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addendum 1

PROJECT No: A23/2057 Rev 1 **13 March 2024**

Synchronicity Development Planning

Attention: Ms. Suzette Nel

Dear Madam,

REPORT ON A GEOTECHNICAL INVESTIGATION CARRIED OUT FOR TOWNSHIP ESTABLISHMEN PURPOSES ON: *PORTION 268 OF THE FARM RIETFONTEIN 189-IQ, GAUTENG PROVINCE*

1. INTRODUCTION

This report presents results and observations on a geotechnical investigation carried out on 14 November 2023 and 19 February 2024 at the above said property for township establishment purposes. The largest area of the site, north of the drainage canal, was investigated in 2023 but due to a large area falling within a floodline which is undevelopable, the area due south of the drainage canal was investigated in February 2024. The Rev 1 report therefore supersedes the report dated 8 December 2023.

The investigation was carried out at the request of Ms. Suzette Nel of Synchronicity who is acting on behalf of her clients, Mr. Sam Ngoma & Mr. Leslie Gama (owners of the property).

2. TERMS OF REFERENCE

The objective of the geotechnical investigation was to: -

- Determine the engineering properties of the site soils and bedrock including potentially expansive material, low bearing capacity soils, areas difficult to excavate, shallow ground water conditions.

- Present appropriate recommendations for the new development, design and precautionary measures in accordance with the requirements of the local authorities as well as the National Home Builders Registration Council's guidelines.

- Determine the quality of the in situ soils for use as a construction material for surface beds and general backfill for road layers and parking bays.

3. INFORMATION CONSULTED

The following information was available and was consulted: -

- The 1: 250 000 scale Geological Series Map Sheet Number 2626 West Rand.

- A colour aerial photo of the site was obtained from Google Earth via the Internet.

- "National Home Builders Registration Council's Standards and Guidelines, February 1999", 12nd Issue;

- A Contour and Detail Plan conducted by Barnard & Schneider showing the boundaries of the site and 1m contour intervals which was received from the client by email.

4. SITE DESCRIPTION

4.1 Area north of the drainage canal

The property is irregular in shape and covers a surface area of some 8,5653 hectares and is bordered by Larsons Road towards the east and farmland towards the remaining sides. Old cultivated land is present at the central part of the site and five existing dwellings occur along the northern perimeter. The area north of the drainage canal is covered by veld grass and weeds whilst the western part, north-western corner and south-eastern part are very densely vegetated and contains small to very large trees including *Eucalyptus*. Hard granite outcrops, sub-outcrops and boulder outcrops are located at the south-eastern part of the site. A stream straddles the southern perimeter of the site in a south-western direction and a spring (area surrounding test pit RF/02) with marshy conditions is located at the central eastern perimeter. The investigated part of the property slopes in a south-western direction and falls from 1 456m to 1430m at an average slope of roughly 6% and drainage takes place by means of sheetwash towards the stream. It seems that some borrowing activities (disturbed ground) may have taken place at the western part of the site (north to south strike, area between test pit RF/11 and RF/08) as the contour intervals and conditions on site proved this area to be slightly disturbed.

4.2 Area south of the drainage canal

The area due south of the drainage canal is also covered by veld grass, ploughed land, scattered termite mounds, weeds and dense Black Wattle and *Eucalyptus* trees towards the eastern perimeter. Hard sub-rounded and rounded diabase boulder outcrops are present along a small ridge at the north-eastern perimeter which indicates that a diabase dyke (south south-east to north north-west strike) intersects this part of the site. Internal tracks are also located at the southern and eastern perimeters at this part of the site. This part of the site slopes from 1 445m to 1 433m above masl at an average slope of some 6% in a north-western direction and drainage takes place by means of sheetwash towards the drainage canal.

5. SITE INVESTIGATION

Twenty one test pits (RF/01 to RF/21) were excavated across the study area by a CASE 570T backactor supplied by Jaliker Estates cc from Krugersdorp during the 2023/2024 investigations. The holes were entered and inspected by the undersigned, a registered professional engineering geologist, who described the soil profile according to the methods advocated by Jennings *et al* (1973). Disturbed soil samples, representative of the site soils, were taken for analysis at Geoplan's soils laboratory in Johannesburg for testing and analysis. A water sample was also collected from the test pits and submitted to Waterlab (Pty) Ltd in Pretoria for aggressiveness testing towards metal and concrete.

The detailed descriptions of the test pit profiles appear on the Soil Profile Sheets in Appendix 1 of the report whilst the results of the laboratory tests appear in Appendix 2. The location of all exploratory works is shown on the "Geotechnical Map", Drawing Number A23/2057 at the back of the report.

6. SITE SOILS AND GEOLOGY

The study area is underlain by transported sandy and clayey transported soils overlying sandy and clayey residual soils and presumably weathered granite bedrock belonging to the Halfway House Granite Dome. The geological map further shows that the eastern part of the site may be intruded by syenite, striking in a north to south direction. The residual syenite was intersected by test pits RF/13 and RF/19.

The site has been apportioned into four prominent material zones, Soil ***Zone "A"*** to ***"D"*** as shown on the attached Geotechnical Map at the back of the report.

Soil Zone "A" covers the largest portion (higher elevation areas) of the site and a generalized description of the typical soil profile that may be encountered here is as follows: -

0,0 – 0,3: *Moist, dark brown, dense, slightly voided, clayey SAND containing tree roots; colluvium.*
0,3 – 0,8: *Moist, dark orange blotched off white and dark grey, stiff, intact, sandy CLAY containing minor QUARTZ GRAVELS and roots; reworked residual granite.*
0,8 – 1,4: *Moist, light brown blotched orange, dense, intact, silty coarse SAND containing roots; residual granite.*
1,4 – 1,8: *Slightly moist, dark orange stained black, very dense, relict jointed, silty coarse SAND; residual granite.*
1,8+ *Dark orange stained black, completely weathered, closely to medium jointed, very soft rock GRANITE.*
Note: *Moderate horizons of sandy clay reworked residual granite may be present in this soil zone.*

Soil Zone "B" covers the *south-eastern* part of the property (north of the drainage canal) and is characteristic of outcrop, sub-outcrop and boulder outcrops of *hard rock* GRANITE with the presence of a lava intrusion and sandy transported and residual soils in between the granite outcrops. The clayey alluvial soils contain a slickensided soil structure and indicates potentially expansive soil horizons. The typical soil profile that may be encountered across the property is as follows: -

0,0 – 0,2: *Very moist, dark brown, firm, intact, sandy clayey SILT containing tree roots; colluvium.*
0,2 – 1,2: *Very moist, dark grey, firm to stiff, slickensided, sandy CLAY containing roots and scattered hard, sub-rounded GRANITE BOULDERS (diameter = 0,5m to 0,8m); alluvium.*
1,2 – 1,9: *Moist, khaki brown, dense, intact, clayey SAND containing minor hard, sub-rounded GRANITE CORE-STONES (diameter = 0,5m to 1,0m); residual granite.*
1,9 - 2,1: *Moist, dark orange, very dense, intact, silty coarse SAND; residual granite.*

Soil Zone "C" covers the *south-eastern* corner of the property (north of the drainage canal) and is characteristic of marshy areas containing standing surface water, presence of ground water and a spring. The typical soil profile that may be encountered across this soil zone is as follows: -

0,0 – 0,5: *Wet, black, very soft, intact, sandy CLAY containing roots; alluvium.*
0,5 – 1,5: *Very moist to wet, dark grey, medium dense, intact, silty coarse clayey SAND containing roots; residual granite.*
1,5 – 1,9: *Very moist, light brown blotched orange, dense, intact, silty coarse SAND; residual granite.*
1,9 – 2,0: *Dark orange stained black, completely weathered, closely to medium jointed, very soft rock GRANITE.*

Soil Zone "D" straddles the *southern perimeter* of the site (north of the drainage canal) and ooccasional seasonal flooding may take place, floodlines should be determined accurately and areas affected by a floodline, should be excluded from the development. The area is underlain by potentially expansive alluvial soils (slickensided soil structure) over clayey and sandy residual granite soils. A typical soil profile that may be encountered across this soil zone is as follows: -

0,0 – 1,1: *Slightly moist to dry, black becoming dark grey, stiff, shattered and slickensided, sandy CLAY containing tree roots; alluvium.*
1,1 – 1,6: *Moist, dark yellow blotched grey, firm to stiff, intact, sandy CLAY containing tree roots; reworked residual granite.*
1,6 – 2,3: *Moist, dark grey blotched dark yellow, stiff, intact, coarse sandy CLAY; residual granite.*

Refusal of the backactor was encountered in 33% of the test pits at depths ranging from 1,4m to 2,0m below surface on *very dense* residual granite or *very soft rock* granite. Elsewhere refusal of the machine was not experienced down to a depth of between 2,1m and 2,4m below surface.

7. GEOTECHNICAL CONSIDERATIONS

7.1 Expansive Soils

The sandy and gravelly transported and residual granite site soils are potentially "low" in the degree of expansiveness, based on the results of the laboratory tests and according to the Van der Merwe (1964) method. The slickensided sandy clay alluvium and residual granite tested "low" or "low borderline medium" in potential expansiveness but due to the slickensided soil structure these materials are rather considered "medium". The silty residual syenite encountered in isolated parts of the site (near RF/13 and RF/19) tested "low borderline medium" in potential expansiveness. A total surface heave value of less than 7,5mm is predicted across Soil ***Zone "A", "B"*** and ***"C"*** for a 2m thick soil horizon, depending on locality and should the moisture condition of the soils change from a dry to a saturated state. A surface heave of up to 10mm for the areas in ***Zone "A"*** where silty residual syenite occurs. A total surface heave of less than 15mm is predicted across Soil ***Zone "D"*** which is blanketed by potentially expansive clayey alluvial and residual granite soils.

7.2 Collapsible and Compressible Soils

Based on visual observations of the in situ soils it is anticipated that the upper 0,2m to 1,5m of sandy/clayey transported and residual soils over the site may be potentially collapsible and compressible upon load.

An undisturbed soil sample, representative of the dark reddish brown, *medium dense* sandy residual granite at 1,0m depth in test pit RF/20, was tested to determine the collapse potential of the material according to the method advocated by Jennings (1974). A summary of the results of the laboratory tests appears below in Table 7.1.

TABLE 7.1: COLLAPSE POTENTIAL TEST RESULTS

HOLE NUMBER	DEPTH (m)	DRY DENSITY (kg/m³)	COLLAPSE POTENTIAL (%)	COMPRESSI-BILITY (%)	TROUBLE RATING
RF/20	1,0	1 639	5,3	5,13	Trouble

An analysis of the above results indicates that the material tested is moderately collapsible and compressible with a collapse rating of "Trouble" in terms of collapse settlement, according to Jennings.

7.3 Ground Water and Soil Chemistry

Ground water seepage was encountered in 19% of the test pits during the investigation from a depth of below 1,9m or 2,2m. Indications of seasonal perched water table conditions are evident in isolated areas throughout the study area from surface or 0,3m below surface by the presence of ferricrete-rich soils. The necessary damp proofing precautions should be taken underneath structures.

The site soils are expected to be potentially chemically mildly to highly corrosive with regards to underground ferrous metal pipes (pH values ranging from 5,8 to 7,9 and electrical conductivity values ranging from 0,021 to 0,080 S/m) and the use of non-ferrous metal pipes or plastic pipes are recommended for underground wet services.

A water aggressiveness test (Basson's Index) was conducted from a water sample collected from test pit RF/09 from 1,9m to 2,3m depth. Results from the test have shown that the water has an Aggressiveness Index(Nc) of 1 525 with a Ryznar Stability Index of 9,8 which indicates that the water is very highly aggressive towards concrete and steel and very highly corrosive towards metal and steel. A high-quality concrete should be considered in the foundations to combat attack from ground water in Soil ***Zone "C"*** and ***"D"***.

7.4 Foundations

Soil ***Zone "A"*** classifies as a Site Class "**C1/S1/H-H1**" according to the guidelines of the NHBRC Standards and Guidelines of 1999 and in view of the thin to moderate horizon of potentially collapsible and compressible foundation soils which underlie this portion of the site, one of the following foundation solutions may be considered for the construction of proposed rigid, single-storey, masonry residential structures: -

Deep Strip Foundations

- Normal construction with drainage precautions and with mesh reinforced floor slabs.
- Founding on the dense residual horizon below the problem soils at a depth of approximately 1m below ground surface with an allowable bearing pressure of at least 150kPa.

Compaction of in situ soils below individual footings

- Remove in situ material below foundations to a depth and width of 1,5 times the foundation width or to a competent horizon and replace with material compacted to 93% Mod AASHTO density at -1% to +2% of optimum moisture content.
- Normal construction with lightly reinforced strip footings.
- Light reinforcement in masonry.
- Site drainage and plumbing/service precautions to be taken.

Soil Raft

- Remove in situ material to 1m beyond perimeter of building to a depth of 1,5 times the widest foundation or to a competent horizon and replace with material compacted to 93% Mod AASHTO density at -1% to +2% of optimum moisture content.
- Normal construction with lightly reinforced strip footings.
- Light reinforcement in masonry.
- Site drainage and plumbing/service precautions to be taken.

Modified Normal Construction

- Reinforced strip footings
- Articulation joints at some internal and all external doors
- Light reinforcement in masonry
- Site drainage and plumbing precautions to be taken
- Foundation pressure not to exceed 50 kPa.

Soil ***Zone "B"*** classifies as a Site Class "**C1/S1/H/R**" in view of the prominent hard granite outcrop, sub-outcrops and boulder outcrops which are present in this part of the site. Provision will have to be made in the design of structures to withstand about 5mm of differential settlement due to variations in the soil profile or where dissimilar foundation conditions prevail in the same trench. Where the rock is too hard to remove from foundation trenches and in order not to disturb the surrounding foundation materials unduly, it is recommended that the rock be left in place and that the foundation concrete be reinforced with steel in order to counter any differential movements that may take place. Construction joints and lightly reinforced foundations should be considered in the structure in areas where dissimilar foundation conditions prevail.

Soil ***Zone "C"*** classifies as a Site Class **"P(Marshy Area)/P(Water Seepage)"** in view of the marshy conditions/ground water and surface water caused by the spring in this soil zone. This part of the site should be excluded from proposed future development.

Soil ***Zone "D"*** classifies as a Site Class "**C/S/H1/P(flooding)/ P(Water Seepage)**" in view of the moderate to prominent horizons of potentially expansive clayey transported and residual soils and ground water conditions. This area may be affected by seasonal flooding, it is recommended that a flood line be determined accurately and that areas that are affected by flooding, be excluded from the development. It is anticipated that most of the areas of this soil zone may fall within the floodline and therefore no foundation solutions have been presented for this soil zone.

The design and construction raft foundations (whether soil or concrete) should be done in accordance and under supervision of a civil or structural engineer. It is recommended that foundation excavations be carefully examined during construction in order to determine the presence of disturbed ground conditions which were not encountered during the investigation.

The design of heavier buildings such as double storey structures, should take cognizance of the potentially collapsible and compressible/expansive upper soil horizons. Disturbed ground conditions should be carefully reinstated prior to the construction of rigid masonry units on the property.

7.5 Earthworks

The site soils were tested to determine their compaction characteristics and a summary of the test results appears below in Table 7.1: -

TABLE 7.1: SUMMARY OF COMPACTION TESTS

HOLE NO	DEPTH (m)	SOIL TYPE	*PI*	*GM*	*CBR*	*TRH14 CLASSIFICATION*	SWELL (%)
RF/01	0,0 – 1,2	Silty SAND	12	2,19	20	G8	0,2
RF/10	0,0 – 1,5	Silty SAND	16	1,62	18	G10	0,3
RF/18	0,0 – 1,0	Silty SAND	14	1,46	7	G10	1,8

Note : PI = Plasticity Index
GM = Grading Modulus
CBR = California Bearing Ration at 95% Mod AASHTO compaction

Based on the results of the compaction tests, it is evident that the upper sandy transported and residual soils showed moderate to poor compaction characteristics and tested as either G8 or G10 quality materials in terms of the TRH14 Classification. The upper sandy site soils should be suitable below surface beds after removing all coarse and organic materials and for the use of selected fill materials (only G8) in the construction of roads and paved areas. Subbase course materials (G5/G6 quality) will have to be imported from a commercial source. The G10 materials is only suitable for bulk fill/subgrade and should not be used in layer works of roads or paved areas. Cognizance should be taken in the design of roads and paved areas of the potentially collapsible/compressible nature of the upper soils as well as the possible presence of shallow perched water conditions and areas of hard granite rock outcrops.

7.6 Excavation Characteristics

Soft excavation by a backactor is foreseen to a depth of generally 2m below surface except for Soil ***Zone "B"*** where blasting and very hard machine excavation and hydraulic pecking will be required in order to remove the *hard rock* granite.

The sidewalls of the excavations should be stable for the duration of construction period during the dry season. Instabilities of the sidewalls of excavations may occur during the wet season and shoring may be required when working in deep excavations. The possible presence of seasonal perched water conditions may further hamper the installation of foundation and service trenches in the soil zones where water seepage was encountered.

8. GENERAL

While every effort has been made to ensure that representative test pitting and sampling has been undertaken to probe the soils on-site, guaranteeing that isolated zones of either poor foundation material or hard rock excavation have not been identified, is impossible under the constraints of an investigation of this nature. The investigation has sought to highlight general areas of potential foundation and excavation problems, and to provide early warning to the design engineers and town planners.

In view of the variability inherent in soils, a competent person must inspect all foundation excavations. It is recommended that excavations for foundations be inspected by a competent person during construction in order to verify that the materials thus exposed are not at variance with those described in the report. The placement of the fill must be controlled with suitable field tests to confirm that the required densities are achieved during compaction and that the quality of fill material is within specification.

Trusting that the above information will meet with your immediate requirements, please do not hesitate to contact this office, should additional information be required.

Yours faithfully

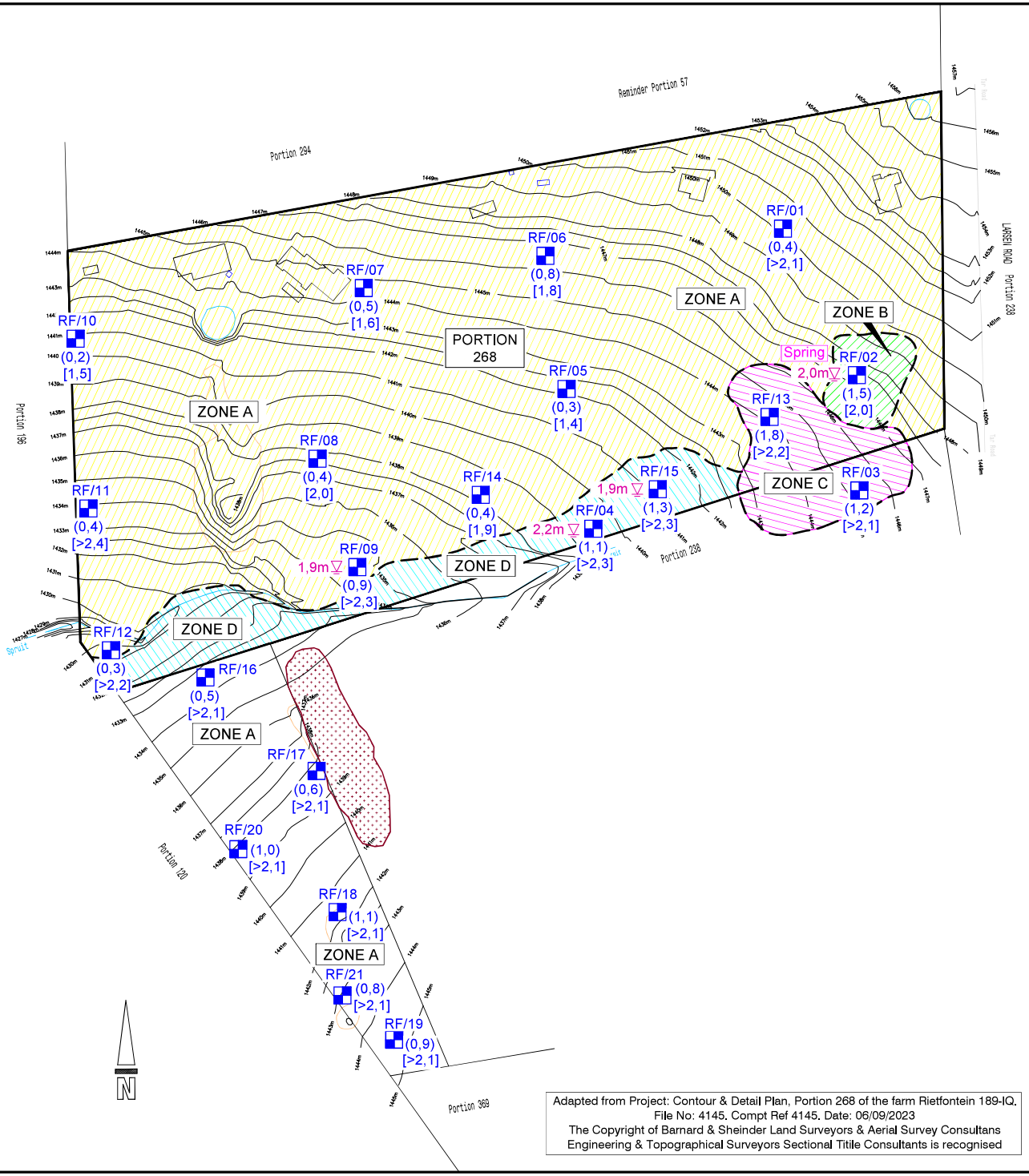
ANDON VAN DER MERWE (Pr. Sci. Nat.)
Engineering Geologist

9. APPENDICES

Geotechnical Map – Drawing Nu. A23/2057

Appendix 1: Test Pit Profiles

Appendix 2: Laboratory Test Results



Adapted from Project: Contour & Detail Plan, Portion 268 of the farm Rietfontein 189-IQ.
File No: 4145. Compt Ref 4145. Date: 06/09/2023

LEGEND:

RF/16 — TEST PIT BY BACKACTOR, POSITION AND NUMBER SHOWING

(0,5) — THICKNESS OF POTENTIALLY COLLAPSIBLE AND/OR COMPRESSIBLE AND/OR EXPANSIVE HORIZON IN METERS

[>2,1] — REFUSAL DEPTH OF BACKACTOR IN METERS BELOW SURFACE

2,0m ▽ — WATER SEEPAGE AT 2,0m

MATERIAL BOUNDARIES**

DIABASE BOULDER OUTCROPS

SOIL ZONE	BRIEF MATERIAL DESCRIPTION	NHBRC* SITE CLASS
A	Thin to moderate horizon (0,2m to 0,5m thick) of *medium densse to dense*, colluvial silty SAND over generally *dense* becoming *very dense* SANDY residual granite or in scattered areas *stiff* sandy CLAY residual granite or *firm to stiff* silty residual diabase (RF/19) overlying completely weathered very *soft rock* GRANITE with depth in some areas. *Firm to stiff* becoming *stiff* R	CSH H
B	Outcrop, sub-outcrop and boulder outcrops of *hard rock* GRANITE with the presence od a lava intrusion and sandy transported and residual soils in between the granite outcrops.	CSHR
C	Marshy areas containing standing surface water, presence of ground water and a spring. Moderate horizon (0,5m thick) of black *very soft* clayey alluvium over a moderate horizon (1,0m thick) of *medium dense*, clayey sand residual granite over *dense*, SANDY residual granite over completely weathered *very soft rock* GRANITE from below 1,9	P M A P S
D	M CLA *stiff* *soft* *firm to stiff* CLA SAND *dense*, O	CSHP P S

NOTE :

* = *National Home Builders Registration Council (NHBRC).*

** = *Soil boundaries are inferred and should be considered as a gradual change from one soil zone to the next, to be determined more accurately during installation of service trenches.*

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TITLE / TITLE GEOTECHNICAL MAP	TEK / DRG NO A23/2057
LIGGING / LOCALITY PORTION 268 OF THE FARM RIETFONTEIN 189-IQ GAUTENG PROVINCE	DATUM / DATE FEBRUARY 2024
KLIËNT / CLIENT SYNCHRONICITY DEVELOPMENT PLANNING	SKAAL / SCALE ~1 : 2000 ON A3

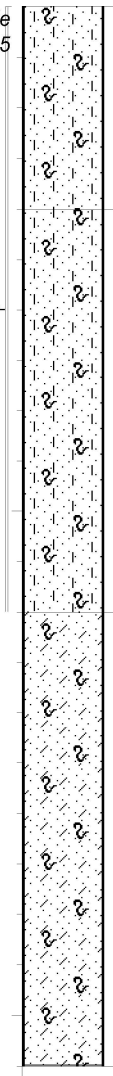
ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/01
Sheet 1 of 1

JOB NUMBER: A23/2057

Scale 1:15



0.0m--1.2m

0.00

Moist, dark brown, medium dense to dense, slightly voided, silty SAND containing tree roots; colluvium.

0.40

Moist, light grey blotched orange, medium dense to dense, slightly voided, silty SAND containing roots; residual granite.

1.20

Moist, grey, very dense, intact, clayey SAND containing roots; residual granite.

2.10

NOTES

1) No refusal at 2,1m.

2) No water seepage encountered.

3) Disturbed bulk sample taken from 0,0m--1,2m.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION : Vertical
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 01 54.9
Y-COORD : E27 51 40.4

HOLE No: RF/01

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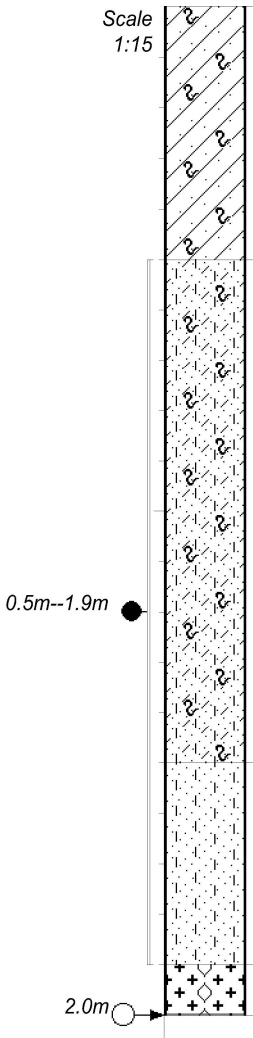
Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/02
Sheet 1 of 1

JOB NUMBER: A23/2057



0.00 Wet, black, very soft, intact, sandy CLAY containing roots; alluvium.

0.50 Very moist to wet, dark grey, medium dense, intact, silty coarse clayey SAND containing roots; residual granite.

1.50 Very moist, light brown blotched orange, dense, intact, silty coarse SAND; residual granite.

1.90 Dark orange stained black, completely weathered, closely to medium jointed, very soft rock GRANITE.

2.00

NOTES

1) Gradual refusal at 2,0m on very soft rock GRANITE.
2) Slight water seepage encountered from 2,0m.
3) Disturbed foundation indicator sample taken from 0,5m--1,9m.
4) Area surrounding the test pit is waterlogged and a wetland due to a nearby spring.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm
TYPE SET BY : avdm
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INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024
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ELEVATION :
X-COORD : S26 01 57.0
Y-COORD : E27 51 41.6

HOLE No: RF/02

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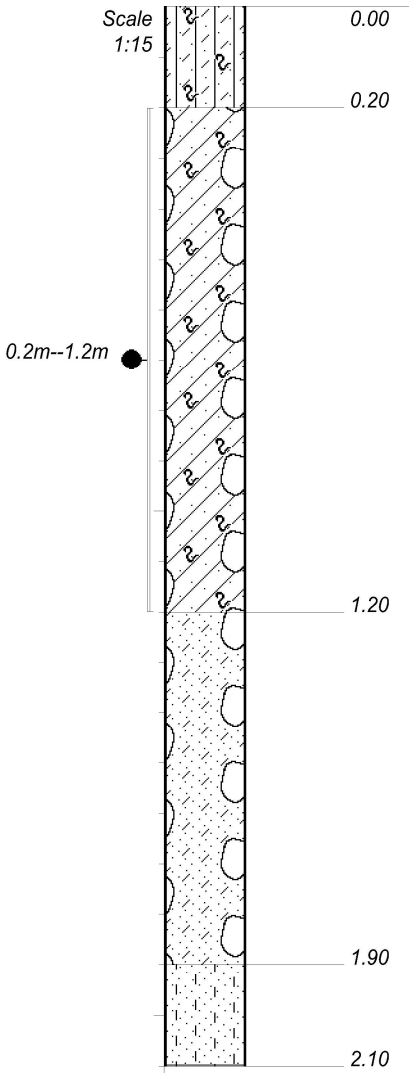
Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/03
Sheet 1 of 1

JOB NUMBER: A23/2057



0.00	Very moist, dark brown, firm, intact, sandy clayey SILT containing tree roots; colluvium.
0.20	Very moist, dark grey, firm to stiff, slickensided, sandy CLAY containing roots and scattered hard, sub-rounded GRANITE BOULDERS (diameter = 0,5m to 0,8m); alluvium.
1.20	Moist, khaki brown, dense, intact, clayey SAND containing minor hard, sub-rounded GRANITE CORE-STONES (diameter = 0,5m to 1,0m); residual granite.
1.90	Moist, dark orange, very dense, intact, silty coarse SAND; residual granite.
2.10	

NOTES

1) No refusal at 2,1m.
2) No water seepage encountered.
3) Disturbed foundation indicator sample taken from 0,2m--1,2m.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 01 58.8
Y-COORD : E27 51 41.6

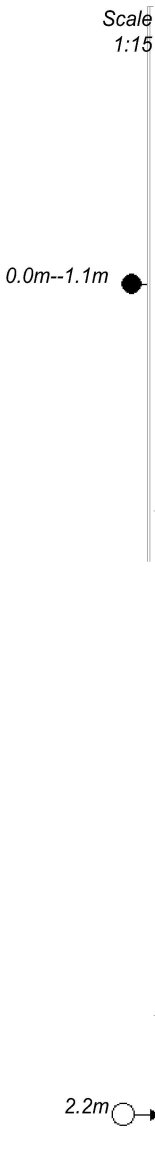
HOLE No: RF/03

ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/04
Sheet 1 of 1

JOB NUMBER: A23/2057



0.00	Slightly moist to dry, black becoming dark grey, stiff, shattered and slickensided, sandy CLAY containing tree roots; alluvium.
1.10	Moist, dark yellow blotched grey, firm to stiff, intact, sandy CLAY containing tree roots; reworked residual granite.
1.60	Moist, dark grey blotched dark yellow, stiff, intact, coarse sandy CLAY; residual granite.
2.30	

NOTES

1) No refusal at 2,3m.
2) Slight water seepage encountered from below 2,2m.
3) Disturbed foundation indicator sample taken from 0,0m--1,1m.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm
TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024
DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 01 59.4
Y-COORD : E27 51 37.3

HOLE No: RF/04

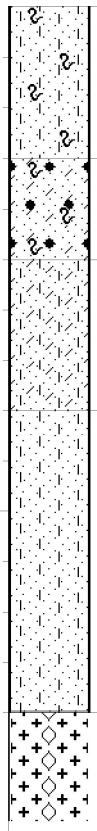
ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/05
Sheet 1 of 1

JOB NUMBER: A23/2057

Scale 1:15



0.00	Moist, dark brown, dense, slightly voided, silty SAND containing tree roots; colluvium.
0.30	Moist, brown blotched black, dense, intact, clayey SAND containing minor NODULAR FERRICRETE, scattered sub-rounded QUARTZ GRAVELS and roots; pebble marker.
0.50	Moist, brown blotched dark yellow, dense, intact, silty clayey SAND; reworked residual granite.
0.80	Slightly moist, dark orange mottled dark yellow and black, very dense, intact, silty coarse SAND; residual granite.
1.40	Brown mottled dark yellow, completely weathered, medium jointed, very soft rock GRANITE.

NOTES

1) Gradual refusal at 1,4m on very soft rock GRANITE.

2) No water seepage encountered.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 01 57.3
Y-COORD : E27 51 36.8

HOLE No: RF/05

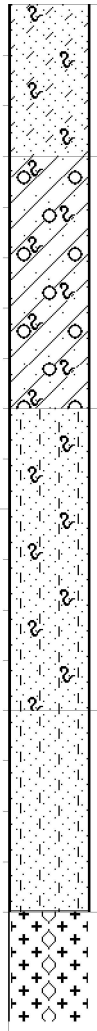
ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/06
Sheet 1 of 1

JOB NUMBER: A23/2057

Scale 1:15



0.00 Moist, dark brown, dense, slightly voided, clayey SAND containing tree roots; colluvium.

0.30 Moist, dark orange blotched off white and dark grey, stiff, intact, sandy CLAY containing minor QUARTZ GRAVELS and roots; reworked residual granite.

0.80 Moist, light brown blotched orange, dense, intact, silty coarse SAND containing roots; residual granite.

1.40 Slightly moist, dark orange stained black, very dense, relict jointed, silty coarse SAND; residual granite.

1.80 Dark orange stained black, completely weathered, closely to medium jointed, very soft rock GRANITE.

NOTES

1) Gradual refusal at 1,8m on very soft rock GRANITE.

2) No water seepage encountered.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 01 55.3
Y-COORD : E27 51 36.4

HOLE No: RF/06

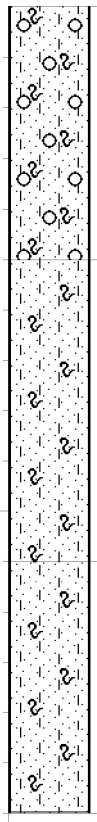
ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/07
Sheet 1 of 1

JOB NUMBER: A23/2057

Scale 1:15



0.00

Slightly moist, dark greyish brown, medium dense, slightly voided, silty SAND containing tree roots and minor sub-rounded QUARTZITE GRAVELS at the base; colluvium.

0.50

Slightly moist, dark yellow blotched dark brown, very dense, intact, silty SAND containing pockets of sandy CLAY and roots; reworked residual granite.

1.10

Slightly moist, light greyish brown blotched dark grey, very dense, intact, silty coarse SAND containing roots and runnels of dark brown, sandy CLAY; residual granite.

1.60

NOTES

1) Gradual refusal at 1,6m.

2) No water seepage encountered.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 01 55.8
Y-COORD : E27 51 33.4

HOLE No: RF/07

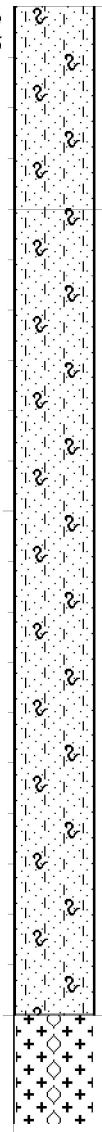
ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/08
Sheet 1 of 1

JOB NUMBER: A23/2057

Scale 1:15



0.00 Moist, dark greyish brown, loose becoming medium dense, slightly voided, silty SAND containing roots; colluvium.

0.40 Slightly moist, dark orange stained black and brown, very dense, relict jointed, silty coarse SAND containing roots; residual granite.

2.00 Dark yellow mottled off white, completely weathered, closely to medium jointed, very soft rock GRANITE tending to very dense residual granite.

NOTES

1) Gradual refusal at 2,0m on very soft rock GRANITE.

2) No water seepage encountered.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 01 58.3
Y-COORD : E27 51 32.7

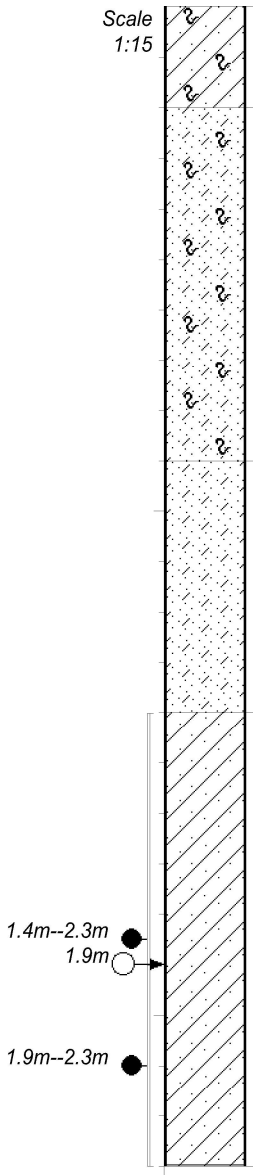
HOLE No: RF/08

ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/09
Sheet 1 of 1

JOB NUMBER: A23/2057



0.00	Very moist, dark grey blotched orange, firm, intact, sandy CLAY containing roots; alluvium.
0.20	Very moist, dark grey blotched orange, medium dense to dense, intact, clayey coarse SAND containing roots; residual granite.
0.90	Very moist, dark grey, dense, intact, clayey coarse SAND; residual granite.
1.40	Very moist, light grey blotched orange, stiff, intact, coarse sandy CLAY; residual granite.
2.30	

NOTES

1) No refusal at 2,3m.
2) Slight water seepage encountered from below 1,9m.
3) Water sample taken from 1,9m--2,3m.
4) Disturbed foundation indicator sample taken from 1,4m--2,3m.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 01 59.9
Y-COORD : E27 51 33.3

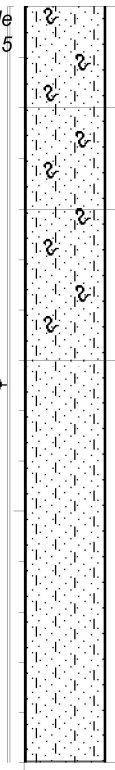
HOLE No: RF/09

ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/10
Sheet 1 of 1

JOB NUMBER: A23/2057



0.00	Slightly moist to dry, dark greyish brown, loose, voided, silty SAND containing tree roots; colluvium.
0.20	Slightly moist, brown, dense, voided, silty SAND containing tree roots and scattered sub-rounded GRAVELS; colluvium.
0.40	Slightly moist, dark yellow blotched brown and orange, dense, slightly voided, silty SAND containing roots and pockets of SILT; reworked residual granite.
0.70	Slightly moist, dark orange mottled yellow, very dense, relict jointed, silty coarse SAND; residual granite.
1.50	

NOTES

1) Gradual refusal at 1,5m in very dense residual granite.
2) No water seepage encountered.
3) Disturbed bulk sample taken from 0,0m--1,5m.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 01 56.5
Y-COORD : E27 51 28.7

HOLE No: RF/10

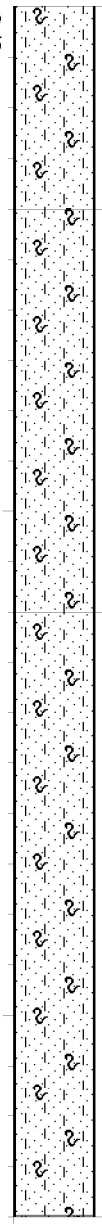
ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/11
Sheet 1 of 1

JOB NUMBER: A23/2057

Scale 1:15



0.00 Moist, dark greyish brown, medium dense, slightly voided, silty SAND containing tree roots and scattered QUARTZITE GRAVELS at the base; colluvium.

0.40 Moist, dark orange blotched dark brown, very dense, intact, silty coarse SAND containing roots; reworked residual granite.

1.20 Slightly moist, light brown mottled dark brown and yellow, dense, intact, silty coarse SAND containing fine roots; residual granite.

2.40

NOTES

1) No refusal at 2,4m.

2) No water seepage encountered.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 01 59.0
Y-COORD : E27 51 28.9

HOLE No: RF/11

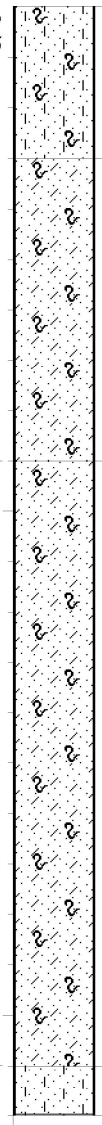
ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/12
Sheet 1 of 1

JOB NUMBER: A23/2057

Scale 1:15



0.9m--2.1m

0.00	Slightly moist, brown, medium dense, slightly voided, silty SAND containing tree roots; colluvium.
0.30	Slightly moist, black, very dense, voided, clayey medium SAND containing roots; alluvium.
0.90	Slightly moist, dark grey speckled white, very dense, intact, clayey coarse SAND containing fine roots; reworked residual granite.
2.10	Slightly moist, pale grey, very dense, relict jointed, well-cemented, silty medium SAND; residual granite.
2.20	

NOTES

1) No refusal at 2,2m.
2) No water seepage encountered.
3) Disturbed foundation indicator sample taken from 0,9m--2,1m.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 02 01.1
Y-COORD : E27 51 29.3

HOLE No: RF/12

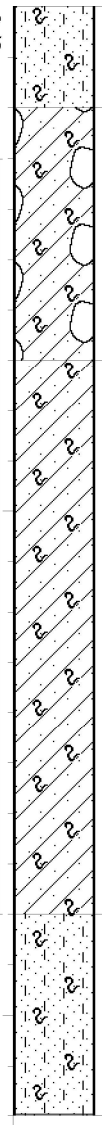
ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/13
Sheet 1 of 1

JOB NUMBER: A23/2057

Scale 1:15



0.3m--1.8m

0.00 Very moist, dark brown, loose to medium dense, slightly voided, silty SAND containing tree roots; colluvium.

0.20 Moist, dark greyish brown, stiff, slightly slickensided, sandy CLAY containing tree roots and scattered hard GRANITE BOULDERS (diameter = 0,4m to 0,7m); colluvium.

0.70 Very moist, dark yellow blotched grey and orange, stiff, slightly slickensided, sandy CLAY containing tree roots; reworked residual granite.

1.80 Very moist, dark orange blotched dark yellow and dark grey, dense, relict jointed, silty SAND containing pockets of CLAY and roots; reworked residual syenite.

2.20

NOTES

1) No refusal at 2,2m.
2) No water seepage encountered.
3) Disturbed foundation indicator sample taken from 0,3m--1,8m.
4) Numerous hard granite outcrops and sub-outcrops surrounding the test pit.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 01 57.7
Y-COORD : E27 51 40.2

HOLE No: RF/13

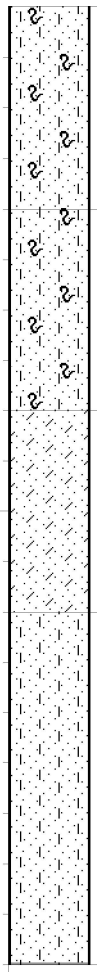
ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/14
Sheet 1 of 1

JOB NUMBER: A23/2057

Scale 1:15



0.00	Slightly moist, dark greyish brown, medium dense, slightly voided, silty SAND containing roots; colluvium.
0.40	Slightly moist, dark yellow blotched grey, dense, slightly voided, silty coarse SAND containing roots and runnels of SILT; residual granite.
0.80	Moist, dark yellow to dark orange blotched grey, dense, intact, clayey SAND containing scattered QUARTZITE COBBLES at the base; reworked residual granite.
1.20	Slightly moist, grey blotched black becoming dark orange, very dense, relict jointed, silty coarse SAND; residual granite.
1.90	

NOTES

1) Gradual refusal at 1,9m in very dense residual granite.

2) No water seepage encountered.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 01 58.8
Y-COORD : E27 51 35.4

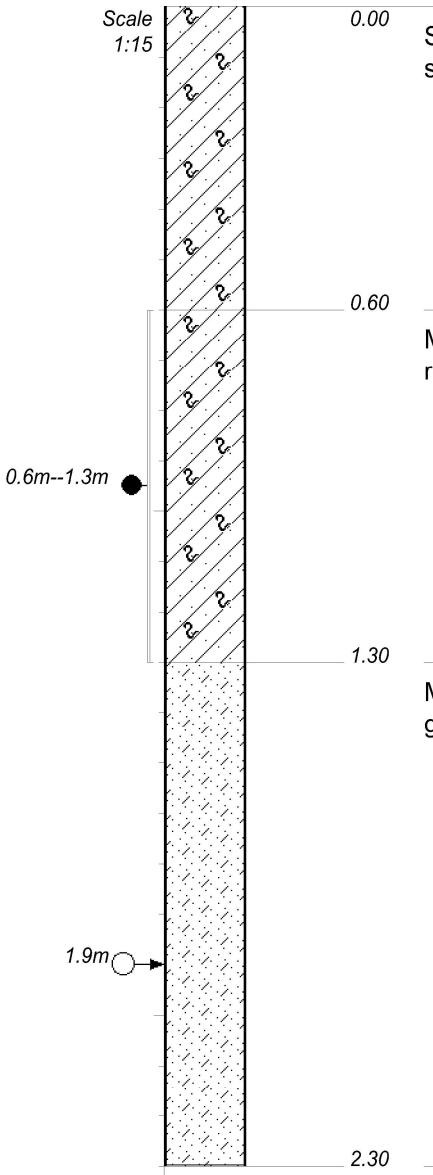
HOLE No: RF/14

ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/15
Sheet 1 of 1

JOB NUMBER: A23/2057



0.00 Slightly moist to dry, black becoming dark grey, stiff, shattered and slickensided, sandy CLAY containing tree roots; alluvium.

0.60 Moist, dark yellow blotched grey, soft, intact, sandy CLAY containing tree roots; reworked residual granite.

1.30 Moist, dark grey becoming orange, dense, intact, coarse clayey SAND; residual granite.

2.30

NOTES

1) No refusal at 2,3m.
2) Slight water seepage encountered from 1,9m.
3) Disturbed foundation indicator sample taken from 0,6m--1,3m.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm
TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024
DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 01 58.7
Y-COORD : E27 51 38.3

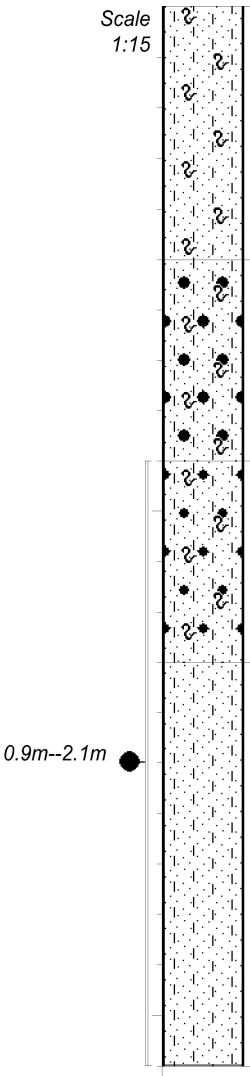
HOLE No: RF/15

ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/16
Sheet 1 of 1

JOB NUMBER: A23/2057



0.00

Moist, dark brown, medium dense to dense, slightly voided, silty SAND containing tree roots; colluvium.

0.50

Abundant coarse medium and fine, sub-rounded NODULAR FERRICRETE clast supported in a matrix of moist, dark orange brown, silty SAND and containing roots; ferruginised colluvium.
Overall consistency is very dense.

0.90

Slightly moist, dark yellow blotched black and dark grey, very dense, intact, silty SAND containing runnels of grey CLAY, roots and minor FERRICRETE GRAVELS; ferruginised reworked residual granite.

1.30

Moist, dark grey blotched yellow, very dense, relict jointed, silty coarse SAND containing runnels of grey CLAY; reworked residual granite.

2.10

NOTES

1) No refusal at 2,1m but excavation becomes very difficult from below 1,8m.
2) No water seepage encountered.
3) Disturbed foundation indicator sample taken from 0,9m--2,1m.
4) A stream occurs 25m north of the test pit.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 02 02.2
Y-COORD : E27 51 30.8

HOLE No: RF/16

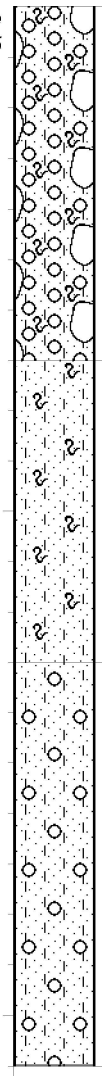
ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/17
Sheet 1 of 1

JOB NUMBER: A23/2057

Scale 1:15



0.00

Abundant coarse medium and fine, sub-rounded and rounded, hard DIABASE GRAVELS, COBBLES and small BOULDERS (diameter = 0,2m to 0,6m) clast supported in a matrix of moist, dark brown, silty SAND and containing tree roots; residual diabase.
Overall consistency is dense.

0.70

Moist, dark brown blotched dark yellow, medium dense to dense, intact, silty SAND containing tree roots; reworked residual granite.

1.30

Moist, dark yellow stained red and black, dense, relict jointed, silty coarse SAND containing minor PEGMATITE GRAVELS; residual granite.

2.10

NOTES

1) No refusal at 2,1m.
2) No water seepage encountered.
3) A north to south striking diabase occurs immediately east of the test pit.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 02 03.6
Y-COORD : E27 51 32.6

HOLE No: RF/17

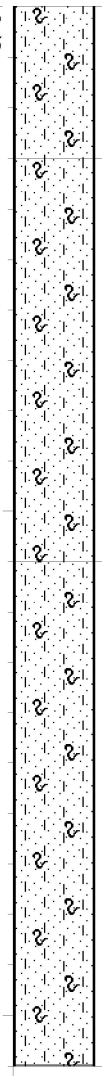
ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/18
Sheet 1 of 1

JOB NUMBER: A23/2057

Scale 1:15



0.0m--1.1m

0.00 Moist, dark brown, dense, slightly voided, silty SAND containing roots; colluvium.

0.30 Moist, dark orange brown, medium dense to dense, slightly voided, silty SAND containing pockets of orange SAND and roots; reworked residual granite.

1.10 Moist, dark yellow blotched black and orange, dense, intact, silty medium SAND containing roots; residual granite.

2.10

NOTES

1) No refusal at 2,1m.
2) No water seepage encountered.
3) Disturbed bulk sample taken from 0,0m--1,1m.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 02 05.5
Y-COORD : E27 51 32.4

HOLE No: RF/18

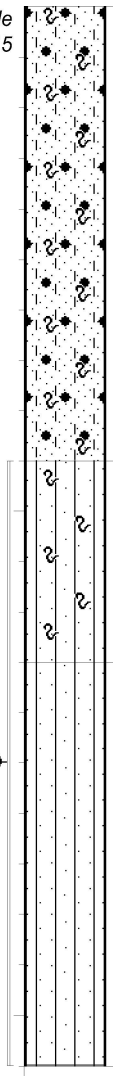
ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/19
Sheet 1 of 1

JOB NUMBER: A23/2057

Scale 1:15



0.9m--2.1m

0.00 Moist, dark reddish brown, dense becoming medium dense from 0,4m, intact, silty SAND containing numerous NODULAR FERRICRETE and roots; ferruginised colluvium.

0.90 Moist, orange red blotched black, firm to stiff, relict jointed, sandy SILT containing roots; residual syenite.

1.30 Moist, dark yellow stained and blotched black, stiff, relict jointed, sandy SILT; residual syenite.

2.10

NOTES

1) No refusal at 2,1m.
2) No water seepage encountered.
3) Disturbed foundation indicator sample taken from 0,9m--2,1m.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 02 07.7
Y-COORD : E27 51 33.5

HOLE No: RF/19

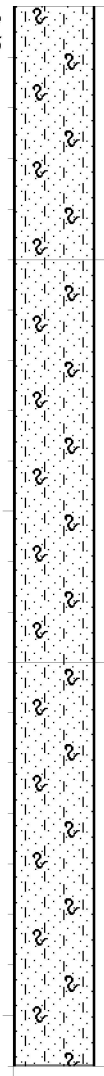
ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/20
Sheet 1 of 1

JOB NUMBER: A23/2057

Scale 1:15



1.0m

0.00

Moist, dark reddish brown, medium dense to dense, slightly voided, silty medium SAND containing roots; colluvium.

0.50

Moist, dark reddish brown, medium dense, slightly voided, silty medium SAND containing roots; residual granite.

1.30

Moist, dark yellowish brown blotched dark red, medium dense to dense, intact, silty medium SAND containing roots; residual granite.

2.10

NOTES

1) No refusal at 2,1m.

2) No water seepage encountered.

3) Undisturbed sample taken at 1,0m.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 02 04.5
Y-COORD : E27 51 30.6

HOLE No: RF/20

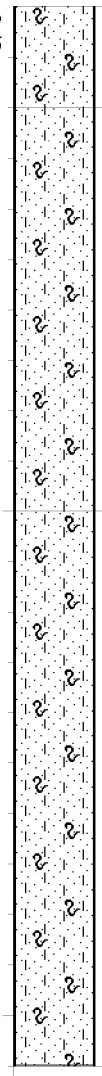
ANDON VAN DER MERWE

Synchronicity Development Planning
Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province
GEOTECHNICAL INVESTIGATION CARRIED OUT FOR:
PROPOSED NEW TOWNSHIP ESTABLISHMENT

HOLE No: RF/21
Sheet 1 of 1

JOB NUMBER: A23/2057

Scale 1:15



0.00

Moist, dark brown, dense, slightly voided, silty SAND containing roots and scattered GRANITE COBBLES at the base; colluvium.

0.20

Moist, dark orange, medium dense to dense, slightly voided, silty coarse SAND containing roots; reworked residual granite.

1.00

Slightly moist, dark yellow mottled dark orange, dense to very dense, relict jointed, silty medium SAND containing roots; residual granite.

2.10

NOTES

1) No refusal at 2,1m.

2) No water seepage encountered.

CONTRACTOR : Jaliker Estates
MACHINE : CASE 570T Backactor
DRILLED BY :
PROFILED BY : avdm

TYPE SET BY : avdm
SETUP FILE : STANDARD.SET

INCLINATION :
DIAM : Trench
DATE :
DATE : 14/11/2023 & 19/02/2024

DATE : 13/03/2024 11:19
TEXT : ..nteinTestPitProfiles.txt

ELEVATION :
X-COORD : S26 02 07.0
Y-COORD : E27 51 32.3

HOLE No: RF/21

GEOPLAN Materials Engineering (Pty) Ltd	**TEST REPORT** SANAS No. T0819	sanas Testing Laboratory T0819

CLIENT:	Andon van der Merwe >andonvdm@outlook.com	**DATE:**	2023-12-07
		REFERENCE:	BJ110123
		REPORT NO:	BJ1101/23
		ORDER NO:	Email Request
		NO OF PAGES:	1 of 6
ATTENTION:	Andon van der Merwe >andonvdm@outlook.com		
PROJECT:	**Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province**		

SAMPLE/ LAB No.:	SN2477, SN2478,SN2479,SN2480, SN2481, SN2482, SN2483 & SN2484
DATE SAMPLE RECEIVED:	2023-11-15
DATE SAMPLE TESTED:	2023-11-15 to 2023-12-07
TESTING LABORATORY:	Geoplan Materials Engineering (Pty) Ltd. 11 Richard Road, Industria North, Florida, 1709 — PO Box 552, Florida, 1710 — Telephone: 011 477 1045
DATE SAMPLED:	Unknown
LOCATION SAMPLED:	**Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province**
SAMPLE METHOD:	Sampled by Client
CLIENT REFERENCE:	**Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province**
SAMPLE CONDITION:	3*+-4kg's Disturbed & 2x Disturbed (+-30kg) sample(s) received in moist condition.
SAMPLING CONDITION:	Sampled by client
TEST METHODS USED IN REPORT/ ANALYSES:	SANS 3001-GR10; SANS 3001-GR1 SANS 3001-GR20 & ASTM D 422
COMMENTS / DEVIATIONS / CLIENT INSTRUCTIONS:	-TMH1 Test Sieves used

REMARKS: * Tests marked with an asterisk in this report are not in the SANAS schedule of accreditation for this laboratory.

Technical Signatory

CLIENT: Andon van der Merwe **DATE:** 7-Dec-23

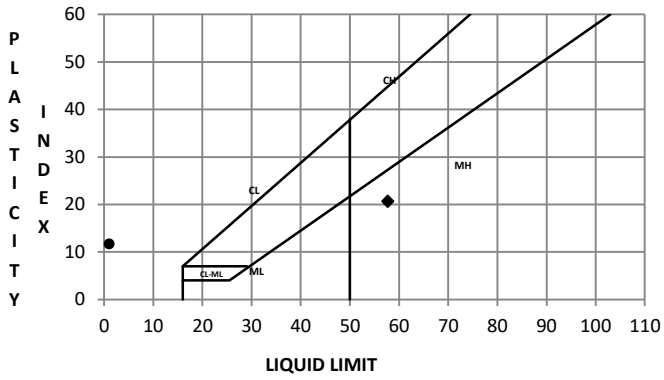
PROJECT: Portion 268 of the farm Rietfontein 189-1Q, Gauteng Province **PROJECT NO:** BJ1101/23

SAMPLE DETAILS

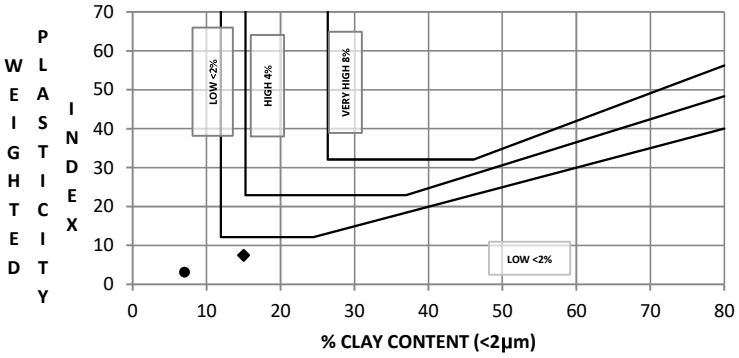
SAMPLE No	CODES	TRIAL PIT	DEPTH (m)	DESCRIPTION
SN2477	●	RF/02	0.5 - 1.9	
SN2478	◆	RF/03	0.2 - 1.2	

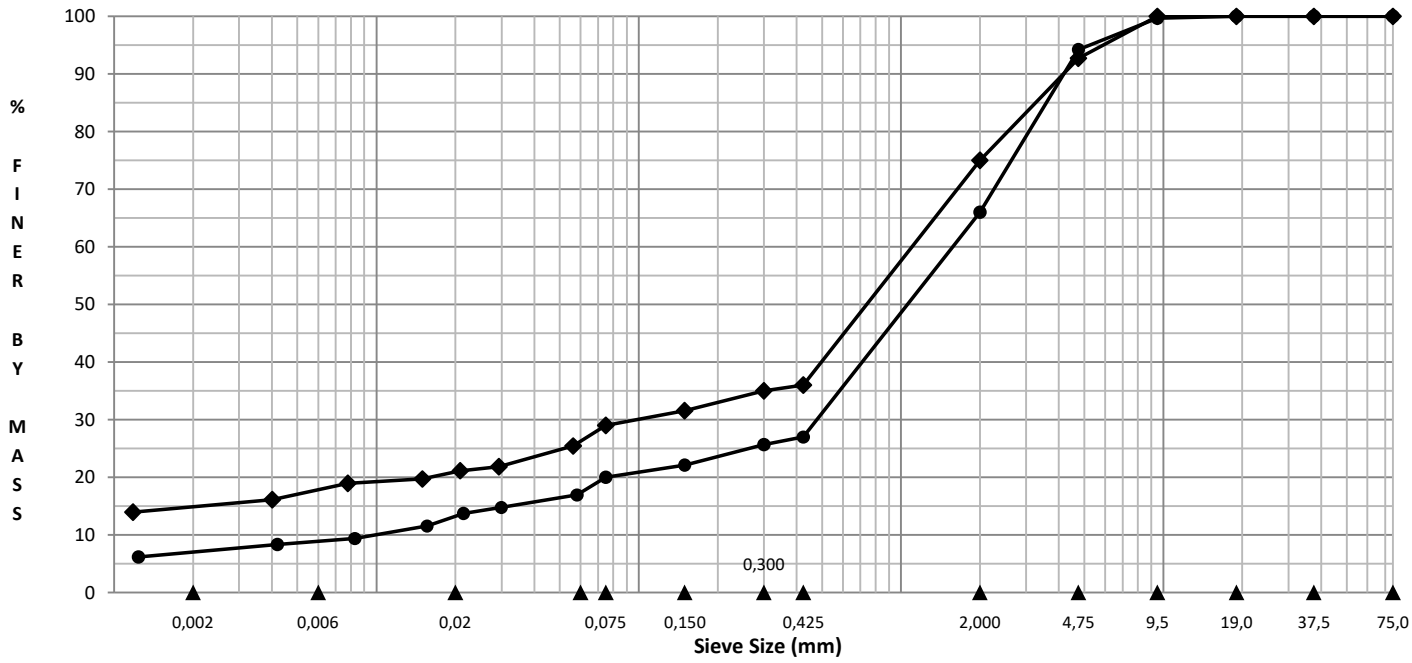
SAMPLE		(mm)	●	◆
SIEVE ANALYSIS (SANS 3001-GR1)	% PASSING BY MASS	75,0	100	100
		37,5	100	100
		19,0	100	100
		9,5	100	100
		4,75	94	93
		2,000	66	75
		0,425	27	36
		0,300	26	35
		0,150	22	32
		0,075	20	29
HYDROMETER (SANS 3001-GR3)	DATE TESTED		23/12/07	23/12/07
	(µm)	60	17	26
	(µm)	20	13	21
	(µm)	6	9	18
	(µm)	2	7	15
ATTERBERG LIMITS (SANS 3001-GR10)	GRADING MODULUS		1,87	1,60
	LIQUID LIMIT (%)		35	58
	PLASTICITY INDEX		12	21
	LINEAR SHRINKAGE (%)		6,5	10,5
	WEIGHTED PI		3	7
	SG		2,650	2,650
SOIL MORTAR ANALYSIS	Coarse Sand(<2.0>0.425)		59	52
	Fine Sand(<0.425>0.075)		11	9
	Silt(<0.075>0.002)		20	19
	Clay (<0.002)		11	20
ELECTRO-CHEMICAL	pH		N/A	7.9
	Conductivity(S/m)		N/A	0.080

CASAGRANDE PLASTICITY CLASSIFICATION CHART



MODIFIED VAN DER MERWE SWELL PREDICTION





CLIENT: Andon van der Merwe **DATE:** 7-Dec-23

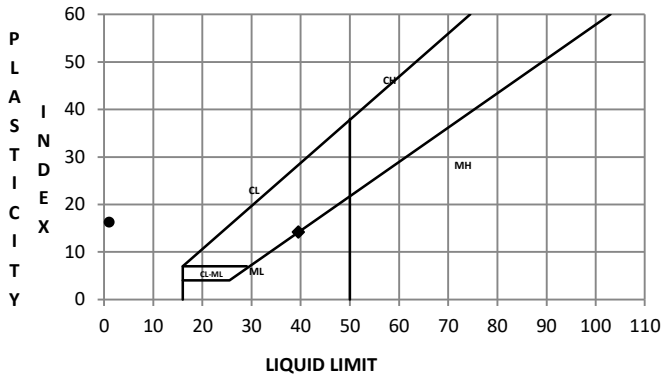
PROJECT: Portion 268 of the farm Rietfontein 189-1Q, Gauteng Province **PROJECT NO:** BJ1101/23

SAMPLE DETAILS

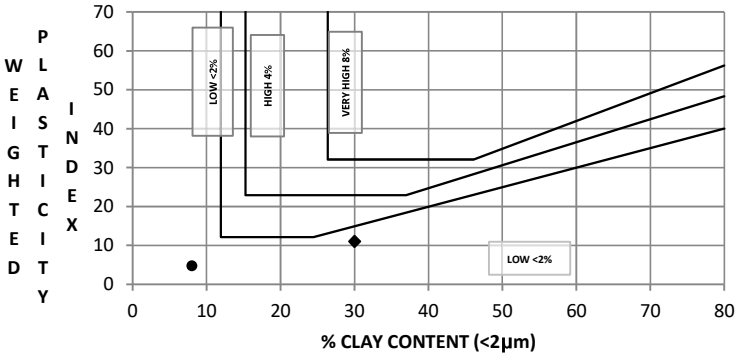
SAMPLE No	CODES	TRIAL PIT	DEPTH (m)	DESCRIPTION
SN2479	●	RF/04	0.0 - 1.1	
SN2480	◆	RF/09	1.4 - 2.3	

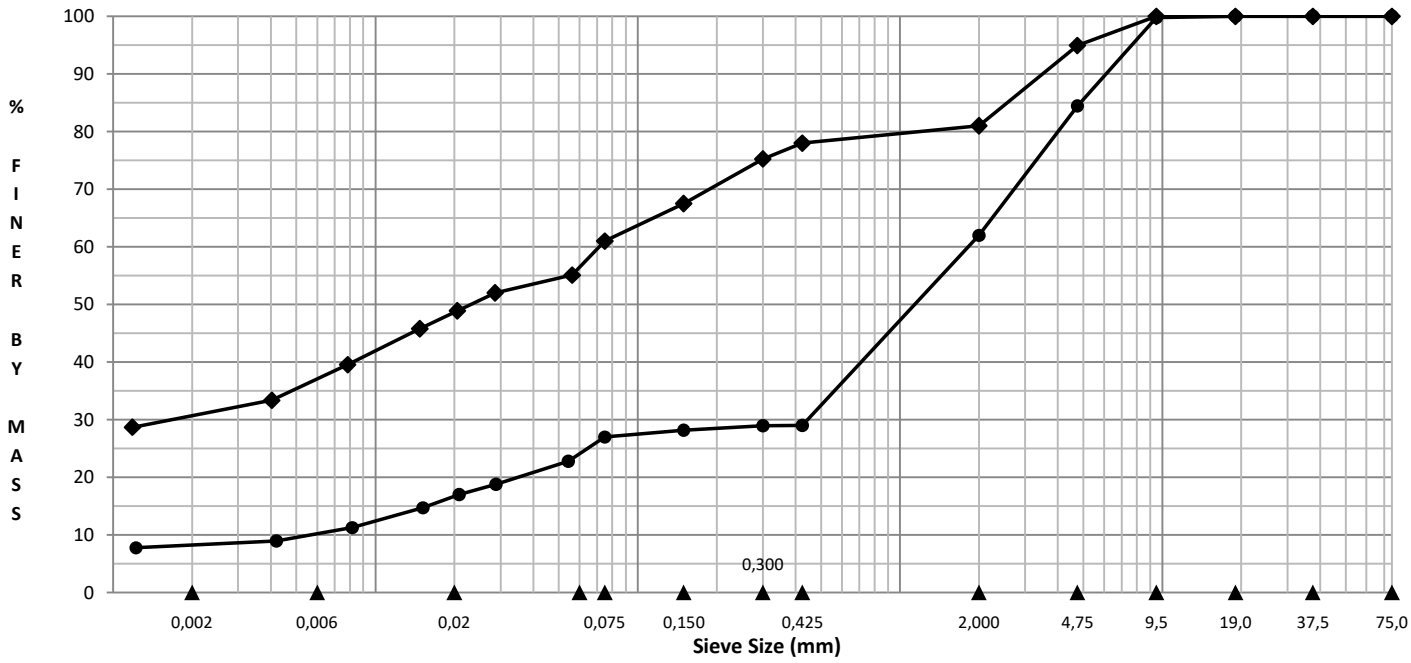
SAMPLE		(mm)	●	◆
SIEVE ANALYSIS (SANS 3001-GR1)	% PASSING BY MASS	75,0	100	100
		37,5	100	100
		19,0	100	100
		9,5	100	100
		4,75	84	95
		2,000	62	81
		0,425	29	78
		0,300	29	75
		0,150	28	67
		0,075	27	61
HYDROMETER (SANS 3001-GR3)	DATE TESTED		23/12/07	23/12/07
	(µm)	60	24	56
	(µm)	20	17	49
	(µm)	6	10	36
	(µm)	2	8	30
ATTERBERG LIMITS (SANS 3001-GR10)	GRADING MODULUS		1,82	0,80
	LIQUID LIMIT (%)		55	40
	PLASTICITY INDEX		16	14
	LINEAR SHRINKAGE (%)		8,0	7,5
	WEIGHTED PI		5	11
	SG		2,650	2,650
SOIL MORTAR ANALYSIS	Coarse Sand(<2.0>0.425)		53	4
	Fine Sand(<0.425>0.075)		3	21
	Silt(<0.075>0.002)		31	38
	Clay (<0.002)		13	37
ELECTRO-CHEMICAL	pH		7.7	N/A
	Conductivity(S/m)		0.050	N/A

CASAGRANDE PLASTICITY CLASSIFICATION CHART



MODIFIED VAN DER MERWE SWELL PREDICTION





GEOPLAN Materials Engineering (Pty) Ltd

REPORT: FOUNDATION INDICATOR

sanas Testing Laboratory T0189

CLIENT: Andon van der Merwe **DATE:** 7-Dec-23

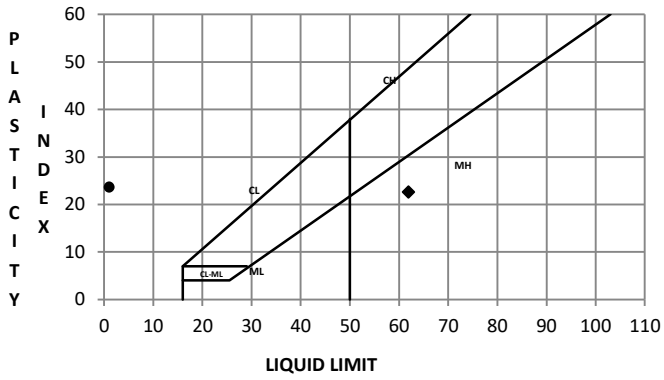
PROJECT: Portion 268 of the farm Rietfontein 189-1Q, Gauteng Province **PROJECT NO:** BJ1101/23

SAMPLE DETAILS

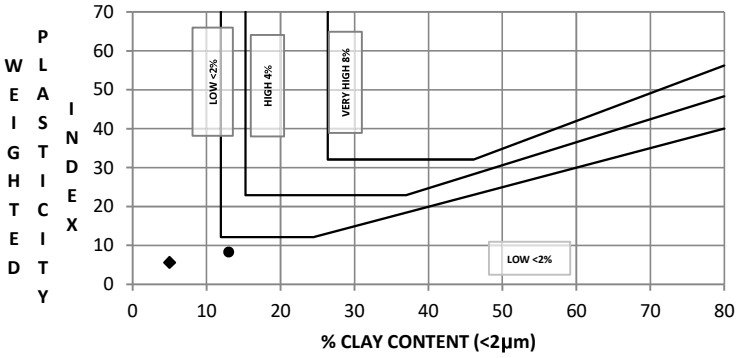
SAMPLE No	CODES	TRIAL PIT	DEPTH (m)	DESCRIPTION
SN2482	●	RF/13	0.3 - 1.8	
SN2483	◆	RF/15	0.6 - 1.3	

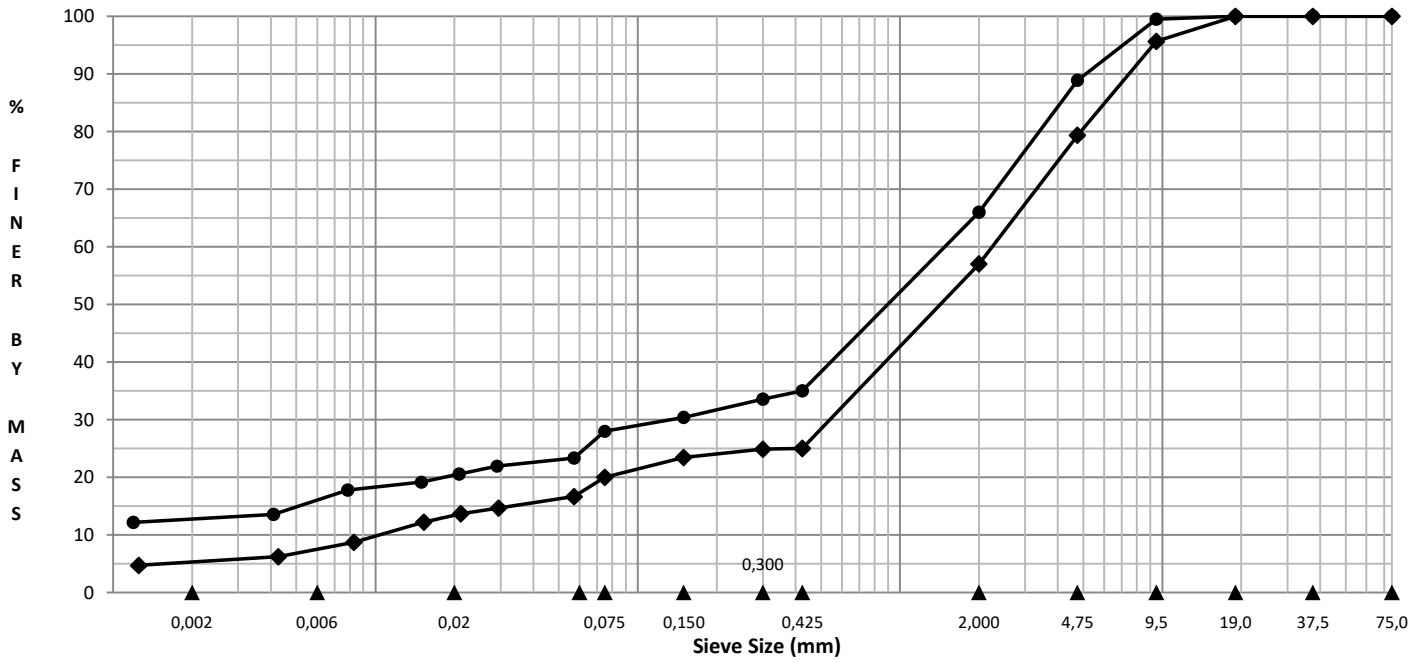
SAMPLE		(mm)	●	◆
SIEVE ANALYSIS (SANS 3001-GR1)	% PASSING BY MASS	75,0	100	100
		37,5	100	100
		19,0	100	100
		9,5	100	96
		4,75	89	79
		2,000	66	57
		0,425	35	25
		0,300	34	25
		0,150	30	23
		0,075	28	20
HYDROMETER (SANS 3001-GR3)	DATE TESTED		23/12/07	23/12/07
	(µm)	60	23	17
	(µm)	20	20	13
	(µm)	6	16	7
	(µm)	2	13	5
ATTERBERG LIMITS (SANS 3001-GR10)	GRADING MODULUS		1,71	1,98
	LIQUID LIMIT (%)		62	62
	PLASTICITY INDEX		24	23
	LINEAR SHRINKAGE (%)		12,0	11,0
	WEIGHTED PI		8	6
	SG		2,650	2,650
SOIL MORTAR ANALYSIS	Coarse Sand(<2.0>0.425)		47	56
	Fine Sand(<0.425>0.075)		11	9
	Silt(<0.075>0.002)		23	26
	Clay (<0.002)		20	9
ELECTRO-CHEMICAL	pH		7,2	N/A
	Conductivity(S/m)		0,079	N/A

CASAGRANDE PLASTICITY CLASSIFICATION CHART



MODIFIED VAN DER MERWE SWELL PREDICTION





GEOPLAN
Materials Engineering (Pty) Ltd

11 Richard Rd
Industria North
Randburg

CLIENT: Andon Van Der Merwe

PROJECT: Portion 268 of the farm Rietfontein 189-IQ,Gauteng Province

PRJ. No: BJ1101/23
DATE: 07/12/2023

CONDUCTIVITY/pH SUMMARY

Sample No	Sample Reference	Depth (m)	pH	Conductivity Sm^{-1}	NMC(%)	Remarks
SN2478	RF/03	0.2-1.2	7,9	0,080	N/A	N/A
SN2479	RF/04	0.0-1.1	7,7	0,050	N/A	N/A
SN2482	RF/13	0.3-1.8	7,2	0.079	N/A	N/A
SN2484	RF/01	0.0-1.2	5,9	0.029	N/A	N/A

NOTES: Condutivity tests were done on material <6.7mm in accordance with TMH1 method A21T
pH determinations done in accordance with TMH1 method A20

GEOPLAN Materials Engineering (Pty) ltd

REPORT: SUMMARY OF TEST RESULTS

sanas Testing Laboratory

SAMPLE DATA

SUMMARY OF TEST RESULTS

Sample Origin	Depth (m)	Sample No	DESCRIPTION /TREATMENT	SIEVE ANALYSIS % PASSING SIEVES (mm) 75	53	37,5	26,5	19,0	13,2	4,75	2,0	0,425	0,075	SOIL MORTAR ANALYSIS GS / CS	F.S	<0.075	ATTERBERG CONSTANTS VG/LL (%)	PI	LK / LS (%)	G.M.	MOD AASHTO MDD (kg/m³)	OVG / 0MC (%)	Verd. Vog (%)	Comp.Moist.	Swell (%)	C.B.R (%) 100%	98%	97%	95%	93%	90%	T.R.B. CLASS	T.R.H. (14) CLASS	COLTO 1998 CLASS	USCS CLASS
RF/01	0.0 - 1.2	SN2484	Clayey Sand with Gravel	100	100	96	96	95	93	78	52	38	28	16	14	11	32	12	6,0	1,82	2022	8,4	8,3	0,2	40	28	23	20	15	11	A-2-6(0)	**G8**	G8	SC
RF/10	0.0 - 1.5	SN2481	Silty Sand	100	100	100	100	100	100	100	93	58	35	24	21	18	46	16	8,0	1,14	1871	10,5	10,6	0,3	31	25	22	18	14	10	A-2-7(1)	**G10**	Unsuitable	SM

PROJECT No: BJ1101/23 **CLIENT** Andon Van Der Merwe **PROJECT:** Portion 268 of the farm Rietfontein 189-IQ, Gauteng Province **DATE** : 2023/12/07

Note:

DOCUMENT TYPE:	MANAGEMENT SYSTEM PROCEDURE				
DOCUMENT NUMBER:	REP 07	REVISION :	1	EFFECTIVE DATE	2018/07/24
COMPILER:	QUALITY MANAGER	APPROVER:		MANAGING DIRECTOR	

GEOPLAN Materials Engineering (Pty) Ltd	**TEST REPORT** SANAS No. T0819

CLIENT:	Andon van der Merwe >andonvdm@outlook.com	**DATE**: **REFERENCE:** **REPORT NO:** **ORDER NO:** **NO OF PAGES:**	2024-03-06 BJ1212/24 BJ1212/24 Email Request 1 of 5
ATTENTION:	Andon van der Merwe >andonvdm@outlook.com		
PROJECT:	**Portion 268 of the farm Reitfontein 189-IQ, Gauteng Province**		

SAMPLE/ LAB No.:	SN2769, SN2770, SN2771 & SN2772
DATE SAMPLE RECEIVED:	2024-02-19
DATE SAMPLE TESTED:	2024-02-19 to 2024-03-06
TESTING LABORATORY:	Geoplan Materials Engineering (Pty) Ltd. 11 Richard Road, Industria North, Florida, 1709 PO Box 552, Florida, 1710 Telephone: 011 477 1045
DATE SAMPLED:	Unknown
LOCATION SAMPLED:	**Portion 268 of the farm Reitfontein 189-IQ, Gauteng Province**
SAMPLE METHOD:	Sampled by Client
CLIENT REFERENCE:	**Portion 268 of the farm Reitfontein 189-IQ, Gauteng Province**
SAMPLE CONDITION:	2*+-4kg's Disturbed & 1x Disturbed (+-30kg) sample(s) & 1x Undisturbed sample received in moist condition.
SAMPLING CONDITION:	Sampled by client
TEST METHODS USED IN REPORT/ ANALYSES:	SANS 3001-GR10; SANS 3001-GR1 SANS 3001-GR20, SANS 3001-GR30, SANS 3001-GR40, TMH 5-MD2, TMH 5-MD1, ASTM D 422 & BS1377 part 5
COMMENTS / DEVIATIONS / CLIENT INSTRUCTIONS:	-TMH1 Test Sieves used

REMARKS: * Tests marked with an asterisk in this report are not in the SANAS schedule of accreditation for this laboratory.

Technical Signatory

CLIENT: Andon van der Merwe **DATE:** 19-Feb-24

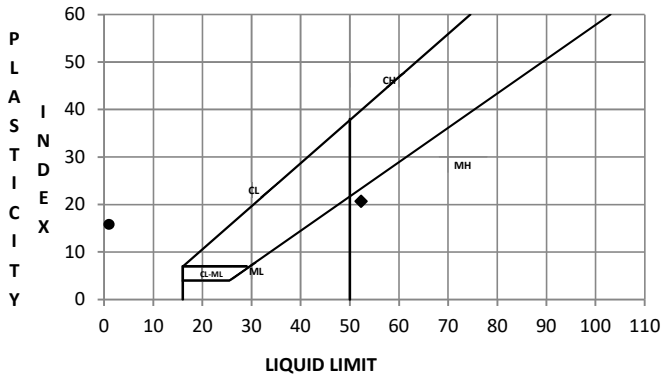
PROJECT: Portion 268 of the farm Reitfontein 189-IQ, Gauteng Province **PROJECT NO:** BJ1212/24

SAMPLE DETAILS

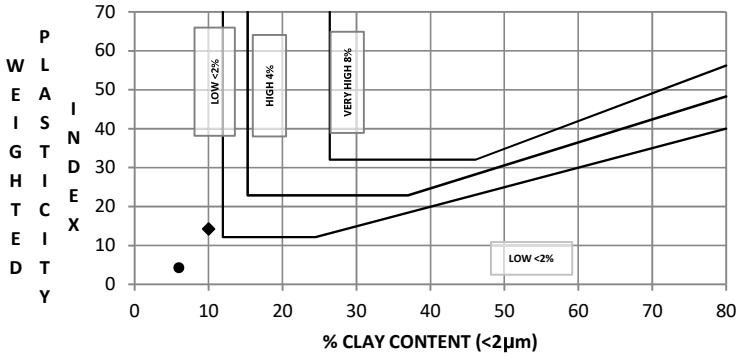
SAMPLE No	CODES	TRIAL PIT	DEPTH (m)	DESCRIPTION
SN2769	●	RF/16	0,9-2,1	
SN2772	◆	RF/20	1,0	

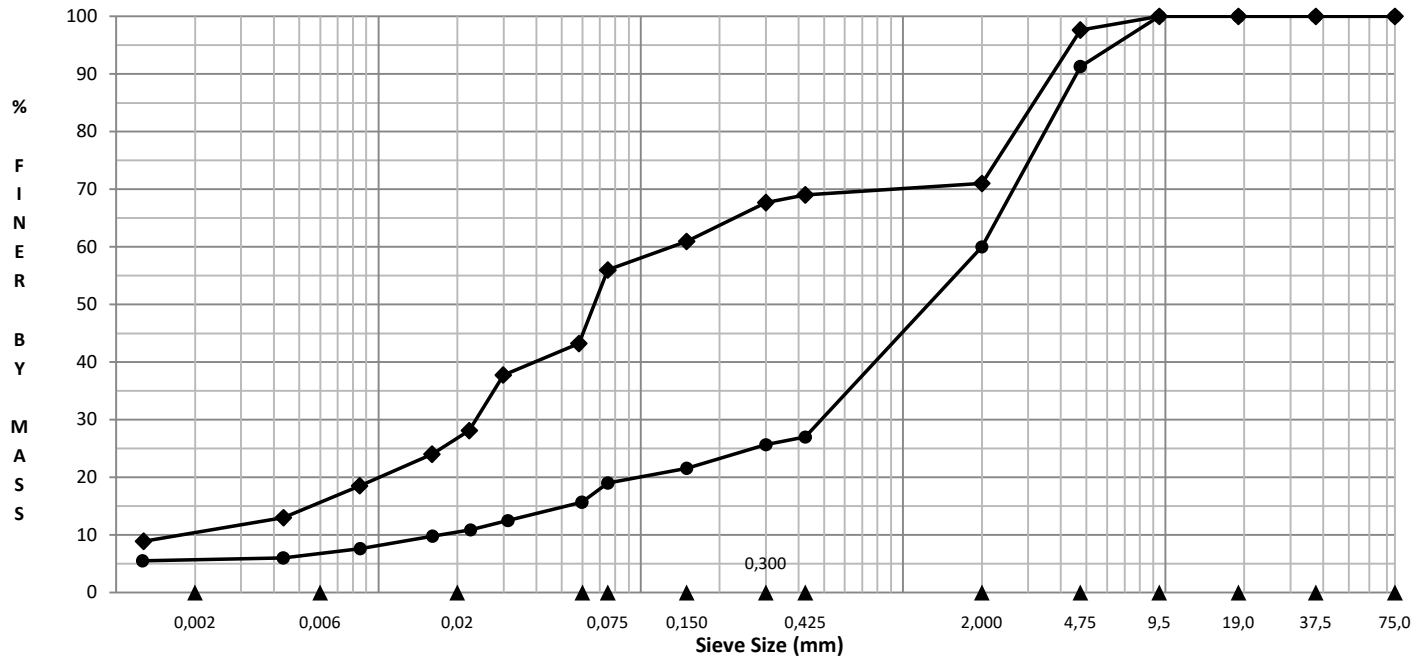
SAMPLE		(mm)	●	◆
SIEVE ANALYSIS (SANS 3001-GR1)	% PASSING BY MASS	75,0	100	100
		37,5	100	100
		19,0	100	100
		9,5	100	100
		4,75	91	98
		2,000	60	71
		0,425	27	69
		0,300	26	68
		0,150	22	61
		0,075	19	56
HYDROMETER (SANS 3001-GR3)	DATE TESTED		24/02/19	24/02/19
	(µm)	60	16	44
	(µm)	20	10	27
	(µm)	6	7	15
	(µm)	2	6	10
ATTERBERG LIMITS (SANS 3001-GR10)	GRADING MODULUS		1,94	1,04
	LIQUID LIMIT (%)		47	52
	PLASTICITY INDEX		16	21
	LINEAR SHRINKAGE (%)		8,5	10,5
	WEIGHTED PI		4	14
	SG		2,650	2,650
SOIL MORTAR ANALYSIS	Coarse Sand(<2.0>0.425)		55	3
	Fine Sand(<0.425>0.075)		13	18
	Silt(<0.075>0.002)		22	65
	Clay (<0.002)		10	14
ELECTRO-CHEMICAL	pH			5,8
	Conductivity(S/m)			0,021

CASAGRANDE PLASTICITY CLASSIFICATION CHART



MODIFIED VAN DER MERWE SWELL PREDICTION





CLIENT: Andon van der Merwe **DATE:** 19-Feb-24

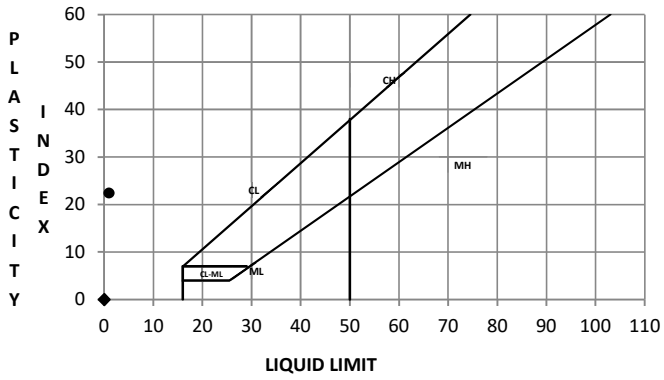
PROJECT: Portion 268 of the farm Reitfontein 189-IQ Gauteng Province **PROJECT NO:** BJ1212/24

SAMPLE DETAILS

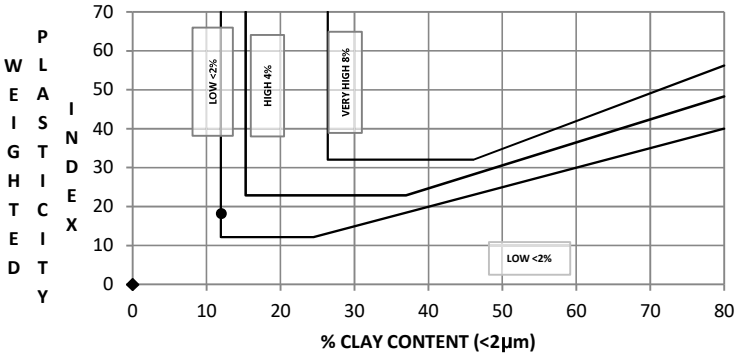
SAMPLE No	CODES	TRIAL PIT	DEPTH (m)	DESCRIPTION
SN2771	●	RF/19	0,9-2,1	
SN2770	◆	RF/18	0-1,1	

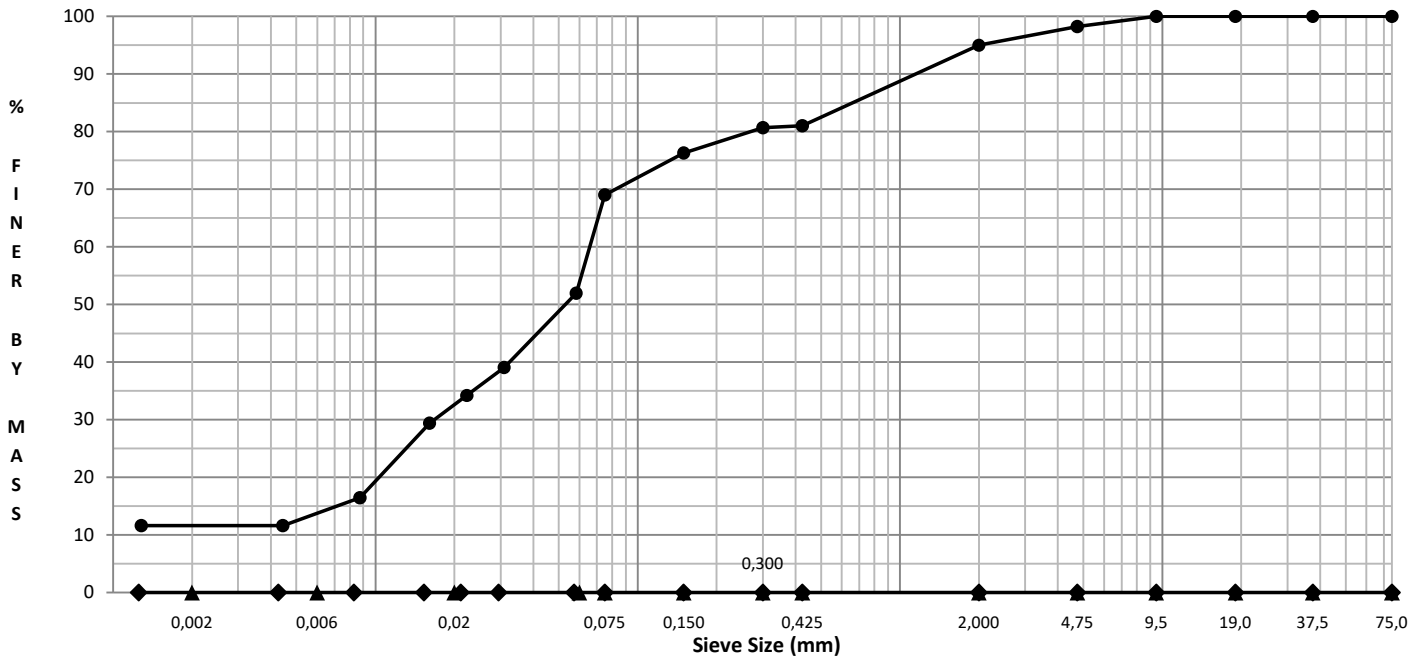
SAMPLE		(mm)	●	◆
SIEVE ANALYSIS (SANS 3001-GR1)	% PASSING BY MASS	75,0	100	
		37,5	100	
		19,0	100	
		9,5	100	
		4,75	98	
		2,000	95	
		0,425	81	
		0,300	81	
		0,150	76	
		0,075	69	
HYDROMETER (SANS 3001-GR3)	DATE TESTED		24/02/19	
	(µm)	60	53	
	(µm)	20	32	
	(µm)	6	13	
	(µm)	2	12	
ATTERBERG LIMITS (SANS 3001-GR10)	GRADING MODULUS		0,55	
	LIQUID LIMIT (%)		53	
	PLASTICITY INDEX		22	
	LINEAR SHRINKAGE (%)		11,0	
	WEIGHTED PI		18	
	SG		2,650	
SOIL MORTAR ANALYSIS	Coarse Sand(<2.0>0.425)		15	
	Fine Sand(<0.425>0.075)		13	
	Silt(<0.075>0.002)		60	
	Clay (<0.002)		13	
ELECTRO-CHEMICAL	pH		7,0	6,8
	Conductivity(S/m)		0,034	0,032

CASAGRANDE PLASTICITY CLASSIFICATION CHART



MODIFIED VAN DER MERWE SWELL PREDICTION





GEOPLAN Materials Engineering (Pty) Ltd

REPORT: SUMMARY OF TEST RESULTS

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SAMPLE DATA

SUMMARY OF TEST RESULTS

Sample Origin	Depth (m)	Sample No	DESCRIPTION /TREATMENT	SIEVE ANALYSIS % PASSING SIEVES (mm) 75	53	37,5	26,5	19,0	13,2	4,75	2,0	0,425	0,075	SOIL MORTAR ANALYSIS GS / CS	F.S	<0,075	ATTERBERG CONSTANTS VG/LL (%)	PI	LK / LS (%)	G.M.	MOD AASHTO MDD (kg/m³)	OVG / OMC (%)	Verd. Vog (%)	Comp.Moist.	Swell (%)	C.B.R (%) 100%	98%	97%	95%	93%	90%	T.R.B. CLASS	T.R.H. (14) CLASS	COLTO 1998 CLASS	USCS CLASS
RF/18	0-1,1	SN2770	Silty Sand	100	100	100	100	100	100	97	79	55	19	38	28	21	42	14	7,0	1,46	1943	11,8	11,7	1,8	21	13	11	7	5	2	A-2-7(0)	G10	Unsuitable	SM

PROJECT No: BJ1212/24 **CLIENT** Andon Van Der Merwe **PROJECT:** Portion 268 of the farm Reitfontein 189-IQ, Gauteng Province **DATE** 6-Mar-24

Note:

DOCUMENT TYPE:	MANAGEMENT SYSTEM PROCEDURE				
DOCUMENT NUMBER:	REP 07	REVISION :	1	EFFECTIVE DATE	2018/07/24
COMPILER:	QUALITY MANAGER	APPROVER:		MANAGING DIRECTOR	

Consolidation Test / Konsolidasie Toets

CLIENT: : Andon Van Der Merwe

PROJECT Portion 268 of the farm reitfontein 189-IQ, Gauteng Province

DATE: : 2024/02/19

JOB REQ NO: BJ1212/24
SAMPLE NO: SN2772
Sample Origin: RF/20
DEPTH: 1.0

Sample Parameters

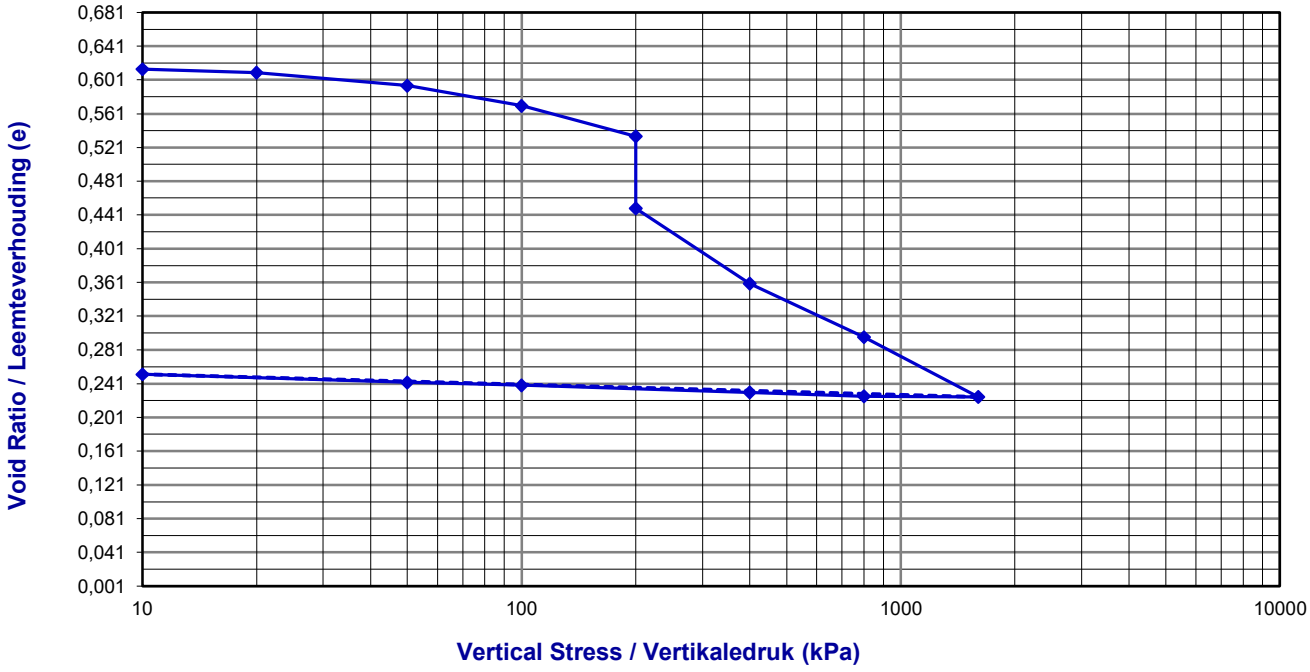
Machine	E	Mass of Ring + wet sample (start of test)	268,7 g
Ring No	2	Mass of Ring + dry sample	253,9 g
Ring Ht	19,10 mm	Mass of Ring + wet sample (end of test)	272,2 g
Ring Diam.	75,00 mm	Mass of ring	115,6 g
Ring Vol.	84,38 cm^3	Dry Density	1,639 kg/m^3
M/C at Start	10,7 %	M/C at End of Test	13,2 %
Sat. at Start	45,97 %	Sat. at End	139,1 %
Initial Voids Ratio	0,617	S.G.	2,650
Initial Ht. of Voids	7,29 mm	Ht. Of Solids	11,81 mm

TEST WAS DONE ON A SPECIMEN PREPARED FROM AN UNDISTURBED SAMPLE AND SATURATED @ 200 kPa

Test Parameters

V.Strs (kPa)	1	10	20	50	100	200	200	400	800	1600	800	400	100	50	10
Dial (u)	10000	9964	9914	9732	9450	9022	8016	6962	6210	5376	5386	5439	5540	5580	5690
Strain (%)		0,19	0,45	1,40	2,88	5,12	10,39	15,91	19,84	24,21	24,16	23,88	23,35	23,14	22,57
Void Ratio	0,617	0,614	0,610	0,594	0,570	0,534	0,449	0,360	0,296	0,225	0,226	0,231	0,239	0,243	0,252
Cc		0,003	0,014	0,039	0,079	0,120		0,296	0,211	0,235	0,003	0,015	0,014	0,011	0,013
Mv (1/Mpa)		0,209	0,262	0,318	0,295	0,224		0,276	0,098	0,055	0,001	0,007	0,018	0,042	0,144

Collapse Potential	**5,3 %**



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CERTIFICATE OF ANALYSES
GENERAL WATER QUALITY PARAMETERS

Date received: 2023 - 11 - 16 **Date Completed:** 2023 - 11 - 28

Project number: 1000 **Report number: 126716** **Order number:**

Client name: Andon van der Merwe Consulting Engineering **Contact person: Mr. A. van der Merwe**

Address: Posbus 95562 Waterkloof 0145 **e-mail: andonvdm@outlook.com**

Telephone: 012 647 1687 **Facsimile:** **Mobile: 074 132 2037**

Analyses in mg/ℓ (Unless specified otherwise)	Method Identification	Sample Identification:
		PTN 268 Rietfontein RF/09 – 1.9 – 2.3m
Sample Number		23-28393
pH Value at 25°C	WLAB001	6.8
Electrical Conductivity in mS/m at 25°C	WLAB002	33.3
Total Dissolved Solids at 180°C	WLAB003	226
Total Alkalinity as $CaCO_3$	WLAB007	100
Total Hardness as $CaCO_3$	WLAB051	82
Calcium Hardness as $CaCO_3$	WLAB051	40
pH Saturation (pHs) at 20°C	WLAB053	8.3
Chloride as Cl	WLAB046	26
Sulphate as SO_4	WLAB046	51
Free & Saline Ammonia as N	WLAB046	0.1
Ammonium as NH_4	WLAB046	0.1
Calcium as Ca	WLAB015	16
Magnesium as Mg	WLAB015	10
Leaching Index [LCSI] *	---	1 517
Spalling Index [SCSI] *	---	7
Aggressiveness Index [N] *	---	1 525

*** = Not SANAS Accredited**

Tests marked "Not SANAS Accredited" in this report are not included in the SANAS Schedule of Accreditation for this Laboratory.

Important notes:

1. The above aggressiveness index is only applicable for conditions of laminar flow at a mean annual temperature of 20°C.
2. For stagnant/turbulent conditions the aggressiveness index must be corrected.
3. For wet/dry cycling conditions (for example in tidal zones) the aggressiveness index must be corrected.
4. For mean annual temperatures lower/higher than 20°C the aggressiveness index must be corrected.

A. van der Wetering

Technical Signatory: