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LAMPIRAN

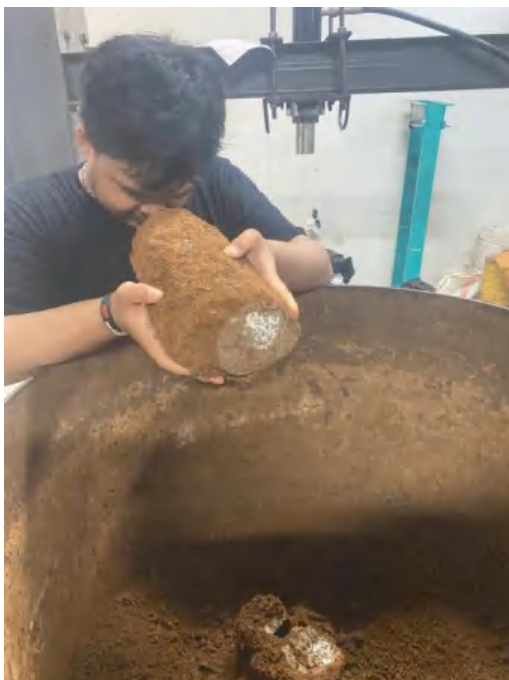


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Dokumentasi





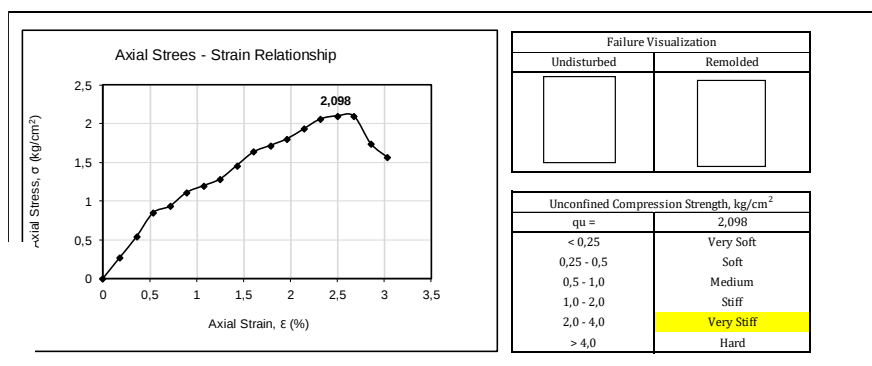


Data Hasil Pengujian

UNCONFINED COMPRESSION TEST RESULTS

PROJECT	:	Research of soil stablilization with various agents		
LOCATION	:	-		
SAMPEL	:	Sampel 63 cm setelah tekan		
TESTING METHOD	:	ASTM D 2166-66	TESTED BY	: Klio
LABORATORY	:	HASANUDDIN UNIVERSITY	DATE	:

Sample Depth	m	-	m	Index Properties	Weight of Wet Soil	490	gram
Sample Size	Diameter, d	5,30	cm		Weight of Dry Soil	368	gram
	Height, h	11,20	cm		Water Content	33,1	%
	Volume	247,09	cm ³		Dry Unit Weight	1,490	gram/cm ³
	Area, A _o	22,06	cm ²	Proving Ring Calibration		1,978	kg/div

[illegible]

UNCONFINED COMPRESSION TEST RESULTS													
PROJECT		: Research of soil stablilization with various agents											
LOCATION		:											
SAMPEL		: Sampel 45 cm setelah tekan											
TESTING METHOD		: ASTM D 2166-66						TESTED BY		: Klio			
LABORATORY		: HASANUDDIN UNIVERSITY						DATE		:			
Sample Depth		m		-		m		Index Properties		Weight of Wet Soil		480	gram
Sample Size		Diameter, d		5,30		cm		Weight of Dry Soil		361		gram	
		Height, h		11,30		cm		Water Content		33,1		%	
		Volume		249,30		cm ³		Dry Unit Weight		1,447		gram/cm ³	
		Area, Ao		22,06		cm ²		Proving Ring Calibration		1,978		kg/div	
Axial		Axial Load & Stress						Axial		Axial Load & Stress			
Deformation		Axial Load		Axial Stress				Deformation		Axial Load		Axial Stress	
Disp. Reading	Axial Strain	Disp. Reading	Axial Stress	Corrected Area	Stress			Disp. Reading	Axial Strain	Disp. Reading	Axial Stress	Corrected Area	Stress
δh	ε = δh/h		P	A = Ao/(1- δh/h)	σ = P/A	δh	ε = δh/h		P	A = Ao/(1- δh/h)	σ = P/A		
(mm)	(%)	(div)	(kg)	(cm ²)	(kg/cm ²)	(mm)	(%)	(div)	(kg)	(cm ²)	(kg/cm ²)		
0,00	0,00	0,0	0,00	22,06	0,000								
0,20	0,18	2,0	3,96	22,10	0,179								
0,40	0,35	4,0	7,91	22,14	0,357								
0,60	0,53	7,0	13,85	22,18	0,624								
0,80	0,71	8,5	16,81	22,22	0,757								
1,00	0,88	9,5	18,79	22,26	0,844								
1,20	1,06	11,0	21,76	22,30	0,976								
1,40	1,24	12,5	24,73	22,34	1,107								
1,60	1,42	14,0	27,69	22,38	1,238								
1,80	1,59	15,5	30,66	22,42	1,368								
2,00	1,77	16,5	32,64	22,46	1,453								
2,20	1,95	18,0	35,61	22,50	1,583								
2,40	2,12	19,0	37,59	22,54	1,667								
2,60	2,30	19,0	37,59	22,58	1,664								
2,80	2,48	14,0	27,69	22,62	1,224								
				</									

UNCONFINED COMPRESSION TEST RESULTS															
PROJECT		: Research of soil stablilization with various agents													
LOCATION		: -													
SAMPel		: Sampel 18 cm setelah tekan													
TESTING METHOD		: ASTM D 2166-66						TESTED BY		: Klio					
LABORATORY		: HASANUDDIN UNIVERSITY						DATE		:					
Sample Depth		m		-		m		Index Properties		Weight of Wet Soil		342		gram	
Sample Size		Diameter, d		5,30		cm				Weight of Dry Soil		258		gram	
		Height, h		8,30		cm				Water Content		32,7		%	
		Volume		183,11		cm ³				Dry Unit Weight		1,407		gram/cm ³	
		Area, A _o		22,06		cm ²				Proving Ring Calibration		1,978		kg/div	
Axial		Axial Load & Stress						Axial		Axial Load & Stress					
Deformation		Axial Load		Axial Stress				Deformation		Axial Load		Axial Stress			
Disp. Reading	Axial Strain	Disp. Reading	Axial Stress	Corrected Area	Stress		Disp. Reading	Axial Strain	Disp. Reading	Axial Stress	Corrected Area	Stress			
δh	ε = δh/h		P	A = A _o /(1- δh/h)	σ = P/A		δh	ε = δh/h		P	A = A _o /(1- δh/h)	σ = P/A			
(mm)	(%)	(div)	(kg)	(cm ²)	(kg/cm ²)		(mm)	(%)	(div)	(kg)	(cm ²)	(kg/cm ²)			
0,00	0,00	0,0	0,00	22,06	0,000										
0,20	0,24	1,0	1,98	22,12	0,089										
0,40	0,48	2,5	4,95	22,17	0,223										
0,60	0,72	4,0	7,91	22,22	0,356										
0,80	0,96	6,0	11,87	22,28	0,533										
1,00	1,20	8,0	15,83	22,33	0,709										
1,20	1,45	11,0	21,76	22,39	0,972										
1,40	1,69	12,0	23,74	22,44	1,058										
1,60	1,93	13,0	25,72	22,50	1,143										
1,80	2,17	13,0	25,72	22,55	1,140										
2,00	2,41	11,0	21,76	22,61	0,963										
2,20	2,65	8,0	15,83	22,66	0,698										

WATER CONTENT							
PROJECT LOCATION : FAKULTAS TEKNIK UNHAS GOWA STASIUN : TESTING ME: ASTM D 2216-(98), D 2937-(71), AASHTO T100-71 LABORATOR: HASANUDDIN UNIVERSITY							
TESTED BY : DATE :							
Bore Hole No.		-					KETERANGAN
Sample	-	1		2		Rata-Rata	
	m	A	B	A	B		
Weight of Container, (1)	Gram	7,69	6,65	7,68	6,67	45,09	
Weight of Container + Wet Soil (2)	Gram	28,42	27,46	27,68	30,52		
Weight of Container + Dry Soil (3)	Gram	18,21	20,40	19,71	20,45		
Water Content, $w=(2-3)/3*100\%$	Gram	56,07	34,61	40,44	49,24		

Lampiran 6. Hasil pengujian kadar air

TEST RESULTS OF GENERAL PROPERTIES (Wet Density, Water Content, Dry Density, Porosity, & Degree of Saturation)							
PROJECT LOCATION : FAKULTAS TEKNIK UNHAS GOWA STASIUN : BORING DEPTH : - TESTING METHC: ASTM D 2216-(98), D 2937-(71), AASHTO T100-71 LABORATORY : HASANUDDIN UNIVERSITY							
TESTED BY DATE							
Bore Hole No.	-						KETERANGAN
Sample	-	BH 01				Rata-Rata	
Sample Depth & Inclination	m	1,50-2,00					
Ring / Container Number	-	1	2	3			
Weight of Ring, (1)	Gram	29,88	29,79	30,21			
Weight of Container, (2)	Gram	19,48	19,74	20,26			
Weight of Ring+Container+Wet Soil, (3)	Gram	129,66	128,11	126,65			
Weight of Wet Soil, (4)={(3)-(2)-(1)}	Gram	80,30	78,58	76,18			
Volume of Soil or Ring, (5)	cm ³	46,41	47,74	43,30			
Weight of Ring+Container+Dry Soil, (6)	Gram	114,37	113,36	113,69			
Weight of Dry Soil, (7)={(6)-(2)-(1)}	Gram	65,01	63,83	63,22			
Weight of Water, (8)=(4)-(7)	Gram	15,29	14,75	12,96			
Specific Gravity, Gs	-	2,68	2,68	2,68			
Volume of Dry Soil, (9)=(7)/Gs	cm ³	24,26	23,82	23,59			
Volume of Pore, (10)=(5)-(9)	cm ³	22,15	23,92	19,71			
Void Ratio, e = (10)/(9)	-	0,91	1,00	0,84		0,92	
Wet Density, $\gamma_{wet}=(4)/(5)$	Gr/cm ³	1,730	1,646	1,759		1,71	
Water Content, $w=(8)/(7)*100\%$	%	45,09	45,09	45,09		45,09	
Dry Density, $\gamma_d=\gamma_{wet}/(1+w)$	Gr/cm ³	1,193	1,135	1,213		1,18	
Porosity, $n=(10)/(5)*100\%$	%	47,73	50,11	45,52		47,79	
Degree of Saturation, $S_r=(8)/(10)*100\%$	%	69,02	61,67	65,75		65,48	

Lampiran 7. Hasil Pengujian Berat Isi



SPECIFIC GRAVITY TEST RESULTS									
 PROJECT LOCATION : FAKULTAS TEKNIK UNHAS GOWA QUARRY : LOKASI PENELITIAN BORING DEP: - TESTING ME: ASTM D 854-58(72) LABORATOR: HASANUDDIN UNIVERSITY TESTED BY DATE									
Sample	-	1							
Sample Depth & Inclination	m								
Number of Volumetric Flask	-	A	B						
Weight of Vol. Flask + Soil (W2)	Gram	38,40	37,56						
Weight of Vol. Flask (W1)	Gram	28,40	27,56						
Weight of Soil	Gram	10,00	10,00						
Temperature, T (oC)	Degree	28,0	28,0						
Weight of Vol. Flask+Water at T (W4)	Gram	77,22	77,29						
Weight of Vol. Flask+Water+Soil (W3)	Gram	83,19	83,25						
Unit Weight of Water at T, γ_T	Gram/Cm ³	0,99624	0,99624						
Temp. Corr. Coefficient, $\alpha=\gamma_T/\gamma_{20}^{oC}$	-	0,99803	0,99803						
Weight of Dry Soil, Ws	Gram	9,55	9,45						
Specific Gravity of Soil (Gs= α *Ws/Wu)	-	2,662	2,702						
Average of Gs	-	2,682							
Remarks:	Unit Weight of Water, $\gamma_{w,20}^{oC}= 0,99821$								

Lampiran 8. Hasil pengujian berat jenis

TEST RESULTS OF GRAIN-SIZE ANALYSIS													
(Sieve-Mechanical and Hydrometer Methods)													
PROJECT													
LOCATION :													
SAMPLING DEPTH :													
TESTING METHOD : ASTM D 424-59, D 4318-(00), AASHTO T89/T90													
LABORATORY : HASANUDDIN UNIVERSITY													
TESTED BY :													
DATE													
Berat Tanah Kering :		500		gr		Spec. Gravity, G _s :		2,67		T :		28,0 °C	
Analisa Saringan						Analisa Hidrometer							
Saringan No.	Diameter (mm)	Berat Tertahan (Gram)	Berat Kumulatif (gram)	Persen Kumulatif Tertahan (%)	Persen Lolos (%)	Waktu (menit)	R	R _{cp} =R+F _p -F _z	% Finer = ((a x R _{cp})/W _g)x100% %Finer Sieve Analysis	R _{cL} = R + F _m	L (cm)	A	D=A/Lt (mm)
4	4,75	0	0	0	100	0,25	47,00	50,15	70,09	48,00	8,80	0,0126	0,07476
10	2	6	6	1,2	98,8	0,5	44,00	47,15	65,90	45,00	8,90	0,0126	0,05316
20	0,84	20	26	5,2	94,8	1	42,00	45,15	63,10	43,00	9,40	0,0126	0,03863
40	0,425	21	47	9,4	90,6	2	40,00	43,15	60,31	41,00	9,70	0,0126	0,02775
60	0,25	38	85	17	83	4	38,00	41,15	57,51	39,00	10,20	0,0126	0,02012
100	0,15	35	120	24	76	8	36,00	39,15	54,72	37,00	10,20	0,0126	0,01423
200	0,075	29	149	29,8	70,2	15	34,00	37,15	51,92	35,00	10,60	0,0126	0,01059
Pan	-	351	500	100	0	30	32,00	35,15	49,13	33,00	11,40	0,0126	0,00777
						60	31,00	34,15	47,73	32,00	11,50	0,0126	0,00552
						90	30,00	33,15	46,33	31,00	12,20	0,0126	0,00464
						120	29,50	32,65	45,63	30,50	12,70	0,0126	0,00410
						240	28,50	31,65	44,24	29,50	13,00	0,0126	0,00293
						1440	28,00	31,15	43,54	29,00	13,30	0,0126	0,00121
Berat jenis air terhadap temperatur, g _{Wet T}						= 0,99624							
f _{aktor} , K = (1000 x G _s x g _{wet T})/(10 x W _s (G _s -1))						= 3,1856							
Faktor K _t = f(G _s ,T)						= 0,0126							
Temperatur Correction (F _t) = -4.85 + 0.25 T)						= 2,15							
Zero Correction (F _z)						= -1,0							
Meniscus correction (F _m)						= 1							
G _s Correction						= 1,00							

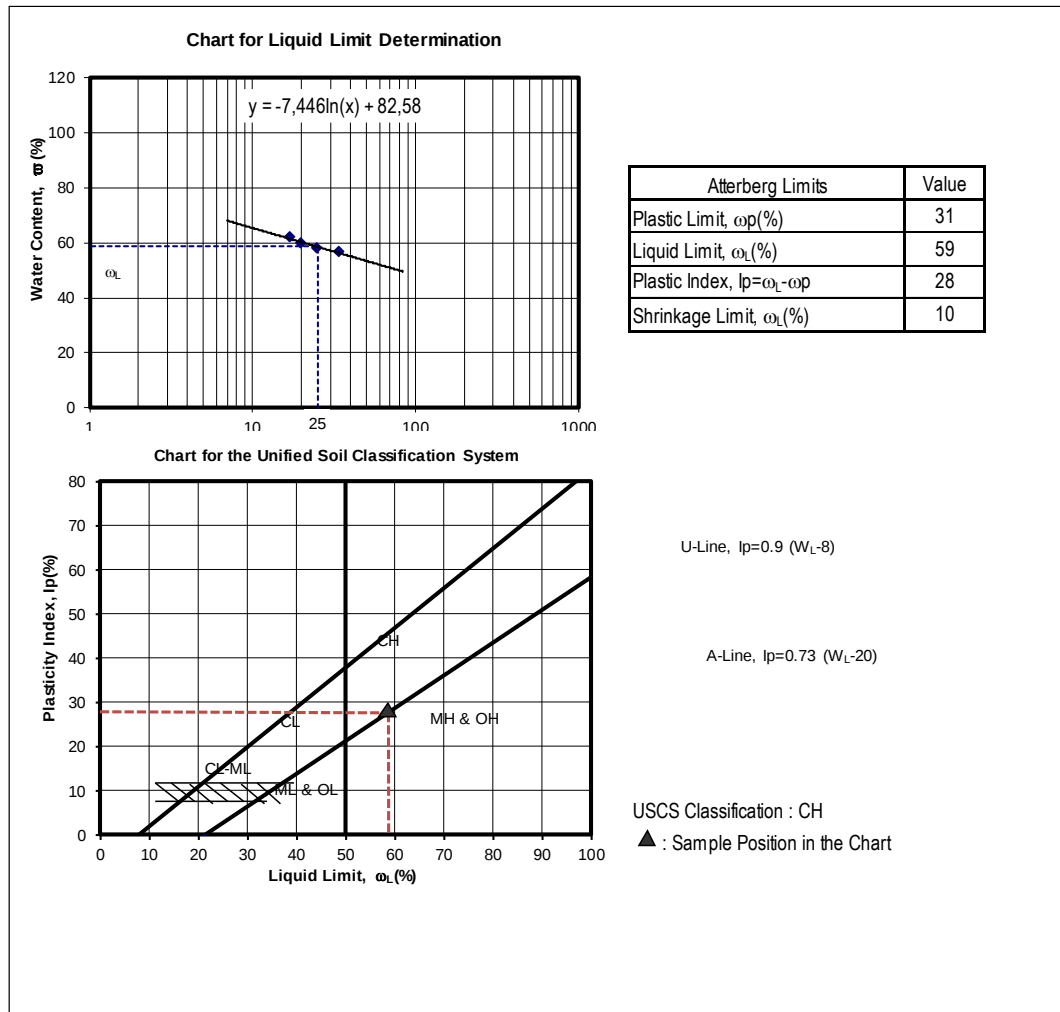


19. Hasil Pengujian Analisa Saringan dan Hidrometer

ATTERBERG LIMITS TEST												
PROJECT LOCATION : FAKULTAS TEKNIK UNHAS GOWA QUARRY : - SAMPLING DEPTH : - TESTING METHOD : ASTM D 424-59, D 4318-(00), AASHTO T89/T90 LABORATORY : HASANUDDIN UNIVERSITY TESTED BY DATE												
Sample No.	:	0										
Depth of Sample	:	0										
	Unit	Plastic Limit		Liquid Limit								Shrinkage Limit
Test Number	-	1	2	1	2	3	4	1				
Number of Blows	N	-	-	34	28	20	17	-				
Container No. or Can No.	-	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1
Weigh of Wet Soil+Can, W1	gram	15,72	14,34	16,50	24,20	22,67	23,75	25,21	24,28	18,06	14,15	65,22
Weigh of Dry Soil+Can, W2	gram	14,90	13,54	13,93	20,92	20,08	20,64	21,47	21,08	14,45	11,88	39,88
Weigh of Water, Ww=W1-W2	gram	0,82	0,80	2,57	3,28	2,59	3,11	3,74	3,20	3,61	2,27	25,34
Weigh of Can, W3	gram	12,22	11,00	9,40	15,13	15,53	15,39	15,33	15,66	8,60	8,23	10,18
Weigh of Dry Soil, Ws=W2-W3	gram	2,68	2,54	4,53	5,79	4,55	5,25	6,14	5,42	5,85	3,65	29,7
Water Content, $\omega = Ww/Ws \times 100\%$	%	30,60	31,50	56,73	56,65	56,92	59,24	60,91	59,04	61,71	62,19	85,32
Average of Water Content, w	%	31,05		56,69		58,08		59,98		61,95		85,32
Weigh of Can+Hg, W1	gram											455
Weigh of Shrink dish	gram											35
Weight of displaced Hg + Shrink dish	gram											340
Hg content	gr/cm ³											13,6
Volume of Wet Soil	cm ³											32,71
Volume of Dry Soil	cm ³											10,28
Shrinkage Limit	%											9,81
Average of Shrinkage Limit	%											9,81

Lampiran 10. Hasil Pengujian Batas-Batas Atterberg





Lampiran 11. Grafik Determinasi Batas Cair



COMPACTION TEST RESULTS												
PROJECT												
LOCATION : FAKULTAS TEKNIK UNHAS GOWA												
QUARRY : -												
SAMPLE / SAMPLE NO. : -												
TESTING METHOD : ASTM D 698/ D 1567												
LABORATORY : HASANUDDIN UNIVERSITY												
TESTED BY												
DATE												
Berat tanah	gram	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Kadar air mula-mula	%	11,00	11,00	11,00	11,00	11,00	11,00	11,00	11,00	11,00	11,00	11,00
Penambahan air	ml	150	200	250	300	350	350	350	350	350	350	350
Kadar air akhir	%	19,3	22,1	24,9	27,7	30,4	30,4	30,4	30,4	30,4	30,4	30,4
Berat Isi Basah (Wet density)												
No. Mould	-	1	2	3	4	5	5319	5205				
Berat Mould	gram	3529	3529	3529	3529	3529	3529	3529				
Berat tanah basah + Mould	gram	5205	5319	5368	5315	5229						
Berat tanah basah, W_{wet}	gram	1676	1790	1839	1786	1700						
Volume Mould	cm ³	996	996	996	996	996						
Berat Volume Basah	gr/cm ³	1,682	1,797	1,846	1,793	1,706						
Kadar Air (Water Content)												
No. Container	-	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	
Berat tanah basah + Container	gram	47,61	46,18	49,87	44,77	38,52	46,26	44,33	49,81	47,01	43,27	
Berat tanah kering + Container	gram	38,83	37,81	40,23	36,05	30,91	36,91	34,47	38,64	35,71	33,01	
Berat air	gram	8,78	8,37	9,64	8,72	7,61	9,35	9,86	11,17	11,3	10,26	
Berat container	gram	8,08	8,17	8,20	8,24	7,95	8,07	8,14	8,20	8,12	8,16	
Berat tanah kering	gram	30,75	29,64	32,03	27,81	22,96	28,84	26,33	30,44	27,59	24,85	
Kadar air	%	28,6	28,2	30,1	31,4	33,1	32,4	37,4	36,7	41,0	41,3	
Kadar air rata-rata	%	28,4	30,7	32,8	37,1	41,1						
Berat Isi Kering (Dry Density)												
Berat tanah basah, W_{wet}	gram	1676	1790	1839	1786	1700						
Kadar air rata-rata	%	28,40	30,73	32,78	37,07	41,12						
Berat kering $W_{dry} = \frac{W_{wet}}{1 + \left(\frac{W}{100}\right)}$	gram	1305,34	1369,27	1384,97	1302,97	1204,63						
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	1,31	1,37	1,39	1,31	1,21						
$g_{zav} = gw/(w+(1/Gs))$	gr/cm ³	1,52	1,47	1,43	1,34	1,27						

Lampiran 12. Data pengujian kompaksi

