May 31, 2021 Reference No. 11227097-A1

Mr. Russell Beach
Senior Development Manager
Medusa LP
Kirkland, Quebec H9H 4M7

By Email
russell.beach@broccolini.com

Re: Geotechnical Investigation – Preliminary Summary of Design Recommendations
Proposed Sortation Facility
Intersection of Leikin Drive and Merivale Road, Nepean, Ontario

Dear Sir,

This letter presents the preliminary results of the geotechnical investigation carried out for a proposed sortation facility development at the property located just east of the Leikin Drive and Merivale Road intersection in Nepean, Ontario, hereinafter referred to as the ''Site'' or ''Property''.

A Site location Plan is provided as Drawing N$^{o.}$ 11227097-A1-1 attached to this letter. The purpose of this letter is to provide a summary of design recommendations for building foundations and floor slabs for the proposed development.

It is understood that the proposed structure will be a single-storey building, approximately 270,000 ft^2, surrounded by asphaltic concrete and rigid pavements. Currently, a final finished floor elevation of 91.8 meters (m) has been established by the client for the development.

Based on stratigraphic information provided within geotechnical investigative report previously completed by Fondex in 1991, for a site directly adjacent to the current investigated property, the anticipated subsoil conditions consist in a stiff to firm silty clay/clayey silt deposit overlying and a loose to compact silty sand to sandy silt deposit and ultimately bedrock.

Based on a review of the available Fondex report, as well as the details with respect to the proposed development, a scope of work for the investigation was developed and is presented below.

1. Scope of Work

Based on the available geotechnical information in relation to the current development plan, the proposed site grading, and considering the potential foundation and the slab design options, the following scope of work was established for the current geotechnical investigation:

- Advancement of nine boreholes across the investigated site. Six of these boreholes were advanced within the proposed building footprints (identified as BH-01 to BH-6). The three remaining boreholes were advanced within surrounding pavement and stormwater pond areas (identified as BH-11 to BH-13). The majority of the boreholes (BH-01, BH-04 to BH-06 and BH-11 to BH-13) were sampled to depths varying between 6.1 m and 10.5 m BGS and completed with a dynamic penetration test to penetration refusal. Borehole N$^{os.}$ BH-02, BH-03, both located within the proposed building footprint, were drilled within bedrock.
- Completion of cone penetration test (CPT) at 11 locations (identified as CPT-01 to CPT-08, CPT-14, CPT-16 and CPT-18) to a maximum depth of 22 m BGS to assess subsurface soil conditions at each location. The CPT is an in-situ instrumentation/tool to assess soil stratigraphy and soil strength parameters in a continuous fashion.
- Collection of soil samples for the geotechnical laboratory testing and carrying out in situ testing including Standard Penetration Test (SPT) and vane tests to estimate initial undrained shear strength of the underlying cohesive deposit.
- Excavation of 32 test pits across the Site to depths varying between 1.5 and 3.4 m BGS to assess topsoil layer thickness, reworked native thickness and condition of the existing fill materials to determine stripping requirements.

The borehole, CPT and test pit location plan is provided as Drawing N$^{o.}$ 11227097-A1-1A in the Attachment A. The corresponding borehole and test pit reports are also provided in Attachment B of this letter.

2. Summary of Field Work

Prior to initiating the subsurface investigation activities, all applicable utility companies (gas, bell, network cables, pipeline and municipal sewers, etc.) were contacted through Ontario One-Call. In addition, a private utility locator (USL-1) was retained to demarcate the location of the privately owned utilities within the area of the boreholes, CPT’s and test pits to ensure that the private utilities are not damaged during the investigation work.

2.1 Site Staking

The proposed boreholes, CPT’s and test pit soundings were staked and surveyed by GHD’s technical representative using a portable Leica GPS unit with a 3 cm precision. The MTM-08 NAD 83 coordinates are presented on each separate borehole and test pit report. The elevations are also illustrated on Drawing N$^{o.}$ 11227097-A1-1A presented in Attachment A.

2.2 Borehole and Test Pit Activity

The drilling program for this geotechnical investigation was carried out between April 19th 2021 and April 30th, 2021 and consisted of advancing a total of nine boreholes to depths ranging between 5.94 and

23.62 m BGS. Six of the boreholes were located within the proposed building footprint (identified as BH-01 to BH-06). The remaining three boreholes were advanced in proposed pavement areas and the stormwater management pond (identified as BH-11 to BH-13). All nine boreholes were instrumented with 20 mm diameter open standpipes upon completion. In addition, two boreholes were also instrumented with two additional Casagrande piezometers each at specific depth.

The drilling work was carried out using a track-mounted drill rig (CMC-55) under the full-time supervision of GHD technical representative. The boreholes were advanced using hollow stem augers or casing methodology to balance any potential hydraulic uplift pressures. Soil samples were collected every 0.75 m intervals to the confirmation of the firm silty clay deposit and 1.5 m intervals thereafter to the termination depth of the borehole within boreholes drilled to bedrock. All samplings were conducted using a 50 mm outside diameter split-spoon sampler in general accordance with the specifications of the Standard Penetration Test Method (ASTM D1587-8). In addition, at each borehole location the relative density or consistency of the subsurface soil layers were measured using the Standard Penetration Test (SPT) method, by counting the number of blows (‘N’) required to drive a conventional split-barrel soil sampler 0.3 m depth. Soil samples were retrieved from each borehole location to verify strata boundaries and soil properties.

In situ vane shear testing was carried out where firm to very stiff cohesive soil deposit encountered. Additionally, relatively undisturbed soil samples were collected from these softer deposits using Thin-Walled Shelby Tube (ASTM D1587) for detailed laboratory testing.

In addition to the borehole drilling activities, a total of 32 test pits were excavated between May 3rd, 2021 and May 7th, 2021 to depths varying between 1.5 and 3.4 m BGS to assess topsoil layer thickness, reworked native thickness, condition of existing fill materials to determine stripping requirements as well as to assess the condition of the underlying native soils. The test pits were advanced by means of a mechanical Shovel.

The GHD technical representative logged the material encountered in the boreholes and test pits and examined the samples as they were obtained. The recovered samples were sealed in clean, airtight bags and transferred to the GHD laboratory, where they were reviewed by a geotechnical engineer. The detailed results of the individual boreholes and test pits are recorded on the accompanying borehole and test pit logs presented in Attachment B.

Groundwater level observations were completed in the boreholes as drilling proceeded and upon completion of drilling. In order to measure the more stabilized ground water table in the area, a 20 mm O.D. open standpipe was installed in all boreholes at an appropriate horizon in consideration of proposed infiltration features and construction excavation depths.

In addition, two Casagrande piezometers were installed within Borehole Nos. BH-02 and BH-03 in order to assess the potential of any hydraulic gradient within the underlying cohesive deposits.

Details of the open standpipe and piezometer construction is presented on the attached borehole logs in Attachment B.

2.3 Cone Penetration Testing (CPT's)

In order to assess the engineering properties of the native silty clay/clayey silt and silt/sand deposits, cone penetration tests (CPT's) were conducted at 11 locations to a maximum depth of 22 m BGS). The CPT is considered an effective in-situ instrumentation/tool to assess soil stratigraphy and soil strength parameters. The CPT consists of hydraulically pushing a cone with a cross-sectional area of 1,000 mm^2 into the ground at a rate of approximately 20 mm/sec. The pressure on the cone tip (Qc), the friction stress on a sleeve located immediately behind the cone tip (fs), and the water pressure in a pore pressure transducer (U2) are continuously recorded electronically during advancement of the CPT to indicate the subsurface conditions and soil strength properties.

2.4 Seismic Site Class Investigation

To determine seismic site class for the Site in accordance with the 2012 Ontario Building Code (2012 OBC), measurements of shear wave velocity was completed within CPT N$^{os.}$ CPT-03 and CPT-04 to penetration refusal.

The seismic site class is determined by measuring the average shear wave velocity along the CPT's. The shear waves are produced by providing a vibration on the ground surface and then measuring the response at the CPT probe depth.

3. Subsurface Conditions

The conditions observed in the boreholes advanced for this investigation at the Site are generally consistent with the previous investigation conducted by Fondex for the adjacent site. Details of the subsurface conditions are provided on the borehole and test pit logs presented in Attachment B. A brief description of each soil stratum is summarized below:

3.1 Topsoil / Reworked Native

A surficial layer of reworked native and topsoil with rootlets and organics was encountered at the ground surface the majority test pits and boreholes advanced at the Site. The thickness of this layer was measured and found to vary between 50 mm and 600 mm during the current investigation.

It should be noted that the thickness of topsoil may vary between borehole and test pit locations. Classification of this material was based solely on visual and textural evidence; testing of organic content or other constituents was not carried out as it was not part of this scope of work.

3.2 Earth Fill / Reworked Native

At the location of apparent soil mounds, a layer of earth fill consisting predominantly of a silt and clay matrix with rootlets and organic inclusions locally was encountered at borehole N$^{os.}$ BH-11 and BH-12 as well as test pit N$^{os.}$ TP-43, TP-49 and TP-52. The layer was found to extend to a depth of 0.6 to 5.4 m at the sounding locations.

3.3 Native Silty Clay / Clayey Silt Deposits

Immediately below the fill, top soil or disturbed materials, the native soil consisting in a cohesive silty clay to clayey silt deposit was encountered. The deposit was initially brown corresponding to a silty clay crust while becoming brownish grey to grey roughly 0.7 to 1.5 m BGS. The upper portion of the silty clay to clayey silt deposit is generally stiff to very stiff with undrained shear strength values more than 50 kPa down to an approximate depth of 2 to 4 m BGS. Beyond this depth the silty clay to clayey silt deposit can be characterized as firm to stiff with undrained shear strength values generally varying between 35 and 60 kPa down to the bottom of the deposit which was encountered 10 and 16 m BGS within both deep boreholes and 9 to 14 m BGS within the 11 CPT's completed across the site.

3.4 Silty Sand/Sandy Silt Deposit

Directly below the aforementioned cohesive deposit, a silty sand to sandy silt deposit was encountered within both deep borehole N$^{os.}$ BH-02 and BH-03 at respective depths of 10 and 16 m BGS and within the 11 CPT's at interpreted depths of varying between 9 to 14 m BGS.

Based on SPT values recorded during the borehole drilling operations generally ranging between 1 and 6, the deposit can be characterized as very loose to loose. Beyond depths of 18 and 16 m BGS within these same boreholes, slightly higher SPT values ranging between 9 and 20 were recorded, indicative of a generally compact soil matrix.

The borehole N$^{os.}$ BH-01, BH-04 to BH-06, BH-11 to BH-13 were terminated upon dynamic penetration refusal on a hard stratum at depths varying between 18 and 23 m BGS.

3.5 Bedrock

A dolomite bedrock was encountered and recovered within borehole N$^{os.}$ BH-02 and BH-03 at respective depths of 22.1 and 20.0 m BGS.

3.6 Results of CPT Testing

The Cone Penetration Testing was mainly performed to define continuous profiles of geotechnical strength parameters and those of the layers presenting a plastic behaviour (clayey layers). The results of these soundings have confirmed the borehole results and have been used for design analysis.

CPT soundings were terminated upon cone penetration refusal or deviation refusal at depths varying between 15 and 22 m BGS.

3.7 Groundwater Level Measurements

Groundwater observations were made in each of the boreholes as they were drilled and upon completion of drilling. The observed conditions are reflected in the logs of the drilled boreholes presented in Attachment B.

A round of water-level measurements were conducted on May 6th and May 19th, 2021 to obtain a more stabilized groundwater reading and are also presented in the borehole logs. The groundwater levels recorded in the installed open standpipes and piezometers are summarized in the following table.

It should be noted that water levels may vary seasonally or after periods of heavy precipitation.

Borehole No.	Installation No.	Installation Elevation	Probe Depth	Probe Elevation	Water Depth	Water Elevation	Water Depth	Water Elevation
					6/5/2021		19/5/2021	
BH-01	OS-01	90.59	9.15	81.44	1.01	89.58	0.83	89.76
BH-02	PZ-02a	90.61	7.55	83.06	1.09	89.52	1.10	89.51
	PZ-02b		13.61	77.00	1.40	89.21	1.35	89.26
	OS-02		4.85	85.76	1.02	89.59	0.93	89.68
BH-03	PZ-03a	90.52	7.70	82.82	1.12	89.40	1.10	89.42
	PZ-03b		13.23	77.29	1.09	89.43	1.31	89.21
	OS-03		6.76	83.76	0.89	89.63	0.86	89.66
BH-04	OS-04	90.50	6.10	84.40	0.81	89.69	0.81	89.69
BH-05	OS-05	90.47	6.10	84.37	1.03	89.44	0.92	89.55
BH-06	OS-06	90.53	5.96	84.57	1.08	89.45	1.10	89.43
BH-11	OS-11	95.01	10.67	84.34	8.74	86.27	5.40	89.61
BH-12	OS-12	90.31	5.99	84.32	1.18	89.13	1.12	89.19
BH-13	OS-13	90.38	10.46	79.92	1.08	89.30	0.80	89.58

OS: Open Standpipe

PZ: Piezometer

4. Design Recommendations

It is understood the proposed structure will be a single storey sortation facility, approximately 270,000 ft^2 in size and surrounded by asphaltic concrete and rigid pavements to support truck traffic.

Currently, a final finished floor elevation of 91.8 m has been established by the client for the development. Such a finished floor elevation would involve an approximate 1.3 m site grade raise at the building footprint location.

Furthermore, a slab live load of 25 kPa was considered for foundation and slab design comments and recommendations.

Based upon the above-noted comments and the obtained information from the site investigation and assuming them to be representative of the subsurface conditions across the Site, the following summary of comments and recommendations are offered.

4.1 Site Preparation, Grading, and Groundwater Control

Based on the conditions encountered in the boreholes test pits, the Site is covered by a surficial topsoil/reworked native layer containing rootlets and organic layer followed by native silty clay to clayey silt and sandy silt to silty sand deposits and ultimately bedrock. The presence of fill material was noted within soil mounds along Bill Leathem and Leikin Drive. With the exception of these soil mounds, the site topography is relatively flat with registered geodetic elevations varying between 90.3 m and 90.7 m across the entire investigated property.

Site preparation for the proposed development will involve stripping operations in order to remove all topsoil/reworked native and fill layers in order to facilitate construction of the proposed building and pavement areas.

The subgrade soils exposed after the removal of the surficial topsoil and unsuitable fill and reworked native soils containing organic will consist of native silty clay / clayey silt. Prior to Site grading activity, the exposed subgrade soils should be visually inspected. Any soft, organic, or unacceptable areas should be removed as directed by the Engineer and replaced with suitable fill materials compacted to a minimum of 98 percent Standard Proctor Maximum Dry Density (SPMDD). Clean earth fill used to raise grades in the proposed building and pavement areas should be placed in thin layers (200 mm thick or less) and compacted by a heavy sheep-foot type roller to 98 percent SPMDD.

The installed piezometers and standpipes indicate that groundwater is globally located at depths ranging between 1 and 2 m below existing grades. The amount of seepage into excavations will depend on the depth of excavation relative to the groundwater level at the time of construction and the hydraulic conductivity of the excavated soils. Some test pits advanced across the Site encountered water seepage near the bottom of certain test pits completed roughly 3.0 m BGS.

Considering the observations made during test pits excavations and the nature of the deposits (silty clay to clayey silt deposit) we are of the opinion that minor to moderate groundwater ingress could occur, which can be readily be handled using the installation of sumps and pumps at strategic locations at the base of excavation.

4.2 Foundations and Slabs

Considering the firm nature of the silty clay/clayey silt deposit beyond its initial stiff layer (initial 4 m) and to significant depth, the proposed site grade raise, proposed slab loading and subsequent foundation loads would render the said deposit to a normally consolidated state. As such, based on the proposed site development requirements, the site, in its current condition, in not suitable to support a normal slab on grade nor conventional foundations as such a construction would lead to uncontrollable settlements.

According to existing site conditions, four foundations and slab options present themselves for this site in order to allow for the proposed development.

Option 1

The first option would involve the building foundations and slab supported by a deep piled foundation system that could consist of steel (H-pile or tube) piles driven to the refusal upon or within the underlying bedrock. In this particular option, both the building foundations and slab would be structurally supported. As such anticipated settlement of the structure with a properly installed piled foundation system would be negligible and would be a function of the elastic compression of the support members.

Option 2

A second option would involve site improvement operations in order to render the site suitable for conventional foundations and slabs. Based on the site stratigraphic profile, which includes a thick firm silty clay/clayey silt deposit across the majority of the site, such site improvement operations would involve the installation of rigid inclusions in order to transfer the loads induced by a conventional construction (loads from conventional footings and slab) to the competent deeper stratum below the firm silty clay/clayey silt and loose to very loose silty sand/sandy silt deposits, in this particular case, the underlying bedrock.

Essentially, rigid inclusions are composed of concrete columns with diameters generally ranging between 300 to 450 mm and spaced approximately 1 to 2 m center to center depending on soils characteristics and loading requirements. The rigid inclusions are drilled using a hallow stem auger system and filled with concrete upon drilling to practical refusal within the underlying substratum, in this case, the underlying bedrock. To adequately distribute loads from building foundations and slabs to the rigid inclusions and subsequently the competent substratum, a transfer pad usually composed of granular A or Granular B type 2 crushed stone (generally a minimum of 600 mm thick) is placed between the top of the rigid inclusions and the bottom the foundation and slab elements.

The design and methodology for the implementation of the rigid inclusions should be completed by a specialized contractor having experience with this type of soil improvement technique. Considering that the soil improvement design (inclusion size, depth and spacing, transfer pad composition and thickness, permanent long-term water table conditions, required site grade raise, etc.) is integral to the optimum and uniform performance of the building foundation and slab on grade systems within the required soil improvement area, the soil improvement designer/contractor is responsible for their design and subsequent construction of the improved soil area.

Typically, serviceability bearing capacities in the order to 150 kPa to 225 kPa is achievable for such a design.

Options 3 and 4

Two additional construction options that may be considered would involve the use of either piles or rigid inclusions to support the building foundations combined with light weight fill in order to render the site suitable for a slab on grade construction. Based on the soil stratigraphy and underlying silty clay/clayey silt strength parameters combined with a 25 kPa slab live load, the site is not permissible for any grade raise.

As such, the lightweight fill would need to account for the entirely of the site grade raise as well as the required 300 mm of crushed stone immediately below the slab. See general comments below.

General Comments

Regardless of the preferred option the slab foundation should incorporate a granular base layer consisting of at least 300 mm of Granular ‘A’ material as per Ontario Provincial Standard Specifications (OPSS form 1010), compacted to at least 100% of the material's Standard Proctor maximum dry density (SPMDD). It is also recommended that a vapour barrier be installed to limit vapour emission through the concrete slab.

From a strict engineering point of view Options 1 and 2 would ensure optimal performance and behavior of the slab and foundation elements as both would rest on the same supporting structure. As such, both of these options present minimal risk of differential behaviour between both the building slabs and foundations.

Both remaining options have also been successfully completed on various projects. However, such designs cannot eliminate all risk of differential movement or behavior between both structures as the slab would be considered as a ‘’floating elements’’ while the building foundations would be supported on rigid elements, in this case, piles or rigid inclusions. That being said, the financial benefits of such a design may outweigh such a risk and could be evaluated by the developer depending on building performance requirements.

4.3 Seismic Site Classification

Based on our calculations, the average shear wave velocity (from 0.0 m bgs to 30.0 m bgs) along the three SCPT’s investigation lines is approximately 230 m/s. Therefore, in accordance with Table 4.1.8.4.A of the OBC 2012 (and based on the measured average shear wave velocity, the Site can be classified as Class 'D' for the seismic load calculations subjected to code requirements. This seismic classification is applicable for all foundation and slab designs presented in the section above.

We trust the foregoing information is sufficient for your present requirements. Please do not hesitate to contact this office should any questions arise.

Sincerely,

GHD

Alex Fiorilli

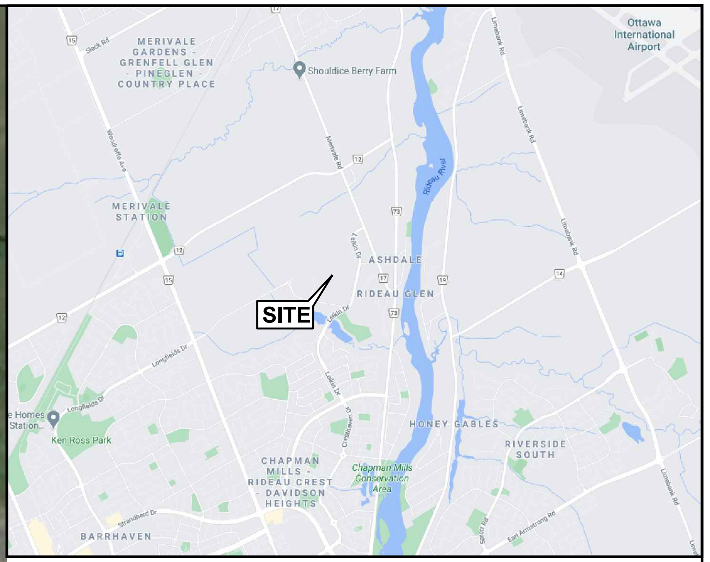
Alex Fiorilli, P.Eng.

AF/KH/sf/1

Enclosures:

Attachments

Attachment A
Drawing



KEY PLAN

LEGEND

● CPT-01 EL. 90,59	PIEZOCONE SOUNDING AND NUMBER GROUND SURFACE ELEVATION (m)
⊕ BH-01 EL. 90,59	BOREHOLE AND NUMBER GROUND SURFACE ELEVATION (m)
⊞ TP-01 EL. 90,67	TEST PIT AND NUMBER GROUND SURFACE ELEVATION (m)
⊕ BH-90-01 EL. 89,53	EXISTING BOREHOLE AND NUMBER GROUND SURFACE ELEVATION (m) *(FONDEX, REF. No. 0-A756-A1, NOV. 1991)*
+ 90.54	GROUND SURFACE ELEVATION (m)
▬	PROPERTY LIMITS
▨	PROPOSED BUILDING

Source: Map data © 2015 Google or Image © 2015 Google, DigitalGlobe.

SCALE = 1:3000
0 30 60 90m

BENCHMARK:
RTCM-REF 3696 (GPS Antenna)
EL. 98.527m (Geodetic)

DRAWN BY:
T. NGUYEN / I. CARON
CHECKED BY:
M.-A. RICHARD

MEDUSA LP
LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
PROPOSED SORTATION FACILITY

GEOTECHNICAL INVESTIGATION
SOUNDING LOCATIONS

11227097-A1
31/05/2021

11227097-A1-1A

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Attachment B
Borehole and Test Pit Logs

BOREHOLE REPORT

Borehole No. BH-01

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN
VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366477.6
Y : 5017942.8
Z : 90.59

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 0.83

Location plan : 11220797-A1-1

Borehole type : Auger
Core bit size : B
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-19
Date (finish) : 2021-04-19

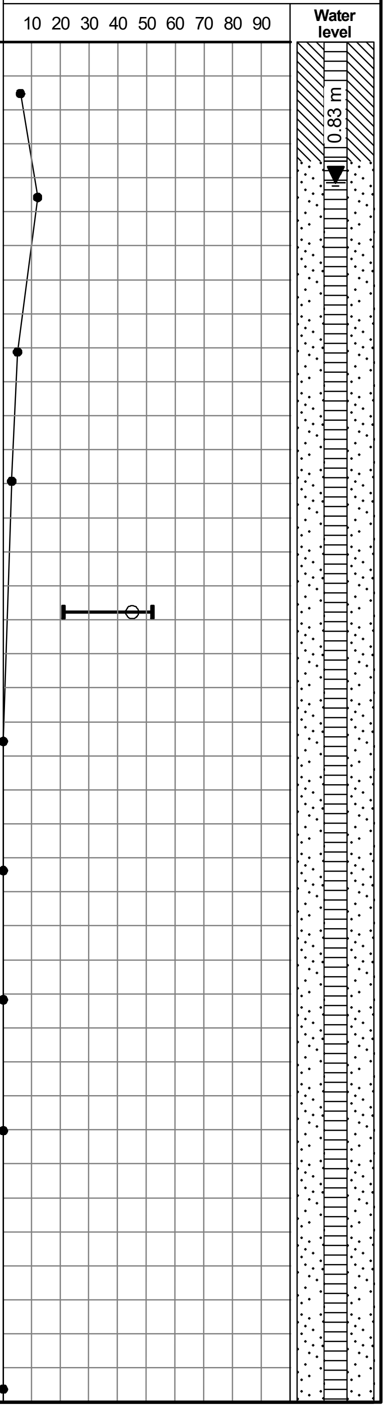
SAMPLE TYPE
- SS(E) - Split Spoon (Environment)
- RC(E) - Rock diamond core
- AU(E) - Auger
- TEE - Sampling Tube Environment
- ST - Shelby tube
- GS(E) - Grab sample

SAMPLE STATE
- ⊠ Remoulded
- ▨ Intact
- ◫ Diamond drilling
- ■ Lost

TEST SYMBOL
- GSA: grain size analysis
- CA: chemical analysis
- W_L: liquid limit
- W_P: plastic limit
- w : water content
- C_u: undrained shear strength
- S_T: sensitivity
- Dup: duplicate sample

TESTS RESULTS
- ○ Water content (%)
- ⊢⊣ Atterberg limits (%) (W_P W_L)
- ● "N" Standard penetration test value
- ▲ "N_C" Dynamic penetration test value
- △ C_u (Field, kPa)
- □ C_u (Lab, kPa)

STRATIGRAPHY			SAMPLE						TESTS RESULTS
Depth (m)	Elevation (m)	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
0.00	90.59	Ground surface							
		Topsoil: Clayey silt, traces of sand	⊠	SS-1A					
0.14	90.45	**Native soil:** Stiff to very stiff, brown silt and clay, moist		SS-1B	72			1-2-4-4	6
0.90	89.69	becoming grey	⊠	SS-2	100			4-5-7-8	12
1.52	89.07	becoming with presence of silt beddings	⊠	SS-3	100			2-2-3-3	5
2.28	88.31	becoming stiff, very moist	⊠	SS-4	100			1-2-1-2	3
			▨	ST-5	100	GSA A w			
3.81	86.78	becoming firm, saturated	⊠	SS-6	100			1-0-0-1	0
			⊠	SS-7	100			1-0-0-1	0
			⊠	SS-8	100			1-0-0-1	0
6.10	84.49	becoming with presence of silt beddings	⊠	SS-9	100			1-0-0-1	0
7.62	82.97	becoming grey to dark grey	⊠	SS-10	100			1-0-0-0	0



BOREHOLE REPORT

Borehole No. BH-01

CLIENT:	MEDUSA LP	GEODETIC COORDINATES (MTM, NAD-83) (m)	▼ - WATER LEVEL
PROJECT:	PROPOSED SORTATION FACILITY	X : 366477.6	Date : 2021-05-19
LOCATION:	LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO	Y : 5017942.8	Depth (m) : 0.83
DESCRIBED BY:	F. ARGUIN VERIFIED BY: M.-A. RICHARD / A. FIORILLI	Z : 90.59	Location plan : 11220797-A1-1

Borehole type : Auger
Core bit size : B
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-19
Date (finish) : 2021-04-19

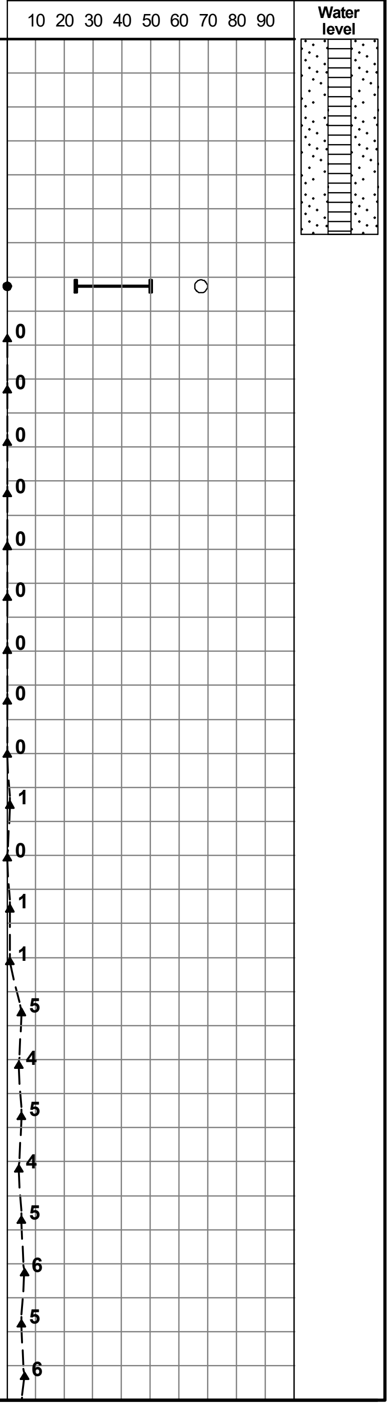
SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
☒ Remouled
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
8.00	82.59		Ground surface							
9.0		▨		☒						
		▨		☒	SS-11	100	GSA A w		1-0-0-0	0
9.76	80.83		End of sampling Beginning of dynamic penetration test							0 0 0 0 0 0 0 0 0 1 0 1 1 5 4 5 4 5 6 5 6
10.0										
11.0										
12.0										
13.0										
14.0										
15.0										

○ Water content (%) △ C_u (Field, kPa)
├─┤ w_P w_L Atterberg limits (%) ☐ C_u (Lab, kPa)
● "N" Standard penetration test value
▲ "N_C" Dynamic penetration test value



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. BH-01

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN
VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366477.6
Y : 5017942.8
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▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 0.83

Location plan : 11220797-A1-1

Borehole type : Auger
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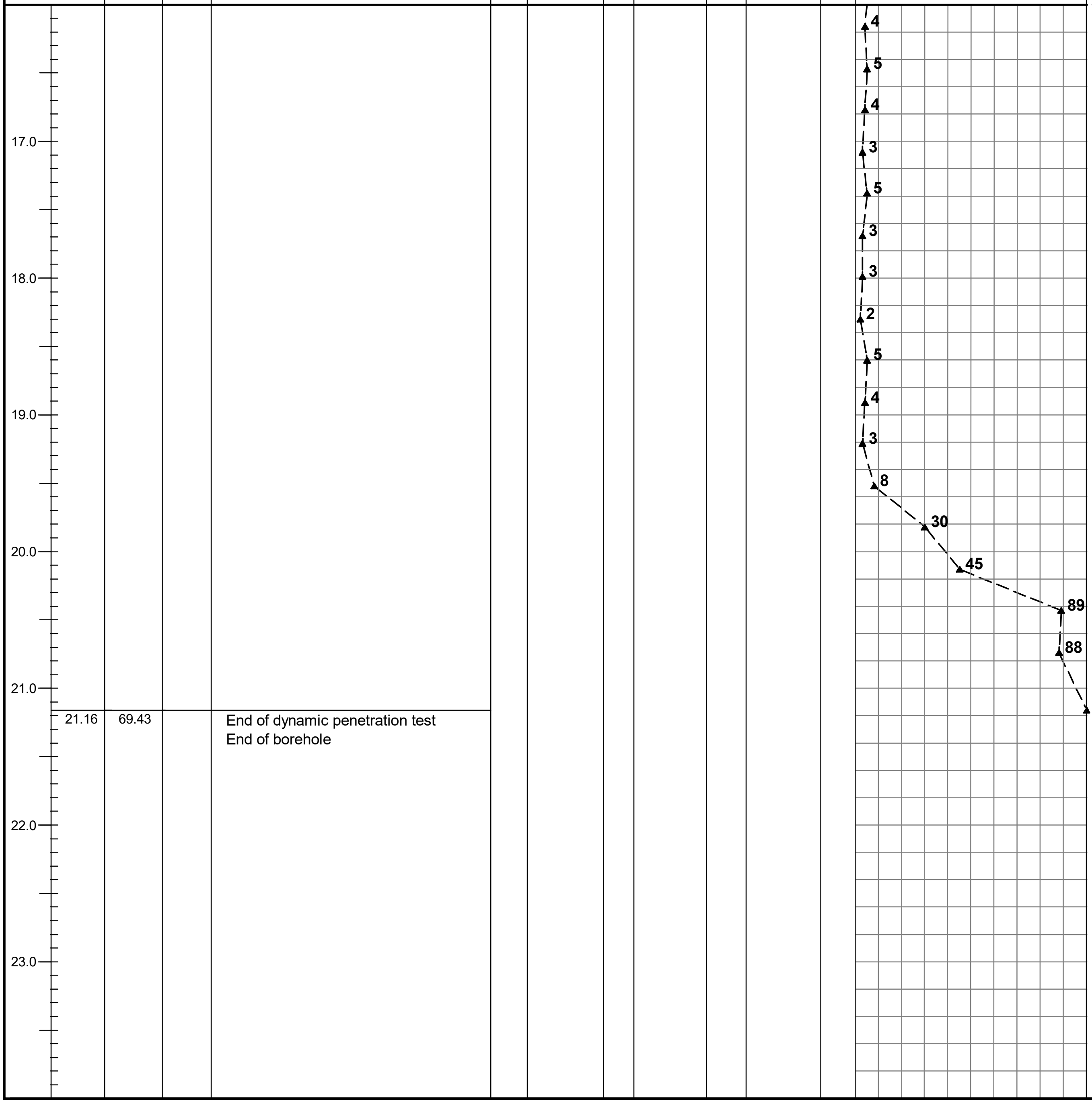
SAMPLE TYPE
SS(E) - Split Spoon (Environment)
RC(E) - Rock diamond core
AU(E) - Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E) - Grab sample

SAMPLE STATE
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

TESTS RESULTS
○ Water content (%)
△ C_u (Field, kPa)
W_P W_L Atterberg limits (%)
□ C_u (Lab, kPa)
● "N" Standard penetration test value
▲ "N_C" Dynamic penetration test value

STRATIGRAPHY				SAMPLE							TESTS RESULTS	
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD	10 20 30 40 50 60 70 80 90	Water level
16.00	74.59		Ground surface									
21.16	69.43		End of dynamic penetration test End of borehole									



BOREHOLE REPORT

Borehole No. BH-02

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

DESCRIBED BY: F. ARGUIN VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES
(MTM, NAD-83) (m)
X : 366599.6
Y : 5018011.4
Z : 90.61

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 1.1 0.93 ; 1.35

Location plan : 11220797-A1-1

Borehole type : Auger + Casing
Core bit size : B+NQ
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-21
Date (finish) : 2021-04-22

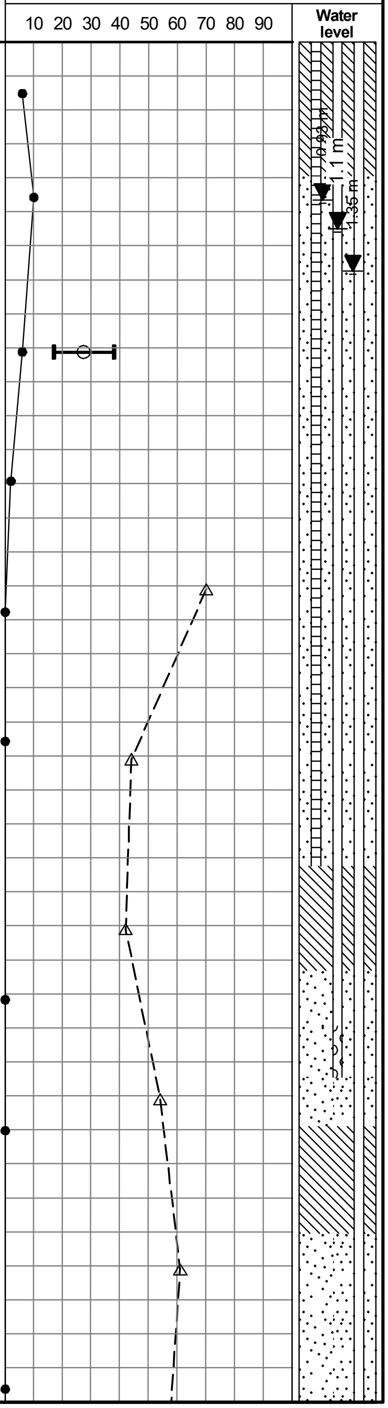
SAMPLE TYPE
- SS(E) - Split Spoon (Environment)
- RC(E) - Rock diamond core
- AU(E) - Auger
- TEE - Sampling Tube Environment
- ST - Shelby tube
- GS(E) - Grab sample

SAMPLE STATE
- ☒ Remoulded
- ▨ Intact
- ◫ Diamond drilling
- ■ Lost

TEST SYMBOL
- GSA: grain size analysis
- CA: chemical analysis
- W_L: liquid limit
- W_P: plastic limit
- w : water content
- C_u: undrained shear strength
- S_T: sensitivity
- Dup: duplicate sample

TESTS RESULTS
- ○ Water content (%)
- W_P ├─┤ W_L Atterberg limits (%)
- ● "N" Standard penetration test value
- ▲ "N_C" Dynamic penetration test value
- △ C_u (Field, kPa)
- ☐ C_u (Lab, kPa)

Depth (m)	Elevation (m)	Description	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
0.00	90.61	Ground surface						
		Topsoil: Clayey silt, traces of sand	SS-1A					
0.10	90.51	**Native soil:** Stiff to very stiff, grey-brown silt and clay, moist	SS-1B	54			1-2-4-4	6
			SS-2	100			3-4-6-6	10
1.00	89.61	becoming grey						
1.52	89.09	becoming with presence of sand beddings	SS-3	82	GSA A w		2-3-3-3	6
2.28	88.33	becoming stiff	SS-4	100			1-1-1-1	2
			SS-5	100			1-0-0-1	0
3.40	87.21	becoming firm, saturated						
			SS-6	100			1-0-0-1	0
			ST-7	100				
			SS-8	100			1-0-0-1	0
6.10	84.51	becoming with presence of silt beddings	SS-9	100			1-0-0-1	0
			SS-10	100			1-0-0-1	0



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. BH-02

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN
VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366599.6
Y : 5018011.4
Z : 90.61

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 1.1 0.93 ; 1.35

Location plan : 11220797-A1-1

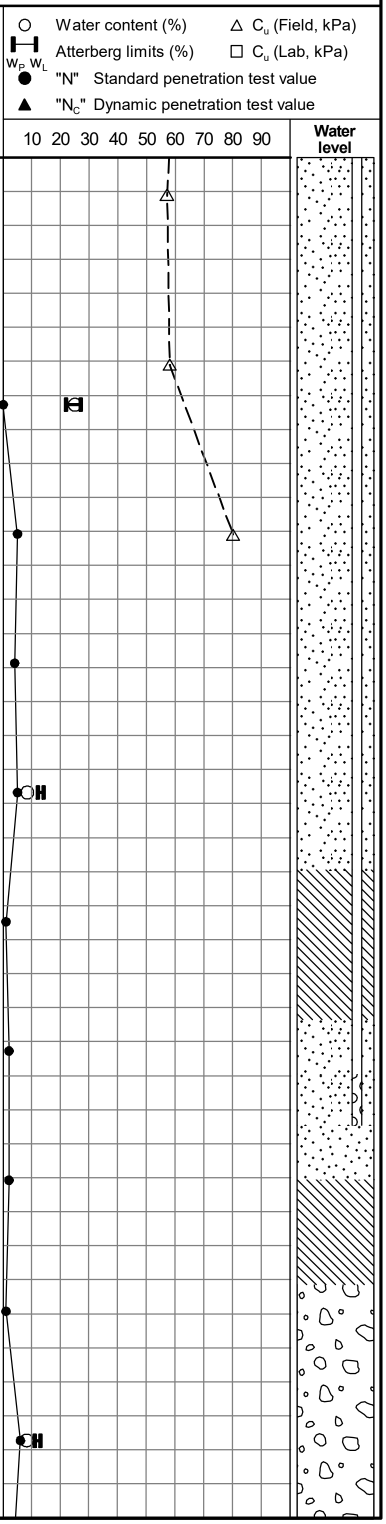
Borehole type : Auger + Casing
Core bit size : B+NQ
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-21
Date (finish) : 2021-04-22

SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
☒ Remouled
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
8.00	82.61		Ground surface							
9.15	81.46		Stiff, grey clayey silt, traces of sand, saturated		SS-11	49	GSA A w		1-0-0-0	0
					SS-12	51			4-3-2-2	5
10.67	79.94		Loose to very loose, grey silty and gravelly sand, traces of clay, saturated		SS-13	100			1-2-2-2	4
					SS-14	71	GSA A w		1-1-4-1	5
					SS-15	100			2-1-0-3	1
					SS-16	57			3-1-1-2	2
					SS-17	100			1-1-1-3	2
					SS-18	13			1-1-0-1	1
					SS-19	72	GSA A w		1-5-1-1	6



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. BH-02

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN
VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366599.6
Y : 5018011.4
Z : 90.61

- WATER LEVEL
Date : 2021-05-19
Depth (m) : 1.1 0.93 ; 1.35

Location plan : 11220797-A1-1

Borehole type : Auger + Casing
Core bit size : B+NQ
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-21
Date (finish) : 2021-04-22

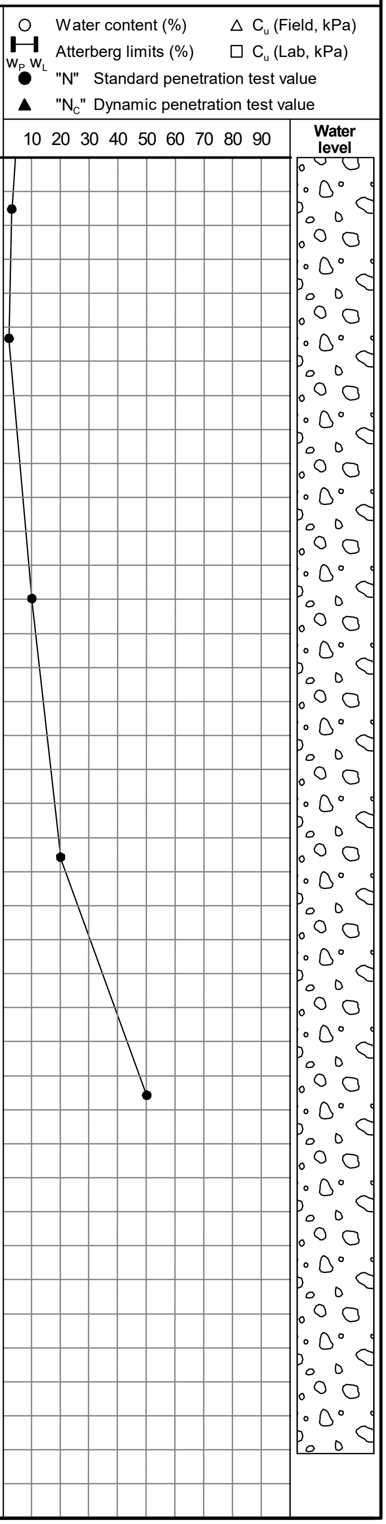
SAMPLE TYPE
SS(E) - Split Spoon (Environment)
RC(E) - Rock diamond core
AU(E) - Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E) - Grab sample

SAMPLE STATE
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

TESTS RESULTS
○ Water content (%)
△ C_u (Field, kPa)
W_P W_L Atterberg limits (%)
☐ C_u (Lab, kPa)
● "N" Standard penetration test value
▲ "N_C" Dynamic penetration test value

STRATIGRAPHY				SAMPLE							TESTS RESULTS
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD	Water level
16.00	74.61		Ground surface								
				☒	SS-20	85			2-1-2-9	3	
				☒	SS-21	61			4-1-1-1	2	
18.29	72.32		becoming compact								
				☒	SS-22	28			4-5-5-6	10	
19.10	71.51		becoming with presence of cobbles								
				☒	SS-23	49			15-7-13-8	20	
21.21	69.40		becoming dense								
				☒	SS-24	62			17-21 29-28	50	
22.13	68.48		**Bedrock:** Grey dolomite, fair rock quality	◫	RC-25	74				*61*	
22.78	67.83		becoming good rock quality	◫	RC-26	95				*86*	
23.62	66.99		End of borehole								



BOREHOLE REPORT

Borehole No. **BH-03**

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366427.8
Y : 5017867.9
Z : 90.52

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 1.1 0.86 ; 1.31

Location plan : 11220797-A1-1

Borehole type : Auger + Casing
Core bit size : B+NQ
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-19
Date (finish) : 2021-04-20

SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY

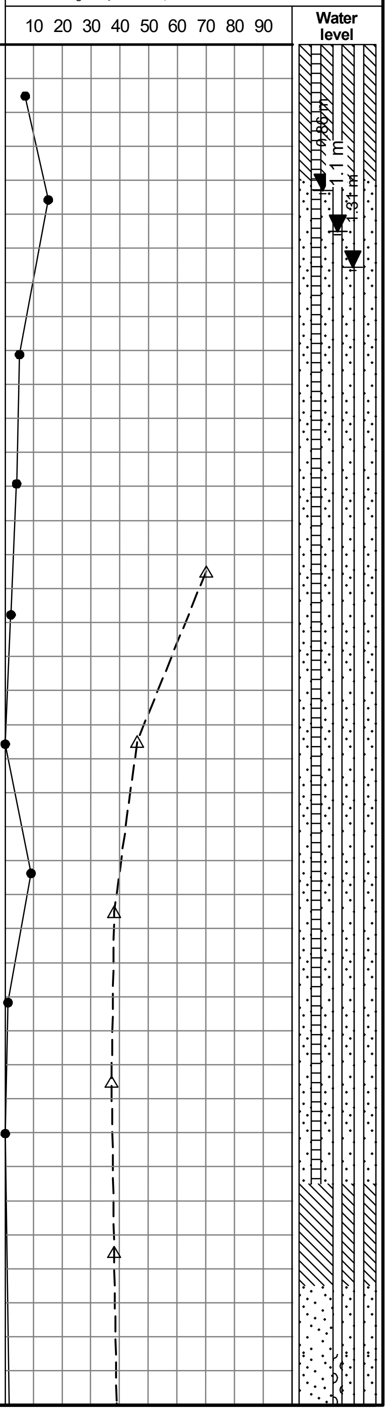
Depth (m)	Elevation (m)	Description
0.00	90.52	Ground surface
		Topsoil: Clayey silt, traces of sand
0.13	90.39	**Native soil:** Stiff to very stiff, brown silt and clay, moist
1.10	89.42	becoming brey-brown
1.52	89.00	becoming stiff, grey with presence of sand beddings
3.50	87.02	becoming firm, saturated
4.57	85.95	becoming with presence of cobbles

SAMPLE

State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
	SS-1A					
☒	SS-1B	48			2-3-4-5	7
☒	SS-2	100			4-8-7-7	15
☒	SS-3	100			2-2-3-4	5
☒	SS-4	100			1-2-2-2	4
☒	SS-5	100			1-1-1-1	2
☒	SS-6	100			1-0-0-1	0
☒	SS-7	69			6-5-4-4	9
☒	SS-8	100			2-1-0-0	1
☒	SS-9	100			1-0-0-1	0
▨	ST-10	0				

TESTS RESULTS

○ Water content (%) △ C_u (Field, kPa)
W_P W_L Atterberg limits (%) ☐ C_u (Lab, kPa)
● "N" Standard penetration test value
▲ "N_C" Dynamic penetration test value



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. **BH-03**

CLIENT:	MEDUSA LP
PROJECT:	PROPOSED SORTATION FACILITY
LOCATION:	LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY:	F. ARGUIN
VERIFIED BY:	M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366427.8
Y : 5017867.9
Z : 90.52

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 1.1 0.86 ; 1.31

Location plan : 11220797-A1-1

Borehole type :	Auger + Casing
Core bit size :	B+NQ
Hammer type :	Automatic
Energy ratio :	
Date (start) :	2021-04-19
Date (finish) :	2021-04-20

SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY

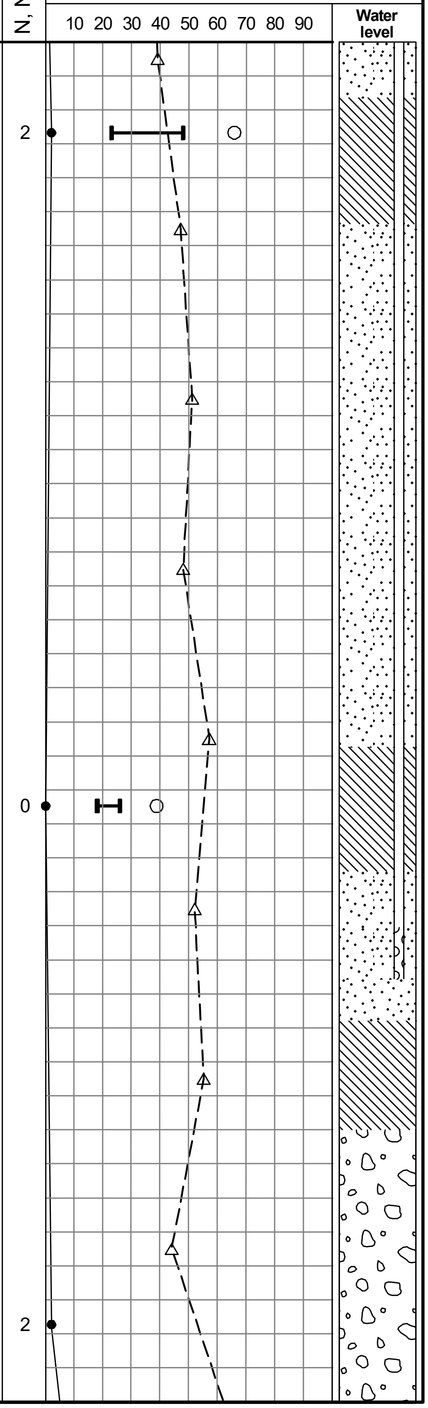
Depth (m)	Elevation (m)	Symbol	Description
8.00	82.52		Ground surface
8.23	82.29		becoming with presence of silt beddings
12.19	78.33		Firm to stiff, grey clayey silt, traces of sand, saturated

SAMPLE

State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
☒	SS-11	100	GSA A w		2-1-1-1	2
▨	ST-12	100				
▨	ST-13	100				
☒	SS-14	100	GSA - H A w		1-0-0-0	0
▨	ST-15	0				
☒	SS-16	100			1-1-1-1	2

TESTS RESULTS

○ Water content (%) △ C_u (Field, kPa)
⊢⊣ W_P W_L Atterberg limits (%) ☐ C_u (Lab, kPa)
● "N" Standard penetration test value
▲ "N_C" Dynamic penetration test value



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. BH-03

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366427.8
Y : 5017867.9
Z : 90.52

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 1.1 0.86 ; 1.31

Location plan : 11220797-A1-1

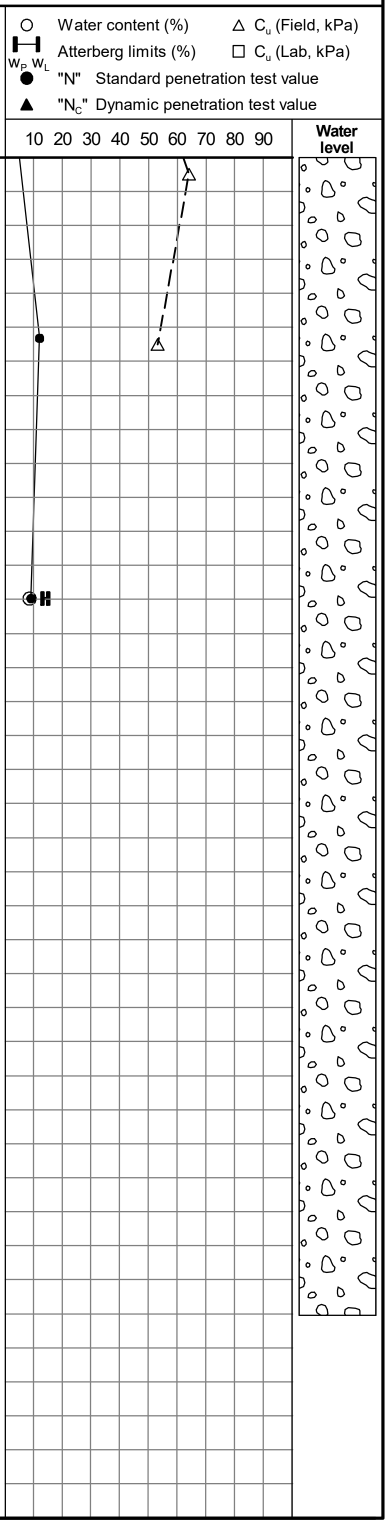
Borehole type : Auger + Casing
Core bit size : B+NQ
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-19
Date (finish) : 2021-04-20

SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

Depth (m)	Elevation (m)	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
16.00	74.52	Ground surface							
16.20	74.32	Compact to loose, grey gravelly and silty sand, traces of clay, saturated							
			☒	SS-17	59			2-6-6-7	12
			☒	SS-18	64	GSA - H A w		3-3-6-7	9
			☒	SS-19	43			27 50/8cm	R
19.97	70.55	**Bedrock:** Grey dolomite, good rock quality - joint from 20.75 to 20.76m - fractured from 21.26 to 21.36m							
			◫	RC-20	97				*79*
			◫	RC-21	92				*76*
22.81	67.71	End of borehole							



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. BH-04

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366567.3
Y : 5017946.1
Z : 90.50

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 0.81

Location plan : 11220797-A1-1

Borehole type : Auger
Core bit size : B
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-19
Date (finish) : 2021-04-19

SAMPLE TYPE
SS(E) - Split Spoon (Environment)
RC(E) - Rock diamond core
AU(E) - Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E) - Grab sample

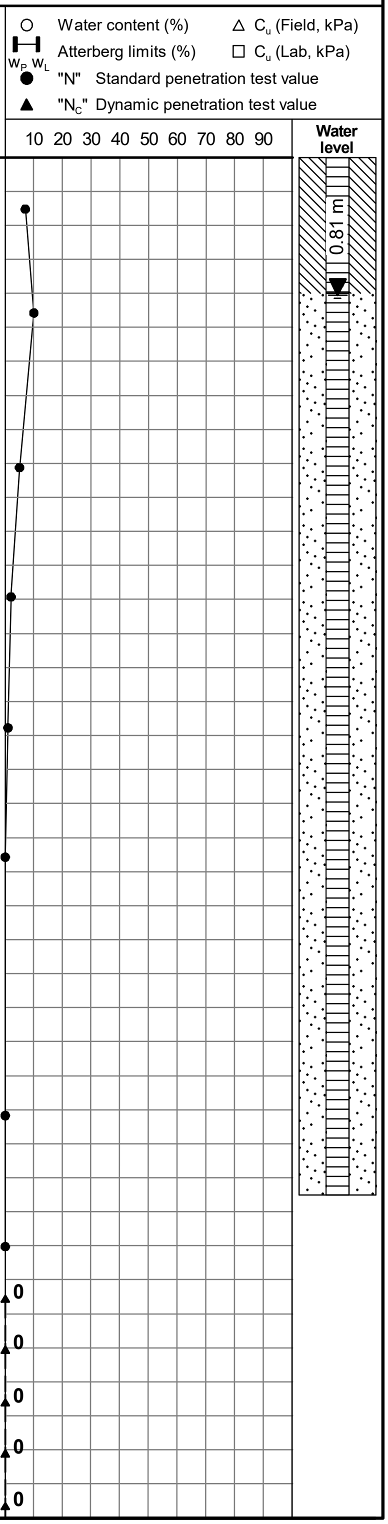
SAMPLE STATE
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

PRELIMINARY

TESTS RESULTS
○ Water content (%)
W_P ⊢⊣ W_L Atterberg limits (%)
● "N" Standard penetration test value
▲ "N_C" Dynamic penetration test value
△ C_u (Field, kPa)
☐ C_u (Lab, kPa)

Depth (m)	Elevation (m)	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
0.00	90.50	Ground surface							
		Topsoil: Clayey silt, traces of sand	☒	SS-1A					
0.13	90.37	**Native soil:** Stiff to very stiff, brown silt and clay, moist	☒	SS-1B	64			2-3-4-5	7
0.61	89.89	becoming grey-brown	☒	SS-2	100			5-5-5-5	10
1.52	88.98	becoming grey with presence of sand beddings	☒	SS-3	100			2-2-3-2	5
2.28	88.22	becoming stiff, very moist	☒	SS-4	100			1-1-1-1	2
3.25	87.25	becoming firm, saturated	☒	SS-5	100			1-0-1-1	1
			☒	SS-6	100			1-0-0-1	0
			▨	ST-7	100				
5.33	85.17	becoming with presence of silt beddings	☒	SS-8	100			1-0-0-1	0
			☒	SS-9	100			1-0-0-0	0
6.71	83.79	End of sampling Beginning of dynamic penetration test							



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. **BH-04**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

DESCRIBED BY: F. ARGUIN

VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)

X : 366567.3
Y : 5017946.1
Z : 90.50

▼ - WATER LEVEL

Date : 2021-05-19
Depth (m) : 0.81

Location plan : 11220797-A1-1

Borehole type :	Auger
Core bit size :	B
Hammer type :	Automatic
Energy ratio :	
Date (start) :	2021-04-19
Date (finish) :	2021-04-19

SAMPLE TYPE

- SS(E)- Split Spoon (Environment)
- RC(E)- Rock diamond core
- AU(E)- Auger
- TEE - Sampling Tube Environment
- ST - Shelby tube
- GS(E)- Grab sample

SAMPLE STATE

- ☒ Remoulded
- ▨ Intact
- ◫ Diamond drilling
- ■ Lost

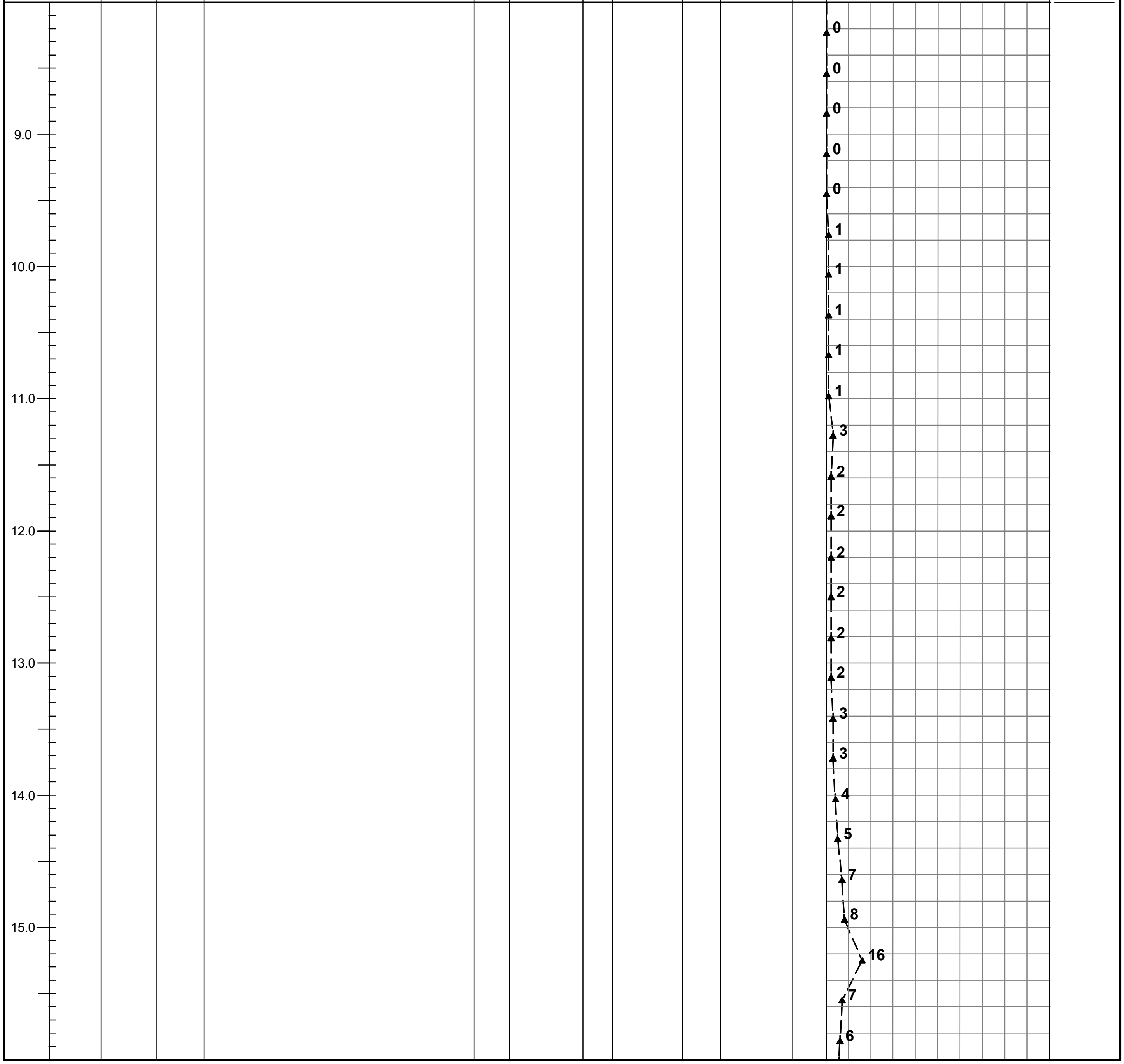
TEST SYMBOL

- GSA: grain size analysis
- CA: chemical analysis
- W_L: liquid limit
- W_P: plastic limit
- w : water content
- C_u: undrained shear strength
- S_T: sensitivity
- Dup: duplicate sample

TESTS RESULTS

- ○ Water content (%)
- △ C_u (Field, kPa)
- W_P W_L Atterberg limits (%)
- ☐ C_u (Lab, kPa)
- ● "N" Standard penetration test value
- ▲ "N_C" Dynamic penetration test value

STRATIGRAPHY				SAMPLE							TESTS RESULTS		
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD	10 20 30 40 50 60 70 80 90	Water level
8.00	82.50		Ground surface									



BOREHOLE REPORT

Borehole No. BH-04

CLIENT:	MEDUSA LP
PROJECT:	PROPOSED SORTATION FACILITY
LOCATION:	LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY:	F. ARGUIN
VERIFIED BY:	M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)

X : 366567.3
Y : 5017946.1
Z : 90.50

▼ - WATER LEVEL

Date : 2021-05-19
Depth (m) : 0.81

Location plan : 11220797-A1-1

Borehole type :	Auger
Core bit size :	B
Hammer type :	Automatic
Energy ratio :	
Date (start) :	2021-04-19
Date (finish) :	2021-04-19

SAMPLE TYPE

SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE

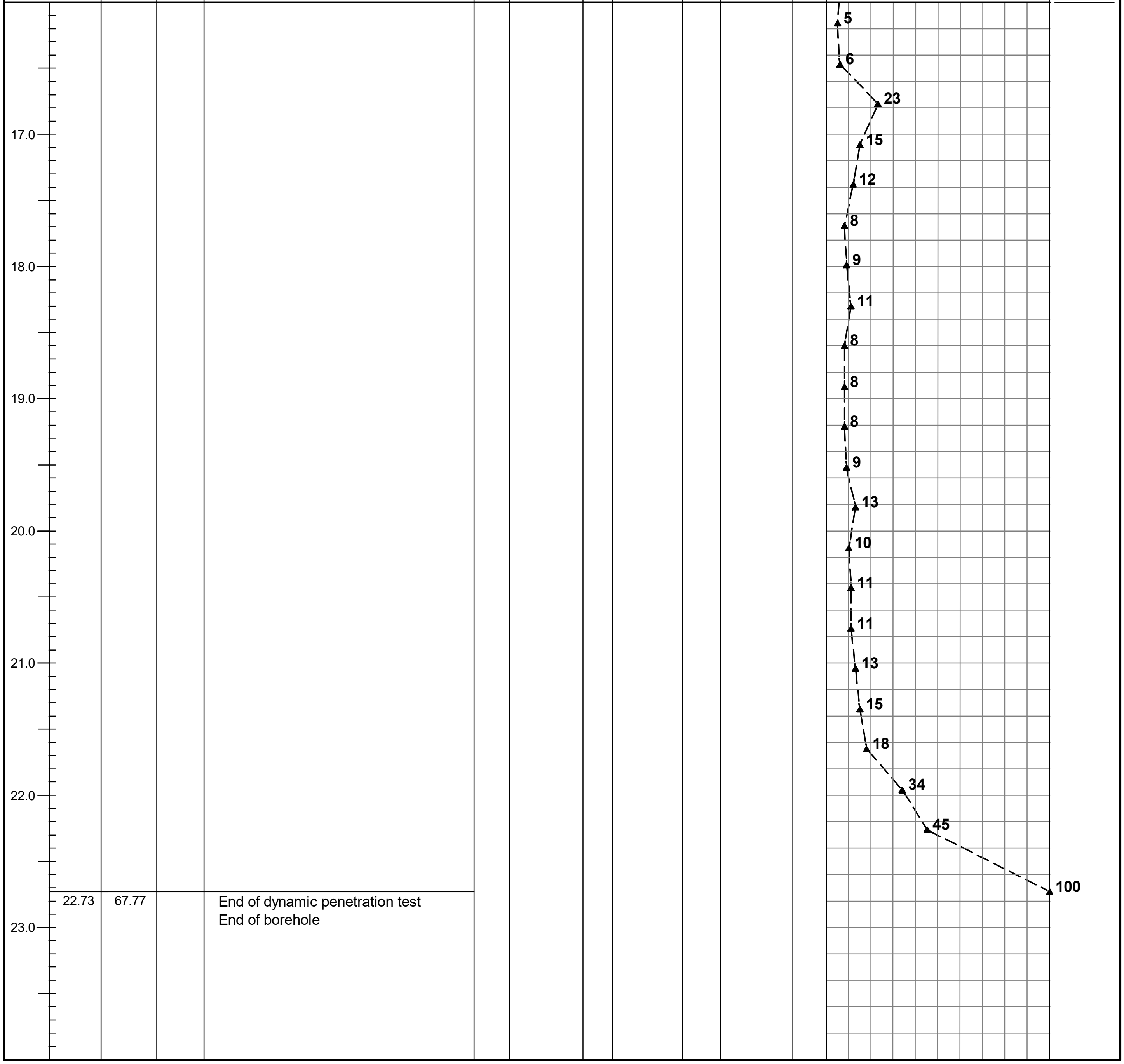
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL

GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
16.00	74.50		Ground surface							
22.73	67.77		End of dynamic penetration test End of borehole							

○ Water content (%)
△ C_u (Field, kPa)
W_P W_L Atterberg limits (%)
☐ C_u (Lab, kPa)
● "N" Standard penetration test value
▲ "N_C" Dynamic penetration test value



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. **BH-05**

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366518.8
Y : 5017869.4
Z : 90.47

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 0.92

Location plan : 11220797-A1-1

Borehole type : Auger
Core bit size : B
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-28
Date (finish) : 2021-04-28

SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

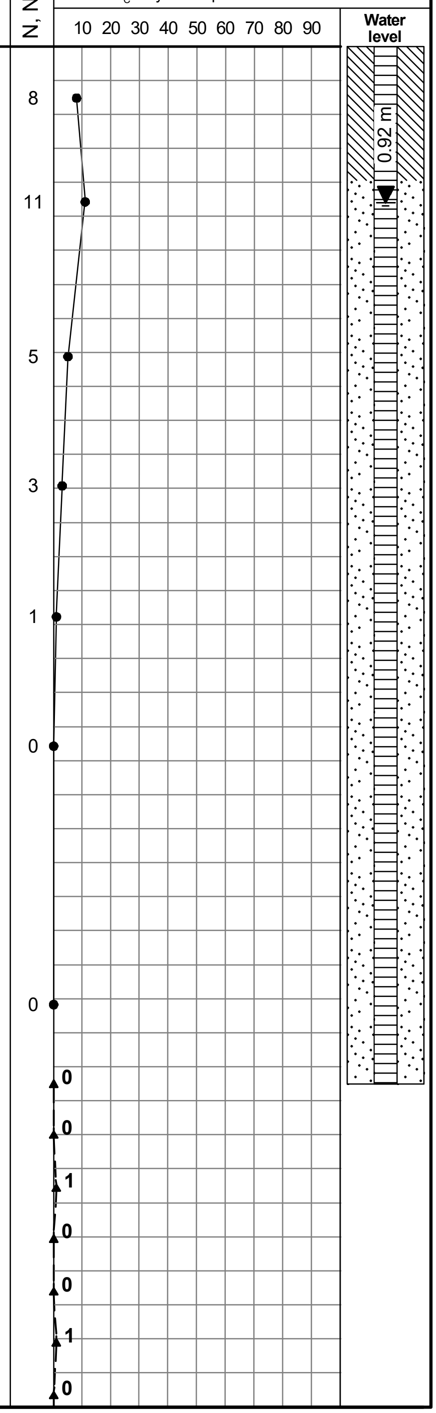
TESTS RESULTS
○ Water content (%)
├┤ W_P W_L Atterberg limits (%)
● "N" Standard penetration test value
▲ "N_C" Dynamic penetration test value
△ C_u (Field, kPa)
☐ C_u (Lab, kPa)

STRATIGRAPHY

Depth (m)	Elevation (m)	Description
0.00	90.47	Ground surface
		Topsoil:
0.15	90.32	Clayey silt, traces of sand
		Native soil: Stiff to very stiff, brown silt and clay, moist
0.81	89.66	becoming grey-brown
1.52	88.95	becoming grey with presence of sand beddings
2.28	88.19	becoming stiff, very moist
3.27	87.20	becoming firm, saturated
5.94	84.53	End of sampling
6.10	84.37	Beginning of dynamic penetration test

SAMPLE

State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
☒	SS-1A					
☒	SS-1B	92			1-3-5-5	8
☒	SS-2	82			2-5-6-5	11
☒	SS-3	100			2-2-3-3	5
☒	SS-4	100			1-2-1-2	3
☒	SS-5	100			1-0-1-0	1
☒	SS-6	100			1-0-0-1	0
▨	ST-7	100				
☒	SS-8	100			1-0-0-0	0



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. **BH-05**

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366518.8
Y : 5017869.4
Z : 90.47

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 0.92

Location plan : 11220797-A1-1

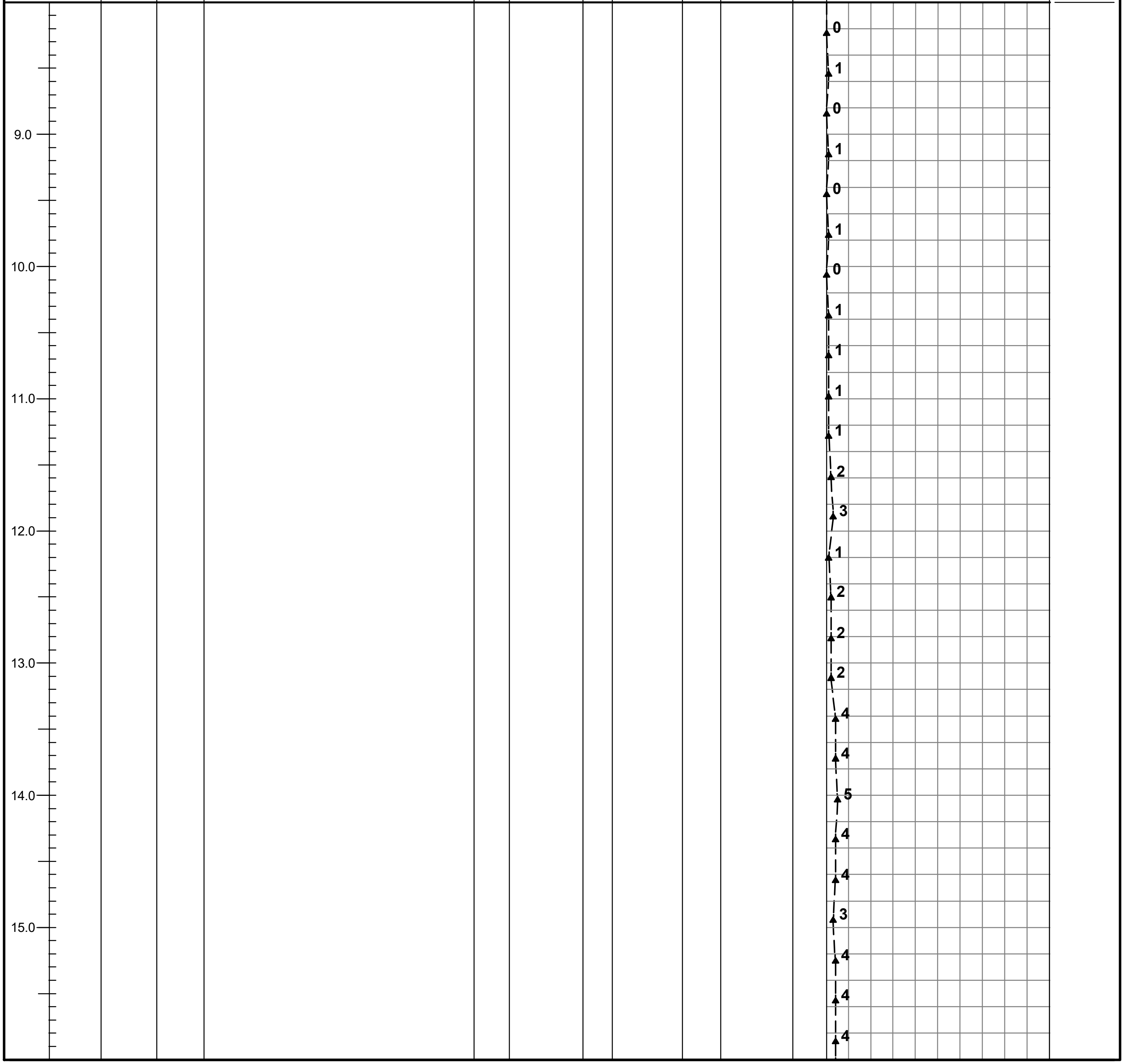
Borehole type : Auger
Core bit size : B
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-28
Date (finish) : 2021-04-28

SAMPLE TYPE
SS(E) - Split Spoon (Environment)
RC(E) - Rock diamond core
AU(E) - Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E) - Grab sample

SAMPLE STATE
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS		
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD	○ Water content (%) ⊢⊣ W_P W_L Atterberg limits (%) ● "N" Standard penetration test value ▲ "N_C" Dynamic penetration test value △ C_u (Field, kPa) □ C_u (Lab, kPa) 10 20 30 40 50 60 70 80 90	Water level
8.00	82.47		Ground surface									



BOREHOLE REPORT

Borehole No. **BH-05**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

DESCRIBED BY: F. ARGUIN VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)

X : 366518.8

Y : 5017869.4

Z : 90.47

▼ - WATER LEVEL

Date : 2021-05-19

Depth (m) : 0.92

Location plan : 11220797-A1-1

Borehole type : Auger

Core bit size : B

Hammer type : Automatic

Energy ratio :

Date (start) : 2021-04-28

Date (finish) : 2021-04-28

SAMPLE TYPE

SS(E) - Split Spoon (Environment)

RC(E) - Rock diamond core

AU(E) - Auger

TEE - Sampling Tube Environment

ST - Shelby tube

GS(E) - Grab sample

SAMPLE STATE

☒ Remoulded

▨ Intact

◫ Diamond drilling

■ Lost

TEST SYMBOL

GSA: grain size analysis

CA: chemical analysis

W_L: liquid limit

W_P: plastic limit

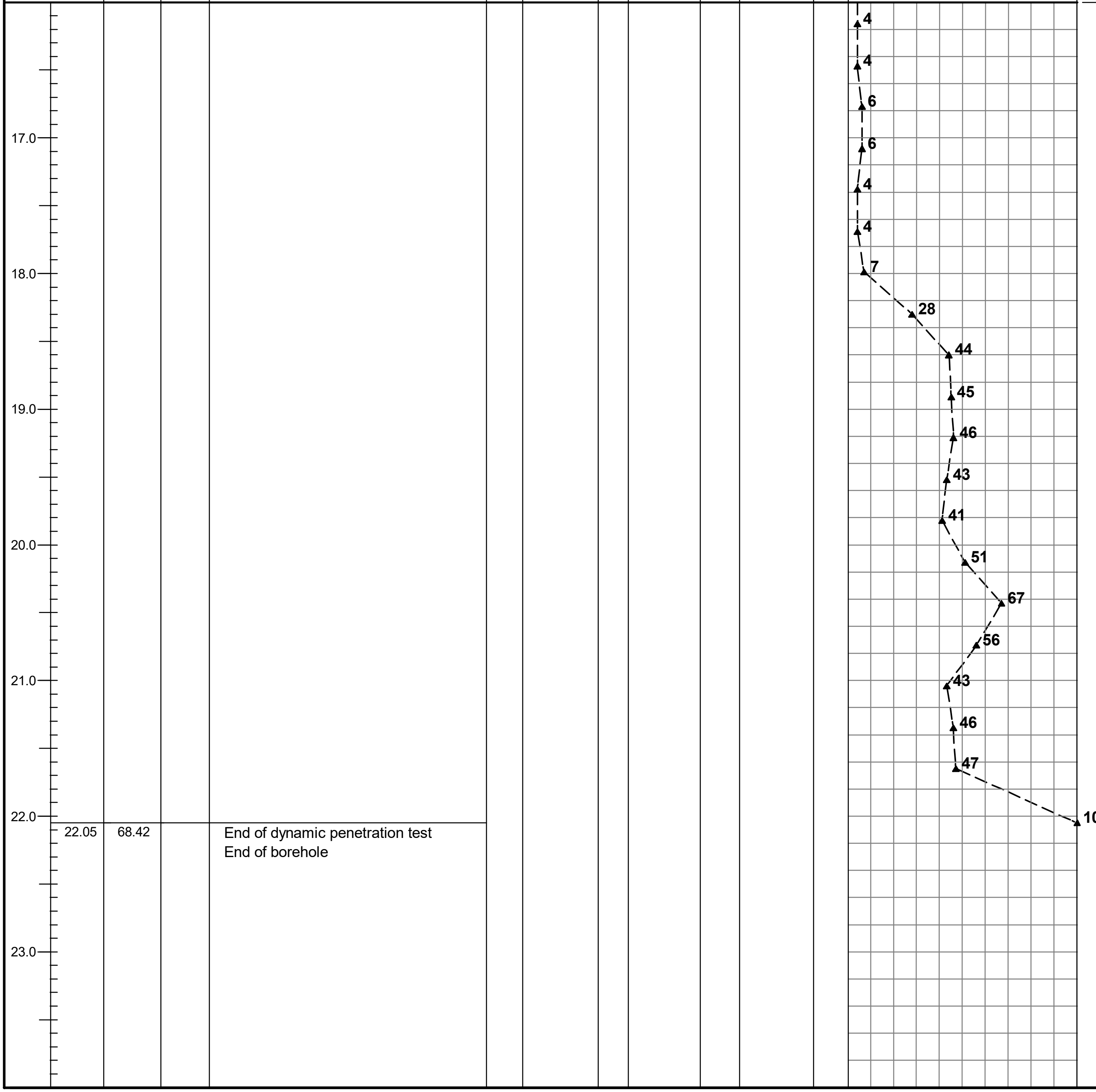
w : water content

C_u: undrained shear strength

S_T: sensitivity

Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS		
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD	○ Water content (%) △ C_u (Field, kPa) W_P W_L Atterberg limits (%) ☐ C_u (Lab, kPa) ● "N" Standard penetration test value ▲ "N_C" Dynamic penetration test value 10 20 30 40 50 60 70 80 90	Water level
16.00	74.47		Ground surface									
22.05	68.42		End of dynamic penetration test End of borehole									



BOREHOLE REPORT

Borehole No. **BH-06**

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN
VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366640.1
Y : 5017937.4
Z : 90.53

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 1.1

Location plan : 11220797-A1-1

Borehole type : Auger
Core bit size : B
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-28
Date (finish) : 2021-04-28

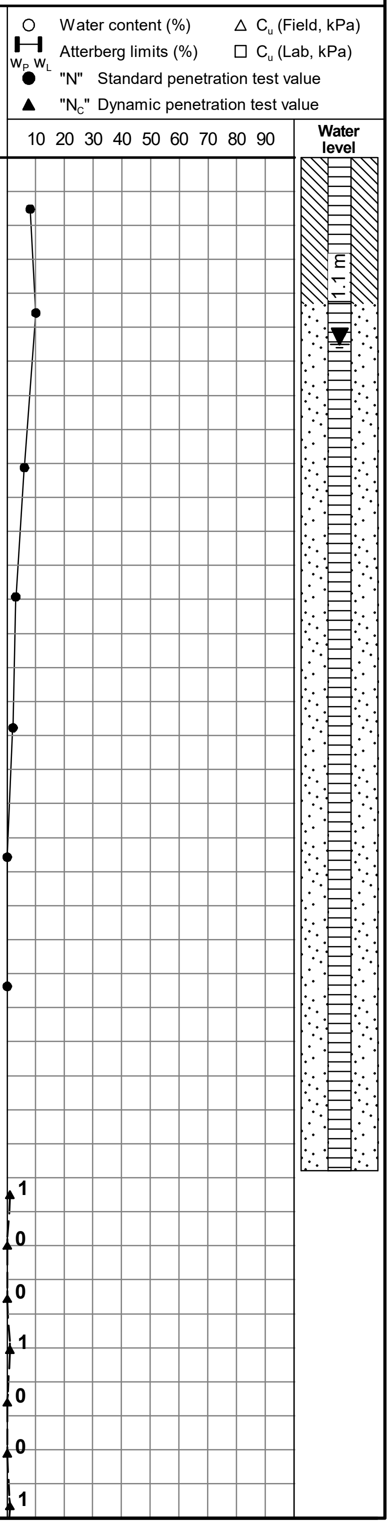
SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY | **SAMPLE** | **TESTS RESULTS**

Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
0.00	90.53		Ground surface							
			Topsoil: Clayey silt, traces of sand							
0.16	90.37		**Native soil:** Stiff to very stiff, brown silt and clay, moist	☒	SS-1	44			2-3-5-5	8
0.61	89.92		becoming compact, grey-brown	☒	SS-2	100			3-4-6-6	10
1.52	89.01		becoming very moist	☒	SS-3	46			2-3-3-4	6
2.28	88.25		becoming stiff, saturated	☒	SS-4	89			2-1-2-1	3
3.05	87.48		becoming with presence of silt beddings	☒	SS-5	100			1-1-1-1	2
3.81	86.72		becoming firm, saturated	☒	SS-6	100			1-0-0-1	0
				☒	SS-7	100			1-0-0-0	0
				▨	ST-8	100				
5.94	84.59		End of sampling							
6.10	84.43		Beginning of dynamic penetration test							



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. BH-06

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366640.1
Y : 5017937.4
Z : 90.53

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 1.1

Location plan : 11220797-A1-1

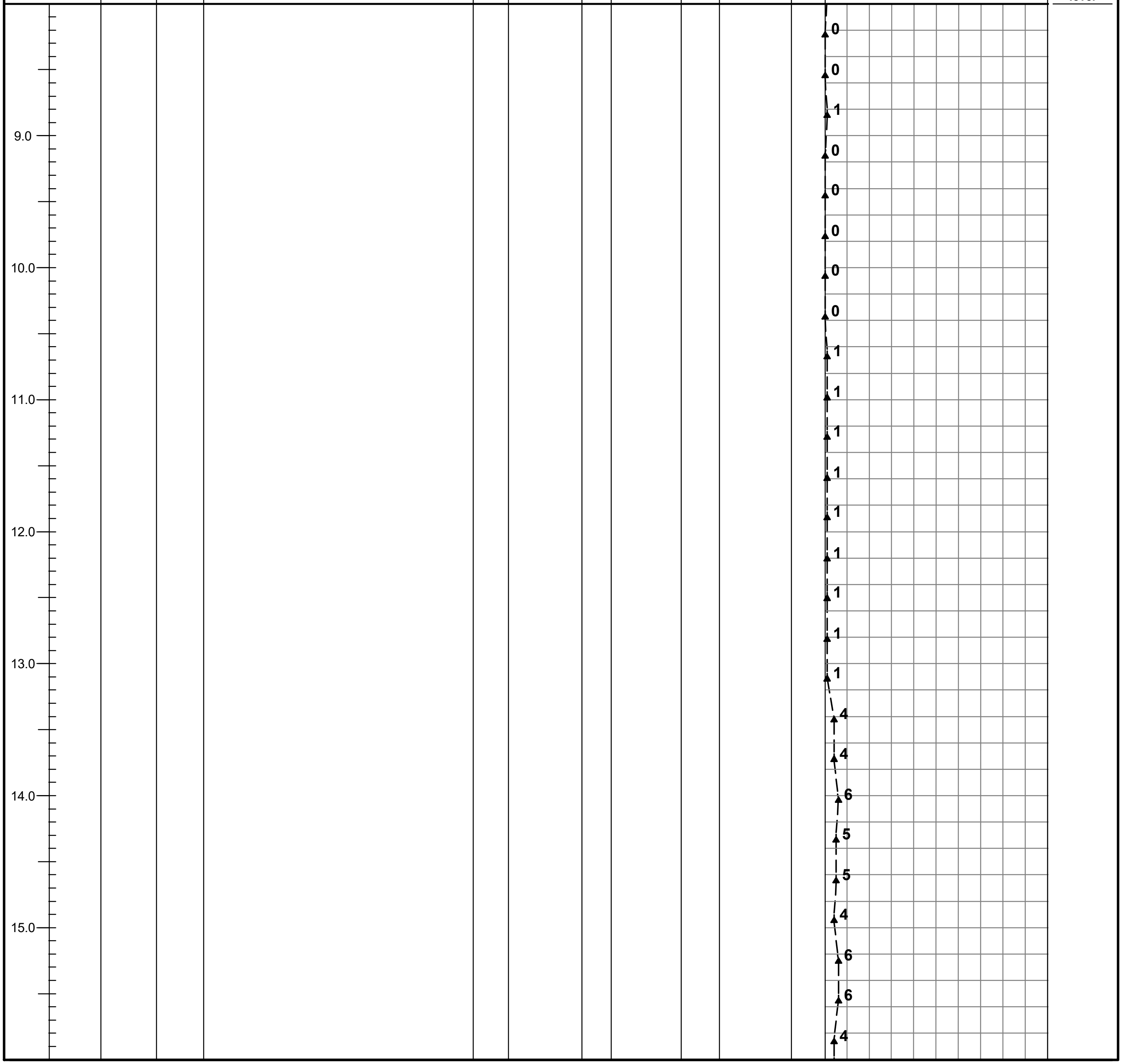
Borehole type : Auger
Core bit size : B
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-28
Date (finish) : 2021-04-28

SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS		
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD	○ Water content (%) △ C_u (Field, kPa) ├┤ w_P w_L Atterberg limits (%) ☐ C_u (Lab, kPa) ● "N" Standard penetration test value ▲ "N_C" Dynamic penetration test value	Water level
8.00	82.53		Ground surface								10 20 30 40 50 60 70 80 90	



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. **BH-06**

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366640.1
Y : 5017937.4
Z : 90.53

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 1.1

Location plan : 11220797-A1-1

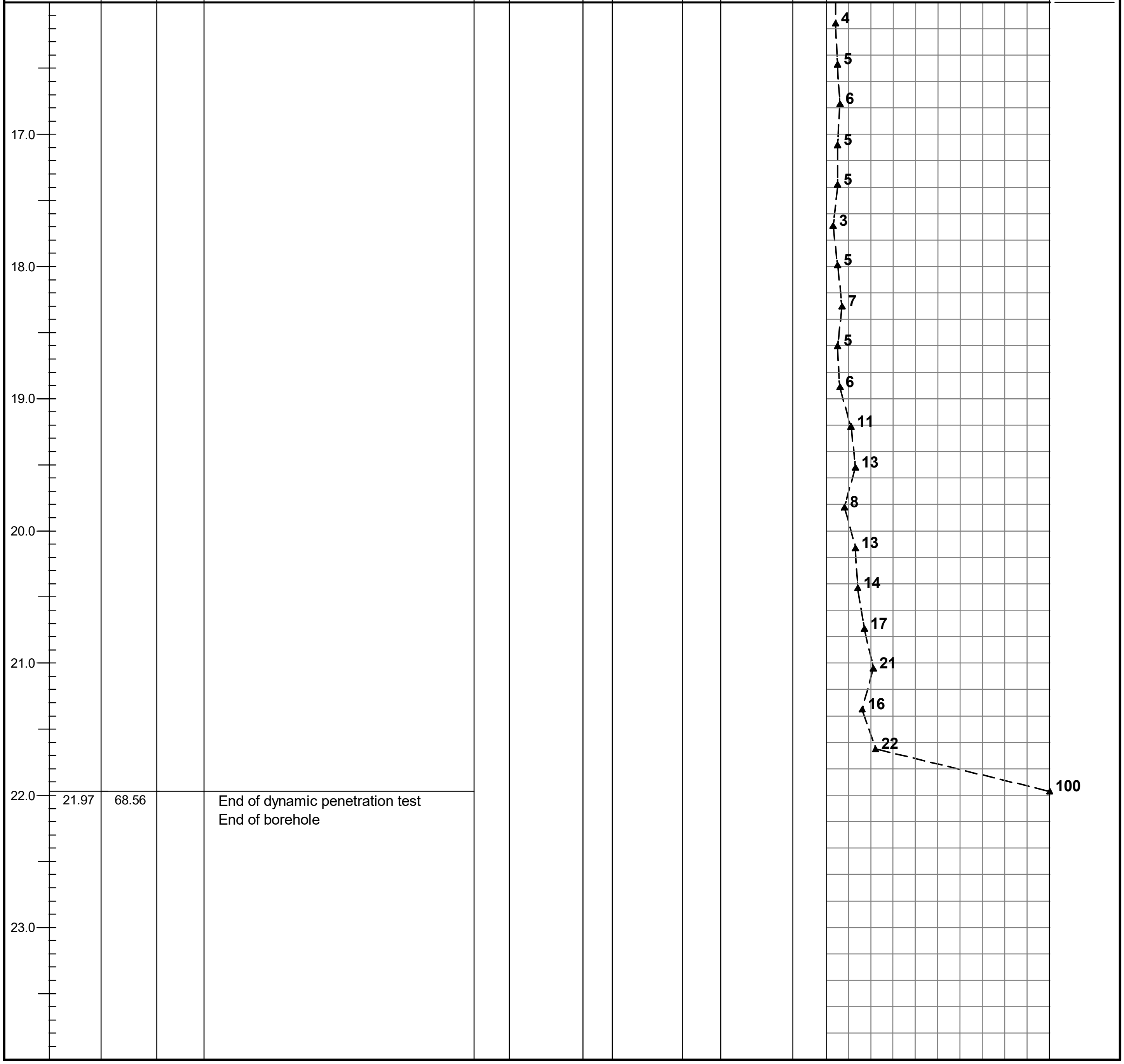
Borehole type :	Auger
Core bit size :	B
Hammer type :	Automatic
Energy ratio :	
Date (start) :	2021-04-28
Date (finish) :	2021-04-28

SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS		
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD	○ Water content (%) △ C_u (Field, kPa) ├┤ W_P W_L Atterberg limits (%) ☐ C_u (Lab, kPa) ● "N" Standard penetration test value ▲ "N_C" Dynamic penetration test value 10 20 30 40 50 60 70 80 90	Water level
16.00	74.53		Ground surface									
21.97	68.56		End of dynamic penetration test End of borehole									



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. **BH-11**

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366474.0
Y : 5017740.7
Z : 95.01

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 5.4

Location plan : 11220797-A1-1

Borehole type : Auger
Core bit size : B
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-29
Date (finish) : 2021-04-29

SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

TESTS RESULTS
○ Water content (%)
△ C_u (Field, kPa)
W_P W_L Atterberg limits (%)
☐ C_u (Lab, kPa)
● "N" Standard penetration test value
▲ "N_C" Dynamic penetration test value

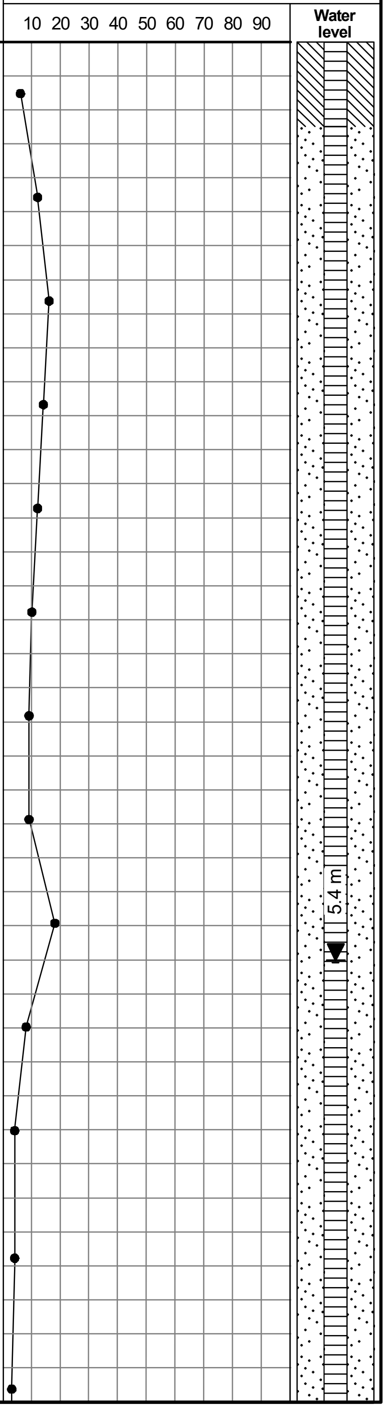
STRATIGRAPHY

Depth (m)	Elevation (m)	Description
0.00	95.01	Ground surface
		Topsoil: Clayey silt, traces of sand
0.30	94.71	**Fill:** Stiff to very stiff, brown clayey silt, moist. Presence of topsoil
1.42	93.59	becoming grey with traces of sand and gravel
1.83	93.18	becoming with presence of topsoil inclusion
5.64	89.37	**Native soil:** Stiff to very stiff, brown silt and clay, moist. Presence of topsoil

SAMPLE

Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
SS-1 SSE-1	48			2-2-4-7	6
SS-2 SSE-2	66			4-5-7-7	12
SS-3A SSE-3A SS-3B SSE-3B	61			4-7-9-9	16
SS-4 SSE-4	82			3-5-9-8	14
SS-5 SSE-5	48			3-4-8-8	12
SS-6 SSE-6	89			3-4-6-6	10
SS-7 SSE-7	54			2-4-5-5	9
SS-8 SSE-8	64			2-4-5-6	9
SS-9 SSE-9	70			5-8-10-10	18
SS-10A SSE-10A SS-10B SSE-10B	82			2-3-5-5	8
SS-11 SSE-11	100			2-2-2-2	4
SS-12	100			2-2-2-1	4
SS-13	100			1-1-2-2	3

TESTS RESULTS



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. **BH-11**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

DESCRIBED BY: F. ARGUIN VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)

X : 366474.0
Y : 5017740.7
Z : 95.01

▼ - WATER LEVEL

Date : 2021-05-19
Depth (m) : 5.4

Location plan : 11220797-A1-1

Borehole type : Auger
Core bit size : B
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-29
Date (finish) : 2021-04-29

SAMPLE TYPE

SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE

☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

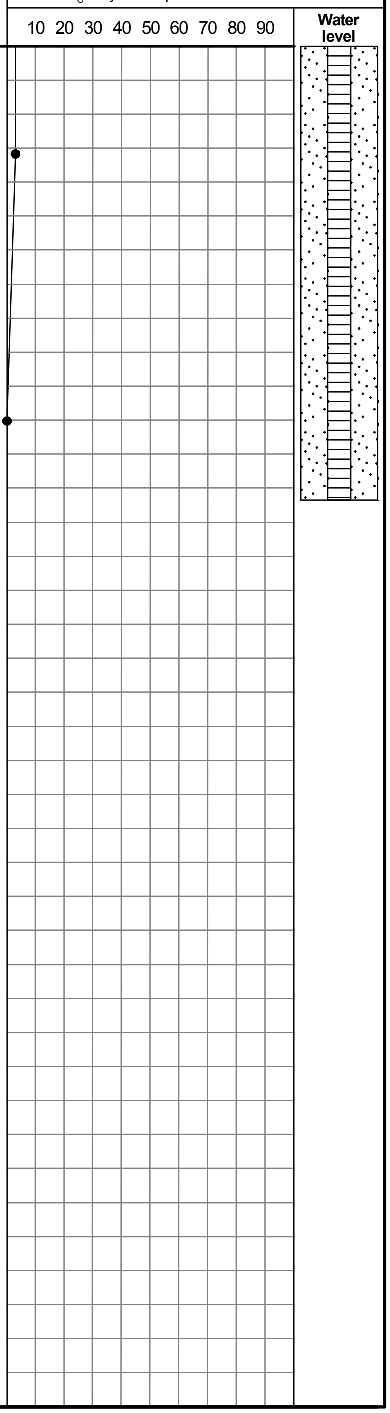
TEST SYMBOL

GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY **SAMPLE** **TESTS RESULTS**

○ Water content (%)
W_P W_L Atterberg limits (%)
● "N" Standard penetration test value
▲ "N_C" Dynamic penetration test value
△ C_u (Field, kPa)
☐ C_u (Lab, kPa)

Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
8.00	87.01		Ground surface							
8.33	86.68		becoming stiff, very moist with presence of beddings of sand	☒	SS-14	100			1-1-2-1	3
				▨	ST-15	100				
				☒	SS-16	100			1-0-0-1	0
10.51	84.50		End of borehole							



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. BH-12

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366605.0
Y : 5017606.5
Z : 90.31

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 1.12

Location plan : 11220797-A1-1

Borehole type : Auger
Core bit size : B
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-28
Date (finish) : 2021-04-28

SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

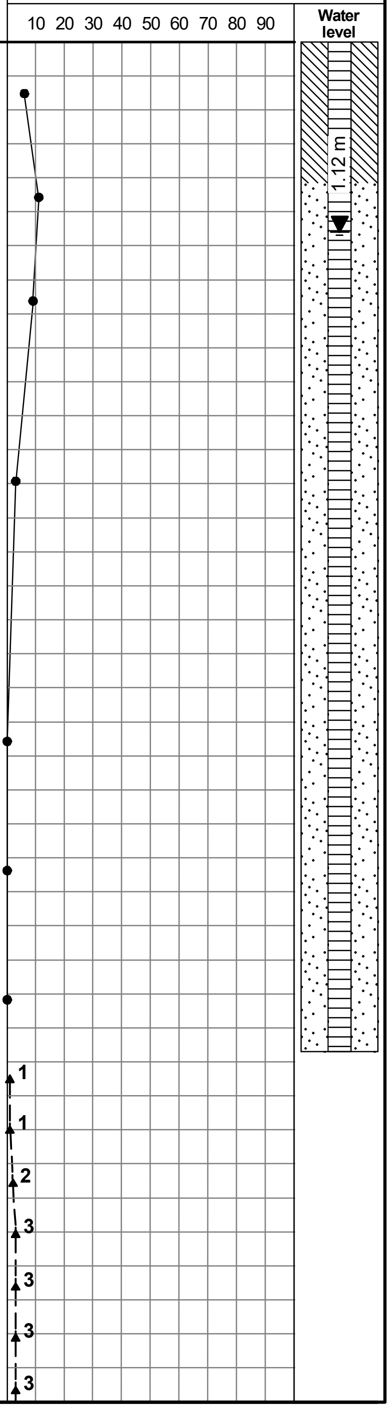
TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY / SAMPLE

Depth (m)	Elevation (m)	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
0.00	90.31	Ground surface							
0.05	90.26	**Topsoil:** Loose, dark brown silt, moist	☒	SS-1A					
		Fill: Stiff, brown silty clay, moist	☒	SS-1B	57			2-3-3-3	6
0.61	89.70	**Native soil:** Stiff to very stiff, brown silt and clay, moist	☒	SS-2	100			4-5-6-8	11
			☒	SS-3	100			4-4-5-5	9
2.28	88.03	becoming stiff, grey-brown	☒	SS-4	100			2-1-2-1	3
3.05	87.26	becoming grey	▨	ST-5	100				
3.81	86.50	becoming firm, very moist	☒	SS-6	100			1-0-0-1	0
4.57	85.74	becoming saturated	☒	SS-7	100			1-0-0-0	0
			☒	SS-8	100			1-0-0-0	0
5.94	84.37	End of sampling							
6.10	84.21	Beginning of dynamic penetration test							

TESTS RESULTS

○ Water content (%) △ C_u (Field, kPa)
├┤ W_P W_L Atterberg limits (%) □ C_u (Lab, kPa)
● "N" Standard penetration test value
▲ "N_C" Dynamic penetration test value



BOREHOLE REPORT

Borehole No. **BH-12**

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366605.0
Y : 5017606.5
Z : 90.31

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 1.12

Location plan : 11220797-A1-1

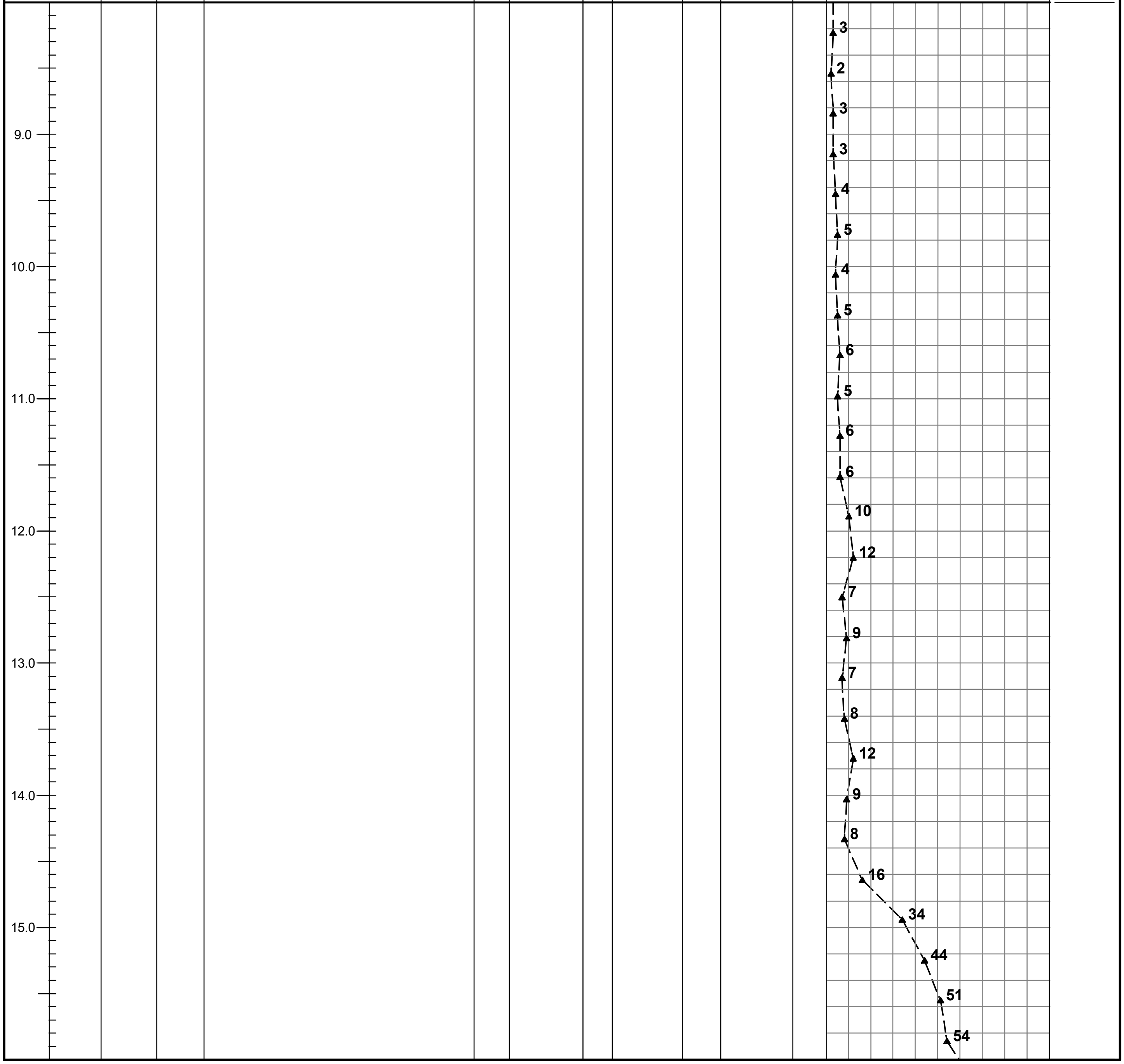
Borehole type : Auger
Core bit size : B
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-28
Date (finish) : 2021-04-28

SAMPLE TYPE
- SS(E)- Split Spoon (Environment)
- RC(E)- Rock diamond core
- AU(E)- Auger
- TEE - Sampling Tube Environment
- ST - Shelby tube
- GS(E)- Grab sample

SAMPLE STATE
- ☒ Remoulded
- ▨ Intact
- ◫ Diamond drilling
- ■ Lost

TEST SYMBOL
- GSA: grain size analysis
- CA: chemical analysis
- W_L: liquid limit
- W_P: plastic limit
- w : water content
- C_u: undrained shear strength
- S_T: sensitivity
- Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS		
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD	○ Water content (%) ⊢⊣ W_P W_L Atterberg limits (%) ● "N" Standard penetration test value ▲ "N_C" Dynamic penetration test value △ C_u (Field, kPa) ☐ C_u (Lab, kPa) 10 20 30 40 50 60 70 80 90	Water level
8.00	82.31		Ground surface									



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. BH-12

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN
VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366605.0
Y : 5017606.5
Z : 90.31

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 1.12

Location plan : 11220797-A1-1

Borehole type : Auger
Core bit size : B
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-28
Date (finish) : 2021-04-28

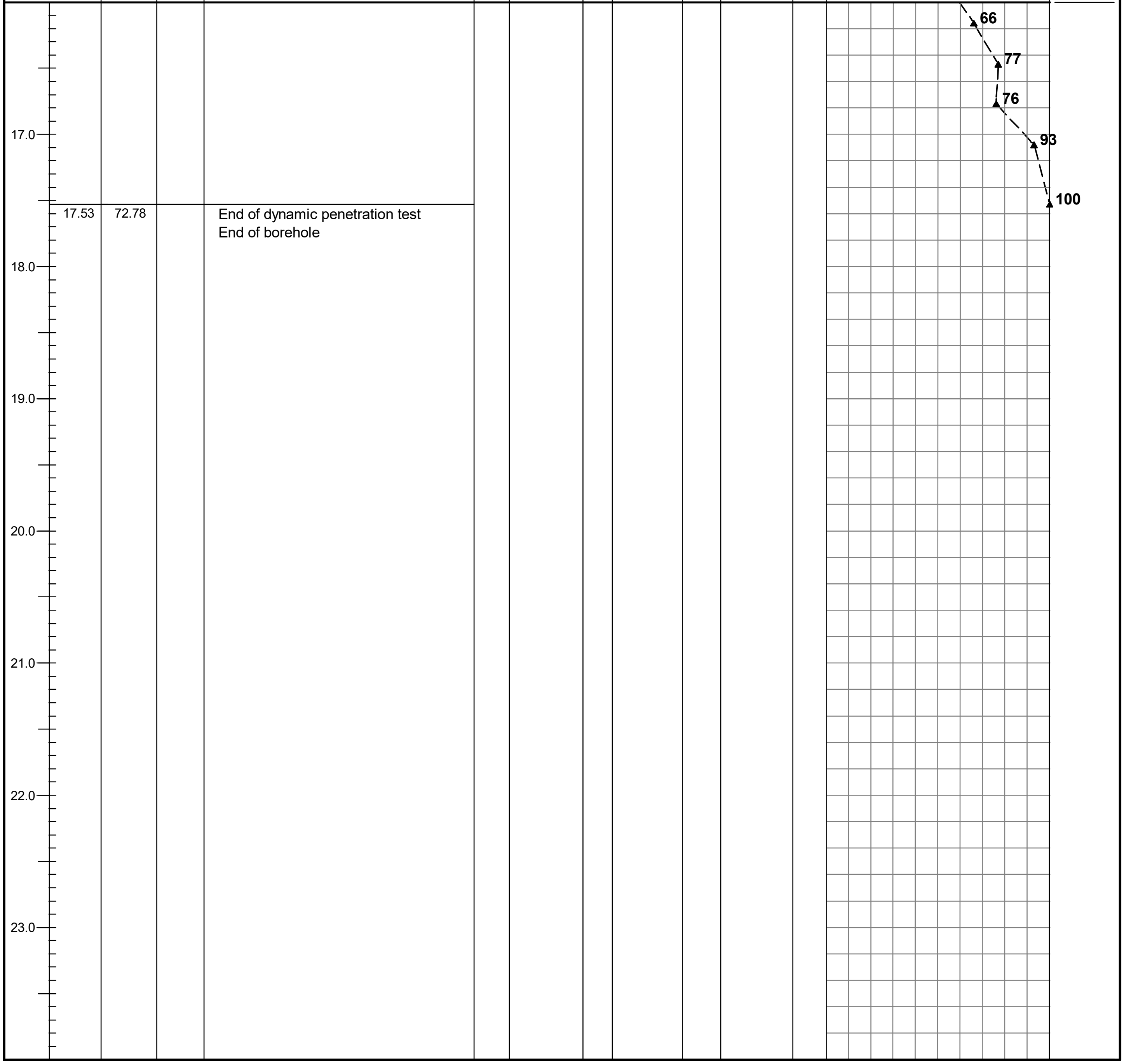
SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS	
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD	Water level
16.00	74.31		Ground surface								
17.53	72.78		End of dynamic penetration test End of borehole								

○ Water content (%)
△ C_u (Field, kPa)
W_P W_L Atterberg limits (%)
☐ C_u (Lab, kPa)
● "N" Standard penetration test value
▲ "N_C" Dynamic penetration test value



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. BH-13

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366809.6
Y : 5017824.8
Z : 90.38

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 0.8

Location plan : 11220797-A1-1

Borehole type :	Auger
Core bit size :	B
Hammer type :	Automatic
Energy ratio :	
Date (start) :	2021-04-29
Date (finish) :	2021-04-29

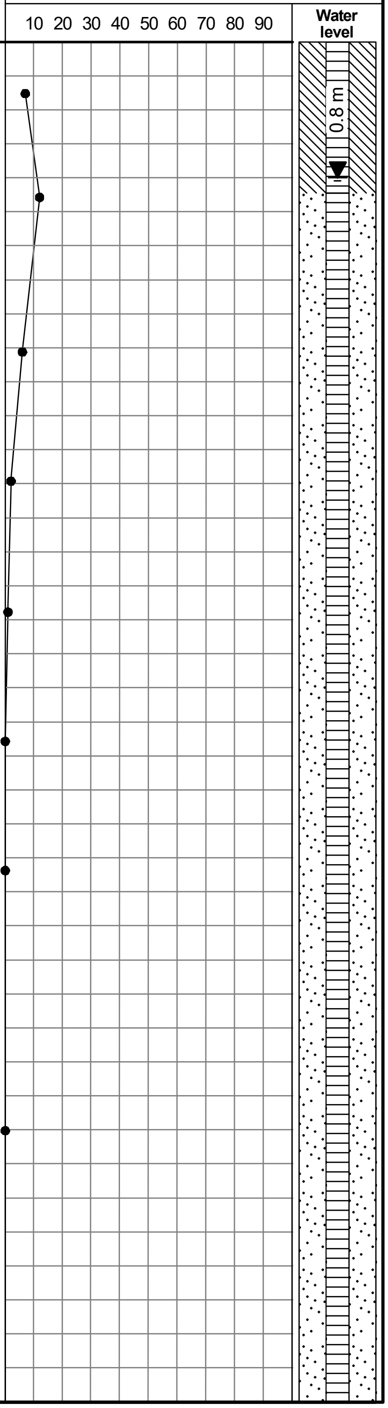
SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

TESTS RESULTS
○ Water content (%)
△ C_u (Field, kPa)
W_P W_L Atterberg limits (%)
☐ C_u (Lab, kPa)
● "N" Standard penetration test value
▲ "N_C" Dynamic penetration test value

Depth (m)	Elevation (m)	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
0.00	90.38	Ground surface							
		Topsoil:	☒	SS-1A					
0.09	90.29	Loose, dark brown silt, moist							
		Native soil: Stiff to very stiff, grey silt and clay, moist	☒	SS-1B	84			2-3-4-4	7
			☒	SS-2	100			6-5-7-8	12
1.52	88.86	becoming with presence of beddings of sand	☒	S-S3	100			2-3-3-3	6
2.28	88.10	becoming stiff	☒	SS-4	100			1-1-1-1	2
3.05	87.33	becoming very moist	☒	SS-5	100			1-0-1-0	1
3.81	86.57	becoming firm, saturated with presence of shells	☒	SS-6	100			1-0-0-1	0
			☒	SS-7	100			1-0-0-1	0
			☒	SS-8	100			1-0-0-0	0
			▨	ST-9	100				



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. BH-13

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES (MTM, NAD-83) (m)
X : 366809.6
Y : 5017824.8
Z : 90.38

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 0.8

Location plan : 11220797-A1-1

Borehole type : Auger
Core bit size : B
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-29
Date (finish) : 2021-04-29

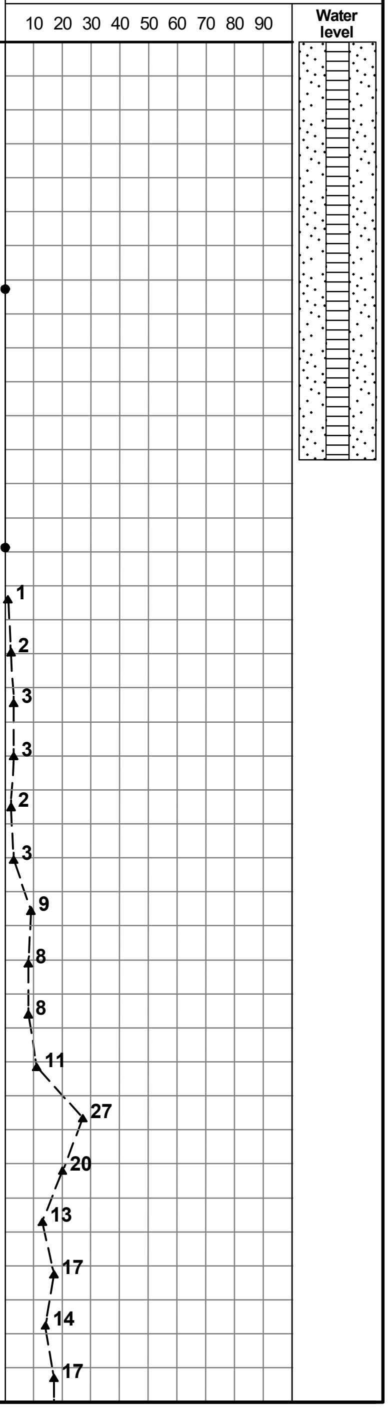
SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE						TESTS RESULTS
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD
8.00	82.38		Ground surface							
				▨						
				☒	SS-10	100			1-0-0-0	0
10.67	79.71		becoming with presence of beddings of silt	☒	SS-11	100			1-0-0-0	0
11.28	79.10		End of borehole Beginning of dynamic penetration test							

○ Water content (%) △ C_u (Field, kPa)
Atterberg limits (%) ☐ C_u (Lab, kPa)
● "N" Standard penetration test value
▲ "N_C" Dynamic penetration test value



See the attached explicative note for the complete list of symbols and abbreviations

BOREHOLE REPORT

Borehole No. **BH-13**

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY: F. ARGUIN VERIFIED BY: M.-A. RICHARD / A. FIORILLI

GEODETIC COORDINATES
(MTM, NAD-83) (m)
X : 366809.6
Y : 5017824.8
Z : 90.38

▼ - WATER LEVEL
Date : 2021-05-19
Depth (m) : 0.8

Location plan : 11220797-A1-1

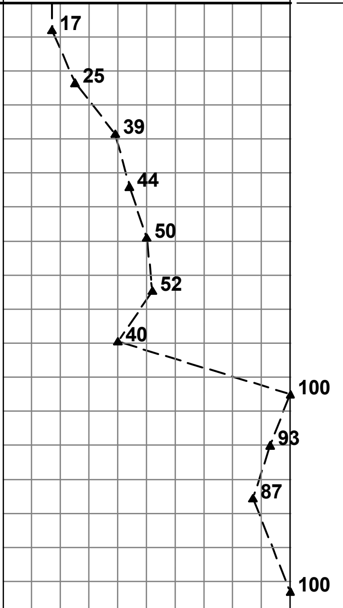
Borehole type : Auger
Core bit size : B
Hammer type : Automatic
Energy ratio :
Date (start) : 2021-04-29
Date (finish) : 2021-04-29

SAMPLE TYPE
SS(E)- Split Spoon (Environment)
RC(E)- Rock diamond core
AU(E)- Auger
TEE - Sampling Tube Environment
ST - Shelby tube
GS(E)- Grab sample

SAMPLE STATE
☒ Remoulded
▨ Intact
◫ Diamond drilling
■ Lost

TEST SYMBOL
GSA: grain size analysis
CA: chemical analysis
W_L: liquid limit
W_P: plastic limit
w : water content
C_u: undrained shear strength
S_T: sensitivity
Dup: duplicate sample

STRATIGRAPHY				SAMPLE							TESTS RESULTS	
Depth (m)	Elevation (m)	Symbol	Description	State	Type and Number	Recovery %	Other tests	PID (ppm)	6 in / 15 cm Blow counts (sampler size)	N, N_C or RQD	○ Water content (%) △ C_u (Field, kPa) ⊢⊣ W_P W_L Atterberg limits (%) ☐ C_u (Lab, kPa) ● "N" Standard penetration test value ▲ "N_C" Dynamic penetration test value 10 20 30 40 50 60 70 80 90	Water level
16.00	74.38		Ground surface									
19.46	70.92		End of dynamic penetration test End of borehole									



Depth (m): 17.0, 18.0, 19.0, 20.0, 21.0, 22.0, 23.0

See the attached explicative note for the complete list of symbols and abbreviations

Reference No. 11220797-A1

GHD

TEST PIT REPORT

TEST PIT No. **TP-01**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366239.2
Y : 5017861.2
Z : 90.67

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-03
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-03

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

- PA : Panda (q_d)
- PP : Portable penetrometer (C_u)
- DP: Dynamic penetrometer (E_{25})
- GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 90.67	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ / <
			Remoulded native soil / topsoil: Clayey silt, traces of sand. Traces of roots and organics	GS-1 GSE-1		
0.30	90.37		**Native soil:** Stiff to very stiff, brown-grey silt and clay, very moist	GS-2		
0.80	89.87		becoming grey	GS-3		
1.50	89.17		becoming stiff, saturated	GS-4		
2.80	87.87		End of test pit Note: Slight water infiltration at 2.80m			<

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. **TP-02**

CLIENT:	MEDUSA LP
PROJECT:	PROPOSED SORTATION FACILITY
LOCATION:	LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m)
(MTM, NAD-83)
X : 366350.8
Y : 5017942.4
Z : 90.59

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY:	M. CHÉNIER
DATE:	2021-05-03
VERIFIED BY:	M.-A. RICHARD / A. FIORILLI
DATE:	2021-05-03

Sample type

CA : Chemical analysis
MSS: Manual split spoon
RC : Rock core
PS : Proctor Sample
AU: Auger
GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m)	Elevation (m)	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ <
0,0	90.59					
			Remoulded native soil / topsoil: Clayey silt, traces of sand. Traces of roots and organics	GS-1		
0.30	90.29		**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.70	89.89		becoming grey	GS-3		
1.50	89.09		becoming stiff, saturated	GS-4		
3.00	87.59		End of test pit Note: No water infiltration			

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. TP-03

CLIENT:	MEDUSA LP
PROJECT:	PROPOSED SORTATION FACILITY
LOCATION:	LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m)
(MTM, NAD-83)
X : 366431.0
Y : 5017938.4
Z : 90.52

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY:	M. CHÉNIER
DATE:	2021-05-03
VERIFIED BY:	M.-A. RICHARD / A. FIORILLI
DATE:	2021-05-03

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 90.52	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ / <
			Remoulded native soil / topsoil: Clayey silt, traces of sand. Traces of roots and organics	GS-1		
0.30	90.22		**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.70	89.82		becoming grey, very moist	GS-3		
1.80	88.72		becoming stiff with traces of sand, saturated	GS-4		
2.90	87.62		End of test pit Note: No water infiltration			

See the attached explicative note for the complete list of symbols and abbreviations

Reference No. 11220797-A1 Page: 1 of 1

TEST PIT REPORT

TEST PIT No. **TP-04**

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366476.0
Y : 5018013.0
Z : 90.46

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-03
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-03

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 90.46	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ / <
		▨	**Remoulded native soil / topsoil:** Clayey silt, traces of sand. Traces of roots and organics	GS-1 GSE-1		
0.30	90.16	▧	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.70	89.76	▧	becoming very moist	GS-3		
1.60	88.86	▧	becoming stiff with traces of sand, grey, saturated	GS-4		
		▧		GS-5		
3.10	87.36		End of test pit Note: Slight water infiltration at 3.10m			<

See the attached explicative note for the complete list of symbols and abbreviations

Reference No. 11220797-A1

TEST PIT REPORT

TEST PIT No. **TP-05**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)

X : 366565.4
Y : 5018013.4
Z : 90.60

< - INFILTRATION

▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER

DATE: 2021-05-03

VERIFIED BY: M.-A. RICHARD / A. FIORILLI

DATE: 2021-05-03

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m)	Elevation (m)	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ <
0,0	90.60					
		▨	**Remoulded native soil / topsoil:** Clayey silt, traces of sand. Traces of roots and organics	GS-1		
0.30	90.30	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.70	89.90	▨	becoming grey, very moist	GS-3 GS-4		
2.20	88.40	▨	becoming stiff, saturated	GS-5		
3.00	87.60		End of test pit Note: No water infiltration			

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. TP-06

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366603.7
Y : 5018084.5
Z : 90.61

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-04
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-04

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m)	Elevation (m)	STRATIGRAPHY	Sample type & Number	Tests Type	▼ <
0,0	90.61				
		Remoulded native soil / topsoil: Clayey silt, traces of sand. Traces of roots and organics	GS-1 GSE-1		
0.30	90.31	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.80	89.81	becoming grey, very moist	GS-3		
1.80	88.81	becoing stiff, saturated	GS-4		
3.00	87.61	End of test pit Note: No water infiltration			

See the attached explicative note for the complete list of symbols and abbreviations

Reference No. 11220797-A1

TEST PIT REPORT

TEST PIT No. **TP-15**

CLIENT:	MEDUSA LP
PROJECT:	PROPOSED SORTATION FACILITY
LOCATION:	LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO
DESCRIBED BY:	M. CHÉNIER
DATE:	2021-05-03
VERIFIED BY:	M.-A. RICHARD / A. FIORILLI
DATE:	2021-05-03

GEODETIC COORDINATES (m)
(MTM, NAD-83)
X : 366292.5
Y : 5017826.9
Z : 90.65

< - INFILTRATION
▼ - WATER LEVEL

Sample type

CA : Chemical analysis
MSS: Manual split spoon
RC : Rock core
PS : Proctor Sample
AU: Auger
GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 90.65	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ / <
		▨	**Remoulded native soil / topsoil:** Clayey silt, traces of sand. Traces of roots and organics	GS-1		
0.30	90.35	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.70	89.95	▨	becoming grey, very moist	GS-3		
1.60	89.05	▨	becoming stiff, saturated	GS-4		
2.80	87.85		End of test pit Note: Slight water infiltration at 2.80m			<

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. **TP-16**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366351.7
Y : 5017860.4
Z : 90.62

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-03
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-03

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 90.62	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ <
		▨	**Remoulded native soil / topsoil:** Clayey silt, traces of sand. Traces of roots and organics	GS-1 GSE-1		
0.30	90.32	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.80	89.82	▨	becoming grey, very moist	GS-3		
1.50	89.12	▨	becoming stiff, saturated	GS-4		
				GS-5		
3.00	87.62		End of test pit Note: No water infiltration			

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. TP-17

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366450.1
Y : 5017904.3
Z : 90.59

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-03
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-03

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m)	Elevation (m)	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ <
0,0	90.59					
		▩	**Remoulded native soil / topsoil:** Clayey silt, traces of sand. Traces of roots and organics	GS-1		
0.30	90.29	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.80	89.79	▨	becoming grey, very moist	GS-3		
1.45	89.14		End of test pit Note: No water infiltration			

TEST PIT REPORT

TEST PIT No. TP-18

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366524.8
Y : 5017946.2
Z : 90.55

‹ - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-03
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-03

Sample type

CA : Chemical analysis
MSS: Manual split spoon
RC : Rock core
PS : Proctor Sample
AU: Auger
GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m)	Elevation (m)	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ ‹
0,0	90.55	▨	**Remoulded native soil / topsoil:** Clayey silt, traces of sand. Traces of roots and organics	GS-1		
0.30	90.25	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.90	89.65	▨	becoming grey, very moist	GS-3		
1.50	89.05		End of test pit Note: No water infiltration			

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. **TP-19**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366584.3
Y : 5017980.1
Z : 90.68

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-04
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-04

Sample type

CA : Chemical analysis
MSS: Manual split spoon
RC : Rock core
PS : Proctor Sample
AU: Auger
GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m)	Elevation (m)	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ <
0,0	90.68					
			Remoulded native soil / topsoil: Clayey silt, traces of sand. Traces of roots and organics	GS-1 GSE-1		
0.30	90.38		**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.70	89.98		becoming grey, very moist	GS-3		
1.50	89.18		End of test pit Note: No water infiltration			

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. **TP-20**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366653.2
Y : 5017996.1
Z : 90.52

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-04
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-04

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m)	Elevation (m)	Symbol	STRATIGRAPHY	Sample type & Number	Tests	▼ / <
0,0	90.52				Type	
		▨	**Remoulded native soil / topsoil:** Clayey silt, traces of sand. Traces of roots and organics	GS-1 GSE-1		
0.30	90.22	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.70	89.82	▨	becoming grey, very moist	GS-3		
1.40	89.12	▨	becoming stiff with traces of sand, saturated	GS-4		
		▨		GS-5		
3.00	87.52		End of test pit Note: Slight water infiltration at 3.0m			<

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. **TP-24**

CLIENT:	MEDUSA LP
PROJECT:	PROPOSED SORTATION FACILITY
LOCATION:	LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366263.6
Y : 5017757.8
Z : 90.68

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY:	M. CHÉNIER
DATE:	2021-05-03
VERIFIED BY:	M.-A. RICHARD / A. FIORILLI
DATE:	2021-05-03

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 90.68	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ <
		▨	**Remoulded native soil / topsoil:** Clayey silt, traces of sand. Traces of roots and organics	GS-1		
0.50	90.18	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
1.00	89.68	▨	becoming grey, very moist	GS-3		
2.00	88.68	▨	becoming stiff, saturated	GS-4		
3.00	87.68		End of test pit Note: No water infiltration			

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. **TP-25**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)

X : 366327.0
Y : 5017764.9
Z : 90.71

< - INFILTRATION

▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER

DATE: 2021-05-03

VERIFIED BY: M.-A. RICHARD / A. FIORILLI

DATE: 2021-05-03

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m)	Elevation (m)	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ / <
0,0	90.71		**Remoulded native soil / topsoil:** Clayey silt, traces of sand. Traces of roots and organics	GS-1 GSE-1		
0.30	90.41		**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.70	90.01		becoming grey, very moist to saturated	GS-3		
2.10	88.61		Firm, grey sandy and clayey silt, saturated	GS-4		
2.90	87.81		Stiff, grey clayey silt, saturated	GS-5		
3.30	87.41		End of test pit Note: No water infiltration			

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. TP-26

CLIENT:	MEDUSA LP
PROJECT:	PROPOSED SORTATION FACILITY
LOCATION:	LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m)
(MTM, NAD-83)
X : 366386.2
Y : 5017798.3
Z : 90.68

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY:	M. CHÉNIER
DATE:	2021-05-03
VERIFIED BY:	M.-A. RICHARD / A. FIORILLI
DATE:	2021-05-03

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m)	Elevation (m)	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ <
0,0	90.68					
		▨	**Remoulded native soil / topsoil:** Clayey silt, traces of sand. Traces of roots and organics	GS-1		
0.30	90.38	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.70	89.98	▨	becoming grey, very moist	GS-3		
1.80	88.88	▨	becoming stiff, saturated	GS-4		
2.90	87.78		End of test pit Note: No water infiltration			

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. **TP-27**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366471.1
Y : 5017866.9
Z : 90.58

< - INFILTRATION

⯆ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER

DATE: 2021-05-03

VERIFIED BY: M.-A. RICHARD / A. FIORILLI

DATE: 2021-05-03

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 90.58	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	⯆ <
		▨	**Remoulded native soil / topsoil:** Clayey silt, traces of sand. Traces of roots and organics	GS-1 GSE-1		
0.30	90.28	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.70	89.88	▨	becoming grey, very moist	GS-3		
1.50	89.08		End of test pit Note: No water infiltration			

Depth scale: 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5

TEST PIT REPORT

TEST PIT No. **TP-28**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)

X : 366545.7
Y : 5017908.9
Z : 90.71

< - INFILTRATION

▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER

DATE: 2021-05-03

VERIFIED BY: M.-A. RICHARD / A. FIORILLI

DATE: 2021-05-03

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

- PA : Panda (q_d)
- PP : Portable penetrometer (C_u)
- DP: Dynamic penetrometer (E_{25})
- GVT: Geonor Vane tester (C_u)

Depth (m)		Elevation (m)	Symbol	STRATIGRAPHY	Sample type & Number	Tests	▼
0,0		90.71				Type	<
			▨	**Remoulded native soil / topsoil:** Clayey silt, traces of sand. Traces of roots and organics	GS-1 GSE-1		
	0.30	90.41	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist			
0.5			▨		GS-2		
	0.80	89.91	▨	becoming grey, very moist			
1.0			▨		GS-3		
1.5	1.50	89.21		End of test pit Note: No water infiltration			
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. TP-29

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366605.4
Y : 5017942.6
Z : 90.72

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-04
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-04

Sample type

CA : Chemical analysis
MSS: Manual split spoon
RC : Rock core
PS : Proctor Sample
AU: Auger
GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 90.72	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ <
		▨	**Remoulded native soil / topsoil:** Clayey silt, traces of sand. Traces of roots and organics	GS-1		
0.30	90.42	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.70	90.02	▨	becoming grey, very moist	GS-3		
1.45	89.27		End of test pit Note: No water infiltration			

See the attached explicative note for the complete list of symbols and abbreviations

Reference No. 11220797-A1

TEST PIT REPORT

TEST PIT No. **TP-30**

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366492.8
Y : 5017827.9
Z : 90.56

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-03
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-03

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 90.56	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ / <
0,0	90.56	▨	**Remoulded native soil / topsoil:** Clayey silt, traces of sand. Traces of roots and organics	GS-1 GSE-1		
0.30	90.26	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.70	89.86	▨	becoming grey, very moist	GS-3		
1.70	88.86	▨	becoming stiff with traces of sand	GS-4		
2.60	87.96	▨	Stiff, grey sandy and clayey silt, saturated	GS-5		
3.00	87.56		End of test pit Note: No water infiltration			

Depth scale: 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. **TP-31**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366627.4
Y : 5017903.3
Z : 90.41

< - INFILTRATION

▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER

DATE: 2021-05-04

VERIFIED BY: M.-A. RICHARD / A. FIORILLI

DATE: 2021-05-04

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 90.41	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ <
		▨	**Remoulded native soil / topsoil:** Clayey silt, traces of sand. Traces of roots and organics	GS-1 GSE-1		
0.30	90.11	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.80	89.61	▨	becoming grey, very moist	GS-3		
1.70	88.71	▨	becoming stiff with traces of sand, saturated	GS-4		
3.00	87.41		End of test pit Note: No water infiltration			

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. **TP-35**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366558.2
Y : 5017809.8
Z : 90.46

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-05
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-05

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m)	Elevation (m)	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ <
0,0	90.46					
			Topsoil: Brown clayey silt, moist. Traces of roots and organics	GS-1		
0.30	90.16		**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.70	89.76		becoming grey, very moist	GS-3		
1.80	88.66		becoming stiff, very moist to saturated	GS-4		
3.00	87.46		End of test pit Note: No water infiltration			

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. TP-36

CLIENT:	MEDUSA LP	GEODETIC COORDINATES (m) (MTM, NAD-83)	< - INFILTRATION
PROJECT:	PROPOSED SORTATION FACILITY	X : 366701.1 Y : 5017889.7 Z : 90.34	⯆ - WATER LEVEL
LOCATION:	LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO		

DESCRIBED BY:	M. CHÉNIER
DATE:	2021-05-05
VERIFIED BY:	M.-A. RICHARD / A. FIORILLI
DATE:	2021-05-05

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

- PA : Panda (q_d)
- PP : Portable penetrometer (C_u)
- DP: Dynamic penetrometer (E_{25})
- GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 90.34	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	⯆ / <
			Topsoil: Brown clayey silt, moist. Traces of roots and organics	GS-1		
0.30	90.04		**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.70	89.64		becoming stiff, grey, very moist to saturated	GS-3 GS-4		
3.00	87.34		End of test pit Note: No water infiltration			

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. **TP-40**

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366658.9
Y : 5017827.6
Z : 90.51

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-06
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-06

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 90.51	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ <
			Topsoil: Brown clayey silt, moist. Traces of roots and organics	GS-1 GSE-1 GS-2		
0.60	89.91		**Native soil:** Stiff, grey silt and clay, very moist	GS-3		
1.60	88.91		becoming stiff with traces of sand, very moist to saturated	GS-4 GS-5		
3.00	87.51		End of test pit Note: Slight water infiltration at 3.0m			<

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. **TP-43**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)

X : 366526.6
Y : 5017723.1
Z : 93.75

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-05
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-05

Sample type

CA : Chemical analysis
MSS: Manual split spoon
RC : Rock core
PS : Proctor Sample
AU: Auger
GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m)	Elevation (m)	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ <
0,0	93.75					
		▨	**Fill:** Stiff, brown clayey silt mixed with roots and organics, moist	GS-1		
0.50	93.25	▨	Grey to brown clayey silt, moist	GS-2 GS-3 GS-4 GS-5 GS-6		
3.35	90.40		End of test pit Note: No water infiltration			

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. **TP-44**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)

X : 366587.9
Y : 5017715.6
Z : 90.55

< - INFILTRATION

▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-05
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-05

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 90.55	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ <
		▨	**Topsoil:** Brown clayey silt, moist. Traces of roots and organics	GS-1		
0.50	90.05	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.75	89.80	▨	becoming grey, very moist	GS-3		
1.80	88.75	▨	becoming stiff with traces of sand	GS-4		
3.00	87.55		End of test pit Note: No water infiltration			

Reference No. 11220797-A1

Page: 1 of 1

TEST PIT REPORT

TEST PIT No. TP-45

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366763.1
Y : 5017843.2
Z : 90.52

< - INFILTRATION

⯆ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER

DATE: 2021-05-06

VERIFIED BY: M.-A. RICHARD / A. FIORILLI

DATE: 2021-05-06

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 90.52	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	⯆ / <
		▨	**Topsoil:** Brown clayey silt, moist. Traces of roots and organics	GS-1 GSE-1		
0.30	90.22	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.60	89.92	▨	becoming grey, very moist	GS-3		
1.60	88.92	▨	becoming stiff with traces of sand, very moist to saturated	GS-4		
		▨		GS-5		
3.00	87.52		End of test pit Note: No water infiltration			

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. **TP-46**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)

X : 366877.5

Y : 5017907.6

Z : 90.36

< - INFILTRATION

▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER

DATE: 2021-05-06

VERIFIED BY: M.-A. RICHARD / A. FIORILLI

DATE: 2021-05-06

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)

PP : Portable penetrometer (C_u)

DP: Dynamic penetrometer (E_{25})

GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 90.36	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ / <
		▨	**Topsoil:** Brown clayey silt, moist. Traces of roots and organics	GS-1 GSE-1		
0.30	90.06	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.70	89.66	▨	becoming grey with traces of sand, very moist	GS-3		
1.60	88.76	▨	becoing stiff very moist to saturated	GS-4		
3.00	87.36		End of test pit Note: No water infiltration			

Depth scale: 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. **TP-47**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366973.4
Y : 5017961.2
Z : 90.31

‹ - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-06
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-06

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m)	Elevation (m)	Symbol	STRATIGRAPHY	Sample type & Number	Tests	▼
0,0	90.31				Type	‹
		▨	**Topsoil:** Brown clayey silt, moist. Traces of roots and organics	GS-1 GS-2		
0.60	89.71	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-3		
1.70	88.61	▨	becoming stiff with traces of sand, vert moist to saturated	GS-4		
3.00	87.31		End of test pit Note: No water infiltration			

Reference No. 11220797-A1

TEST PIT REPORT

TEST PIT No. **TP-49**

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366510.8
Y : 5017662.8
Z : 90.87

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-05
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-05

Sample type
CA : Chemical analysis
MSS: Manual split spoon
RC : Rock core
PS : Proctor Sample
AU: Auger
GS(E) : Grab sample (environment)

Manual tests
PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 90.87	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ <
			Fill: Brown clayey silt, moist. Presence of roots and organics	GS-1		
0.70	90.17		**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
1.30	89.57		becoming stiff, grey, very moist to saturated	GS-3 GS-4		
3.00	87.87		End of test pit Note: No water infiltration			

TEST PIT REPORT

TEST PIT No. TP-49PILE

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X :
Y :
Z : 92.90

< - INFILTRATION

▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-05
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-05

Sample type

CA : Chemical analysis
MSS: Manual split spoon
RC : Rock core
PS : Proctor Sample
AU: Auger
GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 92.90	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ / <
0.0 – 0.5		▨	**Fill:** Brown clayey silt, moist	GS-1 GSE-1		
0.5 – 1.0		▨		GS-2 GSE-2		
1.0 – 1.5		▨		GS-3 GSE-3		
1.5 – 2.0		▨		GS-4 GSE-4		
2.00	90.90		End of test pit Note: No water infiltration			
2.5						
3.0						
3.5						
4.0						
4.5						

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. TP-50

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366472.0
Y : 5017605.6
Z : 90.55

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-05
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-05

Sample type

CA : Chemical analysis	PS : Proctor Sample
MSS: Manual split spoon	AU: Auger
RC : Rock core	GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m)	Elevation (m)	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ / <
0,0	90.55					
		▨	**Topsoil:** Brown clayey silt, moist. Traces of roots and organics	GS-1		
0.20	90.35	▨	**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.70	89.85	▨	becoming grey, very moist	GS-3		
1.50	89.05	▨	becoming stiff, saturated	GS-4 GS-5		
3.00	87.55		End of test pit Note: Slight water infiltration at 3.0m			<

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. TP-51

CLIENT: MEDUSA LP
PROJECT: PROPOSED SORTATION FACILITY
LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366550.3
Y : 5017657.8
Z : 90.42

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-05
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-05

Sample type

CA : Chemical analysis
MSS: Manual split spoon
RC : Rock core
PS : Proctor Sample
AU: Auger
GS(E) : Grab sample (environment)

Manual tests

PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 90.42	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ <
			Topsoil: Brown clayey silt, moist. Traces of roots and organics	GS-1		
0.30	90.12		**Native soil:** Stiff to very stiff, brown silt and clay, moist	GS-2		
0.80	89.62		becoming grey	GS-3		
1.60	88.82		becoming stiff with traces of sand, moist to very moist	GS-4		
3.00	87.42		End of test pit Note: No water infiltration			

Depth scale: 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5

See the attached explicative note for the complete list of symbols and abbreviations

TEST PIT REPORT

TEST PIT No. TP-52

CLIENT: MEDUSA LP

PROJECT: PROPOSED SORTATION FACILITY

LOCATION: LEIKIN DRIVE AND MERIVALE ROAD INTERSECTION, NEPEAN, ONTARIO

GEODETIC COORDINATES (m) (MTM, NAD-83)
X : 366538.8
Y : 5017605.5
Z : 92.69

< - INFILTRATION
▼ - WATER LEVEL

DESCRIBED BY: M. CHÉNIER
DATE: 2021-05-05
VERIFIED BY: M.-A. RICHARD / A. FIORILLI
DATE: 2021-05-05

Sample type
CA : Chemical analysis
MSS: Manual split spoon
RC : Rock core
PS : Proctor Sample
AU: Auger
GS(E) : Grab sample (environment)

Manual tests
PA : Panda (q_d)
PP : Portable penetrometer (C_u)
DP: Dynamic penetrometer (E_{25})
GVT: Geonor Vane tester (C_u)

Depth (m) 0,0	Elevation (m) 92.69	Symbol	STRATIGRAPHY	Sample type & Number	Tests Type	▼ <
		▨	**Fill:** Brown clayey silt, moist	GS-1		
		▨		GS-2		
		▨		GS-3		
		▨		GS-4		
		▨		GS-5		
2.70	89.99	▧	**Native soil:** Stiff, grey clayey silt, very moist	GS-6		
3.32	89.37		End of test pit Note: No water infiltration			

See the attached explicative note for the complete list of symbols and abbreviations