AVERAGE VALUE OF PHYSICA - MECHANICAL PROPERTIES

Layer 4e : Medium dense, yellowish brownish grey SILTY SAND (SM)

Table : 9

No	Properties		Sign	Average value.	Maximum value	Minimum value	Number of test
1	Sieve Analisis, % Passing						
	3/4" (19 mm)			100.0	100.0	100.0	23
	1/2" (12.5 mm)			99.8	100.0	95.2	23
	3/8" (9.5 mm)			99.7	100.0	93.3	23
	#4 (4.75 mm)			99.5	100.0	89.6	23
	#8 (2.36 mm)			99.3	100.0	84.2	23
	#16 (1.18 mm)			93.3	99.9	59.0	23
	#30 (0.6 mm)			82.0	99.5	33.7	23
	#50 (0.3 mm)			47.7	88.6	12.2	23
	#100 (0.15 mm)			21.7	64.1	4.2	23
	#200 (0.075 mm)			15.3	26.5	0.2	23
	< 0.005 mm			5.6	14.2	0.0	23
2	Natural moisture content	(%)	w	15.12	18.66	12.42	23
3	Natural unit weight	(g/cm^3)	γ	2.008	2.160	1.903	23
4	Dry unit weight	(g/cm^3)	γ_d	1.797	1.901	1.663	23
5	Specific gravity		Gs	2.646	2.689	2.630	23
6	Porosity		n	0.320	0.370	0.280	23
7	Void ratio		e_o	0.474	0.590	0.389	23
8	Degree saturation	(%)	S	84.90	98.40	62.600	23
9	Liquid limit	(%)	LL	18.7	22.6	15.90	14
10	Plastic limit	(%)	LP	14.0	17.4	11.5	14
11	Plastic index	(%)	PI	4.7	6.4	2.4	14
12	Water plasticity ratio	(%)	B	0.32	1.17	-0.15	14
13	Unconfined compression	(Kg/cm^2)	qu				
14	Compression index	(cm^2/kg)	Cc				
15	Coefficient of consolidation	(cm^2/s)	Cv				
16	Preconsolidation pressure	(kg/cm^2)	Pc				
17	Coefficient of volunm compressibility	(cm^2/g)	Mv				
18	Permeability	(cm/sec)	k20				

AVERAGE VALUE OF PHYSICA - MECHANICAL PROPERTIES

Layer 4f : Medium dense, yellow WELL GRADED SAND with SILT (SW-SM)

Table :10

No	Properties		Sign	Average value.	Maximum value	Minimum value	Number of test
1	Sieve Analisis, % Passing						
	3/4" (19 mm)			100.0	100.0	100.0	2
	1/2" (12.5 mm)			99.1	100.0	98.1	2
	3/8" (9.5 mm)			98.1	100.0	96.1	2
	#4 (4.75 mm)			94.7	100.0	89.4	2
	#8 (2.36 mm)			87.3	100.0	74.5	2
	#16 (1.18 mm)			58.2	61.4	55.0	2
	#30 (0.6 mm)			36.5	36.9	36.1	2
	#50 (0.3 mm)			17.3	18.5	16.1	2
	#100 (0.15 mm)			10.9	11.9	9.8	2
	#200 (0.075 mm)			8.7	9.3	8.1	2
	< 0.005 mm			3.3	3.9	2.7	2
2	Natural moisture content	(%)	w	10.65	10.65	10.65	2
3	Natural unit weight	(g/cm^3)	γ	1.957	2.037	1.877	2
4	Dry unit weight	(g/cm^3)	γ_d	1.769	1.841	1.696	2
5	Specific gravity		Gs	2.672	2.683	2.661	2
6	Porosity		n	0.340	0.360	0.310	2
7	Void ratio		e_o	0.513	0.569	0.457	2
8	Degree saturation	(%)	S	56.20	62.50	49.800	2
9	Liquid limit	(%)	LL	21.5	22.5	20.50	2
10	Plastic limit	(%)	LP	16.7	16.8	16.6	2
11	Plastic index	(%)	PI	4.8	5.9	3.7	2
12	Water plasticity ratio	(%)	B	-1.34	-1.01	-1.66	2
13	Unconfined compression	(Kg/cm^2)	qu				
14	Compression index	(cm^2/kg)	Cc				
15	Coefficient of consolidation	(cm^2/s)	Cv				
16	Preconsolidation pressure	(kg/cm^2)	Pc				
17	Coefficient of volunm compressibility	(cm^2/g)	Mv				
18	Permeability	(cm/sec)	k20				

2. BORING LOGS

THE DETAILED DESIGN STUDY ON HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
SOIL INVESTIGATION PROGRAM

BORING LOG : DBN- 01
sheet 1 of 1

Station : Tau Hu - Ben Nghe Canal
Date commenced : 5th June 2000
Date completed : 5th June 2000
Logged by : Nguyen Xuan Hong
Checked by : Pham Van Manh

Depth (m) : 30.0
Elevation (m) : 2.19
Boring Type : XJ - 100
Underground water level (m) : -0.6

Depth (m)	Elevation(m)	Thickness (m)	LOG 1/100		SOIL DESCRIPTION	STANDARD PENETRATION TEST Depth (m) From	To	N	Blows/15cm 15	15	15	N 0 10 20 30 40 50
0		2.19										
1	1.00	1.19	1.00		Ground made: Sand with cobble of brick, stone and concrete.	0.50	0.95	29	10	13	16	
2				DBN-01-1 2.0 - 2.6	Very soft, high plasticity, blackish grey ORGANIC CLA	1.50	1.95	2	1	1	1	
3	3.40	-1.21	2.40	OH		2.60	3.05	1	0	0.5	0.5	
4				DBN-01-2 4.0 - 4.6	Stiff, high plasticity, reddish yellowish grey CLAY	3.50	3.95	15	5	7	8	
5	5.00	-2.81	1.60	CH		4.60	5.05	14	5	7	7	
6				DBN-01-3 6.0 - 6.6	Medium stiff, low plastisity reddish yellowish SANDY CLAY	5.50	5.95	14	6	7	7	
7	7.00	-4.81	2.00	CL		6.60	7.05	7	4	3	4	
8				DBN-01-4 8.0 - 8.6		7.50	7.95	7	3	3	4	
9						8.60	9.05	8	4	4	4	
10				DBN-01-5 10.0 - 10.6	Loose, yellowish brownish greyCLAYEY SAND .	9.50	9.95	7	3	3	4	
11				SC		10.60	11.05	8	4	4	4	
12				DBN-01-6 12.0 - 12.6		11.50	11.95	7	3	3	4	
13						12.60	13.05	8	3	4	4	
14	14.00	-11.81	7.00			13.50	13.95	8	4	4	4	
15				SM	Medium dense, yellowish brownish grey SILTY SAN	14.60	15.05	10	4	5	5	

*Note: Underground water level measured from ground surface.

THE DETAILED DESIGN STUDY ON HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
SOIL INVESTIGATION PROGRAM

BORING LOG : DBN - 01
sheet 2 of 1

Depth (m)	Elevation(m)	Thickness (m)	LOG 1/100		SOIL DESCRIPTION	STANDARD PENETRATION TEST Depth (m) From	To	N	Blows/15cm 15	15	15	N 0 10 20 30 40 50
16				DBN-01-7 16.0 - 16.6		15.50	15.95	11	5	5	6	
17						16.60	17.05	13	5	6	7	
18				DBN-01-8 18.0 - 18.6		17.50	17.95	14	5	7	7	
19						18.60	19.05	15	5	7	8	
20						19.50	19.95	14	5	7	7	
21						20.60	21.05	17	7	8	9	
22				DBN-01-9 22.0 - 22.6		21.50	21.95	18	8	9	9	
23				SM	Medium dense, yellowish brownish grey SILTY SAND.	22.60	23.05	19	8	9	10	
24				DBN-01-10 24.0 - 24.6		23.50	23.95	22	10	10	12	
25						24.60	25.05	25	10	12	13	
26						25.50	25.95	22	9	10	12	
27						26.60	27.05	22	9	11	11	
28				DBN-01-11 28.0 - 28.6		27.50	27.95	23	10	11	12	
29	29.00	-26.81	15.00		Medium dense, yellow POO	28.60	29.05	27	11	13	14	
30	30.00	-27.81	1.00	SWSM DBN-01-12 29.5 - 30.0	RLY GRADED SAND with SILT and GRAVEL	29.05	29.50	28	12	14	14	