

APPENDIX 2.2 BORING LOG

BORING LOG (Soil exploration)

MULTIPURPOSE CYCLONE SHELTER
 GONDAMARA,
 PROJECT LOCATION BANSKHALI, CHITTAGONG GROUND ELEVATION 2.88 m DATE OF INVESTIGATION 20 FEB, '93
 Scheme No. 9880980 DEPTH TO GROUND WATER
 BORING HOLE No. A1-2 LEVEL IN HOLE ~1.35 m INVESTIGATED BY

STAFF	ELEVATION m	DEPTH m	THICKNESS m	FIELD OBSERVATIONAL RECORD				STANDARD PENETRATION TEST										SAMPLING								
				COLUMN SECTION (Graphic mark)	Soil or Rock NAME OF CLASSIFICATION	COLOR TONE	DESCRIPTION	Depth m	N/ INFER. PERCE. on	Num. of blows Every 15 cm			NUMBER OF BLOWS N						Sample No.	Depth m	Mtd.					
										15	30	45	0	10	20	30	40	50				60				
1								0.70																		
								1.00	4/30	2	2	2														
2								1.70																		
								2.00	4/30	2	2	2													2.10	
								2.70																	2.55	U-1
								3.00	1/30	0	0	1														
								3.70																		
								4.00	2/30	0	1	1														
								4.70																		
								5.00	4/30	1	2	2														
								5.70																		
								6.00	4/30	1	2	2														
								6.70																		
								7.00	4/30	1	2	2														
								7.70																		
								8.00	4/30	1	2	2														
								8.70																		
								9.00	4/30	1	2	2														
								9.70																		
								10.00	4/30	2	2	2														
								10.70																		
								11.00	4/30	1	2	2														
								11.70																		
								12.00	8/30	2	3	5														
								12.70																		
								13.00	10/30	3	4	6														
								13.70																		
								14.00	6/30	1	2	4														
								14.70																		
								15.00	8/30	1	3	5														
								15.70																		
								16.00	9/30	3	3	6														
	-13.62	16.50	16.50		Silt with with clay & f. sand	Gray		16.70	25/30	6	8	17														
								17.00																		
								17.70																		
								18.00	24/30	6	10	14														
								18.70																		
								19.00	20/30	6	8	12														
	-16.52	19.40	2.90		Silt with fine Sand	Gray		19.70																		
								20.00	9/30	2	3	6														
								20.70																		
								21.00	9/30	2	3	6														
								21.70																		
								22.00	6/30	1	3	3														
								22.70																		
								23.00	7/30	2	3	4														
								23.70																		
								24.00	6/30	2	3	3														
								24.70																		
								25.00	9/30	3	4	5														
								25.70																		
	-23.32	26.20	6.80		Silt	Gray		26.00	10/30	3	5	5														
								26.70																		
								27.00	12/30	3	5	7														
								27.70																		
								28.00	12/30	4	5	7														
								28.70																		
								29.00	13/30	4	6	7														
								29.70																		
	-27.12	30.00			Silt with Clay	Gray		30.00	14/30	4	6	8														

BORING LOG (Soil exploration)

MULTIPURPOSE CYCLONE SHELTER
PROJECT LOCATION SARAL, BANSKHALI,
CHITTAGONG

GROUND ELEVATION 3.318 m

DATE OF INVESTIGATION 23 FEB. '93

Scheme No.9880982

DEPTH TO GROUND WATER

BORING HOLE No. B1-1

LEVEL IN HOLE -0.75 m

INVESTIGATED BY

STAFF	ELEVATION	DEPTH	THICKNESS	FIELD OBSERVATIONAL RECORD				STANDARD PENETRATION TEST											SAMPLING				
				COLUMN SECTION (Graphic mark)	Soil or Rock NAME OF CLASSIFICATION	COLOR TONE	DESCRIPTION	Depth m	N/INTER-PENE on	Num. of blows Every 25 cm			NUMBER OF BLOWS N						Sample No.	Depth m	Method		
m	m	m	m					m		15 cm	30 cm	45 cm	0	10	20	30	40	50	60				
1							Gray spotted stiff to very stiff Silt with clay	0.70	9/30	4	5	4											
2	1.118	2.20	2.20		Silt with clay	Brown	stiff Silt with clay	1.70	7/30	3	3	4											
3	0.218	3.10	0.90		Silty fine Sand	Gray	Very loose trace mica	2.70	2/30	0	1	1											U-1
4	0.832	4.15	1.05		Clayey Silt	Gray	Very soft silt tr.org.matter	3.70	2/30	0	1	1											3.10
5					Silt with Clay	Gray	Med. stiff silt with clay	4.70	7/30	2	3	4											3.55
6	2.082	5.40	1.25					5.70	20/30	4	7	13											
7								6.70	20/30	6	8	12											
8							Very stiff f.sandy silt	7.70	18/30	7	7	11											
9								8.70	24/30	7	10	14											
10								9.70	25/30	8	10	15											
11	2.932	11.25	5.85		Sandy Silt	Gray		10.70	27/30	7	11	16											
12	8.932	12.25	1.00		Silt	Gray	Stiff Silt with clay trace org.	11.70	27/30	8	12	15											
13								12.70	20/30	8	12	8											
14							Very stiff Silt with fine sand	13.70	14/30	6	7	7											
15								14.70	8/30	7	4	4											
16	13.032	16.35	4.10		Silt with fine Sand	Gray		15.70	22/30	4	8	14											
17								16.70	18/30	6	6	12											
18							Med. dence f.sandy Silt	17.70	19/30	6	7	12											
19								18.70	16/30	5	6	10											
20	16.782	20.10	3.75		Sandy Silt	Gray		19.70	13/30	4	5	8											U-2
21								20.70	10/30	3	4	6											20.55
22							Stiff Silt with f.sand & trace clay	21.70	11/30	4	4	7											
23								22.70	8/30	2	3	5											
24	20.982	24.30	4.20		Silt with f.Sand	Gray		23.70	9/30	2	4	5											
25								24.70	7/30	2	3	4											
26							Med.stiff to stiff Silt with clay trace sand	25.70	9/30	3	4	5											
27	24.032	27.35	3.05		Silt with Clay	Gray		26.70	10/30	4	5	5											
28								27.70	16/30	6	7	9											
29								28.70	21/30	8	10	11											
30	26.682	30.00			Silt with f. Sand	Gray	Very stiff Silt with f.sand tr.clay	29.70	23/30	7	11	12											

BORING LOG(9880982-1)

BORING LOG (Soil exploration)

MULTIPURPOSE CYCLONE SHELTER
PROJECT LOCATION SARAL, BANSKHALI,
CHITTAGONG

GROUND ELEVATION 3.10 m

DATE OF INVESTIGATION 24 FEB. '93

Scheme No.9880982

DEPTH TO GROUND WATER

INVESTIGATED BY

BORING HOLE No. B1-2

LEVEL IN HOLE -0.65 m

STAFF m	ELEVATION m	DEPTH m	THICKNESS m	FIELD OBSERVATIONAL RECORD				STANDARD PENETRATION TEST										SAMPLING													
				COLUMN SECTION (Graphic mark)	Soil or Rock NAME OF CLASSIFICATION	COLOR TONE	DESCRIPTION	Depth m	N/INTER-PENE. cm	Num. of blows Every 25 cm			NUMBER OF BLOWS N						Sample No.	Depth m	Method										
										15 cm	30 cm	45 cm	0	10	20	30	40	50				60									
1				[Graphic mark]	Silt with clay	Brown	Gray spotted medium stiff Silt with clay	0.70																							
		0.60	2.50					2.50																							
2												1.70	5/30	2	2	3	•														
												2.70	6/30	2	2	4	•														
3												2.70	1/30	0	0	1	•														
												3.70																			
4						Clayey Silt	Gray	Very soft to med.stiff clayey silt tr.org.matter	4.00	2/30	0	1	1	•																	
												4.70																			
5												5.00	3/30	1	1	2	•														
												5.70																			
6						[Graphic mark]	[Graphic mark]	[Graphic mark]	6.00	5/30	2	2	3	•																	
		-320	6.30		3.80							6.70																			
7												7.00	16/30	4	6	10	•														
												7.70																			
8												8.00	21/30	8	8	13	•														
												8.70																			
9												9.00	23/30	8	9	14	•														
												9.70																			
10												10.00	20/30	7	8	12	•														
												10.70																			
11												11.00	11/30	4	5	6	•														
												11.70																			
12												12.00	11/30	4	5	6	•														
												12.70																			
13												13.00	9/30	3	4	5	•														
												13.70																			
14											14.00	7/30	3	3	4	•															
											14.70																				
15											15.00	9/30	7	4	5	•															
		-1240	15.50	9.20							15.70																				
16											16.00	9/30	2	3	6	•															
								16.70																							
17								17.00	11/30	3	5	6	•																		
								17.70																							
18								18.00	10/30	3	5	5	•																		
		-1510	18.20	2.70				18.70																							
19								19.00	12/30	4	6	6	•																		
		-1640	19.50	1.30				19.70																							
20								20.00	9/30	3	4	5	•																		
								20.70																							
21								21.00	9/30	3	4	5	•																		
		-1815	21.25	1.75				21.70																							
22								22.00	9/30	4	4	5	•																		
								22.70																							
23								23.00	10/30	4	4	6	•																		
								23.70																							
24								24.00	12/30	4	5	7	•																		
								24.70																							
25								25.00	12/30	5	5	7	•																		
		-2215	25.25	4.00				25.70																							
26								26.00	13/30	4	5	8	•																		
								26.70																							
27								27.00	12/30	4	5	7	•																		
								27.70																							
28								28.00	13/30	5	6	7	•																		
								28.70																							
29								29.00	15/30	6	7	8	•																		
								29.70																							
30								30.00	16/30	6	7	9	•																		
		-2690	30.00																												

BORING LOG (Soil exploration)

MULTIPURPOSE CYCLONE SHELTER

PROJECT LOCATION BADARKHALI, CHAKORIA
COX'S BAZAR

Scheme No. 9900182

GROUND ELEVATION 1.83 m

DATE OF INVESTIGATION 08 FEB. '93

BORING HOLE No. A2-1

DEPTH TO GROUND WATER LEVEL IN HOLE -0.75 m

INVESTIGATED BY

STAFF ELEVATION m	DEPTH m	THICKNESS m	FIELD OBSERVATIONAL RECORD					STANDARD PENETRATION TEST											SAMPLING																						
			COLUMN SECTION (Graphic mark)	Soil or Rock NAME OF CLASSIFICATION	COLOR TONE	DESCRIPTION	Depth m	N/ INTER- PENETRATION	Num. of blows Every 5 on			NUMBER OF BLOWS N						Sample No.	Depth m	Method																					
									15 cm	30 cm	45 cm	0	10	20	30	40	50				60																				
						Very soft Silt with clay tr. f. sand	0.70																																		
							1.70	1/30	0	0	1																														
							2.70	1/30	0	0	1																														
							3.70	1/30	0	0	1																													3-10	
							4.70	2/30	0	1	1																													U-1 3.55	
	3.37	5.20	5.20		Silt with clay	Brown	5.70	2/30	1	1	1																														
							6.70	4/30	1	2	2																														
							7.70	9/30	5	4	5																														
					Sandy Silt	Gray	8.70	15/30	5	7	8																														
	6.57	8.40	3.20				9.70	18/30	7	7	11																														
							10.70	17/30	6	7	10																														
							11.70	13/30	5	5	8																														
							12.70	15/30	4	6	9																														
	1.67	3.50	5.10		Sand with Silt	Gray	13.70	20/30	5	10	10																														
							14.70	18/30	4	8	10																														
							15.70	19/30	4	7	12																														
	4.42	6.25	2.75		Sand & Silt	Gray	16.70	18/30	5	7	11																														
							17.70	5/30	2	3	3																														
							18.70	4/30	2	2	2																														
	6.37	8.20	1.95		Silt with Clay	Brown	19.70	13/30	4	6	7																														
							20.70	15/30	4	7	8																														
							21.70	16/30	6	7	9																														
	20.42	22.30	1.10		Clayey Silt	Brown & Gray	22.70	18/30	7	8	10																														
							23.70	36/30	13	14	22																														
							24.70	37/30	13	15	22																														
							25.70	26/30	12	14	12																														
	24.62	26.45	1.15		Silt with fine Sand	Gray	26.70	12/30	7	7	5																														
							27.70	12/30	4	6	6																														
							28.70	11/30	3	5	6																														
							29.70	8/30	3	4	4																														
	28.17	30.00			Silt with Clay	Gray	30.00	8/30	3	4	4																														

BORING LOG (Soft exploration)

MULTIPURPOSE CYCLONE SHELTER
 PROJECT - LOCATION BADARKHALI, CHAKORIA COX'S BAZAR
 GROUND ELEVATION 1.83 m DATE OF INVESTIGATION 09 FEB '93
 Scheme No. 9900182 DEPTH TO GROUND WATER
 BORING HOLE No. A2-2 LEVEL IN HOLE -0.80 m INVESTIGATED BY

STAFF ELEVATION m	DEPTH m	THICKNESS m	COLUMN SECTION (Graphic mark)	FIELD OBSERVATIONAL RECORD				STANDARD PENETRATION TEST											SAMPLING						
				Soil or Rock NAME OF CLASSIFICATION	COLOR TONE	DESCRIPTION	Depth m	N/INTER-PENE cm	Num. of blows Every 5 cm			NUMBER OF BLOWS N						Sample No.	Depth m	No.					
									75 cm	30 cm	45 cm	0	10	20	30	40	50				60				
1	0.43	1.40	1.40	Clayey Silt	Brown	Very soft clayey Silt	0.70																		
2							1.70	1/30	0	0	1														
							2.70	2/30	0	1	1													2.10	
							3.70	2/30	1	1	1													2.50	
							4.70	5/30	2	2	3														
							5.70	7/30	2	3	4														
	3.67	5.50	4.10	Silt with Clay	Gray		6.70	10/30	4	4	6														
							7.70	7/30	3	3	4														
							8.70	9/30	3	4	5														
							9.70	9/30	3	2	7														
	7.42	9.25	3.75	Silt with f.Sand	Gray		10.70	11/30	4	4	7														
							11.70	14/30	6	6	8														
							12.70	16/30	6	7	9														
							13.70	19/30	6	8	11														
							14.70	21/30	6	9	12														
							15.70	26/30	6	11	15														
	3.47	5.30	6.05	Silt with Clay	Gray		16.70	28/30	10	10	18														
							17.70	29/30	10	11	18														
							18.70	22/30	8	9	13														
	6.37	8.20	7.90	Sand with Silt			19.70	9/30	5	3	6														
							20.70	9/30	3	4	5														
							21.70	11/30	3	4	7														
							22.70	13/30	3	5	8														
							23.70	22/30	4	8	14														
	21.42	23.25	3.75	Clayey Silt	Brown		24.70	30/30	6	12	18														
							25.70	35/30	8	14	21														
							26.70	25/30	6	10	15														
							27.70	9/30	3	4	5														
							28.70	8/30	3	3	5														
							29.70	10/30	3	4	6														
							30.70	12/30	6	5	7														
	24.42	26.25	3.00	Silt with f.Sand	Gray		31.70																		
							32.70																		
							33.70																		
							34.70																		
							35.70																		
	28.17	30.00		Silt with Clay	Gray		36.70																		

BORING LOG (Soil exploration)

MULTIPURPOSE CYCLONE SHELTER
 BADARKHALI,
 PROJECT LOCATION CHAKORIA, COX'S BAZAR

GROUND ELEVATION 1.48 m

DATE OF INVESTIGATION 03 DEC.'92

Schema No. 9900183

DEPTH TO GROUND WATER

INVESTIGATED BY

BORING HOLE No. A3-2

LEVEL IN HOLE -0.60 m

STAFF	ELEVATION m	DEPTH m	THICKNESS m	FIELD OBSERVATIONAL RECORD			STANDARD PENETRATION TEST										SAMPLING									
				COLUMN SECTION (Graphic mark)	Soil or Rock NAME OF CLASSIFICATION	COLOR TONE	DESCRIPTION	Depth m	N/INTER-PENE cm	Num. of blows Every 15 cm			NUMBER OF BLOWS N						Sample No.	Depth m	Method					
										15 cm	30 cm	45 cm	0	10	20	30	40	50				60				
1								0.50 0.95																		
2																										
3																										
4	-2.52	4.00	4.00		Sandy Silt	Gray	With clayey layer	3.70 4.00	7/30	-	3	4														
5								4.70 5.00	3/30	-	1	2														
6	-4.52	6.00	2.00		Silt	Gray	With thin sand layer	5.70 6.00	4/30	-	2	3														
17	-6.02	7.50	8.50		Sand	Gray	Fine to med. sand trace silt	15.70 17.00	11/30	-	5	6														
18								17.70 18.00	5/30	-	2	3														
19								18.70 19.00	6/30	-	3	3														
20	-8.52	10.00	2.50		Silty Clay	Gray	Medium stiff	19.70 20.00	4/30	-	2	2														
21								20.70 21.00	6/30	-	3	3														
22								21.70 22.00	6/30	-	3	4														
23								22.70 23.00	9/30	-	4	5														
24	-12.52	14.50	4.00		Clayey Silt	Gray	Trace sand	23.70 24.00	10/30	-	4	6														
25								24.70 25.00	16/30	-	7	9														
26								25.70 26.00	27/30	-	13	14														
27								26.70 27.00	32/30	-	15	17														
28	-16.52	18.00	4.50		Sandy Silt	Gray	Stiff to very stiff	27.70 28.00	44/30	-	22	22														

BORING LOG (Soil exploration)

MULTIPURPOSE CYCLONE SHELTER
 PROJECT - LOCATION **BADARKHALI, CHAKORIA, COX'S BAZAR** GROUND ELEVATION **1.46** m DATE OF INVESTIGATION **09 DEC.'91**
 Schema No. **9900185** DEPTH TO GROUND WATER
 BORING HOLE No. **A4-1** LEVEL IN HOLE **-0.88** m INVESTIGATED BY

STAFF	FIELD OBSERVATIONAL RECORD					STANDARD PENETRATION TEST										SAMPLING											
	ELEVATION m	DEPTH m	THICKNESS m	COLUMN SECTION (Graphic mark)	Soil or Rock NAME OF CLASSIFICATION	COLOR TONE	DESCRIPTION	Depth m	N/ INTER-PENE cm	Num. of blows Every 15 cm			NUMBER OF BLOWS N						Sample No.	Depth m	Method						
										15 cm	30 cm	45 cm	0	10	20	30	40	50				60					
1																						U-1	0.50 0.95				
2		1.04	2.50	2.50	Silt	Gray	With clay	1.70 2.00	3/30	-	1	2											D-1	2.00 2.50 2.95			
3																											
4																											
5		4.34	5.80	3.30	Clayey Silt	Gray	Partly Sandy Trace sand	3.70 4.00 4.70 5.00	3/30 6/30	-	1	2 3												D-2	5.00		
6								5.70 6.00	12/30	-	2	10															
7								6.70 7.00	27/30	-	12	15															
8								7.70 8.00	29/30	-	12	17															
9								8.70 9.00	23/30	-	10	13															
10								9.70 10.00	15/30	-	7	8												D-3	10.00		
11								10.70 11.00	22/30	-	10	12															
12								11.70 12.00	25/30	-	11	14															
13								12.70 13.00	32/30	-	15	17															
14		3.04	4.50	8.70	Sand	Gray	Dense Silty sand.	13.70 14.00 14.70 15.00	36/30	-	15	21															
15								14.70 15.00	17/30	-	8	9															
16								15.70 16.00	29/30	-	14	15															
17								16.70 17.00	34/30	-	16	18															
18								17.70 18.00	23/30	-	11	12															
19								18.70 19.00	24/30	-	11	13															
20								19.70 20.00	27/30	-	13	14															
21		9.54	11.00	6.50	Fine Sand	Gray	Dense	20.70 21.00	32/30	-	12	20															
22																											
23																											
24																											
25																											
26																											
27																											
28																											
29																											
30																											

BORING LOG (Soil exploration)

MULTIPURPOSE CYCLONE SHELTER
 PROJECT · LOCATION BADARKHALI, CHAKORIA, COX'S BAZAR
 Scheme No. 9900185
 BORING HOLE No. A4-2

GROUND ELEVATION 1.35 m
 DATE OF INVESTIGATION 12 DEC, '92
 DEPTH TO GROUND WATER
 LEVEL IN HOLE -0.77 m
 INVESTIGATED BY

STAFF ELEVATION m	DEPTH m	THICK- NESS m	FIELD OBSERVATIONAL RECORD				STANDARD PENETRATION TEST										SAMPLING								
			COLUMN SECTION (Graphic mark)	Soil or Rock NAME OF CLASSIFICATION	COLOR TONE	DESCRIPTION	Depth m	N/ INTER- PENETRATION on	Num. of blows Every 5 cm			NUMBER OF BLOWS N						Sample No.	Depth m	Meth.					
									15 cm	30 cm	45 cm	0	10	20	30	40	50				60				
1																					U-1	0.50 0.95			
2																									
3																									
4																									
5																									
6																									
7	5.65	7.00	7.00		Clayey Silt	Gray	Medium to soft	5.70 6.00 6.30	10/30	-	4	6													
8																									
9																									
10																									
11							Silty sand	10.70 11.00 11.30	20/30 15/30	-	8	12													
12								11.70 12.00 12.30	13/30	-	5	8													
13								12.70 13.00 13.30	31/30	-	13	19													
14								13.70 14.00 14.30	36/30	-	17	19													
15								14.70 15.00 15.30	29/30	-	13	16													
16								15.70 16.00 16.30	28/30	-	13	15													
17								16.70 17.00 17.30	30/30	-	14	16													
18								17.70 18.00 18.30	28/30	-	12	16													
19								18.70 19.00 19.30	24/30	-	10	14													
20								19.70 20.00 20.30	28/30	-	13	15													
21								20.70 21.00 21.30	26/30	-	10	16													
22	20.65	22.00	15.00		Fine Sand	Gray	Medium to dense sand	21.70 22.00	20/30	-	9	11													
23																									
24																									
25																									
26																									
27																									
28																									
29																									
30																									

BORING LOG (Soil exploration)

MULTIPURPOSE CYCLONE SHELTER
K.M. CHAR, MOHESKHALI,
PROJECT LOCATION COX'S BAZAR

GROUND ELEVATION 8.021 m

DATE OF INVESTIGATION 14 FEB. '93

Scheme No. 9900485
BORING HOLE No. A5-1

DEPTH TO GROUND WATER
LEVEL IN HOLE -1.25 m

INVESTIGATED BY

STAFF	FIELD OBSERVATIONAL RECORD				STANDARD PENETRATION TEST												SAMPLING							
	ELE- VATION	DE- PTH	THICK- NESS	COLUMN SECTION (Graphic mark)	Soil or Rock NAME OF CLASSIFICATION	COLOR TONE	DESCRIPTION	Depth m	N/ INTER- PENE- TRATION	Num. of blows Every 5 cm			NUMBER OF BLOWS N						Sample No.	Depth m	Method			
	m	m	m					m		15 cm	30 cm	45 cm	0	10	20	30	40	50	60					
1	6.321	1.70	1.70		Sandy Silt	Reddish Brown	Very loose fine sandy Silt	0.70 1.00 1.70	4/30	1	2	2												
2								2.00	11/30	4	5	6												
3							Med. dense fine to coarse Sand trace silt	2.70 3.00	13/30	5	6	7												
4	3.521	4.50	2.80		Medium Sand	Reddish Brown		3.70 4.00	10/30	6	4	6												
5							Med. stiff Silt trace f. Sand & mica	4.70 5.00	6/30	3	3	3												5.10
6	1.421	6.60	2.10		Silt	Gray		5.70 6.00	6/30	2	2	4												U-1 5.55
7							Med. stiff Silt with clay trace f. sand	6.70 7.00	6/30	2	2	4												
8	0.379	8.40	1.80		Silt with Clay	Gray		7.70 8.00	7/30	1	2	5												
9								8.70 9.00	23/30	6	10	13												
10							Med. dense to dense fine to med. Sand with silt	9.70 10.00	50/20	27	35	15/5												
11								10.70 11.00	50/19	27	38	12/4												
12								11.70 12.00	50/20	23	35	15/5												
13	5.429	13.45	5.05		Sand with Silt	Gray		12.70 13.00	50/20	24	35	15/5												
14								13.70 14.00	50/18	29	39	11/3												
15								14.70 14.85	50/15	34	50													
16								15.70 15.85	50/14	35	50/14													
17								16.70 16.85	50/14	35	50/14													
18							Very dense fine to med. Sand trace silt & mica	17.70 17.85	50/14	34	50/14													
19								18.70 18.85	50/14	36	50/14													
20								19.70 19.85	50/14	35	50/14													
21								20.70 20.85	50/13	36	50/13													
22								21.70 21.85	50/14	33	50/14													
23								22.70 22.85	50/14	35	50/14													
24	16.279	24.30	10.85		Sand	Gray		23.70 23.85	50/13	37	50/13													
25								24.70 24.85	50/14	50/14														
26							Hard Silt & fine Sand	25.70 25.85	50/14	50/14														
27								26.70 26.85	50/13	50/13														
28	19.579	27.60	3.30		Silt & Sand	Gray		27.70 27.85	50/13	50/13														
29							Hard fine sandy Silt	28.70 28.85	50/13	50/13														
30	21.979	30.00			Sandy Silt fine Sand	Gray		29.70 29.85	50/12	50/12														

BORING LOG (Soil exploration)

MULTIPURPOSE CYCLONE SHELTER
 PROJECT LOCATION CHARGANCHIL, COMPANIGONJI, NOAKHALI GROUND ELEVATION 4.16 m DATE OF INVESTIGATION 22 NOV. '92

Scheme No. 9840381 DEPTH TO GROUND WATER
 BORING HOLE No. A6-1 LEVEL IN HOLE -1.70 m INVESTIGATED BY

STAFF ELEVATION m	DEPTH m	THICKNESS m	FIELD OBSERVATIONAL RECORD				STANDARD PENETRATION TEST										SAMPLING																
			COLUMN SECTION (Graphic mark)	Soil or Rock NAME OF CLASSIFICATION	COLOR TONE	DESCRIPTION	Depth m	N/INTER-PENE on	Num. of blows Every 15 cm			NUMBER OF BLOWS N						Sample No.	Depth m	Method													
									15 cm	30 cm	45 cm	0	10	20	30	40	50				60												
	2.66	1.50	1.50	[Graphic Mark]	Silt	Gray	Relatively pure silt	0.70	12/30	5	5	7											D-1										
1								1.70																							D-2		
2								2.70																							D-3		
	0.66	3.50	2.00	[Graphic Mark]	Sandy Silt	Gray	Well graded	3.70	19/30	7	9	10																					
3								4.70																									
4								5.70																									
	1.34	5.50	2.00	[Graphic Mark]	Silty Sand	Gray	Fine sand with silt	6.70	25/30	8	10	15																					
5								7.70																									
6								8.70																									
				[Graphic Mark]	Sand	Gray	Dense, fine to medium sand trace silt	9.70	31/30	10	13	18																					
7								10.70																									
8								11.70																									
				[Graphic Mark]	Sand	Gray	Dense, fine to medium sand trace silt	12.70	37/30	12	15	22																					
9								13.70																									
10								14.70																									
	5.84	10.00	4.50	[Graphic Mark]	Sand	Gray	Dense, fine to medium sand trace silt	15.70	41/30	15	18	26																					
11								16.70																									
12								17.70																									
				[Graphic Mark]	Sand	Gray	Dense, fine to medium sand trace silt	18.70	44/30	14	17	24																					
13								19.70																									
14								20.70																									
				[Graphic Mark]	Sand	Gray	Dense, fine to medium sand trace silt	21.70	44/30	16	18	26																					
15								22.70																									
16								23.70																									
				[Graphic Mark]	Sand	Gray	Dense, fine to medium sand trace silt	24.70	44/30	16	18	26																					
17								25.70																									
18								26.70																									
				[Graphic Mark]	Sand	Gray	Dense, fine to medium sand trace silt	27.70	44/30	16	18	26																					
19								28.70																									
20								29.70																									
				[Graphic Mark]	Sand	Gray	Dense, fine to medium sand trace silt	30.70	44/30	16	18	26																					
21								31.70																									
22								32.70																									
				[Graphic Mark]	Sand	Gray	Dense, fine to medium sand trace silt	33.70	44/30	16	18	26																					
23								34.70																									
24								35.70																									
				[Graphic Mark]	Sand	Gray	Dense, fine to medium sand trace silt	36.70	44/30	16	18	26																					
25								37.70																									
26								38.70																									
				[Graphic Mark]	Sand	Gray	Dense, fine to medium sand trace silt	39.70	44/30	16	18	26																					
27								40.70																									
28								41.70																									
				[Graphic Mark]	Sand	Gray	Dense, fine to medium sand trace silt	42.70	44/30	16	18	26																					
29								43.70																									
30								44.70																									

BORING LOG (Soil exploration)

MULTIPURPOSE CYCLONE SHELTER
CHARGANCHIL,
PROJECT - LOCATION COMPANIGONJI, NOAKHALI

GROUND ELEVATION 4.30 m

DATE OF INVESTIGATION 21 NOV. '92

Scheme No. 9840381

DEPTH TO GROUND WATER

BORING HOLE No. A6-2

LEVEL IN HOLE -1.50 m

INVESTIGATED BY

STAFF m	ELE- MATION m	DE- PTH m	THICK- NESS m	FIELD OBSERVATIONAL RECORD			STANDARD PENETRATION TEST						SAMPLING																												
				COLUMN SECTION (Graphic mark)	Soil or Rock NAME OF CLASSIFICATION	COLOR TONE	DESCRIPTION	Depth m	N/ INTER- PENE- TRATION	Num. of blows Every 5 cm			NUMBER OF BLOWS N						Sample No.	Depth m	Me- thod																				
										15 cm	30 cm	45 cm	0	10	20	30	40	50				60																			
					Silt	Gray	Relatively pure silt	0.70	8/30	2	3	5							D-1																						
1	2.80	1.50	1.50		Silt	Gray	Relatively pure silt	1.00	6/30	2	2	4																													
2								1.70																																	
3	0.80	3.50	2.00		Sandy Silt	Gray	Well graded	2.00	12/30	3	5	7										D-3																			
								2.70																																	
4								3.00	21/30	9	10	11																													
								3.70																																	
5								4.00	31/30	12	14	17																													
								4.70																																	
6								5.00	42/30	16	19	23																													
				5.70																																					
7				6.00				38/30	14	18	20																														
				6.70																																					
8				7.00	34/30	13	16	18																																	
				7.70																																					
9				8.00	39/30	14	18	21																																	
				8.70																																					
10	5.70	10.00	6.50	Sand	Gray	Fine to medium sand trace silt	9.00	45/30	15	20	25																														
							9.70																																		
11							Sand	Gray	Fine to medium sand trace silt	10.00																															
12										Sand	Gray	Fine to medium sand trace silt																													
13													Sand	Gray	Fine to medium sand trace silt																										
14																Sand	Gray	Fine to medium sand trace silt																							
15																			Sand	Gray	Fine to medium sand trace silt																				
16																						Sand	Gray	Fine to medium sand trace silt																	
17																									Sand	Gray	Fine to medium sand trace silt														
18																												Sand	Gray	Fine to medium sand trace silt											
19				Sand	Gray	Fine to medium sand trace silt																																			
20				Sand	Gray	Fine to medium sand trace silt																																			
21				Sand	Gray	Fine to medium sand trace silt																																			
22				Sand	Gray	Fine to medium sand trace silt																																			
23				Sand	Gray	Fine to medium sand trace silt																																			
24				Sand	Gray	Fine to medium sand trace silt																																			
25				Sand	Gray	Fine to medium sand trace silt																																			
26				Sand	Gray	Fine to medium sand trace silt																																			
27				Sand	Gray	Fine to medium sand trace silt																																			
28				Sand	Gray	Fine to medium sand trace silt																																			
29				Sand	Gray	Fine to medium sand trace silt																																			
30				Sand	Gray	Fine to medium sand trace silt																																			

BORING LOG (Soil exploration)

MULTIPURPOSE CYCLONE SHELTER
 PROJECT LOCATION CHARLERK. HOAKHALI-9,
 HOAKHALI

GROUND ELEVATION 4.11 m

DATE OF INVESTIGATION 19 NOV. '92

Scheme No. 9840680

DEPTH TO GROUND WATER

INVESTIGATED BY

BORING HOLE No. A8-2

LEVEL IN HOLE -0.70 m

STAFF	FIELD OBSERVATIONAL RECORD				STANDARD PENETRATION TEST										SAMPLING							
	ELE- VATION	DE- PTH	THICK- NESS	COLUMN SECTION (Graphic mark)	Soil or Rock NAME OF CLASSIFICATION	COLOR TONE	DESCRIPTION	Depth m	N/ INTER- PENE- TRATION	Num. of blows Every 5 cm			NUMBER OF BLOWS N						Sample No.	Depth m	Re- cord	
	m	m	m					m	15 cm	30 cm	45 cm	0	10	20	30	40	50	60				
								-0.70														
1								1.00	10/30	3	5	5										
								1.70														
2								2.00	11/30	3	5	6										D-1 2.00
								2.70														U-1 2.30
3	0.61	3.50	3.50		Silt	Gray	Pure silt	3.00	16/30	5	7	9										D-2 3.00
								3.70														
4	0.39	4.50	1.00		Clayey Silt	Gray	Trace sand	4.00	11/30	3	5	6										D-3 4.00
								4.70														U-2 4.30
5								5.00	27/30	7	11	16										
								5.70														
6								6.00	29/30	8	12	17										
								6.70														
7								7.00	37/30	10	16	21										
								7.70														
8								8.00	45/30	13	20	25										
								8.70														
9								9.00	41/30	14	18	23										
								9.70														
10								10.00	40/30	16	18	24										
								10.70														
11								11.00	45/30	18	20	25										
								11.70														
12	7.89	2.00	7.50		Sand	Gray	Fine to med. sand trace	12.00	53/30	20	25	28										
13																						
14																						
15																						
16																						
17																						
18																						
19																						
20																						
21																						
22																						
23																						
24																						
25																						
26																						
27																						
28																						
29																						
30																						

APPENDIX 2.3 SUMMARY OF LABORATORY TEST

SUMMARY OF LABORATORY TEST

SITE LOCATION (Scheme No.)		BANSKHALI, CONDAMARA (9880980)						BANSKHALI, SARAL (9880982)										
BOREHOLE No.		A1-1			A1-2			B1-1			B1-2							
SAMPLE No.	DEPTH (m)	U-1	U-2	U-3	U-1	U-2	U-3	U-1	U-2	U-3	U-1	U-2	U-3	D-14	U-1	U-2	U-3	D-22
		3.10	7.10	23.10	2.10	5.10	15.10	3.10	20.10	13.55	4.10	14.10	21.55		4.10	14.10	21.55	
		3.55	7.55	23.55	2.55	5.55	15.55	3.55	20.55	14.00	4.55	14.55	22.00		4.55	14.55	22.00	
GENERAL	DRY DENSITY ρ_d g/cm ³	1.012	1.430	1.451	1.305	1.508	1.475	1.139	1.267	1.114	1.294				1.114	1.294		
	WET DENSITY ρ_l g/cm ³	1.645	1.912	1.919	1.835	1.943	1.954	1.655	1.694	1.655	1.726				1.655	1.726		
	SPECIFIC GRAVITY ρ_s g/cm ³	2.587	2.596	2.595	2.622	2.626	2.633	2.579	2.605	2.584	2.619				2.584	2.619		
	NAT. MOIST. CONT. w_n %	62.52	33.66	32.19	40.56	28.82	31.18	45.35	33.69	48.60	32.88				48.60	32.88		
	VOID RATIO e	1.556	0.815	0.788	1.009	0.741	0.785	1.264	1.056	1.320	1.024				1.320	1.024		
	SATURATION S_r %	100	100	100	100	100	100	92.5	83.1	95.2	84.1				95.2	84.1		
	GRAVEL (2~75mm) %																	
	SAND (75 μ m~2mm) %	5	12	8	24	13	16	2	18	20	24				—	24		19
	SILT (5~75 μ m) %	79	80	79	56	73	74	65	82	80	76				65	76		76
	CLAY (Under 5 μ m) %	16	8	13	17	14	10	33	—	—	—				35	—		5
	UNIFORMITY U_c																	
	CURVATURE U_c'																	
	MAX. GRAIN SIZE mm																	
ATTENBERG	LIQUID LIMIT w_L %	48.42	34.60	49.90	47.60	44.92	36.32	58.80	N.P	N.P	55.40				55.40	N.P		N.P
LIMITS	PLASTIC LIMIT w_p %	25.90	22.00	23.40	24.90	23.80	22.72	32.50			30.90				30.90			
	PLASTICITY INDEX I_p	22.52	12.60	26.50	22.70	21.12	13.60	26.30			24.50				24.50			
	CONSISTENCY INDEX																	
SOIL CLASS.	CLASSIFICATION																	
	UNIFIED SOIL CLASS.	CL	CL	CL	CL	CL	CL	MH	M	M	CH	M	M	M	CH	M	M	M
UNCONF. COMPRESS	UNCONF. LINEAR STRENGTH q_u kcf/cm ²	0.355	0.548	0.350	0.316	0.711	0.237	0.405	0.489	0.505	0.699				0.505	0.699		
	FAILURE STRAIN %	10.71	7.14	4.98	10.71	10.71	10.71	12.49	5.35	10.71	5.35				10.71	5.35		

SUMMARY OF LABORATORY TEST

SITE LOCATION (Scheme No.)		CHAKORIA, BADARKHALI (9900182)						MAGESKHALI, K. M. CHARA (9900485)							
BOREHOLE No.		A2-1			A2-2			A5-1			A5-2				
SAMPLE No.		U-1	U-2	D-16	U-1	U-2	D-12	U-2	U-1	U-2	D-10	D-15	U-1	D-11	D-17
DEPTH (m)		3.10	6.10	15.55	2.10	21.10	11.55	21.10	5.10	7.10	9.55	14.55	5.10	10.55	16.55
		3.55	6.55	16.00	2.55	21.55	12.00	21.55	5.55	7.55	10.00	15.00	5.55	11.00	17.00
GENERAL	DRY DENSITY ρ_d g/cm ³	1.341	1.642		0.956	1.586		1.586	1.515	1.628			1.161		
	WET DENSITY ρ_t g/cm ³	1.866	2.145		1.642	1.986		1.986	1.947	2.006			1.720		
	SPECIFIC GRAVITY ρ_s g/cm ³	2.588	2.612	2.623	2.590	2.589	2.594	2.589	2.634	2.625	2.657	2.670	2.619	2.655	2.664
	NAT. MOIST. CONT. W_n %	39.17	30.60	25.00	71.85	39.29	39.29	25.20	28.50	23.22	22.60	20.91	48.17	25.40	22.80
	VOID RATIO e	0.930	0.591		1.709	0.632		0.632	0.739	0.612			1.256		
	SATURATION S_r %	100	100		100	100		100							
	GRAVEL (2~75mm) %														
	SAND (75 μ m~2mm) %	4	39	55	4	—	6	—	9	6	74	91	10	59	73
	SILT (5~75 μ m) %	79	51	40	76	73	78	73	91	94	26	9	83	41	27
	CLAY (Under 5 μ m) %	17	10	5	20	27	16	27	—	—	—	—	7	—	—
UNIFORMITY U_c															
CURVATURE U_c'															
MAX. GRAIN SIZE mm															
ATTRIBUTED LIMITS	LIQUID LIMIT W_L %	48.80	33.90	N.P	49.80	52.90	45.42	52.90	N.P	N.P	N.P	N.P	30.00	N.P	N.P
	PLASTIC LIMIT W_p %	25.50	21.00		27.50	29.70	26.00	29.70					19.40		
	PLASTICITY INDEX I_p	23.30	12.90		22.30	23.20	19.42	23.20					10.40		
	CONSISTENCY INDEX														
SOIL CLASSIFICATION															
UNCONFINED COMPRESS	UNIFIED SOIL CLASS.	CL	CL	SM	CL	CL	CL	CL	M	M	SM	S	CL	SM	SM
	UNCONFINED COMPRESSIVE STRENGTH q_u kgf/cm ²	0.395	0.398		0.302	2.000		2.000	0.925	1.352			0.687		
	FAILURE STRAIN %	10.71	7.14		10.71	7.14		7.14	3.57	3.57			8.92		

SUMMARY OF LABORATORY TEST

SITE LOCATION (Scheme No.)		CHAKORIA, BADARKHALI (9900183)									
BOREHOLE No.		A3-1									
SAMPLE No.		U-1	U-2	D-5	D-12	D-19	U-1	U-2	D-5	D-20	
DEPTH	(m)	0.50	2.50	4.55	11.55	18.50	0.50	2.50	4.55	19.55	
		0.95	2.95	5.00	12.00	19.00	0.95	2.95	5.00	20.00	~
GENERAL	DRY DENSITY ρ_d g/cm ³	0.934	1.416				1.287	1.130			
	WET DENSITY ρ_t g/cm ³	1.545	1.874				1.787	1.696			
	SPECIFIC GRAVITY ρ_s g/cm ³			2.69	2.65	2.72		2.70	2.65	2.70	
	NAT. MOIST. CONT. W_n %			31.87	25.70	48.01		30.21	35.10	47.94	
	VOID RATIO e							1.389			
	SATURATION S_r %							100			
GRAIN SIZE	GRAVEL (2~75mm) %										
	SAND (75 μ m~2mm) %			22	78	3			26	12	10
	SILT (5~75 μ m) %			59	18	56			57	67	49
	CLAY (Under 5 μ m) %			19	4	41			17	21	41
	UNIFORMITY U_c										
	CURVATURE U_c'										
ATTERBERG LIMITS	MAX. GRAIN SIZE mm										
	LIQUID LIMIT W_L %			30.3		51.3			31.5	33.9	48.2
	PLASTIC LIMIT W_p %			21.5	N.P.	26.0			20.5	24.8	24.8
	PLASTICITY INDEX I_p			8.8		25.3			11.0	9.1	23.4
SOIL CLASS.	UNIFIED SOIL CLASS.			CL	SM	CH			CL	ML	CL
UNCONFINED COMPRESSION	UNCONFINED COMPRESSION STRENGTH q_u kgf/cm ²	0.224	0.711				0.843	0.233			
		0.267	0.639				0.548	0.203			
		0.142					0.690	0.259			
FAILURE STRAIN %		8.33	11.67				11.67	15.00			
		10.00	15.00				10.00	15.00			
		18.33					6.67	16.67			

SUMMARY OF LABORATORY TEST

SITE LOCATION (Scheme No.)		CHAKORIA, BADARKHALI (9900185)									
BOREHOLE No.		A4-1					A4-2				
SAMPLE No.	(m)	U-1	U-3	D-2	D-5	D-10	U-1	U-3	D-4	D-5	D-6
DEPTH	(m)	0.50 0.95	2.50 2.95	1.55 2.00	4.55 5.00	9.55 10.00	0.50 0.95	2.50 2.95	3.55 4.00	4.55 5.00	5.5 6.00
DRY DENSITY	ρ_d g/cm ³	1.207	1.131				1.087	1.131			
WET DENSITY	ρ_t g/cm ³	1.718	1.689				1.656	1.697			
SPECIFIC GRAVITY	ρ_s g/cm ³			2.70	2.66	2.72			2.70	2.70	2.75
NAT. MOIST. CONT.	W _n %			40.12	49.20	28.75			52.27	47.84	51.14
VOID RATIO	e										
SATURATION	S _r %										
GRAVEL (2 ~ 75mm)	%										
SAND (75 μm ~ 2mm)	%			1	5	50			1	6	5
SILT (5 ~ 75 μm)	%			59	57	41			53	57	56
CLAY (Under 5 μm)	%			40	38	9			46	37	39
UNIFORMITY	U _c										
CURVATURE	U _{c'}										
MAX. GRAIN SIZE	mm										
LIQUID LIMIT W _L	%			49.5	44.2	26.8			51.0	43.0	44.8
PLASTIC LIMIT W _p	%			26.0	25.0	19.0			26.4	25.0	26.0
PLASTICITY INDEX I _p				23.5	19.2	7.8			24.6	18.0	18.8
CONSISTENCY INDEX											
SOIL CLASSIFICATION											
UNIFIED SOIL CLASS.				CL	CL	SM			CL	CL	CL
UNCONFINED COMPRESSION STRENGTH	q _u kgf/cm ²	0.376 0.313 0.401	0.181 0.181 0.186				0.459 0.362 0.211	0.345 0.219 0.413			
FAILURE STRAIN %	%	10.00 11.66 20.00	20.00 20.00 20.00				11.67 13.33 11.66	15.00 16.66 16.66			

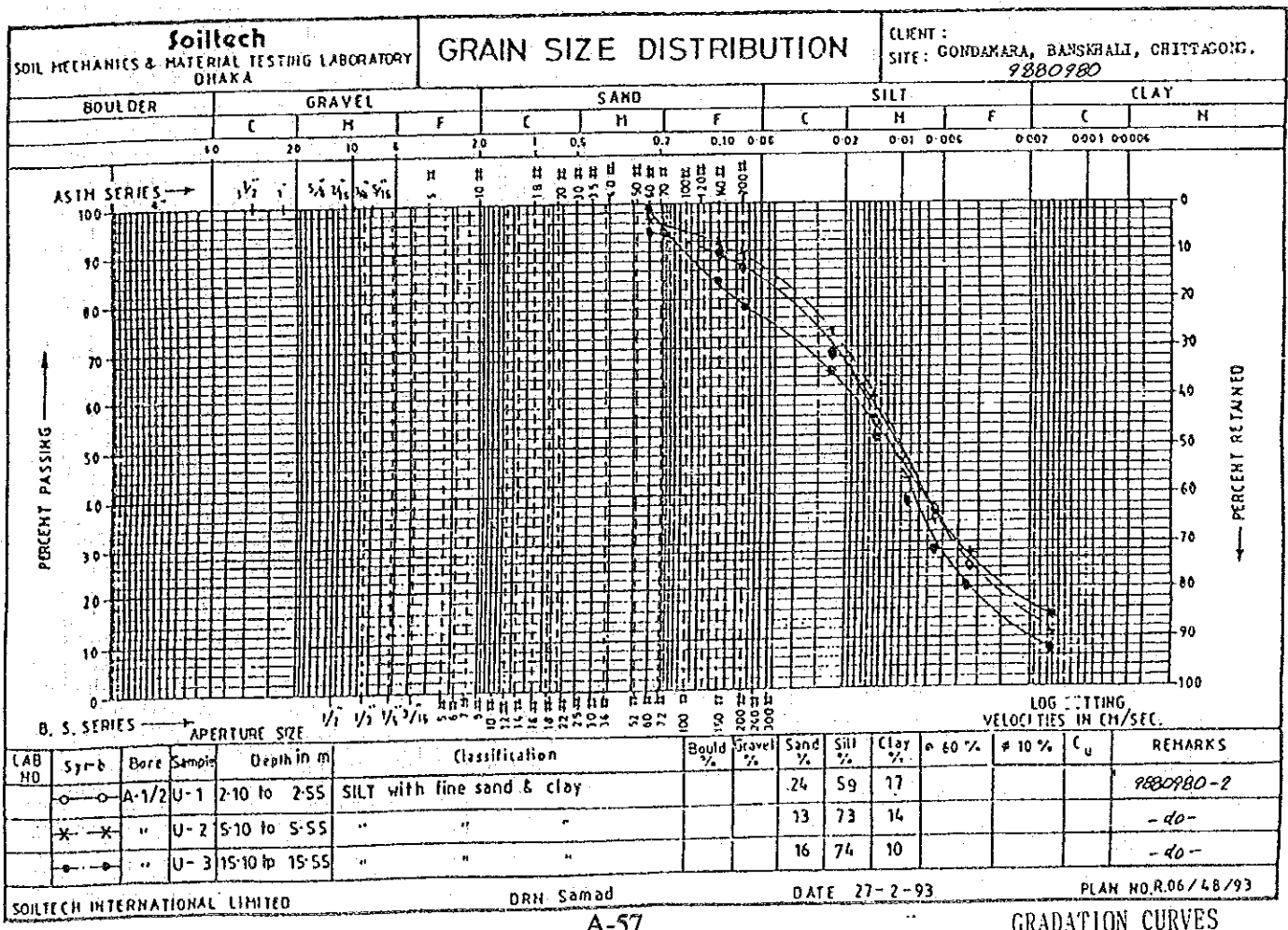
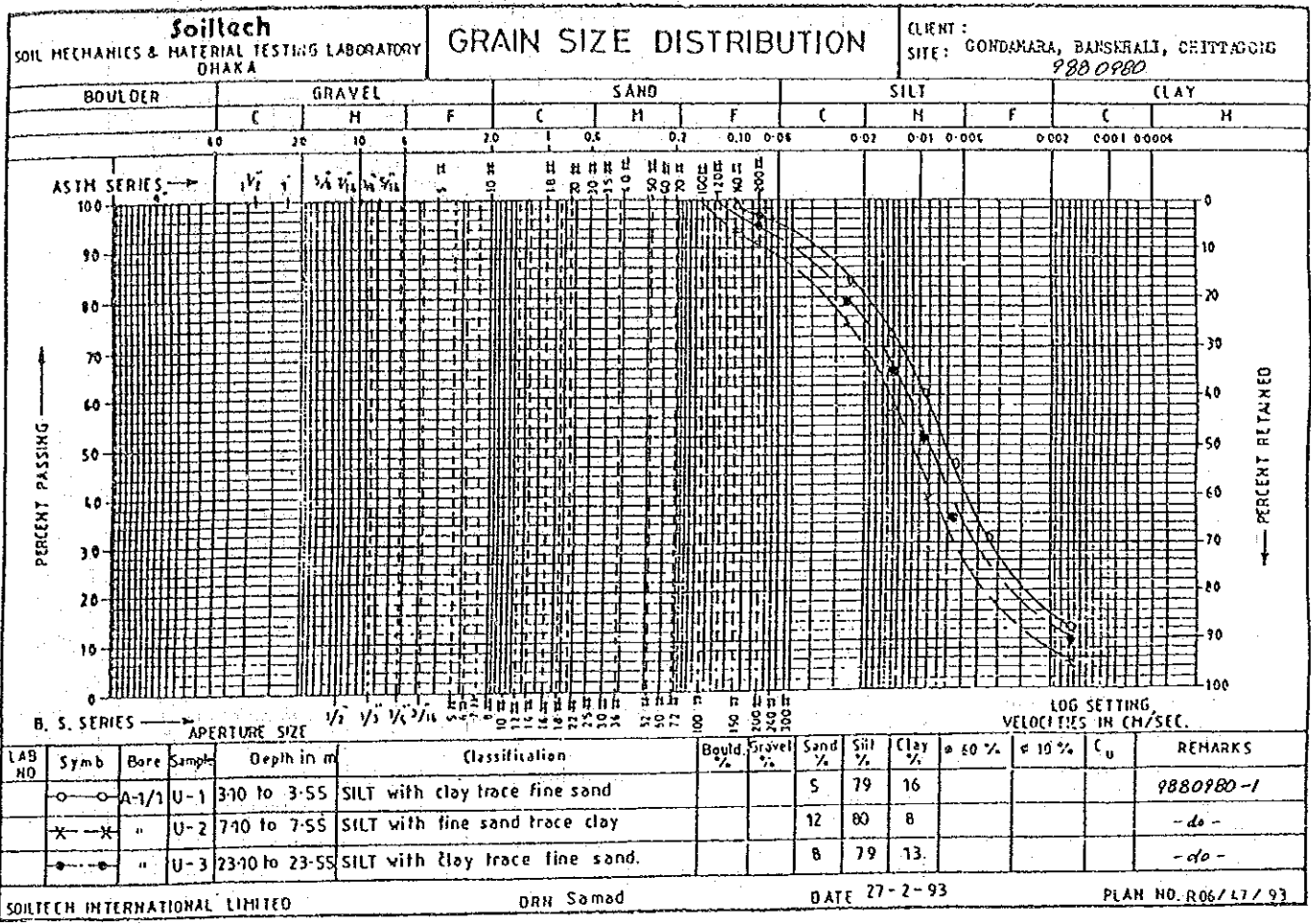
SUMMARY OF LABORATORY TEST

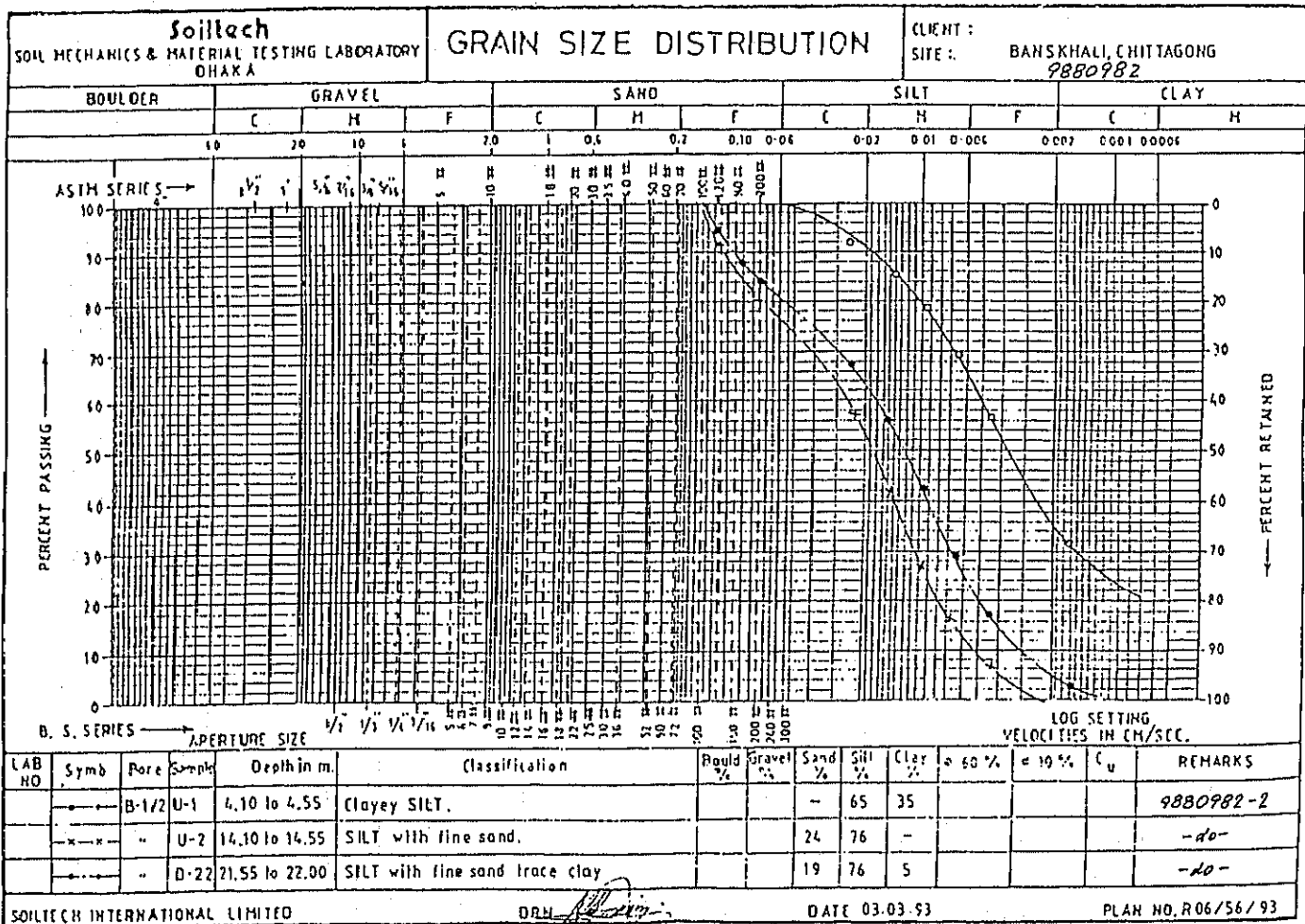
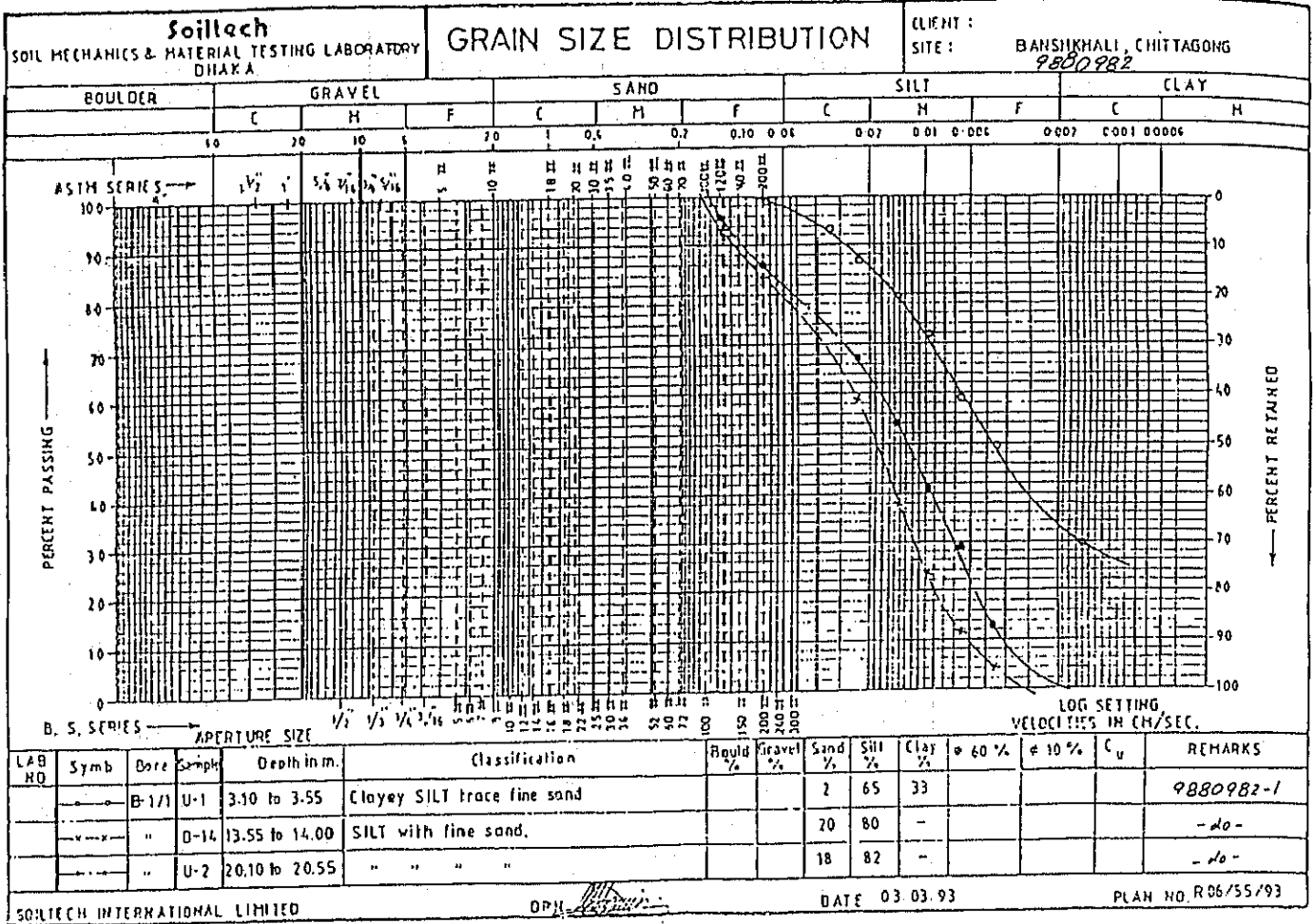
SITE LOCATION (Scheme No.)		HATIYA, BRIRCHAR (9840480)						HATIYA, JAHAJIMARA (NIJUNDWIP) (9840481)					
BOREHOLE No.		B9-1			B9-2			A7-1			A7-2		
SAMPLE No.		U-1	U-2	U-3	U-1	U-2	U-3	U-1	U-2	U-3	U-1	U-2	U-3
DEPTH (m)		2.10	7.10	12.10	2.10	7.10	10.10	2.10	7.10	11.10	3.10	10.10	12.10
		2.55	7.55	12.55	2.55	7.55	10.55	2.55	7.55	11.55	3.55	10.55	12.55
DRY DENSITY ρ_d g/cm ³		1.432	1.515	1.473	1.465	1.586	1.568	1.451	1.659	1.314	1.713	1.614	1.357
WET DENSITY ρ_t g/cm ³		1.919	1.869	1.855	1.931	2.025	2.077	1.936	2.166	1.819	2.124	2.053	1.884
SPECIFIC GRAVITY G_s g/cm ³		2.620	2.630	2.669	2.627	2.640	2.658	2.662	2.658	2.632	2.657	2.629	2.629
NAT. MOIST. CONT. w_n %		35.50	23.36	25.96	31.78	27.68	32.52	33.36	30.51	38.47	23.96	27.19	38.54
VOID RATIO e		0.830	0.736	0.812	0.793	0.665	0.695	0.835	0.602	1.003	0.551	0.629	0.937
SATURATION S_r %		100	83.5	85.3	100	100	100	100	100	100	100	100	100
GRAVEL (2~75mm) %													
SAND (75 μ m~2mm) %		6	17	85	9	36	55	78	51	5	67	18	10
SILT (5~75 μ m) %		84	83	15	83	64	45	22	49	88	33	82	82
CLAY (Under 5 μ m) %		10	—	—	8	—	—	—	—	7	—	—	8
UNIFORMITY U_c													
CURVATURE U_c'													
MAX. GRAIN SIZE mm													
LIQUID LIMIT w_L %		38.85	—	—	31.40	—	—	—	—	32.40	—	—	28.90
PLASTIC LIMIT w_p %		21.90	—	—	19.20	—	—	—	—	19.60	—	—	18.60
PLASTICITY INDEX I_p		16.95	—	—	12.20	—	—	—	—	12.80	—	—	10.30
CONSISTENCY INDEX													
CLASSIFICATION													
UNIFIED SOIL CLASS.		ML	M	SM	CL	M	SM	SM	SM	CL	SM	M	CL
UNCONF. COMPRESS. STRENGTH q_u kgf/cm ²		0.711	0.517	0.313	0.431	0.399	0.598	0.643	0.433	0.404	0.356	0.461	0.293
FAILURE STRAIN %		10.71	5.37	3.57	8.92	3.57	3.57	5.35	5.35	7.14	3.57	5.35	5.35

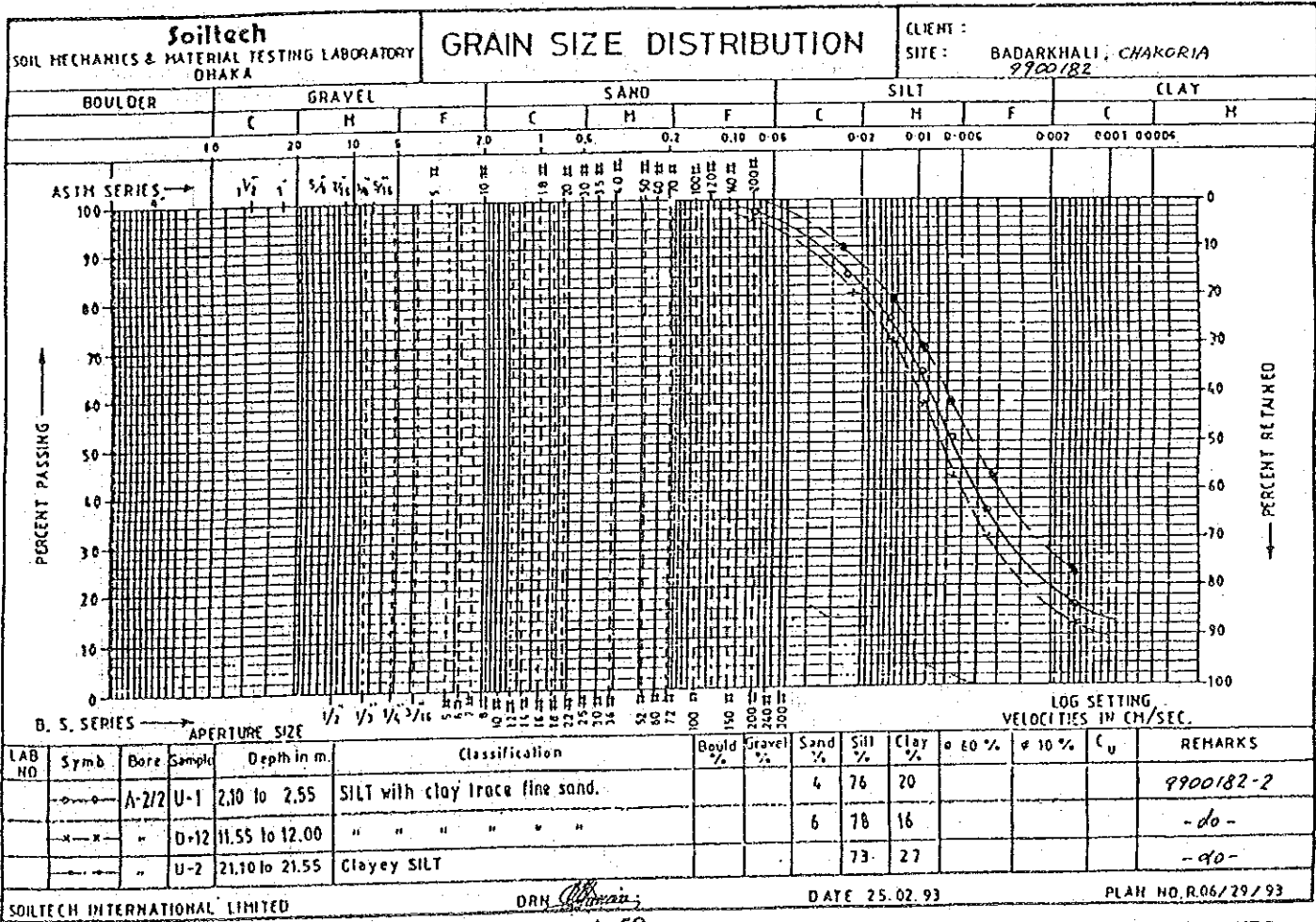
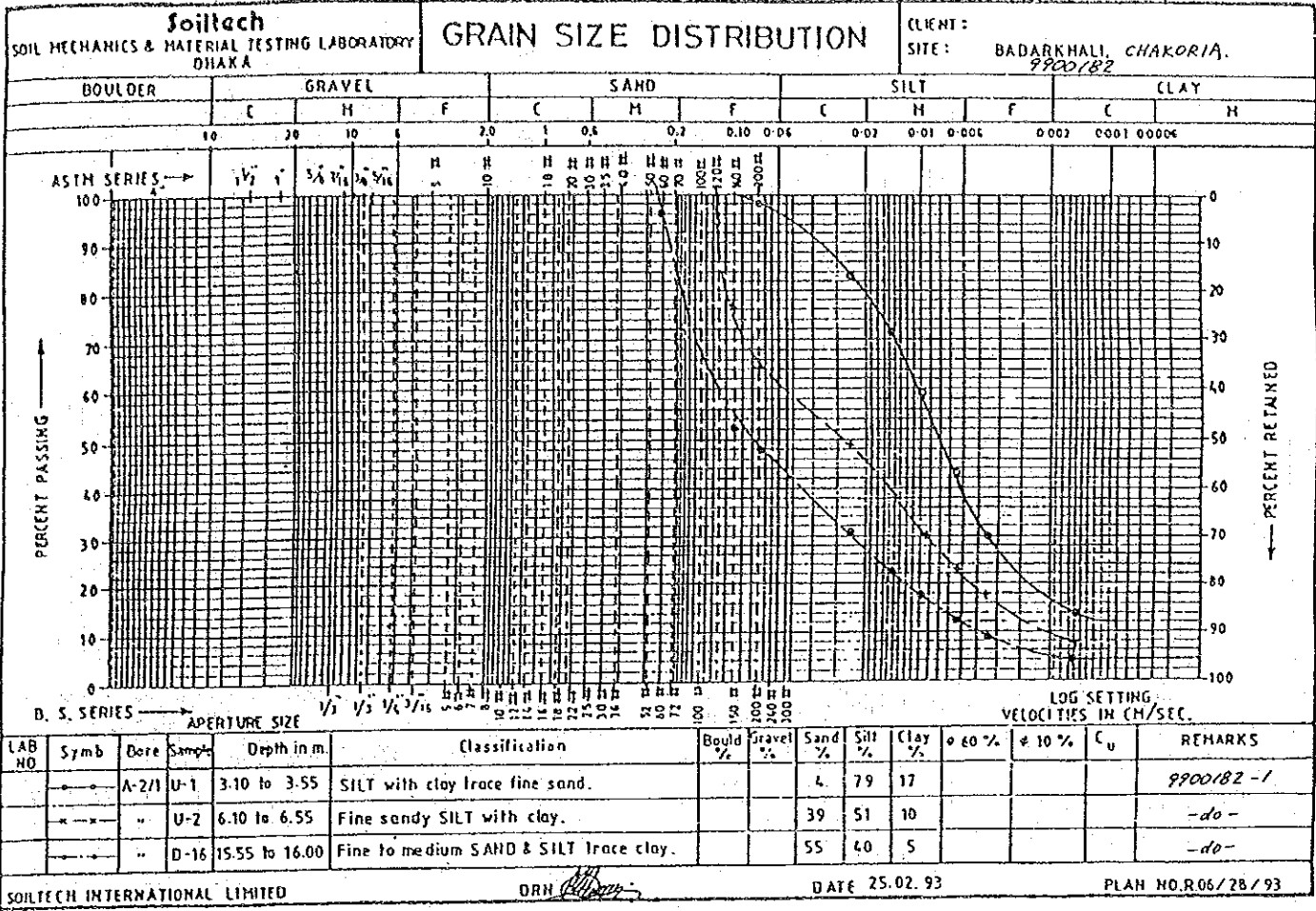
SUMMARY OF LABORATORY TEST

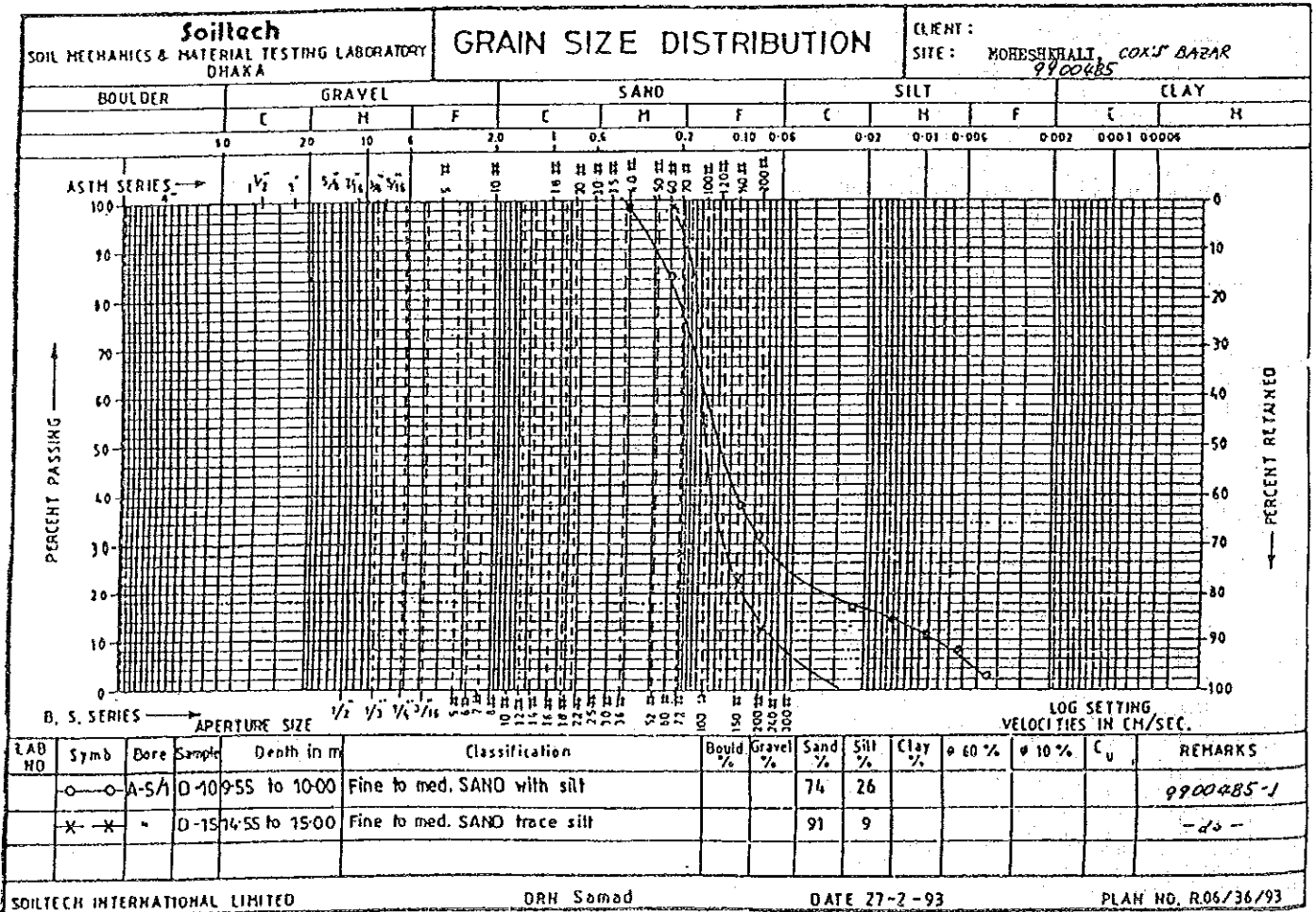
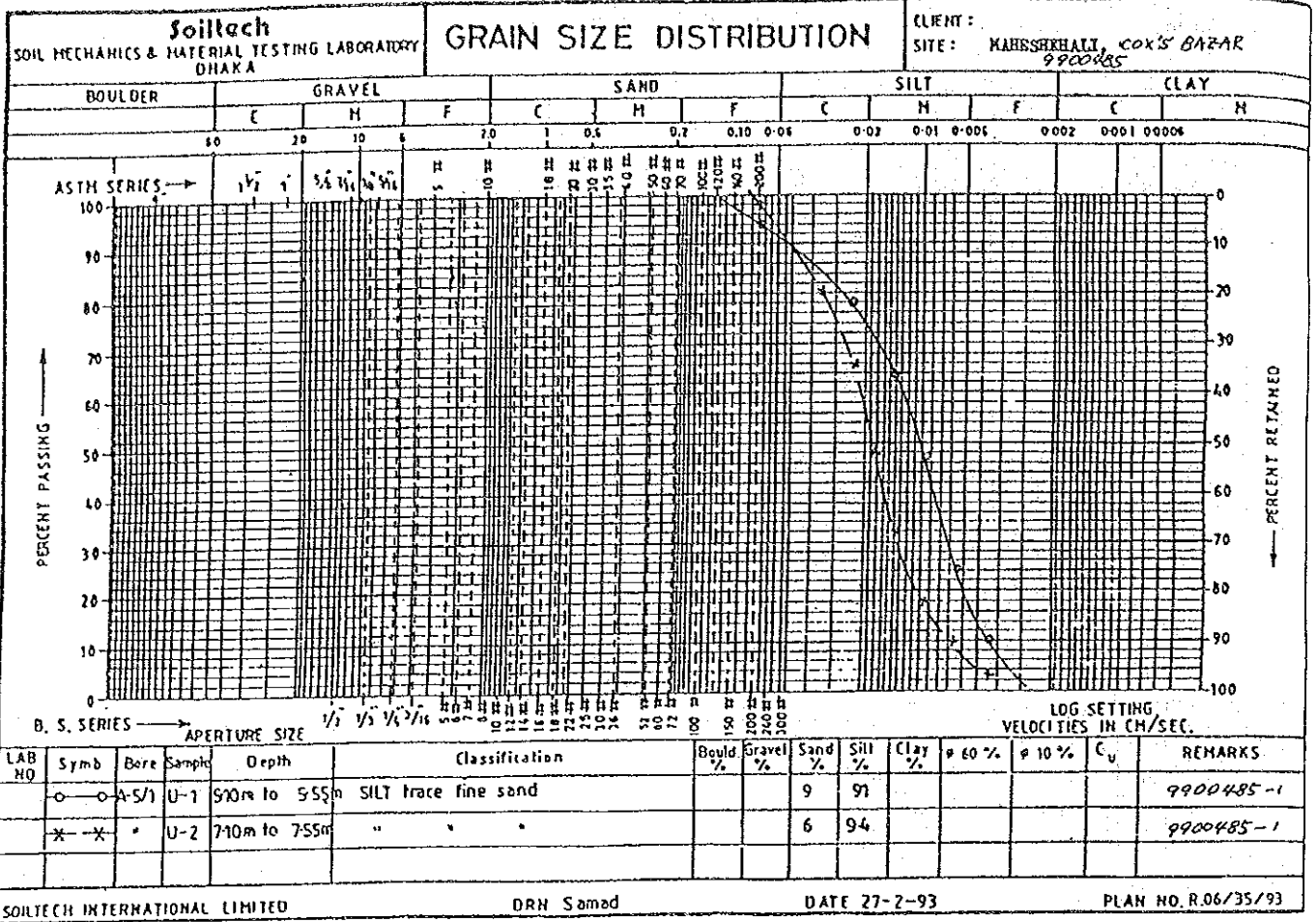
SITE LOCATION (Scheme No.)		NOAKHALI, COMPANIGANJ I, Chaganchil (9840381)										NOAKHALI-S, Char Clerk (9840680)																
BOREHOLE No.		A6-1					A6-2					A8-1					A8-2											
SAMPLE No.		D-1	D-2	D-3	D-1	D-2	D-3	D-1	D-2	D-3	D-1	D-2	D-3	D-1	D-2	D-3	D-1	D-2	D-3	D-1	D-2	D-3	D-1	D-2	D-3	D-1	D-2	D-3
DEPTH (m)		0.70	1.70	2.70	0.70	1.70	2.70	0.70	1.70	2.70	0.70	1.70	2.70	0.70	1.70	2.70	0.70	1.70	2.70	0.70	1.70	2.70	0.70	1.70	2.70	0.70	1.70	2.70
		1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00
GENERAL																												
DRY DENSITY ρ_d g/cm ³																												
WET DENSITY ρ_t g/cm ³																												
SPECIFIC GRAVITY ρ_s g/cm ³		2.71	2.68	2.70	2.70	2.65	2.68	2.70	2.65	2.68	2.70	2.68	2.70	2.65	2.68	2.70	2.65	2.68	2.70	2.65	2.68	2.70	2.65	2.68	2.70	2.65	2.68	2.70
NAT. MOIST. CONT. W_n %		35.68	35.00	33.80	35.80	28.74	28.63	33.80	28.74	28.63	33.80	28.63	33.80	28.74	28.63	33.80	28.63	33.80	34.67	35.00	34.67	35.00	34.67	35.00	34.67	35.00	34.67	35.60
VOID RATIO e																												
SATURATION S_r %																												
GRAVEL (2~75mm) %																												
SAND (75 μ m~2mm) %		2	20	38	4	42	35	38	4	42	35	38	4	42	35	38	4	42	35	38	4	42	35	38	4	42	35	
SILT (5~75 μ m) %		90	70	57	94	52	65	57	94	52	65	57	94	52	65	57	94	52	65	81	97	90	84	90	84	90	84	
CLAY (under 5 μ m) %		8	10	5	2	6	1	5	2	6	1	5	2	6	1	5	2	6	1	17	2	8	14	8	14	8	14	
UNIFORMITY U_c																												
CURVATURE U_c'																												
MAX. GRAIN SIZE mm																												
LIQUID LIMIT W_L %		39	34	N.P.	39	N.P.	N.P.	N.P.	39	N.P.	N.P.	N.P.	N.P.	39	N.P.	N.P.	N.P.	43	42	45	45	45	45	45	45	45	40	
PLASTIC LIMIT W_P %		28	26		29			29					29				33	28	33	28	33	28	33	28	33	28	28	
PLASTICITY INDEX I_p		11	8		10			10					10				10	10	14	14	12	12	12	12	12	12	12	
CONSISTENCY INDEX																												
CLASSIFICATION																												
UNIFIED SOIL CLASS.		ML	ML	M	ML	M	M	M	ML	M	M	M	M	ML	M	M	ML	ML	ML	ML	ML	ML	ML	ML	ML	ML	ML	
UNCONFINED COMPRESSION STRENGTH																		0.602	0.887	0.677	0.887	0.677	0.887	0.677	0.887	0.677	0.887	1.097
																		0.825	0.788	1.182	0.788	1.182	0.825	1.182	0.825	1.182	1.155	
																		0.995	0.924	0.828	0.924	0.828	0.995	0.828	0.995	0.828	1.095	
FAILURE STRAIN %																	8.33	9.33	10.00	9.33	10.00	8.33	10.00	8.33	10.00	11.66		
																	10.00	8.33	9.17	8.33	9.17	10.00	8.33	9.17	10.00	8.33	9.17	

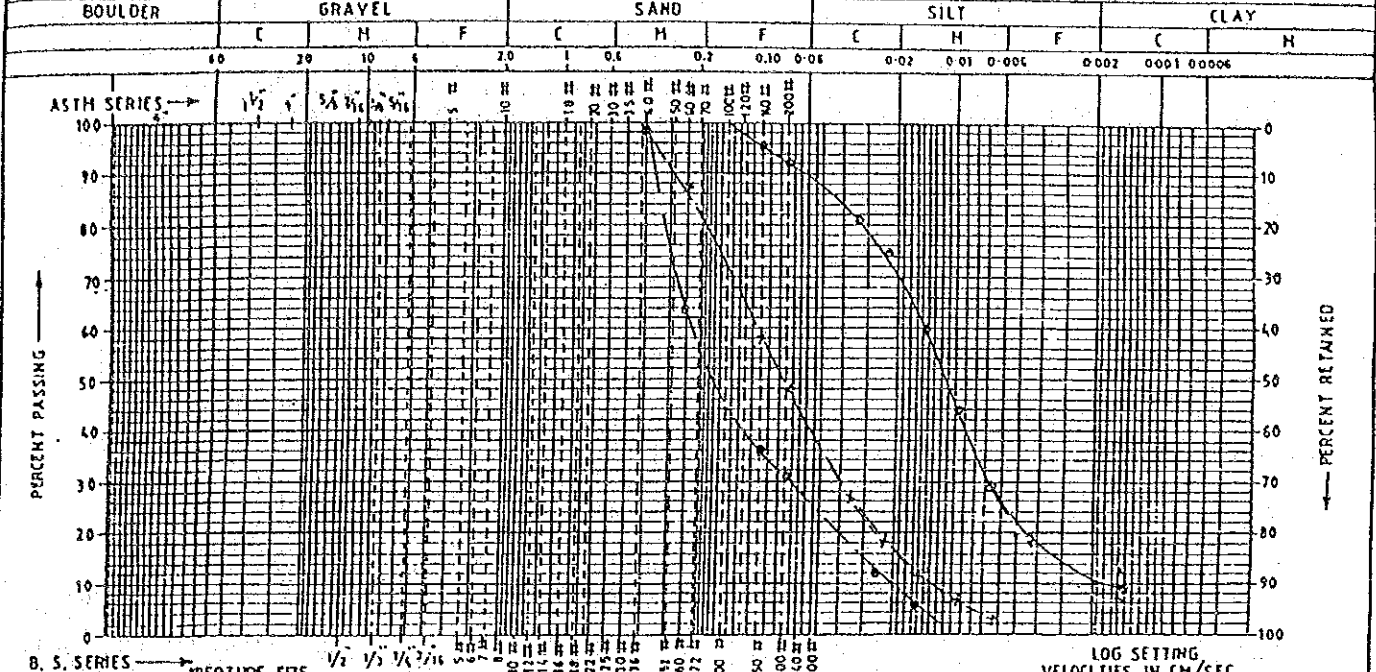
APPENDIX 2.4 GRAIN SIZE DISTRIBUTION



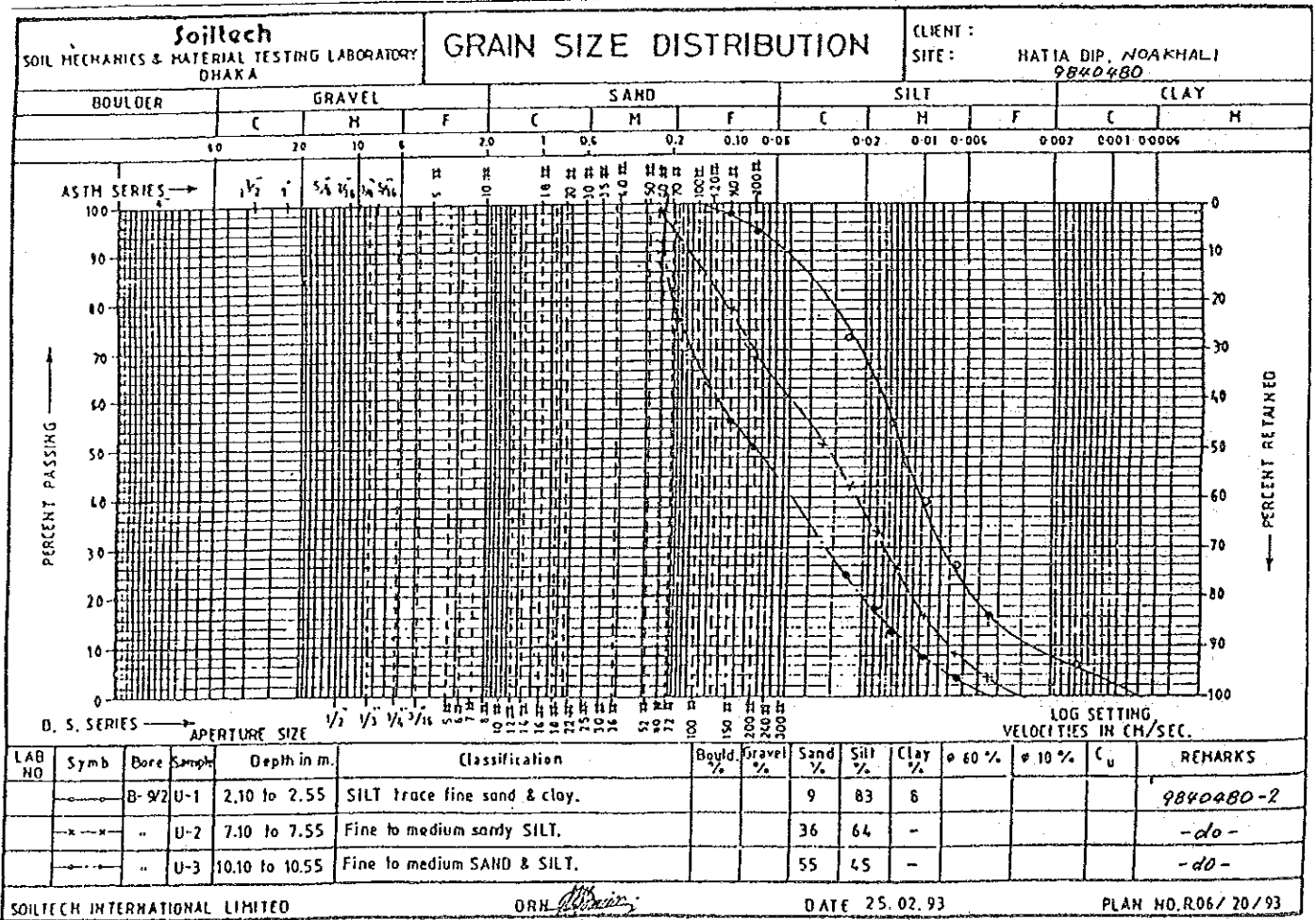
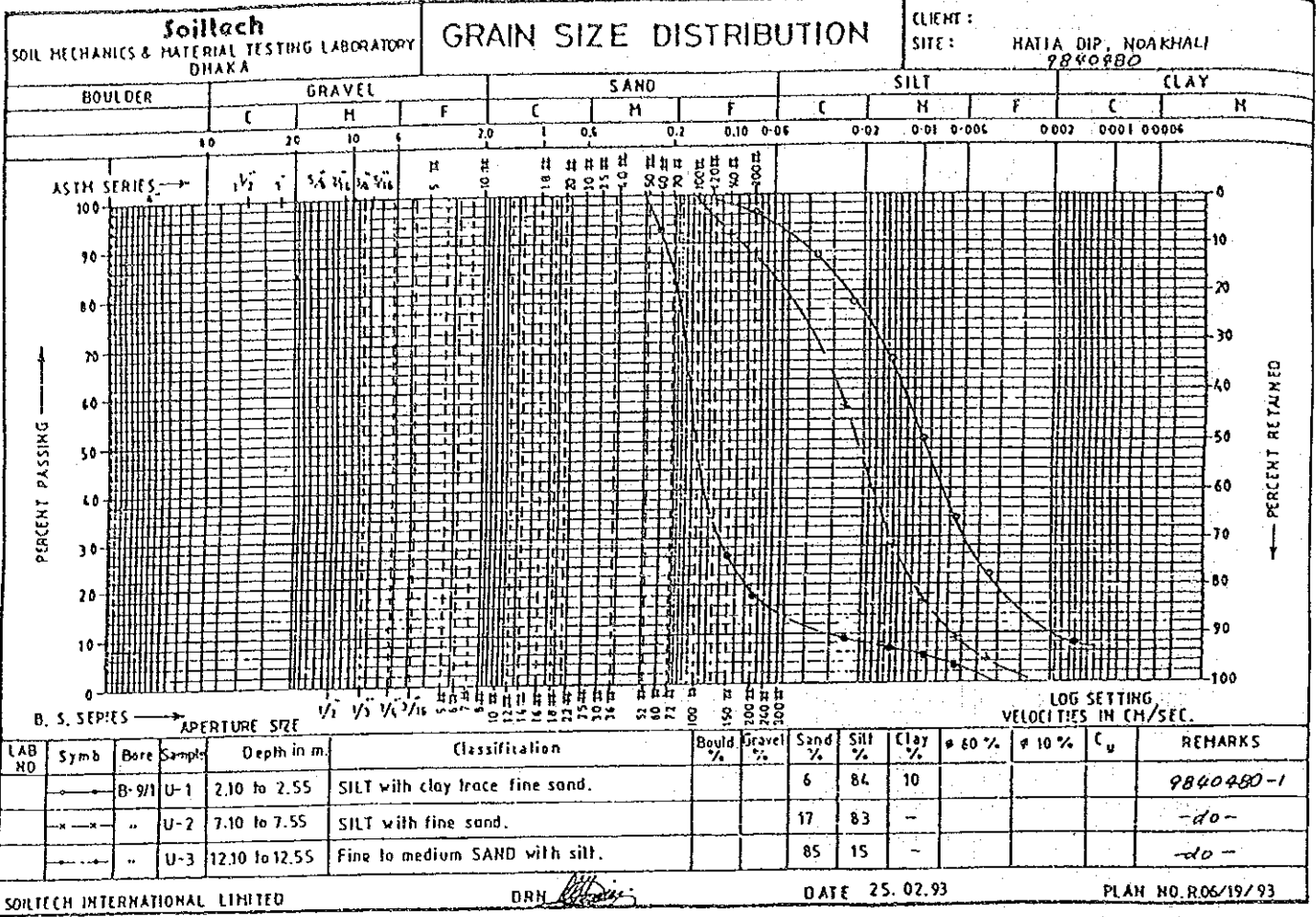


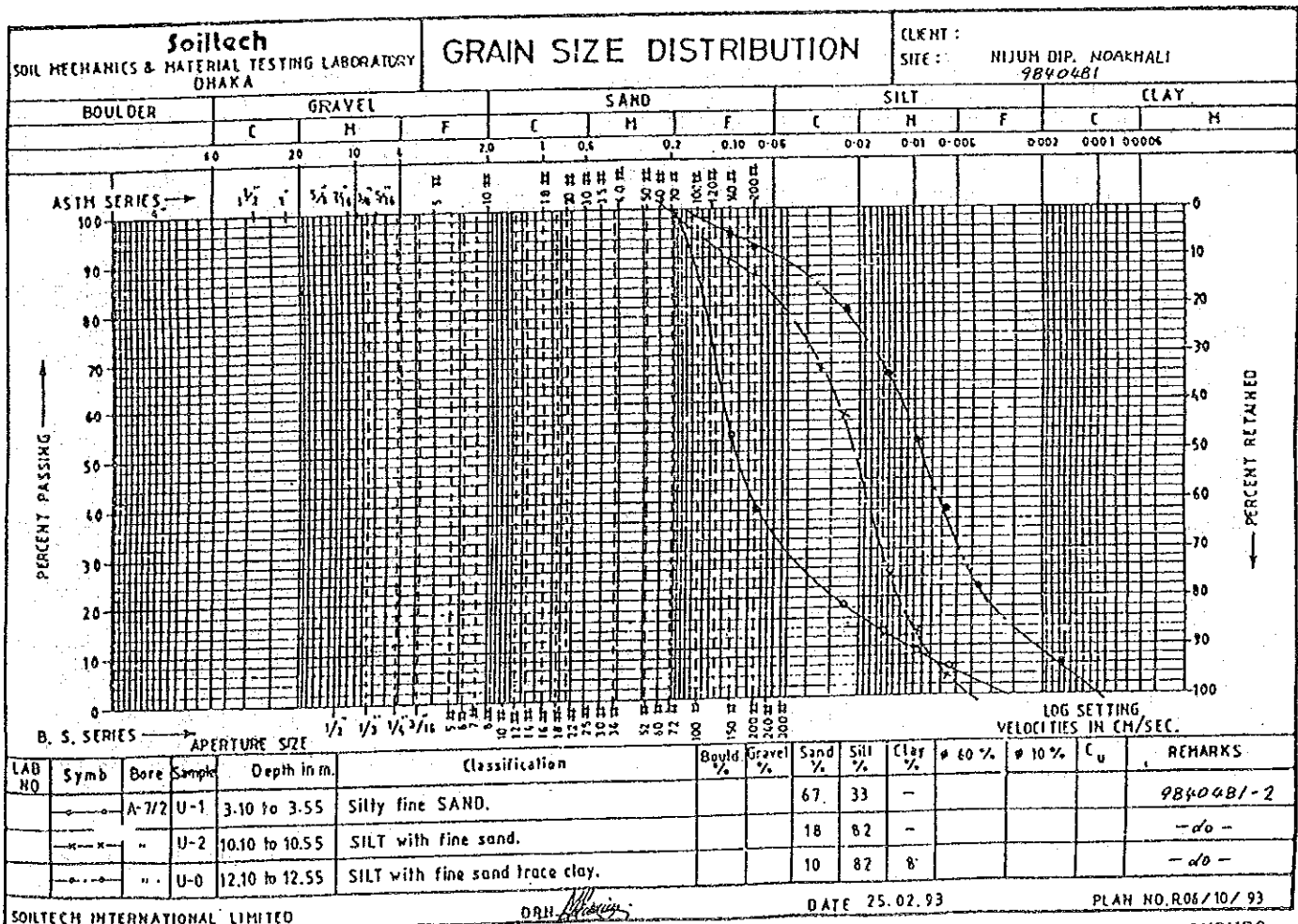
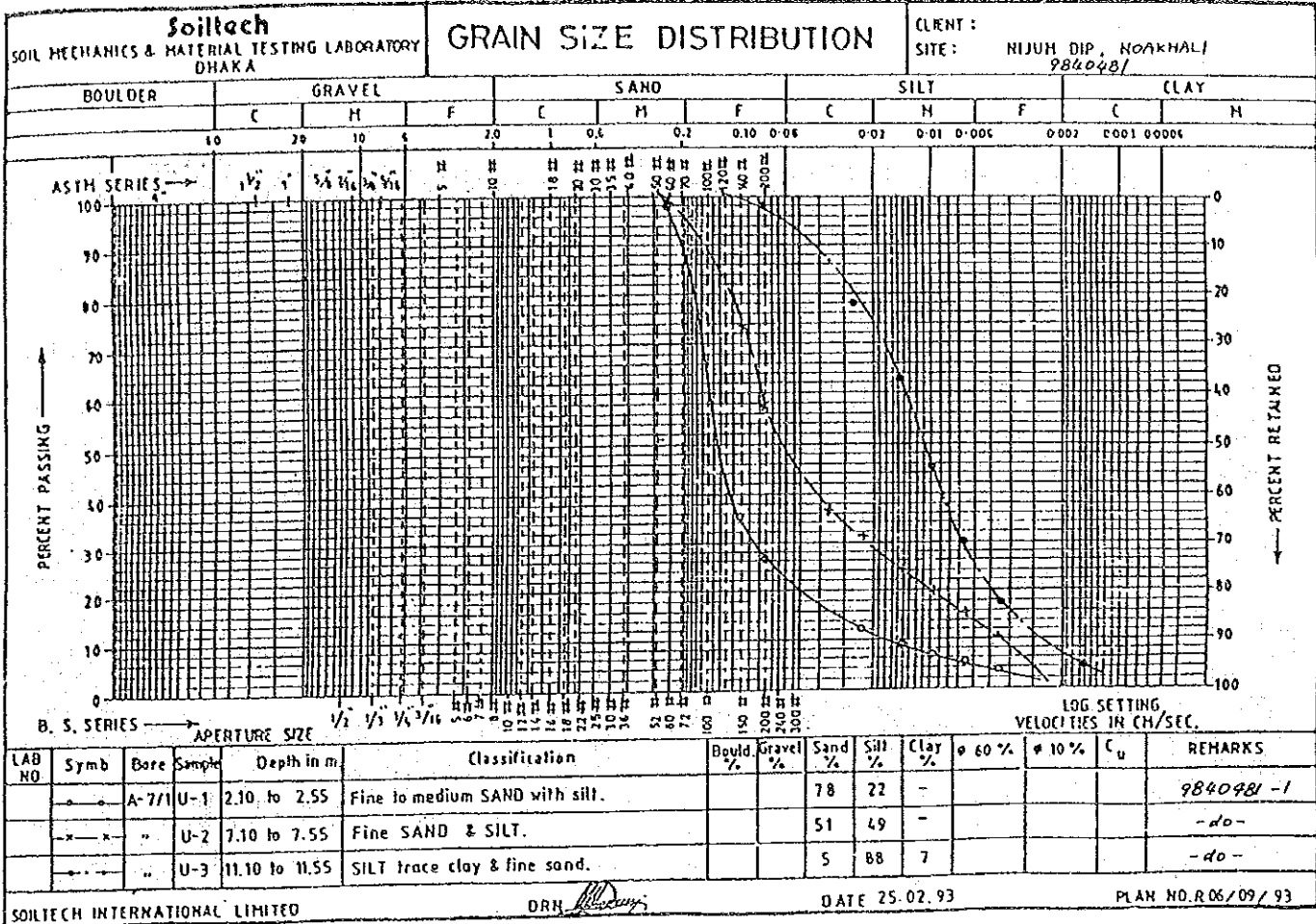


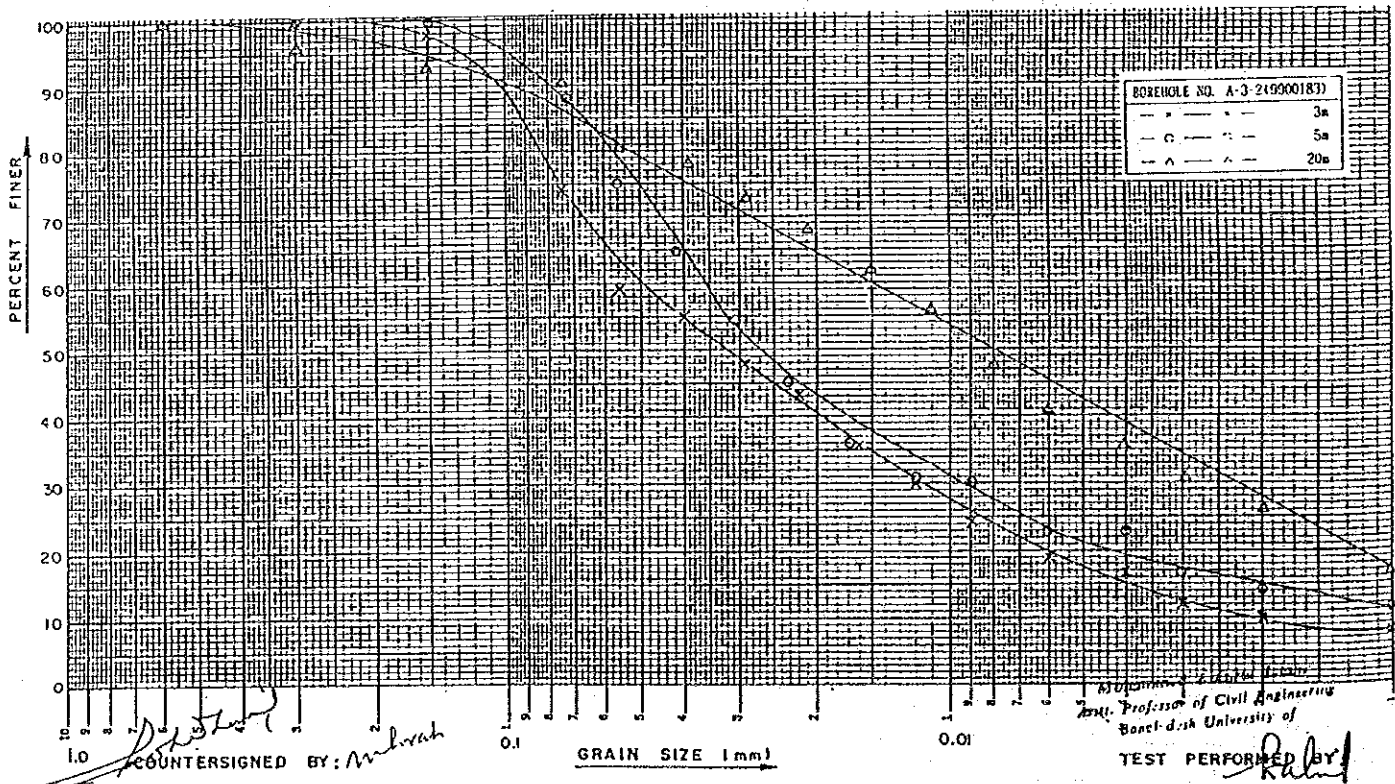
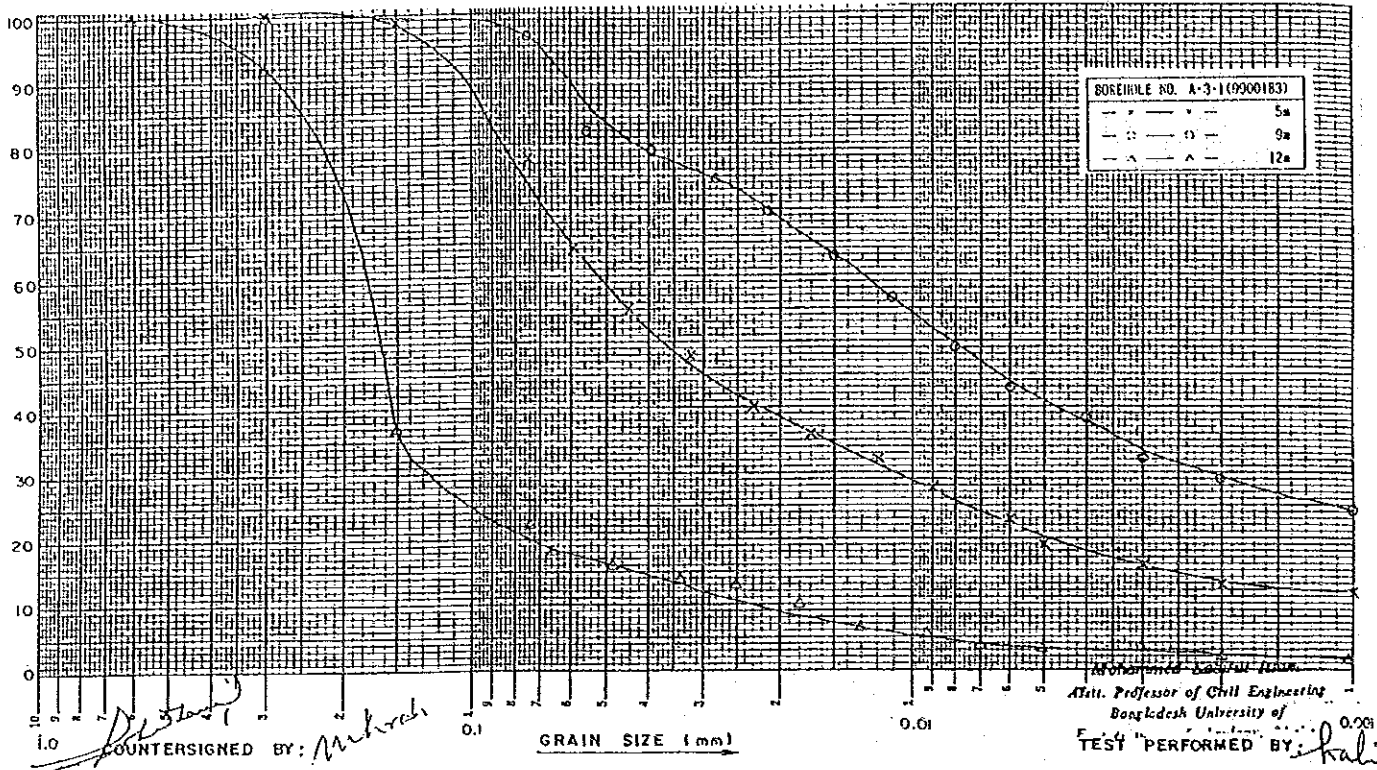




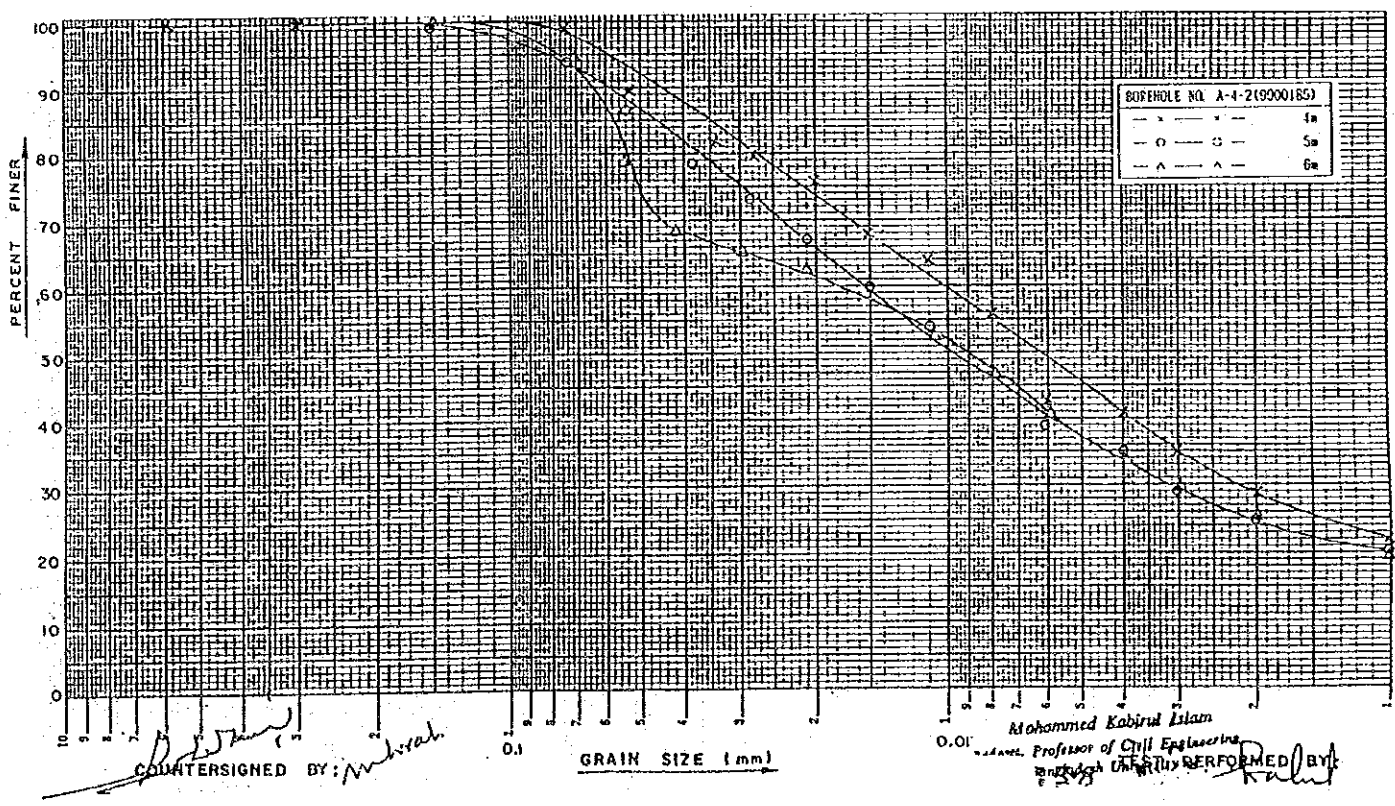
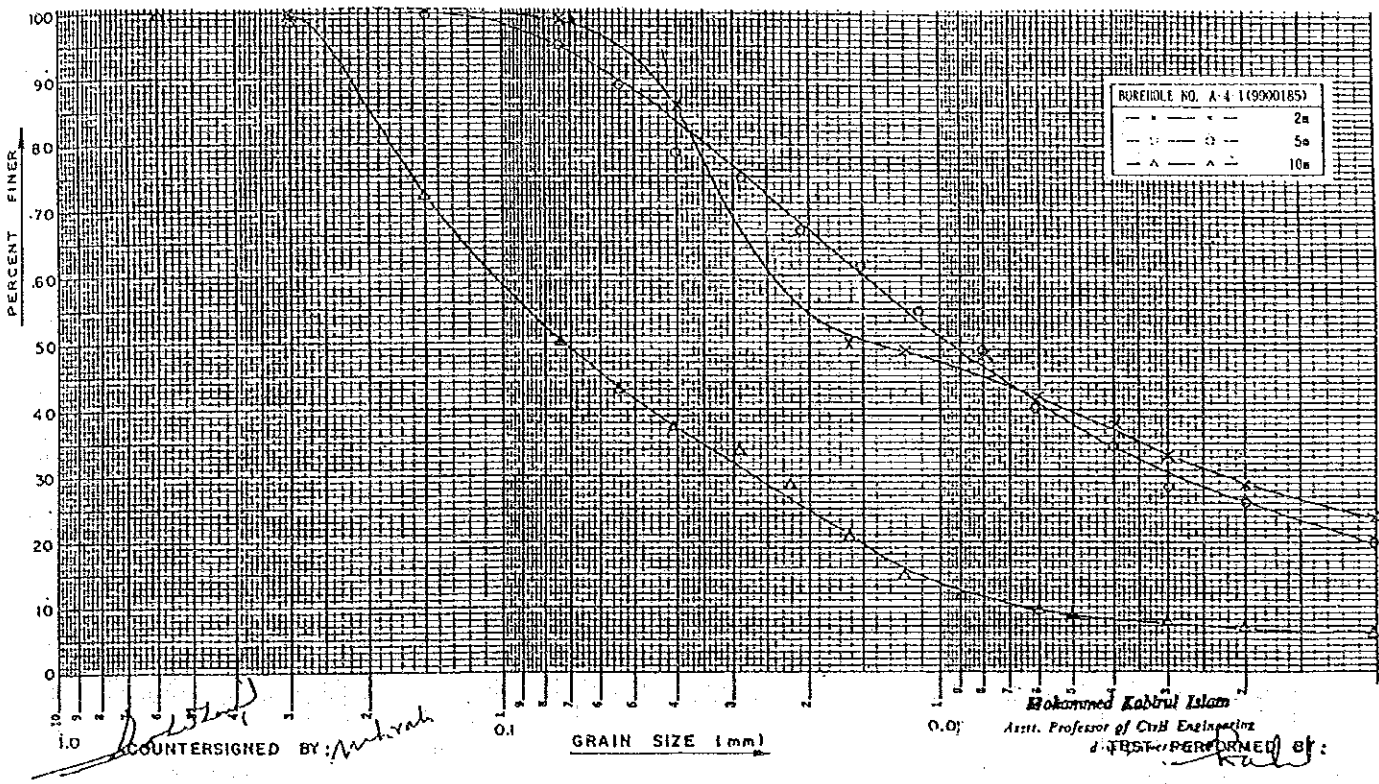
LAB NO	Symb	Bore	Sample	Depth in m	Classification	Boyl. %	Gravel %	Sand %	Silt %	Clay %	φ 60 %	φ 10 %	C _u	REMARKS
	o-o	A-5/2	U-1	5-10 to 5-55	SILTY with fine sand trace clay			10	83	7				9900485-2
	x-x	"	D-11	10-55 to 11-00	Fine to med SAND & SILT			59	41	-				-do-
	o-o	"	D-17	16-55 to 17-00	" " "			73	27					-do-



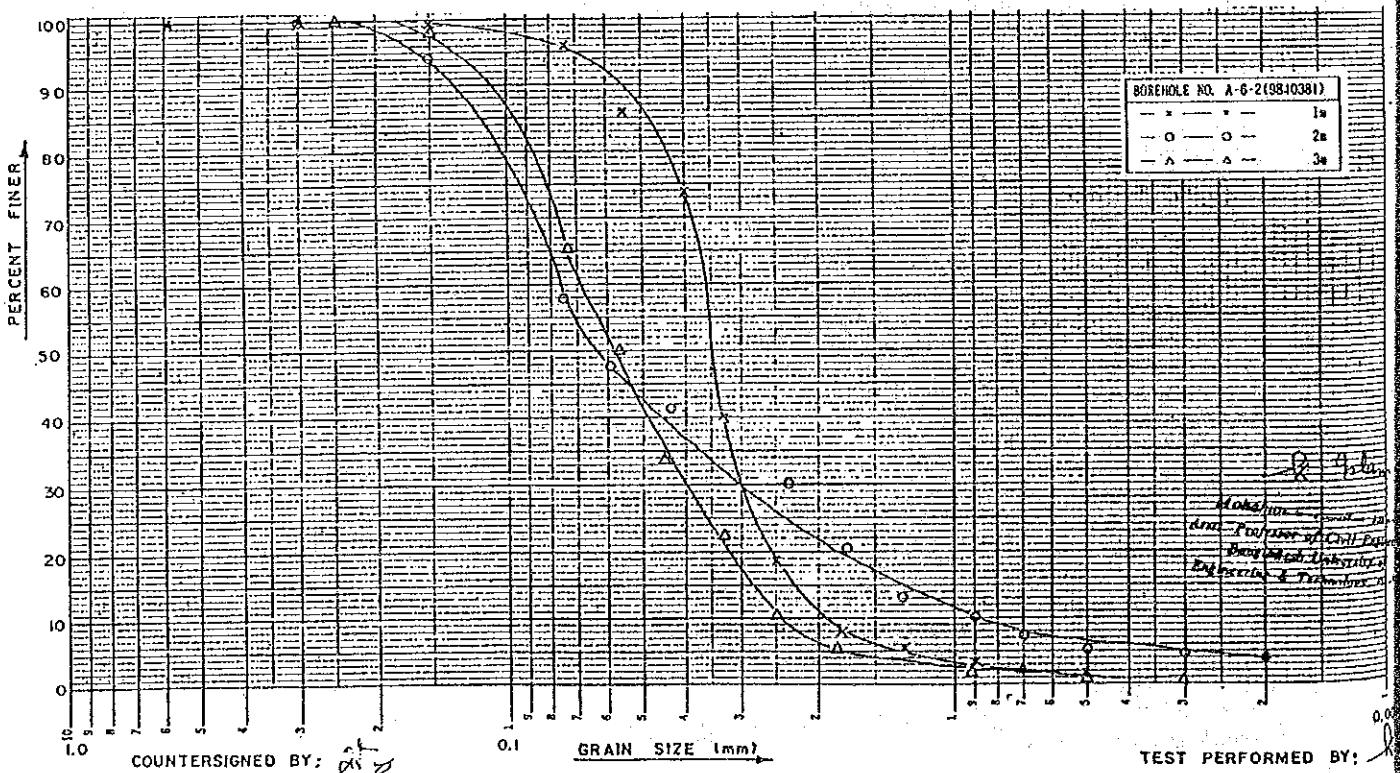
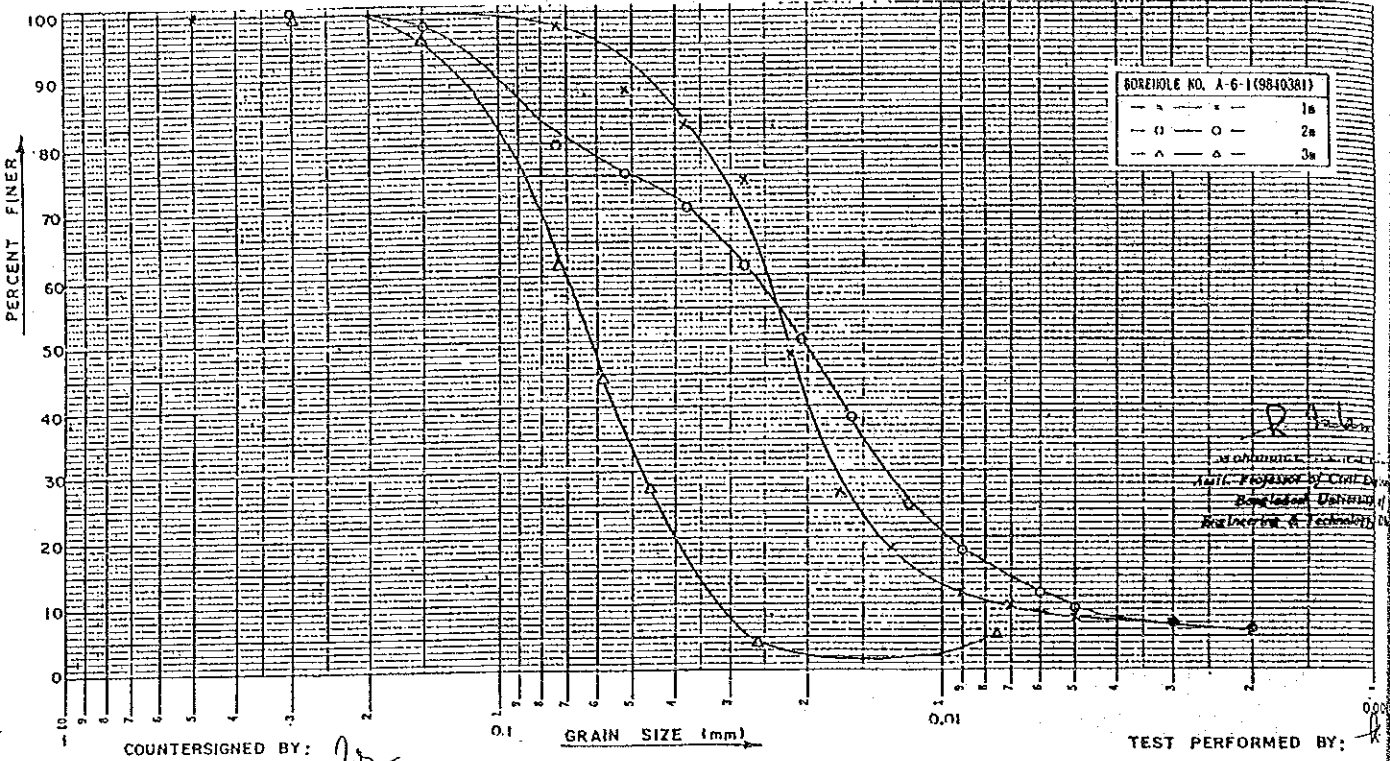




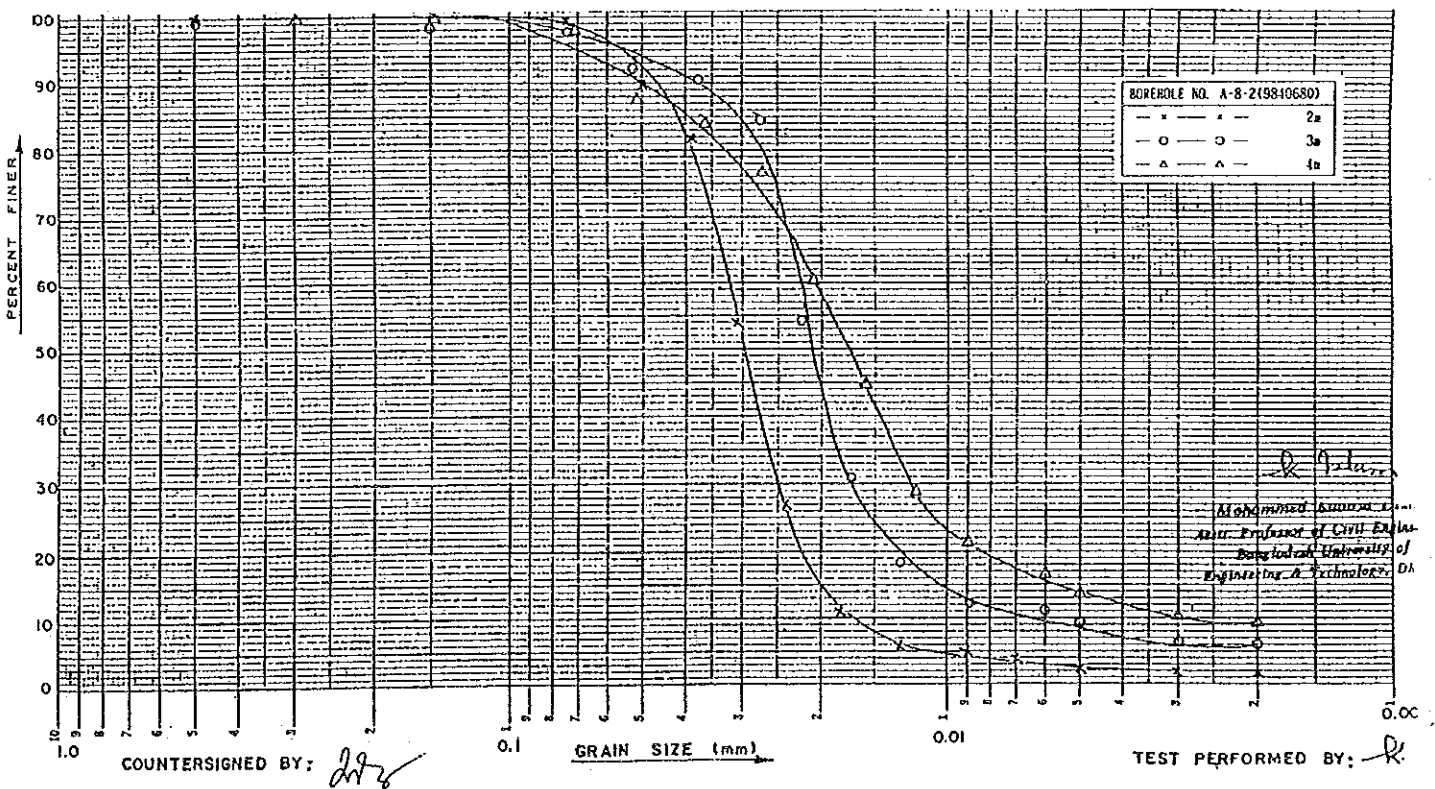
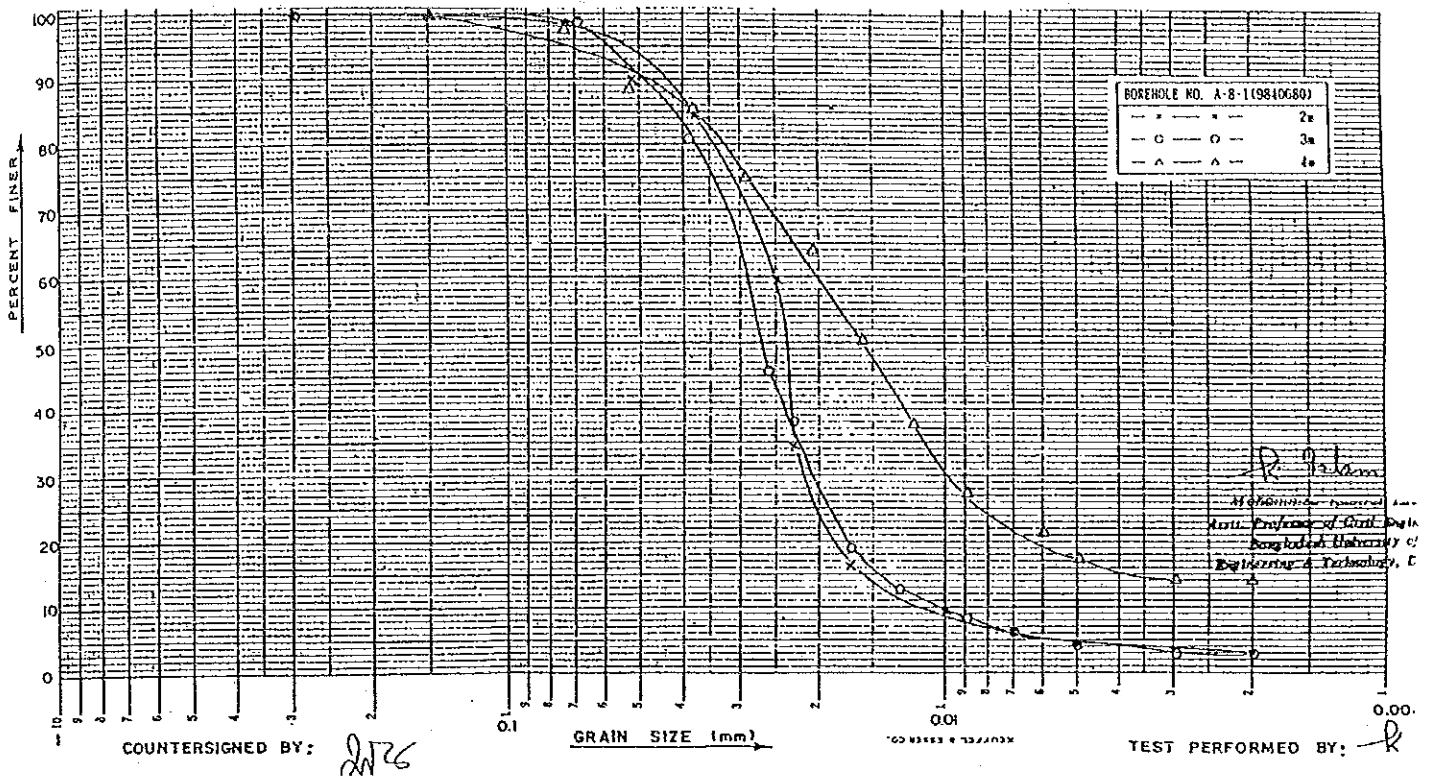
GRADATION CURVES



GRADATION CURVES



GRADATION CURVES



GRADATION CURVES

