Appendix 5-4 Geotechnical Investigation Report

3.0 SITE LOCATION AND GEOLOGICAL OVERVIEW

3.1 Site Location:-

The Proposed Site for the Nairobi National Vaccine Facilities is located in the Kitengela Health Centre premises in Kitengela. Kitengela is located in Mavoko Municipality of Kajiado District of the Rift Valley Province of Kenya. It is approximately 35km east of Nairobi. It is 1580m above sea level.

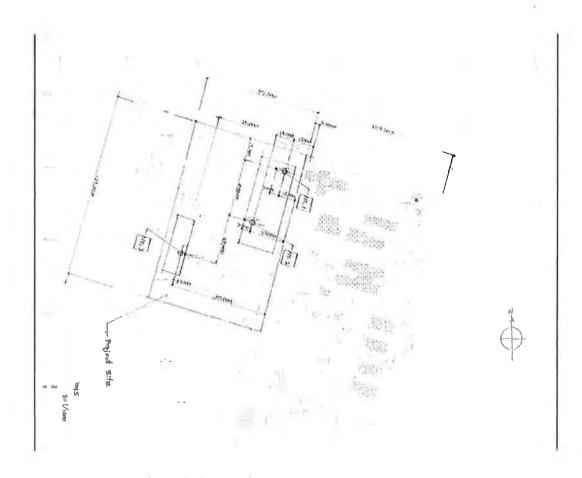


Figure I: Layout of Borehole Locations

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Observations

The site investigations have shown that the Kapiti Phonolites dominate this site. Black clay overlays the hard rocks.

7.2 Soil Bearing Capacities

The bearing capacities of the rock material and soil layers subjected to SPTs are as shown in the tables below.

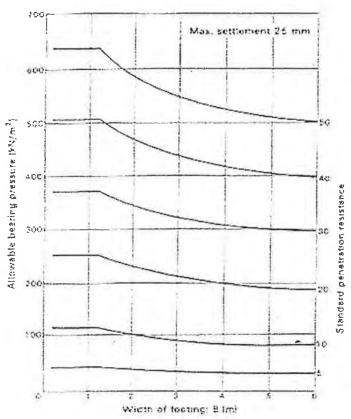


Fig. 8.8 Relationship between standard penetration resistance and allowable bearing pressure. (Reproduced from K. Torzaghi and R. B. Peck (1967) Soil Manhanies in Engineering Practice, by permission of John Wiley and Sons, Inc.)

Figure 1 Relationship between Allowable Bearing Pressure and SPTs.

ITEM	B/H No.	DEPTH(m)	N-VALUES	Safe Bearing Capacity (kN/m²)
1	1	2.45	37	375
2		3.55	95	1000
3	2	2.45	58	575

Table I. Safe Bearing Capacities from SPTs Test Results in the 3 Boreholes

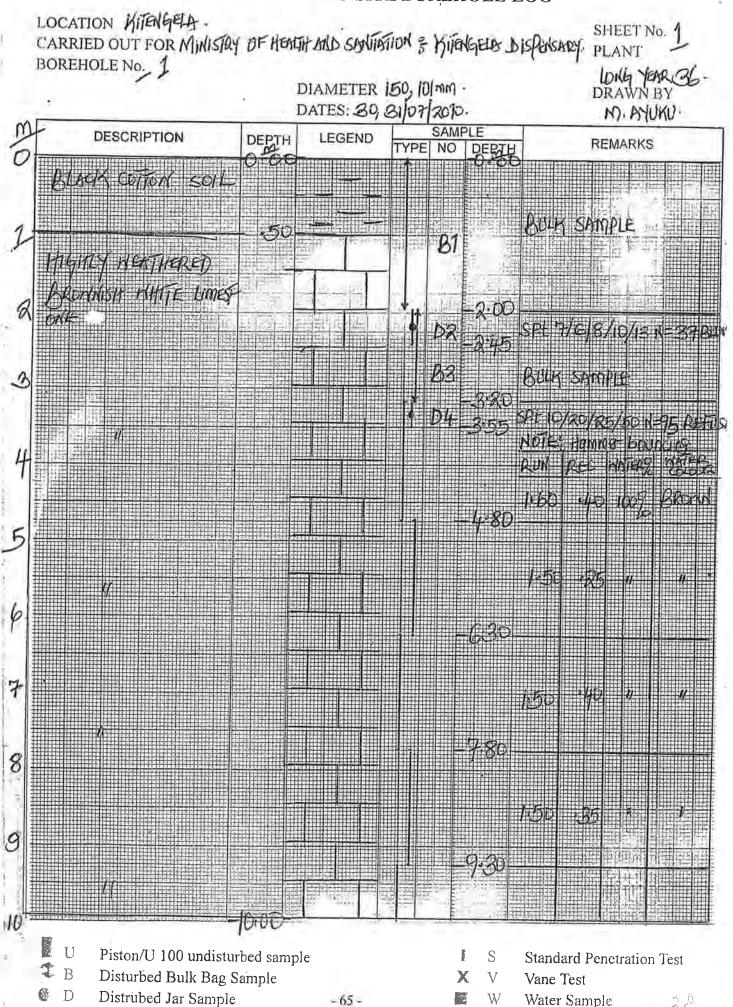
ITEM	B/H No.	DEPTH (m)	COMPRESIVE STREGNTH (N/mm²)	ALLOWABLE BEARING PRESURE (kN/m²)
1	1	2.45	-	375
2		4.00	-	375
3		6.00	-	500
4		7.50		1000
5		11.00	96.1	10,000
6		12.95	71.5	10,000
7		13.85	62.4	10,000
8		14.65	111.7	10,000
9		15.35	46.77	9,354
10		16.35	59.8	10,000
11		17.50	101.3	10,000
12		18.75	78.00	10,000
13		19.30	57.17	10,000
1	2	2.45	-	575
2		4.00	_	750
3		5.75	39.00	7,800
4		6.25	36.40	7,280
5		6.95	59.80	10,000
6		8.05	25.98	5,196
7		8.65	20.80	4,160
8		9.55	44.20	8,840
9		9.85	54.60	10,000
10		10.55	41.60	8,320
11		11.50	46.80	9,360
12		12.60	57.20	10,000
14		13.40	33.80	6,760
15		13.85	33.80	6,760
16		14.15	41.60	8,320
17		15.65	75.40	10,000
18		16.35	64.96	10,000
19		16.95	49.37	9,874
20		18.40	75.40	10,000
21		19.45	31.20	6,240
22		20.00	31.20	6,240

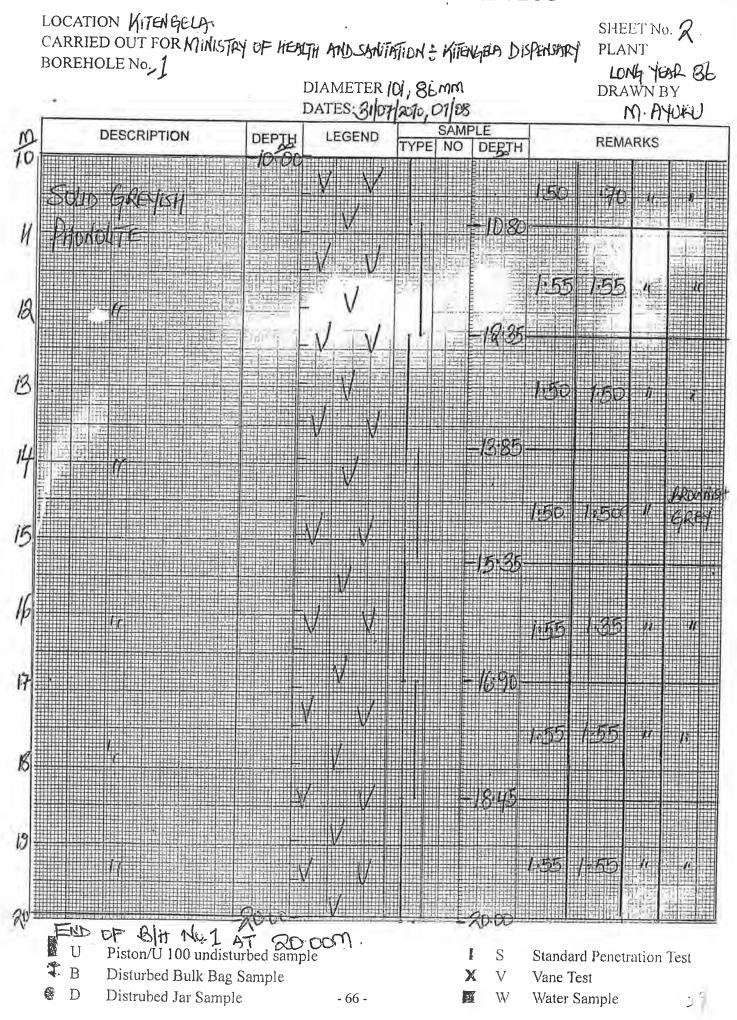
ITEM	B/H No.	DEPTH (m)	COMPRESIVE STREGNTH (N/mm ²)	ALLOWABLE BEARING PRESURE (kN/m²)
1	3	2.50	104.00	10,000
2		3.90	124.00	10,000
3 .		4.40	90.90	10,000
4		5.50	101.30	10,000
5		6.75	70.20	10,000
6		7.25	62.40	10,000
7		7.50	72.80	10,000
8		7.90	62.40	10,000
9		9.00	28.60	5,720
10		9.80	62.40	10,000
11		10.85	67.40	10,000
12		14.75	88.30	10,000
13		15.95	26.00	5,200
14		16.90	52.00	10,000
15		17.40	62.40	10,000
16		18.60	78.00	10,000
17		19.80	75.40	10,000

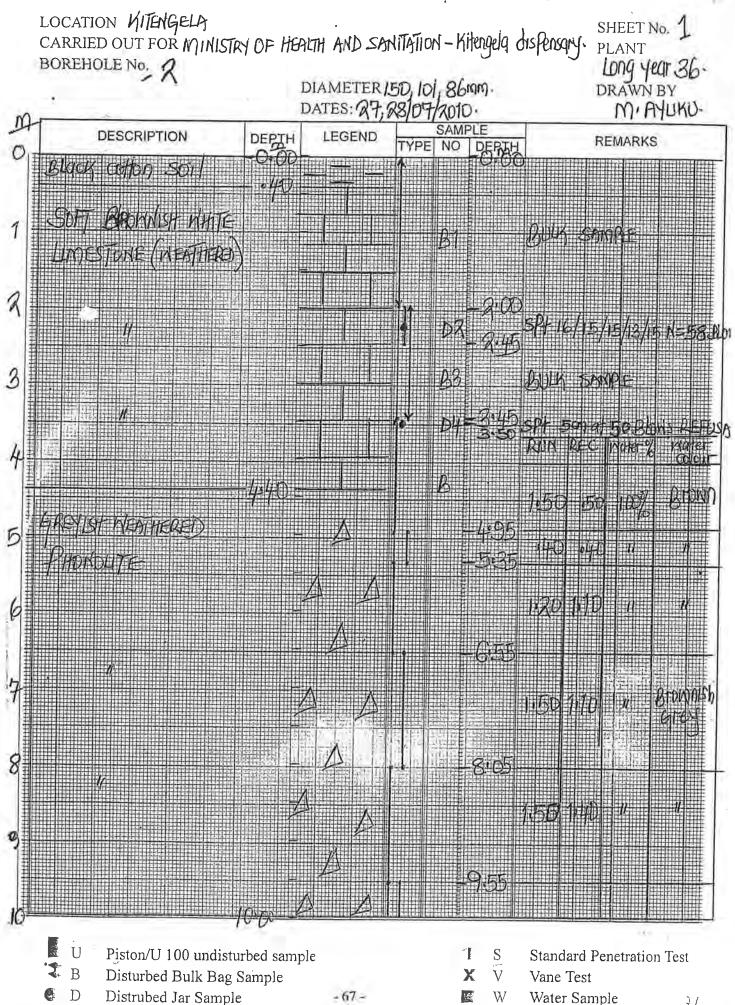
Table II:-Safe Bearing Capacities from Rock Core Compressive Strength Tests

Kitengela Health Centre is supplied with power by Kenya Power and Lighting Company which will be used in the new facility. The town is supplied with water by Mavoko Municipal.

APPENDIX SHEET No. 85167A		REMARKS																
		CALIFORNIA BEARING RATIO		Swell	*	1,1	1.2	1.2	1.1									
		RNIA BEAT		Velue	*	7	2	2	2									
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		000	5	mm 23	20	35	11	88	72									
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			Į.	25 H	36	6	9	\$	44								Ш	
2	s, Inc.			reticity	*	2201	1848	1643	1590									
Ses in Ker	Engineer			Passing Plesticity 425 µm Modulus	*	71 2	88	53	53									
Tage Facili	chilects &	METERO	MEIERS	Linear Passing Plesticity Shrinkage 425 µm Modulus	*	9	4	16	14				خلجا			-		
SH/1008 Vaccine Storage Facilities in Kenya	Yokogawa Architects & Engineers, Inc.	ATTERDACE CONDANDACTED	ING PARK	è	*	31	82	31	30	lsture (%)			П					
o		I B	EKD.			100	10		- 10	Natural Moisture Content (%)	46.2	14.2	9.2	14.0				
Project N	Cllent:	-	A	Clquid	*	92	R	57	56			1	1				H	
				Natural Plestic Moisture Limit	*	25 25	27	26	26	Sample Depth (m)	2.45	3.55	2,45	3,45				
	3 618641	BNYB, COT		Moisture	20ment	26.2	19.5	13.0	19.0	Sam		1	1		-			
30-00509 30-Kenya	Mobile: 254 773 210558/733 618641 FAX; 8890293	E-mail: mdsurtech@sudikkenye.com	2	Sample Depth	6	0.0-2.0	2.0-3.20	0.0-2.0	2.0-3.45	Sample Number	B/H 1	B/H 1	B/H2	B/H 2			5	
P O BOX 15130-00509 Langata, Nairobi, Kenya	Mobile: 254 77; FAX: 8890293	mall: mdsu	COCATION	Sample No. Sample Depth		B/H 1	B/H 1	B/H 2	B/H 2	Sample	m	8	m)	10				







DIAMETER 86MM

LOCATION HITENGELA CARRIED OUT FOR MINISTRY OF HEALTH & SANITATION - WIENERS DISPOSORY BOREHOLE No. X

SHEET No. X PLANT Long year

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- 68 -

V

X

Vane Test

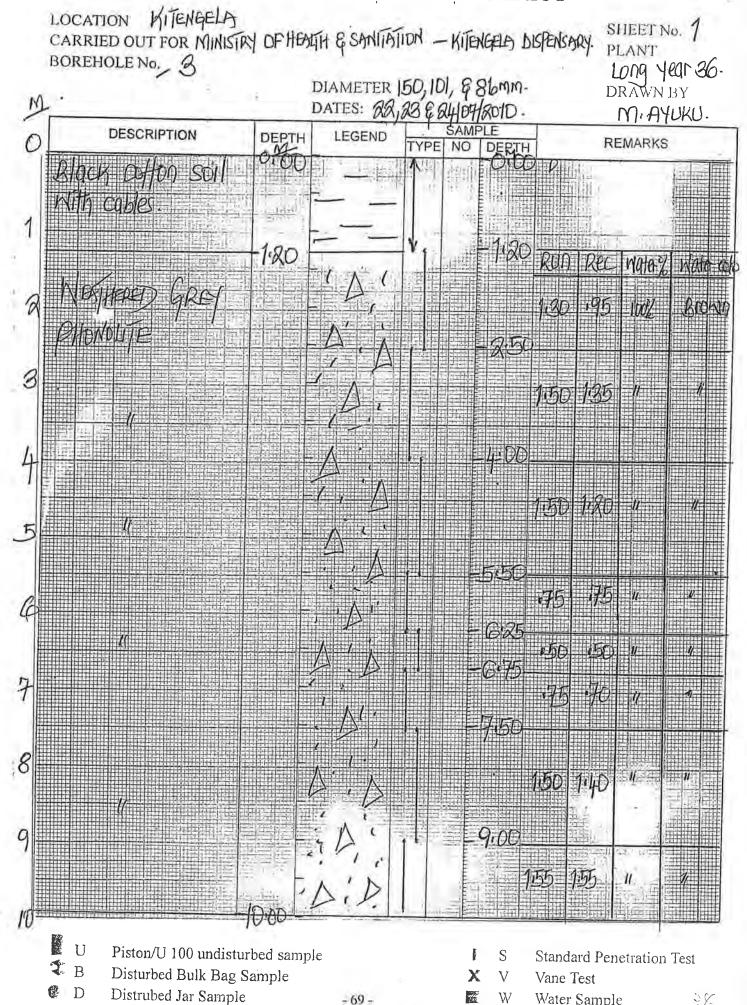
Water Sample

Disturbed Bulk Bag Sample

Distrubed Jar Sample

₽ B

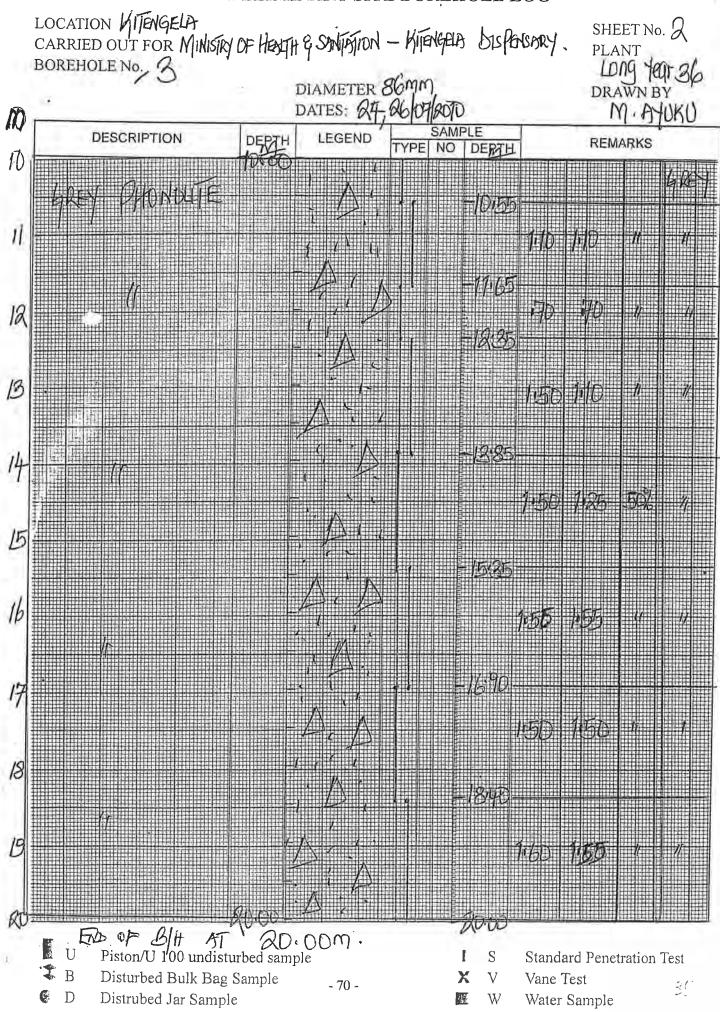
D



- 69 -

W

Water Sample



3.0 SITE LOCATION AND GEOLOGICAL OVERVIEW

3.1 Site Location

The Proposed Site for the construction of Vaccine Storage Facilities is in Kakamega Town on the compound of Kakamega General Hospital. Kakamega Town doubles as the Headquarters of Western Province, Kakamega District of Kenya. It is about 30km north of the equator and 52km north of Kisumu at 1500 metres above sea level.

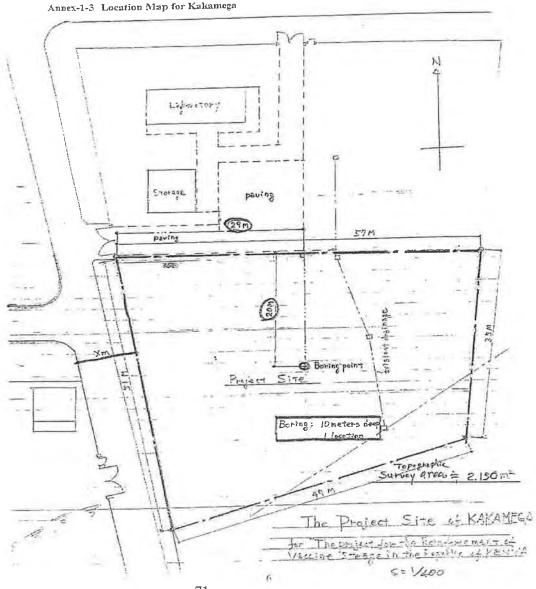


Figure 1: Project Site in Kakamega

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Observations

The site investigations have shown that clay soils dominate the site. Kakamega Hospital is supplied with power by Kenya Power and Lighting Company which will be used in the new facility. The town has a reliable water supply from the local statutory authorities.

7.2 Soil Bearing Capacities

The following allowable bearing capacities can be used by the Structural Engineer: -

TOTAL	DEPTH	'N' Values from	Allowable Soil Bearing
ITEM	(m)	S.P.T (m)	Pressure(kN/m ²)
1	1.95	13	70
2	2.95	6	70
3	3.95	16	150
4	4.95	14	140
5	5.95	18	70
6	6.95	7	70
7	7.95	17	155
8	8.95	10	105
9	9.95	22	235
10	10.95	22	235

APPENDIX	SHEET No. 81677A		REMARKS		Red CLAY	Red CLAY	Natural Moisture Content (%)							
¥	ш		CALIFORNIA BEARING RATIO	Swell	6.0	6.0	Sample Depth							
			RINA BE	CBR Value	ဖ	c)	mpor					П		
			ALIFO	Soaking Period	4	4	Sample Number			11		П		
				0 a	2.8	2.7	5		11	11				
O.			COMPACTION		1.4	r.			-					
SUMMARY OF SOIL	TEST RESULTS		OMP	OMC MDD	8	92	2		TT	TT	T		H	
MARY	RES			75 mm	1.5		Natural Moleture Content (%)	31.0	24.2	40,4	39.4	42.5	33.6	
SUM	TEST		1	E E 2			Rtural	ė	2	4	6		6	11
				5 50 mm	+		Ž	1	1	+	\vdash			1
				25 37.5 m mm			- 1		П			Ш		
				19 25 mm mm		+	Sample Depth	8.50	8,95	9.50	9.95	10.50	10.95	
-		-	-	P	+		Sam	П	11	\mathbf{H}	Π	11	Ш	
				9.5 12.		+++	+	\vdash	+	+	+	+	+	H
			5	6.35 mm m			Sample	D31	D32	D3S	036	039	D40	
			GRADING	S, EE	100		- 5 Z							
			B	64 A	-	100			-					
E		10		1.18 mm A		8	2	П	T	TT	П	TT	IT	
Operator Lab team	FKW	8/4/2010		009 mm		88	Natural Molsture	31.9	11.4	28.6	29.0	31.1	28.7	29.4
ator				425 µm	0,	97	Conte	60	+	25	22	6	70	12
Oper	Checked	Date		2 300 km	101	8		H		4	H	H	+	H
				50 Z1Z m µm	69	95	Sample Depth	4.95	5.50	5.95	6.50	6.95	7.50	7.95
				75 150 ни ин	160	92 94	- Sample	4	wi	n)	8	6	1,	12
				-		13		H	††	†	Ħ	Ħ	$^{+}$	
	mya	S. Inc.		Prastic	269	27.	N.	016	D19	020	D23	024	027	D28
	es in Ke	Spainse		Fassing Prasticity 425 µm Modulus	83	26	Sample Number							
	rade Facili	rchitects &	AMETER	Uneer Passing Plasticity Shrinkage 425 µm Modulue	13	12								
SH/1008	Vaccine Storage Facilities in Kerrya	Yokonawa Architects & Engineers, Inc.	ATTERBERG PARAMETERS	Pfasticity Index	53	28	Aolsture	33.0	32.6	29.4	5.9	31.1	29.1	38.9
Project No. SH/1008	Project	Client	ATTER	Liquid	9	9	Natural Moleture	33	35	32	u)	8	22	6
				0 #	31	32	Depth	0	52	0	10	9	2	00
		-	The state of the s	Natural Plast Molsture Limit Content	33	42	Sample Depth	1,50	1.95	2.50	2.95	3.50	3.95	4.50
MITED	J, Kenya	See Jilliam	The same of the sa	Sample N Oepth O	3-6m	6-10m								
BRITECH LIMITED	Langata, Nalrobl, Kenya TEL: 890861/890449	FAX: 890293	COCATION	Sample No. Sa	SA-1	SA-2	Sample Minister	D3	D	10	DB	110	D12	D15

PRELIMINARY SITE BOREHOLE LOG

LOCATION VACCIME STORMELLAKAMEGA

Disturbed Bulk Bag Sample

Disturbed Jar sample SDARPEDAIN

CARRIED OUT FOR:

BOREHOLE NO: 1

BRITECH

DIAMETER: 150mm

DATES: 18/03/2010

SHEET No.

PLANT:

D90 R

DRAWN BY:

T. NIL AVI

Vane Test

Water sample

					SAMPLI		J.NDAV!
	DESCRIPTION	A Committee of the	LEGEND	TYPE	No	DEPTH	REMARKS
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n Re	DOISHCLAY				nЭ	=	u/100 - 11 81 ms
				-	D3 D4	1.50	SP14/3/4/3 N=1
0					B 67	12.50	Bag Sample Ulloo = 34 Blows U-Shoe
n l	1	,			89 99 910	-3.00 3.45	SP. 1 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
7	A control of the cont	-,		*	D12 D13 U14	3.95 -4.00 4.45	U-Shoe SPT SI4141315 H=1 Bag Sanyoli Uliop - 22 Blows
2				A Brits	D16 D16 B17 U18	4.95 -5.00 5.45	eag lample uloo - 22 elsus
7				1 8	n 22	5.95 6.00 6.45	U-Shoe SPI 4 S S 3 S H=1 Bag Sample U 102 = 23 Blows U-Shoe
9	//				D 24	6.95 7.00 7.45 7.50	S.P.1 2/12/2/2/1
a					D 28 B 29 U 30	7.95 8.00 8.45	5.p.7 51414 514 M Bag Lample Ulico - 2672 aus
Į,	カムと	9.00			033345	8.95 9.00	u'-shoe s.D1 2/3/2/3/3 Hi Bag Sampu ulioa - 30 Blows u-shoe.
ήŁ	Leu/SH CLAY U Piston/U 100 und	10.00			D 36 B 27	9.95	S.P.7 6/S/6/S H

PRELIMINARY SITE BOREHOLE LOG

VACCIME STORAGE KAKAMEGA

SHEET No. 2

CARRIED OUT FOR:

LOCATION

BRITECH

DIAMETER: 150mm

BOREHOLE NO:

DATES: 15/3/2010

PLANT:

Standard Penetration Test

Vane Test

Water sample

Х

- 75 -

D90R

DRAWN BY:

							7. NI	DAVI	
DESCRIPTION	DEPTH	LEGEND		SAMPLE		F	REMAR	KS	
DESCRIPTION CELLOWING LAY		LEGEND	TYPE	No	DEPTH		REMAR - 40 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	KS	A CONTRACTOR OF THE CONTRACTOR

Piston/U 100 undisturbed sample

Disturbed Bulk Bag Sample

Disturbed Jar sample

В

3.0 SITE LOCATION AND GEOLOGICAL OVERVIEW

3.1 Site Location

The Proposed Site for the construction of Vaccine Storage Facilities is within the premises of Meru General Hospital, in Meru Town. Meru Town is well known for the big surrounding farms of miraa (khat) and Meru its proximity to National Park.

Meru Town is the headquarters of Meru Central District in the Eastern Province of Kenya. It is located on the northeast slopes of Mt. Kenya and five miles north of the equator. It is 1600 metres above sea level.

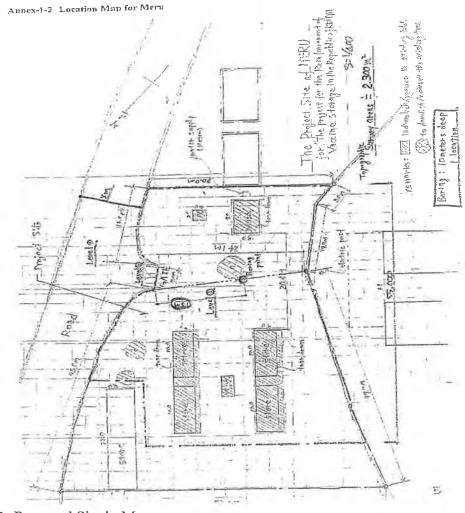


Figure 1: Proposed Site in Meru

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Observations

The site is dominated by fine grained clays. Meru General Hospital receives electricity from the Kenya Power and Lighting Company and has a reliable water supply from the Municipal Council.

7.2 Soil Bearing Capacities

The following allowable bearing capacities can be used by the Structural Engineer: -

ITEM	DEPTH (m)	'N' Values from S.P.T	Allowable Soil Bearing Pressure(kN/m²)
1	1.95	11	100
2	2.95	14	110
3	3.95	17	155
4	4.95	. 18	190
5	5.95	21	155
6	6.95	17	155
7	7.95	21	190
8	8.95	20	140
9	9.95	14	140
10	10.95	24	250

APPENDIX	SHEET No. 81678A		REMARKS		Red CLAY	Red CLAY	Natural Moisture Content (%)							
3			CALIFORNIA BEARING RATIO	Swell	Ę	1.0	Sample Depth (m)							Site Location: Meru
			RNIA BE	CBR	9	7	umber							Site Lo
			ALIFO	Soaking	4	4	Sample Number							
				1	2.8	2.8	- s							
) 			ACTIC	MOD S.G	1.3	1.3								
SUMMARY OF SOIL	TEST RESULTS		COMPACTION	75 OMC MDD S.G	37	8	an a						1	3
MAR	TRES						aturel Moistu Content (%)	32.5	33.7	33.8	32.0	30.6	27.3	
SUN	TES			E	R R		Naturel Molsture Content (%)							
				No.	+			+	+	+		+		
							Sample Depth	0	2	9	20	20	92	
				E	e e		ed E	8,50	8.95	9,50	9,95	10.50	10.95	
ī				10	8		, a							
				I	8		9 2							
			ING	9 1	*		Sample	D31	D32	D35	D36	D39	D40	
			GRADING	E E	4						H			
			-	E E	8				11	11		T		
Lab team	≳ I	8/4/2010		- E	8	+++	Sture (%)							
	FKW	91			100	6	Netural Moisture Content (%)	37.9	37.5	41.3	44.3	44.0	44.0	39.7
Operator	Checked	Date		_	99 *	99	- 1 S		11				И	
0	O	_			\$ 80 60	88	apth epth						v. i	
				55 E	% 126	97	Sample Depth	4.95	5.50	5.95	6.50	6.95	7.50	7.95
				75 mm	8 8	98			H	1	11	1	#	
	101	Inc		Plasticity Modulus	3900	3800	Sample Number	D16	D19	D20	D23	D24	D27	920
	s in Ken	naineers			* 5	100	Sample	٥		0	۵			
	Vaccine Storage Facilities in Kenya	Yokogawa Architects & Engineers, Inc.	ATTERBERG PARAMETERS	8.	* 60	11								
ED1	e Storag	wn Arch	PARAM		-	m	<u>ē</u>	П	T	TT	П	H		T
SH/100	Vaccin	Yokod	RERG	Plandelty	3 8	88	Natural Moisture Content (%)	31.5	41.2	35.7	37.7	40.0	40.3	39.4
Project No SH/1008	Project	Cleut	ATTE	Llquid Llmit	7 8	22	Natura							
				, o	37	89	Sample Depth	1.50	1.95	2.50	2.95	3.50	3.95	4.50
			шоэгел	Naturel Presti Moisture Limit Content	38.5	46.6	Sample D	=======================================	7	2	2.	6	3	4
MITED	ol, Kenya 30449		- Sawaken	1	2-6m	6-10m	, ade						6	100
BRITECH LIMITED	Langata, Nairobi, Kenya TEL: 890881/890449	FAX: 890293	LOCATION	Sample No. Sample Depth	SA-1	SA-2	Sample Mimber	D3	20	.0	80	110	D12	D15

PRELIMINARY SITE BOREHOLE LOG

LOCATION VACCINE STORAGE MERU

CARRIED OUT FOR: BUITECH

BOREHOLE NO: 1

DIAMETER: 15077M

DATES: 22/3/2010

SHEET No. 1

PLANT:

DAOK

DRAWN BY:

					SAMPLE		A CIN. C
100	DESCRIPTION	DEPTH	LEGEND	TYPE	No	DEPTH	REMARKS
		0.00		1	B1	1.00	Bog Cample
R.	EDISHCLÁY				U2 D3	1.45	ulioa =
Q _t	COISH CLA	1			0 B U	1.95 2.00 -2.45	3012-U 1=H 5 5 5 62 79.2 219m22 803 2100-1381-001 U
Q _T	DISH CLÁ	7		-	D 50 9 0	2.95 3.00 3.45	U-24000 197 444433 A=1 1904 2000 1905-201810018
\mathbb{Q}_{\pm}	Dish Cry	1			D1234	3.95	U-190e 2.P.1 514 515 3 19=1 Bag- Lample Ulob-21 6151115
Q+	DISH CLX	1		*	B17	5.45	20112-11 34 214/2/4 19.2 34 21-00 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
\mathbb{Q}_{i}	EDISH CL)	~1			0 20 0 20	5.95 6.00	Bag Marphe
R,	EDISH CLX	4			D 24	6.95 _7.00 _7.45	u-Shoe S.p.7 5 5 4 5 3 H= Bng Lample U100-21 Blows
2	EDISH CLA	8.00		1	0 27 0 28 6 29 U 30	7.95 7.95 8.00	u-Shoo S.P.7 7/6/5/6/4 ME Bag Sanaple U1,00 = 24 Blows U-Shoo 1.P.7 5/6/6/5/3 ME
C,	REXIDH Cl	A4			031	9.45	1/100 - 20 Blocks
		LAY 10.00		*	D 35 D 36 B 37	10.00	U-Shoe S.P.1 314/2/3/5 H= Bag Sariple
† 1	U Piston/U 10 B Disturbed E D Disturbed J	0 undisturbed யk செற்கோற af sample	le	9 -	X \	/ Vane	lard Penetration Test Test r sample

DRILLING & PROSPECTING INTERNATIONAL LTD PRELIMINARY SITE BOREHOLE LOG

LOCATION VACCIME STORAGE MERU

CARRIED OUT FOR: BEITECH

BOREHOLE NO: 1

DIAMETER: 150 mm

DATES: 2232010

SHEET No. 2

PLANT:

090R

DRAWN BY:

THINKYI

			0 01.	2/2011	_		J. NDA.	
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NL	DESCRIPTION	DEPTH	LEGEND	TYPE	No	DEPTH	REMARKS	
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Piston/U 100 undisturbed sample

Disturbed Bulk Bag Sample В

Disturbed Jar sample

Standard Penetration Test

Vane Test Х

Water sample

3.0 SITE LOCATION AND GEOLOGICAL OVERVIEW

2.1 Site Location

The Proposed Site for the construction of Vaccine Storage Facilities is within the Public Health Offices compound which is 1.5km from the Garissa General Hospital. The Ministry offices are inside Garissa Town while the General Hospital is on the outskirts, along the Garissa – Wajir Road, 1.5km from the town centre.

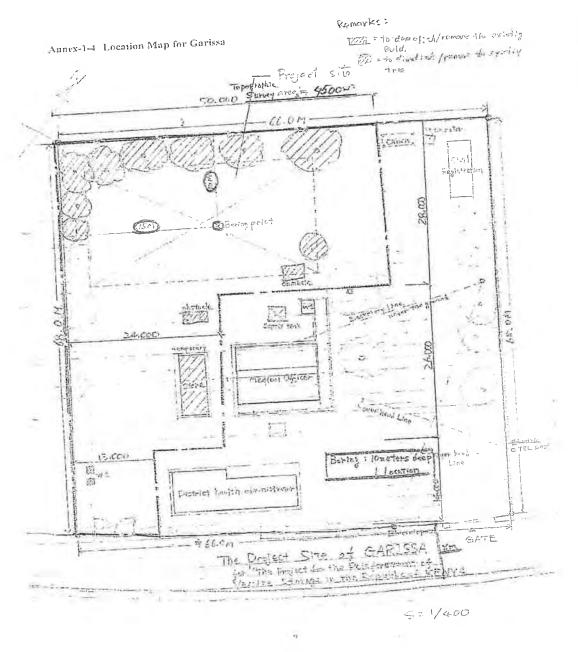


Figure 1: Proposed Site in Gar&sa

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Observations

The site is dominated by silty and sandy clays with cobbles at 7 and 8 metres below ground level. Garissa Town is supplied with electricity from the Kenya Power and Lighting Company and has a reliable water supply from the Municipal Council, pumped from the adjacent Tana River.

7.2 Soil Bearing Capacities

The following allowable bearing capacities can be used by the Structural Engineer:

ITEM	DEPTH	'N' Values from S.P.T	Allowable Soil Bearing Pressure(kN/m²)
1	1.45	19	215
2	2.45	16	180
3	3.45	18	205
4	4.45	20	213
5	5.45	23	263
6	6.45	19	215
7	7.45	21	250
8	8.45	20	213
9	9.45	26	315
10	10.45	35	450

Table 2. SPT Tests in the Borehole

It is important for the foundations engineer to put in to consideration the ground water flow. Although due to the sandy nature of the soils it is unlikely to have a softening or swelling /heaving problem, considerable upthrust is expected.

APPENDIX	SHEET No 83365A		REMARKS		SANDY CLAY	SANDY CLAY	Natural Moisture Content (%)									
			CALIFORNIA BEARING RATIO	Swell	6.0	6'0	Sample Depth (m)							:		
			ANIA BE	CBR Value	9		nber									
			CALIFOR	Soaking	100	4	Sample Number		Ш							
			БX		2.68	2.72	8									
OIL			COMPACTION	m Mom Sa	1,79	1.71										
OFS	ULTS		OMP	M M	4	12	E		H	П						
SUMMARY OF SOIL	TEST RESULTS		_	75 mm *			Natural Moisture Content (%)									
SUM	TEST			63 mm			Conte									
							N N		11							
				37.5 mm			_ £									
				25 mm			Sample Depth									
				19 mm			Sempl									
				9.5 12.7 mm mm												
				9.5 mm												
			NG	6,35 mm			Sample				Н		M			
			GRADING	mm S	100	100			Ш					Ш		
			0	E ¥	97	26										
E		2/6/2010		1.18 mm	96	68	e.s			26.5	П					
Lab team	FKW		13	009 Hum	1 -1	83	itural Moletu Content (%)	16.6	23.9			Н	m			
				425	1-1	75	Natural Moisture Content (%)	-				Ш				
Operator	Checked	Date		3000 km	-	69	-		4		1	1	4	-		
				212 µm	0,	8	Sample Depth	5		45		Ш				
				150 trum	100	25	ald E	8.45	9,45	10,45	П		П			
				75 / mm	14	9 45		-	+	+	+++	+	-	+		
	(2)	jug.		Plasticity	2897	2475	Sample Number	40	6	D						
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	Vaccine Storage Facilities in Kenya	Archi	ATTERBERG PARAMETERS	Linear	11		-			TT	11	11	П	T		
1008	scine S	DOGWA	3G P	x x x	52	83	sture %									
Project No. SH/1008	Vac	Yoko	RBEF	Plasticity			Natural Moisture Content (%)	12.6	13.5	15.7	13.8	11.4	24.5	12.1		
ect No.	ğ	2	ATTE	P # 2	42	23	Son									
Project Project	Project	Client	1	Laud	11	+		H	++	++	++	+	+	+		
				Prastic	4 4	8	Dept	10	10	55	55	5.45	6.45	2,45		
		E		Natural Prast Molsture Umit Content	11.7	30.0	Sample Depth	1.45	2.45	3.45	4.45	w	ω	2		
	_ to	e save		Natural Moisture Content	-			H	+	1	11	+-	++	-		
WITE	P O BOX 15130-00509 Langata, Nairobi, Kenya TEL: 890861/890449	hesalitie		Sample	2-6m	7-10m	Tedan									
BRITECH LIMITED	15130 Nalrob 361/890	TEL: 890861/890449 FAX: 890293 F-mail: authorh@swiftenver.com	LOCATION	Sample No. Sample Depth	++		redumple Member	02	ă	8	08	Dto	D12	100		
軍	P O BOX 15130-00509 Langata, Nairobi, Kenyi TEL: 890851/890449		OCA	mple #	GA-1	GA-2	l mer									



PRELIMINARY SITE BOREHOLE LOG

LOCATION VACCINE STORAGE - GARISSA

CARRIED OUT FOR: PRITECH

BOREHOLE NO: 1

DIAMETER: SOMM

DATES: 26 08 10

SHEET No. 1

PLANT: D90 E

DRAWN BY:

J. NDAVI

1	DESCRIPTION	DEPTH	LEGEND		SAMPLE	7	REMARKS	
DOM_	DESCRIPTION		LEGEND	TYPE	No	DEPTH	TEMATINO	
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					D6		Spit 6/4/4/5/5 H=1	
- M	SARDY CLAY	4:00			しっ		EAG SAMPLE S.P.T. 6/4/6/5/5N=	
5M				1 1	\$9 516	5:00	BAG SAMPLE SIPIT 6/6/6/5/6N=1	
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THE STATE STATE				*	DIE	845	Sip.75 5 6 4 5N=1	
7m	2EDDISH CLAY	700			B17	9.60 9.46	BAG SAMPLE SPIT6/6/4/8/8NE	
DM					RIA	1000	RAC SAMPLE	

X V Vane Test

E Disturbed Bulk Bag Sample

PRELIMINARY SITE BOREHOLE LOG

SHEET NO. J'CONTIA

LOCATION VACCINE STORAGE - GARISSA

PLANT: D 902

CARRIED OUT FOR: BRITECH

DIAMETER: | 50MM

BOREHOLE NO: 4

DATES: 26 03 10

DRAWN BY:

IVACH . [

DESC	RIPTION	DEPTH LEGEND		SAMPLE		REMARKS			
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U Piston/U 100 undisturbed sample

B Disturbed Bulk Bag Sample

S Standard Penetration Test

X V Vane Test