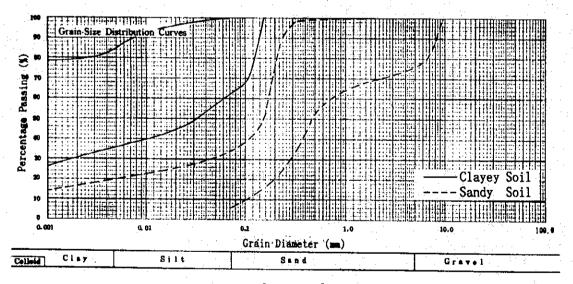
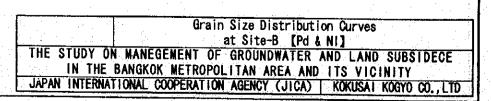
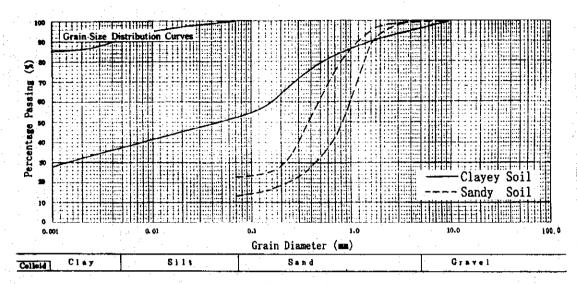


[Pd Layer]

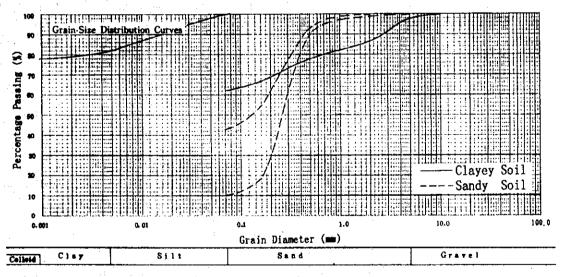


[N1 Layer]



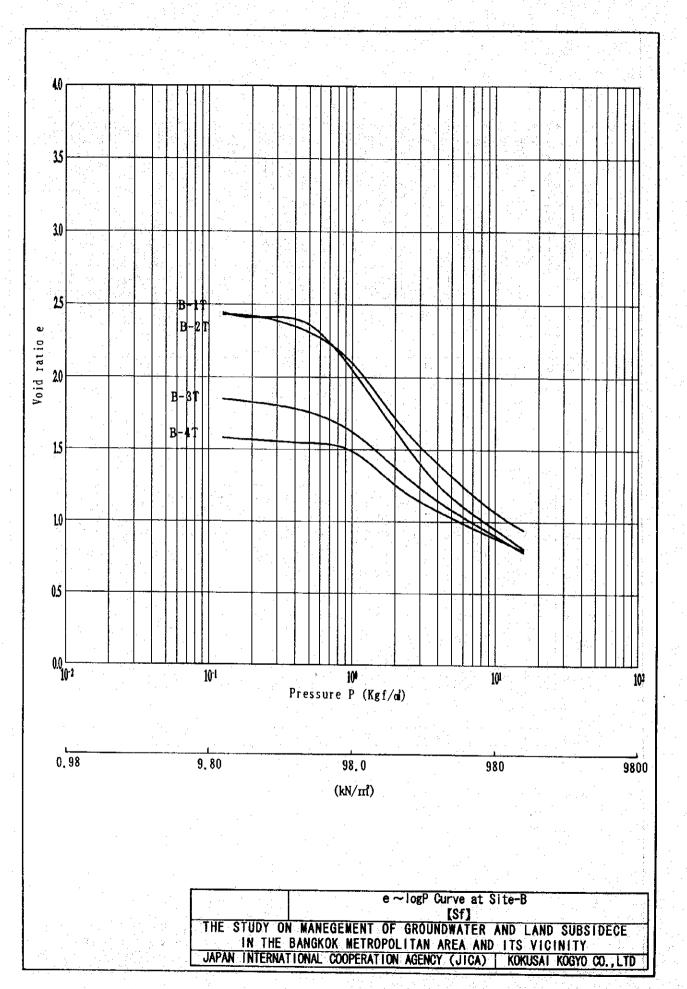


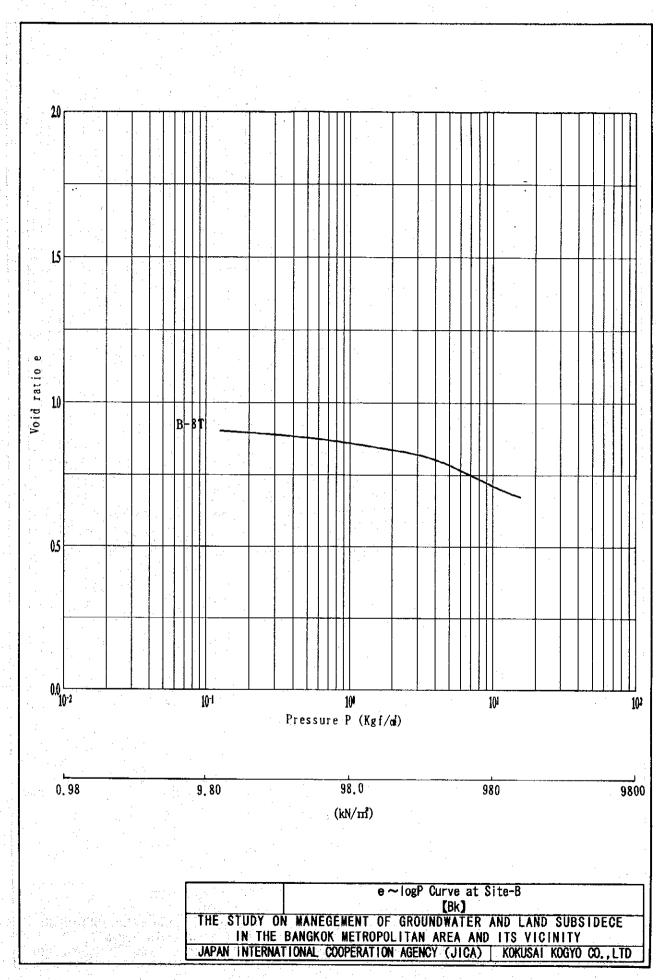
[Nb Layer]

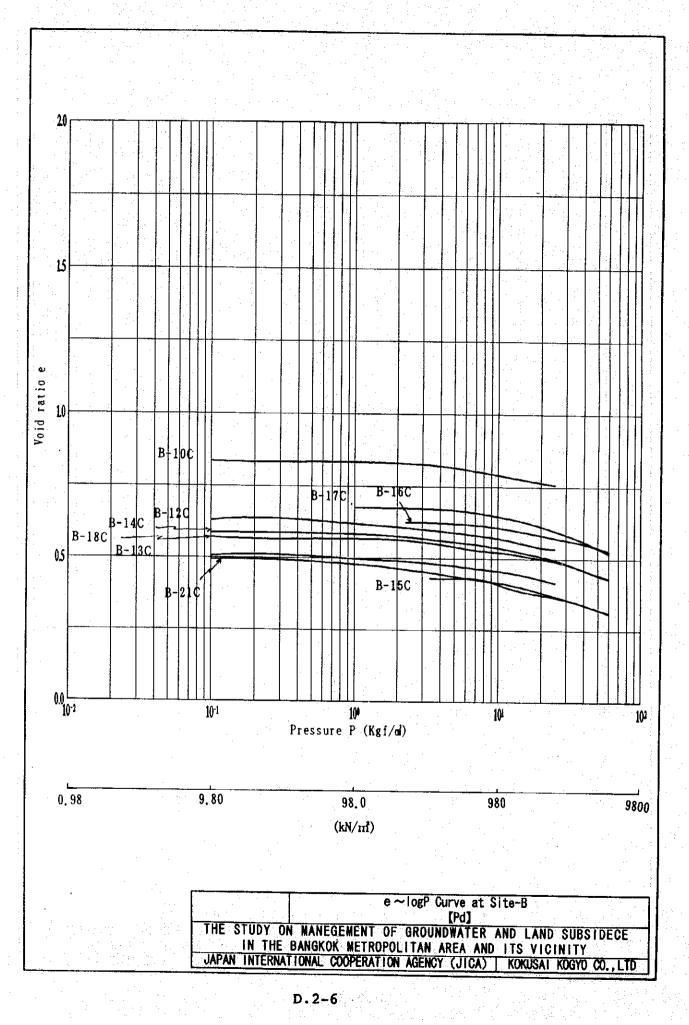


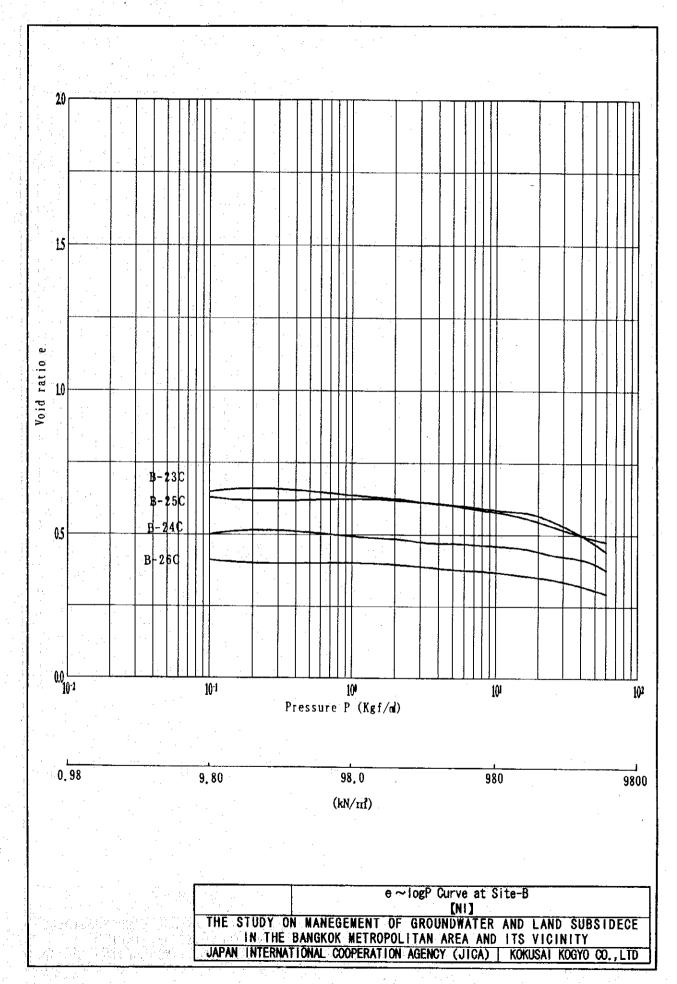
[Sk Layer]

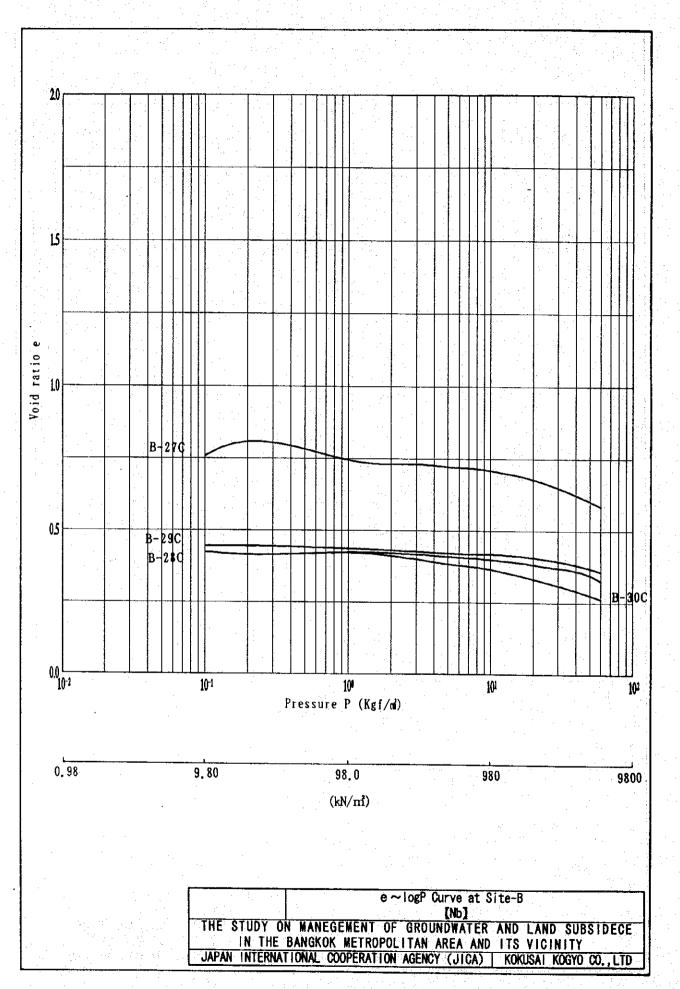


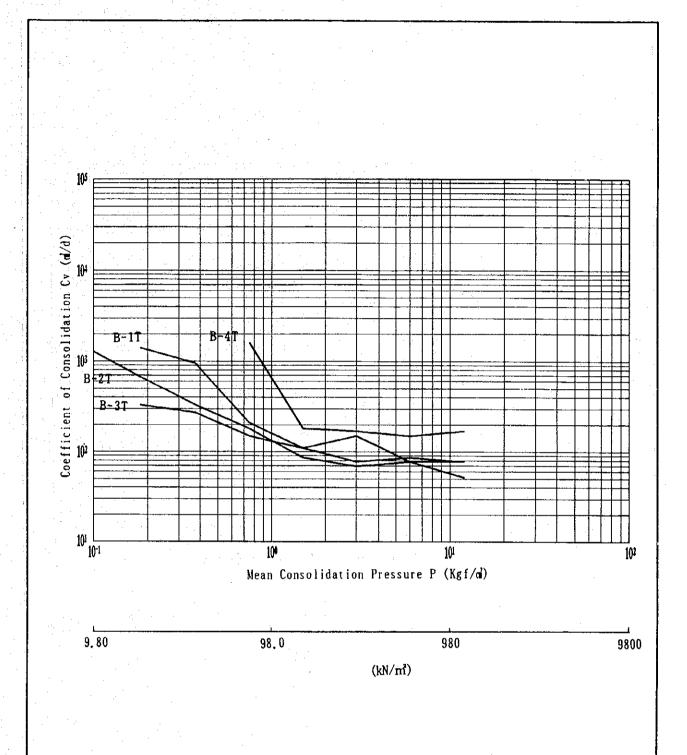








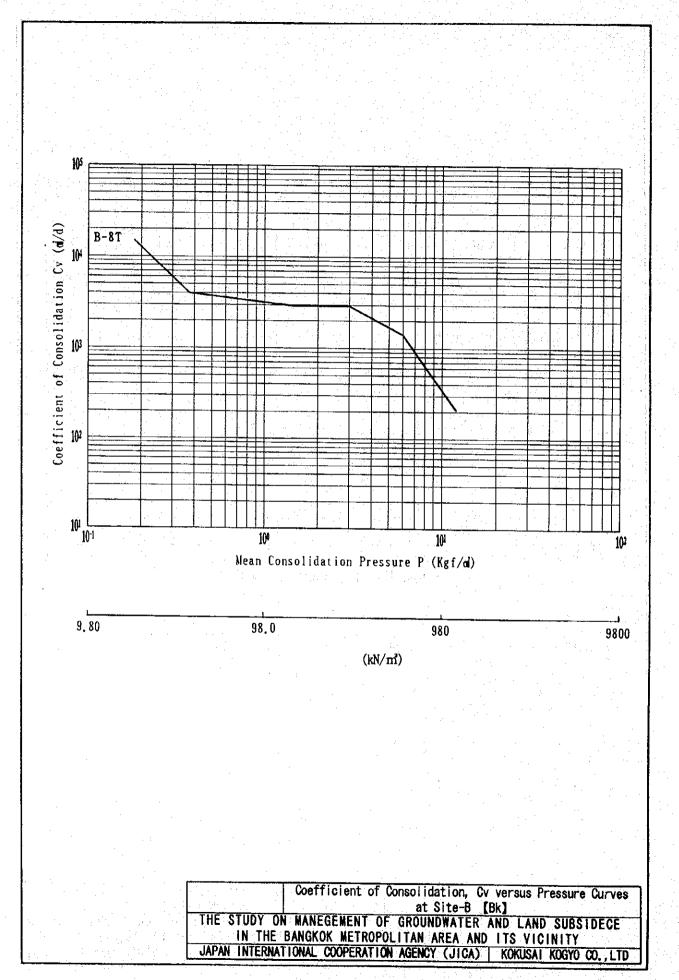


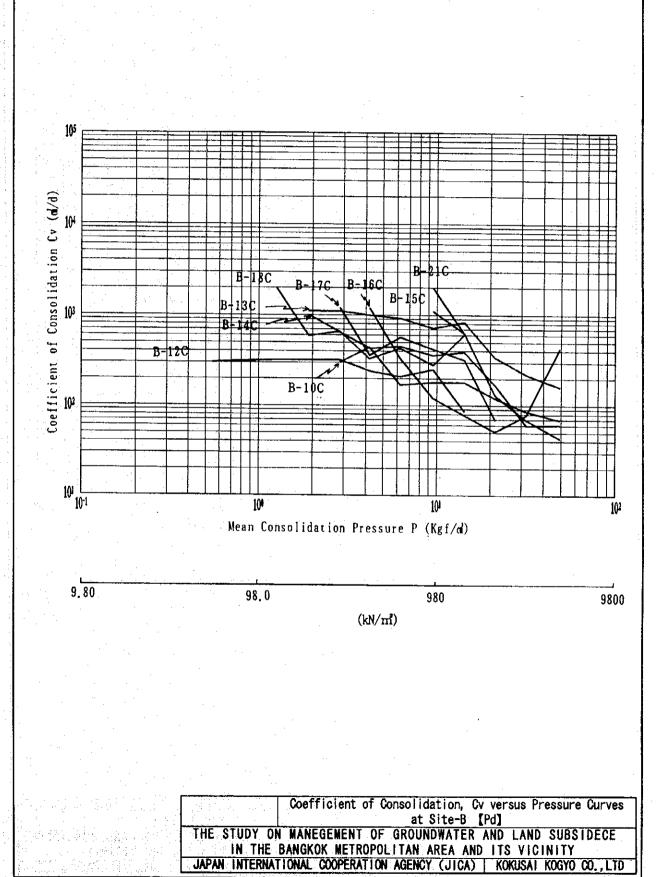


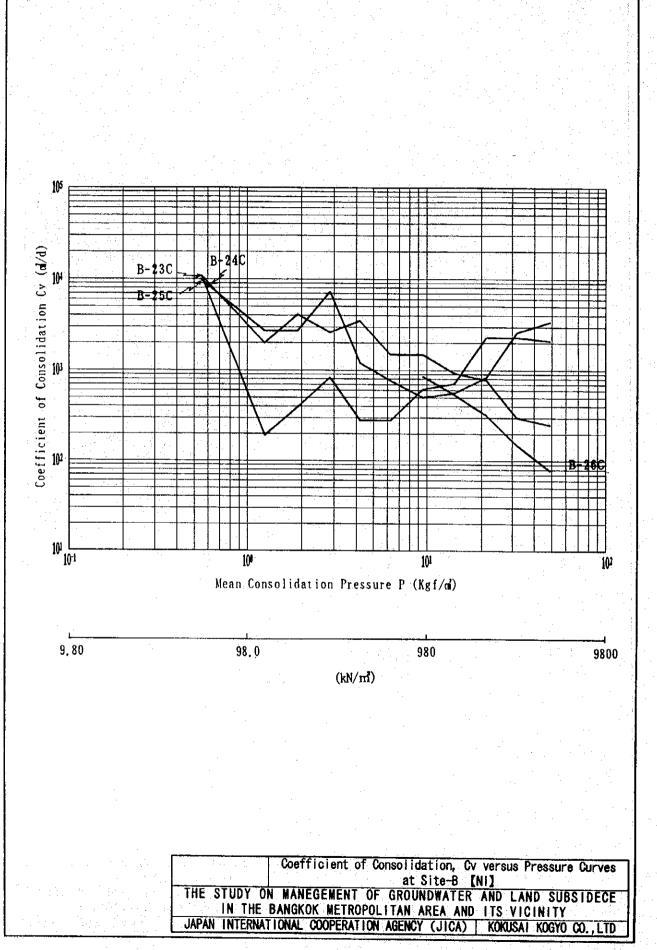
Coefficient of Consolidation, Cv versus Pressure Curves at Site-B [Sf]

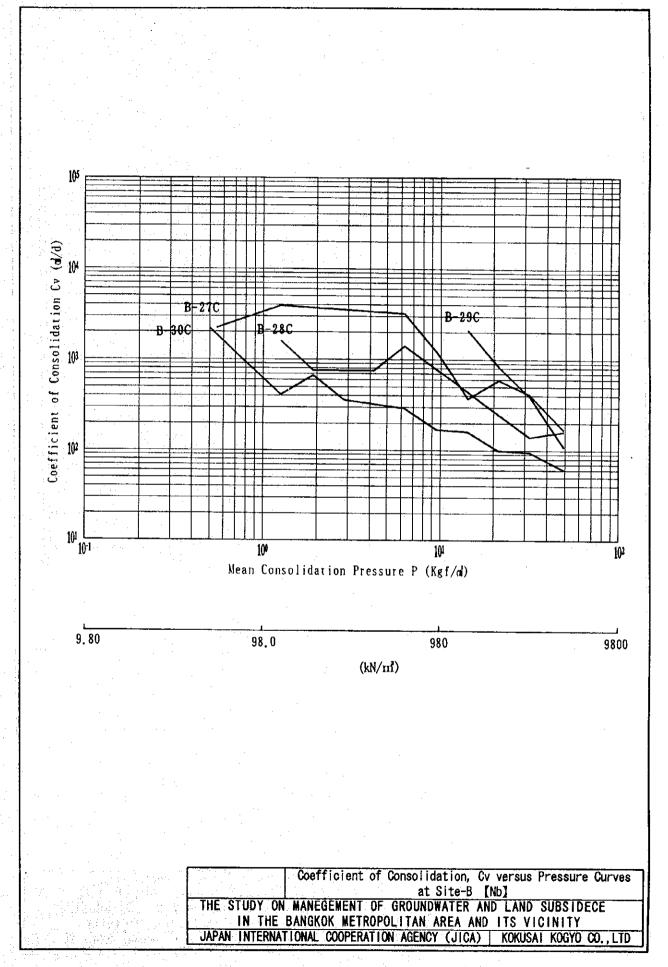
THE STUDY ON MANEGEMENT OF GROUNDWATER AND LAND SUBSIDECE IN THE BANGKOK METROPOLITAN AREA AND ITS VICINITY

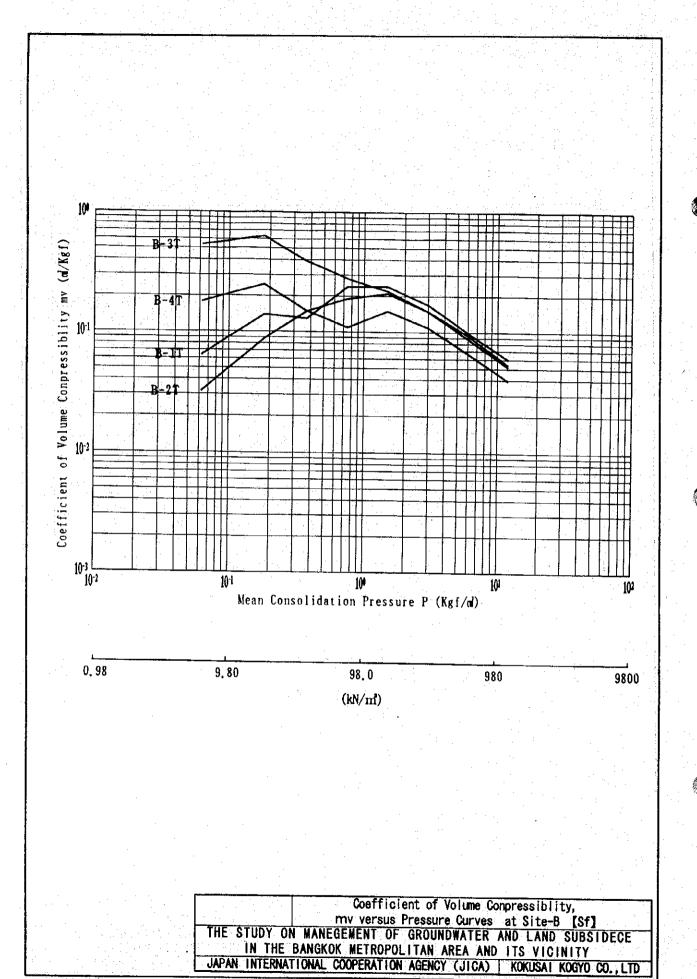
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) KOKUSAI KOGYO CO., LTD

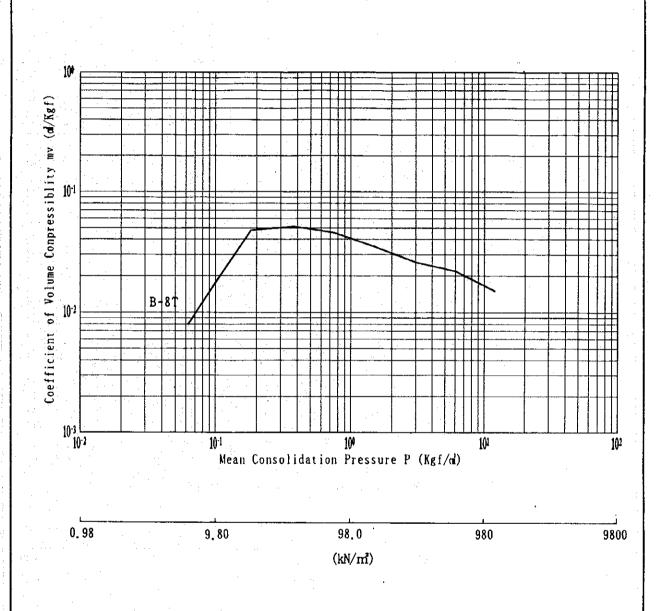


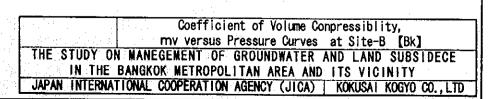


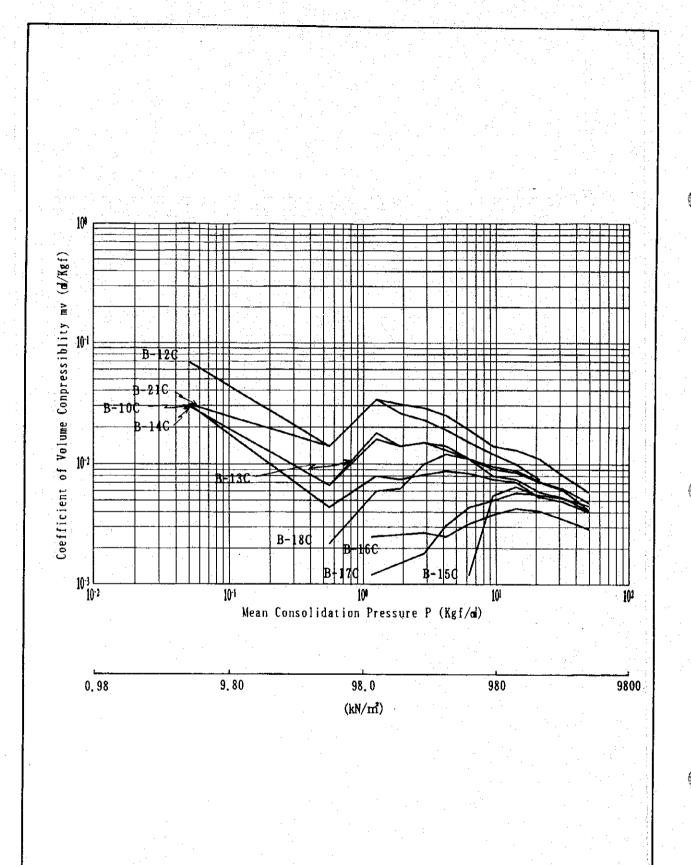






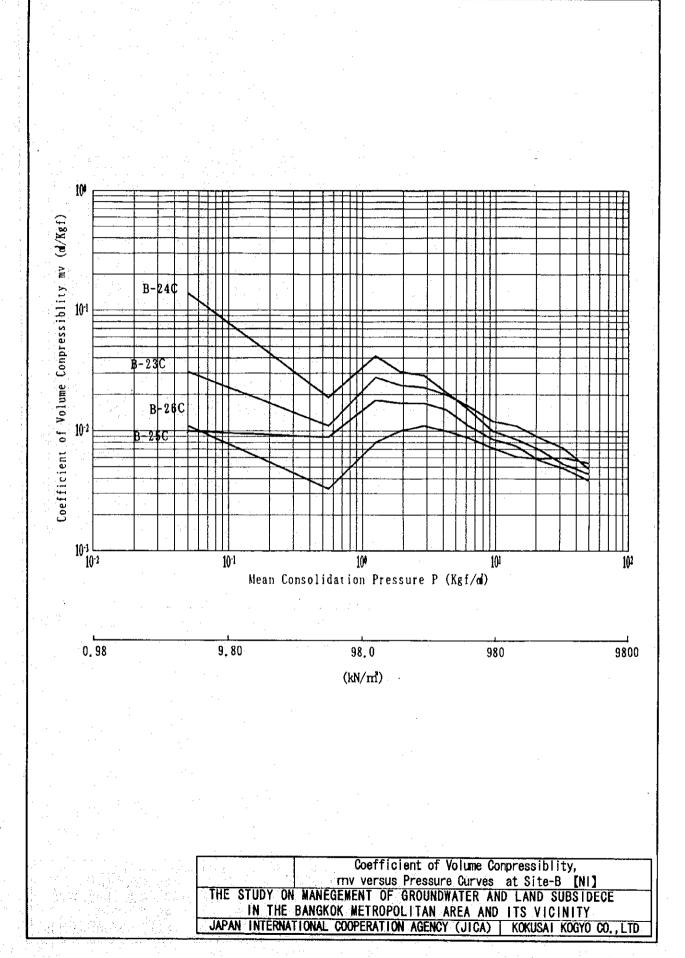


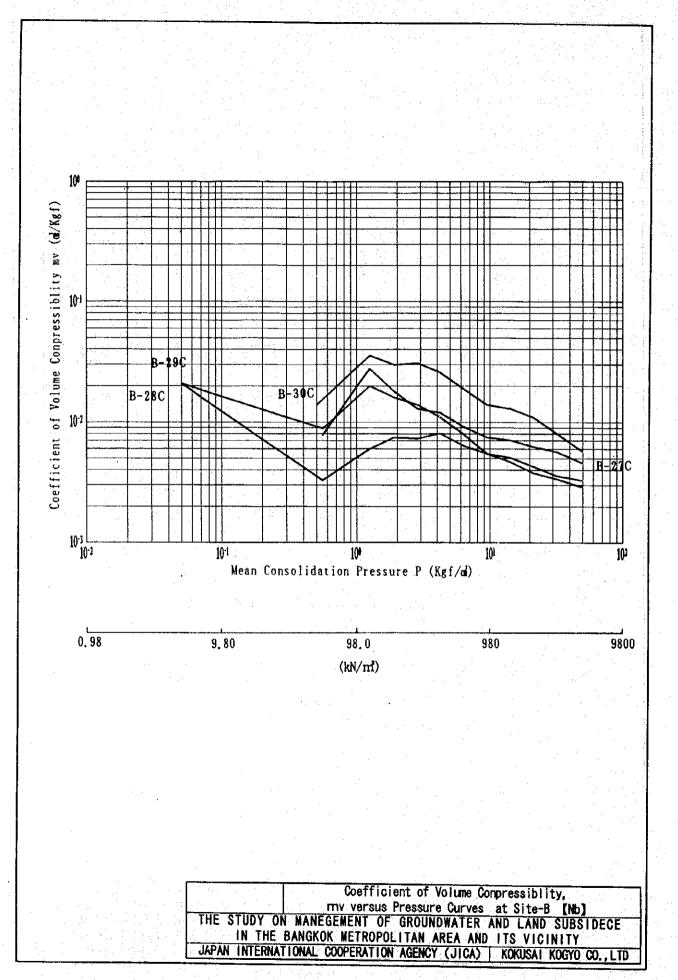




Coefficient of Volume Conpressiblity,
The study on Manegement of Groundwater and Land Subsidece
In the Bangkok Metropolitan area and its vicinity

Japan International Cooperation agency (Jica) | Kokusai Kogyo Co., Ltd



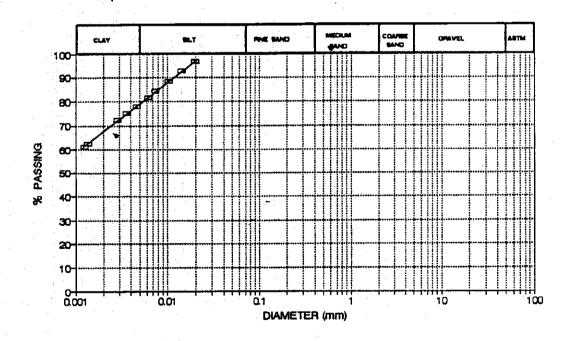


GRAIN SIZE ANALYSIS

Project:	Subsidence in Bangk	cok Vicinity	Location:	AJT		
Borenole No.:	B Depth (m)	2-28	Sample No.:	<u> </u>	Test No.:	AH-23
Soil Description	1:	A CANADA A SANTA	Tested By:	WY	Date:	25-1-93

SIEVE A	NALYSIS
	Percent
Opening	Finer
(mm)	(%)
4.76	
2.00	
0.84	
0.59	4 7 7
0.42	
0.30	
0,15	
0.07	
100	
44 4 A A 1	

HIDHOME	EN ANALTON
Particle	Percent
Size	Finer
(mm)	(%)
0.01 98	96,99
0.01 43	92.94
0.01 03	88.54
0.0074	84.49
0.0061	81.78
0.0047	78.08
0.0036	75.38
0.0029	72.67
0.0014	62.54
0.0013	61.52
0.0010	59.16



GRAIN SIZE ANALYSIS

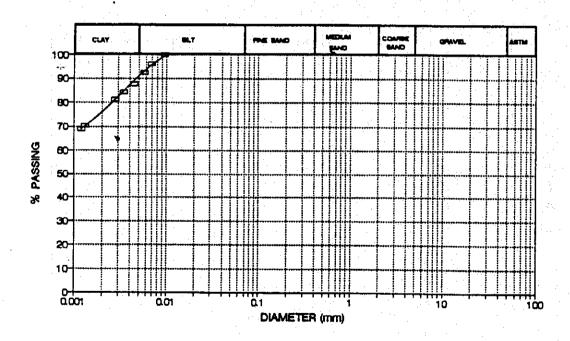
Project: Subsidence in Bangkok Vicinity Location:

Borehole No.: B Depth (m) 4 - 4.9 Sample No.: Test No.: AH-24

Soil Description: Tested By: WY Date: 5-2-1.993

	Percent
Opening	Finer
(mm) 4.76	(%)
200	
0.84	
0.59	
0.42	
0.30	
0.15	
0.07	
	<u> </u>
	r i

HYDROMETER ANALYSIS				
Particle Size (rum)	Percent Finer (%)			
0.0096	99,96 96,02			
0.0058 0.0044	92.74 87.86			
0.0034 0.0027 0.0013	84.57 81.62 70.48			
0.0012	68,84			



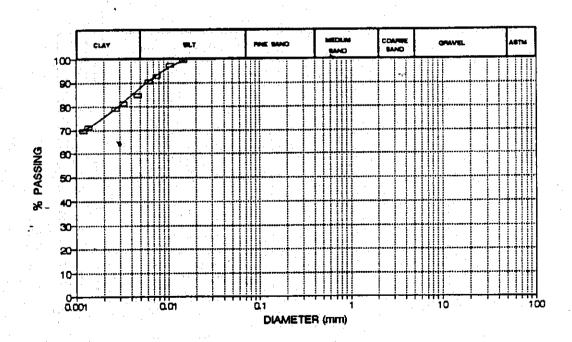
GRAIN SIZE ANALYSIS

Project:	Subsidence in Bangk	ok Vicinity	Location:	AIT		
Borehole No.:		6-6.8	Sample No.:		Test No.:	AH-25
Soil Description	n:		Tested By:	WY	Date:	20-1-93

SIFVE ANALYSIS

SIEVE ANALYSIS					
	Percent				
Opening	Finer				
(mm)	(%)				
4.76					
200					
0.84					
0.59					
0.42					
0.30					
0.15					
0.07					
	 				
	 				
	-				
	ļ				

Particle	Percent
Size	Finer
(mm)	(%)
0.0147	99.61
0.0105	97.38
0.0075	92.92
0.0062	90.69
0.0047	84.75
0.0033	81,41
0.0027	79.18
0.0014	71.37
0.0012	69.88
0.0010	66.90

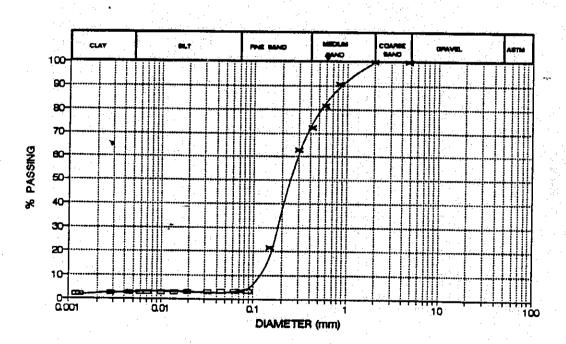


GRAIN SIZE ANALYSIS

Project:	Subsidence in Bangkok Vicinity	Location:	ÁÍT	
Borehole No.:	B Depth (m) 8-8.8	Sample No.:	Test No.:	AH-26
Soil Description		Tested By:	WY Date:	25-1-93

SIEVE ANALYSIS Percent Operang Firer ((((((4.76 100.00 200 100.00 0.84 90.90 0.59 81.80 0.42 72.60 0.30 62.90 0.15 21.70 0.07 3.20

HYDROMETER ANALYSIS			
Paticle	Percent		
Size	Finer		
(mm)	(%)		
0.0685	3.28		
0.0631	3.23		
0.0451	3.16		
0.0322	3.09		
0.0322	3.10		
0.0196	3.01		
0.0140	2.94		
0.0100	2.84		
0.0072	277		
0.0059	2.71		
0.0045	2.60		
0.0028	2.43		
0.0013	217		
0.0012	216		
0.0009	2.10		
0,0009	2.08		



SIEVE ANALYSIS

Project:

Subsidence in Bangkok Vicinity

Location:

Borehole No.: B-1/3 Depth (m)

8,00-9.00 Sample No.: UD-T-4

Test No.:

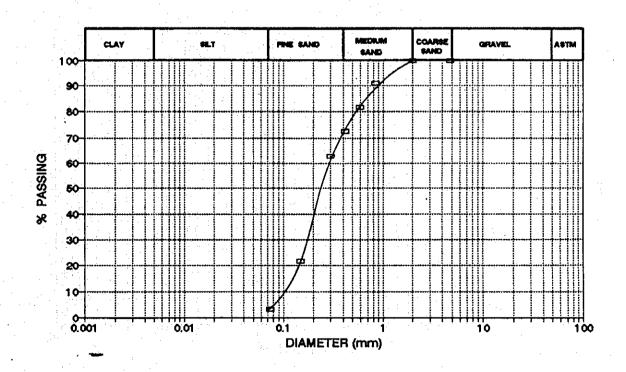
Soil Description:

Tested By:

Date: 5-2-1993

Container No.:	
Weight of Container	100.00 g
Weight of Container+Dry Soil	280.00 g
Weight of Dry Soil	180.00 g

Sieve No.	Sieve Opening (mm)	Weight of Soil Retained (g)	Currelative Retained (g)	Cumulative Retained (%)	Percent Finer
4	4.76	0.00	0.00	0.0	100.0
10	200	0.00	0.00	0.0	100.0
20	0.84	16.35	16.35	9.1	90.9
30	0.59	16.41	32.76	18.2	81.8
40	0.42	16.48	49.24	27.4	726
50	0.30	17.58	66.82	37.1	629
100	0.15	74.14	140.96	78.3	21.7
200	0.07	33.36	174.32	96.8	3.2
					:
			,		



SIEVE ANALYSIS

Subsidence in Bangkok Vicinity

Borehole No.: B-1/3 Depth (m) 18.00-18.45

Sample No.: SS-19

Test No.:

S-27

Soil Description:

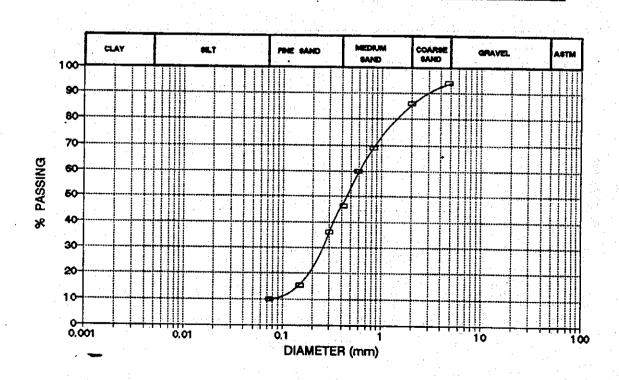
Tested By:

WY

Date:

Container No.:		
Weight of Conta	ine r	100,00 g
Weight of Conta	iner+Dry Soil	400.00 g
Weight of Dry Sc	oil .	300.00 g

Sieve No	Sieve Opening (mm)	Weight of Soil Retained (g)	Cumulative Retained (g)	Cumulative Retained (%)	Percent Finer
4	4.76	17.59	17.59	5.9	94.1
10	200	24.21	41.80	13.9	86.1
20	0.84	51.07	92.87	31.0	69.0
30	0.59	27.22	120.09	40.0	60.0
40	0.42	41.11	161.20	53.7	46.3
50	0.30	30.30	191.50	63.8	36.2
100	0.15	62.83	254.33	84.8	15.2
200	0.07	15.84	270.17	90.1	9.9
_					
		Nation 1	The state of the s		



SIEVE ANALYSIS

Project:

Subsidence in Bangkok Vicinity

Location:

Borehole No.: B-1/3 Depth (m) 21.00-21.45

Sample No.: SS-22

Test No.:

S-26

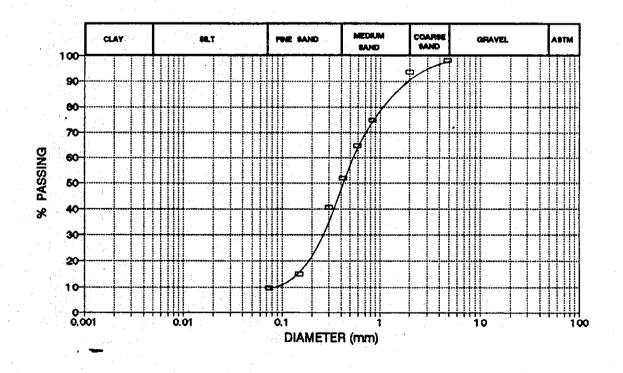
Soil Description:

Tested By:

Date:

Container No.:	
Weight of Container	100.00 g
Weight of Container+Dry Soil	450.00 g
Weight of Dry Soil	350.00 g

Sieve No.	Sieve Opening	Weight of Soil Retained	. * . * . * . * . * . * . * . * . * . *	Cumulative Retained	Percent Finer
	(mm)	(g)	(g)	(%)	
4	4.76	6.65	6.65	1.9	98.1
10	200	15.87	22.52	6.4	93.6
20	0.84	64.72	87.24	24.9	75.1
30	0.59	35.82	123.06	35.2	64.8
40	0.42	45.13	168.19	48.1	51.9
50	0.30	40.20	208.39	59.5	40.5
100	0.15	89.14	297.53	85.0	15.0
200	0.07	18,94	316.47	90.4	9.6
				·	
-					



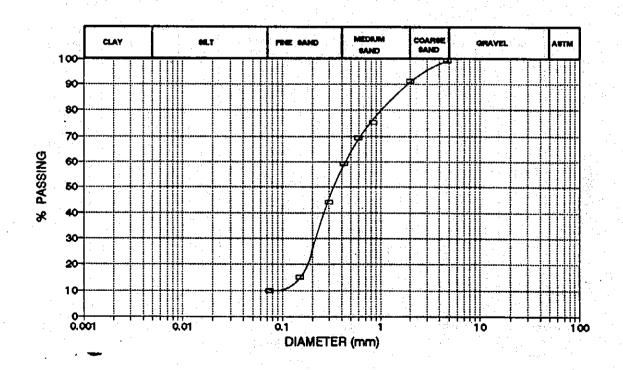
SIEVE ANALYSIS

Project: Subsidence in Bangkok Vicinity Location:

Borehole No.: B-1/3 Depth (m) 31.00-31.45 Sample No.: SS-32 Test No.: S-25
Soil Description: Tested By: WY Date: 5-2-1993

	Container No.:	
L	Weight of Container 100.00 g	
	Weight of Container+Dry Soil 460.00 g	
L	Weight of Dry Soil 360.00 g	

Sieve No.	Sieve Opening	Weight of Soil Retained	Cumulative Retained	Cumulative Retained	Percent Finer
	(mm)	(g)	(9)	(%)	
4	4.76	2.99	299	0.8	99.2
10	200	27.86	30.85	8.6	91.4
20	0.84	57.76	88.61	24.6	75.4
30	0.59	21.00	109.61	30.4	69.6
40	0.42	36.92	146.53	40.7	59.3
50	0.30	54.13	200.66	55.7	44.3
100	0.15	105.07	305.73	84.9	15.1
200	0.07	19.47	325.20	90.3	9.7



SIEVE ANALYSIS

Project: Subsidence in Bangkok Vicinity

Location:

Test No.:

S-24 5-2-1993

Soil Description:

Borehole No.: B-1/3 Depth (m) 36.00-36.45

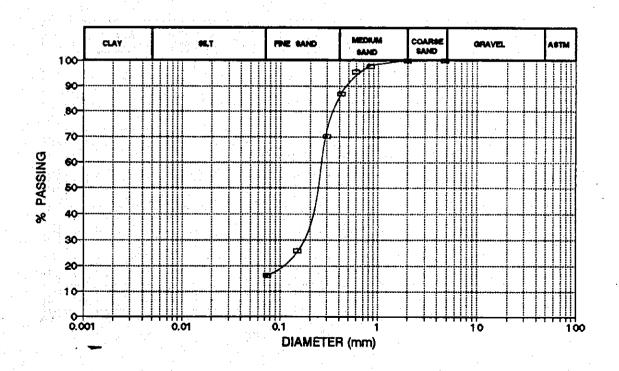
Sample No.: SS-37 Tested By:

WY

Date:

Container No.:	
Weight of Container	100.00 g
Weight of Container+Dry Soil	500.00 g
Weight of Dry Soil	400.00 g

Sieve No.	Sieve Opening (mm)	Weight of Soil Retained (g)	Cumulative Retained (g)	Cumulative Retained (%)	Percent Finer
4	4.76	0.00	0.00	0.0	100.0
10	2.00	0.27	0.27	0.1	99.9
20	0.84	8.92	9.19	23	97.7
30	0.59	9.09	18.28	4.6	95.4
40	0.42	33.51	51.79	129	87.1
50	0.30	67.52	119.31	29.8	70.2
100	0.15	177.07	296.38	74.1	25.9
200	0.07	38.79	335.17	83.8	16.2



SIEVE ANALYSIS

Project:

Subsidence in Bangkok Vicinity

Weight of Dry Soil

Location:

Borehole No.: B-1/3 Depth (m)

41.00-41.45

Sample No.: SS-42 Tested By:

WY

Test No.: Date:

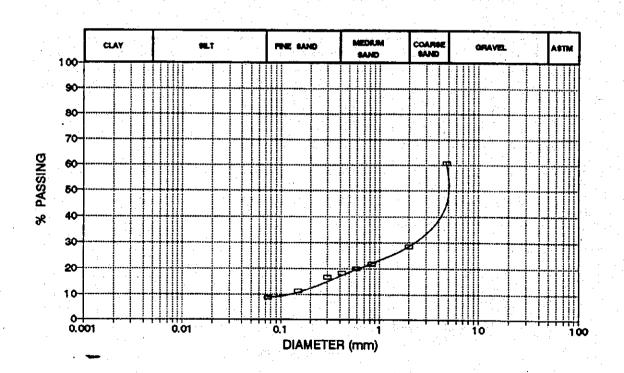
350.00 g

S-23 5-2-1993

Soil Description:

Container No.: Weight of Container 100.00 g Weight of Container + Dry Soil 450.00 g

Sieve No	Sieve Opening (mm)	Weight of Soil Retained (g)	Currelative Retained (g)	Cumulative Retained (%)	Percent Finer
4	4.76	137.44	137.44	39.3	60.7
10	200	11295	250.39	71.5	28,5
20	0.84	23.41	273.80	78.2	21.8
30	0.59	5.58	279.38	79.8	20.2
:40	0.42	6.74	286.12	81.7	18.3
50	0.30	5.81	291.93	83.4	16.6
100	0.15	18.51	310.44	88.7	11.3
200	0.07	9.43	319.87	91.4	8.6



SIEVE ANALYSIS

Project:

Subsidence in Bangkok Vicinity

Location:

S-22

Borehole No.: B-1/3 Depth (m) 43.00-43.45

Sample No.: SS-44

Test No.:

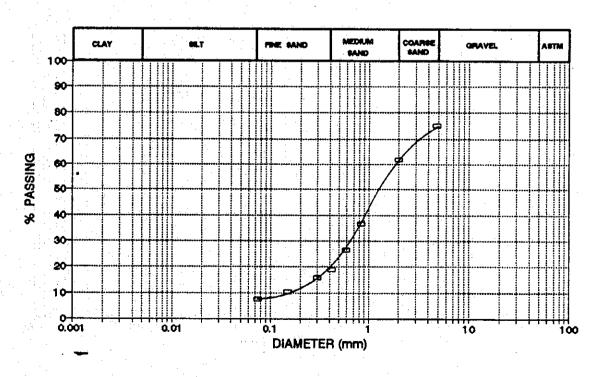
Soil Description:

Tested By: WY

Date:

Container No.:	
Weight of Container	100.00 g
Weight of Container+Dry Soil	340.00 g
Weight of Dry Soil	240.00 g

Sieve No.	Sieve Opening (mm)	Weight of Soil Retained (g)	Cumulative Retained (g)	Comulative Retained (%)	Percent Finer
4	4.76	59.36	59.36	24.7	75.3
10	200	32.06	91.42	38.1	61.9
20	0.84	60.45	151.87	63.3	36.7
30	0.59	24.65	176.52	73,6	26.4
40	0.42	18.49	195.01	81.3	18.7
50	0.30	7.09	202.10	84.2	15.8
100	0.15	13.19	215.29	89.7	10.3
200	0.07	6.65	221.94	92.5	7.5
		4			



SIEVE ANALYSIS

Project:

Subsidence in Bangkok Vicinity

Location:

Borehole No.: B-1/3 Depth (m) 46.00-46.45

Sample No.: SS-47

Test No.:

S-21

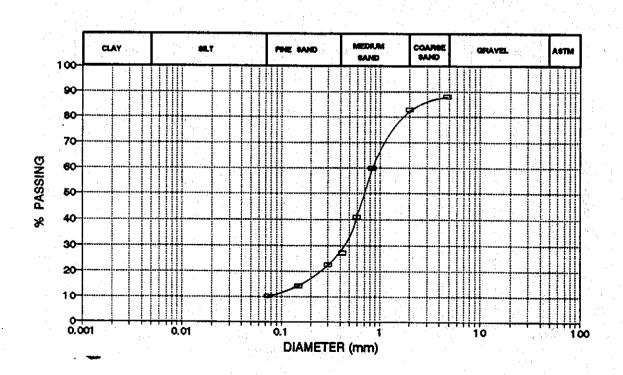
Soil Description:

Tested By:

Date:

į	Container No.:			
	Weight of Container		100.00 g	
	Weight of Container+[Ory Soil	290.00 g	1.4
	Weight of Dry Soil		190.00 g	

Sieve No.	Sieve Opening (mm)	Weight of Soil Retained	Cumulative Retained	Cumulative Retained	Percent Finer
4	4.76	(g) 22.55	(g) 22.55	(%)	60.4
10	······································			11.9	88.1
	2.00	9.70	32.25	17.0	83.0
20	0.84	43.72	75.97	40.0	60,0
30	0.59	36,15	11212	59.0	41.0
40	0.42	26.38	138.50	72.9	27.1
50	0.30	8.76	147.26	77.5	22.5
100	0.15	15.87	163.13	85.9	14.1
200	0.07	7.77	170.90	89.9	10.1
1.00					

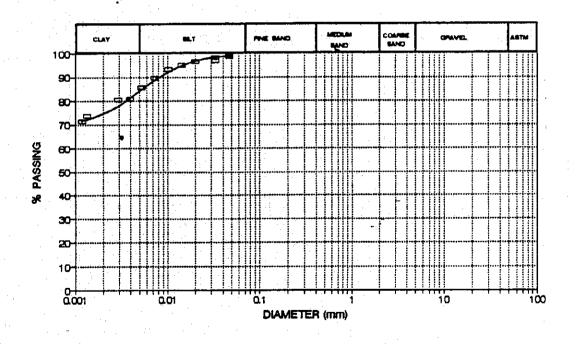


GRAIN SIZE ANALYSIS

Project:	Subsidence in Bangi	rok Vicinity	Location:	AIT :		
Borehole No.:	B Depth (m)	55,76-55,80	Sample No.:		Test No.:	AH-93
Soil Description	<u> </u>		Tested By:	WY	Date:	22-4-93

SIEVE ANALYSIS				
Operatig	Percent Finer			
(നന)	(%)			
4,76				
2.00	and the second			
0.84				
0.59				
0.42				
0.30				
0.15				
0.07				

HIDHOWE IEN AVAETOR				
Particle	Percent			
Size	Finer			
(mm)	(%)			
0,0468	98.67			
0.0333	96.91			
0.0332	97.96			
0.0200	96.55			
0.01 43	95.1.4			
0.0102	93,38			
0.0073	89.86			
0.0053	85.63			
0.0039	81.06			
0.0029	80.70			
0.0013	74.00			
0.0012	71.53			
0.0009	70.48			
0.0009	66.97			



GRAIN SIZE ANALYSIS

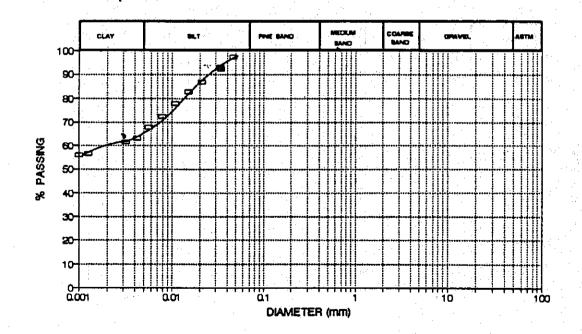
Project: Subsidence in Bangkok Vicinity Location: AlT

Borehole No.: B Depth (m) 65.35-65.42 Sample No.: Test No.: AH-94

Soil Description: Tested By: WY Date: 22-4-93

SHEVE	ANALYSIS
	Percent
Opening	Firer
(mm)	(%)
4.76	192 - 8 - 1
2.00	
0.84	
0.59	
0.42	AA. 1
0.30	
0.15	
0.07	

HYDROMETER ANALYSIS Particle: Percent: Size Finer (mm) (%) 0.0915 0.0654 97.27 0.0470 0.0340 92.29 0.0339 92.96 0.0209 86.98 0.01 51 83.00 0.0109 78.02 0.0079 7270 0.0057 68.06 0.0042 63.08 0.0032 61.75 0.0013 56,44 0.0010 56,11 0.0009 54.46 0.0008 56.12



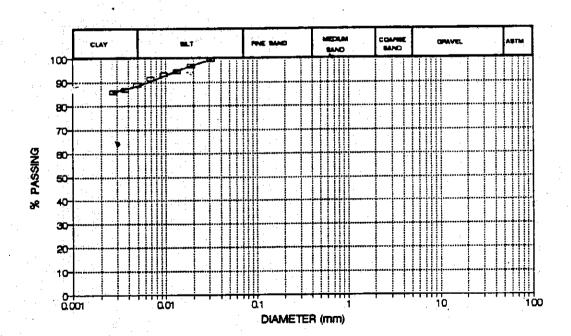
GRAIN SIZE ANALYSIS

Project: Subsidence in Bangkok Vicinity	Location:			
Borehole No.: B Depth (m) 82.7-82.6	Sample No.:		Test No.:	AH-111
Soil Description:	Tested By:	WY	Date:	22-4-93

SIFVE ANALYSIS

SIEVE ANALYSIS				
	Percent			
Opening	Finer			
(mm)	(%)			
4.76				
200				
0.84				
0.59				
0.42				
0.30	d 19 1 1			
0.15				
0.07	<u> </u>			
	distribution of			

· · · · · PALEAGER VICE	
Particle	Percent
Size	Finer
(mm)	(%)
0.0312	99.43
0.0311	99.74
0.0188	96.93
0.01 35	94.74
0.0096	93.17
0.0069	91,61
0.0049	89.11
0.0036	86.92
0.0027	85.98



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GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

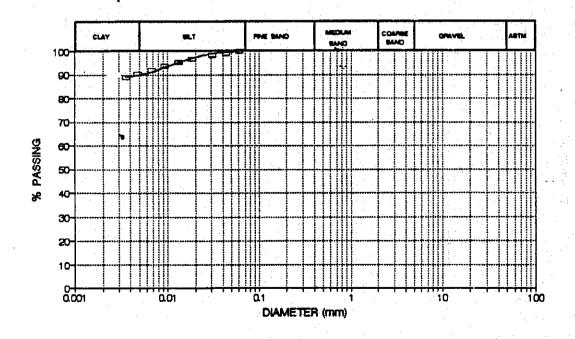
GRAIN SIZE ANALYSIS

Project:	Subsidence in Bangkok Vicinity Location: AIT	
Borehole No.:	B Depth (m) 97.7-97.75 Sample No.: Test No.: AH-95	_
Soil Description	Tested By: WY Date: 22-4-93	

SIEVE ANALYSIS

SIEVE	ANALYSIS
	Percent
Opening	Finer
(ITHTI)	(%)
4.76	
200	
0.84	
0.59	
0.42	
0.30	
0.15	
0.07	
1	

Particle	Percent
Size	Finer
(mm)	(%)
0.0611	99.93
0.0434	98.99
0.0309	98.05
0.0308	96.37
0.0185	96.81
0.0132	95.24
0.0094	93,99
0.0067	9212
0.0048	90.56
0.0036	89.01
	_



SIEVE ANALYSIS

Project: Subsidence in 5

Subsidence in Bangkok Vicinity

Location:

Borehole No.: B-1/1 Depth (m) 103.80-104.00

Sample No.: SS-C-1B

S-C-1B Test No.:

S-20

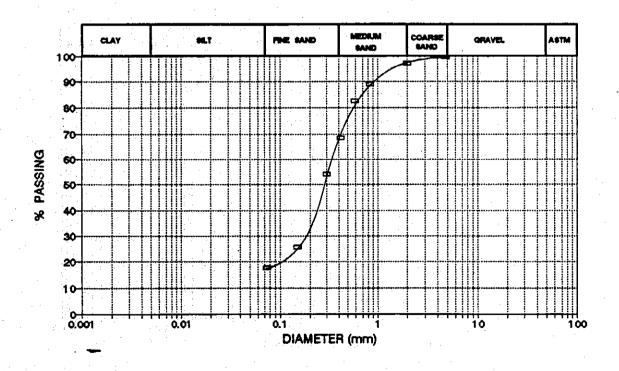
Soil Description:

Tested By:

Date:

Container No.:	
Weight of Container	100.00 g
Weight of Container+Dry Soil	490.00 g
Weight of Dry Soil	390.00 g

Sieve No.	Sieve Opening (mm)	Weight of Soil Retained (g)	Cumulative Retained (g)	Cumulative Retained (%)	Percent Finer
4.	4.76	1.84	1.84	0.5	99.5
10	200	9.08	10.92	28	97.2
20	0.84	31.70	42.62	10.9	89.1
30	0.59	25.10	67.72	17.4	82.6
40	0.42	54.76	122.48	31.4	68.6
50	0.30	56.65	179.13	45.9	54.1
100	0.15	110.56	289.69	74.3	25.7
200	0.07	31.75	321.44	82.4	17.6



SIEVE ANALYSIS

Project: Subsidence in Bangkok Vicinity

Borehole No.: B-1/1 Depth (m) 105.00-105.60

Location:

Sample No.: SS-C-2B Test No.:

S-19

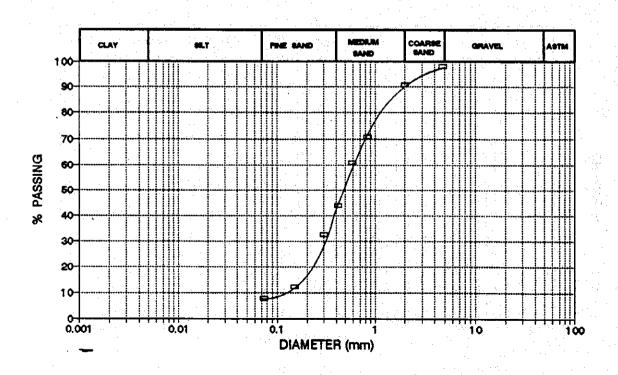
Soil Description:

Tested By: WY

Date:

	Container No.:	
	Weight of Container	100.00 g
I	Weight of Container+Dry Soil	450.00 g
	Weight of Dry Soil	350.00 g

Sieve No.	Sieve Opening (mm)	Weight of Soil Retained (g)	Cumulative Retained (g)	Cumulative Retained (%)	Percent Finer
4	4.76	6.95	6.95	2.0	96.0
10	200	25.42	32.37	9.2	90.8
20	0.84	68.93	101.30	28.9	71.1
30	0.59	35.17	136.47	39.0	61.0
40	0.42	59.86	196.33	56.1	43.9
50	0.30	39.69	236,02	67.4	326
100	0.15	71.48	307.50	87.9	121
200	0.07	15.59	323.09	923	7.7
		1.00			
				an en en	



SIEVE ANALYSIS

Project:

Subsidence in Bangkok Vicinity

Location:

Borehole No.: B-1/1 Depth (m) 110.30-111.00

Sample No.: SS-C-3B

Test No.:

S-18

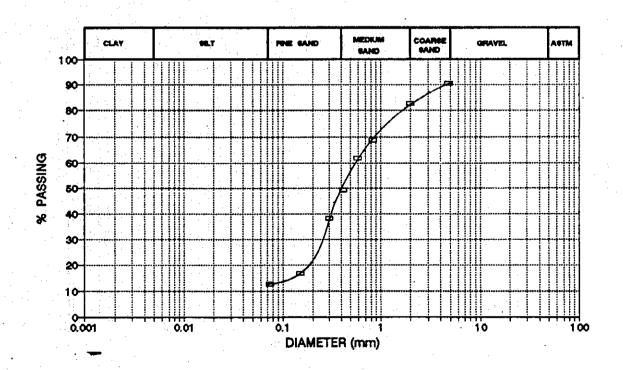
Soil Description:

Tested By:

Date:

Container No.:	
Weight of Container	100.00 g
Weight of Container+Dry Soil	700.00 g
Weight of Dry Soil	600.00 g

Sieve	Sieve	Weight of	Cumulative	Cumulative	Percent
No.	Opening	Soil Retained	Retained	Retained	Finer
	(mm)	(g)	(g)	(%)	
4	4.76	57.47	57.47	9.6	90.4
: 10⊹	200	46.06	103.53	17.3	82.7
20	0.84	84.50	188.03	31.3	68.7
30	0.59	40.51	228.54	38.1	61.9
40	0,42	76.37	304,91	50.8	49.2
50	0.30	65.10	370.01	61.7	38.3
100	0.15	129.14	499.15	83.2	16.8
200	0.07	24.36	523.51	87.3	127



SIEVE ANALYSIS

Project:

Subsidence in Bangkok Vicinity

Borehole No.: B-1/1 Depth (m)

113.50-113.80

Sample No.: SS-C-4B

Test No.:

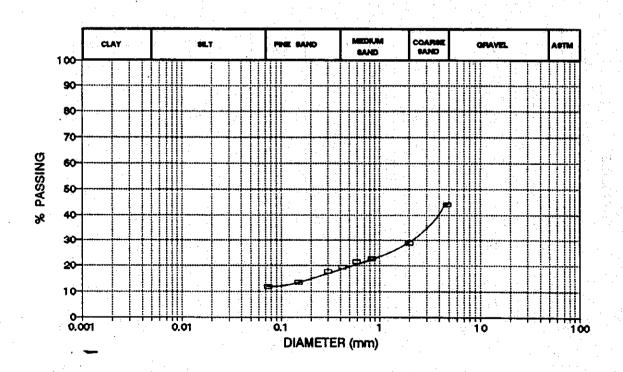
Soil Description:

Tested By:

Date:

Container No.:		
Weight of Container		100.00 g
Weight of Container+Dry	/ Soil	500.00 g
Weight of Dry Soil		400.00 g

Sieve	Sieve	Weight of	Cumulative	Cumulative	Percent
No.	Opening	Soil Retained	Retained	Hetained	Finer
	(तकाः)	(g)	(9)	(%)	
4	4.76	223.91	223.91	56.0	44.0
10	200	60.99	284.90	71.2	28.8
20	0.84	23.82	308.72	77.2	22.8
30	0.59	5.71	314.43	78.6	21.4
40	0.42	8.51	322.94	80.7	19.3
50	0.30	6.88	329.82	82.5	17.5
100	0.15	16.84	346.66	86.7	13.3
200	0.07	6.28	352.94	88.2	11.8
					<u> </u>

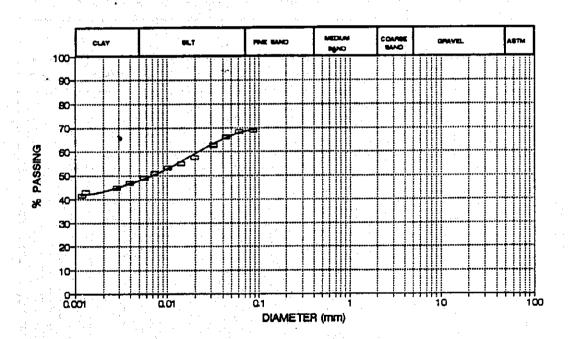


GRAIN SIZE ANALYSIS

Project:	Subsidence in Bangk	ok Vicinity	Location:	AIT			
Borehole No.:		117-117.5	Sample No.:		Test No.:	AH-14	
Soil Description):		Tested By:	WY	Date:	9-2-93	

SIEVE A	NALYSIS
	Percent
Operang	Finer
(mm)	(%)
4.76	
200	
0.84	
0.59	
0.42	
0.30	
0.15	
0.07	
<u> </u>	

Particle	Percent
Size	Finer
(सामा)	(%)
0,0857	69.03
0.0609	68.41
0.0438	66.35
0.0318	62.85
0.0319	62.64
0.0198	57.70
0.0143	55.02
0.0103	53.17
0.0074	51.10
0.0057	48.84
0.0039	46.78
0.0026	44.72
0.0013	43.07
0.0012	41.63
0.0009	43.27
0.0009	43.27



SIEVE ANALYSIS

Project: Subsidence in Bangkok Vicinity

Location:

Borehole No.: B-1/1 Depth (m)
Soil Description:

117.50-118.00

Sample No.: SS-C-5B

Tested By: WY

S-C-5B Test No

Test No.: Date: S-16 5-2-1993

Container No.:

Weight of Container

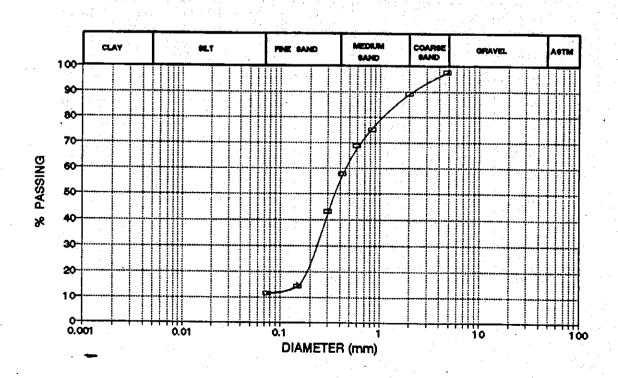
Weight of Container+Dry Soil

Weight of Dry Soil

Weight of Dry Soil

Weight of Dry Soil

Sieve No	Sieve Opening (mm)	Weight of Soil Retained (g)	Cumulative Retained (g)	Cumulative Retained (%)	Percent Finer
4	4.76	10.08	10.08	22	97.8
10	200	37.93	48.01	10.7	89.3
20	0,84	63,31	111.32	24.7	75.3
30	0.59	29.30	140.62	31.2	68.8
40	0.42	49.05	189.67	421	57.9
50	0.30	65.53	255.20	56.7	43.3
100	0.15	130.45	385.65	85.7	14,3
200	0.07	13.15	398.80	88.6	11.4
	·				•



SIEVE ANALYSIS

Project:

Subsidence in Bangkok Vicinity

Location:

Borehole No.: B-1/1 Depth (m)

121.30-122.00

Sample No.: SS-C-6B

Test No.:

S-15

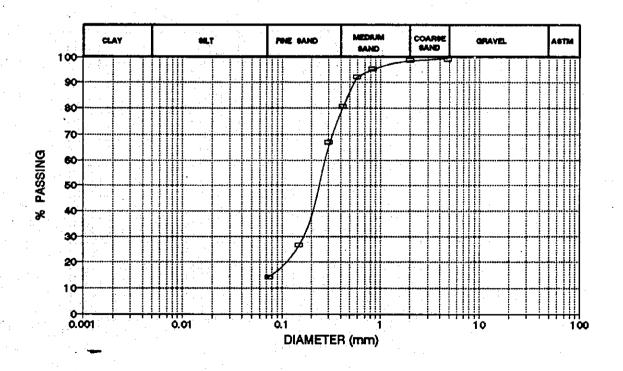
Soil Description:

Tested By: WY

Date:

Container No.:	
Weight of Container	100.00 g
Weight of Container+Dry Soil	420.00 g
Weight of Dry Soil	320.00 g

Sieve	Sieve	Weight of	Cumulative	Cumulative	Percent
No.	Opening	Soil Retained	Retained	Fletained	Fmer
	(mm)	(g)	(g)	(%)	
4	4.76	2.63	263	0,8	99.2
10	2.00	1.96	4.59	1.4	98.6
20	0.84	10.30	14,89	4.7	95.3
30	0.59	10.24	25.13	7.9	921
40	0.42	36.54	61.67	19.3	80.7
50	0.30	43.69	105.36	329	67.1
100	0.15	129.35	234.71	73.3	26.7
200	0.07	40.60	275.31	86.0	14.0
				:	
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SIEVE ANALYSIS

Project: Borehole No.: B-1/1 Depth (m)

Subsidence in Bangkok Vicinity

125.60-126.00

Location:

Sample No.: SS-C-7B

S-14

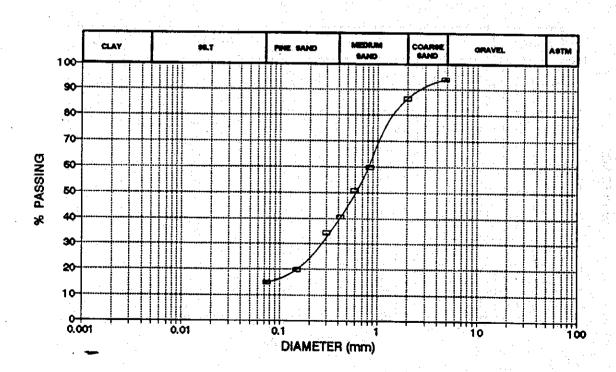
Soil Description:

Tested By: WY

Date:

Container No.:	
Weight of Container	100.00 g
Weight of Container+Dry Soil	550.00 g
Weight of Dry Soil	450.00 g

Sieve No.	Sieve Opering (mm)	Weight of Soil Retained (g)	Cumulative Retained (g)	Cumulative Fletsined (%)	Percent Finer
4	4.76	25.90	25,90	5.8	94.2
10	200	34.27	60.17	13.4	86,6
20	0.84	120.68	180.85	40.2	59.8
30	0.59	40.04	220.89	49.1	50.9
40	0.42	46.15	267.04	59.3	40.7
50	0.30	28.91	295.95	65.8	34.2
100	0.15	64.95	360.90	80.2	19.8
200	0.07	23.12	384.02	85.3	14.7

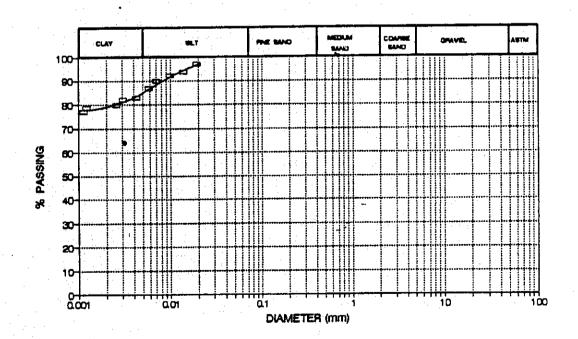


GRAIN SIZE ANALYSIS

Project:	Subsidence in Bangko	k Vicinity	Location:	AIT		
Borehole No.:	B Depth (m)	126.3-126.4	Sample No.:	<u> </u>	Test No.:	AH-96
Soli Description	1:		Tested By:	WY	Date:	8-4-93

SIEVE	NALYSIS Refeent
Opening	Finer
(mym)	(%)
4.76	
200	
0.84	
0.59	11 kg = 1
0.42	
0.30	
0.15	trees, the
0.07	
	y i
	1
- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	

Particle Size (mm)	Percent Finer (%)
0.0192	97.11
0.0138	93,92
0.0099	92.33
0.0071	90.10
0.0059	86.92
0.0042	82.78
0,0031	8214
0.0026	79.92
0.0012	78.96
0.0011	77.06
0.0009	78.97



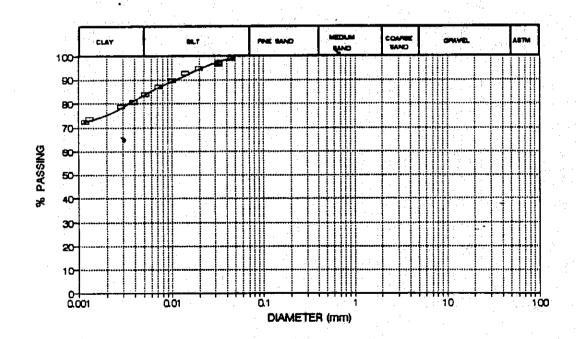
GRAIN SIZE ANALYSIS

Project:	Subsidence in Bangko	ok Vicinity	Location:	AT		
Borehole No.:	B Depth (m)	129.2-129.3	Sample No.:		Test No.:	AH-97
Soil Description		era a Maria de Cara	Tested By:	WY	Date:	22-4-93

SIEVE ANALYSIS

SIEVE A	WALYSIS
Opening (mm)	Percent Finer (%)
4.76	
200	
0.84	
0.59	
0.42	
0.30	
0.15	
0.07	
	12.5
1 1 2	

HYDROMETER ANALYSIS Particle Percent Finer Size (%) (mm) 0.0458 98,99 0.0327 96,64 0.0326 97.31 94.96 0.0197 92.95 0.0141 0.0101 89.93 0.0072 87.25 0.0052 83,89 80.53 0.0039 78.86 0.0029 73,82 0.0013 0.0012 72.48 0.0009 71,81 0.0009 70.48



GRAIN SIZE ANALYSIS

Project: Subsidence in Bangkok Vicinity	Location:	AIT		
	Sample No.:		Test No.:	AH-98
Soil Description:	Tested By:	WY	Date:	8-4-93

Percent Operang Fine: (mm) (%) 4.76 2.00 0.84 0.59 0.42 0.30 0.15 0.07

SIEVE ANALYSIS

HYDROMETER ANALYSIS Percent Particle Finer: Size (%) (mm) 99.72 0.0622 0.0443 98,19 0.0319 95.12 95.73 0.0318 92.05 0.0194 0.0139 88.98 0.0099 87.45 0.0071 85.61 0.0069 83,46 81.31 0.0042 80.39 0.0030 80.39 0.0012 80.09 0.0011 0.0009 80.09

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GRAIN SIZE ANALYSIS

Project:	Subsidence in Bangkok	Vicinity Location:	AIT	
Borehole No.:	B Depth (m) 1:	36.5-136.6 Sample No.:		
Soll Description	Y:	Tested By:	WY Date:	8-4-93

SIEVE ANALYSIS

10100		NALYSIS Percent
		Finer
	pening	
	(பப)	(%)
	4.76	
	200	
7.0	0.84	
	0.59	
- A	0.42	
	0.30	1.7
	0.15	
1	0.07	
	94 - 1944.	
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
18.		
	· · · · · · · · · · · · · · · · · · ·	

HYDROMETER ANALYSIS Percent Particle: Size Finer (%) (mm) 99.29 0.0631 95.32 0.0456 88.60 0.0334 0.0333 88.91 0.0208 80.96 76.38 0.0151 73.32 0.0106 70.27 0.0078 0.0064 68.74 65.69 0.0046 64.16 0.0033 62.33 0.0028

0.0013

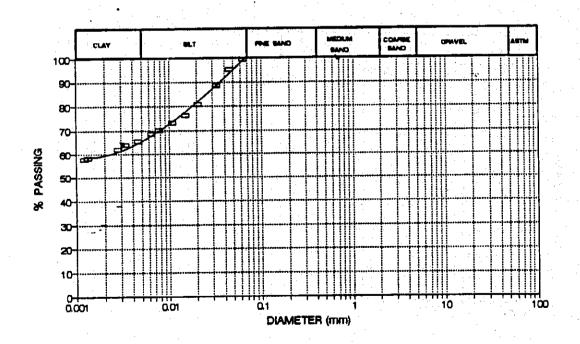
0.0012

0.0010

58.35

57.75

56.22



GRAIN SIZE ANALYSIS

Project: Subsidence in Bangkok Vicinity Location: AIT

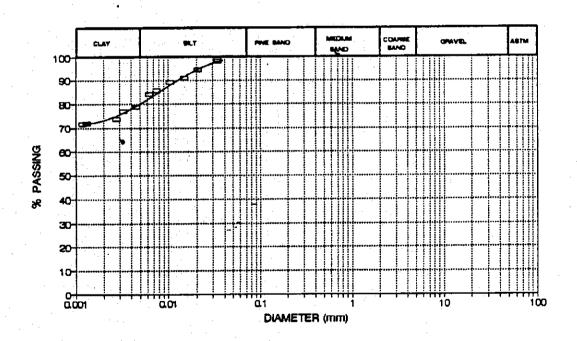
Borehole No.: B Depth (m) 138.6-138.7 Sample No.: Test No.: AH-100

Soli Description: Tested By: WY Date: 8-4-93

SIEVE ANALYSIS

SIEVE ANALYSIS						
Opening	Percent Finer					
(mm)	(%)					
4.76						
200						
0.84						
0.59						
0.42						
0.30						
0.15						
0.07						

Radicie	Percent
Size	Finer
(mm)	(%)
0.0339	98.09
0.0338	98.79
0.0207	94.59
0.01 48	91.09
0.0106	89.34
0.0076	85.83
0.0062	84.08
0.0045	78.82
0.0033	77.07
0.0027	73.92
0.0013	7217
0.0012	71.83



GRAIN SIZE ANALYSIS

Project: Subsidence in Bangkok Vicinity Location: AIT

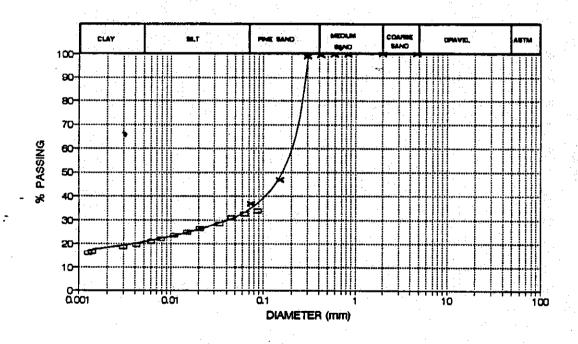
Borehole No.: B Depth (m) 146.6-146.9 Sample No.: Test No.: AH-15

Soil Description: Tested By: WY Date: 9-2-93

SIEVE ANALYSIS

SIEVE	analysis
	Percent Finer
Operting (mm)	(%)
4.76	100.00
200	100.00
0.84	99.80
0.59	99.70
0.42	99.50
0.30	99.00
0.15	46.80
0.07	36.80
	
-	
4. 14 A. 1	
	1 :

THORIONE	211744121414
Particle :::	Percent
Size	Finer
(सारा)	(%)
0.0877	33,60
0.0630	32.56
0.0457	31.01
0.0335	28.43
0.0335	28.43
0.0208	26.36
0.01 50	24.81
0.0108	23.57
0.0078	22.23
0.0060	20.99
0.0041	19.64
0.0030	18.40
0.0014	16.33
0.0013	16.02
0.0010	15.30



SIEVE ANALYSIS

Project: Subsidence in Bangkok Vicinity

Location:

Borehole No.: B-1/1 Depth (m) 152.40-153.00 Sample No.: SS-C-8B

Test No.:

S-13

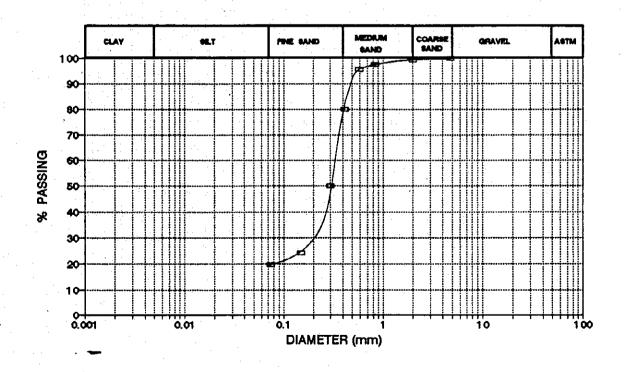
Soil Description:

Tested By: WY

Date:

Container No.:	
Weight of Container	100.00 g
Weight of Container+Dry Soil	550.00 g
Weight of Dry Soil	450.00 g

Sieve	Sieve	Weight of	Cumulative	Cumulative	Percent
No.	Opening	Soil Retained	Retained	Retained	Finer
	(mm)	(g)	(g)	(%)	
: 4	4.76	0.86	0,86	0.2	99.8
10	2.00	3.20	4.06	0.9	99.1
20	0.84	7.21	11.27	25	97.5
30	0.59	9.46	20.73	4.6	95.4
:40	0.42	68.51	89.24	19.8	80.2
50	0.30	135.05	224.29	49.8	50.2
100	0.15	117.16	341.45	75.9	24.1
200	0.07	19.59	361.04	80.2	19.8



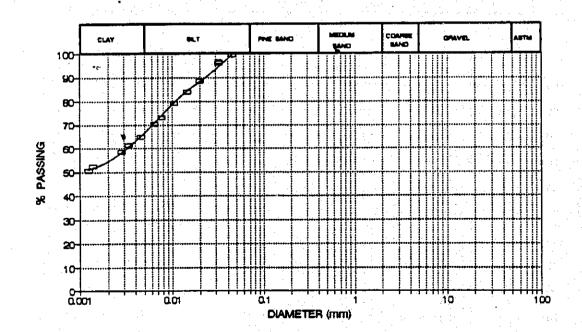
GRAIN SIZE ANALYSIS

Project: Subsidence in Bangkok Vicinity	Location:	AIT		
Borehole No.: B Depth (m) 154.5-154.6	Sample No.:		Test No.:	AH-1 01
Soil Description:	Tested By:	WY	Date:	8-4-93

SIEVE ANALYSIS

	Percent
Opening	Finer
(mm)	(%)
4.76	_
200	
0.84	
0.59	
0.42	
0.30	
0.15	
0.07	
	
	4.5

HYDROMETER ANALYSIS Particle Percent Size Finer (%) (ग्रामा) 0.0451 99.31 0.0324 96.13 0.0323 96.77 88.84 0.0201 84.08 0.0146 0.0106 79.32 0.0077 73.29 0.0063 70.43 65.03 0.0046 61.23 0.0034 0.0028 58.69 0.0014 52.67 0.0013 50.77 0.0010 49.82 0.0010 16.68



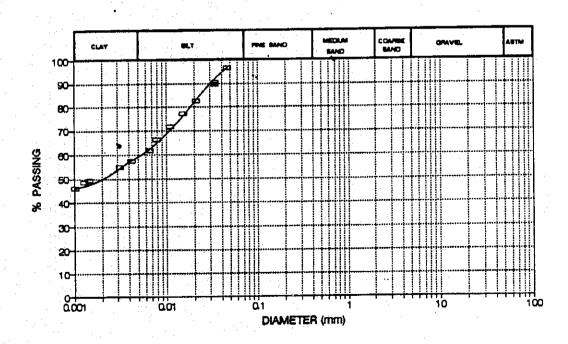
GRAIN SIZE ANALYSIS

Project:	Subsidence in Bangk	ok Vicinity	Location:	AIT		
Borehole No.:		157.3-157.37	Sample No.:		Test No.:	AH-1 02
Soli Description			Tested By:	WY	Date:	22-4-93

SIEVE ANALYSIS

	Percent
Opening	Finet
(mm)	(%)
4.76	
200	
0.84	
0.59	
0.42	
0.30	
0.15	
0.07	
	·
	9.1

Particle	Percent
Size	Finer
(mm)	(%)
0.0462	96.48
0.0336	89.89
0.0335	90.55
0.0209	82.65
0,01 51	77.38
0.01 09	71.78
0.0079	66.51
0,0066	61.90
0.0042	57.62
0.0032	54.99
0.0015	49.39
0,0013	48.73
0.0010	46.10
0.0010	45.12
0.0010	1 6.68



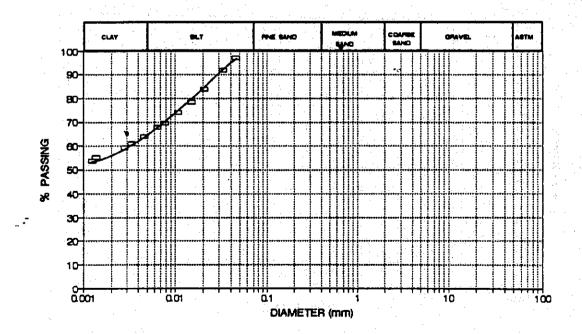
GRAIN SIZE ANALYSIS

Project:	Subsidence in Bangk	ok Vicinity	Location:	AIT	North Hall	
Borehole No.:	B Depth (m)	1 59.4-1 59.5	Sample No.:		Test No.:	AH-103
Soil Description	n:		Tested By:	WY	Date:	8-4-93

SIEVE ANALYSIS

····Opening ···	· · · · · · · · · · · · · · · · · · ·
(mm)	(%)
4.76	
2.00	
0.84	
0.59	
0.42	
0.30	
0.15	
0.07	

HYDHOME	EH ANAL TOIS
Particle	Percent
Size	Finer
(MM)	(%)
0.0456	97.19
0.0331	91.61
0.0331	91.81
0.0206	83.89
0.01 50	78.51
0.01 08	74.40
0.0078	69.65
0.0064	68.06
0.0046	64.27
0.0034	61.10
0.0028	59.20
0.0014	55.40
0.0012	53.82
0.0010	51.29
0.0010	16.68



SIEVE ANALYSIS

Project:

Subsidence in Bangkok Vicinity

Location:

Borehole No.: B-1/1 Depth (m)

16210-16250

Sample No.: SS-C-9B

Test No.:

S-12

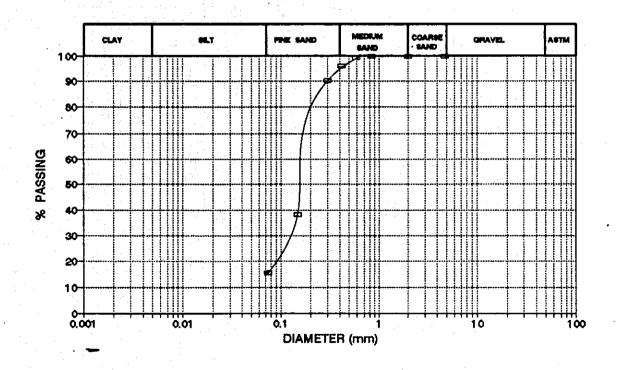
Soil Description:

Tested By: WY

Date:

Container No.:	
Weight of Container	100.00 g
Weight of Container+Dry Soil	550.00 g
Weight of Dry Soil	\$ 450.00 g

Sieve No.	Sieve Opening (mm)	Weight of Soil Retained (g)	Currulative Retained (g)	Cumulative Retained (%)	Percent Finer
4	4.76	0.00	0.00	0.0	100.0
10	200	0,00	0.00	0.0	100.0
20	0.84	0.57	0.57	0.1	99.9
30	0.59	217	274	0.6	99.4
40	0.42	14.86	17.60	3.9	96.1
50	0.30	26.02	43.62	9.7	90.3
100	0.15	233.92	277.54	61.7	38.3
200	0.07	102.38	379.92	84.4	15.6



ASIAN INSTITUTE OF TECHNOLOGY

GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

GRAIN SIZE ANALYSIS

Project: Subsidence in Bangkok Vicinity Location: AIT

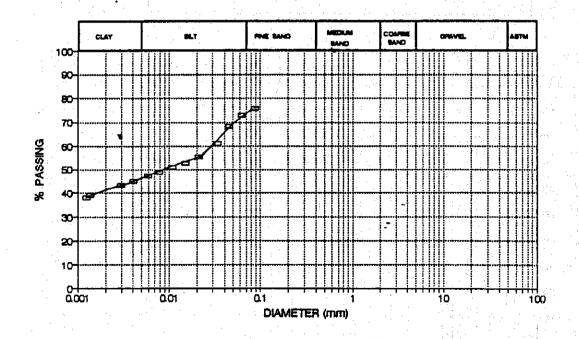
Borehole No.: B Depth (m) 169-170 Sample No.: Test No.: AH-16

Soil Description: Tested By: WY Date: 9-2-93

SIEVE ANALYSIS

	SIEVE	NALTSIS
		Percent
∴ `C	репіпр	Finer
\cdots	(ויוויו)	(%)
	4.76	
7.5	200	
	0.84	gajata da sa galag
	0.59	
	0.42	
41. 3.4	0.30	
	0.15	
9 3.	0.07	

Particle	Percent
Size	Finer
(mm)	(%)
0.0866	75.70
0.0625	72.92
0.0456	68.29
0.0337	61.34
0.0337	61.34
0.0210	55.56
0.0151	52.78
0.01.08	50.93
0.0077	49.08
0,0059	47.46
0.0041	45.14
0.0030	43.30
0.001.4	39.12
0.0012	38.20
0.0010	37.04

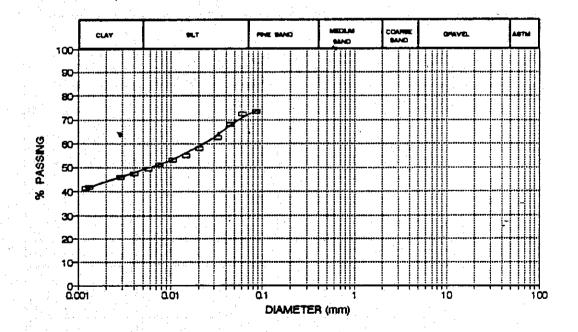


GRAIN SIZE ANALYSIS

Project:	Subsidence in Bangk	ok Vicinity	Location:	AIT		
Borehole No.:	B Depth (m)	170-171	Sample No.:		Test No.:	AH-17
Soil Description	n:		Tested By:	WY	Date:	9-2-93

SIEVE A	MALYSIS
Opening	Percent Finer
(mm)	(%)
4.76	
2.00 0.84	
0.59	
0.42	
0.30 0.15	
0.07	

HYDROMETER ANALYSIS				
Particle	Percent			
Size	Finer			
(mm):	(%)			
0.0857	73.63			
0.0611	72.53			
0.0447	68.13			
0.0328	62.64			
0.0326	62.64			
0.0203	58.24			
0.0147	54.94			
0.0105	53,19			
0.0075	51.21			
0.0058	49.45			
0.0040	47.47			
0.0028	45.93			
0,0013	41.76			
0,0012	41.32			
0.001.0	37.36			



SIEVE ANALYSIS

Subsidence in Bangkok Vicinity

Location:

Borehole No.: B-1/1 Depth (m) 175.20-175.50 Sample No.: SS-C-10B

Test No.:

S-11

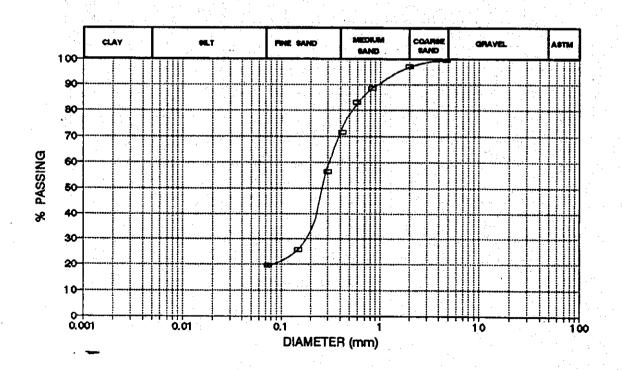
Soil Description:

Tested By: WY

Date:

Container	No.:			
Weight of	Container	a la compa	100.00 g	
Weight of	Container+Dry Soil		600.00 g	
Weight of	Dry Soil		500.00 g	

Sieve No.	Sieve Opening (mm)	Weight of Soil Retained (g)	Currulative Retained (g)	Cumulative Retained (%)	Percent Finer
4	4.76	271	271	0.5	99.5
10	2.00	11.29	14.00	2.8	97.2
20	0.84	42.57	56.57	11.3	88.7
30	0.59	27.83	84.40	16.9	83.1
40	0.42	56.81	141.21	28.2	71.8
50	0.30	76.00	217.21	43.4	56.6
100	0.15	154.31	371.52	74.3	25.7
200	0.07	30.57	402.09	80.4	19.6
			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		



SIEVE ANALYSIS

Project: Subsidence in Bangkok Vicinity

Location:

Borehole No.: B-1/1 Depth (m) 176.50-176.80

Sample No.: SS-C-11B

Test No.: Date:

S-10

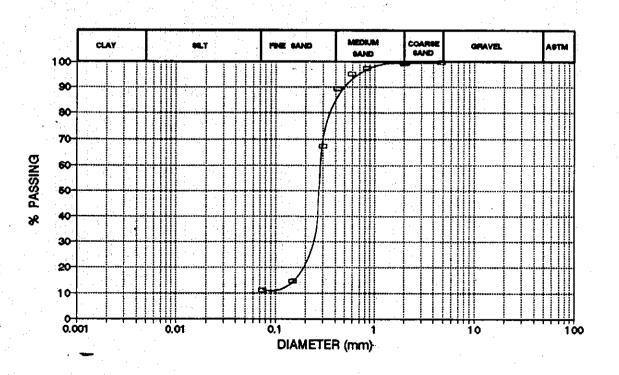
Soil Description:

Tested By:

WY

Container No.;	And the part of the second
Weight of Container	100.00 g
Weight of Container+Dry Soil	706.00 g
Weight of Dry Soil	606.00 g

Sieve	Sieve	Weight of	Cumulative	Cumulative	Percent
No.	Opening (mm)	Soil Retained (g)	Retarred (g)	Retained (%)	Firter
4	4.76	0.58	0.58	0.1	99.9
10	200	299	3.57	0.6	99.4
20	0.84	1266	16.23	27	97.3
30	0.59	11.95	28.18	4.7	95.3
40	0.42	36.34	64.52	10.6	89.4
50	0.30	134.08	198.60	32.8	67.2
100	0.15	319.10	517.70	85.4	14.6
200	0.07	21.69	539.39	89.0	11.0
٠					



SIEVE ANALYSIS

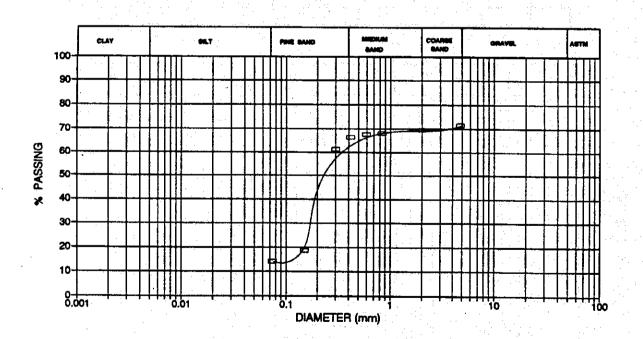
 Project:
 Subsidence in Bangkok Vicinity
 Location:

 Borehole No.:
 B-1/1 Depth (m)
 177.20-177.50
 Sample No.:
 SS-C-12B Test No.:
 S-9 Date:

 Soil Description:
 Tested By:
 WY
 Date:
 5-2-1993

Container No.:	
Weight of Container	100.00 g
Weight of Container+Dry Soil	540.00 g
Weight of Dry Soil	440.00 g

Sieve	Sieve	Weight of	Cumulative	Cumulative	Percent
No.	Opening	Soil Retained	Retained	Retained	Finer
	(mm)	(9)	(g)	(%)	
4	4.76	124.32	124.32	28.3	71.7
10	2.00	8.83	133.15	30.3	69.7
20	0.84	6.71	139.86	31.8	68.2
30	0.59	2.57	142.43	32.4	67.6
40	0.42	4.66	147.09	33.4	66.6
50	0.30	22.95	170.04	38.6	61,4
100	0.15	187.69	357.73	81.3	18.7
200	0.07	20.99	378.72	86.1	13.9
					15 02 2
11.00		177			



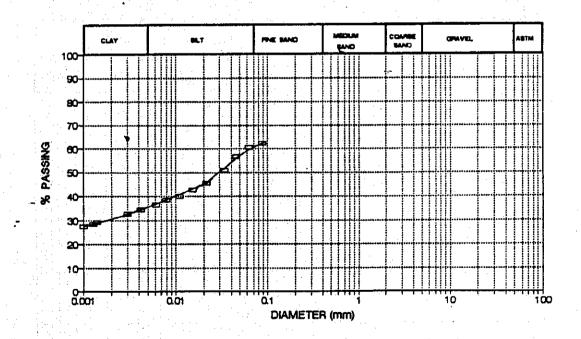
GRAIN SIZE ANALYSIS

Project:	Subs	idence in Bang	kok Vicinity	Location:	AIT		•
Borehole No.:	В	Depth (m)	180-180.6	Sample No.:		Test No.:	AH-18
Soil Description	n:			Tested By:	WY	Date:	9-2-93

SIEVE ANALYSIS

	Percent
Opening	Firen
(mm)	(%)
4.76	
200	30 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0.84	
0.59	
0.42	
0.30	
0.15	
0.07	7
A	

Particle	Percent
::::Size::::	Finer
(mm)	(%)
0.0857	62.44
0.0624	60.57
0.0456	56.85
0.0338	51.07
0.0338	51.07
0.0212	45.66
0.01 53	42.68
0.0110	40.26
0.0079	38.58
0.0061	36.72
0.0042	34.48
0.0030	32.80
0.0014	29.26
0.0013	28.52
0.0010	27.40
0.0010	27.03



SIEVE ANALYSIS

Subsidence in Bangkok Vicinity

Location:

Borehole No.: B-1/1 Depth (m) 183.50-184.00

Sample No.: SS-C-13B

Test No.:

S-8

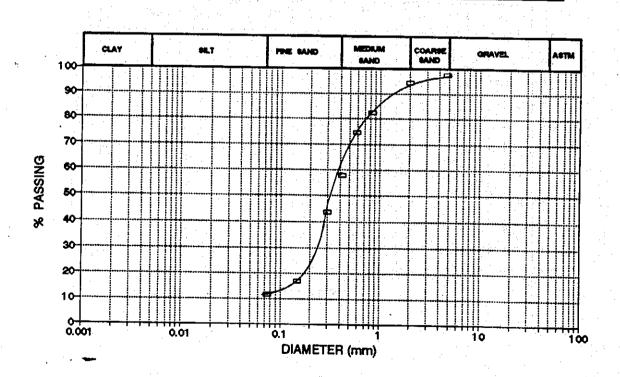
Soil Description:

Tested By: WY

Date:

						<u> </u>
Contai	ner No.:	<u> </u>				
Weight	of Contain	ner :			100.00 a	
Weight	of Contain	ner+Dry S	Soil	1	400.74 g	
Weight	of Dry Soi	Kan Ta			300.74 g	
	77					

Sieve No	Sieve Opening (mm)	Weight of Soil Retained (g)	Currelative Retained (g)	Comulative Retained (%)	Percent Finer
4	4.76	6.74	6.74	22	97.8
10	200	9.76	16.50	5.5	94.5
20	0.84	36.22	52.72	17.5	82.5
30	0.59	23.61	76.33	25.4	74.6
40	0.42	50.48	126.81	42.2	57.8
50	0.30	42.74	169.55	56.4	43.6
100	0.15	80.18	249.73	83.0	17.0
200	0.07	15.89	265.62	88.3	11.7
3 0 11					



SIEVE ANALYSIS

Project: Subsidence in Bangkok Vicinity

Location:

Test No.:

S-7

Borehole No.: B-1/1 Depth (m) 189.00-189.50 Soil Description:

Tested By:

Sample No.: SS-C-14B WY

Date:

Container No.:		
Weight of Container	4.	100.00 g
Weight of Container+Dry Soil		300.27 g
Weight of Dry Soil		200.27 g

Sieve No.	Sieve Opening (mm)	Weight of Soil Retained (g)	Cumulative Retained (g)	Cumulative Retained (%)	Percent Finer
4	4.76	0.00	0.00	0.0	100.0
10	200	1.62	1.62	0.8	99.2
20	0.84	20.06	21.68	10.8	89.2
30	0.59	16.32	38.00	19.0	81.0
40	0.42	24.85	62.85	31.4	68.6
50	0.30	19.97	82.82	41.4	58.6
100	0.15	33.97	116.79	58.3	41.7
200	0.07	15.16	131.95	65.9	34.1
-	·				

