

LAMPIRAN 1





LABORATORIUM MEKANIKA TANAH
JURUSAN TEKNIK SIPIL FTSP
UNIVERSITAS ISLAM INDONESIA

PENGUJIAN BERAT JENIS DAN KADAR AIR

Proyek : Tugas Akhir
Lokasi : Banjarcyana. Kab. Banjarnegara, Jateng
Kode sampel : Asli / Undisturbed
Tanggal : 09 Januari 2004

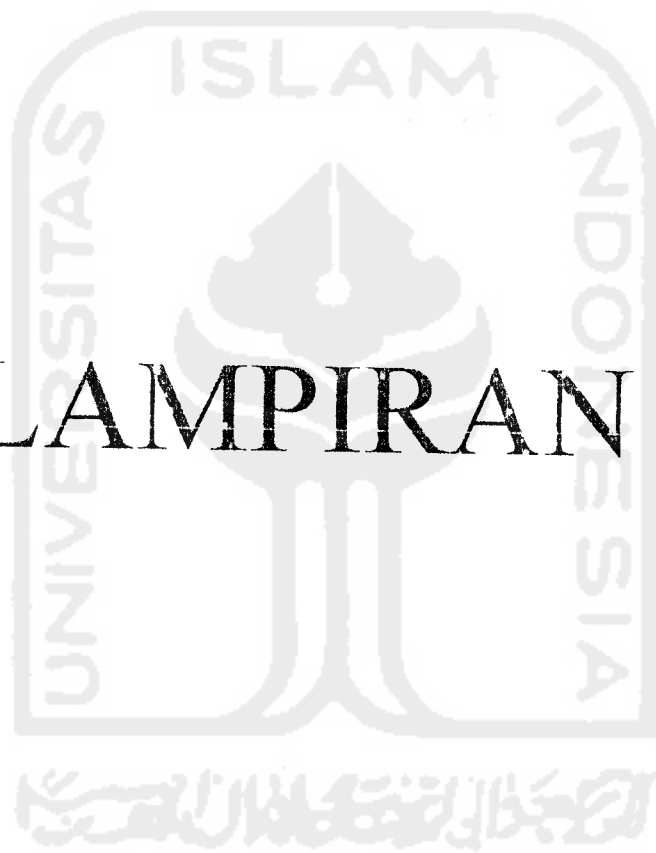
Kadar air

1	Berat container, gram	W1	21,60	22,05
2	Berat Cont. + tanah basah, gram	W2	56,12	83,86
3	Berat Cont. + tanah kering, gram	W3	46,17	63,70
4	Berat air, gram	$A = W2 - W3$	11,95	20,16
5	Berat tanah kering, gram	$B = W3 - W1$	24,57	41,65
6	kadar air, %	$(A/B) \times 100\%$	48,64	48,40
7	kadar air rata-rata, %		48,52	

BERAT JENIS AGREGAT HALUS (lolos #10)

1	No pengujian	1	2
2	Berat Picknometer (W1)	36,30	17,42
3	Berat Picknometer + tanah kering (W2)	47,54	31,00
4	Berat Picknometer + tanah + air (W3)	92,66	75,62
5	Berat Picknometer + air (W4)	85,94	67,36
6	Temperatur (to)	26,00	26,00
7	Berat tanah kering (Wt)	11,24	13,58
8	$A = Wt + W4$	97,18	80,94
9	$I = A - W3$	4,52	5,32
10	Berat Jenis tanah, $G_s = Wt / I$	2,49	2,55
12	Berat jenis rata-rata		2,520

LAMPIRAN 3





LABORATORIUM MEKANIKA TANAH
JURUSAN TEKNIK SIPIL FTSP
UNIVERSITAS ISLAM INDONESIA

PENGUJIAN BATAS CAIR

PROYEK
LOKASI

Tugas Akhir
Banjarsihyana, Banjarnegara

Tanggal 15 Januari 2004
Dikerjakan Nanang & Yoska

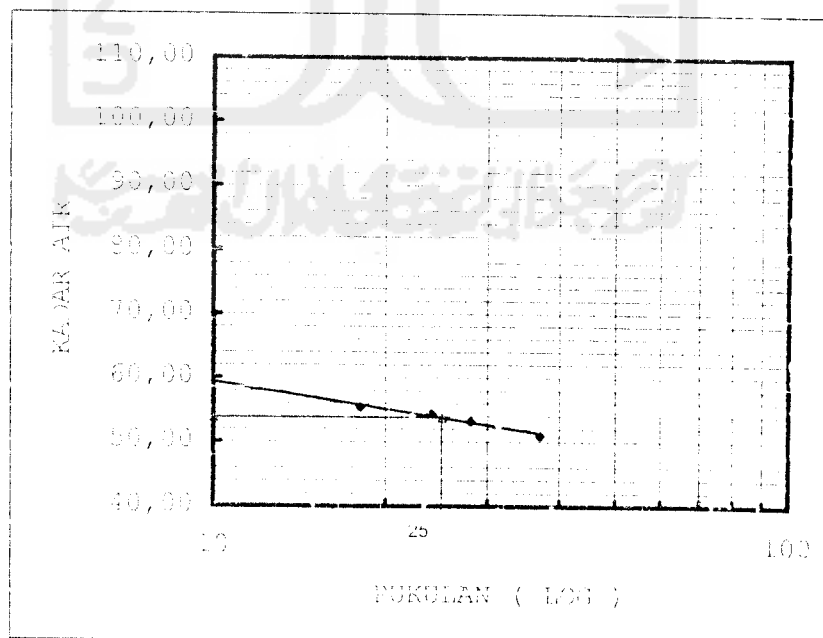
NO	NO. PENGUJIAN	i		ii		iii		iv	
		1	2	3	4	5	6	7	8
1	NO CAWAN								
2	Berat cawan kosong	21,97	21,55	22,14	21,70	21,83	22,17	21,54	21,82
3	Berat cawan + tanah basah (gr)	43,05	43,41	55,13	35,55	44,39	43,58	41,75	41,50
4	Berat cawan + tanah kering (gr)	35,53	35,62	43,52	30,73	36,55	36,14	34,92	34,95
5	Berat air (3) - (4)	7,52	7,79	11,61	4,82	7,84	7,44	6,83	6,55
6	Berat tanah kering (4) - (2)	13,56	14,07	21,38	9,03	14,72	13,97	13,38	13,03
7	KADAR AIR = $\frac{(5)}{(6)} \times 100\%$	55,48	55,37	54,30	54,40	53,26	53,26	51,05	51,04
8	KADAR AIR RATA-RATA =		55,41		54,39		53,23		51,04
9	PUKULAN		18		24		26		37

PENGUJIAN BATAS PLASTIS

NO			
		1	2
1	NO CAWAN		
2	BERAT CAWAN KOSONG	22,08	21,75
3	BERAT CAWAN + TANAH BASAH	41,36	45,15
4	BERAT CAWAN + TANAH KERING	36,53	39,27
5	BERAT AIR (3)-(4)	4,83	5,88
6	BERAT TANAH KERING (4)-(2)	14,45	17,52
7	KADAR AIR = $\frac{(5)}{(6)} \times 100\%$	33,43	33,58
8	KADAR AIR RATA-RATA =		33,49

KESIMPULAN

FLOW INDEX	5,587
BATAS CAIR	53,73
BATAS PLASTIS	33,49
INDEX PLASTISITAS	20,24





**LABORATORIUM MEKANIKA TANAH
JURUSAN TEKNIK SIPIL FTSP
UNIVERSITAS ISLAM INDONESIA**

PENGUJIAN BATAS CAIR

PROYEK Tugas Akhir
LOKASI Banjarcanggihana Banjarnegara

Tanggal 22 Januari 2004
Dikerjakan Nanang & Yosika

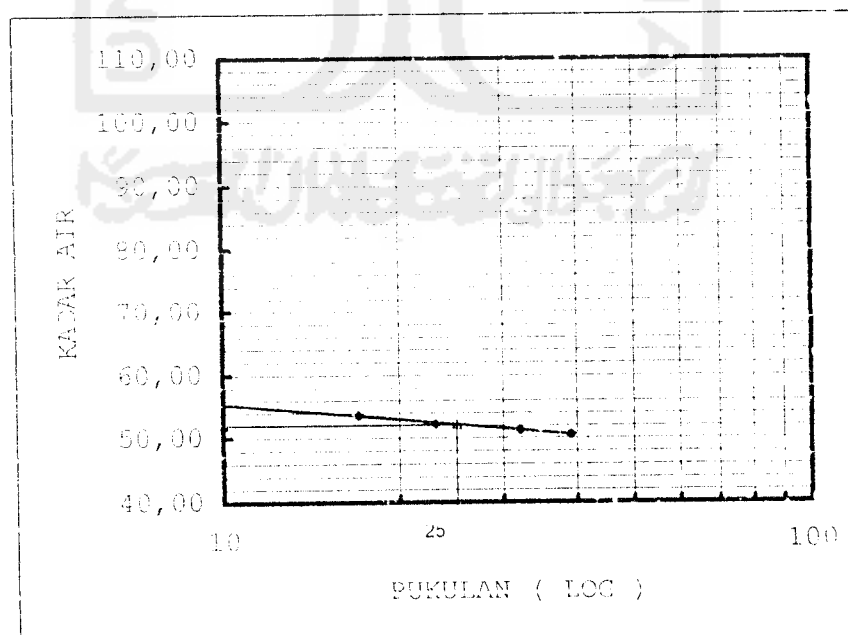
NO	NO. PENGUJIAN	I				II		III		IV	
		1	2	3	4	5	6	7	8		
1	NO CAWAN										
2	Berat cawan kosong	22,22	21,86	21,86	21,83	21,93	21,85	21,70	22,03		
3	Berat cawan + tanah basah (g)	42,85	42,51	36,54	37,50	42,86	42,17	40,74	40,31		
4	Berat cawan + tanah kering (g)	35,05	35,28	31,56	32,11	35,75	35,26	34,34	34,17		
5	Berat air (3) - (4)	7,20	7,23	5,08	5,39	7,11	6,89	6,40	6,14		
6	Berat tanah kering (4) - (2)	13,43	13,48	9,70	10,31	13,85	13,43	12,64	12,14		
7	KADAR AIR = $\frac{(5)}{(6)} \times 100\%$	53,61	53,64	52,37	52,28	51,34	51,30	50,63	50,58		
8	KADAR AIR RATA-RATA =		53,62		52,33		51,31		50,60		
9	PUKULAN		17		23		32		39		

PENGUJIAN BATAS PLASTIS

NO		1	2
1	NO CAWAN		
2	BERAT CAWAN KOSONG	22,00	22,10
3	BERAT CAWAN + TANAH BASAH	40,00	39,00
4	BERAT CAWAN + TANAH KERING	35,42	34,70
5	BERAT AIR (3) - (4)	4,58	4,30
6	BERAT TANAH KERING (4) - (2)	13,42	12,60
7	KADAR AIR = $\frac{(5)}{(6)} \times 100\%$	34,13	34,13
8	KADAR AIR RATA-RATA =	34,13	

KESIMPULAN

FLOW INDEX	3,321
BATAS CAIR	52,17
BATAS PLASTIS	34,13
INDEX PLASTISITAS	18,04





LABORATORIUM MEKANIKA TANAH
JURUSAN TEKNIK SIPIL FTSP
UNIVERSITAS ISLAM INDONESIA

PENGUJIAN BATAS CAIR

PROYEK : Tugas Akhir
LOKASI : Panjarcanggihana, Banjarnegara

Tanggal : 22 Januari 2004
Dikerjakan : Naniang & Yosika

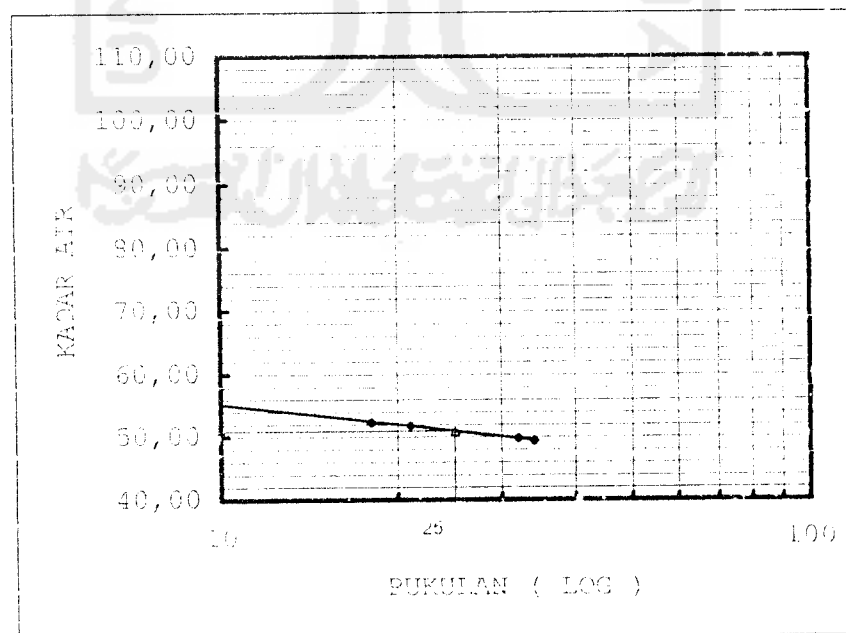
NO	NO. PENGUJIAN	I		II		III		IV	
		1	2	3	4	5	6	7	8
1	NO CAWAN								
2	Berat cawan kosong	21,15	21,72	21,85	21,52	21,77	22,08	21,65	21,57
3	Berat cawan + tanah basah (gr)	45,38	40,80	45,53	40,40	46,97	45,55	42,00	45,24
4	Berat cawan + tanah kering (gr)	30,95	34,24	37,44	33,95	38,55	37,73	35,27	37,41
5	Berat air (3)-(4)	14,43	6,56	8,09	6,45	8,42	7,82	6,73	7,83
6	Berat tanah kering (4)-(2)	15,70	12,52	15,59	12,43	16,78	15,65	13,62	15,84
7	KADAR AIR = $\frac{(5)}{(6)} \times 100\%$	52,42	52,40	51,89	51,89	49,88	49,84	49,41	49,43
8	KADAR AIR RATA-RATA =		52,41		51,89		49,86		49,42
9	PUKULAN		18		21		32		34

PENGUJIAN BATAS PLASTIS

NO		1	2
1	NO CAWAN		
2	BERAT CAWAN KOSONG	21,83	22,10
3	BERAT CAWAN + TANAH BASAH	46,93	54,95
4	BERAT CAWAN + TANAH KERING	39,51	45,25
5	BERAT AIR (3)-(4)	7,42	9,70
6	BERAT TANAH KERING (4)-(2)	17,68	23,15
7	KADAR AIR = $\frac{(5)}{(6)} \times 100\%$	41,97	41,90
8	KADAR AIR RATA-RATA =	41,93	

KESIMPULAN

FLOW INDEX	4,171
BATAS CAIR	50,93
BATAS PLASTIS	41,93
INDEX PLASTISITAS	3,02





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 : Banjarcabahaya, Kab. Banjarnegara
 NO Sampel : BST Lempung + Karbid (9%-12%)

DIKERJAKAN : Nanang & Yosika
 TANGGAL : 03 Februari 2004

No Pengujian (kode sampel)		9%	12%
2 Berat jenis tanah		2.489	2.479
3 Berat Cawan Susut	W1 (gr)	24.13	34.61
4 Berat cawan susut + tanah b: W2 (gr)		38.57	61.20
5 Berat cawan susut + tanah k: W3 (gr)		32.45	50.22
6 Berat air	Wa (gr)	6.12	10.98
7 Berat tanah Kering	Wo (gr)	6.32	15.61
8 Berat air raksa yang terdesak tanah kering + gelas ukur	Wf (gr)	119.22	194.50
9 Berat gelas ukur	W4 (gr)	33.79	33.79
10 Volume tanah kering	Vo (Cm ³)	6.28	11.82
11 Batas S	SL (%) = $\frac{(Vo/Wo) - (1/Gs)}{100} \times 100\%$	35.32	35.52
12 Batas susut tanah rata-rata	SL (%)	35.42	47.41



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 : Banjarnegara, Kab. Banjarnegara
 NO Sampel : BST Lempung + CS (0%-6%)
 DIKERJAKAN : Nanang & Yosika
 TANGGAL : 04 Februari 2004

No Pengujian (kode sampel)		0%	3%	6%
2 Berat jenis tanah		2.52	2.5	2.499
3 Berat Cawan Susut	W1 (gr)	42.11	38.55	41.24
4 Berat cawan susut + tanah b. W2 (gr)		66.32	63.14	65.75
5 Berat cawan susut + tanah k. W3 (gr)		57.22	52.91	55.64
6 Berat air	W _a (gr)	9.10	10.23	10.11
7 Berat tanah Kering	W _o (gr)	15.11	14.36	14.40
8 Berat air raksa yang terdesak tanah kering + gelas ukur	W _r (gr)	156.20	171.75	168.13
9 Berat gelas ukur	W ₄ (gr)	33.79	33.79	33.79
10 Volume tanah kering	V _o (Cm ³)	9.00	10.14	9.68
11 Batas S	SL (%) = ((V _o /W _o) - (1/Gs)) x 100%	19.89	30.64	42.58
12 Batas susut tanah rata-rata	SL (%)	20.01	29.62	32.74



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 : Banjarnegara, Kab. Banjarnegara
 NO Sampel : BST Lempung + CS (9%-12%)

DIKERJAKAN : Nanang & Yosika
 TANGGAL : 04 Februari 2004

1	No Pengujian (kode sampel)					
2	Berat jenis tanah		2,48			
3	Berat Cawan Susut	W1 (gr)	34,47	44,76	41,00	42,15
4	Berat cawan susut + tanah b.	W2 (gr)	63,27	70,00	63,90	66,24
5	Berat cawan susut + tanah k.	W3 (gr)	51,53	59,88	54,29	55,82
6	Berat air	Wa (gr)	11,74	10,12	9,61	10,42
7	Berat tanah Kering	Wo (gr)	17,05	15,12	13,29	13,66
8	Berat air raksa yang terdesak tanah kering + gelas ukur	Wr (gr)		223,64	201,40	230,96
9	Berat gelas ukur	W4 (gr)		33,79	33,79	33,79
10	Volume tanah kering	Vo (Cm ³)		13,96	12,32	14,50
11	Batas S	SL (%)		41,50	41,19	68,49
12	Batas susut tanah rata-rata	SL (%)		41,35		67,06



LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN UII
 Jl. Kaliurang KM. 14.4 Telp. (0274) 895042 Yogyakarta 55584.

PEMADATAN TANAH

Proctor test

PROYEK : Tugas Akhir
 Asal Sampel : Banjarcayana, Banjarnegara
 NO Sampel : tanah + karbid 6%

DIKERJAKAN : Nana.g + Yosika
 TANGGAL : 15-Jan-04

DATA SILINDER		
1	Diameter (ϕ) cm	10.18
2	Tinggi (H) cm	11.64
3	Volume (V) cm ³	947.41
4	Berat gram	1762

DATA PENUMBUK	
Berat (kg)	2.505
Jumlah lapis	3
Jumlah tumbukan lapis	25
Tinggi jatuh	30.48

Berat jenis Gs	2.499
----------------	-------

PENAMBAHAN AIR

		2000	2000	2000	2000	2000
1	Berat tanah absah gram	2000	2000	2000	2000	2000
2	Kadar air mula-mula %	9.00	9.00	9.00	9.00	9.00
3	Penambahan air %	10	15	20	25	30
4	Penambahan air ml	200	300	400	500	600

PENGUJIAN PEMADATAN SILINDER

		1	2	3	4	5
1	Nomor pengujian					
2	Berat silinder + tanah padat gram	3200	3324	3430	3460	3419
3	Berat tanah padat gram	1438	1562	1688	1698	1657
4	Berat volume tanah gr/cm ³	1.518	1.649	1.761	1.792	1.749

PENGUJIAN KADAR AIR

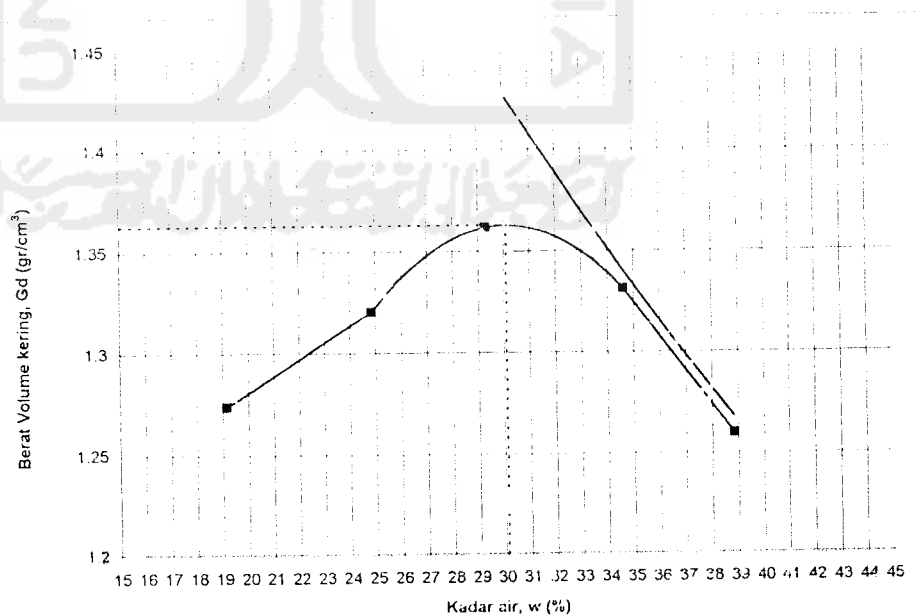
	NOMOR PERCOBAAN	1		2		3		4		5	
		a	b	a	b	a	b	a	b	a	b
3	Berat cawan kosong gram	21.80	22.10	22.01	21.70	22.22	21.82	21.71	21.52	22.15	22.00
4	Berat cawan + tanah basah gram	59.21	50.83	45.70	46.70	52.21	52.87	55.42	55.53	57.72	56.74
5	Berat cawan + tanah kering gram	53.24	46.18	41.07	41.64	45.47	45.78	46.76	45.81	47.74	47.05
8	Kadar air = w %	18.99	19.31	24.29	25.38	28.99	29.59	34.61	34.60	39.00	38.68
9	Kadar air rata-rata	19.15		24.83		29.20		34.61		38.84	
10	Berat volume tanah kering gr/cm ³	1.274		1.321		1.362		1.331		1.260	

BERAT VOLUME KERING
 MAKSIMUM (gr/cm³)

1.36269

KADAR AIR OPTIMUM (%)

30.08





LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN UII
 Jl. Kaliurang KM. 14.4 Telp. (0274) 895042 Yogyakarta 55584.

PEMADATAN TANAH

Proctor test

PROYEK : Tugas Akhir
 Asal Sampel : Banjarcahyana, Banjarnegara
 NO Sampel : Tanah + karbid 12%

DIKERJAKAN : Nanang & Yosika
 TANGGAL : 15-Jan-04

DATA SILINDER		
1	Diameter (ϕ) cm	10.18
2	Tinggi (H) cm	11.64
3	Volume (V) cm^3	947.41
4	Berat gram	1762

DATA PENUMBUK	
Berat (kg)	2.505
Jumlah lapis	3
Jumlah tumbukan /lapis	25
Tinggi jatuh	30.48

Berat jenis Gs	2.479
----------------	-------

PENAMBAHAN AIR

		2000	2000	2000	2000	2000
1	Berat tanah absah gram	2000	2000	2000	2000	2000
2	Kadar air mula-mula %	9.00	9.00	9.00	9.00	9.00
3	Penambahan air %	10	15	20	25	30
4	Penambahan air ml	200	300	400	500	600

PENGUJIAN PEMADATAN SILINDER

		1	2	3	4	5
1	Nomor pengujian	1	2	3	4	5
2	Berat silinder + tanah pada gram	3228	3286	3382	3416	3408
3	Berat tanah padat gram	1466	1524	1620	1654	1646
4	Berat volume tanah gr/cm^3	1.547	1.609	1.710	1.746	1.737

PENGUJIAN KADAR AIR

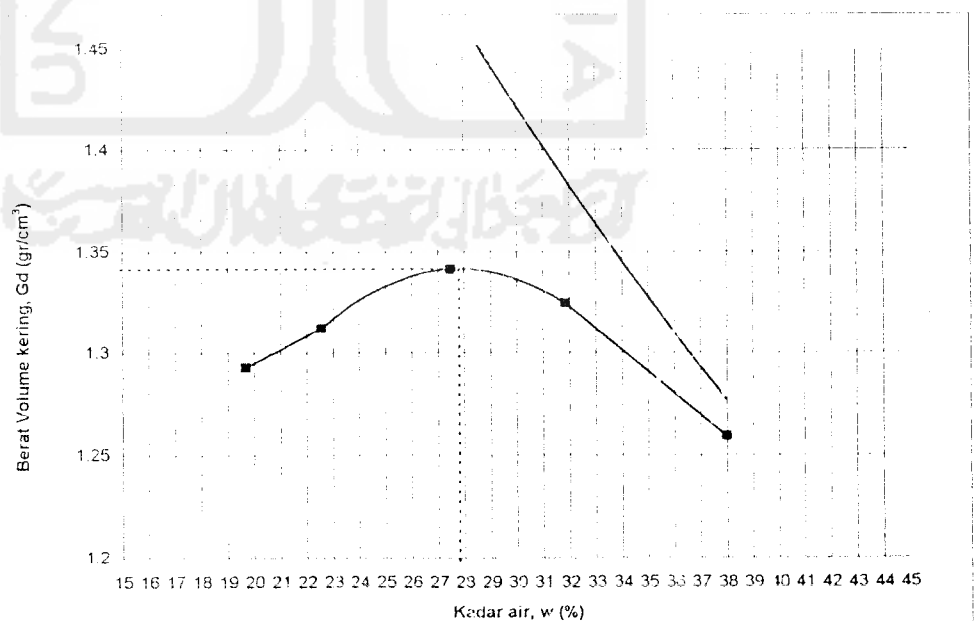
	NOMOR PERCOBAAN	1		2		3		4		5	
		a	b	a	b	a	b	a	b	a	b
2	Nomor cawan										
3	Berat cawan kosong gram	21.52	21.81	22.02	21.63	21.72	21.20	21.15	22.04	22.00	22.40
4	Berat cawan + tanah basah gram	56.15	53.20	51.00	51.72	52.30	50.86	53.27	48.75	55.85	56.15
5	Berat cawan + tanah kering gram	50.57	47.94	45.61	46.74	53.48	50.81	45.52	42.50	46.57	46.83
8	Kadar air = w %	19.21	20.13	22.85	22.27	27.77	27.19	31.80	31.84	37.77	38.15
9	Kadar air rata-rata		19.67		22.56		27.40		31.82		37.96
10	Berat volume tanah kering gr/cm^3		1.293		1.313		1.341		1.324		1.259

BERAT VOLUME KERING
 MAKSIMUM (gr/cm^3)

1.34145

KADAR AIR OPTIMUM (%)

27.80





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

PEMADATAN TANAH

Proctor test

PROYEK : Tugas Akhir
 Asal Sampel : Banjarcanggihana, Banjarnegara
 NO Sampel : tanah + karbid 6%

DIKERJAKAN : Nanang + Yosika
 TANGGAL : 15-Jan-04

DATA SILINDER		
1	Diameter (ϕ) cm	10.18
2	Tinggi (H) cm	11.64
3	Volume (V) cm ³	947.41
4	Berat gram	1762

DATA PENUMBUK	
Berat (kg)	2.505
Jumlah lapis	3
Jumlah tumbukan lapis	25
Tinggi jatuh	30.48

Berat jenis Gs	2.497
----------------	-------

PENAMBAHAN AIR					
1	Berat tanah absah gram	2000	2000	2000	2000
2	Kadar air mula-mula %	9.00	9.00	9.00	9.00
3	Penambahan air %	10	15	20	25
4	Penambahan air ml	200	300	400	500

PENGUJIAN PEMADATAN SILINDER						
1	Nomor pengujian	1	2	3	4	5
2	Berat silinder + tanah padat gram	3200	3324	3430	3460	3419
3	Berat tanah padat gram	1438	1562	1668	1698	1657
4	Berat volume tanah gr/cm ³	1.518	1.649	1.761	1.792	1.749

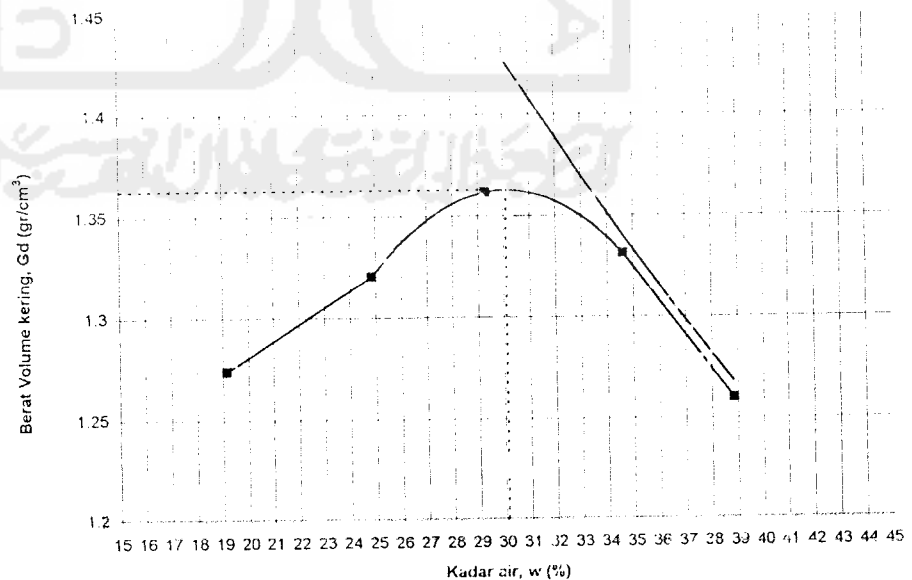
PENGUJIAN KADAR AIR											
1	NOMOR PERCOBAAN	1		2		3		4		5	
2	Nomor cawan	a	b	a	b	a	b	a	b	a	b
3	Berat cawan kosong gram	21.80	22.10	22.01	21.70	22.22	21.82	21.71	21.52	22.15	22.00
4	Berat cawan + tanah basah gram	59.21	50.83	45.70	46.70	52.21	52.87	55.42	55.53	57.72	56.74
5	Berat cawan + tanah kering gram	53.24	46.18	41.07	41.64	45.47	45.78	46.76	46.81	47.74	47.05
8	Kadar air = w %	18.99	19.31	24.29	25.38	28.99	29.59	34.61	34.60	39.00	38.68
9	Kadar air rata-rata	19.15		24.83		29.20		34.61		38.84	
10	Berat volume tanah kering gr/cm ³	1.274		1.321		1.362		1.331		1.260	

BERAT VOLUME KERING
MAKSIMUM (gr/cm³)

1.36269

KADAR AIR OPTIMUM (%)

30.08





LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN UIH
 Jl. Kaliurang KM. 14.4 Telp. (0274) 895042 Yogyakarta 55584.

PEMADATAN TANAH

Proctor test

PROYEK : Tugas Akhir
 Asal Sampel : Banjarcahyana, Banjarnegara
 NO Sampel : Tanah + karbid 12%

DIKERJAKAN : Nanang & Yosika
 TANGGAL : 15-Jan-04

PF
 As
 NC

DATA SILINDER	
1	Diameter (ϕ) cm : 10.18
2	Tinggi (H) cm : 11.64
3	Volume (V) cm ³ : 947.41
4	Berat gram : 1762

DATA PENUMBUK	
Berat (kg)	2.505
Jumlah lapis	3
Jumlah tumbukan /lapis	25
Tinggi jatuh	30.48

Berat jenis Gs	2.479
----------------	-------

PENAMBAHAN AIR					
1	Berat tanah absah gram	2000	2000	2000	2000
2	Kadar air mula-mula %	9.00	9.00	9.00	9.00
3	Penambahan air %	10	15	20	25
4	Penambahan air ml	200	300	400	500

PENGUJIAN PEMADATAN SILINDER					
1	Nomor pengujian	1	2	3	4
2	Berat silinder + tanah pada gram	3228	3286	3382	3416
3	Berat tanah padat gram	1466	1524	1620	1654
4	Berat volume tanah gr/cm ³	1.547	1.609	1.710	1.746

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	21.52	21.81	22.02	21.63	21.72	21.20	21.15	22.04	22.00	22.40
4	Berat cawan + tanah basat gram	56.15	53.20	51.00	51.72	52.30	50.86	53.27	48.75	55.85	56.15
5	Berat cawan + tanah kering gram	50.57	47.94	45.61	46.24	53.48	50.81	45.52	42.30	46.57	46.83
6	Kadar air = w %	19.21	20.13	22.85	22.27	27.77	27.19	31.80	31.84	37.77	38.15
7	Kadar air rata-rata	19.67		22.56		27.40		31.82		37.96	
8	Berat volume tanah kering gr/cm ³	1.293		1.313		1.341		1.324		1.259	

BERAT
 MAK

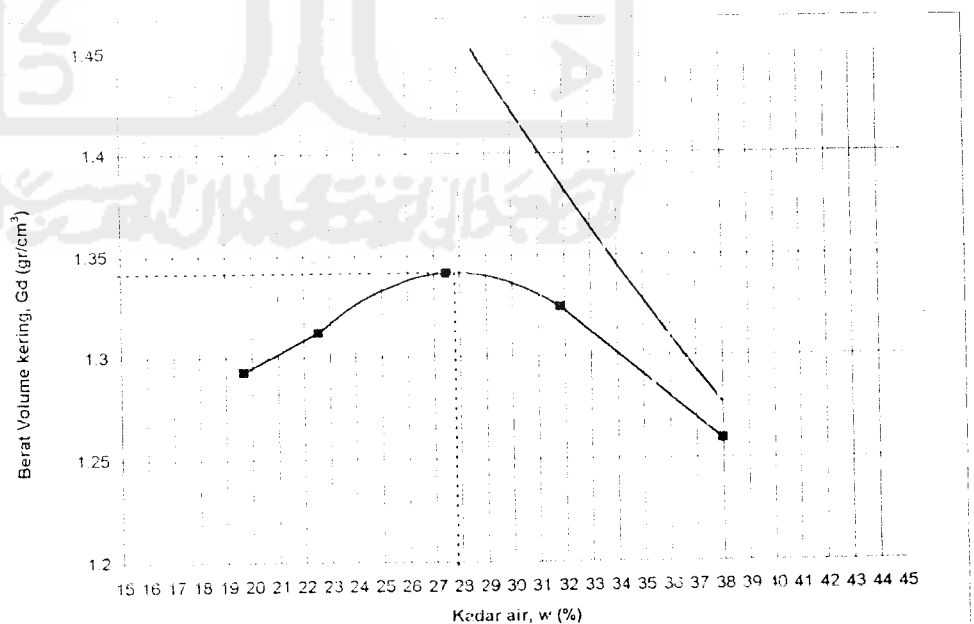
BERAT VOLUME KERING
 MAKSIMUM (gr/cm³)

1.34145

KADAR

KADAR AIR OPTIMUM (%)

27.80





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

PEMADATAN TANAH
Proctor test

PROYEK
 Asal Sampel
 NO Sampel

Tugas Akhir
 Banjarnegara, Banjarnegara
 tanah + clean set cement 6%

DIKERJAKAN
 TANPA GAL
 Nurang & Yosika
 15-Jan-04

DATA SILINDER	
1 Diameter (ϕ) cm	10,18
2 Tinggi (H) cm	11,64
3 Volume (V) cm ³	947,41
4 Berat gram	1762

DATA PENUMBUK	
Berat (kg)	2,405
Jumlah lapis	3
Jumlah tumbukan lapis	25
Tinggi jatuh	30,48

Berat jenis Gs	2,499
----------------	-------

	PENAMBAHAN AIR				
	2000	2000	2000	2000	2000
1 Berat tanah absah gram	9,00	9,00	9,00	9,00	9,00
2 Kadar air mula-mula %	7,5	10	15	20	25
3 Penambahan air %	150	200	300	400	500
4 Penambahan air ml					

PENGUJIAN PEMADATAN SILINDER					
	1	2	3	4	5
1 Nomor pengujian					
2 Berat silinder + tanah padat gram	3289	3325	3420	3472	3465
3 Berat tanah padat gram	1527	1563	1658	1710	1703
4 Berat volume tanah gr/cm ³	1,612	1,550	1,750	1,805	1,793

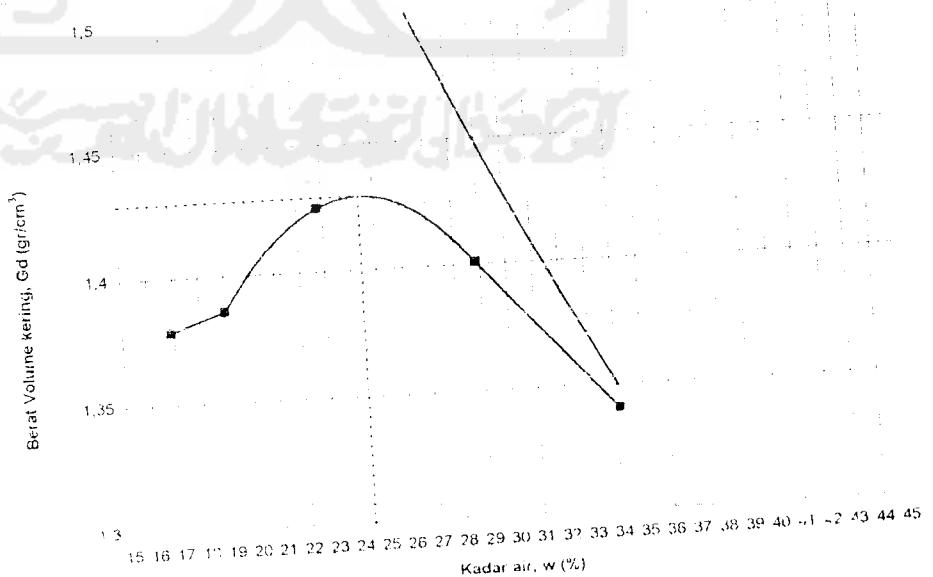
PENGUJIAN KADAR AIR										
1 NOMOR PERCOBAAN	1		2		3		4		5	
	a	b	a	b	a	b	a	b	a	b
2 Nomor cawan	21,81	22,37	22,00	22,06	21,97	21,60	21,70	21,75	21,85	22,24
3 Berat cawan kosong gram	43,56	46,20	48,17	47,93	49,12	55,09	47,34	48,95	50,36	53,80
4 Berat cawan + tanah basah gram	40,50	42,67	42,20	43,92	43,38	49,50	41,57	42,30	43,12	45,77
5 Berat cawan + tanah kering gram	16,37	17,39	19,65	18,34	22,14	23,39	29,04	28,61	34,04	34,13
8 Kadar air = w %		16,88		19,00		22,77		28,82		34,08
9 Kadar air rata-rata		1,379		1,386		1,425		1,401		1,341
10 Berat volume tanah kering gr/cm ³										

BERAT VOLUME KERING
 MAKSIMUM (gr/cm³)

1,42952

KADAR AIR OPTIMUM (%)

24,42





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

PEMADATAN TANAH

Proctor test

PROYEK _____ Tugas Akhir _____ DIKERJAKAN _____
 Asal Sampel _____ Banjarsihyana Banjarnegara _____ LANSIAL _____
 NO Sampel _____ tanah + clean set cement 12% _____ 18 Jan 04 _____

DATA SILINDER		
1	Diameter (ϕ) cm	10,18
2	Tinggi (H) cm	11,64
3	Volume (V) cm ³	947,41
4	Berat gram	1762

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

Berat jenis Gs	2,483
----------------	-------

PENAMBAHAN AIR

1	Berat tanah absah gram	2000	2000	2000	2000	2000
2	Kadar air mula-mula %	9,00	9,00	9,00	9,00	9,00
3	Penambahan air %	10	15	20	25	30
4	Penambahan air ml	200	300	400	500	600

PENGUJIAN PEMADATAN SILINDER

1	Nomor pengujian	1	2	3	4	5
2	Berat silinder + tanah padat gram	3274	3355	3475	3415	3400
3	Berat tanah padat gram	1512	1603	1713	1653	1638
4	Berat volume tanah gr/cm ³	1,596	1,692	1,808	1,745	1,729

PENGUJIAN KADAR AIR

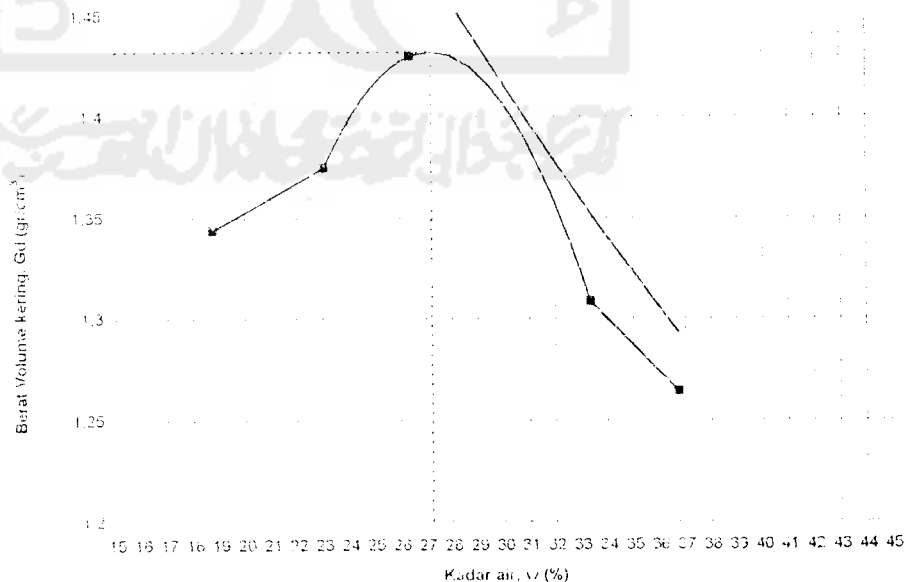
1	NOMOR PERCOBAAN	1		2		3		4		5	
2	Nomor cawan	a	b	a	b	a	b	a	b	a	b
3	Berat cawan kosong gram	22,00	21,88	21,95	22,30	22,01	21,70	21,72	21,15	21,80	22,15
4	Berat cawan + tanah basah gram	55,90	57,05	65,10	54,10	61,00	53,90	55,05	54,94	57,98	62,27
5	Berat cawan + tanah kering gram	50,60	51,44	57,00	48,16	52,88	47,13	46,57	46,64	48,26	51,50
8	Kadar air = w %	18,53	18,98	23,11	22,07	26,30	26,52	34,12	32,56	36,73	36,70
9	Kadar air rata-rata	18,75		23,04		26,41		33,34		36,71	
10	Berat volume tanah kering gr/cm ³	1,344		1,375		1,450		1,308		1,265	

BERAT VOLUME KERING
MAKSIMUM (gr/cm³)

1,43238

KADAR AIR OPTIMUM (%)

27,21





LAMPIRAN 5.1

LABORATORIUM MEKANIKA TANAH

JURUSAN TEKNIK SIPIL-FTSP

UNIVERSITAS ISLAM INDONESIA

UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Banjarcayana, Banjarnegara, Jateng
 Boring No. :
 Sample No : Asli

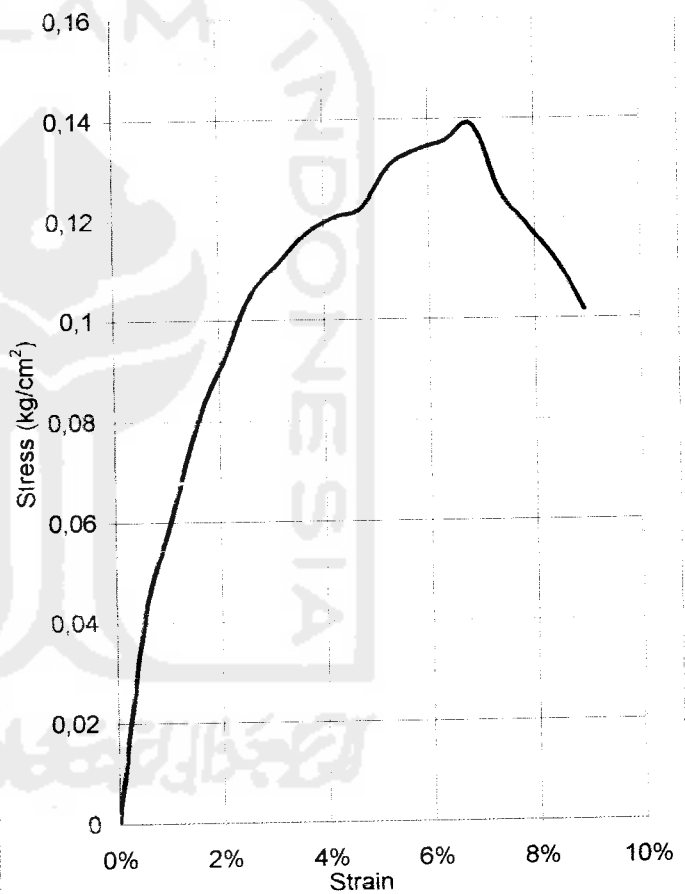
Date : 12 Jan 2004
 Tested by : Nanang & Yosi

Sample data	
diam (mm)	3,94
Area (mm ²)	12,1922
Ht,Lo (mm)	7,61
Vol (mm ³)	92,7827
Wt (gr)	155,45
Wet Unit wt (gr/cm ³)	1,67542
Dry Unit wt (gr/cm ³)	1,3318

Water Content		
Wt Container (cup), gr	22,02	21,95
Wt of Cup + Wet soil, gr	61,63	58,58
Wt of Cup + Dry soil, gr	53,46	51,11
Water Content %	25,99	25,62
Average water content %	25,80	

LRC = 0,165 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%	0,495	0,040386
80	4,5	1,05%	0,7425	0,060259
120	6	1,58%	0,99	0,079919
160	7	2,10%	1,155	0,092741
200	8	2,63%	1,32	0,105421
240	8,5	3,15%	1,4025	0,111405
280	9	3,68%	1,485	0,117318
320	9,3	4,20%	1,5345	0,120567
360	9,5	4,73%	1,5675	0,122484
400	10,2	5,26%	1,683	0,130783
440	10,5	5,78%	1,7325	0,133883
480	10,7	6,31%	1,7655	0,135672
520	11	6,83%	1,815	0,138693
560	10	7,36%	1,65	0,125374
600	9,5	7,88%	1,5675	0,118429
640	9	8,41%	1,485	0,111556
680	8,25	8,94%	1,36125	0,101673
720				
1330				
1400				
1470				
1540				
1610				
1680				
1750				
1820				
1890				
1960				



qu = 0,13869 kg/cm²
 α = 49 °
 Angle Of Internal friction, φ = 8 °
 Cohesion = 0,060 kg/cm²



LAMPIRAN 5.2

LABORATORIUM MEKANIKA TANAH

JURUSAN TEKNIK SIPIL-FTSP

UNIVERSITAS ISLAM INDONESIA

UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Banjarcahyana, Banjarnegara, Jateng
 Boring No. :
 Sample No : Asli

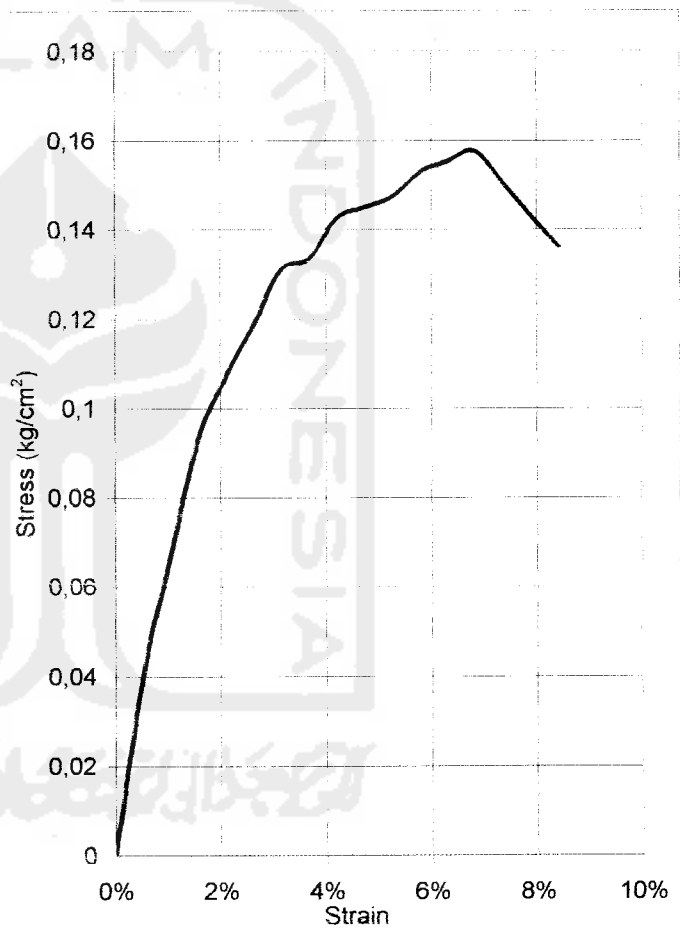
Date : 12 Jan 2004
 Tested by : Nanang & Yosi

Sample data	
diam (mm)	3,94
Area (mm ²)	12,1922
Ht,Lo (mm)	7,61
Vol (mm ³)	92,7827
Wt (gr)	155,45
Wet Unit wt (gr/cm ³)	1,67542
Dry Unit wt (gr/cm ³)	1,3309

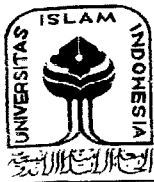
Water Content		
Wt Container (cup), gr	22,00	21,75
Wt of Cup + Wet soil, gr	64,35	58,80
Wt of Cup + Dry soil, gr	55,62	51,20
Water Content %	25,97	25,81
Average water content %	25,89	

LRC = 0,165 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%	0,495	0,040386
80	5	1,05%	0,825	0,066955
120	7	1,58%	1,155	0,093239
160	8,1	2,10%	1,3365	0,107314
200	9	2,63%	1,485	0,118598
240	10	3,15%	1,65	0,131064
280	10,25	3,68%	1,69125	0,133612
320	11	4,20%	1,815	0,142606
360	11,25	4,73%	1,85625	0,145047
400	11,5	5,26%	1,8975	0,147452
440	12	5,78%	1,98	0,153009
480	12,25	6,31%	2,02125	0,155325
520	12,5	6,83%	2,0625	0,157606
560	12	7,36%	1,98	0,150448
600	11,5	7,88%	1,8975	0,143362
640	11	8,41%	1,815	0,136346
680				
720				
1330				
1400				
1470				
1540				
1610				
1680				
1750				
1820				
1890				
1960				



qu =	0,15761 kg/cm ²
α =	50 °
Angle Of Internal friction, φ =	10 °
Cohesion =	0,066 kg/cm ²



LAMPIRAN 5.3

LABORATORIUM MEKANIKA TANAH

JURUSAN TEKNIK SIPIL-FTSP

UNIVERSITAS ISLAM INDONESIA

UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Banjarcarya, Banjarnegara, Jateng
 Boring No. :
 Sample No : Lempung + K Karbid 3%

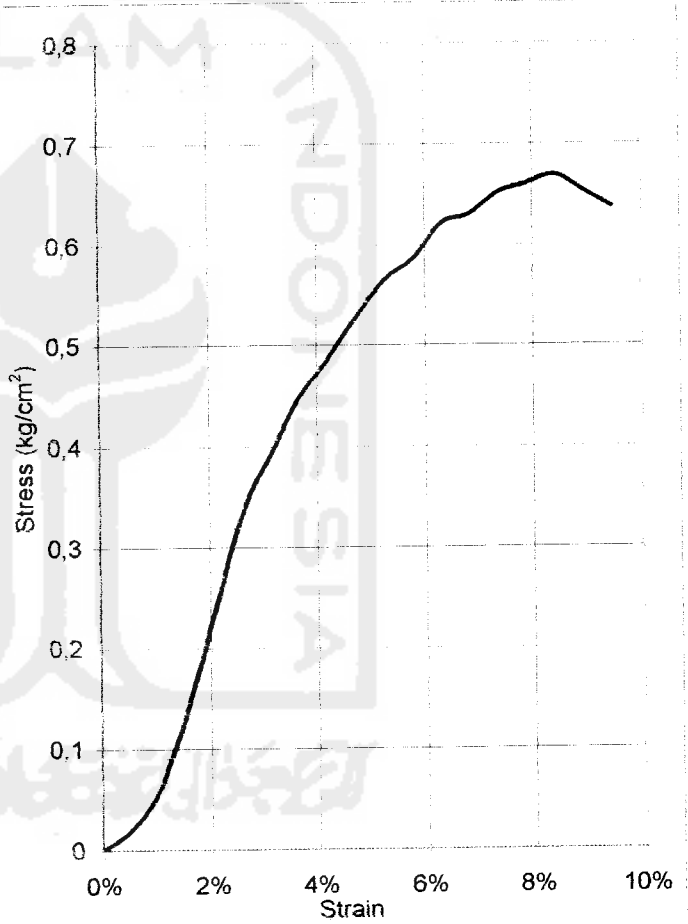
Date : 16 Jan 2004
 Tested by : Nanang & Yosi

Sample data	
diam (mm)	3,94
Area (mm ²)	12.1922
Ht,Lo (mm)	7,61
Vol (mm ³)	92,7827
Wt (gr)	158
Wet Unit wt (gr/cm ³)	1,7029
Dry Unit wt (gr/cm ³)	1,35066

Water Content		
Wt Container (cup), gr	22,12	22,00
Wt of Cup + Wet soil, gr	60,14	54,67
Wt of Cup + Dry soil, gr	52,36	47,84
Water Content %	25,73	26,43
Average water content %	26,08	

LRC = 0,165 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	1,5	0,53%	0,2475	0,020193
80	4,5	1,05%	0,7425	0,060259
120	10,5	1,58%	1,7325	0,139858
160	18	2,10%	2,97	0,238477
200	25,5	2,63%	4,2075	0,336028
240	30	3,15%	4,95	0,393193
280	34,5	3,68%	5,6925	0,449718
320	37,5	4,20%	6,1875	0,486156
360	41	4,73%	6,765	0,528614
400	44	5,26%	7,26	0,564163
440	46	5,78%	7,59	0,586535
480	49	6,31%	8,085	0,621302
520	50	6,83%	8,25	0,630425
560	52	7,36%	8,58	0,651943
600	53	7,88%	8,745	0,66071
640	54	8,41%	8,91	0,669335
680	53	8,94%	8,745	0,65317
720	52	9,46%	8,58	0,637147
1330				
1400				
1470				
1540				
1610				
1680				
1750				
1820				
1890				
1960				



qu =	0,66933 kg/cm ²
α =	50 °
Angle Of internal friction, φ =	10 °
Cohesion =	0,281 kg/cm ²



LAMRIPAN 5.4

LABORATORIUM MEKANIKA TANAH

JURUSAN TEKNIK SIPIL-FTSP

UNIVERSITAS ISLAM INDONESIA

UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Banjarcanggihana, Banjarnegara, Jateng
 Boring No. :
 Sample No : Lempung + K Karbid 6%

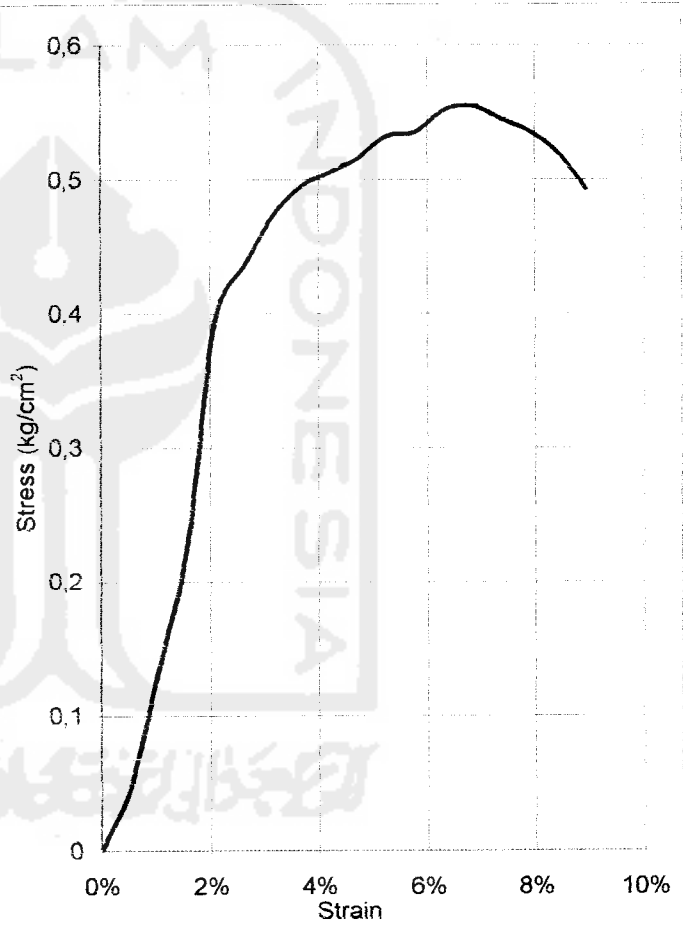
Date : 16 Jan 2004
 Tested by : Nanang & Yosi

Sample data	
diam (mm)	3,94
Area (mm ²)	12,1922
Ht,Lo (mm)	7,61
Vol (mm ³)	92,7827
Wt (gr)	157
Wet Unit wt (gr/cm ³)	1,69213
Dry Unit wt (gr/cm ³)	1,30076

Water Content		
Wt Container (cup), gr	21,50	22,20
Wt of Cup + Wet soil, gr	56,34	55,68
Wt of Cup + Dry soil, gr	48,32	47,90
Water Content %	29,90	30,27
Average water content %	30,09	

LRC = 0,165 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	3,5	0,53%	0,5775	0,047117
80	10	1,05%	1,65	0,13391
120	17	1,58%	2,805	0,226437
160	30	2,10%	4,95	0,397461
200	33	2,63%	5,445	0,43486
240	36	3,15%	5,94	0,471832
280	38	3,68%	6,27	0,495341
320	39	4,20%	6,435	0,505602
360	40	4,73%	6,6	0,515721
400	41,5	5,26%	6,8475	0,532109
440	42	5,78%	6,93	0,535532
480	43,5	6,31%	7,1775	0,551564
520	44	6,83%	7,26	0,554774
560	43,5	7,36%	7,1775	0,545375
600	43	7,88%	7,095	0,536048
640	42	8,41%	6,93	0,520594
680	40	8,94%	6,6	0,492958
720				
1330				
1400				
1470				
1540				
1610				
1680				
1750				
1820				
1890				
1960				



qu =	0,55477 kg/cm ²
α =	51 °
Angle Of Internal friction, φ =	12 °
Cohesion =	0,225 kg/cm ²



LAMPIRAN 5.5

LABORATORIUM MEKANIKA TANAH

JURUSAN TEKNIK SIPIL-FTSP

UNIVERSITAS ISLAM INDONESIA

UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Banjarcayana, Banjarnegara, Jateng
 Boring No. :
 Sample No : Lempung + K Karbid 9%

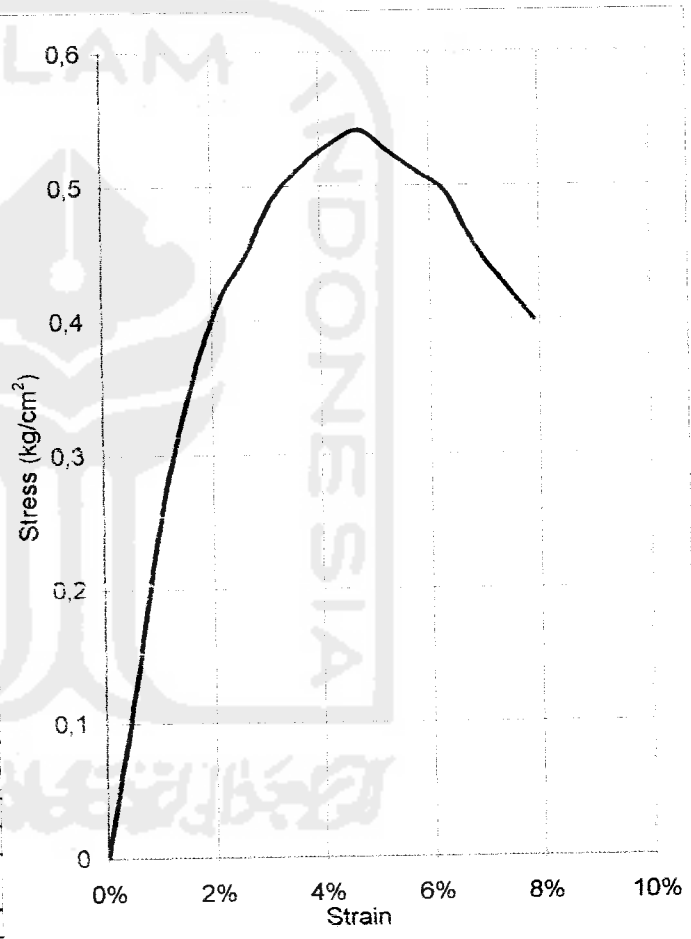
Date : 16 Jan 2004
 Tested by : Nanang & Yosi

Sample data	
diam (mm)	3,94
Area (mm ²)	12,1922
Ht,Lo (mm)	7,61
Vol (mm ³)	92,7827
Wt (gr)	158
Wet Unit wt (gr/cm ³)	1,7029
Dry Unit wt (gr/cm ³)	1,32406

Water Content			
Wt Container (cup), gr	22,10	22,20	
Wt of Cup + Wet soil, gr	35,65	32,20	
Wt of Cup + Dry soil, gr	32,67	29,95	
Water Content %	28,19	29,03	
Average water content %	28,61		

LRC = 0,165 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	9	0,53%	1,485	0,121159
80	19	1,05%	3,135	0,254428
120	26	1,58%	4,29	0,346316
160	31	2,10%	5,115	0,41071
200	34	2,63%	5,61	0,448037
240	37,5	3,15%	6,1875	0,491491
280	39,5	3,68%	6,5175	0,514894
320	41	4,20%	6,765	0,531531
360	42	4,73%	6,93	0,541507
400	41	5,26%	6,765	0,525698
440	40	5,78%	6,6	0,51003
480	39	6,31%	6,435	0,494505
520	36	6,83%	5,94	0,453906
560	34	7,36%	5,61	0,42627
600	32	7,88%	5,28	0,398919
640				
680				
720				
1330				
1400				
1470				
1540				
1610				
1680				
1750				
1820				
1890				
1960				



qu = 0,54151 kg/cm²
 α = 52,5 °
 Angle Of Internal friction, φ = 15 °
 Cohesion = 0,208 kg/cm²



LAMPIRAN 5.7

LABORATORIUM MEKANIKA TANAH

JURUSAN TEKNIK SIPIL-FTSP

UNIVERSITAS ISLAM INDONESIA

UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Banjarcayana, Banjarnegara, Jateng
 Boring No. :
 Sample No : Lempung + CS 3%

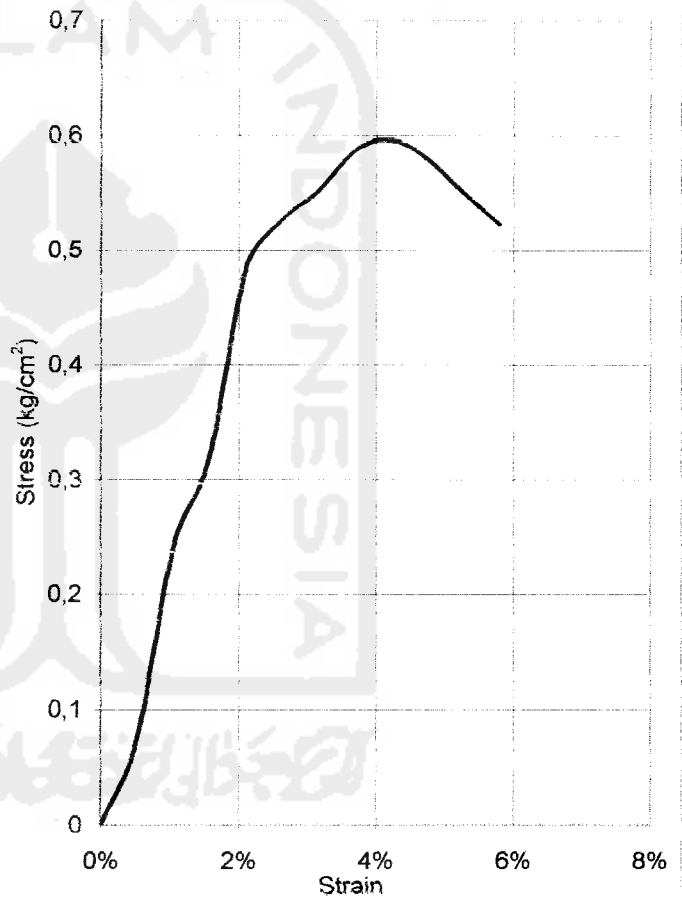
Date : 17 Jan 2004
 Tested by : Nanang & Yosi

Sample data	
diam (mm)	3,94
Area (mm ²)	12,1922
Ht,Lo (mm)	7,61
Vol (mm ³)	92,7827
Wt (gr)	156
Wet Unit wt (gr/cm ³)	1,68135
Dry Unit wt (gr/cm ³)	1,35259

Water Content		
Wt Container (cup), gr	22,22	21,78
Wt of Cup + Wet soil, gr	45,26	46,77
Wt of Cup + Dry soil, gr	40,74	41,90
Water Content %	24,41	24,20
Average water content %	24,31	

LRC = 0,165 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	5,5	0,53%	0,9075	0,074042
80	18	1,05%	2,97	0,241037
120	24	1,58%	3,96	0,319676
160	36,5	2,10%	6,0225	0,483578
200	40	2,63%	6,6	0,527103
240	42	3,15%	6,93	0,55047
280	45	3,68%	7,425	0,586588
320	46	4,20%	7,59	0,596352
360	45	4,73%	7,425	0,580186
400	43	5,26%	7,095	0,551341
440	41	5,78%	6,765	0,522781
480				
520				
560				
600				
640				
680				
720				
1330				
1400				
1470				
1540				
1610				
1680				
1750				
1820				
1890				
1960				



qu =	0,59635 kg/cm ²
α =	51 °
Angle Of Internal friction, φ =	12 °
Cohesion =	0,241 kg/cm ²



LAMMIDIAN 5.8

LABORATORIUM MEKANIKA TANAH

JURUSAN TEKNIK SIPIL-FTSP

UNIVERSITAS ISLAM INDONESIA

UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Banjarcayana, Banjarnegara, Jateng
 Boring No. :
 Sample No : Lempung + CS 6%

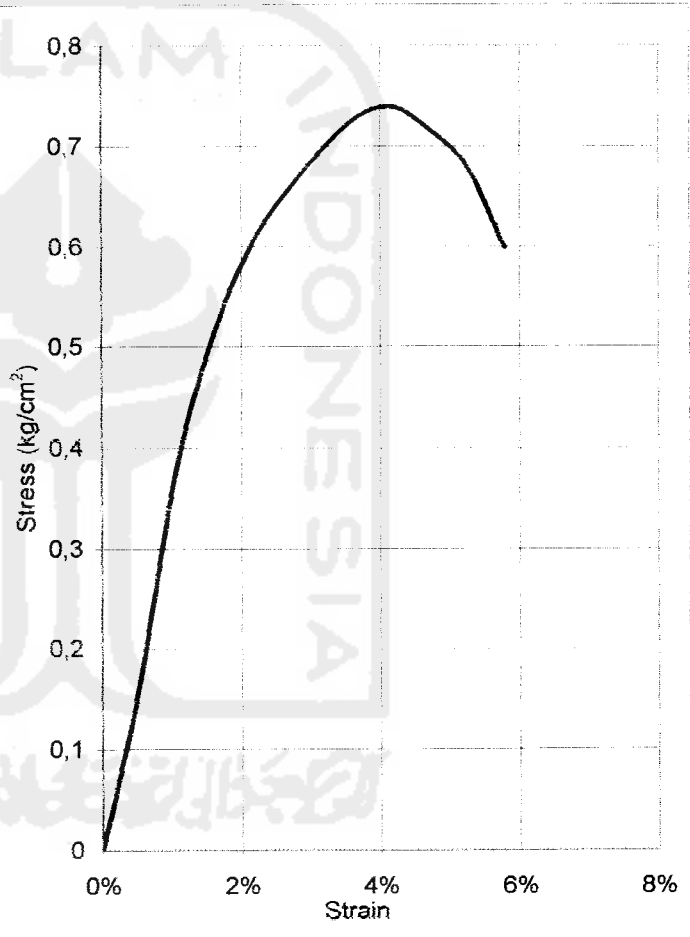
Date : 17 Jan 2004
 Tested by : Nanang & Yosi

Sample data	
diam (mm)	3,94
Area (mm ²)	12,1922
Ht,Lo (mm)	7,61
Vol (mm ³)	92,7827
Wt (gr)	160
Wet Unit wt (gr/cm ³)	1,72446
Dry Unit wt (gr/cm ³)	1,38167

Water Content		
Wt Container (cup), gr	21,50	22,20
Wt of Cup + Wet soil, gr	46,27	50,22
Wt of Cup + Dry soil, gr	41,32	44,68
Water Content %	24,97	24,64
Average water content %	24,81	

LRC = 0,165 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	12	0,53%	1,98	0,161545
80	28	1,05%	4,62	0,374947
120	38	1,58%	6,27	0,506154
160	45	2,10%	7,425	0,596191
200	49,5	2,63%	8,1675	0,652289
240	53	3,15%	8,745	0,694641
280	56	3,68%	9,24	0,729977
320	57	4,20%	9,405	0,738957
360	55,5	4,73%	9,1575	0,715563
400	53	5,26%	8,745	0,67956
440	47	5,78%	7,755	0,599286
480				
520				
560				
600				
640				
680				
720				
1330				
1400				
1470				
1540				
1610				
1680				
1750				
1820				
1890				
1960				



qu =	0,73896 kg/cm ²
α =	52,5 °
Angle Of internal friction, φ =	15 °
Cohesion =	0,284 kg/cm ²



LAMPIRAN 5.10

LABORATORIUM MEKANIKA TANAH

JURUSAN TEKNIK SIPIL-FTSP

UNIVERSITAS ISLAM INDONESIA

UNCONFINED COMPRESSION TEST

Project : Tugas Akhir
 Location : Banjarcayana, Banjarnegara, Jateng
 Boring No. :
 Sample No : Lempung + CS 12%

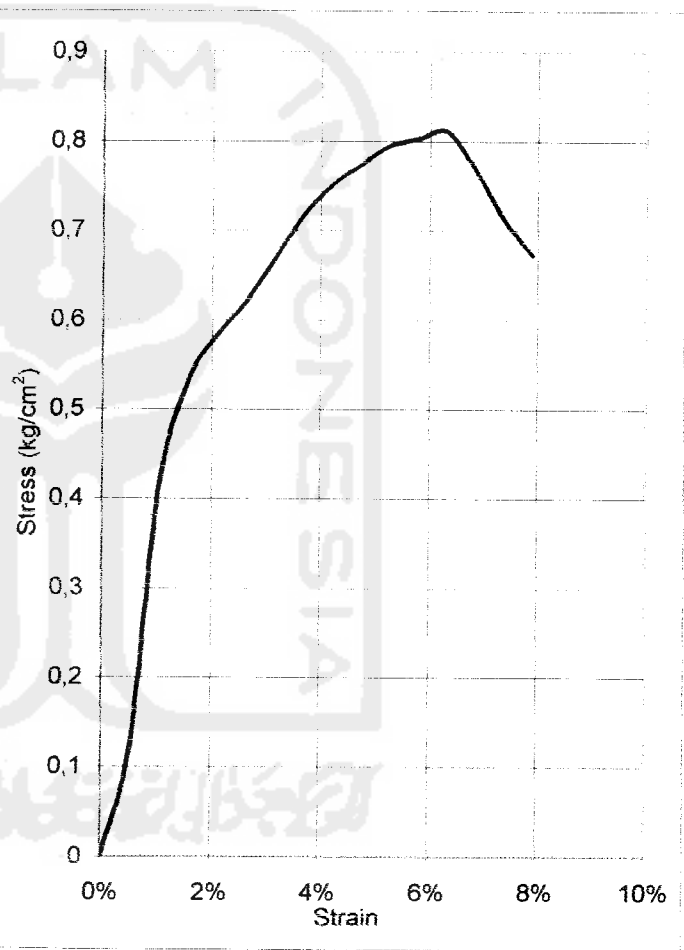
Date : 17 Jan 2004
 Tested by : Nanang & Yosi

Sample data	
diam (mm)	3,94
Area (mm ²)	12,1922
Ht,Lo (mm)	7,61
Vol (mm ³)	92,7827
Wt (gr)	161,3
Wet Unit wt (gr/cm ³)	1,73847
Dry Unit wt (gr/cm ³)	1,35906

Water Content		
Wt Container (cup), gr	22,11	22,21
Wt of Cup + Wet soil, gr	34,27	35,88
Wt of Cup + Dry soil, gr	31,64	32,87
Water Content %	27,60	28,24
Average water content %	27,92	

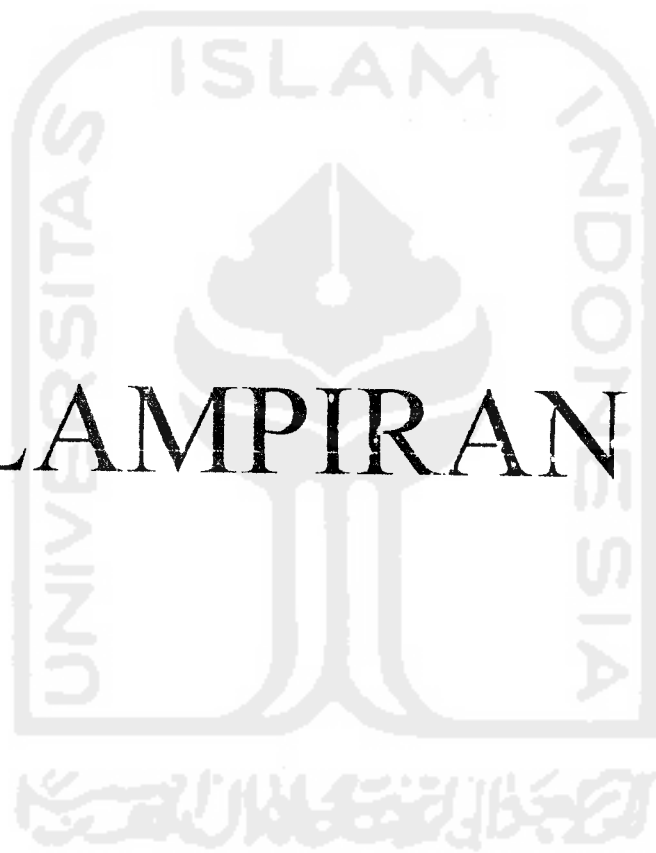
LRC = 0,165 kg/div

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	9	0,53%	1,485	0,121159
80	31	1,05%	5,115	0,41512
120	40	1,58%	6,6	0,532793
160	44	2,10%	7,26	0,582943
200	47	2,63%	7,755	0,619346
240	51	3,15%	8,415	0,668428
280	55	3,68%	9,075	0,716941
320	58	4,20%	9,57	0,751921
360	60	4,73%	9,9	0,773582
400	62	5,26%	10,23	0,794958
440	63	5,78%	10,395	0,803298
480	64	6,31%	10,56	0,811496
520	61	6,83%	10,065	0,769118
560	57	7,36%	9,405	0,714629
600	54	7,88%	8,91	0,673176
640				
680				
720				
1330				
1400				
1470				
1540				
1610				
1680				
1750				
1820				
1890				
1960				



qu =	0,81150 kg/cm ²
α =	54 °
Angle Of Internal friction, φ =	18 °
Cohesion =	0,295 kg/cm ²

LAMPIRAN 6





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

Proje	Project : Tugas Akhir		Date	: 10 Jan 2004	
Locat	Location : Banjarcayana, Kab. Banjarnegara		Tested by	: Nanang	
Sampl	Sampel No : Asli		Yosi		
Type	Type of test apparatus	Dimension of test piece	Hight	H cm	7,7
No. C	No. Of cell		Diameter	D cm	3,83
No. o	No. of Proving ring		Cross area	A cm ²	11,5209
Coeff	Coeff. proving ring K = 0,165		Volume	V cm ³	88,7111
k = K	k = K / A 0,0143218		Wight	W gram	170,2500
Cell	Cell pessure 1,00		Rate of compression : 0,5 %	Wet densi	gr/cc

Tir	Time	Strain		Reading of proving ring	Pore pressure	
		Axial defor- mation	Strain		u	
			%		kg/cm ²	kg/cm ²
	0	0	0	1	0	0
	40	0,517	0,995	13	0,184738	
	80	1,034	0,990	16	0,226189	
	120	1,550	0,984	27	0,3797	
	160	2,067	0,979	35	0,489621	
	200	2,584	0,974	43	0,598359	
	240	3,101	0,969	46	0,63671	
	280	3,618	0,964	47	0,647082	
	320	4,134	0,959	50	0,684694	
	360	4,651	0,953	52	0,708243	
	400	5,168	0,948	53	0,71795	
	440	5,685	0,943	54	0,72751	
	480	6,202	0,938	55	0,736922	
	520	6,718	0,933	56,5	0,752849	
	560	7,235	0,928	57	0,755304	
	600	7,752	0,922	59	0,77745	
	640	8,269	0,917	59	0,773095	
	680	8,786	0,912	60	0,781769	
	720	9,302	0,907	61	0,790295	
	760	9,819	0,902	62	0,798674	
	800	10,336	0,897	62,5	0,800501	
	840	10,853	0,891	63,5	0,808621	
	880	11,370	0,886	63,5	0,803924	
	920	11,886	0,881	63	0,792953	
	960	12,403	0,876	63	0,788302	
	1000	12,920	0,871	62,5	0,777432	
	1040	13,437	0,866	61	0,75427	
	1080	13,953	0,860	60,5	0,743622	
	1120	14,470	0,855	60	0,733047	
	1160	14,987	0,850	58	0,70433	



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 LOADING DATA

Project : Tugas Akhir Date : 30 Jan 2004
 Location : Banjarcayana, Kab. Banjarnegara Tested by : Nanang
 Sample No : Lempung + Clean Set Cement 0 hari Yosi

Type of test apparatus		Dimension of test piece	Hight	H cm	7,74
No. Of cell			Diameter	D cm	3,835
No. of Proving ring			Cross area	A cm ²	11,5510
Coeff. proving ring K =	0,165		Volume	V cm ³	89,4050
k = K / A	0,014284444		Wight	W gram	169,4000
Cell pessure	0,50		Rate of compression : 0.5 %	Wet density	gr/cm ³

Time	Strain		Reading of proving ring	Pore pressure		
	Axial defor- mation	Strain %		u	kg/cm ²	kg/cm ²
0	0	0	1	0	0	
	40	0,517	0,995	13	0,18473809	
	80	1,034	0,990	65	0,91889205	
	120	1,550	0,984	144	2,02506902	
	160	2,067	0,979	200	2,79783157	
	200	2,584	0,974	246	3,42317277	
	240	3,101	0,969	274	3,79257512	
	280	3,618	0,964	290	3,99263115	
	320	4,134	0,959	301	4,12185554	
	360	4,651	0,953	303	4,12687539	
	400	5,168	0,948	302	4,09096127	
	440	5,685	0,943	295	3,97436035	
	480	6,202	0,938	286	3,83199576	
	520	6,718	0,933	270	3,59768659	
	560	7,235	0,928			
	600	7,752	0,922			
	640	8,269	0,917			
	680	8,786	0,912			
	720	9,302	0,907			
	760	9,819	0,902			
	800	10,336	0,897			
	840	10,853	0,891			
	880	11,370	0,886			
	920	11,886	0,881			
	960	12,403	0,876			
	1000	12,920	0,871			
	1040	13,437	0,866			
	1080	13,953	0,860			
	1120	14,470	0,855			
	1160	14,987	0,850			



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 LOADING DATA

Project	: Tugas Akhir	Date	: 30 Jan 2004
Location	: Banjarcarya, Kab. Banjarnegara	Tested by	: Nanang
Sample No	: Lempung + Clean Set Cement 0 hari	Yosi	
Type of test apparatus		Dimension of test piece	
No. Of cell		Height	H cm 7,645
No. of Proving ring		Diameter	D cm 3,79
Coeff. proving ring K	0,165	Cross area	A cm ² 11,2815
k = K / A	0,0146257	Volume	V cm ³ 86,2174
Cell pessure	2,00	Wight	W gram 170,3000
		Rate of compression : 0.5 %	Wet density gr/c 1,9746

Time	Strain		Reading of proving ring	Pore pressure	
	Axial deformation	Strain %		u	
				kg/cm ²	kg/cm ²
0	0	0	1	0	
	40	0,517	0,995	45	0,639478
	80	1,034	0,990	165	2,3325721
	120	1,550	0,984	280	3,9376342
	160	2,067	0,979	360	5,0360968
	200	2,584	0,974	415	5,7748646
	240	3,101	0,969	448	6,2009987
	280	3,618	0,964	464	6,3882098
	320	4,134	0,959	470	6,4361199
	360	4,651	0,953	474	6,4559041
	400	5,168	0,948	476	6,4480052
	440	5,685	0,943	474	6,3859214
	480	6,202	0,938	458	6,1365526
	520	6,718	0,933	433	5,7696233
	560	7,235	0,928	406	5,3798832
	600	7,752	0,922		
	640	8,269	0,917		
	680	8,786	0,912		
	720	9,302	0,907		
	760	9,819	0,902		
	800	10,336	0,897		
	840	10,853	0,891		
	880	11,370	0,886		
	920	11,886	0,881		
	960	12,403	0,876		
	1000	12,920	0,871		
	1040	13,437	0,866		
	1080	13,953	0,860		
	1120	14,470	0,855		
	1160	14,987	0,850		



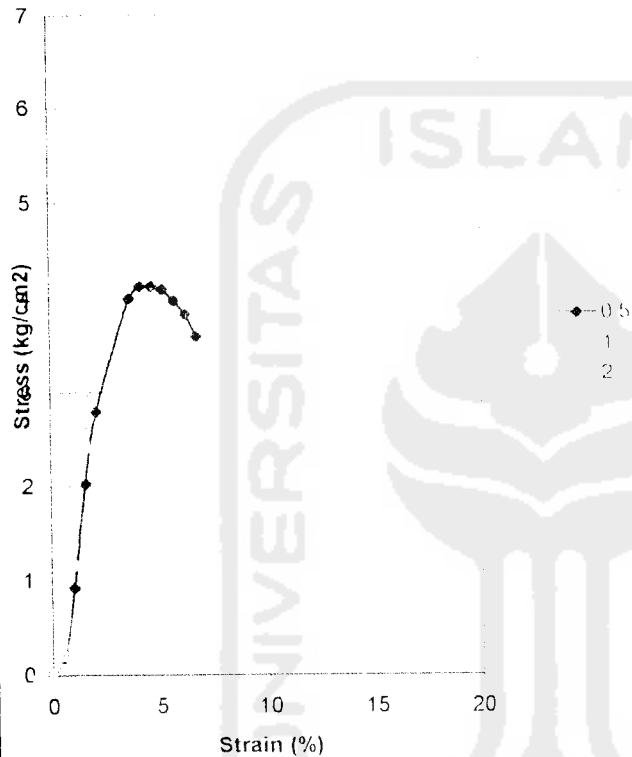
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895530 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Banjarcayana, Kab. Banjarnegara
 Sample No: Lempung + Clean Set Cement 0 hari

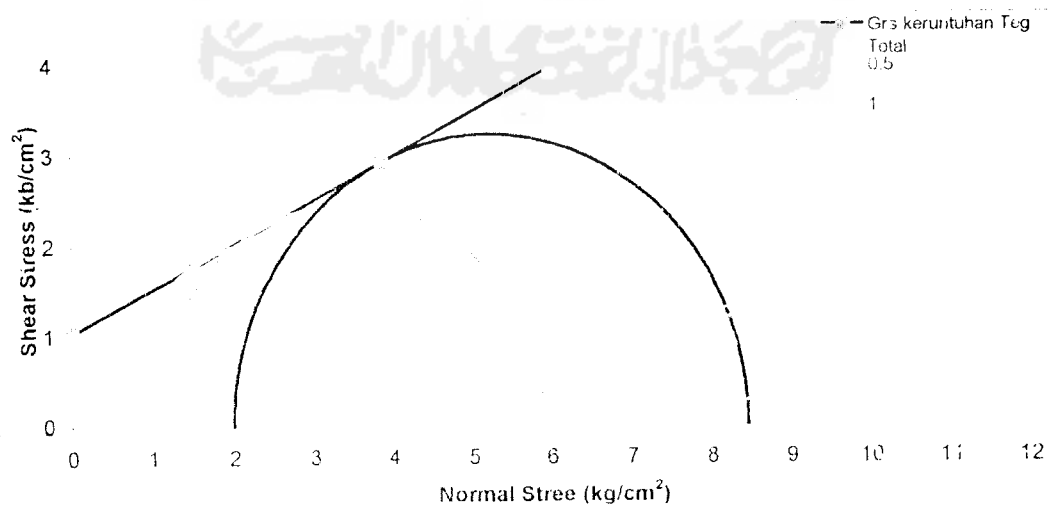
Depth : 1,50 m
 Date : 30-01-04
 Tested by : Nanang
 Yosi



Piece No :	1	2	3
H cm	7,74	7,7	7,645
D cm	3,835	3,83	3,79
A cm ²	11,55	11,52	11,28
V cm ³	89,40	88,71	86,25
Wt gran	166,81	167,44	169,40
Water Content			
Wt Container (cup), gr		22,15	21,86
Wt of Cup + Wet soil, gr		56,22	55,15
Wt of Cup + Dry soil, gr		47,34	46,57
Water Content %		35,25	34,72
Average water content %		34,99	

γ _d gram/cm ³	1,89475	1,914078	1,974553
γ _w gram/cm ³	1,403649	1,417967	1,462763

σ ₃	0,5	1	2
σ _Δ	4,126875	4,903218	6,455904
σ ₁ = σ _Δ + σ ₃	4,626875	5,903218	8,455904
(σ ₁ + σ ₂)/2	2,563438	3,451609	5,227952
(σ ₁ - σ ₂)/2	2,063433	2,451609	3,227952
Angle of shearing resistance (φ)			26,15641
Apperen cohesion (kg/cm ²)			1,027962





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 Date : 02 Feb 2004
 Location : Banjarcayana, Kab. Banjarnegara Tested by : Nanang
 Sampel No : Lempung + Clean Set Cement 3 hari Yosi

Type of test apparatus		Dimension of test piece	Height	H cm	7,74
No. Of cell			Diameter	D cm	3,835
No. of Proving ring			Cross area	A cm ²	11,5510
Coeff. proving ring K =	0,165		Volume	V cm ³	89,4050
k = K / A	0,014284444		Wight	W gram	168,0000
Cell pessure	0,50		Rate of compression : 0.5 %	Wet density	gr/cm ³

Time	Strain			Reading of proving ring	Fore pressure	
	Axial defor- mation	Strain			u	
		%			kg/cm ²	kg/cm ²
0	0	0	1	0	0	
	40	0,517	0,995	80	1,13684977	
	80	1,034	0,990	195	2,75667614	
	120	1,550	0,984	326	4,58453125	
	160	2,067	0,979	470	6,5749042	
	200	2,584	0,974	565	7,8621651	
	240	3,101	0,969	590	8,16649387	
	280	3,618	0,964	582	8,01279769	
	320	4,134	0,959	562	7,69595618	
	360	4,651	0,953	541	7,36844748	
	400	5,168	0,948			
	440	5,685	0,943			
	480	6,202	0,938			
	520	6,718	0,933			
	560	7,235	0,928			
	600	7,752	0,922			
	640	8,269	0,917			
	680	8,786	0,912			
	720	9,302	0,907			
	760	9,819	0,902			
	800	10,336	0,897			
	840	10,853	0,891			
	880	11,370	0,886			
	920	11,886	0,881			
	960	12,403	0,876			
	1000	12,920	0,871			
	1040	13,437	0,866			
	1080	13,953	0,860			
	1120	14,470	0,855			
	1160	14,987	0,850			



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	Date	: 02 Feb 2004
Location	: Banjarcayana, Kab. Banjarnegara	Tested by	: Nanang
Sampel No	: Lempung + Clean Set Cement 3 hari		: Yosi
Type of test apparatus		Height	H cm 7,7
No. Of cell		Diameter	D cm 3,33
No. of Proving ring		Cross area	A cm ² 11,5209
Coeff. proving ring K =	0,165	Volume	V cm ³ 88,7111
k = K / A	0,0143218	Wight	W gram 168,7000
Cell pessure	1,00	Wet density	gr/cm ³ 1,9017
		Rate of compression	: 0,5 %

Time	Strain		Reading of proving ring	Pore pressure		
	Axial deformation	Strain		u		
		%		kg/cm ²	kg/cm ²	kg/cm ²
0	0	0	1	0		
	40	0,517	0,995	90	1,278956	
	80	1,034	0,990	275	3,8876202	
	120	1,550	0,984	436	6,131459	
	160	2,067	0,979	575	8,0437658	
	200	2,534	0,974	633	8,8779847	
	240	3,101	0,969	648	8,9693017	
	280	3,618	0,964	639	8,7975552	
	320	4,134	0,959	627	8,5860579	
	360	4,651	0,953	603	8,2128906	
	400	5,168	0,948			
	440	5,685	0,943			
	480	6,202	0,938			
	520	6,718	0,933			
	560	7,235	0,928			
	600	7,752	0,922			
	640	8,269	0,917			
	680	8,786	0,912			
	720	9,302	0,907			
	760	9,819	0,902			
	800	10,336	0,897			
	840	10,853	0,891			
	880	11,370	0,886			
	920	11,886	0,881			
	960	12,403	0,876			
	1000	12,920	0,871			
	1040	13,437	0,866			
	1080	13,953	0,860			
	1120	14,470	0,855			
	1160	14,987	0,850			



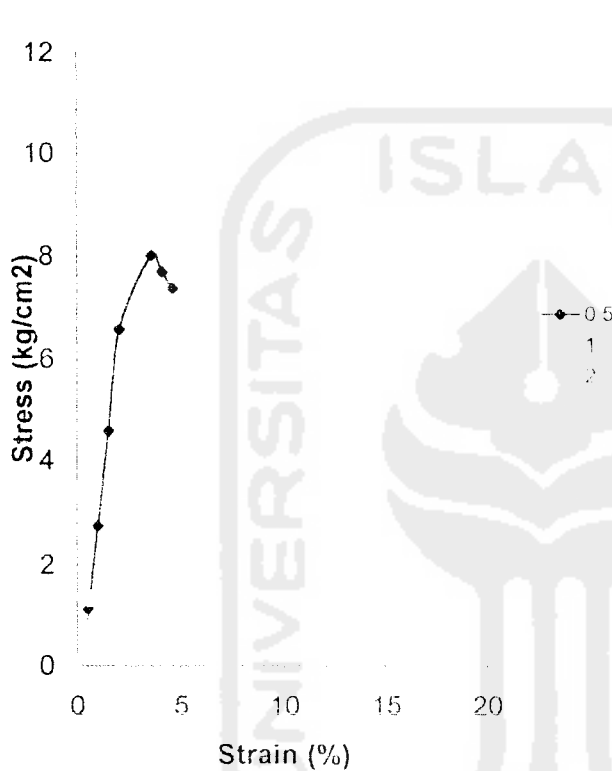
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

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

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Banjarcayana, Kab. Banjarnegara
 Sampel N : Lempung + Clean Set Cement 3 hari

Depth : 1,50 m
 Date : 02-02-04
 Tested by : Nanang
 Yosi

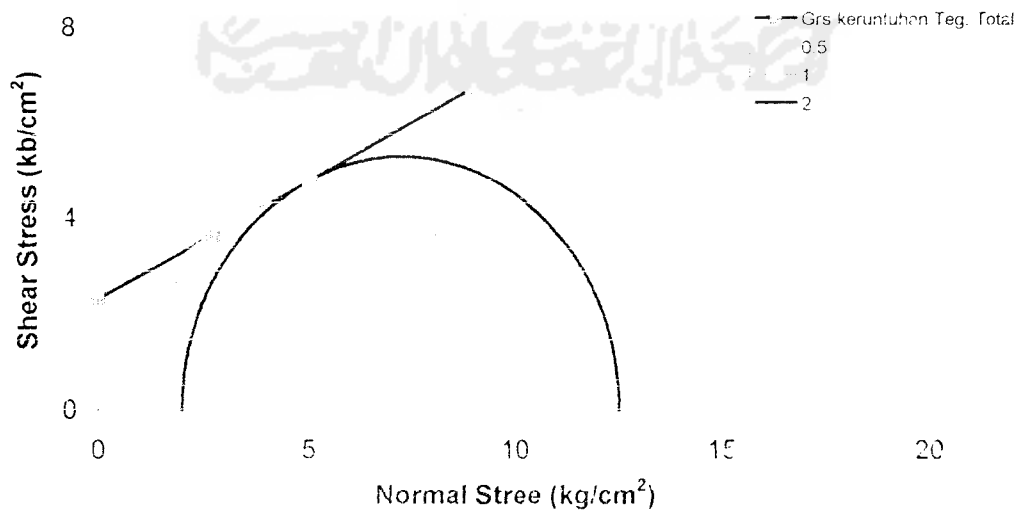


Piece No :	1	2	3
H cm	7,74	7,71	7,645
D cm	3,835	3,83	3,79
A cm ²	11,55	11,52	11,28
V cm ³	59,40	58,71	56,25
Wt gram	166,31	167,44	169,40

Water Content		
Wt Container (cup), gr	22,15	21,86
Wt of Cup + Wet soil, gr	55,24	48,11
Wt of Cup + Dry soil, gr	47,16	41,58
Water Content %	32,31	33,11
Average water content %	32,71	

γ _d gram/cm ³	1,879091	1,901678	1,969452
γ _w gram/cm ³	1,415934	1,432954	1,484023

σ ₃	0,5	1	2
σ ₁	8,166434	8,966302	10,54783
σ ₁ = σ ₃ + σ ₃	8,683494	9,969302	12,54783
(σ ₁ + σ ₃)/2	4,583247	5,484651	7,273913
(σ ₁ - σ ₃)/2	4,083247	4,484651	5,273913
Angle of shearing resistance (φ)	26,24355		
Apparent cohesion (kg/cm ²)	2,292545		





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 LOADING DATA

Project : Tugas Akhir Date : 05 Feb 2004
 Location : Banjarcayana, Kab. Banjarnegara Tested by : Nanang
 Sample No : Lempung + Clean Set Cement 6 hari Yosi

Type of test apparatus		Dimension of test piece	Height	H cm	7,74
No. Of cell			Diameter	D cm	3,835
No. of Proving ring			Cross area	A cm ²	11,5510
Coeff. proving ring K =	0,165		Volume	V cm ³	89,4050
k = K / A	0,014284444		Wight	W gram	168,2400
Cell pessure	0,50		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	kg/cm ²
0	0	0	1	0	0		
	40	0,517	0,995	114	1,62001092		
	80	1,034	0,990	290	4,099672202		
	120	1,550	0,984	509	7,158056454		
	160	2,067	0,979	577	8,07174409		
	200	2,584	0,974	625	8,697085284		
	240	3,101	0,969	664	9,190765987		
	280	3,618	0,964	690	9,496708603		
	320	4,134	0,959	706	9,667873783		
	360	4,651	0,953	717	9,765576424		
	400	5,168	0,948	726	9,834562535		
	440	5,685	0,943	724	9,754023373		
	480	6,202	0,938	720	9,646982323		
	520	6,718	0,933	702	9,353965133		
	560	7,235	0,928	685	9,076896457		
	600	7,752	0,922	651	8,578306633		
	640	8,269	0,917				
	680	8,786	0,912				
	720	9,302	0,907				
	760	9,819	0,902				
	800	10,336	0,897				
	840	10,853	0,891				
	880	11,370	0,886				
	920	11,886	0,881				
	960	12,403	0,876				
	1000	12,920	0,871				
	1040	13,437	0,866				
	1080	13,953	0,860				
	1120	14,470	0,855				
	1160	14,987	0,850				



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	Date	: 05 Feb 2004
Location	: Banjarcayana, Kab. Banjarnegara	Tested by	: Nanang Yosi
Sample No	: Lempung + Clean Set Cement 6 hari		
Type of test apparatus		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 =	0,165	Volume	V cm ³ 88,7111
k = K / A	0,0143218	Wight	W gram 173,2100
Cell pessure	1,00	Wet density	gr/cm 1,9525
		Rate of compression	: 0.5 %

Time	Strain		Reading of proving ring	Pore pressure		
	Axial deformation	Strain %		u	kg/cm ²	kg/cm ²
0	0	0	0	0	0	0
	40	0,517	138	1,9610659		
	80	1,034	402	5,6829939		
	120	1,550	678	9,5347		
	160	2,067	703	9,834378		
	200	2,584	727	10,11645		
	240	3,101	746	10,32577		
	280	3,618	757	10,422144		
	320	4,134	764	10,462118		
	360	4,651	776	10,569159		
	400	5,168	773	10,471235		
	440	5,685	762	10,265975		
	480	6,202	753	10,089136		
	520	6,718	739	9,8470014		
	560	7,235				
	600	7,752				
	640	8,269				
	680	8,786				
	720	9,302				
	760	9,819				
	800	10,335				
	840	10,853				
	880	11,370				
	920	11,886				
	960	12,403				
	1000	12,920				
	1040	13,437				
	1080	13,953				
	1120	14,470				
	1160	14,987				



LABORATORIUM MEKANIKA TANAH

FAKULTAS TEKNIK SIPIL DAN PERENCANAAN

UNIVERSITAS ISLAM INDONESIA

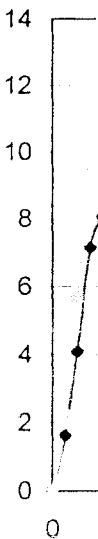
Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 555

TRIAXIAL COMPRESSION TEST LOADING DATA

Project : Tugas Akhir		Date : 05 Feb 2004
Location : Banjarcayana, Kab. Banjarnegara		Tested by : Nanang Yesi
Sample No : Lempung + Clean Set Cement 6 hari		
Type of test apparatus	Dimension of test piece	Height 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 : 0,165		Vclume V cm ³ : 86,2474
k = K / A : 0,0146257		Wight W gram : 173,7400
Cell pessure : 2,00		Rate of compression : 0.5 %

Time	Strain		Reading of proving ring	Pore pressure	
	Axial deformation	Strain %		u	
				kg/cm ²	kg/cm ²
0	0	0	0	0	
	40	0,517	167	2,3731739	
	80	1,034	592	8,358956	
	120	1,550	718	10,097219	
	160	2,067	774	10,827608	
	200	2,584	822	11,438407	
	240	3,101	857	11,862178	
	280	3,618	876	12,0605	
	320	4,134	893	12,228628	
	360	4,651	881	11,999265	
	400	5,168	869	11,771673	
	440	5,685	846	11,397657	
	480	6,202			
	520	6,718			
	560	7,235			
	600	7,752			
	640	8,269			
	680	8,786			
	720	9,302			
	760	9,819			
	800	10,336			
	840	10,853			
	880	11,370			
	920	11,886			
	960	12,403			
	1000	12,920			
	1040	13,437			
	1080	13,953			
	1120	14,470			
	1160	14,987			

: Tug:
: Banj
No : Lem



Shear Stress (kb/cm²)



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 Date : 07 Feb 2004
 Location : Banjarcayana, Kab. Banjarnegara Tested by : Nanang
 Sampel No : Lempung + Clean Set Cement 9 hari Yosi

Type of test apparatus		Dimension of test piece	Height	H cm	7,74
No. Of cell			Diameter	D cm	3,835
No. of Proving ring			Cross area	A cm ²	11,5510
Coeff. proving ring K =	0,165		Volume	V cm ³	89,4050
k = K / A	0,014284444		Wight	W gram	168,0000
Cell pessure	0,50		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	0,517	0,995	95	1,3500091	
	80	1,034	0,990	222	3,13836975	
	120	1,550	0,984	530	7,45337902	
	160	2,067	0,979	721	10,0861828	
	200	2,584	0,974	765	10,6452324	
	240	3,101	0,969	814	11,2669932	
	280	3,618	0,964	807	11,1105288	
	320	4,134	0,959	771	10,5579755	
	360	4,651	0,953	755	10,2831384	
	400	5,168	0,948			
	440	5,685	0,943			
	480	6,202	0,938			
	520	6,718	0,933			
	560	7,235	0,928			
	600	7,752	0,922			
	640	8,269	0,917			
	680	8,786	0,912			
	720	9,302	0,907			
	760	9,819	0,902			
	800	10,336	0,897			
	840	10,853	0,891			
	880	11,370	0,886			
	920	11,886	0,881			
	960	12,403	0,876			
	1000	12,920	0,871			
	1040	13,437	0,866			
	1080	13,953	0,860			
	1120	14,470	0,855			
	1160	14,987	0,850			



LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 395707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST LOADING DATA

Project	: Tugas Akhir	Date	: 07 Feb 2004
Location	: Banjarcayana, Kab. Banjarnegara	Tested by	: Nanang
Sampel No	: Lempung + Clean Set Cement 9 hari		: Yosi
Type of test apparatus		Hight	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 =	0,165	Volume	V cm ³ 88,7111
k = K / A	0,0143218	Wight	W gram 169,0000
Cell pessure	1,00	Wet density	gr/cc 1,9051
		Rate of compression	: 0.5 %

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	0,517	0,995	120	1,7052747	
	80	1,034	0,990	310	4,3824082	
	120	1,550	0,984	628	8,831551	
	160	2,067	0,979	767	10,729684	
	200	2,584	0,974	855	11,897613	
	240	3,101	0,969	876	12,125167	
	280	3,618	0,964	871	11,991661	
	320	4,134	0,959	850	11,639791	
	360	4,651	0,953	823	11,209302	
	400	5,168	0,948			
	440	5,685	0,943			
	480	6,202	0,938			
	520	6,718	0,933			
	560	7,235	0,923			
	600	7,752	0,922			
	640	8,269	0,917			
	680	8,786	0,912			
	720	9,302	0,907			
	760	9,819	0,902			
	800	10,336	0,897			
	840	10,853	0,891			
	880	11,370	0,886			
	920	11,886	0,881			
	960	12,403	0,876			
	1000	12,920	0,871			
	1040	13,437	0,866			
	1080	13,953	0,860			
	1120	14,470	0,855			
	1160	14,987	0,850			



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 LCADING DATA

Project	: Tugas Akhir	Date	: 07 Feb 2004
Location	: Banjarcayana, Kab. Banjarnegara	Tested by	: Nanang
Sampel No	: Lempung + Clean Set Cement 9 hari		Yosi
Type of test apparatus		Height	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	0,165	Volume	V cm ³ 86,2474
k = K / A	0,0146257	Wight	W gram 173,7400
Cell pessure	2,00	Rate of compression : 0.5 %	Wet density gr/cc 2,0144

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	0,517	0,995	152	2,1600146	
	80	1,034	0,990	438	6,1919187	
	120	1,550	0,984	725	10,19566	
	160	2,067	0,979	906	12,674177	
	200	2,584	0,974	951	13,233485	
	240	3,101	0,969	998	13,813832	
	280	3,618	0,964	991	13,643784	
	320	4,134	0,959	947	12,968097	
	360	4,651	0,953	900	12,258046	
	400	5,168	0,948			
	440	5,685	0,943			
	480	6,202	0,938			
	520	6,718	0,933			
	560	7,235	0,928			
	600	7,752	0,922			
	640	8,269	0,917			
	680	8,786	0,912			
	720	9,302	0,907			
	760	9,819	0,902			
	800	10,336	0,897			
	840	10,853	0,891			
	880	11,370	0,886			
	920	11,886	0,881			
	960	12,403	0,876			
	1000	12,920	0,871			
	1040	13,437	0,866			
	1080	13,953	0,860			
	1120	14,470	0,855			
	1160	14,987	0,850			



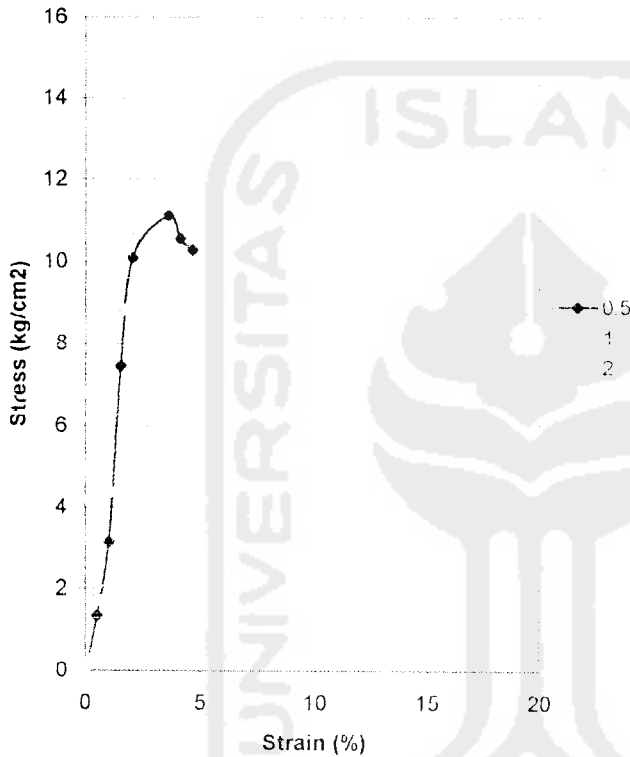
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

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

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Banjarcanggihana, Kab. Banjarnegara
 Description of soil : Clay

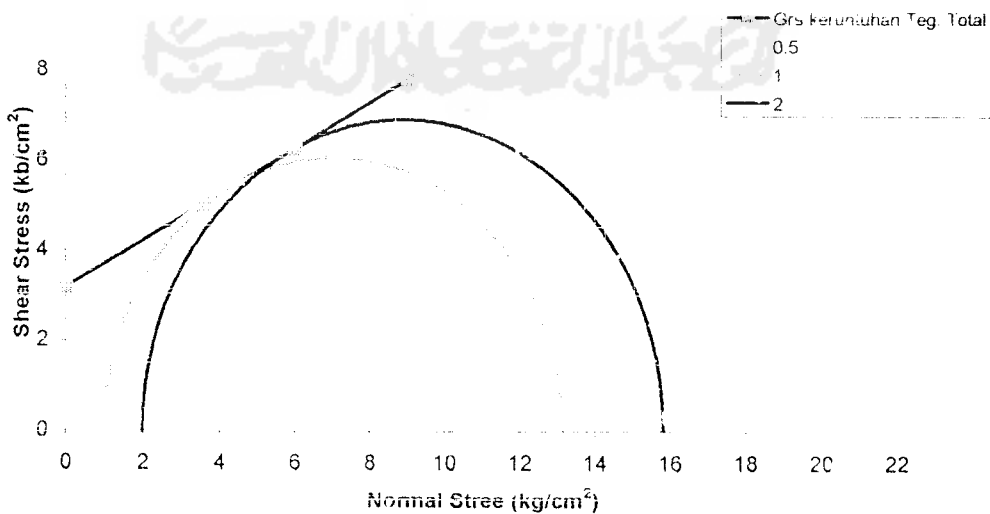
Depth : 1,50 m
 Date : 07-02-04
 Tested by : Nanang Yosi



Piece No :	1	2	3
H cm	7,74	7,7	7,645
D cm	3,835	3,83	3,79
A cm ²	11,55	11,52	11,28
V cm ³	89,40	88,71	86,25
Wt gram	166,81	167,44	169,40
Water Content			
Wt Container (cup), gr	22,14	22,02	
Wt of Cup + Wet soil, gr	58,38	53,82	
Wt of Cup + Dry soil, gr	51,45	47,44	
Water Content %	23,64	25,10	
Average water content %	24,37		

γ _d gram/cm ³	1,879091	1,90505	1,982669
γ _w gram/cm ³	1,510874	1,531754	1,594156

σ ₃	0,5	1	2
σ _Δ	11,26699	12,12517	13,81383
σ ₁ = σ _Δ + σ ₃	11,76699	13,12517	15,81383
(σ ₁ + σ ₂)/2	6,133497	7,062584	8,906916
(σ ₁ - σ ₂)/2	5,633497	6,062584	6,906916
Angle of shearing resistance (φ)	27,21349		
Apperen cohesion (c _u /cm ²)	3,180633		





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

Name of Project : Tugas Akhir
 Sample no & Depth : 1,00 m

Date : 10 Feb 2004
 Tested by : Nanang
 Yosi

Type of test apparatus		Dimension of test piece	Hight	H cm	7,74
No. Of cell			Diameter	D cm	3,835
No. of Proving ring			Cross area	A cm ²	11,5510
Coeff. proving ring K =	0,165		Volume	V cm ³	89,4050
k = K / A	0,014284444		Wight	W gram	170,0500
Cell pessure	0,50		Rate of compression : 0.5 %	Wet density	g/cm ³

Time	Strain		Reading of proving ring	Pore pressure		
	Axial deforma- tion	Strain %		u	kg/cm ²	kg/cm ²
0	0	0	1	0	0	
	40	0,517	0,995	80	1,13684977	
	80	1,034	0,990	195	2,75667614	
	120	1,550	0,984	310	4,35952358	
	160	2,067	0,979	585	8,18365735	
	200	2,584	0,974	718	9,99121157	
	240	3,101	0,969	842	11,6545557	
	280	3,618	0,964	823	11,3308119	
	320	4,134	0,959	785	10,7496897	
	360	4,651	0,953	605	8,24013073	
	400	5,168	0,948			
	440	5,685	0,943			
	480	6,202	0,938			
	520	6,718	0,933			
	560	7,235	0,928			
	600	7,752	0,922			
	640	8,269	0,917			
	680	8,786	0,912			
	720	9,302	0,907			
	760	9,819	0,902			
	800	10,336	0,897			
	840	10,853	0,891			
	880	11,370	0,886			
	920	11,886	0,881			
	960	12,403	0,876			
	1000	12,920	0,871			
	1040	13,437	0,866			
	1080	13,953	0,860			
	1120	14,470	0,855			
	1160	14,987	0,850			



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

Name of suvey & locatior : Tugas Akhir			Date	: 10 Feb 2004	
Sample no & Depth : 1,00 m			Tested by	: Nanang	
Sample No : Lempung + Clean Set Cement 12 hari				Yosi	
Type of test apparatus		Dimension of test piece	Hight	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 =	0,165		Volume	V cm ³	88,7111
k = K / A	0,0143218		Wight	W gram	171,6600
Cell pessure	1,00		Rate of compression : 0.5 %	Wet density	gr/d

Time	Strain			Reading of proving ring	Pore pressure	
	Axial deformation	Strain %			u	
				kg/cm ²	kg/cm ²	kg/cm ²
0	0	0	1	0	0	
	40	0,517	0,995	90	1,278956	
	80	1,034	0,990	300	4,2410402	
	120	1,550	0,984	575	8,0862131	
	160	2,067	0,979	725	10,142139	
	200	2,584	0,974	900	12,523802	
	240	3,101	0,969	875	12,111326	
	280	3,618	0,964	859	11,826449	
	320	4,134	0,959	795	10,886628	
	360	4,651	0,953	749	10,201418	
	400	5,168	0,948			
	440	5,685	0,943			
	480	6,202	0,938			
	520	6,718	0,933			
	560	7,235	0,928			
	600	7,752	0,922			
	640	8,269	0,917			
	680	8,786	0,912			
	720	9,302	0,907			
	760	9,819	0,902			
	800	10,336	0,897			
	840	10,853	0,891			
	880	11,370	0,886			
	920	11,886	0,881			
	960	12,403	0,876			
	1000	12,920	0,871			
	1040	13,437	0,866			
	1080	13,953	0,860			
	1120	14,470	0,855			
	1160	14,987	0,850			



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 LOADING DATA

Name of suvey & locatic : Tugas Akhir		Date	10 Feb 2004	
Sample no & Depth : 1,00 m		Tested by	Nanang Yosi	
Type of test apparatus		Dimension of test piece	Hight	H cm
No. Of cell			Diameter	D cm
No. of Proving ring			Cross area	A cm ²
Coeff. proving ring K	0,165		Volume	V cm ³
k = K / A	0,0146257		Wight	W gram
Cell pessure	2,00	Rate of compression : 0.5 %	Wet density	gr/d

Time	Strain		Reading of proving ring	Pore pressure	u	kg/cm ²
	Axial deformation	Strain %				
0	0	0	1	0	0	0
	40	0,517	0,995	103	1,46369408	
	80	1,034	0,990	376	5,31543706	
	120	1,550	0,984	612	8,60654332	
	160	2,067	0,979	765	10,7017058	
	200	2,584	0,974	1028	14,3049659	
	240	3,101	0,969	1015	14,0491378	
	280	3,618	0,964	900	12,3909243	
	320	4,134	0,959	803	10,9961794	
	360	4,651	0,953			
	400	5,168	0,948			
	440	5,685	0,943			
	480	6,202	0,938			
	520	6,718	0,933			
	560	7,235	0,928			
	600	7,752	0,922			
	640	8,269	0,917			
	680	8,786	0,912			
	720	9,302	0,907			
	760	9,819	0,902			
	800	10,336	0,897			
	840	10,853	0,891			
	880	11,370	0,886			
	920	11,886	0,881			
	960	12,403	0,876			
	1000	12,920	0,871			
	1040	13,437	0,866			
	1080	13,953	0,860			
	1120	14,470	0,855			
	1160	14,987	0,850			



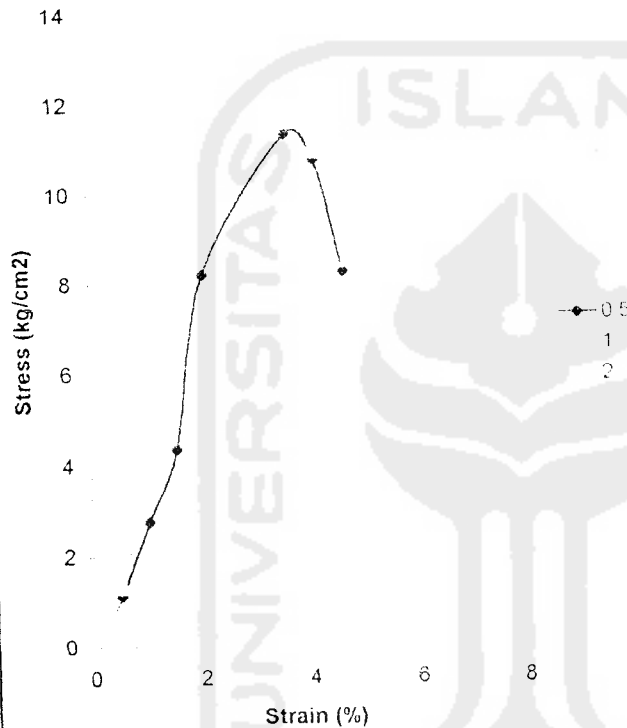
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14.4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Banjarcariyana, Kab. Banjarnegara
 Sample No : Lempung + Clean Set Cement 12 hari

Depth : 1,50 m
 Date : 10-02-04
 Tested by : Nanang Yosi

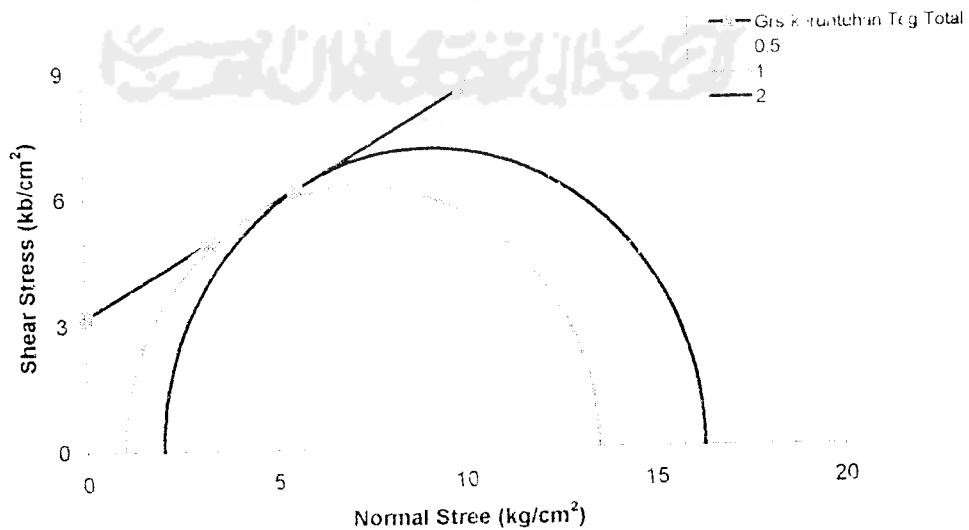


Piece No :	1	2	3
H cm	7,74	7,7	7,645
D cm	3,835	3,83	3,79
A cm ²	11,55	11,52	11,28
V cm ³	89,40	88,71	86,25
Wt gram	166,81	167,44	169,40

Water Content		
Wt Container (cup), gr	21,56	22,00
Wt of Cup + Wet soil, gr	59,40	54,72
Wt of Cup + Dry soil, gr	52,34	48,66
Water Content %	22,94	22,73
Average water content %	22,83	

γ _d gram/cm ³	1,90202	1,935044	1,993105
γ _w gram/cm ³	1,54845	1,575335	1,622602

σ ₃	0,5	1	2
σ _Δ	11,65456	12,5238	14,30497
σ _i = σ _Δ + σ ₃	12,15456	13,5238	16,30497
(σ ₁ + σ ₂)/2	6,327278	7,261901	9,152483
(σ ₁ - σ ₂)/2	5,827278	6,261901	7,152483
Angle of shearing resistance (φ)	28,18778		
Apperen cohesion (kg/cm ²)	3,205809		





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 Date : 31 Jan 2004
 Location : Banjarcayana, Kab. Banjarmegara Tested by : Nanang
 Sample No : Lempung + Kapur Karbid 0 hari Yosi

Type of test apparatus		Dimension of test piece	Height	H cm	7,61
No. Of cell			Diameter	D cm	3,835
No. of Proving ring			Cross area	A cm ²	11,5510
Coeff. proving ring K =	0,165		Volume	V cm ³	87,9033
k = K / A	0,014284444		Wight	W gram	165,0000
Cell pessure	0,50	Rate of compression : 0.5 %	Wet density	gr/cm ³	1,8771

Time	Strain		Reading of proving ring	Pore pressure	
	Axial defor- mation	Strain %		u	
				kg/cm ²	kg/cm ²
0	0	0	1	0	
	40	0,526	0,995	35	0,497327636
	80	1,051	0,989	52	0,734982484
	120	1,577	0,984	70	0,984143724
	160	2,102	0,979	93	1,300522562
	200	2,628	0,974	104	1,446539232
	240	3,154	0,968	133	1,839915162
	280	3,679	0,963	187	2,572907961
	320	4,205	0,958	208	2,848228991
	360	4,731	0,953	237	3,225262166
	400	5,256	0,947	244	3,302202946
	440	5,782	0,942	250	3,364834036
	480	6,307	0,937	254	3,399397228
	520	6,833	0,932	257	3,42025139
	560	7,359	0,926	262	3,467121633
	600	7,884	0,921	265	3,48692464
	640	8,410	0,916	268	3,506277151
	680	8,936	0,911	270	3,512171127
	720	9,461	0,905	272	3,517764772
	760	9,987	0,900	267	3,433052954
	800	10,512	0,895	264	3,374657548
	840	11,038	0,890	256	3,253174081
	880	11,564	0,884	247	3,120259305
	920	12,089	0,879		
	960	12,615	0,874		
	1000	13,141	0,869		
	1040	13,666	0,863		
	1080	14,192	0,858		
	1120	14,717	0,853		
	1160	15,243	0,848		



LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895350 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST LOADING DATA

Project	: Tugas Akhir	Date	: 31 Jan 2004
Location	: Banjarcayana, Kab. Banjarnegara	Tested by	: Nanang
Sample No	: Lempung + Kapur Karbid 0 hari		: Yosi
Type of test apparatus		Hight	H cm 7,72
No. Of cell		Diameter	D cm 3,83
No. of Proving ring		Cross area	A cm ² 11,5209
Coeff. proving ring K =	0,165	Volume	V cm ³ 88,9416
k = K / A	0.0143218	Wight	W gram 168,0000
Cell pessure	1,00	Wet densi	gr/cc 1,8839
		Rate of compression : 0.5 %	

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	48	0,6820493
	80	1,051	0,989	66	0,9328624
	120	1,577	0,934	85	1,1950317
	160	2,102	0,979	122	1,7060619
	200	2,628	0,974	163	2,2671721
	240	3,154	0,968	186	2,5731144
	280	3,679	0,963	210	2,8893619
	320	4,205	0,958	246	3,3662108
	360	4,731	0,953	254	3,4566101
	400	5,256	0,947	265	3,5864089
	440	5,782	0,942	270	3,6338048
	480	6,307	0,937	276	3,6938332
	520	6,833	0,932	280	3,7263439
	560	7,359	0,926	284	3,758254
	600	7,884	0,921	288	3,7895634
	640	8,410	0,916	291	3,807189
	680	8,936	0,911	295	3,8373722
	720	9,461	0,905	297	3,8410887
	760	9,987	0,900	300	3,8573629
	800	10,512	0,895	298	3,8092725
	840	11,038	0,890	295	3,7487748
	880	11,564	0,884	291	3,676095
	920	12,089	0,879	287	3,6040158
	960	12,615	0,874	277	3,4576425
	1000	13,141	0,869		
	1040	13,666	0,863		
	1080	14,192	0,858		
	1120	14,717	0,853		
	1160	15,243	0,848		



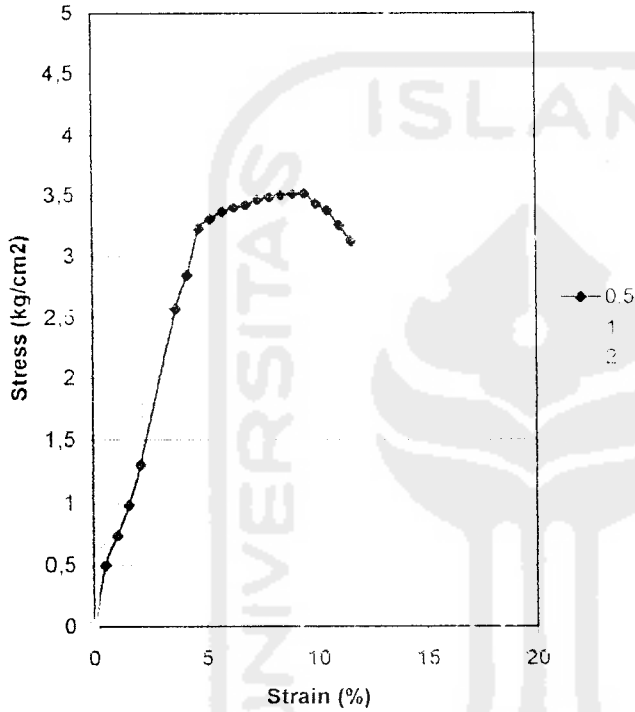
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

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

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

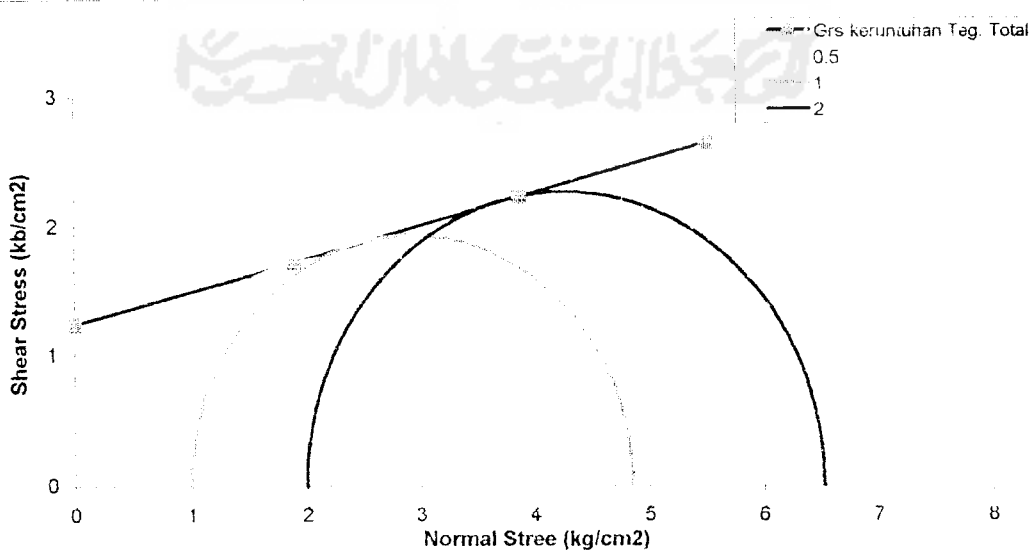
Project : Tugas Akhir
 Location : Banjarcayana, Kab. Banjarnegara
 Sample No : Lempung + Kapur Kaibid 0 hari

Depth : 1,50 m
 Date : 31-01-04
 Tested by : Nanang Yosi



Piece No	1	2	3
H cm	7.61	7.72	7.65
D cm	3.835	3.83	3.79
A cm ²	11.55	11.52	11.28
V cm ³	87.90	88.94	86.30
W ^o gram	108,81	107,44	109,40
Water Content			
Wt Container (cup), gr	22,14	21,86	
Wt of Cup + Wet soil, gr	52,87	58,22	
Wt of Cup + Dry soil, gr	44,16	48,56	
Water Content %	37,68	36,18	
Average water content %	36,93		
γ _d gram/cm ³	1,877062	1,888381	1,97558
γ _w gram/cm ³	1,370824	1,379455	1,442772

σ ₃	0.5	1	2
σ _Δ	3,517765	3,857333	4,526536
σ ₁ = σ _Δ + σ ₃	4,017765	4,857363	6,526536
(σ ₁ + σ ₂) / 2	2,258882	2,928681	4,263268
(σ ₁ - σ ₂) / 2	1,758082	1,923681	2,263268
Angle of shearing resistance (φ)			14,4221
Apperen cohesion (kg/cm ²)			1,233579





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 Date : 03 Feb 2004
 Location : Banjarcayana, Kab. Banjarnegara Tested by : Nanang
 Sample No : Lempung + Kapur Karbid 3 hari Yosi

Type of test apparatus		Dimension of test piece	Height	H cm	7,72
No. Of cell			Diameter	D cm	3,83
No. of Proving ring			Cross area	A cm ²	11,5209
Coeff. proving ring K =	0,165		Volume	V cm ³	88,9416
k = K / A	0,0143218		Wight	W gram	171,0000
Cell pessure	1,00		Rate of compression : 0.5 %	Wet density	gr/d

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	50	0,7104681	
	80	1,051	0,989	108	1,5265021	
	120	1,577	0,984	255	3,585095	
	160	2,102	0,979	308	4,307107	
	200	2,628	0,974	336	4,6734344	
	240	3,154	0,968	345	4,7727123	
	280	3,679	0,963	358	4,9256741	
	320	4,205	0,958	385	5,2682567	
	360	4,731	0,953	391	5,3210021	
	400	5,256	0,947	399	5,3999138	
	440	5,782	0,942	403	5,4237901	
	480	6,307	0,937	410	5,487216	
	520	6,833	0,932	414	5,5096657	
	560	7,359	0,926	415	5,4918148	
	600	7,884	0,921	417	5,486972	
	640	8,410	0,916	420	5,494912	
	680	8,936	0,911	421	5,4763853	
	720	9,461	0,905	423	5,4705415	
	760	9,987	0,900	418	5,3745923	
	800	10,512	0,895	403	5,1514659	
	840	11,038	0,890	350	4,4473989	
	880	11,564	0,884			
	920	12,089	0,879			
	960	12,615	0,874			
	1000	13,141	0,869			
	1040	13,666	0,863			
	1080	14,192	0,858			
	1120	14,717	0,853			
	1160	15,243	0,348			



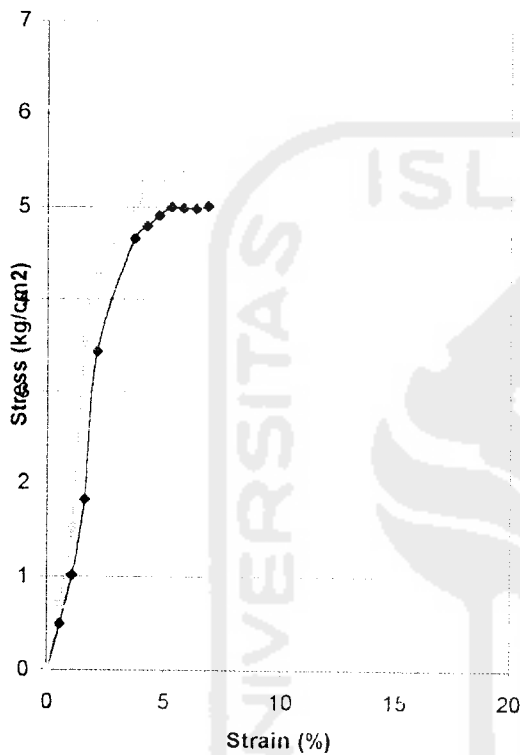
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

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

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXJU)

Project : Tugas Akhir
 Location : Banjarcanggihana, Kab. Banjarnegara
 Sample No : Lempung + Kapur Karbid 3 hari

Depth : 1,50 m
 Date : 03-02-04
 Tested by : Nanang Yosi

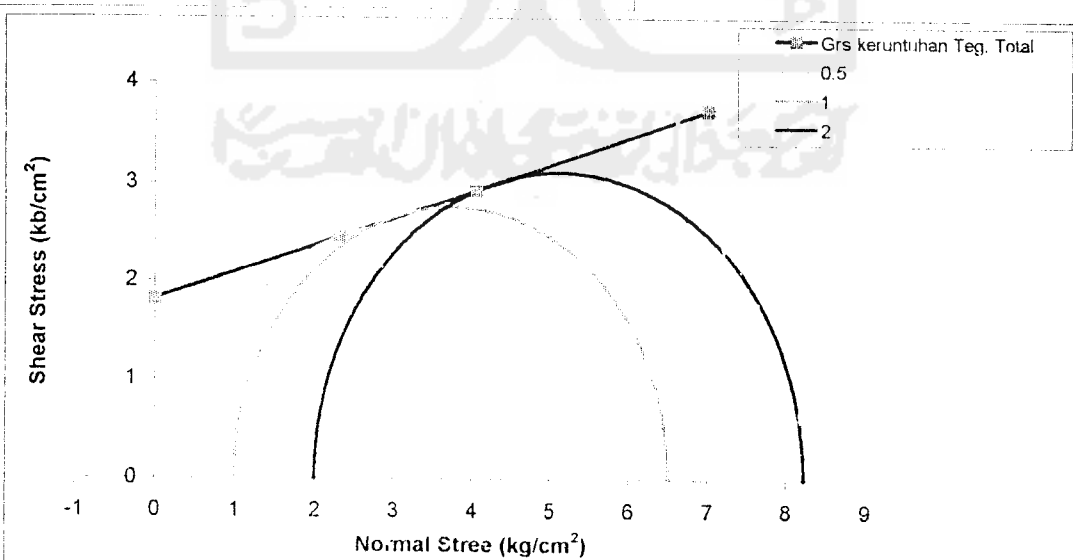


Piece No :	1	2	3
H cm	7,61	7,72	7,65
D cm	3,835	3,83	3,79
A cm²	11,55	11,52	11,28
V cm³	87,00	68,94	86,30
Wt (gram)	166,81	167,44	169,40

Water Content		
Wt Container (cup), gr	21,77	21,86
Wt of Cup + Wet soil, gr	61,08	58,34
Wt of Cup + Dry soil, gr	51,00	49,05
Water Content %	34,49	34,17
Average water content %	34,33	

γ_d gram/cm³	1,945319	1,922611	1,992961
γ gram/cm³	1,448207	1,431302	1,483674

σ_3	0,5	1	2
σ_Δ	5,128584	5,509666	6,227886
$\sigma_1 = \sigma_\Delta + \sigma_3$	5,628584	6,509666	8,227886
$(\sigma_1 + \sigma_2)/2$	3,064292	3,754833	5,113943
$(\sigma_1 - \sigma_2)/2$	2,564292	2,754833	3,113943
Angle of shearing resistance (ϕ)	15,28282		
Apperen cohesion (kg/cm²)	1,819797		





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 Date : 06 Feb 2004
 Location : Banjarcanggihana, Kab. Banjarnegara Tested by : Nanang
 Sample No : Lempung + Kapur Karbid 6 hari Yosi

Type of test apparatus		Dimension of test piece	Height	H cm	7,74
No. Of cell			Diameter	D cm	3,835
No. of Proving ring			Cross area	A cm ²	11,5510
Coeff. proving ring K =	0,165		Volume	V cm ³	89,4050
k = K / A	0,014284444		Wight	W gram	169,0000
Cell pessure	0,50		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	0
	40	0,517	0,995	22	0,31263369	
	80	1,034	0,990	144	2,0356993	
	120	1,550	0,984	286	4,02201207	
	160	2,067	0,979	387	5,41380409	
	200	2,584	0,974	396	5,51047324	
	240	3,101	0,969	405	5,60581359	
	280	3,618	0,964	412	5,67228977	
	320	4,134	0,959	410	5,61448761	
	360	4,651	0,953	407	5,54336068	
	400	5,168	0,948	398	5,3913993	
	440	5,685	0,943			
	480	6,202	0,938			
	520	6,718	0,933			
	560	7,235	0,928			
	600	7,752	0,922			
	640	8,269	0,917			
	680	8,786	0,912			
	720	9,302	0,907			
	760	9,819	0,902			
	800	10,336	0,897			
	840	10,853	0,891			
	880	11,370	0,886			
	920	11,886	0,881			
	960	12,403	0,876			
	1000	12,920	0,871			
	1040	13,437	0,866			
	1080	13,953	0,860			
	1120	14,470	0,855			
	1160	14,987	0,850			



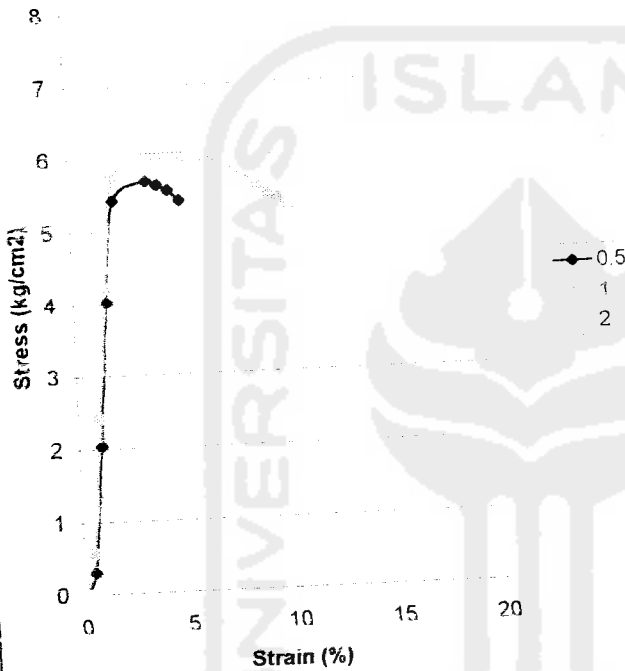
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 896043, 895707 fax 895330 Yogyakarta 55584

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNKAIKED (UAUU)

Project : Tugas Akhir
 Location : Banjarcayana, Kab. Banjarnegara
 Sample No : Lempung + Kapur Karbid 6 hari

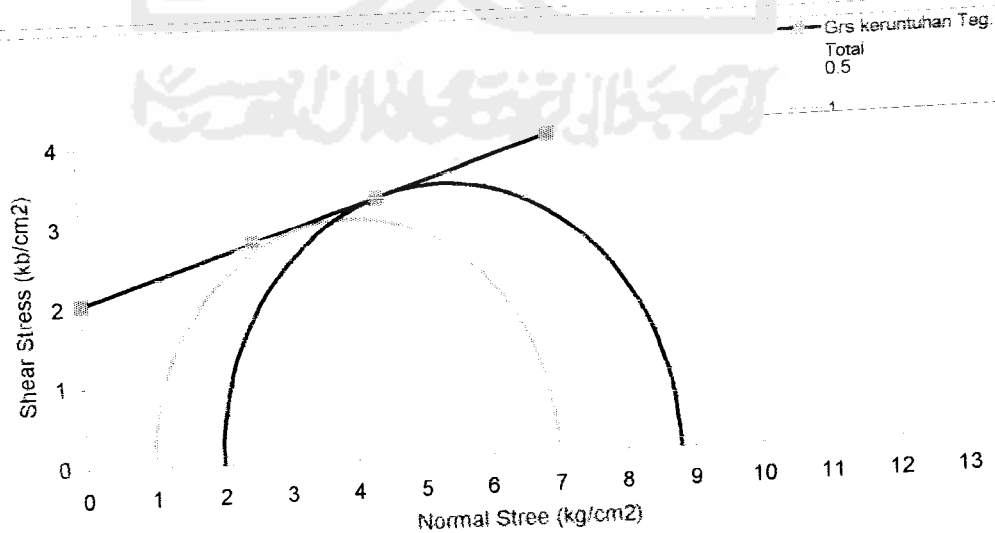
Depth : 1.50 m
 Date : 06-02-04
 Tested by : Nanang Yosi



Piece No :	1	2	3
H cm	7.74	7.7	7.645
D cm	3.835	3.83	3.79
A cm²	11.55	11.52	11.28
V cm³	89.40	88.71	86.25
Wt gram	166.81	167.44	169.40
Water Content			
Wt Container (cup), gr		22.22	21.64
Wt of Cup + Wet soil, gr		58.83	53.62
Wt of Cup + Dry soil, gr		49.67	45.77
Water Content %		33.37	32.53
Average water content %		32.95	

γd gram/cm³	1,890276	1,916332	1,988467
γd gram/cm³	1,421784	1,441383	1,495639

	0,5	1	2
σ_3			
σ_Δ	5,67229	5,997916	6,801241
$\sigma_1 = \sigma_\Delta + \sigma_3$	6,17229	6,997916	8,801241
$(\sigma_1 + \sigma_2)/2$	3,336145	3,998958	5,40062
$(\sigma_1 - \sigma_2)/2$	2,836145	2,998958	3,40062
Angle of shearing resistance (°)	15,46911		
Apperen cohesion (kg/cm²)	2,010327		





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	Date	: 06 Feb 2004
Location	: Banjarcanggihana, Kab. Banjarnegara	Tested by	: Nanang
Sample No	: Lempung + Karbid 9 hari	Yosi	
Type of test apparatus		Height	H cm
No. Of cell		Diameter	D cm
No. of Proving ring		Cross area	A cm ²
Coeff. proving ring K =	0,165	Volume	V cm ³
k = K / A	0,0142814	Wight	W gram
Cell pessure	0,50	Wet density	gr/cm ³
Dimension of test piece			
Rate of compression : 0.5 %			
			7,74
			3,835
			11,5510
			89,4050
			170,2500
			1,9043

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	0,517	0,995	26	0,369476175
	80	1,034	0,990	55	0,777524038
	120	1,550	0,984	93	1,307857073
	160	2,067	0,979	118	1,650720628
	200	2,584	0,974	135	1,878570421
	240	3,101	0,969	247	3,418854215
	280	3,618	0,964	294	4,047701926
	320	4,134	0,959	346	4,738079786
	360	4,651	0,953	390	5,311819812
	400	5,168	0,948	405	5,486222902
	440	5,685	0,943	414	5,577576901
	480	6,202	0,938	419	5,614007768
	520	6,718	0,933	426	5,676349952
	560	7,235	0,928	429	5,634654861
	600	7,752	0,922	431	5,679339719
	640	8,269	0,917	432	5,660625991
	680	8,786	0,912	432	5,62873514
	720	9,302	0,907	426	5,557977316
	760	9,819	0,902	425	5,474780583
	800	10,336	0,897	422	5,404982436
	840	10,853	0,891	416	5,237424636
	880	11,370	0,886		
	920	11,886	0,881		
	960	12,403	0,876		
	1000	12,920	0,871		
	1040	13,437	0,866		
	1080	13,953	0,860		
	1120	14,470	0,855		
	1160	14,987	0,850		



LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 995330 Yogyakarta 55584

TRIAxIAL COMPRESION TEST LOADING DATA

Project	: Tugas Akhir	Date	: 06 Feb 2004
Location	: Banjarcarya, Kab. Banjarnegara	Tested by	: Nanang
Sample No	: Lempung + Karbid 9 hari	Yosi	
Type of test apparatus		Hight	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 =	0,165	Volume	V cm ³ 88,7111
k = K / A	0,0143218	Wight	W/ gram 172,0000
Cell pessure	1,00	Rate of compression : 0.5 %	Wet density g/cm ³ 1,9389

Time	Strain		Reading of proving ring	Pore pressure	
	Axial deformation	Strain %		u kg/cm ²	kg/cm ²
0	0	0	0	0	
	40	0,517	41	0,582635506	
	80	1,034	73	1,031986451	
	120	1,550	118	1,659431555	
	160	2,067	147	2,056406207	
	200	2,584	191	2,657829263	
	240	3,101	256	3,54342785	
	280	3,618	337	4,639712752	
	320	4,134	375	5,13520208	
	360	4,651	408	5,556980727	
	400	5,168	427	5,784239948	
	440	5,685	438	5,900914692	
	480	6,202	443	5,935573846	
	520	6,718	450	5,996144316	
	560	7,235	455	6,029179398	
	600	7,752	457	6,0219449	
	640	8,269	461	6,040621717	
	680	8,786	464	6,045678484	
	720	9,302	460	5,959602716	
	760	9,819	458	5,893881192	
	800	10,336	449	5,750798848	
	840	10,853	445	5,666716258	
	880	11,370	440	5,570563867	
	920	11,886	439	5,525495894	
	960	12,403	437	5,468062834	
	1000	12,920	422	5,249219253	
	1040	13,437			
	1080	13,953			
	1120	14,470			
	1160	14,987			



LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895320 Yogyakarta 55584.

TRIAxIAL COMPRESION TEST LOADING DATA

Project	: Tugas Akhir	Date	: 06 Feb 2004
Location	: Banjarcanggihana, Kab. Banjarnegara	Tested by	: Nanang
Sample No	: Lempung + Karbid 9 hari		: Yosi
Type of test apparatus		Height	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	0,165	Volume	V cm ³ 86,2474
k = K / A	0,0146257	Wight	W gram 172,5000
Cell pessure	2,00	Rate of compression : 0.5 %	Wet density gr/cm ³ 2 0001

Time	Strain		Reading of proving ring	kg/cm ²	Pure pressure	
	Axial deformation	Strain %			u	kg/cm ²
0	0	0	1	0	0	
	40	0,517	0,995	84	1,193692257	
	80	1,034	0,990	135	1,908468094	
	120	1,550	0,984	173	2,432895416	
	160	2,067	0,979	202	2,825809889	
	200	2,584	0,974	261	3,631902815	
	240	3,101	0,969	310	4,290869663	
	280	3,618	0,964	365	5,025208174	
	320	4,134	0,959	412	5,641875352	
	360	4,651	0,953	443	6,033682505	
	400	5,168	0,948	451	6,109349453	
	440	5,685	0,943	475	6,399393787	
	480	6,202	0,938	487	6,525111655	
	520	6,718	0,933	499	6,649057808	
	560	7,235	0,928	503	6,731479410	
	600	7,752	0,922	515	6,786217994	
	640	8,269	0,917	519	6,80061317	
	680	8,786	0,912	520	6,775329336	
	720	9,302	0,907	524	6,788764833	
	760	9,819	0,902	526	6,775846086	
	800	10,336	0,897	528	6,762632053	
	840	10,853	0,891	530	6,749122734	
	880	11,370	0,886	531	6,722657757	
	920	11,886	0,881	529	6,658285485	
	960	12,403	0,876	527	6,594208498	
	1000	12,920	0,871	523	6,50554898	
	1040	13,437	0,866	518	6,405114947	
	1080	13,953	0,860	502	6,170215209	
	1120	14,470	0,855	491	5,998764976	
	1160	14,987	0,850	485	5,889656927	



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	Date	: 09 Feb 2004
Location	: Banjarcayana, Kab. Banjarnegara	Tested by	: Nanang
Sample No	: Lempung + Kapur Karbid 12 hari	Yosi	
Type of test apparatus		Dimension of test piece	Hight 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 =	0,165		Volume V cm ³ 88,7111
k = K / A	0,0143218		Wigt W gram 171,2400
Cell pessure	1,00	Rate of compression : 0.5 %	Wet density gr/cc 1,9303

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	0,517	0,995	39	0,5542143
	80	1,034	0,990	80	1,1309441
	120	1,550	0,984	173	2,4328954
	160	2,067	0,979	264	3,6931377
	200	2,584	0,974	313	4,3555003
	240	3,101	0,969	367	5,079836
	280	3,618	0,964	385	5,300562
	320	4,134	0,959	412	5,6418754
	360	4,651	0,953	430	5,8566218
	400	5,168	0,948	446	6,0416183
	440	5,685	0,943	458	6,1703629
	480	6,202	0,938	469	6,2839371
	520	6,718	0,933	475	6,3292634
	560	7,235	0,928	479	6,347202
	600	7,752	0,922	483	6,3645501
	640	8,269	0,917	486	6,3682042
	680	8,786	0,912	489	6,3714155
	720	9,302	0,907	490	6,3482725
	760	9,819	0,902	490	6,3121
	800	10,336	0,897	489	6,2631195
	840	10,853	0,891	487	6,2015524
	880	11,370	0,886	485	6,1402806
	920	11,886	0,881	483	6,0793041
	960	12,403	0,876	478	5,9810847
	1000	12,920	0,871		
	1040	13,437	0,866		
	1080	13,953	0,860		
	1120	14,470	0,855		



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		Date	: 09 Feb 2004	
Location	: Banjarcayana, Kab. Banjarnegara		Tested by	: Nanang	
Sample No	: Lempung + Kapur Karbid 12 hari			Yosi	
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	0,165		Volume	V cm ³	86,2474
k = K / A	0,0146257		Wight	W gram	173,7400
Cell pessure	2,00	Rate of compression : 0.5 %	Wet density	gr/c	2,0144

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	0,517	0,995	60	0,85263733	
	80	1,034	0,990	184	2,60117133	
	120	1,550	0,984	255	3,58605972	
	160	2,067	0,979	312	4,36461725	
	200	2,584	0,974	337	4,68946839	
	240	3,101	0,969	382	5,28745875	
	280	3,618	0,964	424	5,8375021	
	320	4,134	0,959	447	6,12116088	
	360	4,651	0,953	466	6,34694367	
	400	5,168	0,948	479	6,48864388	
	440	5,685	0,943	482	6,57453509	
	480	6,202	0,938	496	6,64569893	
	520	6,718	0,933	509	6,78230546	
	560	7,235	0,928	518	6,86398885	
	600	7,752	0,922	527	6,94434346	
	640	8,269	0,917	534	6,99716268	
	680	8,786	0,912	538	7,00985997	
	720	9,302	0,907	542	7,02196668	
	760	9,819	0,902	546	7,03348282	
	800	10,336	0,897	551	7,0572164	
	840	10,853	0,891	555	7,06747758	
	880	11,370	0,886	558	7,06448781	
	920	11,886	0,881	561	7,06105512	
	960	12,403	0,876	568	7,10723041	
	1000	12,920	0,871	567	7,05286094	
	1040	13,437	0,866	565	6,98627402	
	1080	13,953	0,860	561	6,89539986	
	1120	14,470	0,855	550	6,71959417	
	1160	14,987	0,850	538	6,53326892	



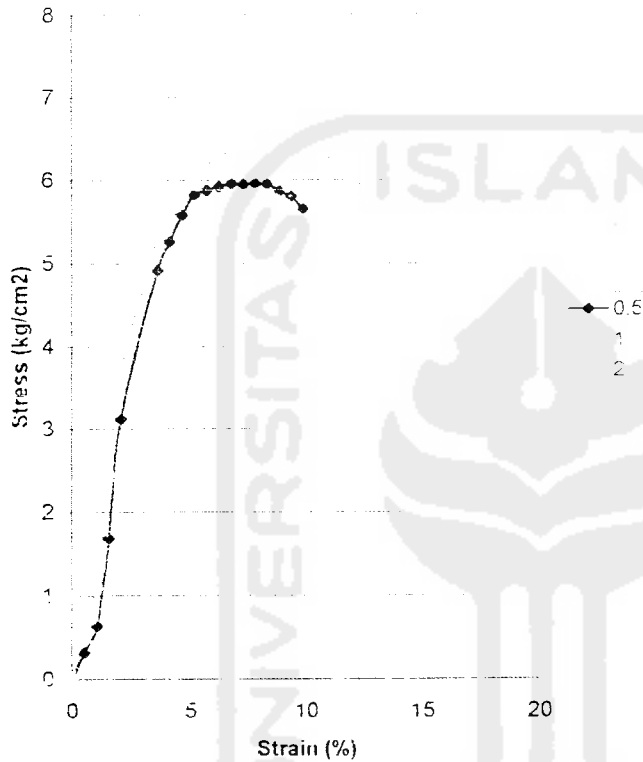
LABORATORIUM MEKANIK TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

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

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Banjarcayana. Kab. Banjarnegara
 Sample N : Lempung + Kapur Karbid 12 hari

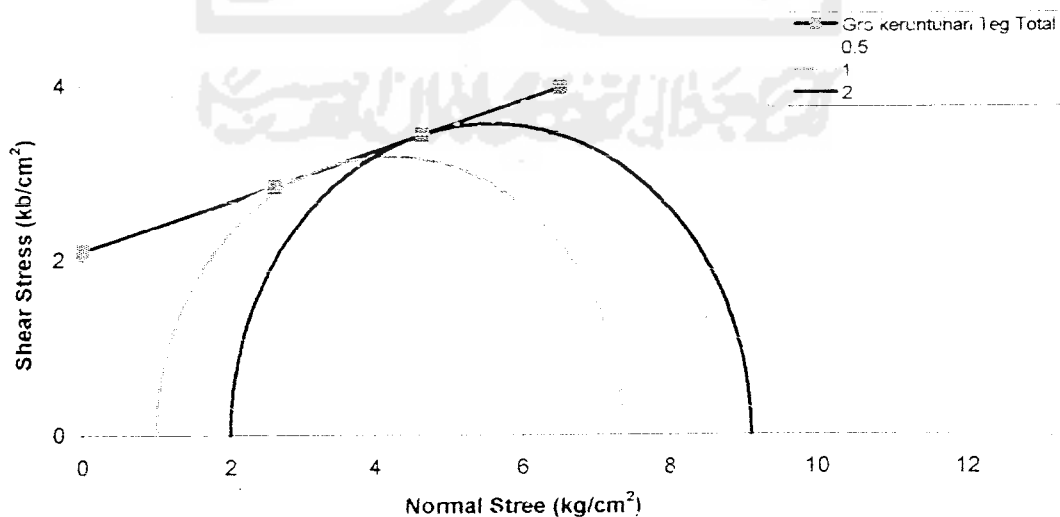
Depth : 1.50
 Date : 09-02-04
 Tested by : Nanang Yosi



Piece No :	1	2	3
H cm	7.74	7.7	7.645
D cm	3.835	3.83	3.79
A cm²	11.55	11.52	11.23
V cm³	89.40	88.71	86.25
Wt gram	166.81	167.44	169.40
Water Content			
Wt Container (cup), gr		22.14	21.86
Wt of Cup + Wet soil, gr		54.84	52.73
Wt of Cup + Dry soil, gr		47.62	45.80
Water Content %		28.34	28.95
Average water content %		28.64	

γd gram/cm³	1.887479	1.930311	2.014439
γ moist gram/cm³	1.467238	1.500533	1.56593

σ_3	0.5	1	2
σ_1	5.95617	6.371415	7.10723
$\sigma_1 - \sigma_3$	6.45317	7.371415	9.10723
$(\sigma_1 + \sigma_3)/2$	3.478085	4.185708	5.553615
$(\sigma_1 - \sigma_3)/2$	2.978085	3.185708	3.553615
Angle of shearing resistance (°)	16.09097		
Apperen cohesion (kg/cm²)	2.095821		





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	Date	: 12 Feb 2004
Location	: Banjarcayana, Kab. Banjarnegara	Tested by	: Nanang
Sample No	: Lempung + Kapur Karbid 15 hari		: Yosi
Type of test apparatus		Height	H cm
No. Of cell		Diameter	D cm
No. of Proving ring		Cross area	A cm ²
Coeff. proving ring K	0.165	Volume	V cm ³
k = K / A	0.0146257	Wight	W gram
Cell pessure	2.00	Wet density	gr/cc
	Rate of compression : 0.5 %		

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	0,517	0,995	65	0,9236904
	80	1,034	0,990	173	2,4456665
	120	1,550	0,984	307	4,3173310
	160	2,067	0,979	402	5,6236415
	200	2,584	0,974	441	6,1366634
	240	3,101	0,969	455	6,2978893
	280	3,618	0,964	500	6,8839468
	320	4,134	0,959	527	7,2166707
	360	4,651	0,953	538	7,3275873
	400	5,168	0,948	555	7,5181573
	440	5,685	0,943	564	7,5984381
	480	6,202	0,938	573	7,6773901
	520	6,718	0,933	585	7,7949876
	560	7,235	0,928	591	7,8313077
	600	7,752	0,922	597	7,866742
	640	8,269	0,917	592	7,7571541
	680	8,786	0,912	565	7,6222455
	720	9,302	0,907	579	7,501326
	760	9,819	0,902	549	7,0721283
	800	10,336	0,897		
	840	10,853	0,891		
	880	11,370	0,886		
	920	11,886	0,881		
	960	12,403	0,876		
	1000	12,920	0,871		
	1040	13,437	0,866		
	1080	13,953	0,860		
	1120	14,470	0,855		
	1160	14,987	0,850		



FM-UII-AA-FPU-09

KARTU PESERTA TUGAS AKHIR

NO.	N A M A	NO. MHS.	BID.STUDI
1	Yosika Alinsari	97 511 417	Teknik Sipil
2	Nanang Haryo Edhy	97 511 255	Teknik Sipil

JUDUL TUGAS AKHIR :

..... Analisis kuat geser tanah lempung dengan variasi campuran kapur karbid dan clean set
 cemenit

**PERIODE II : DESEMBER - MEI
 TAHUN : 2003- 2004**

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

DOSEN PEMBIMBING I : Ibnu.Sudarmadji,Ir.H.MS
 DOSEN PEMBIMBING II : Akhmad.Marzuko,Ir.MT..



Yogyakarta, ...18-Desember 2003
 a.n. Dekan,

(Signature)
 (.....Ir.H.Munadhir.MT.....)

Catatan.

Seminar :
 Sidang :
 Pendadaran :

CATATAN KONSULTASI TUGAS AKHIR

NO	TANGGAL	CATATAN KONSULTASI	TANDA TANGAN
1	207 ¹⁰³ 12	- kajian pustaka berisi hasil 3 peneliti yg sejenis. - time schedule penelitian.	U-
2	22/103 12	Konsultasi ke DPT uji tes?	U- A-
3	24 ⁰³ 12	Pengisian buku daftar dan jurnal dari 101 pengantar konsultasi ke DPT Kulis.	U- A-
4	23 ³ 4. 2004	daftar sidang (1211 DP I).	U-
5	26 ¹⁰⁴ 3	di perbaiki dulu.	U-
6	06/104 4	dapat major ke sidang.	U-
7	21/104 4	Ace major ke Pendahuluan	U-

CATATAN KONSULTASI TUGAS AKHIR

NO	TANGGAL	CATATAN KONSULTASI	TANDA TANGAN
1	207 ¹⁰³ 12	- kajian pustaka berisi hasil & penelt yg sejenis. - time schedule penelitian.	U-
2	227 ¹⁰³ 12	Konsultasi ke DPA uji les ?	U- A-
3	24 ⁰³ 12	Pengisian buku	
4	28/2 ¹⁰⁴	- Daftar isi - Isi isi - Kt Pengantar - Konsultasi ke DP IV - Hubs.	U- A-
5	23 ³ 4. 2004	dapat sidang (izin DP I).	U-
6	25 ¹⁰⁴ 13	diperbaiki buku.	U-
7	06/4 ¹⁰⁴	dapat majlis ke sidang.	U-
8	21/4 ¹⁰⁴	Ace majlis ke Pendaharir	U-
9	6/5 ¹⁰⁴	Ace di jilid dulu. Peranti persyaratan	U-
