













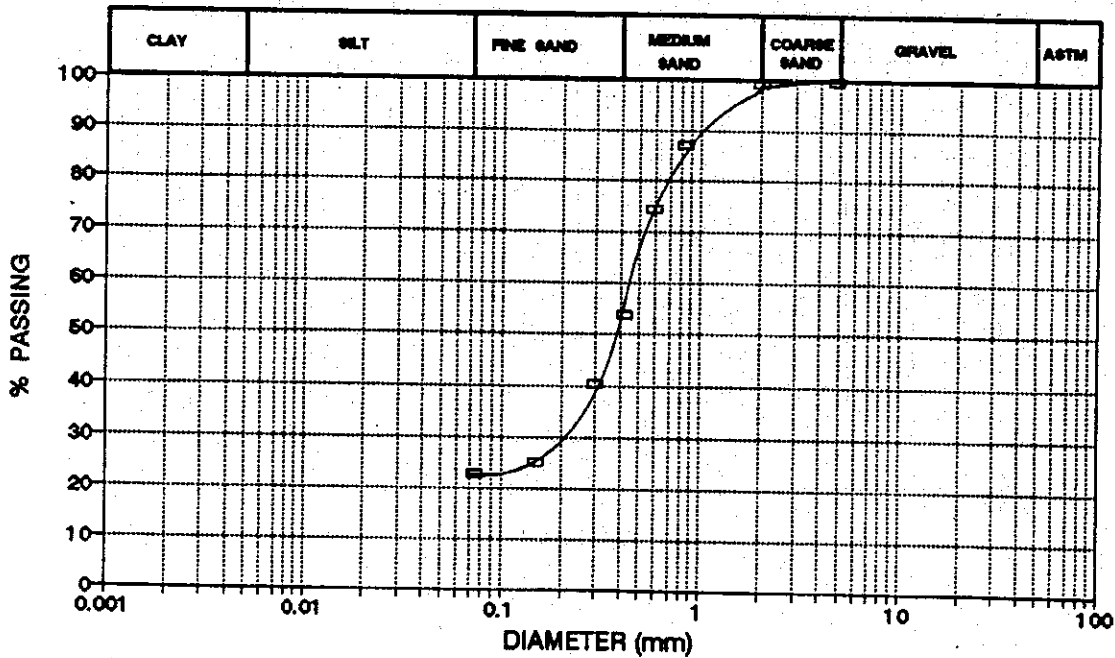
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**GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION**

**SIEVE ANALYSIS**

Project: Subsidence in Bangkok Vicinity Location: \_\_\_\_\_  
 Borehole No.: B-1/1 Depth (m) 261.00-261.50 Sample No.: SS-C-15B Test No.: S-6  
 Soil Description: \_\_\_\_\_ Tested By: WY Date: 5-2-1993

Container No.:	
Weight of Container	100.00 g
Weight of Container+Dry Soil	400.79 g
Weight of Dry Soil	300.79 g

Sieve No.	Sieve Opening (mm)	Weight of Soil Retained (g)	Cumulative Retained (g)	Cumulative Retained (%)	Percent Finer
4	4.76	0.23	0.23	0.1	99.9
10	2.00	1.71	1.94	0.6	99.4
20	0.84	36.36	38.30	12.7	87.3
30	0.59	38.27	76.57	25.5	74.5
40	0.42	62.21	138.78	46.1	53.9
50	0.30	40.49	179.27	59.6	40.4
100	0.15	46.06	225.33	74.9	25.1
200	0.07	6.34	231.67	77.0	23.0



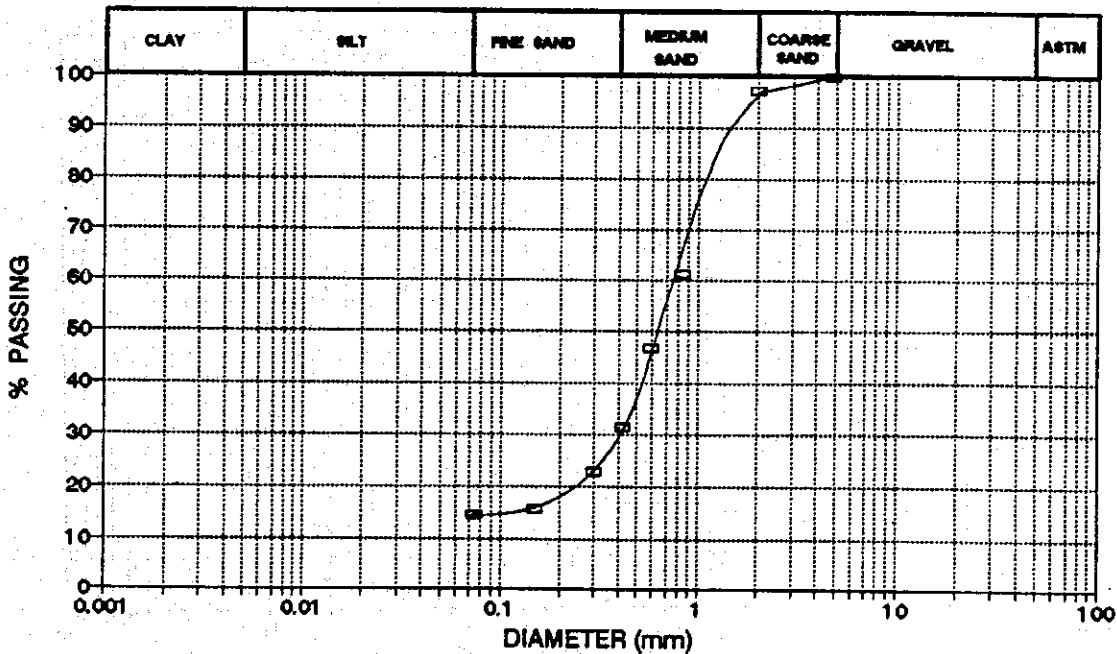
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**SIEVE ANALYSIS**

Project: Subsidence in Bangkok Vicinity Location: \_\_\_\_\_  
 Borehole No.: B-1/1 Depth (m) 264.00-264.50 Sample No.: SS-C-16B Test No.: S-5  
 Soil Description: \_\_\_\_\_ Tested By: WY Date: 5-2-1993

Container No.:	
Weight of Container	100.00 g
Weight of Container + Dry Soil	500.57 g
Weight of Dry Soil	400.57 g

Sieve No.	Sieve Opening (mm)	Weight of Soil Retained (g)	Cumulative Retained (g)	Cumulative Retained (%)	Percent Finer
4	4.75	0.49	0.49	0.1	99.9
10	2.00	11.39	11.88	3.0	97.0
20	0.84	144.17	156.05	39.0	61.0
30	0.59	56.96	213.01	53.2	46.8
40	0.42	62.00	275.01	68.7	31.3
50	0.30	33.92	308.93	77.1	22.9
100	0.15	28.80	337.73	84.3	15.7
200	0.07	4.15	341.88	85.3	14.7





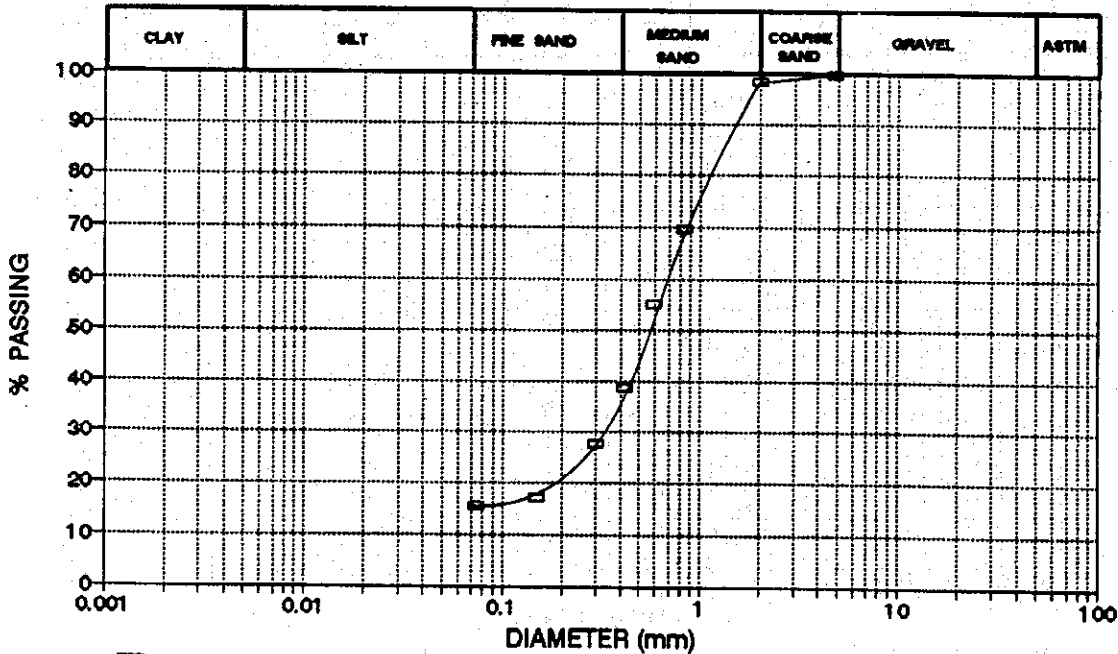
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**SIEVE ANALYSIS**

Project: Subsidence in Bangkok Vicinity Location: \_\_\_\_\_  
 Borehole No.: B-1/1 Depth (m) 270.00-270.50 Sample No.: SS-C-17B Test No.: S-4  
 Soil Description: \_\_\_\_\_ Tested By: WY Date: 5-2-1993

Container No.:	
Weight of Container	100.00 g
Weight of Container + Dry Soil	500.35 g
Weight of Dry Soil	400.35 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	6.58	6.58	1.6	98.4
20	0.84	114.84	121.42	30.3	69.7
30	0.59	56.98	178.40	44.6	55.4
40	0.42	66.73	245.13	61.2	38.8
50	0.30	44.88	290.01	72.4	27.6
100	0.15	41.41	331.42	82.8	17.2
200	0.07	6.60	338.02	84.4	15.6



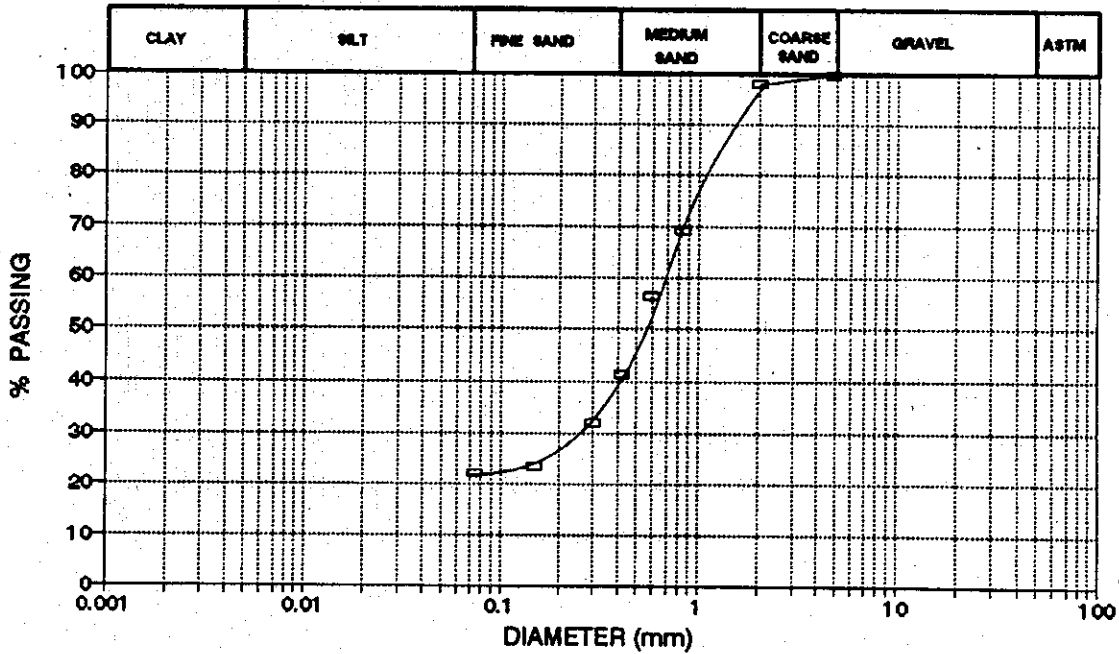
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**SIEVE ANALYSIS**

Project: Subsidence in Bangkok Vicinity Location: \_\_\_\_\_  
 Borehole No.: B-1/1 Depth (m) 274.00-274.50 Sample No.: SS-C-18B Test No.: S-3  
 Soil Description: \_\_\_\_\_ Tested By: WY Date: 5-2-1993

Container No.:	G-20
Weight of Container	100.00 g
Weight of Container + Dry Soil	500.51 g
Weight of Dry Soil	400.51 g

Sieve No.	Sieve Opening (mm)	Weight of Soil Retained (g)	Cumulative Retained (g)	Cumulative Retained (%)	Percent Finer
4	4.76	0.67	0.67	0.2	99.8
10	2.00	6.22	6.89	1.7	98.3
20	0.84	116.09	122.98	30.7	69.3
30	0.59	51.55	174.53	43.6	56.4
40	0.42	60.49	235.02	58.7	41.3
50	0.30	36.20	271.22	67.7	32.3
100	0.15	34.31	305.53	76.3	23.7
200	0.07	6.20	311.73	77.8	22.2





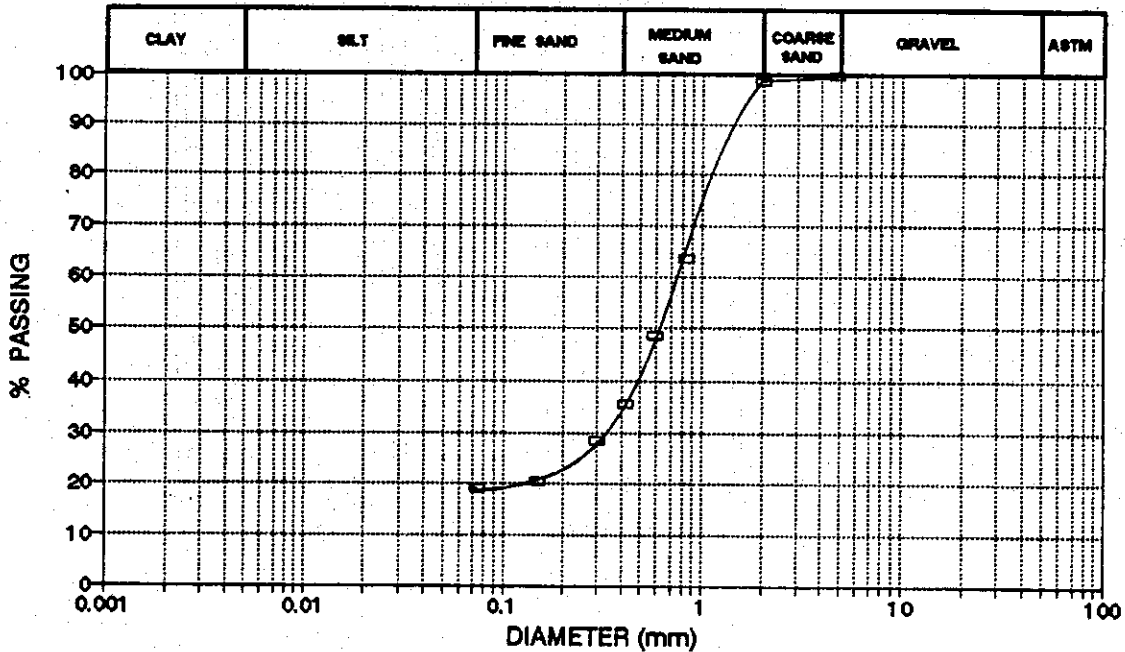
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**SIEVE ANALYSIS**

Project: Subsidence in Bangkok Vicinity Location: \_\_\_\_\_  
 Borehole No.: B-1/1 Depth (m) 281.00-281.50 Sample No.: SS-C-198 Test No.: S-2  
 Soil Description: \_\_\_\_\_ Tested By: WY Date: 5-2-1993

Container No.:	
Weight of Container	100.00 g
Weight of Container + Dry Soil	400.20 g
Weight of Dry Soil	300.20 g

Sieve No.	Sieve Opening (mm)	Weight of Soil Retained (g)	Cumulative Retained (g)	Cumulative Retained (%)	Percent Finer
4	4.76	0.92	0.92	0.3	99.7
10	2.00	3.27	4.19	1.4	98.6
20	0.84	105.22	109.41	36.4	63.6
30	0.59	44.45	153.86	51.3	48.7
40	0.42	39.42	193.28	64.4	35.6
50	0.30	21.21	214.49	71.4	28.6
100	0.15	24.03	238.52	79.5	20.5
200	0.07	4.58	243.10	81.0	19.0





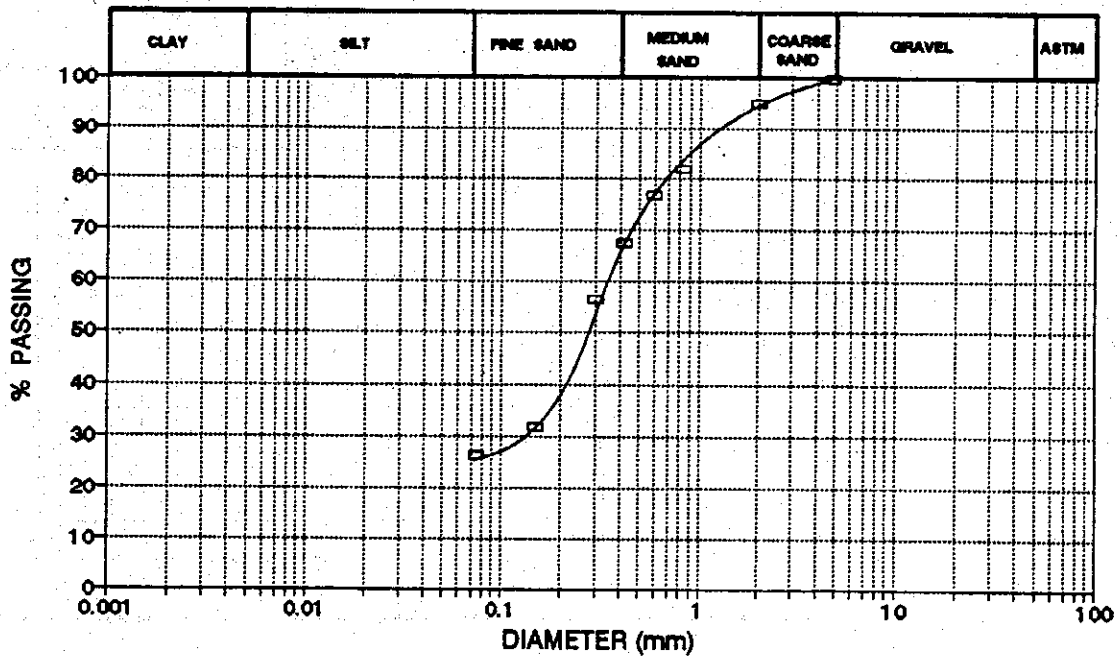
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**SIEVE ANALYSIS**

Project: Subsidence in Bangkok Vicinity Location: \_\_\_\_\_  
 Borehole N B-1/1 Depth (m) 294.50-295.00 Sample No.: SS-C-20B Test No.: S-1  
 Soil Description: \_\_\_\_\_ Tested By: WY Date: 5-2-1993

Container No.:	
Weight of Container	100.00 g
Weight of Container + Dry Soil	600.62 g
Weight of Dry Soil	500.62 g

Sieve No.	Sieve Opening (mm)	Weight of Soil Retained (g)	Cumulative Retained (g)	Cumulative Retained (%)	Percent Finer
4	4.75	1.66	1.66	0.3	99.7
10	2.00	23.24	24.90	5.0	95.0
20	0.84	64.65	89.55	17.9	82.1
30	0.59	26.91	116.46	23.3	76.7
40	0.42	47.68	164.14	32.8	67.2
50	0.30	53.38	217.52	43.5	56.5
100	0.15	123.80	341.32	68.2	31.8
200	0.07	27.03	368.35	73.6	26.4



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**ATTERBERG LIMITS TEST**

Project: Subsidence in Bangkok Vicinity Location: \_\_\_\_\_  
 Borehole No.: B-1/3 Depth (m) 2.00-3.00 Sample No.: UD-T-1 Test No.: A-14  
 Soil Description: \_\_\_\_\_ Tested By: WY Date: 17-1-1993

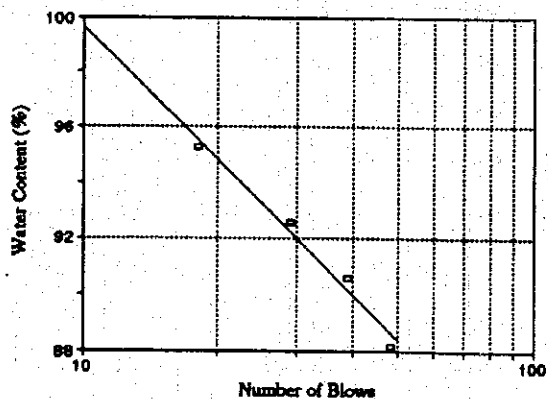
	NATURAL WATER CONTENT		PLASTIC LIMIT	
	4	1	4	1
Container No.			4	1
Weight of Container g			3.18	3.35
Weight of Wet Soil + Container g			12.64	12.58
Weight of Dry Soil + Container g			10.32	10.31
Weight of Water g			2.32	2.27
Weight of Dry Soil g			7.14	6.96
Water Content %			32.5	32.6
Average Water Content %			32.6	

**LIQUID LIMIT**

Number of Blows	18	29	39	48
Container No.	6	32	12	40
Weight of Container g	5.43	5.43	5.43	5.43
Weight of Wet Soil + Container g	21.87	23.03	21.00	21.35
Weight of Dry Soil + Container g	13.85	14.57	13.60	13.89
Weight of Water g	8.02	8.46	7.40	7.46
Weight of Dry Soil g	8.42	9.14	8.17	8.46
Water Content %	95.2	92.6	90.6	88.2

Nat. Water Content	=	%
Liquid Limit, LL	=	93.2 %
Plastic Limit, PL	=	32.6 %
Plasticity Index, PI	=	60.7 %
Liquidity Index, LI	=	

Remarks: \_\_\_\_\_



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**ATTERBERG LIMITS TEST**

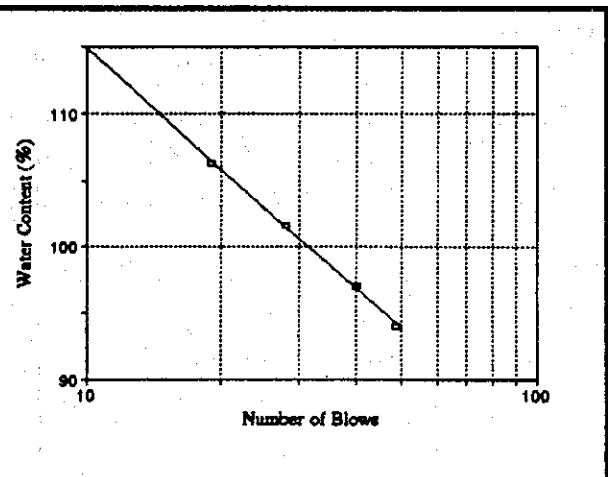
Project: Subsidence in Bangkok Vicinity Location: AIT Campus  
 Borehole No.: B-1/3 Depth (m) 4.00-5.00 Sample No.: UD-T-2 Test No.: A-15  
 Soil Description: \_\_\_\_\_ Tested By: WY Date: 17-1-1993

		NATURAL WATER CONTENT		PLASTIC LIMIT	
Container No.				7	77
Weight of Container	g			3.17	3.20
Weight of Wet Soil + Container	g			10.45	10.08
Weight of Dry Soil + Container	g			8.41	8.15
Weight of Water	g			2.04	1.93
Weight of Dry Soil	g			5.24	4.95
Water Content	%			38.9	39.0
Average Water Content	%			<b>39.0</b>	

**LIQUID LIMIT**

	19	28	40	49
Number of Blows				
Container No.	57	3	86	37
Weight of Container	g	5.43	5.43	5.44
Weight of Wet Soil + Container	g	21.24	21.16	21.22
Weight of Dry Soil + Container	g	13.09	13.23	13.45
Weight of Water	g	8.15	7.93	7.77
Weight of Dry Soil	g	7.66	7.80	8.01
Water Content	%	<b>106.4</b>	<b>101.7</b>	<b>97.0</b>

Nat. Water Content	=	%
Liquid Limit, LL	=	<b>103.0</b> %
Plastic Limit, PL	=	<b>39.0</b> %
Plasticity Index, PI	=	<b>64.0</b> %
Liquidity Index, LI	=	
Remarks:	_____	
	_____	
	_____	
	_____	





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**ATTERBERG LIMITS TEST**

Project: Subsidence in Bangkok Vicinity Location: AIT Campus  
 Borehole No.: B-1/3 Depth (m) 6.00-7.00 Sample No.: UD-T-3 Test No.: A-16  
 Soil Description: \_\_\_\_\_ Tested By: WY Date: 17-1-1993

**NATURAL WATER CONTENT                      PLASTIC LIMIT**

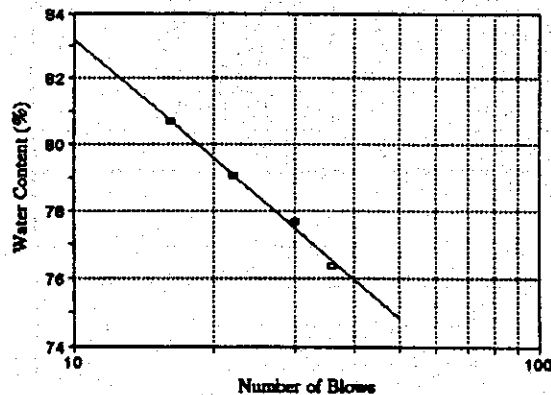
Container No.			64	9
Weight of Container	g		3.19	3.32
Weight of Wet Soil + Container	g		11.37	11.42
Weight of Dry Soil + Container	g		9.51	9.57
Weight of Water	g		1.86	1.85
Weight of Dry Soil	g		6.32	6.25
Water Content	%		29.4	29.6
Average Water Content	%		29.5	

**LIQUID LIMIT**

Number of Blows		16	22	30	36
Container No.		34	15	86	40
Weight of Container	g	5.44	5.44	5.46	5.43
Weight of Wet Soil + Container	g	21.36	21.52	21.61	21.78
Weight of Dry Soil + Container	g	14.25	14.42	14.55	14.70
Weight of Water	g	7.11	7.10	7.06	7.08
Weight of Dry Soil	g	8.81	8.98	9.09	9.27
Water Content	%	80.7	79.1	77.7	76.4

Nat. Water Content	=		%
Liquid Limit, LL	=	78.4	%
Plastic Limit, PL	=	29.5	%
Plasticity Index, PI	=	48.9	%
Liquidity Index, LI	=		

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
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**ATTERBERG LIMITS TEST**

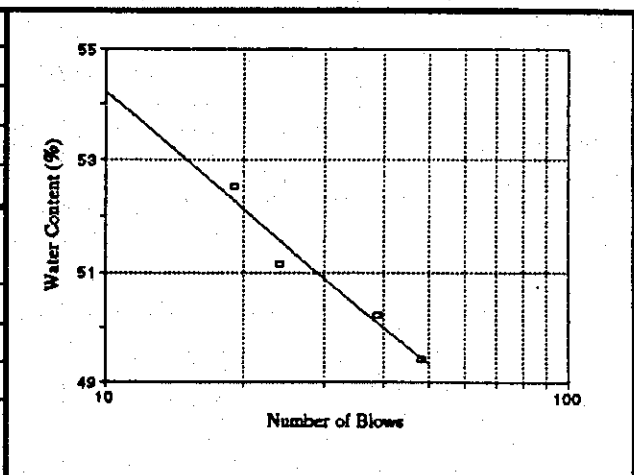
Project: Subsidence in Bangkok Vicinity Location: AIT Campus  
 Borehole No.: B-1/3 Depth (m) 8.00-9.00 Sample No.: UD-T-4 Test No.: A-17  
 Soil Description: \_\_\_\_\_ Tested By: WY Date: 17-1-1993

Container No.	NATURAL WATER CONTENT		PLASTIC LIMIT	
	g	%	g	%
Weight of Container	g		80	3
Weight of Wet Soil + Container	g		3.17	3.20
Weight of Dry Soil + Container	g		10.06	10.02
Weight of Water	g		8.91	8.89
Weight of Dry Soil	g		1.15	1.13
Water Content	%		5.74	5.69
Average Water Content	%		20.0	19.9

**LIQUID LIMIT**

Number of Blows	48	39	24	19
Container No.	57	84	98	86
Weight of Container g	5.44	5.43	5.44	5.45
Weight of Wet Soil + Container g	25.82	24.87	26.39	23.63
Weight of Dry Soil + Container g	19.08	18.37	19.30	17.37
Weight of Water g	6.74	6.50	7.09	6.26
Weight of Dry Soil g	13.64	12.94	13.86	11.92
Water Content %	49.4	50.2	51.2	52.5

Nat. Water Content	=	19.9 %
Liquid Limit, LL	=	51.4 %
Plastic Limit, PL	=	19.9 %
Plasticity Index, PI	=	31.5 %
Liquidity Index, LI	=	
Remarks:	_____	
	_____	
	_____	
	_____	



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**ATTERBERG LIMITS TEST**

Project: Subsidence in Bangkok Vicinity Location: AIT Campus  
 Borehole No.: B-1/1 Depth (m) 117.00-117.50 Sample No.: UD-C-1 Test No.: A-18  
 Soil Description: \_\_\_\_\_ Tested By: WY Date: 5-2-1993

**NATURAL WATER CONTENT                      PLASTIC LIMIT**

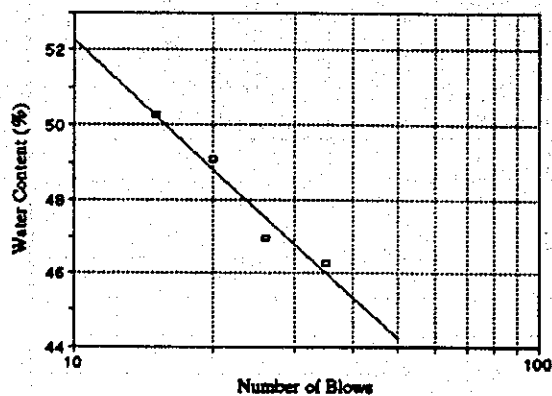
Container No.			1	4
Weight of Container	g		3.13	3.34
Weight of Wet Soil + Container	g		10.12	9.90
Weight of Dry Soil + Container	g		8.38	8.85
Weight of Water	g		1.74	1.05
Weight of Dry Soil	g		5.25	5.51
Water Content	%		33.1	19.1
Average Water Content	%		26.1	

**LIQUID LIMIT**

Number of Blows		15	20	26	35
Container No.		34	90	1	4
Weight of Container	g	5.52	5.41	4.61	5.49
Weight of Wet Soil + Container	g	20.26	20.99	20.26	22.50
Weight of Dry Soil + Container	g	15.33	15.86	15.26	17.12
Weight of Water	g	4.93	5.13	5.00	5.38
Weight of Dry Soil	g	9.81	10.45	10.65	11.63
Water Content	%	50.3	49.1	46.9	46.3

Nat. Water Content	=	26.1	%
Liquid Limit, LL	=	47.7	%
Plastic Limit, PL	=	26.1	%
Plasticity Index, PI	=	21.6	%
Liquidity Index, LI	=		

Remarks: \_\_\_\_\_



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**ATTERBERG LIMITS TEST**

Project: Subsidence in Bangkok Vicinity Location: AIT Campus  
 Borehole No.: B-1/1 Depth (m) 146.60-146.90 Sample No.: UD-C-3 Test No.: A-19  
 Soil Description: \_\_\_\_\_ Tested By: WY Date: 5-2-1993

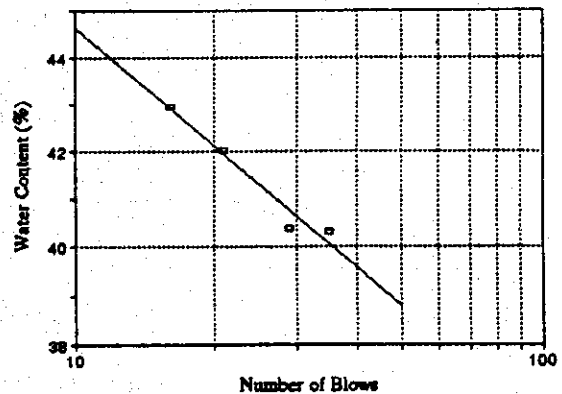
		NATURAL WATER CONTENT		PLASTIC LIMIT	
Container No.				17	73
Weight of Container	g			3.18	3.17
Weight of Wet Soil + Container	g			9.52	10.25
Weight of Dry Soil + Container	g			8.66	9.29
Weight of Water	g			0.86	0.96
Weight of Dry Soil	g			5.48	6.12
Water Content	%			15.7	15.7
Average Water Content	%			15.7	

**LIQUID LIMIT**

	16	21	29	35
Number of Blows				
Container No.	7	2	57	41
Weight of Container	g	5.42	4.70	5.47
Weight of Wet Soil + Container	g	22.16	22.64	22.60
Weight of Dry Soil + Container	g	17.13	17.33	17.67
Weight of Water	g	5.03	5.31	4.93
Weight of Dry Soil	g	11.71	12.63	12.20
Water Content	%	43.0	42.0	40.4

Nat. Water Content	=	%
Liquid Limit, LL	=	41.3 %
Plastic Limit, PL	=	15.7 %
Plasticity Index, PI	=	25.6 %
Liquidity Index, LI	=	

Remarks: \_\_\_\_\_



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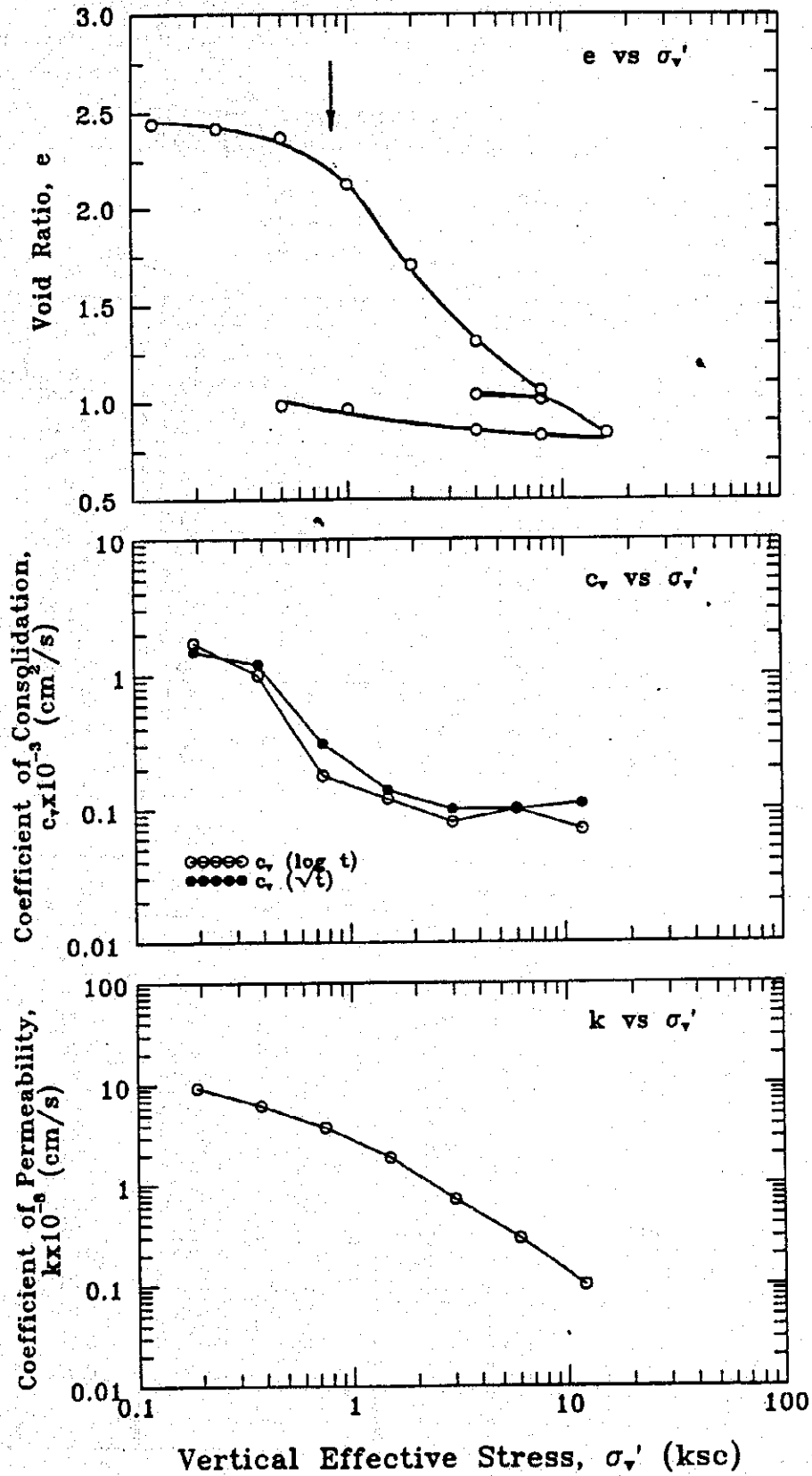
**CONSOLIDATION**

Project Subsidence in Bangkok Vicinity Location: AIT  
 Borehole No.: B Depth (m) 2.0 - 2.8 Sample No.:            Test No.: OS-1  
 Soil Description:            Tested By: SIH Date: 18-2-1993  
 Height of Solids (Hs) : 0.518 cm

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>f</sub>	e <sub>100</sub>	e <sub>f</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>f</sub>
1	0.125			1.784		0.8			2.444
2	0.25	1.776	1.771	1.767	1.6	1.8	2.429	2.419	2.411
3	0.50	1.756	1.746	1.741	3.0	3.3	2.390	2.371	2.361
4	1.00	1.678	1.618	1.579	10.1	12.3	2.239	2.124	2.048
5	2.00	1.490	1.400	1.363	22.2	24.3	1.876	1.703	1.631
6	4.00	1.277	1.197	1.171	33.5	34.9	1.465	1.311	1.261
7	8.00	1.120	1.066	1.043	40.8	42.1	1.162	1.058	1.014
8	4.00	1.050	1.055	1.057	41.4	41.3	1.027	1.037	1.041
9	8.00	1.049	1.042	1.036	42.1	42.4	1.025	1.012	1.000
10	16.00	0.993	0.952	0.935	47.1	48.0	0.917	0.838	0.805
11	8.00	0.941	0.946	0.948	47.4	47.3	0.817	0.826	0.830
12	4.00	0.954	0.960	0.963	46.7	46.5	0.842	0.853	0.859
13	1.00	0.990	1.017	1.023	43.5	43.2	0.911	0.963	0.975
	0.50			1.027		42.9			0.983

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k <sub>v</sub> × 10 <sup>6</sup> cm/s	CR (%)
		t <sub>90</sub>	t <sub>50</sub>	$\sqrt{t}$	log t	Average		
1	0.125	4.8		0.00232		0.00232	16.57	
2	0.25	7.6	1.5	0.00150	0.00173	0.00160	9.36	2.6
3	0.50	9.0	2.5	0.00120	0.00100	0.00110	6.25	4.7
4	1.00	30.3	12.5	0.00031	0.00018	0.00025	3.80	25.6
5	2.00	49.0	15.0	0.00014	0.00012	0.00013	1.88	40.3
6	4.00	49.0	17.0	0.00010	0.00008	0.00009	0.71	37.5
7	8.00	39.1	10.0	0.00010	0.00010	0.00010	0.29	24.1
8	4.00	12.3	2.8	0.00032	0.00033	0.00033	0.08	2.0
9	8.00	9.0	2.8	0.00043	0.00032	0.00038	0.12	2.4
10	16.00	30.3	12.0	0.00011	0.00007	0.00009	0.10	16.6
11	8.00	5.1	2.3	0.00062	0.00032	0.00047	0.04	1.1
12	4.00	20.3	3.0	0.00016	0.00025	0.00021	0.07	2.5
13	1.00	74.0	18.6	0.00005	0.00009	0.00007	0.14	10.6
14	0.50							

STANDARD OEDOMETER TEST NO. OS-1  
 DEPTH: 2.0-2.8 m SITE: B



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**GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION**

**CONSOLIDATION**

Project Subsidence in Bangkok Vicinity

Location: \_\_\_\_\_

Borehole No.: B Depth (m) 4.0-4.8

Sample No.: \_\_\_\_\_

Test No.: OS-2

Soil Description: \_\_\_\_\_

Tested By: \_\_\_\_\_

SIH \_\_\_\_\_

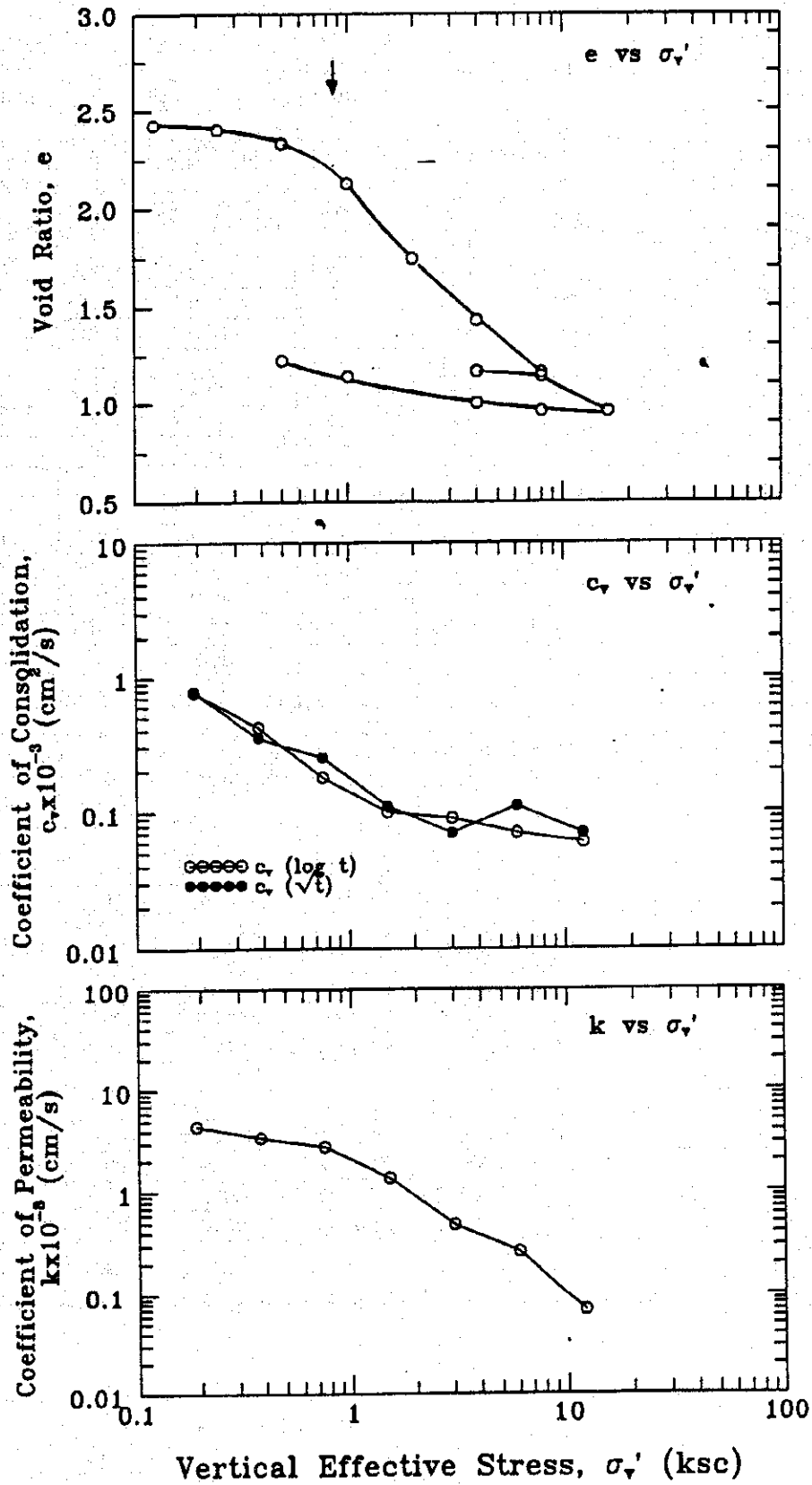
Date: 18-2-1993

Height of Solids (H<sub>s</sub>): 0.523 cm

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>f</sub>	e <sub>100</sub>	e <sub>f</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>f</sub>
1	0.125	1.794	1.793	1.793	0.3	0.4	2.430	2.428	2.429
2	0.25	1.786	1.780	1.781	1.1	1.1	2.415	2.404	2.405
3	0.50	1.761	1.742	1.730	3.2	3.9	2.367	2.331	2.308
4	1.00	1.681	1.634	1.620	9.2	9.8	2.214	2.124	2.097
5	2.00	1.528	1.435	1.420	20.3	21.0	1.922	1.744	1.715
6	4.00	1.344	1.271	1.258	29.4	30.1	1.570	1.430	1.405
7	8.00	1.192	1.128	1.119	37.3	37.8	1.279	1.157	1.139
8	4.00	1.126	1.131	1.134	37.1	37.0	1.153	1.163	1.168
9	8.00	1.126	1.118	1.116	37.9	38.0	1.153	1.137	1.133
10	16.00	1.065	1.023	1.014	43.2	43.6	1.036	0.956	0.939
11	8.00	1.019	1.024	1.026	43.1	43.0	0.948	0.959	0.962
12	4.00	1.035	1.048	1.050	41.9	41.7	0.979	1.000	1.007
13	1.00	1.054	1.117	1.125	37.9	37.5	1.015	1.137	1.151
14	0.50	1.145	1.161	1.165	35.5	35.3	1.189	1.219	1.227

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k <sub>v</sub> x 10 <sup>-8</sup> cm/s	CR (%)
		t <sub>50</sub>	t <sub>90</sub>	$\sqrt{t}$	log t	Average		
1	0.125	2.9	2.5	0.00391	0.00106	0.00250	7.79	
2	0.25	14.4	3.4	0.00078	0.00077	0.00078	4.43	2.4
3	0.50	30.3	6.0	0.00035	0.00042	0.00039	3.38	7.0
4	1.00	37.5	13.0	0.00025	0.00018	0.00021	2.75	20.0
5	2.00	64.0	20.0	0.00011	0.00010	0.00010	1.36	36.7
6	4.00	81.0	17.0	0.00007	0.00009	0.00008	0.48	30.3
7	8.00	42.3	17.0	0.00011	0.00007	0.00009	0.26	26.4
8	4.00	12.3	4.1	0.00037	0.00025	0.00031	0.02	0.6
9	8.00	17.6	3.2	0.00025	0.00033	0.00029	0.09	2.4
10	16.00	49.0	16.0	0.00007	0.00006	0.00006	0.07	17.6
11	8.00	25.0	6.5	0.00015	0.00013	0.00014	0.01	0.3
12	4.00	36.0	9.0	0.00011	0.00010	0.00010	0.05	6.3
13	1.00	92.2	26.0	0.00005	0.00004	0.00004	0.09	13.3
14	0.50	240.3	60.0	0.00002	0.00002	0.00004	0.29	8.1

STANDARD OEDOMETER TEST NO. OS-2  
 DEPTH: 4.0-4.8 m SITE: B





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**CONSOLIDATION**

Project Subsidence in Bangkok Vicinity

Location: Samut Sakhon

Borehole No.: B Depth (m) 6.0-6.8

Sample N

Test No.: OS-21

Soil Description:

Tested By:

SIH

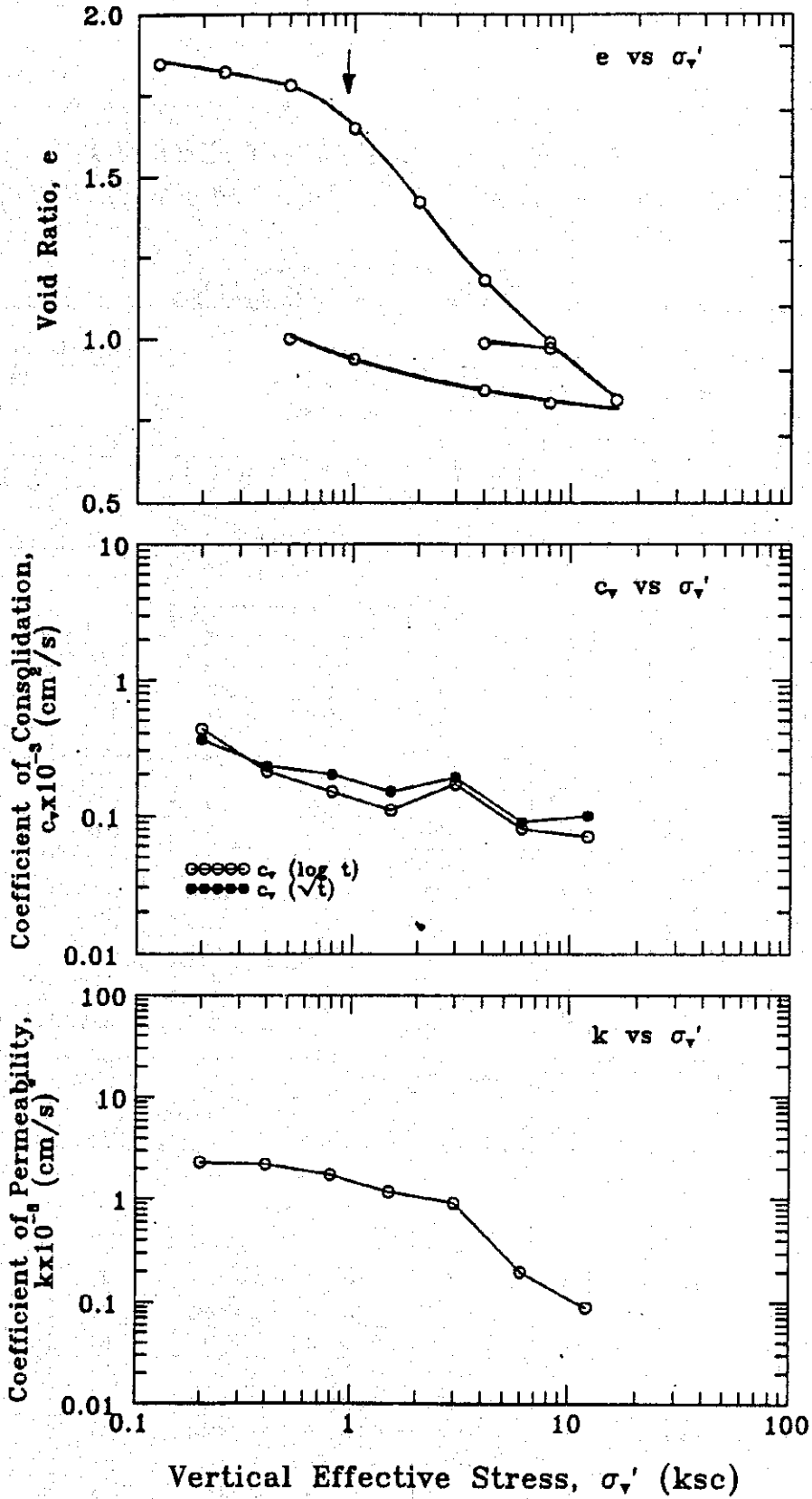
Date: 18-2-1993

Height of Solids (H<sub>s</sub>): 0.622 cm

Incrim No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>1</sub>	ε <sub>100</sub>	ε <sub>1</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>1</sub>
1	0.125			1.770		6.8			1.846
2	0.25	1.763	1.757	1.750	7.5	7.9	1.834	1.825	1.814
3	0.50	1.785	1.727	1.714	9.1	9.8	1.870	1.777	1.756
4	1.00	1.682	1.645	1.630	13.4	14.2	1.704	1.645	1.621
5	2.00	1.568	1.505	1.477	20.8	22.3	1.521	1.420	1.375
6	4.00	1.917	1.356	1.334	28.6	29.8	2.028	1.180	1.145
7	8.00	1.285	1.237	1.218	34.9	35.9	1.066	0.989	0.958
8	4.00	1.230	1.236	1.239	34.9	34.8	0.977	0.987	0.992
9	2.00								
10	4.00								
11	8.00	1.232	1.226	1.219	35.5	35.8	0.981	0.971	0.960
12	16.00	1.168	1.126	1.108	40.7	41.7	0.878	0.810	0.781
13	8.00	1.115	1.120	1.123	41.1	40.9	0.793	0.801	0.805
14	4.00	1.135	1.144	1.148	39.8	39.6	0.825	0.839	0.846
15	1.00			1.240		39.6			0.936
16	0.50			1.244		34.5			1.000

Incrim No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k x 10 <sup>-6</sup> cm/s	CR (%)
		t <sub>90</sub>	t <sub>50</sub>	√t	log t	Average		
1	0.125	6.3						
2	0.25	30.3	6.0	0.00036	0.00043	0.00039	2.30	2.2
3	0.50	49.0	12.5	0.00023	0.00021	0.00032	2.20	5.3
4	1.00	49.0	15.0	0.00020	0.00015	0.00018	1.75	14.3
5	2.00	56.3	18.0	0.00015	0.00011	0.00013	1.18	24.6
6	4.00	69.4	18.0	0.00019	0.00017	0.00018	0.92	25.9
7	8.00	64.0	17.0	0.00009	0.00008	0.00009	0.20	20.9
8	4.00	20.3	5.0	0.00026	0.00025	0.00026	0.10	3.3
9	2.00							
10	4.00							
11	8.00	16.0	4.6	0.00034	0.00027	0.00030	0.06	2.0
12	16.00	49.0	15.0	0.00010	0.00007	0.00009	0.09	17.3
13	8.00	20.3	4.5	0.00022	0.00023	0.00022	0.03	1.9
14	4.00	42.0	12.5	0.00011	0.00008	0.00010	0.05	4.3
15	1.00							
16	0.50							

STANDARD OEDOMETER TEST NO. OS-21  
 DEPTH: 6.0-6.8 m SITE: B



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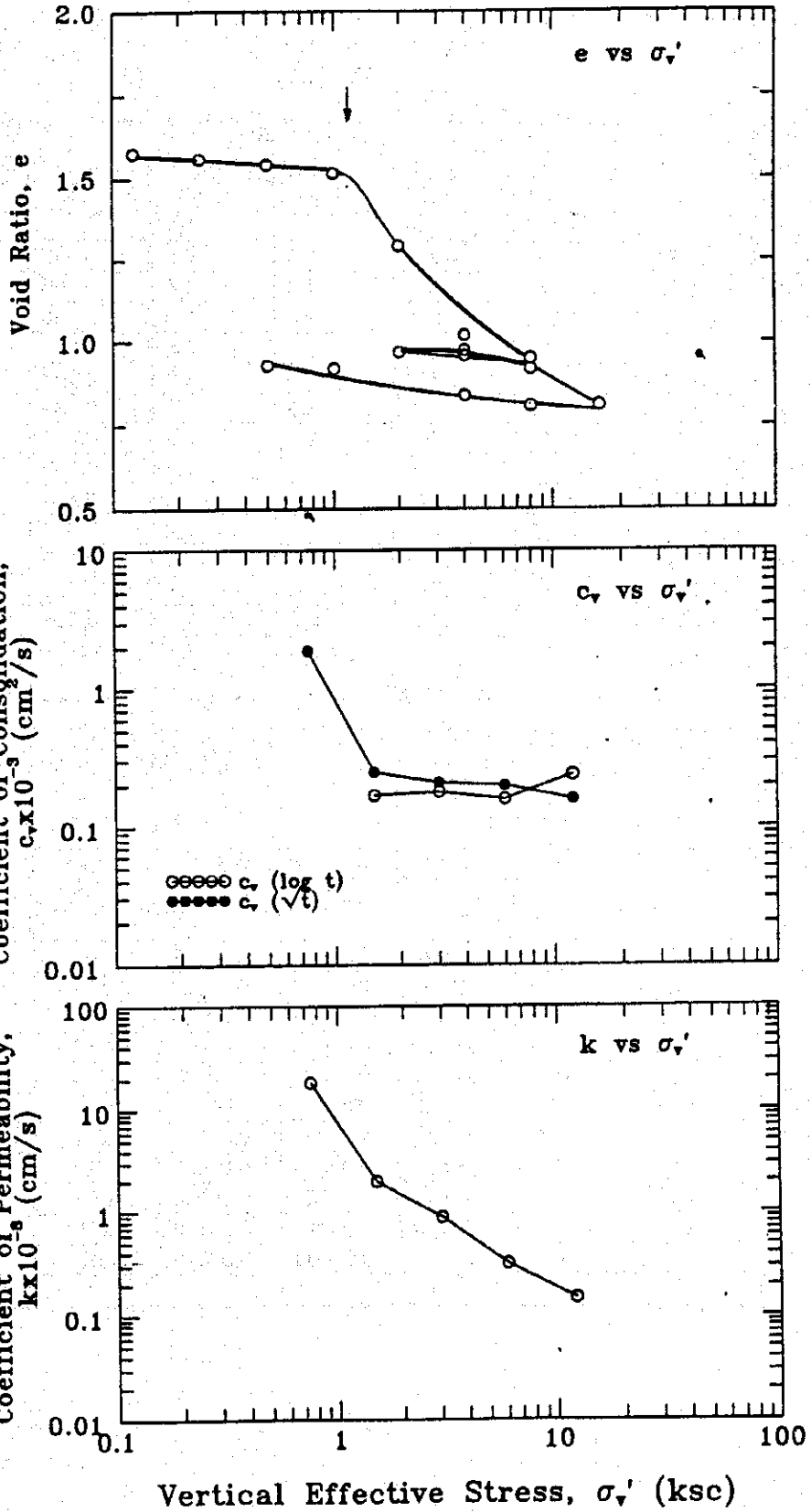
**CONSOLIDATION**

Project Subsidence in Bangkok Vicinity Location: Samut Sakhon  
 Borehole No.: B Depth (m) 8.0-9.0 Sample N \_\_\_\_\_ Test No.: OS-3  
 Soil Description: \_\_\_\_\_ Tested By: SIH Date: 18-2-1993  
 Height of Solids (Hs) : 0.7198 cm

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>1</sub>	e <sub>100</sub>	e <sub>1</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>1</sub>
1	0.125			1.856		2.3			1.578
2	0.25			1.842		3.1			1.559
3	0.50			1.830		3.7			1.542
4	1.00	1.830	1.810	1.790	4.7	5.8	1.542	1.515	1.487
5	2.00	1.719	1.650	1.622	13.2	14.6	1.388	1.292	1.253
6	4.00	1.563	1.505	1.493	20.8	21.4	1.171	1.019	1.074
7	8.00	1.448	1.405	1.388	26.2	26.9	1.120	0.949	0.928
8	4.00	1.430	1.420	1.399	25.3	26.4	0.987	0.973	0.944
9	2.00	1.407	1.416	1.421	25.5	25.2	0.955	0.967	0.974
10	4.00	1.414	1.409	1.407	25.8	25.9	0.964	0.957	0.955
11	8.00	1.394	1.390	1.373	27.4	27.7	0.937	0.917	0.907
12	16.00	1.338	1.302	1.292	31.5	32.0	0.859	0.809	0.795
13	8.00	1.296	1.301	1.301	31.5	31.5	0.801	0.807	0.807
14	4.00	1.313	1.322	1.223	30.4	35.6	0.824	0.837	0.699
15	1.00	1.353	1.380	1.286	27.4	39.6	0.880	0.917	0.936
16	0.50	1.360	1.387	1.417	27.0	25.4	0.889	0.927	0.969

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k x 10 <sup>-8</sup> cm/s	CR (%)
		t <sub>50</sub>	t <sub>90</sub>	$\frac{t}{t^2}$	log t	Average		
1	0.125	2.9						
2	0.25	3.5						2.4
3	0.50	4.3						2.1
4	1.00	6.3		0.00189		0.00189	18.45	15.6
5	2.00	41.3	14.0	0.00025	0.00017	0.00021	2.00	28.2
6	4.00	41.3	11.0	0.00021	0.00018	0.00020	0.90	25.2
7	8.00	37.2	10.5	0.00020	0.00016	0.00018	0.32	17.9
8	4.00	2.4	8.0	0.00297	0.00021	0.00159	0.48	3.0
9	2.00	11.8	5.5	0.00059	0.00030	0.00044	0.26	2.9
10	4.00	14.4	4.3	0.00049	0.00038	0.00044	0.09	1.0
11	8.00	6.7	3.4	0.00103	0.00047	0.00075	0.41	5.3
12	16.00	39.1	6.0	0.00016	0.00024	0.00020	0.15	13.6
13	8.00	2.1	2.3	0.00281	0.00060	0.00171	0.16	1.7
14	4.00	2.6	5.0	0.00238	0.00028	0.00133	0.53	3.7
15	1.00	25.0	22.0	0.00026	0.00007	0.00016	0.23	5.0
16	0.50	361.0						1.2

STANDARD OEDOMETER TEST NO. OS-3  
 DEPTH: 8.0-8.8 m SITE: B



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**CONSOLIDATION**

Project Subsidence in Bangkok Vicinity

Location: AIT

Borehole No.: B Depth (m) 27.0-27.8

Sample No.:

Test No.: OS-20

Soil Description:

Tested By:

SIH

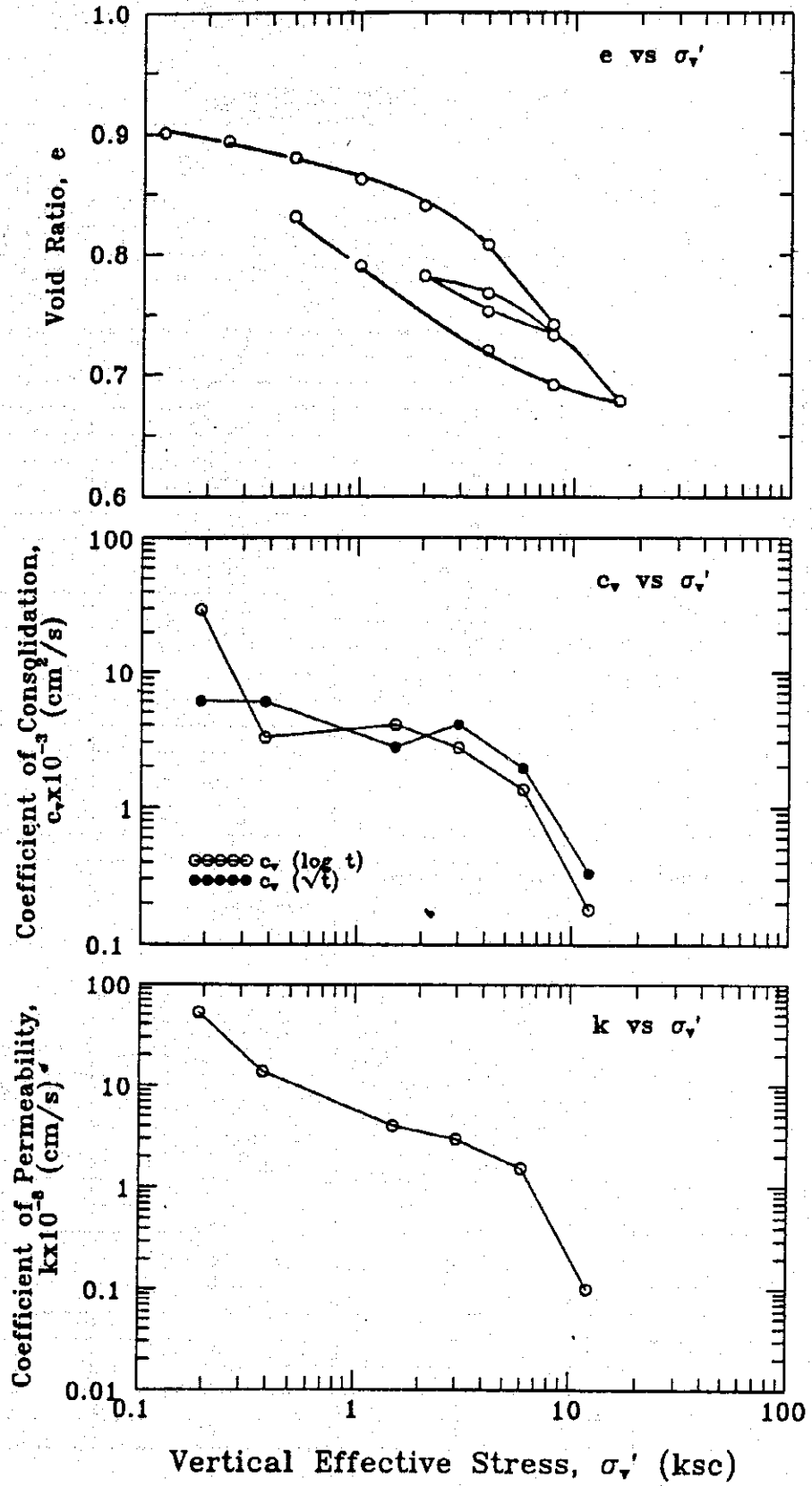
Date: 18-2-1993

Height of Solids (H<sub>s</sub>): 0.9984 cm

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>f</sub>	e <sub>100</sub>	e <sub>f</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>f</sub>
1	0.125			1.898		0.1			0.801
2	0.25	1.894	1.891	1.889	0.5	0.6	0.897	0.894	0.892
3	0.50	1.882	1.877	1.875	1.2	1.3	0.885	0.880	0.878
4	1.00	1.865	1.859	1.856	2.2	2.3	0.868	0.862	0.859
5	2.00	1.846	1.837	1.833	3.3	3.5	0.849	0.840	0.836
6	4.00	1.819	1.805	1.799	5.0	5.3	0.822	0.808	0.802
7	8.00	1.766	1.739	1.731	8.5	8.9	0.769	0.742	0.734
8	4.00	1.740	1.750	1.751	7.9	7.8	0.743	0.753	0.754
9	2.00	1.766	1.779	1.714	6.4	9.8	0.769	0.782	0.717
10	4.00	1.773	1.765	1.763	7.1	7.2	0.776	0.768	0.766
11	8.00	1.745	1.730	1.727	8.9	9.1	0.748	0.733	0.730
12	16.00	1.700	1.675	1.669	11.8	12.2	0.703	0.678	0.672
13	8.00	1.679	1.688	1.689	11.2	11.1	0.682	0.691	0.692
14	4.00	1.702	1.717	1.719	9.6	9.5	0.705	0.720	0.722
15	1.00	1.753	1.787	1.792	5.9	5.7	0.756	0.790	0.795
16	0.50			1.828		3.8			0.831

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k x 10 <sup>-6</sup> cm/s	CR (%)
		t <sub>50</sub>	t <sub>100</sub>	$\sqrt{t}$	log t	Average		
1	0.125							
2	0.25	21	0.1	0.00604	0.02945	0.01774	52.44	1.2
3	0.50	21	0.9	0.00596	0.00323	0.00459	13.66	2.4
4	1.00							3.1
5	2.00	4.4	0.7	0.00274	0.00400	0.00337	4.01	3.8
6	4.00	2.9	1.0	0.00403	0.00272	0.00337	2.96	5.6
7	8.00	5.7	1.9	0.00193	0.00135	0.00164	1.53	11.5
8	4.00	17.7	4.5	0.00060	0.00055	0.00058	0.16	3.3
9	2.00	25.0	10.0	0.00044	0.00026	0.00035	0.29	5.1
10	4.00	16.1	3.0	0.00069	0.00086	0.00077	0.31	2.4
11	8.00	16.8	3.9	0.00064	0.00064	0.00064	0.32	6.1
12	16.00	31.4	13.0	0.00033	0.00018	0.00025	0.10	9.6
13	8.00	22.7	11.5	0.00044	0.00020	0.00032	0.05	3.3
14	4.00	52.3	14.0	0.00020	0.00017	0.00018	0.08	5.1
15	1.00	96.0	30.0	0.00011	0.00008	0.00010	0.13	6.1
16	0.50							

STANDARD OEDOMETER TEST NO. OS-20  
 DEPTH: 27.0 - 27.8 m SITE: B



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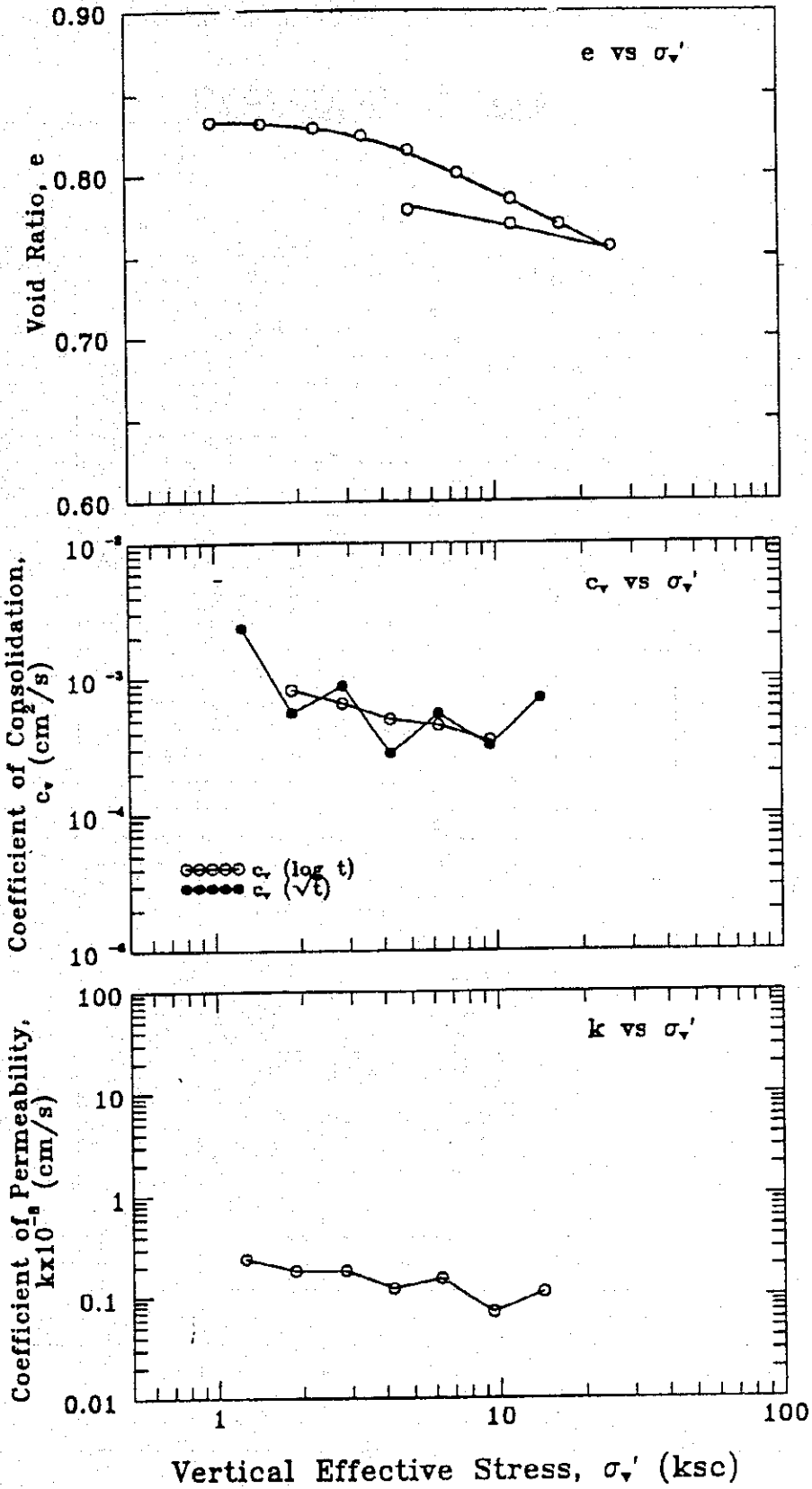
**CONSOLIDATION**

Project: Subsidence in Bangkok Vicinity Location: AIT  
 Borehole No.: B Depth (m) 51-52 Sample No.: \_\_\_\_\_ Test No.: OH-46  
 Soil Description: \_\_\_\_\_ Tested By: SIH Date: 5-93  
 Height of Solids (H<sub>s</sub>): 1.092 cm Height of Sample (H<sub>i</sub>): 2.010 cm

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>i</sub>	e <sub>100</sub>	e <sub>i</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>i</sub>
1	0.1			2.004		0.3			0.835
2	1.0			2.002		0.4			0.833
3	1.5			2.001		0.4			0.832
4	2.3			1.997		0.6			0.829
5	3.4			1.992		0.9			0.824
6	5.0			1.982		1.4			0.815
7	7.5			1.967		2.1			0.801
8	11.5			1.950		3.0			0.785
9	17.0			1.932		3.9			0.770
10	25.6			1.918		4.6			0.756
11	11.5			1.933		3.9			0.770
12	5.0		1.943	1.944	3.4	3.3		0.779	0.780
13	11.5								
14	25.6								
15	38.5								
16	60.0								
17	25.6								
18	5.0								
19	1.0								

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k <sub>s</sub> x 10 cm/s	CR (%)
		t <sub>90</sub>	t <sub>50</sub>	-t	log t	Average		
1	0.1							
2	1.0							0.1
3	1.5	6.0		0.00236		0.00236	0.24	0.3
4	2.3	25.0	4.0	0.00056	0.00082	0.00069	0.18	1.1
5	3.4	16.0	5.0	0.00088	0.00065	0.00076	0.18	1.5
6	5.0	49.0	6.5	0.00028	0.00050	0.00039	0.12	2.8
7	7.5	25.0	7.0	0.00055	0.00045	0.00050	0.15	4.2
8	11.5	42.3	9.0	0.00032	0.00035	0.00033	0.07	4.7
9	17.0	18.5		0.00071		0.00071	0.11	5.0
10	25.6							4.0
11	11.5							2.1
12	5.0							1.5
13	11.5							
14	25.6							
15	38.5							
16	60.0							
17	25.6							
18	5.0							
19	1.0							

HIGH STRESS OEDOMETER NO. OH-46  
 DEPTH: 51- 52.0 m SITE: B





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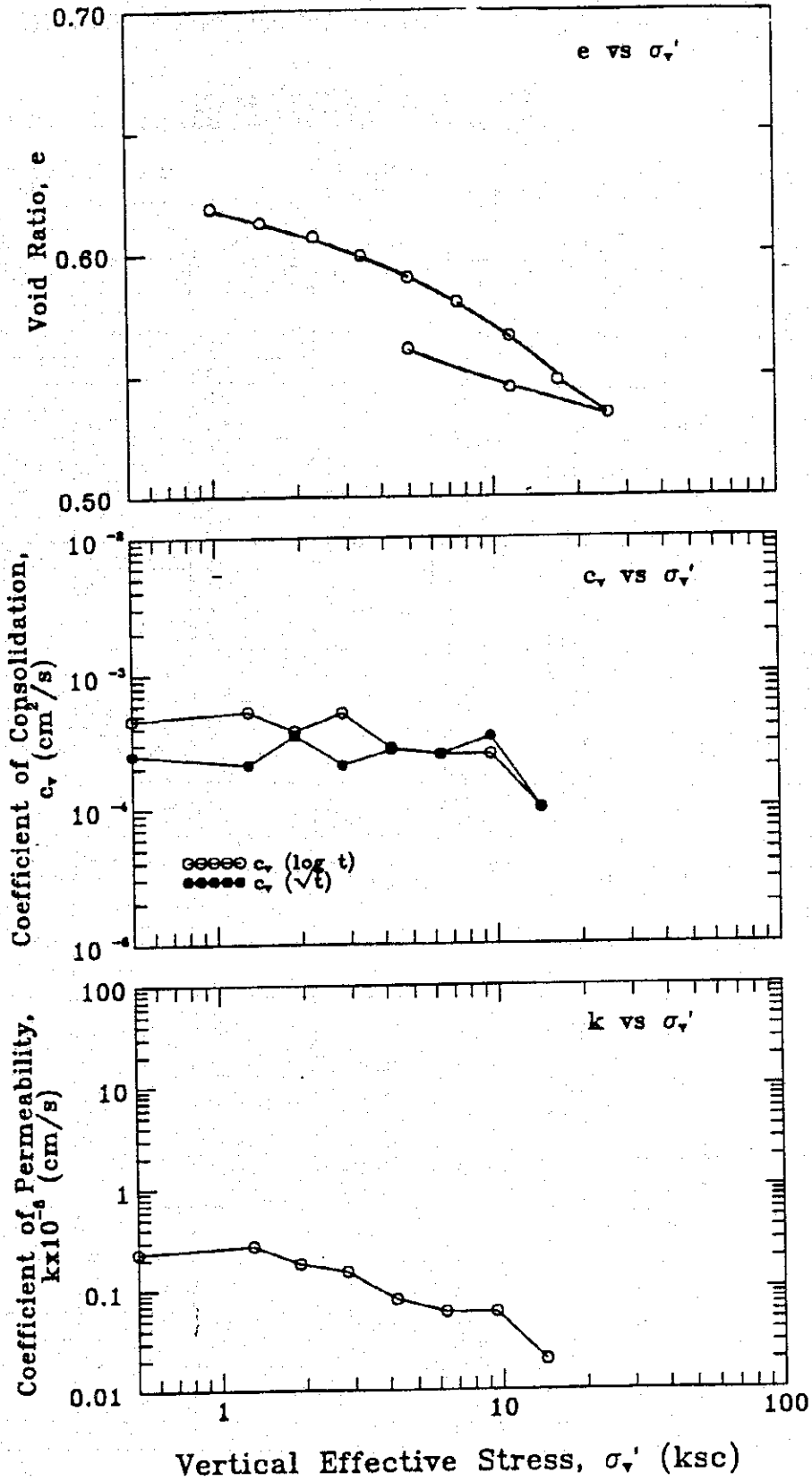
**CONSOLIDATION**

Project: Subsidence in Bangkok Vicinity Location: AIT  
 Borehole No.: B Depth (m) 58-59 Sample No.: \_\_\_\_\_ Test No.: OH-47  
 Soil Description: \_\_\_\_\_ Tested By: SIH Date: 5-93  
 Height of Solids (H<sub>s</sub>): 1.219 cm Height of Sample (H<sub>i</sub>): 2.000 cm

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>f</sub>	ε <sub>100</sub>	ε <sub>f</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>f</sub>
1	0.1			1.986		0.7			0.629
2	1.0	1.978	1.974	1.973	1.3	1.3	0.623	0.619	0.619
3	1.5	1.968	1.966	1.966	1.7	1.7	0.615	0.613	0.613
4	2.3	1.961	1.958	1.958	2.1	2.1	0.608	0.607	0.606
5	3.4	1.952	1.949	1.948	2.5	2.6	0.601	0.599	0.598
6	5.0	1.942	1.939	1.938	3.1	3.1	0.593	0.590	0.590
7	7.5	1.930	1.927	1.925	3.7	3.8	0.583	0.580	0.579
8	11.5	1.915	1.909	1.908	4.5	4.6	0.571	0.566	0.565
9	17.0	1.895	1.888	1.885	5.6	5.8	0.555	0.548	0.546
10	25.6		-	1.870		6.5			0.534
11	11.5			1.883		5.9			0.545
12	5.0			1.903		4.9			0.561
13	11.5								
14	25.6								
15	38.5								
16	60.0								
17	25.6								
18	5.0								
19	1.0								

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k <sub>s</sub> x 10 cm/s	CR (%)
		t <sub>90</sub>	t <sub>50</sub>	γ/t	log t	Average		
1	0.1							
2	1.0	55.2	7.0	0.00025	0.00046	0.00035	0.23	0.5
3	1.5	64.0	6.0	0.00021	0.00053	0.00037	0.27	2.2
4	2.3	39.1	8.2	0.00035	0.00038	0.00037	0.18	2.2
5	3.4	64.0	6.0	0.00021	0.00052	0.00037	0.15	2.6
6	5.0	49.0	11.0	0.00027	0.00028	0.00028	0.08	3.0
7	7.5	52.6	12.0	0.00025	0.00025	0.00025	0.06	3.5
8	11.5	38.4	12.0	0.00034	0.00025	0.00029	0.06	4.7
9	17.0	121.0	30.0	0.00010	0.00010	0.00010	0.02	6.3
10	25.6							4.2
11	11.5							1.8
12	5.0							2.7
13	11.5							
14	25.6							
15	38.5							
16	60.0							
17	25.6							
18	5.0							
19	1.0							

HIGH STRESS OEDOMETER NO. OH-47  
 DEPTH: 58-59.0 m SITE: B



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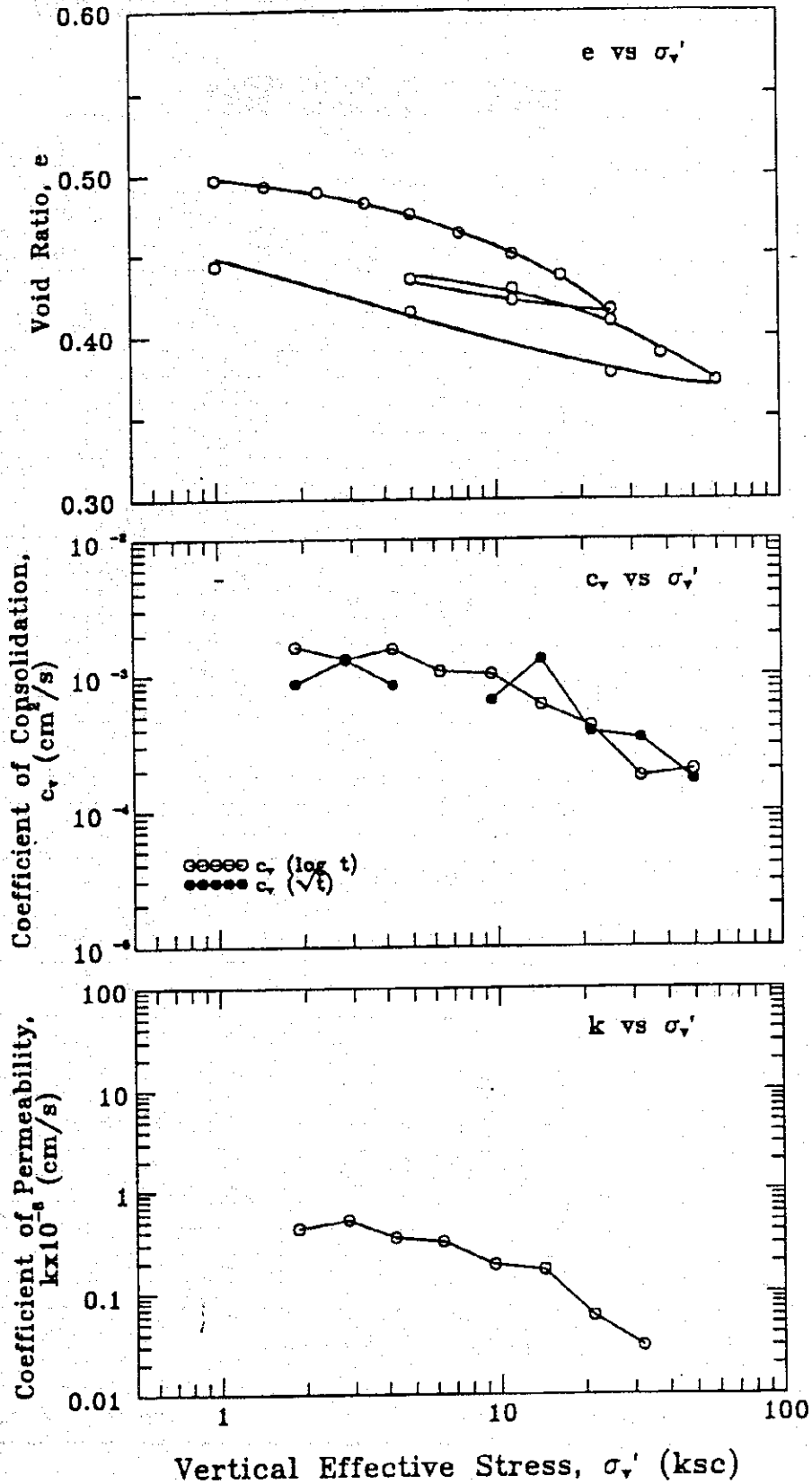
**CONSOLIDATION**

Project: Subsidence in Bangkok Vicinity Location: AIT  
 Borehole No.: B Depth (m) 63-64 Sample No.: \_\_\_\_\_ Test No.: OH-48  
 Soil Description: \_\_\_\_\_ Tested By: SIH Date: 5-93  
 Height of Solids (H<sub>s</sub>): 1.328 cm Height of Sample (H<sub>i</sub>): 2.000 cm

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>f</sub>	e <sub>100</sub>	e <sub>f</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>f</sub>
1	0.1			1.999		0.0			0.505
2	1.0			1.988		0.6			0.497
3	1.5			1.983		0.9			0.493
4	2.3	1.988	1.978	1.977	1.1	1.1	0.497	0.489	0.489
5	3.4	1.970	1.968	1.968	1.6	1.6	0.484	0.482	0.482
6	5.0	1.961	1.959	1.958	2.1	2.1	0.477	0.475	0.474
7	7.5	1.947	1.944	1.943	2.8	2.9	0.466	0.463	0.463
8	11.5	1.932	1.925	1.928	3.7	3.6	0.455	0.450	0.452
9	17.0	1.914	1.909	1.906	4.6	4.7	0.441	0.437	0.436
10	25.6	1.888	1.880	1.878	6.0	6.1	0.422	0.416	0.414
11	11.5		1.888	1.889	5.6	5.6		0.422	0.422
12	5.0		1.906	1.907	4.7	4.7		0.435	0.436
13	11.5		1.898	1.898	5.1	5.1		0.429	0.429
14	25.6		1.872	1.870	6.4	6.5		0.409	0.408
15	38.5	1.853	1.844	1.843	7.8	7.9	0.395	0.389	0.387
16	60.0	1.832	1.822	1.819	8.9	9.1	0.379	0.372	0.369
17	25.6		1.828	1.829	8.6	8.6		0.377	0.377
18	5.0		1.879	1.880	6.1	6.0		0.415	0.415
19	1.0		1.916	1.920	4.2	4.0		0.443	0.445

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k <sub>0</sub> x 10 cm/s	CR (%)
		t <sub>90</sub>	t <sub>50</sub>	√t	log t	Average		
1	0.1							
2	1.0							0.5
3	1.5							1.4
4	2.3	16.0	2.0	0.00087	0.00162	0.00125	0.43	1.5
5	3.4	10.6	2.4	0.00130	0.00133	0.00131	0.52	2.5
6	5.0	16.0	2.0	0.00085	0.00158	0.00121	0.35	2.8
7	7.5		2.9		0.00107	0.00107	0.32	4.4
8	11.5	20.3	3.0	0.00065	0.00102	0.00084	0.19	4.9
9	17.0	9.8	5.0	0.00132	0.00060	0.00096	0.17	4.9
10	25.6	33.1	7.0	0.00038	0.00042	0.00040	0.06	8.1
11	11.5							1.6
12	5.0							2.5
13	11.5							1.1
14	25.6							3.8
15	38.5	36.0	16.0	0.00034	0.00018	0.00026	0.03	7.8
16	60.0	68.1	14.0	0.00017	0.00020	0.00019	0.01	5.7
17	25.6							1.4
18	5.0							3.6
19	1.0							2.9

HIGH STRESS OEDOMETER NO. OH-48  
 DEPTH: 63-64.0 m SITE: B



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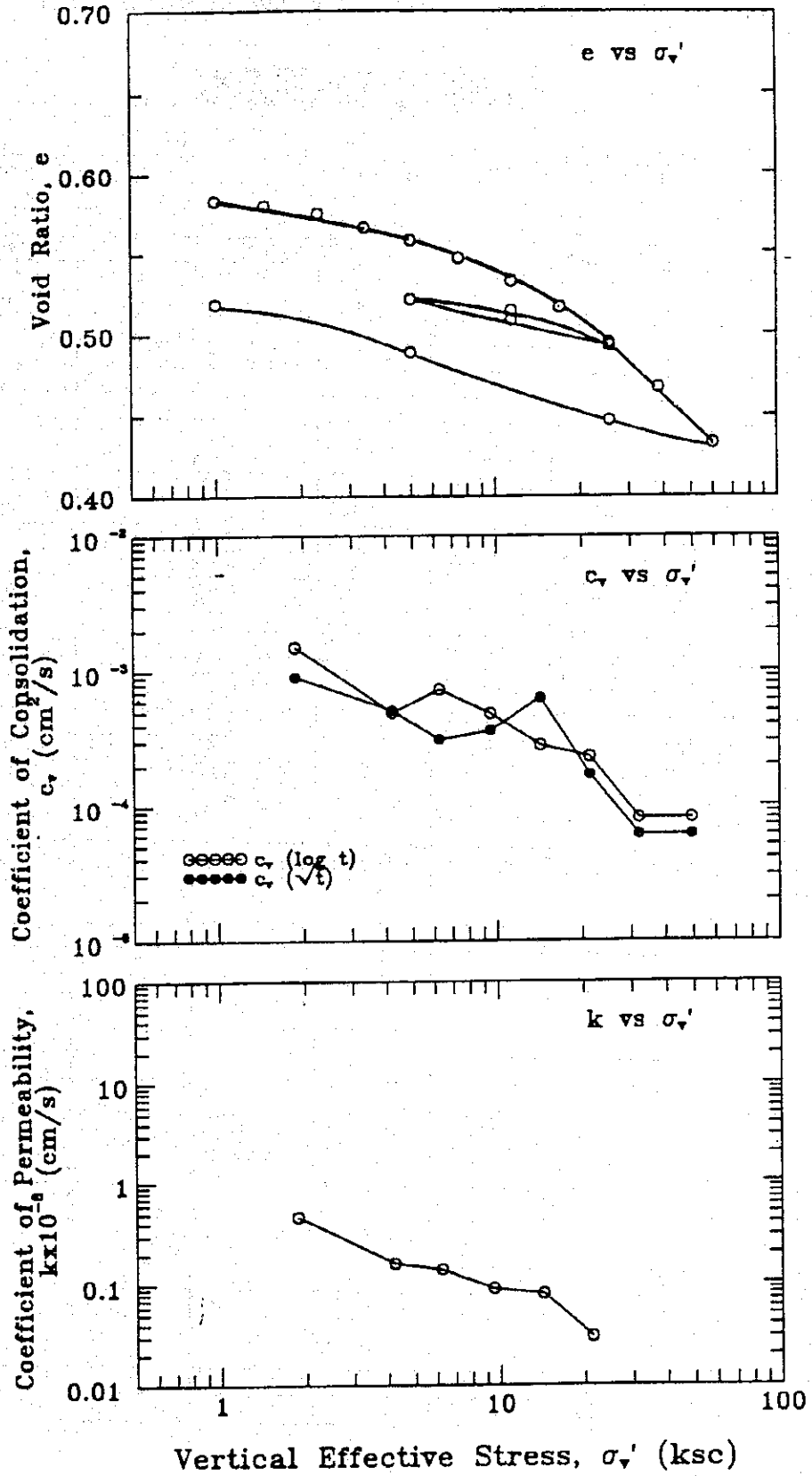
**CONSOLIDATION**

Project: Subsidence in Bangkok Vicinity Location: AIT  
 Borehole No.: B Depth (m) 66.5-67 Sample No.: \_\_\_\_\_ Test No.: OH-44  
 Soil Description: \_\_\_\_\_ Tested By: SIH Date: 5-93  
 Height of Solids (H<sub>s</sub>): 1.212 cm Height of Sample (H): 1.930 cm

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>f</sub>	e <sub>100</sub>	e <sub>f</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>f</sub>
1	0.1			1.924		0.3			0.587
2	1.0			1.918		0.6			0.583
3	1.5			1.915		0.8			0.580
4	2.3	1.911	1.909	1.908	1.1	1.1	0.577	0.575	0.574
5	3.4			1.898		1.7			0.566
6	5.0	1.892	1.888	1.887	2.2	2.2	0.561	0.558	0.557
7	7.5	1.879	1.875	1.875	2.8	2.9	0.551	0.547	0.547
8	11.5	1.864	1.858	1.857	3.7	3.8	0.538	0.533	0.532
9	17.0	1.845	1.838	1.836	4.8	4.9	0.522	0.517	0.515
10	25.6	1.821	1.812	1.811	6.1	6.2	0.502	0.495	0.494
11	11.5		1.829	1.829	5.3	5.3		0.509	0.509
12	5.0		1.844	1.845	4.4	4.4		0.522	0.522
13	11.5		1.836	1.836	4.9	4.9		0.515	0.514
14	25.6		1.809	1.808	6.3	6.3		0.493	0.492
15	38.5	1.789	1.778	1.774	7.9	8.1	0.476	0.467	0.463
16	60.0	1.752	1.737	1.732	10.0	10.3	0.446	0.433	0.429
17	25.6		1.754	1.754	9.1	9.1		0.447	0.447
18	5.0			1.805		6.5			0.489
19	1.0			1.842		4.6			0.519

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k <sub>v</sub> × 10 <sup>-8</sup> cm/s	CR (%)
		t <sub>90</sub>	t <sub>50</sub>	$\frac{t}{H}$	log t	Average		
1	0.1							
2	1.0							0.3
3	1.5							0.9
4	2.3	14.4	2.0	0.00090	0.00150	0.00120	0.46	2.0
5	3.4							2.9
6	5.0	25.0	6.0	0.00051	0.00049	0.00050	0.16	3.3
7	7.5	40.0	4.0	0.00031	0.00072	0.00052	0.14	3.8
8	11.5	34.5	6.0	0.00036	0.00048	0.00042	0.09	4.7
9	17.0	19.4	10.0	0.00062	0.00028	0.00045	0.08	6.1
10	25.6	70.0	12.0	0.00017	0.00023	0.00020	0.03	7.5
11	11.5							2.6
12	5.0							2.4
13	11.5							1.2
14	25.6							4.0
15	38.5	177.8	35.0	0.00006	0.00008	0.00007	0.01	9.1
16	60.0	186.8	30.0	0.00006	0.00008	0.00007	0.01	11.2
17	25.6							3.1
18	5.0							3.7
19	1.0							2.7

HIGH STRESS OEDOMETER NO. OH-44  
 DEPTH: 66.5-67.0m SITE: B



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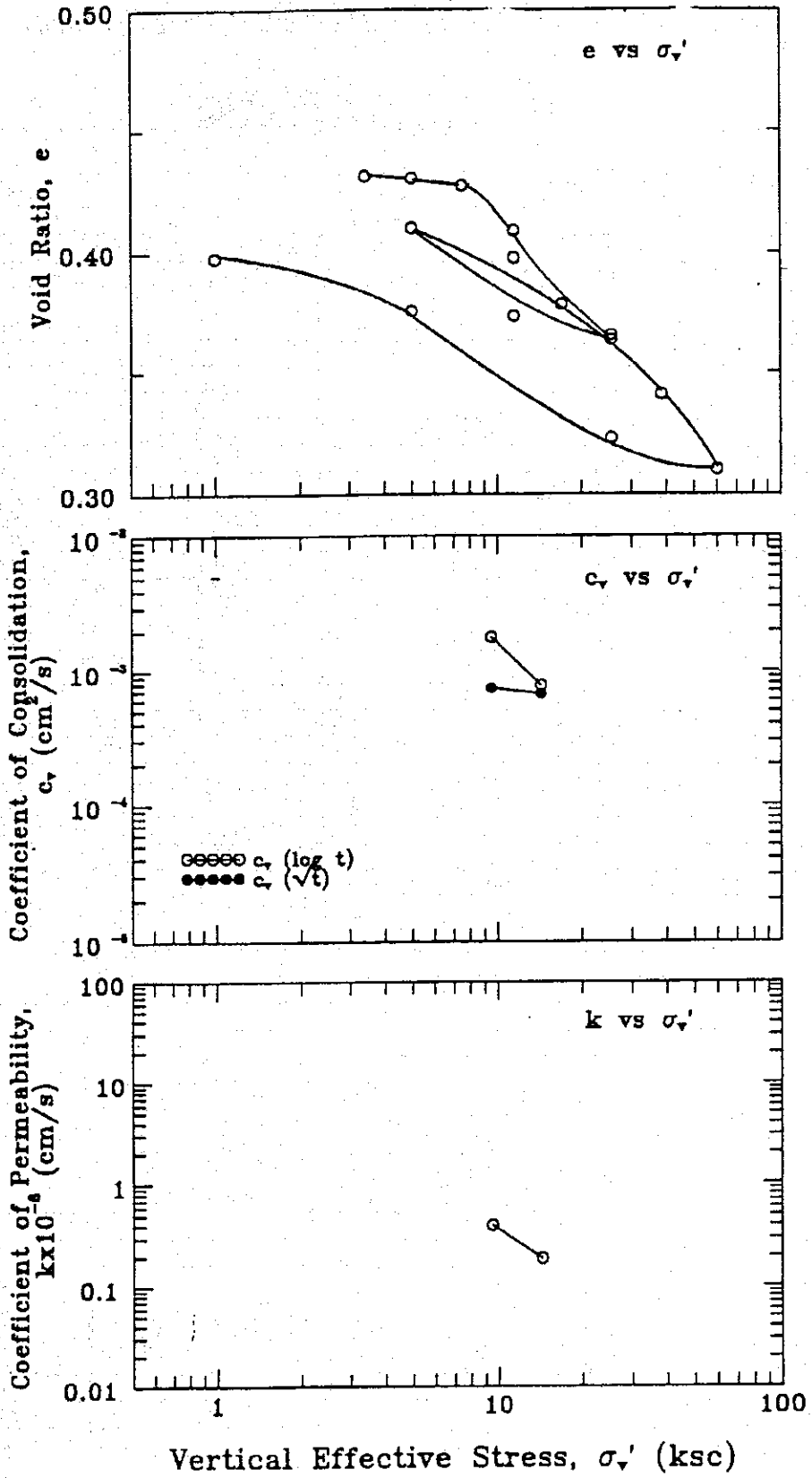
**CONSOLIDATION**

Project: Subsidence in Bangkok Vicinity Location: AIT  
 Borehole No.: B Depth (m) 75.3-75.7 Sample No.:            Test No.: OH-29  
 Soil Description:            Tested By:            SIH            Date: 5-93  
 Height of Solids (H<sub>s</sub>): 1.406 cm Height of Sample (H<sub>i</sub>): 2.012 cm

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>f</sub>	ε <sub>100</sub>	ε <sub>f</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>f</sub>
1	0.1								
2	1.0								
3	1.5								
4	2.3								
5	3.4			2.012					0.431
6	5.0			2.011		0.0			0.430
7	7.5			2.006		0.3			0.427
8	11.5	1.991	1.981	1.968	1.5	2.2	0.416	0.409	0.399
9	17.0	1.947	1.939	1.939	3.6	3.6	0.385	0.379	0.379
10	25.6			1.918		4.7			0.364
11	11.5	1.925	1.932	1.941	4.0	3.5	0.369	0.374	0.381
12	5.0			1.983		1.5			0.410
13	11.5	1.974	1.965	1.964	2.3	2.4	0.404	0.398	0.397
14	25.6	1.942	1.920	1.914	4.6	4.9	0.381	0.366	0.361
15	38.5			1.885		6.3			0.341
16	60.0			1.842		8.5			0.310
17	25.6	1.851	1.860	1.861	7.5	7.5	0.317	0.323	0.323
18	5.0			1.935		3.8			0.376
19	1.0			1.965		2.3			0.398

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k x 10 <sup>-8</sup> cm/s	CR (%)
		t <sub>90</sub>	t <sub>50</sub>	√t	log t	Average		
1	0.1							
2	1.0							
3	1.5							
4	2.3							
5	3.4							
6	5.0							0.3
7	7.5							1.3
8	11.5	18.9	1.8	0.00074	0.00181	0.00127	0.40	10.4
9	17.0	20.0	4.0	0.00067	0.00078	0.00072	0.19	12.3
10	25.6							5.8
11	11.5							3.3
12	5.0							5.7
13	11.5							2.6
14	25.6							6.4
15	38.5							8.1
16	60.0							11.2
17	25.6							2.5
18	5.0							5.2
19	1.0							2.1

HIGH STRESS OEDOMETER NO. OH-29  
 DEPTH: 75.3-75.7m SITE: B





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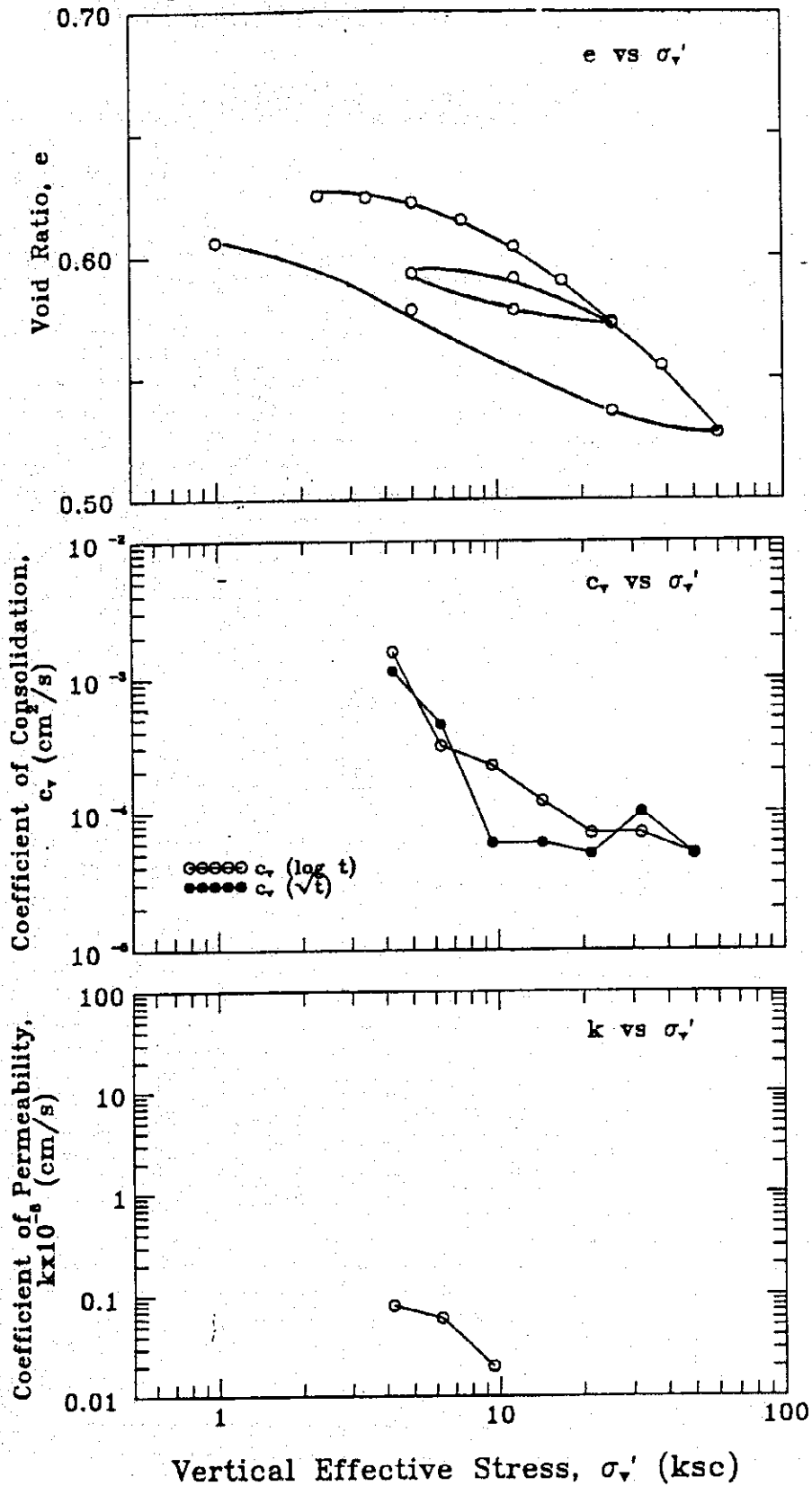
**CONSOLIDATION**

Project: Subsidence in Bangkok Vicinity Location: AIT  
 Borehole No.: B Depth (m) 78-78.7 Sample No.: \_\_\_\_\_ Test No.: OH-43  
 Soil Description: \_\_\_\_\_ Tested By: SIH Date: 5-93  
 Height of Solids (H<sub>s</sub>): 1.204 cm Height of Sample (H<sub>i</sub>): 1.960 cm

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H	H	H	e	e	e	e	e
		50	100	1	100	1	50	100	1
1	0.1								
2	1.0								
3	1.5								
4	2.3			1.956		0.2			0.625
5	3.4			1.955		0.3			0.624
6	5.0	1.954	1.953	1.952	0.4	0.4	0.623	0.622	0.621
7	7.5	1.948	1.945	1.944	0.8	0.8	0.618	0.615	0.615
8	11.5	1.937	1.931	1.930	1.5	1.5	0.608	0.604	0.603
9	17.0	1.921	1.915	1.912	2.3	2.4	0.596	0.590	0.588
10	25.6	1.901	1.893	1.891	3.4	3.5	0.579	0.572	0.571
11	11.5		1.900	1.901	3.1	3.0		0.578	0.579
12	5.0		1.918	1.920	2.1	2.0		0.593	0.595
13	11.5			1.916		2.3			0.591
14	25.6		1.893	1.892	3.4	3.5		0.573	0.571
15	38.5	1.881	1.873	1.871	4.5	4.5	0.562	0.555	0.554
16	60.0	1.854	1.839	1.837	6.2	6.3	0.540	0.527	0.526
17	25.6		1.849	1.850	5.7	5.6		0.536	0.537
18	5.0		1.900	1.906	3.1	2.8		0.578	0.583
19	1.0		1.933	1.935	1.4	1.3		0.606	0.607

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k x 10 <sup>-6</sup> cm/s	CR (%)
		t	t	$\sqrt{t}$	log t	Average		
		90	50					
1	0.1							
2	1.0							
3	1.5							
4	2.3							1.2
5	3.4							0.3
6	5.0	12.0	2.0	0.00113	0.00157	0.00135	0.08	0.9
7	7.5	30.0	10.0	0.00045	0.00031	0.00038	0.06	2.3
8	11.5	210.9	14.0	0.00006	0.00022	0.00014	0.02	3.8
9	17.0	203.0	25.0	0.00006	0.00012	0.00009	0.01	4.8
10	25.6	261.6	40.0	0.00005	0.00007	0.00006	0.01	6.3
11	11.5							1.5
12	5.0							2.6
13	11.5							0.6
14	25.6							3.4
15	38.5	121.0	40.0	0.00010	0.00007	0.00009	0.01	6.0
16	60.0	245.0	62.0	0.00005	0.00005	0.00005	0.00	9.0
17	25.6							1.8
18	5.0							4.0
19	1.0							2.1

HIGH STRESS OEDOMETER NO. OH-43  
 DEPTH: 78- 78.7 m SITE: B



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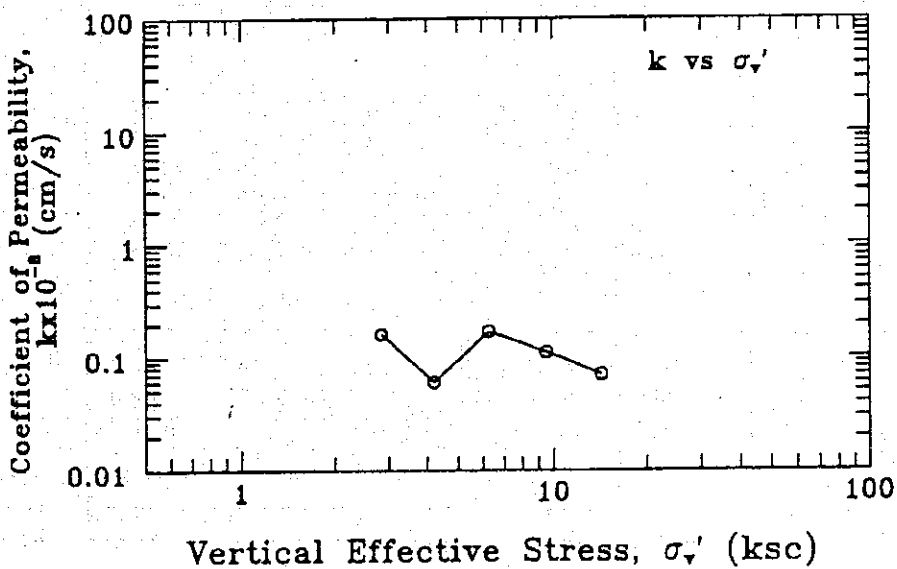
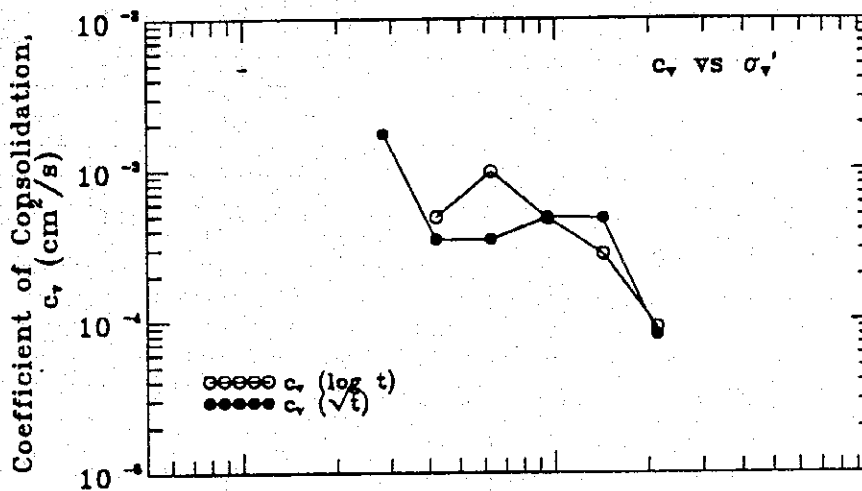
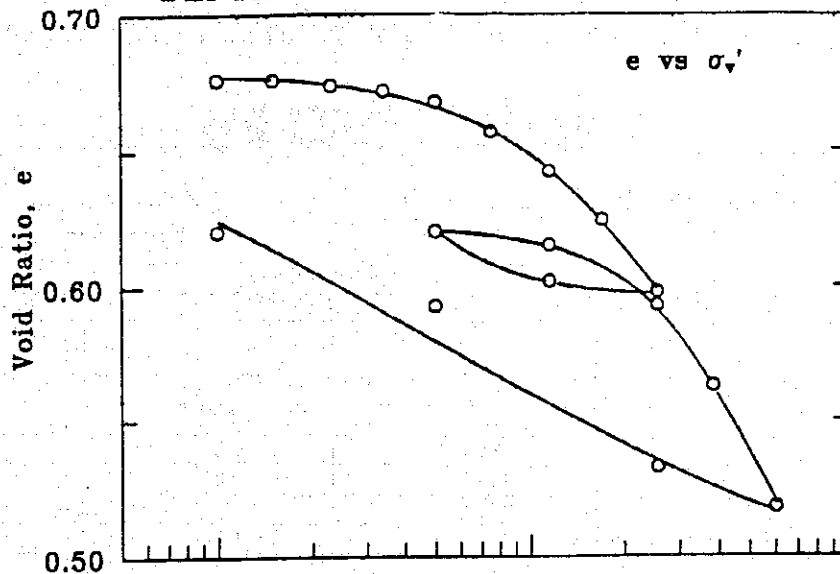
**CONSOLIDATION**

Project: Subsidence in Bangkok Vicinity      Location: AIT  
 Borehole No.: B      Depth (m) 80.4-81      Sample No.:      Test No.: OH-41  
 Soil Description:      Tested By: SIH      Date: 5-93  
 Height of Solids (H<sub>s</sub>): 1.134 cm      Height of Sample (H<sub>i</sub>): 1.900 cm

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>f</sub>	e <sub>100</sub>	e <sub>f</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>f</sub>
1	0.1								
2	1.0			1.901		-0.0			0.676
3	1.5			1.900		-0.0			0.676
4	2.3			1.898		0.1			0.674
5	3.4			1.896		0.2			0.672
6	5.0	1.893	1.892	1.891	0.4	0.5	0.669	0.668	0.668
7	7.5	1.883	1.879	1.879	1.1	1.1	0.661	0.657	0.657
8	11.5	1.868	1.862	1.861	2.0	2.0	0.647	0.642	0.641
9	17.0	1.849	1.842	1.839	3.1	3.2	0.631	0.624	0.622
10	25.6	1.823	1.813	1.809	4.6	4.8	0.607	0.598	0.595
11	11.5		1.816	1.817	4.4	4.4		0.602	0.602
12	5.0		1.837	1.838	3.3	3.3		0.620	0.621
13	11.5		1.832	1.832	3.6	3.6		0.615	0.615
14	25.6		1.807	1.805	4.9	5.0		0.593	0.591
15	38.5			1.772		6.7			0.563
16	60.0			1.722		9.4			0.518
17	25.6		1.739	1.740	8.5	8.4		0.533	0.534
18	5.0		1.807	1.810	4.9	4.7		0.593	0.596
19	1.0		1.837	1.839	3.3	3.2		0.620	0.621

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k x 10 <sup>-8</sup> cm/s	CR (%)
		t <sub>90</sub>	t <sub>50</sub>	$\frac{1}{t}$	log t	Average		
1	0.1							
2	1.0							0.0
3	1.5							0.2
4	2.3							0.6
5	3.4	7.3		0.00174		0.00174	0.16	0.6
6	5.0	36.0	6.0	0.00035	0.00049	0.00042	0.06	1.5
7	7.5	36.0	3.0	0.00035	0.00097	0.00066	0.17	3.7
8	11.5	25.0	6.0	0.00049	0.00048	0.00049	0.11	4.9
9	17.0	25.0	10.2	0.00048	0.00028	0.00038	0.07	6.3
10	25.6	152.5	30.0	0.00008	0.00009	0.00008	0.01	8.7
11	11.5							1.3
12	5.0							3.1
13	11.5							0.7
14	25.6							3.8
15	38.5							9.7
16	60.0							13.8
17	25.6							2.6
18	5.0							5.2
19	1.0							2.1

HIGH STRESS OEDOMETER NO. OH-41  
 DEPTH: 80.4-81.0m SITE: B



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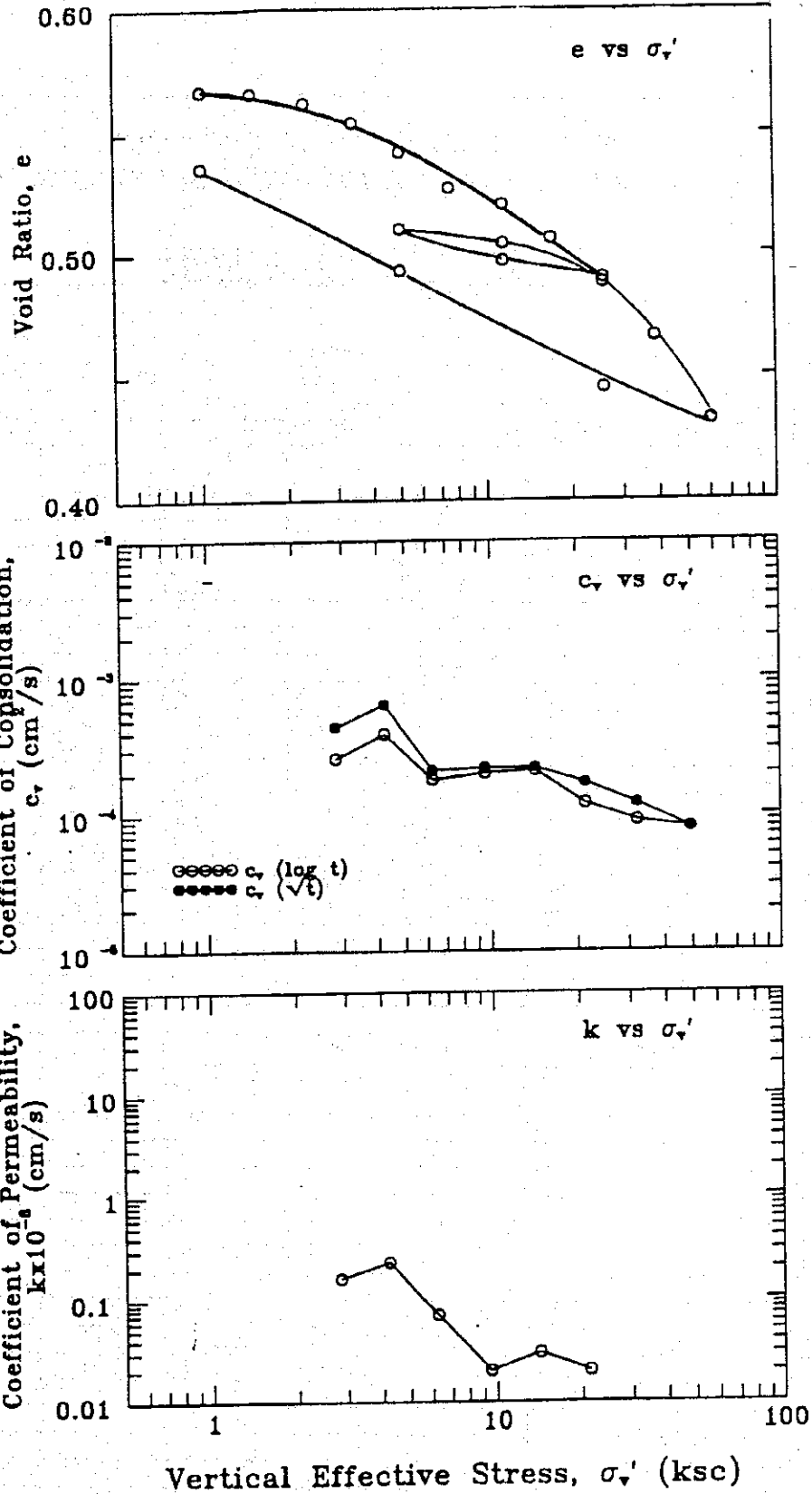
**CONSOLIDATION**

Project: Subsidence in Bangkok Vicinity      Location: AIT  
 Borehole No.: B      Depth (m) 81-81.8      Sample No.:  
 Soil Description:      Tested By: SIH      Test No.: OH-51  
 Height of Solids (H<sub>s</sub>): 1.261 cm      Height of Sample (H): 1.980 cm      Date: 5-93

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>f</sub>	e <sub>100</sub>	e <sub>f</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>f</sub>
1	0.1			1.980					0.570
2	1.0			1.976		0.2			0.567
3	1.5			1.974		0.3			0.566
4	2.3			1.969		0.5			0.562
5	3.4	1.962	1.959	1.959	1.1	1.1	0.556	0.554	0.553
6	5.0	1.950	1.945	1.943	1.8	1.9	0.547	0.542	0.541
7	7.5	1.932	1.925	1.925	2.8	2.8	0.532	0.527	0.527
8	11.5	1.921	1.917	1.916	3.2	3.2	0.523	0.520	0.519
9	17.0	1.907	1.899	1.898	4.1	4.1	0.512	0.506	0.505
10	25.6	1.886	1.879	1.879	5.1	5.1	0.496	0.490	0.490
11	11.5			1.888		4.6			0.497
12	5.0			1.904		3.8			0.510
13	11.5			1.896		4.2			0.504
14	25.6	1.883	1.876	1.876	5.3	5.3	0.493	0.488	0.488
15	38.5	1.860	1.848	1.845	6.7	6.8	0.475	0.466	0.463
16	60.0	1.824	1.806	1.804	8.8	8.9	0.446	0.432	0.431
17	25.6			1.822		8.0			0.445
18	5.0			1.883		4.9			0.493
19	1.0			1.937		2.2			0.536

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k <sub>s</sub> x 10 cm/s	CR (%)
		t <sub>90</sub>	t <sub>50</sub>	√t	log t	Average		
1	0.1							
2	1.0							0.2
3	1.5							0.5
4	2.3							1.5
5	3.4	31.0	12.0	0.00044	0.00026	0.00035	0.16	3.0
6	5.0	21.2	8.0	0.00064	0.00039	0.00051	0.23	4.4
7	7.5	62.0	17.0	0.00021	0.00018	0.00020	0.07	5.6
8	11.5	60.5	15.0	0.00022	0.00020	0.00021	0.02	2.2
9	17.0	59.3	14.0	0.00022	0.00021	0.00021	0.03	5.3
10	25.6	74.0	25.0	0.00017	0.00012	0.00014	0.02	5.7
11	11.5							1.4
12	5.0							2.2
13	11.5							1.1
14	25.6	67.0	25.0	0.00019	0.00012	0.00015	0.01	3.0
15	38.5	104.0	33.0	0.00012	0.00009	0.00010	0.01	8.0
16	60.0	144.0	34.0	0.00008	0.00008	0.00008	0.01	11.0
17	25.6							2.5
18	5.0							4.3
19	1.0							3.9

HIGH STRESS OEDOMETER NO. OH-51  
 DEPTH: 81- 81.8 m SITE: B



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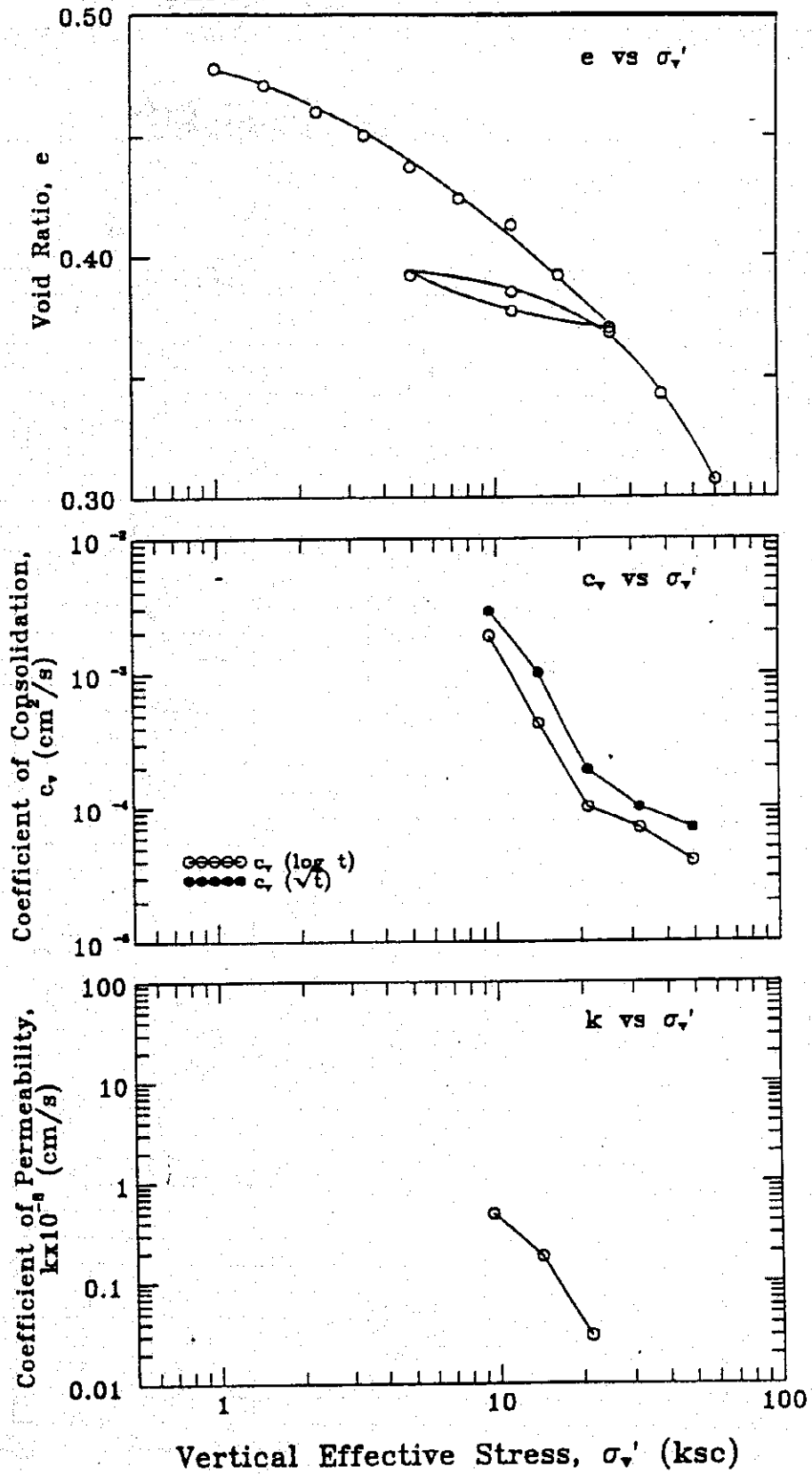
**CONSOLIDATION**

Project: Subsidence in Bangkok Vicinity Location: AIT  
 Borehole No.: B Depth (m) 117-117.5 Sample No.: \_\_\_\_\_ Test No.: OH-1  
 Soil Description: \_\_\_\_\_ Tested By: SIH Date: 5-93  
 Height of Solids (H<sub>s</sub>): 1.269 cm Height of Sample (H): 1.900 cm

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>f</sub>	e <sub>100</sub>	e <sub>f</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>f</sub>
1	0.1			1.894		0.3			0.493
2	1.0			1.876		1.3			0.478
3	1.5			1.867		1.7			0.471
4	2.3			1.853		2.5			0.460
5	3.4			1.840		3.2			0.450
6	5.0			1.823		4.1			0.437
7	7.5			1.807		4.9			0.424
8	11.5	1.795	1.793	1.790	5.7	5.8	0.414	0.413	0.411
9	17.0	1.772	1.766	1.765	7.1	7.1	0.396	0.392	0.391
10	25.6	1.748	1.738	1.735	8.5	8.7	0.377	0.370	0.367
11	11.5			1.748		8.0			0.377
12	5.0			1.766		7.1			0.392
13	11.5			1.758		7.5			0.385
14	25.6	1.744	1.736	1.734	8.6	8.7	0.374	0.368	0.366
15	38.5	1.716	1.704	1.702	10.3	10.4	0.352	0.343	0.341
16	60.0	1.681	1.659	1.660	12.7	12.6	0.325	0.307	0.308
17	25.6								
18	5.0								
19	1.0								

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k <sub>cs</sub> x 10 cm/s	CR (%)
		t <sub>90</sub>	t <sub>50</sub>	$\sqrt{t}$	log t	Average		
1	0.1							
2	1.0							0.8
3	1.5							2.7
4	2.3							4.2
5	3.4							3.8
6	5.0							5.3
7	7.5							4.8
8	11.5	4.0	1.4	0.00285	0.00189	0.00237	0.48	4.8
9	17.0	11.0	6.0	0.00101	0.00043	0.00072	0.18	8.2
10	25.6	56.3	25.0	0.00019	0.00010	0.00015	0.03	8.3
11	11.5							2.0
12	5.0							2.6
13	11.5							1.2
14	25.6	72.2	25.0	0.00015	0.00010	0.00012	0.01	3.6
15	38.5	104.0	36.0	0.00010	0.00007	0.00008	0.01	9.5
16	60.0	144.0	60.0	0.00007	0.00004	0.00005	0.01	12.3
17	25.6							34.1
18	5.0							
19	1.0							

HIGH STRESS OEDOMETER NO. OH-1  
 DEPTH: 117-117.5 m SITE: B





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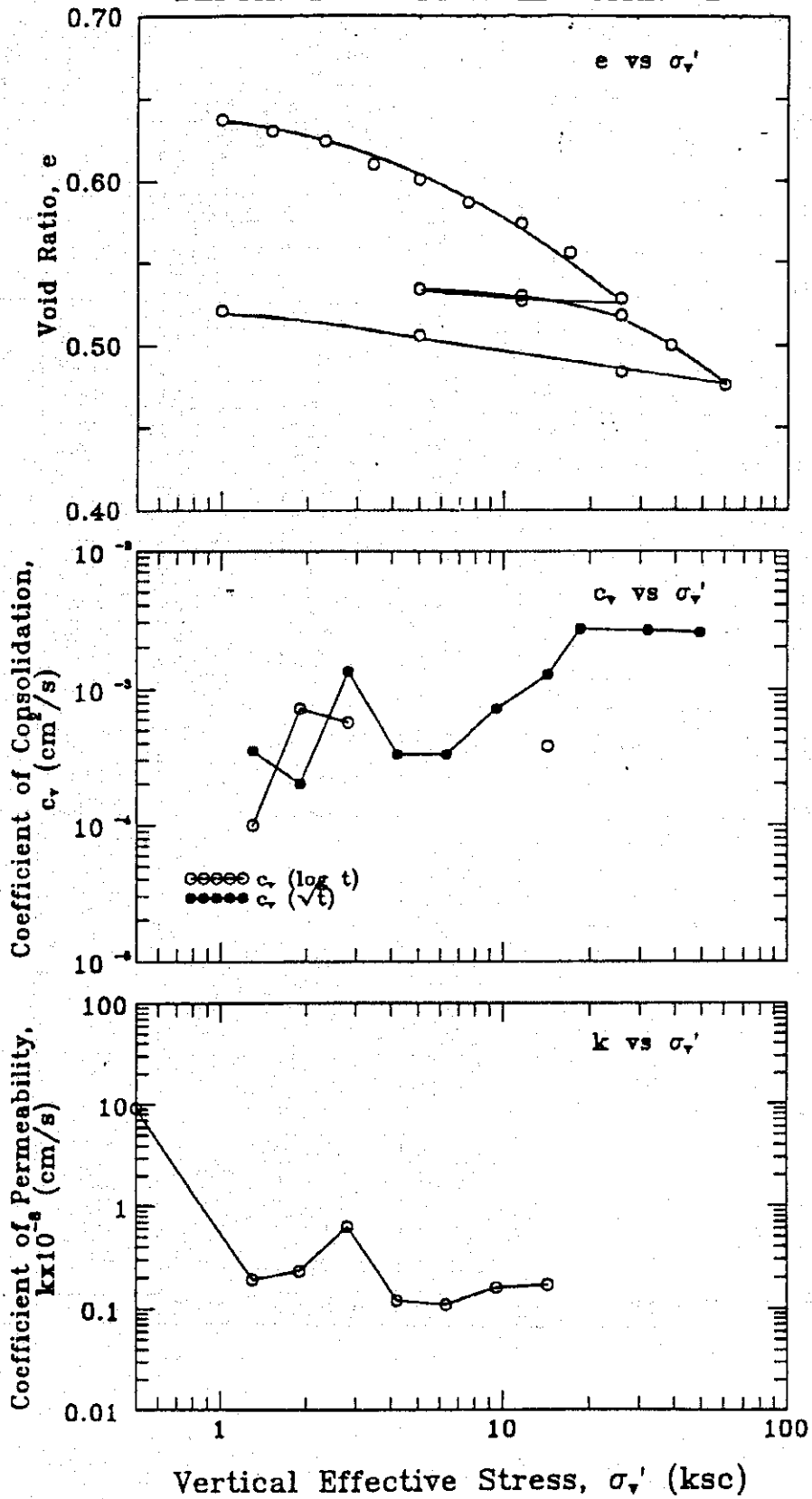
**CONSOLIDATION**

Project: Subsidence in Bangkok Vicinity Location: AIT  
 Borehole No.: B Depth (m) 146-146.9 Sample No.: \_\_\_\_\_ Test No.: OH-3  
 Soil Description: \_\_\_\_\_ Tested By: SIH Date: 5-93  
 Height of Solids (H<sub>s</sub>): 1.149 cm Height of Sample (H): 1.900 cm

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>f</sub>	e <sub>100</sub>	e <sub>f</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>f</sub>
1	0.1			1.894		0.3			0.648
2	1.0			1.881		1.0			0.637
3	1.5	1.877	1.873	1.873	1.4	1.4	0.634	0.630	0.630
4	2.3	1.870	1.866	1.864	1.8	1.9	0.628	0.624	0.622
5	3.4	1.856	1.850	1.850	2.6	2.6	0.615	0.610	0.610
6	5.0			1.839		3.2			0.601
7	7.5			1.824		4.0			0.587
8	11.5			1.808		4.8			0.574
9	17.0	1.796	1.788	1.787	5.9	5.9	0.563	0.556	0.555
10	25.6			1.756		7.6			0.528
11	11.5			1.755		7.6			0.527
12	5.0			1.763		7.2			0.534
13	11.5			1.758		7.5			0.530
14	25.6			1.744		8.2			0.518
15	38.5			1.724		9.3			0.500
16	60.0			1.696		10.7			0.476
17	25.6			1.705		10.3			0.484
18	5.0			1.730		8.9			0.506
19	1.0			1.748		8.0			0.521

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k <sub>s</sub> x 10 cm/s	CR (%)
		t <sub>90</sub>	t <sub>50</sub>	/t	log t	Average		
1	0.1							
2	1.0	1.0		0.01250		0.01250	9.16	0.6
3	1.5	36.0	28.0	0.00035	0.00010	0.00022	0.19	2.4
4	2.3	63.0	4.0	0.00020	0.00072	0.00046	0.23	2.1
5	3.4	9.0	5.0	0.00135	0.00057	0.00096	0.63	4.7
6	5.0	36.0		0.00033		0.00033	0.12	3.5
7	7.5	36.0		0.00033		0.00033	0.11	4.5
8	11.5	16.0		0.00072		0.00072	0.16	4.5
9	17.0	9.0	7.0	0.00127	0.00038	0.00082	0.17	6.5
10	25.6							9.2
11	11.5							
12	5.0							1.2
13	11.5							0.7
14	25.6	4.0		0.00269		0.00269	0.15	2.1
15	38.5	4.0		0.00263		0.00263	0.23	5.9
16	60.0	4.0		0.00254		0.00254	0.19	7.6
17	25.6							1.3
18	5.0							1.9
19	1.0							1.4

HIGH STRESS OEDOMETER NO. OH-3  
 DEPTH: 146.6-146.9 m SITE: B



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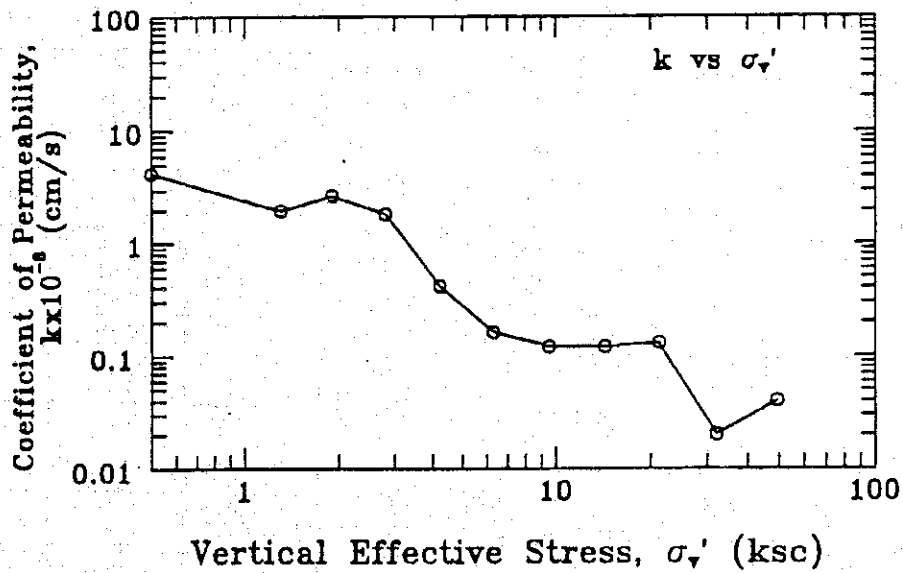
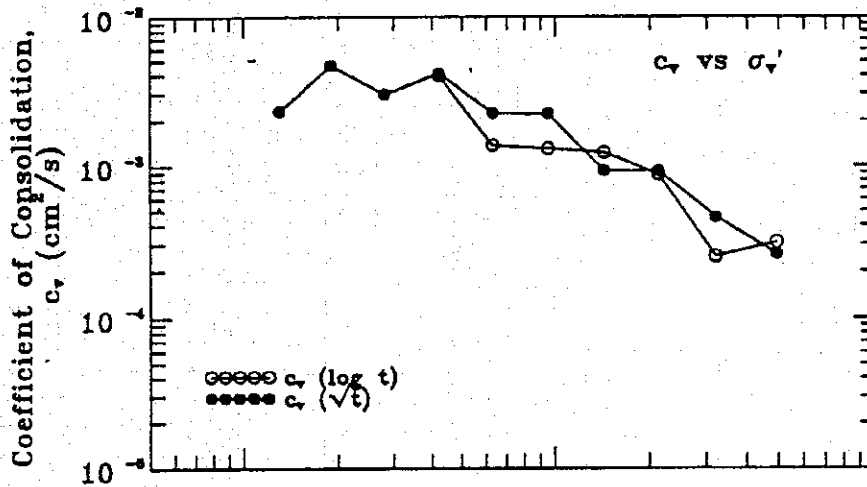
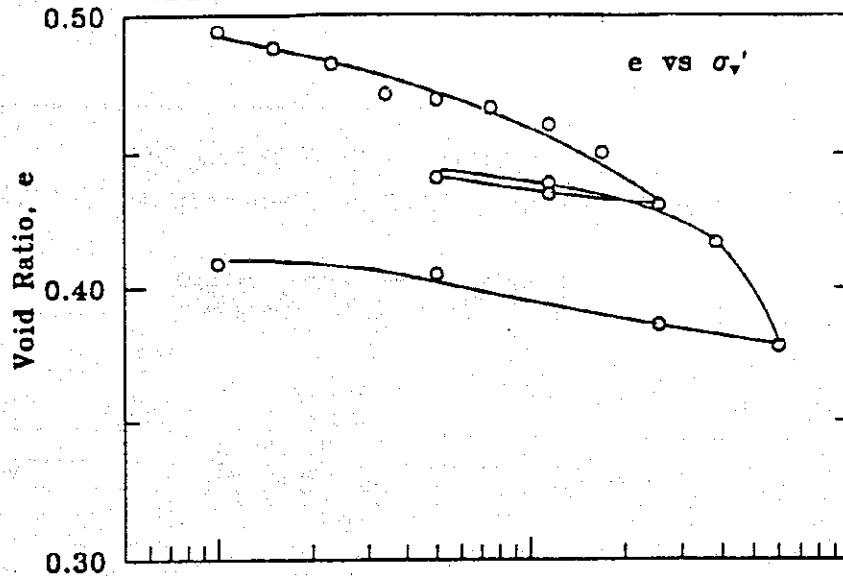
**CONSOLIDATION**

Project: Subsidence in Bangkok Vicinity Location: AIT  
 Borehole No.: B Depth (m) 169-170 Sample No.: \_\_\_\_\_ Test No.: OH-4  
 Soil Description: \_\_\_\_\_ Tested By: SIH Date: 5-93  
 Height of Solids (H<sub>s</sub>): 1.25 cm Height of Sample (H<sub>i</sub>): 1.900 cm

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>i</sub>	e <sub>100</sub>	e <sub>i</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>i</sub>
1	0.1			1.874		1.4			0.499
2	1.0			1.868		1.7			0.494
3	1.5			1.860		2.1			0.488
4	2.3			1.852		2.5			0.482
5	3.4			1.839		3.2			0.471
6	5.0	1.838	1.836	1.836	3.4	3.4	0.470	0.469	0.469
7	7.5	1.833	1.832	1.830	3.6	3.7	0.466	0.466	0.464
8	11.5	1.828	1.825	1.823	3.9	4.1	0.462	0.460	0.458
9	17.0	1.818	1.812	1.811	4.6	4.7	0.454	0.450	0.449
10	25.6	1.797	1.789	1.786	5.8	6.0	0.438	0.431	0.429
11	11.5			1.794		5.6			0.435
12	5.0			1.801		5.2			0.441
13	11.5	1.800	1.799	1.798	5.3	5.4	0.440	0.439	0.438
14	25.6	1.790	1.789	1.787	5.8	5.9	0.432	0.431	0.430
15	38.5	1.777	1.771	1.770	6.8	6.8	0.422	0.417	0.416
16	60.0	1.746	1.723	1.720	9.3	9.5	0.397	0.378	0.376
17	25.6	1.73	1.732	1.732	8.8	8.8	0.384	0.386	0.386
18	5.0	1.751	1.756	1.757	7.6	7.5	0.401	0.405	0.406
19	1.0	1.759	1.761	1.762	7.3	7.3	0.407	0.409	0.410

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k <sub>s</sub> x 10 <sup>-6</sup> cm/s	CR (%)
		t <sub>90</sub>	t <sub>50</sub>	Δt	log t	Average		
1	0.1	0.2						
2	1.0	1.0		0.01233		0.01233	4.21	0.3
3	1.5	5.3		0.00231		0.00231	1.98	2.4
4	2.3	2.6		0.00466		0.00466	2.68	2.4
5	3.4	4.0		0.00299		0.00299	1.83	3.8
6	5.0	2.9	0.7	0.00412	0.00396	0.00404	0.41	0.9
7	7.5	5.3	2.0	0.00224	0.00138	0.00181	0.16	1.2
8	11.5	5.3	2.1	0.00223	0.00131	0.00177	0.12	2.0
9	17.0	12.6	2.2	0.00093	0.00123	0.00108	0.12	4.0
10	25.6	12.3	3.0	0.00093	0.00088	0.00091	0.13	6.8
11	11.5							1.2
12	5.0							1.0
13	11.5	4.0	0.4	0.00286	0.00665	0.00476	0.08	0.4
14	25.6	4.0	0.4	0.00283	0.00658	0.00470	0.17	1.5
15	38.5	25.0	10.5	0.00045	0.00025	0.00035	0.02	5.3
16	60.0	41.2	8.0	0.00026	0.00031	0.00029	0.04	13.1
17	25.6	16	7	0.00066	0.00035	0.00051	0.01	1.7
18	5.0							1.9
19	1.0	9	3	0.00121	0.00085	0.00103	0.06	0.4

HIGH STRESS OEDOMETER NO. OH-4  
 DEPTH: 169-170 m SITE: B



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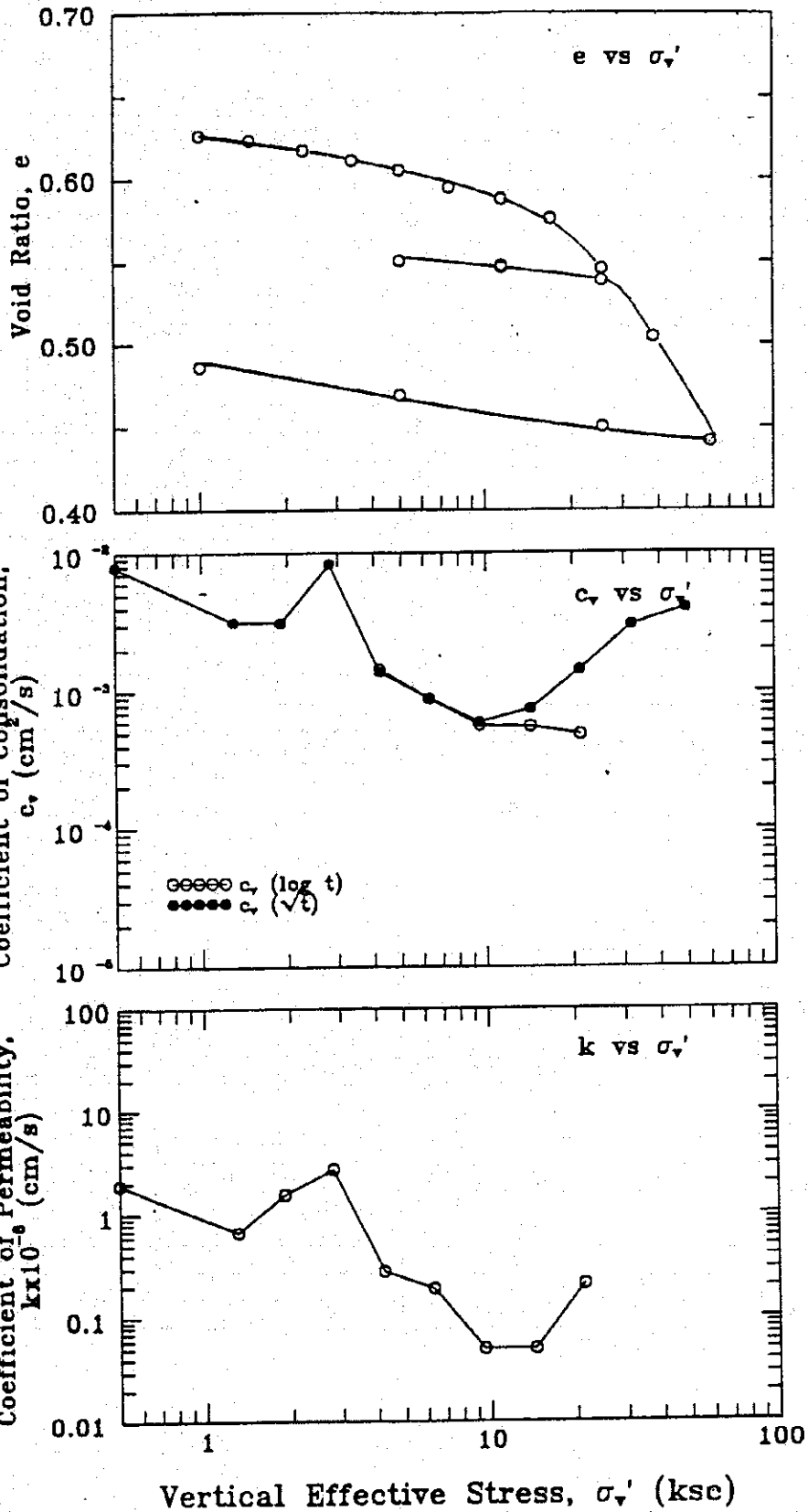
**CONSOLIDATION**

Project: Subsidence in Bangkok Vicinity Location: AIT  
 Borehole No.: B Depth (m) 170-171 Sample No.: \_\_\_\_\_ Test No.: OH-2  
 Soil Description: \_\_\_\_\_ Tested By: \_\_\_\_\_ SIH \_\_\_\_\_ Date: 5-93  
 Height of Solids (H<sub>s</sub>): 1.166 cm Height of Sample (H): 1.900 cm

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>f</sub>	e <sub>100</sub>	e <sub>f</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>f</sub>
1	0.1			1.899		0.1			0.629
2	1.0	1.897	1.896	1.894	0.2	0.3	0.627	0.626	0.624
3	1.5			1.892		0.4			0.623
4	2.3			1.885		0.8			0.617
5	3.4			1.878		1.2			0.611
6	5.0	1.874	1.872	1.870	1.5	1.6	0.607	0.605	0.604
7	7.5	1.862	1.860	1.859	2.1	2.2	0.597	0.595	0.594
8	11.5	1.856	1.852	1.846	2.5	2.8	0.592	0.588	0.583
9	17.0	1.842	1.838	1.837	3.3	3.3	0.580	0.576	0.575
10	25.6			1.803		5.1			0.546
11	11.5			1.804		5.1			0.547
12	5.0			1.808		4.8			0.551
13	11.5			1.805		5.0			0.548
14	25.6			1.794		5.6			0.539
15	38.5			1.754		7.7			0.504
16	60.0			1.680		11.6			0.441
17	25.6			1.691		11.0			0.450
18	5.0			1.713		9.8			0.469
19	1.0	1.727	1.733	1.733	8.8	8.8	0.481	0.486	0.486

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k <sub>v</sub> x 10 cm/s	CR (%)
		t <sub>90</sub>	t <sub>50</sub>	t	log t	Average		
1	0.1							
2	1.0	1.6	0.2	0.00795	0.01477	0.01136	1.91	0.2
3	1.5	4.0		0.00316		0.00316	0.67	0.6
4	2.3	4.0		0.00314		0.00314	1.55	2.1
5	3.4	1.5		0.00831		0.00831	2.69	2.1
6	5.0	9.0	2.0	0.00138	0.00144	0.00141	0.28	2.5
7	7.5	13.7	3.2	0.00089	0.00089	0.00089	0.19	3.6
8	11.5	20.3	5.0	0.00060	0.00057	0.00058	0.05	2.3
9	17.0	16.0	5.0	0.00075	0.00056	0.00065	0.05	4.3
10	25.6	8.0	5.5	0.00144	0.00049	0.00096	0.21	10.1
11	11.5							0.2
12	5.0	3.6		0.00321		0.00321	0.11	0.6
13	11.5	4.0		0.00288		0.00288	0.07	0.4
14	25.6	1.7		0.00669		0.00669	0.29	1.7
15	38.5	3.6		0.00302		0.00302	0.53	11.9
16	60.0	2.5		0.00399		0.00399	0.80	20.2
17	25.6	23		0.00044		0.00044	0.01	1.6
18	5.0	25		0.00041		0.00041	0.03	1.6
19	1.0	2.6	1.7	0.00405	0.00144	0.00275	0.80	1.5

HIGH STRESS OEDOMETER NO. OH-2  
 DEPTH: 170-171 m SITE: B



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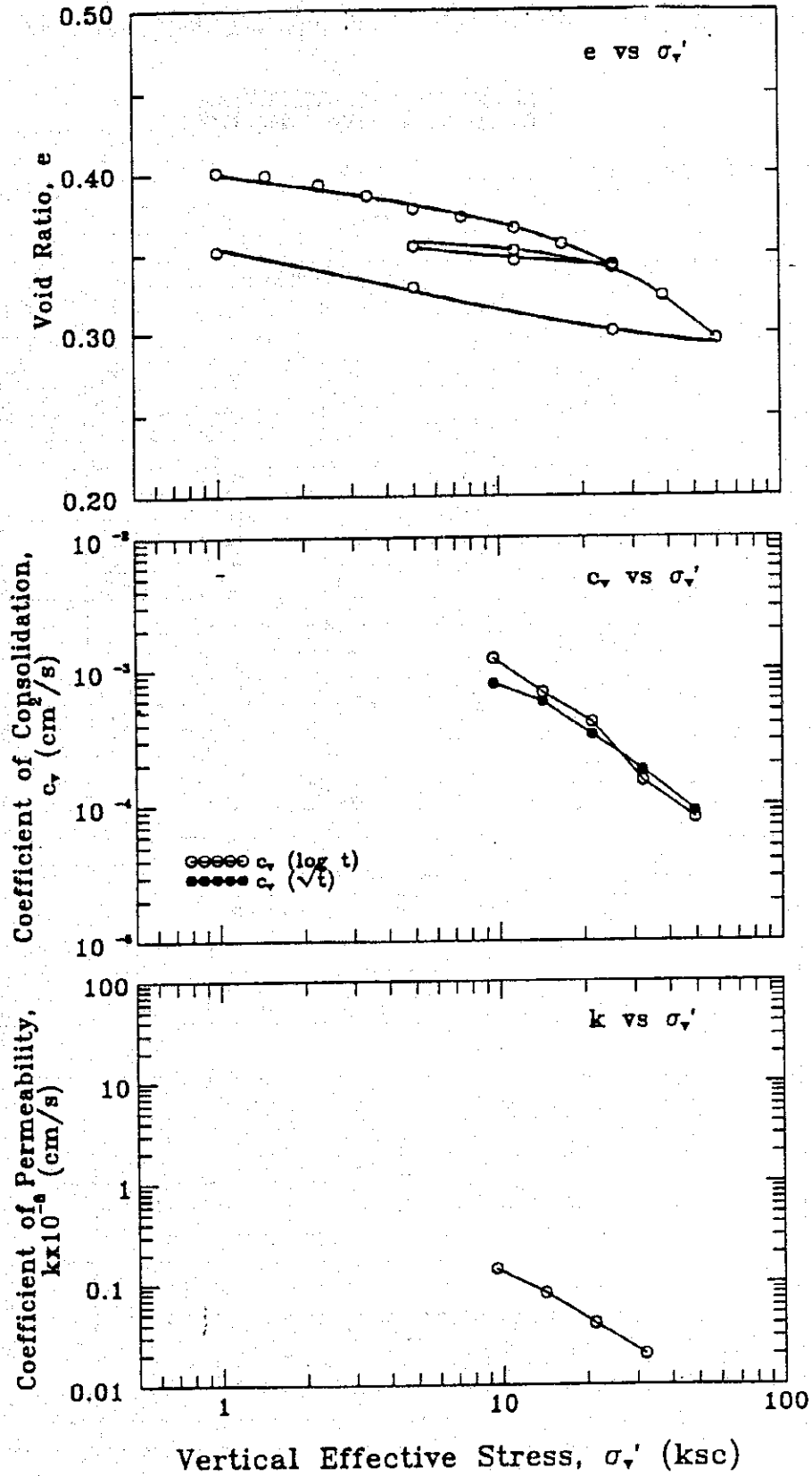
**CONSOLIDATION**

Project: Subsidence in Bangkok Vicinity Location: AIT  
 Borehole No.: B Depth (m) 180-181 Sample No.: \_\_\_\_\_ Test No.: OH-49  
 Soil Description: \_\_\_\_\_ Tested By: SIH Date: 5-93  
 Height of Solids (H<sub>s</sub>): 1.345 cm Height of Sample (H<sub>i</sub>): 1.900 cm

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>f</sub>	e <sub>100</sub>	e <sub>f</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>f</sub>
1	0.1			1.898		0.1			0.411
2	1.0			1.885		0.8			0.401
3	1.5			1.882		0.9			0.399
4	2.3			1.874		1.4			0.393
5	3.4			1.864		1.9			0.386
6	5.0			1.853		2.5			0.378
7	7.5			1.847		2.8			0.373
8	11.5	1.840	1.837	1.836	3.3	3.4	0.368	0.366	0.365
9	17.0	1.827	1.824	1.823	4.0	4.1	0.358	0.356	0.355
10	25.6	1.812	1.807	1.806	4.9	4.9	0.347	0.343	0.343
11	11.5			1.811		4.7			0.346
12	5.0			1.822		4.1			0.355
13	11.5			1.818		4.3			0.352
14	25.6	1.807	1.803	1.803	5.1	5.1	0.343	0.341	0.340
15	38.5	1.789	1.780	1.780	6.3	6.3	0.330	0.323	0.323
16	60.0	1.758	1.743	1.740	8.3	8.4	0.307	0.296	0.294
17	25.6			1.750		7.9			0.301
18	5.0			1.788		5.9			0.329
19	1.0			1.818		4.3			0.352

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k <sub>s</sub> x 10 cm/s	CR (%)
		t <sub>90</sub>	t <sub>50</sub>	√t	log t	Average		
1	0.1							
2	1.0							0.6
3	1.5							0.9
4	2.3							2.4
5	3.4							2.9
6	5.0							3.5
7	7.5							1.8
8	11.5	15.2	2.3	0.00079	0.00121	0.00100	0.14	3.1
9	17.0	20.2	4.0	0.00058	0.00068	0.00063	0.08	4.0
10	25.6	34.8	6.5	0.00033	0.00041	0.00037	0.04	5.0
11	11.5							0.8
12	5.0							1.6
13	11.5							0.6
14	25.6	17.6	3.0	0.00066	0.00089	0.00077	0.05	2.3
15	38.5	64.0	7.0	0.00018	0.00015	0.00017	0.02	6.8
16	60.0	125.4	30.0	0.00009	0.00008	0.00009	0.01	10.1
17	25.6							1.4
18	5.0							2.8
19	1.0							2.3

HIGH STRESS OEDOMETER NO. OH-49  
 DEPTH: 180-181.0 m SITE: B





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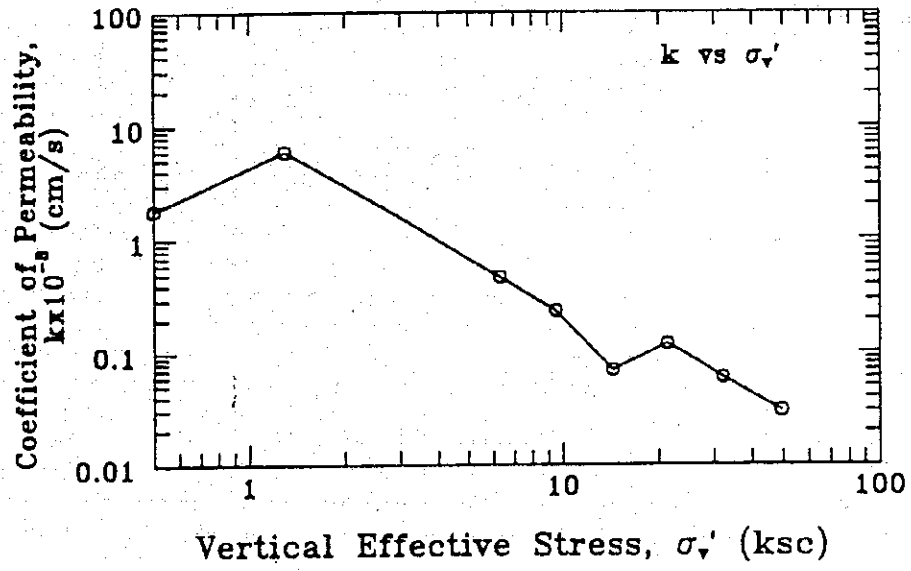
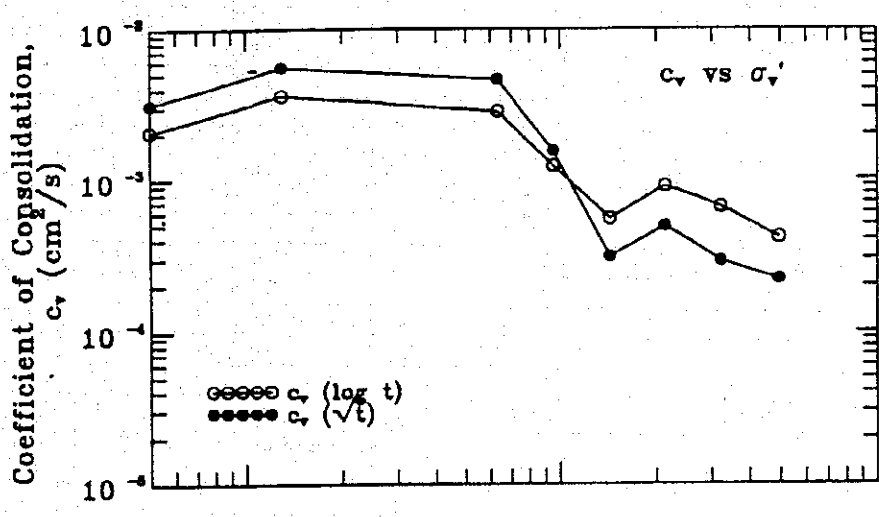
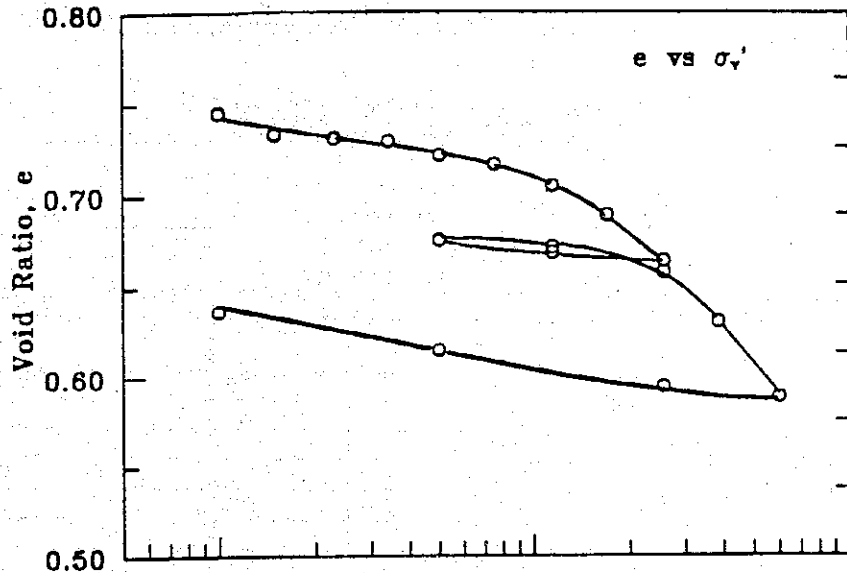
**CONSOLIDATION**

Project: Subsidence in Bangkok Vicinity Location: AIT  
 Borehole No.: B Depth (m) 208-209 Sample No.: \_\_\_\_\_ Test No.: OH-42  
 Soil Description: \_\_\_\_\_ Tested By: SIH Date: 5-93  
 Height of Solids (H<sub>s</sub>): 1.082 cm Height of Sample (H<sub>i</sub>): 1.900 cm

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>i</sub>	e <sub>100</sub>	e <sub>i</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>i</sub>
1	0.1			1.900					0.756
2	1.0	1.889	1.888	1.888	0.6	0.7	0.746	0.745	0.744
3	1.5	1.877	1.875	1.874	1.3	1.4	0.735	0.733	0.732
4	2.3			1.873		1.4			0.731
5	3.4			1.871		1.5			0.729
6	5.0			1.862		2.0			0.721
7	7.5			1.857		2.3			0.716
8	11.5	1.847	1.844	1.843	3.0	3.0	0.707	0.704	0.703
9	17.0	1.831	1.826	1.825	3.9	3.9	0.692	0.688	0.687
10	25.6	1.807	1.799	1.797	5.3	5.4	0.670	0.663	0.661
11	11.5			1.805		5.0			0.668
12	5.0		1.813	1.813	4.6	4.6		0.675	0.675
13	11.5			1.808		4.8			0.671
14	25.6	1.796	1.793	1.793	5.6	5.6	0.660	0.657	0.657
15	38.5	1.773	1.764	1.760	7.2	7.4	0.639	0.630	0.627
16	60.0	1.733	1.719	1.714	9.5	9.8	0.601	0.588	0.584
17	25.6		1.725	1.725	9.2	9.2		0.594	0.594
18	5.0		1.747	1.748	8.0	8.0		0.615	0.615
19	1.0		1.771	1.773	6.8	6.7		0.637	0.638

Incr. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k <sub>-s</sub> x 10 cm/s	CR (%)
		t <sub>50</sub>	t <sub>100</sub>	$\frac{1}{t}$	log t	Average		
1	0.1							
2	1.0	4.0	1.4	0.00315	0.00209	0.00262	1.80	0.5
3	1.5	2.3	0.8	0.00553	0.00362	0.00457	5.98	3.8
4	2.3							0.3
5	3.4							0.7
6	5.0							2.6
7	7.5	2.6	1.0	0.00461	0.00283	0.00372	0.47	1.8
8	11.5	7.8	2.3	0.00154	0.00122	0.00138	0.24	3.8
9	17.0	38.7	5.0	0.00031	0.00055	0.00043	0.07	5.4
10	25.6	23.7	3.0	0.00049	0.00089	0.00069	0.12	8.1
11	11.5							1.1
12	5.0							1.1
13	11.5							0.6
14	25.6							2.3
15	38.5	38.0	4.0	0.00029	0.00065	0.00047	0.06	8.6
16	60.0	49.0	6.0	0.00022	0.00041	0.00031	0.03	12.4
17	25.6							1.5
18	5.0							1.7
19	1.0							1.9

HIGH STRESS OEDOMETER NO. OH-42  
 DEPTH: 208-209.0 m SITE: B



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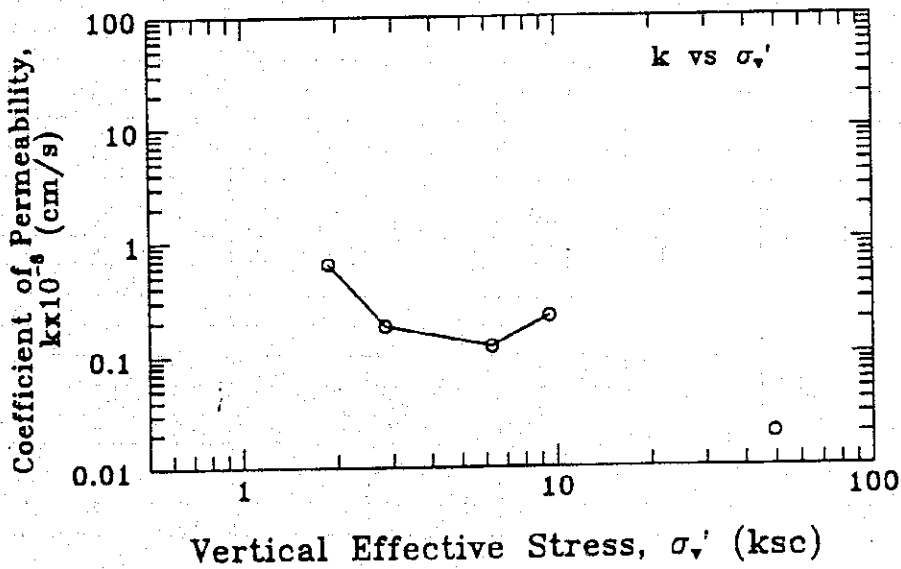
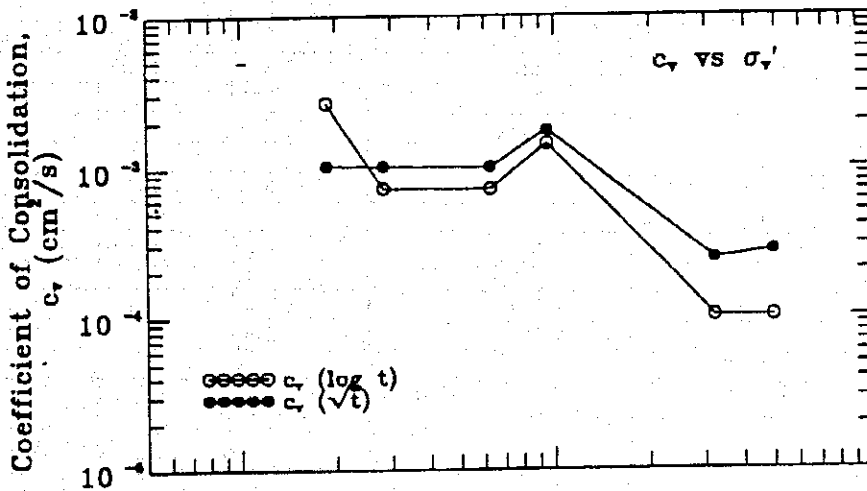
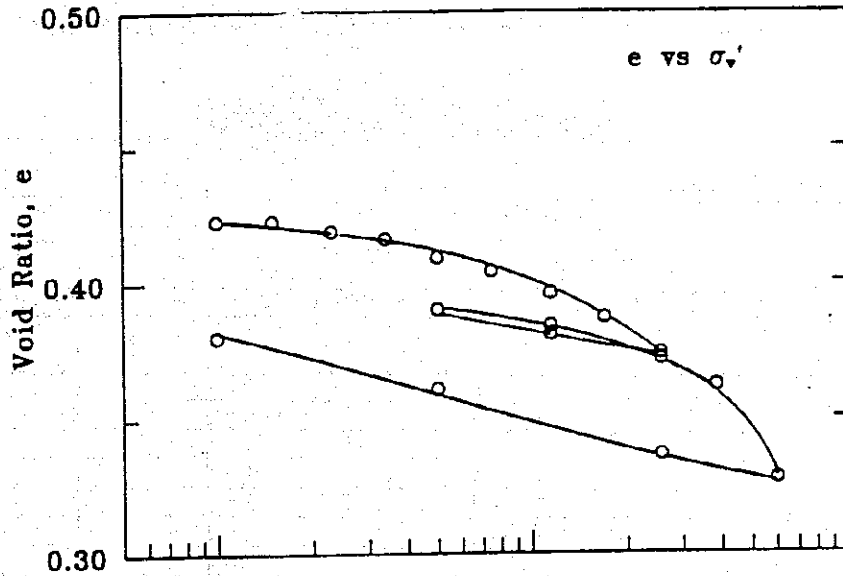
**CONSOLIDATION**

Project: Subsidence in Bangkok Vicinity Location: AIT  
 Borehole No.: B Depth (m) 228-229 Sample No.: \_\_\_\_\_ Test No.: OH-53  
 Soil Description: \_\_\_\_\_ Tested By: SIH Date: 5-93  
 Height of Solids (H<sub>s</sub>): 1.335 cm Height of Sample (H<sub>i</sub>): 1.905 cm

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>i</sub>	e <sub>100</sub>	e <sub>i</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>i</sub>
1	0.1			1.902		0.2			0.424
2	1.0			1.900		0.3			0.423
3	1.5			1.899		0.3			0.423
4	2.3	1.896	1.894	1.894	0.6	0.6	0.420	0.419	0.419
5	3.4	1.891	1.890	1.889	0.8	0.8	0.416	0.416	0.415
6	5.0			1.881		1.3			0.409
7	7.5	1.876	1.874	1.874	1.6	1.6	0.405	0.404	0.404
8	11.5	1.866	1.864	1.864	2.2	2.2	0.398	0.396	0.396
9	17.0			1.852		2.8			0.387
10	25.6			1.834		3.7			0.374
11	11.5			1.844		3.2			0.381
12	5.0			1.855		2.6			0.390
13	11.5		1.848	1.848	3.0	3.0		0.384	0.384
14	25.6			1.832		3.9			0.372
15	38.5		1.818	1.818	4.6	4.6		0.362	0.362
16	60.0	1.784	1.772	1.769	7.0	7.1	0.336	0.327	0.325
17	25.6		1.784	1.784	6.4	6.3		0.336	0.336
18	5.0		1.817	1.818	4.6	4.6		0.361	0.362
19	1.0		1.843	1.843	3.3	3.3		0.380	0.381

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k <sub>v</sub> x 10 cm/s	CR (%)
		t <sub>90</sub>	t <sub>50</sub>	√t	log t	Average		
1	0.1							
2	1.0							0.1
3	1.5							0.3
4	2.3	12.3	1.1	0.00104	0.00268	0.00186	0.64	1.5
5	3.4	12.3	4.0	0.00103	0.00073	0.00088	0.18	1.4
6	5.0							2.6
7	7.5	12.3	4.0	0.00101	0.00072	0.00087	0.12	2.1
8	11.5	7.0	2.0	0.00176	0.00143	0.00159	0.22	2.9
9	17.0							3.6
10	25.6							5.3
11	11.5							1.5
12	5.0							1.6
13	11.5							1.1
14	25.6							2.4
15	38.5	49.0	27.5	0.00024	0.00010	0.00017	0.01	4.0
16	60.0	42.0	25.0	0.00027	0.00010	0.00019	0.02	12.7
17	25.6							2.1
18	5.0							2.5
19	1.0							1.9

HIGH STRESS OEDOMETER NO. OH-53  
 DEPTH: 228-229.0 m SITE: B



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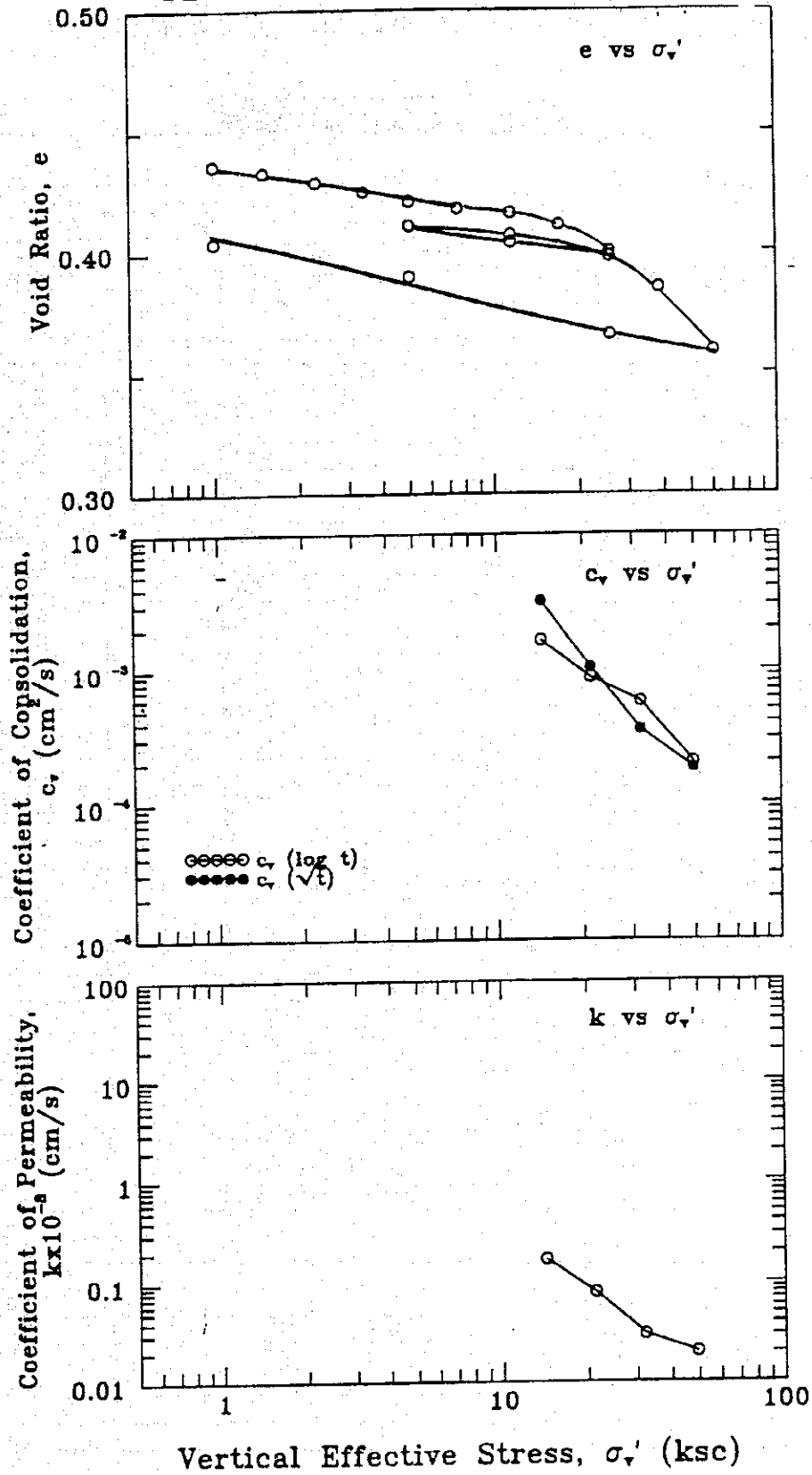
**CONSOLIDATION**

Project: Subsidence in Bangkok Vicinity Location: AIT  
 Borehole No.: B Depth (m) 257-257.4 Sample No.: \_\_\_\_\_ Test No.: OH-50  
 Soil Description: \_\_\_\_\_ Tested By: SIH Date: 5-93  
 Height of Solids (H<sub>s</sub>): 1.313 cm Height of Sample (H<sub>i</sub>): 1.900 cm

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>f</sub>	e <sub>100</sub>	e <sub>f</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>f</sub>
1	0.1			1.896		0.2			0.444
2	1.0			1.885		0.8			0.436
3	1.5			1.881		1.0			0.433
4	2.3			1.876		1.3			0.429
5	3.4			1.871		1.5			0.425
6	5.0			1.866		1.8			0.421
7	7.5			1.862		2.0			0.418
8	11.5			1.859		2.2			0.416
9	17.0	1.854	1.852	1.851	2.5	2.6	0.412	0.411	0.410
10	25.6	1.841	1.838	1.837	3.3	3.3	0.402	0.400	0.399
11	11.5			1.844		2.9			0.404
12	5.0			1.852		2.5			0.411
13	11.5			1.847		2.8			0.407
14	25.6	1.838	1.835	1.834	3.4	3.5	0.400	0.398	0.397
15	38.5	1.823	1.819	1.816	4.3	4.4	0.388	0.385	0.383
16	60.0	1.796	1.784	1.782	6.1	6.2	0.368	0.359	0.357
17	25.6			1.794		5.6			0.366
18	5.0			1.825		3.9			0.390
19	1.0			1.844		2.9			0.404

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k <sub>-6</sub> x 10 cm/s	CR (%)
		t <sub>90</sub>	t <sub>50</sub>	$\sqrt{t}$	log t	Average		
1	0.1							
2	1.0							0.5
3	1.5							1.2
4	2.3							1.5
5	3.4							1.5
6	5.0							1.6
7	7.5							1.2
8	11.5							0.9
9	17.0	3.8	1.7	0.00320	0.00166	0.00243	0.17	2.5
10	25.6	11.5	3.2	0.00104	0.00087	0.00096	0.08	4.1
11	11.5							1.1
12	5.0							1.2
13	11.5							0.7
14	25.6	6.7	1.3	0.00178	0.00213	0.00196	0.09	2.0
15	38.5	33.6	4.8	0.00035	0.00057	0.00046	0.03	4.8
16	60.0	64.0	13.0	0.00018	0.00020	0.00019	0.02	9.6
17	25.6							1.7
18	5.0							2.3
19	1.0							1.4

HIGH STRESS OEDOMETER NO. OH-50  
 DEPTH: 257-257.4 m SITE: B



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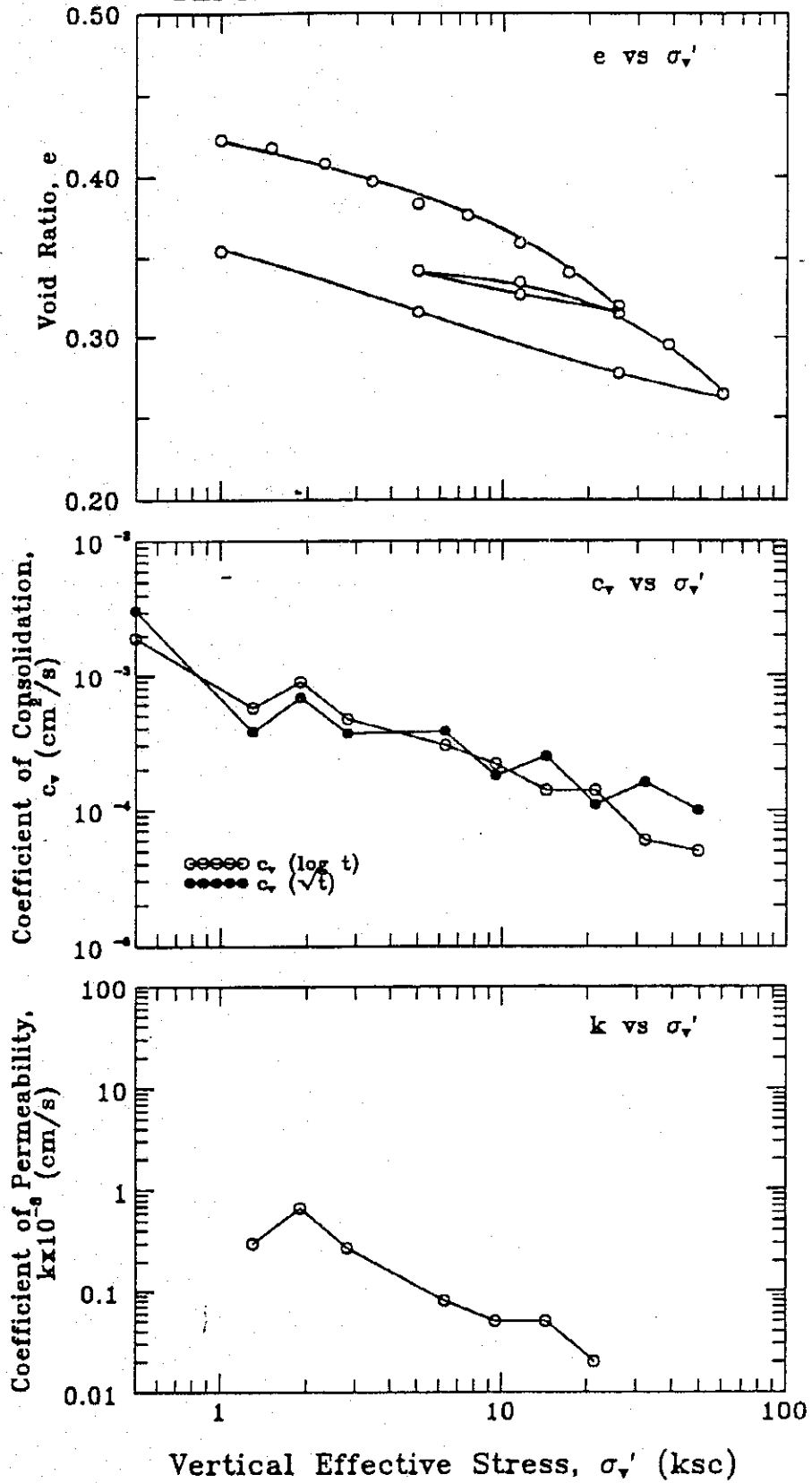
**CONSOLIDATION**

Project: Subsidence in Bangkok Vicinity Location: AIT  
 Borehole No.: B Depth (m) 277-278 Sample No.: \_\_\_\_\_ Test No.: OH-59  
 Soil Description: \_\_\_\_\_ Tested By: SIH Date: 5-93  
 Height of Solids (H<sub>s</sub>): 1.317 cm Height of Sample (H<sub>i</sub>): 1.900 cm

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H <sub>50</sub>	H <sub>100</sub>	H <sub>f</sub>	e <sub>100</sub>	e <sub>f</sub>	e <sub>50</sub>	e <sub>100</sub>	e <sub>f</sub>
1	0.1								
2	1.0	1.879	1.874	1.873	1.4	1.4	0.427	0.423	0.422
3	1.5	1.870	1.868	1.867	1.7	1.8	0.420	0.418	0.417
4	2.3	1.859	1.855	1.854	2.4	2.4	0.411	0.408	0.407
5	3.4	1.844	1.840	1.838	3.2	3.3	0.400	0.397	0.396
6	5.0			1.822		4.1			0.383
7	7.5	1.814	1.812	1.809	4.6	4.8	0.378	0.376	0.374
8	11.5	1.798	1.790	1.789	5.8	5.8	0.365	0.359	0.359
9	17.0	1.875	1.767	1.765	7.0	7.1	0.424	0.341	0.340
10	25.6	1.750	1.738	1.736	8.5	8.6	0.328	0.320	0.318
11	11.5		1.748	1.749	8.0	8.0		0.327	0.328
12	5.0		1.768	1.768	7.0	6.9		0.342	0.343
13	11.5		1.758	1.758	7.5	7.5		0.335	0.334
14	25.6		1.732	1.731	8.8	8.9		0.315	0.314
15	38.5	1.716	1.706	1.703	10.2	10.4	0.303	0.295	0.293
16	60.0	1.686	1.665	1.663	12.4	12.5	0.280	0.264	0.262
17	25.6		1.682	1.684	11.5	11.4		0.277	0.279
18	5.0		1.733	1.739	8.8	8.5		0.316	0.321
19	1.0		1.783	1.786	6.2	6.0		0.354	0.356

Incrim. No.	Vert. Stress (kg/cm <sup>2</sup> )	Time (minutes)		Coefficient of Consolidation (cm <sup>2</sup> /s)			k <sub>s</sub> x 10 <sup>-4</sup> cm/s	CR (%)
		t <sub>90</sub>	t <sub>50</sub>	v <sub>z</sub>	log t	Average		
1	0.1							
2	1.0	4.0	1.5	0.00312	0.00193	0.00253		1.1
3	1.5	32.4	5.0	0.00038	0.00057	0.00048	0.30	2.0
4	2.3	17.9	3.2	0.00068	0.00089	0.00078	0.67	3.9
5	3.4	32.4	6.0	0.00037	0.00047	0.00042	0.27	4.3
6	5.0							5.0
7	7.5	30.3	9.0	0.00038	0.00030	0.00034	0.08	3.8
8	11.5	62.4	12.0	0.00018	0.00022	0.00020	0.05	6.2
9	17.0	50.6	20.0	0.00025	0.00014	0.00019	0.05	7.3
10	25.6	100.0	18.0	0.00011	0.00014	0.00012	0.02	8.3
11	11.5							1.9
12	5.0							2.8
13	11.5							1.4
14	25.6							4.0
15	38.5	64.0	40.0	0.00016	0.00006	0.00011	0.01	8.0
16	60.0	100.0	50.0	0.00010	0.00005	0.00007	0.01	11.1
17	25.6							3.1
18	5.0							4.1
19	1.0							3.6

HIGH STRESS OEDOMETER NO. OH-59  
 DEPTH: 277-278 m SITE: B



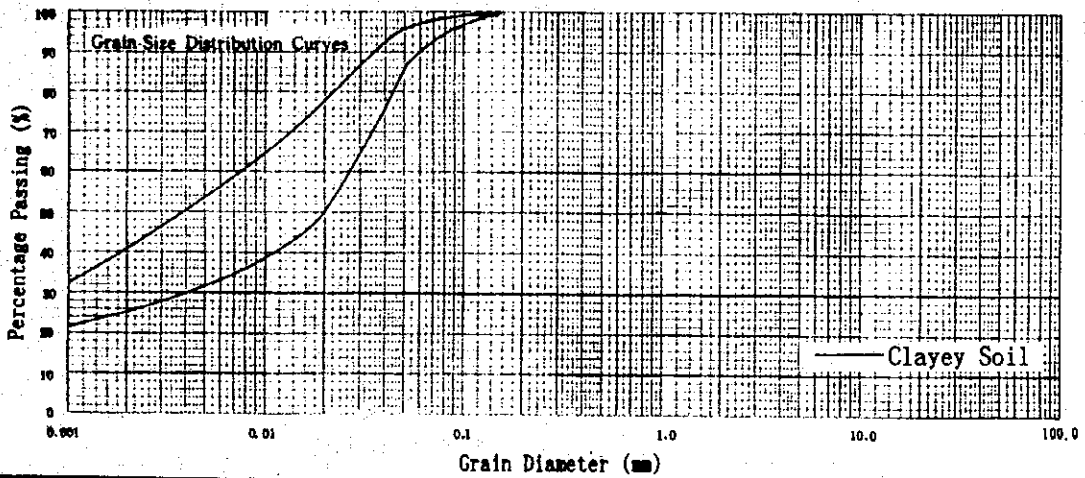




**D. SOIL TESTS**

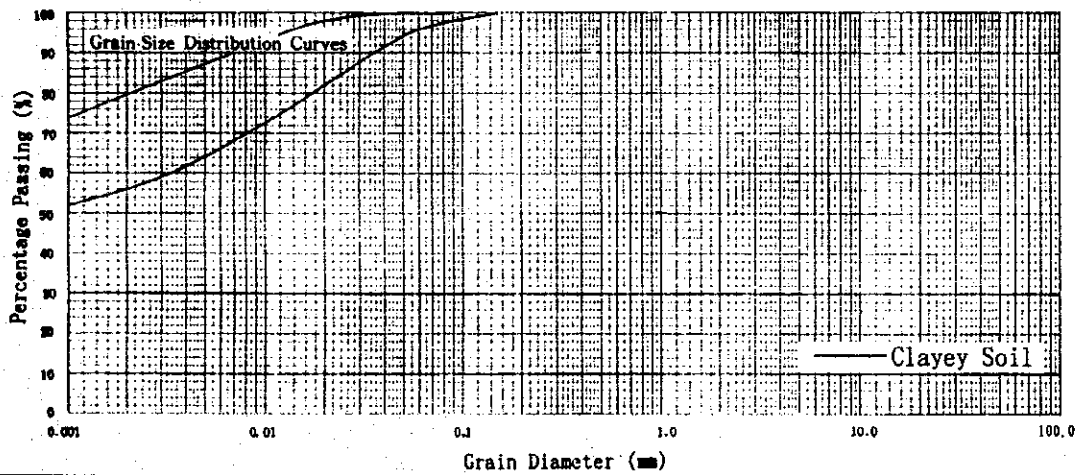
**D.3 soil tests result of Site-C**





Clay	Silt	Sand	Gravel
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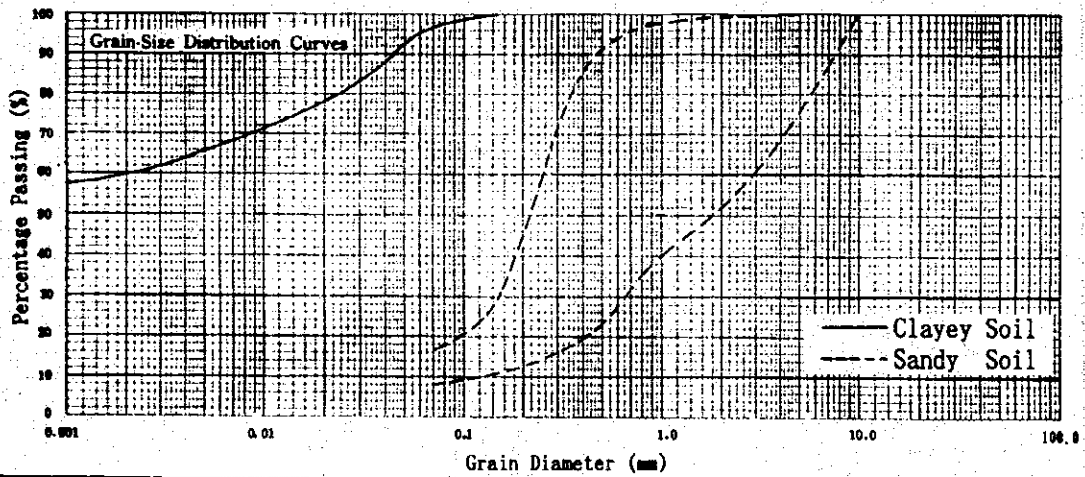
[Sf Layer]



Clay	Silt	Sand	Gravel
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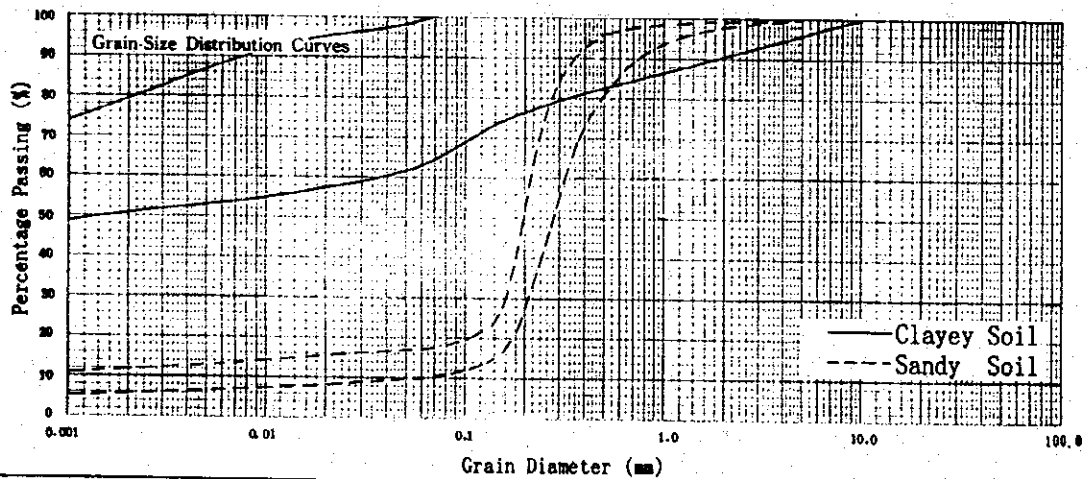
[St Layer]

Grain Size Distribution Curves at Site-C [Sf & St]	
THE STUDY ON MANAGEMENT OF GROUNDWATER AND LAND SUBSIDENCE IN THE BANGKOK METROPOLITAN AREA AND ITS VICINITY	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	KOKUSAI KOGYO CO., LTD



Colloid	Clay	Silt	Sand	Gravel
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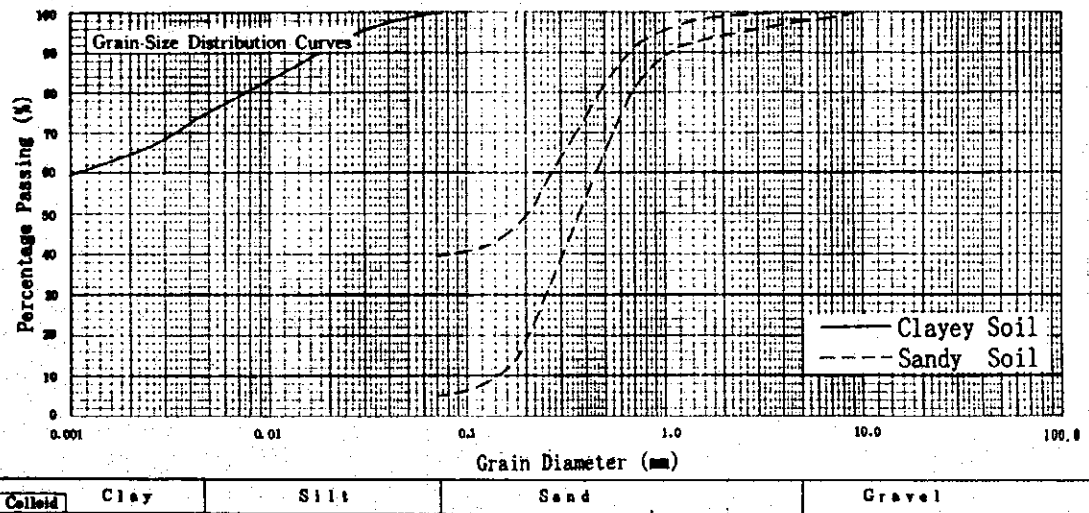
[Bk Layer]



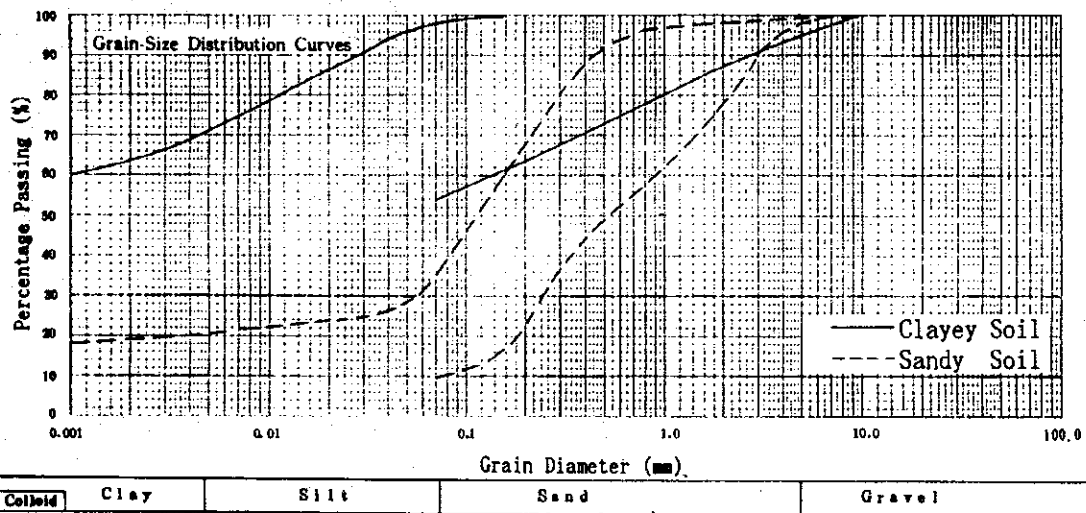
Colloid	Clay	Silt	Sand	Gravel
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[Pd Layer]

Grain Size Distribution Curves at Site-C [Bk & Pd]	
THE STUDY ON MANAGEMENT OF GROUNDWATER AND LAND SUBSIDENCE IN THE BANGKOK METROPOLITAN AREA AND ITS VICINITY	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	KOKUSAI KOGYO CO., LTD

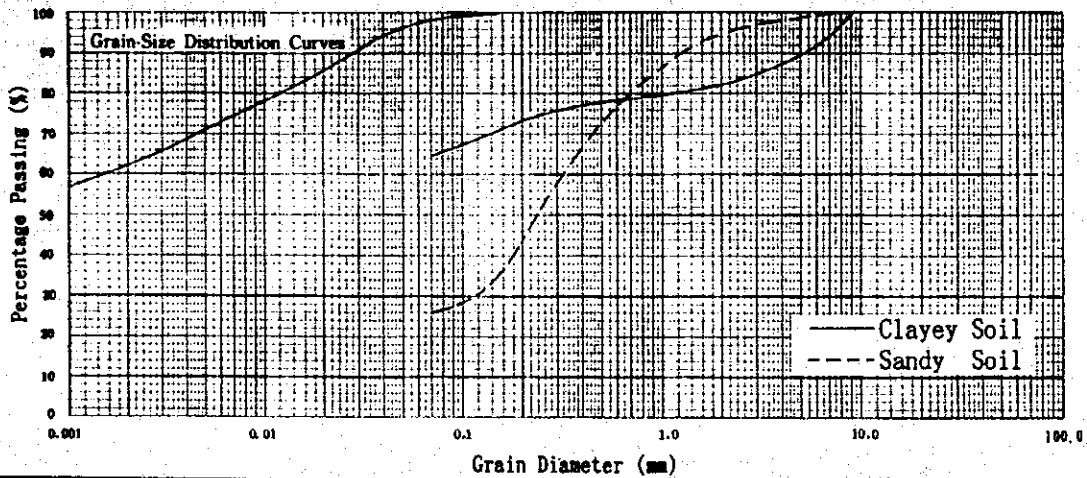


[N1 Layer]



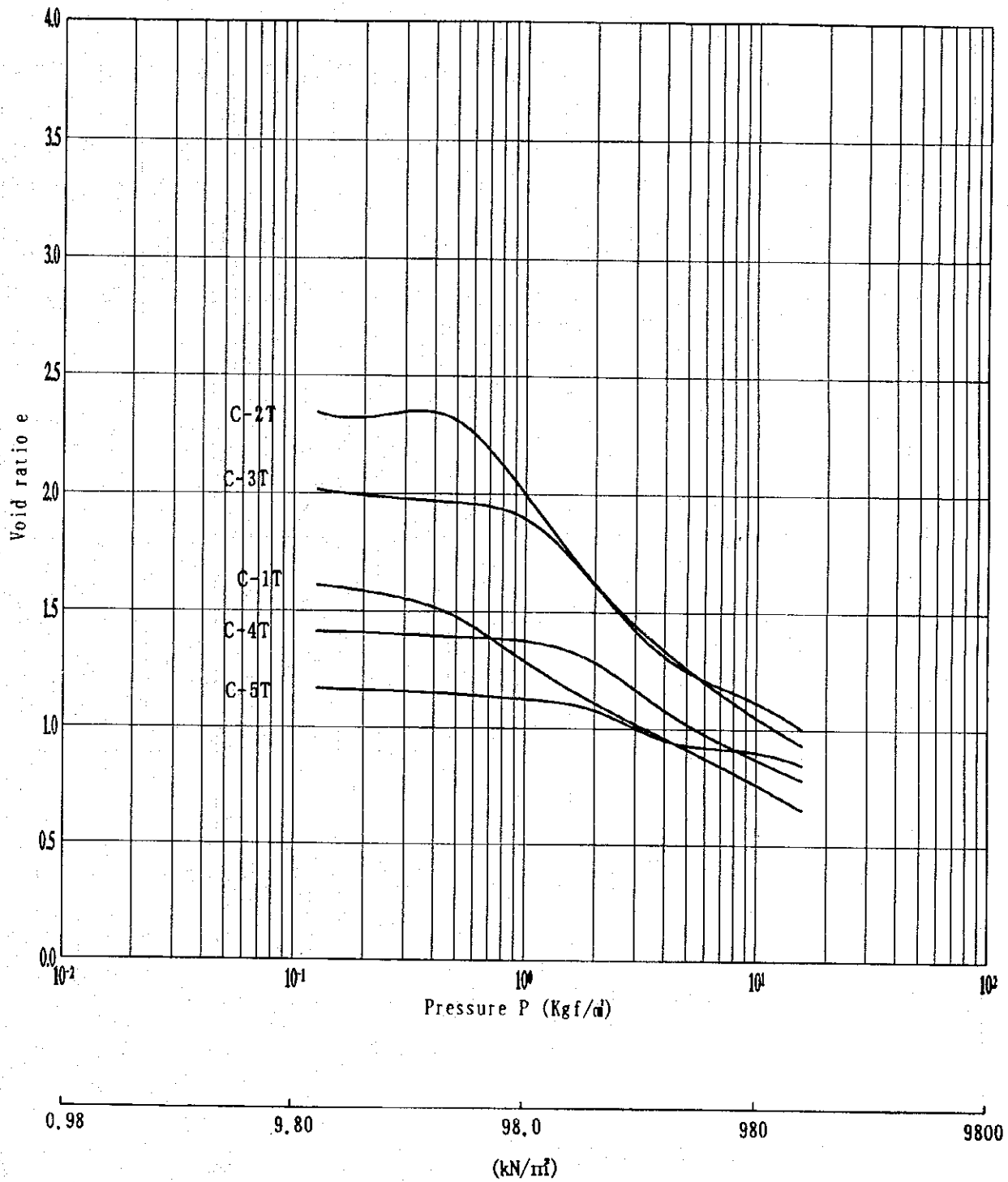
[Nb Layer]

Grain Size Distribution Curves at Site-C [N1 & Nb]	
THE STUDY ON MANAGEMENT OF GROUNDWATER AND LAND SUBSIDENCE IN THE BANGKOK METROPOLITAN AREA AND ITS VICINITY	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	KOKUSAI KOGYO CO., LTD



[Sk Layer]

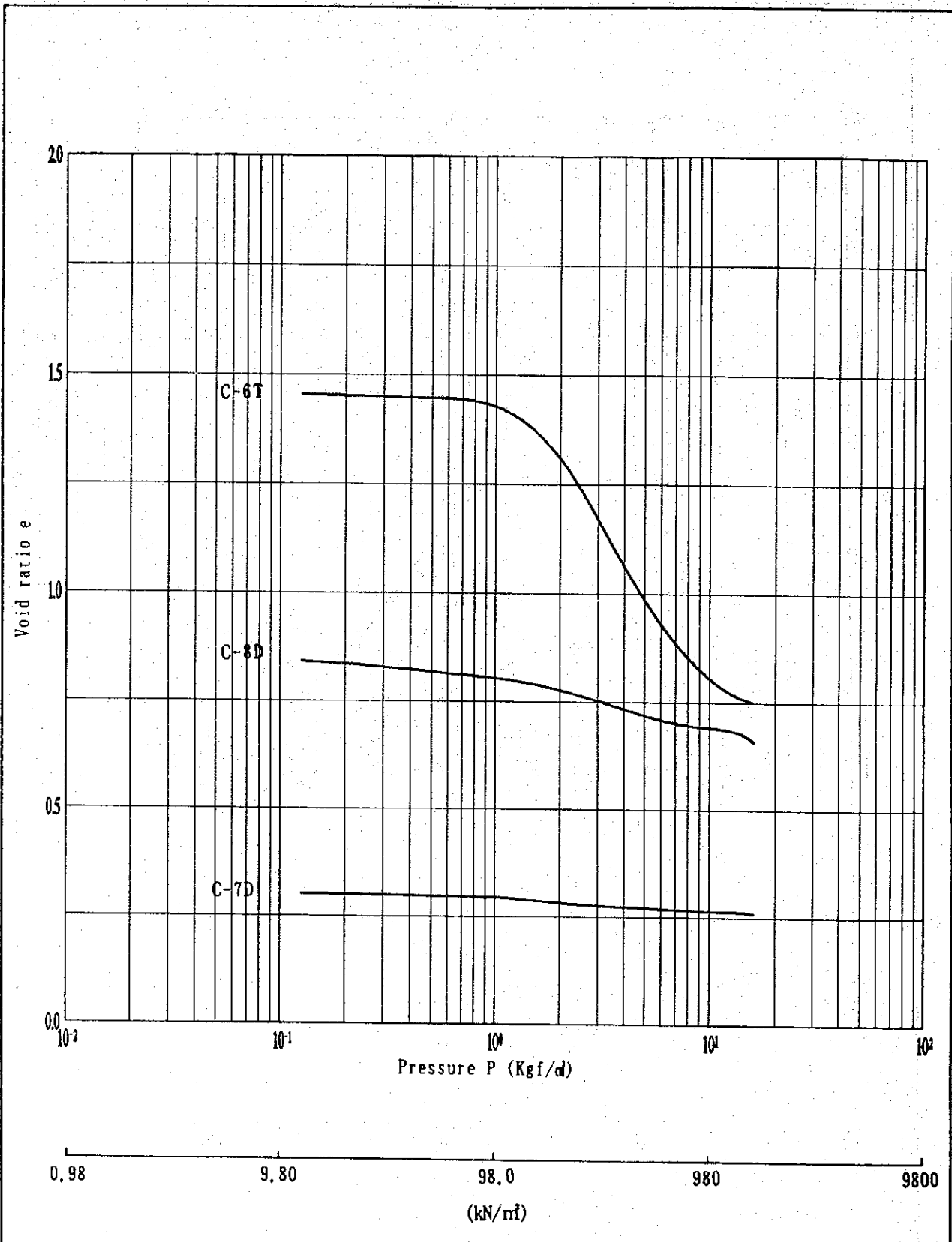
Grain Size Distribution Curves at Site-C [SK]	
THE STUDY ON MANEGEMENT OF GROUNDWATER AND LAND SUBSIDECE IN THE BANGKOK METROPOLITAN AREA AND ITS VICINITY	
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e ~ logP Curve at Site-C  
[sf]

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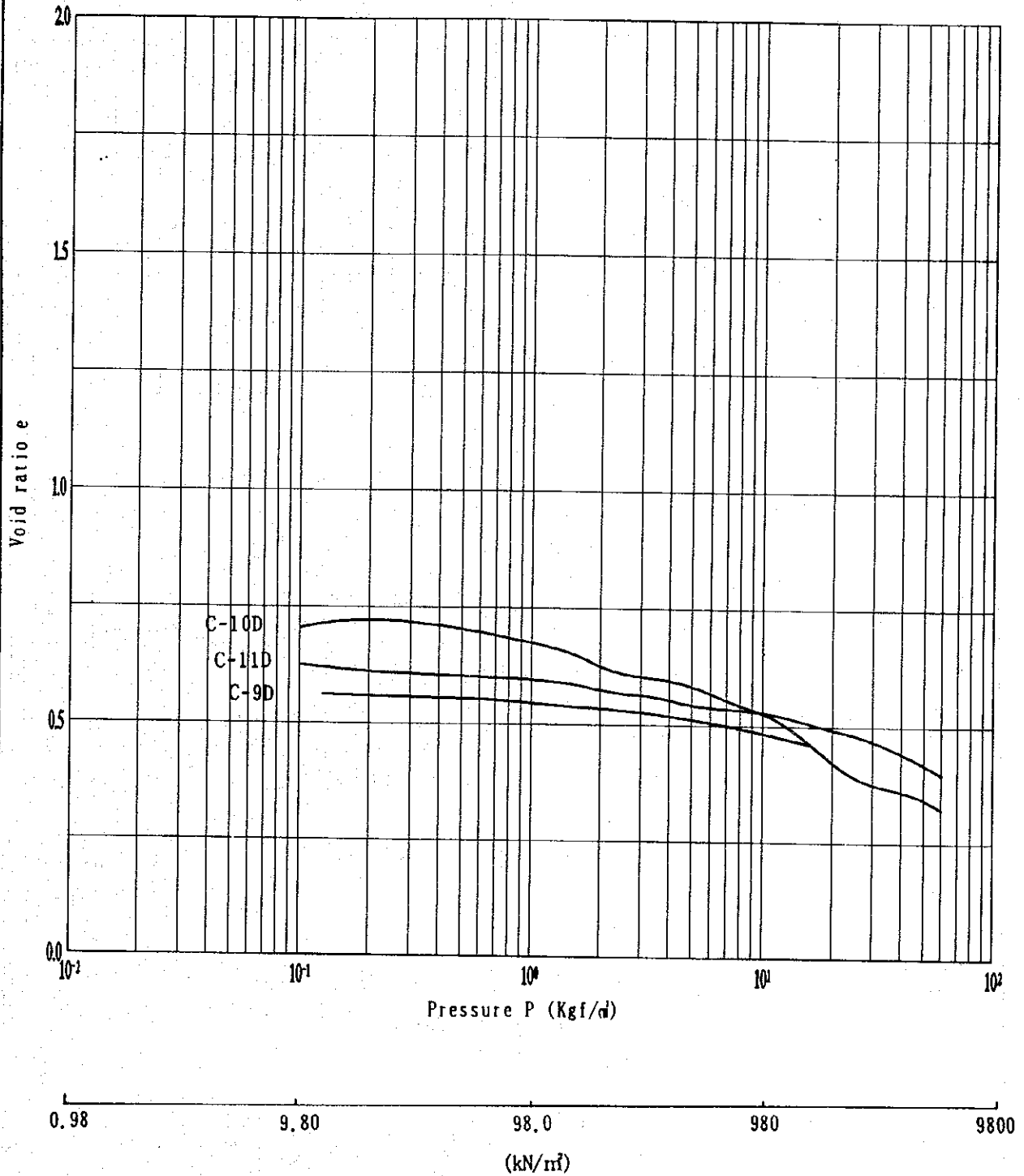




$e \sim \log P$  Curve at Site-C  
[St.]

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e ~ log P Curve at Site-C [Bk]	
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