ROCK SHEAR TEST DATA SHEET (4) Measuring Point TD 13.5 Block No. DA-2, BS-3 N= 6 kg/cm²

Time	Time Elapsed	Vertical Jack: Vertical Stress (kg/cm²)	Vertical Jack: Jack Pressure (kg/cm²)	Diagonal Jack: Horizontal Stress (kg/cm²)	Diagonal Jack: Jack Pressure (kg/cm²)	Vertical Displacement (x 10⁻³ mm) ①	②	(①+②)/2	③	④	(③+④)/2	Horizontal Displacement (x 10⁻³ mm) ⑤	⑥	⑦	⑧	(⑤-⑧)/4	Remarks
	4:16	6	43	21.69	143.0	-23	-45	-34 / -13615	-18	-12	-15 / -6075	23	45	68	42	44.8 / 1211.7	
	20	〃	〃	22.03	145.25	-34	-45	-39.5 / -1401	-25	-13	-19 / -6265	32	28	68	29	39.3 / 1251	
	24	〃	〃	22.37	147.5	-26	-46	-36 / -1437	-35	-12	-23.5 / -650	26	42	21	26	28.8 / 1277.8	
	28	〃	〃	22.67	149.5	-14	-34	-24 / -1461	-20	-5	-12.5 / -662.5	29	20	31	27	26.8 / 1506.6	
	32	〃	〃	23.05	152.0	-33	-64	-48.5 / -1509.5	-30	-24	-27 / -689.5	44	52	55	53	51 / 1357.6	
	36	〃	〃	23.36	154.0	-243	-656	-449.5 / -1959	-535	-321	-428 / -1117.5	901	468	518	907	698.5 / 2056.1	

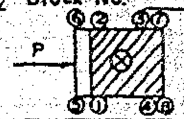
ROCK SHEAR TEST DATA SHEET (I)

Test Location DA-2, BS-4 Measuring Point TD-15.70m Date Measured 22.11.1988 Block No. ______ N = 8 kgf/cm²

Geological Classification Ophiolite Rock Grade ______ Measured by ______

Vertical Jack Capacity 200 ton x 1 units, Max. Oil Pressure 396.3 kg/cm² Ram Diameter ø25.85cm

Diagonal Jack Capacity 200 ton x 2 units, Max. Oil Pressure 701.7 kg/cm² Ram Diameter ø19.05cm



A = 3600 cm²

θ = 16.7 °

Time	Time Elapsed	Vertical Jack: Vertical Stress (kg/cm²)	Vertical Jack: Jack Pressure (kg/cm²)	Diagonal Jack: Horizontal Stress (kg/cm²)	Diagonal Jack: Jack Pressure (kg/cm²)	Vertical Displacement (x10⁻³ mm) ①	②	(①+②)/2	③	④	(③+④)/2	Horizontal Displacement (x10⁻³ mm) ⑤	⑥	⑦	⑧	(⑤~⑧)/4	Remarks
	0	1	7			0	0	0 / 0	0	0	0 / 0	0	0	0	0	0 / 0	
	4	2	14			0	0	0 / 0	0	0	0 / 0	0	0	0	0	0 / 0	
	8	2	14			0	0	0 / 0	0	0	0 / 0	0	0	0	0	0 / 0	
	16	0	0			0	0	0 / 0	0	0	0 / 0	0	1	0	0	0.3 / 0.3	
	20	0	0			0	0	0 / 0	0	0	0 / 0	0	0	0	0	0 / 0.3	
	28	2	14			0	2	1 / 1	0	-1	-0.5 / -0.5	0	0	0	0	0 / 0.3	
	32	3	21			0	2	1 / 2	0	0	0. / -0.5	0	0	0	0	0 / 0.3	
	36	4	29			0	1	0.5 / 2.5	0	0	0 / -0.5	0	0	0	0	0 / 0.3	
	40	5	36			0	0	0 / 2.5	0	0	0 / -0.5	0	0	0	0	0 / 0.3	
	44	6	43			0	0	0 / 2.5	0	0	0 / -0.5	0	0	0	0	0 / 0.3	
	48	7	50			2	0	1 / 3.5	0	0	0 / -0.5	0	0	0	0	0 / 0.3	
	52	8	57			0	2	1 / 4.5	0	0	0 / -0.5	2	0	0	1	0.7 / 1.0	
	56	8	57			0	0	0 / 4.5	0	0	0. / -0.5	0	0	0	0	0 / 1.0	

ROCK SHEAR TEST DATA SHEET (Z) Measuring Point TD 15.7 m Block No. DA-2, BS-4 N = 8 kg/cm²

Time	Time Elapsed	Vertical Jack: Vertical Stress (kg/cm²)	Vertical Jack: Jack Pressure (kg/cm²)	Diagonal Jack: Horizontal Stress (kg/cm²)	Diagonal Jack: Jack Pressure (kg/cm²)	Vertical Displacement (x 10⁻³ mm) ①	②	(①+②)/2	③	④	(③+④)/2	Horizontal Displacement (x 10⁻³ mm) ⑤	⑥	⑦	⑧	(⑤-⑧)/4	Remarks
	0	8	5.7	0.34	2.25	0	0	0 / 6.5	0	0	0 / -0.5	0	0	0	0	0 / 1	
	4	"	"	0.64	4.5	0	2	1 / 5.5	0	0	0 / -0.5	0	0	0	0	0 / 1	
	8	"	"	0.99	6.5	0	0	0 / 5.5	0	0	0 / -0.5	0	0	0	0	0 / 1	
	12	"	"	1.33	8.75	0	1	0.5 / 6	0	0	0 / -0.5	0	0	0	0	0 / 1	
	16	"	"	1.67	11.0	0	0	0 / 6	0	0	0 / -0.5	0	0	0	0	0 / 1	
	20	"	"	2.01	13.25	0	0	0 / 6	6	0	3 / 2.5	0	0	0	0	0 / 1	
	24	"	"	2.35	15.5	0	0	0 / 6	4	0	2 / 4.5	0	0	0	0	0 / 1	
	28	"	"	2.65	17.5	0	0	0 / 6	1	0	0.5 / 5	0	0	0	0	0 / 1	
	32	"	"	3.00	19.75	0	5	2.5 / 8.5	2	0	1 / 6	0	0	0	0	0 / 1	
	36	"	"	3.34	22.0	-6	5	-0.5 / 8	0	0	0 / 6	0	0	0	0	0 / 1	
	40	"	"	3.68	24.25	0	0	0 / 8	1	0	0.5 / 6.5	1	0	0	0	0.3 / 1.3	
	44	"	"	4.02	26.5	0	0	0 / 8	0	0	0 / 6.5	2	0	0	0	0.5 / 1.8	
	48	"	"	4.32	28.5	0	0	0 / 8	0	0	0 / 6.5	1	0	0	0	0.3 / 2.1	
	52	"	"	4.66	30.75	0	0	0 / 8	0	0	0 / 6.5	0	0	0	0	0 / 2.1	
	56	"	"	5.00	33.0	0	0	0 / 8	0	0	0 / 6.5	1	0	0	0	0.3 / 2.4	
	1:00	"	"	5.35	35.25	0	0	0 / 8	0	0	0 / 6.5	1	0	0	0	0.3 / 2.7	
	4	"	"	5.69	37.5	0	0	0 / 8	0	0	0 / 6.5	1	0	1	1	0.8 / 3.5	
	8	"	"	5.99	39.5	0	0	0 / 8	0	0	0 / 6.5	1	0	0	0	0.3 / 3.8	
	12	"	"	6.33	41.75	0	0	0 / 8	0	0	0 / 6.5	1	2	1	0	1 / 4.8	
	16	"	"	6.67	44.0	0	0	0 / 8	0	0	0 / 6.5	3	0	0	0	0.8 / 5.6	
	20	"	"	7.01	46.25	0	0	0 / 8	0	0	0 / 6.5	4	0	0	0	1 / 6.6	
	24	"	"	7.36	48.5	0	-1	-0.5 / 7.5	0	0	0 / 6.5	5	1	1	0	1.8 / 8.4	
	28	"	"	7.66	50.5	0	0	0 / 7.5	0	0	0 / 6.5	2	0	3	0	1.3 / 9.7	
	32	"	"	8.00	52.75	0	0	0 / 7.5	0	0	0 / 6.5	4	1	0	0	1.3 / 11	
	36	"	"	8.34	55.0	0	-1	-0.5 / 7	0	0	0 / 6.5	5	0	3	1	2.3 / 13.3	
	40	"	"	8.68	57.25	1	-1	0 / 7	0	0	0 / 6.5	5	0	3	1	2.3 / 15.6	
	44	"	"	9.02	59.5	0	0	0 / 7	0	0	0 / 6.5	1	1	1	4	1.8 / 17.4	
	48	"	"	9.33	61.5	0	0	0 / 7	0	0	0 / 6.5	2	0	2	3	1.8 / 19.2	
	52	"	"	9.67	63.75	0	-2	-1 / 6	0	0	0 / 6.5	4	0	2	3	2.3 / 21.5	
	56	"	"	10.01	66.0	0	-1	-0.5 / 5.5	0	0	0 / 6.5	4	1	2	4	2.8 / 24.3	
	2:00	"	"	10.35	68.25	0	-4	-2 / 3.5	0	0	0 / 6.5	10	0	1	10	5.3 / 29.6	
	4	"	"	10.69	70.5	0	-3	-1.5 / 2	0	0	0 / 6.5	10	0	1	12	5.8 / 35.4	

ROCK SHEAR TEST DATA SHEET (3) Measuring Point TD-15.7m Block No. DA-2, BS-4 N = 8 kg/cm²

Time	Time Elapsed	Vertical Jack: Vertical Stress (kg/cm²)	Vertical Jack: Jack Pressure (kg/cm²)	Diagonal Jack: Horizontal Stress (kg/cm²)	Diagonal Jack: Jack Pressure (kg/cm²)	Vertical Displacement (x 10⁻³ mm) ①	②	(①+②)/2	③	④	(③+④)/2	Horizontal Displacement (x 10⁻³ mm) ⑤	⑥	⑦	⑧	(⑤~⑧)/4	Remarks
	8	8	57	11.00	72.5	-1	-4	-2.5 / -0.5	0	0	0 / 6.5	4	0	6	7	4.3 / 39.7	
	12	〃	〃	11.34	74.75	-1	-2	-1.5 / -2	0	0	0 / 6.5	4	1	8	8	5.3 / 45	
	16	〃	〃	11.68	77.0	-1	-2	-1.5 / -3.5	0	0	0 / 6.5	10	1	5	2	4.5 / 49.5	
	20	〃	〃	12.02	79.25	0	-2	-1 / -4.5	0	0	0 / 6.5	6	1	5	2	3.5 / 53	
	24	〃	〃	12.36	81.5	-3	-7	-5 / -9.5	0	0	0 / 6.5	3	4	6	10	5.8 / 58.8	
	28	〃	〃	12.66	83.5	-3	-7	-5 / -14.5	0	0	0 / 6.5	3	4	4	8	4.8 / 63.6	
	32	〃	〃	13.01	85.75	-1	-11	-6 / -20.5	0	0	0 / 6.5	10	11	10	8	9.8 / 73.4	
	36	〃	〃	13.35	88.0	-3	-11	-7 / -27.5	0	0	0 / 6.5	6	7	10	9	8 / 81.4	
	40	〃	〃	13.69	90.25	-23	-13	-18 / -45.5	0	-4	-2 / 4.5	26	10	16	11	15.8 / 97.2	
	44	〃	〃	14.03	92.5	-21	-11	-16 / -61.5	0	-8	-4 / 0.5	25	18	13	13	17.3 / 114.5	
	48	〃	〃	14.33	94.5	-9	-13	-11 / -72.5	-8	0	-4 / -3.5	1	10	20	10	10.3 / 124.8	
	52	〃	〃	14.67	96.75	-10	-12	-11 / -83.5	-6	0	-3 / -6.5	1	10	15	10	9 / 133.8	
	56	〃	〃	15.01	99.0	-3	-10	-6.5 / -90	-5	-2	-3.5 / -10	5	7	12	7	7.8 / 141.6	
	3:00	〃	〃	15.36	101.25	-2	-9	-5.5 / -95.5	-4	-1	-2.5 / -12.5	5	8	13	8	8.5 / 150.1	
	4	〃	〃	15.70	103.5	-15	-28	-16.5 / -112	-22	0	-11 / -23.5	17	27	42	17	25.8 / 175.8	
	8	〃	〃	16.00	105.5	-16	-28	-22 / -134	-18	-1	-9.5 / -33	18	28	42	15	25.8 / 201.7	
	12	〃	〃	16.34	107.75	-6	-25	-15.5 / -149.5	-12	0	-6 / -39	10	38	19	10	19.3 / 221	
	16	〃	〃	16.68	110.0	-18	-25	-21.5 / -171	-16	0	-8 / -47	7	16	30	7	15 / 236	
	20	〃	〃	17.02	112.25	-2	-26	-14 / -185	-15	-2	-8.5 / -55.5	5	18	20	18	15.3 / 251.3	
	24	〃	〃	17.37	114.5	-18	-43	-30.5 / -215.5	-27	0	-13.5 / -69	18	66	54	37	43.8 / 295.1	
	28	〃	〃	17.67	116.5	-32	-18	-25 / -240.5	-13	-8	-10.5 / -79.5	40	6	12	6	16 / 311.1	
	32	〃	〃	17.97	118.5	-6	-18	-12 / -252.5	-14	-1	-7.5 / -87	0	16	32	12	15 / 326.1	
	36	〃	〃	18.35	121.0	-16	-33	-24.5 / -277	-26	0	-13 / -100	10	52	25	14	25.3 / 351.4	
	40	〃	〃	18.65	123.0	-4	-18	-11 / -288	-7	0	-3.5 / -103.5	8	10	16	9	10.8 / 362.2	
	44	〃	〃	18.96	125.0	-13	-28	-20.5 / -308.5	-19	0	-9.5 / -113	17	42	37	3	24.8 / 387	
	48	〃	〃	19.34	127.5	-15	-41	-28 / -336.5	-22	-2	-12 / -125	7	48	45	44	36 / 423	
	52	〃	〃	19.68	129.75	-37	-31	-34 / -370.5	-32	-5	-18.5 / -143.5	57	24	33	9	30.8 / 453.8	
	56	〃	〃	20.02	132.0	-10	-26	-18 / -388.5	-19	-5	-10.5 / -154	7	46	23	5	20.3 / 474.1	
	4:00	〃	〃	20.36	134.25	-7	-40	-23.5 / -412	-25	0	-12.5 / -166.5	52	60	46	16	43.5 / 517.6	
	4	〃	〃	20.70	136.5	-31	-57	-44 / -456	-36	-1	-18.5 / -185	-17	48	76	31	34.5 / 552.1	
	8	〃	〃	21.01	138.5	-22	-45	-33.5 / -489.5	-38	-2	-20 / -205	5	47	31	12	23.8 / 575.9	
	12	〃	〃	21.38	141.0	-33	-48	-40.5 / -530	-42	-3	-22.5 / -227.5	33	75	74	10	45 / 623.9	

ROCK SHEAR TEST DATA SHEET (4) Measuring Point TD. 15.7m Block No. DA-1, BS-4 N= 8 kg/cm²

Time	Time Elapsed	Vertical Jack: Vertical Stress (kg/cm²)	Vertical Jack: Jack Pressure (kg/cm²)	Diagonal Jack: Horizontal Stress (kg/cm²)	Diagonal Jack: Jack Pressure (kg/cm²)	Vertical Displacement (x 10⁻³ mm) ①	②	(①+②)/2	③	④	(③+④)/2	Horizontal Displacement (x 10⁻³ mm) ⑤	⑥	⑦	⑧	(⑤~⑧)/4	Remarks
	16	8	67	21.69	143.0	-16	-26	-21 / -551	-17	-7	-12 / -239.5	2	40	43	14	24.2 / 648.7	
	20	〃	〃	22.03	145.25	-23	-27	-25 / -576	-17	-7	-12 / -251.5	20	55	67	18	35 / 683.7	
	24	〃	〃	22.37	147.5	-35	-50	-42.5 / -618.5	-58	-15	-36.5 / -288	20	75	63	47	51.3 / 735	
	28	〃	〃	22.67	149.5	-40	-76	-58 / -676.5	-22	-13	-17.5 / -305.5	40	130	115	19	76 / 811	
	32	〃	〃	23.05	152.0	-37	-61	-49 / -725.5	43	-11	16 / -289.5	15	130	137	15	74.3 / 885.3	
	36	〃	〃	23.36	154.0	-43	-53	-48 / -773.5	-52	-26	-39 / -328.5	21	120	115	48	76 / 961.3	
	40	〃	〃	23.66	156.0	-26	-53	-39.5 / -813	-51	-8	-29.5 / -358	24	90	60	10	46 / 1007.3	
	44	〃	〃	23.96	158.0	-39	-45	-42 / -855	-52	-7	-29.5 / -387.5	30	102	116	122	92.5 / 1099.8	
	48	〃	〃	24.34	160.5	-30	-37	-33.5 / -888.5	-71	-26	-48.5 / -436	50	118	109	46	80.8 / 1180.6	
	52	〃	〃	24.65	162.5	-80	-53	-66.5 / -955	-49	-44	-46.5 / -482	90	80	91	87	87 / 1267.6	
	56	〃	〃	25.02	165.0	-100	-111	-105.5 / -1060.5	-156	-79	-117.5 / -600	120	190	118	105	133.3 / 1400.9	
	5:00	〃	〃	25.33	167.0	-228	-831	-529.5 / -1590	-447	-356	-401.5 / -1001.5	580	1180	974	455	797.3 / 2198.2	
	4	〃	〃														
	8	〃	〃														
	12	〃	〃														
	16	〃	〃														

*** Hagiwara's analysis method:**

As shown in Fig. A, this method considers the ground to be a two layered structure, with velocity in the upper layer V_1 and velocity in the lower layer, V_2. T_{AP} is travel time of refracted wave from shot point A, received at P; T_{BP} is travel time of the refracted wave from B to P; and T_{AB} is travel time of the refracted wave from A to B (The white circles in the figure represent travel times of refracted waves received at P. The X marks represent travel times of direct waves–those waves received at P that are propagated in the first layer only.) Here, T_{AP}, T_{BP} and T_{AB} are quantities obtainable through direct observation. The quantity t_0, where

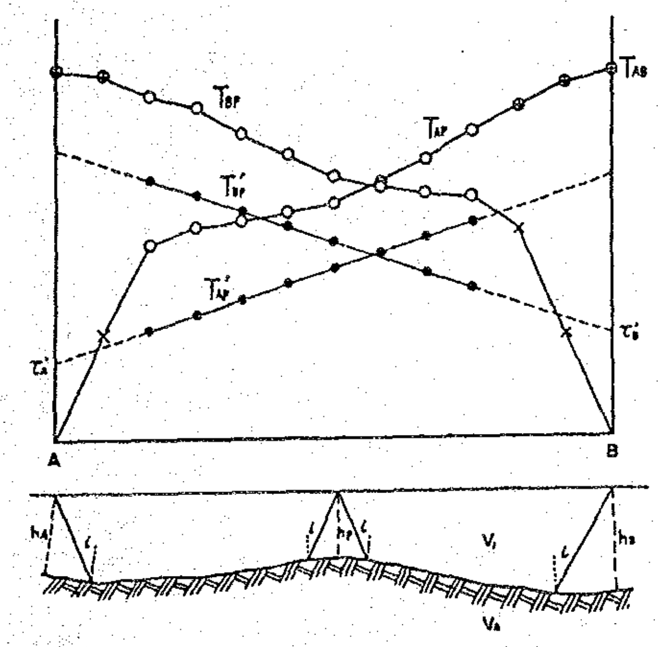
$$t_0 = T_{AP} + T_{BP} - T_{AB} \qquad (a)$$

is called zero travel time. The quantities T_{AP}' and T_{BP}', where

$$\left.\begin{aligned} T_{AP}' &= T_{AP} - t_0/2 = (T_{AP} - T_{BP} + T_{AB})/2 \\ T_{BP}' &= T_{BP} - t_0/2 = (T_{BP} - T_{AP} + T_{AB})/2 \end{aligned}\right\} \qquad (b)$$

are called velocity travel time (the black circles in the figure indicate velocity travel time). The curve that successively joins the velocity travel times determined for each receiving point is called the velocity travel time curve. Theoretically, this is a straight line, and its slope indicates velocity V_2 of the lower layer. Velocity V_1 of the upper layer is determined from the travel time of the direct wave mentioned above.

Fig. A Explanation of Hagiwara's analysis method



If we designate the length of a perpendicular line drawn from receiving point P to the surface of the lower layer (depth of the lower layer) h_P,

$$h_P = \frac{V_1(T_{AP}+T_{BP}-T_{AB})}{2\cos i} \qquad (c)$$

where $\sin i = V_1/V_2$, meaning that h_P may be determined.

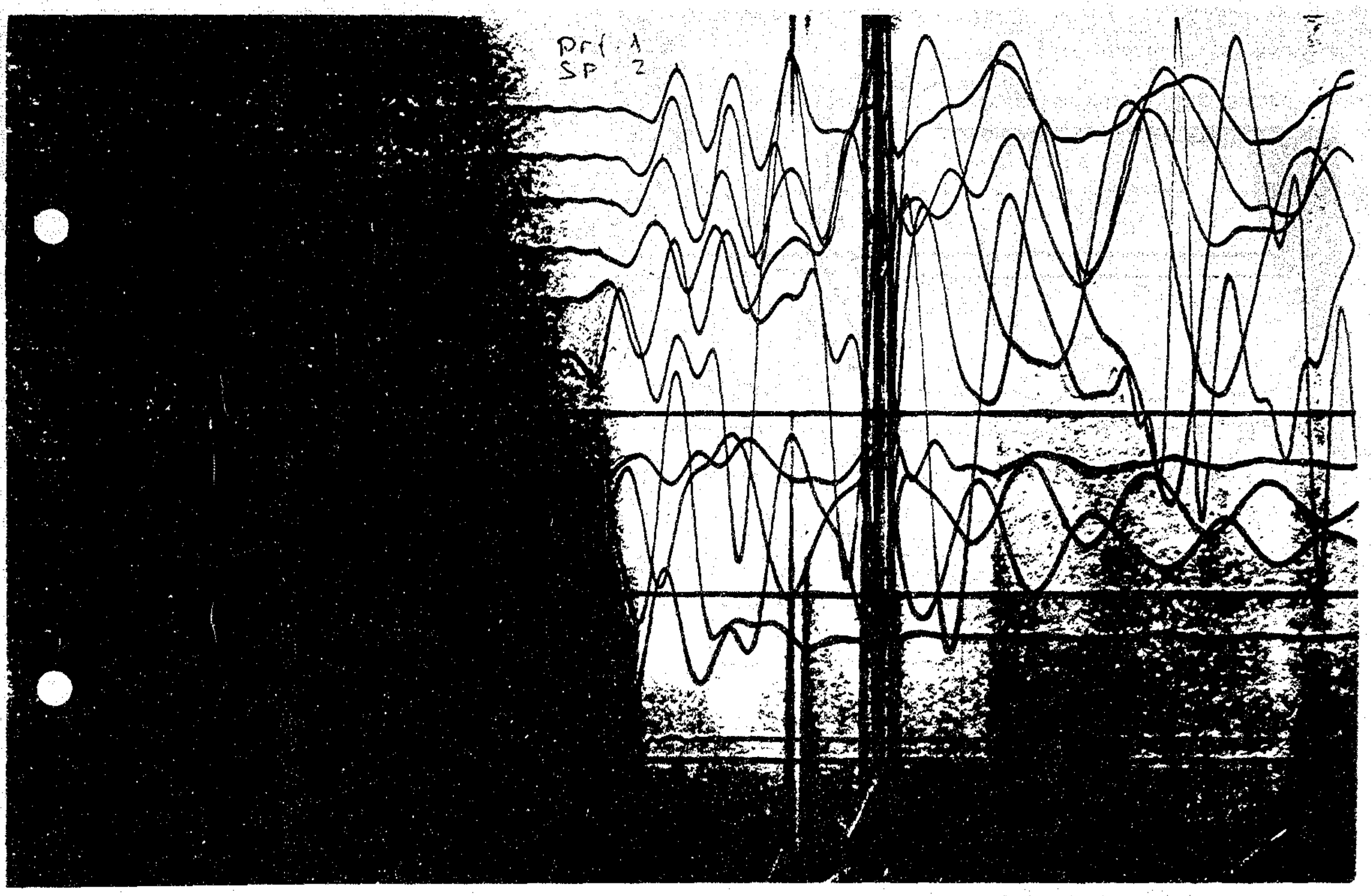
We have seen that where T_{AP} and T_{BP} are both known for the receiving point, depth of the lower layer can be determined using Formula (c). However, for the points marked ⊕ in the figure, only one of the values, T_{AP} or T_{BP} is known. For these receiving points, Formula (b) is substituted into Formula (c), giving us:

$$\left.\begin{aligned} h_P &= \frac{V_1(T_{AP}-T_{AP}')}{\cos i} \\ h_P &= \frac{V_1(T_{BP}-T_{BP}')}{\cos i} \end{aligned}\right\}$$

Here, the values T_{AP}' or T_{BP}' extend the velocity travel time curve. The values at P read off from this extended curve may be used.

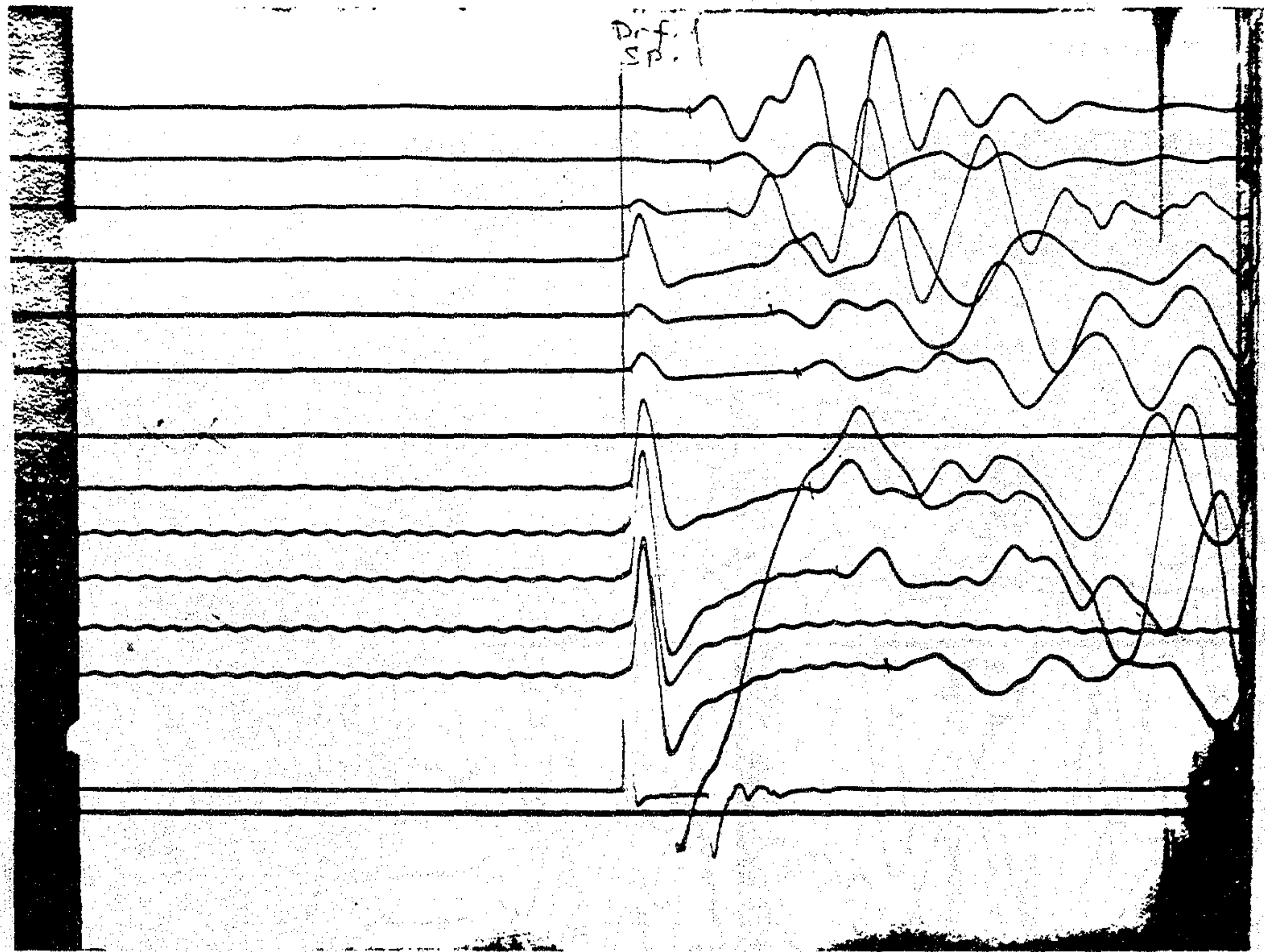
Also, if we designate the value of the point where velocity travel time curve T_{AP}' intersects the vertical axis at shot point A as τ_A' and the point where T_{BP}' intersects the vertical axis at shot point B as τ_B', the following formulas are obtained:

$$\left.\begin{aligned} h_A &= \frac{V_1\tau_A'}{\cos i} \\ h_B &= \frac{V_1\tau_B'}{\cos i} \end{aligned}\right\} \qquad (d)$$



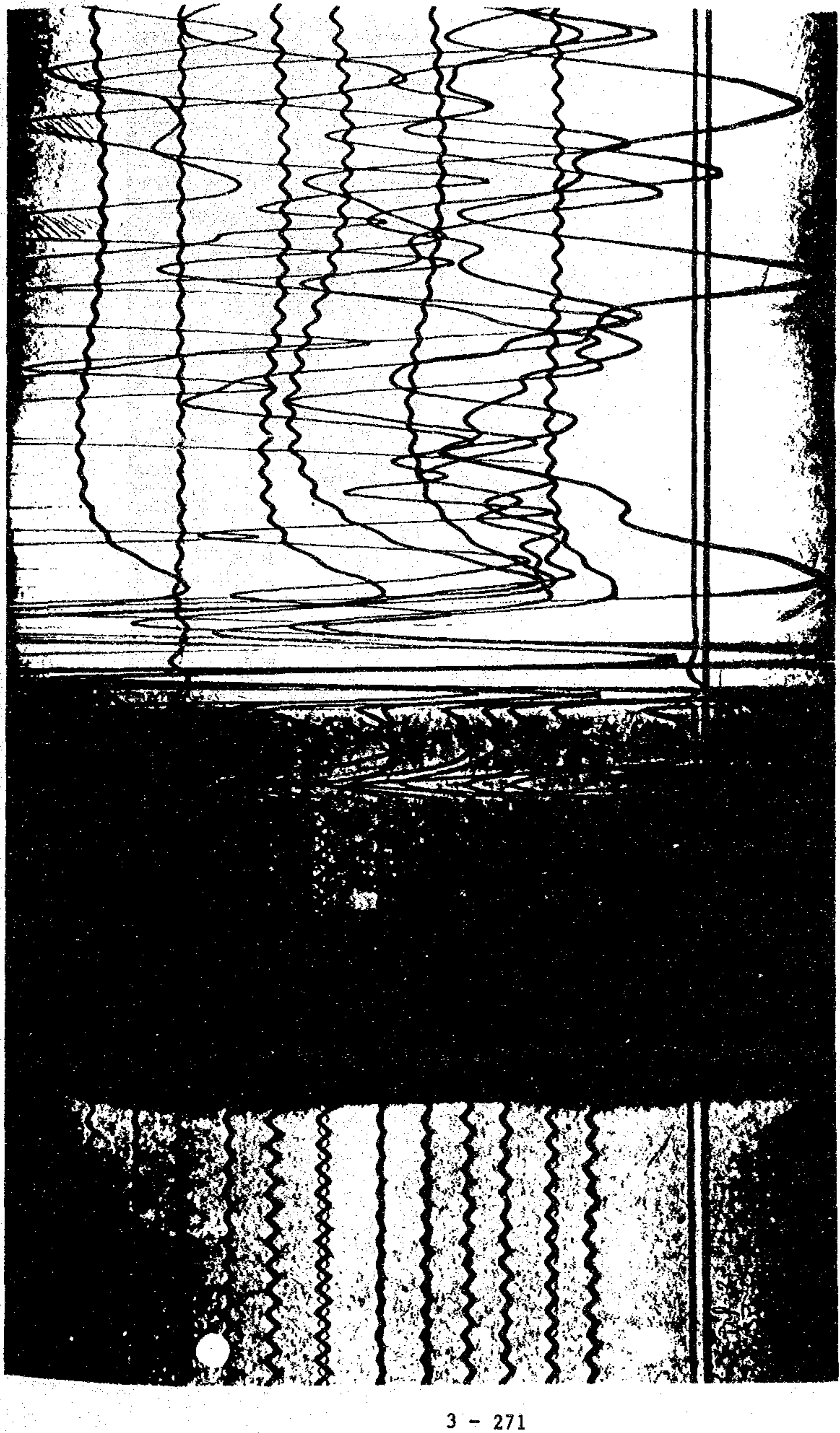
Seismic Prospecting Record

PS-1 Line Shot Point No. I



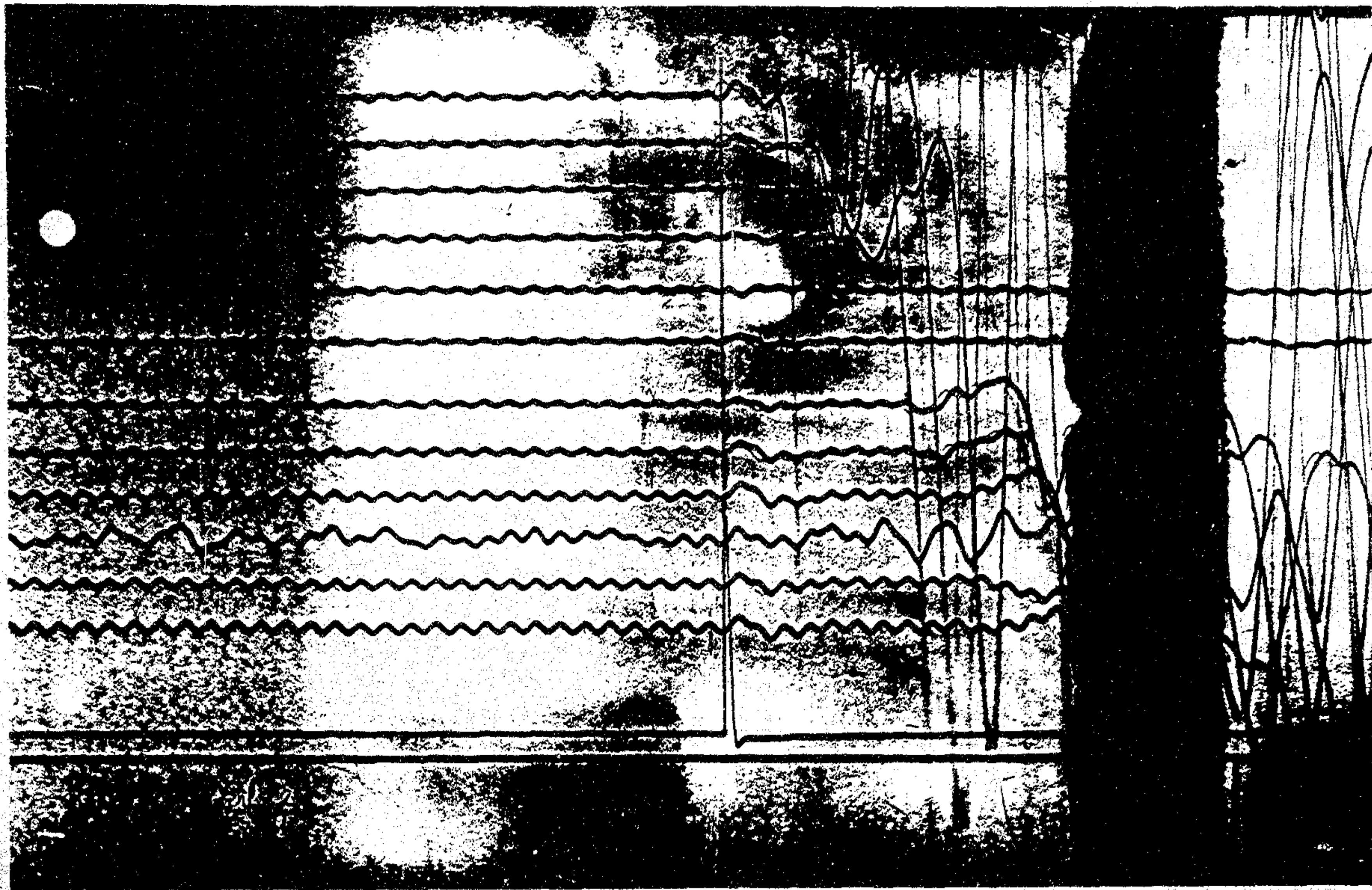
Seismic Prospecting Record

PS-1 Line Shot Point No. II



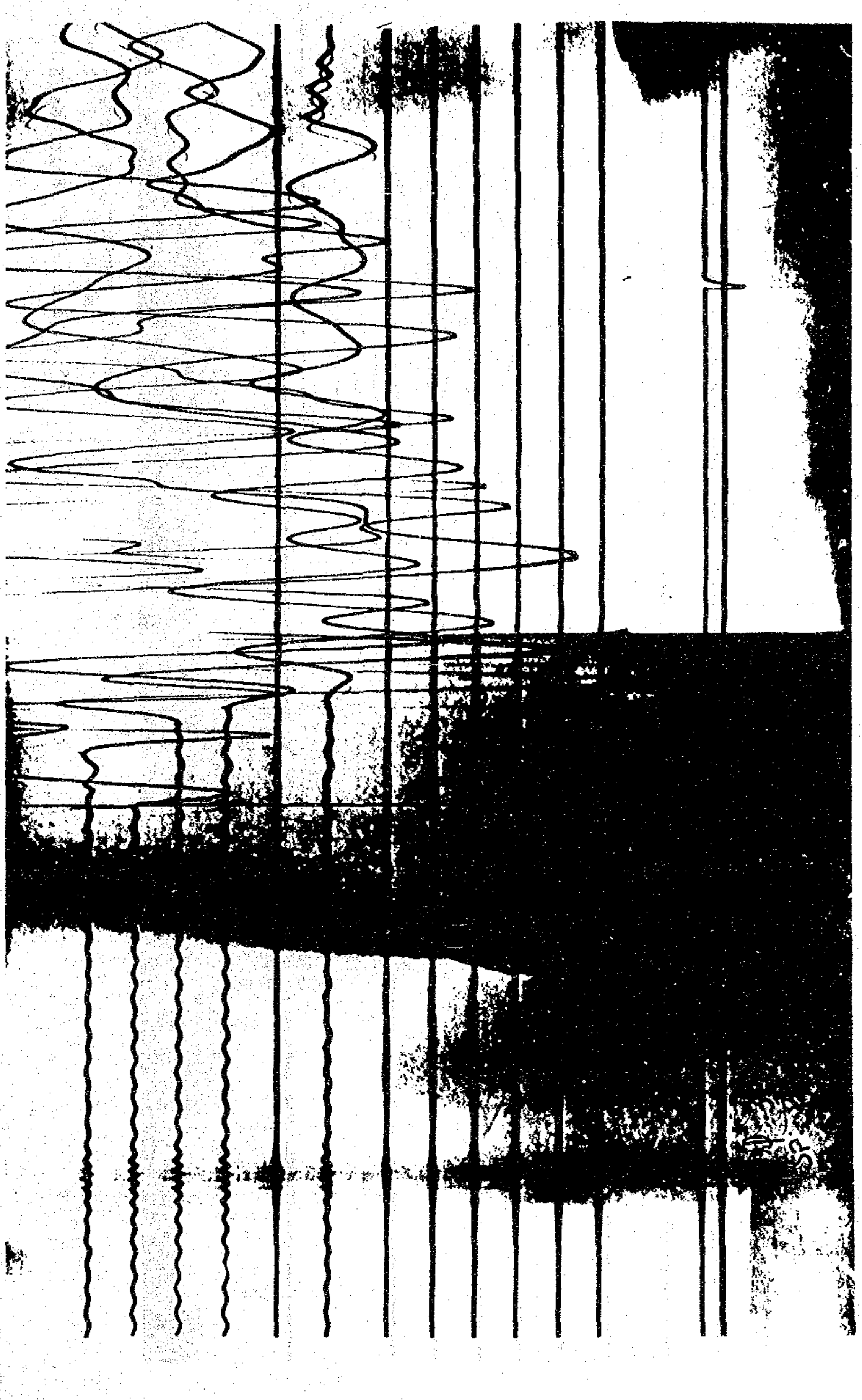
Seismic Prospecting Record

PS-2 Line   Shot Point No. I



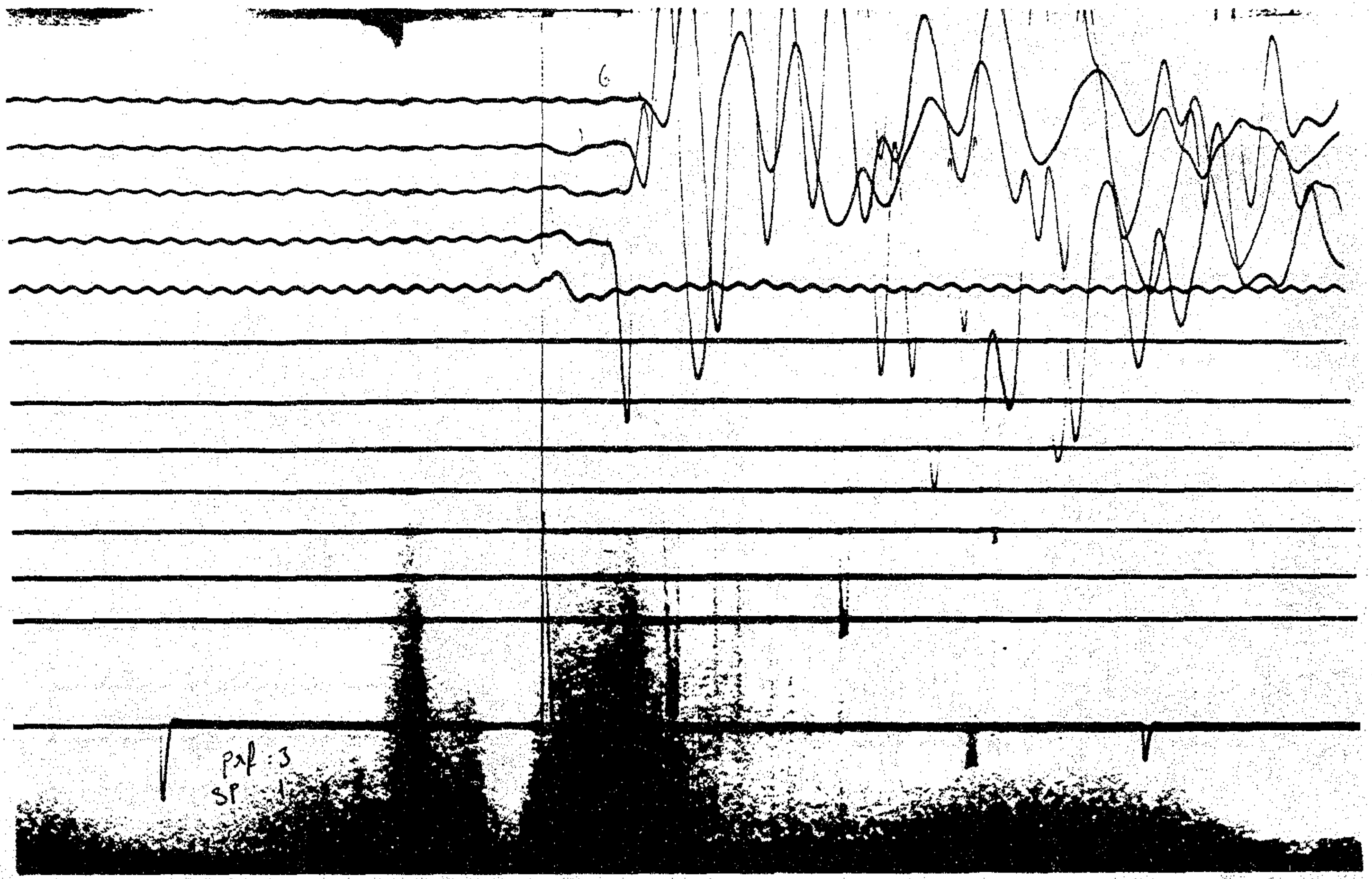
Seismic Prospecting Record

PS-2 Line Shot Point No. II



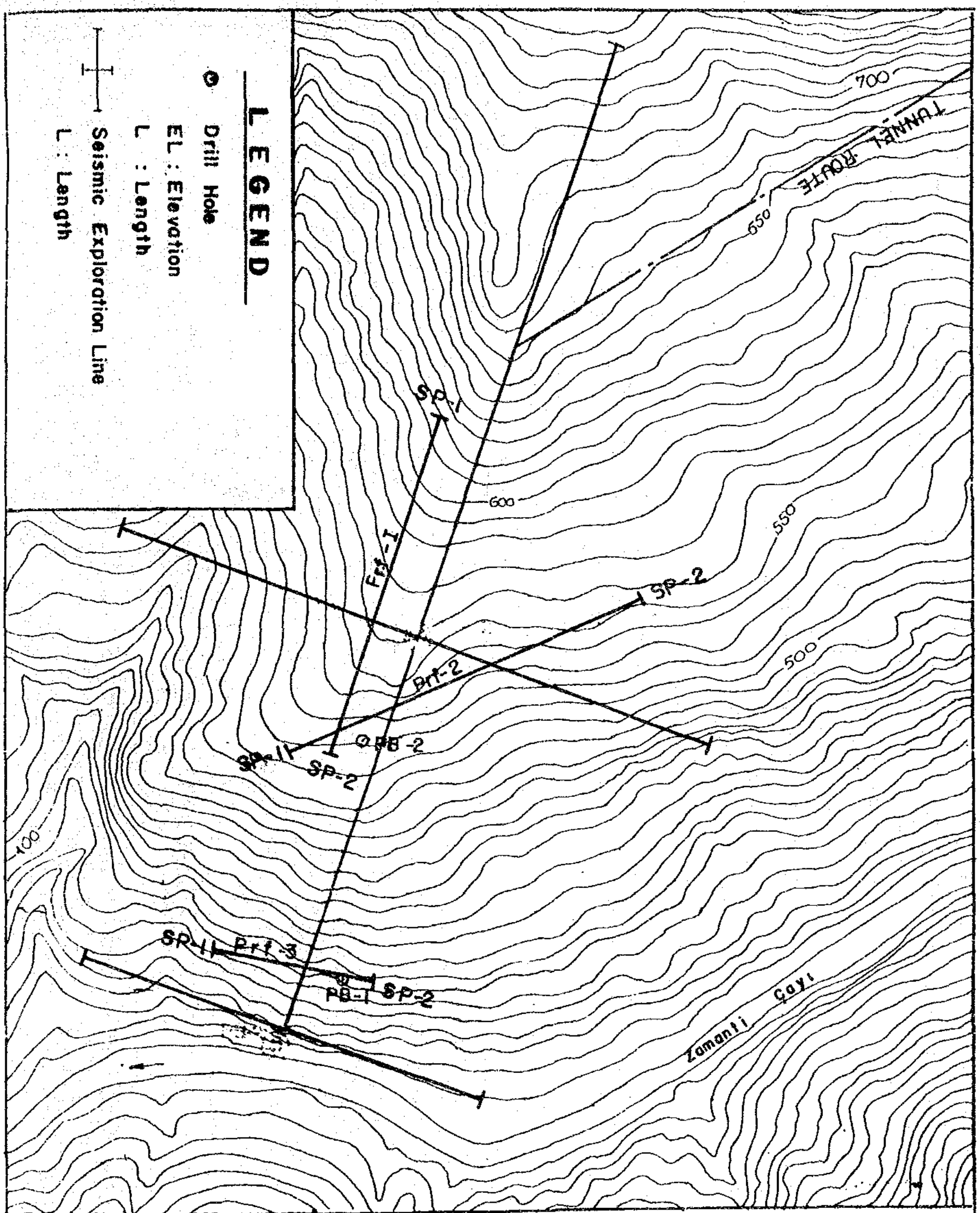
Seismic Prospecting Record

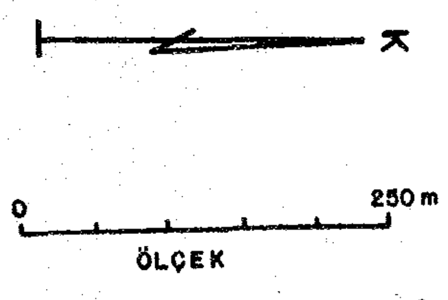
PS-3 Line   Shot Point No. I



Seismic Prospecting Record

PS-3 Line   Shot Point No. II



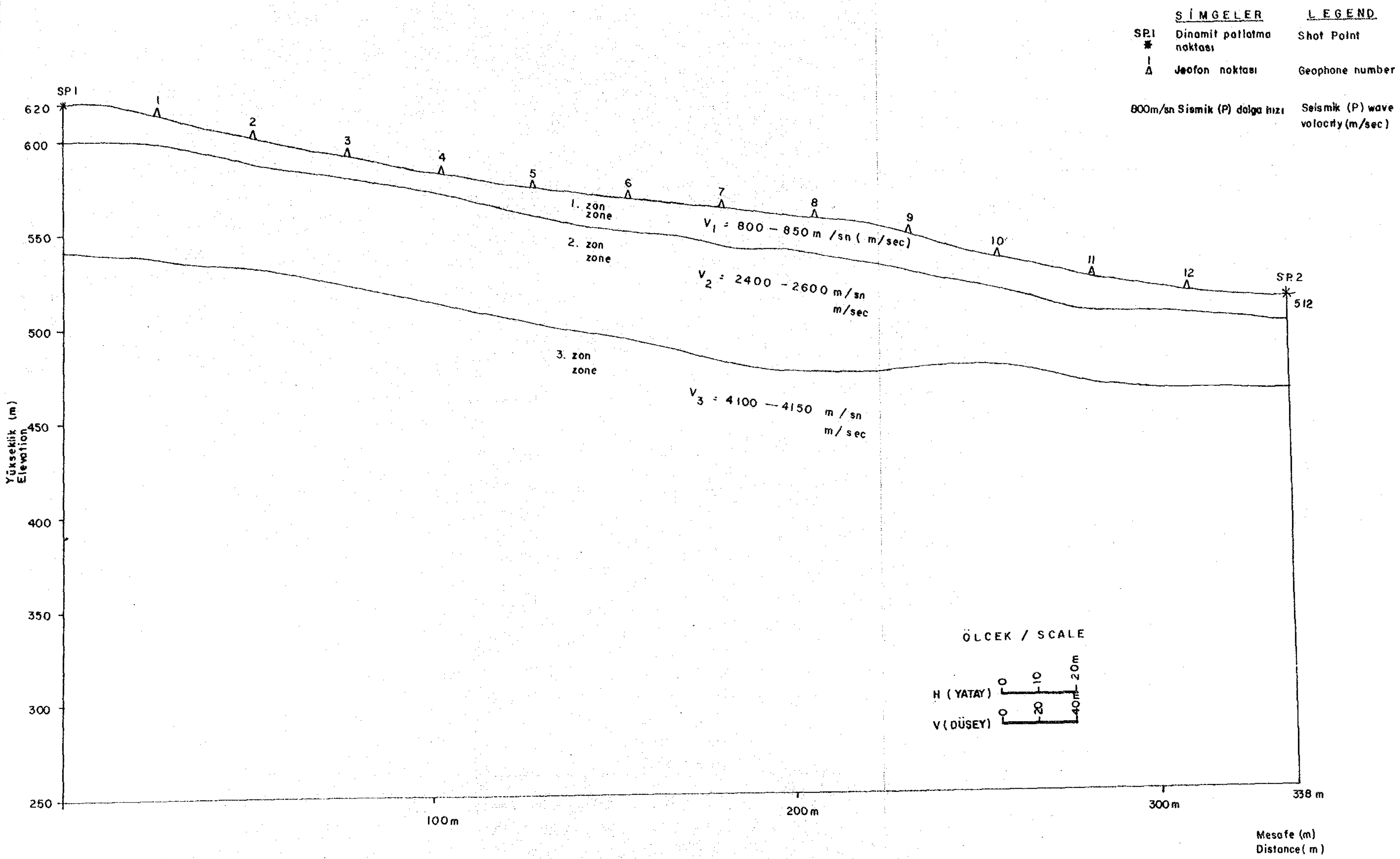


DEVLET SU İŞLERİ GENEL MÜDÜRLÜĞÜ
JEOTEKNİK HİZMETLER VE YERALTISULARI
DAİRESİ BAŞKANLIĞI
ANKARA

LOCATION OF GEOLOGICAL INVESTIGATION WORKS

PENSTOCK AND POWERHOUSE-PLANE

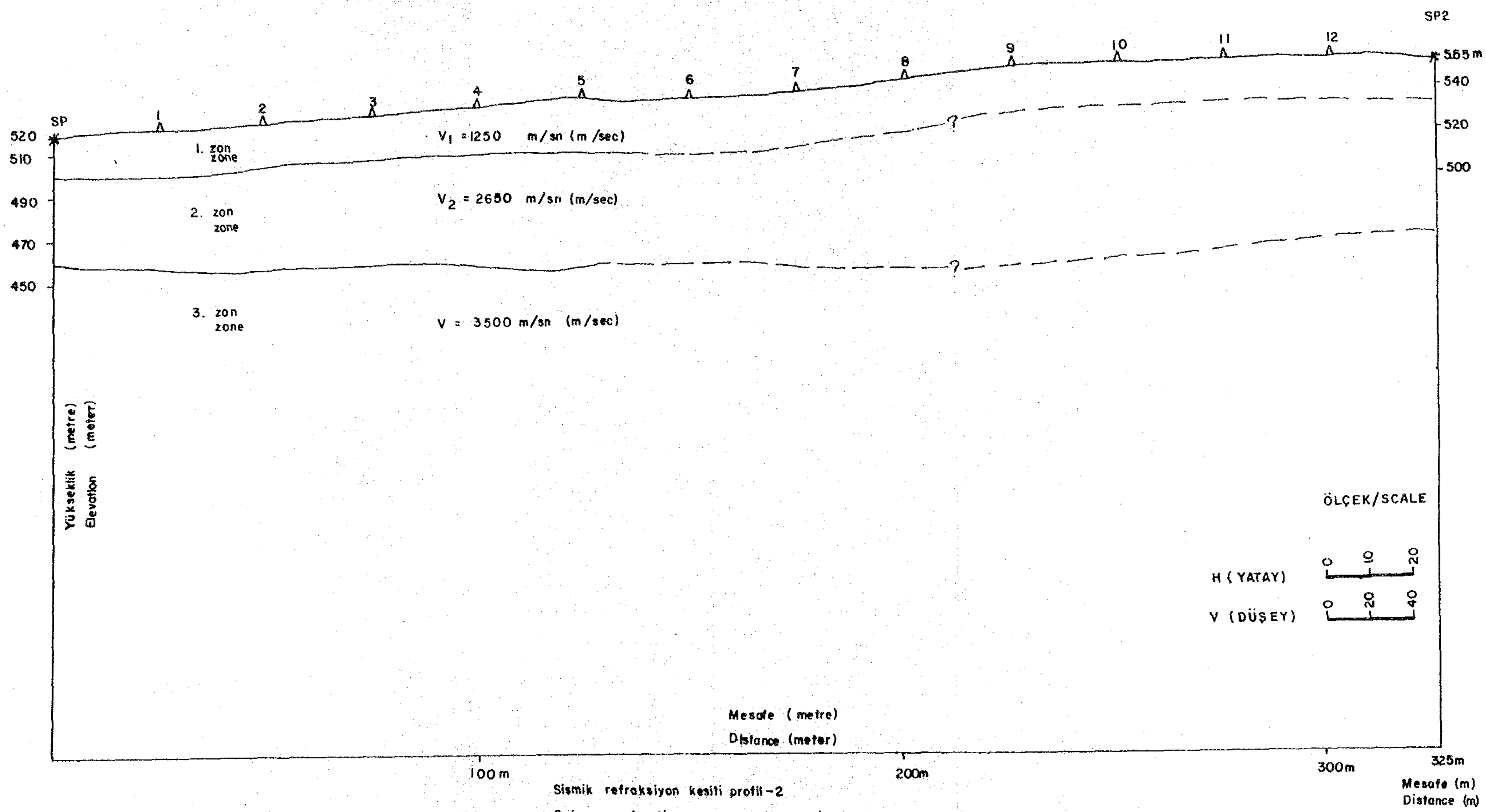
YAPAN : Ö.L. UZUN	KONTROL :	TASDİK OLUNUR
ÇİZEN : S.KBULUT	TASVİP :	
ÖLÇEK :	ARŞİV NO. :	Tarih / /



Sismik refraksiyon kesiti profil—I

Selsmic refraction cross section profile—I

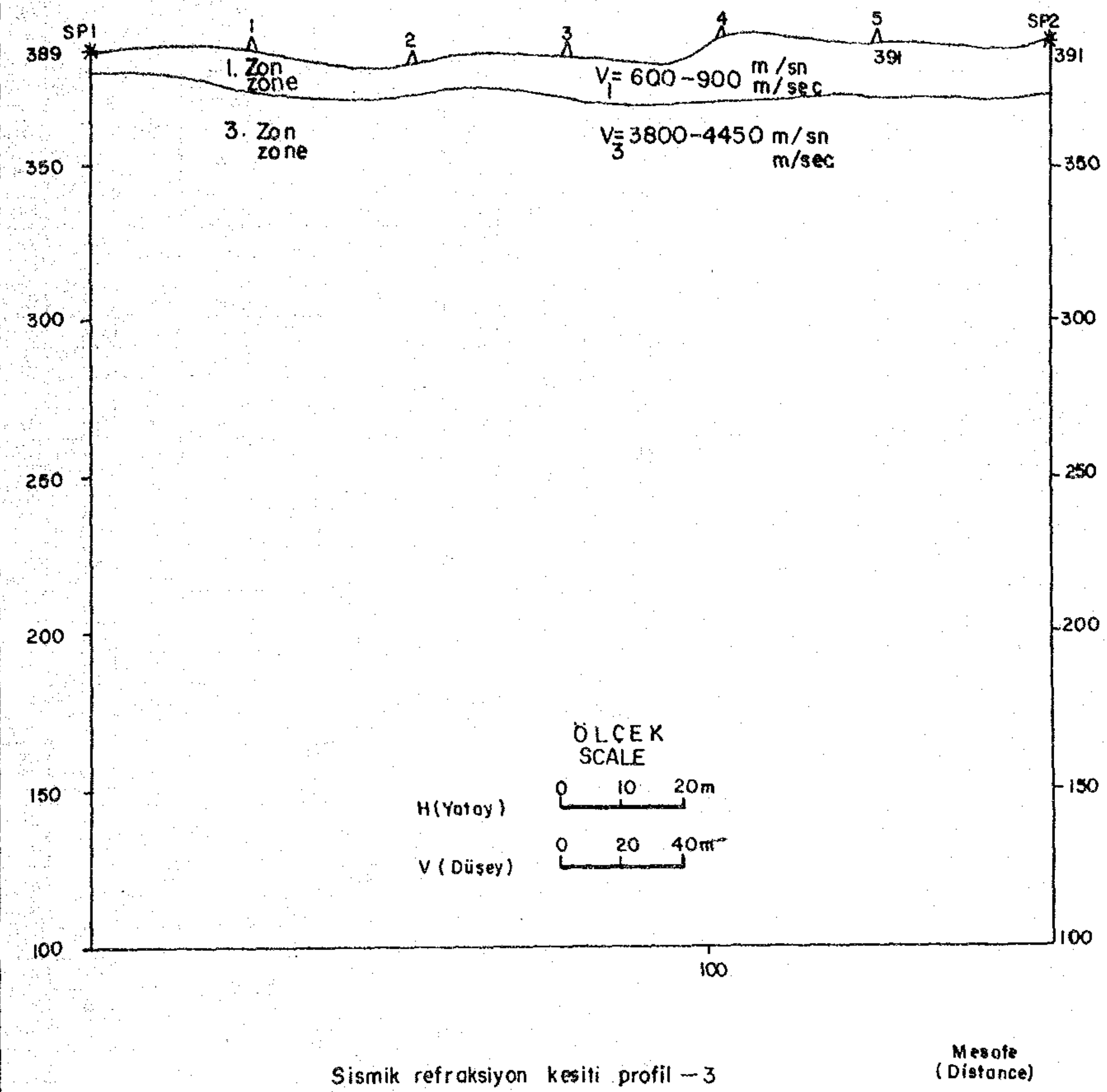
C. KAPTAN
Ö.L. UZUN



Sismik refraksiyon kesiti profil-2

Seismic refraction cross section profile-2

C. KAPTAN
Ö. L. UZUN



Sismik refraksiyon kesiti profil – 3

Seismic refraction cross section profile–3

DEVLET SU İŞLERİ GENEL MÜDÜRLÜĞÜ
JEOTEKNİK HİZMETLER VE YERALTISULARI
DAİRESİ BAŞKANLIĞI
A N K A R A

GÖKTAŞ BARAJI
SİSMİK REFRAKSIYON KESİTİ

YAPAN : C.KAPTAN	KONTROL :	TASDİK OLUNUR
ÇİZEN : N.TUĞ	TASVİP :	
ÖLÇEK :	ARŞİV NO. :	Tarih / /

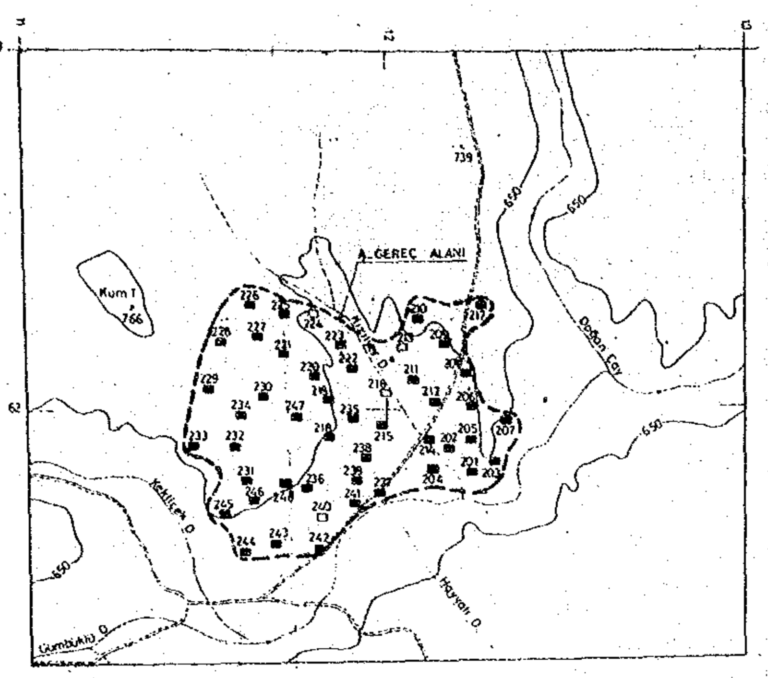
Result of Laboratory Test for Core Material(1/2)

Item / Sample No.	Grading				Atterberg limits (%)			Soil classification	Specific gravity	(Optimum moisture content) Compaction Test		Triaxial Shear strength		Coefficient of Permeability
	Silt-clay under 0.074mm	Sand	gravel over 5mm	Max grain size (mm)	LL	PL	PI		Gs (t/m³)	ρd max (g/cm³)	ωopt (%)	C (kgf/cm²)	φ (°)	K (cm/sec)
A-201	10	32	58	50	31.8	21.3	10.5	GP-GC	2.74	1.80	19.3	1.05	20	6.4×10^{-7}
A-202	44.5	43.5	12	26	44.8	33.4	11.4	SM	2.69	1.58	19.5	–	–	–
A-203	23	55	22	38	38.4	27.2	11.2	SM	2.65	1.80	10.2	–	–	–
A-204	22	56.5	21.5	38	34.0	24.9	9.1	SM	2.76	1.75	17.0	–	–	–
A-205	28.5	37.5	34	50	49.4	29.2	20.2	SM-SC	2.61	1.54	24.0	1.6	20	7.1×10^{-7}
A-206	29	62	9	20	35.9	28.0	7.9	SM	2.66	1.68	20.3	–	–	–
A-207	24	37	39	38	44.2	28.1	16.1	SM	2.66	1.87	20.1	–	–	–
A-208	30	54	16	38	38.6	28.1	10.5	SM	2.64	1.66	20.0	1.3	20	4.5×10^{-6}
A-209	28	59	13	38	–	–	–	SM	2.76	1.68	20.5	–	–	–
A-210	38	52	10	38	37.4	26.0	11.4	SM	2.77	1.62	22.4	–	–	–
A-211	32	55	13	38	33.1	25.5	7.6	SM	2.71	1.72	18.9	–	–	–
A-212	48	46	6	19	40.6	28.3	12.3	SM	2.71	1.61	23.8	1.2	20	–
A-214	26	60.5	13.5	38	–	–	–	SM	2.76	1.67	20.0	–	–	–
A-215	64	33	3	30	52.4	26.7	25.7	CH-MH	2.73	1.57	23.0	2.0	13	8.6×10^{-7}
A-217	18	58	24	38	32.3	25.3	7.0	SM	2.77	1.85	15.0	–	–	–
A-218	22	30	48	58	55.5	28.6	26.9	GC	2.65	1.62	20.4	1.25	12	–
A-219	57	39	4	19	45.1	30.0	15.1	ML	2.64	1.52	27.0	–	–	–
A-220	40	46	14	52	41.5	30.4	11.1	SM	2.67	1.55	22.2	–	–	–
A-221	54	25	21	50	58.0	39.9	18.1	MH	2.64	1.38	30.2	–	–	–
A-222	80	19	1	19	51.4	30.8	20.6	MH	2.55	1.43	27.0	1.7	24	5.9×10^{-7}
A-223	69	27	4	15	49.8	31.7	18.1	ML	2.70	1.48	25.0	1.7	21	3.3×10^{-7}
A-225	46	54	–	5	45.0	24.2	20.8	SC	2.67	1.59	23.0	–	–	–
A-226	57	43	–	15	45.8	26.1	19.7	CL-ML	2.59	1.6	21	1.15	24	–
A-227	53	45	2	15	41.6	26.5	15.1	ML	2.64	1.57	22	–	–	–
A-228	20	33	47	76	38.1	26.5	11.6	GM	2.71	1.62	20	–	–	–
A-229	36	62.5	1.5	9.5	48.1	26.2	21.9	SC	2.67	1.61	23	1.10	18	2.4×10^{-7}
A-230	53	26	21	38	49.2	24.9	24.3	CL	2.71	1.61	22	–	–	–
A-231	58	21	21	19	61.9	35.6	26.3	MH	2.74	1.42	25	–	–	–
A-232	38	34	28	38	45.3	29.0	16.3	GM-SM	2.71	1.50	27	–	–	–
A-233	44	33.5	22.5	38	49.4	27.2	22.2	SC	2.68	1.66	18	2.0	16	–
A-234	57	41	2	9.5	45.7	28.8	16.9	ML	2.67	1.53	23	–	–	–
A-235	86.5	9.5	4	19	77.0	26.8	50.2	CH	2.71	1.46	25	–	–	–
A-236	82	17	1	15	82.3	29.0	53.3	CH	2.66	1.38	28	1.55	10	4.2×10^{-7}
A-237	68	26.5	5.5	38	37.2	23.9	13.3	CL-ML	2.64	1.65	19	–	–	–

Result of Laboratory Test for Core Material(2/2)

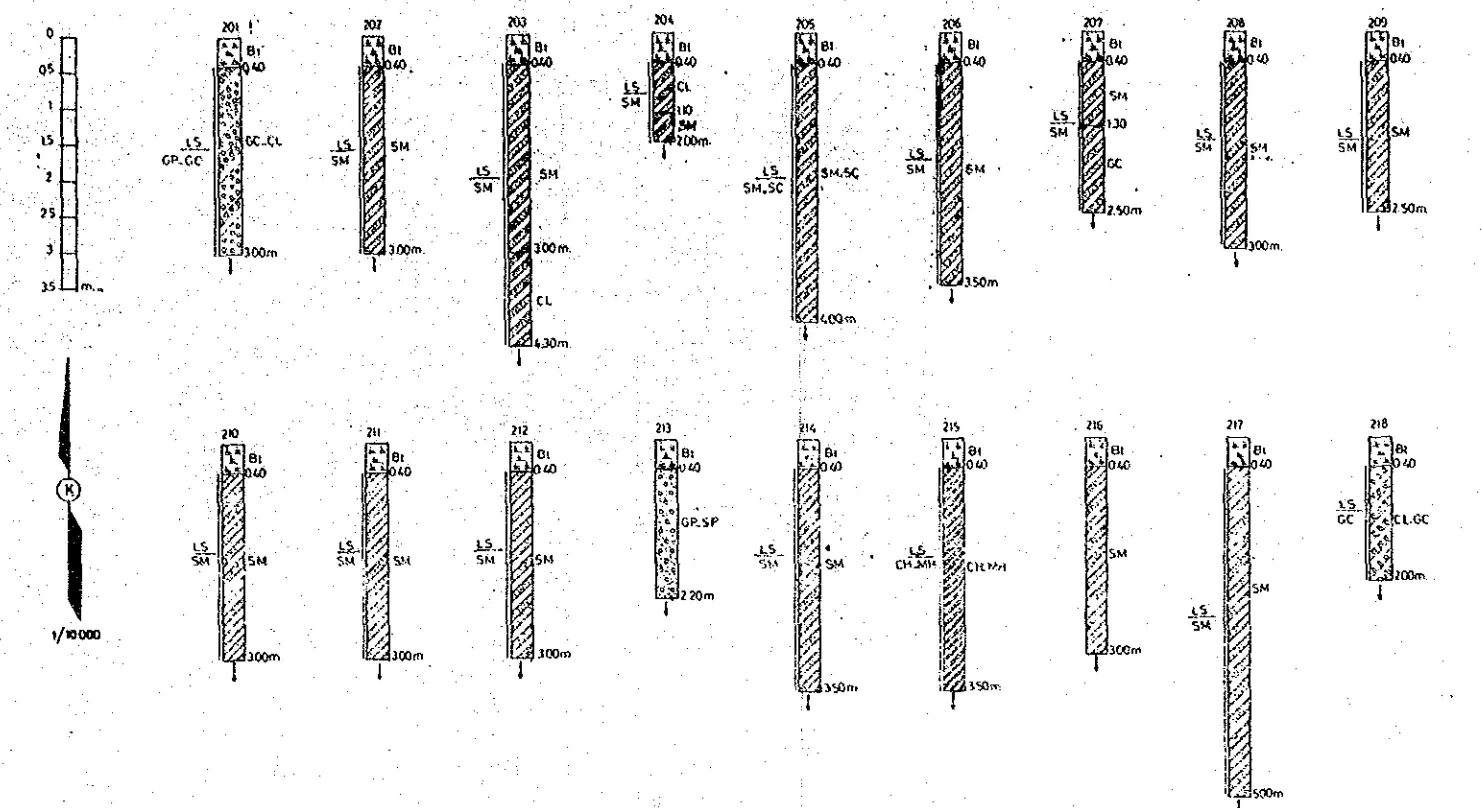
Item / Sample No.	Grading				Atterberg limits (%)			Soil classification	Specific gravity	(Optimum moisture content) Compaction Test		Triaxial Shear strength		Coefficient of Permeability
	Silt-clay under 0.074mm	Sand	Gravel over 5mm	Max grain size (mm)	LL	PL	PI		Gs (t/m³)	ρd max (g/cm³)	ωopt (%)	C (kgf/cm²)	φ (°)	K (cm/sec)
A-238	21	25	54	50	60.8	30.2	30.6	GC	2.75	1.83	21	–	–	–
A-239	62	26	12	38	44.8	25.9	22.9	CL	2.63	1.64	18	2.35	19	2.1×10^{-7}
A-241	41	58	1	9.5	34.8	19.7	15.1	SC	2.71	1.69	18	–	–	–
A-242	47	44.5	8.5	19	51.0	29.2	21.8	SM	2.66	1.63	18	–	–	–
A-243	42	32	26	38	32.2	17.3	14.9	SC	2.72	1.83	14	1.37	15	–
A-244	65	28.5	6.5	25	42.0	24.1	17.9	CL	2.73	1.61	20	–	–	–
A-245	16.5	42	41.5	50	–	–	–	SM	2.79	1.84	15	0.9	23	–
A-246	53	37	10	19	51.3	30.6	20.7	MH	2.64	1.51	24	–	–	–
A-247	29	43.5	27.5	38	49.0	24.0	25.0	SC	2.75	1.70	20	–	–	–
A-248	67	12.5	20.5	38	75.2	30.1	45.1	CH	2.74	1.40	29	–	–	–
B-301	56.5	31	12.5	38	58.2	30.8	27.4	ML	2.68	1.58	22.5	–	–	–
B-302	38	51	11	38	45.4	25.1	20.3	SC	2.73	1.66	20.5	–	–	–
B-303	53	30	17	38	61.3	29.9	31.4	CH-MH	2.73	1.49	25.8	–	–	–
B-304	30	56	14	9.5	49.2	25.3	23.9	SC	2.71	1.63	19.0	–	–	–
B-305	55	22	23	38	46.0	26.4	19.6	SC-SM	2.71	1.64	19.7	1.5	20	–
B-306	44	39	17	38	60.0	29.8	30.2	CH	2.74	1.53	25.3	–	–	–
B-307	65	13	22	38	80.8	29.5	51.3	CH	2.66	1.45	28.2	1.85	8	–
B-308	54	36	10	19	38.3	23.2	15.1	CL	2.68	1.73	16.9	–	–	–
B-309	51	11	38	76	78.8	30.8	48.0	CH	2.79	1.49	26.8	–	–	–
B-310	43	52	5	9.5	56.0	30.7	25.3	SM	2.69	1.52	26.1	–	–	–
B-311	29	24	47	53	64.4	34.1	30.3	GM	2.74	1.71	19.0	2.15	17	2.9×10^{-7}
B-312	34	34	32	38	46.0	25.6	20.4	SC	2.73	1.60	22.3	–	–	–
B-313	51	25	24	52	50.2	22.1	28.1	CH	2.73	1.61	22.4	–	–	–
B-314	42	30	28	19	49.3	24.9	24.4	SC	2.70	1.71	18.0	–	–	–
B-315	87	8	5	38	67.2	32.3	34.9	CH-MH	2.69	1.51	24.5	2.1	15	2.3×10^{-7}
B-316	90.5	8.5	1	19	66.1	24.6	41.5	CH	2.70	1.52	23.2	–	–	–
B-317	92	7	1	15	69.8	29.1	40.7	CH	2.59	1.56	20.6	2.4	17	–
B-318	53.5	16.5	30	38	50.7	27.1	23.6	CH-MH	2.75	1.65	16.0	–	–	–
B-319	36	44	20	19	49.6	26.3	23.3	SC	2.67	1.59	22.8	–	–	–
B-320	52	38.5	9.5	19	56.7	30.2	26.5	CH-MH	2.69	1.52	25.4	–	–	–
B-321	40	18	42	50	51.8	21.9	29.9	GC	2.68	1.59	23.0	–	–	–

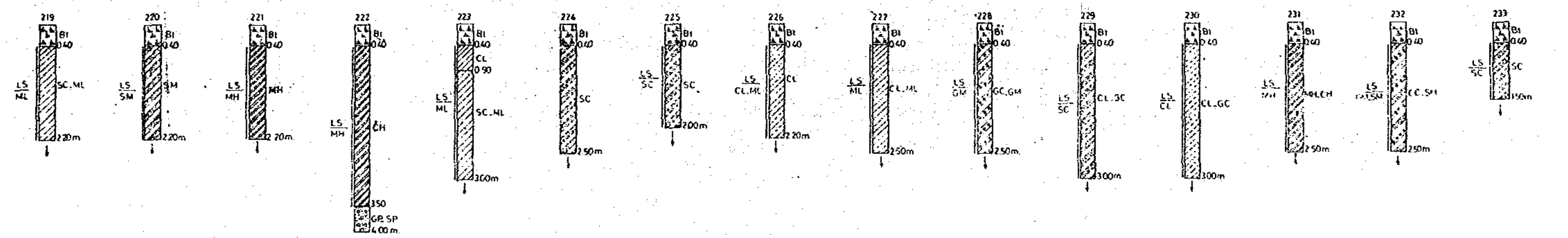
A GEREÇ ALANI

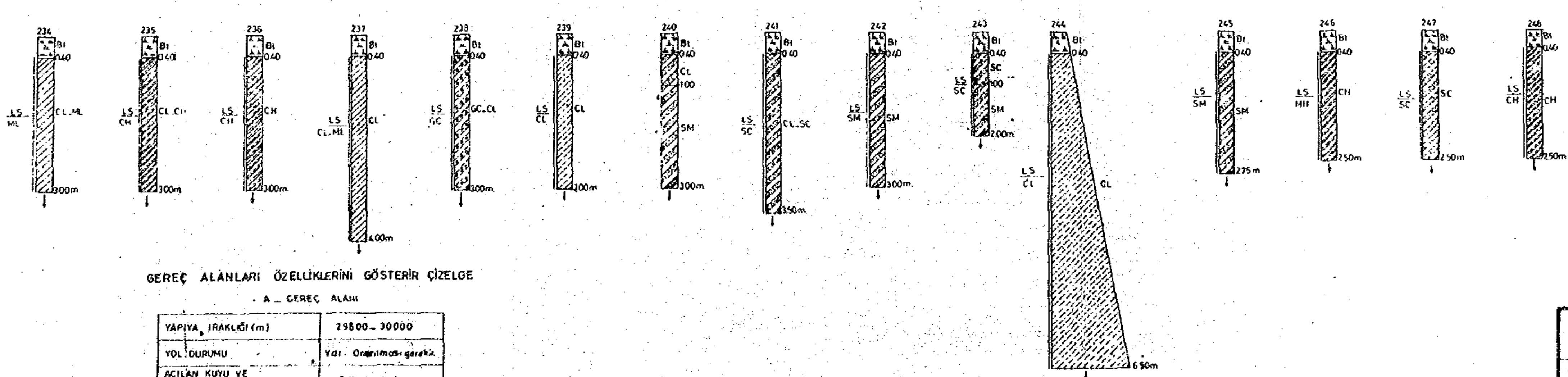


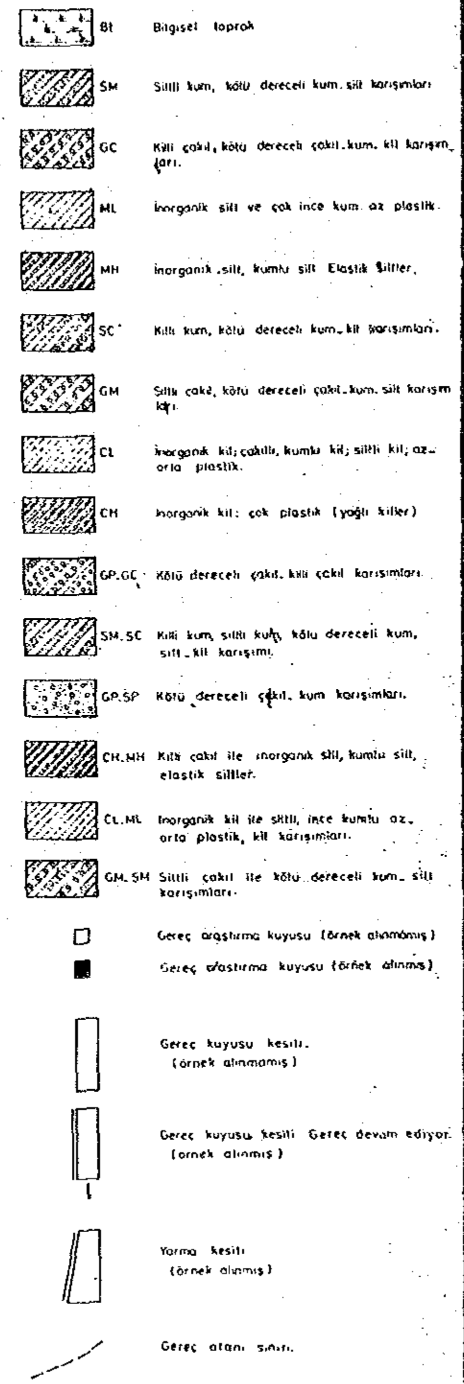
KOZAN _ M34_C3

ÖLÇEK: 1/25000'likten 1/10000'liğe pantograf ile büyütülmüştür.









GEREÇ ALANLARI ÖZELLİKLERİNİ GÖSTERİR ÇİZELGE

A _ GEREÇ ALANI

YAPIYA IRAKLIĞI (m)	29800 - 30000
YOL DURUMU	Yarı · Onarılması gerekir.
AÇILAN KUYU VE YARMA SAYISI	47 Kuyu, 1 Yarma
ORTALAMA SIYIRMA (cm)	0.40
ÖNERİLEN KAZI DERİNLİĞİ (m)	3
GEREÇ NİCELİĞİ (m^3)	1×10^6

DEVLET SU İŞLERİ GENEL MÜDÜRLÜĞÜ
VI BÖLGE MÜDÜRLÜĞÜ
PLANLAMA ŞUBE MÜDÜRLÜĞÜ
ADANA

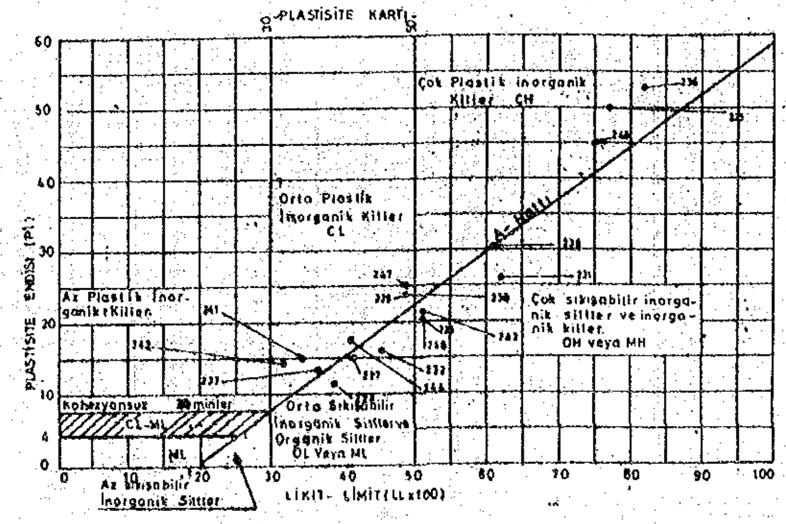
GÖKTAŞ BARAJI ve HES PROJESİ

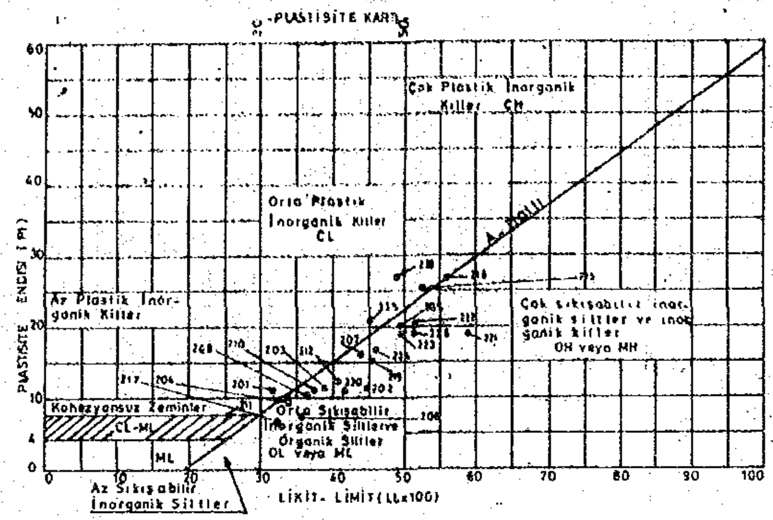
A _ GEÇİRİMSİZ GEREÇ ALANI HARİTASI KUYU KESİTLERİ ve LABARATUVAR SONUÇLARI

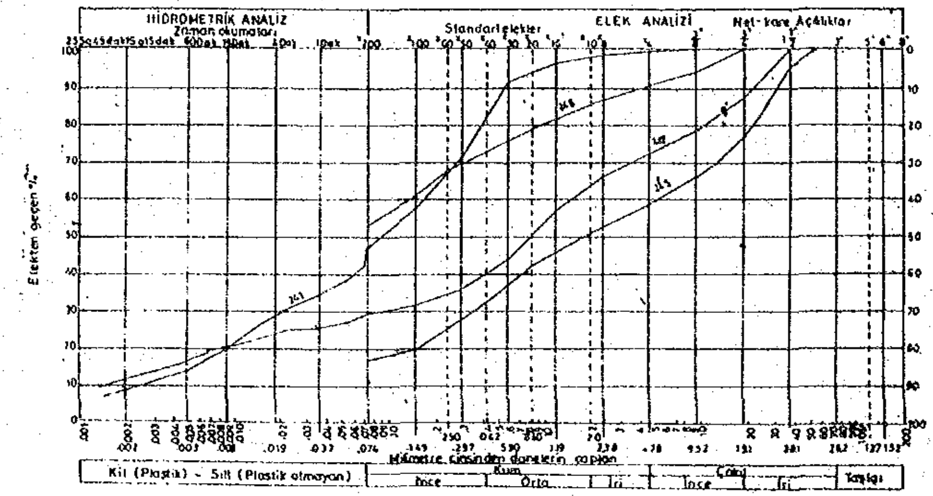
YAPAN: Y. KARAOĞULLARINDAN	DENETİM: CANBEKİR YÜRDEM	ONAYLANIR
ÇİZEN: BEKİR S. UĞUR	ONAMA: HASAN MERT	
TARİH: 1988	PAFTA NO: 1	
ÖLÇEK: 1/10000 ve 1/50	ARŞİV NO:	

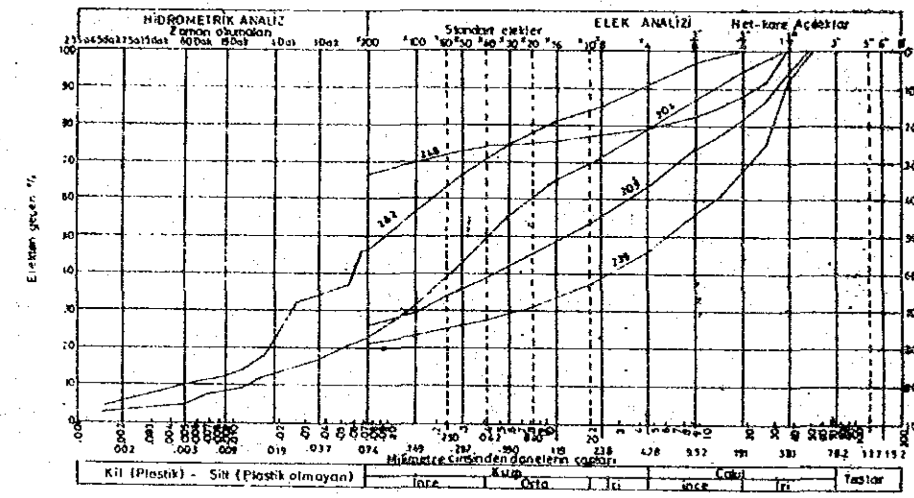
GEÇİRİMSİZ GEREÇ TANIMLAMA VE MÜHENDİSLİK DENEY SONUÇLARI

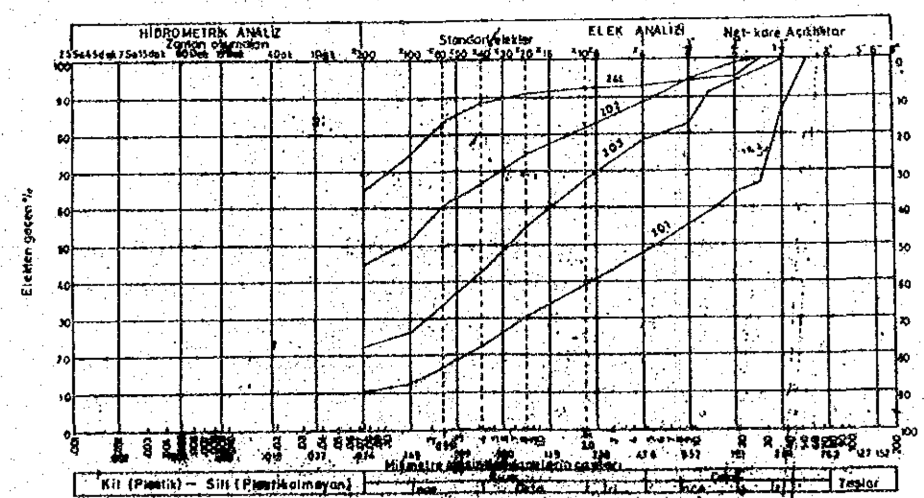
Kuyu No	Kuyu Derinliği (m)	Özgül Ağırlık (gr/cm³)	Sıkıştırma γK max (gr/cm³)	Sıkıştırma Wopt (%)	Kıvam Limitleri LL	Kıvam Limitleri PL	Kıvam Limitleri PI	Dane Boyut Yüzdesi Kil (%)	Dane Boyut Yüzdesi Kum (%)	Dane Boyut Yüzdesi Çakıl (%)	Maksimum sıkılıkta ve optimum su içeriğinde γkmax (t/m³)	m. opt (%)	Dayanım C kg/cm²	Dayanım φ°	Dayanım qu kg/cm²	Geçirgenlik k cm/s	Boşluk Oranı e min	Grup Simgesi
A 201		2.742	1.880	19.30	318	213	105	10	32	58	1.80	19	1.05	20		6.4x10⁻⁷		GP-GC
202		2693	1.582	19.60	448	334	114	44.5	43.5	12	4.58	19						SM
203		2659	1806	10.23	38.4	27.2	112	23	55	22	1.80	10						SM
204		2768	1.754	1700	340	249	91	22	56.5	21.5	175	17				–		SM
205		2615	1540	2600	49.4	292	202	26.5	37.5	36	154	24	1.6	28				SM-SC
206		2668	1680	20.30	359	280	7.9	29	62	9	168	20						SM
207		2662	1670	20.10	442	28.1	16.1	24	37	39	167	20						SM
208		2688	1.660	20000	36.6	26.1	10.5	30	54	1.6	166	20	1.3	20		4.5x10⁻⁶		SM
209		2764	1681	20.50	X	X	X	28	59	1.3	168	20						SM
210		2.771	1.622	22.40	37.4	26.0	11.4	38	52	10	1.62	22						SM
211		2.717	1722	18.90	331	255	7.6	32	55	13	1.72	18						SM
212		2718	1.618	23.80	406	283	12.3	48	46	6	1.61	23	126	20				SM
214		2.760	1.670	20.00	X	X	X	26	60.5	13.5	1.67	20						SM
215		2739	1.573	23.00	52.4	26.7	25.7	64	33	3	1.57	23	20	13		8.6x10⁻⁷		CH-MH
217		2774	1850	15.00	32.3	253	70	18	58	24	1.65	15						SM
218		2654	1.627	28.40	555	28.6	26.9	22	30	48	1.62	20	125	12				GC
219		2542	1520	2700	45.1	300	15.1	57	39	4	152	27						ML
220		2676	1556	22.20	41.5	304	11.1	40	46	14	155	22						SM
221		2642	1.383	30.20	580	399	181	54	25	21	1.38	30						MH
222		2553	1.430	27.00	51.4	30.8	206	80	19	1	1.43	27	1.7	24		5.9x10⁻⁷		MH
223		2.704	1.488	25.00	49.8	31.7	18.1	69	27	4	1.48	27	1.7	21		3.3x10⁻⁷		ML
225		2671	1.591	2300	45.0	24.2	208	46	54	4	159	23						SC
226		2598	1600	21.00	458	261	19.7	57	43	-	1.60	21	1.15	24				CL-ML
227		2649	15.70	22.60	41.6	265	15.1	53	45	2	1.57	22						ML
228		2.714	1.627	20.50	381	265	11.6	20	33	47	1.62	20						GM
229		2675	1.616	23.20	483	26.2	21.9	36	62.5	15	1.61	23	1.10	18		2.1x10⁻⁷		SC
230		2.717	1.612	22.20	49.2	24.9	24.3	53	26	21	1.61	22						CL
231		2.748	1.426	25.80	61.9	35.6	26.3	58	21	21	1.42	25						MH
232		2.719	1.503	27.56	45.3	29.0	16.3	38	34	28	1.50	27						GM-SM
233		2887	1.665	1800	49.6	27.2	22.3	44	33.5	22.5	1.66	18	20	16				SC
234		2672	1.538	2300	45.7	288	169	57	41	2	1.53	23						ML
235		2.713	1.466	25.60	77.0	26.8	50.2	86.5	9.5	4	1.46	25						CH
236		2665	1.388	28.40	823	290	53.3	82	17	1	138	28	1.85	10		4.2x10⁻⁷		CH
237		2648	1.656	19.40	37.2	239	13.3	60	26.5	3.5	1.65	19						CL-ML
238		2755	1.635	2140	608	302	30.6	21	25	54	163	21						GC
239		2638	1.644	18.70	488	25.9	22.9	62	26	1.2	1.64	18	2.35	19		2.1x10⁻⁷		CL
241		2717	1.692	1860	34.8	19.7	15.1	47	52	1	1.69	18						SC
242		2.664	1.630	1860	510	28.2	21.8	47	44.5	8.5	1.63	18						SM
243		2728	1836	14.80	322	17.3	14.9	42	32	26	1.83	14	1.37	15				SC
244		2.739	1.678	20.40	420	24.1	17.9	65	28.5	6.5	1.67	20						CL
245		2787	1.849	15.50	X	X	X	16.5	42	41.5	1.84	15	0.9	23				SM
246		2668	1.510	24.20	51.3	306	20.7	53	37	10	1.51	24						MH
247		2753	1.700	20.30	490	24.0	25.0	38	43.5	27.5	1.70	20						SC
248		2760	1.400	29.80	752	30.1	45.1	67	12.5	20.5	1.40	29						CH









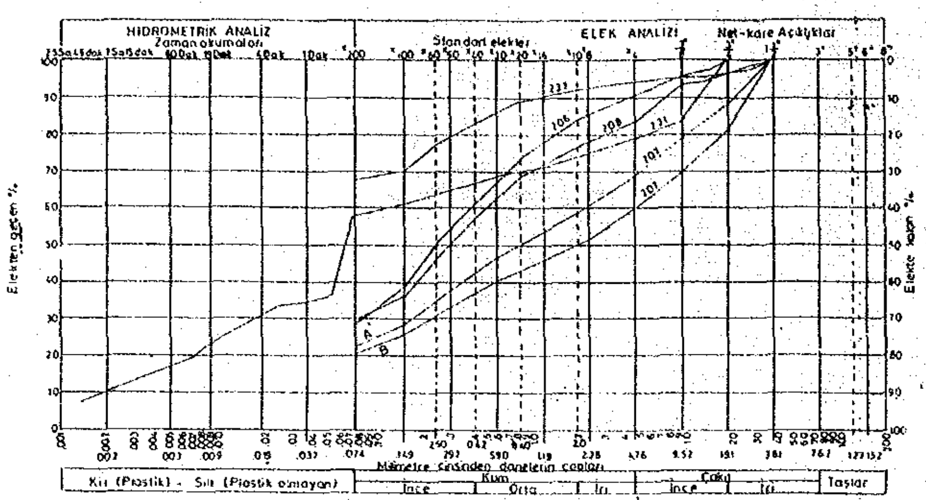


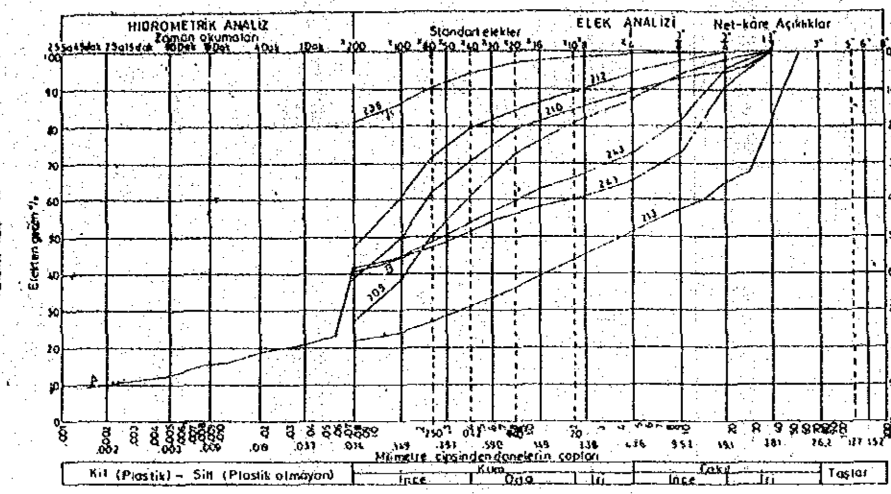
DEVLET SU İŞLERİ GENEL MÜDÜRLÜĞÜ
VI. BÖLGE MÜDÜRLÜĞÜ
PLANLAMA ŞUBE MÜDÜRLÜĞÜ
A D A N A

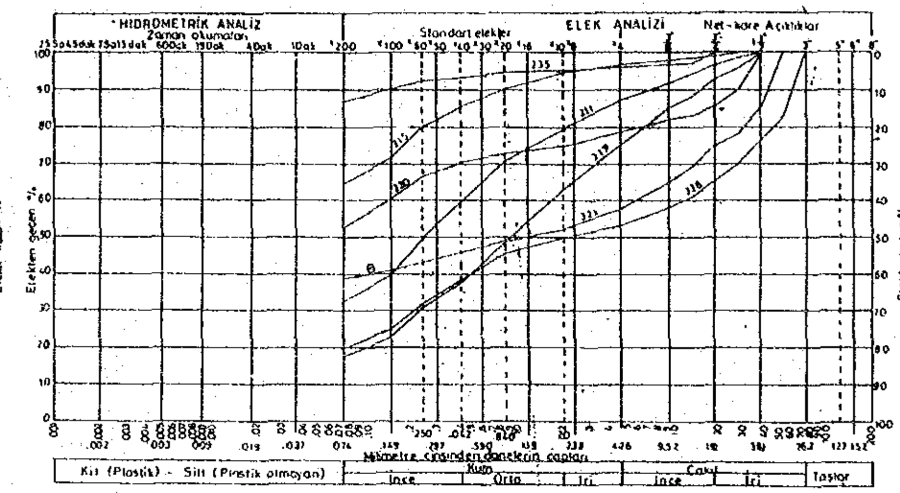
GÖKTAŞ BARAJI ve HES. PROJESİ

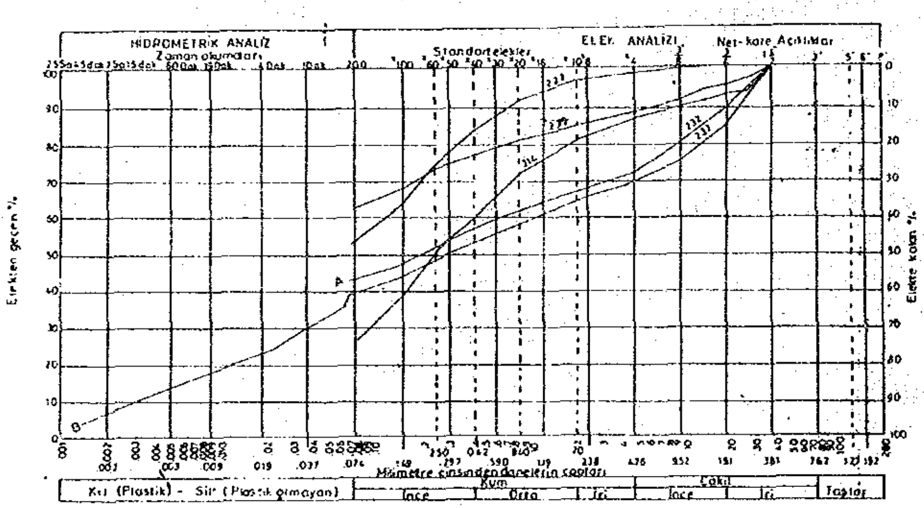
A-GEÇİRİMSİZ GEREÇ ALANI LABORATUVAR SONUÇLARI

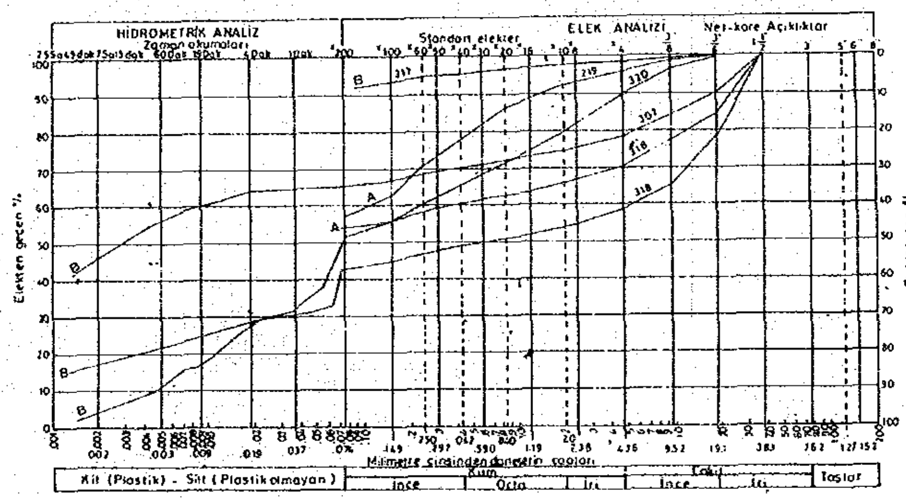
YAPAN: Y. KARAOĞLU	DENETLEYEN: Cabbar	ONAYLANMIŞ
ÇİZEN: Emine TOKSÖZ	ONAYLAYAN: Hasan	
TARİH: 1988	PAFTA NO: 3	
ÖLÇEK: --	ARŞİV NO:	

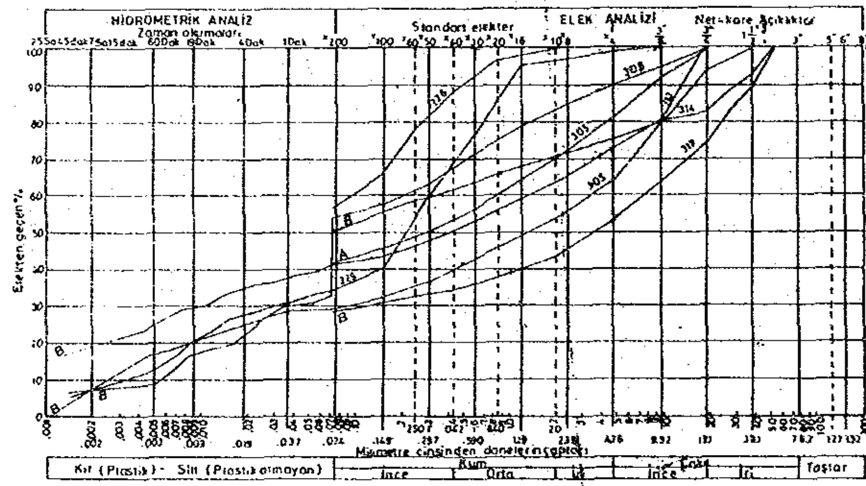


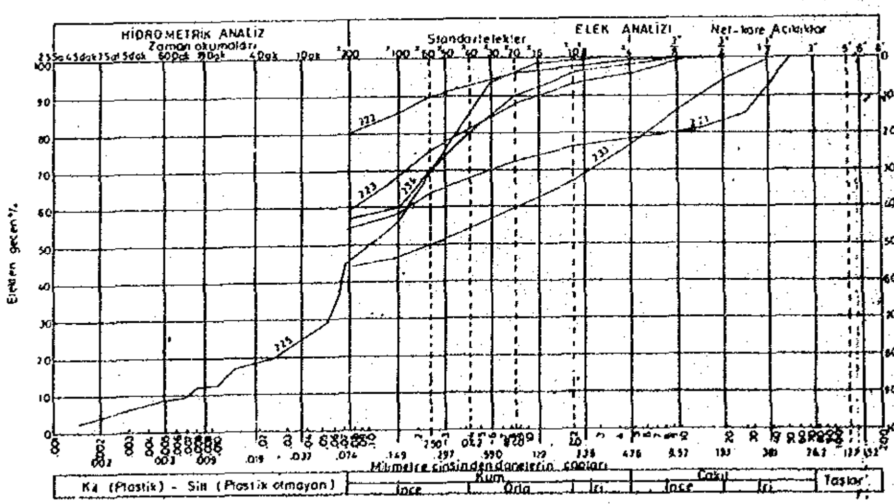


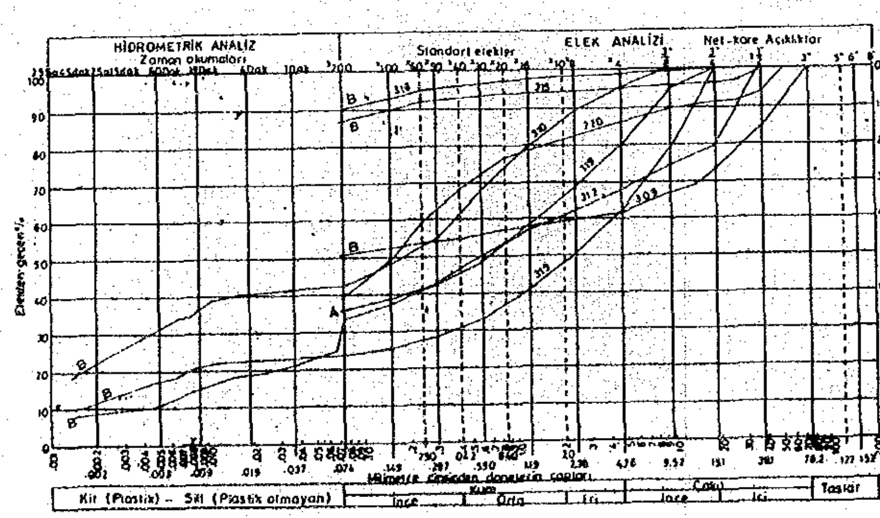












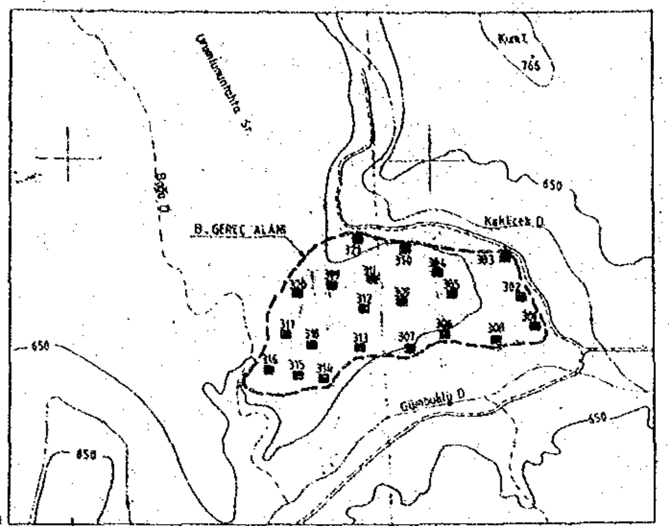
DEVLET SU İŞLERİ GENEL MÜDÜRLÜĞÜ
VI. BÖLGE MÜDÜRLÜĞÜ
PLANLAMA ŞUBE MÜDÜRLÜĞÜ
ADANA

GÖKTAŞ BARAJI ve HES PROJESİ

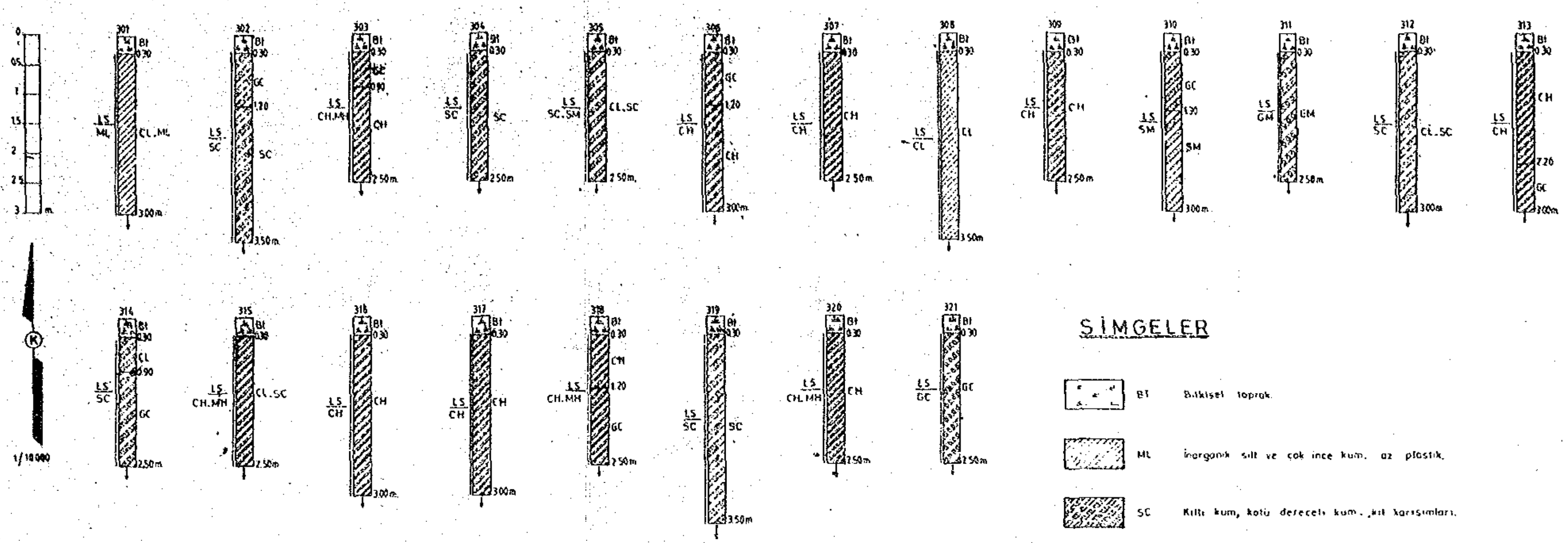
A-B GEÇİRİMSİZ GEREÇ ALANLARI ELEK ANALİZLERİ

YAPAN: Y.KARAOĞULLARINDAN	DENETİM: Cabbar YORDEM	ONAYLANMIŞ
ÇİZEN: Emine TOKSÖZ	ONAYLAYAN: Hakan MERT	
TARİH: 1988	PAFTA NO: 3	
ÖLÇEK: –	ARŞİV NO:	

B GEREC ALANI



ÖLÇEK. M34_C3
1 25000 likten 1 10000 liğe pantoğrafla büyütülmüştür.

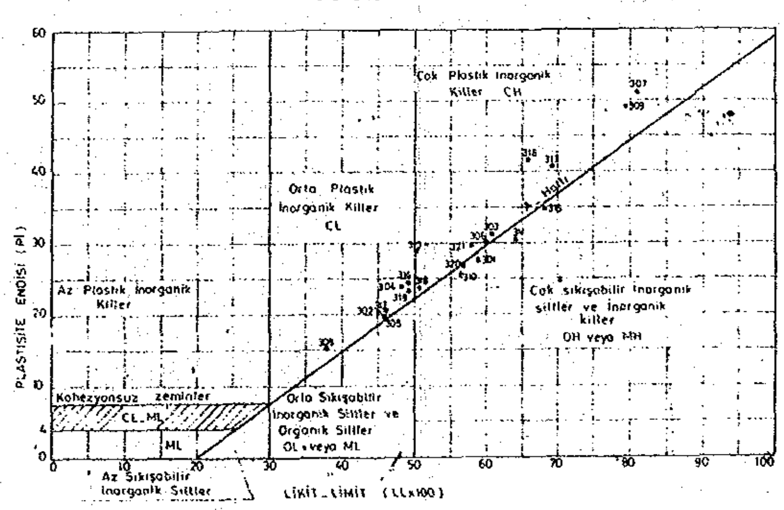


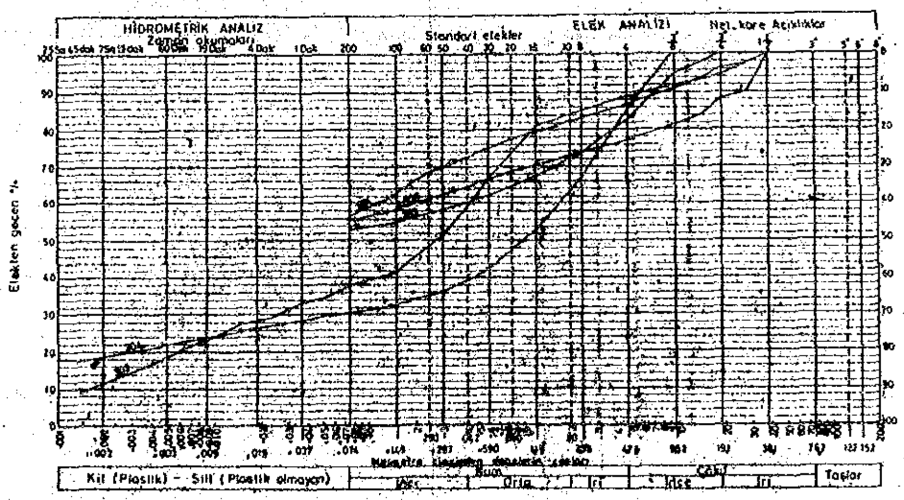
GEÇİRİMSİZ GEREC TANIMLAMA ve MÜHENDİSLİK DENEY SONUÇLARI

Kuyu No B	Kuyu Derinliği (m)	Özgül ağırlık kg/cm3	Sıkıştırma γK max (gr/cm3)	Sıkıştırma Wopt (%)	Kıvam Limitleri LL	Kıvam Limitleri PL	Kıvam Limitleri PI	Dane Boyut Yüzdesi Kil (%)	Dane Boyut Yüzdesi Kum (%)	Dane Boyut Yüzdesi Çakıl (%)	γkmax (t/m3)	E opt (%)	Dayanım C kg/cm2	Dayanım ø°	Dayanım qu kg/cm2	Geçirgenlik k cm/s	Boşluk Oranı e min	Grup Simgesi
301		2.686	1.583	22.50	58.2	30.8	27.4	56.5	31	12.5	1.58	22						ML
302		2.734	1.664	20.50	45.4	25.1	20.3	38	51	11	1.66	20						SC
303		2.736	1.495	25.80	61.3	29.9	31.4	53	30	17	1.49	25						CH.MH
304		2.712	1.635	19.00	49.2	25.3	23.9	30	56	14	1.63	19						SC
305		2.713	1.647	19.70	45.0	26.4	19.6	55	22	23	1.64	19	15	20				SC.SM
306		2.744	1.530	25.30	60.0	29.8	30.7	44	39	17	1.53	25						CH
307		2.662	1.454	28.20	80.8	29.5	51.3	65	13	22	1.45	28	1.85	8				CH
308		2.684	1.730	18.90	38.3	23.2	15.1	54	36	10	1.73	18						CL
309		2.791	1.492	26.80	78.8	30.8	48.0	51	11	38	1.49	26						CH
310		2.697	1.522	26.10	56.0	30.7	25.3	43	52	5	1.52	26						SM
311		2.745	1.710	19.00	64.4	34.1	30.3	29	24	47	1.71	19	2.15	17		2.9x10⁻⁷		GM
312		2.737	1.604	22.30	46.0	25.6	20.4	34	34	32	1.60	22						SC
313		2.735	1.610	22.40	50.2	22.1	28.1	51	25	24	1.61	22						CH
314		2.709	1.715	18.00	49.3	24.9	24.4	42	30	28	1.71	18						SC
315		2.699	1.510	24.50	67.2	32.3	34.9	87	8	5	1.51	24	21	15		2.3x10⁻⁷		CH.MH
316		2.705	1.528	23.20	66.1	24.6	41.5	90.5	8.5	1	1.52	23						CH
317		2.598	1.565	20.60	69.8	29.1	40.7	92	7	1	1.56	20	24	17				CH
318		2.756	1.667	16.00	50.7	27.1	23.6	53.5	16.5	30	1.66	16						CH.MH
319		2.673	1.598	22.80	49.6	26.3	23.3	36	44	20	1.59	22						SC
320		2.697	1.522	25.40	56.7	30.2	26.5	52	38.5	9.5	1.5	25						CH.MH
321		2.687	1.590	23.00	57.8	27.9	29.9	40	18	42	1.59	23						GC

B_GEREÇ ALANLARI ÖZELLİKLERİNİ GÖSTERİR ÇİZELGE

YAPIYA IRAKLIĞI (m)	30000-31000
YOL DURUMU	Yol Onarılması gerekir
AÇILAN KUYU ve YARMA SAYISI	21 kuyu
ORTALAMA SIYIRMA (cm)	0.40
ÖNERİLEN KAZI DERİNLİĞİ (m)	3.5
GEREÇ NİCELİĞİ (m³)	1.5x10⁶

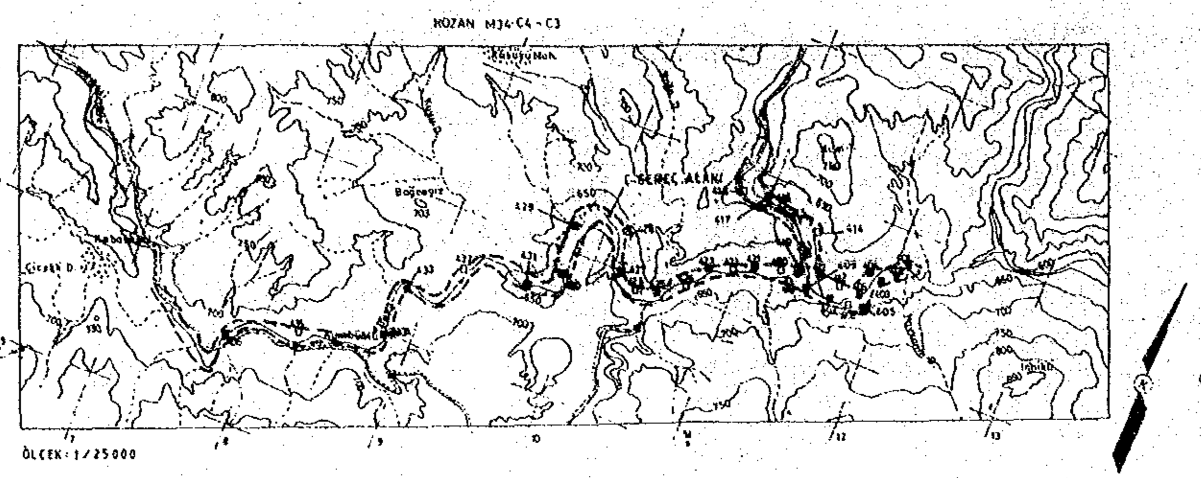




SİMGELER

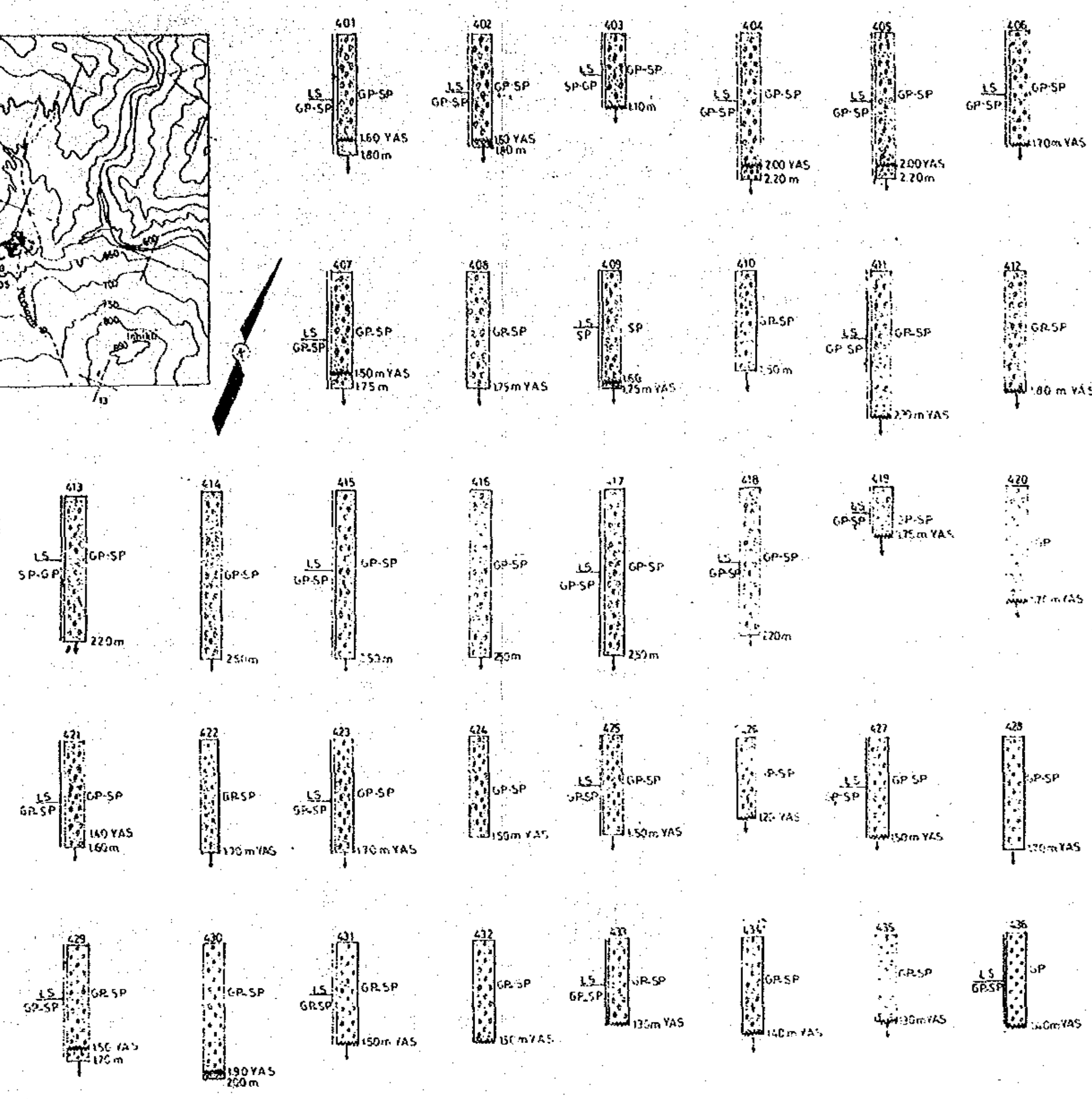
- BT — Bitkisel toprak.
- ML — İnorganik silt ve çok ince kum, az plastik.
- SC — Killi kum, kötü dereceli kum_kil karışımları.
- CH — İnorganik kil çok plastik (yağlı killer)
- CL — İnorganik kil, çakıllı, kumlu kil; siltli kil, az orta plastik.
- SM — Siltli kum, kötü dereceli kum_silt karışımları.
- GM — Siltli çakıl, kötü dereceli çakıl_kum_silt karışımları
- GC — Killi çakıl, kötü dereceli çakıl_kum_kil karışımları.
- CH.MH — Killi çakıl ile inorganik silt, kumlu silt, elastik siltler.
- SC_SM — Killi kum, siltli kum, kötü dereceli kum, silt_kil karışımı.
- □ Gereç araştırma kuyusu (örnek alınmamış)
- ■ Gereç araştırma kuyusu (örnek alınmış)
- Gereç kuyusu kesiti (örnek alınmış) gereç devam ediyor.
- Gereç kuyusu kesiti (örnek alınmamış)
- Gereç alanı sınırı

DEVLET SU İŞLERİ GENEL MÜDÜRLÜĞÜ VI BÖLGE MÜDÜRLÜĞÜ PLANLAMA ŞUBE MÜDÜRLÜĞÜ ADANA	
GÖKTAŞ BARAJI ve HES PROJESİ B_GEÇİRİMSİZ GEREÇ ALANI HARİTASI KUYU KESİTLERİ ve LABARATUVAR SONUÇLARI	
YAPAN: Y. KARAOĞULLARINDAN	DENETİM: CAĞDAŞ YÜRDEM
ÇİZEN: BEKİR ŞITKI UĞUR	ONAMA: HAKAN
TARİH: 1988	PAFTA NO: 4
ÖLÇEK: 1/10000 ve 1/50	ARŞİV NO:



ÖLÇEK: 1/25000

C-GEREÇ ALANI



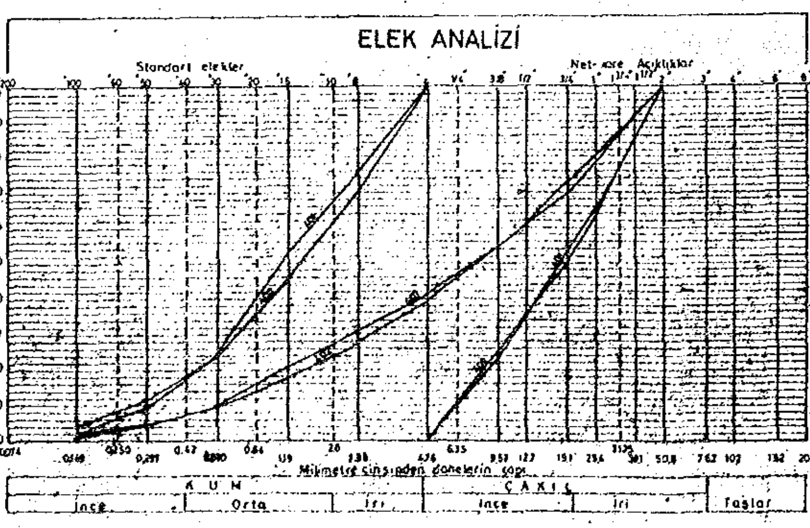
SİMGELER

- GP-SP Kötü dereceli çakıl-kum karışımları.
- SP-GP Kötü dereceli kum-çakıl karışımları.
- SP Kötü derecelenmiş kumlar, çakıllı kumlar ince daneleri az veya hiç olmayan gereçler.
- GP Kötü derecelenmiş çakıl, kum çakıl karışımları ince daneleri az veya hiç olmayan gereçler
- Gereç araştırma kuyusu (Örnek alınmıştır) Haritada
- Gereç araştırma kuyusu (Örnek alınmamıştır)
- Gereç kuyusu kesiti (Örnek alınmamış)
- Gereç kuyusu kesiti (Örnek alınmış)
- YAS Yeraltı su düzeyi.
- Gereç devam ediyor
- Gereç alanı sınırı.

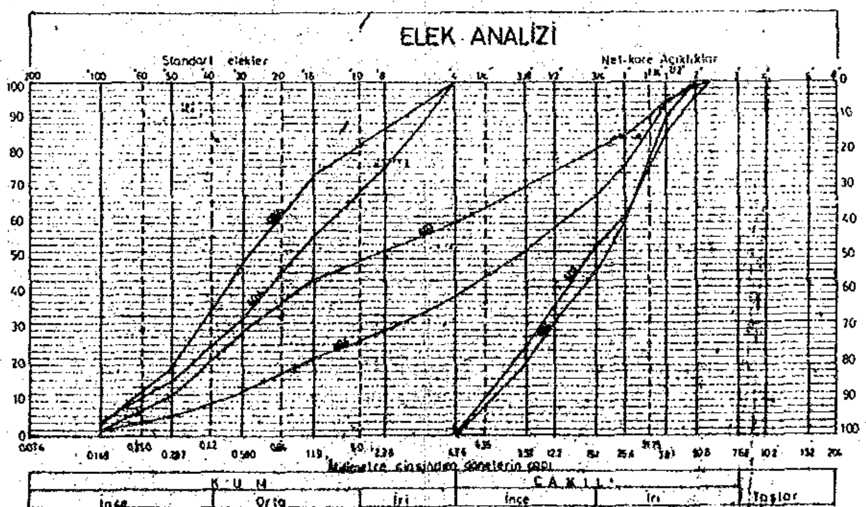
GEÇİRİMLİ GEREÇ FİZİKİ DENEY SONUÇLARI

Örnek No	Birim Ağırlık (gr/cm³)		Özgül Ağırlık (gr/cm³) ve su emme (%)		200 Nolu elekten geçen (%)		Kil topakları (%)		Na_2SO_4 dan kaybı (%)		Los Angeles aşınma kaybı	
	Kum	Çakıl	Kum	Çakıl	Kum	Çakıl	Kum	Çakıl	Kum	Çakıl	100 devir (%)	500 devir (%)
C 401	1840	1748	2.558 % 5.26	2.728 % 0.93	5.04	1.13	3.20	0.31	44.8	46.3	6.22	28.6
402	1853	1748	2.547 % 5.49	2.668 % 2.30	5.99	0.92	5.71	0.76	45.9	31.9	5.80	26.20
403	1705	1800	2.523 % 5.71	2.656 % 2.07	8.13	1.58	7.98	1.25	41.6	42.9	7.20	26.6
404	1831		2.558 % 4.82	2.679 % 2.27	7.20	0.55	7.11	0.47	39.4	31.4	7.20	29.50
405	1786	1856	2.584 % 5.49	2.618 % 2.58	7.59	0.51	5.99	0.51	42.0	33.5	6.00	28.00
406	1753		2.555 % 5.26	2.579 % 1.44	7.03	1.52	6.44	1.11	40.2	37.4		
407	1761	1810	2.526 % 5.93	2.637 % 1.86	7.03	1.26	5.52	0.68	45.3	46.3	6.20	28.2
409	1774		2.525 % 4.82	2.525 % 4.82	7.06	1.60	5.98	1.46	44.7	44.4		
411	1855	1807	2.579 % 5.93	2.673 % 1.46	8.87	1.15	5.55	0.95	46.6	42.5	5.76	24.14
413	1808	1782	2.579 % 5.26	2.579 % 4.38	7.14	0.70	5.65	0.22	41.6	32.1	5.9	25.2
415	1855		2.544 % 4.38	2.735 % 1.76	6.50	1.25	5.08	0.82	42.0	39.6	7.50	29.80
417	1839	1832	2.546 % 5.49	2.795 % 1.41	6.19	0.83	4.42	0.32	44.0	40.6	6.24	27.9
418	1825	1829	2.575 % 4.82	2.713 % 1.67	6.83	1.72	6.42	1.47	38.5	28.6	6.00	23.90
419	1754	1758	2.551 % 5.49	2.651 % 2.33	7.29	1.38	5.34	0.71	47.4	32.5	8.80	31.2
421	1749	1844	2.565 % 4.82	2.685 % 1.66	10.37	0.78	2.7	0.62	47.3	37.2	6.30	25.4
423	1777	1749	2.529 % 6.61	2.665 % 2.08	6.64	0.90	5.36	0.80	52.5	38.9	7.92	30.5
425	1874	[illegible]	2.557 % 5.26	2.714 % 4.24	4.95	0.58	3.79	0.23	38.3	40.4		
427	1845		2.594 % 4.82	2.691 % 4.85	4.20	1.50	5.96	0.66	47.6	30.9	6.00	22.80
429	1852	1823	2.609 % 4.17	2.709 % 1.80	1.05	1.25	9.79	1.04	39.2	25.3	5.20	25.5
431	1829	1865	2.589 % 4.6	2.721 % 1.97	9.21	0.96	4.92	0.54	44.9	25.1	7.14	27.4
433	1751	1900	2.590 % 4.6	2.653 % 1.42	9.09	0.68	9.03	0.21	49.5	24.3	9.4	26.0
436	1781	1828	2.584 % 4.82	2.759 % 1.36	9.11	0.26	8.43	0.20	47.1	33.6	6.50	21.90

ELEK ANALİZİ



ELEK ANALİZİ



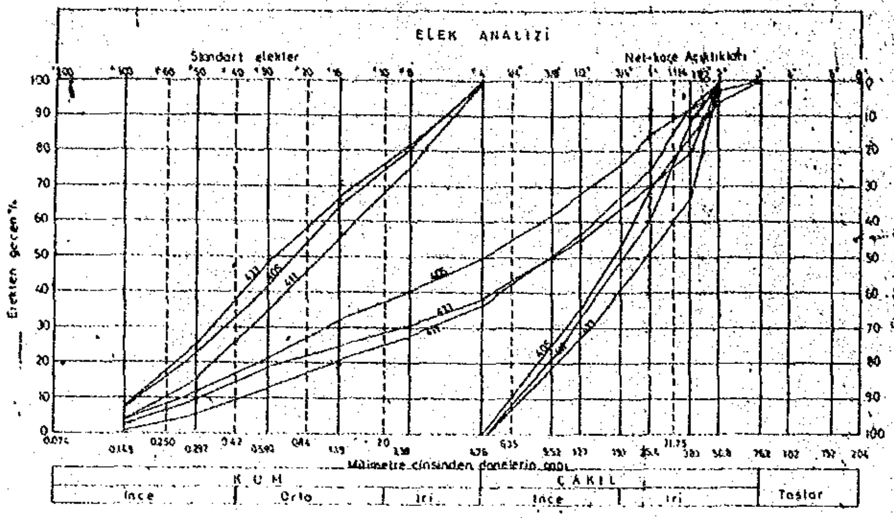
GEREÇ ALANLARI ÖZELLİKLERİNİ GÖSTERİR ÇİZELGE

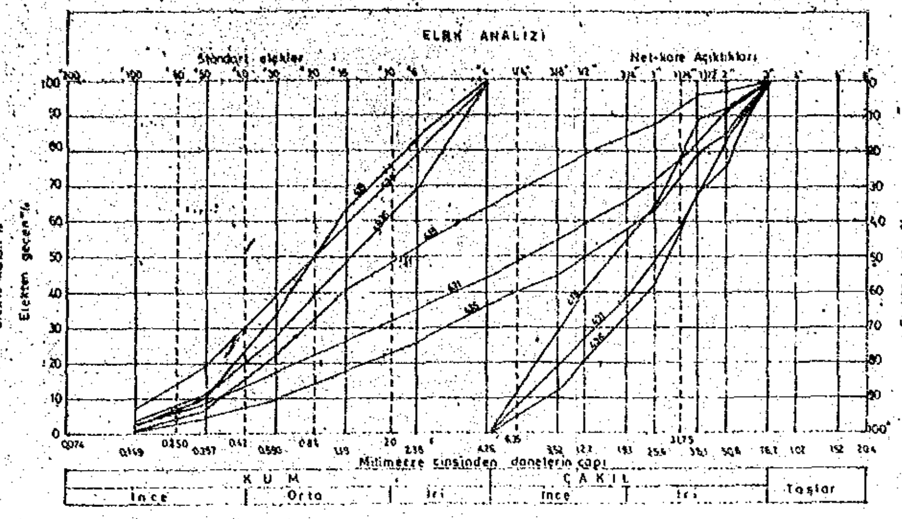
	A-GEREÇ ALANI
YAPIYA IRAKLIĞI (m)	30 000 – 32000
YOL DURUMU	Var. Onarılması gerekir.
AÇILAN KUYU VE YARMA SAYISI	36 Kuyu
ORTALAMA SIYIRMA (cm)	—
ÖNERİLEN KAZI DERİNLİĞİ	3
GEREÇ NİCELİĞİ (m³)	2×10^6

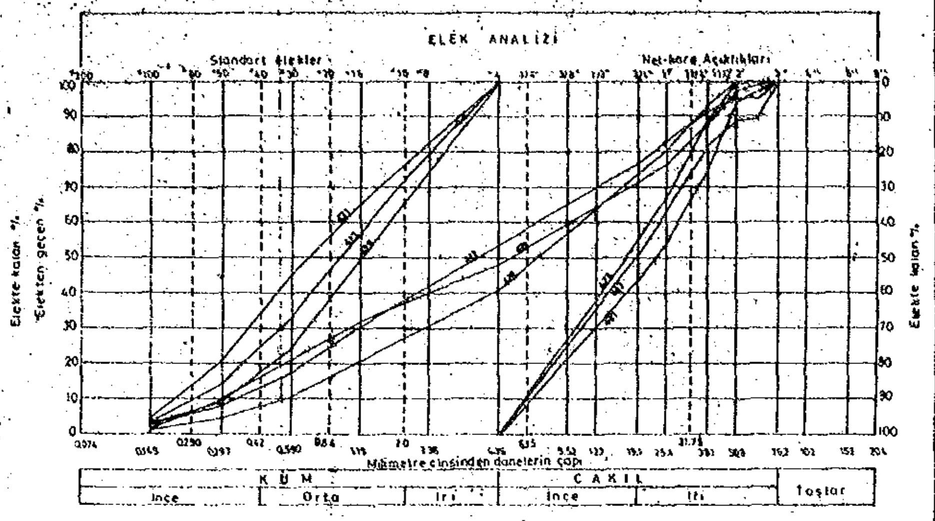
DEVLET SU İŞLERİ GENEL MÜDÜRLÜĞÜ
VI. BÖLGE MÜDÜRLÜĞÜ
PLANLAMA ŞUBE MÜDÜRLÜĞÜ
ADANA

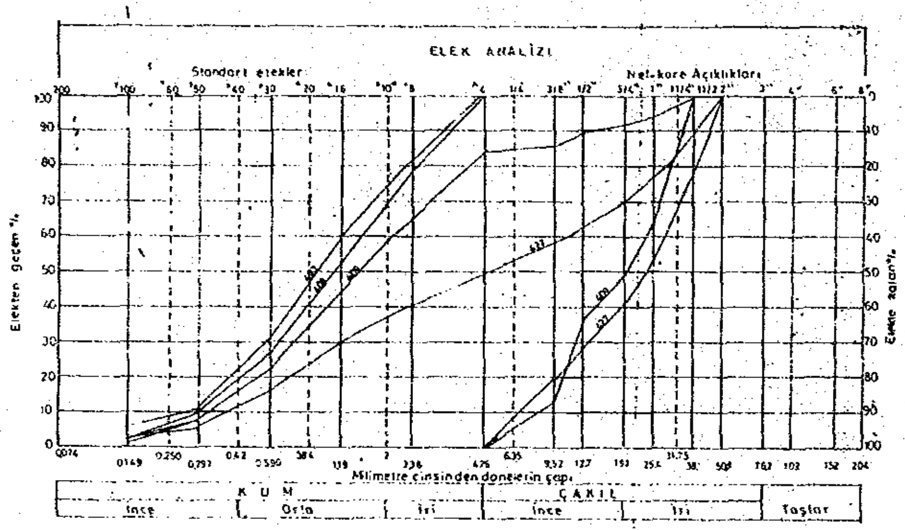
GÖKTAŞ BARAJI VE HES PROJESİ
C-GEÇİRİMLİ VE AGREGA GEREÇ ALANI HARİTASI,
KUYU KESİTLERİ VE LABARATUVAR SONUÇLARI

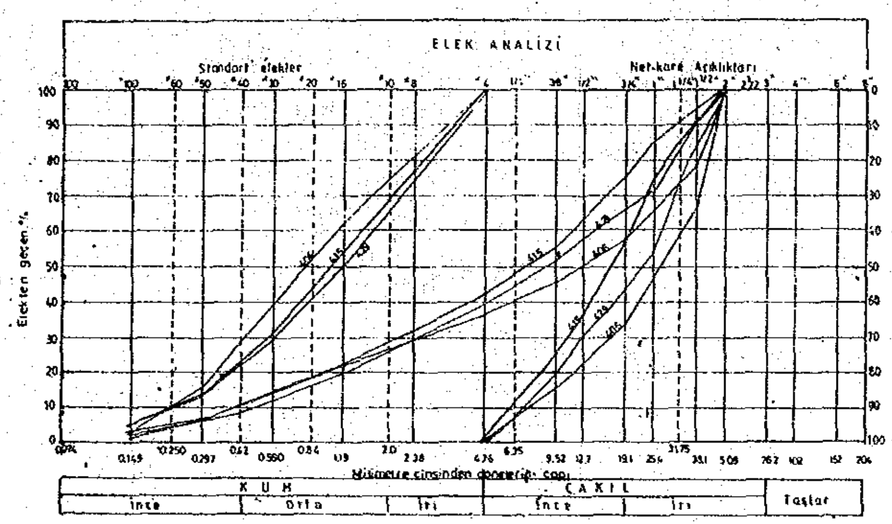
YAPAN: Y. Karagüllü	DENETİM: CABBAR YÜRDEM
ÇİZEN: M. DEĞİRMENCİOĞLU	ONAMA: HASAN [illegible]
TARİH: 1988	PAFTA NO: 5
ÖLÇEK: 1/25.000 ve 50	ARŞİV NO:

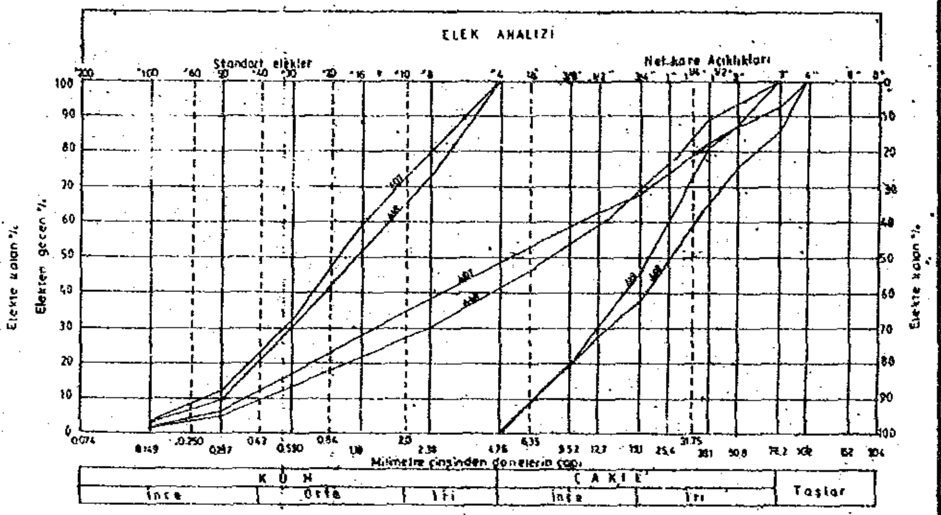


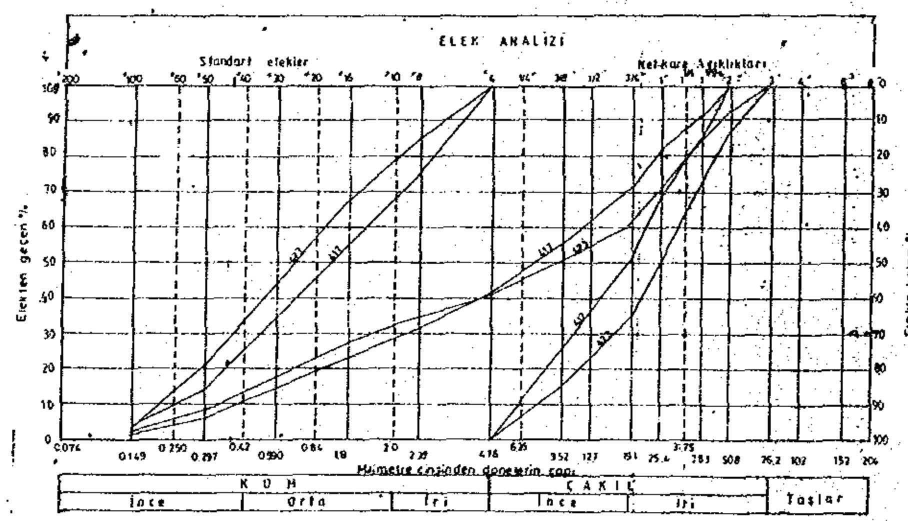












DEVLET SU İŞLERİ GENEL MÜDÜRLÜĞÜ
VI. BÖLGE MÜDÜRLÜĞÜ
PLANLAMA ŞUBE MÜDÜRLÜĞÜ
ADANA

GÖKTAŞ BARAJI VE HES PROJESİ
C-GEÇİRİMLİ GEREÇ ALANI
LABARATUVAR SONUÇLARI

YAPAN Y. Karaoğullarından	DENETİM CABBAR YÜRDEN	ONAY
ÇİZEN M. DEĞİRMENCİOĞLU	ONAMA HASAN MERT	
TARİHİ 1980	PAFTA NO: 6	
ÖLÇEK	ARŞİV NO:	

A-4 TRANSMISSION LINE PLAN AND SYSTEM ANALYSIS

A-4 TRANSMISSION LINE PLAN AND SYSTEM ANALYSIS

Fig. A-4-1 (1) Load Flow Study

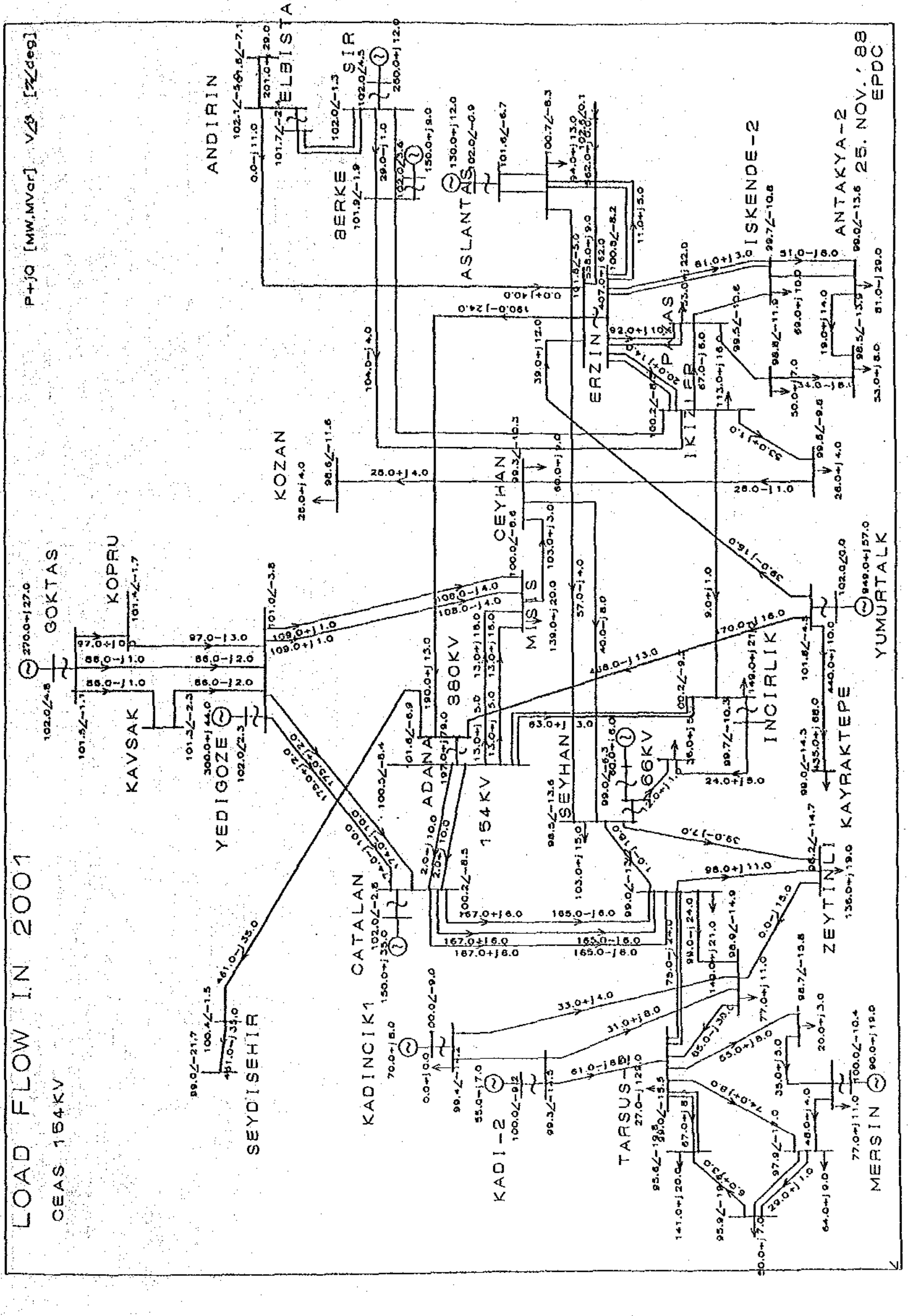


Fig. A-4-1 (2) Load Flow Study

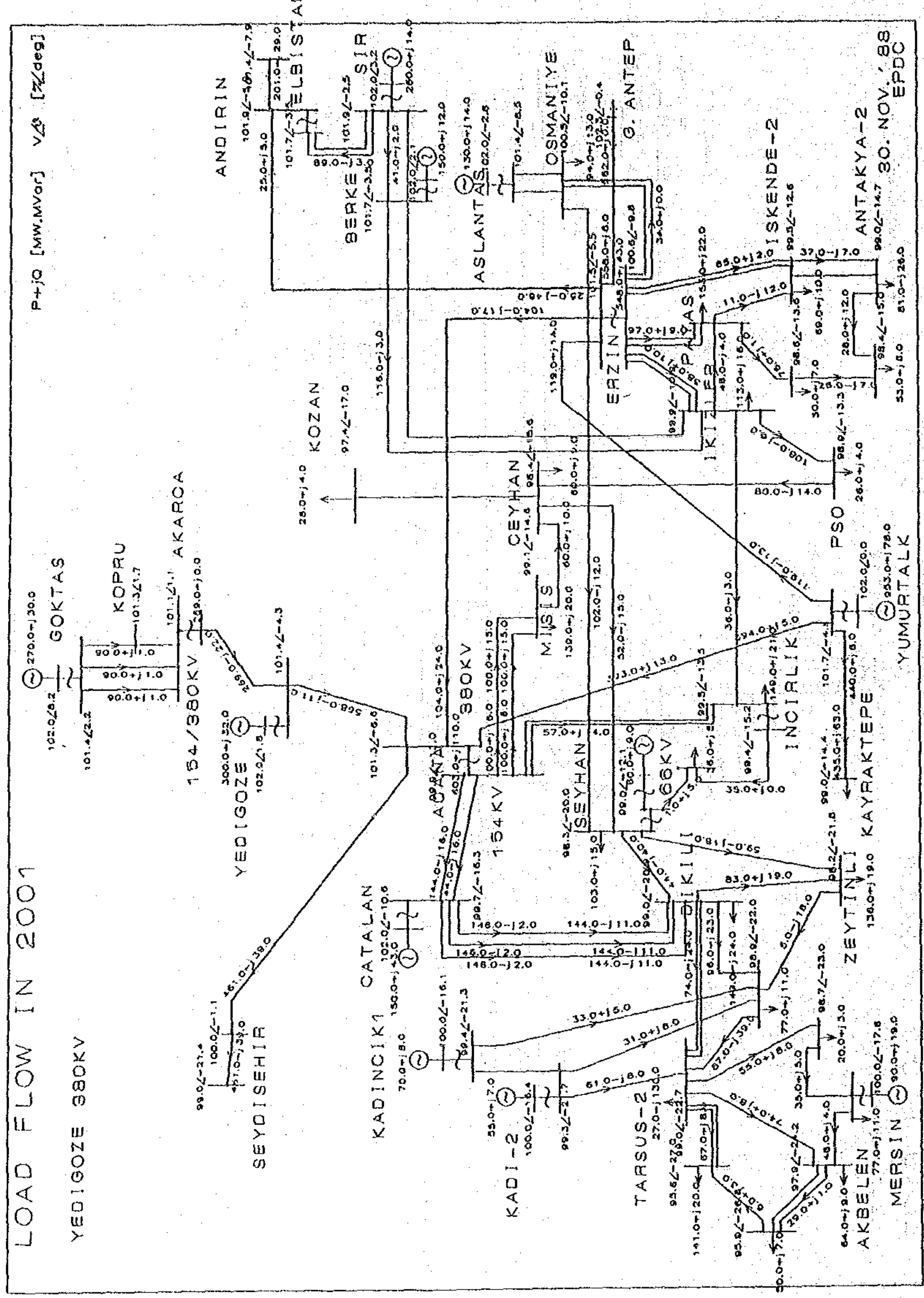


Fig. A-4-1 (3) Load Flow Study

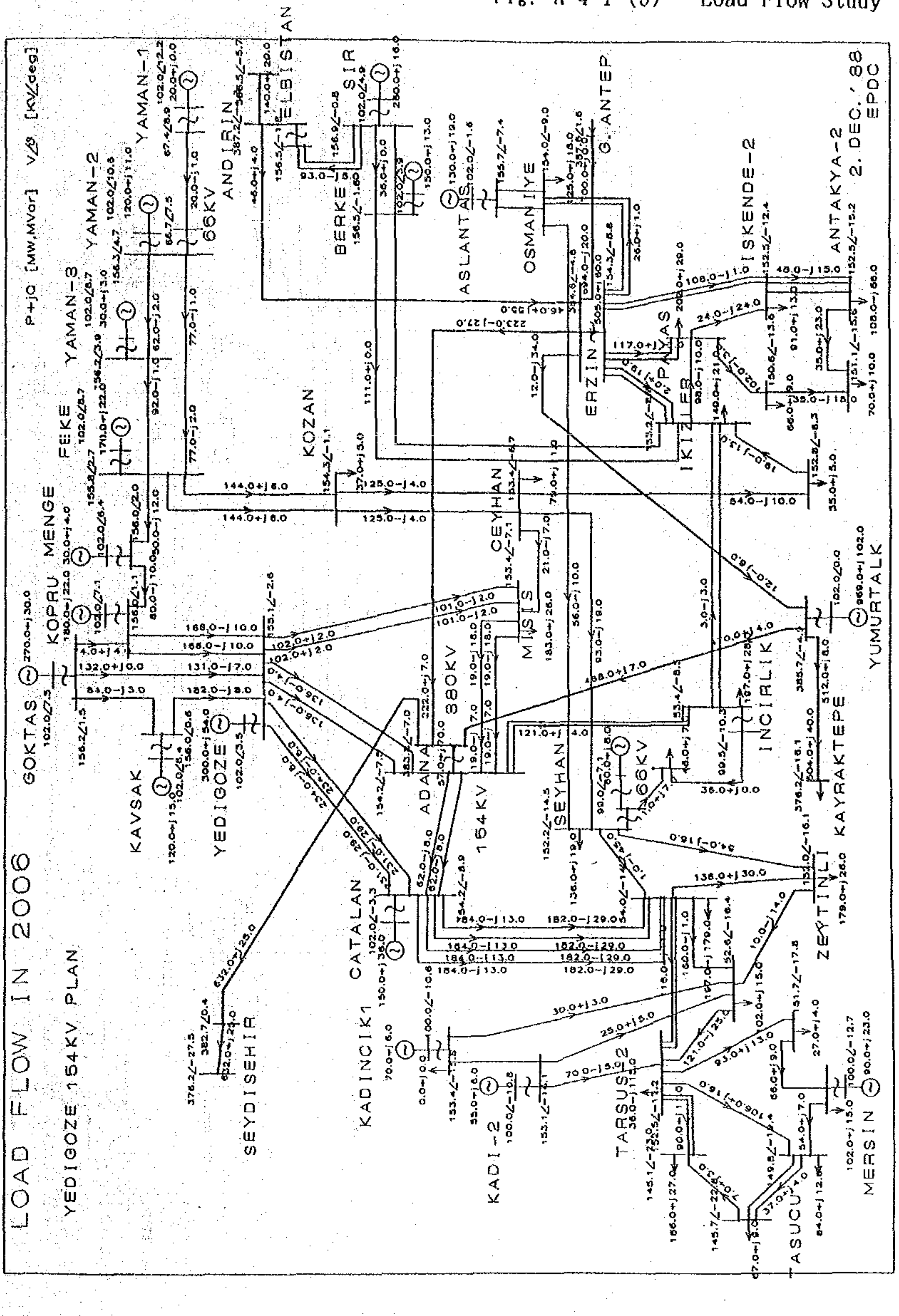


Fig. A-4-1 (4)   Load Flow Study

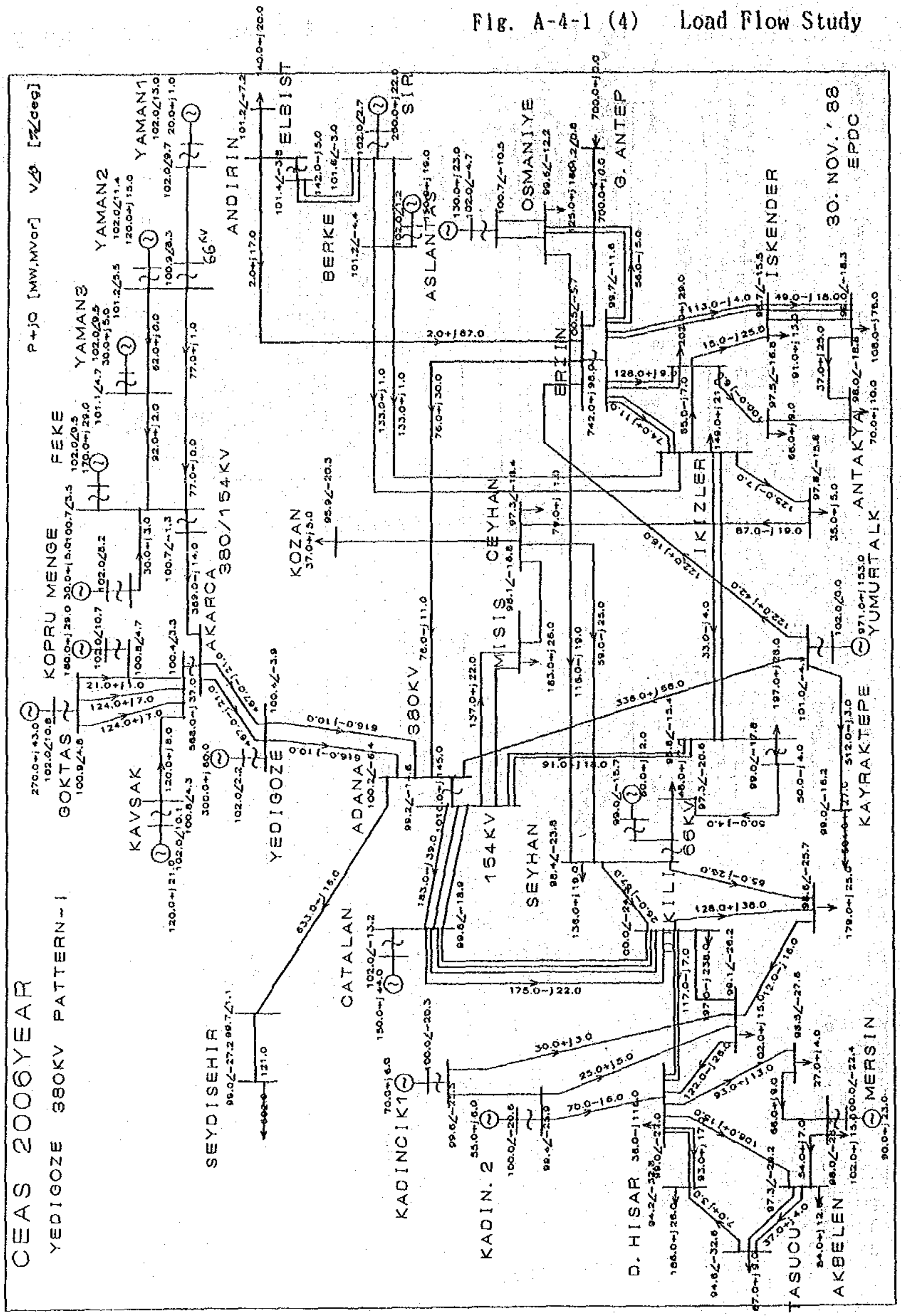


Fig. A-4-1 (5)   Load Flow Study

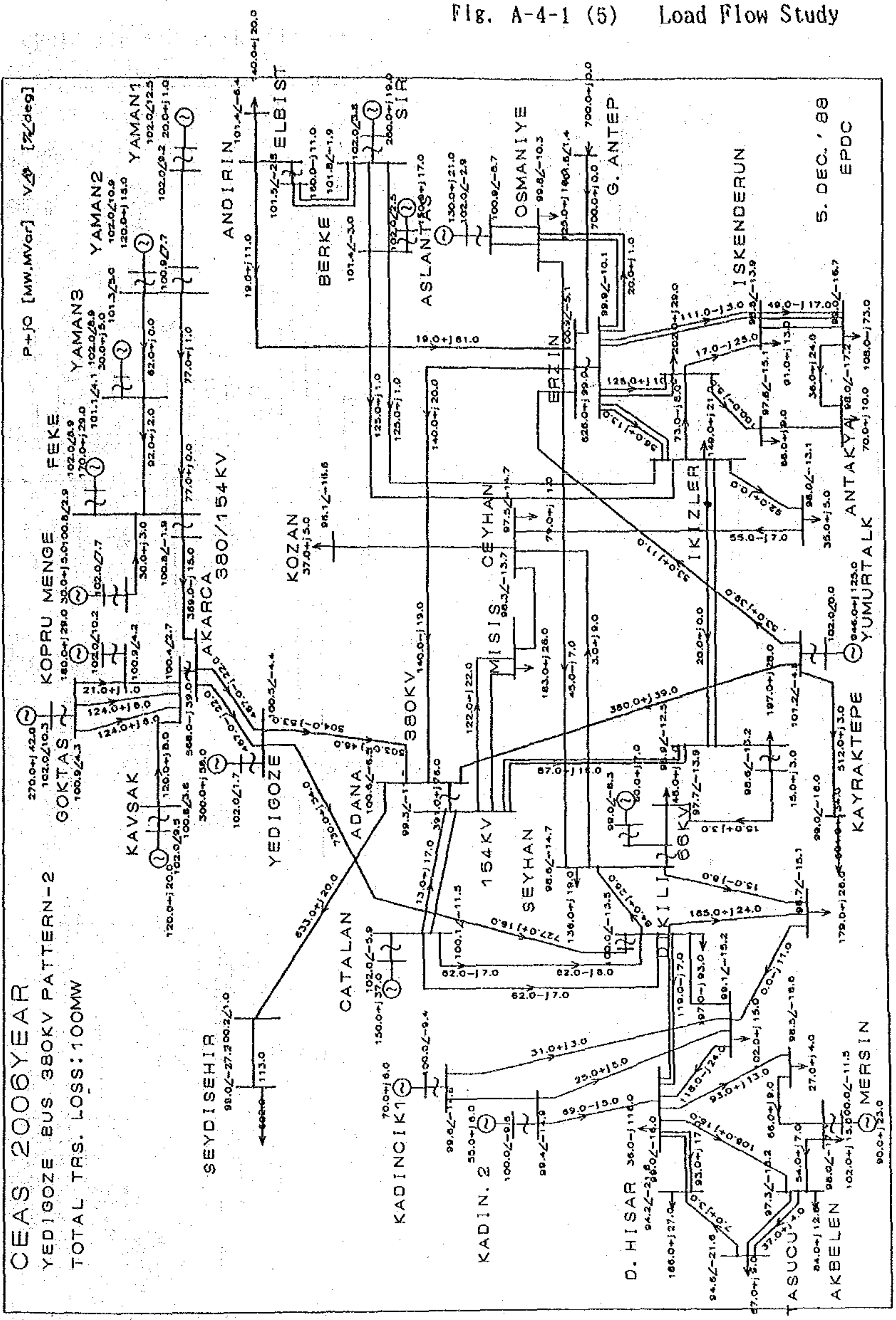


Fig. A-4-2 (1) Short Circuit Study

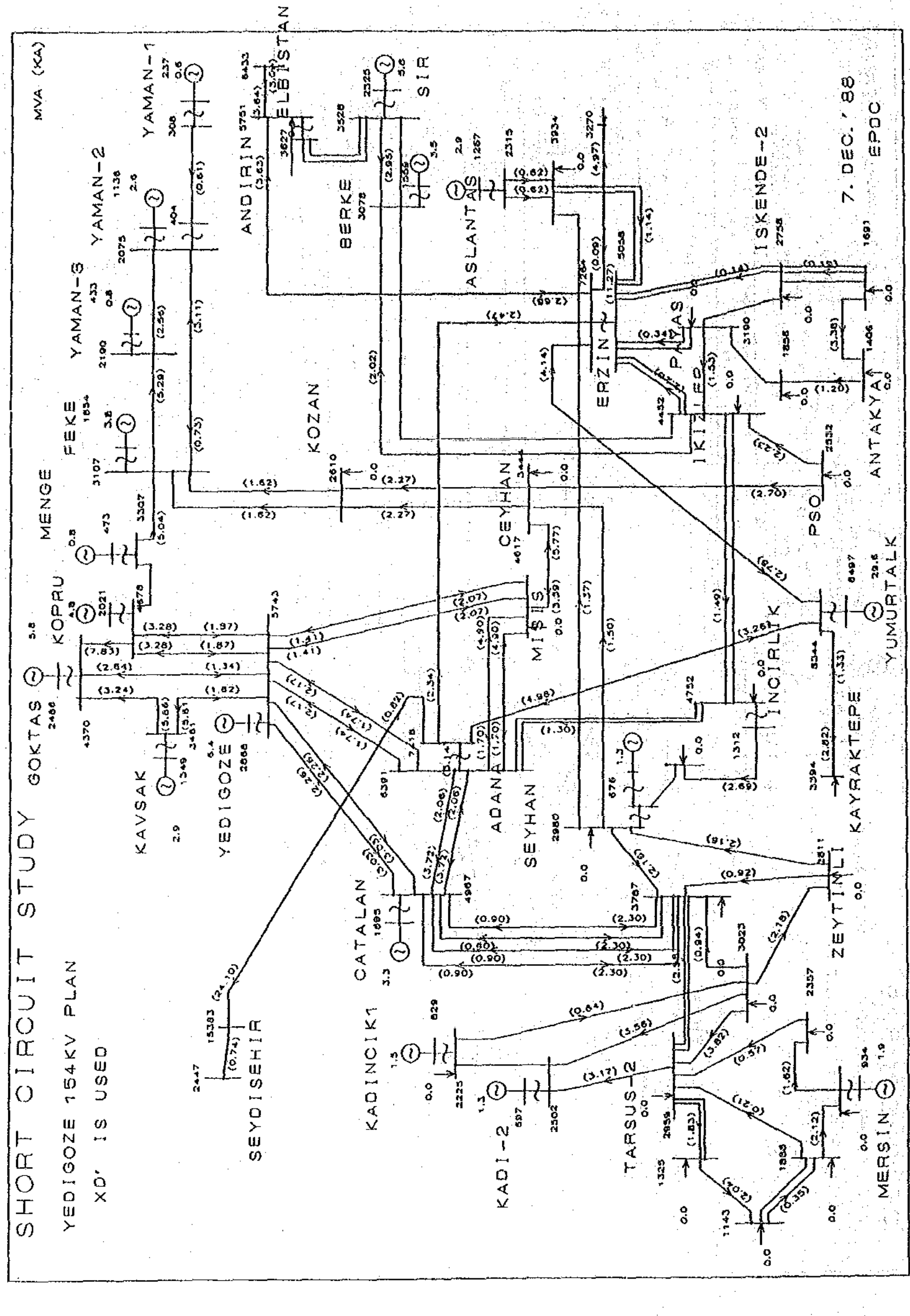


Fig. A-4-2 (2) Short Circuit Study

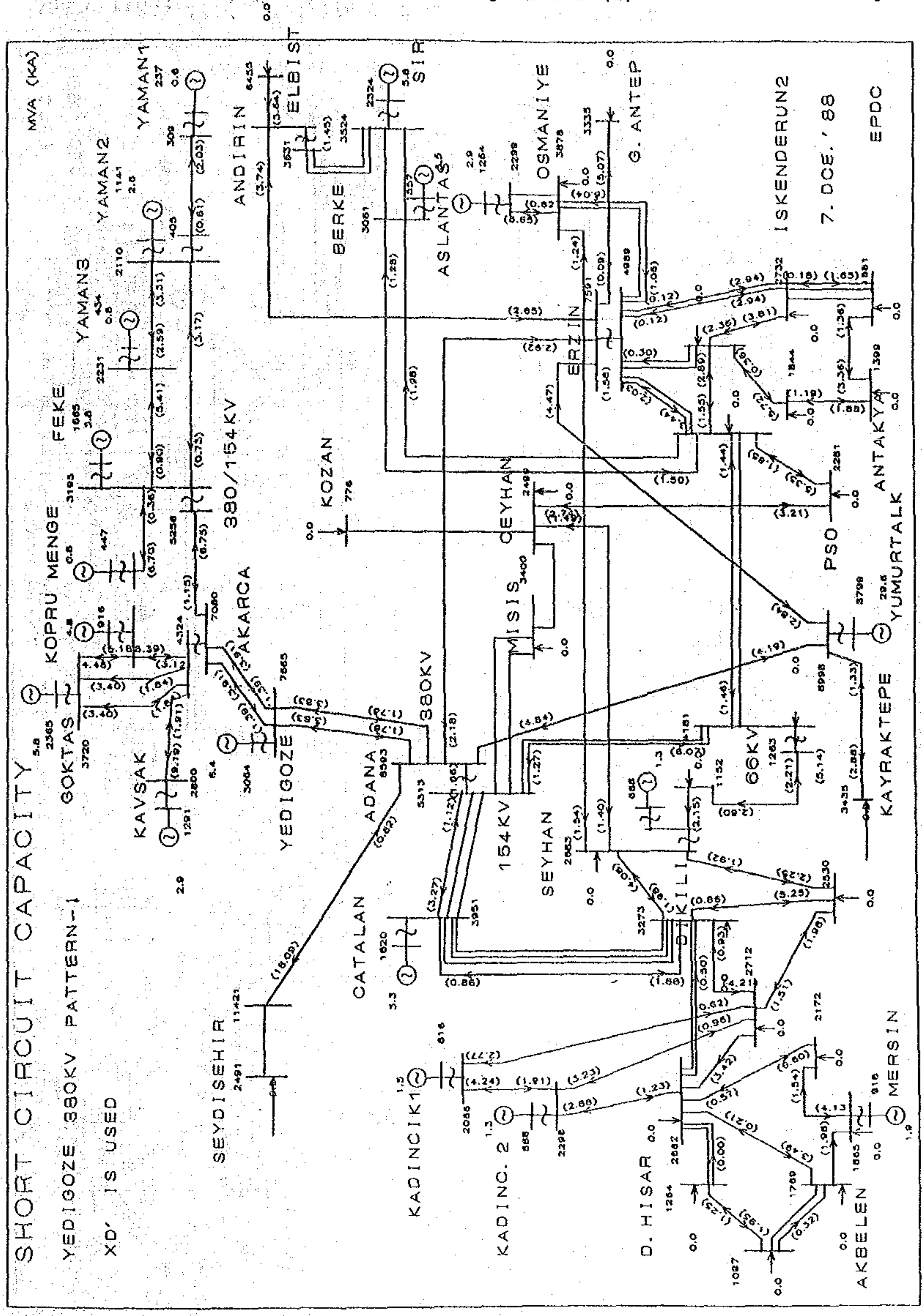


Fig. A-4-2 (3) Short Circuit Study

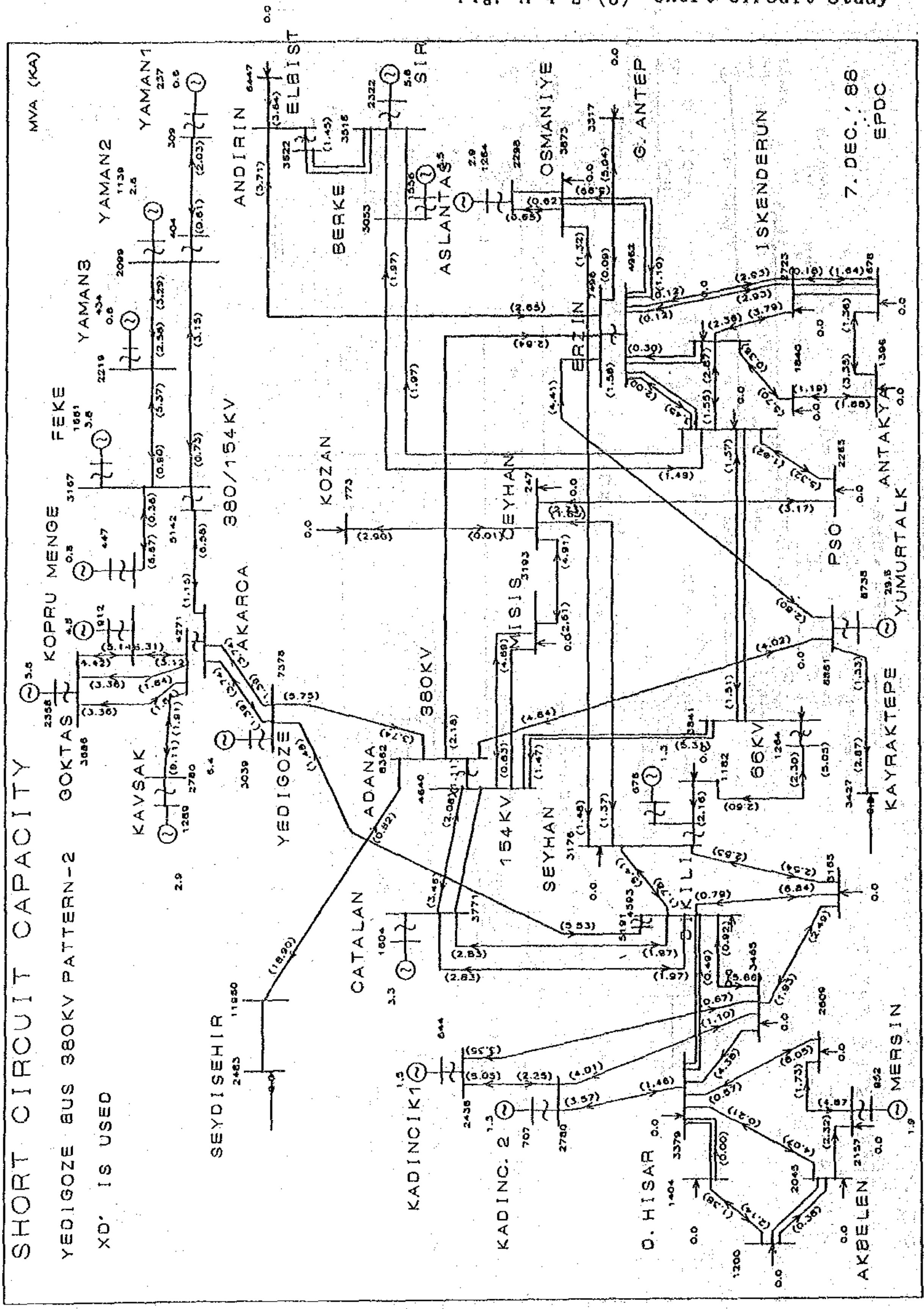
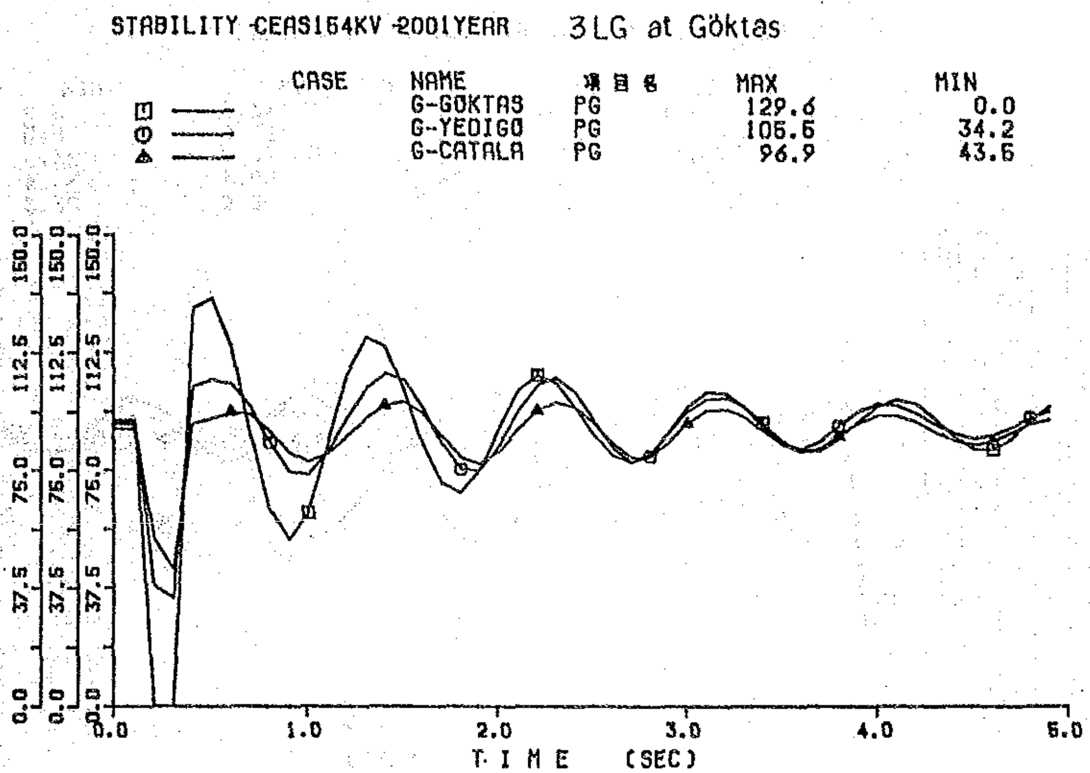


Fig. A-4-3 (1) Stability Study



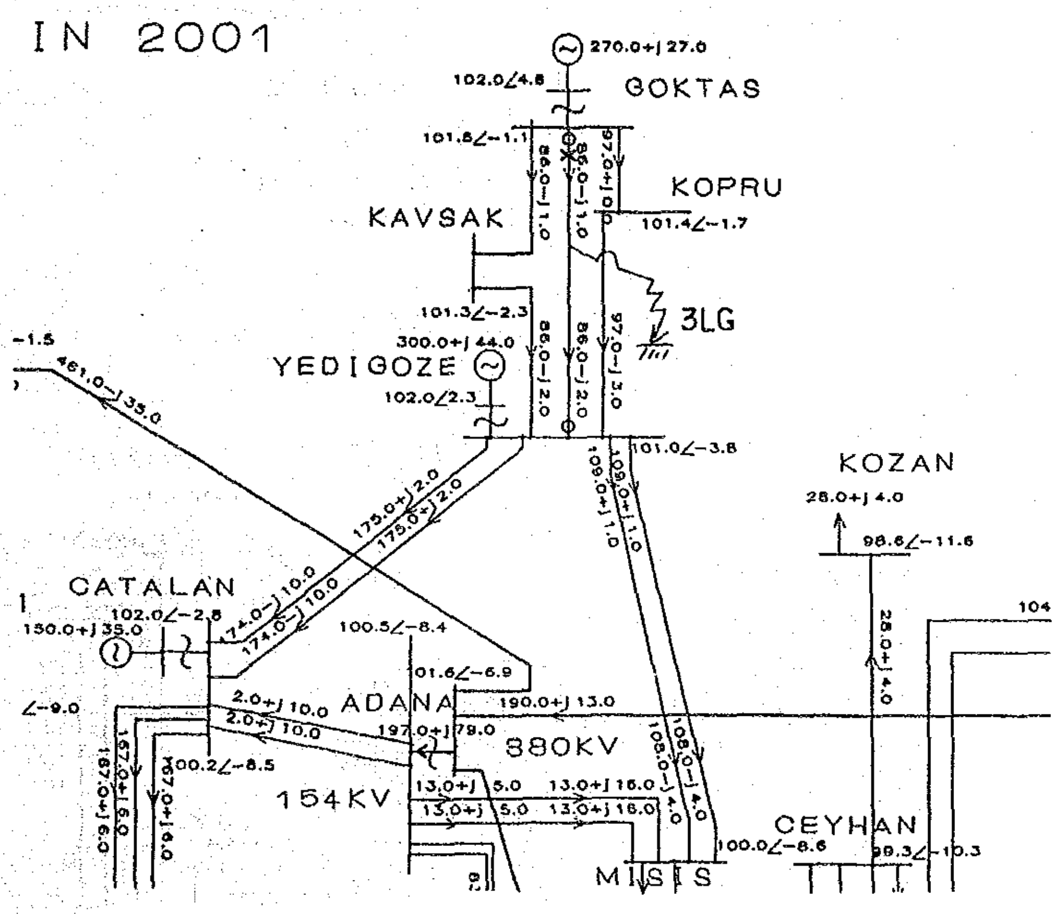
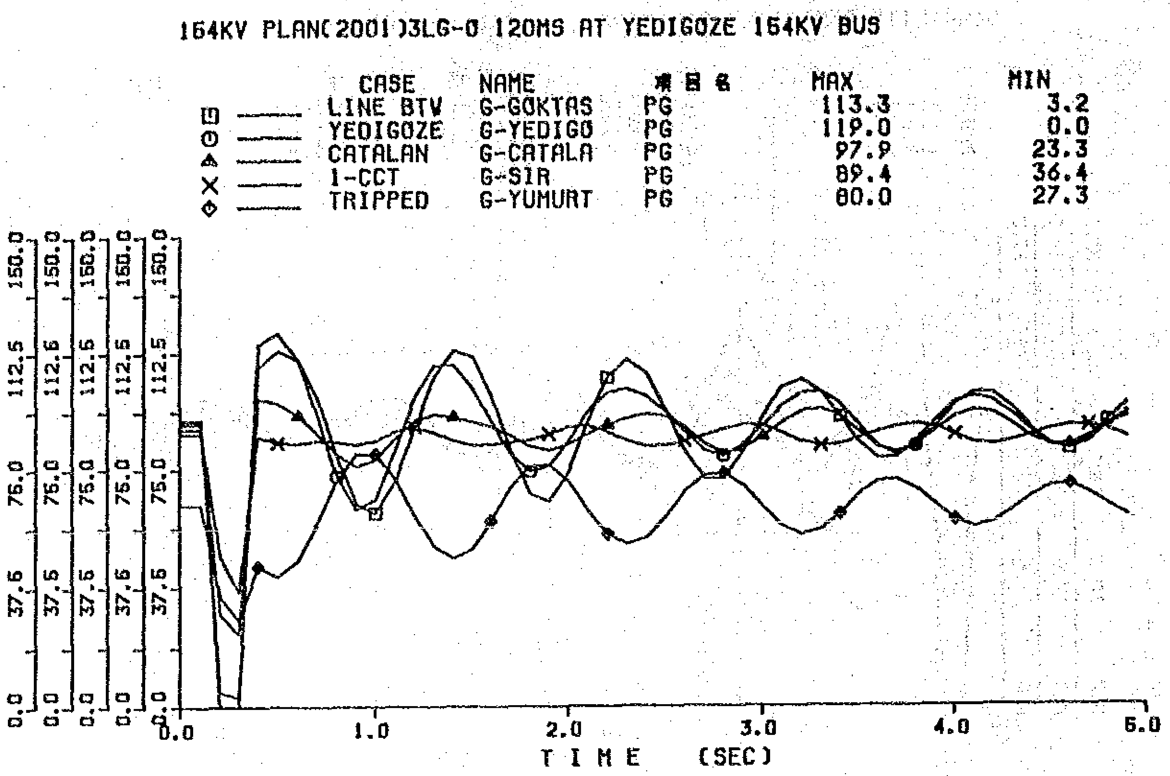


Fig. A-4-3 (2) Stability Study



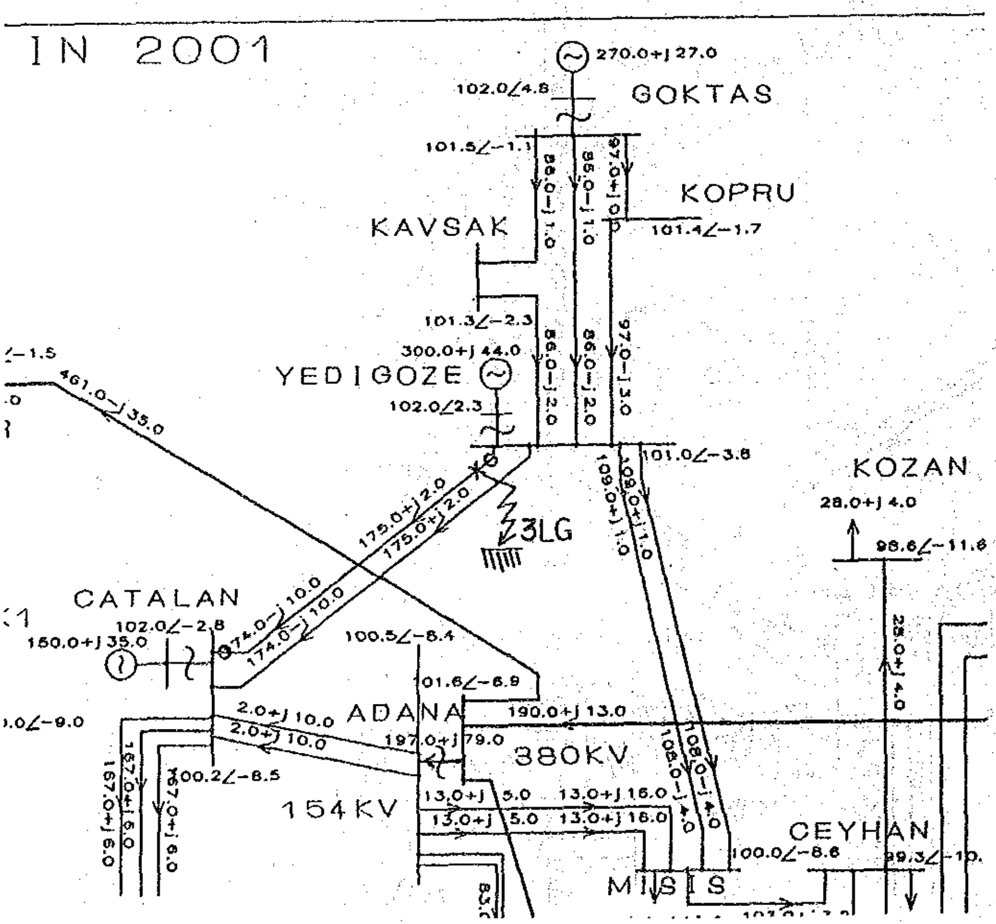
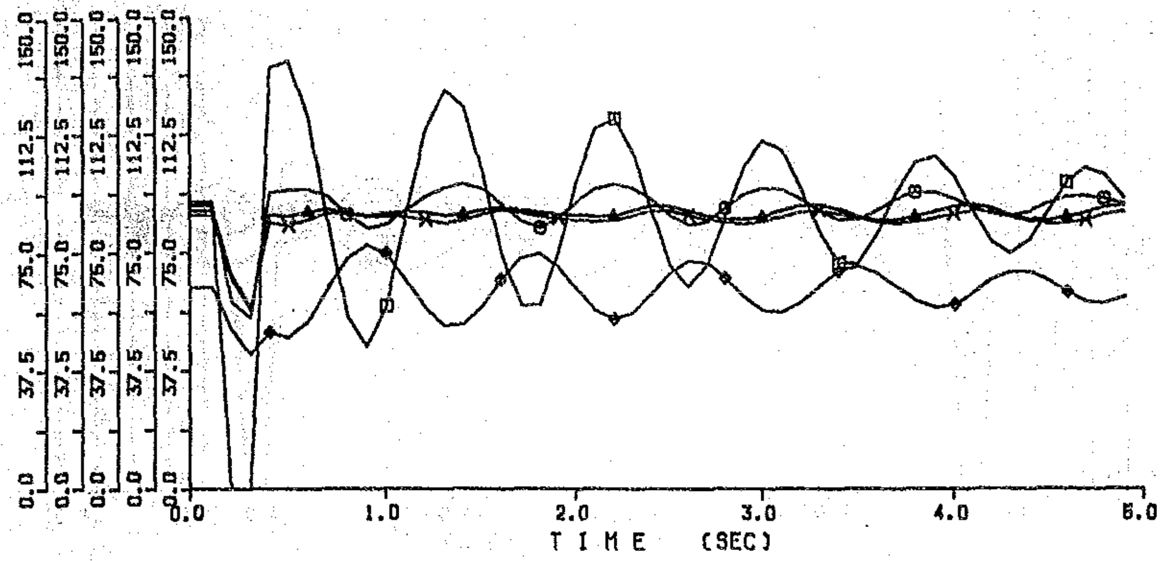


Fig. A-4-3 (3) Stability Study

3LG AT GOKTAS 164KV BUS IN 2001YEAR YEDIGOZE 380KV

	CASE	NAME	項目名	MAX	MIN
⊡	3LG-0	G-GOKTAS	PG	136.8	0.0
⊙	120MS AT	G-YEDIGO	PG	96.7	54.2
▲	GOKTAS	G-CATALA	PG	90.7	57.1
×		G-SIR	PG	88.7	56.8
◇		G-YUMURT	PG	77.4	42.5



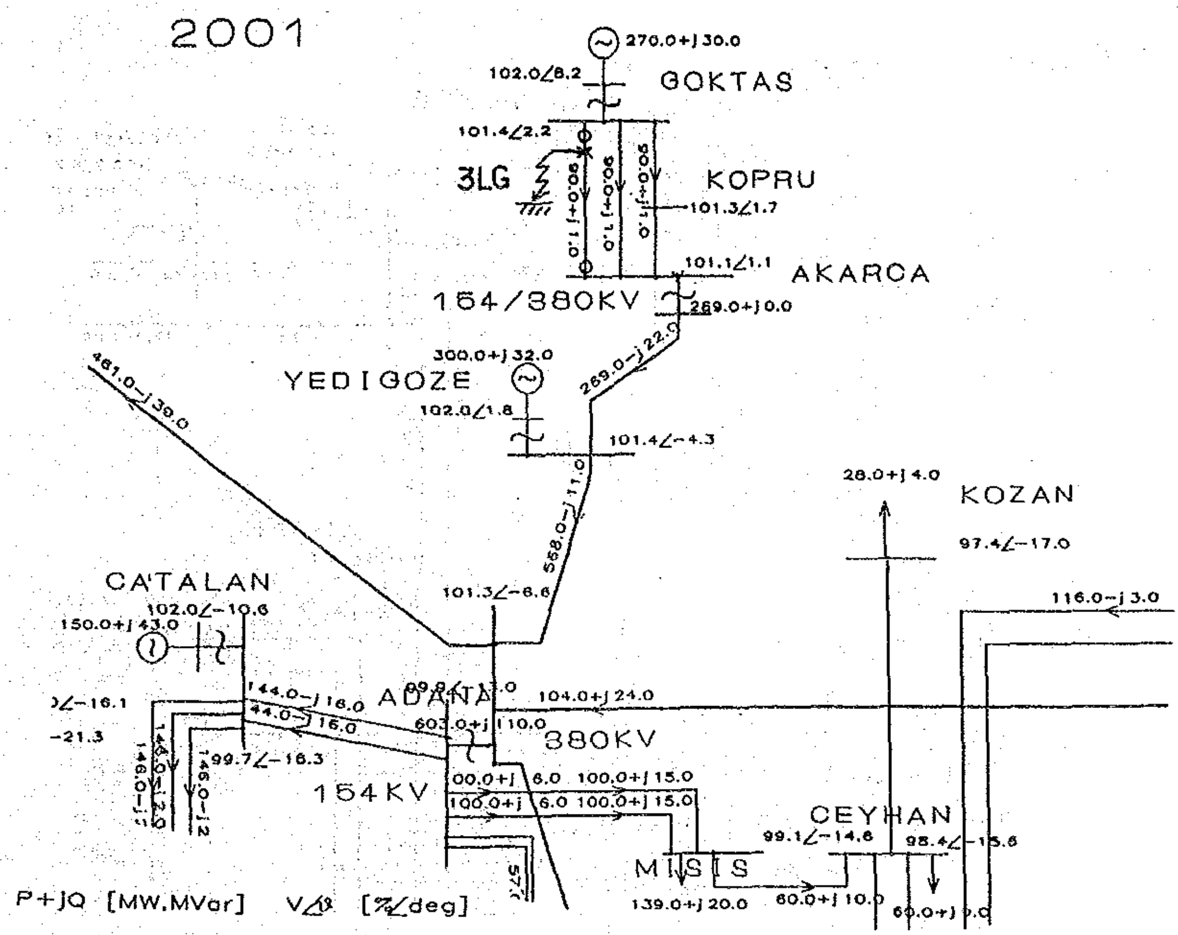
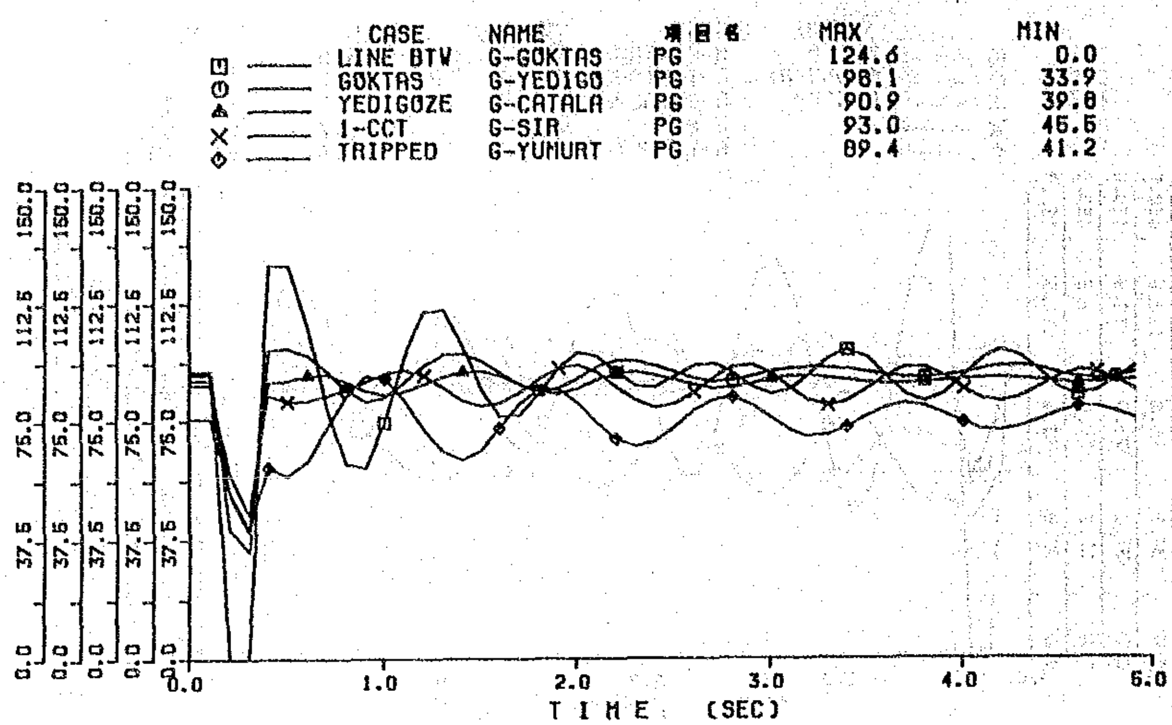
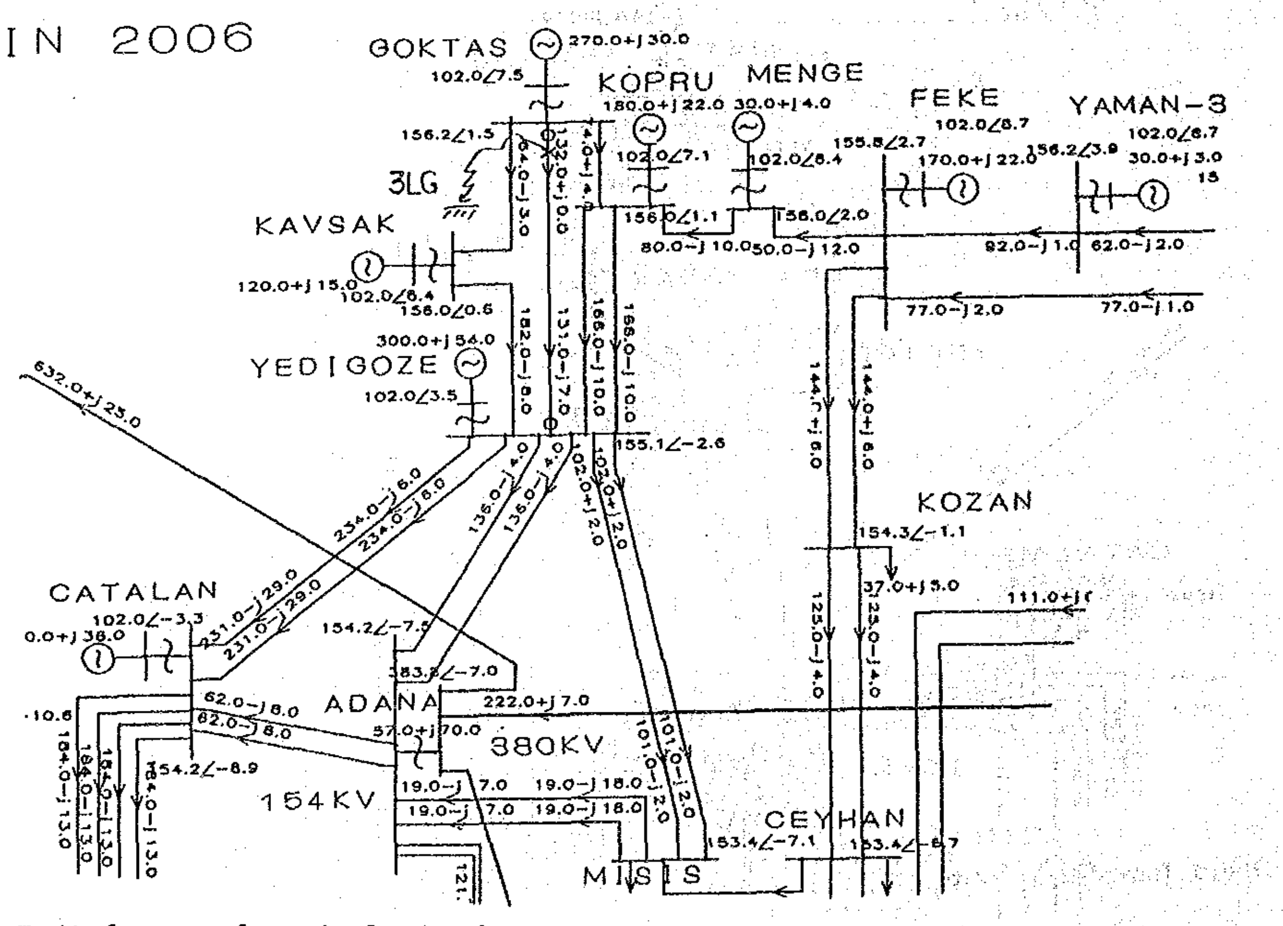


Fig. A-4-3 (4) Stability Study

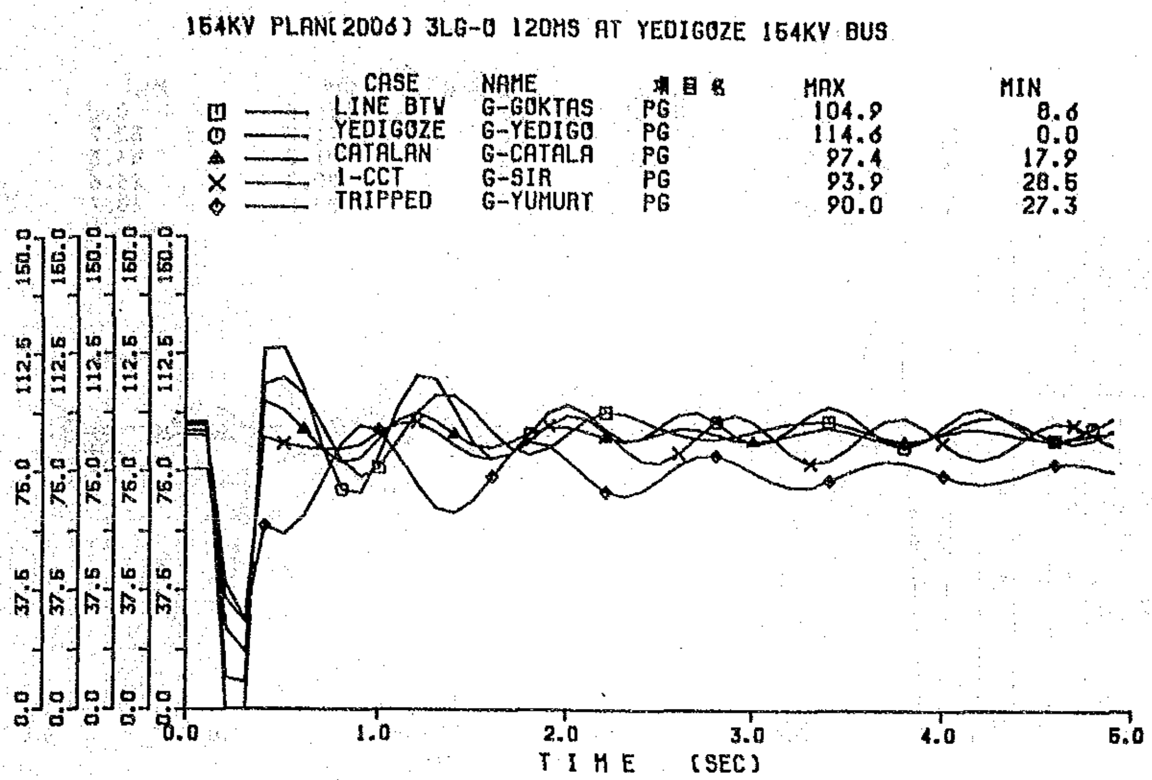
154KV PLAN(2006) 3LG-0 120MS AT GOKTAS 154KV BUS





P+jQ [MW,MVar] V∠θ [KV∠deg]

Fig. A-4-3 (5) Stability Study



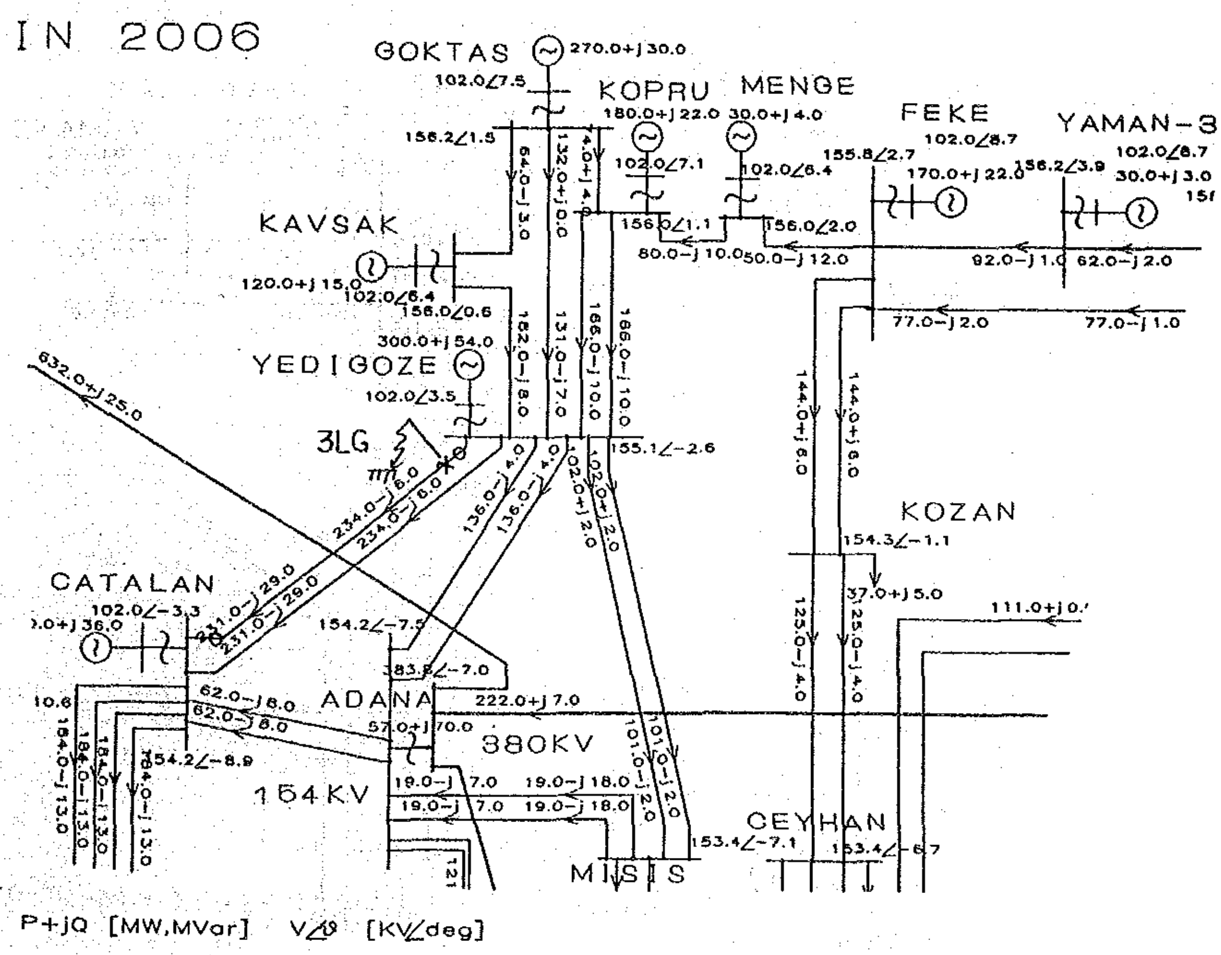
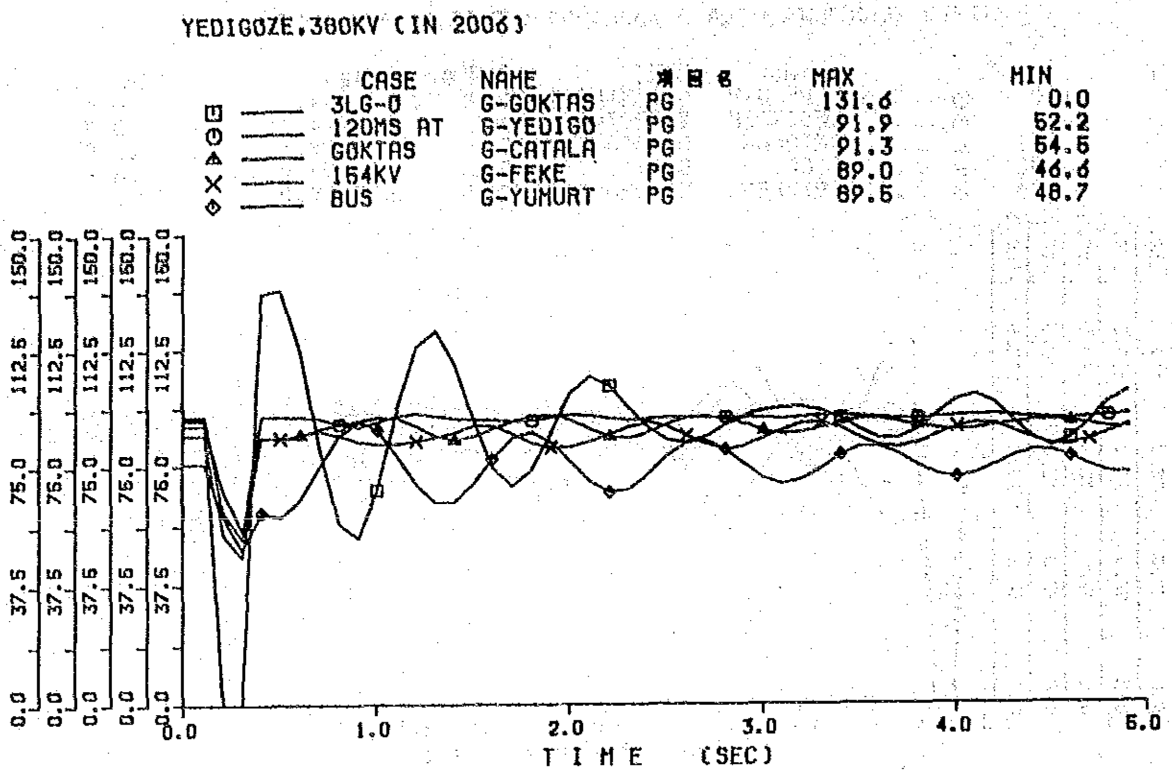
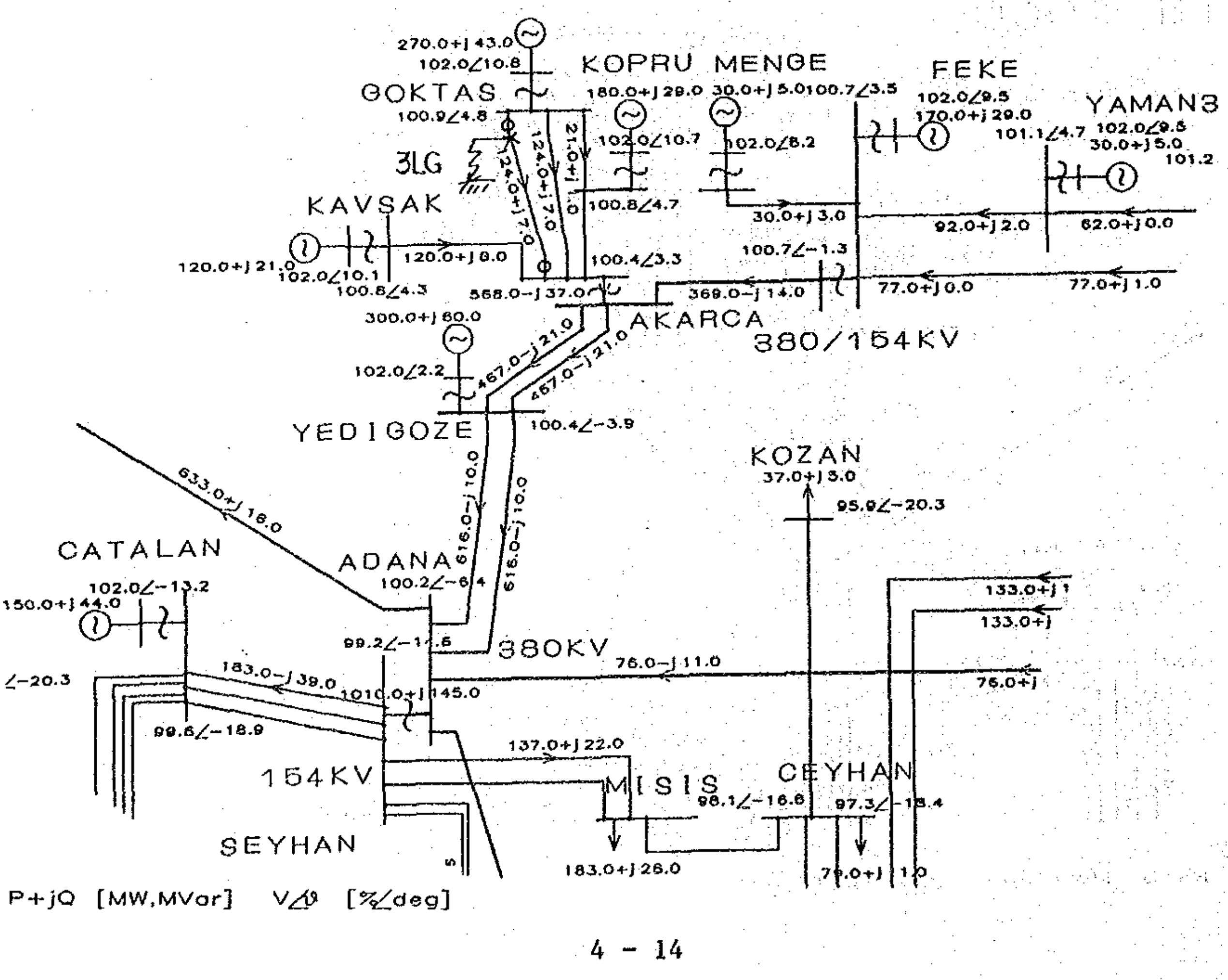


Fig. A-4-3 (6) Stability Study

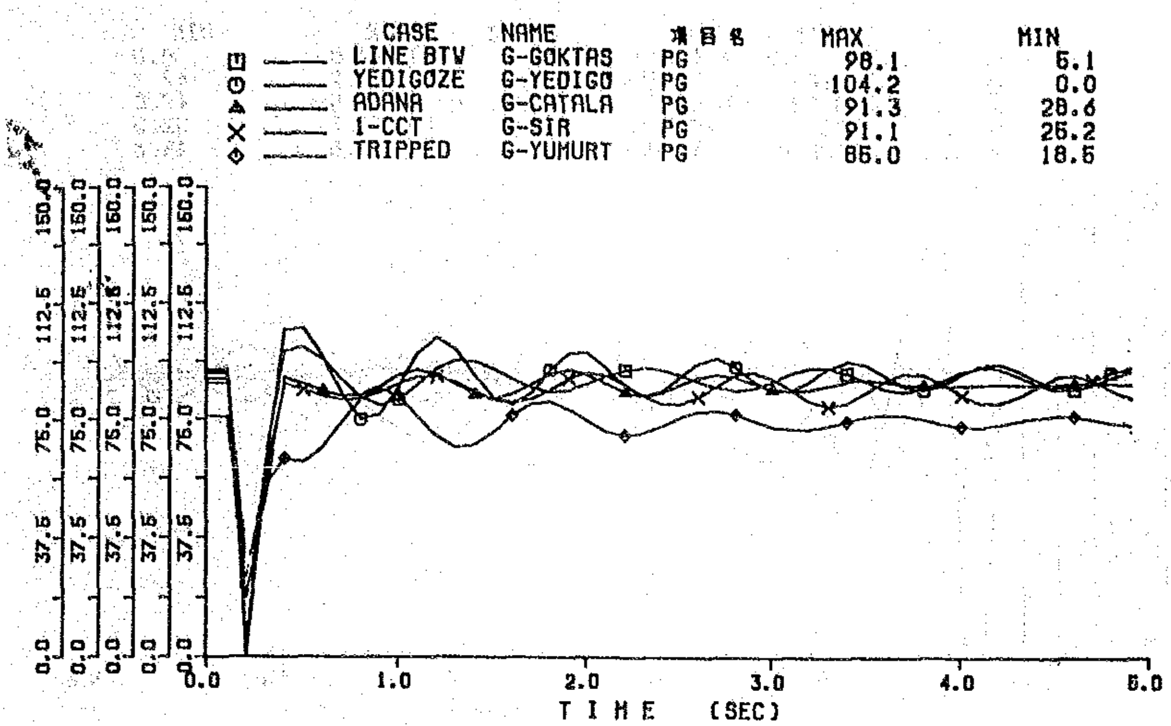


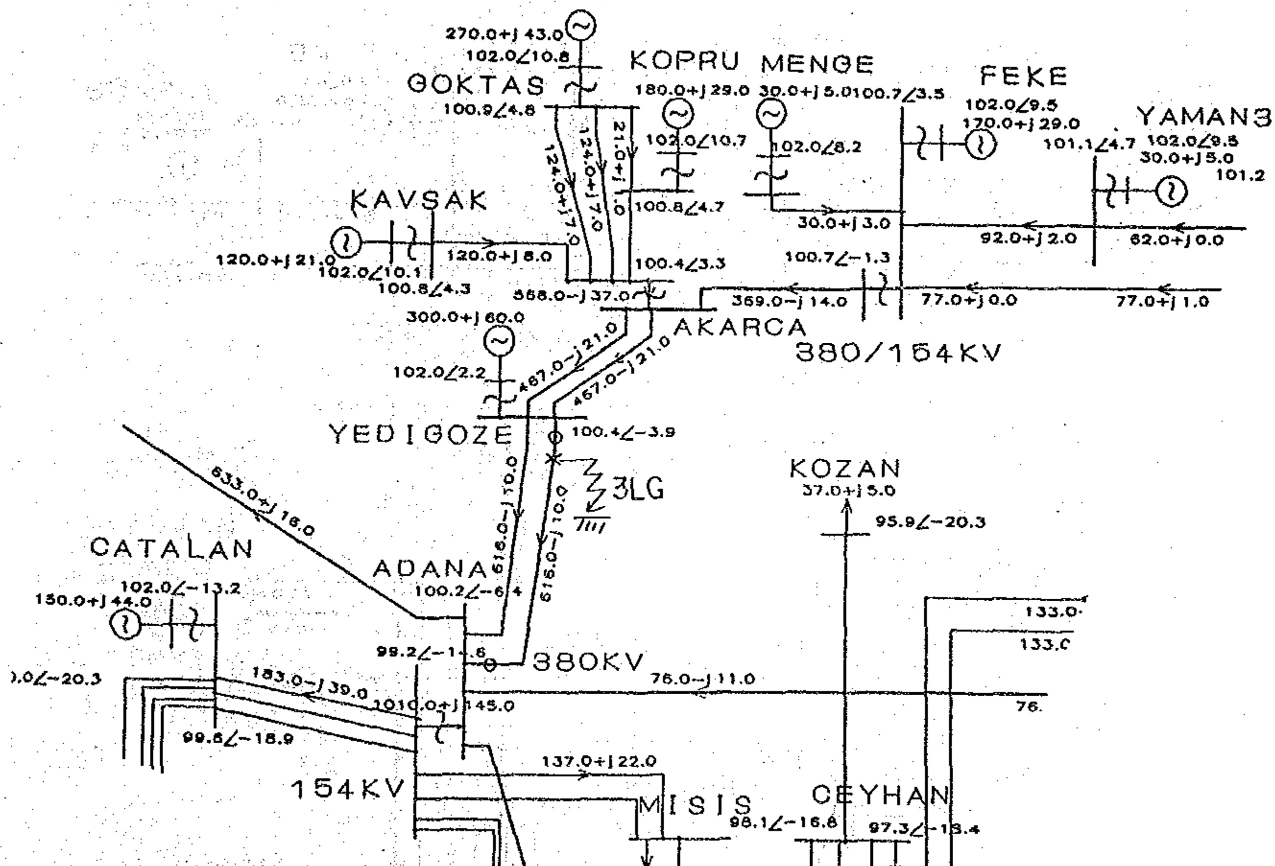


P+jQ [MW,MVar] V∠θ [%∠deg]

Fig. A-4-3 (7) Stability Study

380KV PLAN(2006) 3LG-0 100MS AT YEDIGOZE 380KV BUS



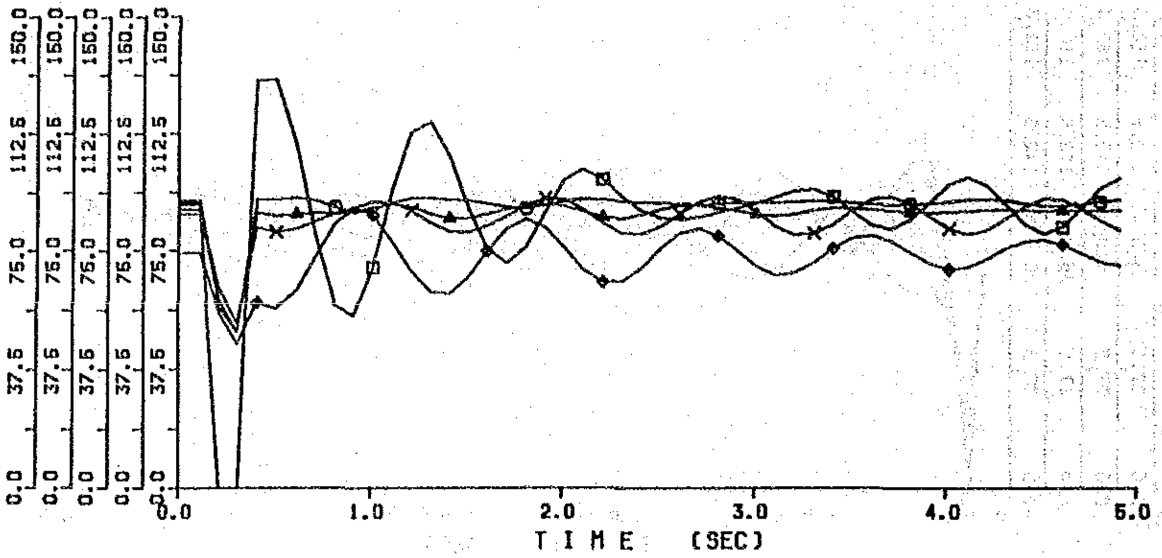


P+jQ [MW,MVar] V∠θ [%∠deg]

Fig. A-4-3 (8) Stability Study

380KV PATTERN-2 3LG-O 120MS AT GOKTAS 154KV BUS(2006

	CASE	NAME	[illegible]	MAX	MIN
□	LINE BTW	G-GOKTAS	PG	129.8	0.0
⊙	GOKTAS	G-YEDIGO	PG	91.9	49.2
△	AKARCA	G-CATALA	PG	90.0	49.5
×	1-CCT	G-SIR	PG	92.7	52.0
◇	TRIPPED	G-YUMURT	PG	88.8	45.6



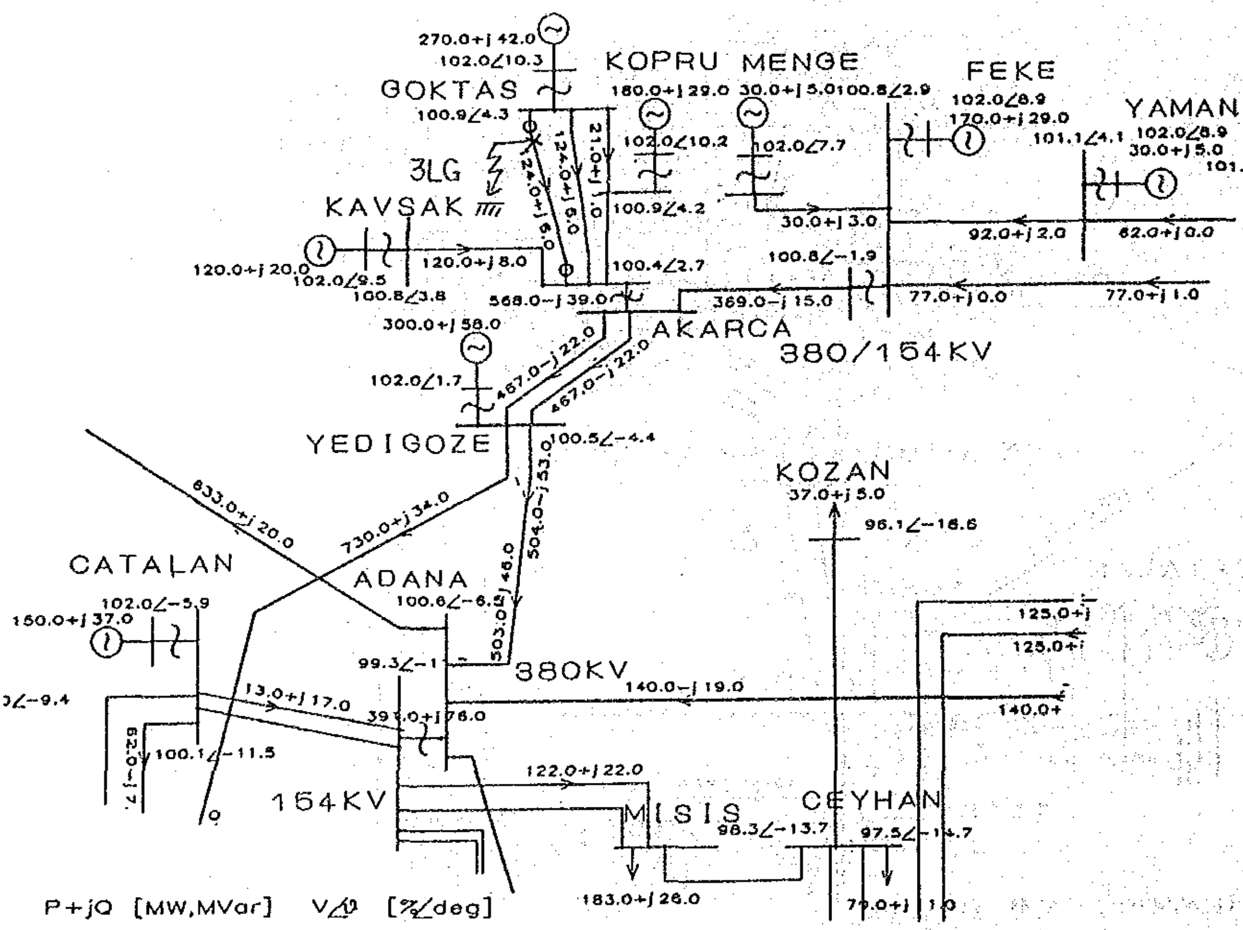
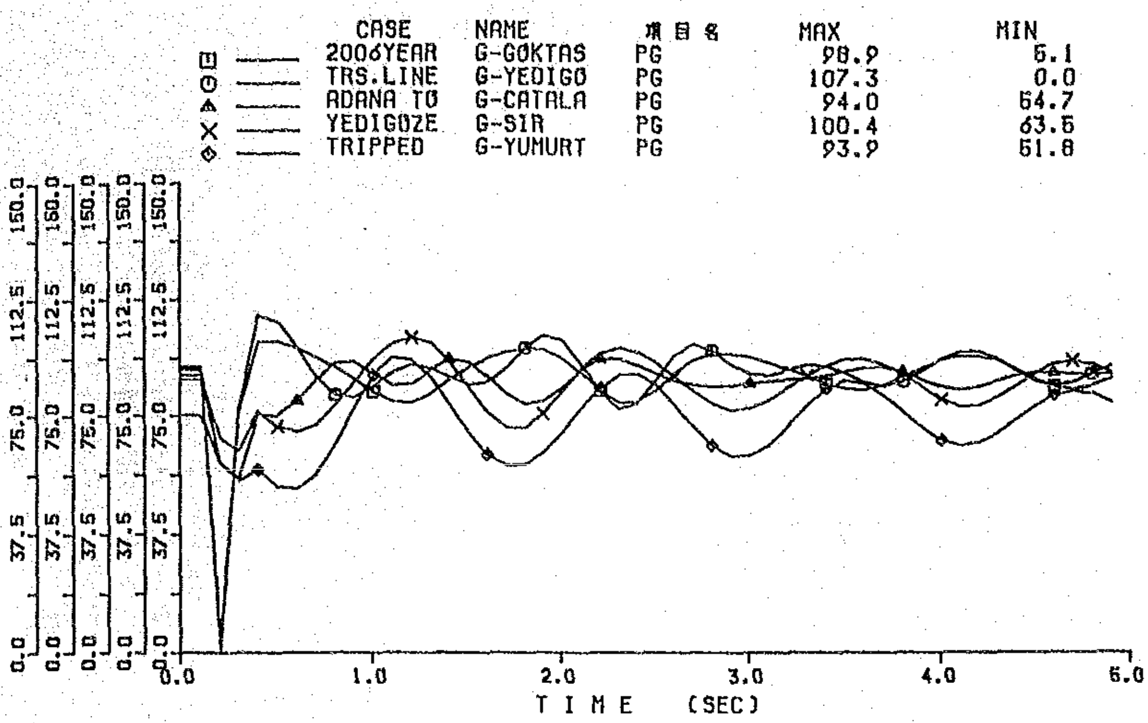
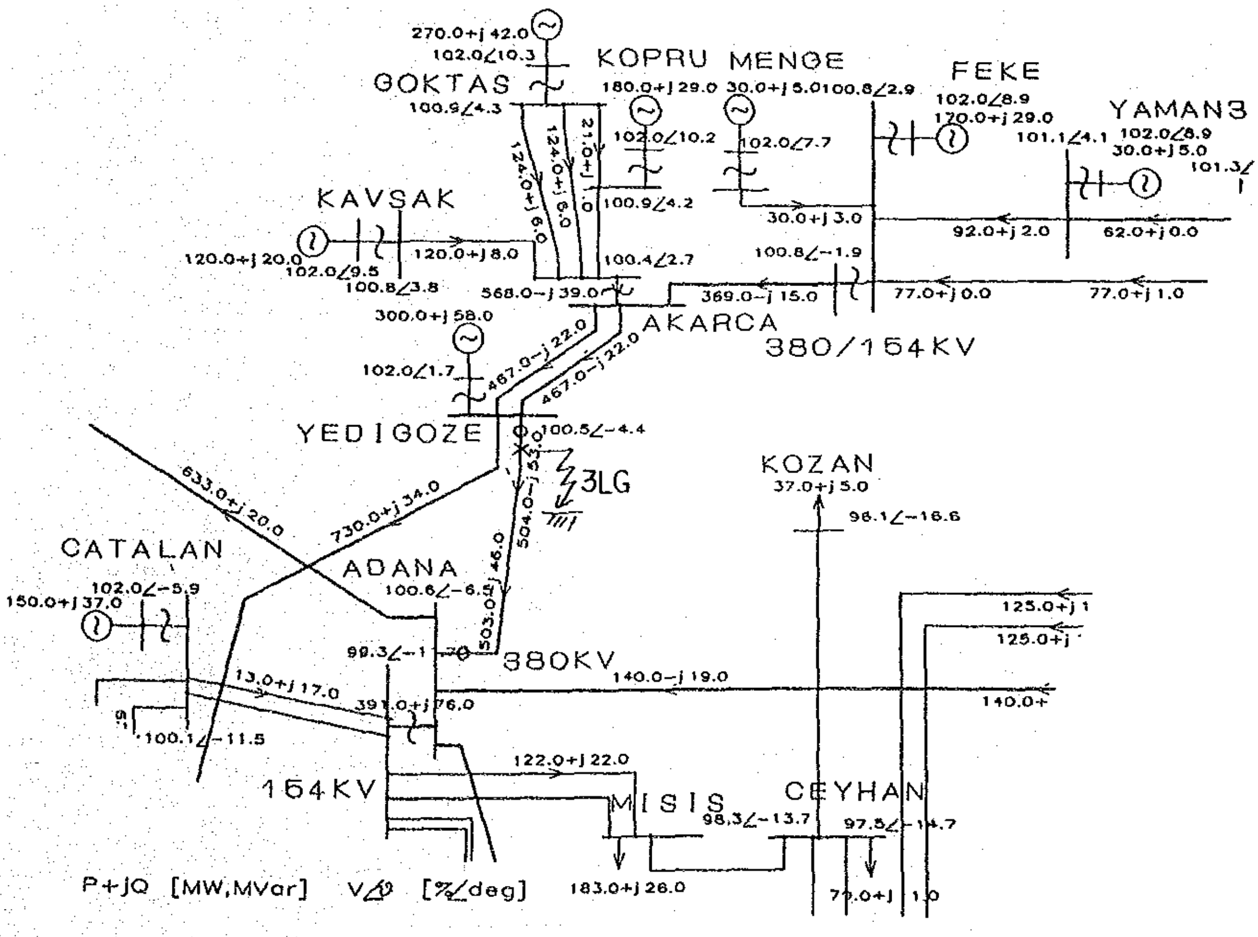


Fig. A-4-3 (9) Stability Study

PATERN-2,STABILITY,3LG-O 100MS AT YEDIGOZE 380KV BUS





A-5 FEASIBILITY DESIGN

A-5 FEASIBILITY DESIGN

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DWG. A-5-1 Dam (Gravity Type) Plan, Elevation and Section

5-1 Stability Analysis of Dam

1) General

Stability analysis of the Goktas dam was executed according to load partition method under normal and earthquake conditions. Design loads were considered to act onto the dambody under two stages of construction as shown below:

1st stage	first impounding/before joint grouting
2nd stage	final impounding/after joint grouting

2) Design Conditions

- Properties of dam

Elevation of crest	EL. 635.00 m
Height	148 m
Crest length	242 m
Arch raduis	220 m
Arch angle	63 deg.
Slope	1 : 0.6
Unit weight of concrete	$\gamma c = 2.35$ tf/m^3
Elastic modulus of concrete	$Ec = 3 \times 10^6$ tf/m^2
Poisson's ratio of concrete	$\nu c = 0.2$

- Properties of foundation rock

Elastic modulus of rock	$Er = 1 \times 10^6$ tf/m^2
Poisson's ratio of rock	$\nu r = 0.2$
Angle of innernal friction	$\phi = 55°$
Shear strength	$\tau = 400$ tf/m^2
(Refer to Final Report 7.4.4)	

- Reservoir

Reservoir water level	
First stage	EL. 617.00 m (Spillway crest)
Second stage	EL. 630.00 m (H.W.L.)

Wave height (considered for second stage only)

Normal condition	hw = 0.80 m
Earthquake condition	hw + he = 1.50 m (Refer to A-5-2 II 3))
Downstream water level	EL. 505.00 m

• Sediment

Sediment level	EL. 607.00 m
Unit weight	γs = 1.1 tf/m^3
Coefficient of sediment pressure	Cs = 0.5

• Earthquake

Seismic coefficient	k = 0.12
Direction	Horizontal

Dimensions of dam are shown in Figs. A-5-1 and A-5-2.

Fig. A-5-1 Dimensions of Göktas Dam (2-1)

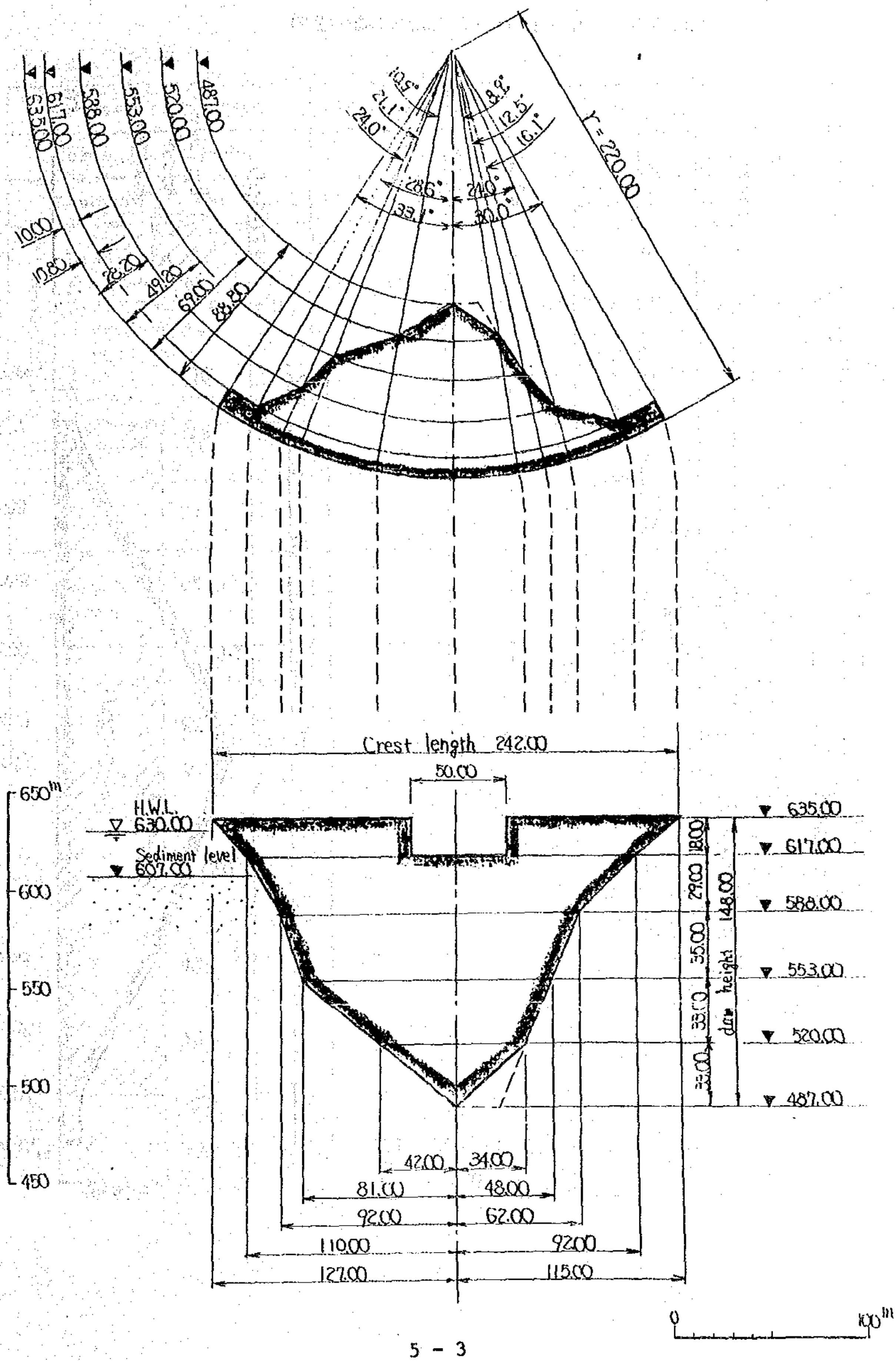

Fig. A-5-2 Dimensions of Göktas Dam (2-2)