LAMPIRAN

Bab.IV. Analisa Hasil

Sampel Tanah : Sampel I

Tanggal Penelitian : 4 September 2000

Data Sieve Analysis

Sieve No.	Diameter (mm)	Weight of.retained (gram)	% Retained	% Passing
4	4.75	2.1	2.1	97.9
8	2.36	2.6	2.6	95.3
16	1.18	0.8	0.8	94.5
30	0.6	0.7	0.7	93.8
60	0.25	0.6	0.6	93.2
80	0.18	0.4	0.4	92.8
120	0.125	2.2	2.2	90.6
200	0.075	1.4	1.4	89.2
Pan		0.7	0.7	88.5

Berat mula-mula = 13.6 gr

Berat kering setelah dicuci = 11.5 gr

Berat setelah disaring = 13.6 – 11.5 = 2.1 gr

Faktor kehilangan = (2.1 / 13.6) x 100 % = 15.4 %

Berat lumpur = 100 – 13.6 = 86.4 gr

% Kadar Lumpur = (86.4 / 100) x 100 % = 86.4 %

Data Hidrometer Analisis Sampel I

Zero Correction = -5 Gs = 2.04 Berat Lumpur = 86.4 gr

Meniscus Correction = + 1 a = 1.22134 Wt.of soil (Ws) = 100

Elapsed Time	Temp. °C	Ra	Cr	Rc	% Finner	Correction for Meniscus	L (tabel) (cm)	L / t (cm / menit)	K (tabel)	Diameter (mm)
0	29	33	3.8	41.8	83.131	34	10.9	3.3	0.0123112	0.04064
1	29	30	3.8	38.8	77.211	31	11.4	2.39	0.0123112	0.02939
2	29	22	3.8	30.8	61.291	23	12.7	1.59	0.0123112	0.01962
5	29	17	3.8	25.5	49.849	18	13.5	1.16	0.0123112	0.0143
10	28	12	3.05	20.5	39.899	13	14.3	0.69	0.0122112	0.00849
30	28	10	3.05	18.5	35.92	11	14.7	0.49	0.0122112	0.00609
60	28	6	3.05	14.8	29.45	7	15.3	0.35	0.0122112	0.00439
120	28	4	3.05	12.8	25.47	5	15.6	0.25	0.0123112	0.00314
240	28	3	3.05	11.6	23.23	3	15.8	0.21	0.0122112	0.00223
1440	27	0	2.85	8.05	16.02	1	16.3	0.11	0.0122112	0.00131

Data Hidrometer Analisis Sampel II

Zero Correction = -5 Gs = 2.03 Berat Lumpur = 85.4 gr

Meniscus Correction = + 1 a = 1.22715 Wt.of soil (Ws) = 100 gr

Elapsed Time	Temp. °C	Ra	Cr	Rc	% Finner	Correction for Meniscus	L (tabel) (cm)	L / t (cm / menit)	K (tabel)	Diameter (mm)
0	27	39	2	46	72.909	40	9.7	3.114	0.0123	0.038
1	27	39	2	46	72.909	40	9.7	3.114	0.0123	0.038
2	27	36	2	43	68.155	32.5	10.2	1.483	0.0123	0.028
5	27	31.5	2	38.5	61.022	31.5	11	1.056	0.0123	0.018
10	27	30.5	2	37.5	59.437	28.5	11.5	0.622	0.0123	0.013
30	27	27.5	2	34.5	54.682	27	11.6	0.445	0.0123	0.007
60	27	26	2	33	52.305	24	11.9	0.321	0.0123	0.005
120	27.5	23	2.25	30.25	47.946	22	12.4	0.23	0.0124	0.004
240	27.5	21	2.25	28.25	44.776	21	12.7	0.21	0.0124	0.002
1440	27	17	2	24	38.039	18	13.3	0.09	0.0123	0.001

Bab.IV. Analisa Hasil

Sampel Tanah : Sampel III

Tanggal Penelitian : 4 September 2000

Data Sieve Analysis

Sieve No.	Diameter (mm)	Weight of.retained (gram)	% Retained	% Passing
4	4.75	1.6	1.6	98.4
8	2.36	2.4	2.4	96
16	1.18	2	2	94
30	0.6	1.7	1.7	92.3
60	0.25	0.9	0.9	91.4
80	0.18	0.8	0.8	90.6
120	0.125	1.7	1.7	88.9
200	0.075	1.9	1.9	87
Pan		0.4	0.4	86.6

Berat mula-mula = 20.5 gr

Berat kering setelah dicuci = 13.4 gr

Berat setelah disaring = 20.5 – 13.4 = 7.1 gr

Faktor kehilangan = (7.1 / 20.5) x 100% = 34.63 %

Berat Lumpur = 100 – 20.5 = 79.5 gr

% Kadar Lumpur = (79.5 / 100) x 100 % = 79.5 %

Data Hidrometer Analisis Sampel III

Zero Correction = -5 Gs = 2.10 Berat Lumpur = 79.5 gr

Meniscus Correction = + 1 a = 1.18868 Wt.of soil (Ws) = 100 gr

Elapsed Time	Temp. °C	Ra	Cr	Rc	% Finner	Correction for Meniscus	L (tabel) (cm)	L / t (cm / menit)	K (tabel)	Diameter (mm)
0	27	32	2	39	49.12	33	10.9	3.301	0.0128	0.0425
1	27	32	2	39	49.12	33	10.9	3.301	0.0128	0.0425
2	27	27.5	2	34.5	35.89	28.5	11.6	2.408	0.0128	0.0310
5	27	21.5	2	28.5	30.22	22.5	12.6	1.587	0.0128	0.0204
10	27	17	2	24	21.41	18	13.3	1.153	0.0128	0.0148
30	27	10	2	17	15.43	11	14.5	0.695	0.0127	0.0089
60	27.5	5	2.25	12.25	11.65	6	15.3	0.505	0.0127	0.0064
120	27.5	2	2.25	9.25	11.63	3	15.8	0.363	0.0127	0.0046
240	27.5	0	2.25	7.25	9.13	1	16.1	0.259	0.0127	0.0033
1440	27	-3.5	2.2	3.5	4.4	-2.5	16.55	0.107	0.0127	0.0013

Bab.IV. Analisa Hasil

Sampel Tanah : Sampel IV

Tanggal Penelitian : 4 September 2000

Data Sieve Analysis

Sieve No.	Diameter (mm)	Weight of.retained (gram)	% Retained	% Passing
4	4.75	0.4	0.4	99.6
8	2.36	0.5	0.5	99.1
16	1.18	0.4	0.4	98.7
30	0.6	2.5	2.5	96.2
60	0.25	4.5	4.5	91.7
80	0.18	5.3	5.3	86.4
120	0.125	6.1	6.1	80.3
200	0.075	7	7	73.3
Pan		0.3	0.3	73

Berat mula-mula = 41.3 gr

Berat kering setelah dicuci = 27 gr

Berat setelah disaring = 41.3 – 27 = 14.3 gr

Faktor kehilangan = (14.3 / 41.3) x 100 % = 34.62 %

Berat Lumpur = 100 – 41.3 = 58.7 gr

% Kadar Lumpur = (58.7 / 100) x 100 % = 58.7 %

Data Hidrometer Analisis Sampel IV

Zero Correction = -5 Gs = 1.99 Berat Lumpur = 58.7 gr

Meniscus Correction = +1 a = 1.25157 Wt.of soil (Ws) = 100 gr

Elapsed Time	Temp. °C	Ra	Cr	Rc	% Finner	Correction for Meniscus	L (tabel) (cm)	L / t (cm / menit)	K (tabel)	Diameter (mm)
0	27	37	2	44	66.92	38	10.1	3.178	0.0125	0.0397
1	27	37	2	44	66.92	38	10.1	3.178	0.0125	0.0397
2	27	33	2	40	60.84	34	10.7	2.313	0.0125	0.0191
5	27	27	2	34	51.71	28	11.7	1.529	0.0125	0.0141
10	27	21	2	28	42.59	22	12.7	1.126	0.0125	0.0086
30	27	12	2	19	28.89	13	14.2	0.688	0.0125	0.006
60	27.5	10	2.25	17.25	26.24	11	14.5	0.491	0.0123	0.0043
120	27.5	5.5	2.25	12.75	19.39	6.5	15.25	0.356	0.0123	0.0039
240	27.5	3.5	2.25	10.75	16.35	4.5	15.55	0.254	0.0123	0.0031
1440	27	0	2	7	10.64	1	16.1	0.105	0.0125	0.001

Bab.IV. Analisa Hasil

Sampel Tanah : Sampel V

Tanggal Penelitian : 4 September 2000

Data Sieve Analysis

Sieve No.	Diameter (mm)	Weight of.retained (cm)	% Retained	% Passing
4	4.75	0.9	0.9	99.1
8	2.36	0.5	0.5	98.6
16	1.18	0.4	0.4	98.2
30	0.6	1.5	1.5	96.7
60	0.25	3.7	3.7	93
80	0.18	4	4	89
120	0.125	4.6	4.6	84.4
200	0.075	5.2	5.2	79.2
Pan		0.3	0.3	78.9

Berat mula-mula = 32 gr

Berat kering setelah dicuci = 21.1 gr

Berat setelah disaring = 32 – 21.1 = 10.9 gr

Faktor kehilangan = (10.9 / 32) x 100 % = 34.06 %

Berat Lumpur = 100 – 32 = 68 gr

% Kadar Lumpur = (68 / 100) x 100 % = 68 %

Data Hidrometer Analisis Sampel V

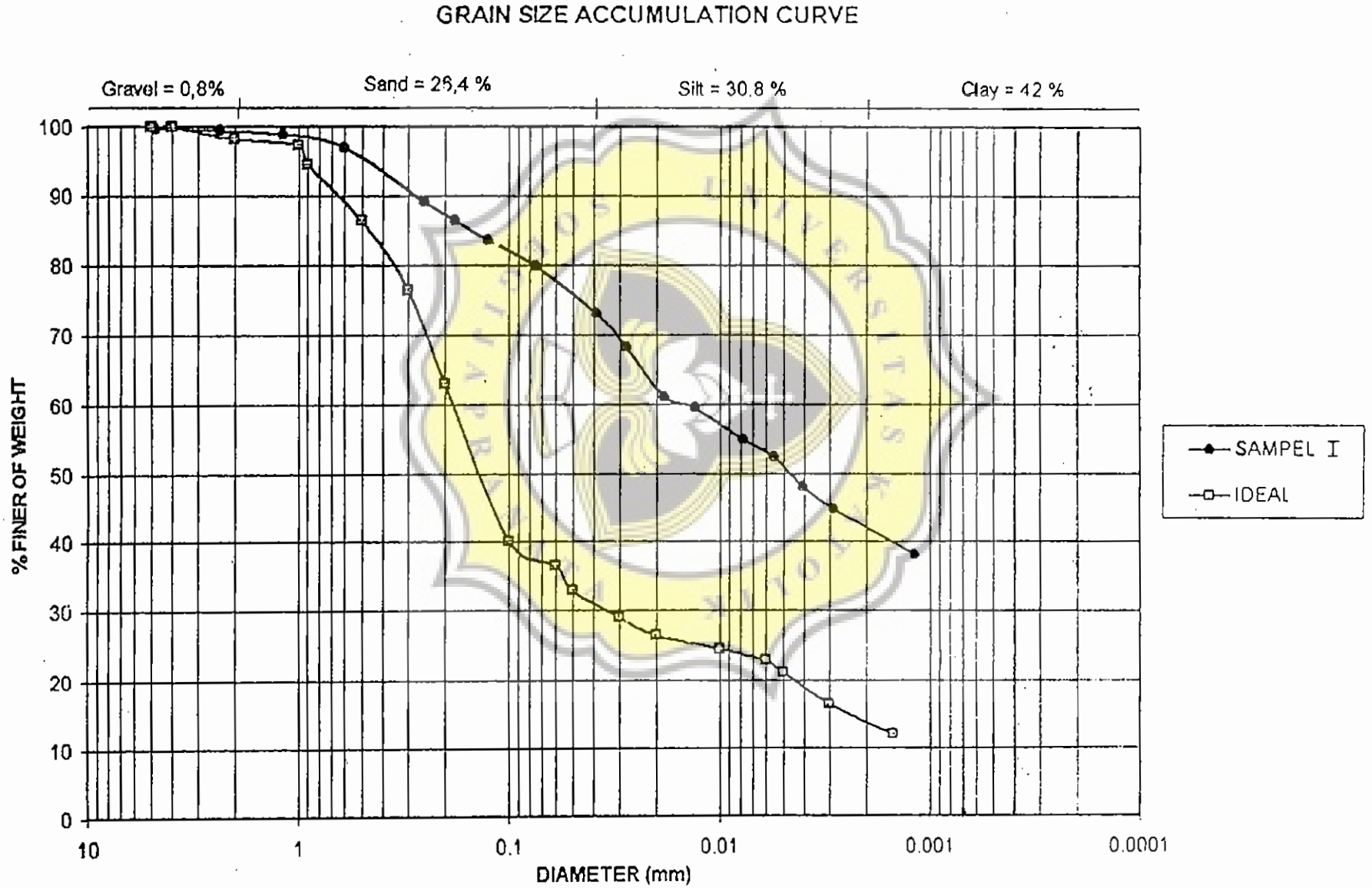
Zero Correction = -5 Gs = 2.48 Berat Lumpur = 68 gr

Meniscus Correction = + 1 a = 1.04335 Wt.of soil (Ws) = 100 gr

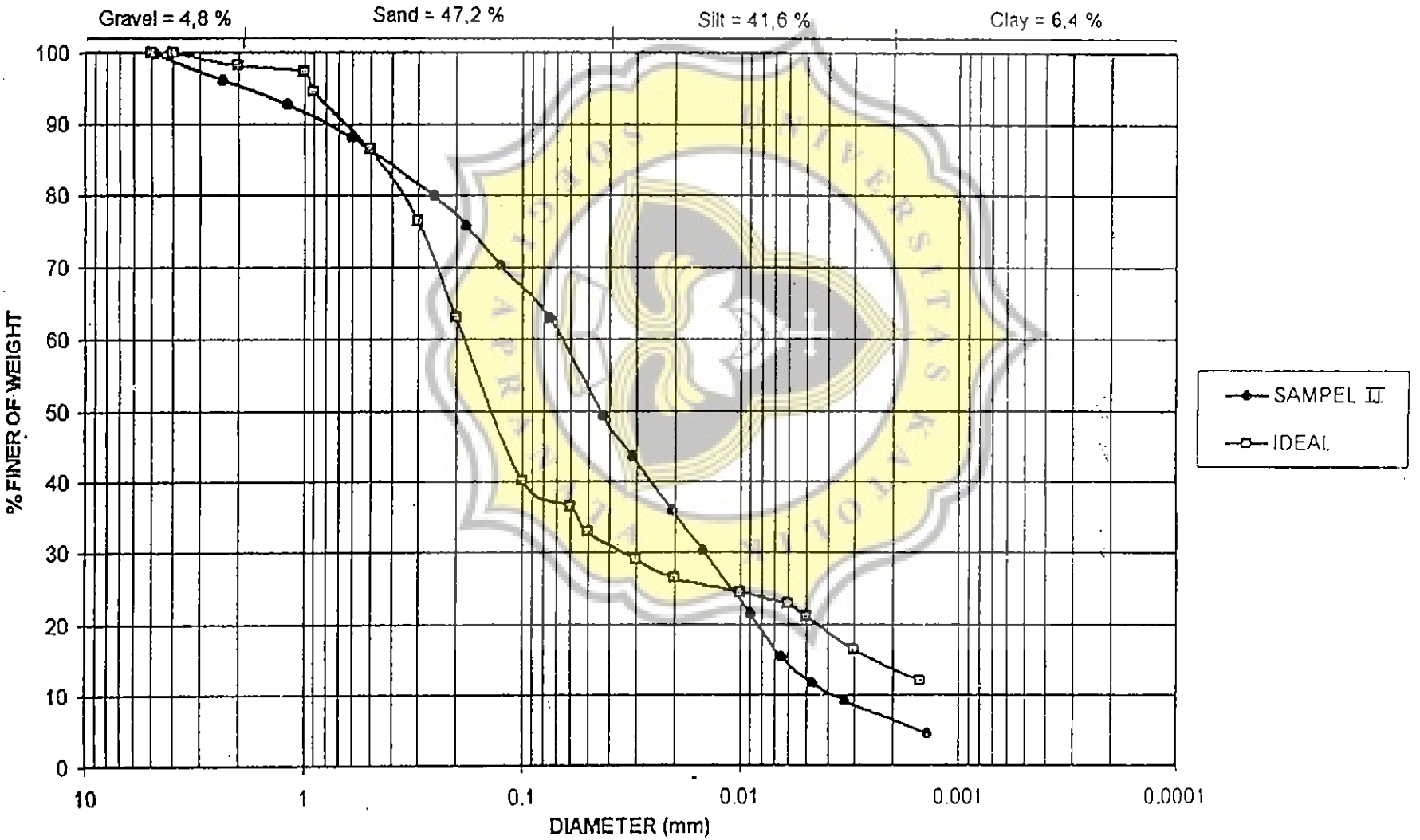
Elapsed Time	Temp. °C	Ra	Cr	Rc	% Finner	Correction for Meniscus	L (tabel) (cm)	L / t (cm / menit)	K (tabel)	Diameter (mm)
0	27.5	38	2.25	45.25	60.686	39	9.9	3.146	0.0125	0.0393
1	27.5	38	2.25	45.25	60.686	39	9.9	3.146	0.0125	0.0393
2	27.5	33	2.25	40.25	53.98	34	10.7	2.313	0.0125	0.0191
5	27.5	27	2.25	34.25	45.93	28	11.7	1.529	0.0125	0.0139
10	27.5	23	2.25	30.25	40.57	24	12.4	1.113	0.0125	0.0084
30	27.5	15	2.25	22.25	29.84	16	13.7	0.675	0.0125	0.006
60	27.5	12	2.25	19.25	25.81	13	14.2	0.486	0.0125	0.0043
120	27.5	10	2.25	17.25	23.13	11	14.5	0.347	0.0125	0.0031
240	27.5	7	2.25	14.25	19.11	8	15	0.25	0.0125	0.0029
1440	26.5	4.5	1.825	11.325	15.18	5.5	15.4	0.103	0.0126	0.00131

HASIL PENELITIAN BATA BERTAUTAN (LOCK BRICK)

No	Sampel	I	II	III	IV	V
1	Warna	Kecoklatan	merah kehitaman	kecoklatan	merah kecoklatan	coklat kehitaman
2	Water Content (%)	70.14	64.56	16.27	13.81	37.52
3	Specific Gravity (Gs)	2.04	2.03	2.10	1.99	2.48
4	Jenis Tanah	Lempung berlanau	Pasir berlempung	Lempung berpasir	Lempung berpasir	Lempung berlanau
5	Liquid Limit (%)	52.89	64.69	67.87	66.66	60.21
6	Plastic Limit (%)	25	19.91	15.29	22.54	23.66
7	Plasticity Index (%)	27.89	44.78	52.58	44.12	36.55
8	Shrinkage Limit (%)	1.952	2.638	17.670	47.279	11.509
9	Shrinkage Ratio	0.177	0.259	1.505	4.108	1.103
10	Komposisi Campuran (kg/cm^2) 4 tnh : 1 ps : 1 pc	16.129	15.644	14.481	13.825	15.402
11	Komposisi Campuran (kg/cm^2) 4 tnh : 1 ps : 2 kpr	16.251	16.250	14.422	13.703	15.765
12	Komposisi Campuran (kg/cm^2) 5 tnh : 1 ps : 1 pc	16.251	15.887	13.583	13.825	15.766
13	Komposisi Campuran (kg/cm^2) 5 tnh : 1 ps : 2 kpr	17.221	16.129	14.310	14.189	15.402
14	Komposisi Campuran (kg/cm^2) 6 tnh : 1 ps : 1 pc	17.463	16.129	14.310	14.431	16.008
15	Komposisi Campuran (kg/cm^2) 6 tnh : 1 ps : 2 kpr	16.251	16.008	14.917	14.189	16.129
16	Komposisi Campuran (kg/cm^2) 7 tnh : 1 ps : 1 pc	17.099	16.250	14.068	14.553	15.887
17	Komposisi Campuran (kg/cm^2) 7 tnh : 1 ps : 2 kpr	17.342	15.887	13.946	14.796	15.644


GRAIN SIZE ACCUMULATION CURVE
Gravel = 0,8%
Sand = 26,4 %
Silt = 30,8 %
Clay = 42 %
% FINER OF WEIGHT
100
90
80
70
60
50
40
30
20
10
0
10
1
0.1
0.01
0.001
0.0001
DIAMETER (mm)
SAMPEL I
IDEAL

GRAIN SIZE ACCUMULATION CURVE



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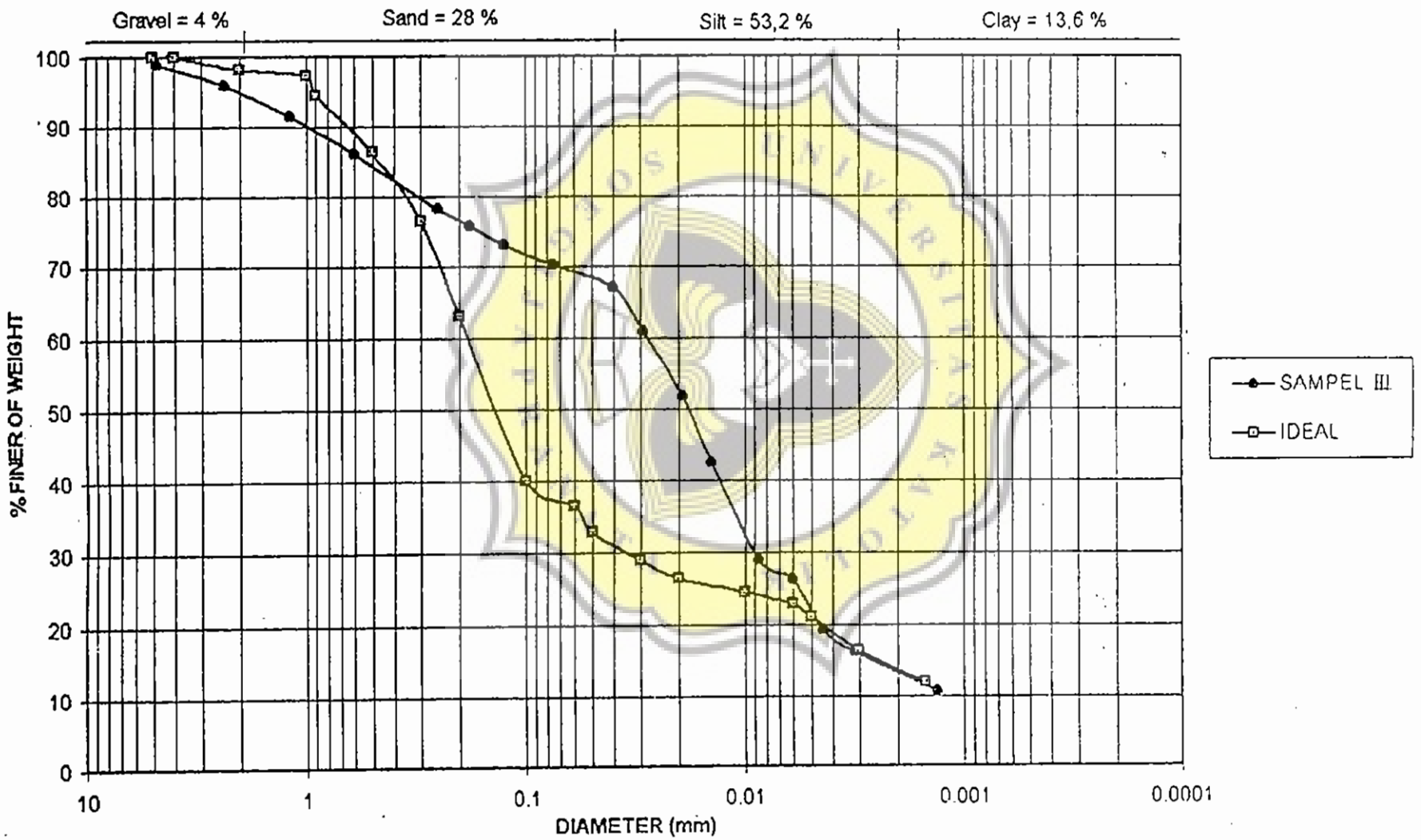

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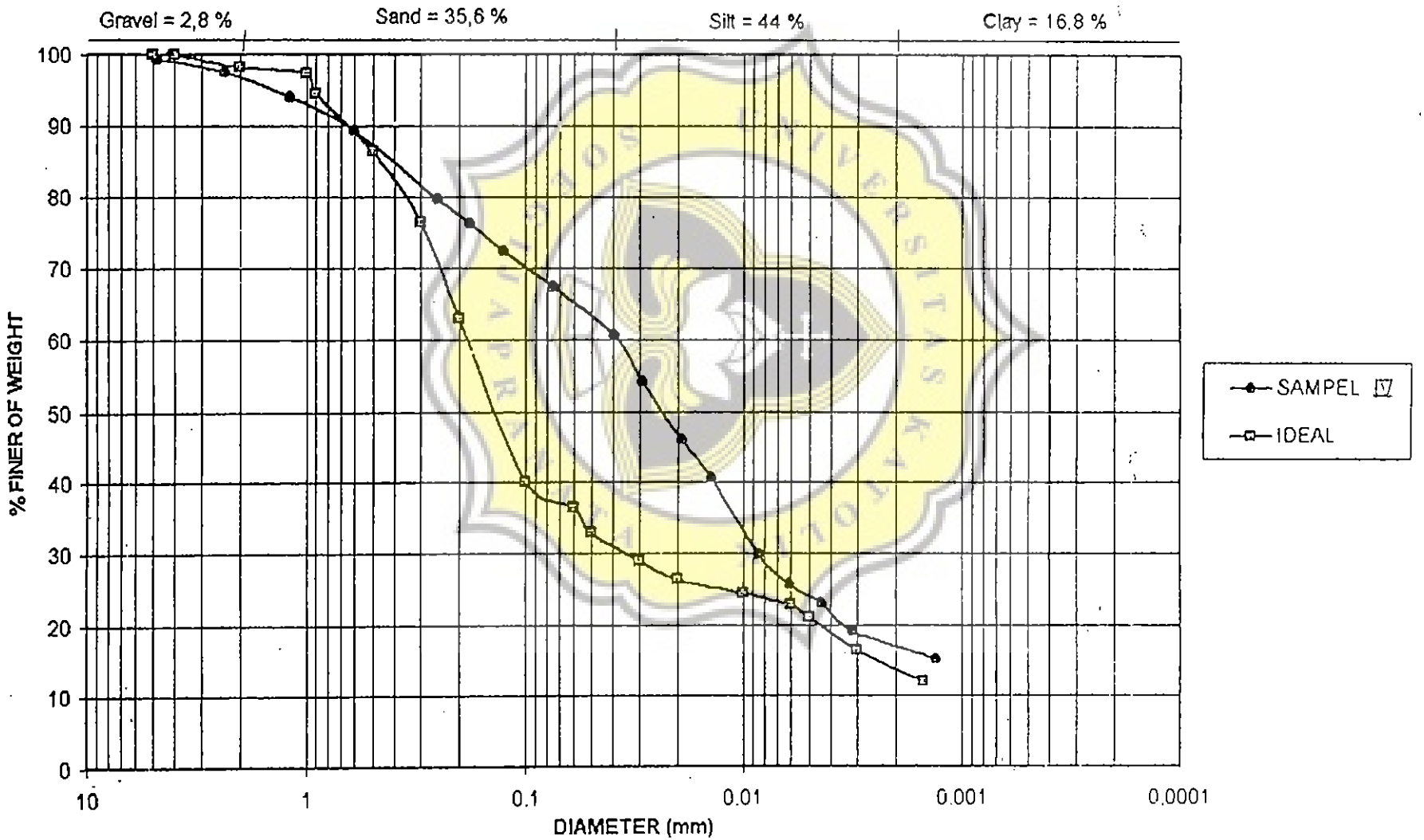

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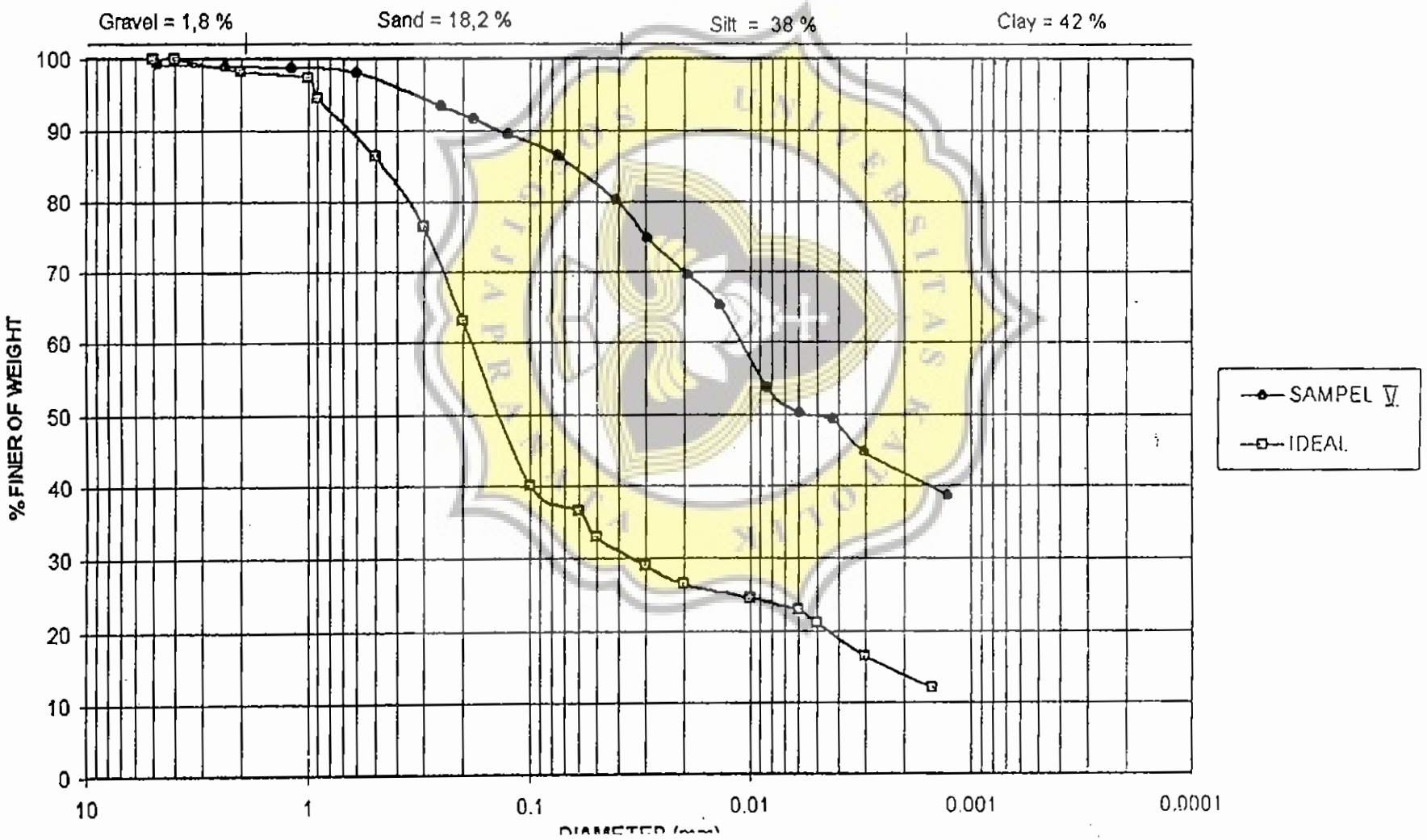
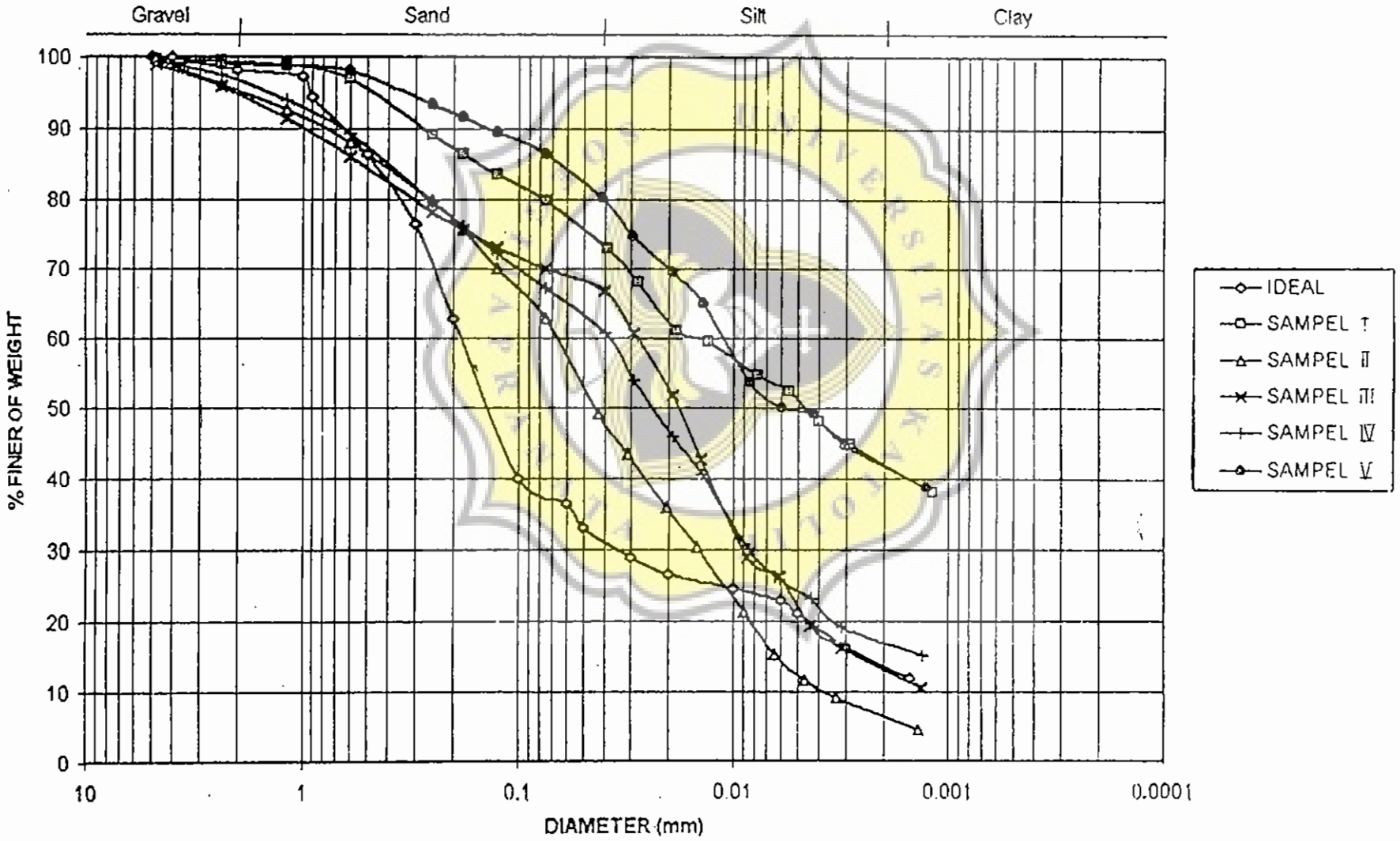


SUMMARY OF GRAIN SIZE ACCUMULATION CURVE



Lampiran

TABEL KOREKSI TEMPERATUR

Satuan Derajat	1/10 Derajat				
	0	1	2	3	4
25	1.00301	1.00303	1.00305	1.00307	1.00310
26	1.00324	1.00326	1.00329	1.00331	1.00334
27	1.00349	1.00351	1.00353	1.00356	1.00359
28	1.00374	1.00378	1.00379	1.00382	1.00384
29	1.00400	1.00403	1.00406	1.00408	1.00411
30	1.00428	1.00430	1.00433	1.00436	1.00439
31	1.00456	1.00459	1.00462	1.00464	1.00467
32	1.00485	1.00488	1.00491	1.00494	1.00497
33	1.00515	1.00518	1.00521	1.00524	1.00527
34	1.00546	1.00549	1.00552	1.00554	1.00558

Satuan Derajat	1/10 Derajat				
	5	6	7	8	9
25	1.00312	1.00314	1.00317	1.00319	1.00322
26	1.00336	1.00338	1.00341	1.00343	1.00346
27	1.00361	1.00364	1.00366	1.00368	1.00371
28	1.00387	1.00390	1.00392	1.00395	1.00398
29	1.00414	1.00416	1.00419	1.00422	1.00425
30	1.00442	1.00445	1.00448	1.00450	1.00453
31	1.00470	1.00473	1.00476	1.00479	1.00482
32	1.00500	1.00403	1.00506	1.00509	1.00512
33	1.00530	1.00533	1.00536	1.00539	1.00542
34	1.00562	1.00565	1.00568	1.00571	1.00574

Lampiran

Correction Factors a for Unit Weight of Solids

Unit weight of Soil Slids (g/cm3)	Correction Factor a
2.85	0.96
2.80	0.97
2.75	0.98
2.70	0.99
2.65	1.00
2.60	1.01
2.55	1.02
2.50	1.03

Temperature Correction Factors Cγ

Temp. (°C)	Cγ
15	−1.10
16	−0.90
17	−0.70
18	−0.50
19	−0.30
20	0.00
21	+0.20
22	+0.40
23	+0.70
24	+1.00
25	+1.30
26	+1.65
27	+2.00
28	+2.50
29	+3.05
30	+3.80

Values of *L* (Effective Depth) for Use in Slokes for Diameters of Particles for ASTM Soil Hydrometer 15211.
of Solids and Temperature Combination

Original Hydrometer Reading (Correction for Meniscus Only)	Effective Depth *L* , cm)	Original Hydrometer Reading (Correction for Meniscus Only	Effective Depth *L* (cm)	Original Hydrometer Reading (Correction for Meniscus Only	Effective Depth *L* (cm)
0	16.3	21	12.9	42	9.4
1	16.1	22	12.7	43	9.2
2	16.0	23	12.5	44	9.1
3	15.8	24	12.4	45	8.9
4	15.6	25	12.2	46	8.8
5	15.5	26	12.0	47	8.6
6	15.3	27	11.9	48	8.4
7	15.2	28	11.7	49	8.3
8	15.0	29	11.5	50	8.1
9	14.8	30	11.4	51	7.9
10	14.7	31	11.2	52	7.8
11	14.5	32	11.1	53	7.6
12	14.3	33	10.9	54	7.4
13	14.2	34	10.7	55	7.3
14	14.0	35	10.5	56	7.1
15	13.8	36	10.4	57	7.0
16	13.7	37	10.2	58	6.8
17	13.5	38	10.1	59	6.6
18	13.3	39	9.9	60	6.5
19	13.2	40	9.7		
20	13.0	41	9.6		

Properties of Distilled Water

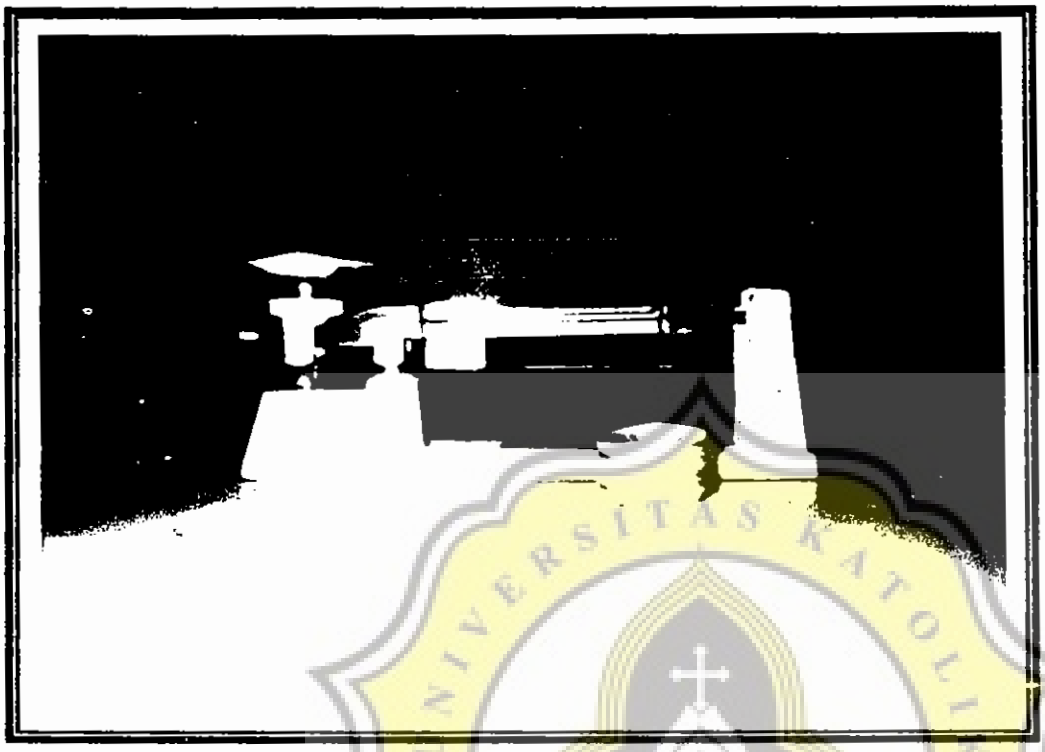
Temp. (C)	Unit Weight of water (g/cm)	Viscosity of water (poises)
4	1,00000	0,01567
16	0,99897	0,01111
17	0,99880	0,01083
18	0,99862	0,01056
19	0,99844	0,01030
20	0,99823	0,01005
21	0,99802	0,00981
22	0,99780	0,00958
23	0,99757	0,00936
24	0,99733	0,00914
25	0,99708	0,00894
26	0,99682	0,00874
27	0,99655	0,00855
28	0,99627	0,00836
29	0,99598	0,00818
30	0,99568	0,00801

Values of K Use in Eq. (6 - 8a) for Several Unit Weight of Solids and Temperature Combination

Temp.	UNIT WEIGHT OF SOLID (G/CM)							
(C)	2,50	2,55	2,60	2,65	2,70	2,75	2,80	2,85
16	0,0151	0,0148	0,0146	0,0144	0,0141	0,0139	0,0137	0,0136
17	0,0149	0,0146	0,0144	0,0142	0,0140	0,0138	0,0136	0,0134
18	0,0148	0,0144	0,0142	0,0140	0,0138	0,0136	0,0134	0,0132
19	0,0145	0,0143	0,0140	0,0138	0,0136	0,0134	0,0132	0,0131
20	0,0143	0,0141	0,0139	0,0137	0,0134	0,0133	0,0131	0,0129
21	0,0141	0,0139	0,0137	0,0135	0,0133	0,0131	0,0129	0,0127
22	0,0140	0,0137	0,0135	0,0133	0,0131	0,0129	0,0128	0,0126
23	0,0138	0,0136	0,0134	0,0132	0,0130	0,0128	0,0126	0,0124
24	0,0137	0,0134	0,0132	0,0130	0,0128	0,0126	0,0125	0,0123
25	0,0135	0,0133	0,0131	0,0129	0,0127	0,0125	0,0123	0,0122
26	0,0133	0,0131	0,0129	0,0127	0,0125	0,0124	0,0122	0,0120
27	0,0132	0,0130	0,0128	0,0126	0,0124	0,0122	0,0120	0,0119
28	0,0130	0,0128	0,0126	0,0124	0,0123	0,0121	0,0119	0,0117
29	0,0129	0,0127	0,0125	0,0123	0,0121	0,0120	0,0118	0,0116
30	0,0128	0,0126	0,0124	0,0124	0,0122	0,0118	0,0117	0,0115

GAMBAR

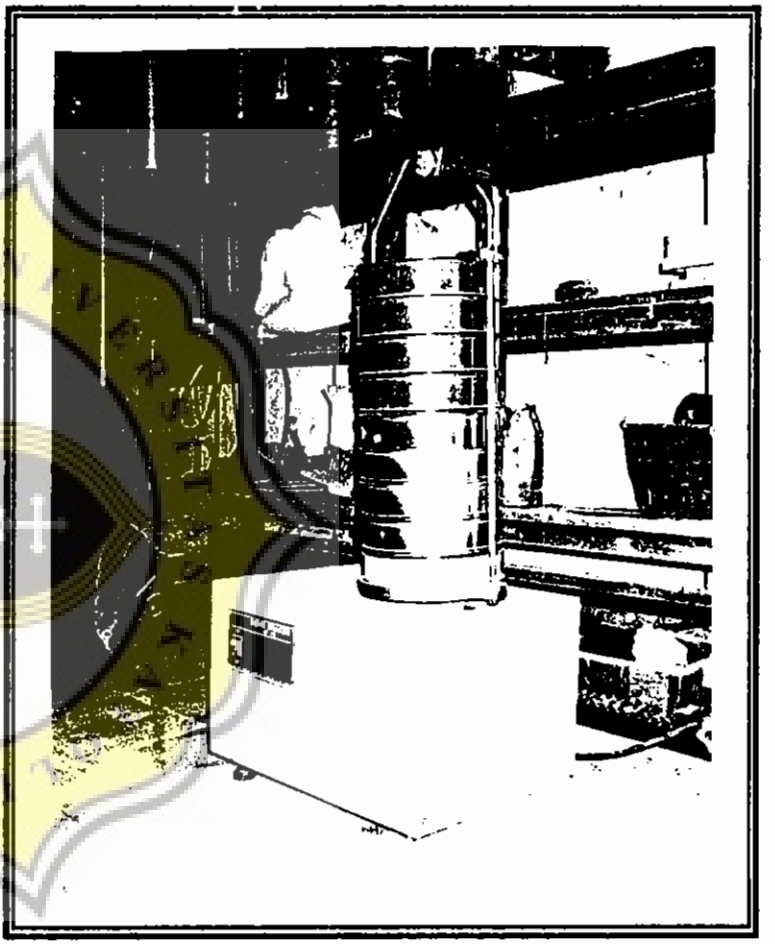
Gambar



Gambar 1. Neraca Analitis Dengan Ketelitian 0.1 gr dan cawan

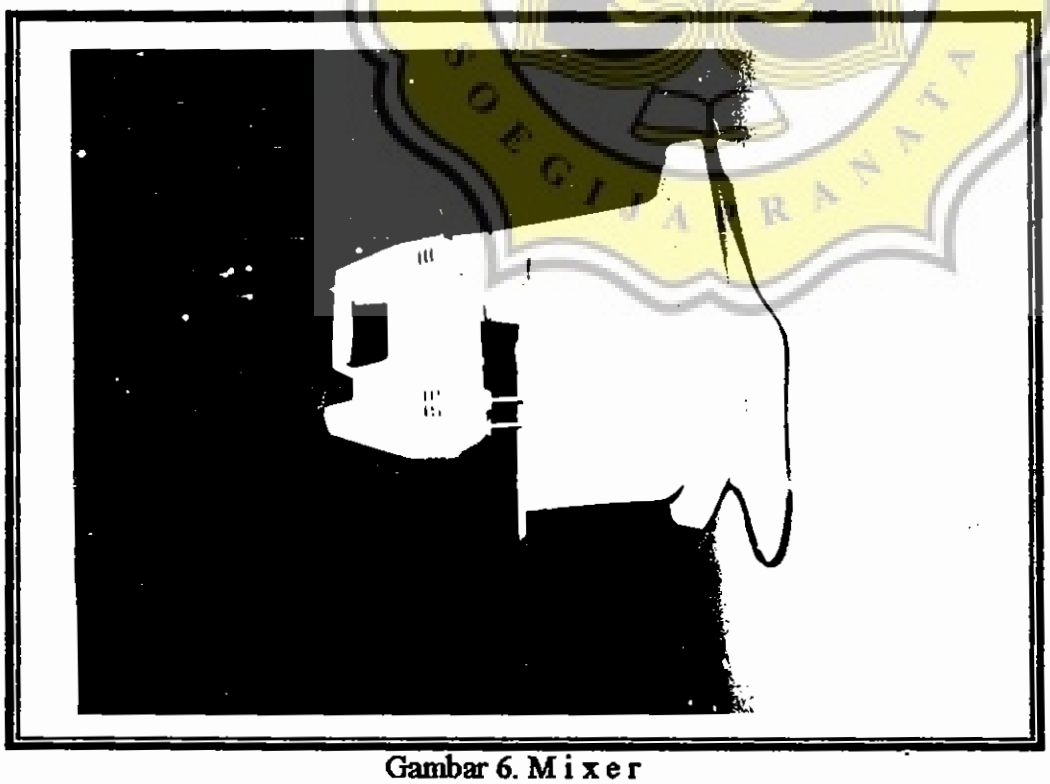
Gambar 2. Oven

Gambar 3. Pignometer dan Termometer



Gambar 4. Mesin Penggetar

Gambar 5. Gelas Ukur 1000 CC dan Hidrometer ASTK 152 H



Gambar 6. Mixer

Lampiran 1

Gambar 7. Alat Pencetak Bata Berlantai

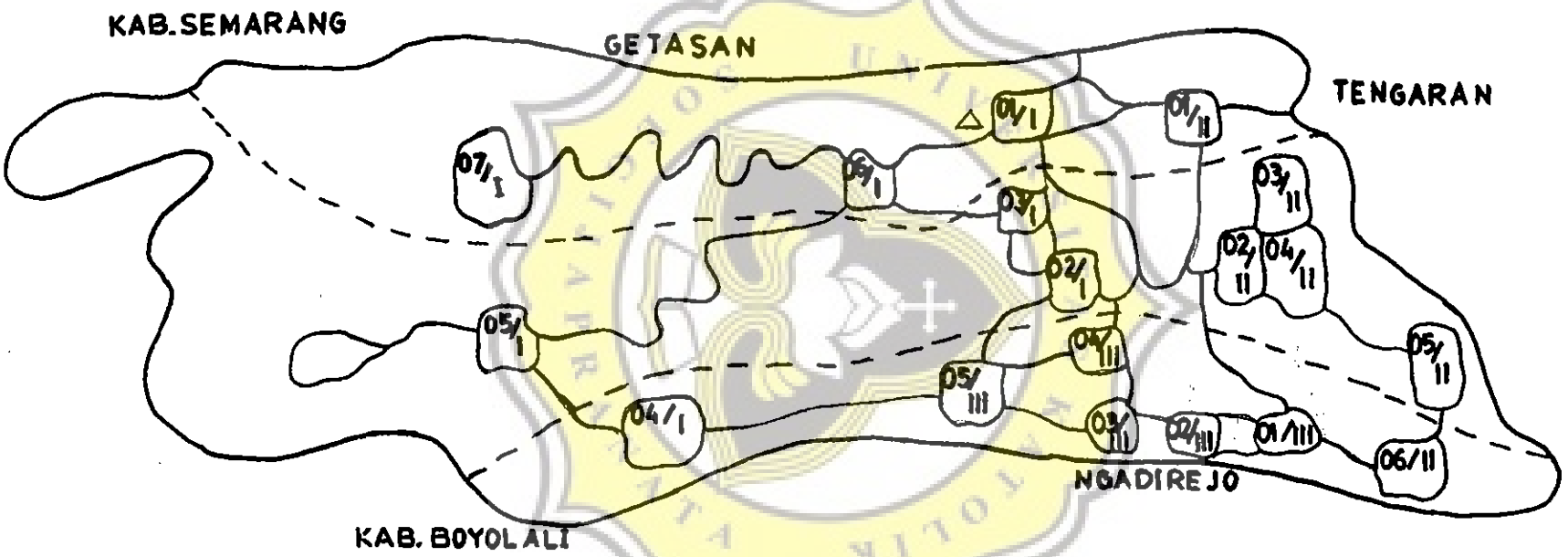
Gambar 8. Memasukkan Tanah Ke Dalam Alat Cetak Bata Berlantai

Gambar 9. Alat Uji Kuat Tekan

Gambar 10. Bata Bertautan (Lock Brick) Yang Siap Untuk Dites Kuat Tekan

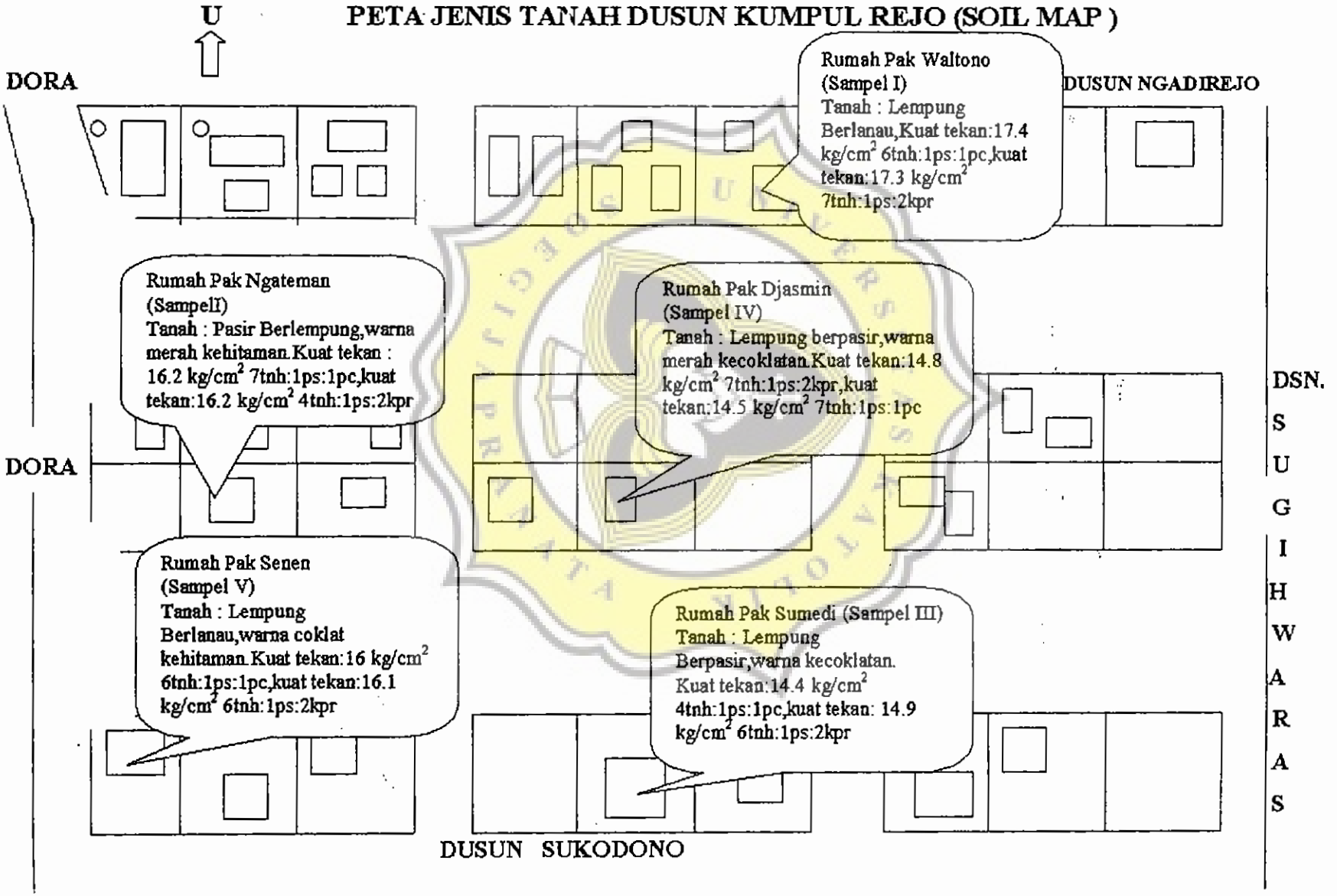
Lampiran

PETA DUSUN KUMPUL REJO DESA JLAREM
KEC.AMPEL KAB.BOYOLALI



Keterangan :

01 / I	: RT.01 / Desa Jlarem	01 / II	: RT.01 / Desa Tengaran	02 / III	: RT.02 / Dusun Kumpul Rejo
02 / I	: RT.02 / Desa Jlarem	02 / II	: RT.02 / Desa Tengaran	03 / III	: RT.03 / Dusun Kumpul Rejo
03 / I	: RT.03 / Desa Jlarem	03 / II	: RT.03 / Desa Tengaran	04 / III	: RT.04 / Dusun Kumpul Rejo
04 / I	: RT.04 / Desa Jlarem	04 / II	: RT.04 / Desa Tengaran	05 / III	: RT.05 / Dusun Kumpul Rejo
05 / I	: RT.05 / Desa Jlarem	05 / II	: RT.05 / Desa Tengaran	-----	: Jalan Setapak
06 / I	: RT.06 / Desa Jlarem	06 / II	: RT.06 / Desa Tengaran	____	: Jalan Desa
07 / I	: RT.07 / Desa Jlarem	01 / III	: RT.01 / Dusun Kumpul Rejo	△	: Sekolah Dasar Negeri


U
PETA JENIS TANAH DUSUN KUMPUL REJO (SOIL MAP)
DORA
DUSUN NGADIREJO
Rumah Pak Waltono
(Sampel I)
Tanah : Lempung
Berlanau,Kuat tekan:17.4
kg/cm2 6tnh:1ps:1pc,kuat
tekan:17.3 kg/cm2
7tnh:1ps:2kpr
Rumah Pak Ngateman
(SampelI)
Tanah : Pasir Berlempung,warna
merah kehitaman.Kuat tekan :
16.2 kg/cm2 7tnh:1ps:1pc,kuat
tekan:16.2 kg/cm2 4tnh:1ps:2kpr
Rumah Pak Djasmin
(Sampel IV)
Tanah : Lempung berpasir,warna
merah kecoklatan.Kuat tekan:14.8
kg/cm2 7tnh:1ps:2kpr,kuat
tekan:14.5 kg/cm2 7tnh:1ps:1pc
DORA
DSN.
SUGIHWARAS
Rumah Pak Senen
(Sampel V)
Tanah : Lempung
Berlanau,warna coklat
kehitaman.Kuat tekan:16 kg/cm2
6tnh:1ps:1pc,kuat tekan:16.1
kg/cm2 6tnh:1ps:2kpr
Rumah Pak Sumedi (Sampel III)
Tanah : Lempung
Berpasir,warna kecoklatan.
Kuat tekan:14.4 kg/cm2
4tnh:1ps:1pc,kuat tekan: 14.9
kg/cm2 6tnh:1ps:2kpr
DUSUN SUKODONO

HASIL PENGUJIAN SPECIFIC GRAVITY

Lokasi : Dusun Kumpul Rejo

Tanggal : 31 Agustus 2000

Hasil Uji di Laboratorium Mekanika Tanah Unika Soegijapranata Semarang

Sampel	Sampel I	Sampel II	Sampel III	Sampel IV	Sampel V
Berat Pic.kosong = a (gram)	161.4	168.5	161.4	168.5	169.3
Berat Pic.+ air = b (gram)	658.5	665	658.5	665	665.8
Suhu Pic.+ air = T_1 (°C)	28	28	28	28	28
Berat Pic.+ tanah kering = c (gram)	261.4	268.5	261.4	268.5	269.3
Berat Pic.+ air + tanah = d (gram)	709.6	715.9	711	715	725.5
Suhu Pic.+ air + tanah = T_2 (°C)	29	29	29	29	29
Berat tanah kering (gram)	100	100	100	100	100
Specific gravity dari pada T° G_t, w = (b-a) x t_1	498.96	498.36	498.96	498.36	498.36
Specific Gravity dari tanah Gs	2.04	2.03	2.10	1.99	2.48