Table 9.8 Hourly Inflow to the Binga Reservoir During Typical Flood Periods

DATE	TIME (HR)	BINGA DAM W.L (E.L.M)	DV (M**3/S)	QS1 (M**3/S)	QE1 (M**3/S)	QIN1 (M**3/S)	AMBUKLAO DAM QS2 (M**3/S)	QE2 (M**3/S)	QIN2 (M**3/S)
1986. 7. 9	0.0	559.95	0.0	0.0	67.3200	0.0	0.0	20.5600	0.0
	1.0	560.00	22.7865	0.0	67.3200	90.1065	0.0	20.5600	69.5465
	2.0	560.05	22.7865	0.0	67.3200	90.1065	0.0	20.5600	69.5465
	3.0	560.35	137.8038	0.0	67.3200	205.1238	0.0	20.5600	184.5638
	4.0	560.85	231.1198	0.0	67.3200	298.4397	0.0	20.5600	277.8796
	5.0	561.60	353.7324	0.0	67.3200	421.0522	0.0	20.5600	400.4922
	6.0	562.45	407.9861	0.0	67.3200	475.3059	0.0	20.5600	454.7458
	7.0	563.40	467.6646	0.0	67.3200	534.9844	0.0	20.5600	514.4243
	8.0	564.00	300.5640	0.0	67.3200	367.8838	0.0	20.5600	347.3237
	9.0	564.60	304.9043	0.0	67.3200	372.2241	0.0	20.5600	351.6641
	10.0	565.40	413.4114	0.0	67.3200	480.7312	0.0	20.5600	460.1711
	11.0	566.10	368.9236	0.0	67.3200	436.2434	0.0	20.5600	415.6833
	12.0	566.80	374.3489	0.0	67.3200	441.6687	0.0	20.5600	421.1086
	13.0	567.40	324.4355	0.0	67.3200	391.7554	0.0	20.5600	371.1953
	14.0	568.00	330.9460	0.0	67.3200	398.2659	0.0	20.5600	377.7058
	15.0	568.60	335.2864	0.0	67.3200	402.6062	0.0	20.5600	382.0461
	16.0	569.40	452.4739	0.0	67.3200	519.7937	0.0	20.5600	499.2336
	17.0	570.20	460.0693	0.0	67.3200	527.3892	0.0	20.5600	506.8291
	18.0	571.50	766.0588	0.0	67.3200	833.3787	0.0	20.5600	812.8186
	19.0	572.40	541.4492	0.0	67.3200	608.7690	0.0	20.5600	588.2090
	20.0	573.20	490.4512	0.0	67.3200	557.7710	0.0	20.5600	537.2109
	21.0	574.00	498.0466	0.0	67.3200	565.3665	0.0	20.5600	544.8064
	22.0	574.85	537.1091	0.0	67.3200	604.4290	0.0	20.5600	583.8689
	23.0	575.45	385.1992	106.7600	67.3200	559.2791	0.0	20.5600	538.7190
	24.0	575.65	129.1233	521.8101	67.3200	718.2529	0.0	20.5600	697.6929

Table 9.8 Hourly Inflow to the Binga Reservoir During Typical Flood Periods

			BINGA DAM					AMBUKLAO DAM	
DATE	TIME (HR)	W.L (E.L.M)	DV (M**3/S)	QS1 (M**3/S)	QE1 (M**3/S)	QIN1 (M**3/S)	QS2 (M**3/S)	QE2 (M**3/S)	QIN2 (M**3/S)
1986. 7.10	0.0	575.65	0.0	521.8101	88.3500	0.0	0.0	34.9500	0.0
	1.0	575.60	-32.5521	686.3899	88.3500	742.1875	0.0	34.9500	707.2373
	2.0	575.45	-96.5712	549.9700	88.3500	541.7485	0.0	34.9500	506.7983
	3.0	575.45	0.0	469.0100	88.3500	557.3599	0.0	34.9500	522.4097
	4.0	575.40	-32.5521	467.5901	88.3500	523.3877	0.0	34.9500	488.4375
	5.0	575.25	-96.5712	462.0901	88.3500	453.8687	0.0	34.9500	418.9185
	6.0	575.30	32.5521	339.3301	88.3500	460.2319	0.0	34.9500	425.2817
	7.0	575.30	0.0	351.1799	88.3500	439.5298	0.0	34.9500	404.5796
	8.0	575.30	0.0	351.1799	88.3500	439.5298	0.0	34.9500	404.5796
	9.0	575.30	0.0	351.1799	88.3500	439.5298	0.0	34.9500	404.5796
	10.0	575.25	-32.5521	349.6101	88.3500	405.4077	0.0	34.9500	370.4575
	11.0	575.20	-31.4670	346.5300	88.3500	403.4128	0.0	34.9500	368.4626
	12.0	575.20	0.0	345.1101	88.3500	433.4600	0.0	34.9500	398.5098
	13.0	575.15	-32.5521	343.7300	88.3500	399.5276	0.0	34.9500	364.5774
	14.0	575.05	-64.0191	340.1399	88.3500	364.4705	0.0	34.9500	329.5203
	15.0	575.10	31.4670	227.0300	88.3500	346.8467	0.0	34.9500	311.8965
	16.0	575.10	0.0	228.2100	88.3500	316.5598	0.0	34.9500	281.6096
	17.0	575.10	0.0	284.1799	88.3500	372.5298	0.0	34.9500	337.5796
	18.0	575.00	-62.9340	338.2400	88.3500	363.6558	0.0	34.9500	328.7056
	19.0	574.95	-32.5521	302.1699	88.3500	357.9675	0.0	34.9500	323.0173
	20.0	574.95	0.0	277.4900	88.3500	365.8398	0.0	34.9500	330.8896
	21.0	574.95	0.0	277.4900	88.3500	365.8398	0.0	34.9500	330.8896
	22.0	574.95	0.0	277.4900	88.3500	365.8398	0.0	34.9500	330.8896
	23.0	574.95	0.0	277.4900	88.3500	365.8398	0.0	34.9500	330.8896
	24.0	574.95	0.0	277.4900	88.3500	365.8398	0.0	34.9500	330.8896

Table 9.8 Hourly Inflow to the Binga Reservoir During Typical Flood Periods

DATE	TIME (HR)	W.L (E.L.M)	BINGA DAM DV (M**3/S)	BINGA DAM QS1 (M**3/S)	BINGA DAM QE1 (M**3/S)	BINGA DAM QIN1 (M**3/S)	AMBUKLAO DAM QS2 (M**3/S)	AMBUKLAO DAM QE2 (M**3/S)	AMBUKLAO DAM QIN2 (M**3/S)
1986. 7.11	0.0	574.95	0.0	277.4900	88.3900	0.0	0.0	34.4600	0.0
	1.0	574.90	-32.5521	280.1899	88.3900	336.0276	0.0	34.4600	301.5674
	2.0	574.85	-31.4670	279.7700	88.3900	336.6929	0.0	34.4600	302.2327
	3.0	574.75	-64.0191	279.1499	88.3900	303.5205	86.4000	34.4600	182.6605
	4.0	574.80	32.5521	278.9399	88.3900	399.8818	363.8101	34.4600	1.6118
	5.0	575.00	128.0382	443.2800	88.3900	659.7080	749.8799	34.4600	-124.6318
	6.0	575.30	192.0573	658.6799	88.3900	939.1270	689.3999	34.4600	215.2671
	7.0	575.50	129.1233	681.9099	88.3900	899.4229	681.2000	34.4600	183.7629
	8.0	575.50	0.0	683.8999	88.3900	772.2898	682.7200	34.4600	55.1099
	9.0	575.55	32.5521	684.3999	88.3900	805.3418	680.6201	34.4600	90.2617
	10.0	575.60	31.4670	665.3999	88.3900	785.2566	677.6001	34.4600	73.1965
	11.0	575.60	0.0	685.8999	88.3900	774.2898	676.6399	34.4600	63.1899
	12.0	575.50	-64.0191	767.9099	88.3900	792.2805	674.3999	34.4600	83.4207
	13.0	575.30	-129.1233	791.2600	88.3900	750.5266	671.8401	34.4600	44.2266
	14.0	575.15	-96.5712	639.1101	88.3900	630.9287	668.6399	34.4600	-72.1711
	15.0	575.15	0.0	676.9299	88.3900	765.3198	634.2000	34.4600	96.6599
	16.0	575.05	-64.0191	675.9399	88.3900	700.3105	556.2400	34.4600	109.6106
	17.0	575.05	0.0	562.7100	88.3900	651.0999	555.2800	34.4600	61.3599
	18.0	575.05	0.0	562.7100	88.3900	651.0999	554.0000	34.4600	62.6399
	19.0	575.05	0.0	562.7100	88.3900	651.0999	487.6299	34.4600	129.0100
	20.0	574.95	-64.0191	561.6699	88.3900	586.0405	348.6101	34.4600	202.9705
	21.0	574.90	-32.5521	345.4199	88.3900	401.2576	330.0000	34.4600	36.7976
	22.0	574.90	0.0	335.9800	88.3900	424.3699	330.0000	34.4600	59.9099
	23.0	574.90	0.0	335.9800	88.3900	424.3699	330.0000	34.4600	59.9099
	24.0	574.90	0.0	335.9800	88.3900	424.3699	330.0000	34.4600	59.9099

Table 9.9 Maximum Probable Daily Rainfall

(Unit: mm)

Return Period Year	Log-normal Method	Moment Method	Gumbel-Chow Method
10000	785.5	794.8	750.7
1000	617.9	623.9	604.5
200	507.5	511.6	502.6
100	461.3	464.7	458.6
50	415.7	418.4	414.4
25	370.2	372.3	369.9
20	355.5	357.4	355.5
10	309.4	310.7	301.0
5	261.6	262.3	262.5
2	189.6	189.6	190.8
1.4	152.7	152.5	153.4
1.01	77.8	77.3	70.9
1.001	58.2	57.6	45.4

Table 9.10 Maximum Probable Inflow to the Binga Reservoir
(Return Period : 200 years)

QS : Discharge through the Ambuklao spillway
QE : Releases through the Ambuklao power plant
QR : Runoff inflow from the Binga dam basin
QIN : Inflow to the Binga Reservoir

TIME (HR)	QS (M**3/S)	QE (M**3/S)	QR (M**3/S)	QIN (M33*/S)
0.0	0.0	61.400	15.000	76.400
0.500	0.0	61.400	27.427	88.827
1.000	0.0	61.400	35.918	97.318
1.500	0.0	61.400	53.954	115.354
2.000	0.0	61.400	65.753	127.153
2.500	0.0	61.400	85.510	146.910
3.000	0.0	61.400	97.736	159.136
3.500	0.0	61.400	117.127	178.527
4.000	0.0	61.400	128.302	189.702
4.500	0.0	61.400	146.323	207.723
5.000	0.0	61.400	155.795	217.195
5.500	28.426	61.400	172.071	261.897
6.000	678.005	61.400	179.661	919.066
6.500	923.437	61.400	194.167	1179.003
7.000	902.410	61.400	199.948	1163.758
7.500	882.922	61.400	212.838	1157.159
8.000	864.861	61.400	217.006	1143.267
8.500	848.229	61.400	228.510	1138.140
9.000	832.867	61.400	231.305	1125.572
9.500	818.781	61.400	241.679	1121.859
10.000	805.869	61.400	243.342	1110.611
10.500	794.063	61.400	252.832	1108.295
11.000	783.320	61.400	253.590	1098.310
11.500	773.575	61.400	262.421	1097.396
12.000	764.842	61.400	262.471	1088.713
12.500	757.057	61.400	270.844	1089.301
13.000	750.186	61.400	270.357	1081.943
13.500	744.220	61.400	278.446	1084.066
14.000	739.101	61.400	277.568	1078.069
14.500	734.848	61.400	285.530	1081.777
15.000	731.379	61.400	284.384	1077.163
15.500	728.742	61.400	292.360	1082.503
16.000	726.909	61.400	291.054	1079.363
16.500	725.876	61.400	299.185	1086.461
17.000	725.645	61.400	297.817	1084.361
17.500	726.212	61.400	306.245	1093.857
18.000	727.632	61.400	304.911	1093.943
18.500	729.880	61.400	313.805	1105.085
19.000	733.035	61.400	312.612	1107.047
19.500	737.155	61.400	322.188	1120.743
20.000	742.270	61.400	321.267	1124.937
20.500	748.517	61.400	331.843	1141.760
21.000	755.985	61.400	331.338	1148.773
21.500	764.921	61.400	343.511	1169.832
22.000	775.526	61.400	343.860	1180.785
22.500	789.256	61.400	358.739	1209.395
23.000	807.526	61.400	360.659	1229.585
23.500	830.761	61.400	385.256	1277.417
24.000	859.560	61.400	393.393	1314.354
24.500	892.800	61.400	417.721	1371.921

Table 9.10 Maximum Probable Inflow to the Binga Reservoir
(Return Period : 200 years)

TIME (HR)	QS (M**3/S)	QE (M**3/S)	QR (M**3/S)	QIN (M33*/S)
25.000	929.370	61.400	424.854	1415.623
25.500	1659.420	61.400	447.949	2168.769
26.000	3268.739	61.400	453.451	3783.590
26.500	3647.436	61.400	474.960	4183.793
27.000	3484.092	61.400	478.659	4024.151
27.500	3345.093	61.400	498.561	3905.053
28.000	3225.079	61.400	500.530	3787.009
28.500	3119.951	61.400	518.977	3700.328
29.000	3026.765	61.400	519.403	3607.568
29.500	2943.436	61.400	536.625	3541.460
30.000	2867.768	61.400	535.741	3464.909
30.500	2798.468	61.400	551.989	3411.856
31.000	2733.376	61.400	550.030	3344.806
31.500	2672.209	61.400	565.547	3299.156
32.000	2614.895	61.400	562.731	3239.025
32.500	2560.863	61.400	577.743	3200.006
33.000	2509.569	61.400	574.263	3145.232
33.500	2460.771	61.400	588.970	3111.141
34.000	2414.331	61.400	584.992	3060.723
34.500	2370.019	61.400	599.573	3030.991
35.000	2327.035	61.400	595.240	2983.675
35.500	2286.222	61.400	609.852	2957.473
36.000	2247.544	61.400	605.284	2914.228
36.500	2210.971	61.400	620.075	2892.446
37.000	2176.474	61.400	615.377	2853.251
37.500	2144.303	61.400	630.488	2836.191
38.000	2114.242	61.400	625.756	2801.398
38.500	2086.355	61.400	641.327	2789.083
39.000	2060.895	61.400	636.650	2758.944
39.500	2037.830	61.400	652.837	2752.067
40.000	2017.138	61.400	648.306	2726.844
40.500	1999.157	61.400	665.286	2725.844
41.000	1983.776	61.400	661.006	2706.182
41.500	1971.063	61.400	679.000	2711.463
42.000	1961.456	61.400	675.094	2697.949
42.500	1955.031	61.400	694.398	2710.829
43.000	1952.137	61.400	691.033	2704.570
43.500	1952.950	61.400	712.073	2726.423
44.000	1957.926	61.400	709.494	2728.819
44.500	1967.526	61.400	732.937	2761.863
45.000	1982.412	61.400	731.538	2775.350
45.500	2003.441	61.400	758.585	2823.427
46.000	2031.872	61.400	759.096	2852.368
46.500	2076.288	61.400	792.450	2930.138
47.000	2144.769	61.400	796.579	3002.747
47.500	2238.737	61.400	851.931	3152.068
48.000	2359.802	61.400	870.150	3291.352
48.500	2497.094	61.400	906.496	3464.990
49.000	2644.450	61.400	909.882	3615.732
49.500	2795.818	61.400	935.156	3792.374

Table 9.10 Maximum Probable Inflow to the Binga Reservoir
(Return Period : 200 years)

TIME (HR)	QS (M**3/S)	QE (M**3/S)	QR (M**3/S)	QIN (M33*/S)
50.000	2943.228	61.400	929.981	3934.609
50.500	3086.187	61.400	949.142	4096.727
51.000	3221.019	61.400	939.286	4221.703
51.500	3345.417	61.400	955.379	4362.195
52.000	3458.132	61.400	943.195	4462.723
52.500	3558.491	61.400	958.053	4577.941
53.000	3646.210	61.400	944.926	4652.535
53.500	3721.514	61.400	959.617	4742.527
54.000	3784.810	61.400	946.333	4792.539
54.500	3837.127	61.400	961.461	4859.984
55.000	3879.562	61.400	948.440	4889.402
55.500	4538.844	61.400	964.325	5564.566
56.000	4749.484	61.400	951.768	5762.648
56.500	4652.730	61.400	968.571	5682.699
57.000	4569.875	61.400	956.558	5587.828
57.500	4500.816	61.400	974.353	5536.566
58.000	4445.488	61.400	962.899	5469.785
58.500	4407.309	61.400	981.722	5450.426
59.000	4389.020	61.400	970.810	5421.227
59.500	4412.953	61.400	990.686	5465.035
60.000	4499.152	61.400	980.295	5540.844
60.500	4652.031	61.400	1001.257	5714.684
61.000	4876.617	61.400	991.371	5929.383
61.500	6867.484	61.400	1013.474	7942.355
62.000	7633.398	61.400	1004.092	8698.887
62.500	7831.531	61.400	1027.427	8920.355
63.000	7805.316	61.400	1018.566	8885.281
63.500	7833.574	61.400	1043.269	8938.238
64.000	7887.695	61.400	1034.978	8984.070
64.500	7949.500	61.400	1061.243	9072.141
65.000	8004.793	61.400	1053.608	9119.797
65.500	8045.484	61.400	1081.720	9188.602
66.000	8065.512	61.400	1074.881	9201.789
66.500	8062.516	61.400	1105.260	9229.172
67.000	8035.359	61.400	1099.435	9196.191
67.500	7984.578	61.400	1132.718	9178.691
68.000	7911.254	61.400	1128.262	9100.914
68.500	7817.387	61.400	1165.489	9044.273
69.000	7705.070	61.400	1163.006	8929.473
69.500	7576.602	61.400	1206.072	8844.070
70.000	7434.062	61.400	1206.708	8702.168
70.500	7280.391	61.400	1259.919	8601.707
71.000	7116.977	61.400	1266.392	8444.766
71.500	6953.922	61.400	1354.841	8370.160
72.000	6798.227	61.400	1383.896	8243.520
72.500	6653.203	61.400	1420.011	8134.609
73.000	6521.895	61.400	1410.357	7993.648
73.500	6398.066	61.400	1404.285	7863.746
74.000	6276.937	61.400	1365.141	7703.477
74.500	6156.156	61.400	1335.405	7552.957

Table 9.10 Maximum Probable Inflow to the Binga Reservoir
(Return Period : 200 years)

TIME (HR)	QS (M**3/S)	QE (M**3/S)	QR (M**3/S)	QIN (M33*/S)
75.000	6033.230	61.400	1281.226	7375.852
75.500	5906.980	61.400	1240.646	7209.031
76.000	5776.484	61.400	1181.163	7019.043
76.500	5641.641	61.400	1137.735	6840.773
77.000	5501.578	61.400	1078.815	6641.789
77.500	5356.266	61.400	1037.141	6454.805
78.000	5208.070	61.400	981.987	6251.453
78.500	5058.113	61.400	944.441	6063.949
79.000	4906.312	61.400	894.535	5862.246
79.500	4753.930	61.400	862.101	5677.426
80.000	4598.961	61.400	817.881	5478.238
80.500	4444.766	61.400	790.716	5296.879
81.000	4292.148	61.400	752.020	5105.566
81.500	4141.691	61.400	729.832	4932.922
82.000	3993.578	61.400	696.187	4751.164
82.500	3846.371	61.400	678.461	4586.230
83.000	3702.623	61.400	649.267	4413.289
83.500	3562.461	61.400	635.409	4259.270
84.000	3426.191	61.400	610.034	4097.625
84.500	3293.928	61.400	599.452	3954.780
85.000	3165.094	61.400	577.300	3803.793
85.500	3040.152	61.400	569.447	3670.999
86.000	2919.521	61.400	549.980	3530.902
86.500	2803.445	61.400	544.373	3409.218
87.000	2691.664	61.400	527.124	3280.188
87.500	2584.088	61.400	523.347	3168.835
88.000	2479.072	61.400	507.923	3048.395
88.500	2378.432	61.400	505.628	2945.460
89.000	2282.213	61.400	491.699	2835.312
89.500	2190.162	61.400	490.600	2742.162
90.000	2102.178	61.400	477.894	2641.471
90.500	2018.014	61.400	477.756	2557.170
91.000	1937.153	61.400	466.053	2464.605
91.500	1859.520	61.400	466.687	2387.606
92.000	1785.459	61.400	455.808	2302.667
92.500	1714.881	61.400	457.061	2233.342
93.000	1647.699	61.400	446.863	2155.962
93.500	1583.695	61.400	448.612	2093.708
94.000	1522.785	61.400	438.978	2023.163
94.500	1464.635	61.400	441.129	1967.164
95.000	1409.430	61.400	431.966	1902.795
95.500	1355.320	61.400	434.439	1851.159
96.000	1303.424	61.400	425.673	1790.497
96.500	1253.448	61.400	410.293	1725.140
97.000	1205.104	61.400	389.485	1655.988
97.500	1158.000	61.400	366.164	1585.564
98.000	1112.002	61.400	340.837	1514.240
98.500	1067.219	61.400	315.447	1444.066
99.000	1023.514	61.400	289.927	1374.841
99.500	980.766	61.400	265.625	1307.791

Table 9.10 Maximum Probable Inflow to the Binga Reservoir
(Return Period : 200 years)

TIME (HR)	QS (M**3/S)	QE (M**3/S)	QR (M**3/S)	QIN (M33*/S)
100.000	939.192	61.400	242.125	1242.716
100.500	898.445	61.400	220.415	1180.260
101.000	858.413	61.400	199.886	1119.698
101.500	819.639	61.400	181.313	1062.352
102.000	782.208	61.400	163.986	1007.594
102.500	745.990	61.400	148.560	955.950
103.000	711.065	61.400	134.284	906.749
103.500	677.410	61.400	121.746	860.555
104.000	645.096	61.400	110.187	816.683
104.500	613.996	61.400	100.163	775.559
105.000	584.084	61.400	90.926	736.411
105.500	555.430	61.400	83.017	699.847
106.000	528.003	61.400	75.709	665.111
106.500	501.772	61.400	69.535	632.707
107.000	476.440	61.400	63.794	601.633
107.500	452.165	61.400	59.019	572.583
108.000	429.096	61.400	54.532	545.029
108.500	407.114	61.400	50.869	519.383
109.000	386.190	61.400	47.374	494.965
109.500	366.295	61.400	44.585	472.279
110.000	347.399	61.400	41.866	450.665
110.500	329.394	61.400	39.757	430.551
111.000	312.335	61.400	37.642	411.376
111.500	296.193	61.400	36.058	393.651
112.000	280.866	61.400	34.408	376.674
112.500	266.255	61.400	33.229	360.884
113.000	252.488	61.400	31.936	345.823
113.500	239.394	61.400	31.065	331.859
114.000	227.024	61.400	30.046	318.470
114.500	215.220	61.400	29.410	306.030
115.000	204.168	61.400	28.599	294.167
115.500	193.578	61.400	28.142	283.119
116.000	183.634	61.400	27.488	272.522
116.500	174.187	61.400	27.166	262.753
117.000	165.160	61.400	26.632	253.192
117.500	156.604	61.400	26.412	244.415
118.000	0.0	61.400	25.969	87.369
118.500	0.0	61.400	25.825	87.225
119.000	0.0	61.400	25.452	86.852
119.500	0.0	61.400	25.365	86.765
120.000	0.0	61.400	25.044	86.444

PEEK INFLOW DISCHARGE 9229.582 (M**3/SEC)
TIME 66.450 (HR)

Table 9.10 Maximum Probable Inflow to the Binga Reservoir
(Return Period : 10000 years)

TIME (HR)	QS (M**3/S)	QE (M**3/S)	QR (M**3/S)	QIN (M33*/S)
0.0	0.0	61.400	15.000	76.400
0.500	0.0	61.400	33.555	94.955
1.000	0.0	61.400	46.234	107.634
1.500	0.0	61.400	73.165	134.565
2.000	0.0	61.400	90.782	152.182
2.500	0.0	61.400	120.283	181.683
3.000	0.0	61.400	138.539	199.939
3.500	0.0	61.400	167.494	228.894
4.000	0.0	61.400	184.179	245.579
4.500	0.0	61.400	211.088	272.488
5.000	645.589	61.400	225.230	932.219
5.500	928.137	61.400	249.534	1239.071
6.000	909.076	61.400	260.867	1231.343
6.500	891.860	61.400	282.527	1235.787
7.000	876.347	61.400	291.160	1228.907
7.500	862.482	61.400	310.406	1234.288
8.000	850.187	61.400	316.629	1228.217
8.500	839.386	61.400	333.808	1234.594
9.000	830.006	61.400	337.980	1229.386
9.500	822.006	61.400	353.470	1236.876
10.000	815.292	61.400	355.954	1232.646
10.500	809.800	61.400	370.124	1241.324
11.000	805.521	61.400	371.255	1238.177
11.500	802.372	61.400	384.442	1248.214
12.000	800.318	61.400	384.517	1246.235
12.500	799.333	61.400	397.018	1257.750
13.000	799.386	61.400	396.292	1257.078
13.500	800.478	61.400	408.370	1270.249
14.000	802.559	61.400	407.060	1271.018
14.500	805.655	61.400	418.947	1286.002
15.000	809.719	61.400	417.236	1288.355
15.500	814.755	61.400	429.146	1305.301
16.000	820.769	61.400	427.196	1309.365
16.500	827.794	61.400	439.336	1328.531
17.000	835.813	61.400	437.294	1334.507
17.500	844.917	61.400	449.879	1356.196
18.000	855.087	61.400	447.888	1364.375
18.500	866.421	61.400	461.168	1388.989
19.000	878.986	61.400	459.386	1399.772
19.500	892.883	61.400	473.685	1427.967
20.000	908.242	61.400	472.310	1441.952
20.500	925.198	61.400	488.101	1474.699
21.000	944.004	61.400	487.421	1492.826
21.500	1941.613	61.400	505.523	2508.536
22.000	2635.659	61.400	506.044	3203.103
22.500	2708.728	61.400	528.262	3298.390
23.000	2652.483	61.400	531.128	3245.012
23.500	2626.241	61.400	567.856	3255.497
24.000	2629.371	61.400	580.007	3270.778
24.500	2654.303	61.400	616.429	3332.132

Table 9.10 Maximum Probable Inflow to the Binga Reservoir
(Return Period : 10000 years)

TIME (HR)	QS (M**3/S)	QE (M**3/S)	QR (M**3/S)	QIN (M33*/S)
25.000	2694.256	61.400	627.146	3382.802
25.500	2744.517	61.400	661.773	3467.690
26.000	2800.559	61.400	670.080	3532.039
26.500	2859.348	61.400	702.351	3623.099
27.000	3294.727	61.400	707.972	4064.099
27.500	4400.824	61.400	737.840	5200.062
28.000	4620.535	61.400	740.869	5422.801
28.500	4456.262	61.400	768.554	5286.211
29.000	4315.828	61.400	769.267	5146.492
29.500	4193.945	61.400	795.109	5050.449
30.000	4085.981	61.400	793.849	4941.227
30.500	3988.939	61.400	818.223	4868.562
31.000	3899.939	61.400	815.345	4776.684
31.500	3817.910	61.400	838.616	4717.926
32.000	3741.152	61.400	834.444	4636.996
32.500	3668.932	61.400	856.949	4587.277
33.000	3600.524	61.400	851.776	4513.699
33.500	3535.361	61.400	873.817	4470.574
34.000	3473.265	61.400	867.891	4402.555
34.500	3412.675	61.400	889.735	4363.809
35.000	3355.081	61.400	883.271	4299.750
35.500	3300.436	61.400	905.159	4266.992
36.000	3248.705	61.400	898.338	4208.441
36.500	3199.966	61.400	920.489	4181.852
37.000	3154.304	61.400	913.471	4129.172
37.500	3111.803	61.400	936.097	4109.297
38.000	3072.546	61.400	929.024	4062.970
38.500	3036.615	61.400	952.337	4050.352
39.000	3004.336	61.400	945.344	4011.080
39.500	2975.675	61.400	969.577	4006.652
40.000	2950.594	61.400	962.802	3974.796
40.500	2929.431	61.400	988.220	3979.051
41.000	2912.749	61.400	981.817	3955.966
41.500	2900.651	61.400	1008.752	3970.802
42.000	2893.469	61.400	1002.909	3957.778
42.500	2891.556	61.400	1031.803	3984.760
43.000	2895.265	61.400	1026.770	3983.435
43.500	2905.321	61.400	1058.260	4024.981
44.000	2922.106	61.400	1054.402	4037.908
44.500	2946.743	61.400	1089.490	4097.633
45.000	2979.901	61.400	1087.398	4128.695
45.500	3023.739	61.400	1127.879	4213.016
46.000	3080.604	61.400	1128.645	4270.648
46.500	3166.871	61.400	1178.565	4406.836
47.000	3297.562	61.400	1184.745	4543.703
47.500	3474.791	61.400	1267.589	4803.777
48.000	3696.024	61.400	1294.857	5052.277
48.500	3947.871	61.400	1349.097	5358.367
49.000	4212.914	61.400	1354.059	5628.371
49.500	4480.180	61.400	1391.658	5933.234

Table 9.10 Maximum Probable Inflow to the Binga Reservoir (Return Period : 10000 years)

TIME (HR)	QS (M**3/S)	QE (M**3/S)	QR (M**3/S)	QIN (M33*/S)
50.000	4739.184	61.400	1383.766	6184.348
50.500	5712.223	61.400	1412.194	7185.812
51.000	7346.484	61.400	1397.291	8805.172
51.500	7608.656	61.400	1421.133	9091.187
52.000	7351.949	61.400	1402.758	8816.105
52.500	7157.000	61.400	1424.769	8643.164
53.000	7003.516	61.400	1405.004	8469.914
53.500	6879.316	61.400	1426.788	8367.500
54.000	6774.969	61.400	1406.812	8243.176
54.500	6684.766	61.400	1429.271	8175.434
55.000	6605.102	61.400	1409.710	8076.207
55.500	6534.348	61.400	1433.322	8029.066
56.000	6471.324	61.400	1414.477	7947.199
56.500	6417.047	61.400	1439.481	7917.926
57.000	6371.645	61.400	1421.467	7854.508
57.500	6338.676	61.400	1447.970	7848.043
58.000	6320.199	61.400	1430.806	7812.402
58.500	6325.508	61.400	1458.857	7845.762
59.000	6361.437	61.400	1442.517	7865.352
59.500	6479.887	61.400	1472.153	8013.437
60.000	6721.359	61.400	1456.601	8239.355
60.500	7091.812	61.400	1487.868	8641.078
61.000	7596.910	61.400	1473.078	9131.383
61.500	8180.012	61.400	1506.059	9747.469
62.000	8794.133	61.400	1492.027	10347.555
62.500	9401.816	61.400	1526.853	10990.066
63.000	9972.406	61.400	1513.606	11547.410
63.500	10486.410	61.400	1550.476	12098.281
64.000	10929.598	61.400	1538.085	12529.078
64.500	8798.437	61.400	1577.292	10437.125
65.000	9422.570	61.400	1565.884	11049.852
65.500	9889.137	61.400	1607.851	11558.383
66.000	10249.727	61.400	1597.632	11908.754
66.500	10528.012	61.400	1642.986	12232.395
67.000	10737.695	61.400	1634.283	12433.375
67.500	10888.543	61.400	1683.976	12633.914
68.000	10986.977	61.400	1677.318	12725.691
68.500	11038.812	61.400	1732.901	12833.109
69.000	11048.348	61.400	1729.191	12838.934
69.500	11019.687	61.400	1793.493	12874.578
70.000	10955.781	61.400	1794.440	12811.617
70.500	10859.855	61.400	1873.892	12795.145
71.000	10734.781	61.400	1883.555	12679.734
71.500	10589.781	61.400	2015.624	12666.801
72.000	10433.887	61.400	2059.005	12554.289
72.500	10272.980	61.400	2112.932	12447.309
73.000	10112.848	61.400	2098.516	12272.762
73.500	9950.781	61.400	2089.448	12101.625
74.000	9784.062	61.400	2030.997	11876.457
74.500	9610.105	61.400	1986.596	11658.098

Table 9.10 Maximum Probable Inflow to the Binga Reservoir
(Return Period : 10000 years)

TIME (HR)	QS (M**3/S)	QE (M**3/S)	QR (M**3/S)	QIN (M33*/S)
75.000	9426.695	61.400	1905.697	11393.789
75.500	9232.125	61.400	1845.104	11138.625
76.000	9024.250	61.400	1756.284	10841.930
76.500	8800.570	61.400	1691.438	10553.406
77.000	10779.574	61.400	1603.461	12444.430
77.500	9899.074	61.400	1541.233	11501.703
78.000	9195.348	61.400	1458.879	10715.625
78.500	8616.480	61.400	1402.816	10080.691
79.000	8126.852	61.400	1328.298	9516.547
79.500	7702.574	61.400	1279.867	9043.840
80.000	7326.734	61.400	1213.839	8601.969
80.500	6987.703	61.400	1173.278	8222.379
81.000	6676.980	61.400	1115.498	7853.875
81.500	6388.473	61.400	1082.366	7532.234
82.000	6117.262	61.400	1032.130	7210.789
82.500	5861.582	61.400	1005.662	6928.641
83.000	5619.168	61.400	962.068	6642.633
83.500	5385.023	61.400	941.376	6387.797
84.000	5160.969	61.400	903.487	6125.852
84.500	4947.543	61.400	887.687	5896.625
85.000	4743.699	61.400	854.609	5659.703
85.500	4545.211	61.400	842.884	5449.492
86.000	4356.133	61.400	813.816	5231.344
86.500	4175.484	61.400	805.443	5042.324
87.000	4003.055	61.400	779.688	4844.141
87.500	3836.299	61.400	774.048	4671.746
88.000	3676.891	61.400	751.018	4489.305
88.500	3524.820	61.400	747.591	4333.809
89.000	3379.729	61.400	726.792	4167.918
89.500	3241.102	61.400	725.150	4027.652
90.000	3107.775	61.400	706.178	3875.354
90.500	2980.789	61.400	705.972	3748.161
91.000	2859.820	61.400	688.497	3609.717
91.500	2744.551	61.400	689.444	3495.395
92.000	2634.838	61.400	673.200	3369.438
92.500	2529.600	61.400	675.071	3266.071
93.000	2428.578	61.400	659.844	3149.822
93.500	2332.746	61.400	662.457	3056.603
94.000	2241.814	61.400	648.071	2951.285
94.500	2155.209	61.400	651.282	2867.891
95.000	2072.971	61.400	637.599	2771.970
95.500	1994.406	61.400	641.293	2697.100
96.000	1918.430	61.400	628.204	2608.033
96.500	1844.571	61.400	605.273	2511.243
97.000	1772.934	61.400	574.226	2408.559
97.500	1703.073	61.400	539.442	2303.914
98.000	1634.830	61.400	501.649	2197.879
98.500	1568.193	61.400	463.773	2093.366
99.000	1503.012	61.400	425.688	1990.100
99.500	1439.277	61.400	389.431	1890.108

Table 9.10 Maximum Probable Inflow to the Binga Reservoir
(Return Period : 10000 years)

TIME (HR)	QS (M**3/S)	QE (M**3/S)	QR (M**3/S)	QIN (M33*/S)
100.000	1376.471	61.400	354.357	1792.228
100.500	1314.605	61.400	321.966	1697.971
101.000	1254.562	61.400	291.323	1607.285
101.500	1196.559	61.400	263.611	1521.570
102.000	1140.559	61.400	237.745	1439.704
102.500	1086.404	61.400	214.726	1362.531
103.000	1034.295	61.400	193.412	1289.107
103.500	984.076	61.400	174.701	1220.177
104.000	935.708	61.400	157.442	1154.549
104.500	889.043	61.400	142.483	1092.925
105.000	843.939	61.400	128.689	1034.028
105.500	800.797	61.400	116.885	979.082
106.000	759.674	61.400	105.968	927.042
106.500	720.413	61.400	96.754	878.567
107.000	682.965	61.400	88.177	832.542
107.500	647.280	61.400	81.051	789.731
108.000	613.411	61.400	74.347	749.157
108.500	581.112	61.400	68.879	711.390
109.000	550.529	61.400	63.655	675.584
109.500	521.334	61.400	59.492	642.226
110.000	493.673	61.400	55.427	610.499
110.500	467.053	61.400	52.279	580.731
111.000	441.891	61.400	49.114	552.405
111.500	418.057	61.400	46.751	526.208
112.000	395.510	61.400	44.281	501.191
112.500	374.211	61.400	42.522	478.133
113.000	354.039	61.400	40.585	456.024
113.500	334.961	61.400	39.287	435.648
114.000	316.943	61.400	37.758	416.101
114.500	299.875	61.400	36.811	398.086
115.000	283.728	61.400	35.593	380.721
115.500	268.549	61.400	34.912	364.861
116.000	254.159	61.400	33.931	349.490
116.500	240.607	61.400	33.451	335.458
117.000	227.796	61.400	32.649	321.844
117.500	215.633	61.400	32.322	309.354
118.000	204.236	61.400	31.655	297.291
118.500	193.445	61.400	31.442	286.287
119.000	183.242	61.400	30.879	275.521
119.500	173.610	61.400	30.752	265.762
120.000	164.404	61.400	30.267	256.071

INFLOW DISCHARGE 12939.969 (M**3/SEC)
TIME 76.783 (HR)

Table 9.11 Average Daily Spillway Discharges of Greater than 1,000 m^3/sec and Maximum Daily Spillway Discharge

(m^3/sec)

Year	Date	Average Daily Spillway Discharges	Maximum Daily Spillway Discharge
1967	Oct. 17	1794	2723
1968	Sept. 29	1745	2244
1972	July 18	1389	2442
1972	July 19	1244	1809
1972	July 20	777	866
1972	July 21	365	709
1974	Oct. 28	1283	-
1974	Nov. 7	1430	-
1976	June 30 July 1 *	2069 2009	2602 2290
1976	July 2	329	601
1980	Nov. 5	1108	2526
1980	Nov. 6	1789	1900
1984	Aug. 29	1927	2267
1984	Aug. 30	1499	1554
1984	Aug. 31	659	1016

* Damage to the retaining wall occurred.

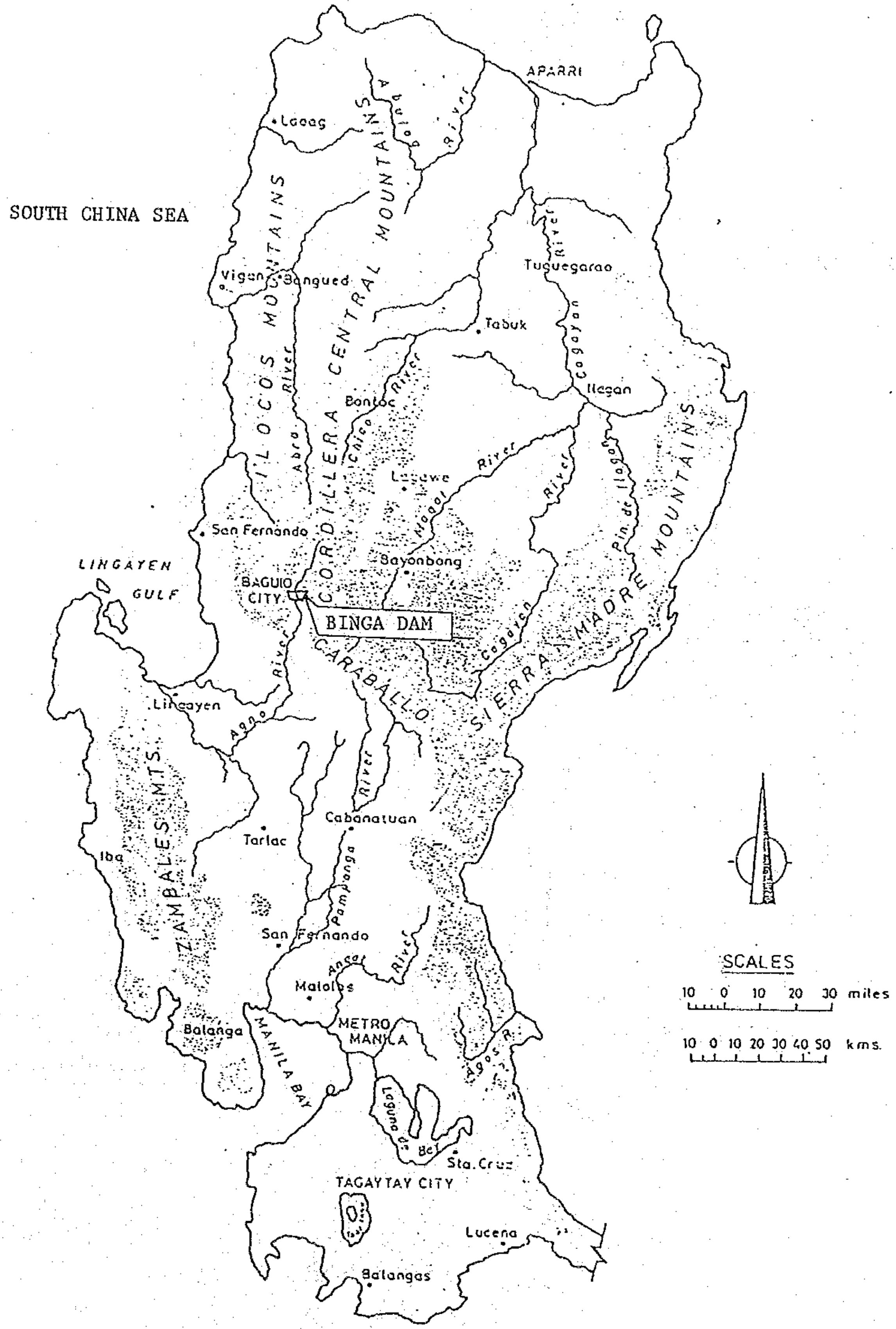


Fig. 9.1 Major River Basins

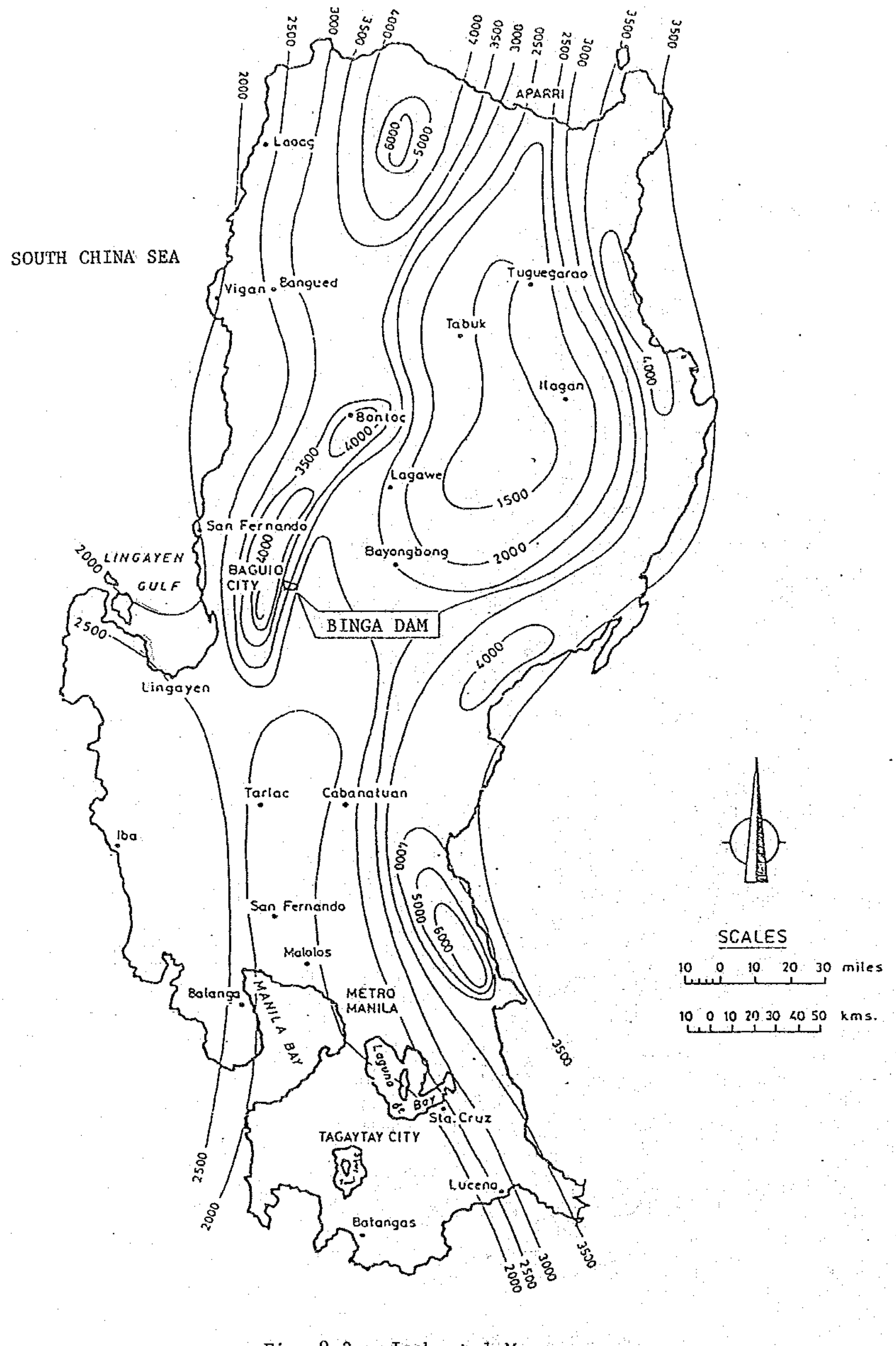


Fig. 9.2 Isohyetal Map
Annual Average Rainfall (mm)

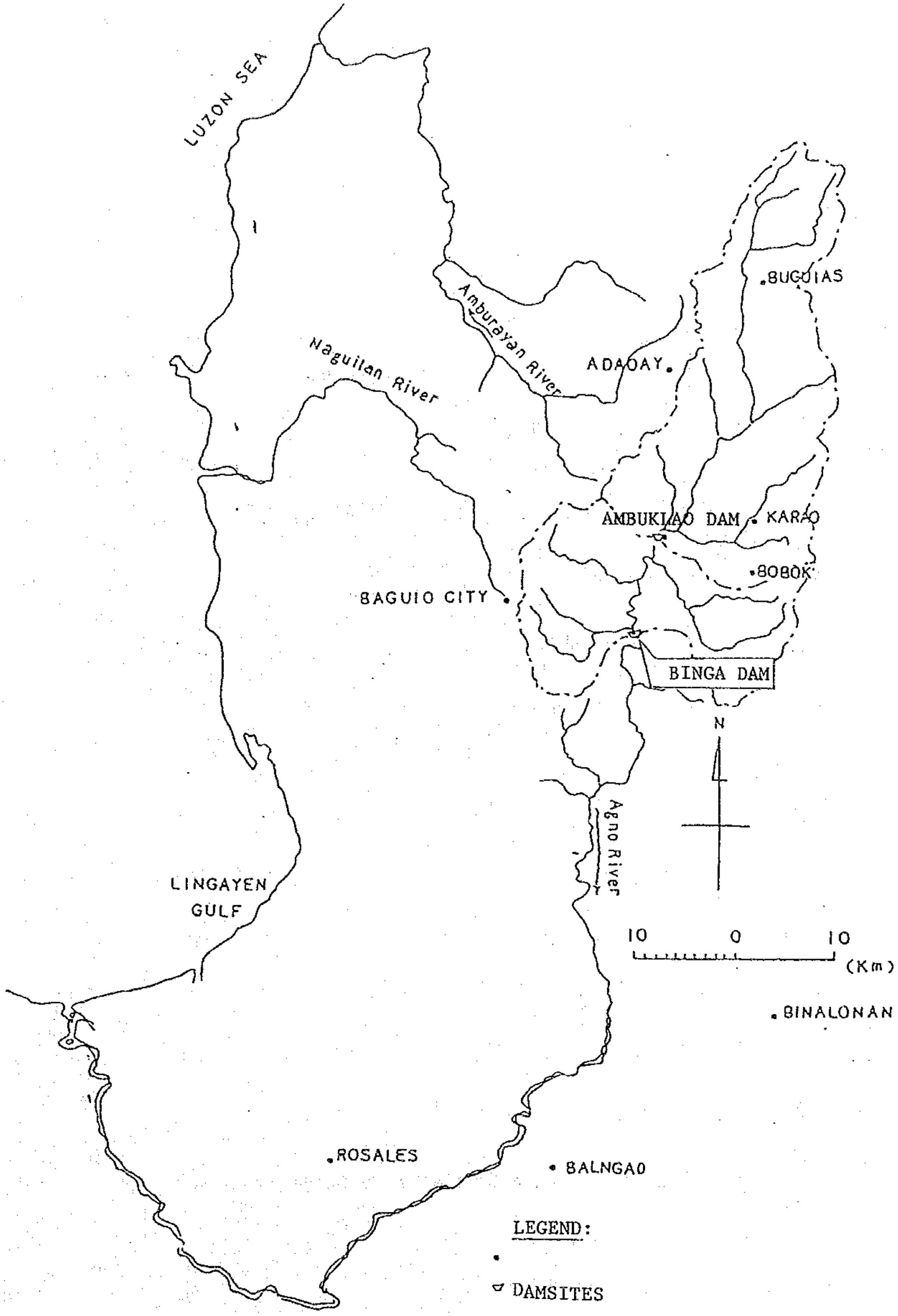


Fig. 9.3 Hydrologic Observation Stations

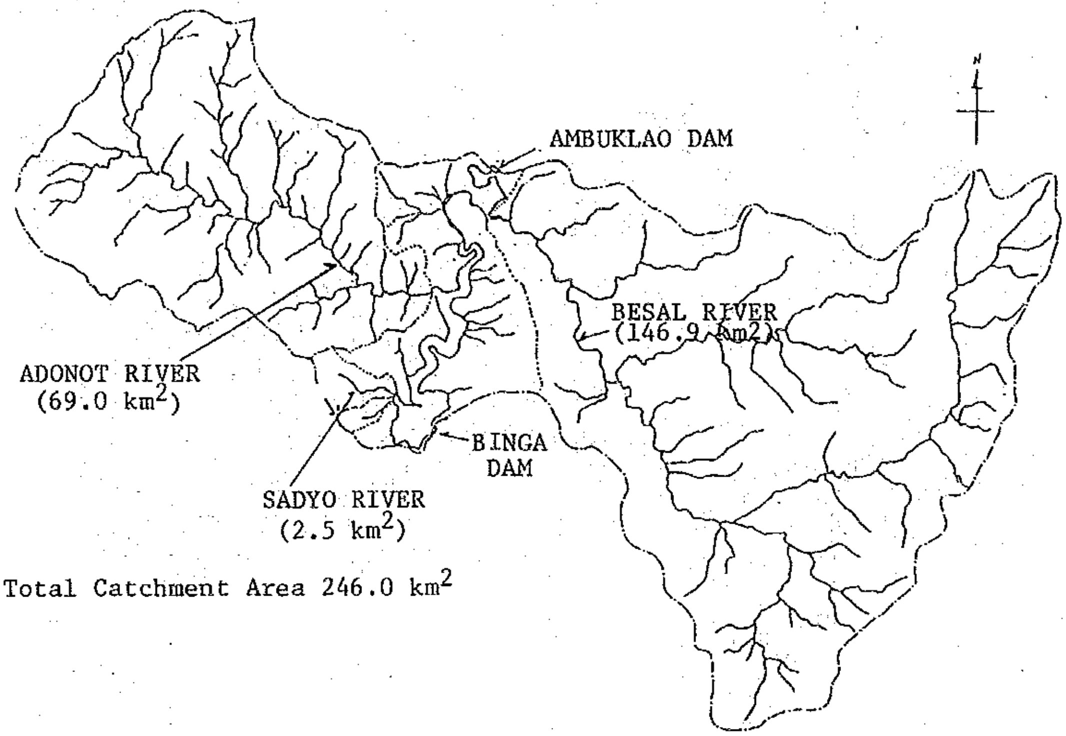


Fig. 9.4 Catchment Area of Binga Dam Basin

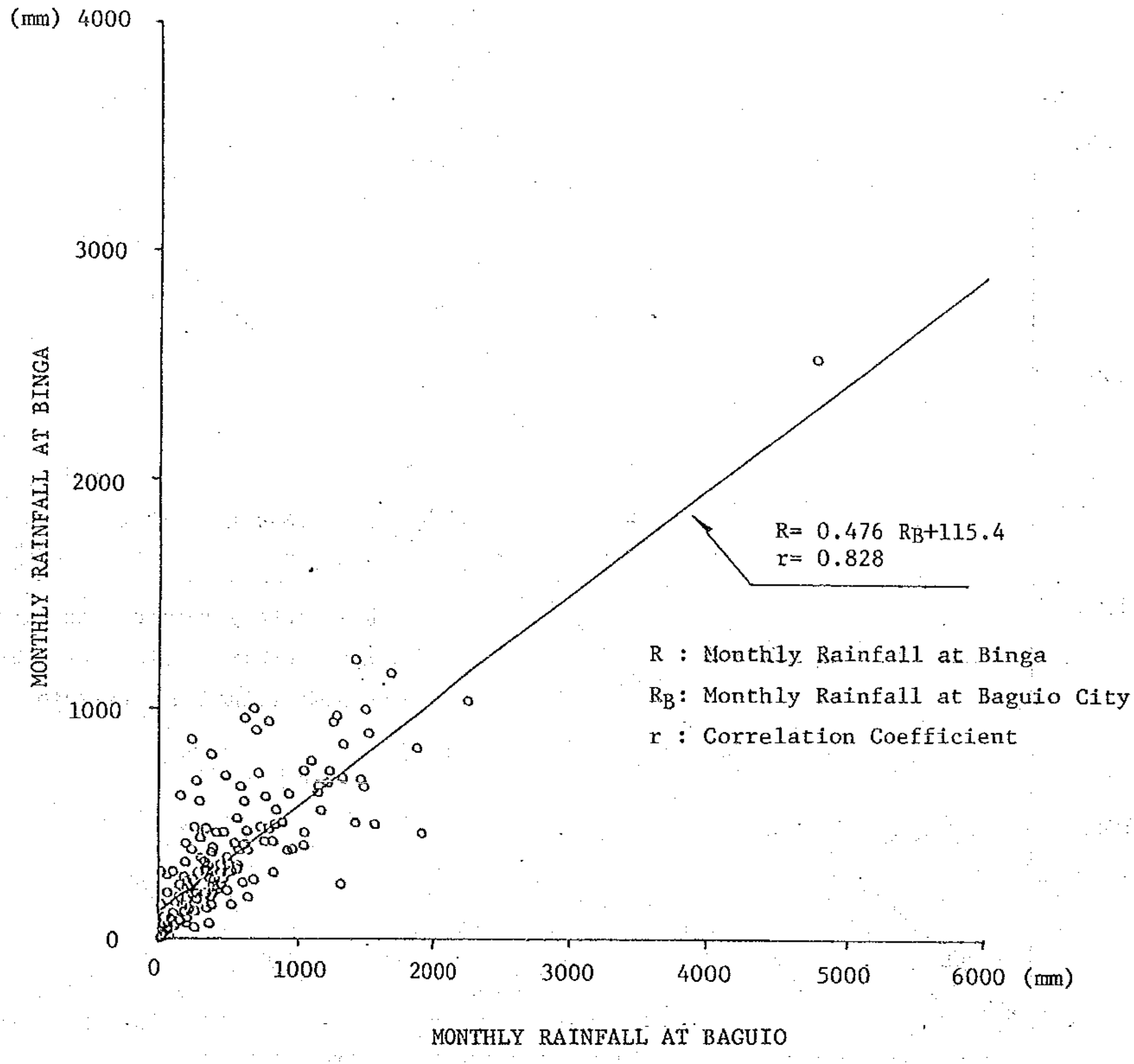


Fig. 9.5 Correlation of Monthly Rainfall at Binga and Baguio City

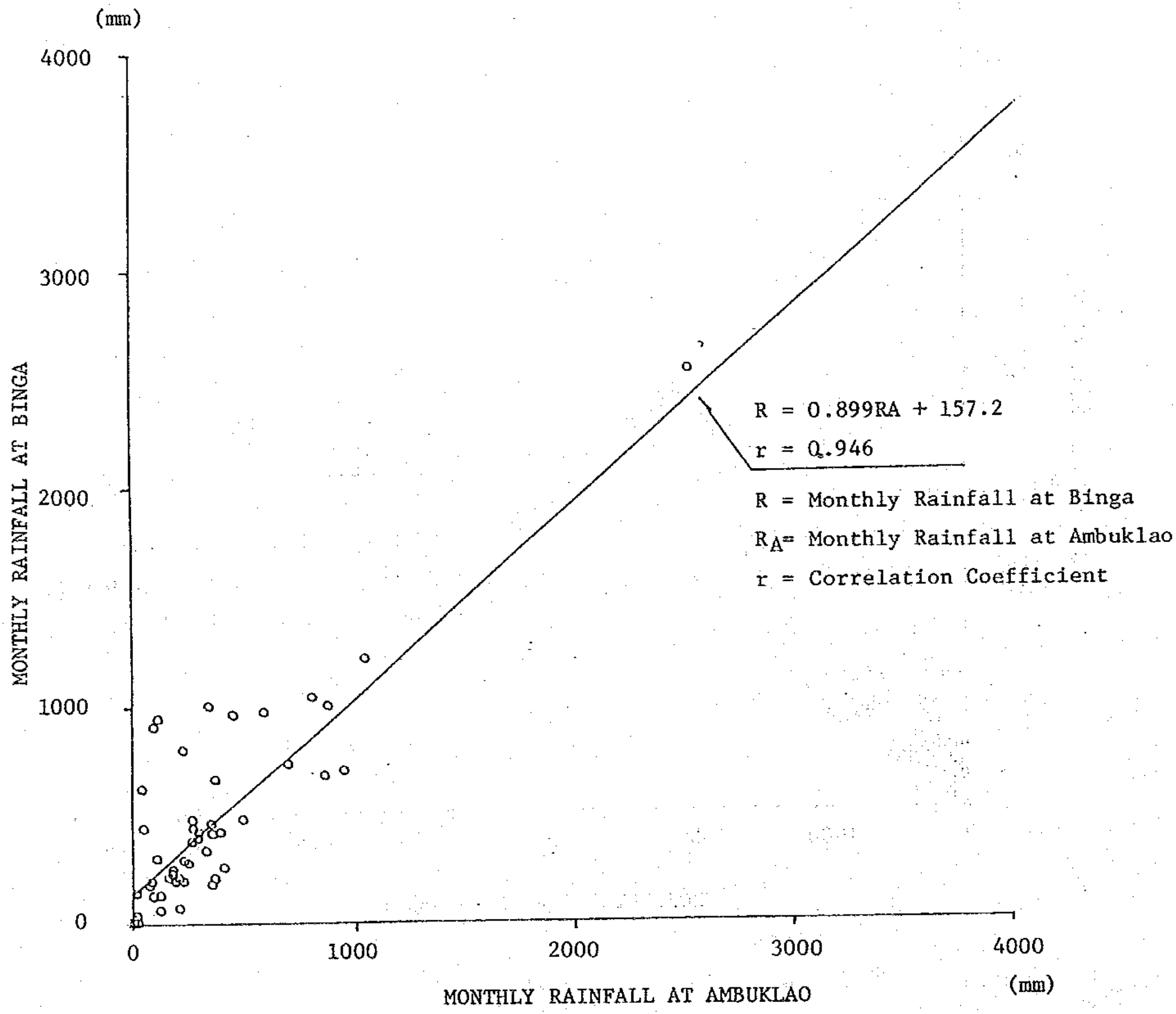


Fig. 9.6 Correlation of Monthly Rainfall at Binga and Ambuklao

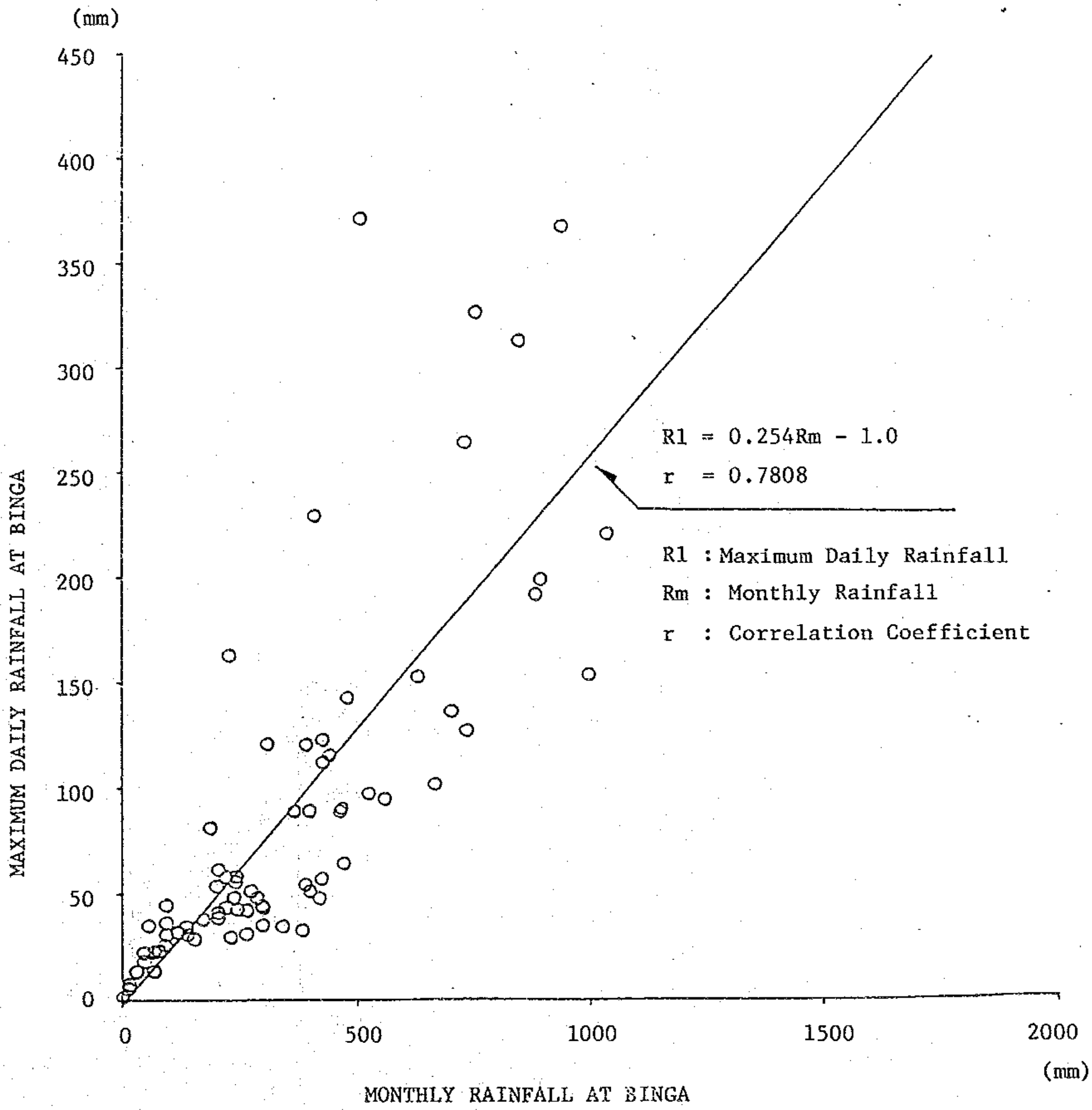


Fig. 9.7 Relation between Monthly Rainfall and Maximum Daily Rainfall at Binga

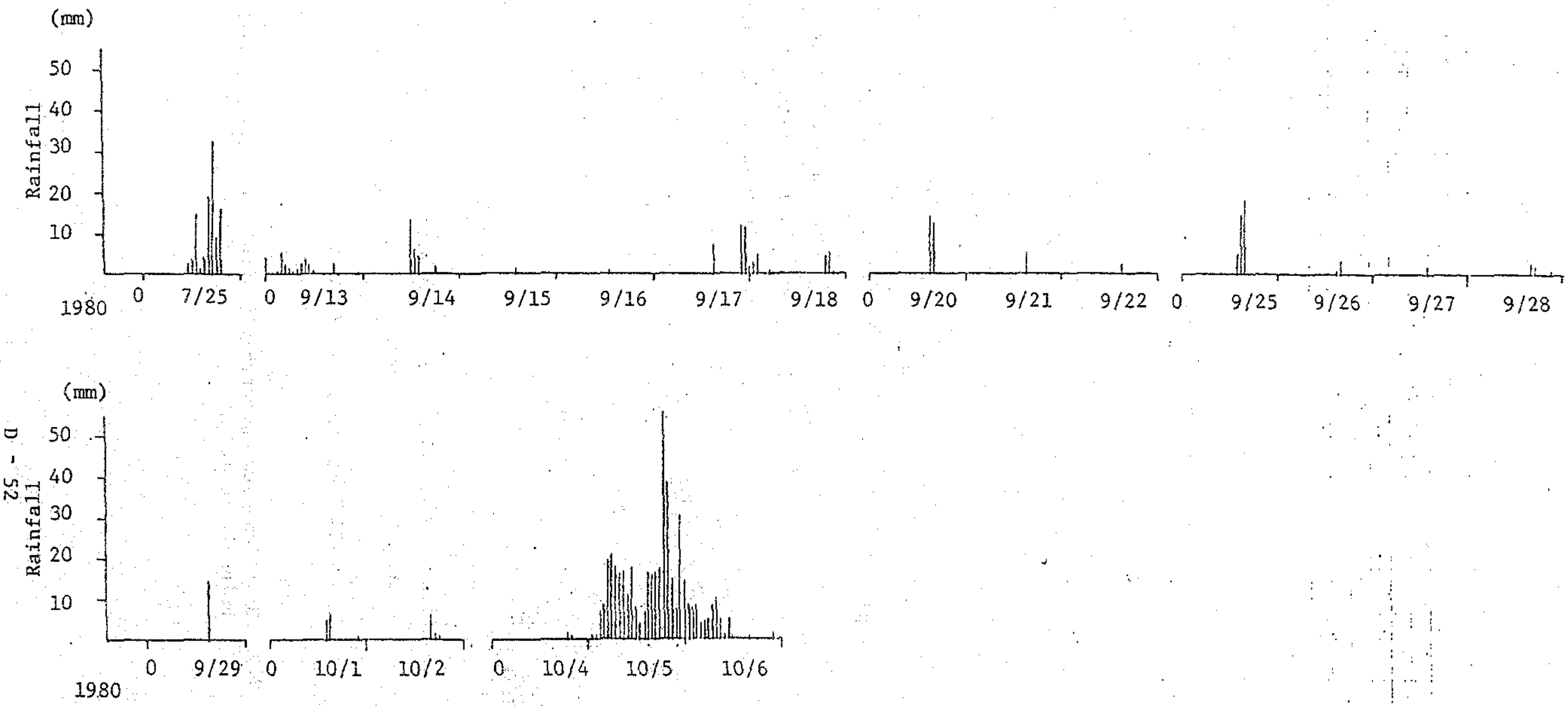


Fig. 9.8 Hourly Rainfall at Binga Damsite for the Period from July to October, 1980

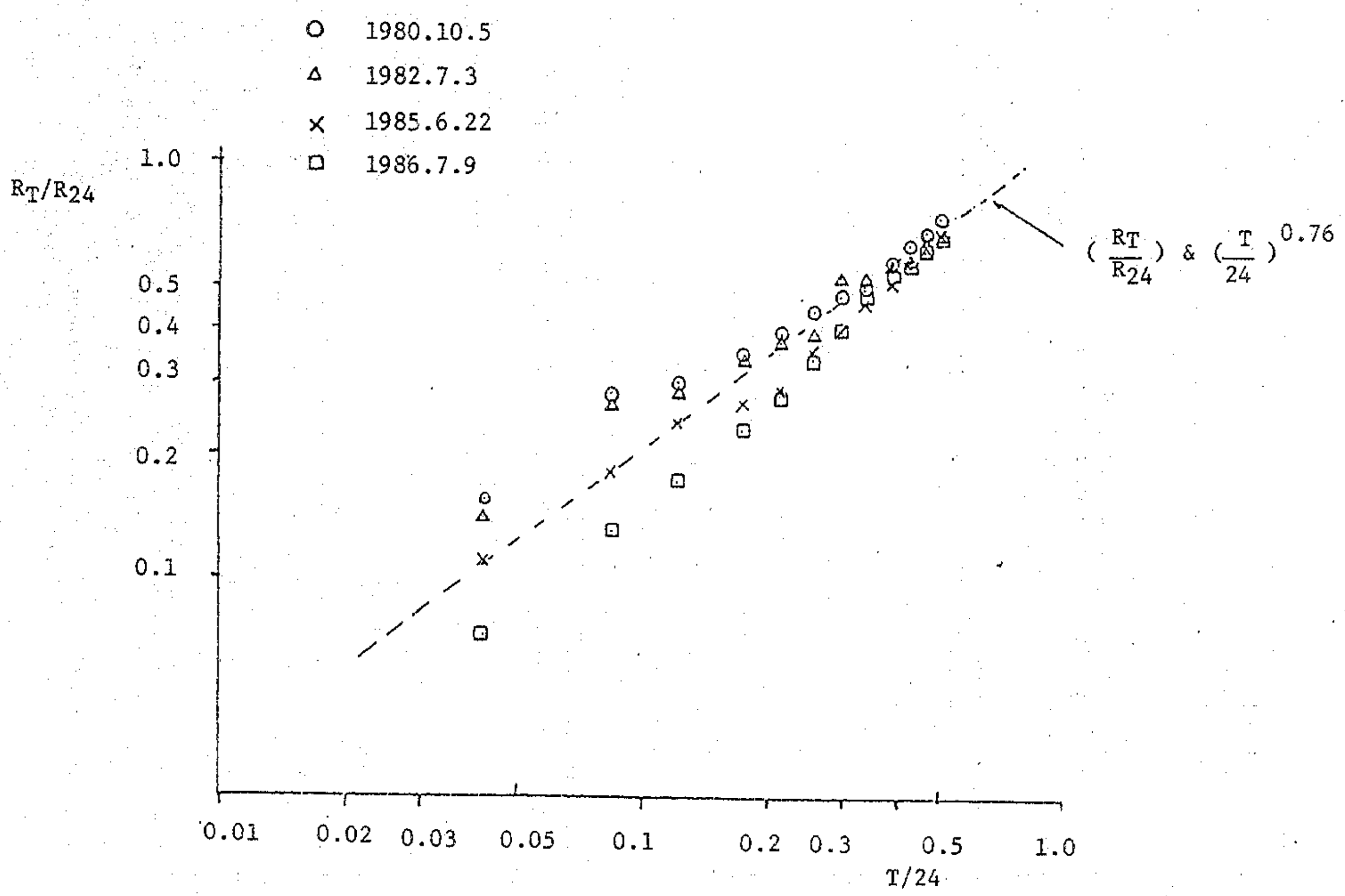


Fig. 9.9 Relation between (R_T/R_{24}) and (T/24)

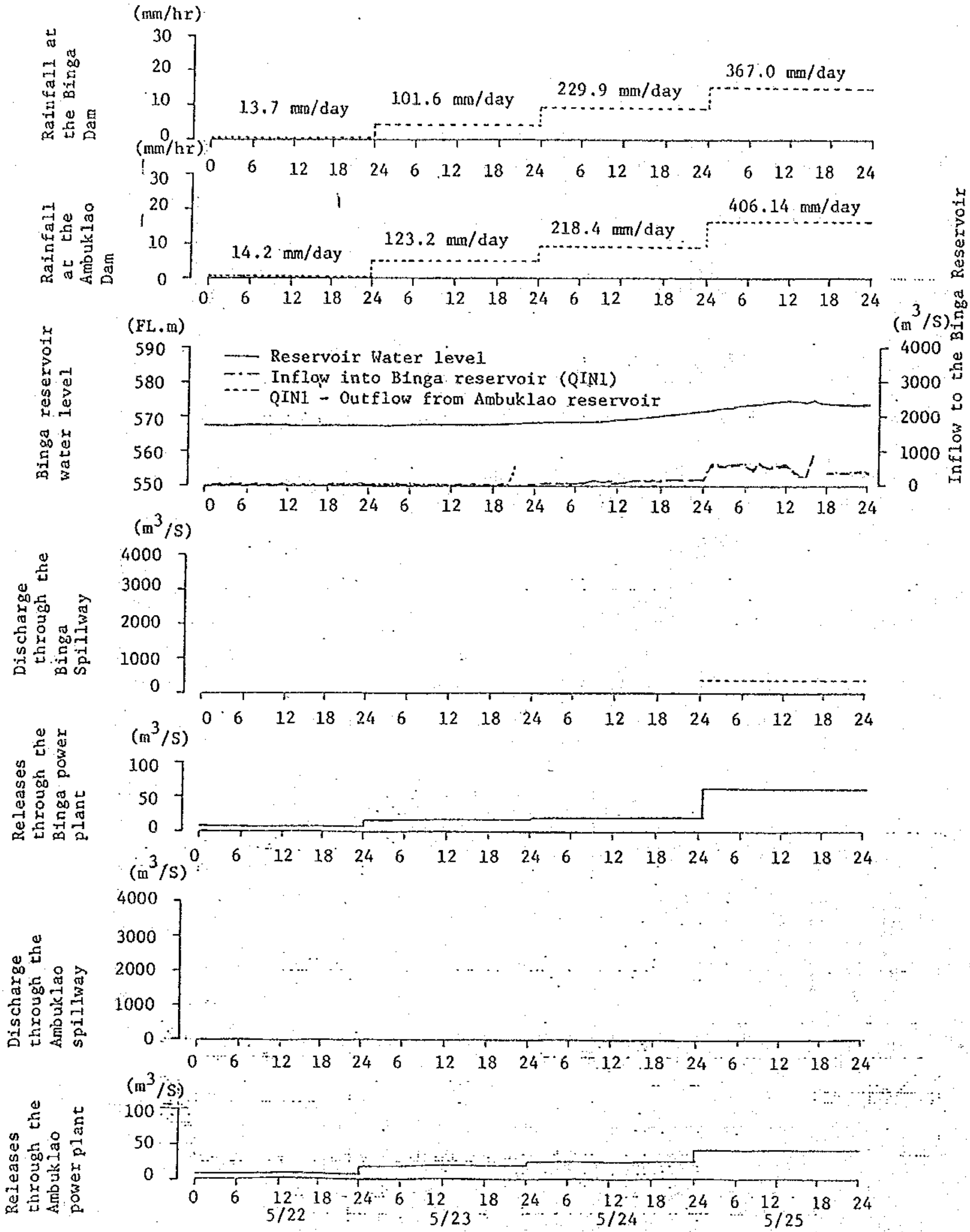


Fig.9.10 (1) Hourly Inflow to the Binga Reservoir During Typical Flood Period (May 22 - 30, 1976)

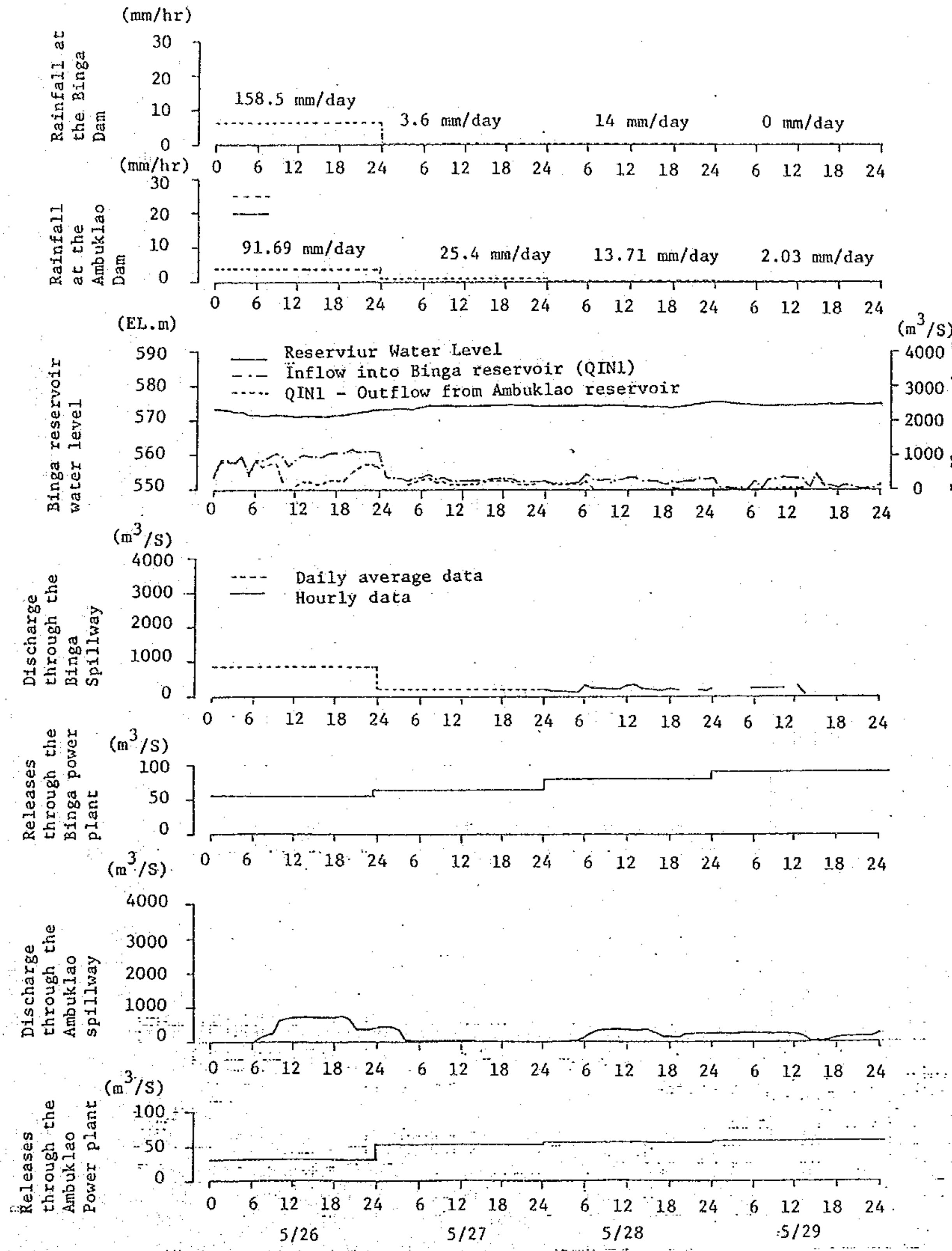


Fig.9.10 (2) Hourly Inflow to the Binga Resevoir During Typical Flood Period (May 22 - 30, 1976)

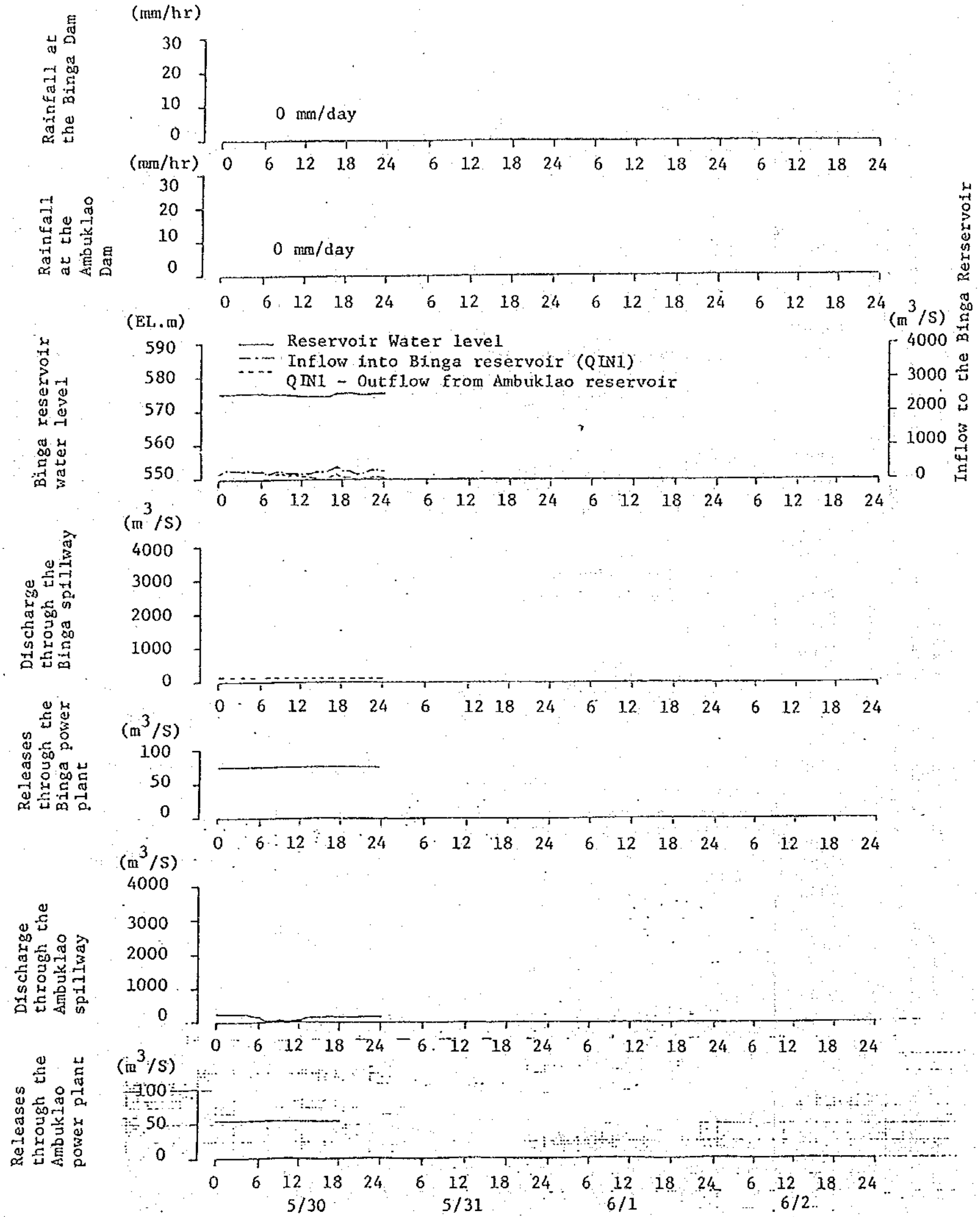


Fig.9.10 (3) Hourly Inflow to the Binga Resevoir During Typical Flood Period (May 22 - 30, 1976)

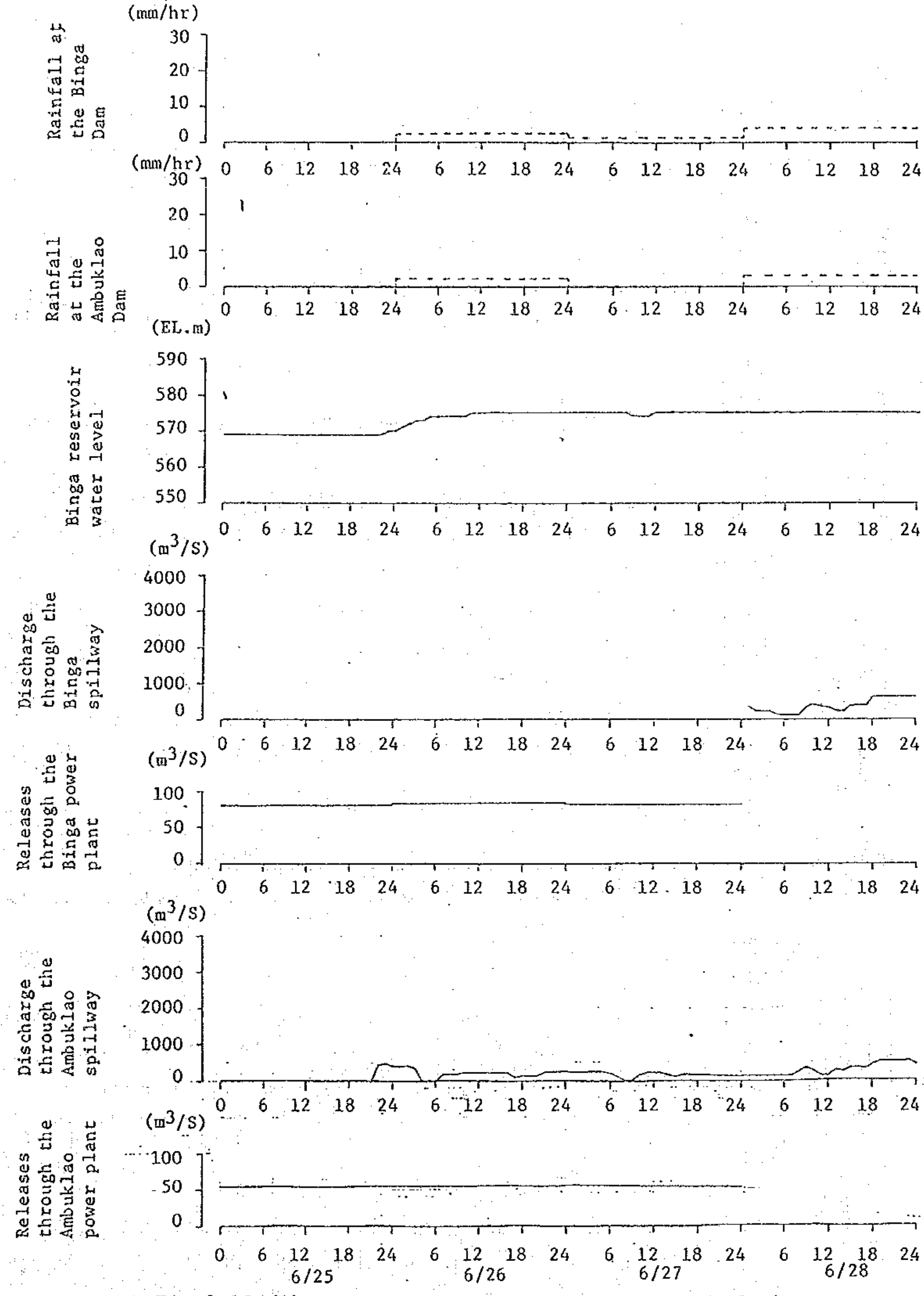


Fig.9.10 (4) Hourly Inflow to the Binga Reservoir During Typical Flood Period (June 25 - July 3, 1976)

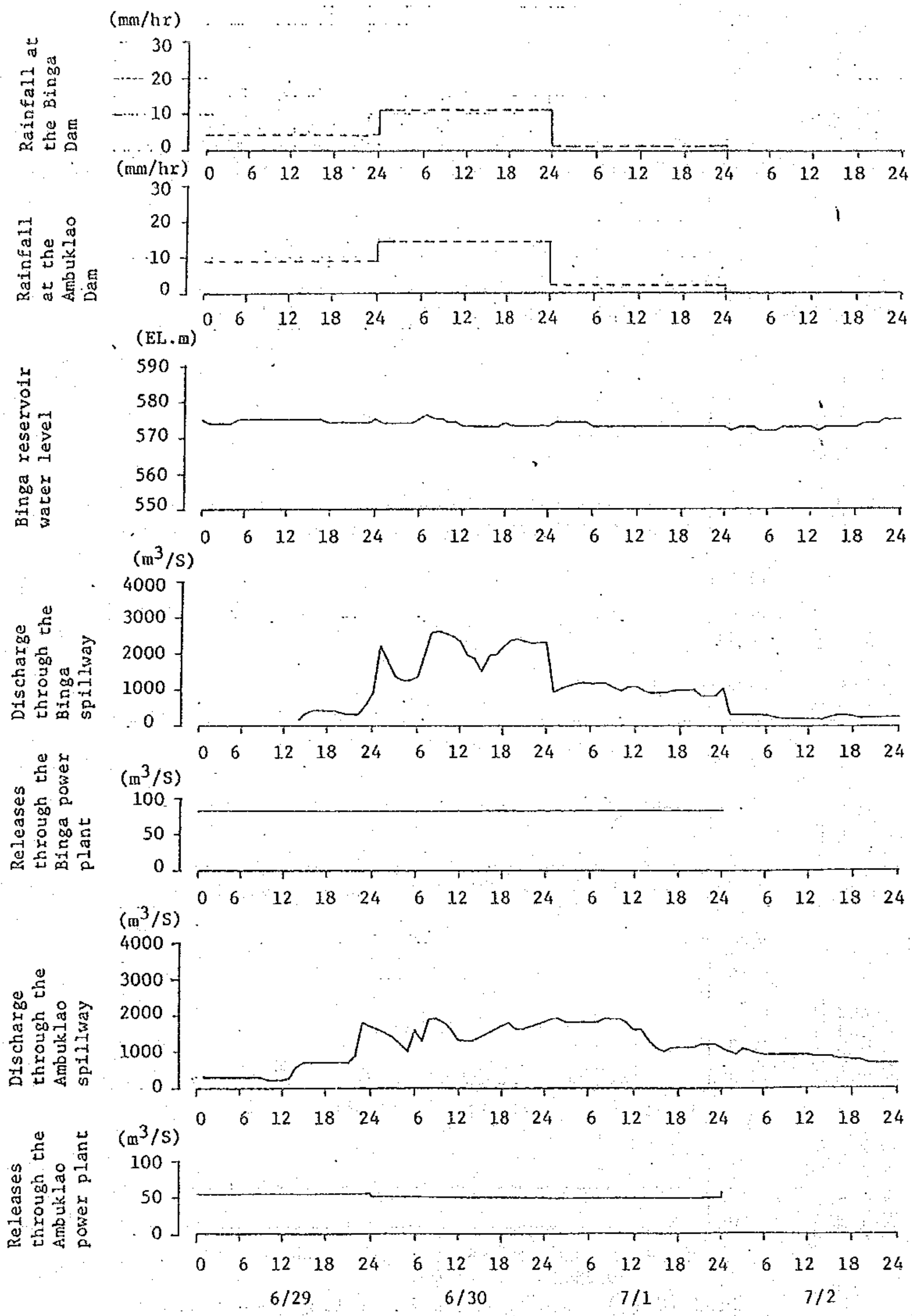


Fig.9.10 (5) Hourly Inflow to the Binga Reservoir During Typical Flood Period (June 25 - July 3, 1976)

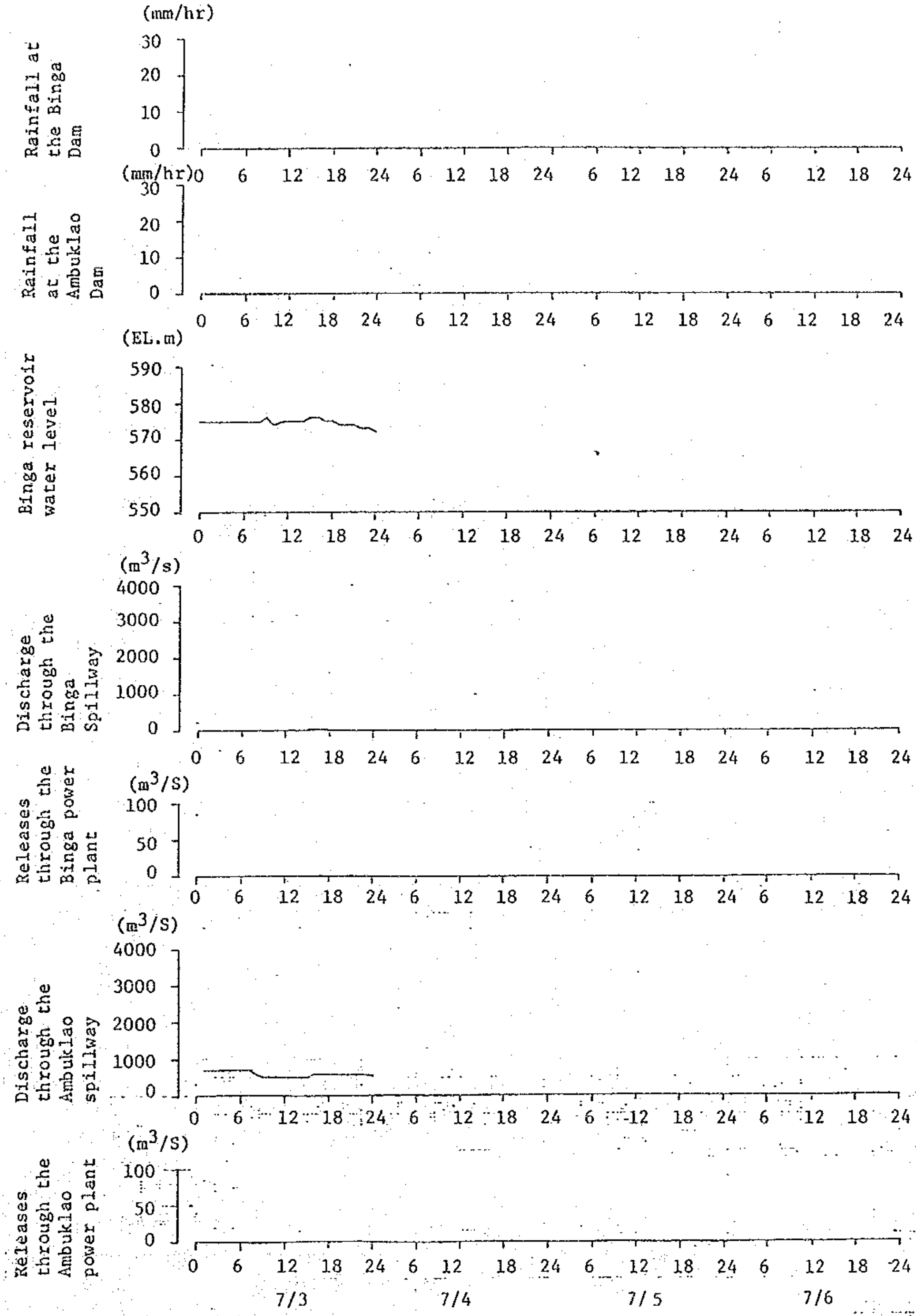


Fig.9.10 (6) Hourly Inflow to the Binga Reservoir During Typical Flood Period (June 25 - July 3, 1976)

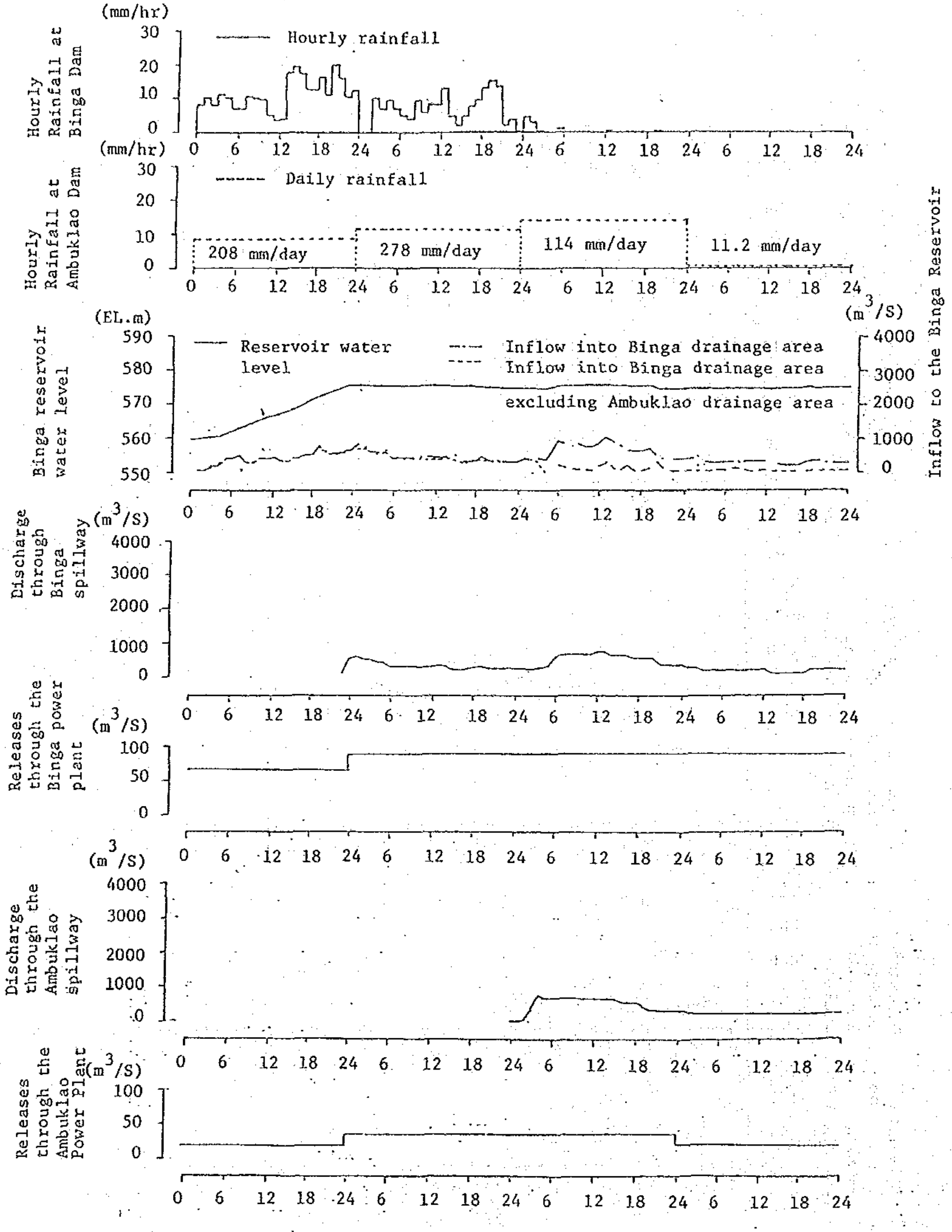


Fig.9.10 (7) Hourly Inflow to the Binga Reservoir During Typical Flood Period (July 9 - 12, 1986)

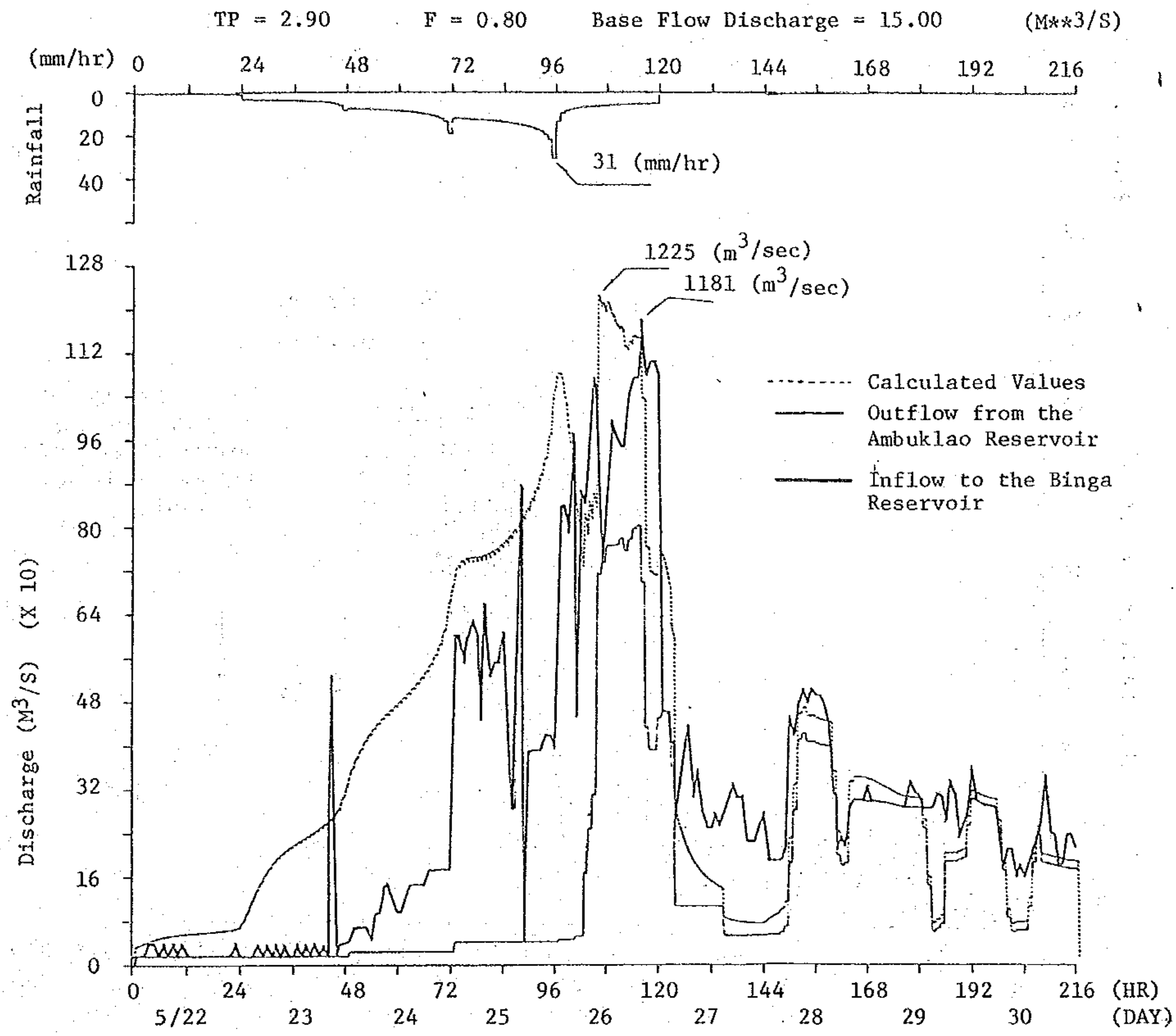


Fig. 9.11 (1) Inflow to the Binga Reservoir During Typical Flood Period (May 22 - 30, 1976)

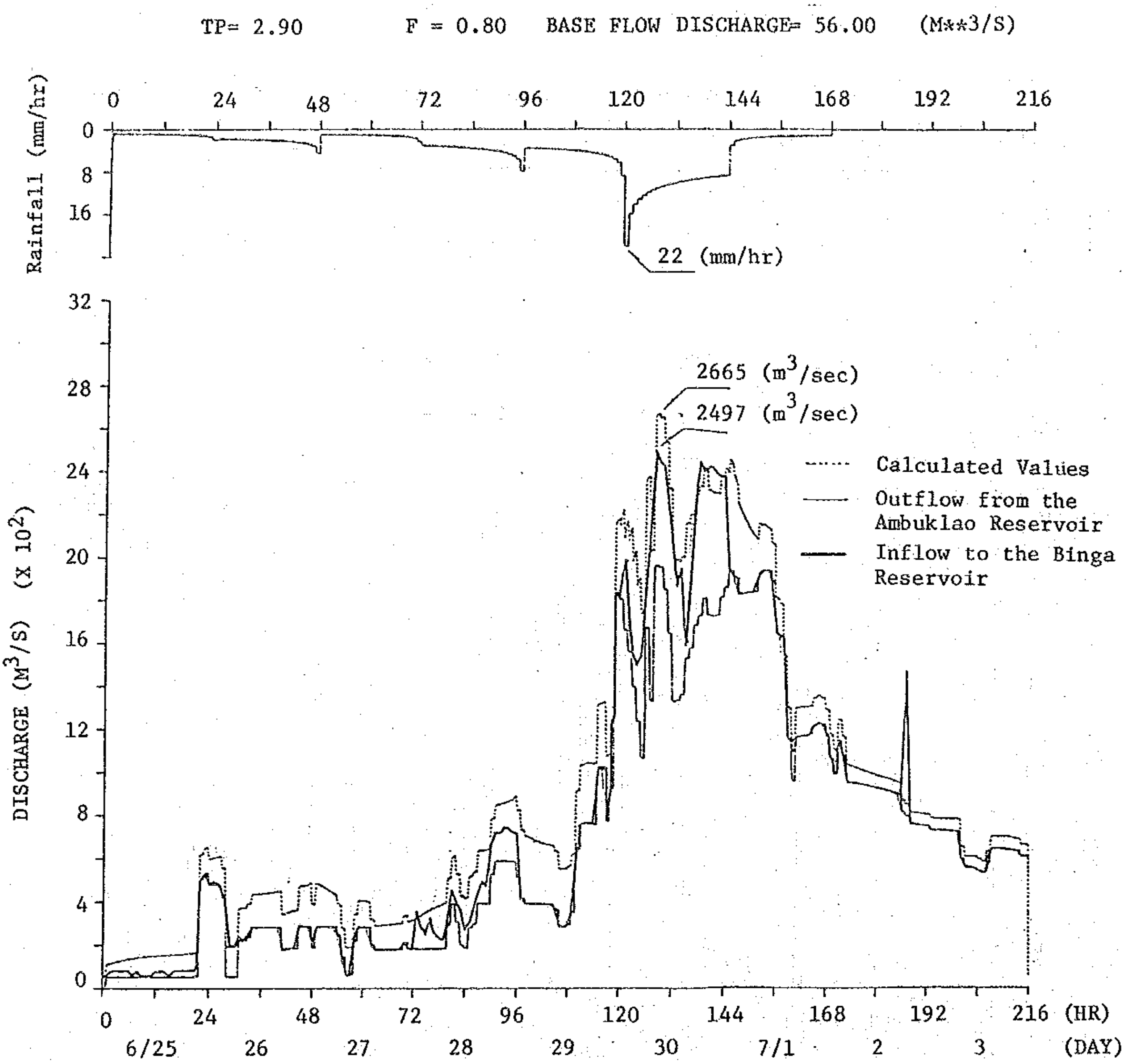


Fig. 9.11 (2) Inflow to the Binga Reservoir During Typical Flood Period (June 25 - July 3, 1976)

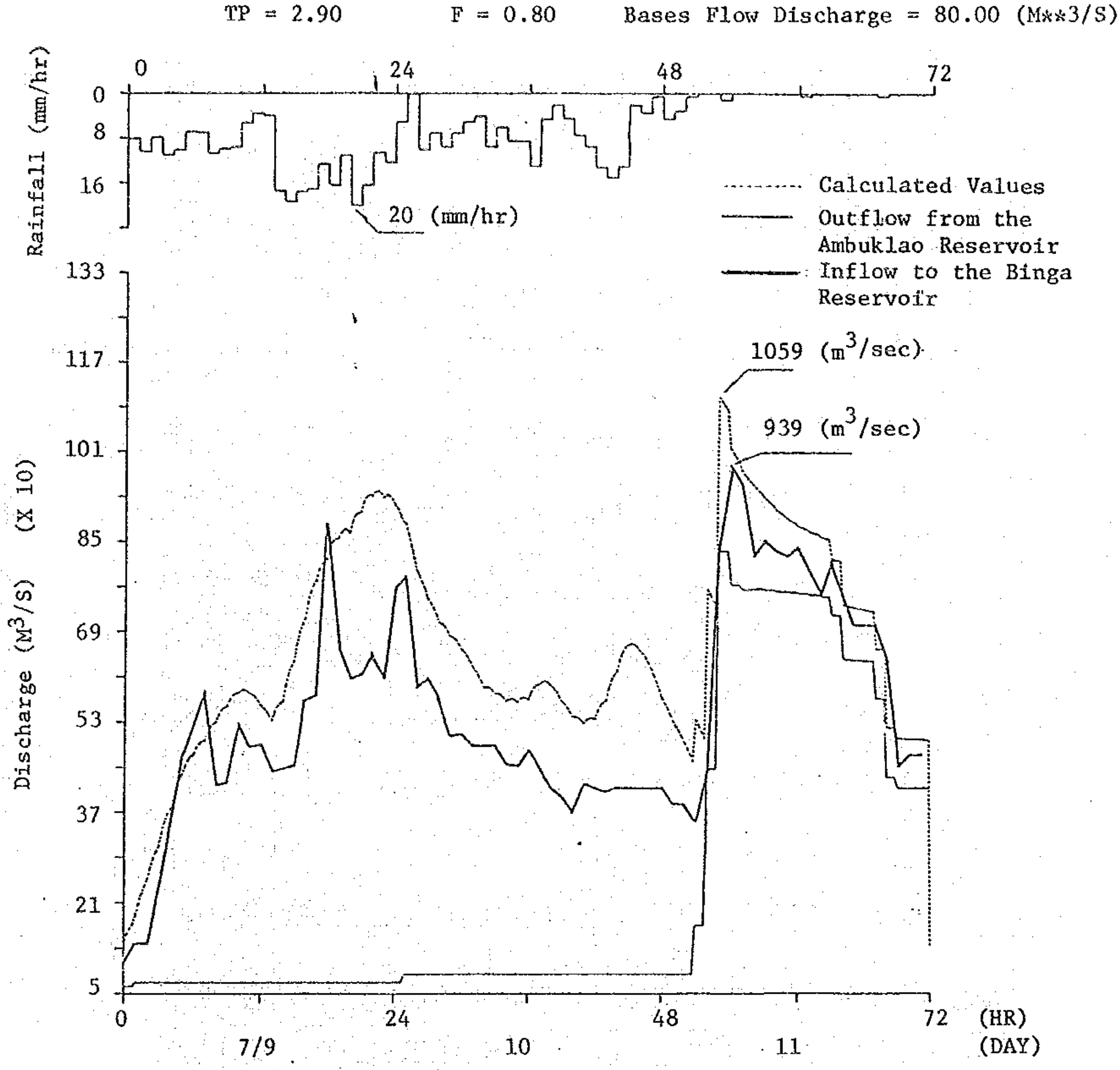


Fig. 9.11 (3) Inflow to the Binga Reservoir During Typical Flood Period (July 9 - 11, 1986)

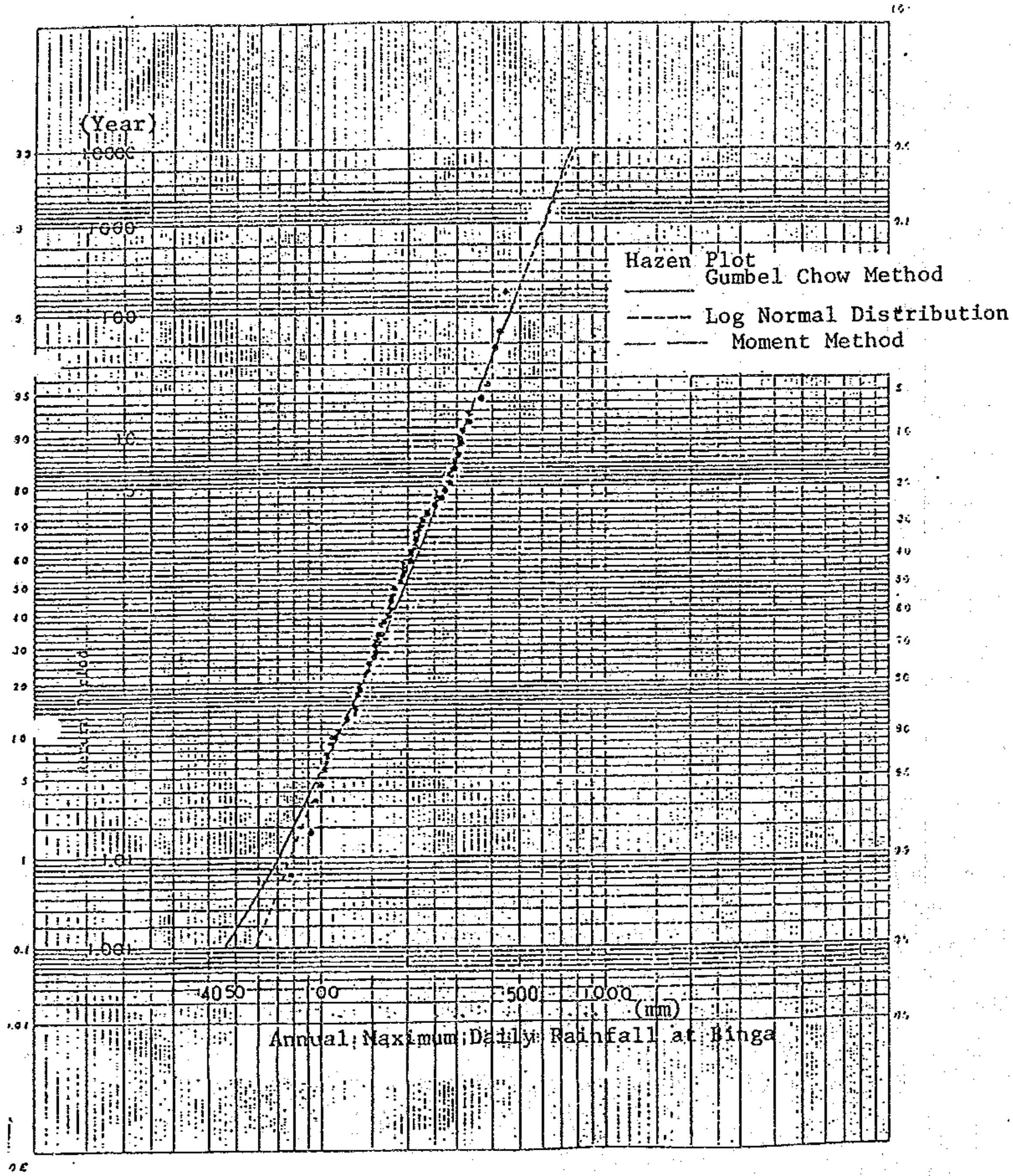


Fig. 9.12 Maximum Probable Daily Rainfall at Binga

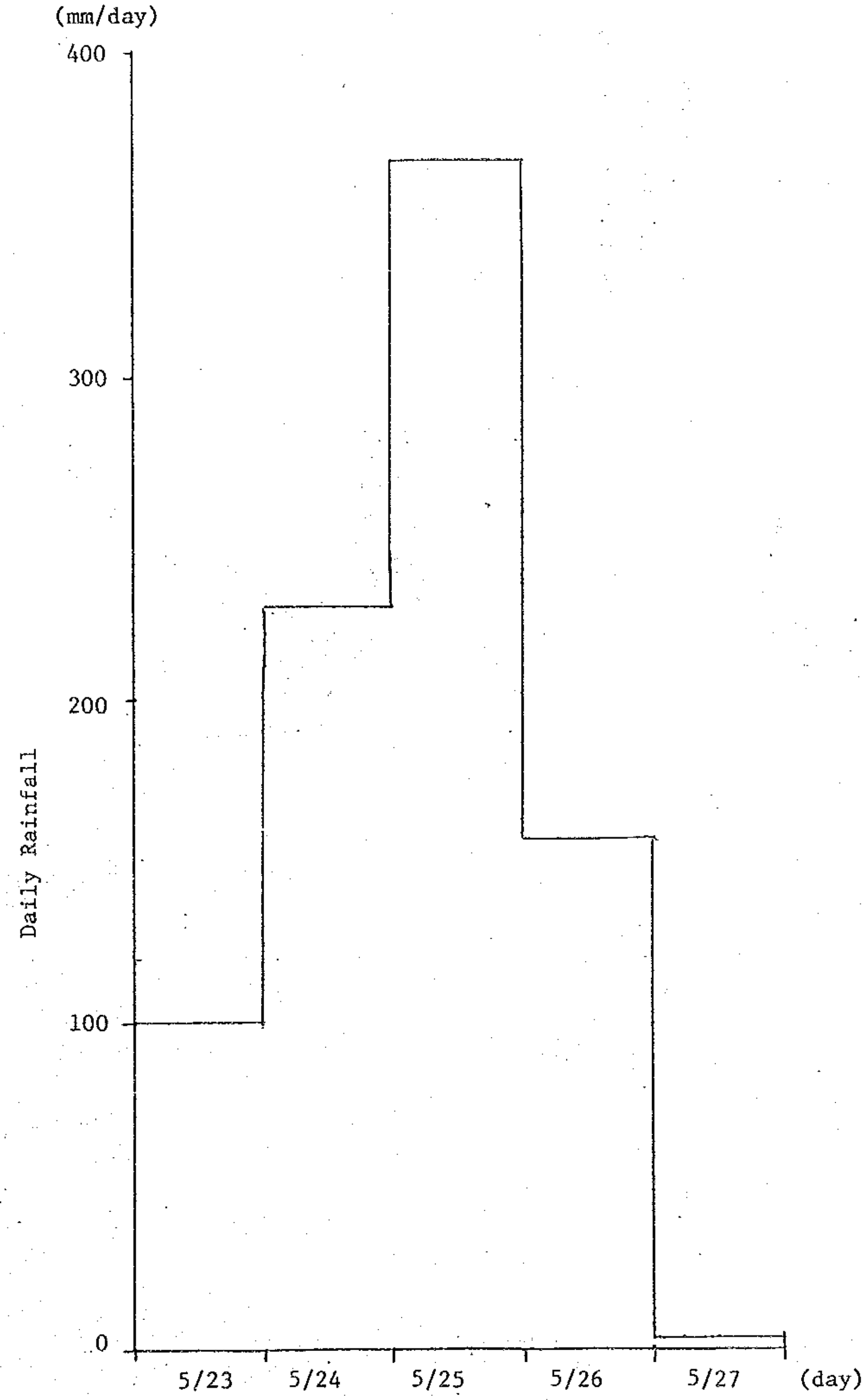


Fig. 9.13 Rainfall Pattern for the Period of May 23 to May 30, 1976

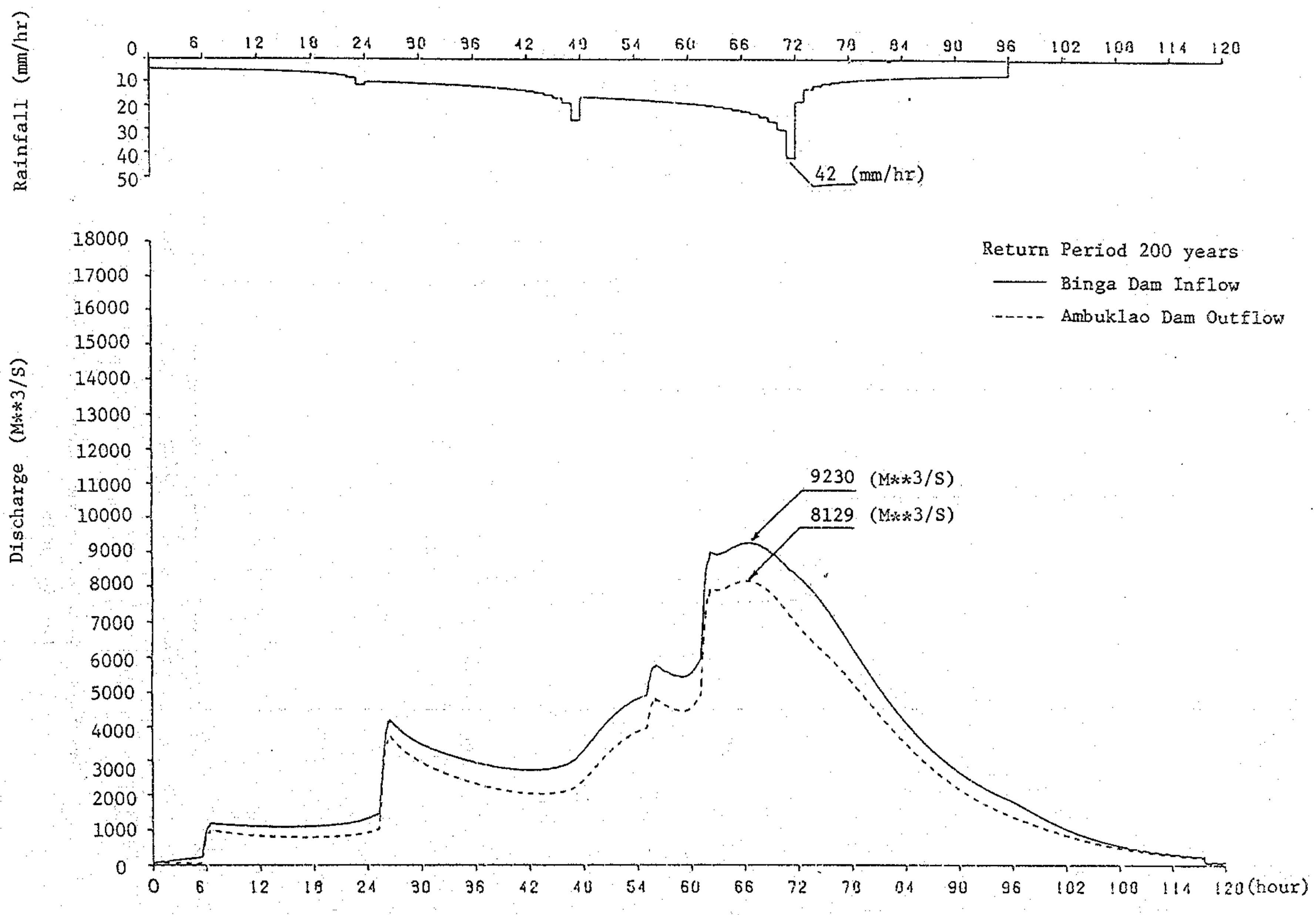


Fig. 9.14 (1) Maximum Inflow to the Binga Reservoir (200-year Return Period)

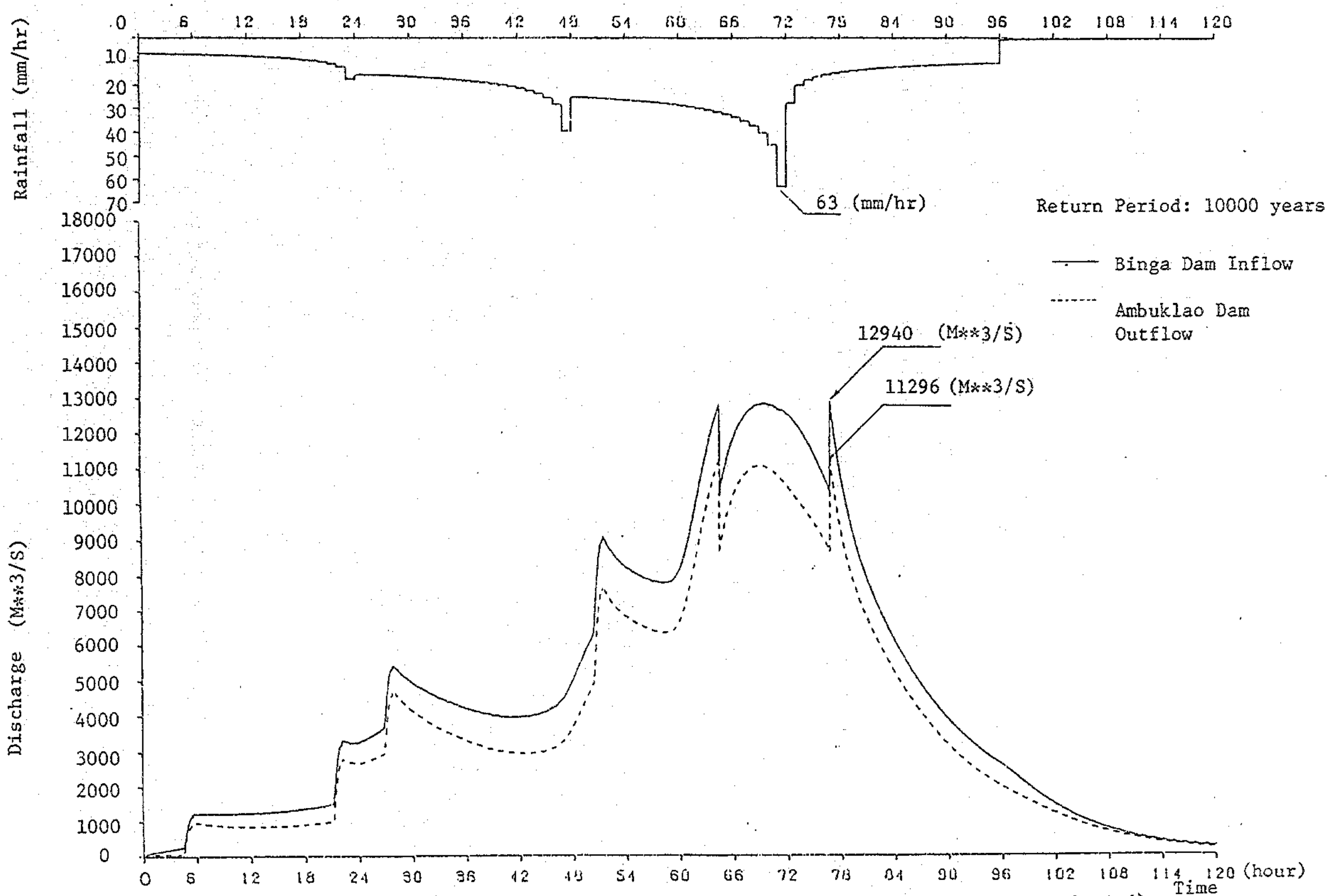


Fig. 9.14 (2) Maximum Inflow to the Binga Reservoir (10,000-year Return Period)

Unit:m

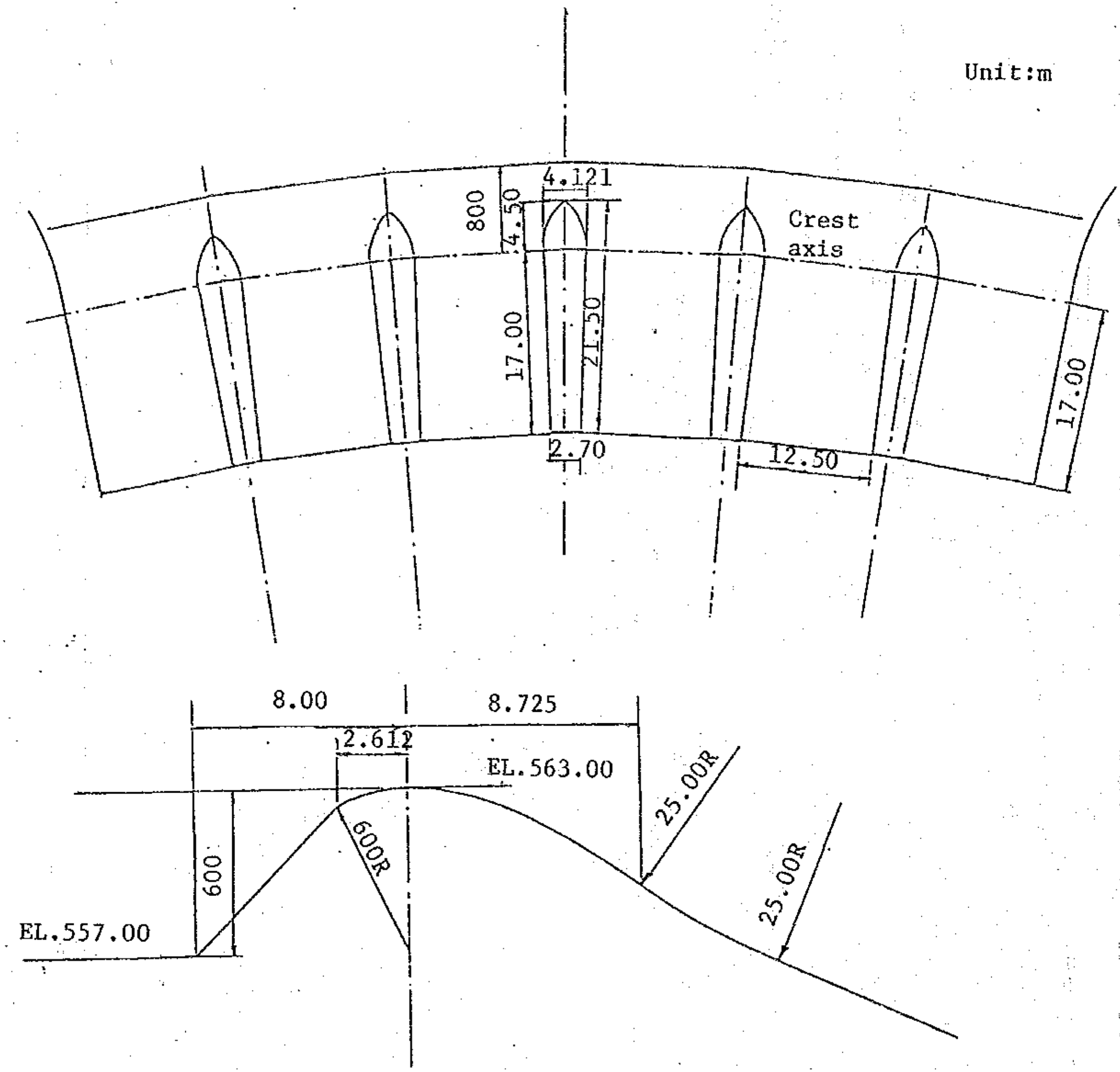


Fig. 9.15 Plan and Cross Section of Binga Spillway Crest

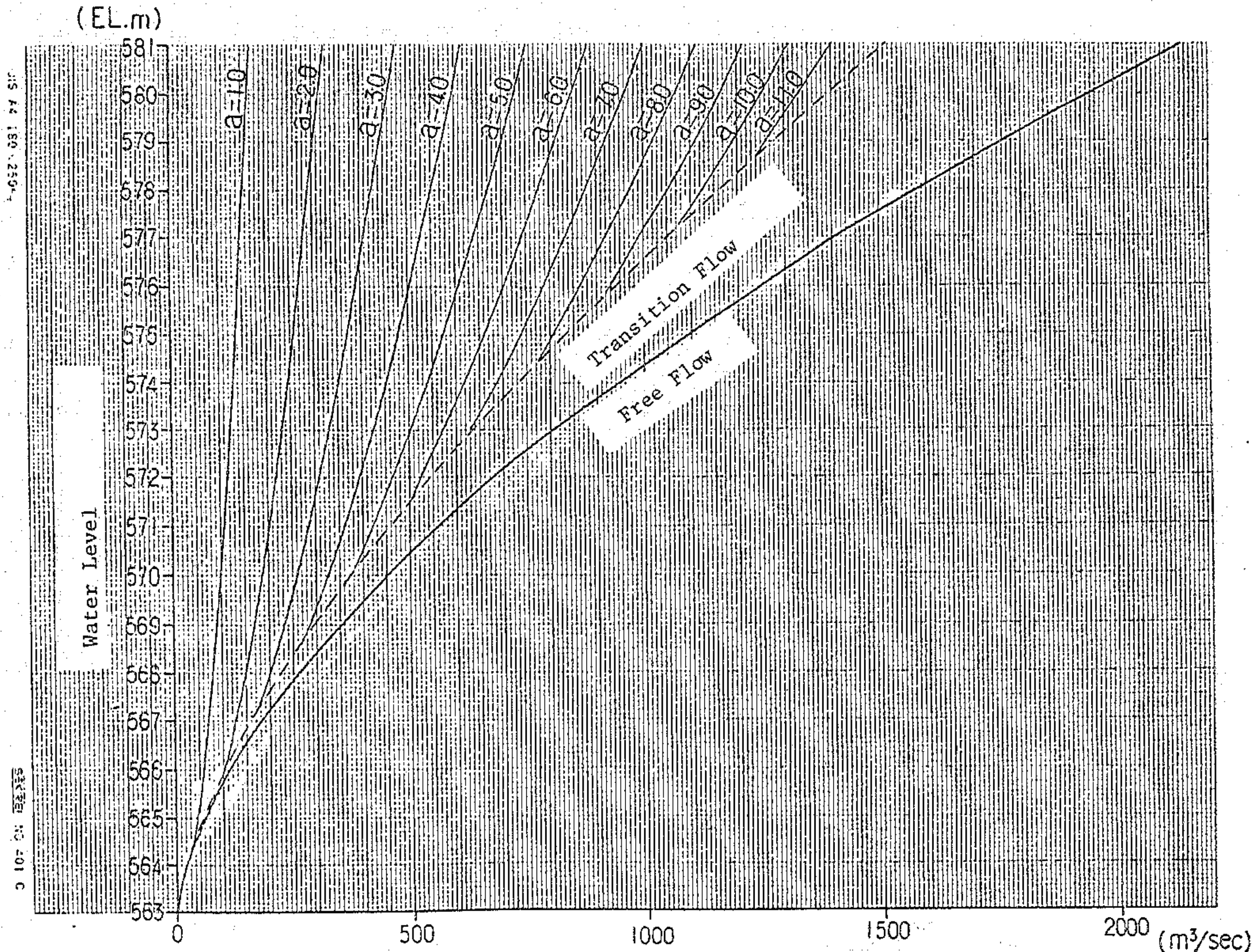
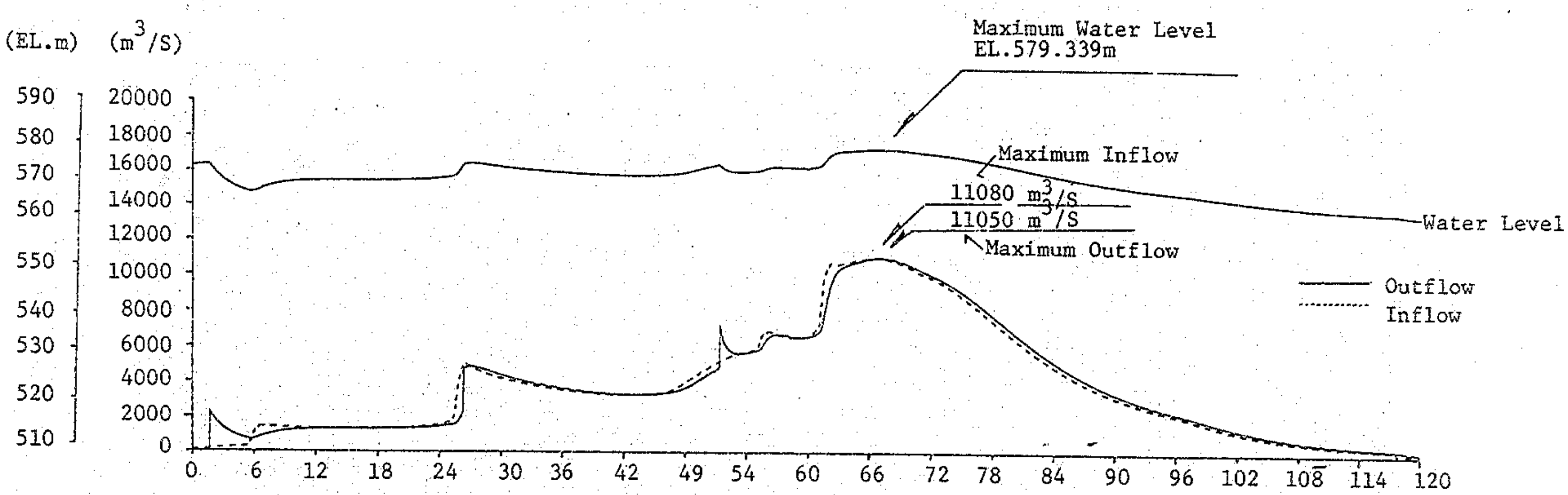


Fig. 9.16 Relation between the Discharge and the Gate Opening for Various Reservoir Water Level



Gate Operation: Type A

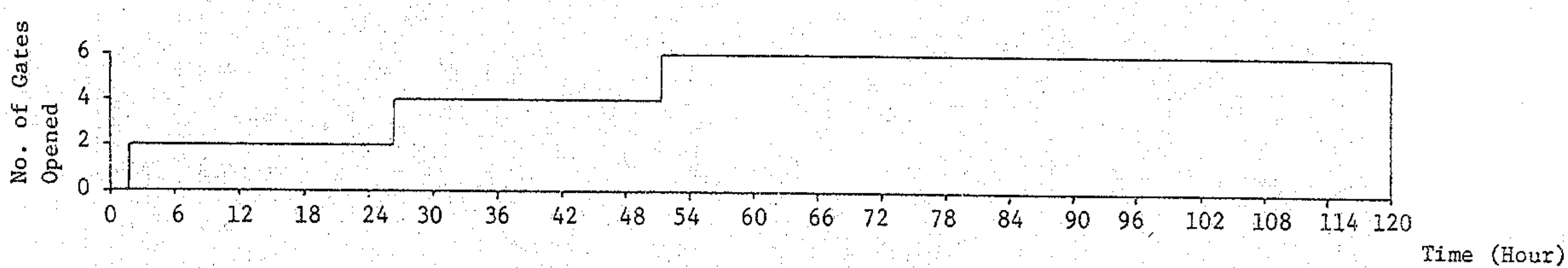


Fig. 9.17 (1) Maximum Probable Inflow (20% Over the 200-year Flood Inflow) and Reservoir Water Level by Type A Gate Operation

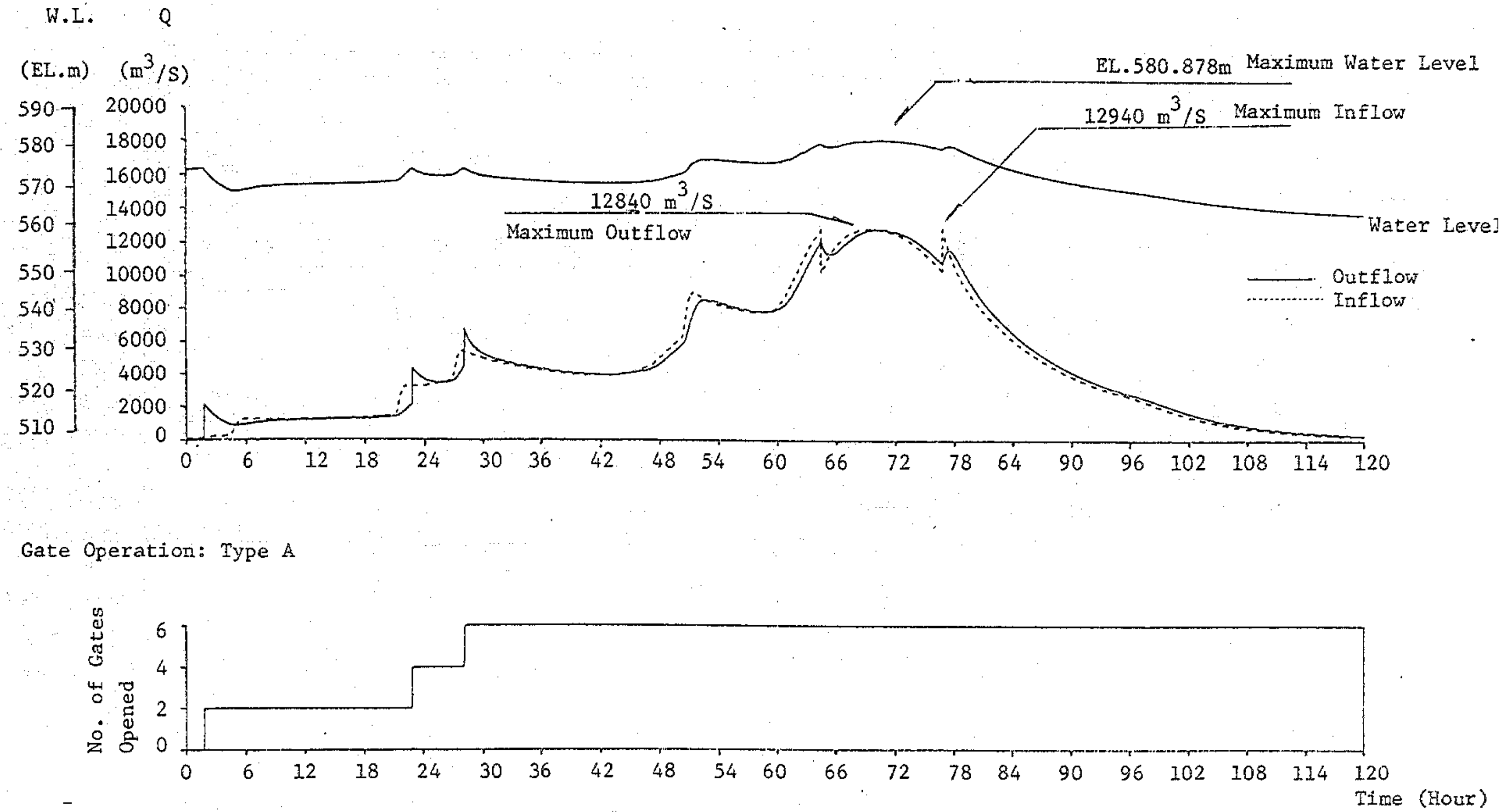


Fig. 9.17 (2) Maximum Probable Inflow (10,000-year Flood Inflow) and Reservoir Water Level by Type A gate Operation

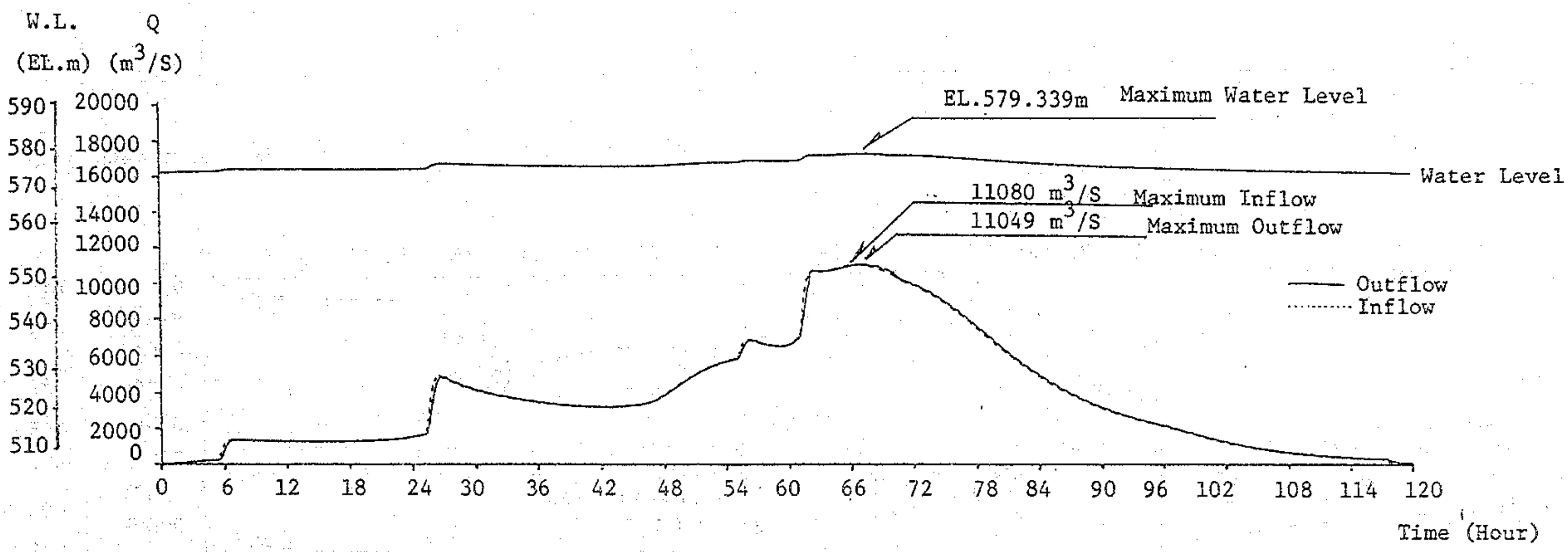


Fig. 9.17 (3) Maximum Probable Inflow (20% Over the 200-year Flood Inflow) and Reservoir Water Level by Type B Gate Operation

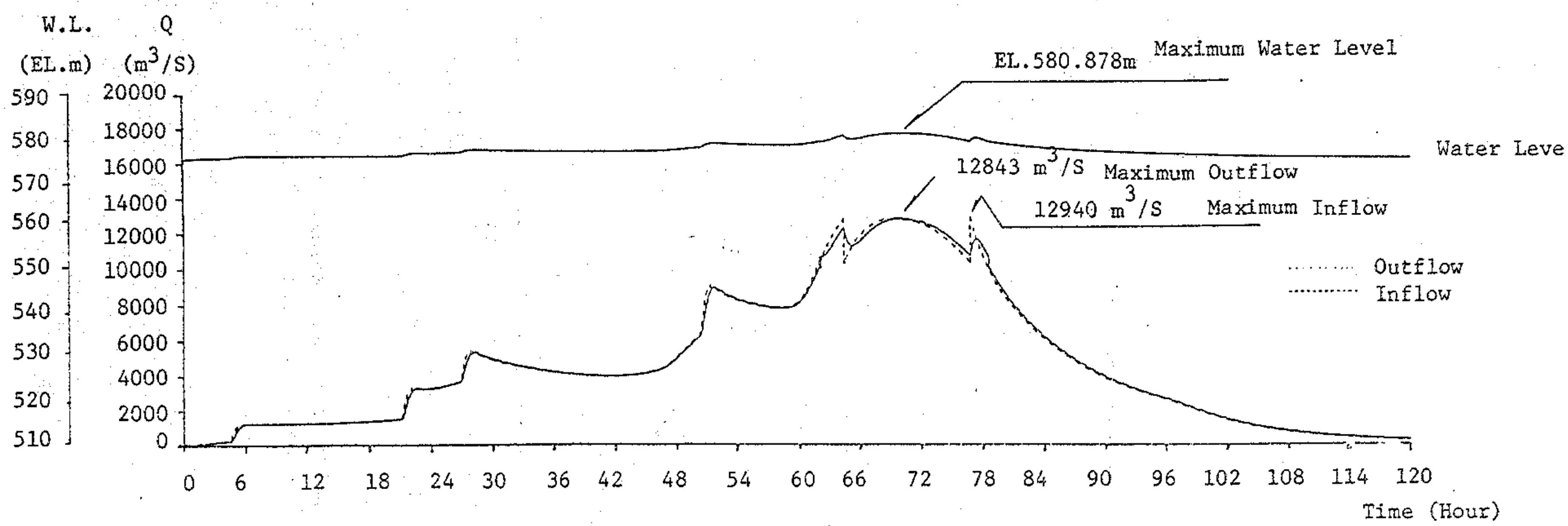


Fig. 9.17 (4) Maximum Probable Inflow (10,000-year Flood Inflow) and Reservoir Water Level by the Type B Gate Operation

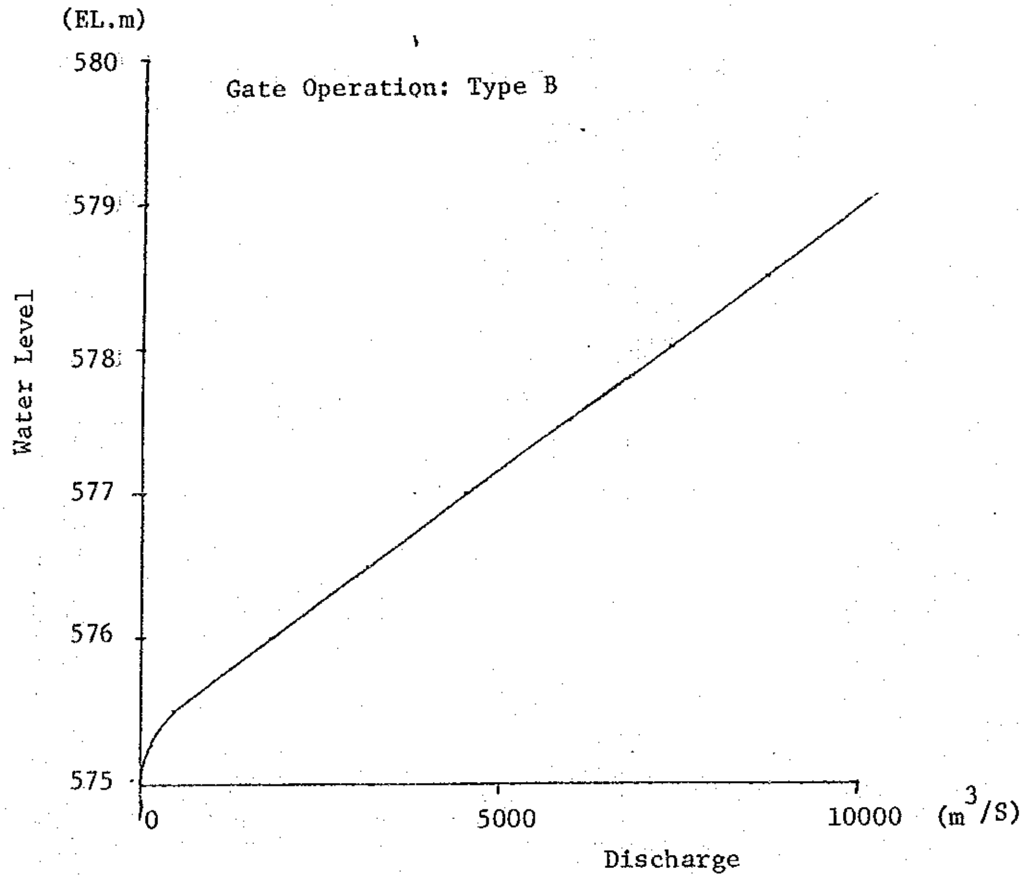


Fig. 9.18 Relation between Reservoir Water Level and Spillway Discharge

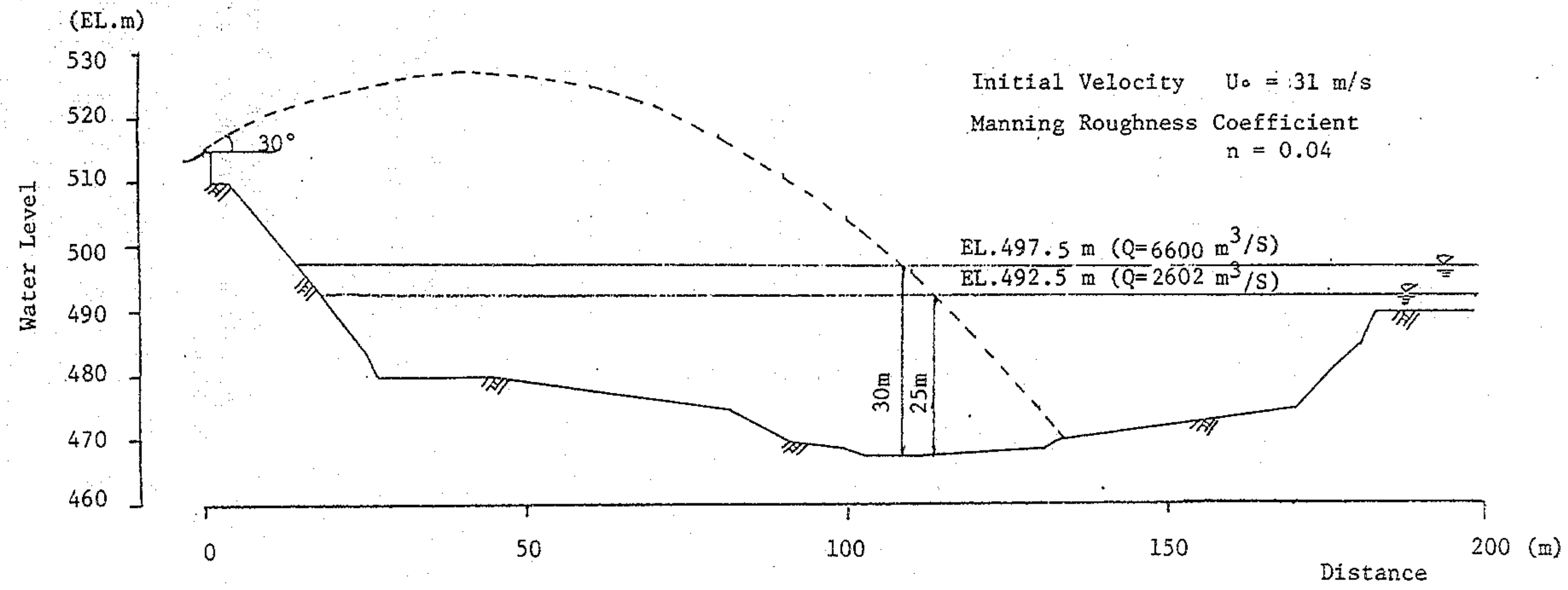


Fig. 9.19 Longitudinal Profile of the Plunge Pool (Along the Spillway Chute Center Line) and the Estimated Jet Trajectory Produced by the Spillway Flip Bucket

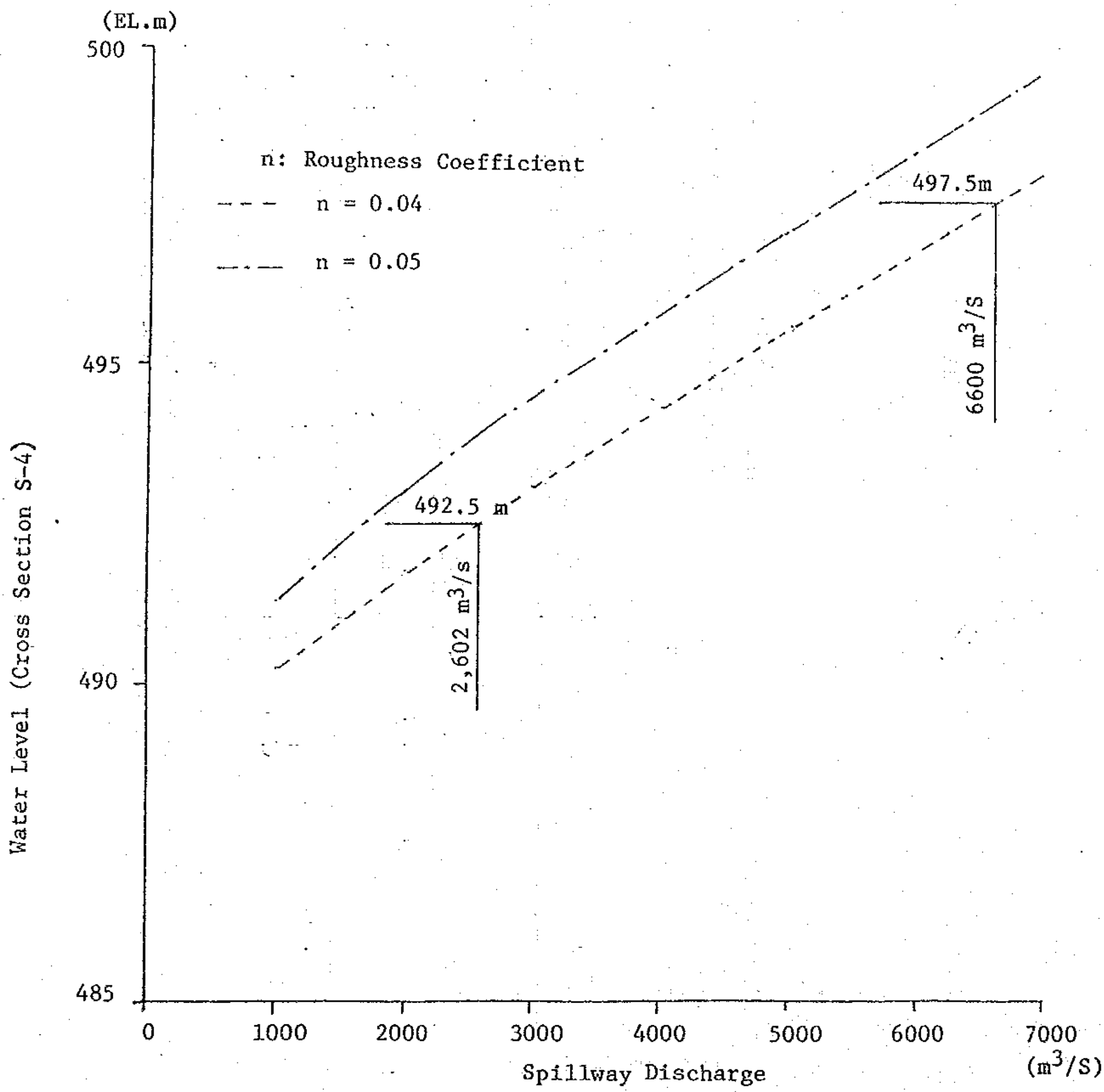


Fig. 9.20 Water Level at the Downstream End of the Plunge Pool for the Spillway Discharge of 6,600 m^3/sec and 2,602 m^3/sec

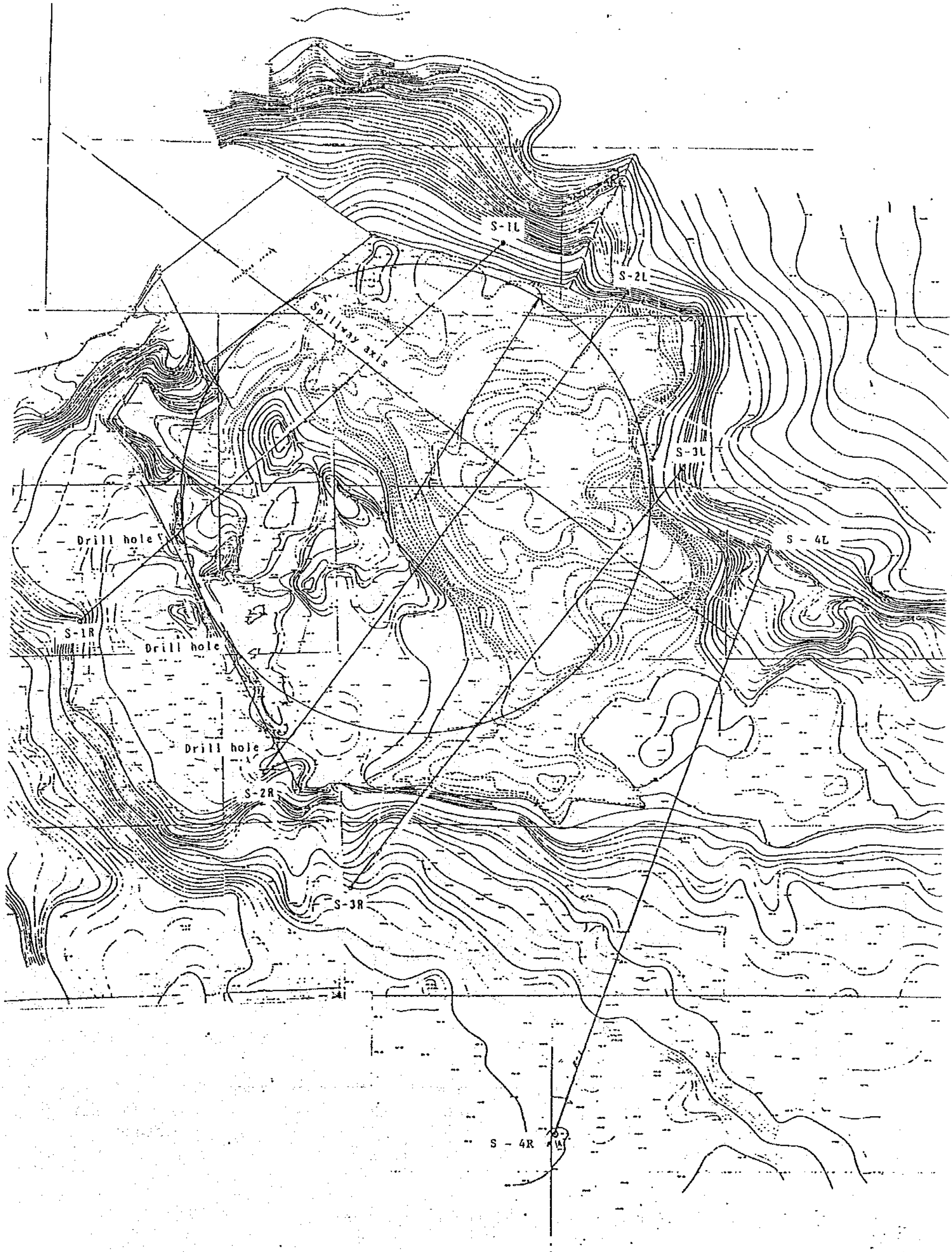


Fig. 9.21 Plan of the Plunge Pool

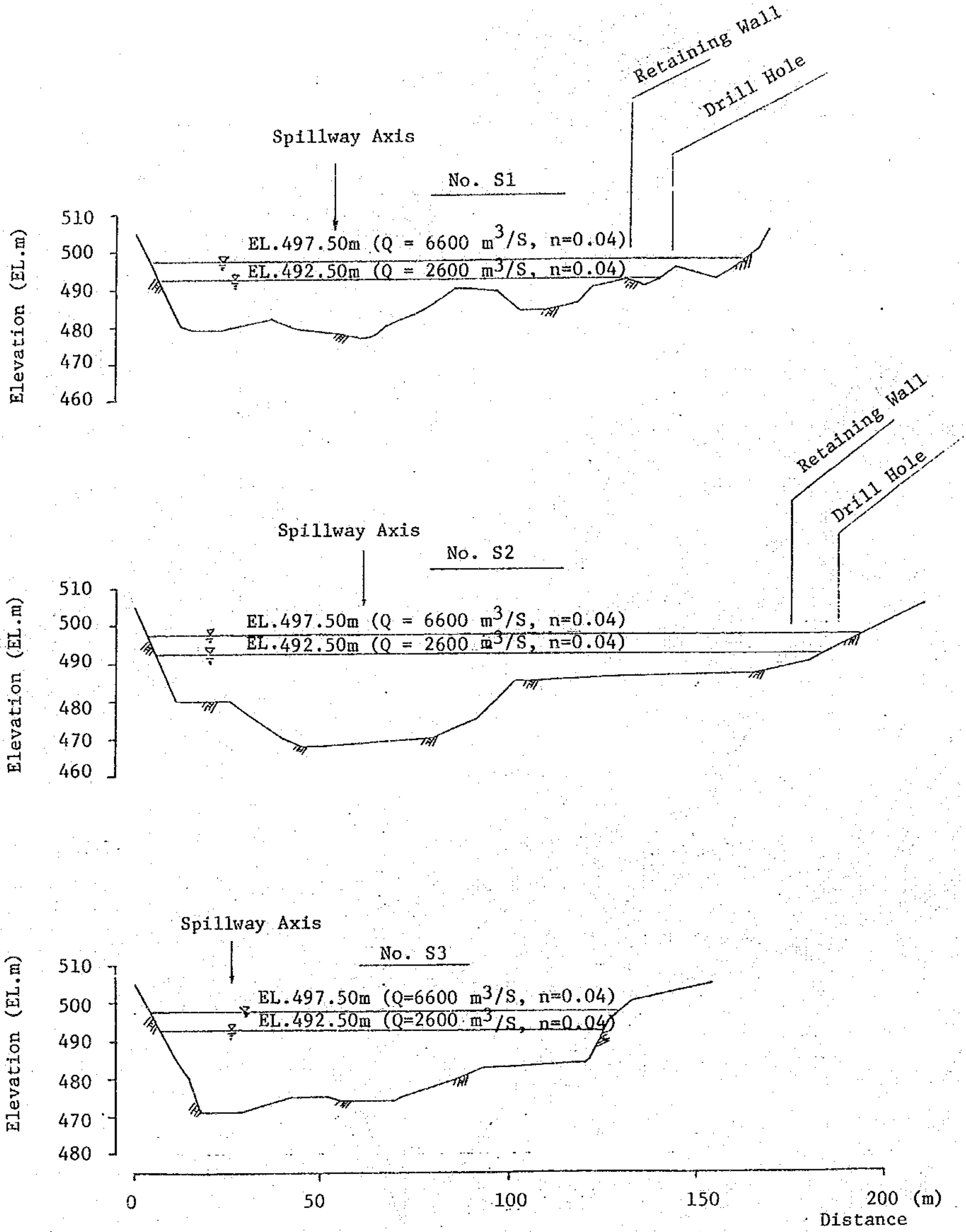


Fig. 9.22 Cross Sections of the Plunge Pool

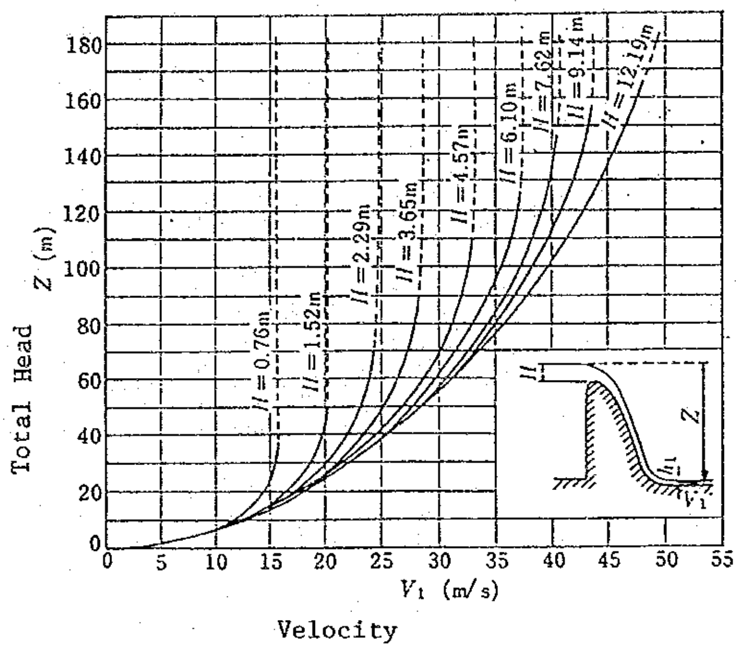


Fig. 9.23 Velocity of Flow at the Spillway Flip Bucket

Table 10.1 Specific Gravity and Unit Weight of the Sediment Materials by Sampling Location

Point No.	Specific Gravity	Unit Weight (gr/cm3)	
		Dry Loose	Dry Rodded
1.	2.755	2.034	2.179
2	2.66	1.778	1.954
3	2.755	1.986	2.144
4	2.75	2.050	2.179
5	2.74	-	-
6	2.755	-	-
7	2.70	1.826	1.922
8	2.68	1.394	-
9	2.83	0.641	-

Table 10.2 Characteristics of Cross Sections of the Binga Reservoir (1979 Survey)

Reservoir Cross Section No.	Distance between Sections (m)	Cumulative Distance (m)	Average Reservoir Bed Elevation (EL.m)	Reservoir Bed Width (m)	Side slope	Remark
0	0	0	531.831	517	3.45	
1	122	122	524.125	550	1.77	Intake
2	260	382	522.289	800	1.74	
3	200	582	524.663	690	3.31	
4	220	802	537.491	470	4.71	Sadyo River Confluence
5	130	932	524.642	580	2.10	
6	280	1212	520.730	185	1.68	
7	188	1400	524.953	320	1.98	
8	220	1620	523.743	478	1.92	
9	200	1820	523.207	240	3.42	
10	220	2040	526.937	135	1.72	
11	167	2207	525.760	58	2.06	
12	200	2407	530.329	84	1.31	
13	210	2617	534.407	90	1.29	
14	220	2837	538.072	90	2.00	
15	240	3077	556.000	168	1.20	
16	210	3287	558.161	180	3.86	
17	200	3487	559.641	200	3.26	
18	150	3637	559.712	220	2.13	
19	130	3767	560.698	180	2.62	
20	200	3967	563.958	216	0.00	
21	200	4167	564.980	232	0.00	

Table 10.2 Characteristics of Cross Sections of the Binga Reservoir

Reservoir Cross Section No.	Distance between Sections (m)	Cumulative Distance (m)	Average Reservoir Bed Elevation (EL.m)	Reservoir Bed Width (m)	Side slope	Remark
22	200	4367	557.742	50	5.36	
23	140	4507	561.293	158	1.83	
24	197	4704	562.978	300	1.25	
25	252	4956	565.337	295	3.26	
26	240	5196	565.764	280	7.31	
27	196	5392	566.745	270	4.85	
28	160	5552	566.001	160	12.78	
29	180	5732	570.248	250	12.63	
30	184	5916	569.904	220	16.87	
31	227	6143	570.939	304	0.00	
32	200	6343	572.186	240	2.13	
33	192	6535	572.016	240	7.54	
34	207	6742	572.187	120	15.64	Adonot River Confluence
35	117	6859	573.716	198	0.00	
36	187	7046	573.841	120	8.63	
37	167	7210	573.795	108	0.00	
38	212	7422	573.958	30	0.00	
39	148	7570	574.153	91	0.00	
40	200	7770	574.177	58	0.00	
41	140	7910	573.628	80	5.10	
42	156	8066	574.573	53	0.00	
43	197	8263	574.830	33	0.00	

Table 10.3 Maximum Daily Inflow and Average Daily Inflow

No.	Date	Inflow (m³/s)	
		Maximum Daily Inflow	Average Daily Inflow
1	May 26,1976	1181	949
2	June 30,1976	2497	2104
3	August 24,1978	1358	358
4	November 5,1980	2617	1313
5	August 29,1984	2499	1996
6	June 22,1985	903	484
7	July 9,1986	939	619

Table 10.4 Model Flood Inflow of the Average Year by Tributary

Duration hours (hour)	Cumulative hour (hour)	Discharge			(m^3/s)
		Sadyo river inflow (No.4)	Adonot river inflow (No.34)	Agno river inflow (No.35)	Total discharge
1	1	1.2	32.8	83.1	117.1
1	2	2.2	60.2	152.3	214.7
1	3	3.4	93.5	236.4	333.3
1	4	8.6	237.5	600.5	846.6
1	5	15.8	433.2	1095.4	1544.4
3	8	4.9	135.4	342.4	482.7
48	56	2.5	70.2	177.4	250.1
2	58	8.6	237.5	600.5	846.6
2	60	15.8	433.2	1095.4	1544.4
18	78	8.6	237.5	600.5	846.6
21	99	4.9	135.4	342.4	482.7
23	122	3.4	93.5	236.4	333.3
95	217	2.2	60.2	152.3	214.7
288	505	1.8	49.6	125.4	176.8
407	912	1.2	32.8	83.1	117.1

Table 10.5 Grain Size Distribution of the Reservoir Sediments during the Initial Period (1979)

Grain size d (mm)	Rate of each grain size		
	Reservoir Cross Section No.0~No.10	Reservoir Cross Section No.11~No.35	Inflow Sand
0.067	0.60	0.08	0.50
0.105	0.40	0.41	0.30
0.210	0.0	0.32	0.10
0.419	0.0	0.17	0.06
0.838	0.0	0.02	0.02
3.89	0.0	0.0	0.02
Total	1.0	1.0	1.0

Table 10.6 Change in the Reservoir Storage Capacity to be Affected by the Anticipated Sedimentation

Water level (EL.m)	Reservoir capacity (×10⁶ m³)									
	1979	1986	1990	1995	2000	2005	2010	2015	2020	2022
575	75.13	60.83	55.00	48.12	41.56	35.14	28.65	22.45	17.64	16.05
570	61.97	47.55	41.81	35.16	28.89	23.07	17.48	12.24	7.96	6.61
565	51.20	36.71	31.76	25.76	20.09	15.21	10.34	5.36	1.65	0.48
560	42.55	28.55	24.24	18.74	14.44	10.36	5.83	2.24	0.00	(EL.563m) 0.00
555	35.33	21.90	17.97	13.48	9.62	5.97	2.07	0.27		
550	28.62	16.05	12.64	8.72	5.23	2.16	0.13	(EL.552m) 0.00		
545	22.20	10.71	7.79	4.35	1.66	0.07	(EL.548m) 0.00			
540	16.10	5.83	3.49	0.99	0.01	(EL.544m) 0.00				
535	10.45	1.89	0.54	0.00	(EL.539m) 0.00					
530	5.44	0.02	(EL.532m) 0.00							
525	1.37									
520	0.03									
516	0.00									
Remark	Actual		Forcasted							

Table 10.7 (1) Main Characteristics of Each Cross Section of the Binga Reservoir (1986 Survey)

Reservoir Cross Section No.	Distance between Sections (m)	Cumulative Distance (m)	Average (EL.m) Reservoir Sediment Elevation	Reservoir Bed Width (m)	Side slope	Remark
0	0	0	538.370	476	4.44	Binga Intake
1	122	122	528.453	400	3.38	
2	260	382	531.182	760	2.40	
3	200	582	533.099	780	2.98	
4	220	802	539.743	400	6.03	Sadyo River Confluence
5	130	932	529.170	530	2.65	
6	280	1212	533.754	250	1.52	
7	188	1400	534.826	390	1.43	
8	220	1620	538.152	500	2.51	
9	200	1820	528.460	100	5.29	
10	220	2040	553.617	210	2.34	
11	167	2207	557.243	210	1.27	
12	200	2407	560.723	250	1.47	
13	210	2617	558.105	110	2.49	
14	220	2837	559.279	160	2.39	
15	240	3077	557.024	70	4.03	
16	210	3287	557.335	40	5.83	
17	200	3487	560.144	220	2.76	
18	150	3637	559.098	160	4.09	
19	130	3767	564.239	210	1.63	
20	200	3967	563.878	160	2.47	
21	200	4167	561.909	130	3.82	

Table 10.7 (2) Main Characteristics of Each Cross Section of the Binga Reservoir (1986 Survey)

Reservoir Cross Section No.	Distance between Sections (m)	Cumulative Distance (m)	Average (EL.m) Reservoir Sediment Elevation	Reservoir Bed Width (m)	Side slope	Remark
22	200	4367	564.300	190	2.34	
23	140	4507	564.155	150	2.40	
24	197	4704	564.799	240	4.22	
25	252	4956	566.700	310	1.45	
26	240	5196	565.514	299	5.00	
27	196	5392	567.319	250	6.38	
28	160	5552	568.352	270	7.90	
29	180	5732	569.845	220	11.93	
30	184	5916	568.654	220	14.71	
31	227	6143	568.947	305	0.00	
32	200	6343	570.000	287	0.00	
33	192	6535	571.872	280	0.00	
34	207	6742	572.773	316	0.00	Adonot River
35	117	6859	573.003	286	0.00	Confluence

Table 10.8 (1) Main Characteristics of Each Cross Section of the Binga Reservoir and its Upstream Reaches (1986 and 1987 Surveys)

Reservoir Cross Section No.	Distance between Sections (m)	Cumulative Distance (m)	Average (EL.m) Reservoir Sediment Elevation	Reservoir Bed Width (m)	Side slope	Remark
0	0	0	538.370	476	4.44	
1	122	122	528.453	400	3.38	
2	260	382	531.182	760	2.40	
3	200	582	533.099	780	2.98	
4	220	802	539.743	400	6.03	Sadyo River Confluence
5	130	932	529.170	530	2.65	
6	280	1212	533.754	250	1.52	
7	188	1400	534.826	390	1.43	
8	220	1620	538.152	500	2.51	
9	200	1820	528.460	100	5.29	
10	220	2040	553.617	210	2.34	
11	167	2207	557.243	210	1.27	
12	200	2407	560.723	250	1.47	
13	210	2617	558.105	110	2.49	
14	220	2837	559.279	160	2.39	
15	240	3077	557.024	70	4.03	
16	210	3287	557.335	90	5.83	
17	200	3487	560.144	220	2.76	
18	150	3637	559.098	160	4.09	
19	130	3767	564.239	210	1.63	
20	200	3967	563.878	160	2.47	
21	200	4167	561.909	130	3.82	

Table 10.8 (2) Main Characteristics of Each Cross Section of the Binga Reservoir and its Upstream Reaches (1986 and 1987 Surveys)

Reservoir Cross Section No.	Distance between Sections (m)	Cumulative Distance (m)	Average Reservoir Sediment Elevation (EL.m)	Reservoir Bed Width (m)	Side slope	Remark
22	200	4367	564.300	190	2.34	1986 Survey
23	140	4507	564.155	150	2.40	
24	197	4704	564.799	240	4.22	
25	252	4956	566.700	310	1.45	
26	240	5196	565.514	299	5.00	
27	196	5392	567.319	250	6.38	
28	160	5552	568.352	270	7.90	
29	180	5732	569.845	220	11.93	
30	184	5916	568.654	220	14.71	
T-1	107	6023	571.668	200	0.0	1987 Survey
T-2	135	6158	573.284	237	0.0	
T-3	135	6293	574.008	327	0.0	
T-4	90	6383	574.480	298	0.0	
T-5	110	6493	575.166	315	0.0	
T-6	70	6563	575.851	348	0.0	
T-7	80	6643	575.429	273	0.0	
T-8	100	6743	574.740	205	0.0	Adonot River Confluence
T-9	90	6833	574.659	149	0.0	
T-10	90	6923	577.493	177	0.0	
T-11	230	7153	576.202	319	0.0	
T-12	145	7298	576.081	266	0.0	
T-13	80	7378	576.010	227	0.0	

Table 10.8 (3) Main Characteristics of Each Cross Section of the Binga Reservoir and its Upstream Reaches (1986 and 1987 Surveys)

Reservoir Cross Section No.	Distance between Sections (m)	Cumulative Distance (m)	Average (EL.m) Reservoir Sediment Elevation	Reservoir Bed Width (m)	Side slope	Remark
T-14	110	7488	576.447	201	0.0	
T-15	105	7593	576.991	263	0.0	
T-16	105	7698	577.946	304	0.0	
T-17	120	7818	578.967	351	0.0	
T-18	120	7938	577.770	209	0.0	
T-19	100	8038	577.946	178	0.0	
T-20	90	8128	578.264	136	0.0	
T-21	110	8238	578.396	168	0.0	
T-22	115	8353	578.069	154	0.0	
T-23	200	8553	578.369	128	0.0	
T-24	135	8688	578.540	125	0.0	
T-25	120	8808	578.176	120	0.0	
T-26	110	8918	580.103	116	0.0	
T-27	170	9088	580.633	109	0.0	Ambuklao
T-28	200	9288	581.257	102	0.0	Tailrace Outlet
T-29	250	9538	580.389	92	0.0	
T-30	270	9808	580.969	87	0.0	
T-31	185	9993	582.006	73	0.0	

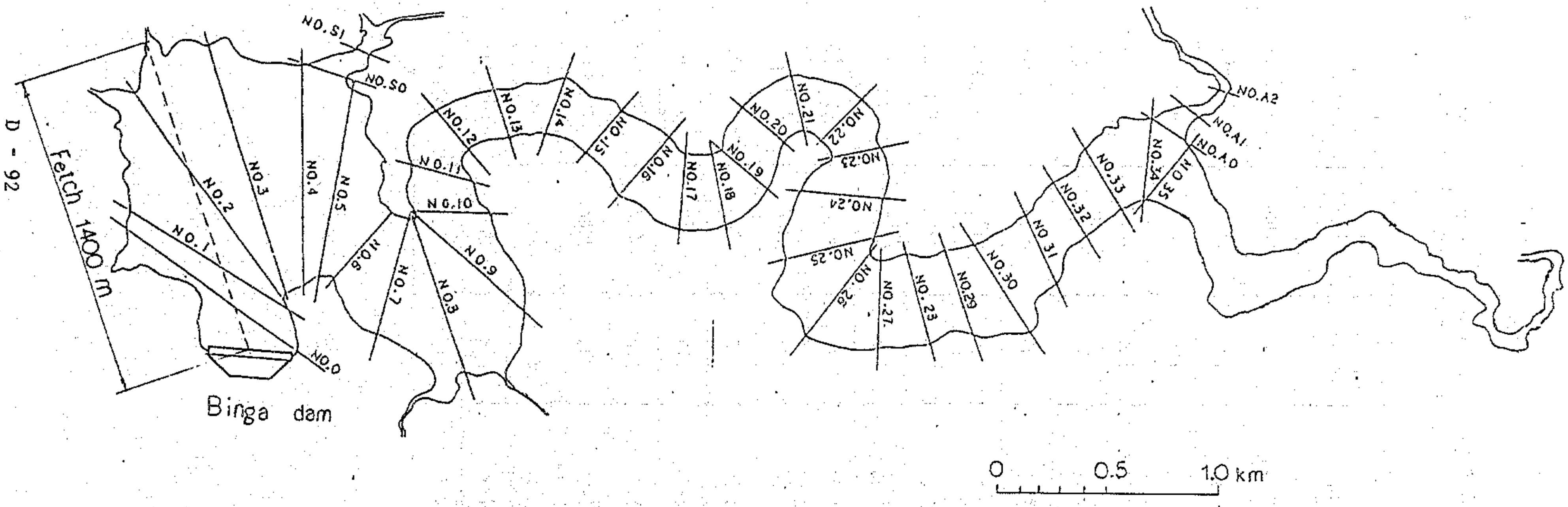


Fig. 10.1 Measurement Lines of Cross Sections of the Binga Reservoir

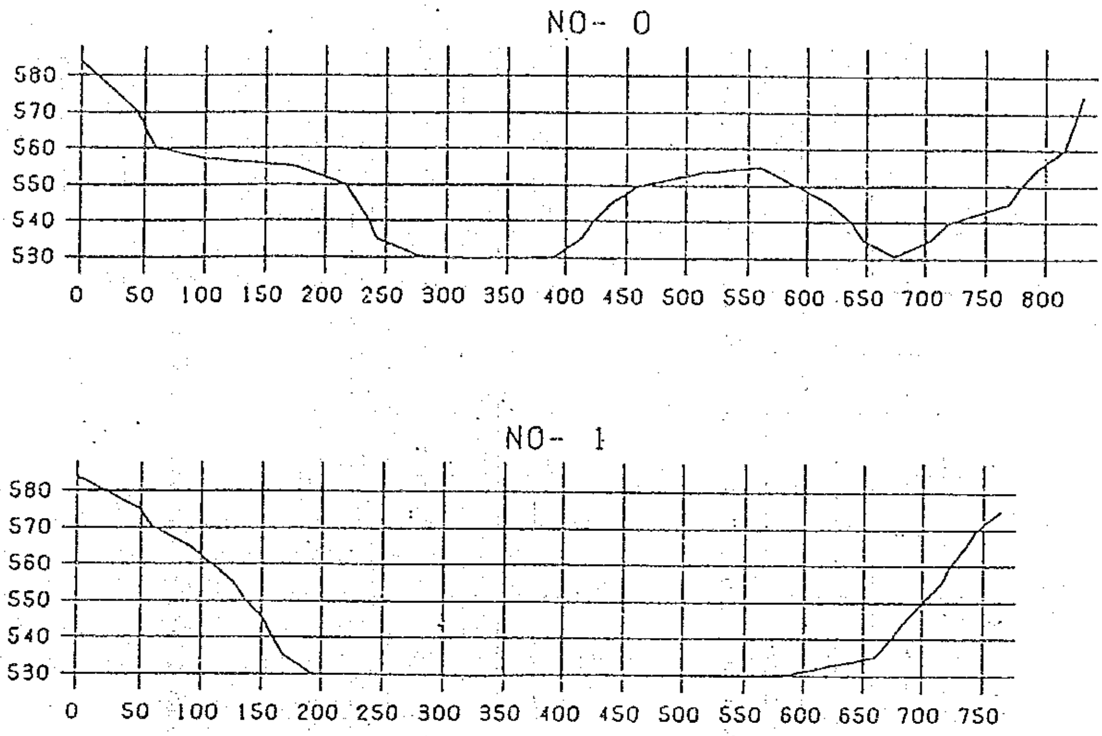


Fig. 10.2 (1) Cross Section of the Binga Reservoir
(1986 Survey)

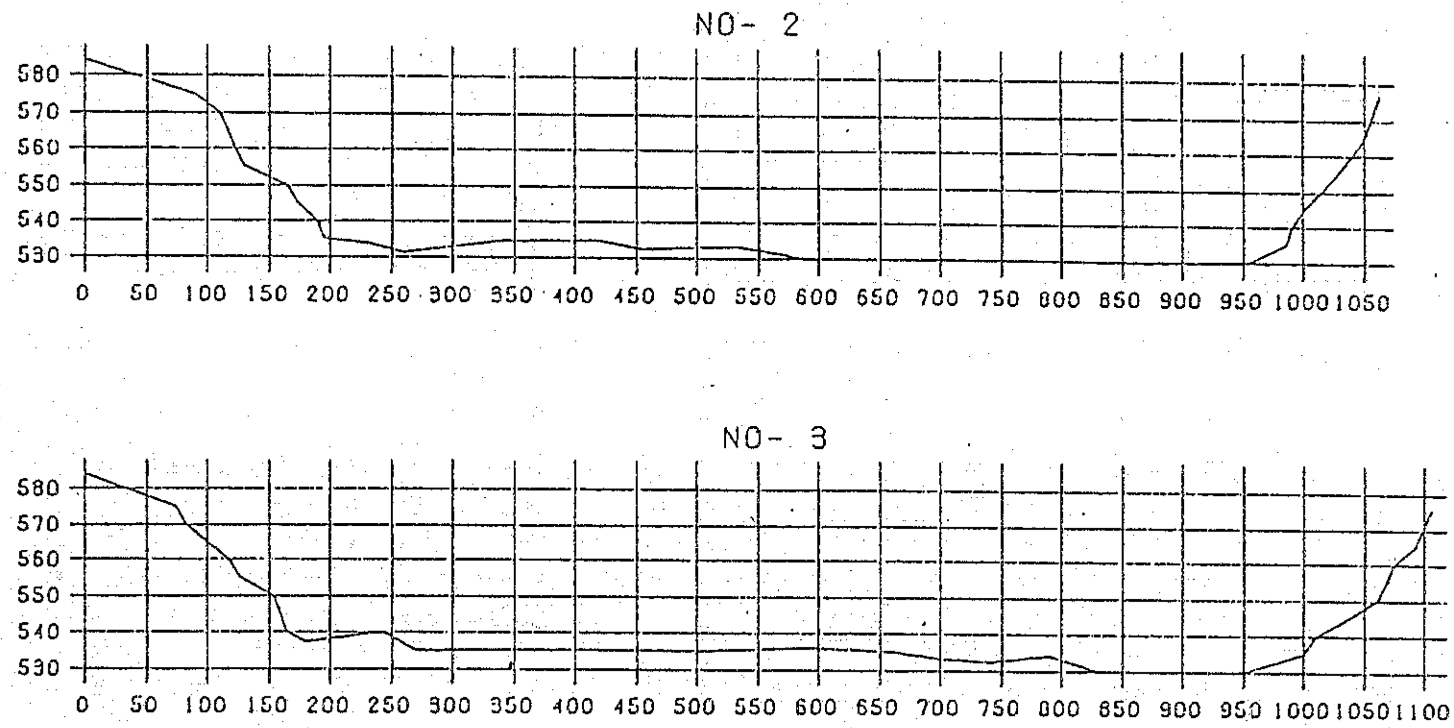
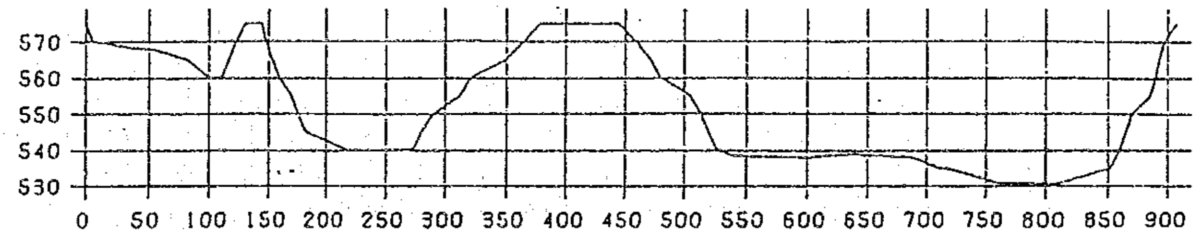


Fig. 10.2 (2) Cross Sections of the Binga Reservoir (1986 Survey)

NO- 4



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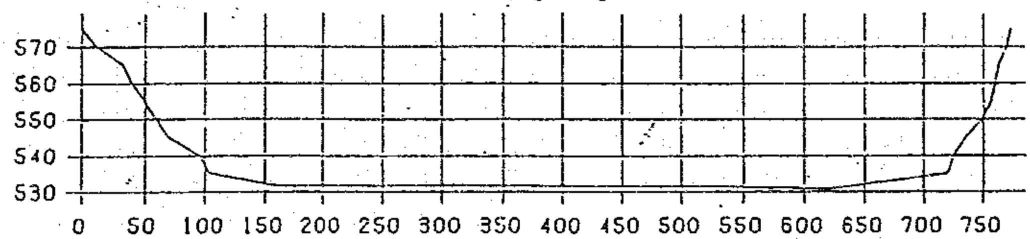

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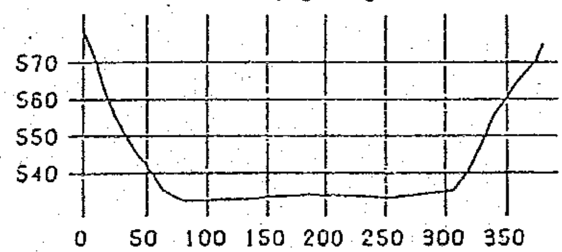

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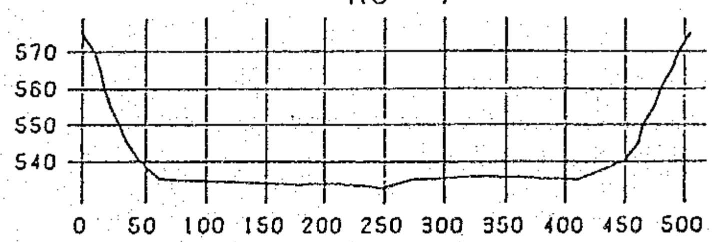


Fig. 10.2 (3) Cross Sections of the Binga Reservoir (1986 Survey)

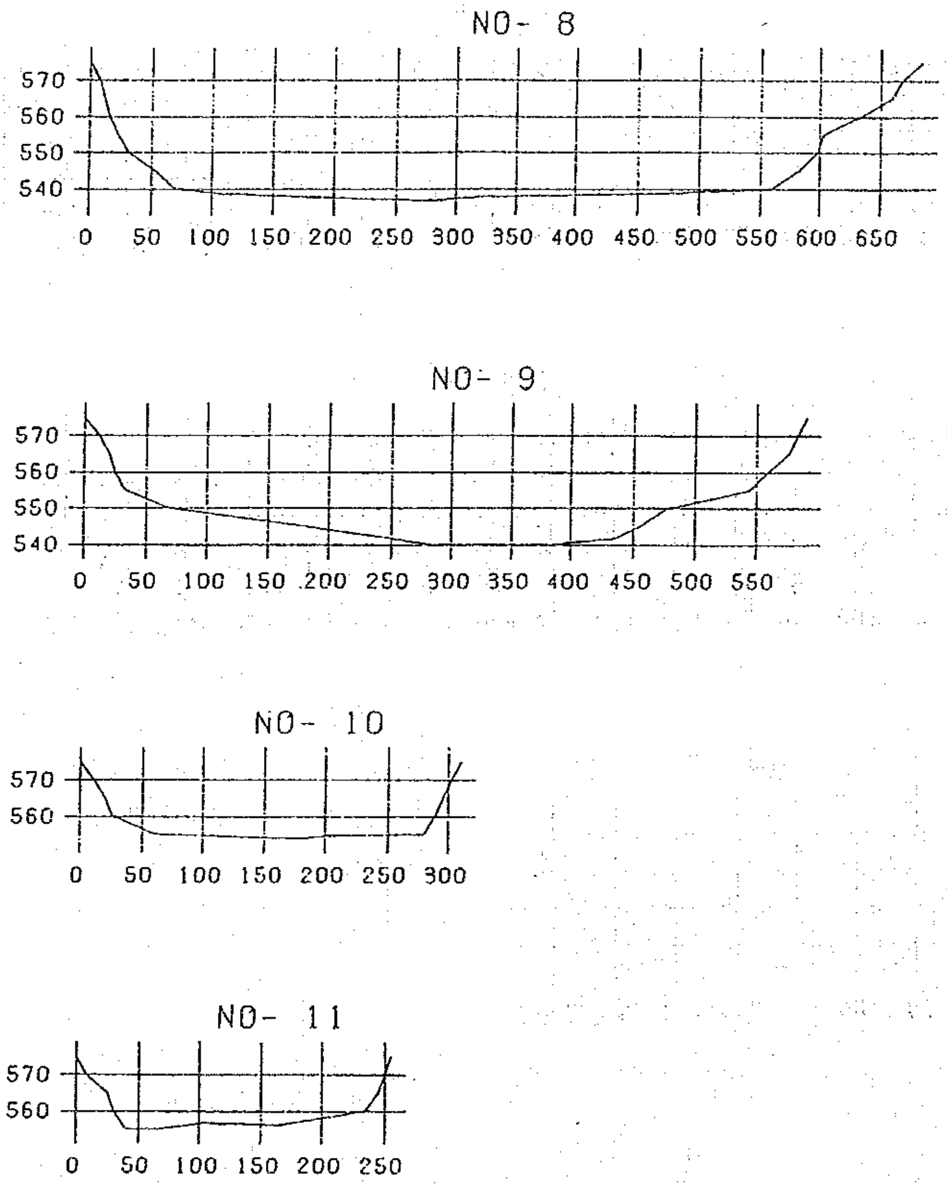


Fig. 10.2 (4) Cross Sections of the Binga Reservoir (1986 Survey)

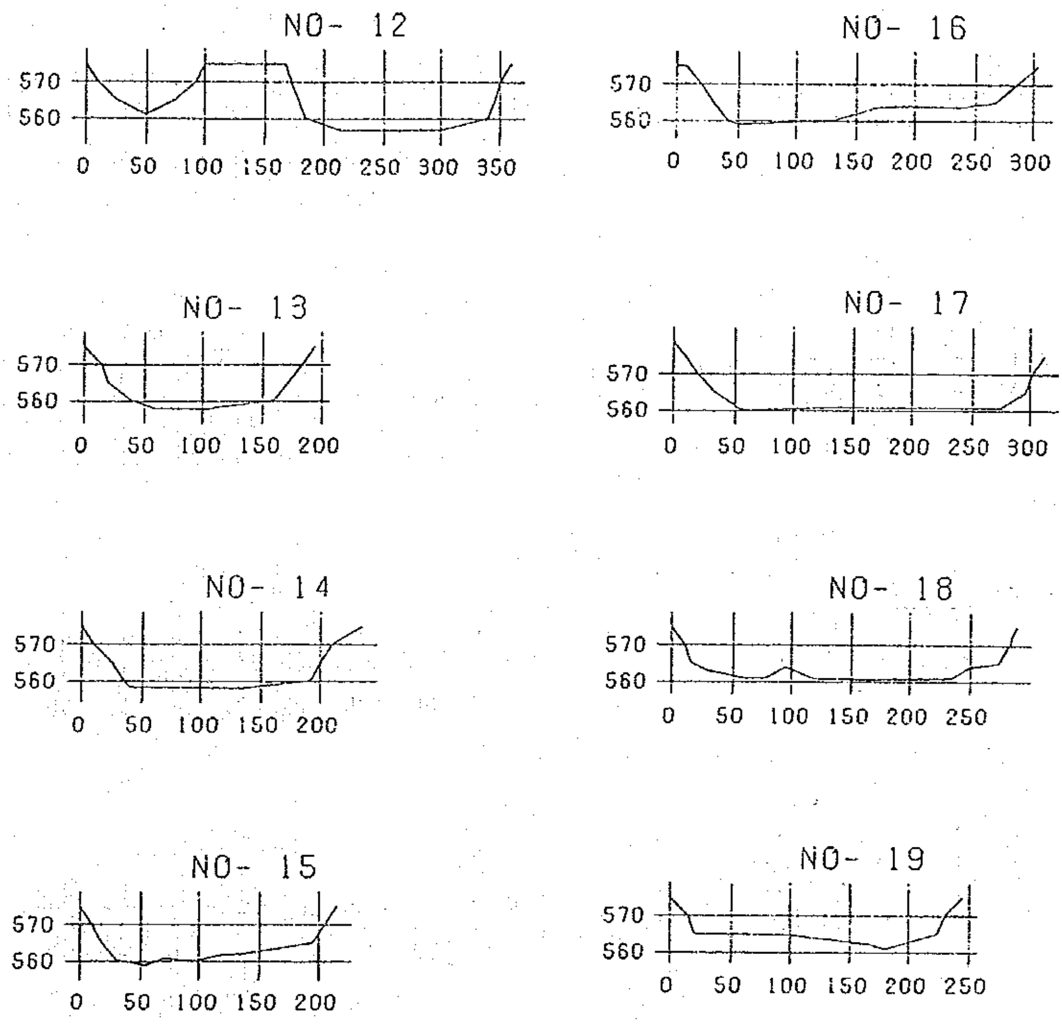


Fig. 10.2 (5) Cross Sections of the Binga Reservoir
(1986 Survey)

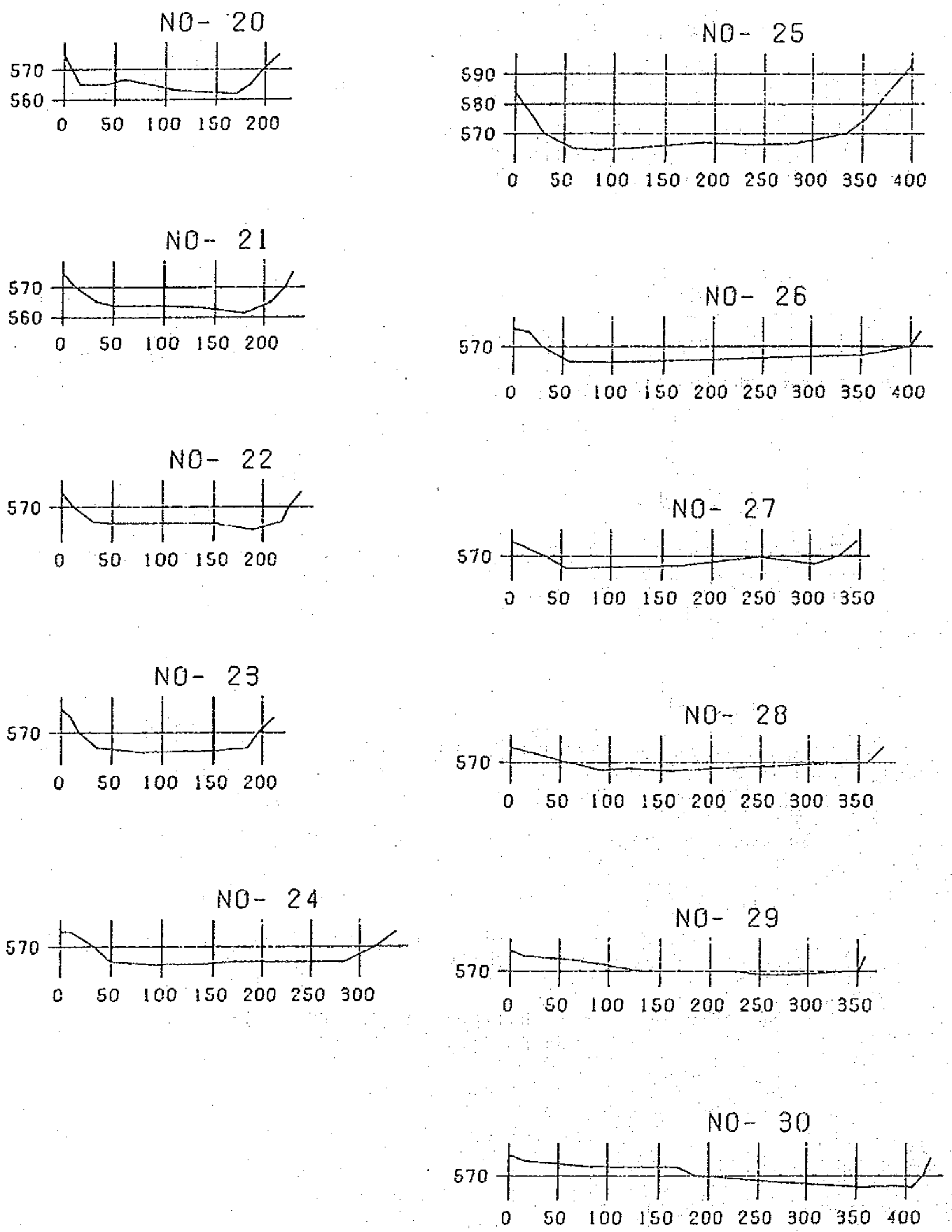


Fig. 10.2 (6) Cross Sections of the Binga Rerservoir (1986 Survey)

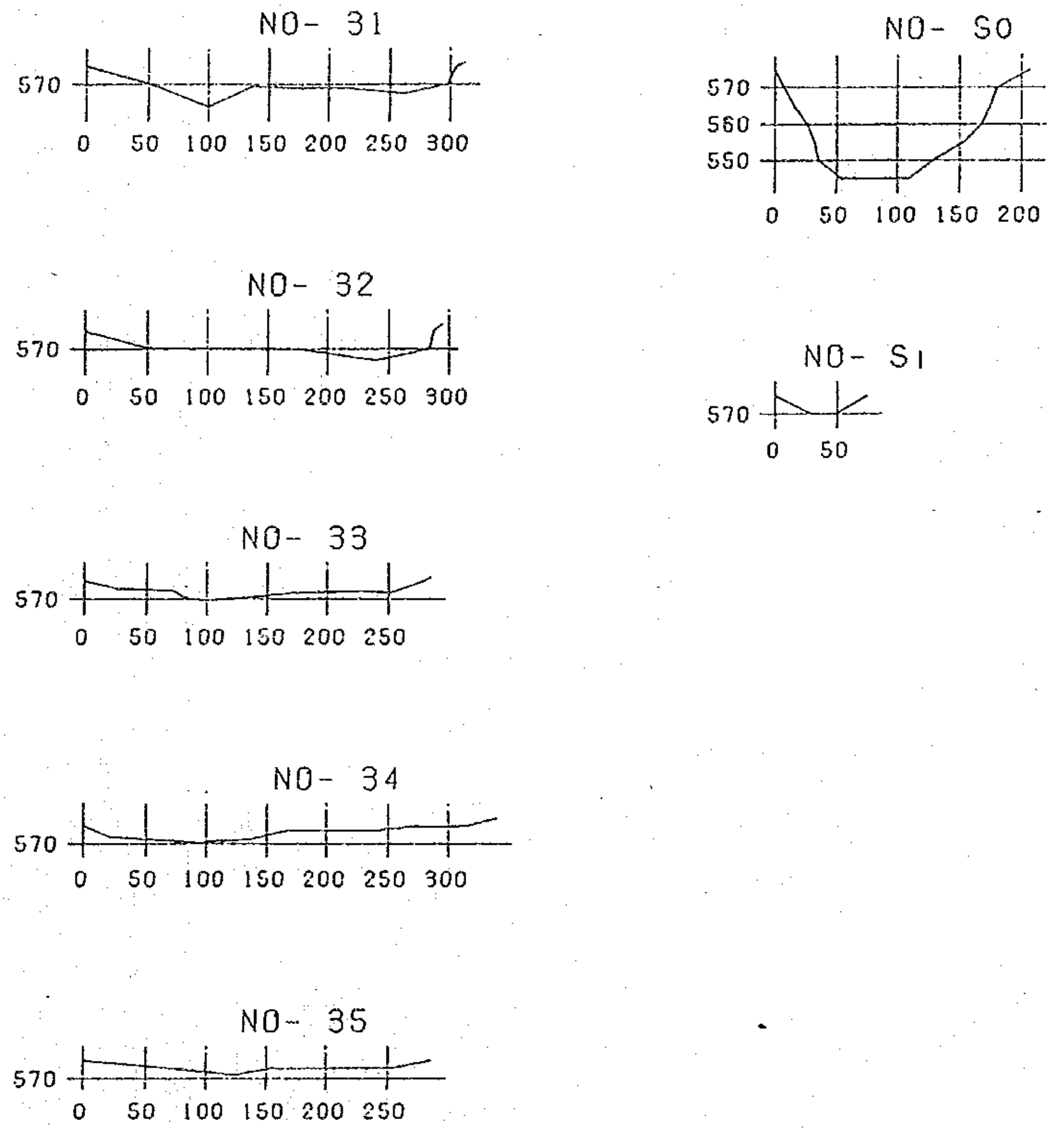


Fig.10.2 (7) Cross Sections of the Binga Reservoir
(1986 Survey)

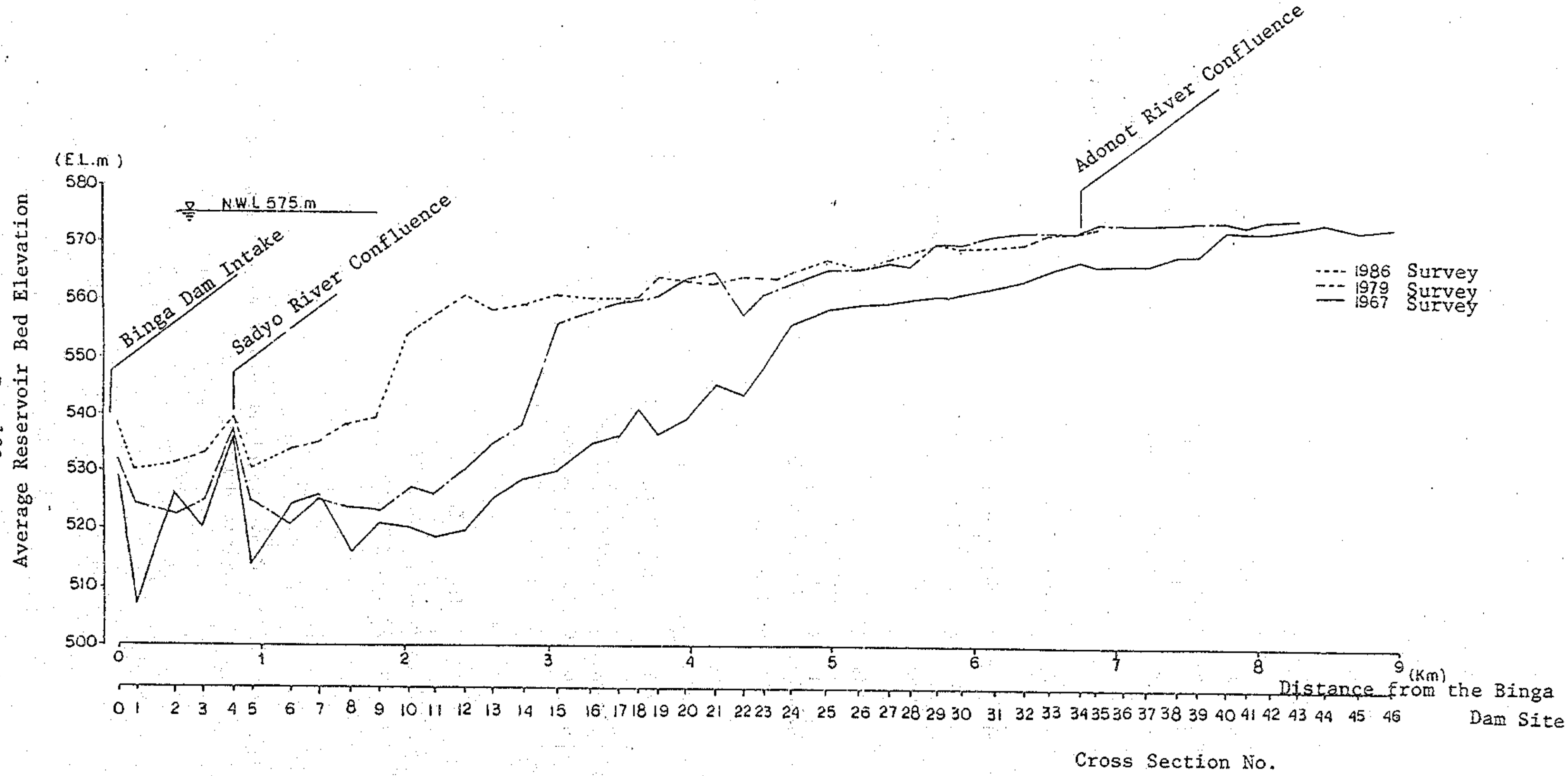


Fig. 10.3 Longitudinal Profiles of the Binga Reservoir Sediments

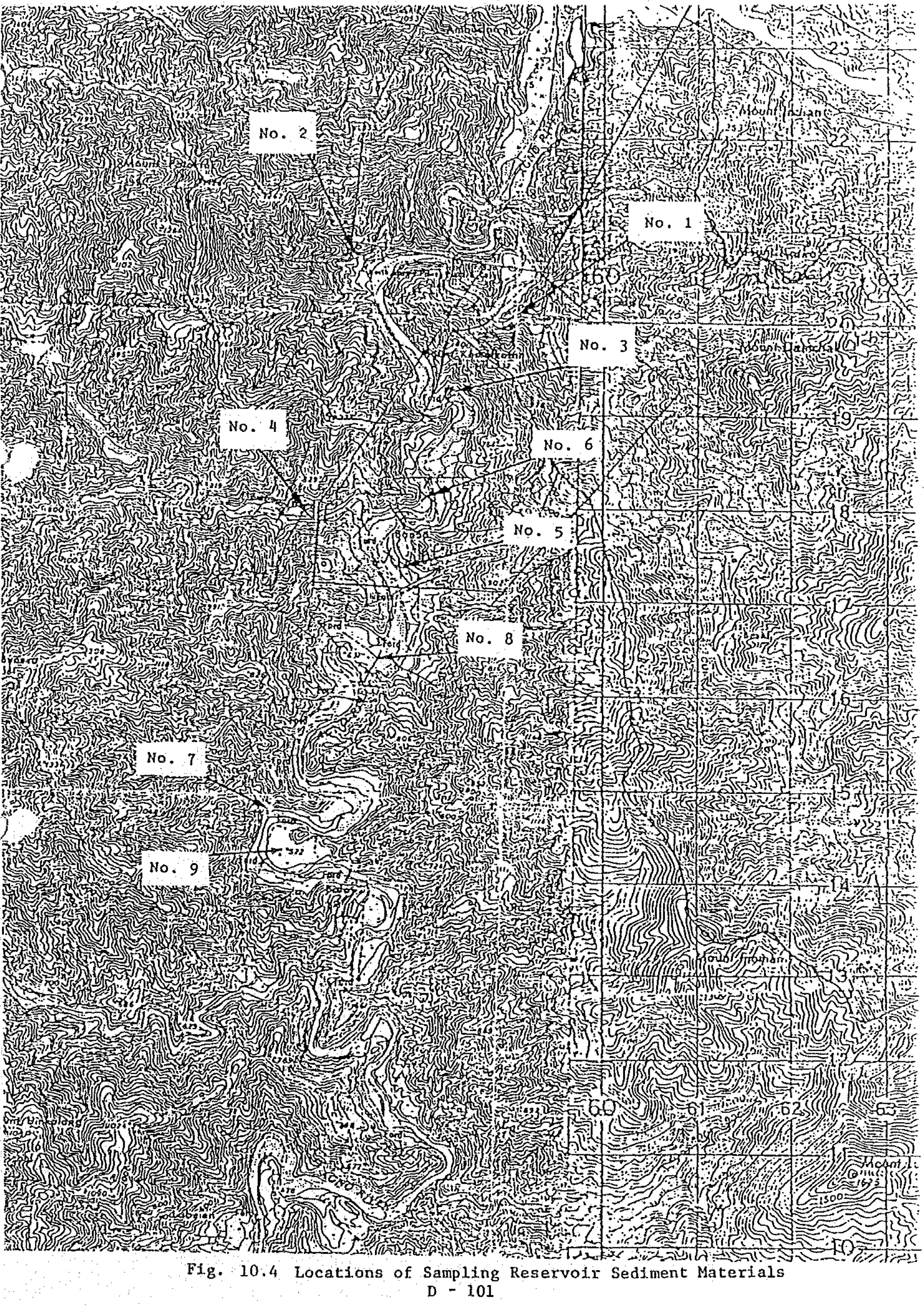


Fig. 10.4 Locations of Sampling Reservoir Sediment Materials

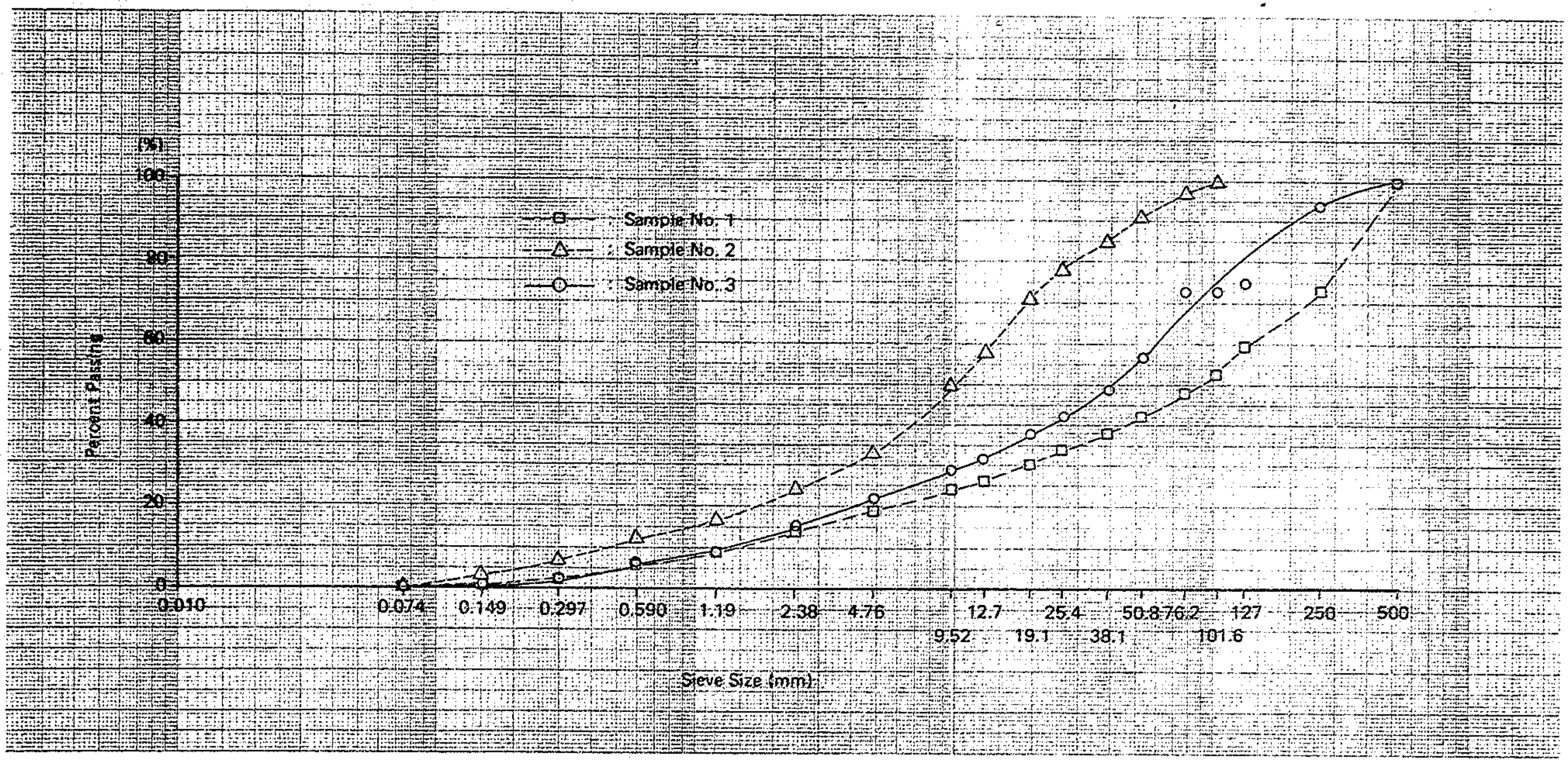


Fig. 10.5 (1) Grain Size Distribution Curves of the Reservoir Sediments

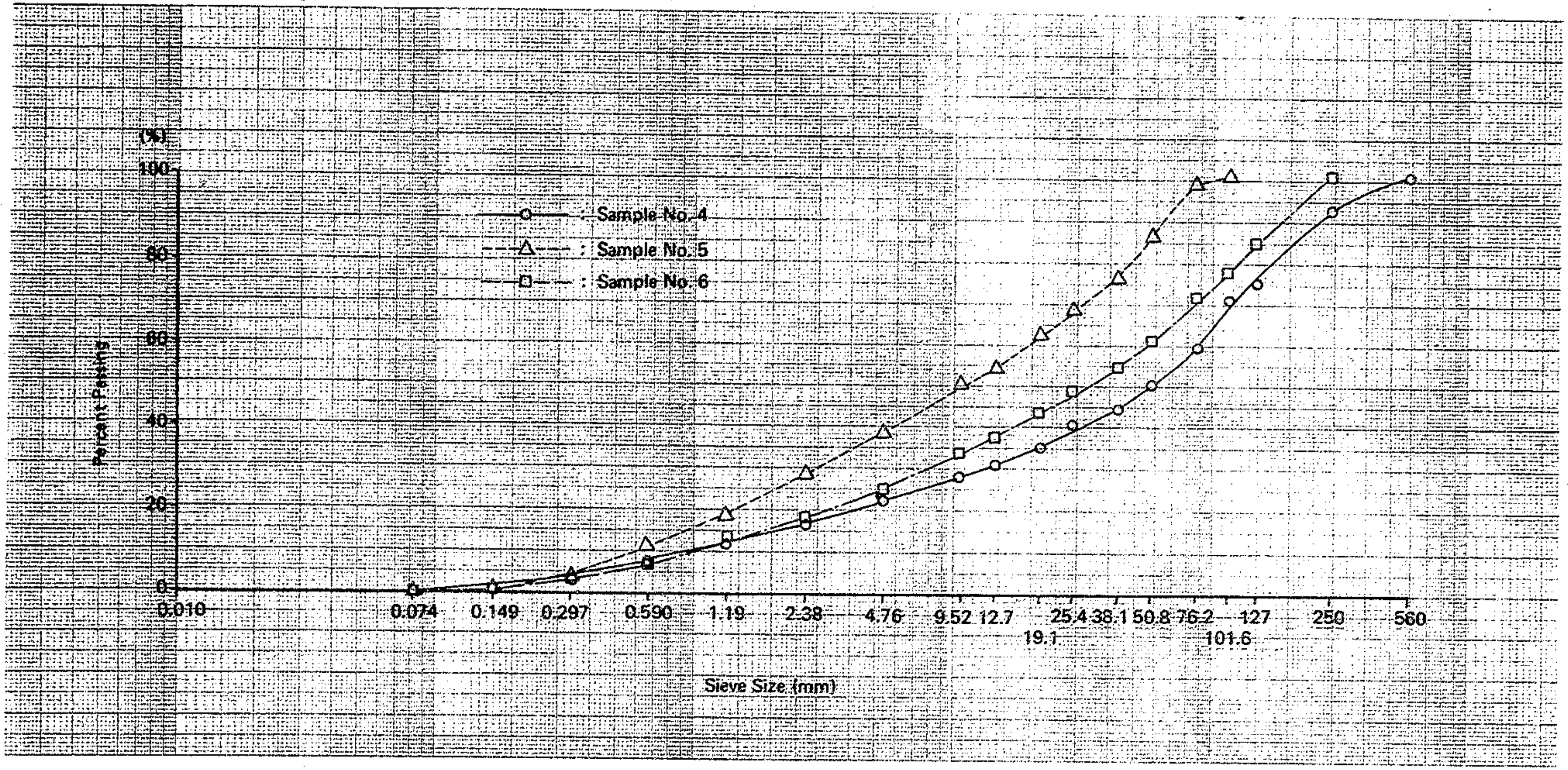


Fig. 10.5 (2) Grain Size Distribution Curves of the Reservoir Sediments

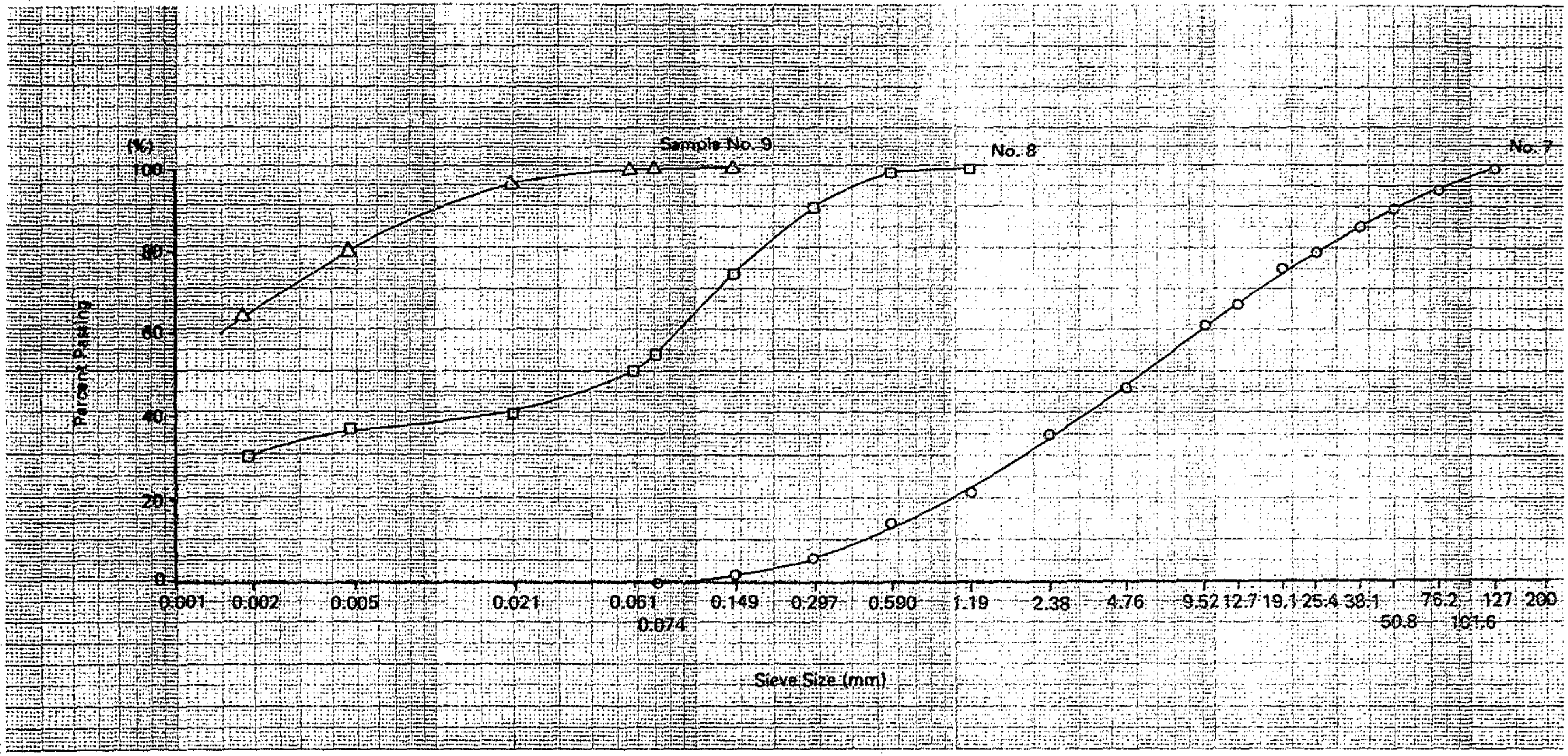


Fig. 10.5 (3) Grain Size Distribution Curves of the Reservoir Sediments

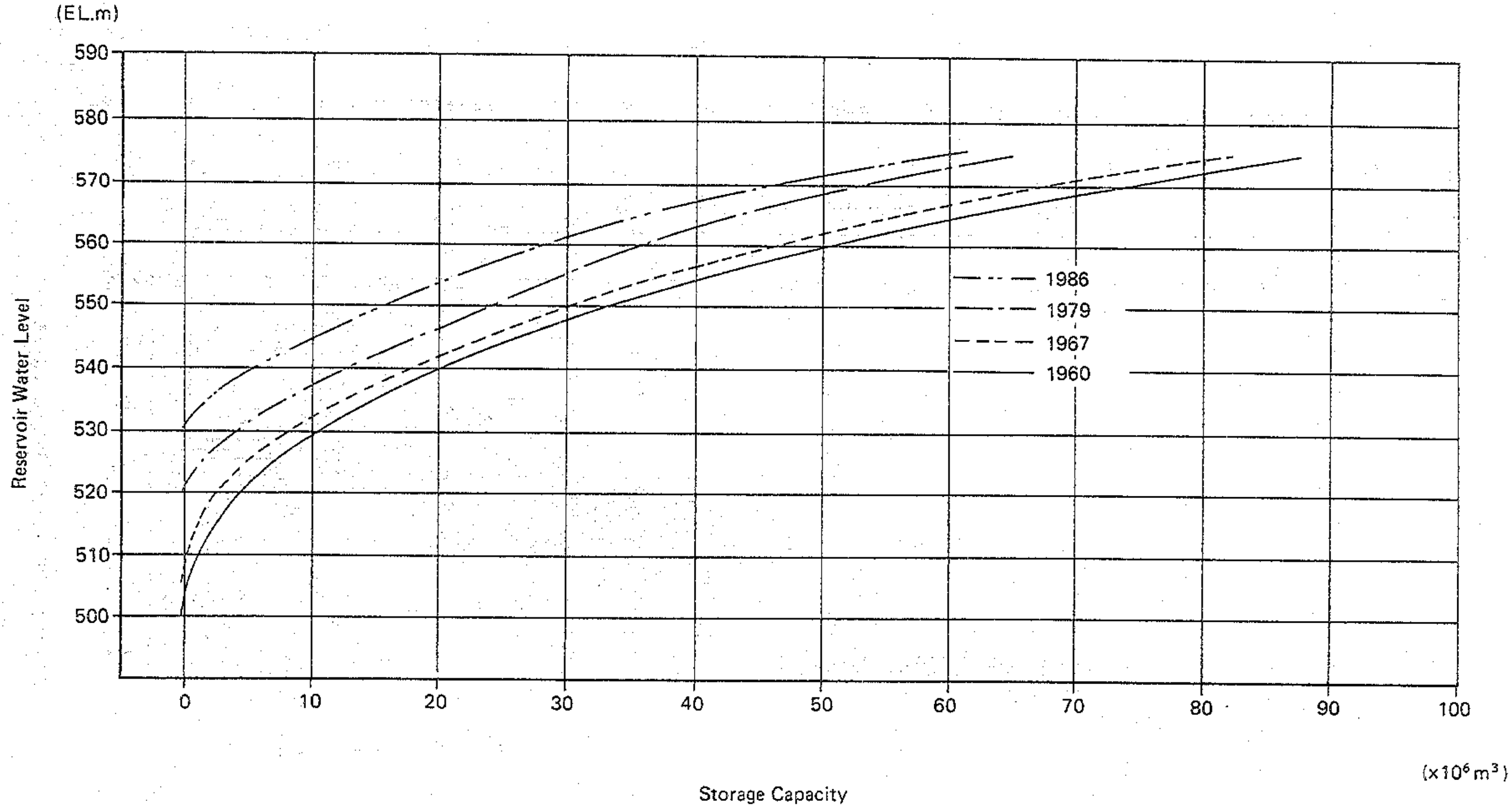


Fig. 10.6 Binga Reservoir Storage Capacity Curve

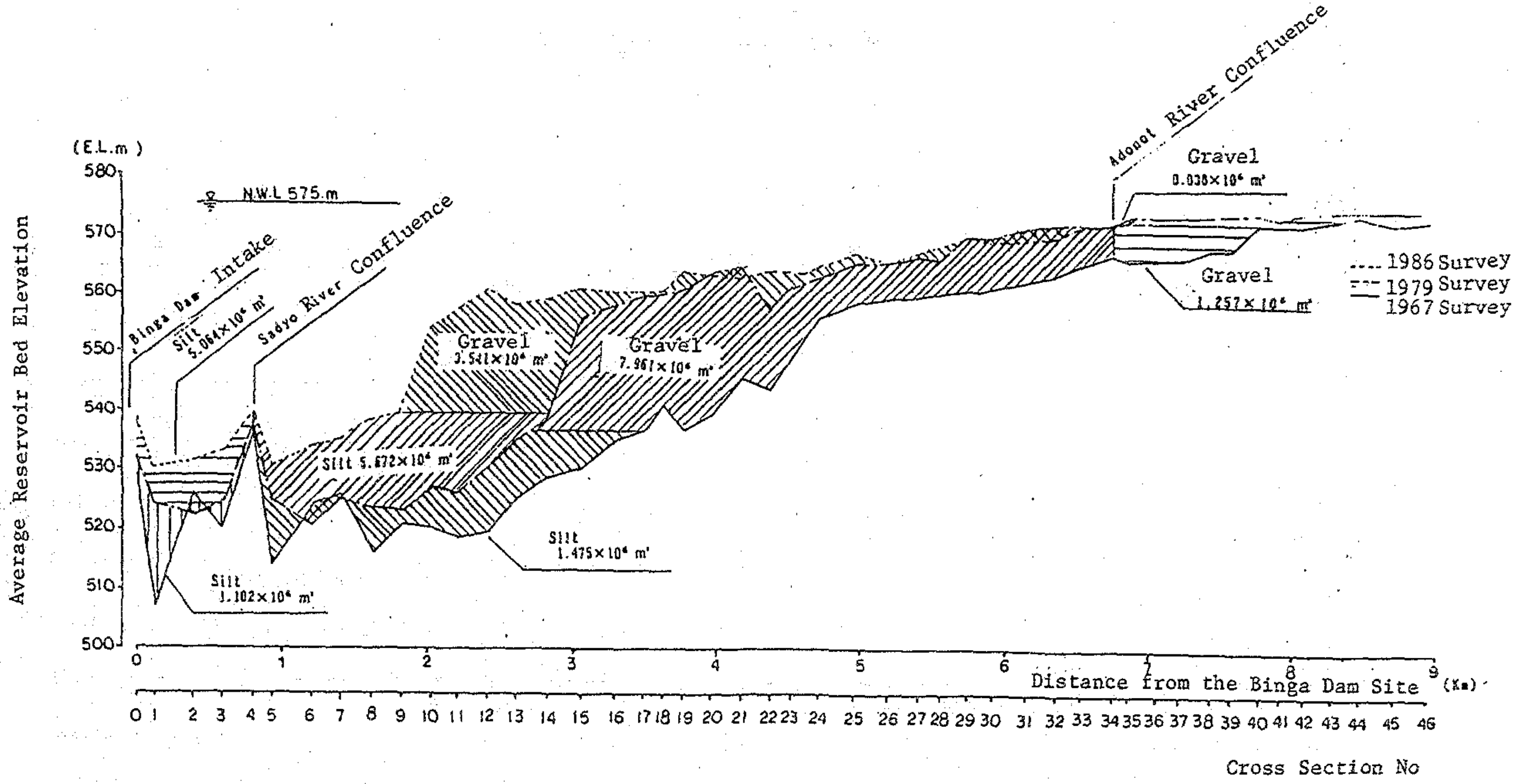


Fig. 10.7 Progress of Sedimentation and Volume of Sediments in the Binga Reservoir

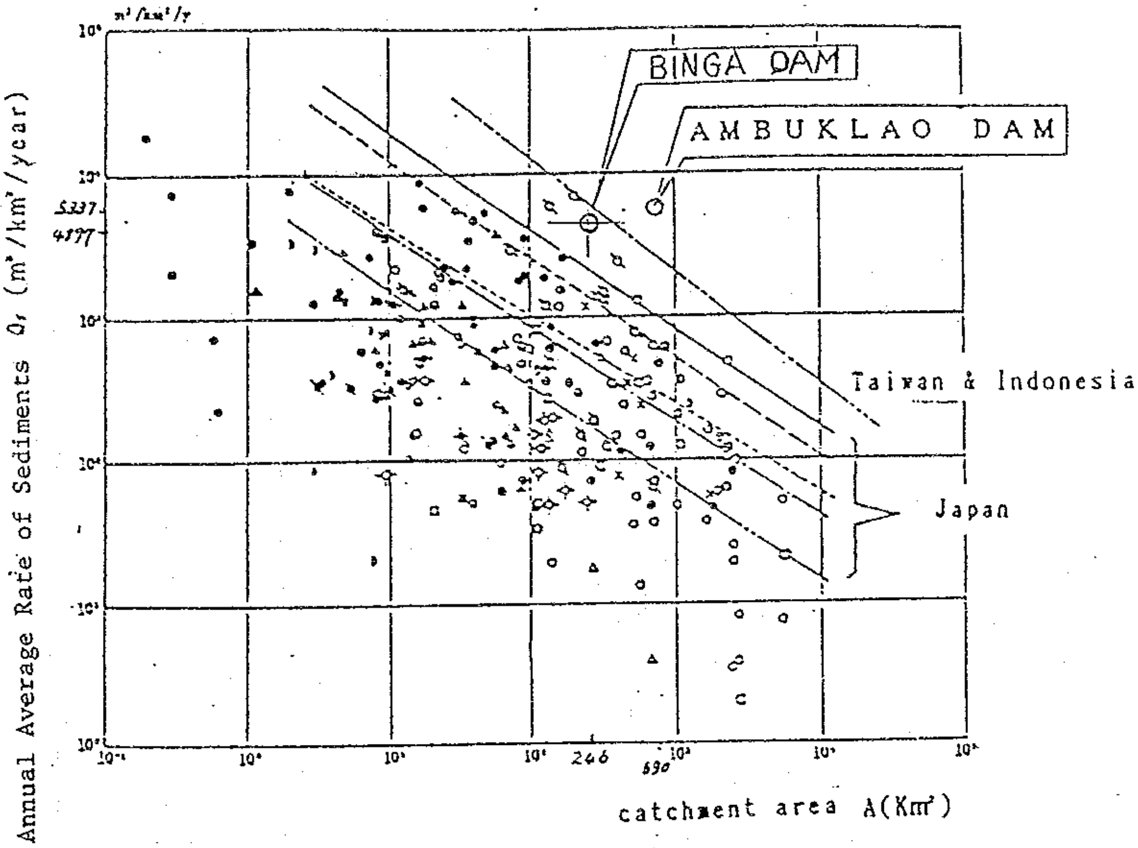


Fig. 10.8 Comparison of the Binga Sediment Yields with Those of Other River Basins

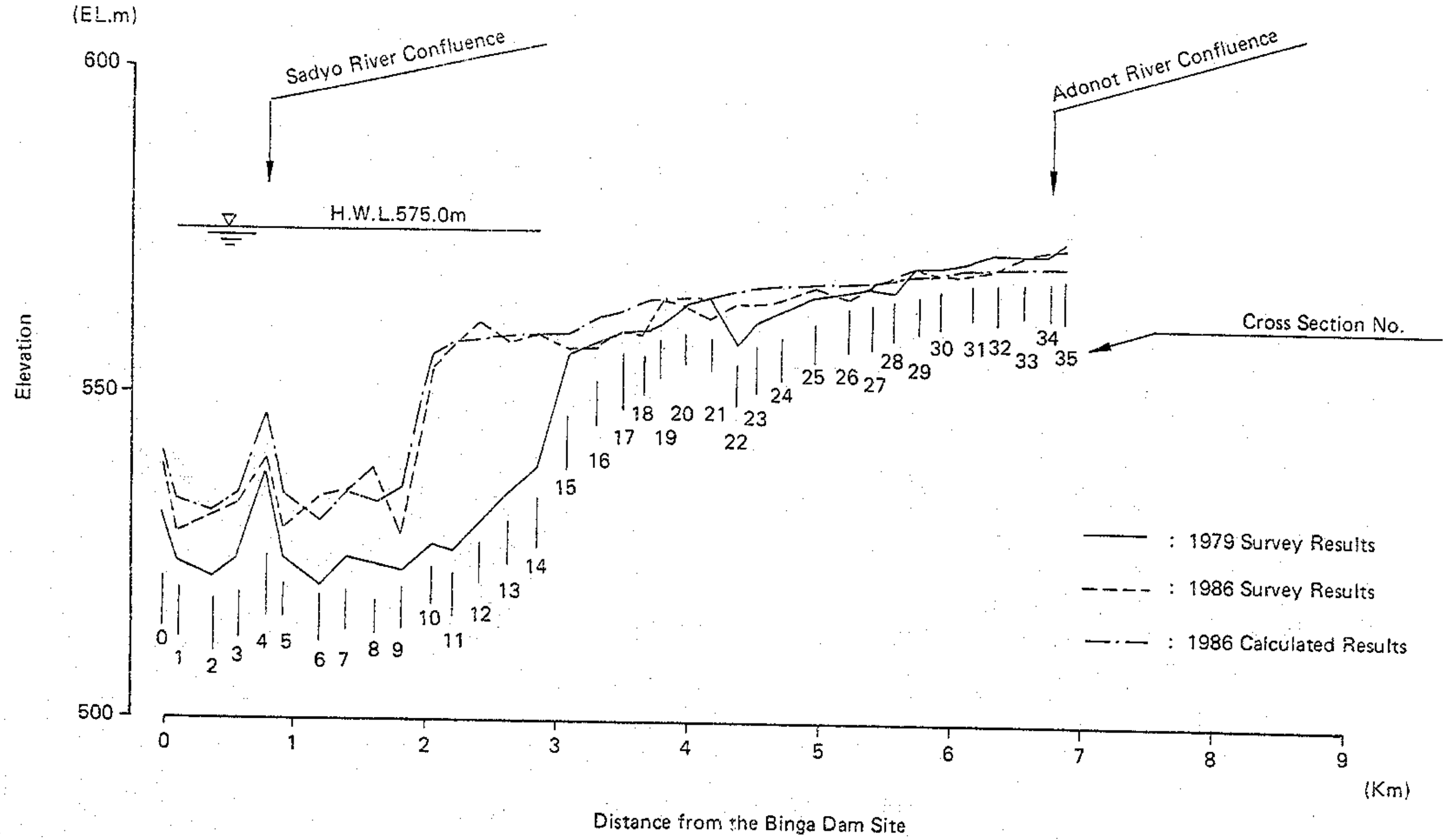


Fig. 10.9 Comparison of the Calculated Reservoir Sediment Elevation with the Actual Value

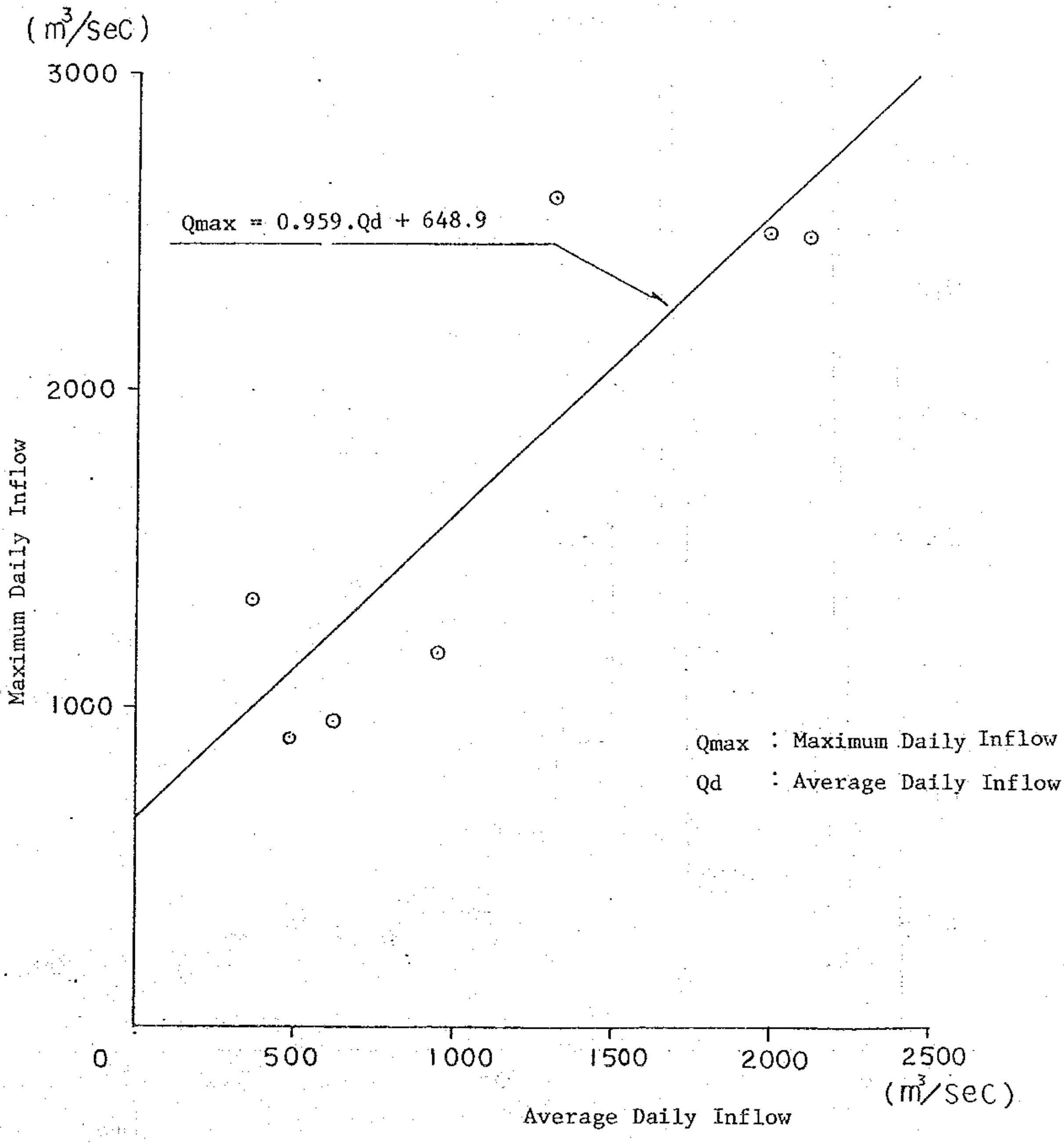


Fig. 10.10 Relation between Average Daily Inflow and Maximum Daily Inflow to the Binga Reservoir

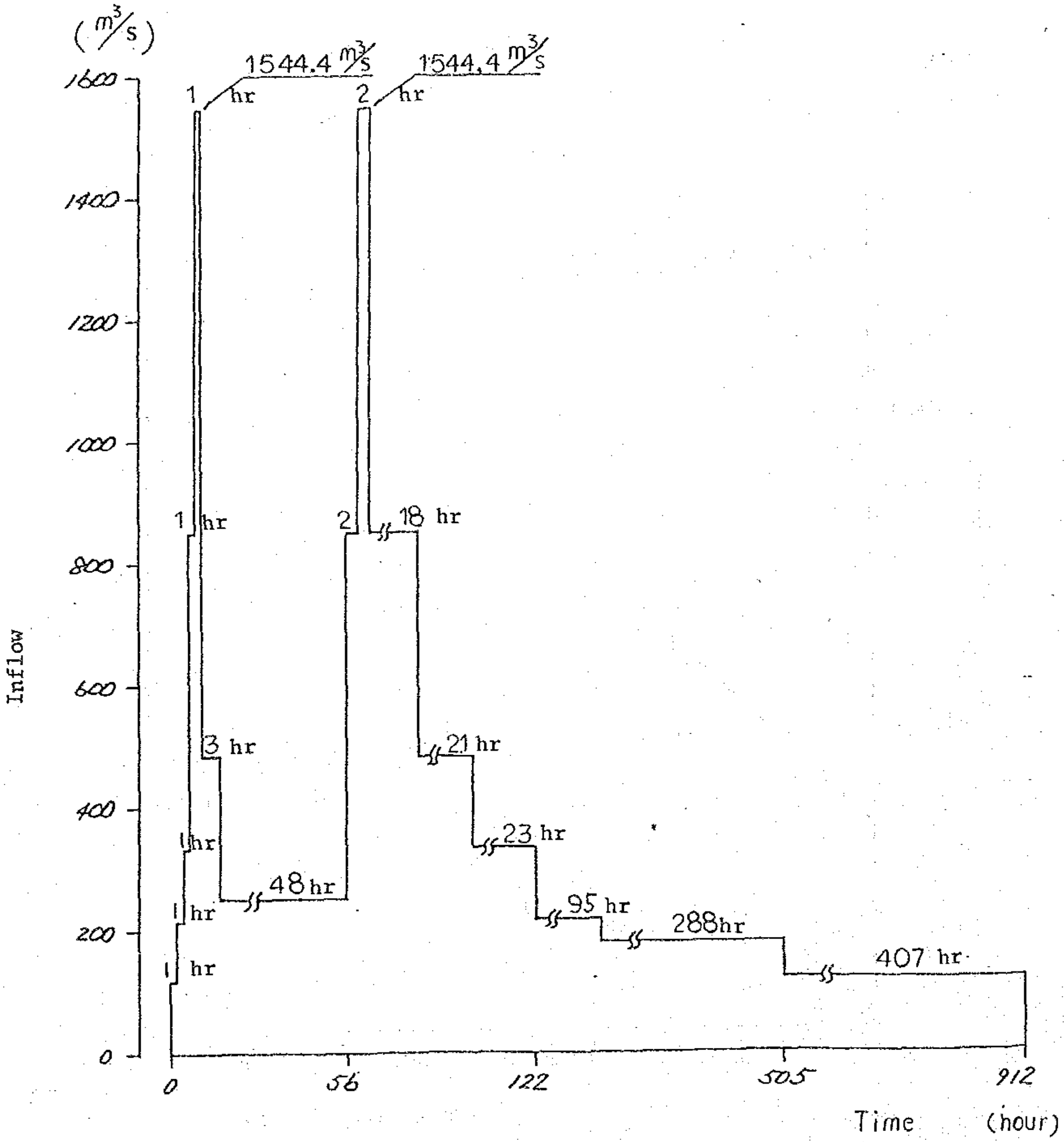


Fig. 10.11 Model Flood Inflow of the Average Year
(Including the Inflow from Sadyo River)

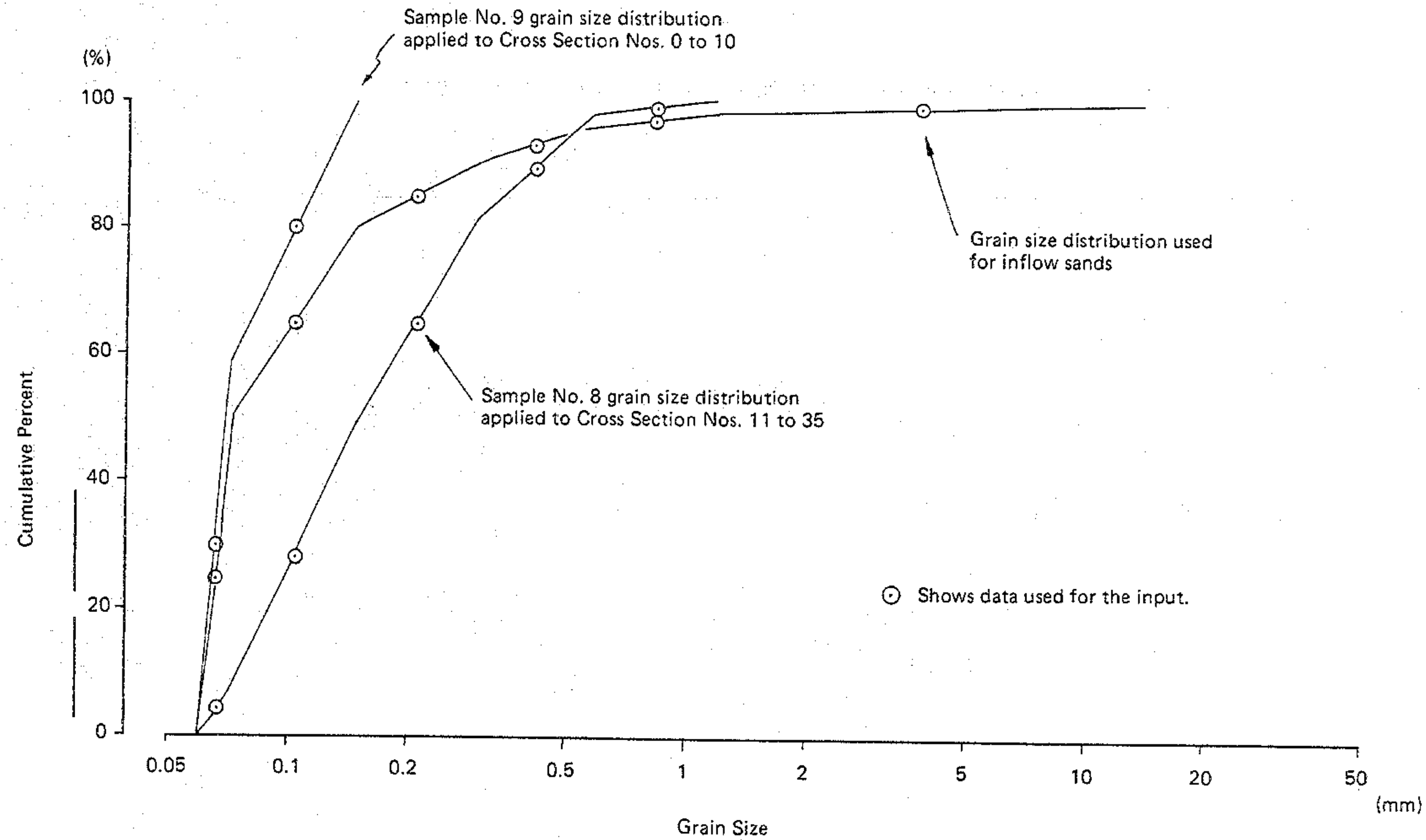


Fig. 10.12 Grain Size Distribution of the Reservoir Sediments during the Initial Period (1979)

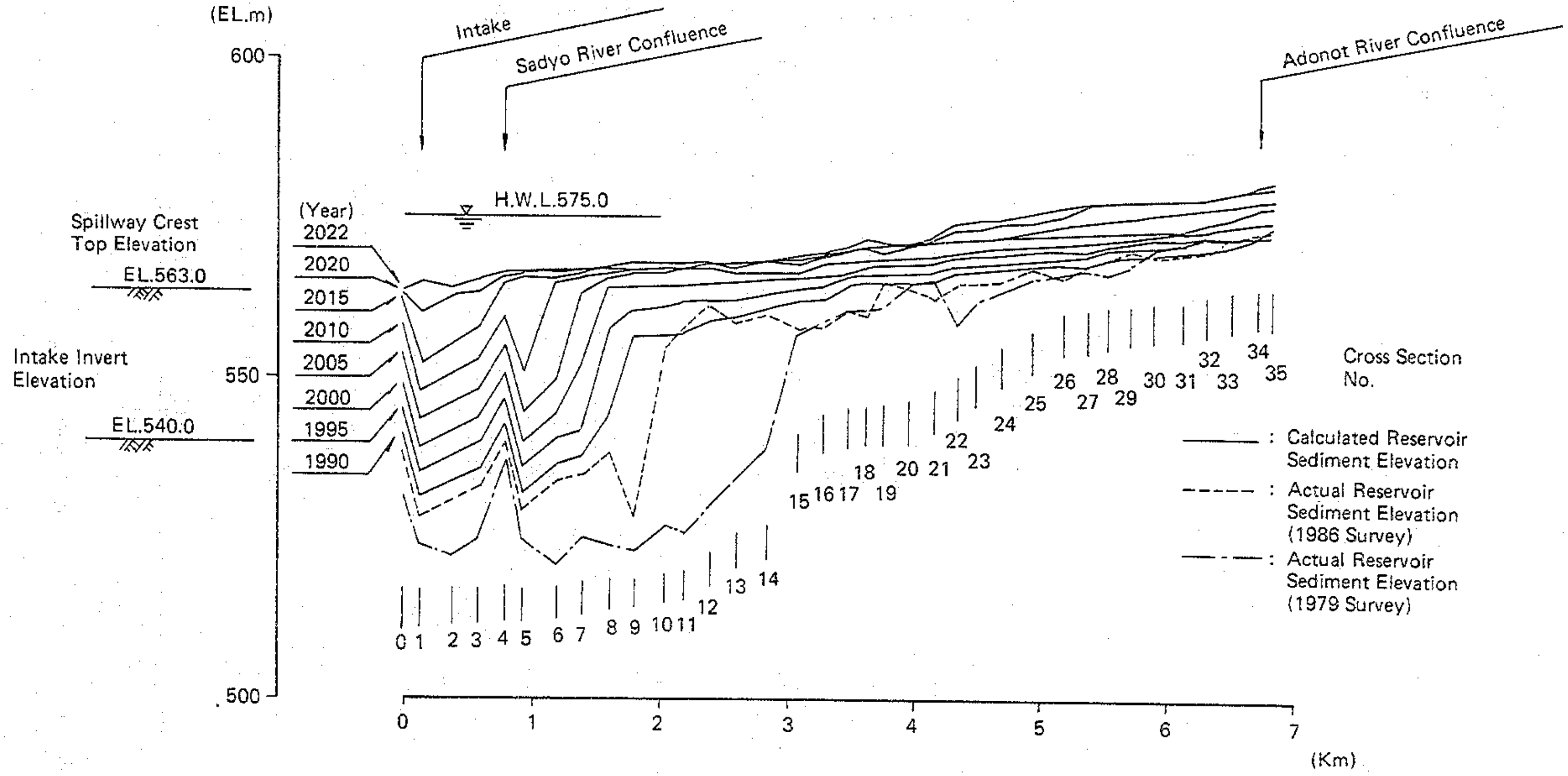


Fig. 10.13 Anticipated Progress of the Reservoir Sedimentation Toward 2022

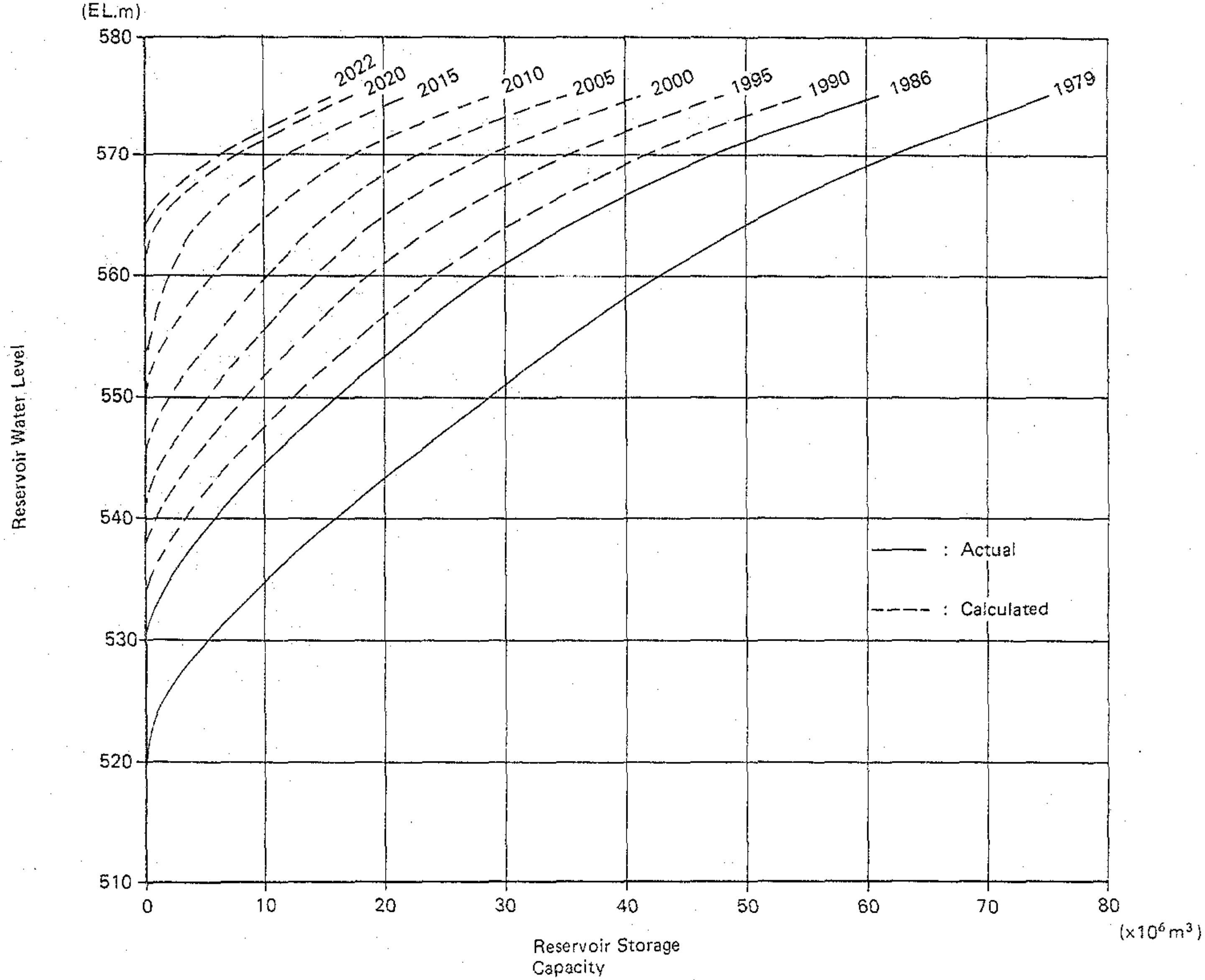


Fig. 10.14 Change in the Reservoir Storage Capacity to be Affected by the Anticipated Sedimentation

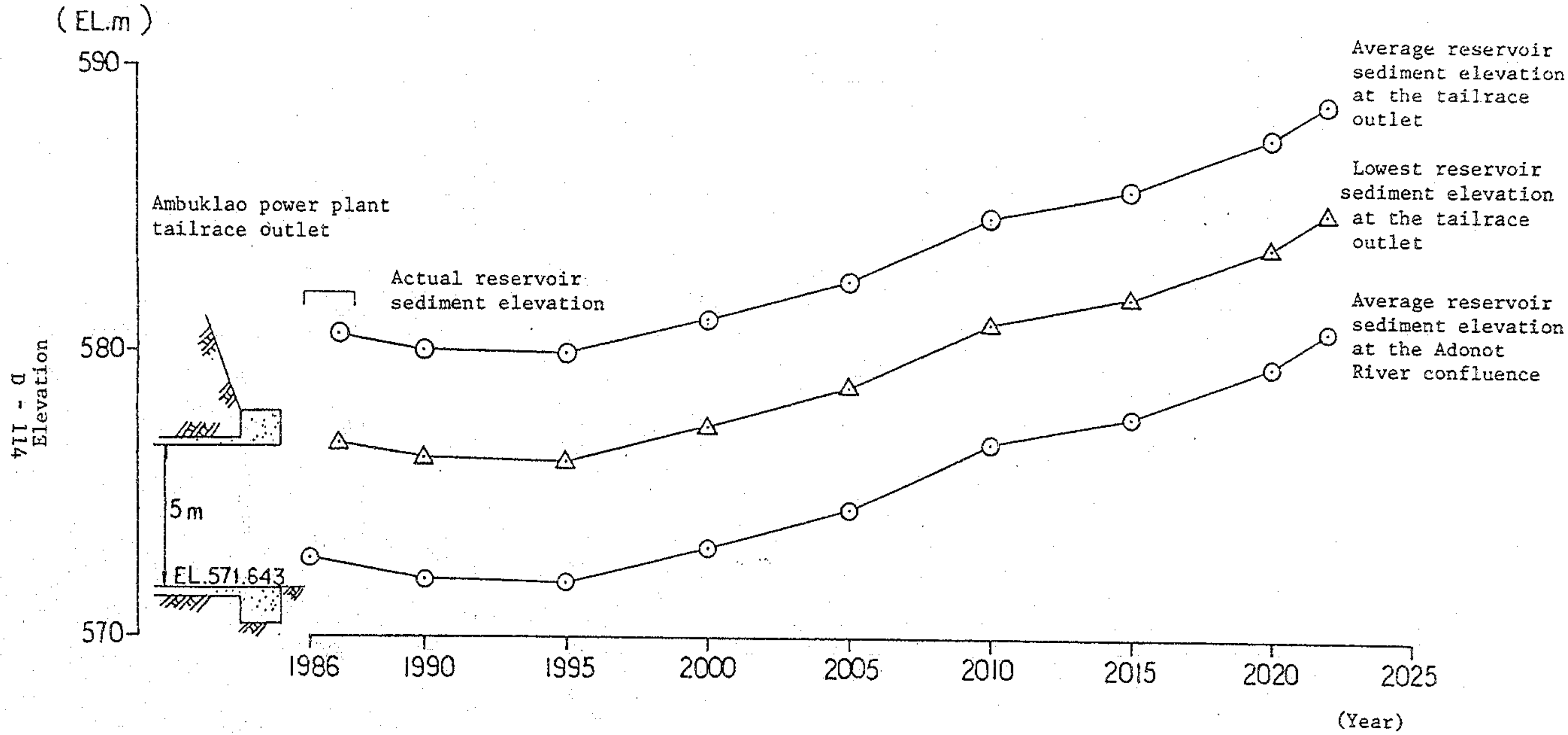


Fig. 10.15 Anticipated Progress at the Reservoir Sedimentation in the Area Around the Tailrace Outlet of the Ambuklao Power Plant

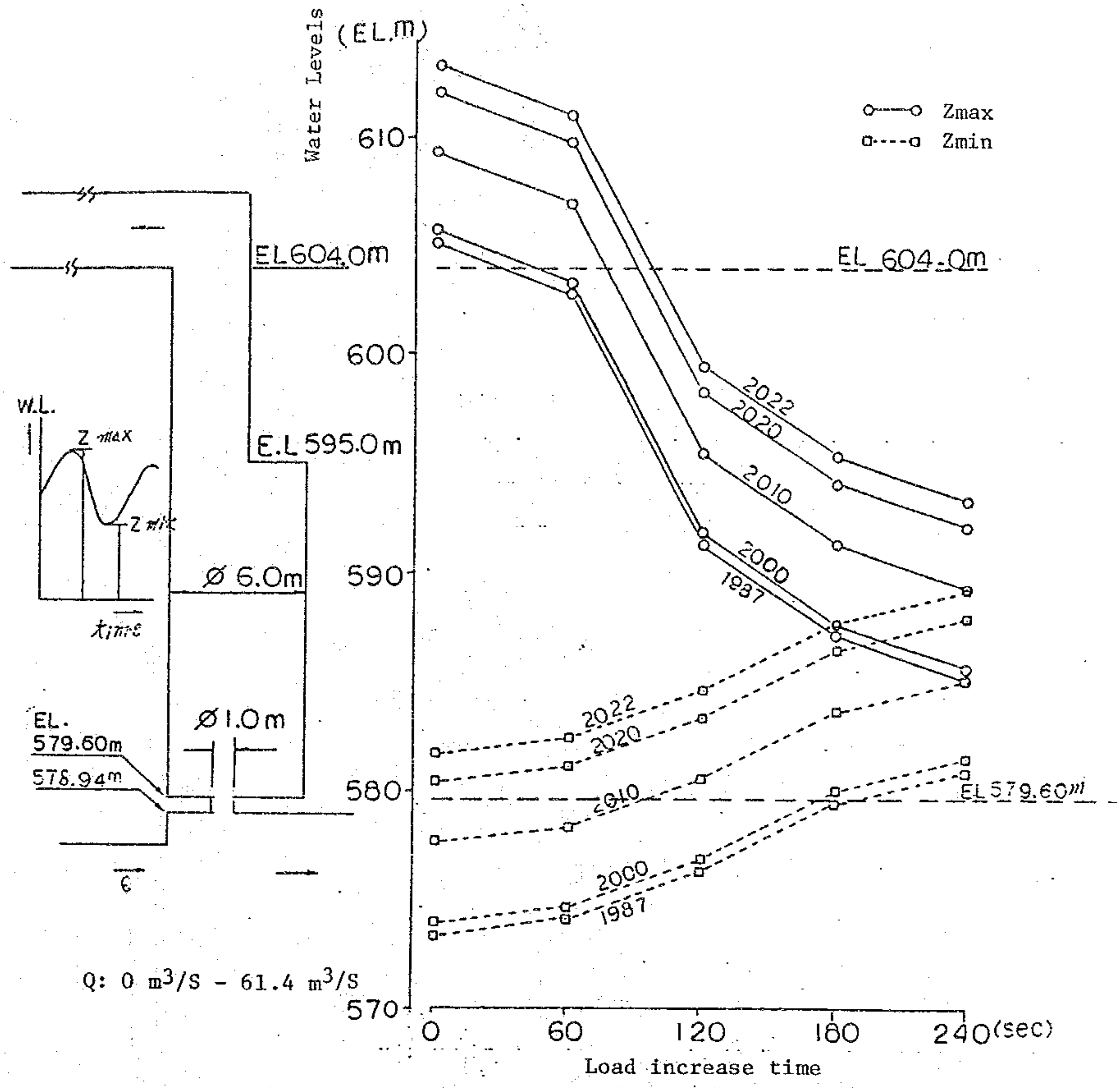


Fig. 10.16 Effects on the Water Levels in the Ambuklao Surge Tank by Further Accumulation of Sedimentation in the Area Around the Ambuklao Tailrace Outlet in Case of Sudden Load Increase

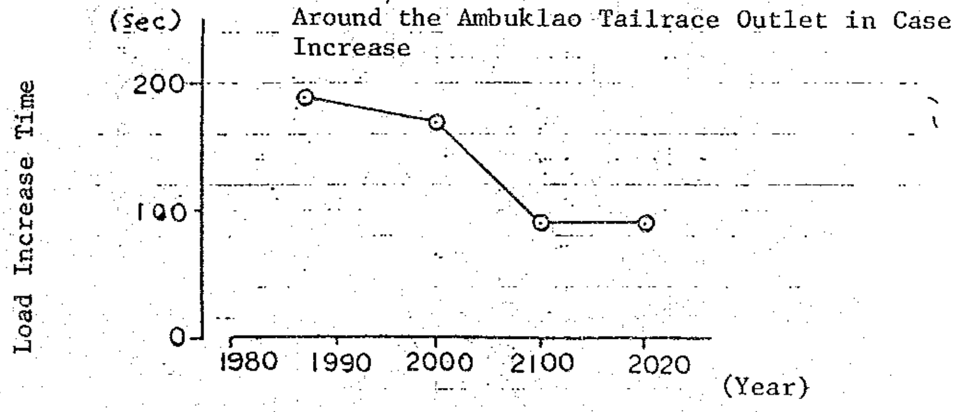
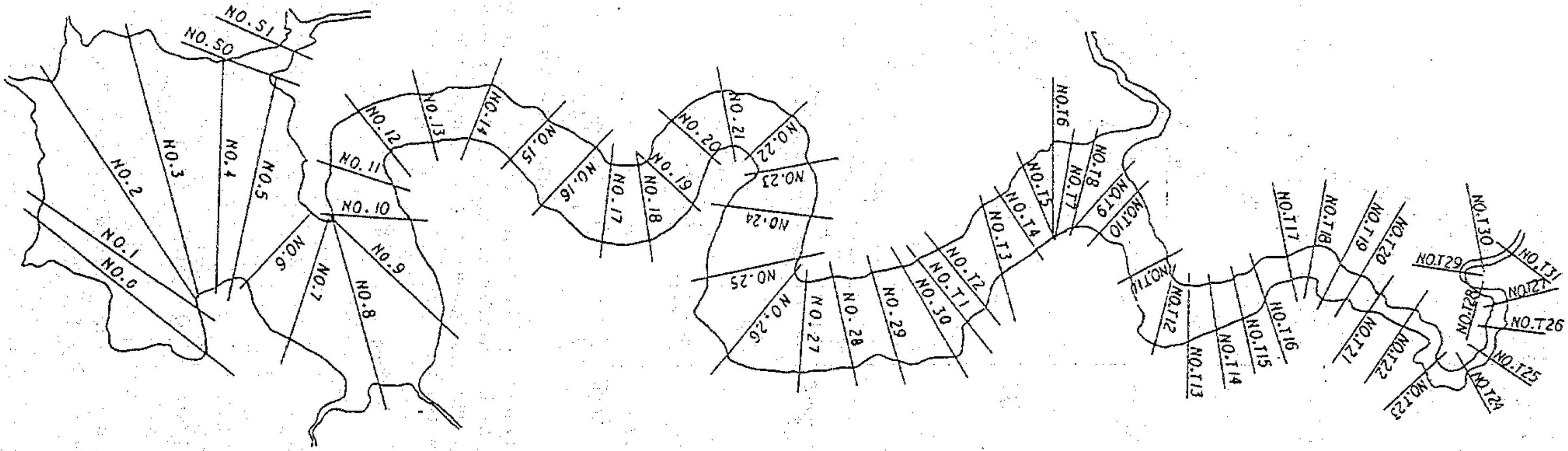


Fig. 10.17 Change in the Minimum Opening Time for the Ambuklao Turbine Inlet Gate



Cross Section Nos. 0 to 30 : 1986 Survey

Cross Section Nos. T1 to T27 : 1987 Survey

Fig. 10.18 Measurement Lines of Cross Sections of the Binga Reservoir and its Upstream Reaches

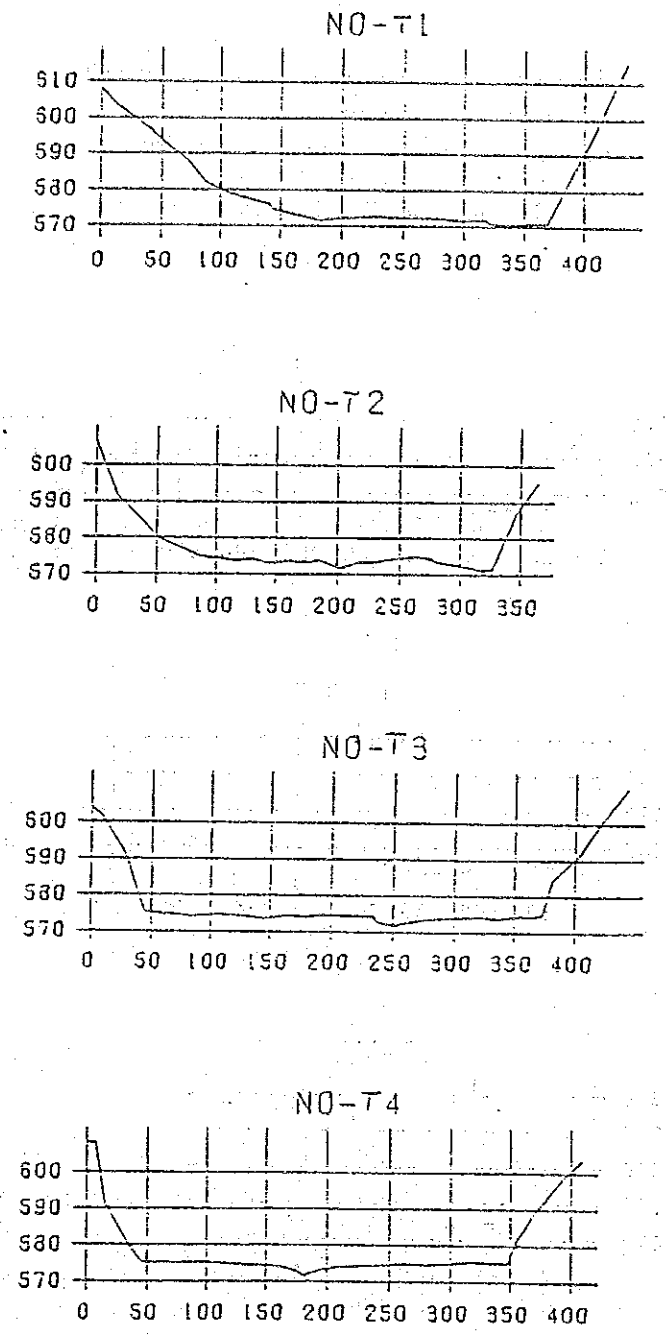


Fig. 10.19 (1) Cross Sections of the Upstream Reaches of the Binga Reservoir (1987 Survey)

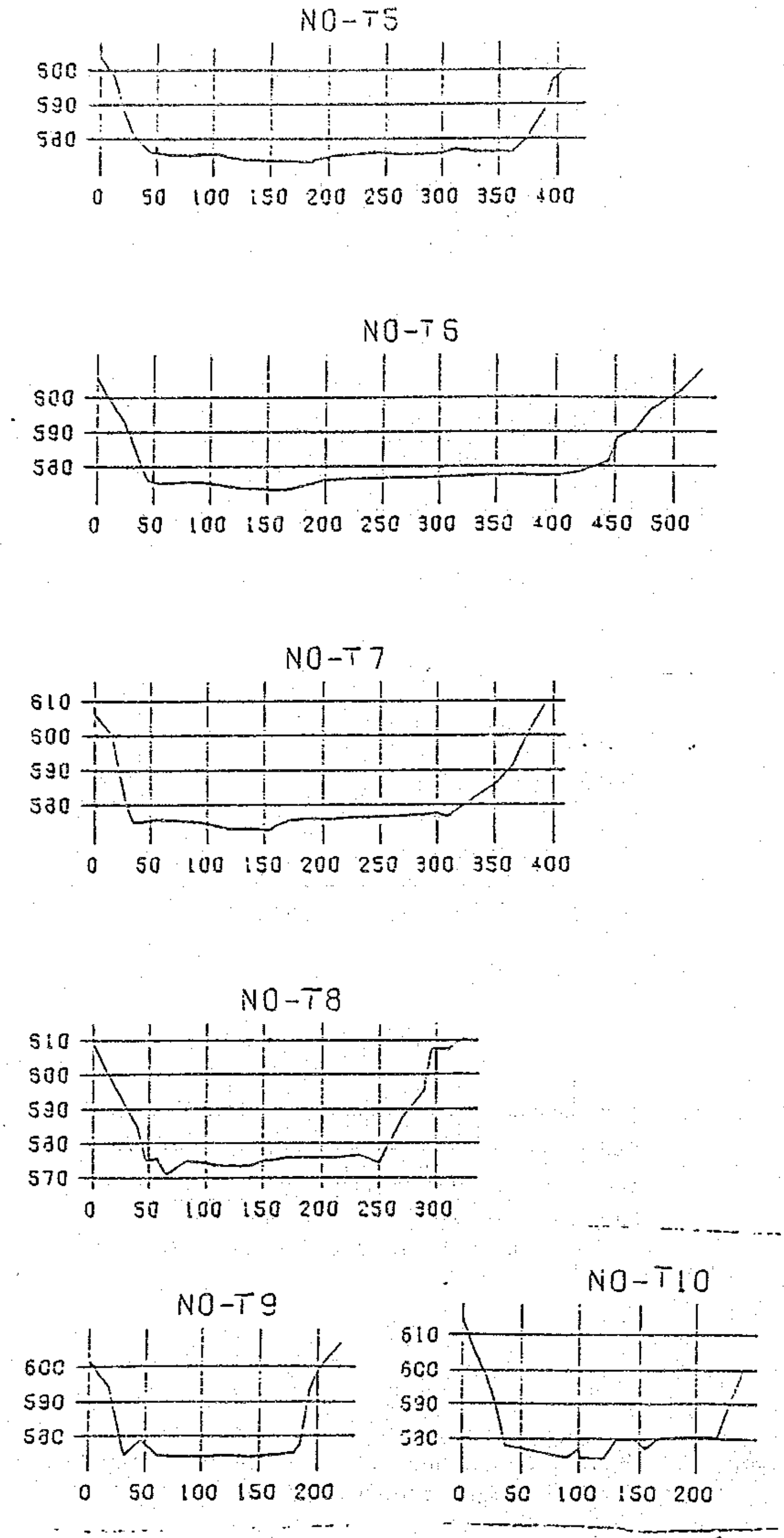


Fig. 10.19 (2) Cross Sections of the Upstream Reaches of the Binga Reservoir (1987 Survey)