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LAMPIRAN


Lampiran 1. Dokumentasi








Lampiran 2. Data Hasil Pengujian

WATER CONTENT							
PROJECT	: PENGUJIAN KARAKTERISTIK FISIS TANAH ASLI						
LOCATION	: FAKULTAS TEKNIK UNHAS GOWA						
TESTING METHOD	: SNI 1965:2008						
LABORATORY	: LAB. MEKTAN UNHAS						
Bore Hole No.	-	1		2		Rata-Rata	KETERANGAN
Sample	m	A	B	A	B		
Weight of Container, (1)	Gram	7.69	6.65	7.68	6.67	39.75	
Weight of Container + Wet Soil (2)	Gram	26.42	28.46	27.68	28.52		
Weight of Container + Dry Soil (3)	Gram	18.21	20.40	19.71	20.45		
Water Content, $w=(2-3)/3*100\%$	Gram	39.59	39.51	40.44	39.46		
Tinggi Ring	:	2.16	2.13	2.27	2.13		
Diameter Ring	:	5.42	5.35	5.41	5.34		

SPECIFIC GRAVITY TEST RESULTS							
PROJECT	: PENGUJIAN SIFAT FISIS TANAH ASLI						
LOCATION	: FAKULTAS TEKNIK UNHAS GOWA						
QUARRY	:-						
BORING DEPTH	:-						
TESTING METHOD	: SNI 1964:2008						
LABORATORY	: LAB. MEKTAN UNHAS						
Sample	-	1					
Sample Depth & Inclination	m	2.00					
Number of Volumetric Flask	-	A	B				
Weight of Vol. Flask + Soil (W2)	Gram	32.72	41.06				
Weight of Vol. Flask (W1)	Gram	22.72	31.06				
Weight of Soil	Gram	10.00	10.00				
Temperature, T (°C)	Degree	28.0	28.0				
Weight of Vol. Flask+Water at T (W4)	Gram	77.70	77.53				
Weight of Vol. Flask+Water+Soil (W3)	Gram	84.45	82.89				
Unit Weight of Water at T, γ_T	Gram/Cm ³	0.99824	0.99824				
Temp. Corr. Coefficient, $\alpha=\gamma_T/\gamma_{20}^0C$	-	0.99803	0.99803				
Weight of Dry Soil, Ws	Gram	9.72	9.89				
Specific Gravity of Soil ($G_s=\alpha*W_s/W_u$)	-	3.266	2.179				
Average of G_s	-	2.72					
Remarks:	Unit Weight of Water, $\gamma_w, 20^0C= 0.99821$						

ATTERBERG LIMITS TEST

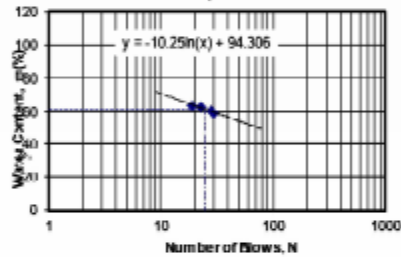
PROJECT : PENGUJIAN KARAKTERISTIK FISIS TANAH ASLI
 LOCATION : FAKULTAS TEKNIK UNHAS GOWA
 QUARRY :-
 SAMPLING :-
 TESTING MI : SNI 1967:2008, SNI 1900:2008
 LABORATOR : LAB. MEKTAN UNHAS



TESTED BY : SITI HUSNIANTI HUGAIN
 DATE : AGUTUS 2022

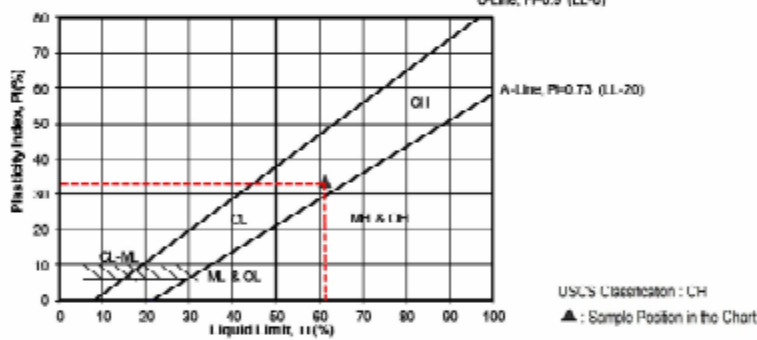
Sample No.											
Depth of Sample											
	Unit	Plastic Limit		Liquid Limit							
Test Number	-	1	2	1		2		3		4	
Number of Blows	N	-	-	19		23		28		30	
Container No. or Can No.	-	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2
Weight of Wet Soil + Can, W	gram	16.0	17.6	22.0	22.0	23.0	23.0	21.0	22.0	21.0	20.0
Weight of Dry Soil + Can, V	gram	16.0	16.9	19.4	19.5	20.1	20.0	18.4	19.7	18.7	18.5
Weight of Water, W _w =W _l -V	gram	0.9	0.7	2.6	2.6	2.9	3.0	2.6	2.3	2.3	1.5
Weight of Can, W _s	gram	13.0	14.0	15.5	15.3	15.0	15.6	14.5	15.5	15.3	15.4
Weight of Dry Soil, W _s =W _v -W _s	gram	2.96	2.89	3.90	4.15	5.08	4.39	3.90	4.18	3.37	3.13
Water Content, ω=W _w /W _s	%	31.9	23.5	65.8	61.4	57.1	68.8	65.6	55.0	69.4	48.6
Average of Water Content	%	27.70		63.67		62.94		60.33		59.00	

Chart for Liquid Limit Determination



Atterberg Limits		Value
Plastic Limit, e_p (%)		28
Liquid Limit, e_L (%)		61
Plastic Index, $I_p = e_L - e_p$		31
Shrinkage Limit, e_{sh} (%)		18

Chart for the Unified Soil Classification System



TEST RESULTS OF GRAIN-SIZE ANALYSIS

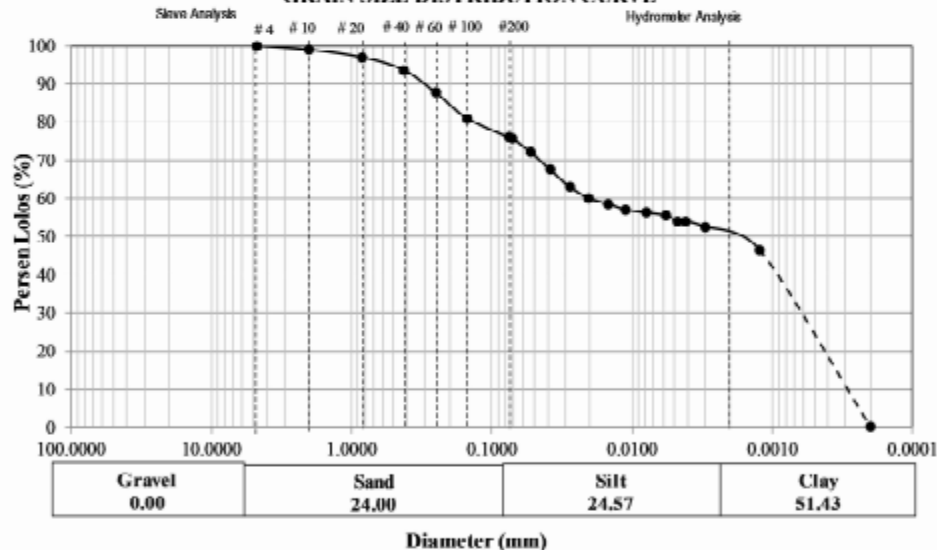
(Sieve-Mechanical and Hydrometer Methods)

PROJECT : PENGIJIAN SIFAT FISIS TANAH ASLI
 LOCATION : FAKULIAS TEKNIK UNHAS GOWA
 SAMPLING DEPTH : -
 TESTING METHOD : SNI 3423:2008
 LABORATORY : LAB. MEKTAN UNHAS
 DATE : AGUSTUS 2022



Berat Tanah Kering :		300		gr		Spec. Gravity, G _s :		2.723		T :		20.0		°C		
Analisa Saringan						Analisa Hidrometer										
Saringan No.	Diameter (mm)	Berat Tertahan (Gram)	Berat Kumulatif (gram)	Persentase Tertahan (%)	Persentase Lolos (%)	Waktu (menit)	R	Rep = R ₁ - F ₁ - F ₂	% Finer = (a x Rep/W ₁) / 100 + % finer sieve analysis	R ₂ = R + F ₁	L (cm)	A	D ₆₀ (mm)	D ₃₀ (mm)		
4	4.75	0	0	0	100	0.25	55.50	50.65	75.76	56.50	0.30	0.0124	0.07145			
10	2	3	3	1	99	0.5	53.00	48.15	72.02	54.00	9.00	0.0124	0.05201			
20	0.84	6	9	3	97	1	50.00	45.15	67.54	51.00	9.00	0.0124	0.03842			
40	0.425	10	19	6	94	2	47.00	42.15	63.05	48.00	10.10	0.0124	0.02787			
60	0.25	18	37	12	88	4	45.00	40.15	60.00	46.00	10.70	0.0124	0.02028			
100	0.15	20	57	19	81	8	44.00	38.15	58.56	45.00	11.30	0.0124	0.01474			
200	0.075	15	72	24	76	15	43.00	36.15	57.07	44.00	11.95	0.0124	0.01107			
Pan	-	228	300	100	0	30	42.50	37.65	56.32	43.50	12.30	0.0124	0.00794			
						80	42.00	37.15	55.57	43.00	12.90	0.0124	0.00575			
						90	41.00	36.15	54.07	42.00	13.20	0.0124	0.00475			
						120	41.00	36.15	54.07	42.00	13.50	0.0124	0.00416			
						240	40.00	35.15	52.58	41.00	13.90	0.0124	0.00298			
						1440	36.00	31.15	46.60	37.00	14.30	0.0124	0.00124			
Berat jenis air terhadap temperatur, g/cm ³						-										0.99824
Faktor, K = (1000 x G _s x g _{air}) / (10 x W ₁ (G _s - 1))						-										3.1492
Faktor R ₂ = f(G _s , T)						-										0.0124
Temperatur Correction (F ₁) = -4.85 + 0.25 T						-										2.16
Zero Correction (F ₂)						-										7.0
Meningiscus correction (F ₃)						-										1
Ca Correction						-										0.08

GRAIN SIZE DISTRIBUTION CURVE



PENGUJIAN KOMPAKSI

SAMPLE/ SAMPLE NO. : PENGUJIAN KARAKTERISTIK FISIS TANAH ASLI

TESTING METHOD : SNI 1742:2008

TESTED BY : SITI HUSNIANTI HUSA

LABORATORY : LAB. MEKTAN UNHAS

DATE : AGUSTUS 2022



Berat tanah	gram	2000	2000	2000	2000	2000
Kadar air mula-mula	%	16.53	16.53	16.53	16.53	16.53
Penambahan air	ml	100	200	300	400	500
Kadar air akhir	%	22.35	28.18	34.01	39.83	45.66

Berat Isi Basah (Wet density)

No. Mould	-	1	2	3	4	5
Berat Mould	gram	1909	1909	1909	1909	1909
Berat tanah basah + Mould	gram	3278	3548	3660	3615	3503
Berat tanah basah, W_{wet}	gram	1369	1639	1751	1706	1594
Volume Mould	cm ³	996	996	996	996	996
Berat Volume Basah	gr/cm ³	1.374	1.645	1.757	1.712	1.600

Kadar Air (Water Content)

No. Container	-	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B
Berat tanah basah + Container	gram	48.84	48.76	73.3	67.37	61.88	64.2	54.44	62.79	52.86	58.92
Berat tanah kering + Container	gram	43.39	43.45	61.69	56.87	51.18	52.9	44.26	50.33	39.33	44.55
Berat air	gram	5.45	5.31	11.61	10.5	10.7	11.3	10.18	12.46	13.53	14.37
Berat container	gram	15.3	15.68	15.57	15.34	15.51	15.3	15.58	15.4	5.11	8.00
Berat tanah kering	gram	28.09	27.77	46.12	41.53	35.67	37.61	28.68	34.93	34.22	36.55
Kadar air	%	19.40	19.12	25.17	25.28	30.00	29.97	35.50	35.67	39.54	39.32
Kadar air rata-rata	%		19.26		25.23		29.98		35.58		39.43

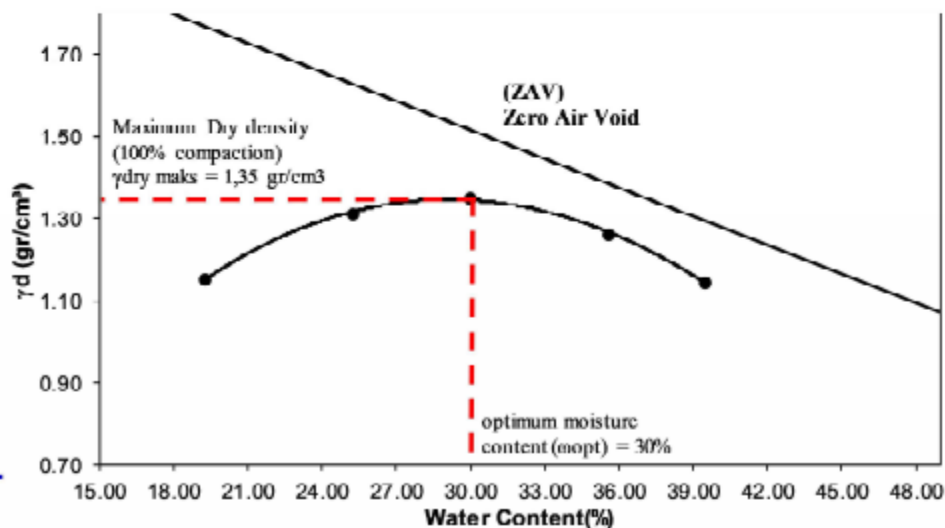
Berat Isi Kering (Dry Density)

Berat tanah basah, W_{wet}	gram	1369	1639	1751	1706	1594
Kadar air rata-rata	%	19.26	25.23	29.98	35.58	39.43
Berat kering $W_{dry} = \frac{W_{wet}}{1 + \left(\frac{W}{100}\right)}$	gram	1147.90	1308.81	1347.12	1258.27	1143.25
Volume Mould	cm ³	996.31	996.31	996.31	996.31	996.31
Berat isi kering $\gamma_{dry} = \frac{W_{dry}}{V_{mould}}$	gr/cm ³	1.15	1.31	1.35	1.26	1.15
$\gamma_{zav} = \gamma_w / (w + (1/G_s))$	gr/cm ³	1.79	1.61	1.50	1.38	1.31

Berat jenis (G_s) = 2.72

Budi, kadar air optimum dicapai pada saat 30.0 % dan berat isi kering 1.352 gr/cm³

Compaction Curve of Soil



CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT : PENGUJIAN MEKANIS TANAH ASLI
 LOCATION : FAKHRI TASTIFKNIK UNHAS GOWA
 SAMPLE / SAMPLE NO. : B001
 LABORATORY : Lab. Mekanika Tanah UNHAS
 TESTING METHOD : SNI 1744:2012
 TESTED BY : Sih Husniati Husain
 DATE : 29 AGUSTUS 2022



PENGUJIAN CBR UNSOAKED 10x TUMBUKAN

Kadar Air

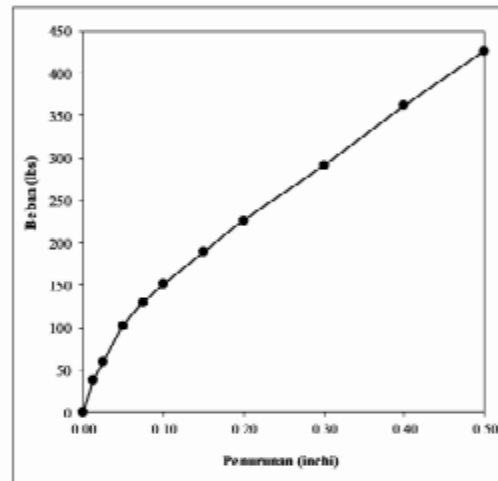
No. Container	-	A	B
Berat Container	gram	8.00	8.12
Berat Container + Tanah Basah	gram	54.03	58.3
Berat Container + Tanah Kering	gram	43.83	46.69
Berat air	gram	11	11.1
Berat tanah kering	gram	35.83	38.47
Kadar Air	%	30.70	30.44
Kadar Air Rata-Rata	%	30.57	

Berat Isi Tanah

Berat Mould	gram	6.022
Berat Mould + Tanah Dasah	gram	11.264
Berat Tanah Basah	gram	6.342
Volume Mould	cm ³	3.391.96
Berat Isi Tanah Basah	gram/cm ³	1.57
Berat Isi Tanah Kering	gram/cm ³	1.21

Proving ring Calibration 50 KN oap. lbs/Dev = 6.4

Waktu (menit)	Penurunan (inch)	Pembacaan Dial (PER) Div.	Beban (lbs)
0.00	0.000	0	0.000
0.25	0.013	7	37.800
0.5	0.025	11	59.400
1	0.050	19	102.600
1.5	0.075	24	129.600
2	0.100	28	151.200
3	0.150	35	189.000
4	0.200	42	226.800
6	0.300	54	291.600
8	0.400	67	361.800
10	0.500	79	426.600



Perhitungan Nilai CBR

Penurunan (inchi)	Beban (lbs)	CBR (%)
0.1	151.200	5.04
0.2	226.800	5.04

Nilai CBR = **5.04** %

Dimensi Mould

Diameter : 15.8 cm
 Tinggi : 17.3 cm
 Berat : 6.022 gram

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT : PENGUJIAN MEKANIS TANAH TABELI
 LOCATION : FAKULTAS TEKNIK UNHAS GOWA
 SAMPLE / SAMPLE NO. : 8002
 LABORATORY : Lab. Mekanika Tanah UNHAS
 TESTING METHOD : SNI 1744:2012
 TESTED BY : Siti Husaini Husaini
 DATE : 29 AGUSTUS 2022



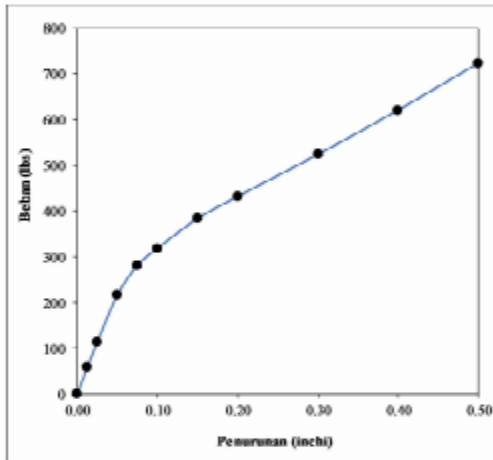
**PENGUJIAN CBR UNSOAKED
25x TUMBUKAN**

Kadar Air

No. Container	-	A	B
Berat Container	gram	8.11	8.14
Berat Container + Tanah Basah	gram	67.55	49.74
Berat Container + Tanah Kering	gram	53.82	40.08
Berat air	gram	13.73	9.66
Berat tanah kering	gram	45.71	31.84
Kadar Air	%	30.04	30.24
Kadar Air Rata-Rata	%	30.14	

Berat Isi Tanah

Berat Mould	gram	5.539
Berat Mould + Tanah Basah	gram	11.432
Berat Tanah Basah	gram	5.893
Volume Mould	cm ³	3,407.23
Berat Isi Tanah Basah	gram/cm ³	1.73
Berat Isi Tanah Kering	gram/cm ³	1.33



Proving ring Calibration 50 KN cap. lbs/Dev = 5.4

Waktu (menit)	Penurunan (inch)	Pembacaan Dial (PER) Div.	Beban (lbs)
0.00	0.000	0	0.000
0.25	0.013	11	58.400
0.5	0.025	21	113.400
1	0.050	40	216.000
1.5	0.075	52	280.800
2	0.100	59	318.600
3	0.150	71	383.400
4	0.200	80	432.000
6	0.300	97	523.800
8	0.400	115	621.000
10	0.500	134	723.600

Perhitungan Nilai CBR

Penurunan (inchi)	Beban (lbs)	CBR (%)
0.1	318.600	10.62
0.2	432.000	9.80

Nilai CBR = **10.62** %

Dimensi Mould

Diameter : 15.7 cm
 Tinggi : 17.8 cm
 Berat : 5.539 gram

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT : PENGUJIAN MEKANIS TANAH TAJU
 LOCATION : FAKULTAS TEKNIK UNHAS GOWA
 SAMPLE / SAMPLE NO. : B003
 LABORATORY : Lab. Mekanika Tanah UNHAS
 TESTING METHOD : SNI 1744:2012
 TESTED BY : Siti Huseinul Husein
 DATE : 29 AUGUST 2022



PENGUJIAN CBR UNSOAKED 56x TUMBUKAN

Kadar Air

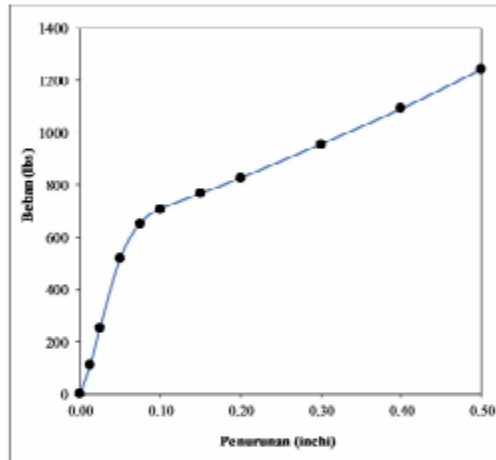
No. Container		A	B
Berat Container	gram	8.16	7.96
Berat Container + Tanah Basah	gram	62.72	52.08
Berat Container + Tanah Kering	gram	50.16	41.96
Berat Air	gram	12.56	10.12
Berat tanah kering	gram	42	34
Kadar Air	%	29.90	29.76
Kadar Air Rata-Rata	%	29.83	

Berat Isi Tanah

Berat Mould	gram	6,022
Berat Mould + Tanah Basah	gram	11,998
Berat Tanah Basah	gram	5,976
Volume Mould	cm ³	3,360.51
Darat Isi Tanah Basah	gram/cm ³	1.77
Berat Isi Tanah Kering	gram/cm ³	1.37

Proving ring Calibration 50 KN cap, lbs/Div = 5.4

Waktu (menit)	Penurunan (Inch)	Pembacaan Dial (PER) Div.	Beban (lbs)
0.00	0.000	0	0.000
0.25	0.013	21	113.400
0.5	0.025	47	253.800
1	0.050	96	518.400
1.5	0.075	121	653.400
2	0.100	131	707.400
3	0.150	142	766.800
4	0.200	153	826.200
6	0.300	177	955.800
8	0.400	202	1090.800
10	0.500	230	1247.000



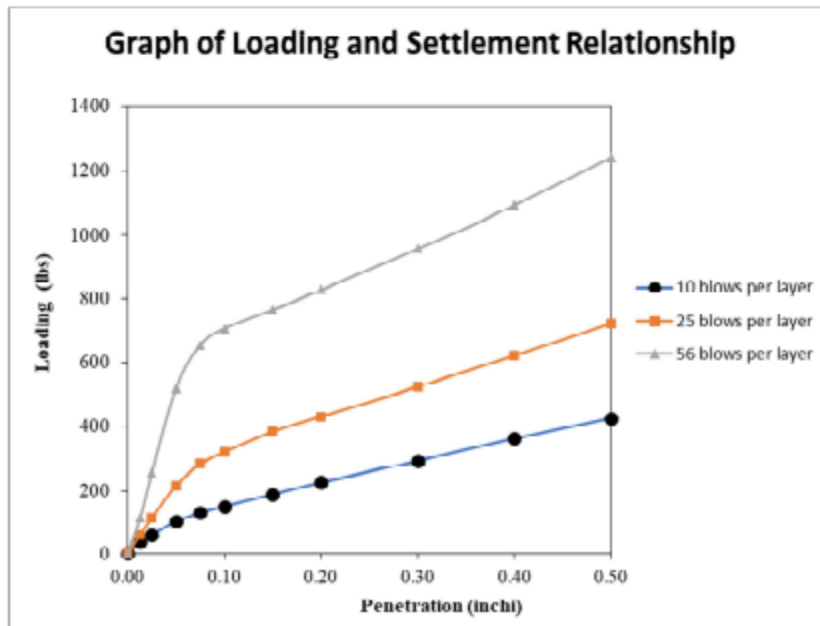
Perhitungan Nilai CBR

Penurunan (Inch)	Beban (lbs)	CBR (%)
0.1	707.400	23.58
0.2	826.200	18.38

Nilai CBR = **23.58** %

Dimensi Mould

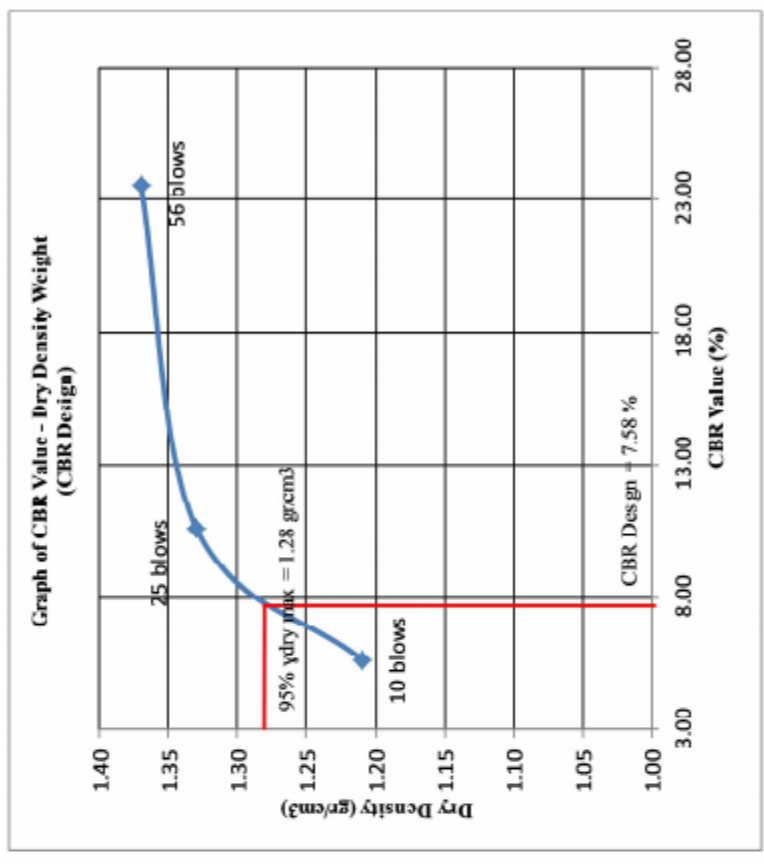
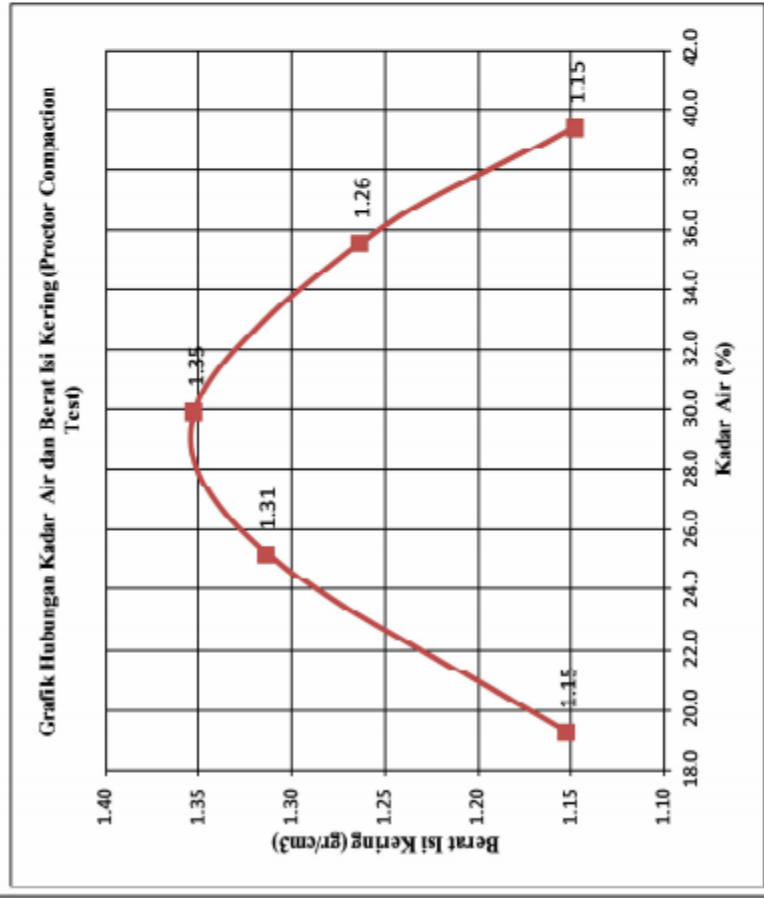
Diameter : 15.7 cm
 Tinggi : 17.4 cm
 Berat : 6,022 gram



CALIFORNIA BEARING RATIO (CBR)

PROJECT : Pengujian mekanis tanah asli
LOCATION : Laboratorium Mekanika Tanah Universitas Hasanuddin
TESTING METHOD : SNI 1744:2012
TESTED BY : Siti Husnianti Husain

:- kadar bakteri
:- masa pemeraman



Compaction Test

Optimum Moisture, w_{opt} : 30.0
 Maximum Dry Unit Weight, Y_{dry max} : 1.35 gr/cm³
 95% Maximum Dry Unit Weight, Y_{dry n} : 1.28 gr/cm³

CBR Laboratory Results

CBR Design : 7.58 %

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT : PENGUJIAN MEKANIS TANAH TERSTABILISASI Kadar Bakteri : 4%
 LOCATION : FAKELI TASTFKNK LINDAS GOWA Pemeraman : 7 hari
 SAMPLE / SAMPLE NO. : B04/1
 LABORATORY : Lab. Mekanika Tanah UNHAS
 TESTING METHOD : SNI 1744:2012
 TESTED BY : Siti Husniati Husain
 DATE : September 2022



PENGUJIAN CBR UNSOAKED 10x TUMBUKAN

Kadar Air

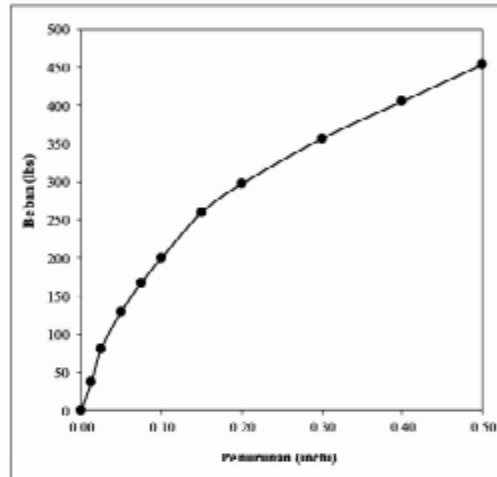
No. Container		A	B
Berat Container	gram	15.40	15.36
Berat Container + Tanah Basah	gram	86.04	63.14
Berat Container + Tanah Kering	gram	70.81	62.4
Berat air	gram	16.03	10.74
Berat tanah kering	gram	55.41	37.04
Kadar Air	%	28.93	29.00
Kadar Air Rata-Rata	%	28.96	

Berat Isi Tanah

Berat Mould	gram	6.022
Berat Mould + Tanah Basah	gram	10.026
Berat Tanah Basah	gram	4.804
Volume Mould	cm ³	3.241.01
Berat Isi Tanah Basah	gram/cm ³	1.48
Berat Isi Tanah Kering	gram/cm ³	1.15

Proving ring Calibration 50 KN cap, lbs/Dev = 5.4

Waktu (menit)	Penurunan (inch)	Pembacaan Dial (PER) Div.	Beban (lbs)
0.00	0.000	0	0.000
0.25	0.013	7	37.800
0.5	0.025	15	81.000
1	0.050	24	120.600
1.5	0.075	31	167.100
2	0.100	37	199.800
3	0.150	48	259.200
4	0.200	55	297.000
6	0.300	66	356.400
8	0.400	75	405.000
10	0.500	84	453.600



Perhitungan Nilai CBR

Penurunan (inchi)	Beban (lbs)	CBR (%)
0.1	199.800	6.66
0.2	297.000	8.80

Nilai CBR = **6.66** %

Dimensi Mould

Diameter : 15.4 cm
 Tinggi : 17.1 cm
 Berat : 4.942 gram

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT	: PENGUJIAN MEKANIS TANAH I TERESTADILEAGI	Kadar Bekteri	: 4%
LOCATION	: FAKULTAS TEKNIK UNHAS GOWA	Pemeraman	: 7 hari
SAMPLE / SAMPLE NO.	: B04/2		
LABORATORY	: Lab. Mekanika Tanah UNHAS		
TESTING METHOD	: SNI 1744:2012		
TESTED BY	: Sih Husaini Husain		
DATE	: September 2022		



PENGUJIAN CBR UNSOAKED 25x TUMBUKAN

Kadar Air

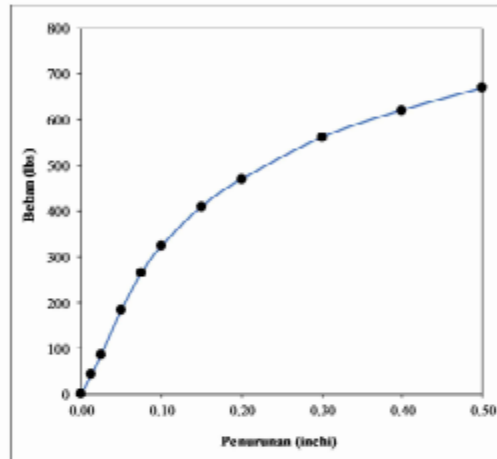
No. Container	-	A	B
Berat Container	gram	15.11	15.14
Berat Container + Tanah Basah	gram	67.55	49.74
Berat Container + Tanah Kering	gram	55.82	42.08
Berat Air	gram	11.73	7.66
Berat tanah kering	gram	40.71	26.94
Kadar Air	%	28.81	28.43
Kadar Air Rata-Rata	%	28.62	

Berat Isi Tanah

Berat Mould	gram	4,086
Berat Mould + Tanah Pasah	gram	9,376
Berat Tanah Basah	gram	5,290
Volume Mould	cm ³	3,272,00
Berat Isi Tanah Basah	gram/cm ³	1,62
Berat Isi Tanah Kering	gram/cm ³	1,20

Proving ring Calibration 50 KN cap, lbs/Dev = 5.4

Waktu (menit)	Ponurunan (Inch)	Pembacaan Dial (PLR) Div.	Beban (lbs)
0.00	0.000	0	0.000
0.25	0.013	8	43.200
0.5	0.025	16	60.400
1	0.050	34	183.600
1.5	0.075	49	264.000
2	0.100	60	324.000
3	0.150	78	410.400
4	0.200	87	469.800
6	0.300	104	561.600
8	0.400	115	621.000
10	0.500	124	669.600



Perhitungan Nilai CBR

Penurunan (Inch)	Beban (lbs)	CBR (%)
0.1	324.000	10.80
0.2	469.800	10.44

Nilai CBR = **10.00** %

Dimensi Mould

Diameter 15.3 cm
 Tinggi 17.8 cm
 Berat 4,086 gram

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT	: PENGUJIAN MEKANIS TANAH I TERESTADILEAGI	Kadar Bekteri	: 4%
LOCATION	: FAKULTAS TEKNIK UNHAS GOWA	Pemeraman	: 7 hari
SAMPLE / SAMPLE NO.	: 8003		
LABORATORY	: Lab. Mekanika Tanah UNHAS		
TESTING METHOD	: SNI 1744:2012		
TESTED BY	: Sih Husaini Husain		
DATE	: September 2022		



PENGUJIAN CBR UNSOAKED 56x TUMBUKAN

Kadar Air

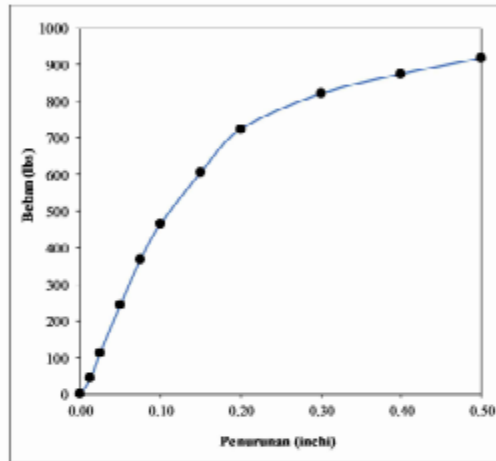
No. Container	-	A	B
Berat Container	gram	8.16	7.96
Berat Container + Tanah Basah	gram	62.72	52.08
Berat Container + Tanah Kering	gram	50.16	41.96
Berat air	gram	12.56	10.12
Berat tanah kering	gram	42	31
Kadar Air	%	29.90	29.76
Kadar Air Rata-Rata	%	29.83	

Berat Isi Tanah

Berat Mould	gram	6.022
Berat Mould + Tanah Pasah	gram	17.125
Berat Tanah Basah	gram	6.103
Volume Mould	cm ³	3.268.51
Berat Isi Tanah Basah	gram/cm ³	1.81
Berat Isi Tanah Kering	gram/cm ³	1.40

Proving ring Calibration 50 KN cap, lbs/Dev = 5.4

Waktu (menit)	Penurunan (Inch)	Pembacaan Dial (PLR) Div.	Beban (lbs)
0.00	0.000	0	0.000
0.25	0.013	8	43.200
0.5	0.025	21	113.400
1	0.050	45	243.000
1.5	0.075	68	367.200
2	0.100	86	464.400
3	0.150	117	634.800
4	0.200	134	723.000
6	0.300	152	820.800
8	0.400	162	874.800
10	0.500	170	918.000



Perhitungan Nilai CBR

Penurunan (Inch)	Beban (lbs)	CBR (%)
0.1	464.400	15.18
0.2	723.000	16.08

Nilai CBR = **16.08** %

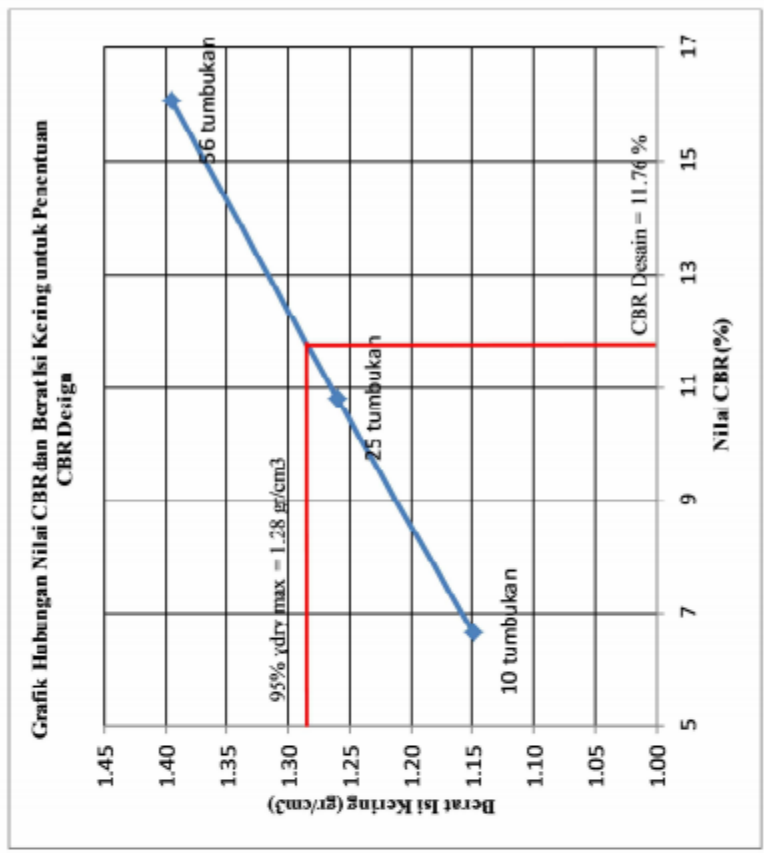
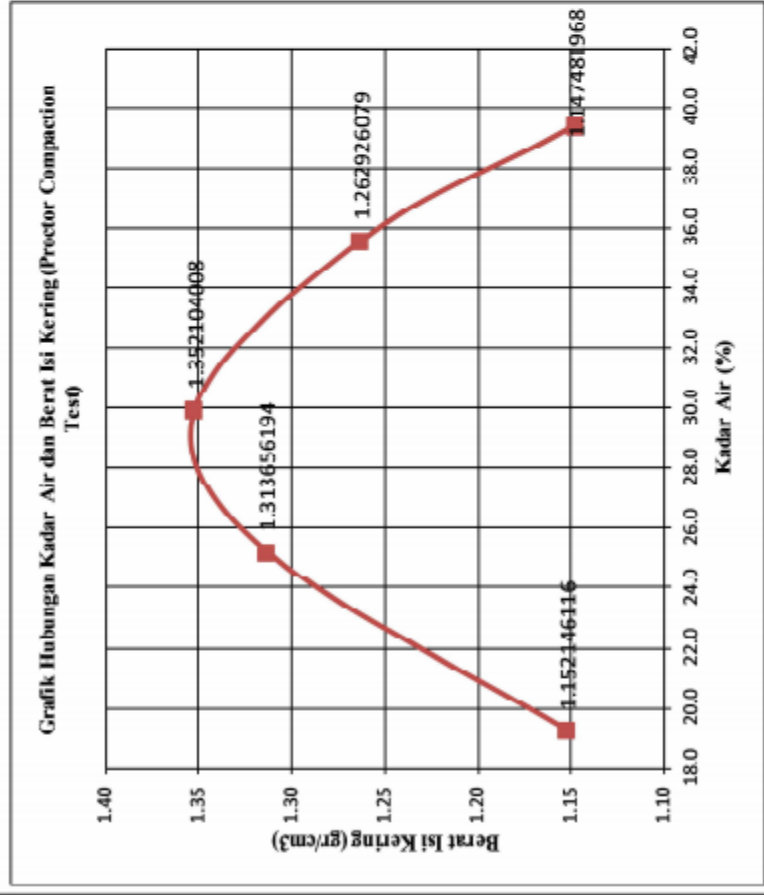
Dimensi Mould

Diameter 15.7 cm
 Tinggi 17.1 cm
 Berat 6.022 gram

CALIFORNIA BEARING RATIO (CBR)



PROJECT : Pengujian mecansis tanah terstabilisasi kadar bakteri : 4%
LOCATION : Laboratorium Mekanika Tanah Universitas hasanuddin masa pemeraman : 7 hari
TESTING METHOD : SNI 1744:2012
TESTED BY : Siti Husnianti Husain



Compaction Test

Optimum Moisture, w_{opt} : 30.0
 Maximum Dry Unit Weight, Y_{dry max} : 1.35
 95% Maximum Dry Unit Weight, Y_{dry n} : 1.28

CBR Laboratory Results

CBR Design : 11.76 %

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT	. PENGUJIAN MEKANIS TANAH TERSTABILISASI	Kadar Bakteri : 4%
LOCATION	. FAKULTAS TEKNIK UNHAS GOWA	Pemeraman : 28 hari
SAMPLE / SAMPLE NO.	. B044	
LABORATORY	. Lab. Mekanika Tanah UNI IAS	
TESTING METHOD	. SNI 1744:2012	
TESTED BY	. Siti Husnianti Husaini	
DATE	. Oktober 2022	



PENGUJIAN CBR UNSOAKED 10x TUMBUKAN

Kadar Air

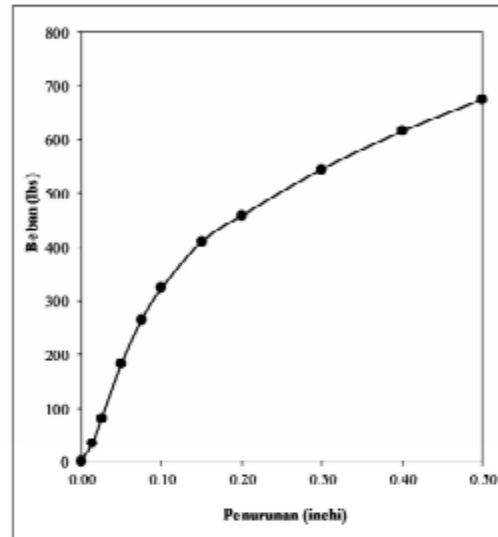
No. Container		A	B
Berat Container	gram	15.33	5.11
Berat Container + Tanah Basah	gram	85.84	63.14
Berat Container + Tanah Kering	gram	70.46	50.7
Berat air	gram	15.38	12.44
Berat tanah kering	gram	55.13	45.29
Kadar Air	%	27.90	27.47
Kadar Air Rata-Rata	%	27.68	

Berat Isi Tanah

Berat Mould	gram	4.292
Berat Mould + Tanah Basah	gram	8.931
Berat Tanah Basah	gram	4.639
Volume Mould	cm ³	3.24101
Berat Isi Tanah Basah	gram/cm ³	1.43
Berat Isi Tanah Kering	gram/cm ³	1.12

Proving ring Calibration 50 KN cap. lbs/Div = 54

Waktu (menit)	Penurunan (inchi)	Pembacaan Dial (PER) Div.	Boban (lbs)
0.00	0.000	0	0.000
0.25	0.013	8	32.400
0.5	0.025	15	81.000
1	0.050	34	183.600
1.5	0.075	49	264.600
2	0.100	60	324.000
3	0.150	78	410.400
4	0.200	85	459.000
6	0.300	101	545.400
8	0.400	114	615.000
10	0.500	125	675.000



Penhitungan Nilai CBR

Penurunan (inchi)	Boban (lbs)	CBR (%)
0.1	324.000	10.80
0.2	459.000	10.20

Nilai CBR = 10.80 %

Dimensi Mould

Diometer	15.4	cm
Tinggi	17.4	cm
Berat	4.292	gram

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT	. PENGUJIAN MEKANIS TANAH TERSTABILISASI	Kadar Bakteri : 4%
LOCATION	. FAKULTAS TEKNIK UNHAS GOWA	Pemeraman : 28 hari
SAMPLE / SAMPLE NO.	. B045	
LABORATORY	. Lab. Mekanika Tanah UNHAS	
TESTING METHOD	. SNI 1744:2012	
TESTED BY	. Sili Husnianti Husaini	
DATE	. Oktober 2022	



PENGUJIAN CBR UNSOAKED 25x TUMBUKAN

Kadar Air

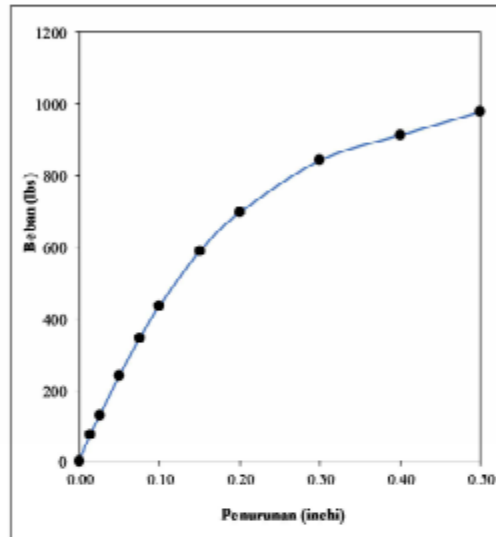
No. Container	-	A	B
Berat Container	gram	5.16	5.17
Berat Container + Tanah Basah	gram	62.06	57.32
Berat Container + Tanah Kering	gram	49.29	45.81
Berat air	gram	12.77	11.51
Berat tanah kering	gram	44.13	40.64
Kadar Air	%	28.94	28.32
Kadar Air Rata-Rata	%	28.63	

Berat Isi Tanah

Berat Mould	gram	4.086
Berat Mould + Tanah Basah	gram	9.326
Berat Tanah Basah	gram	5.240
Volume Mould	cm ³	3,272.60
Berat Isi Tanah Basah	gram/cm ³	1.60
Berat Isi Tanah Kering	gram/cm ³	1.24

Proving ring Calibration 50 KN cap. lbs/Div = 5.4

Waktu (menit)	Penurunan (inci)	Pembacaan Dial (PER) Div.	Boban (lbs)
0.00	0.000	0	0.000
0.25	0.013	14	75.600
0.5	0.025	24	129.600
1	0.050	45	243.000
1.5	0.075	64	345.600
2	0.100	81	437.400
3	0.150	109	588.600
4	0.200	129	690.600
6	0.300	158	842.400
8	0.400	189	912.600
10	0.500	181	977.400



Penhitungan Nilai CBR

Penurunan (inci)	Boban (lbs)	CBR (%)
0.1	437.400	14.58
0.2	690.600	15.48

Nilai CBR = **15.48** %

Dimensi Mould

Diameter	15.3	cm
Tinggi	17.8	cm
Berat	4.086	gram

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT	. PENGUJIAN MEKANIS TANAH TERSTABILISASI	Kadar Bakteri : 4%
LOCATION	. FAKULTAS TEKNIK UNHAS GOWA	Pemeraman : 28 hari
SAMPLE / SAMPLE NO.	. B046	
LABORATORY	. Lab. Mekanika Tanah UNIIG	
TESTING METHOD	. SNI 1744:2012	
TESTED BY	. Sili Husnianti Husain	
DATE	. Oktober 2022	



PENGUJIAN CBR UNSOAKED 56x TUMBUKAN

Kadar Air

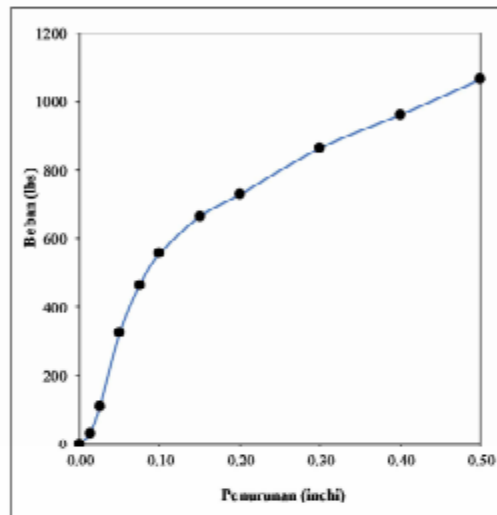
No. Container	-	A	B
Berat Container	gram	5.12	5.2
Berat Container + Tanah Basah	gram	68.05	62.04
Berat Container + Tanah Kering	gram	53.19	48.78
Berat air	gram	14.86	13.26
Berat tanah kering	gram	48.07	43.58
Kadar Air	%	30.91	30.43
Kadar Air Rata-Rata	%	30.67	

Berat Isi Tanah

Berat Mould	gram	4.293
Berat Mould + Tanah Basah	gram	10.189
Berat Tanah Basah	gram	5.896
Volume Mould	cm ³	3.264.37
Berat Isi Tanah Basah	gram/cm ³	1.81
Berat Isi Tanah Kering	gram/cm ³	1.38

Proving ring Calibration 50 KN cap. lbs/Div = 5.4

Waktu (menit)	Penurunan (inci)	Pembacaan Dial (PBR) Div.	Beban (lbs)
0.00	0.000	0	0.000
0.25	0.013	8	37.400
0.5	0.025	20	108.000
1	0.050	60	324.000
1.5	0.075	88	474.400
2	0.100	103	558.200
3	0.150	123	664.200
4	0.200	135	729.000
6	0.300	160	864.000
8	0.400	178	961.200
10	0.500	197	1063.800



Perhitungan Nilai CBR

Penurunan (inci)	Beban (lbs)	CBR (%)
0.1	558.200	18.54
0.2	729.000	18.20

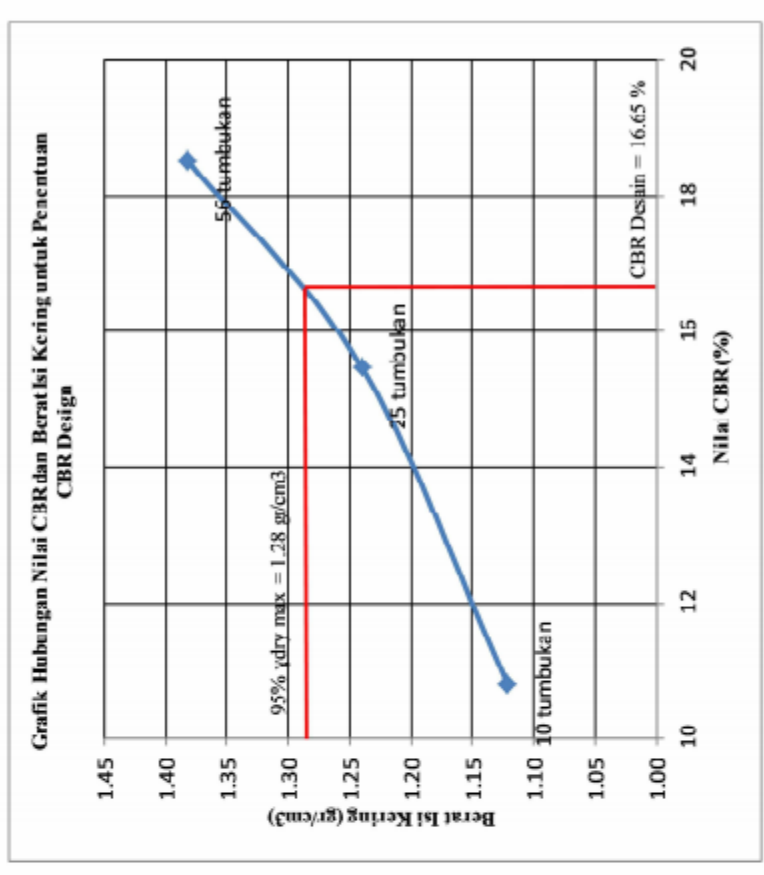
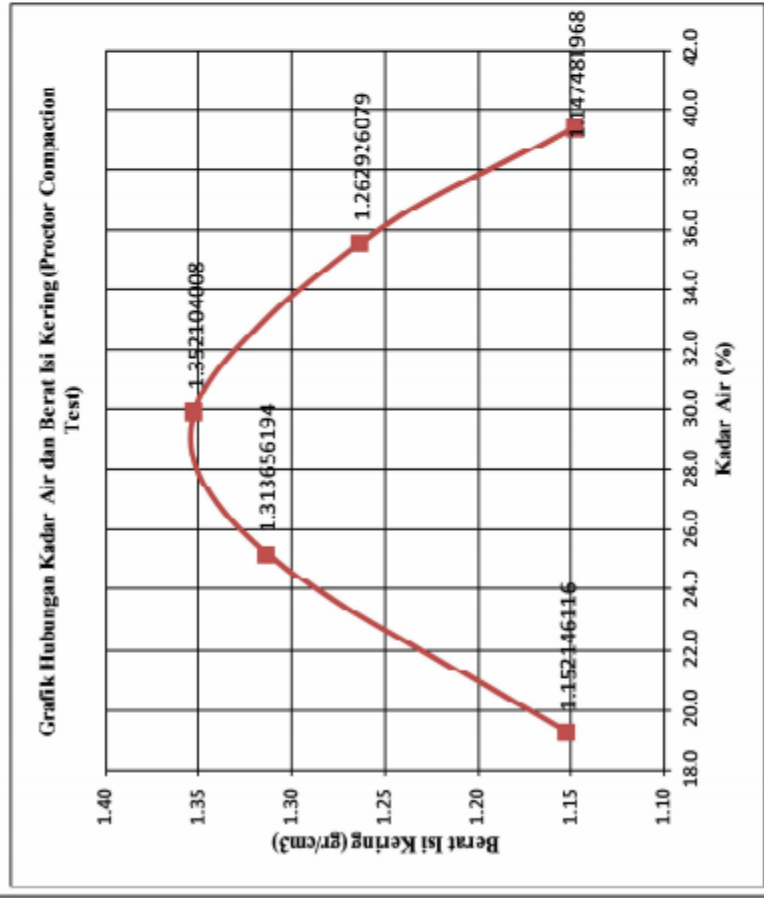
Nilai CBR = 18.54 %

Dimensi Mould

Diameter	15.5	cm
Tinggi	17.3	cm
Berat	4.293	gram

CALIFORNIA BEARING RATIO (CBR)

PROJECT : Pengujian mekanis tanah terstabilisasi kadar bakteri : 4%
LOCATION : Laboratorium Mekanika Tanah Universitas Hasanuddin masa pemeraman : 28 hari
TESTING METHOD : SNI 1744:2012
TESTED BY : Siti Husnianti Husain



Compaction Test

Optimum Moisture, w_{opt} : 30.0
 Maximum Dry Unit Weight, Y_{dry max} : 1.35
 95% Maximum Dry Unit Weight, Y_{dry n} : 1.28

CBR Laboratory Results

CBR Design : 15.65 %

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT : PENGUJIAN MEKANIS TANAH TERSTABILISASI Kadar Bakteri : 0%
 LOCATION : FAKULTAS TEKNIK UNHAS GOWA Pemeraman : 7 hari
 SAMPLE / SAMPLE NO. : 8001
 LABORATORY : Lab. Mekanika Tanah UNHAS
 TESTING METHOD : SNI 1744:2012
 TESTED BY : S6 Husniati Husain
 DATE : September 2022



**PENGUJIAN CBR UNSOAKED
10x TUMBUKAN**

Kadar Air

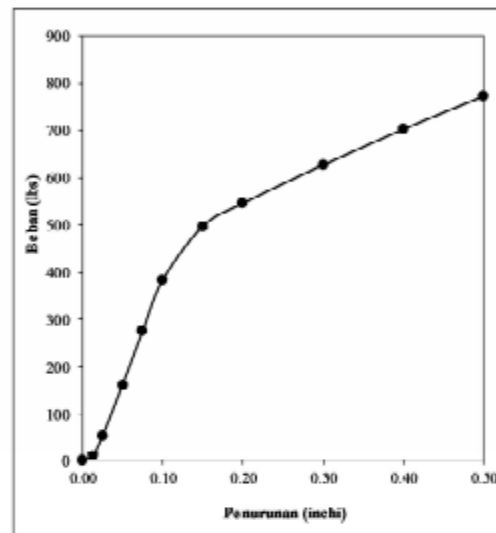
No. Container	-	A	B
Berat Container	gram	5.08	5.12
Berat Container + Tanah Basah	gram	63.74	62.6
Berat Container + Tanah Kering	gram	50.83	49.04
Berat air	gram	12.91	12.76
Berat tanah kering	gram	45.75	44.72
Kadar Air	%	28.22	28.53
Kadar Air Rata Rata	%	28.38	

Berat Isi Tanah

Berat Mould	gram	4,317
Berat Mould + Tanah Basah	gram	9,476
Berat Tanah Basah	gram	5,159
Volume Mould	cm ³	3,377.59
Berat Isi Tanah Basah	gram/cm ³	1.53
Berat Isi Tanah Kering	gram/cm ³	1.19

Proving ring Calibration 50 KN cap, lbs/Dev = 5.4

Waktu (menit)	Penurunan (inchi)	Pembacaan Dial (PER) Div.	Beban (lbs)
0.00	0.000	0	0.000
0.25	0.013	2	10.800
0.5	0.025	10	54.000
1	0.050	30	162.000
1.5	0.075	51	275.400
2	0.100	71	383.400
3	0.150	92	496.800
4	0.200	101	546.400
6	0.300	116	626.400
8	0.400	130	702.000
10	0.600	143	772.200



Perhitungan Nilai CBR

Penurunan (inchi)	Beban (lbs)	CBR (%)
0.1	383.400	12.70
0.2	546.400	12.12

Nilai CBR = **12.70** %

Dimensi Mould

Diameter : 15.5 cm
 Tinggi : 17.0 cm
 Berat : 4,317 gram

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT : PENGUJIAN MEKANIS TANAH TERSTABILISASI Kadar Bakteri : 0%
 LOCATION : FAKULTAS TEKNIK UNHAS GOWA Pemeraman : 7 hari
 SAMPLE / SAMPLE NO. : **9062**
 LABORATORY : Lab. Mekanika Tanah UNHAS
 TESTING METHOD : SNI 1744:2012
 TESTED BY : S6 Husniati Hussein
 DATE : September 2022



**PENGUJIAN CBR UNSOAKED
25x TUMBUKAN**

Kadar Air

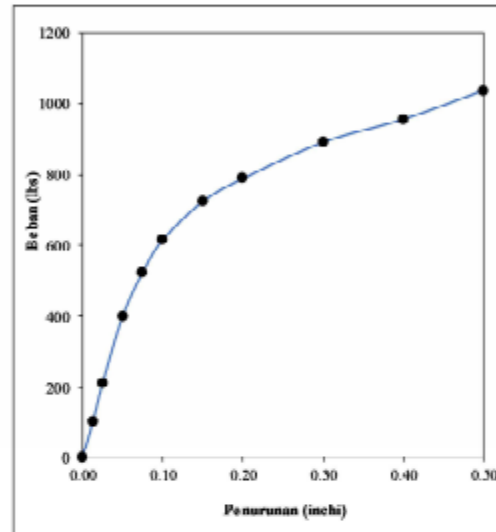
No. Container	-	A	B
Berat Container	gram	5.4	8
Berat Container + Tanah Basah	gram	63.7	71.36
Berat Container + Tanah Kering	gram	50.62	56.97
Berat air	gram	12.88	14.39
Berat tanah kering	gram	45.42	48.07
Kadar Air	%	28.36	29.39
Kadar Air Rata Rata	%	28.87	

Berat Isi Tanah

Berat Mould	gram	4,164
Berat Mould + Tanah Basah	gram	9,583
Berat Tanah Basah	gram	5,419
Volume Mould	cm ³	3,363.97
Berat Isi Tanah Basah	gram/cm ³	1.61
Berat Isi Tanah Kering	gram/cm ³	1.25

Proving ring Calibration 50 KN cap, lbs/Dev = **5.4**

Waktu (menit)	Penurunan (inchi)	Pembacaan Dial (PER) Div.	Beban (lbs)
0.00	0.000	0	0.000
0.25	0.013	19	102.600
0.5	0.025	39	210.600
1	0.050	74	399.600
1.5	0.075	97	523.000
2	0.100	114	615.600
3	0.150	134	723.600
4	0.200	146	790.400
6	0.300	165	891.000
8	0.400	177	955.800
10	0.600	192	1036.800



Perhitungan Nilai CBR

Penurunan (inchi)	Beban (lbs)	CBR (%)
0.1	615.600	20.52
0.2	790.400	17.52

Nilai CBR = **20.52** %

Dimensi Mould

Diameter : 15.0 cm
 Tinggi : 17.6 cm
 Berat : 4,164 gram

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT : PENGUJIAN MEKANIS TANAH TERSTABILISASI Kadar Bakteri : 6%
 LOCATION : FAKULTAS TEKNIK UNHAS GOWA Pemeraman : 7 hari
 SAMPLE / SAMPLE NO. : **9090**
 LABORATORY : Lab. Mekanika Tanah UNHAS
 TESTING METHOD : SNI 1744:2012
 TESTED BY : S6 Husnianti Husain
 DATE : September 2022



**PENGUJIAN CBR UNSOAKED
56x TUMBUKAN**

Kadar Air

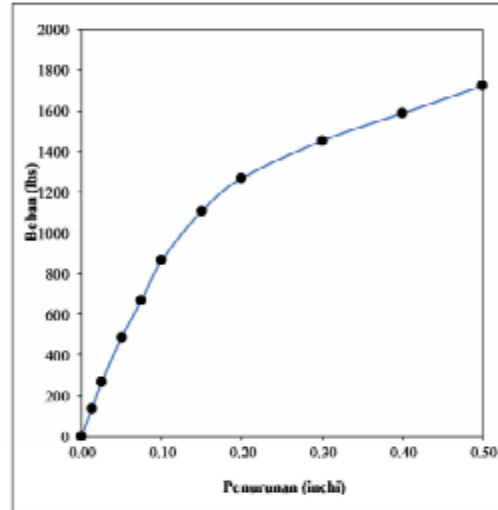
No. Container	-	A	B
Berat Container	gram	8	8.04
Berat Container + Tanah Basah	gram	87.26	73.98
Berat Container + Tanah Kering	gram	69.27	69.07
Berat air	gram	17.99	14.91
Berat tanah kering	gram	61.27	51.03
Kadar Air	%	29.36	29.22
Kadar Air Rata-Rata	%	29.29	

Berat Isi Tanah

Berat Mould	gram	4,244
Berat Mould + Tanah Basah	gram	10,416
Berat Tanah Basah	gram	6,172
Volume Mould	cm ³	3,363,97
Berat Isi Tanah Basah	gram/cm ³	1,83
Berat Isi Tanah Kering	gram/cm ³	1,42

Proving ring Calibration 50 KN cap, lbs/Dev = **5.4**

Waktu (menit)	Penurunan (inch)	Pembacaan Dial (PBR) Div.	Beban (lbs)
0.00	0.000	0	0.000
0.25	0.013	25	134.000
0.5	0.025	49	264.600
1	0.050	90	480.000
1.5	0.075	124	669.600
2	0.100	160	864.000
3	0.150	205	1107.000
4	0.200	235	1269.000
6	0.300	269	1452.600
8	0.400	294	1587.600
10	0.500	310	1732.600



Perhitungan Nilai CBR

Penurunan (inchi)	Beban (lbs)	CBR (%)
0.1	664.000	20.00
0.2	1269.000	20.20

Nilai CBR = **28.80** %

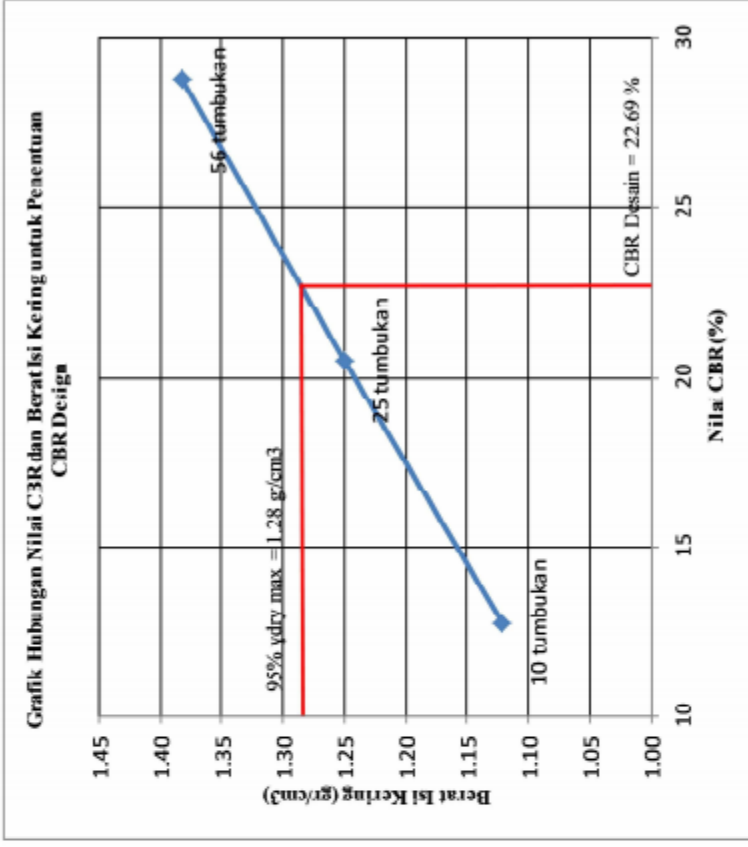
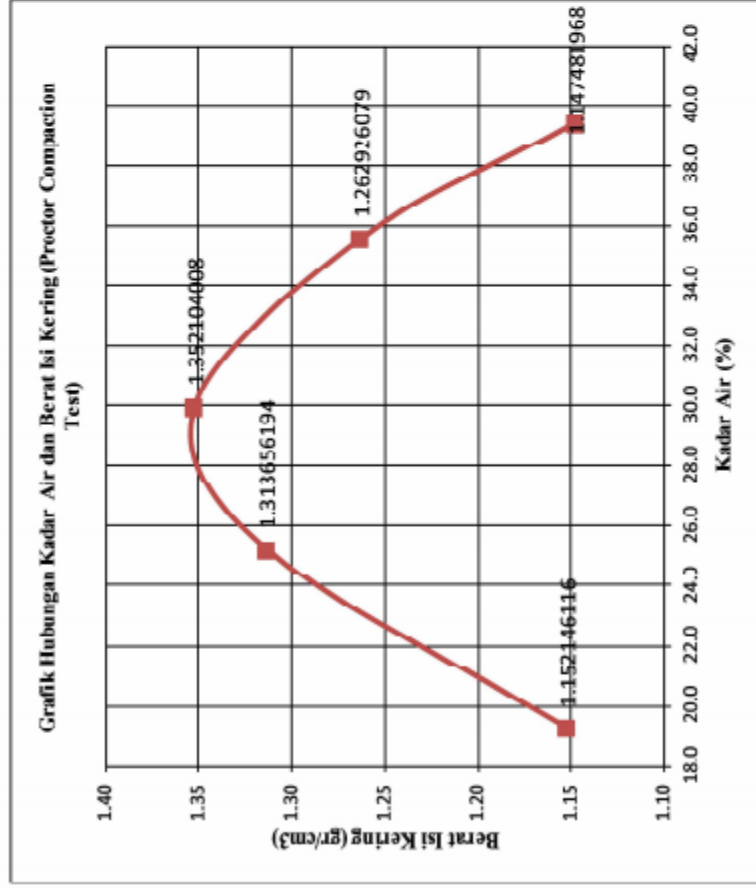
Dimensi Mould

Diameter **15.0** cm
 Tinggi **17.0** cm
 Berat **4,244** gram

CALIFORNIA BEARING RATIO (CBR)



PROJECT : Pengujian mekanis tanah terstabilisasi kadar bakteri : 6%
LOCATION : Laboratorium Mekanika Tanah Universitas Hasanuddin masa pemeraman : 7 hari
TESTING METHOD : SNI 1744:2012
TESTED BY : Siti Husnianti Husain



Compaction Test

Optimum Moisture, w_{opt} : 30.0
 Maximum Dry Unit Weight, Y_{dry max} : 1.35
 95% Maximum Dry Unit Weight, Y_{dry n} : 1.28

CBR Laboratory Results

CBR Design : 22.69 %

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT : PENGUJIAN MEKANIS TANAH TERSTABILISASI Kadar Bakteri : 0%
 LOCATION : FAKULTAS TEKNIK UNHAS GOWA Pemeraman : 28 hari
 SAMPLE / SAMPLE NO. : D064
 LABORATORY : Lab. Mekanika Tanah UNHAS
 TESTING METHOD : SNI 1741:2012
 TESTED BY : Siti Huaniani Husaini
 DATE : Oktober 2022



**PENGUJIAN CBR UNSOAKED
10x TUMBUKAN**

Kadar Air

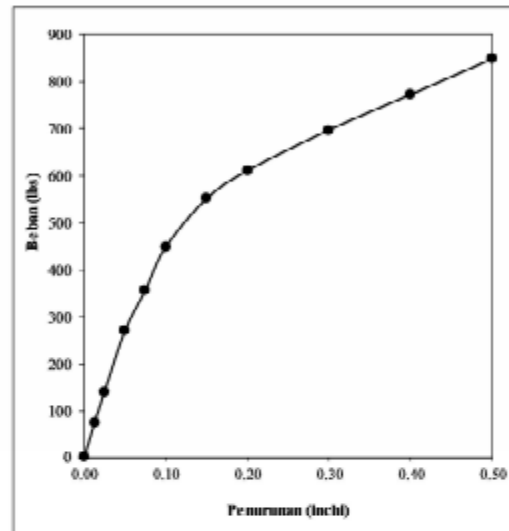
No. Container	-	A	B
Berat Container	gram	5,00	5,12
Berat Container + Tanah Basah	gram	63,74	62,6
Berat Container + Tanah Kering	gram	50,83	49,64
Berat air	gram	12,91	12,96
Berat tanah kering	gram	45,75	44,52
Kadar Air	%	28,22	29,11
Kadar Air Rata-Rata	%	28,66	

Berat Isi Tanah

Berat Mould	gram	4,317
Berat Mould + Tanah Basah	gram	9,457
Berat Tanah Basah	gram	5,140
Volume Mould	cm ³	3,377,58
Berat Isi Tanah Basah	gram/cm ³	1,52
Berat Isi Tanah Kering	gram/cm ³	1,18

Proving ring Calibration 50 KN cap, lbs/Dev = 5,4

Waktu (menit)	Penurunan (inch)	Pembacaan Dial (PER) Div.	Beban (lbs)
0,00	0,000	0	0,000
0,25	0,013	11	76,600
0,5	0,025	26	140,100
1	0,050	50	270,000
1,5	0,075	66	356,100
2	0,100	83	448,200
3	0,150	102	550,800
4	0,200	113	610,200
6	0,300	129	696,600
8	0,400	141	777,000
10	0,500	157	847,800



Perhitungan Nilai CBR

Penurunan (inci)	Beban (lbs)	CBR (%)
0,1	448,200	14,94
0,2	610,200	13,56

Nilai CBR = **14,94** %

Dimensi Mould

Diameter : 15,5 cm
 Tinggi : 17,9 cm
 Berat : 4,317 gram

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT	: PENGUJIAN MEKANIS TANAH TERSTABILISASI	Kadar Bakteri	: 0%
LOCATION	: FAKULTAS TEKNIK UNHAS GOWA	Pemeraman	: 28 hari
SAMPLE / SAMPLE NO.	: 0065		
LABORATORY	: Lab. Mekanika Tanah UNHAS		
TESTING METHOD	: SNI 1741:2012		
TESTED BY	: Siti Huaniani Husaini		
DATE	: Oktober 2022		



**PENGUJIAN CBR UNSOAKED
25x TUMBUKAN**

Kadar Air

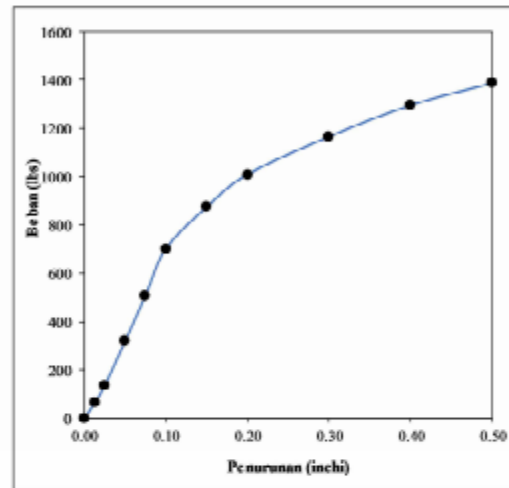
No. Container	-	A	B
Berat Container	gram	5,4	6
Berat Container + Tanah Basah	gram	63,7	71,36
Berat Container + Tanah Kering	gram	51,24	57,78
Berat air	gram	12,46	13,58
Berat tanah kering	gram	15,81	19,78
Kadar Air	%	27,18	27,28
Kadar Air Rata-Rata	%	27,23	

Berat Isi Tanah

Berat Mould	gram	4,164
Berat Mould + Tanah Basah	gram	9,483
Berat Tanah Basah	gram	5,319
Volume Mould	cm ³	3,363,97
Berat Isi Tanah Basah	gram/cm ³	1,58
Berat Isi Tanah Kering	gram/cm ³	1,24

Proving ring Calibration 50 KN cap, lbs/Dev = **5,4**

Waktu (menit)	Penurunan (inci)	Pembacaan Dial (PER) Div.	Beban (lbs)
0,00	0,000	0	0,000
0,25	0,013	12	64,800
0,5	0,025	25	136,000
1	0,050	60	318,600
1,5	0,075	94	507,600
2	0,100	130	702,000
3	0,150	162	874,800
4	0,200	187	1008,800
6	0,300	216	1166,400
8	0,400	240	1296,000
10	0,500	257	1387,800



Perhitungan Nilai CBR

Penurunan (inci)	Beban (lbs)	CBR (%)
0,1	702,000	23,40
0,2	1008,800	22,44

Nilai CBR = **23,40** %

Dimensi Mould

Diameter	15,6	cm
Tinggi	17,6	cm
Berat	4,164	gram

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT	. PENGUJIAN MEKANIS TANAH TERSTABILISASI	Kadar Bakteri : 0%
LOCATION	: FAKULTAS TEKNIK UNHAS GOWA	Pemeraman : 28 hari
SAMPLE / SAMPLE NO.	: 0066	
LABORATORY	: Lab. Mekanika Tanah UNHAS	
TESTING METHOD	: SNI 1741:2012	
TESTED BY	: Siti Huaniani Husaini	
DATE	: Oktober 2022	



PENGUJIAN CBR UNSOAKED 56x TUMBUKAN

Kadar Air

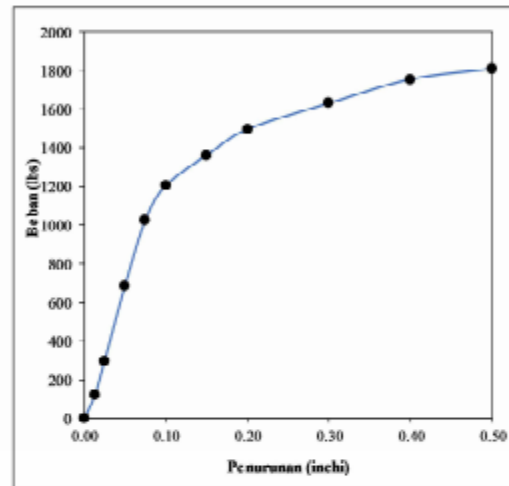
No. Container	-	A	B
Berat Container	gram	0	0.04
Berat Container + Tanah Basah	gram	87.26	73.98
Berat Container + Tanah Kering	gram	60.27	59.07
Berat air	gram	17.99	14.91
Berat tanah kering	gram	61.27	51.03
Kadar Air	%	29.36	29.22
Kadar Air Rata-Rata	%	29.29	

Berat Isi Tanah

Berat Mould	gram	4.244
Berat Mould + Tanah Basah	gram	10.416
Berat Tanah Basah	gram	6.172
Volume Mould	cm ³	3,383.97
Berat Isi Tanah Basah	gram/cm ³	1.83
Berat Isi Tanah Kering	gram/cm ³	1.42

Proving ring Calibration 50 KN cap, lbs/Dev = 5.4

Waktu (menit)	Penurunan (inci)	Pembacaan Dial (PER) Div.	Beban (lbs)
0.00	0.000	0	0.000
0.25	0.013	22	118.800
0.5	0.025	55	297.000
1	0.050	127	686.800
1.5	0.075	190	1026.000
2	0.100	223	1204.200
3	0.150	262	1390.800
4	0.200	277	1496.800
6	0.300	302	1630.800
8	0.400	325	1755.000
10	0.500	335	1809.000



Perhitungan Nilai CBR

Penurunan (inci)	Woban (lbs)	CBR (%)
0.1	1204.200	40.14
0.2	1496.800	33.29

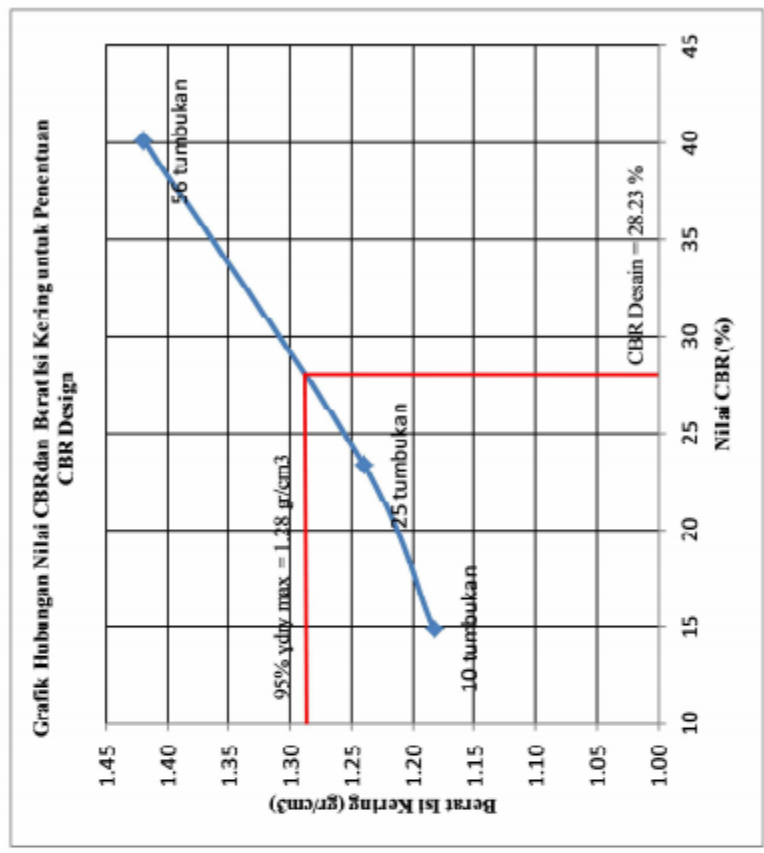
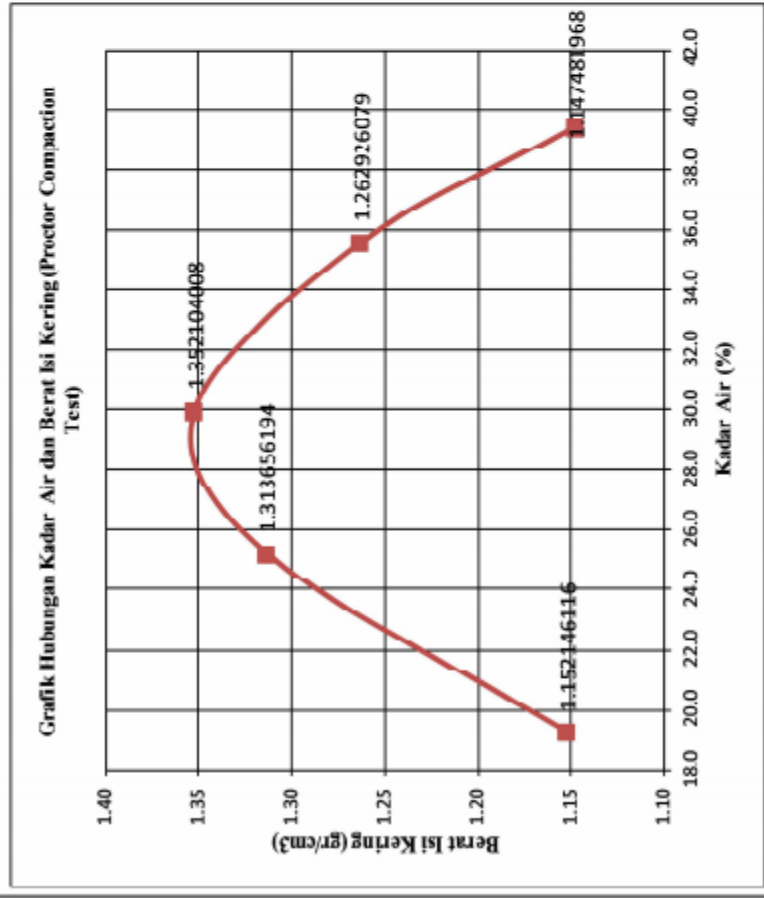
Nilai CBR = 40.14 %

Dimensi Mould

Diameter	15.6	cm
Tinggi	17.6	cm
Berat	4.244	gram

CALIFORNIA BEARING RATIO (CBR)

PROJECT : Pengujian mekanis tanah terstabilisasi kadar bakteri : 6%
LOCATION : Laboratorium Mekanika Tanah Universitas Hasanuddin masa pemeraman : 28 hari
TESTING METHOD : SNI 1744:2012
TESTED BY : Siti Husnianti Husain



Compaction Test

Optimum Moisture, w_{opt} : 30.0
 Maximum Dry Unit Weight, Y_{dry max} : 1.35
 95% Maximum Dry Unit Weight, Y_{dry n} : 1.28

CBR Laboratory Results

CBR Design : 28.23 %

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT : PENGLIJIAN MEKANIS TANAH TERSTABILISASI Kadar Bakteri : 8%
 LOCATION : FAKULTAS TEKNIK UNHAS GOWA Pemeraman : 7 hari
 SAMPLE / SAMPLE NO. : 0001
 LABORATORY : Lab. Mekanika Tanah UNHAS
 TESTING METHOD : SNI 1744:2012
 TESTED BY : Sif Husnianti Hussin
 DATE : September 2022



PENGUJIAN CBR UNSOAKED 10x TUMBUKAN

Kadar Air

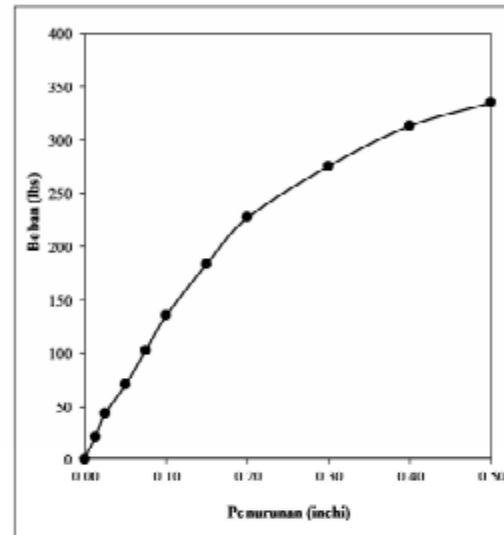
No. Container	-	A	B
Berat Container	gram	5,5	8,11
Berat Container + Tanah Basah	gram	48,84	48,67
Berat Container + Tanah Kering	gram	35,9	36,58
Berat air	gram	12,94	12,09
Berat tanah kering	gram	30,4	28,47
Kadar Air	%	42,57	42,47
Kadar Air Rata-Rata	%	42,52	

Berat Isi Tanah

Berat Mould	gram	3,168
Berat Mould + Tanah Basah	gram	8,742
Berat Tanah Basah	gram	5,576
Volume Mould	cm ³	3,191,59
Berat Isi Tanah Basah	gram/cm ³	1,60
Berat Isi Tanah Kering	gram/cm ³	1,12

Proving ring Calibration 50 KN cap, lbs/Dev = 5,4

Waktu (menit)	Penurunan (Inch)	Pembacaan Dial (PPR) Div	Beban (lbs)
0,00	0,000	0	0,000
0,25	0,013	4	21,600
0,5	0,025	8	43,200
1	0,050	13	70,200
1,5	0,075	19	102,600
2	0,100	25	135,000
3	0,150	34	183,600
4	0,200	42	228,000
6	0,300	51	275,400
8	0,400	58	313,200
10	0,500	62	334,000



Perhitungan Nilai CBR

Penurunan (inchi)	Beban (lbs)	CBR (%)
0,1	135,000	4,50
0,2	228,000	5,04

Nilai CBR = **5,04** %

Dimensi Mould

Diameter : 15,9 cm
 Tinggi : 17,8 cm
 Berat : 3,168 gram

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT : PENGLIJIAN MEKANIS TANAH TERSTABILISASI Kadar Bakteri : 8%
 LOCATION : FAKULTAS TEKNIK UNHAS GOWA Pemeraman : 7 hari
 SAMPLE / SAMPLE NO. : **0002**
 LABORATORY : Lab. Mekanika Tanah UNHAS
 TESTING METHOD : SNI 1744:2012
 TESTED BY : Sif Husnianti Hussein
 DATE : September 2022



**PENGUJIAN CBR UNSOAKED
25x TUMBUKAN**

Kadar Air

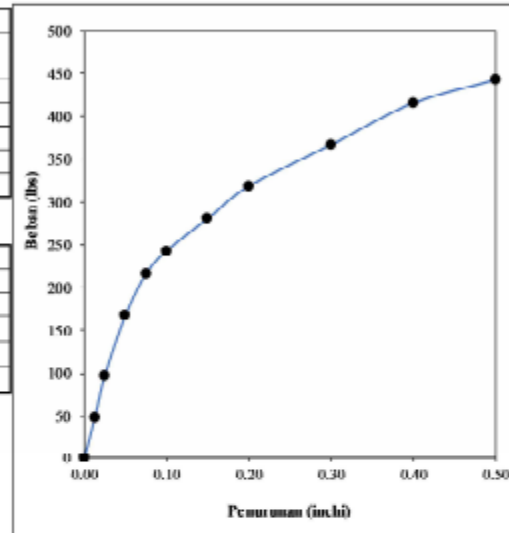
No. Container	-	A	B
Berat Container	gram	6.32	6.33
Berat Container + Tanah Basah	gram	46.87	51.46
Berat Container + Tanah Kering	gram	37.12	40.94
Berat air	gram	9.75	10.52
Berat tanah kering	gram	30.8	34.61
Kadar Air	%	31.66	30.40
Kadar Air Rata-Rata	%	31.03	

Berat Isi Tanah

Berat Mould	gram	3,151
Berat Mould + Tanah Basah	gram	8,826
Berat Tanah Basah	gram	5,674
Volume Mould	cm ³	3,174,74
Berat Isi Tanah Basah	gram/cm ³	1,65
Berat Isi Tanah Kering	gram/cm ³	1,25

Proving ring Calibration 50 KN cap, lbs/Dev = **5.4**

Waktu (menit)	Penurunan (Inch)	Pembacaan Dial (PPR) Div	Beban (lbs)
0.00	0.000	0	0.000
0.25	0.013	9	48.000
0.5	0.025	18	97.200
1	0.050	31	167.400
1.5	0.075	40	216.000
2	0.100	45	243.000
3	0.150	52	280.800
4	0.200	59	318.600
6	0.300	68	367.200
8	0.400	77	415.800
10	0.500	82	442.000



Perhitungan Nilai CBR

Penurunan (Inch)	Beban (lbs)	CBR (%)
0.1	243.000	8.10
0.2	318.600	7.08

Nilai CBR = **8.10** %

Dimensi Mould

Diameter : **15.9** cm
 Tinggi : **17.5** cm
 Berat : **3,151** gram

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT	: PENGLIJIAN MEKANIS TANAH TERSTABILISASI	Kadar Bakteri : 8%
LOCATION	: FAKULTAS TEKNIK UNHAS GOWA	Pemeraman : 7 hari
SAMPLE / SAMPLE NO.	: 0003	
LABORATORY	: Lab. Mekanika Tanah UNHAS	
TESTING METHOD	: SNI 1744:2012	
TESTED BY	: Sif Husein Husein	
DATE	: September 2022	



PENGUJIAN CBR UNSOAKED 56x TUMBUKAN

Kadar Air

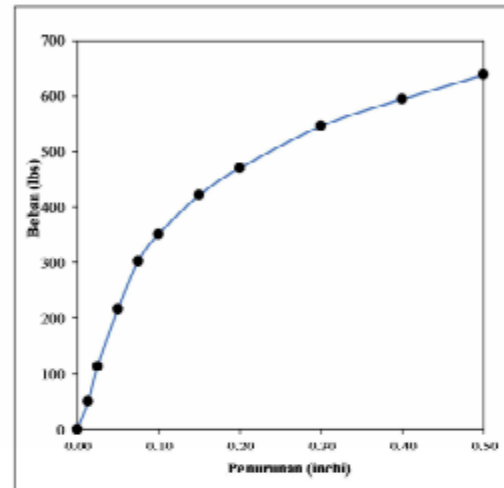
No. Container	-	A	B
Berat Container	gram	7.8	15.75
Berat Container + Tanah Basah	gram	53.73	78.12
Berat Container + Tanah Kering	gram	43.27	62.68
Berat air	gram	10.46	15.44
Berat tanah kering	gram	35.47	46.93
Kadar Air	%	29.49	32.90
Kadar Air Rata-Rata	%	31.19	

Berat Isi Tanah

Berat Mould	gram	3.149
Berat Mould + Tanah Basah	gram	9.187
Berat Tanah Basah	gram	6.338
Volume Mould	cm ³	3,171.71
Berat Isi Tanah Basah	gram/cm ³	1.82
Berat Isi Tanah Kering	gram/cm ³	1.39

Proving ring Calibration 50 KN cap, lbs/Dev = **5.4**

Waktu (menit)	Penurunan (Inch)	Pembacaan Dial (PFR) Div	Deban (lbs)
0.00	0.000	0	0.000
0.25	0.013	9	48.600
0.5	0.025	21	113.400
1	0.050	40	216.000
1.5	0.075	56	302.400
2	0.100	65	351.000
3	0.150	78	421.200
4	0.200	87	469.800
6	0.300	101	545.400
8	0.400	110	594.000
10	0.500	118	637.200



Perhitungan Nilai CBR

Penurunan (Inch)	Beban (lbs)	CBR (%)
0.1	351.000	11.70
0.2	469.800	10.44

Nilai CBR = **11.70** %

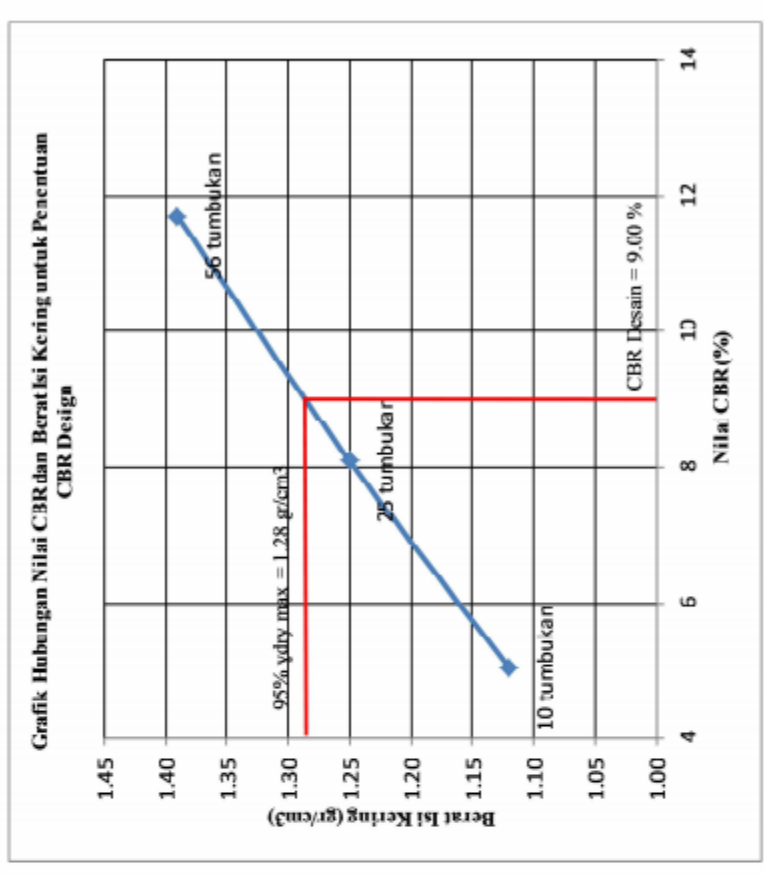
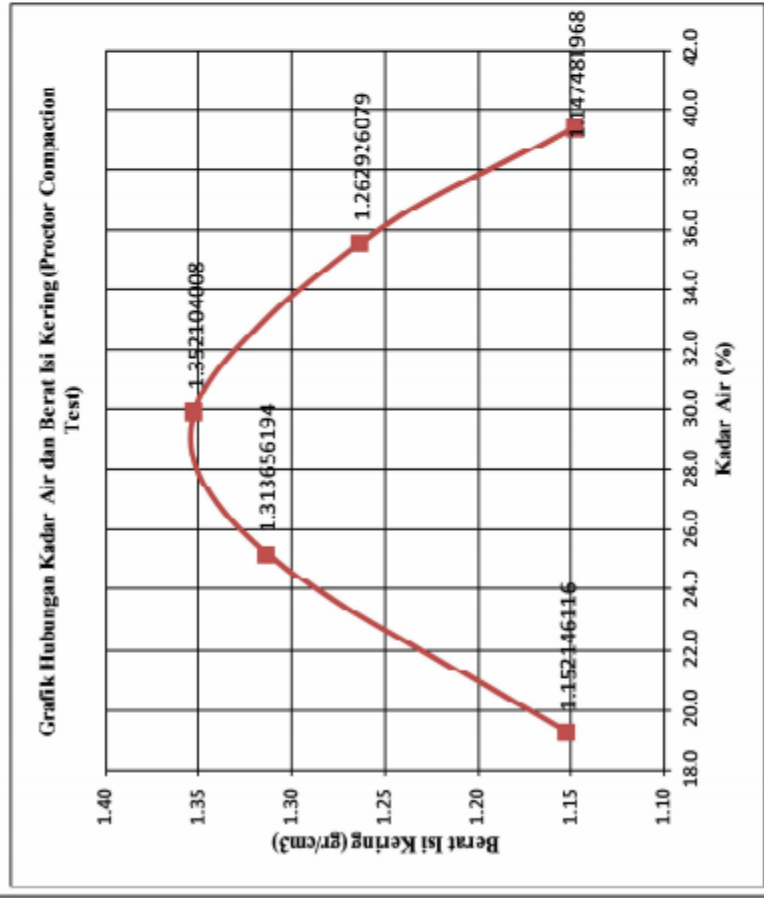
Dimensi Mould

Diameter : **15.9** cm
 Tinggi : **17.5** cm
 Berat : **3.149** gram

CALIFORNIA BEARING RATIO (CBR)



PROJECT : Pengujian mekanis tanah terstabilisasi kadar bakteri : 8%
LOCATION : Laboratorium Mekanika Tanah Universitas Hasanudin masa pemeraman : 7 hari
TESTING METHOD : SNI 1744:2012
TESTED BY : Siti Husnianti Husain



Compaction Test

Optimum Moisture, w_{opt} : 30.0
 Maximum Dry Unit Weight, Y_{dry max} : 1.35
 95% Maximum Dry Unit Weight, Y_{dry n} : 1.28

CBR Laboratory Results

CBR Design : 9.00 %

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT : PENGUJIAN MEKANIS TANAH TERSTABILISASI Kadar Bakteri : 8%
 LOCATION : FAKULTAS TEKNIK UNHAS GOWA Pemeraman : 28 hari
 SAMPLE / SAMPLE NO. : 0004
 LABORATORY : Lab. Mekanika Tanah UNHAS
 TESTING METHOD : SNI 1744:2012
 TESTED BY : Gibi Husaini Hussein
 DATE : Oktober 2022



**PENGUJIAN CBR UNSOAKED
10x TUMBUKAN**

Kadar Air

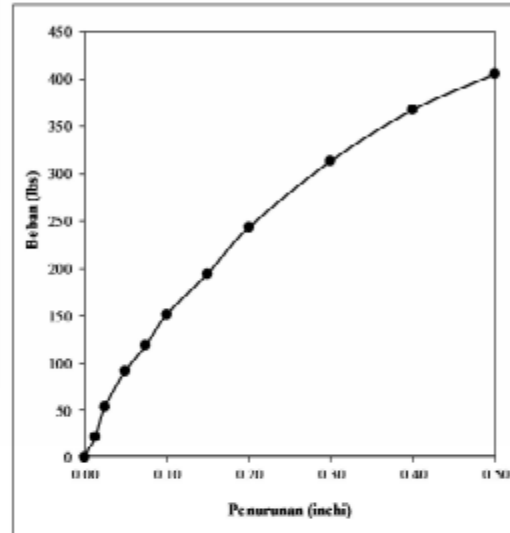
No. Container	-	A	B
Berat Container	gram	8.38	8.11
Berat Container + Tanah Basah	gram	70.98	76.05
Berat Container + Tanah Kering	gram	55.93	59.05
Berat air	gram	15.05	16.4
Berat tanah kering	gram	47.55	51.54
Kadar Air	%	31.65	31.82
Kadar Air Rata-Rata	%	31.74	

Berat Isi Tanah

Berat Mould	gram	4,154
Berat Mould + Tanah Basah	gram	9,103
Berat Tanah Basah	gram	4,949
Volume Mould	cm ³	3,363.97
Berat Isi Tanah Basah	gram/cm ³	1.47
Berat Isi Tanah Kering	gram/cm ³	1.12

Proving ring Calibration 50 KN cap, lbs/Div = 5.4

Waktu (menit)	Penurunan (Inch)	Pembacaan Dial (PR) Div	Beban (lbs)
0.00	0.000	0	0.000
0.25	0.013	4	21.600
0.5	0.025	10	54.000
1	0.050	17	91.800
1.5	0.075	22	118.800
2	0.100	28	151.200
3	0.150	36	194.400
4	0.200	45	243.000
6	0.300	58	313.200
8	0.400	68	367.200
10	0.500	75	405.000



Perhitungan Nilai CBR

Penurunan (Inch)	Beban (lbs)	CBR (%)
0.1	151.200	5.04
0.2	243.000	5.40

Nilai CBR = **5.40** %

Dimensi Mould

Diameter : 75.8 cm
 Tinggi : 17.6 cm
 Berat : 4,154 gram

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT : PENGUJIAN MEKANIS TANAH TERSTABILISASI Kadar Bakteri : 8%
 LOCATION : FAKULTAS TEKNIK UNHAS GOWA Pemeriksaan : 28 hari
 SAMPLE / SAMPLE NO. : 0005
 LABORATORY : Lab. Mekanika Tanah UNHAS
 TESTING METHOD : SNI 1744:2012
 TESTED BY : Gibi Husaini Hussein
 DATE : Oktober 2022



**PENGUJIAN CBR UNSOAKED
25x TUMBUKAN**

Kadar Air

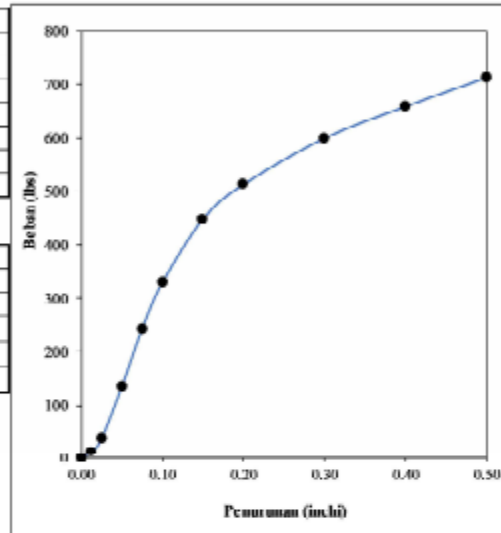
No. Container	-	A	B
Berat Container	gram	8.08	8.54
Berat Container + Tanah Basah	gram	67.98	60.28
Berat Container + Tanah Kering	gram	53.72	47.96
Berat air	gram	14.26	12.32
Berat tanah kering	gram	45.66	39.42
Kadar Air	%	31.23	31.25
Kadar Air Rata-Rata	%	31.24	

Berat Isi Tanah

Berat Mould	gram	4.169
Berat Mould + Tanah Basah	gram	9.751
Berat Tanah Basah	gram	5.582
Volume Mould	cm ³	3.320.98
Berat Isi Tanah Basah	gram/cm ³	1.68
Berat Isi Tanah Kering	gram/cm ³	1.28

Proving ring Calibration 50 KN cap, lbs/Div = 5.4

Waktu (menit)	Penurunan (Inch)	Pembacaan Dial (PRR) Div	Beban (lbs)
0.00	0.000	0	0.000
0.25	0.013	2	10.800
0.5	0.025	7	37.800
1	0.050	25	135.000
1.5	0.075	45	243.000
2	0.100	61	329.400
3	0.150	83	448.200
4	0.200	95	513.000
6	0.300	111	599.400
8	0.400	127	685.800
10	0.500	150	717.800



Perhitungan Nilai CBR

Penurunan (Inch)	Beban (lbs)	CBR (%)
0.1	329.400	10.98
0.2	513.000	11.40

Nilai CBR = **11.40** %

Dimensi Mould

Diameter : 75.5 cm
 Tinggi : 17.6 cm
 Berat : 4.159 gram

CBR (UNSOAKED) LABORATORY TEST RESULT

PROJECT	: PENGUJIAN MEKANIS TANAH TERSTABILISASI	Kadar Bakteri	: 8%
LOCATION	: FAKULTAS TEKNIK UNHAS GOWA	Pemeraman	: 28 hari
SAMPLE / SAMPLE NO.	: 0006		
LABORATORY	: Lab. Mekanika Tanah UNHAS		
TESTING METHOD	: SNI 1744:2012		
TESTED BY	: Gb Husniati Hussein		
DATE	: Oktober 2022		



**PENGUJIAN CBR UNSOAKED
56x TUMBUKAN**

Kadar Air

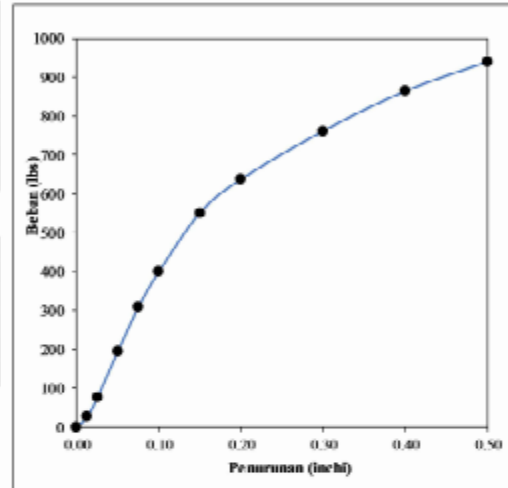
No. Container	-	A	B
Berat Container	gram	8.11	8.15
Berat Container + Tanah Basah	gram	69.22	65.95
Berat Container + Tanah Kering	gram	54.42	51.95
Berat air	gram	14.8	14
Berat tanah kering	gram	46.31	43.8
Kadar Air	%	31.96	31.96
Kadar Air Rata-Rata	%	31.96	

Berat Isi Tanah

Berat Mould	gram	4,242
Berat Mould + Tanah Basah	gram	10,290
Berat Tanah Basah	gram	6,048
Volume Mould	cm ³	3,320.98
Berat Isi Tanah Basah	gram/cm ³	1.82
Berat Isi Tanah Kering	gram/cm ³	1.38

Proving ring Calibration 50 KN cap, lbs/Div = **5.4**

Waktu (menit)	Penurunan (Inch)	Pembacaan Dial (PER) Div.	Beban (lbs)
0.00	0.000	0	0.000
0.25	0.013	5	27.000
0.5	0.025	14	75.600
1	0.050	38	194.400
1.5	0.075	57	307.800
2	0.100	74	399.600
3	0.150	102	550.800
4	0.200	118	637.200
6	0.300	141	761.400
8	0.400	160	864.000
10	0.500	174	939.600



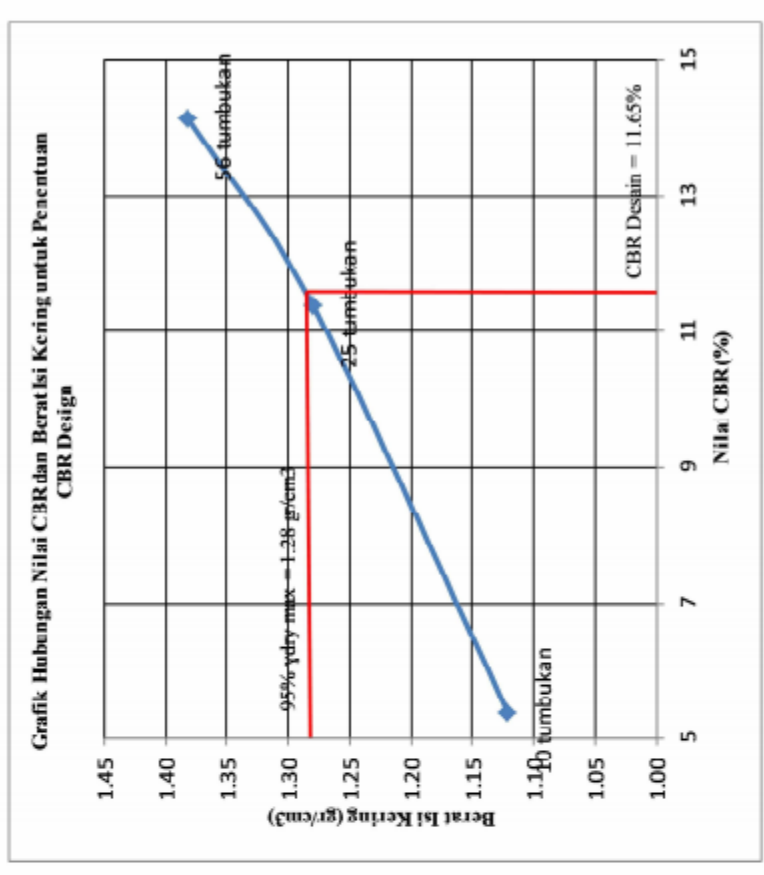
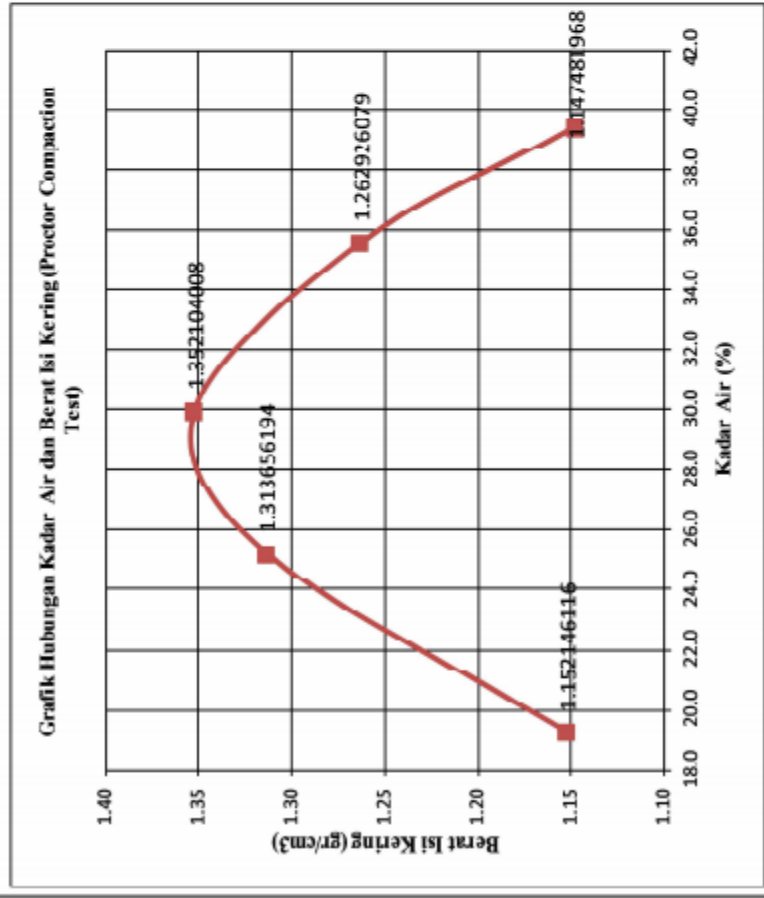
Perhitungan Nilai CBR

Penurunan (inchi)	Beban (lbs)	CBR (%)
0.1	399.600	13.32
0.2	637.200	14.16

Nilai CBR = **14.16** %

CALIFORNIA BEARING RATIO (CBR)

PROJECT : Pengujian mekanis tanah terstabilisasi kadar bakteri : 8%
LOCATION : Laboratorium Mekanika Tanah Universitas Hasanuddin masa pemeraman : 28 hari
TESTING METHOD : SNI 1744:2012
TESTED BY : Siti Husnianti Husain



Compaction Test

Optimum Moisture, w_{opt} : 30.0
 Maximum Dry Unit Weight, Y_{dry max} : 1.35
 95% Maximum Dry Unit Weight, Y_{dry n} : 1.28

CBR Laboratory Results

CBR Design : 11.57 %