



Telp. (024) 316167 - 316142 - 441705 - 441762
Fax. (024) 415429 Po. Box. 8033/SM
Badan Hukum : Yayasan Sandjojo

Nomor : A.48.04/256/WKS.04.2/VI/1997

24 Juni 1997

Lamp : 1 (Satu)lembar

H a l : MOHON TUGAS AKHIR

Kepada : Yth. Bapak. Prof. Ir. Soediro
Dosen Pembimbing Tugas Akhir
Bagi Mahasiswa Jurusan Teknik Sipil
Unika Soegijapranata
S e m a r a n g.

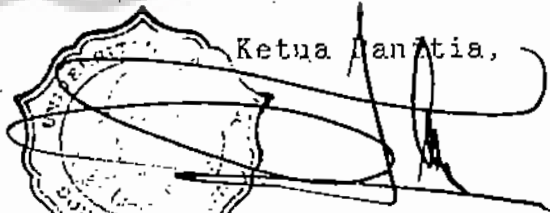
Kami beritahukan dengan hormat, bahwa pada Semester Genap 1996/1997 ada beberapa Mahasiswa Jurusan Teknik Sipil Fakultas Teknik Unika Soegijapranata Semarang yang berhak mendapatkan Tugas Akhir / Desain.

Sehubungan dengan hal tersebut di atas, maka kami mohon kesediaan Bapak berkenan memberikan Tugas Akhir/ Desain bagi mahasiswa terlampir.

Kami beritahukan pula bahwa, penyelesaian tugas dalam waktu 3 (tiga) bulan mulai tugas keluar (diberi tugas). Apabila tidak selesai dapat diperpanjang maksimal 3 (tiga) bulan, selebihnya tugas akhir dianggap gugur.

Demikian pemberitahuan kami, atas perhatian dan kerjasamanya Bapak, diucapkan terimakasih.

Soediro
4/98
7

Ketua Panitia,

IR. IGN. DARMOYO
FAKULTAS TEKNIK
JURUSAN TEKNIK SIPIL : 130 444 352

Tembusan : Yth,

- Dekan Fakultas Teknik



FAKULTAS TEKNIK UNIVERSITAS SOEGIJAPRANATA
Jl. Pawiyatan Luhur IV/1 Bendan Dhuwur Semarang-50234
Telp. (024) 316167 - 316142 - 441705 - 441762
Fax. (024) 415429 Po. Box. 8033/SM
Badan Hukum : Yayasan Sandjojo

Nomor : A.48.04/256//UKS.04.2/VI/1997

24 Juni 1997

Lamp : 1 (satu)lembar

H a l : MOHON TUGAS AKHIR


Kepada : Yth. Bapak. Ir. Budi Setiyadi, MT
Asisten Pembimbing Tugas Akhir
Bagi Mahasiswa Jurusan Teknik Sipil
Unika Soegijapranata
S e m a r a n g.

Kami beritahukan dengan hormat, bahwa pada Semester Genap 1996/1997 ada beberapa Mahasiswa Jurusan Teknik Sipil Fakultas Teknik Unika Soegijapranata Semarang yang berhak mendapatkan Tugas Akhir / Desain.

Sehubungan dengan hal tersebut di atas, maka kami mohon kesediaan Bapak berkenan memberikan Tugas Akhir/ Desain bagi mahasiswa terlampir.

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Demikian pemberitahuan kami, atas perhatian dan kerjasa-
ma Bapak, diucapkan terimakasih.

Ketua Panitia,

IGN. DARMOYO
NPP : 130 444 352
FAKULTAS TEKNIK
JURUSAN TEKNIK SIPIL

Tembusan : Yth,

- Asisten Pembimbing Tugas Akhir
yang bersangkutan.

Direktur Fakultas Teknik

Lampiran Surat Nomor :
A.48.04/256/UKS.04.2/VI/97

1. NAMA MAHASISWA : DJULIANTO
NIM/NIRM : 89.12.706/89.6.111.03010.50003
JUDUL LAPORAN KERJA PRAKTEK : PEMBANGUNAN GEDUNG BANK DANAMON
INDONESIA CABANG SEMARANG JL.
IMAM BONJOL NO 210 SEMARANG.
2. NAMA MAHASISWA : HASTA MAGDALENA
NIM/NIRM : 90.12.807/90.6.111.03010.50033
JUDUL LAPORAN KERJA PAKTEK : PEMBANGUNAN GEDUNG BANK DANAMON
INDONESIA CABANG SEMARANG JL.
IMAM BONJOL NO 210 SEMARANG.

SEMARANG, 24 JUNI 1977

KETUA PANITIA,

FAKULTAS TEKNIK
JURUSAN TEKNIK SIPIL
IGN. DARMOYO
NPP : 130 444 352

KARTU ASISTENSI



FAKULTAS TEKNIK
JURUSAN TEKNIK SIPIL
 UNIVERSITAS KATOLIK SOEGIJAPRANAṬA SEMARANG

KARTU ASISTENSI

Nama	: DJULIANTO + HASTA MAGDALENA	NIM	: 89.12.706 + 90.12.807
MT. Kuliah	: TGA	Semester	:
Dosen	: Prof. IR. SOEDIRO	Ds. Wali	:
Asisten	✓ : IR. BUDI SETIADI, MT		
Dimulai	:		
Selesai	:	Nilai	:

NO.	TANGGAL	KETERANGAN	PARAP
1.	5 sept '97	Perbaiki kelurusan	✓
2.	13 Sept '97	tukusan gambar hitungam cenderung beton	✓
3.	22 xpt '97	sanubingan aspal & beton, keustruksi seperti plat lantai	✓
4	27 sep '97	Besa ditangutkan	✓
5	13 okt '97	hitungam besa ditangutkan	✓

Semarang,

Dosen / Asisten

(.....)

KARTU ASISTENSI



FAKULTAS TEKNIK
JURUSAN SIPIL
 UNIVERSITAS KATOLIK SOEGIJAPRANATA SEMARANG

KARTU ASISTENSI

Nama	: DJULIANTO + HASTA MAGDALENA	NIM	: 89.12.706 + 90.12.807
MT. Kuliah	: TGA	Semester	:
Dosen	: Prof. IR. SOEDIRO	Ds. Wali	:
Asisten	✓ : IR. BUDI SETIADI, MT		
Dimulai	:		
Selesai	:	Nilai	:

NO.	TANGGAL	KETERANGAN	PARAP
6	18-10-1997	Hitung plat & balok	✓
7	23-10-1997	Arus lintang di saluran	✓
8	25-10-1997	Urutai kohesiditangan	✓
9	3-11-1997	Plat lantai & balok	✓
10	8-11-1997	Hitung tulangan baja	✓
11	10-11-1997	Pa cheek balok induk & anak	✓
12	15-1-1998	Uraian baja	✓
13	22-1-1998	RAB biaya pancan	✓
14	20-1-1998	Betulkan	✓
15	23-3-1998	Gambar detail, tampok, samp. plat balok, kurvas	✓
16	10-6-1998	check semua & gambar	✓

Semarang,
 Dosen / Asisten

(.....)

KARTU ASISTENSI



FAKULTAS TEKNIK

JURUSAN TEKNIK SIPIL

UNIVERSITAS KATOLIK SOEGIJAPRANATA SEMARANG

KARTU ASISTENSI

Nama : DJULIANTO + HASTA MAGDALENA NIM : 89.12.706 + 90.12.807
MT. Kuliah : TGA Semester :
Dosen : Prof. IR. SOEDIRO Ds. Wali :
Asisten : IR. BUDI SETIADI, MT
Dimulai :
Selesai : Nilai :

NO.	TANGGAL	KETERANGAN	PARAP
17	19/6 '98	Di cek lagi Pekerja dibulatkan	
18	24/6 '98		

Semarang,
Dosen / Asisten

(.....)

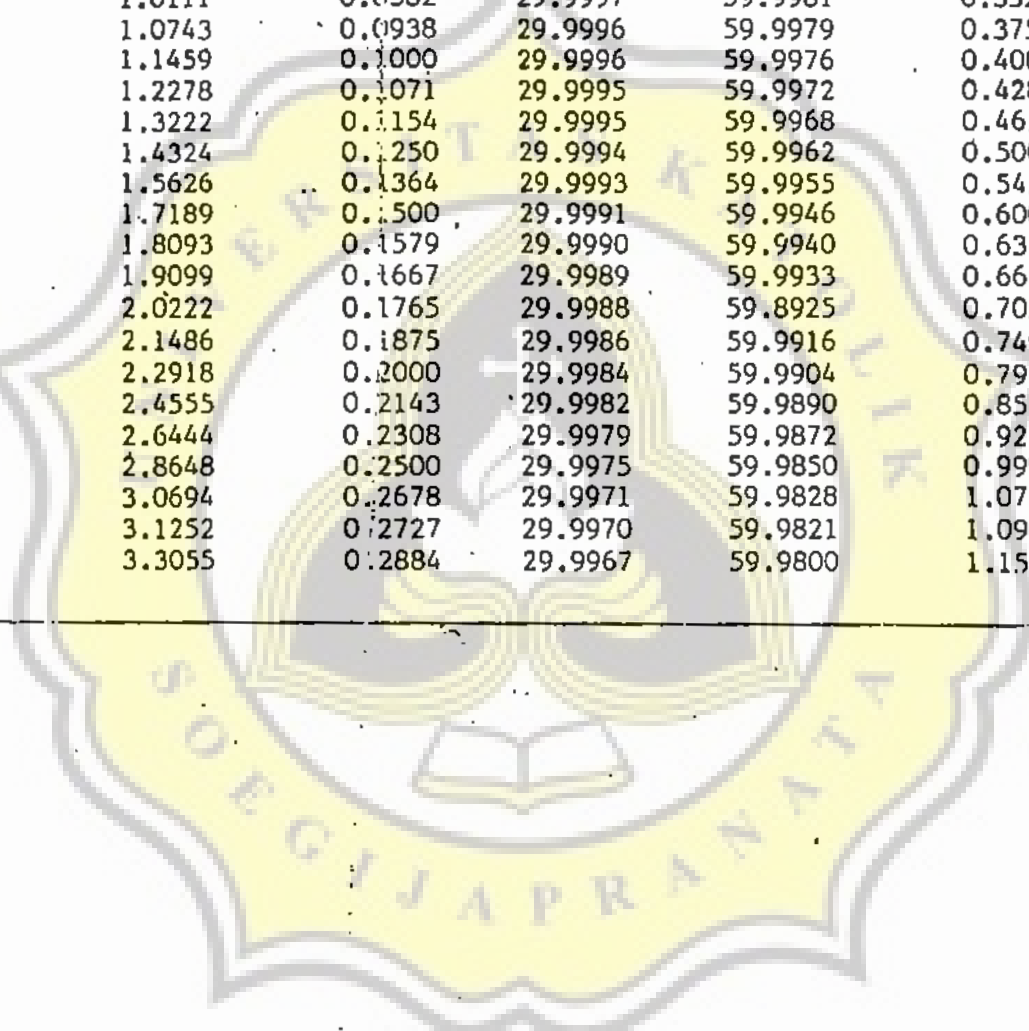
R dalam meter	Vr = 90 km/jam		Vr = 100 km/jam		Vr = 110 km/jam		Vr = 120 km/jam	
	e X	La min	c X	La min	c X	La min	c X,	La min
3.000					L.N	-	L.N	-
2.800					L.N	-	L.P	70
2.600					L.P	60	2.1	70
2.500			L.N		L.P	60	2.2	70
2.400			L.N	-	1.p	60	2.3	70
2.200			L.P	60	2.1	60	2.5	70
2.000	L.N	-	2.15	60	2.4	60	2.7	70
1.900	L.P	50	2.2	60	2.5	60	2.85	70
1.800	2.1	50	2.4	60	2.68	60	3.0	70
1.700	2.2	50	2.5	60	2.8	60	3.2	70
1.600	2.3	50	2.7	60	3.0	60	3.4	70
1.500	2.5	50	2.8	60	3.2	60	3.6	70
1.400	2.6	50	3.0	60	3.4	60	3.8	70
1.300	2.8	50	3.3	60	3.7	60	4.2	70
1.200	3.1	50	3.6	60	4.0	60	4.5	70
1.100	3.7	50	3.9	60	4.3	60	4.9	70
1.000	3.7	50	4.3	60	4.8	70	5.4	80
950	3.9	50	4.5	60	5.0	70	5.7	80
900	4.1	50	4.8	60	5.3	70	6.0	80
850	4.4	50	5.0	60	5.6	70	6.4	90
800	4.6	50	5.3	60	6.0	80	6.8	90
750	5.0	60	5.7	70	6.3	80	7.2	90
700	5.3	60	6.1	70	6.8	80	7.8	100
650	5.8	60	6.6	80	7.3	90	8.3	100
600	6.2	70	7.1	80	8.0	90	9.0	100
580	6.7	70	7.7	80	8.5	100	9.7	100
550	6.8	70	7.8	80	8.7	100	9.9	100
520	7.2	70	8.2	90	9.1	100		
500	7.4	80	8.5	90	9.4	100		
480	7.7	80	8.7	90	9.6	100		
475	7.8	80	8.8	90	9.6	100		
450	8.1	80	9.0	100	9.8	100		
440	8.3	80	9.1	100	9.9	100		
425	8.5	80	9.4	100				
400	8.8	90	9.6	100				
375	9.1	90	9.8	100				
360	9.2	90	9.9	100				
350	9.3	90	10.0	100				
325	9.6	90						
320	9.65	90						
300	9.8	90						
280	9.9	90						
260								
250								
240								
220								
200								
180								
160								
150								

v. 100 km/jam
full circle
↑

Diatas garis tebal, spiral peralihan dianjurkan tetapi tidak diharuskan.

Ls = 60 M

R	Qs	P	K	X	Y
2800	0.6139	0.0536	29.9999	59.9993	0.2143
2600	0.6611	0.0577	29.9999	59.9992	0.2308
2500	0.6875	0.0600	29.9999	59.9991	0.2400
2400	0.7162	0.0625	29.9998	59.9991	0.2500
2200	0.7813	0.0682	29.9998	59.9989	0.2727
2000	0.8594	0.0750	29.9998	59.9986	0.3000
1900	0.9047	0.0789	29.9998	59.9985	0.3158
1800	0.9549	0.0833	29.9997	59.9983	0.3333
1700	1.0111	0.0882	29.9997	59.9981	0.3529
1600	1.0743	0.0938	29.9996	59.9979	0.3750
1500	1.1459	0.1000	29.9996	59.9976	0.4000
1400	1.2278	0.1071	29.9995	59.9972	0.4286
1300	1.3222	0.1154	29.9995	59.9968	0.4615
1200	1.4324	0.1250	29.9994	59.9962	0.5000
1100	1.5626	0.1364	29.9993	59.9955	0.5454
1000	1.7189	0.1500	29.9991	59.9946	0.6000
950	1.8093	0.1579	29.9990	59.9940	0.6315
900	1.9099	0.1667	29.9989	59.9933	0.6666
850	2.0222	0.1765	29.9988	59.8925	0.7058
800	2.1486	0.1875	29.9986	59.9916	0.7499
750	2.2918	0.2000	29.9984	59.9904	0.7999
700	2.4555	0.2143	29.9982	59.9890	0.8570
650	2.6444	0.2308	29.9979	59.9872	0.9229
600	2.8648	0.2500	29.9975	59.9850	0.9998
560	3.0694	0.2678	29.9971	59.9828	1.0712
550	3.1252	0.2727	29.9970	59.9821	1.0907
520	3.3055	0.2884	29.9967	59.9800	1.1536



Tb1.J1.Raya/16

Ls = 60 M

R	Qs	P	K	X	Y
500	3.4377	0.3000	29.9966	59.9796	1.1648
480	3.5810	0.3125	29.9961	59.9766	1.2496
475	3.6187	0.3157	29.9960	59.9761	1.2628
450	3.8197	0.3333	29.9966	59.9733	1.3329
440	3.9065	0.3409	29.9954	59.9721	1.3632
425	4.0444	0.3529	29.9950	59.9701	1.4113
400	4.2972	0.3749	29.9944	59.9663	1.4994
375	4.5837	0.3999	29.9936	59.9616	1.5993
360	4.7746	0.4166	29.9931	59.9683	1.6658
350	4.9111	0.4285	29.9927	59.9559	1.7134
325	5.2888	0.4614	29.9915	59.9489	1.8450
320	5.3715	0.4686	29.9912	59.9473	1.8738
300	5.7296	0.4998	29.9900	59.9400	1.9986
280	6.1388	0.5355	29.9885	59.9312	2.1411
260	6.6111	0.5767	29.9867	59.9202	2.3055
250	6.8755	0.5997	29.9856	59.9137	2.3975
240	7.1620	0.6247	29.9844	59.9063	2.4972
220	7.8131	0.6814	29.9814	59.8885	2.7237
200	8.5944	0.7494	29.9775	59.8651	2.9952
180	9.5493	0.8325	29.9722	59.8335	3.3267
160	10.7420	0.9363	29.9649	59.7894	3.7406
150	11.4592	0.9986	29.9600	59.7604	3.9886
140	12.2777	1.0697	29.9541	59.7251	4.2717
120	14.3239	1.2472	29.9376	59.6261	4.9777
100	17.1887	1.4952	29.9102	59.4622	5.9615
80	21.4859	1.8656	29.8599	59.1617	7.4250
50	34.3775	2.9617	29.6436	59.8757	11.6950

Ls = 70 M

R	Qs	P	K	X	Y
2800	0.7162	0.0729	34.9998	69.9989	0.2917
2600	0.7713	0.0785	34.9998	69.9987	0.3141
2500	0.8021	0.0817	34.9998	69.9986	0.3267
2400	0.8356	0.0851	34.9998	69.9985	0.3403
2200	0.9115	0.0928	34.9997	69.9982	0.3717
2000	1.0027	0.1021	34.9996	69.9979	0.4083
1900	1.0554	0.1075	34.9996	69.9976	0.4298
1800	1.1141	0.1134	34.9996	69.9973	0.4537
1700	1.1796	0.1201	34.9995	69.9970	0.4804
1600	1.2533	0.1276	34.9994	69.9966	0.5104
1500	1.3369	0.1361	34.9994	69.9982	0.5444
1400	1.4324	0.1458	34.9993	69.9956	0.5833
1300	1.5426	0.1570	34.9992	69.9949	0.6282
1200	1.6711	0.1701	34.9990	69.9940	0.6805
1100	1.8230	0.1856	34.9988	69.9929	0.7424
1000	2.0054	0.2042	34.9986	69.9914	0.8165
950	2.1109	0.2149	34.9984	69.9905	0.8596
900	2.2282	0.2268	34.9982	69.9894	0.9073
850	2.3592	0.2402	34.9980	69.9881	0.9607
800	2.5067	0.2552	34.9978	69.9866	1.0207
750	2.6738	0.2722	34.9975	69.9848	1.0887
700	2.8648	0.2916	34.9971	69.9825	1.1665
650	3.0852	0.3141	34.9966	69.9797	1.2562
600	3.3423	0.3402	34.9960	69.9762	1.3608
560	3.5810	0.3645	34.9954	69.9727	1.4579
550	3.6461	0.3712	34.9953	69.9727	1.4844
520	3.8564	0.3926	34.9947	69.9683	1.5700

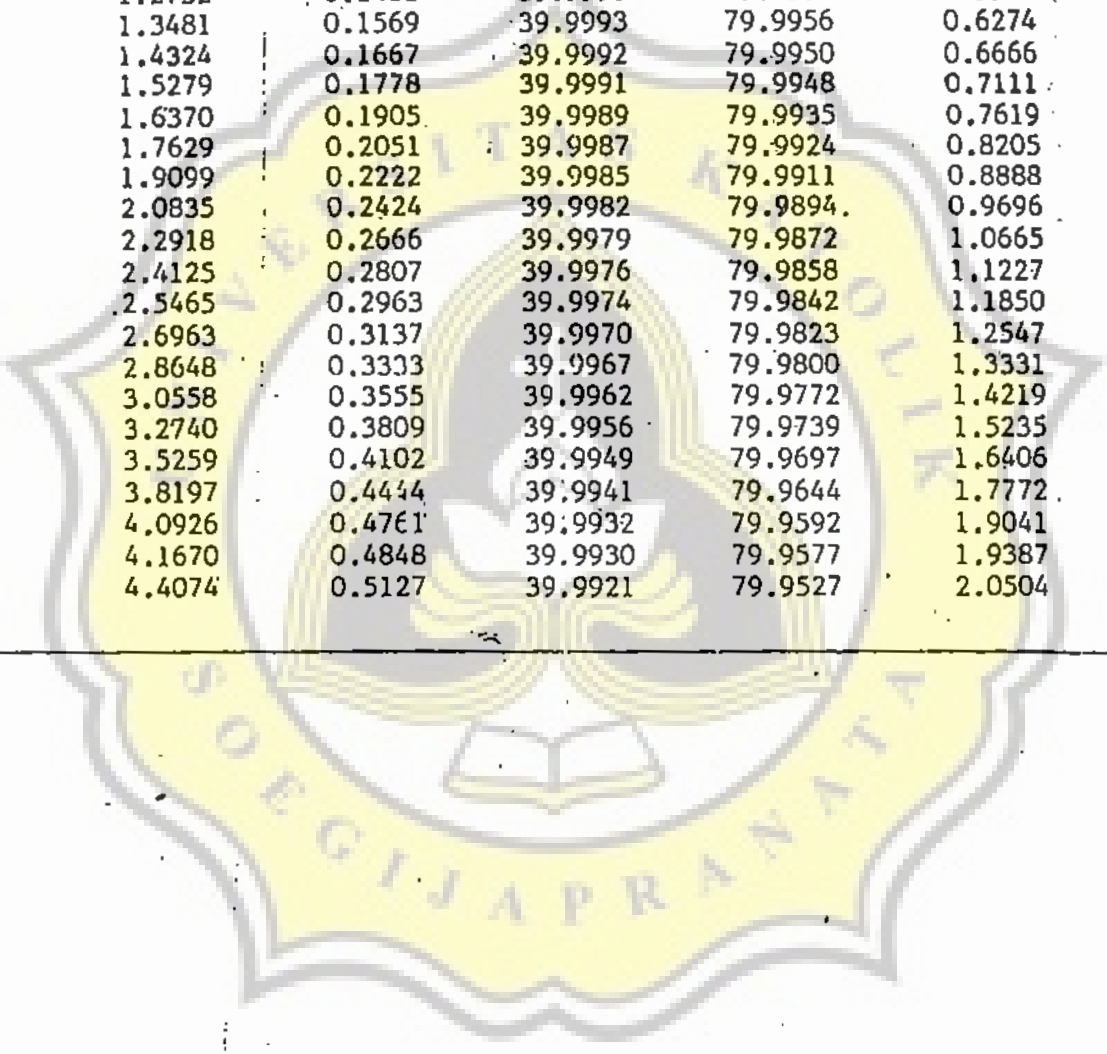
Ls = 70 M

R	Os	P	K	X	Y
2800	0.7162	0.0729	34.9958	69.9989	0.2917
2600	0.7713	0.0785	34.9998	69.9987	0.3141
2500	0.8021	0.0817	34.9998	69.9986	0.3267
2400	0.8356	0.0851	34.9998	69.9985	0.3403
2200	0.9115	0.0928	34.9997	69.9982	0.3717
2000	1.0027	0.1021	34.9996	69.9979	0.4083
1900	1.0554	0.1075	34.9996	69.9976	0.4298
1800	1.1141	0.1134	34.9996	69.9973	0.4537
1700	1.1796	0.1201	34.9995	69.9970	0.4804
1600	1.2533	0.1276	34.9994	69.9966	0.5104
1500	1.3369	0.1361	34.9994	69.9982	0.5444
1400	1.4324	0.1458	34.9993	69.9956	0.5833
1300	1.5426	0.1570	34.9992	69.9949	0.6282
1200	1.6711	0.1701	34.9990	69.9940	0.6805
1100	1.8230	0.1856	34.9988	69.9929	0.7424
1000	2.0054	0.2042	34.9986	69.9914	0.8165
950	2.1109	0.2149	34.9984	69.9905	0.8596
900	2.2282	0.2268	34.9982	69.9894	0.9073
850	2.3592	0.2402	34.9980	69.9881	0.9607
800	2.5067	0.2552	34.9978	69.9866	1.0207
750	2.6738	0.2722	34.9975	69.9848	1.0887
700	2.8648	0.2916	34.9971	69.9825	1.1665
650	3.0852	0.3141	34.9966	69.9797	1.2562
600	3.3423	0.3402	34.9960	69.9762	1.3608
560	3.5810	0.3645	34.9954	69.9727	1.4579
550	3.6461	0.3712	34.9953	69.9727	1.4844
520	3.8564	0.3926	34.9947	69.9683	1.5700



Ls = 80 M

R	Os	P	K	X	Y
2800	0.8185	0.0952	39.9997	79.9984	0.3809
2600	0.8815	0.1026	39.9997	79.9981	0.4102
2500	0.9167	0.1067	39.9997	79.9979	0.4267
2400	0.9549	0.1111	39.9996	79.9978	0.4444
2200	1.0417	0.1212	39.9996	79.9973	0.4848
2000	1.1459	0.1333	39.9995	79.9968	0.5833
1900	1.2062	0.1403	39.9994	79.9965	0.5614
1800	1.2732	0.1481	39.9993	79.9960	0.5926
1700	1.3481	0.1569	39.9993	79.9956	0.6274
1600	1.4324	0.1667	39.9992	79.9950	0.6666
1500	1.5279	0.1778	39.9991	79.9948	0.7111
1400	1.6370	0.1905	39.9989	79.9935	0.7619
1300	1.7629	0.2051	39.9987	79.9924	0.8205
1200	1.9099	0.2222	39.9985	79.9911	0.8888
1100	2.0835	0.2424	39.9982	79.9894	0.9696
1000	2.2918	0.2666	39.9979	79.9872	1.0665
950	2.4125	0.2807	39.9976	79.9858	1.1227
900	2.5465	0.2963	39.9974	79.9842	1.1850
850	2.6963	0.3137	39.9970	79.9823	1.2547
800	2.8648	0.3333	39.9967	79.9800	1.3331
750	3.0558	0.3555	39.9962	79.9772	1.4219
700	3.2740	0.3809	39.9956	79.9739	1.5235
650	3.5259	0.4102	39.9949	79.9697	1.6406
600	3.8197	0.4444	39.9941	79.9644	1.7772
560	4.0926	0.4761	39.9932	79.9592	1.9041
550	4.1670	0.4848	39.9930	79.9577	1.9387
520	4.4074	0.5127	39.9921	79.9527	2.0504



Ls = 80 M

R	θ_s	P	Y	X	Y
2800	0.8185	0.0952	39.9997	79.9984	0.3809
2600	0.8815	0.1026	39.9997	79.9981	0.4102
2500	0.9167	0.1067	39.9997	79.9979	0.4267
2400	0.9549	0.1111	39.9996	79.9978	0.4444
2200	1.0417	0.1212	39.9996	79.9973	0.4848
2000	1.1459	0.1333	39.9995	79.9968	0.5833
1900	1.2062	0.1403	39.9994	79.9965	0.5614
1800	1.2732	0.1481	39.9993	79.9960	0.5926
1700	1.3481	0.1569	39.9993	79.9956	0.6274
1600	1.4324	0.1667	39.9992	79.9950	0.6666
1500	1.5279	0.1778	39.9991	79.9948	0.7111
1400	1.6370	0.1905	39.9989	79.9935	0.7619
1300	1.7629	0.2051	39.9987	79.9924	0.8205
1200	1.9099	0.2222	39.9985	79.9911	0.8888
1100	2.0835	0.2424	39.9982	79.9894	0.9696
1000	2.2918	0.2666	39.9979	79.9872	1.0665
950	2.4125	0.2807	39.9976	79.9858	1.1227
900	2.5465	0.2963	39.9974	79.9842	1.1850
850	2.6963	0.3137	39.9970	79.9823	1.2547
800	2.8648	0.3333	39.9967	79.9800	1.3331
750	3.0558	0.3555	39.9962	79.9772	1.4219
700	3.2740	0.3809	39.9956	79.9739	1.5235
650	3.5259	0.4102	39.9949	79.9697	1.6406
600	3.8197	0.4444	39.9941	79.9644	1.7772
560	4.0926	0.4761	39.9932	79.9592	1.9041
550	4.1670	0.4848	39.9930	79.9577	1.9387
520	4.4074	0.5127	39.9921	79.9527	2.0504

Tb1.Jl.Raya/20

 $Ls = 80 M$

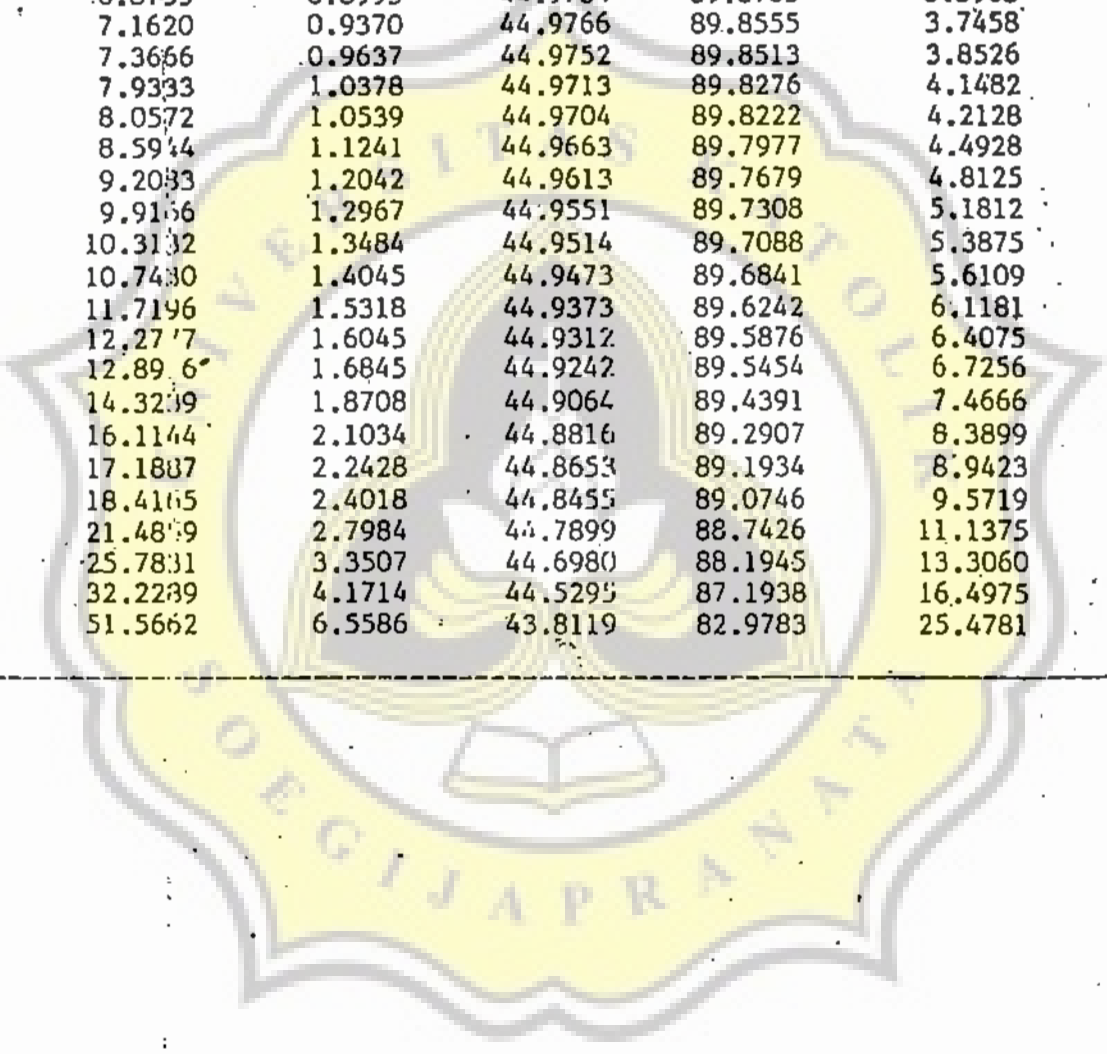
R	Qs	P	K	X	Y
500	4.5837	0.5332	39.9915	79.9488	2.1324
400	4.7746	0.5554	39.9907	79.9445	2.2211
475	4.8249	0.5613	39.9995	79.9433	2.2445
450	5.0930	0.5924	39.9895	79.9368	2.3690
440	5.2087	0.6059	39.9890	79.9339	2.4228
425	5.3925	0.6273	39.9882	79.9292	2.5082
400	5.7296	0.6664	39.9867	79.9200	2.6648
375	6.1115	0.7108	39.9848	79.9090	2.8421
360	6.3662	0.7404	39.9835	79.9013	2.9604
350	6.5481	0.9615	39.9826	79.8956	3.0448
325	7.0518	0.8201	39.9798	79.8789	3.2785
320	7.1620	0.8329	39.9792	79.8751	3.3296
300	7.6394	0.8883	39.9763	79.8579	3.5510
280	8.1851	0.9517	39.9728	79.8369	3.8040
260	8.8147	1.0248	39.9685	79.8109	4.0956
250	9.1673	1.0657	39.9659	79.7954	4.2589
240	9.5493	1.1100	39.9630	79.7781	4.4356
220	10.4174	1.2107	39.9560	79.7360	4.8370
200	11.4592	1.3314	39.9467	79.6806	5.3181
180	12.7324	1.4789	39.9342	79.6058	5.9051
160	14.3239	1.6630	39.9168	79.5014	6.6370
150	15.2789	1.7733	39.9054	79.4330	7.0751
140	16.3702	1.8992	39.8914	79.3494	7.5747
120	19.0986	2.2134	39.8523	79.1157	8.8186
100	22.9183	2.6515	39.7876	78.7294	10.5454
80	28.6479	3.3037	39.6690	78.0230	13.0971
50	45.8366	5.2133	39.1617	75.0295	20.3780

$L_s = 90 M$

R	θ_s	P	K	X	Y
2800	0.9208	0.1205	44.9996	89.9977	0.4821
2600	0.9917	0.1298	44.9995	89.9973	0.5192
2500	1.0313	0.1350	44.9995	89.9971	0.5400
2400	1.0743	0.1406	44.9995	89.9968	0.5625
2200	1.1720	0.1534	44.9994	89.9962	0.6136
2000	1.2892	0.1687	44.9992	89.9954	0.6750
1900	1.3570	0.1776	44.9992	89.9949	0.7105
1800	1.4324	0.1875	44.9991	89.9944	0.7500
1700	1.5167	0.1985	44.9990	89.9937	0.7941
1600	1.6114	0.2109	44.9888	89.9929	0.8437
1500	1.7189	0.2250	44.9986	89.9919	0.8999
1400	1.8417	0.2411	44.9984	89.9907	0.9642
1300	1.9833	0.2596	44.9982	89.9892	1.0384
1200	2.1486	0.2812	44.9979	89.9873	1.1249
1100	2.3439	0.3068	44.9975	89.9849	1.2271
1000	2.5783	0.3375	44.9970	89.9818	1.3498
950	2.7140	0.3552	44.9966	89.9798	1.4208
900	2.8648	0.3750	44.9962	89.9775	1.4887
850	3.0333	0.3970	44.9958	89.9748	1.5879
800	3.2229	0.4218	44.9953	89.9715	1.6871
750	3.4377	0.4499	44.9946	89.9676	1.7995
700	3.6833	0.4821	44.9938	89.9628	1.9280
650	3.9666	0.5191	44.9928	89.9569	1.9280
600	4.2972	0.5624	44.9916	89.9494	2.2491
560	4.6041	0.6025	44.9903	89.9419	2.4096
550	4.6878	0.6135	44.9900	89.9398	2.4534
520	4.9583	0.6489	44.9888	89.9326	2.5948

Ls = 90 M

R	Os	P	K	X	Y
500	5.1566	0.6748	44.9879	89.9271	2.6984
480	5.3715	0.7029	44.9868	89.9209	2.8107
475	5.4280	0.7103	44.9865	89.9193	2.8403
450	5.7296	0.7497	44.9850	89.9100	2.9979
440	5.8598	0.7668	44.9843	89.9059	3.0659
425	6.0666	0.7938	44.9832	89.8991	3.1739
400	6.4458	0.8434	44.9810	89.8862	3.3719
375	6.8755	0.8995	44.9784	89.8705	3.5963
360	7.1620	0.9370	44.9766	89.8555	3.7458
350	7.3666	0.9637	44.9752	89.8513	3.8526
325	7.9333	1.0378	44.9713	89.8276	4.1482
320	8.0572	1.0539	44.9704	89.8222	4.2128
300	8.5944	1.1241	44.9663	89.7977	4.4928
280	9.2033	1.2042	44.9613	89.7679	4.8125
260	9.9166	1.2967	44.9551	89.7308	5.1812
250	10.3132	1.3484	44.9514	89.7088	5.3875
240	10.7430	1.4045	44.9473	89.6841	5.6109
220	11.7196	1.5318	44.9373	89.6242	6.1181
210	12.2717	1.6045	44.9312	89.5876	6.4075
200	12.896	1.6845	44.9242	89.5454	6.7256
180	14.3239	1.8708	44.9064	89.4391	7.4666
160	16.1144	2.1034	44.8816	89.2907	8.3899
150	17.1887	2.2428	44.8653	89.1934	8.9423
140	18.4165	2.4018	44.8455	89.0746	9.5719
120	21.4839	2.7984	44.7899	88.7426	11.1375
100	25.7831	3.3507	44.6980	88.1945	13.3060
80	32.2239	4.1714	44.5295	87.1938	16.4975
50	51.5662	6.5586	43.8119	82.9783	25.4781

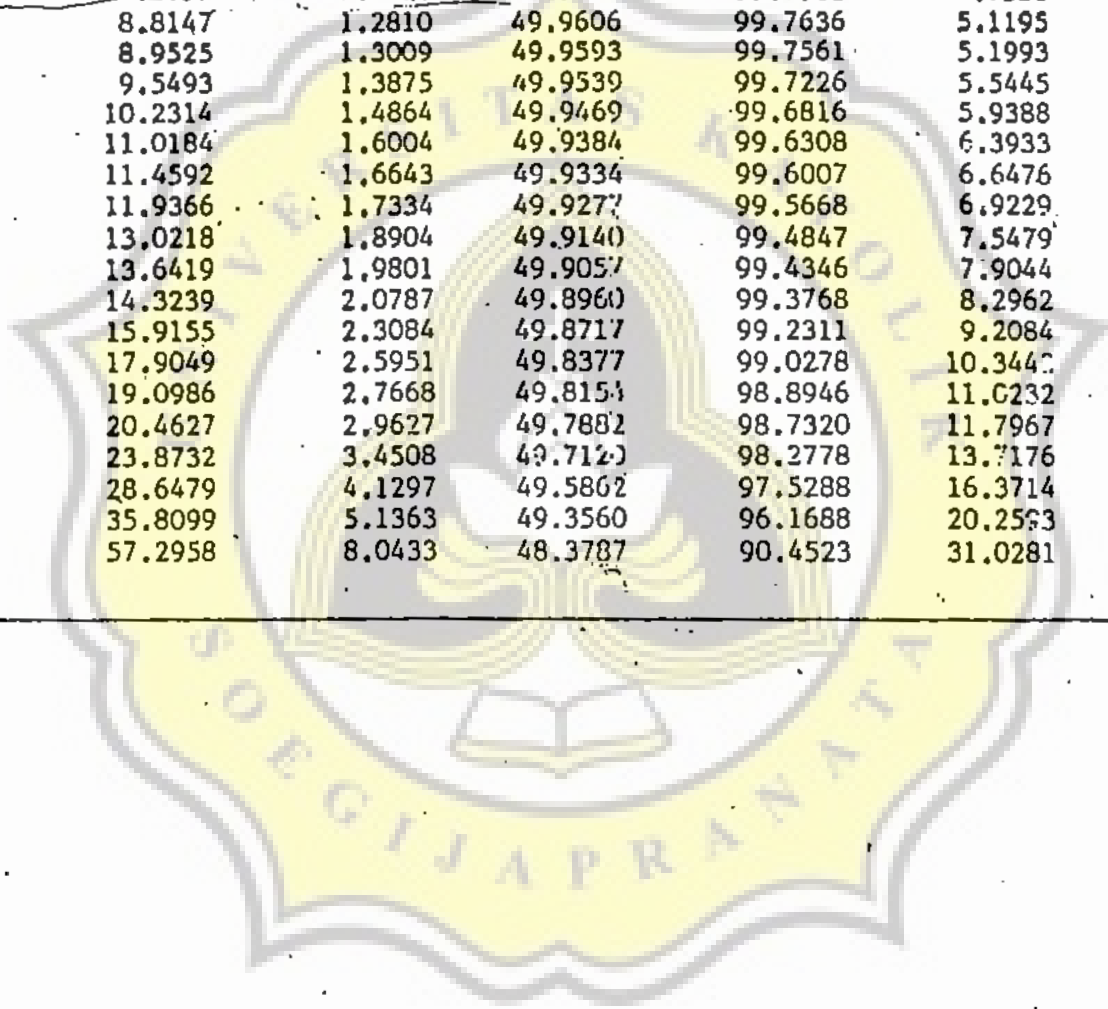


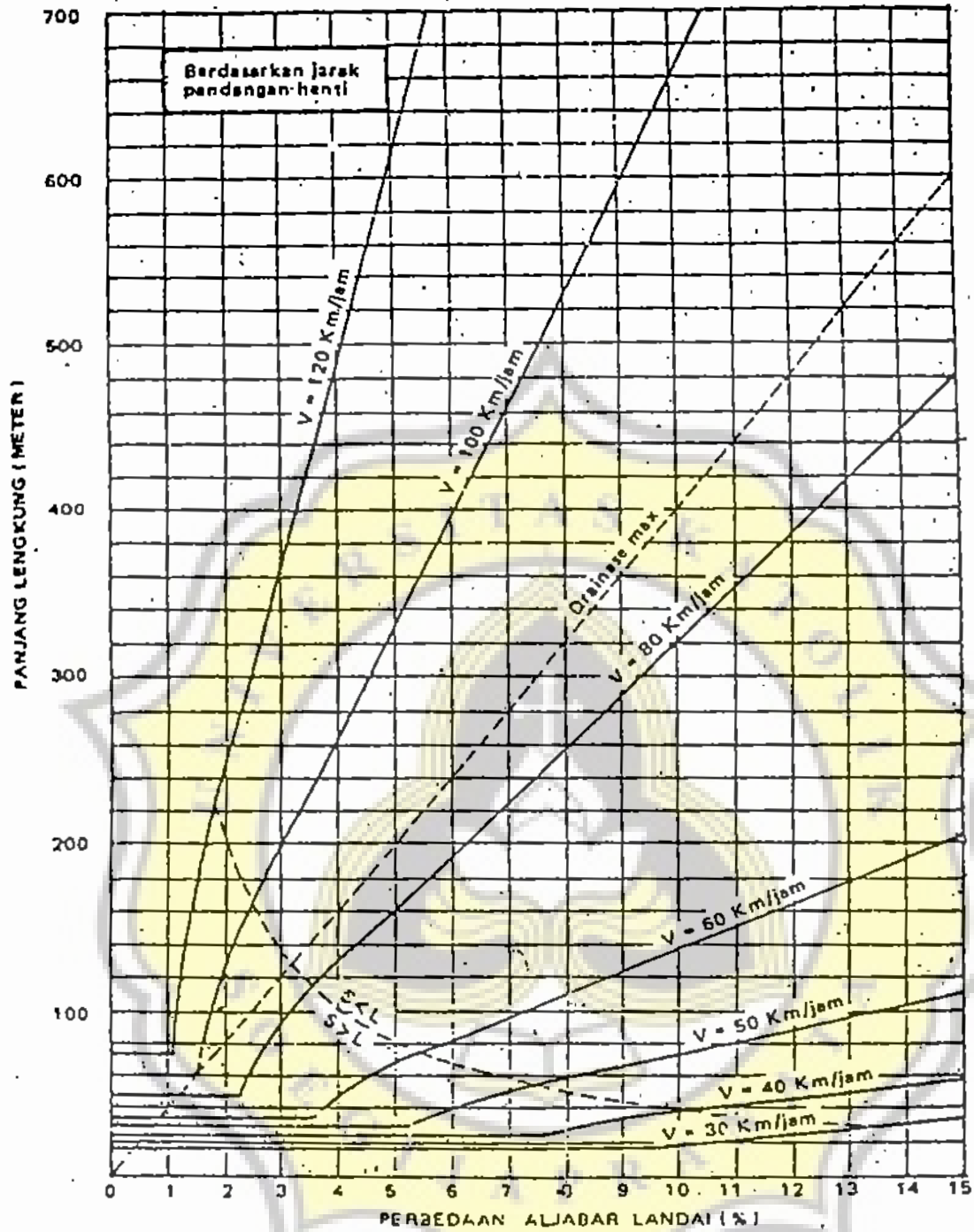
Ls = 100 M

R	θs	P	K	X	Y
2800	1.0231	0.1488	49.9995	99.9968	0.5952
2600	1.1018	0.1603	49.9994	99.9963	0.6410
2500	1.1459	0.1667	49.9993	99.9960	0.6666
2400	1.1937	0.1736	49.9993	99.9957	0.6944
2200	1.3022	0.1894	49.9991	99.9948	0.7575
2000	1.4324	0.2083	49.9990	99.9937	0.8333
1900	1.5078	0.2193	49.9988	99.9931	0.8771
1800	1.5915	0.2315	49.9887	99.9923	0.9259
1700	1.6852	0.2451	49.9986	99.9913	0.9803
1600	1.7905	0.2604	49.9984	99.9902	1.0416
1500	1.9099	0.2779	49.9982	99.9889	1.1110
1400	2.0463	0.2976	49.9979	99.9872	1.1904
1300	2.2037	0.3205	49.9975	99.9852	1.2819
1200	2.3873	0.3472	49.9971	99.9826	1.3887
1100	2.6044	0.3788	49.9966	99.9793	1.5149
1000	2.8648	0.4166	49.9958	99.9750	1.6664
950	3.0156	0.4386	49.9954	99.9723	1.7540
900	3.1831	0.4629	49.9949	99.9691	1.8514
850	3.3703	0.4901	49.9942	99.9654	1.9603
800	3.5810	0.5208	49.9935	99.9609	2.0827
750	3.8197	0.5555	49.9926	99.9556	2.2215
700	4.0926	0.5951	49.9915	99.9490	2.3601
650	4.4074	0.6409	49.9901	99.9408	2.6630
600	4.7746	0.6943	49.9884	99.9306	2.7764
560	5.1157	0.7438	49.9867	99.9203	2.9745
550	5.2087	0.7574	49.9862	99.9174	3.0285
520	5.5092	0.8010	49.9846	99.9076	3.2030

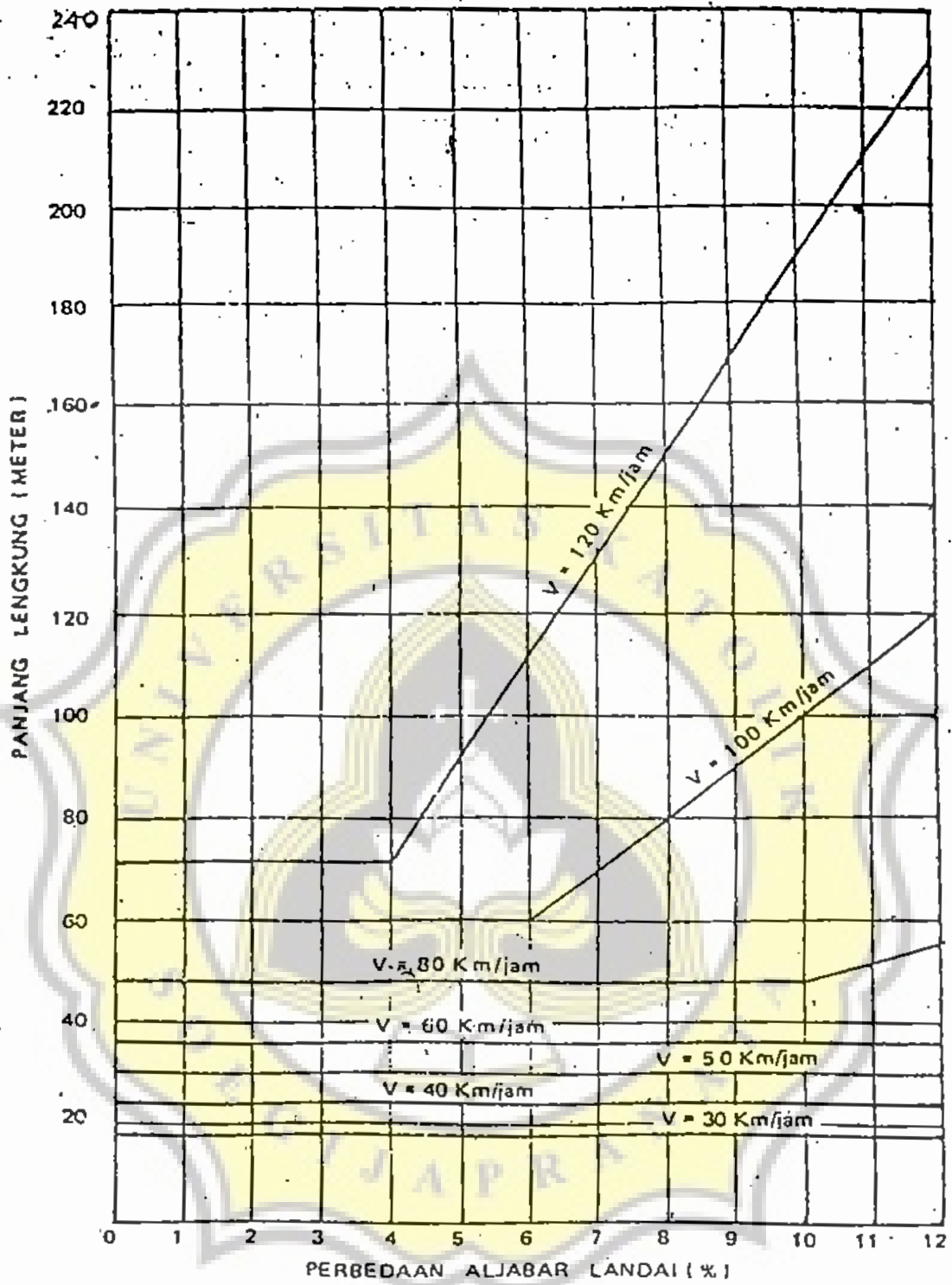
Is = 100 M

R	Os	P	K	X	Y
500	5.7296	0.8330	49.9833	99.9000	3.5310
480	5.9683	0.8677	49.9819	99.8915	3.4655
475	6.0311	0.8768	49.9815	99.8892	3.5060
450	6.3662	0.9255	49.9794	99.8766	3.7004
440	6.5109	0.9465	49.9785	99.8709	3.7844
425	6.7407	0.9799	49.9769	99.8617	3.9177
400	7.1620	1.0411	49.9740	99.8439	4.1620
375	7.6394	1.1104	49.9704	99.8224	4.4388
360	7.9577	1.1566	49.9679	99.8073	4.6233
350	8.1851	1.1896	49.9660	99.7961	4.7550
325	8.8147	1.2810	49.9606	99.7636	5.1195
320	8.9525	1.3009	49.9593	99.7561	5.1993
300	9.5493	1.3875	49.9539	99.7226	5.5445
280	10.2314	1.4864	49.9469	99.6816	5.9388
260	11.0184	1.6004	49.9384	99.6308	6.3933
250	11.4592	1.6643	49.9334	99.6007	6.6476
240	11.9366	1.7334	49.9277	99.5668	6.9229
220	13.0218	1.8904	49.9140	99.4847	7.5479
210	13.6419	1.9801	49.9057	99.4346	7.9044
200	14.3239	2.0787	49.8960	99.3768	8.2962
180	15.9155	2.3084	49.8717	99.2311	9.2084
160	17.9049	2.5951	49.8377	99.0278	10.3440
150	19.0986	2.7668	49.8154	98.8946	11.0232
140	20.4627	2.9627	49.7882	98.7320	11.7967
120	23.8732	3.4508	49.7120	98.2778	13.7176
100	28.6479	4.1297	49.5862	97.5288	16.3714
80	35.8099	5.1363	49.3560	96.1688	20.2593
50	57.2958	8.0433	48.3787	90.4523	31.0281





GRAFIK III. PANJANG LENGKUNG VERTIKAL CEMBUNG



GRAFIK VI. PANJANG LINGKUNG VERTIKAL CEKUNG PADA LINTASAN DIBAWAH