

## LAMPIRAN A (PENGUJIAN AWAL)

### Uji Berat Jenis Tanah

Kalibrasi Piktometer							
no	uraian	satuan	1	2	3	4	5
1	berat piktometer kosong ( $w_p$ )	g	29.3	29.3	29.3	29.3	29.3
2	berat piktometer + air ( $W_{pw,c}$ )	g	79.91	79.91	79.91	79.91	79.91
3	temperatur dalam piktometer ( $T$ )	°C	29	29.1	29.1	29	29.1
4	berat volume air ( $\gamma_{w,c}$ )		0.99595	0.99592	0.99592	0.99595	0.99592
5	volume piktometer, $v_p$	mL	50.82	50.82	50.82	50.82	50.82

Kalibrasi Piktometer							
no	uraian	satuan	1	2	3	4	5
1	berat piktometer kosong ( $w_p$ )	g	31.09	31.09	31.09	31.09	31.09
2	berat piktometer + air ( $W_{pw,c}$ )	g	81.97	81.97	81.97	81.97	81.97
3	temperatur dalam piktometer ( $T$ )	°C	29.1	29.1	29.2	29.2	29
4	berat volume air ( $\gamma_{w,c}$ )		0.99592	0.99592	0.99589	0.99589	0.99595
5	volume piktometer, $v_p$	mL	51.09	51.09	51.09	51.09	51.09

Perhitungan Berat jenis							
no	uraian	satuan	1	2	3	4	
1	berat piktometer kosong ( $w_p$ )	g	29.19	31.16	28.78	31.09	
2	berat piktometer + tanah kering ( $w_{ps}$ )	g	39.19	41.46	38.94	41.18	
3	berat piktometer + tanah kering + air ( $w_{pws,t}$ )	g	86.07	88.43	85.73	88.23	
4	berat piktometer + air ( $W_{pw,t}$ )	g	79.808	82.0505	79.4199	81.9994	
5	temperatur ( $T$ )	°C	28.5	28.4	27	27.1	
6	berat jenis, $G_{s,t}$			2.68	2.63	2.64	2.61
7	berat jenis pada $T = 20^\circ C$ , $G_s$			2.68	2.63	2.64	2.61
8	rata-rata berat jenis			2.64			

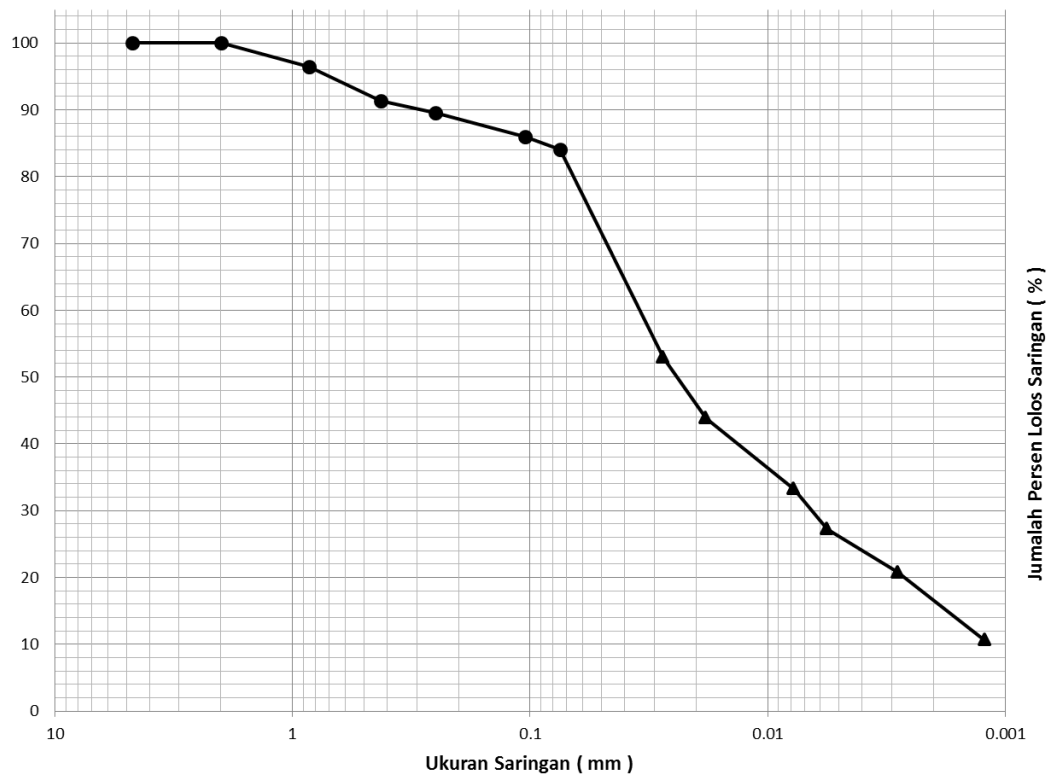
### Uji Distribusi Ukuran Butir Tanah

NO	URAIAN	Satuan	hasil
1	berat total contoh tanah basah, $B_0$	g	65
2	berat total contoh tanah kering, w	g	58.09
3	berat tanah berdiameter <0.075 mm, $B_2$	g	48.82
4	berat tanah berdiameter >0.075 mm, $B_1 = w - B_2$	%	9.27

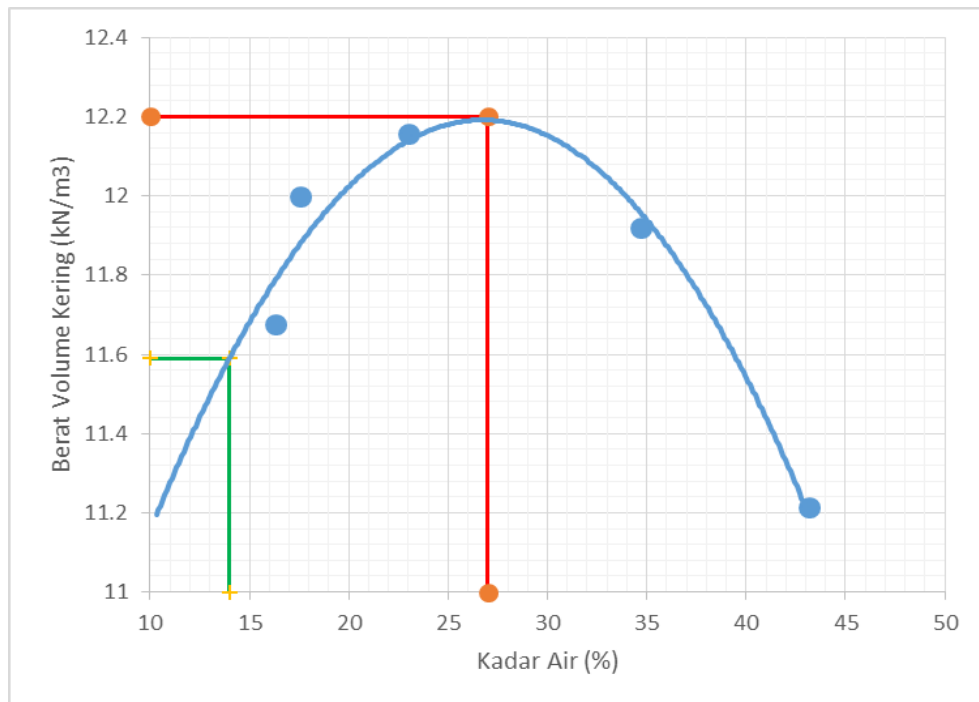
t menit	R1	R2	t	R(aksen)	L	K	D	R	P	Pa
2	30	-2	28	31	9.745804386	0.01248	0.027549165	35.05	60.46	52.91
5	24	-2	28	25	10.61340439	0.01248	0.01818264	29.05	50.11	43.85
30	17	-2	28	18	11.62560439	0.01248	0.007768939	22.05	38.04	33.29
60	13	-2	28	14	12.20400439	0.01248	0.005628467	18.05	31.14	27.25
250	8	-2	28	9	12.92700439	0.01248	0.002837877	13.80	23.81	20.83
1440	2	-2	28	3	13.79460439	0.01248	0.001221485	7.05	12.16	10.64

nomor saringan	ukuran butir	berat tertahan	persen berat	persen lolos
ASTM	(mm)	pada saringan (g)	tertahan pada saringan (%)	saringan (%)
#4	4.47	0	0	100
10	2	0	0	100
20	0.85	2.09	3.60	96.40
40	0.425	2.94	5.06	91.34
60	0.25	1.06	1.82	89.52
140	0.105	2.03	3.49	86.02
200	0.075	1.15	1.98	84.04
pan	<0,075	0	0.00	84.04
Jumlah		9.27		

nomor saringan ASTM	ukuran butir (mm)	berat tertahan pada saringan (g)	persen berat tertahan pada saringan (%)	persen lolos saringan (%)
#4	4.47	0	0	100
10	2	0	0	100
20	0.85	2.09	3.60	96.40
40	0.425	2.94	5.06	91.34
60	0.25	1.06	1.82	89.52
140	0.105	2.03	3.49	86.02
200	0.075	1.15	1.98	84.04
pan	<0,075	0	0.00	84.04
Jumlah		9.27		







## LAMPIRAN B (Pengujian Utama)

### Data Pengembangan Tanah Tanpa Proses Elektrokinetik

Pengujian 3 : Tanggal 17 Agustus 2016											
Volt		Volume alat		: 0.0108m <sup>2</sup>		Berat Tanah (Wd)		: 12.5kg			
Kadar air awal		: 0%		Batas kadar air kering		: 14%		Berat Air (Ww)		: 1.75kg = 1750ml	
Tinggi tanah		: 15cm		Kedalaman elektroda				Air keluar (Anoda)		: 191ml	
MDD		: 12.2		Penambahan Air		: 6400ml		Air keluar (Katoda)		: 159ml	
Waktu		Titik									
		6		7		8		9		10	
Jam	Menit	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm
0	0	0	0	0	0	0	0	0	0	0	0
0.25	15	1575	15.75	1615	16.15	1640	16.4	1660	16.6	1640	16.4
0.5	30	1910	19.1	2135	21.35	2170	21.7	2160	21.6	1940	19.4
0.75	45	2026	20.26	2282	22.82	2314	23.14	2301	23.01	2040	20.4
1	60	2088	20.88	2316	23.16	2361	23.61	2367	23.67	2102	21.02
2	120	2214.5	22.145	2451	24.51	2539	25.39	2525.5	25.255	2220	22.2
4	240	2305.5	23.055	2471	24.71	2654	26.54	2637.5	26.375	2306.5	23.065
8	480	2327.5	23.275	2488	24.88	2670.5	26.705	2654	26.54	2318	23.18
12	720	2350	23.5	2505.5	25.055	2687	26.87	2670.5	26.705	2329.5	23.295
24	1440	2417	24.17	2557	25.57	2736.5	27.365	2720	27.2	2364.5	23.645
36	2160	2355.5	23.555	2622.5	26.225	2793	27.93	2767.5	27.675	2399.5	23.995
48	2880	2355.5	23.555	2622.5	26.225	2793	27.93	2767.5	27.675	2399.5	23.995
72	4320	2355.5	23.555	2612	26.12	2791.5	27.915	2767	27.67	2399.5	23.995
96	5760	2355.5	23.555	2609	26.09	2788	27.88	2761	27.61	2399.5	23.995
S	Max	2417	24.17	2622.5	26.225	2793	27.93	2767.5	27.675	2399.5	23.995
	Min	0	0	0	0	0	0	0	0	0	0
Pengembangan (mm)		24.17		26.225		27.93		27.675		23.995	
Pengembangan (cm)		2.417		2.6225		2.793		2.7675		2.3995	

Penambahan air setelah 4 hari = 1850ml											
Pengujian 3: Tanggal 21 Agustus 2016											
Waktu		Titik									
		6		7		8		9		10	
Jam	Menit	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm
96	5760	2355.5	23.555	2609	26.09	2788	27.88	2761	27.61	2399.5	23.995
96.25	5775	2394.5	23.945	2662.5	26.625	2830	28.3	2804.5	28.045	2432	24.32
96.5	5790	2394.5	23.945	2667.5	26.675	2835	28.35	2809.5	28.095	2434.5	24.345
96.75	5805	2394.5	23.945	2671	26.71	2840.5	28.405	2812.5	28.125	2436	24.36
97	5820	2395	23.95	2673.5	26.735	2840.5	28.405	2813.5	28.135	2437.5	24.375
98	5880	2400	24	2680.5	26.805	2847.5	28.475	2818.5	28.185	2441.5	24.415
100	6000	2405	24.05	2691	26.91	2859	28.59	2830	28.3	2447.5	24.475
104	6240	2417.5	24.175	2706	27.06	2874.5	28.745	2844	28.44	2456.5	24.565
108	6480	2430	24.3	2721.5	27.215	2890	28.9	2858.5	28.585	2466	24.66
120	7200	2438	24.38	2729	27.29	2796	27.96	2865	28.65	2473.5	24.735
S	Max	2438	24.38	2729	27.29	2890	28.9	2865	28.65	2473.5	24.735
	Min	2355.5	23.555	2609	26.09	2788	27.88	2761	27.61	2399.5	23.995
Pengembangan (mm)		0.825		1.2		1.02		1.04		0.74	
Hasil Pengembangan (mm)		21	0.21	106.5	1.065	97	0.97	97.5	0.975	74	0.74

Pengembangan Tanah (S), %						
Waktu		Titik				
Jam	Menit	6	7	8	9	10
0	0	0	0	0	0	0
0.25	15	10.500	10.767	10.933	11.067	10.933
0.5	30	12.733	14.233	14.467	14.400	12.933
0.75	45	13.507	15.213	15.427	15.340	13.600
1	60	13.920	15.440	15.740	15.780	14.013
2	120	14.763	16.340	16.927	16.837	14.800
4	240	15.370	16.473	17.693	17.583	15.377
8	480	15.517	16.587	17.803	17.693	15.453
12	720	15.667	16.703	17.913	17.803	15.530
24	1440	16.113	17.047	18.243	18.133	15.763
36	2160	15.703	17.483	18.620	18.450	15.997
48	2880	15.703	17.483	18.620	18.450	15.997
72	4320	15.703	17.413	18.610	18.447	15.997
96	5760	15.703	17.393	18.587	18.407	15.997
96.25	5775	15.963	17.750	18.867	18.697	16.213
96.5	5790	15.963	17.783	18.900	18.730	16.230
96.75	5805	15.963	17.807	18.937	18.750	16.240
97	5820	15.967	17.823	18.937	18.757	16.250
98	5880	16.000	17.870	18.983	18.790	16.277
100	6000	16.033	17.940	19.060	18.867	16.317
104	6240	16.117	18.040	19.163	18.960	16.377
108	6480	16.200	18.143	19.267	19.057	16.440
120	7200	16.253	18.193	18.640	19.100	16.490
S	Maks	16.253	18.193	19.267	19.100	16.490
	Min	0	0	0	0	0
Pengembangan (S), %		16.253	18.193	19.267	19.100	16.490

### Data Kadar Air Setelah Pengujian Tanpa Elektrokinetik

Pengujian 3, Tanggal 22 Agustus 2016															
Tanpa Elektrokinetik															
Keterangan	6			7			8			9			10		
	A6	T6	B6	A7	T7	B7	A8	T8	B8	A9	T9	B9	A10	T10	B10
Cawan kosong	9.47	12.29	9.11	9.39	9.05	9.39	9.41	9.55	9.36	9.92	9.56	9.9	9.47	9.49	9.23
Cawan + tanah basah	37.09	39.6	58.72	35.84	39.65	38.64	34	41.3	46.37	36	40.26	44.65	37.24	43.4	39.23
Cawan + tanah kering	25.35	28.48	38.63	25.01	27.32	26.53	23.71	28.09	30.63	25.29	27.43	30.48	25.67	29.39	26.28
$w_w$	11.74	11.12	20.09	10.83	12.33	12.11	10.29	13.21	15.74	10.71	12.83	14.17	11.57	14.01	12.95
$w_s$	15.88	16.19	29.52	15.62	18.27	17.14	14.3	18.54	21.27	15.37	17.87	20.58	16.2	19.9	17.05
Kadar air, w	<b>73.9%</b>	<b>68.7%</b>	<b>68.1%</b>	<b>69.3%</b>	<b>67.5%</b>	<b>70.7%</b>	<b>72.0%</b>	<b>71.3%</b>	<b>74.0%</b>	<b>69.7%</b>	<b>71.8%</b>	<b>68.9%</b>	<b>71.4%</b>	<b>70.4%</b>	<b>76.0%</b>



**Data Pengembangan Tanah Dengan Proses Elektrokinetik Pada Besaran  
Voltase 6 V 5 A, 10 cm**

Pengujian 1 : Tanggal 2 Agustus 2016												
Volt	: 6V		Volume alat	: 0.0108m <sup>2</sup>				Berat Tanah (Wd)	: 12.5kg			
Kadar air awal	: 0%		Batas kadar air kering	: 14%				Berat Air (Ww)	: 1.75kg = 1750ml			
Tinggi tanah	: 15cm		Kedalaman elektroda	: 10cm				Air keluar (Anoda)	: 280ml			
MDD	: 12.2		Penambahan Air	: 6400ml				Air keluar (Katoda)	: 43ml			
Waktu		Titik										Volt
		1		2		3		4		5		
Jam	Menit	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	I = 5A
0	0	0	0	0	0	0	0	0	0	0	0	6,51
0,25	15	1521	15,21	1719	17,19	1795	17,95	1734	17,34	1548	15,48	6,51
0,5	30	1661	16,61	1905	19,05	1866	18,66	1910	19,1	1695	16,95	6,46
0,75	45	1726	17,26	2080	20,8	1896	18,96	1933	19,33	1748	17,48	6,43
1	60	1755	17,55	2115	21,15	1929,5	19,295	1974	19,74	1778	17,78	6,43
2	120	1840,5	18,405	2316	23,16	2125	21,25	2069	20,69	1848	18,48	6,41
4	240	1908	19,08	2316	23,16	2198,5	21,985	2150	21,5	1928	19,28	6,4
8	480	1995,5	19,955	2316	23,16	2250,5	22,505	2189	21,89	1956,5	19,565	6,42
12	720	2082,5	20,825	2316	23,16	2302,5	23,025	2227,5	22,275	1985	19,85	6,42
24	1440	2085,5	20,855	2316	23,16	2307	23,07	2239	22,39	1979,5	19,795	6,42
36	2160	2085	20,85	2316	23,16	2307	23,07	2233	22,33	1979,5	19,795	6,42
48	2880	2085	20,85	2316	23,16	2307	23,07	2233	22,33	1979,5	19,795	6,42
72	4320	2085	20,85	2316	23,16	2307	23,07	2233	22,33	1979,5	19,795	6,42
96	5760	2084,5	20,845	2316	23,16	2306,5	23,065	2233	22,33	1979,5	19,795	6,44
S	Max	2085,5	20,855	2316	23,16	2307	23,07	2239	22,39	1985	19,85	6,44
	Min	0	0	0	0	0	0	0	0	0	0	
Pegembangan (mm)			20,855		23,16		23,07		22,39		19,85	
Pegembangan (cm)			2,0855		2,316		2,307		2,239		1,985	

Penambahan air setelah 4 hari = 1850ml												
Pengujian 1 : Tanggal 6 Agustus 2016												
Waktu		Titik										Volt
		1		2		3		4		5		
Jam	Menit	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	I = 5A
96	5760	2084,5	20,845	2316	23,16	2306,5	23,065	2233	22,33	1979,5	19,795	6,44
96,25	5775	2097	20,97	2364,5	23,645	2347,5	23,475	2268	22,68	2010,5	20,105	6,41
96,5	5790	2097	20,97	2367	23,67	2348	23,48	2269	22,69	2012	20,12	6,41
96,75	5805	2097	20,97	2367	23,67	2348,5	23,485	2269	22,69	2012	20,12	6,41
97	5820	2097	20,97	2367	23,67	2348,5	23,485	2269	22,69	2013	20,13	6,41
98	5880	2099,5	20,995	2367	23,67	2348,5	23,485	2275	22,75	2016	20,16	6,39
100	6000	2102,5	21,025	2371	23,71	2353,5	23,535	2280,5	22,805	2021	20,21	6,39
104	6240	2109,5	21,095	2381,5	23,815	2368	23,68	2294,5	22,945	2029,5	20,295	6,39
108	6480	2116,5	21,165	2392,5	23,925	2383,5	23,835	2309	23,09	2038,5	20,385	6,39
120	7200	2116,5	21,165	2392,5	23,925	2383,5	23,835	2309	23,09	2038,5	20,385	6,39
S	Max	2116,5	21,165	2392,5	23,925	2383,5	23,835	2309	23,09	2038,5	20,385	6,40
	Min	2084,5	20,845	2316	23,16	2306,5	23,065	2233	22,33	1979,5	19,795	
Pegembangan (mm)			0,32		0,765		0,77		0,76		0,59	
Hasil Pengembangan (mm)		31	0,31	76,5	0,765	76,5	0,765	70	0,7	53,5	0,535	

Pengembangan Tanah (S), %						
Waktu		Titik				
Jam	Menit	1	2	3	4	5
0	0	0	0	0	0	0
0,25	15	10,140	11,460	11,967	11,560	10,320
0,5	30	11,073	12,700	12,440	12,733	11,300
0,75	45	11,507	13,867	12,640	12,887	11,653
1	60	11,700	14,100	12,863	13,160	11,853
2	120	12,270	15,440	14,167	13,793	12,320
4	240	12,720	15,440	14,657	14,333	12,853
8	480	13,303	15,440	15,003	14,593	13,043
12	720	13,883	15,440	15,350	14,850	13,233
24	1440	13,903	15,440	15,380	14,927	13,197
36	2160	13,900	15,440	15,380	14,887	13,197
48	2880	13,900	15,440	15,380	14,887	13,197
72	4320	13,900	15,440	15,380	14,887	13,197
96	5760	13,897	15,440	15,377	14,887	13,197
96,25	5775	13,980	15,763	15,650	15,120	13,403
96,5	5790	13,980	15,780	15,653	15,127	13,413
96,75	5805	13,980	15,780	15,657	15,127	13,413
97	5820	13,980	15,780	15,657	15,127	13,420
98	5880	13,997	15,780	15,657	15,167	13,440
100	6000	14,017	15,807	15,690	15,203	13,473
104	6240	14,063	15,877	15,787	15,297	13,530
108	6480	14,110	15,950	15,890	15,393	13,590
120	7200	14,110	15,950	15,890	15,393	13,590
S	Maks	14,110	15,950	15,890	15,393	13,590
	Min	0	0	0	0	0
Pengembangan (S), %		14,110	15,950	15,890	15,393	13,590

**Data Pengembangan Tanah Dengan Proses Elektrokinetik Pada Besaran  
Voltase 9 V 5 A, 10 cm**

Pengujian 3 : Tanggal 17 Agustus 2016												
Volt	: 9V		Volume alat	: 0.0108m <sup>2</sup>		Berat Tanah (Wd)	: 12.5kg					
Kadar air awal	: 0%		Batas kadar air kering	: 14%		Berat Air (Ww)	: 1.75kg = 1750ml					
Tinggi tanah	: 15cm		Kedalaman elektroda	: 10cm		Air keluar (Anoda)	: 401ml					
MDD	: 12.2		Penambahan Air	: 6400ml		Air keluar (Katoda)	: 48ml					
Waktu		Titik										Volt
		1		2		3		4		5		
Jam	Menit	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	I = 5A
0	0	0	0	0	0	0	0	0	0	0	0	9,87
0,25	15	1554	15,54	1861	18,61	1777	17,77	1796	17,96	1434	14,34	9,87
0,5	30	1629	16,29	1960	19,6	1875	18,75	1890	18,9	1534	15,34	9,81
0,75	45	1663,5	16,635	2003	20,03	1909	19,09	1931	19,31	1578	15,78	9,8
1	60	1689	16,89	2031	20,31	2047	20,47	1959	19,59	1604	16,04	9,78
2	120	1739,5	17,395	2097	20,97	2107	21,07	2022	20,22	1645	16,45	9,77
4	240	1767	17,67	2138	21,38	2146	21,46	2055	20,55	1681	16,81	9,76
8	480	1759	17,59	2128	21,28	2126	21,26	2037	20,37	1587	15,87	9,78
12	720	1756	17,56	2123	21,23	2123	21,23	2032	20,32	1587	15,87	9,8
24	1440	1746	17,46	2108	21,08	2113	21,13	2018	20,18	1587	15,87	9,79
36	2160	1746	17,46	2108	21,08	2113	21,13	2018	20,18	1587	15,87	9,79
48	2880	1746	17,46	2108	21,08	2113	21,13	2018	20,18	1587	15,87	9,79
72	4320	1746	17,46	2108	21,08	2113	21,13	2018	20,18	1587	15,87	9,79
96	5760	1746	17,46	2108	21,08	2112	21,12	2024	20,24	1588	15,88	9,81
S	Max	1767	17,67	2138	21,38	2146	21,46	2055	20,55	1681	16,81	9,80
	Min	0	0	0	0	0	0	0	0	0	0	
Pegembangan (mm)				17,67	21,38	21,46	20,55	16,81				
Pegembangan (cm)				1,767	2,138	2,146	2,055	1,681				

Penambahan air setelah 4 hari = 1850ml												
Pengujian 3: Tanggal 21 Agustus 2016												
Waktu		Titik										Volt
		1		2		3		4		5		
Jam	Menit	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	I = 5A
96	5760	1746	17,46	2108	21,08	2112	21,12	2024	20,24	1588	15,88	9,81
96,25	5775	1772	17,72	2142	21,42	2150,5	21,505	2072	20,72	1608	16,08	9,82
96,5	5790	1775,5	17,755	2146	21,46	2153,5	21,535	2081	20,81	1611	16,11	9,82
96,75	5805	1777	17,77	2143	21,43	2155	21,55	2077,5	20,775	1613	16,13	9,82
97	5820	1785,5	17,855	2149,5	21,495	2159	21,59	2081,5	20,815	1614	16,14	9,82
98	5880	1783	17,83	2154	21,54	2163,5	21,635	2087	20,87	1620	16,2	9,82
100	6000	1783	17,83	2150,5	21,505	2150	21,5	2082	20,82	1621,5	16,215	9,82
104	6240	1783	17,83	2145	21,45	2154,5	21,545	2076	20,76	1622	16,22	9,83
108	6480	1783	17,83	2145	21,45	2154	21,54	2075,5	20,755	1622	16,22	9,85
120	7200	1782,5	17,825	2144,5	21,445	2153,5	21,535	2075	20,75	1621,5	16,215	9,84
S	Max	1785,5	17,855	2154	21,54	2163,5	21,635	2087	20,87	1622	16,22	9,83
	Min	1746	17,46	2108	21,08	2112	21,12	2024	20,24	1588	15,88	
Pegembangan (mm)				0,395	0,46	0,515	0,63	0,34				
Hasil Pengembangan (mm)		18,5	0,185	16	0,16	17,5	0,175	32	0,32	-59	-0,59	

Pengembangan Tanah (S), %						
Waktu		Titik				
Jam	Menit	1	2	3	4	5
0	0	0	0	0	0	0
0,25	15	10,360	12,407	11,847	11,973	9,560
0,5	30	10,860	13,067	12,500	12,600	10,227
0,75	45	11,090	13,353	12,727	12,873	10,520
1	60	11,260	13,540	13,647	13,060	10,693
2	120	11,597	13,980	14,047	13,480	10,967
4	240	11,780	14,253	14,307	13,700	11,207
8	480	11,727	14,187	14,173	13,580	10,580
12	720	11,707	14,153	14,153	13,547	10,580
24	1440	11,640	14,053	14,087	13,453	10,580
36	2160	11,640	14,053	14,087	13,453	10,580
48	2880	11,640	14,053	14,087	13,453	10,580
72	4320	11,640	14,053	14,087	13,453	10,580
96	5760	11,640	14,053	14,080	13,493	10,587
96,25	5775	11,813	14,280	14,337	13,813	10,720
96,5	5790	11,837	14,307	14,357	13,873	10,740
96,75	5805	11,847	14,287	14,367	13,850	10,753
97	5820	11,903	14,330	14,393	13,877	10,760
98	5880	11,887	14,360	14,423	13,913	10,800
100	6000	11,887	14,337	14,333	13,880	10,810
104	6240	11,887	14,300	14,363	13,840	10,813
108	6480	11,887	14,300	14,360	13,837	10,813
120	7200	11,883	14,297	14,357	13,833	10,810
S	Maks	11,903	14,360	14,423	13,913	11,207
	Min	0	0	0	0	0
Pengembangan (S), %		11,903	14,360	14,423	13,913	11,207

### Data Pengembangan Tanah Dengan Proses Elektrokinetik Pada Besaran Voltase 12 V 5 A, 10 cm

Pengujian 2 : Tanggal 10 Agustus 2016												
Volt	: 12V		Volume alat	: 0.0108m <sup>2</sup>		Berat Tanah (Wd)	: 12.5kg					
Kadar air awal	: 0%		Batas kadar air kering	: 14%		Berat Air (Ww)	: 1.75kg = 1750ml					
Tinggi tanah	: 15cm		Kedalaman elektroda	: 10cm		Air keluar (Anoda)	: 423ml					
MDD	: 12.2		Penambahan Air	: 6400ml		Air keluar (Katoda)	: 49ml					
Waktu		Titik										Volt
		1		2		3		4		5		
Jam	Menit	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	I = 5A
0	0	0	0	0	0	0	0	0	0	0	0	13,44
0,25	15	1152	11,52	1648	16,48	1620	16,2	1527	15,27	993	9,93	13,44
0,5	30	1277	12,77	1757	17,57	1727	17,27	1627	16,27	1082	10,82	13,39
0,75	45	1371	13,71	1818,5	18,19	1782	17,82	1673	16,73	1119	11,19	13,37
1	60	1395	13,95	1853,5	18,54	1812	18,12	1700,5	17,01	1136,5	11,37	13,34
2	120	1458	14,58	1941	19,41	1858	18,58	1771,5	17,72	1167,5	11,68	13,3
4	240	1507,5	15,075	1990,5	19,91	1867	18,67	1811	18,11	1174	11,74	13,26
8	480	1580	15,8	2051	20,51	1867,5	18,675	1811	18,11	1174,5	11,745	13,3
12	720	1580	15,8	2051	20,51	1867	18,67	1811	18,11	1174	11,74	13,36
24	1440	1597	15,97	2076	20,76	1867,5	18,675	1811	18,11	1174,5	11,745	13,3
36	2160	1597	15,97	2076	20,76	1867,5	18,675	1811	18,11	1174,5	11,745	13,41
48	2880	1502	15,02	2083	20,83	1867,5	18,675	1811	18,11	1174	11,74	13,4
72	4320	1509,5	15,095	2091	20,91	1867,5	18,675	1830	18,3	1174,5	11,745	13,4
96	5760	1514,5	15,145	2098,5	20,985	1867,5	18,675	1838	18,38	1174,5	11,745	13,41
S	Max	1597	15,97	2098,5	20,985	1867,5	18,675	1838	18,38	1174,5	11,745	13,37
	Min	0	0	0	0	0	0	0	0	0	0	
Pegembangan (mm)				15,97	20,985	18,675	18,38	11,745				
Pegembangan (cm)				1,597	2,0985	1,8675	1,838	1,1745				

Penambahan air setelah 4 hari = 1850ml												
Pengujian 2: Tanggal 14 Agustus 2016												
Waktu		Titik										Volt
		1		2		3		4		5		
Jam	Menit	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	I = 5A
96	5760	1514,5	15,145	2098,5	20,985	1867,5	18,675	1838	18,38	1174,5	11,745	13,41
96,25	5775	1534,5	15,345	2130	21,3	1867,5	18,675	1860,5	18,605	1185	11,85	13,4
96,5	5790	1536	15,36	2132,5	21,325	1867,5	18,675	1862	18,62	1187	11,87	13,43
96,75	5805	1537,5	15,375	2135	21,35	1867,5	18,675	1863,5	18,635	1189,5	11,895	13,44
97	5820	1538,5	15,385	2136	21,36	1867,5	18,675	1864,5	18,645	1189,5	11,895	13,44
98	5880	1541,5	15,415	2141	21,41	1867,5	18,675	1867,5	18,675	1193	11,93	13,44
100	6000	1537	15,37	2186,5	21,865	1867,5	18,675	1868	18,68	1198,5	11,985	13,46
104	6240	1537	15,37	2135	21,35	1867,5	18,675	1868	18,68	1198,5	11,985	13,51
108	6480	1537	15,37	2135	21,35	1867,5	18,675	1868	18,68	1198,5	11,985	13,5
120	7200	1537	15,37	2135	21,35	1867,5	18,675	1868	18,68	1198,5	11,985	13,45
S	Max	1541,5	15,415	2186,5	21,865	1867,5	18,675	1868	18,68	1198,5	11,985	13,45
	Min	1514,5	15,145	2098,5	20,985	1867,5	18,675	1838	18,38	1174,5	11,745	
Pegembangan (mm)				0,27	0,88	0	0	0,3	0,24			
Hasil Pengembangan (mm)				-55,5	88	0	0	30	0,3	24	0,24	

Pengembangan Tanah (S), %						
Waktu		Titik				
Jam	Menit	1	2	3	4	5
0	0	0	0	0	0	0
0,25	15	7,680	10,987	10,800	10,180	6,620
0,5	30	8,513	11,713	11,513	10,847	7,213
0,75	45	9,140	12,123	11,880	11,153	7,460
1	60	9,300	12,357	12,080	11,337	7,577
2	120	9,720	12,940	12,387	11,810	7,783
4	240	10,050	13,270	12,447	12,073	7,827
8	480	10,533	13,673	12,450	12,073	7,830
12	720	10,533	13,673	12,447	12,073	7,827
24	1440	10,647	13,840	12,450	12,073	7,830
36	2160	10,647	13,840	12,450	12,073	7,830
48	2880	10,013	13,887	12,450	12,073	7,827
72	4320	10,063	13,940	12,450	12,200	7,830
96	5760	10,097	13,990	12,450	12,253	7,830
96,25	5775	10,230	14,200	12,450	12,403	7,900
96,5	5790	10,240	14,217	12,450	12,413	7,913
96,75	5805	10,250	14,233	12,450	12,423	7,930
97	5820	10,257	14,240	12,450	12,430	7,930
98	5880	10,277	14,273	12,450	12,450	7,953
100	6000	10,247	14,577	12,450	12,453	7,990
104	6240	10,247	14,233	12,450	12,453	7,990
108	6480	10,247	14,233	12,450	12,453	7,990
120	7200	10,247	14,233	12,450	12,453	7,990
S	Maks	10,647	14,577	12,450	12,453	7,990
	Min	0	0	0	0	0
Pengembangan (S), %		10,647	14,577	12,450	12,453	7,990

### Data Kadar Air Setelah Pengujian elektrokinetik

Pengujian 3, Tanggal 22 Agustus 2016																	
9 V, 10 cm																	
Keterangan	1			2			3			4			5			KAT A	ANO A
	A1	T1	B1	A2	T2	B2	A3	T3	B3	A4	T4	B4	A5	T5	B5		
Cawan kosong	9,44	9,37	9,62	9,31	10,04	9,6	9,26	9,47	9,55	9,37	10,31	9,5	10,12	12,1	9,13	9,59	9,41
Cawan + tanah basah	29,45	29,38	32,14	29,65	38,81	34,02	29,85	29,5	34,05	32,33	36,75	33,45	37,3	37,34	36,99	29,6	35,88
Cawan + tanah kering	22,37	22,17	23,65	22,44	28,19	24,81	22,3	22,04	24,87	23,97	27,03	24,63	27,38	28,32	27,12	22,41	25,76
w <sub>w</sub>	7,08	7,21	8,49	7,21	10,62	9,21	7,55	7,46	9,18	8,36	9,72	8,82	9,92	9,02	9,87	7,19	10,12
w <sub>s</sub>	12,93	12,8	14,03	13,13	18,15	15,21	13,04	12,57	15,32	14,6	16,72	15,13	17,26	16,22	17,99	12,82	16,35
Kadar air, w	<b>54,8%</b>	<b>56,3%</b>	<b>60,5%</b>	<b>54,9%</b>	<b>58,5%</b>	<b>60,6%</b>	<b>57,9%</b>	<b>59,3%</b>	<b>59,9%</b>	<b>57,3%</b>	<b>58,1%</b>	<b>58,3%</b>	<b>57,5%</b>	<b>55,6%</b>	<b>54,9%</b>	<b>56,1%</b>	<b>61,9%</b>

Pengujian 2, Tanggal 15 Agustus 2016																	
12 V, 10 cm																	
Keterangan	1			2			3			4			5			KAT A	ANO A
	A1	T1	B1	A2	T2	B2	A3	T3	B3	A4	T4	B4	A5	T5	B5		
Cawan kosong	9,36	9,44	9,28	9,31	9,41	9,39	9,71	9,48	9,53	9,95	9,44	9,31	9,43	9,31	9,9	9,47	9,79
Cawan + tanah basah	29,93	28,42	30,43	30,23	33,89	29,99	28,06	34,57	42,78	28,87	33,76	40,85	32,27	34,77	39,58	32,06	32,93
Cawan + tanah kering	21,99	21,81	22,94	22,89	25,15	22,71	21,7	25,76	30,7	22,29	25,1	29,39	24,23	25,69	28,76	23,89	23,71
w <sub>w</sub>	7,94	6,61	7,49	7,34	8,74	7,28	6,36	8,81	12,08	6,58	8,66	11,46	8,04	9,08	10,82	8,17	9,22
w <sub>s</sub>	12,63	12,37	13,66	13,58	15,74	13,32	11,99	16,28	21,17	12,34	15,66	20,08	14,8	16,38	18,86	14,42	13,92
Kadar air, w	<b>62,9%</b>	<b>53,4%</b>	<b>54,8%</b>	<b>54,1%</b>	<b>55,5%</b>	<b>54,7%</b>	<b>53,0%</b>	<b>54,1%</b>	<b>57,1%</b>	<b>53,3%</b>	<b>55,3%</b>	<b>57,1%</b>	<b>54,3%</b>	<b>55,4%</b>	<b>57,4%</b>	<b>56,7%</b>	<b>66,2%</b>

Pengujian 1, Tanggal 7 Agustus 2016																	
6 V, 10 cm																	
Keterangan	1			2			3			4			5			KAT A	ANO A
	A1	T1	B1	A2	T2	B2	A3	T3	B3	A4	T4	B4	A5	T5	B5		
Cawan kosong	9,37	9,46	9,52	9,32	9,44	9,4	9,73	9,49	9,54	9,95	9,45	9,33	9,44	9,33	9,91	9,48	9,79
Cawan + tanah basah	27,13	24,21	29,54	31,52	34,61	30,12	26,97	30,28	36,03	29,44	30,29	32,37	29,92	31,87	37,81	30,16	33,37
Cawan + tanah kering	20,42	18,74	18,13	23,48	25,15	22,47	20,62	22,56	25,82	22,19	22,25	23,59	22,63	23,59	27,25	22,57	24,01
w <sub>w</sub>	6,71	5,47	11,41	8,04	9,46	7,65	6,35	7,72	10,21	7,25	8,04	8,78	7,29	8,28	10,56	7,59	9,36
w <sub>s</sub>	11,05	9,28	8,61	14,16	15,71	13,07	10,89	13,07	16,28	12,24	12,8	14,26	13,19	14,26	17,34	13,09	14,22
Kadar air, w	<b>60,7%</b>	<b>58,9%</b>	<b>132,5%</b>	<b>56,8%</b>	<b>60,2%</b>	<b>58,5%</b>	<b>58,3%</b>	<b>59,1%</b>	<b>62,7%</b>	<b>59,2%</b>	<b>62,8%</b>	<b>61,6%</b>	<b>55,3%</b>	<b>58,1%</b>	<b>60,9%</b>	<b>58,0%</b>	<b>65,8%</b>

## LAMPIRAN C

## Data Pengujian Besaran Voltase Setiap Titik

Pengujian 4 : Tanggal 23 Agustus 2016						
Volt		: 12V		Kedalaman elektroda		: 10cm
Kadar air awal		: 0%		Penambahan Air		: 6400ml
Tinggi tanah		: 15cm		Berat Tanah (Wd)		: 12.5kg
MDD		: 12.2		Berat Air (Ww)		: 1.75kg
Volume alat		: 0.0108m <sup>2</sup>		Air keluar (Anoda)		: 423ml
Batas kadar air kering		: 14%		Air keluar (Katoda)		: 49ml
Waktu		Jarak Hitung Dari Katoda (cm)				
Jam	Menit	-25	-15	-10	-5	5
0	0	5,29	4,51	3,86	3,18	2,55
0,25	15	9,60	8,03	6,21	4,39	2,76
0,5	30	9,55	8,03	6,21	4,44	2,80
0,75	45	9,52	8,02	6,24	4,51	2,91
1	60	9,47	8,00	6,24	4,55	2,96
2	120	9,22	7,76	6,11	4,48	2,88
4	240	8,84	7,43	5,90	4,40	2,89
8	480	8,55	7,17	5,70	4,25	2,77
12	720	8,27	6,90	5,50	4,10	2,64
24	1440	7,41	6,11	4,90	3,64	2,27
36	2160	7,05	5,71	4,60	3,36	2,07
48	2880	6,69	5,31	4,30	3,09	1,87
V	Max	9,60	8,03	6,24	4,55	2,96
	Min	5,29	4,51	3,86	3,09	1,87