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GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

GRAIN SIZE ANALYSIS

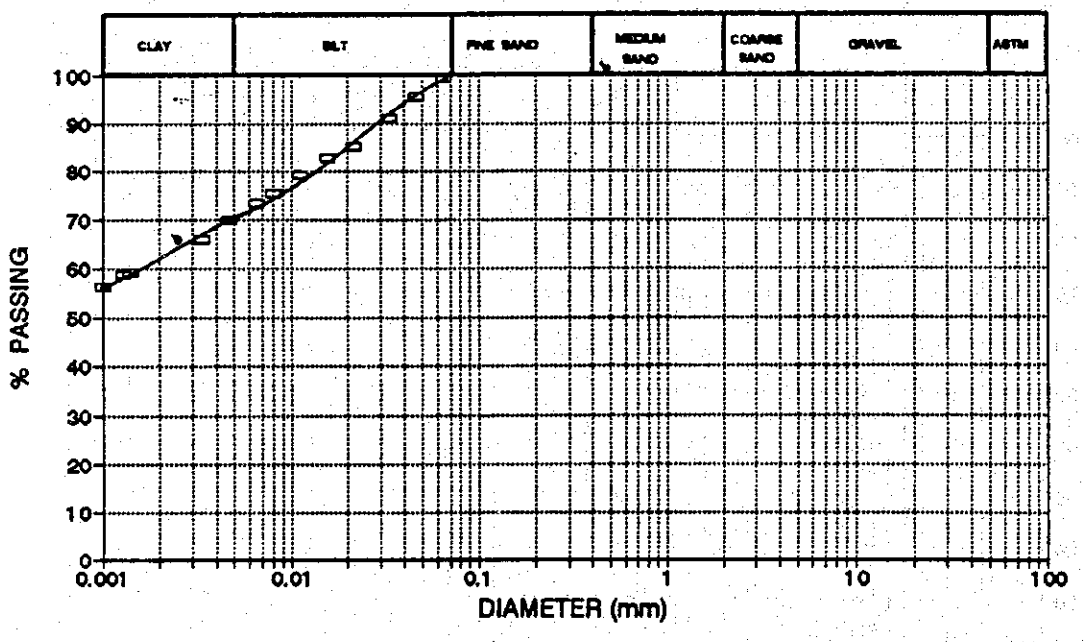
Project: Subsidence in Bangkok Vicinity
Location: Samut Sakhon
Borehole No.: C Depth (m) 290.0-290.6
Sample No.: Test No.: AH-47
Soil Description:
Tested By: Date: 25-2-1993

SIEVE ANALYSIS

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

HYDROMETER ANALYSIS

Particle Size (mm)	Percent Finer (%)
0.0645	99.34
0.0464	95.73
0.0335	91.12
0.0335	91.12
0.0217	85.20
0.0155	82.90
0.0111	79.28
0.0080	75.33
0.0066	73.36
0.0047	70.07
0.0034	66.12
0.0014	59.54
0.0013	58.88
0.0010	56.25
0.0010	55.59



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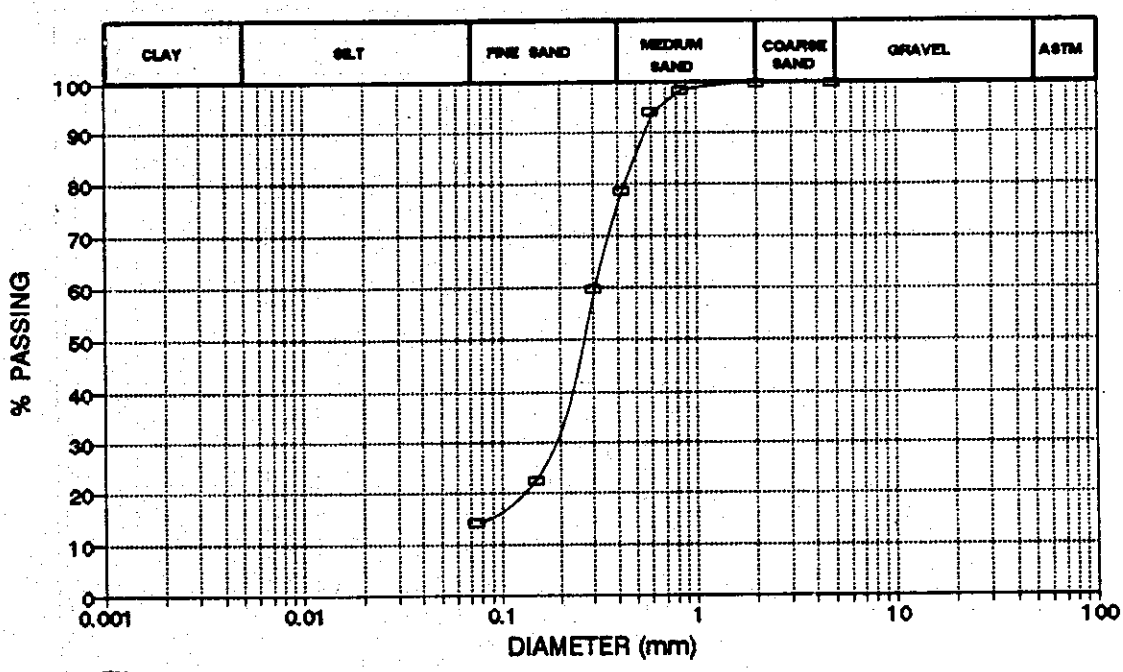
SIEVE ANALYSIS

Project: Subsidence in Bangkok Vicinity Location:
Borehole No.: C-1/1 Depth (m) 292.00-292.50 Sample No.: SS-C-15C Test No.: S-46
Soil Description: Tested By: WY Date: 5-2-1993

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	0.18	0.18	0.0	100.0
20	0.84	6.42	6.60	1.7	98.4
30	0.59	17.06	23.66	5.9	94.1
40	0.42	61.49	85.15	21.3	78.7
50	0.30	75.16	160.31	40.1	59.9
100	0.15	150.19	310.50	77.6	22.4
200	0.07	32.88	343.38	85.8	14.2



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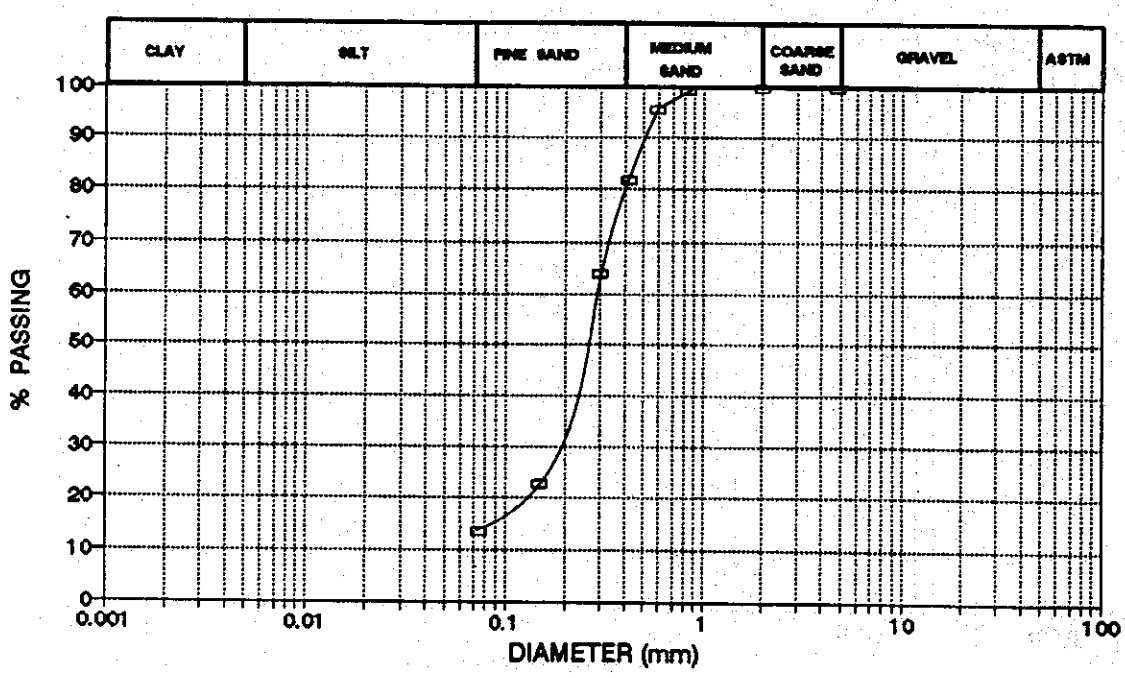
SIEVE ANALYSIS

Project: Subsidence in Bangkok Vicinity Location:
Borehole No.: C-1/1 Depth (m) 295.00-295.50 Sample No.: SS-C-16C Test No.: S-47
Soil Description: Tested By: WY Date: 5-2-1993

Container No.:	
Weight of Container	100.00 g
Weight of Container + Dry Soil	350.00 g
Weight of Dry Soil	250.00 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	0.25	0.25	0.1	99.9
20	0.84	1.45	1.70	0.7	99.3
30	0.59	9.88	11.58	4.6	95.4
40	0.42	33.66	45.24	18.1	81.9
50	0.30	44.67	89.91	36.0	64.0
100	0.15	103.09	193.00	77.2	22.8
200	0.07	23.91	216.91	86.8	13.2



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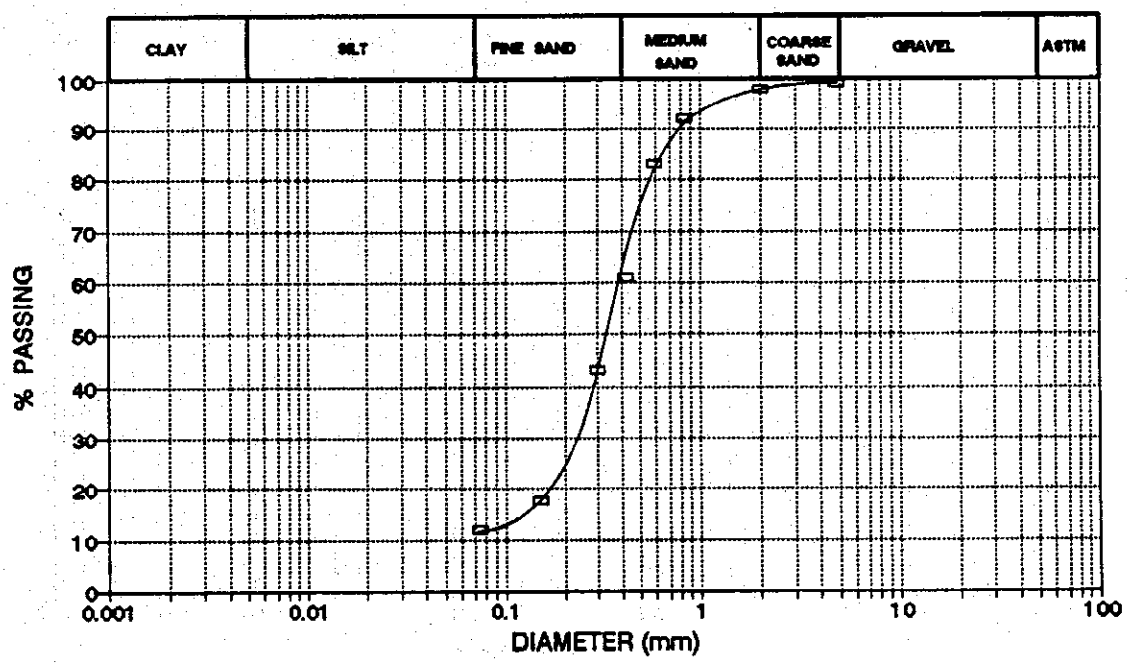
SIEVE ANALYSIS

Project: Subsidence in Bangkok Vicinity Location:
Borehole No.: C-1/1 Depth (m) 310.00-310.50 Sample No.: SS-C-17C Test No.: S-48
Soil Description: Tested By: WY Date: 5-2-1993

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	3.56	3.56	0.9	99.1
10	2.00	5.05	8.61	2.2	97.8
20	0.84	22.09	30.70	7.7	92.3
30	0.59	36.45	67.15	16.8	83.2
40	0.42	89.21	156.36	39.1	60.9
50	0.30	71.33	227.69	56.9	43.1
100	0.15	101.14	328.83	82.2	17.8
200	0.07	23.64	352.47	88.1	11.9



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SIEVE ANALYSIS

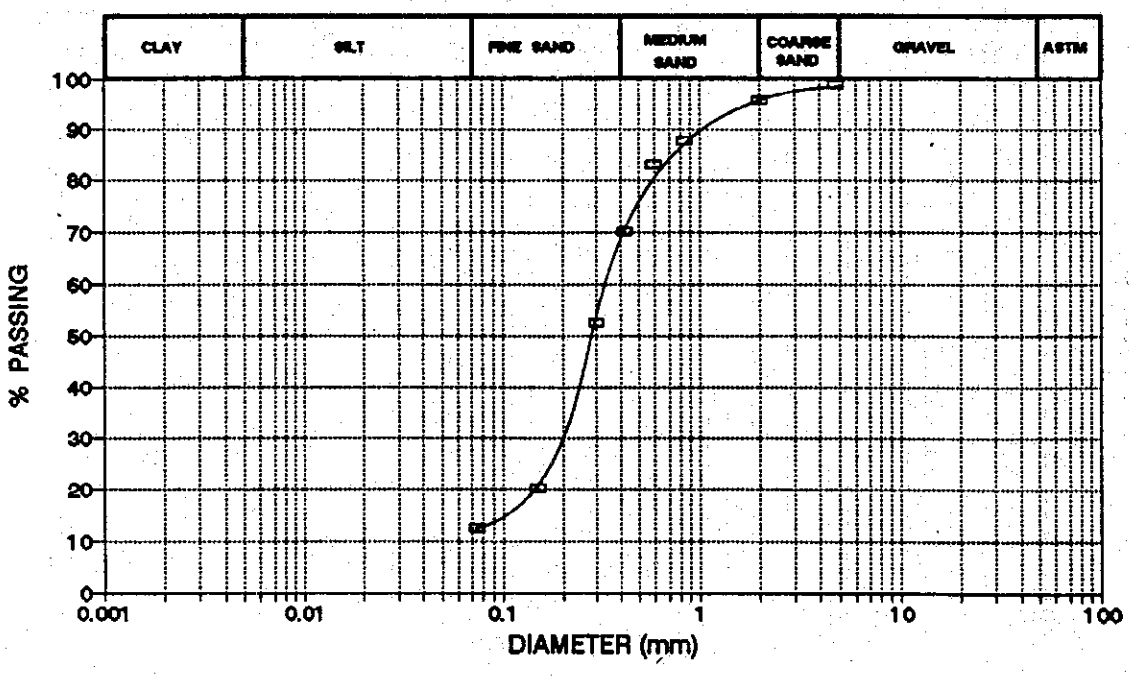
Project: Subsidence in Bangkok Vicinity Location:

Borehole No.: C-1/1 Depth (m) 315.50-316.00 Sample No.: SS-C-18C Test No.: S-49

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

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	4.50	4.50	1.1	98.9
10	2.00	11.88	16.38	4.1	95.9
20	0.84	31.36	47.74	11.9	88.1
30	0.59	19.51	67.25	16.8	83.2
40	0.42	51.87	119.12	29.8	70.2
50	0.30	69.44	188.56	47.1	52.9
100	0.15	129.83	318.39	79.6	20.4
200	0.07	32.11	350.50	87.6	12.4



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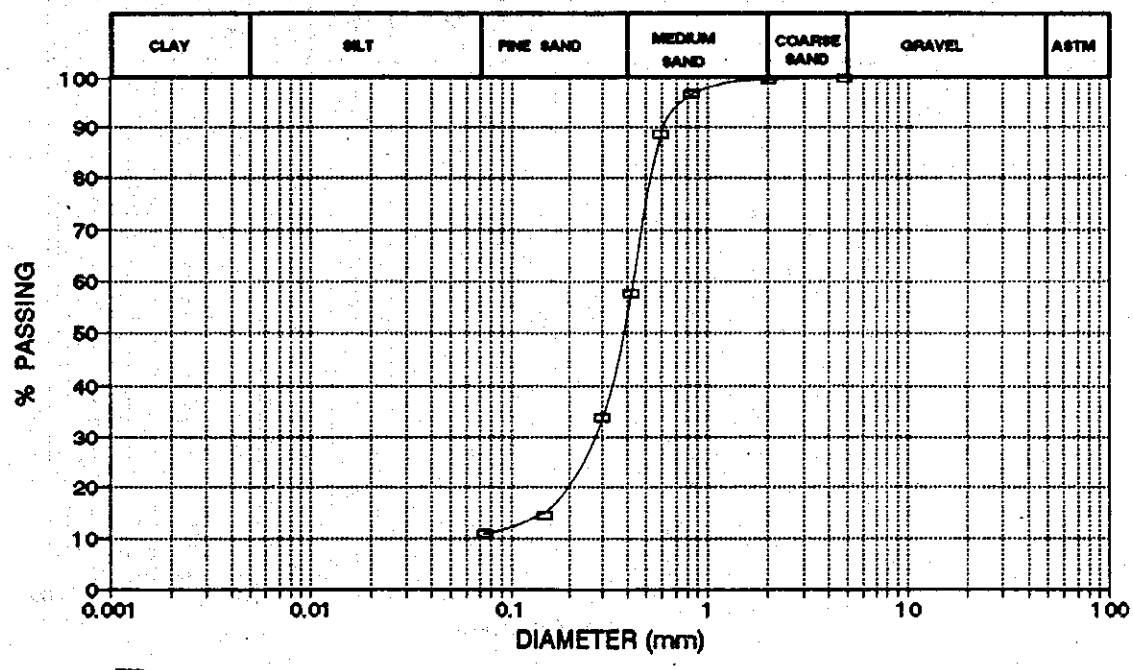
SIEVE ANALYSIS

Project: Subsidence in Bangkok Vicinity Location:
Borehole No.: C-1/1 Depth (m) 318.00-318.50 Sample No.: SS-C-19C Test No.: S-50
Soil Description: Tested By: WY Date: 5-2-1993

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	0.82	0.82	0.2	99.8
10	2.00	0.94	1.76	0.4	99.6
20	0.84	11.51	13.27	3.3	96.7
30	0.59	31.91	45.18	11.3	88.7
40	0.42	124.68	169.86	42.5	57.5
50	0.30	94.76	264.62	66.2	33.8
100	0.15	77.96	342.58	85.6	14.4
200	0.07	13.87	356.45	89.1	10.9



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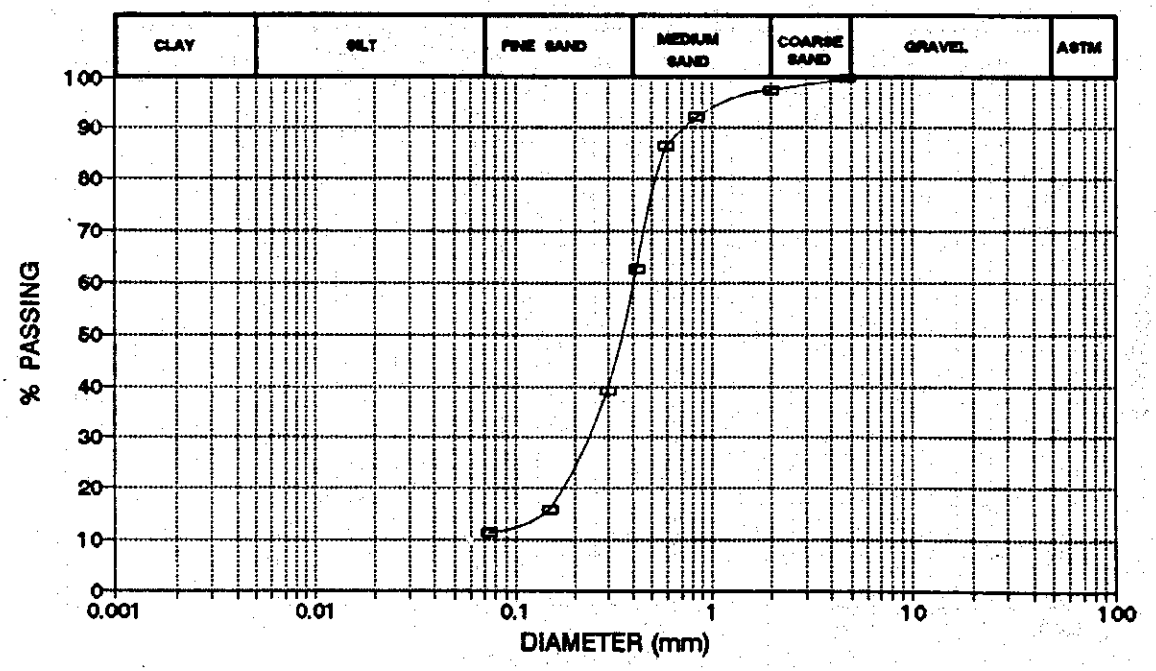
SIEVE ANALYSIS

Project: Subsidence in Bangkok Vicinity Location:
Borehole No.: C-1/1 Depth (m) 320.00-320.50 Sample No.: SS-C-20C Test No.: S-51
Soil Description: Tested By: WY Date: 5-2-1993

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	1.13	1.13	0.3	99.7
10	2.00	8.53	9.66	2.4	97.6
20	0.84	21.30	30.96	7.7	92.3
30	0.59	23.06	54.02	13.5	86.5
40	0.42	95.85	149.87	37.5	62.5
50	0.30	93.37	243.24	60.8	39.2
100	0.15	93.78	337.02	84.3	15.7
200	0.07	17.79	354.81	88.7	11.3



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ATTERBERG LIMITS TEST

Project: Subsidence in Bangkok Vicinity Location: AIT Campus

Borehole No.: C-1/3 Depth (m) 2.00-3.00 Sample No.: UD-T-1C Test No.: A-20

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

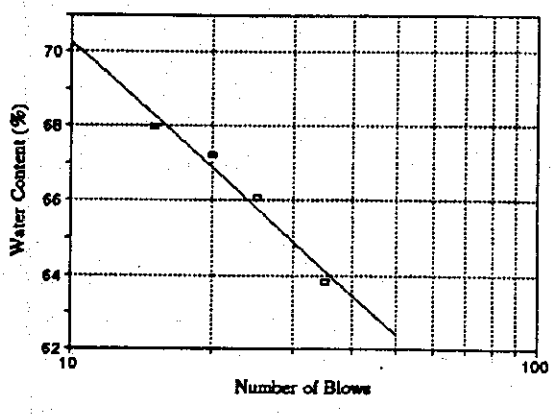
		NATURAL WATER CONTENT		PLASTIC LIMIT	
Container No.				8	1
Weight of Container	g			3.17	3.31
Weight of Wet Soil + Container	g			11.15	10.65
Weight of Dry Soil + Container	g			9.30	8.94
Weight of Water	g			1.85	1.71
Weight of Dry Soil	g			6.13	5.63
Water Content	%			30.2	30.4
Average Water Content	%			30.3	

LIQUID LIMIT

Number of Blows		15	20	25	35	
Container No.		66	12	2	4	
Weight of Container	g	5.44	5.45	5.42	4.69	
Weight of Wet Soil + Container	g	22.05	22.64	22.89	22.45	
Weight of Dry Soil + Container	g	15.33	15.73	15.94	15.53	
Weight of Water	g	6.72	6.91	6.95	6.92	
Weight of Dry Soil	g	9.89	10.28	10.52	10.84	
Water Content	%	67.9	67.2	66.1	63.8	

Nat. Water Content	=	%
Liquid Limit, LL	=	65.8 %
Plastic Limit, PL	=	30.3 %
Plasticity Index, PI	=	35.5 %
Liquidity Index, LI	=	

Remarks:



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ATTERBERG LIMITS TEST

Project: Subsidence in Bangkok Vicinity Location:

Borehole No.: C-1/3 Depth (m) 5.00-6.00 Sample No.: UD-T-2C Test No.: A-21

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

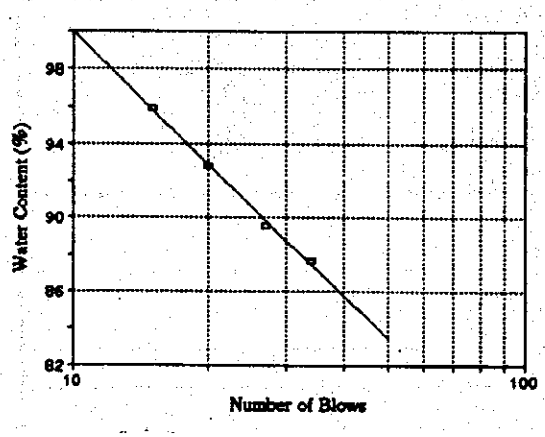
		NATURAL WATER CONTENT		PLASTIC LIMIT	
Container No.				95	86
Weight of Container	g			3.19	3.19
Weight of Wet Soil + Container	g			10.85	10.85
Weight of Dry Soil + Container	g			8.76	8.77
Weight of Water	g			2.09	2.08
Weight of Dry Soil	g			5.57	5.58
Water Content	%			37.5	37.3
Average Water Content	%			37.4	

LIQUID LIMIT

Number of Blows		15	20	27	34	
Container No.		41	32	40	2	
Weight of Container	g	5.46	5.44	5.44	4.63	
Weight of Wet Soil + Container	g	20.66	20.48	20.43	20.20	
Weight of Dry Soil + Container	g	13.22	13.24	13.35	12.93	
Weight of Water	g	7.44	7.24	7.08	7.27	
Weight of Dry Soil	g	7.76	7.80	7.91	8.30	
Water Content	%	95.9	92.8	89.5	87.6	

Nat. Water Content	=	%
Liquid Limit, LL	=	90.6 %
Plastic Limit, PL	=	37.4 %
Plasticity Index, PI	=	53.2 %
Liquidity Index, LI	=	

Remarks:



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ATTERBERG LIMITS TEST

Project: Subsidence in Bangkok Vicinity Location:

Borehole No.: C-1/3 Depth (m) 8.00-9.00 Sample No.: UD-T-3C Test No.: A-22

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

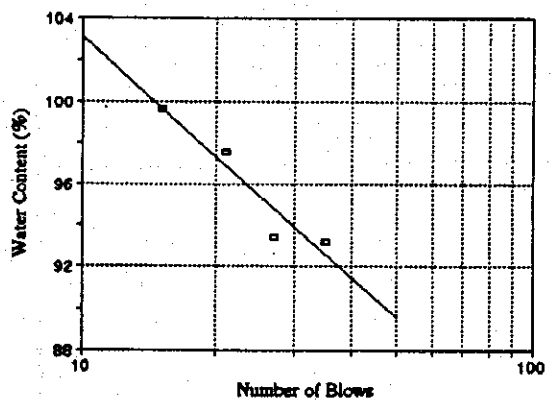
		NATURAL WATER CONTENT		PLASTIC LIMIT	
Container No.				64	77
Weight of Container	g			3.19	3.19
Weight of Wet Soil + Container	g			8.90	9.46
Weight of Dry Soil + Container	g			7.33	7.71
Weight of Water	g			1.57	1.75
Weight of Dry Soil	g			4.14	4.52
Water Content	%			37.9	38.7
Average Water Content	%			38.3	

LIQUID LIMIT

Number of Blows		15	21	27	35	
Container No.		86	71	37	59	
Weight of Container	g	5.43	5.44	5.43	5.45	
Weight of Wet Soil + Container	g	23.98	23.14	23.75	23.32	
Weight of Dry Soil + Container	g	14.72	14.40	14.90	14.70	
Weight of Water	g	9.26	8.74	8.85	8.62	
Weight of Dry Soil	g	9.29	8.96	9.47	9.25	
Water Content	%	99.7	97.5	93.5	93.2	

Nat. Water Content	=		%
Liquid Limit, LL	=	95.4	%
Plastic Limit, PL	=	38.3	%
Plasticity Index, PI	=	57.1	%
Liquidity Index, LI	=		

Remarks:



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ATTERBERG LIMITS TEST

Project: Subsidence in Bangkok Vicinity Location:

Borehole No.: C-1/3 Depth (m) 11.00-12.00 Sample No.: UD-T-4C Test No.: A-23

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

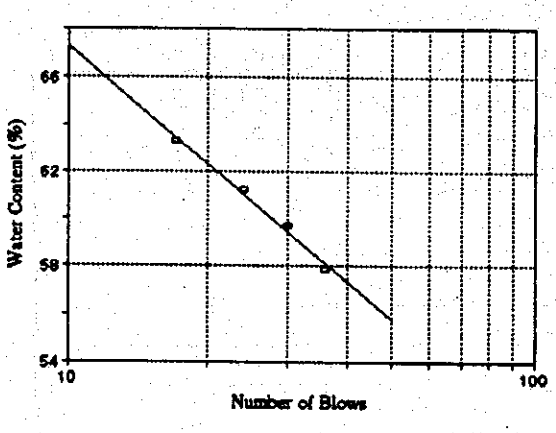
		NATURAL WATER CONTENT		PLASTIC LIMIT	
Container No.				7	4
Weight of Container	g			3.18	3.35
Weight of Wet Soil + Container	g			10.01	10.26
Weight of Dry Soil + Container	g			8.59	8.81
Weight of Water	g			1.42	1.45
Weight of Dry Soil	g			5.41	5.46
Water Content	%			26.2	26.6
Average Water Content	%			26.4	

LIQUID LIMIT

Number of Blows		17	24	30	36	
Container No.		15	23	1	2	
Weight of Container	g	5.49	5.43	4.63	5.41	
Weight of Wet Soil + Container	g	17.46	19.54	17.15	19.27	
Weight of Dry Soil + Container	g	12.82	14.18	12.47	14.19	
Weight of Water	g	4.64	5.36	4.68	5.08	
Weight of Dry Soil	g	7.33	8.75	7.84	8.78	
Water Content	%	63.3	61.3	59.7	57.9	

Nat. Water Content	=	%
Liquid Limit, LL	=	60.7 %
Plastic Limit, PL	=	26.4 %
Plasticity Index, PI	=	34.3 %
Liquidity Index, LI	=	

Remarks: -



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ATTERBERG LIMITS TEST

Project: Subsidence in Bangkok Vicinity Location:

Borehole No.: C-1/3 Depth (m) 13.00-14.00 Sample No.: UD-T-5C Test No.: A-24

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

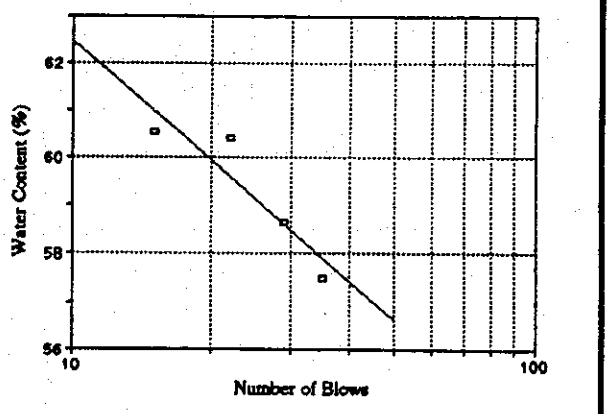
		NATURAL WATER CONTENT		PLASTIC LIMIT	
Container No.				80	36
Weight of Container	g			3.17	3.18
Weight of Wet Soil + Container	g			9.09	9.20
Weight of Dry Soil + Container	g			7.87	7.96
Weight of Water	g			1.22	1.24
Weight of Dry Soil	g			4.70	4.78
Water Content	%			26.0	25.9
Average Water Content	%			25.9	

LIQUID LIMIT

Number of Blows		15	22	29	35	
Container No.		14	12	2	66	
Weight of Container	g	5.44	5.42	5.38	5.43	
Weight of Wet Soil + Container	g	19.23	21.14	18.93	18.74	
Weight of Dry Soil + Container	g	14.03	15.22	13.92	13.88	
Weight of Water	g	5.20	5.92	5.01	4.86	
Weight of Dry Soil	g	8.59	9.80	8.54	8.45	
Water Content	%	60.5	60.4	58.7	57.5	

Nat. Water Content	=	%
Liquid Limit, LL	=	59.1 %
Plastic Limit, PL	=	25.9 %
Plasticity Index, PI	=	33.2 %
Liquidity Index, LI	=	

Remarks:



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ATTERBERG LIMITS TEST

Project: Subsidence in Bangkok Vicinity Location:

Borehole No.: C-1/3 Depth (m) 16.00-17.00 Sample No.: UD-T-6C Test No.: A-25

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

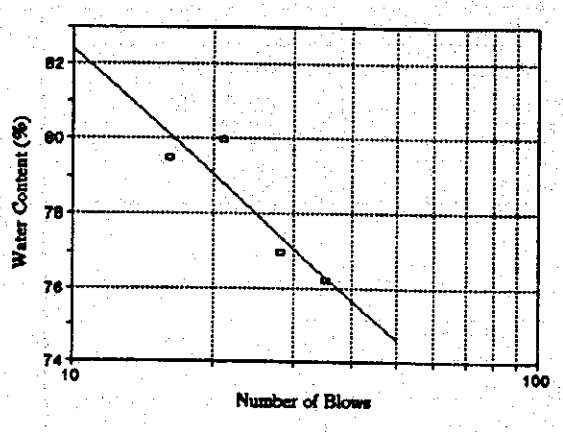
		NATURAL WATER CONTENT		PLASTIC LIMIT	
Container No.				1	9
Weight of Container	g			3.33	3.30
Weight of Wet Soil + Container	g			9.52	8.58
Weight of Dry Soil + Container	g			8.29	7.54
Weight of Water	g			1.23	1.04
Weight of Dry Soil	g			4.96	4.24
Water Content	%			24.8	24.5
Average Water Content	%			24.7	

LIQUID LIMIT

Number of Blows		16	21	28	35	
Container No.		15	4	2	1	
Weight of Container	g	5.48	5.48	5.42	4.64	
Weight of Wet Soil + Container	g	20.97	21.28	21.10	21.40	
Weight of Dry Soil + Container	g	14.11	14.26	14.28	14.15	
Weight of Water	g	6.86	7.02	6.82	7.25	
Weight of Dry Soil	g	8.63	8.78	8.86	9.51	
Water Content	%	79.5	80.0	77.0	76.2	

Nat. Water Content	=	%
Liquid Limit, LL	=	78.0 %
Plastic Limit, PL	=	24.7 %
Plasticity Index, PI	=	53.3 %
Liquidity Index, LI	=	

Remarks:



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ATTERBERG LIMITS TEST

Project: Subsidence in Bangkok Vicinity Location:

Borehole No.: B-1/1 Depth (m) 169.00-170.00 Sample No.: UD-C-4B Test No.: A-26

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

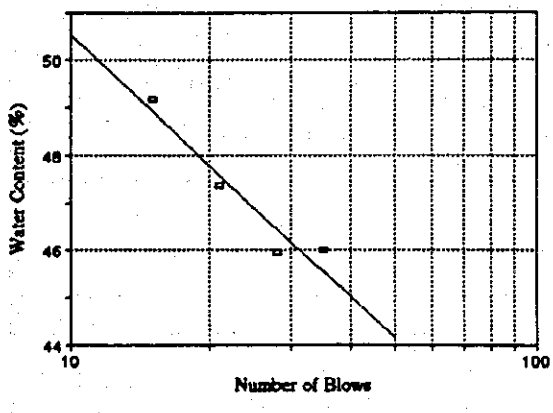
		NATURAL WATER CONTENT		PLASTIC LIMIT	
Container No.				4	77
Weight of Container	g			3.16	3.20
Weight of Wet Soil + Container	g			11.25	11.30
Weight of Dry Soil + Container	g			9.99	10.03
Weight of Water	g			1.26	1.27
Weight of Dry Soil	g			6.83	6.83
Water Content	%			18.4	18.6
Average Water Content	%			18.5	

LIQUID LIMIT

Number of Blows		15	21	28	35	
Container No.		1	7	71	12	
Weight of Container	g	4.62	5.48	5.53	5.42	
Weight of Wet Soil + Container	g	24.55	24.08	24.30	24.43	
Weight of Dry Soil + Container	g	17.98	18.10	18.39	18.44	
Weight of Water	g	6.57	5.98	5.91	5.99	
Weight of Dry Soil	g	13.36	12.62	12.86	13.02	
Water Content	%	49.2	47.4	46.0	46.0	

Nat. Water Content	=	%
Liquid Limit, LL	=	46.9 %
Plastic Limit, PL	=	18.5 %
Plasticity Index, PI	=	28.4 %
Liquidity Index, LI	=	

Remarks:



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ATTERBERG LIMITS TEST

Project: Subsidence in Bangkok Vicinity Location:

Borehole No.: B-1/1 Depth (m) 170.00-171.00 Sample No.: UD-C-5B Test No.: A-27

Soil Description: Tested By: WY Date: 15-2-1993

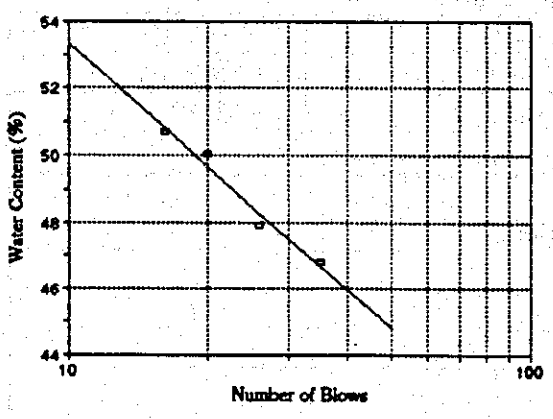
		NATURAL WATER CONTENT		PLASTIC LIMIT	
Container No.				4	17
Weight of Container	g			3.35	3.16
Weight of Wet Soil + Container	g			10.48	9.87
Weight of Dry Soil + Container	g			9.26	8.74
Weight of Water	g			1.22	1.13
Weight of Dry Soil	g			5.91	5.58
Water Content	%			20.6	20.3
Average Water Content	%			20.4	

LIQUID LIMIT

Number of Blows		16	20	26	35	
Container No.		67	6	41	5	
Weight of Container	g	5.42	5.46	5.46	5.47	
Weight of Wet Soil + Container	g	20.91	20.90	20.12	20.12	
Weight of Dry Soil + Container	g	15.70	15.75	15.37	15.45	
Weight of Water	g	5.21	5.15	4.75	4.67	
Weight of Dry Soil	g	10.28	10.29	9.91	9.98	
Water Content	%	50.7	50.0	47.9	46.8	

Nat. Water Content	=	%
Liquid Limit, LL	=	48.5 %
Plastic Limit, PL	=	20.4 %
Plasticity Index, PI	=	28.0 %
Liquidity Index, LI	=	

Remarks:



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GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

ATTERBERG LIMITS TEST

Project: Subsidence in Bangkok Vicinity Location:

Borehole No.: B-1/1 Depth (m) 180.00-181.00 Sample No.: UD-C-6B Test No.: A-28

Soil Description: Tested By: WY Date: 15-2-1993

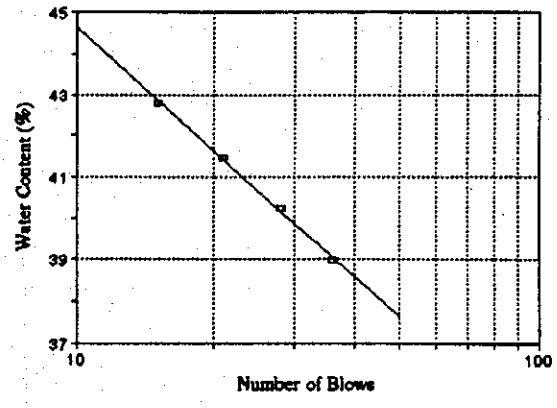
		NATURAL WATER CONTENT		PLASTIC LIMIT	
Container No.				32	80
Weight of Container	g			3.19	3.17
Weight of Wet Soil + Container	g			12.23	11.66
Weight of Dry Soil + Container	g			10.98	10.49
Weight of Water	g			1.25	1.17
Weight of Dry Soil	g			7.79	7.32
Water Content	%			16.0	16.0
Average Water Content	%			16.0	

LIQUID LIMIT

Number of Blows		15	21	28	36	
Container No.		32	4	46	15	
Weight of Container	g	5.45	5.42	5.49	5.45	
Weight of Wet Soil + Container	g	22.83	22.17	22.22	22.99	
Weight of Dry Soil + Container	g	17.62	17.26	17.42	18.07	
Weight of Water	g	5.21	4.91	4.80	4.92	
Weight of Dry Soil	g	12.17	11.84	11.93	12.62	
Water Content	%	42.8	41.5	40.2	39.0	

Nat. Water Content	=	%
Liquid Limit, LL	=	40.6 %
Plastic Limit, PL	=	16.0 %
Plasticity Index, PI	=	24.6 %
Liquidity Index, LI	=	

Remarks:



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GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

ATTERBERG LIMITS TEST

Project: Subsidence in Bangkok Vicinity Location:

Borehole No.: B-1/1 Depth (m) 208.00-209.00 Sample No.: UD-C-7B Test No.: A-29

Soil Description: Tested By: WY Date: 15-2-1983

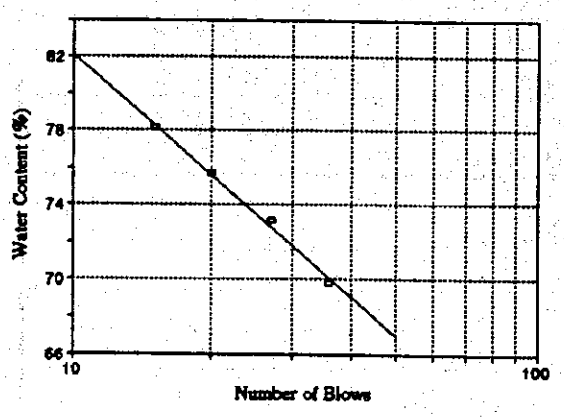
		NATURAL WATER CONTENT		PLASTIC LIMIT	
Container No.				73	
Weight of Container	g			3.17	3.13
Weight of Wet Soil + Container	g			10.96	10.12
Weight of Dry Soil + Container	g			9.32	8.67
Weight of Water	g			1.64	1.45
Weight of Dry Soil	g			6.15	5.54
Water Content	%			26.7	26.2
Average Water Content	%			26.4	

LIQUID LIMIT

Number of Blows		15	20	27	36	
Container No.		41	6	4	5	
Weight of Container	g	5.48	5.45	4.68	5.48	
Weight of Wet Soil + Container	g	21.19	21.28	21.44	21.90	
Weight of Dry Soil + Container	g	14.30	14.46	14.36	15.15	
Weight of Water	g	6.89	6.82	7.08	6.75	
Weight of Dry Soil	g	8.82	9.01	9.68	9.67	
Water Content	%	78.1	75.7	73.1	69.8	

Nat. Water Content	=		%
Liquid Limit, LL	=	73.5	%
Plastic Limit, PL	=	26.4	%
Plasticity Index, PI	=	47.1	%
Liquidity Index, LI	=		

Remarks:



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ATTERBERG LIMITS TEST

Project: Subsidence in Bangkok Vicinity Location:

Borehole No.: B-1/1 Depth (m) 228.00-229.00 Sample No.: UD-C-8B Test No.: A-30

Soil Description: Tested By: WY Date: 15-2-1993

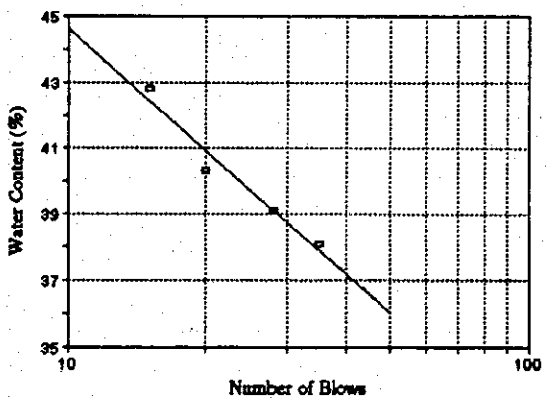
		NATURAL WATER CONTENT		PLASTIC LIMIT	
Container No.				1	64
Weight of Container	g			3.31	3.19
Weight of Wet Soil + Container	g			11.43	10.10
Weight of Dry Soil + Container	g			10.43	9.29
Weight of Water	g			1.00	0.81
Weight of Dry Soil	g			7.12	6.10
Water Content	%			14.0	13.3
Average Water Content	%			13.7	

LIQUID LIMIT

Number of Blows		15	20	28	35	
Container No.		3	86	3	57	
Weight of Container	g	5.46	5.51	5.50	5.48	
Weight of Wet Soil + Container	g	23.83	23.05	23.85	23.53	
Weight of Dry Soil + Container	g	18.32	18.01	18.69	18.55	
Weight of Water	g	5.51	5.04	5.16	4.98	
Weight of Dry Soil	g	12.86	12.50	13.19	13.07	
Water Content	%	42.8	40.3	39.1	38.1	

Nat. Water Content	=	%
Liquid Limit, LL	=	39.7 %
Plastic Limit, PL	=	13.7 %
Plasticity Index, PI	=	26.1 %
Liquidity Index, LI	=	

Remarks:



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GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

ATTERBERG LIMITS TEST

Project: Subsidence in Bangkok Vicinity Location:

Borehole No.: B-1/1 Depth (m) 257.00-257.40 Sample No.: UD-C-9B Test No.: A-31

Soil Description: Tested By: WY Date: 15-2-1993

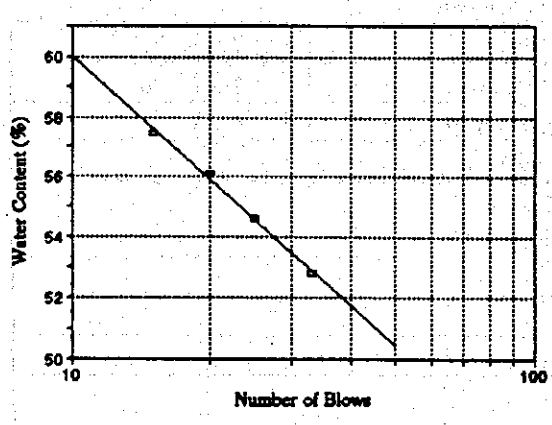
		NATURAL WATER CONTENT		PLASTIC LIMIT	
Container No.				1	73
Weight of Container	g			3.13	3.17
Weight of Wet Soil + Container	g			9.23	9.97
Weight of Dry Soil + Container	g			8.35	8.98
Weight of Water	g			0.88	0.99
Weight of Dry Soil	g			5.22	5.81
Water Content	%			16.9	17.0
Average Water Content	%			16.9	

LIQUID LIMIT

Number of Blows		15	20	25	33	
Container No.		7	37	2	2	
Weight of Container	g	5.42	5.26	4.73	5.43	
Weight of Wet Soil + Container	g	21.15	21.65	21.01	21.78	
Weight of Dry Soil + Container	g	15.41	15.76	15.26	16.13	
Weight of Water	g	5.74	5.89	5.75	5.65	
Weight of Dry Soil	g	9.99	10.50	10.53	10.70	
Water Content	%	57.5	56.1	54.6	52.8	

Nat. Water Content	=	%
Liquid Limit, LL	=	54.6 %
Plastic Limit, PL	=	16.9 %
Plasticity Index, PI	=	37.6 %
Liquidity Index, LI	=	

Remarks:



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GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

ATTERBERG LIMITS TEST

Project: Subsidence in Bangkok Vicinity Location:

Borehole No.: B-1/1 Depth (m) 277.00-279.00 Sample No.: UD-C-9B Test No.: A-32

Soil Description: Tested By: WY Date: 15-2-1993

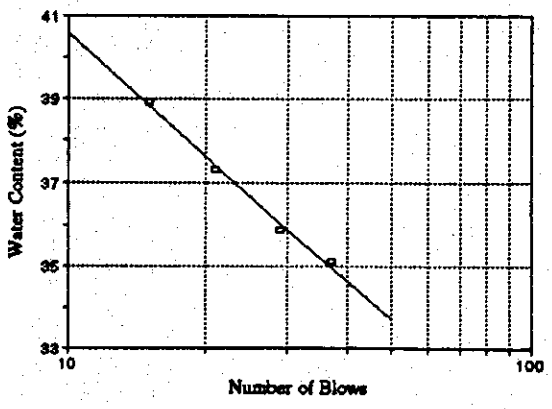
		NATURAL WATER CONTENT		PLASTIC LIMIT	
Container No.				1	32
Weight of Container	g			3.31	3.29
Weight of Wet Soil + Container	g			11.43	11.55
Weight of Dry Soil + Container	g			10.23	10.33
Weight of Water	g			1.20	1.22
Weight of Dry Soil	g			6.92	7.04
Water Content	%			17.3	17.3
Average Water Content	%			17.3	

LIQUID LIMIT

Number of Blows		15	21	29	37	
Container No.		90	34	2	99	
Weight of Container	g	5.42	5.52	5.37	5.43	
Weight of Wet Soil + Container	g	21.05	22.04	23.36	23.94	
Weight of Dry Soil + Container	g	16.67	17.55	18.61	19.13	
Weight of Water	g	4.38	4.49	4.75	4.81	
Weight of Dry Soil	g	11.25	12.03	13.24	13.70	
Water Content	%	38.9	37.3	35.9	35.1	

Nat. Water Content	=		%
Liquid Limit, LL	=	36.7	%
Plastic Limit, PL	=	17.3	%
Plasticity Index, PI	=	19.3	%
Liquidity Index, LI	=		

Remarks:



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GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

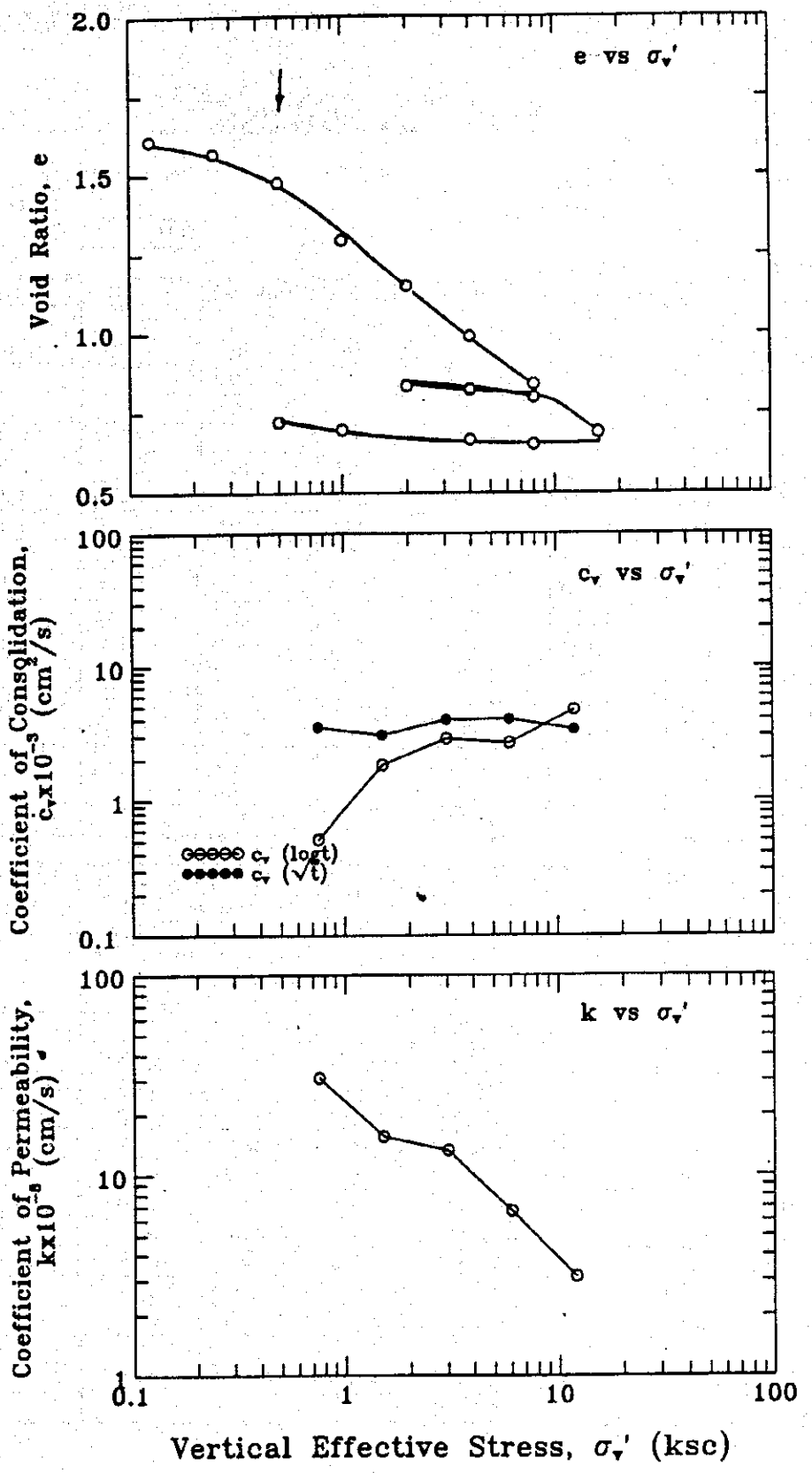
CONSOLIDATION

Project: Subsidence in Bangkok Vicinity — Location: Samut Sakhon
Borehole No.: C — Depth (m): 2.00-3.00 — Sample No.: — Test No.: OS-12
Soil Description: — Tested By: SIH — Date: 18-2-1993
Height of Solids (Hs): 0.673 cm

Increm No.	Vert. Stress $\bar{\sigma}$ (kg/cm²)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ε_{100}	ε_f	e_{50}	e_{100}	e_f
1	0.125			1.757		7.6			1.610
2	0.25			1.729		9.0			1.569
3	0.50			1.666		12.3			1.476
4	1.00	1.596	1.544	1.538	18.8	19.1	1.372	1.294	1.285
5	2.00	1.493	1.448	1.419	23.8	25.3	1.219	1.152	1.108
6	4.00	1.378	1.340	1.317	29.5	30.7	1.048	0.991	0.958
7	8.00	1.276	1.237	1.218	34.9	35.9	0.896	0.838	0.810
8	4.00	1.224	1.225	1.225	35.5	35.5	0.819	0.820	0.820
9	2.00	1.230	1.233	1.234	35.1	35.1			0.833
10	4.00			1.228		35.4			0.824
11	8.00			1.209		36.4			0.797
12	16.00	1.172	1.137	1.108	40.2	41.7	0.741	0.689	0.647
13	8.00	1.111	1.112	1.113	41.5	41.4	0.651	0.652	0.653
14	4.00			1.122		41.0			0.667
15	1.00	1.135	1.142	1.148	39.9	39.6	0.687	0.697	0.705
16	0.50			1.158		39.0			0.721

Increm No.	Vert. Stress $\bar{\sigma}$ (kg/cm²)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k_{-s} x 10^{-8} cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.125	0.8						
2	0.25	0.7						
3	0.50	1.7						10.9
4	1.00	2.6	4.1	0.00352	0.00051	0.00201	30.82	21.5
5	2.00	2.6	1.0	0.00308	0.00183	0.00245	15.63	16.7
6	4.00	1.7	0.5	0.00397	0.00289	0.00343	13.32	18.9
7	8.00	1.4	0.5	0.00400	0.00267	0.00333	6.66	18.0
8	4.00	15.0	20.0	0.00035	0.00006	0.00021	0.03	1.1
9	2.00	0.7	0.3	0.00823	0.00388	0.00606	2.12	1.5
10	4.00	2.8		0.00191		0.00191	0.45	1.0
11	8.00	1.0		0.00517		0.00517	1.96	3.2
12	16.00	1.4	0.2	0.00337	0.00469	0.00403	3.12	12.7
13	8.00	1.2	0.2	0.00364	0.00440	0.00402	0.18	0.7
14	4.00	1.3		0.00347		0.00347	0.72	1.6
15	1.00	6.3	0.4	0.00073	0.00264	0.00169	1.02	2.3
16	0.50	2.0						

STANDARD OEDOMETER TEST NO. OS-12
DEPTH: 2.0-2.8 m SITE: C



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GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

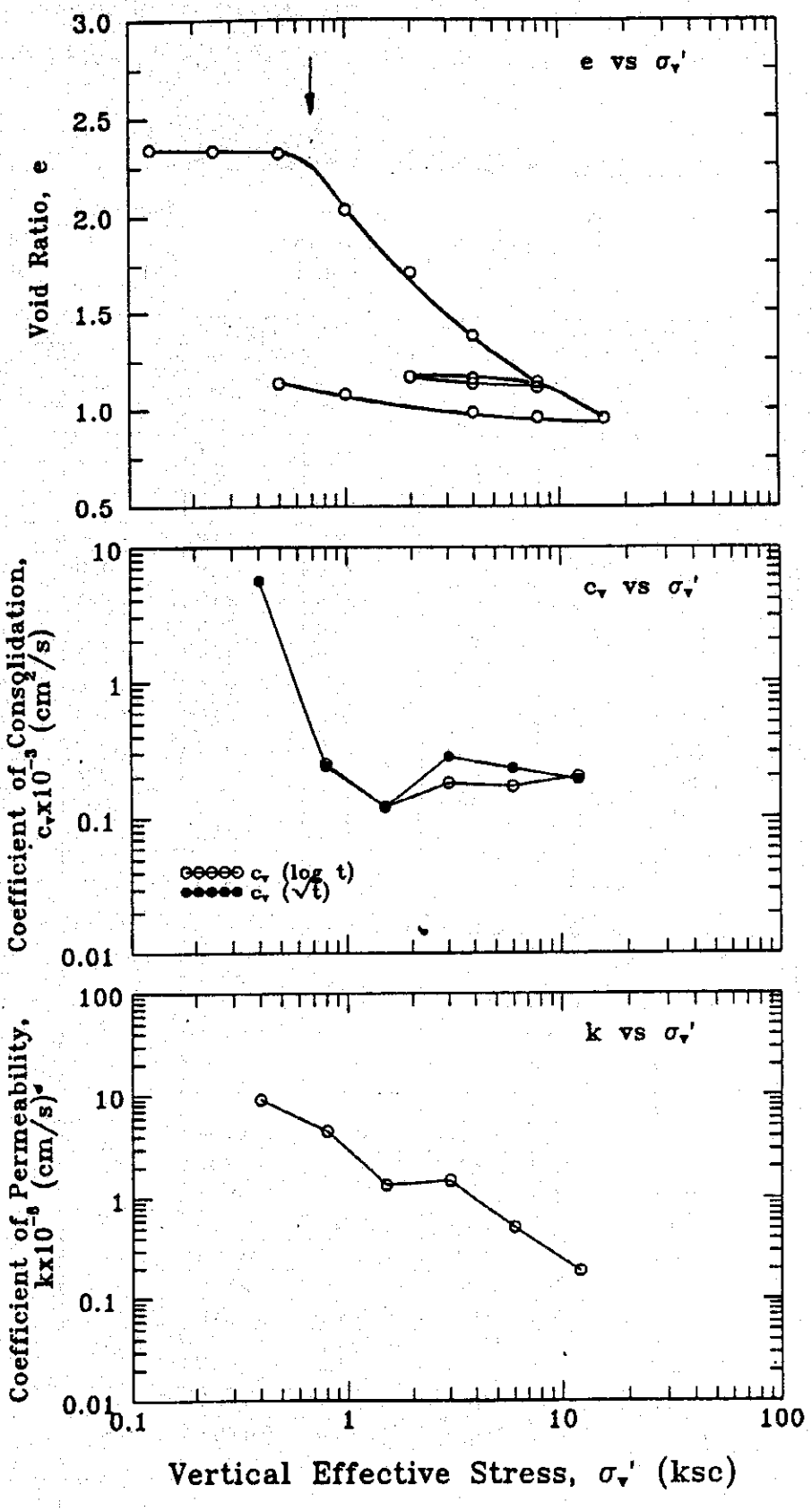
CONSOLIDATION

Project: Subsidence in Bangkok Vicinity — Location: Samut Sakhon
Borehole No.: C — Depth (m): 5.0-5.8 — Sample No.: — Test No.: OS-11
Soil Description: — Tested By: SIH — Date: 20-2-1993
Height of Solids (Hs): 0.5668 cm

Increm No.	Vert. Stress (kg/cm²)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ϵ_{100}	ϵ_f	e_{50}	e_{100}	e_f
1	0.125			1.895		0.3			2.343
2	0.25			1.890		0.5			2.334
3	0.50	1.886	1.882	1.877	0.9	1.2	2.327	2.320	2.312
4	1.00	1.796	1.718	1.697	9.6	10.7	2.168	2.031	1.994
5	2.00	1.165	1.533	1.484	19.3	21.9	1.055	1.705	1.618
6	4.00	1.414	1.348	1.324	29.1	30.3	1.495	1.378	1.336
7	8.00	1.269	1.213	1.197	36.2	37.0	1.238	1.140	1.112
8	4.00	1.205	1.210	1.212	36.3	36.2	1.126	1.135	1.138
9	2.00	1.222	1.230	1.234	35.3	35.0	1.156	1.169	1.177
10	4.00	1.228	1.224	1.222	35.6	35.7	1.166	1.160	1.156
11	8.00	1.210	1.198	1.191	36.9	37.3	1.135	1.114	1.101
12	16.00	1.147	1.107	1.093	41.7	42.5	1.023	0.953	0.928
13	8.00	1.095	1.110	1.101	41.6	42.0	0.933	0.958	0.943
14	4.00			1.126		40.7			0.987
15	1.00			1.181		37.8			1.084
16	0.50			1.211		36.3			1.137

Increm No.	Vert. Stress (kg/cm²)	Time (minutes)		Coefficient of Consolidation (cm²/s)			k $\times 10^{-5}$ cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.125	6.3						
2	0.25	2.3						0.9
3	0.50	2.3		0.00558		0.00558	9.12	1.3
4	1.00	47.3	10.4	0.00024	0.00025	0.00025	4.52	28.7
5	2.00	39.1	9.5	0.00012	0.00012	0.00012	1.36	32.3
6	4.00	25.0	9.0	0.00028	0.00018	0.00023	1.49	32.3
7	8.00	25.0	8.0	0.00023	0.00017	0.00020	0.52	23.6
8	4.00	4.0	1.0	0.00128	0.00119	0.00124	0.33	2.3
9	2.00	12.3	8.0	0.00043	0.00015	0.00029	0.23	3.4
10	4.00	6.3	2.0	0.00085	0.00062	0.00074	0.15	0.9
11	8.00	12.0	9.0	0.00043	0.00013	0.00028	0.15	4.6
12	16.00	25.0	5.3	0.00019	0.00020	0.00019	0.19	16.0
13	8.00	6.7	1.4	0.00064	0.00070	0.00067	0.13	3.0
14	4.00							4.3
15	1.00	43.0	12.0	0.00000	0.00000	0.00000	0.00	67.7
16	0.50							

STANDARD OEDOMETER TEST NO. OS-11
DEPTH: 5.0- 5.8 M SITE: C



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CONSOLIDATION

Project Subsidence in Bangkok Vicinity — Location: Samut Sakhon

Borehole No.: C — Depth (m) 8.00-9.00 — Sample No.: — Test No.: OS-13

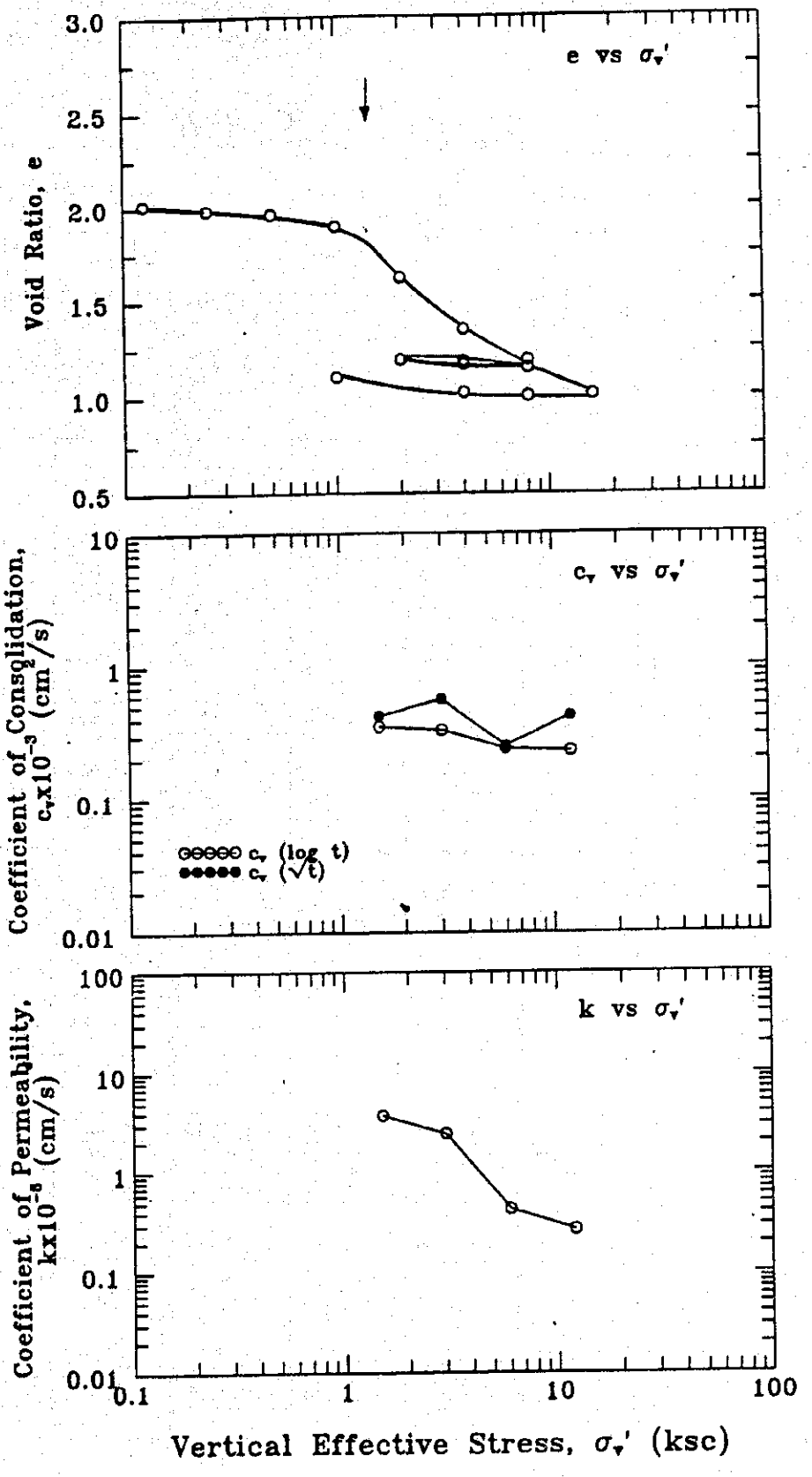
Soil Description: — Tested By: SIH — Date: 18-2-1993

Height of Solids (Hs) : 0.626 cm

Increm No.	Vert. Stress σ (kg/cm^2)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H$_{50}$	H$_{100}$	H$_f$	ϵ_{100}	ϵ_f	e$_{50}$	e$_{100}$	e$_f$
1	0.125			1.887		0.7			2.014
2	0.25			1.867		1.7			1.983
3	0.50			1.854		2.4			1.961
4	1.00			1.811		4.7			1.893
5	2.00	1.724	1.642	1.635	13.6	13.9	1.754	1.623	1.612
6	4.00	1.550	1.470	1.446	22.6	23.9	1.476	1.348	1.310
7	8.00	1.417	1.370	1.349	27.9	29.0	1.264	1.188	1.155
8	4.00	1.352	1.356	1.357	28.6	28.6	1.160	1.166	1.168
9	2.00	1.363	1.371	1.376	27.8	27.6	1.177	1.190	1.198
10	4.00	1.371	1.367	1.363	28.1	28.3	1.190	1.184	1.177
11	8.00	1.354	1.344	1.337	29.3	29.6	1.163	1.147	1.136
12	16.00	1.297	1.258	1.248	33.8	34.3	1.072	1.010	0.994
13	8.00	1.250	1.253	1.253	34.1	34.1	0.997	1.002	1.002
14	4.00	1.257	1.264	1.270	33.5	33.2	1.008	1.019	1.029
15	1.00	1.292	1.315	1.321	30.8	30.5	1.064	1.101	1.110
16	0.50								

Increm No.	Vert. Stress σ (kg/cm^2)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k x 10^{-8} cm/s	CR (%)
		t$_{90}$	t$_{50}$	$\sqrt{t}$	log t	Average		
1	0.125							
2	0.25							3.4
3	0.50							2.4
4	1.00							7.4
5	2.00	25.0	7.0	0.00042	0.00035	0.00038	3.76	29.6
6	4.00	15.2	6.0	0.00056	0.00033	0.00044	2.45	30.1
7	8.00	28.2	7.0	0.00025	0.00024	0.00024	0.43	17.5
8	4.00	3.3	1.8	0.00195	0.00083	0.00139	0.18	1.2
9	2.00	9.0	4.0	0.00073	0.00038	0.00056	0.31	2.6
10	4.00	5.4	1.3	0.00123	0.00119	0.00121	0.18	0.7
11	8.00	6.3	1.7	0.00104	0.00089	0.00096	0.41	4.0
12	16.00	14.1	6.0	0.00042	0.00023	0.00033	0.27	15.0
13	8.00	4.0	1.7	0.00138	0.00075	0.00107	0.05	0.9
14	4.00	9.0	4.0	0.00062	0.00032	0.00047	0.10	1.9
15	1.00	11.0	39.1	0.00054	0.00004	0.00029	0.38	4.5
16	0.50							

STANDARD OEDOMETER TEST NO. OS-13
DEPTH: 8.0-9.0 m SITE: C



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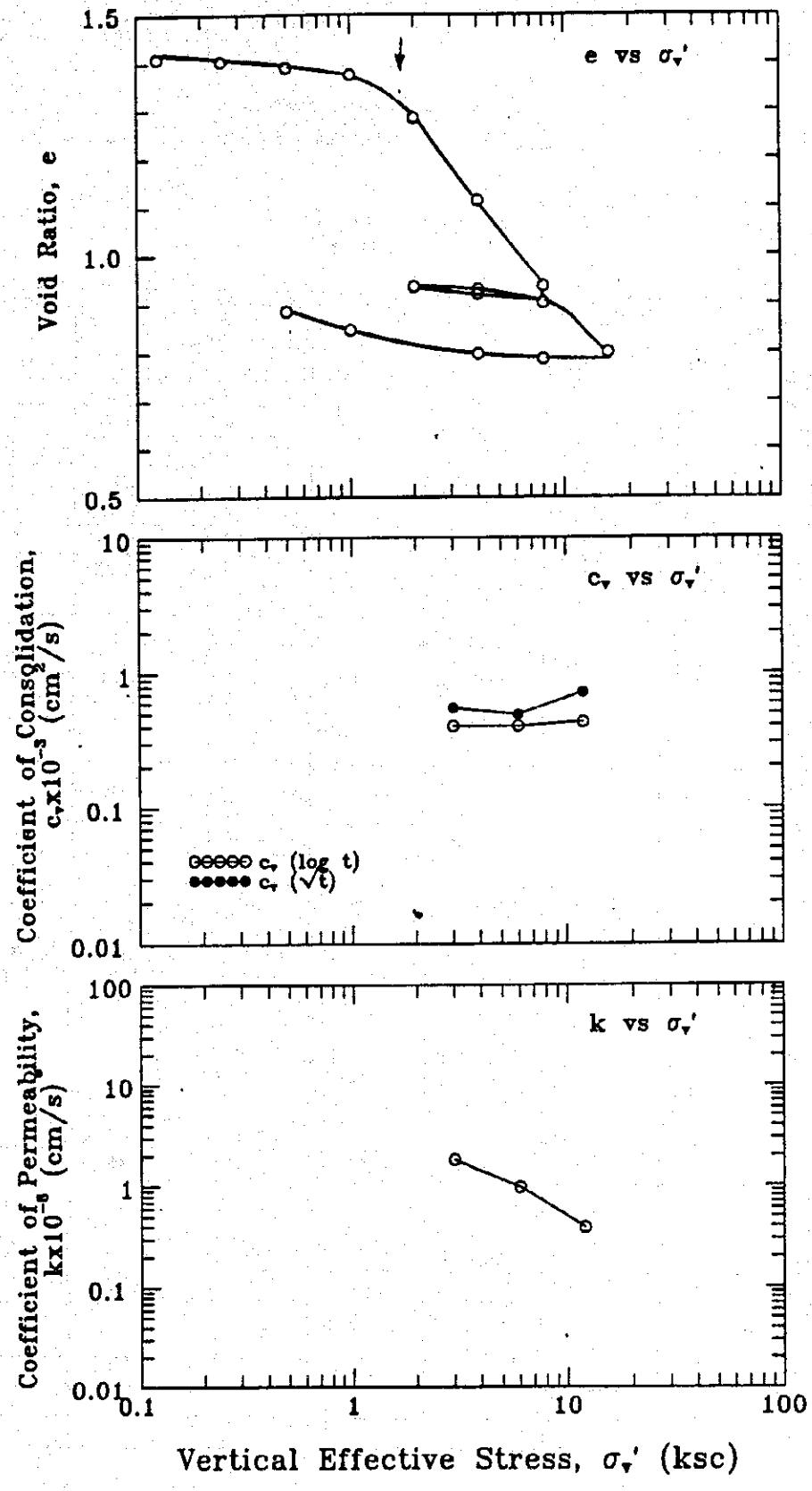
CONSOLIDATION

Project: Subsidence in Bangkok Vicinity — Location: Samut Sakhon
Borehole No.: C — Depth (m): 11.00-12.0 — Sample No.: — Test No.: OS-14
Soil Description: — Tested By: SIH — Date: 18-2-1993
Height of Solids (Hs) : 0.7819 cm

Increm No.	Vert. Stress (kg/cm^2)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ϵ_{100}	ϵ_f	e_{50}	e_{100}	e_f
1	0.125			1.884		0.8			1.410
2	0.25			1.880		1.1			1.404
3	0.50			1.869		1.6			1.390
4	1.00			1.856		2.3			1.374
5	2.00			1.785		6.1			1.283
6	4.00	1.720	1.653	1.626	13.0	14.4	1.199	1.114	1.079
7	8.00	1.568	1.514	1.496	20.3	21.3	1.005	0.936	0.913
8	4.00	1.499	1.501	1.502	21.0	21.0	0.917	0.920	0.920
9	2.00			1.513		20.4			0.935
10	4.00	1.511	1.509	1.509	20.6	20.6	0.933	0.930	0.929
11	8.00			1.487		21.7			0.902
12	16.00	1.447	1.408	1.391	25.9	26.8	0.851	0.801	0.779
13	8.00			1.397		26.5			0.787
14	4.00	1.402	1.406	1.408	26.0	25.9	0.793	0.798	0.801
15	1.00	1.427	1.443	1.450	24.1	23.7	0.825	0.846	0.855
16	0.50			1.474		22.4			0.885

Increm No.	Vert. Stress (kg/cm^2)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k $\times 10^{-6}$ cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.125							
2	0.25							0.7
3	0.50							1.9
4	1.00							2.3
5	2.00							12.4
6	4.00	19.0	6.0	0.00055	0.00040	0.00048	1.83	23.1
7	8.00	17.6	5.0	0.00049	0.00040	0.00045	0.98	24.3
8	4.00	2.0	0.6	0.00397	0.00307	0.00352	0.29	0.9
9	2.00							2.0
10	4.00	2.6	0.8	0.00310	0.00234	0.00272	0.36	0.7
11	8.00							3.8
12	16.00	10.3	4.0	0.00072	0.00043	0.00057	0.39	13.8
13	8.00							1.1
14	4.00	2.8	1.2	0.00250	0.00134	0.00192	0.31	1.6
15	1.00	25.0	7.0	0.00029	0.00024	0.00026	0.23	3.7
16	0.50							

STANDARD OEDOMETER TEST NO. OS-14
DEPTH: 11.0 -11.8 m SITE: C



ASIAN INSTITUTE OF TECHNOLOGY

GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

CONSOLIDATION

Project: Subsidence in Bangkok Vicinity — Location: Samut Sakhon

Borehole No.: C — Depth (m): 13.00-14.0 — Sample No.: — Test No.: OS-15

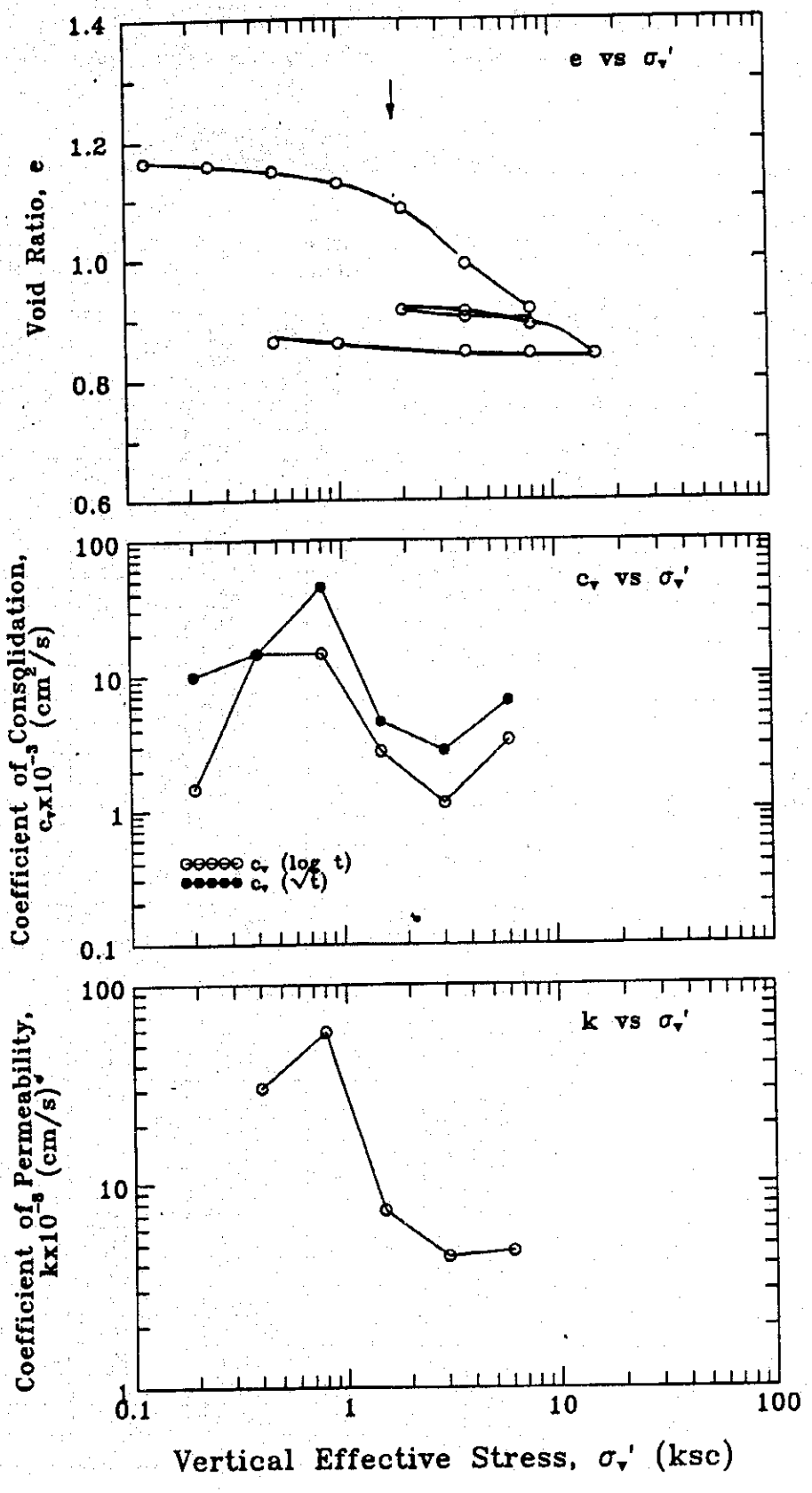
Soil Description: — Tested By: SIH — Date: 18-2-1993

Height of Solids (Hs): 0.8753 cm

Increm No.	Vert. Stress (kg/cm²)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ε_{100}	ε_f	e_{50}	e_{100}	e_f
1	0.125			1.895		0.3			1.165
2	0.25	1.891	1.890	1.889	0.5	0.6	1.161	1.159	1.158
3	0.50	1.883	1.880	1.878	1.1	1.2	1.151	1.148	1.145
4	1.00	1.880	1.862	1.859	2.0	2.2	1.148	1.127	1.124
5	2.00	1.837	1.824	1.818	4.0	4.3	1.099	1.084	1.077
6	4.00	1.781	1.744	1.707	8.2	10.2	1.035	0.992	0.950
7	8.00	1.688	1.678	1.672	11.7	12.0	0.929	0.917	0.910
8	4.00			1.675		11.8			0.914
9	2.00			1.677		11.7			0.916
10	4.00	1.671	1.667	1.666	12.3	12.3	0.909	0.904	0.904
11	8.00	1.661	1.655	1.650	12.9	13.2	0.897	0.891	0.885
12	16.00			1.613		15.1			0.842
13	8.00			1.614		15.1			0.844
14	4.00			1.617		14.9			0.847
15	1.00			1.629		14.3			0.861
16	0.50			1.631		14.1			0.864

Increm No.	Vert. Stress (kg/cm²)	Time (minutes)		Coefficient of Consolidation (cm²/s)			k $\times 10^{-6}$ cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.125							
2	0.25	1.3	2.0	0.00987	0.00147	0.00567		0.9
3	0.50	0.9	0.2	0.01456	0.01455	0.01455	30.88	1.7
4	1.00	0.3	0.2	0.04508	0.01451	0.02979	58.29	3.2
5	2.00	2.6	1.0	0.00459	0.00277	0.00368	7.48	6.6
6	4.00	4.0	2.3	0.00280	0.00113	0.00197	4.42	14.0
7	8.00	1.6	0.7	0.00646	0.00334	0.00490	4.71	11.5
8	4.00							0.5
9	2.00							0.4
10	4.00	1.5	1.2	0.00676	0.00191	0.00433	1.40	1.9
11	8.00	0.3	0.2	0.03609	0.01078	0.02343	3.99	2.0
12	16.00							6.5
13	8.00							0.2
14	4.00							0.5
15	1.00							1.0
16	0.50							

STANDARD OEDOMETER TEST NO. OS-15
DEPTH: 13.0-14.0 m SITE: C



ASIAN INSTITUTE OF TECHNOLOGY
GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

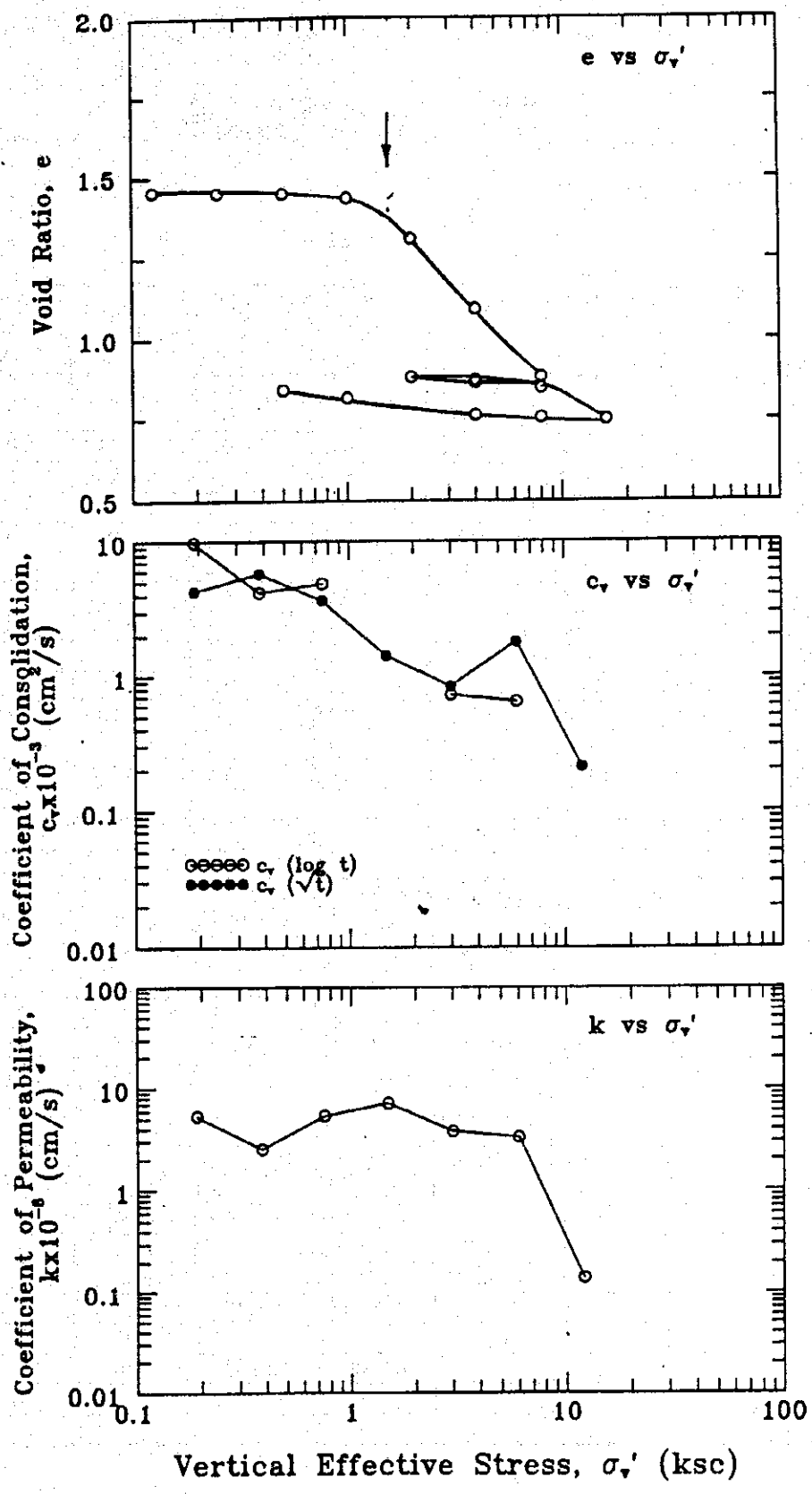
CONSOLIDATION

Project: Subsidence in Bangkok Vicinity
Location: Samut Sakhon
Borehole No.: C Depth (m): 16 - 17
Sample No.: Test No.: OS-16
Soil Description:
Tested By: SIH Date: 18-2-1993
Height of Solids (Hs): 0.7725 cm

Increm No.	Vert. Stress (kg/cm²)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ϵ_{100}	ϵ_f	e_{50}	e_{100}	e_f
1	0.125			1.896					1.455
2	0.25	1.895	1.894	1.894	0.3	0.3	1.453	1.452	1.451
3	0.50	1.893	1.892	1.890	0.4	0.5	1.450	1.449	1.447
4	1.00	1.886	1.880	1.876	1.1	1.3	1.441	1.434	1.428
5	2.00			1.784		6.1			1.309
6	4.00	1.698	1.618	1.593	14.8	16.2	1.198	1.094	1.062
7	8.00	1.533	1.453	1.431	23.5	24.7	0.984	0.881	0.852
8	4.00			1.439		24.3			0.863
9	2.00			1.452		23.6			0.880
10	4.00			1.446		23.9			0.871
11	8.00			1.427		24.9			0.847
12	16.00			1.352		28.8			0.750
13	8.00			1.357		28.6			0.756
14	4.00	1.359	1.362	1.364	28.3	28.2	0.760	0.763	0.766
15	1.00			1.403					0.816
16	0.50			1.422					0.841

Increm No.	Vert. Stress (kg/cm²)	Time (minutes)		Coefficient of Consolidation (cm²/s)			k x 10^{-6} cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.125							
2	0.25	3.0	0.3	0.00429	0.00983	0.00706	5.36	1.0
3	0.50	2.2	0.7	0.00578	0.00420	0.00499	2.53	0.4
4	1.00	3.4	0.6	0.00367	0.00486	0.00427	5.43	2.1
5	2.00	7.9		0.00142		0.00142	7.16	16.1
6	4.00	12.3	3.3	0.00083	0.00072	0.00077	3.77	29.0
7	8.00	4.6	3.0	0.00181	0.00064	0.00123	3.30	28.8
8	4.00	1.4		0.00512		0.00512	0.73	1.4
9	2.00	3.2	2.1	0.00230	0.00082	0.00156	0.71	2.3
10	4.00	5.7		0.00130		0.00130	0.29	1.1
11	8.00	4.8		0.00150		0.00150	0.49	3.3
12	16.00	31.4		0.00021		0.00021	0.14	13.1
13	8.00	1.4		0.00452		0.00452	0.19	0.8
14	4.00	7.7	1.8	0.00084	0.00084	0.00084	0.09	1.3
15	1.00	1.3		0.00547		0.00547	5.08	
16	0.50	47.6						

STANDARD OEDOMETER TEST NO. OS-16
DEPTH: 16.0-17.0 m SITE: C



ASIAN INSTITUTE OF TECHNOLOGY

GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

CONSOLIDATION

Project Subsidence in Bangkok Vicinity — Location: Samut Sakhon

Borehole No.: C — Depth (m) 19.5-20 — Sample No.: — Test No.: OS-22

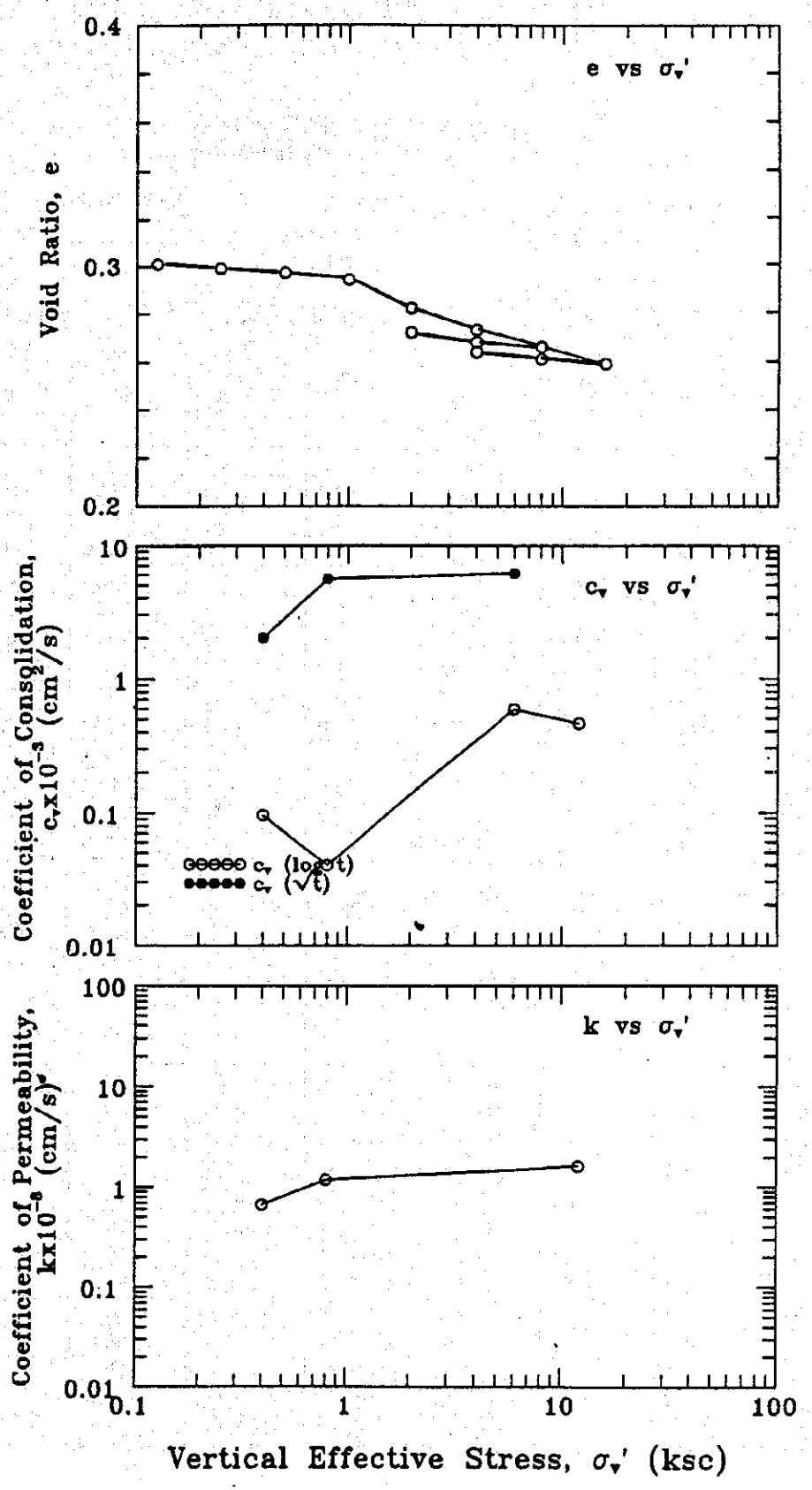
Soil Description: — Tested By: SIH — Date: 18-2-1993

Height of Solids (Hs) : 1.453 cm

Increm No.	Vert. Stress (kg/cm²)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H 50	H 100	H f	ε 100	ε f	e 50	e 100	e f
1	0.125			1.890		0.5			0.301
2	0.25			1.887		0.7			0.299
3	0.50	1.885	1.884	1.884	0.8	0.8	0.297	0.297	0.297
4	1.00	1.881	1.880	1.879	1.1	1.1	0.295	0.294	0.293
5	2.00			1.863		1.9			0.282
6	4.00	1.856	1.849	1.849	2.7	2.7	0.277	0.273	0.273
7	8.00			1.839		3.2			0.266
8	4.00	1.841	1.842	1.842	3.1	3.1	0.267	0.268	0.268
9	2.00	1.845	1.848	1.847	2.7	2.8	0.270	0.272	0.271
10	4.00			1.843		3.0			0.268
11	8.00	1.842	1.840	1.840	3.2	3.2			0.266
12	16.00	1.835	1.830	1.830	3.7	3.7	0.263	0.259	0.259
13	8.00			1.832		3.6			0.261
14	4.00	1.850	1.836	1.836	3.4	3.4	0.273	0.264	0.264
15	1.00								
16	0.50								

Increm No.	Vert. Stress (kg/cm²)	Time (minutes)		Coefficient of Consolidation (cm²/s)			k x 10 cm/s	CR (%)
		t 90	t 50	/t	log t	Average		
1	0.125							
2	0.25							
3	0.50	6.3	130.0	0.00201	0.00010	0.00105	0.67	2.8
4	1.00	2.3	72.0	0.00556	0.00004	0.00280	1.19	0.7
5	2.00							2.8
6	4.00							2.4
7	8.00	2.0	4.7	0.00610	0.00059	0.00334		1.7
8	4.00		170.0		0.00002	0.00002	0.82	0.5
9	2.00		105.0		0.00003	0.00003	0.00	0.9
10	4.00	2.3	5.6	0.00533	0.00050	0.00292	0.32	0.7
11	8.00	0.3	50.0	0.04793	0.00006	0.02399	0.98	0.5
12	16.00	0.3	6.0	0.04759	0.00046	0.02403	1.64	1.7
13	8.00						0.00	0.3
14	4.00		113.0		0.00002	0.00002	1.24	0.7
15	1.00							5.6
16	0.50							

STANDARD OEDOMETER TEST NO. OS-22
DEPTH: 19.5 - 20.0 m SITE: C



ASIAN INSTITUTE OF TECHNOLOGY
GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

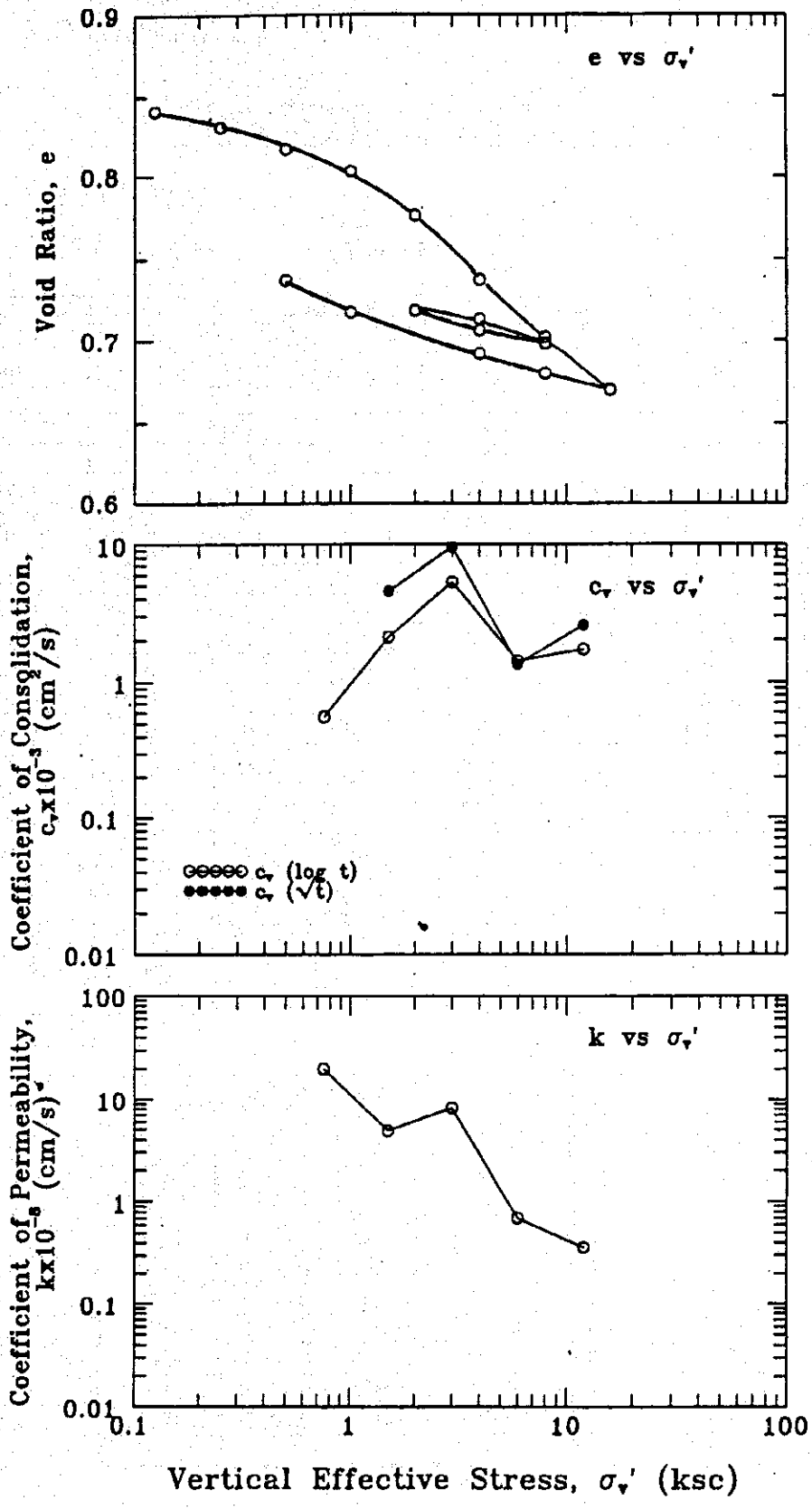
CONSOLIDATION

Project: Subsidence in Bangkok Vicinity
Location: Samut Sakhon
Borehole No.: C Depth (m): 28-29
Sample No.: Test No.: OS-17
Soil Description:
Tested By: SIH Date: 18-2-1993
Height of Solids (Hs): 1.024 cm

Increm No.	Vert. Stress (kg/cm²)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ε_{100}	ε_f	e_{50}	e_{100}	e_f
1	0.125			1.885		0.8			0.841
2	0.25			1.875		1.3			0.831
3	0.50			1.861		2.1			0.817
4	1.00	1.850	1.846	1.846	2.8	2.8	0.807	0.803	0.803
5	2.00	1.828	1.819	1.819	4.3	4.3	0.785	0.776	0.776
6	4.00	1.797	1.779	1.775	6.4	6.6	0.755	0.737	0.733
7	8.00	1.761	1.743	1.737	8.3	8.6	0.720	0.702	0.696
8	4.00	1.742	1.747	1.749	8.1	7.9	0.701	0.706	0.708
9	2.00	1.754	1.759	1.763	7.4	7.2	0.713	0.718	0.722
10	4.00	1.759	1.754	1.753	7.7	7.7	0.717	0.713	0.712
11	8.00	1.746	1.739	1.733	8.5	8.8	0.705	0.698	0.692
12	16.00	1.700	1.710	1.697	10.0	10.7	0.660	0.670	0.657
13	8.00	1.709	1.720	1.721	9.5	9.4	0.668	0.680	0.681
14	4.00	1.727	1.733	1.755	8.8	7.6	0.687	0.692	0.714
15	1.00	1.738	1.758	1.763	7.5	7.2	0.697	0.717	0.722
16	0.50	1.770	1.779	1.782	6.4	6.2	0.729	0.737	0.740

Increm No.	Vert. Stress (kg/cm²)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k $\times 10^{-5}$ cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.125							
2	0.25							0.0
3	0.50							0.0
4	1.00	0.5	5.0	0.02419	0.00056	0.01237	20.03	2.6
5	2.00	2.6	1.3	0.00454	0.00211	0.00333	4.90	4.7
6	4.00	1.2	0.5	0.00951	0.00530	0.00740	8.23	7.0
7	8.00	8.2	1.8	0.00134	0.00141	0.00138	0.70	6.3
8	4.00	3.6	1.2	0.00298	0.00208	0.00253	0.36	1.7
9	2.00	7.5	3.0	0.00145	0.00084	0.00115	0.39	2.1
10	4.00	8.2	2.1	0.00133	0.00121	0.00127	0.18	1.7
11	8.00	2.9	2.1	0.00371	0.00119	0.00245	0.53	3.5
12	16.00	3.0	2.0	0.00340	0.00119	0.00229	0.60	6.3
13	8.00	4.0	1.4	0.00258	0.00171	0.00214	0.36	4.0
14	4.00	7.7	4.0	0.00137	0.00061	0.00099	0.19	5.9
15	1.00	20.3	11.0	0.00053	0.00023	0.00038	0.18	0.7
16	0.50	59.8	21.0	0.00019	0.00012	0.00015	0.37	3.3

STANDARD OEDOMETER TEST NO. OS-17
DEPTH: 28.0-29.0 m SITE: C



ASIAN INSTITUTE OF TECHNOLOGY
GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

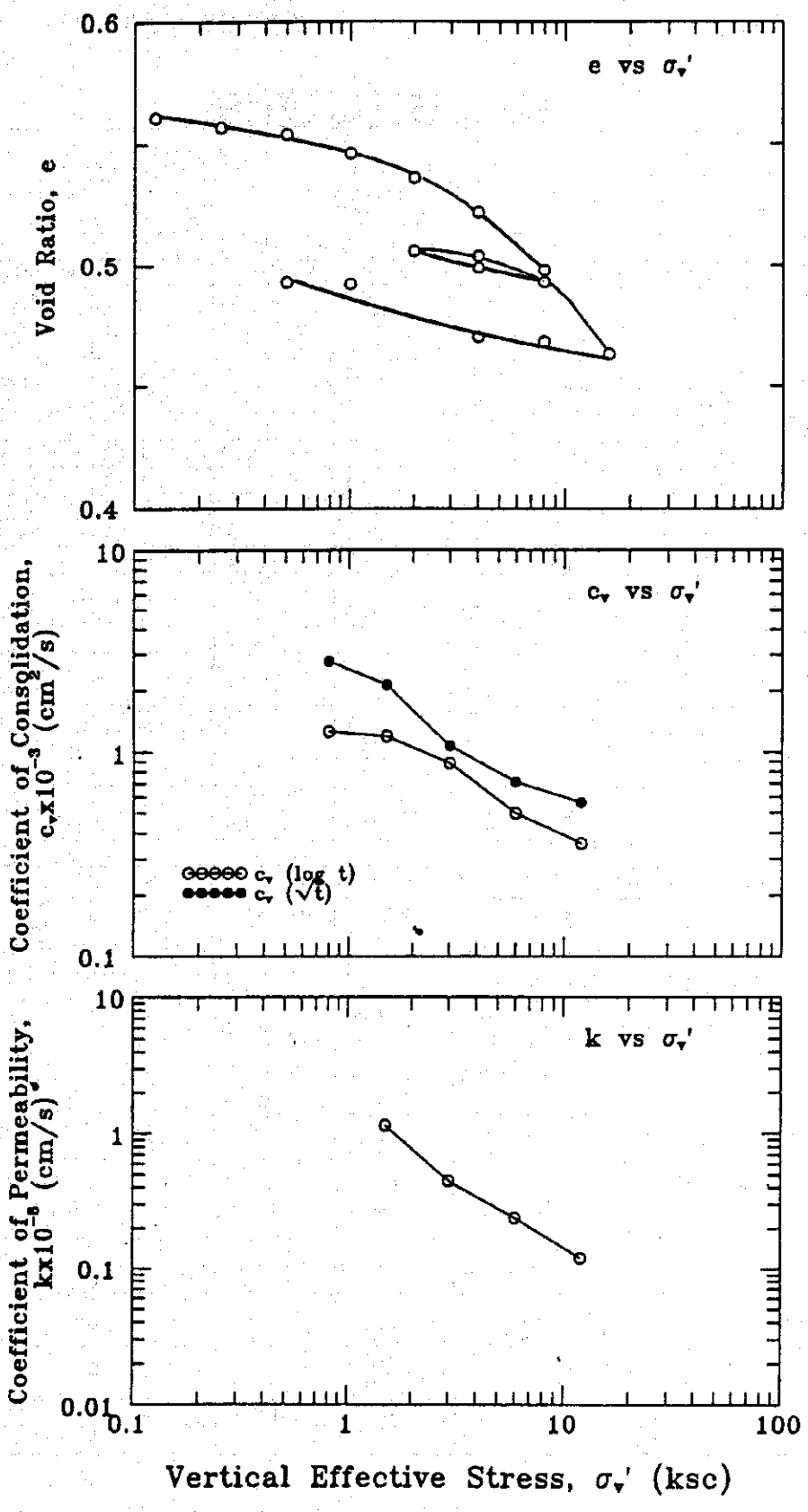
CONSOLIDATION

Project: Subsidence in Bangkok Vicinity — Location: Samut Sakhon
Borehole No.: C — Depth (m): 35.5-36.5 — Sample No.: — Test No.: OS-18
Soil Description: — Tested By: SIH — Date: 18-2-1993
Height of Solids (Hs): 1.2126 cm

Increm No.	Vert. Stress (kg/cm^2)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ε_{100}	ε_f	e_{50}	e_{100}	e_f
1	0.125			1.893		0.4			0.561
2	0.25			1.888		0.6			0.557
3	0.50			1.884		0.8			0.554
4	1.00	1.879	1.875	1.874	1.3	1.4	0.550	0.546	0.545
5	2.00	1.868	1.862	1.860	2.0	2.1	0.540	0.536	0.534
6	4.00	1.853	1.845	1.842	2.9	3.1	0.528	0.522	0.519
7	8.00	1.828	1.816	1.812	4.4	4.6	0.508	0.498	0.494
8	4.00	1.816	1.818	1.819	4.3	4.3	0.498	0.499	0.500
9	2.00	1.823	1.826	1.828	3.9	3.8	0.503	0.506	0.508
10	4.00	1.861	1.824	1.823	4.0	4.1	0.535	0.504	0.503
11	8.00	1.814	1.810	1.810	4.7	4.7	0.496	0.493	0.493
12	16.00	1.789	1.774	1.770	6.6	6.8	0.475	0.463	0.460
13	8.00	1.790	1.780	1.775	6.3	6.6	0.476	0.468	0.464
14	4.00	1.779	1.783	1.784	6.2	6.1	0.467	0.470	0.471
15	1.00	1.796	1.809	1.811	4.8	4.7	0.481	0.492	0.493
16	0.50	1.800	1.810	1.827	4.7	3.8	0.484	0.493	0.507

Increm No.	Vert. Stress (kg/cm^2)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k $\times 10^{-6}$ cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.125							
2	0.25							
3	0.50							
4	1.00	4.5	2.3	0.00277	0.00126	0.00202		4.4
5	2.00	5.8	2.4	0.00213	0.00119	0.00166	1.15	2.3
6	4.00	11.3	3.2	0.00107	0.00088	0.00098	0.45	3.0
7	8.00	16.6	5.5	0.00071	0.00050	0.00060	0.24	5.1
8	4.00	7.1	1.8	0.00164	0.00150	0.00157	0.13	1.0
9	2.00	13.5	5.0	0.00087	0.00055	0.00071	0.16	1.4
10	4.00	10.6	2.0	0.00115	0.00142	0.00129	0.07	0.3
11	8.00	15.1	2.1	0.00077	0.00129	0.00103	0.20	2.4
12	16.00	20.1	7.4	0.00056	0.00036	0.00046	0.12	6.3
13	8.00	20.0	5.0	0.00057	0.00053	0.00055	0.04	1.7
14	4.00	20.7	6.1	0.00054	0.00043	0.00048	0.02	1.6
15	1.00	61.4	16.0	0.00019	0.00017	0.00018	0.08	2.3
16	0.50							

STANDARD OEDOMETER TEST NO. OS-18
DEPTH: 35.5 - 36.5 m SITE: C



ASIAN INSTITUTE OF TECHNOLOGY

GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

CONSOLIDATION

Project: Subsidence in Bangkok Vicinity — Location: SAMUT SAKHON

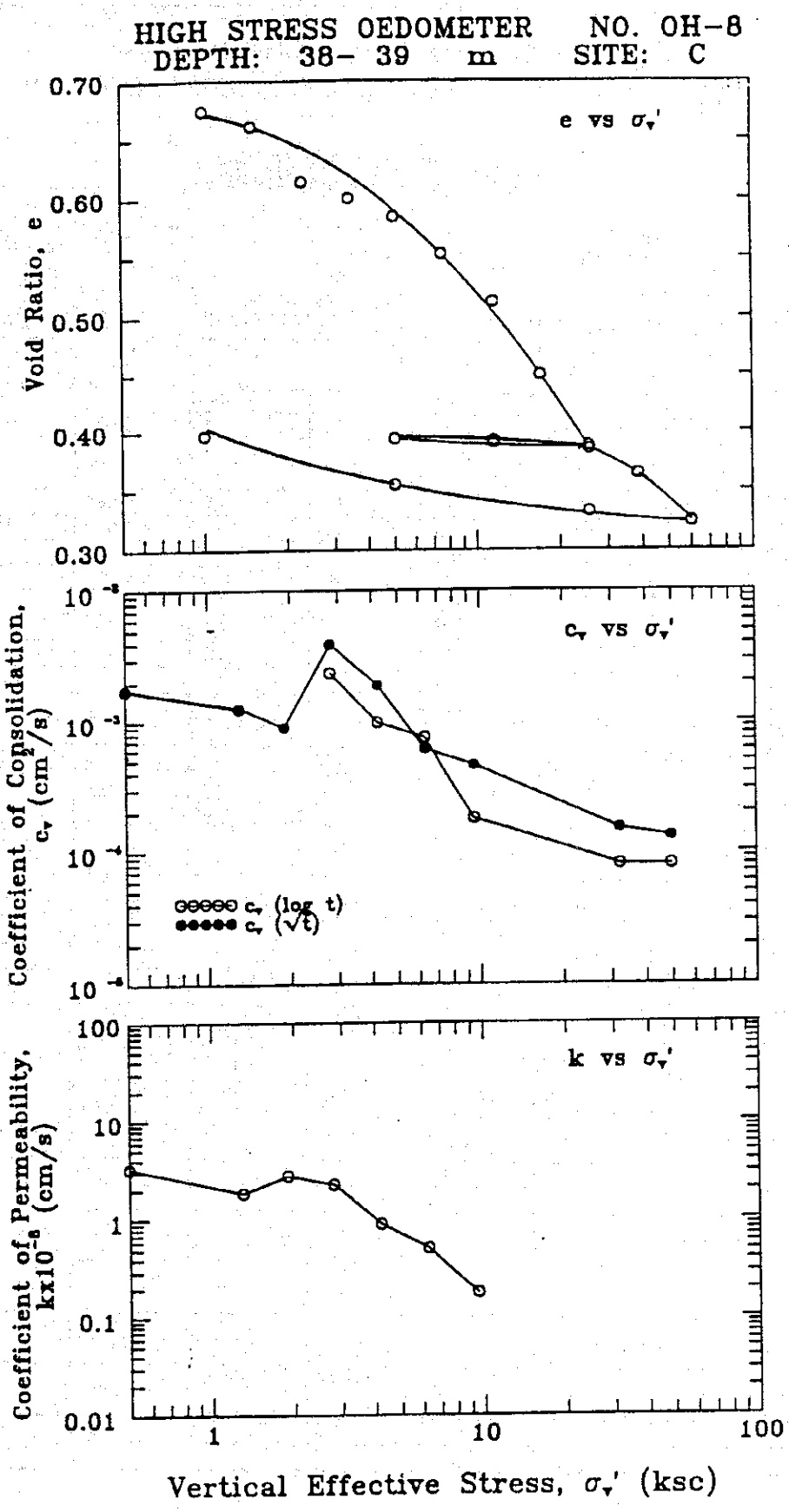
Borehole No.: C — Depth (m): 38-39 — Sample No.: — Test No.: OH-8

Soil Description: — Tested By: SIH — Date: 5-93

Height of Solids (Hs): 1.066 cm — Height of Sample (Hi): 1.900 cm

Increm. No.	Vert. Stress (kg/cm^2)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ε_{100}	ε_f	e_{50}	e_{100}	e_f
1	0.1			1.815		4.5			0.703
2	1.0	1.788	1.784	1.784	6.1	6.1	0.677	0.674	0.674
3	1.5	1.744	1.771	1.760	6.8	7.4	0.636	0.661	0.651
4	2.3			1.720		9.5			0.614
5	3.4	1.708	1.706	1.706	10.2	10.2	0.602	0.600	0.600
6	5.0	1.693	1.689	1.687	11.1	11.2	0.588	0.584	0.583
7	7.5	1.660	1.656	1.650	12.8	13.2	0.557	0.553	0.548
8	11.5	1.625	1.613	1.612	15.1	15.2	0.524	0.513	0.512
9	17.0			1.546		18.6			0.450
10	25.6			1.480		22.1			0.388
11	11.5		1.483	1.483	21.9	21.9		0.391	0.391
12	5.0			1.486		21.8			0.394
13	11.5			1.485		21.8			0.393
14	25.6		1.476	1.476	22.3	22.3		0.385	0.385
15	38.5	1.463	1.454	1.452	23.5	23.6	0.372	0.364	0.362
16	60.0	1.429	1.410	1.409	25.8	25.8	0.341	0.323	0.322
17	25.6		1.420	1.421	25.3	25.2		0.332	0.333
18	5.0		1.444	1.445	24.0	23.9		0.355	0.356
19	1.0		1.489	1.490	21.6	21.6		0.397	0.398

Increm. No.	Vert. Stress (kg/cm^2)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k_{-9} x 10 cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.1							
2	1.0	6.3	1.5	0.00179	0.00175	0.00177	3.25	1.3
3	1.5	8.4	2.0	0.00128	0.00125	0.00126	1.85	3.9
4	2.3	11.6		0.00090		0.00090	2.76	12.0
5	3.4	2.6	1.0	0.00396	0.00239	0.00318	2.26	4.1
6	5.0	5.3	2.4	0.00191	0.00098	0.00145	0.90	5.3
7	7.5	16.0	3.0	0.00061	0.00075	0.00068	0.51	9.9
8	11.5	20.3	12.0	0.00046	0.00018	0.00032	0.18	12.2
9	17.0							20.5
10	25.6							19.5
11	11.5							0.5
12	5.0							0.4
13	11.5							0.1
14	25.6							1.4
15	38.5	49.0	21.0	0.00015	0.00008	0.00012	0.01	6.5
16	60.0	56.3	20.0	0.00013	0.00008	0.00011	0.01	12.0
17	25.6		0.9		0.00184	0.00184	0.04	1.7
18	5.0	0.8	35.0	0.00922	0.00005	0.00464	0.36	1.8
19	1.0							3.4


HIGH STRESS OEDOMETER NO. OH-8
DEPTH: 38- 39 m SITE: C
e vs σv'
Void Ratio, e
0.70
0.60
0.50
0.40
0.30
cv vs σv'
Coefficient of Consolidation, cv (cm²/s)
cv (log t)
cv (√t)
k vs σv'
Coefficient of Permeability, kx10⁻⁸ (cm/s)
100
10
1
0.1
0.01
1
10
100
Vertical Effective Stress, σv' (ksc)

ASIAN INSTITUTE OF TECHNOLOGY

GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

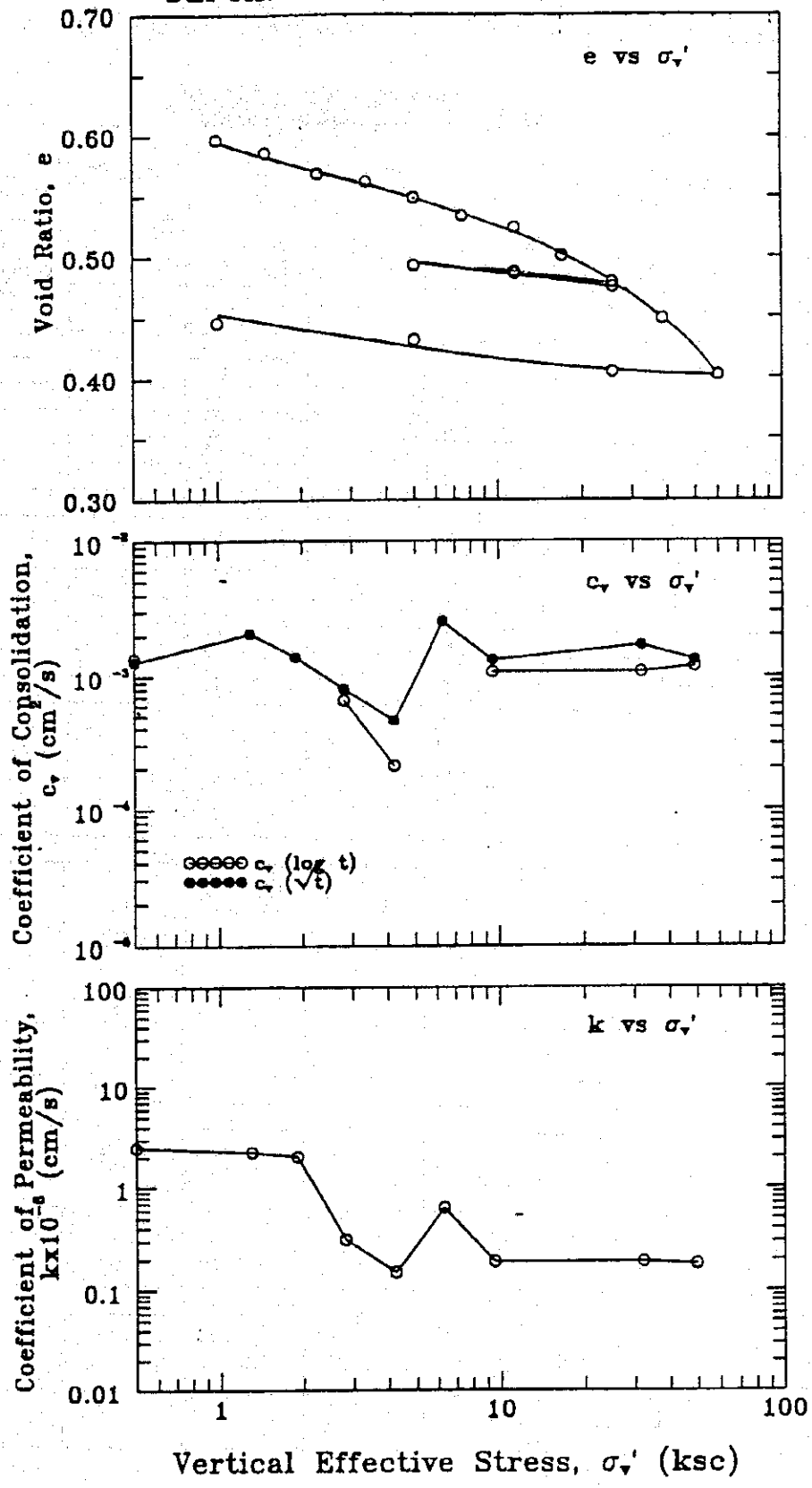
CONSOLIDATION

Project: Subsidence in Bangkok Vicinity
Location: SAMUT SAKHON
Borehole No.: C Depth (m) 41-42
Sample No.: Test No.: OH-9
Soil Description:
Tested By: SIH Date: 5-93
Height of Solids (Hs) : 1.163 cm
Height of Sample (Hi) : 1.900 cm

Increm. No.	Vert. Stress (kg/cm^2)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ε_{100}	ε_f	e_{50}	e_{100}	e_f
1	0.1			1.890		0.5			0.625
2	1.0	1.868	1.857	1.855	2.3	2.4	0.606	0.597	0.595
3	1.5			1.845		2.9			0.586
4	2.3			1.825		3.9			0.569
5	3.4	1.819	1.816	1.814	4.4	4.5	0.564	0.562	0.560
6	5.0	1.808	1.801	1.795	5.2	5.5	0.555	0.549	0.543
7	7.5			1.784		6.1			0.534
8	11.5	1.776	1.773	1.771	6.7	6.8	0.527	0.524	0.523
9	17.0			1.746		8.1			0.501
10	25.6		-	1.720		9.5			0.479
11	11.5			1.730		8.9			0.488
12	5.0			1.736		8.6			0.493
13	11.5			1.729		9.0			0.486
14	25.6			1.716		9.7			0.475
15	38.5	1.698	1.685	1.682	11.3	11.5	0.460	0.449	0.446
16	60.0	1.659	1.630	1.625	14.2	14.5	0.426	0.402	0.397
17	25.6			1.635		14.0			0.405
18	5.0			1.665		12.4			0.432
19	1.0			1.682		11.5			0.446

Increm. No.	Vert. Stress (kg/cm^2)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k_{-s} x 10 cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.1	11.9						
2	1.0	9.6	2.1	0.00128	0.00136	0.00132	2.48	1.5
3	1.5	5.8		0.00209		0.00209	2.26	3.0
4	2.3	8.4		0.00140		0.00140	2.04	6.0
5	3.4	14.4	4.1	0.00081	0.00066	0.00074	0.31	3.2
6	5.0	25.0	13.0	0.00046	0.00021	0.00033	0.15	4.8
7	7.5	4.4		0.00256		0.00256	0.63	3.3
8	11.5	8.4	2.4	0.00133	0.00108	0.00120	0.19	3.7
9	17.0							7.9
10	25.6							7.5
11	11.5							1.5
12	5.0							0.9
13	11.5							1.1
14	25.6							2.0
15	38.5	6.0	2.2	0.00170	0.00108	0.00139	0.19	9.9
16	60.0	7.3	1.9	0.00133	0.00119	0.00126	0.18	15.0
17	25.6							1.4
18	5.0							2.3
19	1.0							1.3

HIGH STRESS OEDOMETER NO. OH-9
DEPTH: 41- 42 m SITE: C



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GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

CONSOLIDATION

Project: Subsidence in Bangkok Vicinity — Location: SAMUT SAKHON

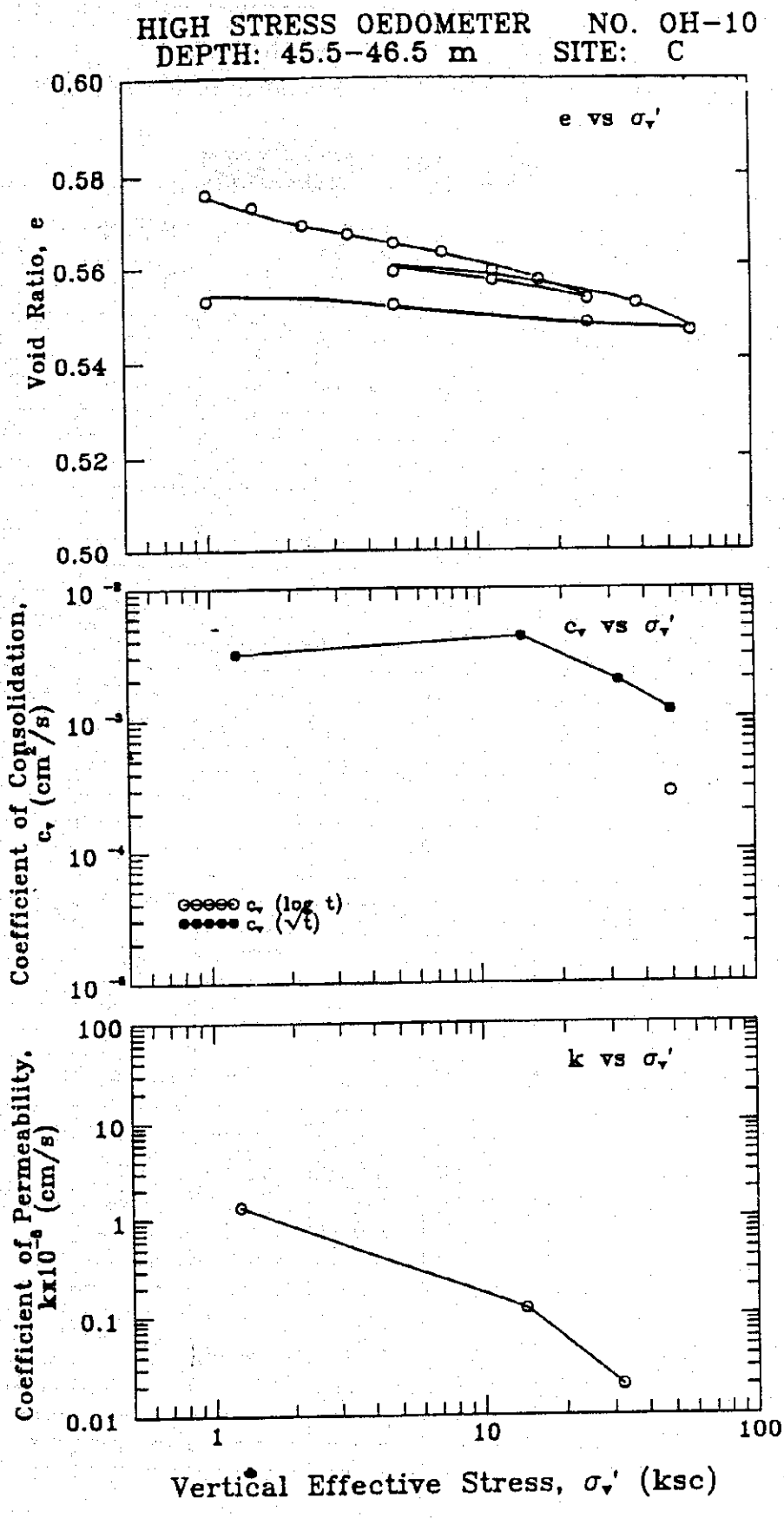
Borehole No.: C — Depth (m): 45.5-46.5 — Sample No.: — Test No.: OH-10

Soil Description: — Tested By: SIH — Date: 5-93

Height of Solids (Hs): 1.198 cm — Height of Sample (Hi): 1.900 cm

Increm. No.	Vert. Stress (kg/cm^2)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ε_{100}	ε_f	e_{50}	e_{100}	e_f
1	0.1			1.898		0.1			0.584
2	1.0			1.888		0.6			0.576
3	1.5			1.884		0.8			0.573
4	2.3			1.880		1.1			0.569
5	3.4			1.877		1.2			0.567
6	5.0			1.875		1.3			0.565
7	7.5			1.872		1.5			0.563
8	11.5			1.868		1.7			0.559
9	17.0			1.865		1.8			0.557
10	25.6			1.861		2.1			0.553
11	11.5			1.868		1.7			0.559
12	5.0			1.868		1.7			0.559
13	11.5			1.865		1.8			0.557
14	25.6			1.861		2.1			0.553
15	38.5			1.859		2.2			0.552
16	60.0			1.852		2.5			0.546
17	25.6			1.855		2.4			0.548
18	5.0			1.859		2.2			0.552
19	1.0			1.860		2.1			0.553

Increm. No.	Vert. Stress (kg/cm^2)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k_{-s} x 10 cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.1							
2	1.0							0.4
3	1.5	4.0		0.00314		0.00314	1.33	1.2
4	2.3							1.2
5	3.4							0.9
6	5.0							0.6
7	7.5							0.9
8	11.5							1.1
9	17.0	2.9		0.00424		0.00424	0.12	0.9
10	25.6							1.2
11	11.5							1.1
12	5.0							
13	11.5							0.4
14	25.6							0.6
15	38.5	6.3		0.00194		0.00194	0.02	0.6
16	60.0	10.6	10.0	0.00114	0.00028	0.00071	0.01	1.9
17	25.6							0.4
18	5.0							0.3
19	1.0							0.1


HIGH STRESS OEDOMETER NO. OH-10
DEPTH: 45.5-46.5 m SITE: C
e vs σv'
Void Ratio, e
0.60
0.58
0.56
0.54
0.52
0.50
cv vs σv'
Coefficient of Consolidation, cv (cm²/s)
cv (log t)
cv (√t)
k vs σv'
Coefficient of Permeability, kx10⁻⁸ (cm/s)
100
10
1
0.1
0.01
1
10
100
Vertical Effective Stress, σv' (ksc)

ASIAN INSTITUTE OF TECHNOLOGY

GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

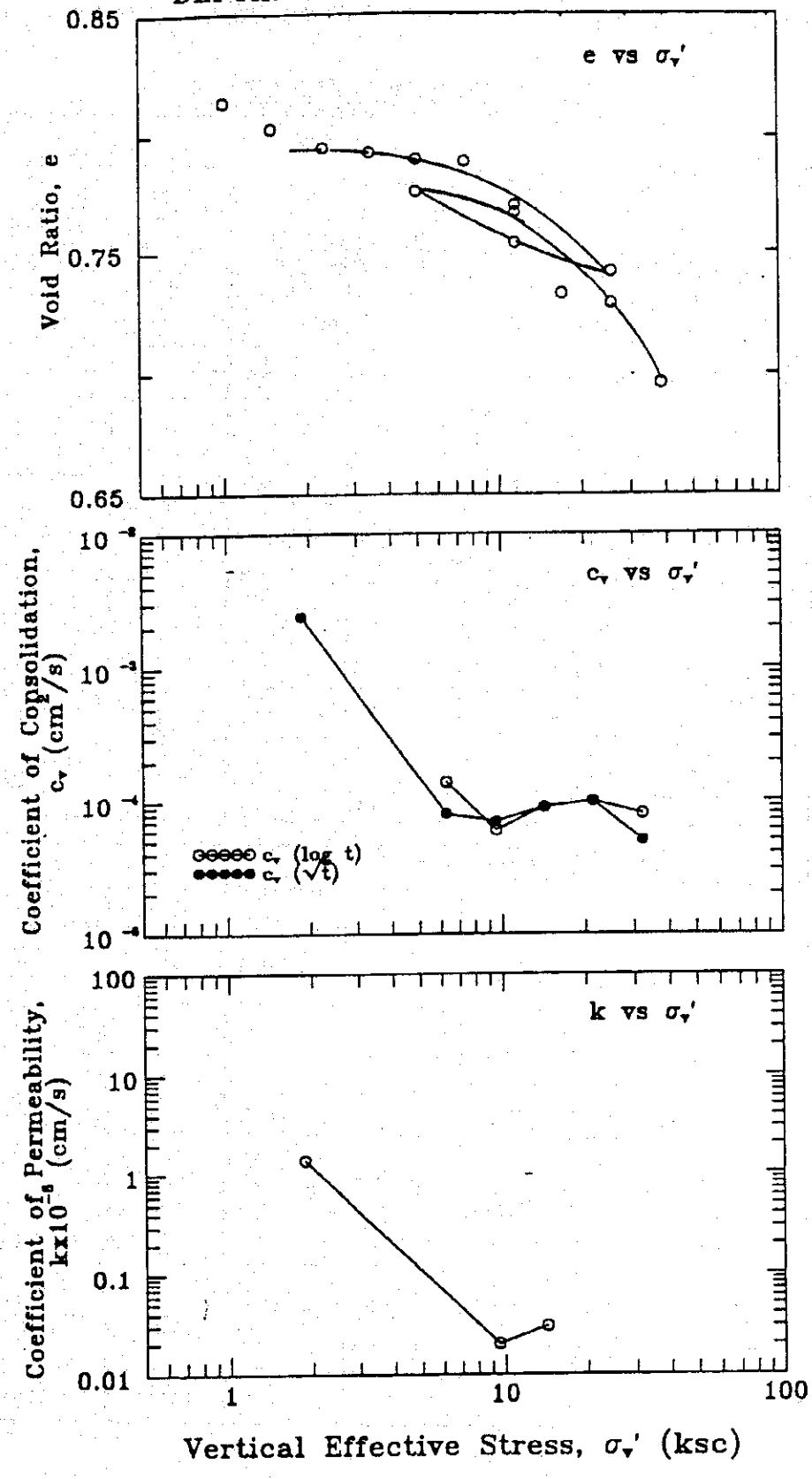
CONSOLIDATION

Project: Subsidence in Bangkok Vicinity
Location: SAMUT SAKHON
Borehole No.: C Depth (m) 47-48
Sample No.: Test No.: OH-11
Soil Description: Tested By: SIH Date: 5-93
Height of Solids (Hs) : 1.039 cm
Height of Sample (Hi) : 1.900 cm

Increm. No.	Vert. Stress (kg/cm^2)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ε_{100}	ε_f	e_{50}	e_{100}	e_f
1	0.1			1.897		0.1			0.826
2	1.0			1.885		0.8			0.814
3	1.5			1.873		1.4			0.803
4	2.3			1.865		1.8			0.795
5	3.4			1.863		2.0			0.793
6	5.0			1.860		2.1			0.790
7	7.5	1.863	1.859	1.856	- 2.2	2.3	0.793	0.789	0.786
8	11.5	1.844	1.836	1.835	3.4	3.4	0.775	0.767	0.766
9	17.0	1.836	1.801	1.821	5.2	4.2	0.767	0.733	0.753
10	25.6	1.820	1.810	1.806	4.7	5.0	0.751	0.742	0.738
11	11.5	1.822	1.822	1.824	4.1	4.0	0.753	0.754	0.756
12	5.0	1.835	1.845	1.847	2.9	2.8	0.766	0.776	0.777
13	11.5	1.843	1.839	1.838	3.2	3.3	0.774	0.770	0.769
14	25.6	1.813	1.797	1.792	5.4	5.7	0.745	0.729	0.725
15	38.5	1.775	1.762	1.754	7.2	7.7	0.708	0.696	0.688
16	60.0								
17	25.6								
18	5.0								
19	1.0								

Increm. No.	Vert. Stress (kg/cm^2)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k_{-8} x 10 cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.1							
2	1.0							0.5
3	1.5							3.6
4	2.3	5.1		0.00243		0.00243	1.39	2.4
5	3.4							0.7
6	5.0							0.8
7	7.5	150.7	21.0	0.00008	0.00014	0.00011	0.00	1.2
8	11.5	169.0	50.0	0.00007	0.00006	0.00006	0.02	6.5
9	17.0	132.3	30.0	0.00009	0.00009	0.00009	0.03	10.9
10	25.6	116.6	28.0	0.00010	0.00010	0.00010	0.01	4.5
11	11.5							2.8
12	5.0							3.2
13	11.5							1.0
14	25.6							6.4
15	38.5	210.3	31.0	0.00005	0.00008	0.00007	0.01	10.2
16	60.0	174.2	32.0					
17	25.6							
18	5.0							
19	1.0							

HIGH STRESS OEDOMETER NO. OH-11
DEPTH: 47- 46.0 m SITE: C



ASIAN INSTITUTE OF TECHNOLOGY

GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

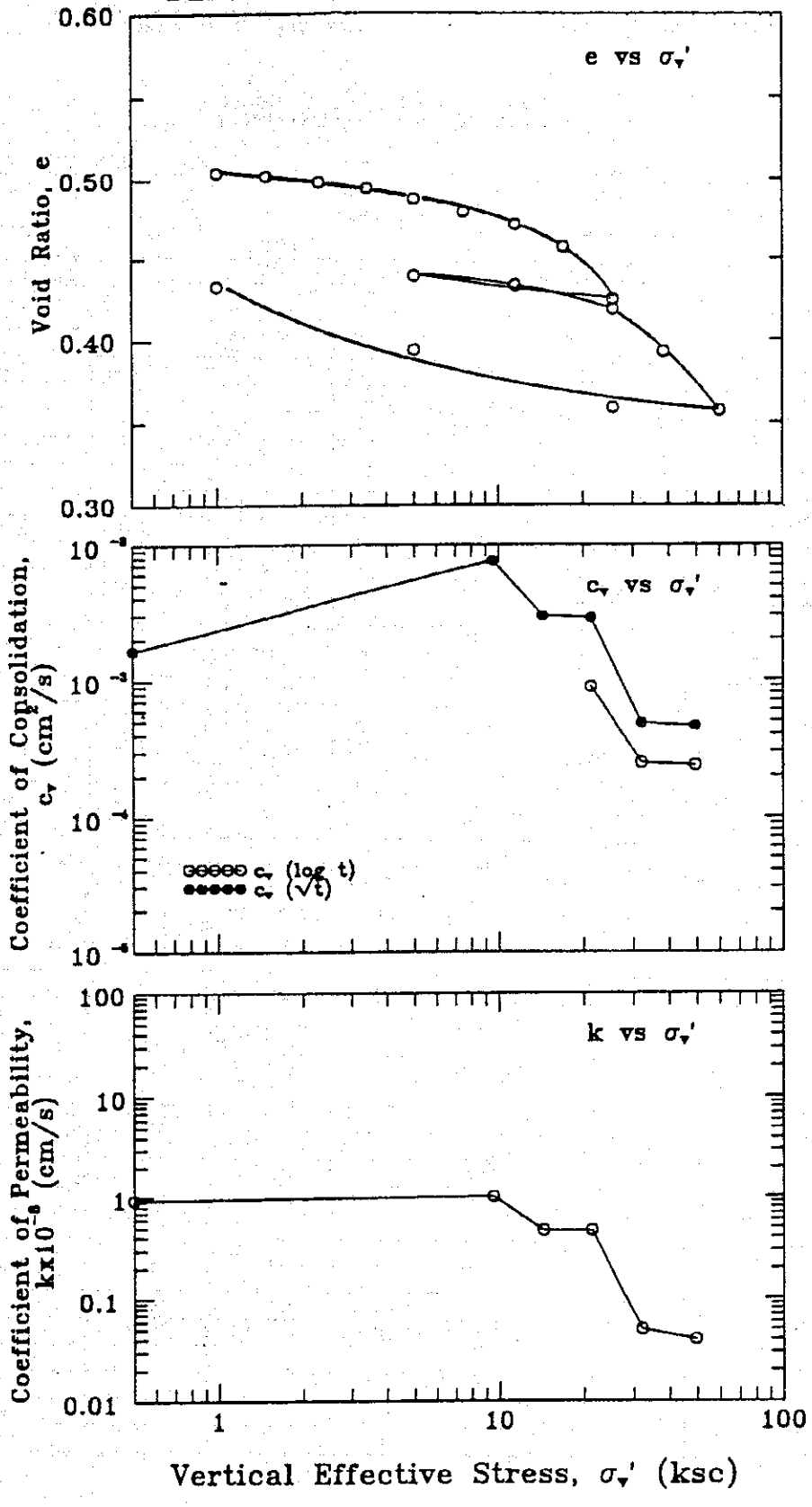
CONSOLIDATION

Project: Subsidence in Bangkok Vicinity
Location: SAMUT SAKHON
Borehole No.: C Depth (m) 57.1-57.6
Sample No.: Test No.: OH-12
Soil Description: Tested By: SIH Date: 5-93
Height of Solids (Hs) : 1.255 cm
Height of Sample (Hi) : 1.900 cm

Increm. No.	Vert. Stress (kg/cm²)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ε_{100}	ε_f	e_{50}	e_{100}	e_f
1	0.1			1.897		0.2			0.512
2	1.0			1.887		0.7			0.504
3	1.5			1.885		0.8			0.502
4	2.3			1.880		1.1			0.498
5	3.4			1.875		1.3			0.494
6	5.0			1.866		1.8			0.487
7	7.5			1.856		2.3			0.479
8	11.5	1.848	1.846	1.844	2.8	2.9	0.473	0.471	0.469
9	17.0	1.833	1.828	1.828	3.8	3.8	0.461	0.457	0.457
10	25.6	1.803	1.789	1.789	5.8	5.8	0.437	0.425	0.425
11	11.5			1.798		5.4			0.433
12	5.0	1.801	1.806	1.806	4.9	4.9	0.435	0.439	0.439
13	11.5			1.800		5.3			0.434
14	25.6	1.788	1.781	1.781	6.3	6.3	0.425	0.419	0.419
15	38.5	1.761	1.748	1.748	8.0	8.0	0.403	0.393	0.393
16	60.0	1.721	1.703	1.721	10.4	9.4	0.371	0.357	0.371
17	25.6	1.701	1.706	1.708	10.2	10.1	0.355	0.359	0.361
18	5.0	1.725	1.749	1.750	7.9	7.9	0.375	0.394	0.394
19	1.0	1.775	1.798	1.803	5.4	5.1	0.414	0.433	0.437

Increm. No.	Vert. Stress (kg/cm²)	Time (minutes)		Coefficient of Consolidation (cm²/s)			k_s x 10 cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.1							
2	1.0	7.6		0.00166		0.00166	0.93	0.4
3	1.5							0.6
4	2.3							1.5
5	3.4							1.5
6	5.0							2.8
7	7.5							3.0
8	11.5	1.6		0.00754		0.00754	1.02	3.4
9	17.0	4.0		0.00297		0.00297	0.47	5.6
10	25.6	4.0	3.0	0.00287	0.00089	0.00188	0.47	11.5
11	11.5	18.1	8.0	0.00063	0.00033	0.00048	0.02	1.4
12	5.0							1.2
13	11.5							0.9
14	25.6							2.9
15	38.5	22.6	10.0	0.00048	0.00025	0.00037	0.05	9.8
16	60.0	22.6	10.0	0.00046	0.00024	0.00035	0.04	12.3
17	25.6							
18	5.0							3.1
19	1.0							4.0

HIGH STRESS OEDOMETER NO. OH-12
DEPTH: 57- 57.6 m SITE: C



ASIAN INSTITUTE OF TECHNOLOGY

GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

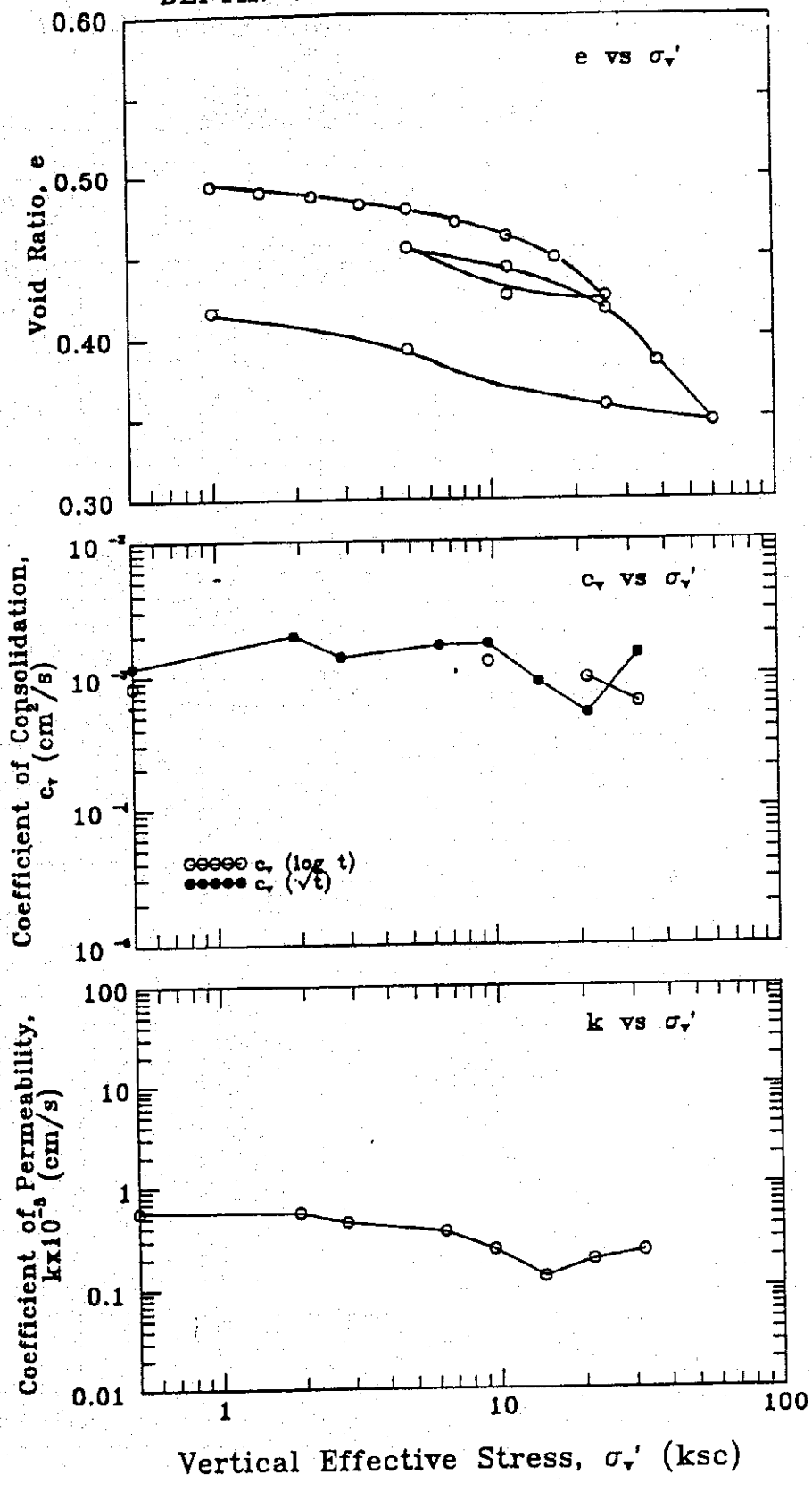
CONSOLIDATION

Project: Subsidence in Bangkok Vicinity
Location: SAMUT SAKHON
Borehole No.: C Depth (m) 57.1-57.6
Sample No.: Test No.: OH-14
Soil Description:
Tested By: SIH Date: 5-93
Height of Solids (Hs) : 1.262 cm
Height of Sample (Hi) : 1.900 cm

Increm. No.	Vert. Stress (kg/cm²)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ε_{100}	ε_f	e_{50}	e_{100}	e_f
1	0.1			1.895		0.3			0.502
2	1.0	1.886	1.885	1.885	0.8	0.8	0.494	0.494	0.494
3	1.5			1.881		1.0			0.490
4	2.3			1.877		1.2			0.487
5	3.4			1.870		1.6			0.482
6	5.0			1.867		1.7			0.479
7	7.5			1.857		2.3			0.471
8	11.5	1.847	1.845	1.844	2.9	2.9	0.464	0.462	0.461
9	17.0			1.829		3.7			0.449
10	25.6	1.799	1.788	1.785	5.9	6.1	0.426	0.417	0.414
11	11.5			1.799		5.3			0.426
12	5.0			1.836		3.4			0.455
13	11.5			1.821		4.2			0.443
14	25.6			1.798		5.4			0.425
15	38.5	1.758	1.748	1.743	8.0	8.3	0.393	0.385	0.381
16	60.0	1.715	1.700	1.695	10.5	10.8	0.359	0.347	0.343
17	25.6			1.714		9.8			0.358
18	5.0	1.742	1.758	1.760	7.5	7.4	0.380	0.393	0.395
19	1.0	1.776	1.787	1.784	5.9	6.1	0.407	0.416	0.414

Increm. No.	Vert. Stress (kg/cm²)	Time (minutes)		Coefficient of Consolidation (cm²/s)			k_{-s} x 10 cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.1	5.3						
2	1.0	10.7	3.5	0.00117	0.00083	0.00100	0.57	0.4
3	1.5							1.2
4	2.3	6.3		0.00198		0.00198	0.56	1.2
5	3.4	9.0		0.00137		0.00137	0.45	2.1
6	5.0							0.9
7	7.5	7.3		0.00167		0.00167	0.36	3.0
8	11.5	7.0	2.2	0.00172	0.00127	0.00150	0.24	3.7
9	17.0	13.3		0.00089		0.00089	0.13	4.7
10	25.6	21.9	2.8	0.00052	0.00095	0.00074	0.19	13.0
11	11.5							2.1
12	5.0							5.4
13	11.5							2.2
14	25.6	6.8	4.0	0.00168	0.00066	0.00117	0.11	3.5
15	38.5	7.6	4.0	0.00144	0.00063	0.00104	0.23	16.3
16	60.0							13.1
17	25.6							2.7
18	5.0							3.4
19	1.0							1.8

HIGH STRESS OEDOMETER NO. OH-14
DEPTH: 57.1-57.6 m SITE: C



ASIAN INSTITUTE OF TECHNOLOGY

GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

CONSOLIDATION

Project: Subsidence in Bangkok Vicinity — Location: SAMUT SAKHON

Borehole No.: C — Depth (m): 66.5-67 — Sample No.: — Test No.: OH-13

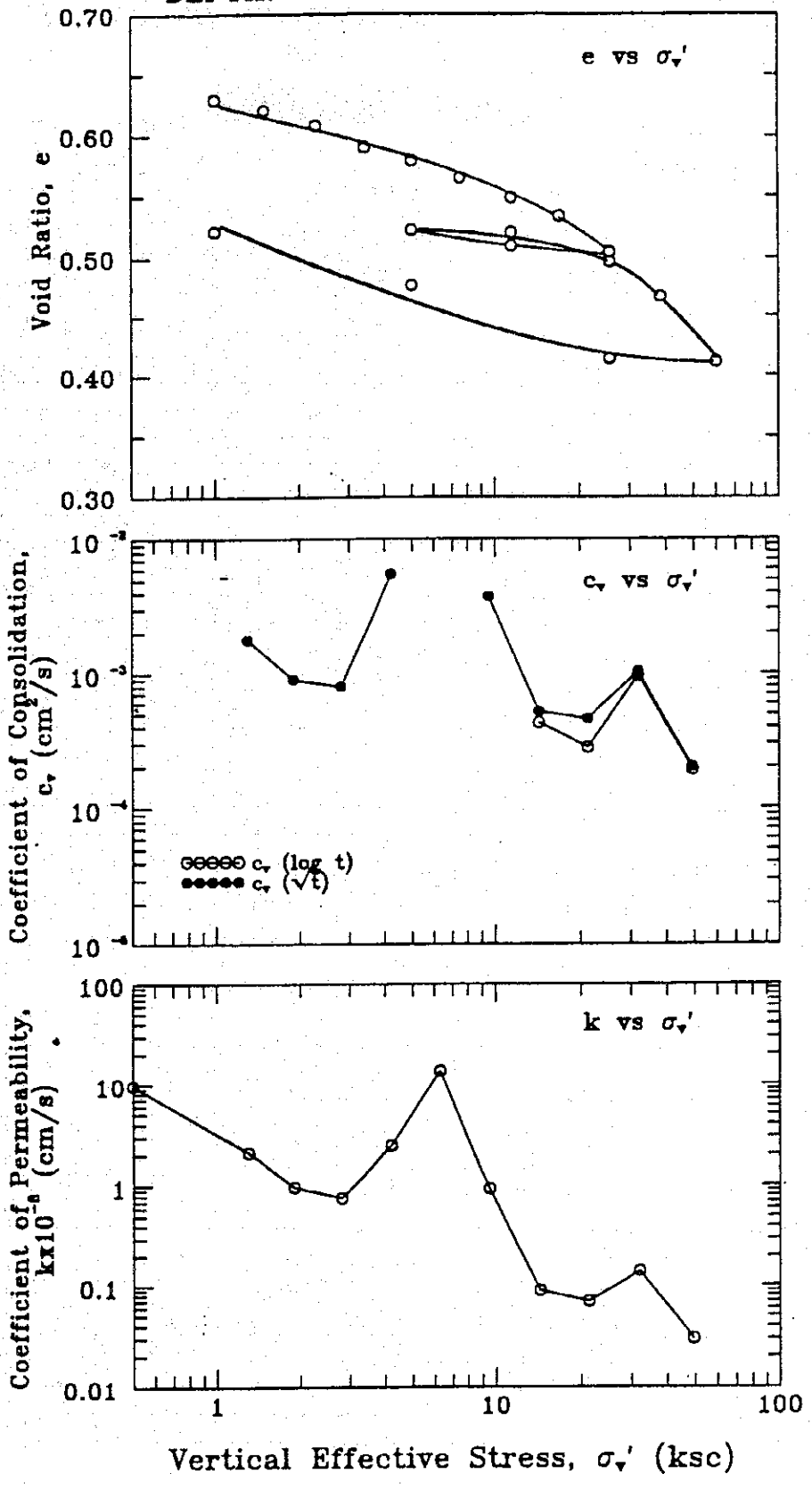
Soil Description: — Tested By: SIH — Date: 5-93

Height of Solids (Hs): 1.152 cm — Height of Sample (Hi): 1.900 cm

Increm. No.	Vert. Stress (kg/cm^2)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ε_{100}	ε_f	e_{50}	e_{100}	e_f
1	0.1			1.889		0.6			0.640
2	1.0			1.878		1.2			0.630
3	1.5			1.867		1.7			0.621
4	2.3			1.852		2.5			0.608
5	3.4			1.832		3.6			0.590
6	5.0			1.819		4.3			0.579
7	7.5			1.803		5.1			0.565
8	11.5			1.785		6.1			0.549
9	17.0	1.776	1.767	1.764	7.0	7.2	0.542	0.534	0.531
10	25.6	1.749	1.734	1.726	8.7	9.2	0.518	0.505	0.498
11	11.5	1.734	1.740	1.743	8.4	8.3	0.505	0.510	0.513
12	5.0			1.755		7.6			0.523
13	11.5	1.755	1.752	1.750	7.8	7.9	0.523	0.521	0.519
14	25.6	1.736	1.724	1.722	9.3	9.4	0.507	0.497	0.495
15	38.5	1.706	1.690	1.682	11.1	11.5	0.481	0.467	0.460
16	60.0	1.650	1.625	1.614	14.5	15.1	0.432	0.411	0.401
17	25.6	1.621	1.629	1.631	14.3	14.2	0.407	0.414	0.416
18	5.0	1.668	1.702	1.705	10.4	10.3	0.448	0.477	0.480
19	1.0	1.731	1.753	1.755	7.7	7.6	0.503	0.522	0.523

Increm. No.	Vert. Stress (kg/cm^2)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k_{-s} x 10 cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.1							
2	1.0	0.8		0.01558		0.01558	9.68	0.5
3	1.5	6.9		0.00178		0.00178	2.10	3.3
4	2.3	13.5		0.00090		0.00090	0.97	4.5
5	3.4	14.8		0.00080		0.00080	0.76	5.9
6	5.0	2.1		0.00557		0.00557	2.48	4.1
7	7.5	0.3		0.03829		0.03829	13.53	4.8
8	11.5	3.0		0.00375		0.00375	0.94	5.1
9	17.0	21.4	6.0	0.00052	0.00043	0.00048	0.09	6.5
10	25.6	23.3	9.0	0.00046	0.00028	0.00037	0.07	9.8
11	11.5							2.6
12	5.0							1.7
13	11.5							0.7
14	25.6							4.2
15	38.5	10.0	2.5	0.00103	0.00096	0.00099	0.14	10.1
16	60.0	49.0	12.0	0.00020	0.00019	0.00019	0.03	17.8
17	25.6							2.4
18	5.0							5.5
19	1.0							3.8

HIGH STRESS OEDOMETER NO. OH-13
DEPTH: 66.5-67.0 m SITE: C



ASIAN INSTITUTE OF TECHNOLOGY

GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

CONSOLIDATION

Project: Subsidence in Bangkok Vicinity — Location: Samut Sakhon

Borehole No.: C — Depth (m): 70-71 — Sample No.: — Test No.: OH-30

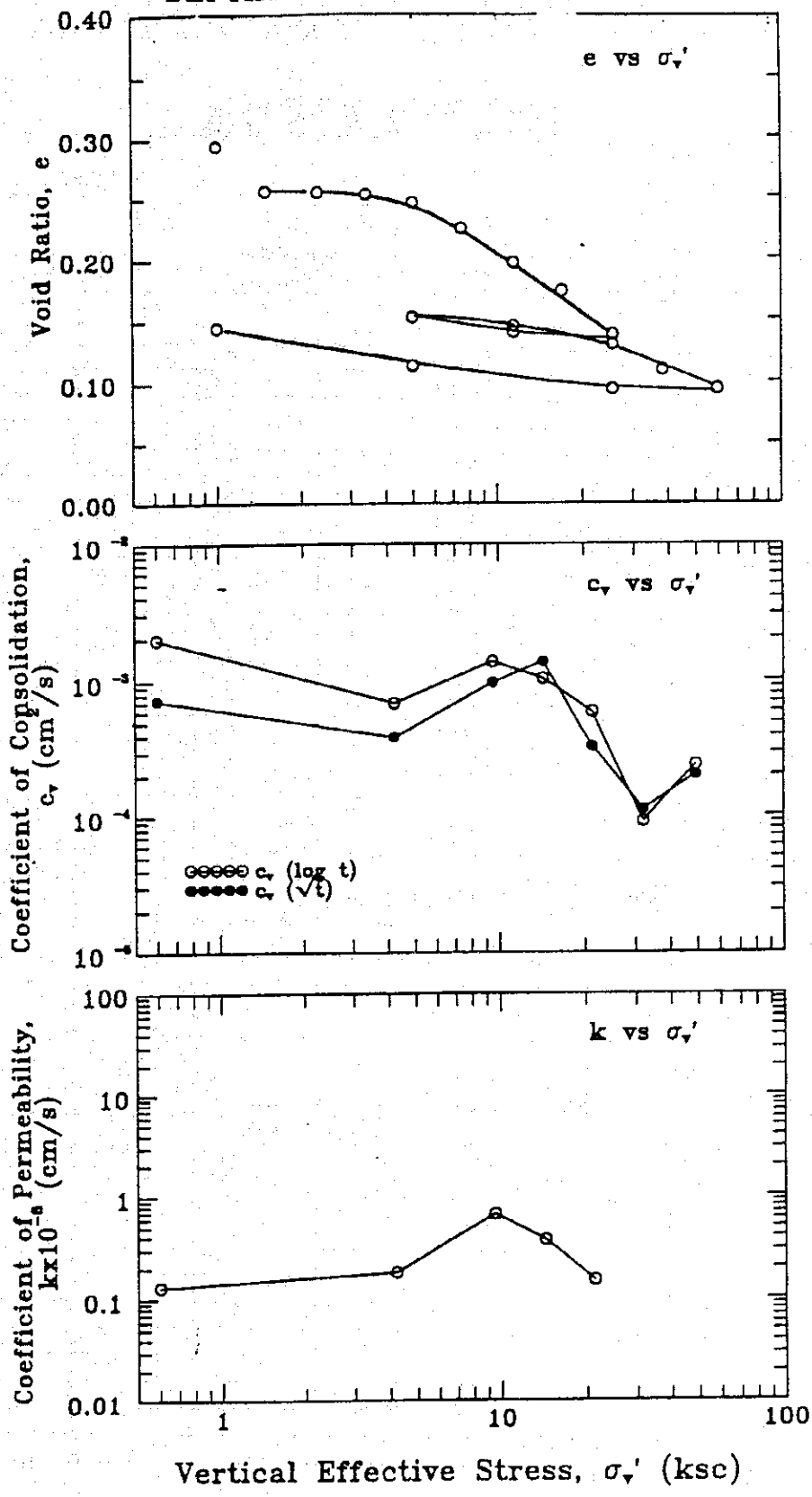
Soil Description: — Tested By: SIH — Date: 5-93

Height of Solids (Hs): 1.471 cm — Height of Sample (Hi): 2.000 cm

Increm. No.	Vert. Stress (kg/cm²)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H 50	H 100	H f	ε 100	ε f	e 50	e 100	e f
1	0.1			1.905		4.7			0.295
2	1.0	1.906	1.903	1.903	4.8	4.8	0.296	0.294	0.294
3	1.5			1.848		7.6			0.256
4	2.3			1.846		7.7			0.255
5	3.4			1.843		7.9			0.253
6	5.0	1.836	1.833	1.832	8.4	8.4	0.248	0.246	0.245
7	7.5			1.802		9.9			0.225
8	11.5	1.774	1.761	1.757	12.0	12.2	0.206	0.197	0.194
9	17.0	1.738	1.727	1.724	13.6	13.8	0.181	0.174	0.172
10	25.6	1.690	1.676	1.673	16.2	16.4	0.149	0.139	0.137
11	11.5			1.679		16.1			0.141
12	5.0			1.696		15.2			0.153
13	11.5	1.687	1.686	1.685	15.7	15.7	0.147	0.146	0.146
14	25.6	1.668	1.664	1.664	16.8	16.8	0.134	0.131	0.131
15	38.5	1.641	1.633	1.631	18.4	18.5	0.116	0.110	0.109
16	60.0		1.609	1.606	19.6	19.7		0.094	0.092
17	25.6			1.611		19.5			0.095
18	5.0		1.639	1.641	18.0	18.0		0.114	0.116
19	1.0		1.684	1.686	15.8	15.7		0.145	0.146

Increm. No.	Vert. Stress (kg/cm²)	Time (minutes)		Coefficient of Consolidation (cm²/s)			k x 10⁻⁶ cm/s	CR (%)
		t 90	t 50	√t	log t	Average		
1	0.1							
2	1.0	17.6	1.5	0.00073	0.00199	0.00136	0.13	0.1
3	1.5							15.6
4	2.3							0.6
5	3.4							0.9
6	5.0	30.4	4.0	0.00039	0.00069	0.00054	0.18	3.2
7	7.5							8.5
8	11.5	11.6	1.9	0.00096	0.00136	0.00116	0.67	12.1
9	17.0	7.8	2.4	0.00136	0.00103	0.00120	0.37	10.0
10	25.6	30.4	4.0	0.00033	0.00059	0.00046	0.15	14.3
11	11.5							0.9
12	5.0							2.3
13	11.5	9.0	1.0	0.00112	0.00234	0.00173	0.16	1.5
14	25.6	9.6	8.0	0.00102	0.00029	0.00065	0.06	3.1
15	38.5	82.9	26.0	0.00011	0.00009	0.00010	0.01	8.9
16	60.0	44.9	9.0	0.00020	0.00024	0.00022	0.01	6.1
17	25.6							0.6
18	5.0							2.1
19	1.0							3.2

HIGH STRESS OEDOMETER NO. OH-30
DEPTH: 70- 71.0 m SITE: C



ASIAN INSTITUTE OF TECHNOLOGY

GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

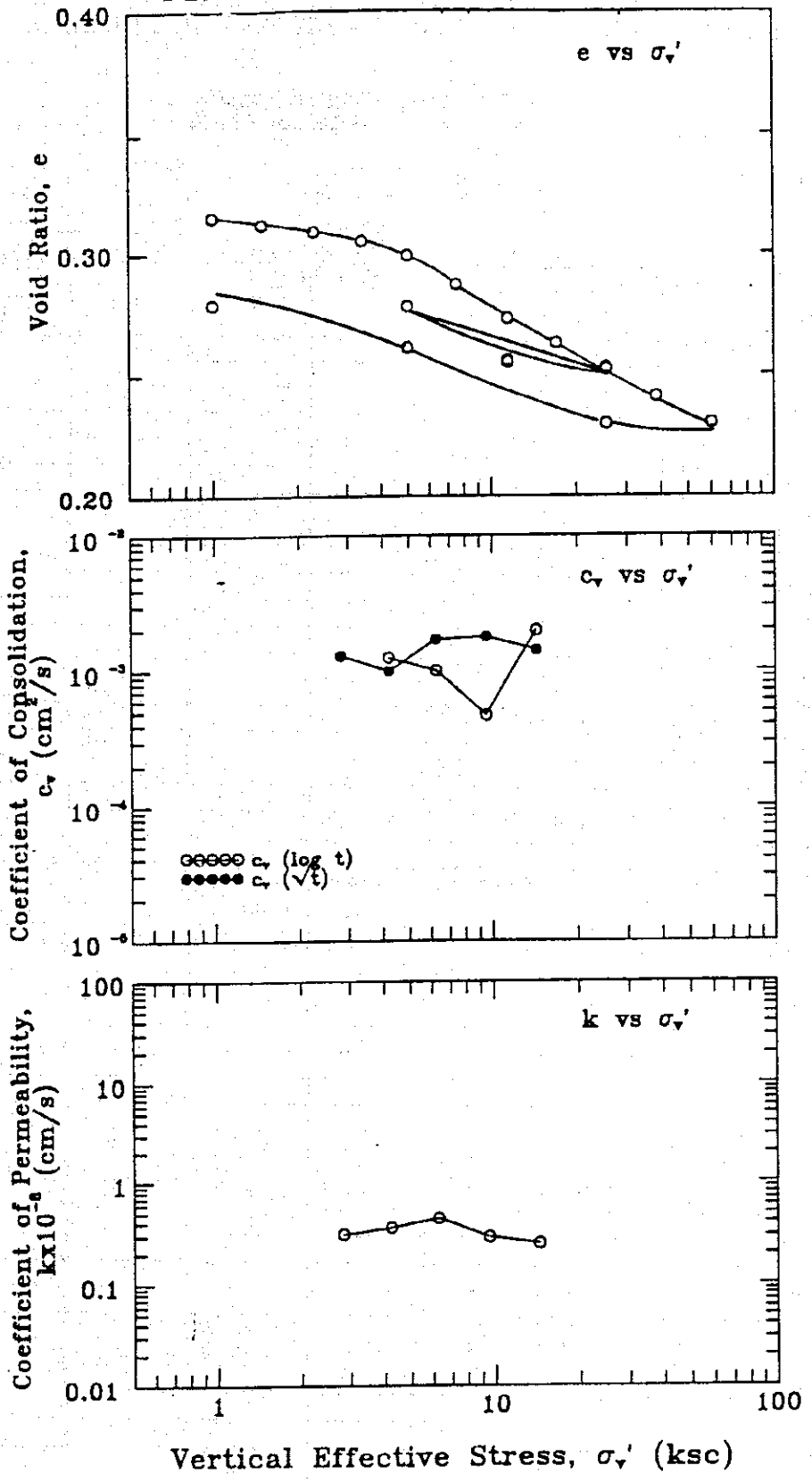
CONSOLIDATION

Project: Subsidence in Bangkok Vicinity
Location: Samut Sakhon
Borehole No.: C Depth (m) 90.4-91
Sample No.: Test No.: OH-31
Soil Description: Tested By: SIH Date: 5-93
Height of Solids (Hs) : 1.503 cm Height of Sample (Hi) : 2.000 cm

Increm. No.	Vert. Stress (kg/cm^2)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ε_{100}	ε_f	e_{50}	e_{100}	e_f
1	0.1			1.997		0.2			0.329
2	1.0			1.976		1.2			0.315
3	1.5			1.972		1.4			0.312
4	2.3			1.968		1.6			0.309
5	3.4			1.962		1.9			0.305
6	5.0	1.955	1.952	1.951	2.4	2.4	0.301	0.299	0.298
7	7.5	1.939	1.935	1.934	3.2	3.3	0.290	0.287	0.287
8	11.5	1.919	1.914	1.913	4.3	4.3	0.277	0.273	0.273
9	17.0	1.903	1.898	1.896	5.1	5.2	0.266	0.263	0.261
10	25.6			1.882		5.9			0.252
11	11.5			1.886		5.7			0.255
12	5.0	1.891	1.896	1.897	5.2	5.1	0.258	0.261	0.262
13	11.5			1.887		5.6			0.256
14	25.6			1.883		5.9			0.253
15	38.5			1.865		6.8			0.241
16	60.0			1.848		7.6			0.230
17	25.6			1.849		7.6			0.230
18	5.0	1.885	1.921	1.884	3.9	5.8	0.254	0.278	0.253
19	1.0			1.923		3.8			0.279

Increm. No.	Vert. Stress (kg/cm^2)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k $\times 10^{-6}$ cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.1							
2	1.0							1.0
3	1.5							1.1
4	2.3							1.3
5	3.4	10.6		0.00129		0.00129	0.31	1.5
6	5.0	13.7	2.5	0.00099	0.00125	0.00112	0.36	3.3
7	7.5	7.8	3.1	0.00170	0.00100	0.00135	0.44	4.8
8	11.5	7.3	6.5	0.00179	0.00047	0.00113	0.29	5.7
9	17.0	9.0	1.5	0.00142	0.00198	0.00170	0.25	4.7
10	25.6							3.9
11	11.5							0.6
12	5.0							1.5
13	11.5							1.4
14	25.6							0.6
15	38.5							5.2
16	60.0							4.3
17	25.6							0.1
18	5.0							2.5
19	1.0							2.8

HIGH STRESS OEDOMETER NO. OH-31
DEPTH: 90.4-91.0m SITE: C



ASIAN INSTITUTE OF TECHNOLOGY

GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

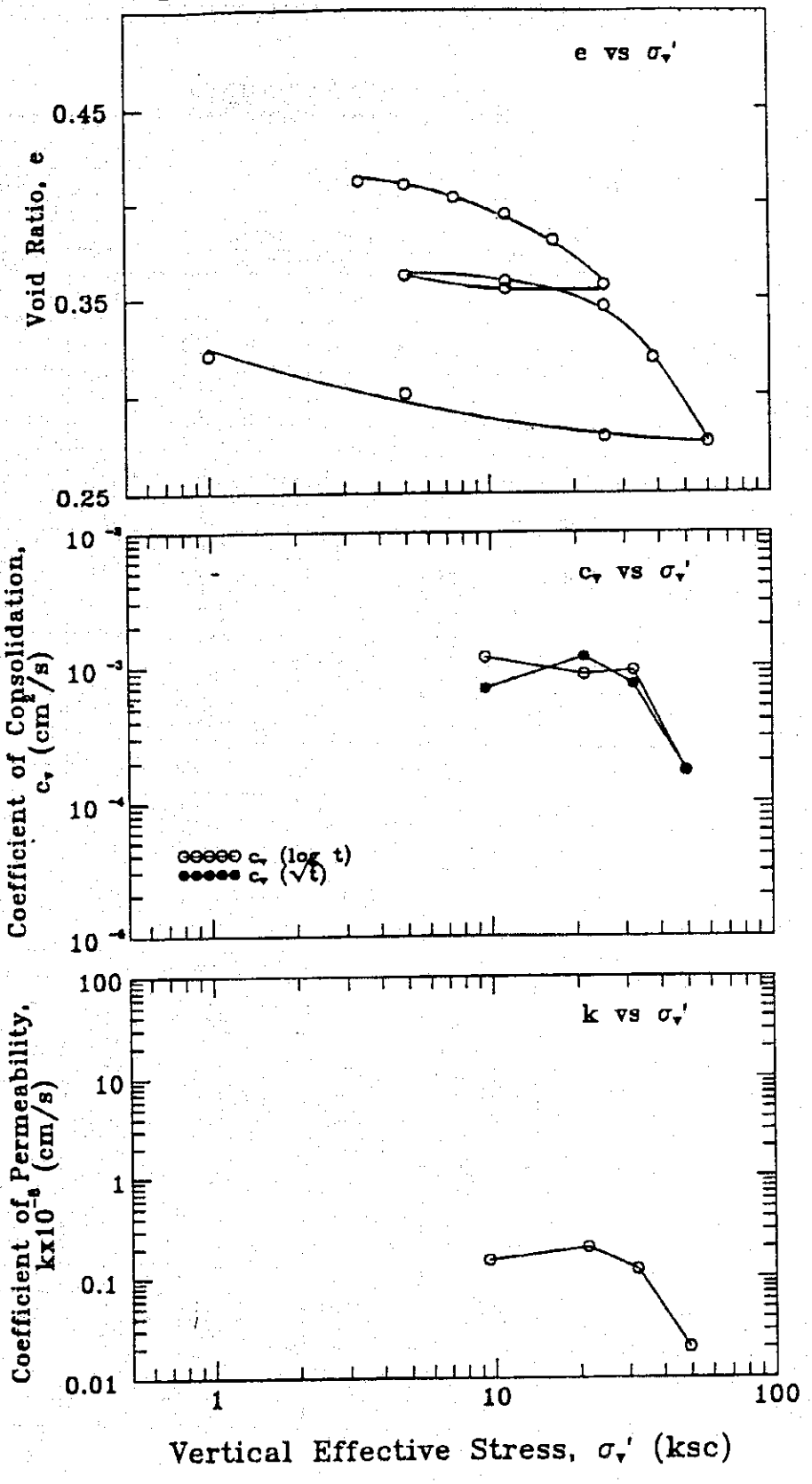
CONSOLIDATION

Project: Subsidence in Bangkok Vicinity
Location: SAMUT SAKHON
Borehole No.: C Depth (m) 101-102
Sample No.: Test No.: OH-15
Soil Description:
Tested By: SIH Date: 5-93
Height of Solids (Hs) : 1.270 cm
Height of Sample (Hi) : 1.900 cm

Increm. No.	Vert. Stress (kg/cm^2)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ε_{100}	ε_f	e_{50}	e_{100}	e_f
1	0.1								
2	1.0								
3	1.5								
4	2.3								
5	3.4			1.793		5.6			0.412
6	5.0			1.790		5.8			0.410
7	7.5			1.782		6.2			0.403
8	11.5			1.771		6.8			0.394
9	17.0			1.753		7.7			0.380
10	25.6			1.723		9.3			0.357
11	11.5			1.726		9.2			0.359
12	5.0			1.730		8.9			0.362
13	11.5			1.721		9.4			0.355
14	25.6	1.712	1.709	1.708	10.1	10.1	0.348	0.346	0.345
15	38.5	1.683	1.675	1.668	11.8	12.2	0.325	0.319	0.313
16	60.0	1.638	1.620	1.618	14.7	14.9	0.289	0.276	0.274
17	25.6			1.625		14.5			0.279
18	5.0			1.652		13.1			0.301
19	1.0	1.666	1.678	1.678	11.7	11.7	0.311	0.321	0.321

Increm. No.	Vert. Stress (kg/cm^2)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k_{-6} x 10 cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.1							
2	1.0							
3	1.5							
4	2.3							
5	3.4							
6	5.0							0.8
7	7.5							2.4
8	11.5	16.0	2.2	0.00069	0.00117	0.00093	0.15	3.3
9	17.0							5.5
10	25.6	9.0	2.8	0.00117	0.00087	0.00102	0.20	8.9
11	11.5							0.4
12	5.0							0.6
13	11.5							1.3
14	25.6							2.0
15	38.5	13.7	2.5	0.00073	0.00093	0.00083	0.12	10.1
16	60.0	55.2	13.0	0.00017	0.00017	0.00017	0.02	15.0
17	25.6							1.0
18	5.0							2.0
19	1.0							2.0

HIGH STRESS OEDOMETER NO. OH-15
DEPTH: 101-102.0 m SITE: C



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GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

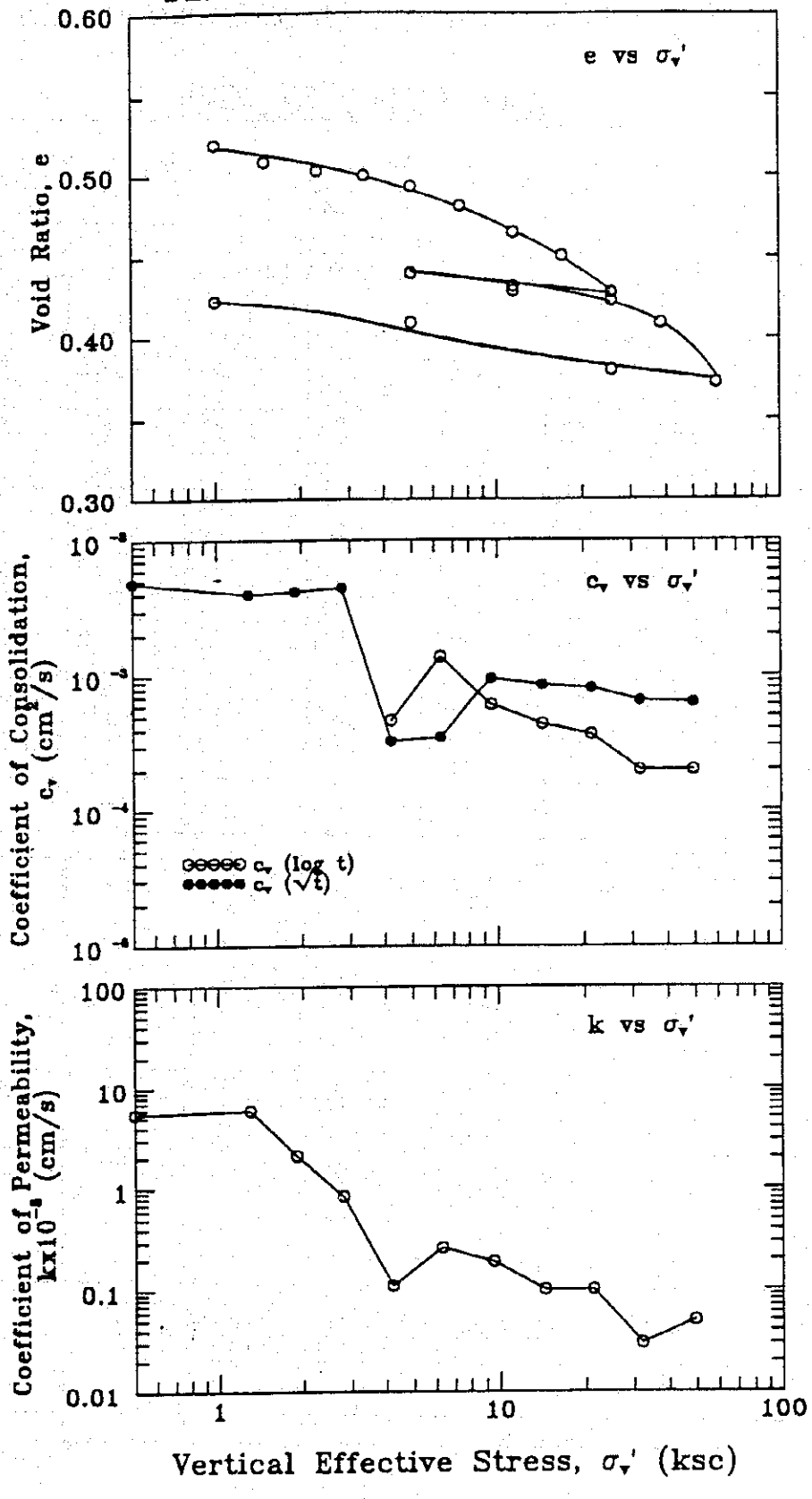
CONSOLIDATION

Project: Subsidence in Bangkok Vicinity
Location: SAMUT SAKHON
Borehole No.: C Depth (m) 131-132
Sample No.: Test No.: OH-16
Soil Description:
Tested By: SIH Date: 5-93
Height of Solids (Hs) : 1.235 cm
Height of Sample (Hi) : 1.900 cm

Increm. No.	Vert. Stress (kg/cm^2)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ε_{100}	ε_f	e_{50}	e_{100}	e_f
1	0.1			1.897		0.2			0.536
2	1.0			1.877		1.2			0.520
3	1.5			1.863		1.9			0.509
4	2.3			1.856		2.3			0.503
5	3.4			1.852		2.5			0.500
6	5.0	1.846	1.844	1.843	2.9	3.0	0.495	0.493	0.492
7	7.5	1.832	1.829	1.827	3.7	3.8	0.483	0.481	0.479
8	11.5	1.814	1.809	1.807	4.8	4.9	0.469	0.465	0.463
9	17.0	1.797	1.792	1.791	5.7	5.7	0.455	0.451	0.450
10	25.6	1.773	1.764	1.758	7.2	7.5	0.436	0.428	0.423
11	11.5			1.765		7.1			0.429
12	5.0			1.778		6.4			0.440
13	11.5			1.769		6.9			0.432
14	25.6			1.757		7.5			0.423
15	38.5	1.715	1.740	1.742	8.4	8.3	0.389	0.409	0.411
16	60.0			1.694		10.8			0.372
17	25.6			1.704		10.3			0.380
18	5.0			1.740		8.4			0.409
19	1.0		1.757	1.757	7.5	7.5		0.423	0.423

Increm. No.	Vert. Stress (kg/cm^2)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k_{-s} x 10 cm/s	CR (%)
		t_{90}	t_{50}	/t	log t	Average		
1	0.1							
2	1.0	2.6		0.00486		0.00486	5.48	0.9
3	1.5	3.1		0.00401		0.00401	6.00	4.2
4	2.3	2.9		0.00421		0.00421	2.11	2.1
5	3.4	2.7		0.00446		0.00446	0.84	1.2
6	5.0	36.0	6.0	0.00033	0.00047	0.00040	0.11	2.8
7	7.5	33.6	2.0	0.00035	0.00138	0.00087	0.26	4.5
8	11.5	12.3	4.4	0.00095	0.00061	0.00078	0.19	5.7
9	17.0	13.5	6.0	0.00085	0.00044	0.00064	0.10	5.3
10	25.6	13.7	7.0	0.00081	0.00037	0.00059	0.10	8.3
11	11.5							1.1
12	5.0							1.9
13	11.5							1.3
14	25.6							1.8
15	38.5	16.0	12.0	0.00065	0.00020	0.00043	0.03	4.5
16	60.0	16.0	12.0	0.00063	0.00020	0.00042	0.05	13.1
17	25.6							1.4
18	5.0							2.7
19	1.0							1.3

HIGH STRESS OEDOMETER NO. OH-16
DEPTH: 131-132.0 m SITE: C



ASIAN INSTITUTE OF TECHNOLOGY

GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

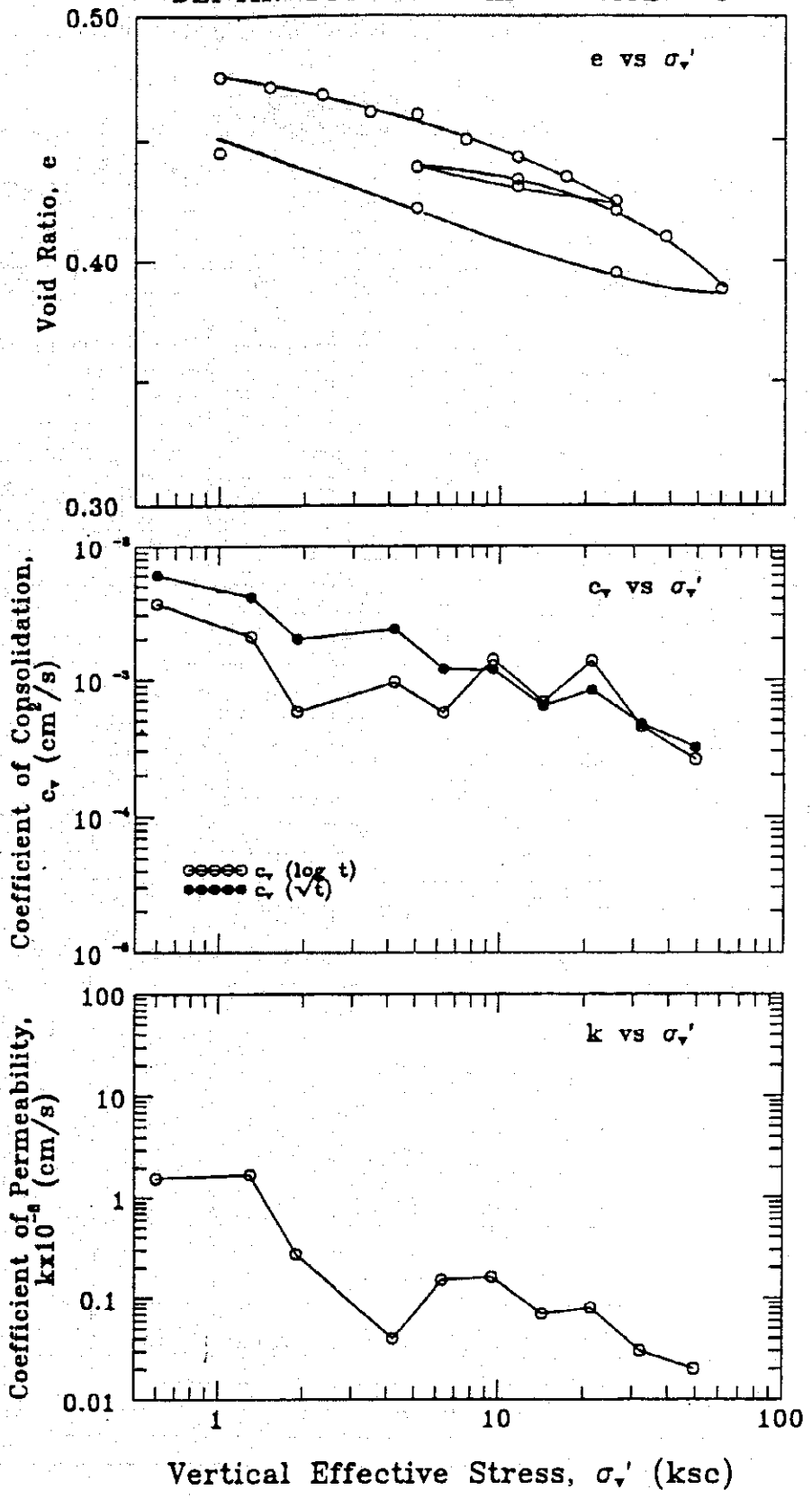
CONSOLIDATION

Project: Subsidence in Bangkok Vicinity
Location: Samut Sakhon
Borehole No.: C Depth (m) 144-145
Sample No.: Test No.: OH-32
Soil Description:
Tested By: SIH Date: 5-93
Height of Solids (Hs) : 1.284 cm
Height of Sample (Hi) : 1.900 cm

Increm. No.	Vert. Stress (kg/cm^2)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H 50	H 100	H f	ε 100	ε f	e 50	e 100	e f
1	0.1			1.900		0.0			0.479
2	1.0	1.895	1.894	1.894	0.3	0.3	0.476	0.475	0.475
3	1.5	1.890	1.889	1.888	0.6	0.6	0.472	0.471	0.470
4	2.3	1.886	1.885	1.885	0.8	0.8	0.469	0.468	0.468
5	3.4			1.876		1.3			0.461
6	5.0	1.873	1.875	1.870	1.3	1.6	0.459	0.460	0.456
7	7.5	1.865	1.862	1.862	2.0	2.0	0.452	0.450	0.450
8	11.5	1.855	1.853	1.852	2.5	2.5	0.445	0.443	0.442
9	17.0	1.833	1.842	1.841	3.1	3.1	0.428	0.435	0.434
10	25.6	1.835	1.829	1.827	3.7	3.8	0.429	0.425	0.423
11	11.5	1.832	1.837	1.836	3.3	3.4	0.427	0.431	0.430
12	5.0	1.842	1.848	1.847	2.8	2.8	0.434	0.439	0.439
13	11.5	1.844	1.842	1.841	3.1	3.1	0.436	0.434	0.434
14	25.6	1.833	1.825	1.823	3.9	4.1	0.427	0.421	0.420
15	38.5	1.816	1.810	1.807	4.7	4.9	0.414	0.410	0.408
16	60.0	1.793	1.783	1.781	6.2	6.3	0.396	0.388	0.387
17	25.6			1.791		5.7			0.395
18	5.0			1.826		3.9			0.422
19	1.0			1.855		2.4			0.445

Increm. No.	Vert. Stress (kg/cm^2)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k $\times 10^{-6}$ cm/s	CR (%)
		t 90	t 50	√t	log t	Average		
1	0.1							
2	1.0	2.1	0.8	0.00604	0.00368	0.00486	1.57	0.3
3	1.5	3.1	1.4	0.00412	0.00209	0.00311	1.71	1.6
4	2.3	6.3	5.0	0.00201	0.00058	0.00130	0.27	1.0
5	3.4							2.6
6	5.0	5.2	3.0	0.00237	0.00096	0.00166	0.04	1.8
7	7.5	10.2	5.0	0.00120	0.00057	0.00089	0.15	3.8
8	11.5	10.2	2.0	0.00119	0.00141	0.00130	0.16	2.7
9	17.0	18.5	4.0	0.00064	0.00069	0.00067	0.07	3.3
10	25.6	14.1	2.0	0.00084	0.00138	0.00111	0.08	3.8
11	11.5							1.3
12	5.0							1.6
13	11.5							0.9
14	25.6							2.5
15	38.5	25.0	6.0	0.00047	0.00045	0.00046	0.03	4.5
16	60.0	35.4	10.0	0.00032	0.00026	0.00029	0.02	7.5
17	25.6							1.5
18	5.0							2.6
19	1.0							2.2

HIGH STRESS OEDOMETER NO. OH-32
DEPTH: 144-145.0 m SITE: C



ASIAN INSTITUTE OF TECHNOLOGY

GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

CONSOLIDATION

Project: Subsidence in Bangkok Vicinity — Location: Samut Sakhon

Borehole No.: C — Depth (m): 163-163.6 — Sample No.: — Test No.: OH-33

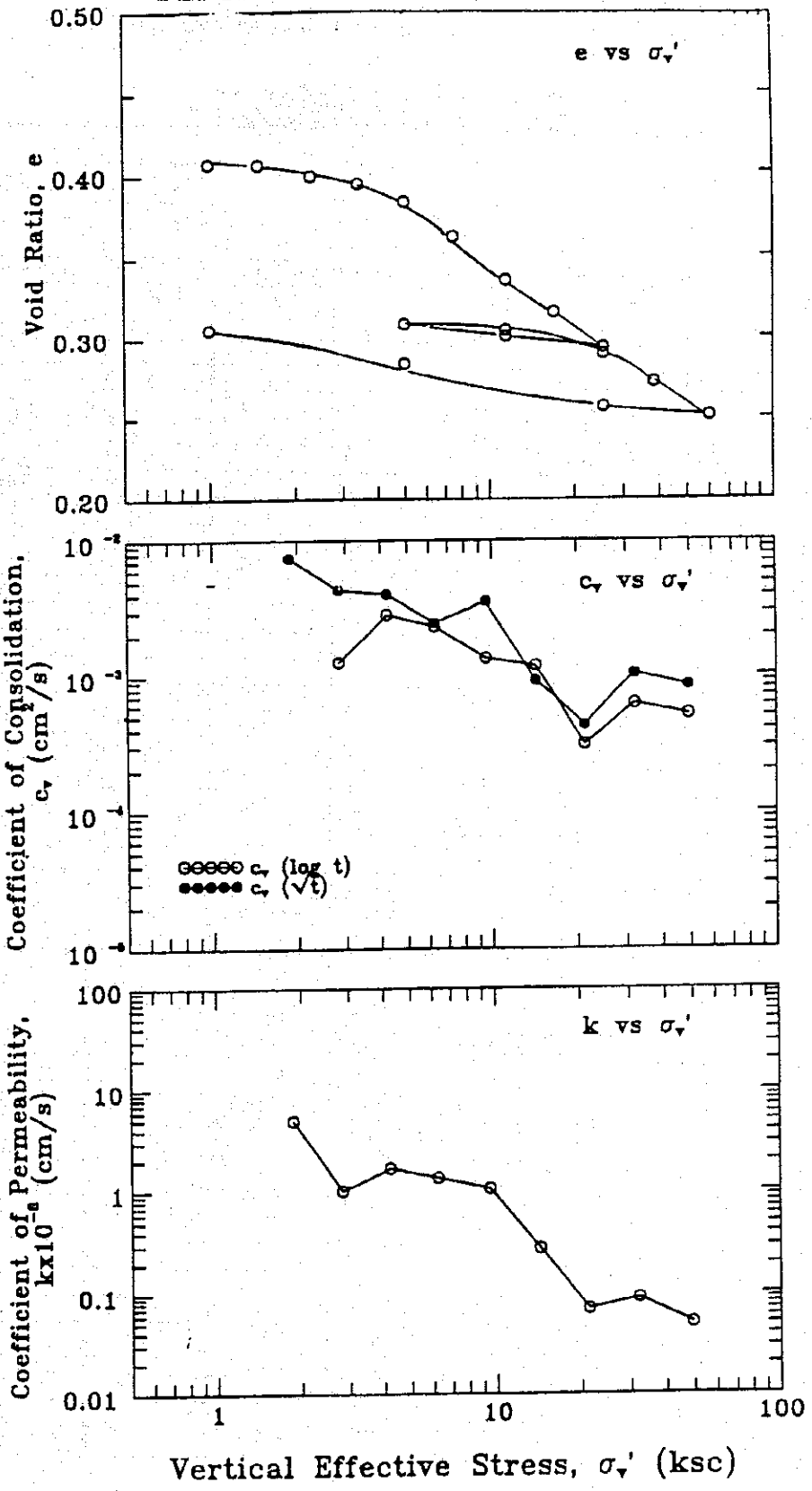
Soil Description: — Tested By: SIH — Date: 5-93

Height of Solids (Hs): 1.349 cm — Height of Sample (Hi): 1.900 cm

Increm. No.	Vert. Stress (kg/cm²)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H 50	H 100	H f	ε 100	ε f	e 50	e 100	e f
1	0.1			1.900					0.408
2	1.0			1.898		0.1			0.407
3	1.5			1.897		0.1			0.406
4	2.3			1.888		0.6			0.399
5	3.4	1.882	1.880	1.880	1.1	1.1	0.395	0.394	0.393
6	5.0	1.868	1.865	1.863	1.8	1.9	0.385	0.383	0.381
7	7.5	1.842	1.837	1.834	3.3	3.5	0.365	0.362	0.360
8	11.5	1.808	1.803	1.801	5.1	5.2	0.340	0.336	0.335
9	17.0	1.780	1.775	1.774	6.6	6.6	0.319	0.316	0.315
10	25.6	1.751	1.746	1.744	8.1	8.2	0.298	0.294	0.293
11	11.5			1.755		7.6			0.301
12	5.0			1.766		7.1			0.309
13	11.5			1.760		7.3			0.305
14	25.6			1.740		8.4			0.290
15	38.5	1.724	1.716	1.714	9.7	9.8	0.278	0.272	0.271
16	60.0	1.697	1.688	1.685	11.2	11.3	0.258	0.251	0.249
17	25.6			1.696		10.7			0.257
18	5.0		1.732	1.734	8.8	8.8		0.284	0.285
19	1.0		1.762	1.763	7.3	7.2		0.306	0.307

Increm. No.	Vert. Stress (kg/cm²)	Time (minutes)		Coefficient of Consolidation (cm²/s)			k x 10^{-6} cm/s	CR (%)
		t 90	t 50	√t	log t	Average		
1	0.1							
2	1.0							0.1
3	1.5							0.3
4	2.3	1.7		0.00745		0.00745	4.96	2.8
5	3.4	2.9	2.3	0.00433	0.00126	0.00280	1.02	2.4
6	5.0	3.1	1.0	0.00403	0.00286	0.00345	1.68	4.7
7	7.5	4.9	1.2	0.00247	0.00232	0.00239	1.35	8.4
8	11.5	3.2	2.0	0.00357	0.00134	0.00245	1.06	9.8
9	17.0	12.3	2.2	0.00091	0.00118	0.00105	0.28	8.5
10	25.6	25.0	8.0	0.00043	0.00031	0.00037	0.07	8.6
11	11.5							1.7
12	5.0							1.5
13	11.5							0.8
14	25.6							3.1
15	38.5	10.3	4.0	0.00102	0.00061	0.00081	0.09	7.7
16	60.0	12.3	4.6	0.00083	0.00051	0.00067	0.05	7.6
17	25.6							1.5
18	5.0							2.8
19	1.0							2.2

HIGH STRESS OEDOMETER NO. OH-33
DEPTH: 163-163.6 m SITE: C



ASIAN INSTITUTE OF TECHNOLOGY

GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

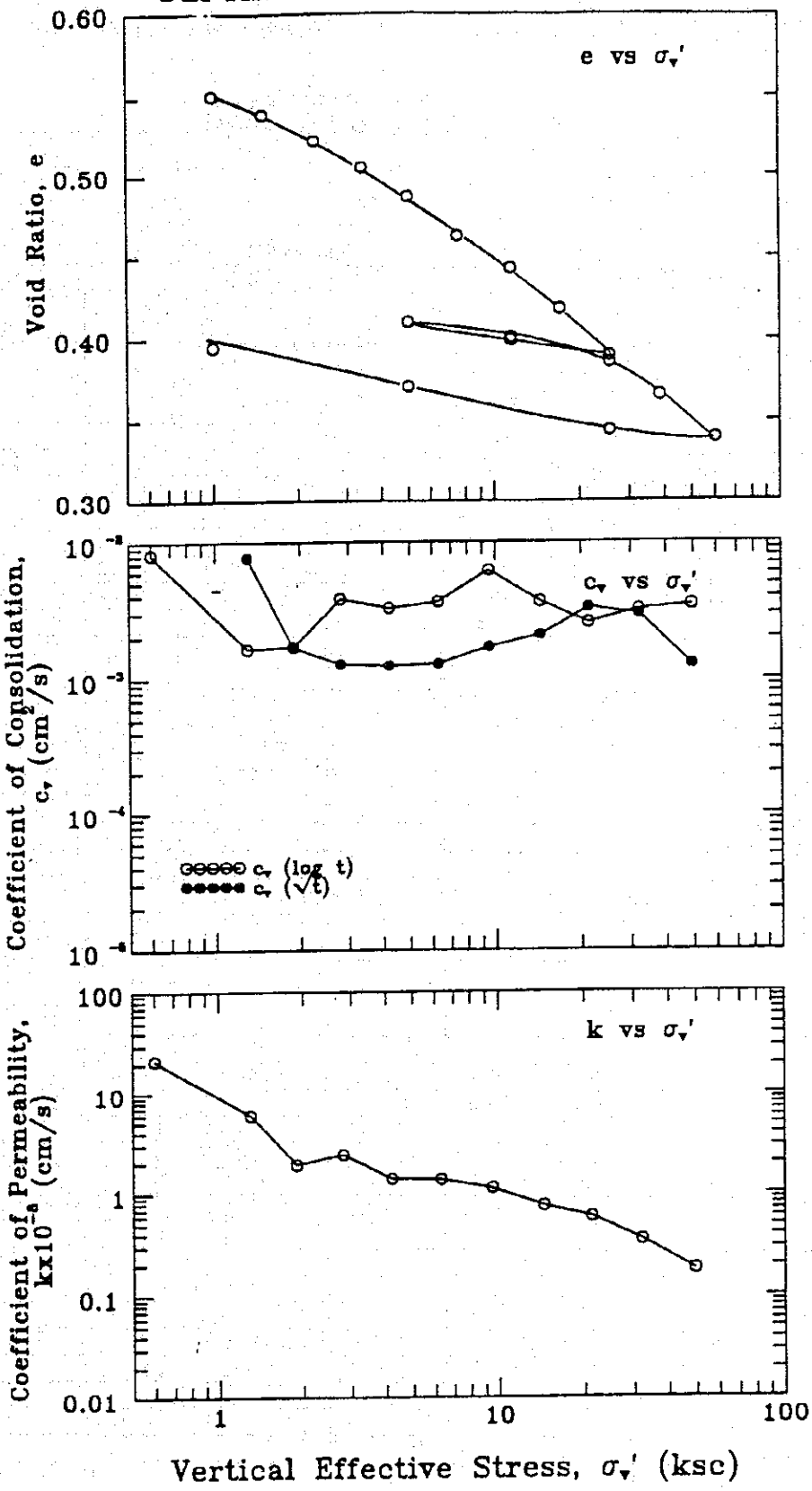
CONSOLIDATION

Project: Subsidence in Bangkok Vicinity
Location: Samut Sakhon
Borehole No.: C Depth (m) 190-191
Sample No.: Test No.: OH-34
Soil Description: Tested By: SIH Date: 5-93
Height of Solids (Hs) : 1.199 cm
Height of Sample (Hi) : 1.900 cm

Increm. No.	Vert. Stress (kg/cm^2)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	e_{100}	e_f	e_{50}	e_{100}	e_f
1	0.1			1.896		0.2			0.581
2	1.0	1.866	1.860	1.857	2.1	2.3	0.556	0.551	0.549
3	1.5	1.848	1.845	1.841	2.9	3.1	0.541	0.539	0.535
4	2.3	1.830	1.825	1.824	3.9	4.0	0.526	0.522	0.521
5	3.4	1.808	1.804	1.801	5.0	5.2	0.508	0.505	0.502
6	5.0	1.787	1.783	1.779	6.2	6.4	0.490	0.487	0.484
7	7.5	1.761	1.754	1.751	7.7	7.9	0.469	0.463	0.460
8	11.5	1.735	1.730	1.725	8.9	9.2	0.447	0.443	0.439
9	17.0	1.767	1.700	1.696	10.5	10.7	0.474	0.418	0.415
10	25.6	1.677	1.667	1.664	12.3	12.4	0.398	0.390	0.388
11	11.5			1.678		11.7			0.399
12	5.0			1.690		11.0			0.410
13	11.5			1.679		11.6			0.401
14	25.6			1.662		12.6			0.386
15	38.5	1.645	1.638	1.632	13.8	14.1	0.372	0.366	0.361
16	60.0	1.617	1.606	1.601	15.5	15.8	0.348	0.339	0.335
17	25.6			1.611		15.2			0.344
18	5.0	1.643	1.644	1.644	13.5	13.5	0.370	0.371	0.371
19	1.0	1.660	1.673	1.674	12.0	11.9	0.384	0.395	0.396

Increm. No.	Vert. Stress (kg/cm^2)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k $\times 10^{-6}$ cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.1	1.2						
2	1.0	1.0	0.4	0.01230	0.00817	0.01023	21.62	2.1
3	1.5	1.6	1.7	0.00773	0.00165	0.00469	6.03	4.6
4	2.3	7.0	1.6	0.00168	0.00172	0.00170	1.95	5.9
5	3.4	9.0	0.7	0.00128	0.00383	0.00256	2.42	6.2
6	5.0	9.0	0.8	0.00125	0.00328	0.00226	1.41	6.8
7	7.5	8.5	0.7	0.00128	0.00364	0.00246	1.39	8.5
8	11.5	6.3	0.4	0.00170	0.00618	0.00394	1.14	6.8
9	17.0	5.3	0.7	0.00209	0.00366	0.00287	0.76	9.4
10	25.6	3.0	0.9	0.00331	0.00256	0.00294	0.59	9.8
11	11.5							2.1
12	5.0							1.8
13	11.5							1.6
14	25.6							2.7
15	38.5	3.2	0.7	0.00295	0.00317	0.00306	0.35	8.8
16	60.0	7.3	0.6	0.00127	0.00346	0.00236	0.18	8.7
17	25.6							1.5
18	5.0							2.4
19	1.0							2.3

HIGH STRESS OEDOMETER NO. OH-34
DEPTH: 190-191.0 m SITE: C



ASIAN INSTITUTE OF TECHNOLOGY

GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

CONSOLIDATION

Project: Subsidence in Bangkok Vicinity — Location: Samut Sakhon

Borehole No.: C — Depth (m): 204-204.6 — Sample No.: — Test No.: OH-35

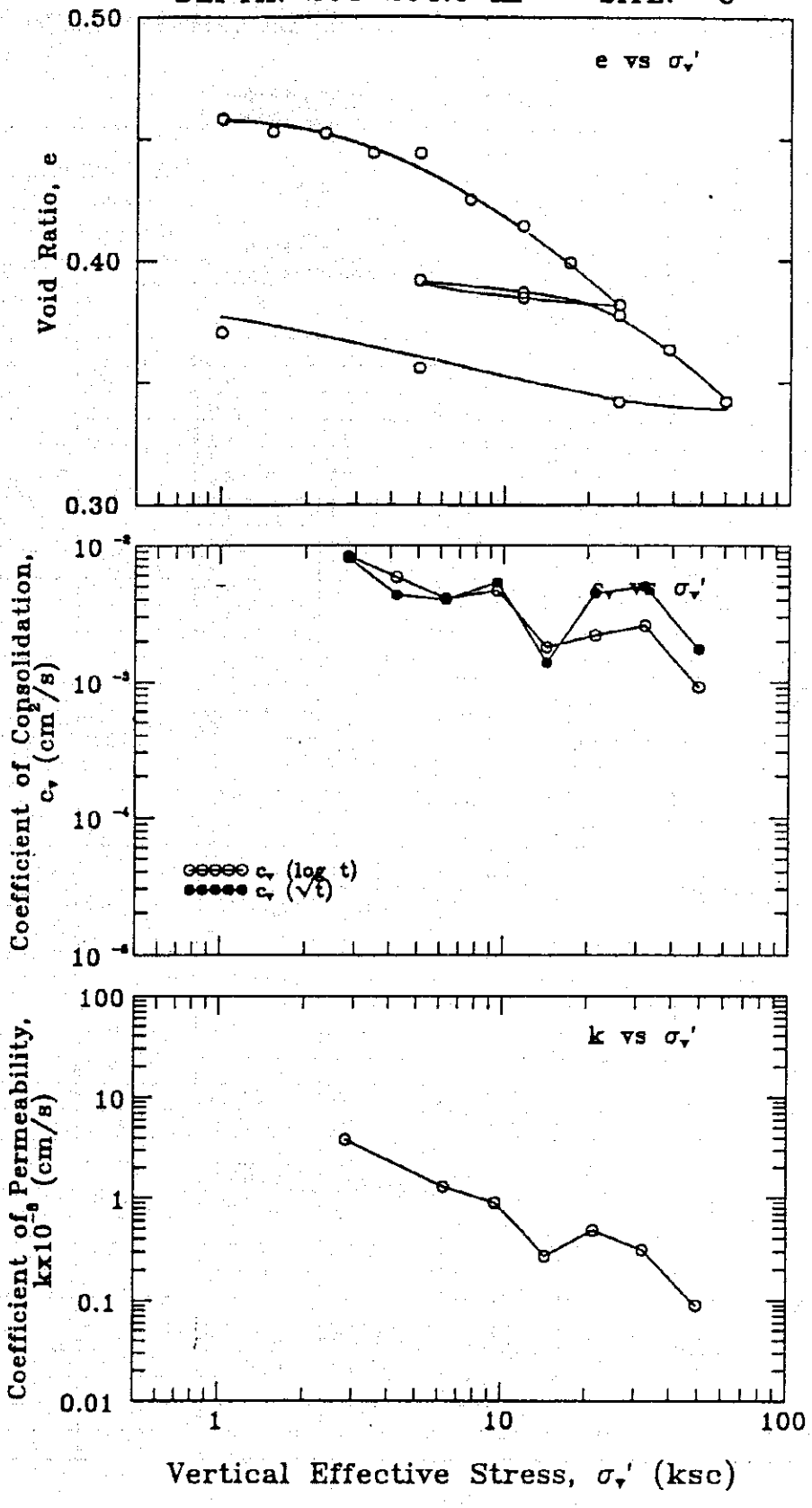
Soil Description: — Tested By: SIH — Date: 5-93

Height of Solids (Hs): 1.300 cm — Height of Sample (Hi): 1.900 cm

Increm. No.	Vert. Stress (kg/cm^2)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H_{50}	H_{100}	H_f	ε_{100}	ε_f	e_{50}	e_{100}	e_f
1	0.1			1.900		-0.0			0.462
2	1.0			1.895		0.3			0.458
3	1.5			1.889		0.6			0.453
4	2.3			1.888		0.7			0.452
5	3.4	1.878	1.877	1.876	1.2	1.3	0.445	0.444	0.443
6	5.0	1.878	1.877	1.867	1.2	1.7	0.445	0.444	0.436
7	7.5	1.855	1.852	1.851	2.5	2.6	0.427	0.425	0.424
8	11.5	1.840	1.838	1.836	3.3	3.4	0.415	0.414	0.412
9	17.0	1.822	1.819	1.819	4.3	4.3	0.402	0.399	0.399
10	25.6	1.803	1.797	1.796	5.4	5.5	0.387	0.382	0.382
11	11.5			1.801		5.2			0.385
12	5.0			1.810		4.7			0.392
13	11.5			1.803		5.1			0.387
14	25.6			1.792		5.7			0.378
15	38.5	1.781	1.773	1.771	6.7	6.8	0.370	0.364	0.362
16	60.0	1.757	1.745	1.742	8.2	8.3	0.352	0.342	0.340
17	25.6			1.745		8.1			0.342
18	5.0			1.763		7.2			0.356
19	1.0			1.782		6.2			0.371

Increm. No.	Vert. Stress (kg/cm^2)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k $\times 10^{-6}$ cm/s	CR (%)
		t_{90}	t_{50}	$\sqrt{t}$	log t	Average		
1	0.1							
2	1.0							0.3
3	1.5							1.7
4	2.3							0.4
5	3.4	1.6	0.4	0.00799	0.00827	0.00813	3.83	3.4
6	5.0	2.9	0.5	0.00431	0.00579	0.00505		2.7
7	7.5	3.1	0.7	0.00397	0.00403	0.00400	1.29	7.4
8	11.5	2.3	0.6	0.00532	0.00463	0.00497	0.90	4.1
9	17.0	8.4	1.5	0.00140	0.00182	0.00161	0.27	5.9
10	25.6	2.6	1.2	0.00449	0.00222	0.00336	0.48	6.6
11	11.5							0.7
12	5.0							1.4
13	11.5							1.0
14	25.6							1.7
15	38.5	2.3	1.0	0.00498	0.00260	0.00379	0.31	6.4
16	60.0	6.3	2.8	0.00175	0.00091	0.00133	0.09	7.7
17	25.6							0.4
18	5.0							1.3
19	1.0							1.5

HIGH STRESS OEDOMETER NO. OH-35
DEPTH: 204-204.6 m SITE: C



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GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

CONSOLIDATION

Project: Subsidence in Bangkok Vicinity — Location: Samut Sakhon

Borehole No.: C — Depth (m): 226.5-227 — Sample No.: — Test No.: OH-36

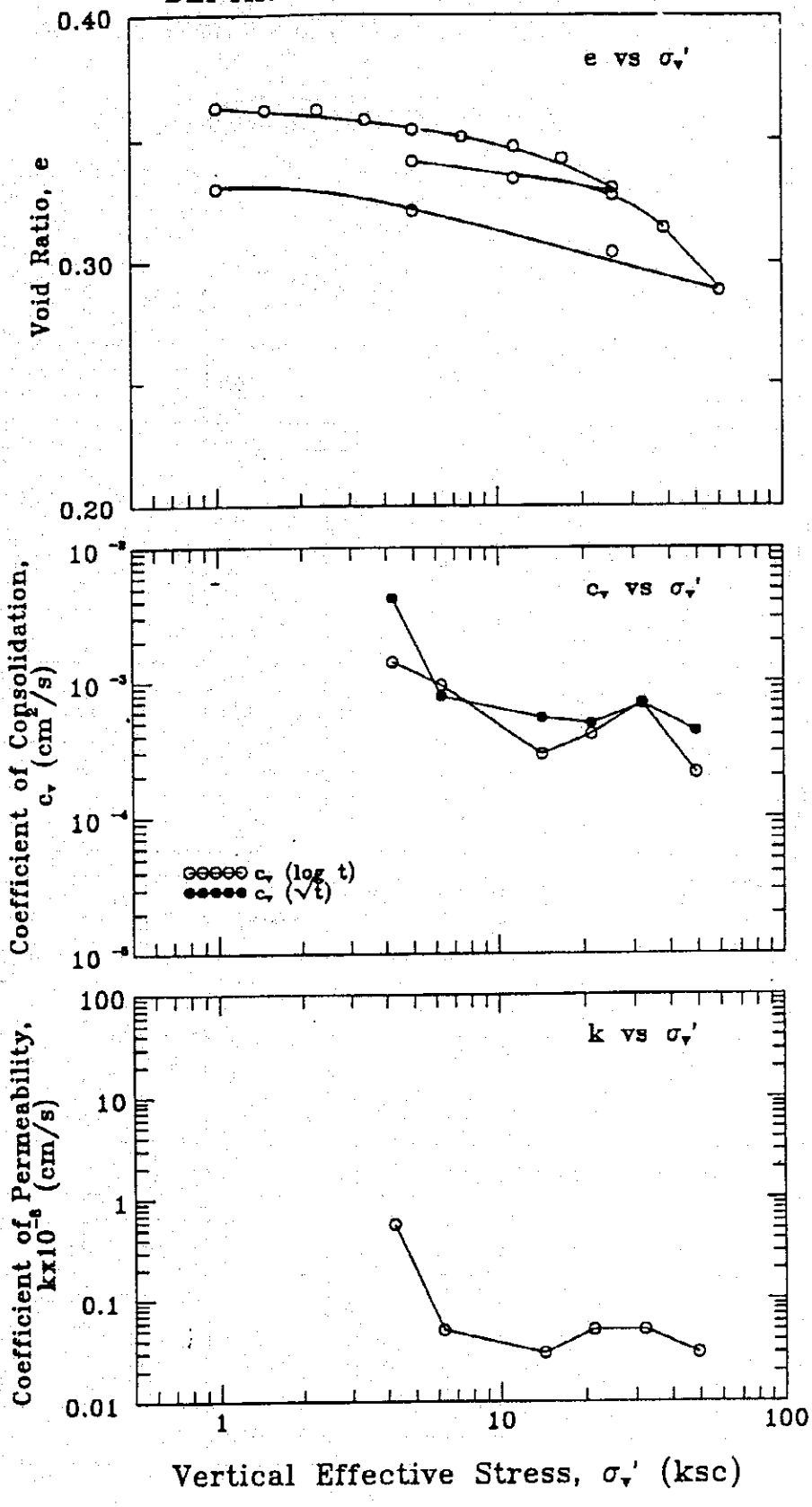
Soil Description: — Tested By: SIH — Date: 5-93

Height of Solids (Hs) : 1.394 cm — Height of Sample (Hi) : 1.900 cm

Increm. No.	Vert. Stress (kg/cm^2)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H 50	H 100	H f	ε 100	ε f	e 50	e 100	e f
1	0.1								
2	1.0			1.901		-0.0			0.363
3	1.5			1.899		0.0			0.362
4	2.3			1.898		0.1			0.362
5	3.4			1.893		0.3			0.358
6	5.0	1.889	1.887	1.886	0.7	0.7	0.355	0.354	0.353
7	7.5	1.884	1.883	1.882	0.9	0.9	0.352	0.351	0.350
8	11.5			1.878		1.2			0.347
9	17.0	1.873	1.871	1.870	1.5	1.6	0.344	0.342	0.342
10	25.6	1.862	1.854	1.852	2.4	2.5	0.336	0.330	0.329
11	11.5			1.860		2.1			0.334
12	5.0			1.869		1.6			0.341
13	11.5			1.860		2.1			0.334
14	25.6		1.850	1.850	2.6	2.6		0.327	0.327
15	38.5	1.840	1.832	1.829	3.6	3.7	0.320	0.314	0.312
16	60.0	1.809	1.795	1.793	5.5	5.7	0.298	0.288	0.286
17	25.6			1.817		4.4			0.304
18	5.0			1.842		3.1			0.321
19	1.0	1.848	1.854	1.859	2.4	2.2	0.326	0.330	0.334

Increm. No.	Vert. Stress (kg/cm^2)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k $\times 10^{-6}$ cm/s	CR (%)
		t 90	t 50	√t	log t	Average		
1	0.1							
2	1.0							
3	1.5							0.4
4	2.3							0.3
5	3.4							1.4
6	5.0	3.0	2.1	0.00420	0.00140	0.00280	0.56	2.3
7	7.5	16.0	3.1	0.00078	0.00094	0.00086	0.05	1.3
8	11.5							1.1
9	17.0	23.0	10.0	0.00054	0.00029	0.00041	0.03	2.4
10	25.6	25.0	7.0	0.00049	0.00041	0.00045	0.05	4.9
11	11.5							1.2
12	5.0							1.4
13	11.5							1.4
14	25.6							1.5
15	38.5	17.6	4.0	0.00068	0.00069	0.00069	0.05	5.5
16	60.0	27.0	13.0	0.00043	0.00021	0.00032	0.03	9.9
17	25.6							3.5
18	5.0							1.8
19	1.0							1.3

HIGH STRESS OEDOMETER NO. OH-36
DEPTH: 226.5-227 m SITE: C



ASIAN INSTITUTE OF TECHNOLOGY

GEOTECHNICAL AND TRANSPORTATION ENGINEERING DIVISION

CONSOLIDATION

Project: Subsidence in Bangkok Vicinity — Location: Samut Sakhon

Borehole No.: C — Depth (m): 247-248 — Sample No.: — Test No.: OH-37

Soil Description: — Tested By: SIH — Date: 5-93

Height of Solids (Hs): 1.557 cm — Height of Sample (Hi): 2.000 cm

Increm. No.	Vert. Stress (kg/cm^2)	Height of Sample (cm)			Vertical Strain (%)		Void Ratio		
		H 50	H 100	H f	ε 100	ε f	e 50	e 100	e f
1	0.1			2.000					0.285
2	1.0			1.988		0.6			0.277
3	1.5			1.980		1.0			0.272
4	2.3	1.972	1.968	1.967	1.6	1.6	0.266	0.264	0.263
5	3.4			1.948		2.6			0.251
6	5.0	1.929	1.923	1.920	3.8	4.0	0.239	0.235	0.233
7	7.5	1.900	1.893	1.892	5.4	5.4	0.220	0.216	0.215
8	11.5	1.870	1.861	1.860	7.0	7.0	0.201	0.195	0.195
9	17.0	1.842	1.833	1.832	8.4	8.4	0.183	0.177	0.177
10	25.6			1.805		9.8			0.159
11	11.5			1.812		9.4			0.164
12	5.0			1.824		8.8			0.171
13	11.5		1.817	1.817	9.2	9.2		0.167	0.167
14	25.6		1.802	1.801	9.9	10.0		0.157	0.157
15	38.5	1.787	1.779	1.776	11.1	11.2	0.147	0.143	0.141
16	60.0	1.754	1.745	1.741	12.7	12.9	0.127	0.121	0.118
17	25.6			1.748		12.6			0.123
18	5.0			1.777		11.1			0.142
19	1.0			1.815		9.2			0.166

Increm. No.	Vert. Stress (kg/cm^2)	Time (minutes)		Coefficient of Consolidation (cm^2/s)			k $\times 10^{-6}$ cm/s	CR (%)
		t 90	t 50	√t	log t	Average		
1	0.1							
2	1.0							0.6
3	1.5							2.2
4	2.3	9.0	5.0	0.00153	0.00064	0.00108	0.87	3.7
5	3.4							5.3
6	5.0	6.8	1.4	0.00194	0.00218	0.00206	1.67	8.4
7	7.5	5.3	2.0	0.00241	0.00148	0.00195	1.10	8.5
8	11.5	12.3	3.0	0.00101	0.00096	0.00098	0.41	8.6
9	17.0	9.0	3.0	0.00133	0.00093	0.00113	0.30	8.2
10	25.6							7.6
11	11.5							1.0
12	5.0							1.7
13	11.5							1.0
14	25.6							2.2
15	38.5	9.6	2.5	0.00117	0.00105	0.00111	0.11	6.5
16	60.0	5.8	1.8	0.00189	0.00140	0.00165	0.14	8.8
17	25.6							1.0
18	5.0							2.1
19	1.0							2.7

HIGH STRESS OEDOMETER NO. OH-37
DEPTH: 247-248.0 m SITE: C