

LAMPIRAN

PENGUJIAN BERAT JENIS AGREGAT

Proyek : Tugas Akhir
Lokasi : Kalibawang
Kode sampel : kapur karbid
Kadalaman :

AGREGAT HALUS (lolos #10)

1	No pengujian	1	2
2	Berat Picknometer (W1)	19,67	18,15
3	Berat Picknometer +tanah kering (W2)	29,62	22,81
4	Berat Picknometer + tanah + air (W3)	74,48	45,71
5	Berat Picknometer + air (W4)	69,63	43,40
6	Temperatur (to)	28,00	28,00
7	Berat tanah kering (Wt)	9,95	4,66
8	$A = Wt + W4$	79,58	48,06
9	$I = A - W3$	5,10	2,35
10	Berat Jenis tanah, $G_s = Wt / I$	1,95	1,98
12	Berat jenis rata-rata		1,967

LABORATORIUM MEKANIKA TANAH
JURUSAN TEKNIK SIPIL FTSP
UNIVERSITAS ISLAM INDONESIA



LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN UII
 Jl. Kaliurang KM. 14,4 Telp. (0274) 895042 Yogyakarta 55584.

PENGUJIAN BATAS SUSUT TANAH

PROYEK : TUGAS AKHIR
 Asal Sampel : KASONGAN
 NO Sampel : (Asli - 0 %)

DIKERJAKAN : Fitra, Budi
 TANGGAL : 19 MEI 2003

No Pengujian (kode sampel)		0%	3%	6%
2	Berat jenis tanah	2,59	2,566	2,542
3	Berat Cawan Susut	35,08	37,84	38,93
4	Berat cawan susut + tanah basah	63,02	63,80	63,61
5	Berat cawan susut + tanah kering	52,78	54,32	53,86
6	Berat air	10,24	9,48	9,75
7	Berat tanah Kering	17,70	16,48	14,93
8	Berat air raksa yang terdesak tanah kering + gelas ukur	206,91	216,00	201,92
9	Berat gelas ukur	33,67	33,77	33,77
10	Volume tanah kering	12,74	13,40	12,36
11	Batas Susut Tanah	33,36	42,34	43,47
12	Batas susut tanah rata-rata	33,59	42,09	43,00



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PEMADATAN TANAH

Proctor test

PROYEK : Tugas Akhir
 Asal Sampel : Kalibawang
 NO Sampel : 0%

DIKERJAKAN : Budi fitra
 TANGGAL : 04/25/2003

DATA SILINDER	
1	Diameter (ϕ) cm : 10,2
2	Tinggi (H) cm : 11,6
3	Volume (V) cm ³ : 947,87
4	Berat gram : 1873
Berat jenis Gs : 2,7679	

DATA PENUMBUK	
Berat (kg)	2,505
Jumlah lapis	3
Jumlah tumbukan /lapis	25
Tinggi jatuh	30,48

PENAMBAHAN AIR						
1	Berat tanah absah gram	2000	2000	2000	2000	2000
2	Kadar air mula-mula %	27,736	25,486	27,056	28,729	25,875
3	Penambahan air %	10	15	17,5	20	25
4	Penambahan air ml	200	300	350	400	500

PENGUJIAN PEMADATAN SILINDER						
1	Nomor pengujian	1	2	3	4	5
2	Berat silinder + tanah padat gram	3245	3373,5	3475	3408	3335
3	Berat tanah padat gram	1372	1500,5	1602	1535	1462
4	Berat volume tanah gr/cm ³	1,447	1,593	1,690	1,619	1,542

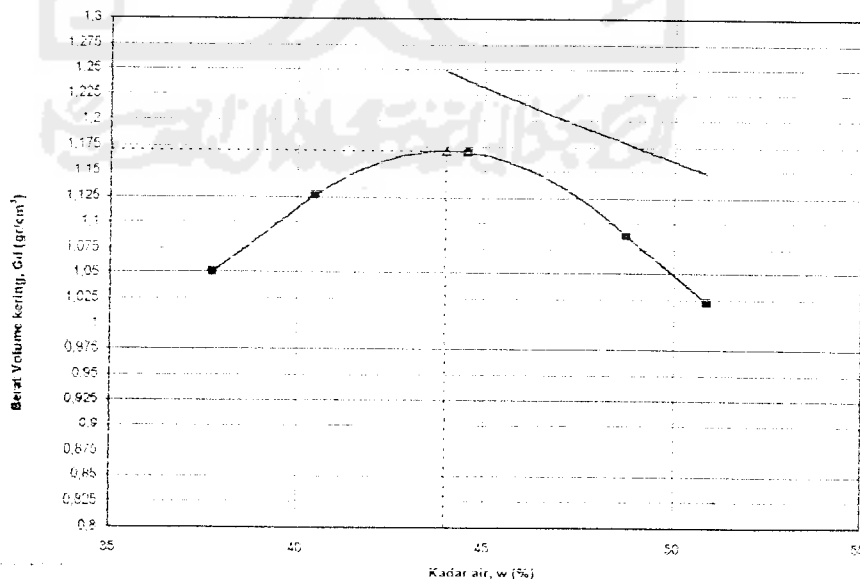
PENGUJIAN KADAR AIR											
1	NOMOR PERCOBAAN	1		2		3		4		5	
2	Nomor cawan	a	b	a	b	a	b	a	b	a	b
3	Berat cawan kosong gram	21,78	21,67	21,78	21,94	21,65	21,64	21,66	21,73	21,66	21,73
4	Berat cawan + tanah basah gram	44,93	38,52	49,20	45,55	54,88	53,66	55,08	67,30	55,08	67,30
5	Berat cawan + tanah kering gram	38,62	33,88	41,27	38,77	44,68	43,75	44,13	52,37	43,50	52,37
6	Kadar air = w %	37,47	38,00	40,69	40,29	44,29	44,82	48,73	48,73	53,02	48,73
9	Kadar air rata-rata	37,74		40,49		44,56		48,73		50,97	
10	Berat volume tanah kering gr/cm ³	1,051		1,127		1,169		1,089		1,022	

BERAT VOLUME KERING
 MAKSIMUM (gr/cm³)

1,17

KADAR AIR OPTIMUM (%)

43,97



Diperiksa :

AW

Ir. H. A. Halim Hasmar, MT.



PEMADATAN TANAH

Proctor test

PROYEK : Tugas Akhir
 Asal Sampel : Kalibawang
 NO Sampel : tanah asli + 3% karbid

DIKERJAKAN : Fitra, Budi
 TANGGAL : 04/25/03

DATA SILINDER	
1	Diameter (ϕ) cm : 10,2
2	Tinggi (H) cm : 11,6
3	Volume (V) cm ³ : 947,87
4	Berat gram : 1873

DATA PENUMBUK	
Berat (kg)	2,505
Jumlah lapis	3
Jumlah tumbukan /lapis	25
Tinggi jatuh	30,48

Berat jenis Gs	2,7679
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PENAMBAHAN AIR

	2000	2000	2000	2000	2000
1 Berat tanah absah gram	2000	2000	2000	2000	2000
2 Kadar air mula-mula %	22,070	22,070	22,070	22,070	22,070
3 Penambahan air %	15	20	25	27,5	30
4 Penambahan air ml	300	400	500	550	600

PENGUJIAN PEMADATAN SILINDER

	1	2	3	4	5
1 Nomor pengujian	1	2	3	4	5
2 Berat silinder + tanah pada gram	3150	3190	3391	3470	3457
3 Berat tanah padat gram	1277	1317	1518	1597	1584
4 Berat volume tanah gr/cm ³	1,347	1,389	1,601	1,685	1,671

PENGUJIAN KADAR AIR

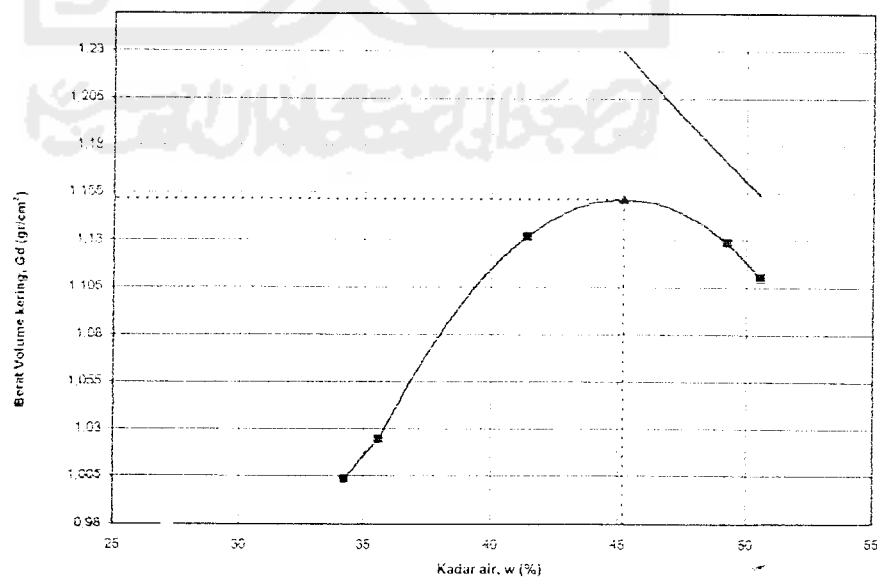
	1		2		3		4		5	
1 NOMOR PERCOBAAN	a	b	a	b	a	b	a	b	a	b
2 Nomor cawan										
3 Berat cawan kosong gram	21,59	21,61	21,60	21,62	21,10	21,78	21,87	21,98	21,70	21,95
4 Berat cawan + tanah basah gram	44,50	48,50	44,33	48,49	41,15	45,56	56,11	49,75	49,13	59,17
5 Berat cawan + tanah kering gram	38,64	41,67	38,41	41,38	35,33	38,53	44,81	40,59	39,90	46,70
8 Kadar air = w %	34,37	34,05	35,22	35,98	40,90	41,97	49,26	49,22	50,71	50,38
9 Kadar air rata-rata	34,21		35,50		41,43		49,24		50,55	
10 Berat volume tanah kering gr/cm ³	1,004		1,025		1,132		1,129		1,110	

BERAT VOLUME KERING
 MAKSIMUM (gr/cm³)

1,152

KADAR AIR OPTIMUM (%)

45,18



Diperiksa :

Ir. H. A. Halim Hasmar, MT



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PEMADATAN TANAH

Proctor test

PROYEK : Tugas Akhir
 Asal Sampel : Kalibawang
 NO Sampel : tanah asli + 6% karbid

DIKERJAKAN : Fitra, Budi
 TANGGAL : 04/25/2003

DATA SILINDER	
1	Diameter (ϕ) cm : 10,2
2	Tinggi (H) cm : 11,6
3	Volume (V) cm ³ : 947,87
4	Berat gram : 1873

DATA PENUMBUK	
Berat (kg)	2,505
Jumlah lapis	3
Jumlah tumbukan /lapis	25
Tinggi jatuh	30,48

Berat jenis Gs	2,7679
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PENAMBAHAN AIR

		2000	2000	2000	2000	2000
1	Berat tanah absah gram	2000	2000	2000	2000	2000
2	Kadar air mula-mula %	22,070	22,070	22,070	22,070	22,070
3	Penambahan air %	15	20	25	30	35
4	Penambahan air ml	300	400	500	600	700

PENGUJIAN PEMADATAN SILINDER

		1	2	3	4	5
1	Nomor pengujian	1	2	3	4	5
2	Berat silinder + tanah padat gram	3223	3339	3476	3437	3335
3	Berat tanah padat gram	1350	1466	1603	1564	1462
4	Berat volume tanah gr/cm ³	1,424	1,547	1,691	1,649	1,542

PENGUJIAN KADAR AIR

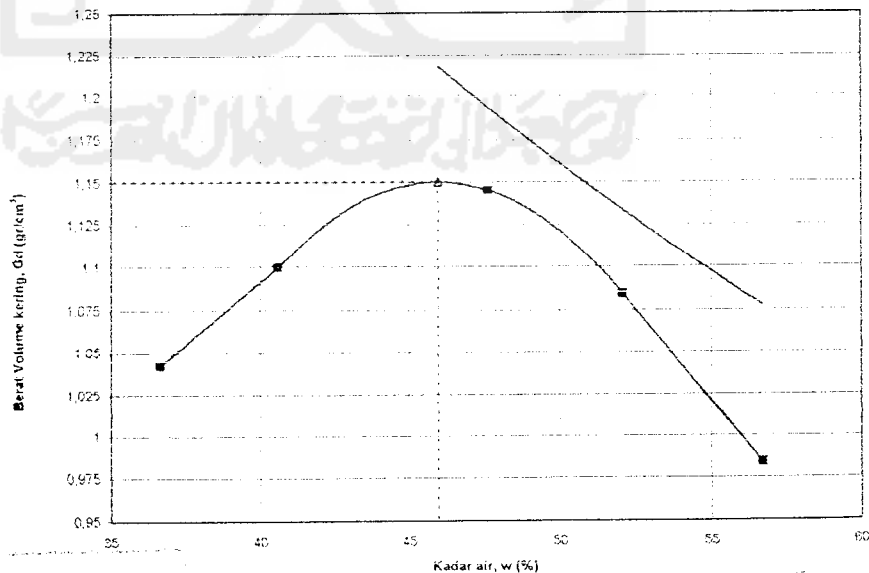
		1		2		3		4		5	
1	NOMOR PERCOBAAN										
2	Nomor cawan	a	b	a	b	a	b	a	b	a	b
3	Berat cawan kosong gram	21,96	21,55	21,90	21,98	21,80	21,62	22,15	21,74	21,66	21,73
4	Berat cawan + tanah basah gram	35,05	53,83	49,41	50,06	57,70	55,81	56,04	53,76	55,87	69,76
5	Berat cawan + tanah kering gram	31,52	45,23	41,36	42,06	46,16	44,74	44,36	42,87	43,50	52,37
8	Kadar air = w %	36,92	36,32	41,37	39,84	47,37	47,88	52,59	51,54	56,64	56,76
9	Kadar air rata-rata	36,62		40,60		47,63		52,06		56,70	
10	Berat volume tanah kering gr/cm ³	1,042		1,100		1,146		1,085		0,984	

BERAT VOLUME KERING
 MAKSIMUM (gr/cm³)

1,150

KADAR AIR OPTIMUM (%)

45,96



Diperiksa :

Ir. H. A Halim Hasmar, MT



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 Jl. Kaliurang KM. 14.4 Telp. (0274) 895042 Yogyakarta 55584.

PEMADATAN TANAH

Proctor test

PROYEK : Tugas Akhir
 Asal Sampel : Kalibawang
 NO Sampel : tanah asli + 9% karpid

DIKERJAKAN : Fitra, Budi
 TANGGAL : 04/25/2003

DATA SILINDER	
1	Diameter (ϕ) cm : 10,2
2	Tinggi (H) cm : 11,6
3	Volume (V) cm ³ : 947,87
4	Berat gram : 1873

DATA PENUMBUK	
Berat (kg)	2,505
Jumlah lapis	3
Jumlah tumbukan /lapis	25
Tinggi jatuh	30,48

Berat jenis Gs	2,7679
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PENAMBAHAN AIR						
1	Berat tanah absah gram	2000	2000	2000	2000	
2	Kadar air mula-mula %	12,518	22,422	24,854	31,626	34,841
3	Penambahan air %	22,07	22,07	22,07	22,07	22,07
4	Penambahan air ml	300	450	550	650	700

PENGUJIAN PEMADATAN SILINDER

	1	2	3	4	5	
1	Nomor pengujian					
2	Berat silinder + tanah padat gram	3148	3425	3471	3409	3335
3	Berat tanah padat gram	1275	1552	1598	1536	1462
4	Berat volume tanah gr/cm ³	1,345	1,637	1,686	1,620	1,542

PENGUJIAN KADAR AIR

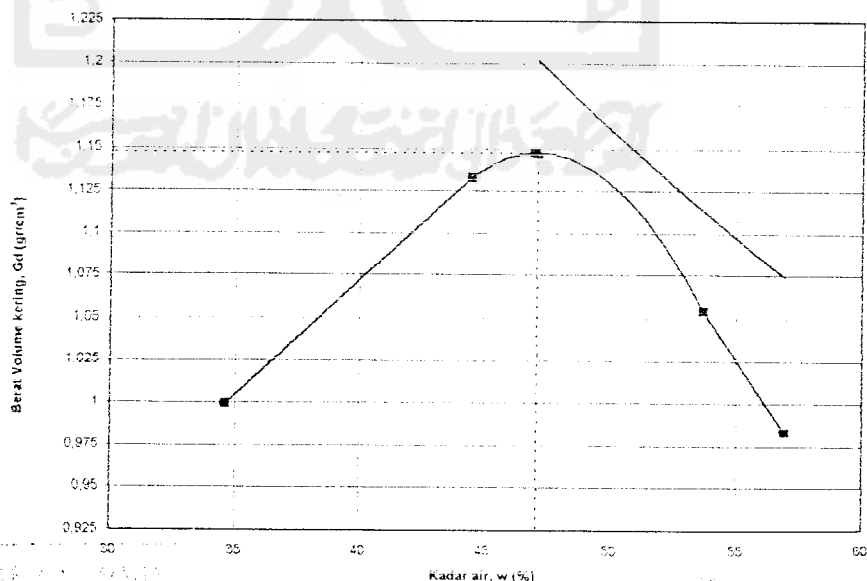
1	NOMOR PERCOBAAN		2		3		4		5		
2	Nomor cawan		a	b	a	b	a	b	a	b	
3	Berat cawan kosong gram	21,98	21,64	22,11	21,40	21,79	21,68	21,78	21,72	21,67	21,54
4	Berat cawan + tanah basah gram	55,64	53,23	49,97	50,25	54,51	46,78	61,46	51,31	55,94	68,45
5	Berat cawan + tanah kering gram	46,97	45,13	41,34	41,42	44,00	38,81	47,79	40,83	43,50	51,45
8	Kadar air = w %	34,69	34,48	44,88	44,11	47,32	46,53	52,56	54,84	56,99	56,84
9	Kadar air rata-rata	34,59		44,49		46,92		53,70		56,91	
10	Berat volume tanah kering gr/cm ³	0,999		1,133		1,147		1,054		0,983	

BERAT VOLUME KERING
 MAKSIMUM (gr/cm³)

1,148

KADAR AIR OPTIMUM (%)

47,09



Diperiksa
(Signature)

Ir. H. A. Halim Hasmar, MT



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 Jl. Kaliurang KM. 14,4 Telp. (0274) 895042 Yogyakarta 55584.

PEMADATAN TANAH

Proctor test

PROYEK : Tugas Akhir
 Asal Sampel : Kalibawang
 NO Sampel : 12%

DIKERJAKAN : Fitra, Budi
 TANGGAL : 04/25/2003

DATA SILINDER	
1	Diameter (ϕ) cm : 10,2
2	Tinggi (H) cm : 11,8
3	Volume (V) cm ³ : 947,87
4	Berat gram : 1873
Berat jenis Gs : 2,7679	

DATA PENUMBUK	
Berat (kg)	2,505
Jumlah lapis	3
Jumlah tumbukan /lapis	25
Tinggi jatuh	30,48

PENAMBAHAN AIR					
1	Berat tanah absah gram	2000	2000	2000	2000
2	Kadar air mula-mula %	22,070	22,070	22,070	22,070
3	Penambahan air %	20	25	32,5	37,5
4	Penambahan air ml	400	500	650	750
					800

PENGUJIAN PEMADATAN SILINDER					
1	Nomor pengujian	1	2	3	4
2	Berat silinder + tanah padat gram	3140	3214	3467	3485
3	Berat tanah padat gram	1267	1341	1594	1612
4	Berat volume tanah gr/cm ³	1,337	1,415	1,682	1,701
					1,666

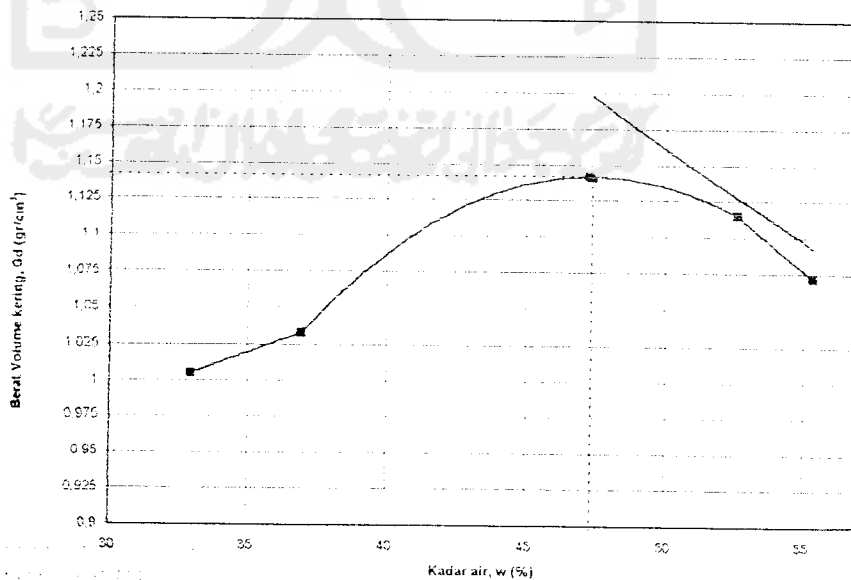
PENGUJIAN KADAR AIR											
1	NOMOR PERCOBAAN	1		2		3		4		5	
2	Nomor cawan	a	b	a	b	a	b	a	b	a	b
3	Berat cawan kosong gram	22,05	21,87	22,04	21,93	21,84	21,96	21,94	21,66	21,65	21,66
4	Berat cawan + tanah basah gram	48,77	45,27	49,57	45,97	49,01	51,45	57,20	53,47	65,44	60,30
5	Berat cawan + tanah kering gram	42,13	39,49	42,13	39,50	40,28	42,00	45,05	42,52	49,77	46,60
8	Kadar air = w %	33,07	32,80	37,03	36,82	47,34	47,16	52,57	52,49	55,73	54,93
9	Kadar air rata-rata	32,94		36,93		47,25		52,53		55,33	
10	Berat volume tanah kering gr/cm ³	1,006		1,033		1,142		1,115		1,072	

BERAT VOLUME KERING
 MAKSIMUM (gr/cm³)

1,142

KADAR AIR OPTIMUM (%)

47,34



Diperiksa :
 A. H.

Ir. H. A Halim Hasmar, MT



LABORATORIUM MEKANIKA TANAH
JURUSAN TEKNIK SIPIL-FTSP
UNIVERSITAS ISLAM INDONESIA

UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Kalibawang, Central Java
 Boring No. : -
 Sample No. : UCT tanah asli

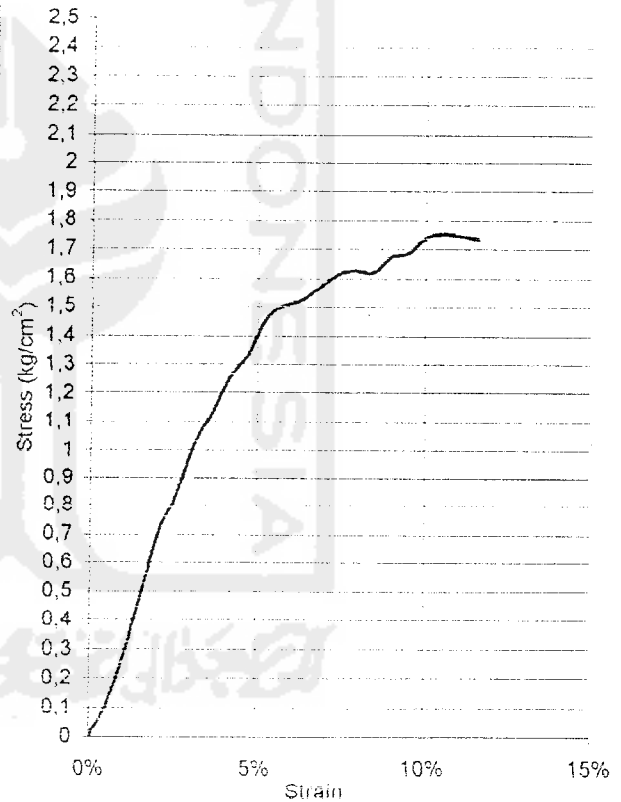
Date : April 22nd, 2003
 Tested by : Team of Research

Sample data	
diam (mm)	3.9
Area (mm ²)	11.9459
Ht,Lo (mm)	7.6
Vol (mm ³)	90.7889
Wt (gr)	152.94
Wet Unit wt (gr/cm ³)	1.68457
Dry Unit wt (gr/cm ³)	1.16534

Water Content		
Wt Container (cup), gr	21.65	21.64
Wt of Cup + Wet soil, gr	54.88	53.66
Wt of Cup + Dry soil, gr	44.68	43.75
Water Content %	44.29	44.82
Average water content %	44.56	

LRC = 0.6692 kg/div

Deformation dial rading (x 10 ⁻²)	Load dial (unit)	Unit Strain (ΔL/Lo)	Total load on sample (kg)	Sample stress (kg/cm ²)
0	0	0.00%	0	0
40	2	0.53%	1.3384	0.111449
80	5	1.05%	3.346	0.277148
120	9	1.58%	6.0228	0.496212
160	13	2.11%	8.6996	0.712918
200	15.5	2.63%	10.3726	0.845448
240	19	3.15%	12.7148	1.030753
280	21	3.68%	14.0532	1.133062
320	23.5	4.21%	15.7262	1.261021
360	25	4.74%	16.73	1.334141
400	27.5	5.26%	18.403	1.459447
440	28.5	5.79%	19.0722	1.504115
480	29	6.32%	19.4068	1.521953
520	30	6.84%	20.076	1.565589
560	31	7.37%	20.7452	1.608635
600	31.5	7.89%	21.0798	1.625294
640	31.5	8.42%	21.0798	1.818008
680	32.75	8.95%	21.9163	1.670478
720	33.25	9.47%	22.2509	1.686178
760	34.5	10.00%	23.0874	1.739396
800	35	10.53%	23.422	1.754285
840	35	11.05%	23.422	1.743966
880	35	11.58%	23.422	1.733647



qu =	1.75429 kg/cm ²
α =	49.5 °
Angle Of internal friction, φ =	9 °
Cohesion =	0.749 kg/cm ²

Ata



LABORATORIUM MEKANIKA TANAH
 JURUSAN TEKNIK SIPIL-FTSP
 UNIVERSITAS ISLAM INDONESIA

UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Kalibawangt, Central Java
 Boring No. :-
 Sample No : UCT tanah asli +3% karbid

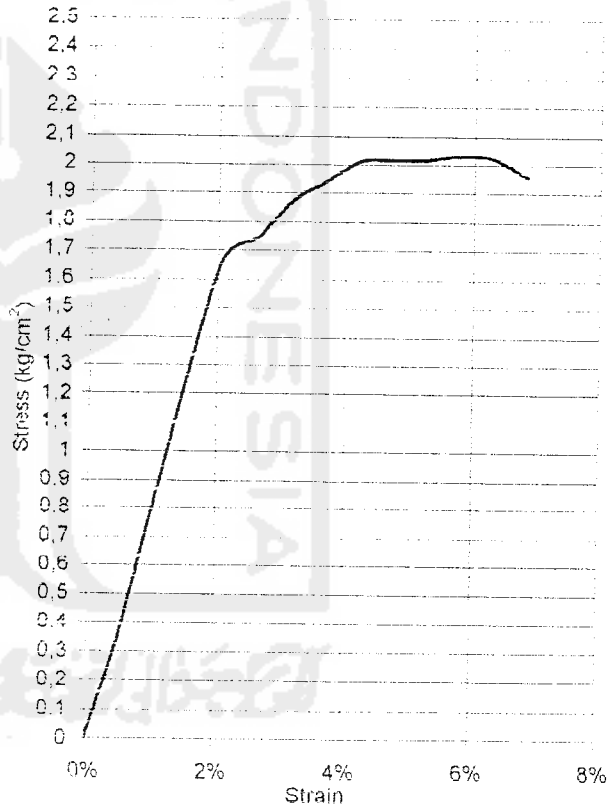
Date : April 22nd, 2003
 Tested by : Team of Research

Sample data	
diam (mm)	3.9
Area (mm ²)	11,9459
Ht,Lo (mm)	7,6
Vol (mm ³)	90,7899
Wt (gr)	150,27
Wet Unit wt (gr/cm ³)	1,65516
Dry Unit wt (gr/cm ³)	1,13927

Water Content		
Wt Container (cup), gr	21,02	22,04
Wt of Cup + Wet soil, gr	56,22	54,21
Wt of Cup + Dry soil, gr	45,23	44,20
Water Content %	45,39	45,17
Average water content %	45,28	

LRC = 0,6692 kg/div

Deformation dial rading (x 10 ⁻²)	Load dial (unit)	Unit Strain (ΔL/Lo)	Total load on sample (kg)	Sample stress (kg/cm ²)
0	0	0,00%	0	0
40	6,5	0,53%	4,3498	0,362208
80	15	1,05%	10,038	0,831443
120	23,5	1,58%	15,7262	1,295665
160	30,5	2,11%	20,4106	1,672615
200	32	2,63%	21,4144	1,74544
240	34,5	3,16%	23,0874	1,871631
280	39	3,68%	24,0912	1,942392
320	37,5	4,21%	25,095	2,012268
360	37,75	4,74%	25,2623	2,014553
400	38	5,26%	25,4296	2,016691
440	38,5	5,79%	25,7642	2,031875
480	38,5	6,32%	25,7642	2,020524
520	37,5	6,84%	25,095	1,956986



qu =	2,03188 kg/cm ²
α =	53 °
Angle Of internal friction, φ =	16 °
Cohesion =	0,766 kg/cm ²

AN/CP



LABORATORIUM MEKANIKA TANAH
JURUSAN TEKNIK SIPIL-FTSP
UNIVERSITAS ISLAM INDONESIA

UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Kalibawangt, Central Java
 Boring No. :-
 Sample No : UCT tanah asli + 6% karbid

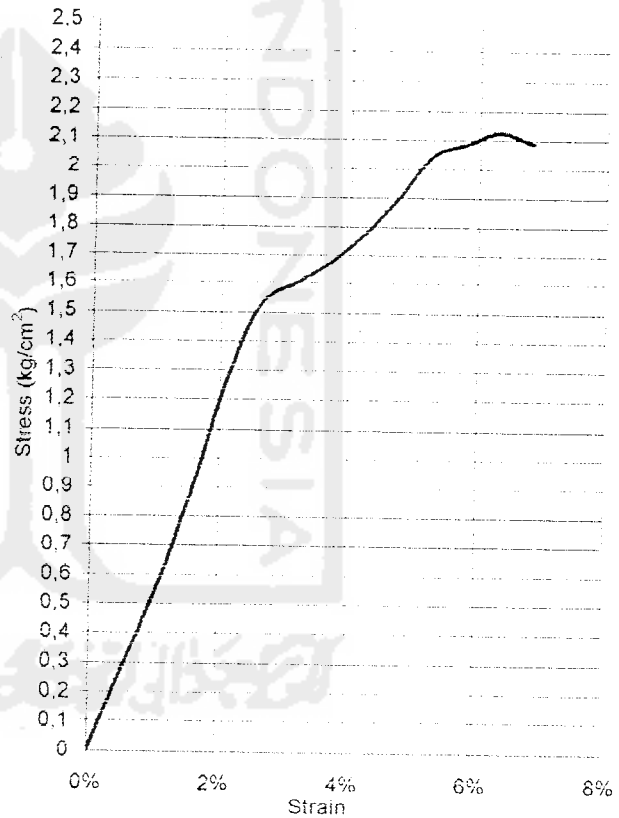
Date : April 22nd, 2003
 Tested by : Team of Research

Sample data	
diam (mm)	3.9
Area (mm ²)	11.9459
Ht,Lo (mm)	7.6
Vol (mm ³)	90.7889
Wt (gr)	150.21
Wet Unit wt (gr/cm ³)	1.6545
Dry Unit wt (gr/cm ³)	1.13109

Water Content		
Wt Container (cup), gr	21.55	21.86
Wt of Cup + Wet soil, gr	53.24	54.23
Wt of Cup + Dry soil, gr	43.28	43.88
Water Content %	45.97	46.58
Average water content %	46.27	

LRC = 0.6692 kg/div

Deformation dial rading (x 10 ⁻²)	Load dial (unit)	Unit Strain (%L/Lo)	Total load on sample (kg)	Sample stress (kg/cm ²)
0	0	0.00%	0	0
40	5	0.53%	3.346	0.278622
60	10	1.05%	6.692	0.554295
120	16	1.58%	10.7072	0.882155
160	23	2.11%	15.3916	1.261316
200	28	2.63%	18.7376	1.52726
240	29.5	3.15%	19.7414	1.60038
280	31	3.68%	20.7452	1.672615
320	33	4.21%	22.0836	1.770796
360	35.5	4.74%	23.7566	1.894481
400	38.5	5.26%	25.7642	2.043226
440	39.5	5.79%	26.4334	2.084651
480	40.5	6.32%	27.1026	2.125486
520	40	6.84%	26.768	2.087452



qu	=	2.12549 kg/cm ²
α	=	53.5°
Angle Of Internal friction, φ	=	17°
Cohesion	=	0.786 kg/cm ²

Handwritten notes and signatures:
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UNIVERSITAS ISLAM INDONESIA

UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Kalibawang, Central Java
 Boring No. : -
 Sample No : UCT tanah asli + 9% karbid

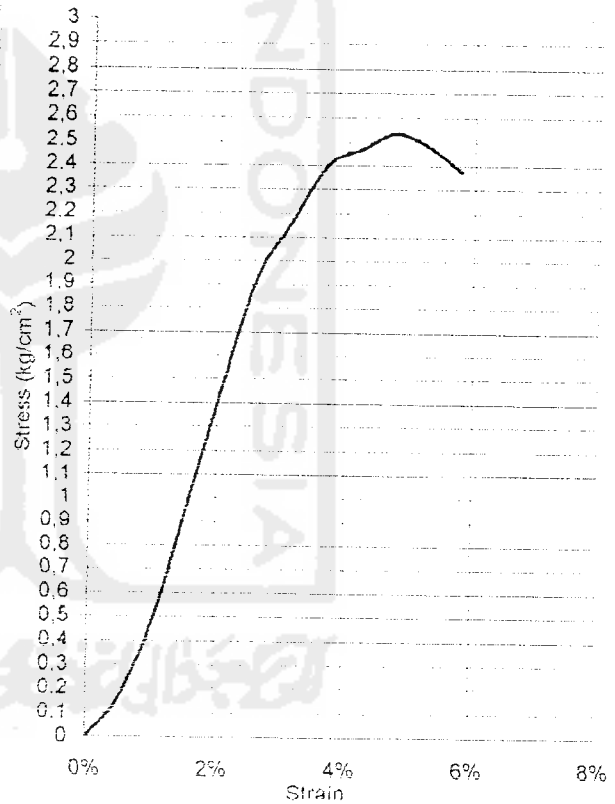
Date : April 22nd, 2003
 Tested by : Team of Research

Sample data	
diam (mm)	3,9
Area (mm ²)	11,9459
Ht, Lo (mm)	7,6
Vol (mm ³)	90,7889
Wt (gr)	152,2
Wet Unit wt (gr/cm ³)	1,67642
Dry Unit wt (gr/cm ³)	1,13945

Water Content		
Wt Container (cup), gr	21,87	21,33
Wt of Cup + Wet soil, gr	54,23	53,66
Wt of Cup + Dry soil, gr	43,95	43,22
Water Content %	46,56	47,69
Average water content %	47,13	

LRC = 0,6692 kg/div

Deformation dial rading (x 10 ⁻²)	Load dial (unit)	Unit Strain (ΔL/Lo)	Total load on sample (kg)	Sample stress (kg/cm ²)
0	0	0,00%	0	0
40	3	0,53%	2,0076	0,167173
80	9	1,05%	6,0228	0,498866
120	18	1,58%	12,0456	0,992424
160	27	2,11%	18,0684	1,480676
200	35,5	2,63%	23,7566	1,936349
240	40	3,16%	26,768	2,170007
280	44,5	3,68%	29,7794	2,401012
320	46	4,21%	30,7832	2,468382
360	47,5	4,74%	31,787	2,534868
400	46,75	5,26%	31,2851	2,481061
440	45	5,79%	30,114	2,374919



qu =	2,53487 kg/cm ²
α =	54,5 °
Angle Of internal friction, φ =	19 °
Cohesion =	0,904 kg/cm ²

Handwritten notes and signatures, including the name 'A.M.L.' and a date '13/04/2003'.



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JURUSAN TEKNIK SIPIL-FTSP
UNIVERSITAS ISLAM INDONESIA

UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Kalibawang, Central Java
 Boring No. :-
 Sample No : UCT tanah asli + 12% karbid

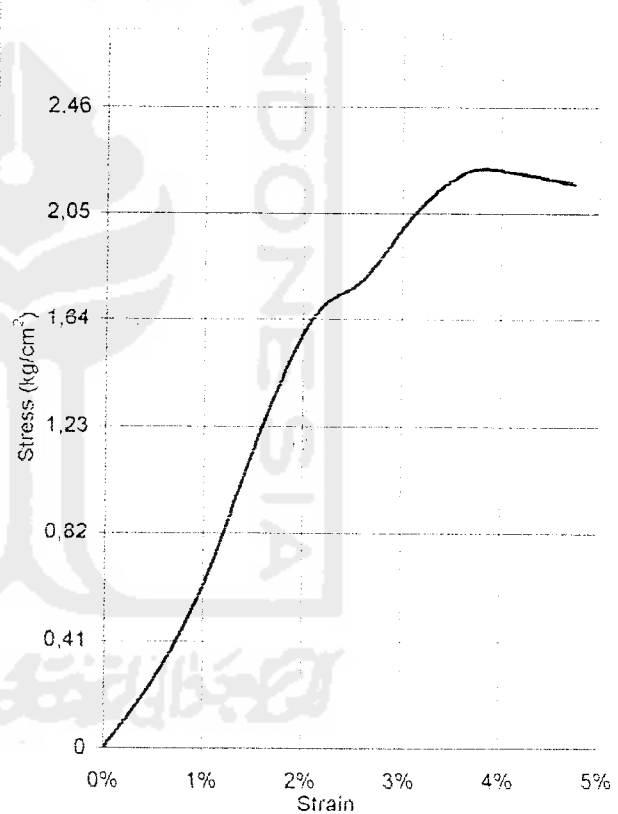
Date : April 22nd, 2003
 Tested by : Team of Research

Sample data	
diam (mm)	3,9
Area (mm ²)	11,9459
Ht,Lo (mm)	7,6
Vol (mm ³)	90,7889
Wt (gr)	150,3
Wet Unit wt (gr/cm ³)	1,65549
Dry Unit wt (gr/cm ³)	1,12065

Water Content		
Wt Container (cup), gr	21,84	21,26
Wt of Cup + Wet soil, gr	54,65	54,32
Wt of Cup + Dry soil, gr	44,00	43,69
Water Content %	48,06	47,39
Average water content %	47,73	

LRC = 0,6692 kg/div

Deformation dial rading (x 10 ⁻²)	Load dial (unit)	Unit Strain (ΔL/Lo)	Total load on sample (kg)	Sample stress (kg/cm ²)
0	0	0,00%	0	0
40	5	0,53%	3,346	0,278622
80	12	1,05%	8,0304	0,665154
120	22	1,58%	14,7224	1,212963
160	30	2,11%	20,076	1,645195
200	39	2,63%	22,0836	1,799985
240	38	3,16%	25,4296	2,061506
280	41	3,68%	27,4372	2,212168
320	41	4,21%	27,4372	2,20008
360	40,5	4,74%	27,1026	2,161309



qu =	2,21217 kg/cm ²
α =	54 °
Angle Of Internal friction, φ =	18 °
Cohesion =	0,804 kg/cm ²

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UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Kaibawang, Central Java
 Boring No :
 Sample No : UCT tanah asli + geotekst 1 Ips

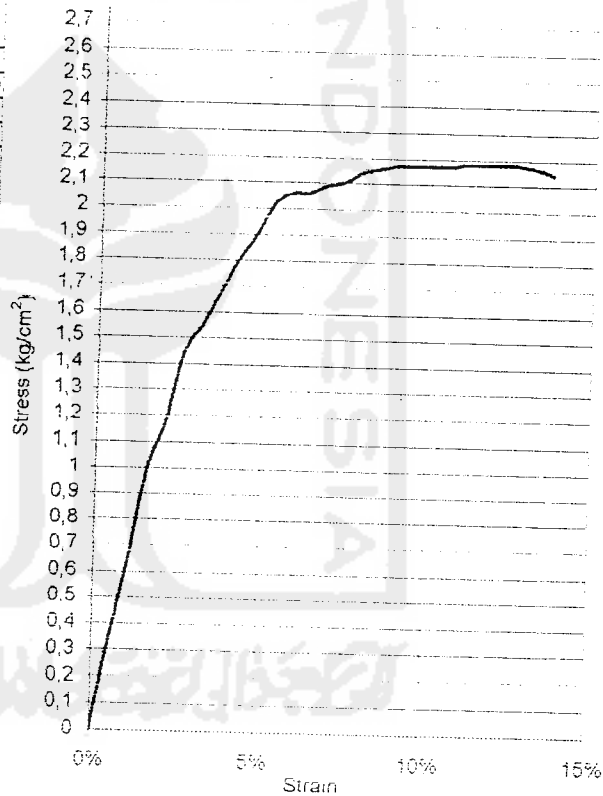
Date : April 22nd, 2003
 Tested by : Team of Research

Sample data	
diam (mm)	3.9
Area (mm ²)	11.9459
Ht, Lo (mm)	7.6
Vol (mm ³)	90.7889
Wt (gr)	153.13
Wet Unit wt (gr/cm ³)	1.68666
Dry Unit wt (gr/cm ³)	1.17007

Water Content		
Wt Container (cup), gr	21.68	21.64
Wt of Cup + Wet soil, gr	54.68	53.66
Wt of Cup + Dry soil, gr	44.68	43.75
Water Content %	43.48	44.82
Average water content %	44.15	

LRC = 0.6692 kg/div

Deformation dial reading (x 10 ⁻²)	Load dial (unit)	Unit Strain (% ΔL/Lo)	Total load on sample (kg)	Sample stress (kg/cm ²)
0	0	0.00%	0	0
40	6	0.53%	4.0152	0.334346
80	11.5	1.05%	7.6958	0.637439
120	18	1.58%	12.0456	0.992424
160	21.5	2.11%	14.3878	1.179057
200	26.5	2.63%	17.7338	1.445443
240	28.5	3.16%	19.0722	1.54613
280	31	3.68%	20.7452	1.672615
320	33.5	4.21%	22.4182	1.797626
360	35.5	4.74%	23.7566	1.894481
400	38	5.26%	25.4296	2.016891
440	39	5.79%	26.0988	2.058263
480	39.25	6.32%	26.2661	2.059885
520	40	6.84%	26.768	2.087452
560	40.5	7.37%	27.1026	2.101604
600	41.5	7.89%	27.7718	2.14126
640	42	8.42%	28.1084	2.154875
680	42.5	8.95%	28.441	2.167795
720	42.75	9.47%	28.6083	2.167943
760	43	10.00%	28.7756	2.167943
800	43.25	10.53%	28.9429	2.167795
840	43.75	11.05%	29.2775	2.179957
880	44	11.58%	29.4448	2.179441
920	44.25	12.11%	29.6121	2.178778
960	44.5	12.63%	29.7794	2.177967
1000	44.5	13.16%	29.7794	2.164847
1040	44.3	13.68%	29.64556	2.142056



qu =	2.17996 kg/cm ²
α =	51 °
Angle Of internal friction, φ =	12 °
Cohesion =	0.883 kg/cm ²

Handwritten notes and signatures:
 A11
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UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Kalibawang, Central Java
 Boring No. :-
 Sample No : UCT tanah asli + geotekst 2 ips

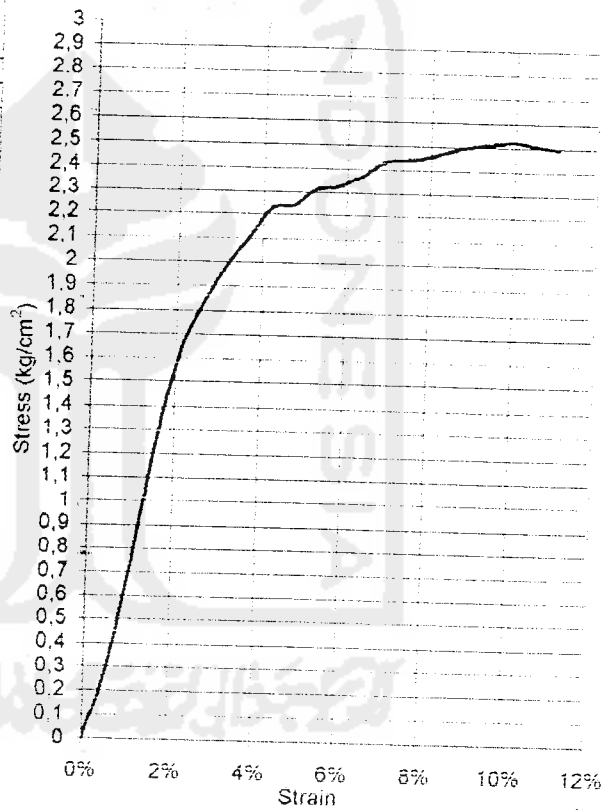
Date : April 22nd, 2003
 Tested by : Team of Research

Sample data	
diam (mm)	3,9
Area (mm ²)	11,9459
Ht,Lo (mm)	7,6
Vol (mm ³)	90,7889
Wt (gr)	152,56
Wet Unit wt (gr/cm ³)	1,68038
Dry Unit wt (gr/cm ³)	1,16245

Water Content		
Wt Container (cup), gr	21,65	21,64
Wt of Cup + Wet soil, gr	54,88	53,66
Wt of Cup + Dry soil, gr	44,68	43,75
Water Content %	44,29	44,82
Average water content %	44,56	

LRC = 0,6692 kg/div

Deformation dial rading (x 10 ⁻²)	Load dial (unit)	Unit Strain (ΔL/Lo)	Total load on sample (kg)	Sample stress (kg/cm ²)
0	0	0,00%	0	0
40	5	0,53%	3,346	0,278622
80	13	1,05%	8,6996	0,720584
120	22,5	1,58%	15,057	1,24059
160	29,5	2,11%	19,7414	1,617775
200	33,5	2,63%	22,4192	1,827259
240	36,5	3,16%	24,4258	1,980131
280	39	3,68%	26,0988	2,104258
320	41,5	4,21%	27,7718	2,22691
360	42	4,74%	28,1064	2,241357
400	43,5	5,26%	29,1102	2,30858
440	44	5,79%	29,4448	2,322143
480	45	6,32%	30,114	2,361651
520	46,5	6,84%	31,1178	2,426663
560	47	7,37%	31,4524	2,438899
600	47,5	7,89%	31,787	2,45084
640	48,25	8,42%	32,2889	2,475311
680	49	8,95%	32,7908	2,49934
720	49,5	9,47%	33,1254	2,510249
760	50	10,00%	33,46	2,520864
800	50	10,53%	33,46	2,506122
840	50	11,05%	33,46	2,49138



qu	=	2,52086 kg/cm ²
α	=	54 °
Angle Of internal friction, φ	=	18 °
Cohesion	=	0,916 kg/cm ²

Handwritten signature



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UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Kalibawang, Central Java
 Boring No. :
 Sample No : UCT tanah asli + geotekst 3 Ips

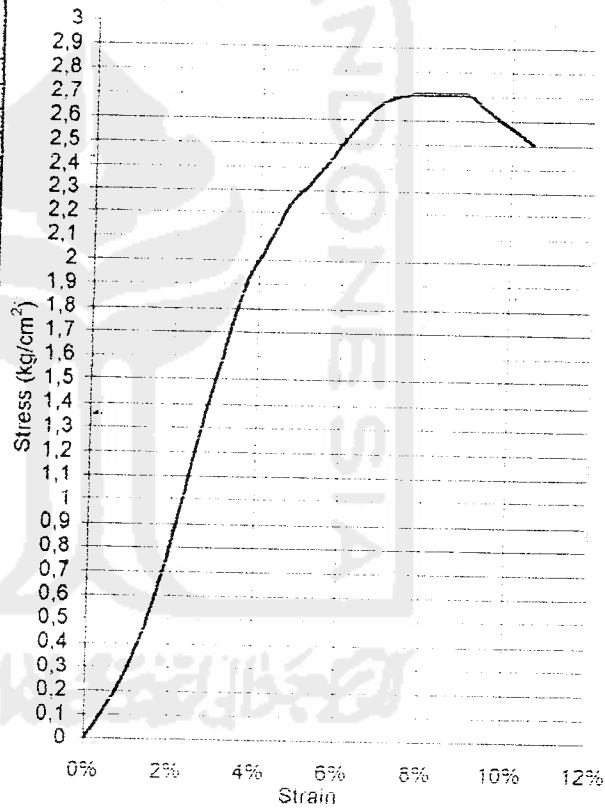
Date : Mei 03rd, 2003
 Tested by : Fitra, Budi

Sample data	
diam (mm)	3.9
Area (mm ²)	11.9459
Ht,Lo (mm)	7.6
Vol (mm ³)	90.7889
Wt (gr)	152.56
Wet Unit wt (gr/cm ³)	1.68038
Dry Unit wt (gr/cm ³)	1.16245

Water Content			
Wt Container (cup), gr	21.65		21.64
Wt of Cup + Wet soil, gr	54.88		53.66
Wt of Cup + Dry soil, gr	44.68		43.75
Water Content %	44.29		44.82
Average water content %	44.56		

LRC = 0.6692 kg/div

Deformation dial rading (x 10 ⁻²)	Load dial (unit)	Unit Strain (ΔL/L _o)	Total load on sample (kg)	Sample stress (kg/cm ²)
0	0	0.00%	0	0
40	2.5	0.53%	1.673	0.139311
80	5.5	1.05%	3.6806	0.304862
120	10	1.58%	6.692	0.551347
160	16	2.11%	10.7072	0.877437
200	23	2.63%	15.3916	1.254535
240	29	3.16%	19.4068	1.573255
280	35	3.68%	23.422	1.888436
320	38.5	4.21%	25.7642	2.065929
360	42	4.74%	28.1064	2.241357
400	44	5.26%	29.4448	2.335116
440	46.5	5.79%	31.1178	2.454083
480	49	6.32%	32.7908	2.571576
520	51	6.84%	34.1292	2.661501
560	52	7.37%	34.7984	2.698356
600	52.5	7.89%	35.133	2.708823
640	52.75	8.42%	35.3003	2.708169
680	53	8.95%	35.4676	2.703368
720	52	9.47%	34.7984	2.63703
760	51	10.00%	34.1292	2.571281
800	50	10.53%	33.46	2.506122



qu =	2,70882 kg/cm ²
α =	55 °
Angle Of internal frction, φ =	20 °
Cohesion.. =	0.948 kg/cm ²

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JURUSAN TEKNIK SIPIL-FTSP
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UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Kalibawang, Central Java
 Boring No. :-
 Sample No : UCT tanah asli + 9% karbid + geotekstil 1 ips

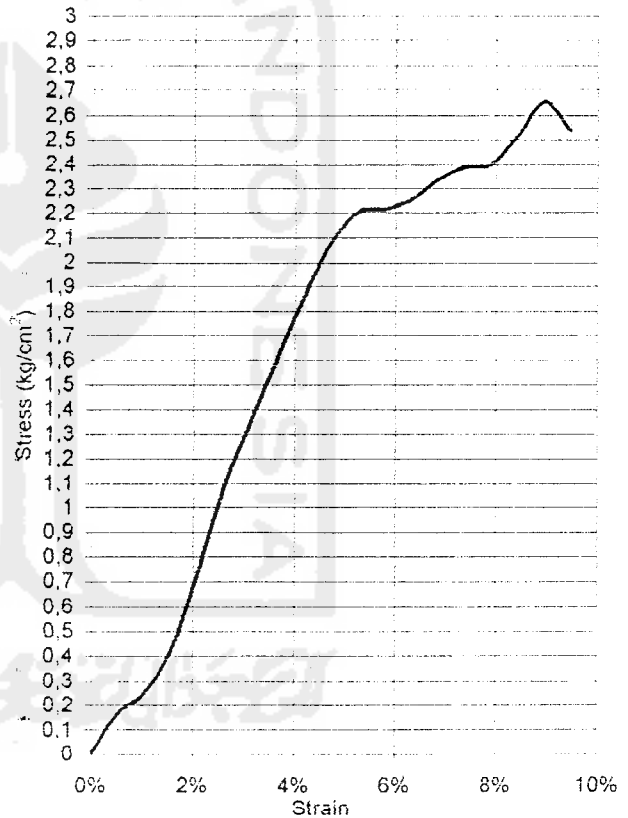
Date : Mei 8th, 2003
 Tested by : Fitra, Budi

Sample data	
diam (mm)	3,9
Area (mm ²)	11,9459
Ht, Lo (mm)	7,6
Vol (mm ³)	90,7889
Wt (gr)	152,69
Wet Unit wt (gr/cm ³)	1,68181
Dry Unit wt (gr/cm ³)	1,1435

Water Content		
Wt Container (cup), gr	21,69	21,16
Wt of Cup + Wet soil, gr	54,12	52,17
Wt of Cup + Dry soil, gr	43,73	42,26
Water Content %	47,14	47,01
Average water content %	47,08	

LRC = 0,6692 kg/div

Deformation dial rading (x 10 ⁻²)	Load dial (unit)	Unit Strain (ΔL/Lo)	Total load on sample (kg)	Sample stress (kg/cm ²)
0	0	0,00%	0	0
40	3	0,53%	2,0076	0,167173
80	4,5	1,05%	3,0114	0,249433
120	7,75	1,58%	5,1863	0,427294
160	13,5	2,11%	9,0342	0,740338
200	20	2,63%	13,384	1,0909
240	25	3,16%	16,73	1,356254
280	30	3,68%	20,076	1,61866
320	34,75	4,21%	23,2547	1,864702
360	39	4,74%	26,0988	2,08126
400	41,5	5,26%	27,7718	2,202439
440	42	5,79%	28,1064	2,216591
480	43	6,32%	28,7756	2,256689
520	44,75	6,84%	29,9467	2,335337
560	46	7,37%	30,7832	2,387007
600	46,5	7,89%	31,1178	2,399243
640	49	8,42%	32,7908	2,513788
680	52	8,95%	34,7984	2,652361
720	50	9,47%	33,46	2,535606



qu =	2,65236 kg/cm ²
α =	55 °
Angle Of internal friction, φ =	20 °
Cohesion =	0,929 kg/cm ²

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UNCONFINED COMPRESSION TEST

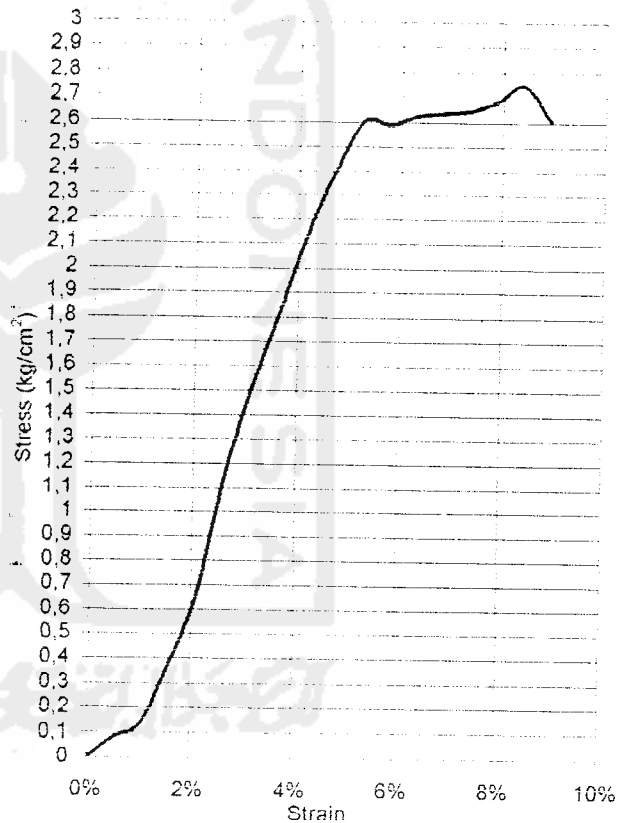
Project : Tugas Akhir
 Location : Kalibawang, Central Java
 Boring No : -
 Sample No : UCT tanah asli + 9% karbid + geotekstil 2 lps
 Date : Mei 8th, 2003
 Tested by : Fitra, Budi

Sample data	
diam (mm)	3,9
Area (mm ²)	11,9459
Ht, Lo (mm)	7,6
Vol (mm ³)	90,7689
Wt (gr)	152,7
Wet Unit wt (gr/cm ³)	1,68192
Dry Unit wt (gr/cm ³)	1,14357

Water Content		
Wt Container (cup), gr	21,69	21,18
Wt of Cup + Wet soil, gr	54,12	52,17
Wt of Cup + Dry soil, gr	43,73	42,26
Water Content %	47,14	47,01
Average water content %	47,08	

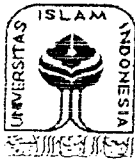
LRC = 0,6692 kg/div

Deformation dial rading (x 10 ⁻²)	Load dial (unit)	Unit Strain (%L/Lo)	Total load on sample (kg)	Sample stress (kg/cm ²)
0	0	0,00%	0	0
40	1,5	0,53%	1,0038	0,083587
80	2,5	1,05%	1,673	0,138574
120	6,75	1,58%	4,5171	0,372159
160	12	2,11%	8,0304	0,658078
200	21	2,63%	14,0532	1,145445
240	28	3,16%	18,7376	1,519005
280	34	3,68%	22,7528	1,834481
320	40	4,21%	26,768	2,14642
360	45	4,74%	30,114	2,401454
400	49	5,26%	32,7908	2,60047
440	49	5,79%	32,7908	2,586023
480	50	6,32%	33,46	2,624057
520	50,5	6,84%	33,7946	2,635408
560	51	7,37%	34,1292	2,646465
600	52	7,89%	34,7984	2,683024
640	53,5	8,42%	35,8022	2,744646
680	51	8,95%	34,1292	2,601354



qu =	2,74465 kg/cm ²
α =	55,5°
Angle Of internal friction, φ =	21°
Cohesion =	0,943 kg/cm ²

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UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Kalibawang, Central Java
 Boring No. : -
 Sample No : UCT tanah asli + 9% karbid + geotekstil 3 lps

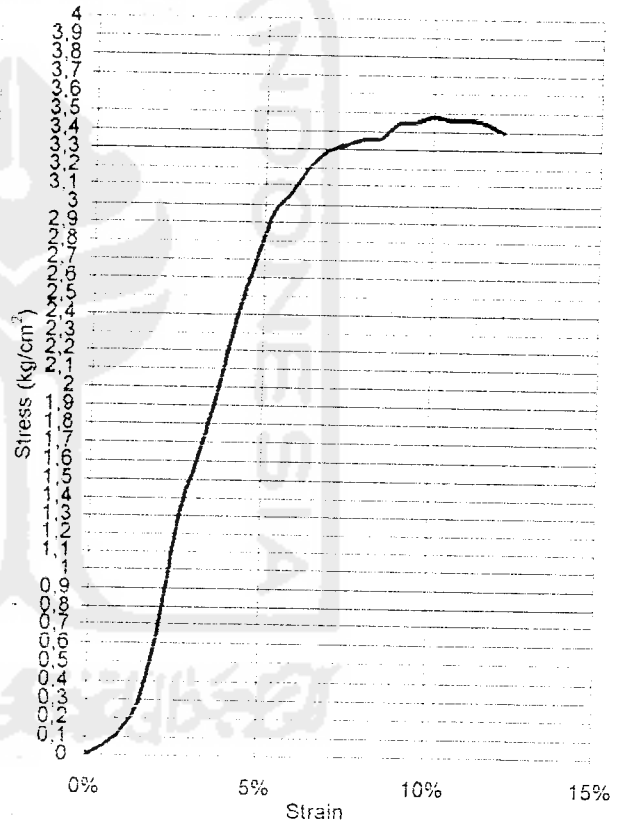
Date : Mei 8th, 2003
 Tested by : Fitra, Budi

Sample data	
diam (mm)	3.9
Area (mm ²)	11,9459
Ht. Lo (mm)	7.6
Voi (mm ³)	90,7889
Wt (gr)	152,97
Wet Unit wt (gr/cm ³)	1,6849
Dry Unit wt (gr/cm ³)	1,14559

Water Content		
Wt Container (cup), gr	21,69	21,18
Wt of Cup + Wet soil, gr	54,12	52,17
Wt of Cup + Dry soil, gr	43,73	42,26
Water Content %	47,14	47,01
Average water content %	47,08	

LRC = 0,6692 kg/div

Deformation dial rading (x 10 ⁻²)	Load dial (unit)	Unit Strain (ΔL/Lo)	Total load on sample (kg)	Sample stress (kg/cm ²)
0	0	0,00%	0	0
40	1	0,53%	0,6692	0,055724
80	2,5	1,05%	1,673	0,138574
120	5,5	1,58%	3,6806	0,303241
160	13	2,11%	8,6996	0,712918
200	24	2,63%	16,0608	1,30908
240	30	3,16%	20,076	1,627505
280	36,5	3,68%	24,4258	1,969369
320	44	4,21%	29,4448	2,361062
360	50	4,74%	33,48	2,668283
400	55,5	5,26%	37,1406	2,94543
440	58	5,79%	38,8136	3,061007
480	61	6,32%	40,8212	3,201349
520	63	6,84%	42,1596	3,287737
560	64	7,37%	42,8288	3,321054
600	65	7,89%	43,498	3,353781
640	65,5	8,42%	43,8326	3,360267
680	67,5	8,95%	45,171	3,442969
720	68	9,47%	45,5056	3,448423
760	69	10,00%	46,1748	3,478792
800	69	10,53%	46,1748	3,458448
840	69,5	11,05%	46,5094	3,463018
880	69,5	11,58%	46,5094	3,442527
920	69	12,11%	46,1748	3,397417



$q_u = 3,47279 \text{ kg/cm}^2$
 $\alpha = 57^\circ$
 Angle Of Internal friction, $\phi = 24^\circ$
 Cohesion = $1,130 \text{ kg/cm}^2$

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TRIAxIAL COMPRESSION TEST LOADING DATA

Project : Tugas Akhir

Location : Kalibawang, Jawa Tengah

Description of soil : Tanah asli

Sample No. : disturbed

Date : 1 Mei, 2003

Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Hight	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889
k = K / A	0,01715232		Wight	W gram	154,3000
Cell pessure	0,50		Rate of compression : 0.5 %	Wet density	gr/cm ³

Time	Strain		Reading of proving ring	kg/cm ²	Pore pressure	
	Axial deformation	Strain %			u kg/cm ²	kg/cm ²
0	0	0	1	0		
	40	0,526	0,995	7	0,11943431	
	80	1,053	0,989	15	0,254576535	
	120	1,579	0,984	20	0,337629872	
	160	2,105	0,979	24,5	0,411384847	
	200	2,632	0,974	26	0,434224515	
	240	3,158	0,968	29	0,481709358	
	280	3,684	0,963	31	0,512132156	
	320	4,211	0,958	33	0,542193853	
	360	4,737	0,953	35	0,571894449	
	400	5,263	0,947	37	0,601233943	
	440	5,789	0,942	39	0,630212336	
	480	6,316	0,937	41	0,658829627	
	520	6,842	0,932	45	0,719043297	
	560	7,368	0,926	46	0,73086937	
	600	7,895	0,921	46	0,726716703	
	640	8,421	0,916	48,5	0,761833821	
	680	8,947	0,911	49	0,765264285	
	720	9,474	0,905	50	0,776368155	
	760	10,000	0,900	55	0,849039825	
	800	10,526	0,895	55	0,84407468	
	840	11,053	0,889	55	0,839109535	
	880	11,579	0,884	57	0,864476913	
	920	12,105	0,879	57,5	0,86686921	
	960	12,632	0,874	61	0,914128365	
	1000	13,158	0,868	62	0,923517003	
	1040	13,684	0,863	63	0,93272509	
	1080	14,211	0,858	62	0,912322858	
	1120	14,737	0,853	63	0,921350394	
	1160	15,263	0,847	63,5	0,922930213	
	1200	15,789	0,842	63,5	0,917197727	
	1240	16,316	0,837	63,5	0,911465242	
	1280	16,842	0,832	63,5	0,905732756	
	1320	17,368	0,826	63,5	0,90000027	
	1360	17,895	0,821	63,5	0,894267784	
	1400	18,421	0,816	63,5	0,888535298	



TRIAxIAL COMPRESION TEST LOADING DATA

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Tanah asli

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Wight	W gram	152,9900
Cell pessure	1,00		Rate of compression : 0.5 %	Wet density	gr/cm ³

Time	Strain		Reading of proving ring	kg/cm ²	Pore pressure	
	Axial deformation	Strain %			u	kg/cm ²
0	0	0	1	0		
	40	0,526	0,995	17	0,290054754	
	80	1,053	0,989	27	0,458237762	
	120	1,579	0,984	34	0,573970783	
	160	2,105	0,979	39	0,654857511	
	200	2,632	0,974	44	0,734841486	
	240	3,158	0,968	47	0,780701373	
	280	3,684	0,963	53	0,875580783	
	320	4,211	0,958	55	0,903656422	
	360	4,737	0,953	55	0,898691277	
	400	5,263	0,947	57	0,926225264	
	440	5,789	0,942	60	0,96955744	
	480	6,316	0,937	64,5	1,036451487	
	520	6,842	0,932	67	1,070575576	
	560	7,368	0,926	68	1,080415591	
	600	7,895	0,921	69	1,090075055	
	640	8,421	0,916	63	0,989598572	
	680	8,947	0,911	65	1,0151465	
	720	9,474	0,905	68	1,055860691	
	760	10,000	0,900	71	1,096033229	
	800	10,526	0,895	71,5	1,097297084	
	840	11,053	0,889	71,5	1,090842396	
	880	11,579	0,884	71,5	1,084387707	
	920	12,105	0,879	74	1,115622984	
	960	12,632	0,874	76	1,138914028	
	1000	13,158	0,868	78	1,161843972	
	1040	13,684	0,863	77,5	1,147399913	
	1080	14,211	0,858	77,5	1,140403572	
	1120	14,737	0,853	77,5	1,133407231	
	1160	15,263	0,847	80,5	1,170013892	
	1200	15,789	0,842	86	1,242189048	
	1240	16,316	0,837	84	1,2057178	
	1280	16,842	0,832	83	1,183871161	
	1320	17,368	0,826	82,5	1,169291689	



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TRIAXIAL COMPRESSION TEST LOADING DATA

Project : Tugas Akhir

Location : Kalibawang, Jawa Tengah

Description of soil : Tanah asli

Sample No. : disturbed

Date : 1 Mei, 2003

Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K	0,2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Wight	W gram	153,5700
Cell pessure	2,00		Rate of compression : 0.5 %	Wet density	gr/cm ³

Time	Strain		Reading of proving ring	Pore pressure	
	Axial deformation	Strain %		u	
				kg/cm ²	kg/cm ²
0	0	0	1	0	0
	40	0,526	0,995	31	0,528923374
	80	1,053	0,989	58,5	0,992848485
	120	1,579	0,984	67,5	1,139500818
	160	2,105	0,979	75	1,259341368
	200	2,632	0,974	50	0,835047144
	240	3,158	0,968	81	1,345464068
	280	3,684	0,963	82,5	1,362932351
	320	4,211	0,958	82,5	1,355484634
	360	4,737	0,953	87	1,421566202
	400	5,263	0,947	96	1,55995634
	440	5,789	0,942	102	1,648247648
	480	6,316	0,937	104	1,671177591
	520	6,842	0,932	98	1,565916514
	560	7,368	0,926	102	1,620623386
	600	7,895	0,921	116	1,832589947
	640	8,421	0,916	120	1,88494966
	680	8,947	0,911	116	1,811646062
	720	9,474	0,905	120	1,863283572
	760	10,000	0,900	116	1,790702177
	800	10,526	0,895	111	1,703496173
	840	11,053	0,889	118	1,800271366
	880	11,579	0,884	125	1,895782704
	920	12,105	0,879	119	1,794042366
	960	12,632	0,874	123	1,843242441
	1000	13,158	0,868	123	1,832138571
	1040	13,684	0,863	123,5	1,828437281
	1080	14,211	0,858	132	1,942364794
	1120	14,737	0,853	135	1,974322273
	1160	15,263	0,847	132	1,918532097
	1200	15,789	0,842	130	1,877272631



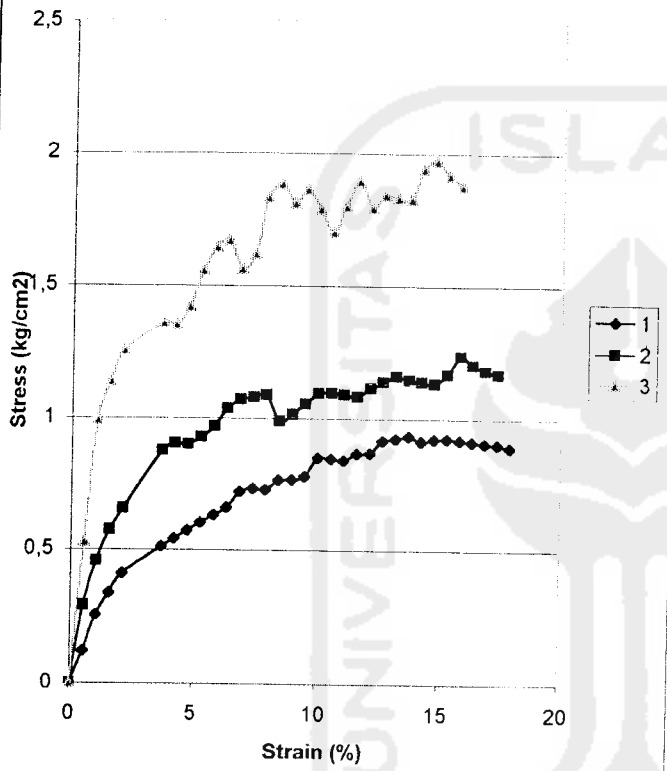
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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Tanah asli

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

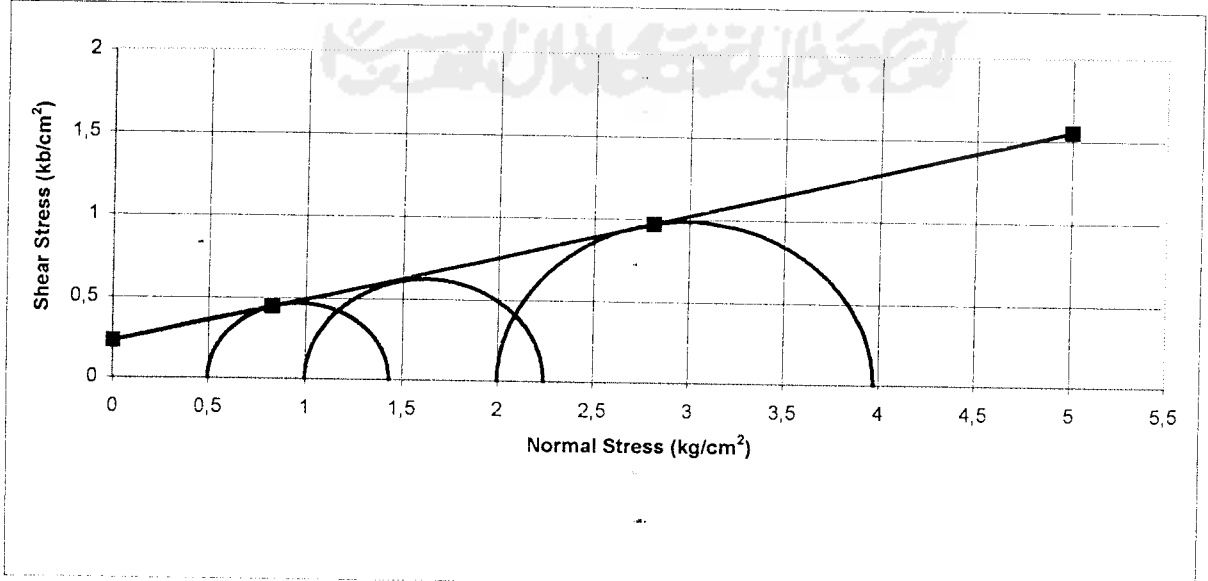


Piece No :	1	2	3
H cm	7,6	7,6	7,6
D cm	3,9	3,9	3,9
A cm ²	11,95	11,95	11,95
V cm ³	90,79	90,79	90,79
Wt gram	154,30	152,99	153,57

Water Content		
Wt Container (cup), gr	21,72	21,56
Wt of Cup + Wet soil, gr	54,77	54,02
Wt of Cup + Dry soil, gr	44,67	44,17
Water Content %	44,01	43,56
Average water content %	43,79	

γ_d gram/cm ³	1,699547	1,685118	1,691507
γ_{sat} gram/cm ³	1,181992	1,171956	1,176399

σ_3	0,5	1	2
$\sigma_1 - \sigma_3 = P/A$	0,932725	1,242189	1,974322
σ_1	1,432725	2,242189	3,974322
$(\sigma_1 + \sigma_3)/2$	0,966363	1,621095	2,987161
$(\sigma_1 - \sigma_3)/2$	0,466363	0,621095	0,987161
Angle of shearing resistance (o)	14,84116		
Apperen cohesion (kg/cm ²)	0,226048		





TRIAxIAL COMPRESSION TEST LOADING DATA

Project : Tugas Akhir

Location : Kalibawang Jawa Tengah

Description of soil : Clay+3% karbid

Sample No. : disturbed

Date : 1 Mei. 2003

Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889
k = K / A	0,01715232		Wight	W gramm	150,4500
Cell pessusre	0,50	Rate of compression : 0.5 %	Wet density	gr/cm ³	1,6571

Time	Strain		Reading of proving ring	kg/cm ²	Pore pressure	
	Axial deformation	Strain %			u kg/cm ²	kg/cm ²
0	0	0	0	0		
	40	0,526	0,995	40	0,682481774	
	80	1,053	0,989	62	1,052249676	
	120	1,579	0,984	121	2,042660726	
	160	2,105	0,979	145	2,434726644	
	200	2,632	0,974	165	2,755655574	
	240	3,158	0,968	185	3,072973488	
	280	3,684	0,963	200	3,304078427	
	320	4,211	0,958	209	3,433894405	
	360	4,737	0,953	220	3,594765109	
	400	5,263	0,947	230	3,737400188	
	440	5,789	0,942	238	3,845911179	
	480	6,316	0,937	247	3,96904678	
	520	6,842	0,932	252	4,026642464	
	560	7,368	0,926	256	4,06744693	
	600	7,895	0,921	259	4,091731003	
	640	8,421	0,916	262	4,115473425	
	680	8,947	0,911	272	4,247997663	
	720	9,474	0,905	276,5	4,293315898	
	760	10,000	0,900	282	4,353258741	
	800	10,526	0,895	285	4,373841525	
	840	11,053	0,889	287,5	4,386254388	
	880	11,579	0,884	290	4,398215874	
	920	12,105	0,879	295,5	4,454953942	
	960	12,632	0,874	304	4,555656114	
	1000	13,158	0,868	305	4,543107838	
	1040	13,684	0,863	308,5	4,567391911	
	1080	14,211	0,858	311,5	4,583686615	
	1120	14,737	0,853	313	4,577502752	
	1160	15,263	0,847	322	4,680055569	
	1200	15,789	0,842	324	4,679875019	
	1240	16,316	0,837	325	4,664979583	
	1280	16,842	0,832	325,5	4,642771843	
	1320	17,368	0,826	330	4,677166758	
	1360	17,895	0,821	329,5	4,640334408	
	1400	18,421	0,816	331,5	4,638574038	
	1440	18,947	0,811	334	4,64340377	
	1480	19,474	0,805	343,5	4,744467044	
	1520	20,000	0,800	346,5	4,754623022	
	1560	20,526	0,795	345	4,702895237	
	1600	21,053	0,789	342	4,63112632	



TRIAxIAL COMPRESSION TEST LOADING DATA

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay+3% karbid

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Wight	W gram	150,0000
Cell pessure	1,00	Rate of compression: 0.5 %	Wet density	gr/cm ³	1,6522

Time	Strain			Reading of proving ring		Pore pressure	
	Axial defor- mation	Strain				u	
		%			kg/cm ²	kg/cm ²	kg/cm ²
0	0	0	1	0	0		
	40	0,526	0,995	116	1,979197143		
	80	1,053	0,989	149,5	2,537279461		
	120	1,579	0,984	176	2,971142874		
	160	2,105	0,979	211	3,542947048		
	200	2,632	0,974	235	3,924721575		
	240	3,158	0,968	252	4,185888211		
	280	3,684	0,963	264	4,361383524		
	320	4,211	0,958	273	4,485421878		
	360	4,737	0,953	284	4,640514959		
	400	5,263	0,947	295	4,793621981		
	440	5,789	0,942	300	4,847787201		
	480	6,316	0,937	315	5,06173982		
	520	6,842	0,932	319	5,09721804		
	560	7,368	0,926	322	5,116085591		
	600	7,895	0,921	330	5,213402437		
	640	8,421	0,916	334	5,246443221		
	680	8,947	0,911	340	5,309997079		
	720	9,474	0,905	348,5	5,411286041		
	760	10,000	0,900	350	5,402980707		
	800	10,526	0,895	353	5,417424766		
	840	11,053	0,889	357	5,446583709		
	880	11,579	0,884	358	5,429521665		
	920	12,105	0,879	365	5,502734988		
	960	12,632	0,874	368	5,514741611		
	1000	13,158	0,868	368,5	5,488967994		
	1040	13,684	0,863	369	5,463104101		
	1080	14,211	0,858	368,5	5,422435049		
	1120	14,737	0,853	366	5,352607052		
	1160	15,263	0,847	366	5,319566268		
	1200	15,789	0,842	363,54	5,250993099		
	1240	16,316	0,837	361	5,181715783		
	1280	16,842	0,832	358,5	5,113467506		



TRIAxIAL COMPRESION TEST LOADING DATA

Project : Tugas Akhir	Sample No. : disturbed			
Location : Kalibawang, Jawa Tengah	Date : 1 Mei, 2003			
Description of soil : Clay+3% karbid	Tested by : Fitra, Budi			
Type of test apparatus	Dimension of test piece	Hight	H cm	7.6
No. Of cell		Diameter	D cm	3.9
No. of Proving ring		Cross area	A cm ²	11,9459
Coeff. proving ring K	0,2049	Volume	V cm ³	90,7889
k = K / A	0,0171523	Wight	W gram	149,9200
Cell pessure	2,00	Rate of compression : 0.5 %	Wet density	gr/cm ³ 1,6513

Time	Strain		Reading of proving ring	Pore pressure	
	Axial deformation	Strain %		u	
				kg/cm ²	kg/cm ²
0	0	0	1	0	0
	40	0,526	0,995	95	1,620894212
	80	1,053	0,989	110	1,666894587
	120	1,579	0,984	165	2,785446445
	160	2,105	0,979	200	3,358243648
	200	2,632	0,974	230	3,84121686
	240	3,158	0,968	258	4,285552216
	280	3,684	0,963	290	4,79091372
	320	4,211	0,958	309	5,076906082
	360	4,737	0,953	321	5,24508909
	400	5,263	0,947	340	5,524852452
	440	5,789	0,942	359	5,80118535
	480	6,316	0,937	370	5,945535662
	520	6,842	0,932	380	6,071921176
	560	7,368	0,926	391	6,212389646
	600	7,895	0,921	403	6,366670248
	640	8,421	0,916	412	6,4716605
	680	8,947	0,911	419	6,543790518
	720	9,474	0,905	421	6,537019866
	760	10,000	0,900	430	6,637947726
	800	10,526	0,895	437	6,706557005
	840	11,053	0,889	439	6,697619713
	840	11,053	0,889	440	6,71287628
	840	11,053	0,889	440	6,71287628
	840	11,053	0,889	442	6,743389354
	840	11,053	0,889	442	6,743389354
	840	11,053	0,889	442	6,743389354



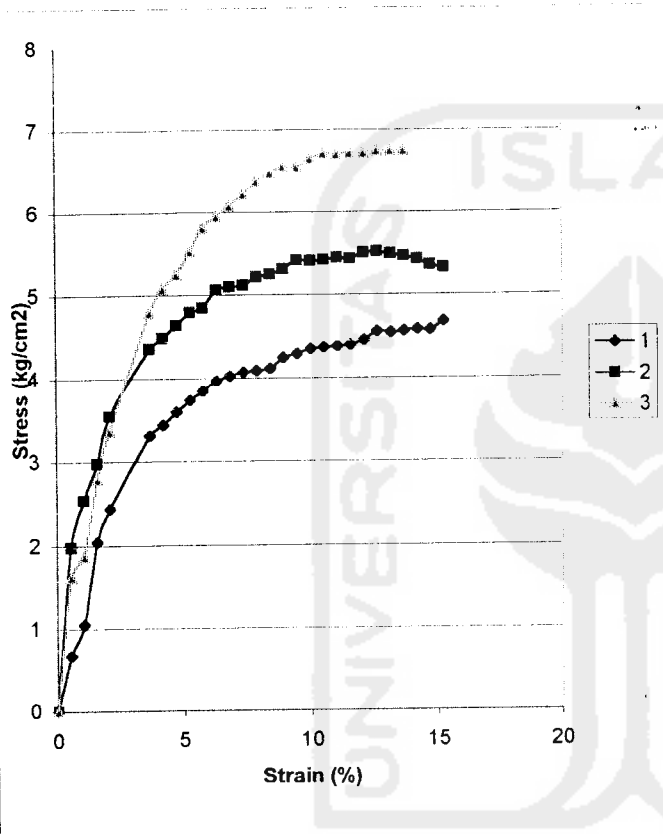
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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 3% karbid

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

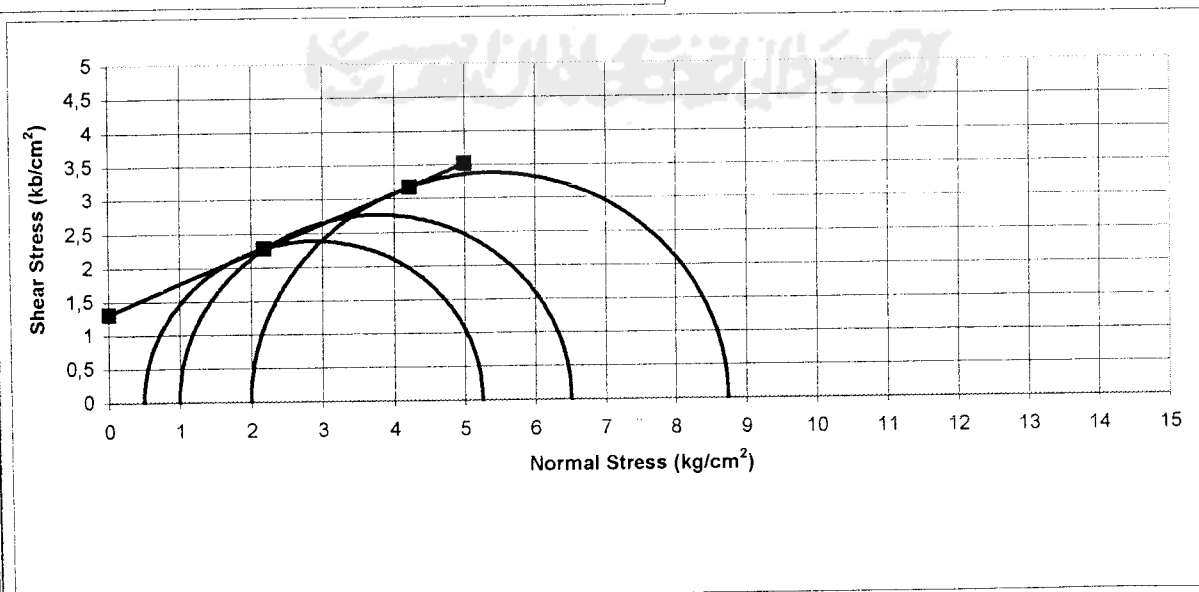


Piece No :	1	2	3
H cm	7,6	7,6	7,6
D cm	3,9	3,9	3,9
A cm ²	11,95	11,95	11,95
V cm ³	90,79	90,79	90,79
Wt gram	150,45	150,00	149,92

Water Content		
Wt Container (cup), gr	21,45	21,87
Wt of Cup + Wet soil, gr	53,98	53,12
Wt of Cup + Dry soil, gr	43,84	43,43
Water Content %	45,29	44,94
Average water content %	45,12	

γ_d gram/cm ³	1,657141	1,652185	1,651303
γ gram/cm ³	1,141941	1,138525	1,137918

σ_3	0,5	1	2
$\sigma_1 - \sigma_3 = P/A$	4,754623	5,514742	6,743389
σ_1	5,254623	6,514742	8,743389
$(\sigma_1 + \sigma_3)/2$	2,877312	3,757371	5,371695
$(\sigma_1 - \sigma_3)/2$	2,377312	2,757371	3,371695
Angle of shearing resistance (ϕ)			23,72522
Apperen cohesion (kg/cm ²)			1,314346





TRIAxIAL COMPRESSION TEST LOADING DATA

Project : Tugas Akhir

Location : Kaliwang, Jawa Tengah

Description of soil : Clay + 6% karbid

Sample No. : disturbed

Date : 1 Mei, 2003

Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889
k = K / A	0,01715232		Weight	W gram	151,7300
Cell pessure	0.50		Rate of compression : 0.5 %	Wet density	gr/cm ³

Time	Strain		Reading of proving ring	kg/cm ²	Pore pressure	
	Axial defor- mation	Strain %			u kg/cm ²	kg/cm ²
0	0	0	0	0		
	40	0,526	85	1,450273769		
	80	1,053	107	1,81597928		
	120	1,579	126	2,127068194		
	160	2,105	160	2,686594918		
	200	2,632	180	3,006169717		
	240	3,158	192	3,189248161		
	280	3,684	205	3,386680388		
	320	4,211	215	3,532475106		
	360	4,737	223	3,643784633		
	400	5,263	231	3,753649754		
	440	5,789	240	3,878229761		
	480	6,316	249	4,00118481		
	520	6,842	253	4,042621204		
	560	7,368	261	4,146889253		
	600	7,895	269	4,249712895		
	640	8,421	276	4,335384219		
	680	8,947	284	4,435409325		
	720	9,474	292	4,533990026		
	760	10,000	300	4,63112632		
	800	10,526	306	4,696124585		
	840	11,053	310	4,72952647		
	880	11,579	314	4,762206153		
	920	12,105	317	4,779087647		
	960	12,632	320	4,795427488		



TRIAxIAL COMPRESSION TEST LOADING DATA

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 6% karbid

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Hight	H cm	7.6
No. Of cell			Diameter	D cm	3.9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K =	0.2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Weight	W gram	150,1700
Cell pessure	1,00		Rate of compression : 0.5 %	Wet density	gr/cm ³

Time s	Strain		Reading of proving ring	kg/cm ²	Pore pressure u	
	Axial defor- mation	Strain %			kg/cm ²	kg/cm ²
0	0	0	0	0		
30	40	0,526	0,995	18	0,307116798	
60	80	1,053	0,989	48	0,814644911	
90	120	1,579	0,984	135	2,279001637	
120	160	2,105	0,979	177	2,972045628	
150	200	2,632	0,974	208	3,473796117	
180	240	3,158	0,968	233	3,870285528	
210	280	3,684	0,963	254	4,196179603	
240	320	4,211	0,958	264	4,337550827	
270	360	4,737	0,953	272	4,444436662	
300	400	5,263	0,947	282	4,582377622	
330	440	5,789	0,942	292	4,718512876	
360	480	6,316	0,937	308	4,949256713	
390	520	6,842	0,932	324	5,1771111739	
420	560	7,368	0,926	330	5,243193308	
450	600	7,895	0,921	340	5,371384329	
480	640	8,421	0,916	346	5,434938187	
510	680	8,947	0,911	354	5,528644018	
540	720	9,474	0,905	370	5,745124348	
570	760	10,000	0,900	378	5,835219164	
600	800	10,526	0,895	384	5,893175949	
630	840	11,053	0,889	392	5,980562504	
660	880	11,579	0,884	396	6,005839607	
690	920	12,105	0,879	400	6,030394507	
720	960	12,632	0,874	402	6,024255782	
750	1000	13,158	0,868	403	6,00286052	
780	1040	13,684	0,863	403	5,966479547	
810	1080	14,211	0,858	409	6,018387883	
840	1120	14,737	0,853	411	6,010714477	
870	1160	15,263	0,847	412	5,988145635	
900	1200	15,789	0,842	413	5,965396243	
930	1240	16,316	0,837	413,5	5,935289408	
960	1280	16,842	0,832	413	5,89082879	



TRIAXIAL COMPRESSION TEST LOADING DATA

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 6% karbid

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K	0,2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Weight	W gram	149,9000
Cell pressure	2,00		Rate of compression : 0,5 %	Wet density	gr/cm ³

Time s	Strain		Reading of proving ring	Pore pressure u	
	Axial defor- mation	Strain %		kg/cm ²	kg/cm ²
0	0	0	0	0	
30	40	0,526	12	0,204744532	
60	80	1,053	79	1,340769749	
90	120	1,579	107	1,806319816	
120	160	2,105	180	3,022419283	
150	200	2,632	230	3,84121686	
180	240	3,158	270	4,484880226	
210	280	3,684	304	5,02219921	
240	320	4,211	330	5,421938534	
270	360	4,737	348	5,686264808	
300	400	5,263	365	5,931091603	
330	440	5,789	378	6,108211873	
360	480	6,316	391	6,282984983	
390	520	6,842	401	6,407474714	
420	560	7,368	410	6,514270473	
450	600	7,895	425	6,714230411	
480	640	8,421	429	6,738695035	
510	680	8,947	435	6,793672734	



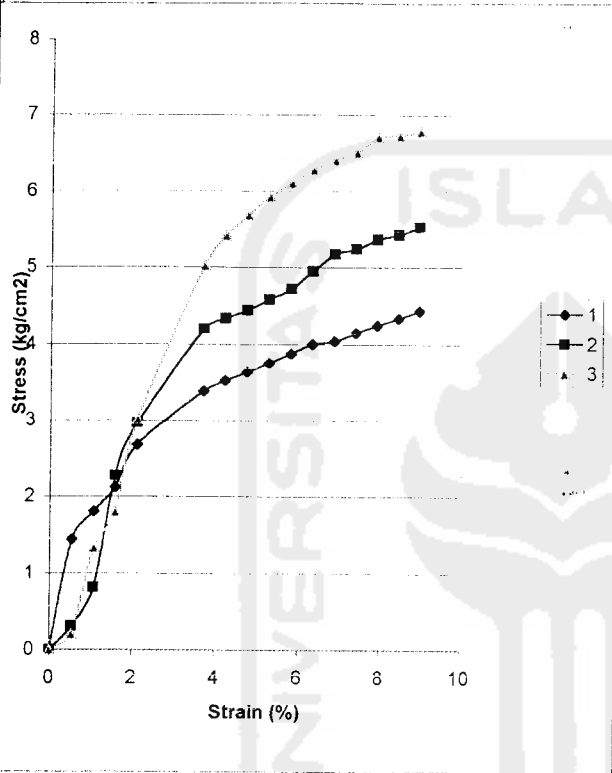
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAxIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 6%

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

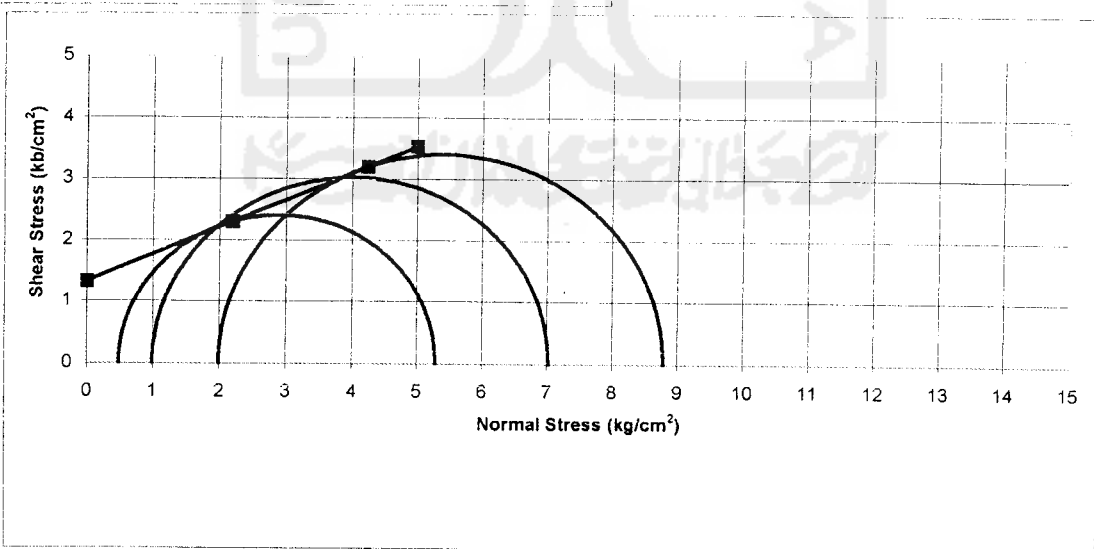


Piece No :	1	2	3
H cm	7,6	7,6	7,6
D cm	3,9	3,9	3,9
A cm ²	11,95	11,95	11,95
V cm ³	90,79	90,79	90,79
Wt gram	151,73	150,17	149,90

Water Content		
Wt Container (cup), gr	21,87	21,99
Wt of Cup + Wet soil, gr	55,88	53,12
Wt of Cup + Dry soil, gr	45,19	43,34
Water Content %	45,84	45,81
Average water content %	45,82	

γ_d gram/cm ³	1,67124	1,654057	1,651083
γ gram/cm ³	1,146065	1,134281	1,132242

σ_3	0,5	1	2
$\sigma_1 - \sigma_3 = P/A$	4,795427	6,030395	6,793673
$\sigma_1 + \sigma_3$	5,295427	7,030395	8,793673
$(\sigma_1 + \sigma_3)/2$	2,897714	4,015197	5,396836
$(\sigma_1 - \sigma_3)/2$	2,397714	3,015197	3,396836
Angle of shearing resistance (ϕ)	23,80031		
Apperen cohesion (kg/cm ²)	1,324075		





TRIAxIAL COMPRESION TEST LOADING DATA

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 9% karbid

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889
k = K / A	0,01715232		Weight	W gram	154,3000
Cell pressure	0,50		Rate of compression : 0.5 %	Wet density	gr/cm ³

Time s	Strain		Reading of proving ring	kg/cm ²	Pore pressure	
	Axial deforma- tion	Strain %			u kg/cm ²	kg/cm ²
0	0	0	0	0		
30	40	0,526	0,995	15	0,255930665	
60	80	1,053	0,989	135	2,291188811	
90	120	1,579	0,984	185	3,123076317	
120	160	2,105	0,979	232	3,895562631	
150	200	2,632	0,974	254	4,242039489	
180	240	3,158	0,968	282	4,684208236	
210	280	3,684	0,963	294	4,856995288	
240	320	4,211	0,958	307	5,044045848	
270	360	4,737	0,953	318	5,196069566	
300	400	5,263	0,947	320	5,199861132	
330	440	5,789	0,942	314	5,07401727	
360	480	6,316	0,937	310	4,981394744	
390	520	6,842	0,932	300	4,793621981	



TRIAXIAL COMPRESION TEST LOADING DATA

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 9% karbid

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Weight	W gram	152,6300
Cell pessusure	1,00	Rate of compression : 0.5 %	Wet density	gr/cm ³	1,6812

Time s	Strain		Reading of proving ring	Pore pressure u	
	Axial defor- mation	Strain %		kg/cm ²	kg/cm ²
0	0	0	0	0	
30	40	0,526	85	1,450273769	
60	80	1,053	175	2,97005957	
90	120	1,579	204	3,443824695	
120	160	2,105	250	4,197804559	
150	200	2,632	271	4,525955518	
180	240	3,158	292	4,850314911	
210	280	3,684	309	5,10480117	
240	320	4,211	322	5,2904976	
270	360	4,737	334	5,457507029	
300	400	5,263	342	5,557351584	
330	440	5,789	350	5,655751734	
360	480	6,316	355	5,704500432	
390	520	6,842	356	5,688431417	
420	560	7,368	356	5,656293387	
450	600	7,895	359	5,671549924	
480	640	8,421	356	5,592017325	
510	680	8,947	352	5,497408741	



LABORATORIUM MEKANIKA TANAH
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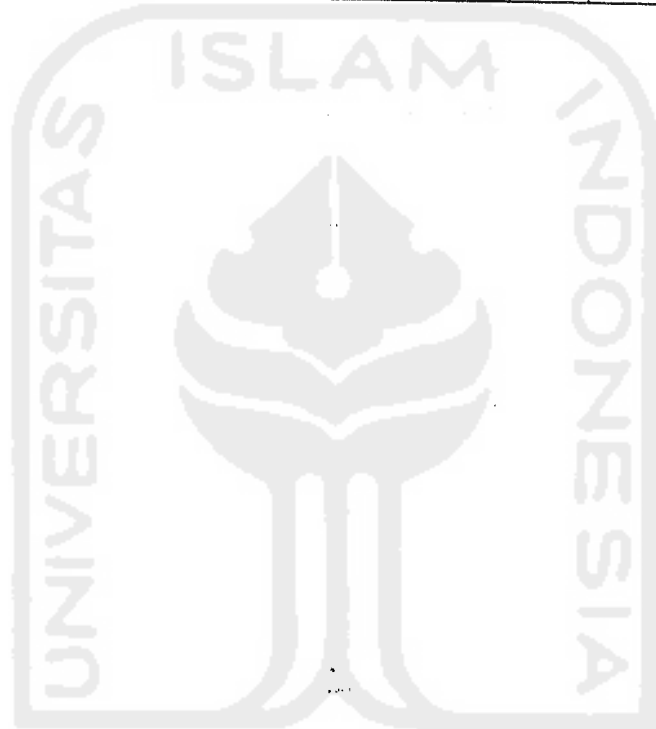
TRIAxIAL COMPRESION TEST LOADING DATA

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 9% kardi
 Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K	0,2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Weight	W gram	153,5700
Cell pessure	2,00		Wet density	gr/cm ³	1,6915
		Rate of compression : 0.5 %			

Time s	Strain		Reading of proving ring kg/cm ²	Pore pressure u kg/cm ²	
	Axial defor- mation	Strain %		kg/cm ²	kg/cm ²
0	0	0	0		
30	40	0,526	0,995	27	0,460675197
60	80	1,053	0,989	93	1,578374514
90	120	1,579	0,984	140	2,363409105
120	160	2,105	0,979	192	3,223913902
150	200	2,632	0,974	232	3,874618746
180	240	3,158	0,968	256	4,252330881
210	280	3,684	0,963	265	4,377903916
240	320	4,211	0,958	278	4,567572462
270	360	4,737	0,953	284	4,640514959
300	400	5,263	0,947	294	4,777372415
330	440	5,789	0,942	300	4,847787201
360	480	6,316	0,937	309	4,965325729
390	520	6,842	0,932	310	4,95340938
420	560	7,368	0,926	315	5,004866339
450	600	7,895	0,921	330	5,213402437
480	640	8,421	0,916	341	5,356398618
510	680	8,947	0,911	335	5,231908887
540	720	9,474	0,905	342	5,310358181
570	760	10,000	0,900	350	5,402980707
600	800	10,526	0,895	355	5,448118391
630	840	11,053	0,889	356	5,431327172
660	880	11,579	0,884	366	5,550851758
690	920	12,105	0,879	375	5,65349485
720	960	12,632	0,874	388	5,814455829
750	1000	13,158	0,868	400	5,958174213
780	1040	13,684	0,863	405	5,996089867
810	1080	14,211	0,858	410	6,033102768
840	1120	14,737	0,853	430	6,288582056
870	1160	15,263	0,847	434	6,307900985
900	1200	15,789	0,842	445	6,427606121
930	1240	16,316	0,837	453	6,50226385
960	1280	16,842	0,832	459	6,546950156
990	1320	17,368	0,826	463	6,562206693
1020	1360	17,895	0,821	478	6,731653557
1050	1400	18,421	0,816	479,5	6,709490954
1080	1440	18,947	0,811	486	6,756569558
1110	1480	19,474	0,805	487	6,726507861
1140	1520	20,000	0,800	492	6,751153036
1170	1560	20,526	0,795	496	6,761263877
1200	1600	21,053	0,789	498	6,743569905
1230	1640	21,579	0,784	510	6,860025128
1260	1680	22,105	0,779	512	6,8407062
1290	1720	22,632	0,774	513	6,807755691
1320	1760	23,158	0,768	526	6,932787074
1350	1800	23,684	0,763	529	6,924572016
1380	1840	24,211	0,758	532	6,915815305

1410	1880	24,737	0,753	536	6,91942632		
1440	1920	25,263	0,747	538	6,896676927		
1470	1960	25,789	0,742	541	6,88629526		
1500	2000	26,316	0,737	546	6,900649044		
1530	2040	26,842	0,732	549	6,889003521		
1560	2080	27,368	0,726	562	7,001396353		
1590	2120	27,895	0,721	564	6,975397047		
1620	2160	28,421	0,716	580	7,120920939		
1650	2200	28,947	0,711	592	7,21480732		
1680	2240	29,474	0,705	600	7,258139496		
1710	2280	30,000	0,700	615	7,384073633		
1740	2320	30,526	0,695	623	7,42388507		
1770	2360	31,053	0,689	629	7,438599955		
1800	2400	31,579	0,684	635	7,452231535		
1830	2440	32,105	0,679	637	7,418197722		
1860	2480	32,632	0,674	638	7,37224756		
1890	2520	33,158	0,668	639,5	7,331849333		
1920	2560	33,684	0,663	650	7,393552547		
1950	2600	34,211	0,658	660	7,447717767		
1980	2640	34,737	0,653	662	7,410524316		
2010	2680	35,263	0,647	650	7,217515581		



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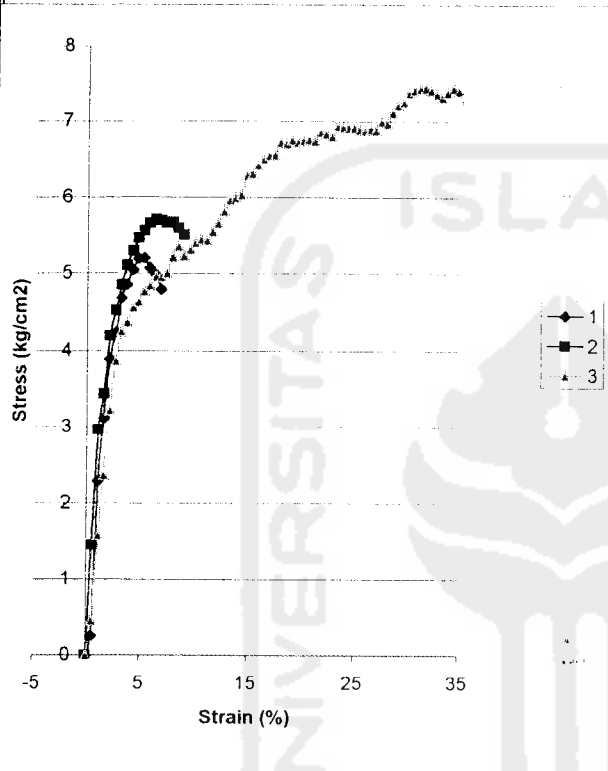
LABORATORIUM MEKANIKA TANAH
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UNIVERSITAS ISLAM INDONESIA

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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 9% karbid

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

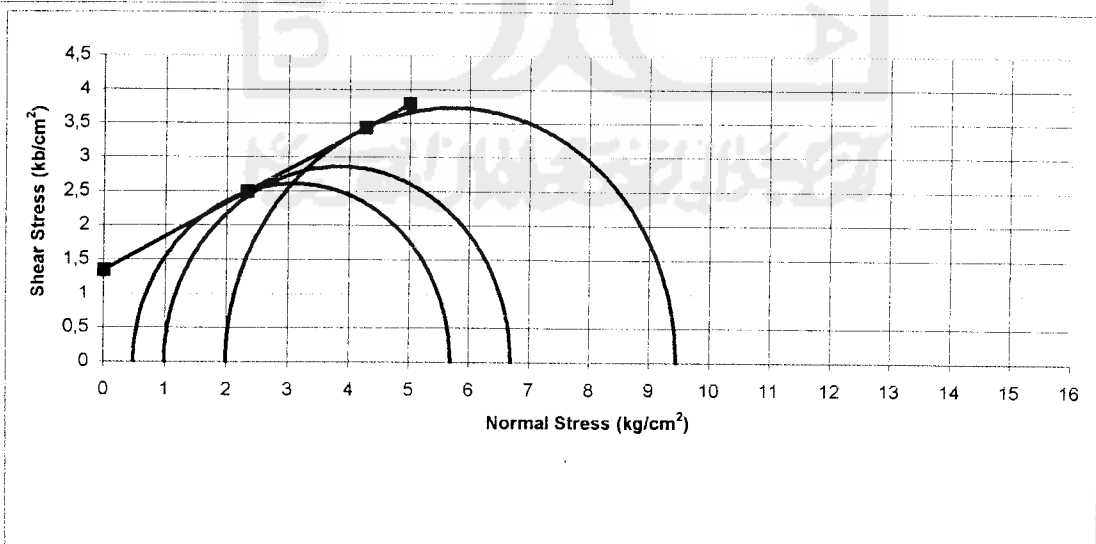


Piece No :	1	2	3
H cm	7,6	7,6	7,6
D cm	3,9	3,9	3,9
A cm ²	11,95	11,95	11,95
V cm ³	90,79	90,79	90,79
Wt gram	154,30	152,63	153,57

Water Content		
Wt Container (cup), gr	22,01	21,98
Wt of Cup + Wet soil, gr	54,21	53,87
Wt of Cup + Dry soil, gr	43,92	43,65
Water Content %	46,96	47,16
Average water content %	47,06	

γ_d gram/cm ³	1,699547	1,681153	1,691507
γ_d gram/cm ³	1,155656	1,143148	1,150189

σ_3	0,5	1	2
$\sigma_1 - \sigma_3 = P/A$	5,199861	5,7045	7,452232
$\sigma_1 + \sigma_3$	5,699861	6,7045	9,452232
$(\sigma_1 + \sigma_3)/2$	3,099931	3,85225	5,726116
$(\sigma_1 - \sigma_3)/2$	2,599931	2,85225	3,726116
Angle of shearing resistance (o)	26,04918		
Apperen cohesion (kg/cm ²)	1,34265		





TRIAXIAL COMPRESION TEST LOADING DATA

Project : Tugas Akhir		Sample No. : disturbed			
Location : Kalibawang, Jawa Tengah		Date : 1 Mei, 2003			
Description of soil : Clay + 12% karbid		Tested by : Fitra, Budi			
Type of test apparatus		Dimension of test piece	Hight	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Weight	W gram	152,0000
Cell pessusre	1,00	Rate of compression : 0.5 %	Wet density	gr/cm ³	1,6742

Time s	Strain		Reading of proving ring	Pore pressure u	
	Axial defor- mation	Strain %		kg/cm ²	kg/cm ²
0	0	0	0	0	
30	40	0,526	0,995	24	0,409489064
60	80	1,053	0,989	104	1,765063973
90	120	1,579	0,984	156	2,633513002
120	160	2,105	0,979	164	2,753759791
150	200	2,632	0,974	212	3,540599889
180	240	3,158	0,968	230	3,820453526
210	280	3,684	0,963	248	4,09705725
240	320	4,211	0,958	262	4,304690594
270	360	4,737	0,953	275	4,493456386
300	400	5,263	0,947	288	4,679875019
330	440	5,789	0,942	298	4,81546862
360	480	6,316	0,937	304	4,884980652
390	520	6,842	0,932	308	4,9214519
420	560	7,368	0,926	312	4,957200946
450	600	7,895	0,921	325	5,134411491
480	640	8,421	0,916	336	5,277859049
510	680	8,947	0,911	333	5,20067361
540	720	9,474	0,905	345	5,35694027
570	760	10,000	0,900	345	5,325795268
600	800	10,526	0,895	355	5,448118391
630	840	11,053	0,889	356	5,431327172
660	880	11,579	0,884	357	5,414355403
690	920	12,105	0,879	365	5,502734988
720	960	12,632	0,874	378	5,66459872
750	1000	13,158	0,868	382	5,690056374
780	1040	13,684	0,863	386	5,714791824
810	1080	14,211	0,858	392	5,768234841
840	1120	14,737	0,853	399	5,835219164
870	1160	15,263	0,847	402	5,842802295
900	1200	15,789	0,842	406	5,864287832
930	1240	16,316	0,837	415	5,956820083
960	1280	16,842	0,832	422	6,019200361
990	1320	17,368	0,826	425	6,023623854
1020	1360	17,895	0,821	426	5,999339781
1050	1400	18,421	0,816	426,5	5,967878815
1080	1440	18,947	0,811	425	5,908522762
1110	1480	19,474	0,805	420	5,801095075



TRIAxIAL COMPRESION TEST LOADING DATA

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 12% karbid

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K	0,2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Weight	W gram	153,5700
Cell pessure	2,00		Rate of compression : 0,5 %	Wet density	gr/cm ³

Time	Strain		Reading of proving ring	Pore pressure		
	Axial deformation	Strain		u		
s		%		kg/cm ²	kg/cm ²	kg/cm ²
0	0	0	0	0		
30	40	0,526	0,995	33	0,563047463	
60	80	1,053	0,989	80	1,357741518	
90	120	1,579	0,984	135	2,279001637	
120	160	2,105	0,979	211	3,542947048	
150	200	2,632	0,974	284	4,743067775	
180	240	3,158	0,968	233	3,870285528	
210	280	3,684	0,963	372	6,145585875	
240	320	4,211	0,958	402	6,604906942	
270	360	4,737	0,953	432	7,058811486	
300	400	5,263	0,947	451	7,328554282	
330	440	5,789	0,942	453	7,320158673	
360	480	6,316	0,937	457	7,343539993	
390	520	6,842	0,932	460	7,350220371	
420	560	7,368	0,926	467	7,419912954	
450	600	7,895	0,921	467	7,377754357	
480	640	8,421	0,916	467,5	7,343449718	
510	680	8,947	0,911	467,5	7,301245984	
540	720	9,474	0,905	467	7,251278568	



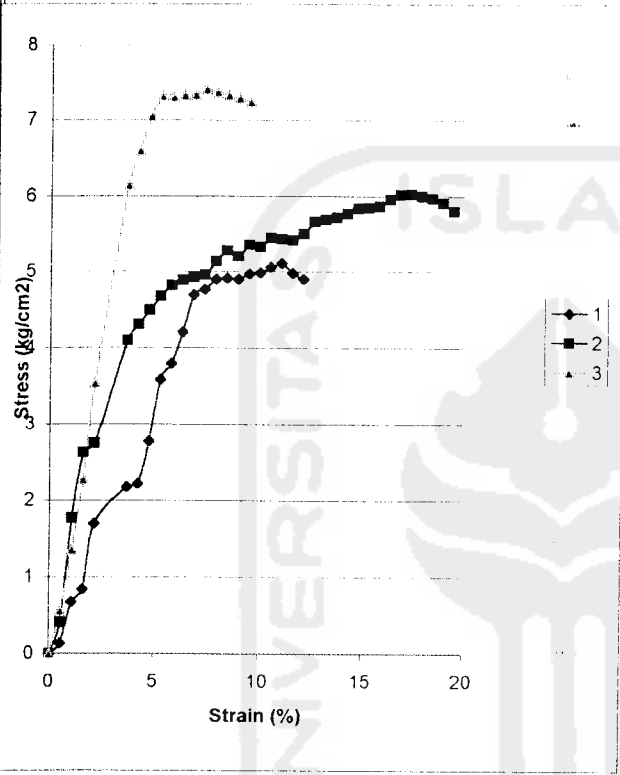
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 12% karbid

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

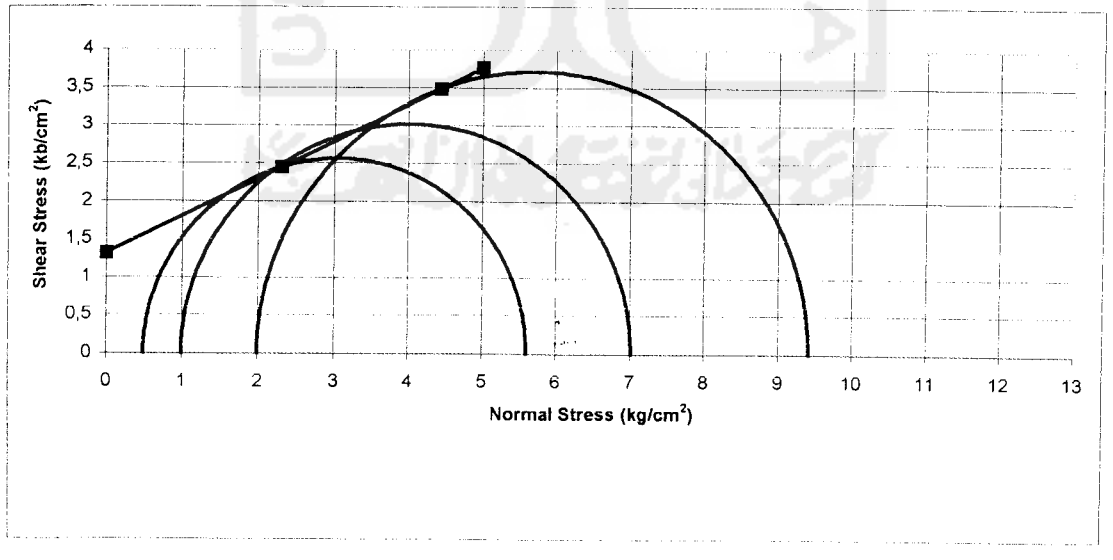


Piece No :	1	2	3
H cm	7,6	7,6	7,6
D cm	3,9	3,9	3,9
A cm ²	11,95	11,95	11,95
V cm ³	90,79	90,79	90,79
Wt gram	148,08	152,00	153,57

Water Content		
Wt Container (cup), gr	21,66	21,16
Wt of Cup + Wet soil, gr	53,98	53,65
Wt of Cup + Dry soil, gr	43,58	43,23
Water Content %	47,45	47,21
Average water content %	47,33	

γ_d gram/cm ³	1,631037	1,674214	1,691507
γ gram/cm ³	1,107068	1,136375	1,148113

σ_3	0,5	1	2
$\sigma_1 - \sigma_3 = P/A$	5,11094	6,023624	7,419913
$\sigma_1 + \sigma_3$	5,61094	7,023624	9,419913
$(\sigma_1 + \sigma_3)/2$	3,05547	4,011812	5,709956
$(\sigma_1 - \sigma_3)/2$	2,55547	3,011812	3,709956
Angle of shearing resistance (ϕ)	26,04766		
Apperen cohesion (kg/cm ²)	1,315586		





TRIAxIAL COMPRESION TEST LOADING DATA

Project : Tugas Akhir
 Location : Kalibawang Jawa Tengah
 Description of soil : Clay + 1 lps geotekstil

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Hight	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K	0,2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Wight	W gram	153,5700
Cell pessusre	2,00		Wet density	gr/cm ²	1,6915
Rate of compression : 0.5 %					

Time	Strain		Reading of proving ring	kg/cm ²	Pore pressure u	
	Axial defor- mation	Strain %			kg/cm ²	kg/cm ²
0	0	0	0	0		
30	40	0,526	0,995	26	0,443613153	
60	80	1,053	0,989	38	0,644927221	
90	120	1,579	0,984	74	1,249230527	
120	160	2,105	0,979	94	1,578374514	
150	200	2,632	0,974	110	1,837103716	
180	240	3,158	0,968	121	2,009890768	
210	280	3,684	0,963	131	2,164171137	
240	320	4,211	0,958	141	2,316646465	
270	360	4,737	0,953	149	2,434636369	
300	400	5,263	0,947	152	2,469934038	
330	440	5,789	0,942	159	2,569327216	
360	480	6,316	0,937	162	2,603180479	
390	520	6,842	0,932	165,5	2,644481459	
420	560	7,368	0,926	170	2,701038977	
450	600	7,895	0,921	172	2,717288543	
480	640	8,421	0,916	175	2,748884921	
510	680	8,947	0,911	176	2,74870437	
540	720	9,474	0,905	177	2,748343269	
570	760	10,000	0,900	181	2,79411288	
600	800	10,526	0,895	181	2,777773039	
630	840	11,053	0,889	183	2,791946271	
660	880	11,579	0,884	184	2,790592141	
690	920	12,105	0,879	188	2,834285418	
720	960	12,632	0,874	190	2,847285071	
750	1000	13,158	0,868	193	2,874819058	
780	1040	13,684	0,863	195	2,887006232	
810	1080	14,211	0,858	198	2,91354719	
840	1120	14,737	0,853	200	2,924921887	
870	1160	15,263	0,847	203	2,950469815	
900	1200	15,789	0,842	205	2,961032033	
930	1240	16,316	0,837	205	2,942525583	



TRIAxIAL COMPRESION TEST LOADING DATA

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 1 lps geotekstil

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Hight	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Wight	W gram	152,9400
Cell pessure	1,00		Rate of compression : 0,5 %	Wet density	gr/cm ³

Time s	Strain		Reading of proving ring kg/cm ²	Pore pressure u kg/cm ²	
	Axial deformation	Strain %		kg/cm ²	kg/cm ²
0	0	0	0	0	
30	40	0,526	0,995	48	0,818978128
60	80	1,053	0,989	60	1,018306138
90	120	1,579	0,984	69	1,164823059
120	160	2,105	0,979	75	1,259341368
150	200	2,632	0,974	80	1,33607543
180	240	3,158	0,968	86	1,428517405
210	280	3,684	0,963	90	1,486835292
240	320	4,211	0,958	94	1,544430976
270	360	4,737	0,953	98	1,601304458
300	400	5,263	0,947	103	1,673705302
330	440	5,789	0,942	104	1,68056623
360	480	6,316	0,937	107	1,719384637
390	520	6,842	0,932	108	1,725703913
420	560	7,368	0,926	110	1,747731103
450	600	7,895	0,921	111	1,753599001
480	640	8,421	0,916	111	1,743578436
510	680	8,947	0,911	111	1,73355787
540	720	9,474	0,905	112,5	1,746828349
570	760	10,000	0,900	116	1,790702177
600	800	10,526	0,895	119	1,826270672
630	840	11,053	0,889	118,5	1,807899635
660	880	11,579	0,884	120	1,819951396
690	920	12,105	0,879	121	1,824194338
720	960	12,632	0,874	123	1,843242441
750	1000	13,158	0,868	127	1,891720313
780	1040	13,684	0,863	128,5	1,902463081
810	1080	14,211	0,858	129	1,898220139
840	1120	14,737	0,853	130	1,901199226
870	1160	15,263	0,847	132,5	1,925799264
900	1200	15,789	0,842	135	1,949947924
930	1240	16,316	0,837	139,5	2,002352775
960	1280	16,842	0,832	139	1,982627607
990	1320	17,368	0,826	139,5	1,977165947
1020	1360	17,895	0,821	140	1,971614012
1050	1400	18,421	0,816	141	1,972968143
1080	1440	18,947	0,811	145	2,015848942
1110	1480	19,474	0,805	147	2,030383276
1140	1520	20,000	0,800	150	2,058278365
1170	1560	20,526	0,795	150,5	2,05155285
1200	1600	21,053	0,789	151,5	2,051507712
1230	1640	21,579	0,784	152,5	2,051282024
1260	1680	22,105	0,779	155	2,070916916
1290	1720	22,632	0,774	159,5	2,116641389
1320	1760	23,158	0,768	159	2,095652367
1350	1800	23,684	0,763	159	2,081298583
1380	1840	24,211	0,758	158	2,053945147



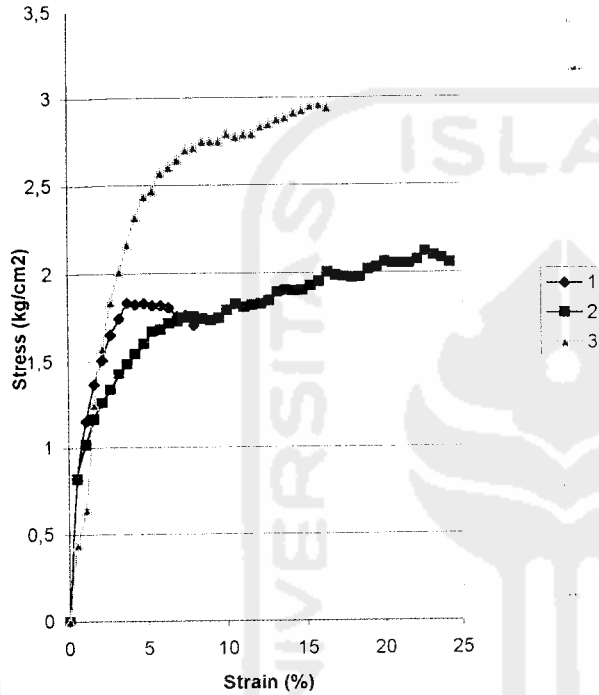
LABORATORIUM MEKANIKA TANAH
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UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay 1 lps Geotekstil

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

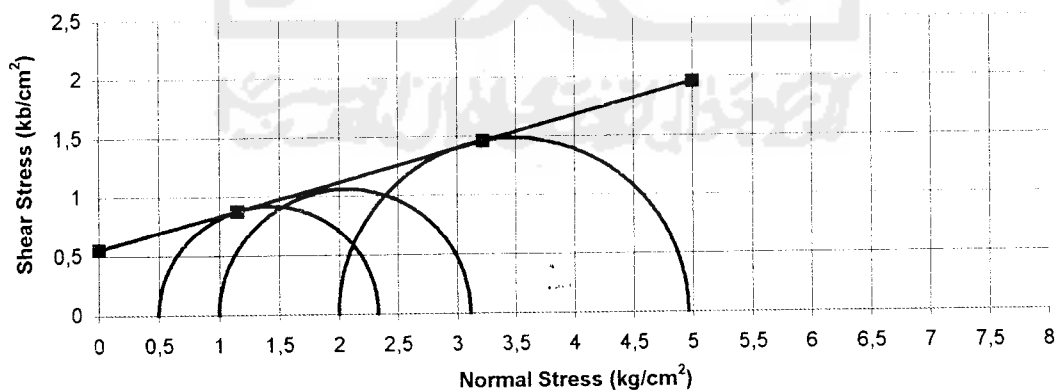


Piece No :	1	2	3
H cm	7,6	7,6	7,6
D cm	3,9	3,9	3,9
A cm ²	11,95	11,95	11,95
V cm ³	90,79	90,79	90,79
Wt gram	152,17	152,94	153,57

Water Content		
Wt Container (cup), gr	21,77	21,88
Wt of Cup + Wet soil, gr	53,87	55,24
Wt of Cup + Dry soil, gr	44,07	45,06
Water Content %	43,95	43,92
Average water content %	43,93	

γ_b gram/cm ³	1,676086	1,684567	1,691507
γ_d gram/cm ³	1,164501	1,170394	1,175215

σ_3	0,5	1	2
$\sigma_1 - \sigma_3 = P/A$	1,833764	2,116641	2,961032
$\sigma_1 + \sigma_3$	2,333764	3,116641	4,961032
$(\sigma_1 + \sigma_3)/2$	1,416882	2,058321	3,480516
$(\sigma_1 - \sigma_3)/2$	0,916882	1,058321	1,480516
Angle of shearing resistance (ϕ)	15,65026		
Apperen cohesion (kg/cm ²)	0,554978		





TRIAxIAL COMPRESION TEST LOADING DATA

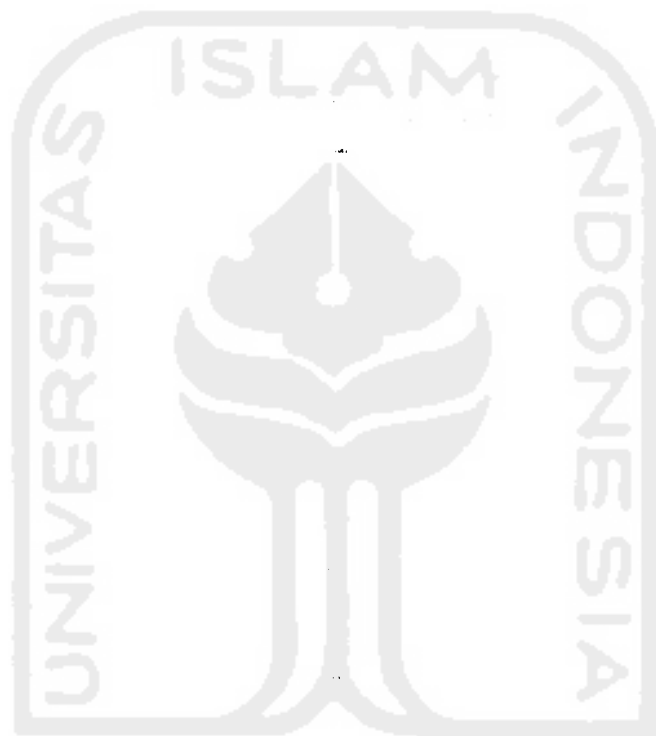
Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 2 lapis geotekstil

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889
k = K / A	0,01715232		Wight	W gram	153,1100
Cell pessure	0,50		Rate of compression : 0,5 %	Wet density	gr/cm ³

Time s	Strain		Reading of proving ring	kg/cm ²	Pore pressure u	
	Axial deforma- tion,	Strain %			kg/cm ²	kg/cm ²
0	0	0	1	0		
30	40	0,526	0,995	43	0,733667907	
60	80	1,053	0,989	59	1,001334369	
90	120	1,579	0,984	71,5	1,207026793	
120	160	2,105	0,979	76	1,276132596	
150	200	2,632	0,974	80	1,33607543	
180	240	3,158	0,968	84,5	1,403601404	
210	280	3,684	0,963	88	1,453794508	
240	320	4,211	0,958	92	1,511570743	
270	360	4,737	0,953	95,5	1,560454854	
300	400	5,263	0,947	99	1,608707038	
330	440	5,789	0,942	102	1,648247648	
360	480	6,316	0,937	104,5	1,679212099	
390	520	6,842	0,932	107	1,709725173	
420	560	7,368	0,926	109	1,731842636	
450	600	7,895	0,921	111	1,753599001	
480	640	8,421	0,916	113	1,774994263	
510	680	8,947	0,911	115	1,796026424	
540	720	9,474	0,905	117	1,816701483	
570	760	10,000	0,900	119	1,83701344	
600	800	10,526	0,895	122	1,872311109	
630	840	11,053	0,889	126	1,922323662	
660	880	11,579	0,884	127	1,926115228	
690	920	12,105	0,879	129	1,944802228	
720	960	12,632	0,874	130,5	1,955635272	
750	1000	13,158	0,868	133	1,981092926	
780	1040	13,684	0,863	138	2,043112103	
810	1080	14,211	0,858	139	2,045368987	
840	1120	14,737	0,853	140	2,047445321	
870	1160	15,263	0,847	142	2,063875437	
900	1200	15,789	0,842	144	2,079944453	
930	1240	16,316	0,837	147	2,11000615	
960	1280	16,842	0,832	152	2,168053211	
990	1320	17,368	0,826	155,5	2,203937669	
1020	1360	17,895	0,821	162	2,281439072	
1050	1400	18,421	0,816	165	2,308792508	
1080	1440	18,947	0,811	169	2,349506698	
1110	1480	19,474	0,805	172	2,375666555	
1140	1520	20,000	0,800	176	2,415046614	
1170	1560	20,526	0,795	178,75	2,436644996	
1200	1600	21,053	0,789	180	2,437434905	
1230	1640	21,579	0,784	185	2,488440488	
1260	1680	22,105	0,779	187,5	2,505141431	
1290	1720	22,632	0,774	190	2,521390997	
1320	1760	23,158	0,768	191,75	2,527304033	
1350	1800	23,684	0,763	195	2,552535998	
1380	1840	24,211	0,758	197	2,560931607	

1410	1880	24,737	0,753	199	2,5688966115		
1440	1920	25,263	0,747	200	2,563820419		
1470	1960	25,789	0,742	203	2,583951826		
1500	2000	26,316	0,737	205.5	2,597222305		
1530	2040	26,842	0,732	207	2,597493131		
1560	2080	27,368	0,726	210	2,616180132		
1590	2120	27,895	0,721	211	2,60959003		
1620	2160	28,421	0,716	213.5	2,621235552		
1650	2200	28,947	0,711	214	2,608055349		



الجامعة الإسلامية في إندونيسيا



TRIAxIAL COMPRESION TEST LOADING DATA

Project : Project Research of Wonosobo Clay
 Location : Kaliwiro, Wonosobo, Central Java
 Description of soil : Clay + 2 lapis geotekstil

Sample No. : Undisturbed
 Date : April 22nd, 2003
 Tested by : Team of Research

Type of test apparatus		Dimension of test piece	Height	H cm	7.7
No. Of cell			Diameter	D cm	3.83
No. of Proving ring			Cross area	A cm ²	11,5209
Coeff. proving ring K =	0,2049		Volume	V cm ³	66,7111
k = K / A	0.017785		Wight	W gram	152,8900
Cell pressure	1,00	Rate of compression : 0.5 %	Wet density	gr/cm ³	1,7235

Time s	Strain			Reading of proving ring		Pore pressure u	
	Axial defor- mation	Strain %				kg/cm ²	kg/cm ²
0	0	0	1	0	0		
30	40	0,526	0,995	53	0,90428835		
60	80	1,053	0,989	69	1,171052059		
90	120	1,579	0,984	81	1,367400982		
120	160	2,105	0,979	92	1,544792078		
150	200	2,632	0,974	101	1,68679523		
180	240	3,158	0,968	108	1,79395209		
210	280	3,684	0,963	112	1,850283919		
240	320	4,211	0,958	120	1,971614012		
270	360	4,737	0,953	125	2,042460175		
300	400	5,263	0,947	125	2,031195755		
330	440	5,789	0,942	132	2,133026368		
360	480	6,316	0,937	137	2,201455096		
390	520	6,842	0,932	139	2,221044851		
420	560	7,368	0,926	141	2,240273504		
450	600	7,895	0,921	146	2,306535624		
480	640	8,421	0,916	150	2,356187075		
510	680	8,947	0,911	154	2,405116324		
540	720	9,474	0,905	160	2,484378096		
570	760	10,000	0,900	162	2,500808213		
600	800	10,526	0,895	164	2,516877228		
630	840	11,053	0,889	165,5	2,524956874		
660	880	11,579	0,884	168	2,547931955		
690	920	12,105	0,879	170,5	2,570456659		
720	960	12,632	0,874	176	2,637485118		
750	1000	13,158	0,868	178	2,651387525		
780	1040	13,684	0,863	178,5	2,64272109		
810	1080	14,211	0,858	180	2,648679264		
840	1120	14,737	0,853	185	2,705552745		
870	1160	15,263	0,847	190	2,761523473		
900	1200	15,789	0,842	194	2,802147388		
930	1240	16,316	0,837	194	2,784633966		
960	1280	16,842	0,832	195,5	2,788515807		
990	1320	17,368	0,826	197	2,792126822		
1020	1360	17,895	0,821	200	2,816591446		
1050	1400	18,421	0,816	204	2,8545071		
1080	1440	18,947	0,811	208	2,891700552		
1110	1480	19,474	0,805	211	2,914359669		
1140	1520	20,000	0,800	211	2,895311566		
1170	1560	20,526	0,795	217	2,958052946		
1200	1600	21,053	0,789	221	2,992628412		
1230	1640	21,579	0,784	221	2,972677556		
1260	1680	22,105	0,779	222	2,966087454		
1290	1720	22,632	0,774	224	2,97258728		
1320	1760	23,158	0,768	225	2,965545802		
1350	1800	23,684	0,763	227	2,971413701		
1380	1840	24,211	0,758	231	3,002919804		

1410	1880	24,737	0,753	237	3,059522459		
1440	1920	25,263	0,747	238	3,050946299		
1470	1960	25,789	0,742	240	3,054918415		
1500	2000	26,316	0,737	242	3,05852943		
1530	2040	26,842	0,732	244	3,061779343		
1560	2080	27,368	0,726	248	3,089584156		
1590	2120	27,895	0,721	251	3,104299041		
1620	2160	28,421	0,716	253,5	3,112333548		
1650	2200	28,947	0,711	254,5	3,101635917		
1680	2240	29,474	0,705	256	3,096806185		
1710	2280	30,000	0,700	258	3,097708939		
1740	2320	30,526	0,695	260	3,098250591		
1770	2360	31,053	0,689	263	3,110257215		
1800	2400	31,579	0,684	268	3,121722186		
1830	2440	32,105	0,679	268	3,120999963		
1860	2480	32,632	0,674	269	3,108361432		
1890	2520	33,158	0,668	272	3,118472273		
1920	2560	33,684	0,663	273	3,10529207		
1950	2600	34,211	0,658	275	3,103215736		
1980	2640	34,737	0,653	280	3,134360738		
2010	2680	35,263	0,647	282	3,131291375		
2040	2720	35,789	0,642	285	3,138874506		
2070	2760	36,316	0,637	295	3,22237922		
2100	2800	36,842	0,632	300	3,249913207		
2130	2840	37,368	0,626	305	3,276544441		





TRIAxIAL COMPRESION TEST LOADING DATA

Project : Project Research of Wonosobo Clay Sample No. : Undisturbed
 Location : Kaliwiro, Wonosobo, Central Java Date : April 22nd, 2003
 Description of soil : Clay + 2 lapis geotekstil Tested by : Team of Research

Type of test apparatus		Dimension of test piece	Hight	H cm	7,645
No. Of cell			Diameter	D cm	3,79
No. of Proving ring			Cross area	A cm ²	11,2815
Coeff. proving ring K	0,2049		Volume	V cm ³	86,2474
k = K / A	0,0181624		Wright	W gram	152,8000
Cell pessure	2,00	Rate of compression : 0.5 %	Wet density	gr/cm ³	1,7716

Time	Strain		Reading of proving ring	Pore pressure	
	Axial defor- mation	Strain		u	
s		%		kg/cm ²	kg/cm ²
0	0	0	1	0	0
30	40	0,526	0,995	64	1,091970838
60	80	1,053	0,989	107	1,81597928
90	120	1,579	0,984	137	2,312764624
120	160	2,105	0,979	149	2,501891517
150	200	2,632	0,974	170	2,839160288
180	240	3,158	0,968	181	3,006530818
210	280	3,684	0,963	196	3,237996859
240	320	4,211	0,958	207	3,401034171
270	360	4,737	0,953	210	3,431366695
300	400	5,263	0,947	216	3,509906264
330	440	5,789	0,942	223	3,603521819
360	480	6,316	0,937	228	3,663735489
390	520	6,842	0,932	233	3,723046405
420	560	7,368	0,926	228	3,622569922
450	600	7,895	0,921	233	3,680978084
480	640	8,421	0,916	242	3,801315148
510	680	8,947	0,911	243	3,795086148
540	720	9,474	0,905	246,5	3,827495005
570	760	10,000	0,900	248,5	3,836116302
600	800	10,526	0,895	252	3,867396717
630	840	11,053	0,889	256	3,905673472
660	880	11,579	0,884	261	3,958394286
690	920	12,105	0,879	262	3,949908402
720	960	12,632	0,874	263	3,941241967
750	1000	13,158	0,868	265	3,947290416
780	1040	13,684	0,863	268	3,967782925
810	1080	14,211	0,858	270	3,973018896
840	1120	14,737	0,853	274	4,007142985
870	1160	15,263	0,847	278	4,04054487
900	1200	15,789	0,842	282	4,073224553
930	1240	16,316	0,837	281,5	4,040590008
960	1280	16,842	0,832	284	4,050836262
990	1320	17,368	0,826	284	4,025198058
1020	1360	17,895	0,821	290	4,084057597
1050	1400	18,421	0,816	300	4,197804559
1080	1440	18,947	0,811	301	4,184624356
1110	1480	19,474	0,805	301	4,15745147
1140	1520	20,000	0,800	303	4,157722297
1170	1560	20,526	0,795	305	4,157632021
1200	1600	21,053	0,789	310	4,197804559
1230	1640	21,579	0,784	317	4,263976403
1260	1680	22,105	0,779	317	4,235359112
1290	1720	22,632	0,774	318	4,2200123
1320	1760	23,158	0,768	320	4,21766514
1350	1800	23,684	0,763	326	4,267316592
1380	1840	24,211	0,758	333	4,328884392

1410	1880	24,737	0,753	335	4.32464145		
1440	1920	25.263	0.747	335	4.294399202		





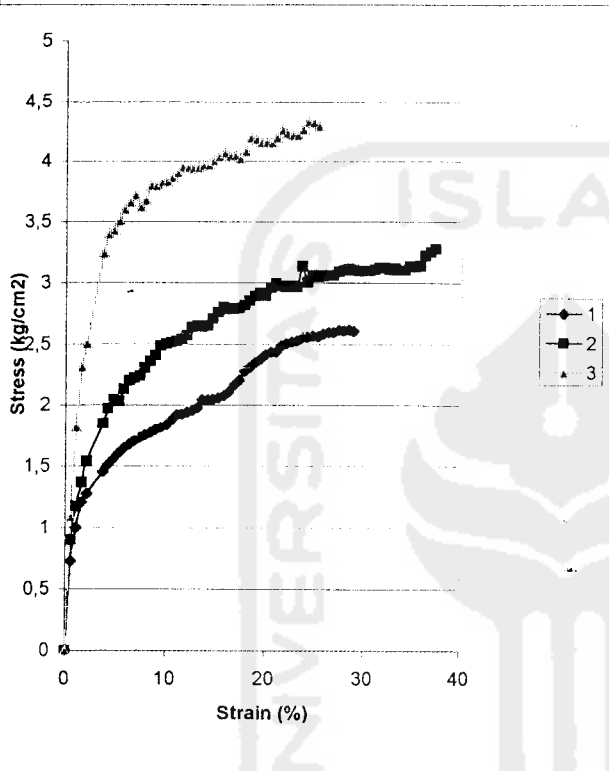
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Project Research of Wonosobo Clay
 Location : Kaliwiro, Wonosobo, Central Java
 Description of soil : Clay + 2 lps geotekstil

Sample No. : Undisturbed
 Date : April 22nd, 2003
 Tested by : Team of Research

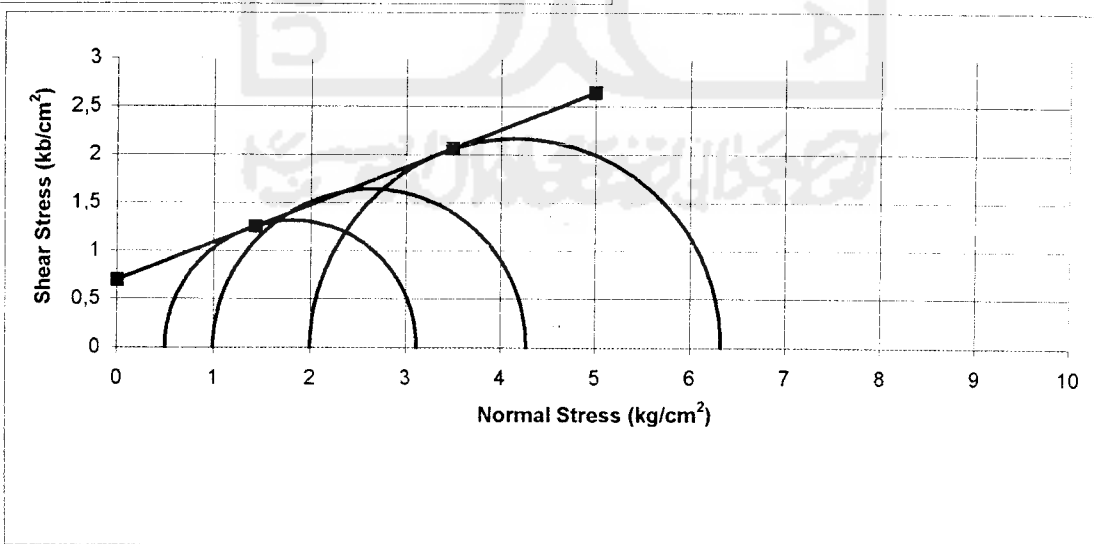


Piece No :	1	2	3
H cm	7,6	7,7	7,645
D cm	3,9	3,83	3,79
A cm ²	11,95	11,52	11,28
V cm ³	90,79	88,71	86,25
Wt gram	153,11	152,89	152,80

Water Content			
Wt Container (cup), gr	22,17	21,73	
Wt of Cup + Wet soil, gr	86,98	85,61	
Wt of Cup + Dry soil, gr	67,25	66,01	
Water Content %	43,77	44,26	
Average water content %	44,02		

γ_b gram/cm ³	1,68644	1,723459	1,771649
γ_d gram/cm ³	1,171015	1,19672	1,230182

σ_3	0,5	1	2
$\sigma_1 - \sigma_3 = P/A$	2,621236	3,276544	4,328884
$\sigma_1 + \sigma_3$	3,121236	4,276544	6,328884
$(\sigma_1 + \sigma_3)/2$	1,810618	2,638272	4,164442
$(\sigma_1 - \sigma_3)/2$	1,310618	1,638272	2,164442
Angle of shearing resistance (ϕ)	21,27147		
Apperen cohesion (kg/cm ²)	0,697637		





TRIAxIAL COMPRESION TEST LOADING DATA

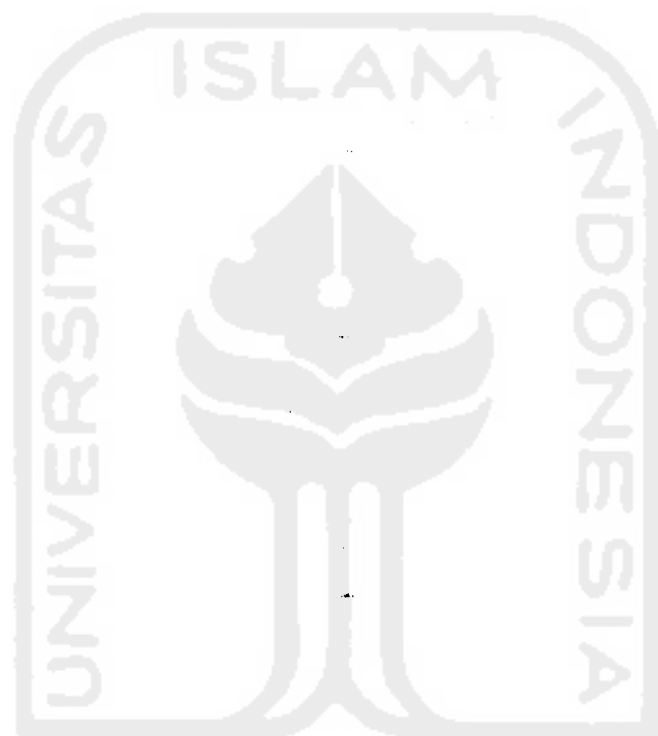
Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 3 ips geotekstil

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889
k = K / A	0,01715232		Wight	W gram	152,5400
Cell pessure	0,50		Rate of compression: 0.5 %	Wet density	gr/cm ³

Time s	Strain		Reading of proving ring	kg/cm ²	Pore pressure	
	Axial defor- mation	Strain %			u kg/cm ²	kg/cm ²
0	0	0	0	0		
30	40	0,526	0,995	14	0,238868621	
60	80	1,053	0,989	62	1,052249676	
90	120	1,579	0,984	88	1,485571437	
120	160	2,105	0,979	104	1,746286697	
150	200	2,632	0,974	116	1,937309373	
180	240	3,158	0,968	126	2,092944106	
210	280	3,684	0,963	135	2,230252939	
240	320	4,211	0,958	142	2,333076581	
270	360	4,737	0,953	149	2,434636369	
300	400	5,263	0,947	155	2,518682736	
330	440	5,789	0,942	161	2,601645798	
360	480	6,316	0,937	166	2,667456654	
390	520	6,842	0,932	171	2,732364529	
420	560	7,368	0,926	175	2,7804813	
450	600	7,895	0,921	175	2,76468311	
480	640	8,421	0,916	177,5	2,788154706	
510	680	8,947	0,911	180	2,811174924	
540	720	9,474	0,905	181	2,810452721	
570	760	10,000	0,900	182	2,809549968	
600	800	10,526	0,895	185,5	2,846833694	
630	840	11,053	0,889	187,5	2,860600688	
660	880	11,579	0,884	191	2,896755972	
690	920	12,105	0,879	192	2,894589363	
720	960	12,632	0,874	192,5	2,884749348	
750	1000	13,158	0,868	193	2,874819058	
780	1040	13,684	0,863	196	2,901811393	
810	1080	14,211	0,858	198	2,91354719	
840	1120	14,737	0,853	202	2,954171105	
870	1160	15,263	0,847	205	2,979538484	
900	1200	15,789	0,842	209	3,018808268	
930	1240	16,316	0,837	213	3,05735585	
960	1280	16,842	0,832	214,5	3,059522459	
990	1320	17,368	0,826	218	3,089764706	
1020	1360	17,895	0,821	223	3,140499463	
1050	1400	18,421	0,816	226	3,162346101	
1080	1440	18,947	0,811	229,5	3,190602291	
1110	1480	19,474	0,805	232	3,204414422	
1140	1520	20,000	0,800	235	3,224636105	
1170	1560	20,526	0,795	238,5	3,251131925	
1200	1600	21,053	0,789	240	3,249913207	
1230	1640	21,579	0,784	243	3,268600208	
1260	1680	22,105	0,779	246	3,286745557	
1290	1720	22,632	0,774	248	3,291078775	
1320	1760	23,158	0,768	252	3,321411298	
1350	1800	23,684	0,763	254,5	3,331386726	
1380	1840	24,211	0,758	255	3,314911471	

1410	1880	24,737	0,753	258	3,330619385		
1440	1920	25,263	0,747	260	3,332966545		
1470	1960	25,789	0,742	262	3,334952603		
1500	2000	26,316	0,737	262	3,311300457		
1530	2040	26,842	0,732	262	3,287648311		



الجامعة الإسلامية في إندونيسيا



TRIAxIAL COMPRESION TEST LOADING DATA

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 3 lps geotekstil

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Wight	W gram	252,2700
Cell pessure	1,00		Rate of compression : 0.5 %	Wet density	gr/cm ³

Time s	Strain			Reading of proving ring	kg/cm ²	Pore pressure u	
	Axial deform- ation	Strain %				kg/cm ²	kg/cm ²
0	0	0	1	0	0		
30	40	0,526	0,995	18	0,307116798		
60	80	1,053	0,989	76	1,289854442		
90	120	1,579	0,984	90	1,519334424		
120	160	2,105	0,979	115	1,930990097		
150	200	2,632	0,974	123	2,054215973		
180	240	3,158	0,968	142	2,358714786		
210	280	3,684	0,963	162	2,676303526		
240	320	4,211	0,958	174	2,858840318		
270	360	4,737	0,953	183	2,990190977		
300	400	5,263	0,947	191	3,103667113		
330	440	5,789	0,942	197	3,183380262		
360	480	6,316	0,937	205	3,294148137		
390	520	6,842	0,932	213	3,403471606		
420	560	7,368	0,926	219	3,479573741		
450	600	7,895	0,921	225	3,55459257		
480	640	8,421	0,916	232	3,64423601		
510	680	8,947	0,911	235	3,67014504		
540	720	9,474	0,905	239	3,711039781		
570	760	10,000	0,900	245	3,782086495		
600	800	10,526	0,895	249	3,82135628		
630	840	11,053	0,889	253	3,859903861		
660	880	11,579	0,884	257	3,89772924		
690	920	12,105	0,879	258	3,889604457		
720	960	12,632	0,874	262	3,926256256		
750	1000	13,158	0,868	268	3,991976723		
780	1040	13,684	0,863	272	4,027003565		
810	1080	14,211	0,858	274	4,031878435		
840	1120	14,737	0,853	276	4,036392203		
870	1160	15,263	0,847	279	4,055079204		
900	1200	15,789	0,842	282,5	4,080446583		
930	1240	16,316	0,837	285,5	4,098005141		
960	1280	16,842	0,832	288,5	4,115022048		



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TRIAxIAL COMPRESION TEST LOADING DATA

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 3 lps geotekstil

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Hight	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K	0,2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Wight	W gram	153,5700
Cell pessure	2,00		Rate of compression : 0.5 %	Wet density	gr/cm ³

Time	Strain		Reading of proving ring	Pore pressure u
	Axial deformation	Strain %		
0	0	0	0	0
	40	0,526	33	0,563047463
	80	1,053	37	0,627955452
	120	1,579	35,5	0,599293023
	160	2,105	37	0,621275075
	200	2,632	52	0,868449029
	240	3,158	98	1,627845415
	280	3,684	132	2,180691762
	320	4,211	154	2,530237983
	360	4,737	170	2,777773039
	400	5,263	185	3,006169717
	440	5,789	197	3,183380262
	480	6,316	206	3,310217152
	520	6,842	206	3,291620427
	560	7,368	225	3,574904528
	600	7,895	235	3,712574463
	640	8,421	241	3,785607234
	680	8,947	247	3,857556702
	720	9,474	255	3,959477591
	760	10,000	260	4,013642811
	800	10,526	269	4,128292527
	840	11,053	276	4,210804212
	880	11,579	281	4,261719519
	920	12,105	285	4,296656086
	960	12,632	291	4,360841872
	1000	13,158	298	4,438839789
	1040	13,684	305	4,515573851
	1080	14,211	309	4,546899403
	1120	14,737	312	4,562878143
	1160	15,263	318	4,621918233
	1200	15,789	324	4,679875019
	1240	16,316	330	4,7367485
	1280	16,842	336	4,792538676
	1320	17,368	339	4,804725851
	1360	17,895	341	4,802288416
	1400	18,421	346	4,841467925
	1440	18,947	352	4,893647087
	1480	19,474	357	4,930930814
	1520	20,000	360	4,939868075
	1560	20,526	363	4,948263684
	1600	21,053	366	4,956117641
	1640	21,579	371	4,990332005
	1680	22,105	377	5,03700437
	1720	22,632	382	5,069322951
	1760	23,158	390	5,14027939
	1800	23,684	395	5,170521637
	1840	24,211	399	5,186861479

1880	24,737	0,753	402	5,18956974
1920	25,263	0,747	404	5,178917247
1960	25,789	0,742	414	5,269734266
2000	26,316	0,737	420	5,308191572
2040	26,842	0,732	426	5,345565574
2080	27,368	0,726	430	5,35694027
2120	27,895	0,721	433	5,355225038
2160	28,421	0,716	442	5,426632853
2200	28,947	0,711	453	5,520790061
2240	29,474	0,705	456	5,516186017
2280	30,000	0,700	461	5,535053569
2320	30,526	0,695	466	5,553018367
2360	31,053	0,689	471	5,570080411
2400	31,579	0,684	476	5,586239702
2440	32,105	0,679	484	5,636432806
2480	32,632	0,674	493	5,696736751
2520	33,158	0,668	496	5,68662591
2560	33,684	0,663	501	5,698722809
2600	34,211	0,658	506	5,709916954
2640	34,737	0,653	509	5,697820055
2680	35,263	0,647	519	5,762908595





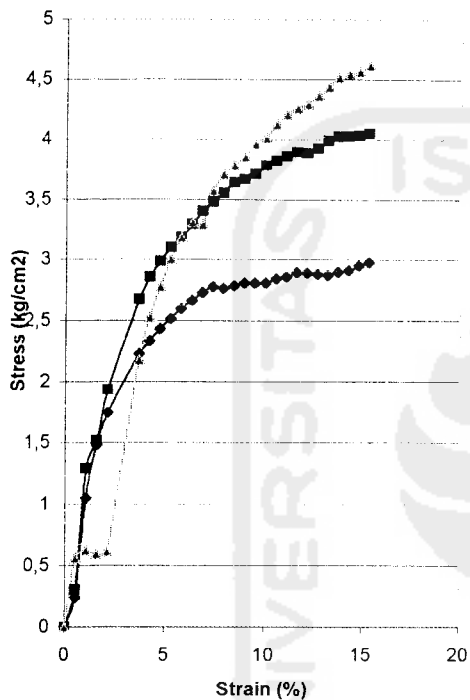
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

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TRIAxIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 3 lps geotekstil

Sample No. : disturbed
 Date : 1 Mei, 2003
 Tested by : Fitra, Budi



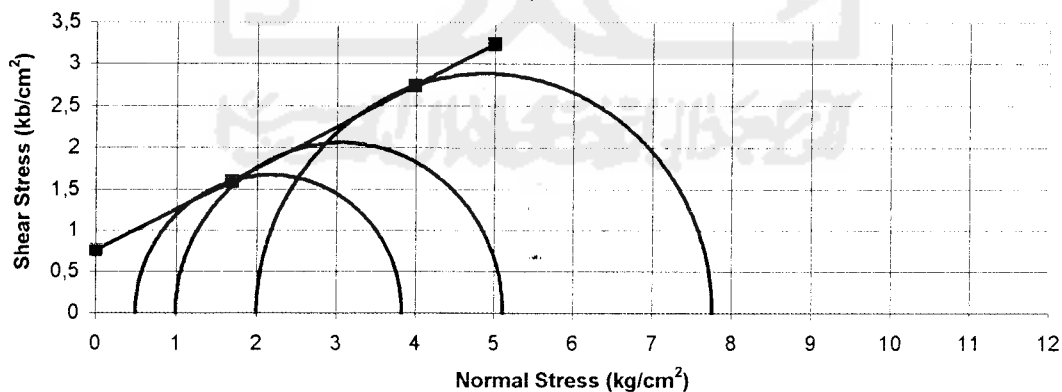
Piece No :	1	2	3
H cm	7,6	7,6	7,6
D cm	3,9	3,9	3,9
A cm ²	11,95	11,95	11,95
V cm ³	90,79	90,79	90,79
Wt gram	152,54	252,27	153,57

Water Content

Wt Container (cup), gr	21,45	22,00
Wt of Cup + Wet soil, gr	53,12	53,56
Wt of Cup + Dry soil, gr	43,45	43,88
Water Content %	43,95	44,24
Average water content %	44,10	

γ_b gram/cm ³	1,680162	2,778644	1,691507
γ_d gram/cm ³	1,165986	1,928303	1,173859

σ_3	0,5	1	2
$\sigma_1 - \sigma_3 = P/A$	3,334953	4,115022	5,762909
$\sigma_1 + \sigma_3$	3,834953	5,115022	7,762909
$(\sigma_1 + \sigma_3)/2$	2,167476	3,057511	4,881454
$(\sigma_1 - \sigma_3)/2$	1,667476	2,057511	2,881454
Angle of shearing resistance (ϕ)	26,37173		
Apperen cohesion (kg/cm ²)	0,761712		





TRIAXIAL COMPRESSION TEST LOADING DATA

Project : Tugas Akhir
 Location : Kalibawang Jawa Tengah
 Description of soil : Clay + 9% karbid + 1 lps geotekstil

Sample No. : disturbed
 Date : 10 Mei. 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6	
No. Of cell			Diameter	D cm	3,9	
No. of Proving ring			Cross area	A cm ²	11,9459	
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889	
k = K / A	0,01715232		Weight	W gram	151,6700	
Cell pessusre	0,50		Rate of compression : 0.5 %	Wet density	gr/cm ³	1,6706

Time s	Strain		Reading of proving ring	kg/cm ²	Pore pressure	
	Axial deformation	Strain %			u	kg/cm ²
0	0	0	0	0		
30	40	0,526	0,995	16	0,272992709	
60	80	1,053	0,989	110	1,866894587	
90	120	1,579	0,984	200	3,376298721	
120	160	2,105	0,979	242	4,063474814	
150	200	2,632	0,974	282	4,70966589	
180	240	3,158	0,968	310	5,149306926	
210	280	3,684	0,963	326	5,385647837	
240	320	4,211	0,958	346	5,684820403	
270	360	4,737	0,953	345	5,637245284	
300	400	5,263	0,947	345	5,606100283	
330	440	5,789	0,942	350	5,655751734	
360	480	6,316	0,937	367	5,897328616	
390	520	6,842	0,932	396	6,327581015	
420	560	7,368	0,926	410	6,514270473	
450	600	7,895	0,921	425	6,714230411	
480	640	8,421	0,916	439	6,895774174	
510	680	8,947	0,911	444	6,93423148	
540	720	9,474	0,905	450	6,987313396	
570	760	10,000	0,900	452	6,977563656	
600	800	10,526	0,895	452	6,93675919	
630	840	11,053	0,889	465	7,094289705	
660	880	11,579	0,884	469	7,112976706	
690	920	12,105	0,879	472	7,115865518	
720	960	12,632	0,874	476	7,133198389	
750	1000	13,158	0,868	479	7,134913621	
780	1040	13,684	0,863	480	7,10647688	
810	1080	14,211	0,858	485	7,136719128	
840	1120	14,737	0,853	484	7,078310966	
870	1160	15,263	0,847	487	7,07822069	
900	1200	15,789	0,842	484	6,99092441	
930	1240	16,316	0,837	478	6,861108433	



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TRIAxIAL COMPRESSION TEST LOADING DATA

Project : Tugas Akhir

Location : Kalibawang, Jawa Tengah

Description of soil : Clay + 9% karbid + 1 lps geotekstil

Sample No. : disturbed

Date : 10 Mei, 2003

Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Hight	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Weight	W gram	153,4200
Cell pessure	1,00		Wet density	gr/cm ³	1,6899
Rate of compression : 0.5 %					

Time s	Strain		Reading of proving ring kg/cm ²	Pore pressure u kg/cm ²	
	Axial defor- mation	Strain %		kg/cm ²	kg/cm ²
0	0	0	0	0	0
30	40	0,526	15	0,255930665	10
60	80	1,053	136	2,30816058	727
90	120	1,579	215	3,629521125	300
120	160	2,105	251	4,214595778	390
150	200	2,632	291	4,859974375	410
180	240	3,158	330	5,481520276	481
210	280	3,684	337	5,56737215	530
240	320	4,211	357	5,865551687	566
270	360	4,737	359	5,866003064	584
300	400	5,263	367	5,963590735	598
330	440	5,789	375	6,059734001	603
360	480	6,316	386	6,202639907	615
390	520	6,842	397	6,343559755	628
420	560	7,368	425	6,752597442	639
450	600	7,895	434	6,856414114	643
480	640	8,421	467	7,335595761	648
510	680	8,947	485	7,574554657	653
540	720	9,474	492	7,639462646	656
570	760	10,000	512	7,90378892	662
600	800	10,526	514	7,888261557	660
630	840	11,053	516	7,872373092	660
660	880	11,579	520	7,88645605	659
690	920	12,105	525	7,91489279	659
720	960	12,632	529	7,927441066	659
750	1000	13,158	535	7,96905801	659
780	1040	13,684	537	7,950371009	659
810	1080	14,211	539	7,931322907	659
840	1120	14,737	560	8,189781282	659
870	1160	15,263	564	8,197364413	659
900	1200	15,789	569	8,2186694	659
930	1240	16,316	570	8,181656499	659



TRIAXIAL COMPRESSION TEST LOADING DATA

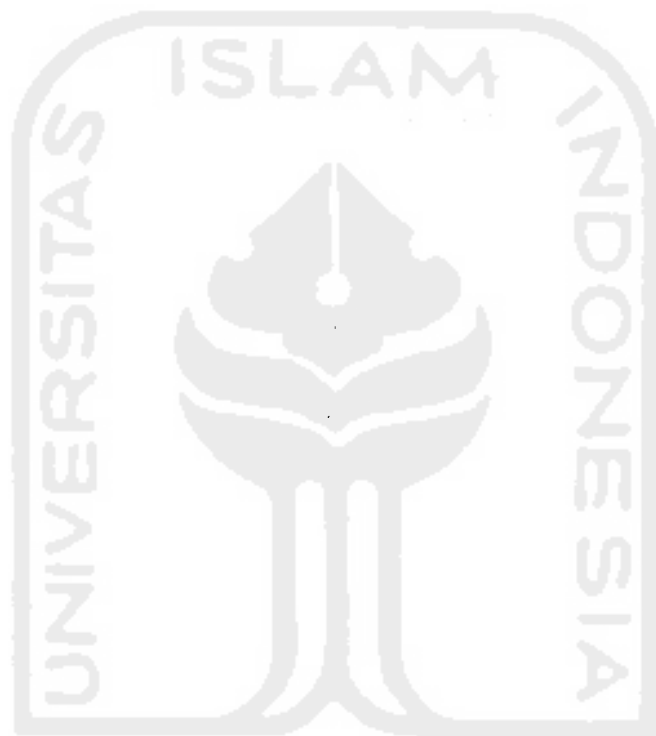
Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 9% karbid + 1 lps geotekstil

Sample No. : disturbed
 Date : 10 Mei, 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K	0,2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Weight	W gram	152,6000
Cell pressure	2,00		Wet density	gr/cm ³	1,6808
		Rate of compression : 0,5 %			

Time s	Strain		Reading of proving ring	Pore pressure u	
	Axial defor- mation	Strain %		kg/cm ²	kg/cm ²
0	0	0	0	0	
30	40	0,526	6	0,102372266	
60	80	1,053	64	1,086193214	
90	120	1,579	84	1,418045463	
120	160	2,105	116	1,947781316	
150	200	2,632	231	3,857917803	
180	240	3,158	324	5,381856271	
210	280	3,684	400	6,608156855	
240	320	4,211	456	7,492133247	
270	360	4,737	480	7,843123874	
300	400	5,263	510	8,287278679	
330	440	5,789	530	8,564424055	
360	480	6,316	554	8,902234478	
390	520	6,842	584	9,331584123	
420	560	7,368	598	9,501301812	
450	600	7,895	614	9,70008817	
480	640	8,421	628	9,864569889	
510	680	8,947	640	9,99528862	
540	720	9,474	649	10,07725865	
570	760	10,000	660	10,1884779	
600	800	10,526	670	10,28236429	
630	840	11,053	678	10,34393209	
660	880	11,579	690	10,46472053	
690	920	12,105	698	10,52303841	
720	960	12,632	704	10,54994047	
750	1000	13,158	714	10,63534097	
780	1040	13,684	722	10,68932564	
810	1080	14,211	730	10,7418659	
840	1120	14,737	736	10,76371254	
870	1160	15,263	741	10,76994154	
900	1200	15,789	749	10,81859997	
930	1240	16,316	758	10,88016777	
960	1280	16,842	764	10,89732009	
990	1320	17,368	770	10,9133891	
1020	1360	17,895	772	10,87204298	
1050	1400	18,421	777	10,87231381	
1080	1440	18,947	783	10,88558429	
1110	1480	19,474	790	10,91158359	
1140	1520	20,000	796	10,92259719	
1170	1560	20,526	802	10,93252748	
1200	1600	21,053	805	10,90075055	
1230	1640	21,579	810	10,89533403	
1260	1680	22,105	818	10,92909701	
1290	1720	22,632	824	10,93487464	
1320	1760	23,158	830	10,93956896	
1350	1800	23,684	837	10,9562699	
1380	1840	24,211	842	10,94570768	

1410	1880	24,737	0,753	848	10,94715209		
1440	1920	25,263	0,747	854	10,94751319		
1470	1960	25,789	0,742	860	10,94679099		
1500	2000	26,316	0,737	867	10,95762403		
1530	2040	26,842	0,732	870	10,91700012		
1560	2080	27,368	0,726	877	10,92566655		
1590	2120	27,895	0,721	882	10,90833368		
1620	2160	28,421	0,716	884	10,85326571		
1650	2200	28,947	0,711	887	10,81002381		
1680	2240	29,474	0,705	889	10,75414335		
1710	2280	30,000	0,700	889,5	10,67989186		
1740	2320	30,526	0,695	891	10,61746645		
1770	2360	31,053	0,689	892	10,54885717		
1800	2400	31,579	0,684	890	10,44485995		
1830	2440	32,105	0,679	887	10,3295783		



الجامعة الإسلامية في إندونيسيا



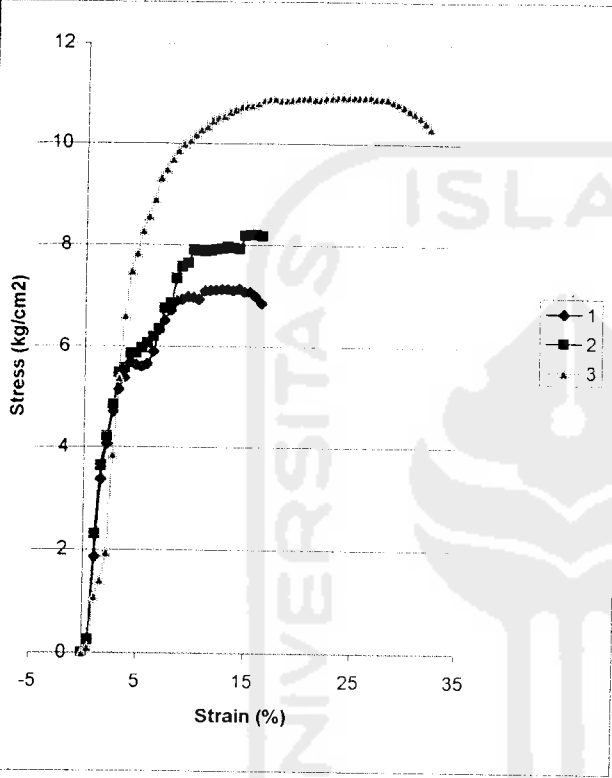
LABORATORIUM MEKANIKA TANAH
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UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 9% karbid + 1 lps geotekstil

Sample No. : disturbed
 Date : 10 Mei, 2003
 Tested by : Fitra, Budi

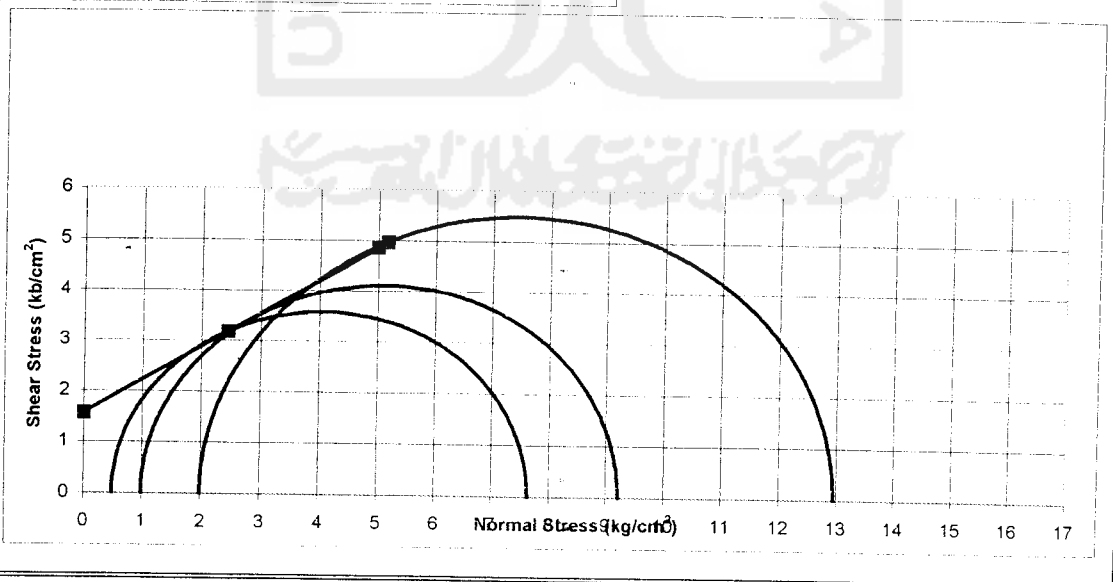


Piece No :	1	2	3
H cm	7,6	7,6	7,6
D cm	3,9	3,9	3,9
A cm ²	11,95	11,95	11,95
V cm ³	90,79	90,79	90,79
Wt gram	151,67	153,42	152,60

Water Content		
Wt Container (cup), gr	21,73	21,54
Wt of Cup + Wet soil, gr	59,45	53,87
Wt of Cup + Dry soil, gr	47,40	43,51
Water Content %	46,94	47,16
Average water content %	47,05	

γ_b gram/cm ³	1,670579	1,689854	1,680822
γ_d gram/cm ³	1,136073	1,149181	1,143039

σ_3	0,5	1	2
$\sigma_1 - \sigma_3 = P/A$	7,136719	8,218669	10,95762
$\sigma_1 + \sigma_3$	7,636719	9,218669	12,95762
$(\sigma_1 + \sigma_3)/2$	4,06836	5,109335	7,478812
$(\sigma_1 - \sigma_3)/2$	3,56836	4,109335	5,478812
Angle of shearing resistance (ϕ)	33,33878		
Apperen cohesion (kg/cm ²)	1,568788		





TRIAXIAL COMPRESSION TEST LOADING DATA

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 9% karbid + 2 lps geotekstil

Sample No. : disturbed
 Date : 10 Mei, 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889
k = K / A	0,01715232		Weight	W gram	152,4900
Cell pressure	0,50		Rate of compression : 0.5 %	Wet density	gr/cm ³

Time s	Strain		Reading of proving ring	Pore pressure u
	Axial deformation	Strain %		
0	0	0	0	0
30	40	0,526	0,995	31
60	80	1,053	0,989	80
90	120	1,579	0,984	191
120	160	2,105	0,979	244
150	200	2,632	0,974	284
180	240	3,158	0,968	314
210	280	3,684	0,963	337
240	320	4,211	0,958	355
270	360	4,737	0,953	360
300	400	5,263	0,947	371
330	440	5,789	0,942	382
360	480	6,316	0,937	392
390	520	6,842	0,932	398
420	560	7,368	0,926	402
450	600	7,895	0,921	421
480	640	8,421	0,916	434
510	680	8,947	0,911	449
540	720	9,474	0,905	460
570	760	10,000	0,900	473
600	800	10,526	0,895	483
630	840	11,053	0,889	491
660	880	11,579	0,884	503
690	920	12,105	0,879	510
720	960	12,632	0,874	518
750	1000	13,158	0,868	528
780	1040	13,684	0,863	536



TRIAxIAL COMPRESION TEST LOADING DATA

Project : Tugas Akhir
 Location : Kalibawang Jawa Tengah
 Description of soil : Clay + 9% karbid + 2 lps geotekstil

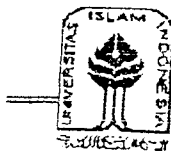
Sample No. : disturbed
 Date : 10 Mei. 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6	
No. Of cell			Diameter	D cm	3,9	
No. of Proving ring			Cross area	A cm ²	11,9459	
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889	
k = K / A	0,0171523		Weight	W gram	152,8900	
Cell pessusre	1,00		Rate of compression : 0,5 %	Wet density	gr/cm ³	1,6840

Time s	Strain			Reading of proving ring kg/cm ²	Pore pressure u kg/cm ²	
	Axial deformation	Strain %				
0	0	0	1	0		
30	40	0,526	0,995	80	1,364963547	
60	80	1,053	0,989	179	3,037946646	
90	120	1,579	0,984	233	3,933388601	
120	160	2,105	0,979	272	4,567211361	
150	200	2,632	0,974	305	5,093787576	
180	240	3,158	0,968	325	5,398466939	
210	280	3,684	0,963	350	5,782137248	
240	320	4,211	0,958	370	6,079143205	
270	360	4,737	0,953	385	6,29083894	
300	400	5,263	0,947	404	6,564824679	
330	440	5,789	0,942	418	6,7545835	
360	480	6,316	0,937	438	7,038228703	
390	520	6,842	0,932	449	7,174454231	
420	560	7,369	0,926	463	7,356359095	
450	600	7,895	0,921	474	7,488341682	
480	640	8,421	0,916	485	7,61833821	
510	680	8,947	0,911	500	7,808819234	
540	720	9,474	0,905	510	7,918955182	
570	760	10,000	0,900	520	8,027285622	
600	800	10,526	0,895	525	8,057076493	
630	840	11,053	0,889	534	8,146990759	
660	880	11,579	0,884	542	8,220113806	
690	920	12,105	0,879	555	8,367172378	
720	960	12,632	0,874	564	8,451940948	
750	1000	13,158	0,868	572	8,520189125	
780	1040	13,684	0,863	580	8,586992897	
810	1080	14,211	0,858	590	8,681782032	
840	1120	14,737	0,853	600	8,77476566	
870	1160	15,263	0,847	608	8,836875112	
900	1200	15,789	0,842	615	8,8830961	
930	1240	16,316	0,837	622	8,928053233	
960	1280	16,842	0,832	630	8,986010018	
990	1320	17,368	0,826	640	9,070868863	
1020	1360	17,895	0,821	648	9,125756288	
1050	1400	18,421	0,816	653	9,137221258	
1080	1440	18,947	0,811	656	9,119978663	
1110	1480	19,474	0,805	664	9,171255071	
1140	1520	20,000	0,800	675	9,262252641	
1170	1560	20,526	0,795	682	9,296737831	
1200	1600	21,053	0,789	687	9,302876556	
1230	1640	21,579	0,784	696	9,361916646	
1260	1680	22,105	0,779	705	9,419331779	
1290	1720	22,632	0,774	714	9,475121956	
1320	1760	23,158	0,768	721	9,502926769	
1350	1800	23,684	0,763	728	9,529467727	
1380	1840	24,211	0,758	734	9,541745177	

1410	1880	24,737	0,753	740	9,552939322		
1440	1920	25,263	0,747	745	9,550231061		
1470	1960	25,789	0,742	757	9,635721534		
1500	2000	26,316	0,737	764	9,65585324		
1530	2040	26,842	0,732	772	9,687269068		
1560	2080	27,368	0,726	776	9,692324489		
1590	2120	27,895	0,721	782	9,671561154		
1620	2160	28,421	0,716	787	9,662353067		
1650	2200	28,947	0,711	790	9,627867877		
1680	2240	29,474	0,705	795	9,617034833		
1710	2280	30,000	0,700	800	9,605299035		
1740	2320	30,526	0,695	804	9,580744135		
1770	2360	31,053	0,689	807	9,543640959		
1800	2400	31,579	0,684	810	9,505996131		
1830	2440	32,105	0,679	810	9,432673084		
1860	2480	32,632	0,674	810	9,359750037		





TRIAxIAL COMPRESION TEST LOADING DATA

Project : Tugas Akhir

Location : Kalibawang, Jawa Tengah

Description of soil : Clay + 9% karbid + 2 lps geotekstil

Sample No. : disturbed

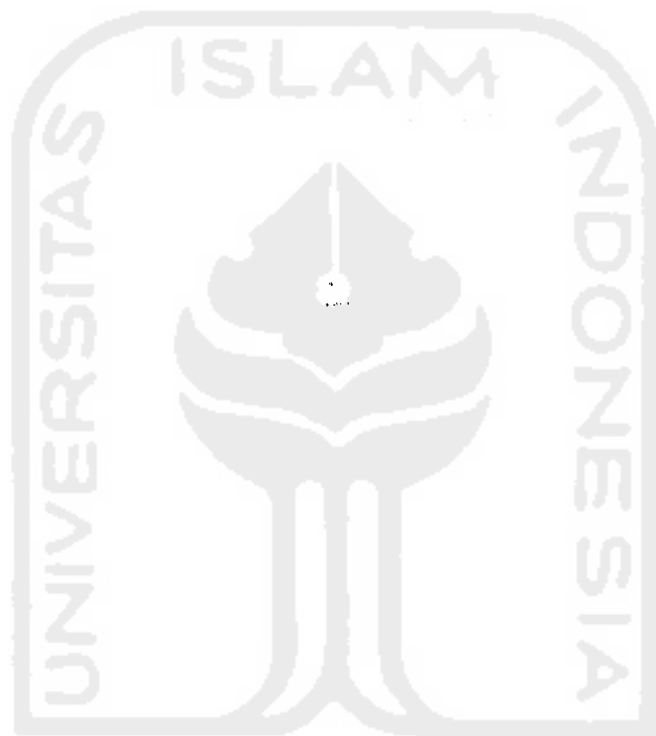
Date : 10 Mei, 2003

Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K	0,2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Weight	W gram	153,0400
Cell pessusre	2,00	Rate of compression : 0,5 %	Wet density	gr/cm ²	1,6857

Time s	Strain		Reading of proving ring	kg/cm ²	Pore pressure	
	Axial defor- mation	Strain %			u	kg/cm ²
0	0	0	0	0		
30	40	0,526	0,995	64	1,091970838	
60	80	1,053	0,989	82	1,391685056	
90	120	1,579	0,984	124	2,093305207	
120	160	2,105	0,979	190	3,190331465	
150	200	2,632	0,974	244	4,07503006	
180	240	3,158	0,968	290	4,817093576	
210	280	3,684	0,963	326	5,385647837	
240	320	4,211	0,958	355	5,832691453	
270	360	4,737	0,953	384	6,274499099	
300	400	5,263	0,947	409	6,846072509	
330	440	5,789	0,942	430	6,948494988	
360	480	6,316	0,937	457	7,343539993	
390	520	6,842	0,932	473	7,55794399	
420	560	7,368	0,926	487	7,737682245	
450	600	7,895	0,921	504	7,962287358	
480	640	8,421	0,916	524	8,23094685	
510	680	8,947	0,911	554	8,652171712	
540	720	9,474	0,905	564	8,757432789	
570	760	10,000	0,900	576	8,891762535	
600	800	10,526	0,895	587	9,00857886	
630	840	11,053	0,889	604	9,214948349	
660	880	11,579	0,884	625	9,478913521	
690	920	12,105	0,879	637	9,603403252	
720	960	12,632	0,874	647	9,695754953	
750	1000	13,158	0,868	657	9,786301145	
780	1040	13,684	0,863	669	9,904652151	
810	1080	14,211	0,858	680	10,00612166	
840	1120	14,737	0,853	694	10,14947895	
870	1160	15,263	0,847	704	10,23217118	
900	1200	15,789	0,842	719	10,3852782	
930	1240	16,316	0,837	727	10,43520048	
960	1280	16,842	0,832	742	10,58352291	
990	1320	17,368	0,826	757	10,72913708	
1020	1360	17,895	0,821	760	10,7030475	
1050	1400	18,421	0,816	780	10,91429185	
1080	1440	18,947	0,811	794	11,03851076	
1110	1480	19,474	0,805	810	11,18782622	
1140	1520	20,000	0,800	824	11,30680915	
1170	1560	20,526	0,795	834	11,36873805	
1200	1600	21,053	0,789	843	11,41532014	
1230	1640	21,579	0,784	841	11,31231595	
1260	1680	22,105	0,779	855	11,42344492	
1290	1720	22,632	0,774	865	11,47896427	
1320	1760	23,158	0,768	876	11,54585832	
1350	1800	23,684	0,763	887	11,61076631	
1380	1840	24,211	0,758	897	11,66068859	

1410	1880	24,737	0,753	909	11,73462411		
1440	1920	25,263	0,747	918	11,76793572		
1470	1960	25,789	0,742	933	11,87599534		
1500	2000	26,316	0,737	943	11,91815393		
1530	2040	26,842	0,732	948	11,89576564		
1560	2080	27,368	0,726	948	11,8101846		
1590	2120	27,895	0,721	948	11,72460355		



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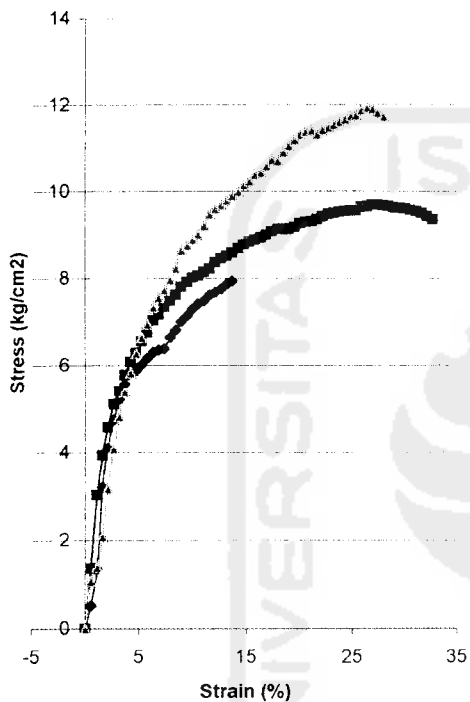
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UNIVERSITAS ISLAM INDONESIA

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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 9% karbid + 2 lps geotekstil

Sample No. : disturbed
 Date : 10 Mei, 2003
 Tested by : Fitra, Budi

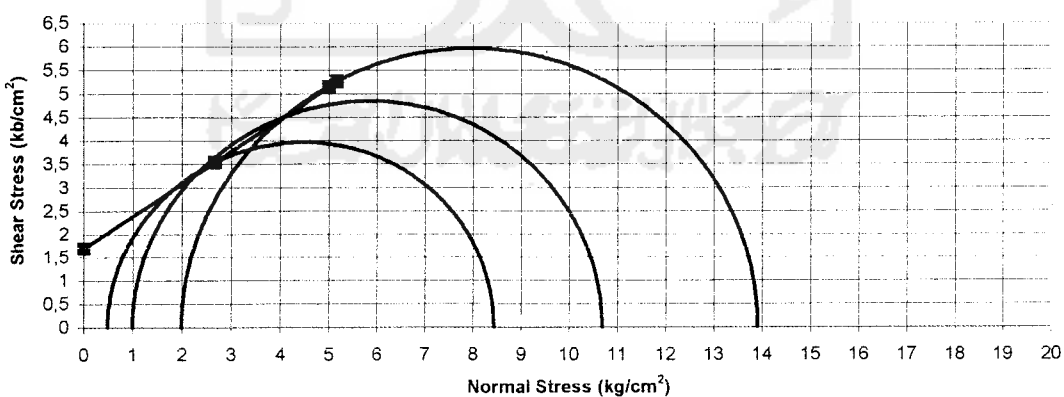


Piece No :	1	2	3
H cm	7,6	7,6	7,6
D cm	3,9	3,9	3,9
A cm ²	11,95	11,95	11,95
V cm ³	90,79	90,79	90,79
Wt gram	152,49	152,89	153,04

Water Content		
Wt Container (cup), gr	21,77	21,23
Wt of Cup + Wet soil, gr	53,43	53,66
Wt of Cup + Dry soil, gr	43,29	43,30
Water Content %	47,12	46,94
Average water content %	47,03	

γ_b gram/cm ³	1,679611	1,684017	1,685669
γ_d gram/cm ³	1,142357	1,145354	1,146478

σ_3	0,5	1	2
$\sigma_1 - \sigma_3 = P/A$	7,935566	9,692324	11,91815
$\sigma_1 + \sigma_3$	8,435566	10,69232	13,91815
$(\sigma_1 + \sigma_3)/2$	4,467783	5,846162	7,959077
$(\sigma_1 - \sigma_3)/2$	3,967783	4,846162	5,959077
Angle of shearing resistance (o)	34,67832		
Apperen cohesion (kg/cm ²)	1,690477		





TRIAxIAL COMPRESION TEST LOADING DATA

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 9% karbid + 3 lps geotekstil

Sample No. : disturbed
 Date : 10 Mei. 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889
k = K / A	0,01715232		Weight	W gram	152,4900
Cell pessure	0,50		Rate of compression : 0.5 %	Wet density	gr/cm ³

Time s	Strain		Reading of proving ring	kg/cm ²	Pore pressure	
	Axial defor- mation	Strain %			u kg/cm ²	kg/cm ²
0	0	0	0	0		
30	40	0,526	0,995	50	0,853102217	
60	80	1,053	0,989	90	1,527459207	
90	120	1,579	0,984	120	2,025779233	
120	160	2,105	0,979	209	3,509364612	
150	200	2,632	0,974	266	4,442450804	
180	240	3,158	0,968	300	4,983200251	
210	280	3,684	0,963	326	5,385647837	
240	320	4,211	0,958	347	5,701250519	
270	360	4,737	0,953	365	5,964042112	
300	400	5,263	0,947	387	6,288582056	
330	440	5,789	0,942	410	6,625309175	
360	480	6,316	0,937	432	6,941814611	
390	520	6,842	0,932	445	7,110539271	
420	560	7,368	0,926	456	7,245139843	
450	600	7,895	0,921	478	7,551534439	
480	640	8,421	0,916	424	6,660155466	
510	680	8,947	0,911	446	6,965466757	
540	720	9,474	0,905	456	7,080477574	
570	760	10,000	0,900	478	7,378927937	
600	800	10,526	0,895	500	7,673406184	
630	840	11,053	0,889	520	7,93339924	
660	880	11,579	0,884	543	8,235280067	
690	920	12,105	0,879	561	8,457628296	
720	960	12,632	0,874	579	8,676726611	
750	1000	13,158	0,868	592	8,818097836	
780	1040	13,684	0,863	610	9,031147702	
810	1080	14,211	0,858	627	9,226232769	
840	1120	14,737	0,853	646	9,447497894	
870	1160	15,263	0,847	657	9,549057481	
900	1200	15,789	0,842	667	9,634187152	
930	1240	16,316	0,837	678	9,731865099	
960	1280	16,842	0,832	690	9,841820496	
990	1320	17,368	0,826	704	9,977955749	
1020	1360	17,895	0,821	713	10,04114851	
1050	1400	18,421	0,816	718	10,04674558	
1080	1440	18,947	0,811	730	10,14875674	
1110	1480	19,474	0,805	734	10,13810425	
1140	1520	20,000	0,800	730	10,01695471	



TRIAxIAL COMPRESSION TEST LOADING DATA

Project : Tugas Akhir

Location : Kalibawang, Jawa Tengah

Description of soil : Clay + 9% karbid + 3 lps geotekstil

Sample No. : disturbed

Date : 10 Mei, 2003

Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K =	0,2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Weight	W gram	152,8900
Cell pressure	1,00	Rate of compression : 0.5 %	Wet density	gr/cm ³	1,6840

Time s	Strain			Reading of proving ring		Pore pressure u	
	Axial deformation	Strain %				kg/cm ²	kg/cm ²
0	0	0	1	0	0		
30	40	0,526	0,995	87	1,484397857		
60	80	1,053	0,989	119	2,002668739		
90	120	1,579	0,984	172	2,9036169		
120	160	2,105	0,979	180	3,022419283		
150	200	2,632	0,974	325	5,427806433		
180	240	3,158	0,968	369	6,129336309		
210	280	3,684	0,963	399	6,591636463		
240	320	4,211	0,958	406	6,670627409		
270	360	4,737	0,953	428	6,993452121		
300	400	5,263	0,947	467	7,588547339		
330	440	5,789	0,942	487	7,869574556		
360	480	6,316	0,937	499	8,018438636		
390	520	6,842	0,932	505	8,069263668		
420	560	7,368	0,926	519	8,246113111		
450	600	7,895	0,921	530	8,373040277		
480	640	8,421	0,916	545	8,56081304		
510	680	8,947	0,911	557	8,699024627		
540	720	9,474	0,905	567	8,804014879		
570	760	10,000	0,900	579	8,938073798		
600	800	10,526	0,895	584	8,962538423		
630	840	11,053	0,889	590	9,001356831		
660	880	11,579	0,884	610	9,251419597		
690	920	12,105	0,879	628	9,467719376		
720	960	12,632	0,874	657	9,845612062		
750	1000	13,158	0,868	689	10,26295508		
780	1040	13,684	0,863	717	10,61529984		
810	1080	14,211	0,858	731	10,75658079		
840	1120	14,737	0,853	747	10,92458325		
870	1160	15,263	0,847	760	11,04609389		
900	1200	15,789	0,842	780	11,26636579		
930	1240	16,316	0,837	792	11,3681964		
960	1280	16,842	0,832	809	11,53917794		
990	1320	17,368	0,826	819	11,6078775		
1020	1360	17,895	0,821	835	11,75926929		
1050	1400	18,421	0,816	848	11,86579422		
1080	1440	18,947	0,811	860	11,95606959		
1110	1480	19,474	0,805	870	12,01655408		
1140	1520	20,000	0,800	873	11,97918008		
1170	1560	20,526	0,795	882	12,02305391		
1200	1600	21,053	0,789	890	12,05176148		
1230	1640	21,579	0,784	905	12,17318185		
1260	1680	22,105	0,779	902	12,05140038		



LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESION TEST LOADING DATA

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 9% karbid + 3 lps geotekstil

Sample No. : disturbed
 Date : 10 Mei. 2003
 Tested by : Fitra, Budi

Type of test apparatus		Dimension of test piece	Height	H cm	7,6
No. Of cell			Diameter	D cm	3,9
No. of Proving ring			Cross area	A cm ²	11,9459
Coeff. proving ring K	0,2049		Volume	V cm ³	90,7889
k = K / A	0,0171523		Weight	W gram	153,0400
Cell pessure	2,00	Rate of compression : 0.5 %	Wet density	gr/cm ³	1,6857

Time s	Strain		Reading of proving ring kg/cm ²	Pore pressure u kg/cm ²	
	Axial defor- mation	Strain %		kg/cm ²	kg/cm ²
0	0	0	0		
30	40	0,526	0,995	112	1,910948966
60	80	1,053	0,989	254	4,310829319
90	120	1,579	0,984	324	5,469603928
120	160	2,105	0,979	387	6,498201458
150	200	2,632	0,974	405	6,763881853
180	240	3,158	0,968	487	8,089395074
210	280	3,684	0,963	546	9,020134107
240	320	4,211	0,958	590	9,693768894
270	360	4,737	0,953	654	10,68625628
300	400	5,263	0,947	680	11,0497049
330	440	5,789	0,942	710	11,47309638
360	480	6,316	0,937	728	11,69824314
390	520	6,842	0,932	787	12,57526833
420	560	7,368	0,926	822	13,06031788
450	600	7,895	0,921	821	12,97031333
480	640	8,421	0,916	844	13,25747928
510	680	8,947	0,911	849	13,25937506
540	720	9,474	0,905	884	13,72618898
570	760	10,000	0,900	874	13,49201468
600	800	10,526	0,895	890	13,65866301
630	840	11,053	0,889	900	13,7308833
660	880	11,579	0,884	914	13,86196313
690	920	12,105	0,879	924	13,93021131
720	960	12,632	0,874	929	13,92172543
750	1000	13,158	0,868	934	13,91233679
780	1040	13,684	0,863	940	13,91685056
810	1080	14,211	0,858	948	13,94971079
840	1120	14,737	0,853	956	13,98112662
870	1160	15,263	0,847	961	13,96749504
900	1200	15,789	0,842	969	13,99629288
930	1240	16,316	0,837	977	14,02364632
960	1280	16,842	0,832	984	14,03529184
990	1320	17,368	0,826	990	14,03150027
1020	1360	17,895	0,821	997	14,04070836
1050	1400	18,421	0,816	1012	14,16059405
1080	1440	18,947	0,811	1020	14,18045463
1110	1480	19,474	0,805	1027	14,18505867
1140	1520	20,000	0,800	1035	14,20212072
1170	1560	20,526	0,795	1042	14,20410677
1200	1600	21,053	0,789	1051	14,23191159
1230	1640	21,579	0,784	1056	14,20428732
1260	1680	22,105	0,779	1079	14,41625389
1290	1720	22,632	0,774	1050	13,93400288
1320	1760	23,158	0,768	1025	13,50970865
1350	1800	23,684	0,763	1027	13,44335626
1380	1840	24,211	0,758	1029	13,37664276

1410	1880	24,737	0,753	1029,5	13,2902041		
1440	1920	25,263	0,747	1030	13,20367516		
1470	1960	25,789	0,742	1030	13,11069153		
1500	2000	26,316	0,737	1030	13,0177079		





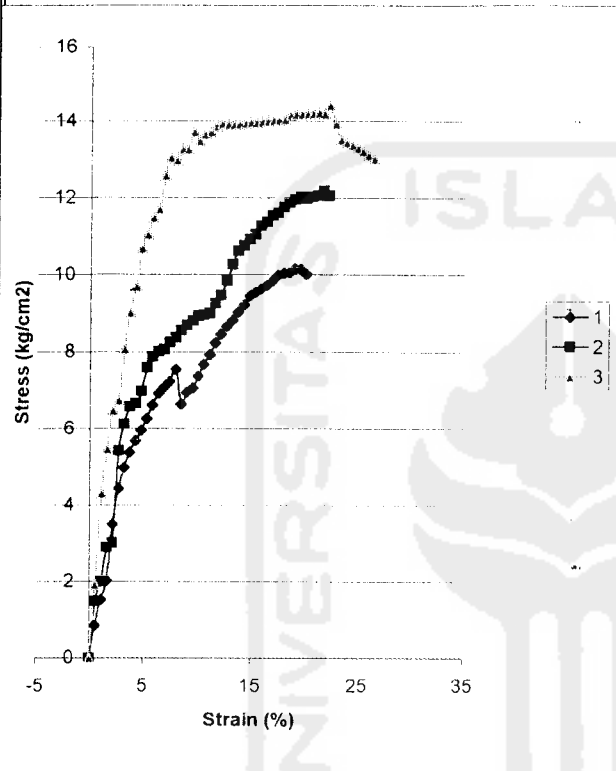
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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Kalibawang, Jawa Tengah
 Description of soil : Clay + 9% karbid + 3 lps geotekstil

Sample No. : disturbed
 Date : 10 Mei, 2003
 Tested by : Fitra, Budi

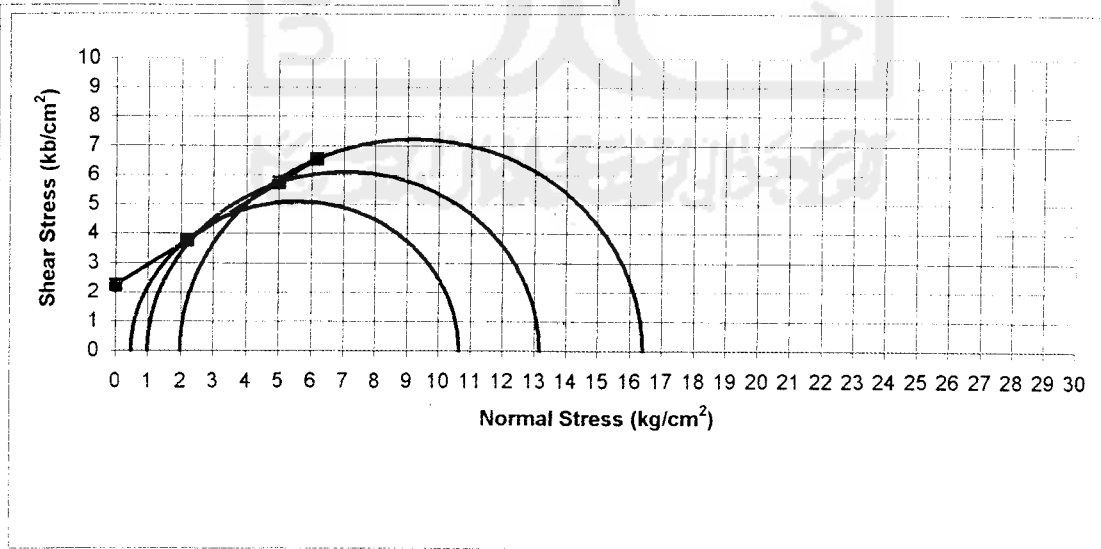


Piece No :	1	2	3
H cm	7,6	7,6	7,6
D cm	3,9	3,9	3,9
A cm ²	11,95	11,95	11,95
V cm ³	90,79	90,79	90,79
Wt gram	152,49	152,89	153,04

Water Content		
Wt Container (cup), gr	21,34	21,14
Wt of Cup + Wet soil, gr	54,77	56,75
Wt of Cup + Dry soil, gr	44,06	45,34
Water Content %	47,14	47,15
Average water content %	47,14	

γ_b gram/cm ³	1,679611	1,684017	1,685669
γ_d gram/cm ³	1,141475	1,144469	1,145592

σ_3	0,5	1	2
$\sigma_1 - \sigma_3 = P/A$	10,14876	12,17318	14,41625
$\sigma_1 + \sigma_3$	10,64876	13,17318	16,41625
$(\sigma_1 + \sigma_3)/2$	5,574378	7,086591	9,208127
$(\sigma_1 - \sigma_3)/2$	5,074378	6,086591	7,208127
Angle of shearing resistance (ϕ)	34,73794		
Apperen cohesion (kg/cm ²)	2,260081		





KARTU PESERTA TUGAS AKHIR

NO.	N A M A	NO. MHS.	BID.STUDI
1	Fitra Darnella	99511007	Teknik Sipil
2	Budi Satiawan	99511015	Teknik Sipil

JUDUL TUGAS AKHIR :

Perbaikan parameter mekanis tanah urug dengan cara stabilisasi dan penguatan tanah

PERIODE III : MARET - AGUSTUS

TAHUN : 2002 / 2003

No.	Kegiatan	Bulan Ke :					
		Mar.	Apr.	Mei.	Jun.	Jul.	Aug.
1.	Pendaftaran	■					
2.	Penentuan Dosen Pembimbing	■					
3.	Pembuatan Proposal		■				
4.	Seminar Proposal		■	■			
5.	Konsultasi Penyusunan TA.			■	■	■	
6.	Sidang-Sidang				■	■	■
7.	Pendadaran.						■

DOSEN PEMBIMBING I : DR. Ir. Edy Purwanto, Ces, DEA.
DOSEN PEMBIMBING II : Ir. Akhmad Marzuko, MT.



Yogyakarta, 14 Maret 2003
Ca.n. Dekan,
[Signature]
Ir. H. Munadhir, MS

Catatan:

- Seminar :
- Sidang :
- Pendadaran :

L TUGA

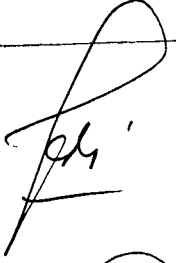
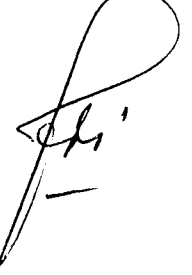






Pendaftar:
Penentuan
Pembuat
Seminar P.
Konsultasi
Sidang-Sid
Pendadara

I PEMBIM
I PEMBIM

Foto
4x 6

Seminar
Sidang
Pendadara

CATATAN KONSULTASI TUGAS AKHIR

NO	TANGGAL	CATATAN KONSULTASI	TANDA TANGAN
01.	24/- '03 103	- Perbaiki Daftar Pustaka, Landasan Teori & Metode logs penelitian	
02	27/ '03 103	- Konsultasikan ke DP- II - Siapkan rintang Seminar Proposal	
1	27/ 03 3	- perbaiki proposal	
2	28/ 03 3	- Lengkapi, simpan prop	
3		- no. Rumus - perhatikan gambar ketetapan kurva - metode pembesian benda uji - Gambar	
4.		- Rumus - g - Absorpsi - tabel	
5.		- abstrak ← alasan/ permasalahan ← metode ← hasil - Daftar isi - Lampiran - Daftar pustaka	
6		- Lengkapi kurva - ke DP I	

CATATAN KONSULTASI TUGAS AKHIR

NO	TANGGAL	CATATAN KONSULTASI	TANDA TANGAN
	10/06 '03	- Perbaiki format penulisan / laporan TA	F. S.
	14/06 '03	revisi untuk Seminar Pribil TA	F. S.
	1/7 '03	acc utb pondoran izin DP I	A. S.
	1/07 '03	revisi untuk ujian Pendadaran	F. S.
	7/7 '03	acc apr dijilid (izin DP I)	A. S.