

## 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			

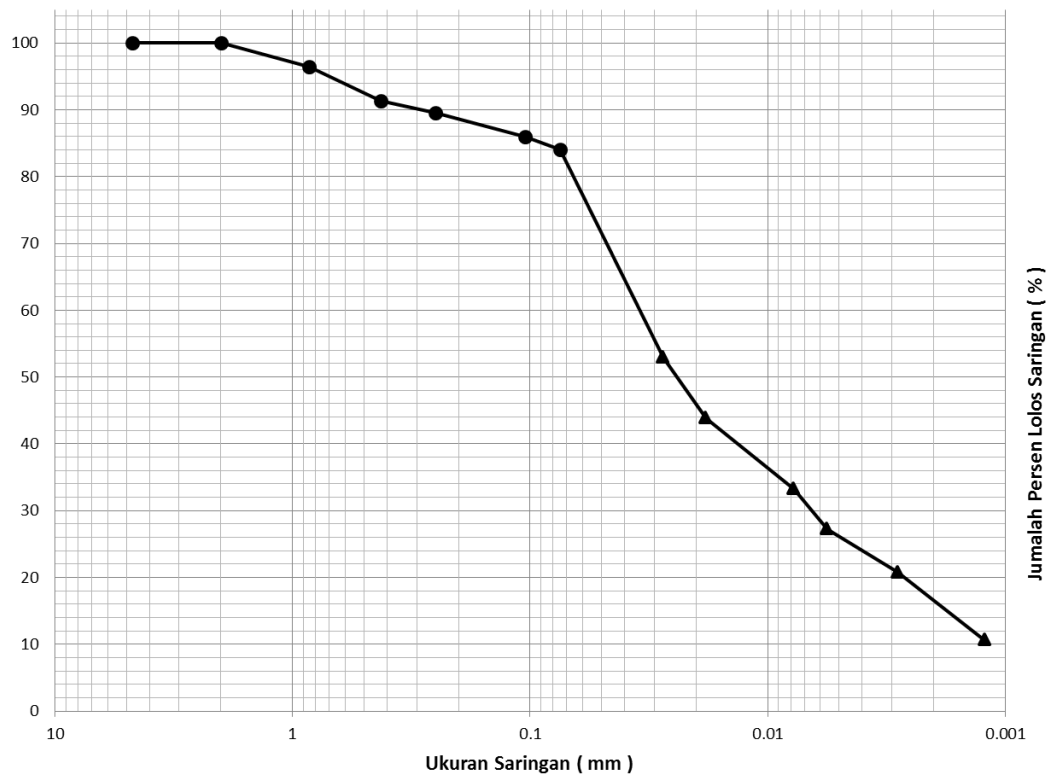
## Uji Distribusi Ukuran Butir Tanah

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

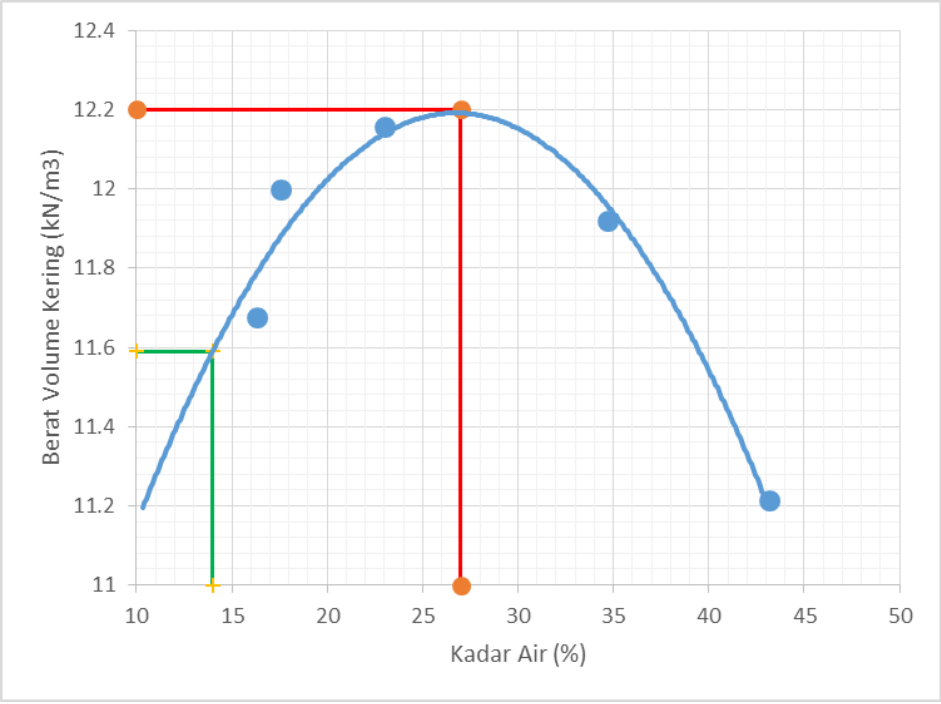
t menit	R1	R2	t	R(aksen)	L	K	D	R	P	Pa
2	30	-2	28	31	9.745804386	0.01248	0.027549165	35.05	60.46	52.91
5	24	-2	28	25	10.61340439	0.01248	0.01818264	29.05	50.11	43.85
30	17	-2	28	18	11.62560439	0.01248	0.007768939	22.05	38.04	33.29
60	13	-2	28	14	12.20400439	0.01248	0.005628467	18.05	31.14	27.25
250	8	-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

### 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>



## LAMPIRAN C

### Data Pengembangan Tanah Dengan Proses Elektrokinetik Pada Kedalaman Elektroda 5 cm

Pengujian 1 : Tanggal 2 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		: 5cm		Air keluar (Anoda)		: 616ml		
MDD		: 12.2		Penambahan Air		: 6400ml		Air keluar (Katoda)		: 44ml		
Waktu		Titik										Volt
		6		7		8		9		10		
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	13.3
0.25	15	1523	15.23	1742	17.42	1801	18.01	1753	17.53	1390	13.9	13.3
0.5	30	1599	15.99	1845	18.45	1904	19.04	1852	18.52	1466	14.66	13.28
0.75	45	1620	16.2	1885	18.85	1944	19.44	1885	18.85	1490	14.9	13.25
1	60	1631	16.31	1906	19.06	1959	19.59	1902	19.02	1504	15.04	13.25
2	120	1675	16.75	1956	19.56	2017	20.17	1968	19.68	1560	15.6	13.22
4	240	1654	16.54	2004	20.04	1960	19.6	1923	19.23	1536	15.36	13.18
8	480	1614.5	16.145	1963	19.63	1900.5	19.005	1886	18.86	1513	15.13	15.25
12	720	1614.5	16.145	1961.5	19.615	1900.5	19.005	1886	18.86	1513	15.13	15.25
24	1440	1614.5	16.145	1957	19.57	1900.5	19.005	1886	18.86	1512	15.12	15.25
36	2160	1614.5	16.145	1957	19.57	1900.5	19.005	1886	18.86	1515.5	15.155	15.23
48	2880	1614.5	16.145	1957	19.57	1900.5	19.005	1886	18.86	1518	15.18	13.21
72	4320	1614.5	16.145	1957	19.57	1898	18.98	1888	18.88	1522	15.22	13.18
96	5760	1615	16.15	1957	19.57	1899	18.99	1895	18.95	1531.5	15.315	13.22
S	Max	1675	16.75	2004	20.04	2017	20.17	1968	19.68	1560	15.6	13.81
	Min	0	0	0	0	0	0	0	0	0	0	
Pengembangan (mm)				16.75		20.04		20.17		19.68		15.6
Pengembangan (cm)				1.675		2.004		2.017		1.968		1.56

Penambahan air setelah 4 hari = 1850ml												
Pengujian 1 : Tanggal 6 Agustus 2016												
Waktu		Titik										Volt
		6		7		8		9		10		
Jam	Menit	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	I = 5A
96	5760	1615	16.15	1957	19.57	1899	18.99	1895	18.95	1531.5	15.315	13.22
96.25	5775	1629	16.29	1982	19.82	1930	19.3	1927	19.27	1553	15.53	13.24
96.5	5790	1627.5	16.275	1979.5	19.795	1926.5	19.265	1926.5	19.265	1552	15.52	13.24
96.75	5805	1634	16.34	1997.5	19.975	1950	19.5	1946.5	19.465	1559.5	15.595	13.24
97	5820	1637.5	16.375	2001.5	20.015	1957.5	19.575	1954.5	19.545	1568	15.68	13.24
98	5880	1640.5	16.405	2008	20.08	1965	19.65	1963	19.63	1571	15.71	13.24
100	6000	1636	16.36	1995.5	19.955	1946.5	19.465	1951	19.51	1560	15.6	13.24
104	6240	1636	16.36	1995.5	19.955	1946.5	19.465	1951	19.51	1559.5	15.595	13.24
108	6480	1635.5	16.355	1995.5	19.955	1946.5	19.465	1951	19.51	1559.5	15.595	13.24
120	7200	1635	16.35	1995	19.95	1946	19.46	1951	19.51	1559.5	15.595	13.22
S	Max	1640.5	16.405	2008	20.08	1965	19.65	1963	19.63	1571	15.71	13.24
	Min	1615	16.15	1957	19.57	1899	18.99	1895	18.95	1531.5	15.315	
Pegembangan (mm)				0.255		0.51		0.66		0.68		0.395
Hasil Pengembangan (mm)		-34.5		-0.345		4		0.04		-52		-0.52
										-5		-0.05
										11		0.11

Pengembangan Tanah (S), %						
Waktu		Titik				
Jam	Menit	6	7	8	9	10
0	0	0	0	0	0	0
0.25	15	10.153	11.613	12.007	11.687	9.267
0.5	30	10.660	12.300	12.693	12.347	9.773
0.75	45	10.800	12.567	12.960	12.567	9.933
1	60	10.873	12.707	13.060	12.680	10.027
2	120	11.167	13.040	13.447	13.120	10.400
4	240	11.027	13.360	13.067	12.820	10.240
8	480	10.763	13.087	12.670	12.573	10.087
12	720	10.763	13.077	12.670	12.573	10.087
24	1440	10.763	13.047	12.670	12.573	10.080
36	2160	10.763	13.047	12.670	12.573	10.103
48	2880	10.763	13.047	12.670	12.573	10.120
72	4320	10.763	13.047	12.653	12.587	10.147
96	5760	10.767	13.047	12.660	12.633	10.210
96.25	5775	10.767	13.047	12.660	12.633	10.210
96.5	5790	10.860	13.213	12.867	12.847	10.353
96.75	5805	10.850	13.197	12.843	12.843	10.347
97	5820	10.893	13.317	13.000	12.977	10.397
98	5880	10.917	13.343	13.050	13.030	10.453
100	6000	10.937	13.387	13.100	13.087	10.473
104	6240	10.907	13.303	12.977	13.007	10.400
108	6480	10.907	13.303	12.977	13.007	10.397
120	7200	10.903	13.303	12.977	13.007	10.397
S	Maks	11.167	13.387	13.447	13.120	10.473
	Min	0	0	0	0	0
Pengembangan (S), %		11.167	13.387	13.447	13.120	10.473

## Data Pengembangan Tanah Dengan Proses Elektrokinetik Pada Kedalaman Elektroda 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	
96	5760	1514.5	15.145	2098.5	20.985	1867.5	18.675	1838	18.38	1174.5	11.745	
S	Max	1597	15.97	2098.5	20.985	1867.5	18.675	1838	18.38	1174.5	11.745	13.36
	Min	0	0	0	0	0	0	0	0	0	0	
Pengembangan (mm)			15.97		20.985		18.675		18.38		11.745	
Pengembangan (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	13.4
96.25	5775	1534.5	15.345	2130	21.3	1867.5	18.675	1860.5	18.605	1185	11.85	13.42
96.5	5790	1536	15.36	2132.5	21.325	1867.5	18.675	1862	18.62	1187	11.87	13.42
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	13.45
98	5880	1541.5	15.415	2141	21.41	1867.5	18.675	1867.5	18.675	1193	11.93	13.47
100	6000	1537	15.37	2186.5	21.865	1867.5	18.675	1868	18.68	1198.5	11.985	13.48
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	
Pengembangan (mm)			0.27		0.88		0		0.3		0.24	
Hasil Pengembangan (mm)		-55.5	-0.555	88	0.88	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 Pengembangan Tanah Dengan Proses Elektrokinetik Pada Kedalaman Elektroda 15 cm

Pengujian 3 : 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	: 15cm		Air keluar (Anoda)	: 581ml					
MDD	: 12.2		Penambahan Air	: 6400ml		Air keluar (Katoda)	: 97ml					
Waktu		Titik										Volt
		6		7		8		9		10		
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	13.22
0.25	15	1463	14.63	1970	19.7	1934	19.34	1911	19.11	1295	12.95	13.22
0.5	30	1569	15.69	2150	21.5	2126	21.26	2100	21	1412	14.12	13.2
0.75	45	1606	16.06	2202	22.02	2180.5	21.81	2146	21.46	1457	14.57	13.15
1	60	1634.5	16.35	2227.5	22.28	2211	22.11	2166	21.66	1484	14.84	13.13
2	120	1618	16.18	2181	21.81	2177	21.77	2135	21.35	1445	14.45	13.08
4	240	1618	16.18	2181	21.81	2177	21.77	2135	21.35	1443	14.43	13.03
8	480	1618	16.18	2181	21.81	2177	21.77	2135	21.35	1442.5	14.425	13.12
12	720	1592.5	15.925	2149	21.49	2147.5	21.475	2103	21.03	1412	14.12	13.15
24	1440	1695.5	16.955	2170.5	21.705	2178.5	21.785	2131	21.31	1421	14.21	13.11
36	2160	1695.5	16.955	2170.5	21.705	2178.5	21.785	2131	21.31	1421	14.21	13.22
48	2880	1695.5	16.955	2170.5	21.705	2178.5	21.785	2131	21.31	1421	14.21	13.2
72	4320	1695.5	16.955	2170.5	21.705	2181.5	21.815	2131	21.31	1421	14.21	13.2
96	5760	1695.5	16.955	2170.5	21.705	2183.5	21.835	2131	21.31	1421	14.21	13.2
S	Max	1695.5	16.955	2227.5	22.275	2211	22.11	2166	21.66	1484	14.84	13.16
	Min	0	0	0	0	0	0	0	0	0	0	
Pengembangan (mm)		16.955		22.275		22.11		21.66		14.84		13.16
Pengembangan (cm)		1.6955		2.2275		2.211		2.166		1.484		

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Penambahan air setelah 4 hari = 1850ml																					
Pengujian 2: Tanggal 14 Agustus 2016																					
Waktu		Titik										Volt									
		6		7		8		9		10											
Jam	Menit	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	Arloji	mm	I = 5A									
96	5760	1695.5	16.955	2170.5	21.705	2183.5	21.835	2131	21.31	1421	14.21	13.2									
96.25	5775	1710.5	17.105	2206.5	22.065	2216	22.16	2163.5	21.635	1447.5	14.475	13.23									
96.5	5790	1713.5	17.135	2210.5	22.105	2219	22.19	2167.5	21.675	1450	14.5	13.24									
96.75	5805	1713.5	17.135	2212	22.12	2221	22.21	2170	21.7	1451.5	14.515	13.24									
97	5820	1713.5	17.135	2213.5	22.135	2223.5	22.235	2172	21.72	1453.5	14.535	13.26									
98	5880	1716.5	17.165	2221	22.21	2228.5	22.285	2180	21.8	1458	14.58	13.27									
100	6000	1719.5	17.195	2224	22.24	2237	22.37	2186.5	21.865	1464.5	14.645	13.27									
104	6240	1727	17.27	2231.5	22.315	2244	22.44	2194	21.94	1472	14.72	13.28									
108	6480	1727	17.27	2231.5	22.315	2244	22.44	2194	21.94	1472	14.72	13.26									
120	7200	1727	17.27	2231.5	22.315	2244	22.44	2194	21.94	1472	14.72	13.22									
S	Max	1727	17.27	2231.5	22.315	2244	22.44	2194	21.94	1472	14.72	13.247									
	Min	1695.5	16.955	2170.5	21.705	2183.5	21.835	2131	21.31	1421	14.21										
Pengembangan (mm)		0.315		0.61		0.605		0.63		0.51		13.247									
Hasil Pengembangan (mm)		31.5		0.315		4		0.04		33			0.33		28		0.28		-12		-0.12

Pengembangan Tanah (S), %						
Waktu		Titik				
Jam	Menit	6	7	8	9	10
0	0	0	0	0	0	0
0.25	15	10.153	11.613	12.007	11.687	9.267
0.5	30	10.660	12.300	12.693	12.347	9.773
0.75	45	10.800	12.567	12.960	12.567	9.933
1	60	10.873	12.707	13.060	12.680	10.027
2	120	11.167	13.040	13.447	13.120	10.400
4	240	11.027	13.360	13.067	12.820	10.240
8	480	10.763	13.087	12.670	12.573	10.087
12	720	10.763	13.077	12.670	12.573	10.087
24	1440	10.763	13.047	12.670	12.573	10.080
36	2160	10.763	13.047	12.670	12.573	10.103
48	2880	10.763	13.047	12.670	12.573	10.120
72	4320	10.763	13.047	12.653	12.587	10.147
96	5760	10.767	13.047	12.660	12.633	10.210
96.25	5775	10.767	13.047	12.660	12.633	10.210
96.5	5790	10.860	13.213	12.867	12.847	10.353
96.75	5805	10.850	13.197	12.843	12.843	10.347
97	5820	10.893	13.317	13.000	12.977	10.397
98	5880	10.917	13.343	13.050	13.030	10.453
100	6000	10.937	13.387	13.100	13.087	10.473
104	6240	10.907	13.303	12.977	13.007	10.400
108	6480	10.907	13.303	12.977	13.007	10.397
120	7200	10.903	13.303	12.977	13.007	10.397
S	Maks	11.167	13.387	13.447	13.120	10.473
	Min	0	0	0	0	0
Pengembangan (S), %		11.167	13.387	13.447	13.120	10.473

## Data Kadar Air Setelah Pengujian Elektrokinetik

Pengujian 1, Tanggal 7 Agustus 2016																	
12 V, 5 cm																	
Keterangan	6			7			8			9			10			KAT B	ANO B
	A6	T6	B6	A7	T7	B7	A8	T8	B8	A9	T9	B9	A10	T10	B10		
Cawan kosong	9.5	9.21	9.17	10.5	9.54	9.18	9.4	9.34	9.71	9.54	9.23	9.33	9.42	9.36	9.64	9.83	9.35
Cawan + tanah basah	31.58	37.28	31.66	32.87	35.94	38.63	41.85	36.32	44.28	49.27	36.19	37.83	47.3	47.37	46.17	46.41	55.41
Cawan + tanah kering	23.3	26.77	23.42	24.24	25.83	27.38	29.42	26	31.11	33.84	25.85	27.08	32.98	33.04	32.6	33.79	37.37
w <sub>w</sub>	8.28	10.51	8.24	8.63	10.11	11.25	12.43	10.32	13.17	15.43	10.34	10.75	14.32	14.33	13.57	12.62	18.04
w <sub>s</sub>	13.8	17.56	14.25	13.74	16.29	18.2	20.02	16.66	21.4	24.3	16.62	17.75	23.56	23.68	22.96	23.96	28.02
Kadar air, w	<b>60.0%</b>	<b>59.9%</b>	<b>57.8%</b>	<b>62.8%</b>	<b>62.1%</b>	<b>61.8%</b>	<b>62.1%</b>	<b>61.9%</b>	<b>61.5%</b>	<b>63.5%</b>	<b>62.2%</b>	<b>60.6%</b>	<b>60.8%</b>	<b>60.5%</b>	<b>59.1%</b>	<b>52.7%</b>	<b>64.4%</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 2, Tanggal 15 Agustus 2016																	
12 V, 15 cm																	
Keterangan	6			7			8			9			10			KAT B	ANO B
	A6	T6	B6	A7	T7	B7	A8	T8	B8	A9	T9	B9	A10	T10	B10		
Cawan kosong	9.48	12.3	10.38	9.4	9.06	9.4	9.42	9.57	9.38	9.93	9.51	9.91	9.48	9.57	9.12	9.28	9.25
Cawan + tanah basah	33.66	42.6	39.3	39.06	44.78	32.4	40.39	34.3	35.91	38.43	40.78	41.08	33	41.59	44.44	36.13	31.42
Cawan + tanah kering	24.13	31.16	28.03	27.23	30.89	23.53	28.17	24.76	25.61	27.22	28.83	28.96	24.08	29.4	30.8	26.83	22.74
w <sub>w</sub>	9.53	11.44	11.27	11.83	13.89	8.87	12.22	9.54	10.3	11.21	11.95	12.12	8.92	12.19	13.64	9.3	8.68
w <sub>s</sub>	14.65	18.86	17.65	17.83	21.83	14.13	18.75	15.19	16.23	17.29	19.32	19.05	14.6	19.83	21.68	17.55	13.49
Kadar air, w	<b>65.1%</b>	<b>60.7%</b>	<b>63.9%</b>	<b>66.3%</b>	<b>63.6%</b>	<b>62.8%</b>	<b>65.2%</b>	<b>62.8%</b>	<b>63.5%</b>	<b>64.8%</b>	<b>61.9%</b>	<b>63.6%</b>	<b>61.1%</b>	<b>61.5%</b>	<b>62.9%</b>	<b>53.0%</b>	<b>64.3%</b>

## LAMPIRAN D

### 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
Rata-rata		8,29	6,92	5,48	4,03	2,61



