

E.4 Results of Field Ground Investigation

- Setapak -

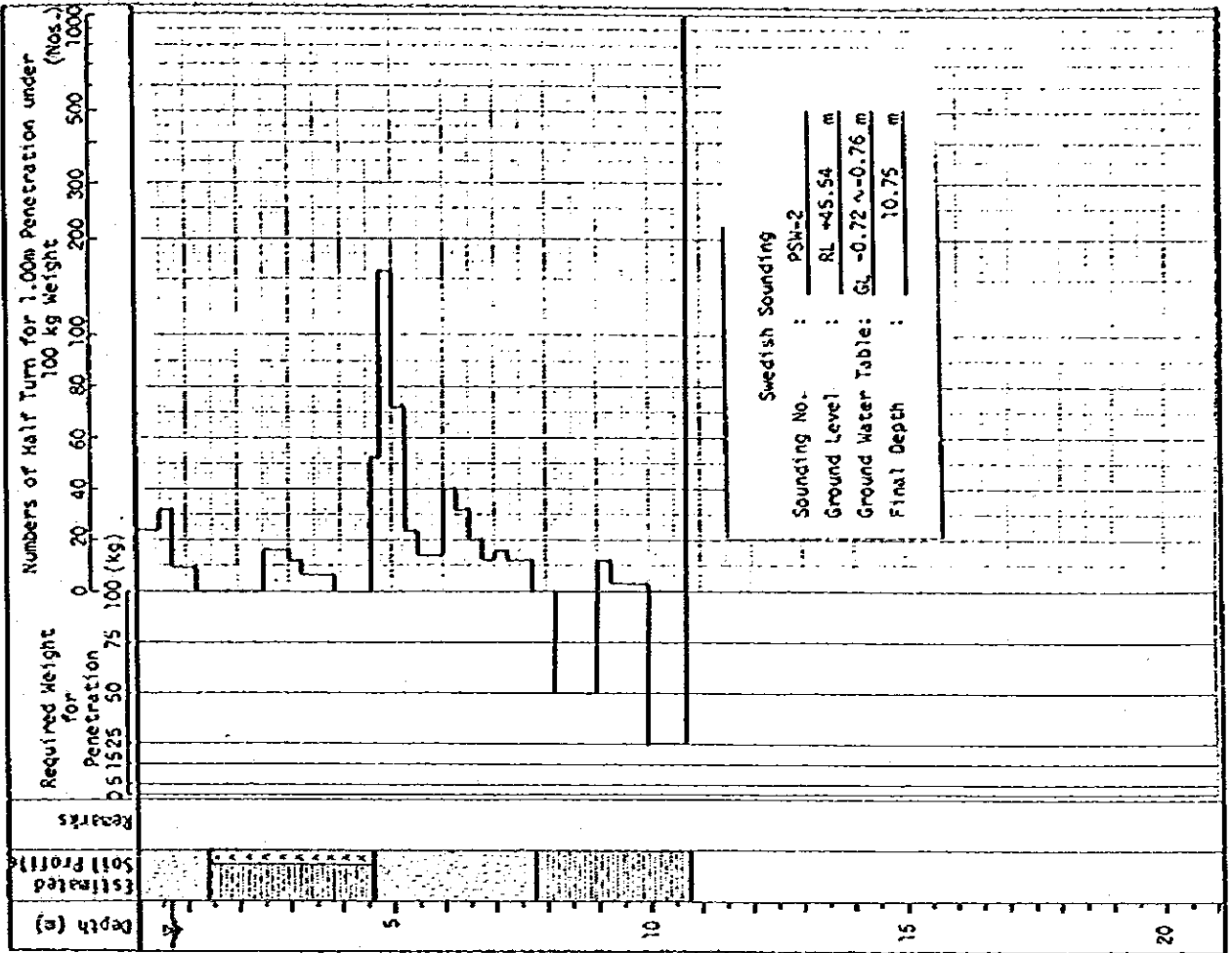
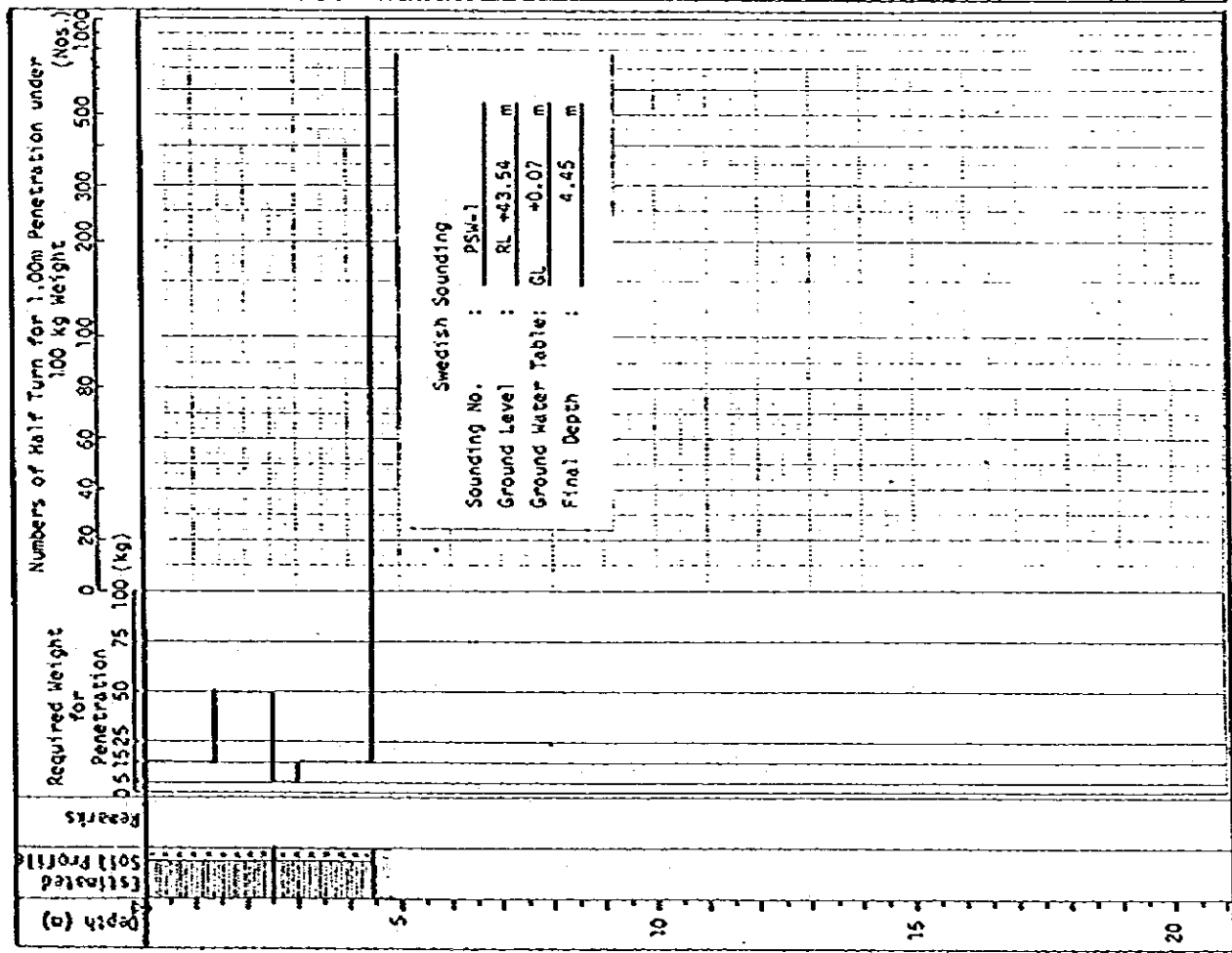
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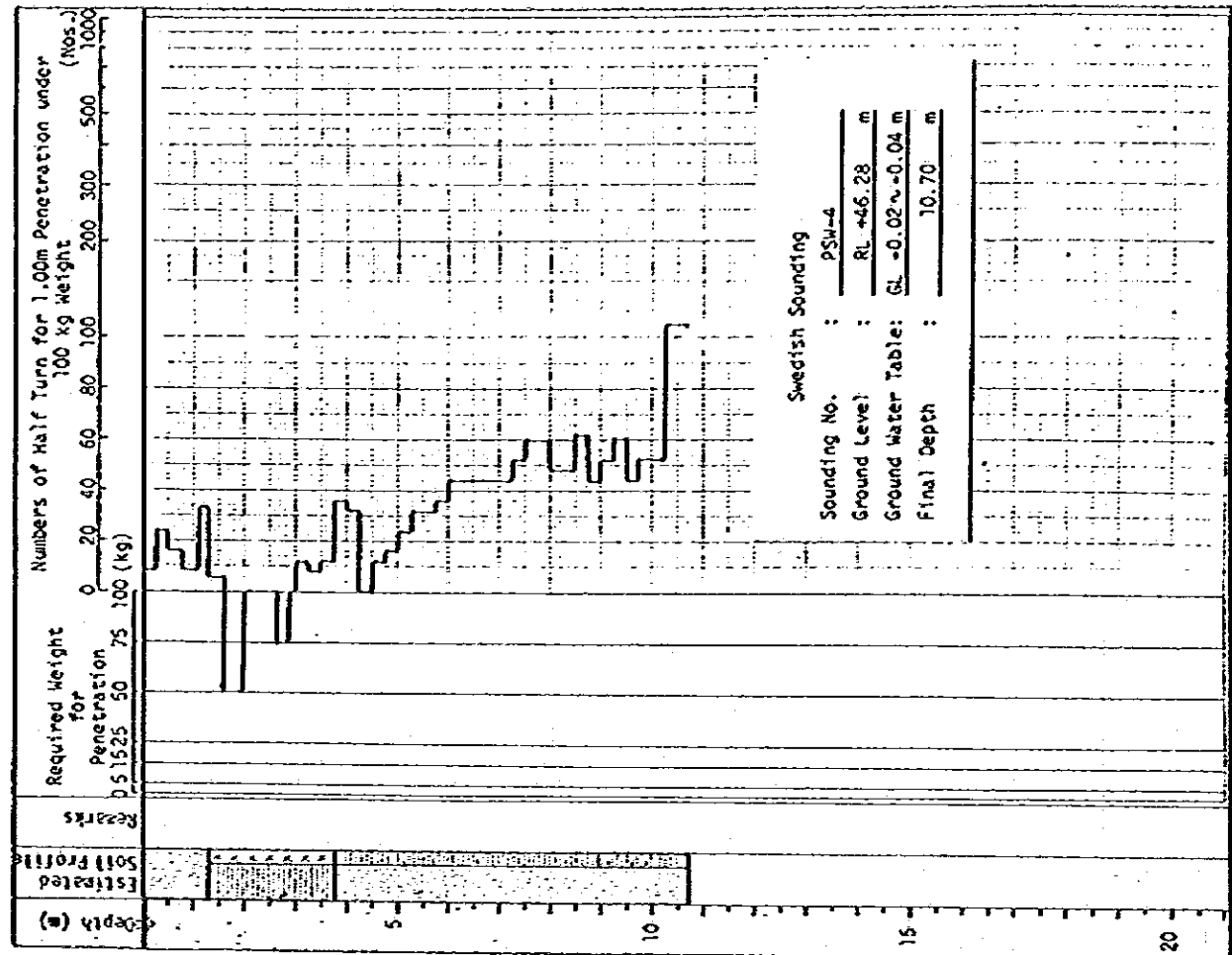
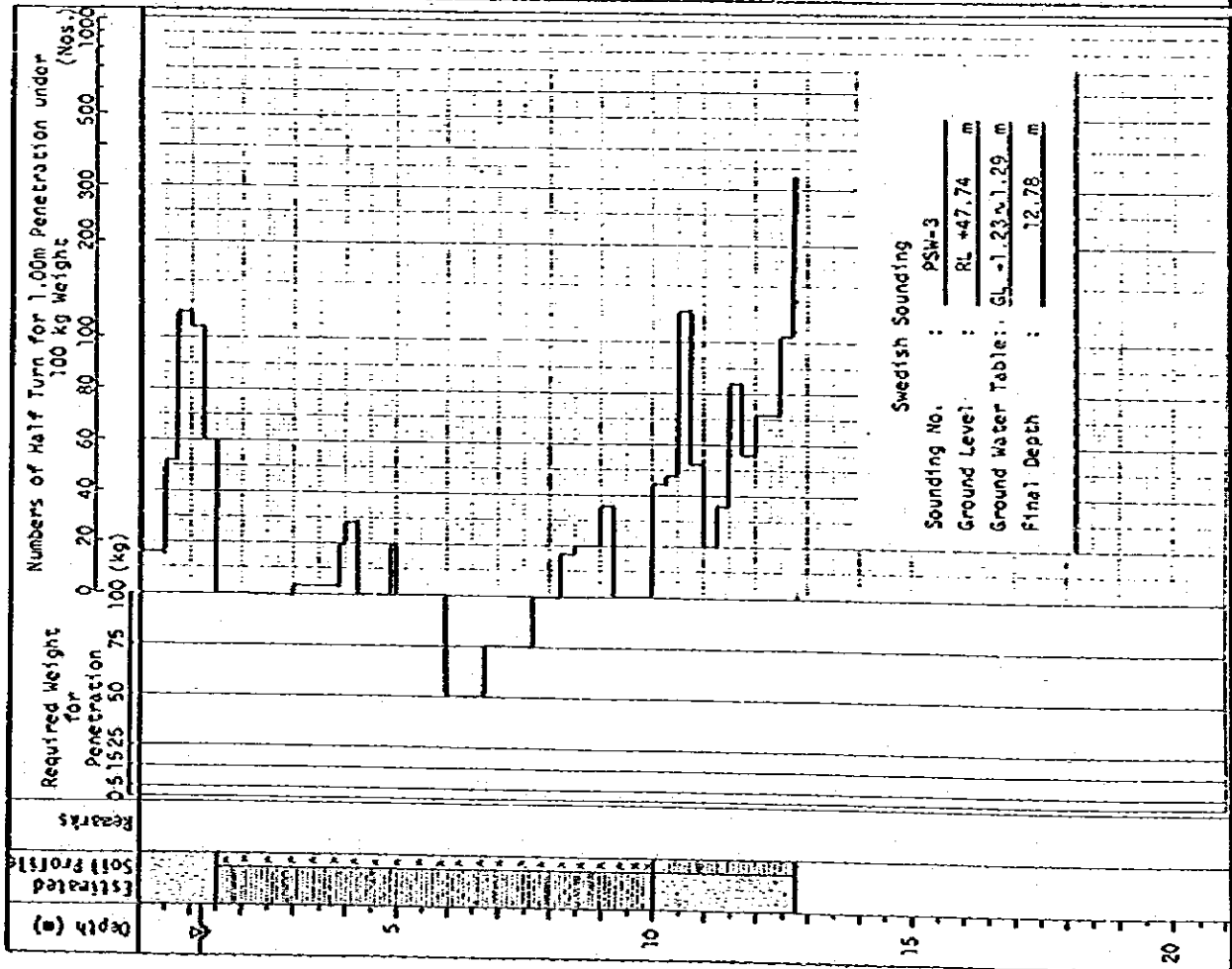
Details of Field Ground Investigation Performed

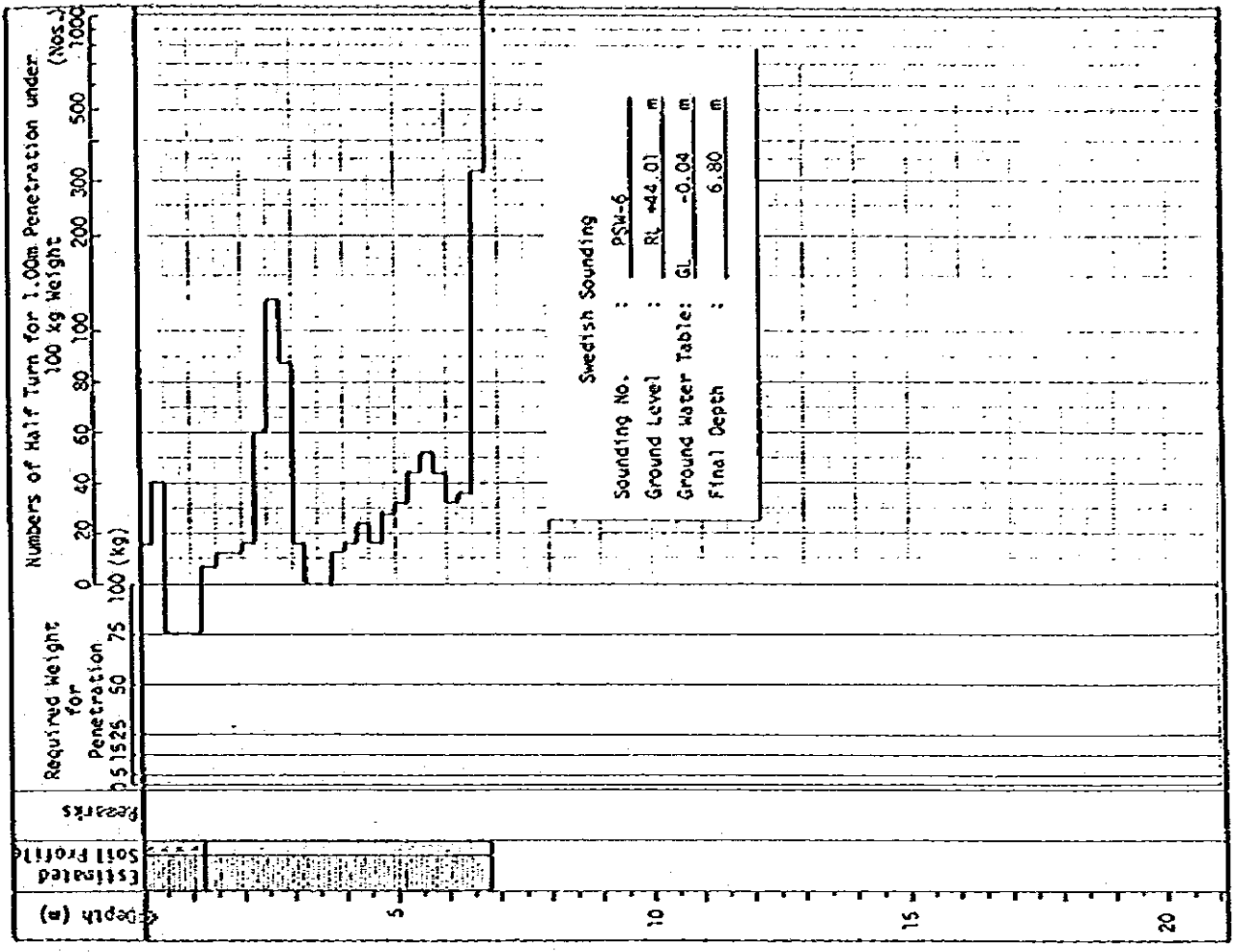
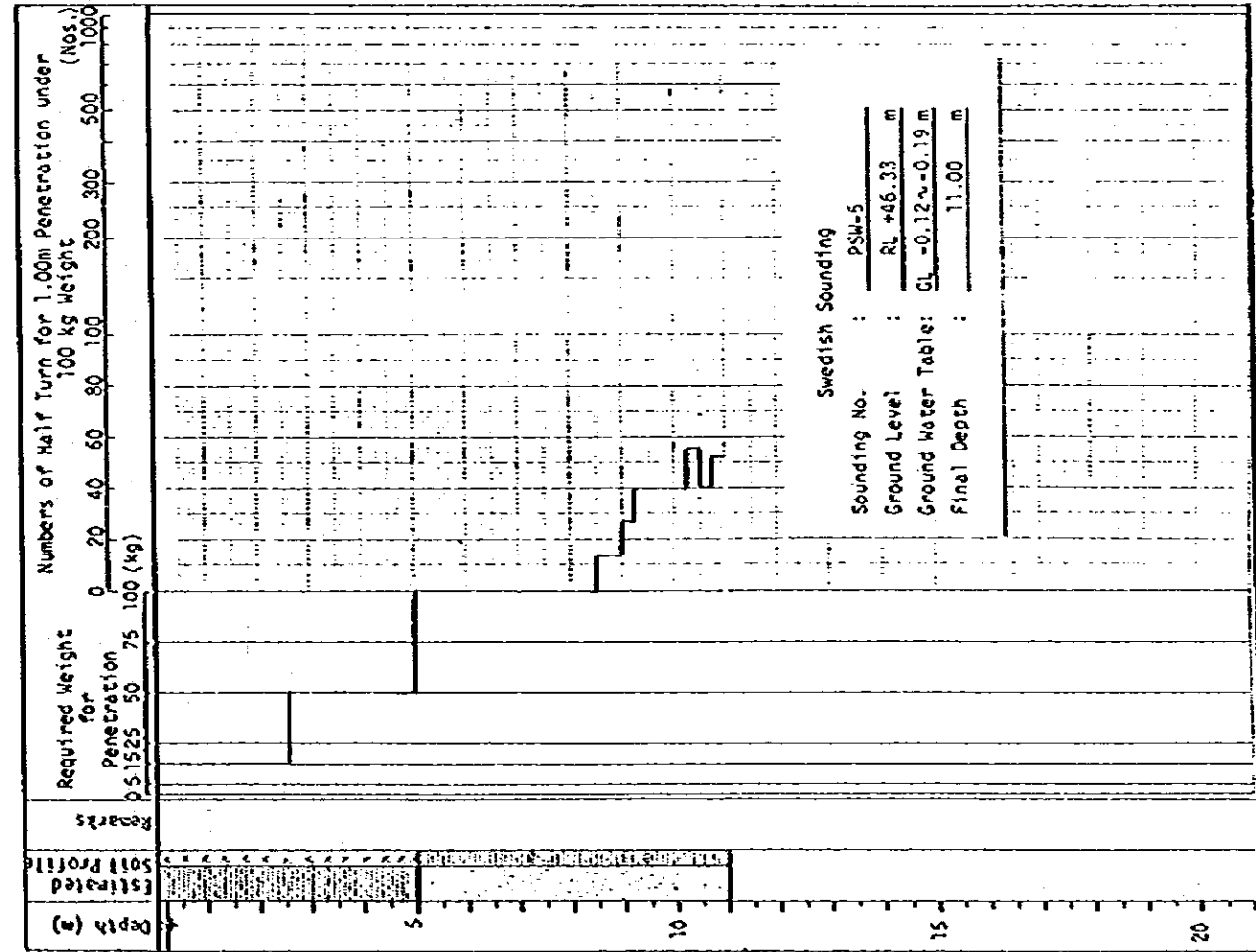
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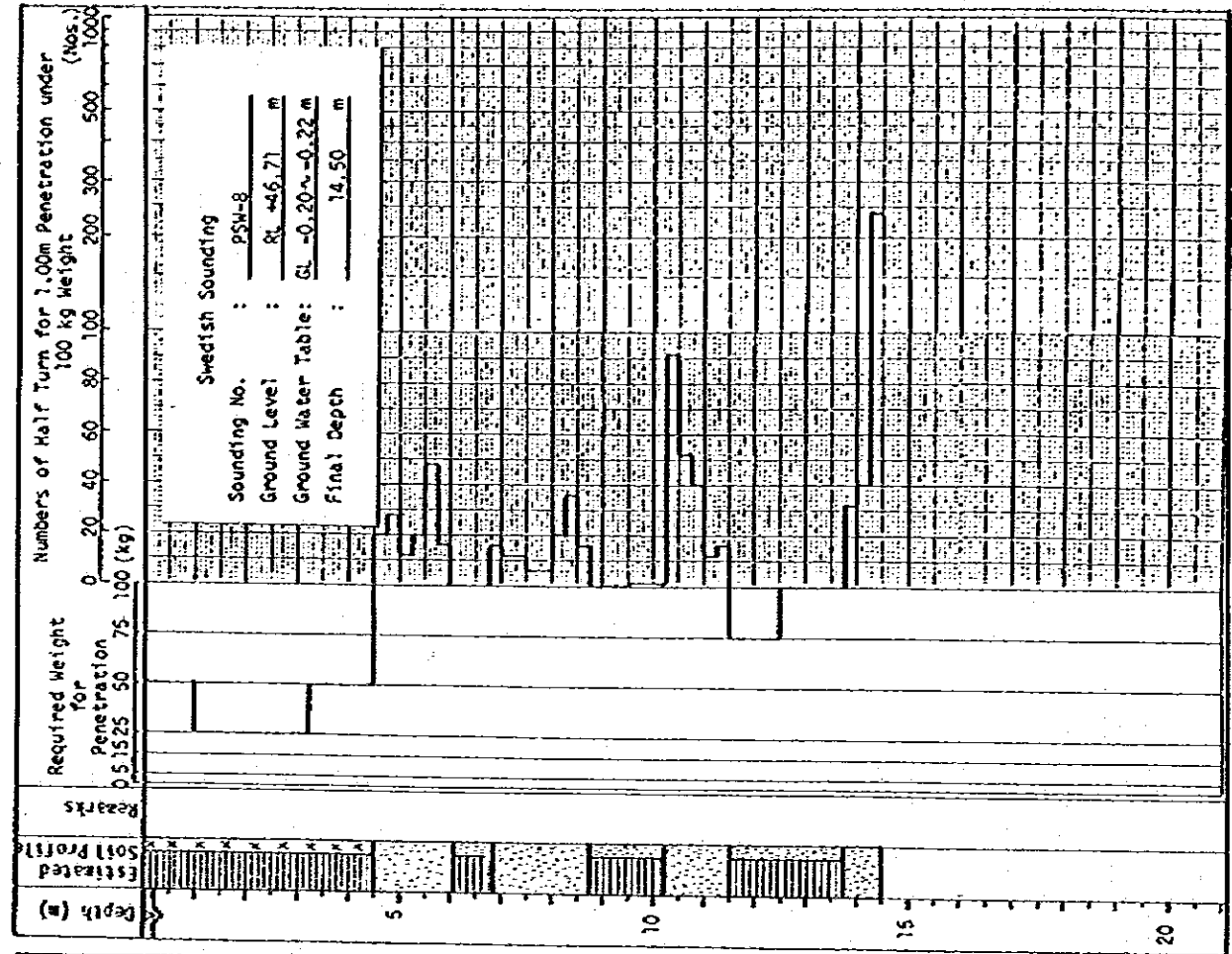
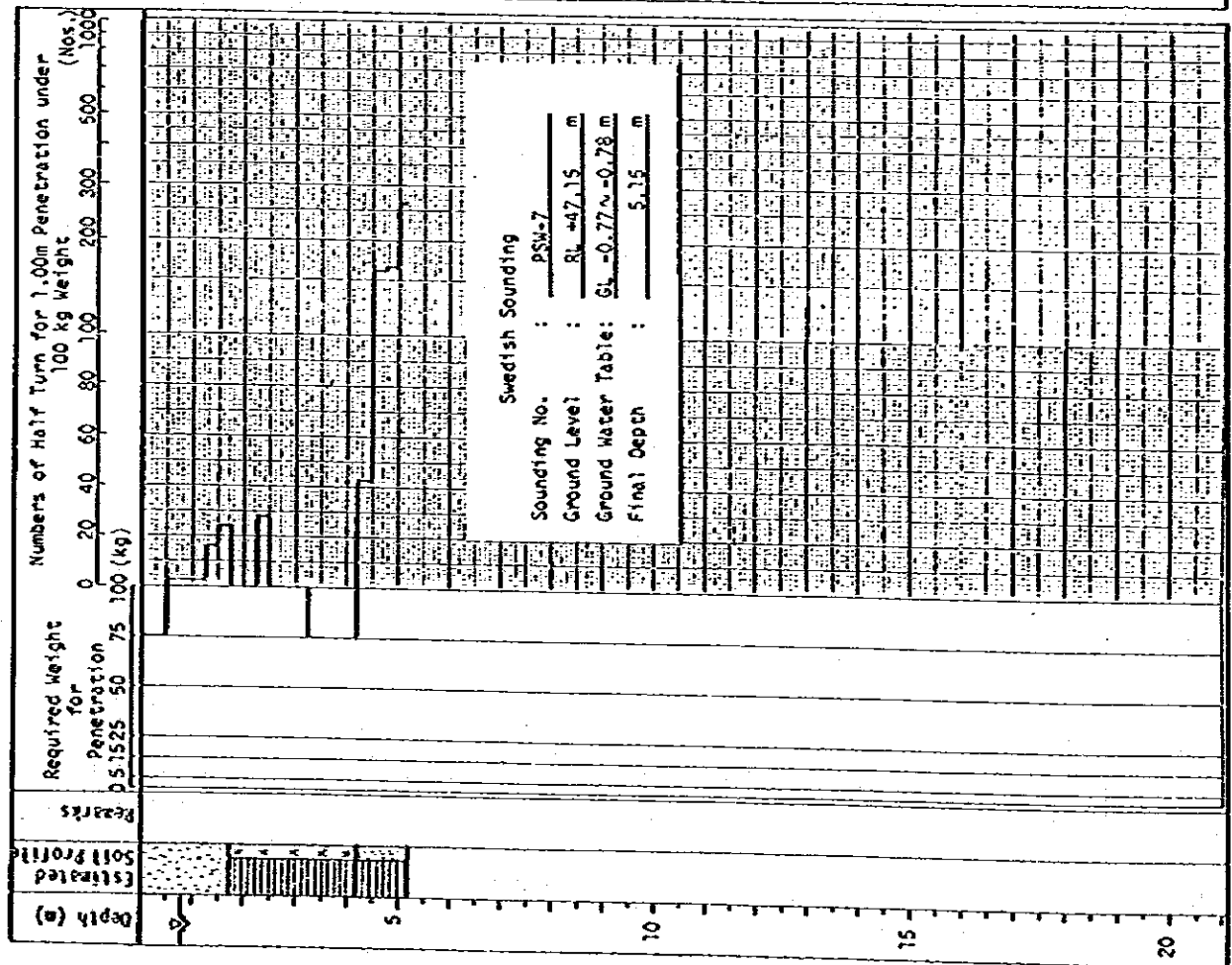
	Sounding No.	Ground Level (RL m)	Sounding Depth (m)	Groundwater [*] Table (GL ± m)	Remarks	
	Swedish Sounding	PSW-1	43.54	4.45	+0.07	
PSW-2		45.54	10.75	-0.72 ~ -0.76		
PSW-3		47.74	12.78	-1.23 ~ -1.29		
PSW-4		46.28	10.70	-0.02 ~ -0.04	1 m away from PBH-3	
PSW-5		46.33	11.00	-0.12 ~ -0.19		
PSW-6		44.01	6.80	-0.04		
PSW-7		47.15	5.15	-0.77 ~ -0.78		
PSW-8		46.71	14.50	-0.20 ~ -0.22		
PSW-9		46.81	9.95	-0.30	1 m away from PBH-2	
PSW-10		47.18	13.00	-0.30		
PSW-11		46.54	10.75	-0.20	1 m away from PBH-1	
PSW-12		48.20	10.75	-1.10		
PSW-13		47.41	11.25	-0.72 ~ -0.73	1 m away from PBH-4	
PSW-14		47.91	11.20	-1.08 ~ -1.09		
PSW-15		48.17	6.43	-0.79 ~ -0.91		
	Total	15 locations	149.46 m	-		
Rotary Boring	Boring No.	Boring Length (m)			Undisturbed Sampling (Nos.)	Standard Penetration Tests (Nos.)
		Soil Boring	Rock Boring	Total		
	PBH-1	17.41	0.50	17.91	7	9
	PBH-2	8.45	0.50	8.95	3	3
	PBH-3	11.83	1.12	12.95	2	9
	PBH-4	17.00	0.50	17.50	4	13
	Total	54.69	2.62	57.31	16	34

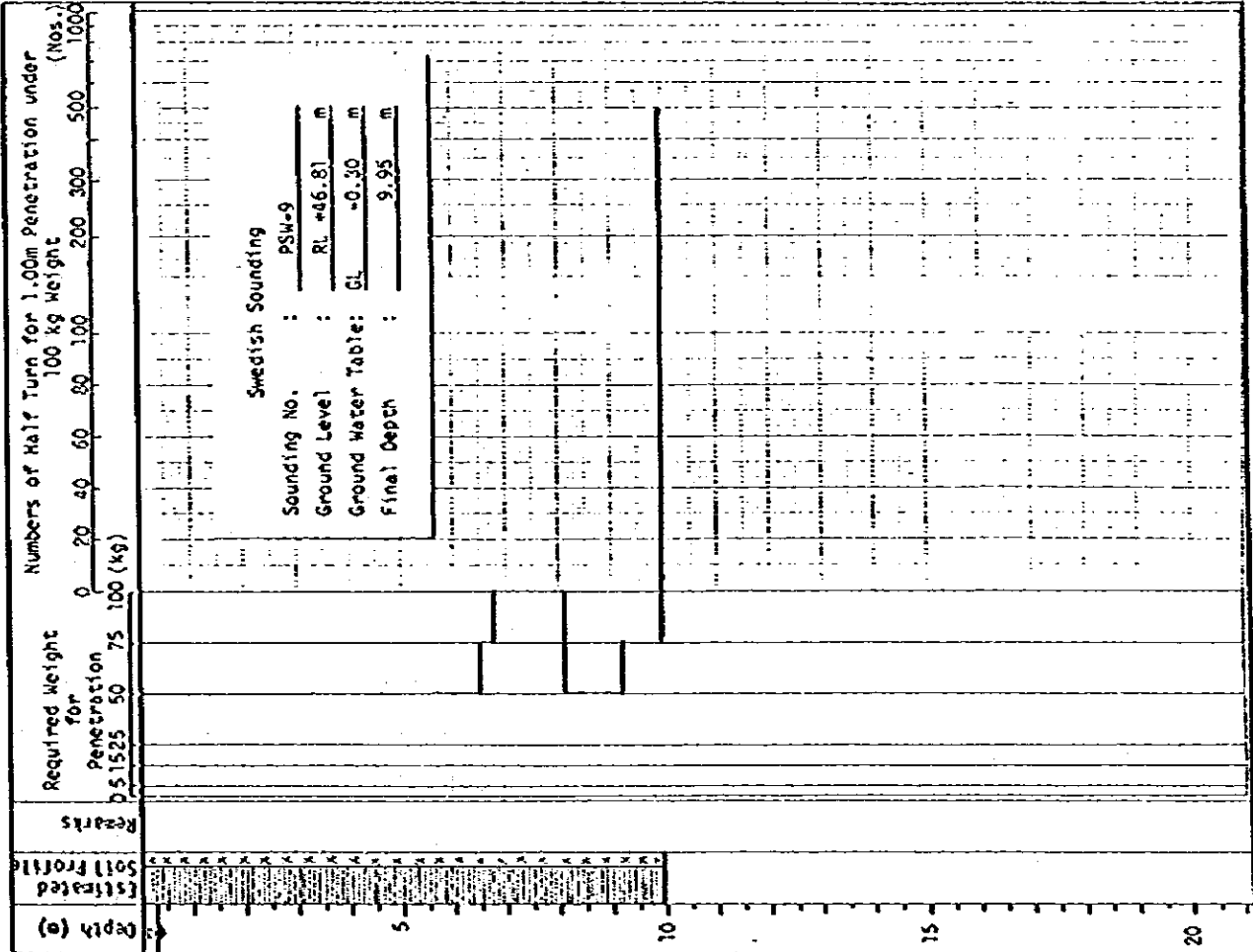
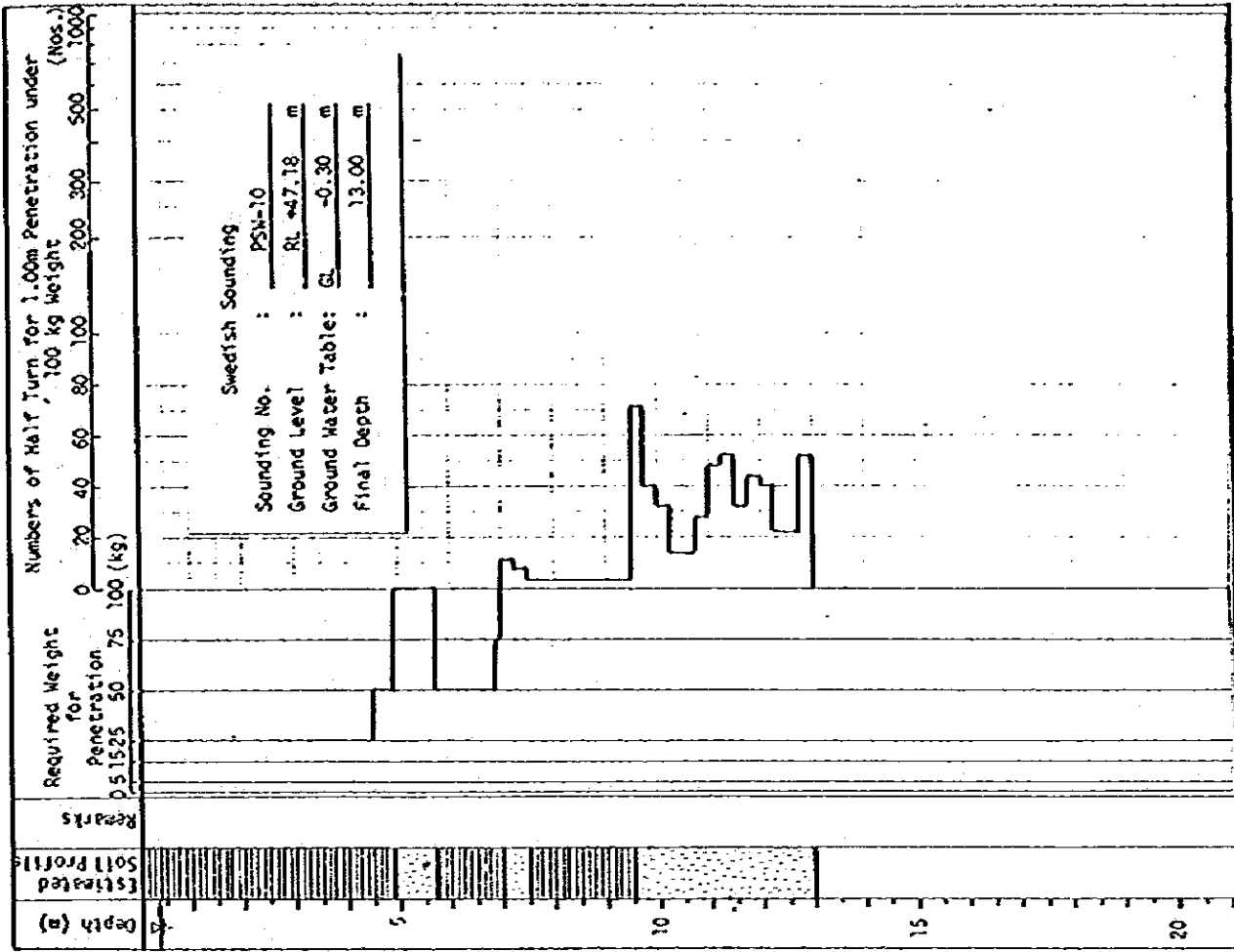
* Groundwater tables were observed on 18th and 19th Jan. 1981.

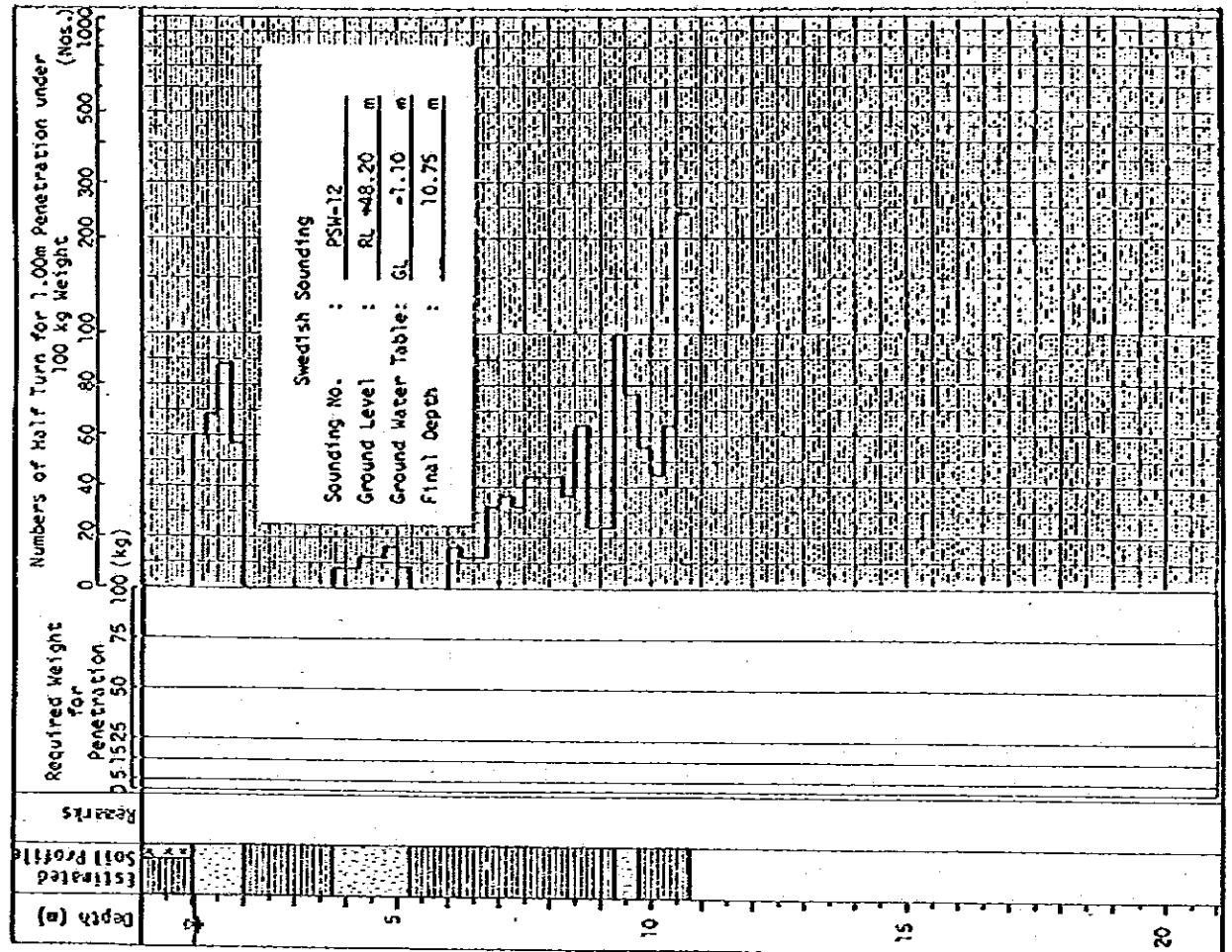
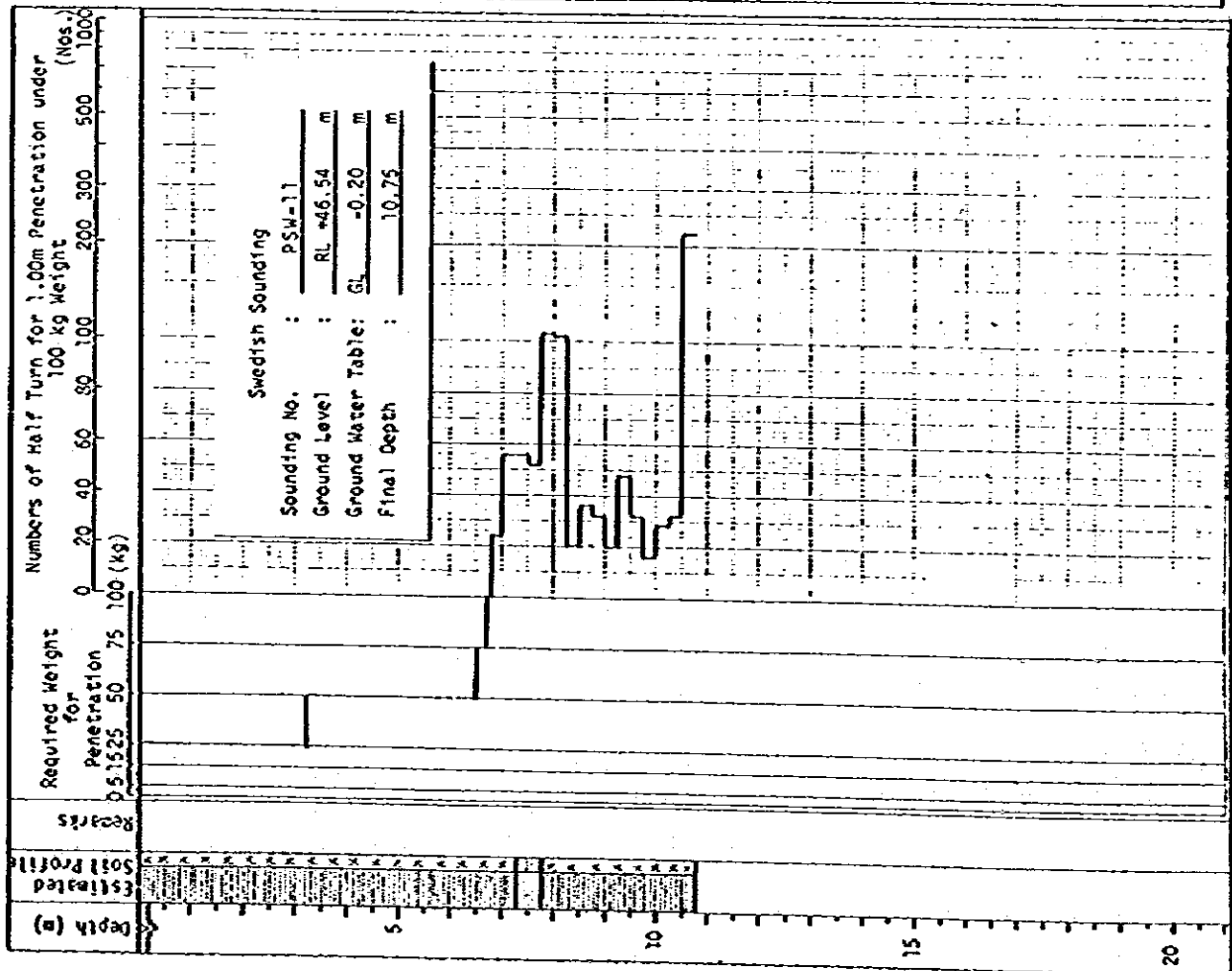


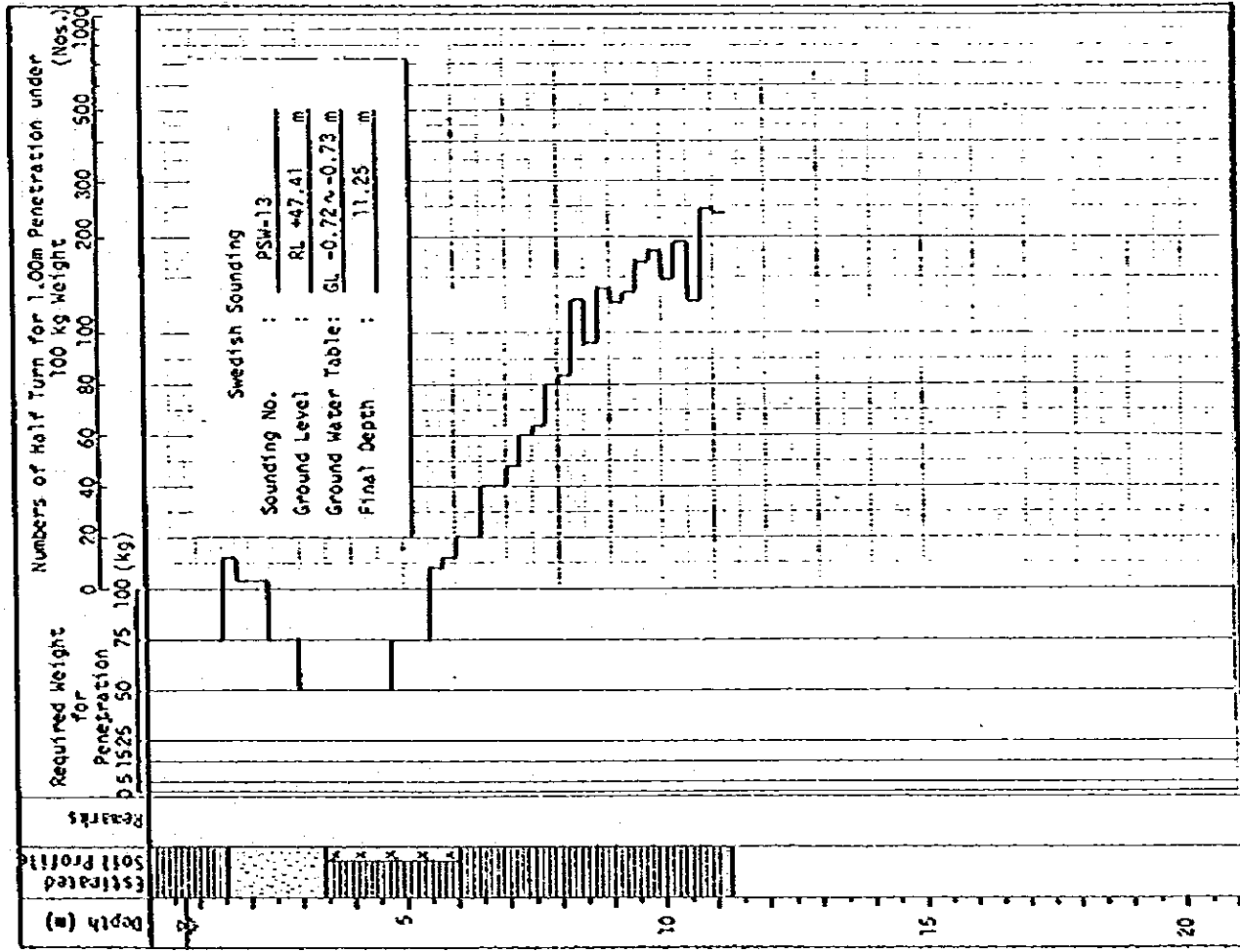
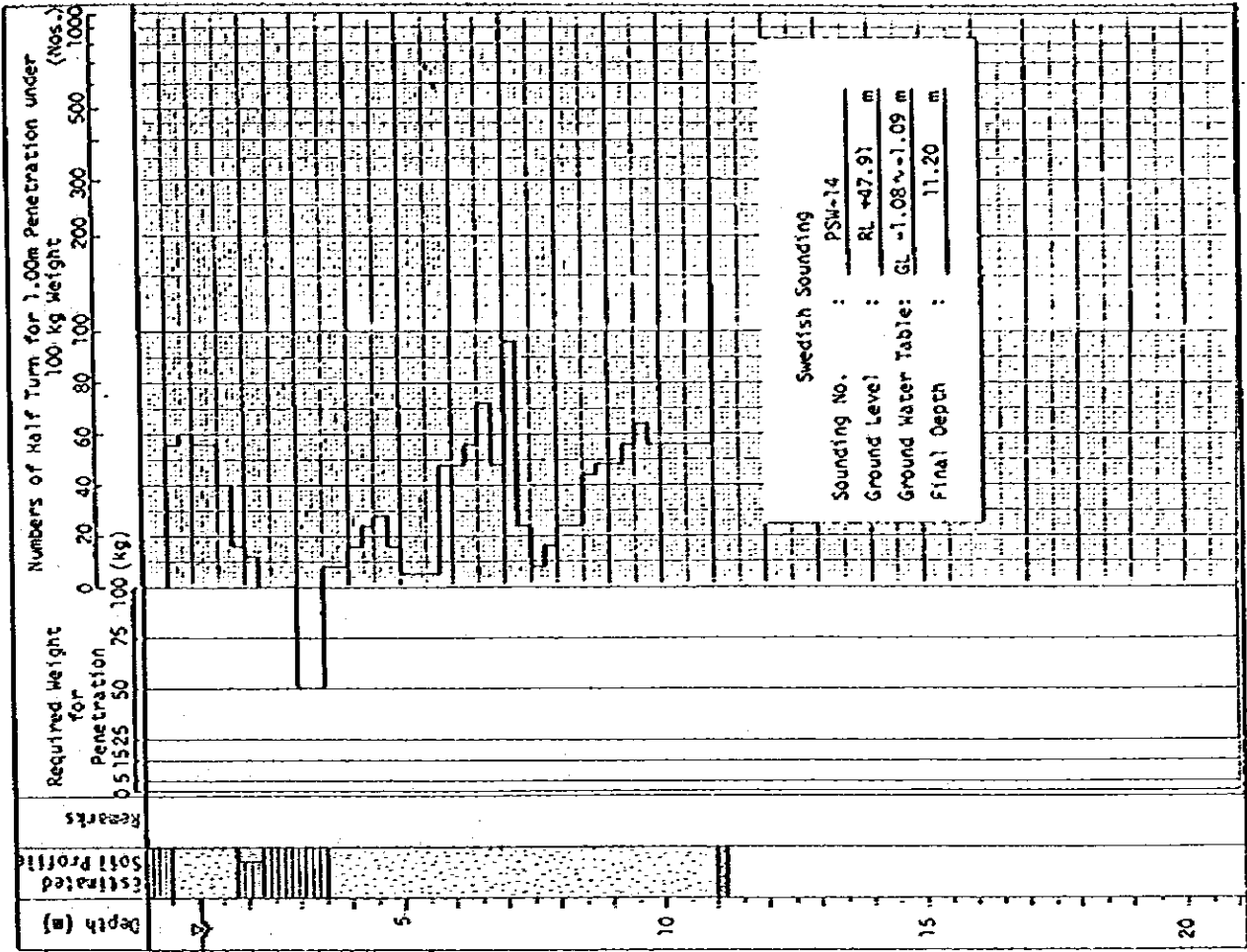












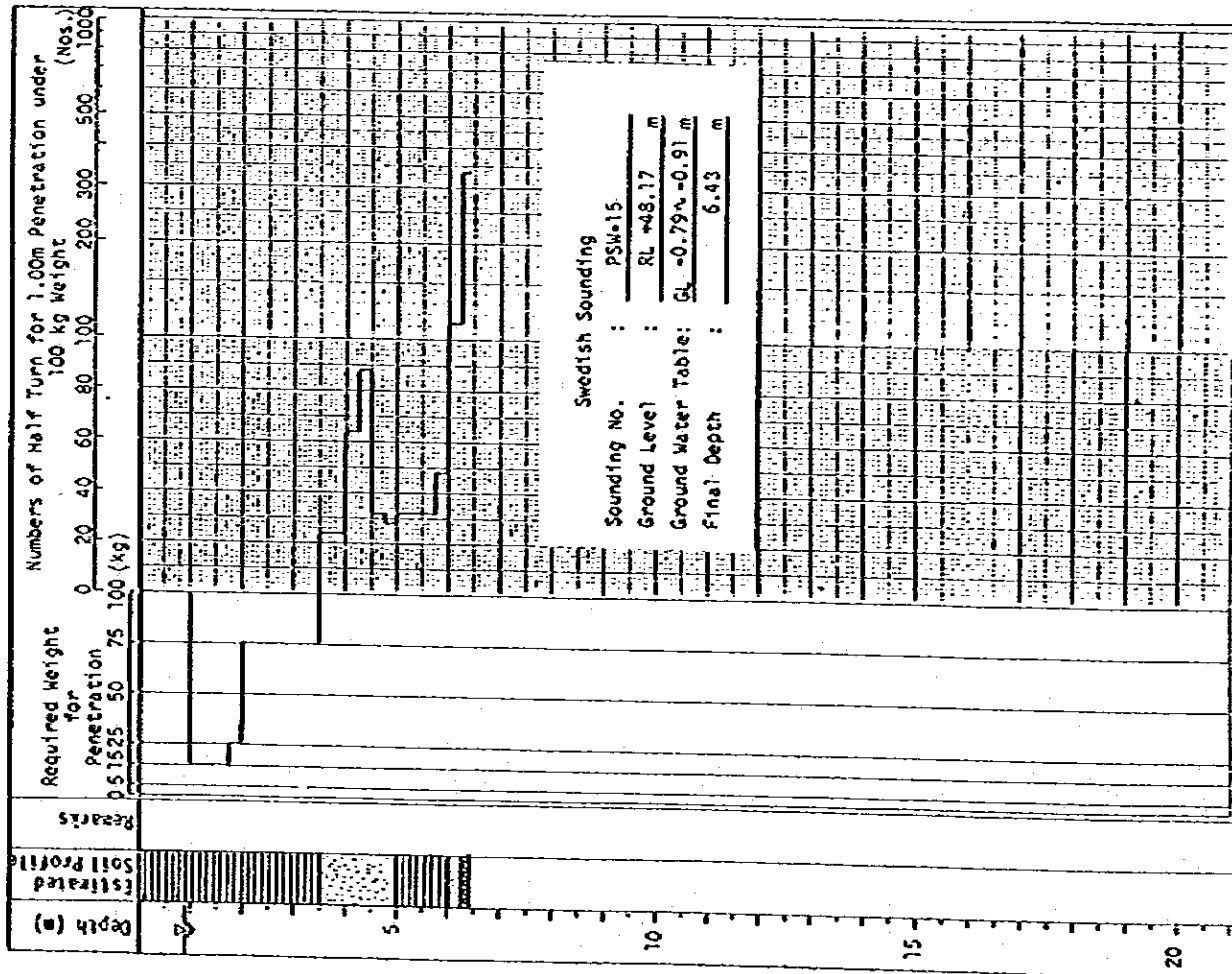


FIG. DRILLING LOG

Name of Project **Setapak** Type of Drilling **Rotary**
 Hole Number **No. PBR-2** Elevation RL + **46.81** m Date **17.11.80 to 19.11.80**
 Water Table GL-**0.30** m Driller **Geotechnique ()**

Remarks

Scale in m.	Elevation in m.	Depth in m.	Thickness	Legend	Type of Soil	Colour	Relative Density or Consistency	General Remarks	Standard Penetration Test or Core Recovery										
									Depth in m.	Sampling for Lab.	SPN-Value	Blows Per Each 10cm	(N-V ₆₀ -E)						
									10	20	30	40	50						
	46.81	0.00																	
1	45.61	1.20	1.20	V	Silty clay	Brown	Soft to medium	With a little organic matter	1.00	UD-1									Core Recovery
2				V				With some interbed of loose silty sand.	1.80										
3	43.21	3.60	2.40	V	Silty clay	Pinkish grey	very soft	Sand is fine to medium grained											
4				V				With very fine grained sand & some organic matter	4.00										
5	41.91	4.90	1.30	V	Silty clay	Light grey	Soft		4.80	UD-2									
6	40.81	6.00	1.10	V				Fine grained, with some organic matter	5.15										
7	40.31	6.50	0.50	V	Sand	Grey	very loose		5.45										
8				V				With some gravels	6.15										
9	38.81	8.00	1.50	V	Silty sand	Grey	loose		6.45										Penetration under rods and hammer weight
10				V				Mottled brown with very fine grained sand and trace of organics	7.00										
11	38.36	8.45	0.45	V					7.80	UD-3									
12	37.86	8.95	0.50	V	Silty clay	Light grey	Soft		8.15										
13				V				With some pieces of sandstone fragments	8.45	P-3	66	18	21	27					
14				V				With reddish brown patches, fractured											
15				V	Limestone	Light yellowish brown	Hard												
16				V				End of Drilling											
17				V															
18				V															
19				V															
20				V															
21				V															
22				V															
23				V															
24				V															
25				V															
26				V															
27				V															
28				V															
29				V															
30				V															

FIG. DRILLING LOG

Remarks

Name of Project **Setapak** Type of Drilling **Rotary**
 Hole Number **No. PBH-3** Elevation PL **+ 46.28** m Date **26.11.80 to 28.11.80**
 Water Table **GL-0.05** m Order **Geotechnique ()**

Scale in m.	Elevation in m.	Depth in m.	Thickness	Legend	Type of Soil	Colour	Relative Density or Consistency	General Remarks	Standard Penetration Test or Core Recovery						
									Depth in m.	Sampling for Lab.	Wp-Value (%)	Blows Per Each 10cm			(N-Value)
1	46.28	0.00						Coarse grained, with patches of clay and angular gravels (4-2 to 10cm)	0.65	P-1	10	3	3	4	Core Recovery
2	44.38	1.90	1.90		Silty sand	Dark grey	Loose		0.95						
	43.68	2.60	0.70		Silty clay	Grey	Soft		1.15	P-2	7	4	2	1	
3									2.15	P-3	3	0	2	1	
4									2.45						
5									3.00						
6								Mottled yellowish brown, with very fine grained sand	3.80	UD-1					
7	40.48	5.80	3.20		Silty clay	Light bluish grey	Soft		6.15	P-4	6	2	2	2	
8									6.45						
9								Gravel is sub-angular (4-2-10cm)	7.00	UD-2					
10								Most of the gravels are lateritic nodules	7.80						
11	35.48	9.80	4.00		Gravelly clay	Brown to yellowish brown	Medium stiff		8.15	P-5	4	1	1	2	
12									8.45						
13	35.98	10.30	0.50		Silty sand	Light greyish white	Very dense	With pieces of soft limestone fragments	9.15	P-6	7	2	2	3	
14	35.48	10.80	0.50		Limestone	Beige white		Feathered & fractured	9.45						
15	34.68	11.60	0.80		Silty clay	Light brownish grey	Dense	With pieces of limestone fragments	10.15	P-7	50	20	5		
16	33.83	12.45	0.73		Weathered limestone	White	Hard		10.45						
17	33.33	12.95	0.50		Silty sand	Light yellowish brown	Very dense	With pieces of limestone fragments	11.15	P-8	50	11	12	2	
18					Limestone	Fresh white	Hard	Fractured, the deeper the fresh	11.45						
19									12.15	P-9	50	10	40		
20									12.45						
21															
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E.5 Results of Field Ground Investigation

- Castlefield -

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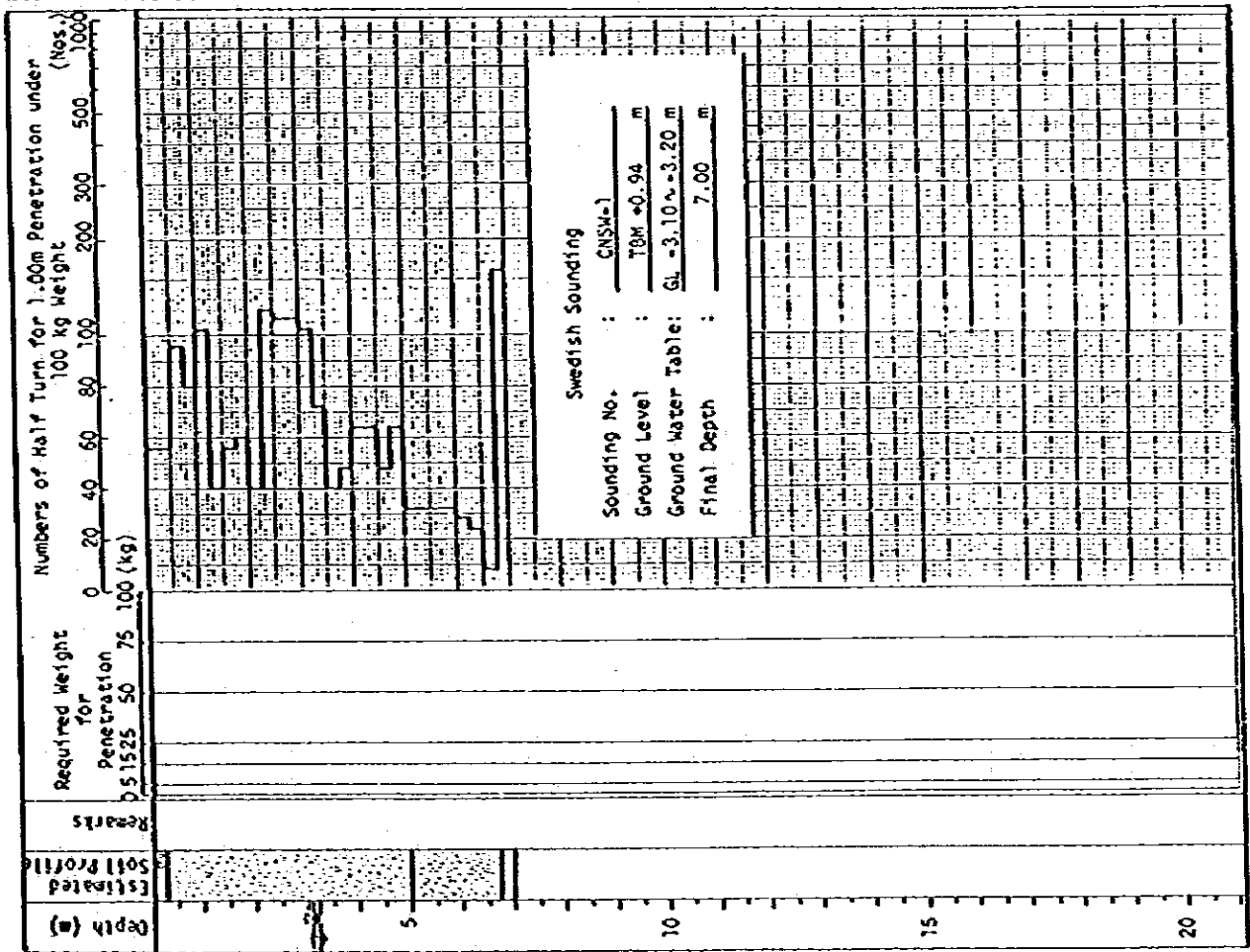
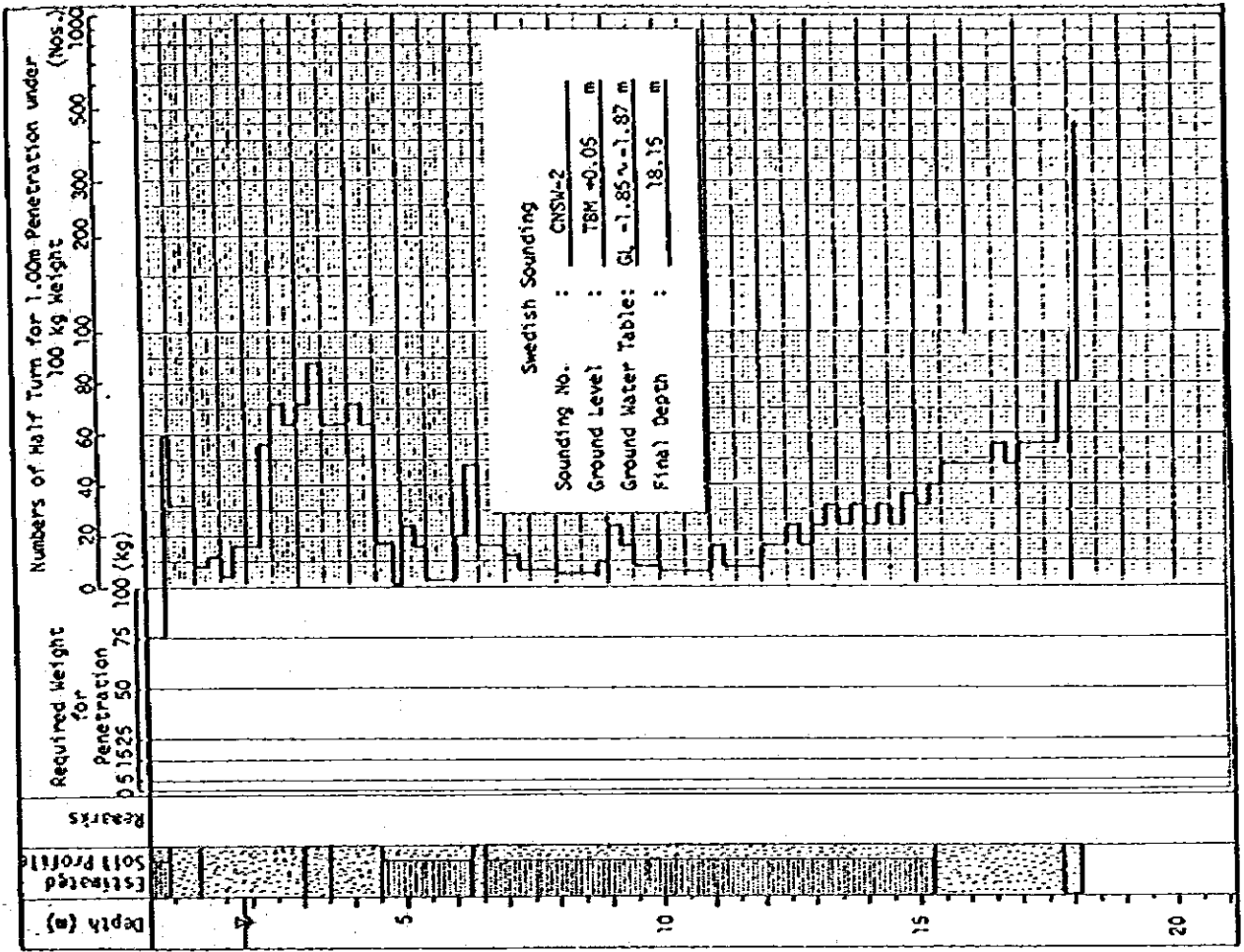
Details of Field Ground Investigation Performed
- Castlefield -

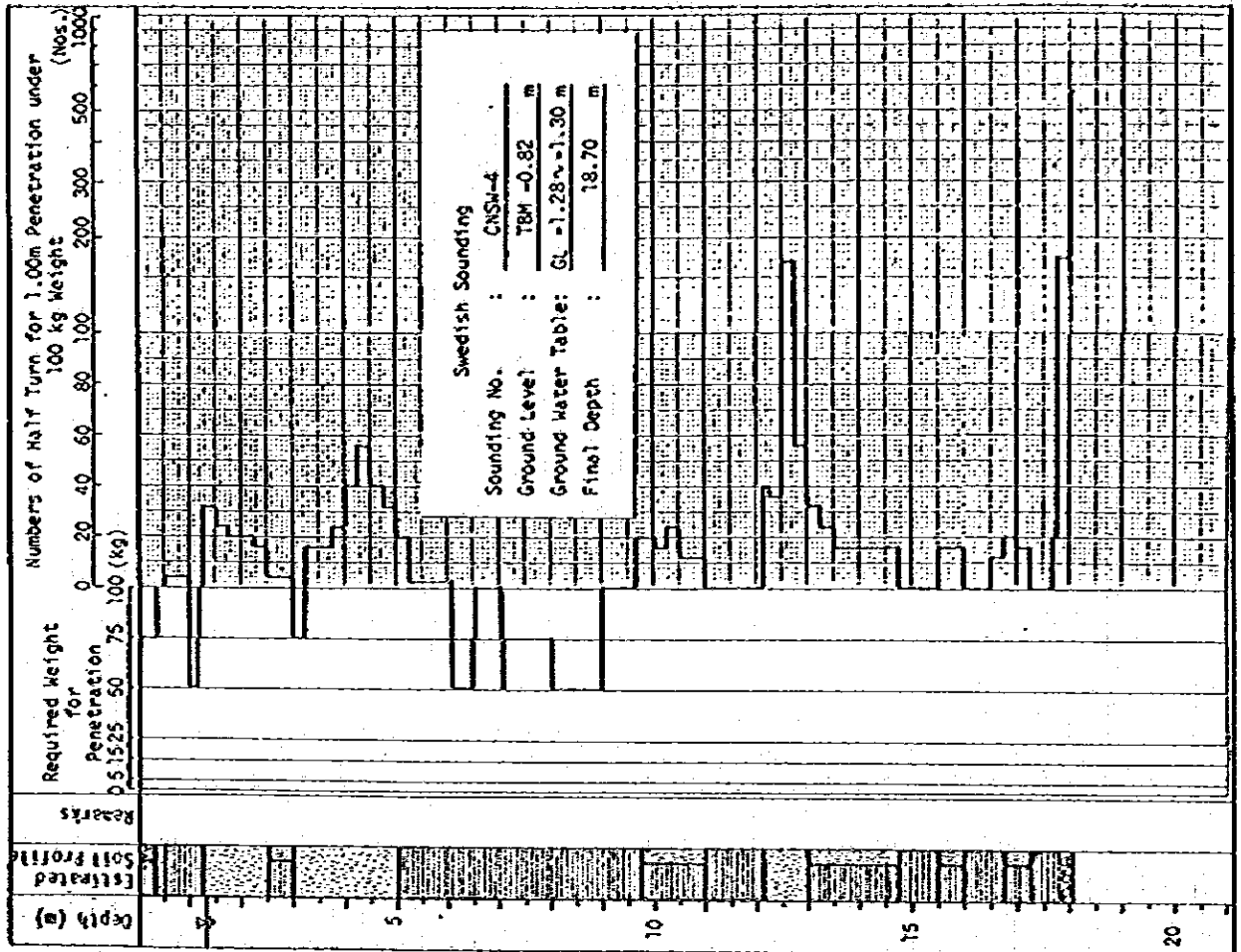
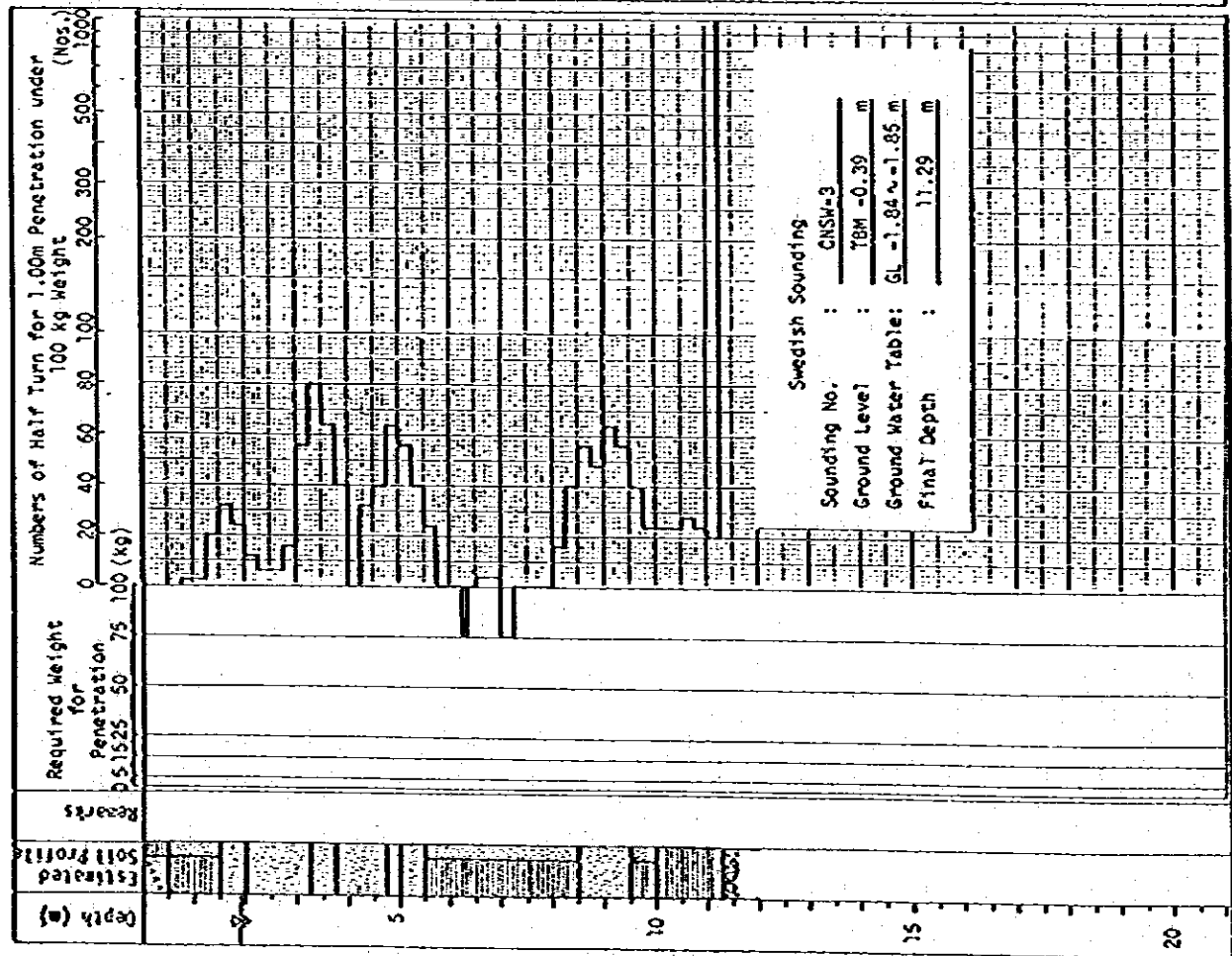
Site	Sounding No.	Ground Level ^{#1} (TBM ± m)	Sounding Depth (m)	Groundwater ^{#2} Table (GL ± m)	Remarks				
Swedish Sounding	North site	CNSW-1	+0.94	7.00	-3.10 ~ -3.20				
		CNSW-2	+0.05	18.15	-1.85 ~ -1.87	1 m away from CNBH-1			
		CNSW-3	-0.39	11.29	-1.84 ~ -1.85				
		CNSW-4	-0.82	18.07	-1.28 ~ -1.30	1 m away from CNBH-2			
		CNSW-5	-1.08	18.03	-0.88 ~ -1.05				
		CNSW-6	-2.85	15.55	-0.18 ~ -0.24	1 m away from CNBH-3			
		CNSW-7	-3.04	11.27	-0.05 ~ -0.26				
		CNSW-8	-3.84	12.10	-0.05 ~ -0.07				
		CNSW-9	-3.88	12.15	-0.06 ~ -0.23				
		CNSW-10	-3.93	13.40	-0.05 ~ -0.16				
		CNSW-11	-3.93	12.65	+0.05				
		CNSW-12	-3.95	13.78	+0.05				
	Sub-Total	12 locations	163.44 m	—					
Swedish Sounding	South site	CSSW-1	-0.10	8.85	-0.4				
		CSSW-2	-0.36	9.50	+0.10 ~ +0.28				
		CSSW-3	-0.49	10.60	+0.07 ~ +0.20				
		CSSW-4	-0.42	12.15	+0.04 ~ +0.05				
		CSSW-5	-0.28	9.34	+0.06 ~ -0.28				
		CSSW-6	-0.25	6.85	+0.06 ~ -0.58				
		CSSW-7	+0.51	7.65	-0.14 ~ -0.70				
			Sub-Total	7 locations	64.94 m	—			
	Total	19 locations	228.38 m	—					
	Grand Total ^{#3}	46 locations	567.34 m	—					
Rotary Boring	Boring No.	Boring Length (m)			Undisturbed Sampling (Nos.)	Standard Penetration Test (Nos.)			
		Soil Boring	Rock Boring	Total					
		CNBH-1	21.26	0.50			21.76	6	11
		CNBH-2	12.25	1.00			13.25	2	10
		CNBH-3	22.35	1.00			23.35	3	19
Total	55.86	2.50	58.36	11	40				

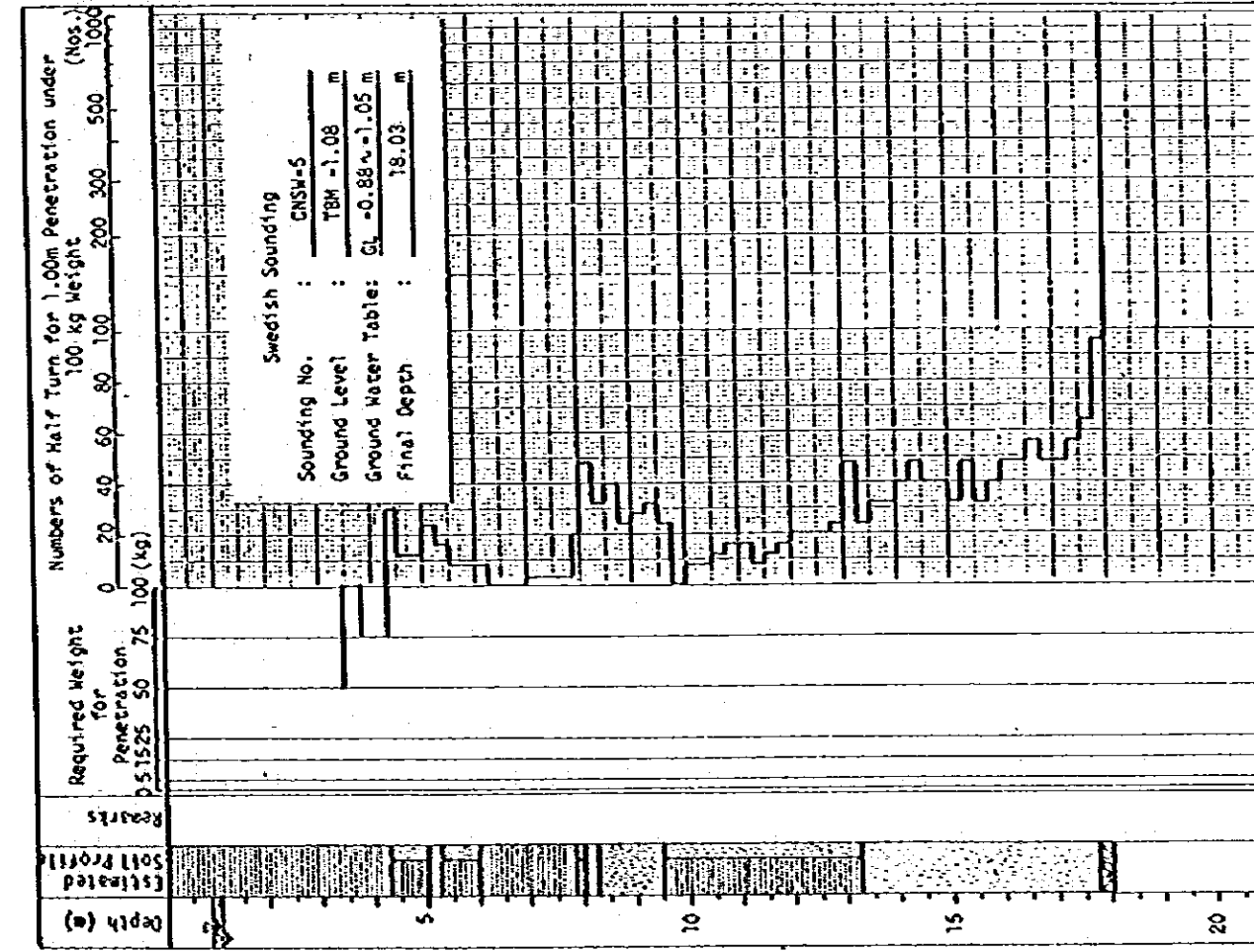
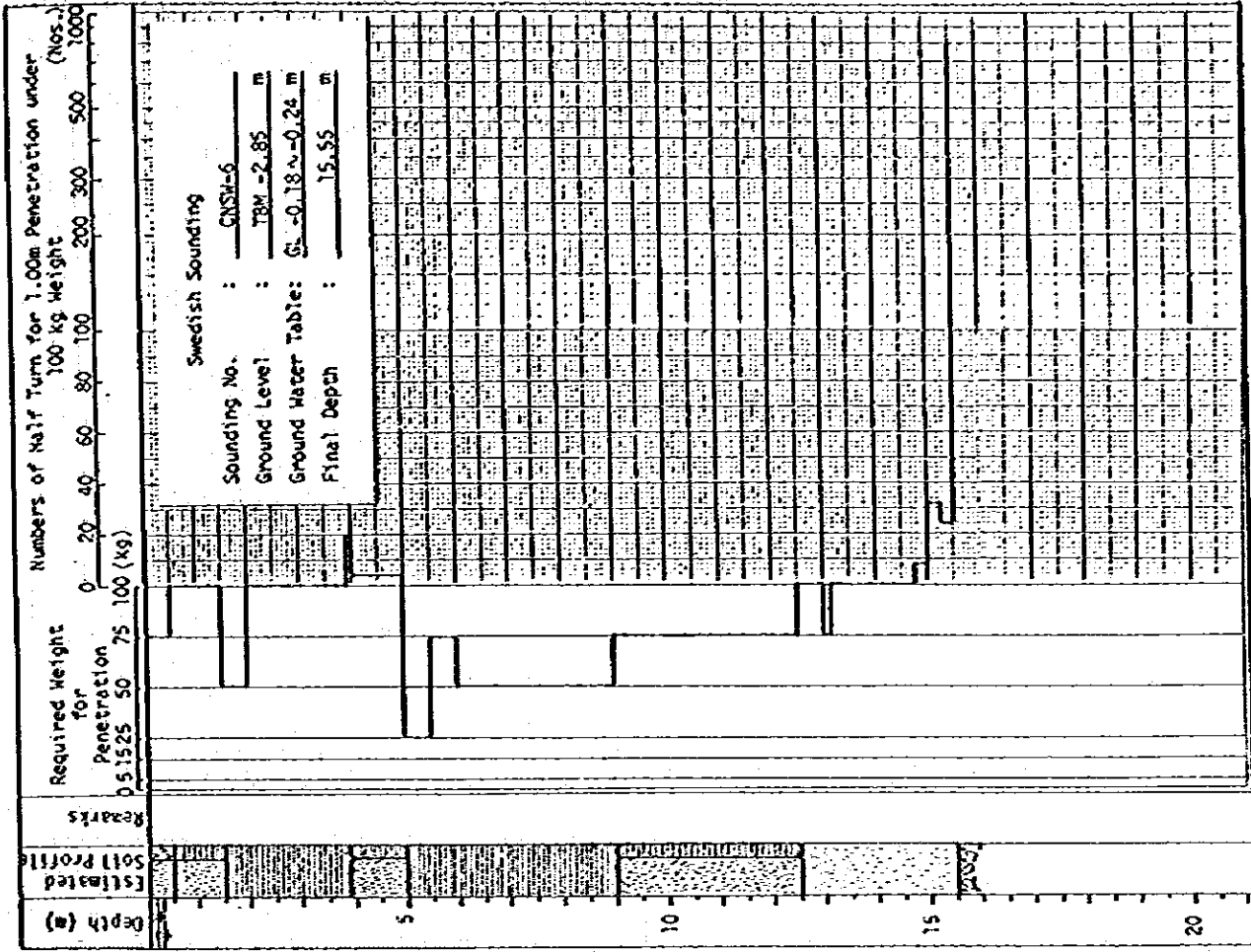
*1 Reference of the ground level is a temporary bench mark prepared on a bridge of KL-Selamban Highway across the Sungai Besi near the site.

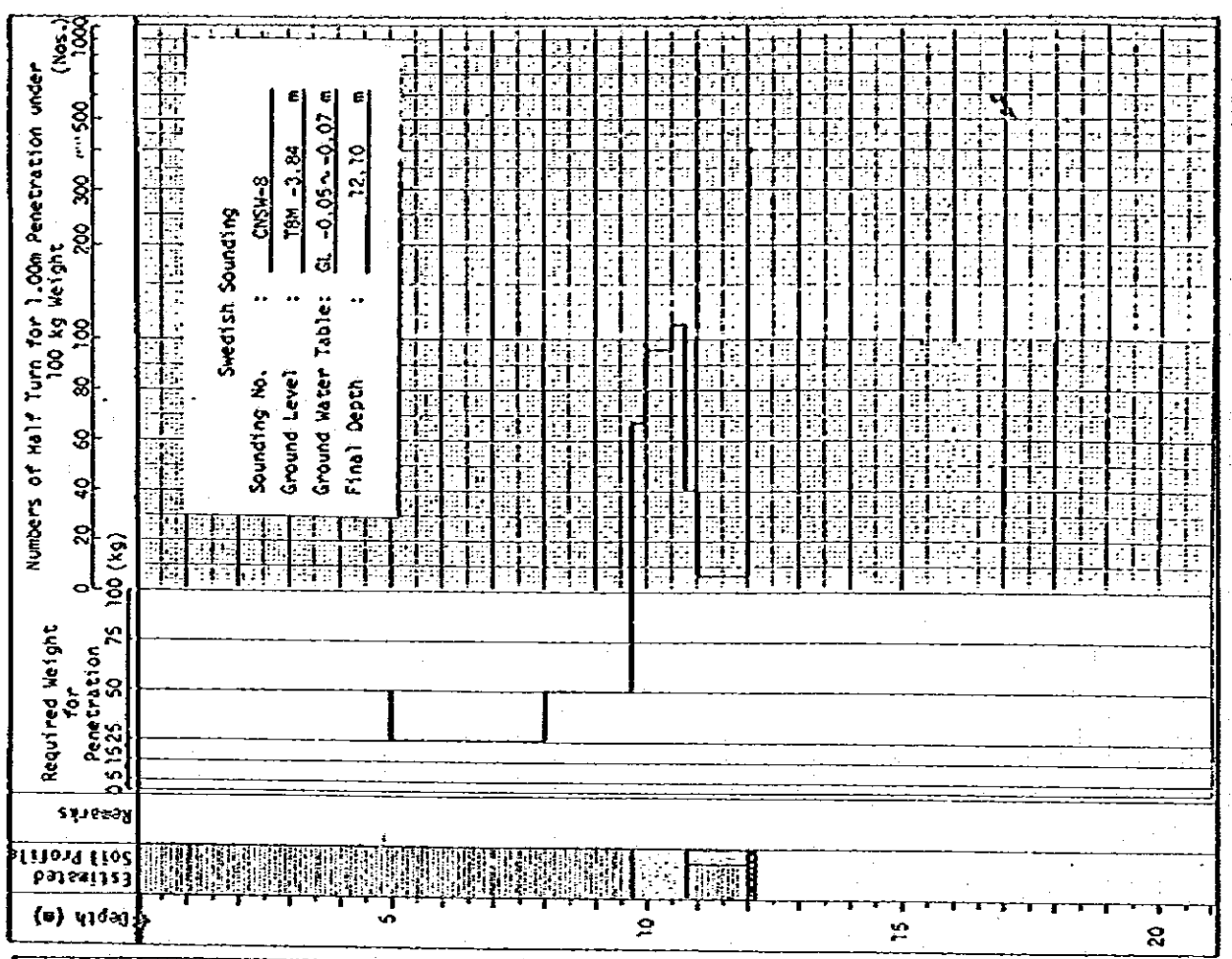
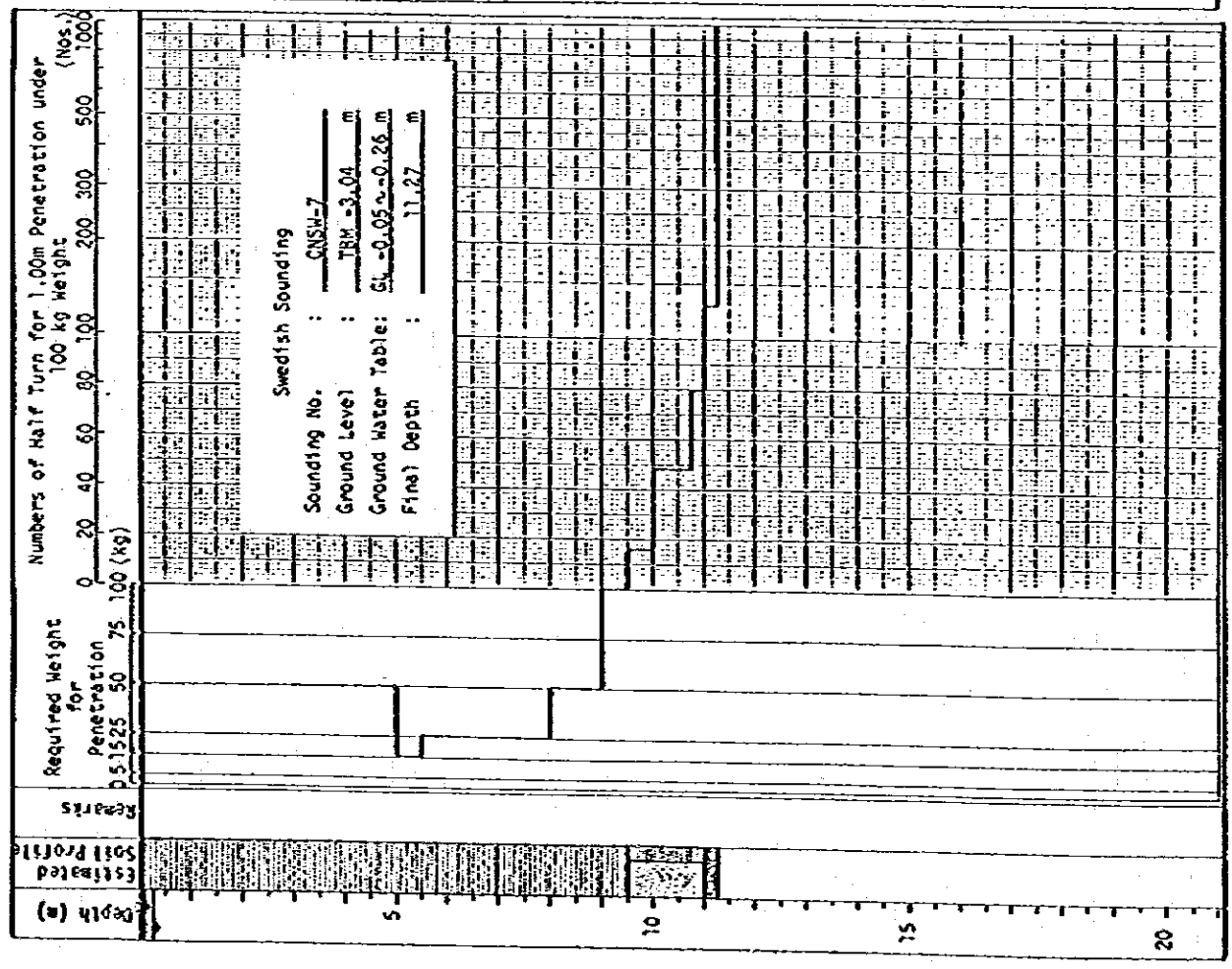
*2 Groundwater Tables were observed on 17th to 19th Jan. 1981.

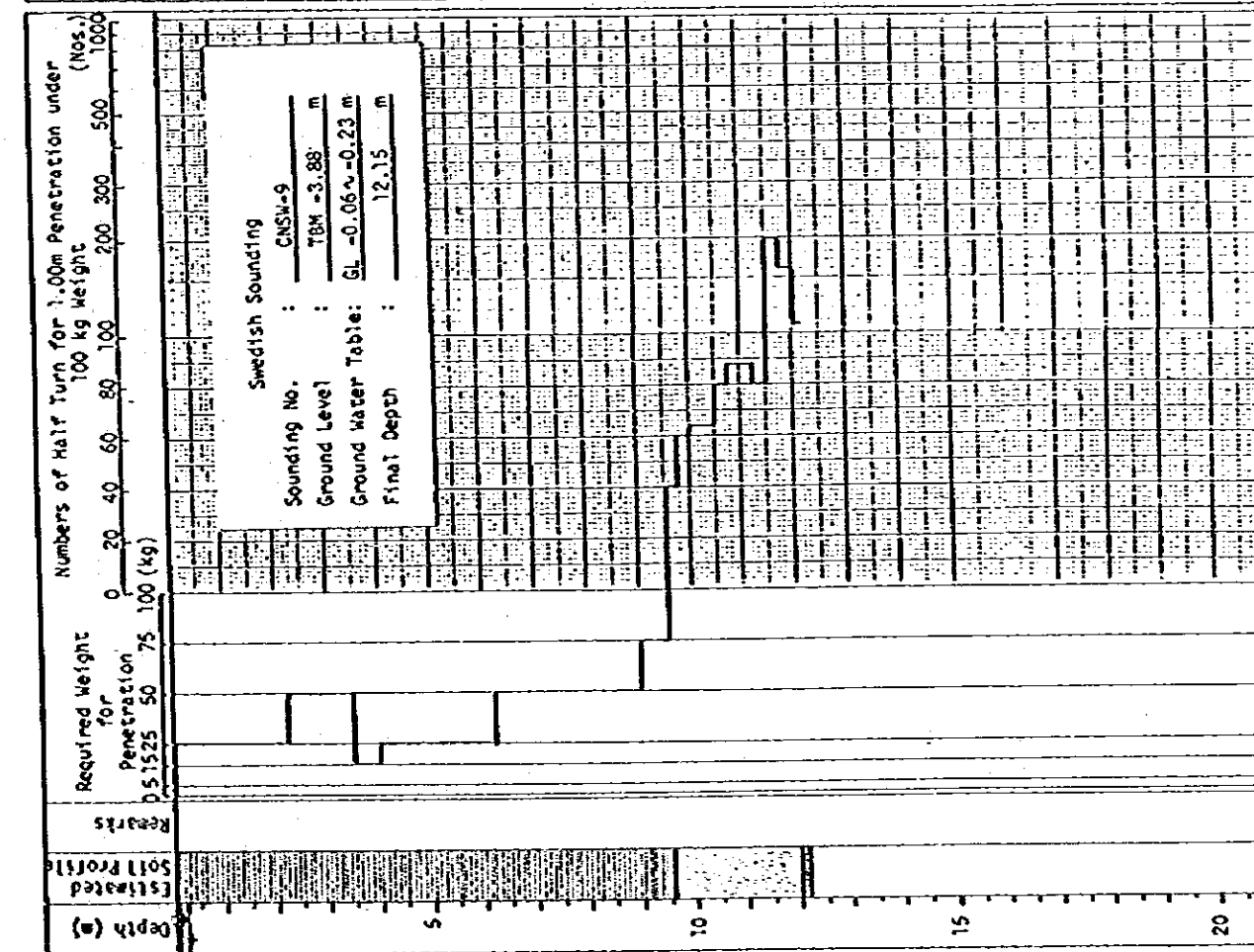
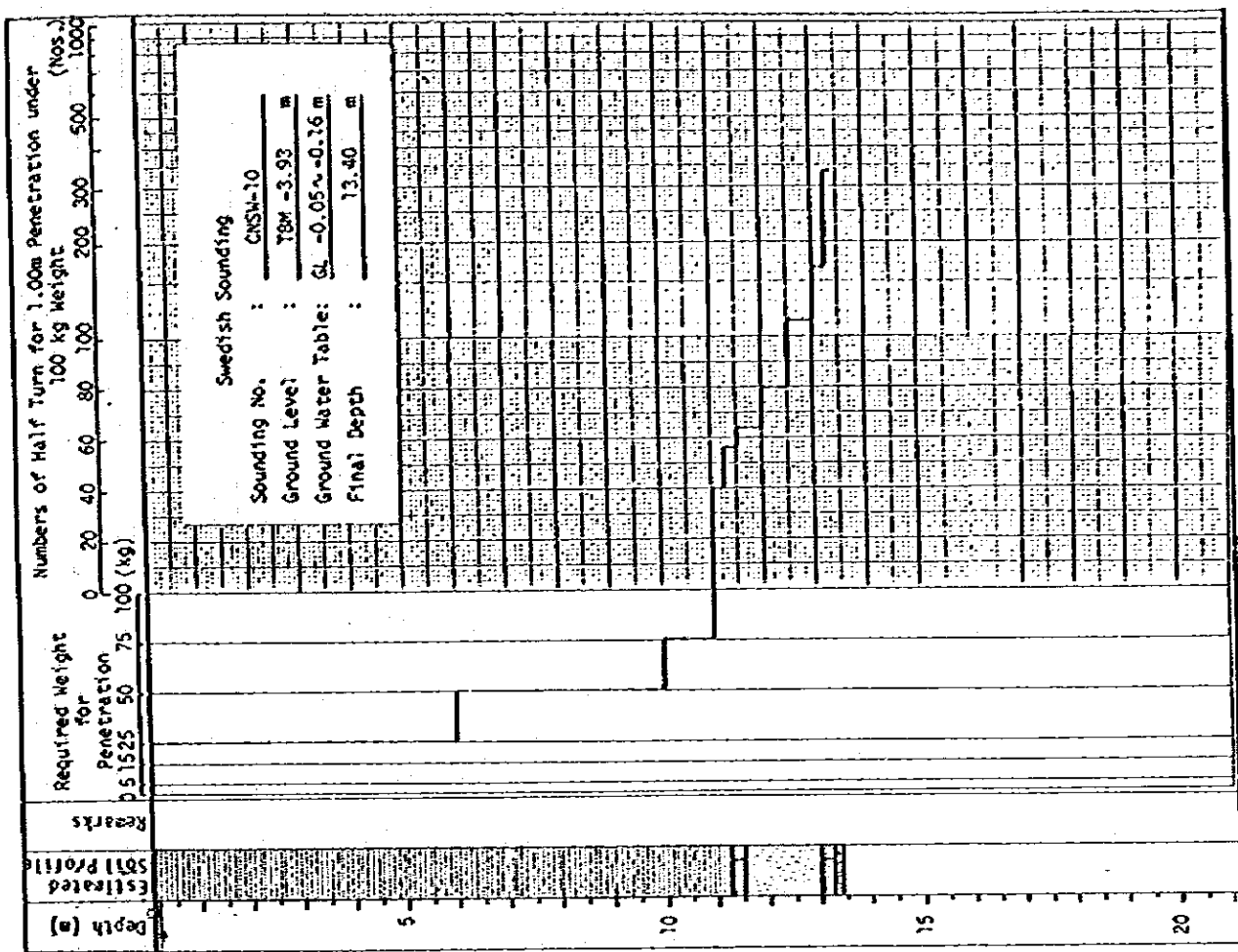
*3 Total of Tables 5-2a and 5-2b.

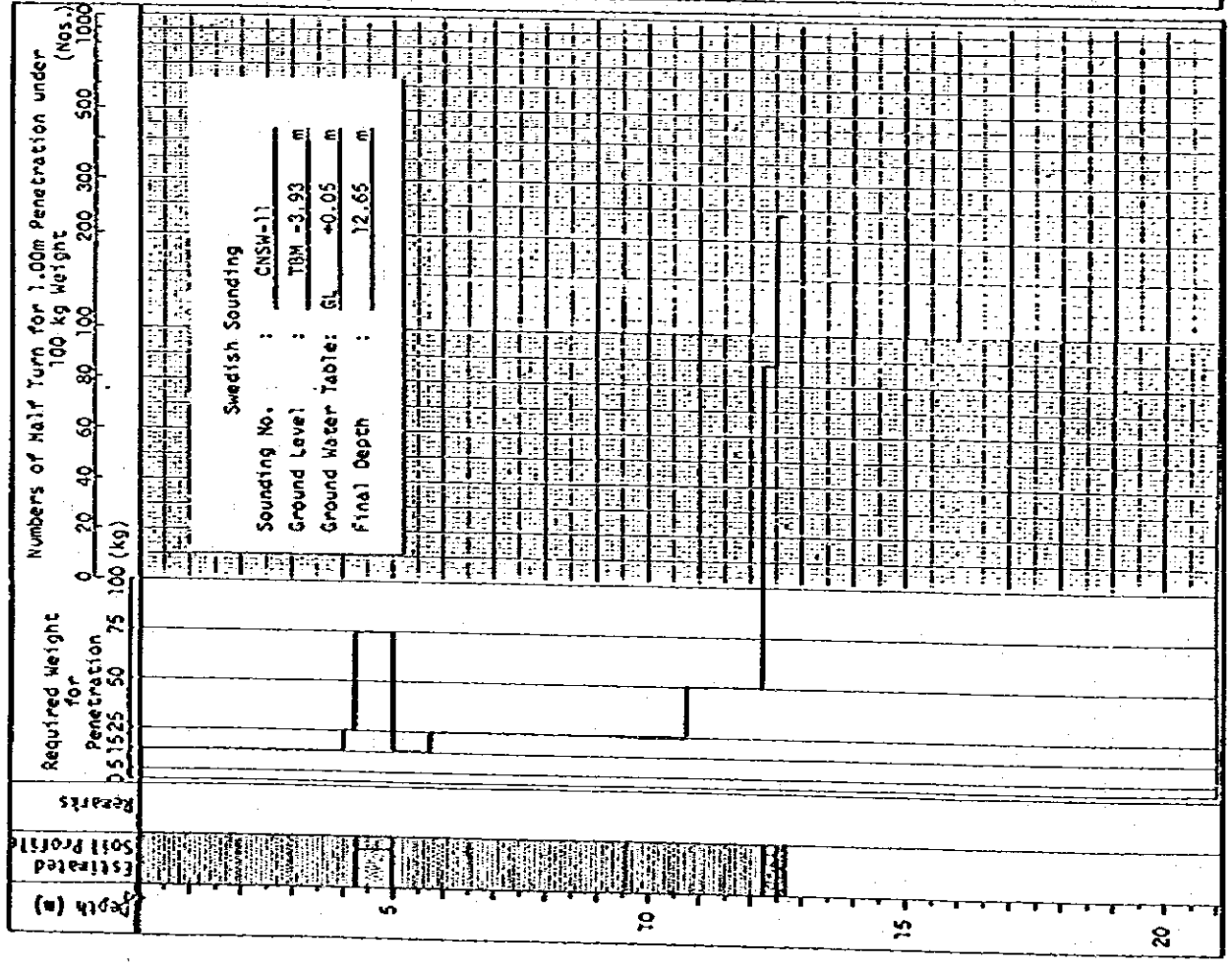
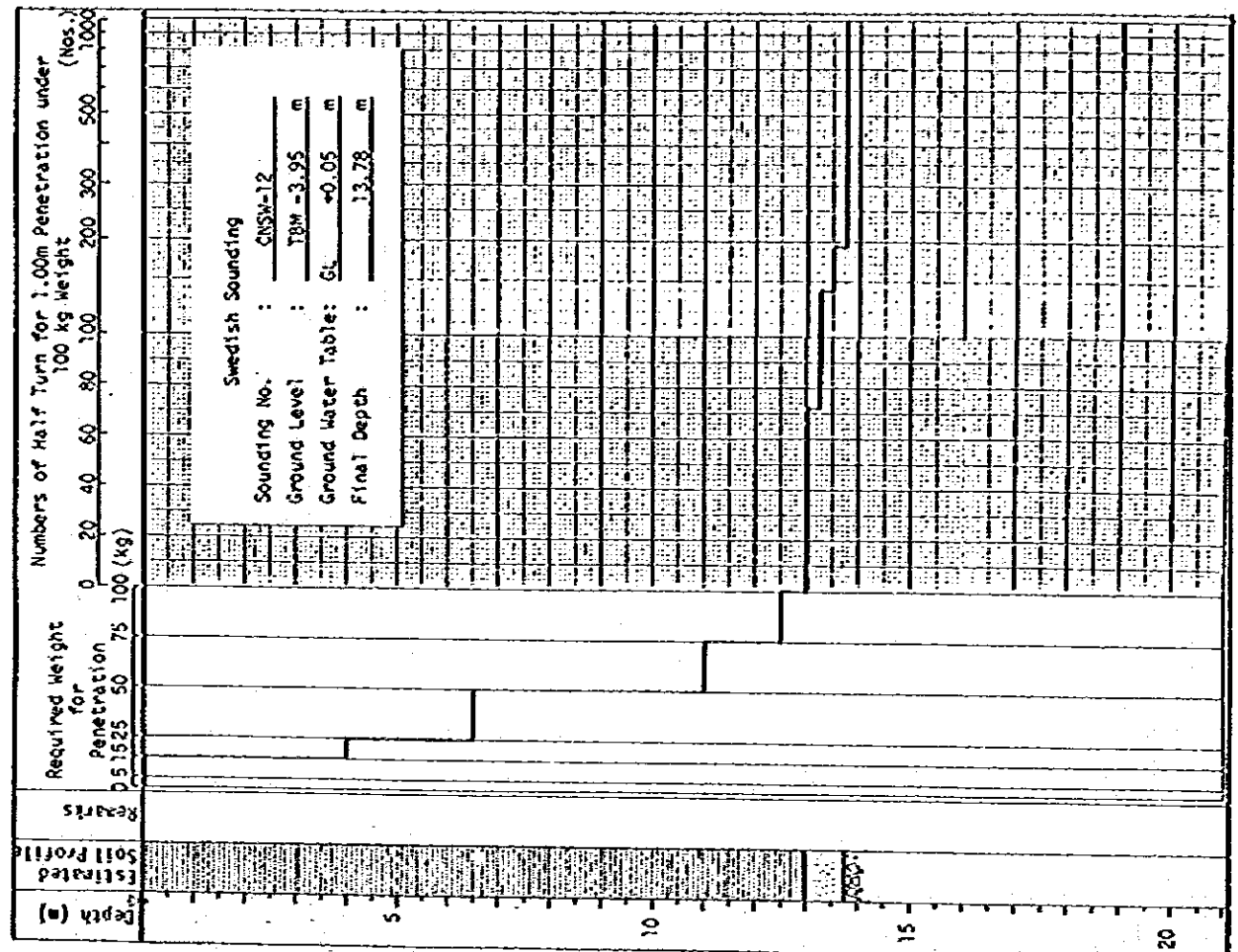


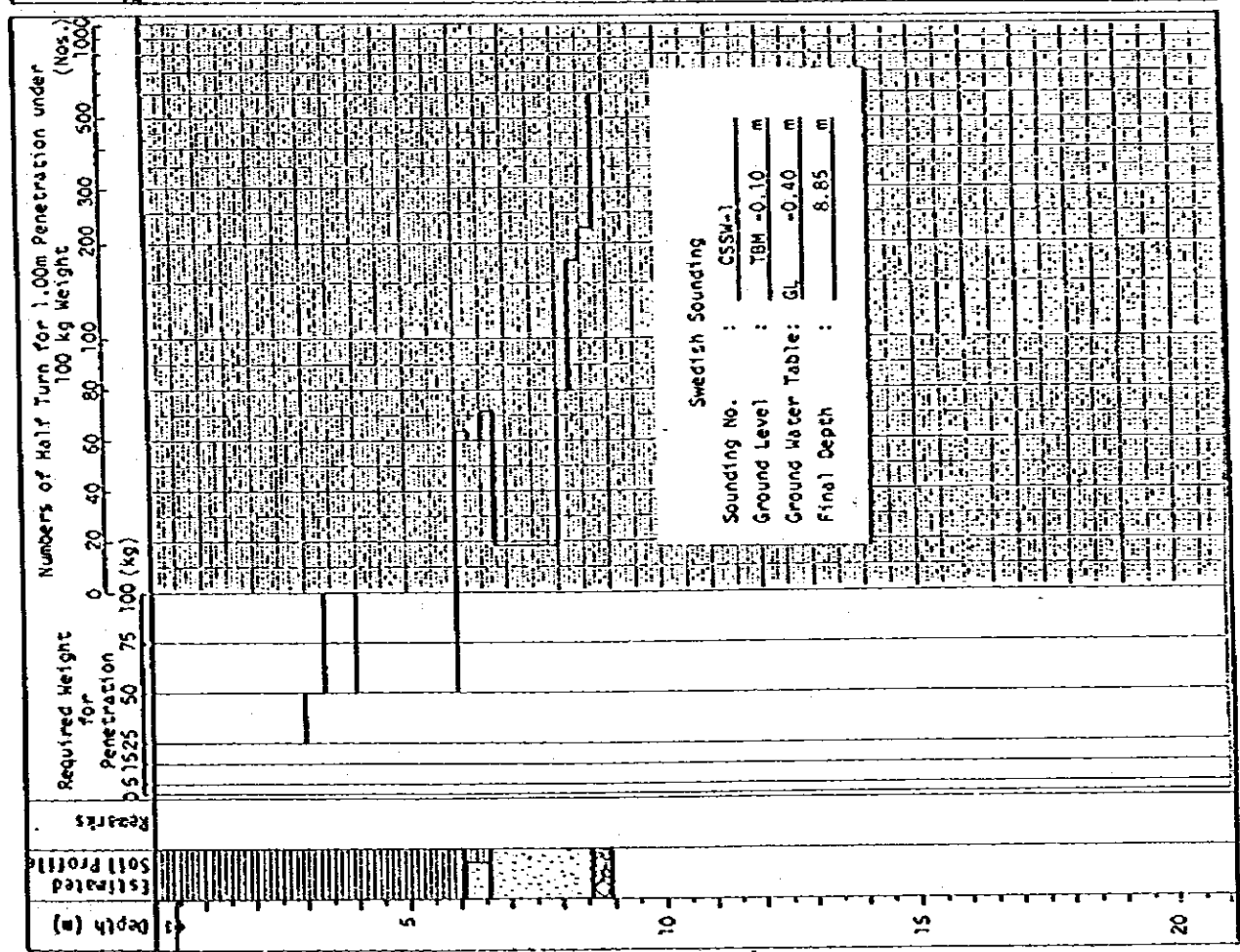
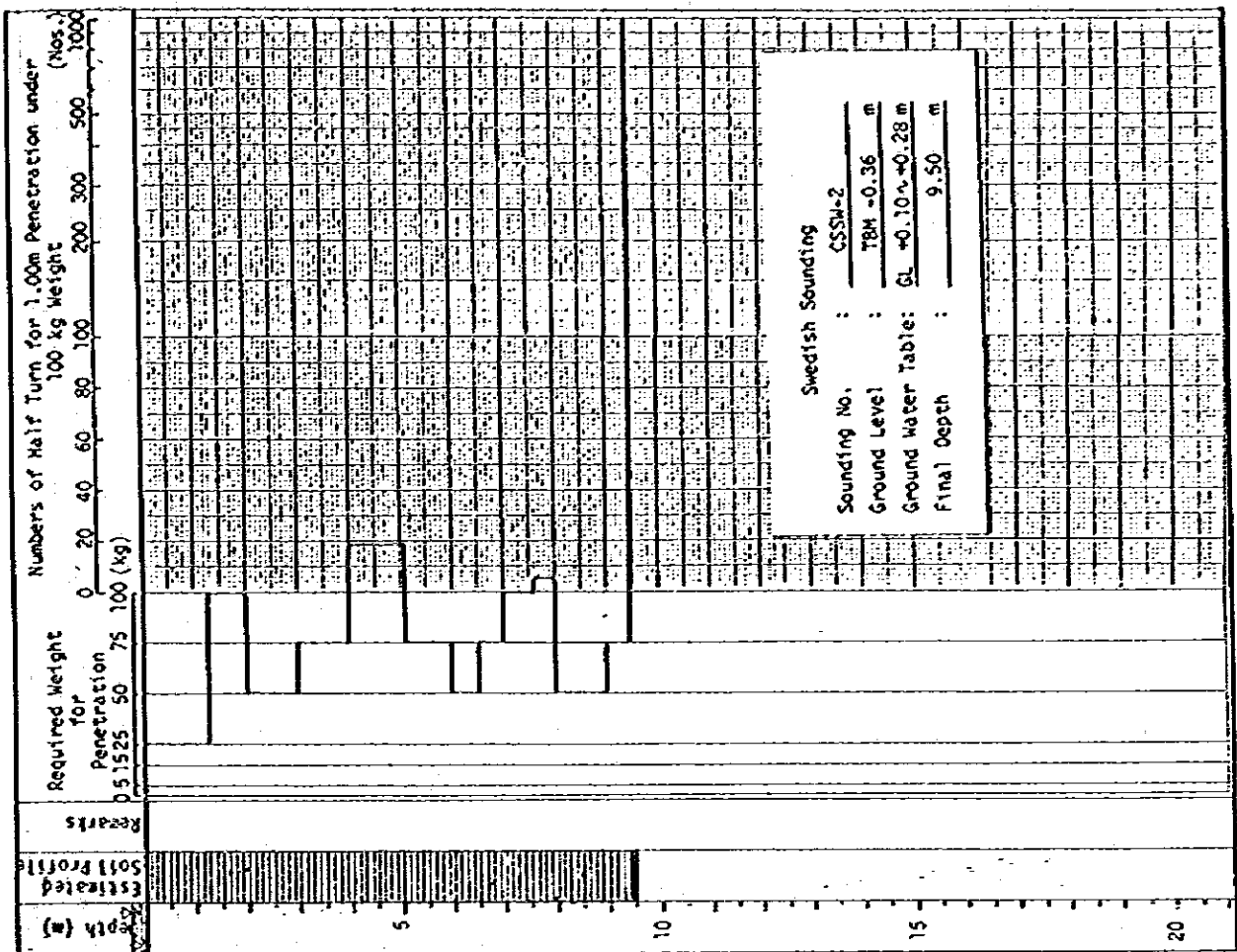


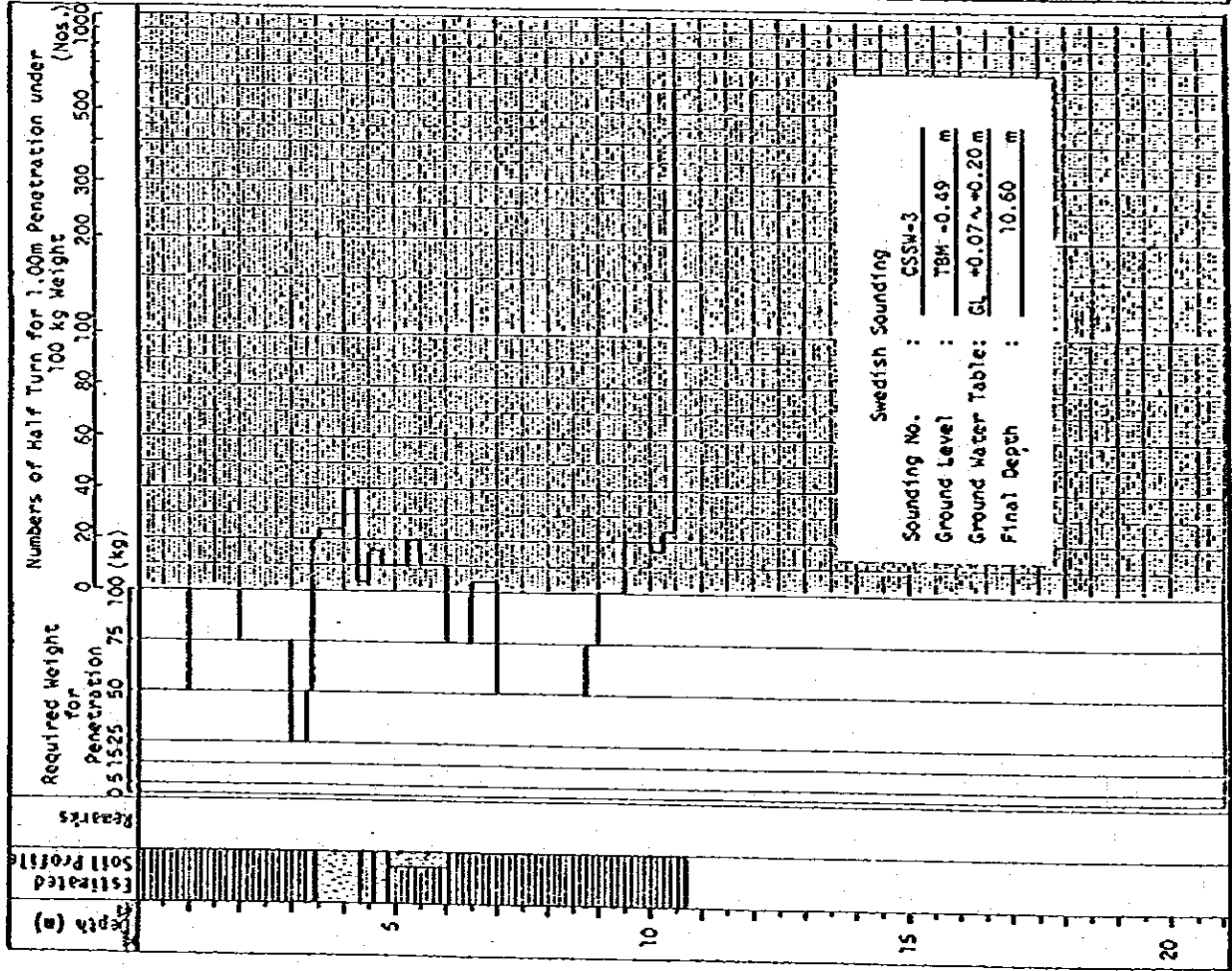
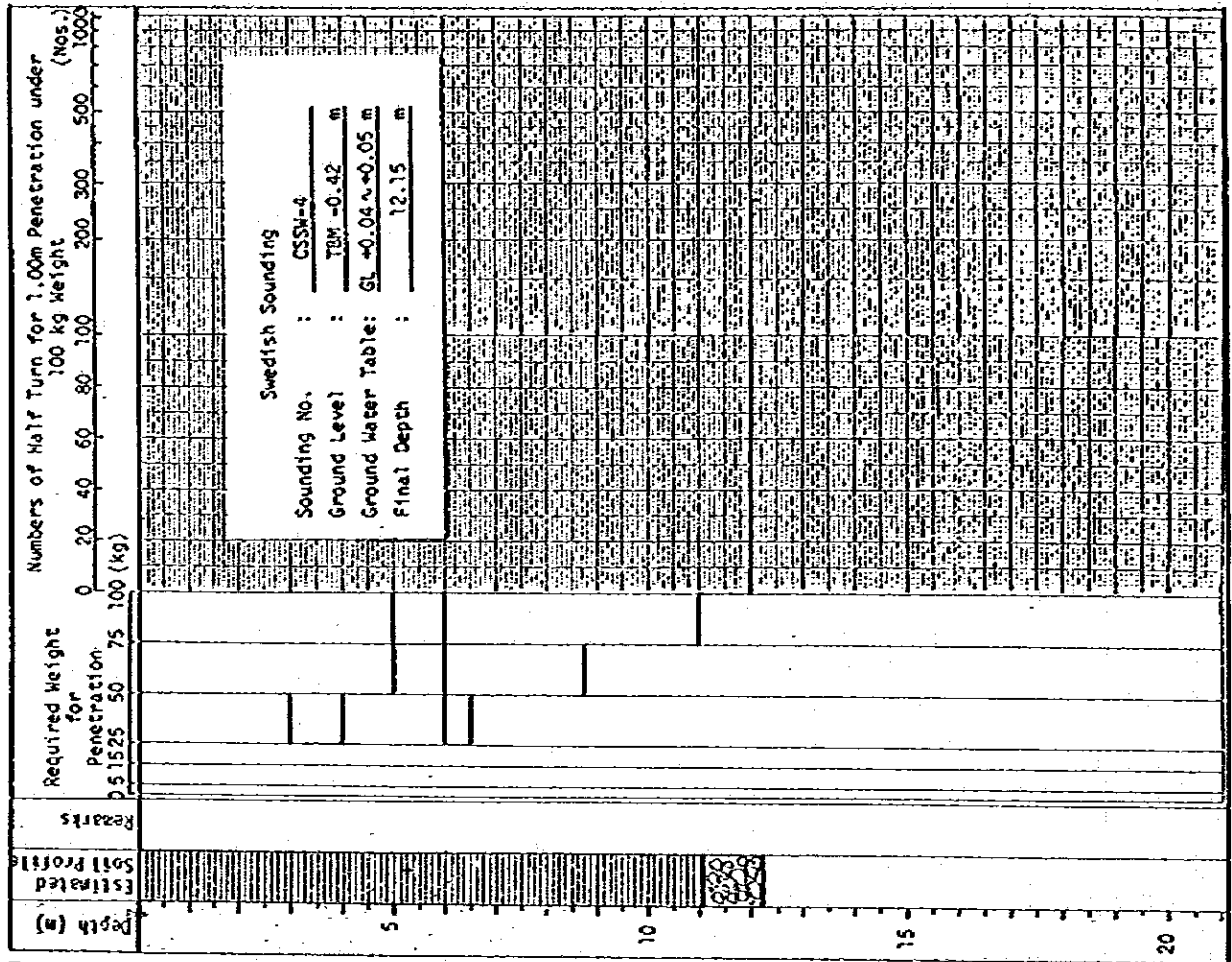


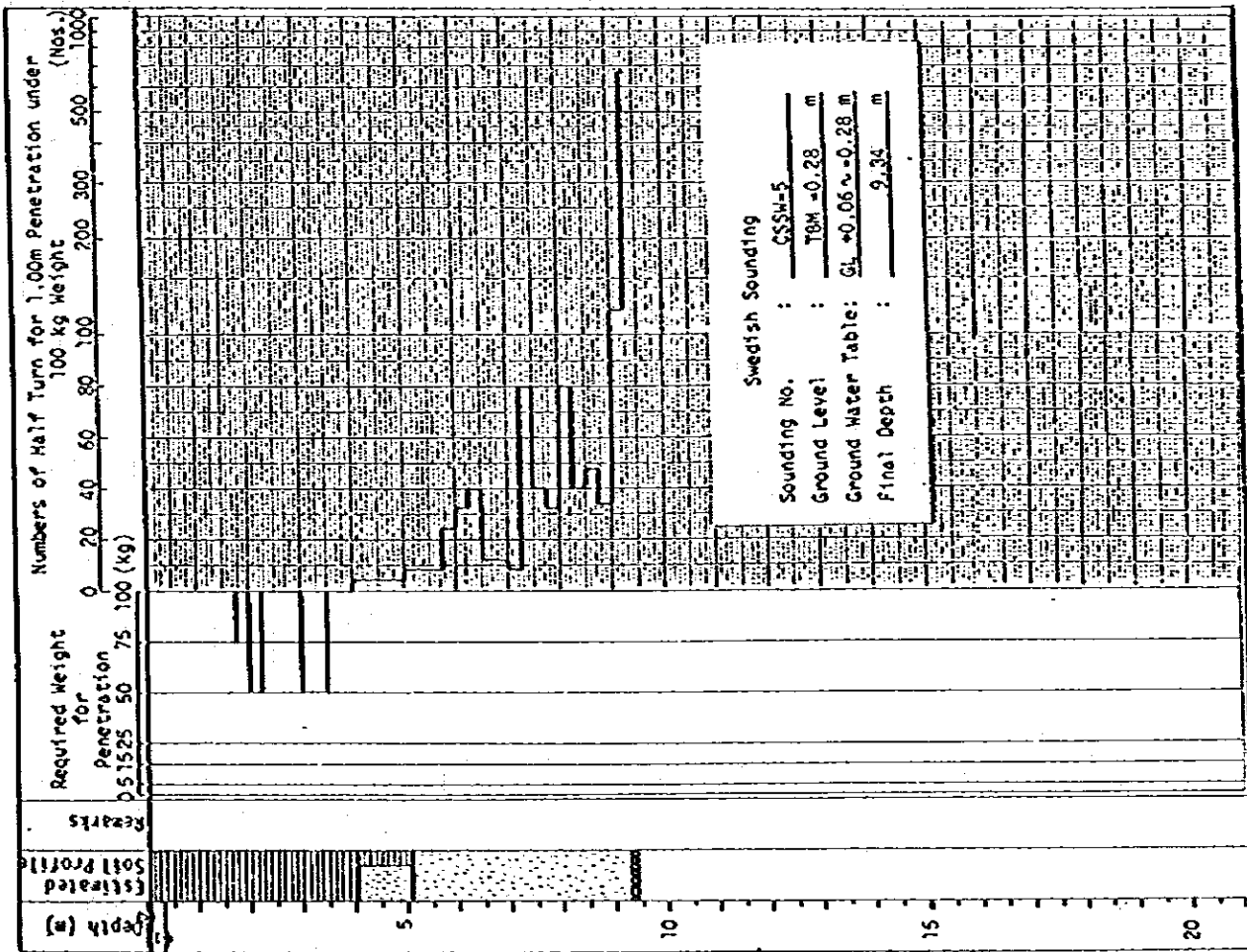
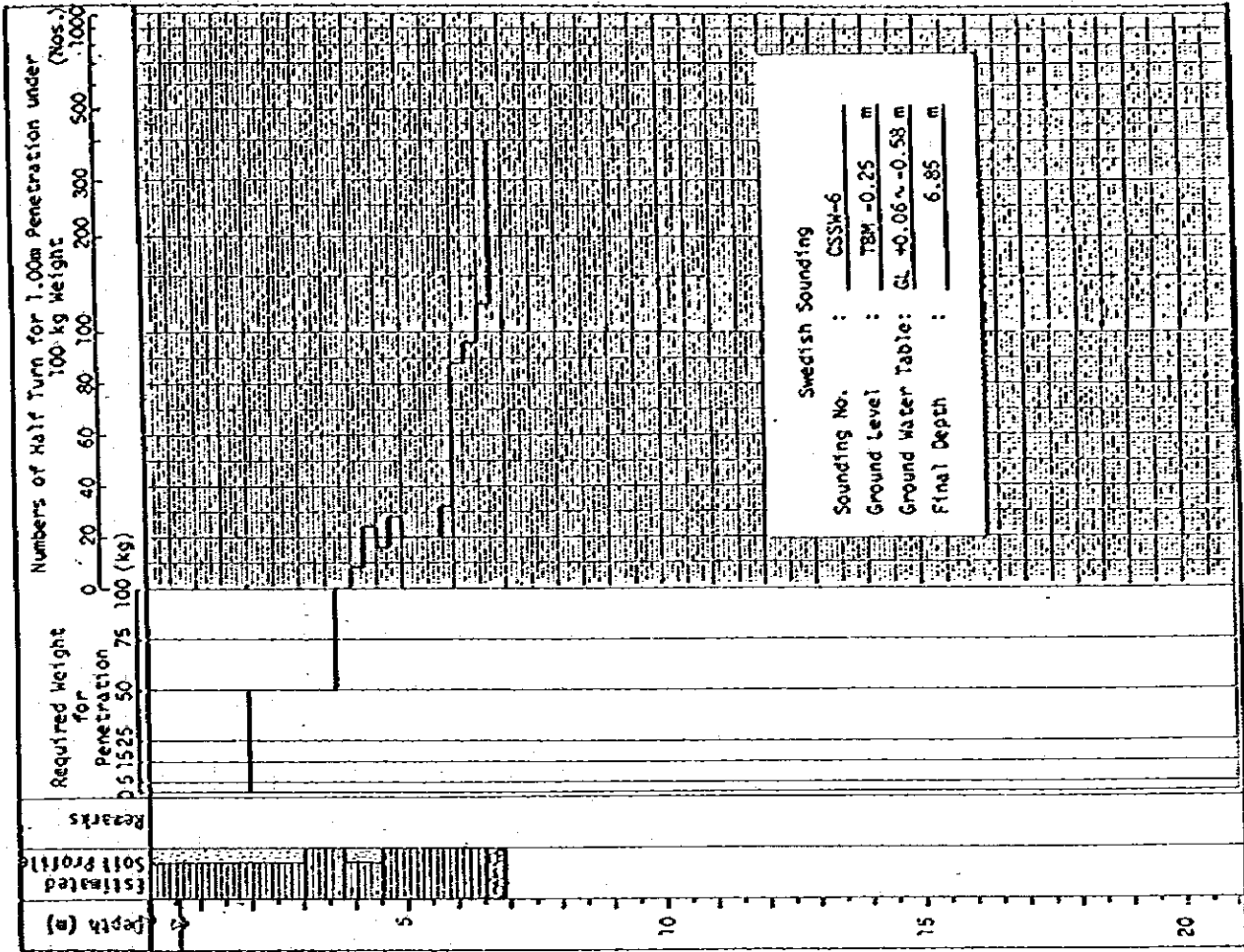












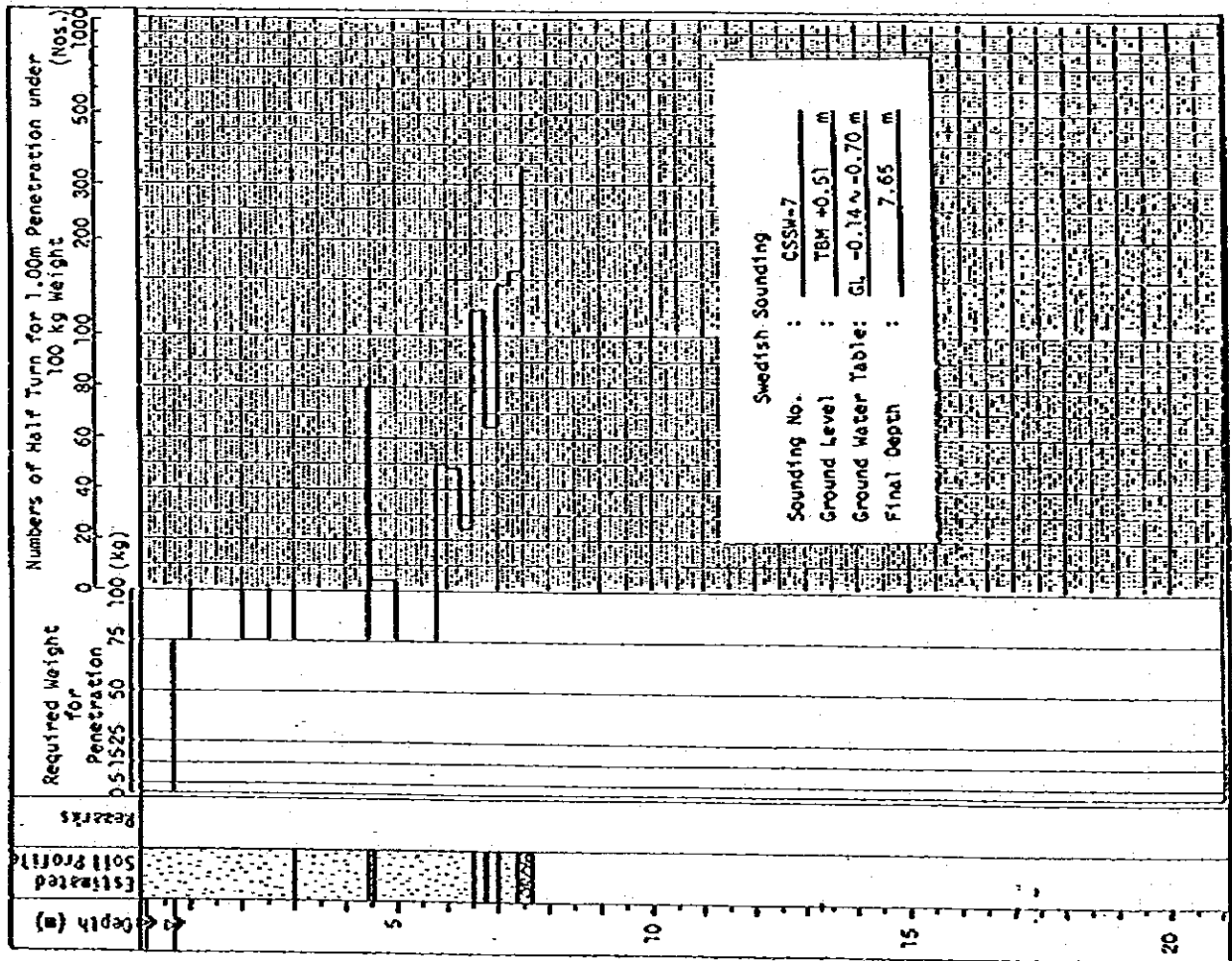


FIG. DRILLING LOG

Name of Project Castlefield North Type of Drilling Rotary
 Hole Number No. CN BH-1 Elevation RL +30.52 m Date 15.12.80 to 20.12.80
 Water Table GL -1.85 m Driller Geotechnique ()

Remarks
 Reference of the elevation is a temporary bench mark on a bridge of KL - Seranban highway near the site which crosses the Sungai Best. Elevation of TBM was supposed to be 100 feet.

Scale in m.	Elevation in m.	Depth in m.	Thickness	Legend	Type of Soil	Colour	Relative Density or Consistency	General Remarks	Standard Penetration Test or Core Recovery	
									Depth in m.	Blows Per Foot (N-Value)
	30.52	0.00								
1	30.07	0.45	0.45		Clayey Silt	Grey-ish brown		With traces of sand and mica fragments		Core Recovery
2	28.62	1.90	1.45		Silty Sand	Grey-ish brown	Very loose	Well graded, with mica fragments	1.15 P-1 4 1 1 2	
3									2.15 P-2 6 1 2 3	
4									3.15 P-3 9 2 3 4	
5	25.82	4.70	2.80		Sand	Grey-ish brown	Loose	Coarse grained with mica fragments	4.15 P-4 9 3 3 3	
6									4.45 P-5 2 1 1 1	
7	24.67	5.85	1.15		Silty Sand	Yellow-ish brown	Very loose	Medium grained with mica fragments	5.15 P-6 1 1 1 1	
8									6.00 UO-1	
9	23.52	7.00	1.15		Clayey Silt	Light brown with grey patches	Soft	With much fine grained sand between 6.20m and 6.55m deep	6.80 UO-2	
10									7.50 UO-3	
11	21.72	8.80	1.80		Clayey Silt	Dark grey	Soft	With some decomposed vegetation	8.30 UO-4	
12									9.00 UO-5	
13	20.62	9.30	1.10		Silt	Brown	Soft	With many pockets of fine sand	9.80 P-7 1 1 1 1	
14									10.15 P-8 3 1 1 1	
15	19.22	11.30	1.40		Silty Clay	Dark grey	Very soft	With stripes of light grey colour dirty	10.45 UO-6	
16									11.50 UO-7	
17									12.30 UO-8	
18	16.32	14.20	2.90		Clayey Silt	Dark grey	Soft	With some seams of fine grained sand, mottled dark brown	13.00 UO-9	
19									13.80 P-9 3 1 1 1	
20									14.65 P-10 3 1 1 1	
21									14.95 UO-10	
22	13.32	17.20	3.00		Silty Clay	Grey-ish light brown	Soft	Homogeneous	16.00 P-11 31 9 10 12	
23									17.65 P-12 21 6 7 8	
24									18.65 P-13 34 10 10 14	
25	9.26	21.26	4.06		Limestone	Grey-ish light brown	Soft	Weathered, fractured	19.65 P-14 37 10 8 19	
26	8.76	21.76	0.50		Limestone	Reddish brown	Medium-hard	Fractured	20.65 P-15 80	
27									20.95	
28										
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FIG. DRILLING LOG

Name of Project Castlefield North Type of Drilling Rotary
 Hole Number No. CNBH-2 Elevation RL +29.66 m Date 24.12.80 to 27.12.80
 Water Table Cl. -1.30 m Driller Geotechnique ()

Remarks
 Reference of the elevation is a temporary bench mark on a bridge of RL - Seremban Highway near the site which crosses the Sungai Besi. Elevation of BM was supposed to be 100 feet.

Scale in m.	Elevation in m.	Depth in m.	Thickness	Legend	Type of Soil	Colour	Relative Density or Consistency	General Remarks	Standard Penetration Test or Core Recovery										
									Depth in m.	Sampling for Lab.	Blows Per Each 10cm	(N-Value)							
	29.66	0.00																	
1	28.76	0.90	0.90	X	Silty Clay	Yellowish brown	Medium stiff	With plant roots in the top part											
	27.96	1.70	0.80	X	Silty Sand	Light brown	Loose	With some mica fragments	1:15	P-1	6	2	2	2					
2									2:15	P-2	4	1	1	2					
3								Coarse grained, with some gravels and mica fragments	3:15	P-3	3	1	1	1					
4	25.56	4.10	2.40	X	Sand	Light brown	Very loose		4:15	P-4	8	2	3	3					
5	24.86	4.80	0.70	X	Silty Sand	Dark grey	Loose	Fine to coarse grained, with mica fragments	5:15	P-5	1	-	1	-					
6	23.96	5.70	0.90	X	Sand	Light grey	Very loose	Fine to medium grained, with mica fragments	6.00	UD-1									
7	22.76	6.90	1.20	X	Sandy Silt	Yellowish brown	Soft	With many mica fragments	7:15	P-6	2	1	1	-					
8	21.46	8.20	1.30	X	Silty Clay	Light brown	Very soft	With some mica fragments	8:15	P-7	1	1	-	-					
9				X					9.00	UD-2									
10	19.76	9.90	1.70	X	Silty Clay	Greyish brown	Very soft	With some yellowish brown patches	9.80										
11	18.86	10.80	0.90	X	Silty Clay	Greyish brown	Stiff	With some mica fragments	10:15	P-8	12	4	4	4					
12	17.66	12.00	1.20	X	Silty Clay	Yellowish brown	Very soft	With traces of sand, mottled grey	11:15	P-9	2	-	1	1					
13	17.41	12.25	0.25	X	Silty Clay	Greyish brown	-	With some coarse sand	12:15	P-10	50	50	-	-					
14	16.41	13.25	1.00	X	Limestone	Greyish white	White	Top half fractured											
15								End of Drilling											

APPENDIX F

RESULTS OF LABORATORY TESTS

APPENDIX F
RESULTS OF LABORATORY TESTS

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Summary of Soil Test 1. (Sentul)

Boring No.	Sub-section A"																	
	Percussion																	
	Rotary		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Type of Boring	S-1	S-2	S-3															
Sample No.	0.10	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	
Sample depth	0.90	1.80	2.70	3.60	4.50	5.40	6.30	7.20	8.10	9.00	9.90	10.80	11.70	12.60	13.50	14.40	15.30	
Condition of sample	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	
Natural water content, %	83.9	86.6	78.8	78.6	66.5	13.2	13.6	13.5	22.6	6.2	1.5	13.2	27.3	32.0	41.0	14.5	19.8	
Specific gravity	2.605	2.591	2.604	2.571	2.573	2.622	2.638	2.629	2.635	2.648	2.636	2.639	2.642	2.616	2.517	2.626	2.691	
Wet density, g/cm ³	1.51	1.50	1.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dry density, g/cm ³	0.821	0.802	0.856	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Natural void ratio	2.17	2.23	2.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Degree of saturation, %	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Liquid limit, %	78.1	80.9	77.5	72.1	79.9	-	-	-	-	-	-	-	31.1	38.0	30.4	49.0	38.4	
Plastic limit, %	35.8	36.8	36.2	29.4	29.9	-	-	-	-	-	-	-	18.4	19.8	18.5	26.9	25.5	
Plasticity index	42.3	44.1	41.3	42.7	50.0	-	-	-	-	-	-	-	12.7	18.2	11.9	22.1	12.9	
Gravel, %	0	0	0	0	0	30	33	57	4	82	90	35	12	4	0	0	16	
Sand, %	0	0	0	0	0	62	64	42	93	15	7	44	28	12	39	11	59	
Silt, %	24	24	25	21	30	8	3	1	3	3	3	11	35	37	32	40	11	
Clay & colloid, %	76	76	75	79	70	-	-	-	-	-	-	10	25	47	29	49	10	
Max. diameter, mm	0.074	0.074	0.074	0.048	0.048	19.1	19.1	19.1	4.76	25.4	19.1	19.1	9.52	4.76	0.84	0.84	9.52	
Diam. at 60%	0.0022	0.0022	0.0020	-	-	1.2	1.7	4.2	0.40	9.5	6.1	1.4	0.075	0.011	0.075	0.012	0.60	
Diam. at 10%	-	-	-	-	-	0.087	0.22	0.44	0.14	0.65	2.0	0.0040	-	-	-	-	0.0051	
Visual soil description	STILEY CLAY	STILEY CLAY	STILEY CLAY	STILEY CLAY	STILEY CLAY	Gravel Sand	Gravel Sand	Sandy Gravel	Sand Gravel	Gravel	Gravel	Gravel	Silty Sand w/clay	Silty Clay	Silty Clay	Gravel Sand w/clay	Silty Clay	
Unified soil classification	MH	MH	MH	CH	CH	(SH-SM)	SW	SH	SP	GW	GP	-	CL	CL	CL	ML	-	
Undisturbed sample, kg/cm ²	0.055	0.050	0.115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Remoulded sample, kg/cm ²	0.065	0.065	0.138	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sensitivity ratio	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Strain at failure, %	18.0	18.0	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Angle of internal friction	0°	0°	9°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Cohesion, kg/cm ²	0.04	0.04	0.08	0.08	0.09	-	-	-	-	-	-	-	-	-	-	-	-	
Condition of drainage	U-U	U-U	U-U	U-U	U-U	-	-	-	-	-	-	-	-	-	-	-	-	
Preconsolidation pressure, kg/cm ²	-	-	0.20	0.28	-	-	-	-	-	-	-	-	-	-	-	-	-	
Compression index	0.58	0.64	0.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Summary of Soil Test 2. (Sentul)

Boring No.	Sub-Section B												
	Rotary												
Type of Boring	S-1	S-2	S-3	S-4	S-5 Top	S-5 Bottom	S-6	S-7	S-8	S-9 Top	S-9 Bottom		
Sample No. #	1.00~	2.00~	3.00~	5.00~	6.00~	7.50~	8.50~	9.50~	10.50~	11.00~	11.00~		
Sample depth	1.80m	2.80m	3.80m	5.80m	6.80m	8.10m	9.10m	10.30m	11.00m	11.00m	11.13m		
Natural water content, %	99.2	97.4	90.0	78.1	70.3	63.1	57.4	49.4	57.1	55.7			
Specific gravity	2.606	2.583	2.606	2.618	2.612	2.629	2.638	2.626	2.603	2.526			
Wet density, g/cm ³	1.45	1.45	1.49	1.53	1.57	1.61	1.64	1.71	1.66	1.63			
Dry density, g/cm ³	0.728	0.735	0.784	0.859	0.922	0.987	1.04	1.15	1.06	1.05			
Natural void ratio	2.58	2.52	2.32	2.05	1.83	1.66	1.53	1.29	1.46	1.41			
Degree of saturation, %	100	100	100	100	100	100	99	100	100	100			
Liquid limit, %	76.2	83.6	87.4	62.0	67.8	59.2	56.9	56.5	68.1	53.0			
Plastic limit, %	33.8	34.9	34.1	27.1	29.9	26.3	25.1	25.3	26.3	23.3			
Plasticity Index	42.4	48.7	53.3	34.9	37.9	32.9	31.8	31.2	41.8	29.7			
Gravel, %	0	0	0	0	0	0	0	0	0	0			
Sand, %	0	0	0	7	1	2	1	1	1	1			
Silt, %	23	19	18	32	29	28	36	35	23	33			
Clay & colloid, %	77	81	82	61	70	70	63	64	76	40			
Max. diameter, mm	0.043	0.042	0.074	0.25	0.105	0.105	0.105	0.105	0.105	0.25	0.84		
Diam. at 60%	0.0010	-	-	0.0046	0.0020	0.0027	0.0035	0.0040	0.0036	0.0017	0.057		
Diam. at 10%	-	-	-	-	-	-	-	-	-	-	-		
Visual soil classification	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay w/Sand		
Unified soil classification	CH	CH	CH	CH	CH	CH	CH	CH	CH	CH	CH		
Undisturbed sample, kg/cm ²	-	0.033	0.062~	0.057~	-	-	0.108~	0.235~	0.315~	-	-		
Remoulded sample, kg/cm ²	-	-	0.065	0.075	-	-	0.137	0.305	0.427	-	-		
Sensitivity ratio	-	-	-	-	-	-	-	-	-	-	-		
Strain at failure, %	-	(15.0)	4.3~5.5	4.0~8.0	-	-	9.8~11.5	5.5~8.5	4.9~7.9	-	-		
Angle of internal friction	-	0°	0°	7°	0°	11°	0°	0°	14°	0°	-		
Cohesion, kg/cm ²	-	0.03	0.035	0.10	0.04	0.05	0.08	0.19	0.12	0.21	-		
Condition of drainage	-	U-U	U-U	U-U	C-U	U-U	U-U	U-U	C-U	U-U	-		
Preconsolidation pressure, kg/cm ²	-	0.17	0.46	0.25	-	0.28	0.43	1.3	1.3	-	-		
Compression Index	0.59	0.64	0.66	0.63	-	0.49	0.54	0.44	0.53	-	-		

* Note: All samples are undisturbed.

Summary of Soil Test 3. (Sentul)

Boring No.	SBH-1										SBH-2									
	UD-1	UD-2	UD-3	UD-4	UD-5	UD-6	UD-7	UD-8	UD-1	UD-2	UD-3	UD-4	UD-5	UD-6	UD-7	UD-8				
Sample No.	1.00	3.00	5.00	7.00	8.00	11.00	13.00	15.00	1.80	3.80	5.80	7.80	9.00	11.00	13.00	15.00				
Sample depth, m	1.80	3.80	5.80	7.80	8.80	11.80	13.80	15.80	1.80	3.80	5.80	7.80	9.80	11.80	13.80	15.80				
Natural water content, %	115.4	100.6	87.4	76.2	41.8	35.6	38.2	40.1	104.7	96.2	75.4	59.5	49.8	34.0	35.9	19.7				
Specific gravity	2.584	2.583	2.556	2.576	2.603	2.605	2.616	2.607	2.555	2.553	2.578	2.589	2.615	2.623	2.625	2.623				
Wet density, g/cm ³	1.40	1.44	1.49	1.57	1.78	1.82	1.81	1.81	1.46	1.46	1.54	1.64	1.70	1.85	1.83	2.08				
Dry density, g/cm ³	0.65	0.72	0.80	0.89	1.25	1.34	1.31	1.29	0.71	0.73	0.88	1.03	1.13	1.38	1.35	1.74				
Natural void ratio	2.98	2.60	2.21	1.89	1.08	0.94	1.00	1.02	2.58	2.48	1.93	1.52	1.30	0.90	0.95	0.51				
Degree of saturation, %	100	100	100	100	99	100	100	100	99	99	100	100	100	99	100	100				
Liquid limit, %	78.7	85.4	71.3	69.9	43.0	39.5	41.8	43.5	88.0	79.8	70.0	59.5	56.9	42.5	36.3	33.9				
Plastic limit, %	34.3	37.3	33.9	31.4	23.2	20.9	21.9	22.4	35.1	34.8	32.0	27.2	23.5	20.1	18.6	16.5				
Plasticity Index	44.4	48.1	37.4	38.5	19.8	18.6	19.9	21.1	52.9	45.0	38.0	32.1	33.4	22.4	17.7	17.4				
Gravel, %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17				
Sand, %	0	0	0	0	24	17	14	10	1	1	4	2	4	15	18	42				
Silt, %	27	28	37	39	46	51	50	58	31	31	37	39	44	58	49	17				
Clay & colloid, %	73	72	63	61	30	32	36	32	68	68	59	59	52	27	33	24				
Max. diameter, mm	0.044	0.043	0.063	0.043	0.590	1.19	0.297	1.19	0.210	0.210	0.210	0.210	0.210	0.420	0.420	19.10				
Diam. at 60%	-	0.0011	0.0016	0.0018	0.028	0.024	0.014	0.014	-	-	0.0024	0.0022	0.0035	0.029	0.016	0.33				
Diam. at 10%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Visual soil description	Silty Clay (CH)	Silty Clay (CH)	Silty Clay (CH)	Silty Clay (CH)	Silty Clay (CL)	Silty Clay (CL)	Silty Clay (CL)	Silty Clay (CL)	Silty Clay (CH)	Silty Clay (CH)	Silty Clay (CH)	Silty Clay (CH)	Silty Clay (CH)	Clay w/Sand (CL)	Clay w/Sand (CL)	Clayey Sand (SC)				
Unified soil classification	(CH)	(CH)	(CH)	(CH)	CL	CL	CL	CL	CH	CH	CH	CH	CH	CL	CL	SC				
Undisturbed sample, kg/cm ²	-	-	0.065	0.050	0.21	0.23	0.32	0.21	-	-	0.058	-	0.016	0.35	0.25	-				
Remoulded sample, kg/cm ²	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Sensitivity ratio	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Strain at failure, %	-	-	6.5	(20.0)	5.3	18.0	10.5	(20.0)	-	-	9~12	-	9~12	14~20	12~20	-				
Angle of internal friction	-	-	0°	0°	0°	-	0°	-	-	-	0°	0°	0°	0°	0°	-				
Cohesion, kg/cm ²	-	-	0.030	0.040	0.14	-	0.20	-	-	-	0.06	0.28	0.10	0.18	0.18	-				
Condition of drainage	-	-	U-U	U-U	U-U	-	U-U	-	-	-	U-U	C-U	UU	UU	UU	-				
Preconsolidation pressure, kg/cm ²	-	-	0.13	0.19	0.13	(0.50)	-	-	0.11	0.14	0.19	-	0.42	(1.2)	-	-				
Compression Index	0.70	0.80	0.66	0.50	0.35	0.31	0.29	0.26	0.88	0.74	0.60	0.48	0.38	0.30	0.22	-				
Lab. Vane Max. Cu, kg/cm ²	0.019	0.031	-	-	-	-	-	-	0.020	0.031	0.053	-	-	-	-	-				
Shear	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				

* Note : All samples are undisturbed.

Summary of Soil Test 4. (Sentul)

Boring No.	SBH-3																			
	UD-1 Top	UD-1 Bottom	UD-2	UD-3	UD-4	UD-5	UD-6	UD-7	UD-8	UD-9	UD-10	UD-11	UD-12	UD-13	UD-14	UD-15	UD-16	UD-17 Top	UD-17 Bottom	
Sample No.	0.00	0.15	0.80	1.80	2.80	3.80	4.80	5.80	6.80	7.80	8.80	9.80	10.80	11.80	12.80	13.80	14.80	15.80	16.80	16.20
Sample depth	0.15	0.80	1.80	2.80	3.80	4.80	5.80	6.80	7.80	8.80	9.80	10.80	11.80	12.80	13.80	14.80	15.80	16.80	16.20	16.20
Condition of sample	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed
Natural water content, %	20.7	20.5	14.5	93.4	98.7	101.3	91.7	86.4	74.8	70.8	57.7	50.5	44.7	41.8	40.3	37.4	43.6	29.0	47.2	20.1
Specific gravity	2.642	2.652	2.602	2.559	2.545	2.556	2.575	2.564	2.561	2.606	2.603	2.665	2.607	2.630	2.642	2.632	2.652	2.611	2.634	2.671
Wet density, g/cm ³	2.00	2.03	2.03	1.46	1.46	1.46	1.46	1.50	1.57	1.56	1.63	1.70	1.75	1.77	1.79	1.81	1.89	1.75	1.80	1.91
Dry density, g/cm ³	1.66	1.68	1.77	0.75	0.73	0.73	0.76	0.80	0.90	0.91	1.03	1.13	1.21	1.25	1.28	1.32	1.32	1.36	1.22	1.59
Natural void ratio	0.594	0.574	0.468	2.39	2.46	2.52	2.38	2.19	1.86	1.85	1.52	1.36	1.16	1.11	1.07	1.00	1.01	0.92	1.15	0.68
Degree of saturation, %	92	95	81	100	100	100	99	100	100	100	99	99	100	99	99	99	100	82	100	79
Liquid limit, %	38.0	-	-	77.8	79.2	82.4	89.0	74.0	68.7	60.1	51.1	49.7	45.2	44.3	42.9	44.4	51.2	48.1	62.2	-
Plastic limit, %	18.6	-	-	32.2	33.6	32.7	34.9	31.0	30.4	26.1	21.8	25.0	20.9	20.1	20.2	21.6	21.2	23.3	27.8	-
Plasticity Index	19.4	-	-	45.6	45.6	49.7	54.1	43.0	38.3	33.9	29.3	24.7	24.3	24.2	22.7	22.8	30.0	24.8	34.4	-
Gravel, %	1	3	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Sand, %	47	59	75	0	0	0	0	0	2	0	0	6	14	10	8	13	11	45	0	41
Silt, %	17	17	4	11	22	16	17	22	25	31	36	45	38	44	47	42	39	17	25	20
Clay & colloid, %	35	21	89	89	78	84	83	78	73	69	64	49	48	46	45	45	50	38	75	20
Max. diameter, mm	4.76	9.52	9.52	0.020	0.032	0.074	0.043	0.043	0.250	0.041	0.041	0.250	0.250	0.420	0.250	0.250	0.420	2.00	0.074	6.73
Diam. at 60%	0.11	0.145	1.10	-	0.0012	-	0.0010	0.001	0.0021	0.0029	0.0039	0.011	0.012	0.014	0.014	0.016	0.012	0.095	0.0020	0.30
Diam. at 10%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Visual soil description	Clayey Sand	Clayey Sand	Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Sandy Clay	Sandy Clay	Clayey Sand
Unified soil classification	SC	(SC)	SH	CH	CH	CH	CH	CH	CH	CH	CH	(CH)	CL	CL	CL	CL	(CH)	(CH)	(SC)	CH
Unconfined Compressive Strength (test)	-	-	-	0.034	-	-	-	0.075	0.082	0.082	0.082	0.10	0.085	0.23	0.27	-	0.35	0.37	-	-
Sensitivity ratio	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Strain at failure, %	-	-	-	8.0	15.0	-	-	4.5	10.0	15.0	10.5	15.0	9.3	9.3	15.0	13.5	11.5	-	-	-
Angle of internal friction	-	-	-	15.0	-	-	0°	0°	8.5°	0°	0°	0°	0°	15°	0°	161°	75°	0°	-	-
Cohesion, kg/cm ²	-	-	-	-	-	-	0.030	0.050	0.055	0.050	0.04	0.10	0.12	0.1	0.16	0.23	0.10	0.25	-	-
Condition of drainage	-	-	-	-	-	-	U-U	U-U	U-U	U-U	C-U	U-U	U-U	C-U	C-U	U-U	C-U	U-U	-	-
Preconsolidation pressure, kg/cm ²	-	-	-	0.13	0.16	0.16	0.16	0.72	0.92	0.36	-	0.58	-	0.96	-	-	-	-	-	-
Compression index	-	-	-	0.63	0.63	0.68	0.68	0.88	0.81	0.55	0.45	0.39	0.42	0.33	0.34	0.35	0.34	-	-	-
Maximum shear stress, kg/cm ²	-	-	-	0.026	0.020	0.021	-	-	-	-	0.048	-	-	-	-	-	-	-	-	-

Summary of Soil Test 5. (Sentil)

Boring No.	SBH-4										SBH-5									
	UD-1	UD-2	UD-3	UD-4	UD-5	UD-6	UD-7	UD-8	UD-9	UD-1	UD-1	UD-2	UD-2	UD-3	UD-3	UD-4	UD-4			
Sample No.	0.00	1.00	2.00	4.00	8.00	8.00	10.00	10.00	12.00	14.00	17.5	18.5	22.7	13.6	15.6	82.5	83.8			
Sample depth	0.00	1.00	2.00	4.00	8.00	8.00	10.00	10.00	12.00	14.00	0.50	0.80	1.50	1.80	2.50	3.35	5.00			
Condition of sample	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed			
Natural water content, %	19.6	10.5	14.9	73.0	32.2	69.7	62.9	40.0	30.2	33.2	17.5	18.5	22.7	13.6	15.6	82.5	83.8			
Specific gravity	2.679	2.654	2.655	2.602	2.628	2.602	2.627	2.644	2.668	2.661	2.674	2.684	2.651	2.633	2.629	2.630	2.614			
Wet density, g/cm ³	2.03	2.08	2.07	1.56	1.72	1.53	1.56	1.79	1.88	1.86	1.80	2.12	2.14	1.86	1.55	1.51	1.48			
Dry density, g/cm ³	1.70	1.88	1.80	0.90	1.30	0.87	0.92	1.28	1.44	1.40	1.53	1.79	1.74	1.64	1.34	0.83	0.81			
Natural void ratio	0.58	0.41	0.47	1.89	1.02	2.00	1.85	1.07	0.85	0.91	0.746	0.50	0.520	0.61	0.96	2.18	2.25			
Degree of saturation, %	91	68	84	100	83	100	99	99	95	98	64	99	100	59	43	100	98			
Liquid limit, %	37.3	-	-	83.6	50.8	79.2	70.1	42.8	36.5	42.7	-	41.3	32.1	-	-	78.8	69.9			
Plastic limit, %	13.2	-	-	32.3	19.9	34.1	29.5	18.3	16.8	19.5	-	19.3	14.8	-	-	30.2	28.7			
Plasticity index	24.1	-	-	51.3	30.9	45.1	40.6	24.5	19.7	23.2	-	22.0	17.3	-	-	48.6	41.2			
Gravel, %	5	22	29	2	11	0	0	0	0	0	1	1	2	18	19	0	0			
Sand, %	52	72	65	6	46	4	1	11	27	10	44	43	53	77	75	0	1			
Silt, %	15	(6)	(5)	11	8	20	27	52	40	44	36	19	15	5	6	6	21			
Clay & colloid, %	28	81	35	81	35	76	72	37	33	46	19	37	30	-	-	94	78			
Max. diameter, mm	9.52	9.52	9.52	4.76	9.52	0.420	0.420	0.420	0.420	0.420	4.76	4.76	4.76	4.76	9.52	0.0077	0.25			
Diam. at 60%	0.76	1.20	1.49	0.0011	0.49	-	0.0019	0.0017	0.024	0.035	0.014	0.090	0.085	0.11	1.1	1.2	0.0010			
Diam. at 10%	-	0.14	0.17	-	-	-	-	-	-	-	-	0.0017	-	-	0.12	0.13	-			
Visual soil description	Clayey Sand	Sand	Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Sandy Clay	Sandy Clay	Clayey Sand	Sand	Sand	Clayey Sand	Clayey Sand			
Unified soil classification	SC	SW	SW	CH	SC	CH	CH	CL	CL	CL	CL	CL	SC	SW	SW	CH	CH			
Unconfined compression test	-	-	-	0.13	-	0.065	-	0.13	0.21	0.39	0.42	-	-	-	-	-	-			
Unconfined compression test	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Unconfined compression test	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Unconfined compression test	-	-	-	14.5	-	15.0	-	14.0	14.5	14.5	14.5	-	-	-	-	-	-			
Unconfined compression test	-	-	-	-	-	0°	0°	2°	0°	0°	0°	(0°)	-	-	-	-	-			
Unconfined compression test	-	-	-	-	-	0.050	0.060	0.07	0.30	0.35	-	(2.0)	-	-	-	-	-			
Unconfined compression test	-	-	-	-	-	U-U	U-U	U-U	U-U	U-U	U-U	U-U	-	-	-	-	-			
Unconfined compression test	-	-	-	-	-	-	0.32	(0.4)	(0.67)	(0.95)	-	-	-	-	-	(0.29)	0.11			
Unconfined compression test	-	-	-	0.55	-	-	0.55	0.45	0.26	0.24	0.27	-	-	-	-	0.69	0.76			
Unconfined compression test	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Unconfined compression test	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Unconfined compression test	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Unconfined compression test	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

Summary of Soil Test 6. (Sentul)

Boring No.	SBH-5										SBH-6									
	UD-5	UD-6 Top	UD-6 Bottom	UD-7	UD-8	UD-9	UD-10	UD-11	UD-1	UD-2	UD-3	UD-4	UD-5 Top	UD-5 Bottom	UD-6	UD-7	UD-8	UD-9	UD-10	
Sample No.	6.50	8.00	8.50	9.50	10.50	11.00	14.00	15.50	16.50	17.50	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00	26.00	
Sample depth	2.35	3.95	4.45	5.45	6.45	7.00	10.00	11.50	12.50	13.50	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	
Condition of sample	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	Undisturbed	
Natural water content, %	82.5	77.6	71.3	51.6	45.2	40.3	40.4	44.8	20.6	19.9	71.3	71.7	69.3	60.2	52.4	38.3	33.2	34.6	36.1	
Specific gravity	2.620	2.636	2.659	2.685	2.669	2.664	2.669	2.694	2.661	2.666	2.600	2.592	2.632	2.627	2.632	2.645	2.652	2.677	2.659	
Wet density, g/cm ³	1.52	1.60	1.56	1.68	1.76	1.81	1.83	1.75	(1.91)	2.04	1.56	1.61	1.60	1.65	1.69	1.82	1.88	1.87	1.86	
Dry density, g/cm ³	0.83	0.90	0.91	1.11	1.21	1.29	1.30	1.21	1.58	1.70	0.91	0.94	0.95	1.03	1.11	1.32	1.41	1.39	1.37	
Natural void ratio	2.15	1.93	1.92	1.42	1.20	1.06	1.05	1.18	0.680	0.567	1.86	1.76	1.78	1.55	1.37	1.01	0.879	0.926	0.946	
Degree of saturation, %	100	100	99	100	100	100	100	100	81	94	100	100	100	100	100	100	100	100	100	
Liquid limit, %	70.0	67.5	61.9	48.9	46.0	42.8	41.5	55.4	33.9	48.2	73.0	71.8	68.3	65.7	58.0	42.3	37.0	40.1	47.0	
Plastic limit, %	31.3	30.3	28.2	20.2	20.3	19.5	19.0	25.3	18.0	17.8	31.6	30.1	30.4	28.0	24.7	19.8	17.8	20.1	21.2	
Plasticity Index	38.7	37.2	33.7	28.7	25.7	23.3	22.5	30.1	15.9	30.4	41.4	41.7	37.9	37.7	33.3	22.5	19.2	20.0	25.8	
Gravel, %	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	
Sand, %	1	0	1	0	3	7	7	8	36	41	1	3	2	0	1	12	14	11	4	
Silt, %	22	22	28	35	45	40	44	33	32	17	21	22	21	19	34	43	50	51	26	
Clay & colloid, %	77	78	71	65	52	53	49	59	30	41	78	75	77	81	65	45	36	38	70	
Max. diameter, mm	0.25	0.074	0.105	0.037	0.25	0.25	0.25	0.25	4.76	4.76	0.25	0.25	0.25	0.028	0.105	0.25	0.42	0.84	0.42	
Diam. at 60%	0.0012	0.0014	0.0024	0.0036	0.0085	0.0088	0.0097	0.0057	0.062	0.081	0.0015	0.0018	0.0016	0.0016	0.0037	0.015	0.029	0.024	0.0026	
Diam. at 10%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Visual soil description	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	
Unified soil classification	CH	CH	CH	CL	CL	CL	CL	CH	CL	CL	CH	CH	CH	CH	CH	CL	CL	CL	CL	
Unconfined compression test	-	-	-	-	-	-	-	-	-	3.95	-	-	-	-	-	-	-	-	-	
Unconfined compression test	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sensitivity ratio	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Strain at failure, %	-	-	-	-	-	-	-	-	-	9.5	-	-	-	-	-	-	-	-	-	
Angle of internal friction	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	
Cohesion, kg/cm ²	0.040	-	0.035	0.070	0.060	0.14	0.18	0.18	-	-	0.080	0.050	0.085	0.11	0.14	0.19	0.29	0.30	0.25	
Condition of drainage	U-U	U-U	U-U	U-U	U-U	U-U	U-U	U-U	U-U	U-U	U-U	U-U	U-U	U-U	U-U	U-U	U-U	U-U	U-U	
Preconsolidation pressure, kg/cm ²	0.42	-	0.36	0.40	-	0.80	0.96	1.1	-	-	0.4	0.52	-	(0.62)	0.84	(1.4)	1.8	1.9	1.8	
Compression index	0.66	-	0.55	0.46	0.35	0.32	0.33	0.48	-	0.12	0.63	0.62	-	0.52	0.51	0.30	0.26	0.29	0.31	
Max. Vane Shear Strength, kg/cm ²	0.046	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Summary of Soil Test 8. (Sentul)

Boring No.	SB-7										SB-8					SB-9					MC-4	
	P1/D2	P3/D4	P5/D6	P7/D8	P8/D10	P3/D4	D13	P1/D1	P3/D4	P5/D6	P7/D8	P9/D10	P14/D15	P16/D17	1	2						
Sample No.*	1.00v 1.45m	3.00v 3.45m	5.00v 5.45m	7.00v 7.45m	9.00v 9.45m	3.00v 3.45m	12.00v 12.45m	1.00v 1.45m	3.00v 3.45m	5.00v 5.45m	7.00v 7.45m	9.00v 9.45m	14.00v 14.45m	16.00v 16.45m	1.00v 1.45m	2.00v 2.45m						
Natural water content, %	26.7	24.3	10.5	1.7	9.1	13.9	1.2	62.9	50.2	71.2	58.3	47.3	18.0	15.8	71.6	77.1						
Specific gravity	2.677	2.657	2.647	2.657	2.785	2.631	2.711	2.612	2.603	2.617	2.635	2.637	2.625	2.628	2.606	2.590						
Liquid limit, %	-	-	-	-	-	-	-	64.4	52.4	75.7	67.8	58.0	36.3	33.2	60.2	61.8						
Plastic limit, %	-	-	-	-	-	-	-	27.0	26.3	27.4	29.9	29.0	17.2	16.3	29.9	29.2						
Plasticity Index	-	-	-	-	-	-	-	37.4	26.1	48.3	37.9	29.0	19.1	16.9	30.3	32.6						
Gravel, %	11	11	36	87	66	93	17	0	0	0	0	0	21	22	0	0						
Sand, %	48	53	54	10	20	5	72	0	0	0	6	1	39	44	0	0						
Silt, %	30	22	10	3	14	2	11	23	26	27	18	48	15	14	41	44						
Clay & colloid, %	11	14	10	3	14	2	11	77	74	73	76	51	25	20	59	56						
Max. diameter, mm	9.52	9.52	9.52	19.1	19.1	25.4	9.52	0.048	0.047	0.048	4.76	0.42	9.52	9.52	0.074	0.048						
Diam. at 60%	0.15	0.17	1.7	9.5	7.2	17	0.82	0.0010	-	-	0.0014	0.0085	0.41	0.77	0.0054	0.0059						
Diam. at 10%	0.0030	0.0012	0.074	1.1	-	3.0	-	-	-	-	-	-	-	-	-	-						
Visual soil description	Silty Sand	Clayey Sand	Gravel Sand	Gravel	Sandy Gravel	Gravel	Gravel Sand	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Clayey Sand	Gravel Sand w/Clay	Silty Clay	Silty Clay						
Unified soil classification	-	-	(SH-SH)	GW	-	GW	-	CH	CH	CH	CH	CH	SC	SC	CH	CH						

Boring No.	MC-4										MC-5					
	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Sample No.*	3.00v 3.45m	4.00v 4.45m	5.00v 5.45m	6.00v 6.45m	7.00v 7.45m	8.00v 8.45m	9.00v 9.45m	1.00v 1.45m	2.00v 2.45m	3.00v 3.45m	4.00v 4.45m	5.00v 5.45m	6.00v 6.45m	7.00v 7.45m	8.00v 8.45m	9.00v 9.45m
Natural water content, %	78.4	61.3	68.5	109	85.7	78.0	75.7	118	82.0	98.2	78.3	84.7	79.1	85.7	73.6	94.9
Specific gravity	2.603	2.594	2.583	2.576	2.594	2.600	2.585	2.575	2.592	2.586	2.603	2.586	2.575	2.602	2.582	2.594
Liquid limit, %	57.9	65.0	58.9	71.6	66.0	75.0	76.1	78.3	77.6	75.9	76.2	73.3	80.1	74.9	76.2	73.4
Plastic limit, %	28.9	29.9	24.9	32.3	30.5	32.7	32.7	37.7	33.1	34.9	37.0	31.9	33.9	32.8	34.2	32.1
Plasticity Index	29.0	35.1	34.0	39.3	35.5	42.3	43.4	40.6	44.3	41.0	39.2	41.4	46.2	42.1	42.0	41.3
Gravel, %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sand, %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Silt, %	34	43	42	22	26	35	36	26	20	34	19	22	35	33	42	35
Clay & colloid, %	66	57	58	78	74	65	64	74	80	66	81	78	65	67	58	65
Max. diameter, mm	0.047	0.047	0.047	0.049	0.048	0.048	0.048	0.045	0.048	0.049	0.048	0.048	0.048	0.048	0.048	0.048
Diam. at 60%	0.0035	0.0062	0.0055	-	0.0010	0.0015	0.0026	-	-	0.0027	0.0013	-	0.0037	-	0.0060	0.0032
Diam. at 10%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Visual soil description	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay
Unified soil classification	CH	CH	CH	CH	CH	CH	CH	MH	CH	MH	CH	CH	CH	CH	CH	CH

* Note: All samples are disturbed.

Summary of Soil Test
- Chemical Analysis and Mineral Analysis -

	S i t e		S e n t u l			
	Boring No./Location		Sub-section B		SB-6	
** Chemical Analysis	Sample No.	S-1	S-5	S-10	D-1	P-3
	pH at 25°C	6.7	7.5	7.8	6.5	6.6
	Total sulphates as SO ₃ (% w/w)	0.01	0.03	0.23	0.01	0.03
	Water-soluble chlorides as Cl ⁻ (% w/w)	less than 0.001	0.001	less than 0.001	-	-
	Total chlorides as Cl ⁻ (% w/w)	0.006	0.004	0.004	0.004	0.004
	Tin, Sn (mg/kg)	2	less than 1	2	1	1
	Cyanide as CN (mg/kg)	less than 1	less than 1	less than 1	less than 1	less than 1
	Arsenic, As (mg/kg)	10	less than 4	40	10	3
	Lead, Pb (mg/kg)	78	44	78	90	100
	Cadmium, Cd (mg/kg)	less than 5	less than 5	5	1	2
	* Mineral Analysis	Sample No.	S-1	S-4	S-8	P-3
Kaolinite (%)		78	74	62	54	58
Chloride (%)		-	-	T.A.*		
Illite (%)		22	19	35	46	42
Degraded illite (%)		T.A.*	7	3	0	0

* T.A. denotes trace amount.

** Results of chemical analysis were based on samples dried at 80°C, except for pH value which was based on air-dried sample.

TRIAxIAL COMPRESSION TEST (Mohr's circle)

Project 224

Sample No Sub-section A", S-1

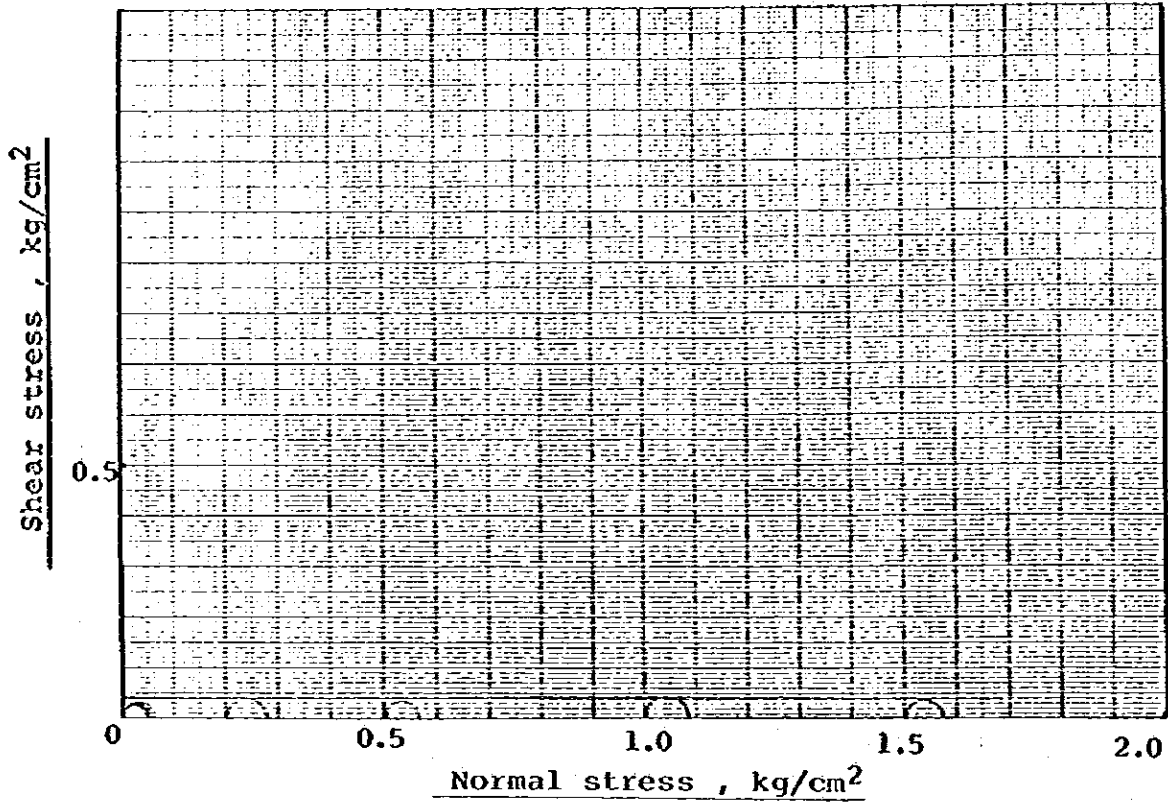
Depth of Sample 0.10 ~ 0.90 m

Location of project _____

Condition of storage U-U

Angle of internal friction 0°

Cohesion 0.04 kg/cm²



TRIAxIAL COMPRESSION TEST (Mohr's circle)

Project 224

Sample No Sub-section A", S-2

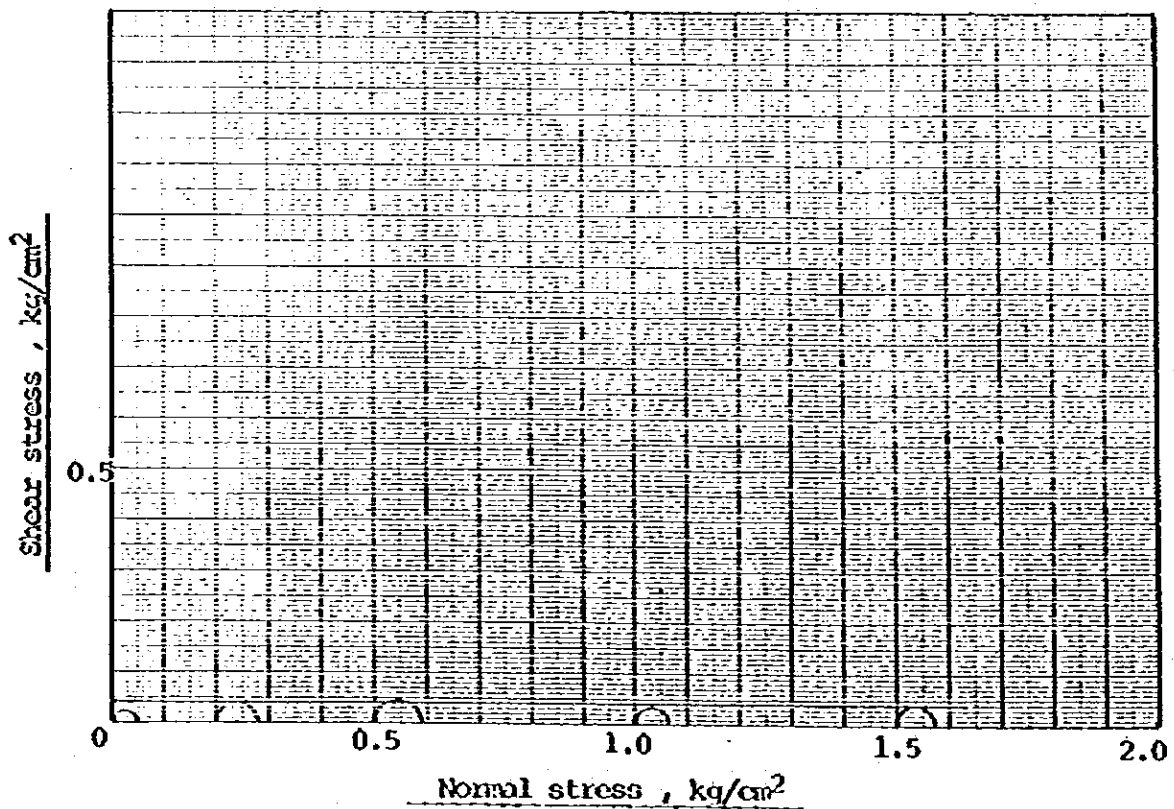
Depth of Sample 1.00 ~ 1.80 m

Location of project _____

Condition of storage U-U

Angle of internal friction 0°

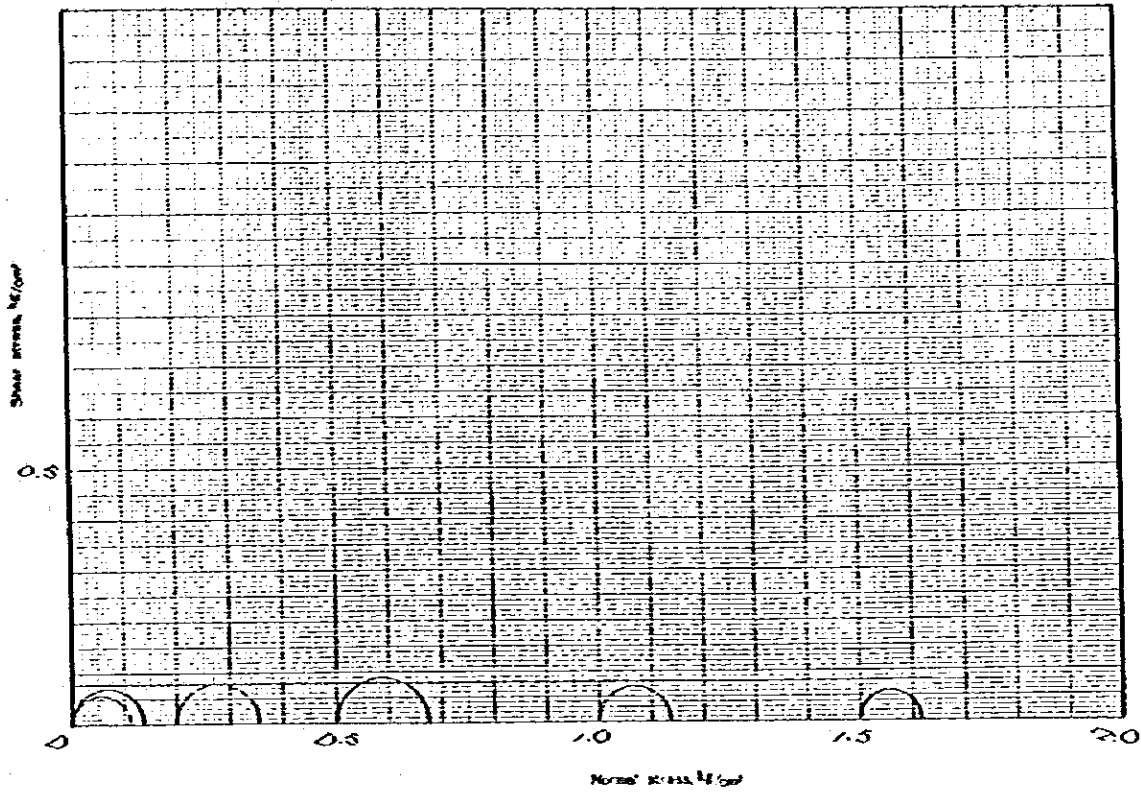
Cohesion 0.04 kg/cm²



TRIAxIAL COMPRESSION TEST (Mohr's circle)

Project 224 Sample No. Sub-section A", S-3
Location of project _____ Condition of drainage _____

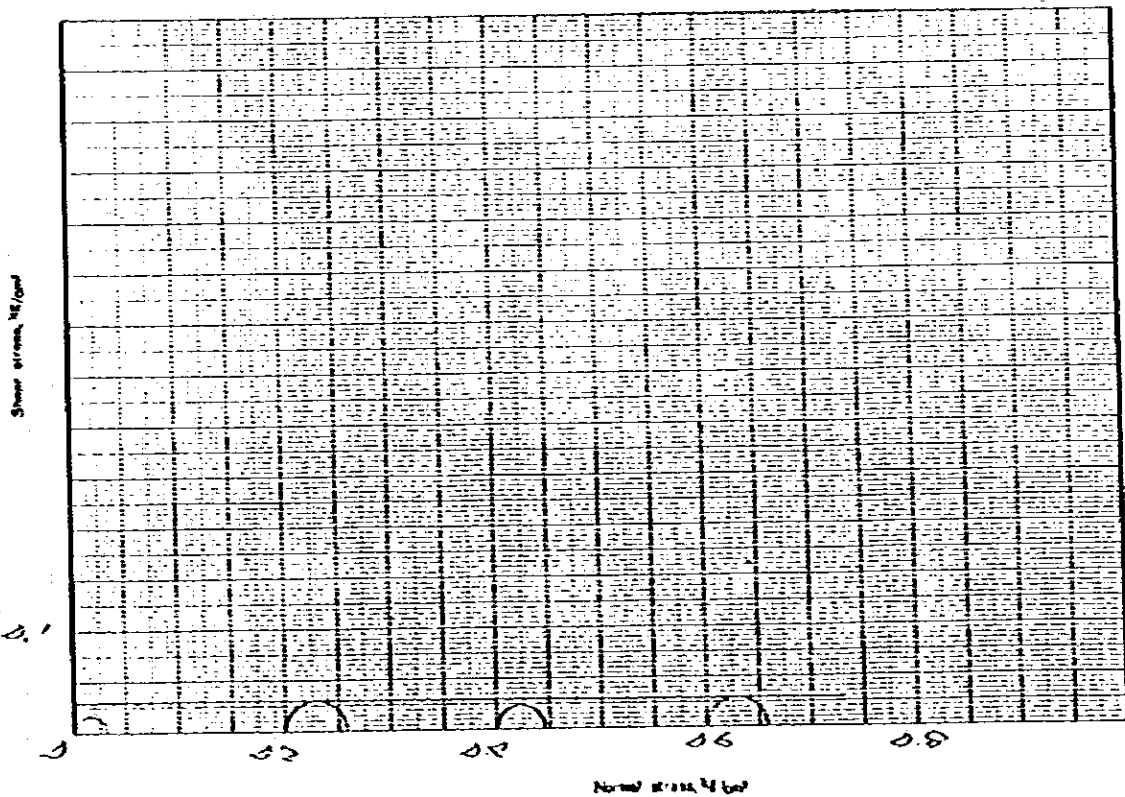
Depth of Sample 200 ~ 270 cm
Angle of internal friction 0°
Cohesion 0.08 kg/cm²



TRIAxIAL COMPRESSION TEST (Mohr's circle)

Project 224 Sample No. Sub-section B, S-2
Location of project _____ Condition of drainage (1-1)

Depth of Sample 200 ~ 290 cm
Angle of internal friction 0°
Cohesion 0.03 kg/cm²



TRIAxIAL COMPRESSION TEST (Mohr's circle)

Project 224

Sample No. Sub-section B, S-3

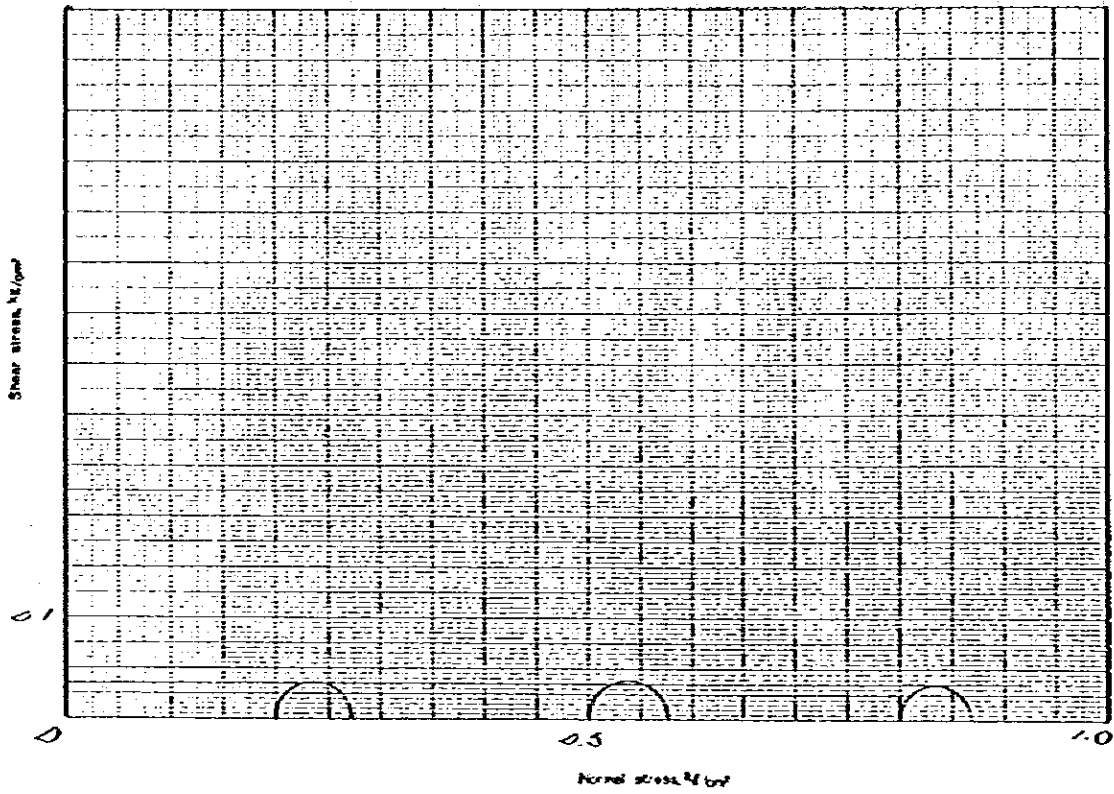
Depth of Sample 11.00 ~ 13.80 m

Location of project _____

Condition of storage U-U

Angle of internal friction 0°

Cohesion 0.035 kg/cm²



TRIAxIAL COMPRESSION TEST (Mohr's circle)

Project 224

Sample No. Sub-section B, S-4

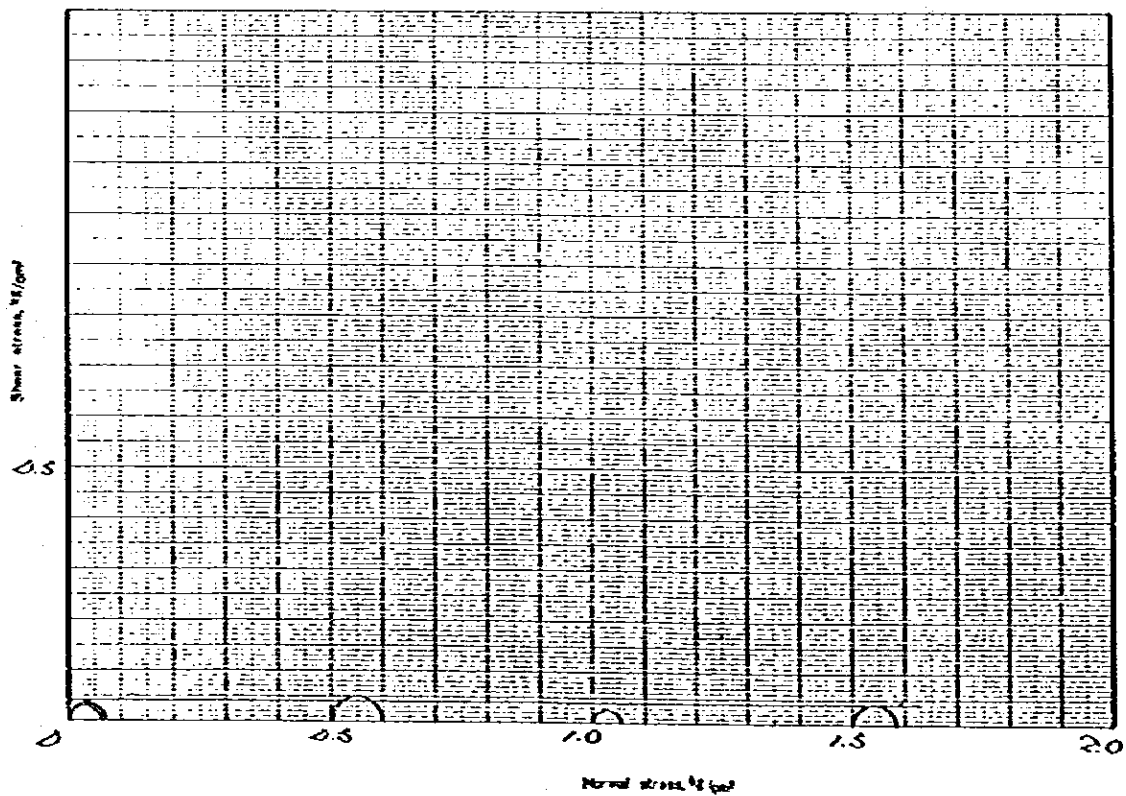
Depth of Sample 5.00 ~ 5.80 m

Location of project _____

Condition of storage U-U

Angle of internal friction 0°

Cohesion 0.04 kg/cm²



TRIAxIAL COMPRESSION TEST (Mohr's circle)

Project 224

Sample No Sub-section B, S-5 Bottom

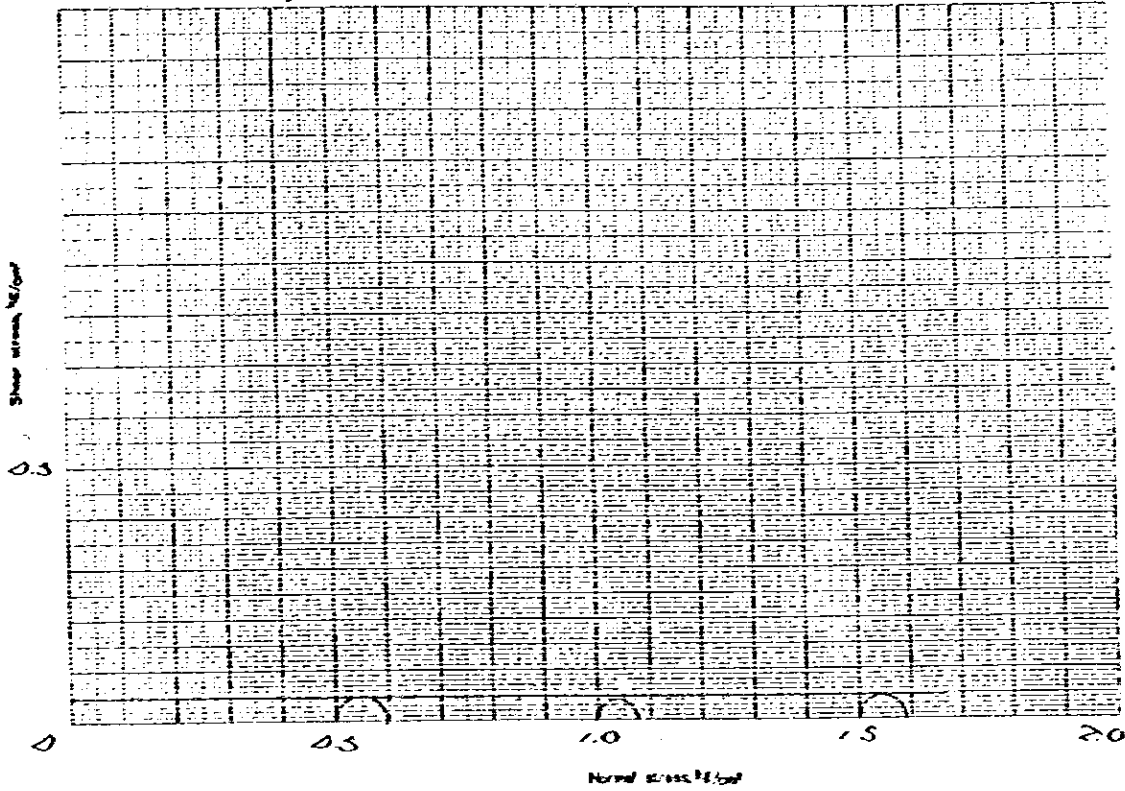
Depth of Sample 6.70 ~ 6.80 #

Location of project _____

Condition of storage U-U

Angle of internal friction 0°

Cohesion 0.05 #/sq ft



TRIAxIAL COMPRESSION TEST (Mohr's circle)

Project 224

Sample No Sub-section B, S-6

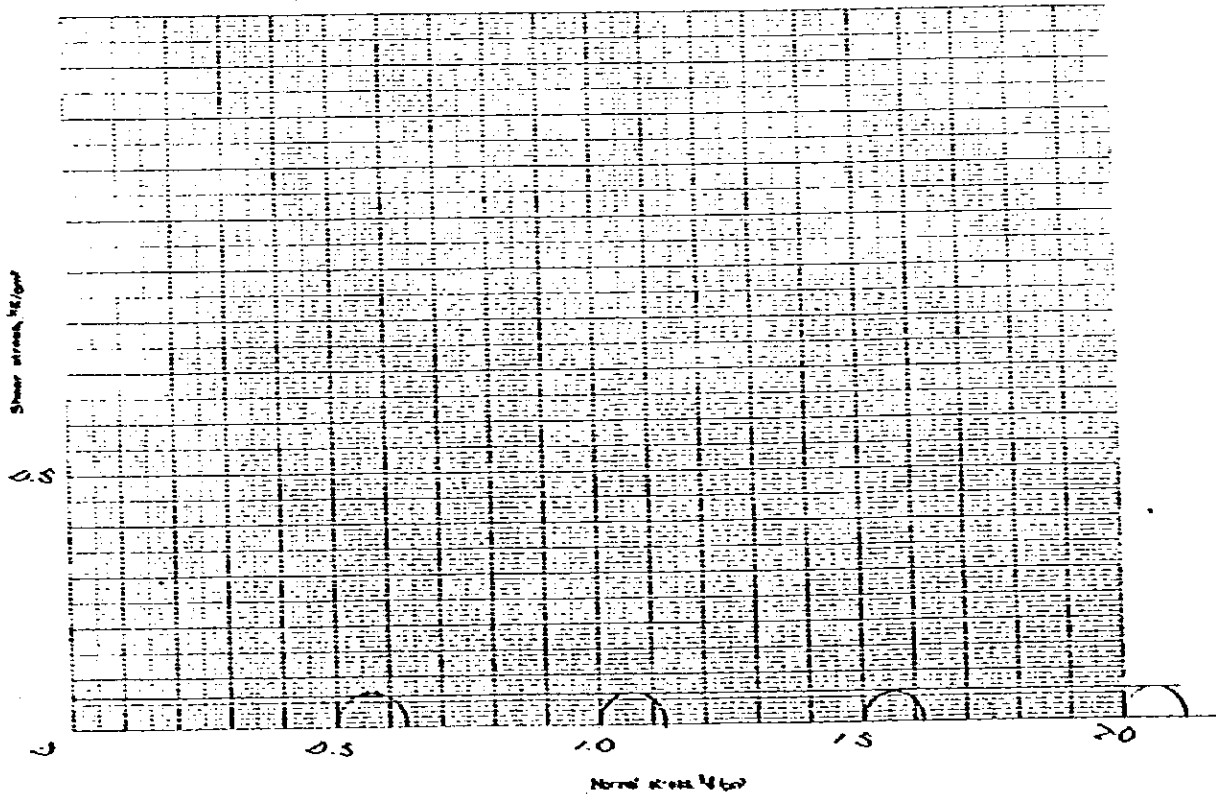
Depth of Sample 7.50 ~ 8.10 #

Location of project _____

Condition of storage U-U

Angle of internal friction 0°

Cohesion 0.06 #/sq ft



TRIAxIAL COMPRESSION TEST (Mohr's circle)

Project 224

Sample No Sub-section B ,S-7

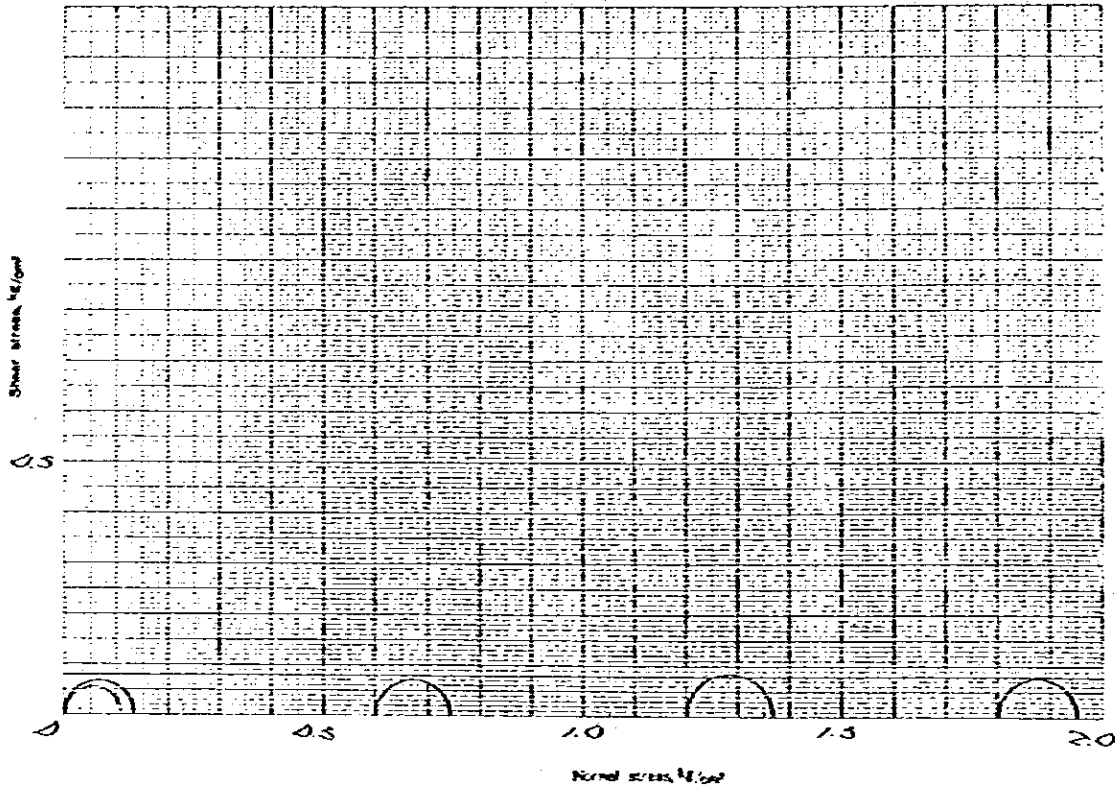
Depth of Sample 9.50 ~ 9.00 m

Location of project _____

Condition of storage U-U

Angle of internal friction 0°

Cohesion 0.08 kg/cm²



TRIAxIAL COMPRESSION TEST (Mohr's circle)

Project 224

Sample No Sub-section B ,S-8

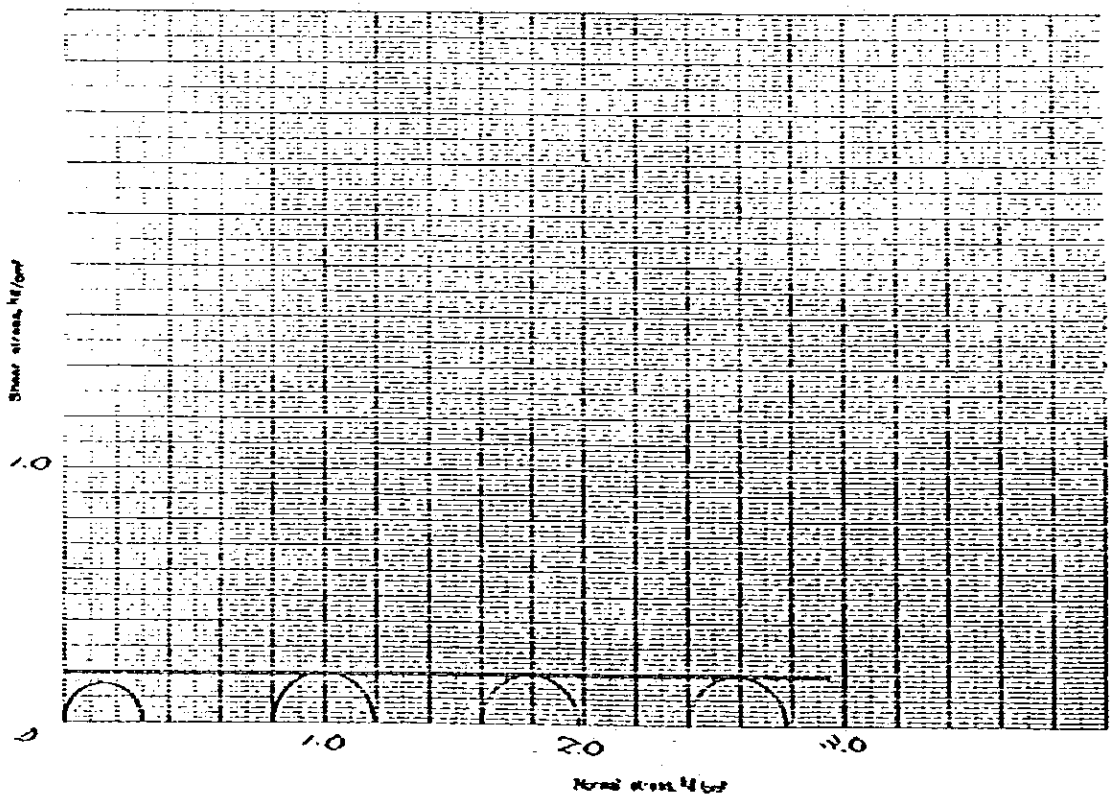
Depth of Sample 9.50 ~ 10.00 m

Location of project _____

Condition of storage U-U

Angle of internal friction 0°

Cohesion 0.19 kg/cm²



TRIAxIAL COMPRESSION TEST (Mohr's circle)

Project 224

Sample No Sub-section B, S-9 Top

Depth of Sample 10.30 ~ 11.00 m

Location of project _____

Condition of drainage U-U

Angle of internal friction 0°

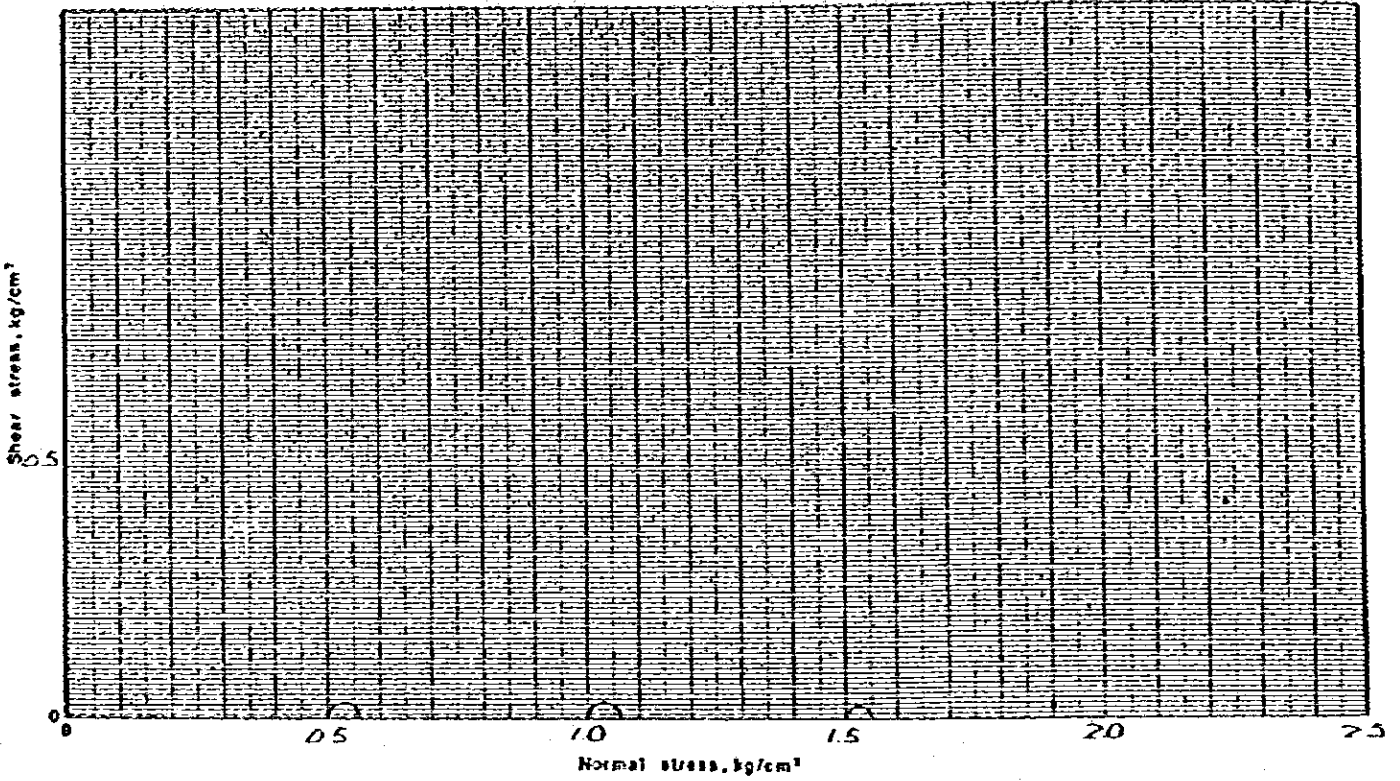
Cohesion 0.21 kg/cm²



TRIAXIAL COMPRESSION TEST (Mohr's circle)

Project 267
Condition of drainage U-U

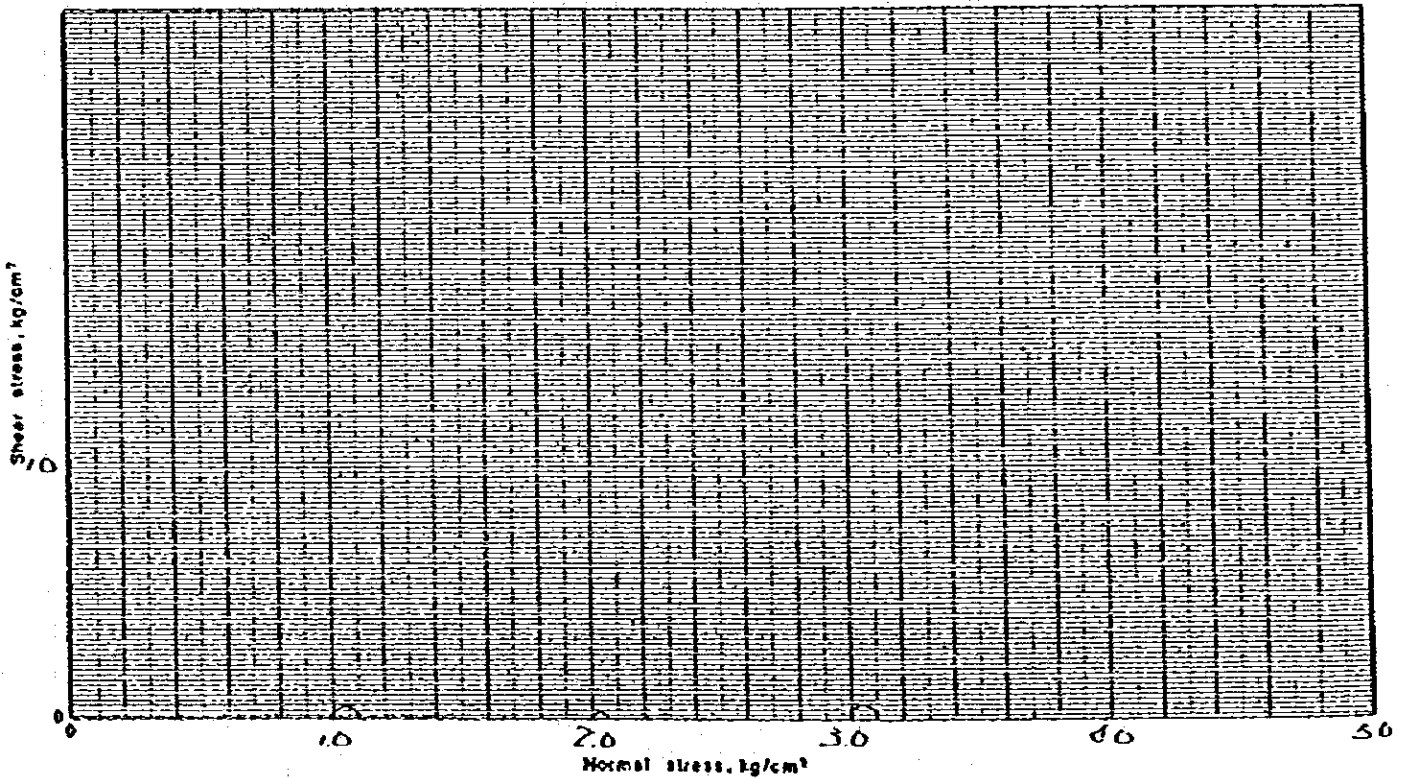
Boring No. SBH1 Sample No. UD-3
Depth of Sample 5.00 m. 5.80 m
Angle of Internal friction 0°
Cohesion 0.030 kg/cm²



TRIAXIAL COMPRESSION TEST (Mohr's circle)

Project 267
Condition of drainage U-U

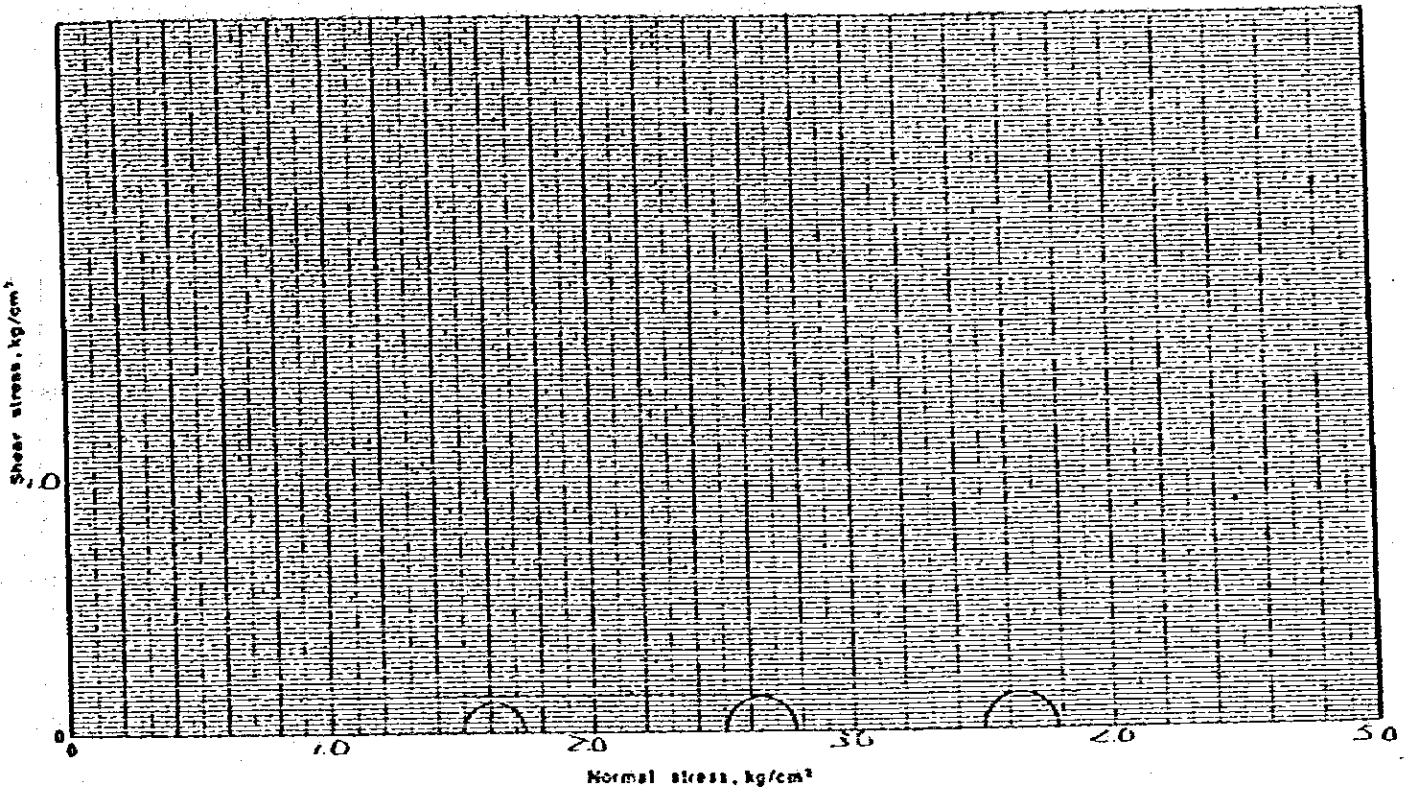
Boring No. SBH1 Sample No. UD-7
Depth of Sample 7.00 m. 7.80 m
Angle of Internal friction 0°
Cohesion 0.040 kg/cm²



TRIAxIAL COMPRESSION TEST (Mohr's circle)

Project 267
 Condition of drainage U-U

Boring No S2H1 Sample No UD-5
 Depth of Sample 9.00 m. 9.80 m
 Angle of internal friction 0°
 Cohesion 0.14 kg/cm²



TRIAxIAL COMPRESSION TEST (Mohr's circle)

Project 267
 Condition of drainage U-U

Boring No S2H1 Sample No UD-7
 Depth of Sample 13.00 m. 13.80 m
 Angle of internal friction 0°
 Cohesion 0.20 kg/cm²

