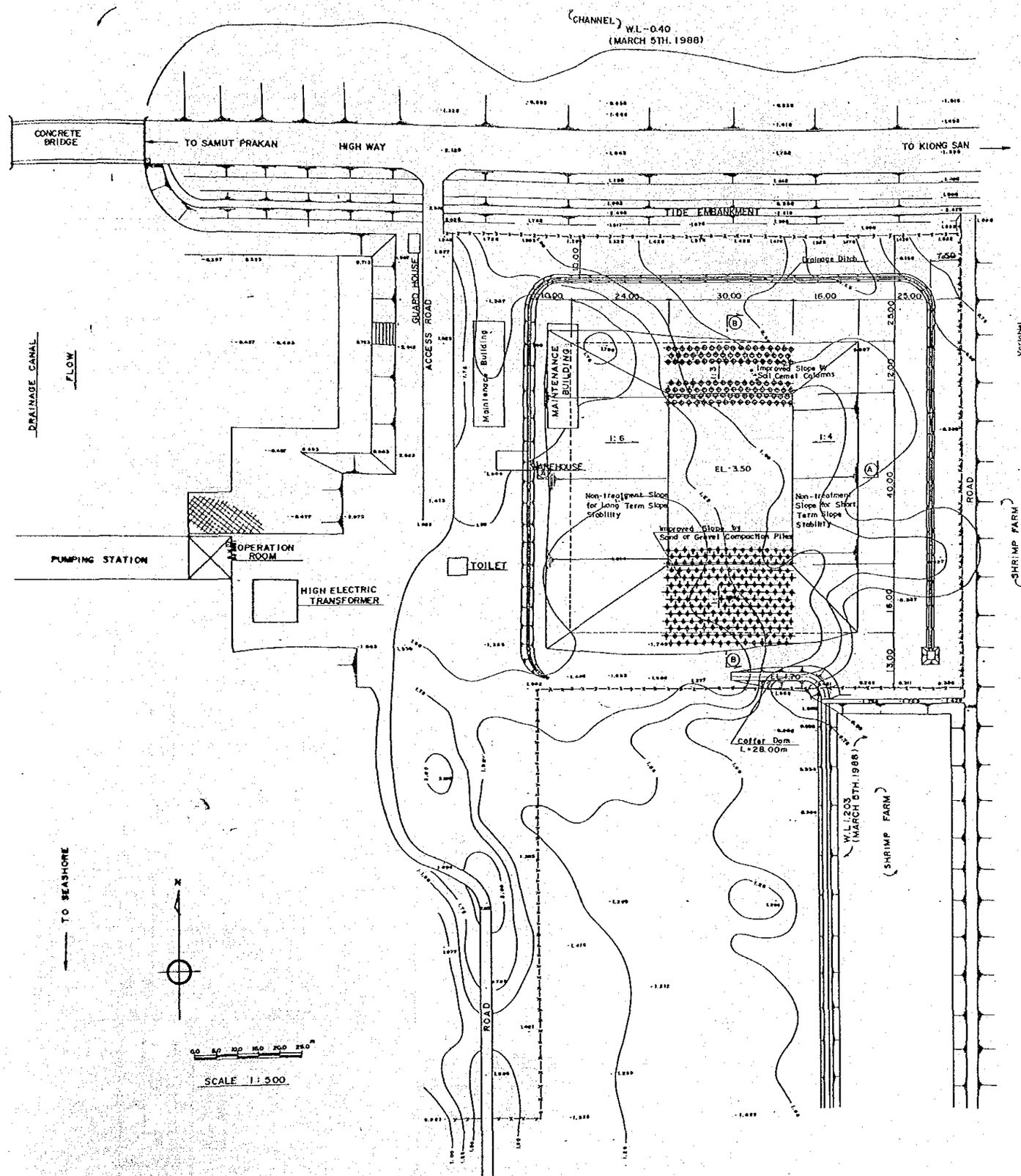
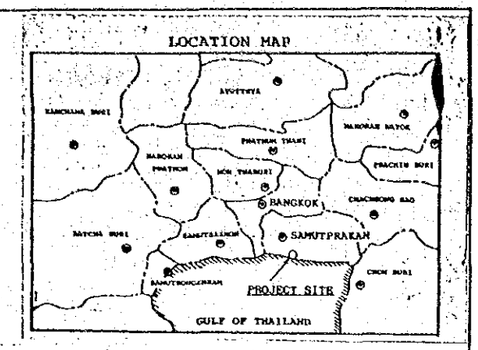
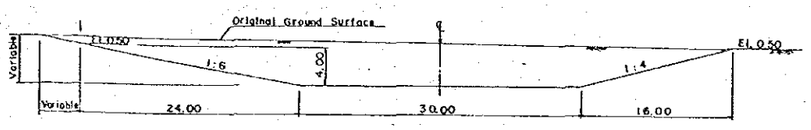
第9章　添　付　図　面

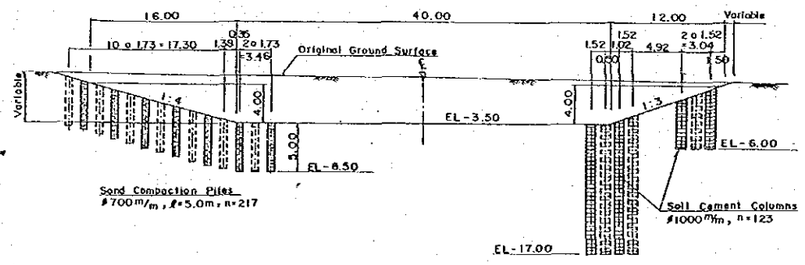




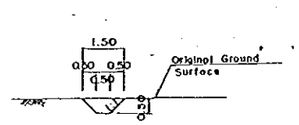
SECTION Ⓐ-Ⓐ S=1:300



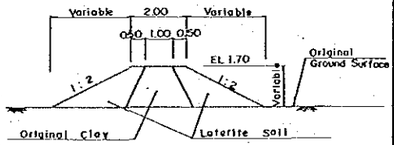
SECTION Ⓑ-Ⓑ S=1:300



TYPICAL SECTION OF DRAINAGE DITCH
S=1:100



TYPICAL SECTION OF COFFER DAM
S=1:100



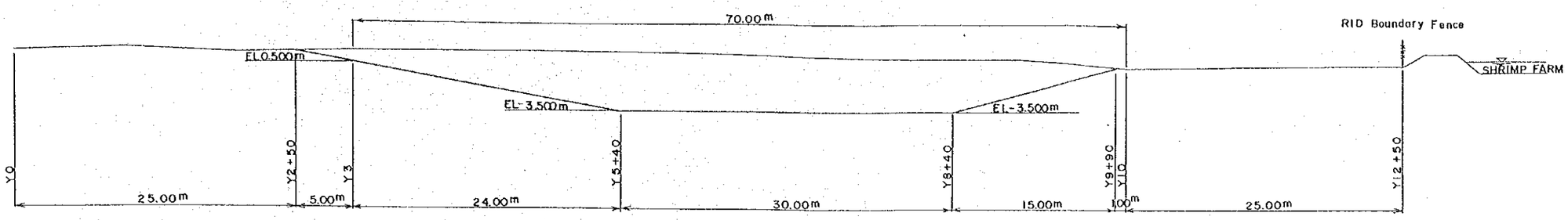
ROYAL IRRIGATION DEPARTMENT
THE MODEL INFRASTRUCTURE PROJECT OF
SOFT SOIL FOUNDATION FOR
THE IRRIGATION ENGINEERING CENTER PROJECT

GENERAL PLAN OF
TESTING CANAL FACILITY

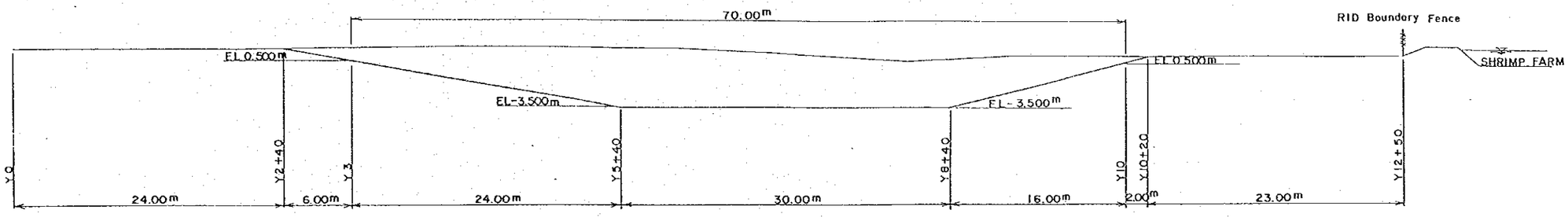
JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO

DWG. NO. 1

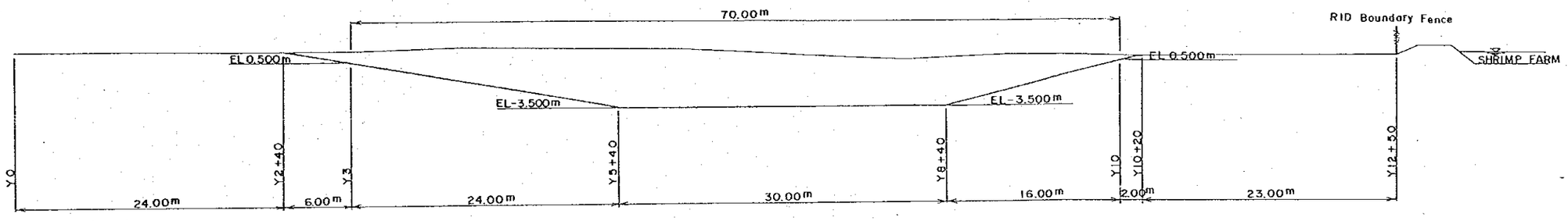
STA. X6



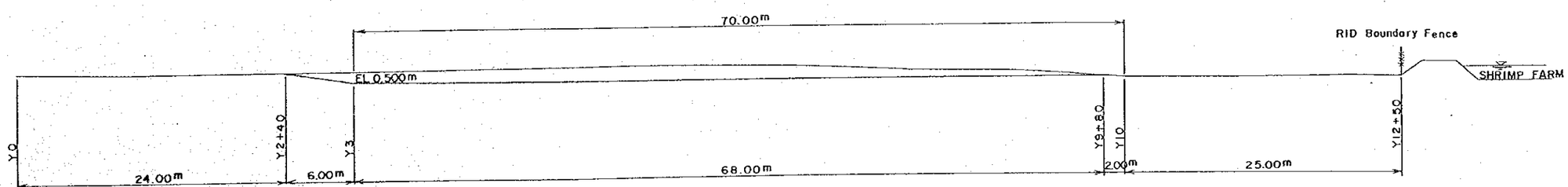
STA. X7

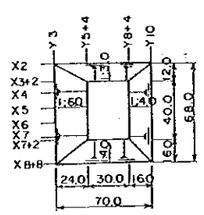


STA. X7+20



STA. X8+80





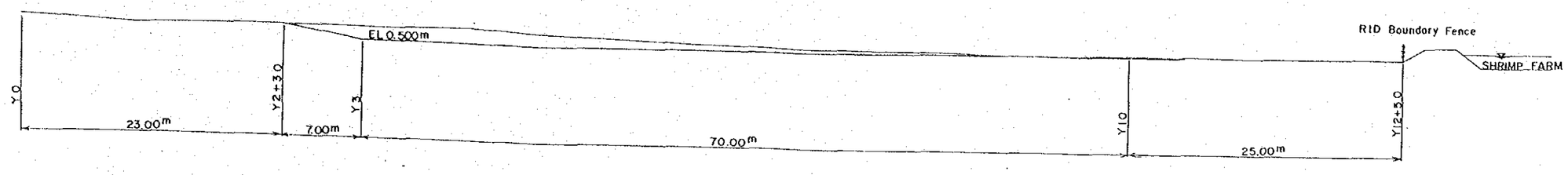
ROYAL IRRIGATION DEPARTMENT
THE MODEL INFRASTRUCTURE PROJECT OF SOFT SOIL FOUNDATION FOR THE IRRIGATION ENGINEERING CENTER PROJECT

CROSS SECTIONS OF TESTING CANAL FACILITY (1/2)

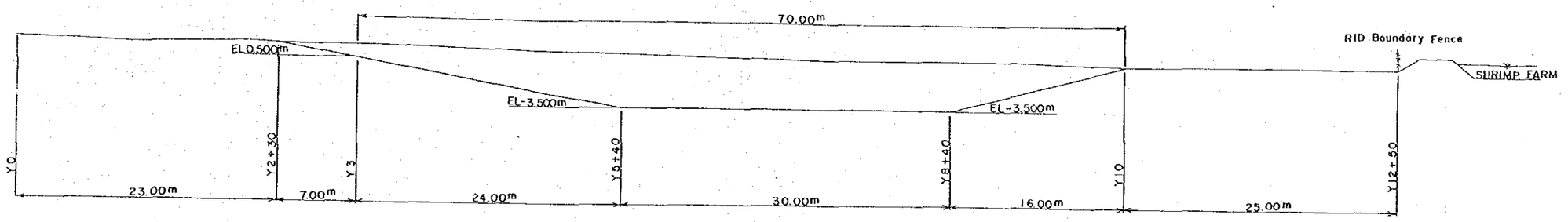
JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO

DWG. NO. 2

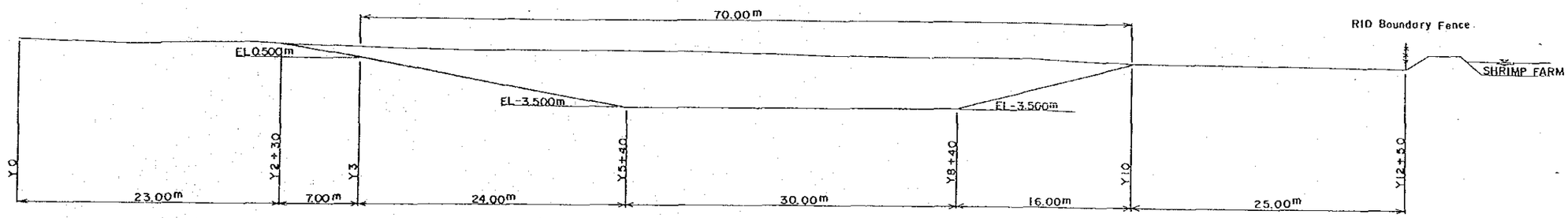
STA. X2



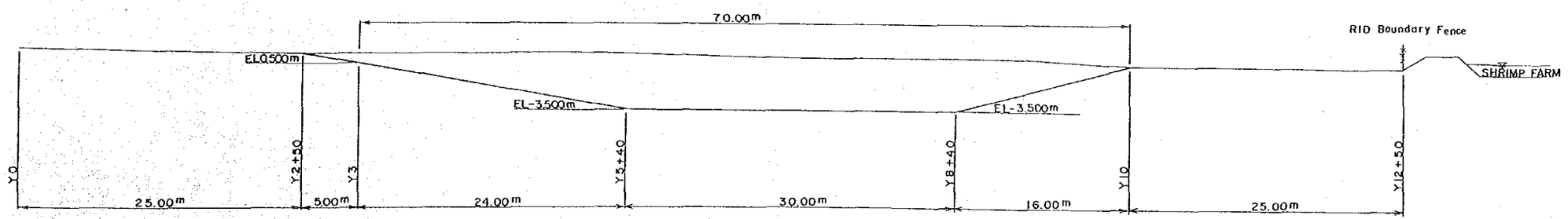
STA. X3+20

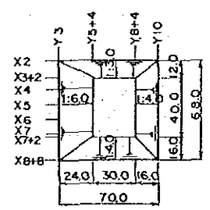


STA. X4



STA. X5





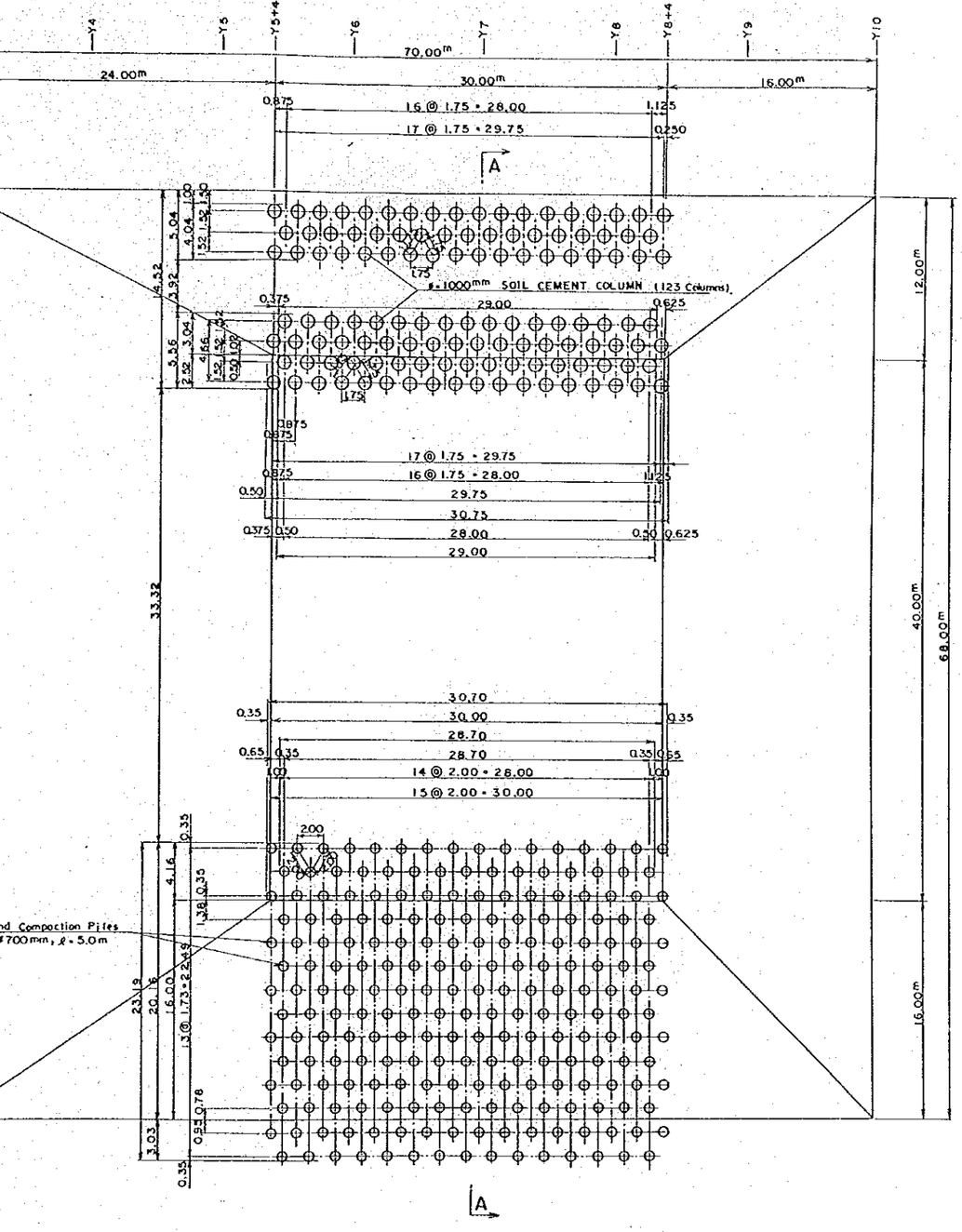
ROYAL IRRIGATION DEPARTMENT
THE MODEL INFRASTRUCTURE PROJECT OF
SOFT SOIL FOUNDATION FOR
THE IRRIGATION ENGINEERING CENTER PROJECT

CROSS SECTIONS OF TESTING
CANAL FACILITY (2/2)

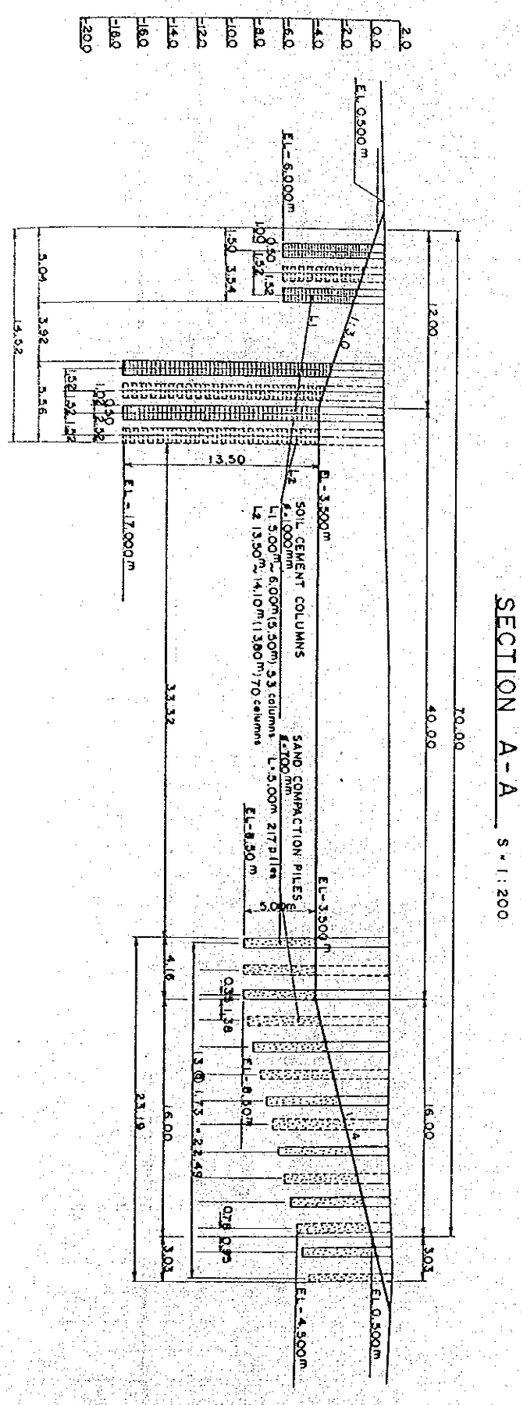
JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO

DWG. NO.
3

PLAN S=1:200

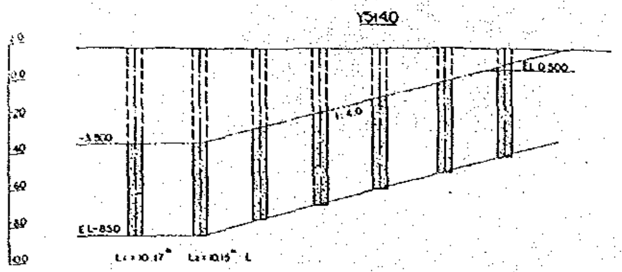


SECTION A-A S=1:200



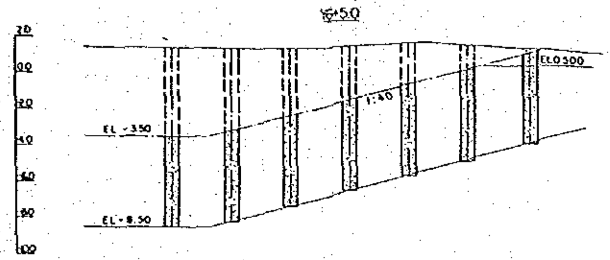
ROYAL IRRIGATION DEPARTMENT THE MODEL INFRASTRUCTURE PROJECT OF SOFT SOIL FOUNDATION FOR THE IRRIGATION ENGINEERING CENTER PROJECT	
PILE ARRANGEMENT FOR FOUNDATION IMPROVEMENT WORK	
JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO	DWG. NO. 4

Y5+40



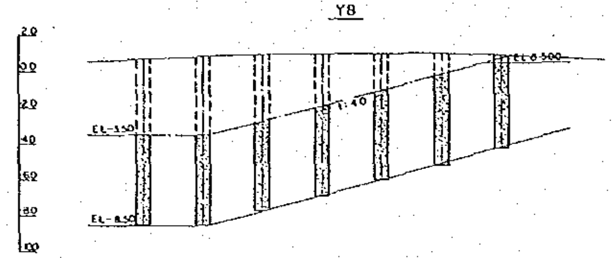
	X7	X7+3.19	X7+6.60 / X7+7.0	X8 / X8+0.11	X8+3.57	X8+7.03	X9 / X9+0.49	X9+3.0 / X9+3.95	X10
PILING LENGTH		10.170	10.145	9.345	8.543	7.742	6.920	5.973	
COMPACTION PILE LENGTH		5.000	5.000	5.000	5.000	5.000	5.000	5.000	
ELEVATION OF BOTTOM OF PILE		-8.500	-8.500	-7.723	-6.858	-5.993	-5.128	-4.262	
NON-TREATMENT PILE LENGTH		5.170	5.146	4.345	3.543	2.742	1.920	0.973	
ELEVATION OF TOP OF PILE	-3.500	-3.500	-3.500 / -3.500	-2.750 / -2.723	-1.858	-0.993	-0.250 / -0.128	0.500 / 0.738	
GROUND ELEVATION	1.694	1.670	1.642 / 1.642	1.620 / 1.622	1.685	1.749	1.803 / 1.792	1.733 / 1.711	1.971

Y6+50



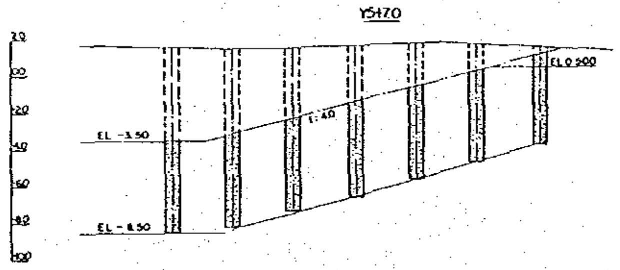
	X7	X7+4.92	X7+7.0	X7+8.30	X8	X8+1.84	X8+5.30	X8+8.76	X9	X9+2.22 / X9+3.0	X9+5.68	X10
PILING LENGTH		9.866		9.524		8.734	8.007	7.280		6.343	5.289	
COMPACTION PILE LENGTH		5.000		5.000		5.000	5.000	5.000		5.000	5.000	
ELEVATION OF BOTTOM OF PILE		-8.500		-8.155		-7.290	-6.425	-5.560		-4.695	-3.830	
NON-TREATMENT PILE LENGTH		4.866		4.524		3.734	3.007	2.280		1.343	0.289	
ELEVATION OF TOP OF PILE	-3.500	-3.500	-3.500	-3.155	-2.750	-2.290	-1.425	-0.560	-0.250	0.305 / 0.500	1.170	
GROUND ELEVATION	1.363	1.366	1.368	1.369	1.370	1.444	1.582	1.720	1.770	1.648 / 1.606	1.459	1.222

Y8



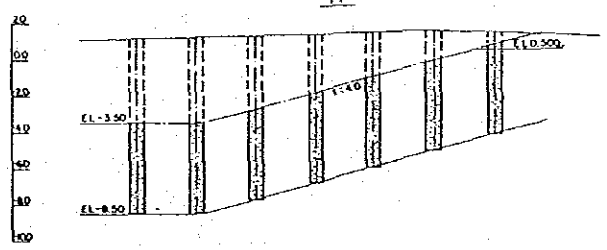
	X7	X7+3.19	X7+6.60 / X7+7.0	X8 / X8+0.11	X8+3.57	X8+7.03	X9 / X9+0.49	X9+3.0 / X9+3.95	X10
PILING LENGTH		9.174	9.359	8.776	7.933	7.090	6.222	5.200	
COMPACTION PILE LENGTH		5.000	5.000	5.000	5.000	5.000	5.000	0.500	
ELEVATION OF BOTTOM OF PILE		-8.500	-8.500	-7.723	-6.850	-5.993	-5.128	-4.262	
NON-TREATMENT PILE LENGTH		4.174	4.359	3.796	2.933	2.090	1.222	0.200	
ELEVATION OF TOP OF PILE	-3.500	-3.500	-3.500 / -3.500	-2.750 / -2.703	-1.858	-0.993	-0.250 / -0.128	0.500 / 0.738	
GROUND ELEVATION	0.497	0.674	0.859 / 0.886	1.052 / 1.033	1.075	1.097	1.116 / 1.094	0.981 / 0.938	0.665

Y5+70



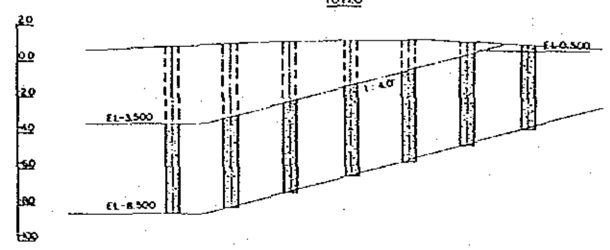
	X7	X7+4.92	X7+7.0	X7+8.30	X8	X8+1.84	X8+5.30	X8+8.76	X9	X9+2.22 / X9+3.0	X9+5.68	X10
PILING LENGTH		10.102		9.716		8.887	8.129	7.372		6.450	5.438	
COMPACTION PILE LENGTH		5.000		5.000		5.000	5.000	5.000		5.000	5.000	
ELEVATION OF BOTTOM OF PILE		-8.500		-8.155		-7.290	-6.425	-5.560		-4.695	-3.830	
NON-TREATMENT PILE LENGTH		5.102		4.716		3.887	3.129	2.372		1.450	0.438	
ELEVATION OF TOP OF PILE	-3.500	-3.500	-3.500	-3.155	-2.750	-2.290	-1.425	-0.560	-0.250	0.305 / 0.500	1.170	
GROUND ELEVATION	1.683	1.602	1.577	1.560	1.540	1.587	1.704	1.812	1.850	1.755 / 1.723	1.608	1.424

Y7



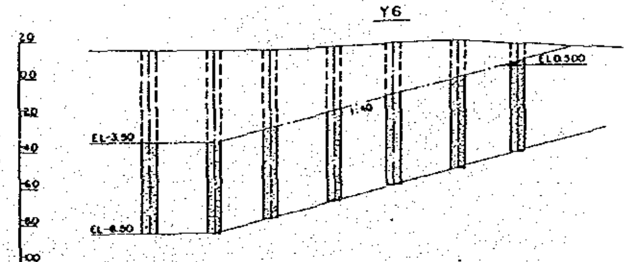
	X7	X7+3.19	X7+6.68 / X7+7.0	X8 / X8+0.11	X8+3.57	X8+7.03	X9 / X9+0.49	X9+3.0 / X9+3.95	X10
PILING LENGTH		9.653	9.718	9.007	8.268	7.528	6.748	5.717	
COMPACTION PILE LENGTH		5.000	5.000	5.000	5.000	5.000	5.000	5.000	
ELEVATION OF BOTTOM OF PILE		-8.500	-8.500	-7.723	-6.858	-5.993	-5.128	-4.262	
NON-TREATMENT PILE LENGTH		4.653	4.718	4.007	3.268	2.528	1.748	0.717	
ELEVATION OF TOP OF PILE	-3.50	-3.500	-3.500 / -3.500	-2.750 / -2.723	-1.858	-0.993	-0.250 / -0.128	0.500 / 0.738	
GROUND ELEVATION	1.093	1.153	1.218 / 1.224	1.280 / 1.284	1.410	1.535	1.643 / 1.620	1.500 / 1.455	1.167

Y8+10



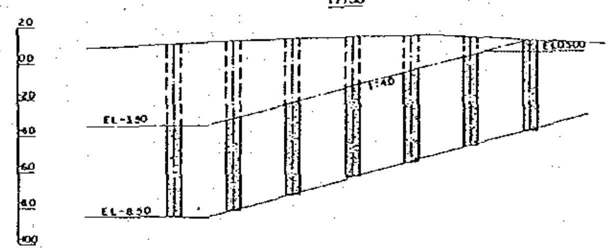
	X7	X7+4.92	X7+7.0	X7+8.38	X8	X8+1.84	X8+5.30	X8+8.76	X9	X9+2.22 / X9+3.0	X9+5.60	X10
PILING LENGTH		9.285		9.106		8.333	7.496	6.570		5.702	5.000	
COMPACTION PILE LENGTH		5.000		5.000		5.000	5.000	5.000		5.000	5.000	
ELEVATION OF BOTTOM OF PILE		-8.500		-8.155		-7.290	-6.425	-5.560		-4.695	-4.154	
NON-TREATMENT PILE LENGTH		4.285		4.106		3.333	2.496	1.570		0.702	0.000	
ELEVATION OF TOP OF PILE	-3.500	-3.500	-3.500	-3.155	-2.750	-2.290	-1.425	-0.560	-0.250	0.305 / 0.500	0.846	
GROUND ELEVATION	0.550	0.705	0.885	0.951	1.028	1.043	1.071	1.010	1.110	1.007 / 0.971	0.846	0.645

Y6



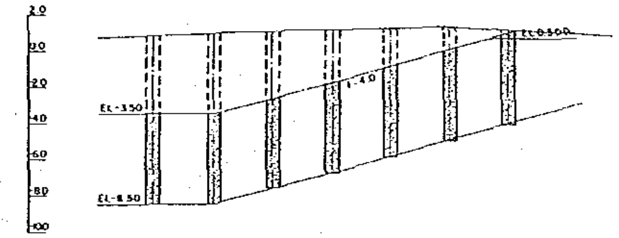
	X7	X7+3.19	X7+6.60 / X7+7.0	X8 / X8+0.11	X8+3.57	X8+7.03	X9 / X9+0.49	X9+3.0 / X9+3.95	X10
PILING LENGTH		10.077	10.016	9.187	8.473	7.780	6.995	5.914	
COMPACTION PILE LENGTH		5.000	5.000	5.000	5.000	5.000	5.000	5.000	
ELEVATION OF BOTTOM OF PILE		-8.500	-8.500	-7.723	-6.858	-5.993	-5.128	-4.262	
NON-TREATMENT PILE LENGTH		5.077	5.016	4.187	3.473	2.780	1.995	0.914	
ELEVATION OF TOP OF PILE	-3.500	-3.500	-3.500 / -3.500	-2.750 / -2.723	-1.858	-0.993	-0.250 / -0.128	0.500 / 0.738	
GROUND ELEVATION	1.632	1.577	1.516 / 1.511	1.459 / 1.464	1.615	1.787	1.897 / 1.867	1.711 / 1.652	1.277

Y7+50



	X7	X7+4.92	X7+7.0	X7+8.30	X8	X8+1.84	X8+5.30	X8+8.76	X9	X9+2.22 / X9+3.0	X9+5.68	X10
PILING LENGTH		9.478		9.261		8.495	7.704	6.913		5.972	5.000	
COMPACTION PILE LENGTH		5.000		5.000		5.000	5.000	5.000		5.000	5.000	
ELEVATION OF BOTTOM OF PILE		-8.500		-8.155		-7.290	-6.425	-5.560		-4.695	-3.884	
NON-TREATMENT PILE LENGTH		4.478		4.261		3.495	2.704	1.913		0.972	0.000	
ELEVATION OF TOP OF PILE	-3.500	-3.500	-3.500	-3.155	-2.750	-2.290	-1.425	-0.560	-0.250	0.305 / 0.500	1.116	
GROUND ELEVATION	0.795	0.978	1.036	1.106	1.186	1.205	1.279	1.353	1.380	1.277 / 1.241	1.116	0.916

Y8+40



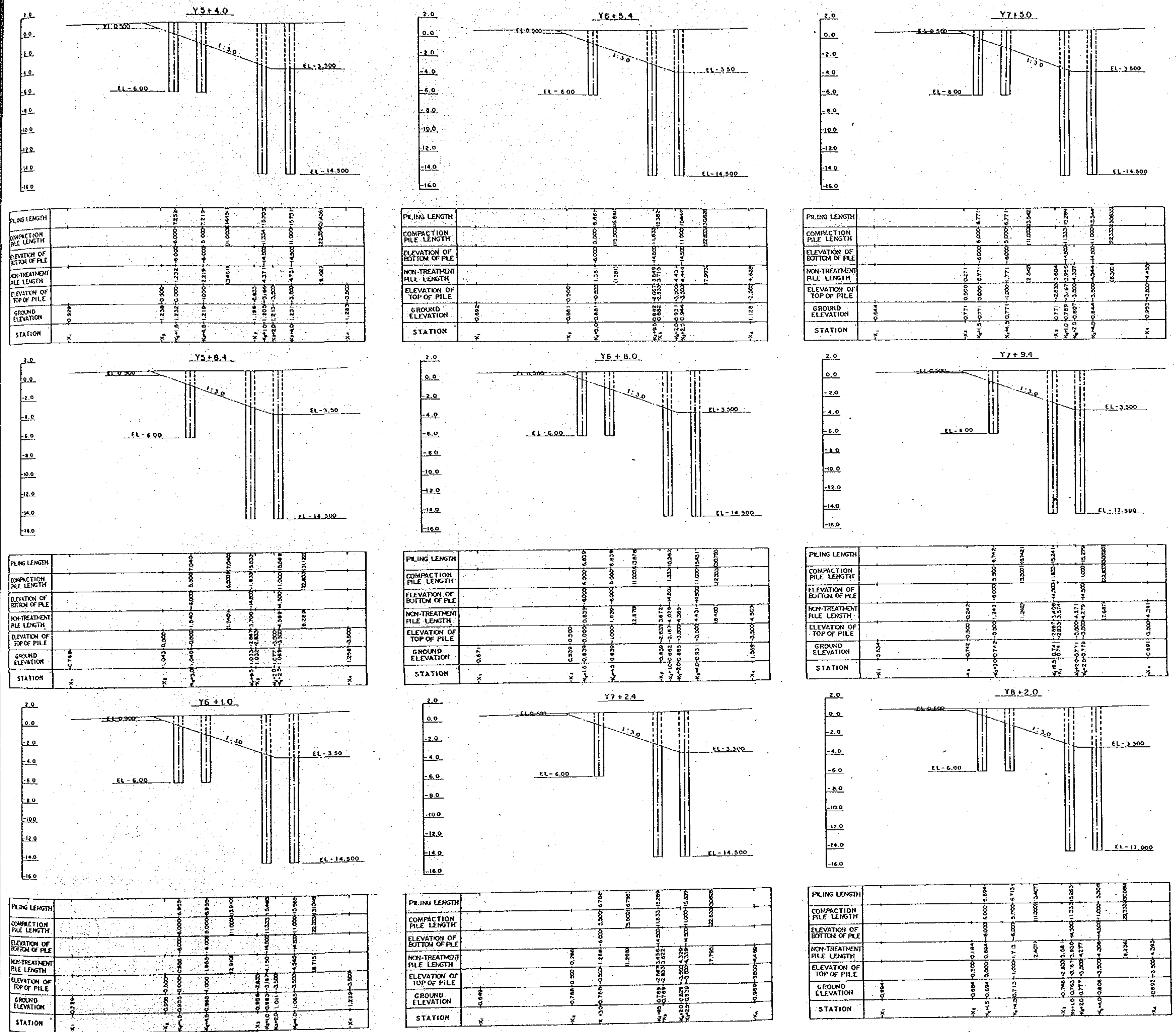
	X7	X7+3.19	X7+6.65 / X7+7.0	X8 / X8+0.11	X8+3.57	X8+7.03	X9 / X9+0.49	X9+3.0 / X9+3.95	X10
PILING LENGTH		9.287	9.373	8.680	7.862	7.044	6.193	5.153	
COMPACTION PILE LENGTH		5.000	5.000	5.000	5.000	5.000	5.000	5.000	
ELEVATION OF BOTTOM OF PILE		-8.500	-8.500	-7.723	-6.858	-5.993	-5.128	-4.262	
NON-TREATMENT PILE LENGTH		4.287	4.373	3.680	2.862	2.044	1.193	0.153	
ELEVATION OF TOP OF PILE	-3.500	-3.500	-3.500 / -3.500	-2.750 / -2.723	-1.858	-0.993	-0.250 / -0.128	0.500 / 0.738	
GROUND ELEVATION	0.700	0.787	0.873 / 0.881	0.955 / 0.937	1.004	1.051	1.092 / 1.067	0.939 / 0.891	0.583

ROYAL IRRIGATION DEPARTMENT
THE MODEL INFRASTRUCTURE PROJECT OF
SOFT SOIL FOUNDATION FOR
THE IRRIGATION ENGINEERING CENTER PROJECT

PROFILES OF SAND COMPACTION PILES

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO

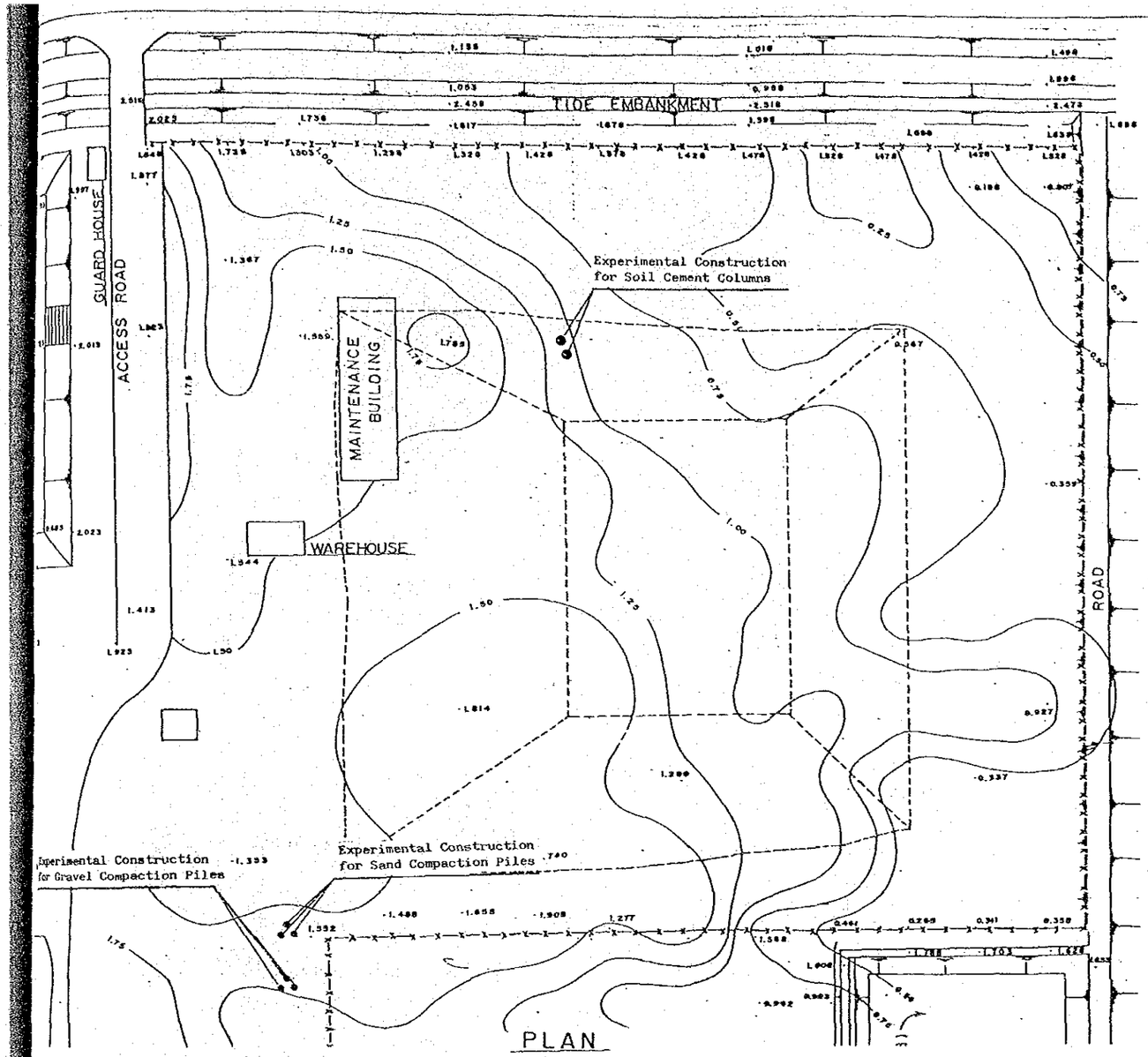
DWG. NO. 5



ROYAL IRRIGATION DEPARTMENT
THE MODEL INFRASTRUCTURE PROJECT OF
SOFT SOIL FOUNDATION FOR
THE IRRIGATION ENGINEERING CENTER PROJECT

PROFILES OF SOIL CEMENT COLUMNS

JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO	DWG. NO. 6



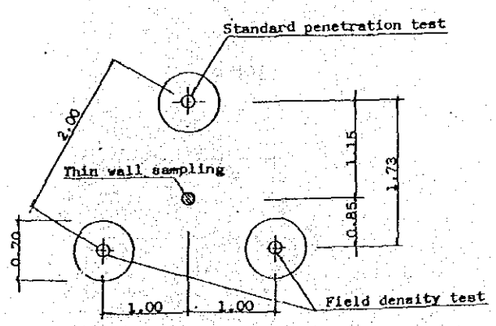
PLAN

ITEM AND QUANTITIES OF IN-SITU TESTS FOR THE EXPERIMENTAL CONSTRUCTION

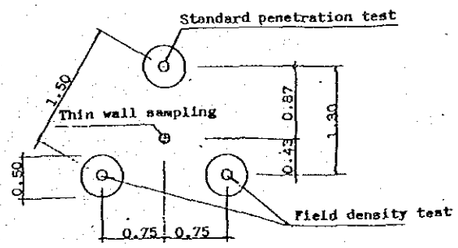
Item of Test	Sand Compaction Pile	Gravel Compaction File	Soil Cement Column
Standard penetration test (Inside the piles)	*Location :Center of pile,1 hole *Boring depth :7 m *Number of test:7 times (Depth;every 1 m)	Same as the left	-
Core boring (Inside the piles)	-	-	*Location:Centerof pile,1 hole *Boring depth:6 m *Core sampling: 6 samples (Depth:every 1 m)
Thin wall sampling (Clay of original ground)	*Location:Center between pile and pile, 1 hole *Boring depth:7 m *Core sampling:4 sample *Sampling depth: -1,-3,-5,&-7 m	Same as the left	-
Field density test	*Location:Center of pile,2 holes *Number of tests:2 time	Same as the left	-

ITEMS AND QUANTITIES OF LABORATORY TESTS FOR THE EXPERIMENTAL CONSTRUCTION

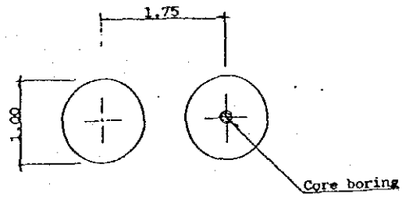
Item of Test	Sand Compaction Pile	Gravel Compaction Pile	Soil Cement Column
Test of physical property *Natural moisture ratio *Wet density	*Pile material:2samples *Clay :7samples *Clay :4samples	*Pile material:2samples *Clay :7samples *Clay :4samples	- -
Mechanical test *Unconfined compression test	*Clay :4samples	*Clay :4samples	*Pile :6samples



Sand Compaction Piles



Gravel Compaction Piles

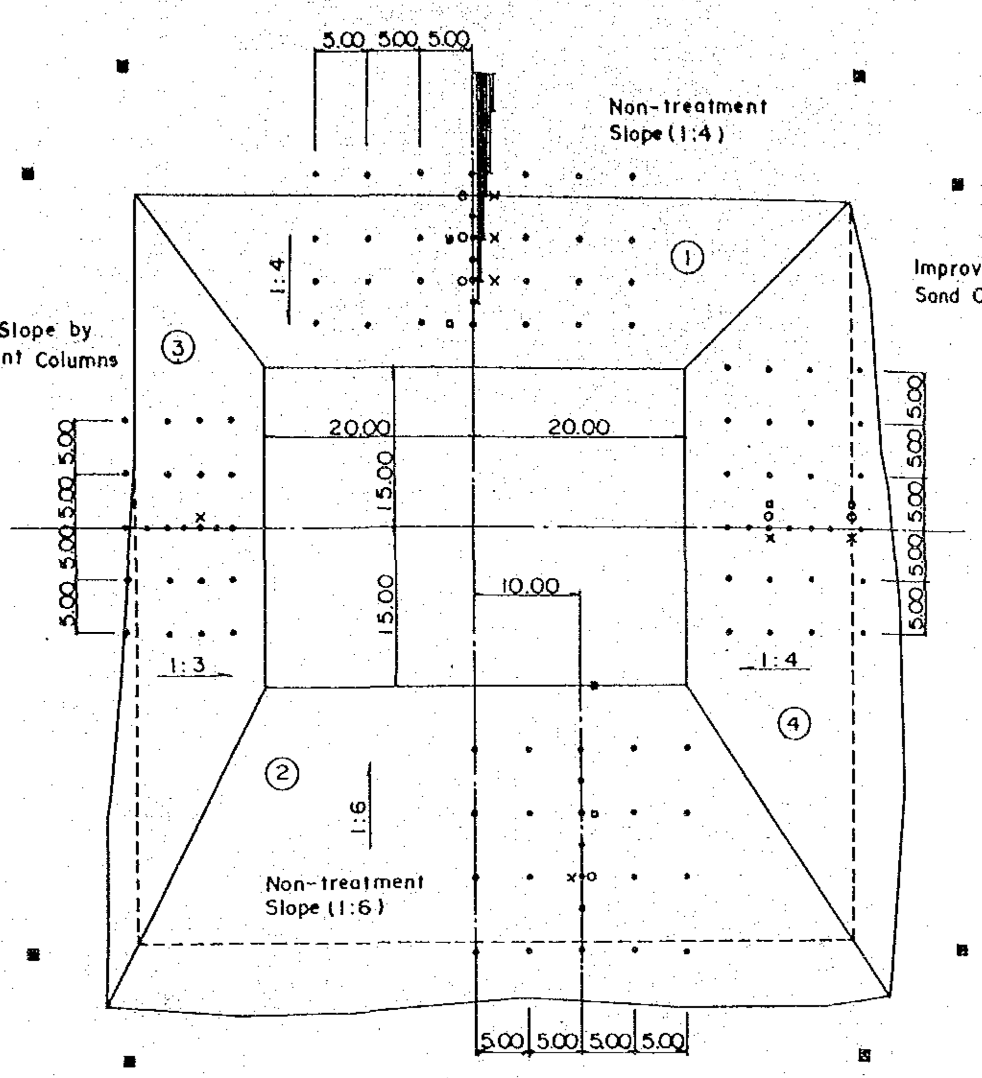


Soil Cement Columns

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO

EXPERIMENTAL CONSTRUCTION FOR FOUNDATION IMPROVEMENT WORKS

DWG. NO. 7

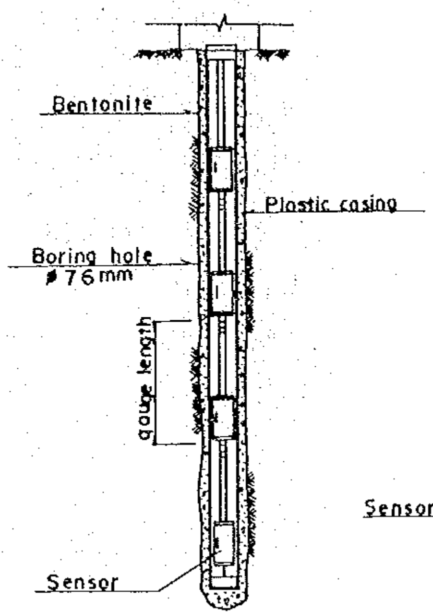


LEGEND

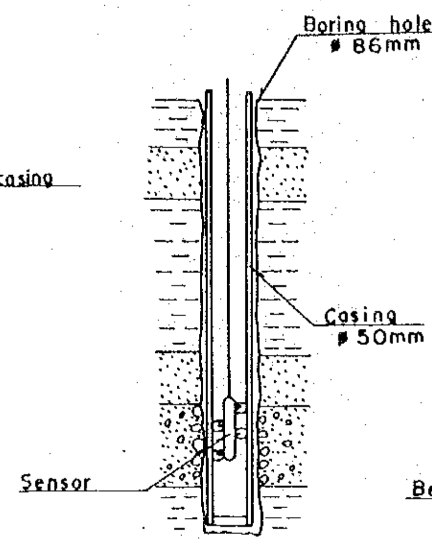
- Extensometer
- × Inclinometer
- o Settlement Guage
- □ Piezometer
- • Displacement Pile
- ▪ Fixed Point

PLAN FOR ARRANGEMENT OF MONITORING INSTRUMENT

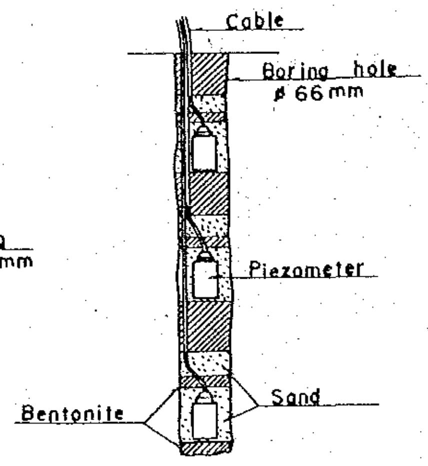
S = 1 : 500



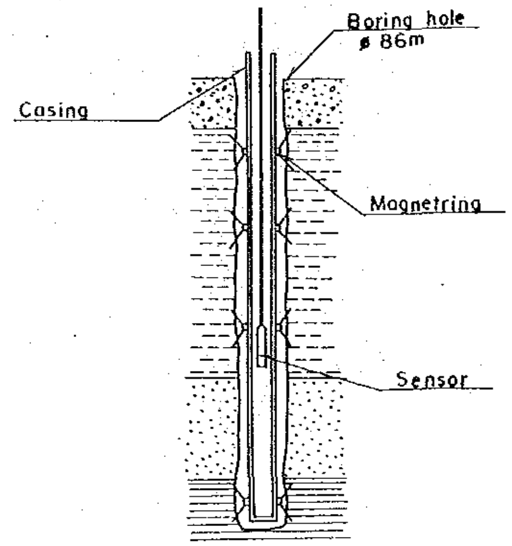
INCLINOMETER
(Aut Measuring)



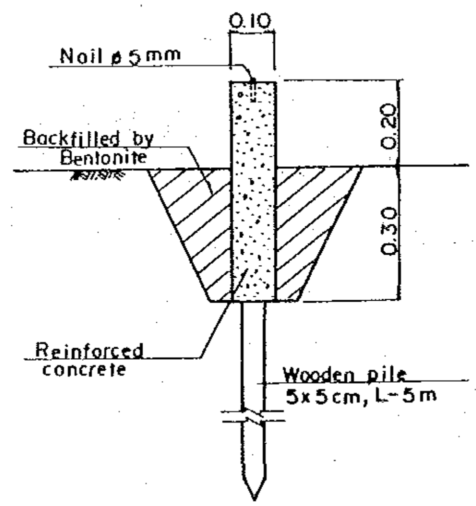
INCLINOMETER
(Manual Reading)



PIEZOMETER



SETTLEMENT GAUGE



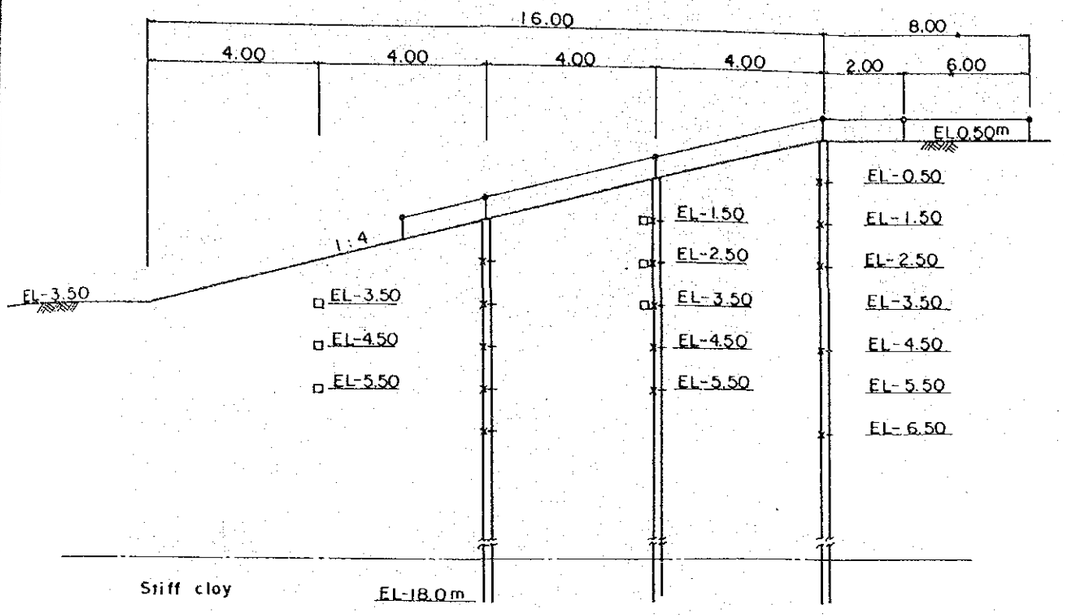
FIXED POINT

ROYAL IRRIGATION DEPARTMENT
THE MODEL INFRASTRUCTURE PROJECT OF
SOFT SOIL FOUNDATION FOR
THE IRRIGATION ENGINEERING CENTER PROJECT

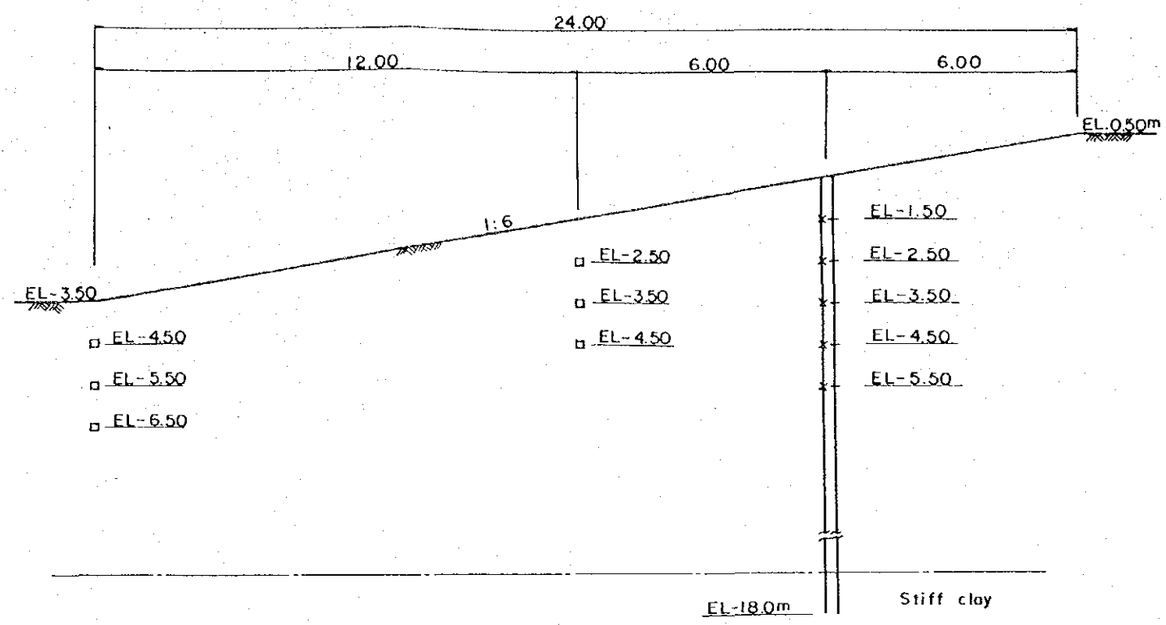
INSTALLATION PLAN AND INSTALLATION METHOD OF MONITORING INSTRUMENT

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO

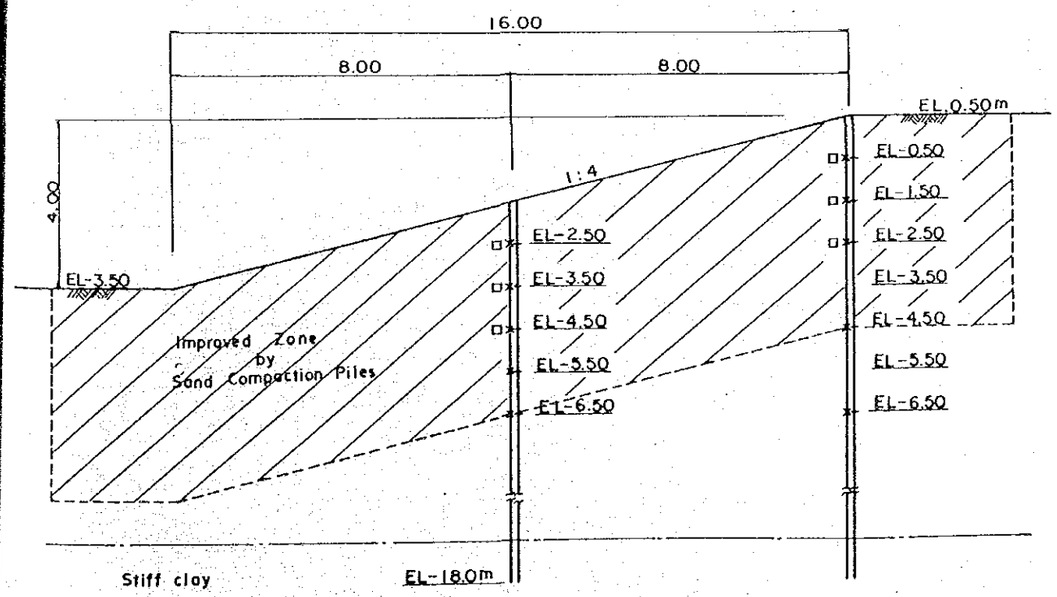
DWG. NO. 8



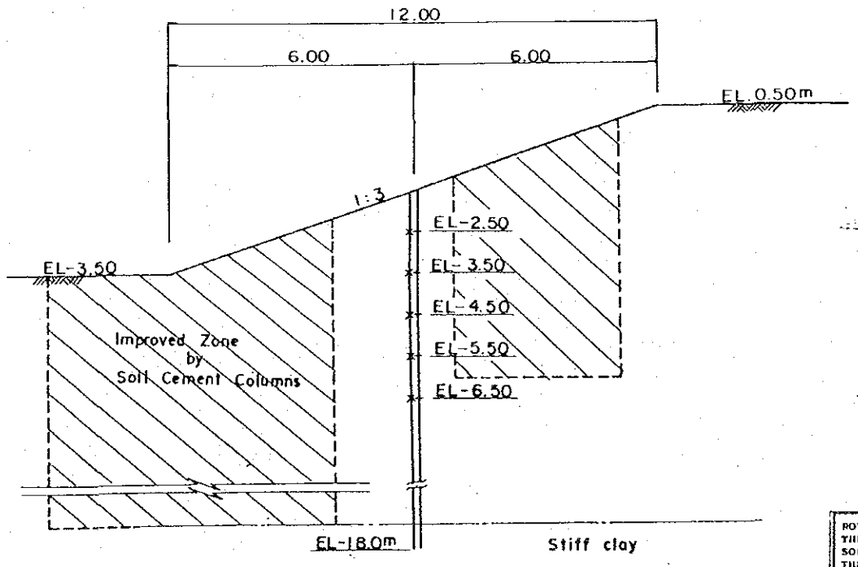
Non-treatment Slope for Short Term Slope Stability (1:4)



Non-treatment Slope for Long Term Slope Stability (1:6)



Improved Slope by Sand Compaction Piles (1:4)



Improved Slope by Soil Cement Columns (1:3)

LEGEND

- Settlement gauge
- Inclinometer
- Piczometer
- Extensometer

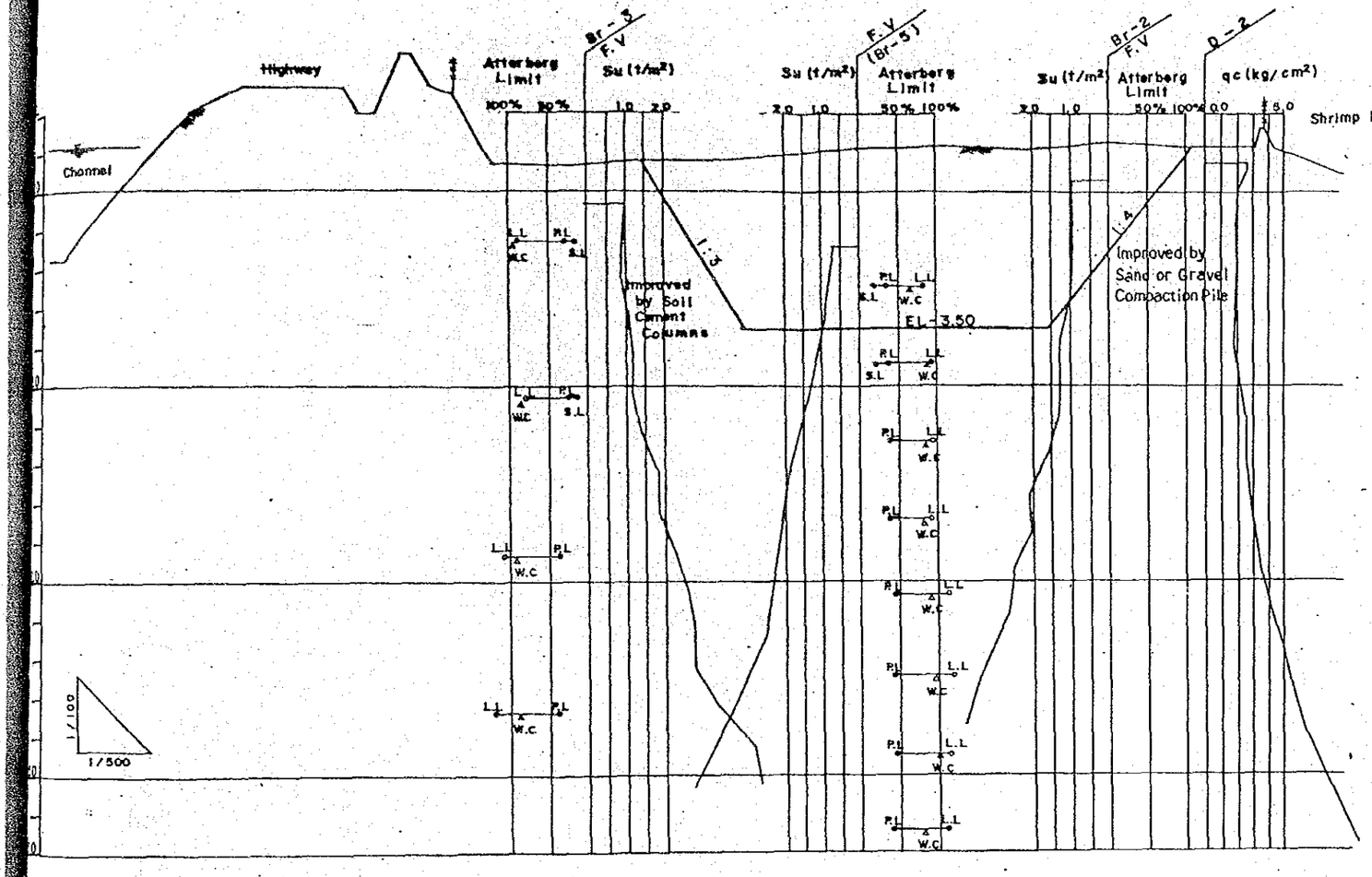
ROYAL IRRIGATION DEPARTMENT
THE MODEL INFRASTRUCTURE PROJECT OF
SOFT SOIL FOUNDATION FOR
THE IRRIGATION ENGINEERING CENTER PROJECT

ARRANGEMENT OF MONITORING INSTRUMENT ON EACH SLOPE

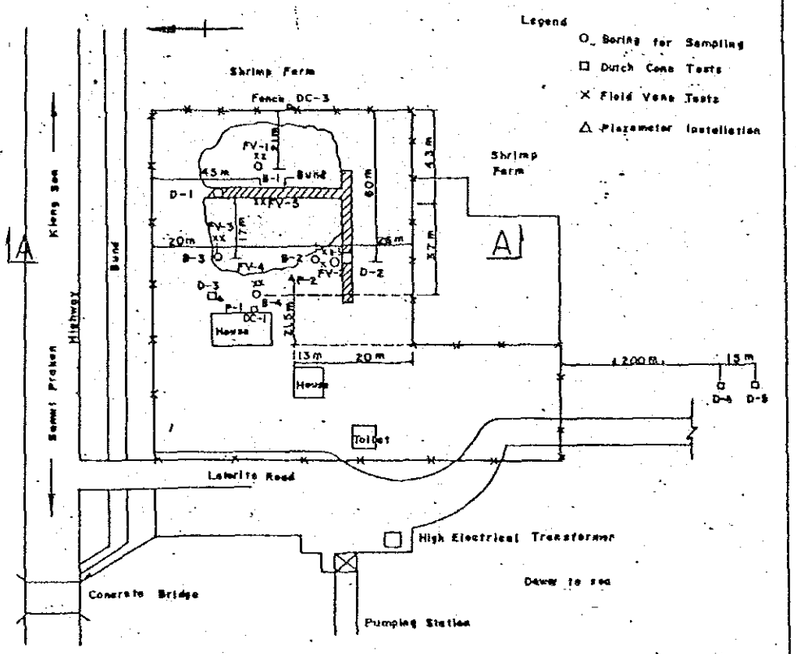
JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO

DWG. NO. 9

SECTION A-A



PLAN



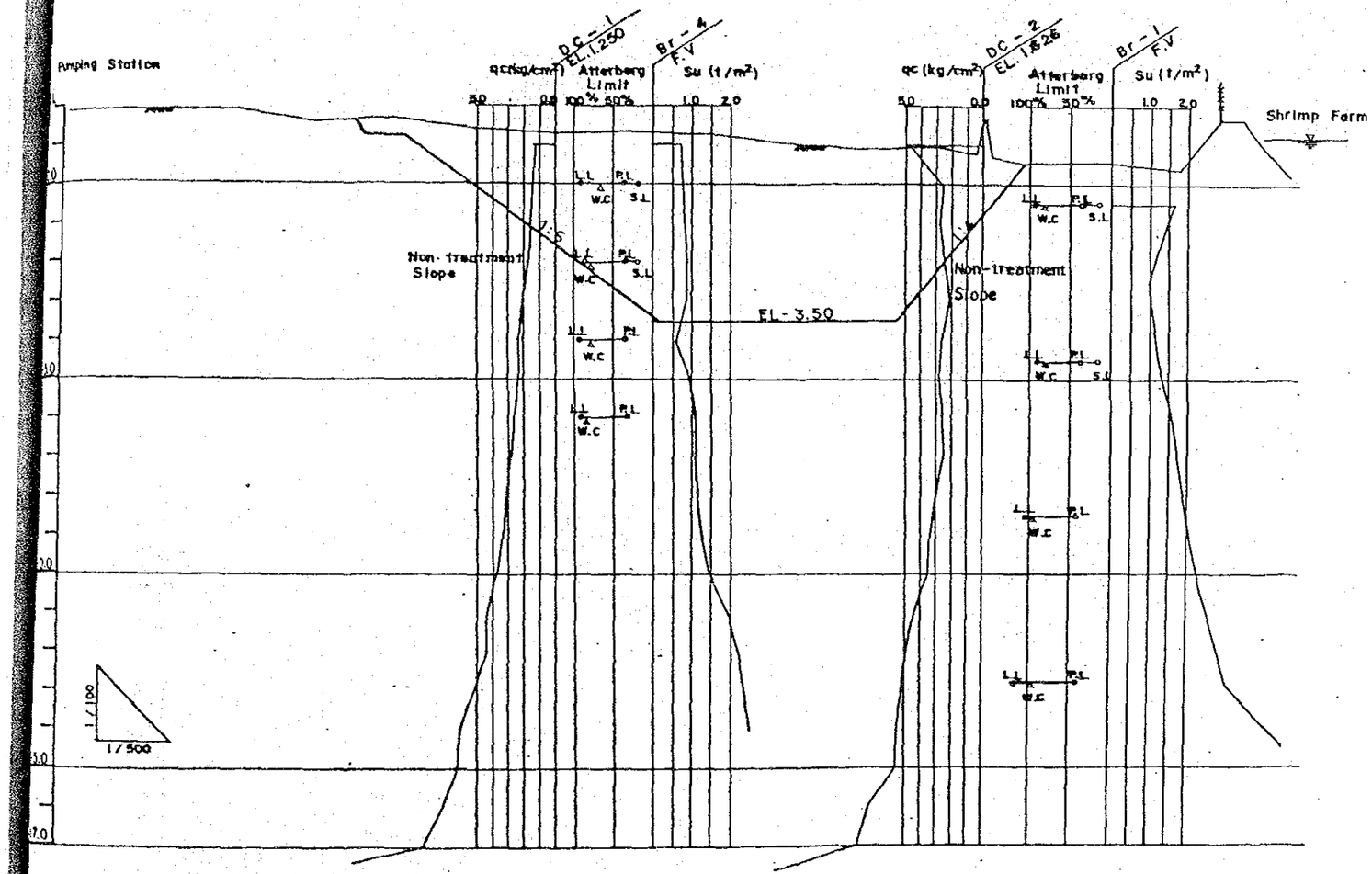
ROYAL IRRIGATION DEPARTMENT
THE MODEL INFRASTRUCTURE PROJECT OF SOFT SOIL FOUNDATION FOR THE IRRIGATION ENGINEERING CENTER PROJECT

(REFERENCE DRAWING)
GEOLOGICAL PROFILE OF PROJECT SITE (1/2)

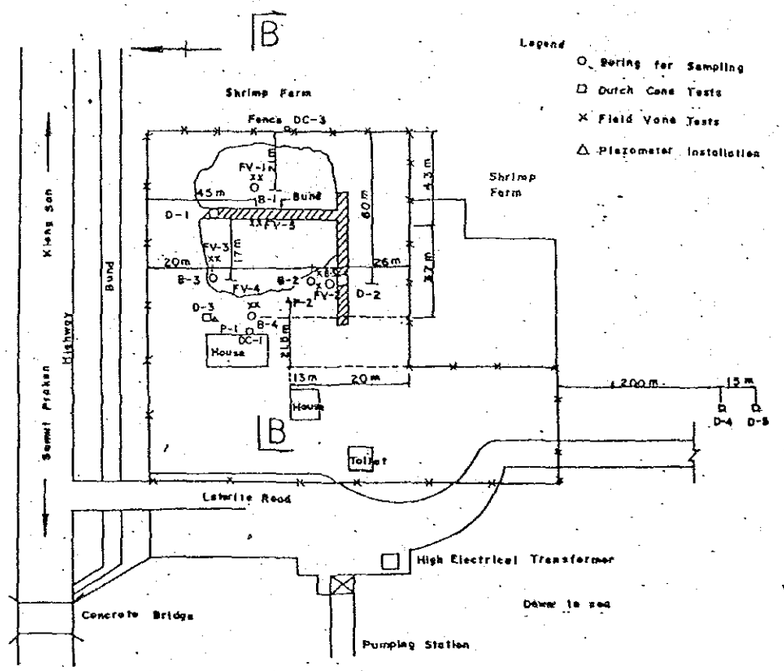
JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO

DWG. NO. 10

SECTION B-B



PLAN



ROYAL IRRIGATION DEPARTMENT THE MODEL INFRASTRUCTURE PROJECT OF SOFT SOIL FOUNDATION FOR THE IRRIGATION ENGINEERING CENTER PROJECT	
(REFERENCE DRAWING) GEOLOGICAL PROFILE OF PROJECT SITE (2/2)	
JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO	DWG. NO. 11

TO SAMUT PRAKAN

HIGH WAY

TO KIONG SAN

TIDE EMBANKMENT

GUARD HOUSE

ACCESS ROAD

Access road Type 2

30.00

15.00

Slurry plant area

Access road Type 1

6.00

8.00

Access road Type 1

6.00

OPERATION ROOM

HIGH ELECTRIC TRANSFORMER

8.00

Access road Type 2

20.00

20.00

Stock area for sand

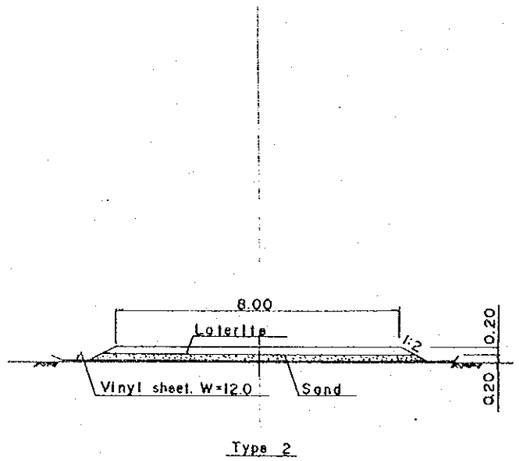
Access road Type 1

6.00

SHRIMP FARM ROAD

00 50 100 150 200 250m

SCALE 1:500



TYPICAL CROSS SECTION OF ACCESS ROAD

ROYAL IRRIGATION DEPARTMENT
THE MODEL INFRASTRUCTURE PROJECT OF
SOFT SOIL FOUNDATION FOR
THE IRRIGATION ENGINEERING CENTER PROJECT

(REFERENCE DRAWING)
PLAN OF TEMPORARY WORK

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO

DWG. NO. 13

その他添付資料

1．調査団派遣の経緯と目的

2．調査団の構成

3．調査の経緯と日程

4．調査関係者

5．土質調査・試験結果

6．Basic Plan

1．調査団派遣の経緯と目的

(1) かんがい技術センター（Irrigation Engineering Center、IEC）は、タイ国における食糧増産のための農業基盤整備事業の推進に寄与するため、かんがい排水施設の計画，設計，施工にかかる適正技術を開発，整備し、併せて中堅かんがい技術者の育成する事を目的に、1985年 3月農業協同組合省王室かんがい局（Royal Irrigation Department，RID ）と実施調査団との間で署名された討議議事録（Record of Discussion R/D ）に基づきプロジェクト方式技術協力に実施，運営されている。

協力は、1985年 4月 1日から開始され、協力期間は５ヶ年であるが協力に至る経過は次の通りである。

1982.	1.	タイ国政府によるかんがい技術センター建設とプロジェクト方式技術協力の要請
	11.	事前調査団派遣
1983.	4.	基本設計調査団派遣
	6.	Ｅ／Ｎ交換“かんがい技術センターの施設建設のための贈与に関する書簡”
	10.	事前調査団派遣
1984.	10.	長期調査員派遣
1985.	3.	実施協議調査団派遣
	4.	プロジェクト協力開始

(2) ＲＩＤでは過去、海岸地帯の軟弱地盤上に排水路や構造物の建設を行っているが、沈下，崩壊などの種々の問題が生じている。

特に、排水路は掘削した法面勾配が非常な緩勾配であるにもかかわらず、ずへりが発生している。この様な事からＲＩＤでは、この地域の地盤は特に強度の低い特異な性質の粘土から構成されている可能性と判断している。

(3) ＲＩＤでは、本プロジェクト協力の一環として、軟弱地盤上に農業水利施設を構築するに当り、調査の手法，計画，設計規準の確立に関し、技術的諸問題を明らかにする為の試験水路の建設をモデルインフラ整備事業として行う事を要請した。

(4) 本実施設計調査団の派遣に先立ち、国際協力事業団（Japan International Coperation Agency，JICA ）は、1987年11月29日より同年12月28日まで短期専門家を派遣

し、本実施設計調査の予備調査，試験水路の位置及び基本構想の策定を行った。

(5) 本調査の目的は、短期専門家の策定した基本構想に基づき、試験水路建設の為の実施設計を行うものである。

2．調査団の構成

氏　　名	担当分野	派遣期間	所　　属
川口徳忠	総　　括	63. 2.13 ～63. 2.26	農林水産省　農業土木試験場　造構部 造構第一研究室長
臼杵宣春	業務調整	63. 2.13 ～63. 2.26	国際協力事業団 農業開発協力部 農業開発課長代理
越智博孝	軟弱地盤調査計画	63. 2.13 ～63. 3.23	㈱日本農業土木コンサルタンツ 海外部参事
五明陽一郎	排水路設計	63. 2.13 ～63. 3.30	㈱日本農業土木コンサルタンツ 海外部海外第二課長

3．調査の経過と日程

(1) 調査の経過

調査は、基本方針（Basic Plan）の樹立と実施設計調査の２段階に分けて行われた。基本方針は、短期専門家が策定した基本構想に基づき、ＩＥＣプロジェクト専門家及びＲＩＤ関係者と協議を行い取りまとめＲＩＤ関係者，タイ国日本大使館及びＪＩＣＡタイ事務所に報告，提出した。

その後基本方針に基づき予備設計作業に入り、ＲＩＤ関係者及びＩＥＣプロジェクト専門家の協力のもと試験水路法面の予備解析，予定地点の追加測量，関係資料の収集等を行った。

この予備設計の結果はフィールドレポートとしてまとめられ。ＲＩＤ関係者に報告，協議を行い、ＲＩＤ関係者，日本大使館及びＪＩＣＡタイ事務所に提出した。現地での調査結果は、ＲＩＤ関係者のコメントを考慮し、国内での実施設計業務によって整理し、本報告書の作成を行った。

(2) 現地調査の日程

月　日	曜　日	調　査　内　容
2月13日	(土)	ＴＧ６４１便にてバンコク着
2月14日	(日)	ＴＥＣ日本人長期専門家と打合わせ
2月15日	(月)	実施設計調査方針について団員打合わせ
		資料作成
2月16日	(火)	ＪＩＣＡタイ事務所及び日本大使館表敬
2月17日	(水)	ＲＩＤアドバイザリーコミティ及びＩＥＣ日本人専門家，調査団と合同会議
2月18日	(木)	プロジェクトサイト調査
2月19日	(金)	ＲＩＤ作業委員会，ＩＥＣ日本人専門家及び調査団と合同会議
2月20日	(土)	基本方針について団員打合わせ
2月21日	(日)	基本方針案作成
2月22日	(月)	基本方針案作成，土質調査指示

月　日	曜　日	調　査　内　容
2月23日	（火）	ＲＩＤ作業委員会と基本方針について打合わせ、基本方針案の修正
2月24日	（水）	ＲＩＤアドバイザリーコミティ，ＩＥＣ日本人専門家及び調査団と基本方針について合同会議 予備解析業務についてＩＥＣ日本人専門家及び団員で打合わせ
2月25日	（木）	ＲＩＤ関係者に基本方針を提出 ＪＩＣＡタイ事務所，大使館へ基本方針の説明，提出
2月26日	（金）	団長及び業務調整帰国 現地追加測量開始 予備解析用プログラム修正開始
2月27日	（土）	予備設計作業方針の作成
2月28日	（日）	予備解析方法の取りまとめ
2月29日	（月）	ＩＥＣコンピューターを使用し、予備解析用プログラムテストラン開始，現地追加測量終了 地質調査・試験結果整理
3月 1日	（火）	予備解析方法についてＲＩＤ作業委員会と打合わせ、予備解析開始
3月 2日	（水）	予備解析用資料整理
3月 3日	（木）	現地施工業者より資料収集
3月 4日	（金）	追加測量成果整理
3月 5日	（土）	追加現場調査
3月 6日	（日）	資料整理
3月 7日	（月）	フィールドレポート作成準備
3月 8日	（火）	資料収集
3月 9日	（水）	資料収集
3月10日	（木）	施工計画案の立案
3月11日	（金）	比較検討図作成
3月12日	（土）	地盤改良工法概算工事費の算出

月　日	曜　日	調　査　内　容
3月13日	(日)	概算工事費の算出
3月14日	(月)	積算バックデータ整理
		工事費比較表の作成
3月15日	(火)	フィールドレポート作成準備
		予備解析継続及び取りまとめ準備
3月16日	(水)	ＲＩＤ作業委員会と打合わせ
3月17日	(木)	フィールドレポート作成
3月20日	(日)	
3月21日	(月)	ＲＩＤ作業委員会と打合わせ
3月22日	(火)	フィールドレポート修正
3月23日	(水)	調査団員１名（軟弱地盤調査計画）帰国
3月24日	(木)	フィールドレポート作成
3月25日	(金)	ＲＩＤ関係者にフィールドレポート提出
3月26日	(土)	資料整理
3月27日	(日)	同上
3月28日	(月)	ＲＩＤアドバイザリーコミッティ，ＩＥＣ専門家，調査団で合同
		会議
3月29日	(火)	ＪＩＣＡタイ事務所，大使館にフィールドレポート提出，
		ＡＩ３１６便にてバンコク発
3月30日	(水)	ＡＺ３１６便にて成田着

4．調査関係者

LIST OF PERSONNEL CONCERNED

Royal Irrigation Department

Mr. Suha Thanomsingha	Director General of Royal Irrigation Department

The Advisory Committee

Mr. Choompon Chaveesuk	Director of Engineering Development Division, Chairman
Mr. Lumsak Tejasen	Director of Research and Laboratory Division, Member
Mr. Nipon Saihom	Director of Geo-Technic Division, Member
Mr. Roongrueng Chulajata	Director of Large Project Construction Division, Member
Dr. Boonyok Vadhanaphuti	Director of Project Planning Division, Member
Mr. Skulwattana Chantharobol	Director of Irrigation Regional Office 10, Member
Mr. Vichai Srivaraponse	Projet Manager of Mae Klong Yai, Member
Mr. Kanob Tingsombutyut	Technical Inspector Section, Member and Secretary

The Implementation and Coordinating Working Committee

Mr. Ruangrit Ammawat	Deputy Director of Engineering Development Division, Chairman
Dr. Supol Chirapan	Chief of Special Engineering, Chairman Assistant
Dr. Siripong Hungsapruk	Chief of Criteria Development, Member

Mr. Montien Kangsasitiem	Chief of Soil Engineering Laboratory Section, Member
Mr. Sanan Siriorn	Chief of Irrigation Design in South Part Section, Member
Mr. Phonpong Kararum	Chief of Irrigation Design Work 10,Member
Mr. Sawat Naipramot	Chief of Saline Water Protection, Mae Klong Yai Project,Member
Dr. Thanu Harnpatanapanich	Secretary and Member
Mr. Sanit Natidhamakun	Technical for Operation & Maintenance Project,Member

Irrigation Engineering Center(IEC)

Mr. charuk Nonthatham	Director of IEC
Mr. Suthi Songvoravit	Deputy Director of IEC

Embassy of Japan

Mr. Katsutoshi Nagayama	First Secretary

JICA Thailand Office

Mr. Ben Saito	Resident Representative
Mr. Takahito Hino	Assistant President Representat

Japanese Expert of Irrigation Engineering Center Project

Mr. Kazushige Matsuo	Team Leader of IEC Project
Mr. Takuji Nakano	Expert of Design Criteria
Mr. Hitoshi Sunazawa	Expert of Construction Material and Analysis
Mr. Masaru Sasaki	Expert of Hydraulic Model
Mr. Haruoki Ebe	Expert of System Development
Mr. Youji Ebihara	Coordinator

Colombo Plan Expert

Mr. Hroshi Kudou	Royal Irrigation Department
Mr. Narumi Ymada	Royal Irrigation Department
Mr. Yuji Ozaki	Royal Irrigation Department

STS Engineering Consultants Co., Ltd

Mr. Veera Vasinvarthana	Technical Manager
Mr. Choochart Kietkajo	Project Engineer

SUMMARY OF TEST RESULTS

STS ENGINEERING CONSULTANTS CO., LTD.
SUMMARY OF TEST RESULTS

PROJECT: Model Infrastructure Project | LOCATION: Chareonraj Pumping Station, Bang Bo, Samut Prakan Province.

DATE: 16/1/88 | BORING No.: B-1, FV-1 | JOB No.: 1488 | BY: CK | OBSERVED W.L. = + 0.68 m.

SAMPLE No.	DEPTH M. FROM	DEPTH M. TO	WATER CONTENT %	ATTERBERG LIMIT % LL	ATTERBERG LIMIT % PL	ATTERBERG LIMIT % SL.	WET UNIT WEIGHT t/m³	SIEVE ANALYSIS % FINER No. 3/8"	No. 4	No. 10	No. 40	No. 200	CLASSIFICATION	UNDRAINED SHEAR STRENGTH t/m.² FIELD VANE SHEAR Su	Su'	Suv	Suh	POCKET PENETRATION ½ Qp	SPECIFIC GRAVITY, Gs
PST-1	1.00	1.80	83.2	94.6	35.3	14.4	1.47						CH	1.63	0.21	1.74	0.89	1.25	2.66
PST-2	3.00	3.80	85.2				1.47						CH	0.96	0.29	1.18	0.40	2.5	2.65
PST-3	5.00	5.80	84.9	96.8	35.8	16.2	1.47						CH	1.24	0.37	0.75	4.16	2.5	2.68
PST-4	7.00	7.80	89.7				1.44						CH	1.67	0.49	0.99	5.09	2.5	2.65
PST-5	9.00	9.80	95.8	105.7	40.3		1.40						CH	1.95	0.59	1.08	7.10	2.5	2.63
PST-6	11.00	11.80	98.1				1.41						CH	2.38	0.55	1.27	8.94	3.75	2.65
PST-7	13.30	14.10	94.7	119.0	41.6		1.43						CH	2.99	0.78	1.18	13.73	5.0	2.68
PST-8	15.00	15.80	70.9				1.54						CH	4.65	1.30	3.70	10.13	5.0	2.67

STS ENGINEERING CONSULTANTS CO., LTD.

SUMMARY OF TEST RESULTS

PROJECT Model Infrastructure Project | LOCATION Chareonraj Pumping Station, Bang Bo, Samut Prakan Province

DATE 29/1/88 | BORING No. B-2, FV-2 | JOB No. 1488 | BY CK | OBSERVED W.L. -0.25 m.

SAMPLE No.	DEPTH M. FROM	DEPTH M. TO	WATER CONTENT %	ATTERBERG LIMIT % LL.	ATTERBERG LIMIT % PL.	ATTERBERG LIMIT % SL.	WET UNIT WEIGHT t/m³	SIEVE ANALYSIS % FINER No. 3/8"	No. 4	No. 10	No. 40	No. 200	CLASSIFICATION	UNDRAINED SHEAR STRENGTH t/m.² FIELD VANE SHEAR S_u	S_u'	S_{uv}	S_{uh}	POCKET PENETRATION $\frac{1}{2}Q_p$	SPECIFIC GRAVITY, G
PST-1	1.00	1.80	87.5	86.2	32.6	20.8	1.49						CH	0.92	0.31	0.90	1.03	1.25	2.65
PST-2	1.95	2.75											CH	1.79	0.31	2.63	-3.35	-	
PST-3	2.80	3.50											CH	0.96	0.23	0.47	3.83	-	
PST-4	4.00	4.80											CH	1.00	0.35	0.56	3.57	1.25	
PST-5	5.00	5.80	92.6	86.6	34.9	17.5	1.43						CH	1.28	0.41	1.13	2.16	1.25	2.67
PST-6	6.00	6.80											CH	1.28	0.43	0.80	4.13	2.5	
PST-7	7.00	7.80	87.8				1.45						CH	1.30	0.43	0.80	4.28	2.5	2.66
PST-8	8.10	8.90											CH	1.65	0.53	1.22	4.14	2.5	
PST-9	9.10	9.90	97.2	107.4	36.8		1.45						CH	1.67	0.63	1.18	4.56	2.5	2.65
PST-10	10.10	10.90											CH	2.08	0.72	0.99	8.51	2.5	
PST-11	11.00	11.80	102.5				1.43						CH	2.50	0.68	1.93	5.83	3.75	2.65
PST-12	12.20	13.00											CH	2.68	0.82	1.98	6.82	5.0	
PST-13	13.00	13.80											CH	3.05	0.78	2.03	9.07	5.0	
PST-14	14.00	14.80	88.9	112.4	42.3		1.45						CH	3.45	0.96	1.87	12.79	5.0	2.64
PST-15	15.00	15.80											CH	3.75	1.08	2.90	8.73	5.0	

STS ENGINEERING CONSULTANTS CO., LTD.
SUMMARY OF TEST RESULTS

PROJECT	Model Infrastructure Project	LOCATION	Chareonraj Pumping Station, Bang Bo, Samut Prakan Province
DATE	29/1/88	BORING No.	B-3, FV-3
JOB No.	1488	BY	CK.
OBSERVED W.L	+0.45 m.		

SAMPLE No.	DEPTH M. FROM	DEPTH M. TO	WATER CONTENT %	ATTERBERG LIMIT % LL	ATTERBERG LIMIT % PL	ATTERBERG LIMIT % SL.	WET UNIT WEIGHT t/m³	SIEVE ANALYSIS % FINER No. 3/8"	No. 4	No. 10	No. 40	No. 200	CLASSIFICATION	UNDRAINED SHEAR STRENGTH t/m.² FIELD VANE SHEAR S_u	S_u'	S_{uv}	S_{uh}	POCKET PENETRATION $\frac{1}{2}Q_p$	SPECIFIC GRAVITY, G
PST-1	1.00	1.80	94.2	92.5	34.4	18.6	1.44						CH	0.96	0.23	0.99	0.75	1.25	2.65
PST-2	2.00	2.80											CH	0.88	0.23	0.61	2.44	1.25	
PST-3	3.00	3.80											CH	1.06	0.29	0.52	4.29	2.5	
PST-4	4.00	4.80											CH	1.16	0.41	0.66	4.14	2.5	
PST-5	5.00	5.80	90.3	86.2	35.5	22.7	1.47						CH	1.16	0.37	0.52	4.98	1.25	2.65
PST-6	6.00	6.80											CH	1.41	0.41	0.89	4.42	1.25	
PST-7	7.00	7.80											CH	1.71	0.49	1.55	2.58	2.5	
PST-8	8.00	8.80											CH	1.83	0.51	1.27	5.12	2.5	
PST-9	9.00	9.80	98.4	109.1	38.2		1.44						CH	2.38	0.68	1.93	4.98	2.5	2.70
PST-10	10.00	10.80											CH	2.58	0.59	2.17	4.98	2.5	
PST-11	11.00	11.80											CH	2.74	0.80	1.79	8.40	3.75	
PST-12	12.00	12.80											CH	2.74	0.55	1.04	12.90	3.75	
PST-13	13.00	13.80	92.3	119.8	42.1		1.44						CH	3.35	0.86	2.30	9.52	3.75	2.65
PST-14	13.90	14.70											CH	4.25	1.08	3.40	9.21	3.75	
PST-15	15.00	15.80											CH	4.45	1.20	3.40	10.65	5.0	

SUMMARY OF TEST RESULTS

PROJECT Model Infrastructure Project | LOCATION Chareonraj Pumping Station, Bang Bo, Samut Prakan Province.

DATE 8/3/88 | BORING No. B-4 , FV-4 | JOB No. 1488 | BY CK | OBSERVED W.L. -0.20 m.

SAMPLE No.	DEPTH M. FROM	DEPTH M. TO	WATER CONTENT %	ATTERBERG LIMIT % LL.	ATTERBERG LIMIT % PL.	ATTERBERG LIMIT % SL.	WET UNIT WEIGHT t/m³	SIEVE ANALYSIS % FINER No. 3/8"	No. 4	No. 10	No. 40	No. 200	CLASSIFICATION	UNDRAINED SHEAR STRENGTH t/m.² UNCONFINED SHEAR S_u	UNCONFINED SHEAR S_u'	FIELD VANE SHEAR S_u	FIELD VANE SHEAR S_u'	FIELD VANE SHEAR S_{uv}	FIELD VANE SHEAR S_{uh}	POCKET PENETRATION	SPECIFIC GRAVITY, G
PST-1	1.00	1.80	66.4	92.0	36.3	21.8	1.65						CH			0.69	0.12	0.88	-0.41	1.25	2.67
	2.50												CH			0.77	0.16				
PST-2	2.96	3.76	79.4	87.0	33.2	19.6	1.53						CH	0.8		** 0.06	** 0.10			1.25	2.68
	3.66												CH			0.85	0.22	1.02	-0.14		
PST-3	5.00	5.80	73.8	95.4	33.9		1.65						CH			0.85	0.16			1.25	2.65
	6.20												CH			0.54	0.26	0.09	3.19		
	7.00												CH			0.97	0.14				
PST-4	6.99	7.79	85.3	89.3	31.5		1.50						CH	0.7		1.09	0.36	1.11	0.97	2.5	2.65
	7.80												CH			1.11	0.18				
	9.00												CH			1.19	0.39				
PST-5	9.00	9.80											CH			1.29	0.40	0.92	3.47	2.5	
	9.80												CH			1.49	0.26				
PST-6	11.00	11.80	96.2				1.45						CH	1.2		* 1.94	* 0.31			2.5	
	12.83												CH			2.20	0.34	0.65	11.51		
PST-7	13.05	13.85											CH							3.75	
	14.41												CH			2.4	0.46	2.59	1.25		
PST-8	15.02	15.82	74.3				1.57						CH	2.5						5.0	

Note : * use vane size 75x75 mm;
** During remol , the vane rod was sunk down.

STS ENGINEERING CONSULTANTS CO., LTD.

SUMMARY OF TEST RESULTS

PROJECT: Model Infrastructure Project | LOCATION: Chareonraj Pumping Station, Bang Bo, Samut Prakan Province

DATE: 29/1/88 | BORING No.: FV-5 | JOB No.: 1488 | BY: CK | OBSERVED W.L: +0.42 m.

SAMPLE No.	DEPTH M. FROM	DEPTH M. TO	WATER CONTENT %	ATTERBERG LIMIT % LL.	PL.	PI.	WET UNIT WEIGHT t/m³	SIEVE ANALYSIS % FINER No. 3/8"	No. 4	No. 10	No. 40	No. 200	CLASSIFICATION	UNDRAINED SHEAR STRENGTH t/m.² FIELD VANE SHEAR S_u	$S_{u'}$	S_{uv}	S_{uh}	POCKET PENETRATION Q_p kg/cm²	SPECIFIC GRAVITY, G
		1.50												0.68	0.18	0.38	2.44		
		3.50												0.96	0.23	0.56	3.29		
		5.50												1.34	0.37	1.08	2.86		
		7.50												1.93	0.51	1.79	2.72		
		9.50												2.22	0.41	1.04	9.22		
		11.50												2.58	0.55	1.60	8.37		
		12.50												3.45	0.96	2.20	10.8		
		15.50												4.45	1.16	3.76	8.39		

STS ENGINEERING CONSULTANTS CO., LTD.

SUMMARY OF TEST RESULTS

PROJECT Model Infrastructure Project | LOCATION Chareonraj Pumping Station, Bang Bo, Samut Prakan Province

DATE 14/3/88 | BORING No. B-5, PV-5' | JOB No. 1488 | BY CK | OBSERVED W.L. -0.40 m.

SAMPLE No.	DEPTH M.		WATER CONTENT %	ATTERBERG LIMIT %			WET UNIT WEIGHT t/m³	SIEVE ANALYSIS % FINER					CLASSIFICATION	UNDRAINED SHEAR STRENGTH t/m.²					SPECIFIC GRAVITY, G		
														FIELD VANE SHEAR, t/m²				POCKET PENETRATION			
	FROM	TO		LL.	PL.	SL		No. 3/8"	No. 4	No. 10	No. 40	No. 200		S_u	S_u'	S_{uv}	S_{uh}	$\frac{1}{2}Q_p$			
PST-1	1.00	1.80	66.8	85.0	33.3	19.3	1.57						CH	0.54	0.26	0.46	0.97	1.25	2.64		
PST-2	2.00	2.80	77.5	82.8	31.7								CH	0.69	0.16			1.25			
PST-3	3.00	3.80	93.0	95.5	36.2	21.9	1.44						CH	0.77	0.30	1.02	-0.69	1.25	2.65		
PST-4	4.00	4.80	82.6	96.5	36.0								CH	0.85	0.16			-			
PST-5	5.00	5.80	90.0	97.0	36.6		1.46						CH	0.79	0.26	0.65	1.67	1.25	2.66		
PST-6	6.00	6.80	88.2	98.5	35.5								CH	0.99	0.24			1.25			
PST-7	7.00	7.80	85.4	94.4	35.8		1.50						CH	1.13	0.26	0.97	2.08	2.5	2.65		
PST-8	8.00	8.80	84.9	95.0	35.2								CH	1.19	0.26			2.5			
PST-9	9.00	9.80	93.1	116.2	38.9		1.45						CH	1.33	0.30	1.57	-0.12	2.5	2.63		
PST-10	10.00	10.80	91.0	110.6	36.4								CH	1.49	0.42			3.75			
PST-11	11.00	11.80	98.8	119.5	41.8		1.40						CH	1.86	0.36	2.13	0.28	3.75	2.65		
PST-12	12.00	12.80	94.2	123.9	41.0								CH	2.12	0.44			3.75			
PST-13	13.00	13.80	100.2	115.8	42.2		1.42						CH	2.32	0.57	1.76	5.69	3.75	2.64		
PST-14	14.00	14.80	93.5	122.9	39.4								CH	2.71	0.61			5.0			
PST-15	15.00	15.80	79.2	110.4	38.0		1.50						CH	2.83	0.58	2.03	7.63	5.0	2.68		
PST-16	16.00	16.80	87.5	116.5	36.2								CH					6.25			
PST-17	17.00	17.80	70.9	91.1	34.9		1.58						CH					7.5	2.69		

Note: Undrained shear strength from "maruto" vane shear test size 75x150 and 75x75 mm.

LOG OF BORING

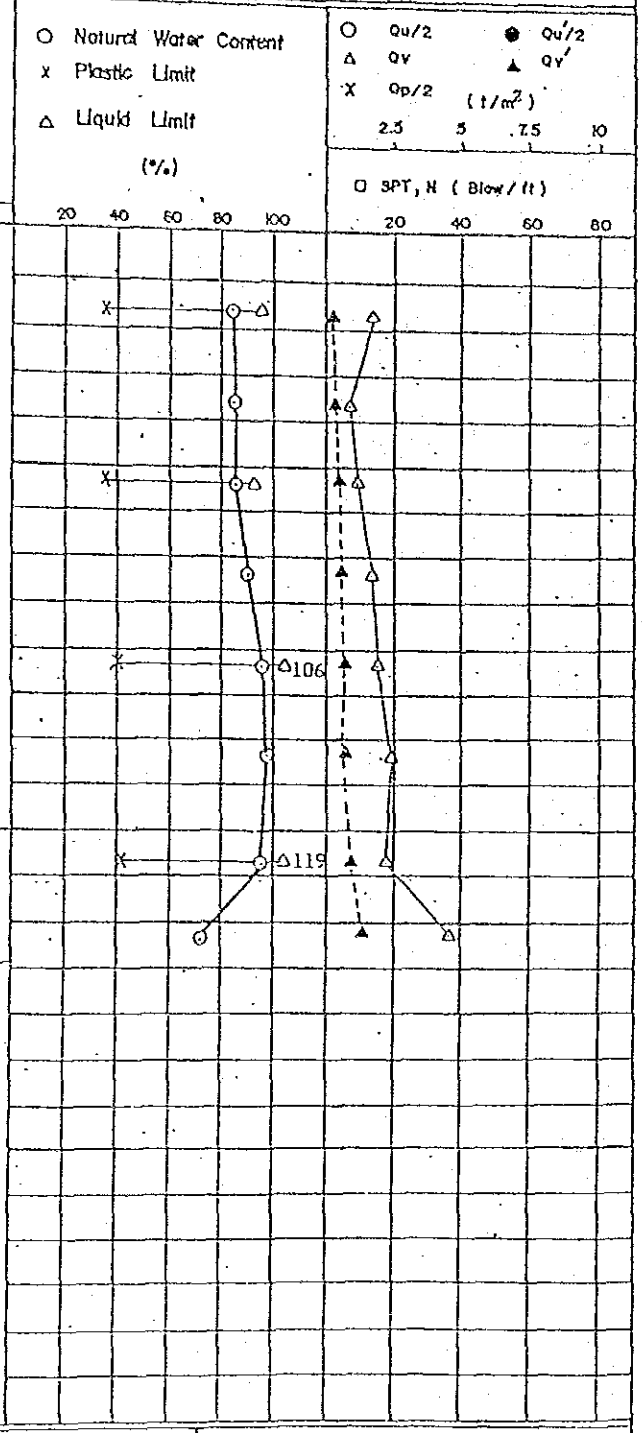
LOG OF BORING No. B-1, FV-1

PROJECT NAME. Model Infrastructure

LOCATION. Samut Prakan

OWNER

DEPTH, M.	SAMPLE No.	TYPE OF SAMPLE	SAMPLE DST RECOVERY	DESCRIPTION OF MATERIAL
0				▽ WATER LEVEL + 0.68 m.
	1	PST		CLAY some shell fragment and organic matter, dark grey, very soft to soft. (CH)
	2	PST		
5	3	PST		
	4	PST		
10	5	PST		
	6	PST		13.0 m.
	7	PST		CLAY some shell fragment, greenish grey, medium stiff. (CH)
15	8	PST		15.8 m.
				END OF BORING
20				



WATER LEVEL OBSERVATIONS

WL.	W.S. OR W.D	
WL.	B.C.R.	A.C.R.
WL.	+ 0.68 m. 24 HRS. AFTER BORING.	

STS.
Engineering Consultants Co.,Ltd.
BANGKOK.

BORING STARTED. 12/1/88	
BORING COMPLETED. 13/1/88	
RIG. Acker	FOREMAN. SK
DRAWN. SRY	APPROVED. CK
JOB No. 1488	SHEET. 1/1

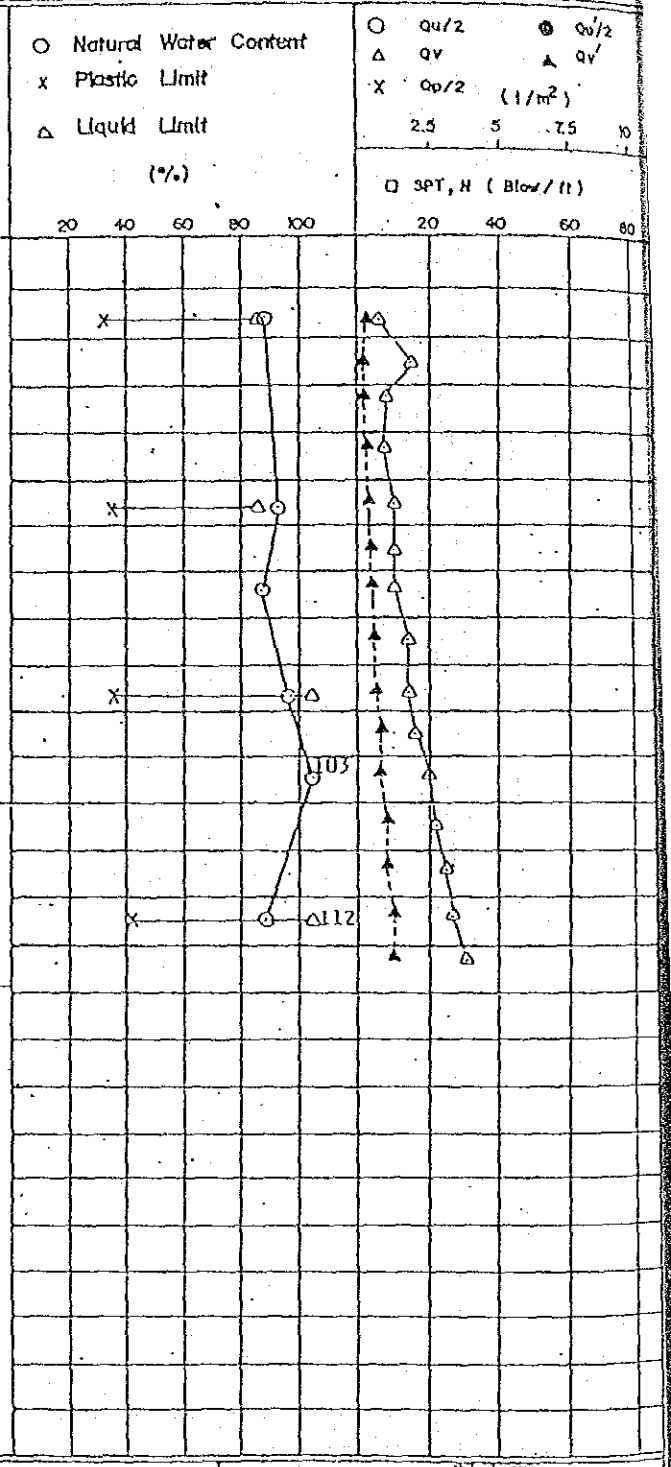
LOG OF BORING No. B-2, FV-2

PROJECT NAME. Model Infrastructure

LOCATION. Samut Prakan

OWNER

DEPTH, M.	SAMPLE No.	TYPE OF SAMPLE	SAMPLE OST / RECOVERY	DESCRIPTION OF MATERIAL
0				
	1	PST		CLAY some shell fragment
	2	PST		and organic matter, dark grey,
	3	PST		very soft to soft.
	4	PST		(CH)
5	5	PST		
	6	PST		
	7	PST		
	8	PST		
10	9	PST		
	10	PST		
	11	PST		12.0 m.
	12	PST		CLAY some shell fragment,
				greenish grey, medium stiff,
15	13	PST		(CH)
	14	PST		15.8 m.
				END OF BORING
20				



WATER LEVEL OBSERVATIONS		
WL.	W.S. OR W.D	
WL.	B.C.R.	A.C.R.
WL.	-0.25 m. 24 HRS. AFTER BORING.	

STS.
Engineering Consultants Co., Ltd.
BANGKOK.

BORING STARTED.	23/1/88
BORING COMPLETED.	24/1/88
RIG. Acker	FOREMAN. SK
DRAWN. SRY	APPROVED. CK
JOB No. 1488	SHEET. 1/1

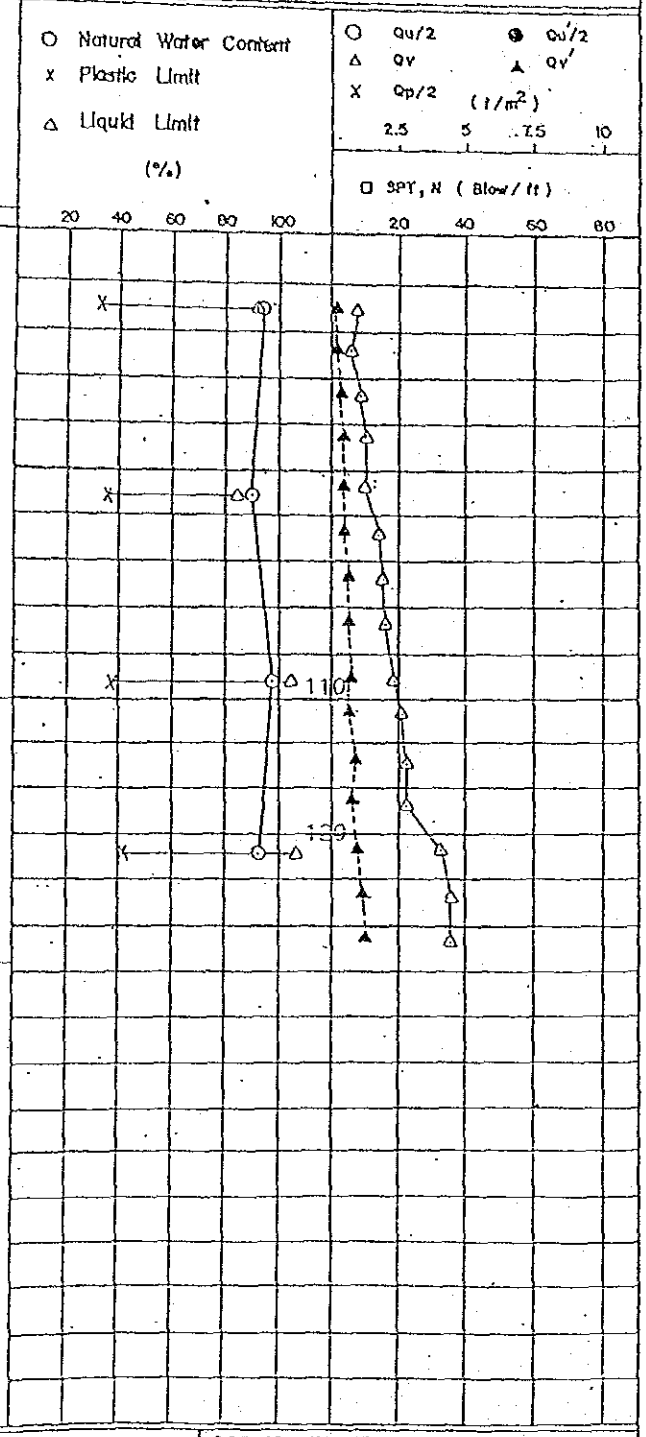
LOG OF BORING No. B-3, FV-3

PROJECT NAME. Model Infrastructure

LOCATION. Samut Prakan

OWNER

DEPTH, M.	SAMPLE No.	TYPE OF SAMPLE	SAMPLE DIST	RECOVERY	DESCRIPTION OF MATERIAL
0					▽ WATER LEVEL + 0.45 m.
	1	PST			CLAY some shell fragment and
	2	PST			organic matter, dark grey,
	3	PST			very soft to soft.
5	4	PST			(CH)
10					10.0 m.
					CLAY some shell fragment,
					greenish grey, medium stiff.
15					(CH)
					15.8 m.
					END OF BORING
20					



WATER LEVEL OBSERVATIONS

	W.S. OR W.D	
	B.C.R.	A.C.R.
+0.45 m	24 HRS. AFTER BORING.	

STS.
Engineering Consultants Co.,Ltd.
BANGKOK.

BORING STARTED.	17/1/88		
BORING COMPLETED.	19/1/88		
RIG.	ACKER	FOREMAN.	SK
DRAWN.	SRY	APPROVED.	CK
JOB No.	1483	SHEET.	1/1

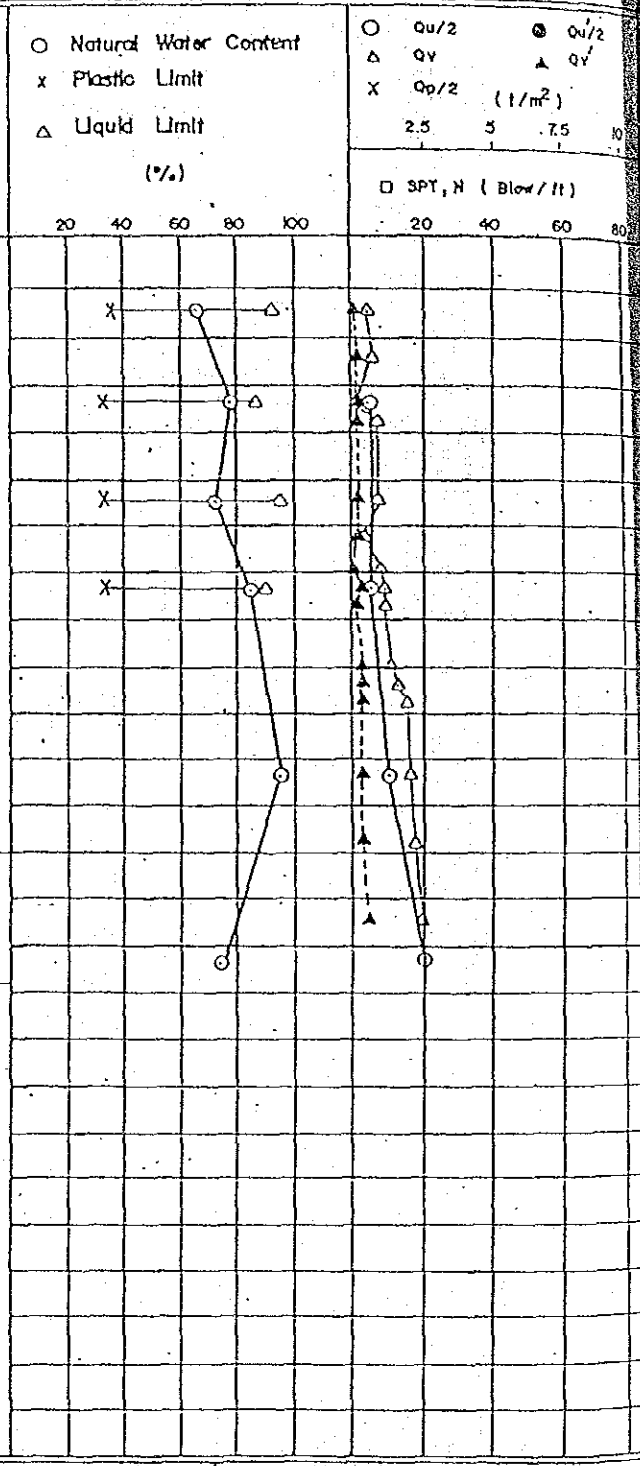
LOG OF BORING No. B-4, FV-4

PROJECT NAME. Model Infrastructure

LOCATION. Samut Prakan

OWNER

DEPTH, M.	SAMPLE No.	TYPE OF SAMPLE	SAMPLE DST RECOVERY	DESCRIPTION OF MATERIAL
0	1	PST		CLAY some shell fragment and organic matter, dark grey, very soft to soft. (CH)
	2	PST		
5	3	PST		
	4	PST		
10	5	PST		
	6	PST		13.0 m.
	7	PST		CLAY some shell fragment, greenish grey, medium stiff. (CH) 15.8 m.
15	8	PST		END OF BORING



WATER LEVEL OBSERVATIONS		
WL.	W.S. OR W.D	
WL.	B.C.R.	A.C.R.
WL.	-0.2 m 24 HRS. AFTER	
	BORING.	

STS.
Engineering Consultants Co., Ltd.
BANGKOK.

BORING STARTED.	26/2/88
BORING COMPLETED.	28/2/88
RIG. ACKER	FOREMAN. SK
DRAWN. SRY	APPROVED. CK
JOB No. 1488	SHEET. 1/1

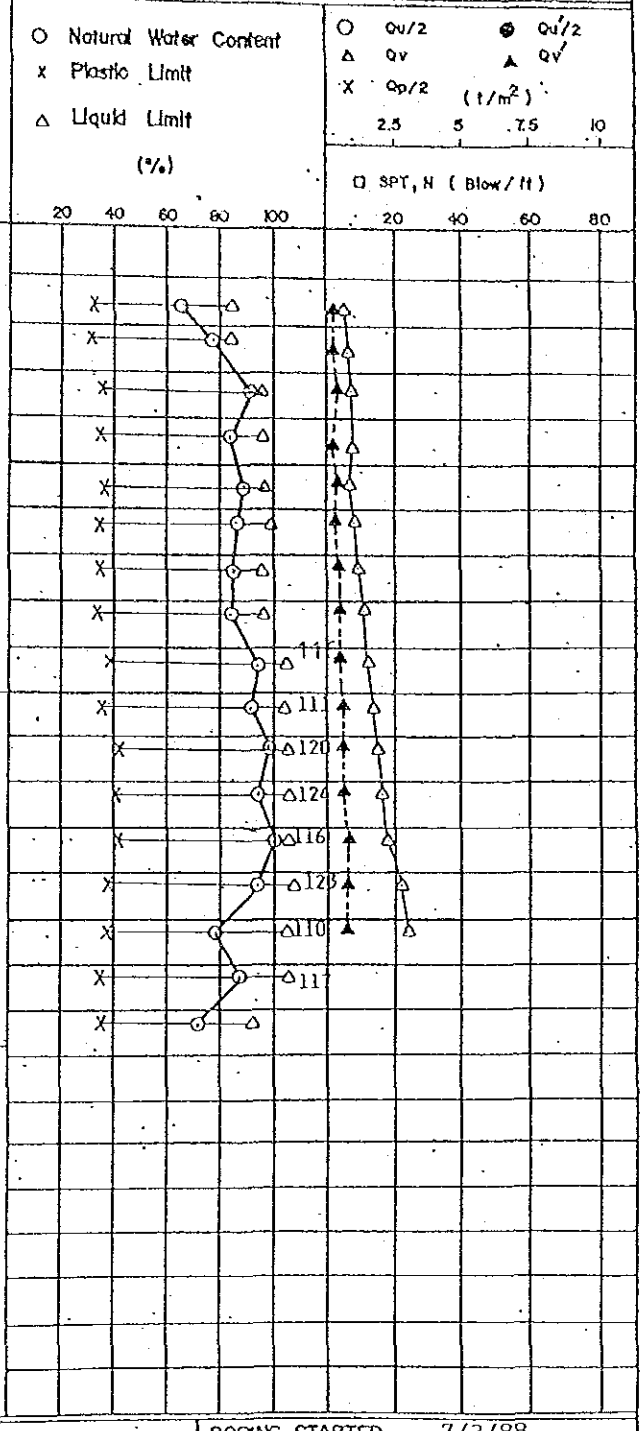
LOG OF BORING No. B-5

PROJECT NAME. Model Infrastructure

LOCATION. Samut Prakan

OWNER

DEPTH, M. ELEVATION, M.	SAMPLE No.	TYPE OF SAMPLE	SAMPLE OST	RECOVERY	DESCRIPTION OF MATERIAL
0	1	PST			CLAY some shell fragment and organic matter, dark grey, very soft to soft. (CH)
	2	PST			
	3	PST			
5	4	PST			
	5	PST			
	6	PST			
	7	PST			
	8	PST			
10	9	PST			10.0 m.
	10	PST			CLAY some shell fragment, greenish grey, medium stiff. (CH)
	11	PST			
	12	PST			
	13	PST			
15	14	PST			
	15	PST			
	16	PST			
	17	PST			17.8 m.
					END OF BORING
20					



WATER LEVEL OBSERVATIONS		
WL.	W.S. OR W.D	
WL.	B.C.R.	A.C.R.
WL.	-0.40 m 24 HRS. AFTER BORING.	

STS.
Engineering Consultants Co.,Ltd.
BANGKOK.

BORING STARTED.	7/3/88
BORING COMPLETED.	9/3/88
RIG. ACKER	FOREMAN. SK
DRAWN. SRY	APPROVED. CK
JOB No. 1488	SHEET. 1/1

DUTCH CONE PENETRATION TEST RESULTS

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTRUCTURE

LOCATION BANG BO

TEST NO D-1

TESTED BY PS

DATE 30 JAN 88

APROVED BY AN

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm^2	CONE READING, kg/cm^2	CONE&JACKET READING, km/cm^2	CONE RESISTANCE, kg/cm^2	LOCAL FRICTION, kg/cm^2	FRICTION RATIO, %
.40	2	.37	4.40	7.20	5.10	.21	4.11
.60	2	.37	5.80	9.60	6.65	.28	4.21
.80	2	.37	6.00	12.00	6.87	.44	6.40
1.00	2	.37	2.80	5.00	3.33	.16	4.80
1.20	2	.37	3.20	5.40	3.77	.16	4.24
1.40	3	.50	2.60	4.40	3.24	.13	4.01
1.60	3	.50	1.60	3.40	2.13	.13	6.09
1.80	3	.50	1.60	2.40	2.13	.06	2.81
2.00	3	.50	1.20	2.20	1.69	.07	4.14
2.20	3	.50	1.00	1.80	1.46	.06	4.09
2.40	3	.50	1.20	1.80	1.69	.04	2.37
2.60	4	.64	1.40	2.20	2.05	.06	2.92
2.80	4	.64	1.20	2.00	1.83	.06	3.28
3.00	4	.64	1.00	2.00	1.60	.07	4.35
3.20	4	.64	1.20	1.80	1.83	.04	2.19
3.40	4	.64	1.00	1.80	1.60	.06	3.73
3.60	5	.78	1.20	2.00	1.97	.06	3.05
3.80	5	.78	1.00	1.80	1.74	.06	3.43
4.00	5	.78	1.00	1.80	1.74	.06	3.43
4.20	5	.78	1.00	1.80	1.74	.06	3.43
4.40	5	.78	.80	1.60	1.52	.06	3.93
4.60	6	.91	.80	1.60	1.65	.06	3.62
4.80	6	.91	1.20	2.00	2.10	.06	2.86
5.00	6	.91	1.00	1.80	1.87	.06	3.19
5.20	6	.91	1.00	2.00	1.87	.07	3.73
5.40	6	.91	1.00	2.00	1.87	.07	3.73
5.60	7	1.05	1.40	2.40	2.46	.07	2.84
5.80	7	1.05	1.60	2.60	2.68	.07	2.61
6.00	7	1.05	1.60	2.60	2.68	.07	2.61
6.20	7	1.05	1.80	2.60	2.90	.06	2.07

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTRUCTURE

LOCATION BANG BO

TEST NO D-1 DATE 30 JAN 88

TESTED BY PS APROVED BY AN

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm^2	CONE READING, kg/cm^2	CONE&JACKET READING, km/cm^2	CONE RESISTANCE, kg/cm^2	LOCAL FRICTION, kg/cm^2	FRICTION RATIO, %
6.39	7	1.05	1.80	2.60	2.90	.06	2.07
6.59	8	1.19	2.00	3.20	3.26	.09	2.76
6.79	8	1.19	2.00	3.20	3.26	.09	2.76
6.99	8	1.19	1.80	2.40	3.04	.04	1.31
7.19	8	1.19	1.80	2.60	3.04	.06	1.97
7.39	9	1.32	1.60	2.40	2.95	.06	2.03
7.59	9	1.32	1.60	2.40	2.95	.06	2.03
7.79	9	1.32	1.80	2.60	3.17	.06	1.89
7.99	9	1.32	1.60	2.80	2.95	.09	3.05
8.19	9	1.32	1.00	2.20	2.28	.09	3.93
8.39	10	1.46	1.20	2.20	2.65	.07	2.64
8.59	10	1.46	1.20	2.40	2.65	.09	3.40
8.79	10	1.46	1.40	2.60	2.87	.09	3.13
8.99	10	1.46	1.20	2.60	2.65	.10	3.77
9.19	10	1.46	1.40	2.80	2.87	.10	3.48
9.39	11	1.60	1.20	2.40	2.79	.09	3.23
9.59	11	1.60	1.60	2.60	3.23	.07	2.17
9.79	11	1.60	2.00	3.20	3.67	.09	2.45
9.99	11	1.60	1.80	3.20	3.45	.10	2.89
10.20	11	1.60	1.60	2.80	3.23	.09	2.78
10.40	12	1.73	2.00	3.40	3.80	.10	2.63
10.60	12	1.73	2.20	3.40	4.02	.09	2.23
10.80	12	1.73	2.20	3.80	4.02	.12	2.98
11.00	12	1.73	2.20	3.40	4.02	.09	2.23
11.20	12	1.73	2.20	3.60	4.02	.10	2.48
11.40	13	1.87	2.00	3.60	3.94	.12	3.04
11.60	13	1.87	2.40	3.80	4.38	.10	2.28
11.80	13	1.87	2.40	3.80	4.38	.10	2.28
12.00	13	1.87	2.20	3.60	4.16	.10	2.40
12.20	13	1.87	3.00	4.20	5.05	.09	1.78

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTRUCTURE

LOCATION BANG BO

TEST NO D-1 DATE 30 JAN 88

TESTED BY PS APROVED BY AH

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm²	CONE READING, kg/cm²	CONE&JACKET READING, kg/cm²	CONE RESISTANCE, kg/cm²	LOCAL FRICTION, kg/cm²	FRICTION RATIO, %
12.40	14	2.00	3.00	4.50	5.18	.11	2.12
12.60	14	2.00	3.20	4.50	5.40	.10	1.85
12.80	14	2.00	2.80	4.20	4.96	.10	2.02
13.00	14	2.00	2.40	3.80	4.51	.10	2.21
13.20	14	2.00	3.40	4.30	5.62	.07	1.24
13.40	15	2.14	3.40	5.60	5.76	.16	2.77
13.60	15	2.14	2.80	5.20	5.10	.18	3.53
13.80	15	2.14	3.20	5.80	5.54	.19	3.43
14.00	15	2.14	3.20	5.80	5.54	.19	3.43
14.20	15	2.14	3.80	6.40	6.20	.19	3.06
14.40	16	2.28	3.80	6.40	6.34	.19	2.99
14.60	16	2.28	3.80	6.80	6.34	.22	3.46
14.80	16	2.28	3.60	6.00	6.12	.18	2.94
15.00	16	2.28	4.20	6.80	6.79	.19	2.80
15.20	17	2.41	4.40	8.80	7.14	.32	4.48
15.40	17	2.41	4.80	10.20	7.58	.40	5.27
15.60	17	2.41	4.20	9.60	6.92	.40	5.78
15.80	17	2.41	4.20	8.80	6.92	.34	4.91
16.00	17	2.41	4.20	8.60	6.92	.32	4.62
16.20	17	2.41	4.60	9.40	7.36	.35	4.75
16.40	18	2.55	4.40	8.60	7.28	.31	4.26
16.60	18	2.55	4.40	8.20	7.28	.28	3.84
16.80	18	2.55	5.20	10.40	8.17	.38	4.65
17.00	18	2.55	5.40	9.80	8.39	.32	3.81
17.20	18	2.55	5.80	10.80	8.83	.37	4.19
17.40	19	2.69	7.00	12.00	10.30	.37	3.59
17.60	19	2.69	6.40	12.80	9.63	.47	4.88
17.80	19	2.69	6.20	11.20	9.41	.37	3.93
18.00	19	2.69	5.60	10.60	8.75	.37	4.23
18.20	19	2.69	6.40	11.80	9.63	.40	4.15

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTRUCTURE

LOCATION BANG BO

TEST NO D-1 DATE 30 JAN 88

TESTED BY PS APROVED BY AN

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm^2	CONE READING, kg/cm^2	CONE&JACKET READING, km/cm^2	CONE RESISTANCE, kg/cm^2	LOCAL FRICTION, kg/cm^2	FRICTION RATIO, %
18.40	20	2.82	8.40	13.80	11.98	.40	3.34
18.60	20	2.82	8.40	13.80	11.98	.40	3.34
18.80	20	2.82	8.20	15.80	11.76	.56	4.76
19.00	20	2.82	9.00	15.80	12.64	.50	3.95
19.20	20	2.82	8.00	14.00	11.54	.44	3.81
19.40	21	2.96	6.00	11.00	9.46	.37	3.91
19.60	21	2.96	8.00	12.00	11.68	.30	2.57
19.80	21	2.96	18.00	25.00	39.34	1.00	2.55
20.00	21	2.96	20.00	29.00	43.65	1.29	2.96
20.20	21	2.96	16.00	29.00	35.04	1.86	5.33
20.40	22	3.10	16.00	30.00	35.18	2.01	5.71
20.60	22	3.10	19.00	34.00	41.64	2.15	5.17

TEST NO D-1
FRICTION RATIO,%
CONE RESISTANCE,QC (KSC)
LOCAL FRICTION,QF (KSC)
QC
QF
DEPTH FROM GROUND SURFACE,M
STS ENGINEERING CONSULTANTS CO.,LTD.

TEST NO D-1
FRICTION RATIO,%
CONE RESISTANCE,QC (KSC)
LOCAL FRICTION,QF (KSC)
QC
QF
DEPTH FROM GROUND SURFACE,M

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTURCTURE

LOCATION BANG BO

TEST NO D-2 DATE 30 JAN 88

TESTED BY PS APROVED BY AN

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm^2	CONE READING, kg/cm^2	CONE&JACKET READING, km/cm^2	CONE RESISTANCE, kg/cm^2	LOCAL FRICTION, kg/cm^2	FRICTION RATIO, %
.40	2	.37	2.20	3.80	2.66	.12	4.50
.60	2	.37	2.20	3.80	2.66	.12	4.50
.80	3	.50	1.80	3.20	2.35	.10	4.25
1.00	3	.50	1.60	2.80	2.13	.09	4.22
1.20	3	.50	1.40	2.60	1.91	.09	4.71
1.40	3	.50	1.60	2.80	2.13	.09	4.22
1.60	3	.50	1.20	2.20	1.69	.07	4.14
1.80	4	.64	1.00	1.80	1.60	.06	3.73
2.00	4	.64	1.20	2.20	1.83	.07	3.83
2.20	4	.64	.80	1.80	1.38	.07	5.05
2.40	4	.64	1.00	2.00	1.60	.07	4.35
2.60	4	.64	1.60	3.00	2.27	.10	4.40
2.80	5	.78	.80	1.80	1.52	.07	4.58
3.00	5	.78	1.20	2.20	1.97	.07	3.55
3.20	5	.78	1.20	2.20	1.97	.07	3.55
3.40	5	.78	1.00	2.00	1.74	.07	4.00
3.60	5	.78	1.00	2.00	1.74	.07	4.00
3.80	6	.91	.80	1.80	1.65	.07	4.22
4.00	6	.91	1.00	1.80	1.87	.06	3.19
4.20	6	.91	1.00	1.80	1.87	.06	3.19
4.40	6	.91	.80	1.60	1.65	.06	3.62
4.60	6	.91	.80	1.60	1.65	.06	3.62
4.80	7	1.05	.80	1.80	1.79	.07	3.90
5.00	7	1.05	.80	1.80	1.79	.07	3.90
5.20	7	1.05	.80	1.80	1.79	.07	3.90
5.40	7	1.05	1.00	1.80	2.01	.06	2.97
5.60	7	1.05	1.00	1.80	2.01	.06	2.97
5.80	8	1.19	1.20	2.00	2.38	.06	2.52
6.00	8	1.19	1.00	1.80	2.15	.06	2.78
6.20	8	1.19	.80	1.60	1.93	.06	3.10

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTURCTURE

LOCATION BANG BO

TEST NO D-2 DATE 30 JAN 88

TESTED BY PS APROVED BY AN

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm²	CONE READING, kg/cm²	CONE&JACKET READING, km/cm²	CONE RESISTANCE, kg/cm²	LOCAL FRICTION, kg/cm²	FRICTION RATIO, %
6.39	8	1.19	1.20	2.00	2.38	.06	2.52
6.59	8	1.19	1.20	2.00	2.38	.06	2.52
6.79	9	1.32	1.20	2.20	2.51	.07	2.79
6.99	9	1.32	1.20	2.20	2.51	.07	2.79
7.19	9	1.32	1.20	2.20	2.51	.07	2.79
7.39	9	1.32	1.20	2.20	2.51	.07	2.79
7.59	9	1.32	1.20	2.20	2.51	.07	2.79
7.79	10	1.46	1.20	2.20	2.65	.07	2.64
7.99	10	1.46	1.20	2.20	2.65	.07	2.64
8.19	10	1.46	1.20	2.40	2.65	.09	3.40
8.39	10	1.46	1.20	2.40	2.65	.09	3.40
8.59	10	1.46	1.20	2.40	2.65	.09	3.40
8.79	11	1.60	1.20	2.40	2.79	.09	3.23
8.99	11	1.60	1.20	2.40	2.79	.09	3.23
9.19	11	1.60	1.20	2.40	2.79	.09	3.23
9.39	11	1.60	1.40	2.60	3.01	.09	2.99
9.59	11	1.60	1.40	2.60	3.01	.09	2.99
9.79	12	1.73	1.40	2.60	3.14	.09	2.86
9.99	12	1.73	1.40	2.60	3.14	.09	2.86
10.20	12	1.73	1.40	2.60	3.14	.09	2.86
10.40	12	1.73	1.60	3.40	3.36	.13	3.87
10.60	12	1.73	1.40	3.20	3.14	.13	4.14
10.80	13	1.87	1.80	3.80	3.72	.15	4.03
11.00	13	1.87	1.80	3.80	3.72	.15	4.03
11.20	13	1.87	1.80	3.80	3.72	.15	4.03
11.40	13	1.87	2.00	4.20	3.94	.16	4.05
11.60	13	1.87	2.20	4.60	4.16	.18	4.32
11.80	14	2.00	2.40	4.80	4.51	.18	3.98
12.00	14	2.00	2.20	4.60	4.29	.18	4.19
12.20	14	2.00	2.40	4.60	4.51	.16	3.54

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTURCTURE

LOCATION BANG BO

TEST NO D-2 DATE 30 JAN 88

TESTED BY PS APROVED BY AN

DEPTH, m	NO OF. ROD	ROD PRESS, kg/cm^2	CONE READING, kg/cm^2	CONE&JACKET READING, km/cm^2	CONE RESISTANCE, kg/cm^2	LOCAL FRICTION, kg/cm^2	FRICTION RATIO, %
12.40	14	2.00	2.60	4.80	4.74	.16	3.38
12.60	14	2.00	2.60	4.80	4.74	.16	3.38
12.80	15	2.14	2.60	4.80	4.88	.16	3.28
13.00	15	2.14	2.80	5.20	5.10	.18	3.53
13.20	15	2.14	3.00	5.40	5.32	.18	3.38
13.40	15	2.14	3.20	5.80	5.54	.19	3.43
13.60	15	2.14	3.20	6.20	5.54	.22	3.97
13.80	16	2.28	3.40	6.60	5.90	.24	4.06
14.00	16	2.28	3.20	6.40	5.68	.24	4.22
14.20	16	2.28	3.20	6.00	5.68	.21	3.69
14.40	16	2.28	4.00	6.80	6.57	.21	3.20
14.60	16	2.28	4.00	7.40	6.57	.25	3.80
14.80	17	2.41	3.40	7.20	6.03	.28	4.64
15.00	17	2.41	3.80	7.00	6.47	.24	3.70
15.20	17	2.41	3.80	7.00	6.47	.24	3.70
15.40	17	2.41	3.80	7.20	6.47	.25	3.86
15.60	17	2.41	3.60	6.80	6.25	.24	3.83
15.80	18	2.55	3.80	7.20	6.61	.25	3.78
16.00	18	2.55	4.00	7.20	6.84	.24	3.51
16.20	18	2.55	4.60	8.80	7.50	.25	3.33
16.40	18	2.55	4.40	7.80	7.28	.25	3.43
16.60	18	2.55	4.80	8.60	7.72	.28	3.62
16.80	19	2.69	5.80	9.80	8.97	.30	3.34
17.00	19	2.69	5.80	10.40	8.97	.34	3.79
17.20	19	2.69	6.00	10.80	9.19	.35	3.81
17.40	19	2.69	6.60	11.40	9.86	.35	3.55
17.60	19	2.69	6.80	11.80	10.08	.37	3.67
17.80	20	2.82	7.00	12.40	10.43	.40	3.83
18.00	20	2.82	7.40	12.80	10.87	.40	3.68
18.20	20	2.82	8.00	14.00	11.54	.44	3.81

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTURCTURE

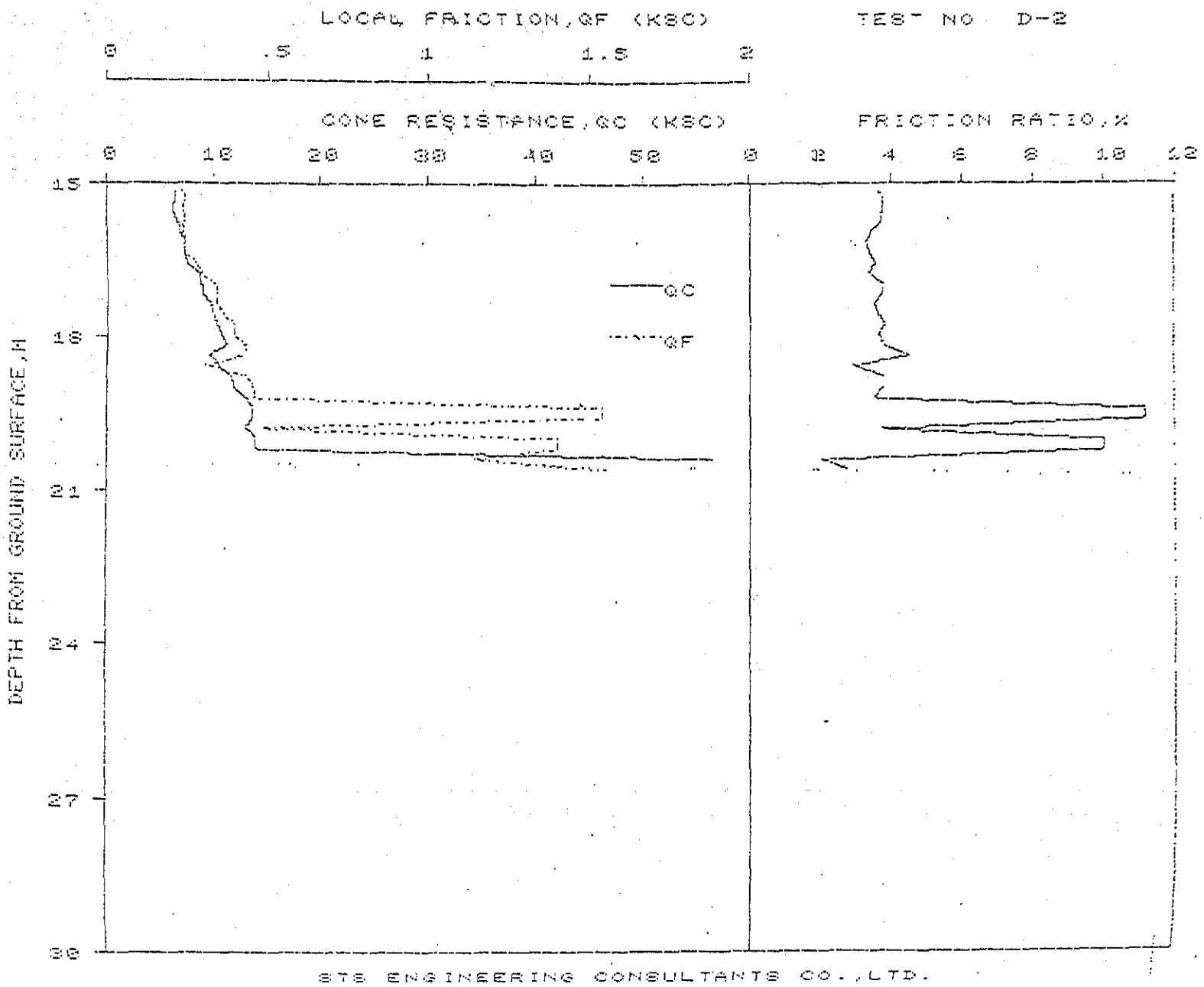
LOCATION BANG BO

TEST NO D-2 DATE 30 JAN 88

TESTED BY PS APROVED BY AN

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm^2	CONE READING, kg/cm^2	CONE&JACKET READING, km/cm^2	CONE RESISTANCE, kg/cm^2	LOCAL FRICTION, kg/cm^2	FRICTION RATIO, %
18.40	20	2.82	6.40	12.40	9.76	.44	4.50
18.60	20	2.82	7.20	11.40	10.65	.31	2.91
18.80	21	2.96	8.00	14.00	11.68	.44	3.77
19.00	21	2.96	8.40	14.60	12.12	.46	3.79
19.20	21	2.96	9.40	15.80	13.23	.47	3.55
19.40	21	2.96	10.00	17.00	13.89	1.55	11.18
19.60	21	2.96	10.00	17.00	13.89	1.55	11.18
19.80	22	3.10	9.20	15.80	13.15	.49	3.73
20.00	22	3.10	10.00	16.00	14.03	1.40	10.04
20.20	22	3.10	10.00	16.00	14.03	1.40	10.04
20.40	22	3.10	26.00	34.00	56.71	1.14	2.03
20.60	22	3.10	26.00	37.00	56.71	1.57	2.78

TEST NO D-3
FRICTION RATIO,%
CONE RESISTANCE,QC (KSC)
LOCAL FRICTION,QF (KSC)
QC
QF
DEPTH FROM GROUND SURFACE,M
STS ENGINEERING CONSULTANTS CO.,LTD.


LOCAL FRICTION, QF (KSC)
TEST NO D-2
0
.5
1
1.5
2
CONE RESISTANCE, QC (KSC)
FRICTION RATIO, %
0
10
20
30
40
50
0
2
4
6
8
10
12
QC
QF
DEPTH FROM GROUND SURFACE, M
0
2
4
6
8
10
12
14
16
18
20
STS ENGINEERING CONSULTANTS CO., LTD.

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTRUCTURE

LOCATION BANG BO

TEST NO D-3 DATE 29 JAN 88

TESTED BY PS APROVED BY AN

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm²	CONE READING, kg/cm²	CONE&JACKET READING, km/cm²	CONE RESISTANCE, kg/cm²	LOCAL FRICTION, kg/cm²	FRICTION RATIO, %
.60	2	.37	1.20	2.60	1.56	.10	6.41
.80	3	.50	2.20	4.80	2.79	.19	6.79
1.00	3	.50	2.40	4.20	3.01	.13	4.31
1.20	3	.50	1.20	2.40	1.69	.09	5.33
1.40	3	.50	1.20	2.40	1.69	.09	5.33
1.60	3	.50	1.20	2.40	1.69	.09	5.33
1.80	4	.64	1.40	2.20	2.05	.06	2.92
2.00	4	.64	.80	1.80	1.38	.07	5.05
2.20	4	.64	.90	1.20	1.38	.03	2.16
2.40	4	.64	.60	1.00	1.16	.03	2.57
2.60	4	.64	.60	1.20	1.16	.04	3.43
2.80	5	.78	.60	1.20	1.30	.04	3.06
3.00	5	.78	.60	1.20	1.30	.04	3.06
3.20	5	.78	.60	1.40	1.30	.06	4.60
3.40	5	.78	.40	1.20	1.08	.06	5.53
3.60	5	.78	.40	.80	1.08	.03	2.77
3.80	6	.91	.40	.80	1.21	.03	2.47
4.00	6	.91	.40	.80	1.21	.03	2.47
4.20	6	.91	.60	.60	1.43	.01	.70
4.40	6	.91	.80	1.00	1.65	.07	4.22
4.60	6	.91	.80	2.00	1.65	.09	5.43
4.80	7	1.05	.80	1.80	1.79	.07	3.90
5.00	7	1.05	.80	1.80	1.79	.07	3.90
5.20	7	1.05	.80	1.80	1.79	.07	3.90
5.40	7	1.05	.80	2.00	1.79	.09	5.01
5.60	7	1.05	.80	2.00	1.79	.09	5.01
5.80	8	1.19	.80	1.80	1.93	.07	3.61
6.00	8	1.19	.80	1.60	1.93	.06	3.10
6.20	8	1.19	.80	1.40	1.93	.04	2.07
6.39	8	1.19	.80	1.80	1.93	.07	3.61

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTRUCTURE

LOCATION BANG BO

TEST NO D-3 DATE 29 JAN 88

TESTED BY PS APROVED BY AN

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm^2	CONE READING, kg/cm^2	CONE&JACKET READING, km/cm^2	CONE RESISTANCE, kg/cm^2	LOCAL FRICTION, kg/cm^2	FRICTION RATIO, %
6.59	8	1.19	.80	1.80	1.93	.07	3.61
6.79	9	1.32	.80	1.80	2.06	.07	3.39
6.99	9	1.32	1.00	2.00	2.28	.07	3.06
7.19	9	1.32	.80	1.80	2.06	.07	3.39
7.39	9	1.32	.80	2.00	2.06	.09	4.35
7.59	9	1.32	1.20	2.20	2.51	.07	2.79
7.79	10	1.46	1.00	2.00	2.42	.07	2.88
7.99	10	1.46	1.20	2.20	2.65	.07	2.64
8.19	10	1.46	1.20	2.20	2.65	.07	2.64
8.39	10	1.46	1.20	2.20	2.65	.07	2.64
8.59	10	1.46	1.20	2.20	2.65	.07	2.64
8.79	11	1.60	1.00	2.00	2.56	.07	2.73
8.99	11	1.60	1.00	2.00	2.56	.07	2.73
9.19	11	1.60	1.20	2.20	2.79	.07	2.51
9.39	11	1.60	1.40	2.20	3.01	.06	1.99
9.59	11	1.60	1.40	2.40	3.01	.07	2.32
9.79	12	1.73	1.60	2.60	3.36	.07	2.08
9.99	12	1.73	1.60	2.80	3.36	.09	2.68
10.20	12	1.73	1.60	2.80	3.36	.09	2.68
10.40	12	1.73	1.60	2.80	3.36	.09	2.68
10.60	12	1.73	1.80	3.80	3.58	.15	4.18
10.80	13	1.87	1.40	3.00	3.28	.12	3.66
11.00	13	1.87	1.80	4.00	3.72	.16	4.30
11.20	13	1.87	2.00	4.00	3.94	.15	3.80
11.40	13	1.87	2.00	4.00	3.94	.15	3.80
11.60	13	1.87	2.00	4.00	3.94	.15	3.80
11.80	14	2.00	2.00	4.00	4.07	.15	3.68
12.00	14	2.00	2.20	4.20	4.29	.15	3.49
12.20	14	2.00	2.40	4.60	4.51	.16	3.54
12.40	14	2.00	2.60	4.60	4.74	.15	3.16

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTRUCTURE

LOCATION BANG BO

TEST NO D-3 DATE 29 JAN 88

TESTED BY PS APROVED BY AN

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm^2	CONE READING, kg/cm^2	CONE&JACKET READING, km/cm^2	CONE RESISTANCE, kg/cm^2	LOCAL FRICTION, kg/cm^2	FRICTION RATIO, %
12.60	14	2.00	2.60	4.80	4.74	.16	3.38
12.80	15	2.14	2.60	4.60	4.88	.15	3.07
13.00	15	2.14	3.20	5.40	5.54	.16	2.89
13.20	15	2.14	3.60	5.80	5.98	.16	2.67
13.40	15	2.14	3.60	6.40	5.99	.21	3.51
13.60	15	2.14	3.40	6.40	5.76	.22	3.82
13.80	16	2.28	3.40	6.40	5.90	.22	3.72
14.00	16	2.28	4.20	7.80	6.79	.27	3.97
14.20	16	2.28	3.80	6.80	6.34	.22	3.46
14.40	16	2.28	3.20	6.60	5.68	.25	4.40
14.60	16	2.28	2.80	6.40	5.24	.27	5.15
14.80	17	2.41	3.80	6.80	6.47	.22	3.40
15.00	17	2.41	4.20	6.40	6.92	.16	2.31
15.20	17	2.41	4.60	6.40	7.36	.13	1.76
15.40	17	2.41	4.40	6.40	7.14	.15	2.10
15.60	17	2.41	4.20	8.00	6.92	.28	4.04
15.80	18	2.55	4.60	8.00	7.50	.25	3.33
16.00	18	2.55	5.00	9.00	7.94	.30	3.77
16.20	18	2.55	4.80	8.80	7.72	.30	3.88
16.40	18	2.55	5.00	8.80	7.94	.28	3.52
16.60	18	2.55	5.00	8.80	7.94	.28	3.52
16.80	19	2.69	4.20	8.40	7.20	.31	4.30
17.00	19	2.69	5.60	9.40	8.75	.28	3.20
17.20	19	2.69	5.20	9.40	8.31	.31	3.73
17.40	19	2.69	5.00	9.20	8.08	.31	3.85
17.60	19	2.69	6.40	10.20	9.63	.28	2.90
17.80	20	2.82	6.20	10.20	9.54	.30	3.14
18.00	20	2.82	7.00	13.80	10.43	.50	4.79
18.20	20	2.82	6.80	10.80	9.32	.35	3.75
18.40	20	2.82	6.40	9.40	9.76	.22	2.25

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTRUCTURE

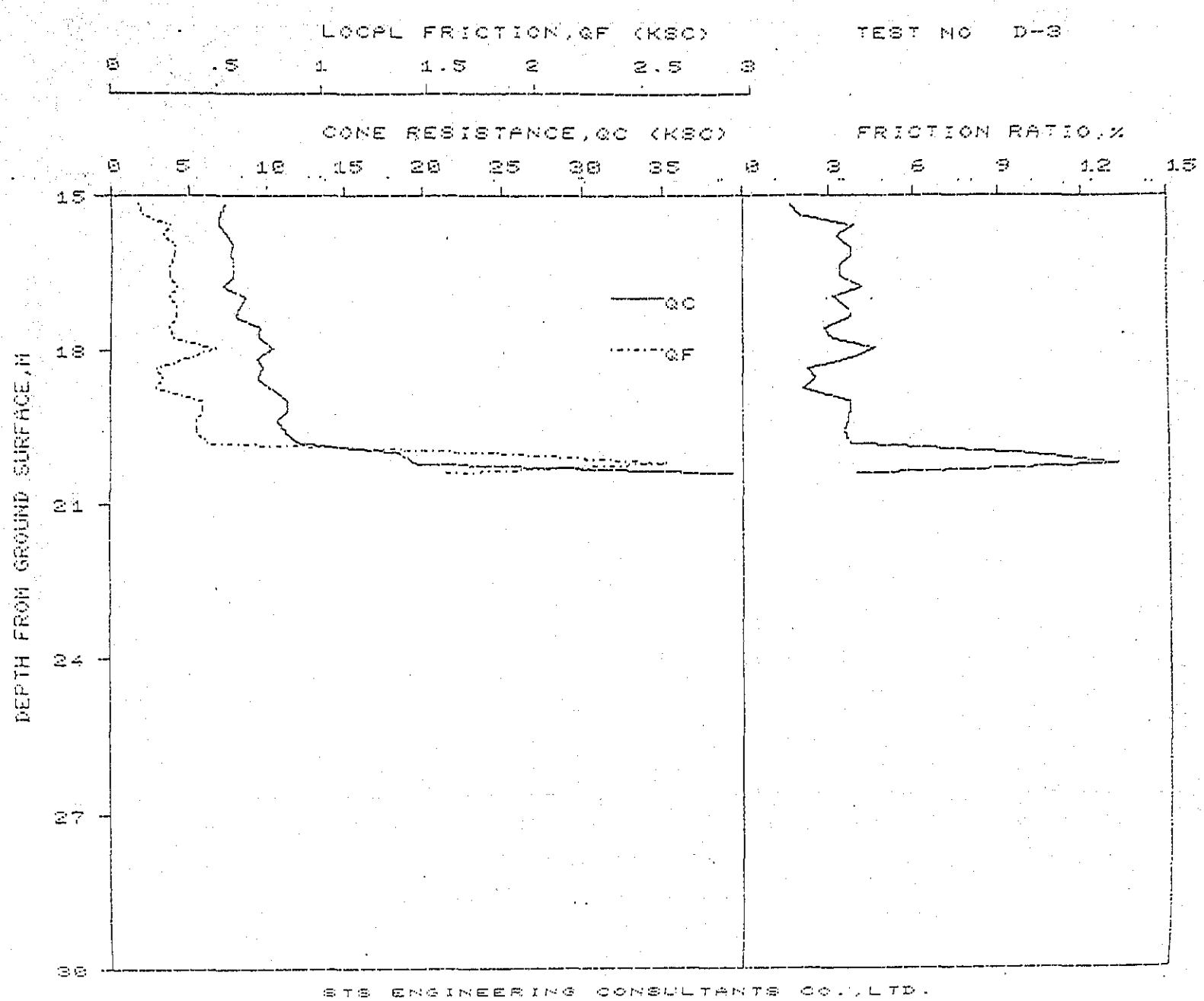
LOCATION BANG BO

TEST NO D-3 DATE 29 JAN 88

TESTED BY PS APROVED BY AN

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm^2	CONE READING, kg/cm^2	CONE&JACKET READING, km/cm^2	CONE RESISTANCE, kg/cm^2	LOCAL FRICTION, kg/cm^2	FRICTION RATIO, %
18.60	20	2.82	6.20	9.60	9.54	.25	2.62
18.80	21	2.96	6.80	9.80	10.35	.22	2.13
19.00	21	2.96	7.80	13.80	11.45	.44	3.84
19.20	21	2.96	7.80	13.80	11.45	.44	3.84
19.40	21	2.96	7.20	12.80	10.79	.41	3.80
19.60	21	2.96	7.60	13.20	11.23	.41	3.65
19.80	22	3.10	8.20	14.40	12.04	.46	3.82
20.00	22	3.10	14.00	21.00	18.46	1.83	9.92
20.20	22	3.10	15.00	27.00	19.57	2.61	13.33
20.40	22	3.10	18.00	29.00	39.48	1.57	4.00

TEST NO D-8
FRICTION RATIO,%
LOCAL FRICTION,QF (KSC)
CONE RESISTANCE,QC (KSC)
QC
QF
DEPTH FROM GROUND SURFACE,M
STS ENGINEERING CONSULTANTS CO.,LTD.


LOCPL FRICTION,QF (KSC)
TEST NO D-3
0 .5 1 1.5 2 2.5 3
CONE RESISTANCE,QC (KSC)
FRICTION RATIO,%
0 5 10 15 20 25 30 35
0 3 6 9 12 15
QC
QF
DEPTH FROM GROUND SURFACE,M
15
18
21
24
27
30
STS ENGINEERING CONSULTANTS CO.,LTD.

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTRUCTURE

LOCATION BANG BO

TEST NO D-4 DATE 31 JAN 88

TESTED BY PS APROVED BY AN

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm^2	CONE READING, kg/cm^2	CONE&JACKET READING, km/cm^2	CONE RESISTANCE, kg/cm^2	LOCAL FRICTION, kg/cm^2	FRICTION RATIO, %
.40	2	.37	1.20	2.60	1.56	.10	6.41
.60	2	.37	1.20	2.60	1.56	.10	6.41
.80	3	.50	1.00	2.00	1.46	.07	4.77
1.00	3	.50	1.20	2.20	1.69	.07	4.14
1.20	3	.50	.60	1.60	1.02	.07	6.83
1.40	3	.50	.60	1.40	1.02	.06	5.85
1.60	3	.50	.60	1.40	1.02	.06	5.85
1.80	4	.64	.80	1.80	1.38	.07	5.05
2.00	4	.64	1.60	2.60	2.27	.07	3.08
2.20	4	.64	.80	1.80	1.38	.07	5.05
2.40	4	.64	.80	1.80	1.38	.07	5.05
2.60	4	.64	.80	1.60	1.38	.06	4.33
2.80	5	.78	.80	1.60	1.52	.06	3.93
3.00	5	.78	.60	1.40	1.38	.06	4.60
3.20	5	.78	.60	1.20	1.38	.04	3.06
3.40	5	.78	.80	1.40	1.52	.04	2.62
3.60	5	.78	.60	1.40	1.38	.06	4.60
3.80	6	.91	.60	1.60	1.43	.07	4.88
4.00	6	.91	.60	1.20	1.43	.04	2.79
4.20	6	.91	.60	1.20	1.43	.04	2.79
4.40	6	.91	.60	1.40	1.43	.06	4.18
4.60	6	.91	.30	1.60	1.65	.06	3.62
4.80	7	1.05	.80	1.60	1.79	.06	3.34
5.00	7	1.05	.80	1.60	1.79	.06	3.34
5.20	7	1.05	1.00	1.80	2.01	.06	2.97
5.40	7	1.05	.80	1.60	1.79	.06	3.34
5.60	7	1.05	.80	1.60	1.79	.06	3.34
5.80	8	1.19	.80	1.60	1.93	.06	3.10
6.00	8	1.19	.80	1.80	1.93	.07	3.61
6.20	8	1.19	.80	1.60	1.93	.06	3.10

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTRUCTURE

LOCATION BANG BO

TEST NO D-4 DATE 31 JAN 88

TESTED BY PS APROVED BY AN

DEPTH, m.	NO OF ROD	ROD PRESS, kg/cm^2	CONE READING, kg/cm^2	CONE&JACKET READING, km/cm^2	CONE RESISTANCE, kg/cm^2	LOCAL FRICTION, kg/cm^2	FRICTION RATIO, %
6.39	8	1.19	1.00	2.20	2.15	.09	4.17
6.59	8	1.19	1.00	2.20	2.15	.09	4.17
6.79	9	1.32	1.00	2.00	2.28	.07	3.06
6.99	9	1.32	1.00	2.00	2.28	.07	3.06
7.19	9	1.32	1.20	2.00	2.51	.06	2.39
7.39	9	1.32	1.20	2.20	2.51	.07	2.79
7.59	9	1.32	1.20	2.20	2.51	.07	2.79
7.79	10	1.46	1.20	2.20	2.65	.07	2.64
7.99	10	1.46	1.20	2.20	2.65	.07	2.64
8.19	10	1.46	1.20	2.40	2.65	.09	3.40
8.39	10	1.46	1.20	2.40	2.65	.09	3.40
8.59	10	1.46	1.20	2.40	2.65	.09	3.40
8.79	11	1.60	1.40	2.40	3.01	.07	2.32
8.99	11	1.60	1.40	2.40	3.01	.07	2.32
9.19	11	1.60	1.40	2.60	3.01	.09	2.99
9.39	11	1.60	1.40	2.60	3.01	.09	2.99
9.59	11	1.60	1.40	2.80	3.01	.10	3.32
9.79	12	1.73	1.20	2.60	2.92	.10	3.42
9.99	12	1.73	1.40	2.80	3.14	.10	3.18
10.20	12	1.73	1.20	2.60	2.92	.10	3.42
10.40	12	1.73	1.20	2.60	2.92	.10	3.42
10.60	12	1.73	1.40	2.60	3.14	.09	2.86
10.80	13	1.87	1.40	3.20	3.28	.13	3.96
11.00	13	1.87	1.40	3.20	3.28	.13	3.96
11.20	13	1.87	1.40	3.60	3.28	.16	4.88
11.40	13	1.87	1.80	3.80	3.72	.15	4.03
11.60	13	1.87	1.60	3.60	3.50	.15	4.28
11.80	14	2.00	2.40	4.20	4.51	.13	2.88
12.00	14	2.00	2.20	4.20	4.29	.15	3.49
12.20	14	2.00	2.00	4.00	4.07	.15	3.68

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTRUCTURE

LOCATION BANG BO

TEST NO D-4 DATE 31 JAN 88

TESTED BY PS APROVED BY AN

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm^2	CONE READING, kg/cm^2	CONE&JACKET READING, km/cm^2	CONE RESISTANCE, kg/cm^2	LOCAL FRICTION, kg/cm^2	FRICTION RATIO, %
12.40	14	2.00	2.20	4.40	4.29	.16	3.72
12.60	14	2.00	2.40	4.80	4.51	.18	3.98
12.80	15	2.14	2.80	5.40	5.10	.19	3.72
13.00	15	2.14	2.80	5.40	5.10	.19	3.72
13.20	15	2.14	3.80	6.40	6.20	.19	3.06
13.40	15	2.14	3.60	6.40	5.98	.21	3.51
13.60	15	2.14	3.46	6.40	5.76	.22	3.82
13.80	16	2.28	3.60	6.40	6.12	.21	3.43
14.00	16	2.28	3.40	6.40	5.90	.22	3.72
14.20	16	2.28	4.00	7.20	6.57	.24	3.65
14.40	16	2.28	4.40	7.60	7.01	.24	3.42
14.60	16	2.28	4.00	7.00	6.57	.22	3.35
14.80	17	2.41	3.60	6.40	6.25	.21	3.36
15.00	17	2.41	3.40	6.00	6.03	.19	3.15
15.20	17	2.41	4.20	7.00	6.92	.21	3.03
15.40	17	2.41	4.80	8.20	7.58	.25	3.30
15.60	17	2.41	4.00	8.00	6.70	.30	4.48
15.80	18	2.55	3.80	7.60	6.61	.28	4.23
16.00	18	2.55	4.00	7.80	6.84	.28	4.09
16.20	18	2.55	4.60	7.80	7.50	.24	3.20
16.40	18	2.55	4.40	7.80	7.28	.25	3.43
16.60	18	2.55	5.20	8.20	8.17	.22	2.69
16.80	19	2.69	5.00	9.00	8.08	.30	3.71
17.00	19	2.69	5.20	9.00	8.31	.28	3.37
17.20	19	2.69	4.80	9.00	7.86	.31	3.94
17.40	19	2.69	5.60	8.80	8.75	.24	2.74
17.60	19	2.69	4.80	8.60	7.86	.28	3.56
17.80	20	2.82	6.40	10.40	9.76	.30	3.07
18.00	20	2.82	6.80	10.60	10.21	.28	2.74
18.20	20	2.82	6.20	10.40	9.54	.31	3.25

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTRUCTURE

LOCATION BANG BO

TEST NO D-4 DATE 31 JAN 88

TESTED BY PS APROVED BY AN

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm^2	CONE READING, kg/cm^2	CONE&JACKET READING, km/cm^2	CONE RESISTANCE, kg/cm^2	LOCAL FRICTION, kg/cm^2	FRICTION RATIO, %
18.40	20	2.82	7.00	11.80	10.43	.35	3.35
18.60	20	2.82	7.80	12.40	11.31	.34	3.00
18.80	21	2.96	7.00	12.20	10.57	.38	3.59
19.00	21	2.96	6.80	11.20	10.35	.32	3.09
19.20	21	2.96	6.40	10.80	9.90	.32	3.23
19.40	21	2.96	7.00	11.20	10.57	.31	2.93
19.60	21	2.96	7.00	11.40	10.57	.32	3.03
19.80	22	3.10	12.00	19.00	16.25	1.69	10.42
20.00	22	3.10	17.00	25.00	37.33	1.14	3.08
20.20	22	3.10	17.00	25.00	37.33	1.14	3.08
20.40	22	3.10	17.00	30.00	37.33	1.86	5.00
20.60	22	3.10	22.00	36.00	48.10	2.01	4.18

TEST NO D-4
FRICTION RATIO,%
0 2 4 6 8 10 12
LOCAL FRICTION,qf (kg/c㎡)
0 .5 1 1.5 2 2.5
CONE RESISTANCE,qc (kg/c㎡)
0 20 40 60
qc
qf
0 4 8 12 16
DEPTH FROM GROUND SURFACE,M
STS ENGINEERING CONSULTANTS CO.,LTD.

TEST NO D-4
FRICTION RATIO,%
LOCAL FRICTION,qf (KSC)
CONE RESISTANCE,qc (KSC)
qc
qf
DEPTH FROM GROUND SURFACE,M
STS ENGINEERING CONSULTANTS CO.,LTD.

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTRUCTURE

LOCATION BANG BO

TEST NO D-5 DATE 31 JAN 88

TESTED BY PS APROVED BY AN

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm^2	CONE READING, kg/cm^2	CONE&JACKET READING, km/cm^2	CONE RESISTANCE, kg/cm^2	LOCAL FRICTION, kg/cm^2	FRICTION RATIO, %
.40	2	.37	1.80	3.80	2.22 /	.15	6.74
.60	2	.37	1.00	2.00	1.33	.07	5.23
.80	3	.50	.80	1.80	1.24	.07	5.61
1.00	3	.50	.60	1.60	1.02 /	.07 /	6.83
1.20	3	.50	.60	1.40	1.02	.06	5.85
1.40	3	.50	.60	1.40	1.02	.06	5.85
1.60	3	.50	.60	1.40	1.02	.06	5.85
1.80	4	.64	.60	1.40	1.16	.06	5.15
2.00	4	.64	.80	1.60	1.38 /	.06 /	4.33
2.20	4	.64	.60	1.40	1.16	.06	5.15
2.40	4	.64	.80	1.40	1.38	.04	2.88
2.60	4	.64	.40	1.20	.94	.06	6.36
2.80	5	.72	.40	1.60	1.08	.09	8.30
3.00	5	.78	.80	1.40	1.52 /	.04	2.62
3.20	5	.78	.60	1.20	1.30	.04	3.06
3.40	5	.78	.60	1.20	1.30	.04	3.06
3.60	5	.78	1.00	1.80	1.74	.06	3.43
3.80	6	.91	1.00	1.80	1.87	.06	3.19
4.00	6	.91	.80	1.60	1.65 /	.06 /	3.62
4.20	6	.91	.60	1.40	1.43	.06	4.18
4.40	6	.91	.60	1.40	1.43	.06	4.18
4.60	6	.91	.60	1.40	1.43	.06	4.18
4.80	7	1.05	.80	1.60	1.79	.06	3.34
5.00	7	1.05	.80	1.80	1.79 /	.07	3.90
5.20	7	1.05	.80	1.80	1.79	.07	3.90
5.40	7	1.05	1.00	2.00	2.01	.07	3.47
5.60	7	1.05	1.20	2.00	2.24	.06	2.68
5.80	8	1.19	1.20	2.20	2.38	.07	2.94
6.00	8	1.19	.80	2.00	1.93 /	.09	4.65
6.20	8	1.19	1.00	2.20	2.15	.09	4.17

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTRUCTURE

LOCATION BANG BO

TEST NO D-5 DATE 31 JAN 88

TESTED BY PS APROVED BY AN

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm^2	CONE READING, kg/cm^2	CONE&JACKET READING, km/cm^2	CONE RESISTANCE, kg/cm^2	LOCAL FRICTION, kg/cm^2	FRICTION RATIO, %
6.39	8	1.19	1.20	2.20	2.38	.07	2.94
6.59	8	1.19	1.20	2.20	2.38	.07	2.94
6.79	9	1.32	1.40	2.40	2.73	.07	2.56
6.99	9	1.32	1.20	2.00	2.51	.06	2.39
7.19	9	1.32	1.20	2.20	2.51	.07	2.79
7.39	9	1.32	1.40	2.20	2.73	.06	2.20
7.59	9	1.32	1.40	2.20	2.73	.06	2.20
7.79	10	1.46	1.40	2.40	2.87	.07	2.44
7.99	10	1.46	1.20	2.00	2.65	.06	2.26
8.19	10	1.46	1.40	2.20	2.87	.06	2.09
8.39	10	1.46	1.60	3.40	3.09	.13	4.20
8.59	10	1.46	2.00	3.00	3.53	.07	1.98
8.79	11	1.60	1.60	2.40	3.23	.06	1.86
8.99	11	1.60	1.60	2.20	3.23	.04	1.24
9.19	11	1.60	1.60	2.40	3.23	.06	1.86
9.39	11	1.60	1.60	2.40	3.23	.06	1.86
9.59	11	1.60	1.80	2.80	3.45	.07	2.03
9.79	12	1.73	2.20	3.80	4.02	.12	2.98
9.99	12	1.73	1.80	3.20	3.58	.10	2.79
10.20	12	1.73	1.80	3.40	3.58	.12	3.35
10.40	12	1.73	1.80	3.60	3.58	.13	3.63
10.60	12	1.73	2.00	3.80	3.80	.13	3.42
10.80	13	1.87	2.20	4.00	4.16	.13	3.12
11.00	13	1.87	2.00	3.60	3.94	.12	3.04
11.20	13	1.87	2.20	3.80	4.16	.12	2.88
11.40	13	1.87	2.40	4.00	4.38	.12	2.73
11.60	13	1.87	2.20	4.00	4.16	.13	3.12
11.80	14	2.00	2.20	4.20	4.29	.15	3.49
12.00	14	2.00	2.00	3.80	4.07	.13	3.19
12.20	14	2.00	2.80	4.60	4.96	.13	2.62

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

PROJECT MODEL INFRASTRUCTURE

LOCATION BANG BO

TEST NO D-5

TESTED BY PS DATE 31 JAN 88

APROVED BY AN

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm^2	CONE READING, kg/cm^2	CONE&JACKET READING, km/cm^2	CONE RESISTANCE, kg/cm^2	LOCAL FRICTION, kg/cm^2	FRICTION RATIO, %
12.40	14	2.00	3.20	5.40	5.40	.16	2.96
12.60	14	2.00	3.00	5.60	5.18	.19	3.67
12.80	15	2.14	2.60	4.80	4.89	.16	3.28
13.00	15	2.14	2.40	4.60	4.65 /	.16 /	3.43
13.20	15	2.14	3.20	5.40	5.54	.16	2.89
13.40	15	2.14	3.20	5.60	5.54	.18	3.25
13.60	15	2.14	3.40	6.20	5.76	.21	3.64
13.80	16	2.28	3.20	6.20	5.62	.22	3.87
14.00	16	2.28	3.60	6.20	6.12 /	.19 /	3.10
14.20	16	2.28	3.60	6.60	6.12	.22	3.59
14.40	16	2.28	4.00	6.60	6.57	.19	2.89
14.60	16	2.28	3.80	6.80	6.34	.22	3.46
14.80	17	2.41	3.40	6.80	6.03	.25	4.14
15.00	17	2.41	4.40	7.40	7.14 /	.22 /	3.08
15.20	17	2.41	5.20	8.40	8.03	.24	2.99
15.40	17	2.41	4.80	9.20	7.58	.32	4.22
15.60	17	2.41	4.00	8.20	6.70	.31	4.63
15.80	18	2.55	3.80	7.80	6.61	.30	4.53
16.00	18	2.55	5.00	8.60	7.94 /	.27 /	3.40
16.20	18	2.55	5.60	9.80	8.61	.31	3.60
16.40	18	2.55	6.00	11.20	9.05	.38	4.20
16.60	18	2.55	5.20	10.20	8.17	.37	4.53
16.80	19	2.69	6.40	12.40	9.63 /	.44	4.56
17.00	19	2.69	6.40	11.80	9.63 /	.40 /	4.15
17.20	19	2.69	7.60	13.40	10.96	.43	3.92
17.40	19	2.69	6.40	12.40	9.63	.44	4.56
17.60	19	2.69	6.60	12.60	9.86	.44	4.46
17.80	20	2.82	5.80	11.60	9.10 /	.43	4.72
18.00	20	2.82	6.20	11.40	9.54	.38 /	3.98
18.20	20	2.82	5.80	10.60	9.10	.35	3.84

STS ENGINEERING CONSULTANTS CO. LTD.

DUTCH CONE PENETRATION TEST RESULTS

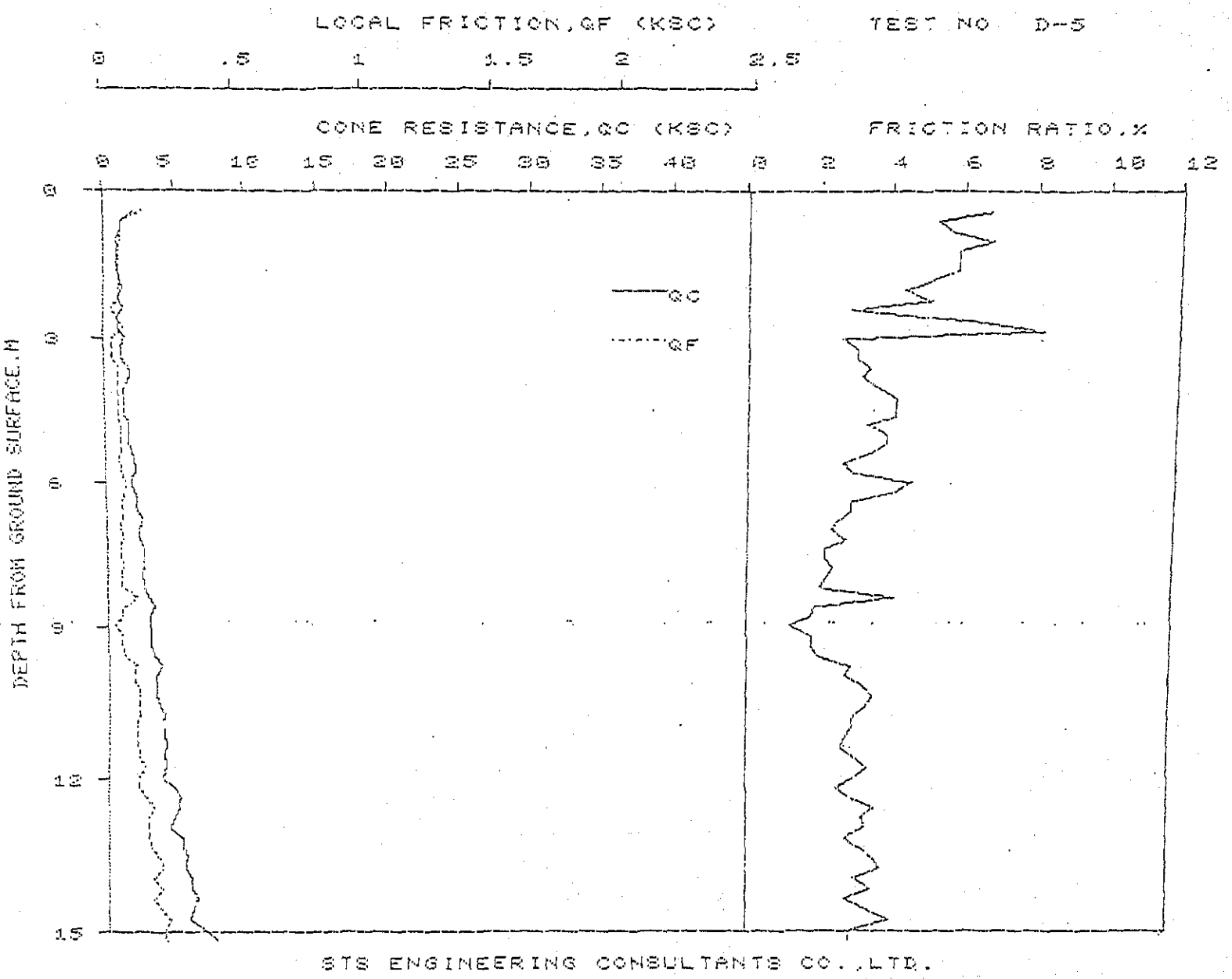
PROJECT MODEL INFRASTRUCTURE

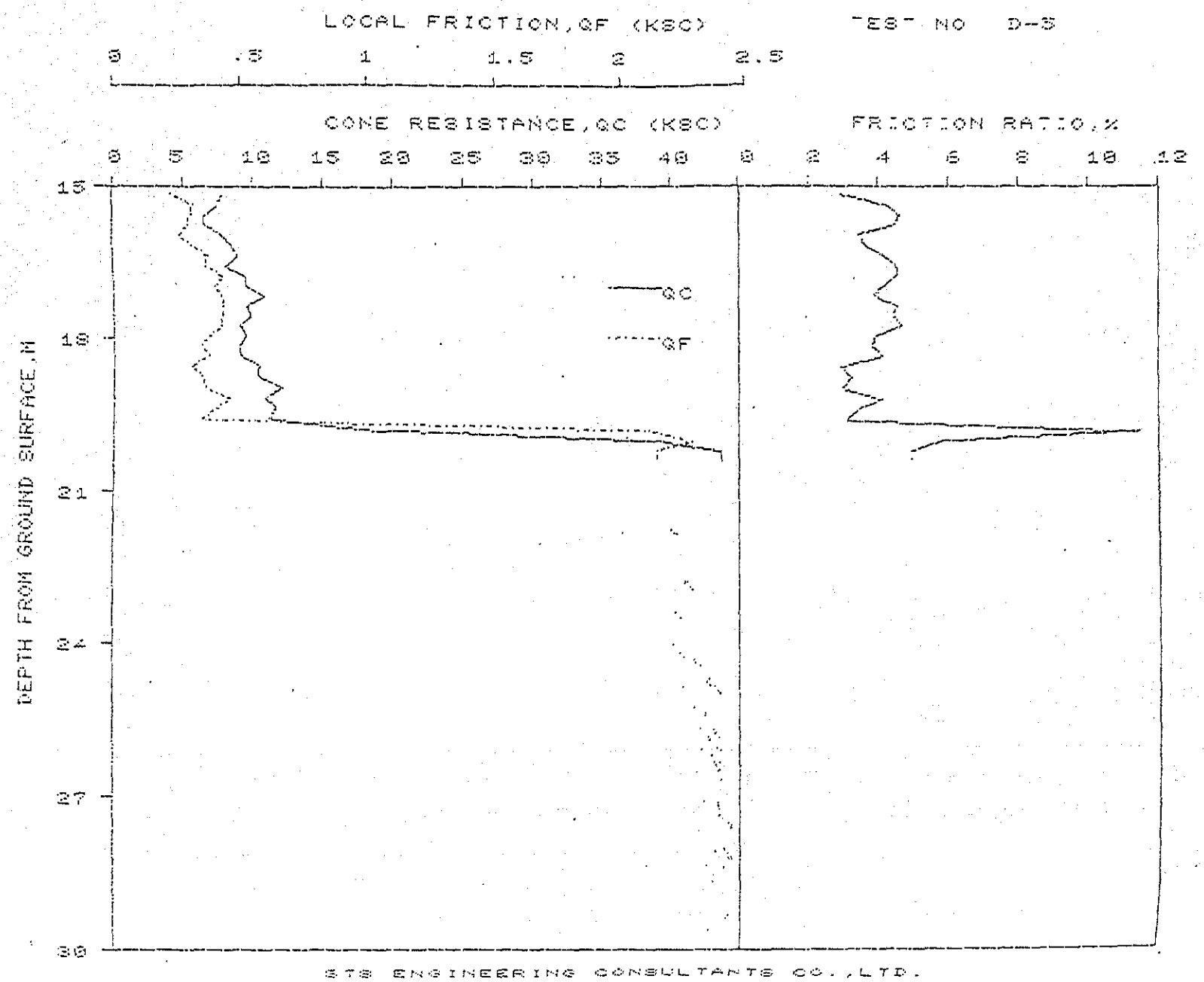
LOCATION BANG BO

TEST NO D-5 DATE 31 JAN 88

TESTED BY PS APROVED BY AN

DEPTH, m	NO OF ROD	ROD PRESS, kg/cm^2	CONE READING, kg/cm^2	CONE&JACKET READING, km/cm^2	CONE RESISTANCE, kg/cm^2	LOCAL FRICTION, kg/cm^2	FRICTION RATIO, %
18.40	20	2.82	5.80	11.00	9.10	.38	4.17
18.60	20	2.82	7.20	11.40	10.65	.31	2.91
18.80	21	2.96	7.00	11.80	10.57	.35	3.31
19.00	21	2.96	8.60	13.60	12.34	.37	3.00
19.20	21	2.96	7.40	13.60	11.01	.46	4.18
19.40	21	2.96	8.00	13.60	11.68	.41	3.51
19.60	21	2.96	7.60	12.40	11.23	.35	3.11
19.80	22	3.10	14.00	23.00	18.46	2.11	11.42
20.00	22	3.10	18.00	34.00	39.48	2.29	5.82
20.20	22	3.10	20.00	35.00	43.79	2.15	4.92
20.40	22	3.10	20.00	35.00	43.79	2.15	4.92

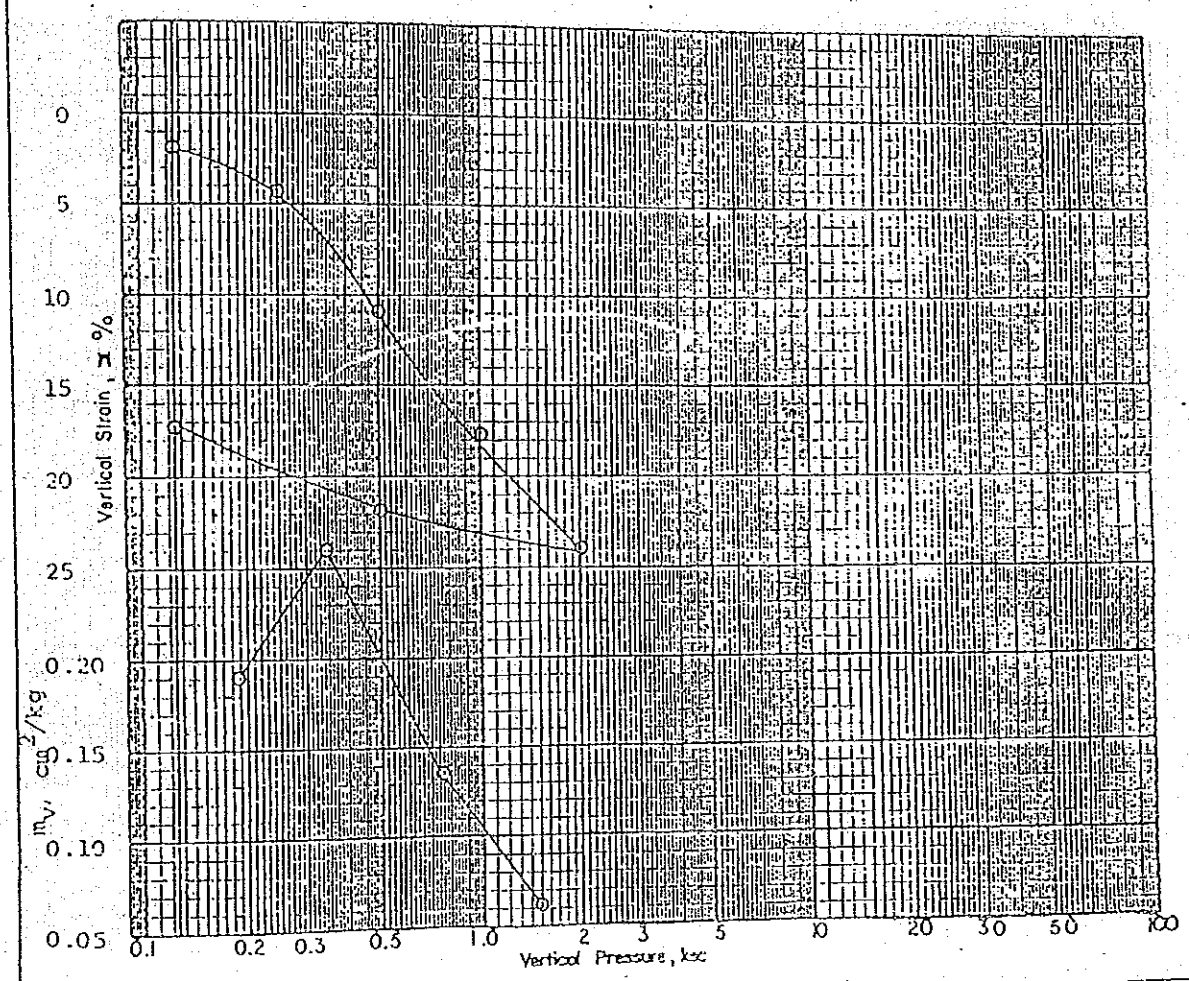

LOCAL FRICTION,QF (KSC)
TEST NO D-5
0 .5 1 1.5 2 2.5
CONE RESISTANCE,QC (KSC)
FRICTION RATIO,%
0 5 10 15 20 25 30 35 40
0 2 4 6 8 10 12
QC
QF
DEPTH FROM GROUND SURFACE,M
0
5
10
15
STS ENGINEERING CONSULTANTS CO.,LTD.


LOCAL FRICTION,QF (KSC)
TEST NO D-3
0 .5 1 1.5 2 2.5
CONE RESISTANCE,QC (KSC)
FRICTION RATIO,%
0 5 10 15 20 25 30 35 40
0 2 4 6 8 10 12
QC
QF
DEPTH FROM GROUND SURFACE,M
0 1 2 3 4 5 6 7 8 9 10
STS ENGINEERING CONSULTANTS CO.,LTD.

CONSOLIDATION TEST RESULTS

CONSOLIDATION TEST RESULTS

Project Model Infrastructure Project	Location Chareonraj Pumping station Bang Bo, Samut Prakan Province	Job No. 1488
Boring No. B-1	Sample No. PST-1	Depth 1.00-1.80 m.
		Date 18/1/88

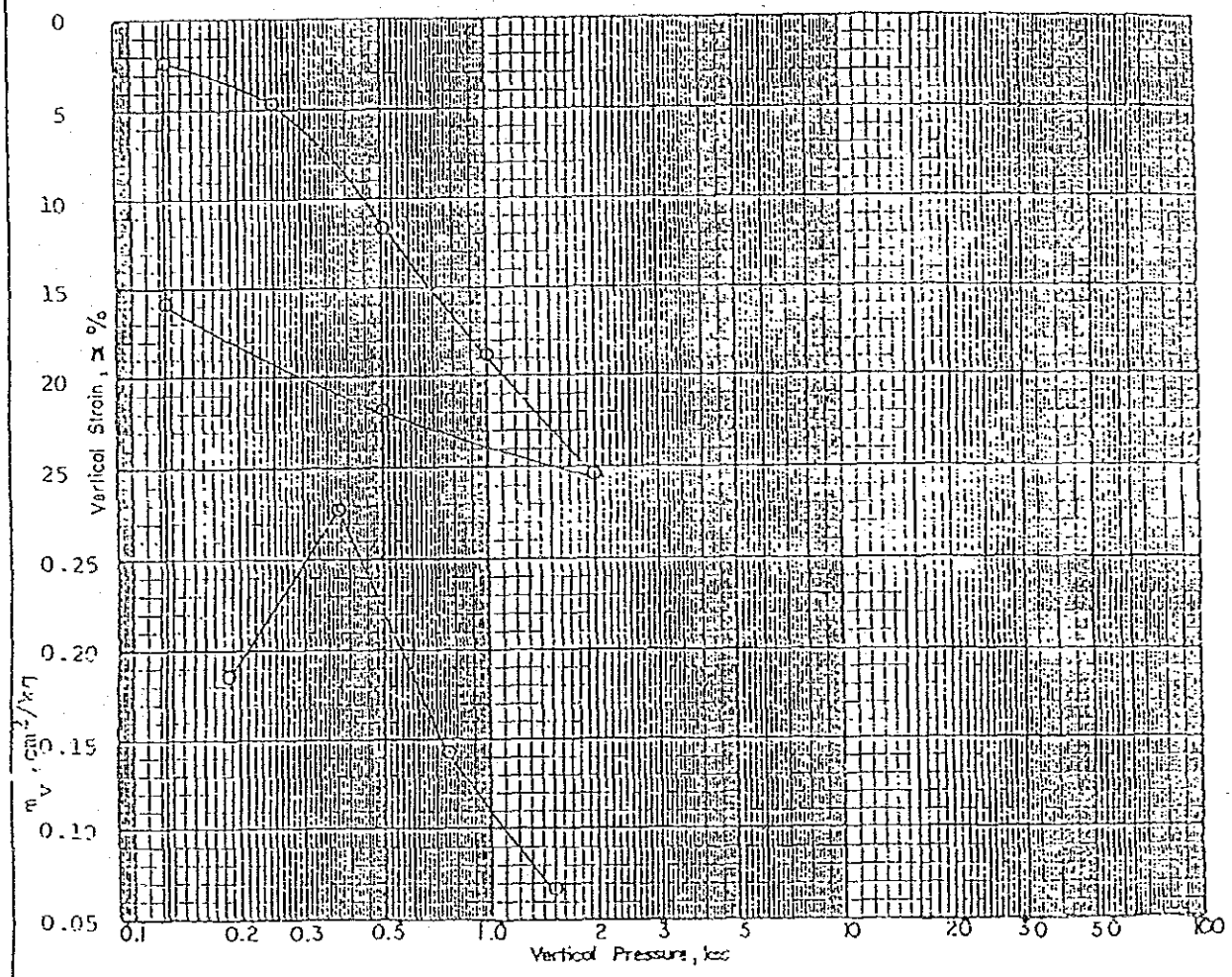


Pressure Ksc	90% Consol. Time min	Coef. of Consolidation Cv, 10^{-4} cm²/sec	Coef. of Permeability K, 10^{-7} cm/sec	Vertical Strain, ε %
Initial	—	—		
0.125	10.24	21.1	3.36	1.99
0.25	25.0	8.3	1.57	4.36
0.50	43.56	4.3	1.13	10.31
1	38.44	4.2	0.56	17.60
2	30.0	4.6	0.29	23.88
4				
8				
16				

$\bar{\sigma}_{vm}$ = 0.25 ksc		initial	Final
Height of Sample, H	cm.	2.5	
Water Content, W	%	83.2	
Degree of Saturation, S	%	96	
Solid Height of Sample, H_s		0.76	cm.
Diameter of Sample D		6.35	cm.
Wet Unit Weight γ_t		1.47	g/cc
Dry Unit Weight γ_d		0.80	g/cc
Liquid Limit LL		94.6	%
Plastic Limit PL		35.3	%
Compression Ratio CR		0.24	
Recompression Ratio RR		0.08	
Specific Gravity G		2.66	

CONSOLIDATION TEST RESULTS

Project Model Infrastructure Projec	Location Chareonraj Pumping Station Bang Bo ,Samut Prakan Province		Job No 1488
Boring No. B-1	Sample No. PST-2	Depth 3.00-3.80 m.	Date 16/1/88



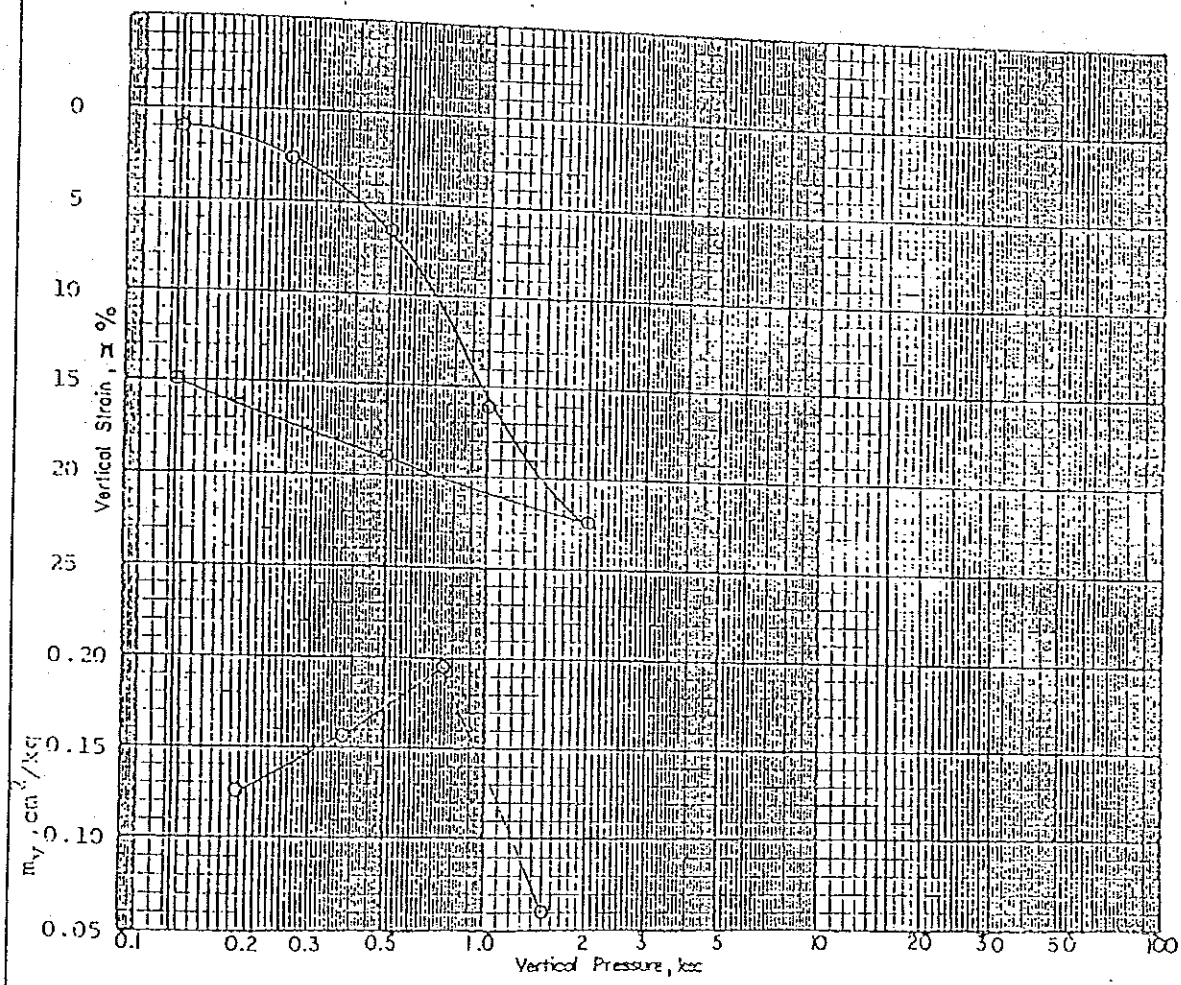
Pressure Ksc	90% Consol. Time min	Coef. of Consolidation Cv, 10^{-4} cm^2/sec	Coef. of Permeability K, 10^{-7} cm/sec	Vertical Strain, ε %
Initial	—	—		
0.125	14.44	14.9	2.75	2.31
0.25	17.64	11.7	2.21	4.67
0.50	60.0	3.1	0.86	11.64
1	64.0	2.5	0.36	18.77
2	27.04	5.0	0.33	25.4
4				
8				
16				

$\bar{\sigma}_{vm}$ = 0.28 ksc		Initial	Final
Height of Sample, H	cm.	2.5	
Water Content, W	%	85.2	
Degree of Saturation, S	%	96	
Solid Height of Sample, Hs		0.75	cm.
Diameter of Sample D		6.35	cm.
Wet Unit Weight γ_t		1.47	g/cc
Dry Unit Weight γ_d		0.79	g/cc
Liquid Limit LL			%
Plastic Limit PL			%
Compression Ratio CR		0.24	
Recompression Ratio RR		0.07	
Specific Gravity G		2.65	

STS ENGINEERING CONSULTANTS CO.,LTD.

CONSOLIDATION TEST RESULTS

Project Model Infrastructure Projec	Location Chareonraj Pumping Station Bang Bo , Samut Prakan Province		Job No. 1488
Boring No. B-1	Sample No. PST-3	Depth 5.00-5.80 m.	Date 16/1/88

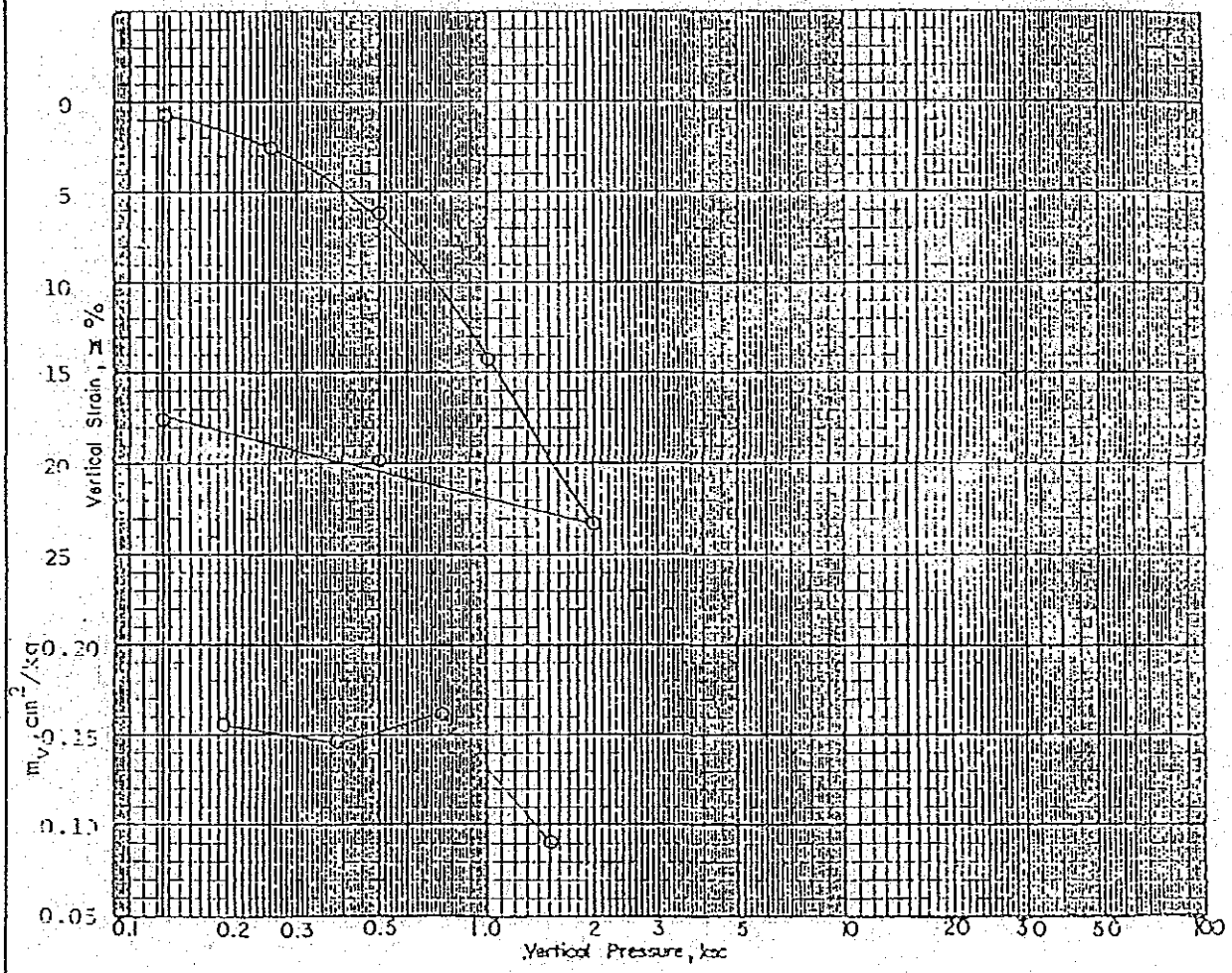


Pressure Ksc	90% Consol. Time min	Coef. of Consolidation Cv, 10^{-4} cm²/sec	Coef. of Permeability K, 10^{-7} cm/sec	Vertical Strain, ε %
Initial	—	—		
0.125	14.44	15.1	1.27	1.05
0.25	25.0	8.5	1.07	2.62
0.50	29.16	6.9	1.07	6.48
1	54.76	3.2	0.63	16.25
2	21.16	6.8	0.41	22.35
4				
8				
16				

$\bar{\sigma}_{vm}$ = 0.4 ksc		initial	Final
Height of Sample, H	cm.	2.5	
Water Content, W	%	34.9	
Degree of Saturation, S	%	96	
Solid Height of Sample, Hs		0.74	cm.
Diameter of Sample D		6.35	cm.
Wet Unit Weight γ_t		1.47	g/cc
Dry Unit Weight γ_d		0.80	g/cc
Liquid Limit LL		90.8	%
Plastic Limit PL		35.8	%
Compression Ratio CR		0.31	
Recompression Ratio RR		0.06	
Specific Gravity G		2.68	

CONSOLIDATION TEST RESULTS

Project: Model Infrastructure Projec	Location: Chareonraj Pumping Station, Bang Bo, Samut Prakan Province		Job No: 1488
Boring No.: B-1	Sample No.: PST-4	Depth: 7.00-7.80 m.	Date: 16/1/88

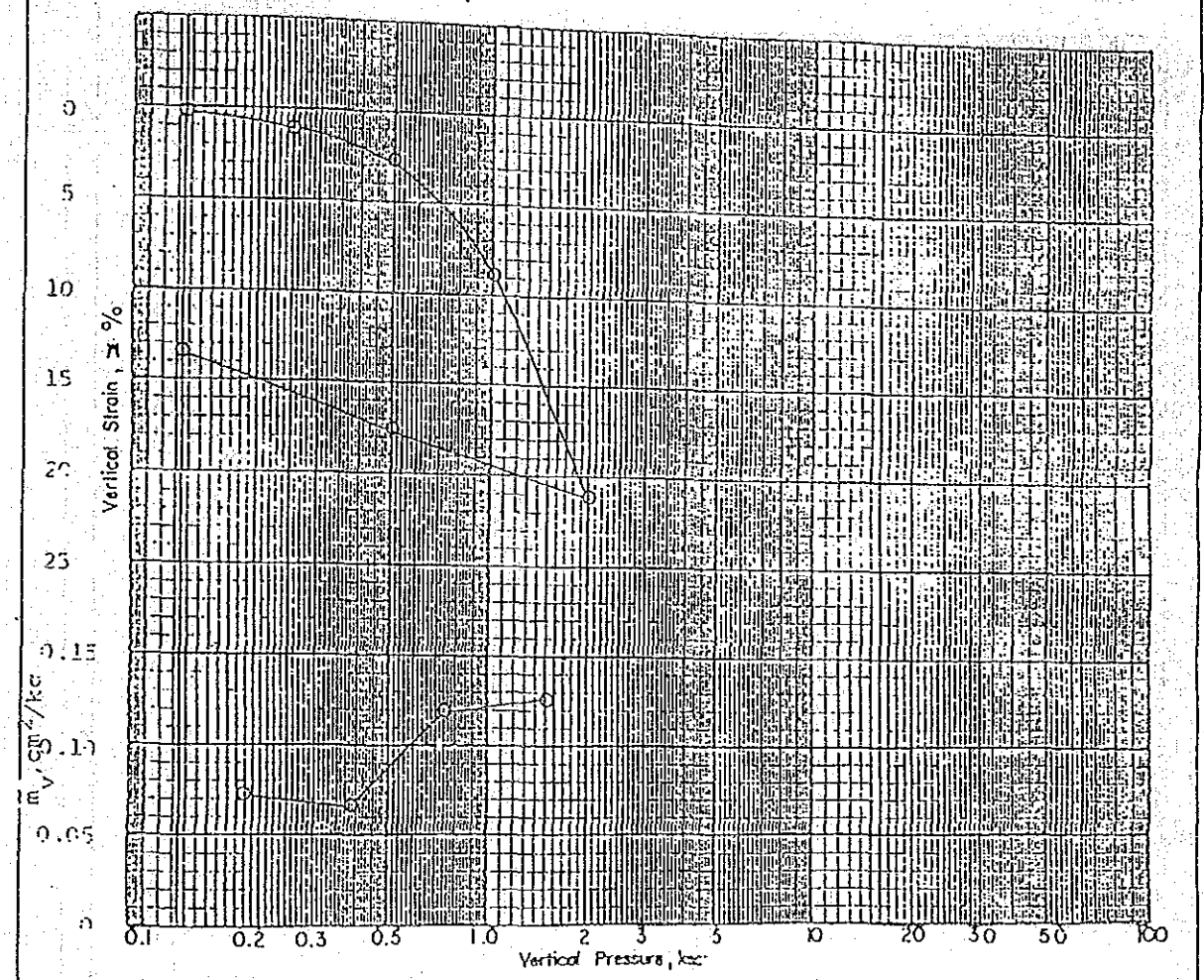


Pressure Ksc	90% Consol. Time min	Coef. of Consolidation Cv, 10^{-4} cm^2/sec	Coef. of Permeability K, 10^{-7} cm/sec	Vertical Strain, ε %
Initial	—	—		
0.125	4.0	54.8	3.20	0.73
0.25	15.0	14.2	2.22	2.68
0.50	36.0	5.6	0.80	6.24
1	54.76	3.2	0.52	14.36
2	49.0	3.0	0.27	23.36
4				
8				
16				

$\bar{\sigma}_{vm}$ = 0.45 ksc		initial	Final
Height of Sample, H	cm.	2.5	
Water Content, W	%	89.7	
Degree of Saturation, S	%	98	
Solid Height of Sample, Hs		0.72	cm.
Diameter of Sample D		6.35	cm.
Wet Unit Weight γ_t		1.44	g/cc
Dry Unit Weight γ_d		0.76	g/cc
Liquid Limit LL			%
Plastic Limit PL			%
Compression Ratio CR		0.30	
Recompression Ratio RR		0.06	
Specific Gravity G		2.64	

CONSOLIDATION TEST RESULTS

Project Model Infrastructure Project	Location Chareonraj Pumping Station, Bang Bo, Samut Prakan		Job No. 1488
Boring No. B-1	Sample No. PST-5	Depth 9.00-9.80 m.	Date 16/1/88

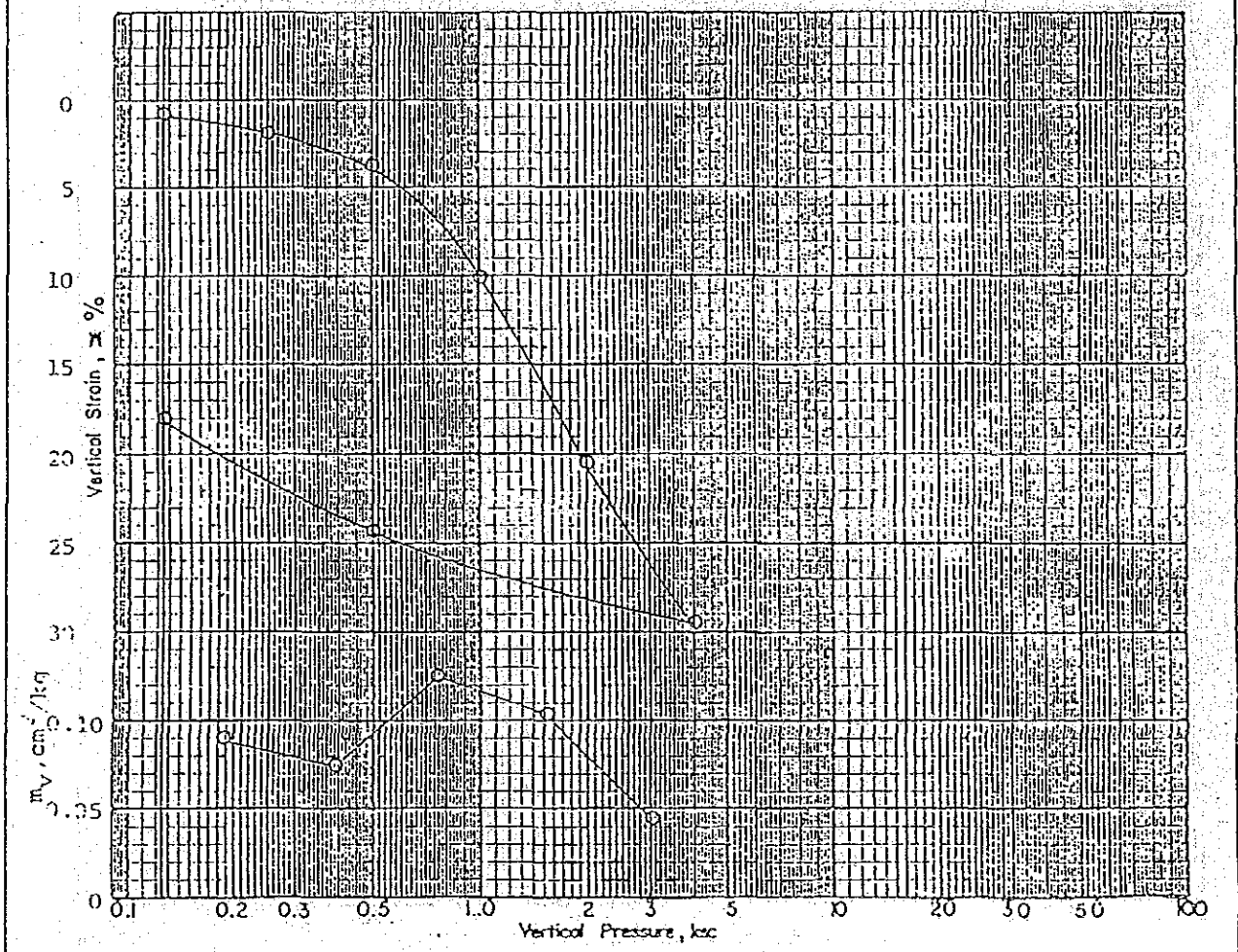


Pressure Ksc	90% Consol. Time min	Coef. of Consolidation Cv, 10^{-4} cm^2/sec	Coef. of Permeability K, 10^{-7} cm/sec	Vertical Strain, ε %
Initial	—	—		
0.125	2.25	97.9	1.88	0.24
0.25	9.0	24.2	1.74	1.14
0.50	18.49	11.5	0.76	2.80
1	33.44	5.1	0.61	8.80
2	77.44	2.1	0.26	21.17
4				
8				
16				

$\bar{\sigma}_{vm}$ = 0.7 ksc		initial	Final
Height of Sample, H	cm.	2.5	
Water Content, W	%	95.8	
Degree of Saturation, S	%	93	
Solid Height of Sample, H_s		0.68	cm.
Diameter of Sample D		6.35	cm.
Wet Unit Weight γ_t		1.40	g/cc
Dry Unit Weight γ_d		0.71	g/cc
Liquid Limit LL		105.7	%
Plastic Limit PL		40.3	%
Compression Ratio CR		0.41	
Recompression Ratio RR		0.028	
Specific Gravity G		2.63	

CONSOLIDATION TEST RESULTS

Project Model Infrastructure Project	Location Charconraj Pumping Station Bang Bo , Samut Prakan Province		Job No. 1488
Boring No. B-1	Sample No. PST-6	Depth 11.00-11.80 m.	Date 18/1/38

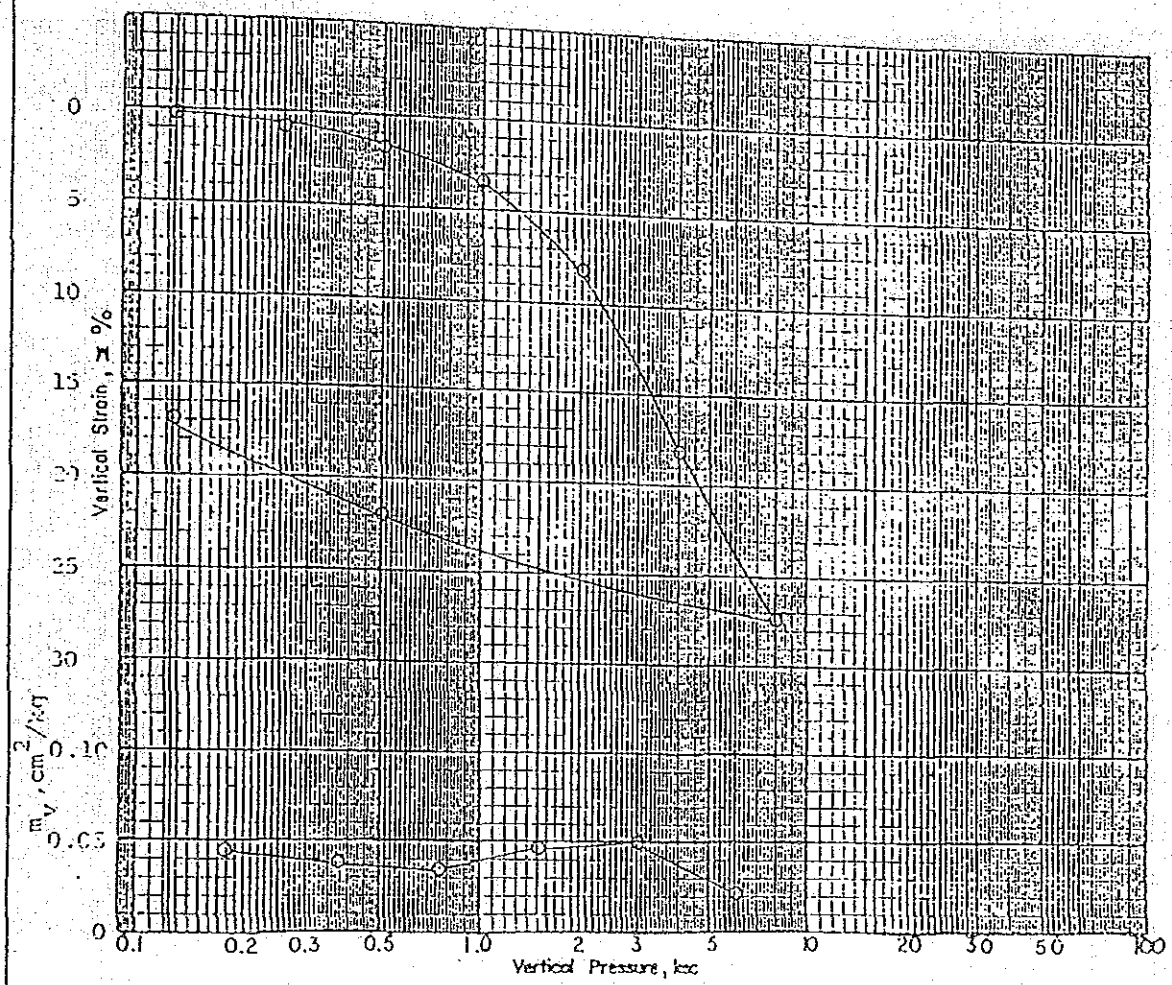


Pressure Ksc	90% Consol. Time min	Coef. of Consolidation Cv, 10^{-4} cm^2/sec	Coef. of Permeability K, 10^{-7} cm/sec	Vertical Strain, ε %
Initial	—	—		
0.125	2.25	97.3	6.93	0.39
0.25	4.84	44.3	3.90	1.99
0.50	15.0	13.9	1.04	3.66
1	36.0	5.3	0.67	10.16
2	60.0	2.6	0.27	20.57
4	49.0	2.5	0.11	29.46
8				
16				

$\bar{\sigma}_{vm}$ = 0.72 ksc		initial	Final
Height of Sample, H	cm.	2.5	
Water Content, W	%	98.1	
Degree of Saturation, S	%	96	
Solid Height of Sample, Hs		0.67	cm.
Diameter of Sample D		6.35	cm.
Wet Unit Weight γ_t		1.41	g/cc
Dry Unit Weight γ_d		0.71	g/cc
Liquid Limit LL			%
Plastic Limit PL			%
Compression Ratio CR		0.36	
Recompression Ratio RR		0.04	
Specific Gravity G		2.65	

CONSOLIDATION TEST RESULTS

Project Model Infrastructure Projec	Location Chareonraj Pumping Station Bang Bo , Samut Prakan		Job No. 1488
Boring No. B-1	Sample No. PST-8	Province Depth 15.00-15.60 m.	Date 18/1/38



Pressure Ksc	90% Consol. Time min	Coef. of Consolidation Cv, 10^{-4} cm^2/sec	Coef. of Permeability K, 10^{-7} cm/sec	Vertical Strain, ≤ %
Initial	—	—		
0.125	-	-	-	0.21
0.25	1.0	218.7	9.8	0.77
0.50	4.0	53.8	2.02	1.71
1	9.0	23.3	0.83	3.5
2	38.44	5.1	0.24	8.12
4	60.0	2.8	0.14	18.18
8	40.96	3.2	0.07	27.48
16				

$\bar{\sigma}_{vm}$ =1.4 ksc		initial	Final
Height of Sample, H	cm.	2.5	
Water Content, W	%	70.9	
Degree of Saturation, S	%	96	
Solid Height of Sample, H_s		0.84	cm.
Diameter of Sample D		6.35	cm.
Wet Unit Weight γ_t		1.54	g/cc
Dry Unit Weight γ_d		0.90	g/cc
Liquid Limit LL			%
Plastic Limit PL			%
Compression Ratio CR		0.32	
Recompression Ratio RR		0.02	
Specific Gravity G		2.67	