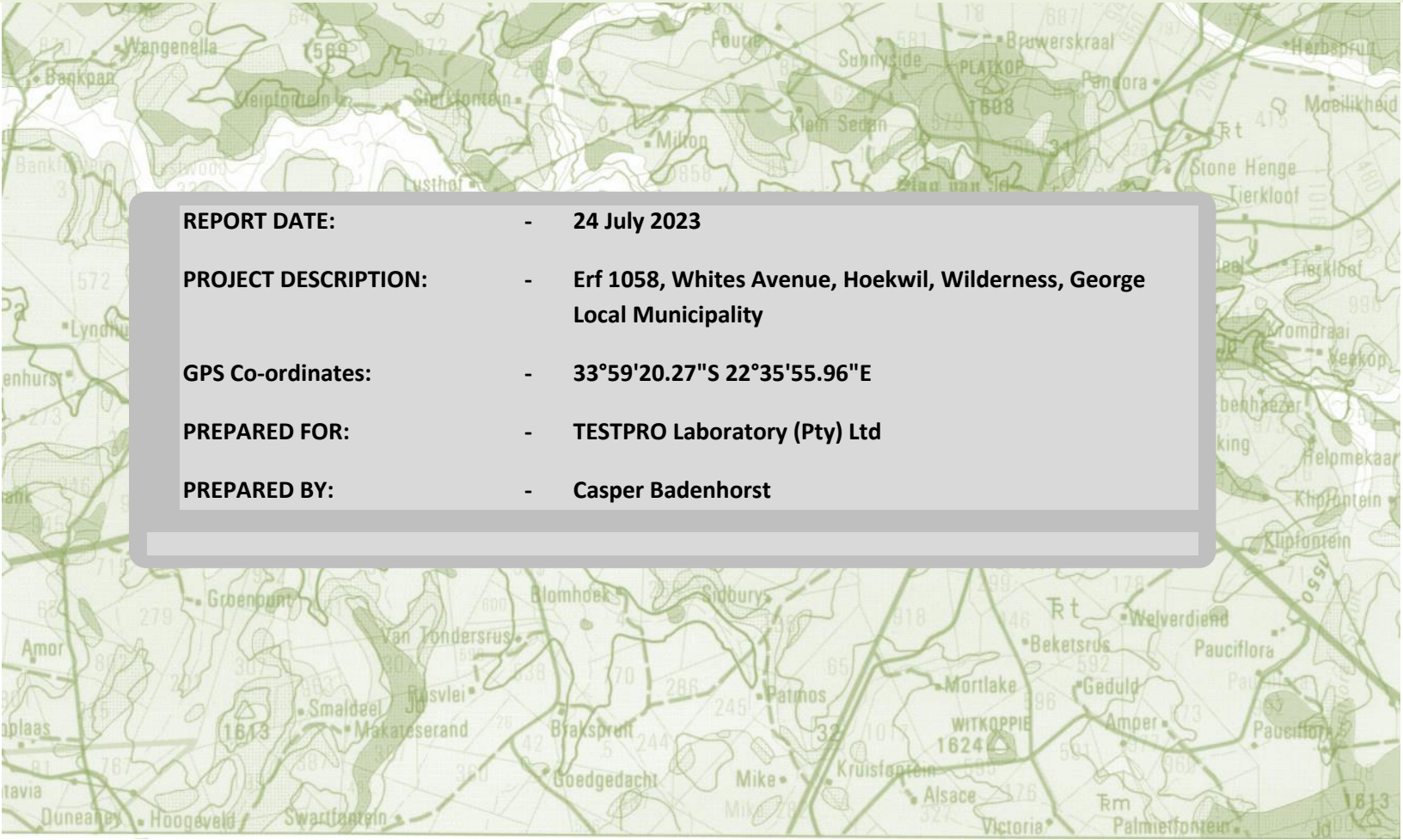


REPORT

On the Geotechnical Investigation undertaken for Erf 1058, Whites Avenue, Hoekwil, Wilderness in the Western Cape Province



REPORT DATE:	-	24 July 2023
PROJECT DESCRIPTION:	-	Erf 1058, Whites Avenue, Hoekwil, Wilderness, George Local Municipality
GPS Co-ordinates:	-	33°59'20.27"S 22°35'55.96"E
PREPARED FOR:	-	TESTPRO Laboratory (Pty) Ltd
PREPARED BY:	-	Casper Badenhorst

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EXECUTIVE SUMMARY

Casper Badenhorst was appointed by TESTPRO Laboratory (Pty) Ltd to compile a geotechnical engineering report based on the conditions on site and the information provided by the client. The Investigation was carried out in July 2023.

The following activities were carried out to finalise this report

- Desktop Study
- Site Visit
- Field mapping
- Soil profiling
- Laboratory testing

The coordinates of the site are 33°59'20.27"S 22°35'55.96"E.

The area of the site is 1.2 hectares. Three (3) test pits were excavated by mini-excavator to adequately cover the study area and the soil profiles were described according to the method proposed by Jennings, Brink and Williams (1973).

Disturbed samples of the most prominent soil horizons were taken and submitted for indicator and CBR tests. Three (3) test pits were excavated across the study area with two refusals encountered at depths less than 1.5meters. The average depth of the test pits were 1.38 meters. Excavatability constraints may be expected for excavations exceeding 1.5meters in depth.

The geological map from the Council for Geosciences indicates that the site is underlain by gneissic granite and granodiorite and albitite (intrusive) of the Maalgaten and related granites (Nmg) of the Namibian Period. The soil horizons consisted of silty sand materials as recorded in the attached soil profiles included within Annexure A.

The study area is located in Whites Road near the Touws River, south east of George in the Western Cape Province. The study area drains well by sheetwash to the south of the study area. Wilderness is a moderate climatic region with a Weinert N-value between 2 and 5. Chemical weathering may occur in the warm wet summer periods.

Ground water was encountered at 0.64, it is not clear if this is a permanent or perched water table. It is assumed to be permanent and subject to seasonal fluctuations.

The potential expansiveness of the material encountered on the site was calculated according to the method proposed by Van der Merwe (1964). The following material characteristics are considered when applying this method:

- Clay content
- Plasticity index
- Liquid limit
- Linear shrinkage

The finding can be differentiated as follows:

Generally the materials encountered on site were silty sand. The foundation indicators indicate "low" heave potential across the study area.

Three (3) CBR tests were done and the results varied between 6 and 19% @ 95% Mod AASHTO, reflecting low to medium bearing capacities of approximately 54 to 171 KPa. The typical materials sampled on site classified as G8 to >G9 according to the COLTO classification system.

No pH and electrical conductivity samples were taken. Due to the nature of the development, corrosiveness is not considered to be a restrictive factor.

Five (5) Dynamic Cone Penetration (DCP) tests were conducted on site. Based on the DCP results attached to this report it is evident consistency increases with depth. The material near the surface is more silty and less dense (likely loose transported materials), while the lower layers were more consolidated and of higher consistency. DCP tests vary depending on the moisture conditions on site and may give lower in-situ CBR results in wet conditions and higher results in dry conditions.

The following geotechnical considerations that could influence structure were identified:

Engineering properties of soils:

- The NHBRC engineering geological zoning of this site is as follows: S. The Site Classes are S1 (100%). All the site classes are indicated on the soil profiles.
- Site Class S1 – Reinforced strip foot foundations are recommended as will be decided upon by the Structural Engineer. All trenches have to be inspected by the appointed Structural Engineer before steel is placed (if required) and concrete is poured.
- Although none of the refusals encountered were shallow, excavation constraints may be expected in excavations exceeding 800mm.

1. INTRODUCTION AND TERMS OF REFERENCE

Casper Badenhorst was appointed by TESTPRO Laboratory (Pty) Ltd to compile a materials report on Erf 1058, Whites Avenue, Hoekwil, Wilderness, located in George Local Municipality of the Western Cape Province. The site field investigation was undertaken according to the expected requirements for this project.

The following aspects were addressed in this report:

- 1.1 Geology and soil profiles
- 1.2 Geohydrology
- 1.3 Engineering properties of soil samples taken

The schedule of services includes trial pits (3 for this project), with material classifications (classified according to COLTO), grading analysis, Atterberg limits and potential expansiveness of the *in-situ* material. For the purpose of this study, 3 foundation indicators were sampled with 3 maximum dry density, optimum moisture content and California Bearing Ratio samples.

Table 1: Reference Summary

Description	Quantity	Relevant method or specification
Test Pits Excavated	3 test pits	As per quotation, by mini-excavator
Fieldwork and Sampling	3 samples	Sampled according to TMH 5 with relevance to SAICE Geotechnical Investigations Manual. No deviations were recorded.
Analysis of samples	3 samples	Subjected to analysis according to SANS 3001
Material Classifications	3 classifications	According to COLTO 1998

Phase 1: Field work, which includes the excavation of 3 test pits, profiled to at least 2 meters deep or to shallower refusal for soil profiling and sampling purposes as part of the contract.

Phase 2: Laboratory testing to establish the characteristics of the in-situ materials on site done by **TESTPRO Laboratory (Pty) Ltd**. The testing includes:

- Sieve Analysis and Grading
- Atterberg Limits
- Moisture Density Relationship and Californian Bearing Ratio

Phase 3: Assessment Reporting done by **Casper Badenhorst**, which includes the following:

- Assessment of the site conditions and recommendations thereon
- Engineering properties of soils and expected geotechnical constraints

This report outlines the method of the investigation and describes the geological conditions encountered. The results of the investigation are evaluated, and conclusions drawn with regard to the above objectives.

2. DESCRIPTION OF THE SITE AND ACCESS

The site is located on Erf 1058, Whites Avenue, Hoekwil, Wilderness located in George Local Municipality in the Western Cape Province.

The site coordinates are 33°59'20.27"S 22°35'55.96"E.

The area of the site is 1.2 hectares. Three (3) test pits were excavated by mini-excavator to adequately cover the study area and the soil profiles were described according to the method proposed by Jennings, Brink and Williams (1973).

The site location is indicated below: (Figure 1)

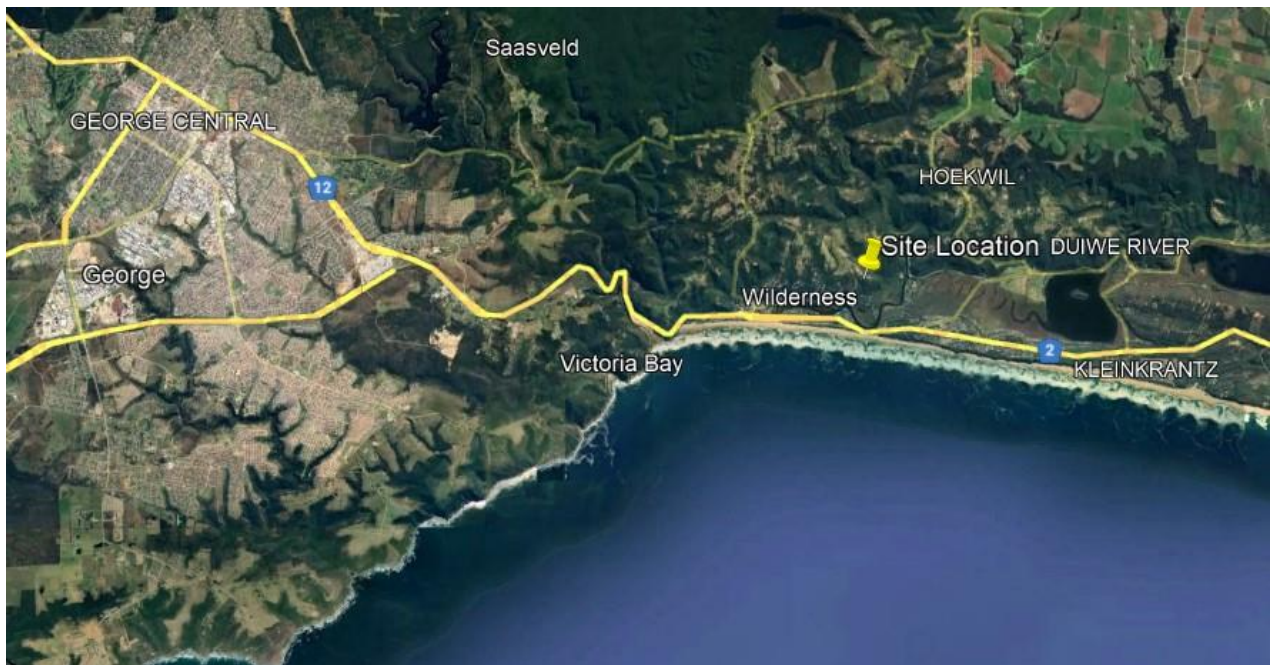


Figure 1: Site Location

3. INVESTIGATION PROCEDURE

3.1 Desk Study

A desk study involving the perusal of the 1:250 000 geological maps as well as a detailed geological description of the area by Brink (1979) was undertaken to establish broad geological boundaries. Geological information obtained from the Council of Geoscience is depicted in Figure 2 within section 4.1.

3.2 Field Work

The field work included the excavation of 3 test pits in order to determine the soil formations of the underlying soil and to obtain samples for possible laboratory testing.

The test pits were excavated by mini-excavator to a depth of 2 meters or refusal. The test pit positions are indicated on Figure 1. The soil profiling of the 3 test pits were carried out according to the guidelines proposed by Jennings et al (1973). The profile logs of the test pits are given in **Appendix A**. Soil samples were taken from strategic horizons along the sides of the test pits for laboratory testing (**Appendix B**).

3.3 Laboratory Testing

Soil samples taken during the field work stage were submitted to the laboratory at TESTPRO Laboratory (Pty) Ltd for the following testing: (as stipulated in the sub-consultant agreement)

- a) Foundation Indicator Test: SANS 3001 GR1, GR10 and ASTM D422
- b) Optimum Moisture Content and Maximum Dry Density Test: SANS 3001: GR20 and GR30
- c) Californian Bearing Ratio of a Soil Sample: SANS 3001 GR40

The test results are included in Appendix B at the back of the report.

4. SITE GEOLOGY AND CLIMATE

4.1 General Geology

The geological map from the Council for Geosciences indicates that the site is underlain by gneissic granite and granodiorite and albitite (intrusive) of the Maalgaten and related granites (Nmg) of the Namibian Period. The soil horizons consisted of silty sand materials as recorded in the attached soil profiles included within Annexure A.

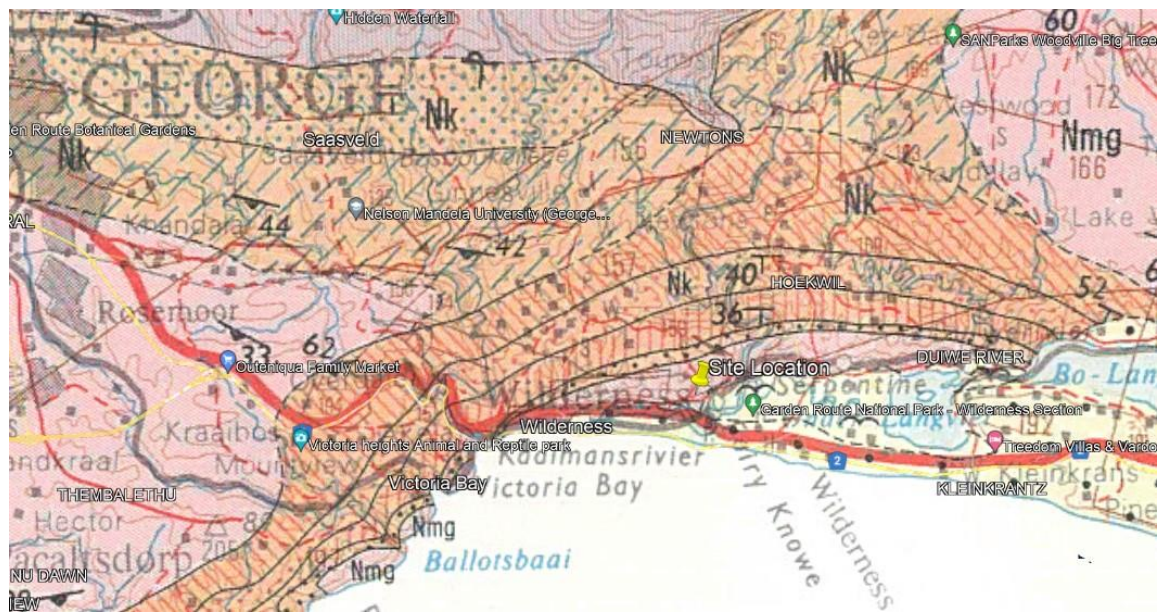


Figure 2: Geological Map of the Study Area

4.2 Topography, Drainage and Site Climate

The study area is located in Whites Road near the Touws River, south east of George in the Western Cape Province. The study area drains well by sheetwash to the south of the study area. Wilderness is a moderate climatic region with a Weinert N-value between 2 and 5. Chemical weathering may occur in the warm wet summer periods.

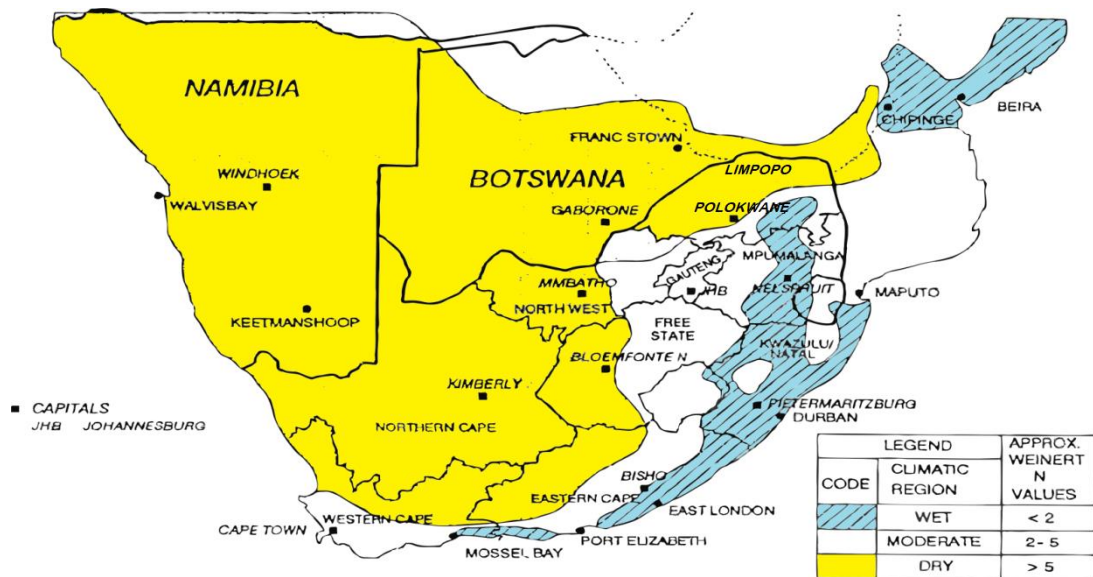


Figure 3: Macro-Climatic Regions of Southern Africa (Adapted from Weinert, 1980)

4.3 Geohydrology

Ground water was encountered at 0.64, it is not clear if this is a permanent or perched water table. It is assumed to be permanent and subject to seasonal fluctuations.

4.4 Dynamic Cone Penetration Tests

Five (5) Dynamic Cone Penetration (DCP) tests were conducted on site. Based on the DCP results attached to this report it is evident consistency increases with depth. The material near the surface is more silty and less dense (likely loose transported materials), while the lower layers were more consolidated and of higher consistency. DCP tests vary depending on the moisture conditions on site and may give lower in-situ CBR results in wet conditions and higher results in dry conditions.

5. SUMMARY OF LABORATORY RESULTS

Table 2: Summary of Laboratory Results

TP Nr	Clay %	Silt %	Sand %	Gravel %	PI %	CBR % @ 95%
TP1: 650-1200	8.3	13.4	65	13.2	7	19
TP2: 680-1400	11.3	65.6	15	8.2	9	6
TP3: 400-1550	7.1	66.5	14.7	11.6	8	6

The relevant engineering characteristics of the materials encountered have been evaluated by visual assessment during profiling and from the results of the field and laboratory testing; these may be summarized as follows:

5.1 Potential Expansiveness

The potential expansiveness of the materials encountered on the site was calculated according to the method proposed by Van der Merwe (1964). The following material characteristics are considered when applying this method:

- Clay content
- Plasticity index
- Liquid limit
- Linear shrinkage

The method of Van der Merwe (1964) was used to determine the potential heave of soil samples. In addition to Van der Merwe's method, the plasticity index and linear shrinkage of soil samples were used to indicate the soils potential expansiveness. From the laboratory test results the potential expansiveness of all soils on the site is as follows:

Generally the materials encountered on site were silty sand. The foundation indicators indicate "low" heave potential across the study area.

5.2 Excavation Classification

Excavatability is defined as the ease with which the ground can be dug to a depth of 1,5m. This is of importance for urban development as increased costs are associated with installing services or foundations in areas where difficulty is experienced during the investigation stage.

Three (3) test pits were excavated across the study area with two refusals encountered at depths less than 1.5meters. The average depth of the test pits were 1.38 meters. Excavatability constraints may be expected for excavations exceeding 1.5meters in depth.

In terms of the SABS 1200 the excavations can be classified as soft to intermediate to 1meter in depth. Excavations between 1.0 and 1.5 meters are considered as intermediate. Excavations in excess of 1.5meters are considered to be intermediate to hard.

5.3 Erodibility

There were no signs of piping (erosion) visible on site.

5.4 Ground Slope Stability

No unstable geological materials that can move either gradually (creep) or suddenly as a slump or a slide are visually present.

5.5 California Bearing Ratio Tests

Three (3) CBR tests were done and the results varied between 6 and 19% @ 95% Mod AASHTO, reflecting low to medium bearing capacities of approximately 54 to 171 KPa. The typical materials sampled on site classified as G8 to >G9 according to the COLTO classification system.

5.6 pH and Conductivity Tests

No pH and electrical conductivity samples were taken. Due to the nature of the development, corrosiveness is not considered to be a restrictive factor.

6. ENGINEERING PROPERTIES OF SOILS

The NHBRC engineering geological zoning of this site is as follows: S. The Site Classes are S1 (100%). All the site classes are indicated on the soil profiles.

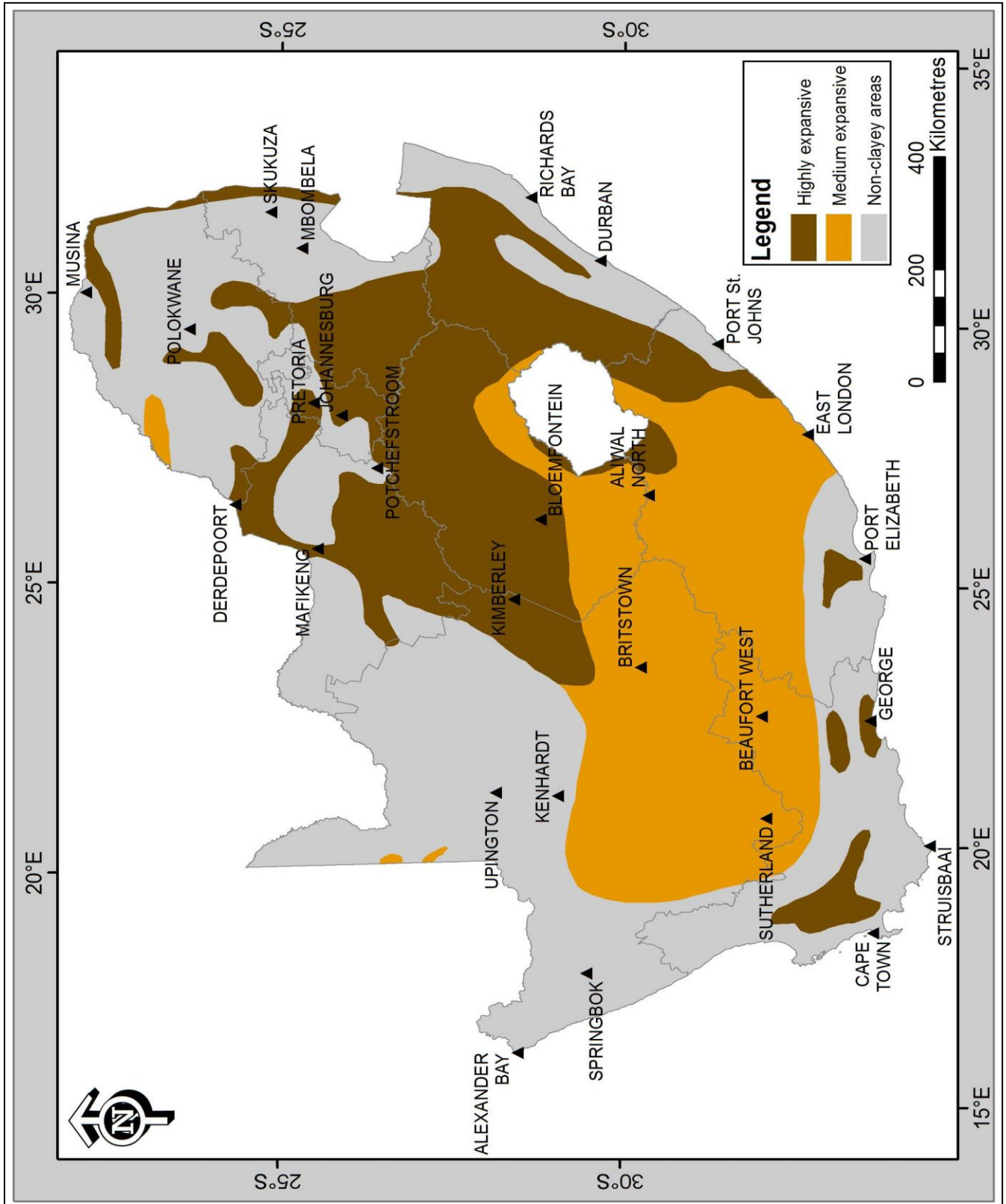


Figure 4: Regional Distribution of Expansive Clays

7. GEOTECHNICAL CONSIDERATIONS

7.1 Classification of Soils

The typical materials encountered on site were silty sand. Silty alluvial materials near the surface with the material becoming more gravelly with depth. The classification of the silty sand sampled (gneissic granite and granodiorite and albitite (intrusive)) classified as G8 to >G9 according to the COLTO classification system.

7.2 Excavability

Although none of the refusals encountered were shallow, excavation constraints may be expected in excavations exceeding 800mm

7.3 Soil Classification

The materials typically encountered on site were profiled as silty sand.

7.4 Ground Water

Ground water was encountered at 0.64, it is not clear if this is a permanent or perched water table. It is assumed to be permanent and subject to seasonal fluctuations.

7.5 Stability of Slopes and Excavations

The side walls were stable.

7.6 Flood Line

An exact flood line should be determined, but in this report, it is suggested that 1:50 year flood line is adopted.

8. CONCLUSION AND RECOMMENDATIONS

It is important to note that the recommendations are based primarily on the profiling of test pits and the interpolation of information between test pits. It is therefore possible that variations from the expected conditions can occur.

- 8.1 Classification of soils – Three (3) CBR tests were done and the results varied between 6 and 19% @ 95% Mod AASHTO, reflecting low to medium bearing capacities of approximately 54 to 171 KPa. The typical materials sampled on site classified as G8 to >G9 according to the COLTO classification system.
- 8.2 Excavatability - No significant problems were noted, with no refusals encountered at depths shallower than 800mm. Excavation constraints may be expected at depths exceeding 1meter.
- 8.3 Geohydrology - Excavations are to be adequately drained should rain water fill trenches during construction or if the water tables rise.
- 8.4 Construction Material - The low expansive materials found on this site are suitable for floor fill purposes. Where encountered, clayey materials should be cut to spoil.
- 8.5 Stability of Excavations - Excavations were all stable and no side walls collapsed.
- 8.6 The NHBRC engineering geological zoning of this site is as follows: S. The Site Classes are S1 (100%). All the site classes are indicated on the soil profiles.
- 8.7 Site Class S1 – Reinforced strip foot foundations are recommended as will be decided upon by the Structural Engineer. All trenches have to be inspected by the appointed Structural Engineer before steel is placed (if required) and concrete is poured.



CH BADENHORST Pr Tech Eng
ECSA Reg nr 9170001

Wilderness1058Report (WB)

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LIST OF APPENDICES

APPENDIX A: *Soil Profile Sheets*

APPENDIX B: *Laboratory Test Results*

APPENDIX A:
Soil Profile Sheets

APPENDIX B:

Laboratory Test Results



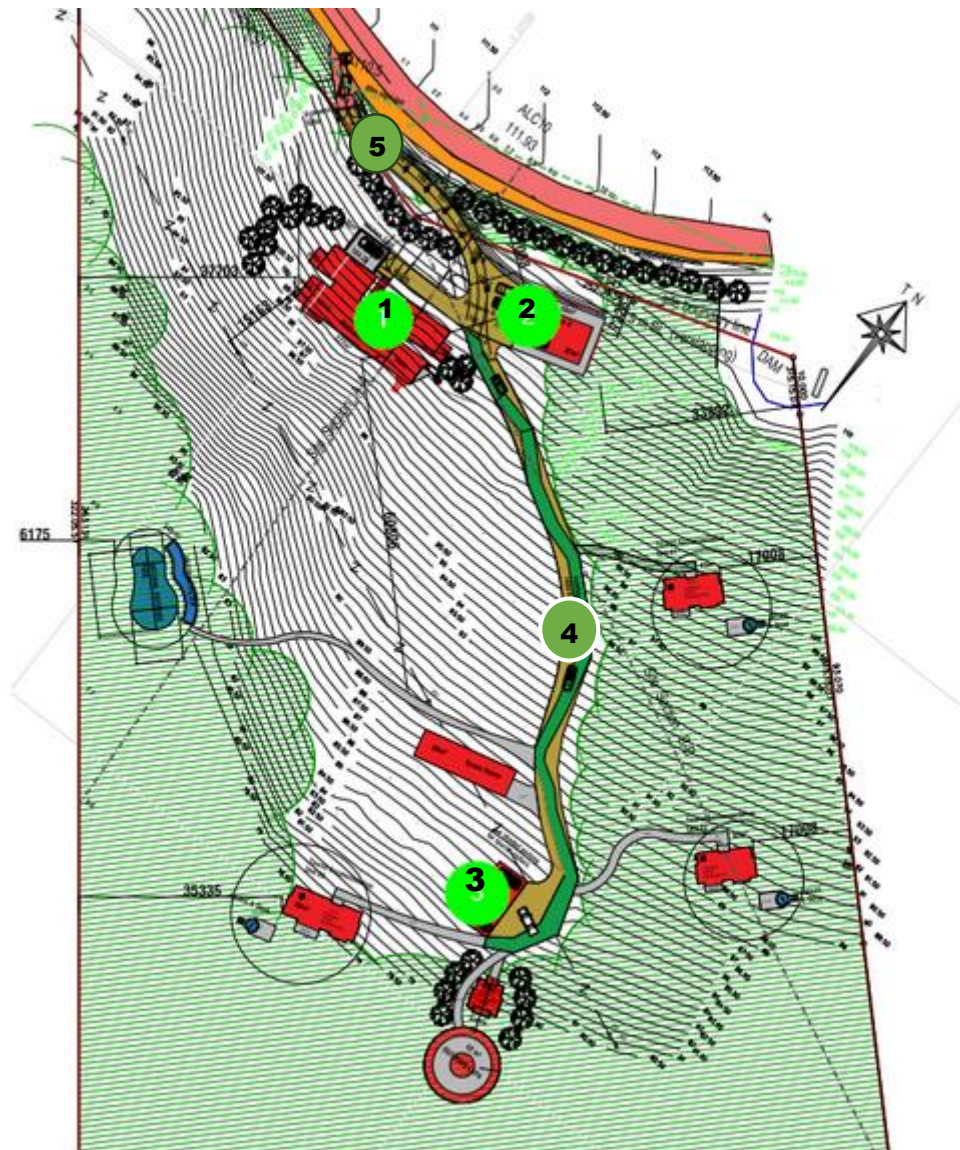
TESTPRO LABORATORY

Materials Testing Laboratory

Project: Geotechnical Investigation, Erf 1058 Whites Avenue, Hoekwil, Wilderness

Date: 04/07/2023

Our job nr: TP19163





TESTPRO LABORATORY
Materials Testing Laboratory



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Client:	Wealth Spring (Pty) Ltd
	Erf 1058
	Hoekwil
	-
Attention:	Alexander Polson, 0824819434

DYNAMIC CONE PENETROMETER(S) TEST REPORT (TMH6: ST6)

Job No:	TP19163
Order No:	-
Total number DCP tests:	5
Project Information:	Geotechnical Investigation: Erf 1058, Whites Avenue, Hoekwil
Number of pages:	6
Date Tested:	04/07/2023
Tested by:	Jaco v Rensburg
DCP no:	DCP 1
Sampling Plan:	As per client request
Soil Type:	Top Soil & Weathered Granite
Soil Conditions:	Optimum
Tests Requested/Method:	DCP TMH6: Method ST6

Summary of Positions	DCP test	Position
	TP1	Y 37 091 X 3 762 514
	TP2	Y 37 062 X 3 762 496
	TP3	Y 37 024 X 3 762 573
	TP4	Y 37 029 X 3 762 528
	TP5	Y 37 094 X 3 762 488
		-
		-
		-
		-
		-
		-
		-
		-
		-
		-
		-
		-
		-
		-
		-
Date Reported:	17/07/2023	

Deviations/Notes:

Remarks:

1. The results reported relate only to the positions tested. Further use of the above information is not the responsibility or liability of TESTPRO Laboratory.
2. This document is the correct record of all measurements made, and may not be reproduced other than with full written approval from the Technical Manager of TESTPRO Laboratory.
3. Measuring equipment is traceable to national standards (Where applicable).
4. CBR analysis done according to: The use and interpretation of the dynamic cone penetrometer (dcp) test by Paige-Green and L Du Plessis of CSIR Built Environment 2009

Jacobus Phillipus van Rensburg
Digitally signed by Jacobus Phillipus van Rensburg
Date: 2023.07.17 17:51:15 +02'00'

Jaco van Rensburg
Technical Signatory



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Materials Testing Laboratory



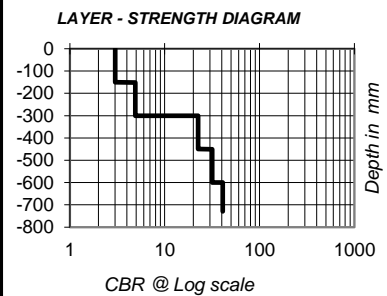
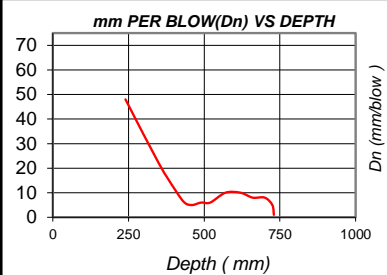
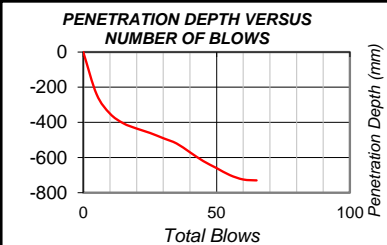
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P.O. Box 35, Hartenbos, 6520
e-mail : jaco@testpro.co.za

Job no:	TP19163	Order no:	-	Date:	17-07-2023
Client:	Wealth Spring (Pty) Ltd Erf 1058 Hoekwil	Description:	In-Situ		
Attention:	Alexander Polson, 0824819434	Position / TP	Y 37 091 X 3 762 514	1	
Project	Geotechnical Investigation: Erf 1058, Whites Avenue, Hoekwil				
		Level:	NGL		

DCP TEST REPORT

NUMBER OF BLOWS	DEPTH READING (mm)	PEN. PER 5 BLOWS	mm PER BLOW	NUMBER OF BLOWS	DEPTH READING (mm)	PEN. PER 5 BLOWS	mm PER BLOW
0	0			180			
5	240	240	48	185			
10	350	110	22	190			
15	405	55	11	195			
20	435	30	6	200			
25	460	25	5	205			
30	490	30	6	210			
35	520	30	6	215			
40	570	50	10	220			
45	620	50	10	225			
50	660	40	8	230			
55	700	40	8	235			
60	725	25	5	240			
65	730	5	1	245			
70				250			
75				255			
80				260			
85				265			
90				270			
95				275			
100				280			
105				285			
110				290			
115				295			
120				300			
125				305			
130				310			
135				315			
140				320			
145				325			
150				330			
155				335			
160				340			
165				345			
170				350			
175				355			



Comments: **Refusal at 730mm**

Jacobus Phillipus van Rensburg
Digitally signed by Jacobus Phillipus van Rensburg
Date: 2023.07.17 17:51:29 +02'00'

Jaco van Rensburg
Technical Signatory

No.	Depth(mm) From-To	Dn (mm/blow)	Roads		Foundations
			CBR	UCS (kPa)	Bearing Capacity (kPa)
1	1-150	48	3	39	69
2	151-300	33	5	61	102
3	301-450	10	23	233	341
4	451-600	8	32	314	448
Max	601-730	6	41	393	548

The DCP test should only be considered as an indication of the Bearing Capacity and CBR.



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Materials Testing Laboratory



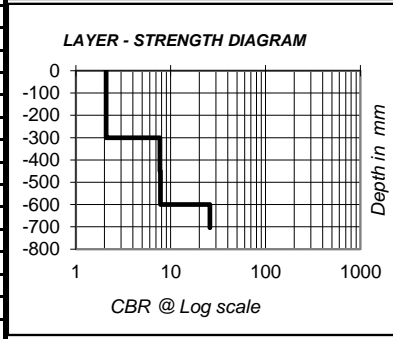
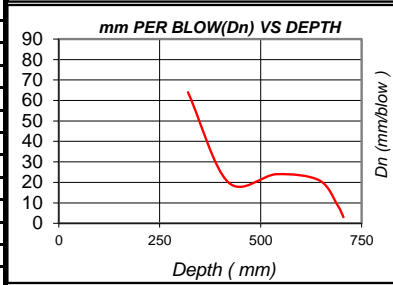
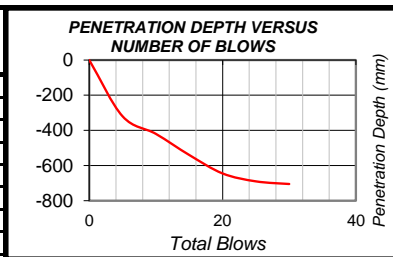
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Client:	Wealth Spring (Pty) Ltd Erf 1058 Hoekwil	Description:	In-Situ		
Attention:	Alexander Polson, 0824819434	Position / TP	Y 37 062 X 3 762 496	2	
Project	Geotechnical Investigation: Erf 1058, Whites Avenue, Hoekwil				
		Level:	NGL		

DCP TEST REPORT

NUMBER OF BLOWS	DEPTH READING (mm)	PEN. PER 5 BLOWS	mm PER BLOW	NUMBER OF BLOWS	DEPTH READING (mm)	PEN. PER 5 BLOWS	mm PER BLOW
0	0			180			
5	320	320	64	185			
10	420	100	20	190			
15	540	120	24	195			
20	645	105	21	200			
25	690	45	9	205			
30	705	15	3	210			
35				215			
40				220			
45				225			
50				230			
55				235			
60				240			
65				245			
70				250			
75				255			
80				260			
85				265			
90				270			
95				275			
100				280			
105				285			
110				290			
115				295			
120				300			
125				305			
130				310			
135				315			
140				320			
145				325			
150				330			
155				335			
160				340			
165				345			
170				350			
175				355			



Comments: **Refusal at 705mm**

Jacobus Phillipus van Rensburg
Digitally signed by Jacobus Phillipus van Rensburg
Date: 2023.07.17 17:51:40 +02'00'

Jaco van Rensburg
Technical Signatory

No.	Depth(mm) From-To	Dn (mm/blow)	In Situ Layer Strength		
			Roads CBR	UCS (kPa)	Foundations Bearing Capacity (kPa)
1	1-150	64	2	29	51
2	151-300	64	2	29	51
3	301-450	23	8	90	145
4	451-600	23	8	91	146
Max	601-705	9	26	263	381

The DCP test should only be considered as an indication of the Bearing Capacity and CBR.



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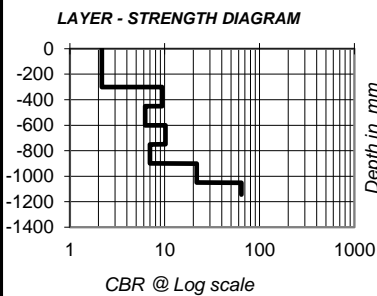
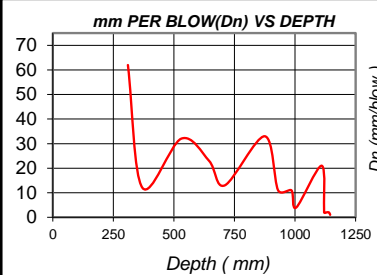
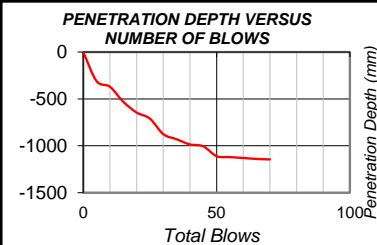
5 Voorbaai Crescent, Bayview, Hartenbos
Tel. : (044) 695 0831

P.O. Box 35, Hartenbos, 6520
e-mail : jaco@testpro.co.za

Job no:	TP19163	Order no:	-	Date:	17-07-2023
Client:	Wealth Spring (Pty) Ltd Erf 1058 Hoekwil	Description:	In-Situ		
Attention:	Alexander Polson, 0824819434	Position / TP	Y 37 024 X 3 762 573	3	
Project	Geotechnical Investigation: Erf 1058, Whites Avenue, Hoekwil				
		Level:	NGL		

DCP TEST REPORT

NUMBER OF BLOWS	DEPTH READING (mm)	PEN. PER 5 BLOWS	mm PER BLOW	NUMBER OF BLOWS	DEPTH READING (mm)	PEN. PER 5 BLOWS	mm PER BLOW
0	0			180			
5	310	310	62	185			
10	370	60	12	190			
15	530	160	32	195			
20	645	115	23	200			
25	710	65	13	205			
30	875	165	33	210			
35	930	55	11	215			
40	985	55	11	220			
45	1005	20	4	225			
50	1110	105	21	230			
55	1120	10	2	235			
60	1130	10	2	240			
65	1140	10	2	245			
70	1145	5	1	250			
75				255			
80				260			
85				265			
90				270			
95				275			
100				280			
105				285			
110				290			
115				295			
120				300			
125				305			
130				310			
135				315			
140				320			
145				325			
150				330			
155				335			
160				340			
165				345			
170				350			
175				355			



Comments: **Refusal at 1145mm**

Jacobus Phillipus van Rensburg
Digitally signed by Jacobus Phillipus van Rensburg
Date: 2023.07.17 17:51:52 +02'00'

Jaco van Rensburg
Technical Signatory

No.	Depth(mm) From-To	Dn (mm/blow)	Roads		Foundations
			CBR	UCS (kPa)	Bearing Capacity (kPa)
1	1-150	62	2	30	53
2	151-300	62	2	30	53
3	301-450	20	9	108	170
4	451-600	27	6	75	122
5	601-750	18	10	116	181
6	751-900	25	7	83	134
Max	1051-1145	4	64	585	785

The DCP test should only be considered as an indication of the Bearing Capacity and CBR.



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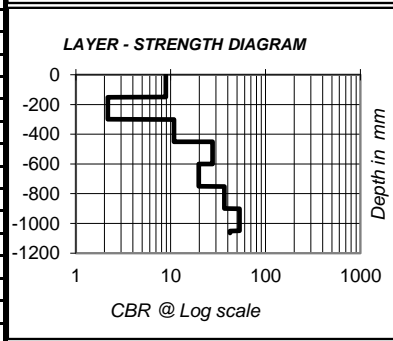
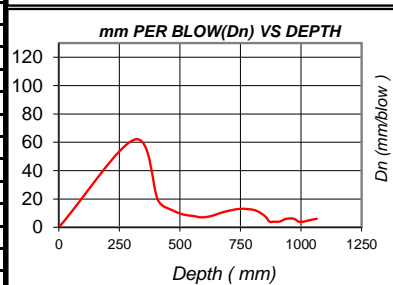
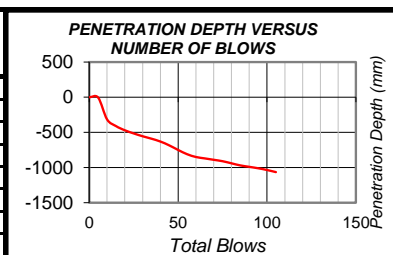
5 Voorbaai Crescent, Bayview, Hartenbos
Tel. : (044) 695 0831

P.O. Box 35, Hartenbos, 6520
e-mail : jaco@testpro.co.za

Job no:	TP19163	Order no:	-	Date:	17-07-2023
Client:	Wealth Spring (Pty) Ltd Erf 1058 Hoekwil	Description:	In-Situ		
Attention:	Alexander Polson, 0824819434	Position / TP	Y 37 029 X 3 762 528	4	
Project	Geotechnical Investigation: Erf 1058, Whites Avenue, Hoekwil				
		Level:	NGL		

DCP TEST REPORT

NUMBER OF BLOWS	DEPTH READING (mm)	PEN. PER 5 BLOWS	mm PER BLOW	NUMBER OF BLOWS	DEPTH READING (mm)	PEN. PER 5 BLOWS	mm PER BLOW
0	0			180			
5	5	5	1	185			
10	315	310	62	190			
15	410	95	19	195			
20	470	60	12	200			
25	515	45	9	205			
30	555	40	8	210			
35	590	35	7	215			
40	630	40	8	220			
45	685	55	11	225			
50	750	65	13	230			
55	810	60	12	235			
60	850	40	8	240			
65	870	20	4	245			
70	890	20	4	250			
75	910	20	4	255			
80	940	30	6	260			
85	970	30	6	265			
90	990	20	4	270			
95	1010	20	4	275			
100	1035	25	5	280			
105	1065	30	6	285			
110				290			
115				295			
120				300			
125				305			
130				310			
135				315			
140				320			
145				325			
150				330			
155				335			
160				340			
165				345			
170				350			
175				355			



Comments: **Refusal at 1065mm**

Jacobus Phillipus van Rensburg
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Date: 2023.07.17 17:52:03 +02'00'

Jaco van Rensburg
Technical Signatory

No.	Depth(mm) From-To	Dn (mm/blow)	Roads		Foundations
			CBR	UCS (kPa)	Bearing Capacity (kPa)
1	1-150	20	9	103	163
2	151-300	62	2	30	53
3	301-450	17	11	122	190
4	451-600	8	28	278	401
5	601-750	11	20	207	307
6	751-900	7	37	359	504
Max	1051-1065	6	42	403	561

The DCP test should only be considered as an indication of the Bearing Capacity and CBR.



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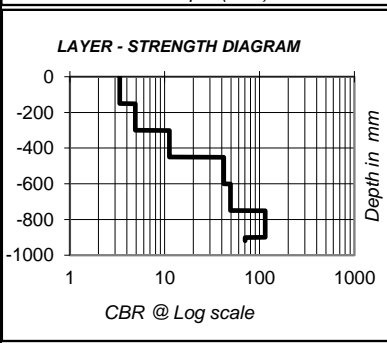
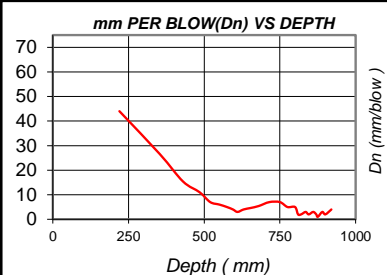
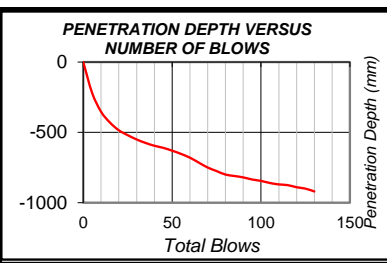
5 Voorbaai Crescent, Bayview, Hartenbos
Tel. : (044) 695 0831

P.O. Box 35, Hartenbos, 6520
e-mail : jaco@testpro.co.za

Job no:	TP19163	Order no:	-	Date:	17-07-2023
Client:	Wealth Spring (Pty) Ltd Erf 1058 Hoekwil	Description:	In-Situ		
Attention:	Alexander Polson, 0824819434	Position / TP	Y 37 094 X 3 762 488	5	
Project	Geotechnical Investigation: Erf 1058, Whites Avenue, Hoekwil				
		Level:	NGL		

DCP TEST REPORT

NUMBER OF BLOWS	DEPTH READING (mm)	PEN. PER 5 BLOWS	mm PER BLOW	NUMBER OF BLOWS	DEPTH READING (mm)	PEN. PER 5 BLOWS	mm PER BLOW
0	0			180			
5	220	220	44	185			
10	353	133	26.6	190			
15	430	77	15.4	195			
20	485	55	11	200			
25	520	35	7	205			
30	550	30	6	210			
35	575	25	5	215			
40	595	20	4	220			
45	610	15	3	225			
50	630	20	4	230			
55	653	23	4.6	235			
60	680	27	5.4	240			
65	715	35	7	245			
70	750	35	7	250			
75	775	25	5	255			
80	800	25	5	260			
85	810	10	2	265			
90	820	10	2	270			
95	835	15	3	275			
100	845	10	2	280			
105	860	15	3	285			
110	870	10	2	290			
115	875	5	1	295			
120	890	15	3	300			
125	900	10	2	305			
130	920	20	4	310			
135				315			
140				320			
145				325			
150				330			
155				335			
160				340			
165				345			
170				350			
175				355			



Comments: **Refusal at 920mm**

Jacobus Phillipus van Rensburg
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Date: 2023.07.17 17:52:14 +02'00'

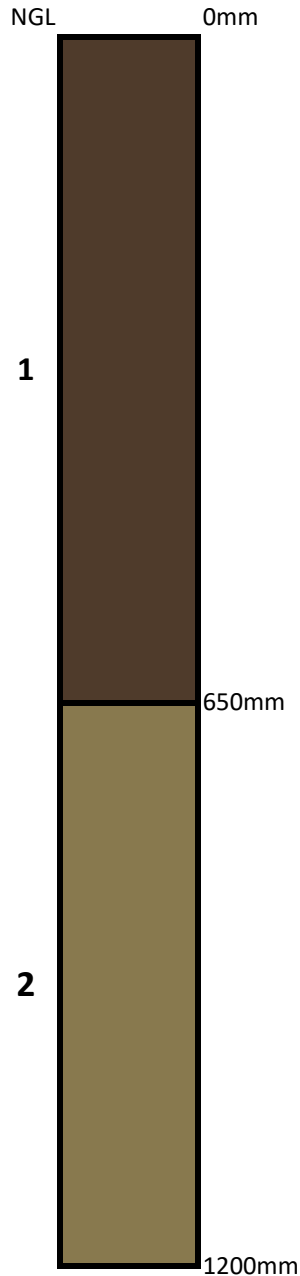
Jaco van Rensburg
Technical Signatory

No.	Depth(mm) From-To	Dn (mm/blow)	Roads		Foundations
			CBR	UCS (kPa)	Bearing Capacity (kPa)
1	1-150	44	3	44	75
2	151-300	33	5	61	101
3	301-450	17	11	126	196
4	451-600	6	42	401	557
5	601-750	5	49	464	636
6	751-900	3	115	972	1244
Max	901-920	4	70	635	845

The DCP test should only be considered as an indication of the Bearing Capacity and CBR.

PROPOSED DEVELOPMENT ON ERF 1058, WHITES ROAD HEOKWIL, WILDERNESS

TEST PIT 1 : PROFILE



1 Moist, dark brown, loose, soft, fine intact transported sandy topsoil with organic material. No sample.

2 Moist, yellowish orange olive, dense to very dense, stiff, medium coarse intact residual weathered granite gravel. Sample no 2789.

Comments :

No seepage water was observed.
Refusal in test pit at NGL -1200mm.
Excavation method : Mini tracked excavator
Date of excavation : 4 July 2023

PROPOSED DEVELOPMENT ON ERF 1058, WHITES ROAD HEOKWIL, WILDERNESS

TEST PIT 2 : PROFILE

NGL 0mm

1

Moist, dark brown, medium dense, soft, fine intact transported sandy topsoil with organic material. No sample.

680mm

2

Moist, orange to yellow olive, dense to very dense, stiff, medium coarse intact residual weathered granite gravel. Sample no 2790.

1400mm

Comments :

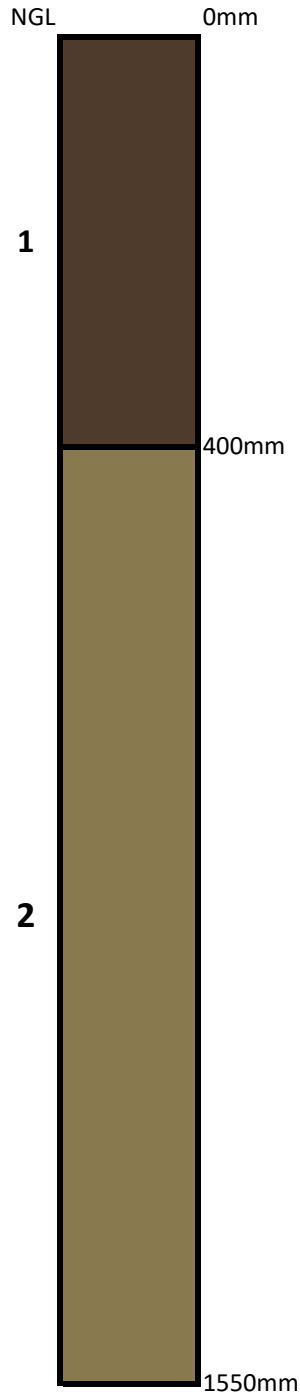
No seepage water was observed.
Refusal in test pit at NGL -1400mm.
Excavation method : Mini tracked excavator
Date of excavation : 4 July 2023



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PROPOSED DEVELOPMENT ON ERF 1058, WHITES ROAD HEOKWIL, WILDERNESS

TEST PIT 3 : PROFILE



Moist, dark brown, medium dense, soft, fine intact transported sandy topsoil with organic material. No sample.

Moist, orange to yellow grey olive, dense, stiff, medium coarse intact residual clayey weathered granite gravel. Sample no 2788.

Comments :

Seepage water was observed at NGL -640mm.
No refusal in test pit.
Excavation method : Mini tracked excavator
Date of excavation : 4 July 2023



5 Voorbaai Crescent, Bayview, Hartenbos
Tel. : (044) 695 0831

P.O. Box 35, Hartenbos, 6520
e-mail : jaco@testpro.co.za



Client:	Wealth Spring (Pty) Ltd
	Erf 1058
	Hoekwil
	-
Attention:	Alexander Polson, 0824819434

SOIL ANALYSIS TEST REPORT

Job No:	TP19163
Order No:	-
Sample No:	2788
Project Information:	Geotechnical Investigation: Erf 1058 Whites Avenue, Hoekwil, Wilderness
Number of pages:	2
Date Received:	05/07/2023
Date Sampled:	05/07/2023
Sampled by:	TESTPRO Laboratory
Sample plan included:	No
Environmental Conditions:	
Delivered by:	Client
Sampling method:	TMH5:MA2
Source of sample:	Test Pit 3
Condition of sample:	Good
Conformity statement requested by client:	Yes
Subcontractor (if any)	No
Material description:	Orange to yellow grey olive clayey weathered granite gravel
Tests Requested/Method:	SANS
	Grading SANS 3001-GR1
	Atterberg Limits SANS 3001-GR10 & -GR20
	M.D.D SANS 3001-GR30 & -GR20
	C.B.R. SANS 3001-GR40 & -GR20
Date Completed:	18/07/2023

Notes/Deviations



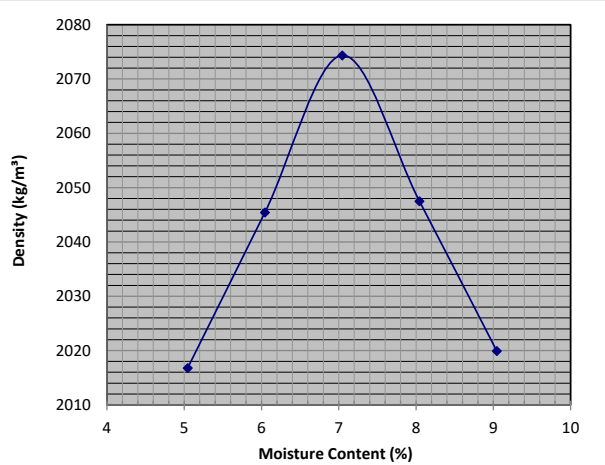
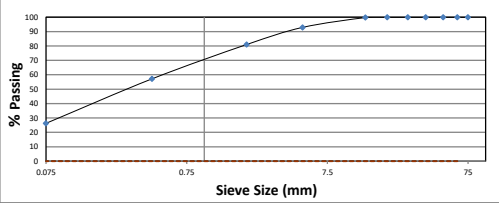

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Remarks:

- All tests marked (#) are not included in our schedule of Accreditation.
- The results reported relate only to the sample tested. Statement of conformity are not made or implied in the report, unless required by the client. Review the results, expanded uncertainty, and specifications to ensure they meet your requirements.
The final decision rule will be the customers risk and not the Laboratory.
The Laboratory does not report a statement of conformity unless it is inherent in the requested specification or standard.
- This document is the correct record of all measurements made, and may not be reproduced other than with full written approval from the Technical Manager of TESTPRO Laboratory.
- Measuring equipment is traceable to national standards (Where applicable).
- Samples will be retained, for a one month period, before disposal.
- Tests are reported with an approximate 95% level of confidence.
- Uncertainty of measurement will only be reported if requested by the client.
- Opinions & Interpretations are not included in our schedule of Accreditation.

Jacobus Phillipus van Rensburg
Digitally signed by Jacobus Phillipus van Rensburg
Date: 2023.07.19 10:03:36 +02'00'

Technical Signatory
Jaco van Rensburg

																																																																																																																																																																											
5 Voorbaai Crescent, Bayview, Hartenbos Tel. : (044) 695 0831		P.O. Box 35, Hartenbos, 6520 e-mail : jaco@testpro.co.za																																																																																																																																																																									
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		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Test</th> <th>Results</th> <th>Specifications</th> <th>Opinion</th> </tr> <tr> <td>Grading Modulus</td> <td>1.4</td> <td>0.75<2.7</td> <td style="text-align: center;">✓</td> </tr> <tr> <td>Coarse Sand Ratio</td> <td>29</td> <td>N/A</td> <td></td> </tr> <tr> <td colspan="4" style="text-align: center;">Strength (kN)</td> </tr> <tr> <td>10% FACT (Dry)</td> <td></td> <td>Mudrock Only</td> <td></td> </tr> <tr> <td>10% FACT (Wet)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Wet/Dry Rel. (%)</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="4" style="text-align: center;">CBR</td> </tr> <tr> <td>Moulding MC%</td> <td>7.0</td> <td></td> <td></td> </tr> <tr> <td>CBR @ 98%</td> <td>12</td> <td></td> <td></td> </tr> <tr> <td>CBR @ 97%</td> <td>9</td> <td></td> <td></td> </tr> <tr> <td>CBR @ 95%</td> <td>6</td> <td></td> <td></td> </tr> <tr> <td>CBR @ 93%</td> <td>4</td> <td>Min 7</td> <td style="text-align: center;">✗</td> </tr> <tr> <td>CBR @ 90%</td> <td>2</td> <td></td> <td></td> </tr> <tr> <td colspan="4" style="text-align: center;">Swell</td> </tr> <tr> <td>Swell @ 100%</td> <td>1.7</td> <td>Swell<1.5%</td> <td style="text-align: center;">✗</td> </tr> <tr> <td colspan="4" style="text-align: center;">Durability (%)</td> </tr> <tr> <td>ACV (Dry)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>ACV (Wet)</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="4" style="text-align: center;">Flakiness Index</td> </tr> <tr> <td>20mm<28mm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>14mm<20mm</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="4" style="text-align: center;">Atterberg Limits</td> </tr> <tr> <td colspan="4" style="text-align: center;">-0.425mm</td> </tr> <tr> <td>Liquid Limit</td> <td>28</td> <td></td> <td></td> </tr> <tr> <td>Plastic Limit</td> <td>20</td> <td></td> <td></td> </tr> <tr> <td>Linear Shrinkage</td> <td>3.5</td> <td></td> <td></td> </tr> <tr> <td>LSx%Pass0.425</td> <td>200</td> <td></td> <td></td> </tr> <tr> <td>Plasticity index</td> <td>8</td> <td>Max 14.1</td> <td style="text-align: center;">✓</td> </tr> <tr> <td colspan="4" style="text-align: center;">-0.075mm</td> </tr> <tr> <td>Liquid Limit</td> <td>-</td> <td></td> <td></td> </tr> <tr> <td>Plastic Limit</td> <td>-</td> <td></td> <td></td> </tr> <tr> <td>Linear Shrinkage</td> <td>-</td> <td></td> <td></td> </tr> <tr> <td>Plasticity index</td> <td>-</td> <td></td> <td></td> </tr> <tr> <td>Classification:</td> <td colspan="3" style="text-align: center;"><G9</td> </tr> <tr> <td colspan="2" style="text-align: center;"> Fractured Faces </td> <td colspan="2" style="text-align: center;"> Digitally signed by Jacobus Phillipus van Rensburg Date: 2023.07.19 10:03:54 +02'00' </td> </tr> <tr> <td>Size</td> <td>Fractured Faces %</td> <td>Size</td> <td>Fractured Faces %</td> </tr> <tr> <td>37.5</td> <td></td> <td>14</td> <td></td> </tr> <tr> <td>28</td> <td></td> <td>5</td> <td></td> </tr> <tr> <td>20</td> <td></td> <td>All>5</td> <td></td> </tr> <tr> <td colspan="2" style="text-align: center;"> In Spec </td> <td colspan="2" style="text-align: center;"> Technical Signatory Jaco van Rensburg </td> </tr> <tr> <td colspan="2" style="text-align: center;"> Out of Spec </td> <td colspan="2" style="text-align: center;"> Even with a 95% certainty, reading could be out of spec. </td> </tr> </table>		Test	Results	Specifications	Opinion	Grading Modulus	1.4	0.75<2.7	✓	Coarse Sand Ratio	29	N/A		Strength (kN)				10% FACT (Dry)		Mudrock Only		10% FACT (Wet)				Wet/Dry Rel. (%)				CBR				Moulding MC%	7.0			CBR @ 98%	12			CBR @ 97%	9			CBR @ 95%	6			CBR @ 93%	4	Min 7	✗	CBR @ 90%	2			Swell				Swell @ 100%	1.7	Swell<1.5%	✗	Durability (%)				ACV (Dry)				ACV (Wet)				Flakiness Index				20mm<28mm				14mm<20mm				Atterberg Limits				-0.425mm				Liquid Limit	28			Plastic Limit	20			Linear Shrinkage	3.5			LSx%Pass0.425	200			Plasticity index	8	Max 14.1	✓	-0.075mm				Liquid Limit	-			Plastic Limit	-			Linear Shrinkage	-			Plasticity index	-			Classification:	<G9			Fractured Faces		Digitally signed by Jacobus Phillipus van Rensburg Date: 2023.07.19 10:03:54 +02'00'		Size	Fractured Faces %	Size	Fractured Faces %	37.5		14		28		5		20		All>5		In Spec		Technical Signatory Jaco van Rensburg		Out of Spec		Even with a 95% certainty, reading could be out of spec.	
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10% FACT (Dry)		Mudrock Only																																																																																																																																																																									
10% FACT (Wet)																																																																																																																																																																											
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CBR																																																																																																																																																																											
Moulding MC%	7.0																																																																																																																																																																										
CBR @ 98%	12																																																																																																																																																																										
CBR @ 97%	9																																																																																																																																																																										
CBR @ 95%	6																																																																																																																																																																										
CBR @ 93%	4	Min 7	✗																																																																																																																																																																								
CBR @ 90%	2																																																																																																																																																																										
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Swell @ 100%	1.7	Swell<1.5%	✗																																																																																																																																																																								
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Plastic Limit	20																																																																																																																																																																										
Linear Shrinkage	3.5																																																																																																																																																																										
LSx%Pass0.425	200																																																																																																																																																																										
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Plastic Limit	-																																																																																																																																																																										
Linear Shrinkage	-																																																																																																																																																																										
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Classification:	<G9																																																																																																																																																																										
Fractured Faces		Digitally signed by Jacobus Phillipus van Rensburg Date: 2023.07.19 10:03:54 +02'00'																																																																																																																																																																									
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Out of Spec		Even with a 95% certainty, reading could be out of spec.																																																																																																																																																																									



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e-mail : jaco@testpro.co.za



Client:	Wealth Spring (Pty) Ltd
	Erf 1058
	Hoekwil
	-
Attention:	Alexander Polson, 0824819434

SOIL ANALYSIS TEST REPORT

Job No:	TP19163	
Order No:	-	
Sample No:	2789	
Project Information:	Geotechnical Investigation: Erf 1058 Whites Avenue, Hoekwil, Wilderness	
Number of pages:	2	
Date Received:	05/07/2023	
Date Sampled:	05/07/2023	
Sampled by:	TESTPRO Laboratory	
Sample plan included:	No	
Environmental Conditions:	Rainy /	Cold /
Delivered by:	Client	
Sampling method:	TMH5:MA2	
Source of sample:	Test Pit 1	
Condition of sample:	Good	
Conformity statement requested by client:	Yes	
Subcontractor (if any)	No	
Material description:	Yellowish orange olive weathered granite gravel	
Tests Requested/Method:	SANS	
	Grading	SANS 3001-GR1
	Atterberg Limits	SANS 3001-GR10 & -GR20
	M.D.D	SANS 3001-GR30 & -GR20
	C.B.R.	SANS 3001-GR40 & -GR20
Date Completed:	18/07/2023	

Notes/Deviations



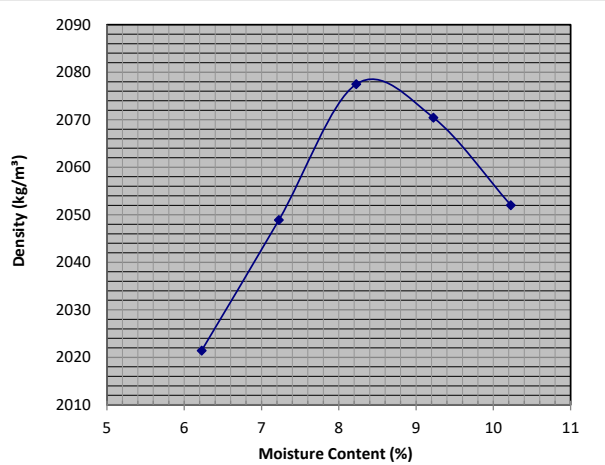

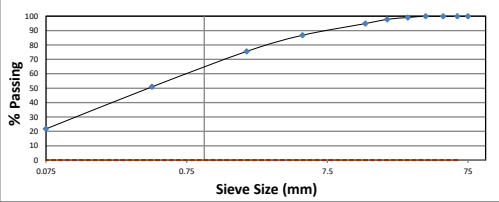
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Remarks:

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- Samples will be retained, for a one month period, before disposal.
- Tests are reported with an approximate 95% level of confidence.
- Uncertainty of measurement will only be reported if requested by the client.
- Opinions & Interpretations are not included in our schedule of Accreditation.

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Jaco van Rensburg

			
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Client:	Wealth Spring (Pty) Ltd Erf 1058 Hoekwil	Date Reported:	19/07/2023
		Job nr:	TP19163
Attention:	Alexander Polson, 0824819434	Specification:	COLTO
		Order no:	-
		Project:	Geotechnical Investigation: Erf 1058 Whites Avenue, Hoekwil, Wilderness
SOIL ANALYSIS TEST REPORT			
SAMPLE INFORMATION		MATERIAL PROPERTIES	
Material Description	Yellowish orange olive weathered granite gravel		
Source	Test Pit 1	Position/ Layer	Layer 2
Date Received	05/07/2023	Date Tested	18/07/2023
Sampling Method	TMH5:MA2	Sample Number	2789
MOD, BD & AD Analysis			
MDD	2078	kg/m ³	OMC 8.4
BD	-		WA -
AD	-		%
Method	Scalped	% Scalped	0.0
Uncertainty			
MDD		kg/m ³	OMC
			
			
Test	Results	Specifications	Opinion
Grading Modulus	1.5	0.75<2.7	✓
Coarse Sand Ratio	33	N/A	
Strength (kN)			
10% FACT (Dry)		Mudrock Only	
10% FACT (Wet)			
Wet/Dry Rel. (%)			
CBR			
Moulding MC%	8.3		
CBR @ 98%	32		
CBR @ 97%	27		
CBR @ 95%	19		
CBR @ 93%	13	Min 10	✓
CBR @ 90%	7		
Swell			
Swell @ 100%	0.4	Max 1.5%	✓
Durability (%)			
ACV (Dry)			
ACV (Wet)			
Flakiness Index			
20mm<28mm			
14mm<20mm			
Atterberg Limits			
-0.425mm			
Liquid Limit	24		
Plastic Limit	17		
Linear Shrinkage	2.0		
LSx%Pass0.425	102		
Plasticity index	7	Max 14.6	✓
-0.075mm			
Liquid Limit	-		
Plastic Limit	-		
Linear Shrinkage	-		
Plasticity index	-		
Classification:	G8		
Fractured Faces		In Spec Out of Spec	
Size	Fractured Faces %	Size	Fractured Faces %
37.5		14	
28		5	
20		All>5	
Even with a 95% certainty, reading could be out of spec.			
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Client:	Wealth Spring (Pty) Ltd
	Erf 1058
	Hoekwil
	-
Attention:	Alexander Polson, 0824819434

SOIL ANALYSIS TEST REPORT

Job No:	TP19163
Order No:	-
Sample No:	2790
Project Information:	Geotechnical Investigation: Erf 1058 Whites Avenue, Hoekwil, Wilderness
Number of pages:	2
Date Received:	05/07/2023
Date Sampled:	05/07/2023
Sampled by:	TESTPRO Laboratory
Sample plan included:	No
Environmental Conditions:	
Delivered by:	Client
Sampling method:	TMH5:MA2
Source of sample:	Test Pit 2
Condition of sample:	Good
Conformity statement requested by client:	Yes
Subcontractor (if any)	No
Material description:	Orange to yellow olive weathered granite gravel
Tests Requested/Method:	SANS
	Grading SANS 3001-GR1
	Atterberg Limits SANS 3001-GR10 & -GR20
	M.D.D SANS 3001-GR30 & -GR20
	C.B.R. SANS 3001-GR40 & -GR20
Date Completed:	18/07/2023

Notes/Deviations

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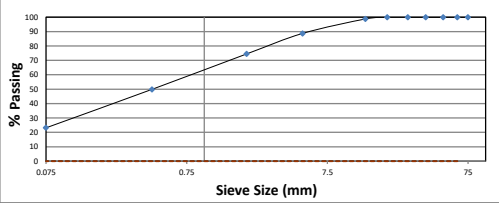
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Rensburg

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Client:	Wealth Spring (Pty) Ltd Erf 1058 Hoekwil	Date Reported:	19/07/2023
		Job nr:	TP19163
		Specification:	COLTO
		Order no:	-
Attention:	Alexander Polson, 0824819434	Project: Geotechnical Investigation: Erf 1058 Whites Avenue, Hoekwil, Wilderness	
SOIL ANALYSIS TEST REPORT			
SAMPLE INFORMATION		MATERIAL PROPERTIES	
Material Description	Orange to yellow olive weathered granite gravel		
Source	Test Pit 2	Position/ Layer	Layer 2
Date Received	05/07/2023	Date Tested	18/07/2023
Sampling Method	TMH5:MA2	Sample Number	2790
MOD, BD & AD Analysis			
MDD	2142	kg/m ³	OMC 6.9
BD	-		WA -
AD	-		%
Method	Scalped	% Scalped	0.0
Uncertainty			
MDD		kg/m ³	OMC
GRAVING			
Sieve Size	% Passing	G ₉ Specifications	Uncertainty
75	100		Opinion
63	100		✓ or x
50	100		
37.5	100		
28	100		
20	100		
14	99		
5	89		
2	74		
0.425	50		
0.075	23.2		
SIEVE ANALYSIS			
			
Test	Results	Specifications	Opinion
Grading Modulus	1.5	0.75<2.7	✓
Coarse Sand Ratio	33	N/A	
Strength (kN)			
10% FACT (Dry)		Mudrock Only	
10% FACT (Wet)			
Wet/Dry Rel. (%)			
CBR			
Moulding MC%	6.9		
CBR @ 98%	7		
CBR @ 97%	7		
CBR @ 95%	6		
CBR @ 93%	6	Min:7	*
CBR @ 90%	5		
Swell			
Swell @ 100%	0.2	Swell<1.5%	✓
Durability (%)			
ACV (Dry)			
ACV (Wet)			
Flakiness Index			
20mm<28mm			
14mm<20mm			
Atterberg Limits			
-0.425mm			
Liquid Limit	26		
Plastic Limit	17		
Linear Shrinkage	3.5		
LSx%Pass0.425	175		
Plasticity index	9	Max 14.6	✓
-0.075mm			
Liquid Limit	-		
Plastic Limit	-		
Linear Shrinkage	-		
Plasticity index	-		
Classification:	<G9		
Fractured Faces			
Size	Fractured Faces %	Size	Fractured Faces %
37.5		14	
28		5	
20		All>5	
		#N/A	
		In Spec	
		Out of Spec	
		Even with a 95% certainty, reading could be out of spec.	
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Materials Testing Laboratory

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P.O. Box 35, Hartenbos, 6520
e-mail : jaco@testpro.co.za



Client:	Wealth Spring (Pty) Ltd
	Erf 1058
	Hoekwil
	-
Attention:	Alexander Polson, 0824819434

FOUNDATION INDICATOR TEST REPORT

Job No:	TP19163	
Sample No:	2788	
Project Information:	Geotechnical Investigation: Erf 1058 Whites Avenue, Hoekwil, Wilderness	
Number of pages:	2	
Date Received:	05/07/2023	
Sampled by:	TESTPRO Laboratory	
Delivered by:	Testpro Laboratory	
Sampling plan:	-	
Source of sample	Test Pit 3	
Condition of sample:	Good	
Material description:	Weathered Granite Gravel	
Tests Requested/Method:	Foundation Indicator	
	Grading	SANS 3001-GR1
	Atterberg Limits	SANS 3001-GR10
	Hydrometer	SANS 3001-GR3#
Sampling Method:	A natural gravel, soil or sand	TMH5:MA2
Date Completed:	19/07/2023	

Deviations/Notes

Table 2: ARD taken as 2.65
Hydrometer analysis done on -0.425mm fraction
-
Atterberg Limits analysis done on -0.425mm fraction.



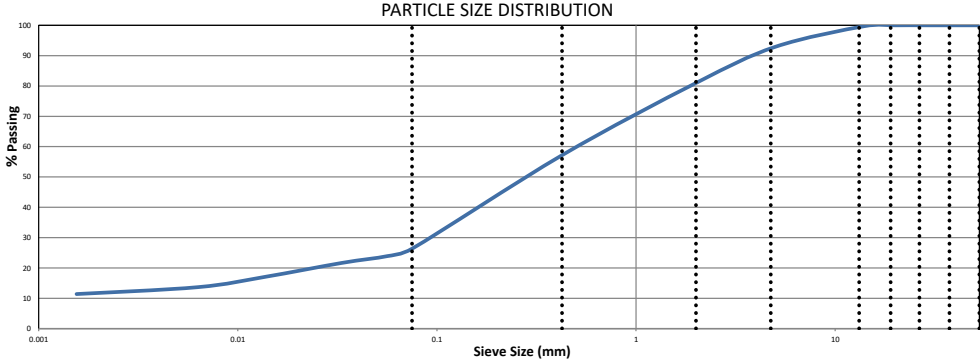
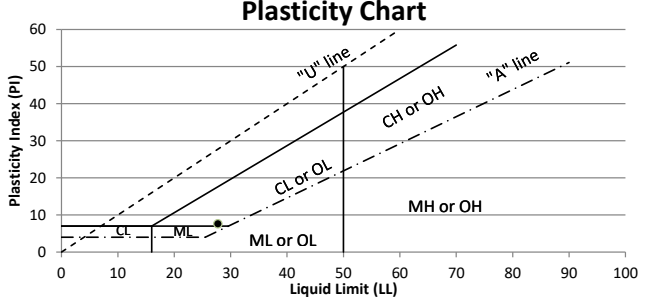
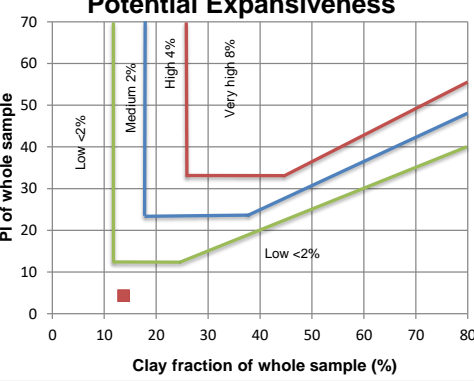
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van
Rensburg

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Client:	Wealth Spring (Pty) Ltd Erf 1058 Hoekwil	Date:	19/07/2023				
		Job nr:	TP19163				
		Sample Number	2788				
		Order no:	-				
Attention:	Alexander Polson, 0824819434	Specification:	USCS				
		Project:	Geotechnical Investigation: Erf 1058 Whites Avenue, Hoekwil, Wilderness				
FOUNDATION INDICATOR TEST REPORT							
Material Description	Weathered Granite Gravel		Depth	NGL -400mm to -1550mm	Date Received	05/07/2023	
Source	Test Pit 3	Position / Layer	Layer 2	Moisture Content	-	Date Tested	18/07/2023
Sieve Size	% Pass						
75	100						
63	100						
50	100						
37.5	100						
28	100						
20	100						
14	100						
5	93						
2	81						
0.425	57						
0.075	26.3						
0.0565	23.9						
0.0332	21.6						
0.0138	17.1						
0.0063	13.7						
0.0015	11.4						
Grading Modulus	1.4						
Atterberg Limits		Activity	0.65	Inactive			
Liquid Limit	LL	28			USCS ² Classification		
Plastic Limit	PL	20			Sandy ML		
Linear Shrinkage	LS	3.5			NHBC Site Class		
Plasticity Index	PI ₄₂₅	8			USCS ²		
Grain Size Distribution ¹		USCS ²	Lean Clay	CL			
			Silt	ML			
			Organic Clay	OL			
			Fat Clay	CH			
			Elastic Silt	MH			
Swell		Activity	< 0.75	Inactive			
			0.75 - 1.25	Normal			
			>1.25	Active			
M/C at compaction (%)	-	Swell after 4 days (%)					
							
*1 Unified Soil Classification system on grain size *2 Unified Soil Classification system		Digitally signed by Jacobus Phillipus van Rensburg Date: 2023.07.19 10:33:03 +02'00'					
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Client:	Wealth Spring (Pty) Ltd
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FOUNDATION INDICATOR TEST REPORT

Job No:	TP19163	
Sample No:	2789	
Project Information:	Geotechnical Investigation: Erf 1058 Whites Avenue, Hoekwil, Wilderness	
Number of pages:	2	
Date Received:	05/07/2023	
Sampled by:	TESTPRO Laboratory	
Delivered by:	Testpro Laboratory	
Sampling plan:	-	
Source of sample	Test Pit 1	
Condition of sample:	Good	
Material description:	Weathered Granite Gravel	
Tests Requested/Method:	Foundation Indicator	
	Grading	SANS 3001-GR1
	Atterberg Limits	SANS 3001-GR10
	Hydrometer	SANS 3001-GR3#
Sampling Method:	A natural gravel, soil or sand	TMH5:MA2
Date Completed:	19/07/2023	

Deviations/Notes

Table 2: ARD taken as 2.65
Hydrometer analysis done on -0.425mm fraction
-
Atterberg Limits analysis done on -0.425mm fraction.


Remarks:

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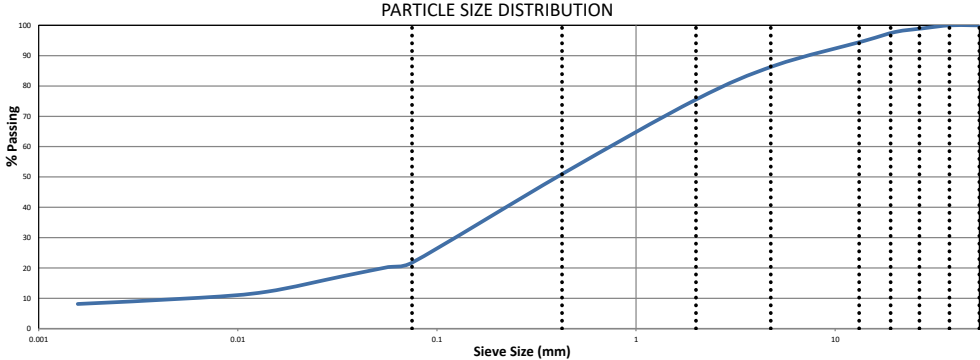
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e-mail : jaco@testpro.co.za

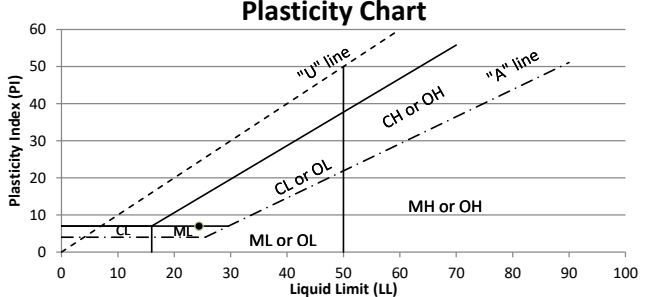
Client:	Wealth Spring (Pty) Ltd Erf 1058 Hoekwil	Date:	19/07/2023	Job nr:	TP19163
Attention:	Alexander Polson, 0824819434	Specification:	USCS	Sample Number	2789
		Project:	Geotechnical Investigation: Erf 1058 Whites Avenue, Hoekwil, Wilderness		

FOUNDATION INDICATOR TEST REPORT

Material Description	Weathered Granite Gravel	Depth	NGL -650mm to -1200mm	Date Received	05/07/2023
Source	Test Pit 1	Position / Layer	Layer 2	Moisture Content	-
				Date Tested	18/07/2023

Sieve Size	% Pass
75	100
63	100
50	100
37.5	100
28	99
20	98
14	95
5	87
2	76
0.425	51
0.075	21.7
0.0570	20.3
0.0336	17.2
0.0140	12.2
0.0064	10.1
0.0016	8.1

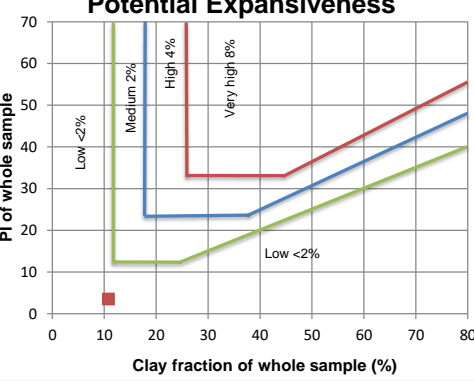




Activity	0.84	Normal
USCS ² Classification	Sandy ML	
NHBR Site Class		
USCS ²	Lean Clay	CL
	Silt	ML
	Organic Clay	OL
	Fat Clay	CH
	Elastic Silt	MH
	Organic Silt	OH
Activity	< 0.75	Inactive
	0.75 - 1.25	Normal
	> 1.25	Active

Atterberg Limits			
Liquid Limit	LL	24	%
Plastic Limit	PL	17	%
Linear Shrinkage	LS	2.0	%
Plasticity Index	PI ₄₂₅	7	%

Grain Size Distribution ¹				
Gravel	Coarse	75 - 20mm	2.2	%
	Fine	20 - 5.00mm	11.0	%
Sand	Coarse	5.00 - 2.00mm	11.2	%
	Medium	2.00 - 0.425mm	24.6	%
	Fine	0.425 - 0.075mm	29.2	%
Silt		0.075 - 0.002mm	13.4	%
Clay		<0.002mm	8.3	%



^{*1} Unified Soil Classification system on grain size

^{*2} Unified Soil Classification system

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Page 2/2



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Attention:	Alexander Polson, 0824819434

FOUNDATION INDICATOR TEST REPORT

Job No:	TP19163	
Sample No:	2790	
Project Information:	Geotechnical Investigation: Erf 1058 Whites Avenue, Hoekwil, Wilderness	
Number of pages:	2	
Date Received:	05/07/2023	
Sampled by:	TESTPRO Laboratory	
Delivered by:	Testpro Laboratory	
Sampling plan:	-	
Source of sample	Test Pit 2	
Condition of sample:	Good	
Material description:	Weathered Granite Gravel	
Tests Requested/Method:	Foundation Indicator	
	Grading	SANS 3001-GR1
	Atterberg Limits	SANS 3001-GR10
	Hydrometer	SANS 3001-GR3#
Sampling Method:	A natural gravel, soil or sand	TMH5:MA2
Date Completed:	19/07/2023	

Deviations/Notes

Table 2: ARD taken as 2.65
Hydrometer analysis done on -0.425mm fraction
-
Atterberg Limits analysis done on -0.425mm fraction.


Remarks:

- Opinions & Interpretations are not included in our schedule of Accreditation.
- The samples were subjected and analyzed according to SANS.
- The results reported relate only to the sample tested. Further use of the above information is not the responsibility or liability of TESTPRO Laboratory.
- This document is the correct record of all measurements made, and may not be reproduced other than with full written approval from the Technical Manager of TESTPRO Laboratory.
- Measuring equipment is traceable to national standards (Where applicable).
- All tests marked (#) are not included in our schedule of Accreditation.
- Samples will be retained, for a one month period, before disposal.


Jacobus Phillipus van Rensburg
Rensburg

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Jacobus Phillipus
van Rensburg
Date: 2023.07.19
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Technical Signatory
Jaco van Rensburg



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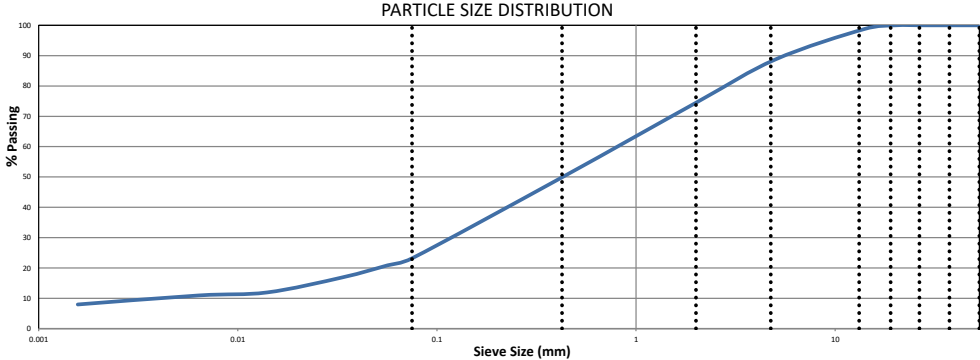
P.O. Box 35, Hartenbos, 6520
e-mail : jaco@testpro.co.za

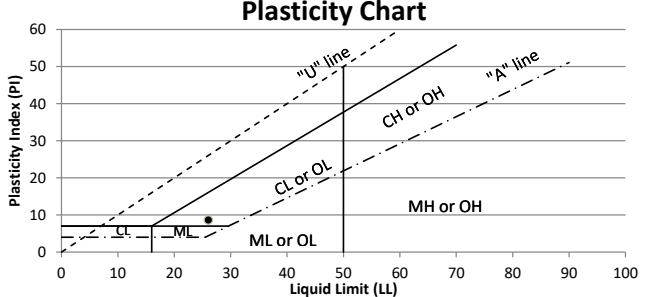
Client:	Wealth Spring (Pty) Ltd Erf 1058 Hoekwil	Date:	19/07/2023	Job nr:	TP19163
Attention:	Alexander Polson, 0824819434	Specification:	USCS	Sample Number	2790
		Project:	Geotechnical Investigation: Erf 1058 Whites Avenue, Hoekwil, Wilderness		

FOUNDATION INDICATOR TEST REPORT

Material Description	Weathered Granite Gravel	Depth	NGL -680mm to -1400mm	Date Received	05/07/2023
Source	Test Pit 2	Position / Layer	Layer 2	Moisture Content	-
				Date Tested	18/07/2023

Sieve Size	% Pass
75	100
63	100
50	100
37.5	100
28	100
20	100
14	99
5	89
2	74
0.425	50
0.075	23.2
0.0565	20.9
0.0336	16.9
0.0140	11.9
0.0064	10.9
0.0016	7.9



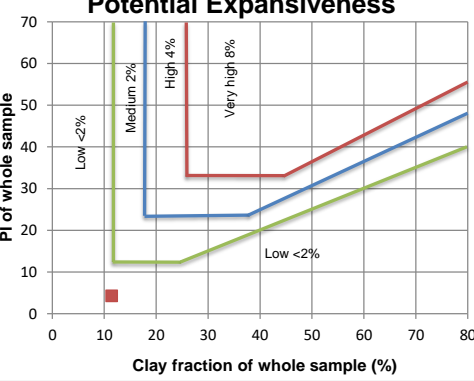


Activity	1.05	Normal
USCS ² Classification	Sandy ML	
NHBR Site Class		
USCS ²	Lean Clay	CL
	Silt	ML
	Organic Clay	OL
	Fat Clay	CH
	Elastic Silt	MH
	Organic Silt	OH
Activity	< 0.75	Inactive
	0.75 - 1.25	Normal
	> 1.25	Active

Atterberg Limits			
Liquid Limit	LL	26	%
Plastic Limit	PL	17	%
Linear Shrinkage	LS	3.5	%
Plasticity Index	PI ₄₂₅	9	%

Grain Size Distribution ¹				
Gravel	Coarse	75 - 20mm	0.0	%
	Fine	20 - 5.00mm	11.3	%
Sand	Coarse	5.00 - 2.00mm	14.3	%
	Medium	2.00 - 0.425mm	24.6	%
	Fine	0.425 - 0.075mm	26.7	%
Silt		0.075 - 0.002mm	15.0	%
Clay		<0.002mm	8.2	%

Swell			
M/C at compaction (%)	-	Swell after 4 days (%)	-



^{*1} Unified Soil Classification system on grain size

^{*2} Unified Soil Classification system

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