

(2) 地質調査報告書 (カネンゴ変電所)

Contents

1. Site Investigations	1
1.1 Scope	1
1.2 Site and Testing Overview	1
2. Test Remarks	2
2.1 Atterburg Limits.....	2
2.2 Gradation.....	2
2.3 Bearing Capacity	3
2.4 UCS Rock Core	8
3. Summary	8
4. Appendix	9
4.1 Borehole Logs.....	9
4.2 Summary of Test Results.....	15
4.3 Atterburg Limits.....	21
4.4 Gradation.....	40
4.5 Natural Moisture Content.....	61

List of Figures

Figure 1: Boreholes Indicated in White	1
Figure 2: Drilling Location of BH02.....	8
Figure 3: Samples Recovered & SPT Sampler.....	8

List of Tables

Table 1: Borehole Coordinates	2
Table 2: Atterburg Limits	2
Table 3: BH01 Bearing Capacity and Friction Angle Against Depth.....	3
Table 4: BH02 Bearing Capacity and Friction Angle Against Depth.....	4
Table 5: BH03 Bearing Capacity and Friction Angle Against Depth.....	5
Table 6: BH04 Bearing Capacity and Friction Angle Against Depth.....	6
Table 7: BH05 Bearing Capacity and Friction Angle Against Depth.....	7

List of Abbreviations

BH	Borehole
PI	Plasticity Index
SP	Slightly Plastic
MDD	Maximum Dry Density



GEOCONSULT

Yachiyo Engineering Co., Ltd.

UPGRADING OF KANENGO
SUBSTATION

BOREHOLE TEST RESULT SUMMARY



YACHIEYO ENGINEERING CO., LTD.
Consulting Engineers & Architects

1. Site Investigations

1.1 Scope

The scope of the project is to investigate the subsoil conditions to establish suitable bearing layer for a proposed upgrade of Kanengo Substation in Lilongwe.

1.2 Site and Testing Overview

Site testing was limited to borehole investigations. Boreholes were to be drilled to a maximum depth of 10m unless rock was discovered, where a further 5.0m would be cored. The aim of the borehole investigations was to find a bearing strata of 5.0m.

The substation is located in the northern section of the industrial estate of Lilongwe, the typical ground makeup around the area has high presence of decomposed rock and gravel.

Figure 1 shows the location of the structures and the location of the borehole investigations.

Figure 1: Boreholes Indicated in White



Table 1: Borehole Coordinates

BH No.	Easting	Northing
01	0 585 460	8 463 646
02	0 585 434	8 463 638
03	0 585 549	8 463 574
04	0 585 539	8 463 534
05	0 585 448	8 463 520

2. Test Remarks

2.1 Atterburg Limits

Table 2: Atterburg Limits

Depth (m)	BH01 Plasticity Index	Depth (m)	BH02 Plasticity Index
0.0-0.1	SP	0.0-0.3	9
0.1-1.0	10	0.3-3.0	19
1.0-1.2	SP		
1.2-1.7	16		

Depth (m)	BH03 Plasticity Index	Depth (m)	BH04 Plasticity Index	Depth (m)	BH05 Plasticity Index
0.0-0.5	24	0.0-0.02	SP	0.0-0.02	SP
0.5-2.0	NP	0.02-1.2	18	0.4-1.0	16
		1.2-2.2	NP	2.6-3.4	21
		2.2-4.0	NP	3.4-4.5	18
				4.5-4.8	19
				4.8-7.0	SP

Material recovered from the boreholes show medium to non/slightly plastic PI values.

2.2 Gradation

Material recovered from the boreholes show it to be a well graded sand, with approximately 20-30% of the material falling into the silt/clay designation. Due to the non-plasticity of the material it can be assumed that the bulk of the remaining material passing the 0.075mm sieve falls under the silt category.

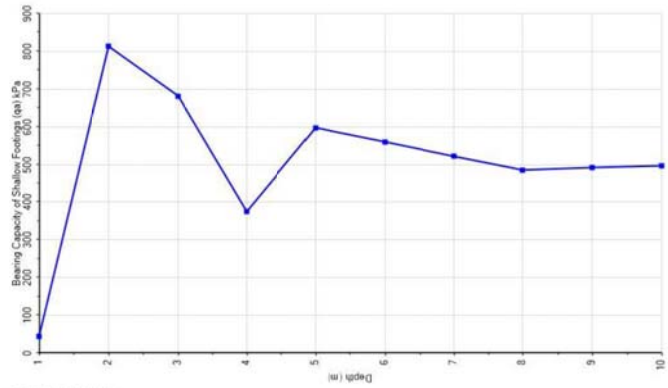
2.3 Bearing Capacity

Through SPT testing at 1 meter intervals, a bearing capacity against depth report was produced. Bearing capacity was calculated with Peck et al, 1974, and Peck, Hanson and Thornburg 1974 for friction angle calculations.

Table 3: BH01 Bearing Capacity and Friction Angle Against Depth

BH01		
Depth (m)	Bearing Capacity (kPa)	Friction angle (ϕ)
1.0	45	27
2.0	813	41
3.0	681	41
4.0	374	37
5.0	597	42
6.0	559	43
7.0	521	43
8.0	485	43
9.0	452	43
10.0	422	43

BH01 – Bearing Capacity



BH01 – Friction Angle

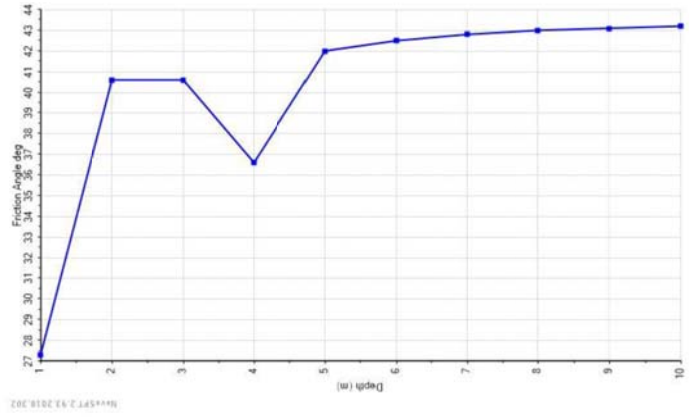
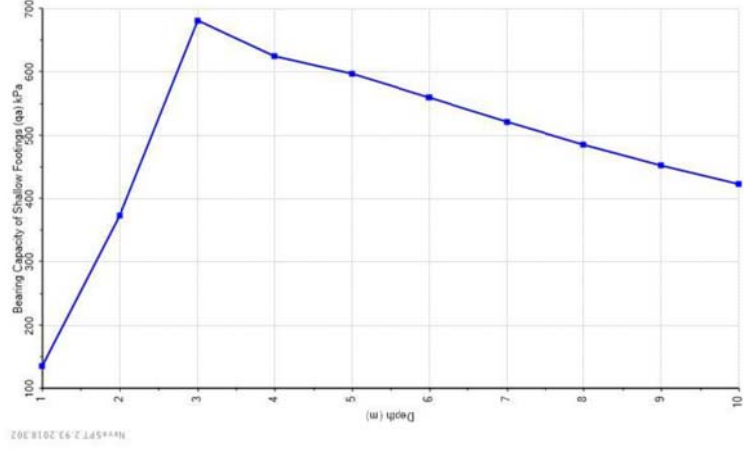


Table 4: BH02 Bearing Capacity and Friction Angle Against Depth

BH02		
Depth (m)	Bearing Capacity (kPa)	Friction angle (ϕ)
1.0	135	29
2.0	374	34
3.0	681	41
4.0	624	41
5.0	597	42
6.0	559	43
7.0	521	43
8.0	485	43
9.0	452	43
10.0	422	43

BH02 – Bearing Capacity



BH02 – Friction Angle

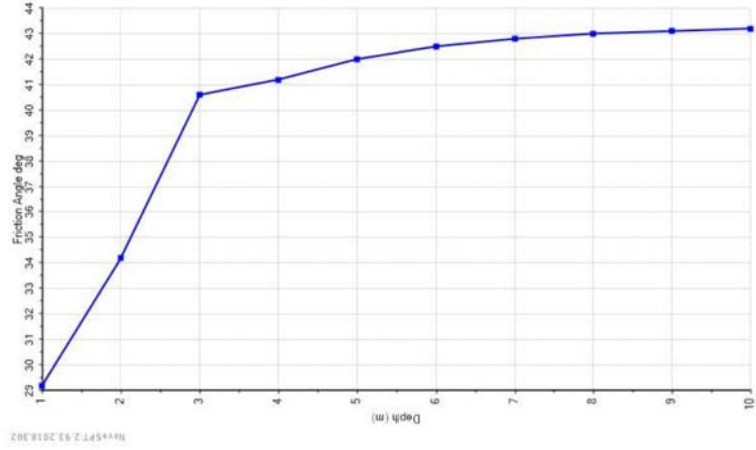


Table 5: BH03 Bearing Capacity and Friction Angle Against Depth

BH03		
Depth (m)	Bearing Capacity (kPa)	Friction angle (ϕ)
1.0	360	33
2.0	813	41
3.0	681	41
4.0	624	41
5.0	597	42
6.0	559	43
7.0	521	43
8.0	485	43
9.0	452	43
10.0	422	43

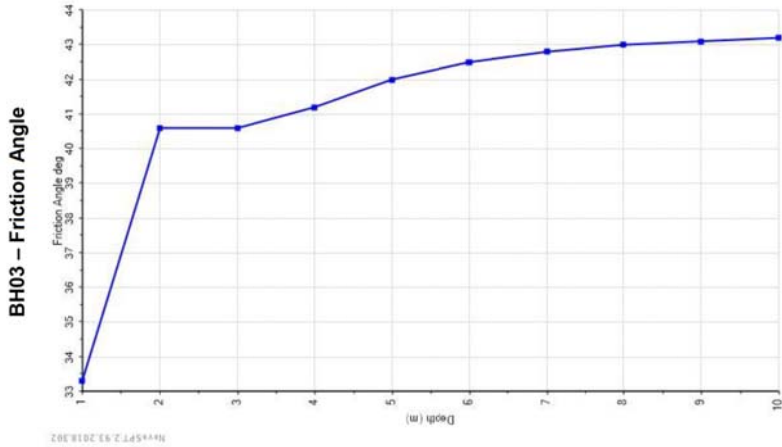
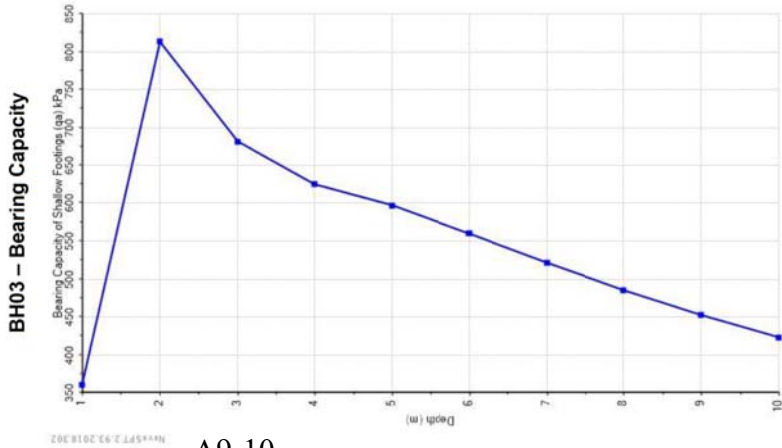


Table 6: BH04 Bearing Capacity and Friction Angle Against Depth

BH04		
Depth (m)	Bearing Capacity (kPa)	Friction angle (ϕ)
1.0	81	28
2.0	252	32
3.0	204	32
4.0	381	37
5.0	400	38
6.0	560	43
7.0	521	43
8.0	485	43

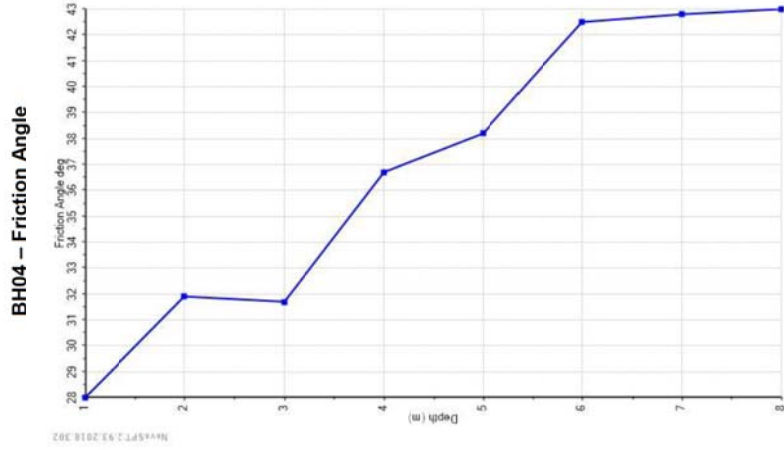
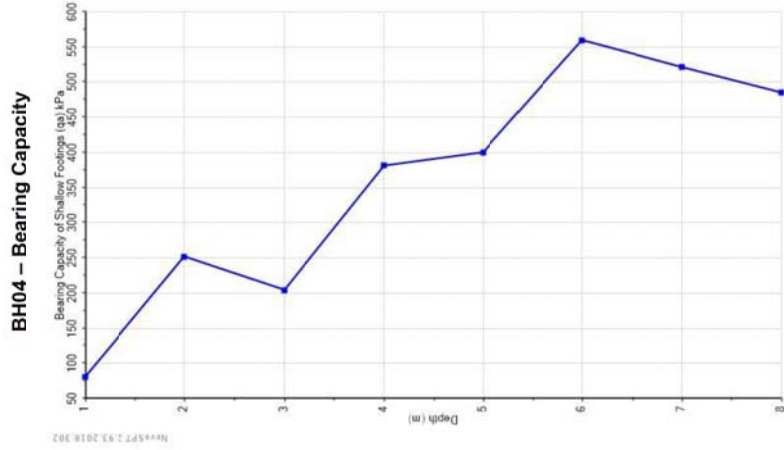


Table 7: BH05 Bearing Capacity and Friction Angle Against Depth

BH05		
Depth (m)	Bearing Capacity (kPa)	Friction angle (φ)
1.0	297	32
2.0	81	28
3.0	54	28
4.0	56	28
5.0	52	28
6.0	106	31
7.0	141	32
8.0	485	43
9.0	452	43
10.0	423	43

2.4 UCS Rock Core

Due to no bedrock present before confirming the bearing layer, no coring was conducted.

3. Summary

Borehole logs show high SPT values throughout the site for BH1-4 after the initial 1.0m. Bearing capacity results are well above 250kPa past 2.0m on all locations with the exception of BH05 that is found close to the southern boundary of the site. BH05 shows lower SPT and bearing capacity values until decomposed rock is found at 6.0m.

Current soil properties are suitable for construction as the material is medium to non-plastic and has a competent bearing capacity.

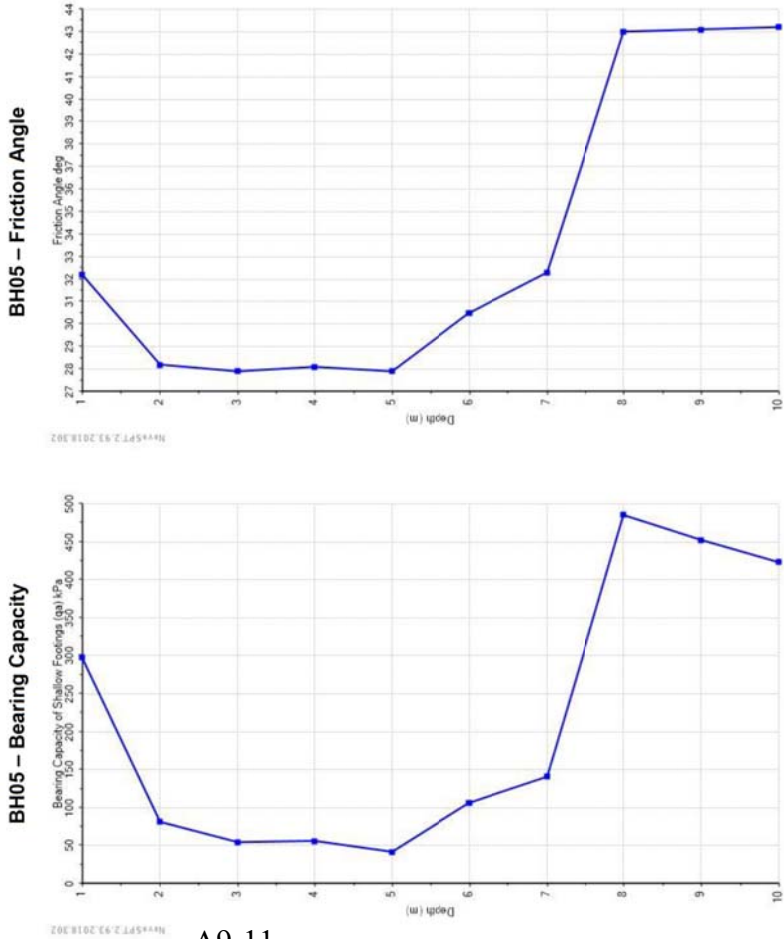


Figure 2: Drilling Location of BH02



Figure 3: Samples Recovered & SPT Sampler





BOREHOLE LOG KAN BH01

GEOCONSULT
PROJECT NUMBER BH01
PROJECT NAME
CLIENT YEC
ADDRESS
 MALAWI

COORDINATES 361_585460, 8463646
COORD SYS UTM
TOTAL DEPTH 7.5M
SURFACE ELEVATION 1096m

DRILLING DATE 27/03/18
COMPLETION 27/03/18
DIAMETER 150
CASING Steel

Comments: Water level measured after 24h

LOGGED BY G.K.
 CHECKED BY M. Sabelli

Drilling Method	RQD %	% Recovered	SPT	Water Level	Depth (m)	Graphic Log	Elevation (m)	Moisture	Material Description
PERCUSSIVE			3.2.3		0.5		1095.5	MST	Dark reddish sandy silty CLAY
					1		1095		Yellow reddish silty sandy CLAY
					1.5		1094.5		Dark reddish silty sandy CLAY
					2		1094		DECOMPOSED ROCK
					2.5		1093.5		
					3		1093		
					3.5		1092.5		
					4		1092		
					4.5		1091.5		
					5		1091		
WASH AND BORE			6.14.46 PEN 150		5.5		1090.5		
			18.30.55 PEN 410		6		1090		
			55++ PEN 100		6.5		1089.5		
			46.55++ PEN 300		7		1089		
			55++ PEN 75		7.5		1088.5		
			55++ PEN 100		8		1088		
			52.55++ PEN 270		8.5		1087.5		
					9		1087		
					9.5		1086.5		
					10		1086		

Remarks: Water not encountered
 produced by ESlog ESdat.net on 28 Mar 2019

4. Appendix

4.1 Borehole Logs



BOREHOLE LOG KAN BH02

PROJECT NUMBER BH02
PROJECT NAME MALAWI
CLIENT YEC Steel
ADDRESS MALAWI
DRILLING DATE 29/03/18
COMPLETION 29/03/18
DIAMETER 150
CASING Steel
COORDINATES 36L 585434, 8463638
COORD SYS UTM
TOTAL DEPTH 7.0M
SURFACE ELEVATION 1096m

LOGGED BY G.K.
CHECKED BY M. Sabelli

Drilling Method	RQD %	% Recovered	SPT	Water Level	Depth (m)	Graphic Log	Elevation (m)	Moisture	Material Description
PERCUSSIVE					0.5		1095.5	MST	Slightly dark red sandy silty CLAY
			57.8		1		1095		Orange reddish clayey silty sand with traces of DECOMPOSED ROCK
			13.19.27		1.5		1094.5		
			32.55++ PEN 290		2		1094		
			55++ PEN 50		2.5		1093.5		
			55++ PEN 50		3		1093		Hard DECOMPOSED ROCK
			55++ PEN 50		3.5		1092.5		
			55++ PEN 50		4		1092		
			55++ PEN 50		4.5		1091.5		
			55++ PEN 50		5		1091		
			55++ PEN 30		5.5		1090.5		
			55++ PEN 30		6		1090		
			55++ PEN 50		6.5		1089.5		
			55++ PEN 50		7		1089		Termination Depth at: 7.0 m

Comments: Water level measured after 24h

Remarks: Water not encountered
 produced by ESlog.ESdat.net on 30 Mar 2019



BOREHOLE LOG KAN BH03

PROJECT NUMBER BH03
PROJECT NAME MALAWI
CLIENT YEC Steel
ADDRESS MALAWI
DRILLING DATE 26/03/18
COMPLETION 26/03/18
DIAMETER 150
CASING Steel
COORDINATES 36L 585549, 8463574
COORD SYS UTM
TOTAL DEPTH 7.0M
SURFACE ELEVATION 1096m

LOGGED BY G.K.
CHECKED BY M. Sabelli

Drilling Method	RQD %	% Recovered	SPT	Water Level	Depth (m)	Graphic Log	Elevation (m)	Moisture	Material Description
PERCUSSIVE					0.5		1095.5	MST	Imported red sandy silty CLAY
			10.15.25		1		1095		Soft DECOMPOSED ROCK
			55++ PEN 110		1.5		1094.5		
			55++ PEN: 100		2		1094		Hard DECOMPOSED ROCK
			55++ PEN 80		2.5		1093.5		
			55++ PEN 150		3		1093		
			55++ PEN 80		3.5		1092.5		
			55++ PEN 150		4		1092		
			55++ PEN 120		4.5		1091.5		
			55++ PEN 100		5		1091		
			55++ PEN 100		5.5		1090.5		
			55++ PEN 100		6		1090		
			55++ PEN 100		6.5		1089.5		
			55++ PEN 100		7		1089		Termination Depth at: 7.0 m

Comments: Water level measured after 24h

Remarks: Water not encountered
 produced by ESlog.ESdat.net on 29 Mar 2019



BOREHOLE LOG KAN BH04

PROJECT NUMBER BH04
DRILLING DATE 30/03/18
COORDINATES 36L 585539, 8463534
COMPLETION 30/03/18
COORD SYS UTM
CLIENT YEC 150
DIAMETER 8.0M
ADDRESS Steel
CASING Steel
SURFACE ELEVATION 1096m
MALAWI

LOGGED BY G.K.
CHECKED BY M. Sabelli

Drilling Method	RQD %	% Recovered	SPT	Water Level	Depth (m)	Graphic Log	Elevation (m)	Moisture	Material Description	
PERCUSSIVE			5,5.4		0.5		1095.5	MST	Imported coarse mineral aggregate	
					1		1095		Reddish brown sandy silty CLAY with spots of hard rock	
					1.5		1094.5		Mottled micaceous DECOMPOSED ROCK	
					2		1094			
					2.5		1093.5		Greenish grey micaceous DECOMPOSED ROCK	
					3		1093			
					3.5		1092.5			
					4		1092		Hard DECOMPOSED ROCK	
	WASH AND BORE			14,23.38		4.5		1091.5		
						5		1091		
					5.5		1090.5			
					6		1090			
					6.5		1089.5			
					7		1089			
					7.5		1088.5			
					8		1088		Termination Depth at: 8.0 m	

Remarks: Water not encountered
 produced by ESlog.ESdat.net on 01 Apr 2019


BOREHOLE LOG KAN BH05


PROJECT NUMBER BH05
DRILLING DATE 26/03/18
COORDINATES 36L 585448, 8463520
COMPLETION 26/03/18
COORD SYS UTM
CLIENT YEC 150
DIAMETER 10M
ADDRESS Steel
CASING Steel
SURFACE ELEVATION 1096m
MALAWI

LOGGED BY G.K.
CHECKED BY M. Sabelli


Drilling Method	RQD %	% Recovered	SPT	Water Level	Depth (m)	Graphic Log	Elevation (m)	Moisture	Material Description
PERCUSSIVE			10,18.15		0.5		1095.5	MST	Imported top soil
					1		1095		Dark red clayey silty sand
					1.5		1094.5		Dark red sandy silty CLAY
					2		1094		
					2.5		1093.5		
					3		1093		
					3.5		1092.5		Soft black sandy silty CLAY
					4		1092		
					4.5		1091.5		Soft dark red micaceous sandy silty CLAY
	WASH AND BORE			5,3.4		5		1091	
					5.5		1090.5		
					6		1090		
					6.5		1089.5		
					7		1089		
					7.5		1088.5		
					8		1088		Hard DECOMPOSED ROCK
					8.5		1087.5		
					9		1087		
					9.5		1086.5		
				10		1086		Termination Depth at: 10.0 m	

Remarks: Water not encountered
 produced by ESlog.ESdat.net on 01 Apr 2019

 GEOCONSULT	LAB. REF. No. GC465 / 26MAR19 / 09:14				SAMPLE No. KAN SUBSTATION / BH05 / G. AL, NMC													
	SAMPLED BY: GEOCONSULT LABORATORY TEAM				DATE: 12 / 04 / 2019		TIME: 10:00											
	LOCATION:				EASTING	NORTHING	ELEVATION (m)	DEPTH (m)										
	LILONGWE KANENGO SUBSTATION				0 585 448	8 463 528	1 093											
	TYPE OF MATERIAL:																	
	TEST STANDARD: BS 1377																	
TESTED BY: GEOCONSULT LABORATORY TEAM				DATE: 12 / 04 / 2019		TIME: 10:00												
CHECKED BY: G. L. KACHIWALA				DATE: 12 / 04 / 2019		TIME: 10:15												
APPROVED: M. SABELLI				DATE: 12 / 04 / 2019		TIME: 10:30												
PROJECT: OLD TOWN SUBSTATION				CLIENT: YEC														
SUMMARY OF TEST RESULTS																		
LAB. REFERENCE No.	DEPTH (m)	BH No.	SIEVE ANALYSIS			LL %	PI	LS %	LS / P	Classification	MDD Kg/m ³	OMC %	NMC	FI	CBR		Swell %	REMARKS
			2.36 pass	0.425 pass	0.075 pass										@ 95	@ 98		
GC465 / BH 05	0.00-0.02	5	37	24	13	SP	SP	2.2	53				15.8	0				G, AL, NMC
GC465 / BH 05	0.4-1.0	5	88	68	48	19	16	7.7	524				20.4	768				G, AL, NMC
GC465 / BH 05	2.6-3.4	5	96	70	43	48.8	21	7.7	539				28.9	903				G, AL, NMC
GC465 / BH 05	3.4-4.5	5	94	68	35	40.3	18	8.5	578				32.6	630				G, AL, NMC
GC465 / BH 05	4.5-4.8	5	95	77	51	45.9	19	9.4	724				30.3	989				G, AL, NMC
GC465 / BH 05	4.8-7.0	5	94	66	31	0.0	SP	1.4	92				34.6	0				G, AL, NMC
REMARKS: SAMPLED FROM KANENGO SUBSTATION @ BOREHORE NUMBER 05																		

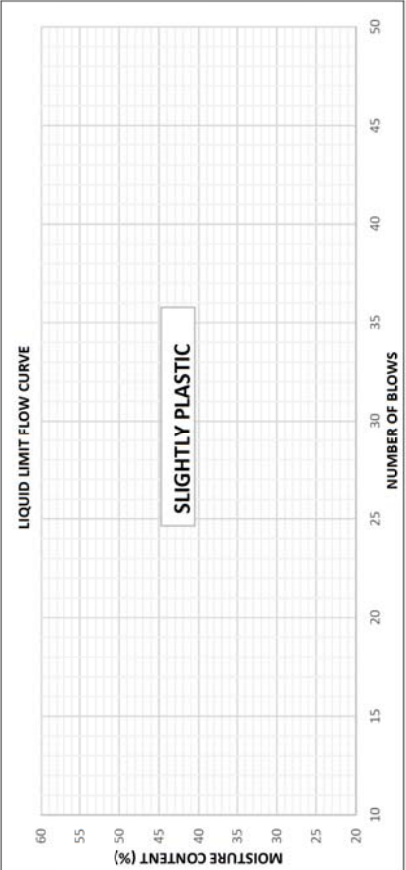
 GEOCONSULT	LAB. REF. No. GC469 / 30MAR19 / 09:14				SAMPLE No. KAN SUBSTATION / BH04 / G. AL, NMC													
	SAMPLED BY: GEOCONSULT LABORATORY TEAM				DATE: 11 / 04 / 2019		TIME: 10:00											
	LOCATION:				EASTING	NORTHING	ELEVATION (m)	DEPTH (m)										
	LILONGWE KANENGO SUBSTATION				0 585 539	8 463 534	1 093											
	TYPE OF MATERIAL:																	
	TEST STANDARD: BS 1377																	
TESTED BY: GEOCONSULT LABORATORY TEAM				DATE: 11 / 04 / 2019		TIME: 10:00												
CHECKED BY: G. L. KACHIWALA				DATE: 12 / 04 / 2019		TIME: 10:15												
APPROVED: M. SABELLI				DATE: 12 / 04 / 2019		TIME: 10:30												
PROJECT: OLD TOWN SUBSTATION				CLIENT: YEC														
SUMMARY OF TEST RESULTS																		
LAB. REFERENCE No.	DEPTH (m)	BH No.	SIEVE ANALYSIS			LL %	PI	LS %	LS / P	Classification	MDD Kg/m ³	OMC %	NMC	FI	CBR		Swell %	REMARKS
			2.36 pass	0.425 pass	0.075 pass										@ 95	@ 98		
GC469 / BH 04	0.00-0.02	4	97	65	24	SP	SP	2.9	189				15.8	0				G, AL, NMC
GC469 / BH 04	0.200-1.200	4	90	73	51	37.1	24	3.7	270				20.4	1224				G, AL, NMC
GC469 / BH 04	1.200-2.200	4	98	65	16	NP	NP	0.0	SP				24.5	0				G, AL, NMC
GC469 / BH 04	2.20-4.00	4	99	62	19	NP	NP	0.0	SP				28.7	0				G, AL, NMC
REMARKS: SAMPLED FROM KANENGO SUBSTATION @ BOREHORE NUMBER 04																		

4.3 Atterburg Limits

 GEOCONSULT +265 0888 846 543 sabelli@geiconsult.cc	LAB REF: GC466 / 27MAR19 / 17:00		SAMPLE No. KANE-SUB / BH01 / AL01 / 27MAR19					
	SAMPLED BY: GEOCONSULT		DATE: 27 - 03 - 2019					
	LOCATION: 36L UTM	EASTING	NORTHING					
	OLD TOWN SUBSTATION	0 585 460	8 463 646					
TYPE OF MATERIAL: MOIST DARK SANDY SILTY CLAY WITH CRUSHED AGGREGATES								
TESTED BY: S. THANGATO		DATE: 06 - 04 - 2019		TIME: 08:35				
CHECKED BY: G. KACHIWALA		DATE: 10 - 04 - 2019		TIME: 13:36				
APPROVED BY: M. SABELLI		DATE: 10 - 04 - 2019		TIME: 14:18				
PROJECT: KANENGO SUBSTATION CLIENT: YEC								
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)								
TYPE OF TEST		LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)			
TEST No.		1	2	3	4	1	2	3
CONTAINER No.		SP	SP	SP	SP	SP	SP	SP
MASS OF WET SOIL + CONTAINER(g)								
MASS OF DRY SOIL + CONTAINER(g)								
MASS OF CONTAINER (g)								
MASS OF DRY SOIL (g)								
MASS OF WATER (g)								
MOISTURE CONTENT %								
No. BLOWS								
LINEAR SHRINKAGE		5						
INITIAL LENGTH OF SPECIMEN (cm)		14.0						
LENGTH OF OVERN DRY SPECIMEN (cm)		13.7						
LINEAR SHRINKAGE %		2.2						
LIQUID LIMIT (LL) %		0.0						
PLASTIC LIMIT (PL) %		0.0						
PLASTICITY INDEX (PI)		0						
NATURAL MOISTURE CONTENT %		20.0						
FINENESS INDEX		0.0						


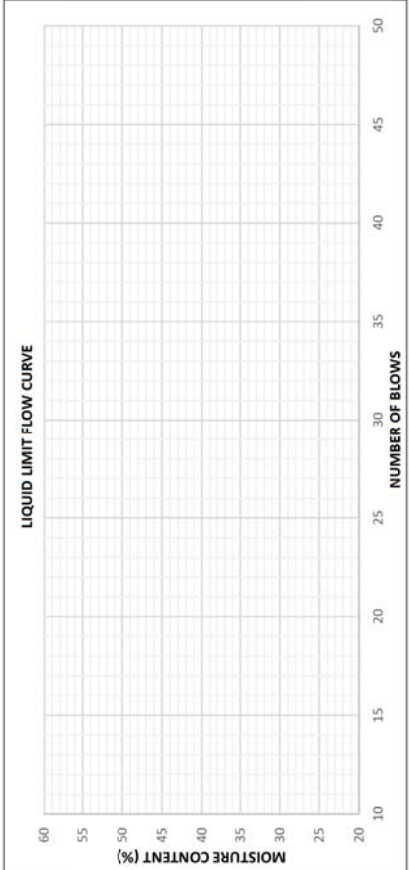
LINEAR SHRINKAGE	5
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	13.7
LINEAR SHRINKAGE %	2.2
LIQUID LIMIT (LL) %	0.0
PLASTIC LIMIT (PL) %	0.0
PLASTICITY INDEX (PI)	0
NATURAL MOISTURE CONTENT %	20.0
FINENESS INDEX	0.0


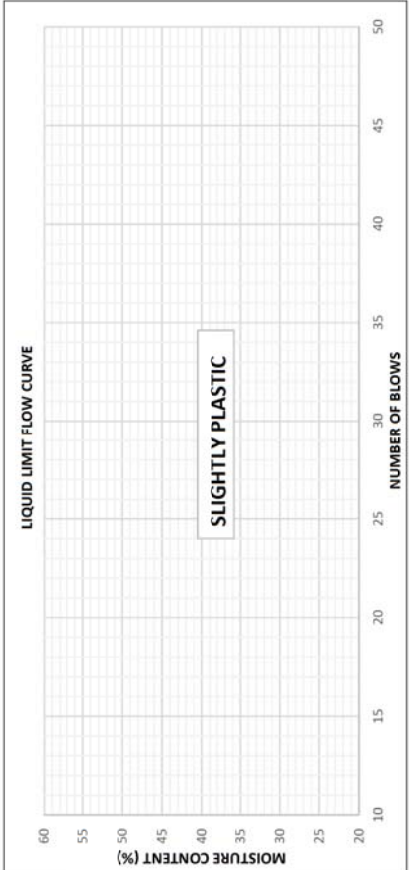
LIQUID LIMIT FLOW CURVE


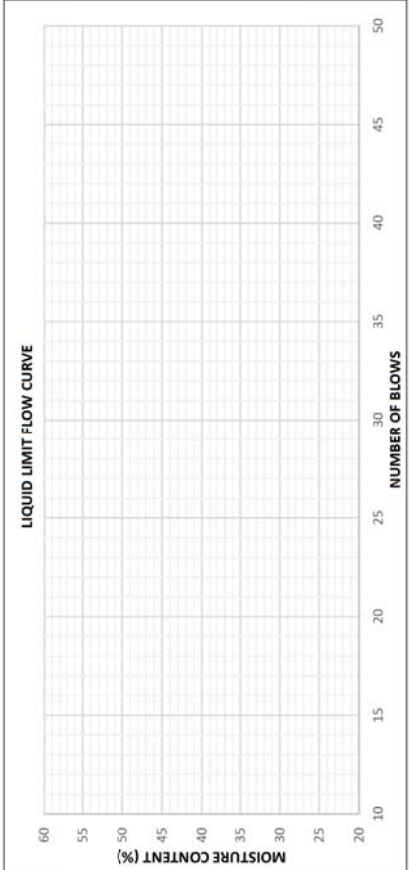



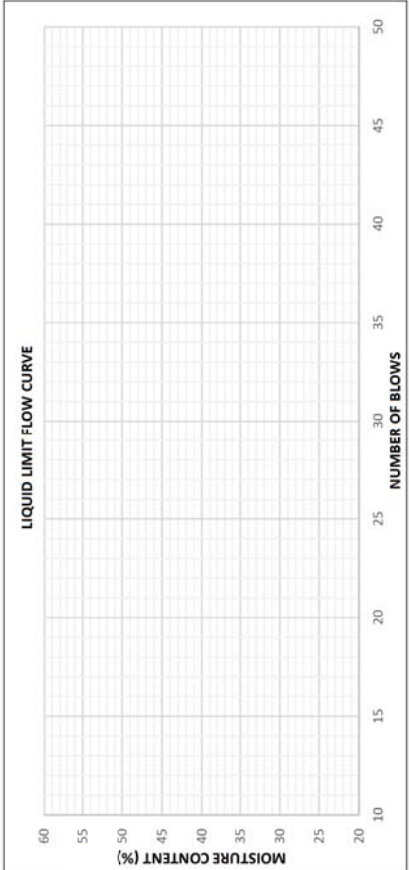
SLIGHTLY PLASTIC

REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 01 / DEPTH 0.000 - 0.100 (m)

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.cc</p>	LAB REF: GC466 / 27MAR19 / 17:00		SAMPLE No. KAN-SUB / BH01 / AL02 / 27MAR19			
	SAMPLER BY: GEOCONSULT		DATE: 27 - 03 - 2019			
LOCATION: 36L UTM		EASTING		NORTHING		
KANENGO SUBSTATION		0 585 460		8 463 646		
TYPE OF MATERIAL: MOIST DARK REDDISH SANDY SILTY CLAY						
TESTED BY: S. MATCHADO		DATE: 06 - 04 - 2019		TIME: 15:23		
CHECKED BY: G. KACHIWALA		DATE: 10 - 04 - 2019		TIME: 13:36		
APPROVED BY: M. SABELLI		DATE: 10 - 04 - 2019		TIME: 14:18		
PROJECT: KANENGO SUBSTATION CLIENT: YEC						
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)						
TYPE OF TEST		LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)	
TEST No.	1	2	3	4	1	2
CONTAINER No.	C11	R16	R22	K2	C16	C16
MASS OF WET SOIL + CONTAINER(g)	62.5	60.5	41.0	42.0	43.0	43.0
MASS OF DRY SOIL + CONTAINER(g)	55.0	52.5	39.0	39.5	40.5	40.5
MASS OF CONTAINER (g)	30	28	29	27.5	28.5	28.5
MASS OF DRY SOIL (g)	25.0	24.5	10.0	12.0	12.0	12.0
MASS OF WATER (g)	7.50	8.00	2.00	2.50	2.50	2.50
MOISTURE CONTENT %	30.0	30.0	32.7	20.8	20.8	20.8
No. BLOWS	26	17				
LINEAR SHRINKAGE		10				
INITIAL LENGTH OF SPECIMEN (cm)		14.0				
LENGTH OF OVERN DRY SPECIMEN (cm)		13.3				
LINEAR SHRINKAGE %		5.3				
LIQUID LIMIT (LL) %		30.7				
PLASTIC LIMIT (PL) %		20.6				
PLASTICITY INDEX (PI)		10				
NATURAL MOISTURE CONTENT %		24.5				
FINENESS INDEX		460.0				
LIQUID LIMIT FLOW CURVE						
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 01 / DEPTH 0.100 - 1.000 (m)						

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.cc</p>	LAB REF: GC466 / 27MAR19 / 17:00		SAMPLE No. KANE-SUB / BH01 / AL03 / 27MAR19			
	SAMPLER BY: GEOCONSULT		DATE: 27 - 03 - 2019			
LOCATION: 36L UTM		EASTING		NORTHING		
OLD TOWN SUBSTATION		0 585 460		8 463 646		
TYPE OF MATERIAL: MOIST YELLOW REDDISH SILTY SANDY CLAY						
TESTED BY: S. THANGATO		DATE: 06 - 04 - 2019		TIME: 08:35		
CHECKED BY: G. KACHIWALA		DATE: 10 - 04 - 2019		TIME: 13:36		
APPROVED BY: M. SABELLI		DATE: 10 - 04 - 2019		TIME: 14:18		
PROJECT: KANENGO SUBSTATION CLIENT: YEC						
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)						
TYPE OF TEST		LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)	
TEST No.	1	2	3	4	1	2
CONTAINER No.	SP	SP	SP	SP	SP	SP
MASS OF WET SOIL + CONTAINER(g)						
MASS OF DRY SOIL + CONTAINER(g)						
MASS OF CONTAINER (g)						
MASS OF DRY SOIL (g)						
MASS OF WATER (g)						
MOISTURE CONTENT %						
No. BLOWS						
LINEAR SHRINKAGE		7				
INITIAL LENGTH OF SPECIMEN (cm)		14.0				
LENGTH OF OVERN DRY SPECIMEN (cm)		13.8				
LINEAR SHRINKAGE %		1.4				
LIQUID LIMIT (LL) %		0.0				
PLASTIC LIMIT (PL) %		0.0				
PLASTICITY INDEX (PI)		0				
NATURAL MOISTURE CONTENT %		27.8				
FINENESS INDEX		0.0				
LIQUID LIMIT FLOW CURVE						
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 01 / DEPTH 1.000 - 1.200 (m)						

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.cc</p>	LAB REF: GC468 / 27MAR19 / 17:00		SAMPLE No. KAN-SUB / BH01 / AL04 / 27MAR19				
	SAMPLER BY: GEOCONSULT		DATE: 27 - 03 - 2019				
	LOCATION: 36L UTM	EASTING	NORTHING	TIME: 15:00			
KANENGO SUBSTATION	0 585 460	8 463 646	ELEVATION	DEPTH (m)			
			1 096 (m)	1,200-1,700			
TYPE OF MATERIAL: MOIST DARK REDDISH SANDY SILTY CLAY							
TESTED BY: S. MATCHADO		DATE: 06 - 04 - 2019		TIME: 15:00			
CHECKED BY: G. KACHIWALA		DATE: 10 - 04 - 2019		TIME: 13:66			
APPROVED BY: M. SABELLI		DATE: 10 - 04 - 2019		TIME: 15:18			
PROJECT: KANENGO SUBSTATION		CLIENT: YEC					
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)							
TYPE OF TEST		LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
TEST No.	1	2	3	4	1	2	3
CONTAINER No.	R19	C17	R21	C18	R21	R21	K1
MASS OF WET SOIL + CONTAINER(g)	57.5	53.5	43.5	39.5	43.5	45.5	45.5
MASS OF DRY SOIL + CONTAINER(g)	50.5	44.5	37.0	37.0	40.5	43.0	43.0
MASS OF CONTAINER (g)	33	25	27.5	29	29	33.5	33.5
MASS OF DRY SOIL (g)	17.5	19.5	9.5	9.5	11.5	9.5	9.5
MASS OF WATER (g)	7.00	9.00	2.50	2.50	3.00	2.50	2.50
MOISTURE CONTENT %	40.0	40.4	46.2	44.3	26.3	26.1	26.3
No. BLOWS	29	17			26.2		
LINEAR SHRINKAGE		1					
INITIAL LENGTH OF SPECIMEN (cm)		14.0					
LENGTH OF OVERN DRY SPECIMEN (cm)		12.9					
LINEAR SHRINKAGE %		8.5					
LIQUID LIMIT (LL) %		42.4					
PLASTIC LIMIT (PL) %		26.2					
PLASTICITY INDEX (PI)		16					
NATURAL MOISTURE CONTENT %		28.9					
FINENESS INDEX		624.0					
LIQUID LIMIT FLOW CURVE							
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 01 / DEPTH 1,200 - 1,700 (m)							

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.cc</p>	LAB REF: GC468 / 29MAR19 / 17:00		SAMPLE No. KAN-SUB / BH02 / AL01 / 29MAR19				
	SAMPLER BY: GEOCONSULT		DATE: 29 - 03 - 2019				
	LOCATION: 36L UTM	EASTING	NORTHING	TIME: 15:00			
KANENGO SUBSTATION	0 585434	8 463638	ELEVATION	DEPTH (m)			
			1 120 (m)	0,000-0,300			
TYPE OF MATERIAL: MOIST SLIGHTLY DARK REDDISH SANDY SILTY CLAY							
TESTED BY: S. MATCHADO		DATE: 02 - 04 - 2019		TIME: 15:23			
CHECKED BY: G. KACHIWALA		DATE: 03 - 04 - 2019		TIME: 13:36			
APPROVED BY: M. SABELLI		DATE: 03 - 04 - 2019		TIME: 14:18			
PROJECT: KANENGO SUBSTATION		CLIENT: YEC					
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)							
TYPE OF TEST		LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
TEST No.	1	2	3	4	1	2	3
CONTAINER No.	R18	R24	R24	R19	R19	C26	C4
MASS OF WET SOIL + CONTAINER(g)	53.0	55.0	55.0	46.0	46.0	42.5	37.0
MASS OF DRY SOIL + CONTAINER(g)	48.0	50.0	50.0	44.0	44.0	40.5	35.5
MASS OF CONTAINER (g)	29	31.5	29	33.5	29	29	25
MASS OF DRY SOIL (g)	19.0	18.5	18.5	10.5	10.5	11.5	10.5
MASS OF WATER (g)	5.00	5.00	5.00	2.00	2.00	2.00	1.50
MOISTURE CONTENT %	26.3	26.3	27.0	25.9	19.0	17.4	14.3
No. BLOWS	25	16			16.9		
LINEAR SHRINKAGE		1					
INITIAL LENGTH OF SPECIMEN (cm)		14.0					
LENGTH OF OVERN DRY SPECIMEN (cm)		13.2					
LINEAR SHRINKAGE %		6.1					
LIQUID LIMIT (LL) %		26.1					
PLASTIC LIMIT (PL) %		16.9					
PLASTICITY INDEX (PI)		9					
NATURAL MOISTURE CONTENT %		15.8					
FINENESS INDEX		315.0					
LIQUID LIMIT FLOW CURVE							
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 02 / DEPTH 0.000 - 0.300 (m)							

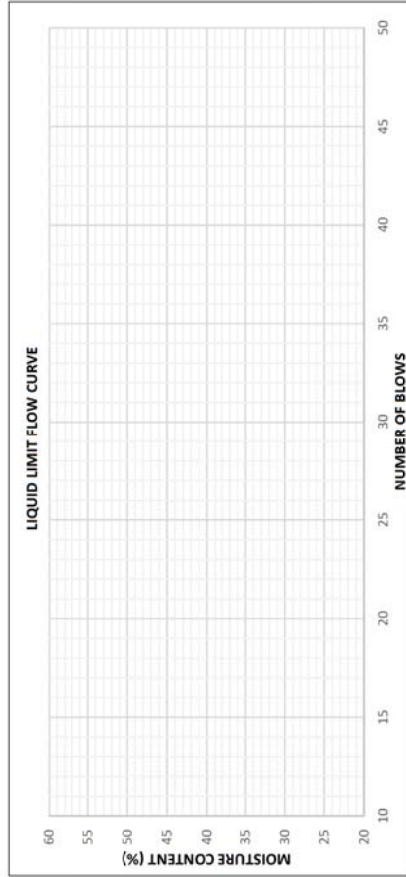
LAB REF: GC468 / 29MAR19 / 17:00 SAMPLE No. KAN-SUB / BH02 / AL02 / 29MAR19
 SAMPLED BY: GEOCONSULT DATE: 29 - 03 - 2019 TIME: 15:00
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 KANENGO SUBSTATION 0.585434 8.463638 1.120 (m) 0.300-3.000
 TYPE OF MATERIAL: MOIST ORANGE REDDISH CLAYEY SILTY SANDY WITH TRACES OF DECOMPOS

TESTED BY: G KONDE DATE: 02 - 04 - 2019 TIME: 15:00
 CHECKED BY: G KACHIWALA DATE: 03 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 03 - 04 - 2019 TIME: 14:18
 PROJECT: KANENGO SUBSTATION CLIENT: YEC

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

TEST No.	LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
	1	2	3	1	2	3
CONTAINER No.	C11	C25		N	G	E
MASS OF WET SOIL + CONTAINER(g)	51.5	42.5		41.0	40.0	40.5
MASS OF DRY SOIL + CONTAINER(g)	45.5	37.0		38.5	38.5	38.0
MASS OF CONTAINER (g)	30	22		26	26.5	26
MASS OF DRY SOIL (g)	15.5	15.0		12.5	12.0	12.0
MASS OF WATER (g)	6.00	5.50		2.50	1.50	2.50
MOISTURE CONTENT %	38.7	39.1		35.2	20.0	20.8
No. BLOWS	27	17				17.8

LINEAR SHRINKAGE	1
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	12.8
LINEAR SHRINKAGE %	9.4
LIQUID LIMIT (LL) %	37.1
PLASTIC LIMIT (PL) %	17.8
PLASTICITY INDEX (PI)	19
NATURAL MOISTURE CONTENT %	20.0
FINENESS INDEX	789.0



REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 02 / DEPTH 0.300 - 3.000 (m)

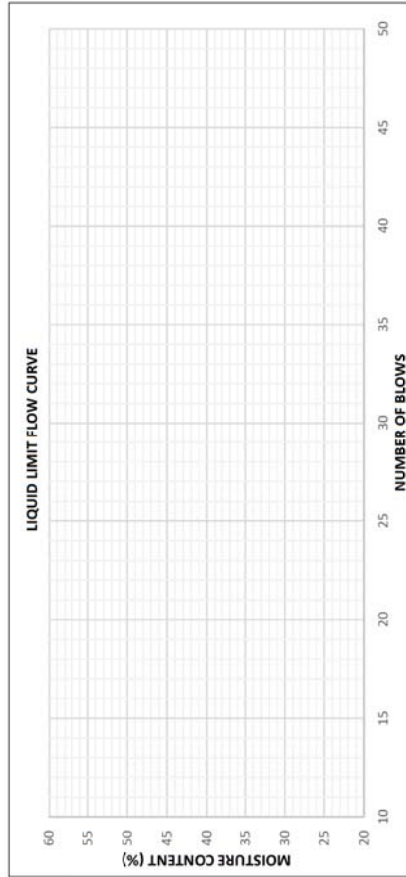
LAB REF: GC465 / 26MAR19 / 17:00 SAMPLE No. KAN-SUB / BH03 / AL01 / 26MAR19
 SAMPLED BY: GEOCONSULT DATE: 26 - 03 - 2019
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 KANENGO SUBSTATION 0.585549 8.463574 1093(m) 0.000-0.500
 TYPE OF MATERIAL: MOIST IMPORTED RED SANDY SILTY CLAY

TESTED BY: S. MATCHADO DATE: 06 - 04 - 2019 TIME: 13:55
 CHECKED BY: G. KACHIWALA DATE: 10 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 10 - 04 - 2019 TIME: 14:18
 PROJECT: KANENGO SUBSTATION CLIENT: YEC


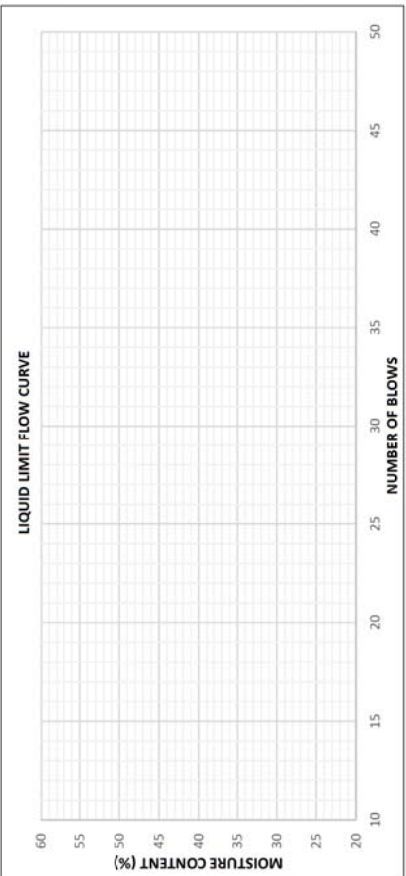
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)


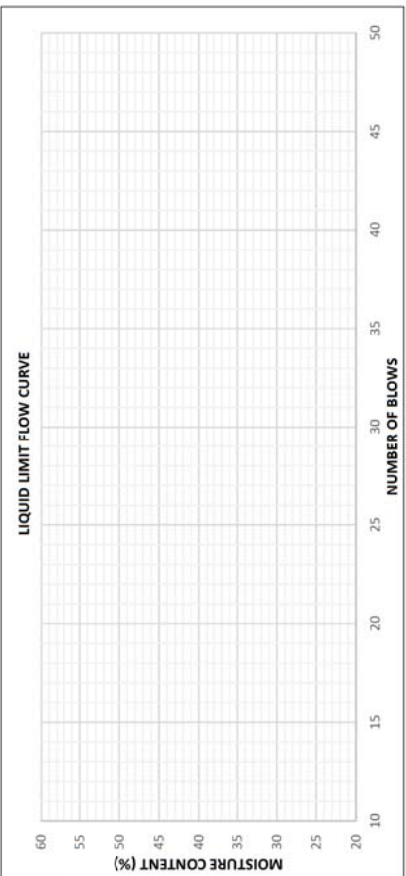
TEST No.	LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
	1	2	3	1	4	3
CONTAINER No.	C8	R20		C4		R8
MASS OF WET SOIL + CONTAINER(g)	51.0	54.0		42.5		42.5
MASS OF DRY SOIL + CONTAINER(g)	45.0	46.5		40.5		41.0
MASS OF CONTAINER (g)	28.5	27.5		25		30
MASS OF DRY SOIL (g)	16.5	19.0		15.5		11.0
MASS OF WATER (g)	6.00	7.50		2.00		1.50
MOISTURE CONTENT %	36.4	36.4		37.9		13.6
No. BLOWS	25	16				13.3

LINEAR SHRINKAGE	15
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	13.3
LINEAR SHRINKAGE %	5.3
LIQUID LIMIT (LL) %	37.1
PLASTIC LIMIT (PL) %	13.3
PLASTICITY INDEX (PI)	24
NATURAL MOISTURE CONTENT %	28.9
FINENESS INDEX	864.0



REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 02 / DEPTH 0.000 - 0.500 (m)

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC465 / 26MAR19 / 17:00		SAMPLE No. KAN-SUB / BH03 / AL02 / 26MAR19				
	SAMPLED BY: GEOCONSULT		DATE: 26 - 03 - 2019				
	LOCATION: 36L UTM	EASTING	NORTHING	ELEVATION	DEPTH (m)		
KANENGO SUBSTATION	0 585549	8 463574	1093(m)	0.500-2.000			
TYPE OF MATERIAL: SOFT DECOMPOSED ROCK							
TESTED BY: S. MATCHADO		DATE: 06 - 04 - 2019		TIME: 13:55			
CHECKED BY: G. KACHIWALA		DATE: 10 - 04 - 2019		TIME: 13:36			
APPROVED BY: M. SABELLI		DATE: 10 - 04 - 2019		TIME: 14:18			
PROJECT: KANENGO SUBSTATION		CLIENT: YEC					
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)							
TYPE OF TEST		LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
TEST No.	1	2	3	4	1	2	3
CONTAINER No.	NP	NP	NP	NP	NP	NP	NP
MASS OF WET SOIL + CONTAINER(g)							
MASS OF DRY SOIL + CONTAINER(g)							
MASS OF CONTAINER (g)							
MASS OF DRY SOIL (g)							
MASS OF WATER (g)							
MOISTURE CONTENT %							
No. BLOWS							
LINEAR SHRINKAGE	14						
INITIAL LENGTH OF SPECIMEN (cm)	14.0						
LENGTH OF OVERN DRY SPECIMEN (cm)	14.0						
LINEAR SHRINKAGE %	0.0						
LIQUID LIMIT (LL) %	0.0						
PLASTIC LIMIT (PL) %	0.0						
PLASTICITY INDEX (PI)	NP						
NATURAL MOISTURE CONTENT %	30.1						
FINENESS INDEX	0.0						
LIQUID LIMIT FLOW CURVE							
							
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 02 / DEPTH 0.500 - 2.000 (m)							

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC469 / 30MAR19 / 17:00		SAMPLE No. KAN-SUB / BH04 / AL01 / 30MAR19				
	SAMPLED BY: GEOCONSULT		DATE: 27 - 03 - 2019				
	LOCATION: 36L UTM	EASTING	NORTHING	ELEVATION	DEPTH (m)		
KANENGO SUBSTATION	0 585 539	8 463534	1 103 (m)	0.000-0.200			
TYPE OF MATERIAL: MOIST IMPORTED COARSE MINERAL AGGREGATES							
TESTED BY: S. MATCHADO		DATE: 02 - 04 - 2019		TIME: 11:55			
CHECKED BY: G. KACHIWALA		DATE: 03 - 04 - 2019		TIME: 13:36			
APPROVED BY: M. SABELLI		DATE: 03 - 04 - 2019		TIME: 14:18			
PROJECT: KANENGO SUBSTATION		CLIENT: YEC					
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)							
TYPE OF TEST		LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
TEST No.	1	2	3	4	1	2	3
CONTAINER No.	NP	NP	NP	NP	NP	NP	NP
MASS OF WET SOIL + CONTAINER(g)							
MASS OF DRY SOIL + CONTAINER(g)							
MASS OF CONTAINER (g)							
MASS OF DRY SOIL (g)							
MASS OF WATER (g)							
MOISTURE CONTENT %							
No. BLOWS							
LINEAR SHRINKAGE	7						
INITIAL LENGTH OF SPECIMEN (cm)	14.0						
LENGTH OF OVERN DRY SPECIMEN (cm)	13.6						
LINEAR SHRINKAGE %	2.9						
LIQUID LIMIT (LL) %	0.0						
PLASTIC LIMIT (PL) %	0.0						
PLASTICITY INDEX (PI)	NP						
NATURAL MOISTURE CONTENT %	15.8						
FINENESS INDEX	0.0						
LIQUID LIMIT FLOW CURVE							
							
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 02 / DEPTH 0.000 -0.200 (m)							

LAB REF: GC469 / 30MAR19 / 17:00 SAMPLE No. KAN-SUB / BH04 / AL02 / 30MAR19
 SAMPLED BY: GEOCONSULT DATE: 26 - 03 - 2019 NORTHING EASTING ELEVATION DEPTH (m) TIME:
 LOCATION: 36L UTM 0 585 539 8 463534 1 103 (m) 0.200-1.200
 KANENGO SUBSTATION

TYPE OF MATERIAL: MOIST REDDISH BROWN SANDY SILTY CLAY WITH SPOTS OF HARD ROCK

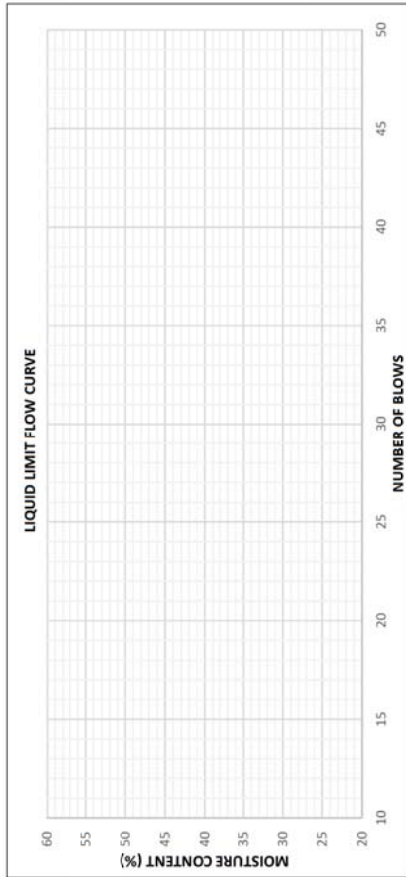
TESTED BY: G KONDE DATE: 10 - 04 - 2019 TIME: 11:55
 CHECKED BY: G KACHIWALA DATE: 10 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 10 - 04 - 2019 TIME: 14:18

PROJECT: KANENGO SUBSTATION CLIENT: YEC

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

TEST No.	TYPE OF TEST	LIQUID LIMITS (LL)				PLASTIC LIMITS (PL)		
		1	2	3	4	1	2	3
CONTAINER No.		R30		C29		I	O	A
MASS OF WET SOIL + CONTAINER(g)		45.5		48.5		36.5	37.0	37.5
MASS OF DRY SOIL + CONTAINER(g)		40.5		41.5		34.0	34.5	35.5
MASS OF CONTAINER (g)		28.5		28		25.5	26.5	27.5
MASS OF DRY SOIL (g)		12.0		13.5		8.5	8.0	8.0
MASS OF WATER (g)		5.00		7.00		2.50	2.50	2.00
MOISTURE CONTENT %		41.7		42.5		50.3	29.4	25.0
No. BLOWS		33		19				28.6

LINEAR SHRINKAGE	6
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	12.3
LINEAR SHRINKAGE %	13.8
LIQUID LIMIT (LL) %	46.4
PLASTIC LIMIT (PL) %	28.6
PLASTICITY INDEX (PI)	18
NATURAL MOISTURE CONTENT %	20.4
FINENESS INDEX	1124.0



REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 02 / DEPTH 0.200 - 1.200 (m)

LAB REF: GC469 / 30MAR19 / 17:00 SAMPLE No. KAN-SUB / BH04 / AL03 / 30MAR19
 SAMPLED BY: GEOCONSULT DATE: 27 - 03 - 2019 NORTHING EASTING ELEVATION DEPTH (m) TIME:
 LOCATION: 36L UTM 0 585 539 8 463534 1 103 (m) 1.200-2.200
 KANENGO SUBSTATION

TYPE OF MATERIAL: MOIST MOTTLED MICACIOUS DECOMPOSED ROCK

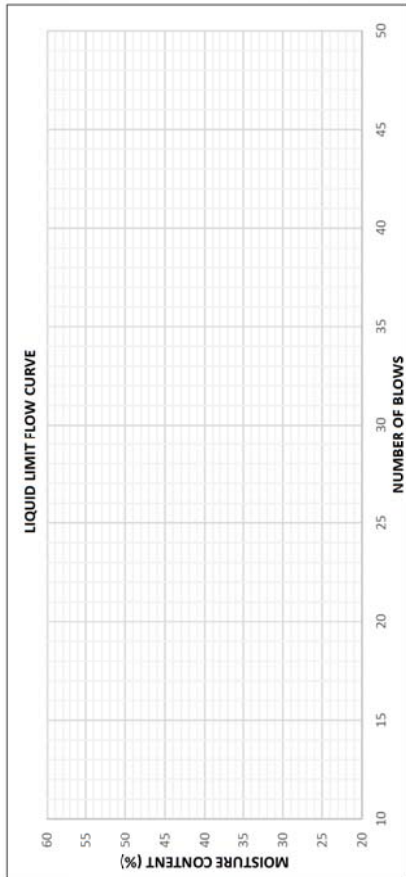
TESTED BY: S MATCHADO DATE: 02 - 04 - 2019 TIME: 11:55
 CHECKED BY: G KACHIWALA DATE: 03 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 03 - 04 - 2019 TIME: 14:18

PROJECT: KANENGO SUBSTATION CLIENT: YEC


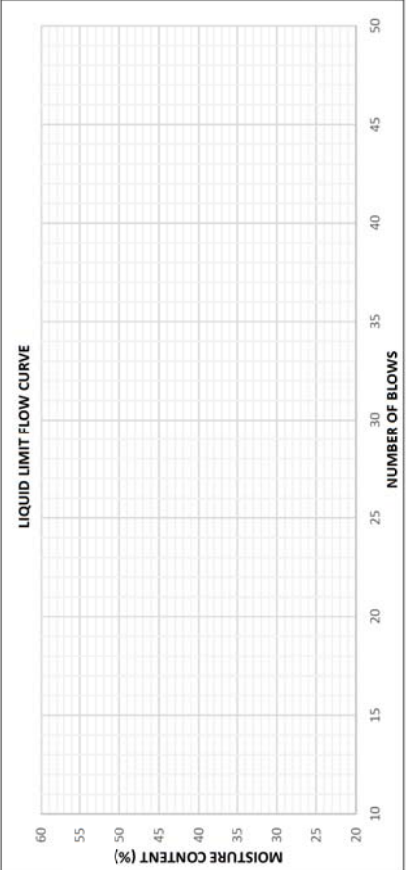
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)


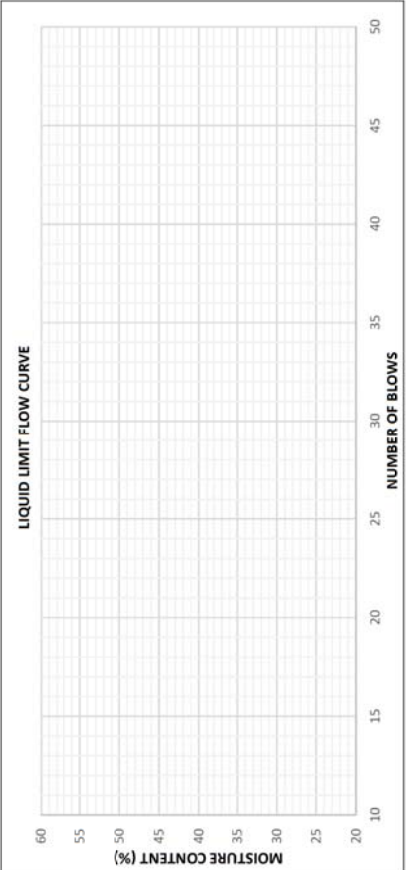
TEST No.	TYPE OF TEST	LIQUID LIMITS (LL)				PLASTIC LIMITS (PL)		
		1	2	3	4	1	2	3
CONTAINER No.		NP		NP		NP	NP	NP
MASS OF WET SOIL + CONTAINER(g)								
MASS OF DRY SOIL + CONTAINER(g)								
MASS OF CONTAINER (g)								
MASS OF DRY SOIL (g)								
MASS OF WATER (g)								
MOISTURE CONTENT %								
No. BLOWS								


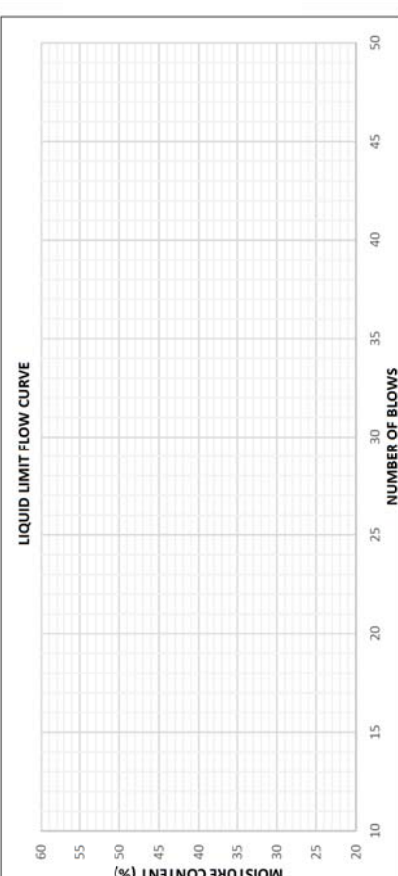
LINEAR SHRINKAGE	8
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	14.0
LINEAR SHRINKAGE %	0.0
LIQUID LIMIT (LL) %	0.0
PLASTIC LIMIT (PL) %	0.0
PLASTICITY INDEX (PI)	NP
NATURAL MOISTURE CONTENT %	24.5
FINENESS INDEX	0.0


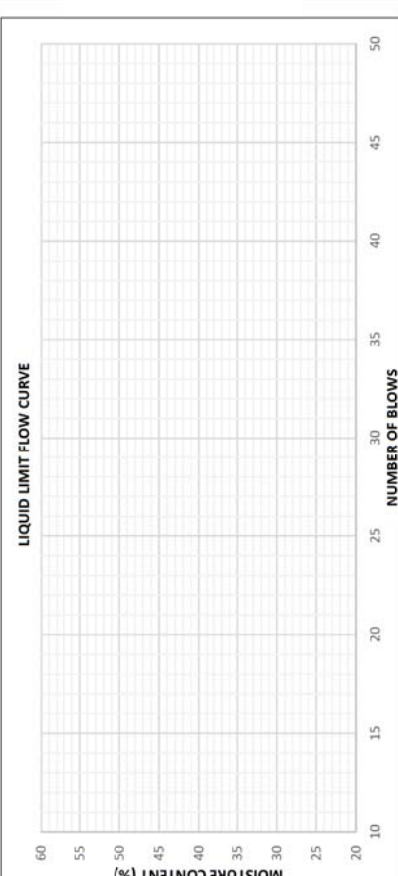



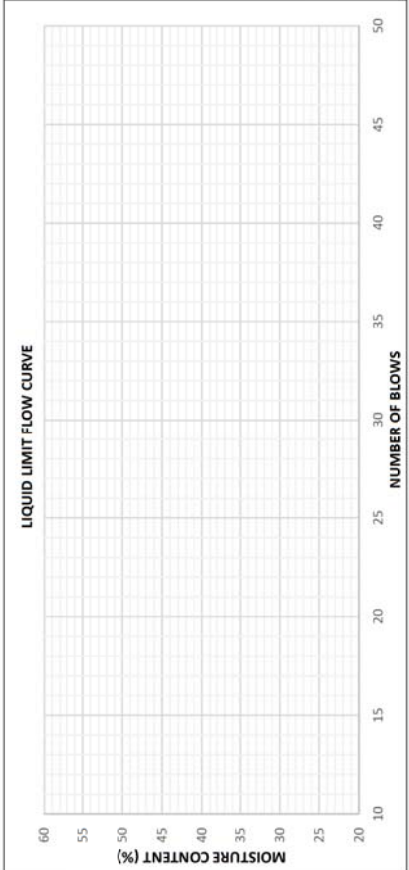
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 02 / DEPTH 1.200 - 2.200 (m)


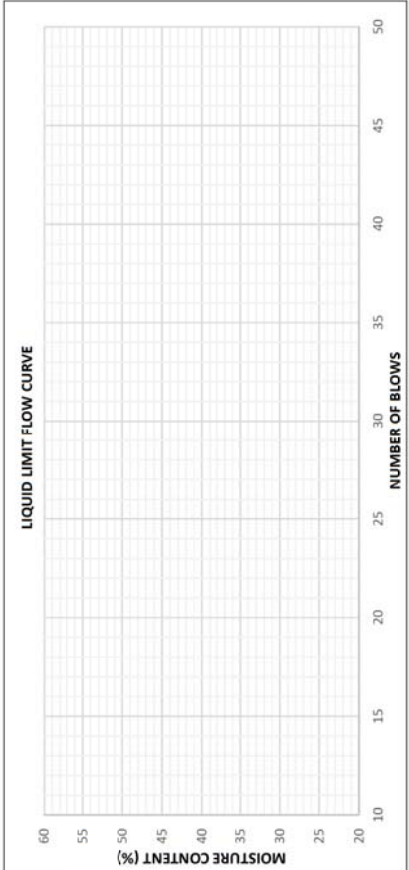
 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.cc</p>	LAB REF: GC469 / 30MAR19 / 17:00		SAMPLE No. KAN-SUB / BH04 / AL04 / 30MAR19				
	SAMPLED BY: GEOCONSULT		DATE: 27 - 03 - 2019				
	LOCATION: 36L UTM	EASTING	NORTHING	TIME:			
KANENGO SUBSTATION	0 585 539	8 463534	ELEVATION	DEPTH (m)			
	1 103 (m)		1 103 (m)	2.200-4.000			
TYPE OF MATERIAL: MOIST GREENISH GREY MICACIOUS DECOMPOSED ROCK							
TESTED BY: S. MATCHADO		DATE: 02 - 04 - 2019		TIME: 11:55			
CHECKED BY: G. KACHIWALA		DATE: 03 - 04 - 2019		TIME: 13:36			
APPROVED BY: M. SABELLI		DATE: 03 - 04 - 2019		TIME: 14:18			
PROJECT: KANENGO SUBSTATION		CLIENT: YEC					
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)							
TYPE OF TEST		LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
TEST No.	1	2	3	4	1	2	3
CONTAINER No.	NP	NP	NP	NP	NP	NP	NP
MASS OF WET SOIL + CONTAINER(g)							
MASS OF DRY SOIL + CONTAINER(g)							
MASS OF CONTAINER (g)							
MASS OF DRY SOIL (g)							
MASS OF WATER (g)							
MOISTURE CONTENT %							
No. BLOWS							
LINEAR SHRINKAGE		3					
INITIAL LENGTH OF SPECIMEN (cm)		14.0					
LENGTH OF OVERN DRY SPECIMEN (cm)		14.0					
LINEAR SHRINKAGE %		0.0					
LIQUID LIMIT (LL) %		0.0					
PLASTIC LIMIT (PL) %		0.0					
PLASTICITY INDEX (PI)		NP					
NATURAL MOISTURE CONTENT %		28.7					
FINENESS INDEX		0.0					
LIQUID LIMIT FLOW CURVE							
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 02 / DEPTH 2.200 - 4.400 (m)							

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.cc</p>	LAB REF: GC465 / 26MAR19 / 17:00		SAMPLE No. KAN-SUB / BH05 / AL01 / 26MAR19				
	SAMPLED BY: GEOCONSULT		DATE: 26 - 03 - 2019				
	LOCATION: 36L UTM	EASTING	NORTHING	TIME:			
KANENGO SUBSTATION	0 585 448	8 463 528	ELEVATION	DEPTH (m)			
	1 100 (m)		1 100 (m)	0.200-0.400			
TYPE OF MATERIAL: MOIST IMPORTED RED SANDY SILTY CLAY							
TESTED BY: S. MATCHADO		DATE: 10 - 04 - 2019		TIME: 11:23			
CHECKED BY: G. KACHIWALA		DATE: 10 - 04 - 2019		TIME: 13:36			
APPROVED BY: M. SABELLI		DATE: 10 - 04 - 2019		TIME: 14:18			
PROJECT: KANENGO SUBSTATION		CLIENT: YEC					
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)							
TYPE OF TEST		LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
TEST No.	1	2	3	4	1	2	3
CONTAINER No.	C27		C5		C15	R13	C3
MASS OF WET SOIL + CONTAINER(g)	54.0		55.5		46.5	42.5	36.5
MASS OF DRY SOIL + CONTAINER(g)	47.0		47.0		44.0	40.5	34.5
MASS OF CONTAINER (g)	29.5		28.5		30	29	23
MASS OF DRY SOIL (g)	17.5		18.5		14.0	11.5	11.5
MASS OF WATER (g)	7.00		8.50		2.50	2.00	2.00
MOISTURE CONTENT %	40.0		45.9		44.6	17.9	17.4
No. BLOWS	26		19				17.5
LINEAR SHRINKAGE		11					
INITIAL LENGTH OF SPECIMEN (cm)		14.0					
LENGTH OF OVERN DRY SPECIMEN (cm)		12.4					
LINEAR SHRINKAGE %		12.9					
LIQUID LIMIT (LL) %		42.3					
PLASTIC LIMIT (PL) %		17.5					
PLASTICITY INDEX (PI)		25					
NATURAL MOISTURE CONTENT %		18.9					
FINENESS INDEX		1200.0					
LIQUID LIMIT FLOW CURVE							
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 05 / DEPTH 0.200 - 0.400 (m)							


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC465 / 26MAR19 / 17:00		SAMPLE No. KAN-SUB / BH05 / AL02 / 26MAR19		
	SAMPLED BY: GEOCONSULT		DATE: 26 - 03 - 2019		
	LOCATION: 36L UTM	EASTING	NORTHING	TIME:	
	KANENGO SUBSTATION	0 585 448	8 463 528	ELEVATION DEPTH (m) 1 100 (m) 0.400-1.000	
TYPE OF MATERIAL: MOIST DARK REDDISH SILTY SANDY CLAY					
TESTED BY: S. MATCHADO		DATE: 10 - 04 - 2019		TIME: 11:20	
CHECKED BY: G. KACHIWALA		DATE: 10 - 04 - 2019		TIME: 13:36	
APPROVED BY: M. SABELLI		DATE: 10 - 04 - 2019		TIME: 14:18	
PROJECT: KANENGO SUBSTATION		CLIENT: YEC			
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)					
TYPE OF TEST		LIQUID LIMITS (LL)		PLASTIC LIMITS (PL)	
TEST No.	1	2	3	4	1 2 3
CONTAINER No.	C10	R24	C29	C12	C31
MASS OF WET SOIL + CONTAINER(g)	60.5	60.5	42.5	40.5	43.0
MASS OF DRY SOIL + CONTAINER(g)	52.5	52.0	40.0	38.0	40.5
MASS OF CONTAINER (g)	31.5	31.5	29.5	27.5	30
MASS OF DRY SOIL (g)	21.0	20.5	10.5	10.5	10.5
MASS OF WATER (g)	8.00	8.50	2.50	2.50	2.50
MOISTURE CONTENT %	38.1	38.5	41.5	23.8	23.8
No. BLOWS	29	24	41.0	23.8	23.8
LINEAR SHRINKAGE		19			
INITIAL LENGTH OF SPECIMEN (cm)		14.0			
LENGTH OF OVERN DRY SPECIMEN (cm)		13.0			
LINEAR SHRINKAGE %		7.7			
LIQUID LIMIT (LL) %		38.8			
PLASTIC LIMIT (PL) %		23.8			
PLASTICITY INDEX (PI)		16			
NATURAL MOISTURE CONTENT %		20.4			
FINENESS INDEX		768.0			
LIQUID LIMIT FLOW CURVE					
					
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 02 / DEPTH 0.400 - 1.000 (m)					

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC465 / 26MAR19 / 17:00		SAMPLE No. KAN-SUB / BH05 / AL03 / 26MAR19		
	SAMPLED BY: GEOCONSULT		DATE: 26 - 03 - 2019		
	LOCATION: 36L UTM	EASTING	NORTHING	TIME:	
	KANENGO SUBSTATION	0 585 448	8 463 528	ELEVATION DEPTH (m) 1 100 (m) 2.600-3.400	
TYPE OF MATERIAL: VERY MOIST SCFT RED BLACKISH SANDY SILTY CLAY					
TESTED BY: S. MATCHADO		DATE: 10 - 04 - 2019		TIME: 13:55	
CHECKED BY: G. KACHIWALA		DATE: 10 - 04 - 2019		TIME: 13:36	
APPROVED BY: M. SABELLI		DATE: 10 - 04 - 2019		TIME: 14:18	
PROJECT: KANENGO SUBSTATION		CLIENT: YEC			
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)					
TYPE OF TEST		LIQUID LIMITS (LL)		PLASTIC LIMITS (PL)	
TEST No.	1	2	3	4	1 2 3
CONTAINER No.	C25	R	R20	C10	C25
MASS OF WET SOIL + CONTAINER(g)	54.0	52.0	50.5	56.5	43.0
MASS OF DRY SOIL + CONTAINER(g)	47.0	42.0	45.5	51.0	39.5
MASS OF CONTAINER (g)	32	22	28	31.5	27
MASS OF DRY SOIL (g)	15.0	20.0	17.5	19.5	12.5
MASS OF WATER (g)	7.00	10.00	5.00	5.50	3.50
MOISTURE CONTENT %	46.7	47.6	50.0	28.2	28.0
No. BLOWS	30	26	28.3	28.3	
LINEAR SHRINKAGE		19			
INITIAL LENGTH OF SPECIMEN (cm)		14.0			
LENGTH OF OVERN DRY SPECIMEN (cm)		13.0			
LINEAR SHRINKAGE %		7.7			
LIQUID LIMIT (LL) %		46.8			
PLASTIC LIMIT (PL) %		28.3			
PLASTICITY INDEX (PI)		21			
NATURAL MOISTURE CONTENT %		28.9			
FINENESS INDEX		903.0			
LIQUID LIMIT FLOW CURVE					
					
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 02 / DEPTH 2.600 - 3.400 (m)					

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC465 / 26MAR19 / 17:00		SAMPLE No. KAN-SUB / BH05 / AL04 / 26MAR19				
	SAMPLER BY: GEOCONSULT		DATE: 26 - 03 - 2019				
	LOCATION: 36L UTM	EASTING	NORTHING	TIME:			
	KANENGO SUBSTATION	0 585 448	8 463 528	ELEVATION DEPTH (m) 1 100 (m) 3.400-4.500			
TYPE OF MATERIAL: MOIST SOFT BLACK SANDY SILTY CLAY							
TESTED BY: S. MATCHADO		DATE: 10 - 04 - 2019		TIME: 13:55			
CHECKED BY: G. KACHIWALA		DATE: 10 - 04 - 2019		TIME: 13:36			
APPROVED BY: M. SABELLI		DATE: 10 - 04 - 2019		TIME: 14:18			
PROJECT: KANENGO SUBSTATION		CLIENT: YEC					
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)							
TYPE OF TEST		LIQUID LIMITS (LL)		PLASTIC LIMITS (PL)			
TEST No.	1	2	3	4	1	2	3
CONTAINER No.	C27	R8	R28	R19	R28	C20	C20
MASS OF WET SOIL + CONTAINER(g)	54.5	57.0	51.0	58.0	51.0	43.0	43.0
MASS OF DRY SOIL + CONTAINER(g)	47.5	49.5	47.0	53.5	47.0	40.0	40.0
MASS OF CONTAINER (g)	29.5	31.5	29	33	29	26.5	26.5
MASS OF DRY SOIL (g)	18.0	18.0	18.0	20.5	18.0	13.5	13.5
MASS OF WATER (g)	7.00	7.50	4.00	4.50	4.00	3.00	3.00
MOISTURE CONTENT %	38.9	38.9	41.7	22.0	22.2	22.2	22.2
No. BLOWS	25	26	26	22.1	22.1	22.1	22.1
LINEAR SHRINKAGE		2					
INITIAL LENGTH OF SPECIMEN (cm)		14.0					
LENGTH OF OVERN DRY SPECIMEN (cm)		12.9					
LINEAR SHRINKAGE %		8.5					
LIQUID LIMIT (LL) %		40.3					
PLASTIC LIMIT (PL) %		22.1					
PLASTICITY INDEX (PI)		18					
NATURAL MOISTURE CONTENT %		32.6					
FINENESS INDEX		630.0					
LIQUID LIMIT FLOW CURVE							
							
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 02 / DEPTH 3.400 - 4.500 (m)							

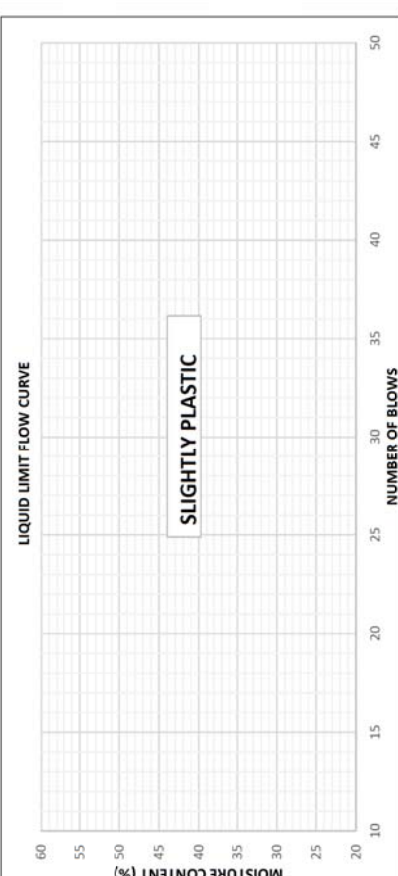
 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC465 / 26MAR19 / 17:00		SAMPLE No. KAN-SUB / BH05 / AL05 / 26MAR19				
	SAMPLER BY: GEOCONSULT		DATE: 26 - 03 - 2019				
	LOCATION: 36L UTM	EASTING	NORTHING	TIME:			
	KANENGO SUBSTATION	0 585 448	8 463 528	ELEVATION DEPTH (m) 1 100 (m) 4.500-4.800			
TYPE OF MATERIAL: MOIST SOFT DARK REDDISH MICACIOUS SANDY SILTY CLAY							
TESTED BY: S. MATCHADO		DATE: 10 - 04 - 2019		TIME: 13:55			
CHECKED BY: G. KACHIWALA		DATE: 10 - 04 - 2019		TIME: 13:36			
APPROVED BY: M. SABELLI		DATE: 10 - 04 - 2019		TIME: 14:18			
PROJECT: KANENGO SUBSTATION		CLIENT: YEC					
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)							
TYPE OF TEST		LIQUID LIMITS (LL)		PLASTIC LIMITS (PL)			
TEST No.	1	2	3	4	1	2	3
CONTAINER No.	C5	R24	R24	C11	C8	C22	C22
MASS OF WET SOIL + CONTAINER(g)	50.0	55.0	55.0	56.0	54.5	43.0	43.0
MASS OF DRY SOIL + CONTAINER(g)	43.5	47.0	47.0	50.5	49.0	40.0	40.0
MASS OF CONTAINER (g)	28.5	30.5	30.5	30	28.5	28.5	28.5
MASS OF DRY SOIL (g)	15.0	16.5	16.5	20.5	20.5	11.5	11.5
MASS OF WATER (g)	6.50	8.00	8.00	5.50	5.50	3.00	3.00
MOISTURE CONTENT %	43.3	43.8	48.5	48.0	26.8	26.1	26.1
No. BLOWS	29	22	22	26.6	26.6	26.6	26.6
LINEAR SHRINKAGE		11					
INITIAL LENGTH OF SPECIMEN (cm)		14.0					
LENGTH OF OVERN DRY SPECIMEN (cm)		12.8					
LINEAR SHRINKAGE %		9.4					
LIQUID LIMIT (LL) %		45.9					
PLASTIC LIMIT (PL) %		26.6					
PLASTICITY INDEX (PI)		19					
NATURAL MOISTURE CONTENT %		30.3					
FINENESS INDEX		969.0					
LIQUID LIMIT FLOW CURVE							
							
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 02 / DEPTH 4.500 - 4.800 (m)							

4.4 Gradation

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC465 / 26MAR19 / 17.00		SAMPLE No. KAN-SUB / BH05 / AL06 / 26MAR19			
	SAMPLED BY: GEOCONSULT		DATE: 26-03-2019	TIME:		
	LOCATION: 36L UTM	EASTING	NORTHING	ELEVATION		
	KANENGO SUBSTATION	0 585 448	8 463 528	1 100 (m)		
TYPE OF MATERIAL: MOIST SOFT DECOMPOSED ROCK WITH MICCA						
TESTED BY: S. MATCHADO		DATE: 10-04-2019	TIME: 14:55			
CHECKED BY: G. KACHIWALA		DATE: 10-04-2019	TIME: 13:36			
APPROVED BY: M. SABELLI		DATE: 10-04-2019	TIME: 14:18			
PROJECT: KANENGO SUBSTATION		CLIENT: YEC				
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)						
TYPE OF TEST	LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
TEST No.	1	2	3	4	1	2
CONTAINER No.	SP	SP	SP	SP	SP	SP
MASS OF WET SOIL + CONTAINER(g)						
MASS OF DRY SOIL + CONTAINER(g)						
MASS OF CONTAINER (g)						
MASS OF DRY SOIL (g)						
MASS OF WATER (g)						
MOISTURE CONTENT %						
No. BLOWS						
LINEAR SHRINKAGE				11		
INITIAL LENGTH OF SPECIMEN (cm)				14.0		
LENGTH OF OVERN DRY SPECIMEN (cm)				13.8		
LINEAR SHRINKAGE %				1.4		
LIQUID LIMIT (LL) %				0.0		
PLASTIC LIMIT (PL) %				0.0		
PLASTICITY INDEX (PI)				0		
NATURAL MOISTURE CONTENT %				34.6		
FINENESS INDEX				0.0		

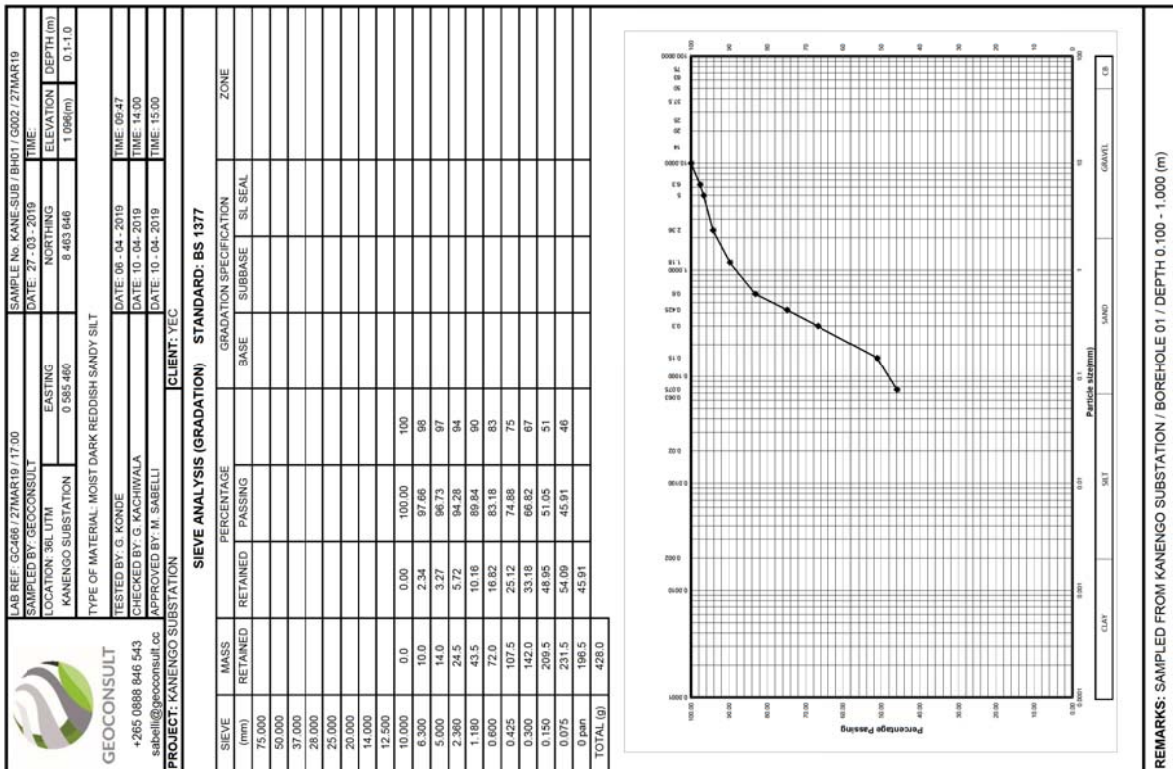
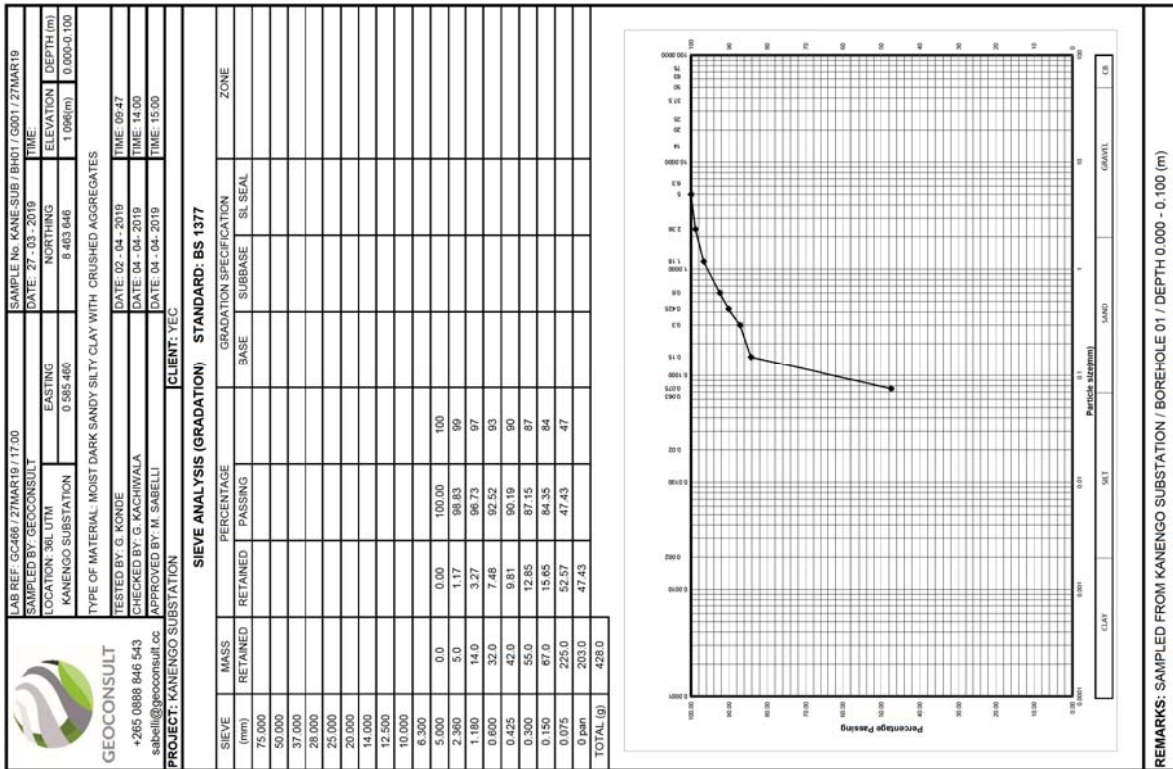
LINEAR SHRINKAGE	11
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	13.8
LINEAR SHRINKAGE %	1.4
LIQUID LIMIT (LL) %	0.0
PLASTIC LIMIT (PL) %	0.0
PLASTICITY INDEX (PI)	0
NATURAL MOISTURE CONTENT %	34.6
FINENESS INDEX	0.0

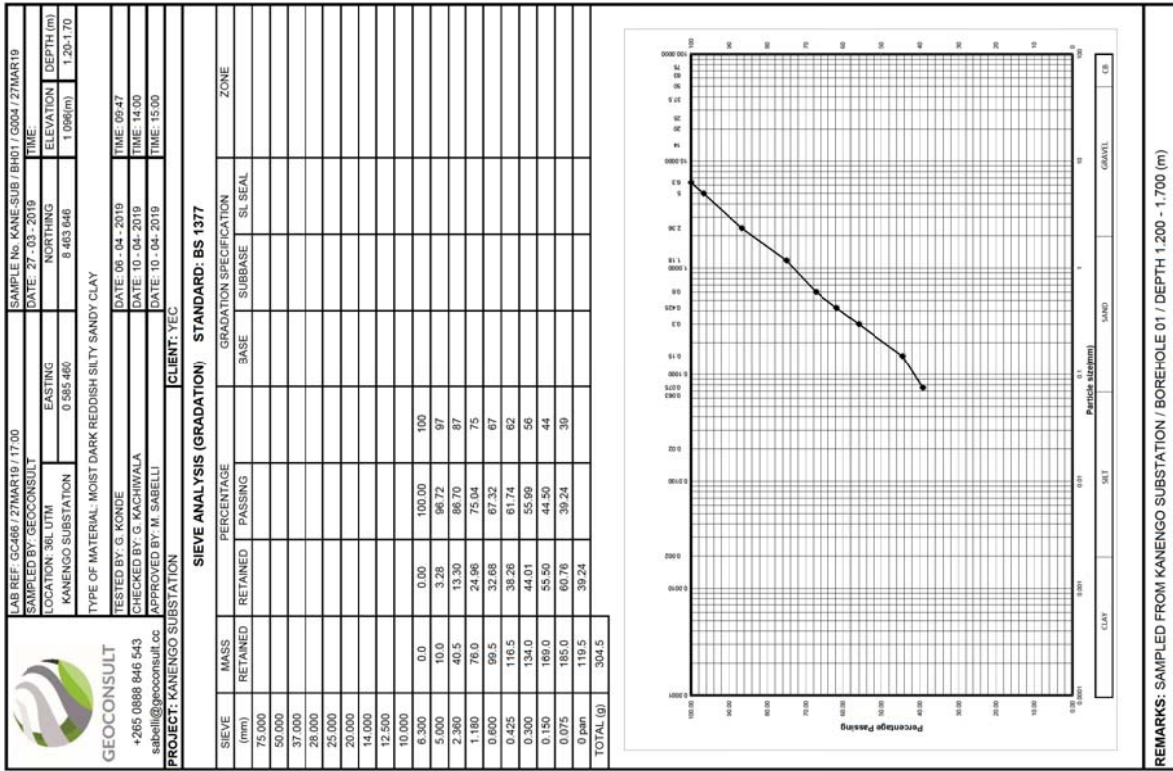
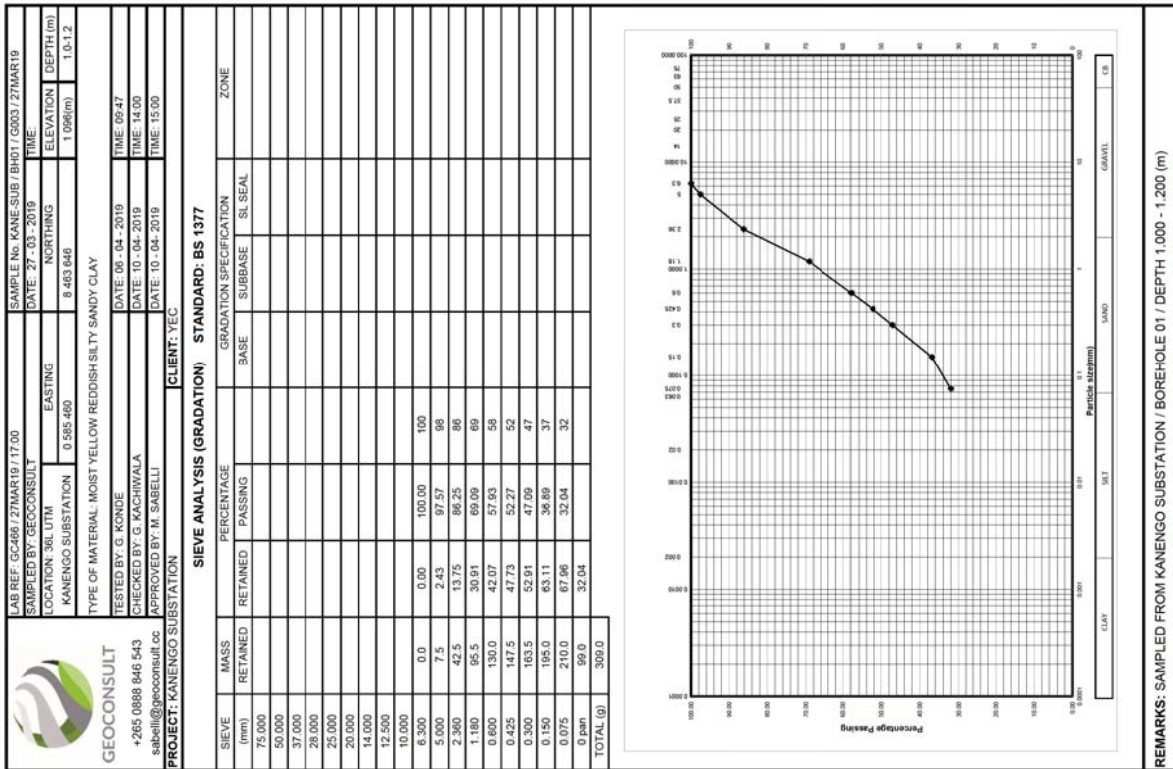
LIQUID LIMIT FLOW CURVE

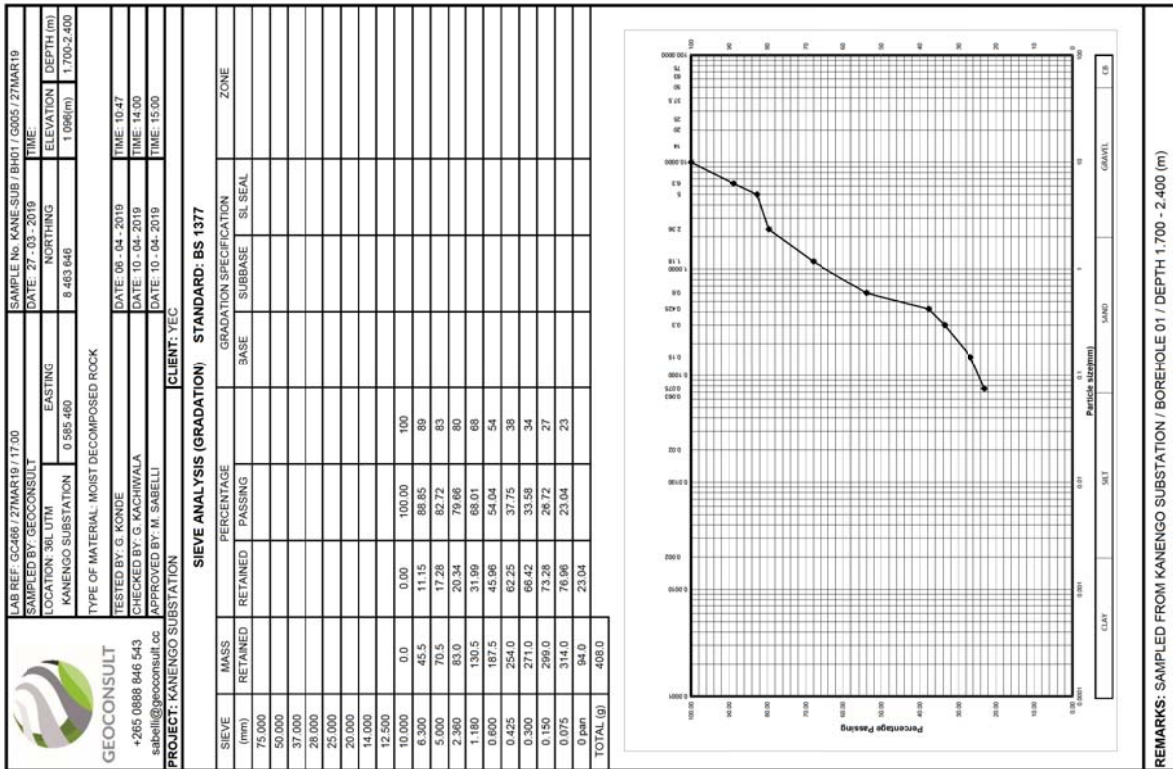


SLIGHTLY PLASTIC

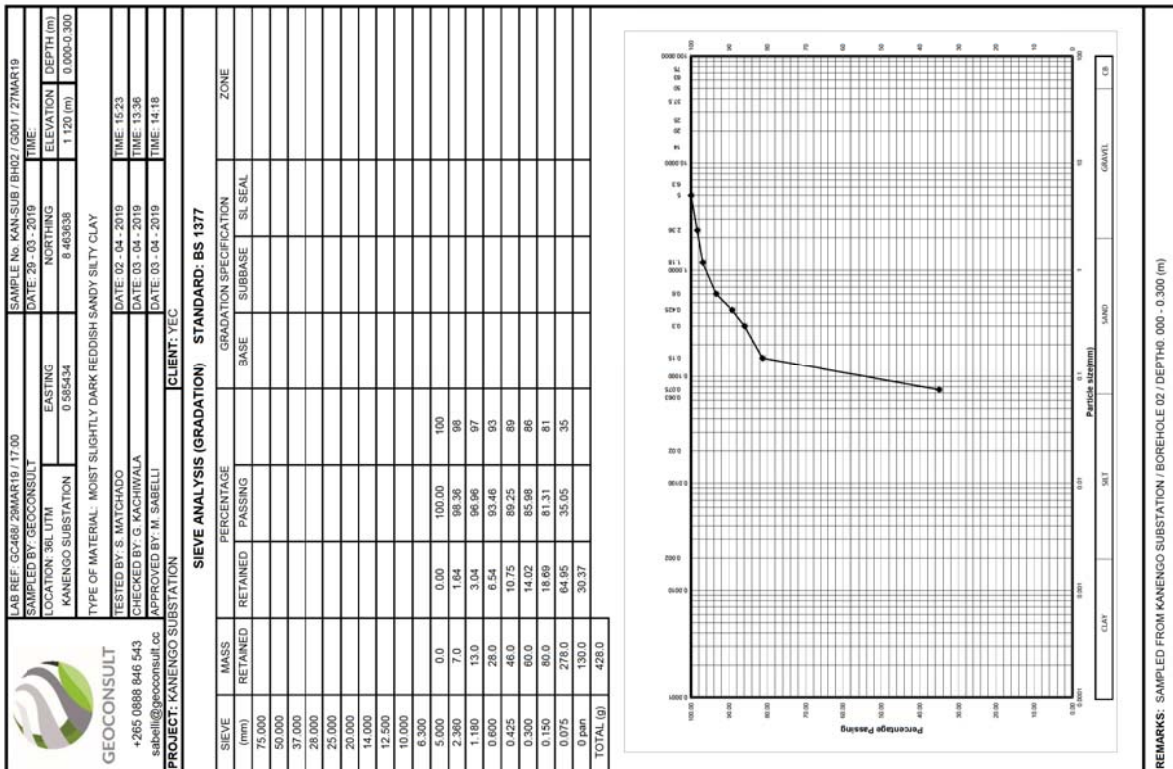
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 02 / DEPTH 4.800 - 7.000 (m)



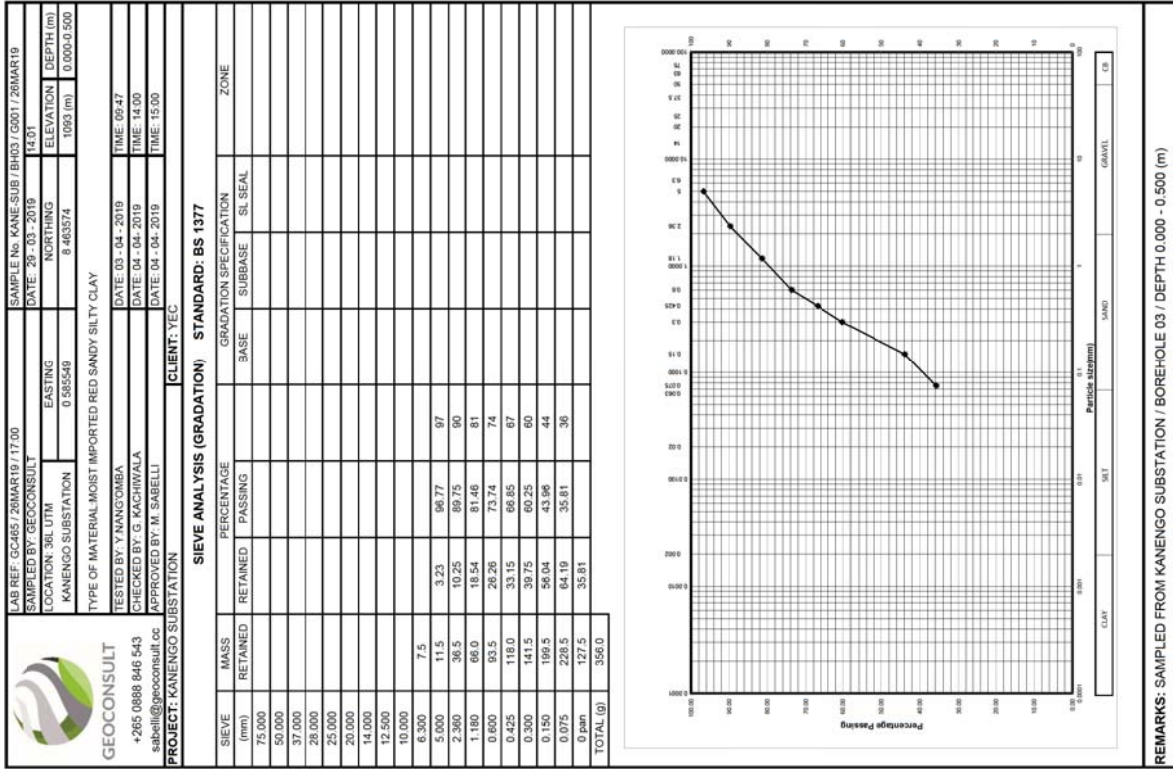
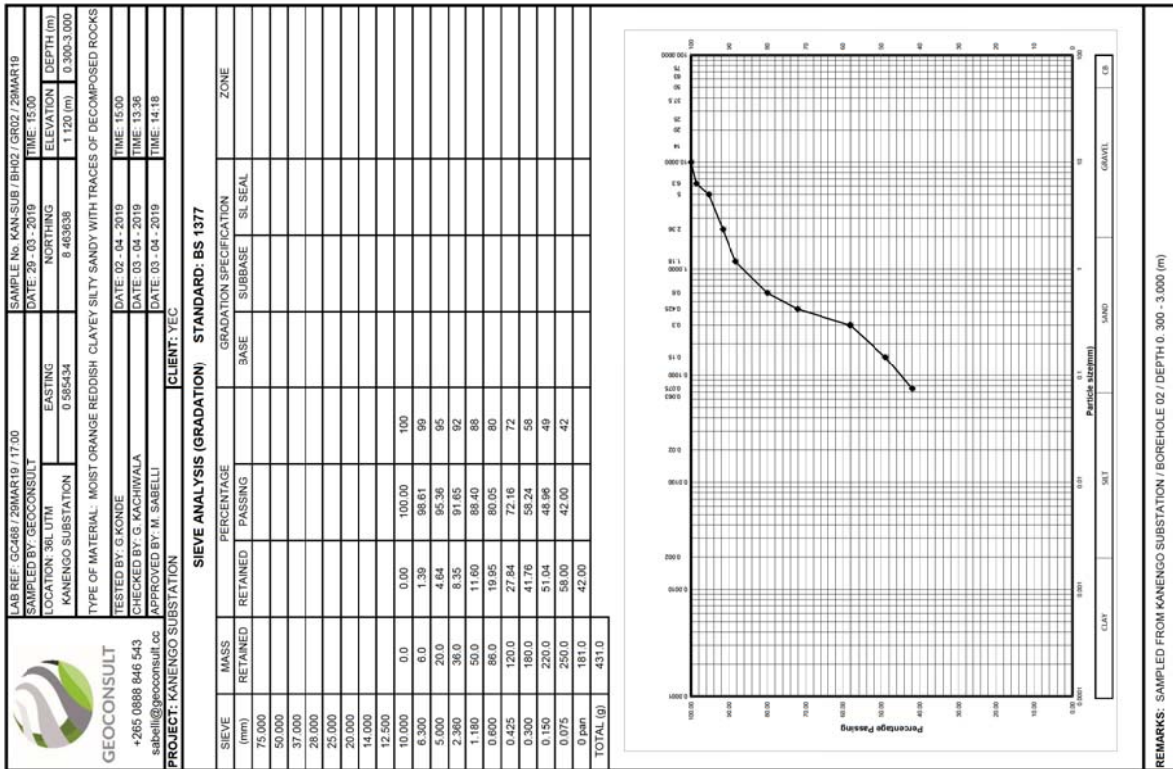


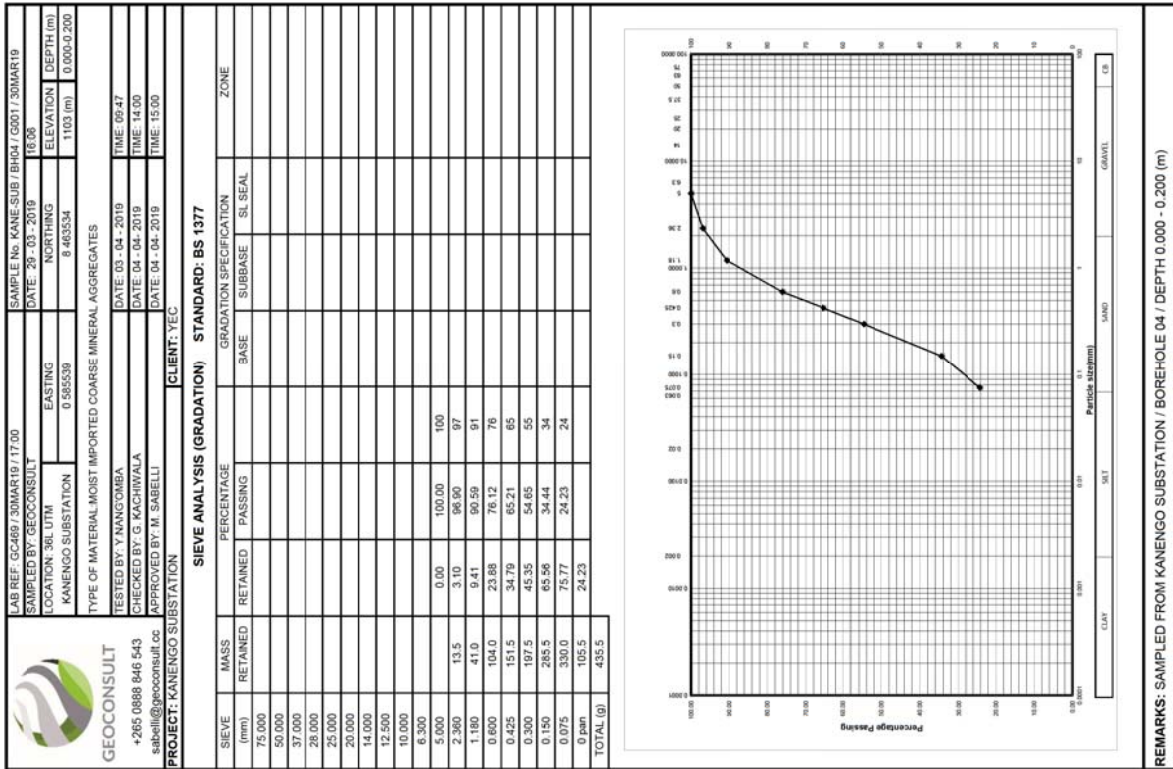
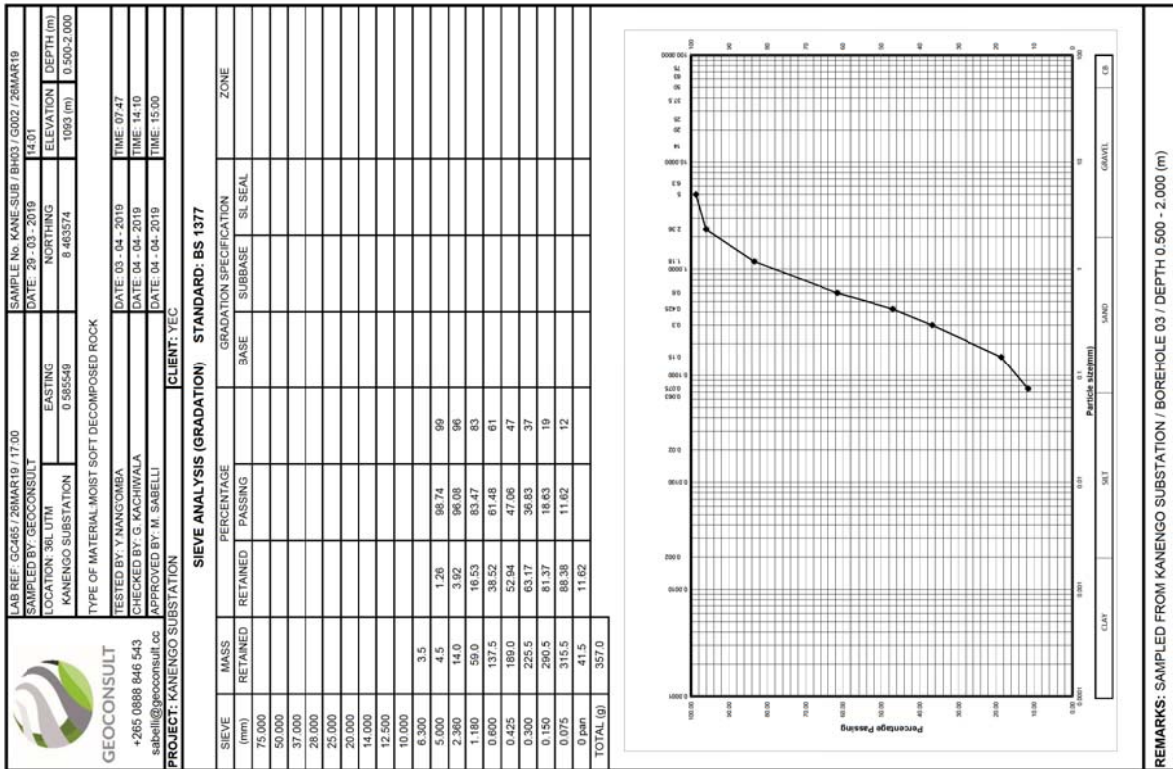


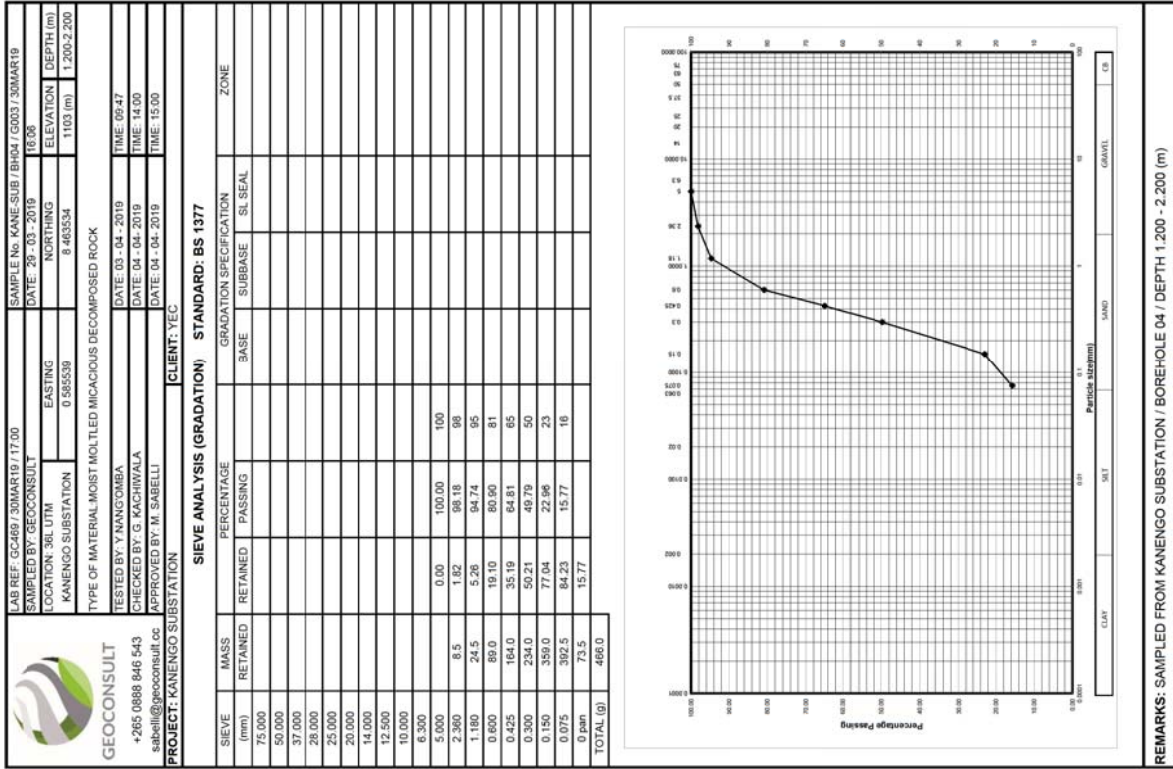
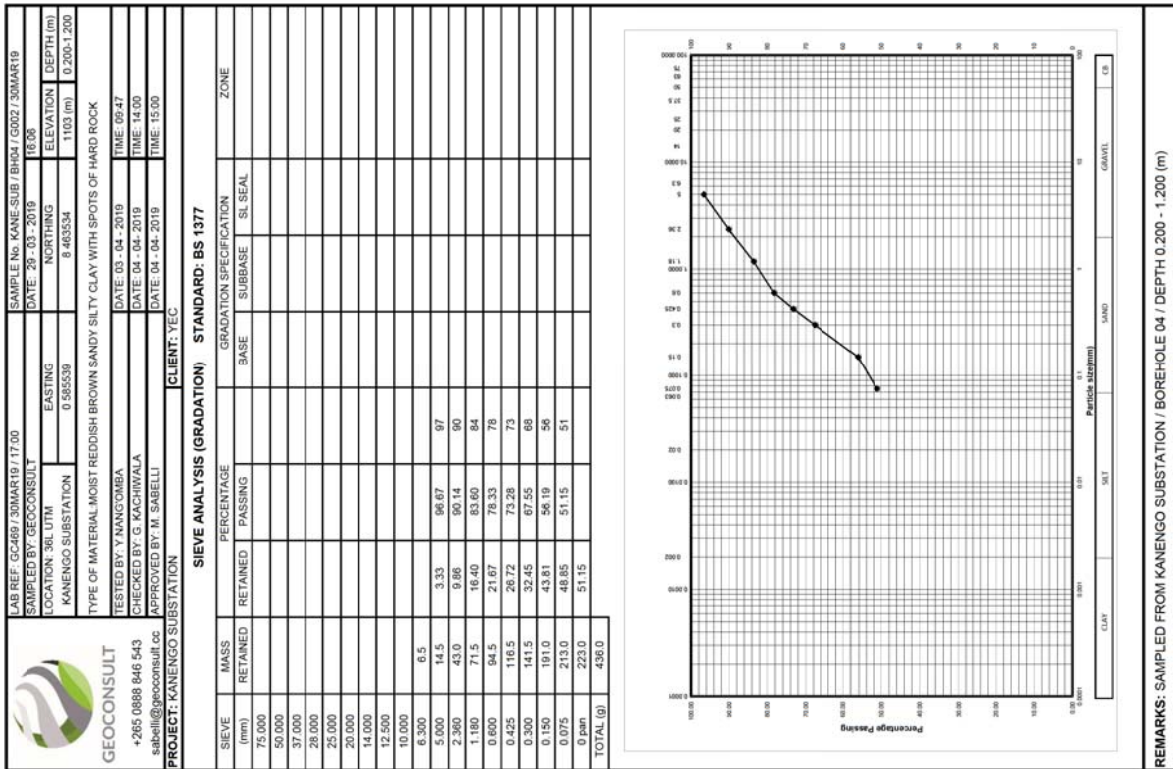
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 01 / DEPTH 1.700 - 2.400 (m)

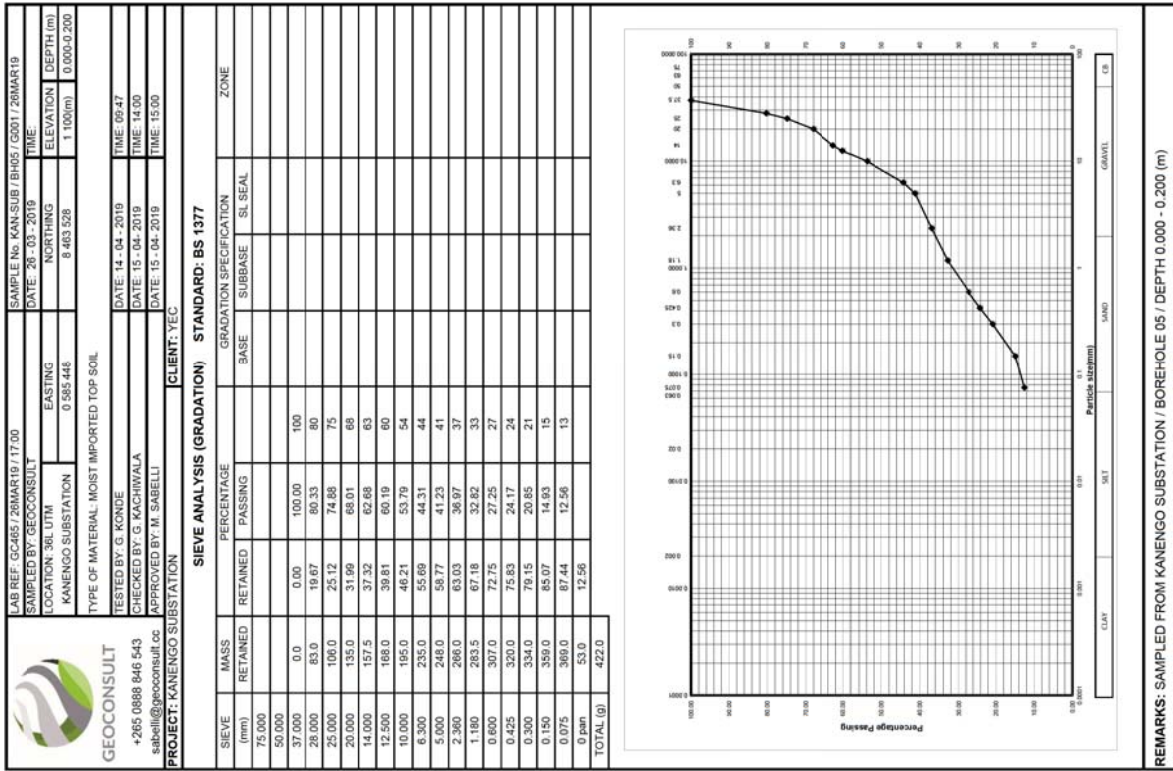
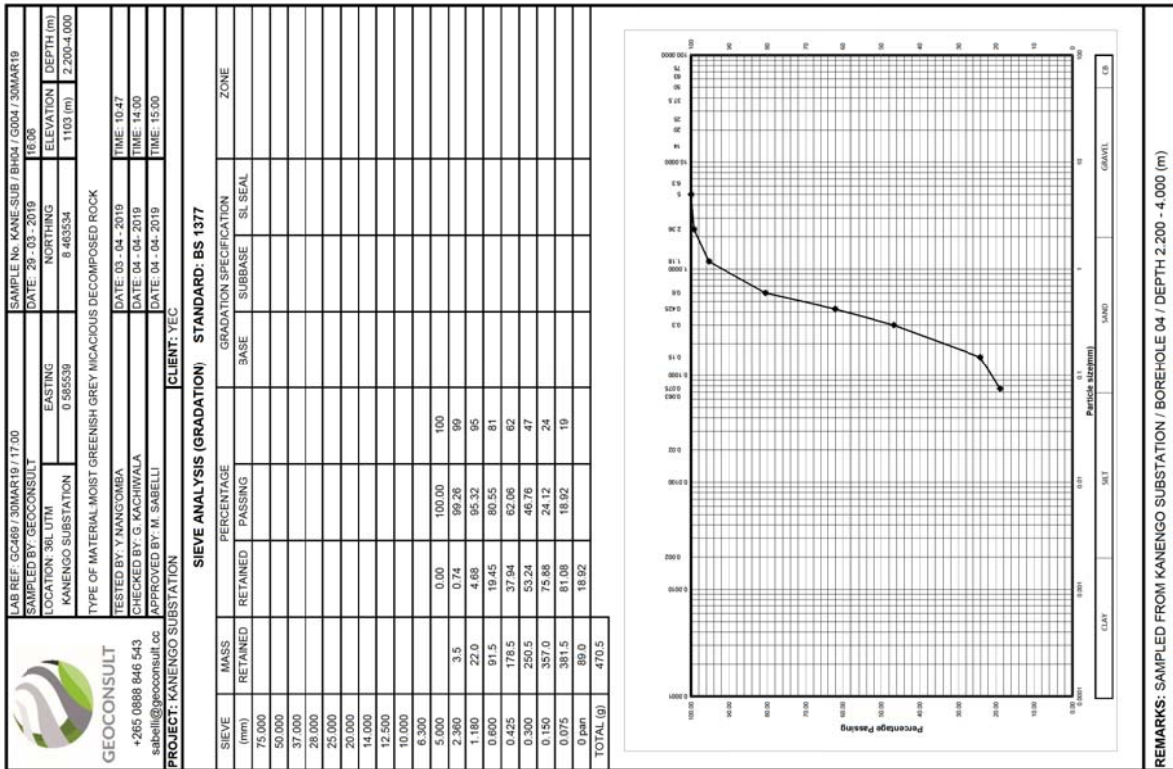


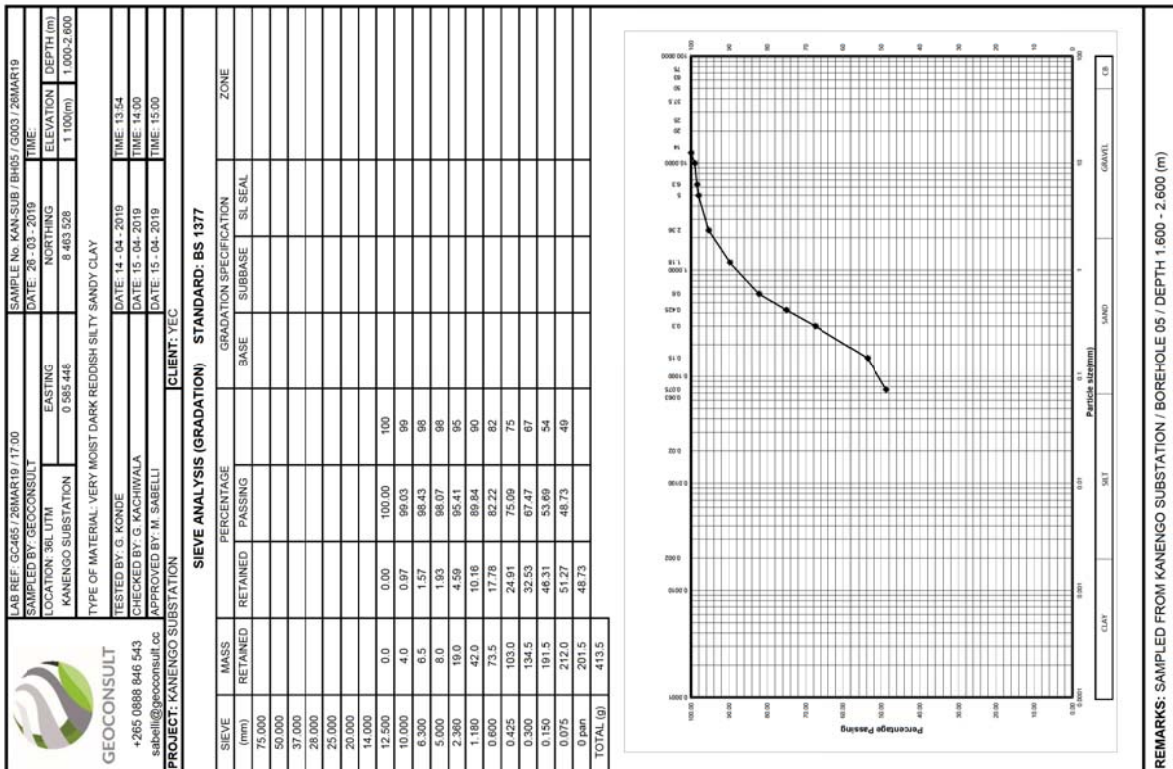
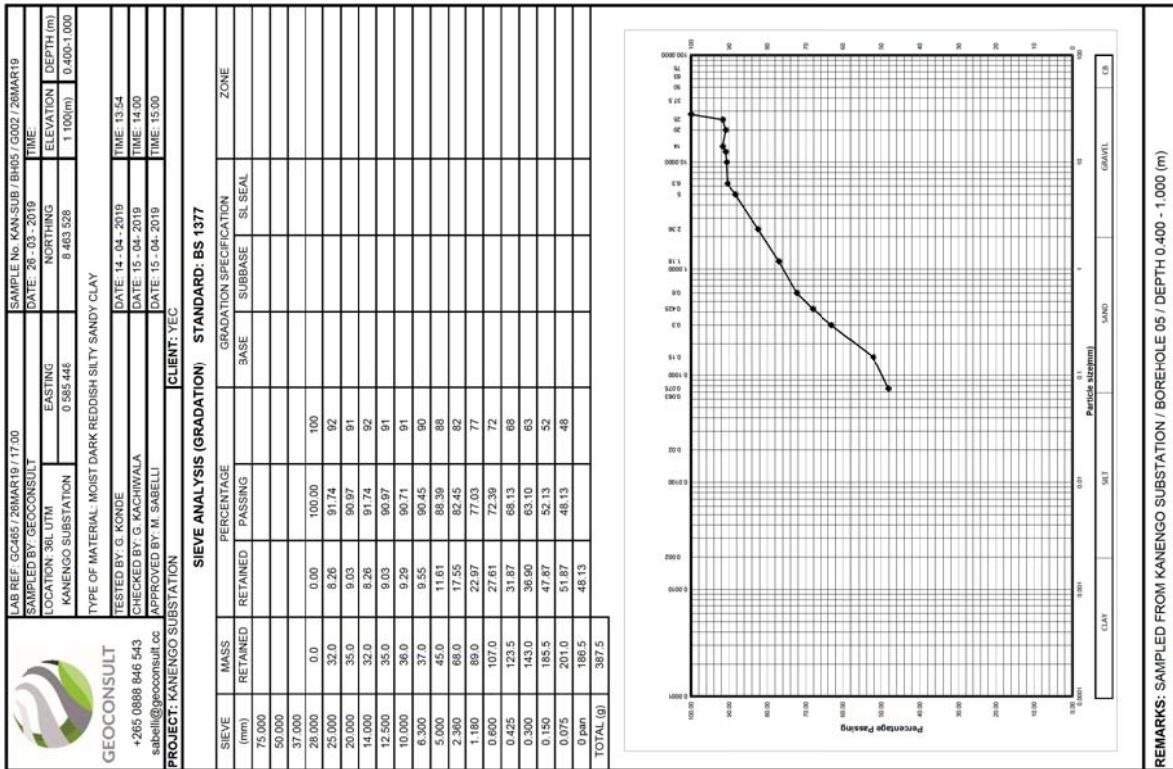
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 02 / DEPTH 0.000 - 0.300 (m)

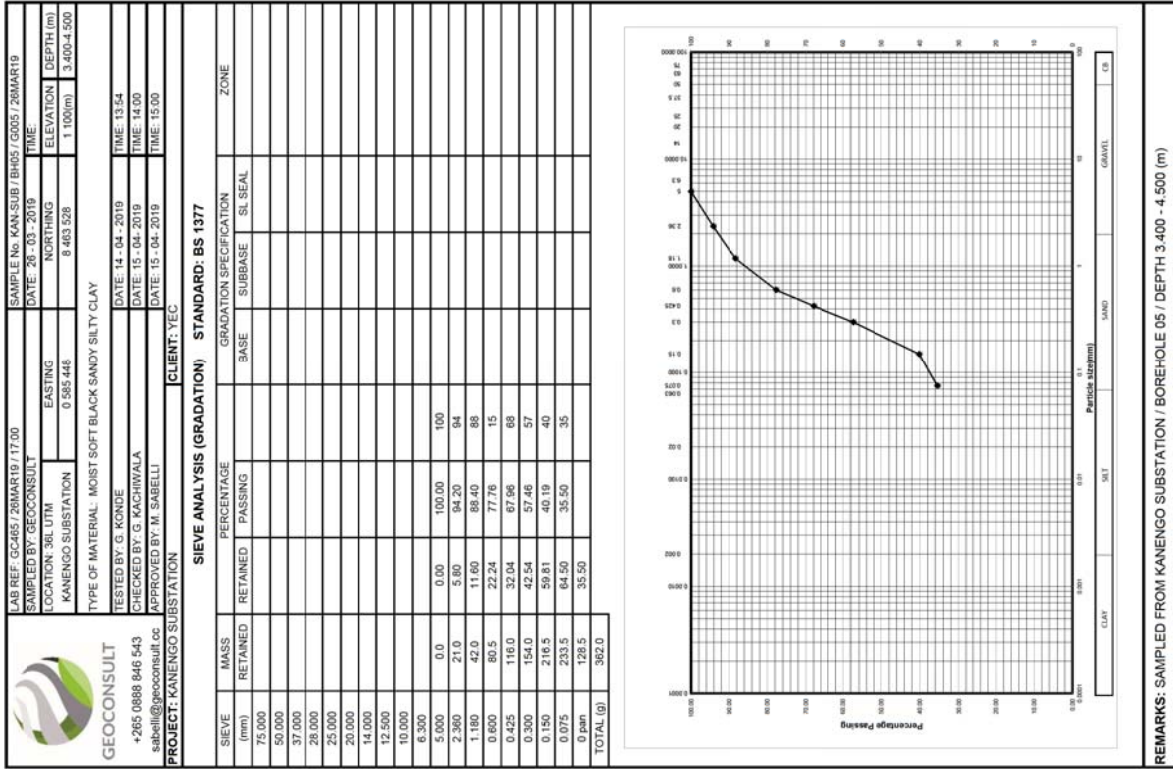
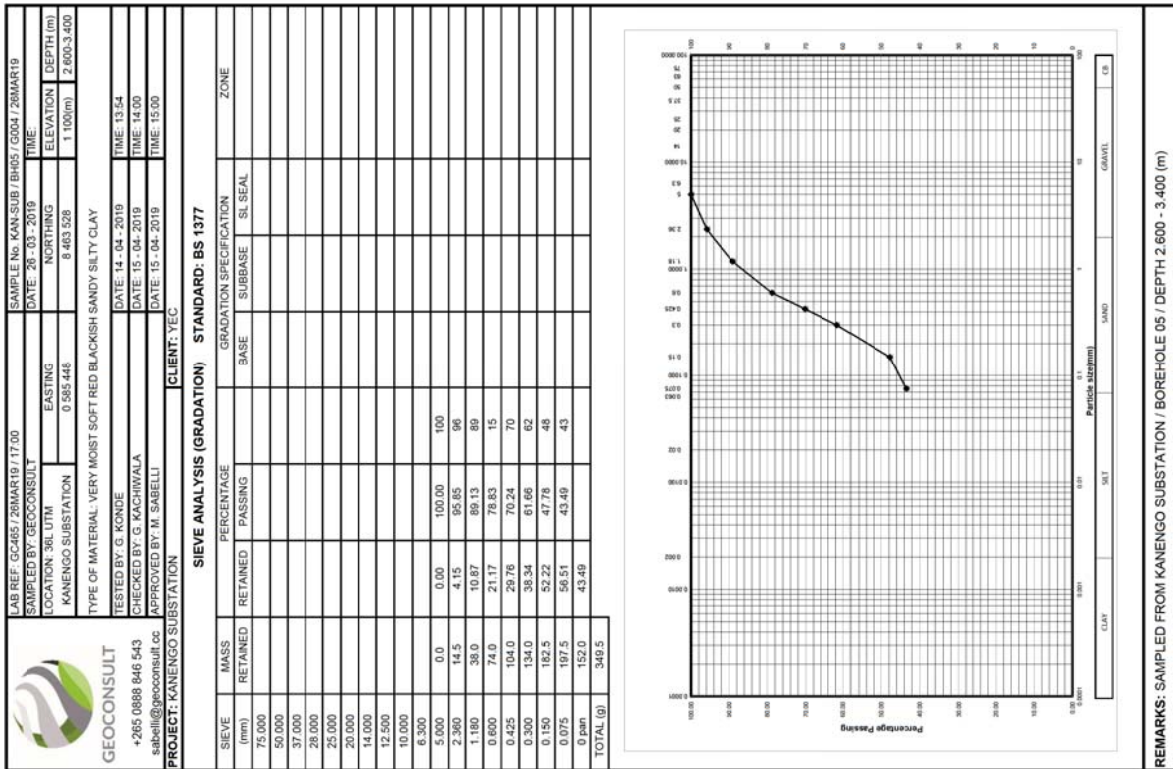


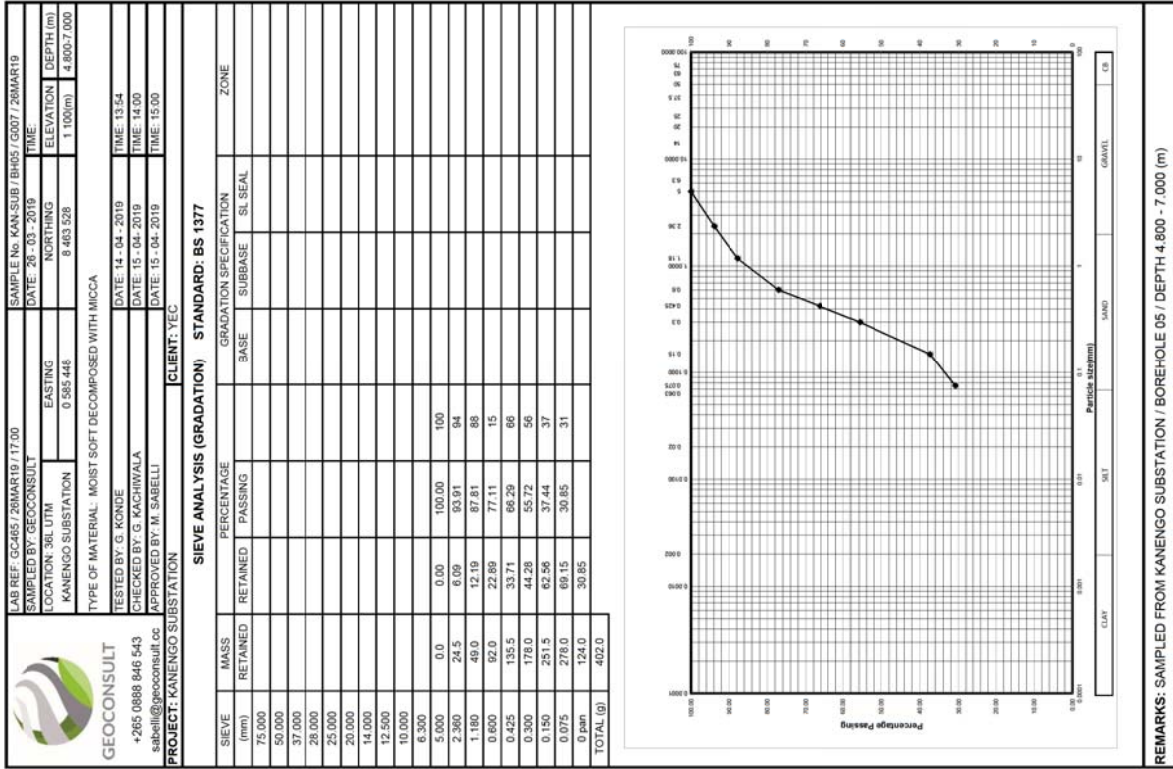
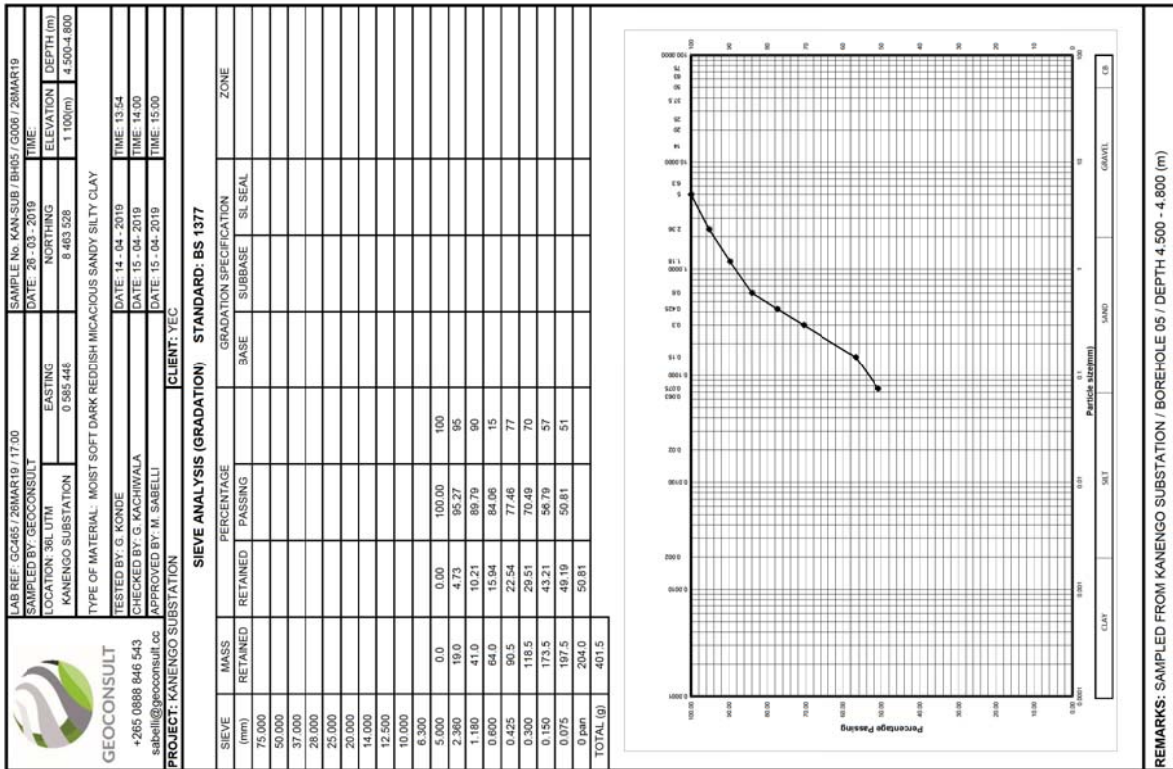

















4.5 Natural Moisture Content


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC486 / 27MART19 / 17.00	SAMPLE No: KAN-SUB / BH01 / NMC01 / 27MART19	
	SAMPLED BY: GEOCONSULT	DATE: 26 - 03 - 2019	TIME: 12:42
LOCATION: 36L UTM	EASTING	NORTHING	ELEVATION
KANENGO SUBSTATION	0 585460	8 463546	1096 (m)
TYPE OF MATERIAL: MOIST DARK BLACK SANDY SILTY CLAY WITH CRUSHED AGGREGATES			
TESTED BY: G.KONDE	DATE: 27 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:00	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	320.0		
MASS OF DRY SOIL AND CONTAINER (g)	275.0		
CONTAINER No.	GC11		
MASS OF CONTAINER (g)	52.0		
MASS OF DRY SOIL (g)	223.0		
MASS OF WATER (g)	45.0		
MOISTURE CONTENT %	20.0		
NATURAL MOISTURE CONTENT :	20.0		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 04 / DEPTH 0.000 - 0.100m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC486 / 27MART19 / 17:00	SAMPLE No: KAN-SUB / BH01 / NMC02 / 27MART19	
	SAMPLED BY: GEOCONSULT	DATE: 26 - 03 - 2019	TIME: 12:42
	LOCATION: 36L UTM	EASTING	NORTHING
	KANENGO SUBSTATION	0 585460	8 463646
TYPE OF MATERIAL: MOIST DARK REDDISH SANDY SILTY CLAY			
TESTED BY: G.KONDE	DATE: 27 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:00	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	488.5		
MASS OF DRY SOIL AND CONTAINER (g)	402.0		
CONTAINER No.	GC111		
MASS OF CONTAINER (g)	50.0		
MASS OF DRY SOIL (g)	352.0		
MASS OF WATER (g)	86.5		
MOISTURE CONTENT %	24.5		
NATURAL MOISTURE CONTENT :	24.5		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 01 / DEPTH 0.100-1.000			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC486 / 27MART19 / 17:00	SAMPLE No: KAN-SUB / BH01 / NMC03 / 27MART19	
	SAMPLED BY: GEOCONSULT	DATE: 26 - 03 - 2019	TIME: 12:42
	LOCATION: 36L UTM	EASTING	NORTHING
	KANENGO SUBSTATION	0 585460	8 463646
TYPE OF MATERIAL: MOIST YELLOW REDDISH SILTY SANDY CLAY			
TESTED BY: G.KONDE	DATE: 27 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:00	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	308.0		
MASS OF DRY SOIL AND CONTAINER (g)	255.5		
CONTAINER No.	GC2		
MASS OF CONTAINER (g)	66.0		
MASS OF DRY SOIL (g)	189.5		
MASS OF WATER (g)	52.5		
MOISTURE CONTENT %	27.8		
NATURAL MOISTURE CONTENT :	27.8		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 01 / DEPTH 1.000-1.200			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC486 / 27MART19 / 1700		SAMPLE No: KAN-SUB / BH01 / NMC04 / 27MART19															
	SAMPLED BY: GEOCONSULT		DATE: 26 - 03 - 2019	TIME: 12:42														
	LOCATION: 36L UTM	EASTING	NORTHING	ELEVATION														
	KANENGO SUBSTATION	0 585460	8 463646	1096 (m)														
TYPE OF MATERIAL: MOIST DARK REDDISH SILTY SANDY CLAY																		
TESTED BY: G.KONDE		DATE: 27 - 03 - 2019	TIME: 08:30															
CHECKED BY: G. KACHIWALA		DATE: 28 - 03 - 2019	TIME: 09:00															
APPROVED BY: M. SABELLI		DATE: 28 - 03 - 2019	TIME: 10:00															
PROJECT: KANENGO SUBSTATION		CLIENT: YEC																
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377																		
<table border="1"> <tr> <td>MASS OF WET SOIL + CONTAINER (g)</td> <td>288.5</td> </tr> <tr> <td>MASS OF DRY SOIL AND CONTAINER (g)</td> <td>240.0</td> </tr> <tr> <td>CONTAINER No.</td> <td>GC11</td> </tr> <tr> <td>MASS OF CONTAINER (g)</td> <td>72.0</td> </tr> <tr> <td>MASS OF DRY SOIL (g)</td> <td>168.0</td> </tr> <tr> <td>MASS OF WATER (g)</td> <td>48.5</td> </tr> <tr> <td>MOISTURE CONTENT %</td> <td>28.9</td> </tr> </table>					MASS OF WET SOIL + CONTAINER (g)	288.5	MASS OF DRY SOIL AND CONTAINER (g)	240.0	CONTAINER No.	GC11	MASS OF CONTAINER (g)	72.0	MASS OF DRY SOIL (g)	168.0	MASS OF WATER (g)	48.5	MOISTURE CONTENT %	28.9
MASS OF WET SOIL + CONTAINER (g)	288.5																	
MASS OF DRY SOIL AND CONTAINER (g)	240.0																	
CONTAINER No.	GC11																	
MASS OF CONTAINER (g)	72.0																	
MASS OF DRY SOIL (g)	168.0																	
MASS OF WATER (g)	48.5																	
MOISTURE CONTENT %	28.9																	
<table border="1"> <tr> <td>NATURAL MOISTURE CONTENT :</td> <td>28.9</td> </tr> </table>					NATURAL MOISTURE CONTENT :	28.9												
NATURAL MOISTURE CONTENT :	28.9																	
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 01 / DEPTH: 200-1.700																		


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC486 / 27MART19 / 1700		SAMPLE No: KAN-SUB / BH01 / NMC05 / 27MART19															
	SAMPLED BY: GEOCONSULT		DATE: 26 - 03 - 2019	TIME: 12:42														
	LOCATION: 36L UTM	EASTING	NORTHING	ELEVATION														
	KANENGO SUBSTATION	0 585460	8 463646	1096 (m)														
TYPE OF MATERIAL: MOIST DECOMPOSED ROCK																		
TESTED BY: G.KONDE		DATE: 27 - 03 - 2019	TIME: 08:30															
CHECKED BY: G. KACHIWALA		DATE: 28 - 03 - 2019	TIME: 09:00															
APPROVED BY: M. SABELLI		DATE: 28 - 03 - 2019	TIME: 10:00															
PROJECT: KANENGO SUBSTATION		CLIENT: YEC																
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377																		
<table border="1"> <tr> <td>MASS OF WET SOIL + CONTAINER (g)</td> <td>301.5</td> </tr> <tr> <td>MASS OF DRY SOIL AND CONTAINER (g)</td> <td>242.5</td> </tr> <tr> <td>CONTAINER No.</td> <td>GC12</td> </tr> <tr> <td>MASS OF CONTAINER (g)</td> <td>73.5</td> </tr> <tr> <td>MASS OF DRY SOIL (g)</td> <td>169.0</td> </tr> <tr> <td>MASS OF WATER (g)</td> <td>59.0</td> </tr> <tr> <td>MOISTURE CONTENT %</td> <td>30.1</td> </tr> </table>					MASS OF WET SOIL + CONTAINER (g)	301.5	MASS OF DRY SOIL AND CONTAINER (g)	242.5	CONTAINER No.	GC12	MASS OF CONTAINER (g)	73.5	MASS OF DRY SOIL (g)	169.0	MASS OF WATER (g)	59.0	MOISTURE CONTENT %	30.1
MASS OF WET SOIL + CONTAINER (g)	301.5																	
MASS OF DRY SOIL AND CONTAINER (g)	242.5																	
CONTAINER No.	GC12																	
MASS OF CONTAINER (g)	73.5																	
MASS OF DRY SOIL (g)	169.0																	
MASS OF WATER (g)	59.0																	
MOISTURE CONTENT %	30.1																	
<table border="1"> <tr> <td>NATURAL MOISTURE CONTENT :</td> <td>30.1</td> </tr> </table>					NATURAL MOISTURE CONTENT :	30.1												
NATURAL MOISTURE CONTENT :	30.1																	
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 01 / DEPTH: 700-2.400																		


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC488 / 29MART19 / 1700	SAMPLE No: KAN-SUB / BH02 / NMC01 / 29MART19	
	SAMPLED BY: GEOCONSULT	DATE: 27 - 03 - 2019	TIME: 12:42
	LOCATION: 36L UTM	EASTING	NORTHING
	KANENGO SUBSTATION	0 585434	8 463638
TYPE OF MATERIAL: MOIST SLIGHTLY DARK REDDISH SANDY SILTY CLAY			
TESTED BY: G.KONDE	DATE: 27 - 03 - 2019	TIME: 08:05	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:00	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	366.0		
MASS OF DRY SOIL AND CONTAINER (g)	322.0		
CONTAINER No.	GC8A		
MASS OF CONTAINER (g)	49.5		
MASS OF DRY SOIL (g)	272.5		
MASS OF WATER (g)	44.0		
MOISTURE CONTENT %	15.8		
NATURAL MOISTURE CONTENT :	15.8		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 03 / DEPTH 0.000 - 0.300(m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC488 / 29MART19 / 1700	SAMPLE No: KAN-SUB / BH02 / NMC02 / 29MART19	
	SAMPLED BY: GEOCONSULT	DATE: 27 - 03 - 2019	TIME: 12:42
	LOCATION: 36L UTM	EASTING	NORTHING
	KANENGO SUBSTATION	0 585434	8 463638
TYPE OF MATERIAL: MOIST ORANGE REDDISH CLAYEY SILTY SANDY WITH TRACES OF DECOMPOSED ROCK			
TESTED BY: G.KONDE	DATE: 27 - 03 - 2019	TIME: 08:05	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:00	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	320.5		
MASS OF DRY SOIL AND CONTAINER (g)	275.0		
CONTAINER No.	GC11		
MASS OF CONTAINER (g)	52.0		
MASS OF DRY SOIL (g)	223.0		
MASS OF WATER (g)	45.5		
MOISTURE CONTENT %	20.0		
NATURAL MOISTURE CONTENT :	20.0		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 02 / DEPTH 0.300 - 3.000(m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC485/26MART19/1700	SAMPLE No: KAN-SUB /BH03 /NMC01 /26MART19	
	SAMPLED BY: GEOCONSULT	DATE: 26 - 03 - 2019	TIME: 12:42
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
KANENGO SUBSTATION	0 585549	8 463574	0 0000-0.500
TYPE OF MATERIAL: MOIST IMPORTED RED SANDY SILTY CLAY			
TESTED BY: Y. NANGOMBA	DATE: 27 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:00	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	288.5		
MASS OF DRY SOIL AND CONTAINER (g)	240.0		
CONTAINER No.	GC8		
MASS OF CONTAINER (g)	72.0		
MASS OF DRY SOIL (g)	168.0		
MASS OF WATER (g)	48.5		
MOISTURE CONTENT %	28.9		
NATURAL MOISTURE CONTENT :	28.9		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 03 / DEPTH 0.000 - 0.500(m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC485/26MART19/1700	SAMPLE No: KAN-SUB /BH03 /NMC01 /26MART19	
	SAMPLED BY: GEOCONSULT	DATE: 26 - 03 - 2019	TIME: 12:42
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
KANENGO SUBSTATION	0 585549	8 463574	0 5000-2.000
TYPE OF MATERIAL: MOIST SOFT DECOMPOSED ROCK			
TESTED BY: Y. NANGOMBA	DATE: 27 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:00	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	301.0		
MASS OF DRY SOIL AND CONTAINER (g)	242.0		
CONTAINER No.	GC 3		
MASS OF CONTAINER (g)	50.0		
MASS OF DRY SOIL (g)	192.0		
MASS OF WATER (g)	59.0		
MOISTURE CONTENT %	30.1		
NATURAL MOISTURE CONTENT :	30.1		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 03 / DEPTH 0.500- 2.000(m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC489 / 30MART19 / 1700	SAMPLE No: KAN-SUB / BH04 / NMC01 / 30MART19	
	SAMPLED BY: GEOCONSULT	DATE: 26 - 03 - 2019	TIME: 12:42
	LOCATION: 36L UTM	EASTING	NORTHING
	KANENGO SUBSTATION	0 585539	8 463534
TYPE OF MATERIAL: MOIST IMPORTED COARSE MINERAL AGGREGATES			
TESTED BY: Y. MANGOMBA	DATE: 27 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:00	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	366.0		
MASS OF DRY SOIL AND CONTAINER (g)	322.5		
CONTAINER No.	GC8A		
MASS OF CONTAINER (g)	49.5		
MASS OF DRY SOIL (g)	273.0		
MASS OF WATER (g)	43.5		
MOISTURE CONTENT %	15.8		
NATURAL MOISTURE CONTENT :	15.8		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 04 / DEPTH 0.000 - 0.200m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC489 / 30MART19 / 1700	SAMPLE No: KAN-SUB / BH04 / NMC01 / 30MART19	
	SAMPLED BY: GEOCONSULT	DATE: 26 - 03 - 2019	TIME: 12:42
	LOCATION: 36L UTM	EASTING	NORTHING
	KANENGO SUBSTATION	0 585539	8 463534
TYPE OF MATERIAL: MOIST REDDISH BROWN SANDY SILTY CLAY WITH SPOTS OF HARD ROCK			
TESTED BY: Y. MANGOMBA	DATE: 27 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:00	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	320.5		
MASS OF DRY SOIL AND CONTAINER (g)	275.0		
CONTAINER No.	GC11		
MASS OF CONTAINER (g)	52.0		
MASS OF DRY SOIL (g)	223.0		
MASS OF WATER (g)	45.5		
MOISTURE CONTENT %	20.4		
NATURAL MOISTURE CONTENT :	20.4		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 04 / DEPTH 0.200 - 1.200m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC489 / 30MART19 / 1700	SAMPLE No: KAN-SUB / BH04 / NMC03 / 30MART19	
	SAMPLED BY: GEOCONSULT	DATE: 26 - 03 - 2019	TIME: 12:42
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
KANENGO SUBSTATION	0 585539	8 463534	1 103 (m) 1 200-2 200
TYPE OF MATERIAL: MOIST MOTTLED MICACIOUS DECOMPOSED ROCK			
TESTED BY: Y. NANGOMBA	DATE: 27 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:00	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	488.5		
MASS OF DRY SOIL AND CONTAINER (g)	402.5		
CONTAINER No.	GC111		
MASS OF CONTAINER (g)	50.0		
MASS OF DRY SOIL (g)	352.5		
MASS OF WATER (g)	86.0		
MOISTURE CONTENT %	24.5		
NATURAL MOISTURE CONTENT :	24.5		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 04 / DEPTH 1 200 - 2 200(m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC489 / 30MART19 / 1700	SAMPLE No: KAN-SUB / BH04 / NMC04 / 30MART19	
	SAMPLED BY: GEOCONSULT	DATE: 26 - 03 - 2019	TIME: 12:42
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
KANENGO SUBSTATION	0 585539	8 463534	1 103 (m) 2 200-4 000
TYPE OF MATERIAL: MOIST GREENISH GREY MICACIOUS DECOMPOSED ROCK			
TESTED BY: Y. NANGOMBA	DATE: 27 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:00	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	488.5		
MASS OF DRY SOIL AND CONTAINER (g)	434.5		
CONTAINER No.	GC1		
MASS OF CONTAINER (g)	70.5		
MASS OF DRY SOIL (g)	364.0		
MASS OF WATER (g)	54.0		
MOISTURE CONTENT %	28.7		
NATURAL MOISTURE CONTENT :	28.7		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 04 / DEPTH 2 200 - 4 000(m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC485/26MART19/1700	SAMPLE No: KAN-SUB /BH05 /NMC01 /26MART19	
	SAMPLED BY: GEOCONSULT	DATE: 26 - 03 - 2019	TIME: 12:42
	LOCATION: 36L UTM	EASTING	NORTHING
	KANENGO SUBSTATION	0 585448	8 463528
TYPE OF MATERIAL: MOIST IMPORTED TOP SOIL			
TESTED BY: Y. NANGOMBA	DATE: 27 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:00	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	366.0		
MASS OF DRY SOIL AND CONTAINER (g)	322.0		
CONTAINER No.	GC 3		
MASS OF CONTAINER (g)	49.5		
MASS OF DRY SOIL (g)	272.5		
MASS OF WATER (g)	44.0		
MOISTURE CONTENT %	15.8		
NATURAL MOISTURE CONTENT :	15.8		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 05 / DEPTH:0.000-0.200			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC485/26MART19/1700	SAMPLE No: KAN-SUB /BH05 /NMC02 /26MART19	
	SAMPLED BY: GEOCONSULT	DATE: 26 - 03 - 2019	TIME: 12:42
	LOCATION: 36L UTM	EASTING	NORTHING
	KANENGO SUBSTATION	0 585448	8 463528
TYPE OF MATERIAL: MOIST IMPORTED RED SANDY SILTY CLAY			
TESTED BY: Y. NANGOMBA	DATE: 27 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:00	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	301.0		
MASS OF DRY SOIL AND CONTAINER (g)	264.5		
CONTAINER No.	GC9		
MASS OF CONTAINER (g)	72.5		
MASS OF DRY SOIL (g)	192.0		
MASS OF WATER (g)	36.5		
MOISTURE CONTENT %	18.9		
NATURAL MOISTURE CONTENT :	18.9		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 05 / DEPTH:0.200-0.400			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC485/26MART19/1700	SAMPLE No: KAN-SUB /BH05 /NMC03 /26MART19	
	SAMPLED BY: GEOCONSULT	DATE: 26 - 03 - 2019	TIME: 12:42
	LOCATION: 36L UTM	EASTING	NORTHING
	KANENGO SUBSTATION	0 585448	8 463528
TYPE OF MATERIAL: MOIST DARK REDDISH SILTY SANDY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 27 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:00	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	320.5		
MASS OF DRY SOIL AND CONTAINER (g)	275.0		
CONTAINER No.	GC9		
MASS OF CONTAINER (g)	52.0		
MASS OF DRY SOIL (g)	223.0		
MASS OF WATER (g)	45.5		
MOISTURE CONTENT %	20.4		
NATURAL MOISTURE CONTENT :	20.4		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 05 / DEPTH:0.400-1.000			

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC485/26MART19/1700	SAMPLE No: KAN-SUB /BH05 /NMC04 /26MART19	
	SAMPLED BY: GEOCONSULT	DATE: 26 - 03 - 2019	TIME: 12:42
	LOCATION: 36L UTM	EASTING	NORTHING
	KANENGO SUBSTATION	0 585448	8 463528
TYPE OF MATERIAL: VERY MOIST DARK REDDISH SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 27 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:00	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	488.5		
MASS OF DRY SOIL AND CONTAINER (g)	402.0		
CONTAINER No.	GC15		
MASS OF CONTAINER (g)	50.0		
MASS OF DRY SOIL (g)	352.0		
MASS OF WATER (g)	86.5		
MOISTURE CONTENT %	24.5		
NATURAL MOISTURE CONTENT :	24.5		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 05 / DEPTH:1.000-2.600			

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC485/26MART19/1700	SAMPLE No: KAN-SUB /BH05 /NMC05 /26MART19	
	SAMPLED BY: GEOCONSULT	DATE: 26 - 03 - 2019	TIME: 12:42
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
KANENGO SUBSTATION	0 585448	8 463528	1 100 (m) 2,600-3,400
TYPE OF MATERIAL: VERY MOIST SOFT RED BLACKISH SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 27 - 03 - 2019	TIME: 09:30	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 10:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:01	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	288.5		
MASS OF DRY SOIL AND CONTAINER (g)	240.0		
CONTAINER No.	GC2		
MASS OF CONTAINER (g)	72.0		
MASS OF DRY SOIL (g)	168.0		
MASS OF WATER (g)	48.5		
MOISTURE CONTENT %	28.9		
NATURAL MOISTURE CONTENT :	28.9		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 05 / DEPTH: 2,600-3,400			

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC485/26MART19/1700	SAMPLE No: KAN-SUB /BH05 /NMC06 /26MART19	
	SAMPLED BY: GEOCONSULT	DATE: 26 - 03 - 2019	TIME: 12:42
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
KANENGO SUBSTATION	0 585448	8 463528	1 100 (m) 3,400-4,500
TYPE OF MATERIAL: MOIST SOFT BLACK SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 27 - 03 - 2019	TIME: 09:30	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 10:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:01	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	385.5		
MASS OF DRY SOIL AND CONTAINER (g)	308.5		
CONTAINER No.	GC7		
MASS OF CONTAINER (g)	72.0		
MASS OF DRY SOIL (g)	236.5		
MASS OF WATER (g)	77.0		
MOISTURE CONTENT %	32.6		
NATURAL MOISTURE CONTENT :	32.6		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 05 / DEPTH: 3,400-4,500			

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC485/26MART19/1700	SAMPLE No: KAN-SUB /BH05 /NMC07 /26MART19	
	SAMPLED BY: GEOCONSULT	DATE: 26 - 03 - 2019	TIME: 12:42
	LOCATION: 36L UTM	EASTING	NORTHING
	KANENGO SUBSTATION	0 585448	8 463528
TYPE OF MATERIAL: MOIST SOFT DARK REDDISH MICACIOUS SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 27 - 03 - 2019	TIME: 09:30	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 10:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:01	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	385.5		
MASS OF DRY SOIL AND CONTAINER (g)	325.5		
CONTAINER No.	GC15		
MASS OF CONTAINER (g)	70.5		
MASS OF DRY SOIL (g)	255.0		
MASS OF WATER (g)	60.0		
MOISTURE CONTENT %	30.3		
NATURAL MOISTURE CONTENT :	30.3		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 05 / DEPTH: 4.500-4.800			

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC485/26MART19/1700	SAMPLE No: KAN-SUB /BH05 /NMC08 /26MART19	
	SAMPLED BY: GEOCONSULT	DATE: 26 - 03 - 2019	TIME: 12:42
	LOCATION: 36L UTM	EASTING	NORTHING
	KANENGO SUBSTATION	0 585448	8 463528
TYPE OF MATERIAL: MOIST SOFT DECOMPOSED ROCK WITH MICA			
TESTED BY: Y. MANGOMBA	DATE: 27 - 03 - 2019	TIME: 09:30	
CHECKED BY: G. KACHIWALA	DATE: 28 - 03 - 2019	TIME: 10:00	
APPROVED BY: M. SABELLI	DATE: 28 - 03 - 2019	TIME: 10:01	
PROJECT: KANENGO SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	456.0		
MASS OF DRY SOIL AND CONTAINER (g)	385.0		
CONTAINER No.	GC6		
MASS OF CONTAINER (g)	73.0		
MASS OF DRY SOIL (g)	312.0		
MASS OF WATER (g)	71.0		
MOISTURE CONTENT %	34.6		
NATURAL MOISTURE CONTENT :	34.6		
REMARKS: SAMPLED FROM KANENGO SUBSTATION / BOREHOLE 05 / DEPTH: 4.800-7.000			

(3) 地質調査報告書 (オールドタウン変電所)

Contents

1. Site Investigations	1
1.1 Scope	1
1.2 Site and Testing Overview	1
2. Test Remarks	2
2.1 Atterburg Limits.....	2
2.2 Gradation.....	2
2.3 Bearing Capacity	3
2.4 UCS Rock Core	7
3. Summary	7
4. Appendix	8
4.1 Borehole Logs.....	8
4.2 Summary of Test Results.....	13
4.3 Atterburg Limits.....	18
4.4 Gradation.....	39
4.5 Natural Moisture Content.....	60
4.6 UCS Results	107

List of Figures

Figure 1: Boreholes Indicated in White.....	1
Figure 2: Borehole Setup and Sampling.....	7

List of Tables

Table 1: Borehole Coordinates.....	2
Table 2: Atterburg Limits.....	2
Table 3: BH01 Bearing Capacity and Friction Angle Against Depth.....	3
Table 4: BH02 Bearing Capacity and Friction Angle Against Depth.....	4
Table 5: BH03 Bearing Capacity and Friction Angle Against Depth.....	5
Table 6: BH04 Bearing Capacity and Friction Angle Against Depth.....	6
Table 7: UCS Results.....	7

List of Abbreviations

BH	Borehole
PI	Plasticity Index
SP	Slightly Plastic
MDD	Maximum Dry Density



GEOCONSULT

Yachiyo Engineering Co., Ltd.

**UPGRADING OF OLD TOWN
SUBSTATION**

BOREHOLE TEST RESULT SUMMARY



YACHIEYO ENGINEERING CO., LTD.
Consulting Engineers & Architects

1. Site Investigations

1.1 Scope

The scope of the project is to investigate the subsoil conditions to establish suitable bearing layer for a proposed upgrade of Old Town Substation in Lilongwe.

1.2 Site and Testing Overview

Site testing was limited to borehole investigations. Boreholes were to be drilled to a maximum depth of 10m unless rock was discovered, where a further 5.0m would be cored. The aim of the borehole investigations was to find a bearing strata of 5.0m.

The substation is located next to Lilongwe River in Area 3 of Lilongwe, the soil make up is that characteristically found around the river. Typically soil conditions within this area are comprised of alluvial soils and clay.

Figure 1 shows the location of the structures and the location of the borehole investigations.

Figure 1: Boreholes Indicated in White



Table 1: Borehole Coordinates

BH No.	Easting	Northing
01	0 583 278	8 453 100
02	0 583 282	8 453 078
03	0 583 306	8 453 072
04	0 583 295	8 453 081

2. Test Remarks

2.1 Atterburg Limits

Table 2: Atterburg Limits

Depth (m)	BH01 Plasticity Index	Depth (m)	BH02 Plasticity Index
0.0-0.18	22	0.0-0.5	25
0.18-0.54	31	0.5-2.0	32
0.54-2.0	34	2.0-5.0	31
2.0-3.1	29	5.0-6.0	33
3.1-6.0	23	6.0-7.0	20
		7.0-7.3	14
		7.3-7.9	28

Depth (m)	BH03 Plasticity Index	Depth (m)	BH04 Plasticity Index
0.0-0.5	16	0.0-0.13	21
0.5-2.0	27	0.13-0.9	37
2.0-5.0	36	0.9-2.0	38
		2.0-3.7	38
		3.7-6.0	21

Material recovered from the boreholes and trial pits showed high levels of plasticity up to a depth of 8.0m.

2.2 Gradation

Material recovered from BH3 and BH4 show to be a well graded sand, with approximately 30-40% of the material falling into the silt/clay designation. BH1 and BH2 however are primarily silt and clay based, with over 75% of the material passing the 0.075mm sieve. With the high PI values it can be assumed that a large portion is falling within the clay boundary.

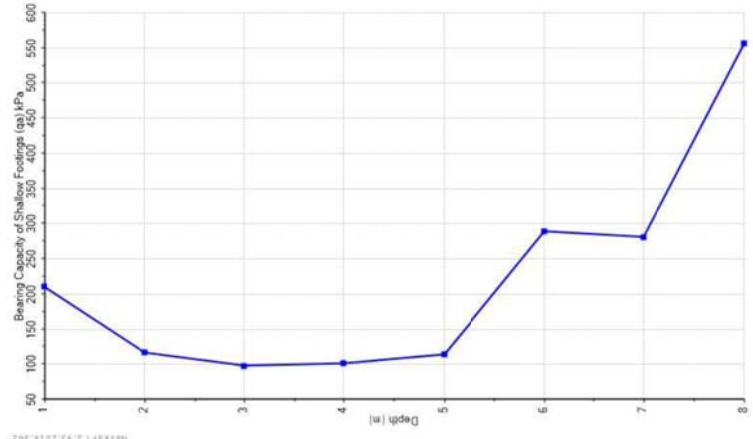
2.3 Bearing Capacity

Through SPT testing at 1 meter intervals, a bearing capacity against depth report was produced. Bearing capacity was calculated with Peck et al, 1974, and Peck, Hanson and Thornburg 1974 for friction angle calculations.

Table 3: BH01 Bearing Capacity and Friction Angle Against Depth

BH01		
Depth (m)	Bearing Capacity (kPa)	Friction angle (ϕ)
1.0	210	31
2.0	116	29
3.0	98	29
4.0	101	30
5.0	114	30
6.0	289	36
7.0	281	36
8.0	556	43

BH01 – Bearing Capacity



BH01 – Friction Angle

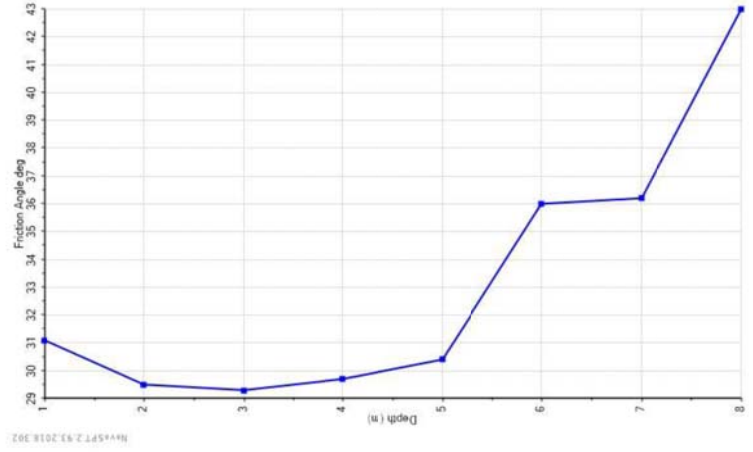
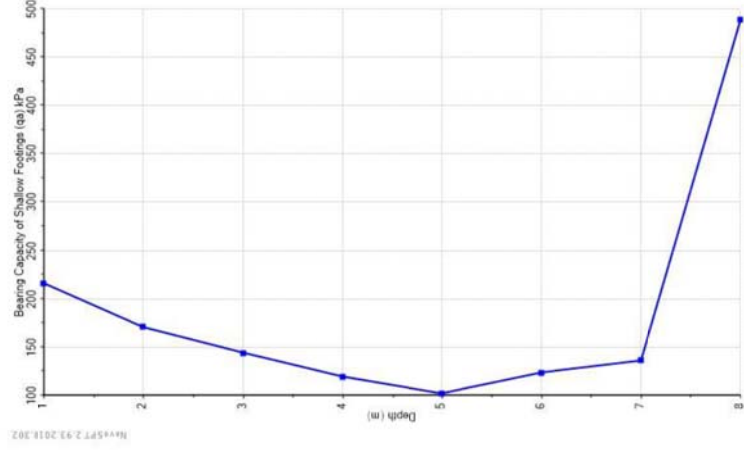


Table 4: BH02 Bearing Capacity and Friction Angle Against Depth

BH02		
Depth (m)	Bearing Capacity (kPa)	Friction angle (ϕ)
1.0	216	31
2.0	170	30
3.0	144	30
4.0	119	30
5.0	102	30
6.0	123	31
7.0	136	32
8.0	448	43

BH02 – Bearing Capacity



BH02 – Friction Angle

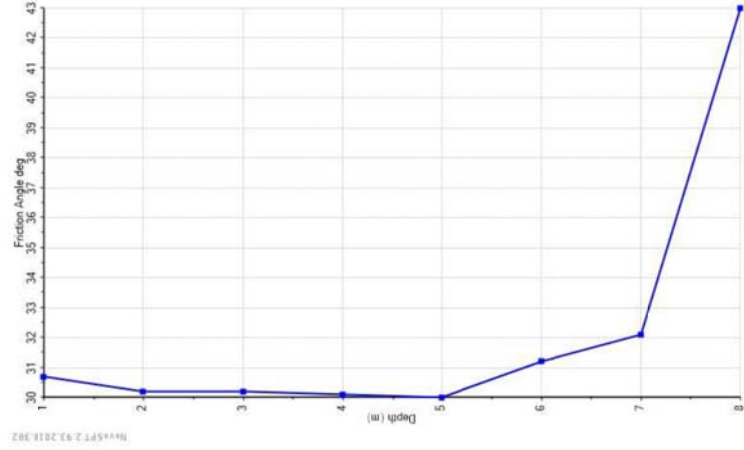
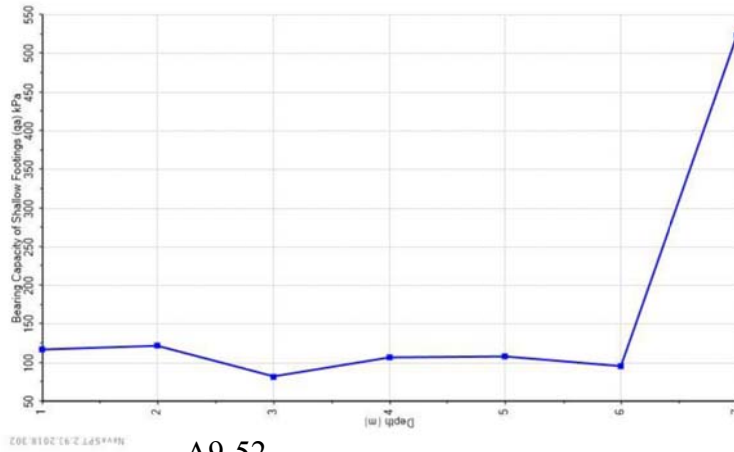


Table 5: BH03 Bearing Capacity and Friction Angle Against Depth

BH03		
Depth (m)	Bearing Capacity (kPa)	Friction angle (ϕ)
1.0	117	29
2.0	121	29
3.0	82	28
4.0	106	30
5.0	108	30
6.0	95	30
7.0	523	43

BH03 – Bearing Capacity



BH03 – Friction Angle

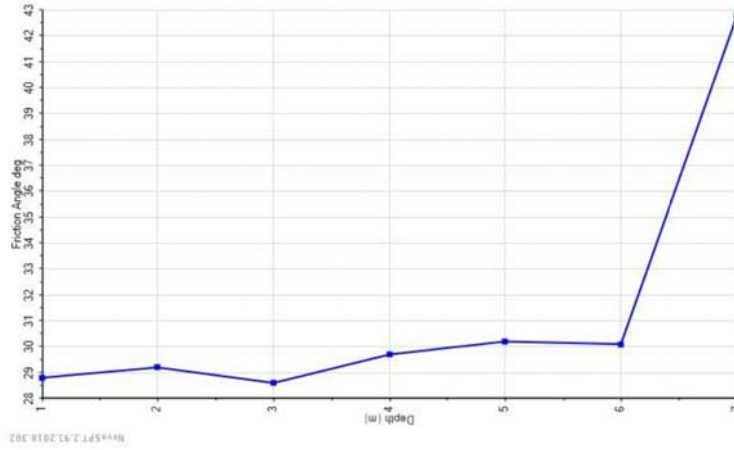
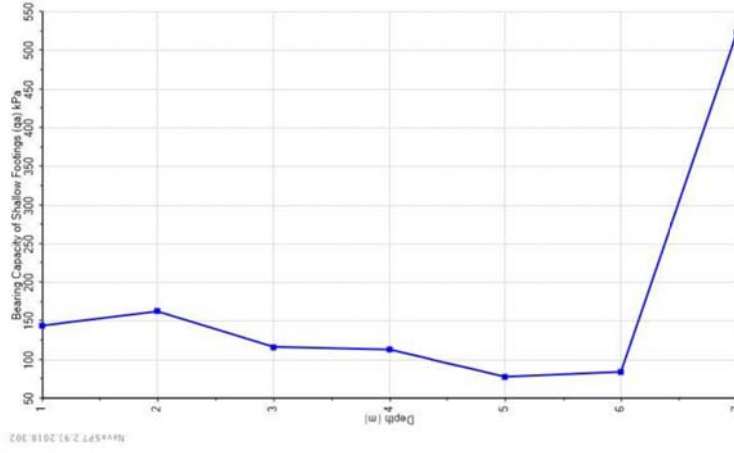


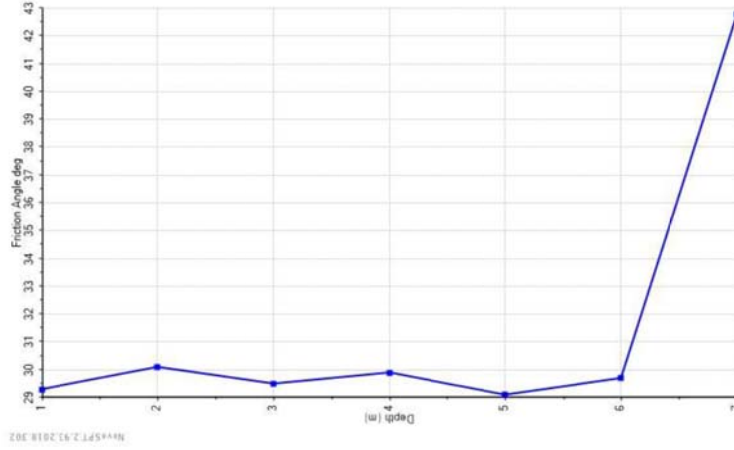
Table 6: BH04 Bearing Capacity and Friction Angle Against Depth

BH04		
Depth (m)	Bearing Capacity (kPa)	Friction angle (ϕ)
1.0	144	29
2.0	162	30
3.0	116	29
4.0	113	30
5.0	78	29
6.0	84	30
7.0	523	43

BH04 – Bearing Capacity



BH04 – Friction Angle



4. Appendix
4.1 Borehole Logs

2.4 UCS Rock Core
 Due to non-recovery of core sample at BH 02 and small fractures found on samples recovered from BH03, only BH01 and BH04 were tested.

Results from the tests are as follows:

Table 7: UCS Results

	BH01 - 8.0M	BH04 - 9.0M
Compressive Strength (Mpa)	48.7	34.4

3. Summary

Borehole logs show moderate to low SPT values for the initial 5.0m, after which the insitu strength improves slightly to N numbers of 20+. Bearing capacity ranges between 120-220 kPa for the first 2.0m with a weaker layer found at 3.0m at BH01 and BH03.

Granite bedrock is found at depths of 7-8.0m and has a layer thickness of greater than 5.0m, the UCS results from the core samples show core strengths between 48.7 to 34.4 Mpa.

Current soil properties are not suitable for construction as the material has high PI values and high clay content. Due to the average bearing capacity found at 1-2.0m it is recommended that the foundation be built on compacted imported gravel fill to mitigate the expansive properties of the insitu material as well as increase the bearing capacity.



Figure 2: Borehole Setup and Sampling



BOREHOLE LOG O.T. BH01

PROJECT NUMBER BH01
PROJECT NAME COORDINATES 36L 583278, 8453100
CLIENT YEC COORD SYS UTM
ADDRESS MALAWI
DRILLING DATE 18/03/18
COMPLETION 19/03/18
DIAMETER 150
CASING Steel
DEPTH 9.0M
SURFACE ELEVATION 1025m

LOGGED BY G.K.
CHECKED BY M. Sabelli

Drilling Method	RQD %	% Recovered	SPT	Water Level	Depth (m)	Graphic Log	Elevation (m)	Moisture	Material Description
PERCUSSIVE					0.5		1024.5	MST	Blackish brown sandy silty CLAY
			6.13.13		1		1024		Dark reddish sandy silty CLAY
			7.8.9		1.5		1023.5		
			6.7.9		2		1023		Red blackish sandy silty CLAY
			5.7.10		2.5		1022.5		
			7.9.10		3		1022		Mottled sandy silty CLAY
			10.18.31		3.5		1021.5		
			11.21.28		4		1021		
			17.55++ PEN50		4.5		1020.5		
					5		1020		
					5.5		1019.5		
					6		1019		
					6.5		1018.5		
					7		1018		
					7.5		1017.5		
					8		1017		WEATHERED ROCK
CORING	54%	60%			8.5		1016.5		ROCK: GRANITE
					9		1016		Termination Depth at: 9.0 m

Comments: Water level measured after 24h
Remarks: No water encountered
 produced by ESlog.ESdat.net on 18 Mar 2019



BOREHOLE LOG OLD TOWN BH2

PROJECT NUMBER BH02
PROJECT NAME COORDINATES 36L 583282, 8453078
CLIENT YEC COORD SYS UTM
ADDRESS MALAWI
DRILLING DATE 17/10/16
COMPLETION 17/10/16
DIAMETER 150
CASING Steel
DEPTH 8.5M
SURFACE ELEVATION 1026M

LOGGED BY G.K.
CHECKED BY M. Sabelli

Drilling Method	RQD %	% Recovered	SPT	Water Level	Depth (m)	Graphic Log	Elevation (m)	Moisture	Material Description
PERCUSSIVE					0.5		1025.5	M	Dark brown sandy silty CLAY
			7.9.15		1		1025		Light brow sandy silty CLAY
			7.9.12		1.5		1024.5		
			7.10.11		2		1024		Stiff brown yellowish sandy silty CLAY
			6.9.10		2.5		1023.5		
			6.7.10		3		1023		
			6.8.14		3.5		1022.5		
			6.7.10		4		1022		
			6.7.10		4.5		1021.5		
			6.8.14		5		1021		Stiff mottled sandy silty CLAY
			6.8.14		5.5		1020.5		
			6.8.14		6		1020		Mottled silty sandy CLAY
			6.12.14		6.5		1019.5		
			55++ PEN 130		7		1019		Mottled silty sandy CLAY with spots of mica
					7.5		1018.5		
ROTARY	6%	6%			8		1018		Rock - No Recovery
					8.5		1017.5		Termination Depth at: 8.5m

Comments: Water level measured after 24h
Remarks: No water encountered
 produced by ESlog.ESdat.net on 18 Mar 2019



BOREHOLE LOG O.T. BH03

PROJECT NUMBER BH03
DRILLING DATE 24/03/18
COORDINATES 36L 583306, 8453072
COMPLETION 25/03/18
COORD SYS UTM
CLIENT YEC MALAWI
ADDRESS Steel
DIAMETER 150
TOTAL DEPTH 7.5M
SURFACE ELEVATION 1023m

LOGGED BY G.K.
CHECKED BY M. Sabelli
 Comments: Water level measured after 24h

Drilling Method	RQD %	% Recovered	SPT	Water Level	Depth (m)	Graphic Log	Elevation (m)	Moisture	Material Description
PERCUSSIVE			5.5.8		0.5		1022.5	MST	Black sandy silty CLAY
			5.6.9		1		1022		Greyish brown sandy silty CLAY
					1.5		1021.5		
					2		1021		
					2.5		1020.5		
					3		1020		
					3.5		1019.5		
					4		1019		Black sandy silty CLAY
					4.5		1018.5		
					5		1018		
					5.5		1017.5		
					6		1017		
					6.5		1016.5		
					7		1016		ROCK: GRANITE
CORING	90%	100%	5.55++ PEN 260		7.5		1015.5		Termination Depth at: 7.5 m

Remarks: Water encountered at 6.0m
 produced by ESlog.ESdat.net on 26 Mar 2019



BOREHOLE LOG O.T. BH04

PROJECT NUMBER BH04
DRILLING DATE 23/03/18
COORDINATES 36L 583295, 845301
COMPLETION 24/03/18
COORD SYS UTM
CLIENT YEC MALAWI
ADDRESS Steel
DIAMETER 150
TOTAL DEPTH 12.0M
SURFACE ELEVATION 1040m

LOGGED BY G.K.
CHECKED BY M. Sabelli
 Comments: Water level measured after 24h

Drilling Method	RQD %	% Recovered	SPT	Water Level	Depth (m)	Graphic Log	Elevation (m)	Moisture	Material Description
PERCUSSIVE			5.6.10		0.5		1039.5	MST	Black sandy silty CLAY
			5.9.11		1		1039		Black greyish sandy silty CLAY
					1.5		1038.5		
					2		1038		Greyish brown sandy silty CLAY
					2.5		1037.5		
					3		1037		
					3.5		1036.5		
					4		1036		Brown sandy silty CLAY with sections of black cotton soil
					4.5		1035.5		
					5		1035		
					5.5		1034.5		
					6		1034		
					6.5		1033.5		
					7		1033		ROCK: GRANITE
					7.5		1032.5		
					8		1032		
					8.5		1031.5		
					9		1031		
					9.5		1030.5		
					10		1030		
					10.5		1029.5		
					11		1029		
					11.5		1028.5		
					12		1028		Termination Depth at: 9.0 m
					12.5		1027.5		

Remarks: Water encountered at 6.0m
 produced by ESlog.ESdat.net on 26 Mar 2019




GEOCONSULT


LAB. REF. No. GC479 / 11APRIL16 / 09:14		SAMPLE No. OLD-TOWN SUBSTATION / BH01 / G, AL, NMC	
SAMPLED BY: GEOCONSULT LABORATORY TEAM		DATE: 11 / 04 / 2019	TIME: 09:14
LOCATION:	EASTING	NORTHING	ELEVATION (m)
LILONGWE OLD TOWN SUBSTATION	0 583 278	8 453 100	1 025
DEPTH (m)			
TYPE OF MATERIAL:			
TEST STANDARD: BS 1377			
TESTED BY: GEOCONSULT LABORATORY TEAM		DATE: 11 / 04 / 2019	TIME: 09:14
CHECKED BY: G. L. KACHIWALA		DATE: 12 / 04 / 2019	TIME: 08:06
APPROVED: M. SABELLI		DATE: 12 / 04 / 2019	TIME: 14:00

PROJECT: OLD TOWN SUBSTATION CLIENT: YEC


SUMMARY OF TEST RESULTS																
LAB. REFERENCE No.	DEPTH (m)	BH No.	SIEVE ANALYSIS			LL %	PI %	LS %	LS / P	Classification	MDD Kg/m ³	OMC %	NMC	FI	Swell %	REMARKS
			2.36 pass	0.425 pass	0.075 pass											
GC479 / BH 01	0.000 - 0.180	1	98	88	75	40.6	22	11.1	977				28.9	1650		G, AL, NMC
GC479 / BH 01	0.180 - 0.540	1	99	95	84	55.3	31	12.9	1226				30.4	2604		G, AL, NMC
GC479 / BH 01	0.540 - 2.000	1	100	92	52	55.2	34	12.9	1187				29.5	1768		G, AL, NMC
GC479 / BH 01	2.000 - 3.100	1	100	99	94	53.3	29	12.9	1277				29.0	2726		G, AL, NMC
GC479 / BH 01	3.100 - 6.000	1	100	99	94	44.4	23	12.9	1277				26.0	2162		G, AL, NMC
GC479 / BH 01	SPT @ 1.000	1											30.2			NMC
GC479 / BH 01	SPT @ 2.000	1											29.4			NMC
GC479 / BH 01	SPT @ 3.000	1											27.2			NMC
GC479 / BH 01	SPT @ 4.000	1											22.1			NMC
GC479 / BH 01	SPT @ 5.000	1											23.3			NMC
GC479 / BH 01	SPT @ 7.000	1											15.1			NMC


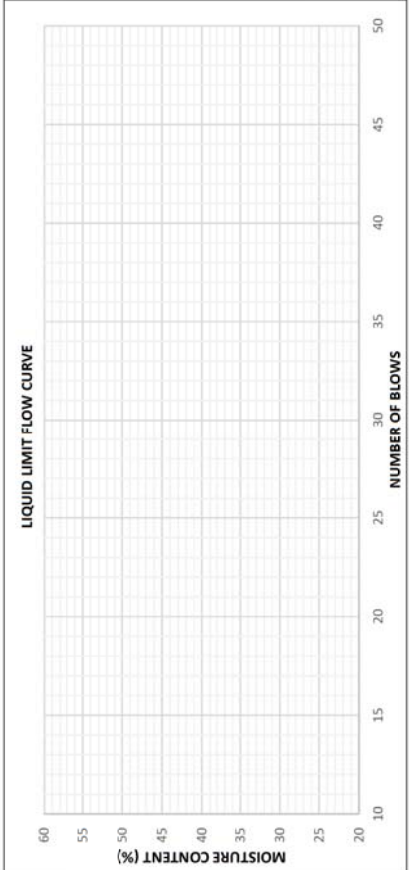
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION @ BOREHORE NUMBER 01


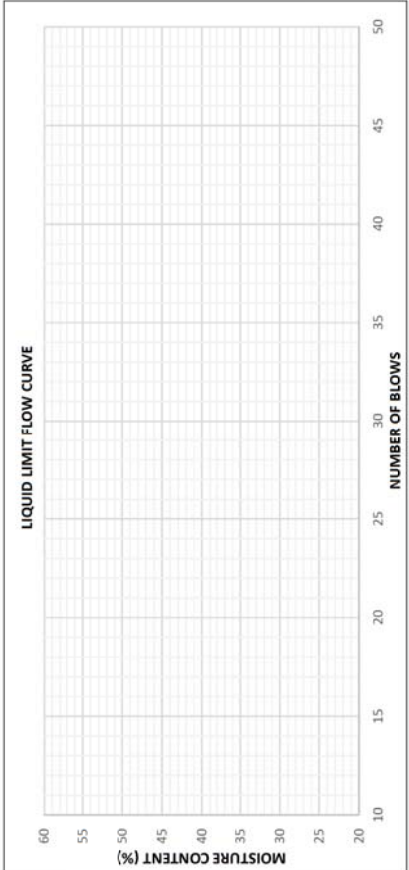
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	SAMPLED BY: GEOCONSULT LAEORATORY TEAM		DATE: 11 / 04 / 2019	TIME: 10:40														
	LOCATION:		EASTING	NORTHING	ELEVATION (m)	DEPTH (m)												
	LILONGWE OLD TOWN SUBSTATION		0 583 306	8 453 072	1 023													
	TYPE OF MATERIAL:																	
TEST STANDARD: BS 1377																		
TESTED BY: GEOCONSULT LABORATORY TEAM			DATE: 11 / 04 / 2019	TIME: 10:40														
CHECKED BY: G. L. KACHIWALA			DATE: 12 / 04 / 2019	TIME: 08:06														
APPROVED: M. SABELLI			DATE: 12 / 04 / 2019	TIME: 14:00														
PROJECT: OLD TOWN SUBSTATION			CLIENT: YEC															
SUMMARY OF TEST RESULTS																		
LAB. REFERENCE No.	DEPTH (m)	BH No.	SIEVE ANALYSIS			LL %	PI %	LS %	LS / P	Classification	MDD Kg/m ³	OMC %	NMC	FI	CBR		Swell %	REMARKS
			2.36 pass	0.425 pass	0.075 pass										@ 95	@ 98		
GC479 / BH 03	0.000 - 0.140	3	93	65	40	31.4	16	6.1	397	A - 6 (2)			15.9	640				G, AL, NMC
GC479 / BH 03	0.140-0.70	3	97	75	56	58.3	27	12.9	968	A - 7 - 6(12)			27.3	1512				G, AL, NMC
GC479 / BH 03	0.7-4.0	3	97	76	57	63.6	36	16.7	1269	A - 7 - 6 (15)			30.8	2052				G, AL, NMC
GC479 / BH 03	SPT @ 1.000	3											31.1					NMC
GC479 / BH 03	SPT @ 2.000	3											32.8					NMC
GC479 / BH 03	SPT @ 3.000	3											30.3					NMC
GC479 / BH 03	SPT @ 4.000	3											31.8					NMC
GC479 / BH 03	SPT @ 5.000	3											22.6					NMC
GC479 / BH 03	SPT @ 6.000	3											18.7					NMC
GC479 / BH 03	SPT @ 7.000	3											29.3					NMC
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION @ BOREHORE NUMBER 03																		

 GEOCONSULT	LAB. REF. No. GC479 / 11APRIL16 / 09:36		SAMPLE No. OLD-TOWN SUBSTATION / BH02 / G, AL, NMC															
	SAMPLED BY: GEOCONSULT LAEORATORY TEAM		DATE: 11 / 04 / 2019	TIME: 09:36														
	LOCATION:		EASTING	NORTHING	ELEVATION (m)	DEPTH (m)												
	LILONGWE OLD TOWN SUBSTATION		0 583 282	8 453 078	1 026													
	TYPE OF MATERIAL:																	
TEST STANDARD: BS 1377																		
TESTED BY: GEOCONSULT LABORATORY TEAM			DATE: 11 / 04 / 2019	TIME: 09:36														
CHECKED BY: G. L. KACHIWALA			DATE: 12 / 04 / 2019	TIME: 08:06														
APPROVED: M. SABELLI			DATE: 12 / 04 / 2019	TIME: 14:00														
PROJECT: OLD TOWN SUBSTATION			CLIENT: YEC															
SUMMARY OF TEST RESULTS																		
LAB. REFERENCE No.	DEPTH (m)	BH No.	SIEVE ANALYSIS			LL %	PI %	LS %	LS / P	Classification	MDD Kg/m ³	OMC %	NMC	FI	CBR		Swell %	REMARKS
			2.36 pass	0.425 pass	0.075 pass										@ 95	@ 98		
GC479 / BH 02	0.000 - 0.500	2	100	96	89	49.3	25	10.2	979	A - 7 - 6 (16)			25.3	2225				G, AL, NMC
GC479 / BH 02	0.500 - 2.000	2	99	87	75	56.5	32	12.9	1122	A - 7 - 6 (19)			23.1	2400				G, AL, NMC
GC479 / BH 02	2.000 - 5.000	2	100	92	64	53.6	31	10.2	938	A - 7 - 6 (16)			25.9	1984				G, AL, NMC
GC479 / BH 02	5.000 - 6.000	2	100	90	50	53.6	33	14.8	1332	A - 7 - 6 (11)			25.9	1650				G, AL, NMC
GC479 / BH 02	6.000 - 7.000	2	95	79	38	39.8	20	10.2	806	A - 6 (3)			18.2	760				G, AL, NMC
GC479 / BH 02	7.000 - 7.300	2	100	96	83	31.0	14	7.7	739	A - 6 (8)			23.8	1162				G, AL, NMC
GC479 / BH 02	7.300 - 7.900	2	98	69	39	55.2	28	11.1	766	A - 7 - 6 (5)			20.0	1062				G, AL, NMC
GC479 / BH 02	SPT @ 1.000	2											27.6					NMC
GC479 / BH 02	SPT @ 2.000	2											26.1					NMC
GC479 / BH 02	SPT @ 3.000	2											24.0					NMC
GC479 / BH 02	SPT @ 4.000	2											16.8					NMC
GC479 / BH 02	SPT @ 5.000	2											31.1					NMC
GC479 / BH 02	SPT @ 6.000	2											21.3					NMC
GC479 / BH 02	SPT @ 7.000	2											14.4					NMC
GC479 / BH 02	SPT @ 7.900	2											14.4					NMC
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION @ BOREHORE NUMBER 02																		

4.3 Atterburg Limits

 GEOCONSULT	LAB. REF. No. GC479 / 11APRIL16 / 10:49		SAMPLE No. OLD-TOWN SUBSTATION / BH04 / G, AL, NMC															
	SAMPLED BY: GEOCONSULT LABORATORY TEAM		DATE: 11 / 04 / 2019	TIME: 10:49														
	LOCATION:	EASTING	NORTHING	ELEVATION (m)	DEPTH (m)													
	LILONGWE OLD TOWN SUBSTATION	0 583 295	8 453 081	1 040														
	TYPE OF MATERIAL:																	
	TEST STANDARD: BS 1377																	
	TESTED BY: GEOCONSULT LABORATORY TEAM		DATE: 11 / 04 / 2019	TIME: 10:49														
CHECKED BY: G. L. KACHIWALA		DATE: 12 / 04 / 2019	TIME: 08:06															
APPROVED: M. SABELLI		DATE: 12 / 04 / 2019	TIME: 14:00															
PROJECT: OLD TOWN SUBSTATION			CLIENT: YEC															
SUMMARY OF TEST RESULTS																		
LAB. REFERENCE No.	DEPTH (m)	BH No.	SIEVE ANALYSIS			LL %	PI	LS %	LS / P	Classification	MDD Kg/m ³	OMC %	NMC	FI	CBR		Swell %	REMARKS
			2.36 pass	0.425 pass	0.075 pass										@ 95	@ 98		
GC479 / BH 04	0.000 - 0.130	4	100	94	62	43.4	21	11.1	1043			25.8	13C2					G, AL, NMC
GC479 / BH 04	0.130 - 0.900	4	99	66	46	62.2	37	15.7	1036			25.6	17C2					G, AL, NMC
GC479 / BH 04	0.900 - 2.000	4	94	64	48	64.8	38	12.0	768			32.2	1624					G, AL, NMC
GC479 / BH 04	2.000 - 3.700	4	99	81	62	64.4	38	20.7	1718			32.9	13C2					G, AL, NMC
GC479 / BH 04	3.700 - 6.000	4	97	83	36	47.3	21	12.0	992			26.6	1368					G, AL, NMC
GC479 / BH 04	SPT @ 1.000	4										31.6						NMC
GC479 / BH 04	SPT @ 2.000	4										31.8						NMC
GC479 / BH 04	SPT @ 3.000	4										31.0						NMC
GC479 / BH 04	SPT @ 4.000	4										26.7						NMC
GC479 / BH 04	SPT @ 5.000	4										25.1						NMC
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION @ BOREHORE NUMBER 04																		

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC458 / 18MAR19 / 18:00	SAMPLE No. OT-SUB / BH01 / AL01 / 18MAR19																							
	SAMPLED BY: GEOCONSULT	DATE: 18 - 03 - 2019	TIME: 12:42																						
LOCATION: 36L UTM	EASTING	NORTHING	ELEVATION																						
OLD TOWN SUBSTATION	0 583 278	8 453 100	1 025 (m)																						
TYPE OF MATERIAL: MOIST BLACKISH BROWN SANDY SILTY CLAY			DEPTH (m)																						
			0.000-0.180																						
TESTED BY: S. THANGATO			DATE: 28 - 03 - 2019																						
CHECKED BY: G. KACHIWALA			DATE: 01 - 04 - 2019																						
APPROVED BY: M. SABELLI			DATE: 01 - 04 - 2019																						
PROJECT: OLD TOWN SUBSTATION			CLIENT: YEC																						
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)																									
TEST No.	LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)																					
	1	2	3	4	1	2	3																		
CONTAINER No.	R8	C4			C18	C27	C12																		
MASS OF WET SOIL + CONTAINER(g)	57.0	40.0			38.5	39.0	44.0																		
MASS OF DRY SOIL + CONTAINER(g)	49.5	35.5			36.5	37.5	42.0																		
MASS OF CONTAINER (g)	30	25			26.5	29	30.5																		
MASS OF DRY SOIL (g)	19.5	10.5			10.0	8.5	11.5																		
MASS OF WATER (g)	7.50	4.50			2.00	1.50	2.00																		
MOISTURE CONTENT %	38.5	38.8			42.4	17.6	17.4																		
No. BLOWS	27	23			20.0	18.3																			
<table border="1"> <tr> <td>LINEAR SHRINKAGE</td> <td>5</td> </tr> <tr> <td>INITIAL LENGTH OF SPECIMEN (cm)</td> <td>14.0</td> </tr> <tr> <td>LENGTH OF OVERN DRY SPECIMEN (cm)</td> <td>12.6</td> </tr> <tr> <td>LINEAR SHRINKAGE %</td> <td>11.1</td> </tr> <tr> <td>LIQUID LIMIT (LL) %</td> <td>40.6</td> </tr> <tr> <td>PLASTIC LIMIT (PL) %</td> <td>18.3</td> </tr> <tr> <td>PLASTICITY INDEX (PI)</td> <td>22</td> </tr> <tr> <td>NATURAL MOISTURE CONTENT %</td> <td>28.9</td> </tr> <tr> <td>FINENESS INDEX</td> <td>1650.0</td> </tr> </table>								LINEAR SHRINKAGE	5	INITIAL LENGTH OF SPECIMEN (cm)	14.0	LENGTH OF OVERN DRY SPECIMEN (cm)	12.6	LINEAR SHRINKAGE %	11.1	LIQUID LIMIT (LL) %	40.6	PLASTIC LIMIT (PL) %	18.3	PLASTICITY INDEX (PI)	22	NATURAL MOISTURE CONTENT %	28.9	FINENESS INDEX	1650.0
LINEAR SHRINKAGE	5																								
INITIAL LENGTH OF SPECIMEN (cm)	14.0																								
LENGTH OF OVERN DRY SPECIMEN (cm)	12.6																								
LINEAR SHRINKAGE %	11.1																								
LIQUID LIMIT (LL) %	40.6																								
PLASTIC LIMIT (PL) %	18.3																								
PLASTICITY INDEX (PI)	22																								
NATURAL MOISTURE CONTENT %	28.9																								
FINENESS INDEX	1650.0																								
 <p>LIQUID LIMIT FLOW CURVE</p> <p>MOISTURE CONTENT (%) vs NUMBER OF BLOWS</p>																									
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / DEPTH 0.000 - 0.180 (m)																									

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC458 / 18MAR19 / 18:00	SAMPLE No. OT-SUB / BH01 / AL02 / 18MAR19																							
	SAMPLED BY: GEOCONSULT	DATE: 18 - 03 - 2019	TIME: 12:42																						
LOCATION: 36L UTM	EASTING	NORTHING	ELEVATION																						
OLD TOWN SUBSTATION	0 583 278	8 453 100	1 025 (m)																						
TYPE OF MATERIAL: MOIST BLACK SANDY SILTY CLAY			DEPTH (m)																						
			0.180-0.540																						
TESTED BY: S. THANGATO			DATE: 28 - 03 - 2019																						
CHECKED BY: G. KACHIWALA			DATE: 01 - 04 - 2019																						
APPROVED BY: M. SABELLI			DATE: 01 - 04 - 2019																						
PROJECT: OLD TOWN SUBSTATION			CLIENT: YEC																						
ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)																									
TEST No.	LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)																					
	1	2	3	4	1	2	3																		
CONTAINER No.	C31	R44			R14	C13	K3																		
MASS OF WET SOIL + CONTAINER(g)	47.5	43.0			38.5	38.0	40.5																		
MASS OF DRY SOIL + CONTAINER(g)	41.5	37.5			36.5	36.0	38.5																		
MASS OF CONTAINER (g)	30	28			28	28	30																		
MASS OF DRY SOIL (g)	11.5	9.5			8.5	8.0	8.5																		
MASS OF WATER (g)	6.00	5.50			2.00	2.00	2.00																		
MOISTURE CONTENT %	52.2	53.2			57.3	23.5	23.5																		
No. BLOWS	31	22			24.0																				
<table border="1"> <tr> <td>LINEAR SHRINKAGE</td> <td>3</td> </tr> <tr> <td>INITIAL LENGTH OF SPECIMEN (cm)</td> <td>14.0</td> </tr> <tr> <td>LENGTH OF OVERN DRY SPECIMEN (cm)</td> <td>12.4</td> </tr> <tr> <td>LINEAR SHRINKAGE %</td> <td>12.9</td> </tr> <tr> <td>LIQUID LIMIT (LL) %</td> <td>55.3</td> </tr> <tr> <td>PLASTIC LIMIT (PL) %</td> <td>24.0</td> </tr> <tr> <td>PLASTICITY INDEX (PI)</td> <td>31</td> </tr> <tr> <td>NATURAL MOISTURE CONTENT %</td> <td>30.4</td> </tr> <tr> <td>FINENESS INDEX</td> <td>2604.0</td> </tr> </table>								LINEAR SHRINKAGE	3	INITIAL LENGTH OF SPECIMEN (cm)	14.0	LENGTH OF OVERN DRY SPECIMEN (cm)	12.4	LINEAR SHRINKAGE %	12.9	LIQUID LIMIT (LL) %	55.3	PLASTIC LIMIT (PL) %	24.0	PLASTICITY INDEX (PI)	31	NATURAL MOISTURE CONTENT %	30.4	FINENESS INDEX	2604.0
LINEAR SHRINKAGE	3																								
INITIAL LENGTH OF SPECIMEN (cm)	14.0																								
LENGTH OF OVERN DRY SPECIMEN (cm)	12.4																								
LINEAR SHRINKAGE %	12.9																								
LIQUID LIMIT (LL) %	55.3																								
PLASTIC LIMIT (PL) %	24.0																								
PLASTICITY INDEX (PI)	31																								
NATURAL MOISTURE CONTENT %	30.4																								
FINENESS INDEX	2604.0																								
 <p>LIQUID LIMIT FLOW CURVE</p> <p>MOISTURE CONTENT (%) vs NUMBER OF BLOWS</p>																									
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / DEPTH 0.180 - 0.540 (m)																									

LAB REF: GC458 / 18MAR19 / 18:00 SAMPLE No. OT-SUB / BH01 / AL03 / 18MAR19
 SAMPLED BY: GEOCONSULT DATE: 18 - 03 - 2019 TIME: 13:14
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 OLD TOWN SUBSTATION 0 583 278 8 453 100 1 025 (m) 0.540-2.000
 TYPE OF MATERIAL: MOIST DARK REDDISH SANDY SILTY CLAY

TESTED BY: S. THANGATO DATE: 28 - 03 - 2019 TIME: 15:39
 CHECKED BY: G. KACHIWALA DATE: 01 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 01 - 04 - 2019 TIME: 14:18
 PROJECT: OLD TOWN SUBSTATION CLIENT: YEC

LAB REF: GC458 / 18MAR19 / 18:00 SAMPLE No. OT-SUB / BH01 / AL04 / 18MAR19
 SAMPLED BY: GEOCONSULT DATE: 18 - 03 - 2019 TIME: 13:14
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 OLD TOWN SUBSTATION 0 583 278 8 453 100 1 025 (m) 2.000-3.100
 TYPE OF MATERIAL: MOIST RED BLACKISH SANDY SILTY CLAY

TESTED BY: S. MATCHADO DATE: 01 - 04 - 2019 TIME: 15:39
 CHECKED BY: G. KACHIWALA DATE: 09 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 09 - 04 - 2019 TIME: 14:18
 PROJECT: OLD TOWN SUBSTATION CLIENT: YEC

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

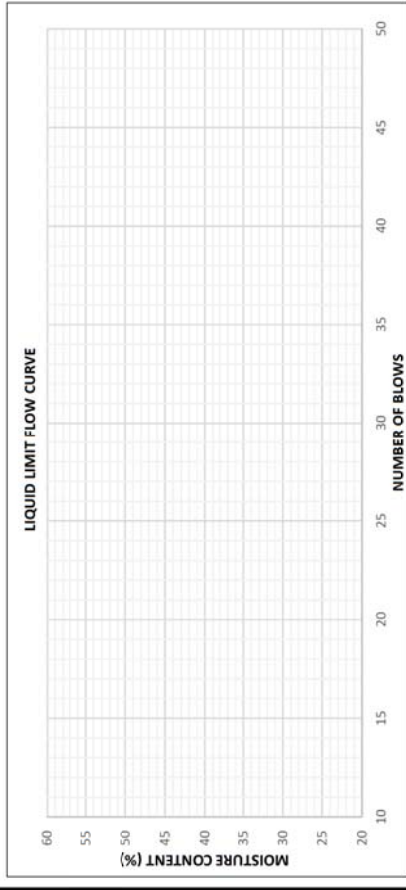
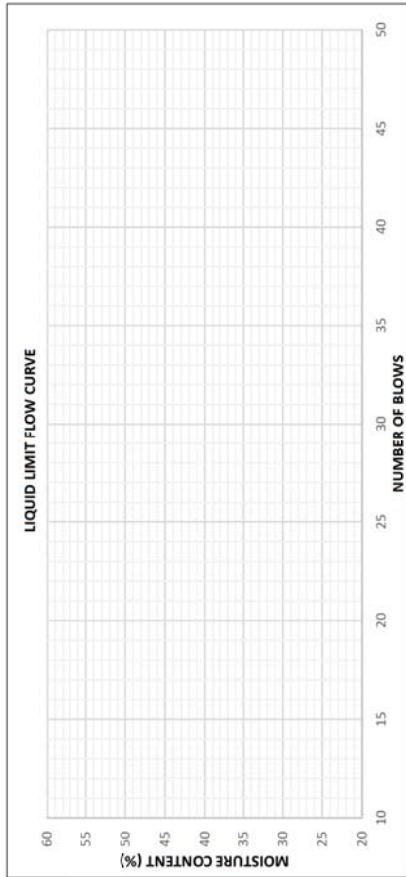
TEST No.	LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
	1	2	3	1	2	3
CONTAINER No.	C1	R6	C4	C9	C4	C16
MASS OF WET SOIL + CONTAINER(g)	62.5	63.0	43.5	37.0	43.0	43.0
MASS OF DRY SOIL + CONTAINER(g)	52.5	50.5	41.0	35.0	40.5	40.5
MASS OF CONTAINER (g)	34.5	29.5	30	25	28.5	28.5
MASS OF DRY SOIL (g)	18.0	21.0	11.0	10.0	12.0	12.0
MASS OF WATER (g)	10.00	12.50	2.50	2.00	2.50	2.50
MOISTURE CONTENT %	55.6	53.9	56.5	22.7	20.0	20.8
No. BLOWS	19	15				21.2

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

TEST No.	LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
	1	2	3	1	2	3
CONTAINER No.	C19	R7		J	M	K
MASS OF WET SOIL + CONTAINER(g)	51.5	54.0		38.5	43.5	41.0
MASS OF DRY SOIL + CONTAINER(g)	42.5	45.5		36.0	40.0	38.0
MASS OF CONTAINER (g)	25	29.5		25.5	26	26
MASS OF DRY SOIL (g)	17.5	16.0		10.5	14.0	12.0
MASS OF WATER (g)	9.00	8.50		2.50	3.50	3.00
MOISTURE CONTENT %	51.4	53.0		23.8	25.0	25.0
No. BLOWS	35	28				24.6


LINEAR SHRINKAGE	1
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	12.4
LINEAR SHRINKAGE %	12.9
LIQUID LIMIT (LL) %	55.2
PLASTIC LIMIT (PL) %	21.2
PLASTICITY INDEX (PI)	34
NATURAL MOISTURE CONTENT %	29.5
FINENESS INDEX	1768.0

LINEAR SHRINKAGE	2
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	12.4
LINEAR SHRINKAGE %	12.9
LIQUID LIMIT (LL) %	53.3
PLASTIC LIMIT (PL) %	24.6
PLASTICITY INDEX (PI)	29
NATURAL MOISTURE CONTENT %	29.0
FINENESS INDEX	2726.0



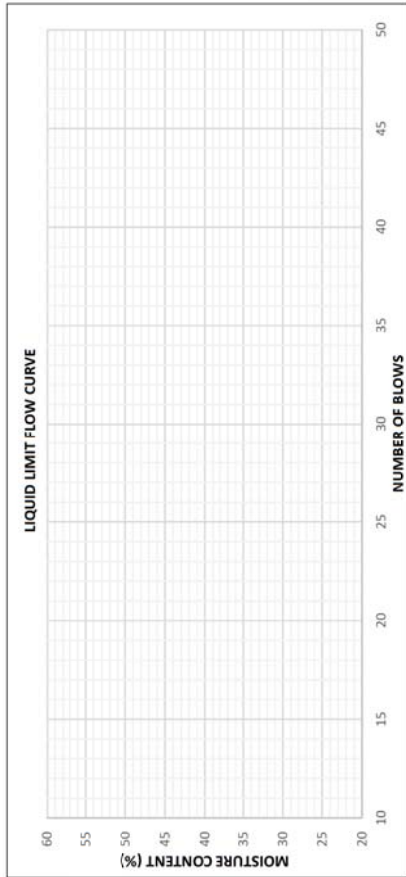
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / DEPTH 0.540 - 2.000 (m)

REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / DEPTH 2.000 - 3.100 (m)

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.cc</p>	LAB REF: GC458 / 18MAR19 / 18:00		SAMPLE No. OT-SUB / BH01 / AL05 / 18MAR19		
	SAMPLED BY: GEOCONSULT		DATE: 18 - 03 - 2019		
LOCATION: 36L UTM		EASTING		NORTHING	
OLD TOWN SUBSTATION		0 583 278		8 453 100	
TYPE OF MATERIAL: MOIST MOLTILED SANDY SILTY CLAY					
TESTED BY: S. MATCHADO		DATE: 01 - 04 - 2019		TIME: 15:23	
CHECKED BY: G. KACHIWALA		DATE: 09 - 04 - 2019		TIME: 13:36	
APPROVED BY: M. SABELLI		DATE: 09 - 04 - 2019		TIME: 14:18	
PROJECT: OLD TOWN SUBSTATION CLIENT: YEC					

TEST No.	LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
	1	2	3	1	2	3
CONTAINER No.	R27	RA1		R14	R16	R1
MASS OF WET SOIL + CONTAINER(g)	64.5	75.0		54.0	59.0	56.0
MASS OF DRY SOIL + CONTAINER(g)	54.5	60.0		49.5	53.5	51.5
MASS OF CONTAINER (g)	30	28.5		28	28.5	29.5
MASS OF DRY SOIL (g)	24.5	31.5		21.5	25.0	22.0
MASS OF WATER (g)	10.00	15.00		4.50	5.50	4.50
MOISTURE CONTENT %	40.8	47.6		20.9	22.0	20.5
No. BLOWS	30	22		21.1		

LINEAR SHRINKAGE	9
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	12.4
LINEAR SHRINKAGE %	12.9
LIQUID LIMIT (LL) %	44.4
PLASTIC LIMIT (PL) %	21.1
PLASTICITY INDEX (PI)	23
NATURAL MOISTURE CONTENT %	26.0
FINENESS INDEX	2162

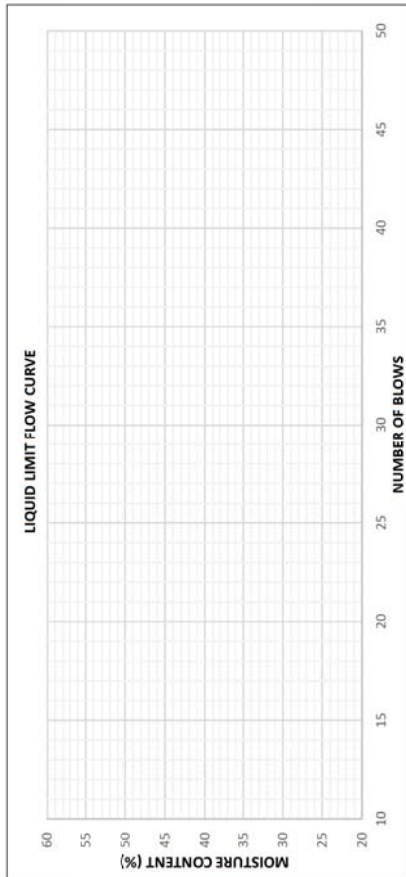


REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / DEPTH 3.100 - 6.000 (m)

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.cc</p>	LAB REF: GC457 / 17MAR19 / 18:00		SAMPLE No. OT-SUB / BH02 / AL01 / 17MAR19		
	SAMPLED BY: GEOCONSULT		DATE: 18 - 03 - 2019		
LOCATION: 36L UTM		EASTING		NORTHING	
OLD TOWN SUBSTATION		0 583 282		8 453 078	
TYPE OF MATERIAL: MOIST DARK BROWN SANDY SILTY CLAY					
TESTED BY: S. THANGATO		DATE: 28 - 03 - 2019		TIME: 08:35	
CHECKED BY: G. KACHIWALA		DATE: 01 - 04 - 2019		TIME: 13:36	
APPROVED BY: M. SABELLI		DATE: 01 - 04 - 2019		TIME: 14:18	
PROJECT: OLD TOWN SUBSTATION CLIENT: YEC					

TEST No.	LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
	1	2	3	1	2	3
CONTAINER No.	C22		C2	R8	R29	C24
MASS OF WET SOIL + CONTAINER(g)	43.5		46.5	46.0	38.5	42.5
MASS OF DRY SOIL + CONTAINER(g)	36.5		39.5	43.0	36.5	40.5
MASS OF CONTAINER (g)	22		25.3	30	29	32
MASS OF DRY SOIL (g)	14.5		14.2	13.0	7.5	8.5
MASS OF WATER (g)	7.00		7.00	3.00	2.00	2.00
MOISTURE CONTENT %	48.3		49.3	23.1	26.7	23.5
No. BLOWS	34		26	24.4		

LINEAR SHRINKAGE	4
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	12.7
LINEAR SHRINKAGE %	10.2
LIQUID LIMIT (LL) %	49.3
PLASTIC LIMIT (PL) %	24.4
PLASTICITY INDEX (PI)	25
NATURAL MOISTURE CONTENT %	25.3
FINENESS INDEX	2225.0



REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / DEPTH 0.000 - 0.500 (m)

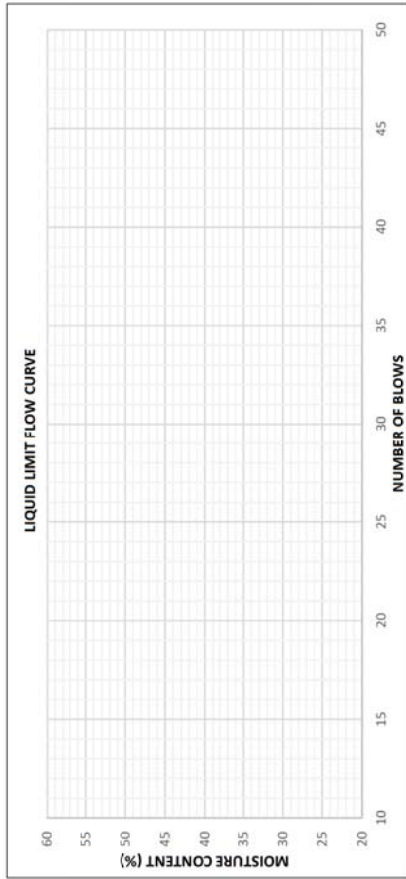
LAB REF: GC457 / 17MAR19 / 18:00 SAMPLE No. OT-SUB / BH02 / AL02 / 17MAR19
 SAMPLED BY: GEOCONSULT DATE: 18 - 03 - 2019 TIME: 10:50
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 0 583 282 8 453 078 1 026(m) 0.500-2.000
 OLD TOWN SUBSTATION
 TYPE OF MATERIAL: MOIST LIGHT BROWN SANDY SILTY CLAY

TESTED BY: E. NKHUKU DATE: 01 - 04 - 2019 TIME: 08:35
 CHECKED BY: G. KACHIWALA DATE: 08 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 08 - 04 - 2019 TIME: 14:18
 PROJECT: OLD TOWN SUBSTATION CLIENT: YEC

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

TEST No.	LIQUID LIMITS (LL)				PLASTIC LIMITS (PL)		
	1	2	3	4	1	2	3
CONTAINER No.	K2	R29		R24	C18		R19
MASS OF WET SOIL + CONTAINER(g)	68.0	72.5		45.5	42.0		48.0
MASS OF DRY SOIL + CONTAINER(g)	54.0	53.5		43.0	39.0		45.0
MASS OF CONTAINER (g)	28	22		33	26.5		33
MASS OF DRY SOIL (g)	26.0	31.5		10.0	12.5		12.0
MASS OF WATER (g)	14.00	19.00		2.50	3.00		3.00
MOISTURE CONTENT %	53.8	60.3		59.1	24.0		25.0
No. BLOWS	26	20			24.7		

LINEAR SHRINKAGE	3
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	12.4
LINEAR SHRINKAGE %	12.9
LIQUID LIMIT (LL) %	56.5
PLASTIC LIMIT (PL) %	24.7
PLASTICITY INDEX (PI)	32
NATURAL MOISTURE CONTENT %	23.1
FINENESS INDEX	2400.0



REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / DEPTH 0.500 - 2.000 (m)

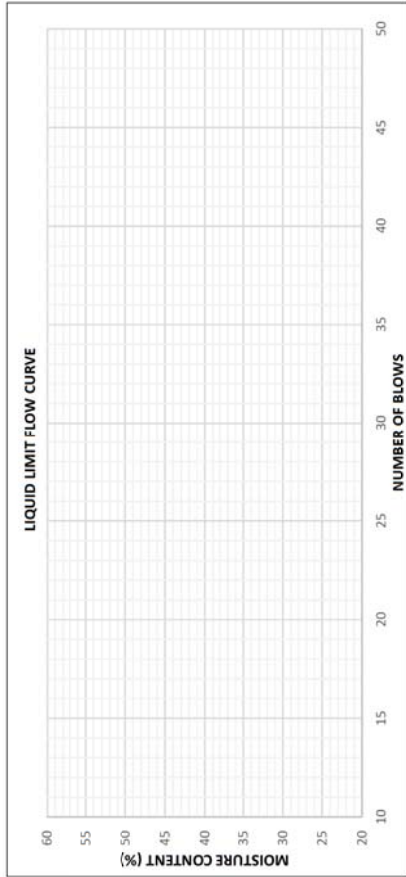
LAB REF: GC457 / 17MAR19 / 18:00 SAMPLE No. OT-SUB / BH02 / AL03 / 17MAR19
 SAMPLED BY: GEOCONSULT DATE: 18 - 03 - 2019 TIME: 11:38
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 0 583 282 8 453 078 1 026(m) 2.000-5.000
 OLD TOWN SUBSTATION
 TYPE OF MATERIAL: MOIST LIGHT BROWN SANDY SILTY CLAY

TESTED BY: M. MILANZI DATE: 03 - 04 - 2019 TIME: 08:43
 CHECKED BY: G. KACHIWALA DATE: 08 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 08 - 04 - 2019 TIME: 14:18
 PROJECT: OLD TOWN SUBSTATION CLIENT: YEC

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

TEST No.	LIQUID LIMITS (LL)				PLASTIC LIMITS (PL)		
	1	2	3	4	1	2	3
CONTAINER No.	R24		C29		R16	C17	C18
MASS OF WET SOIL + CONTAINER(g)	44.0		48.0		40.0	39.0	37.5
MASS OF DRY SOIL + CONTAINER(g)	40.0		40.5		38.0	36.5	35.5
MASS OF CONTAINER (g)	31.5		28		28.5	26	26.5
MASS OF DRY SOIL (g)	8.5		12.5		9.5	10.5	9.0
MASS OF WATER (g)	4.00		7.50		2.00	2.50	2.00
MOISTURE CONTENT %	47.1		60.0		58.8	21.1	23.8
No. BLOWS	35		21			22.4	

LINEAR SHRINKAGE	7
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	12.7
LINEAR SHRINKAGE %	10.2
LIQUID LIMIT (LL) %	53.6
PLASTIC LIMIT (PL) %	22.4
PLASTICITY INDEX (PI)	31
NATURAL MOISTURE CONTENT %	25.9
FINENESS INDEX	1984.0



REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / DEPTH 2.000 - 5.000 (m)

LAB REF: GC457 / 17MAR19 / 18:00 SAMPLE No. OT-SUB / BH02 / ALD4 / 17MAR19
 SAMPLED BY: GEOCONSULT DATE: 18 - 03 - 2019 TIME: 13:00
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 0.583 282 8.453 078 1.026(m) 5.000-6.000
 OLD TOWN SUBSTATION
 TYPE OF MATERIAL: MOIST STIFF MOLTLED SANDY SILTY CLAY

TESTED BY: E. NKHUKU DATE: 04 - 04 - 2019 TIME: 08:40
 CHECKED BY: G. KACHIWALA DATE: 08 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 08 - 04 - 2019 TIME: 14:18
 PROJECT: OLD TOWN SUBSTATION CLIENT: YEC

LAB REF: GC457 / 17MAR19 / 18:00 SAMPLE No. OT-SUB / BH02 / ALD5 / 17MAR19
 SAMPLED BY: GEOCONSULT DATE: 18 - 03 - 2019 TIME: 13:50
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 0.583 282 8.453 078 1.026(m) 6.000-7.000
 OLD TOWN SUBSTATION
 TYPE OF MATERIAL: MOIST MOLTLED SILTY SANDY CLAY

TESTED BY: S. MATCHADO DATE: 04 - 04 - 2019 TIME: 08:40
 CHECKED BY: G. KACHIWALA DATE: 08 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 08 - 04 - 2019 TIME: 14:18
 PROJECT: OLD TOWN SUBSTATION CLIENT: YEC

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

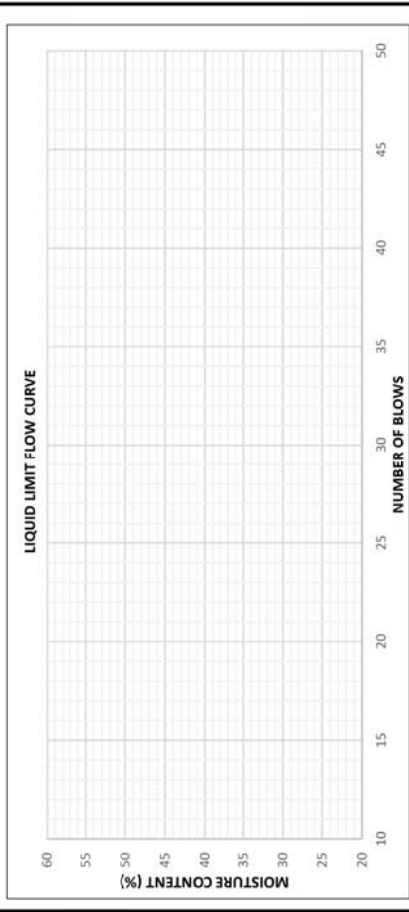
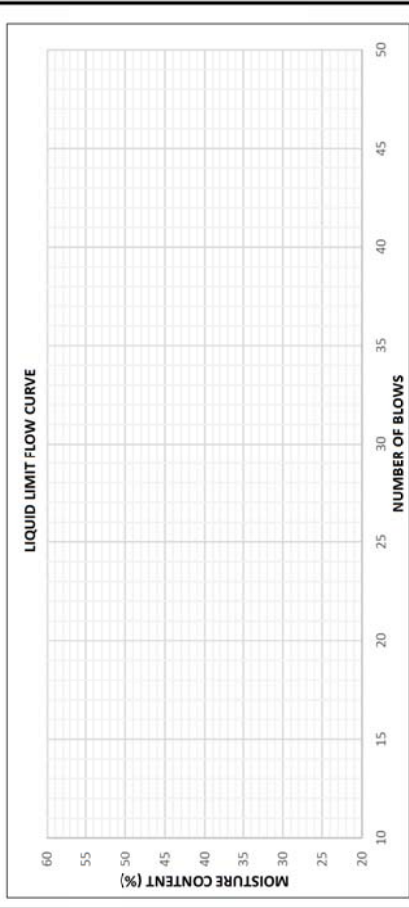
TEST No.	LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
	1	2	3	1	2	3
CONTAINER No.	C15	C16	C16	R16	K3	C26
MASS OF WET SOIL + CONTAINER(g)	65.0	66.0	66.0	40.0	44.5	42.5
MASS OF DRY SOIL + CONTAINER(g)	53.0	52.5	52.5	38.0	42.0	40.0
MASS OF CONTAINER (g)	30	28.5	28.5	28	29.5	28.5
MASS OF DRY SOIL (g)	23.0	24.0	24.0	10.0	12.5	11.5
MASS OF WATER (g)	12.00	13.50	13.50	2.00	2.50	2.50
MOISTURE CONTENT %	52.2	52.7	56.3	54.6	20.0	21.7
No. BLOWS	29	19			20.6	

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

TEST No.	LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
	1	2	3	1	2	3
CONTAINER No.	C1		R12	R4	R24	C17
MASS OF WET SOIL + CONTAINER(g)	58.5		56.0	41.0	41.0	38.0
MASS OF DRY SOIL + CONTAINER(g)	52.0		48.0	39.5	39.5	36.0
MASS OF CONTAINER (g)	34.5		29	32	31.5	26
MASS OF DRY SOIL (g)	17.5		19.0	7.5	8.0	10.0
MASS OF WATER (g)	6.50		8.00	1.50	1.50	2.00
MOISTURE CONTENT %	37.1		37.5	42.1	20.0	18.8
No. BLOWS	29		26		19.6	

LINEAR SHRINKAGE	1
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	12.2
LINEAR SHRINKAGE %	14.8
LIQUID LIMIT (LL) %	53.6
PLASTIC LIMIT (PL) %	20.6
PLASTICITY INDEX (PI)	33
NATURAL MOISTURE CONTENT %	25.9
FINENESS INDEX	1650.0

LINEAR SHRINKAGE	14
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	12.7
LINEAR SHRINKAGE %	10.2
LIQUID LIMIT (LL) %	39.8
PLASTIC LIMIT (PL) %	19.6
PLASTICITY INDEX (PI)	20
NATURAL MOISTURE CONTENT %	18.2
FINENESS INDEX	762.0



REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / DEPTH 5.000 - 6.000 (m)

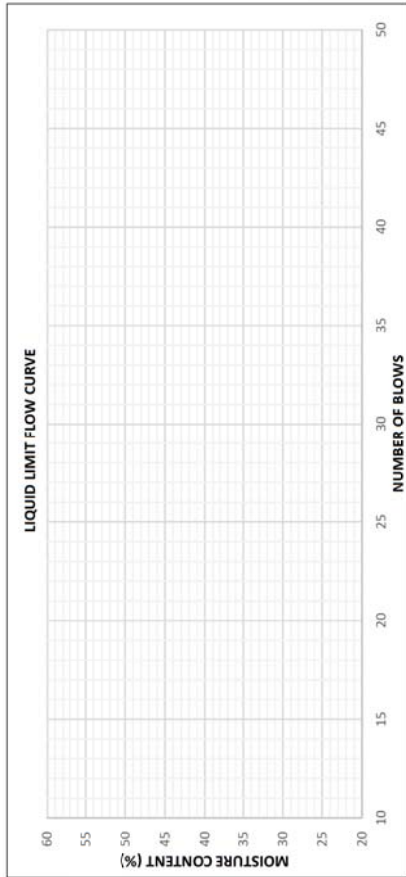
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / DEPTH 6.000 - 7.000 (m)

LAB REF: GC457 / 17MAR19 / 18:00 SAMPLE No. OT-SUB / BH02 / ALD06 / 17MAR19
 SAMPLED BY: GEOCONSULT DATE: 18 - 03 - 2019 TIME: 13:50
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 OLD TOWN SUBSTATION 0 583 282 8 453 078 1 026(m) 7,000-7,300
 TYPE OF MATERIAL: MOIST MOTTLED SANDY SILTY CLAY WITH SPOTS OF MICA
 TESTED BY: S. MATCHADO DATE: 04 - 04 - 2019 TIME: 08:40
 CHECKED BY: G. KACHIWALA DATE: 08 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 08 - 04 - 2019 TIME: 14:18
 PROJECT: OLD TOWN SUBSTATION CLIENT: YEC

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

TEST No.	LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
	1	2	3	1	2	3
CONTAINER No.	R20	C5		C30	R21	C22
MASS OF WET SOIL + CONTAINER(g)	47.5	49.0		46.5	40.5	34.5
MASS OF DRY SOIL + CONTAINER(g)	43.0	44.0		44.0	39.0	32.5
MASS OF CONTAINER (g)	28	28.5		30	30	21
MASS OF DRY SOIL (g)	15.0	15.5		14.0	9.0	11.5
MASS OF WATER (g)	4.50	5.00		2.50	1.50	2.00
MOISTURE CONTENT %	30.0	30.3		31.6	17.9	17.4
No. BLOWS	27	21			17.3	

LINEAR SHRINKAGE	8
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	13.0
LINEAR SHRINKAGE %	7.7
LIQUID LIMIT (LL) %	31.0
PLASTIC LIMIT (PL) %	17.3
PLASTICITY INDEX (PI)	14
NATURAL MOISTURE CONTENT %	23.8
FINENESS INDEX	1162.0



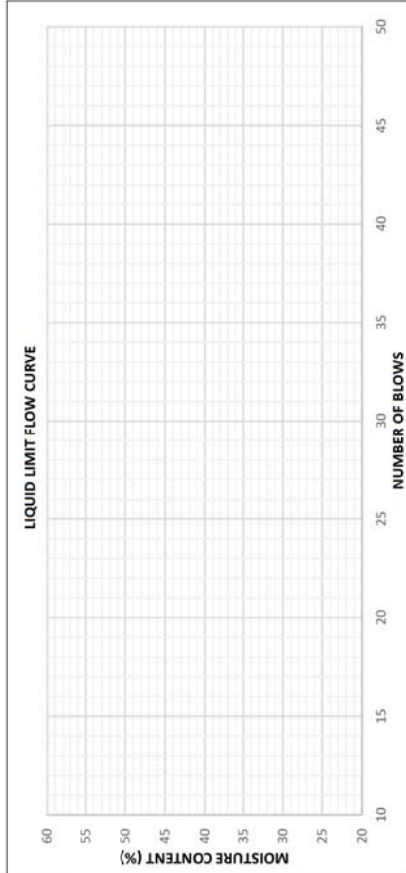
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / DEPTH 7,000 - 7,300 (m)

LAB REF: GC457 / 17MAR19 / 18:00 SAMPLE No. OT-SUB / BH02 / ALD07 / 17MAR19
 SAMPLED BY: GEOCONSULT DATE: 18 - 03 - 2019 TIME: 15:20
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 OLD TOWN SUBSTATION 0 583 282 8 453 078 1 026(m) 7,300-7,900
 TYPE OF MATERIAL: MOIST DARK GREY SILTY SANDY CLAY CONTAINS MICA
 TESTED BY: S. MATCHADO DATE: 04 - 04 - 2019 TIME: 08:40
 CHECKED BY: G. KACHIWALA DATE: 08 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 08 - 04 - 2019 TIME: 14:18
 PROJECT: OLD TOWN SUBSTATION CLIENT: YEC

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

TEST No.	LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
	1	2	3	1	2	3
CONTAINER No.	C12		C11	F	I	J
MASS OF WET SOIL + CONTAINER(g)	47.0		48.0		38.0	37.5
MASS OF DRY SOIL + CONTAINER(g)	40.5		41.5		35.5	35.0
MASS OF CONTAINER (g)	28		30.5		25.5	25.5
MASS OF DRY SOIL (g)	12.5		11.0		10.0	8.5
MASS OF WATER (g)	6.50		6.50		2.50	2.50
MOISTURE CONTENT %	52.0		59.1		25.0	26.3
No. BLOWS	30		18		26.9	

LINEAR SHRINKAGE	10
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	12.6
LINEAR SHRINKAGE %	11.1
LIQUID LIMIT (LL) %	55.2
PLASTIC LIMIT (PL) %	26.9
PLASTICITY INDEX (PI)	28
NATURAL MOISTURE CONTENT %	20.0
FINENESS INDEX	1092.0



REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / DEPTH 7,300 - 7,900 (m)

LAB REF: GC463 / 24MAR19 / 18:00 SAMPLE No. OT-SUB / BH03 / AL01 / 24MAR19
 SAMPLED BY: GEOCONSULT DATE: 24 - 03 - 2019 TIME: 15:13
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 OLD TOWN SUBSTATION 0 583 306 8 453 072 1 023(m) 0.000-0.140
 TYPE OF MATERIAL: TOP SOIL

TESTED BY: E. NKHUKU DATE: 04 - 04 - 2019 TIME: 08:35
 CHECKED BY: G. KACHIWALA DATE: 06 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 06 - 04 - 2019 TIME: 14:18
 PROJECT: OLD TOWN SUBSTATION CLIENT: YEC

LAB REF: GC463 / 24MAR19 / 18:00 SAMPLE No. OT-SUB / BH03 / AL02 / 24MAR19
 SAMPLED BY: GEOCONSULT DATE: 24 - 03 - 2019 TIME: 15:13
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 OLD TOWN SUBSTATION 0 583 306 8 453 072 1 023(m) 0.140-0.700
 TYPE OF MATERIAL: MOIST BLACK SANDY SILTY CLAY

TESTED BY: S. MATCHADO DATE: 04 - 04 - 2019 TIME: 08:35
 CHECKED BY: G. KACHIWALA DATE: 06 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 06 - 04 - 2019 TIME: 14:18
 PROJECT: OLD TOWN SUBSTATION CLIENT: YEC

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

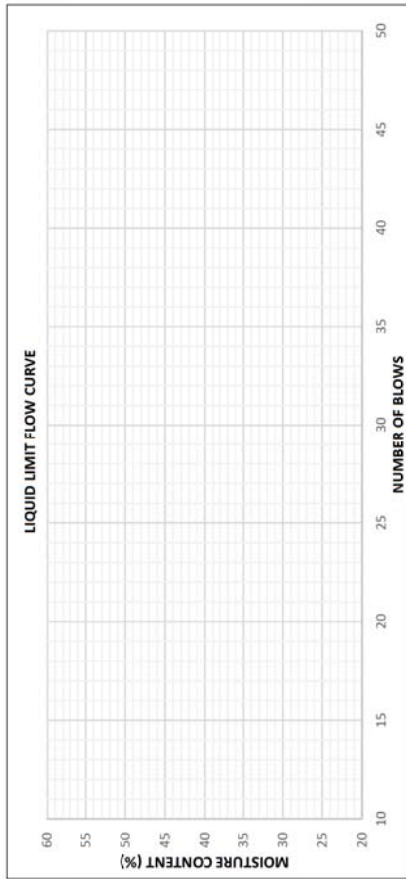
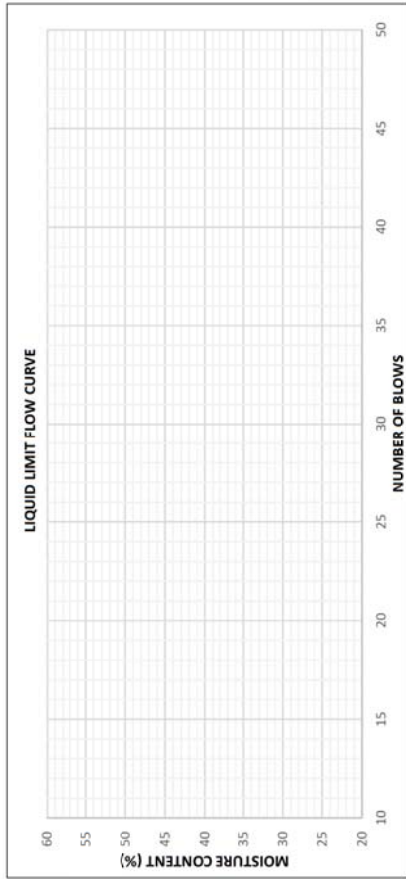
TEST No.	LIQUID LIMITS (LL)				PLASTIC LIMITS (PL)		
	1	2	3	4	1	2	3
CONTAINER No.	R8	R10	R10	C11	C9	C7	
MASS OF WET SOIL + CONTAINER(g)	47.0	67.0	47.0	37.5	37.5	39.0	
MASS OF DRY SOIL + CONTAINER(g)	43.0	58.0	43.0	36.5	36.5	38.0	
MASS OF CONTAINER (g)	30	31.5	30	30	30	31.5	
MASS OF DRY SOIL (g)	13.0	26.5	13.0	6.5	6.5	6.5	
MASS OF WATER (g)	4.00	9.00	4.00	1.00	1.00	1.00	
MOISTURE CONTENT %	30.8	30.5	34.0	32.3	15.4	15.4	
No. BLOWS	22	15	15	15.4	15.4	15.4	

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

TEST No.	LIQUID LIMITS (LL)				PLASTIC LIMITS (PL)		
	1	2	3	4	1	2	3
CONTAINER No.	F	R22	R22	C10	R30	D	
MASS OF WET SOIL + CONTAINER(g)	47.0	47.5	47.5	39.0	39.5	38.5	
MASS OF DRY SOIL + CONTAINER(g)	41.0	40.5	40.5	36.5	37.0	37.0	
MASS OF CONTAINER (g)	30	29	29	28.5	29	32	
MASS OF DRY SOIL (g)	11.0	11.5	11.5	8.0	8.0	5.0	
MASS OF WATER (g)	6.00	7.00	7.00	2.50	2.50	1.50	
MOISTURE CONTENT %	54.5	55.6	60.9	60.9	31.3	30.0	
No. BLOWS	32	26	26	30.8	30.8		

LINEAR SHRINKAGE	15
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	13.2
LINEAR SHRINKAGE %	6.1
LIQUID LIMIT (LL) %	31.4
PLASTIC LIMIT (PL) %	15.4
PLASTICITY INDEX (PI)	16
NATURAL MOISTURE CONTENT %	15.9
FINENESS INDEX	640.0

LINEAR SHRINKAGE	11
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	12.4
LINEAR SHRINKAGE %	12.9
LIQUID LIMIT (LL) %	56.3
PLASTIC LIMIT (PL) %	30.8
PLASTICITY INDEX (PI)	27
NATURAL MOISTURE CONTENT %	27.3
FINENESS INDEX	1512



REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 03 / DEPTH 0.000 - 0.140 (m)

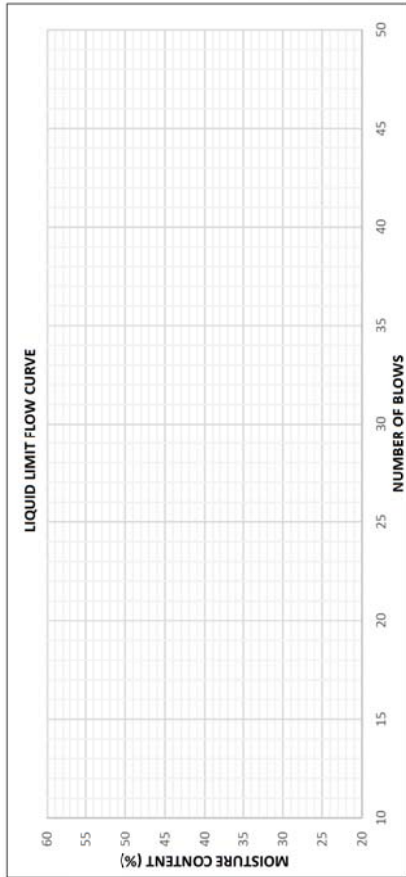
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 03 / DEPTH 0.140 0.700 (m)

LAB REF: GC463 / 24MAR19 / 18:00 SAMPLE No. OT-SUB / BH03 / AL03 / 24MAR19
 SAMPLED BY: GEOCONSULT DATE: 24 - 03 - 2019 TIME: 16:10
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 0 583 306 8 453 072 1 023(m) 0.700-4.000
 OLD TOWN SUBSTATION
 TYPE OF MATERIAL: MOIST GREY/SH BROWN SANDY SILTY CLAY
 TESTED BY: S. MATCHADO DATE: 03 - 04 - 2019 TIME: 08:35
 CHECKED BY: G. KACHIWALA DATE: 06 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 06 - 04 - 2019 TIME: 14:18
 PROJECT: OLD TOWN SUBSTATION CLIENT: YEC

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

TEST No.	LIQUID LIMITS (LL)				PLASTIC LIMITS (PL)		
	1	2	3	4	1	2	3
CONTAINER No.	C10		R5		C9	R28	R19
MASS OF WET SOIL + CONTAINER(g)	50.0		52.5		41.5	39.0	42.0
MASS OF DRY SOIL + CONTAINER(g)	42.0		43.0		39.0	37.0	40.0
MASS OF CONTAINER (g)	28.5		28.5		30	29	33
MASS OF DRY SOIL (g)	13.5		14.5		9.0	8.0	7.0
MASS OF WATER (g)	8.00		9.50		2.50	2.00	2.00
MOISTURE CONTENT %	59.3	61.0	65.5	66.2	27.8	25.0	28.6
No. BLOWS	35		28		27.1		

LINEAR SHRINKAGE	2
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	12.0
LINEAR SHRINKAGE %	16.7
LIQUID LIMIT (LL) %	63.6
PLASTIC LIMIT (PL) %	27.1
PLASTICITY INDEX (PI)	36
NATURAL MOISTURE CONTENT %	30.8
FINENESS INDEX	2052.0



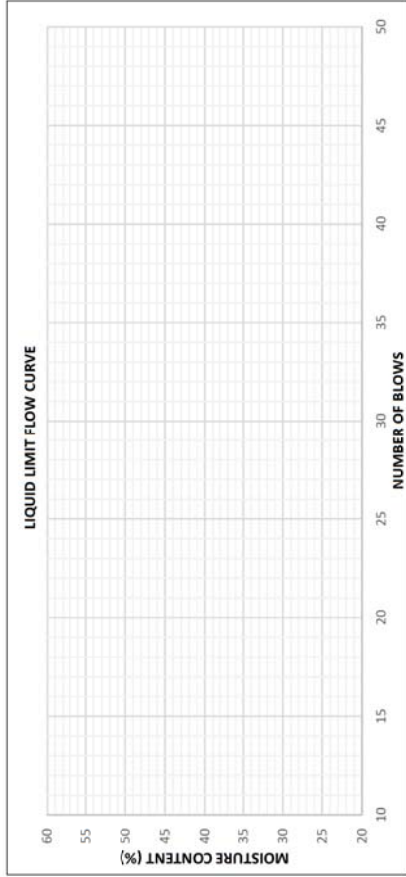
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 03 / DEPTH 0.700 - 4.000 (m)

LAB REF: GC463 / 23MAR19 / 18:00 SAMPLE No. OT-SUB / BH04 / AL04 / 24MAR19
 SAMPLED BY: GEOCONSULT DATE: 24 - 03 - 2019 TIME: 11:40
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 0 583 295 8 453 081 1 040(m) 2.000-3.700
 OLD TOWN SUBSTATION
 TYPE OF MATERIAL: MOIST GREY/SH BROWN SANDY SILTY CLAY
 TESTED BY: S. MATCHADO DATE: 04 - 04 - 2019 TIME: 08:35
 CHECKED BY: G. KACHIWALA DATE: 06 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 06 - 04 - 2019 TIME: 14:18
 PROJECT: OLD TOWN SUBSTATION CLIENT: YEC

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

TEST No.	LIQUID LIMITS (LL)				PLASTIC LIMITS (PL)		
	1	2	3	4	1	2	3
CONTAINER No.	R13		C9		R29	C22	C20
MASS OF WET SOIL + CONTAINER(g)	57.0		49.0		36.5	34.0	39.5
MASS OF DRY SOIL + CONTAINER(g)	48.0		39.5		35.0	31.5	37.0
MASS OF CONTAINER (g)	33.5		25		29	22	28
MASS OF DRY SOIL (g)	14.5		14.5		6.0	9.5	9.0
MASS OF WATER (g)	9.00		9.50		1.50	2.50	2.50
MOISTURE CONTENT %	62.1	63.3	65.5	65.5	25.0	26.3	27.8
No. BLOWS	33		26		26.4		

LINEAR SHRINKAGE	4
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	11.6
LINEAR SHRINKAGE %	20.7
LIQUID LIMIT (LL) %	64.4
PLASTIC LIMIT (PL) %	26.4
PLASTICITY INDEX (PI)	38
NATURAL MOISTURE CONTENT %	32.9
FINENESS INDEX	1302.0



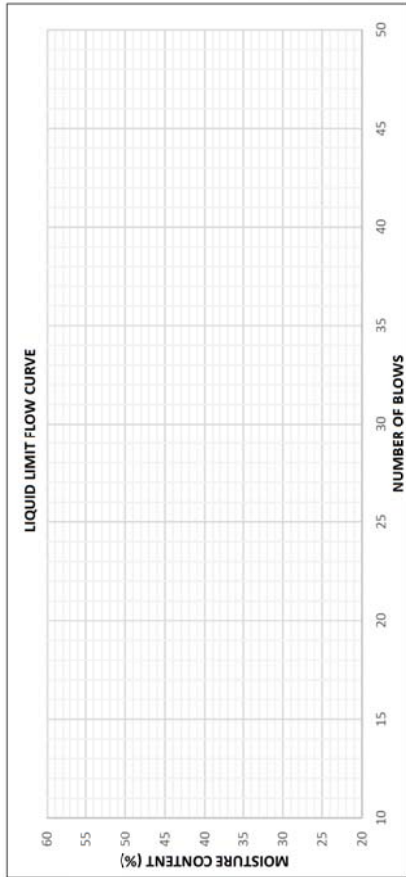
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 04 / DEPTH 2.000 - 3.700 (m)

LAB REF: GC463 / 23MAR19 / 18:00 SAMPLE No. OT-SUB / BH04 / ALD4 / 24MAR19
 SAMPLED BY: GEOCONSULT DATE: 24 - 03 - 2019 TIME: 12:00
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 OLD TOWN SUBSTATION 0 583 295 8 453 081 1 040(m) 3.700-6.000
 TYPE OF MATERIAL: MOIST BROWN SANDY SILTY CLAY WITH STRIPES OF COTTON SOIL
 TESTED BY: S. MATCHADO DATE: 04 - 04 - 2019 TIME: 08:35
 CHECKED BY: G. KACHIWALA DATE: 06 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 06 - 04 - 2019 TIME: 14:18
 PROJECT: OLD TOWN SUBSTATION CLIENT: YEC

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

TEST No.	LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
	1	2	3	1	2	3
CONTAINER No.	C25	R18	R4	R1	C7	R4
MASS OF WET SOIL + CONTAINER(g)	33.5	41.0	42.0	39.0	41.0	42.0
MASS OF DRY SOIL + CONTAINER(g)	30.0	37.0	40.0	37.0	39.0	40.0
MASS OF CONTAINER (g)	22	29	32	29.5	31.5	32
MASS OF DRY SOIL (g)	8.0	8.0	8.0	7.5	7.5	8.0
MASS OF WATER (g)	3.50	4.00	2.00	2.00	2.00	2.00
MOISTURE CONTENT %	43.8	45.1	50.0	26.7	26.7	25.0
No. BLOWS	35	24		49.5	26.7	26.1

LINEAR SHRINKAGE	8
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	12.5
LINEAR SHRINKAGE %	12.0
LIQUID LIMIT (LL) %	47.3
PLASTIC LIMIT (PL) %	26.1
PLASTICITY INDEX (PI)	21
NATURAL MOISTURE CONTENT %	26.6
FINENESS INDEX	1368.0



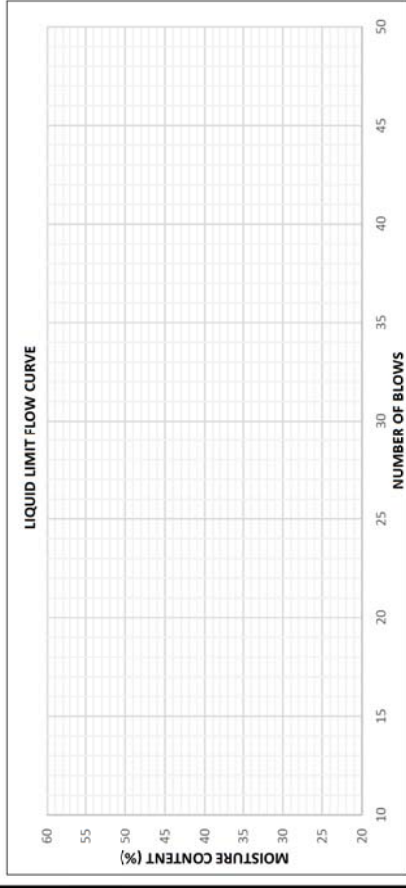
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 04 / DEPTH 3.700 - 6.000 (m)

LAB REF: GC463A / 23MAR19 / 18:00 SAMPLE No. OT-SUB / BH04 / ALD1 / 23MAR19
 SAMPLED BY: GEOCONSULT DATE: 23 - 03 - 2019 TIME: 17:53
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 OLD TOWN SUBSTATION 0 583 295 8 453 081 1 040(m) 0.000-0.130
 TYPE OF MATERIAL: TOP SOIL
 TESTED BY: S. MATCHADO DATE: 04 - 04 - 2019 TIME: 08:35
 CHECKED BY: G. KACHIWALA DATE: 06 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 06 - 04 - 2019 TIME: 14:18
 PROJECT: OLD TOWN SUBSTATION CLIENT: YEC

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

TEST No.	LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
	1	2	3	1	2	3
CONTAINER No.	C21	R13	R13	C27	C5	C8
MASS OF WET SOIL + CONTAINER(g)	46.5	50.0	50.0	39.0	38.5	38.0
MASS OF DRY SOIL + CONTAINER(g)	41.5	44.0	44.0	37.0	36.5	36.0
MASS OF CONTAINER (g)	29.5	31	31	27.5	28	27.5
MASS OF DRY SOIL (g)	12.0	13.0	13.0	9.5	8.5	8.5
MASS OF WATER (g)	5.00	6.00	6.00	2.00	2.00	2.00
MOISTURE CONTENT %	41.7	42.1	46.2	44.8	21.1	23.5
No. BLOWS	27	19		21.1	22.7	

LINEAR SHRINKAGE	7
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	12.6
LINEAR SHRINKAGE %	11.1
LIQUID LIMIT (LL) %	43.4
PLASTIC LIMIT (PL) %	22.7
PLASTICITY INDEX (PI)	21
NATURAL MOISTURE CONTENT %	25.8
FINENESS INDEX	1302.0



REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 04 / DEPTH 0.000 - 0.130 (m)

LAB REF: GC463A / 23MAR19 / 18:00 SAMPLE No. OT-SUB / BH04 / AL02 / 23MAR19
 SAMPLED BY: GEOCONSULT DATE: 23 - 03 - 2019 TIME: 17:55
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 OLD TOWN SUBSTATION 0 583 295 8 453 081 1 040(m) 0.130-0.900
 TYPE OF MATERIAL: MOIST BLACK SANDY SILTY CLAY

TESTED BY: S. MATCHADO DATE: 04 - 04 - 2019 TIME: 08:35
 CHECKED BY: G. KACHIWALA DATE: 06 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 06 - 04 - 2019 TIME: 14:18
 PROJECT: OLD TOWN SUBSTATION CLIENT: YEC

LAB REF: GC463A / 23MAR19 / 18:00 SAMPLE No. OT-SUB / BH04 / AL03 / 23MAR19
 SAMPLED BY: GEOCONSULT DATE: 23 - 03 - 2019 TIME: 17:55
 LOCATION: 36L UTM EASTING NORTHING ELEVATION DEPTH (m)
 OLD TOWN SUBSTATION 0 583 295 8 453 081 1 040(m) 0.900-2.000
 TYPE OF MATERIAL: MOIST BLACK GREYISH SANDY SILTY CLAY

TESTED BY: S. MATCHADO DATE: 04 - 04 - 2019 TIME: 08:35
 CHECKED BY: G. KACHIWALA DATE: 06 - 04 - 2019 TIME: 13:36
 APPROVED BY: M. SABELLI DATE: 06 - 04 - 2019 TIME: 14:18
 PROJECT: OLD TOWN SUBSTATION CLIENT: YEC

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

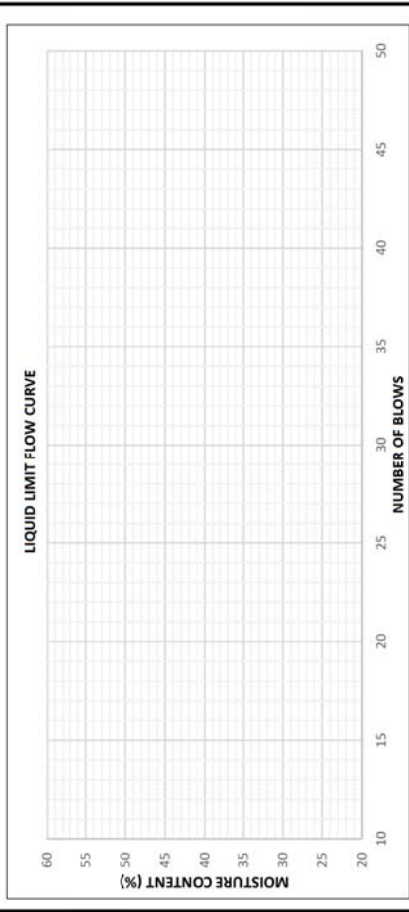
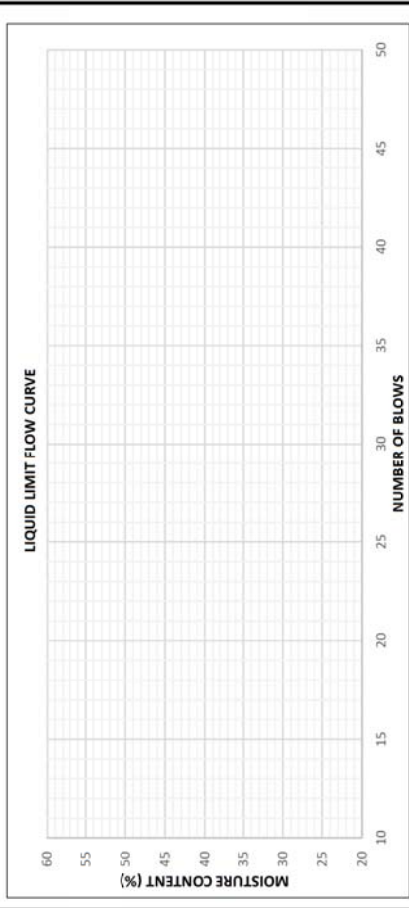
TEST No.	LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
	1	2	3	1	2	3
CONTAINER No.	R19	C25		C8	R18	R28
MASS OF WET SOIL + CONTAINER(g)	47.5	46.5		39.5	40.5	41.5
MASS OF DRY SOIL + CONTAINER(g)	42.0	37.0		37.5	38.5	39.0
MASS OF CONTAINER (g)	33	22		29	31	29
MASS OF DRY SOIL (g)	9.0	15.0		8.5	7.5	10.0
MASS OF WATER (g)	5.0	9.50		2.00	2.00	2.50
MOISTURE CONTENT %	61.1	61.7		62.7	23.5	26.7
No. BLOWS	28	23			25.1	

ATTERBURG LIMITS STANDARD: BS 1377, 2 (C)

TEST No.	LIQUID LIMITS (LL)			PLASTIC LIMITS (PL)		
	1	2	3	1	2	3
CONTAINER No.	R26	R22		R44	C13	R20
MASS OF WET SOIL + CONTAINER(g)	57.0	58.0		38.0	38.0	39.5
MASS OF DRY SOIL + CONTAINER(g)	48.0	46.5		36.0	36.0	37.0
MASS OF CONTAINER (g)	33.5	29		28.5	28	28
MASS OF DRY SOIL (g)	14.5	17.5		7.5	8.0	9.0
MASS OF WATER (g)	9.00	11.50		2.00	2.00	2.50
MOISTURE CONTENT %	62.1	63.3		66.4	26.7	27.8
No. BLOWS	34	27			26.5	

LINEAR SHRINKAGE	2
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	12.1
LINEAR SHRINKAGE %	16.7
LIQUID LIMIT (LL) %	62.2
PLASTIC LIMIT (PL) %	25.1
PLASTICITY INDEX (PI)	37
NATURAL MOISTURE CONTENT %	25.6
FINENESS INDEX	1702.0

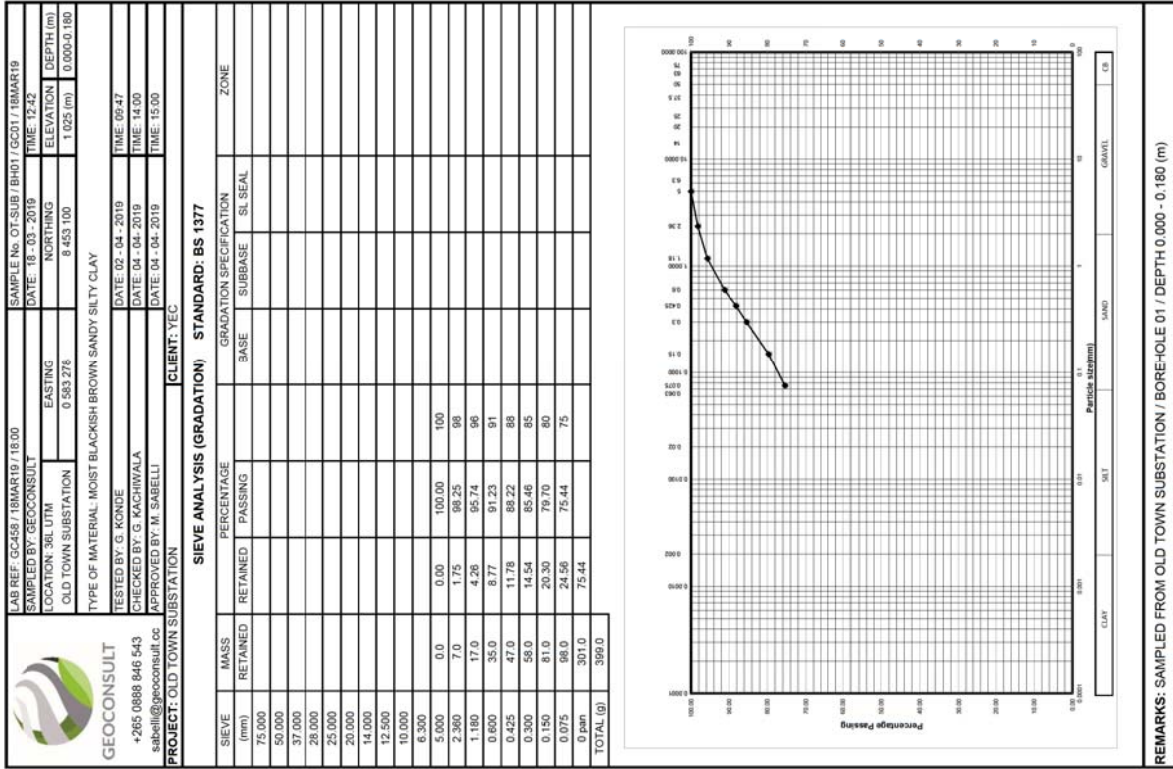
LINEAR SHRINKAGE	5
INITIAL LENGTH OF SPECIMEN (cm)	14.0
LENGTH OF OVERN DRY SPECIMEN (cm)	12.5
LINEAR SHRINKAGE %	12.0
LIQUID LIMIT (LL) %	64.8
PLASTIC LIMIT (PL) %	26.5
PLASTICITY INDEX (PI)	38
NATURAL MOISTURE CONTENT %	32.2
FINENESS INDEX	1824.0




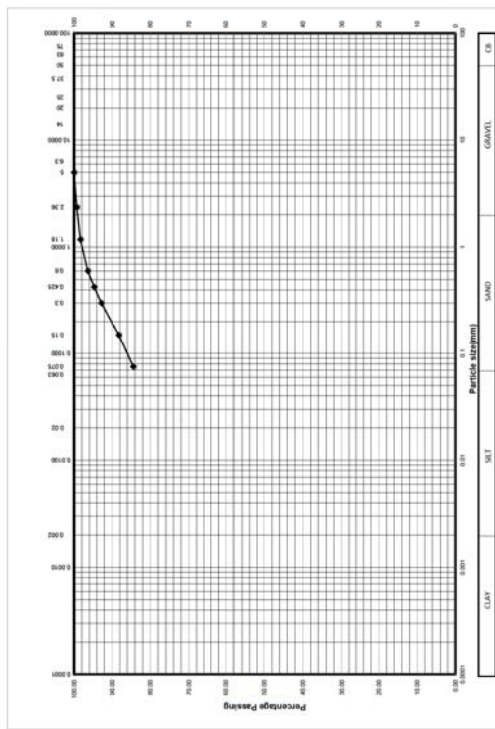
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 04 / DEPTH 0.130 - 0.900 (m)

REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 04 / DEPTH 0.900 - 2.000 (m)


4.4 Gradation

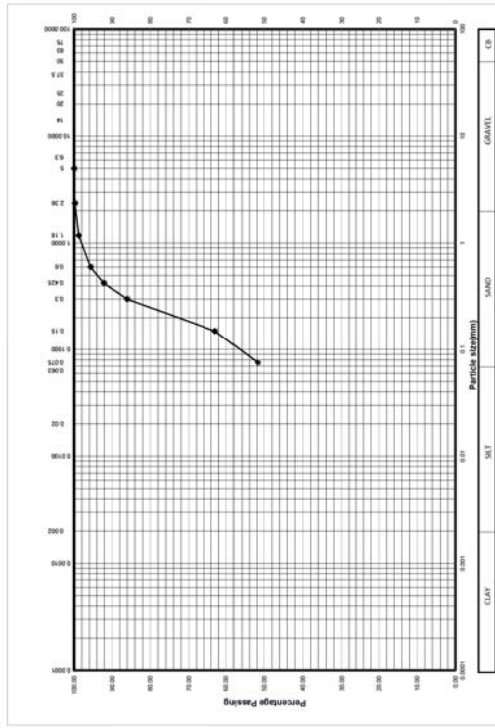


		LAB REF: GC58 / 18MART19 / 18.00 SAMPLED BY: GEOCONSULT LOCATION: 36L UTM OLD TOWN SUBSTATION EASTING: 0 583 276 NORTHING: 8 453 100 ELEVATION: 1 025 (m) DEPTH (m): 0.180-0.540		
TYPE OF MATERIAL: MOIST BLACKISH BROWN SANDY SILTY CLAY		DATE: 02-04-2019 TIME: 09:07 TESTED BY: G. KONDE		
+265 0888 846 543 subelli@geconsult.co		DATE: 04-04-2019 TIME: 14:00 CHECKED BY: G. KACHIWALA		
PROJECT: OLD TOWN SUBSTATION		DATE: 04-04-2019 TIME: 15:00 APPROVED BY: M. SABELLI		
CLIENT: YEC		STANDARD: BS 1377		
SIEVE ANALYSIS (GRADATION)		GRADATION SPECIFICATION		ZONE
SIEVE (mm)	MASS RETAINED	PERCENTAGE RETAINED	PERCENTAGE PASSING	
75.000	0.0	0.00	100.00	100
50.000	3.0	0.72	99.28	99
37.000	7.0	1.67	98.33	98
28.000	15.0	3.58	96.42	96
25.000	22.0	5.25	94.75	95
20.000	30.0	7.16	92.84	93
14.000	49.0	11.69	88.31	88
10.000	65.0	15.51	84.49	84
6.300	354.0	84.49		
5.000	0.0	0.00		
2.960	0.0	0.00		
1.180	0.0	0.00		
0.600	0.0	0.00		
0.425	0.0	0.00		
0.300	0.0	0.00		
0.150	0.0	0.00		
0.075	0.0	0.00		
0 pan	0.0	0.00		
TOTAL (g)	419.0			

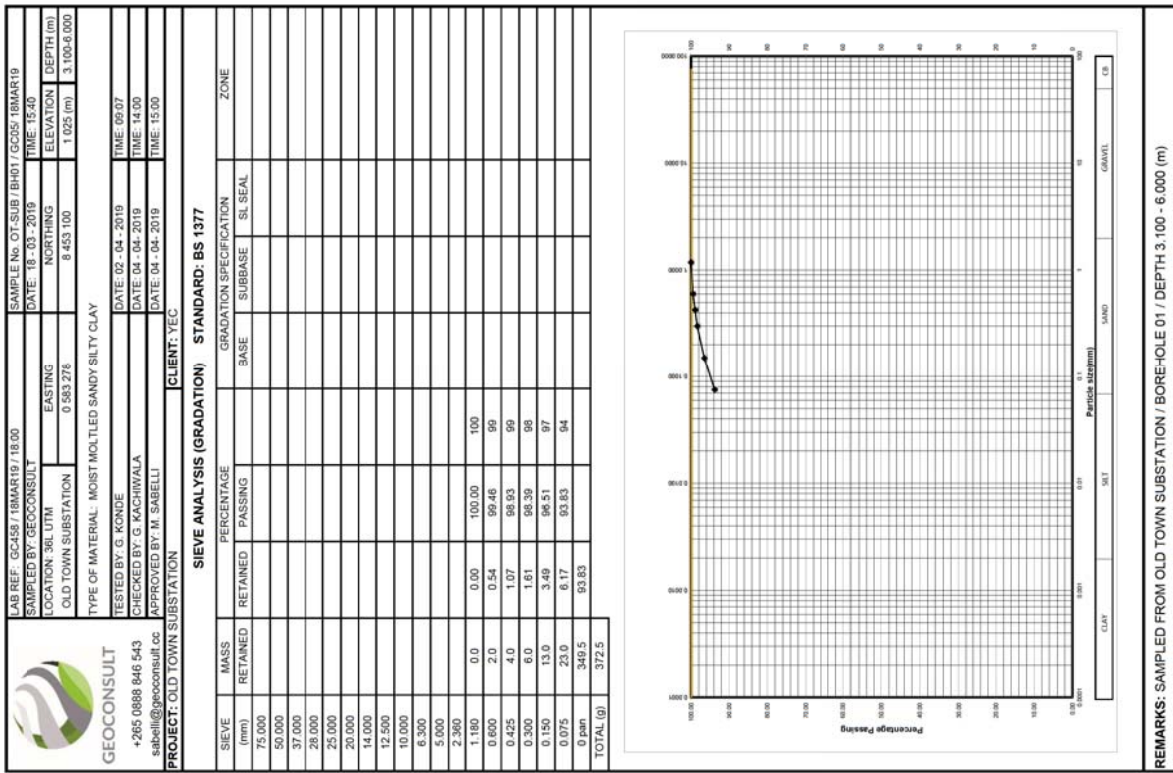
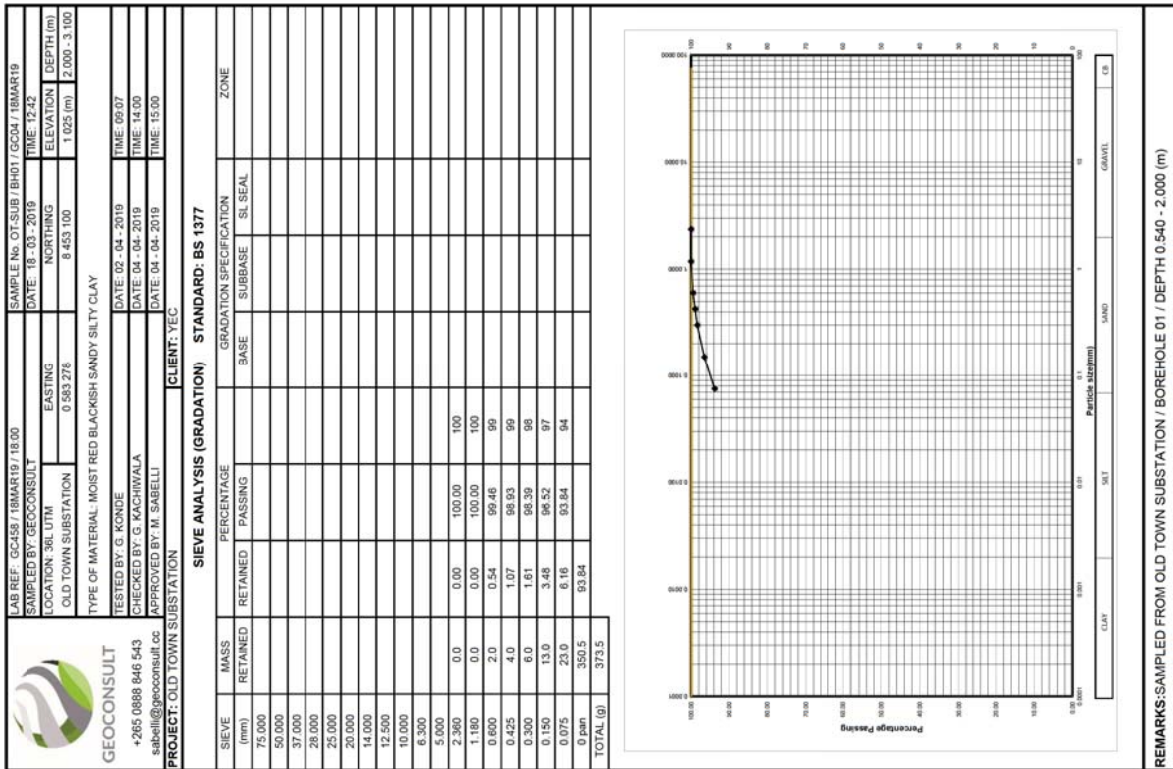


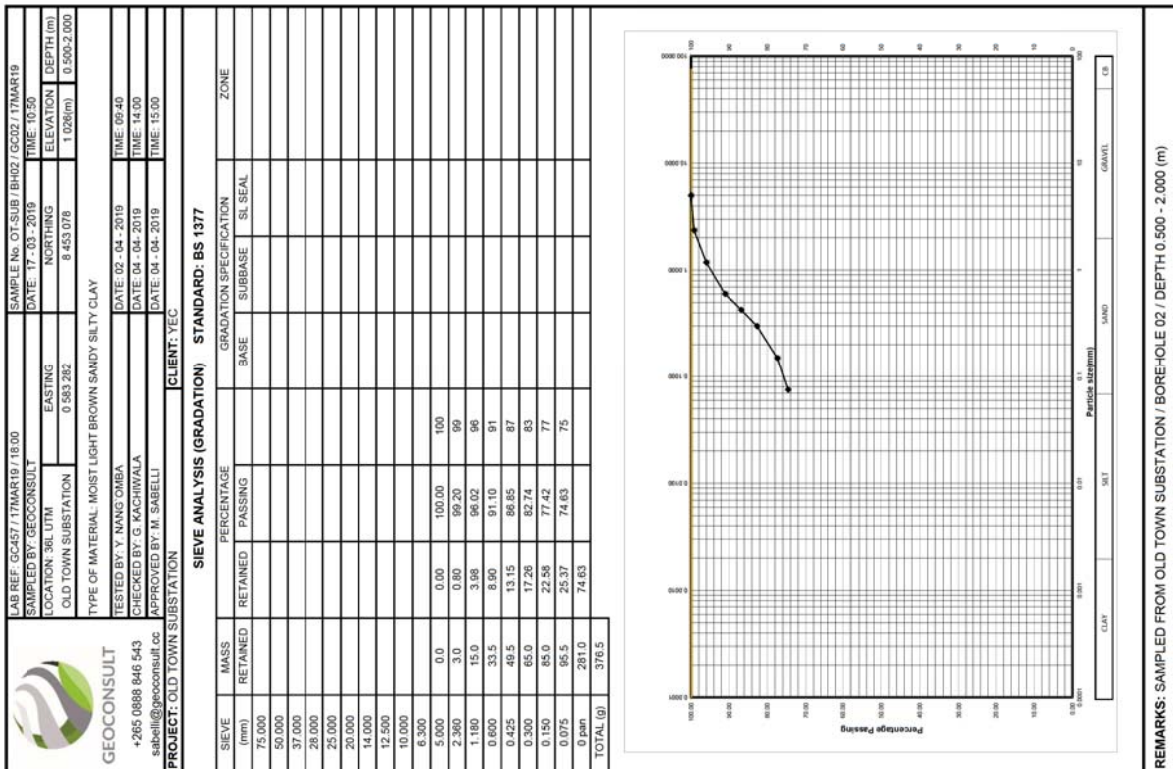
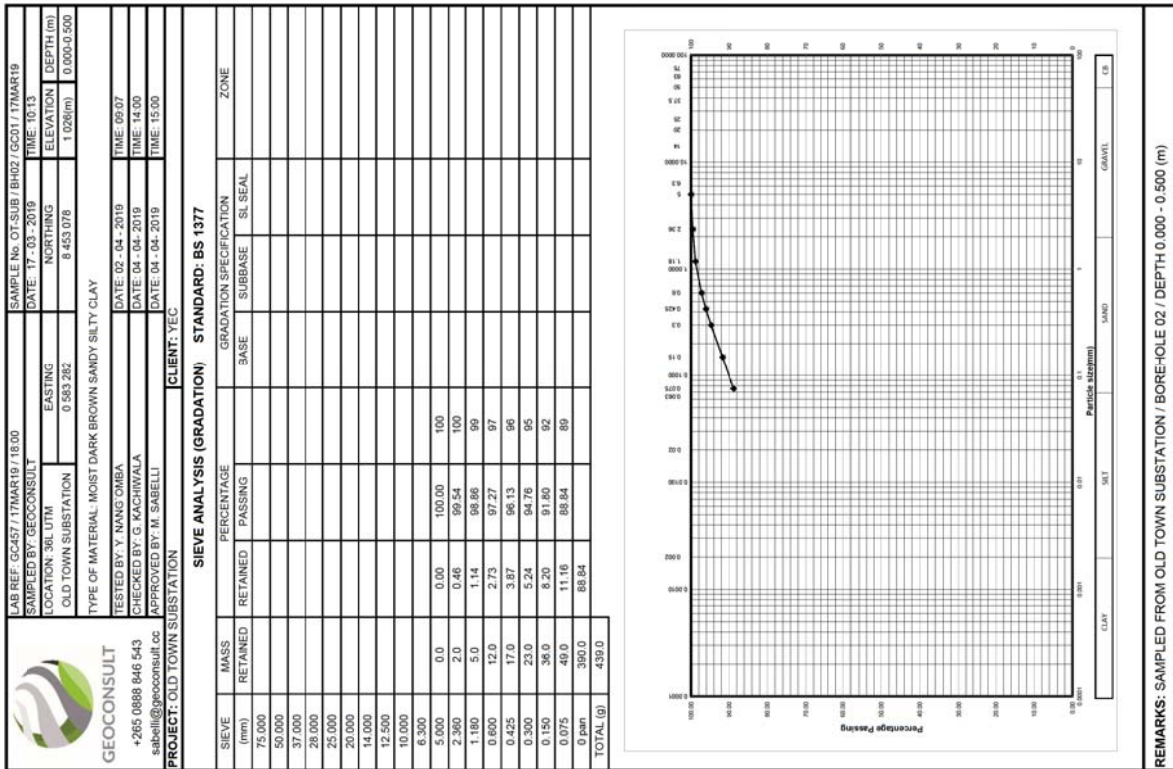
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / DEPTH 0.180 - 0.540 (m)

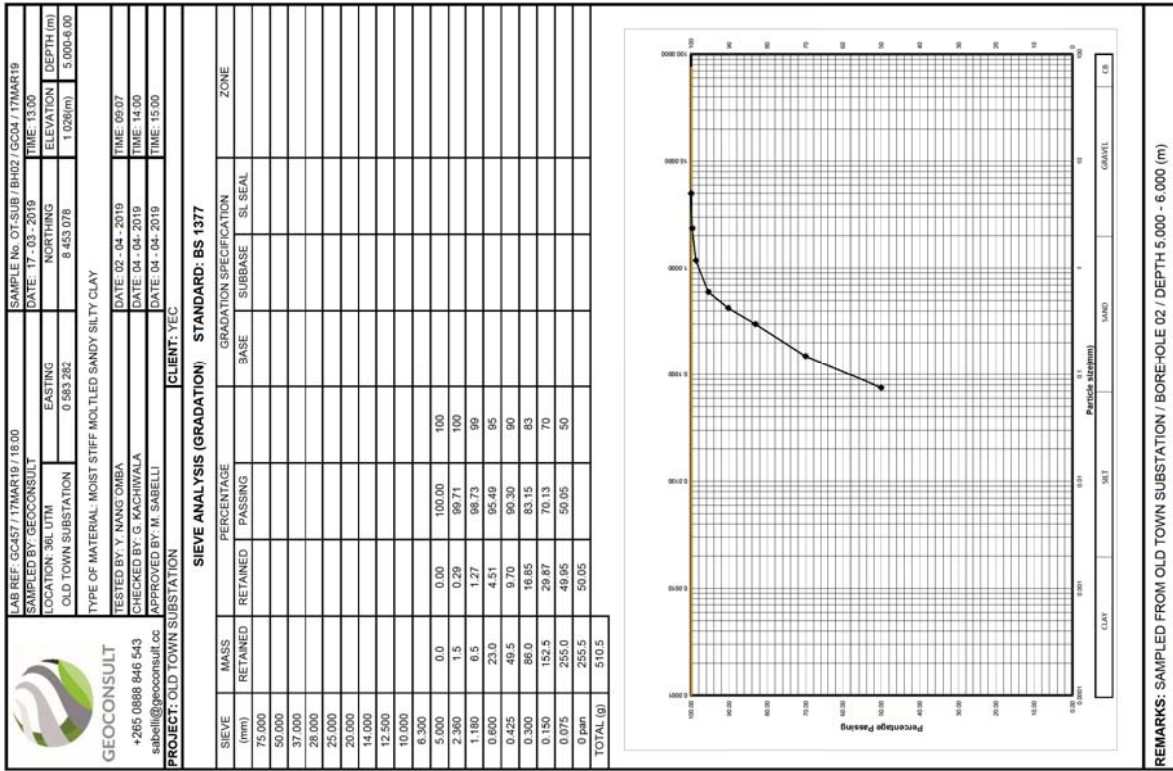
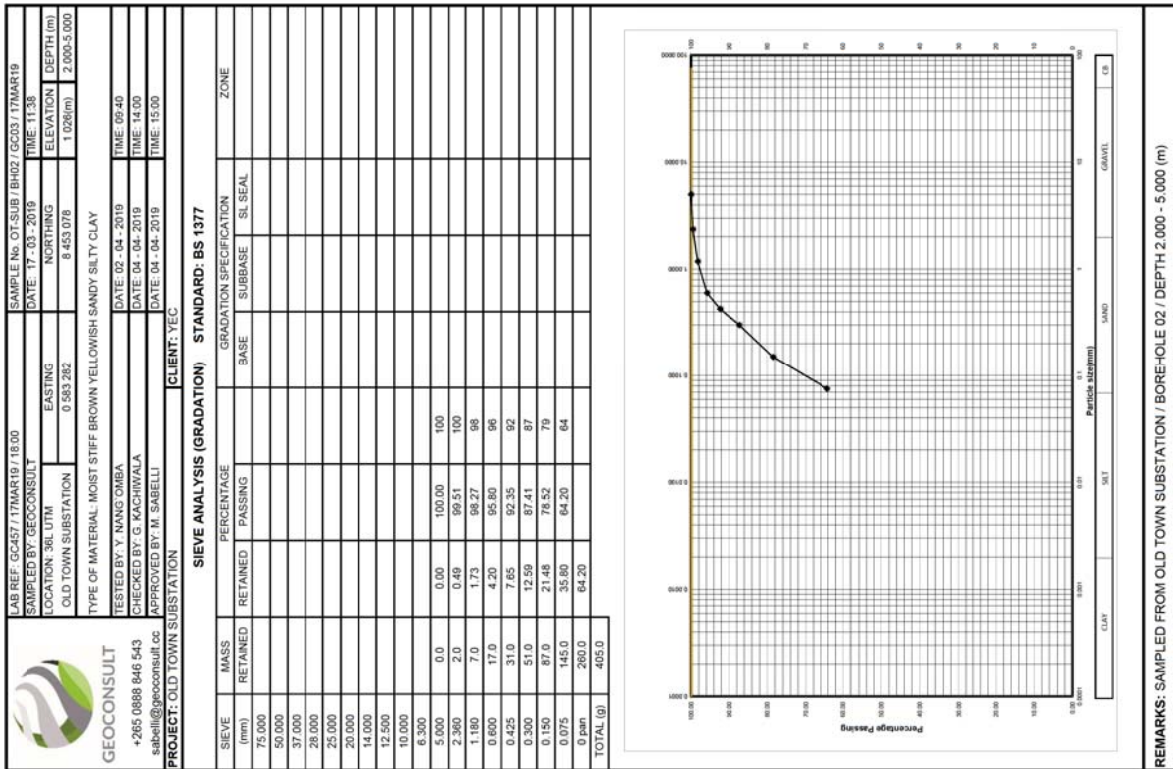
		LAB REF: GC58 / 18MART19 / 18.00 SAMPLED BY: GEOCONSULT LOCATION: 36L UTM OLD TOWN SUBSTATION EASTING: 0 583 276 NORTHING: 8 453 100 ELEVATION: 1 025 (m) DEPTH (m): 0.540 - 2.000		
TYPE OF MATERIAL: MOIST DARK REDDISH SANDY SILTY CLAY		DATE: 02-04-2019 TIME: 09:07 TESTED BY: G. KONDE		
+265 0888 846 543 subelli@geconsult.co		DATE: 04-04-2019 TIME: 14:00 CHECKED BY: G. KACHIWALA		
PROJECT: OLD TOWN SUBSTATION		DATE: 04-04-2019 TIME: 15:00 APPROVED BY: M. SABELLI		
CLIENT: YEC		STANDARD: BS 1377		
SIEVE ANALYSIS (GRADATION)		GRADATION SPECIFICATION		ZONE
SIEVE (mm)	MASS RETAINED	PERCENTAGE RETAINED	PERCENTAGE PASSING	
75.000	0.0	0.00	100.00	100
50.000	1.0	0.20	99.80	100
37.000	6.0	1.23	98.77	99
28.000	21.0	4.29	95.71	96
25.000	42.5	7.77	92.23	92
20.000	69.0	13.91	86.09	86
14.000	181.0	37.01	62.99	63
10.000	236.0	48.26	51.74	52
6.300	253.0	51.74		
5.000	0.0	0.00		
2.960	0.0	0.00		
1.180	0.0	0.00		
0.600	0.0	0.00		
0.425	0.0	0.00		
0.300	0.0	0.00		
0.150	0.0	0.00		
0.075	0.0	0.00		
0 pan	0.0	0.00		
TOTAL (g)	489.0			

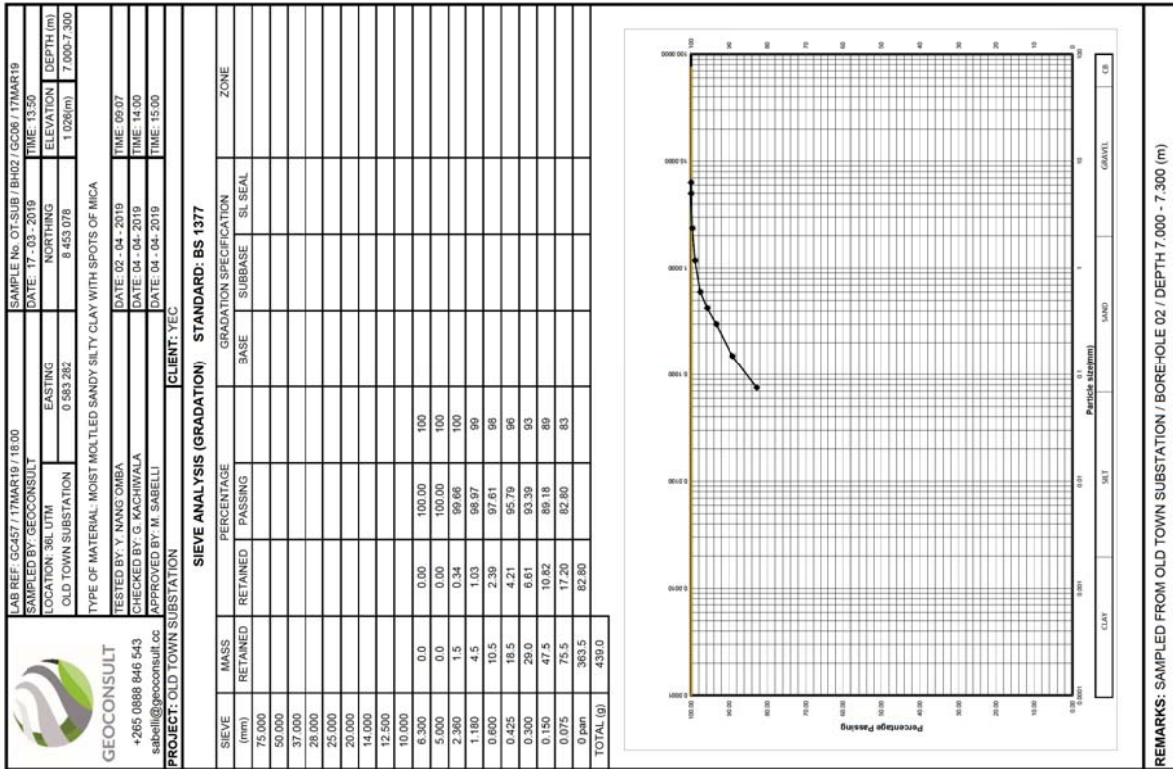
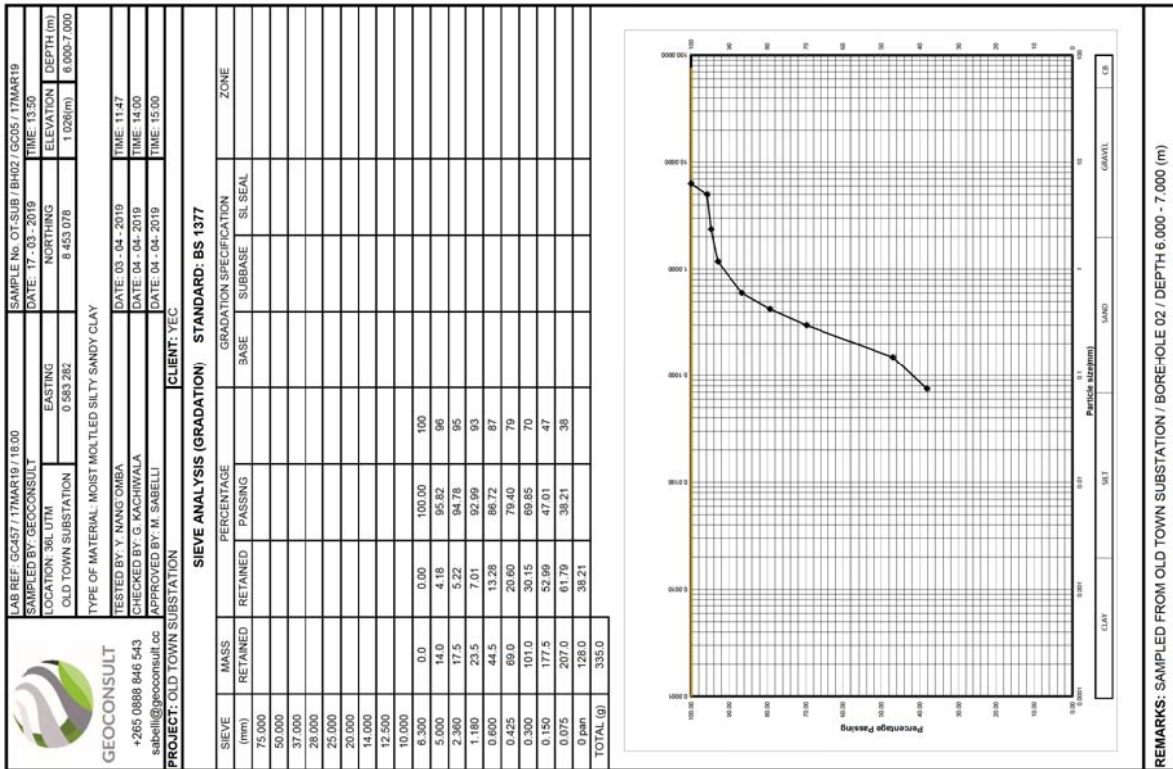


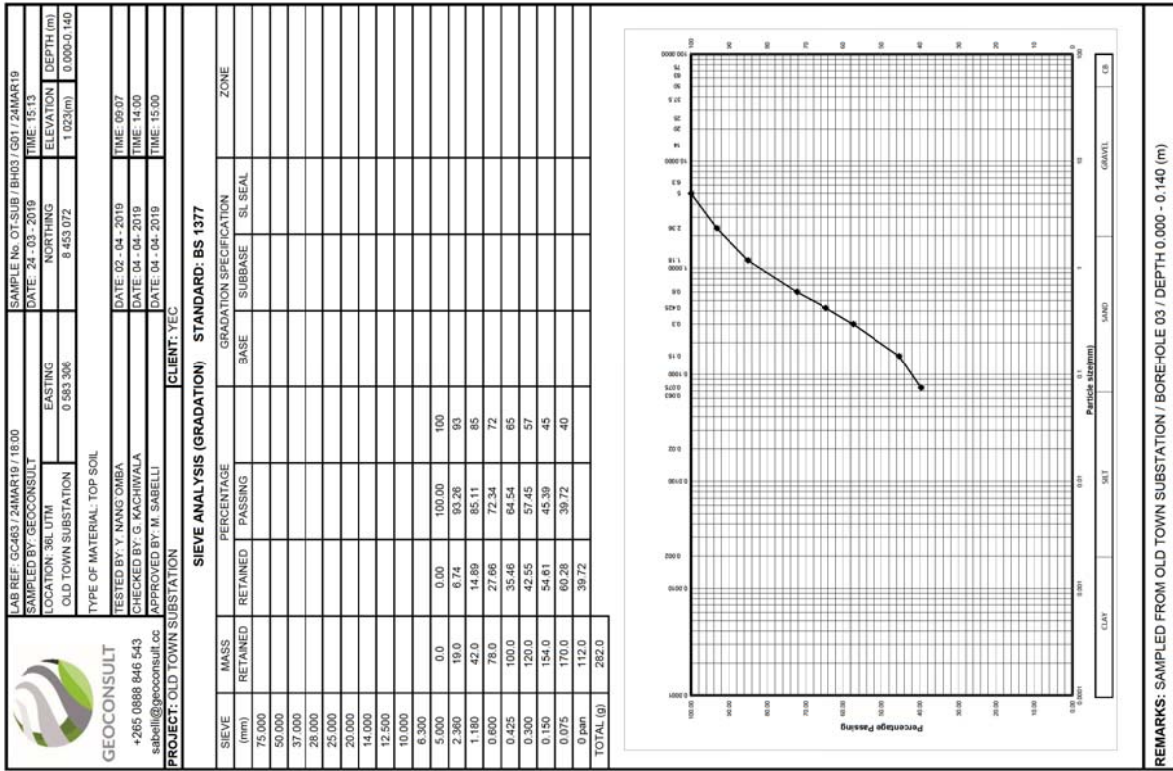
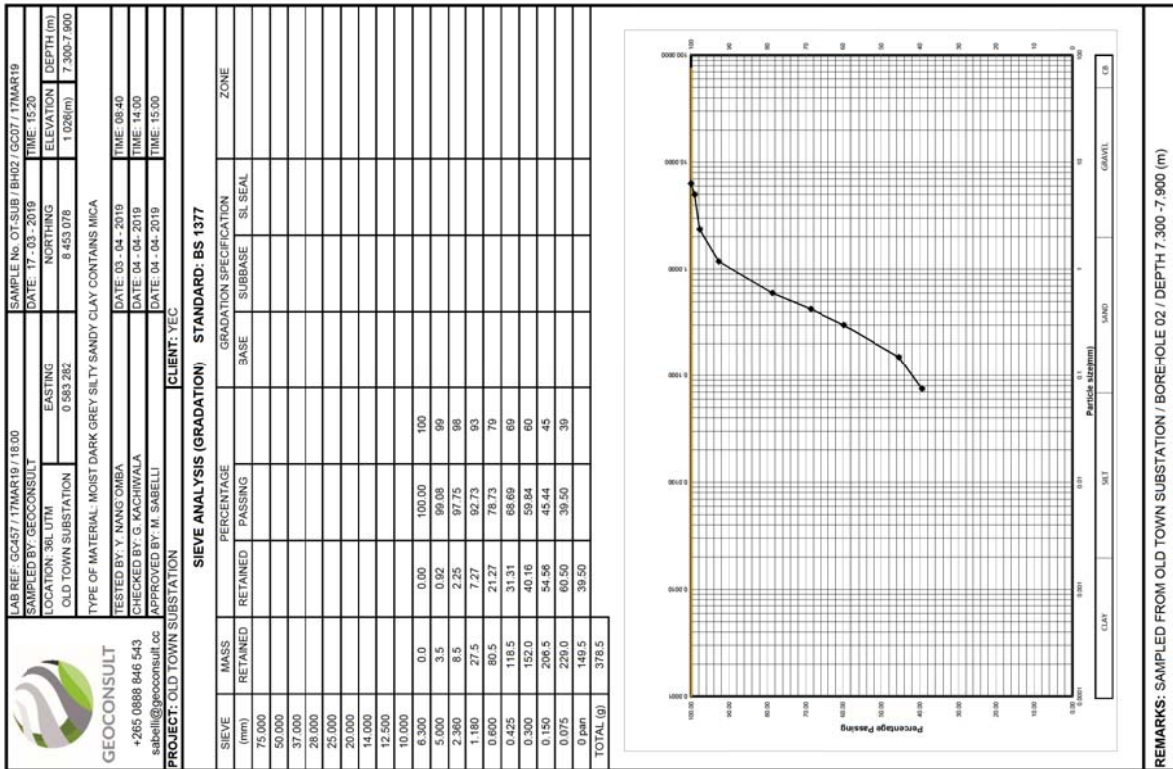
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / DEPTH 0.540 - 2.000 (m)

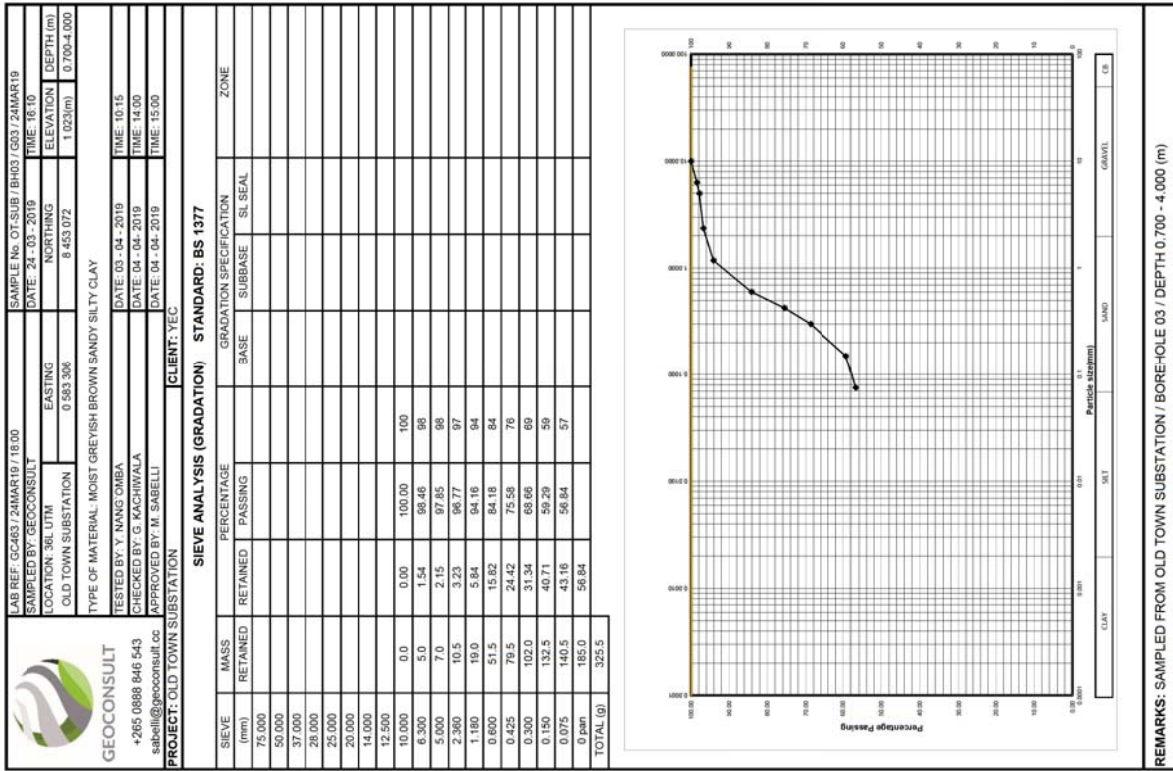
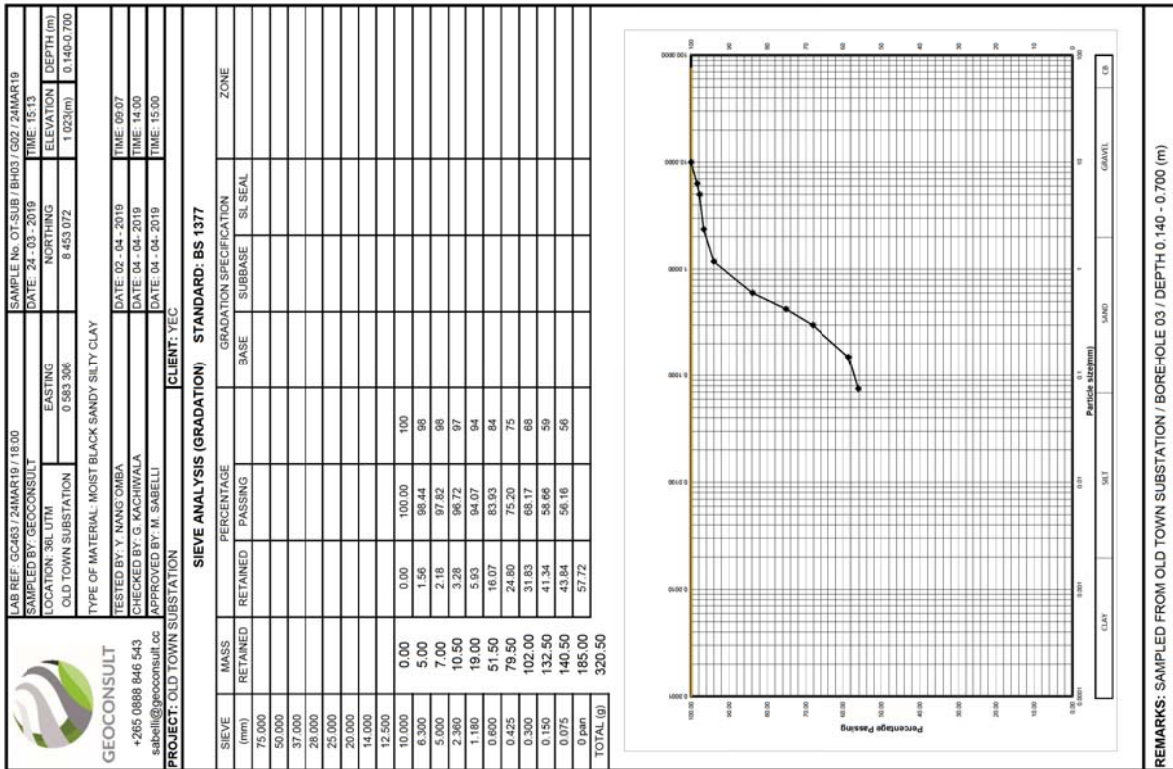


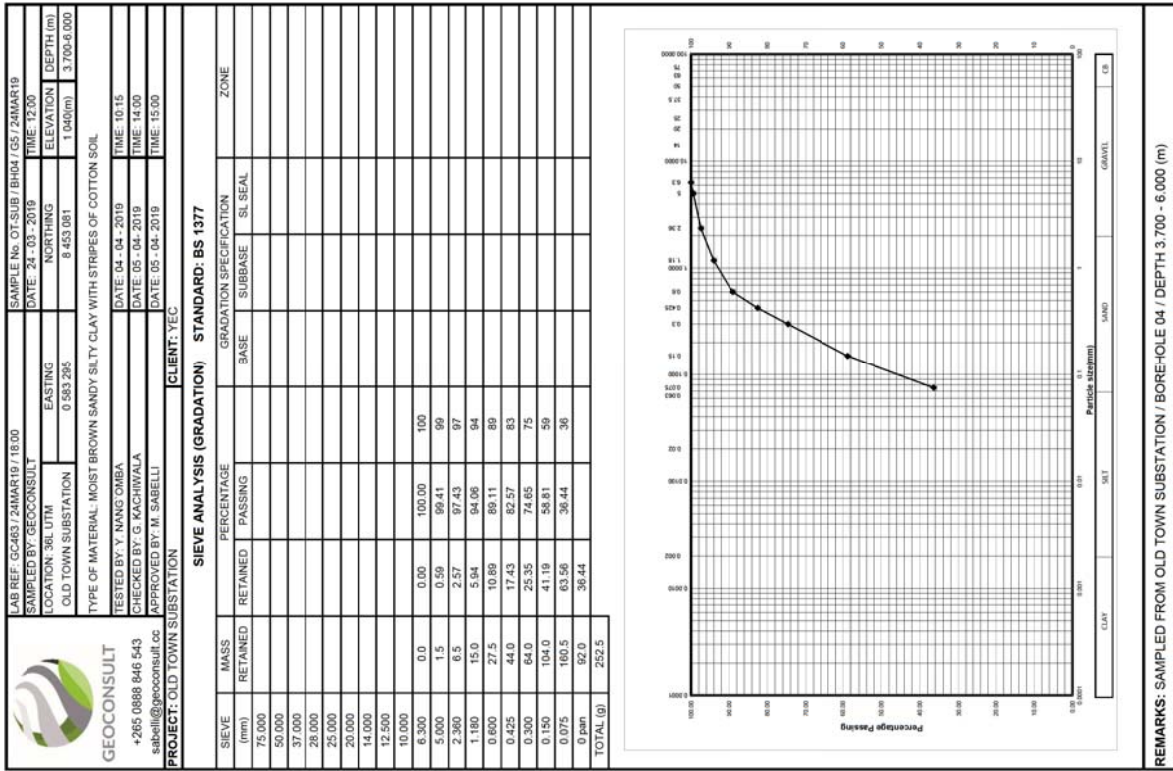
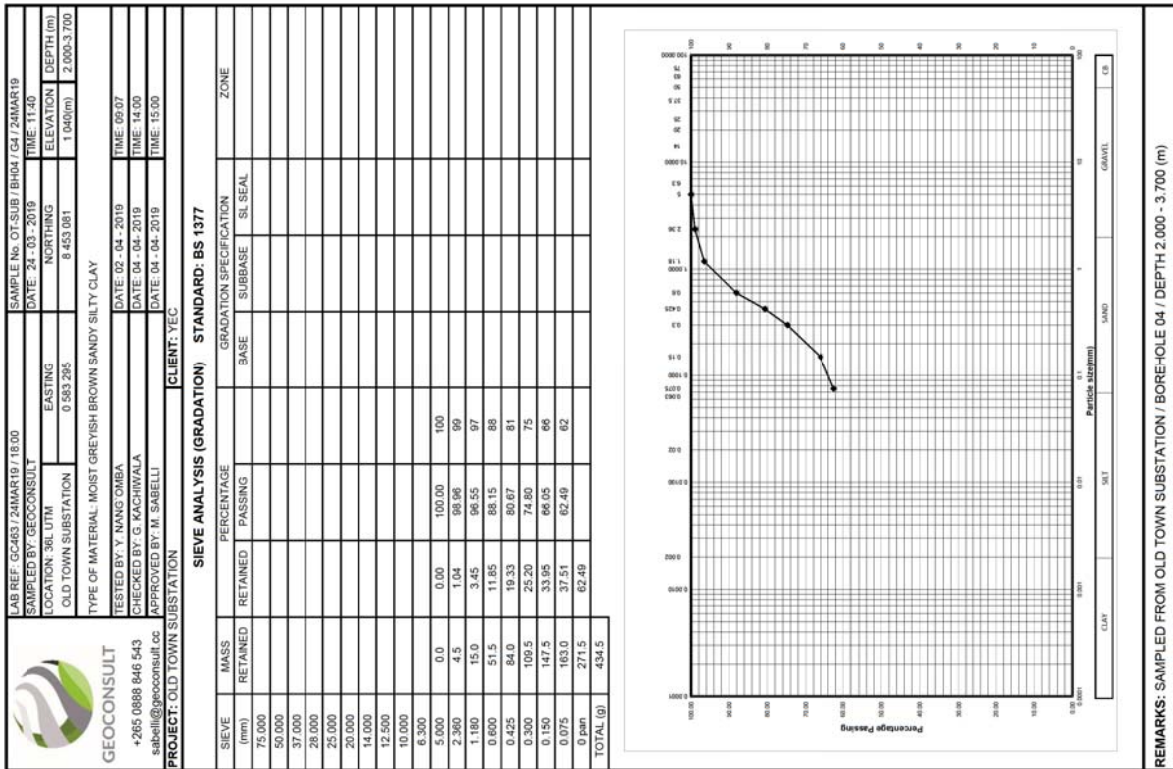


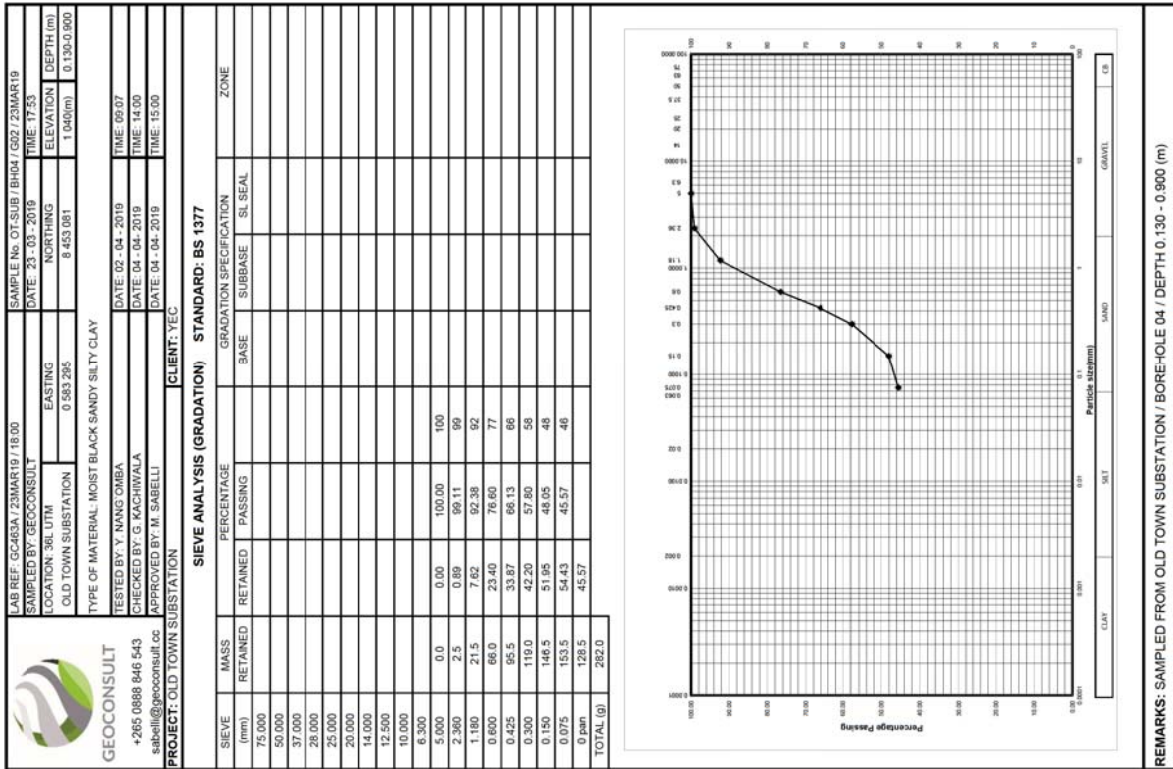
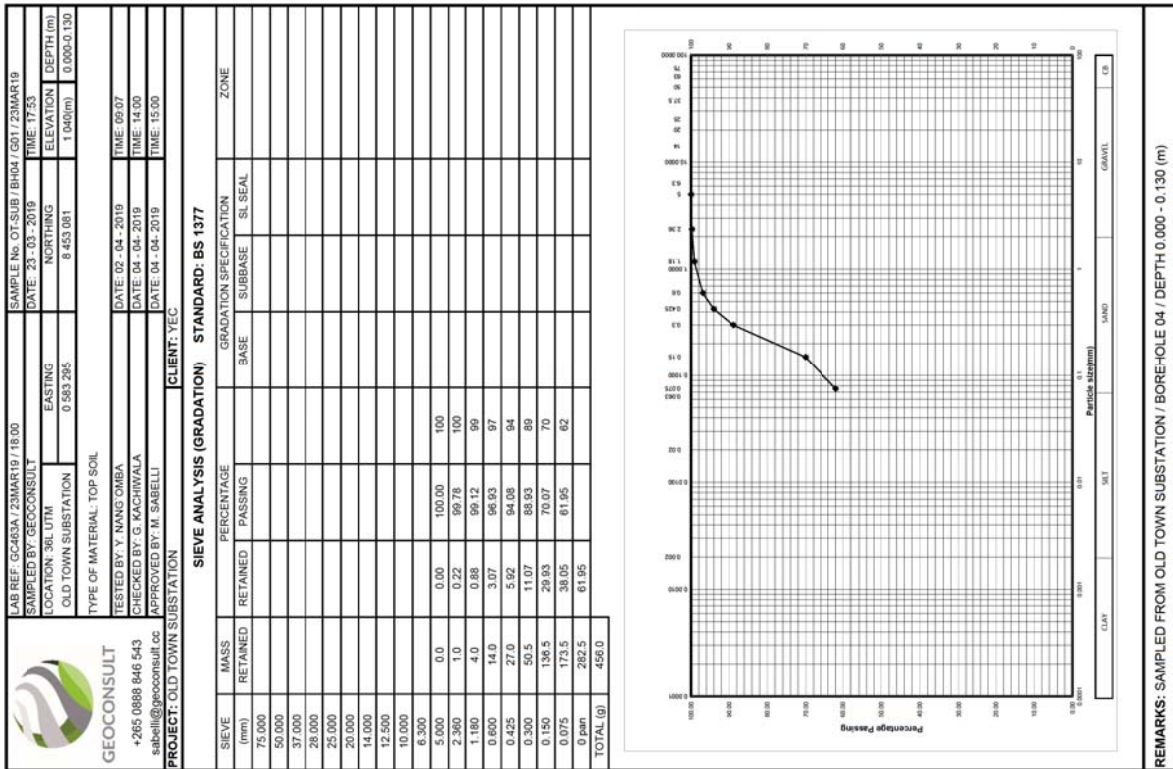




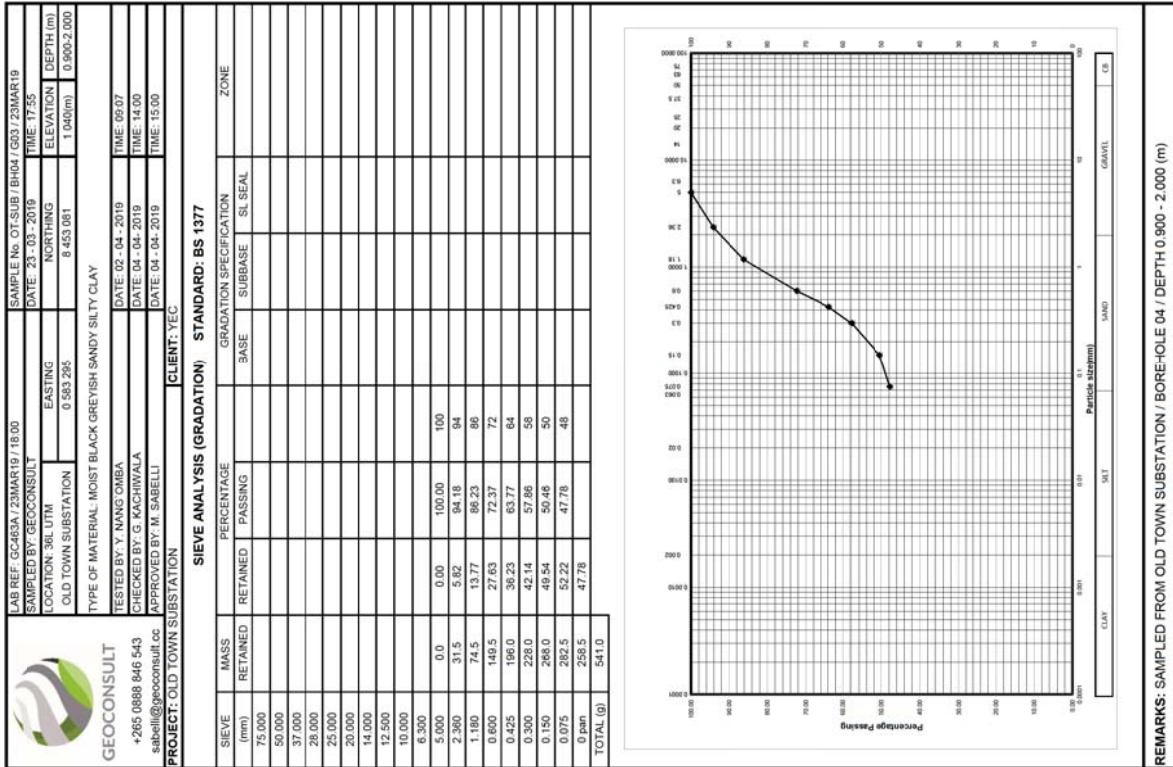












4.5 Natural Moisture Content





 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC488 / 18MART19 / 1800	SAMPLE No: OT-SUB / BH01 / NMC01 / 18MART19	
	SAMPLED BY: GEOCONSULT	DATE: 18 - 03 - 2019	TIME: 12:42
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 278	8 453 100	0.000-0.180
TYPE OF MATERIAL: MOIST BLACKISH BROWN SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	287.5		
MASS OF DRY SOIL AND CONTAINER (g)	238.0		
CONTAINER No.	GC5		
MASS OF CONTAINER (g)	66.5		
MASS OF DRY SOIL (g)	171.5		
MASS OF WATER (g)	49.5		
MOISTURE CONTENT %	28.9		
NATURAL MOISTURE CONTENT :			28.9
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / DEPTH 0.000 - 0.180 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC488 / 18MART19 / 1800	SAMPLE No: OT-SUB / BH01 / NMC02 / 18MART19	
	SAMPLED BY: GEOCONSULT	DATE: 18 - 03 - 2019	TIME: 12:42
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 278	8 453 100	0.180-0.540
TYPE OF MATERIAL: MOIST BLACK SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	277.5		
MASS OF DRY SOIL AND CONTAINER (g)	225.5		
CONTAINER No.	GC15		
MASS OF CONTAINER (g)	54.5		
MASS OF DRY SOIL (g)	171.0		
MASS OF WATER (g)	52.0		
MOISTURE CONTENT %	30.4		
NATURAL MOISTURE CONTENT :			30.4
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / DEPTH 0.180 - 0.540 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC488 / 18MART19 / 1800	SAMPLE No: OT-SUB / BH01 / NMC03 / 18MART19	
	SAMPLED BY: GEOCONSULT	DATE: 18 - 03 - 2019	TIME: 13:14
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 278	8 453 100	1 025 (m) / 0.540-2.000
TYPE OF MATERIAL: MOIST DARK REDDISH SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	273.5		
MASS OF DRY SOIL AND CONTAINER (g)	223.0		
CONTAINER No.	GC16		
MASS OF CONTAINER (g)	52.0		
MASS OF DRY SOIL (g)	171.0		
MASS OF WATER (g)	50.5		
MOISTURE CONTENT %	29.5		
NATURAL MOISTURE CONTENT :	29.5		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / DEPTH 0.540 - 2.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC488 / 18MART19 / 1800	SAMPLE No: OT-SUB / BH01 / NMC04 / 18MART19	
	SAMPLED BY: GEOCONSULT	DATE: 18 - 03 - 2019	TIME: 13:14
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 278	8 453 100	1 025 (m) / 2.000-3.100
TYPE OF MATERIAL: MOIST RED BLACKISH SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	294.0		
MASS OF DRY SOIL AND CONTAINER (g)	244.5		
CONTAINER No.	GC3		
MASS OF CONTAINER (g)	74.0		
MASS OF DRY SOIL (g)	170.5		
MASS OF WATER (g)	49.5		
MOISTURE CONTENT %	29.0		
NATURAL MOISTURE CONTENT :	29.0		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / DEPTH 2.000 - 3.100 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC488 / 18MART19 / 1800	SAMPLE No: OT-SUB / BH01 / NMC05 / 18MART19	
	SAMPLED BY: GEOCONSULT	DATE: 18 - 03 - 2019	TIME: 13:14
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 278	8 453 100	3.100-6.000
TYPE OF MATERIAL: MOIST MOTTLED SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	327.0		
MASS OF DRY SOIL AND CONTAINER (g)	269.5		
CONTAINER No.	GC19		
MASS OF CONTAINER (g)	48.5		
MASS OF DRY SOIL (g)	221.0		
MASS OF WATER (g)	57.5		
MOISTURE CONTENT %	26.0		
NATURAL MOISTURE CONTENT :	26.0		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / DEPTH 3.100 - 6.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC488 / 18MART19 / 1800	SAMPLE No: OT-SUB / BH01 / SPT/1MC06 / 18MART19	
	SAMPLED BY: GEOCONSULT	DATE: 18 - 03 - 2019	TIME: 12:45
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 278	8 453 100	1.000
TYPE OF MATERIAL: MOIST DARK REDDISH SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	331.5		
MASS OF DRY SOIL AND CONTAINER (g)	266.0		
CONTAINER No.	GC19A		
MASS OF CONTAINER (g)	49.0		
MASS OF DRY SOIL (g)	217.0		
MASS OF WATER (g)	65.5		
MOISTURE CONTENT %	30.2		
NATURAL MOISTURE CONTENT :	30.2		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / SPT @ 1.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC488 / 18MART19 / 1800	SAMPLE No: OT-SUB /BH01/SPT/1MC07/18MART19	
	SAMPLED BY: GEOCONSULT	DATE: 18 - 03 - 2019	TIME: 13:20
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 278	8 453 100	2.000
TYPE OF MATERIAL: MOIST DARK REDDISH SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	496.5		
MASS OF DRY SOIL AND CONTAINER (g)	399.5		
CONTAINER No.	GC8B		
MASS OF CONTAINER (g)	70.0		
MASS OF DRY SOIL (g)	329.5		
MASS OF WATER (g)	97.0		
MOISTURE CONTENT %	29.4		
NATURAL MOISTURE CONTENT :	29.4		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / SPT @ 2.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC488 / 18MART19 / 1800	SAMPLE No: OT-SUB /BH01/SPT/1MC08/18MART19	
	SAMPLED BY: GEOCONSULT	DATE: 18 - 03 - 2019	TIME: 13:38
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 278	8 453 100	3.000
TYPE OF MATERIAL: MOIST RED BLACKISH SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	561.5		
MASS OF DRY SOIL AND CONTAINER (g)	457.0		
CONTAINER No.	GC7		
MASS OF CONTAINER (g)	73.5		
MASS OF DRY SOIL (g)	383.5		
MASS OF WATER (g)	104.5		
MOISTURE CONTENT %	27.2		
NATURAL MOISTURE CONTENT :	27.2		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / SPT @ 3.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC488 / 18MART19 / 1800	SAMPLE No: OT-SUB /BH01/SPT/1MC09/18MART19	
	SAMPLED BY: GEOCONSULT	DATE: 18 - 03 - 2019	TIME: 14:24
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 278	8 453 100	4.000
TYPE OF MATERIAL: MOIST RED BLACKISH SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	546.5		
MASS OF DRY SOIL AND CONTAINER (g)	459.5		
CONTAINER No.	GC9		
MASS OF CONTAINER (g)	66.5		
MASS OF DRY SOIL (g)	393.0		
MASS OF WATER (g)	87.0		
MOISTURE CONTENT %	22.1		
NATURAL MOISTURE CONTENT :	22.1		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / SPT @ 4.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC488 / 18MART19 / 1800	SAMPLE No: OT-SUB /BH01/SPT/1MC10/18MART19	
	SAMPLED BY: GEOCONSULT	DATE: 18 - 03 - 2019	TIME: 16:12
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 278	8 453 100	5.000
TYPE OF MATERIAL: MOIST RED BLACKISH SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	557.0		
MASS OF DRY SOIL AND CONTAINER (g)	465.5		
CONTAINER No.	GC2B		
MASS OF CONTAINER (g)	73.0		
MASS OF DRY SOIL (g)	392.5		
MASS OF WATER (g)	91.5		
MOISTURE CONTENT %	23.3		
NATURAL MOISTURE CONTENT :	23.3		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / SPT @ 5.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC488 / 18MAR19 / 1800	SAMPLE No: OT-SUB / BH01 / SPT / NMC11 / 18MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 18 - 03 - 2019	TIME: 16:52
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 278	8 453 100	6.000
TYPE OF MATERIAL: MOIST RED BLACKISH SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	580.0		
MASS OF DRY SOIL AND CONTAINER (g)	510.5		
CONTAINER No.	GC21		
MASS OF CONTAINER (g)	49.5		
MASS OF DRY SOIL (g)	461.0		
MASS OF WATER (g)	69.5		
MOISTURE CONTENT %	15.1		
NATURAL MOISTURE CONTENT :	15.1		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 01 / SPT @ 6.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC457 / 17MAR19 / 1800	SAMPLE No: OT-SUB / BH02 / NMC01 / 17MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 17 - 03 - 2019	TIME: 10:13
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 282	8 453 078	1.025(m)
TYPE OF MATERIAL: MOIST DARK BROWN SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	295.0		
MASS OF DRY SOIL AND CONTAINER (g)	245.5		
CONTAINER No.	GC11		
MASS OF CONTAINER (g)	50.0		
MASS OF DRY SOIL (g)	195.5		
MASS OF WATER (g)	49.5		
MOISTURE CONTENT %	25.3		
NATURAL MOISTURE CONTENT :	25.3		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / DEPTH 0.000 - 0.500 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC457 / 17MAR19 / 1800	SAMPLE No: OT-SUB / BH02 / NMC02 / 17MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 17 - 03 - 2019	TIME: 10:50
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 282	8 453 078	1 026(m) / 0.500-2.000
TYPE OF MATERIAL: MOIST LIGHT BROWN SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	290.0		
MASS OF DRY SOIL AND CONTAINER (g)	245.0		
CONTAINER No.	GC10		
MASS OF CONTAINER (g)	50.0		
MASS OF DRY SOIL (g)	195.0		
MASS OF WATER (g)	45.0		
MOISTURE CONTENT %	23.1		
NATURAL MOISTURE CONTENT :	23.1		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / DEPTH 0.500 - 2.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC457 / 17MAR19 / 1800	SAMPLE No: OT-SUB / BH02 / NMC03 / 17MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 17 - 03 - 2019	TIME: 11:38
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 282	8 453 078	1 026(m) / 2.000-5.000
TYPE OF MATERIAL: MOIST STIFF BROWN YELLOWISH SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	311.5		
MASS OF DRY SOIL AND CONTAINER (g)	262.5		
CONTAINER No.	GC2B		
MASS OF CONTAINER (g)	73.0		
MASS OF DRY SOIL (g)	189.5		
MASS OF WATER (g)	49.0		
MOISTURE CONTENT %	25.9		
NATURAL MOISTURE CONTENT :	25.9		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / DEPTH 2.000 - 5.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC457 / 17MAR19 / 1800	SAMPLE No: OT-SUB / BH02 / NMC04 / 17MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 17 - 03 - 2019	TIME: 13:00
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 282	8 453 078	1 026(m) / 5.000-6.000
TYPE OF MATERIAL: MOIST STIFF MOLTLED SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	288.5		
MASS OF DRY SOIL AND CONTAINER (g)	223.0		
CONTAINER No.	GC13		
MASS OF CONTAINER (g)	47.5		
MASS OF DRY SOIL (g)	175.5		
MASS OF WATER (g)	45.5		
MOISTURE CONTENT %	25.9		
NATURAL MOISTURE CONTENT :	25.9		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / DEPTH 5.000 - 6.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC457 / 17MAR19 / 1800	SAMPLE No: OT-SUB / BH02 / NMC05 / 17MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 17 - 03 - 2019	TIME: 13:50
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 282	8 453 078	1 026(m) / 6.000-7.000
TYPE OF MATERIAL: MOIST MOLTLED SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	263.0		
MASS OF DRY SOIL AND CONTAINER (g)	230.5		
CONTAINER No.	GC111		
MASS OF CONTAINER (g)	51.5		
MASS OF DRY SOIL (g)	179.0		
MASS OF WATER (g)	32.5		
MOISTURE CONTENT %	18.2		
NATURAL MOISTURE CONTENT :	18.2		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / DEPTH 6.000 - 7.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC457 / 17MAR19 / 1800	SAMPLE No: OT-SUB / BH02 / NMC06 / 17MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 17 - 03 - 2019	TIME: 14:28
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 282	8 453 078	7 000-7 300
TYPE OF MATERIAL: MOIST MOTTLED SILTY SANDY CLAY WITH SPOTS OF MICA			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	351.0		
MASS OF DRY SOIL AND CONTAINER (g)	293.0		
CONTAINER No.	GC19A		
MASS OF CONTAINER (g)	49.0		
MASS OF DRY SOIL (g)	244.0		
MASS OF WATER (g)	58.0		
MOISTURE CONTENT %	23.8		
NATURAL MOISTURE CONTENT :	23.8		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / DEPTH 7.000 - 7.300 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC457 / 17MAR19 / 1800	SAMPLE No: OT-SUB / BH02 / NMC07 / 17MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 17 - 03 - 2019	TIME: 15:20
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 282	8 453 078	7 300-7 900
TYPE OF MATERIAL: MOIST DARK GREY SILTY SANDY CLAY CONTAINS MICA			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	359.5		
MASS OF DRY SOIL AND CONTAINER (g)	312.0		
CONTAINER No.	GC3		
MASS OF CONTAINER (g)	74.0		
MASS OF DRY SOIL (g)	238.0		
MASS OF WATER (g)	47.5		
MOISTURE CONTENT %	20.0		
NATURAL MOISTURE CONTENT :	20.0		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / DEPTH 7.300 - 7.900 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC457/17MART19/1800	SAMPLE No: OT-SUB /BH02/SPT/NC08/17MART19	
	SAMPLED BY: GEOCONSULT	DATE: 17 - 03 - 2019	TIME: 10:15
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 282	8 453 078	1.000
TYPE OF MATERIAL: MOIST LIGHT BROWN SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	466.0		
MASS OF DRY SOIL AND CONTAINER (g)	391.5		
CONTAINER No.	DTB		
MASS OF CONTAINER (g)	121.5		
MASS OF DRY SOIL (g)	270.0		
MASS OF WATER (g)	74.5		
MOISTURE CONTENT %	27.6		
NATURAL MOISTURE CONTENT :	27.6		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / SPT @ 1.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC457/17MART19/1800	SAMPLE No: OT-SUB /BH02/SPT/NC08/17MART19	
	SAMPLED BY: GEOCONSULT	DATE: 17 - 03 - 2019	TIME: 10:59
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 282	8 453 078	2.000
TYPE OF MATERIAL: MOIST LIGHT BROWN SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	423.5		
MASS OF DRY SOIL AND CONTAINER (g)	351.0		
CONTAINER No.	GC7		
MASS OF CONTAINER (g)	73.5		
MASS OF DRY SOIL (g)	277.5		
MASS OF WATER (g)	72.5		
MOISTURE CONTENT %	26.1		
NATURAL MOISTURE CONTENT :	26.1		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / SPT @ 2.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC457 / 17MAR19 / 1800	SAMPLE No: OT-SUB /BH02/SPT/NC10/17MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 17 - 03 - 2019	TIME: 11:42
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 282	8 453 078	3.000
TYPE OF MATERIAL: MOIST BROWN YELLOWISH SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	522.0		
MASS OF DRY SOIL AND CONTAINER (g)	445.5		
CONTAINER No.	GOK		
MASS OF CONTAINER (g)	126.5		
MASS OF DRY SOIL (g)	319.0		
MASS OF WATER (g)	76.5		
MOISTURE CONTENT %	24.0		
NATURAL MOISTURE CONTENT :	24.0		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / SPT @ 3.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC457 / 17MAR19 / 1800	SAMPLE No: OT-SUB /BH02/SPT/NC11/17MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 17 - 03 - 2019	TIME: 12:17
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 282	8 453 078	4.000
TYPE OF MATERIAL: MOIST STIFF BROWN YELLOWISH SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	573.0		
MASS OF DRY SOIL AND CONTAINER (g)	502.0		
CONTAINER No.	GC23		
MASS OF CONTAINER (g)	79.0		
MASS OF DRY SOIL (g)	423.0		
MASS OF WATER (g)	71.0		
MOISTURE CONTENT %	16.8		
NATURAL MOISTURE CONTENT :	16.8		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / SPT @ 4.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC457/17MAR19/1800	SAMPLE No: OT-SUB /BH02/SPT/NMC12/17MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 17 - 03 - 2019	TIME: 13:07
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 282	8 453 078	5.000
TYPE OF MATERIAL: MOIST STIFF MOLTLED SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	591.5		
MASS OF DRY SOIL AND CONTAINER (g)	473.0		
CONTAINER No.	C23		
MASS OF CONTAINER (g)	92.0		
MASS OF DRY SOIL (g)	381.0		
MASS OF WATER (g)	118.5		
MOISTURE CONTENT %	31.1		
NATURAL MOISTURE CONTENT :		31.1	
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / SPT @ 5.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC457/17MAR19/1800	SAMPLE No: OT-SUB /BH02/SPT/NMC13/17MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 17 - 03 - 2019	TIME: 13:54
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 282	8 453 078	6.000
TYPE OF MATERIAL: MOIST STIFF MOLTLED SILTY SANDY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	703.5		
MASS OF DRY SOIL AND CONTAINER (g)	588.0		
CONTAINER No.	GC28		
MASS OF CONTAINER (g)	103.0		
MASS OF DRY SOIL (g)	495.0		
MASS OF WATER (g)	105.5		
MOISTURE CONTENT %	21.3		
NATURAL MOISTURE CONTENT :		21.3	
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / SPT @ 6.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC457/17MAR19/1800	SAMPLE No: OT-SUB /BH02/SPT/NC14/17MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 17 - 03 - 2019	TIME: 14:33
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 282	8 453 078	7.000
TYPE OF MATERIAL: MOIST STIFF MOTTLED SANDY SILTY CLAY WITH SPOTS OF MICA			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	612.0		
MASS OF DRY SOIL AND CONTAINER (g)	546.0		
CONTAINER No.	GCI		
MASS OF CONTAINER (g)	88.0		
MASS OF DRY SOIL (g)	458.0		
MASS OF WATER (g)	66.0		
MOISTURE CONTENT %	14.4		
NATURAL MOISTURE CONTENT :	14.4		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / SPT @ 7.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC457/17MAR19/1800	SAMPLE No: OT-SUB /BH02/SPT/NC15/17MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 17 - 03 - 2019	TIME: 14:33
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 282	8 453 078	7.900
TYPE OF MATERIAL: MOIST DARK GREY SILTY SANDY CLAY CONTAINS MICA			
TESTED BY: Y. MANGOMBA	DATE: 19 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 20 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 20 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	612.0		
MASS OF DRY SOIL AND CONTAINER (g)	546.0		
CONTAINER No.	GCI		
MASS OF CONTAINER (g)	88.0		
MASS OF DRY SOIL (g)	458.0		
MASS OF WATER (g)	66.0		
MOISTURE CONTENT %	14.4		
NATURAL MOISTURE CONTENT :	14.4		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 02 / SPT @ 7.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC463 / 24MAR19 / 18:00	SAMPLE No: OT-SUB / BH03 / NMC01 / 24MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 24 - 03 - 2019	TIME: 15:13
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 306	8 453 072	0 000-0.140
TYPE OF MATERIAL: TOP SOIL			
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	340.0		
MASS OF DRY SOIL AND CONTAINER (g)	300.5		
CONTAINER No.	GC14B		
MASS OF CONTAINER (g)	52.0		
MASS OF DRY SOIL (g)	248.5		
MASS OF WATER (g)	39.5		
MOISTURE CONTENT %	15.9		
NATURAL MOISTURE CONTENT :	15.9		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 03 / DEPTH 0.000 - 0.140 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC463 / 24MAR19 / 18:00	SAMPLE No: OT-SUB / BH03 / NMC02 / 24MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 24 - 03 - 2019	TIME: 15:13
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 306	8 453 072	0.140-0.700
TYPE OF MATERIAL: MOIST BLACK SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	270.0		
MASS OF DRY SOIL AND CONTAINER (g)	223.0		
CONTAINER No.	GC4		
MASS OF CONTAINER (g)	51.0		
MASS OF DRY SOIL (g)	172.0		
MASS OF WATER (g)	47.0		
MOISTURE CONTENT %	27.3		
NATURAL MOISTURE CONTENT :	27.3		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 03 / DEPTH 0.140 - 0.700 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC463 / 24MAR19 / 18:00	SAMPLE No: OT-SUB / BH03 / NMC03 / 24MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 24 - 03 - 2019	TIME: 16:10
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 306	8 453 072	1 023(m) 0.700-4.000
TYPE OF MATERIAL: MOIST GREY/ISH BROWN SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	345.5		
MASS OF DRY SOIL AND CONTAINER (g)	281.5		
CONTAINER No.	GC1		
MASS OF CONTAINER (g)	74.0		
MASS OF DRY SOIL (g)	207.5		
MASS OF WATER (g)	64.0		
MOISTURE CONTENT %	30.8		
NATURAL MOISTURE CONTENT :	30.8		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 03 / DEPTH 0.700 - 4.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC463 / 24MAR19 / 18:00	SAMPLE No: OT-SUB / BH03 / SPT / NMC04 / 24MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 24 - 03 - 2019	TIME: 15:28
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 306	8 453 072	1 023(m) 1.000
TYPE OF MATERIAL: MOIST GREY/ISH BROWN SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	462.0		
MASS OF DRY SOIL AND CONTAINER (g)	364.0		
CONTAINER No.	GC8		
MASS OF CONTAINER (g)	49.0		
MASS OF DRY SOIL (g)	315.0		
MASS OF WATER (g)	98.0		
MOISTURE CONTENT %	31.1		
NATURAL MOISTURE CONTENT :	31.1		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 03 / SPT @ 1.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC463 / 24MAR19 / 18:00	SAMPLE No: OT-SUB /BH03/SPT/NC05/24MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 24 - 03 - 2019	TIME: 15:43
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 306	8 453 072	2.000
TYPE OF MATERIAL: MOIST GREY/ISH BROWN SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	549.0		
MASS OF DRY SOIL AND CONTAINER (g)	426.0		
CONTAINER No.	GC111		
MASS OF CONTAINER (g)	51.5		
MASS OF DRY SOIL (g)	374.5		
MASS OF WATER (g)	123.0		
MOISTURE CONTENT %	32.8		
NATURAL MOISTURE CONTENT :	32.8		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 03 / SPT @ 2.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC463 / 24MAR19 / 18:00	SAMPLE No: OT-SUB /BH03/SPT/NC06/24MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 24 - 03 - 2019	TIME: 15:59
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 306	8 453 072	3.000
TYPE OF MATERIAL: MOIST GREY/ISH BROWN SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	497.5		
MASS OF DRY SOIL AND CONTAINER (g)	393.5		
CONTAINER No.	GC11		
MASS OF CONTAINER (g)	50.0		
MASS OF DRY SOIL (g)	343.5		
MASS OF WATER (g)	104.0		
MOISTURE CONTENT %	30.3		
NATURAL MOISTURE CONTENT :	30.3		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 03 / SPT @ 3.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC463 / 24MAR19 / 18:00	SAMPLE No: OT-SUB /BH03/SPT/1MC07/24MAR19		
	SAMPLED BY: GEOCONSULT	DATE: 24 - 03 - 2019	TIME: 16:21	
LOCATION: 36L UTM	EASTING	NORTHING	ELEVATION	DEPTH (m)
OLD TOWN SUBSTATION	0 583 306	8 453 072	1 023(m)	4.000
TYPE OF MATERIAL: MOIST GREY/ISH BROWN SANDY SILTY CLAY				
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30		
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00		
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00		
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC			
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377				
MASS OF WET SOIL + CONTAINER (g)	712.0			
MASS OF DRY SOIL AND CONTAINER (g)	565.5			
CONTAINER No.	GC65			
MASS OF CONTAINER (g)	104.5			
MASS OF DRY SOIL (g)	461.0			
MASS OF WATER (g)	146.5			
MOISTURE CONTENT %	31.8			
NATURAL MOISTURE CONTENT :	31.8			
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 03 / SPT @ 4.000 (m)				


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC464 / 25MAR19 / 18:00	SAMPLE No: OT-SUB /BH03/SPT/1MC08/25MAR19		
	SAMPLED BY: GEOCONSULT	DATE: 25 - 03 - 2019	TIME: 10:01	
LOCATION: 36L UTM	EASTING	NORTHING	ELEVATION	DEPTH (m)
OLD TOWN SUBSTATION	0 583 306	8 453 072	1 023(m)	5.000
TYPE OF MATERIAL: MOIST GREY/ISH BROWN SANDY SILTY CLAY				
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30		
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00		
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00		
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC			
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377				
MASS OF WET SOIL + CONTAINER (g)	693.5			
MASS OF DRY SOIL AND CONTAINER (g)	584.5			
CONTAINER No.	GC28			
MASS OF CONTAINER (g)	103.0			
MASS OF DRY SOIL (g)	481.5			
MASS OF WATER (g)	109.0			
MOISTURE CONTENT %	22.6			
NATURAL MOISTURE CONTENT :	22.6			
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 03 / SPT @ 5.000 (m)				


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC464 / 25MART19 / 18:00	SAMPLE No: OT-SUB /BH03/SPT/1MC09/25/MAR19		
	SAMPLED BY: GEOCONSULT	DATE: 25 - 03 - 2019	TIME: 10:19	
LOCATION: 36L UTM	EASTING	NORTHING	ELEVATION	DEPTH (m)
OLD TOWN SUBSTATION	0 583 306	8 453 072	1 023(m)	6.000
TYPE OF MATERIAL: MOIST GREYISH BROWN SANDY SILTY CLAY				
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30		
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00		
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00		
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC			
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377				
MASS OF WET SOIL + CONTAINER (g)	182.5			
MASS OF DRY SOIL AND CONTAINER (g)	168.0			
CONTAINER No.	GC31			
MASS OF CONTAINER (g)	90.5			
MASS OF DRY SOIL (g)	77.5			
MASS OF WATER (g)	14.5			
MOISTURE CONTENT %	18.7			
NATURAL MOISTURE CONTENT :	18.7			
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 03 / SPT @ 6.000 (m)				


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC464 / 25MART19 / 18:00	SAMPLE No: OT-SUB /BH03/SPT/1MC10/25/MAR19		
	SAMPLED BY: GEOCONSULT	DATE: 25 - 03 - 2019	TIME: 10:36	
LOCATION: 36L UTM	EASTING	NORTHING	ELEVATION	DEPTH (m)
OLD TOWN SUBSTATION	0 583 306	8 453 072	1 023(m)	7.000
TYPE OF MATERIAL: MOIST DECOMPOSED ROCK				
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30		
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00		
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00		
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC			
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377				
MASS OF WET SOIL + CONTAINER (g)	625.5			
MASS OF DRY SOIL AND CONTAINER (g)	504.5			
CONTAINER No.	GC32			
MASS OF CONTAINER (g)	91.5			
MASS OF DRY SOIL (g)	413.0			
MASS OF WATER (g)	121.0			
MOISTURE CONTENT %	29.3			
NATURAL MOISTURE CONTENT :	29.3			
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 03 / SPT @ 7.000 (m)				


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC463 / 24MAR19 / 18:00	SAMPLE No: OT-SUB / BH04 / NMC04 / 24MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 24 - 03 - 2019	TIME: 11:40
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 295	8 453 081	2,000-3,700
TYPE OF MATERIAL: MOIST GREYISH BROWN SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	289.5		
MASS OF DRY SOIL AND CONTAINER (g)	230.5		
CONTAINER No.	GC17		
MASS OF CONTAINER (g)	51.0		
MASS OF DRY SOIL (g)	179.5		
MASS OF WATER (g)	59.0		
MOISTURE CONTENT %	32.9		
NATURAL MOISTURE CONTENT :	32.9		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 04 / DEPTH 2,000 - 3,700 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC463 / 24MAR19 / 18:00	SAMPLE No: OT-SUB / BH04 / NMC05 / 24MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 24 - 03 - 2019	TIME: 12:00
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 295	8 453 081	3,700-6,000
TYPE OF MATERIAL: MOIST BROWN SANDY SILTY CLAY WITH STRIPES OF COTTON SOIL			
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	301.0		
MASS OF DRY SOIL AND CONTAINER (g)	252.5		
CONTAINER No.	GC12		
MASS OF CONTAINER (g)	70.0		
MASS OF DRY SOIL (g)	182.5		
MASS OF WATER (g)	48.5		
MOISTURE CONTENT %	26.6		
NATURAL MOISTURE CONTENT :	26.6		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 04 / DEPTH 3,700 - 6,000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC463 / 24MAR19 / 18:00	SAMPLE No: OT-SUB /BH04/SPT/1MC07/24MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 24 - 03 - 2019	TIME: 11:20
LOCATION: 36L UTM	EASTING	NORTHING	ELEVATION
OLD TOWN SUBSTATION	0 583 295	8 453 081	1 040(m)
TYPE OF MATERIAL: MOIST BLACK GREYISH SANDY SILTY CLAY			DEPTH (m)
			2.000
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	510.5		
MASS OF DRY SOIL AND CONTAINER (g)	409.5		
CONTAINER No.	GC23		
MASS OF CONTAINER (g)	92.0		
MASS OF DRY SOIL (g)	317.5		
MASS OF WATER (g)	101.0		
MOISTURE CONTENT %	31.8		
NATURAL MOISTURE CONTENT :	31.8		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 04 / SPT @ 2.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC463 / 24MAR19 / 18:00	SAMPLE No: OT-SUB /BH04/SPT/1MC08/24MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 24 - 03 - 2019	TIME: 11:42
LOCATION: 36L UTM	EASTING	NORTHING	ELEVATION
OLD TOWN SUBSTATION	0 583 295	8 453 081	1 040(m)
TYPE OF MATERIAL: MOIST GREYISH BROWN SANDY SILTY CLAY			DEPTH (m)
			3.000
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	667.0		
MASS OF DRY SOIL AND CONTAINER (g)	538.0		
CONTAINER No.	DTB		
MASS OF CONTAINER (g)	121.5		
MASS OF DRY SOIL (g)	416.5		
MASS OF WATER (g)	129.0		
MOISTURE CONTENT %	31.0		
NATURAL MOISTURE CONTENT :	31.0		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 04 / SPT @ 3.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC463 / 24MAR19 / 18:00	SAMPLE No: OT-SUB /BH04/SPT/1MC09/24MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 24 - 03 - 2019	TIME: 12:07
LOCATION: 36L UTM	EASTING	NORTHING	ELEVATION
OLD TOWN SUBSTATION	0 583 295	8 453 081	1 040(m)
TYPE OF MATERIAL: MOIST BROWN SANDY SILTY CLAY WITH STRIPES OF COTTON SOIL			DEPTH (m)
			4.000
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	489.0		
MASS OF DRY SOIL AND CONTAINER (g)	396.0		
CONTAINER No.	GC13		
MASS OF CONTAINER (g)	47.5		
MASS OF DRY SOIL (g)	348.5		
MASS OF WATER (g)	93.0		
MOISTURE CONTENT %	26.7		
NATURAL MOISTURE CONTENT :	26.7		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 04 / SPT @ 4.000 (m)			

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC463 / 24MAR19 / 18:00	SAMPLE No: OT-SUB /BH04/SPT/1MC10/24MAR19	
	SAMPLED BY: GEOCONSULT	DATE: 24 - 03 - 2019	TIME: 12:50
LOCATION: 36L UTM	EASTING	NORTHING	ELEVATION
OLD TOWN SUBSTATION	0 583 295	8 453 081	1 040(m)
TYPE OF MATERIAL: MOIST BROWN SANDY SILTY CLAY WITH STRIPES OF COTTON SOIL			DEPTH (m)
			5.000
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	525.5		
MASS OF DRY SOIL AND CONTAINER (g)	445.5		
CONTAINER No.	GCK		
MASS OF CONTAINER (g)	127.0		
MASS OF DRY SOIL (g)	318.5		
MASS OF WATER (g)	80.0		
MOISTURE CONTENT %	25.1		
NATURAL MOISTURE CONTENT :	25.1		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 04 / SPT @ 5.000 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC463A / 23MART19 / 1800	SAMPLE No: OT-SUB / BH04 / NMC01 / 23MART19	
	SAMPLED BY: GEOCONSULT	DATE: 23 - 03 - 2019	TIME: 17:53
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 295	8 453 081	0.000-0.130
TYPE OF MATERIAL: TOP SOIL			
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	290.0		
MASS OF DRY SOIL AND CONTAINER (g)	244.0		
CONTAINER No.	GC10		
MASS OF CONTAINER (g)	66.0		
MASS OF DRY SOIL (g)	178.0		
MASS OF WATER (g)	46.0		
MOISTURE CONTENT %	25.8		
NATURAL MOISTURE CONTENT :	25.8		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 04 / DEPTH 0.000 - 0.130 (m)			


 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC463A / 23MART19 / 1800	SAMPLE No: OT-SUB / BH04 / NMC02 / 23MART19	
	SAMPLED BY: GEOCONSULT	DATE: 23 - 03 - 2019	TIME: 17:55
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 295	8 453 081	0.130-0.900
TYPE OF MATERIAL: MOIST BLACK SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	344.0		
MASS OF DRY SOIL AND CONTAINER (g)	288.0		
CONTAINER No.	GC14		
MASS OF CONTAINER (g)	69.0		
MASS OF DRY SOIL (g)	219.0		
MASS OF WATER (g)	56.0		
MOISTURE CONTENT %	25.6		
NATURAL MOISTURE CONTENT :	25.6		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 04 / DEPTH 0.130 - 0.900 (m)			

 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC463A / 23MART19 / 1800	SAMPLE No: OT-SUB / BH04 / NMC03 / 23MART19	
	SAMPLED BY: GEOCONSULT	DATE: 23 - 03 - 2019	TIME: 17:55
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 295	8 453 081	0.900-2.000
TYPE OF MATERIAL: MOIST BLACK GREYISH SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	351.0		
MASS OF DRY SOIL AND CONTAINER (g)	284.0		
CONTAINER No.	GC6		
MASS OF CONTAINER (g)	76.0		
MASS OF DRY SOIL (g)	208.0		
MASS OF WATER (g)	67.0		
MOISTURE CONTENT %	32.2		
NATURAL MOISTURE CONTENT :	32.2		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 04 / DEPTH 0.900 - 2.000 (m)			



 <p>GEOCONSULT +265 0888 846 543 sabelli@geoconsult.co</p>	LAB REF: GC463A / 23MART19 / 1800	SAMPLE No: OT-SUB / BH04 / SPT/ NMC06 / 23MART19	
	SAMPLED BY: GEOCONSULT	DATE: 23 - 03 - 2019	TIME: 17:48
LOCATION: 36L UTM	EASTING	NORTHING	DEPTH (m)
OLD TOWN SUBSTATION	0 583 295	8 453 081	1.040(m)
TYPE OF MATERIAL: MOIST BLACK GREYISH SANDY SILTY CLAY			
TESTED BY: Y. MANGOMBA	DATE: 26 - 03 - 2019	TIME: 08:30	
CHECKED BY: G. KACHIWALA	DATE: 27 - 03 - 2019	TIME: 09:00	
APPROVED BY: M. SABELLI	DATE: 27 - 03 - 2019	TIME: 10:00	
PROJECT: OLD TOWN SUBSTATION	CLIENT: YEC		
NATURAL MOISTURE CONTENT - OVEN DRYING METHOD STANDARD: BS1377			
MASS OF WET SOIL + CONTAINER (g)	526.0		
MASS OF DRY SOIL AND CONTAINER (g)	430.0		
CONTAINER No.	GOK		
MASS OF CONTAINER (g)	126.5		
MASS OF DRY SOIL (g)	303.5		
MASS OF WATER (g)	96.0		
MOISTURE CONTENT %	31.6		
NATURAL MOISTURE CONTENT :	31.6		
REMARKS: SAMPLED FROM OLD TOWN SUBSTATION / BOREHOLE 04 / SPT @ 1.000 (m)			

4.6 UCS Results

 <p>GEOCONSULT +265 0888 846 543 sabelli@geiconsult.co</p>	LAB REF: GC430 / 15APR19 / 10.10	SAMPLE No. YEC / OT / BH01 / 15APR19	
	SAMPLED BY: GEOCONSULT LAB. TEAM	DATE: 15 / 04 / 2018	TIME: 11:07
LOCATION: OT S.S. BH01	EASTING 563278	NORTHING 8453100	DEPTH 8.0M
TYPE OF MATERIAL: ROCK CORES			
TESTED BY: S. THANGATO	DATE: 15 / 04 / 2019	TIME: 10:20	
CHECKED BY: G. KACHIWALA	DATE: 15 / 04 / 2019	TIME: 10:30	
APPROVED BY: M. SABELLI	DATE: 15 / 04 / 2019	TIME: 14:00	
PROJECT: UPGRADING OLD TOWN SUBSTATION			
CLIENT: YEC ENGINEERING			
COMPRESSIVE STRENGTH TEST FOR ROCK CORE			
Sample No.	1		
Wt. Of Sample Before Soaking	g	2167	
Date Of Coring	Day	18-03-19	
Date Tested	Day	15-04-19	
Age	Days	28	
Shape	GOOD		
Length	mm	160	
Diameter	mm	80	
Area Of Specimen	mm ²	5028	
Maximum Load	KN	239.9	
Compressive Strength without factor	N/mm ²	47.7	
Compressive Strength x 1.02 factor	N/mm ²	48.7	
Average Compressive Strength	N/mm ²	48.7	



REMARKS: UN SOAKED CORE BH01 8.0M

 <p>GEOCONSULT +265 0888 846 543 sabelli@geconsult.co</p>	LAB REF: GC430 / 15APR19 / 10.30		SAMPLE No. YEC / OT / BH04 / 15APR19		
	SAMPLED BY: GEOCONSULT LAB. TEAM		DATE: 15 / 04 / 2018		
LOCATION: OT S.S. BH04		EASTING 563295		NORTHING 845301	
TYPE OF MATERIAL: ROCK CORES		DATE: 15 / 04 / 2019		TIME: 10:20	
TESTED BY: S. THANGATO		DATE: 15 / 04 / 2019		TIME: 10:30	
CHECKED BY: G. KACHIWALA		DATE: 15 / 04 / 2019		TIME: 14:00	
APPROVED BY: M. SABELLI		CLIENT: YEC ENGINEERING			
COMPRESSION STRENGTH TEST FOR ROCK CORE					
Sample No.	2				
Wt. Of Sample Before Soaking	g				
Date Of Coring	Day	24-03-19			
Date Tested	Day	15-04-19			
Age	Days	22			
Shape	GOOD				
Length	mm	160			
Diameter	mm	80			
Area Of Specimen	mm ²	5026			
Maximum Load	KN	169.7			
Compressive Strength without factor	N/mm ²	33.8			
Compressive Strength x 1.02 factor	N/mm ²	34.4			
Average Compressive Strength	N/mm ²	34.4			
					
REMARKS: UN SOAKED CORE TAKEN FROM DEPTH 9.000 METRES AT BH04.					