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Lampiran 1 Dokumentasi



Dokumentasi 1: Sampel benda uji dan hasil pengujian



Dokumentasi 2. Pengujian *Direct Shear*

Lampiran 2 Data Hasil Pengujian

PENGUJIAN KADAR AIR				
SAMPEL	:	Tanah Asli		
TESTING METHOD	:	ASTM D 698/ D 1567		
LABORATORY	:	HASANUDDIN UNIVERSITY	DATE : Maret2021	
Diketahui :		Satuan	A	B
Berat container kosong		gr	7,94	8,23
Berat container + tanah		gr	26,21	31,5
Berat container + tanah setelah dioven		gr	24,53	28,34
Kadar Air		%	10,13	15,71
Kadar Air rata-rata		%	12,92	

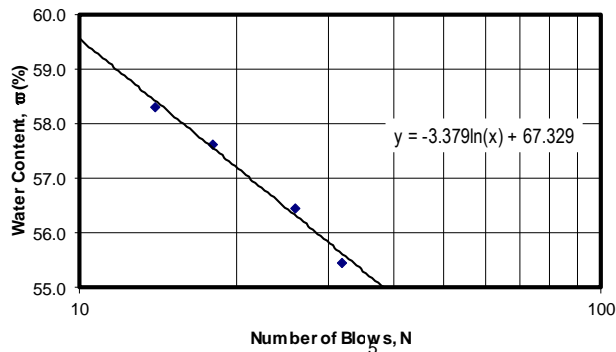
PENGUJIAN BERAT JENIS					
SAMPEL		: Tanah Asli			
TESTING METHOD		: ASTM D 854-58(72)			
DATE		: Maret 2021			
Sample			-	Tanah Asli	
Uraian	Symbol	Formula	-	A	B
Temperature, T (oC)	T	Diukur	Degree	28,0	28,0
Faktor Koreksi Temperatur	α	Table	-	0,99803	0,99803
Berat Piknometer	Wp	Diukur	Gram	30,06	22,51
Berat Piknometer + tanah	Wps	Diukur	Gram	40,21	32,68
Berat Piknometer + Air	Wpw	Diukur	Gram	77,71	73,43
Berat Pikno + Tanah + air	Wpsw	Diukur	Gram	84,08	79,67
Berat Cawan	Wed	Diukur	Gram	94,42	86,81
Berat Cawan + Tanah Kering	Weds	Diukur	Gram	104,57	96,98
Berat tanah kering	Ws	Weds-Wed	Gram	10,15	10,17
Berat Air	Ww	Ws+Wpw-Wpsw		3,78	3,93
Specific Gravity of Soil	Gs	Ws/Ww	-	2,680	2,583
Average of Gs			-	2,631	
Unitt weight of water = 0,99821					

PENGUJIAN ATTERBERG

SAMPLE : TANAH ASLI
 TESTING METHOD : ASTM D 424-59, D 4318-(00), AASHTO T89/T90
 LABORATORY : HASANUDDIN UNIVERSITY DATE : APRIL 2021

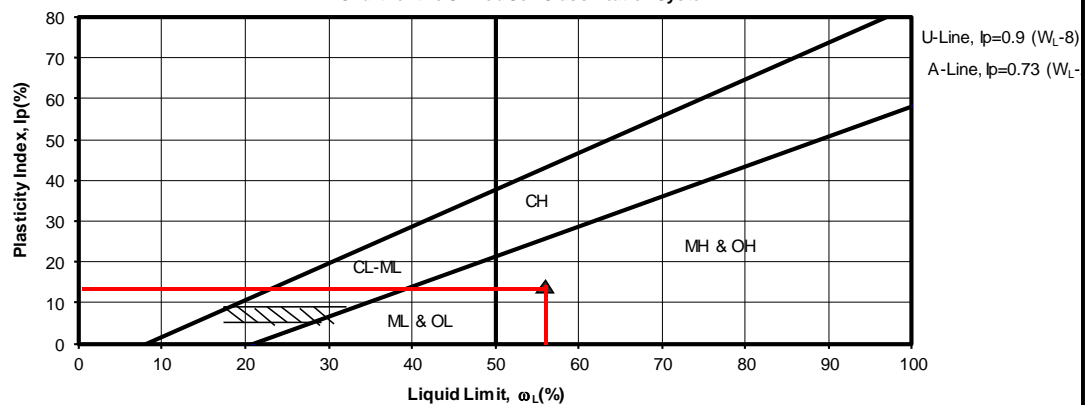
Sample No.											
Depth of Sample											
	Unit	Plastic Limit		Liquid Limit							
Test Number	-	1	2	1		2		3		4	
Number of Blows	N	-	-	14		18		26		32	
Container No. or Can No.	-	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2
Weigh of Wet Soil+Can, W1	gram	14.32	14.34	21.00	23.26	21.82	26.34	26.30	28.10	28.12	28.23
Weigh of Dry Soil+Can, W2	gram	13.48	13.28	15.79	17.01	16.16	19.01	19.29	20.24	20.45	20.29
Weigh of Water, Ww=W1-W2	gram	0.8	1.1	5.2	6.3	5.7	7.3	7.0	7.9	7.7	7.9
Weigh of Can, W3	gram	11.4	10.8	6.9	6.3	6.4	6.3	6.9	6.3	6.3	6.3
Weigh of Dry Soil, Ws=W2-W3	gram	2.1	2.5	8.9	10.7	9.8	12.7	12.4	13.9	14.1	14.0
Water Content, w=Ww/Ws*100%	%	40.38	42.23	58.28	58.36	57.70	57.59	56.44	56.51	54.28	56.67
Average of Water Content, w	%	41.31		58.32		57.64		56.47		55.48	

Chart for Liquid Limit Determination



Atterberg Limits	Value
Plastic Limit, PL(%)	41
Liquid Limit, LL(%)	56
Plastic Index, PI=LL-PL	15
Shrinkage Limit, S _L (%)	21

Chart for the Unified Soil Classification System



PENGUJIAN ANALISA SARINGAN

SAMPLE : Tanah Asli
 TESTING METHOD : ASTM D 424-59, D 4318-(00), AASHTO T89/T90
 LABORATORY : HASANUDDIN UNIVERSITY
 DATE : MARET 2021

Berat Tanah Kering : 500 gr Spec. Gravity, G_s : 2.631 T : 28.0 °C

Analisa Saringan						Hydrometer							
Saringan No.	Diameter (mm)	Berat Tertahan (Gram)	Berat Kumulatif Tertahan (gram)	Persen Tertahan (%)	Persen Lolos (%)	Waktu (menit)	Pembacaan Hidrometer (R)	Rep = R + Ft + Fz	#60 Finer = ((a x Rep) / W _s) x 100% * % Finer #200	R _{cL} = R + F _m	(L) Kedalaman (cm)	Konstanta (K)	D = K ^{0.5} / L ^{0.5} (mm)
4	4.75	10	10	2	98	0.25	52.00	47.50	71.75	53.00	7.60	0.0125	0.06892
10	2	6	16	3.2	96.8	0.5	47.00	42.50	64.20	48.00	8.40	0.0125	0.05123
20	0.84	9	25	5	95	1	43.00	38.50	58.16	44.00	9.10	0.0125	0.03771
40	0.425	11	36	7.2	92.8	2	42.00	37.50	56.65	43.00	9.20	0.0125	0.02681
60	0.25	13	49	9.8	90.2	4	40.00	35.50	53.63	41.00	9.60	0.0125	0.01936
100	0.15	18	67	13.4	86.6	8	38.00	33.50	50.61	39.00	9.90	0.0125	0.01391
200	0.075	57	124	24.8	75.2	15	37.00	32.50	49.09	38.00	10.10	0.0125	0.01026
Pan	-	376	500	100	0	30	35.50	31.00	46.83	36.50	10.30	0.0125	0.00732
						60	34.50	30.00	45.32	35.50	10.50	0.0125	0.00523
						90	33.00	28.50	43.05	34.00	10.70	0.0125	0.00431
						120	32.00	27.50	41.54	33.00	10.90	0.0125	0.00377
						240	31.00	26.50	40.03	32.00	11.10	0.0125	0.00269
						1440	29.50	25.00	37.77	30.50	11.30	0.0125	0.00111

Berat jenis air terhadap temperatur, g_{wet} T = 0.99627

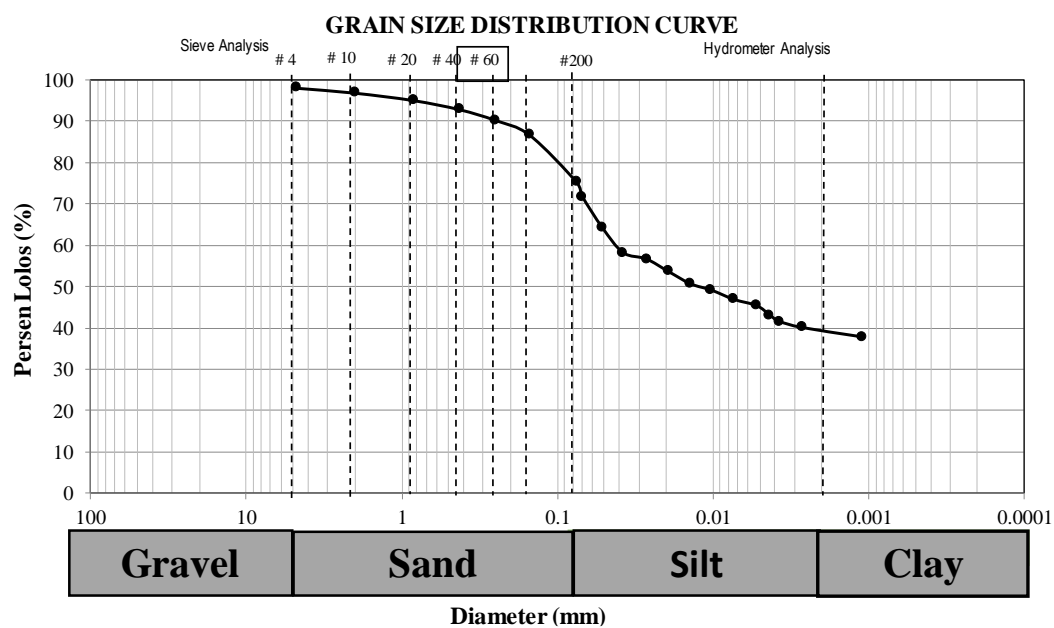
Faktor K_t = f(G_s, T) = 0.0125

Temperatur Correction (F_t) = -4.85 + 0.25 T = 2.50

Zero Correction (F_z) = 7.0


Meniscus correction (F_m) = 1

G_s Correction = 1.00

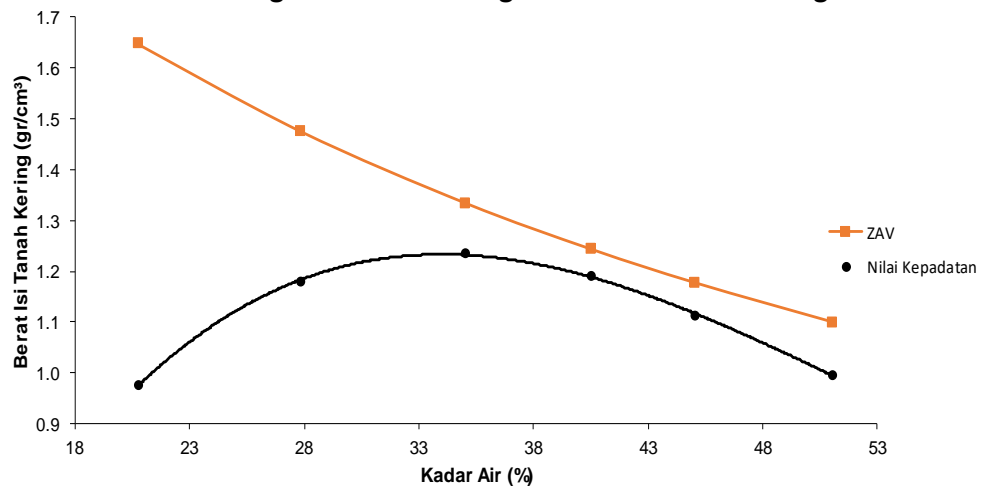


Pengujian Kadar Organik

Uraian	Satuan	Sampel 1	Sampel 2	Sampel 3
berat cawan kosong	(gram)	36,33	38,45	34,63
berat sampel	(gram)	5,17	5,14	5,11
berat sampel + cawan	(gram)	41,50	43,59	39,74
berat cawan + sampel sebelum dioven	(gram)	39,37	41,47	37,62
berat cawan + sampel setelah dioven	(gram)	37,61	39,71	35,87
bahan kering	(%)	58,89	58,81	58,45
kadar air	(%)	41,11	41,19	41,55
kadar air rata-rata	(%)	41,28		
kadar abu	(%)	24,89	24,56	24,28
kadar abu rata-rata	(%)	24,57		
kadar abu tanpa air (100% bahan kering)	(%)	42,25	41,76	41,53
kadar abu tanpa air (100% bahan kering) rata-rata	(%)	41,85		
bahan organik	(%)	34,01	34,25	34,17
bahan organik rata-rata	(%)	34,14		
bahan organik tanpa air (100% bahan kering)	(%)	57,75	58,24	58,47
bahan organik tanpa air (100% bahan kering) rata-rata	(%)	58,15		

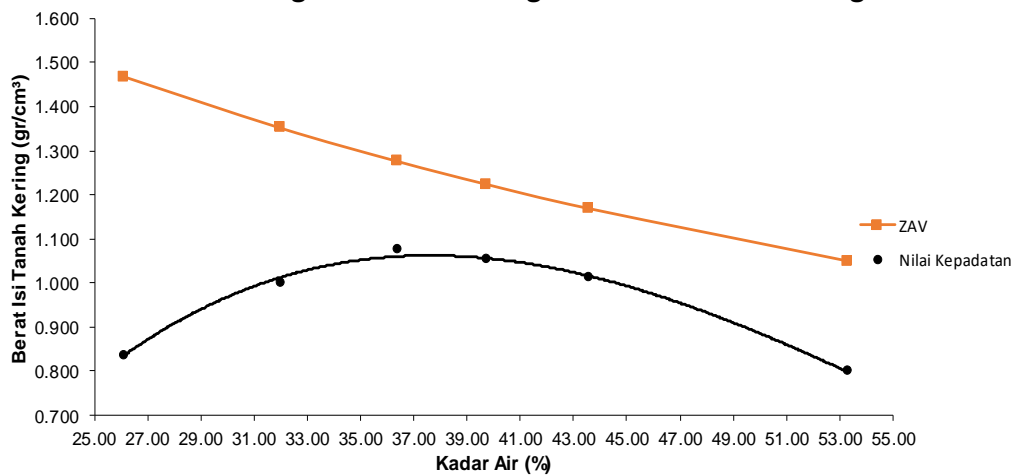
PROJECT	: SOIL INVESTIGATION REPORT												
LOCATION	: Gowa (Tanah Asli), Enrekang (Tanah Organik)												
TESTING	: kompaksi												
SAMPLE NO.	: Tanah Asli + 10% Tanah Organik												
TESTING METHOD	: ASTM D 698/ D 1567			TESTED BY	: M. Taqiyuddin & Mustafa								
LABORATORY	: HASANUDDIN UNIVERSITY			DATE	: September 2022								
Berat tanah	gram	2000	2000	2000	2000	2000	2000						
Kadar air mula-mula	%	0.00	0.00	0.00	0.00	0.00	0.00						
Penambahan air	ml	500	600	700	800	900	1000						
Kadar air akhir	%	25.00	30.00	35.00	40.00	45.00	50.00						
Berat Isi Basah (Wet density)													
No. Mould	-	1	2	3	4	5	6						
Berat Mould	gram	1899	1899	1899	1899	1899	1899						
Berat tanah basah + Mould	gram	3082	3414	3572	3580	3519	3409						
Berat tanah basah, W_{wet}	gram	1183	1515	1673	1681	1620	1510						
Volume Mould, V_{mould}	cm ³	1004	1004	1004	1004	1004	1004						
Berat Volume Basah	gr/cm ³	1.178	1.509	1.666	1.674	1.614	1.504						
Kadar Air (Water Content)													
No. Container	-	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B
Berat tanah basah + Container	gram	29.22	28.93	50	46.95	28.07	29.43	30.11	30.91	46.71	45.56	46.08	44.75
Berat tanah kering + Container	gram	25.61	25.29	42.5	40.02	22.86	23.84	23.69	24.34	37.14	36.27	35.76	34.8
Berat container	gram	7.99	7.97	15.45	15.20	7.93	7.95	8.02	7.96	15.94	15.62	15.43	15.43
Kadar air	%	20	21	27.73	27.92	34.90	35.18	40.97	40.11	45.14	44.99	50.76	51.37
Kadar air rata-rata, w	%	20.75		27.82		35.04		40.54		45.06		51.07	
Berat Isi Kering (Dry Density)													
Berat tanah basah, W_{wet}	gram	1183	1515	1673	1681	1620	1510						
Kadar air rata-rata, w	%	20.75	27.82	35.04	40.54	45.06	51.07						
Berat kering	$W_{dry} = \frac{W_{wet}}{1 + \left(\frac{w}{100}\right)}$	gram	979.69	1185.23	1238.91	1196.10	1116.74	999.57					
Volume Mould	cm ³	1003.94	1003.94	1003.94	1003.94	1003.94	1003.94						
Berat isi kering	$\gamma_{dry} = \frac{W_{dry}}{V_{mould}}$	gr/cm ³	0.976	1.181	1.234	1.191	1.112	0.996					
$gzav = gw/(w+(l/Gs))$	gr/cm ³	1.648	1.476	1.334	1.243	1.176	1.099						

Grafik Hubungan Kadar Air dengan Berat Isi Tanah kering



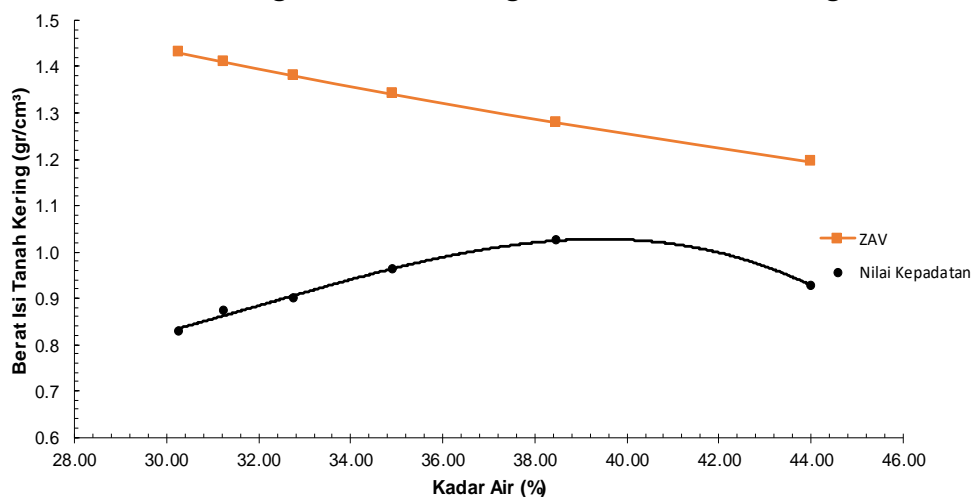
PROJECT	: SOIL INVESTIGATION REPORT												
LOCATION	: Gowa (Tanah Asli), Enrekang (Tanah Organik)												
TESTING	: kompaksi												
SAMPLE NO.	: Tanah Asli + 20% Tanah Organik												
TESTING METHOD	: ASTM D 698/ D 1567					TESTED BY	: M. Taqiyuddin & Mustafa						
LABORATORY	: HASANUDDIN UNIVERSITY					DATE	: September 2022						
Berat tanah	gram	2000	2000	2000	2000	2000	2000						
Kadar air mula-mula	%	0.00	0.00	0.00	0.00	0.00	0.00						
Penambahan air	ml	500	600	700	800	900	1000						
Kadar air akhir	%	25.00	30.00	35.00	40.00	45.00	50.00						
Berat Isi Basah (Wet density)													
No. Mould	-	1	2	3	4	5	6						
Berat Mould	gram	1899	1899	1899	1899	1899	1899						
Berat tanah basah + Mould	gram	2959	3224	3372	3377	3358	3130						
Berat tanah basah, W_{wet}	gram	1060	1325	1473	1478	1459	1231						
Volume Mould, V_{mould}	cm ³	1004	1004	1004	1004	1004	1004						
Berat Volume Basah	gr/cm ³	1.056	1.320	1.467	1.472	1.453	1.226						
Kadar Air (Water Content)													
No. Container	-	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B
Berat tanah basah + Container	gram	23.3	30.03	21.27	28.81	25.49	23.22	48.34	36.98	44.49	46.66	62.7	70.36
Berat tanah kering + Container	gram	20.08	25.53	17.95	23.92	20.84	19.16	39.24	29.01	35.72	37.14	46.14	51.34
Berat container	gram	7.9	8.05	7.92	8.07	8.04	8.01	15.62	9.52	15.58	15.25	15.22	15.44
Kadar air	%	26.44	25.74	33.10	30.85	36.33	36.41	38.53	40.89	43.55	43.49	53.56	52.98
Kadar air rata-rata	%	26.09		31.98		36.37		39.71		43.52		53.27	
Berat Isi Kering (Dry Density)													
Berat tanah basah, W_{wet}	gram	1060	1325	1473	1478	1459	1231						
Kadar air rata-rata	%	26.09	31.98	36.37	39.71	43.52	53.27						
Berat kering	gram	840.67	1003.97	1080.15	1057.91	1016.60	803.16						
$W_{dry} = \frac{W_{wet}}{1 + \left(\frac{W}{100}\right)}$	gram	840.67	1003.97	1080.15	1057.91	1016.60	803.16						
Volume Mould	cm ³	1003.94	1003.94	1003.94	1003.94	1003.94	1003.94						
Berat isi kering	gr/cm ³	0.837	1.000	1.076	1.054	1.013	0.800						
$\gamma_{dry} = \frac{W_{dry}}{V_{mould}}$	gr/cm ³	0.837	1.000	1.076	1.054	1.013	0.800						
$g_{zav} = gw/(w+(1/Gs))$	gr/cm ³	1.468	1.351	1.275	1.223	1.169	1.049						

Grafik Hubungan Kadar Air dengan Berat Isi Tanah kering



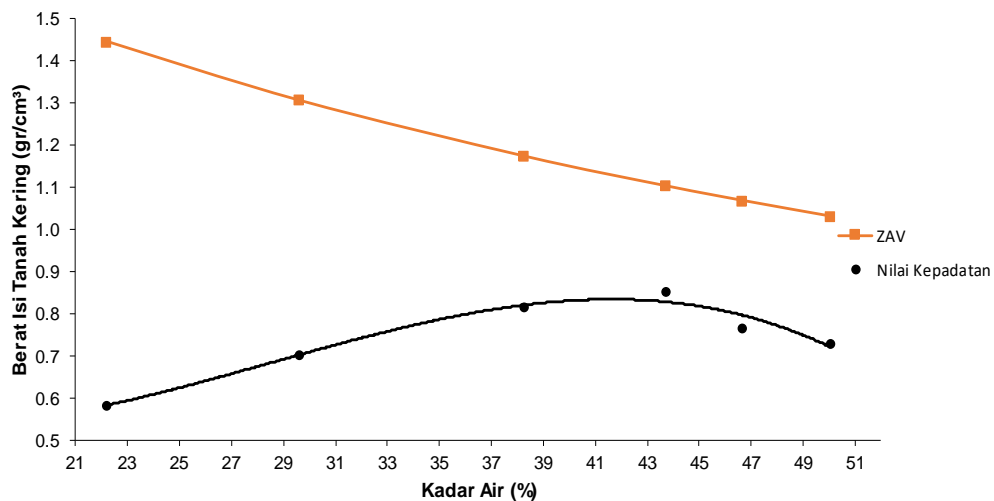
PROJECT	: SOIL INVESTIGATION REPORT													
LOCATION	: Gowa (Tanah Asli), Enrekang (Tanah Organik)													
TESTING	: kompaksi													
SAMPLE NO.	: Tanah Asli + 30% Tanah Organik													
TESTING METHOD	: ASTM D 698/ D 1567			TESTED BY	: M. Taqiyuddin & Mustafa									
LABORATORY	: HASANUDDIN UNIVERSITY			DATE	: September 2022									
Berat tanah	gram	2000	2000	2000	2000	2000	2000							
Kadar air mula-mula	%	0.00	0.00	0.00	0.00	0.00	0.00							
Penambahan air	ml	600	700	800	900	1000	1100							
Kadar air akhir	%	30.00	35.00	40.00	45.00	50.00	55.00							
Berat Isi Basah (Wet density)														
No. Mould	-	1	2	3	4	5	6							
Berat Mould	gram	1899	1899	1899	1899	1899	1899							
Berat tanah basah + Mould	gram	2982	3050	3100	3201	3325	3240							
Berat tanah basah, W_{wet}	gram	1083	1151	1201	1302	1426	1341							
Volume Mould, V_{mould}	cm ³	1004	1004	1004	1004	1004	1004							
Berat Volume Basah	gr/cm ³	1.079	1.146	1.196	1.297	1.420	1.336							
Kadar Air (Water Content)														
No. Container	-	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B	
Berat tanah basah + Container	gram	29.98	31.45	32.89	24.76	25.5	28.22	22.55	21.15	26.71	24.60	26.00	24.18	
Berat tanah kering + Container	gram	27.00	24.20	26.84	20.86	21.2	23.2	18.12	17.08	20.75	19.30	19.68	18.47	
Berat container	gram	8.04	8.01	7.92	8.06	7.91	8.06	5.41	5.44	5.42	5.37	5.47	5.35	
Kadar air	%	15.72	44.78	31.98	30.47	32.36	33.16	34.85	34.97	38.88	38.05	44.48	43.52	
Kadar air rata-rata	%	30.25		31.22		32.76		34.91		38.46		44.00		
Berat Isi Kering (Dry Density)														
Berat tanah basah, W_{wet}	gram	1083	1151	1201	1302	1426	1341							
Kadar air rata-rata	%	30.25	31.22	32.76	34.91	38.46	44.00							
Berat kering														
$W_{dry} = \frac{W_{wet}}{1 + \left(\frac{W}{100}\right)}$	gram	831.48	877.13	904.67	965.09	1029.88	931.26							
Volume Mould	cm ³	1003.94	1003.94	1003.94	1003.94	1003.94	1003.94							
Berat isi kering														
$\gamma_{dry} = \frac{W_{dry}}{V_{mould}}$	gr/cm ³	0.828	0.874	0.901	0.961	1.03	0.93							
$g_{zav} = gw/(w+(1/Gs))$	gr/cm ³	1.430	1.410	1.380	1.341	1.280	1.195							

Grafik Hubungan Kadar Air dengan Berat Isi Tanah kering



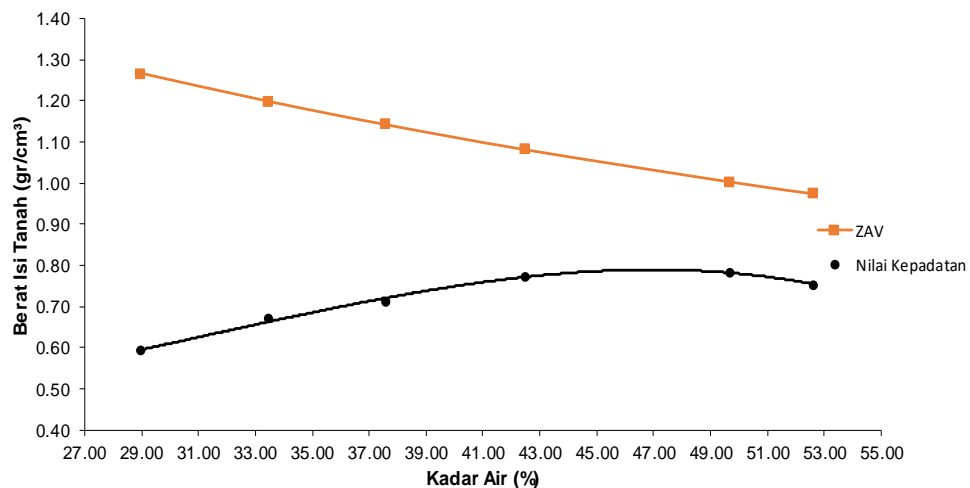
PROJECT	: SOIL INVESTIGATION REPORT												
LOCATION	: Gowa (Tanah Asli), Enrekang (Tanah Organik)												
TESTING	: kompaksi												
SAMPLE NO.	: Tanah Asli + 40% Tanah Organik												
TESTING METHOD	: ASTM D 698/ D 1567			TESTED BY	: M. Taqiyuddin & Mustafa								
LABORATORY	: HASANUDDIN UNIVERSITY			DATE	: September 2022								
Berat tanah	gram	2000	2000	2000	2000	2000	2000						
Kadar air mula-mula	%	0.00	0.00	0.00	0.00	0.00	0.00						
Penambahan air	ml	600	700	800	900	1000	1100						
Kadar air akhir	%	30.00	35.00	40.00	45.00	50.00	55.00						
Berat Isi Basah (Wet density)													
No. Mould	-	1	2	3	4	5	6						
Berat Mould	gram	1899	1899	1899	1899	1899	1899						
Berat tanah basah + Mould	gram	2615	2811	3033	3128	3026	2998						
Berat tanah basah, W_{wet}	gram	716	912	1134	1229	1127	1099						
Volume Mould, V_{mould}	cm ³	1004	1004	1004	1004	1004	1004						
Berat Volume Basah	gr/cm ³	0.713	0.908	1.130	1.224	1.123	1.095						
Kadar Air (Water Content)													
No. Container	-	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B
Berat tanah basah + Container	gram	52.3	38.92	32.37	31.72	32.17	29.3	38.06	29.05	32.28	33	48.09	48.16
Berat tanah kering + Container	gram	45.52	33.4	26.85	26.26	25.45	23.43	29.01	22.62	24.63	25.03	37.25	37.25
Berat container	gram	15.64	8.06	8.02	8.06	7.98	8.03	8.1	8.08	8.14	8.07	15.59	15.46
Kadar air	%	22.69	21.78	29.31	30.00	38.47	38.12	43.28	44.22	46.39	46.99	50.05	50.07
Kadar air rata-rata	%	22.24		29.66		38.29		43.75		46.69		50.06	
Berat Isi Kering (Dry Density)													
Berat tanah basah, W_{wet}	gram	716	912	1134	1229	1127	1099						
Kadar air rata-rata	%	22.24	29.66	38.29	43.75	46.69	50.06						
Berat kering $W_{dry} = \frac{W_{wet}}{1 + \left(\frac{W}{100}\right)}$	gram	585.75	703.39	820.01	854.95	768.27	732.39						
Volume Mould	cm ³	1003.94	1003.94	1003.94	1003.94	1003.94	1003.94						
Berat isi kering $\gamma_{dry} = \frac{W_{dry}}{V_{mould}}$	gr/cm ³	0.583	0.701	0.817	0.852	0.765	0.730						
$\rho_{zav} = \frac{g_w}{w+(1/G_s)}$	gr/cm ³	1.444	1.304	1.172	1.101	1.067	1.030						

Grafik Hubungan Kadar Air dengan Berat Isi Tanah Kering



PROJECT	: SOIL INVESTIGATION REPORT												
LOCATION	: Gowa (Tanah Asli), Enrekang (Tanah Organik)												
TESTING	: kompaksi												
SAMPLE NO.	: Tanah Asli + 50% Tanah Organik												
TESTING METHOD	: ASTM D 698/ D 1567			TESTED BY	: M. Taqiyuddin & Mustafa								
LABORATORY	: HASANUDDIN UNIVERSITY			DATE	: September 2022								
Berat tanah	gram	2000	2000	2000	2000	2000	2000						
Kadar air mula-mula	%	0.00	0.00	0.00	0.00	0.00	0.00						
Penambahan air	ml	500	600	700	800	900	1000						
Kadar air akhir	%	25.00	30.00	35.00	40.00	45.00	50.00						
Berat Isi Basah (Wet density)													
No. Mould	-	1	2	3	4	5	6						
Berat Mould	gram	1899	1899	1899	1899	1899	1899						
Berat tanah basah + Mould	gram	2666	2798	2881	3006	3076	3052						
Berat tanah basah, W_{wet}	gram	767	899	982	1107	1177	1153						
Volume Mould, V_{mould}	cm ³	1004	1004	1004	1004	1004	1004						
Berat Volume Basah	gr/cm ³	0.764	0.895	0.978	1.103	1.172	1.148						
Kadar Air (Water Content)													
No. Container	-	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B
Berat tanah basah + Container	gram	39.09	32.43	30.93	26.57	31.93	34.47	46.93	43.11	42.21	48.92	50.29	48.7
Berat tanah kering + Container	gram	31.45	26.4	24.57	21.1	24.71	26.49	35.32	32.66	30.78	37.97	38.27	37.11
Berat container	gram	5.43	5.33	5.44	5.45	5.4	5.36	8.06	8.02	8.06	15.64	15.46	15.06
Kadar air	%	29.36	28.62	33.25	33.67	37.39	37.77	42.59	42.41	50.31	49.04	52.70	52.56
Kadar air rata-rata	%	28.99		33.46		37.58		42.50		49.67		52.63	
Berat Isi Kering (Dry Density)													
Berat tanah basah, W_{wet}	gram	767	899	982	1107	1177	1153						
Kadar air rata-rata	%	28.99	33.46	37.58	42.50	49.67	52.63						
Berat kering $W_{dry} = \frac{W_{wet}}{1 + \left(\frac{W}{100}\right)}$	gram	594.62	673.61	713.78	776.84	786.38	755.43						
Volume Mould	cm ³	1003.94	1003.94	1003.94	1003.94	1003.94	1003.94						
Berat isi kering $\gamma_{dry} = \frac{W_{dry}}{V_{mould}}$	gr/cm ³	0.592	0.671	0.711	0.77	0.78	0.75						
$\rho_{zav} = \rho_w / (w + (1/C_s))$	gr/cm ³	1.266	1.198	1.142	1.081	1.003	0.974						

Grafik Hubungan Kadar Air dengan Berat Isi Kering Tanah



DIRECT SHEAR TEST RESULTS

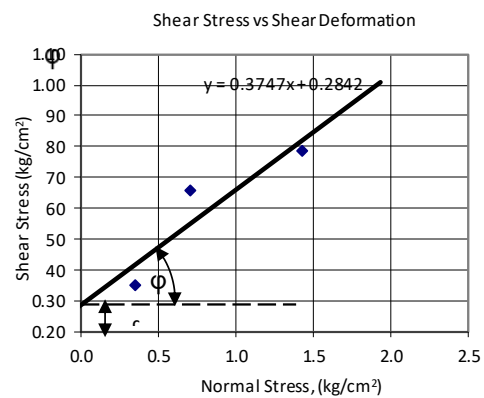
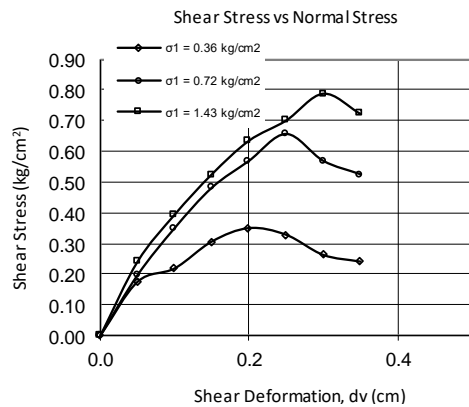
PROJECT : SOIL INVESTIGATION REPORT
 LOCATION : Sampel Tanah Organik (Enrekang), Sampel Tanah Asli (Gowa)
 NO SAMPLE : 10% T.Oragnik + 6% Bakteri + T.Asli
 QUARRY : Pemeraman 0 Hari
 TESTING METHOD : ASTM D 3080-72
 LABORATORY : HASANUDDIN UNIVERSITY




TESTED BY : Mustafa
 DATE : Oktober 2022

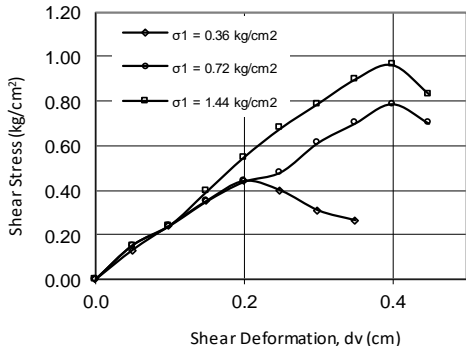
Sample Size : Proving Ring Calibration = 1.22 kg/div
 Diameter Sample = 5.96 cm Displacement Rate = kg/div
 Height of Sample = 2.18 cm c = 0.28 kg/cm²
 Area of Sample = 27.90 cm² φ = 21 °

Test No.	Test (1)		Test (2)		Test (3)	
Normal Load	P1 = 10.00	kg	P1 = 20.00	kg	P1 = 40.00	kg
Normal Stress	σ ₁ = 0.36	kg/cm ²	σ ₁ = 0.72	kg/cm ²	σ ₁ = 1.43	kg/cm ²
Shear Displacement (cm)	Shear Force (kg)	Shear Stress (kg/cm ²)	Shear Force (kg)	Shear Stress (kg/cm ²)	Shear Force (kg)	Shear Stress (kg/cm ²)
	0.00	0.000	0.000	0.000	0.000	0.000
	0.05	4.880	0.175	5.490	0.197	0.241
	0.10	6.100	0.219	9.760	0.350	0.394
	0.15	8.540	0.306	13.420	0.481	0.525
	0.20	9.760	0.350	15.860	0.568	0.634
	0.25	9.150	0.328	18.300	0.656	0.700
	0.30	7.320	0.262	15.860	0.568	21.960
0.35	6.710	0.241	14.640	0.525	20.130	0.722

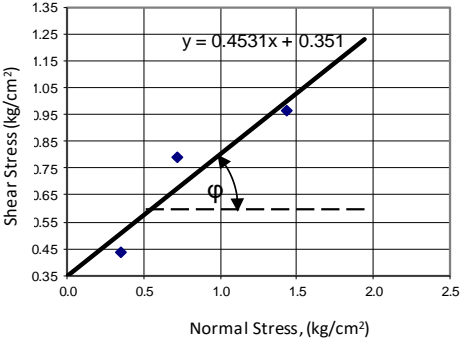


DIRECT SHEAR TEST RESULTS						
PROJECT : SOIL INVESTIGATION REPORT						
LOCATION : Sampel Tanah Organik (Enrekang), Sampel Tanah Asli (Gowa)						
NO SAMPLE : 10% T.Oragnik + 6% Bakteri + T.Asli						
QUARRY : Pemeraman 7 Hari						
TESTING METHOD : ASTM D 3080-72			TESTED BY : Mustafa			
LABORATORY : HASANUDDIN UNIVERSITY			DATE : Oktober 2022			
Sample Size :		Proving Ring Calibration = 1.22 kg/div				
Diameter Sample =	5.95 cm	Displacement Rate =		kg/div		
Height of Sample =	2.16 cm	c =		0.35 kg/cm ²		
Area of Sample =	27.81 cm ²	φ =		24 °		
Test No.	Test (1)		Test (2)		Test (3)	
Normal Load	P1 = 10.00 kg		P1 = 20.00 kg		P1 = 40.00 kg	
Normal Stress	σ1 = 0.36 kg/cm ²		σ1 = 0.72 kg/cm ²		σ1 = 1.44 kg/cm ²	
Shear Displacement (cm)	Shear Force (kg)	Shear Stress (kg/cm ²)	Shear Force (kg)	Shear Stress (kg/cm ²)	Shear Force (kg)	Shear Stress (kg/cm ²)
0.00	0.000	0.000	0.000	0.000	0.000	0.000
0.05	3.660	0.132	4.270	0.154	4.270	0.154
0.10	6.710	0.241	6.710	0.241	6.710	0.241
0.15	9.760	0.351	9.760	0.351	10.980	0.395
0.20	12.200	0.439	12.200	0.439	15.250	0.548
0.25	10.980	0.395	13.420	0.483	18.910	0.680
0.30	8.540	0.307	17.080	0.614	21.960	0.790
0.35	7.320	0.263	19.520	0.702	25.010	0.899
0.40	0.000	0.000	21.960	0.790	26.840	0.965
0.45	0.000	0.000	19.520	0.702	23.180	0.834


Shear Stress vs Normal Stress



Shear Stress vs Shear Deformation

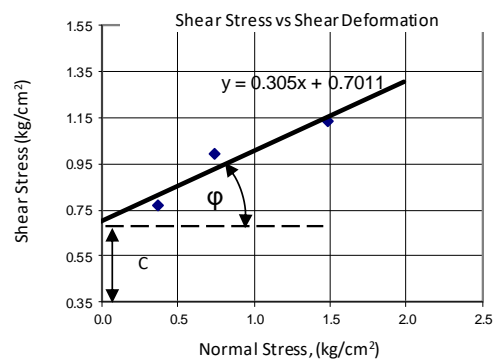
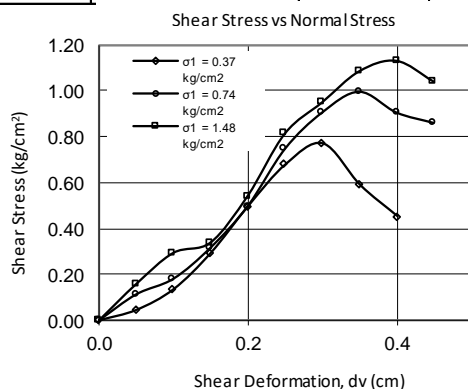


DIRECT SHEAR TEST RESULTS


PROJECT	: SOIL INVESTIGATION REPORT		
LOCATION	: Sampel Tanah Organik (Enrekang), Sampel Tanah Asli (Gowa)		
NO SAMPLE	: 10% T.Oragnik + 6% Bakteri + T.Asli		
QUARRY	: Pemeraman 14 Hari		
TESTING METHOD	: ASTM D 3080-72	TESTED BY	
LABORATORY	: HASANUDDIN UNIVERSITY	DATE	: Oktober 2022

Sample Size :	Proving Ring Calibration	=	1.22	kg/div	
Diameter Sample =	5.86	cm	Displacement Rate	=	kg/div
Height of Sample =	2.14	cm	c	=	0.70 kg/cm ²
Area of Sample =	26.97	cm ²	φ	=	17 °

Test No.	Test (1)		Test (2)		Test (3)	
Normal Load	P1 =	10.00 kg	P1 =	20.00 kg	P1 =	40.00 kg
Normal Stress	σ1 =	0.37 kg/cm ²	σ1 =	0.74 kg/cm ²	σ1 =	1.48 kg/cm ²
Shear Displacement (cm)	Shear Force (kg)	Shear Stress (kg/cm ²)	Shear Force (kg)	Shear Stress (kg/cm ²)	Shear Force (kg)	Shear Stress (kg/cm ²)
	0.00	0.000	0.000	0.000	0.000	0.000
	0.05	1.220	0.045	3.050	0.113	4.270
	0.10	3.660	0.136	4.880	0.181	7.930
	0.15	7.930	0.294	8.540	0.317	9.150
	0.20	13.420	0.498	13.420	0.498	14.640
	0.25	18.300	0.679	20.130	0.746	21.960
	0.30	20.740	0.769	24.400	0.905	25.620
	0.35	15.860	0.588	26.840	0.995	29.280
	0.40	12.200	0.452	24.400	0.905	30.500
	0.45	0.000	0.000	23.180	0.859	28.060
0.50	0.000	0.000	0.000	0.000	0.000	



DIRECT SHEAR TEST RESULTS

PROJECT	: SOIL INVESTIGATION REPORT		
LOCATION	: Sampel Tanah Organik (Enrekang), Sampel Tanah Asli (Gowa)		
NO SAMPLE	: 10% T.Oragnik + 6% Bakteri + T.Asli		
QUARRY	: Pemeraman 28 Hari		
TESTING METHOD	: ASTM D 3080-72	TESTED BY	
LABORATORY	: HASANUDDIN UNIVERSITY	DATE	: Oktober-November 2022

Sample Size :		Proving Ring Calibration	=	1.22	kg/div	
Diameter Sample	=	5.84	cm	Displacement Rate	=	kg/div
Height of Sample	=	2.15	cm	c	=	0.73 kg/cm ²
Area of Sample	=	26.79	cm ²	φ	=	19 °

Test No.	Test (1)		Test (2)		Test (3)	
Normal Load	P1 =	10.00 kg	P1 =	20.00 kg	P1 =	40.00 kg
Normal Stress	σ1 =	0.37 kg/cm ²	σ1 =	0.75 kg/cm ²	σ1 =	1.49 kg/cm ²
Shear Displacement (cm)	Shear Force (kg)	Shear Stress (kg/cm ²)	Shear Force (kg)	Shear Stress (kg/cm ²)	Shear Force (kg)	Shear Stress (kg/cm ²)
0.00	0.000	0.000	0.000	0.000	0.000	0.000
0.05	0.366	0.014	1.098	0.041	1.830	0.068
0.10	1.342	0.050	3.050	0.114	6.222	0.232
0.15	2.806	0.105	4.880	0.182	7.198	0.269
0.20	3.538	0.132	6.710	0.250	10.980	0.410
0.25	7.442	0.278	13.420	0.501	18.300	0.683
0.30	15.250	0.569	21.350	0.797	26.840	1.002
0.35	19.520	0.729	28.060	1.048	29.280	1.093
0.40	21.960	0.820	25.620	0.956	30.500	1.139
0.45	19.520	0.729	0.000	0.000	32.940	1.230
0.50	0.000	0.000	0.000	0.000	28.060	1.048

