BEDR	A STANS				

			BORE HOLE	- 1	OCATION: AWATTO	(	run	(N)	EY (	S	P	AS'	ľU	RÉ	) (	ON:	r.	DA Se	ap i	t.	1	4/	70	الز	IOL	T	• P	•	2!	5
DE	PAR		UBLIC WORKS, CAN ABORATORIES	1	Food an	ıd	Dı	·u	· I	al	bo	ra	to	ry				BC	RIN	0 8	Y:				10.	<sup>}</sup> 3	2-	1.8	35	
JN8			DRAWN: 99 CHECKE	DY APP	PROVED:	T	PE	NE	TR	AT	101	۱ F	ES	IS	ran	ICE							NS	~		-				
	(Address relations	LE TYPE	ELEVATIO	N (FT.)	A Section of the Sect	5	TD, P	HC	IA.	CO	NK		••••	• • • •													. ₩•			
		UNDISTURBED	Geodetic	GROUND SURFACE:	205.7		ASII NDR								ENC	3TH	,8 <sub>U</sub>	P	LAS	TIC	1.1	HIT	, WD			• • • •			<b>}</b>	
<b>a</b>		DISTURBED	GROUND WATER:	BEDROCK SURFACE:	202.0	U	DRM! NCO UICK	NFI	HED	CO	MP	RES	310	N (q,	1/2	)	4	8	10A 1FK	AN'	ENS 7 DI	ity Ens	ITY	8				• • • •	• • •	ः। ।।
<b>3</b>	,	ROCK CORE	GAUGE READING:	HOLE:	202.0	1	IELI	V	ANE		•		• • • •			, , , ,	**	P									uni			
-	LE		CRIPTION	ELEV.	DEPTH																					-	<b>†</b> ~~~	BLO	4	•
	TYPE	OVERBURDE	N AND BEDROCK	(FT.)	(rT.)	+;	1 111	П	П	П	ŦF	H	П		H	H		П	ΤE		П	11	TI	П	H	H		Ħ	II	Ţ
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				205.7	0.0					1	1						H		I			$\prod$					H			1
		SAND-GRA																												
	-		(to 2' long)								4						1		4			4	#			4	$\coprod$			
		3	rey	204.7	10	-																								
		SILTY SA	ND-GRAVEL																											
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		SHALE SI	ABO																											
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		Designs and want NI April Assistative Printed	and the second s	202.0	3.7		Ш		1				$\frac{1}{1}$	4	<del>                                      </del>	4		4		#	4			#	#		H	4	$\parallel$	-
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FORM TL/TF 213

DATE LOCATION! RECORD OF BORE HOLE Sept. 14/70 OTTAWA (TUNNEY'S PASTURE) ONT. DEPARTMENT OF PUBLIC WORKS, CANADA BORING BY: PROJECT: 32-185 TESTING LABORATORIES Food & Drug Laboratory APPROVED: NECOAS CONSISTENCY PENETRATION RESISTANCE 3060 STO. PEN, RESISTANCE, N ........... NATURAL WATER CONTENT, W. ..... ELEVATION (FT.) SAMPLE TYPE LIQUID LIMIT, WL ..... GROUND SURFACE: PLASTIC LIMIT, Wp ..... UNDISTURBED Geodetic 206.9 UNDRAINED SHEAR STRENGTH, Su FORMS: UNCONFINED COMPRESSION(44/2)...... BULK DENSITY, Y ....... BEDROCK SURFACE: OROUND WATER: 205.9 BUOYANT DENSITY, V ..... QUICK TRIAXIAL..... HOCK CORE READING: BOTTOM FIELD VANE PRECONSOLIDATION PRESSURE, P'........ 205.9 IOLE DESCRIPTION DEPTH ELEY. OF BLOWS/F (FT.) (FT.) HO. TYPE OVERBURDEN AND BEDROCK 206.9 SILTY SAND, brown, with SHALE SLABS 205.9 BEDROCK REMARKS

LOCATION: DATE RECORD OF BORE HOLE OTTAWA (TUNNEY'S PASTURE) ONT. Sept. 14/70 DEPARTMENT OF PUBLIC WORKS, CANADA PROJECT: BORINGBY: TESTING LABORATORIES Food & Drug Laboratory APPROVED 10 M ASCOAD CONSISTENCY PENETRATION RESISTANCE 3060 NATURAL WATER CONTENT, W .... -- -- -- -- ---ELEVATION (FT.) SAMPLE TYPE 2 INCH DIA. CONE ..... LIQUID LIMIT, WE------CASING ..... GROUND SURFACE: PLASTIC LIMIT, Wp ..... UNDISTURBED UNDRAINED SHEAR STRENGTH, \$11 Geodetic 205.5 FORMS: UNCONFINED COMPRESSION(QU/2)..... BEDROCK SURFACE: OSTURBED WATER: 204.1 BUOYANT DENSITY, V. ..... QUICK TRIAXIAL..... BOTTON PRECONSOLIDATION PRESSURE, P'........ ROCK CORE READING: FIELD VANE 204.1 OLK: DEPTH SAMPLE ELEV. (FT) (FT.) BLOWS/FT NO. TYPE OVERBURDEN AND BEDROCK 205.5 0.0 SILTY SAND, brown, with Shale and Limestone slabs 204.1 BEDROCK REMARKS

OCATION: RECORD OF BORE HOLE Sept. 14/70 OTTAWA (TUNNEY'S PASTURE) ONT. DEPARTMENT OF PUBLIC WORKS, CANADA BORINGBY: PROJECT: 32-185 TESTING LABORATORIES Food and Drug Laboratory APPROVED: RECOAD CONSISTENCY PENETRATION RESISTANCE 3060 STO. PEN. RESISTANCE, N ........... (B-0 ELEVATION (FT) 2 INCH DIA. CONE ..... SAMPLE TYPE LIQUID LIMIT, WL ...... Geodetic GROUND SURFACE: 205.1 .....UNDISTURBED UNDRAINED SHEAR STRENGTH, S, BEDROCK SURFACE: INCONFINED COMPRESSION(41/2)...... DISTURBED WATER 203.1 BUOYANT DENSITY, V. ..... QUICK TRIAXIAL..... HOLK: PRECONSOLIDATION PRESSURE, PO....... ROCK CORE READING: FIELD VANE..... 203.1 DESCRIPTION ELEV. DEPTH BLOWS/FT (F T.) (FT.) HO. TYPE OVERBURDEN AND BEDROCK 205.1 0.0 SILTY SAND, SLABS, BOULDERS, old pce. of timber 203.1 2.0 BEDROCK REMARKS

DATE LOCATION! RECORD OF BORE HOLE T.P. 30 OTTAWA (TUNNEY'S PASTURE) ONT. Sept. 14/70 DEPARTMENT OF PUBLIC WORKS, CANADA BORINGBY: PROJECT: TESTING LABORATORIES 32-185 Food & Drug Laboratory APPROVED: RECORD CONSISTENCY PENETRATION RESISTANCE 3060 STD. PEN. RESISTANCE, N ...... NATURAL WATER CONTENT, w..... ---2 INCH DIA. CONE ..... ELEVATION (FT.) SAMPLE TYPE LIQUID LIMIT, WL ...... GROUND SURFACE: CASING ..... PLASTIC LINIT, WOTER TO THE PL .....UNDISTURBED UNDRAINED SHEAR STRENGTH, Su 205.5 Geodetic BEDROCK SURFACE: UNCONFINED COMPRESSION(41/2) ..... GROUND WATER: 202.0 BUOYANT DENSITY, & ..... QUICK TRIAXIAL..... HOTTON FIELD VANE ROCK CORE READING: PRECONSOLIDATION PRESSURE, P'....... 202.0 HOLE DESCRIPTION DEPTH SAMPLE ELEV. OF (F T.) (FT.) BLOWS/F1 NO. TYPE OVERBURDEN AND BEDROCK 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

LOCATION! RECORD OF BORE HOLE T.P. 31 OTTAWA (TUNNEY'S PASTURE) ONT. Sept. 14/70 DEPARTMENT OF PUBLIC WORKS, CANADA PROJECT: BORINGSY! TESTING LABORATORIES Food and Drug Laboratory 32-185 3060 CONSISTENCY PENETRATION RESISTANCE STO. PEN. RESISTANCE, N ............. NATURAL WATER CONTENT, w..... ->4-ELEVATION (FT) SAMPLE TYPE 2 INCH DIA. CONE ..... LIQUID LIMIT, WL ......O GROUND SURFACE; CASING UNDISTURBED Geodetic 207.5 UNDRAINED SHEAR STRENGTH, su PLASTIC LIMIT, Wp ..... FORMS: UNCONFINED COMPRESSION(QU/2)..... BEDROCK SURFACE! BULK DENSITY, & ..... DISTURBED WATER 207.3 BUOYANT DENSITY, VI...... QUICK TRIAXIAL-----BOYTOM OF HOLE: ROCK CORE READING: FIELD VANE..... PRECONSOLIDATION PRESSURE, P'....... 207.3 DESCRIPTION DEPTH ELEV OF NO. TYPE OVERBURDEN AND BEDROCK (FT.) (FT.) HLOWS/FT 207.5 0.0 15 brown 207.3 BEDROCK

LOCATION: RECORD OF BORE HULE Sept. 14/70 OTTAWA (TUNNEY'S PASTURE) ONT. DEPARTMENT OF PUBLIC WORKS, CANADA PROJECT: BORING BY: TESTING LABORATORIES Food and Drug Laboratory 32-185 RECONS 3060 PENETRATION RESISTANCE CONSISTENCY NATURAL WATER CONTENT, w ..... -- ---SAMPLE TYPE ELEVATION (FT.) 2 INCH DIA CONE ..... LIQUID LIMIT, WL ....... SURFACE! PLASTIC LIMIT, Wp----------UNDISTURBED Geodetic 207.5 UNDRAINED SHEAR STRENGTH, BU FORMS: UNCONFINED COMPRESSION(qu/2).....Q GROUND WATER 207.3 BUOYANT DENSITY, VI..... BOTTO I ROCK CORE READING: FIELD VANE...... PRECONSOLIDATION PRESSURE, Pour. 207.3 HOPE DESCRIPTION DEPTH ELEV. OF (FT.) (FT.) BLOWS/FT NO. TYPE OVERBURDEN AND BEDROCK 207.5 0.0 15 SAND, brown 207.3 0.2 BEDROCK

HOLE NO.: T.P. 32 LOCATION: RECORD OF BORE HOLE Sept.14/70 OTTAWA (TUNNEY'S PASTURE) ONT. DEPARTMENT OF PUBLIC WORKS, CANADA PROJECT ! BORING BY: FILE NO.: 32-185 TESTING LABORATORIES Food and Drug Laboratory PPHOVED. HECOAR BOBING CONSISTENCY 3060 PENETRATION RESISTANCE NATURAL WATER CONTENT, w..... --->t-SAMPLE TYPE ELEVATION (FT.) R INCH DIA. CONE ..... LIQUID LIMIT, WL ..... Geodetic CASING ..... GROUND SURFACE: UNDISTURBED 207.9 PLASTIC LIMIT, Wp ..... UNDRAINED SHEAR STRENGTH, & U FORMS; UNCONFINED COMPRESSION(QU/2)..... BEDROCK SURFACE: OISTURBED WATER: 205.5 BUOYANT DENSITY, 8 ..... QUICK TRIAXIAL..... POTTON ROCK CORE READING: PRECONSOLIDATION PRESSURE, Po....... FIELD VANE ..... 205.5 OLE DESCRIPTION DEPTH ELEV. HO. TYPE OVERBURDEN AND BEDROCK BLOWS/FT (FT.) (FT.) 207.9 0.0 SAND-GRAVEL to SILTY SAND-GRAVEL, brown, full of Shale Slabs 205.5 2.4 BEDROCK REMARKS

LOCATION: DATE! RECORD OF BORE HOLE OTTAWA (TUNNEY'S PASTURE), ONT 14 Sept 70 DEPARTMENT OF PUBLIC WORKS, CANADA PROJECT: BORINGBY: TESTING LABORATORIES Food and Drug Laboratory 32-185 RECORD PENETRATION RESISTANCE CONSISTENCY 3060 STD. PEN. RESISTANCE, N ............ NATURAL WATER CONTENT, W..... ELEVATION (FT.) SAMPLE TYPE 2 INCH DIA. CONE ..... LIQUID LIMIT, WE------GROUND GURFACE; -----UNDISTURBED UNDRAINED SHEAR STRENGTH, S. PLASTIC LIMIT, WD ..... Geodetic 204.4 BEDROCK SURFACE: BULK DENSITY, Y ........ GROUND WATER! UNCONFINED COMPRESSION(Qu/2)..... BUOYANT DENSITY, 8 ..... SOTTOM ROCK CORE READING: FIELD VANE PRECONSOLIDATION PRESSURE, P. ....... 204.0 OLE: SAMPLE DEPTH ELEV. OF NO. TYPE OVERBURDEN AND BEDROCK (F T.) (FT.) BLOWS/FT 204.4 0.0 SAND-GRAVEL (brown) 204.0 0.4 with thin shale slabs BEDROCK

LOCATION: RECORD OF BORE HOLE OTTAWA (TUNNEY'S PASTURE) ONT. 14 Sept. 70 T.P. #34 DEPARTMENT OF PUBLIC WORKS, CANADA PROJECT: BORING BY: TESTING LABORATORIES 32-185 Food & Drug Laboratory PROVED: GORING RECORD 3060 PENETRATION RESISTANCE CONSISTENCY STD. PEN. RESISTANCE, N ...... NATURAL WATER CONTENT, w ..... SAMPLE TYPE ELEVATION (FT.) 2 INCH DIA CONE ..... LIQUID LIMIT, W. ...... Geodetic SURFACE: -----UNDISTURBED 205.5 UNDRAINED SHEAR STRENGTH, 8, PLASTIC LIMIT, WATER TO THE PL BEDROCK SURFACE: DISTURBED WATER UNCONFINED COMPRESSIONIO 204.2 BUOYANT DENSITY, & ..... QUICK TRIAXIAL..... BOTTOM ROCK CORE READING: FIELD VANE..... PRECONSOLIDATION PRESSURE, P'........ 204.2 DESCRIPTION ELEV. DEPTH OF NO. TYPE (F T.) OVERBURDEN AND (FT.) BLOWS/FT 205.5 0.0 SAND to SILTY SAND, brown, some slabs\* 204.2 1.3 BEDROCK \*One large slab measured 41 x 21 x 9"

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LOCATION: RECORD OF BORE HOLE 14 Sept 70 T.P. #35 OTTAWA (TUNNEY'S PASTURE) ONT. DEPARTMENT OF PUBLIC WORKS, CANADA PROJECT: BORINGBY: TESTING LABORATORIES 32-185 Food and Drug Laboratory BORING DRAWN: APPROVED: PENETRATION RESISTANCE 3060 CONSISTENCY STD. PEN. RESISTANCE, N .... NATURAL WATER CONTENT, w ..... SAMPLE TYPE ELEVATION (FT.) 2 INCH DIA CONE ..... Geodetic GROUND SURFACE: LIQUID LIMIT, W. ...... CASING ..... -.....UNDISTURBED 208.1 UNDRAINED SHEAR STRENGTH, S. PLASTIC LIMIT, WD------FORMS; UNCONFINED COMPRESSION(qu/2)..... BEDROCK SURFACE: OROUND WATER 206.6 BUOYANT DENSITY, & ..... OFTON ROCK CORE READING: FIELD VANE..... PRECONSOLIDATION PRESSURE, p'........ 206.6 HOLE: DESCRIPTION DEPTH ELEV. OF NO. TYPE (F T.) (FT.) OVERBURDEN AND BEDROCK BLOWS/FT 208.1 0.0 SILTY SAND, dark brown, with Shale and Limestone slabs 206.6 1.5 BEDROCK

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LOCATION: RECORD OF BORE HOLE OTTAWA (TUNNEY'S PASTURE) ONT. Sept 14/70 DEPARTMENT OF PUBLIC WORKS, CANADA PROJECT: BORINGBY: TESTING LABORATORIES Food and Drug Laboratory 3060 PENETRATION RESISTANCE CONSISTENCY NATURAL WATER CONTENT, w ..... SAMPLE TYPE 2 INCH DIA. CONE ..... LIQUID LIMIT, WL .....O Geodetic GROUND SURFACE: 207.2 -----UNDISTURBED UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, WATER TO THE PL FORMS: UNCONFINED COMPRESSION(Qu/2) GROUND WATER: BEDROCK SURFACE: 206.1 BUOYANT DENSITY, 8 ..... BOTTOM ROCK CORE READING: FIELD VANE ..... PHECONSOLIDATION PRESSURE, PO....... 206,1 ELEV. DEPTH (FT.) (FT.) BLOWS/FT OVERBURDEN AND BEDROCK 207.2 0.0 SAND to SILTY SAND many Shale and Limestone slabs and pieces 206.1 1.1 BEDROCK

LOCATION: RECORD OF BORE HOLE 14 Sept 70 OTTAWA (TUNNEY'S PASTURE) ONT. DEPARTMENT OF PUBLIC WORKS, CANADA PROJECT: BORINGBY: TESTING LABORATORIES 32-185 Food & Drug Laboratory BORING HECOAS PENETRATION RESISTANCE CONSISTENCY 3060 NATURAL WATER CONTENT, W..... SAMPLE TYPE ELEVATION (FT.) 2 INCH DIA. CONE ..... LIQUID LIMIT, WL ......O Geodetic GROUND UNDISTURBED 206.7 PLASTIC LIMIT, Water .... UNDRAINED SHEAR STRENGTH, & U FORMS: UNCONFINED COMPRESSION(4) DISTURBED GROUND WATER: BEDROCK SURFACE: 205.7 BUOYANT DENSITY, 8 ..... QUICK TRIAXIAL ..... GAUGE READING: BOTTOM FIELD VANE ..... PRECONSOLIDATION PRESSURE, Po....... 205.7 OLE: DESCRIPTION SAMPLE ELEV. DEPTH (FT.) (FT.) NO. TYPE BLOWS/FT OVERBURDEN AND BEDROCK 206.7 0.0 SILTY SAND, greyish brown, full of Limestone and Shale slabs 205.7 1.0 BEDROCK REMARKS

LOCATION! RECORD OF BORE HOLE T.P. #39 14 Sept. 70 OTTAWA (TUNNEY'S PASTURE) ONT. DEPARTMENT OF PUBLIC WORKS, CANADA FILE No.: 32-185 BORING BY! PROJECT! TESTING LABORATORIES Food & Drug Laboratory CONSISTENCY PENETRATION RESISTANCE 3060 STD. PEN. RESISTANCE, N ...... 😘---- 👁 NATURAL WATER CONTENT, w ..... ELEVATION (FT.) 2 INCH DIA. CONE ..... SAMPLE TYPE LIQUID LIMIT, HE ..... Geodetic GROUND SURFACE: CASING PLASTIC LIMIT, WD-----------UNDISTURBED 208.1 UNDRAINED SHEAR STRENGTH, SU FORMS: UNCONFINED COMPRESSION(Qu/2)..... BEDROCK SURFACE: OROUND WATER! 206.8 BUOYANT DENSITY, 8..... QUICK TRIAXIAL..... BOTTOM FIELD VANE..... PRECONSOLIDATION PRESSURE, p'....... ROCK CORE 206.8 OLE: SAMPLE ELEV. DEPTH OF (FT.) BLOWS/F. (FT.) OVERBURDEN AND BEDROCK 208.1 0.0 TOPSOIL: SILTY SAND, full of Shale and Limestone slabs 1.3 206.8 BEDROCK REMARKS

LOCATION: RECORD OF BORE HOLE DEPARTMENT OF PUBLIC WORKS, CANADA TESTING LABORATORIES Drug Laboratory RECORD PENETRATION RESISTANCE CONSISTENCY 3060 STD. PEN. RESISTANCE, N ...... ELEVATION (FT.) 2 INCH DIA. CONE ..... SAMPLE TYPE LIQUID LIMIT, W. ..... GROUND SURFACE: CASING ..... PLASTIC LIMIT, Wp -----------UNDISTURBED Geodetic 204.4 UNDRAINED SHEAR STRENGTH, S. PORMS: BEDROCK SURFACE: CHOUND WATER: 204.2 BUOYANT DENSITY, 8:..... QUICK TRIAXIAL ..... BOTTON ROCK CORE READING: FIELD VANE PRECONSOLIDATION PRESSURE, p. ........ 204. HOLE: DESCRIPTION DEPTH SAMPLE ELEV. OF BLOWS/FT (FT.) (# Y.) NO. TYPE OVERBURDEN AND BEDROCK 204.4 SILTY SAND-GRAVEL 204.2 (brown) with Shaley Slabs **BEDROCK** REMARKS

DE		· 프레이스 시간에 시설됐는 네트 항상을 하는 것은 그런 네네이스 그리고 하는 네	BORE HOLE		OTTAWA	(TUNNEY'S PASTURE) ONT. Sept. 14/70 No.: T.P. 4
			ABORATORIES		and the second s	Drug Laboratory 32-185
BINS	[		DRAWN OG CHECK	TAP	PROVED:	PENETRATION RESISTANCE CONSISTENCY
COR	, 	3060		MOLA	(OUD)	STO. PEN. RESISTANCE, N
S	AMP	LE TYPE	De Dale de la companya de la company	ON (FT.)		CASING LIQUID LIMIT, WL
<b>20</b>		UNDISTURBED	Geodetic	GROUND SURFACE:	205-7	UNDRAINED SHEAR STRENGTH, S., PLASTIC LIMIT, W.
		DISTURBED	GROUND	BEDROCK SURFACE:		FORMS: A BULK DENSITY, &
Z4"		NS I OKBED	MATER .	BOTTOM	205.4	OUICK TRIAXIAL BUOYANT DENSITY, V
<b>202</b> ·		······ROCK CORE	READING!	HOLE:	205.4	PIELD VANE
AMP	I.E	DES	CRIPTION OF	ELEV.	DEPTH	
10,	TYPE	OVERBURDE	N AND BEDROCK	(F T.)	(FT.)	N SLOWS
				ŀ		
				205.	7 0.0	
		TOPCOTI	SILTY SAND,			
			full of pcs.	205,4	0.3	
			e & Limestone			
				1		
		BED	ROCK			
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		<ul> <li>*In the state of Year.</li> </ul>	医结膜性 医医静脉 化二氯苯基化二氯苯	100	<ul> <li>In the control of the first</li> </ul>	<sub>▗▗▘▐▄▃▜▗▟▄▊▗▊▄▊▄▊▄▊▄▊▄▊▄▊▄▊▄▊▄▊▄▊▄▊▄▊▄▊▄▊▄▊▄▊▄▊</sub>

LOCATION: RECORD OF BORE HOLE OTTAWA (TUNNEY'S PASTURE) ONT. 14 Sept. 70 T.P. #43 DEPARTMENT OF PUBLIC WORKS, CANADA BORING BY: PROJECT: 32-185 TESTING LABORATORIES Food and Drug Laboratory APPROVED RORING RECORD CONSISTENCY PENETRATION RESISTANCE 3060 TO. PEN. RESISTANCE, N ...... NATURAL WATER CONTENT, w ..... ELEVATION (FT.) Z INCH DIA. CONE .....-SAMPLE TYPE LIQUID LIMIT, W. ...... CASING ..... GROUND SURFACE! UNDRAINED SHEAR STRENGTH, & U UNDISTURBED Geodetic 207.3 DISTURBED GROUND WATER: UNCONFINED COMPRESSION (44/2) ..... 206.4 BUOYANT DENSITY, 8 ..... QUICK TRIAXIAL..... BOTTOM FIELD VANE ROCK CORE READING: PRECONSOLIDATION PRESSURE, p. ........ 206.4 HOLE: DESCRIPTION SAMPLE DEPTH ELEV. OF (FT.) (F T.) NO. TYPE OVERBURDEN AND BEDROCK 207.3 0.0 SILTY SAND, TOPSOIL: brown, with slabs of Shale and Limestone 0.9 206.4 BEDROCK REMARKS

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DEPA	RTMENT OF A	F BORE HOLE Public Works, ca	MAGA	PROJECT:	(TUNNEY'S PASTURE) ONT. 14 Sept. 70 T.P. #44
SEINA		ABORATORIES			Drug Laboratory BORINGBY: FILE NO.: 32-18
CONB	3060	DRAWN 95 CHEEN	loka 1"	PROVED:	PENETRATION RESISTANCE CONSISTENCY
SAMI	PLE TYPE		ON (FT.)		STD. PEN. RESISTANCE, N
<b></b>	UNDISTURAED	Geodetic	GROUND SURFACE:	209.5	CASING LIQUID LIMIT, WL
<b>///</b>	DISTURBED	the state of the s	BEDROCK SURFACE;	209.1	UNCONFINED COMPRESSION (A
	ROCK CORE		BOTTOM	209.1	OUICK TRIAXIAL
AMPLE		CRIPTION	HOLE:	DEPTH	* Transfer of the Property of
	OVERBURDE	OF N AND BEDROCK	(FT.)	(FT.)	N BLOWS
				TO THE RESIDENCE OF	
			200		
	TOPSOIL:	SILTY SAND,	209.5		
	- dark b	rown, some	209.1	0.4	
	Shaley	slabs	1		
	ntan	DOCK			
	DED.	ROCK			
	4				
				·	
MARKS					

FORM TL/TF 213

DE	PARTMENT OF I	F BORE HOLE PUBLIC WORKS, CA	NAUA	OTTAWA PROJECT:	BORINGBY! FILE
BORING		LABORATORIES  TORAWN;/// TCHECK!	941 / 409	Food &	Drug Laboratory No.: 32-18
ACCORD	3060	Mg R	dal	Out	PENETRATION RESISTANCE CONSISTENCY STO. PEN. RESISTANCE, N
<u>54</u>	MPLE TYPE	ELEVATION	"我,你就一定就了。"		2 INCH DIA CONE
<b>MM</b>	······································	Geodetic	GROUND SURFACE;	204.2	CASING LIMIT, WL LIQUID LIQUID LIMIT, WL LIQUID LIMIT, WL LIQUID LIQUID LIMIT, WL LIQUID LIQUID LIQUID LIMIT, WL LIQUID LI
<i>W</i>	DISTURBED	GROUND WATER:	BEDROCK SURFACE:	203 3	UNCONFINED COMPRESSION A
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	ARTMENT OF I	F BORE HOLE Public Works, ca Laboratories	NADA	OTTAWA PROJECT: Food &	(TUNNE		AND VALUE (SAME)	E) ONT	B0	Sept RINGE	. 14 iv:	<i>17</i> 0	NO.		p. 4
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<b>(2)</b>	UNDISTURBED		TOROUND	<del></del>	CASING	44,44,44,444			LIC	JUID L	.IMIT, y	۱ <u>۱.</u> ا			
	······································	Geodetic	BEDROCK SURFACE:		UNDRAINE	DSHEA	RSTR	ENGTH,	PL	ASTIC	LIMIT,	<b>p</b>			• • • <del> </del>
	ROCK CORE		BOTTOM	20002	FORMS! UNCONFINE QUICK TRIA	NIA L	5SION(q	1/2)	BU	OVANT	DENSIT	Y 8 .			
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TESTING LABORATORIES  Food & Drug Laboratory  FOOD & DRAWN   CHECKED   APPROVED.  RECORD 3060  SAMPLE TYPE  SAMPLE TYPE  CHECKED   APPROVED.  SAMPLE TYPE  CHECKED   APPROVED.  STD. PEN. RESISTANCE  SINCH DIA: CONE  CASING  UNDRAINED SHEAR STRENGTH, & PLASTIC LIMIT, Wp.  CASING  UNDRAINED SHEAR STRENGTH, & PLASTIC LIMIT, Wp.  WATER:  SURFACE: 206.9  SAMPLE  OF  ROCK CORE  CAUGE  ROCK CORE  CAUGE  ROCK CORE  CAUGE  ROCK CORE  CAUGE  ROCK CORE  CAUGE  ROCK CORE  CAUGE  ROCK CORE  CAUGE  ROCK CORE  CAUGE  ROCK CORE  CAUGE  ROCK CORE  CAUGE  ROCK CORE  CAUGE  CONSISTENCY  NATURAL WATER CONTENT, W	DEPAR	RECORD O	F BORE HOLE		COCATION:	(TUNNEY'S PASTURE) ONT. Sept. 14/70 HOLE T.P. 48
3060  SAMPLE TYPE  WOOSTURED SAUGE  BOOK CORE SUPPRINCE SAUGE  SAUGE OF SUPPRINCE SAUGE  SAUGE O		TESTING L	ABORATORIES		PROJECT:	BORING BY}
SAMPLE TYPE  CHORAGINES  MONTHER  CHORAGINES  MORACI	PORING RECORD NO.:	3060	DRAWN CHECK	EGY AF	PROVED:	PENETRATION RESISTANCE CONSISTENCY
Sample State of the state of th	SAME	LE TYPE	ELEVATI		And and Assessment of the last	ZINCH DIA. CONE
SAMPLE DESCRIPTION 100 TYPE OVERBURDEN AND REDROCK  208.3 0.0  SAMPLE DESCRIPTION 100 TYPE OVERBURDEN AND REDROCK  208.3 0.0  SAMPLE SAMP SILT to SAMP Drown, full of Shale and Limestone slabs  206.9 1.4  BEDROCK  206.9 1.4		UNDISTURBED	Geodetic	SURFACE:		UNDRAINED SHEAR STRENGTHE. PLASTIC LIMIT, WE
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SANDY SILT to SAND brown, full of Shale and Limestone slabs  206.9 1.4  BEDROCK			A #1	ELEV.		
SANDY SILT to SAND brown, full of Shale and Limestone slabs  206.9 1.4  BEDROCK	A PARTICIPANT AND ADDRESS	- DYENBURYE	N AND BEUROCK		-	BLOWS/F
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brown, full of Shale and Limestone slabs  206.9 1.4  BEDROCK		SANDY STI	T to SAND	208.3	0.0	
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DEPAR	RECORD O	F BORE HOLE	ANIAMA	COCATION:		JNN	EY	'I'S	P	AS	ΊÜ	RE	) (	CNO	r.	DA1	٤ . ٤	Sep	t	70		HOL NO.:	₹¨,	 r.:	 Р.	
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	····· UNDISTURGED	Geodetic	GROUND SURFACE!	***************************************	CAS	ING	• • • •									LIQ	UID	LI	MIT	WL	••••	•••	••••	• • • •	• • •	
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-		CRIPTION	HOLE:	202.2	FIEL	.D V	^ NI		••••			  		***	*	PR	ECO	NS	LI	ATI	ON	PRE	ssu	RE,	Po"	••••
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DEPA	RTMENT OF	F BORE HOLE Public Works, Ca Laboratories	NADA	PROJECT:	A (TUNNEY'S PASTURE) ONT. Sept. 14/70 NO.: T.P.
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SAM	PLE TYPE	The state of the s	ON (FT.)		IS INCH DIA. CONE
<b>H</b>	UNDISTURBED	Geodetic	GROUND SURFACE;	205.1	CASING LIGUID LIMIT, WLUNDRAINED SHEAR STRENGTH, 811 PLASTIC LIMIT, WD
<b>7</b>	DISTURBED		BEDROCK SURFACE:		TUNCONFINED COMPRESSION A LAMOND BULK DENSITY, &
	ROCK CORE			2.04 . 3	QUICK TRIAXIAL A BUOYANT DENSITY, 8
-			BOTTOM OF HOLE:	204.5	FIELD VANE PRECONSOLIDATION PRESSURE, P'o
MPLE		CRIPTION OF	ELEV.	DEPTH	
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RECORD OF BORE HOLE Sept. 14/70 T.P. 51 OTTAWA (TUNNEY'S PASTURE) ONT. DEPARTMENT OF PUBLIC WORKS, CANADA PROJECT: BORINGRY: TESTING LABORATORIES Food & Drug Laboratory 32-185 PECOUP PENETRATION RESISTANCE CONSISTENCY 3060 STO. PEN. RESISTANCE, N ...... HATURAL WATER CONTENT, W..... 2 INCH DIA CONE .... ELEVATION (FT.) SAMPLE TYPE LIQUID LIMIT, W. ...... Geodetic GROUND SURFACE: .....UNDISTURBED 207.2 PLASTIC LIMIT, WO ..... UNDRAINED SHEAR STRENGTH, 8,1 FORMS: UNCONFINED COMPRESSION(40/2) BEDROCK SURFACE: OSTURNED GROUND WATER: 206.5 BUOYANT DENSITY, 8 ..... QUICK TRIAXIAL..... BOTTOM OF HOLE: ROCK CORE READING: PRECONSOLIDATION PRESSURE, P'....... FIELD VANE..... 206.5 DESCRIPTION SAMPLE DEPTH ELEV. BLOWS/FT (F T.) (F &) NO. TYPE OVERBURDEN AND BEDROCK 207.2 0.0 TOPSOIL: SILTY SAND brown, full of boulders 206.5 and shale slabs BEDROCK HEMARKS

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RECORD OF BORE HOLE 17/9/71 Ottawa - Tunney's Pasture DEPARTMENT OF PUBLIC WORKS, CANADA BORINGBY: J.D.P. N032/4-383 Prop. Food and Drug Lab. TESTING LABORATORIES RECORD NO. APPROVED: CONSISTENCY PENETRATION RESISTANCE 3397 STD. PEN. RESISTANCE, N ..... NATURAL WATER CONTENT, WILLIAM ---ELEVATION (FT.) 2 INCH DIA. CONE ..... SAMPLE TYPE Geodetic GROUND SURFACE: 211.6 CASING ..... --PLASTIC LIMIY, Wp-----UNDISTURBED UNDRAINED SHEAR STRENGTH, S. BULK DENSITY, & ....... SURFACE: 208.6 LOUGHLINED COMBUESSION (40 1/5)..... DISTURBED GROUND WATER! BUOYANT DENSITY, 8 ..... BOTTOM QUICK TRIAXIAL..... ROCK CORE READING: FIELD VAHE ..... PRECONSOLIDATION PRESSURE, P'....... 161.4 HOLE: DEPTH ELEV. BLOWS/FT (FT.) (FT.) NO. TYPE OVERBURDEN AND BEDROCK 0.4 Asphalt FILL - SAND, Gravel, 208.6 3.0 Boulders Dolomite - weathered 205.6 6.0 seams Limestone and Dolomite occasional shale bands thin to thick bedding Sound 183.5 28.1 Marker Bed 181.9 29.7 Drilled (NXF) Recovered 2.4 3.5 3.6 4.9 5.2 4.9 5.0 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

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RECORD OF BORE HOLE 22/9/71 BORING BY: OTTAWA - TUNNEY'S PASTURE DEPARTMENT OF PUBLIC WORKS, CANADA PROJECT! No.:32/4-383 Prop. Food & Drug Lab. TESTING LABORATORIES J.D.P. NECOAS 3397 PENETRATION RESISTANCE CONSISTENCY STD. PEN. RESISTANCE, N ...... 💝-NATURAL WATER CONTENT, W ..... ELEVATION (FT.) 2 INCH DIA. CONE ..... SAMPLE TYPE GROUND SURFACE: 211.2 CASING ..... DATUM: -----UNDISTURBED PLASTIC LIMIT, WO .....-UNDRAINED SHEAR STRENGTH, S. Geodetic FORMS; UNCONFINED COMPRESSION(qu/2)..... BEDROCK SURFACE 207.4 BULK DENSITY, Y ......... GROUND WATER: BUOYANT DENSITY, 8 ..... QUICK TRIAXIAL..... ROCK CORE READING: NOTTOR PRECONSOLIDATION PRESSURE, P. ...... FIELD VANE..... iole: 161.4 ELEV. DEPTH NO. TYPE OVERBURDEN AND BEDROCK (PT.) (PT) BLOWS/FT Aaphalt Sand, gravel & boulders 207.4 Weathered Limestone 204.9 Limestone and Dolomite, occasional shale bands, massive to thin bedding Sound. 186.5 24.7 Marker bed 184.8 26.4 Drilled (NXF) Recovered 1.0 0.7 5.2 5.0 4.9 4.8 5.0 5.1 4.6 4.6 5.1 5.0 5.0 5.0 5.2 5.0 4.8 4.6 5.1 46.0 161.4 49.8

LOCATION: RECORD OF BORE HOLE OTTAWA - TUNNEY'S PASTURE 30/9/71 8 DEPARTMENT OF PUBLIC WORKS, CANADA PROJECT: BORINGBY: TESTING LABORATORIES Prop. Food & Drug Lab, <u> 32/4-383</u> J.D.P. BORING RECORD PENETRATION RESISTANCE CONSISTENCY 3397 NATURAL WATER CONTENT, W..... 2 INCH DIA CONE ..... SAMPLE TYPE ELEVATION (FT.) LIQUID LIMIT, WL ......O Geodetic SURFACE: CASING ..... -----UNDISTURBED PLASTIC LIMIT, Wp ......... 211.5 UNDRAINED SHEAR STRENGTH, 8, FORMS: UNCONFINED COMPRESSION(QU/S)..... DISTURBED WATER: 208. 5 QUICK TRIAXIAL BUOYANT DENSITY, & ..... BOTTOM ROCK CORE READING! FIELD VANE..... PRECONSOLIDATION PRESSURE, P. ........ 202.5 HOLE: DESCRIPTION ELEV. DEPTH OF NO. TYPE (F T.) (FT.) BLOWS/FT OVERBURDEN AND BEDROCK 211.5 211.1 ASPHALT FILL - Crushed Stone, Sand, Gravel 208.5 3.0 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 REMARKS

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RECORD OF BORE HOLE DEPARTMENT OF PUBLIC WORKS, CA			LOCATION: OTTAWA PROJECT:		- TUNNEY'S PASTURE	ATE   28/9/71	HOLE 9
S1618	TESTING L	LABORATORIES		Prop.	소문 회장하는 경우 항공 항공 등 경기 회원 회사를 보고 있다면 하는 것이 되었다. 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그	ORINGBY; J.D.P.	PILE No.: 32/4-3
ORING 3397 ORAWN: 7 CHECK		据 1	PPROVED:	PENETRATION RESISTANCE	CONSISTENCY		
SAMPLE TYPE ELEVATION (FT.)				)	The state of the s	NATURAL WATER CONTENT; w — — — — — — — — — — — — — — — —	
Geodetic			GROUND SURFACE: 211.0		CASINO LI		
MATURBED W			BEDROCK SURFACE	207.9	UNCONFINED COMPRESSION (6 12	BULK DENSITY   W	
	·····ROCK CORE	GAUGE	HAYTAU		OUICK TRIAXIAL BL	PRECONSOLIDATION PRESSURE; por	
MPLE		CRIPTION	HOLE:	202.9	······································	RECONSOLIDATION	PRESSURE; Po
		OF N AND BEDROCK	(FT.)	OEPTH (FT.)	N		BLOWS
		The second secon	* ************************************				
	TASPHALT		211.8	0			
	ASPHA	ALT	210.6	0.4			
	FILL - Crushed Stone, Sand, Gravel		i.				
				1.00			
			207.9	3.1			
	Dolomitic Limestone						
	weathered	l in top 6"					
77		A Company	202.9	8.1			
	<u>Drilled</u> <u>Recovered</u> 5.0 5.0						
	NXF Core						
RKS	THE RESIDENCE OF STREET, STREE						<u> </u>

FORM TL/TF 2:3

DEPA	RTMENT OF I	F BORE HOLE Public works, c/	ANADA	OTTAWA	- TUNNEY'S PASTURE 28/9/71 HOLE 10
ORING	THE RESERVE OF STREET, SALES	ABORATORIES		Prop.	Food and Drug Lab. Boring By: J. D. P. No.: 32/4-3
GRING ECORD O.:	3397	DRAWN: CHECK	las 1	PPROVED:	PENETRATION RESISTANCE CONSISTENCY
SAME	LE TYPE	ELEVAT	ION (FT.		STD. PEN. RESISTANCE, N
	······ UNDISTURBED	Geodetic	SURFACE	211.4	CASING LIQUID LIMIT, W.L
<b>Z</b>	······· DISTURBED	GROUND WATER:	BEDROCK	208.7	UNCONFINED COMPRESSIONIA AL BULK DENSITY, Y
<b>XX</b>	ROCK CORE	GAUGE READING:	BOTTOM	TAX DESCRIPTION	FIELD VANE + PRECONSOLIDATION OPERING
AMPLE		CRIPTION	HOLE:	203.9 DEPTH	# A THEODOWE, Por
O. TYPE	OVERBURDE	N AND REDROCK	(FT.)	(FT.)	N BLOW
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	ASP	HALT	211.4	0.4	
		ushed Stone		Latt.	
11		and Gravel			
13			208.7	2.7	
M	Limestone	Bedrock			
K	Mud Seams	at $3.3$ and			
	5.6				
X					
			203.9	7.5	
122			203.9	7.3	
	Drilled	Recovered			
	4.8	4.7			
	NXF	Core			
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UEPAI	TECTION !	UBLIC WORKS, CA	NADA	PROJECT:	TAWA - TUNNEY'S PASTURE 27/9/71 HOLE SORINGBY; FILE
RING COAB		ABORATORIES	16017 / JAF	Prop.	Food and Drug Lab. J.D.P. No. 32/4.
<u> </u>		MAIN	MOST		PENETRATION RESISTANCE CONSISTENCY
	LE TYPE		ON (FT.)		2 INCH DIA CONE NATURAL WATER CONTENT, W
	······ UNDISTURBED	Geodetic			UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, W.
	DISTURBED		BEDROCK SURFACE:	208.8	UNCONFINED COMPRESSION (Qu/2) BULK DENSITY, F
trium management	ROCK CORE	The state of the s	HOLE:	204.1	PIZED VANE + PRECONSOLIDATION PRESSURE,
MPLE D. TYPE	<ul> <li>A section of the control of the contro</li></ul>	CRIPTION OF N AND BEDROCK	ELEV. (FT.)	DEPTH (FT.)	N BL
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			211.3	0	
	FILL - SA	ND - Gravel			
		and the second s	208.8	2.5	
	Limestone	Bedrock			
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	DOU!				
			204.1	7.0	
124		**************************************	204.1	7.2	
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	NXF Co	re			
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ARKS					<u>┱╍╍╍╌┎╘┪┪╧┟┍╗╟╟╏╬╬╏╘┼┼┧┧┧┧┼┧┼╏</u> ╏╏╏╏┧┟ <u>╒</u> ┼┼┼┼┞┞┼┞┞┼┞╃┼┼┼┼┼┼┼┼

DEPAR	TMENT OF TESTING	F BORE HOLE Public Works, ca Laboratories		PROJECT:	- TUNNEY'S PASTURE 23/9/71 HOLE NO.: 12  BORING BY: FILE NO.: 32/4	? -38:					
COAS	3397	DRAWN CHECK	AT AT	PROVED:	ood & Drug Lab. J.D.P. 32/4  PENETRATION RESISTANCE CONSISTENCY	-30					
	LE TYPE	for the same and t	ÓN (FT.	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	STD. PEN. RESISTANCE, N	MATURAL WATER CONTENT, W					
	····· UNDISTURBED	SATURY:	IGROUND	-	CASING	LIQUID LIMIY, WE					
		I George CTC	SURFACE;	210.5	UNDRAINED SHEAR STRENGTH, SU PLASTIC LIMIT, WO						
	DISTURBED		SURPACE:	202.0	FORMS: UNCONFINED COMPRESSION(qu/2)						
<b>23</b>	ROCK CORE	READING:	BOTTOM OF HOLE:	197.2	FIELD VANE + PRECOURGE INATION PRESSURE						
AMPLE	DES	CRIPTION	ELEV.	DEPTH	······································						
O. TYPE	OVERBURDE	OF N AND BEDROCK	(FT.)	(# T.)	N	BLOWS					
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		e <u>Companya da Araba</u>	210.5	0							
		Sand - Gravel		7		HH.					
	(	Loose)									
			207.5	3.0		詌					
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	Sand -	Gravel with	-								
	boulder	s and cobbles		200							
	(granit	e & limestone									
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	er ver	San Barrier									
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SAME	LE TYPE	ELEVATION	3 7 Buch 1 1	The state of the s	STD. PEN. RESISTANCE, N											MATURAL WATER CONTENT, W — N										
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<b>53</b>	ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	203.5	FIE	LD LD	VAN	XIA!	L		••••		• • • •							SITY DATI						
MPLE		CRIPTION	HOLE:	DEPTH	<del> </del>				· ·		• •	• • • •		****	类			-		*******			-		P 0	Karyana
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NG ORO	3397	DRAWN: 5 CHECKE	O AF	PROVED!	d & Drug Lab. J.D.P.  PENETRATION RESISTANCE CONSI	STENCY				
1 A		10 1 KX		******	TO. PEN. RESISTANCE, N 9-9 HATHRAL WATER O					
737	PLE TYPE	ELEVATION DATUM:	ON (FT.)	) 	INCH DIA. CONE LIQUID LIMIT, WL					
	UNDISTURBED	Geodetic	SURFACE:	210.5	UNDAINED SHEAD STRENGTUR PLANTIC LINIT W.					
<b>a</b>	DISTURBED	GROUND WATER:	BEDROCK SURFACE:	209.4 1	CONFINED COMPRESSION (n. 15) BULK DENSITY, Y.					
<b>}</b>	ROCK CORE	GAUGE	BOYTOM OF HOLE:	204.4	IELD VANE PRECONSOLIDATIO					
WPL E	marine manufacture and the second	CRIPTION	ELEV.	DEPTH	*1					
TYP	OVERBURDE	N AND BEDROCK	(FT.)	(FT.)		BLOW				
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7	····· UNDISTURBED				UNDI	RAIN	ED	SH	EAF	<u>s</u>	TRE	NGT	H,8 <sub>U</sub>	PL	AST	IC L	IMI.	T, Wp		• • •	• • • •	• • • •	( <del>  -</del>	•
	······ DISTURBED	A strategic of the stra	BEDROCK SURFACE:	209.0	FORK UNCC	HINK YR	IED (	COM	PRES	3101	4(an	<u>(2)</u>		BU	OYA	NT 1	DEN	BITY	٧.					
Ż	······ROCK CORE	The same of the sa	BOTTOM OF HOLE:	204.5	FIEL	D V	HE.	• • • • •		• • • • •		• • • • •	***	PR										
MPLE		CRIPTION OF	ELEV.	DEPTH						~~														•
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"在在一口的是我们将解决表现		F BORE HOLE Public Works, ca		Charles and the Control		16						
VETAIL		ABORATORIES		PROJECT:	od and Drug Lab. J.D.P. File No.: 32	/4-383						
PING CORD 3	3397	DHAWN 3 CHECH		PROVED:	PENETRATION RESISTANCE CONSISTENCY TO PEN, RESISTANCE, N							
SAMP	LE TYPE	ELEVATI	Early State State of Comments		INCH DIA CONF	LIQUID LIMIT, WL						
<b>200</b>	····· UNDISTURBED	Geodetic	GROUND SURFACE:	210.6	NDRAINED SHEAR STRENGTH, PLASTIC LIMIT, Wp							
<b>///</b>	······ DISTURBED	GROUND WATER:	BEDROCK SURFACE:	208.6	DRMS: NCONFINED COMPRESSION(QU/2)							
	ROCK CORE		BOTTOM OF HOLE:	200.0	TELD VANE + PRECONSOLIDATION PRESSUR							
AMPLE		CRIPTION	HOLE:	203.6								
		OF EN AND BEDROCK	(FT.)	(FT.)	<u> </u>	BLOWS/F						
	ΔS	PHALT	210.6 210.2	0 0 4								
	CRUSHED	STONE, SAND, RAVEL	208.6	2,0								
	for the state of the first of the state of t	e Bedrock m at 4.0,										
			203.6	7.0								
	<u>Drilled</u> 5.0	Recovered 4.8										
	NX	F Core										

DI			F BORE HOLE		ALL MEDISON DUTY	TAWA - TUNNEY'S PASTURE   24/9/71   27 17
			ABORATORIES			Food and Drug Lab. Boningay: J.D.P. FILE No.: 32/4-383
RECO	6	3397	DRAWN: T CHECK!	D AF	PROVED:	PENETRATION RESISTANCE CONSISTENCY
		E TYPE	ELEVATION	) N (FT.)		STD. PEN. RESISTANCE, N
		···· UNDISTURBED	Geodetic	GROUND SURFACE:	209.4	UNDRAINED SHEAR STRENGTH, 8, PLASTIC LIMIT, Wp
		······ DISTURBED	GROUND WATER: -	BEDROCK SURFACE:	207.1	FORMS: UNCONFINED COMPRESSION (QU/2) BULK DENSITY, &
		·····ROCK CORE	GAUGE READING: —	BOTYOM OF HOLE:	201.9	FIELD VANE
SAM	PLE	DES	CRIPTION	ELEV.	DEPTH	
ĸo.	TYPE	OVERBURDE	N AND BEDROCK	(FT.)	(FT.)	N BLOWS/F
		ETII S	AND Gravel	209.4	0	
	(X)	C	AND, Gravel,	207.1	2.3	
		limeston	e with some ns			
		Drilled 2.2	Recovered	201.9	7.5	
		3.3 5.5	2.2 3.2 5.4			
		NXF	core			
REW	ARKS					

		RECORD O	F BORE HOLE		LOCATION:	- 474-74	.a.		DATE	HOLE NO.:
DE			PUBLIC WORKS, CA	NADA	OTTAWA	, ONTARI	0		Oct. 14	·/ 71   [agrae 1
			ABORATORIES			m Passas Ta	Mes .	<u> </u>	l in the second	oor 32/4-380
BORING	5		DRAWN: 3 CHECK	EDY: JAF	PROVED:	Tower W	ater Main ATION RES		B.Leafl	114 1471 27 1401
RECORING NO.;	5	3487	FF KU	e6 .	lev	PENETR	ATION RESI	S IANCE		CONSISTENCY
S	AMP	LE TYPE	ELEVATI	ON (FT.	)	2 INCH DIA.	CONE			ATER CONTENT, w
i		······ UNDISTURBED	DATUM:	GROUND SURFACE:	0000		CUEAD CT			dit, w <sub>p</sub> ·····
1			Geodetic	0.000 ±		FORMS:	SHEAR ST	KENGIH,SU		TY, y
		······ DISTURBED		BEDROCK SURFACE:		QUICK TRIAX	COMPRESSION	(qu/2)		HSITY, 8
<b>≫</b>		ROCK CORE	GAUGE READING:	BOTTOM OF HOLE:	198.6	FIELD VAN			PRECONSOL	IDATION PRESSURE, p'
SAMP			CRIPTION	ELEV.	DEPTH			<u> </u>	<u> </u>	
			OF N AND BEDROCK	(FT.)	(FT)	N.	<del></del>	<del>  </del>	+ + + - +	BLOWS/F1
		OVENDONDE	II SIID DESIIVOIT							
					1 2					
		e en en en		202.9	0.0					
		TOPS	OIL			1-1				
		(Bla		1.2			<b>i</b>			
				202.1	0.8					
	-	עדוופ	FINE SAND							
		(Gre		201.	1 .					
		(016	<i>J</i> -	201.4	1.5	<b>T</b> iliiiiiii			<b>!</b> ::::::::::::::::::::::::::::::::::::	
		SILTY	SAND,							
		some G				Ei i i i i i i i i i i i i i i i i i i				
		and CO		-						
		(D. Br								
} [		DIA	CK /	ļ		Fillilli				
				199.0	3.9	<u> </u>				
	Ì	Probab1	e Bedrock red)		1					
		(Auge	red)	198.6	4.3	<b>F</b>				
						<del>   -   -   -   -   -   -   -</del>	111111111			
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						<b>I</b>			<u>                                     </u>	
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BENAD	Ke			<u> </u>		++++++	ШШШ	шшш		<u> </u>
REMAR	K2						<b></b>		+	· <del>·</del>

DEPARTMENT OF PUBLIC WORKS, CAMADA TESTING LABORATORIES  3487    PROPERTY   D.B.S. TOWER Water Main   D.B.S. TOWER Water Main   D.B.S. TOWER Water Main   D.B.S. TOWER Water Main   D.B.S. TOWER Water Main   D.B.S. TOWER Water Main   D.B.S. TOWER Water Main   D.B.S. TOWER Water Main   D.B.S. TOWER Water Main   D.B.S. TOWER Water Main   D.B.S. TOWER Water Main   D.B.S. TOWER Water Main   D.B.S. TOWER Water Main   D.B.S. TOWER Water Main   D.B.S. TOWER Water Main   D.B.S. TOWER Water Main   D.B.S. TOWER Water Main   D.B.S. TOWER Water Main   D.B.S. TOWER WATER CONTENT   D.B.S. TOWER WATER CONT
SAMPLE TYPE  SAMPLE TATION RESISTANCE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPLE TYPE  SAMPL
SAMPLE TYPE  WINDSTURBED  OBSTURB
SAMPLE TYPE
UNDSTURED WITHOUT SUPPLY SUPPL
DESTRIPTION ROCK CORE READING: SET OF SOLIT. ROCK CORE READING: SOLIT. SOLIT. ROCK CORE READING: SOLIT. SOLIT. ROCK CORE READING: SOLIT. SOLIT. ROCK CORE READING: SOLIT. SOLIT. ROCK CORE READING: SOLIT. SOLIT. ROCK CORE READING: SOLIT. ROCK CORE READING: SOLIT. ROCK CORE READING: SOLIT. ROCK CORE READING: SOLIT. ROCK CORE READING: SOLIT. ROCK CORE READING: SOLIT. ROCK CORE READING: ROCK CORE READING: SOLIT. ROCK CORE READING: R
ROCK CORE FRANCE:  SAMPLE  DESCRIPTION OVERBURDEN AND BEDROCK  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
DESCRIPTION   CALCULATION
NO. TYPE OVERBURDEN AND BEDROCK  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
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
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(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
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Trace GRAVEL (Brown to Grey)  201.4 1.8
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201.4 1.8 ###################################
SILTY SAND & GRAVEL (Grey & Brown)  200-2 3-0
GRAVEL (Grey & Brown)  200.2 3.0
(Grey & Brown) 200-2 3-0
200.2 3.0
REMARKS

	the same of the sa	BORE HOLE	NADA	COTTAWA,	ONTARIO	)		Oct. 1	:	HOLE NO.:	3
<u> </u>		ABORATORIES	No.	D.B.S.	Tower Wa	iter Mai	.n	B. Les	and the second and the second and	1. 7.5 - 984 1. 5.7	2/4-380
BORING RECORD NO.:	3487	DRAWN: ST CHECK	a6 1	PROVED!	PENETR	ATION RES	SISTANCE		CONSIS		
	LE TYPE	ELEVATION	ON (FT.	)	2 INCH DIA	CONE					, w — <del>X</del> —
	UNDISTURBED	Geodetic	GROUND SURFACE:	203.4	CASING UNDRAINED	SHEAR S	TRENGTH.s	PLASTIC	LIMIT, WD		- · · · · · · · · <del>   </del>
1	DISTURBED		BEDROCK SURFACE:	200.6	FORMS: UNCONFINED	COMPRESSIO	N(q <sub>u</sub> / <sub>2</sub> )	BULK DEN	ISITY, Y		······································
1	ROCK CORE	3"	BOTTOM	44.59	QUICK TRIAX	ÀL					JRE, p;△
		READING: CRIPTION	HOLE:	193.5		•	······ *	1			Haday álas
SAMPLE		OF	ELEV.	DEPTH (FT.)	N	Lance Age	<del></del>	<del>-1</del> - 1		<del>  </del>	BLOWS/F
NO. TTPE	OVERBURDE	N AND BEDROCK									
			ļ								
1   1			i								
			203.4	0-0							
	TOPS	SOIL	1								
		nish Black)	202.8	0.6							
†											
		(Brown)			<del>╏╅╬╬╏┩</del> <del>┇┇</del>						
		e of CLAY Gravel									
	Odd (	JI avei	1								
									1 1 1 1 1	++++	
			200.6	2.8							
							<del>[                                    </del>				
	BI	EDROCK					1-11				
	Drilled O		mad (	-							
		-	1	· [• /							
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			193.5	9.9							
'77'			123.3	7.7			########				
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REMARKS	L				1						

FORM TL/TF 213

ر ۱۱۹۷ وار در ۱۱۹۷	,,,.		_ د دو					PROJEC		OF L'INFOR, NEW BLOG. #8.
OTTAWA TUM HOLE POSITION:  W. TECHNICIAN:	(Ni.i.	45 / . 40	17 S T 10 20 TO	د جرمت	נק קיין נק קיין	سيرميل				중입하다 나는 맛으로 그리고 맛이 하는 것이 그리는 것이 그리는 것이다.
HEHRA.	auk	DRILL	PEA En:	K.E.I.	به به به کا	<del></del>	<u>)</u>	DATE A STARTE DATUM	0 5 5 6 6 5 6 6 6 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	T. A.M. 74 FINISHED . A.M
SOILM MANUAR	CHS.	MGROC	кД	XX	77.7.7	11111	/	SIZEI	4X.	WEIGHTIM THAT LES! DROMATHATATINCHES
MPLE SYMBOL * UNDISTURBED DISTURBED LOST					S. T. P.		SP _THIN _PIST C	EL * * CLIT BARI I WALL TO ON SAMPI ORE BARI	JBE LER REL GER ASH	SHIPPING CONTAINER: * * TTUBE GGLASS JAR CCLOTH BAG PPLASTIC BAG BCORE BOX Z
DESCRIPTION OF STRATA	E F T H (FT:)	E VAT (F.T.) ON	BLOW ROOT	У <del>Д</del> в е н	SAM S *	PLE * * * * *	R E T' D (FT:)	E L NC HES	2228 E # #	SAMPLE DESCRIPTION AND BORING NOTES
0'70 2.7'	0.0	203:1	,					*** *** *** *** *** ***		
NERBILDEN.								Now that they then the		CLUSION, SUNDY PERISES, MILD.
<u> </u>								and the true took took fell		
na ana ana ana ana ana ana ana ana ana	2.7	201.0								DRILLED BX CASING, 0.0 TO 2.8'
TORSCK (VRILLED)			<u> </u>			BKF		ha ha ha ha ma ha		TRULED WITH BXF DIA. BIT. FROM 75 FOR REC. 2.7' 6.7' 60 3.3'
						C. B.	44			6.7' 7.5' 0.8' 0.8
		Anna Marie Marie Anna Marie Santa						tine ton from the time tone		FNO OF THE DAY 4:00 P.M
					_				*	APR. 26,74 WATER 7,4' 6.6.L. CLEAR, VINDY, MILD., TEMP. 40"055"
					_					
					-	BXF	45			7.5' 9.6' 2.1' 2.1' 2.6' 14.4: 4.8' 1.8' 14.4: 12.1' 4.7' 4.7'
										19.1' 24.0' 4.9' 4.9'
						BXP.	46			29.1' 33.9' 4.8' 4.8' 53.9' 38.7' 4.8' 4.8' 38.7' 42.5' 3.8' 3.8' 707.11.5 39.8' 39.6'
										707/16 39.8' 39.6'
										PULLED THE BX CASING.
							1 1			
		ļ								
TOM OF THE HOLE	42.5	161.2			<u> </u>	<u> </u>				
									<b> </b> -	
	<u> </u>									
									]	4-2-2
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- 100 V	UKE	MOLL L	.00				-4	FRÓJEC	<b>;</b>	2.   SHEET (Constitution of the state o
OCATION: OTTAIVA (7	4,1	1843		71.57	TURI	ــــــــــــــــــــــــــــــــــــــ		GUVT	ט	UF CANADA, NEW 5:06. 48
P.W. TECHNICIANI LEAFLE	<i>אר</i> פאי הנה כ	<u>: ک</u> . پر مبر	7: X	ין מיני כ	115	V. -	I	DATEA		26 TIPR 74 consists 64 TIPE ACCOUNT
		ि । सम्बर्ध			<b>7</b> 50.11			DATUM	9×10	CASING HAMMEN
ORING METHODIC	13/5/	16 HOCK	( P)	ب سر	IA.	PIT		CASING SIZEL	K.	WEIGHTTT . THE THE BEI DROPE THE THE STREET
SAMPLE SYMBOL *					<u>5 A</u>	MPLE	397T	LIT BAR	₹E.L	SHIPPING CONTAINER! * * TTUBE
UNDISTURBED					Ť. P.		HIN PIST	WALL TO ON SAMPL ORE BARI	JOE Ler	C CLOTH BAG PPLASTIC BAG
DISTURBED					A. W.	ک داد ہے جہ حد میں جہ کا		AU	SER Ash	BCORE BOX - Z
LOST					٧.	••••				
	D E	E L E	B L O		SAM		R	6 B L L # 0	S A NM	SAMPLE DESCRIPTION
DESCRIPTION OF STRATA	H H	A <sub>T</sub>	PEROO S	25 B E R	5 ¥:	Y #	Ε Τ' D	S PERS	ML	AND BORING NOTES
	(FT.)	(FT.) ON	° <sub>T</sub>	R	, o	E	(FTI)	E S	E R	
	2.0	204.0	<u> </u>							
U.O' TO 6.7'										SUNNY, WINDY, MILD TEMP. 550
DYFREJEOFAL.							1.			
				<del> </del> -						
and the same that then then then then then then then the			<u> </u>						-	
and the same and the same and the same and the same										DRILLED BY CASIN'S TO "ZZ"
	<u> </u>									DRUGGED BY GUSTAND TO C.
									****	
	6.7	197.3						ord has now had done		PRILLED WITH SXF D.A. BIT.
6.71 70 10.9'					1					6.7' 7.6' 0.2' 0.6'
6.7' TO 10.9' BEDROCK (DRILLED	2			-		BXF C.B.	41.		-	6.7' 7.6' 0.9' 0.6' 7.6' 10.9' 3.3' 5.8'
						6.6.	4	an an an an an	1-	
			-							TIMES WHILE DRILLING.
BOTT. OF THIS HOLE	10.0	1921								
DIT OF THIS ACE		1.00.7	_							PHALED THE BY CASING.
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<u>. 2000 - 100 - 100 - 100 - 100 200 .</u> Ostania del 180 - 180 - 180 - 180 - 180 - 180 - 180 - 180 - 180 - 180 - 180 - 180 - 180 - 180 - 180 - 180 - 180		<u>                                     </u>								
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HOLE POSITION:	7111:	و بو بیرام در کرم	م میرسین	9157 Pl	د ایر. د بیم	4i: ) ]		1.200	<u>'4'</u>	GOVT 340G. * 8.
AROS.S.	P.PA	<i>الع</i> و	Fi.	C.E.S.	<u>' / ' / </u>	1.1.77.		STARTED OF STARTS	i i i s Cit	PINISHED . Z
RACTOR! IG METHODIA SOLKWAMM G	(A.S.	N'GROCK		KE.	Red	1. 6.	(1::)	CASING (S	<i>\</i>	Will GHTM. A. T. T. LESS, DRODA MILL
PLE SYMBOL *					<u>5</u> ^	Mist.	TYPE	LIY BARKEI	L	SHIPPING CONTAINER: * * TTUBE GGLASS JAR
UNDISTURBED					- T		THE PERM	WALL THE	r: K	GCLOTH BAG PPLASTIC BAG
					C. A.			T VOCE	R	BCORE BOX
DISTURBED				gi irki	₩ Υ.			WAS		
		<b>.</b>	В				ور است	ÜS	<b>-</b>	
DESCRIPTION	E	E V	L P W . E s	N, T	5 + Y M	iri.c	1			SAMPLE DESCRIPTION AND BORING NOTES
OF STRATA	ੂੰ ਜ ਜ	,,\_ ,,\_	F R	N B E	M B OL	Y 1	(f)		E E	BORING NOTES
	(7, (1)	(FT:) 0 N	°,	R	, <u>,</u> ,	} `-}			1 21	OVERCOST TO RAIN, MILO. TEMP. 700
0' TU 2.2'	20	2120	_							
IFRBURITEN										URILLED BY CASING 0.0'TO 3.4'
										[ 이 기계 : 1 시계 : 1 시계 : 1 시계 : 1 시계 : 1 시계 : 1 시계 : 1 시계 : 1 시계 : 1 시계 : 1 시계 : 1 시계 : 1 시계 : 1 시계 : 1 시계 : 1 시
man dere beit der find men men und den fine men den den den der den der den den den den den den den den den den		10,000		<b> </b>		-				PAIN 1:15 PM. TO 4:00 P.M.
and the first the first the second of the se	2.7	201.2			本	-				AIR 30/75 SUMMY CLOSEY PERIORS
7' TO 41.5'										Goale . Choir 52 13 69
POCK (DRILLED)					-	-				TREARD WITH BXF WA. BIT.
	20.0	1		1						FROM 13 FOR REC. 2.2'
		<del> </del> -				EXF	47			
			-	1		- 14+ 4 April 4 -				73' 63' 0.9' 0.9' 6.2' 7.3' 1.1' 1.1' 73' 53' 2.6' 7.5'
	-		-		-	- 1		North .		OST ALL RETURN WATER A 7.3 TO 29 RUN
						-				15.2 18.2 8.3
	4	ļ	-			B.F.	48			16.5' 12.8' 1.3' 1.2'
									•••••	17.8' 19.2' 2.1' 2.1
	30,0	4			+					124.6 225
	1					BXF			• • • • • • • • • • • • • • • • • • • •	2081 3414 4.91 491
						C.B.	4.9			1 4 4 1 6 2
										39.4 41.5 38.8' 38.2' 107115 38.8' 38.2'
The same of the first term and the same of										
	:	4	-					Nere	<u>.</u>	THE DRILL WATER RETURNED MEAN
	-									AT 19.9' & EASTED TILL THE END
	+									CF. CIST
	1									PULLED THE BX CASING.
TOM OF THIS HOLE	41:	162.4	*							I CANAL ISLA SCA - FILTER COLUMN
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LOCATION:			04			<u> </u>		PROJE	cîi.	6
BORE HOLE POSITION!	HH. DT	e 75/3	775 C	<i>ت 7</i> جرد تع جرد	KE. Hs	] Lë	. جرس	GOV	T. Eso	OF CANADA NEW BLUG. TO SPEED
DIPIW, TECHNICIANI	501	e e	ER:	تابعره	אינו	47.		STARTI DATUM	ED Á	OF CAMBOA NEW BLUG, #8  KE A LAWN SERVICE AT THE STREE  OFTIC GROUND SURFACE 2012 B. GAUGE CASING HAMMERI WEIGHT. LBS; DROP
BORING METHODIR	7451.	46. HOC	K ØK	70	A.	BIT.		CASING SIZE:	Ex.	CASING HAMMERI  WEIGHTLBS; DROPINCHE
SAMPLE SYMBOL * UNDISTURBED DISTURBED LOST					S S T P C A	AMPL	E TYP SI YHIN PIST		REL UBE LER REL GER	SHIPPING CONTAINER: ¥ *  T TUBE G CLASS JAH C CLOTH BAC P PLASTIC BAC B GORE BOX Z
DESCRIPTION OF STRATA	E P T H	E E A T (FT) 0	BLOSEROC	الم الم	5 +	APLE	D	e l zche	5 4 % P L E E	SAMPLE DESCRIPTION AND BORING NOTES
		N	T	R	- °L	-	E (FT.)	Š	R	
OVERBURDEN	S. U	301.8		v						CLUUDY, SUNNY PERIORS MILD.
SILTY SAMON TOPSOIL TO SANO, SATE GRAVEL										
TO SAND, SILT E GRAVEL										DRILLED 8X CASING TO 2.9'
2.5' n 9.3'	2.5	199.3			本					DRILLED WITH BXF DIA. BIT.
BEORUCK (DRILLEO)						BXP C.B.	44			1 6 73 74 74 74 75 75 75 75 75 75 75 75 75 75 75 75 75
										2.5' 4.8' 2.3' 2.2' 4.8' 9.3' 4.5' 4.5' torals 6.8' 6.7'
										70//25 0.8 6./
										LOST ALL RETURN WATER AT 6.4. B.G.L
										PULLED THE BX CASING.
BUTT. OF THIS HOLE	9.3	192.5			W			*** *** *** *** *** ***		
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					]110.4 					
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	<b>t</b> -	<b>†</b>							(444)	<u> </u>

		E HÜLE						il.		7.   SHEET
LOCATION OTT NWA TO	UNA	seys	PA.	574	125	<u></u>		GUI	SF.	OF CANDON, NEW BLOG. \$8
BORE HOLE POSITION: AS		r.e	PLI	AN						
CONTRACTOR		DRILL	LERI					DATUM	E0	APR. 74. FINISHED 25 MIR. 74  ODETIC GROUND SURFACE 20211 GAUGE READING:
BORING METHOD PUNHLUS .	CASI	ING RO	ск. <b>.4</b>	BXF	DIA	1. B.	<del>;;;;;</del>	CASING	5 B,	CASING HAMMER; WEIGHT,LBS; DROP,INCHE
SAMPLE SYMBOL *						SAMPLI	E TYP	Billion Advisor Parks	en Li	SHIPPING CONTAINER: **
UNDISTURBED					Ţ	J:	THIN	IN WALL T	TÜBE PLER	T. TUBE GGLASS JAR CCLOTH BAS
DISTURBED					ă Ŷ	C: A: W:	c	CORE BAR AU W	RREL UGER Wash	PPLASTIC BAC BCORE BOX Z
LOST					<b>Y</b>					
DESCRIPTION	D <sub>E</sub> P <sub>T</sub> H	E	B L. O P_W		13.49.11.5	MPLE	<del>415 -</del>	6 P.L.	5 4 X P L F	SAMPLE DESCRIPTION
OF STRATA		H YA	FROO	s V	S * M B R OL	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	* R * T' D E (FT)	N C T E M S		
		·) (FT.) O	1 %	E	OL.		E (FTo	I S	ER	: [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [
0.0' 10 4.4'	0.0	202.1				1		4-22	<del> </del>	CLUUDY, SUNNY PERIOS WINDY, COOL
OVERBURGEN	1				Tables a super					DRILLED BX CASING TO 5.0'
	1		1							
	<del> </del>	<u> Jama</u>								1222
										PRILLED WITH BXF DIA. BIT FROM TO FOR REC.
	4.4	197.7	<u>/</u> /'							4.4' 5.7' 1.3' 1.2' 5.7' 6.2' 0.5' 0.2' 6.2' 7.3' 1.1' 0.7'
4.4' TO 39.8' BEORUCK (ORILLED)					1	8×F	12			7,21 /2,21 5.01 5.01
						(15.	~	Not	E -	LOST ALL RETURN WISTER AT 8.1
	1	1	4 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -							DRILLED BX CASING TO 8.4'
						BXF	]			12.3' 16.3' 4.0' 4.0' 16.3' 21.0' 4.7' 4.7'
	.1===!					C.B.4				
	1		-	-		+				FND OF THE DAY 4:00 P.M.
			1 1 1 1 1 1						=	MPR. 25/74 WATER 10.6 8.6.1. CLEAR SULLY, COOL TO MILD.
			1-1		1	<u> </u>	4			CLEAR SULLY COOL TO MILD. TEMP. 35° TO 65°
	<del> </del>			<u>l</u>		اسطا	1			21.0' 25.0' 4.0' 4.0'
	1					(A				25.0' 30.0' 5.0' 5.0' 30.0'
						BXF C.B.	44			35.0' 39.8' 4.8' 4.8
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Botrom of THIS HOLE	32.8	162.3			<b>业</b>				f J	
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FIELD B	ORE	HOLE I	.0G :				1 111 4 41	BUKEN		المحاري ومستونسيون كسيان والمستون والمستون والمتارية	sheet.		<u></u>
BORE HOLE POSITION:		10,77	مرہ بیر ہوا	3 /	1913.	TUR	الرته	PROJEC	Wi		econ.		
BORE HOLE POSITIONE			Haller Committee		16 P. C. S. A. L.				ग्रह हा	ار در الاراداد		i, 1/1	7:1
DIP.W. TECHNICIANS  AMAGERICA  CONTRACTORS  BORING METHODS  SOIL MERKELLINGS.	ر پېرب	DRILLI	. <i>4.(1.4</i> Eri	: <u>:</u> 4!	<u>(</u>			DATUMI	<u>دُورُهُ 0</u> السوا <b>رِهِ بُهُ</b> ا	HELLY ELLY	NO SURFACE	GA HE	UGE ADINGI
BORING METHODI SOIL MARKETALLA	الديوري	1.1. <b>G</b> 001	<u></u>	/x /:	411	ý(-	17:	CASING SIZEL,,,	rés.	CASING HA	MMERI WEIGHT	LBS; DROP	· · · · · · · · · · · · · · · · · · ·
SAMPLE SYMBOL *					SAI	MPLE	TYPE	. * * LIT BARK WALL TU	ie.			HIPPING CON	TAINER: TA TUBE GLASS JÄR
		redigij. Galak			Р,	د ند ند ند د ند ند ند	.PISTO	ON SAMPL	ER REL				_ CLOTH BAG
DISTURBED					₩:			W	ASH				
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DESCRIPTION OF STRATA	L. 21	#JE>4 <sup>T</sup> -0Z	10 % <b>s</b> 10 % <b>s</b>	W	5 * Y M B OL	* * <sub>Y</sub> T eq = eq	R E T' D (FT:)	° _ 20 تا تا تا ها تا ح≥ه	E		AND BORING I	NOTES	
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ONERBURGEN										BARRELL AND	SX CHS		
	1.6	ביטטיבי								15.16	WITH BXF	.2. 7	1.6
26 70 90.5				17, 2		BXF C.B.*	9	Nore	-	LUUT ALL	RILTILIEN	10.1. FR	
Brurock (CRILLED)									<b>_</b>	LINILLIED .	B1 (15145	6.8' 1	4.4
		<u> </u>				BXF C.B.				11.3'	16.31	50'	50° 4.9°
						C.S.	10		<b> </b>	2102	26.21	501	ప్లి
					+	<del>                                     </del>			<del> </del>	26.2	30.71	%· 5° '	4651
			<u>.                                    </u>		+						7116	The Control of the State of	
					+						7.8 SUNN		ے فوقے کا فاصل کے ان ان ان
			-			BXF C.B.				30.7'	35.7 70.5 73.77Ks	3:01	5.0
			11.28			- 161	"				73.TALS	37.0	37.1
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BATTOM OF THE HOLE	40.5	162.1			<b>Y</b>				#=				
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CONTRACTOR:  DORING METHOD:  SOIL SAMPLE SYMBOL *  SAMPLE	¥ JBE JAR BAG BAG BOX
STARTED	¥ JBE JAR BAG BAG BOX
SAMPLE SYMBOL *  SAMPLE TYPE! **  S. SPLIT BARREL  T. THIN WALL TUDE  G. GLASS  T. PISTON SAMPLER  C. CLOTH  C. CORE BARREL  P. PLASTIC TO SOME	¥ JBE JAR BAG BAG BOX
SAMPLE SYMBOL *  SAMPLE TYPE! **  S. SPLIT BARREL  T. THIN WALL TUDE  G. GLASS  T. PISTON SAMPLER  C. CLOTH  C. CORE BARREL  P. PLASTIC TO SOME	¥ JBE JAR BAG BAG BOX
SSPLIT BARREL  TTHIN WALL TUBE  GGLASS.  TTHIN WALL TUBE  CCLOTH  CCORE BARREL  PPLASTIC I	JAR BAG BAG BOX
C. LLLLCORE BARREL	BAG BOX
A,AUGER	
WWASH Y	
DESCRIPTION  DE L SAMPLE 6 D S  SAMPLE DESCRIPTION  SAMPLE DESCRIPTION	
OF THAT FREE DEED BORING NOTES	
00'70 2.6 2.5 32 9 WINEY, TEMP 120 74 55	
DRILLED EX CASING, OIL' TO 3.0	· ·
2.6' TO 4.1' 2.6 200.3	
OVER BURGET TO FUR REC.	-,
4.1' To 8:2' BXF 4 171 RECOURTED LINES	TONE
trances by Casing 3.0' to 4.	
TROM TO FIRE RE	<u></u>
BOTT OF THE HOLE 8.2 194.7 V LOST ALL RETURN WITTER AT 5.1	5.6.
5.6' 8.2' 2.6' 2. SEOR 2016 TOTALS TOTALS TOTALS	6'
PULLED THE BX CRISING.	
THE BEORDERY IS CAUSALENT	
THE RECOVERY IS EXCELLENT OUT THE CORE IS SPUT & BR. LIP WHEN EXPUSED TO THE AIR.	111
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LOCATION: STAWA ON	17 (	1000	ر دونيران	15	1715	س.و	( ہے	PROJEC	<b>"</b> W	EN GOV.	r. BLOG.	18	
BORE HOLE PO' TION!  D.P.W. TECHNICIAN!  CONTRACTOR!  BORING METHOD:  SOIL PLANMING.	2.3	1 .522	27/	<u>/</u>	0,5	nei	-21.1	Z Z	7.//	LOC.		2620	
CONTRACTOR!	بجبب	ORILL	CA ER:	EAL	14 7	<u></u>	****	STÄRTE	<u>ا</u> د جر	8.1.1147.	MALL FINISHED	روهرامر الراز الماكم الرازرة	
BORING METHODI	رورور <u>.</u> درونور			<u></u> כני ייבי		 سو رجیم	•	CASING	1Ç.4.	CASING HA	ATIONI		BING:
SAMPLE SYMBOL *	L9.74	M GI ROC	K . C. J. S	47.151	5 /	MPLE	TYPE	<u> </u>	w. May		경기 교사가 되고 말씀하다고요?	SHIPPING CONT	AIN ER TT
UNDISTURBED					T		_ THIN	LIT BARE WALL TO ON SAMPL	JBE			T G C	_GLA! S JA!
ZZZ DISTURBED					C.		c	ORE BAR	REL Ber			<b>6.</b>	LASTIC BA
LOST								w				2.,,,,,,,,,,,,,,,,	
	D <sub>E</sub>	<b>.</b>	B L	T	SAN	PĺÆ		6 BL	S A			varioù Malas	
DESCRIPTION OF STRATA	E P T H	E V A T	PES	74,	\$ \\ \ \ M	T *	E T' D	L E R S	M B L K		SAMPLE DES AND BORING	A CEAN	
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0.01 10 0.31	27.0	201.1					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			Chiloy,	SUNNY PA	PRIVAS L	·vel
ASSUMET	0.37	200.8									BX CASIA		
CRUSHED SHINE A	1									DRILLELI	OX LYISIX	14 010 R	
SLLY SAND & GRAVE	4-			<u> </u>									
	1			-						Denvisa	WITH BXF	2	
	4.1	197.0				12.3					VIIA - 6 X P 70 8.9'		
ALL' TO ALLED)						BXF	116		L	LUST ALL	RETURN W.	AIR AT O	- 15.80 1.00 8.5
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	<b>_</b>			-							F THE	رجالا المنظالة الأراجاب	وتدبينا وسرستني
							-			14.14 101	TEMP 3	RUAST S	HOW F.C.
				-	-					8.21	13.8'	4.2'	7.9
										13.8'	18.2'	9.41	7.4
	<del> </del>					BXF C.G.	17			18.21	23.21		
					П	BX1-				28.11	33,1"	5101	5.0
							418			38.0'	41.61	4.9' 3.6'	£ ? , (c)
	-		-		H						TUTALS'	37.5′	37.3
										PH 150	THE B	v CASIA	
	<u> </u>									7.52232		L	
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BOTT OF THE HOLE	41.6	157.	<u>'</u>										
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LOCATION	7				:7, ,	-3,-3	( ر	PROJEC	٠ <del>٠</del>	SHEET OF OF ORDER OF ORDER OF ORDER OF ORDER OF ORDER OF ORDER OF ORDER OF ORDER OF ORDER OF ORDER OF ORDER ORDER OF ORDER ORDER OF ORDER ORDER OF ORDER ORDER OF ORDER ORDER OF ORDER ORD
BONE HOLE POSITION	<u> </u>	·	ز مر زرمه	,	ر دي. مرد رم.	ع ت وعر	CTU	ML	P.	4N 600.
DIPIW, TECHNICIAN:	15.00	'مے د؛	/	. 29.17	ب و د			DATE A	אוץ טא ם	FI MY TH. FINISHED
CONTRACTOR	<u> </u>	CHILL	ER:					DATUM	ý	GROUND SURFACE GAUGE
BORING METHODI		11160c	к. Д.	K#	RIN	Œ1	<i></i> .,	CASING SIZE:	Cips	CASING HAMMERI WEIGHTLBS; DROPINGHE
SAMPLE SYMBOL *					5.	MPLE	TYPE	LIT BARI	REL	TTUBE
UNDISTURBED					T. P.		PIST	WALL TO ON SAMPL ORE BAR	.ER	GGLASS JAR CCLOTH BAG PPLASTIC BAG
DISTURBED					A.			AU	GER	B CORE BOX
L081					٧.				••••	
	D E	E	L L			PLE		6 B	S A	SAMPLE DESCRIPTION
DESCRIPTION OF STRATA	E F H	E V A	LOW FOO	252 BER	5 * Y M B OL	T *	E T' D (FT.)	E L Z C T E S	ML	AND BORING NOTES
	(FT.)	(FT.) ON	O <sub>T</sub>	E R	ီ	E	(FT.)	É S	E R	7.5
000170 003	00	. 1), ej	/							SIDNIY, TEMP. 450
0.00 10 0.3 -10001.00 5 -10001.00 5	0.3	201.1								DRILLED BX CREING. 0.0'TO 1.4
SALLO E GRAVEL	1.4	200.0				ļ				DRILLED WITH BYE DIA. BIT.
PEDATER (DRILLED)			ļ			BXF	H			TROM TO FUR REC.
			ļ,			C.G.	#12			
FORT. OF THE HOLE	5.5	197.9			Ÿ	<del> </del> -	1 3 <sub>0.0</sub>			PULCO THE EX CASING.
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"COTTAWA WAT	. (	TUNA	بوسي ا	/s: /	1.45%	-ve	2]	PROJEC	ww	GUUT 840G. 48 200.
DLE POSITION LUC.	ع ،'ف	ي ر ر	PLA	77	- برن	PZ	1711	PATEAL	مېم. 10 ۲۱۱	KLUZI,
ECHNICIANI LEAFELE	0.18	S. F.	بالصرسمة	بالاستاج ?	24.7.	- : : : : :	.,,,	STARTE	0 %	MEINY THE FINISHED . S. MAY . THE GAUGE READING
.стоя: ),,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		DRILLI	. H.					CASING	E.VI.	CASING HAMMERI
METHODYS SOILKHAYNINGS	1.15%	MICHOCH		3K/F	QIA.	स्।	T	SIZE: . A	KX.	SHIPPING CONTAINER: **
E SYMBOL *				lauitui Tabela	S A	MPLE	TYPE	LTT BARF WALL T	REL	T TUBE
UNDISTURBED					P. C.		PIST	ON SAMPL	LER REL	CCLOTH BAG PPLASTIC BAG BCORE BOX
OISTURBED					W.			AU	SER ASH	2
LOST					Υ.				• • • •	
	D E	E L	B 1.		SAM	PLE		6 p 6 0	S A M P ML	SAMPLE DESCRIPTION
DESCRIPTION OF STRATA	E P T H	V A T	F R S	٧;	5 * Y M	* * * q	R E T'	N R S	B "	EORING NOTES
	(FT.)	(FT.) ON	Ŏ T	E R	В О	É	(FT.)	E 3	R	
n v.3'	12 12	201.6	<b>\</b>							RAIN, EVERENST, COLD, TEMP. 3700 420
MALL	7.3	2013								DRILLED BX CASING O.O' TO 3.3'
5.71										네일은 영화의 소리를 받는 속에 있는데 이번 사람이 됐다면 보고 말했다고 그렇다고 되었다.
ISHED STUNE TO TY SALLOH GRAVE	<u>.                                    </u>								<u> </u>	DRILLED WITH BKIS DIN BIT.
		<b></b>					2.74			107' 4.6'
										THE RECOVERY IS GRAVEL.
	-			-						DRILLED BK CASING 3.3' TO 5.8'
				1		-				DRILLED WITH BAF DIA BIT.
	5.7	1.25.5	2	-	<b>A</b>					FROM 10 FOR REC. 5.7: 68' 1.1' 1.1'
1' ro 41.1'	<u> </u>		_			BAF	405		-	6.8' 8.0' 1.2' 1.0'
RUCK (DRILLED)	-				<del>                                     </del>	10.00	14		1	8.0' 2.1' 1.1'
			-				-		-	9.1' 9.7' 0.6' 0.6' 9.7' 3.0'
			-							12.7 13.8' 1.1'
			-						+-	1-100 SEAMS & SUFT SHALE
	+-				$\dagger \dagger$	BXF	***			14.5' 18.2' 3.7' 3.7
			-	1-	+	C.B	15			RAIN ALL THIS P.M.
			_							MAY 8/14 WATER 14.6' B.G.C.  DUGGERST, WINDY, SHOWELS COULD
			-							TEMP. 350 TO 480
	-									20.1' 22.4' 2.3' 2.3'
	1		1	4_	11		1			22.4' 25.5' 3.1' 3.1' 25.5' 27.8' 2.3' 1.3'
	4								1	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 - 7.4
					7	BA	and the second		+	36.7' 41.1' 4.4' 4.4' TOTALS 35.4' 34.2'
<u> </u>	-4					('.:	3 41/6			
										PLLED THE BX CASING.
								No	113	- LUST THE RETURN WITTER AT 5.
TO THE HOLD	41	11/100.	5			4-				COMPLETELY ITLETHENED IN A SHUR TILL
										APPRUXIMATELY 19 THEN COMPL-
										ETELY LOST
<u> </u>							70.5			THE CORE FROM 18.2' P 27.8'
	-1					-				CALCITE SEAMS.
	-									
	T							1		
	- 1		-+							
	 					_				
<u> </u>	-1									

						2007. <u>21</u> 47.4				<i></i>
LOCATIONS UNTILLY ONT	- (	TUN'	1 69	15 1	4757	٠,٠٠٠.	<u>r)</u>	PROJEC	iw	GOVT BICG #8
BORE HOLE POSITION: / UC.		93' /	NR	F	LAN	<u>/</u>		rareen	<del>.</del>	
CONTRACTORI	14.1%	. RUGO.	USU	<u> </u>	ابتدب	رم بم سم	(¢).€.	STARTE	b	A. C. Y. T. FINISHED
BOHING METHODY	<u> </u>		• •	سیر دودی	, , , , , , , , , , , , , , , , , , ,	· · · · · · ·	******	CASING	ام بازید مارند	GROUND SURFACE GAUGE READING CAMP READING GAUGE READING CAMP READING GAUGE READING GAUGE READING GAUGE READING GAUGE READING GAUGE
SOILMSWAATTATE	( <b>6</b> 17 m²	14.41 HOC	K §	2007. i	5,	MPLE	TYPE	1 **	( )	SHIPPING CONTAINER! * *
UNDISTURBED					Τ,		_ THIN	LIT BARA WALL TO ON SAMPL	JBE	T: TUBE G:GLASS JAR C: CLOTH BAG
DISTURBED							c	ORE BAR	REL	PCORE BOX
LOST					Ÿ			w	A5H	
	DE	Ę	B L	Γ.	SAM	PLE		6 pL	S A	
DESCRIPTION OF STRATA	E H	V A T	PW FRS	الم الم	5 * Y M	* ∀ <sub>V</sub> *	R E 1' D	L S C H H A	M.P. M.P. M.P. M.P.	SAMPLE DESCRIPTION AND BORING NOTES
	(FTi)	(F t.) 0 N	0,	E	в о <sub>с</sub>	Ę	(FT.)	E E S		
	0.0	202.5	/							MAYE/14 SUNNY TEMP 55°N 500
0.0' 70 4.21	ļ									DRILLED BX CASING U.O'TO 4.21
SAND EJ GRAVEL	<u> </u>									BXF OID BIT 9.2' TO 8.4'
										THO WE THE DAY
				<u> </u>						
	1.2	128.3								MAY 3/14 SUNNY TO RAIN
SAND GRAVEL BUMBERS										DRILLED WITH BXF DIA. BIT FROM TO FOR REC.
BULLDERS										FROM TO FOR REC. 8.4' 11.3' 2.9' 2.9'
									ļ	8.4' 11.3' 2.9' 2.9' 11.3' 16.2' 4.2' 4.2' 16.2' 21.2' 5.0' 5.0'
	<u> </u>								ļ	21.2' 26.2' 5.0' 5.0'
	8.4	124.1								26.21 31.21 5.0' 5.0'
8.4' TO 41.2' BEORVER LORILEOF					1	BXE	1		-	
DEENGER CORTERORY						6 B. F	12		ļ	MAY 6 174, RAIN, WINEY, CULD
									ļ·	31.2' 36.2' 5.0' 5.0'
	<del> </del>					BSF				36.2' 41.2' 5'E' 5'E' TUTALS 32.8 32.8
						18.	13		ļ	PULLED THE BX CASING.
	]					0 0				
				1		BAF C'B	V14			1
					$\mathbb{H}$	-				
							ļ			
									1	
									<b></b>	<u>.                                     </u>
	ļ	<u> </u>								
		ļ						<del> </del>	<del> </del>	
BANGE OF THE HULE	٠, رزا									
	- <del></del>	- / <del>6 / - 3</del>		1	†*					
	1	<del> </del>		1	1			1	1	
		<u> </u>		1						
<b> </b>	- 4	4	9 <b>1</b>					41		

FIELD				2 2 2 2 2 3				BUKEN	ULE N	40, 24   SHEET
LOCATION: OTTHWA, CA	//-	(TUA	INE	Y5'	Ais	rive	رق)	рнојес	Tou	1 Govr. BLOG. 48
BORE HOLE POSITION: LUC.  D.P.W. TECHNICIANI  CONTRACTORI  BORING METHOD: SOILANALIAG	ببهب	C.G	PH.	C/R/A	17.61	Ά.Τ 		DATE A STARTE DATUMI CASING SIZE!	6 Geor	OFTIC GROUNDSURFACE 203.0 GAUGE
SAMPLE SYMBOL *					S. T. P. C. A.	a Jem	TYPL \$P _ THIN PIST C		REL JBE JER SEL OER ASH	SHIPPING CONTAINER: **  T
DESCRIPTION OF STRATA	DEPTH	E > 4 T _ 0 Z	LOOMBOLE See	2-5 m m E	SAM S * Y M B O L	A 197 C. A. P. W. S.	RET DE	PHR TER	2 4 2 D 2 B E E	SAMPLE DESCRIPTION AND BORING NOTES
OUECOUROEN	0.0'	203.0								EVERLAST, WILLY, SHOWERS, LULO.
TUPSUL TO SILTY SAND & GRAVEL CUBSLES										TEME 35" 10 40"
										DRILLED BX CASING FRUM 0.0'
										ORILLED WITH BYE DIA. BIT FROM 4.6' TO 6.8' F RECOVERED GRAVEL. 'E CUBBLES,
		***								DRILLED BX CASING 4.8' TO 10.0'
	9.7	193.3	•							DRILLED WITH BKF DIA BIT.
9.7' TO 13.8' BEDROCK (DRILLED)		77.37				BAF		hom to the top to the		1-RUM TO FOR RE. 9.7' 10.5' 0.8' 0.6' 10.5' 11.2' 0.7' 0.6'
						C.B.#	15-			CUST ALL RETURN WATER AT 9.9 B.C.L. 11.2' 13.8' 2.6' 2.6' TOTALS 4.1 3.8'
RIT. OF THE HOLE	13.8	187.2			<u> </u>					PULLED THE BX CASING

PROJECT: 191-12784-07

1:525

LOCATION: Tunney's Pasture, Ottawa, Ontario

### RECORD OF BOREHOLE: TP - Exploratory Borehole

BORING DATE: October 4 and 5, 2021

DATUM: Geodetic NORTHING: 5030014

SHEET 1 OF 3

CHECKED: MS

EASTING: 364217 DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m HYDRAULIC CONDUCTIVITY, k, cm/s SOIL PROFILE SAMPLES BORING METHOD DEPTH SCALE METRES ADDITIONAL LAB. TESTING PIEZOMETER STRATA PLOT 80 OR NUMBER STANDPIPE INSTALLATION ELEV. TYPE BLOWS/0. SHEAR STRENGTH nat V. + Q - ● rem V. ⊕ U - O WATER CONTENT PERCENT DESCRIPTION DEPTH -OW Wp F - WI (m) GROUND SURFACE 62.60 FILL- Sand and Gravel trace silt, 0.60 Grey, dry

LIMESTONE WITH INTERBEDDED

SHALE-Grey, low gamma ray
limestone with significant dark grey shale interbedding 15 20 25 30 35 **SHALE-**Dark Grey, minimal limestone interbedding 40 45 Air Rotary - Drilling Rate: 44 m/hr 50 11.40 51.20 **LIMESTONE-**Light grey, high gamma ray limestone with little interbedded dark grey shale 55 60 65 GAL-MIS.GDT 22-02-17 SW 70 75 80 PSPC-G TUNNEY'S PASTURE GOLDER LIB.GPJ 85 90 95 LIMESTONE WITH INTERBEDDED SHALE-Light grey, with significant dark grey shale interbedding 100 105 CONTINUED NEXT PAGE MIS-BHS 001 DEPTH SCALE LOGGED: SW

PROJECT: 191-12784-07

LOCATION: Tunney's Pasture, Ottawa, Ontario

### RECORD OF BOREHOLE: TP - Exploratory Borehole

BORING DATE: October 4 and 5, 2021

DATUM: Geodetic NORTHING: 5030014

SHEET 2 OF 3

EASTING: 364217 DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m HYDRAULIC CONDUCTIVITY, k, cm/s SOIL PROFILE SAMPLES BORING METHOD DEPTH SCALE METRES ADDITIONAL LAB. TESTING PIEZOMETER 80 STRATA PLOT OR NUMBER STANDPIPE INSTALLATION ELEV. SHEAR STRENGTH Cu, kPa TYPE BLOWS/0. nat V. + Q - ● rem V. ⊕ U - O WATER CONTENT PERCENT DESCRIPTION DEPTH OW. Wp F - WI (m) --- CONTINUED FROM PREVIOUS PAGE -105 LIMESTONE WITH INTERBEDDED SHALE-Light grey, with significant dark grey shale interbedding 110 \*Water infiltration noted, flow rate approximately 60 liters per minute 120 125 Drilling Rate: 37 m/hr 130 Air Rotary 140 145 150 160 -99.61 SANDSTONE-Fine grained with 162.20 Rotary - Drilling Rate: 20 consistent interbedded shale 165 170 \*Becoming clean sandstone 22-02-17 8 175 GAL-MIS.GDT 180 \*Becoming clean sandstone with isolated shale seams 185 \*Some additional water infiltration noted fom approximately 184 to 187 m, flow rate approximately 4 to 8 liters per PSPC-G TUNNEY'S PASTURE GOLDER LIB.GPJ minute 190 SANDSTONE-Fine grained, · Drilling Rate: 195 interbedded with minor shale seams Air Rotary --139.01 201.60 SCHIST-Metasedimentary precambrian bedrock 205 CONTINUED NEXT PAGE DEPTH SCALE LOGGED: SW

1:525

MIS-BHS 001

SΝ

CHECKED: MS

PROJECT: 191-12784-07

LOCATION: Tunney's Pasture, Ottawa, Ontario

## RECORD OF BOREHOLE: TP - Exploratory Borehole

BORING DATE: October 4 and 5, 2021

SHEET 3 OF 3

DATUM: Geodetic

NORTHING: 5030014 EASTING: 364217

	0	SOIL PROFILE			9.4	MPL	FS.	DYNAMIC PENETRATION	\	HYDRAULIC COND	UCTIVITY,		ASTING: 364217
DEP IN SCALE METRES	BORING METHOD	SOIL PROFILE	<u> </u>		34	WAIL, F	-	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	٠,	k, cm/s		ADDITIONAL LAB. TESTING	PIEZOMETER
, R.	ME		STRATA PLOT	<u> </u>	<u>بي</u>		BLOWS/0.30m	20 40 60	80	10 <sup>-6</sup> 10 <sup>-5</sup>	10 <sup>-4</sup> 10 <sup>-3</sup>	NOI	OR
Ē	NG	DESCRIPTION	ΓĀ	ELEV.	MBE	TYPE	'S/0.	SHEAR STRENGTH nat V. Cu, kPa rem V	+ Q- •	WATER CONTI		[등표]	STANDPIPE INSTALLATION
7	ORII		.RA	DEPTH (m)	NUMBER	1	ŏ.	Cu, KPa rem V	v.⊕ U-O	Wp <b>├</b>	W WI	[88]	
	œ .		ST	()	_		В	20 40 60	80	20 40	60 80		
210		CONTINUED FROM PREVIOUS PAGE		ļ	_				$\perp$			<u> </u>	
		SCHIST-Metasedimentary precambrian bedrock											
		·											
215													
220	€												
220	F		$\approx$										
	te: 20 m/hr 73 (19 GPM)												
225													
	lling (L'mi												
	- Dri												
230	Air Rotary - Drilling Rate: 20 m/hr Estimated Flows (L/min): 73 (19 GPI			1									
	Air R												
235	Est .												
240													
245	+			1									
250													
255													
260													
265													
-				1									
	hr 3PM)												
270	te: 12 m/hr 73 (19 GPM)												
275	/min												
	· - Drilling Rate: 12 m/hr ows (L/min): 73 (19 GP												
	Air Rotary - Drilling Ra Estimated Flows (L/min):												
280	Air Rotary stimated Flo												
	Estin												
285													
-55													
290													
295													
233				1									
300													
				1									
305													
305		Borehole Terminated at 306 mbgs in	$\approx$	-243.41 306.00	-								
		schist bedrock											
310													
315													
285 290 295 300 305 310 DEF 1:5													
DE	отн с	SCALE						1150				1.0	OGGED: SW
1:5		OOLL											ECKED: MS



Project No: 1761-1501 Project: Phase III ESA

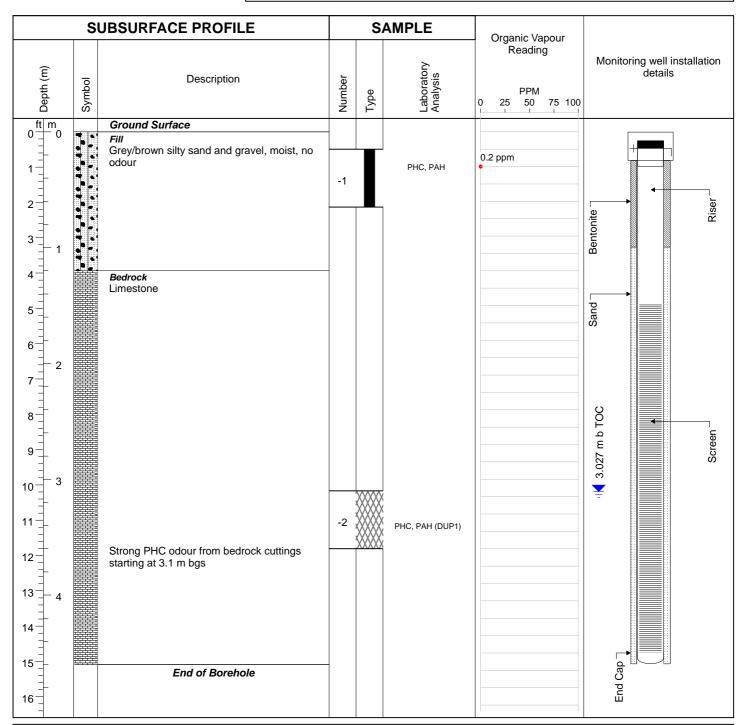
Drill date: March 30, 2015

Client: PWGSC

Site ID: Tunneys Pasture - EHC, Bldg. 8

Location: Ottawa, Ontario

Logged By: Ryan Fletcher



Drilled By: Strata Drilling

Drill Method: Air Hammer - GM100 GT

Hole Diameter: 20.32 cm T.O.C. Elevation (m): 0

Well Diameter: 5.08 cm (2")

Comments: Sample BH15-1-2 collected from broken bedrock

Water Level (m TOC):



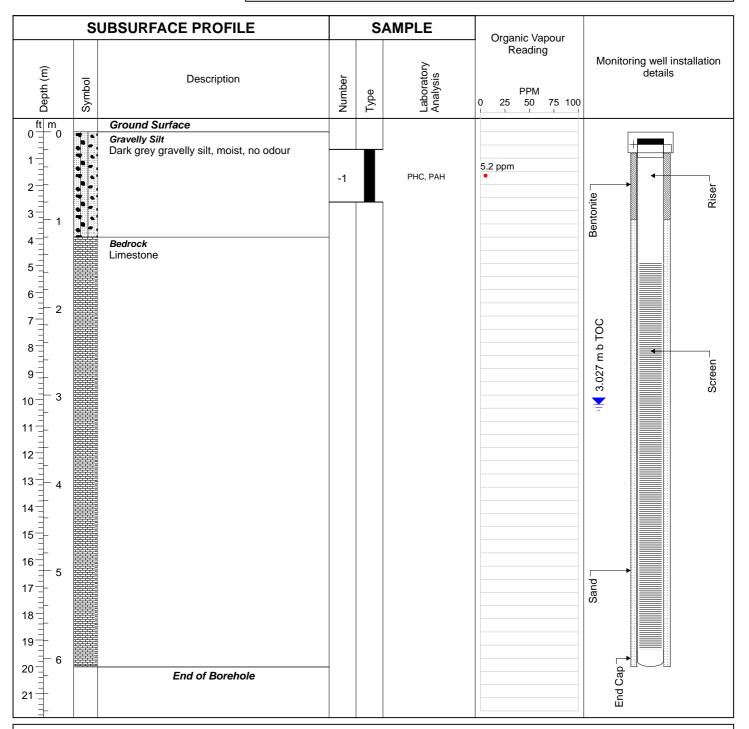
Project No: 1761-1501 Project: Phase III ESA

Drill date: March 30, 2015

Client: PWGSC

Site ID: Tunneys Pasture - EHC, Bldg. 8

Location: Ottawa, Ontario Logged By: Ryan Fletcher



Drilled By: Strata Drilling

Drill Method: Air Hammer - GM100 GT

Hole Diameter: 20.32 cm

Well Diameter: 5.08 cm (2")

Comments:

T.O.C. Elevation (m): 0

Water Level (m TOC):



Project No: 1761-1501 Project: Phase III ESA

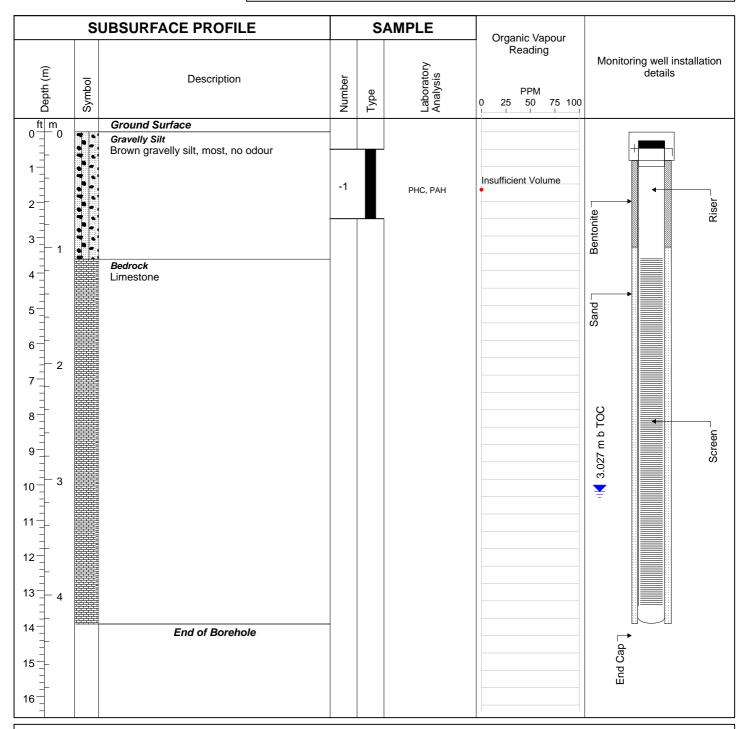
Drill date: March 30, 2015

Client: PWGSC

Site ID: Tunneys Pasture - EHC, Bldg. 8

Location: Ottawa, Ontario

Logged By: Ryan Fletcher



Drilled By: Strata Drilling

Drill Method: Air Hammer - GM100 GT

Hole Diameter: 20.32 cm

Well Diameter: 5.08 cm (2")

T.O.C. Elevation (m): 0
Water Level (m TOC):

Comments:



Project No: 1761-1501 Project: Phase III ESA

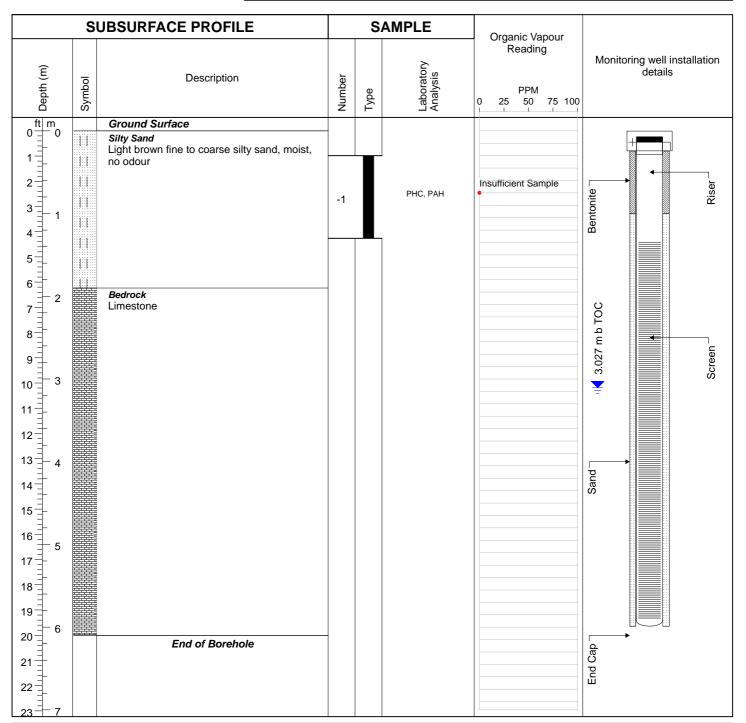
Drill date: March 30, 2015

Client: PWGSC

Site ID: Tunneys Pasture - EHC, Bldg. 8

Location: Ottawa, Ontario

Logged By: Ryan Fletcher



Drilled By: Strata Drilling

Well Diameter: 5.08 cm (2")

Drill Method: Air Hammer - GM100 GT

T.O.C. Elevation (m): 0

Hole Diameter: 20.32 cm

Comments:

Water Level (m TOC):



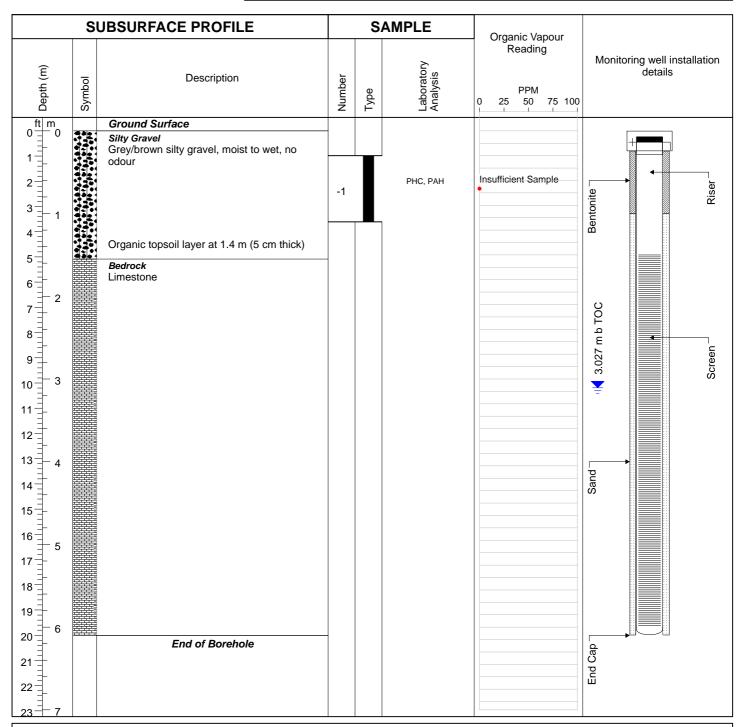
Project No: 1761-1501 Project: Phase III ESA

Drill date: March 30, 2015

Client: PWGSC

Site ID: Tunneys Pasture - EHC, Bldg. 8

Location: Ottawa, Ontario Logged By: Ryan Fletcher



Drilled By: Strata Drilling

Drill Method: Air Hammer - GM100 GT

Hole Diameter: 20.32 cm T.O.C. Elevation (m): 0 Well Diameter: 5.08 cm (2")

Water Level (m TOC):

Comments:

# Log of Borehole DH-1

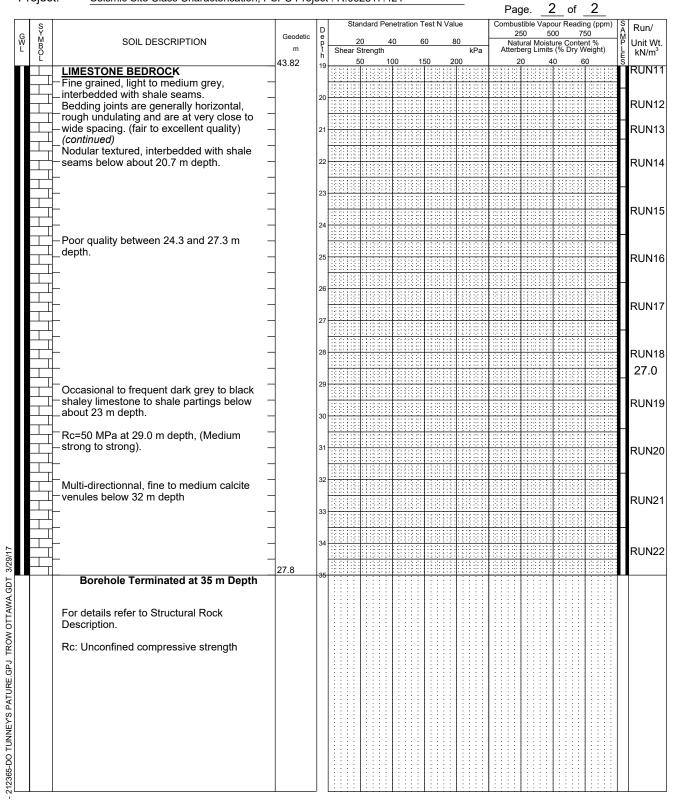
Project No:	OTT-00212365-D0															
Project: Seismic Site Class Characterisation, PSPC Pro			ojec	ject : R.062517.421				_	Figure No. A.1  Page. 1 of 2							
Location:	Tunney's Pasture Campus, Ci	ty of Ottav	va, On	tario	)						Га	je	0			
Date Drilled:	te Drilled: 'February 13 to 14, 2017			Split Spoon Sample					Combus	tible Va	pour Rea	ding				
Drill Type: CME-55 Truck-mount			Auger Sample SPT (N) Value					Natural Moisture Content Atterberg Limits				<u> </u>	<b>X</b> ⊕			
Datum: Geodetic			Dynamic Cone Test Shelby Tube				- -	Undrained Triaxial at % Strain at Failure					$\oplus$			
Logged by:	RA Checked by:	ZG	_		Shear	r Stren			+	-	Shear S	trength I	by			<b>A</b>
					Vane		rd Don	otration "	S Fest N Va				pour Read	ding (nnm	)   S	
G W B O L	SOIL DESCRIPTION		Geodetic m	D e p t h	She	20 ar Stre	4 ngth	0 (	60	80 kPa 200	2	50		750	AMPLES	Run/ Unit Wt. kN/m <sup>3</sup>
TOP FILL	<b>SOIL</b> ~75 mm		62.7		8 0 4				100000000						X	SS-1
Med	ium to coarse sand with some g n to grey, loose to compact.	ravel, –		1	ō	2	6								-X	SS-2
	oles and/or boulders between 1.	8 m to -		2		19										SS-3 SS-4
_3 m	depth.	_	59.8			1 <b>3</b>										SS-5
WEA	ATHERED/FRACTURED ESTONE BEDROCK		39.0	3	10.00											
Sign	s of oxidation, frequent silty clay	, _		4											-	RUN1
sear	ns/pockets (poor to fair quality)	_	57.8		10.00										$\pm$	
	grained, light to medium grey,			5												RUN2
_inter	bedded with shale seams. ding joints are generally horizon	_ tal		6	18 81											
roug	h undulating and are at very clo spacing. (fair to excellent qualit	se to			10.00											RUN3
wide	spacing. (iaii to excellent qualit	.y) — —		'												
		_		8	13 81											RUN4
		_		9												110114
	96 MPa at 9.0 m depth, (Strong)	i		9												
	uent near vertical calcite veins een 9.6 m and 11.7 m depth.	_		10	13.51											RUN5 26.4
				11												
		_		''	18 81											RUN6
		_		12											+	
				13												RUN7
		_													+	
	-directionnal, fine to medium ca			14	10.00											RUN8
veini	ules between 13.9 m and 23.6 n	n depth — —		15												
		_			15 31											DUNO
				16	18 81											RUN9
Sian	s of oxidation at 16.9 m depth			17											#	
		_														RUN10
				18												
	Continued Next Page			19												
NOTES: 1. Borehole data requires interpretation by exp. before use by others  Elaps			ER L	R LEVEL RECORDS					CORE DRILLING REG							
		Elaps Tim				Hole Open To (m)		Run No.			% Rec.		R	QD %		
adequately grouted upon completion  3. Field work supervised by an <b>exp</b> representative.																
See Notes on Sample Descriptions																
5. This Figure is to read with exp. Services Inc. report OTT-00212365-D0																

# Log of Borehole DH-1

Project No: OTT-00212365-D0

Project: Seismic Site Class Characterisation, PSPC Project : R.062517.421

Figure No. A.1



NOTES:

BH LOGS

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	Water	Hole Open						
Time	Level (m)	To (m)						

CORE DRILLING RECORD								
Run No.	Depth (m)	% Rec.	RQD %					

# Log of Borehole DH-1A

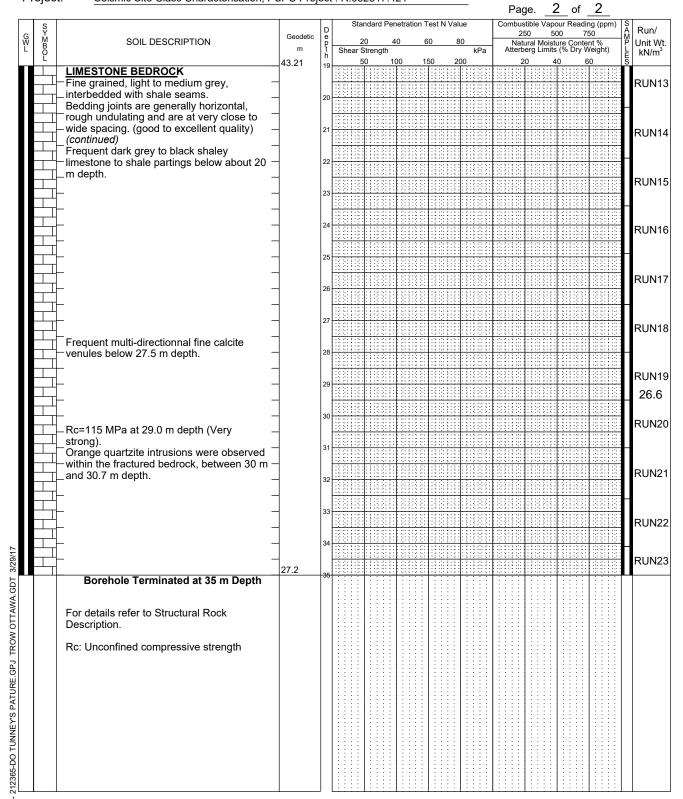
Project No:	OTT-00212365-D0	,	-								٨	2		
Project:	Seismic Site Class Characterisa	ation, PSPC Pro	ojec	t : R.06251	17.42	21		'	Figure N	_	A. 1 of			
Location:	Tunney's Pasture Campus, City	of Ottawa, On	tario	)					Pa	је	<u> </u>			
Date Drilled:	'February 15 to 16, 2017		_	Split Spoon S	Sample	•	×		Combus	tible Va	pour Rea	ading		
Drill Type:	CME-55 Truck-mount		_	Auger Sample SPT (N) Valu					Natural Atterber		Conten	t		×
Datum:	Geodetic		_	Dynamic Con		t			Undrain	ed Triax			•	Φ
Logged by:	RA Checked by: Z	G		Shelby Tube Shear Streng	th by		+		Shear S	trength I	by			•
				Vane Test	-		S		Penetro					
SY MBC	SOIL DESCRIPTION	Geodetic	De		d Pene	etration To		lue 80	2	50	500	ding (ppr 750	I A	Run/ Unit Wt.
ĭ		62.21	t h	Shear Stren				kPa	Atterb	erg Limi 20	its (% Dry 40	tent % Weight) 60	L E S	kN/m <sup>3</sup>
TOP FILL	<b>SOIL</b> ~100 mm	62.1	ľ	9	1	1							X	SS-1
Sand	d, some gravel, brown, loose to de	ense. –	1		50	for 150 n	nm						-X	SS-2 SS-3
	oles and/or boulders. ATHERED LIMESTONE BEDRO												ń	RUN1
	s of oxidation. Frequent silty clay ns/pockets. (poor quality)		2											
LIME	grained, light to medium grey,		3	16 21 16 11 16		3113 E								RUN2
interl	bedded with shale seams.	, –	١,			0.1.2.0.	12 (1 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2						- -	
roug	ding joints are generally horizonta h undulating and are at very close	e to	4											RUN3
wide	spacing. (good to excellent quality	<sup>ty)</sup> –	5			84881							: <u>:::</u> ::::::::::::::::::::::::::::::::	
						331631								RUN4
			6	10 0 11 0 11 10		31123								
		4	7	12 2 1 1 2 1 1 1 2		53 13 51 53 13 51	12 12 12 12							
		-							3333					RUN5 25.6
Rc=	170 MPa at 8.0 m depth, (Very str	ona) =	8										-	20.0
		-	9											RUN6
		-											<u>::::</u> ::::::::::::::::::::::::::::::::	
			10			2000	12 11 11 11							RUN7
Nodu	ular textured, interbedded with sh	ale –	11											
sean	ns below about 11.0 m depth.													RUN8
DT 3/2			12			311631								KONO
WA.		-	13											
		-					12 (11 2 12							RUN9
WON The Property of the Proper			14			23122							-	
	uent near vertical calcite veins een 14.5 m and 15.6 m depth.	-	15			811381								RUN10
UNE.		-	4.0										<u>::::</u> ::::::::::::::::::::::::::::::::	
S PAT			16											RUN11
N N N N N N N N N N N N N N N N N N N		-	17			2112 E								
		-	4.0			51135	13 (0.41)						:0 - :0 : :0 :	51.0146
365-DC			18											RUN12
- 212	Continued Next Page												::::-	
NOTES: 1. Borehole data re use by others	equires interpretation by exp. before		ER L	EVEL RECO								RECO		
2.a 50 mm PVC p	ipe was installed in the borehole and ted upon completion	Elapsed Time	L	Water .evel (m)	F	lole Ope To (m)		Run No.	Dep (m		% F	Rec.	R	QD %
adequately grou	ted upon completion  rvised by an <b>exp</b> representative.													
4. See Notes on S	ample Descriptions													
90 NOTES: 1. Borehole data reuse by others 2. a 50 mm PVC padequately grou 3. Field work super 4. See Notes on S. 5. This Figure is to OTT-00212365-	read with exp. Services Inc. report D0													
OTT-00212365-	D0													

## Log of Borehole DH-1A

Project No: OTT-00212365-D0

Project: Seismic Site Class Characterisation, PSPC Project : R.062517.421

Figure No. A.2



NOTES

BH LOGS

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

WAT	ER LEVEL RECC	RDS
Elapsed	Water	Hole Open
Time	Level (m)	To (m)

	CORE DF	RILLING RECO	RD
Run No.	Depth (m)	% Rec.	RQD %

## Log of Borehole DH-3

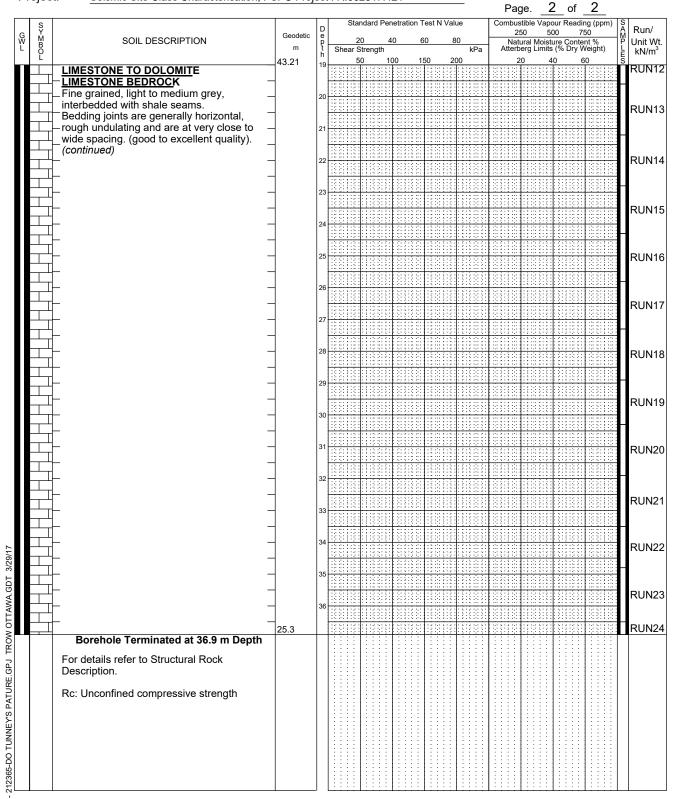
Project No:	OTT-00212365-D0	9	_		. •	••		` <u>-</u>			⊏:	.1.	٨	2		
Project:	Seismic Site Class Characteris	sation, PS	SPC Pr	ojec	t : R.0	6251	17.42	21		_	Figure N	_	A. 1 of			
Location:	Tunney's Pasture Campus, Ci	ty of Otta	wa, On	taric	)						Га	Je	01			
Date Drilled:	'February 07 to 08, 2017			_	Split Sp	oon S	Sampl	e	$\boxtimes$		Combus	tible Va	pour Rea	ading		
Drill Type:	CME-55 Truck-mount			_	Auger S						Natural Atterber		e Conten	t	<u> </u>	<b>X</b> ⊕
Datum:	Geodetic			_	Dynami	ic Con		st	_		Undrain	ed Triax	ial at		•	Φ
Logged by:	RA Checked by:	ZG			Shelby Shear S	Streng	th by		+ s	-	Shear S Penetro	trength	by			<b>A</b>
					Vane T		d Don	etration 1					pour Rea	ding (non	مر ا د	
G Y M B O L	SOIL DESCRIPTION		Geodeti m	p t h	Shear	20	4	0 6	60	80 kPa	2	50	500 sture Cor its (% Dry	750	M	Run/ Unit Wt. kN/m³
	HALT~100 mm NULAR FILL		62.1	0		30						Ĭ	Ĭ			
— Crus	her-Run Limestone. ovac to 1.9 m depth.	_	-	1											C	
		-	60.3	2												
Sign	THERED LIMESTONE BEDRO s of oxidation, frequent silty clay		-	ľ												RUN1
sean	ns/pockets. (poor quality)	_	-	3	15 20 10										:::	
	COTONE TO DOLOMITE		58.2	4												RUN2
LIME	STONE TO DOLOMITE STONE BEDROCK	-	-													
interl	grained, light to medium grey, bedded with shale seams.	-		5												RUN3
roug	ding joints are generally horizon h undulating and are at very clo	se to 🛚	-	6												
	spacing. (good to excellent qua 104 MPa at 6.4 m depth, (very s		1		10.001											RUN4
		_		7											-	24.8
Quar	tzite intrusions were observed i	n the	-	8												RUN5
	ured bedrock between 8 m and		1	9												
		_		9												DUNC
		-	-	10	)											RUN6
	uent near vertical calcite veins een 10.5 m and 11m depth.	_		11											× :	
betw	een 10.5 m and 1 m depin.	_	-	''												RUN7
		_	1	12												
		_		13												RUN8
Frog	uent shaley limestone to shale	_	-												-	
bedo	lings, below 13.6 m depth. Jar textured, interbedded with s	- hala		14												RUN9
sean	ns below 14 m depth.	- III	-	15												
		_	-													D. IN. 40
		_		16												RUN10
		_	-	17											-	
		_	-		10.000											RUN11
		_	]	18	1										-	
	Continued Next Page			19	<u>  [                                   </u>				<u>                                      </u>							
NOTES: 1.Borehole data re use by others	equires interpretation by exp. before			ER L	EVEL F								RILLING			
[]	ipe was installed in the borehole and ted upon completion	Elaps Tim		L	Water evel (m			Hole Op To (m		Run No.	Dep (m		% F	kec.	- R	QD %
!	rvised by an <b>exp</b> representative.															
	ample Descriptions															
5. This Figure is to OTT-00212365-	read with exp. Services Inc. report D0															

### Log of Borehole DH-3

Project No: OTT-00212365-D0

Project: Seismic Site Class Characterisation, PSPC Project : R.062517.421

Figure No. A.3



NOTES

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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  $\boldsymbol{exp}$  representative.
- 4. See Notes on Sample Descriptions
- 5. This Figure is to read with exp. Services Inc. report OTT-00212365-D0

WAT	ER LEVEL RECO	RDS
Elapsed Time	Water Level (m)	Hole Open To (m)
	2010. (,	

	CORE DF	RILLING RECO	RD
Run No.	Depth (m)	% Rec.	RQD %

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PARKDALE AVENUE
TUNNEY'S PASTURE CENSUS BUILDING

OTTAWA CANADA

THE ENDINEERS - INCENTEURS CONSEILS

STREAGE L'ERO DEPTH. HOLE 202.5 DATE NOV 3, 1974 No. FUNOFUE FR. FORAGE MM LLLEY 205.31) GEODE TIC. SPINDLE TOP OF HYDRANT NO. GG FROM 101 \*RAPHICAL SURVEY PLAN BY C.W. FAIRHALL, O.L.S SONDACE OU DESCRIPTION OF SOIL ESSAL AU MOULINET Elevation Nives NO CASING SANS TUBAGE MARTER HARMER CHUTE CHRE-T-DROP BARRE-----DIA. FOR Ground Surface & Niveas a Sch 0' - 202.5 FILL-WATER CONTENT SANDY TOPSOIL 0.8' - 201.7' FILL -B 101-1 24 FOR 6 101-1A SAND WITH SOME 3€ . 101-2 TOPSOIL, GRAVEL & CLAY 30FORG & A FEW " TO 114" PIECES OF 50 101-3 BROKEN ROCK 41 --- 7.0' - 195.5' POSSIBLE BEDROCK-MATERIAL REQUIRING DRILLING ... -LIMESTONE ROCK CORE RECOVERY 98 % LIMESTONE ROCK CORE RECOVERY 100% 25° WATER LOST ATEL. (84.8'-17.7 - 184.8 LIMESTONE ROCK WATER LEVEL DEC 12,1974 -EL. 182.7 40% - WATER LOSTAT EL 1822 --WATER LEVEL NOV 27:974-EL. 182.3 CORE RECOVERY 100% OVERNIGHT WATER LEVEL-EL. 180.5 ALL WATER LOST AT EL . 180.2 -22.3-180.2 LIMESTONE ROCK CORE RECOVERY ,000% -1273 - 175.2 LIMESTONE YZ" SOIL LAYER AT EL. 174.2" ROCK

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PARKDALE AVENUE
TUNNEY'S PASTURE CENSUS BUILDING

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ELEVATION OF GROUND SURFACE (ZERO DEPTH) HOLE C. 505 DATE NOV. 15, 1974-FORAGE No. NIVEAU DU SOL (PROFONDEUR 7ÉRO) NOTES \_\_\_\_ SEE PLATE H 102 Essai-Standard
Penetration
Blows, fred outs, pd
Sample
Echantillon in Feet cur--Pied <del>SONDAGE OU</del> NEAU MOULINET DESCRIPTION OF SOIL DU SOL Elevation Nive au NO CASING MARTEAULENHAMMER CHUTE LIBRE -- - LRCP BARRETT-DIA, ROD Profonden BLOVSCHOOT OR SHEAR STRENGTH ISS.F. COUPSCHED OF RESISTANCE AU, K CPD. CISAILLEMENT Ground Surface - Niveau du Sol e. sos - 'o FILL-SANDY TOPSOIL 5.505-7.0 FILL -SAND & PIECES OF BROKEN ROCK R2 FOR6 102-1 WITH A LITTLE. TOPSOIL & CLAY 26 FOR5 102-2 POSSIBLE BEDROCK-MATERIAL 2.9 - 200.0 LIMESTONE REQUIRING DRILLING ROCK CORE. RECOVERY 100%. LIMESTONE ROCK ALL WATER LOST AT EL. 195.3 CORE RECOVERY 100% 11.5e1 - 8.01+ LIMESTONE ROCK -WATER LEVEL DECIZ, 1974 EL. 188 1 CORE RECOVERY 100% WATER LEVEL NOV. 27, 1974-EL. :87.7 158- 187.1 WATER LEVEL NOV. 18, 1974-EL. 187.6" LIMESTONE CORE RECOVERY 99 % --195-183.4 LIMESTONE ROCK 2"TILL LAYER AT EL. 179.1" - CORE. RECOVERY 96% LIMESTONE 1/2" SOIL LAYER AT EL. 177.5 ROCK CORE RECOVERY 99% -128.8- 174.1' LIMESTONE ROCK CORE RECOVERY 93% 33.3-169 6 - BOTTOM OF HOLE

#### in a contract distance of the paper of the design of the second of the s SOIL PROFILE & TEST SUMMARIES MCROSTIE GENEST MIDDLEMISS PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS & ASSOCIATES LTD. & ASSOCIÉS LTÉE PARKDALE AVENUE CONSULTING ENGINEERS - INGÉNIEURS CONSEILS TUNNEY'S PASTURE CENSUS BUILDING OTTAWA CANADA HOLE \_ DATE NOV-15, 1974. FORAGE No. ELEVATION OF GROUND SURFACE (ZERO DEPTH) 203.4 NIVEAU DU SOL (PROFONDEUR ZÉRO) SEE, FLATE NO. 2 103 NOTES .. DESCRIPTION OF SOIL part in the definition of Soil Provided during the soil of Compressive Stragth K.S.F. Resistance a la Compression K.Pd. 2 Small Scale Penetro meter K.S.F. NO CASING SANS TUBAGE Flevation Niveau CHUTE LIBRE -- CHOP COMPSEPTED OF HEST ANCH AL WATER CONTENT - 0' - 203.4 SANCY TOPSOIL -0.5 - 2.02.9 LOOSE FINE NOTE OF BROKEN FIRE SAND NECES OF BROKEN ROCK NITH ALITY E SAMEY TILE 30 - 200.4 10 103 IA 30 FOR 6 1/3-18 130 - 200 39 FOR 6" 103-2 - - 3.5' - 199.5 POSSIBLE BEDR LIMESTONE MATERIAL REQUIRING PRILLING CORE RECOVERY 97% 4.8-1986 5" TILL LAYER ATEL 198.3" LIMESTONE ROCK CORE RECEVERY 85% 9.3 - 194.1 LIMESTONE ROCK CORE RECOVERY DODA 14.0 - 189.4 LIMESTONE POCK CORE RECOVERY 100% 18.7 - 184-7 25% WATER LOSTATEL . 184.7 -LIMESTONE WATER LEVEL DECIZ, 1974-EL. 182.1 ROCK CORE RECOVERY 98% 23.4-1800 WATER LEVEL NOV. 18 1974-EL 179.5 LIMESTONE ROCK CORE RECEVERY 100% 127.1 - 176.3 50% WATER LOST AT EL 176.3"

LIMESTONE ROCK CORE RECOVERY 100% 31.8 - 171.6' L- BOTTOM OF HOLE 40 6.0 08 100 0 20 WATER CONTENT TENEUR EN EAU NATURAL NATURELLE Plate No.  $\odot$ NATIONALLIAMIT
LIMITE DE LIQUIDITÉ
PLA 13 MIT
LIMITE DE FRANCO DE 4 R = Remoulded-Remanie CR = Core Recovery
Carotte Recupérée Δ

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PROFIL SOUTERRAIN ET RÉSUME DES ESSAIS

PARKDALE AVENUE

TUNNEY'S PASTURE CENSUS BUILDING AWATTO CANADA HOLE

FORAGE No. ELEVATION OF GROUND SURFACE (ZERO DEPTH) DATE DEC. 3, 1974-202.6 NIVEAU DU SOL (PROFONDEUR ZÉRO) 104 NOTES \_\_ SEE PLATE No. 2 NDAGE OU-AU MOULINET Depth in Feet Profondeur -- Pied NO CASING SANS TUBAGE DESCRIPTION OF SOIL Flevation Nive au CHUTE LIBRE --- DROP BARRE ---- DIA, ROD BLOWS/FOOT OR SHEAR STRENGTH K.S.E. COUPS/PIED OU CHEAR I FRIED CISALLEMENT -Ground Surface - Niveau du Sol 0' - 202.6 SANDY TOPSOIL WATER CONTENT 1.0 - 2016 FILL -12 .. 104-1 SAND & BROKEN ROCK 3750R6 CLAY, SILT & GRAVEL 3.8 - 198.8 WITH ATRACE OF RECTS 4.0 - 198.6 OSSIBLE BEDROCK 29 104-2 MA EF ALRIG HE NO DRILLING 155% STER LOST ATEL. 197.6" LIMESTONE ALLWATER LOST AT EL. 196.6-ROCK CORE RECOVERY 95% 9.0- 193.G' 2" SOFT DRILLING AT EL. 193,0" LIMESTONE ROCK CORE RECOVERY 98% -14.0° - 188.6 LIMESTONE ROCK \*ATER LEVEL DEC. 12, 1974-EL. 185.3 CORE RECOVERY 98% 18.8- 183.8 OVERNIGHT WATER LEVELEL 182.8 LIMESTONE ROCK CORE RECOVERY 100 1 LIMESTONE ROCK CORE RECOVERY 100° & <del>--</del>28.7**-**173.91 LIMESTONE ROCK CORE RECOVERY 100% 33.1 - 169.5 BOTTOM OF HILE 08 40 Place MAT RALL  $\odot$  $\Box$ R - Remoulded-Remainic CONSTR CAMPONIA CR = Carotte Recopered

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MCROSTIE GENEST MIDDLEMISS PROFIL SOUTERRAIN ET RÉSUME DES ESSAIS & ASSOCIATES LITE. & ASSOCIÉS LITE PARKDALE AVENUE CONSULTING ENGINEERS INGENIEURS CONSELS I TUNNEY'S PASTURE CENSUS BUILDING OTTAWA CANADA HOLE FORAGE No DATE 140V.10, 1074-NIVEAU DU SOL PROFUNCEUR ZÉRA NC TES 105 DESCRIPTION F . 6 % WATER O MEM CHARLEST HALL REPORTS 10 to 12 to 15 A ENGREE OF BROKES RO THE 115-24 LIMESTONE FR CF. out the state of t MATERIAL ELINEVE 1014-FL 1810 LIMESTONE 12000 -OVERNIGHT WATEL HELELIEL IR8 / CONSTRUCTION SHIP LIMESTONE CHE BEY FREE SHID LIMESTONE F1. 6% onau from oten det. LIMESTONE Profile TO HOLD HEIGHT EIN TO THE LIMESTONE Fr. Car. FRICKLER TELL 771 F BUTTON A HUTE

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PARKDALE AVENUE
TUNNEY'S PASTURE CENSUS BUILDING

ELECATER (F. SPC IND PREACE (ZEED DEPTH) - DEVEAU CONSCIONAL HOLE 204.01 DATE NOV: 18,1974 FORAGE No. SEE PLATE No 2 106 PROPINC SONDAGE OU ± 4 € (L • (L VANH TEST DESCRIPTION OF SOIL AL AU MOULINE A Compression of Comp NO CASING SANS TUBAGE vedu MARTEAU----HAMMER Compress \*Cath K CHUTELIBRE---DROP BARRE-----DIA, ROD . v PROFESSION Ground Surface - Niveau du Sal WATER CONTENT SANDY TOPSOIL 0 204.0 0.8 - 203.2 FILL -4FOR 6 106-1 SAND WITH SOME TOPSOIL, CLAY PIECES OF BROKEN ROCK DENSE SANDY TILL 53 106-1A 2.5 201.5 19FOR 4 106-2 POSSIBLE BEDROCK-MATERIAL REQUIRING DRILLING-LIMESTONE ROCK 50% WATER LOST AT EL. 198.9 CORE RECOVERY 46% 7.3'- 196.7' LIMESTONE ROCK CORE RECOVERY 94 % -!II.2' - 192.8' LIMESTONE ROCK CORE RECOVERY 98% 15.3 - 188.7 50% WATER LOST AT EL . 188.7'-LIMESTONE ROCK 75% WATER LOST AT EL. 1852 -CORE RECOVERY 100% "S. 481, 184 - EL. 184 - EL. 184 - EL. 20.3 - 183.7 LIMESTONE 'S. SBI JE-47EI, OS. VON LEVEL 182. 2' ROCK CORE RECOVERY 100% 253-178.7 50% WATER RETURNING AT £1.178.0→ LIMESTONE ROCK 100 0.5 WATER CONTENT TENEUR EN EAU NATURA. NATURELLE 0 CORE RECOVERY 98% LIQUID LIMIT LIMITE DE LIQUIDITÉ 30.4-173.6 D HERMOTH WELLS 7 The Carlotte of the Carlotte o PLASTIT LIMIT LIMITE DE PLAST. 20.015 - BOTTOM OF HOLE

PROFIL SOUTERRAIN ET RÉSUME DES ESSAIS & ASSOCIATES LTD. & ASSOCIÉS LTÉE CONSULTING ENGINEERS - INGENIEURS TONSETES PARKDALE AVENUE TUNNEY'S PASTURE CENSUS BUILDING OTTAWA CANADA 202.41 Erezati 👡 TORAGE No NOV. 20, 1974  $\varphi : V \xrightarrow{\mathbb{N}} X$ SEE PLATE NO. 2 107 DESCRIPTION -WATER CONTENT FILL -GARE 107-1 SAND WITH A LITTLE TOPSOIL POSSIBLE BEOROCK - 13 FOR 5 107-2 ---2.9'• 199.5 ---3.3' - 199.1' MATERIAL REQUIRITYS CHILLING 2' SOIL LAYER ATEL 1981 --LIMESTONE ALWATER LOST AT EL 197.1 ROCK CORE RECOVERY 62 % ----75-154.5 LIMESTONE 1/2" DROP AT EL 102.6 -ROCK 12' DROP A' EL (8) 4' --- -CORE PECCYERY 100% LIMESTONE ROCK CORE RECOVERY 100% WATER LEVEL NOV. 27, 1974 EL . 183.7 LIMESTONE HOEK CORP FECONERY 100% LIMESTONE ROCK CORE RECOVERY 100% LIMESTONE ROCK CORE RECIVERY 155% 31.5 - 170.5 L\_ BOTTOM OF HOLE 0 2 0 R - Pennsylded - Kenner -R - Con Recovery රි

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PARKDALE AVENUE

TUNNEY'S PASTURE CENSUS BUILDING OTTAWA CANADA ELEVATION OF GROUND SURFACE (ZERO DEPTH) HOLE 201.6' DATE DEC. 4, 1974 FORAGE No. NIVEAU DU SOL (PROFONDEUR ZÉRO) SEE PLATE NO. 2 108 SONDAGE OU FSSAI AU MOULINET Depth in Feet Profondeur--Pied ž DESCRIPTION OF SOIL DU SOL NO CASING CHUTE LIBRE --- DROP BARRE --- DIA. ROD BLOWS/FOOT OR SHEAR STRENGTH K.S.F. GOUPS/PIED OU CISAILLEMENT Ground Surface 7 Niveau du Sol 0 201.6 SANDY TOPSOL 0.7 200.9 WATER CONTENT FILL -24 34 For 5" 108-1 SANDY TILL WITH SOME I" PIECES OF BROKEN ROCK & A TRACE OF TOPSOIL 15.0- 196.6 23 PIECES OF BROKEN ROCK 5-801 WITH SOME SANDY TILL G.5 195.1 50 FOR G POSSIBLE BEDROCK MATERIAL REQUIRING DRILLING 7.6 194.0 LIMESTONE ROCK CORE RECOVERY 95 % 25% WATER LOST ATEL. 190.7 10.00.7 -WATER LEVEL DEC. 12, 1974 - EL. 185.6 LIMESTONE ROCK OVERHIGHT WATER HEVEL-EL, 187.5' ALL WATER RETURNING AT EL. 187. \$ CORE RECOVERY 100% 15.9 185.7 LIMESTONE ROCK CORE RECOVERY 98% 20.9 180.7 LIMESTONE ROCK CORE RECOVERY 100% 25.5-175.7 50% WATER LOST AT EL. 175.7 LIMESTONE 75% WATER RETURNING AT EU.174,6 ROCK CORE RECOVERY 100% 29.4- 172.2' BOTTOM OF HOLE 20 40 60 001 08 WATER CONTENT Plate No. NATURAL NATURELLE LIQUID LIMIT R = Remoulded-Remanie 9 CR = Core Recovery
Carotte Recupérée PLASTIC LIMIT LIMITE DE PLASTICITÉ \_\_\_ \_

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CORE RECOVERS 38 1/

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PARKDALE AVENUE TUNNEY'S PASTURE CENSUS BUILDING

TUNNEY'S PASTURE CENSUS BUILDING OTTAWA CANADA CEVATION OF GRIDNOSPREAD ENTERNO PIH) CVFANDOSS - PROFERENCEPRIZER 203.81 FORAGE No. DATE DEC. G. 1974 LAVEAU GUST SEE PLATE IN . 2 NOTES 110 SONDAGE OH 2ROBING DESCRIPTION OF SOIL MAKTECH --- HAMMER \$ \frac{1}{Z} HA AH) ---- PRANCE 8.805 0 0.5 . 203.3 WATER CONTENT 5 FOR 6" 110-1 FILL. SAND WITH SOME SILT. 7F0R6"110-2 A LITTLE TOPSOIL & GRAVEL & ATRACE OF WOOD & CLAY 10 111-3 3 FRE HO 3A PIECES OF BROKEN ROCK -G.7 - 107.1 Fresible believes MATER. F 115-4 SANCY TILL WITH A 2" - 6.7 - 107.1"

115-4 PRECEDITENSELL ROSE - 7.8 - 154.5 RECORDER DETELLIBRE 50% WATER LOST AT EL. 1961'--7 7 - 196 1 LIMESTONE ROCK <u>- - 195,8</u>1 75 " WATER LOST AT EL. 195.2"- ► LIMESTONE I'DROPATEL, 193.5'L. ALL WATER LOST AT ELLIST ALL POCK COPE FECOVERY 981-WATER LEVEL DEC 5,1874-EL 19016' LIMESTONE ROCK WATER LEVEL DECITE 1974 EL. 187 COPE PRODUCED SE LIMESTONE ROCK CORE RECOVERY 100,5 -- BOTTOM OF HOLE WATER CONTENT MATHER NATIONAL LEGIS LAND LIMITE DE LOUISO TÉ PLASE LA MÉ LANTE DE PLASTACITÉ  $O \perp$ 11 Francisco Company

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PARKDALE AVE.
TUNNEY'S PASTURE CENSUS BLDG.

ELEVATION OF GROUND SURFACE (ZERO DEFTH) 201.0 NIVEAU DU SOL PROFONDEUR ZERO) HOLE DEC. 6/74 FORAGE No. DATE SEE PLATE NO. 2 112 SONDAGE OF Str. . Feet soudenre Pied DESCRIPTION OF SOIL Compressive Stes stance 3 a Compression R Pd.2 ESSAL AU MOULINET Nivedu NO CASING SANS TUBAGE MARTEAU----HAMMER CHUTE LIBRE --- DROF BARRS ---- DIA. R Ground Surface , Niveau in Sal 0'- 2010 FILL - SANDY TOPSOIL FILL SAND WITH SOME CLAY, A LITTLE TOPSOIL & GRAVEL 8 FOR 6 112-1 -WATER CONTENT - 2.5 - 198.5 18 .12-2 MEDIUM DENSE TO DENSE DANDY TILL WITH DOME 1" TO 1 2 PIECES OF BROKEN 112-3 24 For 6\* 6.7 - 194.3 LIMESTONE ROCK 2" DROP AT EL 1936 ALL WATER LOST AT EL 193.4 CORE RECOVERY 80% 7.9 - 193 1 LIMESTONE ROCK CORE RECOVERY 88% 7-129**-** 188.1 BH \*112 ABANDONED 0 20 40 60 AO 100 WATER CONTENT No. NATURAL NATURELLE  $\odot$ LIQUID LIMIT R PREMOCIDED HIS MANE 13 OR CAR STEE BECOVERY PLASTIC LIMIT LIMITE DE PLASTICITÉ

R ASSOCIATES LTD. & ASSOCIÉS LTÉE

CONSULTING ENGINEERS - INGENIEURS CONSEILS

PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

SOIL PROFILE & TEST SUMMARIES

PARKDALE AVE.

TUNNEY'S PASTURE CENSUS BLDG.

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OTTAWA CANADA ELEVATION OF GROUND SURFACE (ZERO DEPTH) NIVERU DU SOL (PROFUNDEUR L'ERO) HOLE DATE DEC 10/74 FORAGE No. 2010 SEE PLATE No. 2 NOTES 112 A TRABING OF CONDACE ON Š Depth a Feet Prebandeur - Pied DESCRIPTION OF SOIL ESSAL AU MOUL INET WANE TEST Compressive Strength K.S.F. Résistance 3 la Compression K. Pd.2 NO CASING SANS TUBAGE Elevation MARTEAU---HAMMER Sample Echant-Ron CHUTE LIBRE --- DROP BARRE ---- HA ROE COUPSTREE OF RESISTANCE AU. + Ground Surface - Niveau de Sal 0' - 201.0 SOIL SEE BH 412 4' - 197.0 8' - 1930 OVERNIGHT WATER LEVEL EL 1928
WATER LEVEL DEC. 12:74 EL 1924 50% OF WATER LOST AT EL 192.5 LIMESTONE ROCK I" DROP AT EL. 1907 ALL WATER LOST AT EL. 1906 LORE RECOVERY 93% 13 - 188 0 LIMESTONE ROCK CORE RECOVERY 97% - 18' - 183.0 BOTTOM OF HOLE! 20 40 60 80 100 WATER CONTENT No. TENEUR EN EAU NATURAL NATURELLE  $\odot$ LIQUID LIMIT ... LIMITE DE LIQUIDITE 14 R REND LIF FREMARK PLASTIC LIMIT LIMITE DE PLASTICITÉ THE PARTY FOR ME

#### SOIL PROFILE & TEST SUMMARIES MCROSTIE GENEST MIDDLEMISS PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS PARKDALE AVE. CONSULTING ENGINEERS - MCENIEUS & CONSEILS TUNNEY'S PASTURE CENSUS BLOG. CTTAWA CANADA EFF / AT GOOD REAL OF THE LEPTON 2010 ONLY ALL SEED OF THE FEBRUAR SEED HOLE GATE DEC 11, 74 FORAGE No. SEE FLATE No 2 MOTES 113 DESCRIPTION See all the see al MUDITY OF ERROR AMARIA CHITE HARLANDER BARRES - -- HAR Ground Sunface , Have to find FILL - SAHOT TOPSOIL 0' - 2010 10-7'= Ion 3 WATER CONTENT FILL SAND WITH SOME SILT A LITTLE CLAY & A TRACE OF GRAVEL 10 FOR 6 113-24 - FILL - --33-1977 26 FOR 4 113-28 CLAY WITH SOME TOPSOIL PRECES OF BROKEN HOLK A LITTLE DAND 36 DAGE 3 SECUL SECUE SECUL ESTONE ROCK OVERNIGHT WATER LEVEL EL. 192.0 CORE RECOVERY 95% 1" DROP AT EL 189.9 ALL WATER LOS" AT EL 189.7 - - - 113-189 / LIMESTONE Rock CORE RECOVERY 98% - 163 - 184.7 LIMESTONE ROCK CORE RELOVERY 98 0 213 - 179.7 BOTTOM OF HOLE 20 40 60 WATER CONTENT - %TENEUR EN EAU No. NATURAL NATURELLE $\odot$ LIQUID CIMIT CIMIT DE LIQUIDITE ()15 FOR BENDLOSS WE MAKE PLASTIC LIMIT LIMITE DE PLASTICITÉ CR THE PETTERS

& ASSOCIATES LTD. & ASSOCIES LTEE CONSULTING ENGINEERS - INGÉNIEURS CONSEILS

SOIL PROFILE & TEST SUMMARIES PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

PARKDALE AVE. TUNNEY'S PASTURE CENSUS BLOG.

HOLE

#### OTTAWA CANADA

DATE Nov. 22 / 74 ELEVATION OF GROUND SURFACE (ZERO DEPTH) NIVEAU DU SOL (PROFONDEUR ZERO) FORAGE No. SER PLATE No. 2 NOTES 114 PROBING-OR SONDAGE OU ŝ DESCRIPTION OF SUIL DU SOL VANE TEST ESSAL AU MOULINET Compressive Strength K.S.F. Résistance à la Compression K/Pd.2 Elevation Niveau NO CASING SANS TUBAGE MARTEAU----HAMMER Sample Echantilion CHUTE LIBRE --- DROP BARRE ---- DIA, ROD Doutt BLOWS/FOOT-OR SHEAR STRENGTH K.S.F COUPS/PIED OU RÉSISTANCE AU, K/PD.2 Ground Surface - Niveau du Sol 0 199.9 WATER CONTENT DENSE SANDY TILL WITH SOME 1/2" TO 1" PIECES OF 54 114-1 WEATHERED ROCK 23-197.6 LIMESTONE ROCK - % 2.9' \_ 197.0 25% OF WATER LOST AT EL. 195.6 LIMESTONE ROCK CORE RECOVERY 97% 50% OF WATER LOST AT 7.9 - .92.0 EL. 192.0 LIMESTONE ROCK CORE RECOVERY 95% 129 - 1870 SH #114 ABANDONED SEE BH 4 4 A 100 WATER CONTENT %TENEUR EN EAU PLAC JE NO. NATURAL NATURELLE 0 LIQUID LIMIT LIMITE DE LIQUIDITÉ PLASTIC LIMIT LIMITE DE PLASTICITÉ R FREMOULDED-REMANIE 16 CR CAR OTTE RECUPEREE

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CR CAROTTE RECUPEREE

& ASSOCIATES LTD. & ASSOCIÉS LTÉE CONSULTING ENGINEERS - INGÉNIEURS CONSEILS SOIL PROFILE & TEST SUMMARIES
PROFIL SOUTERRAIN ET RÉSUMÉ DES ESSAIS

PARKDALE AVE. TUNNEY'S PASTURE CENSUS BLDG

> PLASTIC LIMIT LIMITE DE PLASTICITÉ

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OTTAWA CANADA

DATE NOV 29/74 HOLE ELEVATION OF GROUND SURFACE (ZER) DEPTH) No. 1999 FORAGE NIVEAU DU SOL (PROFONDEUR ZERO) SEE PLATE No. 2 114 A NOTES CONDACE OH PROBING OR ESSAL AU MOULINET Š Depth in Feet Profondeur - Pied VANE TEST DESCRIPTION OF SOIL DU SOL Compressive Strength K.S.F. Résistance o la Compression K/Pd.2 NO CASING SANS TUBAGE Elevation Niveau MARTEAU----HAMMER Small Scale Penetroment K.S.F. CHUTE LIBRE---DROP BARRE----DIA. ROD BLOWS/FOOT OR SHEAR STRENGTH K.S.F. COUPS/PIED OU RÉSISTANCE AU, K/PD.2 Ground Surface - Niveau du Sol 0' - 199.9 SOIL SEE BH # 114 25 - 197.4 ALL WATER LOST AT EL. 196.4 LIMESTONE Rock CORE RECOVERY 91% \_ 192.9 LIMESTONE 2" SOFT DRILLING AT EL. 190.6 ROCK WATER LEVEL DEC. 2/74 EL. 188.6 CORE RECOVERY 95% 12' - 1879 LIMESTONE ROCK CORE RECOVERY 100% 17' \_ 182.9 LIMESTONE ROCK CORE RECOVERY 100% 22'\_ 177.9 BOTTOM OF HOLE 80 20 WATER CONTENT PLAC JE NO. %TENEUR EN EAU NATURAL NATURELLE 0 LIQUID LIMIT LIMITE DE LIQUIDITÉ 17 R = REMOULDED - REMANIE

& ASSOCIATES LTD. & ASSOCIED LIFE

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) HOLE 200.7 DATE DEC. 2, 1974 No. FORAGE SEE PLATE NO. 2 115 PROBING OF CONDACE OF ŝ DESCRIPTION OF SOIL Depth in Feet Profondeur - Pied TANE TEST SAL AH MOULINET Compressive Strength K.S.F. Résistance à la Compressio K. Pd.2 Elevation Niveau MARTEAU----HAMMER K.S.F. CHUTE LIBRE --- DROP BARRE ---- DIA. ROD COUPS/PIED OU Ground Surface - Niveau du Sol 0' = 200.7 CRUSHED STONE 1,0' - 199.7 FILL -156R6 115-1 PIECES OF BROKEN ROCK WATER CONTENT 20 WITH SOME SANDY TILL, 16 .. 115-2 A LITTLE TOPSOIL 4.0 - 196.7 POSSIBLE BEDROCK -43 196.4 MATERIAL REQUIRING DRILLING LIMESTONE ROCK CORE RECOVERY 100% LIMESTONE ROCK OVERNIGHT WATER LEVEL -ALSO, DE.C. 4, 1974 . EL. 193. 4 CORE RECOVERY 90% 9.8- 130.9 LIMESTONE ROCK CORE RECOVERY 100% 14.8-185.9 LIMESTONE ROCK CORE RECOVERY 97% e.081 • 8.el L BOTTOM OF HOLE WATER CONTENT LATE PLACIE NO. TENEUR EN EAU NATURAL NATURELLE 0 LIQUID LIMIT LIMITE DE LIQUIDITÉ R THE MOVESED-RE MANIE 18 CR TAR OFTE MES PERFE PLASTIC LIMIT ... Δ

JACQUES, WHITFORD LIMITED TEST PIT RECORD Public Works & Government Services Canada 96-1 TEST PIT No. LOCATION Central Heating Plant, Tunney's Pasture, Ottawa, Ontario PROJECT No. 10740 96-03-08 DATES: BORING 96-03-08 WATER LEVEL Geodetic DATUM \_ PLOT LEVEL SAMPLES UNDRAINED SHEAR STRENGTH - kPa Ĵ EVATION 50 100 150 200 N-VALUE OR RQD RECOVERY DEPTH SOIL DESCRIPTION NUMBER STRATA WATER WATER CONTENT & ATTERBERG LIMITS DYNAMIC PENETRATION TEST, BLOWS/0.3m STANDARD PENETRATION TEST, BLOWS/0.3m 62.83 Grass 0 50 60 80 Frozen, dark brown SILTY 62.6 BS TOPSOIL, trace gravel, 1 0 rootlets in top 150 mm Very loose, brown medium to fine sand, trace gravel. trace silt, presence of grey silty clay lumps: FILL 1 BS 2 0 60.8 2 Loose, brown medium to fine sand, trace to some gravel, presence of rock fill: **FILL** BS 3 BS 4 3 Ţ 59.6 Bedrock End of Test Pit 4 4 ·16 mm Clear Stone Δ 5 150 mm 150 mm 2.7 m -3.0 m Bedrock

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Bed 150 mm ø 2 Clay Drainage Pipe 6 Field Vane Test, kPa Groundwater Level ☐ Remoulded Vane Test, kPa Proposed Pipe Invert Δ Pocket Penetrometer Test, kPa

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c	CLIENT _	Public Works & Government					742	2001	. 认	J						<b>TDE</b> 0.00					0.0	•	
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(E)	NO.	,	PLOT	EVEL		T	<b>&gt;</b>	T	$\dashv$				5(					00			150		NI G		200	
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-0-	02.39	Frozen, dark brown SILTY			T	ļ	mm		4	1 } :	10	: ; :	20		30		4(		50		60		70	8	0	9(
-	62.2	TOPSOIL, trace gravel,			BS	1																	0			
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JACQUES, WHITFORD LIMITED TEST PIT RECORD Public Works & Government Services Canada CLIENT \_ 96-4 LOCATION Central Heating Plant, Tunney's Pasture, Ottawa, Ontario TEST PIT No. PROJECT No. 10740 DATES: BORING 96-03-08 WATER LEVEL 96-03-08 Geodetic DATUM \_ PLOT SAMPLES UNDRAINED SHEAR STRENGTH - kPa LEVEL Ē EUATION. 50 100 150 200 N-VALUE OR RQD DEPTH RECOVERY SOIL DESCRIPTION STRATA NUMBER WATER WATER CONTENT & ATTERBERG LIMITS DYNAMIC PENETRATION TEST, BLOWS/0.3m STANDARD PENETRATION TEST, BLOWS/0.3m 62.87 Grass 0 30 40 50 80 90 Frozen, dark brown SILTY TOPSOIL, trace gravel, rootlets in top 150 mm 62.4 Very loose, brown medium to fine sand, some rock fill, trace gravel, trace silt: FILL BS 1 61.9 1 Rock fill with some brown medium to fine sand, trace gravel: FILL 2 3 59.7 Bedrock End of Test Pit 5 6 ☐ Field Vane Test, kPa Groundwater Level ☐ Remoulded Vane Test, kPa Proposed Pipe Invert △ Pocket Penetrometer Test, kPa

DISEAS	SE CONTROL CENTR	E CANAD	Δ		T	.M.(EL 63.60m)geodetic : Arrow on fire	BOREHOLE No. 9	2_1
	C WORKS CANADA	U OHIM					Project No: E-673	
	DATE: 22/01/92 -	- :				· · · · · · · · · · · · · · · · · · ·	ELEVATION 62.89 (1	
	LE TYPE DISTUR			SHE	LBY TUBE		K -NO RECOVERY	
			Ţ. <u>*</u>				WANE Cu (kP	p) ■
Œ	SMALL PEN.	SPT	7	욷		SOIL/ROCK	80 160 240 ▲ VANE Cu REMOULDE	320 D (kPa) ▲ E
) E		<b>D1</b> 1	E I	汽	USC	·	80 150 240	<u>`320</u>
DEPTH (m)	(kPa)	(N)	SAMPLE TYPE	SAMPLE NO		DESCRIPTION	PLASTIC M.C.	320 (w) 0 (MPa) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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0.0	F1 t- 0.70		П			TOPSOIL		62.9
	Frost to 0.30m	4/15cm	H			Medium dense 62.59	4	
+		10	X	1		Medium SAND	•	<b>-</b>
		7/15cm	$\mathbb{H}$				1 \	
-1.0		26	IXI	2		Dense to very dense	\ \	61.9
	<b></b>		$\square$			Sandy TILL		
	Auger	refusal –				61.60		
						LIMESTONE		
-2.0						(C.R. = 100%)		60.9
						•		
F					<b>-</b>	) Water level   Inc. 24/02		
						-Water level Jan 24/92 - EL 60.49m		
-3.0								
L3.0								59.9
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						LIMESTONE		
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-5.0				İ				57.9
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8.0								E45
<u> </u>	McROSTI	E GE	VF.	ST	ST-T	OUIS COMPLETION DEPTH 5.2 m	COMPLETE 22	: : : 54.9 !/01/92
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DISEAS	SE CONTROL CENTR	E CANAD	A			В	3.M.(EL 63.60m)geod	letic : Arrow on i	fire	BOREHOL	E No. 9	2-2	·
	C WORKS CANADA			<del></del>		_	ydrant near S-W				No: E-673		<del></del>
START	DATE: 21/01/92 -	- :				-	as per survey pla	n by P.A.Riddell	Ltd.	ELEVATIO	N 62.39 (1	m)	
SAMP	LE TYPE 🔣 DISTUR	RBED		SHE	lby tu	BE	SPLIT SPOON	BW - CAS	ING III I	ex -no rec		HX - COR	E
ОЕРТН (m)	SMALL PEN.		SAMPLE TYPE	SAMPLE NO	USO			IL/ROCK		80 A VANE 80	I VANE Cu (kP 160 240 Cu REMOULDE 160 240	D (kPa)▲	ELEVATION(m)
	(kPa)	(N)	AMP	SAM			DES	CRIPTION	Į	PLASTIC	M.C.	LIQUID	LEW
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0.0	Frost to 0.15m							TOPSOIL	· 				62.4
-		5/15cm 16 8/15cm	M	1 2			FILL - gra	Sand, topsoil vel and till	62.09	7			
-1.0	Split spoon		T	-					61.48	1			61.4
							(C	IMESTONE .R. = 81%)					
-2.0			H						60.39				60.4
_									00.33				
-3.0							(C	IMESTONE .R. = 98%)					-59.4
-						-	<b></b>		58.87				
-4.0								MESTONE .R. = 95%)					58.4
-5.0							Bot	tom of hole	57.37				57.4
-6.0							2.5	A 5					-56.4
								Core Recovery					-
-7.0							- Piezometer d No water leve	amaged by vando els available	als .				-55.4
8.0	W Doomr	n ar	177-				ATTIC .	9485					54.4
	McROSTI					LO	IUIS [	COMPLETION DEP	TH 5.0 m	CO	MPLETE 21	1/01/92	
	0t	tawa	<u>, C</u>	ana	ada			LOGGED BY CNM		DWG NO.	4	Page 1	of 1

DISEA	SE CONTROL CENTI	RE CANAD	A			B.M.(EL 63.60m)geodetic : Arrow on fire	BOREHOLE I	No. 92-3	
PUBL	IC WORKS CANADA					hydrant near S-W corner of proposed bldg	Project No:		
	DATE: 22/01/92 ·					- as per survey plan by P.A.Riddell Ltd.	ELEVATION	62.97 (m)	
SAMP	LE TYPE DISTU	RBED		SHE	LBY TUBE	SPLIT SPOON BW - CASING		ery Bx - cor	E
ОЕРТН (m)	SMALL PEN.		SAMPLE TYPE	SAMPLE NO	USC	SOIL/ROCK	80 1 ▲ VANE Cu 80 1	NE Cu (kPa) ■ 60 240 320 REMOULDED (kPa) ▲ 60 240 320	ELEVATION(m)
	(kPa)	(N)	SAM	SAN		DESCRIPTION	PLASTIC -	M.C. LIQUID	ELEW
0.0	Frost to 0.30m					TOPSOIL	20 4	0 60 80	63.0
-		11/15cm 32	M	1		Very dense 62.67  Medium SAND with clay lenses and a little gravel 62.22			
-1.0		34 16/15cm	X	2		Very dense Sandy TILL			62.0
-	Auge	37/5cm r refusal-/	Ī	3 N/R		61.42			
-2.0 -						LIMESTONE (C.R. = 92%)			61.0
-3.0					<u> </u>				60.0
-4.0						LIMESTONE (C.R. = 99%)			-59.0
-5.0						LIMESTONE (C.R. = 100%) Bottom of hole 57.98			-58.0
6.0 						C.R. = Core Recovery			-57.0
-7.0 -									-56.0 -
8.0									55.0
	McROSTI	E GEN	VES	ST S	ST-LO	OUIS COMPLETION DEPTH 5.0 m	СОМРІ	ETE 22/01/92	
	0t	tawa,	C	ana	ıda	LOGGED BY CNM		5 Page 1 c	of 1

DISEA	SE CONTROL CENTE	RE CANAD	A			B.M.(EL 63.60m)geodetic : Arrow on fire	BOREHO	LE No. 92	2-4	
	IC WORKS CANADA					hydrant near S-W corner of proposed bldg		No: E-6735		
	DATE: 22/01/92 -					- as per survey plan by P.A.Riddell Ltd.		ON 62.13 (n		
SAMP	LE TYPE DISTU	RBED		SHE	LBY TUBE	SPLIT SPOON BW - CASING		COVERY		
TH (m)	SMALL PEN.		SAMPLE TYPE	SAMPLE NO	USC	SOIL/ROCK	80 A VANE 80	160 240 160 240 Cti REMOULDE 160 240	D (kPa) ▲ 320	ELEVATION(m)
DEPTH	(kPa)	(N)	AMP	SAM		DESCRIPTION	PLASTIC	M.C.	LIQUID	E
-							20	40 60	80	1
0.0	Frost to 0.15m	18/15cm	M	1		Sandy TOPSOIL 61.83				62.1
-1.0		40 15/15cm 32	$\bigvee$	2		Very dense Silty medium SAND and GRAVEL				61.1
-		40/15cm	X	3 N/R		Water level Jan 24/92 - EL 60.38m 60.49				
-2.0	Split spoor	n refusal√				UMESTONE (C.R. = 85%)				60.1
-						(C.R. = 77%)59.78				
-3.0						UMESTONE (C.R. = 96%)				-59.1
						 				_
-4.0	·.					LIMESTONE (C.R. = 84%)				-58.1
-5.0										
5.0  -		İ				Battom of hole 57.14				<del> -</del> 57.1 -
-6.0						C.R. = Core Recovery				-56.1
-										-
-7.0 -										-55 <i>.</i> 1
8.0	W. DACIM	ID OP	1170	CALL (	OM T	OTHE				54.1
	McROSTI							MPLETE 22	/01/92	
<u> </u>	<u>U</u> 1	ttawa	<u>, C</u>	ana	ada	LOGGED BY CNM	DWG NO.	6	Page 1 o	of 1

DISE	ASE CONTROL CENTRE CANADA		Т	B.M.(EL 63.60m)geodetic : Arrow on fire	BOREHOLE No.	12 5
	IC WORKS CANADA		<del></del>		Project No: E-67	
	T DATE: 21/01/92 - :				ELEVATION 62.29	
-	PLE TYPE DISTURBED	SHE	BY TUBE		X -NO RECOVERY	
		T			■ VANE Cu (k	Pa)■
E	SMALL PEN. SPT (kPa) (N)	일		SOIL/ROCK	80 160 24 ▲ VANE Cu REMOULL 80 160 24	320 (B) (320
Ŧ	LL ( )	비불니	USC	1	80 160 24	0 320
DEPTH	(kPa) $(N)$	SAMPLE		DESCRIPTION	PLASTIC M.C.	חסחם 🕌
	0	<u>'</u>			20 40 6	0 80
0.0	Frost to 0.35m			FILL — Sand and gravel		62.3
	50/5cm Suger refusal	=1 N/R			1	
-[						
				TILL with limestone		
-1.0	Soft drilling -		•	rock blocks and pieces of weathered limestone		61.3
	All water lost			( Possible fill )		
-	40/15cm	]				
	Split spoon refusal	2		60.54	<b></b>	
-2.0	No water returning		<u> </u>	LIMESTONE		60.3
				(C.R. = 92%)		00.3
		]		60.02		
ſ				─Water level Jan 22/92 - EL 60.33m		
				LIMESTONE		
-3.0				(C.R. = 93%)		-59.3
				,		
-						
-4.0						-58.3
				LIMESTONE		- Ja.3
				(C.R. = 100%)		
Γ				,		
-5.0	<b> 1</b>	1				57.3
				Bottom of hole 57.18		
-						
-6.0						-56.3
				C.R. = Core Recovery		70.3
				·		
				*		
-7.0						-55.3
<b> </b>						
8.0	M DOOMED OFFI	10m c	7m +	OTHO.		54.3
	McROSTIE GENE			OUIS COMPLETION DEPTH 5.1 m	COMPLETE 2	21/01/92
L	Ottawa, (	Cana	da	LOGGED BY CNM D	WG NO. 7	Page 1 of 1

and the state of the second substitute of the second secon

ηп	ENT	Public Works and Government Se						E <b>CO</b> ] 2 376		BOREHOLE No	BH1
		Ottawa	<i>2</i> 1 V I C	<u>s</u>	Canac	<u>ıa                                      </u>				PROJECT No	
		RING November 16, 2015 WATE	ER LI	EVF	EL.		Dec	ember '	7, 2015		
					-		MPLES			RAINED SHEAR STRENG	
	(E)		LOT	VEL			Ι.		50	100 1:	50 200
	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	Щ	3ER	RECOVERY (mm)	N-VALUE OR RQD	·	<b>.</b>	W <sub>P W</sub> W
	ILEV/		STRA	NATE	TYPE	NUMBER	ECO.	N-VA OR R		& ATTERBERG LIMITS ATION TEST, BLOWS/0.3m	*
	ш						α			RATION TEST, BLOWS/0.3	
	61.28								10 20	30 40 50 60	0 70 80
		TOPSOIL: Dark brown	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		GS	1					
	60.7	TOPSOIL with occasional gravel and cobbles	1/2: \\\.\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		GS	1					
		FILL: Brown Sand	$\bowtie$								
			$\bowtie$		SS	2	150	12			
	59.8		$\bigotimes$								
		FILL: Brown sand with frequent	$\bowtie$		SS	3	300	17			
	59.1	gravel, cobbles and boulders	$\bigotimes$		دد		300	1 /		<u> </u>	<u>                                      </u>
_		TILL: Dense grey silty SAND									
		with gravel (SM)			SS	4	450	30		<b>♦</b>	
					SS	5	50	38	$egin{bmatrix} -1 & -1 & -1 & -1 & -1 & -1 & -1 & -1 $		
	57.3				SS	6	40	)/150 m	ф		
		End of Borehole									
		Auger Refusal									
		Augei Keiusai									
		Monitoring Well Installed								<del>                                      </del>	
		Manitaring wall Dry on									
		Monitoring well Dry on December 7, 2015.									
									<del>                                     </del>		<del>                                      </del>
									<del></del>		
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STN13-STAN-GEO 122411146 ENVIRONMENTAL HEALTH CENTER BUILDING DEMOLITION.GPJ SMART.GDT 1/6/16

	St	antec B	80	ŖĮ	EH(		E RI	ECO 2 453	RD BH	1 of 1
L	LIENTOCATION	Public Works and Government Se Ottawa		ces	Canac	da			BOREHOLE No PROJECT No	BH15-2 122411146
D	ATES: BO	RING November 16, 2015 WATI	ER L	EVE	L				DATUM	Geodetic
	ē					SA	AMPLES		UNDRAINED SHEAR STRENGTH	
DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER	RECOVERY (mm)	N-VALUE OR RQD	WATER CONTENT & ATTERBERG LIMITS DYNAMIC PENETRATION TEST, BLOWS/0.3m STANDARD PENETRATION TEST, BLOWS/0.3m	200 W <sub>P</sub> W W <sub>L</sub>
•	61.09								10 20 30 40 50 60	70 80 90
- 0 -	60.5	TOPSOIL with occasional gravel and cobbles	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		GS	1			0	
- 1 -		FILL: Brown silty GRAVEL with sand (GM) with frequent cobbles and boulders			SS	2	340	8		
- 2 -					SS	3	150	16	00	
					SS	4	150	29		
- 3 -	58.0	End of Borehole	$\bowtie$		<del>-</del> SS	5	50 5	<del>0/50 mi</del>	n	
- 4 -		Auger Refusal								
 -										
- 5 -										
6 -										<del></del>
- - -										
- 7 - - - -										
8 -										
 - 9 -										
-10-										

□ 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

✓ Inferred Groundwater Level✓ Groundwater Level Measured in Standpipe

OT.	IENT	Public Works and Government Se						E <b>CO</b> 2 441			DODEII	OLE No		В	H15
		Ottawa	<u> </u>									OLE No T No			
		RING November 16, 2015 WATE	ER L												eode
T							AMPLES				RAINED SHE				
	E) N		LOT	VEL						50	100	15	0	2	200 -
l	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER	RECOVERY (mm)	N-VALUE OR RQD	\A/ATE		' & ATTERBERG	LIMITS	W <sub>P</sub>	W	w <sub>l</sub>
l	ELEV		STR,	WAT	≱	NUN	ZECO (m	N-V/ OR I			ATION TEST, E			7	* <sup>'</sup>
ļ	_								STAND	ARD PENET	RATION TEST	, BLOWS/0.3n	n	•	•
ļ	59.96		1577						10	20	30 40	50 60	70	) 8	80
1		TOPSOIL: Dark brown TOPSOIL with occasional gravel	<u>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</u>		GS	1									 
l	59.4	and cobbles	; ;												
1		FILL: Brown silty SAND with	$\bowtie$												
1		gravel (SM)			SS	2	300	15	<b>   </b>	<b>P</b>					
1	58.3				SS	3	15050	)/100 m							liii
ĺ		End of Borehole						<i>"</i>							
l		Auger Refusal													
1		Auger Refusar													
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l										111 <b>1</b> 111	1111111	<u>                                     </u>			111
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STN13-STAN-GEO 122411146 ENVIRONMENTAL HEALTH CENTER BUILDING DEMOLITION.GPJ SMART.GDT 1/6/16

V								ECO 12 356			BH15-4
	ENT	Public Works and Government S								BOREHOLE No.	
		Ottawa									12241114 Geodeti
DAT	TES: BO	RING November 16, 2015 WAT	ER L	EVI	£L						
	Œ.		5			SA	AMPLES	ı	50	RAINED SHEAR STREN 100	GTH - KPa 150 200
	NOI	SOIL DESCRIPTION	A PL(	LEV	l	   K	\ \ \	백 😞	-	+	W <sub>P W</sub> W <sub>L</sub>
	ELEVATION (m)	GOIL BLOOM HOW	STRATA PLOT	WATER LEVEL	TYPE	NUMBER	RECOVERY (mm)	N-VALUE OR RQD		& ATTERBERG LIMITS	ı <del>`                                    </del>
	┧		S.	>		Z	뿐	20		ATION TEST, BLOWS/0.3n RATION TEST, BLOWS/0.	
	59.30	Elevation estimated from Demolition	Site	Plan	Drawii	na. A	100				50 70 80 9
1	0,100	TOPSOIL: Dark brown	<u>\(\frac{1}{1}\)</u>								
4	58.7	TOPSOIL with occasional gravel —and cobbles	//: ·\	1	GS	1					
1	58.4	FILL: Poorly Graded SAND		8	SS	2	50.5	0/100 m	m d		
l	20.1	(SP) with frequent cobbles and		1	55		303	0/ 100 111			
}		boulders									
1		End of Borehole									
1		Auger Refusal							<u> </u>	<u> </u>	
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										Vane Test, kPa	App'd
1		▼ Groundwater Level Measured in S	tand	pipe					△ Pocket Pene	trometer Test, kPa	Date

STN13-STAN-GEO 122411146 ENVIRONMENTAL HEALTH CENTER BUILDING DEMOLITION.GPJ SMART.GDT 1/6/16

	St	antec I	<b>30</b>	RI	EH( : 5 02	<b>)</b> [] 8 647	E RI	ECO 12 356	BH15-4b
	LIENT	Public Works and Government S		ces	Canac	la			BOREHOLE No. BH15-
			ER L						PROJECT No. 1224111 DATUM Geode
		· · · · · · · · · · · · · · · · · · ·					AMPLES		UNDRAINED SHEAR STRENGTH - kPa
	m) NC		PLOT	EVEL		~	≿		50 100 150 200
	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER	RECOVERY (mm)	N-VALUE OR RQD	WATER CONTENT & ATTERBERG LIMITS  DYNAMIC PENETRATION TEST, BLOWS/0.3m
1	59.30	Elevation estimated from Demolition	Sito I	Plan	Drawii	α Λ	100		STANDARD PENETRATION TEST, BLOWS/0.3m  10 20 30 40 50 60 70 80
+	37.30	TOPSOIL: Dark brown	<u>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</u>	lall	Diawii	ıy, A	100		
4	58.7	TOPSOIL with occasional gravel —and cobbles	/ <u>/</u> : <u>\</u> \						
		FILL: Brown poorly graded		×××					
		SAND (SP)		××××					
	57.8	FILL: Brown silty SAND with	 	××××					],,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
-		gravel (SM) with frequent		XXX	SS	1	400	25	b
1	57.2	_cobbles and boulders	. ‱	<u> </u>					
1		End of Borehole							
		Auger Refusal							
1									
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1									
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-									<u> </u>
									<ul><li>■ Field Vane Test, kPa</li><li>□ Remoulded Vane Test, kPa App'd</li></ul>
		▼ Groundwater Level Measured in S	tandr	nine					Δ Pocket Penetrometer Test, kPa Date

STN13-STAN-GEO 122411146 ENVIRONMENTAL HEALTH CENTER BUILDING DEMOLITION.GPJ SMART.GDT 1/6/16

ORIN	IG RT				FACE EXPLORATION		LEGEN			PROPOSED	STRUCTURE	LOCATION	
	324	1 16			DEVELOPMENT ENGIN		-	ING ME	<b>22</b> 1			OTTANVA,	1311
IOLE	N°	C		O RAL M					TUBE	I .	Min Marketti		
	•			H. LETTING		106. 1960	PENET	RATION	RESISTANCE - R	EWELF.	// <b>/</b>	CTUNINESS PA	
7				D W. LeBe			2° s	PLIT TO	8E 0—0		<del> ,</del>	FILE Nº 32 - 32	95
					PT J. DUFRESNS						CONSISTENCY		
				ELEVATION IN	FEET OF			IOTH .				RE AND	
ATER	SUR	FACE	80	TTOM OF HOLE	1	GROUND	UNCC	WFINED	COMPRESSION (QU)			DEX (LI) X LI	
	***************************************	-	1	/77. 7	GEODETIC	198.3	VANE	TEST (C	) AND SENSITIVITY (S)	+5	PLASTIC LIMIT		
			I		GROUND WATER	ROCK 189.2		STREA	IGTH I PENETRATION	RESISTANCE	-GONSISTE	ENGY-	-UNIT-
SAM	PLE			DESCRIPTI	ON OF SOIL	ELEV.	DEPTH	e	OMPRESS	·			₩7-
		gy.	BOLS			FT.	FT.	CA ,	t-H-H-B-B-B-B-B-B-B-B-B-B-B-B-B-B-B-B-B-	1 0	SIKENGI	TH (TONS/FT')	LOS/C
+								17111	1300	A DANGA			FFT.
						198.2		##					200
							7						
				OVERBURDSN LDR	, MOSTLY BOULD VL LED)	<i>ERS</i>	1	曲曲					
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				NUCK	(DRILLED)			HH					
						177.7		曲曲					180
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				DRILLED FT.	RECOVERED A			開用		1 1 1 1 1 1 1 1 1 1			
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Boring			VFACE EXPLORATION ENGINEERS		LEGEN		PROPOSED	STRUCTURE	LOCATION	
N°2324	DI	PARTMENT OF PU	PLIC WORKS, OTTAW	A , ONTARIO .		A. SPLIT TUBE			OTTAWA,	ON
HOLE Nº		ED / M	**************		2" SI	ELBY TUBE	NATIONA	11 HEALTH	CTINISSIS DA	CF110
8		H. LSTring		9. 1960	PENET	RATION RESISTANCE - R	A 11/5/ 5-19.3	PE BLDG.	FILE Nº 32 - 2:	295
	APPRO	VED M Lefte av Nicilayer	AFT J. DUFREJA	ECH.		A. CONE			1	-/-
	V	ELEVATION IN			CASI	vG		CONSISTENCY NATURAL MOISTUR	RE AND	
ATER SUF	FACE E	OTTOM OF HOLE		GROUND	STREM	GTH NFINED COMPRESSION (QU)	Δ	LIQUIDITY IN	0EX (LI) X LI	
		176.4	GEODETIC	199.7	3	TEST (C) AND SENSITIVITY (S)		LIQUID LIMIT PLASTIC LIMIT		
APPEAR TO STATE STATE OF THE PARTY OF THE PA	*	116.4	GROUND WATER	ROCK /39.7	1	CTOCHETH L TOUTE !				
SAMPLE		DESCRIPTION	L con	ELEV.	DERTH	STRENGTH + PENETRAHOI		-CONSISTE		- <del></del>
			ON OF SOIL	FT	DEPTH FT.	COMPRESS	IVE HER	STRENGT	H (TONS/ET =)	<del>LBE√G,</del> f
Nº TYPE	SYMBOL	S				R 1100	-OFONOAL	00	1300	ELZV FT.
				199.7	1			█▘▘▛▝▋▀▐▀▐▘▜▗▘▛▗▜▄▜▄▊▄▊▄▊▗▊▄▊ ▗	<del>┡</del> ╌╉╌╂╌╂╌╂╌╉╌╉╌╃╌╃╶╂╌╃╌╂╌╂╌╂╌╂	200
		OVERBURDE.	N, MOSTLY BOU NEILLEO)	LDERS						
				159.7						
		· · · · · · · · · · · · · · · · · · ·	indistrian (film de de ser de de la registra de descripción en el reje en de seguindo							110
] [	10 m									
		ROCK /	Denzen)							
										180
	1		kaliforni deligi sarah - sanda sanda sanda salah dan sa sangga salah dan salah 224 dan basa sa	175.4		<del>╒╏╶╏╒</del> ╫╌┩╌┩╌┩╌╏╌╏╌╏╌╏╶╏╵┩╙┦╌┩╵┦┸╏╵╇╣╌┨	<del>╺╋</del> ╾╉ <del>╍┩</del> ╌╋ <del>╸</del> ╉╶╉╌╃═┩			
		BOTTOM	, of Hule T. Recovers.	0.5						
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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.

Order #: 2415083

Certificate of Analysis

Client: Paterson Group Consulting Engineers (Ottawa)

Project Description: PG6348

Report Date: 12-Apr-2024

Order Date: 8-Apr-2024

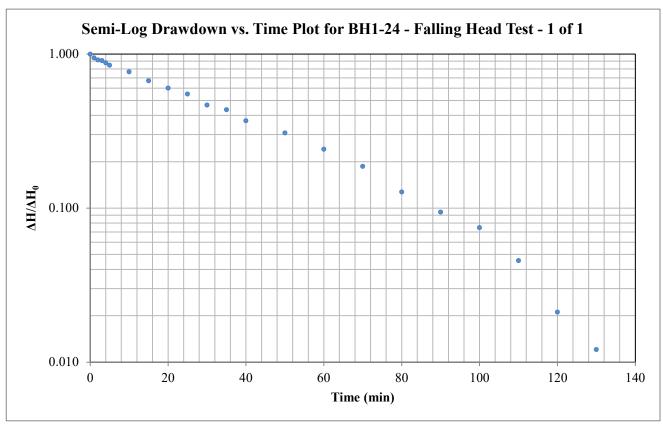
Client PO: 59890

	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

Hvorslev Shape Factor

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln \left( \frac{\Delta H^*}{\Delta H_0} \right)$$

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$ 

Data Points (from plot):

t\*: 38.916 minutes  $\Delta H^*/\Delta H_0$ : 0.37

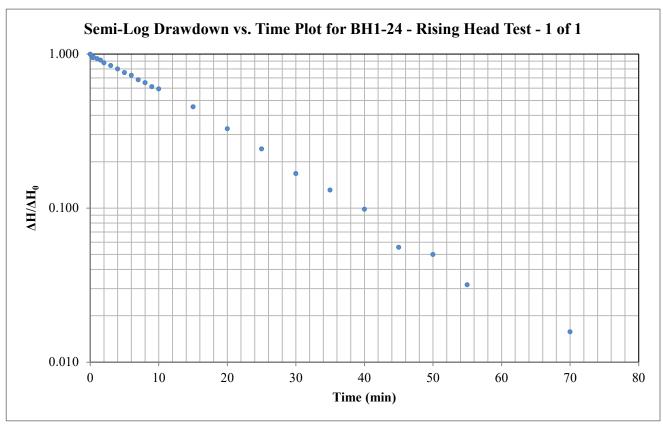
Horizontal Hydraulic Conductivity K = 1.63E-07 m/sec



#### **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

Hvorslev Shape Factor

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln \left( \frac{\Delta H^*}{\Delta H_0} \right)$$

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$ 

Data Points (from plot):

t\*: 17.531 minutes  $\Delta H^*/\Delta H_0$ : 0.37

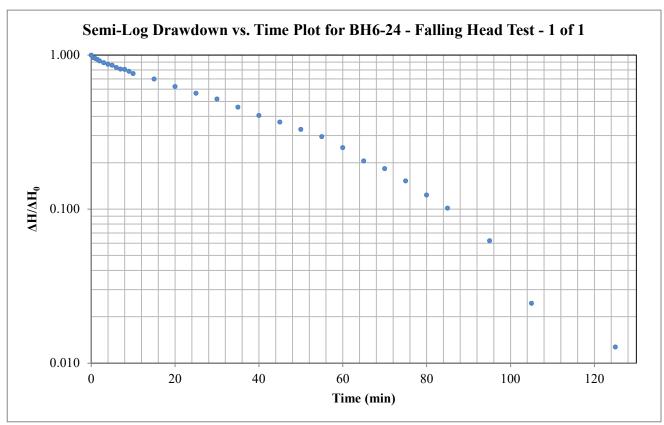
Horizontal Hydraulic Conductivity K = 3.61E-07 m/sec



#### **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

Hvorslev Shape Factor

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln \left( \frac{\Delta H^*}{\Delta H_0} \right)$$

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$ 

Data Points (from plot):

t\*: 43.432 minutes  $\Delta H^*/\Delta H_0$ : 0.37

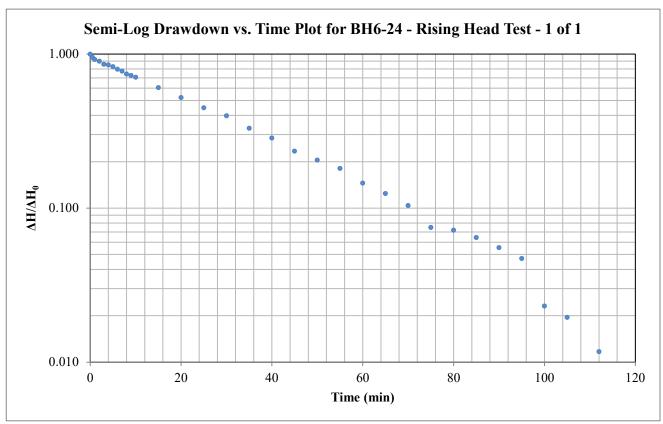
Horizontal Hydraulic Conductivity K = 1.46E-07 m/sec



#### **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

Hvorslev Shape Factor

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln \left( \frac{\Delta H^*}{\Delta H_0} \right)$$

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$ 

Data Points (from plot):

t\*: 31.593 minutes  $\Delta H^*/\Delta H_0$ : 0.37

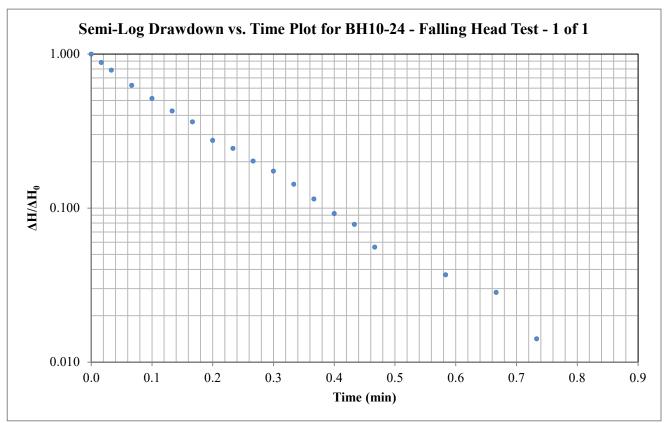
Horizontal Hydraulic Conductivity
K = 2.00E-07 m/sec



#### **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

Hvorslev Shape Factor

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln \left( \frac{\Delta H^*}{\Delta H_0} \right)$$

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$ 

Data Points (from plot):

t\*: 0.166 minutes  $\Delta H^*/\Delta H_0$ : 0.37

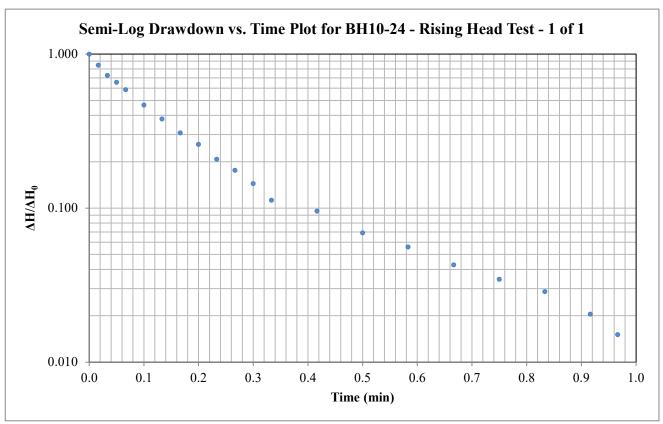
Horizontal Hydraulic Conductivity K = 3.82E-05 m/sec



#### **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

Hvorslev Shape Factor

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln \left( \frac{\Delta H^*}{\Delta H_0} \right)$$

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$ 

Data Points (from plot):

t\*: 0.137 minutes  $\Delta H^*/\Delta H_0$ : 0.37

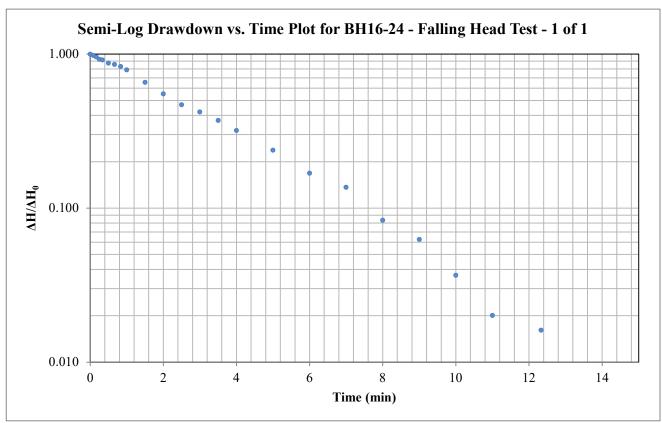
Horizontal Hydraulic Conductivity K = 4.61E-05 m/sec



#### **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

Hvorslev Shape Factor

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln \left( \frac{\Delta H^*}{\Delta H_0} \right)$$

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$ 

Data Points (from plot):

t\*: 3.470 minutes  $\Delta H^*/\Delta H_0$ : 0.37

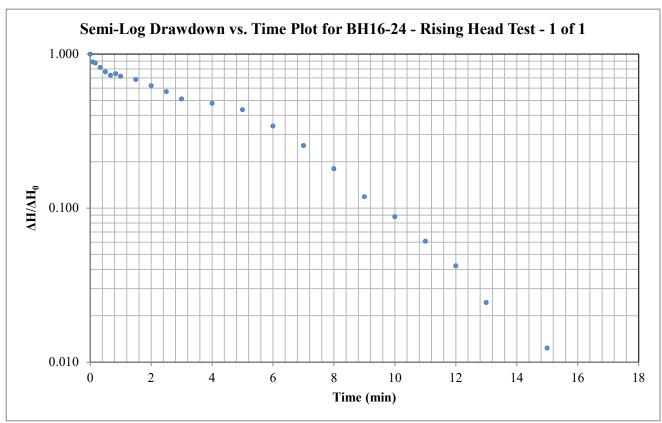
Horizontal Hydraulic Conductivity K = 1.82E-06 m/sec



#### **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

Hvorslev Shape Factor

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln \left( \frac{\Delta H^*}{\Delta H_0} \right)$$

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$ 

Data Points (from plot):

t\*: 5.709 minutes  $\Delta H^*/\Delta H_0$ : 0.37

Horizontal Hydraulic Conductivity

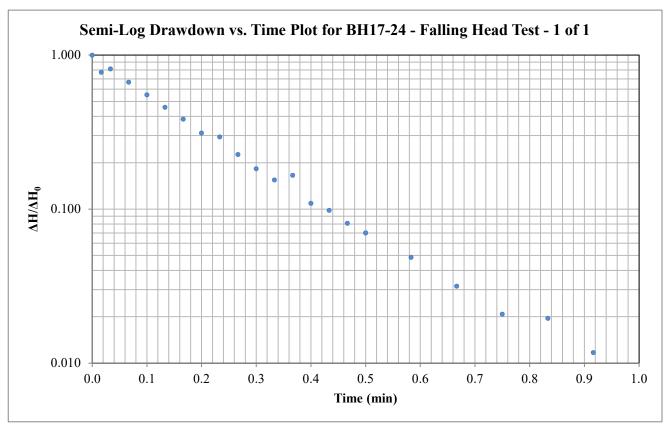
K = 1.11E-06 m/sec



#### **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

Hvorslev Shape Factor

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln \left( \frac{\Delta H^*}{\Delta H_0} \right)$$

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$
 Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$ 

Data Points (from plot):

t\*: 0.173 minutes  $\Delta H^*/\Delta H_0$ : 0.37

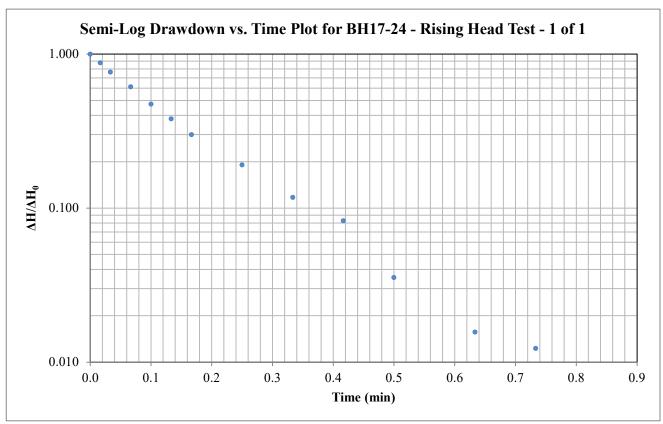
Horizontal Hydraulic Conductivity K = 3.67E-05 m/sec



#### **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

Hvorslev Shape Factor

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln \left( \frac{\Delta H^*}{\Delta H_0} \right)$$

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$
 Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$ 

Data Points (from plot):

t\*: 0.138 minutes  $\Delta H^*/\Delta H_0$ : 0.37

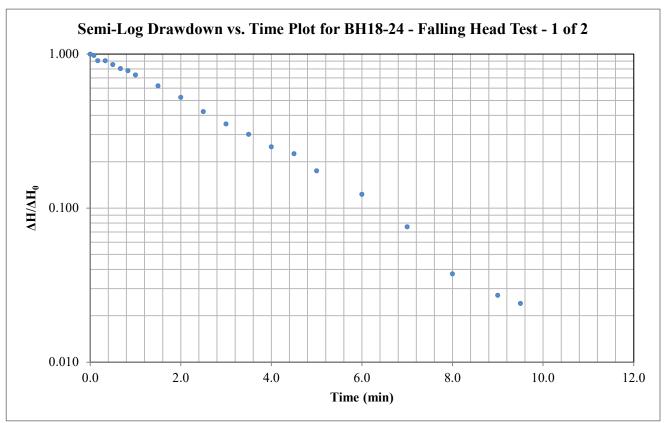
Horizontal Hydraulic Conductivity K = 4.60E-05 m/sec



#### **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

Hvorslev Shape Factor

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln \left( \frac{\Delta H^*}{\Delta H_0} \right)$$

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$
 Valid for L>>D

Hvorslev Shape Factor F:

2.07207

Well Parameters:

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\*:  $\Delta H^*/\Delta H_0$ : 2.861 minutes 0.37

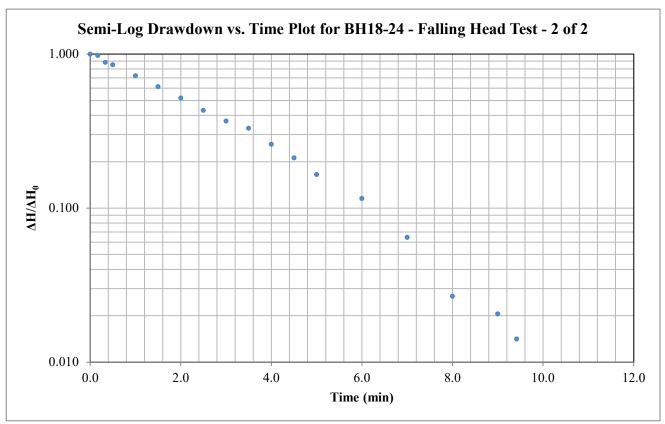
**Horizontal Hydraulic Conductivity** 2.21E-06 m/sec K =



#### **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

Hvorslev Shape Factor

$$K = \frac{\pi r_c^2}{F} \frac{1}{t^*} \ln \left( \frac{\Delta H^*}{\Delta H_0} \right)$$

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Hvorslev Shape Factor F:

2.07207

Valid for L>>D

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$ 

Data Points (from plot):

t\*: 2.902 minutes  $\Delta H^*/\Delta H_0$ : 0.37

Horizontal Hydraulic Conductivity K = 2.18E-06 m/sec





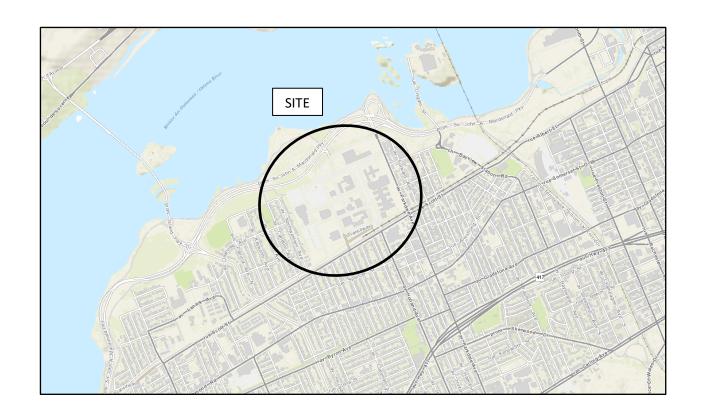
## **APPENDIX 2**

FIGURE 1 - KEY PLAN

DRAWING PG6348-6 – TEST HOLE LOCATION PLAN

DRAWING PG6348-7 – BEDROCK GEOLOGY PLAN

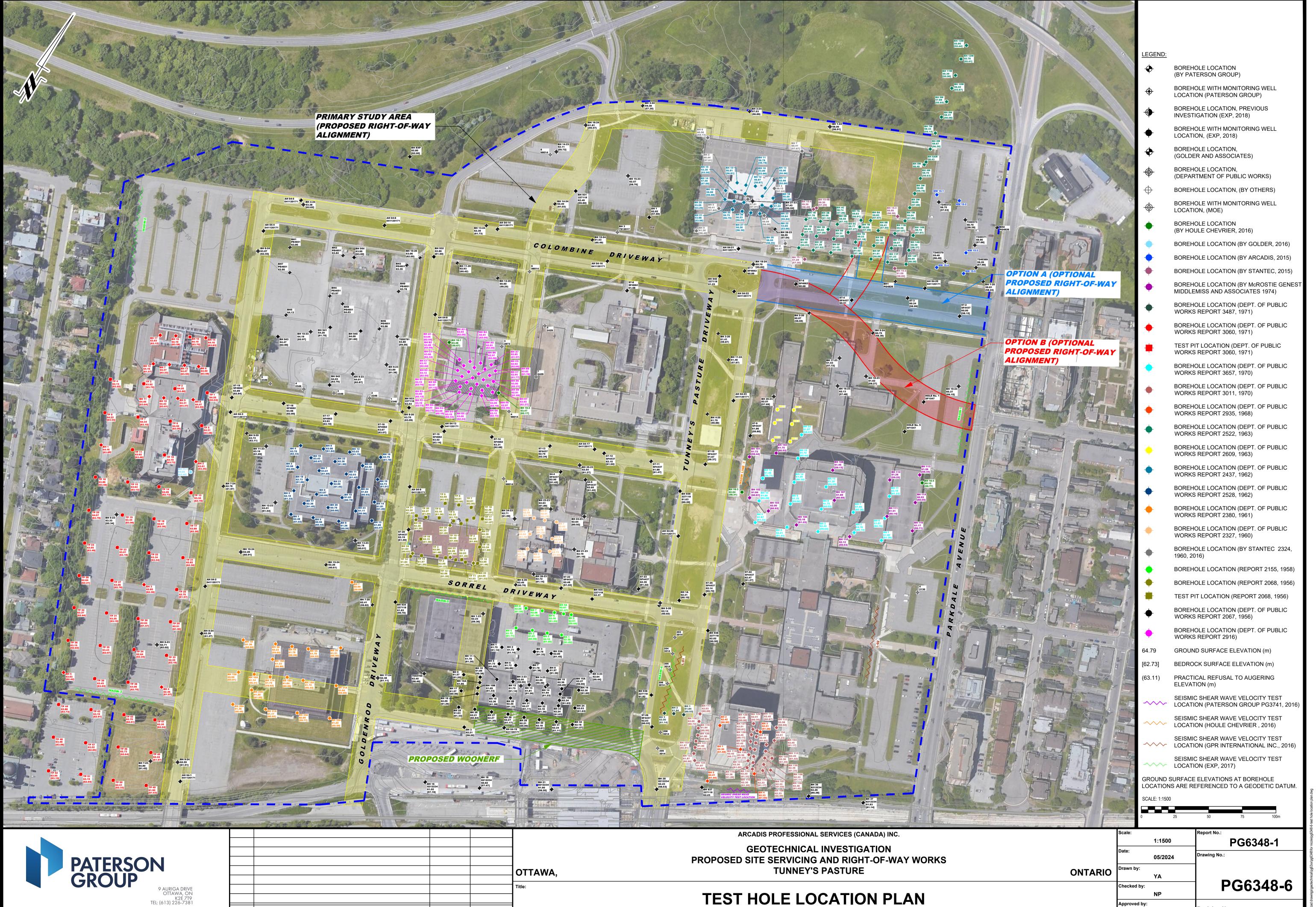
DRAWING PG6348-8 – BEDROCK CONTOUR PLAN



# FIGURE 1

**KEY PLAN** 

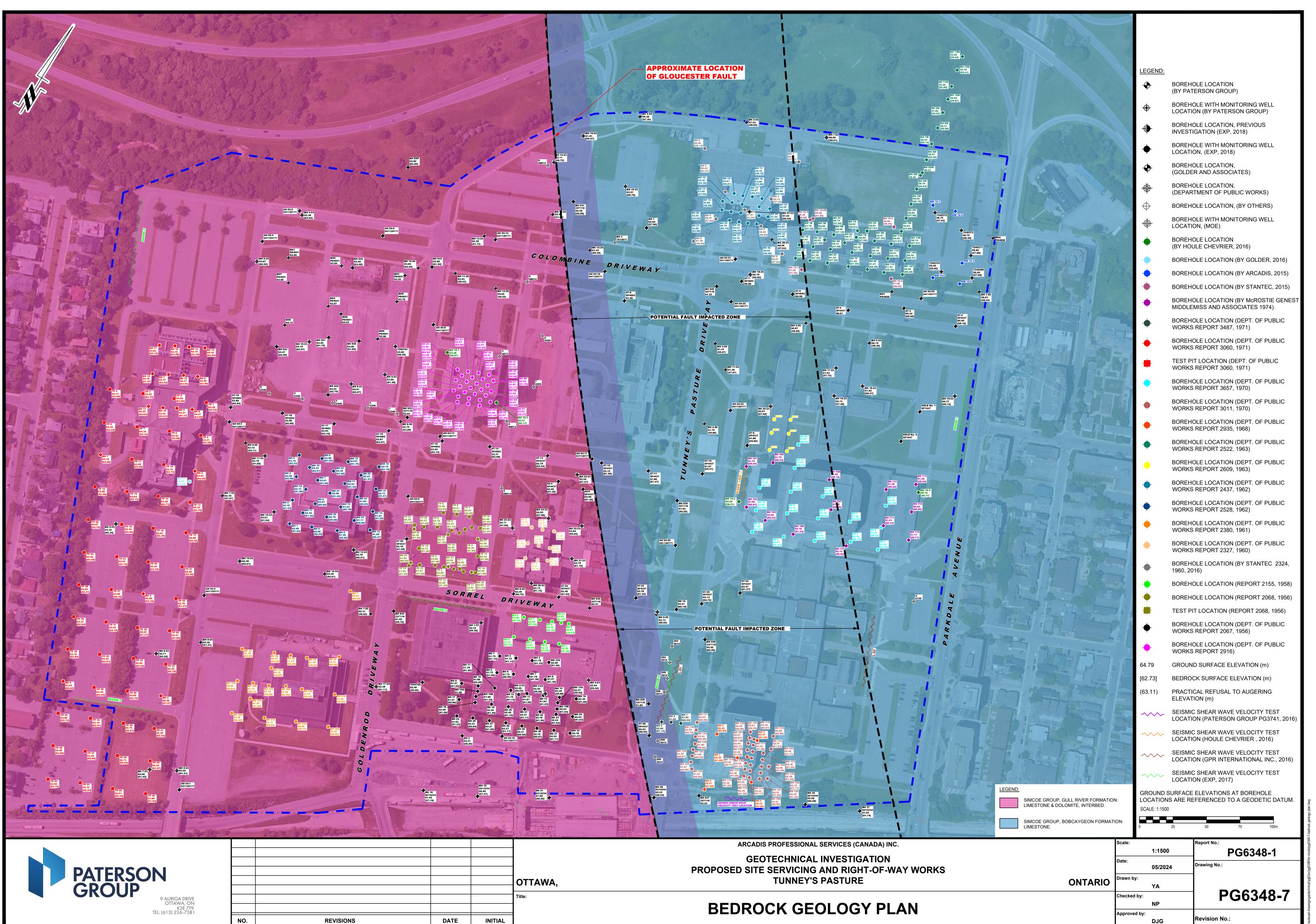


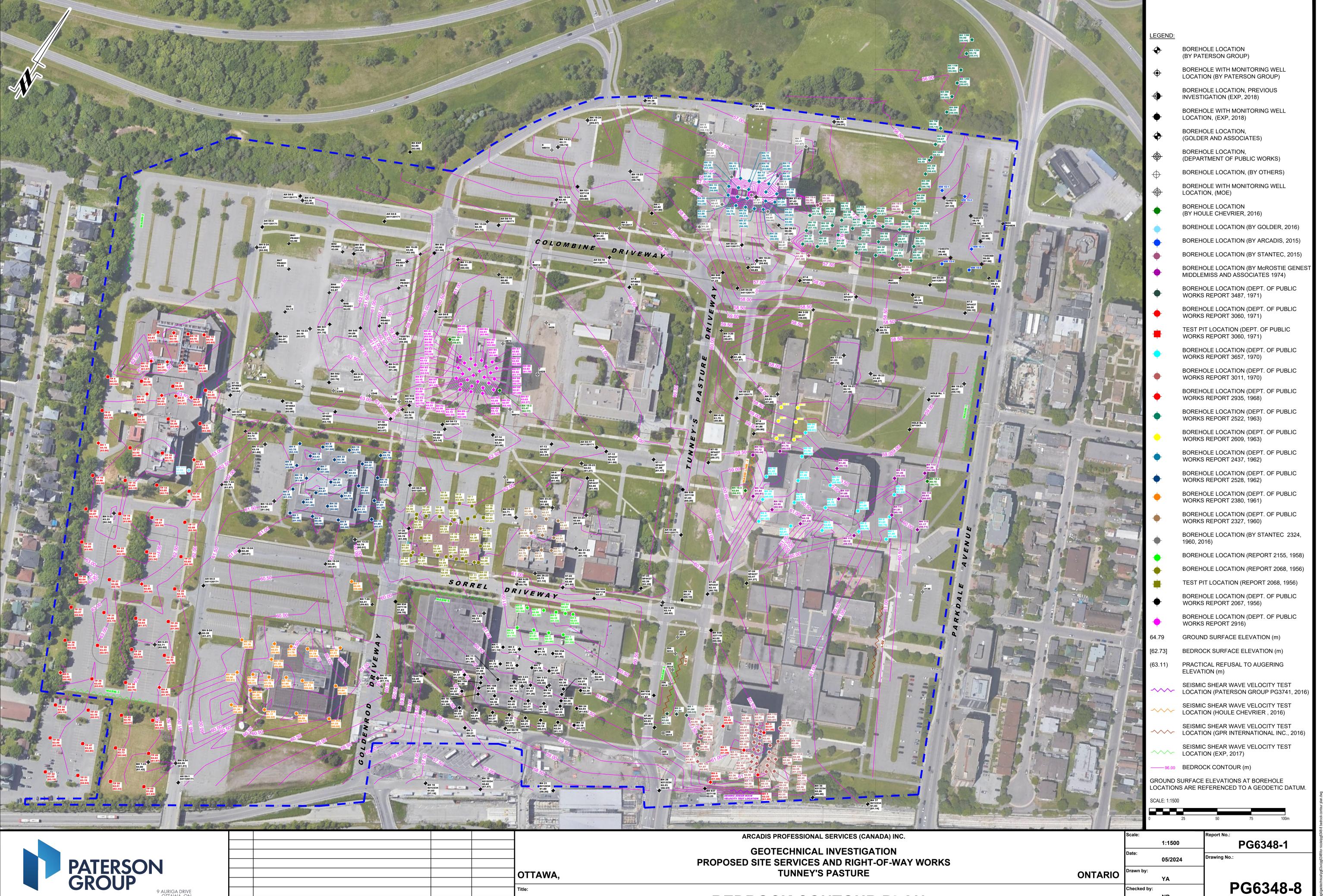


NO.

**REVISIONS** 

**TEST HOLE LOCATION PLAN** 





**BEDROCK CONTOUR PLAN** 

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

NO.

**REVISIONS** 

INITIAL