

AVERAGE VALUE OF PHYSICA - MECHANICAL PROPERTIES
Layer 4 : Stiff, low plasticity greenish grey SANDY CLAY (CL).

Table : 4a

No	Property	Sign	Average value.	Maximum value	Minimum value	Number of test
1	Sieve Analysis, % Passing					
	3/4" (19 mm)					
	1/2" (12.5 mm)					
	3/8" (9.5 mm)					
	#4 (4.75 mm)					
	#8 (2.36 mm)		100.0	100.0	100.0	2
	#16 (1.18 mm)		99.8	99.8	99.7	2
	#30 (0.6 mm)		98.7	99.2	98.2	2
	#50 (0.3 mm)		92.9	96.9	88.8	2
	#100 (0.15 mm)		82.0	92.6	71.3	2
	#200 (0.075 mm)		66.8	83.0	50.5	2
	< 0.005 mm		39.4	47.7	31.1	2
2	Natural moisture content (%)	w	15.93	16.38	15.48	2
3	Natural unit weight (g/cm ³)	γ	2.090	2.105	2.075	2
4	Dry unit weight (g/cm ³)	γ_d	1.803	1.823	1.783	2
5	Specific gravity	G _s	2.651	2.667	2.634	2
6	Porosity	n	0.320	0.330	0.310	2
7	Void ratio	e _o	0.470	0.496	0.445	2
8	Degree saturation (%)	S	89.90	91.60	88.10	2
9	Liquid limit (%)	LL	28.9	29.8	27.9	2
10	Plastic limit (%)	LP	15.5	15.7	15.3	2
11	Plastic index (%)	PI	13.4	14.1	12.6	2
12	Water plasticity ratio (%)	B	0.03	0.05	0.01	2
13	Unconfined compression (Kg/cm ²)	qu				
14	Compression index (cm ² /kg)	C _c				
15	Coefficient of consolidation (cm ² /s)	C _v				
16	Preconsolidation pressure (kg/cm ²)	P _c				
17	Coefficient of volumm compressibility (cm ² /g)	M _v				
18	Permeability (cm/sec)	k ₂₀				

AVERAGE VALUE OF PHYSICA - MECHANICAL PROPERTIES
Layer 4a : Medium dense, yellowish grey SILTY SAND (SM).

Table : 5a

No	Property	Sign	Average value.	Maximum value	Minimum value	Number of test
1	Sieve Analysis, % Passing					
	3/4" (19 mm)		100.0	100.0	100.0	5
	1/2" (12.5 mm)		99.9	100.0	99.7	5
	3/8" (9.5 mm)		99.5	100.0	97.3	5
	#4 (4.75 mm)		98.5	100.0	92.6	5
	#8 (2.36 mm)		97.9	100.0	89.5	5
	#16 (1.18 mm)		95.2	99.1	85.7	5
	#30 (0.6 mm)		77.1	98.1	66.9	5
	#50 (0.3 mm)		38.9	82.4	24.1	5
	#100 (0.15 mm)		17.1	21.7	14.4	5
	#200 (0.075 mm)		12.8	17.6	9.2	5
	< 0.005 mm		5.7	9.9	2.8	5
2	Natural moisture content (%)	w	14.65	19.74	12.69	5
3	Natural unit weight (g/cm ³)	γ	2.001	2.182	1.863	5
4	Dry unit weight (g/cm ³)	γ_d	1.748	1.929	1.556	5
5	Specific gravity	G _s	2.641	2.647	2.634	5
6	Porosity	n	0.340	0.410	0.270	5
7	Void ratio	e _o	0.520	0.693	0.371	5
8	Degree saturation (%)	S	75.90	93.50	63.00	5
9	Liquid limit (%)	LL	20.4	26.0	17.5	3
10	Plastic limit (%)	LP	15.6	18.4	13.2	3
11	Plastic index (%)	PI	4.8	7.6	2.4	3
12	Water plasticity ratio (%)	B	-0.28	0.18	-1.00	3
13	Unconfined compression (Kg/cm ²)	qu				
14	Compression index (cm ² /kg)	C _c				
15	Coefficient of consolidation (cm ² /Kg)	C _v				
16	Preconsolidation pressure (kg/cm ²)	P _c				
17	Coefficient of volumm compressibility (cm ² /g)	M _v				
18	Permeability (cm/sec)	k ₂₀				

2. BORING LOGS

THE DETAILED DESIGN STUDY ON HO CHI MINH CITY WATER ENVIRONMENT IMPROVEMENT PROJECT SOIL INVESTIGATION PROGRAM					BORING LOG : DUT- 01 sheet 1 of 1															
Station : Thanh Da Pump Drainage Area					Depth (m) : 40.0															
Date commenced : 29th May 2000					Elevation (m) : 1.33															
Date completed : 30th May 2000					Boring Type : XJ - 100															
Logged by : Nguyen Xuan Hong					Underground water level (m) : -1.5															
Checked by : Pham Van Manh																				
Depth (m)	Elevation (m)	Thickness(m)	LOG 1/100	SOIL DESCRIPTION	STANDARD PENETRATION TEST															
					Depth (m)		N	Blows/15cm					N							
					From	To		15	15	15	0	10		20	30	40	50			
0	1.33																			
0.50	0.83	0.50		Ground made : Soft, blackish grey SANDY CLAY	0.50	0.95	1	1	0.5	0.5										
1																				
2			DUT-01-1 2.0 - 2.6		1.50	1.95	1	0	0.5	0.5										
3					2.60	3.05	0	0	0	0										
4			DUT-01-2 4.0 - 4.6		3.50	3.95	0	0	0	0										
5					4.60	5.05	0	0	0	0										
6			DUT-01-3 6.0 - 6.6		5.50	5.95	0	0	0	0										
7					6.60	7.05	0	0	0	0										
8			DUT-01-4 8.0 - 8.6	Very soft, high plasticity, blackish grey ORGANIC CLAY	7.50	7.95	1	0	0.5	0.5										
9					8.60	9.05	1	0	0.5	0.5										
10			DUT-01-5 10.0 - 10.6		9.50	9.95	1	0	0.5	0.5										
11					10.60	11.05	1	0	0.5	0.5										
12					11.50	11.95	2	0	1	1										
13					12.50	13.05	2	1	1	1										
14			DUT-01-6 14.0 - 14.6		13.50	13.95	1	1	0.5	0.5										
15					14.60	15.05	2	1	1	1										

*Note: Underground water level measured from ground surface.