SKCMasakhizwe Engineers (Pty) Ltd South Division



Consulting Engineers to Build the Nation Established 1956

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E-mail: skcmsouth@skcm.co.za Web: www.skcm.co.za Offices at Pretoria, Nelspruit, Aliwal North Paarl, Durban, Malmesbury and Mozambique

B-BBEE LEVEL TWO CONTRIBUTOR

Your ref:

W1962/3.5-01

05/07/2019

Attention: Mr. D. Nell

Swartland Investments Posbus 216 **MOORREESBURG** 7310

Sir,

ERF 245, ATLANTIS: GEOTECHNICAL INVESTIGATION

A geotechnical investigation was undertaken by Mr. J.V Loubser on Wednesday 03 July 2019 to determine the soil profile, water table and bearing capacity of the soil on erf 245, Atlantis.

Our ref:

The site will be further developed with storage buildings on the bottom left corner of the erf and a gas installation building located on the top right corner of the erf. (See site layout, **W1962-01**).

Geologically, the site is situated in terrain mainly Quaternary calcareous coastal dune sand of the Witzand Formation as well as Quaternary limestone and calcrete of the Langebaan Formation.

Three machine-dug test pits were put down at accessible positions over the proposed development area for exposure of the soil profile down to at least 1,8m below existing ground level. The test pits confirmed the coastal dune sands of the Witzand Formation. The dark grey sandy soil turns light grey in depth (See soil profiles attached, **W1962-TP1**, **W1962-TP2**, **W1962-TP3**). There were rubble observed 1,0m below ground level at TP1 and should be further investigated at construction stage.

The water table was reached at 3,0m below natural ground level.

DCP tests were conducted next to the three test pits and where the gas installation building will be constructed (See site layout plan). The results indicate that the site has a slight variation in soil bearing capacity and 50-100 kPa bearing capacity will be reached between 400 and 800mm below natural ground level (See test results attached). The bearing capacity at founding level will be tested again at construction stage, and a recommendation made as to the best founding solution for the results obtained.

We trust that you will find the above in order.

Regards

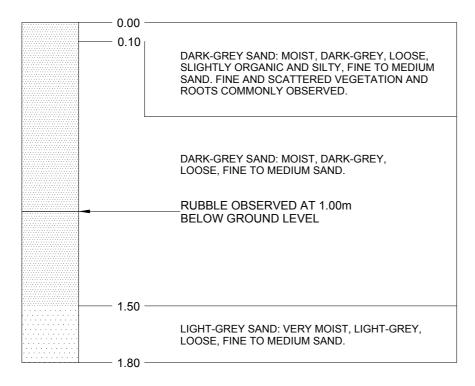
M/P.J/LOUBSER PrEng ECSA: 880632 SKCM Engineers .../jvl



SKCMasakhizwe Engineers (Pty) Ltd Reg No 2000/001951/07 G Chantler Pr Eng, MPJ Loubser Pr Eng, IJG de Bruyn Pr Eng, CJ Phiri Manager South Division: MPJ Loubser Pr Eng



PROFILE NO :	TP1	DATE	2019/07/03	PROFILED BY:	JVL	
LATITUDE :	33°35'27.00"S	LONGITUDE :	18°28'30.83"E	ELEVATION (m)	NA	
DEPTH OF PR	DEPTH OF PROFILE PIT (m)		TER TABLE (m)	DEPTH TO WEATHERED ROCK		
1.80 m		NOT ENCC	UNTERED	UNKN	IOWN	



SCALE 1:20

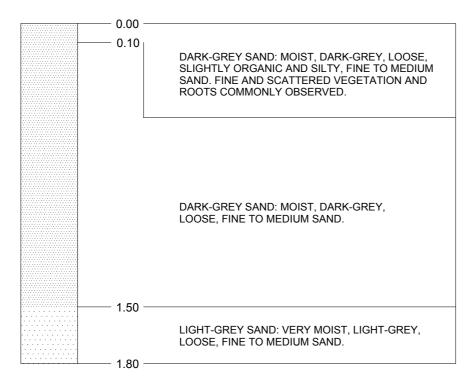


_RUBBLE OBSERVED AT 1.00m BELOW GROUND LEVEL

PHOTO: TP 1

			-				
			CLIENT		BY	DATE	CH
SKCMasakhizwe Engineers (Pty) Ltd		TEST PIT 1: ERF 245,	SWARTLAND INVESTMENTS	DESIGNED			
		ATLANTIS	INVESTMENTS	DRAWN	JVL	2019/07/04	
CONSULTING ENGINEERS TO BUILD THE NATION		NOTE:					
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TEL: (021) 871 1422/3 FAX: (021) 872 7740						P1	0

	1	r				
PROFILE NO :	TP2	DATE	2019/07/03	PROFILED BY:	JVL	
LATITUDE :	33°35'26.17"S	LONGITUDE :	18°28'30.93"E	ELEVATION (m)	NA	
DEPTH OF PI	DEPTH OF PROFILE PIT (m)		TER TABLE (m)	DEPTH TO WEATHERED ROCK		
1.80 m		NOT ENCO	UNTERED	UNKN	IOWN	

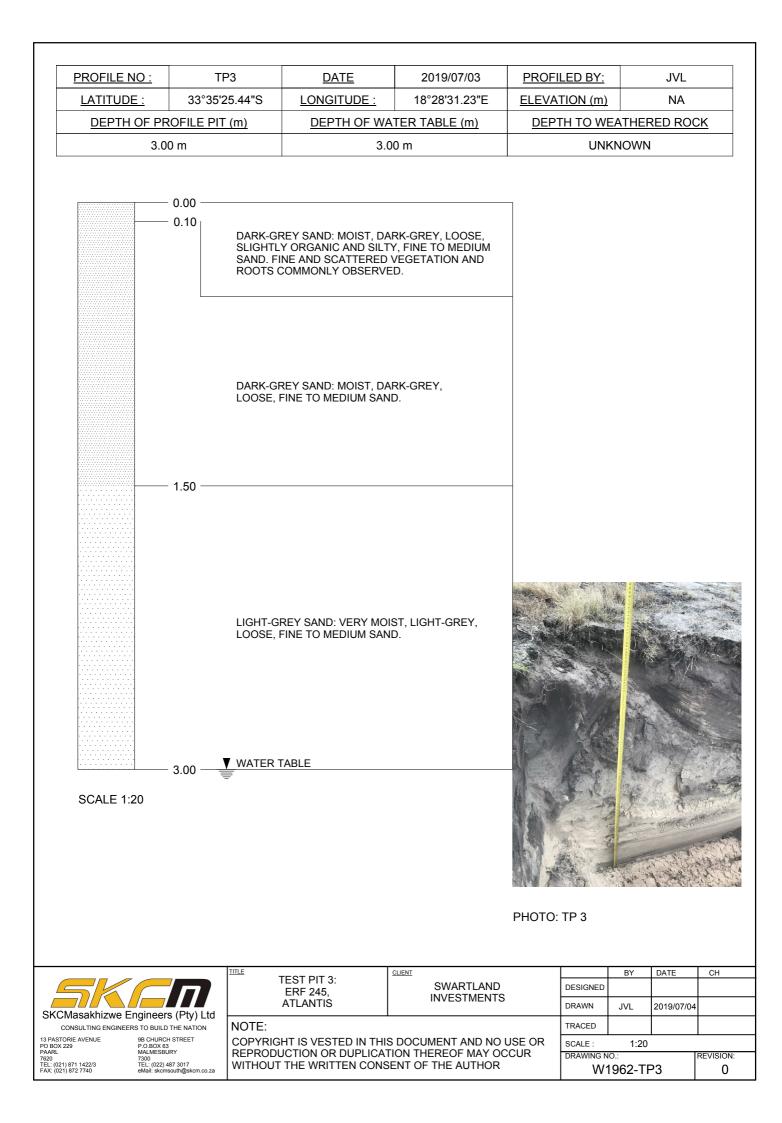


SCALE 1:20



PHOTO: TP 2

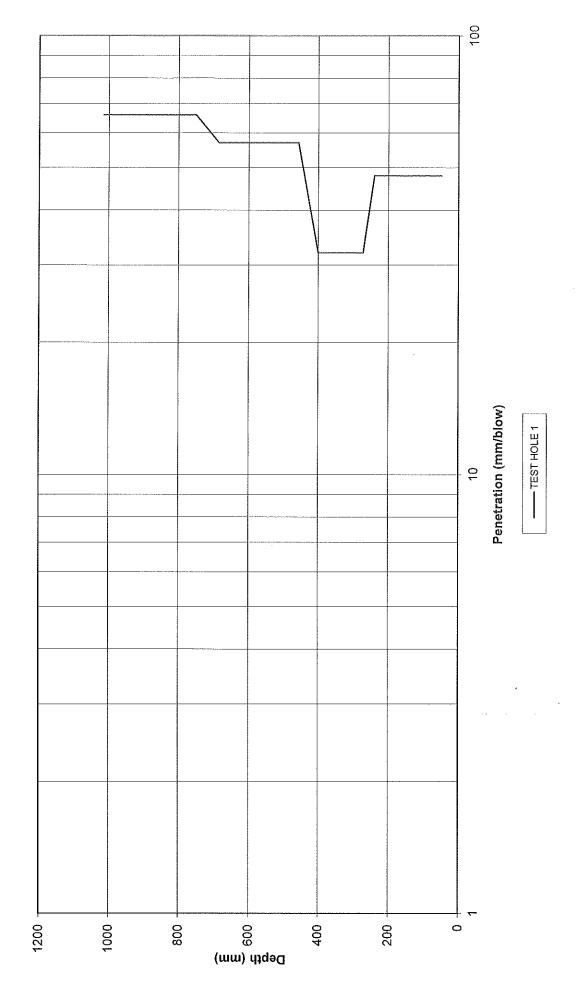
			CLIENT		BY	DATE	СН
SKCMasakhizwe Engineers (Pty) Ltd		TEST PIT 2: ERF 245,	SWARTLAND	DESIGNED			
		ATLANTIS	INVESTMENTS	DRAWN	JVL	2019/07/04	
	RS TO BUILD THE NATION	NOTE:					
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FAX: (021) 872 7740	eMail: skcmsouth@skcm.co.za	WITHOUT THE WRITTEN CONSENT OF THE AUTHOR			W1962-TP2		

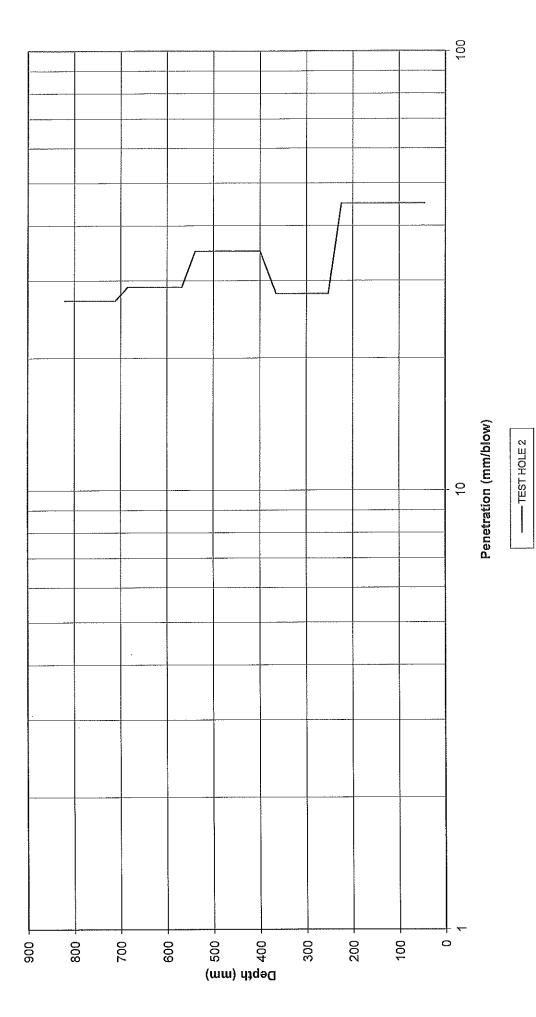


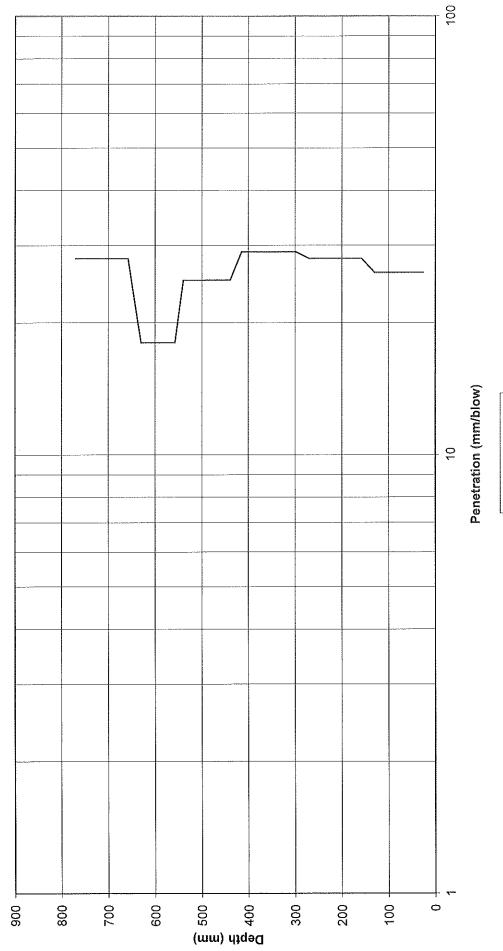
W1962/12.1-01 Erf 245, Atlantis								
	TEST	HOLE 1	IESIS IN P	04/07/2019		TO AND A DECEMBER OF	HOLE 2	
No Blows	Reading	Penetration	Donth		No Blows		Penetration	Donth
NO DIOWS	(mm)	(mm/blow)	(mm)		NO DIOWS	(mm)	(mm/blow)	
1	350			····	1	360		<u>((((())))</u>
2	398	48	48		2	405	45	45
3	446	48	96		3	450	45	90
4	494	48	144		4	495	45	135
5	542	48	192		5	540	45	180
6	590	48	240		6	585	45	225
7	622	32	272		7	613	28	253
8	654	32	304		8	641	28	281
9	686	32	336		9	669	28	309
10	718	32	368		10	697	28	337
11	750	32	400		11	725	28	365
12	807	57	457		12	760	35	400
13	864	57	514		13	795	35	435
14	921	57	571	n	14	830	35	470
15	978	57	628		15	865	35	505
16	1035	57	685		16	900	35	540
17	1101	66	751		17	929	29	569
18	1167	66	817		18	958	29	598
19	1233	66	883		19	987	29	627
20	1299	66	949		20	1016	29	656
21	1365	66	1015		21	1045	29	685
					22	1072	27	712
					23	1099	27	739
					24	1126	27	766
*****					25 26	1153	27	793
			· · · ·		20	1180	27	820

	TEST	HOLE 3			TEST	HOLE 4		
No Blows	Reading	Penetration	Depth		No Blows	Reading	Penetratior	Depth
	(mm)	(mm/blow)	(mm)			(mm)	(mm/blow)	
1	and we have a second				1	350		<u>, </u>
2	376		26		2	426	76	76
3		26	52		3	502	76	152
4	428		78		4	578	76	228
5			104		5	654	76	304
6		26	130		6	730	76	380
7	508		158		7	772	42	422
8			186		8	814	42	464
9		28	214		9	856	42	506
10		28	242		10	898	42	548
11	620	28			11	940	42	590
12	649	29	299		12	977	37	627
13	678	29	328		13	1014	37	664
14	707	29	357	10000000 - 14	14	1051	37	701
15	736	29	386		15	1088	37	738
16	765	29	415		16	1125	37	775
17	790	25	440		17	1149	24	799
18	815	25	465	5.5	18	1173	24	823
19	840	25	490		19	1197	24	847
20	865	25	515		20	1221	24	871
21	890	25	540		21	1245	24	895
22	908	18	558					
23	926	18	576					
24	944	18	594					
25	962	18	612					
26	980	18	630					
27	1008	28	658					
28	1036	28	686					
29	1064	28	714					
30		28	742					
31	1120	28	770					
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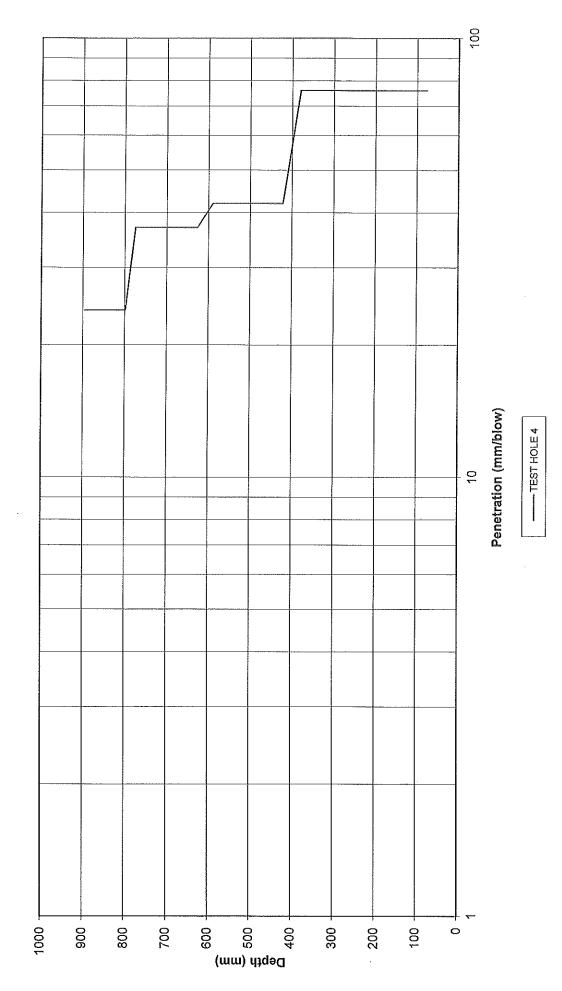
No Blows R	TEST HOLE 5				an a			
<u> </u>		Penetration	Depth					
(n	nm)		(mm)					
1	620							
2	667	47	47					
3	714	47	94					
4	761	47	141					
5	808	47	188					
6	855	47	235					
7	890	35	233					
8	925	35	305					~~~~
9	920	35 35						
10	960		340 375		7K31332777777			
	995	35	375					
11	1030	35	410					
12	1063	33	443					
13	1096	33	476					
14	1129	33	509					
15	1162	33	542					
16	1195	33	575			ATT		
17	1226	31	606	NAVADIA 11100 11100 11				
18	1257	31	637					
19	1288	31	668					
20	1319	31	699					
21	1350	31	730					
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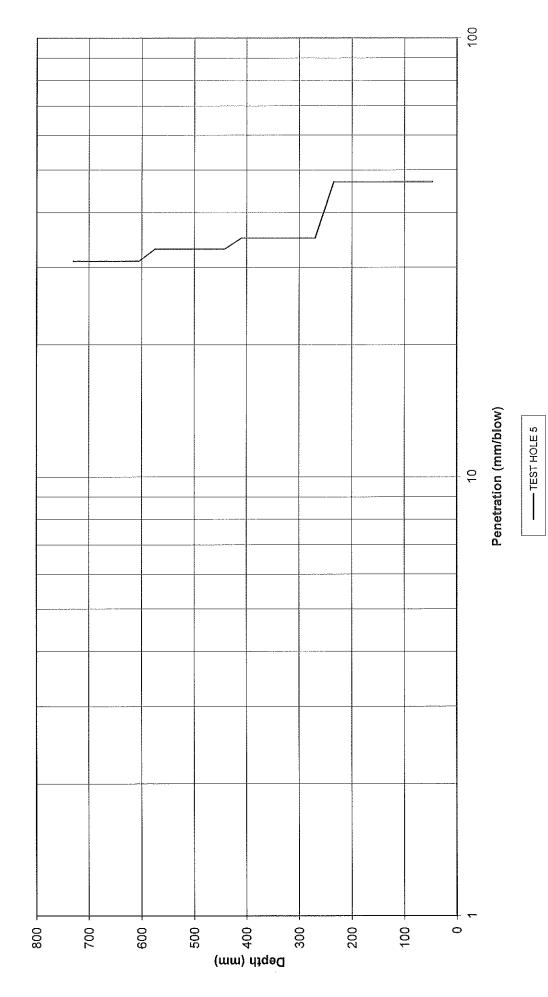






----- TEST HOLE 3







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