REPUBLIC OF TURKEY

MINISTRY OF ENERGY AND NATURAL RESOURCES

GENERAL DIRECTORATE OF STATE HYDRAULIC WORKS

FEASIBILITY STUDY OF THE KURTUN PROJECT WITH COMPREHENSIVE DEVELOPMENT OF THE HARSIT RIVER BASIN

APPENDIX
(VOLUME II)

SEPTEMBER 1969

GOVERNMENT OF JAPAN

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Contents

Appendix 1 Hydrology

Contents

List of Tables

List of Figures

A 1. HYDROLOGY

A1-1 RUNOFF GAGING STATIONS AND METEOROLOGICAL STATIONS

The location and records of runoff gaging stations and meteorological stations in the catchment area and surrounding area of the Kurtun Project are shown in Fig. A1-1. There are six runoff gaging stations in the catchment area and surrounding area of the Kurtun Project: four of them are on the Harsit River, one is on the Kavraz, 2 tributary of the Harsit River and another is on the Kelkit River One of four stations on the Harsit River, Torul, is located near the Torul proposed dam site, the second one, Kurtun, is located at the Kurtun proposed dam site, the third one, Giris, is located at the existed Dogankent diversion site and the last one, Harsit, is located at the Dogankent Power Station, immediately above the confuence with the Kavraz River.

The Harsit Gaging Station on the Kavraz River is located about one km above the confluence with the Harsit main stream.

The Fath Gaging Station on the Kelkit River which is a neighboring river with the Harsit River, is located at about 60 km upstream from the confluence of the Yesilirmak River The daily gage heights of gaging station being under operation were made by automatic water-stage recorders

The discharge measurements were generally made by DSI or EIE once or twice per month

Torul Gaging Station has been operated by DSI since Feb 1965. The gaging site has a favorable topography with a catchment area of 1922.0 sq km.

At Kurtun Dam Site, there are two gaging stations, one of them (station No. 2201) was operated by EIE for two periods from 1943 to 1958 and from 1965 to 1966 However, since it was not a favorable site, the data may not be available.

Another Kurtun Station (Station No 22-10) has been operated by DSI since Feb 1966 The gaging site is better than abovementioned Kurtun Station The catchment area of 2,753 0 sq km is just the same as the one at the Kürtün proposed dam site

Discharge observations of the Giris Gaging Station which has a catchment area of 2,912.0 sq.km has been made by DSI since May 1964 and discharge observations of the Harsit Gaging Station on the Harsit River which has a catchment area of 2,966 8 sq,km was made by EIE for two periods, from Jan 1957 to Sept. 1958 and from Oct. 1960 to Sept. 1963.

Both these gaging sites have very good topographies and since the difference in the catchment area between both stations is very small, they will be considered to be interrelated gaging stations

The discharge observation of the Harsit Gaging Station on the Kavraz River which has a catchment area of 118 8 sq km was made by EIE for two periods, from Oct. 1956 to Sept 1958 and from Oct 1960 to Sept 1964

The discharge observation of the Fath Gaging Station on the Kelkit River has been made by EIE since Apr. 1938 and the site has a very good topography with a catchment area of 10,050 sq km

A 1. HYDROLOGY

A1-1 RUNOFF GAGING STATIONS AND METEOROLOGICAL STATIONS

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The discharge observation of the Harsit Gaging Station on the Kavraz River which has a catchment area of 118.8 sq.km was made by EIE for two periods, from Oct. 1956 to Sept. 1958 and from Oct. 1960 to Sept 1964.

The discharge observation of the Fatli Gaging Station on the Kelkit River has been made by EIE since Apr. 1938 and the site has a very good topography with a catchment area of 10,050 sq.km.

A1-2 CATCHMENT AREA OF PROJECT SITES

The catchment areas of the proposed dam sites for each alternative development plan were estimated by DSI on the basis of a topographical map of a scale 1 : 25,000 (Re: Plan and Profile of Alternative Scheme in Chapter 5 Scale of Development).

Proposed Dam Site	Unit	Catchment Area	
		Total Area	Incremental Area
Torul	sq.km	2,026	2,026
Karacukur	"	2,026	2,026
Kurtun (Dam Type)	"	2,753	727
Kurtun (Run of River Type)	"	2.086	60
Akkoy	"	2.753	727
Dogankent	"	2,912	159
Aslancik	"	3,124	212
Tirebolu	"	3,266	142
(Area of Dogankent and Tirebolu include 95 sq.km of Gunyuzu)			
Aladercam for Gunyuzu	"	38	38
Gokcebel for Gunyuzu	"	106	204
Yasmakli for Gunyuzu	"	95	299

A1-3 VERIFICATION OF DATA

DSI and EIE engineers in charge of hydrology have made yearly revisions of the rating curves in order to adjust to the river bed change due to flood flow. It can be seen that the rating curves of almost of all gaging stations have been revised by repeated direct measurement with a current meter.

Hydrograph of daily runoff of the 6 gaging stations abovementioned are shown in Fig. A1-2(1)-(6). It was shown that the 6 hydrographs are similar except for one or two days and also their quantitative and time-log relations are quite reasonable except for Kurtun Gaging Station (Station No. 2201 by EIE).

Fig. A1-3 shows the monthly estimated and observed runoff hydraugh of Turul and Giris and the monthly precipitation of Gumushane. It can be seen from this figure that there is a good correlation between precipitation and runoff, and although the runoff of the Harsit River fluctuates according to the season, there are only a few variation in the annual runoff.

As the result of the abovementioned studies, it can be concluded that the recorded or estimated runoff of Harsit River Basin is reliable and the period of the data is long enough to formulate hydroelectric development scheme.

A1-4 RUNOFF ESTIMATION

A1-4-1 Runoff Estimation on Harsit Main River

As shown in Fig. A1-4, there is no relation between the runoff of Kurtun (Station No. 2201 by EIE) and the runoff of Fatli and precipitation of Gumushane. Therefore, it is difficult to estimate the runoff at the proposed dam sites on the basis of the runoff records of Kurtun (Station No. 2201 by EIE).

Fig. A1-5 (1) shows the correlation of monthly runoff between Harsit on the Harsit River and Fatli on the Kelkit River with a fairly good correlation coefficeint of r = 0.95. Besides, since the difference in catchment area between Harsit and Giris is very small, the runoff of Harsit can be converted into the runoff of Giris by multiplying a ratio of catchment area of 0.981. (See Fig. A1-5(2))

Moreover, it was verified from the runoff record at Kurtun (Station No. 22-10 by DSI) that the estimated monthly runoff at Giris can be converted into runoff at Kurtun by multiplying the ratio of the two catchment areas, 0.945, as shown in Fig. A1-5(4). The correlation of monthly runoff between Giris and Torul on the Harsit River has also a fairly good correlation coefficient of r = 0.96 as shown in Fig, A1-5 (3).

As abovementioned the monthly runoff at the major sites ont he Harsit River can be calculated on the basis of the monthly runoff at Fatli on the Kelkit River.

The detail procedure of calculation of monthly runoff at Giris, Kurtun and Torul on the Harsit River is shown by a flow chart in Fig. A1-6 and Fig. A1-7.

A1-4-2 Runoff Estimation on Three Rivers for Gunyuzu Power Plant

Fig. A1-5(5) shows the correlation of monthly runoff between Harsit on Kavraz River and Giris on the Harsit River with a good correlation coefficient of r = 0.88.

Karacvacik or Gelevar Rivers where it is proposed to divert the runoff into the Gunyuzu diversion tunnel are located near the Kavraz River. Therefore, it is possible to calculate the monthly runoff on these rivers from the estimated monthly runoff on Kavraz River is shown by a flow chart in Fig. A1-8

The observed monthly runoff at Fatli is shown in Table A1-1. The estimated monthly runoff at Harsit, Torul, Kurtun and Harsit Gaging Stations on the Harsit River and the estimated monthly specific runoff at Harsit Gaging Station on the Kavraz River are tabulated in Table A1-2~6.

A1-4-3 Runoff at the Proposed Dam Sites

The monthly runoff at the proposed dam sites (or diversion sites) can be calculated by following formulas on basis of the estimated runoff in A1-4-1 and A1-4-2.

(1) Torul Dam Site on Harsit River

$$\text{Monthly runoff at Torul} = \frac{2,026}{1,922} \quad QT = 1,060\ QT$$

(2) Kurtun Dam Site on Harsit River

Monthly runoff at Kurtun = QK

(case of dam type)

Monthly runoff at Kurtun $= \frac{2,086}{1,922} = 1.090$ QT

(3) Dogankent Dam Site on Harsit River

Monthly runoff at Dogankent = QG

(4) Aslancik Dam Site on Harsit River

Monthly runoff at Aslancik $= \frac{3,124}{2,912}$ QG = 1,029 QG

(5) Tirebolu Dam Site on Harsit River

Monthly runoff at Tirebolu $= \frac{3,266}{2,912}$ QG = 1.078 QG

(6) Aladecam Dam Site on Karacvacik River, Gokcebe Dam Site on Gelevar River and Yasmakli Dam Site on Kavraz Rive.

Monthly runoff at Aladecam = 0.038 QS

Monthly runoff at Gurcebel = 0.166 QS

Monthly runoff at Yasmakli = 0.095 QS

The calculated result are shown Table A1-7 ~14.

Table A1-1 ** MONTHLY RUNOFF AT FATLI ON YESILIMAK RIVER, (M.C.M) ** - QF - C.A. = 10,222 SQ. KM

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1938	0.0	0.0	0.0	968.86	572.32	153.58	62.26	37.98	42.22	36.79	47.45	49.23	218.97
1939	43.36	40.33	111.74	517.10	494.90	144.40	70.05	62.22	58.69	63.51	69.34	93.64	147.44
1940	83.03	144.43	213.27	1083.96	689.84	336.05	133.38	54.83	45.90	93.74	111.24	134.43	260.34
1941	98.69	199.85	504.17	1076.79	780.62	174.18	86.99	53.72	43.87	74.93	148.28	85.49	277.30
1942	82.71	110.71	253.72	932.88	779.79	172.13	54.95	38.98	37.46	74.59	179.92	147.99	238.76
1943	95.06	78.69	134.58	720.17	711.89	221.50	62.18	36.48	35.10	38.81	51.65	71.54	188.14
1944	67.76	86.30	393.05	555.65	783.93	327.50	85.96	44.65	43.06	51.29	95.07	72.13	217.20
1945	58.53	52.95	98.06	645.40	773.28	209.64	57.40	35.23	31.29	53.19	49.27	49.70	175.66
1946	46.40	46.29	175.44	712.12	777.73	312.06	76.71	48.10	36.93	112.21	59.56	48.07	204.30
1947	62.34	92.65	426.48	371.86	166.41	91.11	36.40	24.10	31.12	33.39	110.40	59.80	125.51
1948	63.18	70.61	84.28	773.91	750.25	302.86	49.53	33.06	32.37	37.24	36.93	39.54	189.48
1949	35.20	35.89	117.18	473.95	905.71	172.44	42.57	29.64	34.25	35.74	35.32	37.76	162.97
1950	146.21	125.71	219.05	969.36	693.90	158.34	56.74	36.37	32.97	73.38	64.33	56.90	219.44
1951	61.32	52.44	297.74	386.24	531.22	255.73	69.97	38.57	45.50	90.88	141.58	97.11	172.36
1952	84.29	148.42	266.60	932.64	572.43	211.74	66.55	40.02	36.12	38.00	43.89	58.89	207.47
1953	45.22	70.41	102.00	747.37	714.00	244.43	78.87	38.91	44.94	48.10	52.14	72.95	188.28
1954	78.27	92.02	419.73	906.93	928.65	384.59	127.79	46.06	40.97	40.23	47.44	49.46	263.10
1955	56.76	72.62	140.81	327.24	296.60	71.21	27.73	24.59	24.09	27.87	32.45	47.93	95.83
1956	47.59	96.49	123.55	739.46	545.01	256.92	63.04	32.97	43.52	39.59	48.25	95.66	177.67
1957	53.24	80.75	346.02	538.25	602.78	287.93	66.75	34.30	33.70	38.21	41.99	50.40	181.19
1958	49.15	61.78	220.61	669.50	470.17	262.29	58.87	34.44	32.90	39.11	38.57	46.28	165.31
1959	49.71	40.73	179.68	554.09	507.61	279.02	67.62	42.23	38.02	58.13	67.42	58.32	161.80
1960	63.62	135.73	295.63	1163.43	805.31	241.42	96.22	55.51	50.49	48.30	49.50	52.50	254.81
1961	51.20	54.90	127.00	514.00	289.00	131.00	30.10	19.70	27.10	32.31	49.30	90.14	117.94
1962	73.00	88.22	523.20	605.23	494.00	143.00	34.80	21.65	19.93	26.70	32.40	79.00	178.43
1963	152.00	180.00	235.00	854.00	848.00	647.00	186.00	67.60	62.50	67.50	86.30	86.20	289.26
1964	44.90	60.20	255.00	620.00	563.00	301.00	58.30	29.70	31.40	34.90	45.20	61.90	173.79
1965	55.30	50.10	290.00	719.00	644.00	263.00	73.70	28.40	27.90	61.70	75.00	110.00	199.84
1966	229.00	181.00	329.00	623.00	509.00	215.00	77.50	30.00	33.00	0.0	0.0	0.0	247.39
1967	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	74.14	91.08	245.74	713.88	626.94	240.38	71.00	38.60	37.84	52.51	67.80	71.21	195.91

Table A1-2 ** MONTHLY RUNOFF AT HARSIT ON HARSIT RIVER, (M.C.M) ** - QH - C A = 2,967 SQ KM

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1938	0.0	0.0	0.0	300.18	200.49	73.13	36.60	25.05	27.17	24.45	29.72	30.57	83.04
1939	27.73	26.23	57.30	185.49	179.35	69.75	40.06	36.58	34.98	37.16	39.75	50.04	65.37
1940	45.64	69.76	94.06	327.16	231.36	133.29	65.63	33.20	28.97	50.08	57.11	66.03	100.19
1941	52.10	89.49	181.92	325.50	256.36	80.54	47.30	32.66	27.98	42.18	71.19	46.67	104.33
1942	45.50	56.90	107.46	291.59	256.15	79.81	33.26	25.56	24.79	42.04	92.32	71.08	92.87
1943	50.62	43.80	66.09	239.12	237.01	96.83	36.56	24.29	23.58	25.47	31.71	40.71	76.32
1944	39.05	47.01	150.31	196.00	255.19	130.69	46.87	28.36	27.59	31.54	50.63	40.97	87.02
1945	34.90	32.32	51.84	219.84	252.52	92.83	34.39	23.65	21.60	32.44	27.69	30.79	71.23
1946	29.21	29.14	80.98	237.06	253.64	125.94	42.95	30.03	24.52	57.49	35.37	30.01	81.36
1947	36.63	49.64	160.02	144.06	77.77	49.00	24.25	17.68	21.51	22.70	56.78	35.48	57.96
1948	37.01	40.30	46.16	252.68	246.74	123.08	30.71	22.53	22.16	24.68	24.52	25.84	74.70
1949	23.64	23.93	59.43	173.50	285.06	79.92	27.34	20.72	23.15	23.91	23.70	26.94	65.78
1950	70.42	62.72	96.01	300.30	232.40	74.86	34.08	24.24	22.46	41.51	37.53	34.16	85.89
1951	36.17	32.09	121.48	148.31	189.36	108.11	40.02	25.35	28.78	48.91	68.71	51.46	74.90
1952	46.17	71.24	110.97	291.54	203.52	93.54	38.52	26.03	24.11	25.06	27.79	31.36	82.26
1953	28.64	40.22	53.43	246.01	237.54	104.43	43.87	25.52	28.50	30.03	31.94	41.32	75.95
1954	43.62	49.38	158.07	285.35	290.58	147.82	63.52	29.35	26.55	26.18	27.28	30.68	98.17
1955	34.09	41.19	68.42	130.61	121.12	40.57	19.69	17.95	17.67	19.76	22.91	29.55	46.94
1956	29.78	51.21	61.89	244.01	193.12	108.50	36.05	22.48	27.81	25.86	30.10	50.87	73.55
1957	32.46	75.53	122.40	241.38	187.85	124.39	54.17	26.63	22.62	26.48	29.19	35.13	81.69
1958	33.86	46.14	96.64	222.64	140.29	107.42	71.46	29.01	24.49	25.62	25.35	29.15	71.03
1959	30.32	26.43	92.43	195.58	137.87	115.58	38.99	27.18	25.07	34.72	38.90	34.81	69.41
1960	37.21	66.52	120.82	345.35	260.50	103.44	51.10	33.52	31.17	17.30	16.90	19.50	91.95
1961	16.60	22.90	68.00	215.00	50.60	82.30	24.50	10.90	15.00	12.90	30.10	65.80	51.23
1962	42.40	49.20	170.00	194.00	240.00	96.30	31.80	16.50	16.70	29.50	30.60	35.40	79.37
1963	58.80	86.60	93.00	261.00	271.00	236.00	81.20	33.60	30.10	40.10	38.80	55.50	106.31
1964	26.10	44.50	120.00	183.00	225.00	142.00	45.10	19.60	18.90	23.68	28.63	36.44	77.23
1965	31.42	30.93	110.05	238.92	213.48	110.46	41.65	20.05	19.78	36.34	42.21	56.62	80.74
1966	99.34	82.94	131.15	213.97	183.26	94.65	43.29	20.91	22.49	0.0	0.0	0.0	79.11
1967	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	40.95	48.87	102.09	236.35	217.25	104.32	42.61	25.13	24.50	31.35	37.75	40.40	79.31

Table A1-3 ** MONTHLY RUNOFF AT TORUL ON HARSIT RIVER, (M.C.M) ** - QT - C A = 1,922 SQ.KM

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1938	0.0	0.0	0.0	148.11	93.30	36.04	18.04	12.35	13.39	12.05	14.45	15.07	40.96
1939	13.47	12.91	28.25	91.50	88.47	34.40	19.75	18.03	17.24	19.32	19.59	24.67	32.24
1940	22.50	34.40	46.39	161.43	114.14	65.74	32.36	16.36	14.28	24.69	29.16	32.56	49.42
1941	25.69	44.13	89.74	160.41	125.49	38.72	21.32	16.11	13.79	20.90	35.10	23.01	51.46
1942	22.43	28.06	53.09	143.47	125.39	39.16	14.99	12.60	12.22	20.73	40.49	35.05	45.81
1943	24.96	21.59	32.59	117.97	116.43	47.76	18.02	11.97	11.62	12.56	15.63	20.07	37.64
1944	19.25	23.18	74.14	96.69	125.90	64.46	23.11	13.93	13.60	15.59	24.96	20.20	42.92
1945	17.20	15.93	27.56	108.45	124.58	45.78	14.95	11.46	10.65	15.99	13.65	15.18	35.13
1946	14.40	14.37	38.93	116.96	125.14	62.12	21.17	14.80	12.09	29.14	17.43	14.79	40.13
1947	16.06	24.47	78.93	71.06	33.35	24.16	11.95	8.71	10.60	11.19	28.00	17.49	28.58
1948	18.74	19.87	22.76	124.66	121.73	60.71	15.14	11.10	10.92	12.16	12.79	12.74	36.84
1949	11.65	11.93	29.30	85.58	140.65	39.41	13.47	10.21	11.41	11.79	11.68	12.29	32.44
1950	34.72	30.93	47.35	148.17	114.65	36.91	14.60	11.95	11.06	20.46	18.50	16.84	42.36
1951	17.81	15.82	59.92	73.15	93.41	53.32	14.73	12.49	14.14	24.11	33.88	25.37	36.94
1952	22.76	35.13	54.73	143.84	98.02	46.13	19.99	12.94	11.88	12.35	13.90	15.46	40.57
1953	14.12	19.63	26.34	121.37	117.12	51.50	21.63	12.56	14.05	14.60	15.75	20.37	37.46
1954	21.59	24.34	77.97	140.79	143.37	72.91	31.32	14.32	13.09	12.30	13.44	15.12	48.42
1955	16.91	20.31	33.74	64.42	57.74	20.00	9.71	8.85	8.71	9.74	10.35	14.76	23.14
1956	14.68	25.25	30.52	120.38	95.27	53.51	19.22	11.98	13.71	12.75	14.86	25.08	36.27
1957	16.00	37.25	60.37	119.00	93.65	61.35	26.71	13.13	11.15	13.05	14.39	17.32	40.29
1958	16.69	27.77	47.66	109.83	69.20	52.98	35.24	14.20	12.17	12.63	12.49	14.37	35.03
1959	14.35	13.03	40.67	96.48	90.21	57.01	19.22	13.60	12.36	17.12	19.18	17.16	34.23
1960	19.34	32.80	59.59	170.42	124.57	51.01	25.19	16.52	15.36	8.53	8.43	9.61	45.35
1961	8.18	11.22	33.53	106.06	25.05	40.58	12.08	5.37	7.39	6.36	14.34	32.45	25.27
1962	20.90	24.26	83.86	95.70	118.40	47.49	15.68	8.13	8.23	14.54	15.08	17.65	39.14
1963	28.99	32.84	45.87	128.77	133.71	116.43	44.98	16.56	14.84	19.77	19.13	27.36	52.44
1964	12.87	21.94	63.63	92.74	154.56	87.73	21.02	11.82	11.77	13.95	13.07	20.18	43.77
1965	18.52	14.88	69.74	149.87	107.81	71.91	24.29	16.40	9.61	25.46	24.96	22.65	46.37
1966	31.27	40.69	88.60	166.74	155.13	55.21	22.55	9.51	8.96	8.04	8.27	17.35	50.60
1967	13.66	13.19	35.94	120.66	165.34	54.90	34.28	10.79	13.32	25.58	18.58	45.72	46.00
1968	31.47	24.15	88.74	343.88	159.66	57.70	23.09	12.56	11.96	16.52	14.36	13.15	66.44
MEAN	19.41	23.71	52.31	127.07	111.92	53.17	21.63	12.61	12.11	15.90	18.24	20.19	40.76

Table A1-4 ** MONTHLY RUNOFF AT KURTUN ON HARSIT RIVER. (M.C.M) ** - QK - C.A. = 2,753 SQ KM

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1938	0.0	0.0	0.0	278.53	186.03	67.85	33.96	23.25	25.21	22.69	27.58	28.36	77.65
1939	25.73	24.33	53.17	172.11	166.42	64.72	37.17	33.94	32.46	34.48	36.88	46.43	60.65
1940	42.34	64.73	87.28	303.57	214.67	123.68	60.89	30.80	26.88	46.47	52.99	61.27	92.96
1941	48.34	83.03	168.80	302.03	936.01	74.73	43.89	30.32	25.96	39.14	66.05	43.30	96.80
1942	42.22	52.80	99.71	270.55	235.82	74.05	30.86	23.72	23.00	39.01	76.38	65.95	86.17
1943	46.97	40.64	61.32	221.88	219.92	89.85	33.92	22.54	21.88	23.63	29.42	37.78	70.81
1944	36.24	43.62	139.47	181.87	236.78	121.27	43.49	26.31	25.60	29.27	46.98	38.01	80.74
1945	32.38	29.99	48.10	203.98	234.31	86.14	31.91	21.94	20.04	30.10	25.79	28.57	66.10
1946	27.10	27.06	75.14	219.97	235.35	116.86	39.65	27.86	22.76	53.34	32.81	27.84	75.50
1947	33.99	46.06	148.47	133.67	72.16	45.46	22.50	16.40	19.96	21.06	52.49	32.92	53.78
1948	34.34	37.39	42.83	234.46	228.95	114.20	28.49	20.90	20.56	22.90	22.76	23.98	69.31
1949	21.93	22.26	55.15	160.98	264.50	74.16	25.37	19.23	21.48	22.19	21.99	23.14	61.03
1950	65.34	58.20	89.08	278.64	215.64	69.46	31.62	22.49	20.86	39.52	34.82	31.70	79.70
1951	33.56	29.77	112.72	137.61	175.70	100.32	37.14	23.52	26.71	45.38	63.76	47.75	69.50
1952	42.84	66.10	102.96	270.52	186.05	86.80	35.75	24.20	22.37	23.26	25.97	29.10	76.33
1953	26.59	37.31	49.58	228.27	229.41	56.89	40.71	23.68	26.44	27.86	29.64	38.34	70.48
1954	40.47	45.81	146.67	264.77	269.62	137.16	58.94	26.95	24.64	24.29	25.31	28.47	91.09
1955	31.63	38.71	63.48	121.19	112.38	37.65	18.27	16.40	16.39	18.33	20.61	27.79	43.55
1956	27.63	47.52	57.42	226.41	179.19	100.68	34.29	20.86	25.80	23.98	27.93	47.20	68.24
1957	30.12	70.08	113.57	223.97	176.16	115.41	59.77	24.71	20.99	24.57	27.09	37.60	75.80
1958	31.42	42.85	89.67	206.58	130.17	99.67	66.31	26.91	22.91	23.78	23.52	27.05	65.90
1959	28.14	24.42	76.53	161.47	169.68	107.25	36.18	25.22	23.27	32.22	36.10	37.29	64.41
1960	34.53	61.73	112.11	320.48	241.71	95.98	47.41	31.10	28.92	16.05	15.68	18.09	85.32
1961	15.40	21.25	63.19	199.49	47.14	76.36	27.74	10.12	13.92	11.97	27.93	61.05	47.54
1962	39.34	45.65	157.74	180.00	222.69	89.35	29.51	15.31	15.50	27.37	28.39	32.84	73.64
1963	54.56	61.80	86.30	242.17	251.46	218.98	84.62	31.18	27.93	37.21	36.00	51.50	98.64
1964	24.22	41.30	119.70	174.44	290.65	165.02	39.56	22.25	22.15	26.26	24.60	37.99	82.35
1965	34.87	28.01	131.19	281.85	202.78	135.27	45.71	31.62	18.09	47.91	46.93	42.64	87.24
1966	58.84	53.04	170.81	233.49	297.98	82.07	49.94	22.94	21.05	14.68	14.02	20.41	86.61
1967	26.21	33.12	65.99	237.18	282.33	118.38	90.96	69.79	20.78	45.78	24.64	97.67	92.07
1968	47.73	47.07	135.49	466.01	345.71	115.86	41.83	22.14	21.37	28.66	26.03	22.28	110.10
MEAN	36.17	44.18	97.45	230.91	211.24	100.05	41.74	25.48	22.77	29.43	33.97	38.20	76.10

Table A1-5 ** MONTHLY RUNOFF AT GIRIS ON HARSIT RIVER. (M.C.M) ** - QG - C.A = 2,812 SQ. KM

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1938	0.0	0.0	0.0	294.62	196.77	71.77	35.92	24.59	26.67	24.00	29.17	30.00	81.50
1939	27.22	25.74	56.24	182.05	176.03	68.46	38.32	35.90	34.33	34.47	36.01	49.11	64.16
1940	44.79	68.47	92.32	321.10	227.07	130.82	64.41	32.58	28.43	49.15	56.05	64.81	98.33
1941	51.13	87.81	178.55	319.47	249.64	79.05	46.42	32.07	27.46	41.40	69.97	45.80	102.39
1942	44.66	55.85	105.47	286.16	249.44	78.33	32.64	25.09	24.33	41.26	80.79	69.76	91.15
1943	49.68	42.99	64.96	234.69	232.62	95.94	35.88	23.84	23.14	24.00	31.12	39.66	74.90
1944	38.33	46.14	147.52	192.37	250.46	126.27	46.00	27.33	27.01	31.96	46.69	40.21	85.41
1945	34.25	31.73	50.88	215.76	247.64	91.11	33.75	24.21	21.20	31.64	27.18	30.22	69.91
1946	28.67	28.62	79.48	232.67	248.94	123.41	42.15	29.47	24.07	56.42	34.71	29.45	79.86
1947	35.95	46.72	157.05	141.35	76.33	48.29	23.60	17.35	21.11	22.29	55.73	34.82	56.89
1948	36.32	39.55	45.30	243.00	242.17	120.80	30.14	22.11	21.76	24.22	24.07	25.36	73.32
1949	23.20	23.65	58.39	170.28	279.78	78.44	26.83	20.34	22.72	23.47	23.76	24.48	64.56
1950	69.11	61.56	94.23	254.73	228.69	73.47	33.45	23.73	22.06	41.74	36.83	33.63	84.30
1951	35.50	31.43	110.23	145.54	185.85	106.11	39.28	24.48	28.25	48.00	67.44	50.51	73.51
1952	45.31	69.32	106.91	286.14	196.60	91.91	37.61	25.50	23.66	24.60	27.47	30.78	80.73
1953	28.11	39.47	52.44	241.45	243.14	102.48	43.06	25.05	27.97	29.47	31.35	40.39	74.55
1954	47.81	48.44	156.14	280.06	285.13	145.08	62.34	28.51	26.06	25.69	26.77	30.81	96.35
1955	33.46	40.42	67.15	128.19	118.87	39.82	19.33	17.62	17.34	19.39	21.80	29.39	46.07
1956	29.23	50.24	60.74	237.49	189.54	106.49	36.27	22.36	27.79	25.38	29.54	49.93	72.19
1957	31.86	74.13	120.13	226.91	186.33	122.08	63.17	26.14	22.20	25.99	28.65	34.48	80.17
1958	33.21	45.32	94.85	218.51	137.67	105.43	70.14	28.46	24.23	25.15	24.98	28.61	69.71
1959	30.76	25.96	80.95	191.95	179.43	113.44	39.77	26.69	24.61	34.08	38.19	34.16	68.13
1960	36.52	45.29	118.54	331.97	255.67	101.52	50.15	32.30	30.59	16.94	16.59	19.14	90.24
1961	14.29	22.44	66.74	211.01	49.86	80.77	29.05	10.70	14.72	12.66	29.54	64.58	50.28
1962	41.61	48.23	166.85	190.40	235.55	94.51	31.21	16.13	16.39	29.85	30.03	34.74	77.69
1963	57.71	65.37	91.28	256.16	265.98	231.63	89.51	32.33	29.54	39.34	38.94	54.47	104.34
1964	25.62	43.69	126.61	184.51	307.44	174.55	41.46	23.54	23.43	27.76	26.02	40.18	87.10
1965	36.88	29.63	138.77	298.13	214.49	143.08	63.35	33.45	19.13	50.48	49.64	45.10	92.28
1966	62.24	56.10	180.66	246.97	315.19	86.81	52.62	24.27	22.27	15.53	14.83	21.59	91.61
1967	27.75	35.03	69.90	250.88	298.64	125.22	94.21	73.47	21.96	47.85	28.14	103.31	97.39
1968	50.49	49.71	143.32	492.92	365.63	122.55	44.25	24.49	22.60	30.32	27.53	23.57	116.46
MEAN	33.26	46.73	103.93	244.24	223.44	105.83	44.15	26.95	24.08	31.13	35.94	40.41	80.50

Table A1-6 ** MONTHLY SPECIFIC RUNOFF AT HARSIT. (M.C.M.) ** - QS - C.A. = 1,000 SQ. KM

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1938	0.0	0.0	0.0	182.78	128.59	53.41	29.22	21.01	22.55	20.57	24.38	24.98	56.39
1939	22.95	21.54	43.19	120.17	116.70	51.26	31.62	29.21	28.09	29.61	31.40	38.38	47.04
1940	35.42	51.24	66.51	197.01	145.68	90.11	48.60	26.84	23.84	38.40	43.06	48.87	67.97
1941	39.75	63.63	116.15	196.14	158.21	58.10	36.54	26.47	23.13	33.07	52.17	36.11	70.13
1942	35.33	42.93	74.69	178.21	158.10	57.64	26.88	21.38	20.81	32.97	59.21	52.10	63.35
1943	38.75	34.17	48.90	149.93	148.77	68.21	29.19	20.45	19.92	21.31	25.79	32.07	53.12
1944	30.92	36.35	100.05	126.08	158.67	88.57	36.25	23.40	22.85	25.67	38.77	32.24	59.99
1945	26.04	26.22	39.58	139.33	157.22	65.75	27.68	19.98	18.46	26.31	22.92	25.14	49.72
1946	24.01	23.78	58.37	146.80	157.63	85.76	33.59	24.59	20.62	43.31	28.36	24.58	56.15
1947	23.24	36.11	105.66	96.42	56.35	37.68	20.42	15.50	18.39	19.28	42.85	28.44	42.36
1948	29.51	31.79	35.77	157.31	154.09	84.06	25.08	19.15	18.88	20.73	20.62	21.58	51.55
1949	19.47	20.23	44.59	113.37	174.73	57.71	22.66	17.81	19.61	20.17	20.01	20.92	45.98
1950	51.68	46.73	67.71	182.84	144.25	54.51	27.46	20.41	19.11	32.61	29.87	27.52	58.89
1951	23.93	26.06	83.11	98.89	122.35	75.08	31.59	21.22	23.71	37.62	50.59	39.33	53.21
1952	35.78	52.21	76.61	178.15	128.61	66.19	30.56	21.76	20.31	21.01	23.13	25.54	56.68
1953	23.60	31.72	40.63	153.68	149.06	72.85	34.22	21.35	23.50	24.59	25.96	32.48	52.80
1954	34.05	37.93	104.54	174.88	177.67	98.61	47.24	23.90	22.10	21.82	22.62	25.06	65.87
1955	27.47	32.37	50.40	88.53	82.89	31.97	17.03	15.71	15.49	17.08	18.91	24.54	35.20
1956	24.42	39.16	46.18	152.59	124.46	75.32	29.47	19.11	23.00	21.59	47.31	62.04	55.39
1957	22.05	39.99	90.57	206.82	127.95	77.69	22.90	12.37	11.70	25.34	31.48	30.56	58.28
1958	24.41	35.35	77.78	196.97	131.31	81.57	112.63	31.23	40.40	21.42	21.22	23.97	66.52
1959	24.81	22.01	59.31	125.84	118.69	79.58	30.88	22.55	21.02	27.91	30.82	27.97	49.28
1960	29.65	43.18	82.72	206.54	161.54	72.25	39.08	27.07	25.41	11.70	11.87	21.55	61.55
1961	14.56	17.24	41.84	179.29	79.12	60.94	30.30	9.85	30.64	16.25	30.56	73.40	48.67
1962	29.12	29.54	95.96	124.58	127.95	52.69	11.87	5.77	19.61	52.53	45.71	23.15	51.54
1963	30.64	24.41	42.51	149.83	176.77	127.10	25.51	21.55	37.54	38.35	41.24	26.06	61.98
1964	13.86	23.89	101.19	198.98	227.04	79.25	20.15	10.03	26.62	23.36	22.07	32.22	64.89
1965	29.90	24.71	94.66	184.67	138.62	97.42	37.86	27.46	16.88	39.44	38.74	35.63	63.85
1966	47.17	43.09	119.38	156.74	193.85	63.04	40.89	20.77	19.27	14.08	13.52	18.76	62.55
1967	23.34	28.59	52.13	158.90	184.95	86.74	68.94	54.74	19.05	30.59	23.65	73.36	67.08
1968	39.31	38.84	97.56	286.18	220.63	85.12	35.05	20.92	19.52	25.21	23.18	20.25	75.98
MEAN	29.62	34.45	72.02	161.63	146.28	72.13	34.24	21.73	22.32	26.90	31.03	33.25	57.23

Table A1-7 ** MONTHLY RUNOFF AT TORUL DAM SITE (M.C.M)*** - QT - C.A. = 2,028 SQ.KM

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	14.5	13.7	29.9	97.0	93.8	36.5	20.9	19.1	18.3	19.4	20.8	26.2	34.2
1940	23.9	35.5	49.2	171.1	121.0	65.7	34.3	17.3	15.1	26.2	29.8	34.5	52.4
1941	27.2	46.8	[illegible]	170.2	133.0	42.1	24.7	17.1	14.6	22.0	37.2	24.4	54.5
1942	23.8	29.7	56.2	157.5	132.9	41.7	17.4	13.4	13.0	22.0	43.0	37.2	48.6
1943	26.5	27.9	34.5	125.0	123.9	50.6	19.1	12.7	12.3	13.3	16.6	21.3	39.9
1944	20.4	24.6	78.6	102.5	133.5	68.3	24.5	14.8	14.4	16.5	26.5	21.4	45.5
1945	18.2	16.9	27.1	115.0	132.1	48.5	18.0	12.4	11.3	16.9	14.5	16.1	37.3
1946	15.3	15.7	42.3	124.0	132.6	65.8	22.4	15.7	12.8	30.0	18.5	15.7	42.5
1947	19.1	25.7	83.7	75.3	40.7	25.6	12.7	9.2	11.2	11.9	29.7	16.5	30.3
1948	19.3	21.1	24.1	132.1	125.0	64.4	16.0	11.8	11.6	12.9	12.8	13.5	39.0
1949	17.3	17.5	31.1	90.7	149.1	41.8	14.3	10.8	12.1	12.5	12.4	13.0	34.4
1950	36.3	[illegible]	50.2	157.1	121.5	39.1	17.8	12.7	11.7	21.7	19.6	17.9	44.9
1951	18.9	16.8	63.5	77.5	99.0	56.5	20.9	13.2	15.6	25.6	35.9	26.9	39.1
1952	24.1	37.7	58.0	152.5	104.9	48.9	20.1	13.6	12.6	13.1	14.6	16.4	43.0
1953	15.0	21.0	27.9	129.7	124.2	54.6	27.9	13.3	14.9	15.7	16.7	21.6	39.7
1954	22.9	25.3	62.6	149.7	152.0	77.3	33.2	15.2	13.9	13.7	14.2	16.0	51.3
1955	17.8	21.5	35.8	63.3	63.3	71.2	10.3	9.4	9.2	10.3	11.6	15.6	24.5
1956	15.6	26.6	32.4	127.6	101.0	56.7	19.3	11.7	14.5	13.5	15.7	26.6	38.4
1957	17.0	39.5	64.0	126.2	90.5	65.0	28.3	13.9	11.8	12.8	15.3	16.4	42.7
1958	17.7	24.1	50.5	116.4	73.4	56.2	37.4	15.1	12.9	13.4	13.2	15.2	37.1
1959	15.0	13.9	43.1	107.3	95.6	60.4	20.4	14.2	13.1	18.1	20.3	18.2	36.3
1960	19.4	34.8	67.2	180.6	136.2	54.1	26.7	17.5	16.3	9.0	8.8	10.2	48.1
1961	6.7	12.0	35.5	112.4	26.6	43.0	12.8	5.7	7.8	6.7	15.7	34.4	26.8
1962	22.7	25.7	86.9	101.4	125.5	50.3	16.6	8.6	8.7	15.4	10.0	16.5	41.5
1963	30.7	24.8	48.6	136.5	141.7	123.4	47.7	17.6	15.7	21.0	20.3	25.0	55.6
1964	13.6	23.3	67.4	98.3	163.9	93.0	22.3	12.5	12.5	14.6	13.9	21.4	46.4
1965	19.6	15.0	73.9	153.9	114.3	76.2	25.7	17.8	10.2	27.0	26.4	24.0	49.1
1966	33.1	43.1	93.9	176.7	164.4	58.5	23.9	10.1	9.4	8.5	8.7	13.1	53.6
1967	14.5	14.3	34.1	127.9	175.3	53.2	35.3	11.4	14.1	27.1	19.7	48.5	48.8
1968	33.4	25.6	64.1	364.5	167.2	61.2	24.5	13.3	12.7	17.5	15.2	13.9	70.4
MEAN	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	43.2

Table A1-8 ** MONTHLY RUNOFF AT KURTUN DAM SITE (M.C.M) ** - QK - C.A. = 2,753 SQ KM

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	25.7	24.3	53.7	173.1	156.4	64.7	37.2	33.9	32.5	34.5	36.9	46.4	60.6
1940	42.3	64.7	87.3	203.6	214.7	123.7	60.9	30.8	26.9	46.5	53.0	61.3	93.0
1941	46.3	83.0	163.8	292.0	235.0	74.7	43.9	30.3	26.0	39.1	66.0	43.3	96.8
1942	42.2	52.8	99.7	270.5	235.8	174.0	30.9	23.7	23.0	39.0	76.4	65.9	86.2
1943	47.0	40.6	61.3	221.5	219.9	89.9	33.9	22.5	21.9	23.6	29.4	37.8	70.8
1944	36.2	[illegible]	139.5	191.5	236.3	121.3	43.5	26.3	75.6	29.3	47.0	36.0	80.8
1945	32.4	30.0	44.1	204.0	234.3	86.1	31.9	21.9	20.0	30.1	25.7	28.6	66.1
1946	27.1	27.0	75.3	220.0	235.3	116.9	39.8	27.9	22.8	53.3	32.8	27.8	75.5
1947	34.0	46.1	148.5	133.7	77.2	45.5	22.5	16.4	20.0	21.1	52.7	32.9	53.8
1948	34.3	37.4	52.8	234.5	223.9	114.2	28.5	20.9	20.6	22.9	22.8	24.0	69.3
1949	21.9	22.3	[illegible]	161.6	264.5	74.2	25.4	19.2	21.5	22.2	22.0	23.1	61.0
1950	65.3	[illegible]	[illegible]	[illegible]	219.6	69.5	31.6	22.5	20.9	38.5	34.8	31.7	79.7
1951	33.6	[illegible]	137.7	127.6	175.7	100.3	37.1	23.5	26.7	45.4	63.8	47.7	69.5
1952	49.8	[illegible]	113.0	270.5	186.9	86.9	35.7	24.2	22.4	23.3	26.0	25.1	76.3
1953	26.6	[illegible]	[illegible]	[illegible]	220.4	96.9	40.7	23.7	26.4	27.9	29.6	38.3	70.5
1954	40.5	[illegible]	[illegible]	[illegible]	269.6	137.2	58.9	26.9	74.6	24.3	25.3	28.5	91.1
1955	[illegible]	[illegible]	63.6	131.2	112.4	37.6	18.3	16.7	16.4	18.3	20.6	27.8	43.5
1956	[illegible]	[illegible]	[illegible]	[illegible]	175.2	100.7	34.9	20.9	25.6	24.0	27.9	47.2	68.2
1957	[illegible]	70.1	[illegible]	[illegible]	176.2	118.4	50.3	24.7	21.0	24.6	27.1	32.6	75.8
1958	31.4	[illegible]	[illegible]	[illegible]	130.2	100.7	66.3	26.9	22.9	23.8	23.5	27.0	65.9
1959	26.1	[illegible]	[illegible]	131.[illegible]	169.7	107.2	35.2	25.2	23.3	32.2	36.1	32.3	64.4
1960	[illegible]	[illegible]	112.1	[illegible]	241.7	96.0	47.4	21.1	28.9	16.0	15.7	18.1	85.3
1961	15.4	[illegible]	[illegible]	[illegible]	47.1	[illegible]	22.7	10.1	12.9	12.0	27.9	61.0	47.5
1962	[illegible]	[illegible]	[illegible]	180.0	222.7	[illegible]	29.5	15.3	15.5	21.4	26.4	32.8	73.6
1963	[illegible]	[illegible]	[illegible]	247.2	251.5	219.0	84.6	31.2	27.9	31.2	36.0	51.5	98.6
1964	[illegible]	[illegible]	[illegible]	174.4	290.6	165.0	39.6	22.2	22.1	26.3	24.6	36.0	82.3
1965	[illegible]	[illegible]	131.7	[illegible]	[illegible]	125.3	45.7	31.6	18.1	47.9	46.9	42.6	87.2
1966	[illegible]	[illegible]	174.8	[illegible]	[illegible]	82.1	47.5	22.7	21.0	14.7	14.0	20.4	86.6
1967	26.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	71.0	69.3	20.8	35.6	26.6	97.7	92.1
1968	47.7	[illegible]	[illegible]	[illegible]	345.7	119.9	41.8	23.1	21.4	26.7	26.0	22.3	110.1
MEAN	36.2	[illegible]	[illegible]	[illegible]	212.1	101.1	42.0	25.5	22.7	29.7	34.2	38.5	76.1

Table A1-9 ** MONTHLY RUONFF AT DOGANKENT DAM SITE (M.C.M)** - QD - C.A. = 2,912 SQ.KM

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	30.2	28.6	61.8	197.6	191.1	75.1	43.4	39.7	38.0	40.3	43.1	54.1	70.3
1940	49.4	75.1	100.9	346.5	245.9	142.4	70.7	36.0	31.5	54.1	61.6	71.1	107.1
1941	56.3	96.0	193.8	344.8	270.0	86.5	51.1	35.5	30.4	45.7	76.6	50.5	111.4
1942	49.2	61.4	115.1	309.2	269.8	85.8	36.1	27.6	27.0	45.5	88.4	76.5	99.3
1943	54.7	47.4	71.2	254.0	251.8	103.8	39.6	26.5	25.7	27.7	34.4	44.1	81.7
1944	42.3	50.8	160.4	208.6	270.9	139.7	50.7	30.8	30.0	34.3	54.7	44.4	93.1
1945	37.9	35.1	56.0	233.7	268.1	99.6	37.3	25.8	23.6	35.2	30.1	33.5	76.3
1946	31.8	31.7	87.0	251.9	269.3	134.7	46.5	32.6	26.7	62.0	38.4	32.6	87.1
1947	39.7	53.6	170.7	153.8	83.6	53.0	26.4	19.3	23.5	24.8	61.3	38.5	62.3
1948	40.1	43.6	49.9	268.3	262.0	131.6	33.4	24.6	24.2	26.9	26.7	28.1	79.9
1949	25.8	26.2	64.1	184.9	302.3	85.9	29.8	22.6	25.2	26.1	25.8	27.2	70.5
1950	75.8	67.6	103.0	318.3	247.0	80.5	37.0	26.4	24.5	44.9	40.7	37.1	91.9
1951	39.2	34.9	130.0	158.3	201.6	115.8	43.4	27.6	31.3	52.9	74.0	55.6	80.4
1952	49.9	76.7	118.8	305.1	213.4	100.3	41.8	28.4	26.3	27.3	30.5	34.1	88.0
1953	31.2	43.6	57.7	261.3	252.4	111.9	47.5	27.8	31.0	32.6	34.7	44.7	81.4
1954	47.2	53.4	168.6	302.6	308.1	157.8	68.4	31.6	28.9	28.5	29.7	33.3	104.8
1955	37.0	44.6	73.7	139.6	129.6	43.9	21.5	19.6	19.3	21.6	24.2	32.6	50.6
1956	32.4	55.3	66.7	259.2	205.6	116.2	40.1	24.5	30.3	28.2	35.6	57.9	79.3
1957	34.7	79.3	131.8	263.6	202.8	132.1	56.1	27.7	23.7	29.3	32.7	38.4	87.7
1958	36.4	49.9	104.9	243.9	154.6	116.0	84.7	32.5	29.4	27.9	27.6	31.7	78.3
1959	33.0	28.8	88.6	208.2	194.8	123.7	42.3	29.6	27.3	37.7	42.2	37.8	74.5
1960	40.3	71.6	129.3	365.6	276.5	110.8	55.2	36.4	33.9	18.5	18.1	21.9	98.2
1961	18.2	24.7	72.1	234.1	60.1	88.6	28.0	14.7	19.3	16.5	28.5	74.0	56.6
1962	45.4	52.1	179.2	206.5	252.1	101.3	32.7	16.9	18.9	35.7	35.9	37.7	84.5
1963	61.7	68.5	96.8	275.5	288.8	248.0	92.8	35.8	34.4	44.3	43.4	58.1	112.3
1964	27.4	46.8	139.7	210.2	336.7	184.8	44.4	24.8	26.9	30.8	28.9	44.3	95.5
1965	40.7	32.8	151.0	322.0	232.4	155.6	53.2	37.0	21.3	55.8	54.6	49.7	100.5
1966	68.3	61.7	196.1	267.2	340.2	94.9	58.1	26.9	24.8	17.3	16.6	24.0	99.7
1967	30.8	38.7	76.5	271.4	322.5	136.4	105.1	80.9	24.4	41.8	31.2	112.8	106.0
1968	55.6	54.8	155.9	529.8	394.1	133.5	48.8	27.2	25.1	33.6	30.5	26.2	126.3
MEAN	42.1	51.2	112.4	263.3	243.3	116.3	48.9	29.9	26.9	34.9	40.0	45.1	87.9

Table A1-10 ** MONTHLY RUNOFF AT ASLANCIK DAM SITE (M.C.M.) ** -QL- C.A. = 3,124 SQ.KM

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	31.0	29.3	63.4	202.9	196.2	77.1	44.5	40.7	39.0	41.4	44.2	55.5	72.1
1940	50.7	77.1	103.6	355.8	252.5	146.2	72.6	36.9	32.3	55.5	63.2	72.0	109.9
1941	57.8	98.5	199.0	354.1	277.2	88.8	52.4	36.4	31.2	46.9	78.6	51.8	114.4
1942	50.5	63.0	118.2	317.5	277.0	88.1	37.0	28.5	27.7	46.7	90.7	78.5	101.9
1943	56.1	48.6	73.1	260.8	258.5	106.6	40.6	27.2	26.4	28.4	35.3	45.3	83.9
1944	43.4	52.1	164.7	214.2	278.2	143.4	52.0	31.6	30.8	35.2	56.1	45.6	95.6
1945	38.9	36.0	57.5	240.0	275.3	102.2	38.3	26.5	24.2	36.1	30.9	34.4	78.4
1946	32.6	32.5	89.3	258.6	276.5	138.3	47.7	33.5	27.4	63.6	39.4	33.5	89.4
1947	40.7	55.0	175.3	157.9	85.8	54.4	27.1	19.8	24.1	25.4	62.9	39.5	64.0
1948	41.2	44.7	51.2	275.5	269.0	135.1	34.3	25.2	24.8	27.6	27.4	28.8	82.1
1949	26.5	26.9	65.8	189.8	310.4	88.2	30.6	23.2	25.9	26.8	26.5	27.9	72.4
1950	77.8	69.4	105.7	326.8	253.6	82.6	38.0	27.1	25.1	46.1	41.8	38.1	94.3
1951	40.2	35.8	133.5	162.5	207.0	118.9	44.5	28.3	32.1	54.3	76.0	57.1	82.5
1952	51.2	78.7	122.0	317.4	219.1	103.0	42.9	29.1	27.0	28.0	31.3	35.0	90.4
1953	32.0	44.7	59.2	268.3	259.2	114.9	48.7	28.5	31.8	33.5	35.6	45.9	83.5
1954	48.4	54.8	173.1	310.7	316.4	162.0	70.2	32.4	29.7	29.2	30.5	34.2	107.6
1955	38.0	45.8	75.6	143.3	133.0	45.1	22.1	20.1	19.8	22.2	24.8	33.5	51.9
1956	33.2	56.8	68.5	266.1	211.1	119.3	41.2	25.1	31.1	28.9	36.5	59.3	81.4
1957	35.6	61.4	135.3	270.5	208.2	135.6	57.6	28.5	24.3	30.1	33.5	39.4	90.0
1958	37.4	51.2	107.7	250.2	158.6	119.1	86.7	33.3	30.1	28.6	28.3	32.5	80.3
1959	33.9	29.6	90.9	213.8	200.0	127.0	43.4	30.4	28.0	38.7	43.3	38.8	76.5
1960	41.4	73.5	132.7	375.4	283.9	113.7	56.7	37.4	34.8	19.0	18.6	22.5	100.8
1961	18.7	25.4	74.0	240.2	61.5	90.9	28.7	15.0	19.7	16.9	29.4	75.9	58.0
1962	47.6	53.5	184.0	212.0	258.9	104.0	33.6	17.4	19.4	36.5	36.8	38.7	86.8
1963	63.4	70.4	99.4	282.9	296.5	254.7	95.4	36.8	35.3	45.4	44.5	55.7	115.4
1964	28.1	43.1	143.4	215.6	345.6	189.9	45.6	25.5	27.6	31.6	29.7	45.5	98.0
1965	41.8	33.7	155.0	330.6	238.6	159.7	54.6	38.0	21.9	57.3	56.0	51.0	103.2
1966	70.1	63.3	201.3	274.4	349.3	97.4	59.6	27.6	25.4	17.8	17.0	24.6	102.3
1967	31.6	39.7	78.5	278.7	331.2	140.0	107.9	83.0	25.0	42.9	32.0	119.8	108.9
1968	57.1	56.2	160.1	544.1	404.7	137.1	50.1	27.9	25.8	34.5	31.3	26.9	129.6
MEAN	43.2	52.5	115.4	270.4	249.8	119.4	50.2	30.7	27.6	35.8	41.1	46.3	90.2

Table A1-11 ** MONTHLY RUNOFF AT TIREBOLU DAM SITE (M.C.M.) ** -QB- C.A. = 3,266n SQ.KM

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	32.3	30.6	66.2	211.8	204.8	80.5	46.4	42.5	40.7	43.2	46.1	57.9	75.3
1940	52.9	80.5	108.1	371.5	263.6	152.6	75.8	38.5	33.7	57.9	65.9	76.2	114.8
1941	60.3	102.0	207.7	369.8	289.4	92.7	54.7	38.0	32.5	48.9	82.0	54.0	119.4
1942	52.7	65.7	123.4	331.5	289.2	91.9	38.6	29.7	28.9	48.7	94.7	81.9	106.4
1943	58.6	50.7	76.3	272.3	269.9	111.3	42.4	28.4	27.5	29.6	36.8	47.3	87.6
1944	45.3	54.4	171.9	223.6	290.5	149.7	54.3	33.0	32.1	36.7	58.5	47.6	99.8
1945	40.6	37.6	60.0	250.6	287.4	106.7	40.0	27.6	25.2	37.7	32.2	35.9	81.8
1946	34.0	33.9	93.2	270.0	288.7	144.4	49.8	34.9	28.6	66.4	41.1	34.9	93.3
1947	42.5	57.4	183.0	164.8	89.5	56.8	28.3	20.7	25.1	26.5	65.6	41.2	66.8
1948	43.0	46.6	53.4	287.7	280.9	141.0	35.8	26.3	25.9	28.8	28.6	30.0	85.7
1949	27.6	29.1	68.7	193.1	324.1	92.0	31.9	24.2	27.0	28.0	27.6	25.1	75.5
1950	81.2	77.4	110.3	341.2	264.6	86.2	39.6	28.3	26.2	48.1	43.6	39.7	98.5
1951	41.9	37.1	139.3	169.6	216.1	124.1	46.4	29.5	33.5	56.7	79.3	55.6	86.1
1952	53.4	82.1	127.3	331.4	228.7	107.5	44.8	30.4	28.2	29.2	32.6	36.5	94.3
1953	33.4	46.4	61.3	280.1	270.6	119.9	50.8	29.7	33.2	34.9	37.1	47.9	87.2
1954	50.5	57.7	180.7	324.4	330.4	169.1	73.3	33.8	31.0	30.5	31.8	35.7	112.4
1955	36.6	47.4	78.9	149.6	138.8	47.1	23.0	21.0	20.6	23.2	25.9	34.9	54.2
1956	36.6	59.3	71.5	277.6	220.4	124.5	43.0	26.2	32.4	30.1	37.9	61.7	84.9
1957	37.9	55.3	141.2	282.1	217.3	141.6	60.2	29.8	25.4	31.4	34.9	41.1	93.9
1958	40.3	53.4	112.3	260.9	165.3	124.3	90.1	34.7	31.3	25.8	29.5	33.9	83.7
1959	35.4	30.9	94.0	223.2	208.3	132.6	45.3	31.7	29.2	40.4	45.2	40.5	79.8
1960	43.2	76.7	138.5	392.0	296.4	118.7	59.2	39.0	36.3	19.8	19.4	23.4	105.2
1961	19.5	26.5	77.3	250.5	63.9	94.9	29.9	15.5	20.4	17.5	30.8	79.1	60.5
1962	41.6	55.3	192.2	221.3	270.4	108.6	35.1	18.2	20.2	37.9	38.3	40.4	90.6
1963	66.5	73.5	193.3	295.5	309.5	266.0	99.8	38.4	36.7	47.3	46.4	62.4	120.5
1964	29.4	40.2	149.6	224.6	360.7	198.5	47.7	26.7	28.7	33.0	31.0	47.5	102.3
1965	43.6	35.7	161.5	345.2	249.1	166.7	57.0	39.6	22.8	59.8	58.4	53.2	107.7
1966	73.1	66.3	210.2	286.5	364.7	101.7	62.2	28.8	26.5	18.6	17.7	25.7	106.8
1967	33.1	41.4	81.7	291.0	345.8	146.1	112.6	86.6	26.1	44.8	33.4	120.9	113.6
1968	59.6	58.6	167.1	564.3	422.6	143.1	52.9	29.1	26.9	36.0	32.6	28.1	135.4
MEAN	45.3	54.8	120.4	282.2	260.7	124.7	52.3	32.0	28.8	37.4	42.8	48.3	94.1

Table A1-12 ** MONTHLY RUNOFF AT ALADERCAM DAM SITE (M.C.M.) 88 - QA - C.A. = 38 SQ.KM

Y		2	3	4	5	6	7	8	9	10	11	12	MEAN
39	3.1	3.3	4.6	4.6	4.4	1.9	1.2	1.1	1.1	1.1	1.2	1.5	1.8
40	4.3	4.7	6.5	7.5	5.5	3.4	1.8	1.0	0.9	1.5	1.6	1.9	2.6
41	4.1	4.4	4.5	7.5	6.3	2.2	1.4	1.0	0.9	1.3	2.0	1.4	2.7
42	4.3	4.0	5.6	6.6	6.0	2.2	1.0	0.8	0.8	1.3	2.2	2.0	2.4
43	4.5	4.3	4.7	5.7	5.7	2.6	1.1	0.8	0.8	0.8	1.0	1.2	2.0
44	4.2	4.4	3.9	4.8	6.3	3.4	1.4	0.9	0.9	1.0	1.5	1.2	2.3
45	4.1	4.3	4.5	5.3	6.0	2.5	1.1	0.8	0.7	1.0	0.9	1.0	1.9
46	0.9	1.0	4.2	5.7	6.0	3.3	1.3	0.9	0.8	1.6	1.1	0.9	2.1
47	4.1	4.4	4.0	3.7	2.1	1.4	0.6	0.6	0.7	0.7	1.6	1.1	1.6
48	4.1	4.1	1.4	0.0	5.3	3.2	1.0	0.7	0.7	0.8	0.8	0.8	2.0
49	4.3	4.5	1.7	4.2	6.6	2.2	0.9	0.7	0.7	0.6	0.8	0.6	1.8
50	4.3	4.3	2.6	0.9	5.6	2.1	1.0	0.8	0.7	1.2	1.1	1.0	2.2
51	4.1	4.3	3.2	3.6	4.6	2.9	1.2	0.8	0.9	1.4	1.9	1.5	2.0
52	4.4	4.3	2.9	6.6	4.9	2.5	1.2	0.8	0.8	0.8	0.9	1.0	2.2
53	0.9	1.2	1.5	5.8	5.7	2.8	1.3	0.8	0.9	0.9	1.0	1.2	2.0
54	4.3	4.4	4.0	6.6	6.8	3.7	1.8	0.9	0.8	0.8	0.9	1.0	2.5
55	4.0	4.2	1.9	3.4	3.1	1.2	0.6	0.6	0.6	0.6	0.7	0.9	1.3
56	0.9	1.5	1.4	5.8	4.7	2.9	1.1	0.7	0.9	0.8	1.6	2.4	2.1
57	0.6	1.4	3.4	7.9	4.9	3.0	0.9	0.5	0.4	1.0	1.2	1.2	2.2
58	0.9	1.3	3.0	7.5	5.0	3.1	1.3	1.2	1.5	0.8	0.8	0.9	2.5
59	0.9	0.3	2.5	4.8	4.5	3.0	1.2	0.9	0.8	1.1	1.2	1.1	1.9
60	1.1	1.9	3.1	7.8	6.1	2.7	1.5	1.0	1.0	0.4	0.5	0.8	2.3
61	0.6	0.7	1.6	6.8	3.0	2.3	1.2	0.4	1.2	0.6	1.2	2.8	1.9
62	1.1	1.1	3.6	4.7	4.9	2.0	0.5	0.2	0.7	2.0	1.7	0.9	1.9
63	1.2	0.9	1.6	5.7	6.7	4.8	1.0	0.8	1.4	1.5	1.6	1.1	2.4
64	0.5	0.3	3.8	7.6	8.6	3.0	0.8	0.4	1.0	0.9	0.8	1.2	2.5
65	1.1	0.9	3.6	7.0	5.3	3.7	1.4	1.0	0.6	1.5	1.5	1.4	2.4
66	1.8	1.6	4.5	6.0	7.4	2.4	1.6	0.8	0.7	0.5	0.5	0.7	2.4
67	0.9	1.1	2.0	6.0	7.0	3.3	2.6	2.1	0.7	1.2	0.9	2.8	2.5
68	1.5	1.5	3.7	10.9	8.4	3.2	1.3	0.8	0.7	1.0	0.9	0.8	2.9
MEAN	1.1	1.3	2.7	6.1	5.6	2.8	1.3	0.8	0.8	1.0	1.2	1.3	2.2

Table A1-13 ** MONTHLY RUNOFF AT GOKCEBEL DAM SITE (M.C.M.) ** - QO - C.A. = 166 SQ.KM

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	3.8	3.6	7.2	19.9	19.4	8.5	5.2	4.8	4.7	4.9	5.2	6.4	7.8
1940	5.9	8.5	11.0	32.7	24.2	15.0	8.1	4.5	4.0	6.4	7.1	8.1	11.3
1941	6.6	10.6	19.6	32.6	26.3	9.6	6.1	4.4	3.8	3.5	8.7	6.0	11.6
1942	5.9	7.1	12.4	29.6	26.2	9.6	4.5	3.5	3.5	3.5	9.8	8.6	10.5
1943	6.4	5.7	8.1	24.9	24.7	11.3	4.8	3.4	3.3	3.5	4.3	5.3	8.8
1944	5.1	6.0	16.6	20.9	26.3	14.7	6.0	3.9	3.8	4.3	6.4	5.4	9.9
1945	4.7	4.4	6.6	23.1	26.1	10.9	4.6	3.3	3.1	4.4	3.8	4.2	8.3
1946	4.0	4.0	9.7	24.7	26.2	14.2	5.6	4.1	3.4	7.2	4.7	4.1	9.3
1947	4.9	6.3	17.5	16.0	9.4	6.3	3.4	2.6	3.1	3.2	7.1	4.7	7.0
1948	4.9	5.3	5.9	26.1	25.6	14.0	4.2	3.2	3.1	3.4	3.4	3.6	8.6
1949	3.3	3.4	7.4	18.8	29.0	9.6	3.8	3.0	3.3	3.3	3.3	3.5	7.6
1950	8.6	7.8	11.2	30.4	24.3	9.0	4.6	3.4	3.2	5.4	5.0	4.6	9.8
1951	4.8	4.3	13.8	16.4	20.3	12.5	5.2	3.5	3.9	6.2	8.4	6.5	8.8
1952	5.9	8.7	12.8	29.6	21.3	11.0	5.1	3.6	3.4	3.5	3.8	4.2	9.4
1953	3.9	5.3	6.7	25.5	24.7	12.1	5.7	3.5	3.9	4.1	4.3	5.4	8.8
1954	5.7	6.3	17.4	29.0	29.5	16.4	7.8	4.0	3.7	3.6	3.8	4.2	10.9
1955	4.6	5.4	8.4	14.7	13.8	5.3	2.8	2.6	2.6	2.8	3.1	4.1	5.8
1956	4.1	6.5	7.7	25.3	20.7	12.5	4.9	3.2	3.8	3.6	7.9	10.3	9.2
1957	3.7	6.6	15.0	34.3	21.2	12.9	3.8	2.1	1.9	4.2	5.2	5.1	9.7
1958	4.1	5.9	12.9	32.7	21.8	13.5	18.7	5.2	6.7	3.6	3.5	4.0	11.0
1959	4.1	3.7	9.8	20.9	19.7	13.2	5.1	3.7	3.5	4.6	5.1	4.6	8.2
1960	4.9	8.2	13.7	34.3	26.8	12.0	6.5	4.5	4.2	1.9	2.0	3.6	10.2
1961	2.4	2.9	6.9	29.8	13.1	10.1	5.0	1.6	5.1	2.7	5.1	12.2	8.1
1962	4.8	4.9	15.9	20.7	21.2	8.7	2.0	1.0	3.3	8.7	7.6	3.8	8.5
1963	5.1	4.1	7.1	24.9	29.3	21.1	4.2	3.6	6.2	6.4	6.8	4.7	10.3
1964	2.3	4.0	16.8	33.0	37.7	13.2	3.3	1.7	4.4	3.9	3.7	5.3	10.8
1965	5.0	4.1	15.7	30.7	23.0	16.2	6.3	4.6	2.8	6.5	6.4	5.9	10.6
1966	7.8	7.2	19.8	26.0	32.2	10.5	6.8	3.4	3.2	2.3	2.2	3.1	10.4
1967	3.9	4.7	8.7	26.4	30.7	14.4	11.4	5.1	3.2	5.1	3.9	12.2	11.1
1968	6.5	6.4	16.2	47.5	36.6	14.1	5.8	3.5	3.2	4.2	3.8	3.4	12.6
MEAN	4.9	5.7	12.0	26.7	24.4	12.1	5.7	3.6	3.7	4.5	5.2	5.6	9.5

Table A1-14 ** MONTHLY RUNOFF AT YASMAKLI DAM SITE (M.C.M.) ** -QY - C A = 95 SQ KM

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	2.2	2.1	4.1	11.4	11.1	4.9	3.0	2.8	2.7	2.8	3.0	3.6	4.5
1940	3.4	4.9	6.3	18.7	13.8	8.6	4.6	2.5	2.3	3.6	4.1	4.6	6.4
1941	3.8	6.0	11.2	18.6	15.0	5.5	3.5	2.5	2.2	3.1	5.0	2.4	6.6
1942	3.4	4.1	7.1	16.9	15.0	5.5	2.6	2.0	2.0	3.1	5.6	4.9	6.0
1943	3.7	3.2	4.6	14.2	14.1	6.5	2.8	1.9	1.9	2.0	4.5	3.0	5.0
1944	2.9	3.5	9.5	12.0	15.1	8.4	3.4	2.2	2.2	2.4	3.7	3.1	5.7
1945	2.7	2.5	3.8	13.2	14.9	6.2	2.6	1.9	1.8	2.5	2.2	2.4	4.7
1946	2.3	2.3	5.5	14.1	15.0	8.1	3.2	2.3	2.0	4.1	2.7	2.3	5.3
1947	2.3	3.6	10.0	9.2	5.4	3.6	1.5	1.5	1.7	1.8	4.1	2.7	4.0
1948	2.8	3.0	3.4	14.9	14.6	8.0	2.4	1.6	1.8	2.0	2.0	2.1	4.9
1949	1.9	1.9	4.2	10.8	16.6	5.5	2.2	1.7	1.9	1.9	1.9	2.0	4.4
1950	4.9	4.4	6.4	17.4	13.9	5.2	2.6	1.9	1.8	3.1	2.8	2.6	5.6
1951	2.7	2.5	7.9	9.4	11.6	7.1	3.0	2.0	2.3	3.6	4.8	3.7	5.0
1952	3.4	5.0	7.3	16.9	12.2	6.3	2.9	2.1	1.9	2.0	2.2	2.4	5.4
1953	2.2	3.0	3.9	14.6	14.2	6.9	3.3	2.0	2.2	2.3	2.5	3.1	5.0
1954	3.2	3.6	9.9	16.6	16.9	9.4	4.5	2.3	2.1	2.1	2.1	2.4	6.3
1955	2.6	3.1	4.6	8.4	7.9	3.0	1.6	1.5	1.5	1.6	1.8	2.3	3.3
1956	2.3	3.7	4.4	14.5	11.8	7.2	2.8	1.9	2.2	2.1	4.5	5.9	5.3
1957	2.1	3.8	8.6	19.6	12.2	7.4	2.6	1.2	1.1	2.4	3.0	2.9	5.5
1958	2.3	3.4	7.4	18.7	12.5	7.7	10.7	3.0	3.8	2.0	2.0	2.3	6.3
1959	2.4	2.1	5.6	12.0	11.3	7.6	2.5	2.1	2.0	2.7	2.9	2.7	4.7
1960	2.8	4.7	7.9	15.6	15.3	6.9	3.7	2.6	2.4	1.1	1.1	2.0	5.8
1961	1.4	1.6	4.0	17.0	7.5	5.8	2.5	0.5	2.9	1.5	2.9	7.0	4.6
1962	2.8	2.8	9.1	11.8	12.2	5.0	1.1	0.5	1.9	5.0	4.3	2.2	4.9
1963	2.9	2.3	4.0	14.2	16.8	12.1	2.4	2.0	3.6	3.6	3.9	2.7	5.9
1964	1.3	2.3	9.6	18.9	21.6	7.5	1.9	1.0	2.5	2.2	2.1	3.1	6.2
1965	2.8	2.3	9.0	17.5	13.2	9.3	3.6	2.6	1.6	3.7	3.7	3.4	6.1
1966	4.5	4.1	11.3	14.9	18.4	6.0	3.9	2.0	1.8	1.3	1.3	1.8	5.9
1967	2.2	2.7	5.0	15.1	17.6	9.2	6.5	5.2	1.8	2.9	2.2	7.0	6.4
1968	3.7	3.7	9.3	27.2	21.0	6.1	3.3	2.0	1.9	2.4	2.2	1.9	7.2
MEAN	2.8	3.3	6.8	15.3	14.0	6.9	3.3	2.1	2.1	2.6	3.0	3.2	5.4

A1-5 FLOOD FLOW FOR SPILLWAY DESIGN

The spillway flood discharge at Kurtun dam site was assessed by employing the following five methods.

1. Recorded flood values
2. Enveloped curve flood in Turkey
3. Design flood curve in Turkey
4. Statistical method
5. Physical method

A1-5-1 Recorded Flood Values

At Giris Gaging Station about 11 km downstream from Kurtun Dam site on the Harsit River, the two biggest floods ever recorded were in March, 1966 and April, 1968.

(1) March, 1966

Daily maximum discharge	March 11	231 c.m.s. (219)
Total surface flow	March 8 – 24	95 m.c.m. (90)
Maximum base flow	March 8	36 c.m.s. (30)

(2) April, 1968

Daily maximum discharge	April 18	400 c.m.s. (378)
Total surface flow	April 16 – 26	57.2 m.c.m. (54)
Maximum base flow	April 8	215 c.m.s. (203)

Note : The figures in parenthesis indicate values at Kurtun obtained by multiplying the first number stated by 0.945 which is the ratio of the catchment area at Giris to that of Kurtun.

According to the above, the maximum flood discharge ever recorded at Kurtun is estimated to be 378 c.m.s. at the daily maximum and 9.0 million cu,m. at total surface flow volume.

A1-5-2 Enveloped Curve Flood in Turkey

As enveloped curve of the maximum peak discharge was developed based on the maximum peak discharge records at many gaging stations on many rivers in Turkey from 1952 through 1967, as shown in Fig. A1-9. From this enveloped curve, the maximum flood flow at Kurtun which has a catchment area of 2,753 sq.km is estimated to be about 2,000 c.m.s.

A1-5-3 Design Flood Curve in Turkey

The correlation between the design flood discharge and the catchment area in Turkey based on designs flood discharge for a spillway of 18 dams which already have been constructed or are under construction is shown in Fig. A1-10 and Table.

In this figure, the solid line (------) indicates the average of all points and from this line, the design flood discharge at Kurtun which has a catchment area of 2,753 sq. km is estimated to be about 2,000 c.m.s.

A1-5-4 Precipitation Analysis

(1) Basic Precipitation Station

In the project area since Gumushane station has the longest record, the relation of monthly precipitation between the basin average and Gumushane was studied. As the result of the study, it was found that the average basin precipitation in Kurtun Project area can be estimated at about 1.3 times that of Gumushane if a storm in March, 1966 is discounted as shown in Fig. A1-11.

Therefore, precipitation data of Gumushane was used as a basis of the flood flow study hereinafter.

(2) Precipitation Pattern for Design Flood

The maximum 1,2,3,4 and 5 days persisting precipitation in March or April at Gumushane are shown in Table A1-15. The daily distribution of the 5 days precipitation which was estimated by an average value of Table A1-15 is shown in Fig. A1-12, and a 24 hour duration precipitation which was derived from the time in Fig. A1-12 was rearranged to obtain a precipitation pattern which will produce the biggest flood as shown in Fig. A1-13.

Table A1-15 Maximum 1,2,3,4 and 5 days persisting Precipitation at Gümüshane in March and/or April

Year	Persisting Maximum Precipitation (mm)				
	1 day	2 day	3 day	4 day	5 day
1931	17.0	23.0	26.0	34.0	34.0
1932	38.0	47.6	47.6	61.3	61.3
1933	23.0	45.0	52.4	53.9	53.9
1934	10.2	14.0	15.5	15.5	15.5
1935	22.3	24.2	24.2	24.2	28.0
1936	26.0	29.8	29.8	29.8	30.8
1937	39.6	56.9	56.9	56.9	56.9
1938	23.0	29.4	34.9	34.9	34.9
1939	12.1	22.8	23.0	23.0	23.0
1940	14.7	22.4	23.1	23.1	23.9
1941	18.0	36.0	37.2	39.4	41.6
1942	16.5	16.5	16.5	25.4	25.4
1943	12.2	21.3	28.4	28.4	28.4
1944	21.7	22.4	35.4	36.1	38.1
1945	31.0	40.2	47.0	47.4	47.4
1946	21.8	21.8	23.1	23.1	24.4
1947	12.7	16.9	17.7	17.7	17.7
1948	17.3	31.4	35.3	35.3	35.3
1949	9.7	18.3	24.3	29.3	35.2
1950	35.9	36.8	36.8	36.8	36.8
1951	23.7	28.5	33.1	37.9	45.3
1952	8.5	8.8	8.8	8.8	8.8
1953	29.2	32.6	32.6	32.6	32.6
1954	24.2	24.2	35.2	35.2	35.2
1955	14.9	14.9	14.9	27.6	27.6
1956	13.5	13.5	13.5	13.5	22.0
1957	18.3	18.3	18.3	18.3	18.3
1958	13.8	14.8	19.3	27.1	28.1
1959	22.5	27.1	27.1	27.1	27.1
1960	15.5	20.7	35.8	36.0	36.0
1961	21.5	22.4	22.6	22.6	22.6
1962	13.0	13.2	13.2	13.2	21.8
1963	21.5	22.0	22.0	22.0	22.0
1964	10.4	16.3	16.5	16.5	16.5
1965	8.9	10.7	13.1	13.6	17.7
1966	32.5	35.5	35.5	53.4	65.2
1967	10.5	14.6	16.2	17.7	18.1
1968	49.5	57.2	60.2	62.4	62.4
Total	774.6	972.0	1,073.0	1,161.0	1,219.8
Average	20.4	25.6	28.2	30.6	32.1
%	63.6	79.9	88.0	95.5	100.0

(3) Physical Method (Probable Maximum Precipitation)

The maximum probable flood at Kurtun would result from the maximum probable rainfall flood in combination with the maximum probable simultaneous snowmelt flood.

In the study of maximum probable flood, it is customary to maximize the record storm by determining the precipitable water during a storm and the maximum precipitable water for the time of occurrence. The rainfall increments are then increased in direct ratio of the maximum to the actual precipitable water.

It also is customary to consider dewpoint (or air temperature) and wind speed as factors which contribute to the generation of a flood.

Dewpoint is the determination of precipitable water, which is the maximum amount of moisture that can be retained in a vertical column of air, and which has been found by reliable research observations to vary almost directly with surface dewpoint (or air temperature). For the estimation of precipitable water it is convenient to use the diagrams and tables prepared by the U.S. Weather Bureau.

Wind factor is the measurement of the time required to replace moisture that has been precipitated from the air with a new moisture supply. The product of precipitable water in the atmosphere and wind speed in defined as "Moisture Inflow Index". Ordinarily, in the study of depressive storms such as the monsoon, a maximum persisting 12-hour dewpoint and a maximum 24-hour average wind speed are used. Furthermore, in the study of such storms as the typhoon a maximum persisting dewpoint for the hours during the typhoon and a miximum average wind speed for twice the hours before the typhoon are used.

Regarding wind speed upper troposphere wind should be considered in addition to ground wind speed.

For the Kurtun Project, the above data exists, although it would be advisable to have more.

The maximum 5 days precipitation of Gumushane in April 1954, April 1957, April 1960 and March 1966 was selected for derivation of the probable maximum precipitation (P.M.P.).

As mentioned in 1.5.4 (1), Gumushane can be used as a representative station in the Kürtün Project area and it can be found from Fig. A1-18 and A1-19 in 1.5.5 that the flood flow at the Kürtün Dam site was caused by precipitation lasting for 2 to 5 days of Gumushane.

The procedure of deriving the probable maximum flood based on above data in shown in Table A1-16.

The temperature records at Giresun (El = 34 m) were used for the calculation of a weighted degree day.

The upper wind speed data of Ankara were used as a wind factor.

From the result of the above studies, it was estimated that probable maximum 5 days precipitation is 188 mm.

Table A1-16 Probable Maximum Precipitation Derivation

		1954 Apnl	1957 Apnl	1960 April	1966 March
(1)	5 days precipitation at Gumushane (m)	35.2	18.3	36.0	65.2
(2)	5 day precipitation basin average of Kurtun (mm) (1) x 1.3	45.8	23.8	46.8	84.8
(3)	24-hour persisting temperature on sea level (oC)	8.5	11.5	9.0	9.8
(4)	Precipitable water in 1,500 m to 12,000 m layer based on (3) (mm)	267	373	297	323
(5)	Average upper wind speed at Ankara (m/sec)	28.3	31.9	33.5	46.3
(6)	Moisture inflow index (4) x (5) (1,000 mm.m/sec)	7.6	11.9	10.0	15.0
(7)	Maximum moisture inflow index (1,000 mm.m/sec)	31	31	31	31
(8)	Maximizing factor (7)/(6)	4.1	2.6	3.1	2.1
(9)	Probable maximum precipitation (2) x (8)	188	62	145	179

(Ref. Fig. A1-14)

Table A1-17 Maximum 5 Days Persisting Precipitation at Gumushane in March and/or April

No.	Year	Precipitation (mm)	No.	Year	Precipitation (mm)
1	1966	65.2	20	1958	28.1
2	1968	62.4	21	1935	28.0
3	1932	61.3	22	1955	27.6
4	1937	56.9	23	1959	27.1
5	1933	53.9	24	1942	25.4
6	1945	47.4	25	1946	24.4
7	1951	45.3	26	1940	23.9
8	1941	41.6	27	1939	23.0
9	1944	38.1	28	1961	22.6
10	1950	36.8	29	1963	22.0
11	1960	36.0	30	1956	22.0
12	1948	35.3	31	1962	21.8
13	1949	35.2	32	1957	18.3
14	1954	35.2	33	1967	18.1
15	1938	34.9	34	1965	17.7
16	1931	34.0	35	1947	17.7
17	1953	32.6	36	1964	16.5
18	1936	30.8	37	1934	15.5
19	1943	28.4	38	1952	8.8

Note: $\Sigma p = 1{,}219.8$ $\bar{P} = \frac{\Sigma P}{N} = 32.10$

$\Sigma p^2 = 46{,}336.24$ $\Sigma p^3 = 2{,}031{,}325.23$

(4) Statistical Method (Precipitation Frequency)

Since season in which the duration of precipitation that effects the flood flow at Kürtünis March or April and lasts 3-5 days respectively as described in the previous paragraph, 5 days precipitation in March and April was used for the study of the precipitation frequency.

The maximum of 5 days continuous precipitation at Gumushane was tabulated in Table A1-17. The 5 days precipitation frequency was calculated on the basis of the data in Table A1-17 by employing three methods, i.e., Gumbel, Hazen and Foster Type III. The results are tabulated in Table A1-18. (Ref. Fig. A1-15 and Fig. A1-16)

Table A1-18 5 Days Precipitation Frequency at Gümüshane and Basin Average by Gumbel, Hazen and Foster Type III Methods

Return Period (Year)	Gümüshane				*Basin Average (mm)
	Gumbel (mm)	Hazen (mm)	Foster Type III (mm)	Average (mm)	
2	30.2	28.8	28.2	29.1	37.8
5	43.8	40.2	40.2	41.4	53.8
10	52.8	50.0	50.0	50.9	66.2
20	61.5	58.3	57.7	59.2	77.0
25	64.2	63.0	62.0	63.1	82.0
50	72.6	73.0	70.0	71.8	93.3
100	81.0	83.3	77.8	80.7	104.9
200	89.4	96.0	86.0	90.5	117.7
500	100.2	113.0	98.0	103.7	134.8
1,000	108.8	127.8	106.6	114.4	148.7
10,000	136.8	184.4	134.7	152.0	197.6

* Basin Average = Average of Gümüshane x 1.3

The method for statistically estimating the probable maximum precipitation was proposed by David M. Hershfield, a meteorologist with the Hydro Service Div. U.S. Weather Bureau and was applied in Kürtün Project.

According to this method the PMP is defined as the largest precipitation that will probably occur at the same time for a finite length of time "t", and this PMP can be estimated on the basis of mean and standard deviations by choosing an appropriate number "k", the standardized variance in the equation.

$$Xt = \overline{X}_N + K.S_N$$

where Xt is the precipitation for return period t in years. This equation is applicable when particular extreme-valued distribution is used. The terms $\overline{X}_N$ and S_N are the mean and standard deviation respectively for a series of N annual maximum;

At the point Xm, Km = $\overline{K}$, and this calculation was based on 2,645 daily rainfall records in the U.S.A. The distribution of Km is shown in Fig. D-4. . According to this figure, at the point 3.3 of Km (2,000 yrs, frequency), 50% of Km is included, and the maximum Km is 15. Since the probability that exceeds 10,000 years has practically no meaning for the estimation of PMP in the Kurtün. Project, when K = 3.62 (10,000 years frequency), the PMP in March is estimated to be 198 mm.

(5) Runoff Coefficient

The precipitation - runoff analysis of two floods in March 1966 and April 1968 shows runoff coefficients of $\frac{32.6}{40}$ x 100 = 82% and $\frac{19.6}{20}$ x 100 = 98% respectively. (Ref. Fig. A1-17; and Fig. A1- 18 19 in 1.5.5)

While, according to average precipitation - runoff analysis for along period in the project area, the annual runoff coefficient is estimated to be $\frac{330}{550} \times 100 = 60\%$ and if we estimate the coefficient of flood flow from the annual runoff coefficient on the basis of our experience in which the coefficient of flood flow is generally 1.2 to 1.3 times that of the annual runoff coefficient, it is aboutr70 – 80%.

Consequently, it was decided to take 100% as the coefficient of flood flow in a river of safety.

A1.5.5 Unit Hydrograph Derivation

The unit hydrograph was derived by synthetic processes and observed hydrograph.

The synthetic hydrograph was derived by employing Snyder's Formula which is applicable for mountainous regions. The observed hydrograph was derived on the basis of two flood records taken at Giris in March 1966 and April 1968.

(1) Analysis of Observed Flood Flow

The observed hydrograph at the dam site was studied on the basis of two observed flood flow records at Giris in March 1969 and April 1968.

The observed hydrograph at the Giris were separated into surface base and other storm flows by means of semi-logarithmic plotting as shown in Fig. A1-18 –19 and the results were shown in Fig. A 1 -20.

(2) Synthetic Process by Snyder

This method was developed by Snyder on the basis of data for the Appalachian Mountain Region in the U.S.A.

Determination of Basin Lag Time (tp)

$$tp = Ct \left[\frac{L \cdot Lc}{\sqrt{s}} \right]^{0.38}$$

where

tp = Lag time form midpoint of unit rainfall duration, tr. to the peak of unit hydrograph in hours.

s = Average basin slope, $s = \frac{1.7}{80} \doteq \frac{1}{47}$

Ct = A Coefficient depending on drainage basin physical Characteristics

Ct = 1.2

L = Longest Length of flow channel from station to upstream limit of drainage area in miles.

Lc = Length along channel from station to center of gravity of the drainage area in miles.

The basin lag time (tp) calculated from the above formula is as below:

$$S = \frac{1.7}{80} \fallingdotseq \frac{1}{47}$$

$$tp = 1.2 \times \left[\frac{129 \times 55}{\sqrt{0.0213}} \right]^{0.38} \fallingdotseq 72 \text{ hr} = 3 \text{ days}$$

L = 80km = 129 miles

Lc=34km = 55 miles

Determination of Synthetic Unit Hydrograph by Snyder Formula

The unit hydrograph can be synthetically computed by Snyder formula.

Snyder formula

$$qp = \frac{640Cp \cdot A}{tp}$$

$$tr = \frac{tp}{5.5}$$

where qp= Peak flow of unit hydrograph in cfs for 1" of rainfall excess in "tr" hours.

Cp= Coefficient depending on drainage basin characteristic.

Cp =/0.56~0.69 ≒0.63

A = Basin area in square miles.

tp= Lag time in hours.

tr= Duration of precipitation excess in hours.

The peak flow of the unit hydrograph and the duration of excess precipitation which are calculated from the above formula are as follows:

$$qp = \frac{640 \times 0.63 \times 1,062}{72}$$

= 5,947cfs for 1"

= 168 cms for 1"

= 6. 9 cms for 1mm

$$tr = \frac{72}{5.5} = 14\text{hr}^*$$

tp = 72 hr

Cp= 0.63

A = 2,753sq.km = 1,062sq,miles

Total volume of basin area for 1mm

= 1mm x 2,753

= 2,753 x 10^6 cu.m ≒ 764cms-hr

* Since the recorded precipitation is daily, as "tr" 24hr was used.

The curve from the beginning of the unit hydrograph to the peak was determined on the basis of SCS analysis as follows. (Ref. P. 48 Design of Small Dams)

Time ratio (ti/tp)	Discharge ratio (qi/qp)	Time in hr. ($ti = 72\frac{ti}{tp}$)	Disch. in cms for 1mm ($qi = 6.9\frac{qi}{qp}$)
0	0	0	0
0.2	0.08	14	0.6
0.4	0.28	29	1.9
0.6	0.60	43	4.1
0.8	0.89	58	6.1
1.0	1.00	72	6.9

Total = 233cms-hr.
= 0.839 x 10^6 cu.m.

The recession curve of the unit hydrograph was determined by mean of a semi-log plotting and K of $qi = qp(K)^t$ was found to be 0.987 as shown in Fig. A1-21.

(3) Unit Hydrograph Derivations for Application of Spillway Design Flood Discharge

Comparison between the synthetic unit hydrograph and that derived from the observed flood data of Giris was made to assure the applicability of the unit hydrograph to the inflow spillway design flood under study.

The comparative study was made in the form of a dimensionless unit graph which is a plotting of the flood parameter usually termed as the flow distribution-log against the percentage of lag. The flow distribution-lag has its expression as "Flow (cms) x $\frac{\text{Lag} + \frac{1}{2}\text{ tr(hours)}}{\text{Runoff (cms-hour)}}$" and the percentage of lag is expressed as percent of "Lag + $\frac{1}{2}$ tr".

In this study only lag values have been used because "tr" values for both synthetic and observed hydrograph are identical, i.e., 24 hours. Fig. A1-22 illustrates the plotting of the comparative dimensionless unit graph, one derived from the synthesis and the other from observed flood data. It shows good agreement between them.

For application to the spillway design flood, a safety line which shows the maximum peak flow in Fig. A1-22, was adopted as shown in Fig. A1-23.

A1.5.6 Base Flow Study

It can be considered that the base flows would have occurred primarily by snowmelt, therefore, the base flow which has increased in direct ratio to the maximum of the actual snowmelt perhaps can be adopted as the base flow which corresponds to the probable maximum precipitation.

Basic to the snowmelt runoff calculation is the determination of the melt rate factor, the runoff resulting from a given temperature factor.

The temperature factor which best correlates with runoff is the weighted degree day. The melt rate factor will be calculated by analysis of the records of floods which result primarily from snowmelt. The second way to analyse snowmelt is the estimation of the elevation covered by snow.

For Kürtün Project, the abovementioned data is not sufficient, however, a melt factor of 3 to 5 mm/degree day and a snow-line of about1,500m above M.S.L. may be applied in this project area, according to the hydrological survey of Tigris River in Iraq and the results of investigation in the field.

It was found from a topographical map on a scale of 1 : 200,000 that the catchment area above 1,500m is about 2,000 sq.km.

A flood hydrograph which was not effected by precipitation during the period, i.e., a flood hydrograph as shown in Fig. A1-24 in April 1957, was selected for study of the base flow.

The temperature records at Giresun (EL.= 34m) were used for the calculation of a weighted degree day and a melt factor of 4mm/degree a day for a recorded storm and 5mm/degree day for a

probable maximum storm were used. On the basis of abovementioned consideration and data, the base flow for design flood was calculated as follows.

(1) Maximum teperature in April, 1957 at Giresun((EL.= 34m) 11.5°C

(2) Maximum temperature in April, 1957 at snowline, 1,500m (°C) 2.5°C

(3) Snowmelt in April, 1957

$$(2) \times 4\text{mm}/^{\circ}\text{C} \times \frac{2{,}000\text{km}^2}{2{,}753\text{km}^2} \text{ (mm/day)} \qquad 7.3$$

(4) Past maximum temperature at Giresun (EL.= 34m) 12.9°C

(5) Past maximum temperature at snowline, 1,500m (°C) 3.9°C

(6) Past maximum snowmelt

$$(5) \times 5\text{mm}/^{\circ}\text{C} \times \frac{2{,}000\text{km}^2}{2{,}753\text{km}^2} \text{ (mm/day)} \qquad 18.6$$

(7) Maximizing factor for baseflow (3)/(6) 2.5

The estimated baseflow for the period corresponds to the unit hydrograph described in previous paragraph and is shown in Fig. A1-24 and Table A1-19.

Table A1-19 Estimated Base Flow Corresponding to Probable Maximum Precipitation

Day	(1) Recorded base flow in Apr. 1957	(2) Probable maximum base flow corresponding to P.M.P.*[(1) x 2.5]	
0	71 cms	180 cms	*P.M.P =Probable
1	91	230	Maximum
2	105	260	Precipitation
3	125	310	=188mm (Ref.154(2))
4	145	360	
5	130	330	
6	115	290	
7	100	250	
8	92	230	
9	82	200	
10	74	180	
11	65	160	
12	58	140	
13	52	130	
14	47	120	
15	41	100	
16	37	90	
Total	1,430	3,560	

The base flow for another storm was estimated on the basis of above estimated base flow in direct ratio of the probable maximum to another storm precipitation.

A1.5.7 Flood Flow by Physical Method (Probable Maximum Flood Flow)

The probable maximum flood flow based on the probable maximum precipitation which was obtained physically was calculated as follows.

(1) Probable maximum 5 days basin precipitation (Ref. Table A1-16): P5 = 188mm

(2) Effective probable maximum 5 days basin precipitation : 1.0 P5 = 188mm

(3) Effective probable maximum precipitation pattern based on Fig. A1-13 in 1.5.4.(2)

Time in day	*rt	Precipitation
1	16.3%	30.6mm
2	63.6	119.6
3	8.1	15.2
4	7.5	14.2
5	4.5	8.4

$*rt = \frac{Pt - Pt - 1}{P5}$ (P5 = 5 days precipitation)
(Pt = t " ")
(Pt - 1 = t - 1 " ")

(4) Calculation of the probable maximum flood flow

The probable maximum flood flow based on precipitatipn of (3) employing the unit hydrograph in Fig. A1-23 of 1.5.5 and using the base flow in Table A1-19 of 1.5.6 was calculated as shown in Table A1-20.

According to this table, the probable maximum peak flood flow and the flood volume are estimated at 2,000 cms and 9,590cms-day (829 mcm) respectively.

Table A1-20 Probable Maximum Flood Flow

Time (day)	(a) Surface flow for 100 mm (cms)	(b) Surface flow for 188 mm (cms)	(c) Base flow for 188 mm (cms)	(d) Total flow (b) + (c) (cms)
0	0	0	180	180
1	3.3	10	230	240
2	40.3	80	260	340
3	300.3	570	310	880
4	878.4	1,650	360	2,020 (Say 2,000)
5	649.4	1,220	330	1,550
6	499.2	940	290	1,230
7	351.2	660	250	910
8	213.7	400	230	630
9	119.7	230	200	430
10	63.0	120	180	300
11	40.1	80	160	240
12	23.1	40	140	180
13	12.1	20	130	150
14	3.7	10	120	130
15	1.7	0	100	100
16	0.5	0	90	90
Total (cms-day)		6,030	3,560	9,590 (829 mcm)

A1.5.8. Flood Flow by Statistical Method (Flood Flow Frequency)

The flood flow frequency based on the precipitation frequency and P.M.P. which was obtained statistically was calculated as follows :

(1) 5 days precipitation frequency of basin average (Ref. Table A1-18 of 1.5.4. (4))

Return period (year)	Basin average precipitation (mm)	Return period (year)	Basin average precipitation (mm)
2	37.8	100	104.9
5	53.8	200	117.7
10	66.2	500	134.8
20	77.0	1,000	148.7
25	82.0	10,000 (P.M.P.)	197.6
50	93.3		

(2) Effective probable maximum 5 days basin precipitation: 1.0 x (1)

(3) Effective probable maximum precipitation pattern based on Fig. A1-13 in 1.5.4.(2)

(Basin average precipitation in (1) x t)

Return period	5 Days maximum precipitation					Total
	*1 (16.3)	2 (63.6)	3 (8.1)	4 (7.5)	5 (4.5)	
2	6.2	24.0	3.1	2.8	1.7	37.8
5	8.8	34.2	4.4	4.1	2.3	53.8
10	10.8	42.1	5.3	5.0	3.0	66.2
20	12.6	49.0	6.2	5.8	3.4	77.0
25	13.4	52.2	6.5	6.1	3.8	82.0
50	15.2	59.3	7.6	7.0	4.2	93.3
100	17.1	66.7	8.5	7.9	4.7	104.9
200	19.2	74.9	9.6	8.9	5.1	117.7
500	22.0	85.7	10.9	10.1	6.1	134.8
1000	24.2	94.6	12.1	11.1	6.7	148.7
10000 (P.M.P.)	32.2	125.7	16.0	14.9	8.8	197.6

* The value in parenthesis shows $t = \frac{Pt - Pt-1}{P5}$ (%)

P5 = 5 days precipitation

Pt = t days precipitation

Pt-1=t-1 days precipitation

(4) Base flow for various return periods

$$\text{Base flow of T years return period (cms)} = \text{Base flow of probable maximum flood flow (cms)} \times \frac{\text{Precipitation of T years return period (mm)}}{\text{Precipitation of Probable maximum} = 188 \text{ (mm)}}$$

(5) Calculation of flood flow frequency

The flood flow for various return periods based on the precipitation in (3) employing the unit hydrograph in Fig. A1-25 of 1.5.5 and the base flow which was obtained by a formula in (4).

According to these tables, the peak flow and the flood volume for various return periods are estimated as follows.

Return period (year)	Peak flood (cms)	Flood volume (cms-day)	(mcm)
2	400	1,940	168
5	570	2,720	235
10	710	3,380	292
20	830	3,910	338
25	880	4,180	361
50	1,000	4,740	410
100	1,120	5,320	460
200	1,280	6,100	527
500	1,440	6,820	589
1000	1,600	7,590	656
10000	2,120	10,070	870

A1.5.9 Summary of the Result

The result are summarized as follows:

Method		Peak flood (c.m.s.)	Flood volume (m.c.m.)
(1)	Recorded flood value	378	54
(2)	Enveloped curve in Turkey	2,000	not determined
(3)	Design flood curve in Turkey	2,000	
(4)	Physical method (Based on probable maximum precipitation derived physically)	2,000	829
(5)	Statistical method		
	Flood for 2 years return period	400	168
	" 5 "	570	235
	" 10 "	710	292
	" 20 "	830	338
	" 25 "	880	361
	" 50 "	1,000	410
	" 100 "	1,120	460
	" 200 "	1,280	527
	" 500 "	1,440	589
	" 1000 "	1,600	656
	*" 10000 "	2,120	870

* Flood flow for 10,000 years return period corresponds with the probable maximum flood which was derived from XN and SN.

According to these result, the peak flood discharge with frequency of once in 1,000 and 10,000 years will be 1,600 and 2,100 cms. The flood discharge of such an extremely rare frequency will be essentially regarded as the probable maximum. On the other hand, studies employing physical methods revealed that the maximum flood discharge at the Kürtün dam site will probably be 2,000 cms under critical moisture and upper wind speed conditions. Although data available for physical method studies might be insufficient, the result coincides with the result estimated by the enveloped curve, the design flood curve and statistical methods. Therefore, the flood discharge to be used for the study of the spillway design was determined to be 2,000 cms at the peak and 829 mcm in volume, by employing physical methods.

The design flood hydrograph is shown in Fig. A1-25.

A1-6 EVAPORATION

Since there is no available data near the project area, evaporation loss from reservoirs were estimated from the result of study on the Kelkit Project.

According to the study of the Kelkit Project, the net evaporation loss of reservoirs along the Black Sea is about 33 mm per annum and it, in the inland, is about 1,000 mm per annum. Therefore, it were calculated at 330 mm for Tirebolw and Kürtün Reservoirs which are located near the Black Sea, and 10,000 mm per annum for Torul Reservoir.

A1-7 SEDIMENTATION

Since there is no data regarding to sedimentation data on the Harsit River, it was also estimated on the basis of the data on the Kelkit River. The annual sedimentation observed at Kelkit is about 750 cu.m. per km^2. Therefore, for Harsit River Basin, an annual sedimentation of 800cu.m per km^2 was used in a view of safety.

The annual sedimentation at proposed dam sites based on 800 cu.m per km^2 are as follows.

(1) Torul Dam

Sed. per annum = $800 \times 2{,}026 = 1.6 \times 10^6$ cu m./year

Sed. per 50 years = $1.6 \times 50 = 80 \times 10^6$ cu.m

(2) Kürtün Dam

Sed. per annum = $800 \times 2{,}753 = 2.2 \times 10^6$ cu.m/year

With Torul Dam

If the Torul Reservoir will be operated 5 years later after completion of Kürtün Dam, the sedimentation per 50 years at Kürtün Dam site will be as follows.

$$\text{Sed. per 50 years} = \left(2.2 \times 5 + \frac{*9-5}{9} \times 2.2 \times 50\right) \times 10^6$$

$$= 56 \times 10^6 \text{ cu.m}$$

*9 = Runoff at Kürtün in million cu.m

5 = " at Torul in "

Without Torul Dam

Sed. per 50 years = 2.2 x 50 = 110 x 10^6 cu.m.

(3) Tirebolu Dam

Sed. per annum = 800 x (3,266 - 2,753) = 800 x 513 = 0.4 x 10^6 cu.m/year

Sed. per 50 years 0.4 x 50 = 20 x 10^6 cu m.

(4) Aladerecam Dam

Sed. per annum = 800 x 38 = 0.03 x 10^6 cu m/year

Sed. per 50 years = 0 3 x 50 = 1.5 x 10^6 cu.m

(5) Gökcebel Dam

Sed. per annum = 800 x 166 = 0 13 x 10^6 cu.m/year

Sed. per 50 years = 0.13 x 50 = 6.6 x 10^6 cu.m

(6) Yasmakli Dam

Sed. per annum = 800 x 95 = 0.08 x 10^6 cu.m

Sed. per 50 years = 0.08 x 50 = 4.0 x 10^6 cu.m

HYDROLOGICAL DATA

D1 Daily Runoff

D1-1 MONTHLY AVERAGE DISCHARGE AT TORUL ON HARSIT RIVER IN THE BASIN OF HARSIT

WATER YEAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	AVERAGE
1965-1966	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.82	33.08	25.36
1966-1967	64.33	57.92	21.30	8.42	3.55	3.42	3.00	3.15	5.56	6.76	5.45	13.42	16.47
1967-1968	46.55	61.73	21.18	12.83	4.03	5.14	9.55	7.17	17.07	11.62	9.64	33.13	20.02
1968-1969	132.64	59.61	27.26	8.62	4.69	4.42	6.17	5.54	5.06	4.70	0.0	0.0	25.19
MEAN	81.18	59.75	21.58	9.95	4.09	4.30	6.24	5.29	9.23	7.69	10.64	26.54	21.74

D1-1-1 GET HYDROGRAPH OF DISCHARGE (2)

NAME OF S.S. TORUL C.A.=1922.600 S.S KM KURUTUN THESIS

HARSIT TYPE IN THE BASIN OF HARSIT INIT HIM1,9(C.A.=1) T OF THE WATER YEAR OF 1965-1969(1/22)

DATE	OCT Q	NOV Q	DEC Q	JAN Q	FEB Q	MAR Q
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
SUM					476.87	1025.48
MEAN					16.82	33.08
MAX					26.78	95.60
MIN					11.67	19.64

TOTAL = 1494.35 MEAN = 25.35 MAX = 95.60 MIN = 11.67

D1 Daily Runoff

D1-1 MONTHLY AVERAGE DISCHRGE AT TORUL ON HARSIT RIVER IN THE BASIN OF HARSIT

WATER YEAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	AVERAGE
1965-1966	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.82	33.08	25.36
1966-1967	64.33	57.92	21.30	8.42	3.55	3.42	3.09	3.15	5.56	6.76	5.45	13.42	16.37
1967-1968	46.55	61.73	21.18	12.80	4.03	5.14	9.55	7.17	17.07	11.62	9.64	33.13	20.02
1968-1969	132.66	59.61	22.26	8.62	4.69	4.62	6.17	5.54	5.06	4.70	0.0	0.0	25.19
MEAN	81.18	59.75	21.58	9.95	4.09	4.39	6.24	5.29	9.23	7.69	10.64	26.54	21.74

D1-1-1 [illegible]

NAME OF G.S. TORUL (C.A.) 222.00 [illegible] KM [illegible] TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) [illegible] THE WATER YEAR OF 1965-1966

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1									[illegible]	21.[illegible]	[illegible]	24.13
2									[illegible]	21.11	67.[illegible]	2[illegible].13
3									[illegible]	19.22	87.[illegible]	[illegible]1.71
4									77.[illegible]	16.[illegible]	65.[illegible]	23.49
5									75.[illegible]	14.65	54.[illegible]	2[illegible]
6									[illegible]	12.[illegible]	[illegible]	[illegible]
7									[illegible]	12.[illegible]	[illegible]	22.41
8									[illegible]	[illegible]	[illegible]	25.[illegible]
9									[illegible]	2.[illegible]	[illegible]	[illegible]
10									[illegible]	[illegible]	[illegible]	[illegible]
11									[illegible]	[illegible]	[illegible]	41.54
12									[illegible]	[illegible]	[illegible]	55.60
13									77.	[illegible]	[illegible]	[illegible]
14									75.	[illegible]	215.	[illegible]
15									[illegible]	[illegible]	[illegible]	[illegible]
16									[illegible]	17.56	[illegible]	[illegible].52
17									[illegible]	17.75	[illegible]	[illegible]
18									[illegible]	[illegible]	[illegible]	[illegible]
19									[illegible]	15.[illegible]	[illegible]	[illegible]
20									[illegible]	[illegible]	[illegible]	[illegible]
21									[illegible]	[illegible]	[illegible]	[illegible]
22									[illegible]	[illegible]	[illegible]	31.77
23									[illegible]	7.6[illegible]	[illegible]	25.47
24									[illegible]	[illegible]	76.	[illegible]
25									[illegible]	21.2[illegible]	[illegible]	[illegible]
26									[illegible]	[illegible]	64.	[illegible]
27									[illegible]	22.78	[illegible]	19.54
28									54.[illegible]	26.78	[illegible]	24.47
29											69.[illegible]	23.21
30											[illegible]	23.21
31											65.[illegible]	23.21
SUM										470.67		1025.48
MEAN										16.82		33.08
MAX										26.78		95.60
MIN										11.67		19.64

TOTAL = 1494.35 MEAN = 25.36 MAX = 95.60 MIN = 11.67

D1-1-2 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. TORUL C.A.1922.0 [illegible] S.C KM KURUTUN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1966-1967(1/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1	[illegible]	[illegible]	156.[illegible]	193.57	[illegible]	35.7[illegible]	67.[illegible]	11.14	47.[illegible]	4.39	48.00	4.50
2	[illegible]	[illegible]	[illegible]	127.30	11[illegible]	34.95	68.[illegible]	11.47	42.[illegible]	4.57	44.00	3.65
3	[illegible]	34.[illegible]	15[illegible]	97.94	[illegible]	34.33	68.[illegible]	11.47	47.[illegible]	4.32	40.00	2.30
4	[illegible]	34.[illegible]	14[illegible]	73.14	[illegible]	34.75	68.00	[illegible]	[illegible]	4.67	40.00	2.33
5	[illegible]	[illegible]	127.[illegible]	58.87	[illegible]	37.16	74.[illegible]	14.44	47.[illegible]	4.78	39.00	2.71
6	[illegible]	[illegible]	118.[illegible]	44.[illegible]	125.[illegible]	35.43	65.00	11.66	46.00	4.12	40.00	2.78
7	[illegible]	[illegible]	113.[illegible]	43.[illegible]	10[illegible]	31.15	65.00	10.72	45.00	3.87	36.00	2.32
8	[illegible]	[illegible]	[illegible]	42.53	95.[illegible]	27.[illegible]	63.[illegible]	9.39	44.[illegible]	3.69	35.00	2.02
9	[illegible]	[illegible]	116.[illegible]	[illegible]	[illegible]	25.37	61.[illegible]	7.62	45.[illegible]	3.95	35.00	2.12
10	117.[illegible]	47.[illegible]	[illegible]	43.21	91.[illegible]	24.60	60.20	6.27	52.00	5.56	56.[illegible]	5.02
11	115.[illegible]	46.[illegible]	[illegible]	57.[illegible]	[illegible]	23.32	59.[illegible]	7.[illegible]	53.[illegible]	5.02	46.00	4.08
12	[illegible]	[illegible]	[illegible]	55.67	[illegible]	22.[illegible]	62.[illegible]	[illegible]	49.00	4.86	43.00	3.47
13	[illegible]	[illegible]	123.[illegible]	41.44	98.0[illegible]	22.[illegible]	54.00	7.37	48.00	4.41	43.00	3.40
14	115.[illegible]	[illegible]	12[illegible]	59.[illegible]	98.[illegible]	22.53	59.[illegible]	8.[illegible]	47.[illegible]	4.36	40.00	2.37
15	12[illegible]	[illegible]	[illegible]	44.39	98.[illegible]	27.51	56.00	7.51	44.00	3.67	38.00	2.53
16	147.[illegible]	[illegible]	[illegible]	7[illegible]	[illegible]	21.54	61.00	9.75	41.00	3.05	38.00	2.50
17	153.[illegible]	[illegible]	[illegible]	59.[illegible]	72.[illegible]	13.[illegible]	60.03	6.33	41.00	3.[illegible]	39.00	2.50
18	157.[illegible]	[illegible]	[illegible]	44.03	71.[illegible]	12.61	54.00	7.68	38.[illegible]	2.54	37.00	2.33
19	15[illegible]	[illegible]	[illegible]	46.79	76.[illegible]	15.76	60.[illegible]	8.15	36.[illegible]	2.50	36.00	2.17
20	15[illegible]	[illegible]	[illegible]	51.21	77.[illegible]	14.[illegible]	56.00	7.39	39.00	2.59	36.00	2.17
21	143.[illegible]	7[illegible]	[illegible]	52.71	76.[illegible]	15.37	59.[illegible]	7.[illegible]	[illegible]	2.68	36.00	2.17
22	[illegible]	61.[illegible]	[illegible]	41.7[illegible]	72.[illegible]	13.16	59.[illegible]	7.5[illegible]	[illegible]	2.59	36.00	2.24
23	123.[illegible]	[illegible]	[illegible]	46.75	7[illegible]	12.13	60.[illegible]	4.33	[illegible]	2.50	40.00	2.81
24	[illegible]	[illegible]	11[illegible]	44.17	71.03	12.74	55.[illegible]	7.48	[illegible]	2.50	54.00	6.38
25	[illegible]	[illegible]	[illegible]	43.37	7[illegible]	12.18	57.60	7.20	[illegible]	2.59	53.00	5.83
26	[illegible]	[illegible]	1[illegible]	33.67	62.[illegible]	11.[illegible]	58.[illegible]	7.71	[illegible]	2.50	56.00	6.90
27	[illegible]	[illegible]	[illegible]	3[illegible]	67.[illegible]	11.[illegible]	54.[illegible]	[illegible]	37.[illegible]	2.33	57.00	5.11
28	147.[illegible]	[illegible]	[illegible]	37.[illegible]	57.[illegible]	11.[illegible]	51.[illegible]	[illegible]	[illegible]	2.17	48.00	4.48
29	147.[illegible]	[illegible]	[illegible]	35.19	57.[illegible]	11.03	5[illegible]	5.11	36.00	2.22	46.00	4.14
30	153.[illegible]	[illegible]	[illegible]	35.71	67.00	11.13	56.[illegible]	5.13	42.[illegible]	3.[illegible]	45.00	3.89
31			1[illegible]	76.53			48.00	[illegible]	50.00	5.06		
SUM		[illegible]		1795.54		639.12		26[illegible]		110.08		102.52
MEAN		[illegible]		57.92		21.3[illegible]		8.42		3.55		3.42
MAX		[illegible]		193.57		37.16		14.44		5.56		6.90
MIN		23.[illegible]		33.[illegible]		11.03		[illegible]		2.17		2.02

D1-1-3 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. TORUL C.A.1922.000 S.0 KM KURUTUN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1966-1967(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1	44.[illegible]	3.56	43.00	2.77	42.0[illegible]	3.[illegible]	42.[illegible]	[illegible]	45.00	4.55	55.00	6.53
2	43.[illegible]	3.35	42.[illegible]	2.76	50.[illegible]	5.22	42.00	3.17	50.00	5.00	61.00	8.60
3	43.[illegible]	3.15	[illegible]	2.86	47.[illegible]	4.44	42.[illegible]	3.23	50.[illegible]	5.[illegible]	61.00	8.57
4	41.[illegible]	2.97	[illegible]	[illegible]	45.[illegible]	3.91	42.[illegible]	[illegible]	[illegible]	5.40	65.0[illegible]	16.06
5	[illegible]	[illegible]	[illegible]	[illegible]	45.[illegible]	3.74	44.[illegible]	[illegible]	48.00	4.71	68.[illegible]	11.43
6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	43.[illegible]	[illegible]	48.[illegible]	4.57	65.[illegible]	[illegible]
7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	44.[illegible]	[illegible]	50.[illegible]	5.22	[illegible]	[illegible]
8	42.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	43.[illegible]	[illegible]	[illegible]	4.74	[illegible]	[illegible]
9	43.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	43.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.22	[illegible]	[illegible]
11	[illegible]	[illegible]	[illegible]	2.[illegible]	57.[illegible]	5.15	[illegible]	[illegible]	56.[illegible]	[illegible]	[illegible]	17.15
12	[illegible]	3.32	39.[illegible]	2.74	5[illegible]	5.55	[illegible]	[illegible]	[illegible]	[illegible]	74.[illegible]	14.44
13	[illegible]	[illegible]	[illegible]	2.[illegible]	[illegible]	4.7[illegible]	[illegible]	5.17	57.[illegible]	7.39	7[illegible]	15.46
14	[illegible]	[illegible]	[illegible]	2.3[illegible]	47.[illegible]	[illegible]	57.[illegible]	7.1[illegible]	57.[illegible]	7.[illegible]	7[illegible]	16.35
15	[illegible]	2.[illegible]	[illegible]	2.32	[illegible]	[illegible]	64.00	[illegible]	56.[illegible]	6.79	79.00	16.71
16	[illegible]	2.[illegible]	[illegible]	[illegible]	4[illegible]	4.51	5[illegible]	[illegible]	57.[illegible]	5.95	79.[illegible]	17.17
17	[illegible]	[illegible]	5[illegible]	5.4[illegible]	4[illegible]	4.61	56.[illegible]	[illegible]	49.[illegible]	4.[illegible]	78.0[illegible]	16.20
18	[illegible]	[illegible]	[illegible]	4.74	4[illegible]	[illegible]	5[illegible]	[illegible]	[illegible]	[illegible]	74.[illegible]	14.[illegible]
19	[illegible]	[illegible]	[illegible]	[illegible]	5[illegible]	[illegible]	5[illegible]	[illegible]	[illegible]	5.15	71.[illegible]	12.17
20	[illegible]	[illegible]	[illegible]	4.5[illegible]	51.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7[illegible]	[illegible]
21	[illegible]	[illegible]	[illegible]	3.[illegible]	52.[illegible]	5.66	5[illegible]	[illegible]	5[illegible]	[illegible]	7[illegible]	[illegible]
22	[illegible]	[illegible]	[illegible]	3.47	5[illegible]	5.25	[illegible]	[illegible]	5[illegible]	5.56	75.[illegible]	[illegible]
23	[illegible]	[illegible]	[illegible]	[illegible]	4[illegible]	4.74	47.[illegible]	[illegible]	5[illegible]	5.56	76.[illegible]	15.13
24	[illegible]	[illegible]	[illegible]	3.32	4[illegible]	[illegible]	41.[illegible]	[illegible]	51.[illegible]	[illegible]	77.[illegible]	15.79
25	[illegible]	[illegible]	[illegible]	[illegible]	51.[illegible]	[illegible]	[illegible]	6.17	[illegible]	[illegible]	81.[illegible]	[illegible]
26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.15	[illegible]	[illegible]
27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.42	7[illegible]	15.17
28	4[illegible]	[illegible]	41.[illegible]	3.[illegible]	5[illegible]	5.24	53.[illegible]	6.[illegible]	49.[illegible]	4.43	75.[illegible]	14.57
29	4[illegible]	[illegible]	[illegible]	2.97	44.[illegible]	3.74	52.00	5.8[illegible]			77.00	16.02
30	4[illegible]	[illegible]	4[illegible]	3.[illegible]	42.[illegible]	3.27	51.[illegible]	5.47			77.00	15.75
31	[illegible]	[illegible]			[illegible]	33.[illegible]	52[illegible]	[illegible]			81.0[illegible]	17.89
SUM		[illegible]		[illegible]4.47		172.24		209.42		152.70		415.54
MEAN		3.[illegible]		2.15		5.56		6.74		5.45		13.42
MAX		3.56		5.68		32.53		57.10		7.34		17.89
MIN		2.77		2.26		3.27		3.17		4.43		6.53

TOTAL = 5974.23 MEAN = 16.37 MAX = 1[illegible]3.57 MIN = 2.02

D1-1-4 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. TORUL C.A.1922.000 S.Q KM KELKITUN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1967-1968(1/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1	91.00	24.89	122.00	52.90	99.00	27.40	83.00	19.48	52.00	5.71	40.00	2.81
2	103.00	34.24	129.00	61.23	93.00	25.92	78.00	16.52	51.00	5.33	48.00	4.55
3	123.00	64.24	147.00	85.57	105.00	35.70	75.00	14.65	52.00	5.61	59.00	7.94
4	126.00	57.07	166.00	119.00	106.00	36.53	77.00	16.02	52.00	5.71	53.00	5.95
5	108.00	36.44	160.00	107.79	98.00	29.53	87.00	22.09	54.00	6.25	51.00	5.38
6	95.00	27.40	152.00	94.78	91.00	24.83	101.00	32.39	55.00	6.58	52.00	5.71
7	92.00	25.07	149.00	89.19	89.00	23.21	93.00	25.86	54.00	6.28	50.00	5.02
8	93.00	25.86	144.00	82.42	87.00	22.09	90.00	23.61	52.00	5.56	49.00	4.86
9	102.00	32.88	147.00	85.96	88.00	22.70	84.00	20.00	50.00	5.13	48.00	4.48
10	111.00	41.71	151.00	93.16	86.00	21.27	79.00	17.03	50.00	5.00	46.00	4.01
11	118.00	48.21	147.00	86.08	85.00	20.58	75.00	14.87	49.00	4.76	45.00	3.78
12	119.00	49.20	152.00	93.97	85.00	20.52	73.00	13.61	48.00	4.48	44.00	3.65
13	115.00	45.66	144.00	82.05	84.00	19.90	70.00	12.34	46.00	4.12	43.00	3.46
14	116.00	46.62	134.00	67.31	87.00	21.70	70.00	12.49	45.00	3.78	42.00	3.28
15	121.00	51.49	126.00	58.07	86.00	21.49	66.00	10.71	44.00	3.56	43.00	3.46
16	126.00	57.67	113.00	48.57	86.00	20.89	64.00	9.79	42.00	3.28	44.00	3.56
17	133.00	66.00	110.00	48.93	99.00	22.92	61.00	8.66	43.00	3.42	45.00	3.80
18	131.00	64.07	117.00	47.85	83.00	19.08	60.00	8.27	43.00	3.46	51.00	5.36
19	128.00	60.51	113.00	43.19	78.00	16.20	60.00	8.18	43.00	3.46	53.00	5.95
20	131.00	63.22	111.00	41.46	74.00	14.35	60.00	8.39	43.00	3.35	54.00	6.12
21	134.00	67.33	113.00	40.01	74.00	14.23	60.00	8.24	42.00	3.15	57.00	7.31
22	135.00	56.00	110.00	40.01	84.00	19.64	60.00	8.09	41.00	2.95	58.00	7.65
23	118.00	49.75	116.00	46.09	77.00	15.61	62.00	9.17	40.00	2.87	55.00	6.61
24	114.00	44.37	113.00	43.19	70.00	12.41	61.00	8.48	40.00	2.64	54.00	6.12
25	120.00	50.48	109.00	36.68	68.00	11.36	59.00	7.94	39.00	2.60	52.00	5.80
26	118.00	48.39	106.00	36.45	73.00	13.61	58.00	7.48	39.00	2.59	51.00	5.45
27	113.00	43.53	117.00	42.36	80.00	17.27	58.00	7.45	38.00	2.57	51.00	5.52
28	111.00	41.22	115.00	45.83	89.00	23.15	56.00	6.74	38.00	2.50	51.00	5.42
29	108.00	38.79	105.00	36.23	85.00	20.79	54.00	6.40	38.00	2.53	52.00	5.64
30	113.00	44.17	97.00	28.88	85.00	20.63	53.00	6.00	39.00	2.74	51.00	5.47
31			98.00	28.30			53.00	5.55	39.00	2.68		
SUM		1396.52		1913.51		635.52		396.00		124.95		154.12
MEAN		46.55		61.73		21.18		12.80		4.03		5.14
MAX		67.33		119.00		36.53		32.39		6.58		7.94
MIN		24.89		28.30		11.36		5.55		2.60		2.81

D1-1-5 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. TORUL C.A.1922.000 S.Q KM KELKITUN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1967-1968(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1	53.00	5.20	57.00	7.22	64.00	9.69	72.00	13.12	58.00	7.55	91.00	29.13
2	53.00	5.05	59.00	7.65	71.00	12.65	71.00	12.88	54.00	7.56	94.00	31.89
3	53.00	4.92	57.00	7.22	73.00	13.53	72.00	13.24	57.00	7.25	89.00	27.93
4	54.00	4.92	57.00	7.17	68.00	11.66	71.00	12.92	56.00	6.74	85.00	27.63
5	53.00	4.79	55.00	6.89	66.00	10.64	72.00	13.45	54.00	6.30	87.00	26.96
6	54.00	4.85	55.00	6.85	65.00	10.30	77.00	15.53	55.00	6.56	87.00	26.25
7	54.00	4.92	55.00	7.00	68.00	11.66	73.00	13.94	55.00	6.45	83.00	23.20
8	52.00	4.65	57.00	7.38	71.00	13.41	74.00	14.44	56.00	6.74	82.00	22.94
9	50.00	4.52	55.00	6.41	73.00	12.94	74.00	14.61	54.00	6.55	86.00	25.29
10	75.00	14.00	55.00	6.45	70.00	12.45	75.00	14.78	52.00	7.48	86.00	25.80
11	50.00	29.77	54.00	7.04	67.00	11.14	72.00	13.92	57.00	7.25	87.00	22.66
12	53.00	37.13	57.00	7.47	66.00	10.71	74.00	14.22	54.00	7.01	111.00	49.42
13	75.00	17.35	56.00	6.77	75.00	14.71	73.00	13.61	54.00	6.77	142.00	92.32
14	63.00	11.06	55.00	6.61	38.00	22.42	72.00	13.26	56.00	6.93	116.00	54.63
15	67.00	1.82	56.00	6.76	77.00	25.55	70.00	12.57	57.00	7.37	102.00	39.69
16	64.00	4.80	54.00	6.27	34.00	24.53	68.00	11.36	58.00	7.62	96.00	33.52
17	63.00	3.89	53.00	5.83	112.00	41.95	67.00	11.77	60.00	8.24	93.00	31.45
18	62.00	4.11	52.00	5.66	135.00	35.73	66.00	11.36	61.00	6.76	90.00	28.35
19	61.00	4.27	51.00	5.27	34.00	26.53	67.00	11.07	60.00	11.88	89.00	27.77
20	58.00	3.69	51.00	5.29	34.00	29.53	67.00	11.07	77.00	12.45	91.00	29.06
21	64.00	10.56	54.00	6.40	34.00	20.21	67.00	10.36	75.00	10.20	85.00	24.85
22	62.00	3.88	53.00	5.72	32.00	18.68	66.00	10.64	63.00	9.46	91.00	21.41
23	61.00	3.65	54.00	5.65	77.00	16.11	66.00	10.47	64.00	8.09	87.00	22.49
24	64.00	4.12	53.00	5.91	75.00	14.53	63.00	9.36	63.00	9.23	85.00	24.49
25	53.00	3.03	62.00	5.17	79.00	14.80	63.00	8.60	77.00	10.76	90.00	28.24
26	61.00	5.24	61.00	6.51	76.00	15.68	61.00	8.45	71.00	12.52	85.00	27.57
27	63.00	4.12	63.00	6.12	76.00	15.13	60.00	8.41	61.00	18.64	90.00	28.92
28	55.00	3.69	57.00	7.14	75.00	14.74	59.00	7.91	54.00	26.41	98.00	35.20
29	53.00	3.76	62.00	3.82	73.00	13.73	59.00	7.76	95.00	20.42	107.00	44.98
30	59.00	7.71	62.00	6.92	74.00	14.23	59.00	7.91			104.00	41.31
31	59.00	7.65			73.00	13.61	59.00	7.91			113.00	51.35
SUM		295.91		215.00		599.23		361.36		279.60		1026.98
MEAN		9.55		7.17		17.07		11.62		9.64		33.13
MAX		32.73		9.65		41.95		15.53		26.41		92.32
MIN		5.85		5.20		9.62		7.76		6.30		21.61

TOTAL = 2129.69 MEAN = 29.62 MAX = 119.00 MIN = 2.81

D1-1-6 GATE HEIGHT(M) AND DISCHARGE(Q)

NAME OF G.S. TORUL C.A.1922.000 SQ KM KURTLN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1968-1969(1/2)

	APR		MAY		JUN		JUL		AUG		SEP	
DATE	H	Q	H	Q	H	Q	H	Q	H	Q	H	Q
1	110.00	58.56	123.00	64.32	109.00	46.43	65.00	12.52	46.00	5.07	41.00	3.83
2	127.00	69.01	127.00	69.83	105.00	42.68	63.00	11.33	45.00	4.86	42.00	4.09
3	131.00	74.76	131.00	75.87	102.00	39.36	62.00	11.06	46.00	5.05	41.00	3.79
4	136.00	82.98	135.00	81.44	97.00	34.43	63.00	11.40	45.00	4.70	41.00	3.79
5	145.00	97.29	137.00	84.44	95.00	32.62	62.00	11.12	44.00	4.43	41.00	3.69
6	158.00	127.04	128.00	70.19	89.00	27.97	61.00	10.75	44.00	4.65	41.00	3.73
7	164.00	133.62	128.00	70.66	84.00	23.74	61.00	10.46	44.00	7.51	47.00	5.41
8	146.00	137.50	129.00	72.09	82.00	22.19	64.00	11.99	53.00	7.25	45.00	4.94
9	146.00	139.29	131.00	75.50	83.00	22.90	63.00	11.52	47.00	5.28	45.00	4.68
10	169.00	145.11	126.00	68.70	83.00	23.26	62.00	11.17	46.00	5.14	44.00	4.61
11	169.00	191.28	127.00	69.11	82.00	22.31	61.00	10.52	46.00	4.95	48.00	5.73
12	188.00	190.41	124.00	64.69	83.00	23.08	60.00	9.85	45.00	4.81	59.00	9.59
13	198.00	217.92	120.00	60.16	82.00	22.25	58.00	9.21	44.00	4.46	53.00	7.19
14	205.00	239.19	113.00	57.03	79.00	20.54	57.00	8.65	44.00	4.41	49.00	6.02
15	215.00	267.90	118.00	57.51	77.00	19.17	56.00	8.29	44.00	4.65	46.00	5.14
16	193.00	204.63	116.00	55.34	77.00	18.91	55.00	8.07	46.00	4.58	45.00	4.70
17	197.00	213.93	112.00	50.19	78.00	19.93	54.00	7.65	50.00	6.39	41.00	3.89
18	220.00	235.47	112.00	50.78	86.00	25.61	54.00	7.70	47.00	5.41	42.00	4.31
19	191.00	177.28	117.00	55.65	79.00	20.71	54.00	7.56	45.00	4.70	41.00	3.79
20	156.00	114.26	120.00	58.52	74.00	17.36	53.00	7.36	43.00	4.39	40.00	3.57
21	147.00	100.64	116.00	54.93	73.00	16.42	53.00	7.30	41.00	3.83	40.00	3.56
22	163.00	125.72	133.00	46.61	71.00	15.37	53.00	7.30	40.00	3.65	40.00	3.56
23	160.00	125.21	113.00	48.29	70.00	14.91	53.00	7.14	41.00	3.81	41.00	3.67
24	147.00	111.52	113.00	51.74	68.00	14.11	52.00	6.81	43.00	4.26	41.00	3.67
25	135.00	73.30	106.00	46.25	68.00	13.93	51.00	6.50	43.00	4.26	40.00	3.54
26	122.00	62.00	104.00	41.47	68.00	13.69	51.00	6.42	42.00	4.03	39.00	3.39
27	119.00	58.26	103.00	40.45	68.00	13.71	50.00	6.33	41.00	3.79	48.00	5.63
28	118.00	57.33	102.00	39.78	53.00	13.65	46.00	5.48	40.00	3.57	49.00	5.97
29	121.00	62.37	108.00	45.43	67.00	13.58	47.00	5.38	40.00	3.56	46.00	4.95
30	123.00	59.41	125.00	66.70	66.00	12.94	47.00	5.24	40.00	3.57	44.00	4.54
31			115.00	53.72			46.00	5.00	41.00	3.77		
SUM		3973.34		1947.90		667.92		267.34		145.25		138.57
MEAN		132.46		59.61		22.26		8.62		4.69		4.62
MAX		235.37		84.44		46.43		12.52		7.51		9.59
MIN		57.33		39.78		12.94		5.00		3.56		3.39

D1-1-7 GATE HEIGHT(M) AND DISCHARGE(Q)

NAME OF G.S. TORUL C.A.1922.000 SQ KM KURTLN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1968-1969(2/2)

	OCT		NOV		DEC		JAN		FEB		MAR	
DATE	H	Q	H	Q	H	Q	H	Q	H	Q	H	Q
1	47.00	4.20	47.00	4.62	48.00	5.56	47.00	5.24				
2	47.00	4.31	48.00	5.56	47.00	5.33	46.00	4.68				
3	47.00	4.33	47.00	5.56	46.00	4.68	46.00	4.68				
4	47.00	4.31	46.00	4.98	46.00	4.57	45.00	4.23				
5	46.00	4.31	45.00	4.80	45.00	4.23	45.00	4.23				
6	46.00	5.63	45.00	4.80	45.00	4.26	41.00	3.79				
7	48.00	7.59	45.00	4.31	45.00	4.26	41.00	3.81				
8	57.00	14.64	46.00	4.95	41.00	3.75	40.00	3.63				
9	67.00	33.28	46.00	5.12	40.00	3.46	39.00	3.28				
10	57.00	14.33	47.00	5.51	40.00	3.59	41.00	3.77				
11	53.00	7.22	48.00	5.53	43.00	4.22	42.00	4.03				
12	52.00	6.99	47.00	5.24	42.00	4.03	43.00	4.76				
13	51.00	6.64	46.00	5.07	39.00	3.23	44.00	4.49				
14	49.00	6.02	45.00	4.86	41.00	3.63	44.00	4.63				
15	48.00	5.56	46.00	5.10	44.00	4.56	43.00	4.30				
16	47.00	5.24	47.00	5.41	44.00	4.57	43.00	4.18				
17	46.00	4.98	43.00	5.77	45.00	4.73	44.00	4.49				
18	46.00	5.07	47.00	5.51	45.00	4.79	46.00	5.07				
19	46.00	5.07	46.00	5.12	45.00	4.79	47.00	5.24				
20	46.00	5.07	45.00	4.94	44.00	4.56	47.00	5.41				
21	47.00	5.30	45.00	4.73	43.00	4.35	49.00	5.94				
22	47.00	5.48	44.00	4.57	46.00	5.19	50.00	6.15				
23	48.00	5.66	45.00	4.68	48.00	5.71	50.00	6.29				
24	49.00	5.77	45.00	4.75	55.00	7.97	49.00	5.84				
25	53.00	7.42	45.00	4.77	57.00	8.81	47.00	5.29				
26	53.00	6.73	52.00	7.01	52.00	7.04	47.00	5.24				
27	48.00	5.31	61.00	10.64	50.00	6.45	46.00	5.05				
28	47.00	5.34	55.00	7.97	48.00	6.02	44.00	4.57				
29	46.00	5.12	52.00	6.84	48.00	6.05	45.00	4.77				
30	46.00	5.23	50.00	6.15	53.00	6.26	44.00	4.92				
31	46.00	4.45			49.00	5.84	46.00	5.17				
SUM		191.14		166.71		156.74		145.60				
MEAN		6.17		5.56		5.06		4.70				
MAX		14.64		10.64		8.81		6.29				
MIN		3.83		4.46		3.23		3.28				

TOTAL = 7706.73 MEAN = 25.13 MAX = 785.27 MIN = 3.28

D1-2 MONTHLY AVERAGE DISCHRGE AT KURTUN ON HARSIT RIVER IN THE VASIN OF HASIT

WATER YEAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC.	JAN	FEB	MAR	AVERAGE
1965-1966	0.0	114.97	67.34	15.62	8.79	9.04	0.0	0.0	0.0	0.0	19.28	25.81	27.96
1966-1967	81.06	83.94	33.25	9.22	91.10	0.84	0.23	0.38	1.26	2.20	3.06	16.24	19.59
1967-1968	68.24	85.48	39.16	25.41	13.90	8.91	13.00	11.72	29.15	16.81	18.52	65.04	33.03
1968-1969	169.91	91.89	40.25	17.21	10.67	7.63	8.11	8.98	12.53	12.02	8.01	0.0	35.18
MEAN	106.37	94.07	45.01	16.86	8.62	6.60	7.11	7.03	14.31	10.34	12.22	39.02	28.94

D1-2-1 STATE ELEVATION AND DISCHARGE(S)

NAME OF G.S. KURTUN C.A.2752.000 SQ KM KURUTUN TURKEY

UNIT RIVER IN THE VASIN OF HASIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1965-1966(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1												
2									61.00	24.09	64.00	26.73
3									60.74	23.72	62.00	24.72
4									57.00	21.59	62.00	25.17
5									52.00	16.24	66.00	27.86
6									50.00	16.71	68.00	29.77
7												
8									48.00	15.67	64.00	26.79
9									46.74	14.77	60.00	23.72
10									45.00	13.35	60.00	23.53
11									44.00	13.12	72.00	33.40
12									45.00	13.45	71.00	32.53
13												
14									47.00	13.53	85.00	45.72
15									47.00	14.61	142.00	120.81
16									50.00	16.39	113.00	78.35
17									54.00	19.27	101.00	63.77
18									58.00	21.77	85.00	45.05
19												
20									57.00	21.35	81.00	41.17
21									57.00	21.23	80.00	40.29
22									55.00	19.61	80.00	40.93
23									52.00	17.67	75.00	35.78
24									53.00	18.71	72.00	33.55
25												
26									55.00	19.38	67.00	28.67
27									53.00	18.71	62.00	25.04
28									55.00	20.10	61.00	24.22
29									57.00	21.18	58.00	23.04
30									60.00	23.20	60.00	23.29
31												
32									60.00	23.29	61.00	24.09
33									62.00	24.72	63.00	25.47
34									70.00	31.17	64.00	26.98
35											68.00	26.91
36											66.00	28.49
37												
38											47.00	28.94
39												
SUM										539.76		1110.04
MEAN										19.28		35.81
MAX										31.17		120.81
MIN										13.12		23.04

TOTAL = 1449.80 MEAN = 27.96 MAX = 120.81 MIN = 13.12

D1-2-3 GATE HEIGHT(H), AND DISCHARGE(Q)

NAME OF G.S. KURTUN C.A.2753.CCO S.Q KM / KURUTUN / TURKEY

HARSIT RIVER IN THE BASIN OF HASIT UNIT-H(M),Q(C.M.S) FOR THE WATER YEAR OF 1966-1967(1/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1												
11	69.00	30.39	187.00	204.01	97.00	58.90	47.00	14.61	18.00	2.42	13.00	1.29
21	79.00	39.57	166.00	161.15	96.00	56.91	47.00	14.56	19.00	2.64	9.00	0.69
31	79.00	39.97	144.00	123.91	101.00	62.58	47.00	14.76	19.00	2.57	10.00	0.76
41	78.00	38.23	131.00	103.95	104.00	66.78	49.00	15.87	19.00	2.73	10.00	0.73
51	77.00	39.00	116.00	81.59	106.00	69.03	64.00	26.93	17.00	2.19	5.00	0.25
61	90.00	50.32	105.00	68.21	100.00	62.29	57.00	21.18	16.00	2.62	5.00	0.17
71	105.00	68.52	99.00	60.24	92.00	52.47	46.00	14.42	15.00	1.59	4.00	0.11
81	120.00	87.95	98.00	60.15	85.00	45.64	42.00	11.97	13.00	1.22	3.00	0.08
91	113.00	77.84	102.00	62.09	84.00	44.54	39.00	10.15	14.00	1.42	4.00	0.13
101	101.00	63.37	104.00	66.78	82.00	42.31	36.00	9.05	20.00	2.84	4.00	0.16
111	99.00	60.63	109.00	71.11	76.00	36.77	37.00	9.27	18.00	2.32	10.00	0.84
121	101.00	62.98	113.00	78.16	71.00	32.02	36.00	8.93	13.00	1.29	9.00	0.69
131	105.00	68.21	118.00	84.51	67.00	29.22	35.00	8.28	12.00	1.19	8.00	0.46
141	101.00	63.57	117.00	83.83	62.00	24.66	34.00	7.94	11.00	0.94	6.00	0.31
151	110.00	74.79	114.00	82.26	56.00	20.42	33.00	7.47	9.00	0.64	5.00	0.21
161	137.00	112.49	134.00	108.24	52.00	18.16	37.00	9.61	8.00	0.51	4.00	0.14
171	142.00	120.27	125.00	94.65	53.00	18.66	35.00	8.55	7.00	0.36	3.00	0.07
181	137.00	117.62	114.00	79.26	56.00	20.42	31.00	6.83	6.00	0.25		
191	133.00	106.97	111.00	74.92	61.00	24.47	31.00	6.66	5.00	0.21		
201	144.00	124.19	116.00	82.71	74.00	34.80	31.00	6.59	5.00	0.21		
211	130.00	102.58	123.00	91.52	59.00	22.86	35.00	8.28	5.00	0.21	2.00	0.03
221	115.00	81.14	123.00	87.48	55.00	19.61	29.00	6.00	5.00	0.17	2.00	0.05
231	102.00	59.77	114.00	79.04	53.00	18.66	29.00	5.83	4.00	0.11	6.00	0.33
241	103.00	72.89	111.00	74.92	53.00	18.95	29.00	5.83	3.00	0.08	22.00	3.41
251	125.00	94.77	112.00	77.18	52.00	17.83	26.00	4.67	3.00	0.08	20.00	2.93
261	135.00	109.26	104.00	66.68	49.00	15.87	25.00	4.56	4.00	0.13	24.00	4.03
271	137.00	112.60	95.00	57.76	47.00	14.71	23.00	3.77	4.00	0.11	16.00	2.00
281	137.00	112.88	95.00	56.16	48.00	15.31	23.00	3.90	3.00	0.08	13.00	1.23
291	140.00	117.74	98.00	59.28	52.00	18.10	22.00	3.41	2.00	0.05	11.00	0.86
301	144.00	123.23	97.00	58.90	43.00	16.13	21.00	3.19	11.00	0.66	9.00	0.59
311			99.00	61.02			19.00	2.66	15.00	2.70		
SUM		2431.93		2602.97		998.68		285.86		34.14		22.55
MEAN		81.06		83.97		33.29		9.22		1.10		0.84
MAX		124.19		204.01		69.03		26.93		2.84		4.03
MIN		30.39		56.16		14.71		2.66		0.05		0.03

D1-2-4 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. KURTUN C.A.2753.CCO S.Q KM KURUTUN TURKEY

HARSIT RIVER IN THE BASIN OF HASIT UNIT-H(M),Q(C.M.S) FOR THE WATER YEAR OF 1966-1967(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1												
11												
21												
31												
41												
51												
61												
71												
81												
91												
101												
111												
121												
131												
141												
151												
161												
171												
181												
191												
201												
211												
221												
231												
241												
251												
261												
271												
281												
291												
301												
311												
SUM		7.07		11.39		35.07		68.16		85.68		503.52
MEAN		0.23		0.38		1.26		2.20		3.06		16.24
MAX		1.14		3.59		3.09		7.76		6.22		25.75
MIN		0.09		0.09		0.15		0.14		0.93		5.67

TOTAL = 709C.08 MEAN = 19.59 MAX = 204.01 MIN = C.03

D1-2-5 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. KURTUN C.A.2753.000 S.Q KM KURUTUN TURKEY

HARSIT RIVER IN THE BASIN OF HASIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1967-1968(1/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1	77.00	37.46	102.00	64.07	85.00	45.47	82.00	42.88	41.00	11.56	37.00	9.29
2	95.00	56.16	108.00	71.63	86.00	46.23	77.00	37.92	39.00	10.52	44.00	13.16
3	121.00	88.41	137.00	111.84	95.00	56.34	75.00	35.48	43.00	12.56	60.00	23.72
4	126.00	96.21	168.00	165.18	99.00	61.02	75.00	35.48	48.00	15.47	43.00	12.60
5	96.00	57.09	149.00	132.47	92.00	53.29	81.00	41.57	60.00	23.29	40.00	10.65
6	79.00	39.57	140.00	116.55	87.00	47.69	86.00	46.32	76.00	37.00	42.00	11.92
7	77.00	37.61	137.00	112.23	82.00	42.63	86.00	46.15	66.00	28.26	38.00	9.82
8	82.00	42.96	137.00	112.62	79.00	39.49	81.00	41.57	58.00	22.07	36.00	9.09
9	93.00	54.48	137.00	112.62	79.00	39.49	77.00	37.30	53.00	18.38	35.00	8.28
10	111.00	75.35	143.00	121.34	77.00	37.77	72.00	33.25	54.00	19.22	33.00	7.76
11	117.00	85.65	136.00	110.29	76.00	36.92	68.00	29.91	54.00	19.22	32.00	6.97
12	119.00	86.33	139.00	116.28	76.00	37.15	66.00	27.79	49.00	16.18	31.00	6.52
13	116.00	81.91	132.00	105.45	75.00	36.04	64.00	26.47	46.00	14.46	30.00	6.12
14	116.00	82.71	126.00	96.45	81.00	41.82	61.00	24.09	44.00	12.79	29.00	5.74
15	124.00	93.34	114.00	79.81	81.00	41.17	58.00	22.07	42.00	11.70	28.00	5.39
16	130.00	101.34	104.00	66.68	78.00	39.78	55.00	19.90	41.00	11.26	27.00	5.33
17	123.00	90.74	103.00	65.97	80.00	40.45	52.00	18.05	45.00	13.78	28.00	5.67
18	124.00	92.51	103.00	65.27	75.00	36.03	52.00	17.94	42.00	12.01	36.00	8.78
19	120.00	86.91	93.00	59.76	72.00	33.11	51.00	17.35	40.00	10.91	36.00	8.74
20	122.00	90.27	93.00	60.05	67.00	29.18	50.00	16.60	39.00	10.19	37.00	9.37
21	117.00	83.64	93.00	59.28	65.00	27.12	49.00	15.98	38.00	9.90	38.00	10.02
22	104.00	54.98	101.00	62.68	75.00	36.08	48.00	15.47	38.00	9.65	42.00	11.70
23	102.00	61.4[illegible]	111.00	75.56	72.00	32.94	51.00	17.56	37.00	9.41	39.00	10.15
24	[illegible]	54.53	[illegible]	74.10	67.00	28.60	50.00	16.24	37.00	9.41	35.00	6.51
25	[illegible]	61.[illegible]	[illegible]	63.97	64.00	26.53	44.00	15.16	37.00	9.37	33.00	7.61
26	[illegible]	57.75	[illegible]	64.47	67.00	29.15	48.00	15.21	36.00	8.97	32.00	7.15
27	36.[illegible]	48.21	[illegible]	72.56	74.00	35.19	55.00	19.90	36.00	8.70	31.00	6.83
28	35.[illegible]	45.17	111.00	74.92	77.00	37.92	50.00	16.55	35.00	8.43	32.00	7.25
29	77.00	37.92	97.50	60.44	78.00	38.70	45.00	13.64	35.00	8.51	31.00	6.73
30	87.00	47.69	89.00	50.15	82.00	42.63	43.00	12.24	36.00	8.53	30.00	6.39
31			86.00	46.66			41.00	11.56	36.00	8.53		
SUM		2047.10		2649.93		1174.93		787.70		431.04		267.26
MEAN		68.24		85.48		39.16		25.41		13.90		8.91
MAX		101.34		165.18		61.02		46.32		37.00		23.72
MIN		37.46		46.66		26.53		11.56		8.43		5.33

D1-2-6 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. KURTUN C.A.2753.000 S.Q KM KURUTUN TURKEY

HARSIT RIVER IN THE BASIN OF HASIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1967-1968(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1	[illegible]	[illegible]	36.30	9.02	60.00	23.73	57.00	21.29	41.00	11.21	135.00	59.94
2	[illegible]	6.47	37.00	10.23	68.00	30.18	55.00	19.95	43.00	12.37	138.00	63.26
3	[illegible]	[illegible]	33.00	9.65	67.00	28.81	54.00	19.27	42.00	11.57	134.00	56.32
4	[illegible]	6.22	37.30	9.37	61.00	24.36	53.00	18.66	41.00	11.21	134.00	58.53
5	23.[illegible]	[illegible]	[illegible]	8.57	59.00	22.07	53.00	18.60	41.00	11.17	132.00	56.81
6	[illegible]	5.26	35.[illegible]	8.89	57.00	21.03	62.00	24.72	41.00	11.17	131.00	55.98
7	[illegible]	[illegible]	35.00	9.62	62.03	24.85	58.00	21.71	40.00	10.95	128.00	53.34
8	[illegible]	6.56	[illegible]	9.69	64.00	26.53	57.00	21.29	41.[illegible]	11.21	127.00	52.33
9	[illegible]	[illegible]	35.00	9.05	63.00	26.24	56.00	20.8[illegible]	41.00	11.52	130.00	55.15
10	[illegible]	[illegible]	37.0[illegible]	9.53	62.00	24.92	58.00	21.39	42.00	12.10	131.00	55.32
11	[illegible]	[illegible]	[illegible]	11.04	58.00	22.13	54.00	19.35	42.00	12.06	126.00	50.88
12	[illegible]	[illegible]	41.[illegible]	12.34	56.00	20.47	56.00	20.47	44.00	12.58	150.00	76.77
13	[illegible]	[illegible]	[illegible]	19.69	72.00	33.62	55.00	19.95	44.00	13.07	210.00	167.11
14	[illegible]	[illegible]	[illegible]	19.95	89.00	48.43	54.00	19.33	45.00	13.40	166.00	96.58
15	[illegible]	[illegible]	[illegible]	12.39	85.00	45.05	52.00	17.94	46.00	14.27	149.00	75.20
16	47.[illegible]	14.71	41.00	11.26	79.00	39.33	48.00	15.11	48.00	15.52	141.00	66.59
17	[illegible]	14.97	37.0[illegible]	10.49	89.00	50.15	47.00	14.01	51.00	17.19	138.00	63.26
18	[illegible]	12.33	37.00	10.61	87.00	48.04	45.00	13.44	52.00	17.78	135.00	59.34
19	[illegible]	12.15	42.00	13.65	77.00	37.77	46.00	14.12	64.00	26.27	132.00	56.64
20	[illegible]	[illegible]	33.00	9.98	73.00	34.13	45.00	13.88	66.00	26.53	135.00	59.34
21	[illegible]	15.37	42.00	12.04	67.00	30.53	48.00	15.11	59.00	22.98	128.00	52.80
22	[illegible]	12.04	53.00	17.76	66.00	29.42	46.00	14.07	56.00	20.47	123.00	48.51
23	[illegible]	13.43	52.00	17.72	64.00	26.47	46.00	14.22	52.00	18.05	123.00	48.58
24	[illegible]	10.91	[illegible]	15.53	60.00	23.35	46.00	14.22	54.00	19.55	130.00	54.50
25	[illegible]	[illegible]	[illegible]	15.96	62.00	25.36	46.00	13.57	60.00	23.41	136.00	60.72
26	[illegible]	[illegible]	[illegible]	15.11	60.00	23.78	41.00	11.39	64.00	26.93	135.00	60.11
27	[illegible]	[illegible]	45.00	13.83	59.00	23.47	44.00	13.16	75.00	36.08	138.00	62.73
28	[illegible]	[illegible]	[illegible]	12.10	59.00	22.73	45.00	13.54	86.00	46.92	147.00	67.14
29	[illegible]	[illegible]	46.00	14.22	58.00	22.25	44.00	12.93	76.00	36.61	147.00	72.78
30	38.[illegible]	[illegible]	47.00	14.86	59.00	22.67	41.00	11.47			142.00	67.23
31	37.[illegible]	5.37			58.[illegible]	22.17	39.[illegible]	10.57			154.00	80.69
SUM		417.91		351.74		903.71		521.07		536.55		2016.18
MEAN		13.[illegible]		11.72		29.15		16.81		18.52		65.04
MAX		46.23		17.78		50.15		24.72		46.92		167.11
MIN		5.24		8.62		20.47		10.57		10.95		48.51

TOTAL = 12090.52 MEAN = 33.03 MAX = 167.11 MIN = 5.24

D1-2-7 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. KURTUN C.A.2753.000 S.Q KM KURTUN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1968-1969(1/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1	166.00	98.97	169.00	101.93	147.00	72.07	92.00	24.22	66.00	11.40	55.00	7.69
2	177.00	112.44	175.00	109.09	143.00	65.91	89.00	22.47	66.00	11.46	55.00	7.55
3	178.00	113.62	183.00	121.56	141.00	65.77	88.00	22.07	65.00	11.10	55.00	7.26
4	185.00	124.56	183.00	120.31	143.00	68.62	87.00	21.59	63.00	10.20	58.00	8.50
5	195.00	139.95	183.00	121.32	135.00	59.63	86.00	21.16	62.00	9.64	56.00	7.70
6	207.00	164.31	171.00	102.44	121.00	46.43	84.00	19.58	63.00	10.26	54.00	7.23
7	205.00	163.73	166.00	96.92	115.00	40.81	85.00	20.50	75.00	15.33	63.00	10.17
8	207.00	167.07	172.00	105.74	112.00	38.43	93.00	23.01	73.00	14.44	57.00	8.19
9	208.00	166.19	173.00	102.55	111.00	37.83	90.00	23.31	68.00	12.01	58.00	8.22
10	207.00	165.42	167.00	98.06	109.00	36.59	90.00	23.01	65.00	10.74	56.00	7.57
11	231.00	207.56	167.00	97.94	111.00	37.93	87.00	21.54	63.00	10.20	68.00	12.18
12	231.00	209.13	167.00	98.17	112.00	38.73	82.00	18.51	67.00	10.01	82.00	18.51
13	242.00	233.70	165.00	95.46	111.00	37.83	80.00	17.85	62.00	9.71	70.00	12.92
14	242.00	247.63	160.00	89.40	108.00	35.75	79.00	17.21	63.00	10.33	62.00	9.77
15	269.00	277.54	156.00	83.47	106.00	34.42	77.00	16.42	65.00	11.07	58.00	8.50
16	251.00	252.29	153.00	80.49	106.00	34.29	75.00	15.14	74.00	14.63	54.00	7.16
17	258.00	269.14	152.00	78.57	115.00	40.95	75.00	15.06	77.00	16.28	53.00	6.78
18	285.00	341.02	153.00	87.36	126.00	52.51	74.00	14.58	69.00	12.71	52.00	6.48
19	235.00	219.19	163.00	93.12	114.00	40.33	75.00	15.21	65.00	11.03	50.00	5.89
20	210.00	166.65	166.00	97.15	105.00	33.55	75.00	15.21	66.00	11.13	46.00	4.78
21	205.00	[illegible]	159.00	86.62	103.00	31.54	75.00	15.02	62.00	9.69	46.00	4.35
22	217.00	179.72	153.00	80.08	101.00	30.25	74.00	14.78	61.00	9.46	50.00	5.92
23	215.00	175.77	150.00	76.19	100.00	25.96	73.00	14.29	61.00	9.43	49.00	5.34
24	196.00	138.70	154.00	81.51	98.00	28.19	72.00	13.69	60.00	9.08	46.00	4.77
25	173.00	106.57	151.00	76.38	97.00	27.63	72.00	13.65	59.00	8.70	45.00	4.65
26	[illegible]	92.23	146.00	71.25	96.00	27.14	71.00	13.46	57.00	8.14	45.00	4.55
27	164.00	94.33	145.00	70.77	96.00	27.09	70.00	13.14	57.00	8.00	51.00	6.10
28	167.00	97.67	141.00	66.65	95.00	27.33	69.00	12.35	56.00	7.73	56.00	7.63
29	169.00	93.84	144.00	71.63	102.00	31.71	67.00	11.77	56.00	7.73	51.00	6.74
30	167.00	97.40	171.00	107.79	95.00	26.03	66.00	11.22	64.00	10.62	49.00	5.67
31			157.00	84.72			67.00	11.80	65.00	8.50		
SUM		5274.70		2848.55		1207.60		533.40		[illegible]		224.90
MEAN		[illegible]		91.89		40.25		17.21		10.87		7.63
MAX		341.02		121.56		72.07		24.22		16.28		18.51
MIN		92.23		66.65		26.99		11.23		7.73		4.55

D1-2-8 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. KURTUN C.A.2753.000 S.Q KM KURTUN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1968-1969(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1	[illegible]	[illegible]	73.00	13.12	66.00	13.49	74.00	14.55	50.00	6.60		
2	[illegible]	[illegible]	65.73	10.61	53.05	13.01	72.00	13.35	49.00	5.53		
3	[illegible]	4.73	[illegible]	9.55	63.00	9.71	73.70	14.25	49.00	5.76		
4	[illegible]	[illegible]	53.00	9.31	63.00	[illegible]	72.00	13.87	51.00	6.13		
5	[illegible]	5.36	[illegible]	7.27	61.00	[illegible]	70.00	13.03	52.00	6.43		
6	[illegible]	5.35	55.00	7.44	[illegible]	8.07	69.03	12.32	56.00	7.62		
7	[illegible]	[illegible]	55.00	7.41	59.00	[illegible]	67.00	11.70	57.00	8.13		
8	[illegible]	15.57	[illegible]	7.77	[illegible]	7.45	65.00	11.00	58.00	6.22		
9	[illegible]	16.27	[illegible]	7.62	56.00	7.05	65.00	10.57	58.00	8.33		
10	67.00	[illegible]	57.30	8.14	58.00	9.45	66.00	11.30	57.00	8.60		
11	[illegible]	9.57	57.00	3.33	63.00	12.64	66.00	11.30	56.00	7.81		
12	[illegible]	[illegible]	[illegible]	7.76	63.00	15.33	65.00	11.00	56.00	7.87		
13	[illegible]	[illegible]	[illegible]	7.57	58.00	9.33	66.00	11.70	56.00	7.70		
14	55.00	7.23	55.00	7.44	52.00	7.77	66.00	11.40	57.00	6.56		
15	[illegible]	[illegible]	[illegible]	7.60	65.00	11.13	63.00	10.26	54.00	6.58		
16	[illegible]	[illegible]	51.00	3.27	56.00	11.73	52.00	9.55	56.00	7.60		
17	[illegible]	5.13	[illegible]	8.36	47.00	11.56	66.00	11.13	60.00	5.08		
18	[illegible]	6.53	53.00	5.45	63.00	12.09	69.03	12.42	64.00	10.68		
19	[illegible]	6.43	53.00	6.22	68.00	12.13	69.00	12.56	67.00	9.64		
20	51.00	6.17	57.00	6.00	57.00	17.54	69.33	12.67	59.00	8.62		
21	[illegible]	9.06	[illegible]	8.19	63.00	12.32	71.00	13.39	57.00	8.17		
22	54.00	7.23	57.20	3.93	75.00	15.25	72.00	13.87	55.00	7.52		
23	56.00	7.73	56.00	7.79	34.00	25.93	74.00	14.63	57.00	8.00		
24	57.00	7.92	[illegible]	9.03	77.00	17.13	71.00	13.39	56.00	7.76		
25	57.00	[illegible]	57.00	9.17	35.00	20.53	66.00	11.50	56.00	7.60		
26	[illegible]	9.52	[illegible]	10.07	79.00	17.17	67.00	11.67	57.00	8.06		
27	56.00	7.63	76.00	15.93	77.00	16.13	67.00	11.53	61.00	9.47		
28	54.00	7.13	70.00	12.97	76.00	15.53	65.00	10.84	72.30	14.02		
29	54.00	6.79	67.00	11.53	74.00	15.67	65.00	10.87				
30	60.00	9.13	64.00	12.45	76.00	15.73	62.00	9.92				
31	74.00	14.86			76.00	15.65	63.00	10.31				
SUM		251.43		269.56		338.32		372.59		224.26		
MEAN		8.11		8.98		12.53		12.02		8.01		
MAX		16.27		15.93		25.90		14.63		14.02		
MIN		4.73		7.41		7.84		9.92		5.53		

TOTAL = 11745.68 MEAN = 35.19 MAX = 341.02 MIN = 4.55

D1-3 MONTHLY AVERAGE DISCHRGE AT GIRIS ON HARSIT RIVER IN THE VASIN OF HARSIT

WATER YEAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	AVERAGE
1964-1965	0.0	114.97	67.34	15.62	3.79	9.04	10.37	10.04	15.00	13.77	12.00	51.81	30.06
1965-1966	115.07	80.08	55.20	18.05	12.49	7.38	18.92	19.15	16.84	24.01	23.19	67.46	38.19
1966-1967	25.28	117.69	23.49	19.72	9.06	8.59	5.80	5.72	8.06	10.36	14.48	26.06	29.58
1967-1968	96.79	111.57	49.31	35.92	27.56	8.48	14.13	10.67	38.57	18.85	15.87	53.51	40.47
1968-1969	220.11	136.53	47.28	16.52	9.14	8.72	11.32	10.62	8.80	8.22	11.18	0.0	44.38
MEAN	121.89	112.15	53.33	21.17	13.41	8.44	12.11	11.28	17.45	15.04	16.15	49.71	36.53

D1-3-1 GAUGE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. GIRIS C.A.291..0((5.0 KM KURUTUN TURKEY

HARSIT RIV IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1964-1965(1/2)

DATE	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1	182.00	74.44	238.00	130.19	139.00	29.42	114.00	10.05	100.00	8.70
2	173.00	72.51	235.00	127.30	141.00	31.07	112.00	9.56	100.00	8.70
3	187.00	73.77	220.00	119.97	147.00	36.38	111.00	5.16	100.00	8.70
4	181.00	77.65	[illegible]	118.13	139.00	26.57	[illegible]	8.73	[illegible]	8.70
5	[illegible]	72.27	[illegible]	112.51	131.00	23.26	[illegible]	8.70	[illegible]	8.70
6	[illegible]	77.36	297.00	115.27	[illegible]	22.18	[illegible]	8.73	[illegible]	8.70
7	[illegible]	91.50	[illegible]	124.51	124.00	19.04	[illegible]	6.70	100.00	8.70
8	[illegible]	101.65	130.00	92.41	121.00	17.43	[illegible]	9.70	100.00	8.70
9	[illegible]	212.60	131.00	76.00	122.00	16.35	[illegible]	6.70	100.00	8.73
10	[illegible]	1[illegible].67	179.00	74.40	126.00	[illegible]	[illegible]	6.70	101.00	9.11
11	[illegible]	130.95	177.00	71.00	[illegible]	16.35	[illegible]	8.70	115.00	14.76
12	[illegible]	[illegible]	[illegible]	72.31	[illegible]	15.74	[illegible]	8.73	[illegible]	11.65
13	173.00	[illegible]	[illegible]	63.31	[illegible]	14.64	[illegible]	8.70	103.00	9.53
14	[illegible]	135.65	157.00	57.82	130.00	12.96	[illegible]	8.73	100.00	8.70
15	[illegible]	127.85	165.00	55.31	[illegible]	12.36	[illegible]	8.70	100.00	8.70
16	[illegible]	149.72	[illegible]	57.72	[illegible]	[illegible]	[illegible]	8.70	100.00	8.70
17	211.00	156.24	161.00	55.15	[illegible]	12.40	[illegible]	8.70	[illegible]	8.73
18	[illegible]	123.00	155.00	44.74	[illegible]	12.34	[illegible]	8.70	100.00	8.70
19	[illegible]	116.53	[illegible]	50.00	[illegible]	[illegible]	[illegible]	8.70	100.00	8.70
20	219.00	156.42	176.00	[illegible]	133.00	12.19	[illegible]	8.70	[illegible]	8.70
21	237.00	260.03	153.00	44.63	105.00	19.50	100.00	8.73	100.00	8.73
22	225.00	172.65	157.00	46.15	106.00	15.75	100.00	8.70	100.00	8.73
23	264.00	132.69	150.00	36.33	106.00	13.67	100.00	8.70	100.00	8.70
24	211.00	136.62	147.00	36.15	107.00	11.16	100.00	8.70	100.00	8.70
25	207.00	127.32	148.00	36.00	106.00	10.78	100.00	8.70	100.00	8.73
26	[illegible]	128.27	147.00	35.62	104.00	10.20	100.00	8.70	100.00	8.70
27	199.00	116.62	145.00	34.59	102.00	9.25	100.00	8.70	100.00	8.73
28	192.00	95.58	139.00	23.00	101.00	9.36	100.00	8.75	100.00	8.70
29	191.00	94.51	136.00	26.78	102.00	8.70	[illegible]	8.75	100.00	8.70
30	195.00	112.01	131.00	24.21	101.00	8.70	100.00	8.73	100.00	8.70
31	196.00	107.64			100.00	8.67	100.00	8.72		
SUM		3561.94		2020.33		484.11		272.40		271.29
MEAN		114.97		67.34		15.62		8.75		9.04
MAX		208.63		130.19		36.38		10.05		14.76
MIN		72.26		23.21		8.70		8.70		8.70

D1-3-2 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. GIRIS C.A.2912.00 SQ KM KURUTUN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1964-1965(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1	101.00	8.92	102.00	9.41	108.00	11.69	120.00	17.12	110.00	12.15	110.00	12.50
2	108.00	11.69	104.00	9.99	112.00	13.36	119.00	16.69	106.00	10.63	115.00	14.56
3	110.00	12.22	104.00	9.99	117.00	16.69	113.00	13.50	107.00	11.12	120.00	17.26
4	107.00	11.29	103.00	9.53	120.00	17.26	112.00	13.14	[illegible]	11.55	[illegible]	18.80
5	114.00	[illegible]	106.00	10.60	125.00	19.66	110.00	12.50	110.00	12.40	152.00	40.59
6	112.00	13.25	104.00	10.11	127.00	20.74	112.00	13.14	[illegible]	13.50	[illegible]	60.52
7	[illegible]	12.36	[illegible]	10.11	124.00	19.37	112.00	13.25	112.00	13.25	197.00	105.27
8	106.00	11.62	[illegible]	[illegible]	124.00	[illegible]	113.00	13.49	[illegible]	13.14	202.00	116.53
9	[illegible]	11.55	104.00	10.05	120.00	17.21	115.00	14.45	[illegible]	12.56	182.00	76.57
10	108.00	[illegible]	102.00	9.41	[illegible]	[illegible]	115.00	14.56	[illegible]	11.69	195.00	107.17
11	106.00	10.35	102.00	9.30	120.00	17.14	115.00	14.52	[illegible]	12.59	176.00	73.11
12	106.00	10.73	102.00	9.30	120.00	16.82	114.00	14.14	[illegible]	[illegible]	161.00	51.73
13	106.00	10.78	[illegible]	[illegible]	115.00	16.64	114.00	[illegible]	[illegible]	12.36	[illegible]	38.54
14	106.00	10.72	[illegible]	9.36	112.00	[illegible]	115.00	[illegible]	110.00	12.75	[illegible]	30.37
15	104.00	10.15	102.00	9.76	110.00	12.41	[illegible]	[illegible]	[illegible]	11.62	134.00	27.03
16	102.00	9.41	102.00	9.50	110.00	[illegible]	[illegible]	[illegible]	[illegible]	11.62	[illegible]	29.91
17	[illegible]	9.26	102.00	9.36	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12.29	[illegible]	31.67
18	102.00	9.16	[illegible]	9.29	115.00	[illegible]	112.00	13.14	[illegible]	12.76	130.00	26.27
19	102.00	9.36	103.00	9.67	114.00	[illegible]	112.00	[illegible]	[illegible]	[illegible]	124.00	21.72
20	[illegible]	9.36	103.00	9.70	112.00	9.51	115.00	14.45	[illegible]	10.78	[illegible]	30.37
21	[illegible]	9.36	[illegible]	9.67	[illegible]	9.26	115.00	[illegible]	[illegible]	10.47	[illegible]	47.15
22	[illegible]	[illegible]	[illegible]	9.39	[illegible]	9.93	110.00	15.35	[illegible]	[illegible]	[illegible]	54.34
23	[illegible]	9.36	[illegible]	9.39	[illegible]	17.21	117.00	15.61	[illegible]	13.72	[illegible]	54.32
24	[illegible]	[illegible]	[illegible]	7.67	122.00	14.31	[illegible]	14.52	[illegible]	[illegible]	[illegible]	59.36
25	[illegible]	9.36	[illegible]	7.15	[illegible]	[illegible]	[illegible]	14.45	[illegible]	[illegible]	[illegible]	[illegible]
26	[illegible]	9.35	[illegible]	11.46	119.00	16.63	[illegible]	[illegible]	[illegible]	[illegible]	172.00	64.57
27	[illegible]	9.36	[illegible]	12.29	111.00	12.78	113.00	13.61	[illegible]	12.16	165.00	66.30
28	[illegible]	9.25	110.00	12.29	112.00	13.14	113.00	13.54	109.00	[illegible]	169.00	60.50
29	[illegible]	9.36	[illegible]	11.62	113.00	13.54	[illegible]	12.47			[illegible]	61.65
30	[illegible]	9.36	[illegible]	11.55	121.00	17.65	[illegible]	12.36			176.00	72.26
31	[illegible]	[illegible]			122.00	[illegible]	[illegible]	12.36			[illegible]	75.69
SUM		[illegible]		301.32		464.03		426.57		336.64		[illegible]
MEAN		[illegible]		[illegible]		[illegible]		13.77		[illegible]		52.03
MAX		[illegible]		12.29		20.74		[illegible]		[illegible]		116.53
MIN		[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		12.50

TOTAL = [illegible]68.53 MEAN = [illegible] MAX = [illegible] MIN = [illegible]

D1-3-3 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. GIRIS C.A. 2912.00 SQ KM KURUTUN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1964-1965(2/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1	172.00	63.77	205.00	122.30	170.00	61.52	146.00	34.66	116.00	14.96	103.00	9.70
2	167.00	57.03	192.00	95.73	171.00	61.52	141.00	30.47	114.00	14.10	103.00	9.73
3	164.00	53.53	181.00	76.17	169.00	60.20	140.00	29.91	113.00	13.50	104.00	10.06
4	154.00	42.03	173.00	72.76	167.00	57.61	136.00	25.71	117.00	15.72	106.00	10.72
5	143.00	37.34	193.00	108.25	166.00	55.95	133.00	22.35	117.00	15.64	106.00	10.66
6	143.00	37.73	214.00	134.06	162.00	51.73	130.00	22.98	119.00	16.52	107.00	9.47
7	147.00	[illegible]	[illegible]	134.07	153.00	5[illegible].53	130.00	22.86	121.00	17.43	102.00	9.44
8	149.00	37.16	233.00	117.86	152.00	59.92	139.00	22.75	120.00	16.59	105.00	10.32
9	152.00	4[illegible].01	195.00	101.85	154.00	43.63	132.00	23.98	118.00	16.01	104.00	10.08
10	166.00	50.77	194.00	100.73	153.00	38.62	130.00	22.67	116.00	15.04	95.00	7.18
11	194.00	[illegible]	193.00	97.59	146.00	35.43	125.00	19.51	114.00	14.10	94.00	6.93
12	197.00	105.44	176.00	70.26	146.00	35.43	124.00	19.29	117.00	13.28	93.00	6.72
13	184.00	99.43	171.00	63.20	150.00	38.94	123.00	18.80	112.00	13.14	86.00	4.74
14	193.00	77.75	179.00	74.66	158.00	47.34	116.00	14.86	110.00	12.43	85.00	4.78
15	194.00	93.31	183.00	80.04	174.00	66.44	113.00	13.43	110.00	12.33	85.00	4.78
16	193.00	97.75	131.00	77.91	153.00	42.14	115.00	14.45	109.00	11.59	86.00	4.92
17	214.00	147.63	172.00	63.54	168.00	58.25	115.00	14.45	109.00	11.52	92.00	6.48
18	235.00	207.47	179.00	73.64	177.00	74.43	113.00	13.61	108.00	11.52	93.00	6.72
19	225.00	174.07	172.00	63.77	177.00	70.64	110.00	12.47	106.00	10.65	96.00	7.41
20	211.00	136.03	179.00	61.57	149.00	46.23	110.00	12.40	106.00	10.72	96.00	7.48
21	193.00	119.43	171.00	62.41	169.00	59.03	111.00	12.58	104.00	10.11	96.00	7.51
22	195.00	107.75	173.00	73.39	168.00	58.69	110.00	12.16	104.00	10.02	97.00	7.75
23	212.00	139.63	193.00	75.30	166.00	56.77	112.00	13.39	103.00	9.73	97.00	7.78
24	225.00	171.71	176.00	70.26	171.00	63.32	110.00	12.47	103.00	9.76	97.00	7.65
25	238.00	211.12	171.00	62.41	196.00	103.63	110.00	12.47	105.00	10.35	92.00	6.51
26	241.00	222.14	170.00	41.57	191.00	76.93	113.00	13.47	105.00	10.41	91.00	6.25
27	244.00	234.27	170.00	61.74	168.00	58.89	111.00	12.82	105.00	10.32	86.00	4.90
28	247.00	244.45	172.00	63.77	156.00	45.17	111.00	12.57	102.00	9.44	85.00	4.78
29	214.00	149.15	170.00	61.74	149.00	37.37	115.00	14.49	102.00	9.39	85.00	4.90
30	214.00	142.69	170.00	61.52	146.00	35.25	116.00	15.81	103.00	9.67	86.00	4.97
31			170.00	61.52			116.00	15.12	103.00	9.70		
SUM		3450.49		2482.53		1655.95		559.68		387.05		221.44
MEAN		115.02		80.08		55.20		18.05		12.49		7.38
MAX		244.45		134.06		103.63		34.66		17.43		10.72
MIN		36.15		61.52		35.25		12.16		9.39		4.78

D1-3-4 DAILY WEIGHTED AND DISCHARGE(Q)

NAME OF G.S. GIRIS C.A.2912.000 SQ KM KURUTUN TURKEY

HAPSIT RIVER IN THE HAPSIT OF HAPSIT UNIT H(M),DEC(M.S) FOR THE WATER YEAR OF 1965-1966(2/2)

	OCT		NOV		DEC		JAN		FEB		MAR	
DATE	H	Q	H	Q	H	Q	H	Q	H	Q	H	Q
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31												
SUM				574.511		522.151		720.321		649.321		2091.341
MEAN				19.151		16.841		24.011		23.191		67.461
MAX				41.891		40.331		47.151		26.811		230.761
MIN				11.651		12.561		13.511		15.121		24.611

TOTAL = 13301.19 MEAN = 36.13 MAX = 244.45 MIN = 4.78

D1-3-5 DAILY WEIGHTED AND DISCHARGE(Q)

NAME OF G.S. GIRIS C.A.2912.000 SQ KM KURUTUN TURKEY

HAPSIT RIVER IN THE HAPSIT OF HAPSIT UNIT H(M),DEC(M.S) FOR THE WATER YEAR OF 1966-1967(1/2)

	APR		MAY		JUN		JUL		AUG		SEP	
DATE	H	Q	H	Q	H	Q	H	Q	H	Q	H	Q
1												
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SUM												
MEAN												
MAX												
MIN												

D1-3-6 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. GIRIS C.A.2912.000 S.Q KM KURUTLN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1966-1967(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1	105.00	10.57	90.00	5.90	90.00	5.96	98.00	8.08	110.00	12.36	130.00	22.61
2	108.00	11.52	90.00	5.84	97.00	7.87	98.00	8.08	110.00	12.36	130.00	22.99
3	92.00	6.31	87.00	5.26	98.00	8.00	97.00	7.87	110.00	12.36	132.00	24.27
4	90.00	6.00	87.00	5.26	95.00	7.27	91.00	6.06	110.00	12.36	134.00	25.82
5	95.00	7.09	90.90	5.84	95.00	7.20	90.00	5.90	110.00	12.36	130.00	23.16
6	94.00	7.02	90.00	5.90	95.00	7.20	90.00	5.90	110.00	12.36	130.00	22.78
7	88.00	5.36	90.00	5.90	95.00	7.20	90.00	5.90	110.00	12.19	128.00	21.72
8	87.00	5.21	90.00	5.90	95.00	7.09	90.00	6.00	105.00	10.57	128.00	21.72
9	87.00	5.21	90.00	5.90	90.00	6.00	95.00	7.09	105.00	10.51	130.00	22.78
10	87.00	5.21	90.00	5.80	90.00	5.90	95.00	7.20	110.00	12.54	130.00	23.16
11	87.00	5.21	85.00	4.87	90.00	5.90	96.00	7.37	119.00	16.69	135.00	26.30
12	87.00	5.21	85.00	4.83	91.00	6.14	101.00	9.16	120.00	16.95	140.00	29.74
13	87.00	5.21	84.00	5.41	101.00	9.02	102.00	9.44	118.00	15.97	140.00	30.40
14	87.00	5.21	90.00	5.86	102.00	9.25	105.00	10.47	115.00	14.68	144.00	33.51
15	97.00	5.17	90.00	5.90	98.00	8.18	110.00	12.54	115.00	14.37	140.00	30.34
16	85.00	4.81	92.00	6.35	98.00	8.13	119.00	16.39	111.00	12.71	139.00	28.77
17	85.00	4.78	105.00	10.41	102.00	9.25	115.00	14.56	115.00	14.52	130.00	23.10
18	85.00	4.78	91.00	6.19	102.00	9.39	110.00	12.54	118.00	16.22	126.00	20.29
19	95.00	4.78	90.00	5.90	103.00	9.67	110.00	12.36	116.00	15.08	130.00	22.61
20	95.00	4.78	90.00	5.90	103.00	9.70	110.00	12.36	115.00	14.41	130.00	23.05
21	95.00	4.78	90.00	5.90	103.00	9.67	110.00	12.36	119.00	16.69	133.00	24.55
22	85.00	4.78	90.00	5.90	102.00	9.77	110.00	12.36	118.00	16.22	130.00	23.05
23	85.00	4.78	90.00	5.90	98.00	8.18	110.00	12.36	120.00	17.04	130.00	23.16
24	95.00	4.97	90.00	5.80	98.00	8.08	110.00	12.36	113.00	13.58	135.00	26.30
25	94.00	4.87	95.00	4.87	98.00	8.08	111.00	12.36	114.00	13.88	140.00	30.40
26	94.00	4.90	85.00	4.78	98.00	8.18	110.00	12.36	120.00	16.65	140.00	30.21
27	94.00	5.90	85.00	4.78	102.00	9.25	110.00	12.36	125.00	19.56	141.00	30.74
28	94.00	5.93	85.00	4.78	102.00	9.36	110.00	12.36	125.00	20.05	135.00	26.60
29	94.00	5.90	85.00	4.78	102.00	9.25	110.00	12.36	I	I	133.00	24.83
30	94.00	5.90	85.00	4.87	98.00	8.13	110.00	12.36	I	I	140.00	30.21
31	94.00	5.90	I	I	98.00	8.08	110.00	12.36	I	I	150.00	36.78
SUM		179.85		171.48		249.95		321.73		415.54		807.95
MEAN		5.83		5.72		8.06		10.36		14.48		26.06
MAX		11.52		10.41		9.70		16.39		20.05		36.78
MIN		4.78		4.78		5.93		5.90		10.51		20.29

TOTAL = 1797.64 MEAN = 23.93 MAX = 279.23 MIN = 4.78

D1-3-7 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. GIRIS C.A.2912.000 S.Q KM KURUTLN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1967-1968(1/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1	105.00	10.57	90.00	5.90	90.00	5.96	98.00	8.08	110.00	12.36	130.00	22.61
2	108.00	11.52	90.00	5.84	97.00	7.87	98.00	8.08	110.00	12.36	130.00	22.99
3	92.00	6.31	87.00	5.26	98.00	8.00	97.00	7.87	110.00	12.36	132.00	24.27
4	90.00	6.00	87.00	5.26	95.00	7.27	91.00	6.06	110.00	12.36	134.00	25.82
5	95.00	7.09	90.90	5.84	95.00	7.20	90.00	5.90	110.00	12.36	130.00	23.16
6	94.00	7.02	90.00	5.90	95.00	7.20	90.00	5.90	110.00	12.36	130.00	22.78
7	88.00	5.36	90.00	5.90	95.00	7.20	90.00	5.90	110.00	12.19	128.00	21.72
8	87.00	5.21	90.00	5.90	95.00	7.09	90.00	6.00	105.00	10.57	128.00	21.72
9	87.00	5.21	90.00	5.90	90.00	6.00	95.00	7.09	105.00	10.51	130.00	22.78
10	87.00	5.21	90.00	5.80	90.00	5.90	95.00	7.20	110.00	12.54	130.00	23.16
11	87.00	5.21	85.00	4.87	90.00	5.90	96.00	7.37	119.00	16.69	135.00	26.30
12	87.00	5.21	85.00	4.83	91.00	6.14	101.00	9.16	120.00	16.95	140.00	29.74
13	87.00	5.21	84.00	5.41	101.00	9.02	102.00	9.44	118.00	15.97	140.00	30.40
14	87.00	5.21	90.00	5.86	102.00	9.25	105.00	10.47	115.00	14.68	144.00	33.51
15	97.00	5.17	90.00	5.90	98.00	8.18	110.00	12.54	115.00	14.37	140.00	30.34
16	85.00	4.81	92.00	6.35	98.00	8.13	119.00	16.39	111.00	12.71	139.00	28.77
17	85.00	4.78	105.00	10.41	102.00	9.25	115.00	14.56	115.00	14.52	130.00	23.10
18	85.00	4.78	91.00	6.19	102.00	9.39	110.00	12.54	118.00	16.22	126.00	20.29
19	95.00	4.78	90.00	5.90	103.00	9.67	110.00	12.36	116.00	15.08	130.00	22.61
20	95.00	4.78	90.00	5.90	103.00	9.70	110.00	12.36	115.00	14.41	130.00	23.05
21	95.00	4.78	90.00	5.90	103.00	9.67	110.00	12.36	119.00	16.69	133.00	24.55
22	85.00	4.78	90.00	5.90	102.00	9.77	110.00	12.36	118.00	16.22	130.00	23.05
23	85.00	4.78	90.00	5.90	98.00	8.18	110.00	12.36	120.00	17.04	130.00	23.16
24	95.00	4.97	90.00	5.80	98.00	8.08	110.00	12.36	113.00	13.58	135.00	26.30
25	94.00	4.87	95.00	4.87	98.00	8.08	111.00	12.36	114.00	13.88	140.00	30.40
26	94.00	4.90	85.00	4.78	98.00	8.18	110.00	12.36	120.00	16.65	140.00	30.21
27	94.00	5.90	85.00	4.78	102.00	9.25	110.00	12.36	125.00	19.56	141.00	30.74
28	94.00	5.93	85.00	4.78	102.00	9.36	110.00	12.36	125.00	20.05	135.00	26.60
29	94.00	5.90	85.00	4.78	102.00	9.25	110.00	12.36	I	I	133.00	24.83
30	94.00	5.90	85.00	4.87	98.00	8.13	110.00	12.36	I	I	140.00	30.21
31	94.00	5.90	I	I	98.00	8.08	110.00	12.36	I	I	150.00	36.78
SUM		179.85		171.48		249.95		321.73		415.54		807.95
MEAN		5.83		5.72		8.06		10.36		14.48		26.06
MAX		11.52		10.41		9.70		16.39		20.05		36.78
MIN		4.78		4.78		5.93		5.90		10.51		20.29

D1-3-8 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. GIRIS C.A.2912.000 S.Q KM KURUTUN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1967-1968(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1	95.00	7.15	92.00	6.40	135.00	26.30	130.00	22.83	110.00	12.36	155.00	43.51
2	94.00	6.84	92.00	6.46	157.00	45.97	128.00	21.61	110.00	12.36	157.00	45.35
3	94.00	6.93	95.30	7.11	153.00	41.38	126.00	20.24	110.00	12.36	158.00	47.06
4	93.00	6.77	94.00	6.95	151.00	39.26	125.00	19.90	110.00	12.36	160.00	48.73
5	92.00	6.42	94.00	6.93	148.00	36.91	129.00	21.98	110.00	12.32	158.00	46.51
6	92.00	6.40	94.00	6.93	146.00	35.10	137.00	27.63	109.00	11.59	156.00	44.64
7	93.00	6.59	94.00	6.93	145.00	34.08	136.00	26.78	109.00	11.95	152.00	40.72
8	96.00	7.37	94.00	7.02	143.00	32.38	135.00	26.18	109.00	11.99	148.00	36.68
9	95.00	7.22	98.00	7.97	139.00	29.16	133.00	24.83	110.00	12.40	146.00	35.47
10	112.00	13.39	98.00	8.08	137.00	27.77	130.00	23.05	112.00	13.25	145.00	34.44
11	181.00	77.25	98.00	8.08	135.00	26.54	130.00	22.78	115.00	14.45	147.00	36.07
12	162.00	51.11	98.00	8.08	136.00	26.90	128.00	21.61	115.00	14.60	162.00	51.90
13	141.00	31.07	98.00	8.08	163.00	52.39	126.00	20.49	116.00	15.24	225.00	172.88
14	134.00	25.71	98.00	8.00	170.00	60.96	126.00	20.34	117.00	15.60	190.00	91.95
15	121.00	17.70	95.00	7.27	172.00	64.34	125.00	19.75	119.00	16.48	179.00	74.02
16	120.00	17.04	95.00	7.20	171.00	63.03	123.00	18.75	120.00	17.08	170.00	61.85
17	120.00	16.82	96.00	7.56	168.00	59.32	123.00	18.52	123.00	18.38	164.00	54.09
18	115.00	14.76	111.00	12.71	168.00	58.57	120.00	17.17	125.00	19.95	165.00	55.42
19	115.00	14.37	110.00	12.47	166.00	56.87	120.00	17.04	133.00	24.55	158.00	46.42
20	110.00	12.54	108.00	11.62	159.00	47.70	120.00	16.95	137.00	27.70	154.00	42.31
21	110.00	12.29	109.00	11.79	157.00	45.44	118.00	16.10	132.00	23.98	151.00	40.15
22	107.00	11.20	115.00	14.49	152.00	40.81	118.00	16.01	130.00	22.88	153.00	41.80
23	96.00	7.51	119.00	16.65	148.00	37.06	118.00	15.89	130.00	22.95	151.00	39.91
24	95.00	7.20	117.00	15.48	145.00	34.52	115.00	14.68	133.00	25.12	150.00	38.78
25	95.00	7.20	117.00	15.68	136.00	26.96	115.00	14.52	125.00	26.48	158.00	47.43
26	95.00	7.13	117.00	15.56	135.00	26.12	114.00	14.10	140.00	29.74	163.00	53.08
27	92.00	6.46	119.00	16.31	132.00	24.38	113.00	13.69	150.00	39.18	163.00	53.08
28	92.00	6.40	117.00	15.56	132.00	24.21	113.00	13.54	150.00	39.02	160.00	49.58
29	92.00	6.40	126.00	20.10	132.00	24.15	110.00	12.47	151.00	39.58	164.00	53.58
30	92.00	6.40	130.00	22.61	131.00	23.54	110.00	12.36			171.00	62.64
31	92.00	6.40			131.00	23.48	110.00	12.36			175.00	68.70
SUM		438.04		326.08		1195.66		584.35		576.25		1658.75
MEAN		14.13		10.87		38.57		18.85		19.67		53.51
MAX		77.25		22.61		64.34		27.83		39.58		172.88
MIN		6.40		6.40		23.48		12.36		11.95		34.44

TOTAL = 14811.10 MEAN = 40.47 MAX = 225.85 MIN = 6.27

D1-3-9 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. GIRIS C.A.2912.000 S.Q KM KURUTUN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1968-1969(1/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1	181.00	79.41	204.00	156.37	188.00	102.11	151.00	31.06	120.00	9.16	120.00	9.75
2	194.00	103.00	207.00	166.87	184.00	90.19	150.00	29.88	119.00	8.50	120.00	9.22
3	203.00	113.00	204.00	157.74	183.00	80.80	144.00	24.55	118.00	8.43	120.00	9.22
4	201.00	113.00	200.00	145.44	179.00	75.57	140.00	21.19	118.00	8.43	120.00	9.16
5	203.00	120.00	209.00	178.69	176.00	71.67	140.00	20.99	119.00	8.50	119.00	8.50
6	223.00	76.00	196.00	147.06	148.00	55.81	140.00	20.99	121.00	9.50	118.00	8.36
7	223.00	74.00	211.00	145.13	143.00	46.44	142.00	22.65	129.00	13.57	115.00	7.44
8	237.00	91.00	220.00	174.60	143.00	42.79	140.00	20.52	128.00	13.13	115.00	7.49
9	236.00	90.00	196.00	132.52	140.00	42.79	140.00	20.52	129.00	12.88	121.00	9.15
10	231.00	92.00	211.00	152.52	140.00	42.79	140.00	20.52	125.00	11.29	121.00	9.57
11	243.00	105.00	210.00	182.52	140.00	42.79	138.00	20.20	120.00	9.40	120.00	14.14
12	243.00	99.00	210.00	182.52	140.00	42.79	138.00	19.93	120.00	9.16	118.00	15.69
13	262.00	120.00	210.00	180.00	140.00	42.79	135.00	17.95	120.00	8.88	121.00	14.53
14	273.00	155.00	204.00	161.00	140.00	42.56	132.00	15.96	119.00	8.67	120.00	12.97
15	278.00	93.00	194.00	139.14	138.00	41.13	130.00	14.10	120.00	8.16	120.00	11.49
16	261.00	91.00	190.00	107.62	137.00	39.71	130.00	14.14	120.00	9.22	120.00	9.33
17	244.00	75.00	195.00	122.37	140.00	42.44	130.00	14.14	121.00	9.22	116.00	8.47
18	232.00	67.00	176.00	93.70	140.00	44.93	130.00	14.14	121.00	9.22	117.00	8.03
19	262.00	99.00	190.00	117.62	140.00	42.82	131.00	14.14	121.00	9.16	119.00	8.91
20	247.00	85.00	175.00	124.12	134.00	36.41	130.00	14.14	120.00	8.59	119.00	7.94
21	250.00	86.00	201.00	149.85	134.00	37.69	130.00	14.14	119.00	8.43	119.00	7.77
22	254.00	86.00	198.00	138.27	132.00	34.95	130.00	14.14	119.00	8.43	119.00	8.47
23	247.00	84.00	181.00	152.00	132.00	32.26	130.00	12.90	119.00	8.43	119.00	8.36
24	231.00	70.00	169.00	96.62	130.00	33.51	125.00	11.67	119.00	8.27	119.00	8.33
25	224.00	179.00	196.00	99.72	130.00	30.33	125.00	11.47	119.00	8.76	119.00	8.35
26	219.00	166.00	196.00	96.62	130.00	33.33	125.00	11.27	119.00	8.64	119.00	8.10
27	202.00	121.00	187.00	97.19	130.00	31.91	120.00	9.40	119.00	8.21	119.00	8.01
28	231.00	118.00	184.00	99.11	130.00	34.13	120.00	9.32	119.00	8.36	119.00	8.01
29	235.00	126.00	196.00	96.85	130.00	33.43	120.00	9.27	119.00	8.59	119.00	8.01
30	236.00	129.00	192.00	112.00	153.00	41.33	120.00	9.27	119.00	9.22	119.00	8.01
31			189.00	108.91			120.00	9.27	127.00	12.44		
SUM		6603.41		4232.30		1419.43		512.17		283.48		261.64
MEAN		220.11		136.52		47.28		16.52		9.14		8.72
MAX		278.00		182.52		102.11		31.06		13.57		15.69
MIN		79.41		82.01		33.33		9.27		5.85		5.80

D1-3-10 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S.: GIRIS DRA.2912.000 S.Q KM KURUTUN-TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1968-1969(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1	110.00	5.80	135.00	17.29	120.00	9.22	121.00	9.64	121.00	9.68		
2	110.00	5.80	130.00	14.38	120.00	9.16	120.00	9.22	118.00	8.59		
3	110.00	5.80	130.00	14.04	118.00	8.40	120.00	9.22	119.00	8.85		
4	110.00	5.87	128.00	12.75	115.00	7.35	120.00	9.19	121.00	9.61		
5	114.00	7.02	121.00	9.50	112.00	6.51	119.00	8.82	122.00	10.22		
6	118.00	8.31	120.00	9.09	114.00	6.96	118.00	8.43	123.00	10.41		
7	117.00	8.18	117.00	7.94	114.00	7.02	117.00	8.06	125.00	11.39		
8	137.00	18.46	120.00	9.22	114.00	7.02	116.00	7.70	126.00	11.80		
9	146.00	26.34	125.00	11.31	114.00	7.02	115.00	7.38	128.00	12.84		
10	133.00	15.69	126.00	11.72	115.00	7.21	115.00	7.35	126.00	12.05		
11	130.00	14.04	121.00	9.43	117.00	7.97	115.00	7.35	126.00	11.92		
12	128.00	12.97	120.00	9.22	116.00	7.82	115.00	7.38	125.00	11.43		
13	125.00	11.47	120.00	9.22	118.00	8.43	116.00	7.67	122.00	10.22		
14	122.00	10.00	120.00	9.26	120.00	9.16	116.00	7.61	120.00	9.02		
15	122.00	9.97	121.00	9.64	120.00	9.22	113.00	6.77	123.00	10.33		
16	120.00	9.29	122.00	9.97	120.00	9.22	113.00	6.67	126.00	11.80		
17	120.00	9.22	120.00	9.29	120.00	9.19	112.00	6.38	126.00	12.05		
18	122.00	10.11	120.00	9.22	119.00	8.65	111.00	6.16	132.00	15.34		
19	120.00	9.43	121.00	9.22	119.00	8.79	113.00	6.69	128.00	13.02		
20	120.00	9.33	120.00	9.22	118.00	8.47	115.00	7.41	128.00	12.75		
21	123.00	10.52	120.00	9.22	118.00	8.43	119.00	8.65	124.00	11.19		
22	126.00	11.80	120.00	9.22	118.00	8.43	119.00	8.85	120.00	9.40		
23	125.00	11.47	120.00	9.22	118.00	8.43	120.00	9.19	120.00	9.22		
24	125.00	11.27	120.00	9.22	118.00	8.54	120.00	9.16	120.00	9.29		
25	125.00	11.67	120.00	9.22	122.00	10.04	118.00	8.56	122.00	10.00		
26	129.00	13.80	121.00	9.78	125.00	11.39	120.00	9.10	122.00	10.07		
27	127.00	12.44	134.00	16.73	126.00	11.84	120.00	9.22	124.00	10.75		
28	123.00	10.52	130.00	14.19	124.00	11.07	120.00	9.22	139.00	19.82		
29	121.00	9.68	124.00	11.15	124.00	10.85	120.00	9.22				
30	131.00	14.63	121.00	9.68	123.00	10.52	120.00	9.22				
31	139.00	20.14			122.00	10.11	120.00	9.26				
SUM		350.97		319.56		272.76		254.85		313.10		
MEAN		11.32		10.62		8.80		8.22		11.18		
MAX		26.34		17.29		11.84		9.64		19.82		
MIN		5.80		7.94		6.51		6.16		8.59		

TOTAL = 1489.79 MEAN = 44.39 MAX = 470.00 MIN = 5.80

D1-4 MONTHLY AVERAGE DISCHRGE AT HARSIT ON HARSIT RIVER IN THE VASIN OF HARSIT

WATER YEAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	AVERAGE
1956-1957	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.30	31.12	45.70	37.10
1957-1958	93.12	70.88	47.99	20.22	9.94	8.72	9.89	11.26	13.11	12.73	19.09	36.08	29.39
1958-1959	85.89	52.38	41.24	26.68	10.58	9.53	2.33	2.09	1.03	1.36	1.20	1.88	27.33
MEAN	89.51	61.63	44.61	23.45	10.26	9.13	6.11	6.68	7.07	10.46	17.14	27.89	31.27

MONTHLY AVERAGE DISCHRGE AT HARSIT ON HARSIT RIVER IN THE VASIN OF HARSIT

WATER YEAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	AVERAGE
1960-1961	0.0	0.0	0.0	0.0	0.0	0.0	6.48	6.54	7.27	6.19	9.45	23.95	10.01
1961-1962	83.14	56.32	31.74	9.16	4.08	5.80	4.81	11.60	24.58	15.84	20.38	63.36	27.57
1962-1963	74.91	89.11	37.15	11.89	6.18	6.45	11.01	11.82	13.23	21.94	27.51	34.71	28.80
1963-1964	100.88	101.35	91.06	34.05	12.55	11.60	1.66	1.87	1.23	0.61	1.12	4.45	39.25
MEAN	86.31	82.26	53.32	18.37	7.61	7.95	5.99	7.96	11.58	11.15	14.61	31.63	26.40

D1-4-1 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A. 2966. BCO S.Q KM KURUTUN TURKEY

HAPSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1960-1961/2/3

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1												
11		5.64		5.64		9.48		6.36		6.00		7.16
21		5.64		5.64		9.16		6.54		6.00		7.16
31		5.64		5.64		8.20		7.68		6.18		7.16
41		5.64		5.64		8.20		6.90		7.68		7.94
51		6.00		5.64		7.94		6.36		8.52		7.16
61		6.00		5.64		7.68		6.00		14.90		7.16
71		6.00		5.64		7.68		6.00		18.50		7.16
81		6.00		5.64		7.68		6.00		14.90		6.90
91		6.00		5.64		7.68		5.64		12.30		7.42
101		6.00		5.64		7.68		5.64		11.80		7.16
111		6.00		5.64		7.68		5.64		11.40		7.16
121		5.82		5.64		8.20		5.64		11.00		7.94
131		5.82		5.64		8.20		5.64		11.60		19.30
141		5.64		5.64		8.20		5.64		11.00		20.80
151		5.64		5.64		8.20		5.64		10.60		23.10
161		5.64		5.64		8.20		5.64		10.20		17.80
171		5.64		5.64		7.68		5.44		8.52		16.50
181		5.64		5.82		7.68		6.00		8.52		22.30
191		6.00		8.52		6.90		6.00		7.68		25.40
201		10.20		8.84		6.90		6.00		7.16		36.40
211		13.40		7.68		6.36		6.00		6.90		35.80
221		9.80		7.68		6.18		6.00		7.68		40.70
231		8.84		7.68		6.00		6.00		7.94		4.93
241		7.42		7.68		6.00		6.18		8.20		69.00
251		6.54		7.68		5.64		6.90		8.20		54.40
261		6.00		7.68		5.64		7.16		8.20		44.40
271		5.64		7.68		5.62		7.68		6.90		33.00
281		5.64		7.68		6.36		7.16		6.72		33.00
291		5.64		7.68		6.00		6.36				32.20
301		5.64		7.94		6.00		6.00				57.70
311		5.64				6.00		6.00				64.30
SUM		200.80		196.12		225.22		192.04		264.60		742.51
MEAN		6.48		6.54		7.27		6.19		9.45		23.95
MAX		13.40		8.84		9.48		7.68		18.50		69.00
MIN		5.64		5.64		5.64		5.64		6.00		4.93

TOTAL = 1811.29 MEAN = 10.01 MAX = 69.00 MIN = 4.93

D1-4-2 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A.2966.800 S.Q KM KURUTUN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1961-1962(1/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1		54.40		72.50		33.00		18.50		4.96		4.40
2		46.40		73.70		31.30		17.00		4.54		4.40
3		42.50		73.70		31.30		17.00		4.40		4.40
4		46.40		73.70		32.20		17.00		4.40		4.40
5		57.70		75.10		40.70		14.40		4.40		4.26
6		59.80		92.00		45.40		13.90		4.40		3.94
7		64.30		99.10		36.40		11.80		4.26		3.84
8		73.70		99.10		32.70		10.60		4.12		3.84
9		73.70		97.70		23.80		9.48		4.12		3.84
10		73.70		86.30		31.20		9.16		4.12		3.84
11		72.50		71.40		30.50		11.00		4.12		4.96
12		83.10		63.20		33.90		11.80		4.12		7.68
13		144.00		59.80		30.50		9.80		4.12		5.64
14		99.10		59.80		29.60		9.80		4.12		4.40
15		83.50		59.80		26.30		8.52		4.12		4.40
16		73.20		55.50		25.40		7.42		3.98		4.40
17		58.80		49.30		23.80		6.54		3.98		4.40
18		66.70		41.50		28.00		6.27		3.84		4.82
19		77.30		41.50		34.70		6.16		3.84		5.10
20		96.30		41.50		39.00		6.18		4.12		5.46
21		112.00		41.50		34.70		6.00		3.62		5.64
22		116.00		39.80		30.50		6.00		3.62		5.64
23		110.00		36.40		24.60		6.00		3.62		6.00
24		110.00		30.50		33.00		6.00		3.62		11.00
25		110.00		28.00		42.50		5.64		3.62		17.00
26		110.00		28.00		44.40		5.64		3.84		11.00
27		113.00		29.60		31.20		5.64		4.12		7.16
28		131.00		31.30		23.80		5.46		4.12		6.36
29		84.90		31.30		21.63		5.28		4.12		6.00
30		75.10		31.30		21.60		4.96		4.12		5.82
31				33.00				4.96		4.12		
SUM		2474.10		1745.90		952.31		284.02		126.62		174.04
MEAN		83.14		56.32		31.74		9.16		4.08		5.80
MAX		144.00		99.10		45.40		18.50		4.96		17.00
MIN		42.50		28.00		21.63		4.96		3.62		3.84

D1-4-3 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A.2966.800 S.Q KM KURUTUN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1961-1962(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1		4.54		4.68		75.10		16.50		11.00		22.30
2		3.98		8.20		79.30		14.90		11.80		25.90
3		3.84		10.60		79.20		15.40		12.80		35.50
4		3.84		7.16		50.70		25.40		14.50		44.40
5		4.12		6.10		39.10		29.30		28.80		57.70
6		4.40		6.00		27.10		18.40		24.30		72.50
7		4.40		5.32		[illegible]		[illegible]		23.10		79.30
8		4.40		5.64		17.60		[illegible]		[illegible]		84.30
9		4.40		5.40		16.50		[illegible]		19.20		[illegible]
10		4.40		5.29		[illegible]		[illegible]		[illegible]		72.53
11		[illegible]		5.26		15.40		[illegible]		14.92		51.20
12		[illegible]		5.13		15.40		32.30		15.40		41.50
13		4.40		5.26		[illegible]		14.60		[illegible]		[illegible]
14		5.24		[illegible]		15.40		[illegible]		[illegible]		37.30
15		[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		[illegible]
16		[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		66.70
17		[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		[illegible]
18		[illegible]		[illegible]		19.30		[illegible]		35.40		[illegible]
19		5.62		6.54		17.80		23.10		22.30		77.90
20		5.54		19.20		16.00		21.60		22.20		70.20
21		5.64		27.10		15.40		19.30		21.60		54.40
22		5.64		21.60		18.50		16.50		19.30		45.30
23		5.64		16.50		17.80		12.90		20.00		58.80
24		4.65		16.50		15.40		11.00		20.00		54.30
25		4.40		15.40		14.40		12.30		24.60		108.00
26		4.40		16.50		16.00		11.40		30.50		90.60
27		4.40		17.00		17.80		11.00		26.80		63.50
28		4.40		19.50		19.30		11.00		24.60		72.50
29		4.40		23.10		18.50		10.60				60.90
30		4.40		52.30		17.60		9.00				56.60
31		4.40				17.00		9.80				51.20
SUM		149.02		347.96		762.10		491.10		570.60		1565.10
MEAN		4.31		11.60		24.58		15.84		20.38		63.39
MAX		6.18		52.30		79.30		33.00		30.50		108.00
MIN		3.84		4.68		14.40		9.50		11.00		22.30

TOTAL = 10062.82 MEAN = 27.57 MAX = 144.00 MIN = 3.62

D1-4-4 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A.2966.8CO S.Q KM KURUTUN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1962-1963(1/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1		51.20		48.30		59.60		19.40		7.60		5.02
2		73.70		54.40		58.80		18.40		7.38		5.38
3		116.00		70.20		57.70		17.90		7.84		5.44
4		97.70		102.00		55.50		17.30		7.16		5.32
5		84.90		175.00		50.70		17.80		6.72		5.14
6		73.70		149.00		48.30		15.20		6.36		5.08
7		84.90		122.00		49.30		14.70		6.22		5.38
8		105.00		112.00		44.40		17.80		5.80		5.02
9		131.00		123.00		40.70		16.20		5.68		4.90
10		129.00		107.00		37.30		15.80		5.56		4.90
11		107.00		96.30		33.60		14.20		5.56		6.94
12		84.90		107.00		43.40		12.70		4.54		28.60
13		75.10		99.10		43.40		11.50		5.80		11.70
14		75.10		97.70		51.20		10.60		5.68		6.94
15		75.10		93.40		42.50		10.40		5.80		6.22
16		77.90		92.00		37.30		10.10		5.80		7.60
17		71.40		99.10		32.30		10.10		5.94		6.36
18		69.00		94.90		29.40		9.44		5.94		5.94
19		64.30		82.10		28.60		9.56		6.22		5.44
20		60.90		71.40		27.90		6.56		6.22		5.32
21		58.80		67.90		26.40		8.32		6.22		5.20
22		56.66		67.50		25.70		8.56		5.80		5.14
23		54.40		69.00		25.70		8.56		5.68		5.20
24		55.50		66.70		23.60		8.56		5.68		5.20
25		56.60		65.50		23.60		8.56		5.44		5.20
26		53.40		67.90		23.80		8.80		9.12		5.02
27		50.20		69.00		23.20		8.80		6.22		5.08
28		52.30		73.70		27.20		8.32		5.56		5.38
29		52.30		71.40		23.20		8.80		5.56		5.08
30		49.30		82.10		20.70		8.08		5.32		5.14
31		65.60						7.84		5.20		
SUM		2247.20		2762.50		1114.50		368.50		191.52		193.58
MEAN		74.91		89.11		37.15		11.99		6.18		6.45
MAX		131.00		175.00		59.80		19.40		9.12		28.60
MIN		49.30		49.30		20.70		7.84		5.20		4.90

D1-4-5 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A.2966.8CO S.Q KM KURUTUN -TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1962-1963(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1		9.16		6.22		6.22		10.60		25.70		23.90
2		9.12		6.08		6.22		12.70		25.70		23.20
3		9.08		6.08		6.36		19.40		23.80		20.30
4		9.22		6.08		6.36		16.80		21.90		20.00
5		8.99		6.94		6.50		14.20		20.60		19.40
6		9.12		12.70		8.56		14.20		20.60		17.80
7		9.22		9.12		13.40		14.70		21.60		16.30
8		9.22		7.94		11.50		14.20		21.30		17.30
9		22.60		8.08		10.80		14.20		21.30		15.40
10		43.50		7.94		8.80		16.80		21.30		23.80
11		14.20		9.12		8.80		21.90		21.90		26.40
12		9.44		10.80		10.12		20.00		27.60		30.10
13		9.84		31.50		9.44		26.70		21.30		30.80
14		9.12		39.90		9.76		27.90		22.60		35.60
15		8.92		15.60		9.44		33.90		33.00		39.90
16		9.22		25.10		8.56		34.70		43.40		36.40
17		9.70		13.40		8.56		27.90		40.70		31.50
18		9.22		13.60		13.12		27.90		31.50		29.40
19		9.56		11.70		33.90		23.80		30.10		25.70
20		9.22		9.44		30.80		21.60		30.80		26.40
21		8.70		8.32		27.20		23.70		30.80		25.10
22		9.08		8.08		19.40		27.20		34.70		24.40
23		9.22		7.84		18.90		23.20		37.20		25.40
24		11.30		7.60		17.60		23.60		34.40		34.70
25		9.12		7.38		22.60		25.70		32.30		66.70
26		9.56		7.16		18.40		26.40		27.20		58.80
27		9.40		6.94		14.70		24.60		25.70		51.20
28		9.16		6.72		13.10		21.00		25.10		57.70
29		8.72		6.50		12.30		20.00				58.80
30		8.50		6.36		11.70		22.40				72.50
31		8.50										
SUM		341.20		354.64		410.32		663.20		776.30		1075.90
MEAN		11.01		11.82		13.23		21.94		27.51		34.71
MAX		43.50		39.90		33.90		37.90		43.40		83.50
MIN		8.50		6.08		6.22		10.60		20.60		16.30

TOTAL = 10513.35 MEAN = 28.80 MAX = 175.00 MIN = 4.90

D1-4-6 GATE HEIGHT(M) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A.2966.8KM S.S KM KURUTUN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT ITEM:CIC.M.S) FOR THE WATER YEAR OF 1963-1964(1/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1												
11				112.00		116.00		50.20		20.00		7.38
21				131.00		140.00		49.30		18.40		7.60
31				97.70		123.00		49.30		17.80		8.08
41				92.00		113.00		41.50		16.40		7.84
51				104.90		105.00		40.70		22.60		7.38
1												
61				97.70		113.00		40.70		18.40		7.16
71				97.70		102.00		39.80		16.80		7.16
81				99.10		107.00		37.90		16.80		7.38
91				97.70		104.00		31.50		16.80		6.94
1				107.00		94.90		28.60		15.70		6.36
111				114.00		127.00		29.40		14.20		6.36
121				116.00		108.00		20.10		13.80		6.22
131				108.00		102.00		29.40		13.40		5.80
141				107.00		105.00		29.40		13.40		6.08
151				101.00		97.70		29.40		12.70		6.36
1												
161				107.00		84.90		30.10		11.20		11.50
171				93.40		83.50		37.70		10.40		18.40
181				90.60		89.10		33.90		10.10		13.40
191				105.00		92.00		30.80		10.40		10.10
201				108.00		97.70		27.90		9.44		13.10
1												
211				97.00		76.50		25.70		8.56		20.00
221				90.60		67.90		26.40		8.80		31.50
231				83.10		64.30		32.30		8.08		24.00
241				93.40		60.90		32.30		8.32		20.90
251				101.00		59.80		42.50		8.32		15.70
1												
261				107.00		63.90		50.20		8.08		14.80
271				116.00		72.50		34.70		7.84		12.70
281				113.00		67.00		27.20		8.32		12.70
291				132.00		58.80		25.80		7.84		11.30
301				101.00		53.40		21.30		7.60		9.92
1												
311				104.00				22.60		7.16		
SUM		3176.60		3141.00		2731.80		1045.60		389.24		348.12
MEAN		105.89		101.26		91.06		34.05		12.55		11.60
MAX		140.00		116.00		140.00		50.20		22.60		31.50
MIN		83.10		83.10		53.40		21.30		7.16		5.80

TOTAL = 14725.44 MEAN = 33.25 MAX = 145.00 MIN = 5.02

D1-4-7 GATE HEIGHT(M) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A.2966.8KM S.S KM KURUTUN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT ITEM:CIC.M.S) FOR THE WATER YEAR OF 1964-1965(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1												
11												
21									14.20			37.60
31									15.65			52.75
41									12.80			65.25
51									13.60			88.25
1									10.40			71.55
61												
71									9.75			47.50
81									12.40			36.30
91									14.00			34.80
101									16.20			30.35
1									16.20			24.90
111												
121									16.20			24.30
131									17.40			24.90
141									18.40			24.30
151									16.20			24.90
1									15.10			24.30
161												
171									20.10			24.30
181									109.00			23.10
191									31.75			18.35
201									35.00			21.30
1									42.40			104.30
211												
221									44.50			27.65
231									45.40			33.40
241									51.70			54.30
251									51.70			166.00
1									45.80			166.30
261												
271									51.70			83.30
281							17.85		63.60			45.60
291							18.40		66.90			36.30
301							16.75					46.65
1							16.75					36.30
311												
							16.75					32.00
SUM							86.50		671.45			1436.70
MEAN							17.30		31.12			46.30
MAX							18.40		109.00			166.00
MIN							16.75		9.75			16.35

TOTAL = 2274.65 MEAN = 37.91 MAX = 166.00 MIN = 9.75

DI-4-8 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A.2966.800 S.Q KM KURUTUN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1957-1958(1/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1												
11		38.30		50.65		58.00		31.35		16.40		9.50
21		39.90		56.95		55.90		37.60		16.00		9.50
31		42.25		58.00		56.95		34.90		16.00		9.50
41		41.55		56.95		63.80		26.15		16.00		9.75
51		44.95		68.15		49.60		24.50		16.00		9.00
61		43.25		150.85		44.10		25.50		16.00		8.75
71		48.55		121.10		40.70		25.50		11.90		8.75
81		56.95		63.60		40.70		25.50		11.90		8.50
91		66.70		63.80		41.55		24.90		10.80		8.50
101		71.05		58.00		49.25		23.70		10.00		8.50
111		92.00		56.95		44.10		23.10		10.00		8.50
121		121.10		55.30		43.25		23.10		10.00		8.50
131		126.65		58.00		44.10		22.50		10.00		8.25
141		142.85		71.35		47.50		20.70		10.00		8.00
151		144.90		78.50		50.65		20.10		9.50		7.75
161		150.85		77.75		63.80		18.95		9.50		7.50
171		130.90		74.25		100.00		18.40		9.25		7.50
181		224.45		55.90		62.35		17.85		9.25		8.00
191		230.35		65.25		52.75		15.65		9.00		9.25
201		183.70		71.05		48.55		16.20		9.00		9.00
211		86.50		62.35		44.95		15.10		9.00		8.75
221		69.15		66.70		42.40		14.00		9.00		8.50
231		65.25		69.60		39.65		14.00		9.00		8.50
241		56.95		69.60		39.00		14.00		9.00		8.50
251		49.60		79.50		37.60		14.00		9.00		8.50
261		74.25		77.75		39.00		13.60		9.00		9.00
271		74.00		76.00		41.55		13.20		9.50		9.00
281		77.75		84.75		36.90		13.20		16.20		9.25
291		72.50		66.70		34.10		13.20		10.40		9.25
301		69.60		60.90		32.70		13.20		9.50		10.30
311				63.80				12.40		9.50		
SUM		1.2793.70		2197.30		1439.65		676.95		308.20		261.75
MEAN		93.12		70.88		47.99		20.22		9.94		8.72
MAX		230.30		150.85		100.00		37.60		16.20		10.00
MIN		39.30		50.65		32.70		12.40		9.00		7.50

DI-4-8 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A.2966.800 S.Q KM KURUTUN TURKEY

HARSIT RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1957-1958(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1												
11		10.00		9.75		10.00		10.00		10.80		24.90
21		10.00		10.00		10.00		10.00		10.80		30.70
31		9.50		12.40		11.20		10.00		11.20		20.70
41		9.00		25.50		19.40		10.00		11.20		22.50
51		9.75		18.95		19.40		10.40		11.60		27.45
61		9.50		13.60		14.00		10.00		12.00		24.90
71		9.25		11.20		12.80		9.50		10.80		26.80
81		9.50		11.60		11.20		10.00		12.00		29.75
91		13.60		10.80		10.00		10.80		13.20		27.45
101		13.20		10.00		9.75		12.00		16.75		27.40
111		12.40		10.00		17.00		13.60		18.95		26.15
121		12.40		9.50		16.95		13.60		21.60		25.50
131		9.50		9.60		14.55		16.20		22.50		26.15
141		9.75		9.75		13.20		14.55		23.10		32.00
151		9.00		11.60		12.80		18.40		23.70		26.40
161		9.00		12.40		12.90		18.95		23.10		25.50
171		9.00		11.20		19.50		16.75		23.10		25.50
181		9.50		11.60		17.55		14.00		23.10		24.30
191		9.50		10.80		13.60		13.60		24.90		25.00
201		9.00		10.00		17.85		13.20		26.60		65.25
211		9.00		10.00		14.20		13.20		26.15		72.50
221		9.00		9.75		13.60		12.40		29.40		55.45
231		9.00		9.50		12.00		12.40		24.90		58.00
241		9.00		9.60		10.00		12.40		23.10		63.80
251		9.00		9.50		10.00		12.40		21.90		45.40
261		9.75		9.50		10.00		12.40		26.70		39.85
271		10.00		9.50		10.00		12.40		19.50		37.60
281		10.20		10.60		10.00		12.40		17.30		39.00
291		10.40		10.00		10.00		12.40				42.40
301		9.50		10.00		10.00		11.60				44.10
311						10.00		10.80				48.55
SUM		336.50		337.80		406.55		354.75		534.45		1118.55
MEAN		9.01		11.26		13.11		12.73		19.09		36.38
MAX		13.60		25.50		19.50		18.95		29.40		72.50
MIN		9.00		9.50		9.75		9.50		10.80		20.70

TOTAL = 3724.11 MEAN = 29.73 MAX = 230.30 MIN = 7.50

D1-4-10 DAILY HEIGHT(M) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A. 2944.800 S.Q KM KURTLN TURKEY

HARSIT RIVER IN THE NAME OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1958-1959(1/2)

DAY	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1				72.50		47.50		24.90		10.75		8.00
2				60.90		53.80		24.20		14.00		8.00
3				59.45		59.45		24.90		13.20		8.00
4				47.50		90.60		23.10		12.40		8.00
5				76.65		81.25		22.50		12.00		8.00
6												
7				45.80		55.90		21.90		11.60		9.00
8				45.80		53.40		21.30		11.60		10.00
9				45.80		74.75		20.70		11.60		12.80
10				45.80		53.80		23.10		11.60		13.20
11				45.80		44.95		26.80		12.40		12.80
12												
13				46.65		39.60		84.00		14.00		13.60
14				55.90		39.60		84.75		15.65		12.40
15				53.40		39.00		41.55		14.00		9.75
16				55.90		39.00		27.60		13.00		9.00
17				55.90		36.20		28.40		11.00		9.25
18												
19				60.90		36.20		25.50		10.40		9.00
20				58.60		39.20		23.70		10.00		9.00
21				59.45		34.10		23.10		9.50		9.00
22				56.05		32.60		21.90		9.50		8.50
23		74.70		59.45		32.60		20.70		9.50		8.50
24												
25				56.05		30.05		19.50		9.50		8.75
26		77.75		55.90		26.15		18.95		9.20		9.25
27		69.15		55.90		25.53		18.40		9.75		9.00
28		69.20		53.75		25.53		17.30		8.50		9.00
29		79.50		43.55		25.53		16.20		7.70		9.00
30												
31		74.00		47.50		25.53		17.30		7.50		9.00
1		92.00		47.50		25.53		17.30		7.50		9.00
2		109.00		47.50		25.53		17.30		7.50		9.00
3		86.50		47.50		25.53		16.75		8.00		8.75
4		74.25		47.50		25.53		16.20		8.00		8.50
5												
6				47.50				16.20				
SUM		2576.85		1623.70		1237.29		827.10		327.85		285.80
MEAN		85.89		52.38		41.25		26.68		10.58		9.53
MAX		185.00		72.50		90.60		84.00		15.65		13.60
MIN		39.00		45.80		25.53		16.20		7.50		8.00

TOTAL = 9977.11 MEAN = 27.33 MAX = 185.50 MIN = 7.50

D1-5 MONTHLY AVERAGE DISCHRGE AT HARSIT ON KAVRAZ RIVER IN THE VASIN OF HARSIT

WATER YEAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	AVERAGE
1956-1957	0.0	0.0	0.0	0.0	0.0	0.0	2.07	2.17	2.75	0.98	1.56	4.02	2.35
1957-1958	9.48	5.67	3.56	0.99	0.55	0.53	1.12	1.44	1.36	1.08	1.72	3.45	2.57
1958-1959	9.03	5.82	3.74	1.99	1.38	1.85	0.0	0.0	0.0	0.0	0.0	0.0	1.08
MEAN	9.25	5.75	3.65	2.99	0.97	1.19	1.60	1.87	2.05	1.02	1.64	3.72	2.67

MONTHLY AVERAGE DISCHARGE AT HAPSIT ON KAVRAZ RIVER IN THE VASIN OF HAPSIT

WATER YEAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	AVERAGE
1960-1961	0.0	0.0	0.0	0.0	0.0	0.0	0.52	0.54	0.95	0.64	0.84	1.86	0.49
1961-1962	6.22	3.51	2.75	1.34	0.44	1.40	2.77	1.40	3.25	1.29	1.45	4.25	2.50
1962-1963	5.72	5.69	2.41	0.52	0.25	0.90	2.34	2.09	1.09	1.36	1.22	1.88	2.11
1963-1964	6.86	7.89	5.83	1.13	0.95	1.72	1.68	1.67	1.23	1.61	1.12	4.45	2.94
1964-1965	9.11	7.04	3.69	0.83	0.44	1.21	1.0	[illegible]	[illegible]	0.0	0.0	0.0	3.11
MEAN	7.45	6.76	3.64	1.97	0.62	1.31	1.31	1.47	1.62	0.98	1.15	3.11	2.29

D1-5-1 GATE HEIGHT(M) VS DISCHARGE(Q)

NAME OF G.S. HARSIT C.A. 118.800 SQ KM KURUTUN TURKEY

RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M/S) FOR THE WATER YEAR OF 1956-1957(12/21

DAYS	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1												
2				1.24		1.24		1.16		1.60		2.30
3				1.24		3.68		0.92		1.00		4.00
4				1.44		1.03		0.72		0.56		6.55
5				0.92		1.92		0.48		0.92		7.55
6				0.88		5.10		1.00		0.88		4.50
7												
8				0.92		4.93		1.00		0.84		3.40
9				1.40		3.85		0.96		0.84		2.70
10				1.64		3.55		0.96		0.92		2.40
11				1.37		4.50		0.92		0.96		2.10
12				1.37		4.37		0.88		1.00		1.80
13												
14		0.76		1.24		4.00		0.84		1.16		1.80
15		0.95		1.08		3.85		0.84		1.16		1.64
16		4.55		1.40		3.77		0.88		1.16		1.48
17		3.85		1.24		3.70		0.92		1.24		1.24
18		3.55		1.40		3.55		0.72		1.32		1.00
19												
20		4.37		2.60		3.40		1.00		1.32		2.30
21		3.25		3.55		3.17		1.00		1.56		1.36
22		4.37		4.70		2.85		1.00		2.50		1.24
23		3.55		4.15		2.85		1.08		3.25		1.72
24		1.92		4.00		2.60		1.16		3.40		2.10
25												
26		1.64		3.05		2.60		1.08		3.85		3.55
27		1.56		4.56		2.40		1.00		3.85		4.70
28		2.32		2.95		2.23		0.96		3.70		6.10
29		1.32		3.64		2.29		0.96		3.76		9.64
30		1.24		2.40		2.40		1.00		2.63		11.60
31												
32		0.92		2.23		1.85		1.00		3.47		11.49
33		1.08		1.08		1.64		1.00		3.63		9.36
34		1.08		1.64		1.64		1.08		2.70		5.30
35		0.96		1.49		1.32		1.00				4.30
36		0.92		1.32		1.16		0.96				3.10
37												
38		1.08				1.16		1.00				2.40
39												
SUM		43.50		65.06		85.30		30.28		54.54		124.55
MEAN		2.32		2.17		2.75		0.98		1.56		4.02
MAX		4.55		4.56		4.19		1.16		3.85		11.60
MIN		0.76		0.88		1.64		0.84		0.84		1.30

TOTAL = 401.67 MEAN = 2.75 MAX = 11.60 MIN = 0.76

D1-5-2 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A. 118.800 S.Q KM KURUTUN - TURKEY

KAVRAZ RIVER IN THE BASIN OF HARSIT UNIT H(M), Q(C.M.S) FOR THE WATER YEAR OF 1957-1958(1/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1		[illegible]		4.6[illegible]		4.00		1.32		0.58		0.52
2		2.45		4.70		3.46		1.20		0.56		0.50
3		2.27		4.70		4.5[illegible]		2.4[illegible]		0.58		0.50
4		3.73		4.7[illegible]		15.72		1.80		0.58		0.50
5		3.4[illegible]		6.1[illegible]		3.66		1.72		0.58		0.48
6		3.7[illegible]		8.3[illegible]		4.10		1.90		0.58		0.48
7		3.45		8.33		4.2[illegible]		1.72		0.60		0.48
8		[illegible]		7.05		3.85		1.48		0.60		0.48
9		[illegible]		6.1[illegible]		2.25		1.24		0.6[illegible]		0.48
10		6.55		5.30		2.70		1.60		0.56		0.48
11		7.[illegible]		4.50		2.70		0.96		0.56		0.53
12		13.6[illegible]		4.1[illegible]		2.43		0.68		0.56		0.52
13		23.72		4.15		2.30		0.94		0.52		0.52
14		17.56		5.30		2.2[illegible]		0.76		0.52		0.50
15		17.46		5.3[illegible]		2.50		0.92		0.52		0.46
16		19.3[illegible]		5.0[illegible]		4.9[illegible]		0.33		0.52		0.44
17		[illegible]		5.50		4.53		0.84		0.52		0.48
18		13.06		4.9[illegible]		3.65		0.64		0.46		0.38
19		[illegible]		4.53		3.13		0.64		0.46		0.58
20		13.6[illegible]		4.15		2.73		0.64		0.48		0.54
21		7.[illegible]		4.50		2.30		0.60		0.50		0.52
22		[illegible]		4.70		2.13		0.60		0.50		0.50
23		[illegible]		5.30		1.94		0.60		0.50		0.50
24		7.65		5.50		1.60		0.60		0.60		0.48
25		6.13		5.70		1.77		0.58		0.60		0.48
26		[illegible]		7.55		1.66		0.60		0.60		0.50
27		[illegible]		9.92		1.72		0.60		0.60		0.50
28		[illegible]		7.80		2.00		0.60		0.58		0.56
29		5.3[illegible]		5.9[illegible]		1.72		0.60		0.56		0.92
30		[illegible]		5.30		1.43		0.60		0.52		0.76
31				4.7[illegible]				0.40		0.52		
SUM		[illegible].41		175.87		104.67		30.61		17.06		16.04
MEAN		[illegible].63		5.67		3.56		0.99		0.55		0.53
MAX		23.72		9.92		15.73		2.95		0.60		0.92
MIN		2.83		4.15		1.43		0.58		0.46		0.44

D1-5-3 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A. 118.800 S.Q KM KURUTUN - TURKEY

KAVRAZ RIVER IN THE BASIN OF HARSIT UNIT H(M), Q(C.M.S) FOR THE WATER YEAR OF 1957-1958(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1		[illegible]		0.64		1.60		0.84		0.72		2.95
2		0.60		0.36		1.60		1.94		0.80		4.30
3		3.60		1.40		1.16		0.64		0.38		3.55
4		3.53		3.85		2.63		3.84		0.92		2.80
5		[illegible].56		3.13		2.13		1.37		0.94		2.60
6		[illegible].59		1.80		1.56		0.92		0.88		2.80
7		0.64		1.72		1.16		0.84		1.[illegible]		2.60
8		0.32		1.80		0.92		0.76		1.24		2.20
9		4.13		1.40		0.84		0.80		1.48		2.00
10		2.5[illegible]		1.[illegible]3		0.84		0.94		1.56		2.20
11		2.00		1.00		1.08		0.76		1.64		2.33
12		1.24		0.92		1.64		1.16		1.64		[illegible].30
13		0.88		3.84		1.40		1.16		1.64		2.10
14		0.74		0.92		1.16		1.90		1.72		2.60
15		0.68		1.[illegible]		1.60		2.20		1.80		2.33
16		[illegible]		2.40		1.14		2.00		1.80		2.33
17		[illegible].69		2.16		2.59		2.20		1.[illegible]		2.00
18		[illegible].68		1.50		2.63		1.64		2.10		2.33
19		3.69		1.50		3.10		1.08		2.49		2.20
20		[illegible].58		1.56		2.33		1.00		2.75		6.30
21		0.56		1.32		1.56		1.00		2.50		6.55
22		[illegible]		1.[illegible]		1.[illegible]		0.76		2.95		6.30
23		0.32		1.[illegible]		1.60		0.92		2.70		6.80
24		3.60		1.[illegible]		1.[illegible]		0.92		2.60		6.55
25		3.60		1.03		[illegible]		[illegible].92		2.20		3.55
26		[illegible].72		1.00		0.92		[illegible].92		1.50		3.10
27		4.53		0.96		0.92		0.72		1.50		2.80
28		2.7[illegible]		1.[illegible]		0.92		0.92		1.50		3.25
29		1.74		1.00		0.[illegible]		0.92				3.85
30		3.06		1.30		0.64		0.80				5.10
31		0.34				0.64		0.60				5.30
SUM		36.74		43.32		42.04		33.52		48.13		106.35
MEAN		[illegible]		1.44		1.76		1.08		1.72		3.45
MAX		4.53		3.85		3.10		2.20		2.95		6.80
MIN		[illegible].56		0.36		0.64		0.60		0.38		2.00

TOTAL = [illegible].57 MEAN = 2.57 MAX = 23.72 MIN = [illegible]

D1-S-4 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A. 1170.800 S.Q KM KELKUTLN TURKEY

KAVRAZ RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1958-1959(1/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1												
11		14.10		7.80		3.70		1.00		1.56		0.92
21		17.66		8.55		3.85		1.00		1.40		0.92
31		18.20		8.05		4.71		1.16		1.24		0.92
41		13.76		7.30		9.64		0.96		1.00		0.96
51		9.33		6.80		8.55		0.80		1.00		1.00
1												
61		6.20		6.20		6.55		0.72		1.00		1.08
71		5.72		5.92		6.55		0.68		1.00		2.10
81		6.33		5.90		11.64		0.68		1.00		3.10
91		9.36		5.56		9.55		0.34		1.00		4.70
101		9.33		5.54		5.93		1.90		1.56		4.90
1												
111		5.69		5.50		4.33		25.44		2.30		4.15
121		4.51		4.33		3.43		24.68		2.70		3.10
131		3.76		6.30		2.83		11.32		3.25		2.70
141		3.15		6.70		2.63		12.80		2.70		1.64
151		4.73		6.35		2.60		23.52		2.70		1.16
1												
161		8.33		6.55		2.60		5.50		1.80		1.00
171		14.76		5.30		2.60		3.70		1.64		1.00
181		1.76		6.30		2.63		3.10		1.48		1.00
191		14.22		6.30		2.63		2.30		1.32		1.00
201		15.20		6.30		2.63		2.00		1.16		1.00
1												
211		8.66		5.93		2.33		2.00		1.08		1.08
221		8.15		5.60		2.03		2.00		1.00		2.30
231		7.05		5.80		1.73		2.10		1.00		2.10
241		7.33		5.33		1.43		1.80		0.96		2.00
251		7.56		4.59		1.16		1.64		0.92		1.80
1												
261		3.36		4.33		1.16		1.72		0.92		1.80
271		12.12		4.00		1.16		2.10		0.92		1.72
281		14.00		4.00		1.16		2.00		0.92		1.64
291		11.33		3.70		1.16		1.90		0.92		1.64
301		8.90		3.70		1.16		1.64		0.92		1.80
1												
311				3.70				1.64		0.92		
1												
SUM		270.48		180.55		112.11		154.94		42.89		55.53
MEAN		9.03		5.82		3.74		4.99		1.38		1.85
MAX		17.66		8.55		11.04		23.52		3.25		4.90
MIN		3.70		3.70		1.16		0.68		0.92		0.92

TOTAL = 1125.51 MEAN = 3.08 MAX = 23.52 MIN = 0.38

D1-S-5 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A. 1170.800 S.Q KM KELKUTLN TURKEY

KAVRAZ RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1960-1961(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1												
11		0.59		0.41		1.18		0.74		0.59		0.59
21		0.59		0.41		1.36		0.79		0.59		0.59
31		0.59		0.41		1.18		0.94		0.59		0.59
41		0.59		0.37		1.10		0.84		0.59		0.69
51		0.56		0.37		0.84		0.79		0.59		0.69
1												
61		0.54		0.37		0.84		0.79		1.70		0.69
71		0.54		0.37		0.79		0.69		1.36		0.69
81		0.54		0.37		0.79		0.59		1.27		0.64
91		1.54		0.37		0.73		0.59		1.05		0.69
101		0.54		0.37		0.63		0.59		0.59		0.79
1												
111		0.54		0.37		0.69		0.56		0.59		0.69
121		0.53		0.37		0.99		0.54		0.59		0.74
131		0.48		0.37		1.05		0.54		0.59		1.36
141		0.55		0.37		1.13		0.54		0.59		1.86
151		0.41		0.37		1.36		0.54		0.59		1.70
1												
161		0.41		0.37		1.61		0.54		0.59		1.18
171		0.45		0.37		1.27		1.59		0.64		1.18
181		0.48		0.41		0.99		0.59		0.74		1.10
191		0.50		0.94		0.74		0.59		0.59		1.10
201		0.74		0.99		0.74		0.54		0.54		1.16
1												
211		0.89		0.84		0.69		0.59		0.59		1.27
221		0.64		0.69		0.59		0.59		0.69		1.61
231		0.52		3.49		0.64		0.59		0.69		5.11
241		0.45		0.59		0.54		0.59		0.69		8.45
251		0.47		0.59		0.54		0.69		0.69		4.95
1												
261		0.43		0.69		0.54		0.74		0.69		3.46
271		0.41		0.79		0.64		0.79		0.59		2.36
281		0.41		0.84		2.39		0.44		0.59		2.28
291		0.41		0.89		1.10		0.59				2.50
301		0.43		0.99		0.79		0.59				3.86
1												
311		0.41				0.64		0.59				2.94
1												
SUM		16.01		16.25		23.50		19.96		23.59		57.53
MEAN		0.52		0.54		0.75		0.64		0.84		1.86
MAX		0.99		0.99		2.39		0.94		1.70		8.45
MIN		0.41		0.37		0.54		0.54		0.54		0.59

TOTAL = 142.84 MEAN = 0.82 MAX = 8.45 MIN = 0.37

D1-5-6 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A. 116.800 S.Q KM / KURUTLU TURKEY

KAVPAZ RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(CMS) FOR THE WATER YEAR OF 1961-1962(1/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1												
11		2.591		6.041		2.171		2.831		0.591		0.691
21		2.281		6.221		1.951		3.051		0.501		0.931
31		2.171		6.221		1.951		3.051		0.481		0.391
41		2.331		6.221		2.041		3.051		0.501		0.591
51		4.591		6.221		2.831		2.391		0.481		0.541
1												
61		4.951		5.861		4.131		1.951		0.451		0.501
71		6.221		5.861		3.051		1.781		0.431		0.501
81		7.711		5.311		2.611		1.611		0.411		0.501
91		5.791		5.131		2.061		1.271		0.411		0.501
101		6.961		4.761		2.781		1.181		0.411		0.501
111		7.461		4.401		1.861		1.781		0.411		0.641
121		9.791		4.131		1.651		1.781		0.411		2.171
131		14.101		3.961		1.611		1.521		0.411		1.521
141		13.211		3.591		1.521		1.521		0.411		0.841
151		4.761		3.321		1.441		1.271		0.411		0.691
161		4.131		2.941		1.181		0.991		0.391		0.691
171		3.361		2.591		1.101		0.941		0.391		0.691
181		5.131		2.171		1.101		0.791		0.371		0.391
191		9.161		1.951		1.101		0.841		0.371		1.161
201		12.7		1.951		1.191		0.841		0.481		1.441
211		13.311		1.351		0.991		0.791		0.391		1.781
221		11.691		1.781		1.941		0.791		0.371		1.781
231		9.731		1.611		0.941		0.791		0.371		1.761
241		3.791		1.611		3.531		0.691		0.371		2.721
251		3.291		1.611		12.701		0.551		0.417		4.761
261		14.331		1.611		10.991		0.591		0.451		4.001
271		17.491		1.951		5.491		0.591		0.451		22.721
281		15.591		1.951		3.771		0.551		0.481		1.951
291		7.211		1.951		2.941		0.531		0.551		1.521
301		4.271		1.951		2.611		0.551		0.511		1.271
311				2.171				2.591		0.551		
SUM		246.631		108.771		183.771		41.622		13.551		42.131
MEAN		7.731		3.511		5.771		1.341		0.441		1.401
MAX		15.391		6.221		12.771		3.051		0.591		4.761
MIN		2.171		1.611		0.941		0.591		0.371		0.571

D1-5-7 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A. 116.800 S.Q KM KURUTLU TURKEY

KAVKAZ RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(CMS) FOR THE WATER YEAR OF 1961-1962(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1												
11		1.361		0.451		10.991		12.731		6.511		1.121
21		0.841		0.781		3.061		1.321		0.911		1.311
31		0.361		1.661		8.771		1.321		0.841		1.601
41		0.911		1.061		4.961		1.991		0.841		2.941
51		0.191		0.861		4.091		1.731		2.641		3.371
1												
61		0.331		0.701		4.681		1.731		1.821		4.481
71		0.841		0.731		3.851		1.601		1.411		5.181
81		0.591		0.681		2.611		1.731		1.411		6.761
91		0.591		0.841		2.261		1.731		1.221		6.721
101		0.451		0.461		2.261		1.121		1.451		4.481
111		0.451		0.671		2.831		0.981		0.841		2.701
121		0.791		0.631		2.831		0.931		1.051		2.151
131		0.941		0.631		2.701		0.761		0.561		1.121
141		1.651		0.631		2.811		0.731		1.121		2.481
151		0.671		0.451		2.811		0.991		1.411		3.251
161		0.671		3.551		2.811		1.121		2.371		6.121
171		0.731		0.781		2.991		2.461		2.721		7.761
181		0.911		0.781		2.951		2.171		2.151		4.781
191		0.731		1.501		2.431		1.321		1.501		5.121
201		0.691		2.151		2.151		1.731		1.711		4.231
211		0.631		2.921		1.821		1.501		1.401		3.351
221		0.631		2.761		2.041		1.731		1.221		3.251
231		0.631		1.931		1.931		1.121		1.311		3.251
241		0.651		1.821		1.611		0.931		1.601		8.701
251		0.651		1.731		1.611		0.841		1.531		6.961
261		0.651		1.601		1.731		0.771		1.821		5.631
271		0.651		1.821		1.731		0.761		1.411		5.381
281		0.651		2.151		1.591		0.761		1.431		4.781
291		0.651		2.641		1.591		0.941				4.231
301		0.651		6.721		1.591		1.351				3.731
311		0.651				1.731		0.721				3.251
SUM		22.261		62.031		109.891		43.951		40.781		131.781
MEAN		0.721		1.671		3.551		1.421		1.451		4.251
MAX		1.651		6.721		10.991		2.461		2.721		8.701
MIN		0.651		0.451		1.591		0.721		0.841		1.121

TOTAL = 816.13 MEAN = 2.63 MAX = 19.39 MIN = 0.37

D1-5-8 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A. 118.800 S.Q KM KURUTUN TURKEY

KAVPAZ RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1962-1963(1/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1		3.14		4.10		4.48		0.58		0.25		0.19
2		5.82		4.93		2.73		0.58		0.30		0.21
3		7.96		6.22		3.25		0.91		0.32		0.27
4		6.47		9.42		3.25		0.78		0.27		0.25
5		5.23		10.90		2.25		0.34		0.25		0.22
6		4.63		10.10		3.14		0.34		0.27		0.22
7		4.93		7.21		3.25		0.73		0.22		0.22
8		7.16		5.63		2.73		0.57		0.22		0.22
9		14.50		5.23		2.15		0.50		0.22		0.27
10		13.73		4.35		2.15		1.12		0.21		1.93
11		7.21		4.63		1.93		0.84		0.27		7.46
12		5.63		10.50		3.27		0.77		0.22		3.14
13		5.53		8.45		3.14		0.68		0.22		1.50
14		5.12		7.21		3.37		0.59		0.22		1.22
15		5.82		6.22		3.45		0.45		0.22		1.71
16		3.43		5.65		1.93		0.38		0.22		1.60
17		4.33		6.22		2.81		0.36		0.22		1.12
18		4.48		5.43		2.37		0.72		0.22		0.84
19		4.43		4.77		2.15		0.73		0.22		0.58
20		4.23		3.88		2.64		0.27		0.22		0.45
21		4.23		4.23		2.64		0.27		0.21		0.39
22		4.23		4.10		1.92		0.27		0.35		0.38
23		4.35		3.95		1.93		0.32		0.32		0.35
24		4.35		4.37		2.61		0.32		0.32		0.32
25		4.23		3.47		1.22		0.27		0.32		0.32
26		4.23		4.25		1.31		0.27		0.35		0.32
27		4.23		2.98		1.12		0.27		0.32		0.52
28		4.22		4.47		1.96		0.27		0.27		0.50
29		4.23		4.46		0.95		0.27		0.22		0.30
30		3.13		4.46		0.91		0.27		0.22		0.50
31				4.78				0.27		0.19		
SUM		171.39		176.40		72.49		16.22		7.82		26.91
MEAN		5.71		5.69		2.41		0.52		0.25		0.90
MAX		14.50		10.90		4.48		1.12		0.35		7.46
MIN		3.14		3.37		0.98		0.27		0.19		0.19

D1-5-9 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A. 118.800 S.Q KM KURUTUN TURKEY

KAVPAZ RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1962-1963(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1		0.27		0.70		0.61		0.92		0.58		0.98
2		0.25		0.65		0.61		0.92		0.66		1.34
3		0.22		0.56		0.70		1.12		0.83		0.98
4		0.27		0.56		0.65		1.12		0.58		0.98
5		0.22		0.61		0.61		1.12		0.53		1.34
6		0.21		0.70		0.87		1.04		0.58		1.34
7		0.21		0.65		1.04		1.12		0.58		1.34
8		0.30		0.86		1.12		1.12		0.58		1.34
9		2.41		0.86		1.04		1.12		0.58		1.34
10		14.10		0.98		0.98		1.36		1.12		1.12
11		6.33		7.59		0.92		1.53		1.12		1.20
12		2.74		3.02		0.92		1.45		1.12		1.53
13		1.85		6.15		0.66		1.36		1.28		1.61
14		1.78		10.10		1.12		1.77		1.12		2.99
15		1.69		7.70		1.04		1.85		1.12		3.33
16		1.69		5.22		3.93		1.59		1.67		3.49
17		1.77		3.03		3.94		2.11		1.85		2.43
18		1.59		3.32		1.04		1.61		1.53		1.77
19		1.35		2.34		1.45		1.53		1.36		1.12
20		1.85		1.69		1.25		1.53		1.28		1.34
21		4.51		1.53		1.29		1.53		1.20		1.34
22		7.30		1.20		1.53		1.65		1.53		1.12
23		3.43		1.20		1.34		1.77		1.53		1.59
24		2.76		1.04		1.28		1.69		1.53		1.59
25		2.50		0.92		1.12		1.69		1.45		2.24
26		2.37		0.83		1.12		1.20		1.20		2.53
27		2.24		0.75		1.12		0.98		1.04		2.37
28		1.95		0.70		1.12		0.98		0.92		2.11
29		1.61		0.70		1.04		0.98				2.37
30		0.98		0.61		1.04		0.98				5.34
31		2.80				0.93		0.58				4.68
SUM		72.16		62.74		31.82		42.15		33.51		58.39
MEAN		2.33		2.09		1.03		1.36		1.20		1.38
MAX		14.10		10.10		1.53		2.11		1.85		5.34
MIN		0.21		0.56		0.61		0.92		0.80		0.98

TOTAL = 771.67 MEAN = 2.11 MAX = 14.50 MIN = 0.19

D1-5-10 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A. 118.800 S.Q KM KURUTUN TURKEY

KAVRAZ RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1963-1964(1/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1												
11		6.15I		7.04I		9.76I		1.71I		1.12I		0.41I
21		7.70I		6.55I		10.50I		1.57I		0.97I		0.97I
31		8.50I		6.55I		10.00I		1.48I		1.58I		1.05I
41		10.50I		8.52I		9.75I		1.30I		2.93I		0.70I
51		7.10I		8.76I		9.50I		1.21I		2.59I		0.56I
61		5.95I		8.02I		10.30I		1.21I		2.25I		0.52I
71		4.51I		8.02I		9.75I		1.21I		1.48I		0.52I
81		3.32I		8.27I		8.76I		1.21I		1.30I		0.48I
91		2.64I		9.00I		8.02I		1.05I		1.12I		0.41I
101		2.63I		8.76I		6.31I		1.05I		1.12I		0.35I
111		3.49I		8.76I		5.58I		0.97I		0.97I		0.32I
121		3.96I		8.27I		5.67I		0.89I		0.97I		0.32I
131		4.17I		7.53I		6.06I		0.82I		0.97I		0.30I
141		5.16I		7.53I		6.31I		0.75I		0.97I		0.27I
151		5.78I		7.78I		6.31I		0.70I		0.89I		0.25I
161		5.41I		7.78I		5.58I		0.82I		0.75I		0.41I
171		5.59I		7.29I		5.09I		1.57I		0.70I		1.57I
181		4.68I		7.29I		5.34I		1.05I		0.65I		2.11I
191		5.22I		10.00I		5.34I		0.82I		0.61I		1.71I
201		6.52I		9.00I		5.34I		0.82I		0.48I		5.82I
211		6.70I		8.77I		4.34I		0.75I		0.41I		8.02I
221		6.73I		7.53I		3.51I		0.99I		0.38I		6.55I
231		7.70I		7.04I		2.76I		1.98I		0.38I		4.61I
241		12.70I		7.04I		2.42I		1.39I		0.41I		3.51I
251		13.53I		7.53I		2.76I		1.39I		0.38I		2.93I
261		12.30I		7.78I		2.76I		1.12I		0.35I		2.76I
271		11.50I		7.53I		2.42I		0.97I		0.38I		1.39I
281		11.60I		6.80I		2.11I		0.57I		0.70I		0.97I
291		9.90I		6.80I		1.71I		0.97I		0.52I		0.82I
301		7.29I		7.78I		1.57I		1.21I		0.45I		0.97I
311				9.51I				1.12I		0.41I		
SUM		235.23I		243.32I		174.80I		36.97I		29.59I		51.56I
MEAN		6.16I		7.85I		5.83I		1.13I		0.95I		1.72I
MAX		13.53I		10.00I		10.50I		1.98I		2.93I		8.02I
MIN		2.63I		6.55I		1.57I		0.70I		0.35I		0.23I

D1-5-11 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A. 118.800 S.Q KM KURUTUN TURKEY

KAVRAZ RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1963-1964(2/2)

DATE	OCT H	OCT Q	NOV H	NOV Q	DEC H	DEC Q	JAN H	JAN Q	FEB H	FEB Q	MAR H	MAR Q
1												
11		3.49I		3.71I		1.00I		0.69I		2.76I		1.28I
21		3.59I		5.34I		0.92I		0.76I		2.76I		1.47I
31		3.49I		5.09I		0.92I		0.69I		1.47I		1.84I
41		3.44I		3.92I		0.64I		0.84I		1.00I		1.71I
51		3.44I		3.30I		0.54I		0.92I		1.00I		1.47I
61		3.42I		3.31I		0.54I		0.76I		0.92I		1.18I
71		3.43I		2.11I		0.64I		0.76I		0.84I		1.08I
81		3.36I		1.84I		1.37I		0.84I		0.76I		1.30I
91		3.36I		1.71I		1.47I		0.84I		0.69I		1.38I
101		3.36I		1.37I		1.08I		0.64I		0.59I		1.28I
111		3.34I		0.92I		0.92I		0.59I		0.59I		1.18I
121		3.34I		0.76I		0.84I		0.54I		0.54I		1.08I
131		3.36I		0.69I		0.74I		0.49I		0.54I		1.08I
141		3.34I		0.64I		0.69I		0.44I		0.54I		1.08I
151		3.34I		0.69I		0.69I		0.44I		0.54I		1.08I
161		3.30I		1.47I		1.29I		0.44I		0.49I		1.37I
171		3.33I		1.28I		1.47I		0.42I		0.44I		1.71I
181		3.36I		0.64I		1.37I		0.44I		0.44I		2.42I
191		3.36I		0.92I		2.11I		0.49I		0.76I		3.10I
201		2.95I		0.92I		1.84I		0.54I		1.08I		5.09I
211		2.71I		0.92I		2.42I		0.49I		1.57I		5.09I
221		2.76I		0.92I		2.76I		0.54I		2.11I		5.82I
231		2.67I		1.47I		2.93I		0.54I		2.42I		11.70I
241		3.36I		3.30I		2.11I		0.49I		1.98I		15.60I
251		2.11I		2.25I		1.37I		0.44I		1.47I		16.10I
261		1.34I		1.47I		0.84I		0.49I		1.18I		15.10I
271		2.11I		1.47I		0.64I		0.54I		0.84I		7.95I
281		4.61I		1.47I		0.84I		0.54I		1.08I		5.09I
291		4.61I		1.28I		0.84I		0.59I		1.08I		6.31I
301		4.51I		1.18I		0.69I		0.59I				7.67I
311		3.51I				0.69I		1.00I				9.07I
SUM		92.22I		56.15I		38.14I		18.82I		32.48I		138.08I
MEAN		3.69I		1.87I		1.23I		0.61I		1.12I		4.45I
MAX		7.67I		5.34I		2.93I		1.00I		2.76I		16.10I
MIN		0.34I		0.64I		0.54I		0.42I		0.44I		1.00I

TOTAL = 2674.76 MEAN = 2.94 MAX = 16.10 MIN = 0.23

D1-5-12 GATE HEIGHT(H) AND DISCHARGE(Q)

NAME OF G.S. HARSIT C.A. 116.800 S.Q KM KURUTLN TURKEY

KAVRAZ RIVER IN THE BASIN OF HARSIT UNIT H(M),Q(C.M.S) FOR THE WATER YEAR OF 1964-1965(1/2)

DATE	APR H	APR Q	MAY H	MAY Q	JUN H	JUN Q	JUL H	JUL Q	AUG H	AUG Q	SEP H	SEP Q
1												
11		10.50		8.51		8.51		1.28		0.44		0.44
21		14.20		7.11		10.10		1.28		0.44		0.44
31		10.90		5.82		7.11		1.18		0.44		0.44
41		9.35		6.55		6.31		1.00		0.44		0.42
51		18.60		8.51		6.31		1.96		0.44		0.42
1												
61		29.20		10.50		4.85		1.47		0.44		0.42
71		15.10		13.70		5.09		1.47		0.44		0.49
81		11.70		15.60		5.09		1.18		0.44		0.49
91		9.23		14.63		4.12		1.18		0.44		0.44
101		6.31		12.00		4.12		1.84		0.44		0.64
1												
111		5.34		10.90		3.71		1.71		0.44		11.70
121		4.36		11.70		3.30		1.37		0.44		6.55
131		3.92		12.80		2.76		1.28		0.44		2.93
141		3.61		12.00		2.59		0.76		0.44		1.84
151		3.61		12.40		2.25		0.44		0.44		1.37
1												
161		4.36		12.60		2.59		0.54		0.44		1.08
171		5.34		11.70		2.59		0.64		0.44		0.76
181		5.05		10.10		2.42		0.59		0.44		0.54
191		3.92		9.74		3.31		0.54		0.44		0.54
201		3.31		10.10		3.30		0.54		0.44		0.44
1												
211		3.30		8.78		2.42		0.49		0.44		0.42
221		3.13		8.23		2.25		0.49		0.44		0.40
231		2.93		7.95		1.98		0.49		0.44		0.40
241		2.97		10.70		1.71		0.49		0.44		0.38
251		5.19		10.50		1.84		0.49		0.44		0.36
1												
261		12.10		9.35		1.57		0.49		0.44		0.34
271		16.60		8.51		1.37		0.44		0.44		0.34
281		20.90		7.67		1.71		0.44		0.44		0.34
291		17.60		7.11		1.28		0.44		0.44		0.40
301		9.74		7.39		1.28		0.44		0.44		0.44
1												
311				6.55				0.44		0.44		
SUM		372.83		339.29		107.83		27.41		13.64		36.71
MEAN		9.33		9.98		3.59		0.88		0.44		1.21
MAX		29.20		15.60		10.10		1.96		0.44		11.70
MIN		2.93		5.82		1.28		0.44		0.44		0.34

TOTAL = 1101.19 MEAN = 3.01 MAX = 29.20 MIN = 0.34

D 2 Monthly Rainfall

MONTHLY RAINFALL STATION KALE CATCHMENT AREA ____ sq km KÜRTÜN, TURKEY

RIVER IN THE BASIN OF ____ ELEVATION ____ = UNIT mm S ____ ° W ____ °

YEAR	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	ANNUAL
1956~57	-	-	-	7.9	26.9	19.6	33.0	97.2	52.3	12.5	13.9	9.0	(272.3)
57~58	5.1	33.0	22.9	18.1	29.9	60.3	66.1	68.7	38.8	20.5	0	36.1	399.5
58~59	8.9	17.2	22.3	40.8	27.3	16.3	48.1	159.6	56.2	37.8	1.1	42.5	478.1
59~60	33.7	18.6	6.3	42.4	49.7	12.0	116.7	49.3	59.7	45.2	3.9	4.1	441.6
60~61	19.7	12.4	16.3	40.3	6.3	34.7	61.2	48.3	96.6	0	2.2	15.0	353.0
61~62	17.0	55.7	35.1	14.9	26.0	52.7	53.4	91.7	21.2	28.7	19.8	0	416.2
62~63	5.5	27.1	42.3	54.7	34.2	56.3	72.6	125.4	111.5	39.6	29.3	19.9	618.4
63~64	49.9	20.8	42.0	5.4	18.0	43.4	39.0	89.4	47.7	26.3	7.4	7.4	396.7
64~65	2.8	49.4	13.5	11.8	19.1	34.6	68.0	44.7	60.1	4.2	0	25.8	334.0
65~66	68.5	29.8	35.3	60.1	6.5	66.6	48.7	93.0	15.2	25.2	18.2	20.4	487.5
66~67	3.7	9.7	38.1	48.6	26.7	34.8	48.6	50.1	88.3	24.7	2.1	33.6	409.0
67~68	38.2	41.2	84.0										(163.4)
AVERAGE ('57~'67)	21.5	27.4	27.4	33.7	24.4	41.2	62.2	82.0	59.5	25.2	8.4	20.5	433.4
AVERAGE ('56~'68)	23.0	28.6	32.6	31.4	24.6	39.2	59.6	83.4	58.9	26.5	10.9	19.4	438.1

D2-2-1

MONTHLY RAINFALL STATION GÜMÜSHANE CATCHMENT AREA ____ sq km KÜRTÜN, TURKEY

RIVER IN THE BASIN OF ____ ELEVATION ____ = UNIT mm S ____ ° W ____ °

YEAR	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	ANNUAL
1927~28	18.0	42.0	36.0	3.0	57.0	18.0	49.0	36.0	48.0	1.0	49.0	7.0	364.0
28~29	70.0	75.0	36.0	-	-	-	-	-	-	-	-	-	(181.0)
29~30	-	-	-	-	-	-	-	-	-	-	-	-	-
30~31	-	-	-	29.2	2.1	37.6	69.0	81.9	125.0	46.1	6.4	17.5	414.8
31~32	49.9	61.9	51.7	13.7	63.6	31.3	34.5	52.3	17.4	17.2	1.0	3.3	397.8
32~33	11.2	37.0	2.5	14.7	21.9	29.3	107.6	139.3	66.3	15.1	0.0	44.8	489.7
33~34	44.2	35.6	36.3	5.5	10.1	7.3	33.0	68.9	72.8	16.9	9.8	23.9	364.3
34~35	64.6	56.2	18.9	58.6	48.0	58.0	57.9	16.9	8.2	13.3	0.6	65.4	466.6
35~36	47.7	27.1	39.4	17.7	43.9	24.2	86.1	132.1	88.8	26.7	29.5	79.8	643.0
36~37	68.5	47.6	82.0	19.5	22.9	79.7	109.8	101.8	19.0	0.0	62.5	23.2	636.5
37~38	26.7	63.6	31.6	62.0	16.9	18.3	104.9	43.8	24.7	33.6	13.0	68.4	507.5
38~39	4.6	76.8	76.5	2.1	11.7	43.7	45.5	47.6	50.8	0.6	33.8	14.0	407.7
39~40	29.8	29.1	87.0	50.3	28.8	43.6	37.9	54.0	66.2	9.5	0.2	4.5	440.9
40~41	61.1	25.7	31.7	32.3	11.0	61.4	64.4	35.0	14.6	26.8	53.9	26.2	444.1
41~42	52.2	60.7	7.9	33.1	17.1	33.0	25.6	61.6	2.1	1.2	4.7	10.9	310.1
42~43	76.9	123.3	17.0	24.7	6.1	6.5	32.3	61.2	28.7	3.3	0.6	0.2	380.8
43~44	38.6	26.2	47.4	15.9	31.8	67.7	44.8	155.8	53.4	9.3	1.8	26.5	519.2
44~45	43.1	99.5	10.1	79.3	22.3	53.3	68.6	22.3	49.3	2.0	6.0	3.0	458.8
45~46	44.7	44.9	43.3	13.8	24.4	23.9	67.1	130.1	46.2	23.6	22.3	2.4	486.7
46~47	76.5	19.4	7.7	40.0	20.4	26.8	18.5	45.4	38.2	23.7	6.3	10.3	333.2
47~48	67.9	73.0	13.3	28.4	42.2	32.6	40.5	74.5	52.5	0.0	7.3	10.2	442.4
48~49	30.3	26.7	6.1	53.8	21.0	20.6	58.3	72.1	31.2	16.8	15.1	25.2	377.2
49~50	12.1	4.0	30.9	47.5	40.8	29.2	60.3	33.2	21.5	15.6	1.7	17.9	314.7
50~51	113.3	34.4	10.0	27.5	14.9	31.8	85.4	74.2	42.7	16.6	26.3	20.8	497.9
51~52	77.6	59.2	12.0	1.0	14.6	10.1	13.7	67.5	5.7	-	15.7	18.2	295.3
52~53	9.1	38.2	14.2	32.2	4.1	55.6	32.7	80.5	42.9	12.4	1.5	46.9	370.3
53~54	27.1	55.0	15.6	70.2	21.6	34.0	64.8	50.9	68.9	26.0	22.5	3.7	460.3
54~55	5.0	15.5	49.1	10.8	44.6	19.9	62.6	59.6	8.6	13.4	24.2	9.3	322.6
55~56	26.7	43.4	40.8	21.7	71.9	30.3	19.4	54.9	61.7	-	8.4	35.7	414.9
56~57	14.2	22.8	63.0	-	-	11.5	39.3	-	-	-	-	-	(100.0)
57~58	-	-	-	26.6	32.9	78.7	48.0	48.0	40.0	31.6	0.0	25.2	331.0
58~59	10.2	16.2	22.4	31.1	40.8	37.0	45.8	96.0	70.0	10.2	2.5	46.5	428.7

D2-2

MONTHLY RAINFALL STATION GÜMÜSHANE CATCHMENT AREA ____ sq km KÜRTÜN, TURKEY

RIVER, IN THE BASIN OF ____ ELEVATION ____ m UNIT mm S ____ ° ____ W ____ °

YEAR	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	ANNUAL
1959~60	32.5	20.7	18.1	53.8	56.5	24.7	126.1	57.1	21.7	42.4	7.0	0	460.6
60~61	0	16.7	17.5	35.2	3.2	50.2	96.8	49.6	46.3	8.5	0	16.7	340.7
61~62	16.1	58.1	34.6	17.7	37.9	33.4	31.6	108.1	32.9	3.6	7.0	2.1	383.1
62~63	31.8	23.9	74.5	83.2	42.9	55.7	45.5	80.3	79.6	28.5	4.4	27.9	578.2
63~64	30.0	20.6	41.5	9.2	24.5	33.4	37.2	86.9	65.9	13.1	9.0	15.4	386.7
64~65	3.3	64.9	12.5	14.8	38.9	36.3	52.6	45.9	61.3	4.5	0.8	10.5	346.3
65~66	43.3	34.0	53.4	82.0	6.7	90.6	51.2	69.5	26.0	13.7	7.6	17.2	495.2
66~67	3.9	18.6	47.0	74.4	21.0	33.2	32.5	74.9	70.4	39.2	0.4	27.8	443.3
67~68	48.9	44.1	92.6			81.2	68.5						(185.6)
Average ('57~'67)	22.0	31.8	41.4	42.8	30.5	47.3	51.9	71.6	51.4	19.5	3.9	18.9	433.0
Average ('27~'68)	38.7	43.2	35.3	33.4	28.1	37.9	55.9	69.5	45.3	15.7	12.5	21.9	437.4

D2-3

MONTHLY RAINFALL STATION TORUL CATCHMENT AREA ____ sq km KÜRTÜN, TURKEY

RIVER, IN THE BASIN OF ____ ELEVATION ____ m UNIT mm S ____ ° ____ W ____ °

YEAR	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	ANNUAL
1952~53	-	-	-	-	-	-	-	-	24.7	12.5	0.3	40.6	(78.1)
53~54	32.1	26.7	38.2	59.4	12.4	15.8	51.6	27.3	55.4	4.4	15.1	28.0	366.4
54~55	7.3	12.5	38.4	10.7	42.7	64.5	53.3	60.3	6.0	22.6	7.4	4.3	330.0
55~56	18.6	22.5	30.7	12.0	26.6	14.1	9.3	21.2	24.4	0	18.3	34.4	232.1
56~57	19.4	23.4	44.7	7.3	49.5	18.8	43.1	75.6	36.5	3.1	0	12.8	334.2
57~58	6.8	17.7	34.5	30.7	29.8	51.5	22.8	34.7	39.0	19.7	0.6	8.4	296.2
58~59	15.4	15.3	13.9	11.9	59.8	14.3	42.0	102.3	48.3	13.6	13.2	36.8	386.8
59~60	34.5	31.8	25.2	40.4	33.9	4.5	68.5	32.4	15.7	10.2	4.9	4.4	306.4
60~61	13.2	8.8	9.3	30.4	3.7	52.5	15.1	28.8	57.6	1.3	0	21.8	242.5
61~62	9.3	45.7	19.9	13.7	25.0	15.7	29.8	110.0	38.7	5.1	3.9	8.0	324.8
62~63	27.7	46.2	20.1	36.0	36.0	95.1	26.5	10.7	27.0	18.1	4.0	33.5	380.9
63~64	11.4	13.9	40.8	20.7	5.2	17.3	19.9	20.7	31.4	3.5	1.4	6.5	192.7
64~65	5.0	39.4	20.7	4.0	12.6	16.9	12.7	30.8	40.5	1.7	0	4.9	189.2
65~66	22.8	8.1	14.2	0	5.8	31.7	34.4	78.0	14.5	6.0	4.2	16.6	236.3
66~67	0.4	3.2	83.9	73.1	37.4	16.3	9.3	40.0	31.3	0	20.0	29.1	344.0
67~68	62.4	37.2	75.2										(174.8)
AVERAGE ('57~'67)	14 7	23.0	28.3	26.1	23.9	31.6	28.1	48.8	34.4	7.9	5.2	17.0	289.0
AVERAGE ('53~'67)	19.1	23.5	34.0	26-9	27.2	30 6	31.3	48.1	32.7	93.7	7.8	19.3	394.2

D2-4

MONTHLY RAINFALL STATION HARSIT CATCHMENT AREA sq km KÜRTÜN, TURKEY

RIVER IN THE BASIN OF ELEVATION m UNIT mm S ° W °

YEAR	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	ANNUAL
1957~58	136.7	116.7	64.7	123.3	105.0	135.3	129.4	53.8	57.5	148.8	82.7	112.3	1,266.2
58~59	115.9	142.0	86.7	66.2	285.3	129.5	55.2	249.2	58.0	27.7	51.4	161.8	1,428.9
59~60	130.6	149.4	19.9	60.8	175.7	62.9	115.5	46.8	149.0	80.6	77.8	44.5	1,113.5
60~61	23.1	47.6	86.0	99.3	70.2	106.8	-	-	-	-	-	-	(433.0)
61~62	-	151.1	119.9	123.4	211.4	90.2	78.7	74.3	90.5	36.7	49.0	122.4	(1,147.6)
62~63	193.5	92.9	131.9	173.6	78.1	221.3	135.5	100.3	48.0	97.2	179.5	162.9	1,614.7
63~64	190.0	105.2	157.2	172.2	47.6	103.3	135.0	89.8	164.9	98.0	116.5	181.7	1,561.4
64~65	147.3	234.4	106.5	132.2	66.6	131.5	127.1	43.7	126.4	119.3	54.3	54.4	1,343.7
65~66	248.9	138.2	130.5	257.8	212.7	149.2	93.1	20.2	97.8	109.9	47.4	142.4	1,648.1
66~67	19.9	18.1	192.6	81.3	76.1	171.2	69.1	45.0	209.1	52.5	252.2	131.4	1,318.5
67~68	134.1	128.5	131.0	-									(393.6)
AVERAGE ('57~'58)	134.0	120.4	111.5	129.0	132.0	130.0	104.3	80.3	111.2	85.6	101.2	123.8	1,206.3

D2-5

MONTHLY RAINFALL STATION TIREBOLU CATCHMENT AREA sq km KÜRTÜN, TURKEY

RIVER IN THE BASIN OF ELEVATION m UNIT mm S ° W °

YEAR	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	ANNUAL TOTAL
1952~53	-	-	-	161.3	262.4	181.1	21.0	77.8	4.5	16.8	53.9	151.4	(930.2)
53~54	212.6	339.9	109.3	196.2	123.8	54.6	82.0	52.2	79.0	185.6	189.8	125.2	1,750.2
54~55	151.4	58.2	67.1	86.1	81.9	128.5	121.4	59.6	30.6	108.5	110.7	190.3	1,194.3
55~56	35.6	460.2	209.8	208.7	229.8	221.6	31.7	91.3	104.7	146.1	89.7	243.2	2,072.4
56~57	211.2	278.1	193.6	162.0	83.9	89.5	60.9	91.8	260.8	41.4	270.8	240.3	1,984.3
57~58	293.4	278.0	161.4	249.5	124.5	178.7	141.8	63.0	130.9	334.8	174.8	158.0	2,288.8
58~69	208.7	248.4	155.2	150.3	368.6	93.7	74.7	304.1	117.7	44.4	88.2	373.8	2,227.8
59~60	313.7	192.6	109.2	144.8	193.2	105.1	140.8	69.4	181.2	200.0	215.8	158.8	2,024.6
60~61	93.6	162.4	146.6	276.8	211.4	196.2	20.7	106.5	97.6	122.7	210.8	242.2	1,887.5
61~62	130.8	209.7	192.6	141.1	237.7	134.6	95.5	58.5	73.6	49.9	89.7	140.8	1,554.5
62~63	248.8	91.6	246.7	247.5	99.3	215.9	119.7	75.5	77.3	68.7	115.9	217.1	1,824.0
63~64	191.5	122.6	289.0	242.6	104.6	136.6	134.2	82.1	54.1	131.6	233.8	137.1	1,859.8
64~65	182.4	265.1	132.7	119.1	154.8	139.3	150.5	72.4	202.2	144.1	107.5	87.6	1,757.7
65~66	410.6	244.7	140.2	133.7	124.4	160.3	72.9	204.0	-	-	-	-	(1,490.8)
66~67	-	-	-	115.9	90.5	65.6	59.6	46.7	56.4	48.3	258.3	116.9	(858.2)
67~68	112.6	334.9	168.5										(616.0)
Average ('57~'67)	230.4	210.7	174.8	182.1	170.9	142.6	101.0	108.2	110.1	127.2	166.1	181.3	1,905.4
Average ('53~'68)	199.8	234.7	165.9	175.7	166.1	140.1	88.5	97.0	105.0	118.0	157.8	177.3	1,825.9

D2-6-1

MONTHLY RAINFALL STATION GIRESUN CATCHMENT AREA ____ sq km KÜRTÜN, TURKEY

RIVER, IN THE BASIN OF ____ ELEVATION ____ m UNIT mm S ° ' W ° '

YEAR	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	ANNUAL
1927~28	26.0	369.0	318.0	91.0	292.0	139.0	81.0	107.0	130.0	48.0	161.0	10.0	1,772.0
28~29	103.0	103.0	94.0	142.6	160.4	106.3	68.4	13.5	48.6	84.8	77.0	356.5	1,358.1
29~30	20.0	89.0	103.0	157.6	140.9	89.7	86.5	29.8	82.9	41.8	61.2	77.5	979.9
30~31	264.0	208.8	136.2	84.3	34.7	129.2	92.6	37.0	69.1	137.1	114.3	52.7	1,360.0
31~32	121.0	230.0	208.2	153.5	166.3	76.6	123.8	66.5	124.0	31.2	109.1	94.6	1,504.8
32~33	15.1	469.2	140.7	194.2	118.9	128.8	82.2	97.2	108.1	113.3	54.8	374.0	1,896.5
33~34	108.8	204.6	187.0	145.1	181.6	15.4	40.2	39.8	110.1	49.7	102.1	186.4	1,370.8
34~35	167.8	126.1	200.0	105.5	173.8	103.7	83.7	16.6	42.4	136.9	32.6	135.2	1,324.3
35~36	76.1	180.9	71.7	86.5	77.3	70.7	143.5	39.8	131.3	119.5	107.5	144.0	1,248.8
36~37	143.1	156.5	144.3	102.3	103.8	59.4	94.1	49.5	90.3	33.0	149.7	149.0	1,275.0
37~38	132.5	156.3	78.5	170.0	191.5	82.0	79.8	32.0	21.5	172.7	79.5	269.8	1,466.1
38~39	39.1	154.5	93.8	18.1	176.4	130.3	43.5	53.7	51.4	175.0	64.0	115.7	1,115.5
39~40	204.1	179.8	113.0	150.1	69.1	177.4	45.8	50.2	70.3	51.9	72.6	45.3	1,229.6
40~41	142.5	74.4	154.8	180.4	50.8	247.2	62.8	80.2	83.9	75.1	171.8	256.0	1,579.9
41~42	109.5	193.0	111.7	161.6	21.8	127.7	78.2	61.0	24.6	160.0	89.5	62.0	1,200.6
42~43	197.4	210.3	72.5	133.4	74.3	81.8	88.7	60.7	55.2	57.6	43.6	105.9	1,181.4
43~44	122.7	94.9	215.9	207.3	95.5	91.8	69.9	69.7	33.5	30.1	61.8	61.4	1,154.5
44~45	48.2	198.0	90.4										
45~46				248.9	194.0	142.8	53.5	71.1	109.3	125.7	27.6	174.0	
46~47	277.3	30.7	47.7	182.3	94.8	87.0	45.5	38.5	18.5	150.6	89.9	127.1	1,189.9
47~48	180.0	163.0	67.2	79.3	141.8	166.3	84.5	23.7	150.8	102.5	60.5	36.3	1,255.9
48~49	195.9	193.9	178.0	115.3	174.4	77.6	119.3	27.0	33.7	143.3	449.0	148.8	1,856.2
49~50	187.7	32.7	119.9	244.1	103.5	77.8	27.1	79.9	50.0	40.4	117.8	6.4	1,087.3
50~51	193.6	83.5	40.0	87.1	79.8	68.1	76.3	103.9	82.7	64.5	88.7	233.4	1,201.6
51~52	180.4	120.2	183.0	92.3	122.3	93.0	70.1	103.2	70.3	81.9	79.3	134.8	1,330.8
52~53	93.0	65.6	101.6	81.4	197.5	125.7	41.0	56.9	64.1	71.6	29.2	151.4	1,079.0
53~54	138.6	353.7	66.7	141.9	101.2	62.9	53.7	60.1	113.2	106.0	73.4	89.3	1,368.7
54~55	135.2	38.2	94.1	52.4	61.7	92.5	120.9	53.5	49.6	31.0	33.9	156.1	919.1
55~56	94.8	256.5	196.7	146.5	244.8	117.8	33.7	93.0	100.1	44.7	207.9	243.3	1,779.8
56~57	133.9	177.4	135.9	134.0	59.8	83.1	42.1	74.1	66.8	4.6	77.8	127.2	1,116.7
57~58	239.4	120.0	90.6	179.4	60.6	122.3	95.8	78.9	67.9	175.5	92.1	85.2	1,407.7
58~59	229.0	147.0	140.7	131.9	261.0	54.2	71.2	189.9	43.9	28.3	148.8	206.1	1,652.0

D2-6-2

MONTHLY RAINFALL STATION GIRESUN CATCHMENT AREA ____ sq km KÜRTÜN, TURKEY

RIVER, IN THE BASIN OF ____ ELEVATION ____ m UNIT mm S ° ' W ° '

YEAR	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	ANNUAL
1959~60	184.8	131.2	86.4	109.7	150.8	59.4	127.5	68.4	73.1	64.3	114.0	105.7	1,275.3
60~61	62.8	77.8	60.5	140.9	90.3	110.7	25.0	67.7	53.9	85.2	36.0	198.9	1,009.7
61~62	57.3	187.7	120.0	92.1	187.3	77.1	57.1	36.8	62.3	22.1	70.4	68.6	1,038.8
62~63	229.8	93.8	193.0	187.2	81.7	161.5	132.2	44.7	33.6	26.0	49.5	93.8	1,326.8
63~64	105.3	62.2	135.6	131.6	51.6	133.8	83.5	74.5	39.3	64.4	66.0	160.8	1,108.6
64~65	54.9	180.0	110.6	61.7	90.7	86.0	103.4	74.6	64.6	139.7	51.7	87.3	1,105.2
65~66	368.6	118.5	122.1	106.6	64.0	114.2	78.5	121.8	68.5	153.4	96.6	88.7	1,501.5
66~67	17.2	48.2	146.6	241.8	210.3	59.8	58.7	67.6	54.0	42.5	226.2	31.8	1,204.7
67~68	120.7	166.6	143.1	141.6	54.8	97.8	45.1	48.7	126.0	28.3	76.2	-	(1,048.9)
AVERAGE ('57~'67)	143.0	121.3	125.9	134.5	124.3	95.5	78.2	79.5	61.9	65.4	93.5	112.7	1,235.7
AVERAGE ('27~'28)	139.7	155.6	127.1	132.4	125.9	102.3	76.3	63.4	69.6	82.1	97.1	131.7	1,303.5

D2-7

MONTHLY RAINFALL STATION AKGAABAT CATCHMENT AREA ____ sq km KÜRTÜN, TURKEY

RIVER IN THE BASIN OF ____ ELEVATION ____ m UNIT mm S ° W °

YEAR	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	ANNUAL
1963~64					7.6	11.7	13.8	21.2	22.4	22.2	19.6	15.1	133.6
64~65	15.1	11.8	9.1	6.7	7.7	10.9	15.0	20.9	22.8	22.8	20.3	13.0	176.1
65~66	13.0	11.7	10.3	10.2	10.3	13.6	16.5	20.0	24.0	24.5	19.9	18.0	192.0
66~67	18.0	15.5	11.0	7.2	6.9	10.4	15.9	18.7	22.1	22.3	19.6	16.9	184.5
67~68	16.9	12.5	10.1										39.5
Average	15.8	12.9	10.1	8.3	8.1	12.7	15.3	20.2	22.8	23.0	19.9	15.8	184.9

D2-8

MONTHLY, RAINFALL STATION EYNESIL CATCHMENT AREA ____ sq km KÜRTÜN, TURKEY

RIVER IN THE BASIN OF ____ ELEVATION ____ m UNIT mm S ° W °

YEAR	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	ANNUAL
1963~64	148.3	110.8	239.2	105.6	65.8	89.8	71.2	55.6	42.0	77.8	73.3	95.9	1,175.3
64~65	153.9	226.7	122.5	87.5	132.4	90.1	104.2	56.9	140.5	53.9	53.9	35.2	1,257.7
65~66	368.9	196.9	103.0	76.2	136.8	124.9	48.7	126.4	47.5	131.7	98.5	123.9	1,583.4
66~67	60.6	25.2	200.3										
67~68													
Average	129.6	119.6	91.4	70.9	78.9	106.9	84.2	105.3	93.3	206.3	172.5	207.2	1,466.1

D2-9

MONTHLY RAINFALL STATION VAKFIKEBIR CATCHMENT AREA sq km KÜRTÜN, TURKEY

RIVER IN THE BASIN OF ELEVATION = UNIT mm S ° W °

YEAR	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	ANNUAL TOTAL
1938~39	-	-	-	104.6	188.5	95.7	67.3	6.6	9.2	45.2	30.5	192.6	(740.2)
39~40	95.1	135.2	55.8	25.7	116.3	80.0	55.6	36.5	57.9	93.7	61.6	149.9	963.3
40~41	158.2	160.1	125.2	181.8	78.3	105.9	18.1	42.5	140.9	52.8	82.7	97.6	1,244.1
41~42	277.4	34.7	175.0	146.5	34.1	202.9	88.8	65.2	45.7	56.2	147.1	344.9	1,618.5
42~43	285.8	173.0	174.4	169.0	43.5	204.5	46.8	61.1	6.4	63.9	75.8	103.0	1,407.2
43~44	199.2	258.7	116.2	88.2	95.0	110.0	34.4	35.6	18.7	82.0	21.7	55.0	1,114.7
44~45	119.3	134.6	110.7	148.3	105.4	71.4	62.1	117.4	103.0	70.0	79.3	99.6	1,221.8
45~46	114.0	143.6	28.5	154.6	130.3	140.6	118.6	35.2	159.0	10.6	113.0	97.1	1,245.1
46~47	411.2	113.9	18.8	269.1	151.9	112.1	63.0	98.7	101.1	146.6	2.6	151.1	1,640.1
47~48	349.5	58.4	28.8	228.5	68.9	59.6	19.6	29.2	8.5	55.6	76.2	227.6	1,210.4
48~49	179.7	125.1	125.5	116.6	260.6	178.5	62.4	39.6	72.4	-	-	-	(1,160.4)
49~50													
50~51													
51~52													
52~53													
53~54													
54~55					NO	DATA							
55~56													
56~57													
57~58													
58~59													
59~60													
60~61	-	-	-	-	-	-	-	-	66.8	34.7	70.8	145.3	(317.6)
61~62	72.9	189.0	144.4	110.4	143.8	64.3	38.4	91.1	54.7	13.0	34.5	204.3	1,160.8
62~63	256.2	94.0	180.0	201.2	60.2	159.9	80.8	52.7	63.9	18.9	76.6	142.7	1,387.1
63~64	155.7	96.7	226.8	136.1	75.1	66.0	77.1	69.2	42.5	56.2	84.0	76.0	1,161.4
64~65	209.6	303.5	211.5	122.0	-	-	-	-	146.1	54.5	-	-	1,047.2
65~66	-	164.3	67.1	60.4	99.8	123.9	65.2	116.1	38.8	79.8	102.1	135.0	1,052.5
66~67	45.5	17.4	164.8	208.8	144.1	31.9	64.7	67.6	131.4	74.5	121.6	54.1	1,126.4
67~68	129.0	167.4	261.9	-	-	-	-	-	-	-	-	-	(558.3)
Average ('38~'68)	191.1	139.4	130.3	145.7	112.2	113.0	60.2	60.3	70.4	59.3	73.8	142.2	1,297.9

D2-10

MONTHLY RAINFALL STATION MALKA CATCHMENT AREA sq km KÜRTÜN, TURKEY

RIVER IN THE BASIN OF ELEVATION = UNIT mm S ° W °

YEAR	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	ANNUAL
1951~52				49.6	76.6	81.5	38.0	73.2	39.7	17.8	17.8	47.7	441.9
52~53	39.3	33.2	19.9	43.6	129.8	47.1	66.8	65.3	83.0	41.4	12.9	88.4	670.7
53~54	50.8	131.7	35.2	97.3	36.3	49.7	79.5	92.7	61.3	10.3	53.2	58.2	756.2
54~55	22.2	10.5	32.2	22.0	45.2	77.4	95.1	44.1	19.9	39.9	27.4	59.4	495.3
55~56	21.4	69.6	53.7	60.6	90.7	86.6	33.7	128.5	66.7	13.3	55.2	65.4	745.4
56~57	69.7	79.1	88.8	63.2	49.6	31.5	36.8	97.6	59.1	39.0	13.6	16.6	644.6
57~58	40.6	46.7	53.3	55.1	34.3	67.8	91.9	24.4	80.7	39.5	15.1	68.2	617.6
58~59	26.8	60.8	75.6	54.5	96.2	54.8	55.3	198.9	79.1	24.2	27.9	110.6	864.7
59~60	72.0	67.6	20.1	61.1	112.1	31.3	121.4	91.1	78.5	36.5	26.7	23.6	742.0
60~61	47.0	14.5	26.1	77.6	19.2	95.3	63.3	99.8	118.3	35.6	17.0	83.7	697.4
61~62	40.5	117.6	75.3	70.1	87.3	40.1	63.8	114.9	54.2	28.7	7.0	28.8	728.3
62~63	109.6	63.0	43.2	106.3	39.1	120.7	86.2	102.4	133.8	121.1	32.9	68.5	1,026.8
63~64	83.8	38.2	87.4	73.4	32.2	83.9	124.1	98.1	65.8	45.7	32.2	34.6	799.4
64~65	15.7	112.5	48.3	31.2	61.3	89.5	98.4	48.3	113.7	23.1	6.6	27.1	675.7
65~66	178.8	40.1	44.2	67.2	32.8	94.0	75.0		22.8	41.1	17.7	69.1	682.8
66~67	14.8	8.0	37.8	123.1	83.4	31.1	61.7	65.8	80.7	42.3	66.9	83.9	699.5
67~68	30.5	59.2	99.0										188.7
Average ('57~'67)	63.0	56.9	51.1	72.0	59.8	70.9	84.1	93.8	82.8	43.8	25.0	59.8	763.0
Average ('52~'68)	54.0	59.5	52.5	66.0	64.1	67.8	74.4	89.7	72.3	37.5	26.9	58.4	723.1

D2-11-1

MONTHLY RAINFALL STATION TRABZON CATCHMENT AREA — sq km KÜRTÜN, TURKEY

RIVER IN THE BASIN OF — ELEVATION — m UNIT mm S — ° — W — °

YEAR	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	ANNUAL
1927~28	52.0	297.0	128.0	31.0	135.0	31.0	26.0	25.0	73.0	0.0	83.0	52.0	933.0
28~29	150.0	60.0	63.0	68.5	71.1	32.6	63.6	20.3	54.7	68.8	73.9	263.4	989.9
29~30	31.2	25.3	28.8	39.5	104.7	66.7	52.9	33.1	46.8	10.5	50.6	81.6	571.7
30~31	110.5	132.0	113.8	71.4	17.3	97.1	96.8	23.5	34.5	18.6	73.2	42.8	831.5
31~32	98.9	171.9	125.9	76.1	85.4	32.4	39.4	47.5	30.8	106.7	29.3	25.3	869.6
32~33	11.6	240.2	66.1	97.9	93.0	70.0	54.4	49.6	77.9	75.2	20.7	142.9	999.5
33~34	90.0	161.2	114.1	42.8	41.5	15.1	44.7	40.1	74.7	14.2	51.3	62.3	752.0
34~35	124.3	82.1	122.4	39.4	70.5	66.1	78.1	31.3	66.4	86.0	-	-	(766.6)
35~36	-	-	-	87.4	26.8	57.5	91.1	40.2	34.4	16.2	162.4	29.1	(545.1)
36~37	95.1	46.2	84.3	73.5	187.2	43.2	75.4	19.5	11.1	12.3	30.6	95.0	773.4
37~38	45.6	77.1	38.6	18.7	66.9	61.7	51.9	40.2	66.8	58.7	27.8	76.1	630.1
38~39	101.3	70.4	76.8	109.8	88.3	81.2	27.7	64.3	106.0	90.5	42.1	66.3	924.7
39~40	200.5	54.0	106.6	112.6	38.0	139.3	60.3	98.7	43.6	58.2	129.2	138.9	1,179.9
40~41	122.0	172.0	98.8	248.0	21.6	79.2	62.8	77.6	3.0	22.4	49.8	33.1	990.3
41~42	142.4	157.5	67.5	69.5	45.3	55.9	26.1	42.4	16.3	51.0	3.3	32.9	710.1
42~43	66.3	98.4	147.4	104.9	90.2	66.7	61.6	58.8	36.7	12.1	5.4	88.3	836.8
43~44	46.9	77.1	18.1	51.3	33.1	43.2	114.0	44.1	80.2	3.7	22.5	21.0	555.2
44~45	251.8	30.6	100.0	225.2	78.5	50.2	38.4	92.4	57.2	67.6	7.8	89.9	1,089.6
45~46	269.3	26.2	20.3	94.4	33.8	32.0	30.1	23.1	24.1	20.7	92.1	67.6	733.7
46~47	119.4	121.8	77.2	58.1	90.7	77.4	37.1	15.7	70.8	24.5	12.3	44.4	749.4
47~48	88.7	138.6	89.2	70.3	120.2	29.4	24.5	20.6	32.1	31.1	100.6	139.9	885.2
48~49	73.3	14.2	153.6	350.1	57.5	79.2	19.6	72.0	85.2	7.8	22.1	18.4	953.0
49~50	183.7	77.2	25.1	140.1	35.4	43.3	31.6	104.7	42.8	44.0	163.1	68.6	959.6
50~51	161.0	77.2	129.0	58.4	103.9	46.0	20.8	72.6	24.1	38.2	5:8	153.7	890.7
51~52	82.7	34.0	39.8	89.0	141.1	53.9	48.8	45.1	38.9	62.1	27.2	119.8	782.4
52~53	78.9	275.3	30.8	81.9	37.3	38.9	57.1	36.1	80.2	26.5	94.8	41.2	879.0
53~54	39.0	9.8	30.7	9.9	20.2	50.6	78.1	38.2	15.3	37.1	13.5	51.3	393.7
54~55	13.1	125.9	159.1	89.6	90.9	64.1	22.6	62.5	61.5	11.3	30.3	103.5	834.4
55~56	84.7	151.4	90.4	78.4	33.2	36.9	31.1	54.4	46.4	28.5	6.6	74.9	716.9
56~57	114.4	124.4	49.1	73.2	40.3	84.5	82.6	23.3	79.9	63.9	37.7	52.5	825.8
57~58	88.1	172.7	102.7	64.0	166.6	78.2	28.8	148.4	61.4	12.1	32.5	114.2	1,069.7
58~59	188.2	69.9	55.0	54.0	124.8	18.3	107.8	41.3	70.1	18.7	15.6	84.7	848.4

4 4 3 100 × 1 × 30

D2-11-2

MONTHLY RAINFALL STATION TRABZON CATCHMENT AREA — sq km KÜRTÜN, TURKEY

RIVER IN THE BASIN OF — ELEVATION — m UNIT mm S — ° — W — °

YEAR	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	ANNUAL
1959~60	18.6	38.5	43.9	63.6	44.0	90.0	29.4	57.6	38.4	48.4	36.8	44.2	553.4
60~61	31.5	163.9	74.0	48.5	94.6	25.2	27.2	95.7	35.4	20.0	13.2	56.3	685.5
61~62	134.5	57.6	127.8	118.9	27.8	106.9	63.6	5.2	10.3	41.2	60.0	143.6	897.4
62~63	91.6	57.3	77.4	36.3	55.6	94.7	80.4	29.5	93.0	18.7	25.4	50.3	710.2
63~64	293.0	66.4	32.2	50.8	34.9	61.2	53.5	51.5	48.3	22.0	66.1	149.7	929.6
64~65	28.8	22.3	64.5	109.9	120.1	18.0	64.6	57.4	43.9	31.1	80.5	29.6	670.7
65~66	55.5	83.0	126.1										264.6
AVERAGE ('56~'66)	104.4	85.6	75.3	69.8	74.2	61.4	56.9	56.4	52.7	30.5	37.4	80.0	784.6
AVERAGE ('27~'66)	104.7	101.6	81.5	87.0	72.8	58.4	52.8	50.1	50.4	36.3	47.3	77.6	820.5

4 4 3 100 × 1 × 30

MONTHLY RAINFALL STATION AKCA ABAT CATCHMENT AREA ____ sq km KÜRTÜN, TURKEY

RIVER IN THE BASIN OF ____ ELEVATION ____ m UNIT mm S ° W °

YEAR	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	ANNUAL
1950~51				26.6		1.5	1.3	56.9	25.8	8.5	20.1	21.9	162.6
51~52	73.4	12.3	6.4	23.2	12.6	52.9	35.0	52.9	14.0	20.7	36.4	37.1	376.9
52~53	19.9	38.9	55.4	68.2	75.0	38.1	11.5	56.9	20.2	17.7	8.4	88.0	498.2
53~54	83.0	34.3	54.3	153.8	113.5	77.3	34.4	6.3	18.7	16.0	14.0	48.1	653.7
54~55	41.2	174.1	49.7	140.3	41.7								447.0
55~56													
56~57													
57~58													
58~59													
59~60													
60~61													
61~62													
62~63								54.5	57.0	24.9	43.8	119.0	299.2
63~64	85.3	76.5	130.4	170.6	35.3	52.4	57.8	57.7	24.5	27.9	29.0	33.3	780.7
64~65	91.0	172.7	97.0	39.0	61.7	71.1	74.1	29.4	81.3	29.6	15.2	32.6	794.8
65~66	231.7	70.2	29.9	36.7	37.8	48.2	48.3	53.4	24.4	18.5	57.4	125.0	781.5
66~67	37.9	15.6	57.0	96.3	111.6	11.0	21.6	39.2	34.4	66.8	103.0	30.9	625.3
67~68	56.9	93.8	167.5										318.2
AVERAGE	80.0	76.5	72.0	83.9	61.1	44.1	35.5	45.2	33.4	25.6	36.3	59.5	653.1

D 3 Daily Precipitation in March and April

D3-1-1

Daily Precipitation STATION KALE KÜRTÜN, TURKEY

RIVER, IN THE BASIN OF ELEVATION UNIT mm YEAR

DATE	1957 Mar.	1957 Apr.	1958 Mar.	1958 Apr.	1959 Mar.	1959 Apr.	1960 Mar.	1960 Apr.	1961 Mar.	1961 Apr.	1962 Mar.	1962 Apr.	DATE
1				1.3				12.1		4.7			1
2					1.3							6.6	2
3			5.9				2.4	2.3		0.0		11.9	3
4	3.2		0.0	2.1		0.3		2.4				6.4	4
5			1.5	0.8		2.3	0.4	2.8					5
6			2.4				1.0	2.9	0.3				6
7	0.2		2.9				3.4	15.8					7
8								0.3	1.0	0.0			8
9		2.9	3.6	0.7	0.6			8.4	1.3				9
10		5.2	1.6		4.5			0.7			0.7	15.9	10
11	4.3	1.2		4.0	1.3								11
12	3.3									2.8			12
13				2.8	0.3	1.3			0.3	26.1			13
14			4.3							2.3			14
15	0.0		1.1	1.4		24.2			8.9	0.0		0.5	15
16				12.1		1.0			4.3			5.5	16
17	0.3			6.5	6.8			5.0	0.6				17
18	1.3		0.5	11.8	0.8			1.7					18
19		2.7			0.7			7.3	1.9				19
20		9.5	2.3	21.6				0.5			3.9		20
21			5.5					1.3					21
22			2.2				3.6	5.1	0.7				22
23		3.3	0.5				1.2	13.9		13.8		2.9	23
24		1.5	15.3					8.3	0.0	0.2	5.2		24
25		5.2				13.2		5.3	0.7	0.0	21.8	0.5	25
26			3.9					12.7	5.8				26
27								1.9	0.2	4.4			27
28		3.6	1.3							1.4	20.2	1.9	28
29		3.4				4.0			0.2			1.3	29
30						1.8				5.5	0.9		30
31	0.8		0.5						0.8				31
Total	19.4	39.0	60.3	65.1	16.3	48.1	12.0	115.7	39.7	61.2	52.7	53.4	

Annual Total ( )

D3-1-2

Daily Precipitation STATION KALE (Kovans) KÜRTÜN, TURKEY

RIVER, IN THE BASIN OF ELEVATION UNIT mm YEAR

DATE	1963 Mar.	1963 Apr.	1964 Mar.	1964 Apr.	1965 Mar.	1965 Apr.	1966 Mar.	1966 Apr.	1967 Mar.	1967 Apr.	1968 Mar.	1968 Apr.	DATE
1		0.6			0.5	3.0	2.9				2.7		1
2	1.2			0.4	3.9	6.0		7.7			1.3		2
3			2.8	0.0		9.6		5.9	1.2		0.7		3
4			2.1			8.4				2.2			4
5	9.6	13.3			1.0	2.0			6.4	8.9	0.0		5
6		4.2	3.4	12.2		0.5			4.4				6
7			0.5	0.4		1.9		0.9			0.7		7
8				0.9	7.0			0.3					8
9			3.6	1.5			8.9	4.6					9
10		3.0	2.4				14.8					3.5	10
11		1.5	1.0		1.7	0.5		0.0			0.4	3.4	11
12		8.8	8.6		1.6		18.3	0.6			1.9	0.5	12
13	1.6		6.3			3.0	0.5	2.9			25.1	2.1	13
14		5.9	0.4			3.6		3.1			25.3	2.6	14
15		0.9				0.9						4.3	15
16	21.0	1.5				1.0		0.8				0.5	16
17		9.4				1.1			7.0	4.5		4.7	17
18		6.2				9.6	10.0	2.8		8.6		12.4	18
19		0.9				3.0	0.5	4.9					19
20			1.5			0.7		5.5					20
21			0.5			0.3		5.6		23.5	1.5	4.8	21
22						0.6				0.4		5.1	22
23						0.3			0.0			13.4	23
24		3.9				6.4				0.4			24
25	19.4	2.3			5.9	0.6							25
26			1.6		4.3		2.8		0.0				26
27			8.7						15.8				27
28				14.0			7.9						28
29		10.0		9.6		11.0		3.1					29
30		0.2											30
31	2.5				8.7								31
Total	55.3	72.6	43.4	39.0	34.6	68.0	66.6	48.7	34.8	48.5	59.6	57.3	

Annual Total ( )

D3-2-1

Daily Precipitation STATION GÜMÜSHANE KÜRTÜN, TURKEY

RIVER, IN THE BASIN OF ELEVATION UNIT mm YEAR

DATE	1927 Mar.	1927 Apr.	1928 Mar.	1928 Apr.	1931 Mar.	1931 Apr.	1932 Mar.	1932 Apr.	1933 Mar.	1933 Apr.	1934 Mar.	1934 Apr.	DATE
1							4.5	11.8	0.0			0.0	1
2							0.3		0.0	0.0		3.8	2
3					0.5				1.9			10.2	3
4										0.0		1.5	4
5													5
6					10.0	10.0				2.2			6
7										3.6	0.3		7
8					0.5								8
9									1.2		0.6		9
10						17.0							10
11					1.5	0.0				0.0		0.0	11
12					1.9	3.0		6.0	1.4	3.5		13.7	12
13						8.0			1.0		0.0	0.8	13
14									0.6				14
15									3.4	9.8			15
16						0.1	7.2			1.1			16
17					8.5			0.0		0.0			17
18								2.0		0.6		3.0	18
19					0.1	2.2				9.5	2.6		19
20								9.0				0.0	20
21								1.6	0.8	18.4			21
22								2.8		5.0	0.9		22
23							0.4						23
24						14.0	0.0						24
25						0.1	3.6		11.5			0.0	25
26					1.5		1.2		6.2	22.0			26
27						2.4	0.0	38.0	0.8	23.0			27
28								9.6		7.4			28
29					13.0	7.2	12.7			1.5			29
30					0.1		1.5	13.7		0.0	2.8		30
31					0.0				0.5				31
Total	12.0	28.0	18.0	49.0	37.6	69.0	31.3	94.5	29.3	107.6	7.2	33.0	

Annual Total ( )

D3-2-2

Daily Precipitation STATION GÜMÜSHANE KÜRTUN, TURKEY

RIVER, IN THE BASIN OF ELEVATION UNIT mm YEAR

DATE	1935 Mar.	1935 Apr.	1936 Mar.	1936 Apr.	1937 Mar.	1937 Apr.	1938 Mar.	1938 Apr.	1939 Mar.	1939 Apr.	1940 Mar.	1940 Apr.	DATE
1	3.1			7.4	2.7					1.6			1
2								7.2					2
3		22.3						4.4	1.8			0.9	3
4	9.3	1.9							2.0		12.8	11.2	4
5	2.7				5.9				6.5			4.9	5
6	7.7					5.9			0.6			0.1	6
7	3.0	3.8		8.1		4.0		8.9	0.0			0.8	7
8	0.2			2.6				3.5		1.9	7.2		8
9				8.0			0.7	0.0		0.9	14.7		9
10		3.1	1.5			28.6		0.0	4.7		0.7		10
11	6.6		1.0	14.2		15.4	3.1	7.5		0.7			11
12		2.2		0.6						4.0	0.8		12
13								4.0		0.5			13
14					3.6	4.8	0.9	6.2	10.5	0.0			14
15	0.4		2.1	1.2			0.0	13.1		3.9			15
16	2.3		4.6	3.5									16
17				3.1		1.2		0.9					17
18		13.5				31.1		8.5				0.1	18
19						2.2	3.6					0.0	19
20	7.7	0.5		3.4	5.9	2.5			6.9	0.6	6.9	0.0	20
21		3.3	6.0	3.0	4.7					6.7		0.2	21
22						1.2				1.7		1.4	22
23		5.1	0.0			0.6							23
24								5.8				3.1	24
25				3.5		2.0						4.6	25
26				26.0								6.2	26
27								5.5		12.1		0.3	27
28		2.2			39.6		0.0	23.0		10.7			28
29	5.5		3.3	1.0	17.3	0.6		6.4		0.2		0.4	29
30	6.4		0.3			9.7	10.0					3.2	30
31	3.1		5.4										31
Total	58.0	57.9	24.2	86.1	79.2	109.8	18.3	104.9	43.6	45.5	43.7	37.9	

Annual Total ( )

D3-2-3

Daily Precipitation STATION GÜMÜSHANE KÜRTÜN, TURKEY
RIVER, IN THE BASIN OF ELEVATION UNIT mm YEAR

DATE	1941 Mar.	1941 Apr.	1942 Mar.	1942 Apr.	1943 Mar.	1943 Apr.	1944 Mar.	1944 Apr.	1945 Mar.	1945 Apr.	1946 Mar.	1946 Apr.	DATE
1	6.5		8.8						2.7				1
2	5.0								35.9			10.0	2
3	1.7		16.5					0.9					3
4	2.0			4.9				6.5					4
5				0.0	1.4	9.1	0.6	0.0					5
6			8.8			12.2			4.5		0.0		6
7			0.0	8.0	0.5	7.1					5.0		7
8				0.0		0.0				0.0			8
9	13.8	0.0		1.1	3.6				0.7	3.0			9
10	0.0	2.2	1.1		1.0				3.5		0.8	1.3	10
11		2.2							1.0		0.6		11
12	0.4	1.2				3.1	4.3				6.2	1.3	12
13	1.4	18.0				0.8	3.9					0.0	13
14	5.3	18.0				0.0	0.0	6.8	1.5			21.8	14
15	14.2	0.0		2.3			13.3		0.0	0.0			15
16	3.3					0.0	0.0			6.8			16
17	0.0			0.0				16.4		1.2			17
18				0.0			7.5	3.2		0.0			18
19	0.5						0.0				1.5		19
20			0.3			0.0			2.1	5.9	0.5		20
21		7.9	1.2						0.0			14.0	21
22		8.1	1.3	0.0						4.3		8.1	22
23			0.4	9.3									23
24		5.4				0.0			1.4	0.0			24
25		1.2								9.2	2.7		25
26	4.1		2.6	0.0			13.2			31.0	0.0	7.5	26
27	3.2									6.8	1.5	0.4	27
28					0.0		21.7	6.5		0.4	2.6	0.0	28
29		0.0			0.0		0.7	3.0			5.1	2.3	29
30		0.2			0.0		2.0	1.5			0.0	0.4	30
31	0.0												31
Total	61.4	64.4	33.0	25.6	6.5	32.3	67.7	44.8	53.3	68.6	23.9	67.1	
									Annual Total ( )				

D3-2-4

Daily Precipitation STATION GÜMÜSHANE KÜRTÜN, TURKEY
RIVER, IN THE BASIN OF ELEVATION UNIT mm YEAR

DATE	1947 Mar.	1947 Apr.	1948 Mar.	1948 Apr.	1949 Mar.	1949 Apr.	1950 Mar.	1950 Apr.	1951 Mar.	1951 Apr.	1952 Mar.	1952 Apr.	DATE
1			0.0								0.4		1
2						3.2							2
3											0.0		3
4	5.3					6.2							4
5	0.7					0.6			5.0				5
6							4.9	4.6		5.0			6
7							0.8	1.6		4.4		0.0	7
8										3.8			8
9							2.1		0.7		0.0	0.0	9
10							7.4			9.4	0.0	2.1	10
11					0.0		0.0						11
12	3.1			4.6	0.9			35.9	7.9				12
13		0.0	7.1		0.0	11.0		0.9					13
14	0.0	12.7	2.2						0.0				14
15	2.5	4.2	2.2										15
16		0.8				0.8					0.3		16
17			1.6	0.0							8.5		17
18	0.0		0.0	0.6			0.0		7.7	0.0			18
19			4.1			5.9			3.3	9.8			19
20						5.0			0.3	6.9		6.7	20
21			1.6			9.7			0.0		0.5		21
22						8.6	0.8		1.8		0.0		22
23	0.0					6.0	0.8		2.7				23
24	13.0	0.8			8.3					7.4			24
25			1.3		2.1	1.3				4.8	0.4		25
26			1.6				2.0	0.0		4.6			26
27				3.9			5.6	10.3		23.7			27
28				14.1			4.2			4.8			28
29	1.7		5.9	17.3			0.6	7.0	2.4			2.8	29
30	0.5		3.7		8.1					0.8		2.1	30
31			1.3		1.2								31
Total	26.8	18.5	32.6	40.5	20.6	58.3	29.2	60.3	31.8	85.4	10.1	13.7	
									Annual Total ( )				

D3-2-5

Daily Precipitation STATION GÜMÜSHANE KÜRTÜN, TURKEY

RIVER, IN THE BASIN OF ELEVATION UNIT mm YEAR

DATE	1953 Mar.	1953 Apr.	1954 Mar.	1954 Apr.	1955 Mar.	1955 Apr.	1956 Mar.	1956 Apr.	1957 Mar.	1957 Apr.	1958 Mar.	1958 Apr.	DATE
1	29.2			10.5									1
2	3.4												2
3											7.8		3
4									11.5		4.5	5.4	4
5				4.0							1.0		5
6											13.8	5.2	6
7	6.0										1.0		7
8				5.0			13.5						8
9						10.0							9
10													10
11													11
12	5.0						8.5						12
13	3.1							10.0			1.0		13
14						0.5							14
15						3.8						2.5	15
16													16
17				6.2			8.3						17
18													18
19			17.0			1.8							19
20		11.7				1.3				18.3			20
21				3.9		7.8							21
22						8.5		4.4			5.0		22
23		2.4									8.1		23
24		16.8	12.5	24.2							3.0	9.7	24
25						1.3				15.6			25
26				11.0							3.0		26
27	1.8		4.5			14.9						13.5	27
28											6.0		28
29	4.4							5.0		5.4		5.2	29
30	2.4					12.7							30
31												6.5	31
Total	55.6	32.7	34.0	64.8	-	62.6	30.3	19.4	11.5	39.3	78.7	48.0	

Annual Total ( )

D3-2-6

Daily Precipitation STATION GÜMÜSHANE KÜRTÜN, TURKEY

RIVER, IN THE BASIN OF ELEVATION UNIT mm YEAR

DATE	1959 Mar.	1959 Apr.	1960 Mar.	1960 Apr.	1961 Mar.	1961 Apr.	1962 Mar.	1962 Apr.	1963 Mar.	1963 Apr.	1964 Mar.	1964 Apr.	DATE
1				14.7	0.6								1
2	10.0							2.0	1.4			0.0	2
3			1.9					10.4	0.0		2.0	0.0	3
4				0.2				1.1		0.8	0.5		4
5		2.1	2.5	15.1					5.0	5.4			5
6			1.3	5.2				0.1	0.0	1.6	2.3	11.3	6
7			4.1	15.5	0.5						0.0		7
8			6.5		0.5							1.8	8
9				13.1	3.5			2.7			3.3	7.1	9
10	7.4				3.0		3.5	4.9		3.7	1.3	0.0	10
11	2.7						0.0			0.7	0.0	0.0	11
12					0.0	0.9			0.0	3.9	6.1		12
13			0.1		1.0	21.5			2.3	0.0	4.8		13
14				0.5		0.2				4.4			14
15					20.4					0.3			15
16		22.5			1.1				19.6	0.3			16
17	16.9	4.6		7.0	1.2				0.0	11.2			17
18				0.7	1.3					1.1			18
19				12.8	0.0					1.4			19
20							5.5				1.8	0.5	20
21									4.1			0.0	21
22				3.0	0.6				1.0				22
23			6.0	5.0		15.9				0.0			23
24				9.2	1.1	2.0	0.2	0.0		5.1			24
25				5.1	2.5	2.6	13.0	2.6	21.5	2.1	0.5		25
26		10.5		14.2	3.9				0.5		6.5	0.0	26
27				4.8		1.5			0.0	0.8	3.8		27
28						0.8	8.6	4.4		0.3	0.4	10.4	28
29		5.1			0.5			3.4		2.4		5.9	29
30		1.0			1.3	0.8	2.6					0.2	30
31			2.3		7.2				0.3				31
Total	37.0	45.8	24.7	126.1	50.2	46.8	33.4	31.6	55.7	45.5	33.3	37.2	

Annual Total ( )

D3-2-7

Daily Precipitation STATION GÜMÜSHANE KÜRTÜN, TURKEY

RIVER, IN THE BASIN OF ELEVATION UNIT mm YEAR

DATE	1955 Mar.	1955 Apr.	1956 Mar.	1956 Apr.	1957 Mar.	1957 Apr.	1958 Mar.	1958 Apr.					DATE
1	3.5	2.4	1.6				4.3						1
2	3.3	1.8		4.5	0.4		2.2						2
3		8.9		7.6	1.5	0.2	5.9						3
4		0.5			1.6	6.2							4
5	0.1	4.1			10.5	6.3	1.2						5
6		0.8	0.2		4.1		0.2	0.0					6
7		0.5		2.5			3.5						7
8	6.1			1.0		0.9							8
9			11.8	2.0									9
10	3.1		17.9				0.7						10
11	3.1	0.3					2.2	4.0					11
12	1.0		32.5	0.1			3.0	2.6					12
13	0.3	1.7	3.0	2.5			49.5	2.7					13
14		2.0		0.9			7.7	1.9					14
15		2.1						6.1					15
16		0.2		1.4				1.9					16
17				1.2	5.9	0.4		3.9					17
18		4.7	5.7	3.2		2.6		30.6					18
19		4.8	1.5	7.0									19
20		0.3	2.1	6.2		0.3							20
21	1.2	1.0	0.1	4.5		9.4	1.3	3.5					21
22		0.2				0.5	0.2	5.4					22
23					1.1			5.2					23
24		4.7				2.5							24
25	1.0	1.2				3.0							25
26	3.7		4.6			0.2							26
27		1.3			8.1								27
28		0.2	10.1	0.1									28
29		8.9		6.5									29
30													30
31	9.9												31
Total	36.3	52.6	90.6	51.2	33.2	32.5	81.2	68.5					

Annual Total ( )

D3-3-1

Daily Precipitation STATION TORUL KÜRTÜN, TURKEY

RIVER, IN THE BASIN OF ELEVATION UNIT mm YEAR

DATE	1953 Mar.	1953 Apr.	1954 Mar.	1954 Apr.	1955 Mar.	1955 Apr.	1956 Mar.	1956 Apr.	1957 Mar.	1957 Apr.	1958 Mar.	1958 Apr.	DATE
1													1
2				24.4									2
3											5.9		3
4					4.7				13.9				4
5				5.7		12.3	0.5				3.1		5
6											1.0		6
7					11.3								7
8				3.7	3.4	5.2	2.8						8
9						8.3				3.1	7.1		9
10						2.4				5.6			10
11			2.0					3.7	3.2				11
12			4.2		10.2				1.3				12
13		2.0											13
14		1.0				3.2							14
15					1.4	8.3					3.5	1.9	15
16					8.7		4.3		0.4			5.3	16
17							3.7					7.3	17
18							0.0				1.8	5.4	18
19					2.3					10.8			19
20		14.0				6.2				7.8	8.2		20
21				6.7									21
22						7.4		3.2			7.3		22
23			4.3				1.4				3.4		23
24		8.0									4.2		24
25			0.3										25
26			1.4	11.1			0.8				2.8		26
27			3.0							13.2			27
28										2.6	3.2	3.1	28
29					10.4			2.4					29
30	1	12.0			12.1								30
31							0.6						31
Total	-	32.0	15.8	51.6	64.5	53.3	14.1	9.3	18.8	43.1	51.5	22.8	

Annual Total ( )

D3-3-2

Daily Precipitation STATION TORUL KÜRTÜN, TURKEY

RIVER, IN THE BASIN OF ELEVATION UNIT mm YEAR

DATE	1959 Mar.	1959 Apr.	1960 Mar.	1960 Apr.	1961 Mar.	1961 Apr.	1962 Mar.	1962 Apr.	1963 Mar.	1963 Apr.	1964 Mar.	1964 Apr.	DATE
1				8.5									1
2	2.8		2.8										2
3								5.6				2.4	3
4				4.8									4
5	2.7			3.4			1.4		1.7	3.2			5
6				0.8						2.2		6.4	6
7				7.4							1.8		7
8			1.7	2.4							3.2	1.6	8
9	3.4			9.3	9.7			4.7			1.4		9
10	5.4				9.4		1.7	6.4					10
11										1.2	4.2		11
12									1.8	1.4	2.4		12
13					4.3	7.3							13
14										0.7			14
15		27.2			14.7								15
16		1.4						5.5	8.2				16
17					2.4					3.6			17
18										2.4			18
19				8.3						2.3			19
20				1.4			3.7				0.7		20
21													21
22				2.8	0.8				2.3				22
23				5.4		4.1				1.4			23
24										2.2			24
25		4.1		2.3	6.4	3.7	5.3		11.1	0.7			25
26				11.7							1.2		26
27										5.2			27
28							2.2	6.0				9.2	28
29		0.4						1.6				2.7	29
30		8.9					1.4						30
31					4.8								31
Total	14.3	42.0	4.5	68.5	52.5	15.1	15.7	29.8	25.1	26.5	17.3	19.9	

Annual Total ( )

D3-3-3

Daily Precipitation STATION TORUL KÜRTÜN, TURKEY

RIVER, IN THE BASIN OF ELEVATION UNIT mm YEAR

DATE	1965 Mar.	1965 Apr.	1966 Mar.	1966 Apr.	1967 Mar.	1967 Apr.	1968 Mar.	1968 Apr.					DATE
1		1.4	1.1				1.2						1
2	1.1	1.6		1.3			0.0						2
3		1.8					4.6						3
4													4
5		2.2			8.7	2.1	0.0						5
6						3.4							6
7							4.7						7
8	5.4			7.1									8
9			1.8	8.5									9
10	3.4		2.3										10
11							0.0						11
12			15.1				0.6	3.2					12
13	1.4		4.8				21.5						13
14							3.7	8.6					14
15							0.0	20.8					15
16								1.5					16
17				2.1	2.1			3.2					17
18			1.2	1.8				15.1					18
19		5.4		1.4									19
20				5.0				0.0					20
21			1.7			2.1	3.1	0.9					21
22							0.0	5.3					22
23								2.7					23
24													24
25	1.2					1.4							25
26	0.6				2.7								26
27					2.8								27
28			3.7			0.3							28
29		0.3		7.2									29
30													30
31	3.8												31
Total	16.9	12.7	31.7	34.4	16.3	9.3	39.4	42.9					

Annual Total ( )

D3-4-1

Daily Precipitation STATION HARSIT KÜRTÜN, TÜRKEY

RIVER, IN THE BASIN OF ELEVATION UNIT mm YEAR

DATE	1957 Mar.	1957 Apr.	1958 Mar.	1958 Apr.	1959 Mar.	1959 Apr.	1960 Mar.	1960 Apr.	1961 Mar.	1961 Apr.	1962 Mar.	1962 Apr.	DATE
1			0.0	0.0			12.3	11.2			0.2		1
2			0.0	0.0								9.4	2
3			4.3	11.5	24.2		13.2					19.2	3
4			0.0	8.9								8.3	4
5			12.7								0.0	9.7	5
6			0.0					7.3	14.8				6
7			5.8										7
8									10.4				8
9					16.1				12.9			7.1	9
10					13.3				9.8		28.6	19.4	10
11				19.9	9.8		13.2	14.5			4.7	1.8	11
12					15.7								12
13					5.5			10.4		8.2			13
14			17.8				14.9				0.0		14
15				13.2		15.3							15
16			0.0						11.3				16
17			0.0						13.7				17
18			18.6	25.8	25.2								18
19			0.0		10.8						0.0		19
20			23.2					7.1			0.4		20
21			0.0								0.3	0.0	21
22			0.0					12.8			0.0		22
23			0.0		8.2								23
24			33.5					13.1					24
25			7.9					9.3			0.3		25
26			11.5					13.1	14.4				26
27		0.4	0.4		15.8			16.7			2.1		27
28			34.3		34.3	18.4					39.4	3.2	28
29		0.0				21.5					4.5		29
30		0.0									9.7		30
31							9.3		19.5				31
Total	-	0.4	135.3	129.6	129.5	55.2	62.9	115.5	106.8	8.2	90.2	78.7	

Annual Total ( )

D3-4-2

Daily Precipitation STATION HARSIT KÜRTÜN, TURKEY

RIVER, IN THE BASIN OF ELEVATION UNIT mm YEAR

DATE	1963 Mar.	1963 Apr.	1964 Mar.	1964 Apr.	1965 Mar.	1965 Apr.	1966 Mar.	1966 Apr.	1967 Mar.	1967 Apr.	1968 Mar.	1968 Apr.	DATE
1					18.7	9.9	21.5						1
2	7.5			0.1	21.5	2.5		8.7	7.3				2
3	8.6		12.3			26.5		5.8	14.8				3
4	2.4		0.2			13.2				8.3			4
5	9.7	12.4				13.5			9.2	13.6	15.3		5
6	35.8	3.1	4.0			7.8			17.5		20.7		6
7	4.3		3.5			12.0			9.8		25.8		7
8					12.3			9.3	24.6				8
9			5.7	10.5			4.7	13.5					9
10			14.2	8.2	49.5		11.5						10
11		2.4	8.0	6.5	17.0						8.2		11
12	0.3	14.5	2.5	28.5	36.4		7.3	3.6				3.2	12
13	10.2		15.6	7.3	4.5	7.3	13.6	7.3			2.3		13
14		6.3	8.5		0.7				4.7		35.4	8.6	14
15		10.2			0.2							20.0	15
16	46.5	2.6				1.2							16
17	8.5	22.0						14.5	11.2	7.2		6.3	17
18	32.3	14.7		4.3		6.5		6.8	9.7	9.6		5.6	18
19	7.5	5.8				8.0		13.6					19
20			0.3	11.0			19.5	13.5		5.3	8.7		20
21	4.7			18.6	6.0		27.4	21.0		3.8	54.8	11.7	21
22	2.4						23.5						22
23												3.5	23
24		17.4				3.7						9.4	24
25	34.6	12.6			5.8								25
26	5.8		0.2			0.0	2.5		7.3	14.5			26
27	0.2	3.7	33.8			0.1			19.7	7.3			27
28		5.2	4.5	18.5					13.4	13.8			28
29		2.3		7.8		6.5				9.7			29
30		0.3		13.7				3.5					30
31					1.5								31
Total	221.3	135.5	103.3	135.0	174.1	118.7	131.5	127.1	149.2	93.1	171.2	69.1	

Annual Total ( )

D3-5-1

Daily Precipitation STATION TIREBOLU KÜRTÜN, TURKEY

RIVER, IN THE BASIN OF ELEVATION UNIT mm YEAR

DATE	1953 Mar.	1953 Apr.	1954 Mar.	1954 Apr.	1955 Mar.	1955 Apr.	1956 Mar.	1956 Apr.	1957 Mar.	1957 Apr.	1958 Mar.	1958 Apr.	DATE
1				13.5		1.3	2.5	0.7					1
2					1.5								2
3	27.2				103.0	0.0			12.1		4.5	2.4	3
4					34.6				2.7			7.9	4
5	8.6			28.7		3.1	25.1		6.5		14.1	3.6	5
6				7.0		0.8			2.1		2.4		6
7	14.5			0.2	21.3	1.5	0.9		7.8		6.2		7
8	17.3			1.2	9.2		23.6						8
9							0.7			3.8			9
10								3.9	10.2		3.9	3.1	10
11			4.1	9.0				12.4	7.4	0.2		21.2	11
12			0.3		5.5		17.8		13.5				12
13	29.1	6.5	0.3		0.0		9.5		2.1			12.3	13
14		14.5	1.5		7.1	1.5					22.1		14
15			3.5	0.5		2.8					16.9	9.3	15
16	26.2				18.3		12.1		0.7			11.3	16
17				0.9	5.2		36.2				2.1	8.3	17
18			16.3				6.1		12.1		6.1	11.4	18
19			10.5			25.8				34.3	9.8		19
20				0.0		9.2				8.7	18.0	31.5	20
21	17.0			8.4			1.2			0.0	2.3	8.8	21
22						20.5		3.8		11.2	11.2		22
23	5.7		0.0	3.1			21.2						23
24	29.4		0.0	1.6			23.4				34.8		24
25			7.5	2.9							9.2		25
26			2.5	13.0			6.9		9.4		11.3	3.9	26
27			8.1			8.5		6.7	0.9	2.7	1.9		27
28						13.5	3.7		2.6			5.6	28
29					3.2		12.8	4.2		0.0		1.2	29
30	6.1				12.3	0.0	3.9						30
31							5.3				1.9		31
Total	181.1	21.0	54.6	81.0	128.5	121.4	221.6		89.5	60.9	178.7	141.8	

Annual Total ( )

D3-5-2

Daily Precipitation STATION TIREBOLU KÜRTÜN, TURKEY

RIVER, IN THE BASIN OF ELEVATION UNIT mm YEAR

DATE	1959 Mar.	1959 Apr.	1960 Mar.	1960 Apr.	1961 Mar.	1961 Apr.	1962 Mar.	1962 Apr.	1963 Mar.	1963 Apr.	1964 Mar.	1964 Apr.	DATE
1	8.4			12.5	9.7		4.6						1
2		3.8	14.7	4.7					8.3			0.0	2
3	3.4		17.2					24.7	7.1		20.9		3
4		2.1	0.3				0.9	6.2	3.1	0.0	8.5		4
5	19.6	3.6		5.3				13.4	15.5	12.8			5
6	8.6			1.3	10.8				29.6	4.2	2.7	1.8	6
7			12.4		7.3				1.5	0.0	10.2		7
8			10.4	3.0	4.8							16.7	8
9	4.7			21.9	16.2		1.0	10.1			18.2	7.3	9
10	13.3				10.4		28.7	29.3		0.7	13.4	6.5	10
11	5.4		9.4				28.7	0.6		5.6	1.2	5.5	11
12	1.2		16.3			0.0	0.6		3.8	9.8	0.7	34.8	12
13	0.7					13.2			9.8		19.8	0.9	13
14		9.4								6.3	3.7		14
15		23.5		0.6	21.4					6.6		0.0	15
16	6.0	3.5			0.0			2.5	35.4	2.1			16
17	13.4	0.3			6.9				7.8	17.5		0.2	17
18	4.2			14.2				0.3	33.8	10.3		0.0	18
19	0.9			21.2			3.5		4.1	11.2		9.3	19
20					0.0		1.9			0.5	0.0	2.2	20
21			0.0	2.4			6.2	2.8	7.6	0.6	6.4	7.1	21
22				0.6	0.6			2.6	2.6	0.2			22
23			5.2	9.7				0.0					23
24		4.5	3.3	4.4		0.3				12.8			24
25	0.0	18.5	5.3	16.1	38.5		0.0		33.7	8.1	0.9		25
26				20.1	19.6			0.2	6.4	0.7	0.7		26
27				5.5			3.0		1.5	1.6	26.7		27
28	0.0						38.4	2.2		4.4	2.6	16.2	28
29		2.9				0.4	4.9	0.0		3.6		11.3	29
30		2.3			10.2	6.8	11.8			0.1		14.4	30
31			10.6		18.7				4.3				31
Total	93.7	74.4	105.1	140.8	196.2	20.7	134.6	95.5	215.9	119.7	136.6	134.2	

Annual Total ( )

D3-5-3

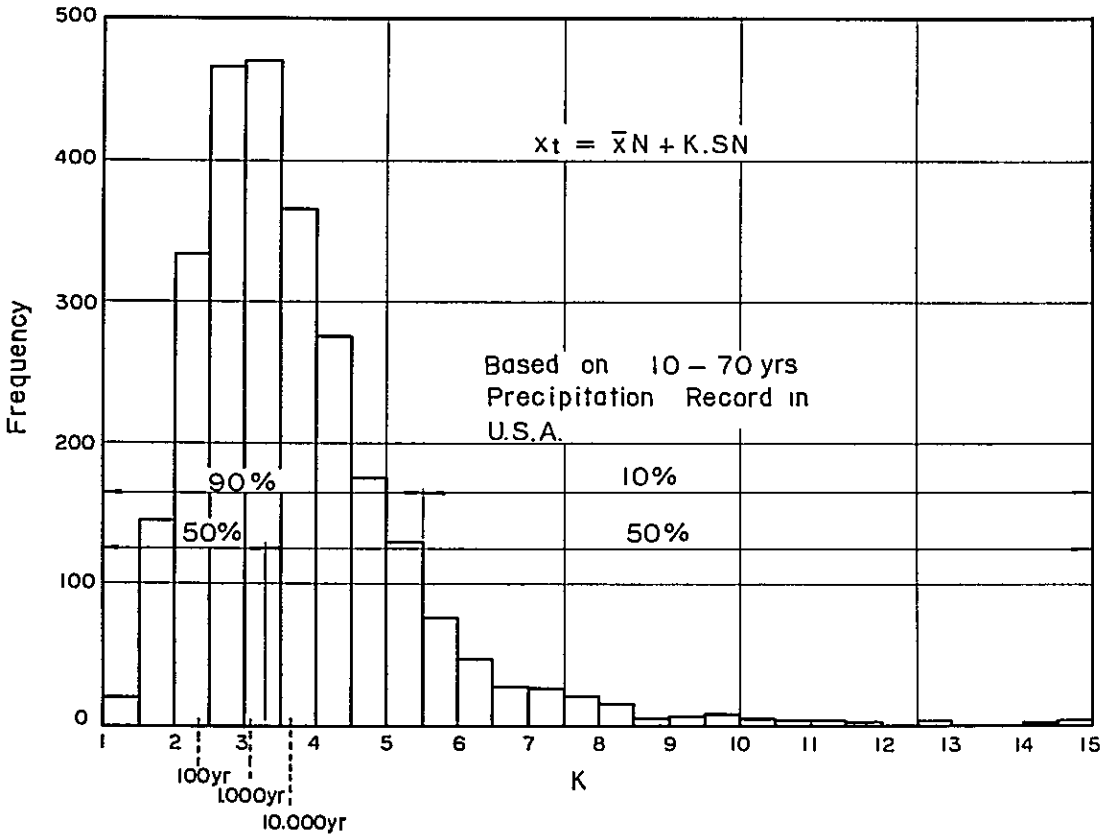
Daily Precipitation STATION TIREBOLU KÜRTÜN, TURKEY

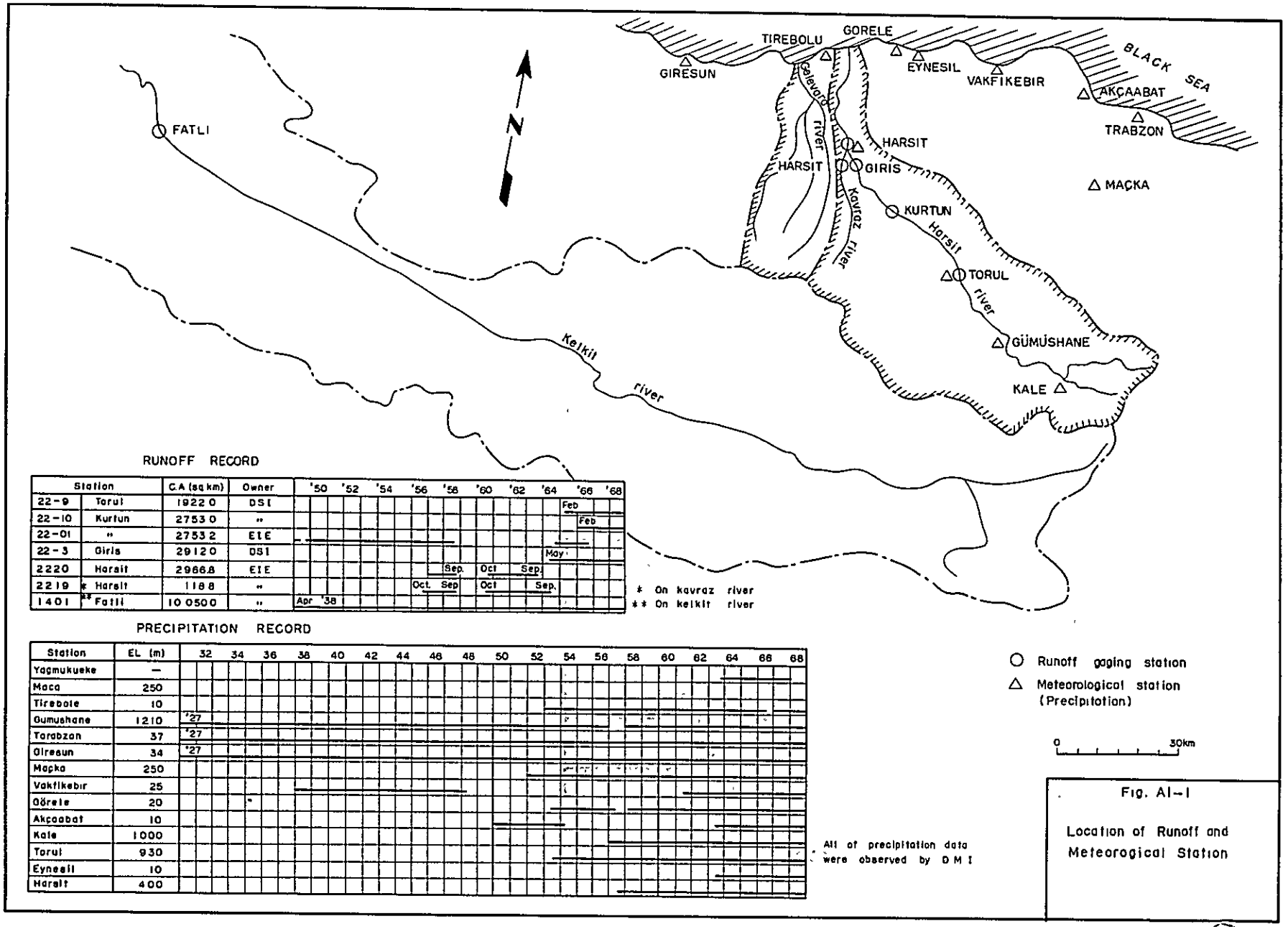
RIVER, IN THE BASIN OF ELEVATION UNIT mm YEAR

DATE	1965 Mar.	1965 Apr.	1966 Mar.	1966 Apr.	1967 Mar.	1967 Apr.	1968 Mar.	1968 Apr.					DATE
1	17.1	15.7	11.3				2.2						1
2	11.2	4.8		12.1									2
3		32.3		8.8	6.0		8.1						3
4		17.8				9.0							4
5	0.4	21.6			1.1	4.5							5
6		8.1	0.5		6.0		0.8						6
7		16.2		0.1			8.2						7
8	9.7			9.1	8.5		8.4						8
9			5.2	8.9			4.1						9
10	25.4		14.9				7.8						10
11	18.9						2.4	11.0					11
12	40.8	0.0		0.0				2.2					12
13	11.4	14.0	3.8	0.7			9.8	2.0					13
14		1.5			9.0		37.7						14
15							2.1	7.1					15
16		0.9											16
17				7.2	11.5	3.8							17
18		4.2	22.2	11.8	1.0	0.1		7.4					18
19		6.5	2.1	0.9		0.0							19
20			23.3	5.5				3.4					20
21	1.1		18.3	6.9		24.6		3.6					21
22	0.2		19.7			7.0	11.0	3.4					22
23	0.4				4.5			3.7					23
24	2.1	0.9			0.0			2.5					24
25		0.0				6.0							25
26		1.2	0.6		3.5								26
27			0.0		15.0								27
28			38.4	0.4	4.5	3.0							28
29		4.8		0.2		1.6							29
30				0.3									30
31	0.6												31
Total	139.3	150.5	160.3	72.9	65.6	59.6	101.8	39.3					

Annual Total ( )

D4 Distribution of Standardized Variate (K)





RUNOFF RECORD

Station		C.A (sq.km)	Owner
22-9	Torul	1922.0	DSI
22-10	Kurtun	2753.0	"
22-01	"	2753.2	EIE
22-3	Giris	2912.0	DSI
2220	Harsit	2966.8	EIE
2219	* Harsit	1188	"
1401	** Fatli	10.0500	"

'50 '52 '54 '56 '58 '60 '62 '64 '66 '68

Feb Feb May Sep. Oct Sep. Oct. Sep Oct Sep. Apr '38

* On kavraz river
** On kelkit river

PRECIPITATION RECORD

Station	EL (m)
Yagmukueke	—
Maca	250
Tirebole	10
Gumushane	1210
Torabzan	37
Giresun	34
Maçka	250
Vakfikebir	25
Görele	20
Akçaabat	10
Kale	1000
Torul	930
Eynesil	10
Harsit	400

32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68

'27 '27 '27

* All of precipitation data were observed by D M I

○ Runoff gaging station
△ Meteorological station (Precipitation)

0 30km

Fig. A1-1
Location of Runoff and Meteorogical Station

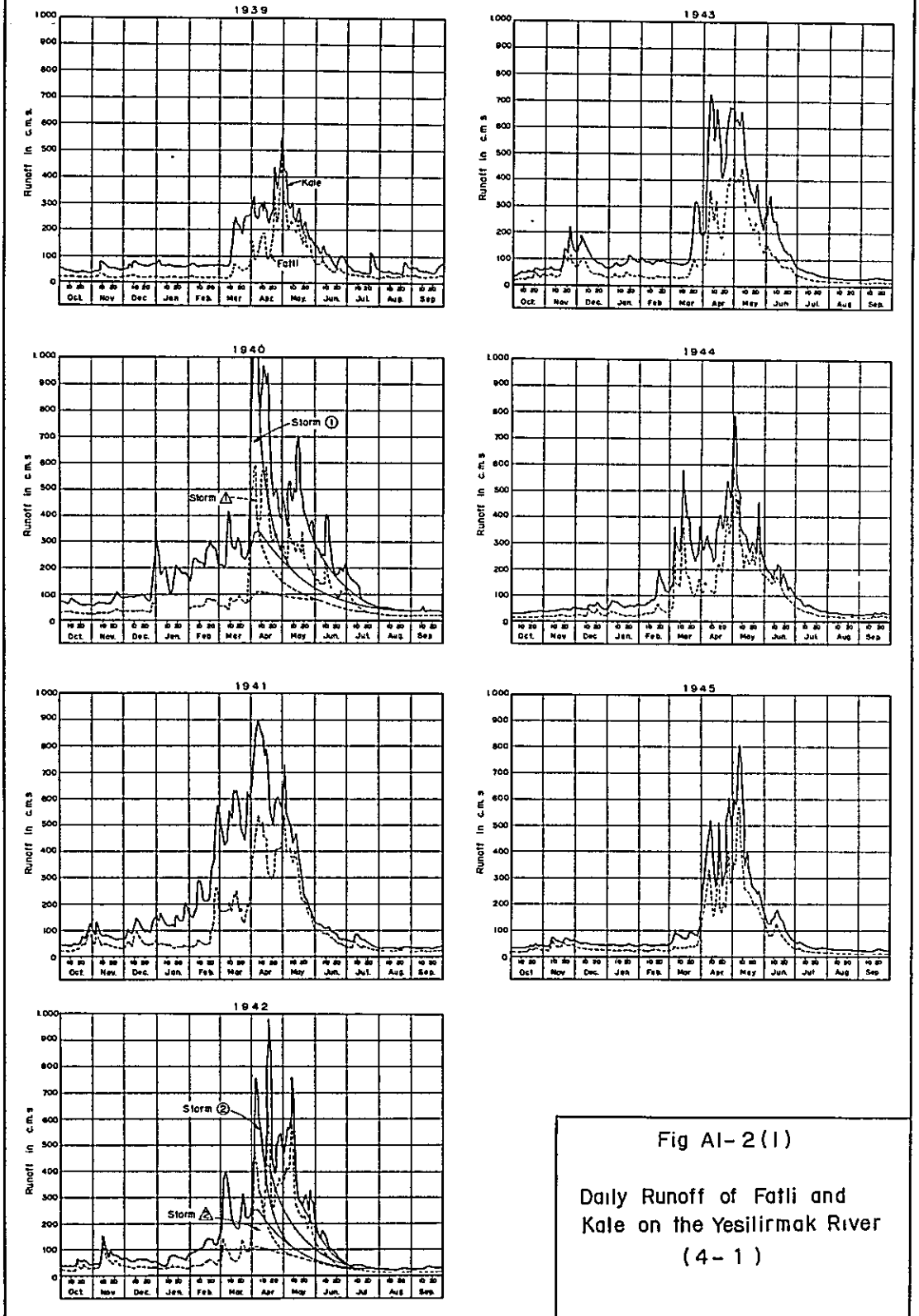


Fig AI-2(1)

Daily Runoff of Fatli and Kale on the Yesilirmak River (4-1)

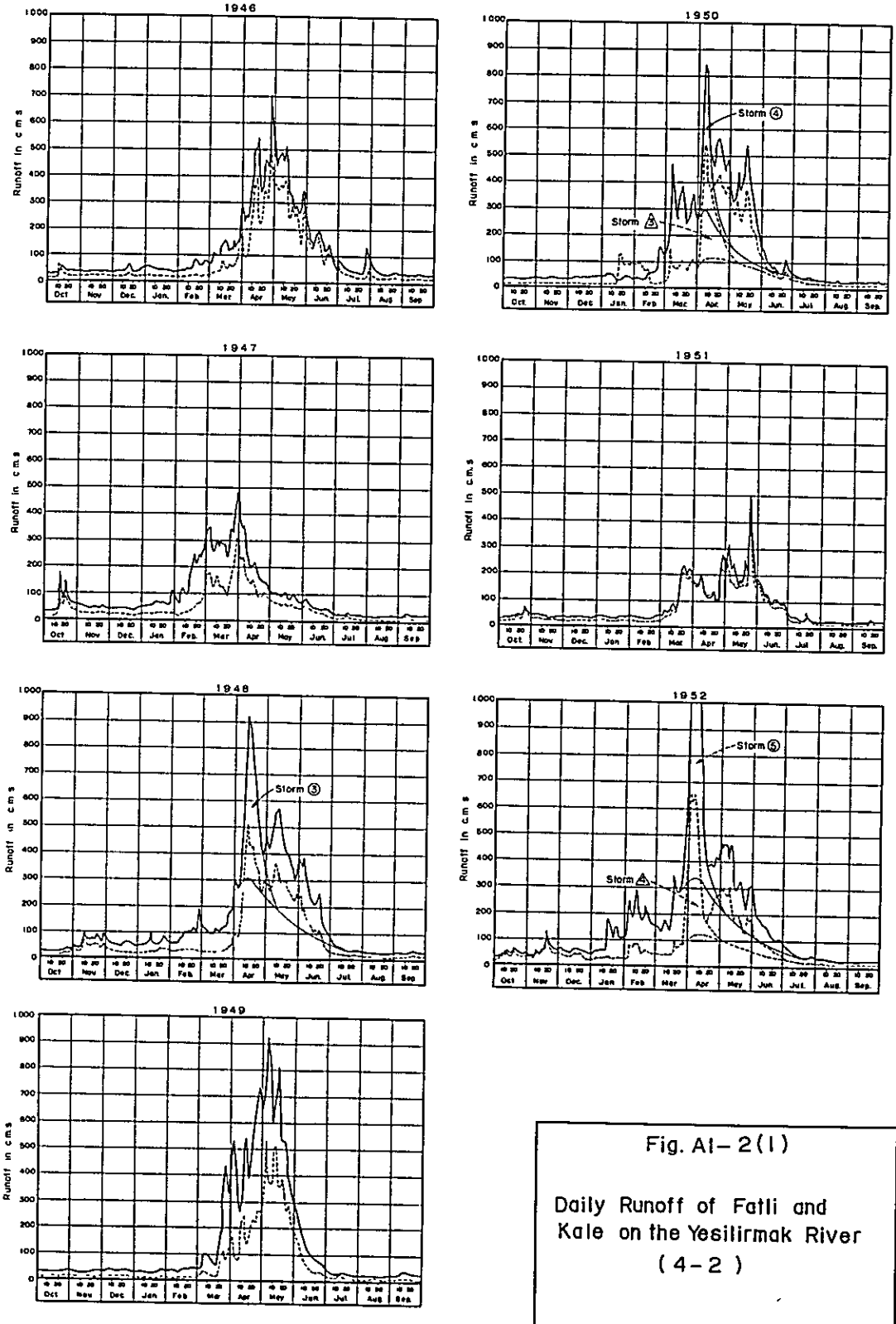


Fig. A1-2(1)

Daily Runoff of Fatli and Kale on the Yesilirmak River (4-2)

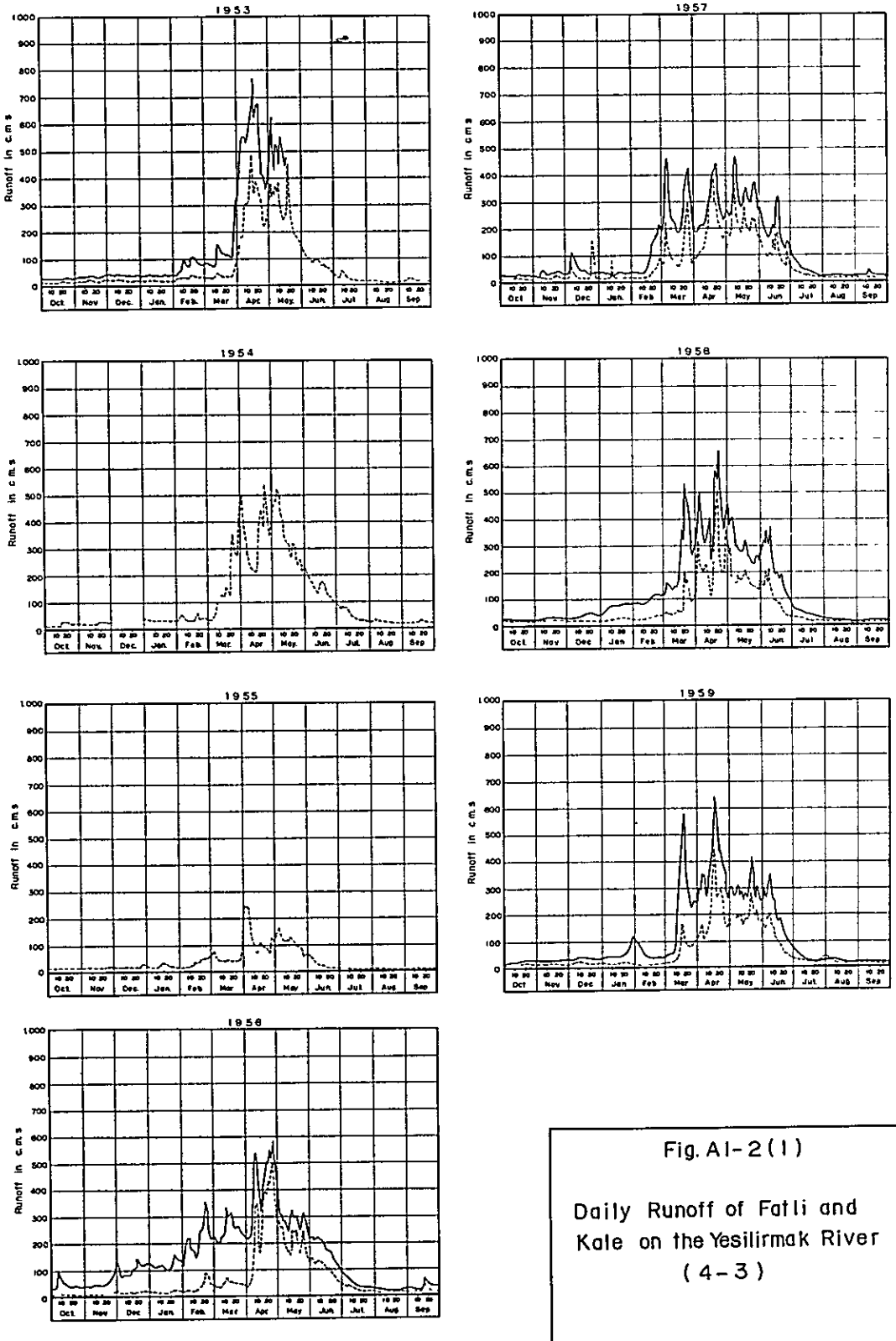


Fig. A1-2(1)

Daily Runoff of Fatli and Kale on the Yesilirmak River (4-3)

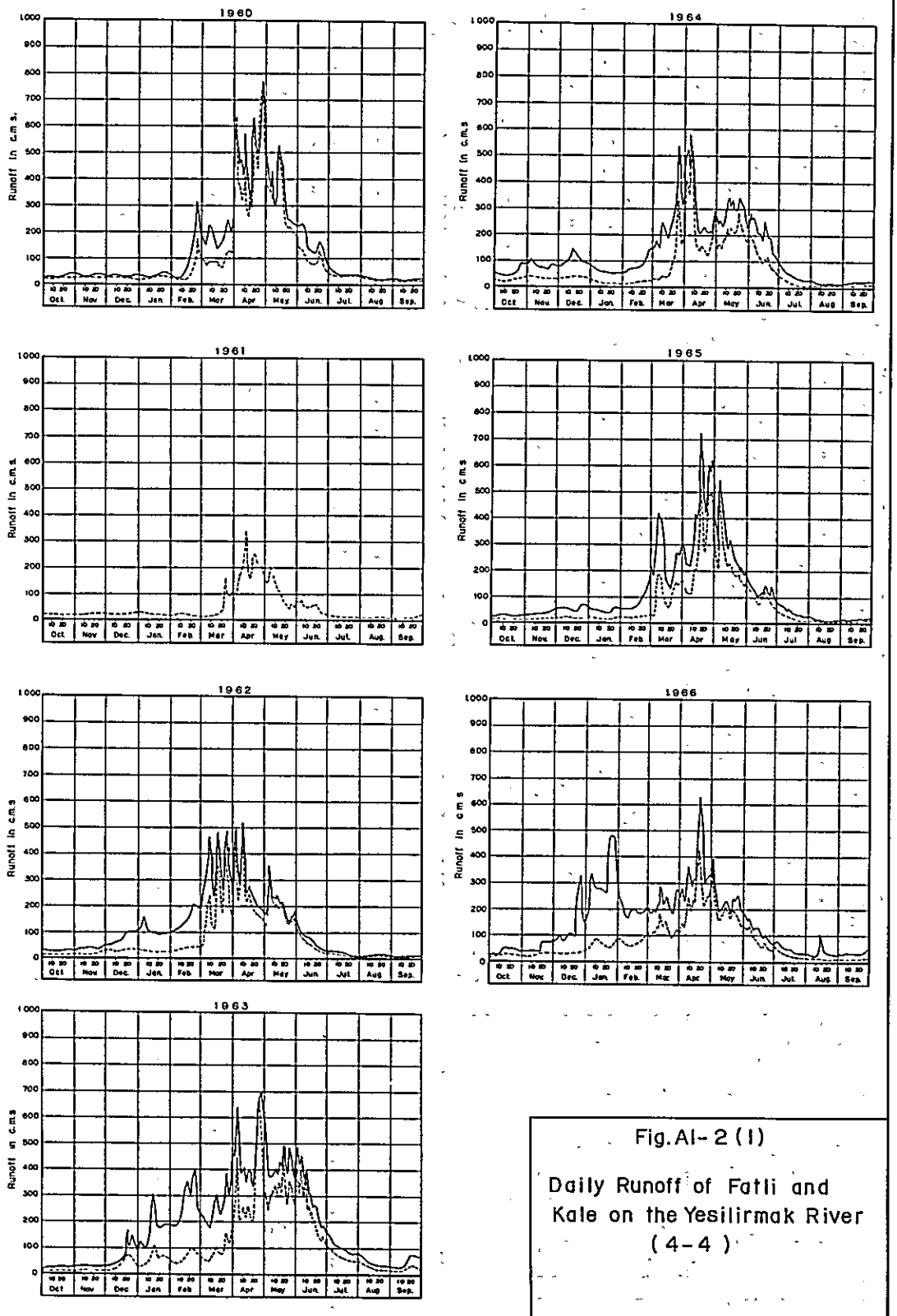


Fig. AI-2 (1)

Daily Runoff of Fatli and Kale on the Yesilirmak River (4-4)

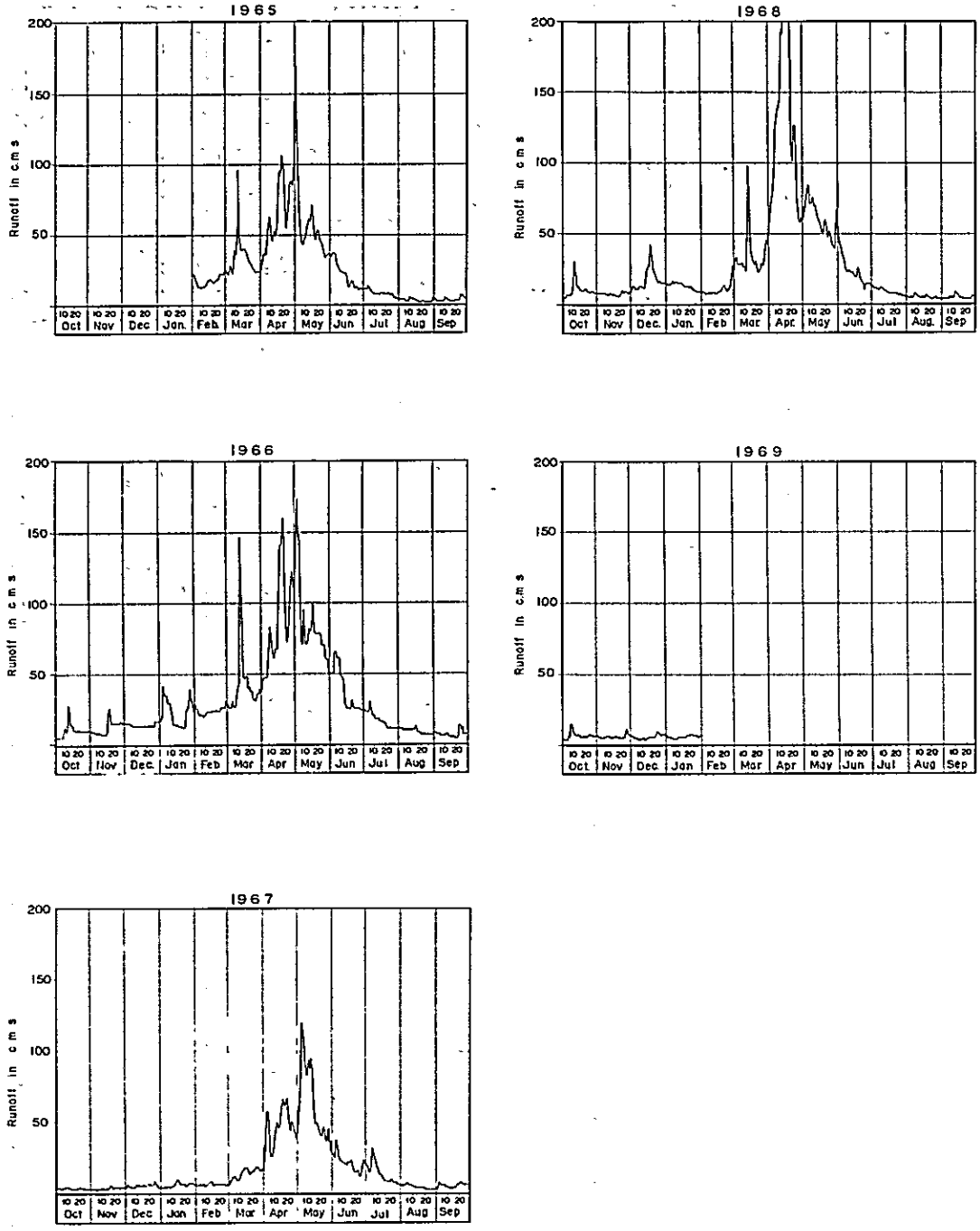


Fig AI-2 (2)

Daily Runoff of Torul
on the Harsit River

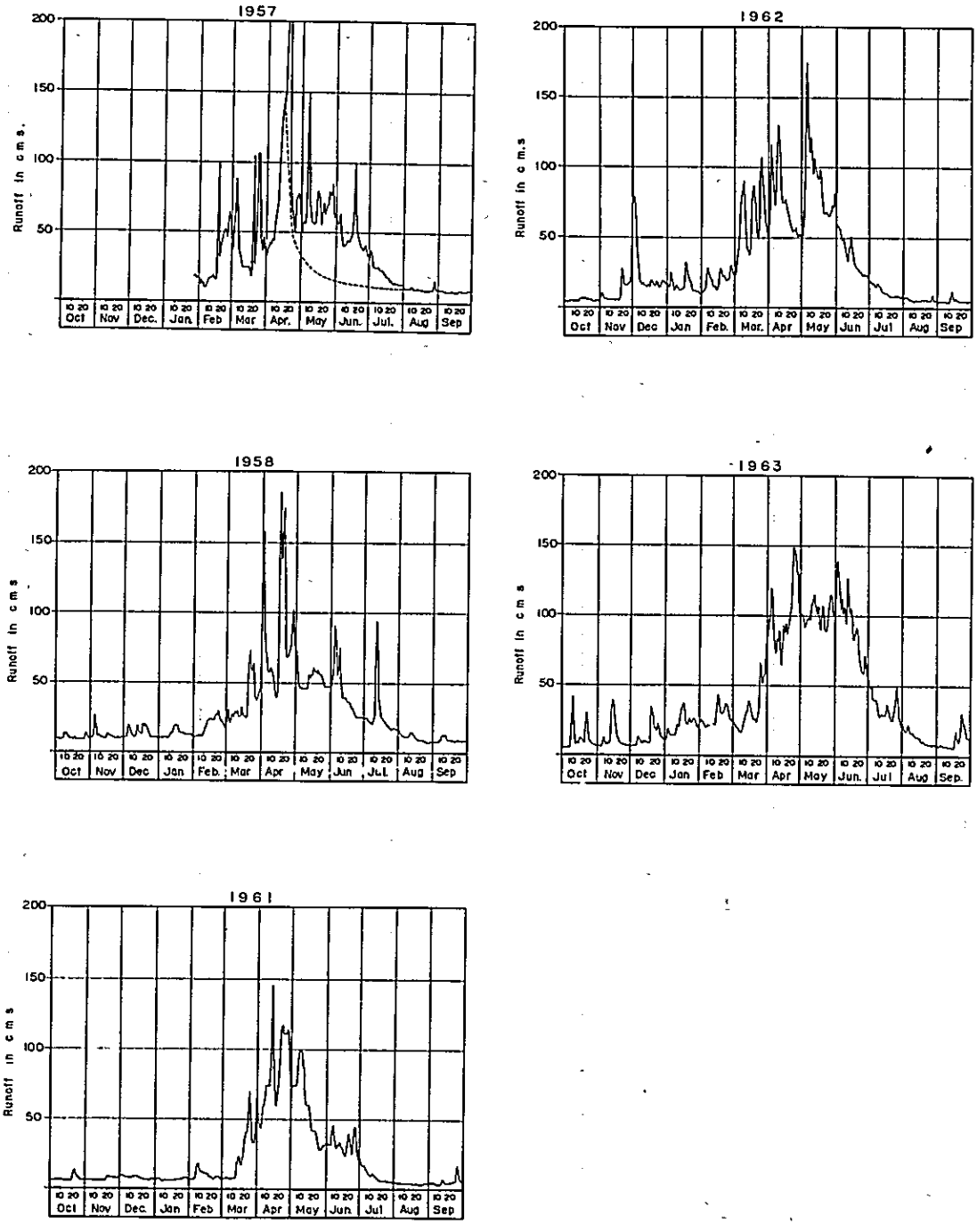
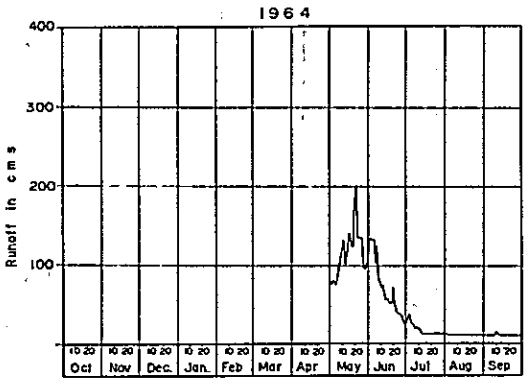
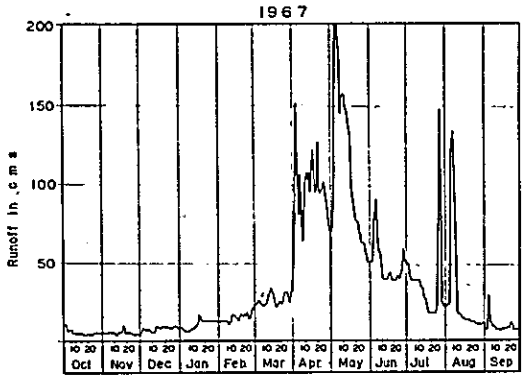
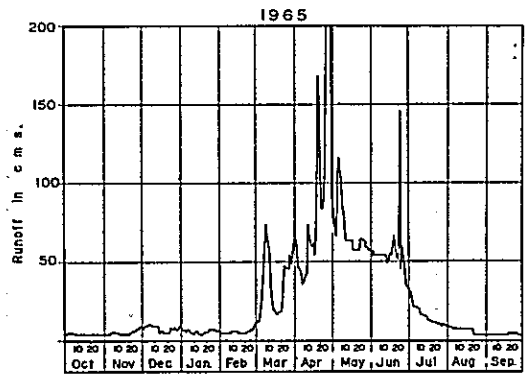


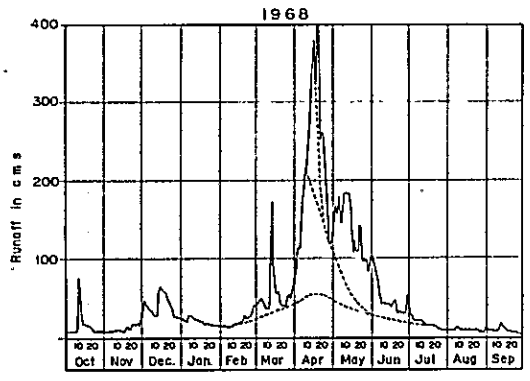
Fig. AI-2(3)

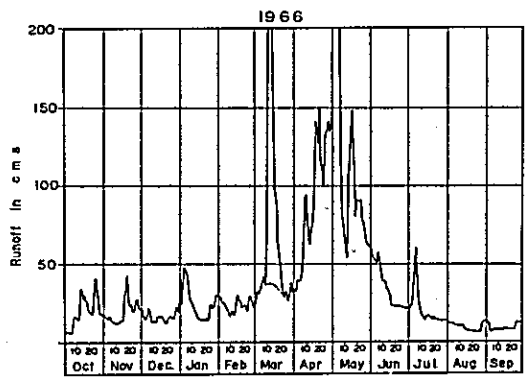
Daily Runoff of Harsit on the Harsit River











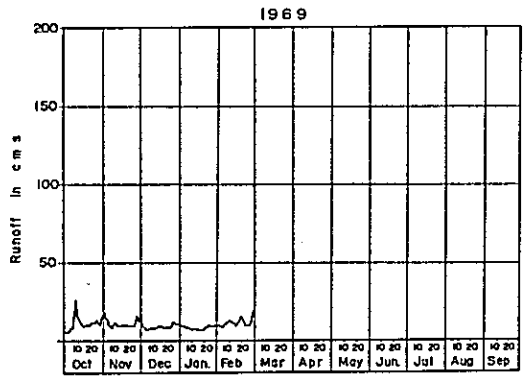


Fig. AI-2(4)

Daily Runoff of Giris on the Harsit River

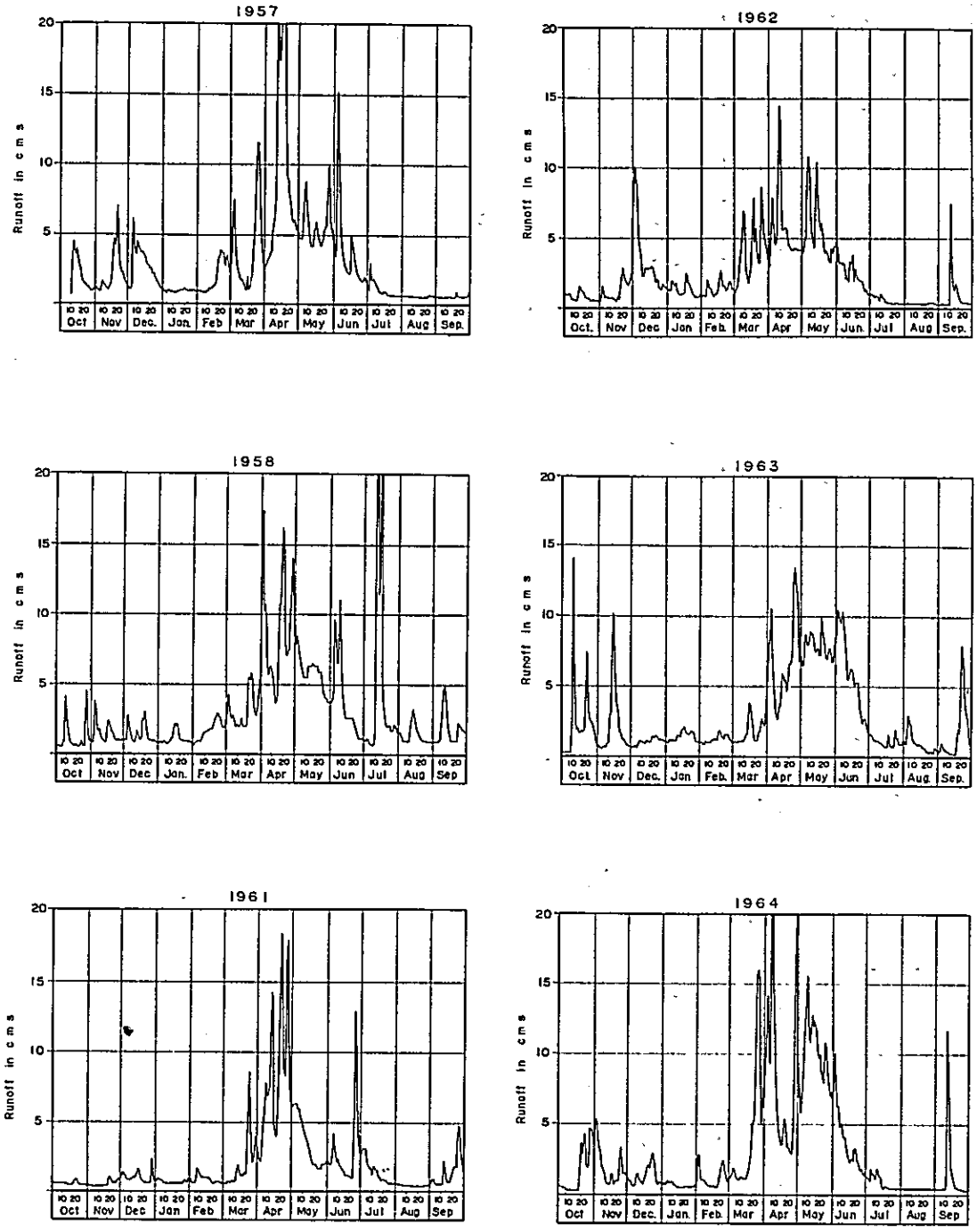


Fig. AI-2 (5)

Daily Runoff of Harsit on the Kavraz River

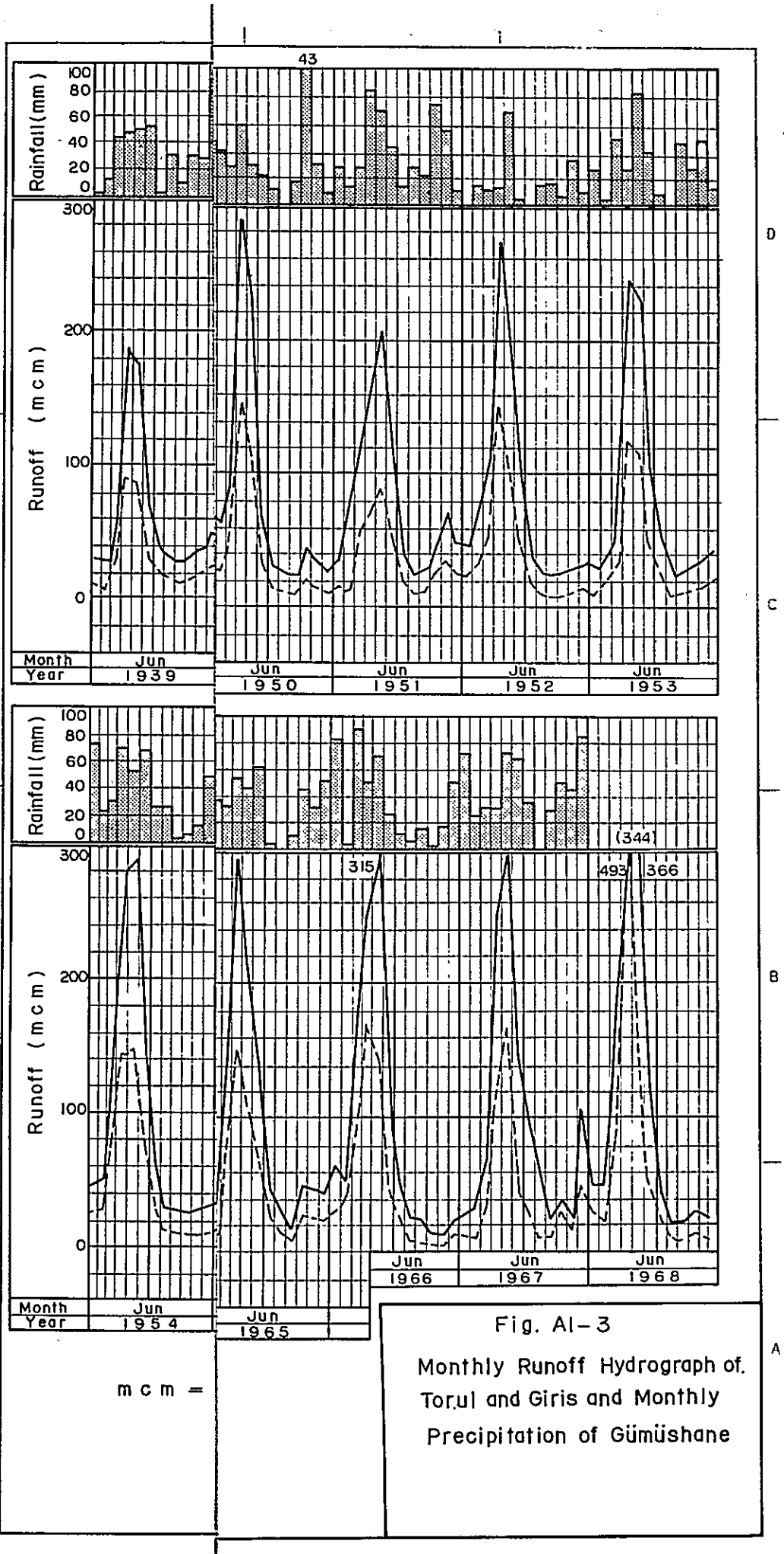


Fig. AI-3

Monthly Runoff Hydrograph of Torul and Giris and Monthly Precipitation of Gümüshane

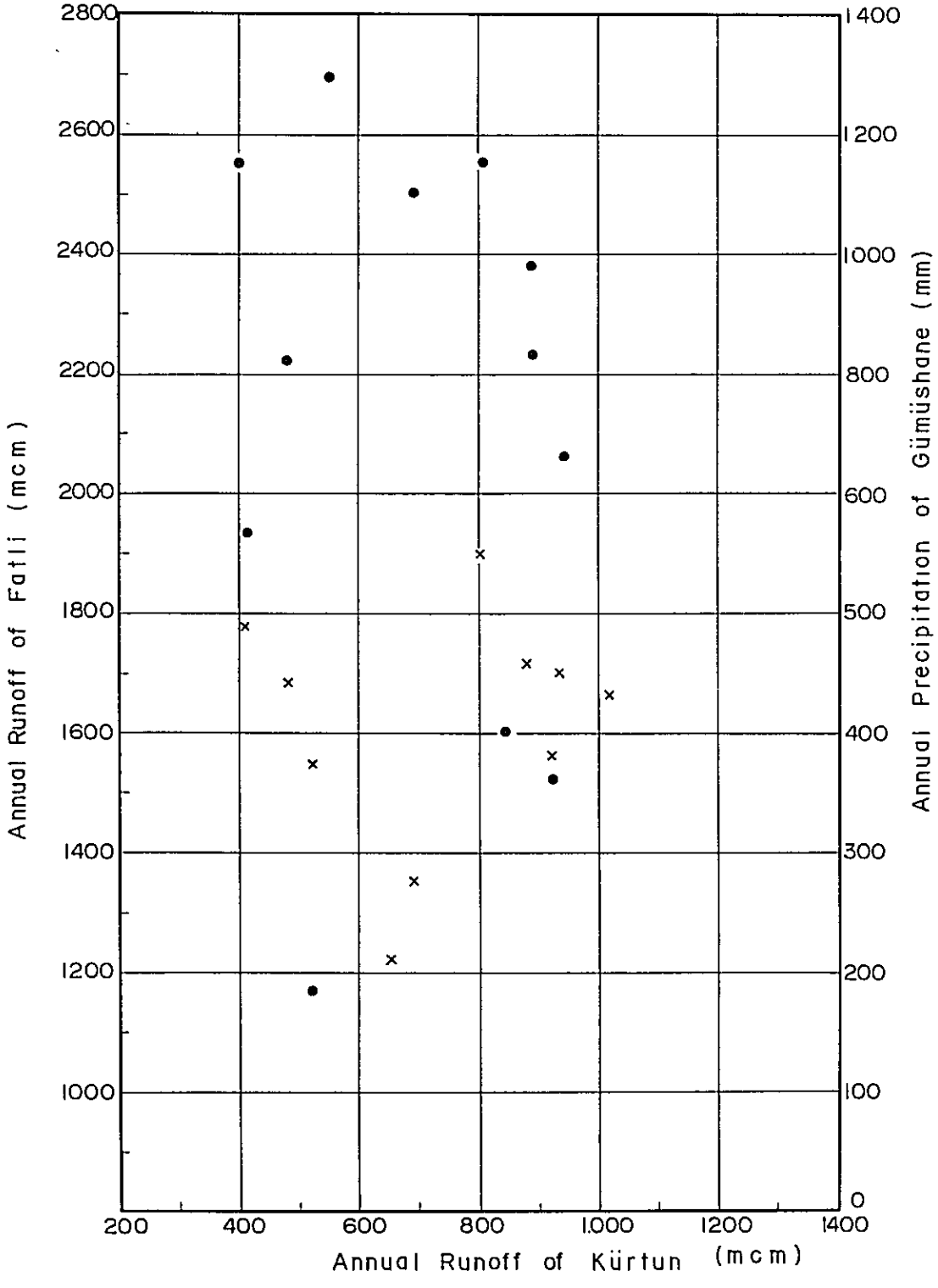
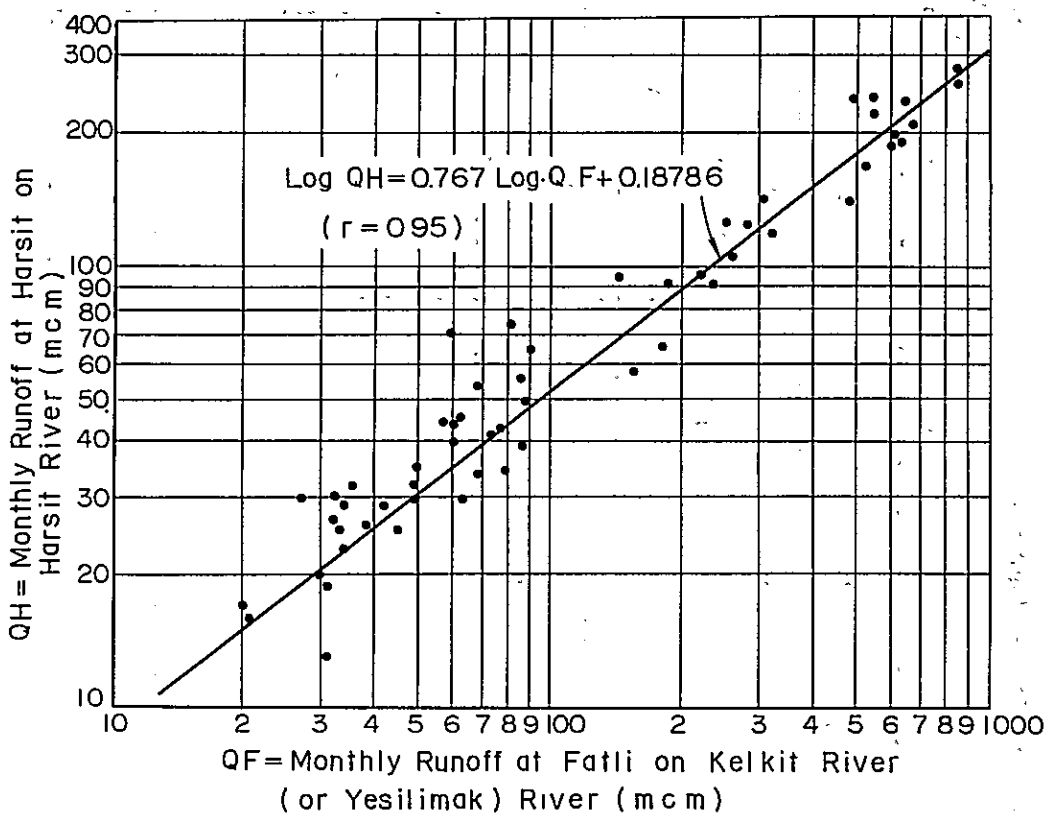


Fig. A1-4

Relation Between Annual Runoff of Fatli, Annual Precipitation of Gümüshane and Annual Runoff of Kürtün

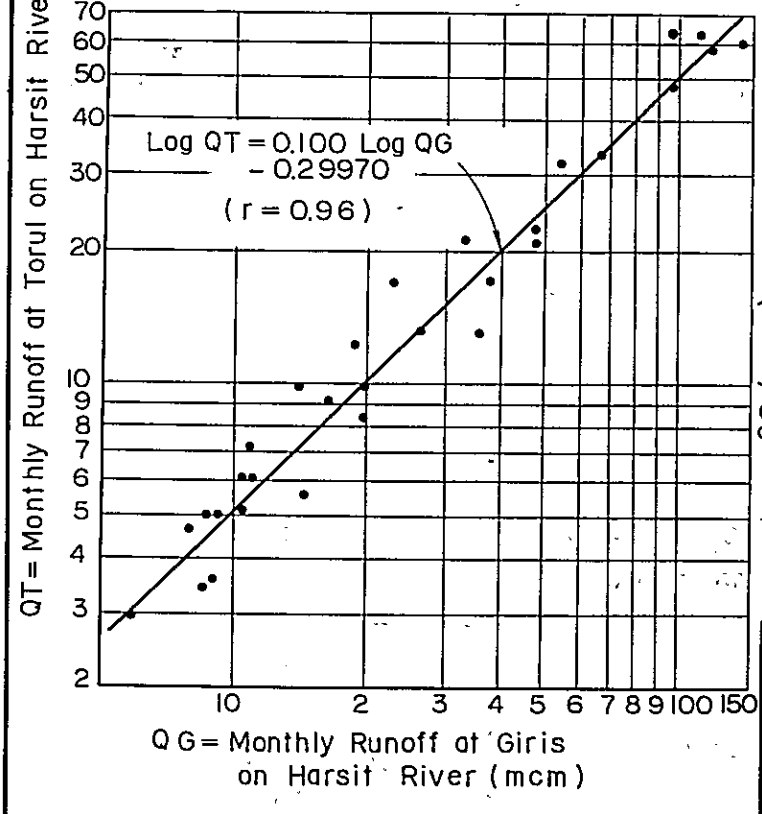
(1)

Harsit on Harsit Vs Fatli on Kelkit



(3)

Torul on Harsit Vs Giris on Harsit



(2)

Giris on Harsit Vs Harsit on Harsit

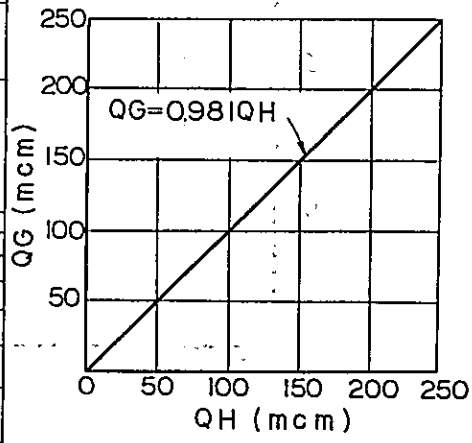


Fig. AI-5 (1),(2),(3)

Correlation of Monthly Runoff

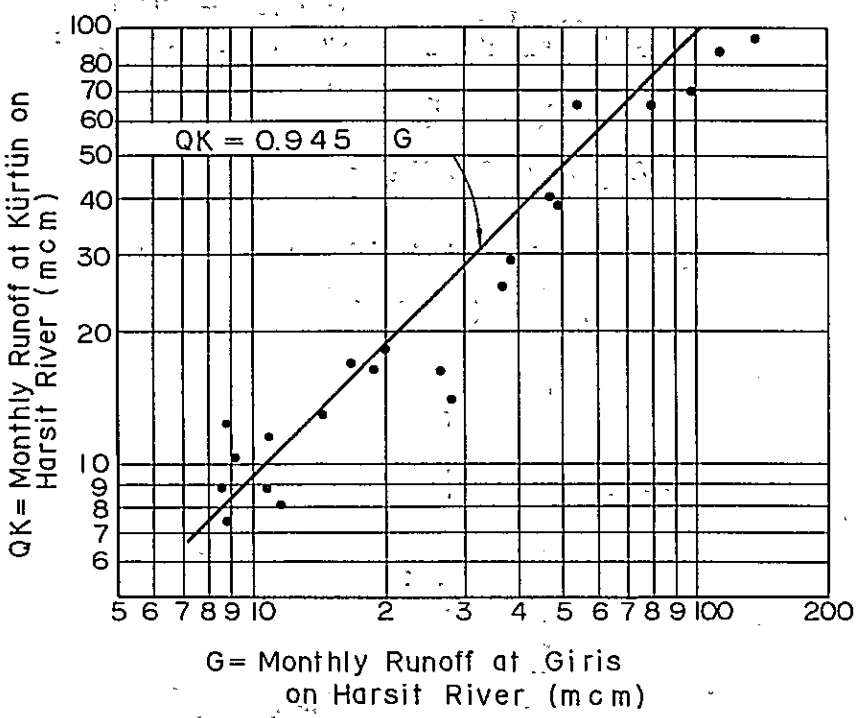
(1) Fatli on Kelkit Vs. Harsit on Harsit

(2) Giris on Harsit Vs. Harsit on Harsit

(3) Torul on Harsit Vs. Giris on Harsit

(4)

Kürtün on Harsit Vs. Giris on Harsit



(5)

Harsit on Kavraz Vs. Giris on Harsit

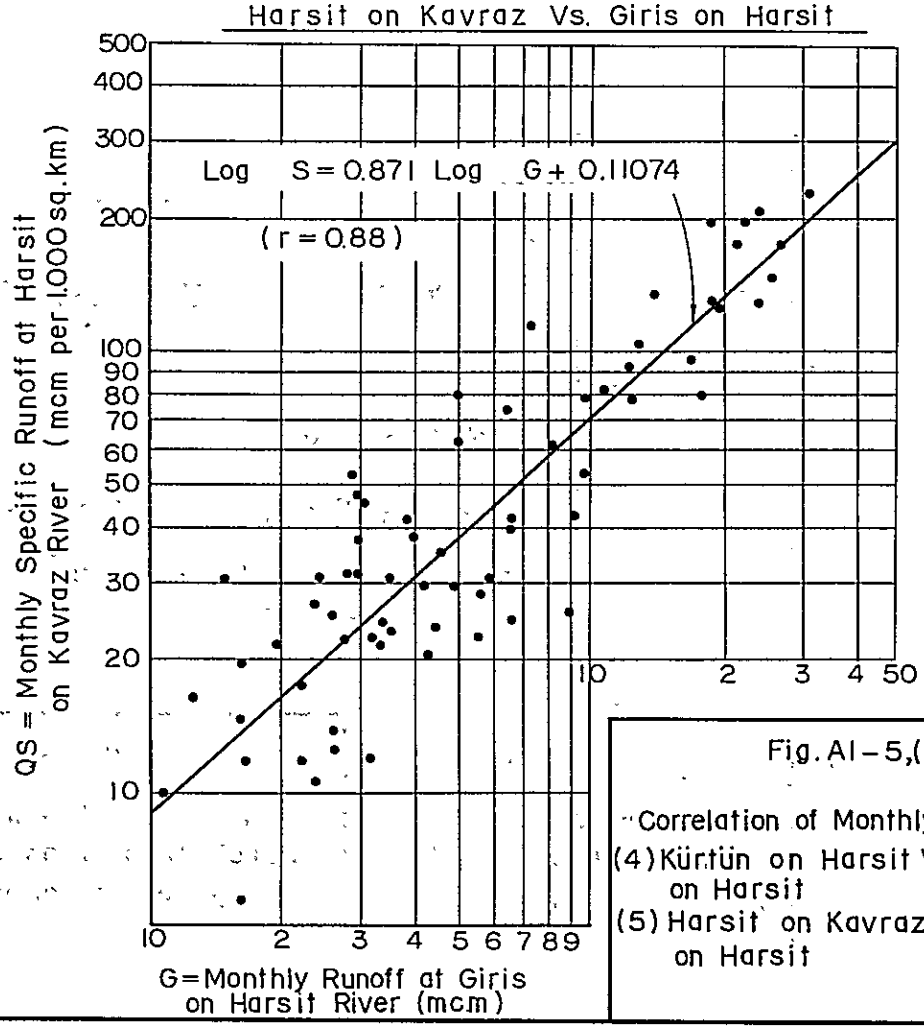
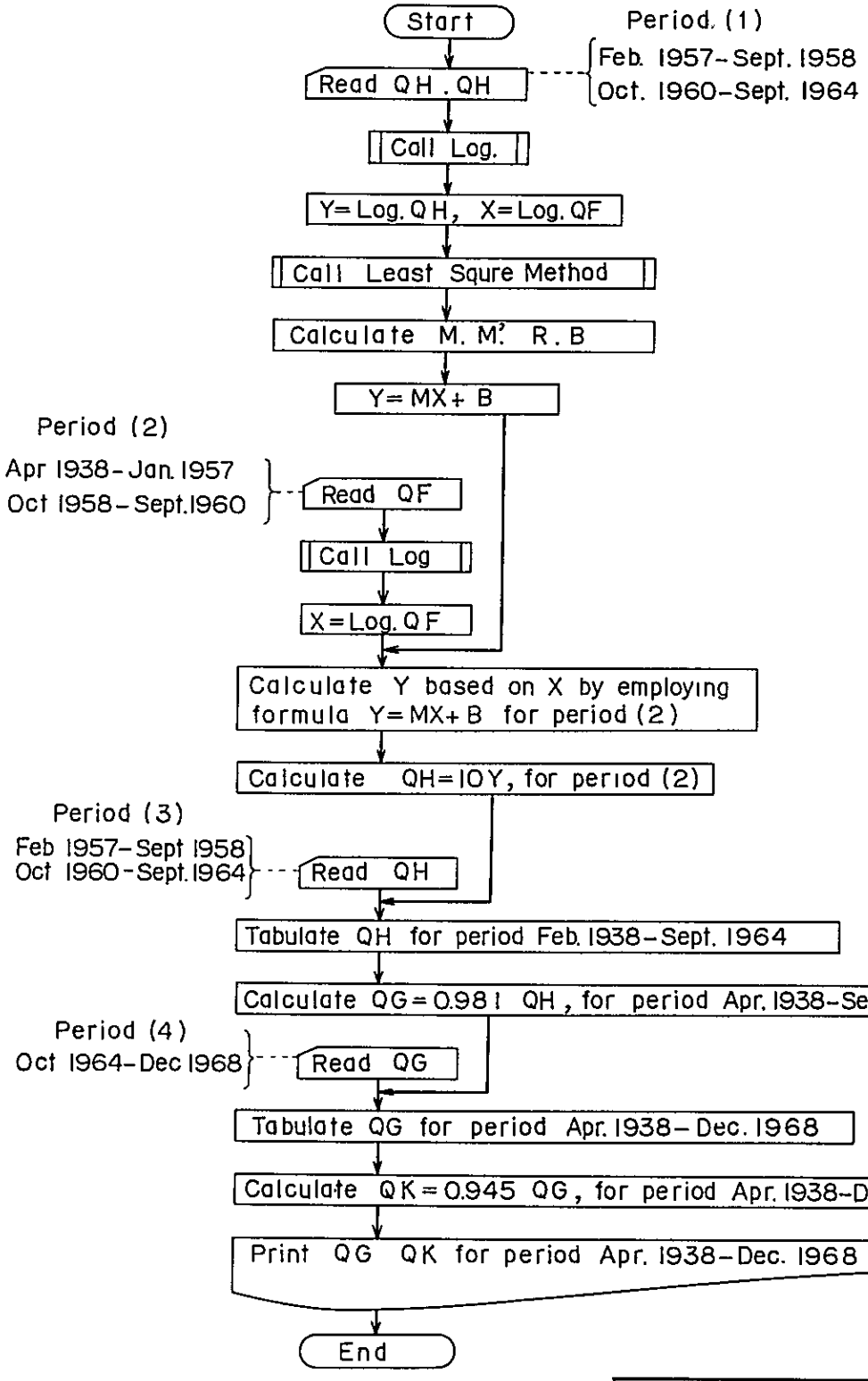


Fig. AI-5,(4),(5)

Correlation of Monthly Runoff

(4) Kürtün on Harsit Vs. Giris on Harsit

(5) Harsit on Kavraz Vs. Giris on Harsit



QF = Monthly Runoff at Fatli on Yesilimak (or Kelkit) River (MCM)

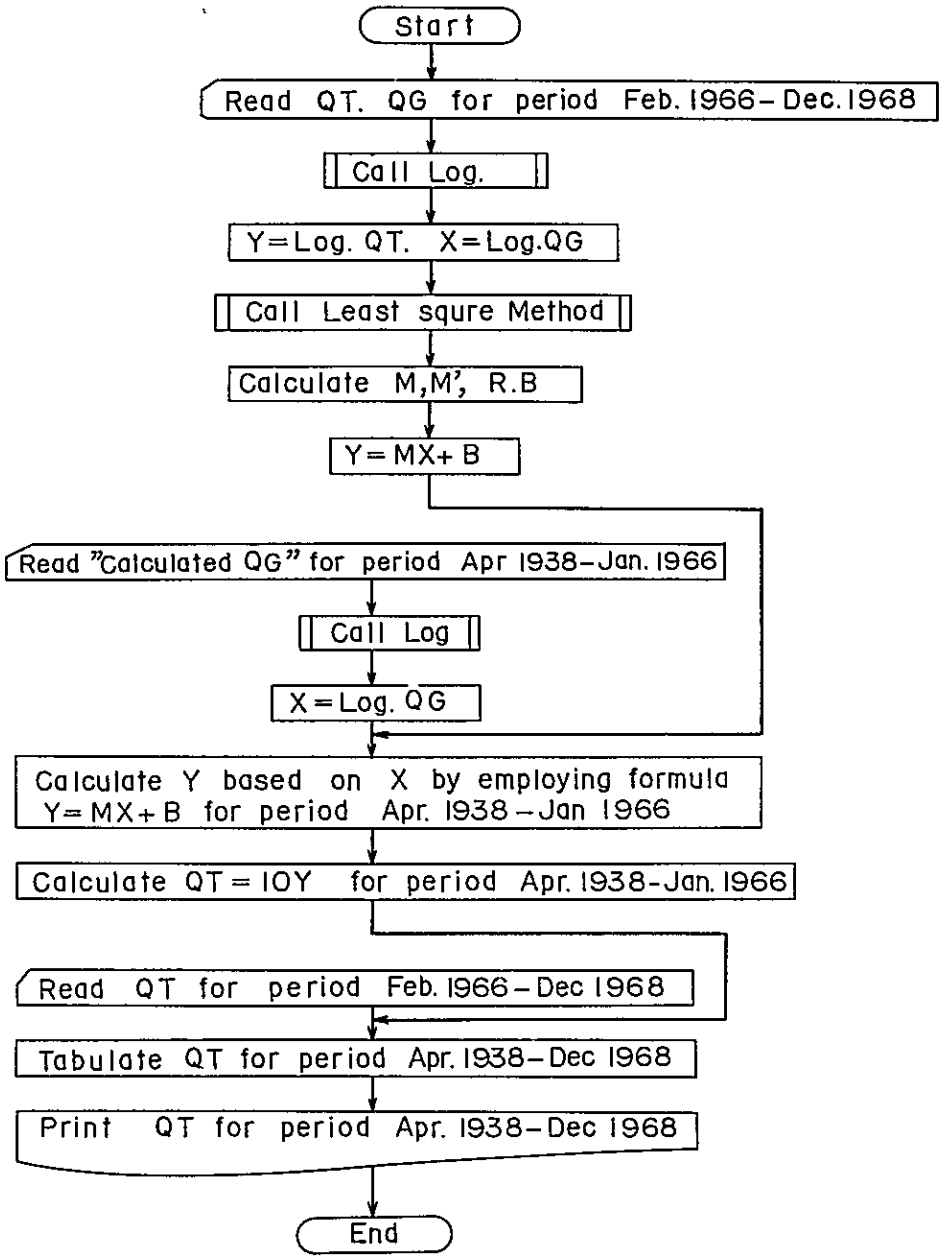
QH = Monthly Runoff at Harsit on Harsit River (MCM)

QG = Monthly Runoff at Giris on Harsit River (MCM)

QK = Monthly Runoff at Kürtün on Harsit River (MCM)

Fig. A1-6

Flow Chart of Monthly Runoff Calculation at Giris and Kürtün on Harsit River

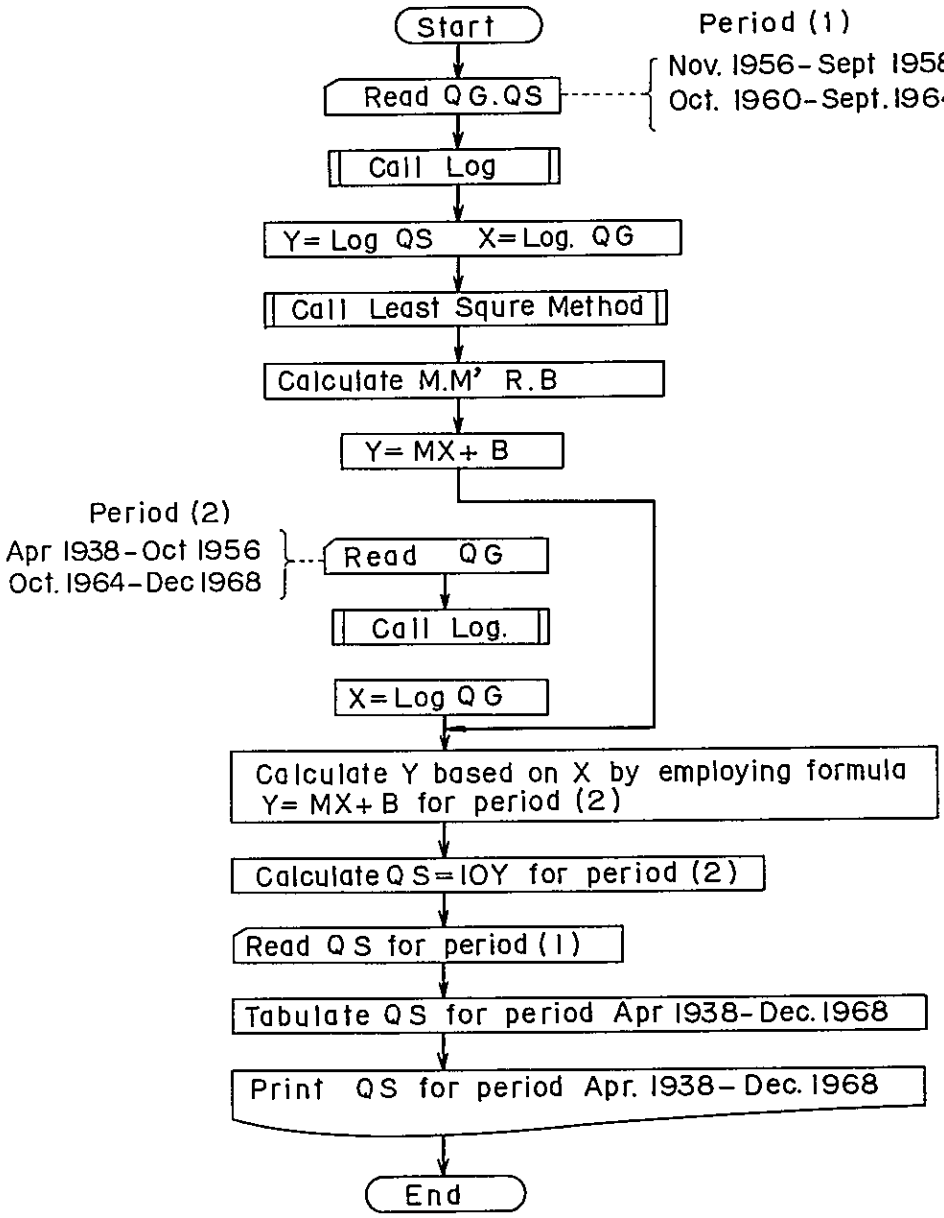


QG = Monthly Runoff at Giris on Harsit River (MCM)

QT = Monthly Runoff at Torul on Harsit River (MCM)

Fig. A1-7

Flow Chart of Monthly Runoff Calculation at Torul on Harsit River



QG = Monthly Runoff at Giris on Harsit River (MCM)

QS = Monthly Specific Runoff at Harsit on Kavraz River. (MCM per 1.000 SQ. KM)

Fig. AI-8

Flow Chart of Monthly Runoff Specific at Harsit on Kavraz River for Gunyüzü Power Plant

Fig. AI- 9 Enveloped Curve of Maximum Flood Flow in Turkey

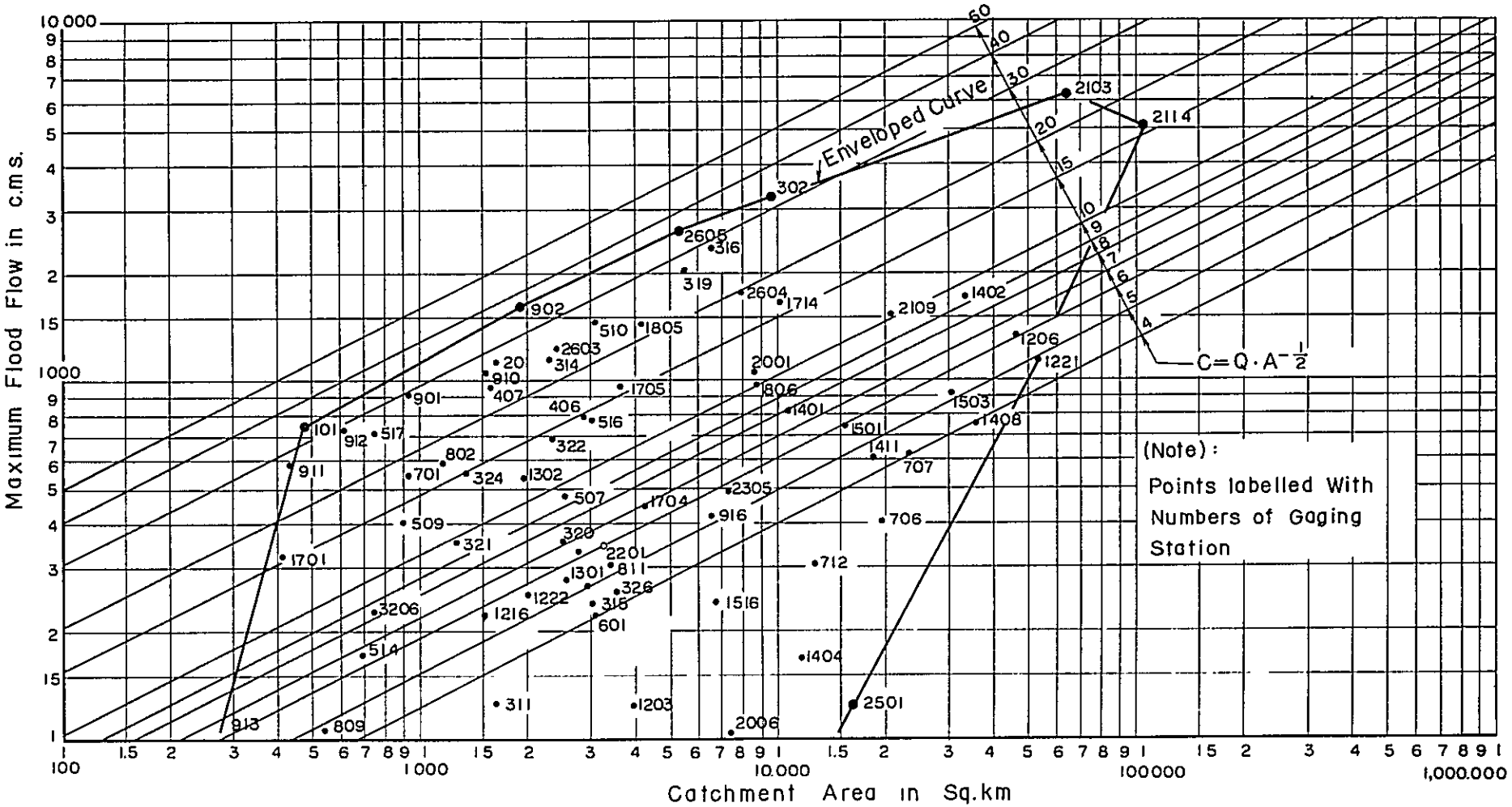
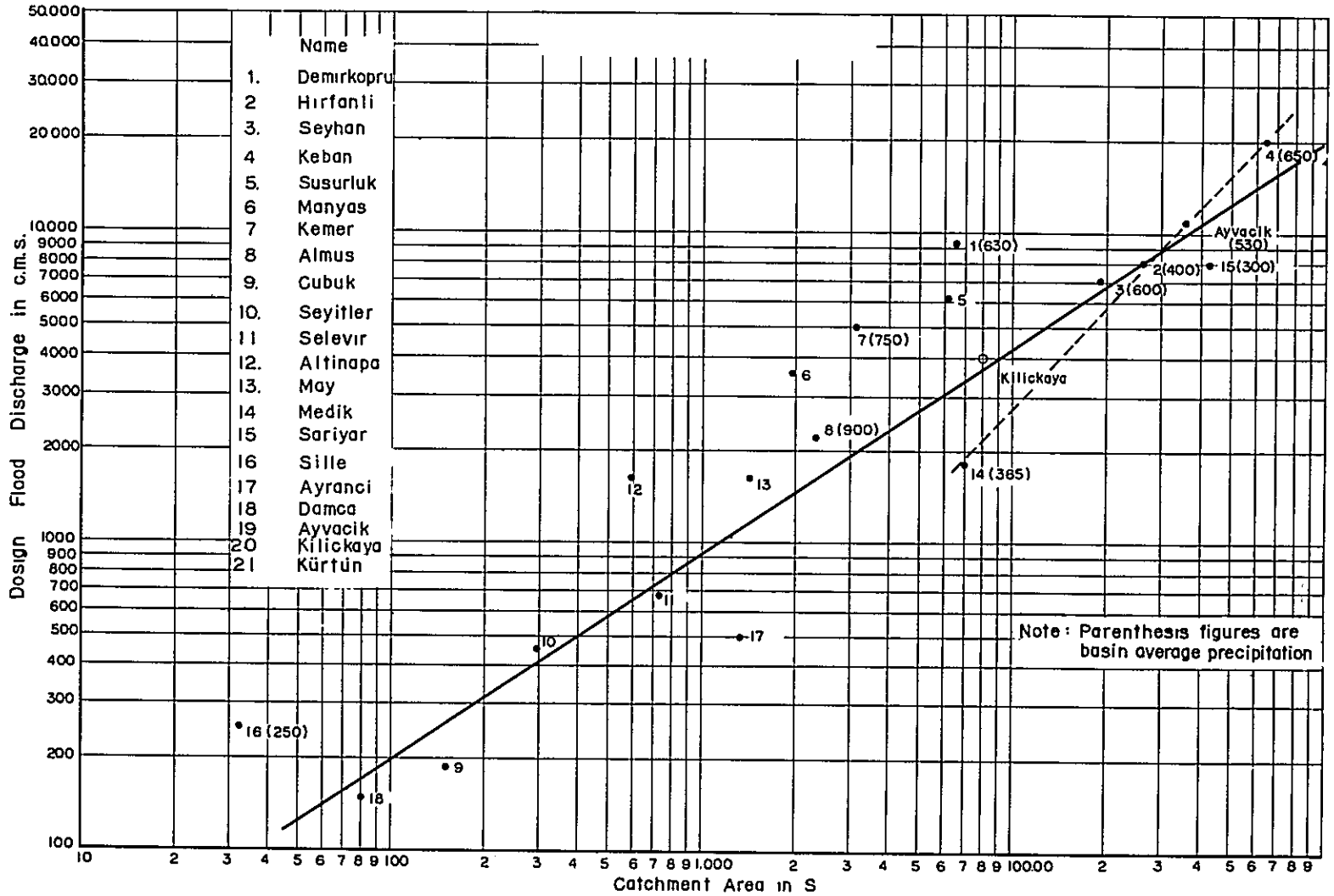


Fig. A1-10 Correlation between Design Flood and Catchment Area in Turkey



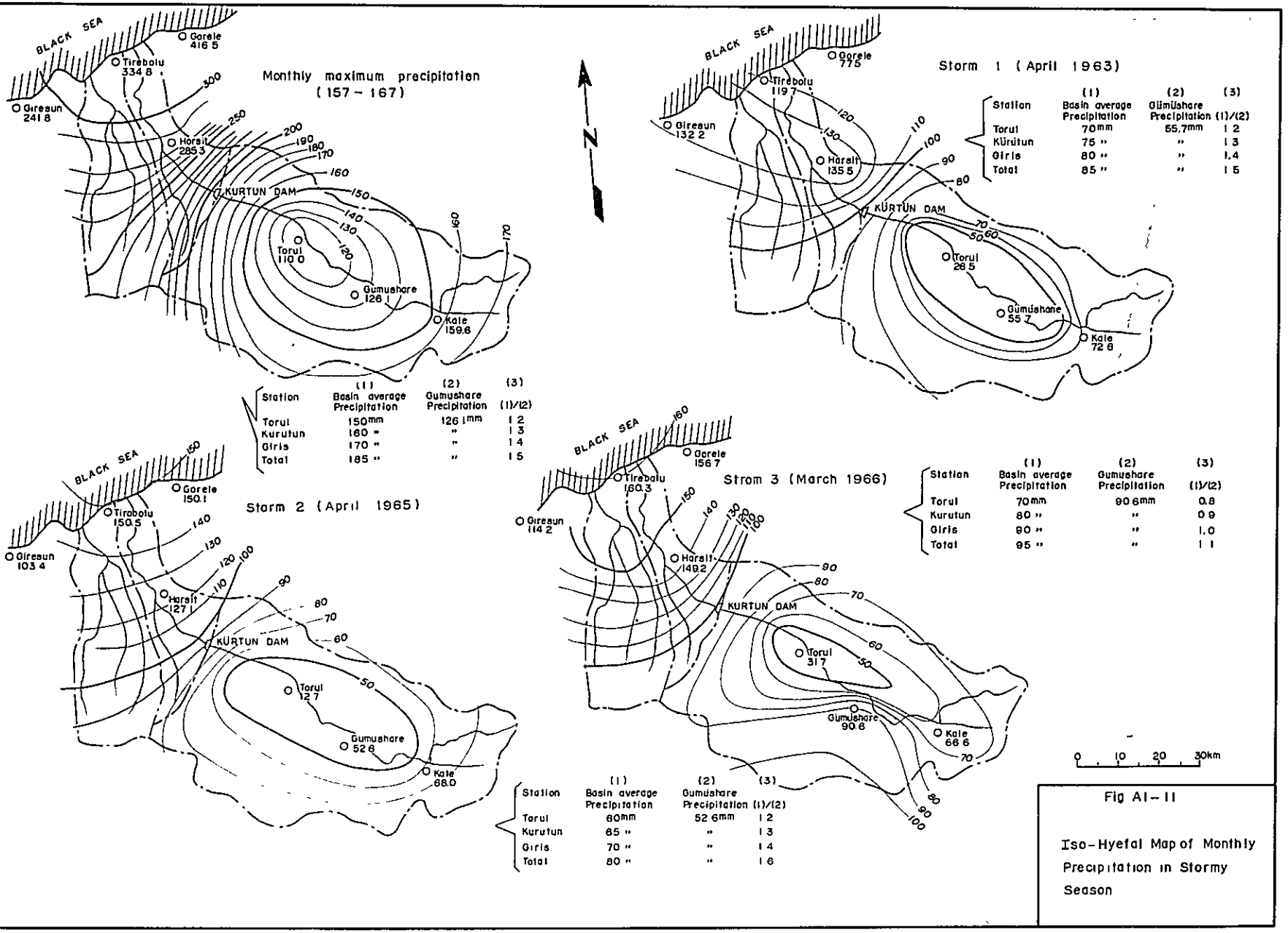
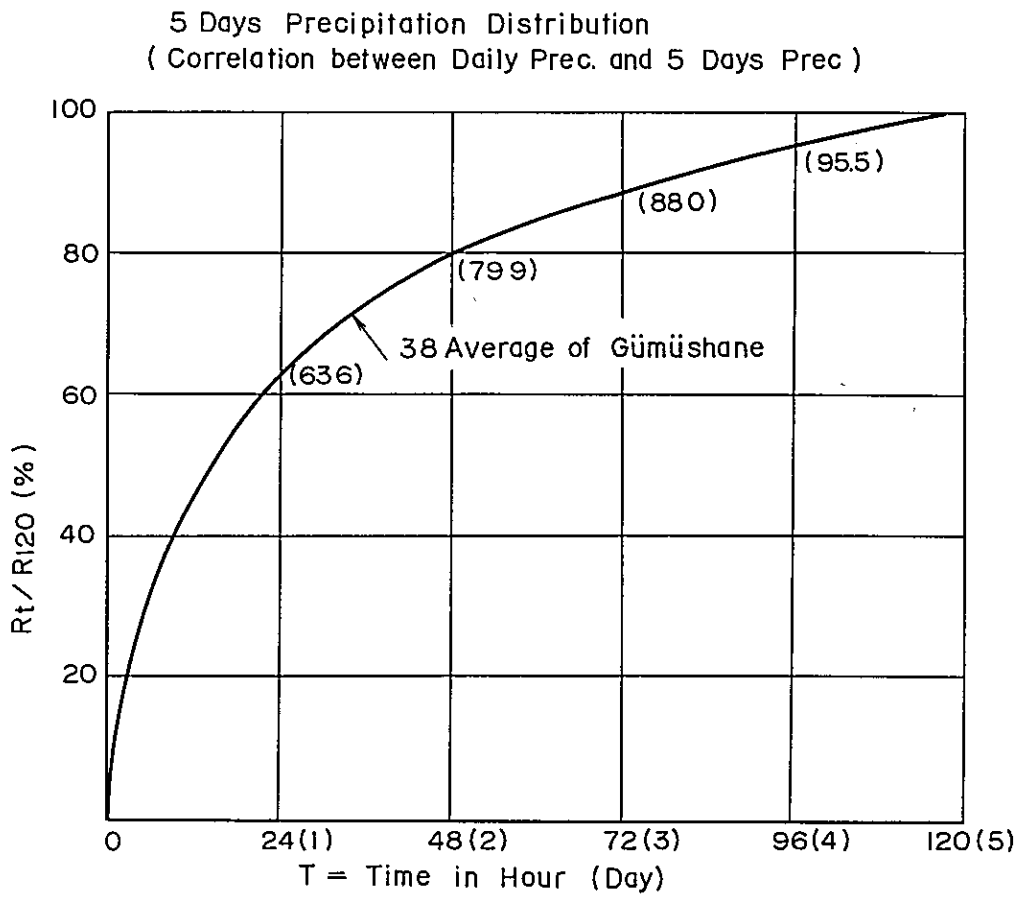
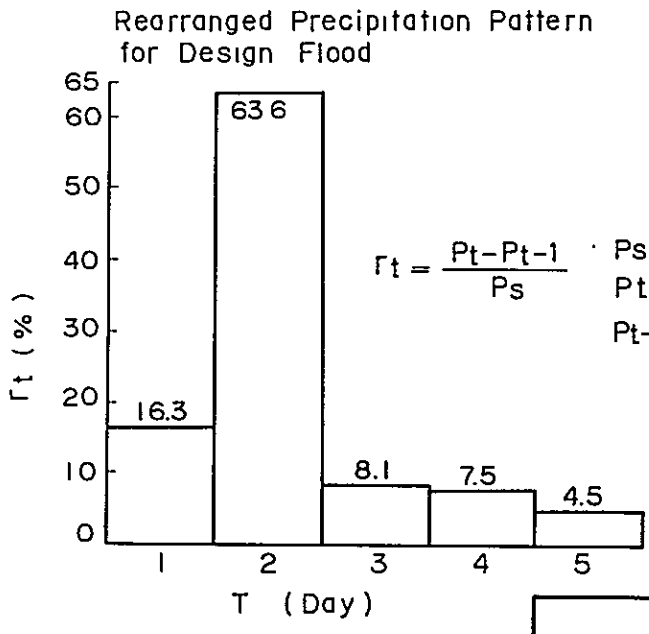


Fig A1 - 11

Iso-Hyetal Map of Monthly Precipitation in Stormy Season





$$rt = \frac{Pt - Pt-1}{Ps}$$

Ps = 5 Days Precipitation
Pt = t Days Precipitation
Pt-1 = t-1 Days Precipitation

Fig. A1-12 & 13

5 Days Precipitation Distribution and Rearranged Precipitation Pattern for Design Flood

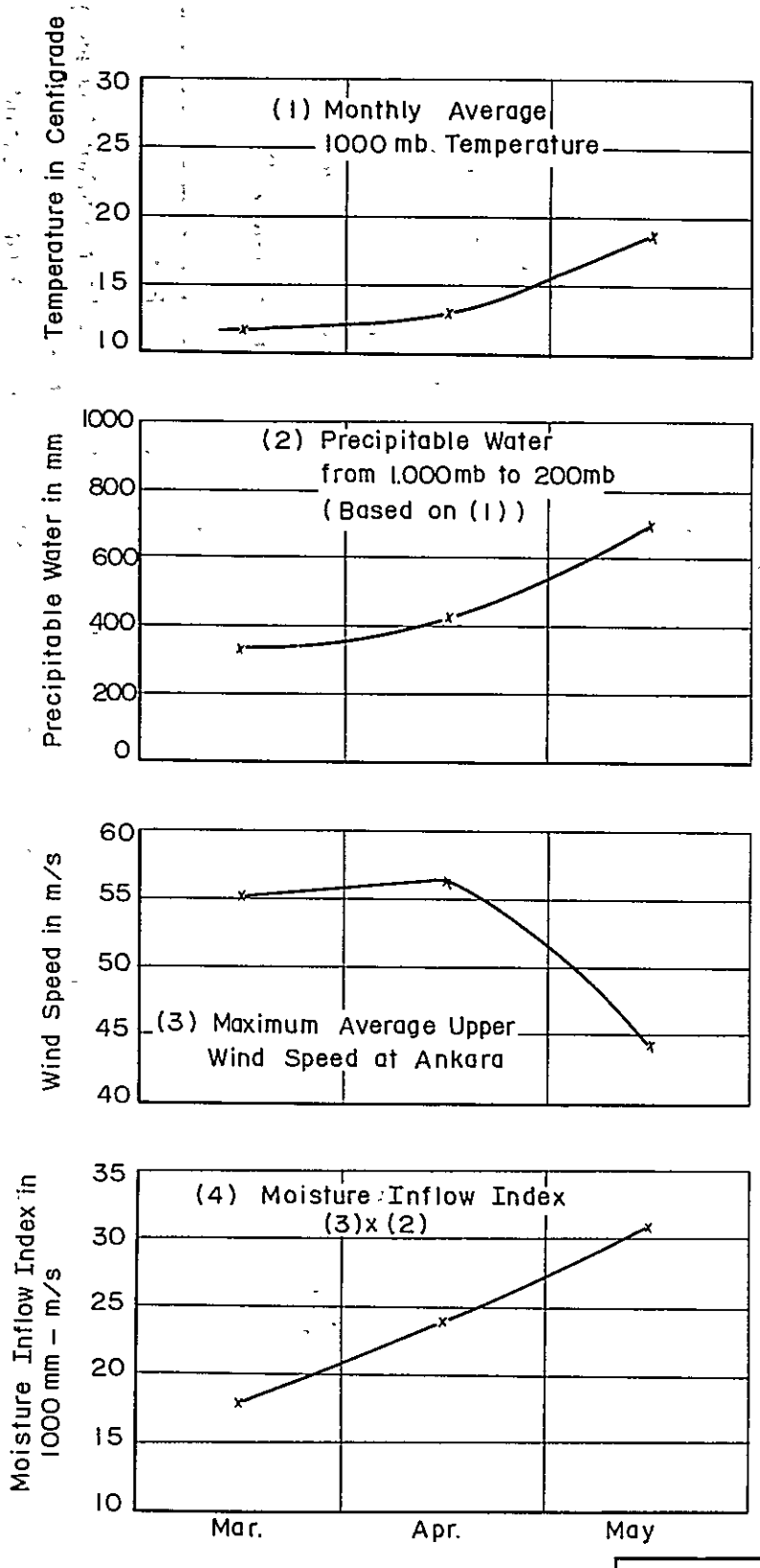


Fig. A1-14

Seasonal Variation of Several Factors of Probable Maximum Precipitation

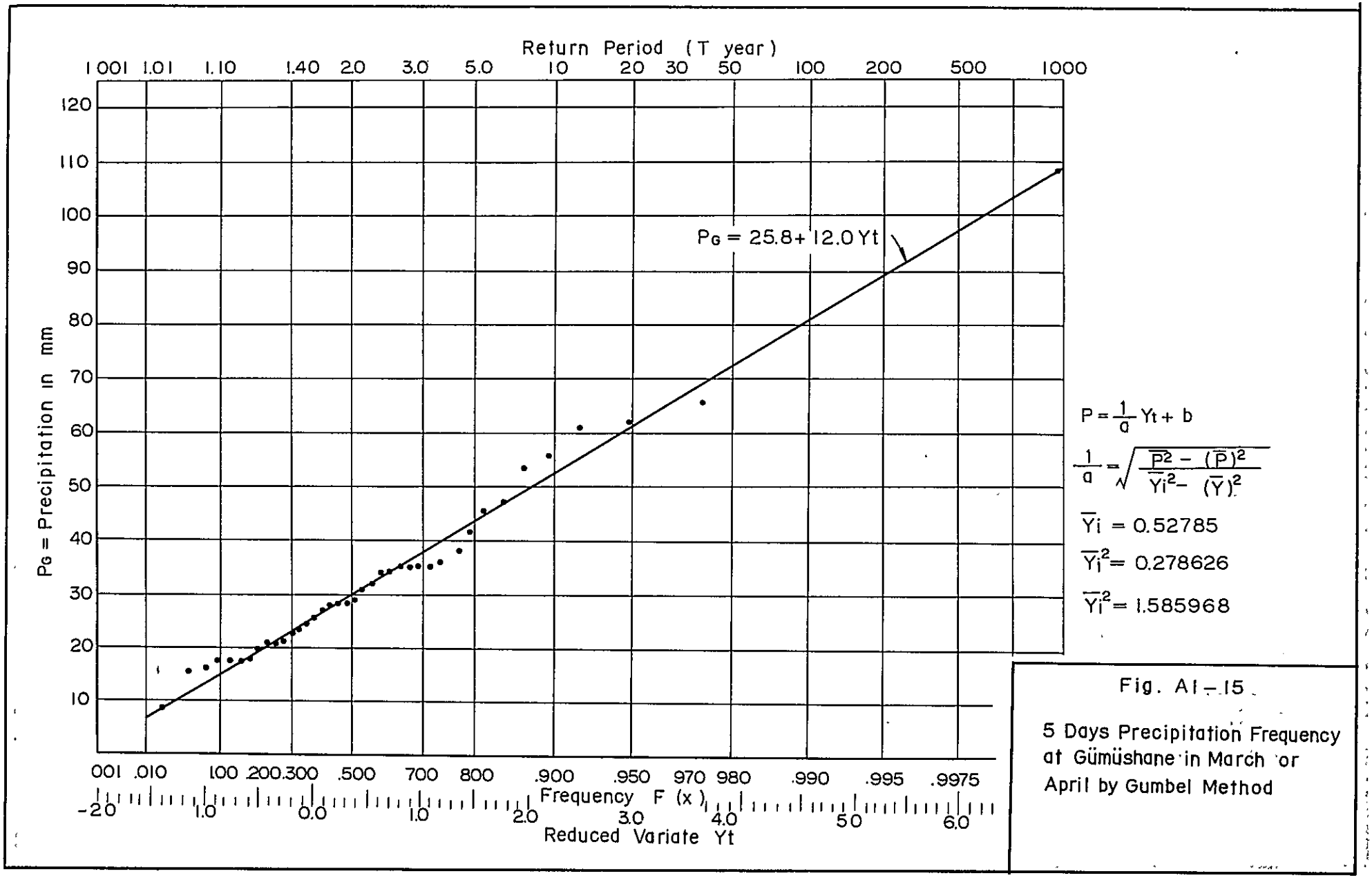
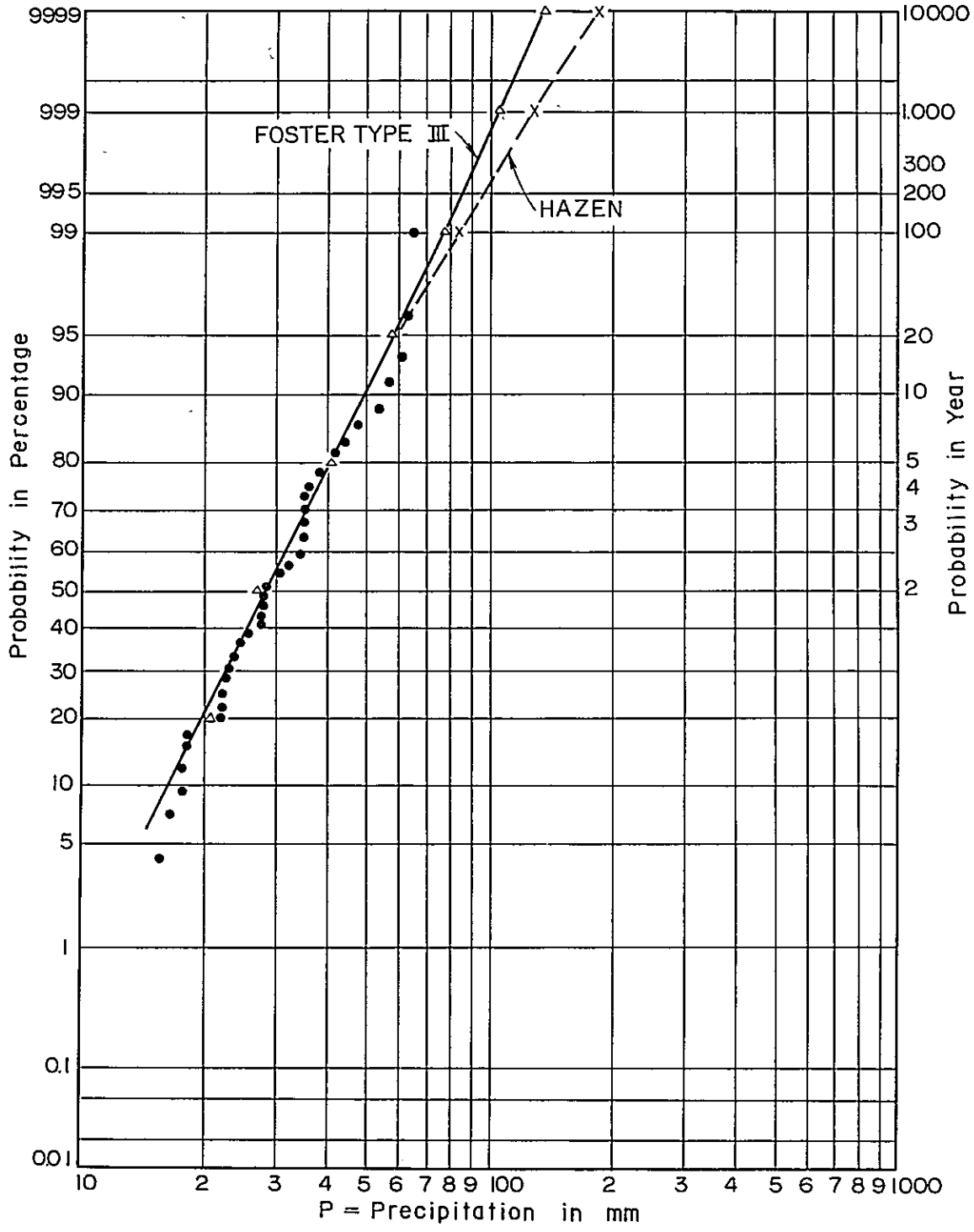


Fig. A1-15

5 Days Precipitation Frequency at Gümüshane in March or April by Gumbel Method



$$\sigma x = \sqrt{\frac{\Sigma P^2}{N-1} - \left(\frac{\Sigma P}{N-1}\right)^2}$$

$$C.S. = C.S.\left(1 + \frac{8.5}{N}\right)$$

$$C.S. = \frac{\Sigma P^3 - 3\bar{P}\cdot\Sigma P^2 + 3\bar{P}^2\Sigma P - N\cdot\bar{P}^3}{(N-1)\,\sigma x^3}$$

Fig. AI–16

5 Days Precipitation Frequency at Gümüshane in March or April by Foster Type III and Hazen Method ($\sigma x = 12.86$mm $\hat{C.S.} = 1.9$)

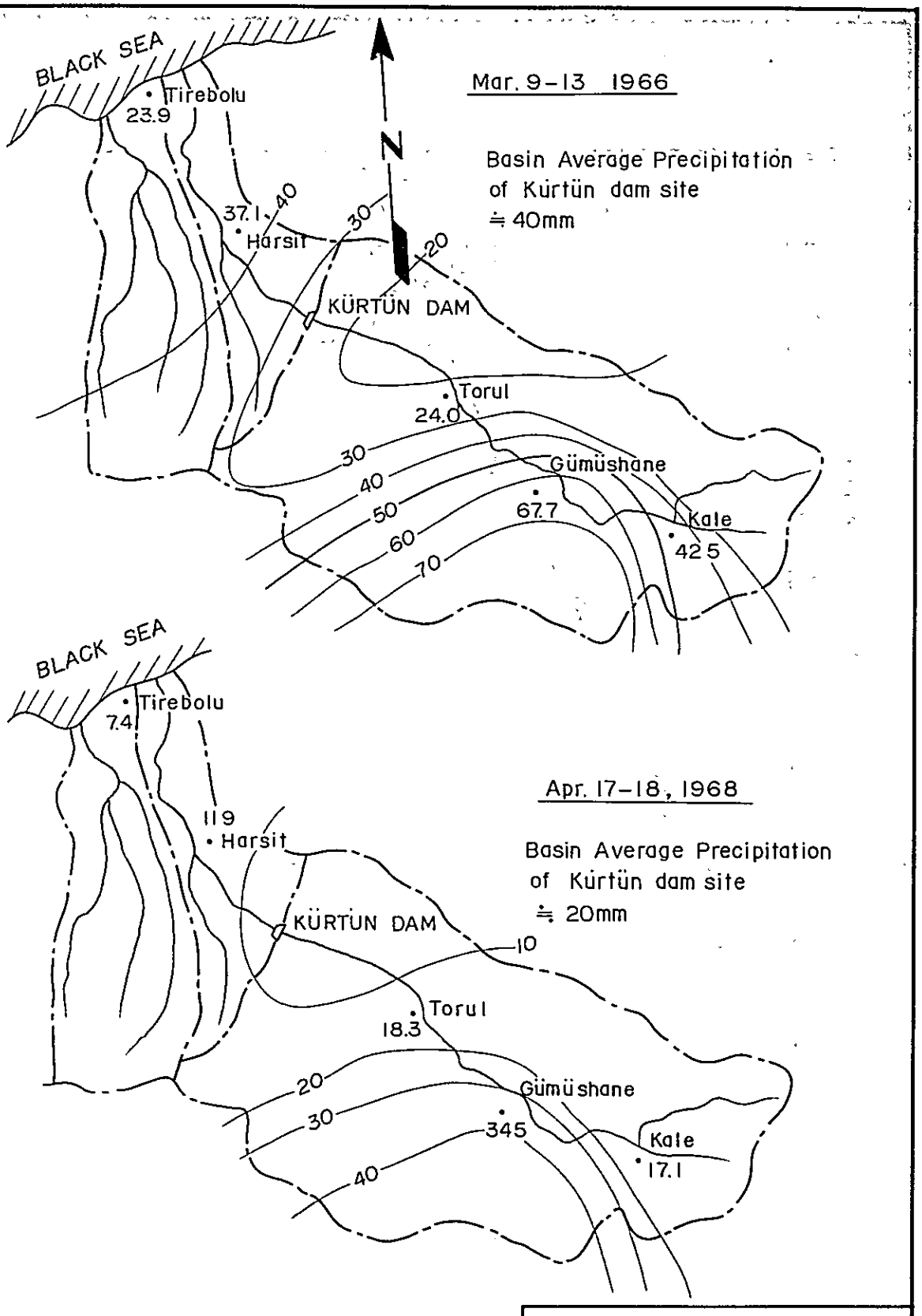


Fig. A1-17

Iso-Hyetal Map
of
Stormy Precipitation

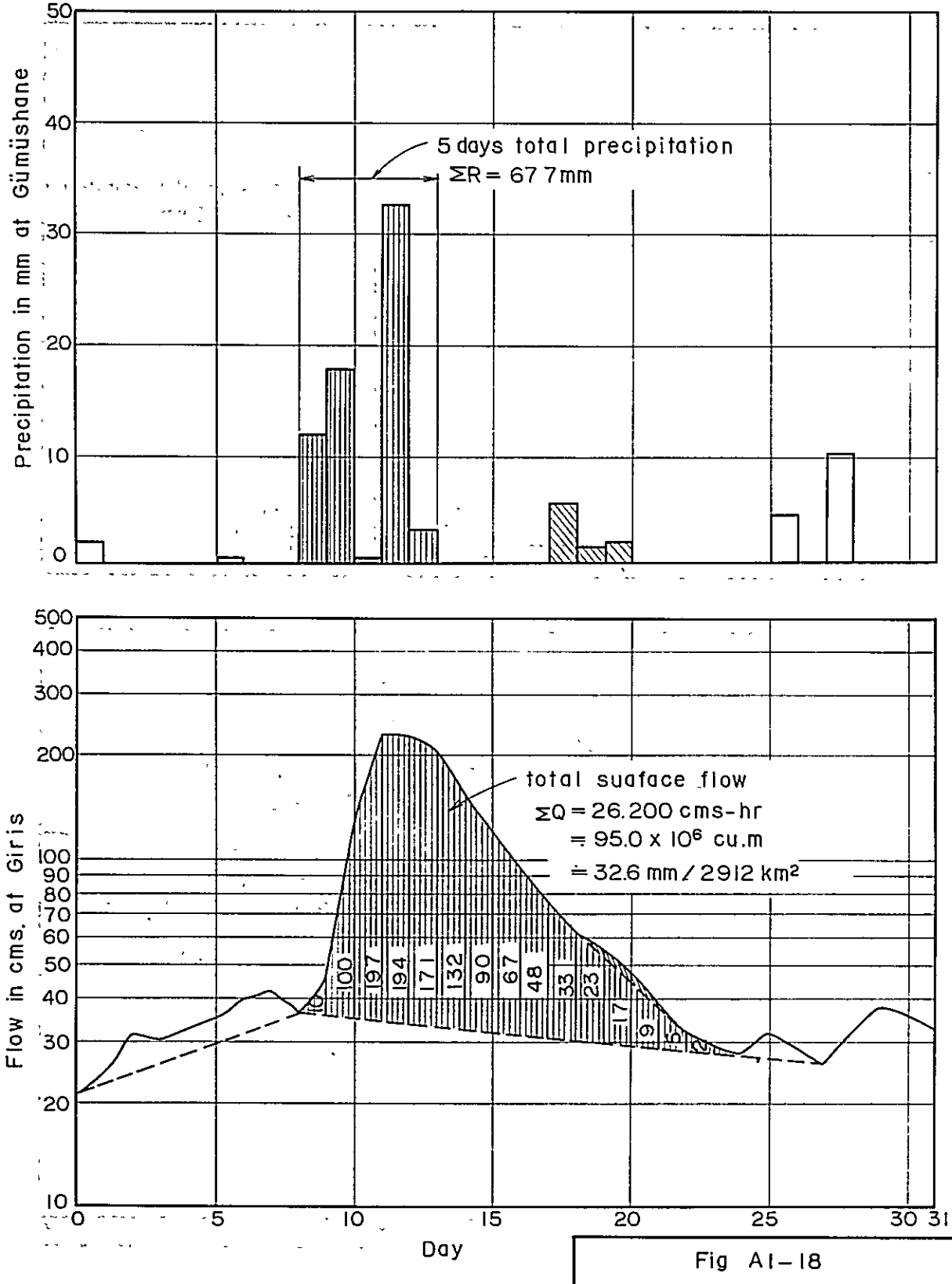


Fig A1-18

Daily Precipitation at Gümüshane and Flood Flow Hydrograph at Giris on Harsit River From Mar. 1st to 31st, 1966

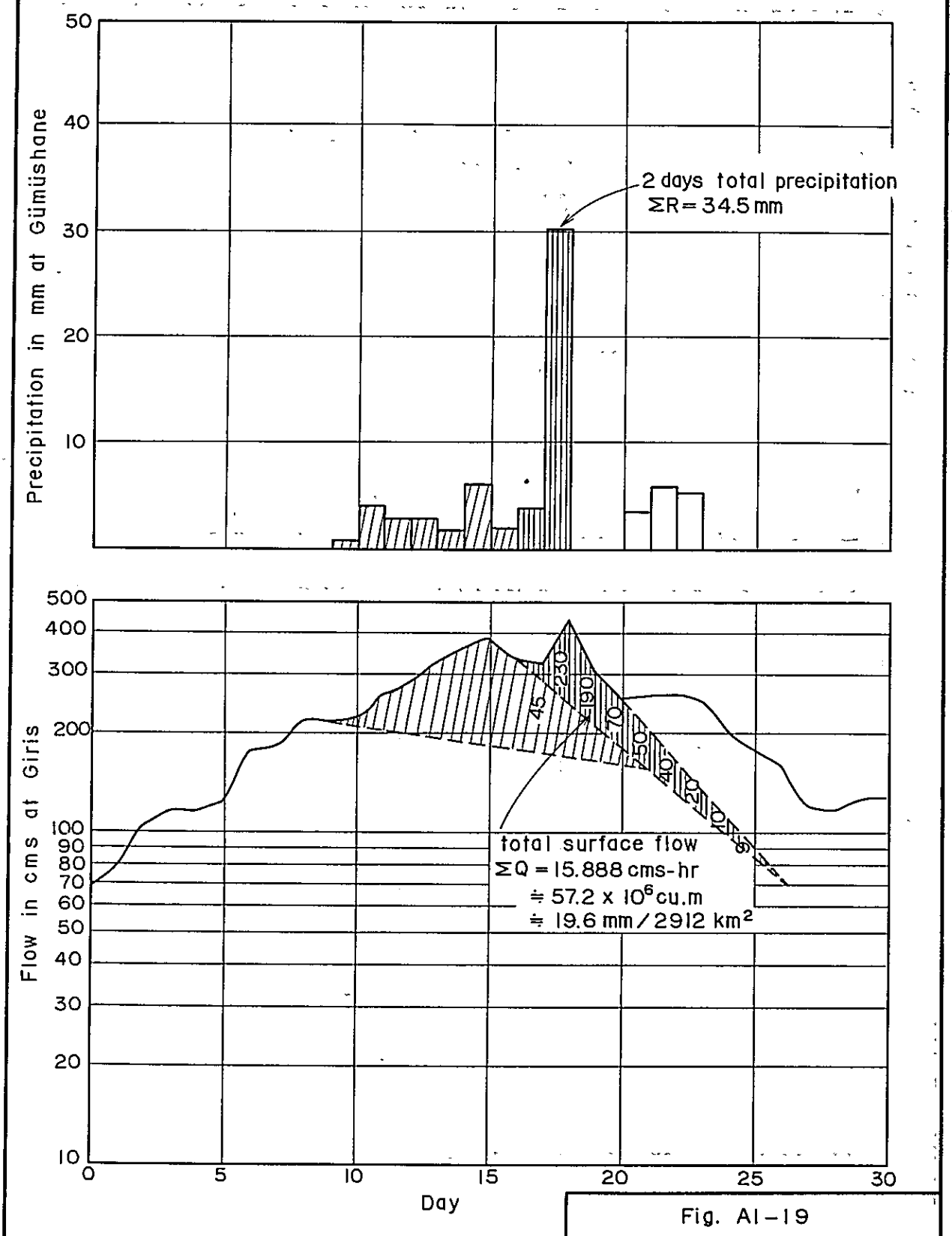


Fig. AI-19

Daily Precipitation at Gümüshane and Flood Flow Hydrograph at Giris on Harsit River From Apr. 1st to 30th, 1968

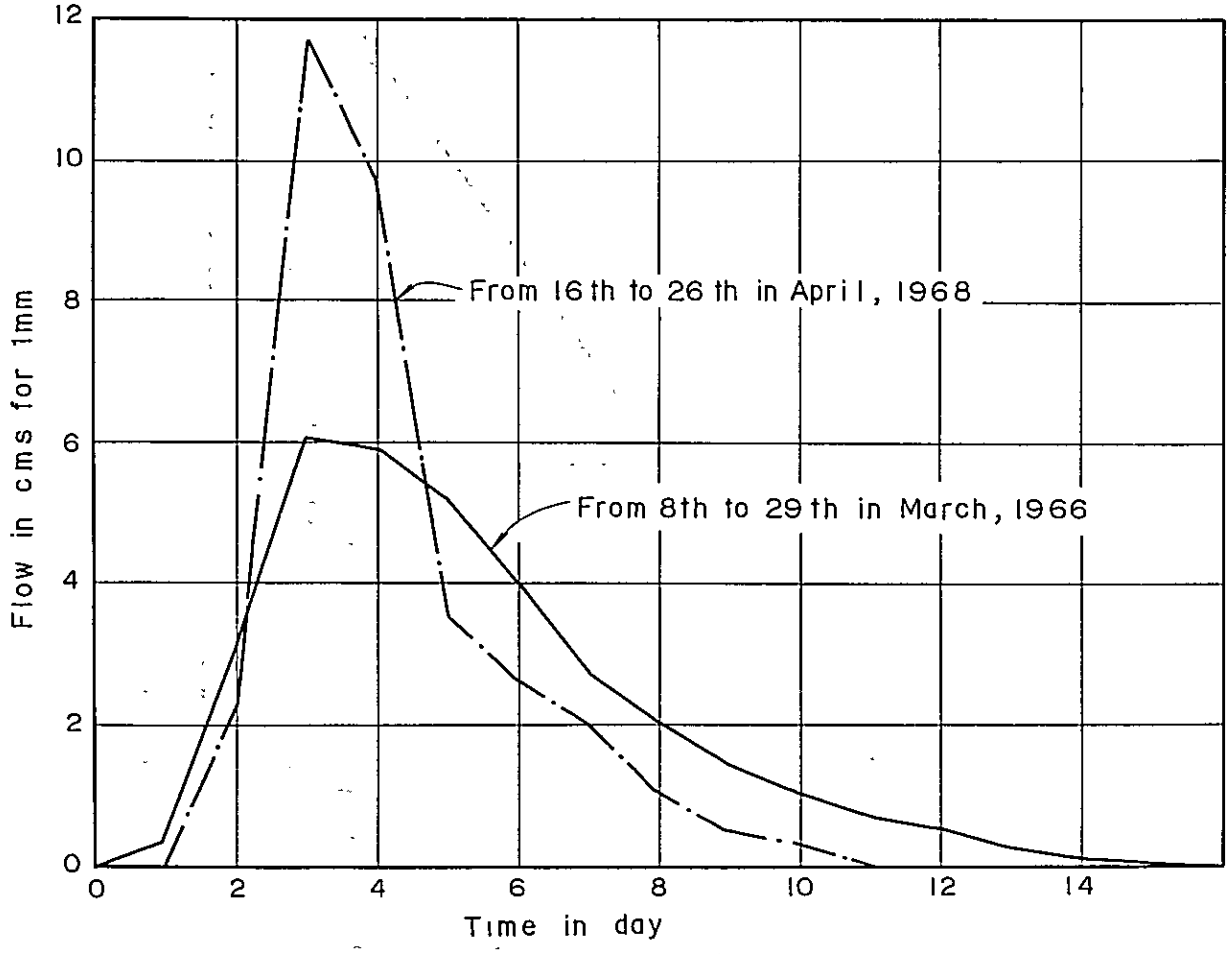


Fig. A1-20

Observed Unit Hydrograph at Giris on Harsit River

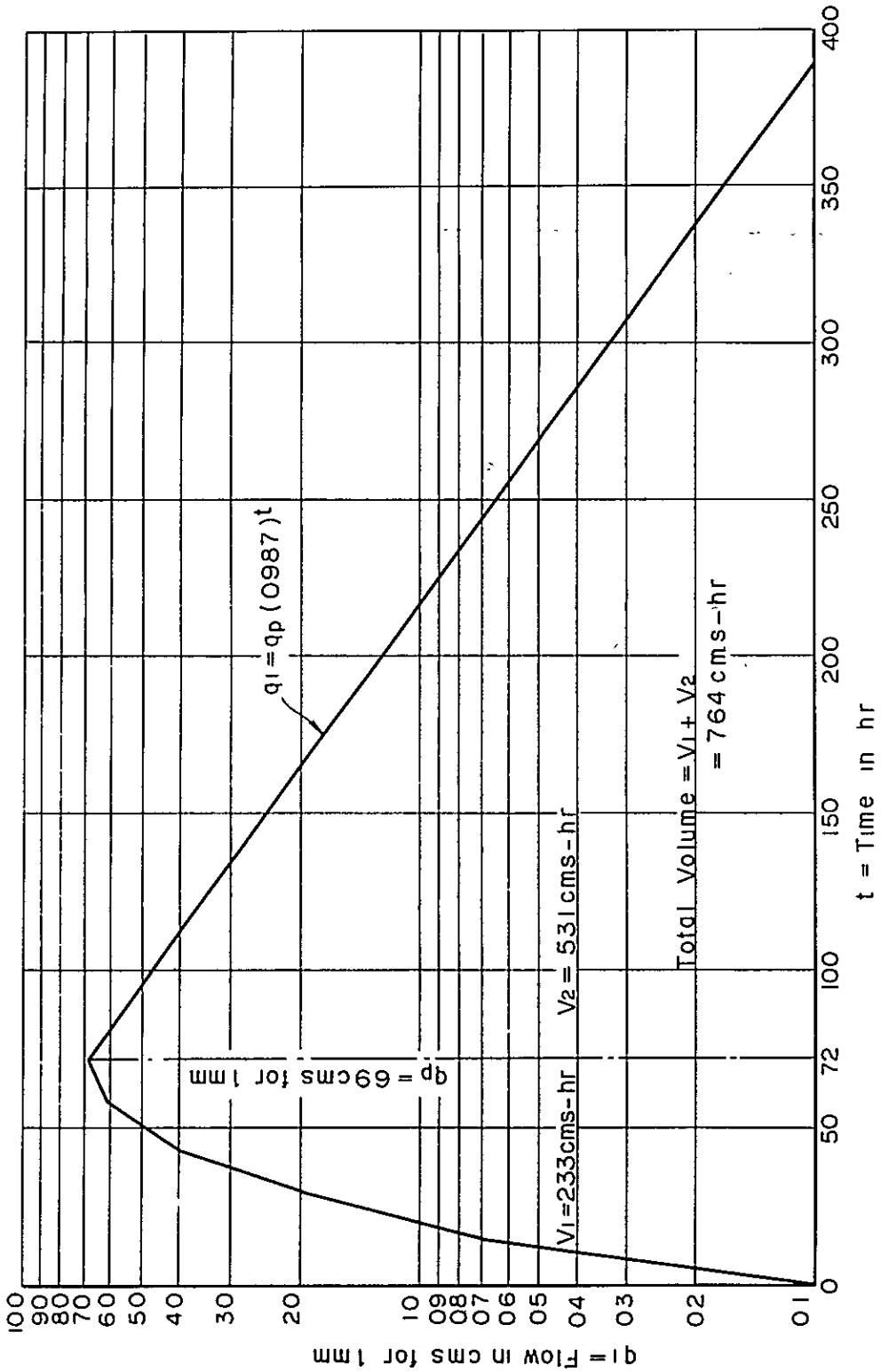


Fig. A1-21

Unit Hydrograph by Snyder
(For Excess Rainfall 1mm)

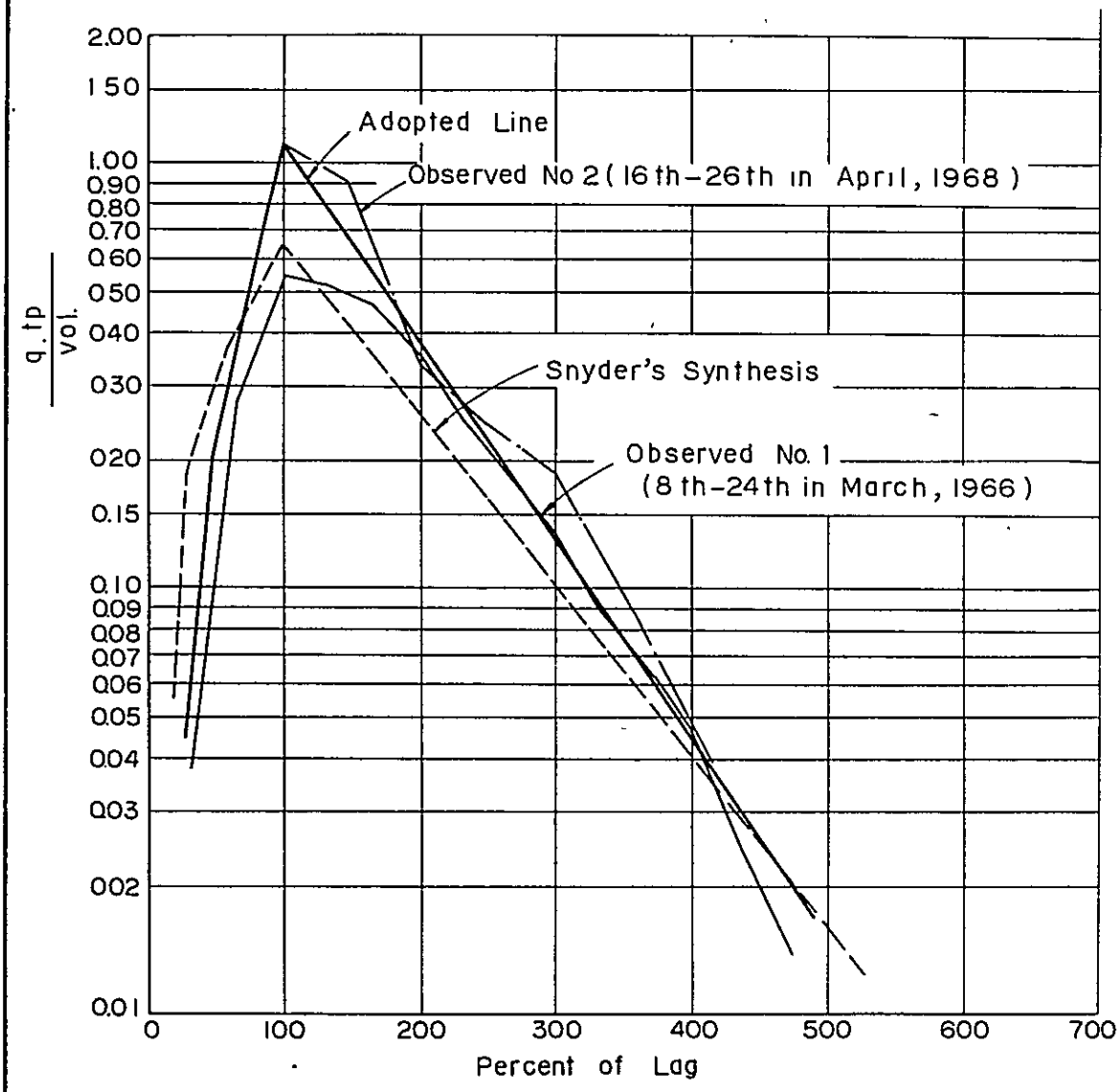


Fig. A1-22

Dimensionless Unit Hydrograph at Kurtün Dam Site on Harsit River

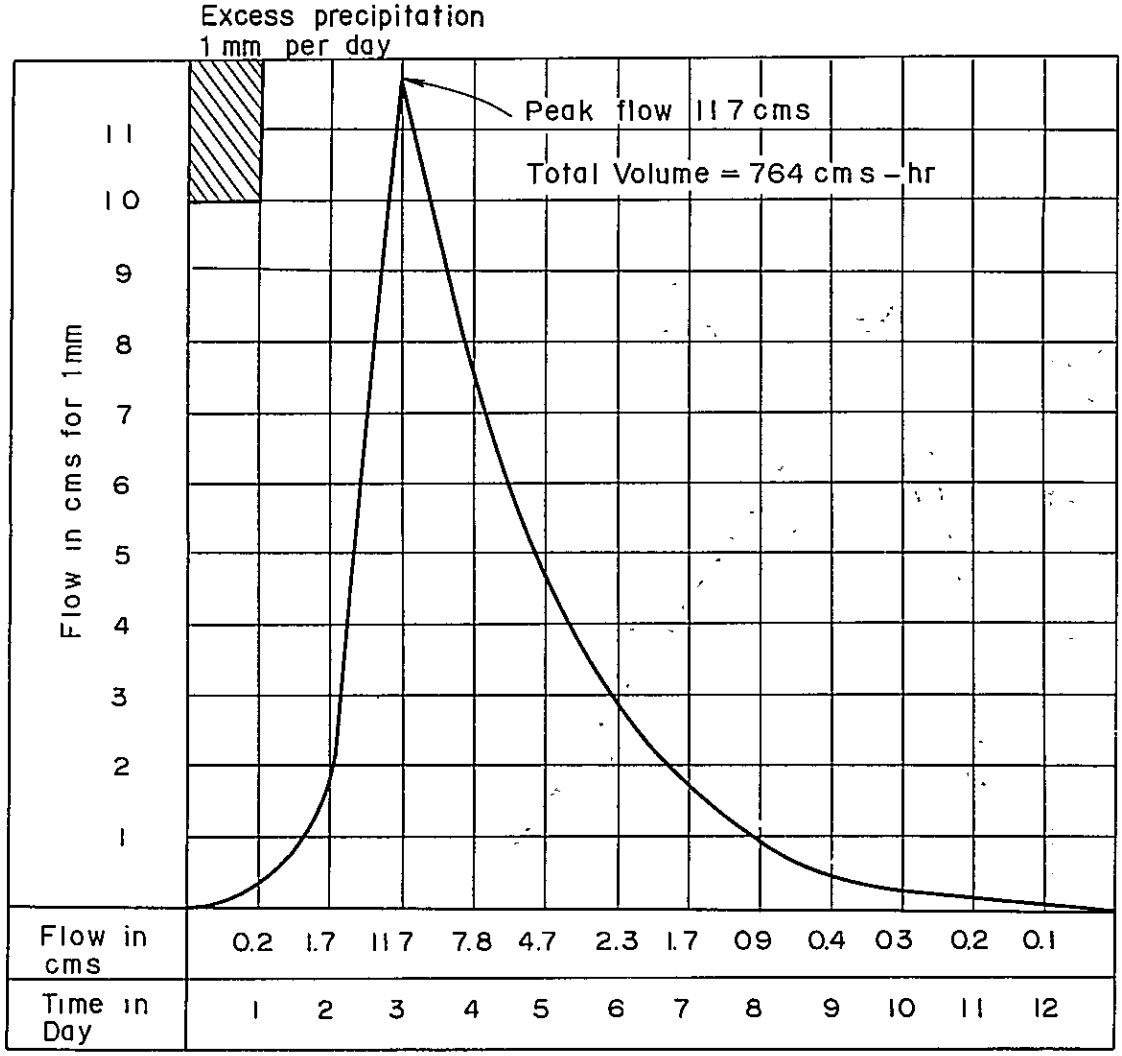


Fig. A1–23

24–Hr Unit Hydrograph for Application to the Spillway Design Flood of Kürtün Dam

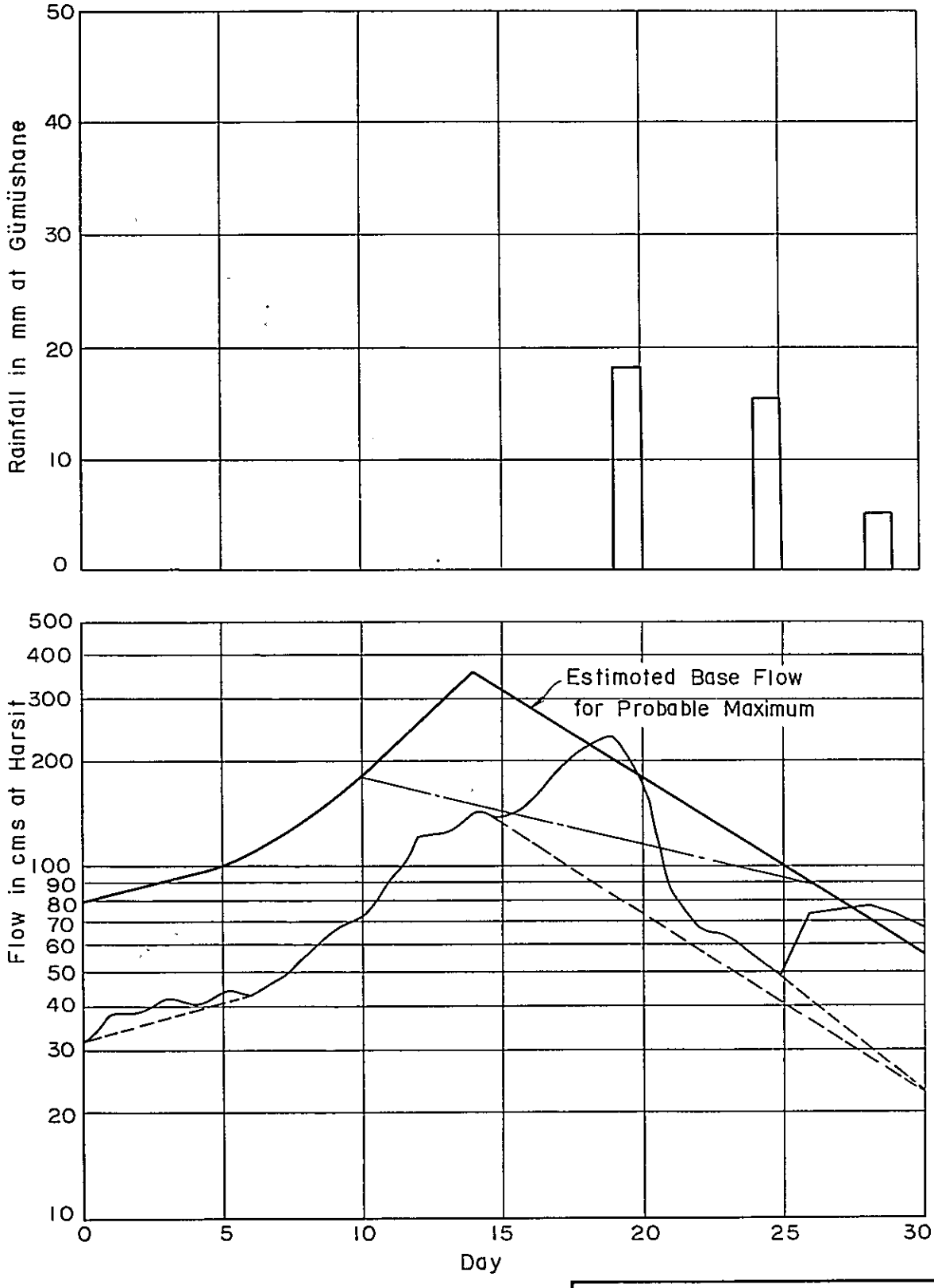


Fig. A1-24

Daily Precipitation at Gümüshane and Flood Flow Hydrograph at Harsit on Harsit River From Apr 1st to 30th 1957

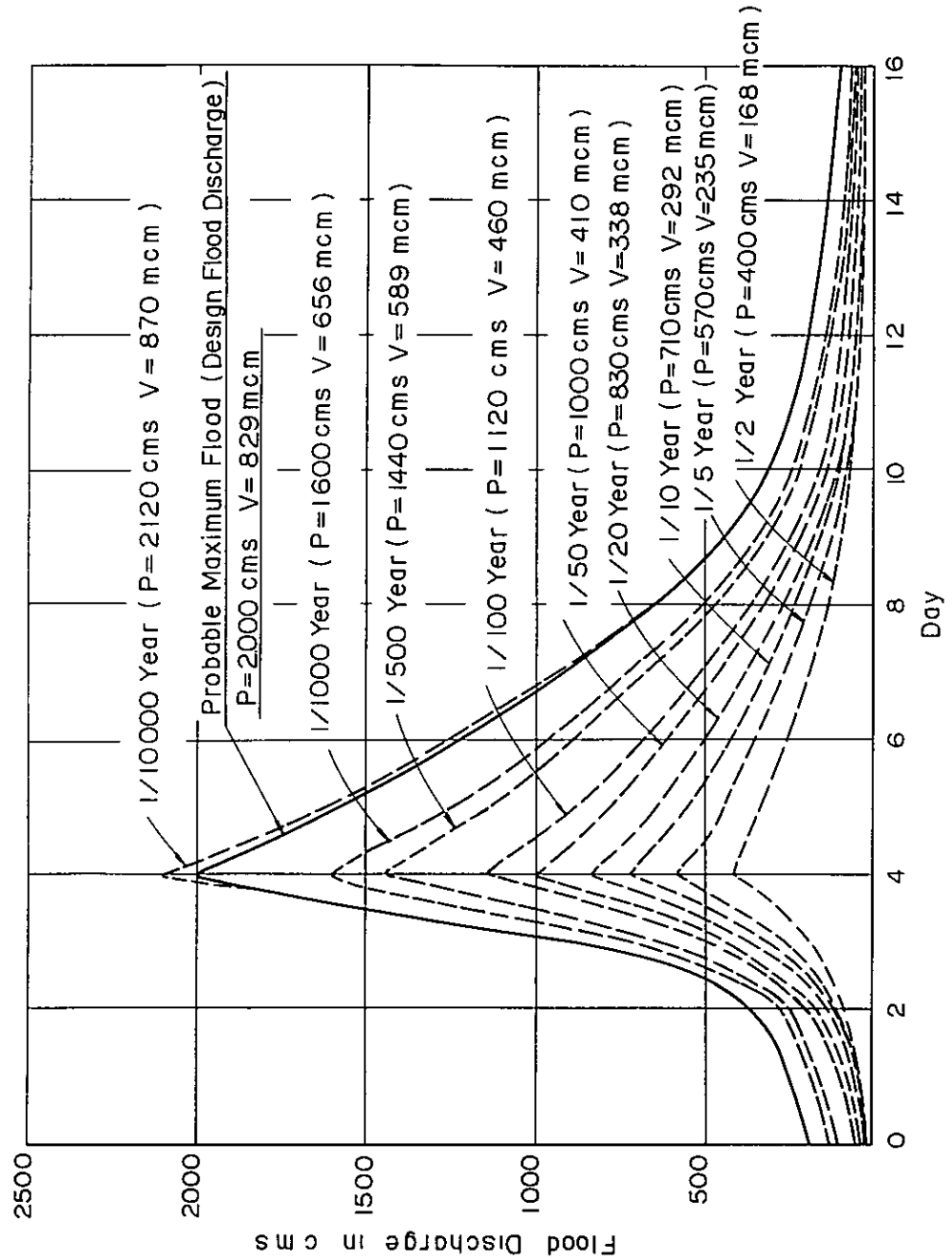


Fig A1-25

Probable Maximum Flood Dischage and Flood Discharge for Various Return Period

Appendix 2 Geology

Contents

List of Figures

List of Tables

A2-1 INTRODUCTION

During a period of 6 days from March 19 through March 24, 1969, reconnaissance of the entire project area centering around the Kürtün damsite was carried out. The outline of geology of the entire project area has been described in the main text and here the geology and topography of the damsite and reservoir will be presented.

Investigation of the damsite and reservoir has been carried out to a considerable extent by DSI and there is a 1/25,000-scale geological map prepared for the reservoir and a detailed 1/1,000-scale geological map made for the damsite, while further, there is a considerable amount of investigation work which has been carried out through drillings and exploratory adits. Lists of the geological investigation work based on data received from DSI on the occasion of the field investigation and data sent from DSI at the end of August 1969 are given in Table A2-1 and Table A2-2 below. Although Table A2-1 lists investigation works of which data have not yet arrived, Fig. A2-2 and Fig. A2-4 do not include such works. However, the outline of the geology is explained under Geologic Description of Survey Works based on field investigation data.

Table A2-1 List of Drillings

Note : * Data received partially

** Data not received

Table A2-2 List of Exploratory Adits

A2-2 OUTLINE OF RESERVOIR TOPOGRAPHY AND GEOLOGY

The slopes of the reservoir and the surrounding mountatins are fairly steep and a topography in the mature stage with a V-shaped valley section is presented for a fairly long distance. The river gradient is roughly 1/100 inside the reservoir area. Despite the steep topography, the sand and gravel deposits in the riverbed are fairly thick and there are numerous places in which the thicknesses are estimated to be roughly 10 to 20 m. There is a large-scale landside downstream of the Kürtün damsite, but landslides are comparatively few at the upstream reservoir and mountain slopes with only small-scale slides seen at scattered locations, although at Kaledüzü Village at the end of the reservoir, there is one of fairly large proportions.

The bedrock comprises gabbro and granodiorite as plutonic rocks and andsite, rhyolite, diabase and dacite as volcanic rocks. Besides the above, there are crystalline limestone, limestone, tuff,agglomerate and tuff breccia of the Upper Cretaceous Period with numerous faults and the geologic structure is fairly complex. Here and there are portions which have been subjected to mineralization belived to have accompanied intrusion of granodiorite while there are old adits at places which are thought to have been used for mining of ore.

Table A2-1 List of Drillings

	Depth (m)	Remarks
LS - 112	100.0	
LS - 107	148.0	*
LS - 106	100.0	
LS - 104	100.0	
LS - 115	100.0	
LS - 114	56.0	
RH - 103	100.4	
RS - 101	100.0	
RSH - 109	100.0	
RS - 102	120.3	
RS - 110	110.0	
SP - 116	21.9	
SP - 117	27.4	
RS - 108	149.8	**
RS - 111	120.0	**
LS - 105	150.0	**
PH - 1	34.22	**
Total	1,638.02	

* Data received partially

** Data not received

Table A2-2 List of Exploratory Adits

No.	Length (m)
LA - 5	13.0
LA - 6	14.5
RA - 1	32.5
RA - 2	25.3
RA - 2a	24.0
RA - 3	58.5
RA - 4	16.0
Total	183.3

A2-3 TOPOGRAPHY OF DAMSITE

The width of the river is 60 to 70 m at the dam axis and the elevation of the river bed is 545m. The river gradient is not very steep and the current is slow. A slope of roughly about 40° continues up to about EL. 800 m on the left bank. The slope on the right bank is slightly more gentle than that on the left bank and continues up to about EL. 710 m at roughly 35° above which it changes to a gentle slope of around 20°. The contour lines on the right bank are roughly parallel to the river flow, but are slightly convex to the river flow on the left bank. Generally speaking, there is a considerable degree of ruggedness of the slopes with an independent peak about 20 m in height near a point 150 m downstream of the dam axis at the lower part of the left bank slope. The ruggedness is generally more pronounced on the left bank than the right.

A2-4 ROCKS AT DAMSITE AND THEIR DISTRIBUTION

The rock is predominantly granodiorite, besides which there are andesite, diabase or crystalline limestone. The granodiorite has quartz, feldspar and hornblende as rock forming minerals, and when massive and fresh, it is extremely hard. Upon weathering, irregular cracks appear and the granodiorite falls in the form of large masses. In general, there is secondary hydrothermal alteration with profusely scattered crystals of pyrite. The distribution area of granodiorite on the left and right banks of the damsite are roughly equal. The granodiorite, according to "Explanatory Text of Geological Map of Turkey, Trabzon," was intruded at the eocene of tertiary and contains various rocks of older ages as xenoliths. Therefore, the xenoliths have been subjected to thermal metamorphism and later hydrothermal metamorphism by the granodiorite and are altered considerably from their original forms. However, since thermal metamorphism results in the original rock being hardened, this metamorphism is of no problem from a civil engineering standpoint. Also, the boundaries between the xenoliths and the mother rock are tight. Andesite is distributed in a narrow range near EL. 600 to 620 m on the right bank slope and on a fairly wide scale at around 300 m upstream of the dam axis on the left bank and around 100 m upstream of the dam axis on the right bank. All of these are massive and dense, but weathering appears to have progressed somewhat deeply. Diabase is distributed here and there in small scale at the damsite and in fairly large scale around 500 to 600 m both upstream and downstream of the dam axis. It is a massive and dense rock, but there are many fine cracks at the surface. Limestone has become crystalline due to later intrusions of granodiorite. Further, at portions of the limestone subjected to contact metamorphism, it appears ore deposits of copper are carried and there is evidence of exploratory adits having been performed. This crystalline limestone is distributed in small scale at around EL. 700 m on the left bank and in fairly large scale at parts of higher elevation on the right bank. Also, on both left and right banks, there is considerably wide distribution fairly distant upstream from the axis. There are spots where limestone is contained in the granodiorite as small-scale xenoliths parts of which have become cavities having been dissolved by water. Although it is normal for cavities to exist in limestone, since the crystalline limestone at this site exists in the from of xenoliths surrounded by granodiorite, the sizes

of the limestone masses are small and it should be safely estimated large caverns do not exist on the area.

A2-5 GEOLOGY OF DAMSITE

Left Bank

Talus is distributed fairly widely from EL. 555 m to the road above, while there are also small distributions at little gullies above the road. The bedrock consists almost entirely of granodiorite, but there is partly diavase near the river bed. There is crystalline limestone at the upper parts above EL. 685 m, but because of the high elevation, there is no direct relation to the dam foundation. The ground surface of the granodiorite, as previoously mentioned, is extremely rugged with creep at almost all protruding portions and market development of cracks at surface parts. There are almost no trees standing with rock exposed over a wide area, but also concave sections are thinly covered by rock fragments, tracing of faults is not too simple a matter. As shown in Fig. A2-2, the surface portion down to 2 - 10 m has a large number of fissures and is fairly weathered, but down deeper, the rock is thought to be fresh and hard.

A fault 50 to 60 cm thick was discovered at Adit LA-6 and it is thought this fault is continuous in an upstream-downstream direction, but as a result of examination of foundation stability for an arch dam conducted elsewhere, it is not thought this fault will be a serious problem in the case high water surface of the reservoir is to be EL. 650 m. At Adit LA-5, a small-scale fault has been found along the center line of the adit, but because of the small scale and since it will be in a relation continuous to the left bank end of the dam it is inconceivable of being a very important problem. According to the geological map furnished by DSI, there is an assumed fault continuing from the location of Drilling LSi-106 to a point at EL. 663 m on the dam axis. Although this would appear at a fairly high portion in the dam foundation, since it is believed to be of somewhat great importance from the standpoint of stability of the dam, attention to this matter will be required. Further, according to the geological map of DSI, two faults at around elevations of roughly 560 m and 580 m are indicated, but in the data of Drilling LSi-115, there are no parts which can be considered to be continuations of these faults. It is therefore believed that these faults are merely of the extent of cracks at deep parts underground so that they are not clearly defined in borings. Consequently, these faults are not of much importance. However, as shown in the Fig. A2-1 geological plan prepared by DSI, there are several faults in an east-west direction concentrated in a range between 100 m to 150 m downstream of the dam axis. Depending on the continuation of these faults, stability of the left bank shoulder would be endangered and there will be a necessity for confirmation by ground surface reconnaissance to be made.

River Bed

The river bed is thickly covered by a sand and gravel layer and according to the drilling of RH-103, the thickness is 22.3 m. The size of the gravel is a maximum of approximately 30cm and an average of approximately 10 cm. At Drilling RH-103 the bedrock is granodiorite with the surface layer

weathered and softened for only 50 to 60 cm being fresh and sound deeper down, and although there are no faults, since this drilling is located approximately 60 m downstream of the dam axis, the condition of the dam axis is assumed to be slightly different. In other words, it is thought the diabase on the left bank and that on the right bank are continuous and the bedrock of the river bed portion of the dam foundation is mostly taken up by diabase. It is presumed that the thickness of the gravel layer and the state of weathering of the surface of the bedrock is almost the same as at Drilling RH-103.

Right Bank

There is a fair amount of talus deposited on the slope down from the road to the river and on the slope above the road where the contour lines are concave to the stream. The bedrock is diabase at the lower parts with granodiorite above it, there being an interbed of andesite between the two. This andesite is also thought to be a xenolith of a large scale. It is estimated from Drilling RS-102 and RS-110 that the andesite is continuous in a roughly horizontal direction to a considerable depth. There is diabase above EL. 640 m which is also thought to be a xenolith in the granodiorite adhering in a thin section to the slope.

The weak portion of the surface layer of the bedrock goes deeper than on the left bank being estimated to be 8 to 16 m being deepest in the vicinity of Exploratory Adit RA-3. At Exploratory Adit RA-4, a fault of fairly large size approximately 30 to 80 cm in thickness has been discovered, but since this is some distance from the dam foundation, it will be of no problem. At Exploratory Adit RA-2 and its branch adit RA-2a, a fault of 30 to 50 cm thickness has been discovered. Also, a fault of 50 to 70 cm has been found at the facing of Exploratory Adit RA-3. These are estimated to be continuous. As these faults are of fairly large scale and are roughly orthogonal to the direction of arch thrust, the portion of the foundation must be treated with great care. As is shown in the geological plan of Fig. A2-1, there are several faults concentrated in the diabase on both sides of the road according to the geological map of DSI. Since these faults are in a north-south direction, or roughly parallel to the dam axis, both in regard to dynamics and permeability of water, they are not thought to be of very great importance. However, the fault of 20 to 27 cm thickness near 17 to 18 m of Exploratory Adit RA-1 is roughly orthogonal to the dam axis, and moreover, is continuous from upstream to downstream of the dam so that this too will require careful treatment. Also, as indicated in Fig. A2-1, according to the geological map of DSI, the fault continuing from the gully on the right bank may cross with the dam axis at the river bed. If this fault should intersect the dam axis. it would similarly require treamtment.

A2-6 GROUND WATER AND PERMEABILITY

Regarding the location of the ground water table, measurements have been made at Drilling LS-107, LS-104, RS-101 and RS-102. The continuations of these ground water table lines are indicated in

Profile A - A of Fig. A2-2, which shows them to be fairly distant from the ground surface at the left and right bank portions. Especially, on the right bank side, the ground water table is not very high even at a considerable distance from the river. In the event there is a cavity underground and the cavity is connected with the river at a great distance downstream, the ground water table would be lowered markedly, lower than the present water level of the river, but in the case of this damsite, such a condition is inconceivable. The limestones prone to occurrence of cavities are contained in the granodiorite as xenoliths and the blocks of limestone are not very large. Therefore, it is unthinkable that cavities which might continue to a distance would exist. The reason the ground water table is not very high is thought to be that the coefficient of permeability is generally high at portions nerr the ground surface because of the numerous fissures in the granodiorite.

Permeability tests have fortunately been conducted every 2 m in almost all of the drill holes and the results converted into Lugion's values,are indicated in geologic logs of drill holes. In Lugeon's values, 1 lugeon is the unit of penetration of 1 ℓ of water forced into bedrock under a pressure of 10 kg/sq.cm, but a considerable number of the tests at the various drill holes were made at pressures of lower than 10 kg/sq.cm. These were converted for pressures of 10 kg/sq.cm. The depths of lower limits of locations with converted Lugeon's values of 100 lugeons or more are given in Table A2-3. The figure of 100 lugeons has no particular physical meaning, but it does serve to give a practical indication of the depths to which permeable ground strata exist.

(Table A2-3 List of Depth in Drill Holes of Sections of 100 Lugeons or More.

No.	Depth (m)	Lower Limit in Drill Hole of 100 Lugeons or More

)

As can be seen from this table, both the left and right banks are permeable to considerable depth. However, Drilling RH-103 at the river bed shows no portion to have a value higher than 100 lugeons.

Because of this, it is believed curtain grouting must be performed to greater depth than normal for arch dam foundations at locations of high elevation on the left and right banks of this site.

A2-7 GEOLIGIC DESCRIPTION OF SURVEY WORKS (RE: FIG. A2-3 AND FIG. A2-4)

Drilling LS-112

Granodiorite is found down to 3.5 m, underlying which is siliceous limestone according to the datum of DSI. Below that it is almost all granodiorite with partial interbedding of siliceous limestone. This siliceous limestone exists in the form of xenoliths in the granodiorite causing it to be subjected to silicification. All of the rocks are sound and in good condition and there are no parts in particular which are thought to be faults, but there are three portions which show high permeability.

Drilling LS-107

Siliceous limestone is seen at two portions down to 6 m. Deeper down it is almost entirely granodiorite while small masses of diabase are found at 3 places between 26.00 and 29.20 m. All

Table A2-3 List of Depth in Drill Holes of Sections of 100 Lugeons or More

No.	Depth (m)	Lowest Limit of 100 Lugeons
LS - 112	100	66.0
LS - 107	110.10	108.0
LSi - 106	100	0
LS - 104	100	6.0
LSi - 115	100	86.0
LSi - 114	56	30.0
RH - 103	100.4	0
RS - 101	100	62.0
RSH - 109	100	-
RS - 102	120.3	84.0
RS - 110	110	50.0
SP - 116	21.9	0
SP - 117	27.4	-

rocks are sound and of good quality, but the core recovery of diabase between 26.00 to 29.20 m is poor and the rock is slightly soft and weak. There is no fault in particular, but here and there are portions of high permeability. Even though permeability is high, the core recovery is good and it is believed there are breaks in continuation along which water permeates.

Drilling LSi-106

The entire length is granodiorite which is sound and in good condition with core recovery extremely good for the whole depth, being 100% There are no sections exceeding 100 lugeons in permeability and it is believed the condition is also good in this regard. However, clay of about 1 cm thickness is found at places .

Drilling LS-104

This is chiefly granodiorite, but there are beds of diabase of 0.8 to 13.2 m at three places with scattered small masses of diabase at deeper portions. The rock is sound and good as a whole, but there is a fault between 13.50 and 14.40 m, while granodiorite between 6.90 and 9.0 m is slightly weak. The permeability is high down to 8 m, but down further it is zero lugeon or close to zero and the condition is good.

Drilling LSi-115

Granodiorite is predominant over the entire length, but there are small masses of diabase between 20.3 to 23.3 m and 54.8 to 56.5 m. Core recovery down to 3.2 m at the surface portion is somewhat poor at 45%, but below this point it is extremely good being 100% However, there is a fault between 18.75 and 19.30 m and great quantities of water can be injected at zero pressure at three places. Considering the good core recovery, it is not thought the water enters along any fault in particular, but is drawn in along open cracks in the granodiorite.

Drilling LSi-114

The rock is almost entirely granodiorite down to 33.2 m, but between 6.0 and 14.6 m it is diabase. There is a fault between 8.0 and 9.3 m, but the condition is not very bad. However, the permeability is greater than 100 lugeons for nearly the entire length. In consideration of 100 core recovery except for the section of the fault, it is thought water permeates along cracks in the granodiorite. Between 33.2 m and 45.7 m, the DSI data notes gravel, fragments and soil. This is thought to be due probably to the inclined drilling which departed from bedrock to enter river deposits and then reentered bedrock. However, if this section is indeed a river deposit, there is some question regarding the material recovered as core. It is conceivable that fault material was scoured out by

water, and then material produced at the ground surface entered to fill the space. If this should be the case, it would mean the existence of a very large fault to present a very serious problem. Therefore, it will be nesessary to confirm whether or not this material is river deposit. From 45.7 m to the bottom of the hole at 56 m, the rock is good granodiorite with 100% core recovery and the permeability condition is also good being of a low value.

Drilling RH-103

Down to a depth of 22.3 m, it is river bed sand and gravel with the maximum size of gravel being 30 cm, but the average is roughly about 10cm. The bedrock is almost entirely granodiorite throughout, but between 57.9 and 59.4 m and occasionally at other parts, there are small blocks of diabase sandwiched in the granodiorite. Now and then, there is clayey material, but core recovery is good and the condition is generally good. There are no portions which are thought to comprise faults. Regarding permeability, there is one section of 59 lugeons, but the value is exceedingly small at other parts and the condition is good.

Drilling RS-101

The rock is granodiorite down to 4.3 m, and below that down to the bottom of the hole at 100m, it is diabase. There are numerous cracks to a depth of 5 m and the rock is slightly weak, but beyond that, core recovery is 100% and the rock is sound and in good condition. The section between 48.6 and 48.9 m is of clayey material and is thought a fault other than which there is only one portion which is clayey and the remainder is in good condition. Permeability is noticeable down to 16.0 m and near 60 m, but the rest is impermeable and in a good state.

Drilling RSH-109

Diabase, granodiorite, andesite and marginal facies of granodiorite alternate to present a fairly complex structure. Core recovery is slightly poor at diabase portions but the remainder is good at close to 100%. Besides faults at 57.7 - 58.5 m and 73.5 - 74.3 m, there are sections here and there which are clayey with numerous cracks. Permeability tests have not been carried out at this drill hole.

Drilling RS-102

The rock at this drill hole also shows alternations of diabase, granodiorite, aplitic granodiorite and andesite presenting a fairly complex structure, but from 75.5 m down to the bottom of the hole at 120.25 m , the rock is diabase. To a depth of 54 m, there are sections in places of poor core recovery, but below this depth the recovery is good being 100%. Besides a fault at 50.8 - 51.0 m, there are a number of places where cracks abound and the material is clayey. Down to 56.0 m the permeability is great with many sections of 100 lugeons or more where leakage of drilling water is seen. Below this point, except for the section between 82.0 and 84.0 m where the permeability was very high at 232.0 lugeons, the watertightness was good being close to zero lugeon. It is thought the section of very high permeability does not indicate leakage from any fault is particular, but loss of water along cracks.

Drilling RS-110

The rock is granodiorite down to 57.3m and andesite from 57.3 to 78.0m. From 78.0 to 87.8m, andesite and granodiorite alternate. Below that it is granodiorite and the structure is fairly complex. Core recovery is very good being 100%, but there are fairly large faults at 4 places. It is not clear from drilling data in what manner these faults may be continuous. There is high permeability to a depth of 50 m, but below this point to the bottom of the hole, the permeability is low and the condition is good.

Drilling SP-116

The rock is diabase to the bottom of the drill hole. Core recovery is poor to a depth of 15.3m after which it is good.

Drilling SP-117

Diabase is found from the top to the bottom of the hole, there being faults of fairly large scale at 5 sections, and core recovery is poor. It cannot be clearly defined from only drilling data what the continuations of these faults might be.

Drilling RS-108

Andesite containing some granodiorite is predominant to a depth of 21.75m, but underneath to 63.0 m, the rock is granodiorite. From 63.0 m to the bottom of the drill hole at 149.8 m, the rock is diabase. There are numerous cracks from the ground surface down to 12.86 m and the rock is weak, but farther down, although there are sections with brownish weathered surfaces, the condition is generally good. However, between 116.0 and 116.4 m, it is clayey and thought to be a fault.

Drilling RS-111

From the ground surface down to 23.2m the rock is limestone below which it is sound granoeiorite in good condition to the bottom of the drill hole. Cores could not be recovered from a considerable part of the limestone and there were three sections which are thought to be clay flowed in from the ground surface. The cause of this inflow of clay is open to question, although probably the clay entered through cracks, and it is necessary for investigations to be made of the manner of origin of these cracks.

Drilling LS-105

Other than diabase between 16.0 and 20.5 m, the entire length is granodiorite. The granodiorite contains numerous xenoliths of diabase. There are many cracks in the section from the ground surface to a depth of 12.83 m beyond which the rock is sound and in good condition.

Drilling PH-1

A river bed gravel layer is found from the grond surface to a depth of 23.97 m below which it is diabase of sound and good condition to the bottom of the drill hole at 34.22 m.

Adit LA-6

At a point about 7 m from the portal of the adit there is a fault of 50 to 60 cm thickness. There is also a branch fault extending out from this fault. Up to a distance of roughly 10m, there are numerous cracks and the rock is weak. This rock is diabase as far as the facing of the adit.

Adit LA-5

The rock is diabase to the facing of the adit. There is a fault 2 to 10 cm thick running along the center line of the adit, and accompanying the fault, there is a disturbed zone of about 30 to 40 cm width. For a distance of about 7.5 m from the portal there are many cracks and the rock is weak.

Adit RA-1

The rock to the facing of the adit comprises diabase. Sections from the portal to about 6m, 17 to 26 m, and from 31 m to the facing abound in cracks, but are hard. There is a fault at around 17 to 18 m with a thickness of 20 to 27 cm accompanied by minor faults. This fault is thought to continue on to the dam foundation and foundation treatment is necessary.

Adits RA-2 and RA-2a

The rock is entirely granodiorite except for a length of 1 m at the facing of Branch Adit RA-2a which is diabase. Between 9 and 14 m and at the facing of RA-2 and from the fault at the neighborhood of 8 m of RA-2a and beyond, there are numerous cracks. Especially, at the section from the fault of RA-2a and farther inside, the rock is slightly soft and weak. At around 14 m of RA-2 and around 10 m in RA-2a, there are faults of 40 to 60 cm which are thought to be continuous judging by their directions.

Adit RA-3

The rock with a line at about 35 m as the boundary is granodiorite on the portal side and diabase on the facing side. The middle portion between 27 m and 35 m has few cracks and is hard, but both on the portal side and facing side of this section there are numerous cracks and the rock is soft and weak. Near the portal there is a fault with a maximum width of about 20 cm, but it does not appear to be very continuous. However, at the facing, there is a fault of 50 to 70 cm which is of large scale, and moreover, thought to be continuous with the faults at Adits RA-2a and RA-2a, and since it is a fault which would be exposed at the dam foundation, there is a necessity for foundation treatment to be carried out.

Adit RA-4

The rock is granodiorite. There are few cracks and the rock is hard. There is a fault of 20 to 30 cm, partially widening to 70 to 80 cm, running along the center line of the adit. This fault is accompanied by minor faults near the portal.

A2-8 FUTURE INVESTIGATIONS

The fault at Adit LA-6 is not believed to be of a very important problem in the case of a dam height of 133 m and high water surface level of EL. 650 m, but it will be necessary to at least trace its continuity. It is thought this can be achieved to some extent by detailed surface investigation. Since there are no adits below Adit LA-6 on the left bank down to the river bed, it will be necessary for these adits to be at locations where the existence of faults estimated from surface investigation can be confirmed. It is desirable for the faults concentrated in a north-south direction on the left bank in the vicinity of the road between 80 to 130 m downstream of the dam axis to be traced, It is desirable for this to be done by detailed surface investigation as much as possible since it would be advisable to avoid adits which would serve to increase instability of the shoulder of the dam.

As for drilling at the river bed, since the present LSi-114 and RH-103 are as much as 50 to 60 m distant from the dam axis, it will be desirable for drillings to be made on the dam axis from both left and right banks in such a manner that they will cross each other. In this case, it is desirable to keep the drilling from passing through river bed gravel layers on the way while being at locations and angles which would enable them to pierce through the fault estimated to continue from the gully on the upstream right bank.

At the right bank, investigations on the dam axis between the river bed and Adit RA-3 are inadequate and 2 or 3 additional adits are necessary. Also, since there is a group of faults concentrated in a north-south direction along the road, investigations by bench cut at a position slightly above the road may be effective. On the dam axis, investigations are inadequate above Adit RA-3 and it is desirable to provide an adit in this section. It has been mentioned hereinbefore that there is clay in the limestone at Drilling Hole RS-111 which is thought to have flowed in from the ground surface and it is desirable for an adit to be excavated near the boundary of the limestone and the granodiorite to uncover the cause of the cracks which have allowed the inflow of this clay.

LEGEND

- TERRACE DEPOSIT
- TALUS DEPOSIT
- DIABASE
- ANDESITE
- GRANODIORITE
- CRYSTALLINE LIMESTONE
- MINE RARIZATION ZONE
- GEOLOGIC BOUNDARY
- LAND SLIDE
- FAULT
- ASSUMED FAULT
- DYKE
- DIP AND STRIKE OF STRATA
- DIP AND STRIKE OF JOINT
- LOCATION OF DRILLING HOLE AND ITS DIRECTION

N

0 1000m

Fig. A-2-1

DAM
GEOLOGICAL PLAN

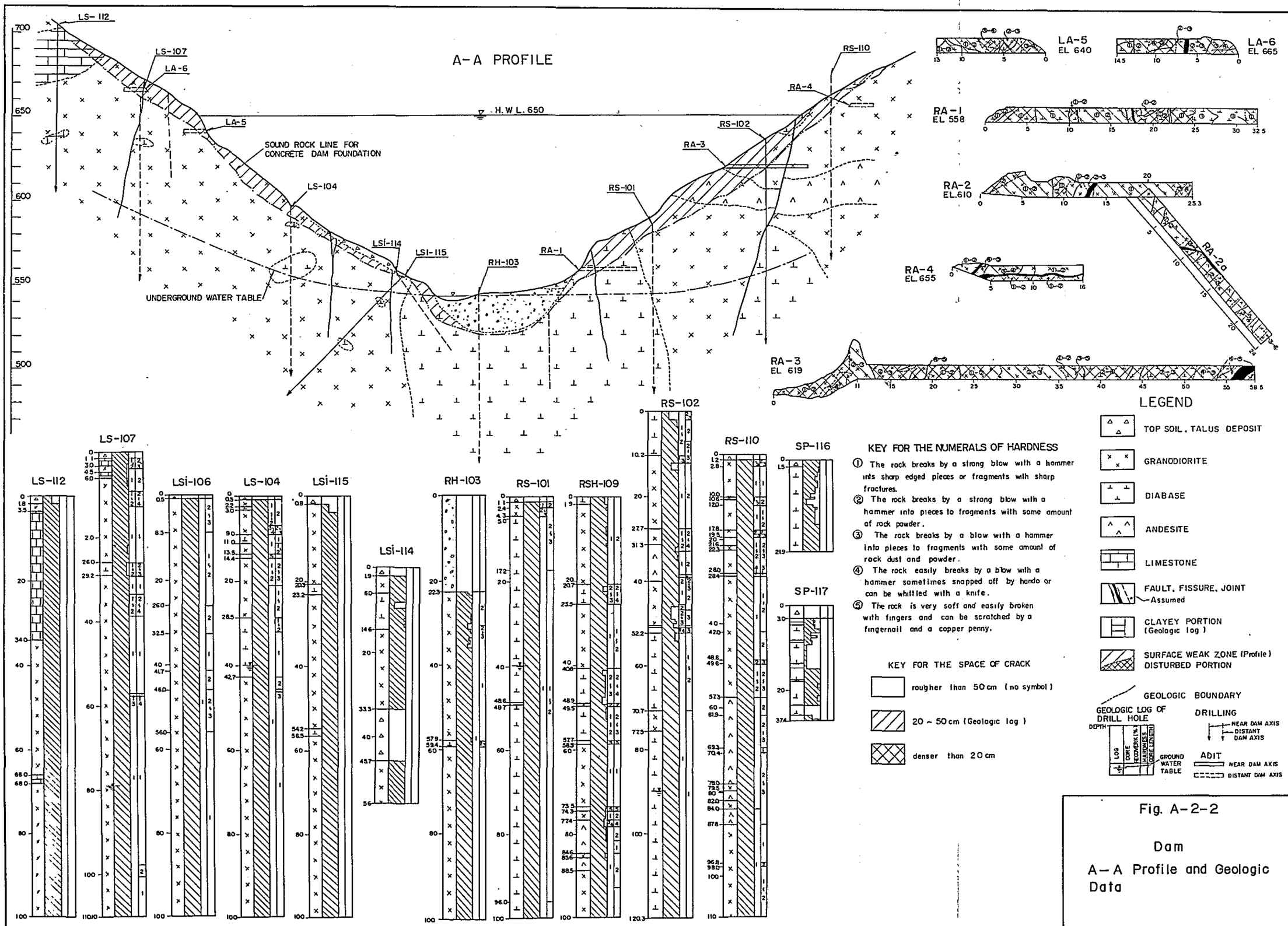
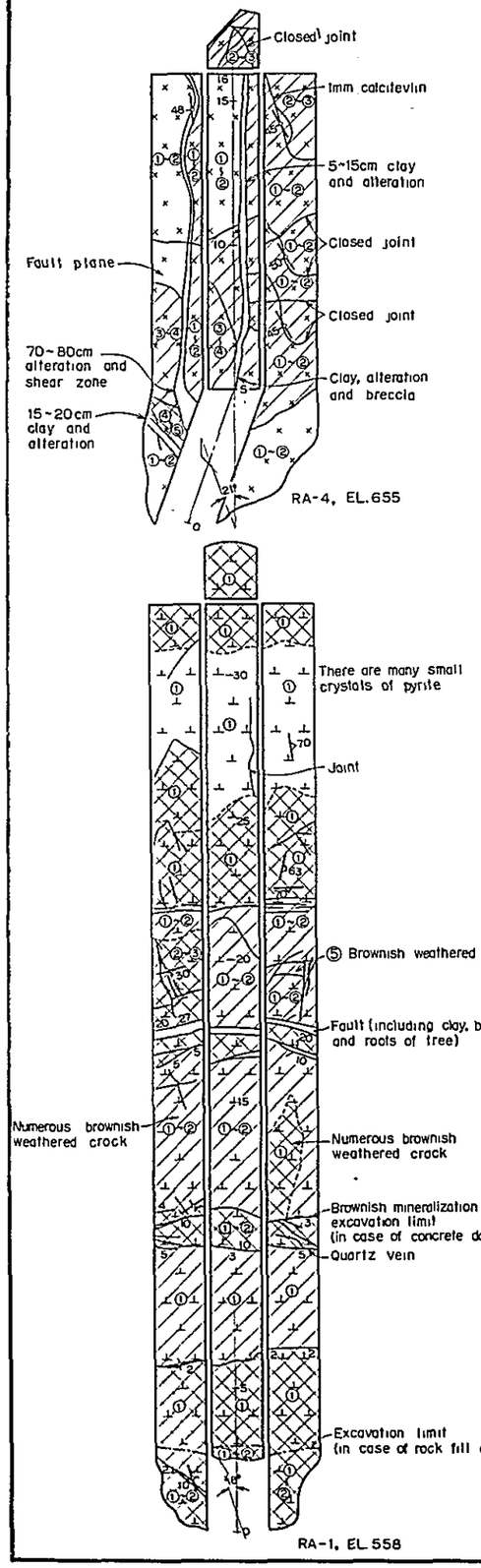
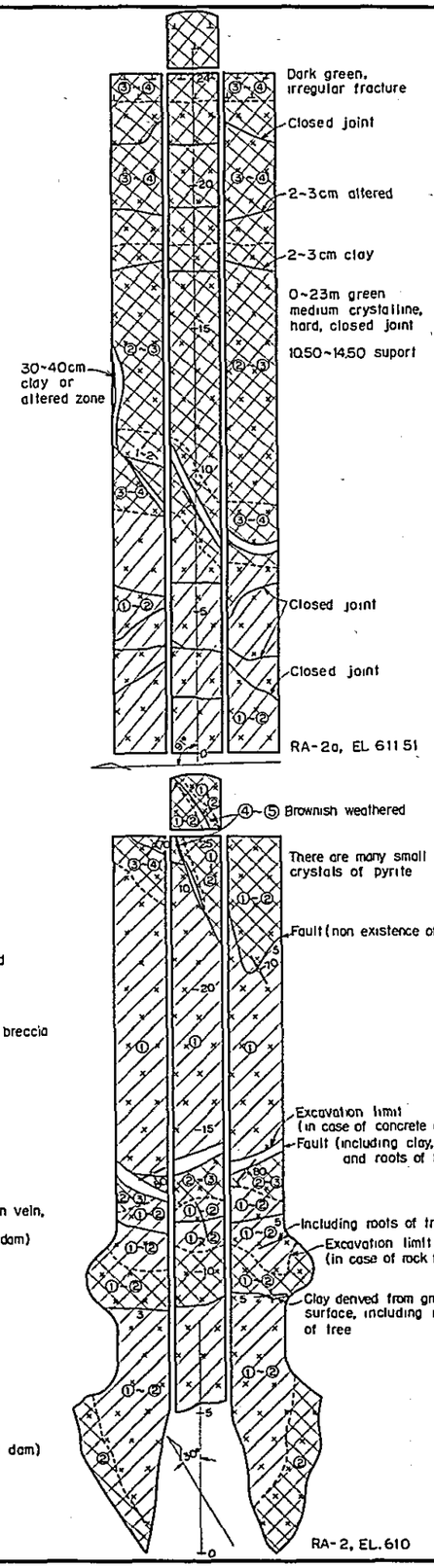


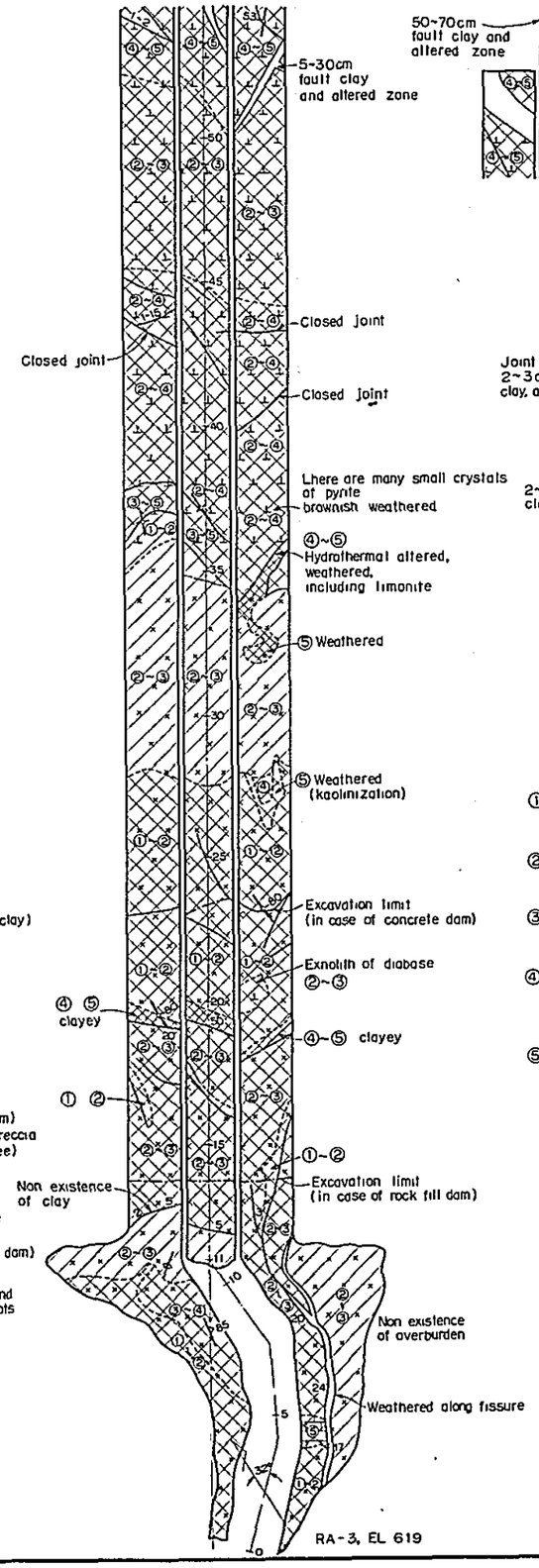
Fig. A-2-2

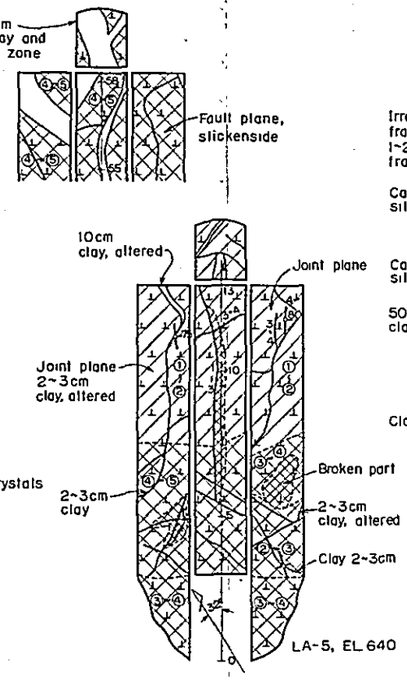
Dam

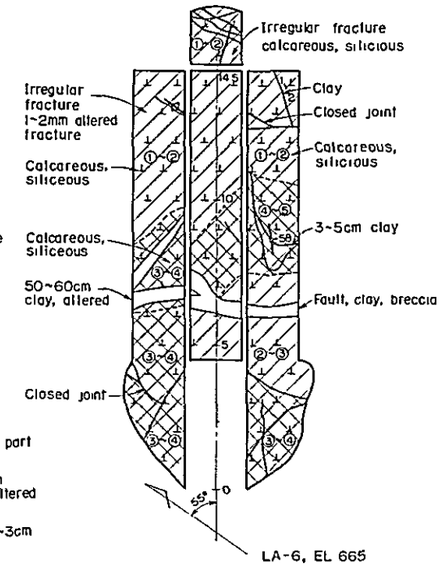
A-A Profile and Geologic Data



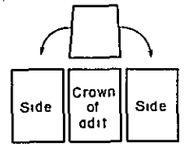








EXPLANATION OF GEOLOGIC DEVELOPMENT



KEY FOR THE NUMERALS OF HARDNESS

① The rock breaks by a strong blow with a hammer into sharp edged pieces or fragments with sharp fractures

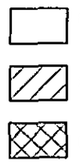
② The rock breaks by a strong blow with a hammer into pieces to fragments with some amount of rock powder

③ The rock breaks by a blow with a hammer into pieces to fragments with some amount of rock dust and powder

④ The rock easily breaks by a blow with a hammer, sometimes snapped off by hands or can be whittled with a knife

⑤ The rock is very soft and easily broken with fingers and can be scratched by a fingernail and a copper penny.

KEY FOR THE SPACE OF CRACK



LEGEND

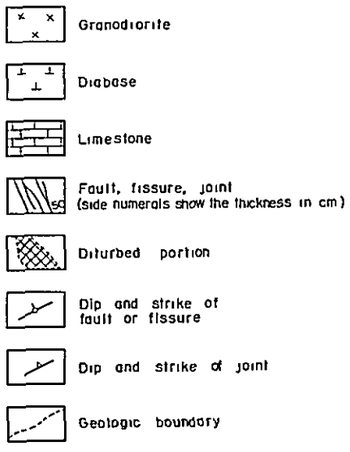


Fig. A-2-3

Dam
Geologic Sketches of Exploratory Adit

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Fig.A-2-4(1) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LS-112 (SHEET 1 OF 5)

LOCATION LEFT BANK
ELEVATION 705 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 100.0 m
DEPTH OF OVERBURDEN 1.80 m
LENGTH OF ROCK DRILLING 98.2 m
TOTAL LENGTH OF CORE m
CORE RECOVERY 100 %

COMMENCED
COMPLETED
DRILLED BY OZAY TURNAOĞLU
LOGGED BY H KASHIWAGI

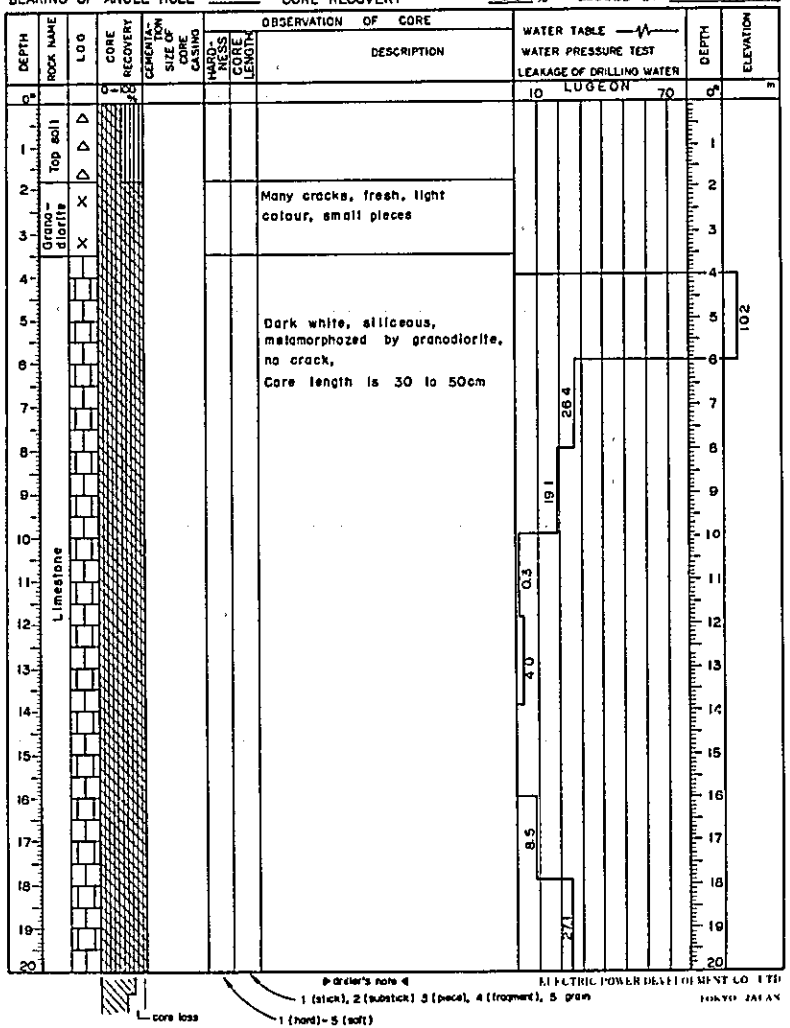

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Fig.A-2-4(2) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LS-112 (SHEET 2 OF 5)

LOCATION LEFT BANK
ELEVATION 705 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 100.0 m
DEPTH OF OVERBURDEN 1.80 m
LENGTH OF ROCK DRILLING 98.2 m
TOTAL LENGTH OF CORE m
CORE RECOVERY 100 %

COMMENCED
COMPLETED
DRILLED BY OZAY TURNAOĞLU
LOGGED BY H KASHIWAGI

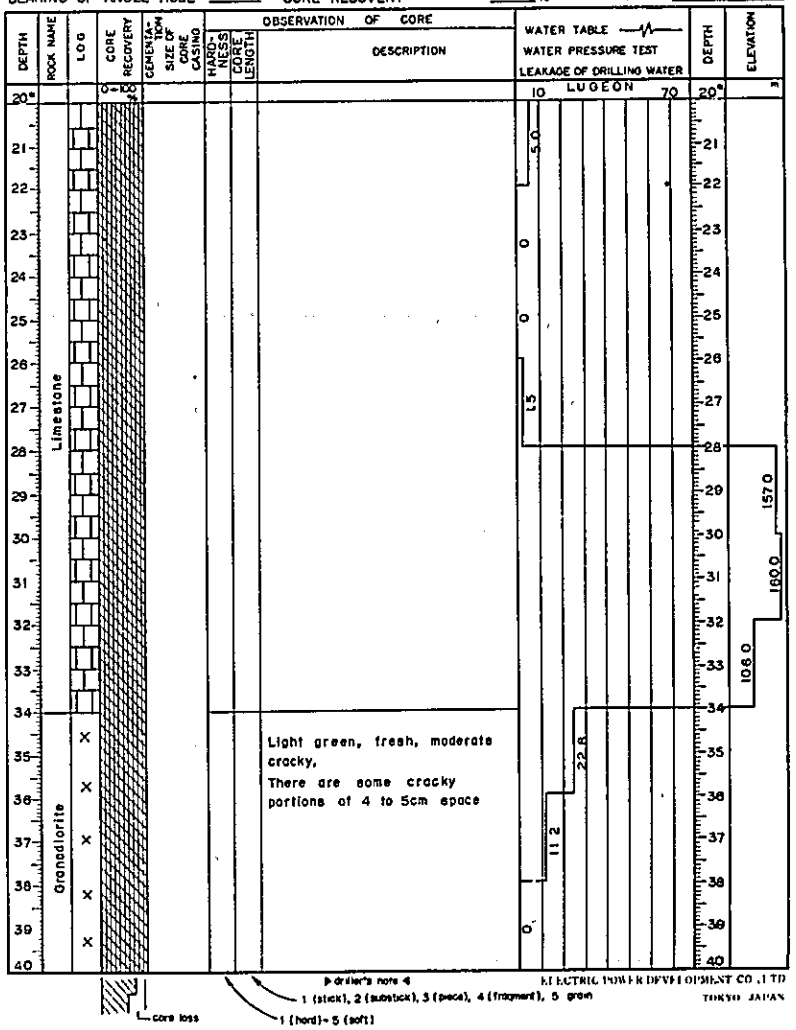

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Fig.A-2-4(3) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No LS-112 (SHEET 3 OF 5)

LOCATION LEFT BANK
ELEVATION 705 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 1000 m
DEPTH OF OVERBURDEN 1.80 m
LENGTH OF ROCK DRILLING 98.2 m
TOTAL LENGTH OF CORE m
CORE RECOVERY 100 %

COMMENCED
COMPLETED
DRILLED BY OZAY TURNAOĞLU
LOGGED BY H KASHIWAGI

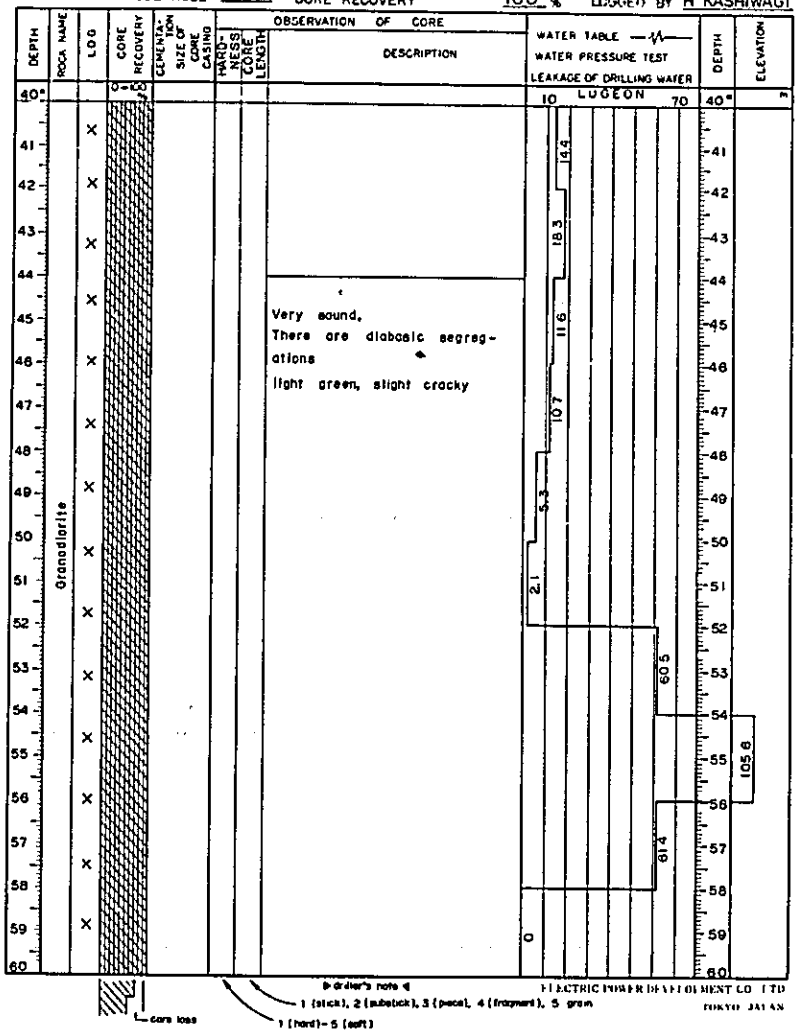

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Fig A-2-4(4) GEOLOGIC LOG OF DRILL HOLE

KURTÜN PROJECT DAM SITE HOLE No LS-112 (SHEET 4 OF 5)

LOCATION LEFT BANK
ELEVATION 705 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 1000 m
DEPTH OF OVERBURDEN 1.80 m
LENGTH OF ROCK DRILLING 98.2 m
TOTAL LENGTH OF CORE m
CORE RECOVERY 100 %

COMMENCED
COMPLETED
DRILLED BY OZAY TURNAOĞLU
LOGGED BY H KASHIWAGI

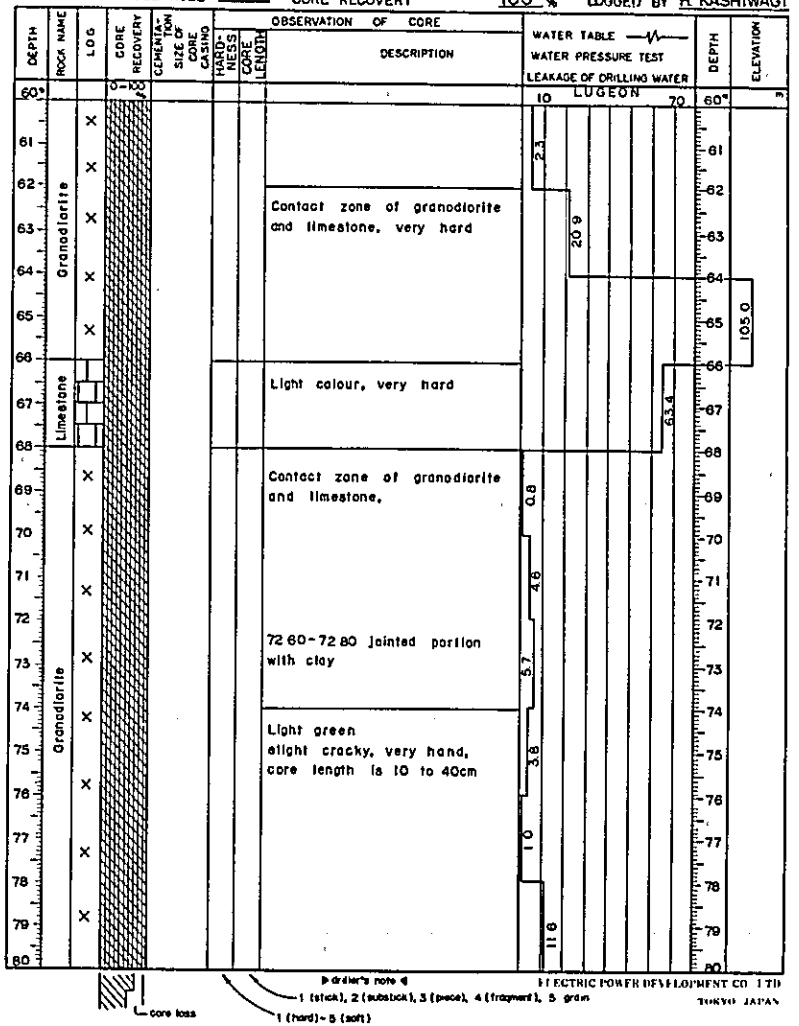

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Fig.A-2-4(5) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LS-112 (SHEET 5 OF 5)

LOCATION LEFT BANK
ELEVATION 705 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 100.0 m
DEPTH OF OVERBURDEN 1.80 m
LENGTH OF ROCK DRILLING 98.2 m
TOTAL LENGTH OF CORE m
CORE RECOVERY 100 %

COMMENCED - - -
COMPLETED - - -
DRILLED BY OZAY TURNAOĞLU
LOGGED BY H. KASHIWAGI

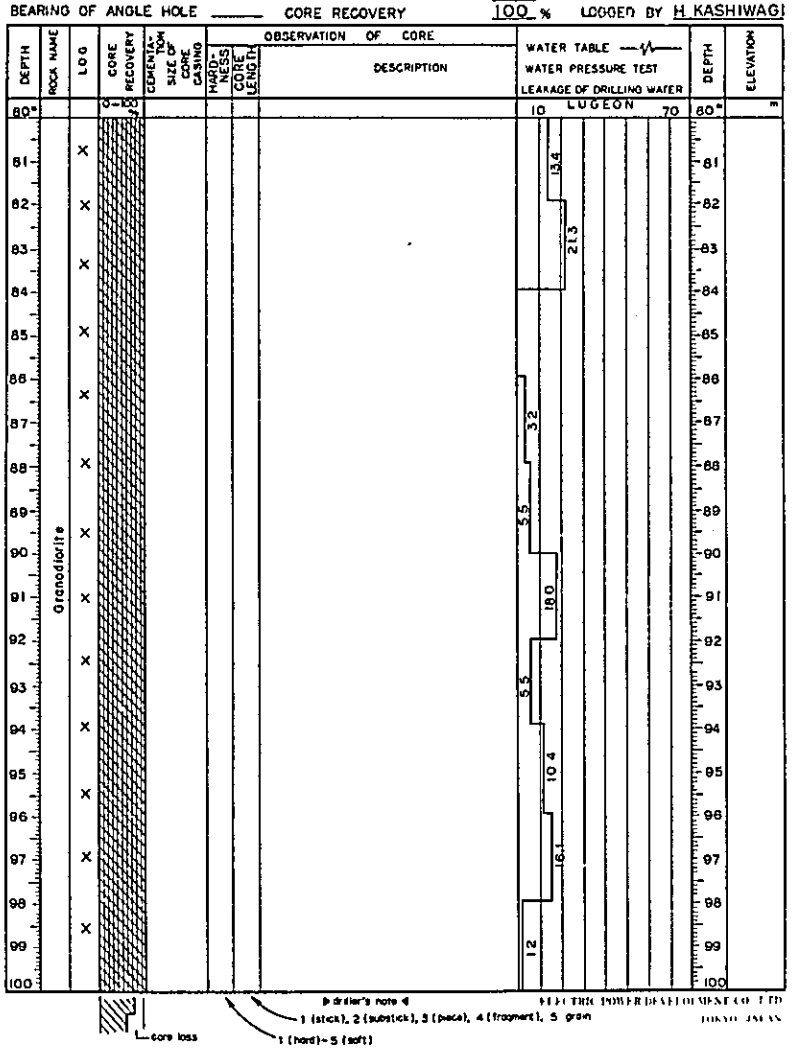

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Fig.A-2-4(6) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LS-107 (SHEET 1 OF 6)

LOCATION LEFT BANK
ELEVATION 662.54 m
COORDINATE
ANGLE FROM HORIZONTAL 70°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 110.10 m
DEPTH OF OVERBURDEN 0.6 m
LENGTH OF ROCK DRILLING 109.5 m
TOTAL LENGTH OF CORE m
CORE RECOVERY %

COMMENCED 2-5-'68
COMPLETED 5-7-'68
DRILLED BY KEMAL GÖKMEN
LOGGED BY H. KASHIWAGI

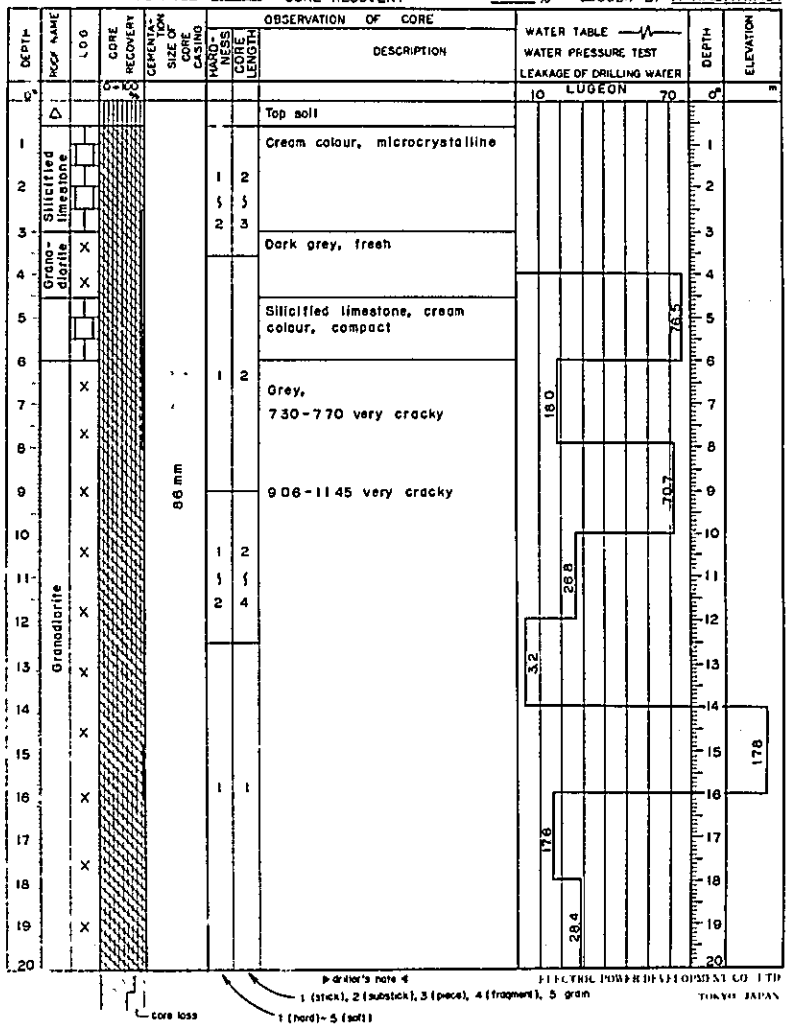

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Fig.A-2-4(7) GEOLOGIC LOG OF DRILL HOLE

KURTÜN PROJECT DAM SITE HOLE No LS-107 (SHEET 2 OF 6)

LOCATION LEFT BANK
ELEVATION 662.54 m
COORDINATE
ANGLE FROM HORIZONTAL 70°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 110.10 m
DEPTH OF OVERBURDEN 0.6 m
LENGTH OF ROCK DRILLING 109.5 m
TOTAL LENGTH OF CORE m
CORE RECOVERY %

COMMENCED 2 - 5 - '68
COMPLETED 5 - 7 - '68
DRILLED BY KEMAL GÖKMEN
LOGGED BY H. KASHIWAGI

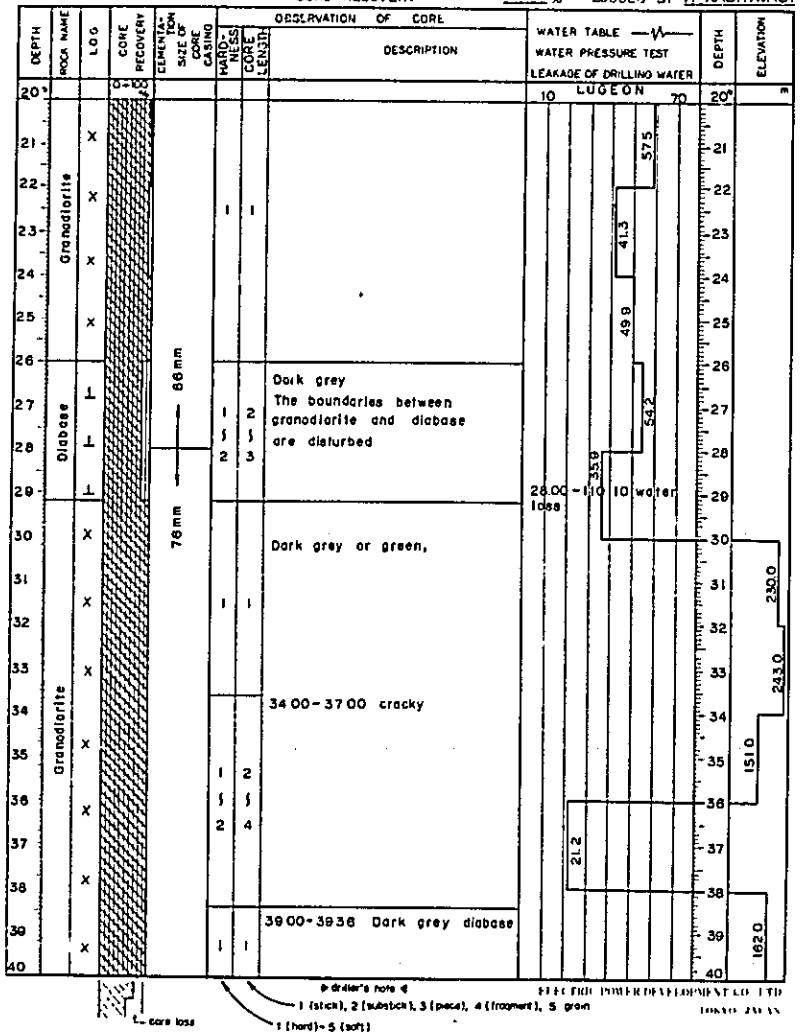

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Fig A-2-4(8) GEOLOGIC LOG OF DRILL HOLE

KURTÜN PROJECT DAM SITE HOLE No LS-107 (SHEET 3 OF 6)

LOCATION LEFT BANK
ELEVATION 662.54 m
COORDINATE
ANGLE FROM HORIZONTAL 70°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 110.10 m
DEPTH OF OVERBURDEN 0.6 m
LENGTH OF ROCK DRILLING 109.5 m
TOTAL LENGTH OF CORE m
CORE RECOVERY %

COMMENCED 2 - 5 - '68
COMPLETED 5 - 7 - '68
DRILLED BY KEMAL GÖKMEN
LOGGED BY H. KASHIWAGI

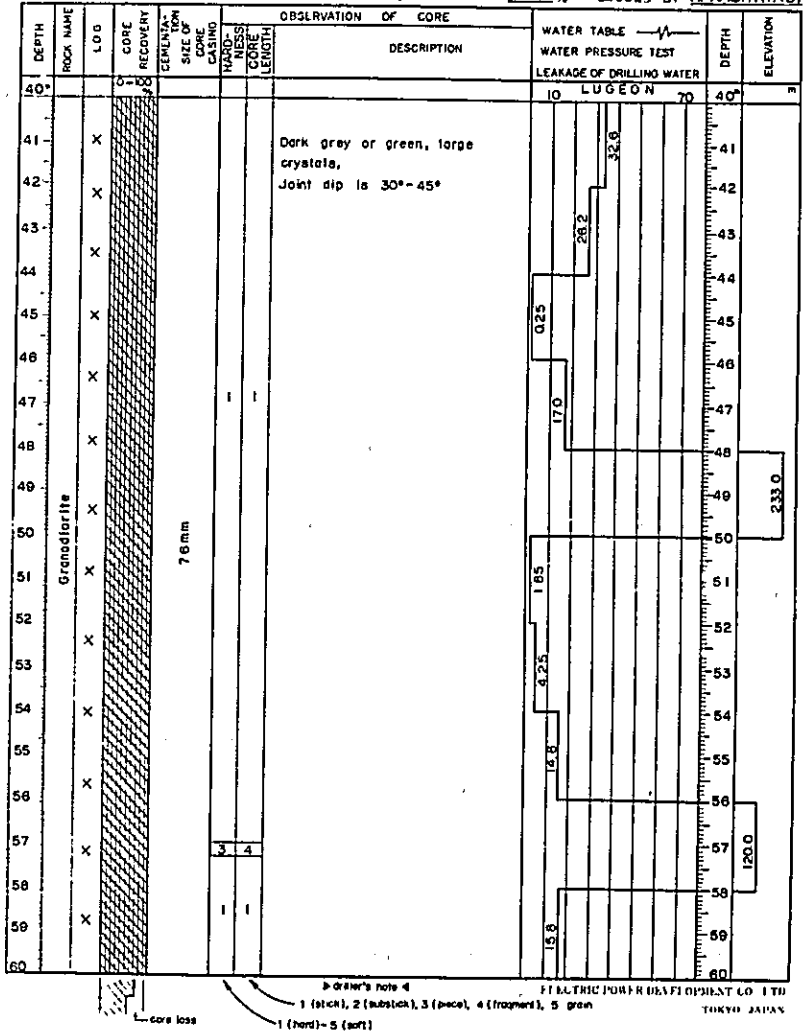

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Fig.A-2-4(9) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LS-107 (SHEET 4 OF 6)

LOCATION LEFT BANK — DEPTH OF HOLE 110.10 m — COMMENCED 2 - 5 - '68
ELEVATION 662.54 m — DEPTH OF OVERBURDEN 0.6 m — COMPLETED 5 - 7 - '68
COORDINATE — LENGTH OF ROCK DRILLING 109.5 m — DRILLED BY KEMAL GÖKMEN
ANGLE FROM HORIZONTAL 70° — TOTAL LENGTH OF CORE — m
BEARING OF ANGLE HOLE — CORE RECOVERY — % — LOGGED BY H. KASHIWAGI

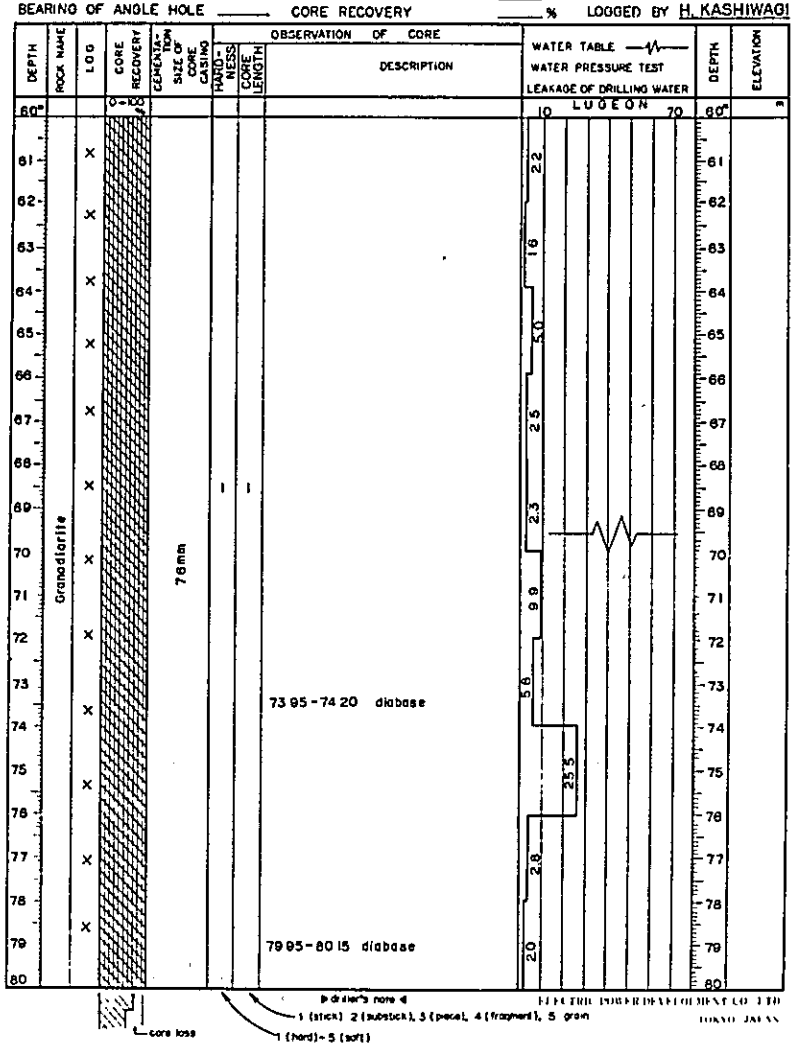

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Fig.A-2-4(10) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LS-107 (SHEET 5 OF 6)

LOCATION LEFT BANK — DEPTH OF HOLE 110.10 m — COMMENCED 2 - 5 - '68
ELEVATION 662.54 m — DEPTH OF OVERBURDEN 0.6 m — COMPLETED 5 - 7 - '68
COORDINATE — LENGTH OF ROCK DRILLING 109.5 m — DRILLED BY KEMAL GÖKMEN
ANGLE FROM HORIZONTAL 70° — TOTAL LENGTH OF CORE — m
BEARING OF ANGLE HOLE — CORE RECOVERY — % — LOGGED BY H. KASHIWAGI

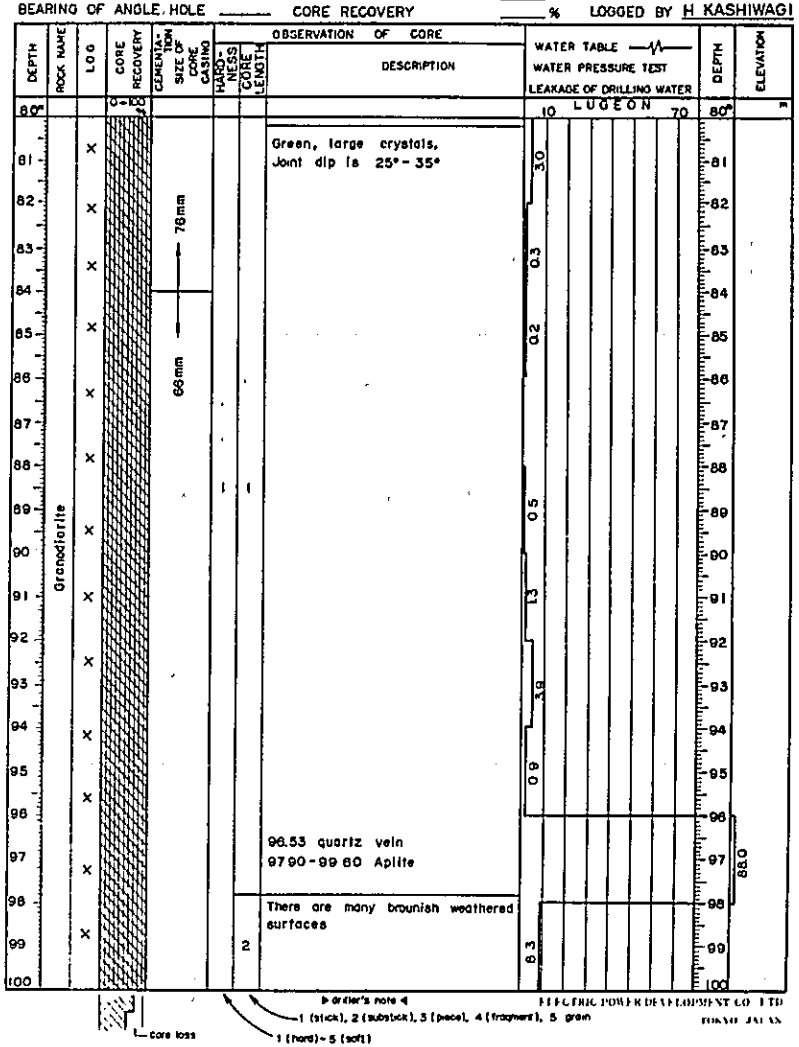

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Fig A-2-4(11) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LS-107 (SHEET 6 OF 6)

LOCATION LEFT BANK
ELEVATION 662.54 m
COORDINATE
ANGLE FROM HORIZONTAL 70°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 110.10 m
DEPTH OF OVERBURDEN 0.6 m
LENGTH OF ROCK DRILLING 109.5 m
TOTAL LENGTH OF CORE m
CORE RECOVERY %

COMMENCED 2 - 5 - '68
COMPLETED 5 - 7 - '68
DRILLED BY KEMAL GÖKMEN
LOGGED BY H. KASHIWAGI

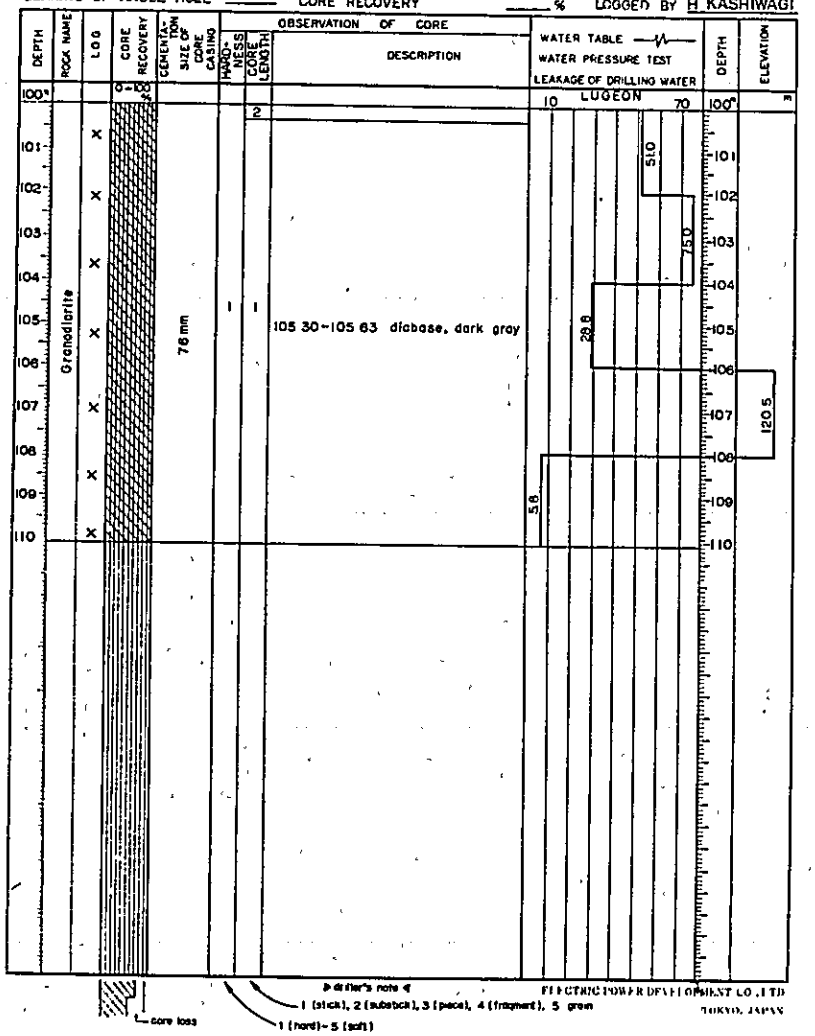

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Fig.A-2-4(12) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LSI-106 (SHEET 1 OF 5)

LOCATION LEFT BANK
ELEVATION 641.97 m
COORDINATE
ANGLE FROM HORIZONTAL 35°
BEARING OF ANGLE HOLE N61°W

DEPTH OF HOLE 100.0 m
DEPTH OF OVERBURDEN 0.5 m
LENGTH OF ROCK DRILLING 99.5 m
TOTAL LENGTH OF CORE m
CORE RECOVERY 100 %

COMMENCED 30 - 4 - '68
COMPLETED 8 - 6 - '68
DRILLED BY KADIR HAYTA
LOGGED BY H. KASHIWAGI

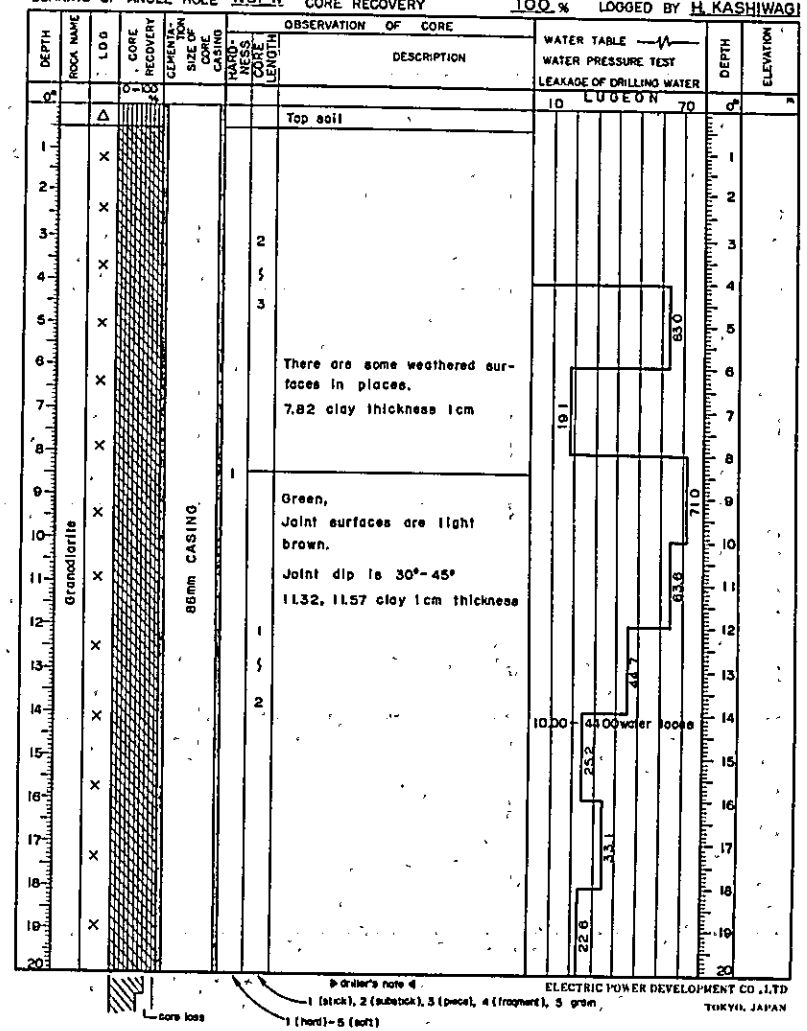

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Fig.A-2-4(13) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LSI-106 (SHEET 2 OF 5)

LOCATION	LEFT BANK	DEPTH OF HOLE	100.0 m	COMMENCED	30-4-'68
ELEVATION	641.97 m	DEPTH OF OVERBURDEN	0.5 m	COMPLETED	8-6-'68
COORDINATE		LENGTH OF ROCK DRILLING	99.5 m	DRILLED BY	KADIR HAYTA
ANGLE FROM HORIZONTAL	35°	TOTAL LENGTH OF CORE	m		
BEARING OF ANGLE HOLE	N61°W	CORE RECOVERY	100 %	LOGGED BY	H. KASHIWAGI

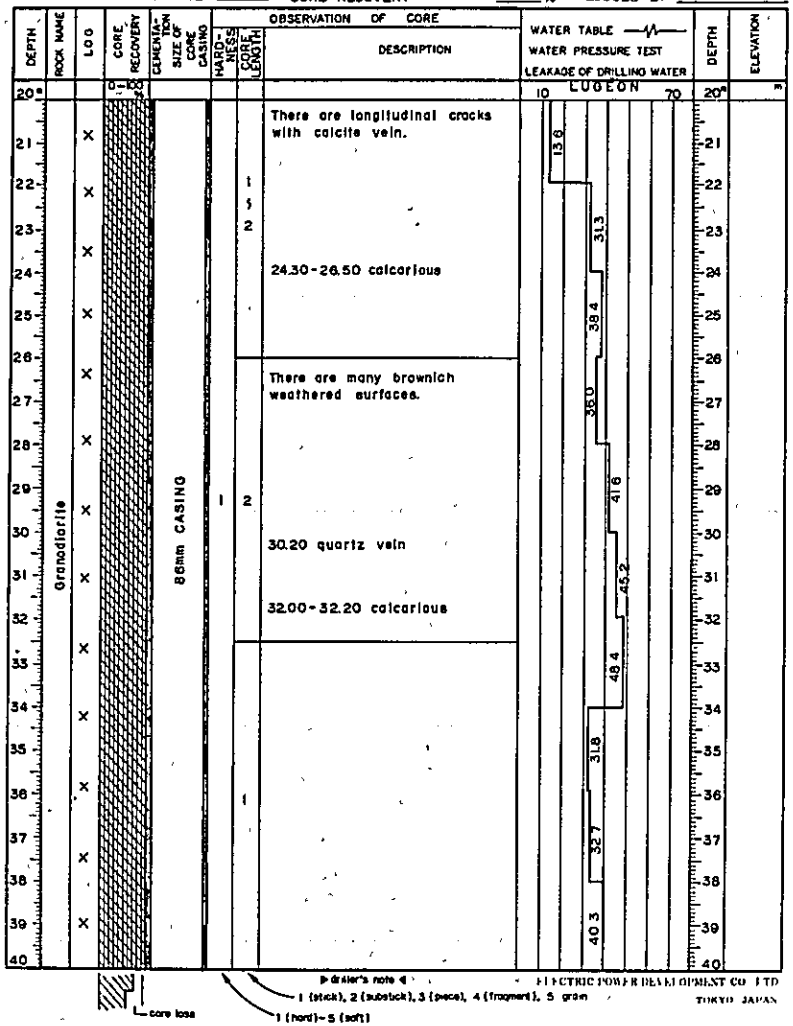

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Fig.A-2-4(14) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LSI-106 (SHEET 3 OF 5)

LOCATION	LEFT BANK	DEPTH OF HOLE	100.0 m	COMMENCED	30-4-'68
ELEVATION	641.97 m	DEPTH OF OVERBURDEN	0.5 m	COMPLETED	8-6-'68
COORDINATE		LENGTH OF ROCK DRILLING	99.5 m	DRILLED BY	KADIR HAYTA
ANGLE FROM HORIZONTAL	35°	TOTAL LENGTH OF CORE	m		
BEARING OF ANGLE HOLE	N61°W	CORE RECOVERY	100 %	LOGGED BY	H. KASHIWAGI

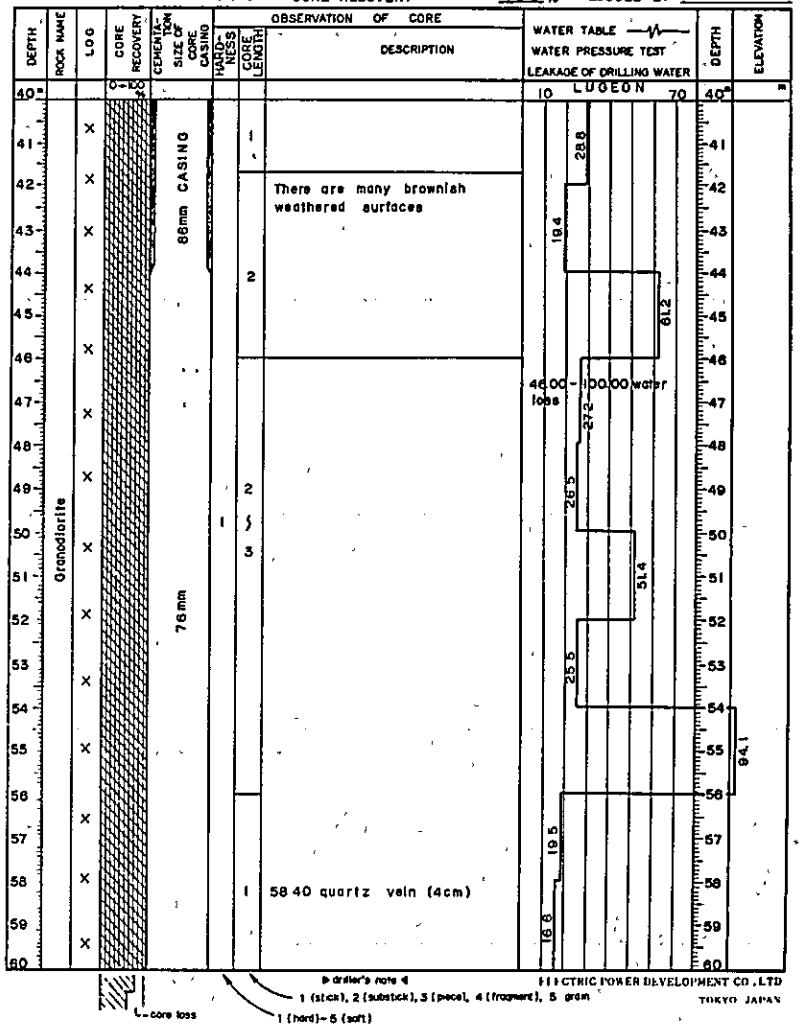

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Fig.A-2-4(15) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LSI-106 (SHEET 4 OF 5)

LOCATION	LEFT BANK	DEPTH OF HOLE	100.0 m	COMMENCED	30-4-'68
ELEVATION	641.97 m	DEPTH OF OVERBURDEN	0.5 m	COMPLETED	8-6-'68
COORDINATE		LENGTH OF ROCK DRILLING	99.5 m	DRILLED BY	KADIR HAYTA
ANGLE FROM HORIZONTAL	35°	TOTAL LENGTH OF CORE	m		
BEARING OF ANGLE HOLE	N61°W	CORE RECOVERY	100 %	LOGGED BY	H. KASHIWAGI

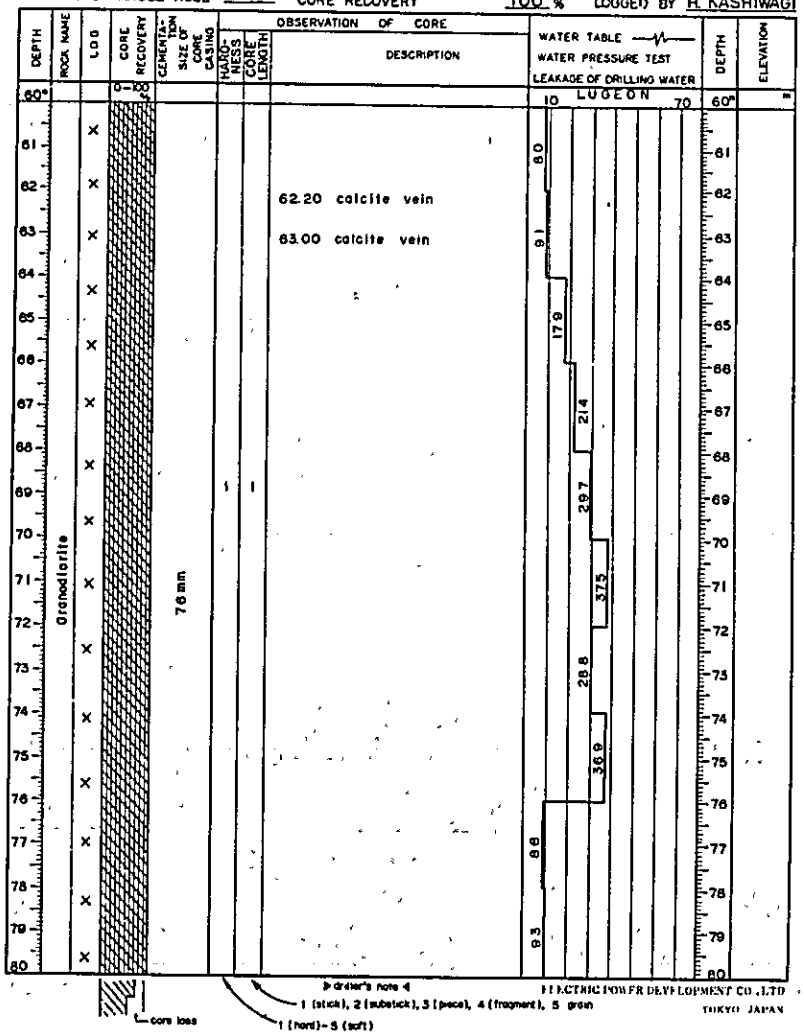

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Fig A-2-4(16) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LSI-106 (SHEET 5 OF 5)

LOCATION	LEFT BANK	DEPTH OF HOLE	100.0 m	COMMENCED	30-4-'68
ELEVATION	641.97 m	DEPTH OF OVERBURDEN	0.5 m	COMPLETED	8-6-'68
COORDINATE		LENGTH OF ROCK DRILLING	99.5 m	DRILLED BY	KADIR HAYTA
ANGLE FROM HORIZONTAL	35°	TOTAL LENGTH OF CORE	m		
BEARING OF ANGLE HOLE	N61°W	CORE RECOVERY	100 %	LOGGED BY	H. KASHIWAGI

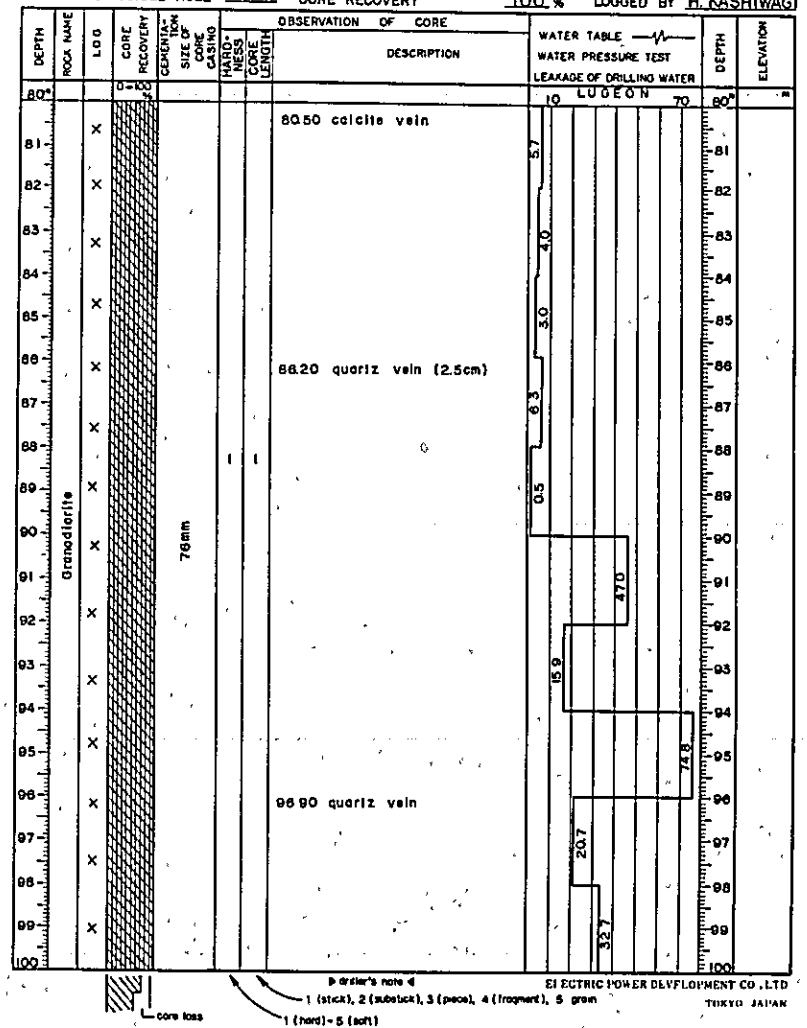

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Fig. A-2-4(17) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No LS-104 (SHEET 1 OF 5)

LOCATION	LEFT BANK	DEPTH OF HOLE	100 m	COMMENCED	9 - 2 - '68
ELEVATION	595 m	DEPTH OF OVERBURDEN	0 m	COMPLETED	6 - 3 - '68
COORDINATE		LENGTH OF ROCK DRILLING	100 m	DRILLED BY	A. HAYTA
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m		
BEARING OF ANGLE HOLE		CORE RECOVERY	%	LOGGED BY	H KASHIWAGI

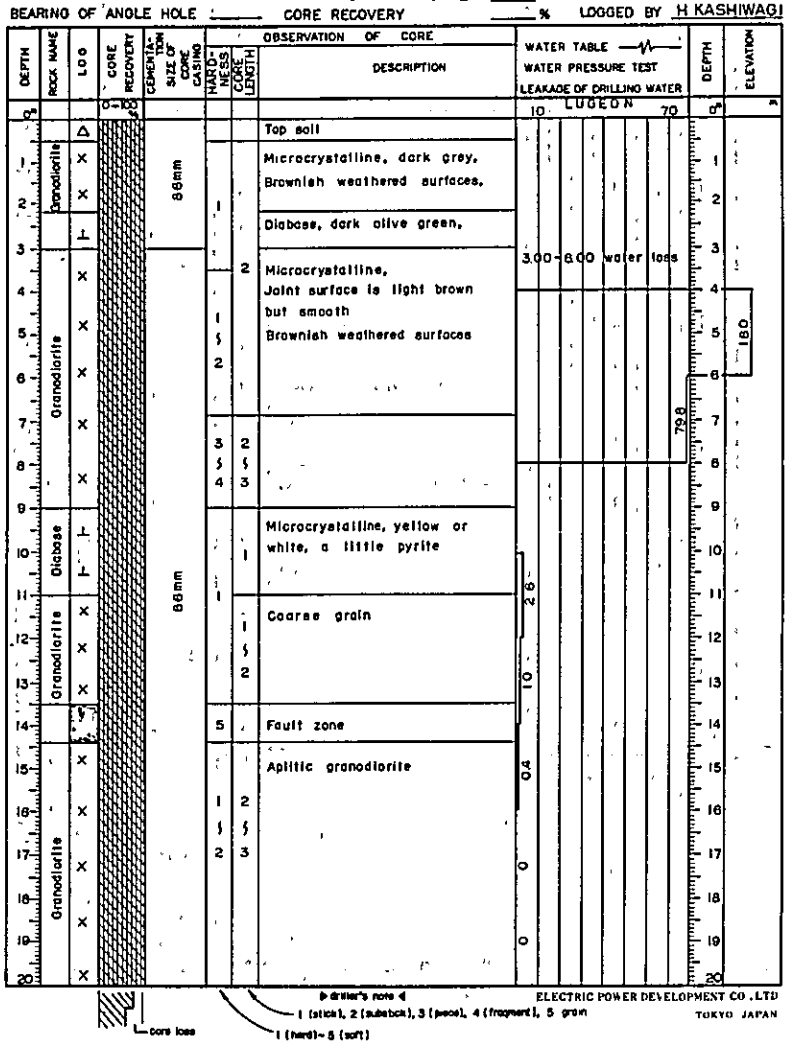

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Fig A-2-4(18) GEOLOGIC LOG OF DRILL HOLE

KURTÜN PROJECT DAM SITE HOLE No LS-104 (SHEET 2 OF 5)

LOCATION	LEFT BANK	DEPTH OF HOLE	100 m	COMMENCED	9 - 2 - '68
ELEVATION	595 m	DEPTH OF OVERBURDEN	0 m	COMPLETED	6 - 3 - '68
COORDINATE		LENGTH OF ROCK DRILLING	100 m	DRILLED BY	A. HAYTA
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m		
BEARING OF ANGLE HOLE		CORE RECOVERY	%	LOGGED BY	H KASHIWAGI

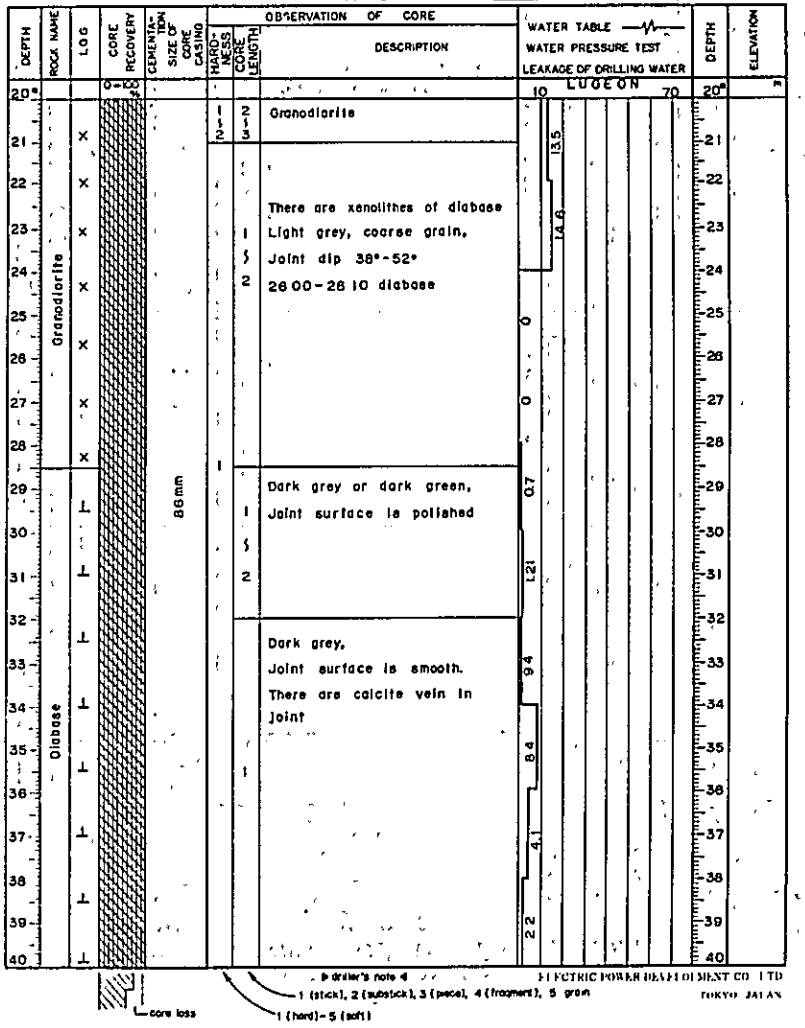

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Fig A-2-4(19) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No LS-104 (SHEET 3 OF 5)

LOCATION LEFT BANK
ELEVATION 595 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 100 m
DEPTH OF OVERBURDEN 0 m
LENGTH OF ROCK DRILLING 100 m
TOTAL LENGTH OF CORE m
CORE RECOVERY %

COMMENCED 9-2-'68
COMPLETED 6-3-'68
DRILLED BY A. HAYTA
LOGGED BY H. KASHIWAGI

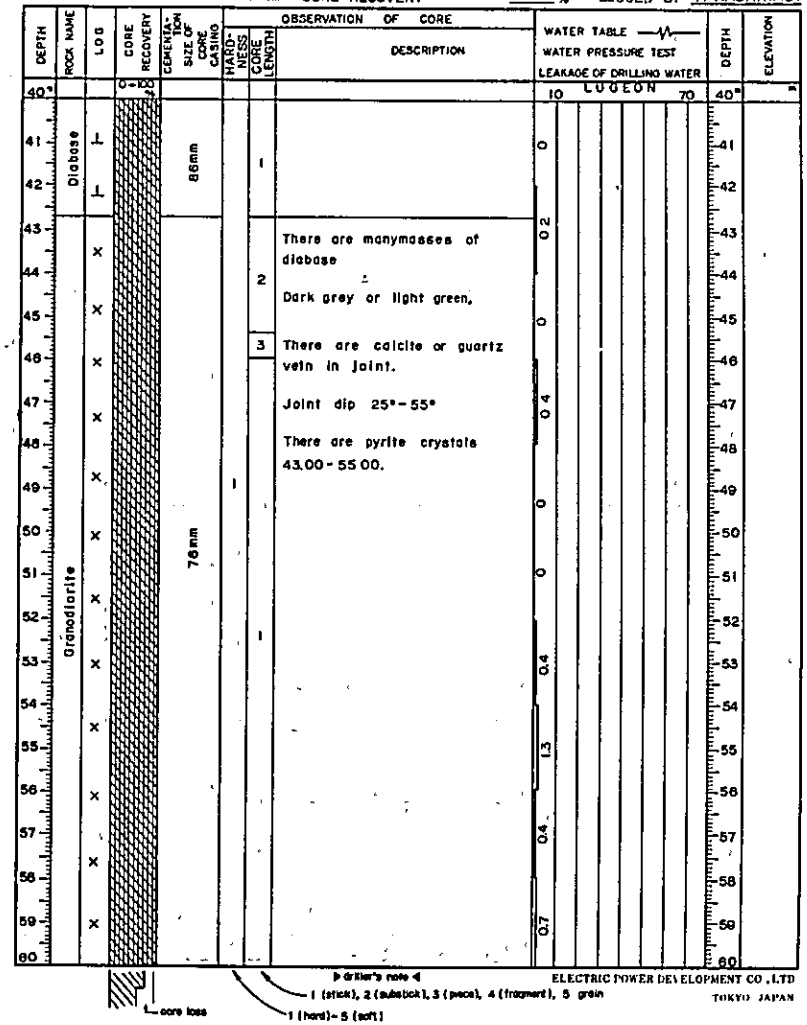

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Fig A-2-4(20) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No LS-104 (SHEET 4 OF 5)

LOCATION LEFT BANK
ELEVATION 595 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 100 m
DEPTH OF OVERBURDEN 0 m
LENGTH OF ROCK DRILLING 100 m
TOTAL LENGTH OF CORE m
CORE RECOVERY %

COMMENCED 9-2-'68
COMPLETED 6-3-'68
DRILLED BY A. HAYTA
LOGGED BY H. KASHIWAGI

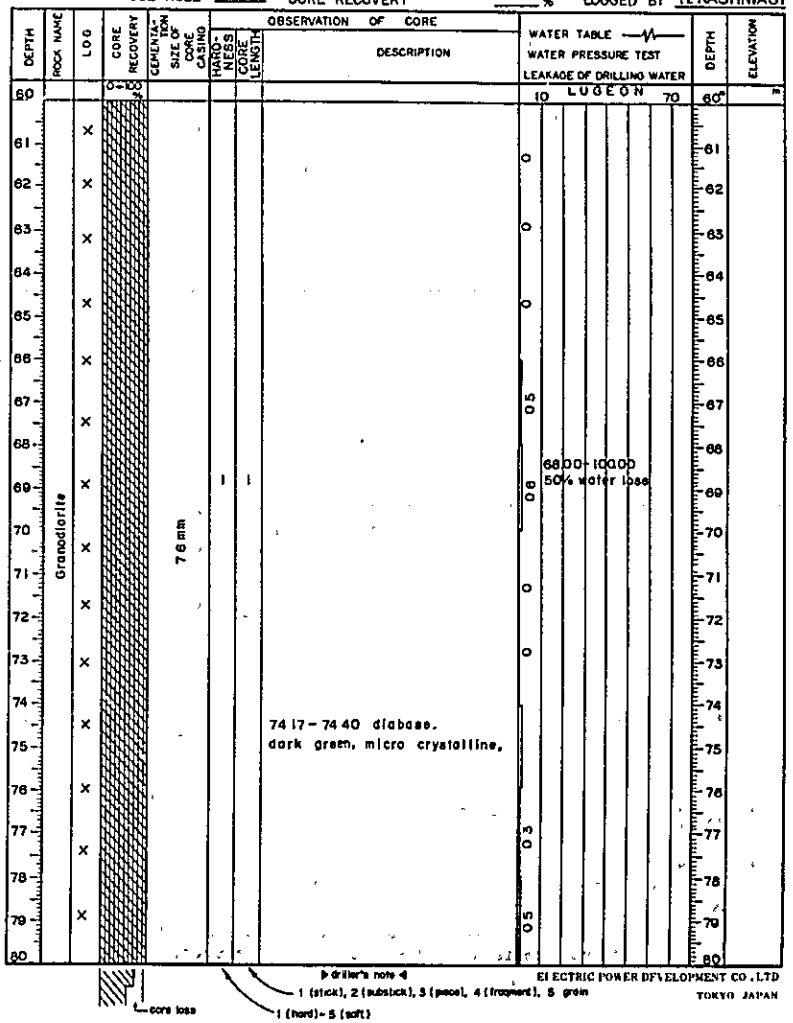

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Fig. A-2-4(21) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No. LS-104 (SHEET 5 OF 5)

LOCATION	LEFT BANK	DEPTH OF HOLE	100 m	COMMENCED	9 - 2 - '68
ELEVATION	595 m	DEPTH OF OVERBURDEN	0 m	COMPLETED	6 - 3 - '68
COORDINATE		LENGTH OF ROCK DRILLING	100 m	DRILLED BY	A. HAYTA
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m		
BEARING OF ANGLE HOLE		CORE RECOVERY	%	LOGGED BY	H KASHIWAGI

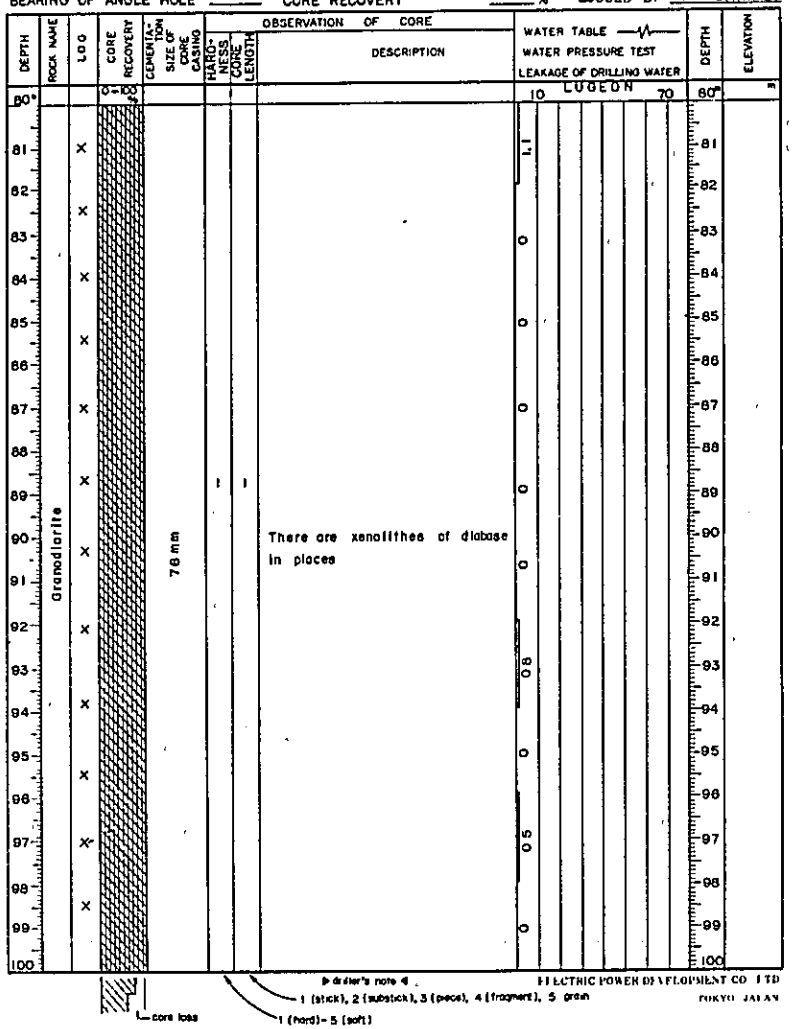

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Fig. A-2-4(22) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No. LSI-115 (SHEET 1 OF 5)

LOCATION	LEFT BANK	DEPTH OF HOLE	100 m	COMMENCED	- - -
ELEVATION	m	DEPTH OF OVERBURDEN	0.8 m	COMPLETED	- - -
COORDINATE		LENGTH OF ROCK DRILLING	99.2 m	DRILLED BY	ÖZAY TURNAĞLU
ANGLE FROM HORIZONTAL	45°	TOTAL LENGTH OF CORE	m		
BEARING OF ANGLE HOLE	N82 W	CORE RECOVERY	%	LOGGED BY	H KASHIWAGI

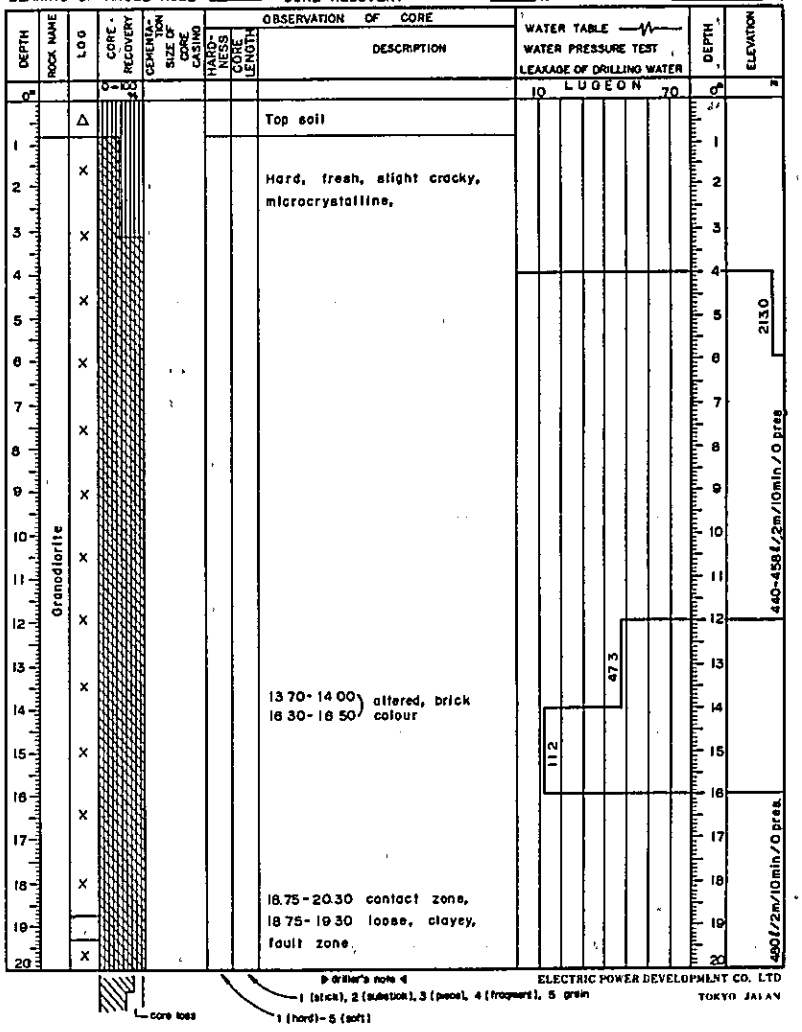

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Fig A-2-4(23) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LSI-115 (SHEET 2 OF 5)

LOCATION LEFT BANK
ELEVATION — m
COORDINATE —
ANGLE FROM HORIZONTAL 45°
BEARING OF ANGLE HOLE N82W

DEPTH OF HOLE 100 m
DEPTH OF OVERBURDEN 0.8 m
LENGTH OF ROCK DRILLING 99.2 m
TOTAL LENGTH OF CORE — m
CORE RECOVERY — %

COMMENCED — - -
COMPLETED — - -
DRILLED BY OZAY TURNAĞLU
LOGGED BY H. KASHIWAGI

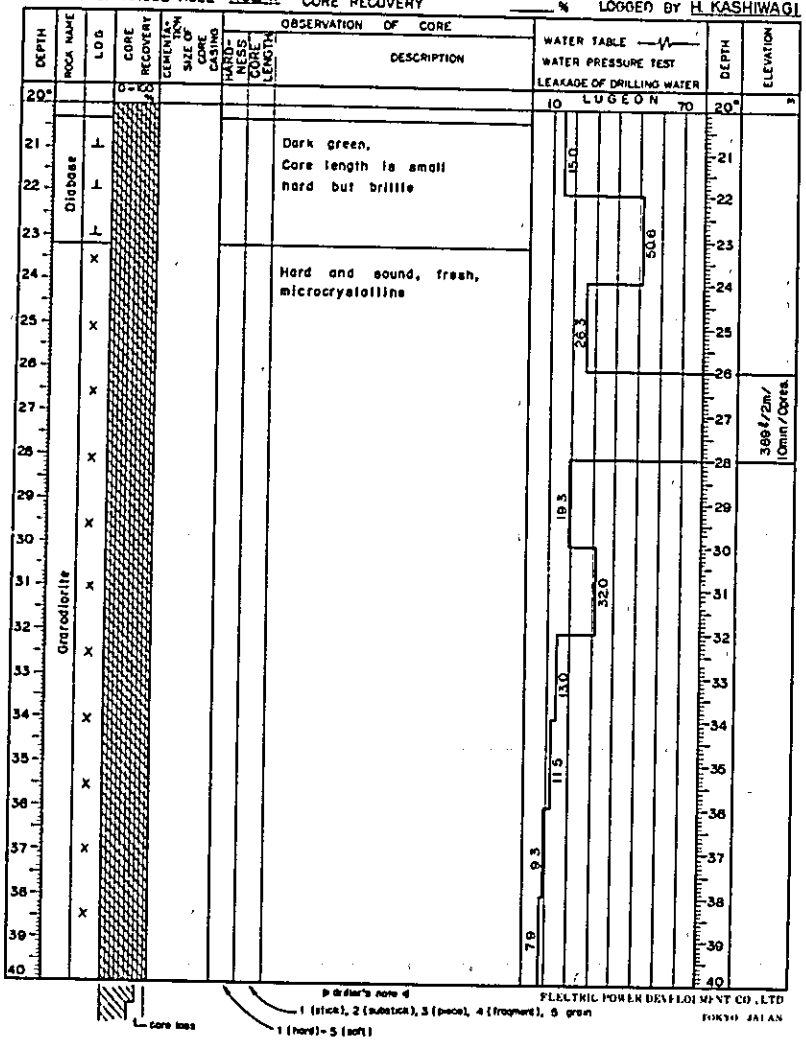

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Fig. A-2-4(24) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT. DAM SITE HOLE No.LSI-115 (SHEET 3 OF 5)

LOCATION LEFT BANK
ELEVATION — m
COORDINATE —
ANGLE FROM HORIZONTAL 45°
BEARING OF ANGLE HOLE N82W

DEPTH OF HOLE 100 m
DEPTH-OF OVERBURDEN 0.8 m
LENGTH OF ROCK DRILLING 99.2 m
TOTAL LENGTH OF CORE — m
CORE RECOVERY — %

COMMENCED — - -
COMPLETED — - -
DRILLED BY OZAY TURNAĞLU
LOGGED BY H. KASHIWAGI

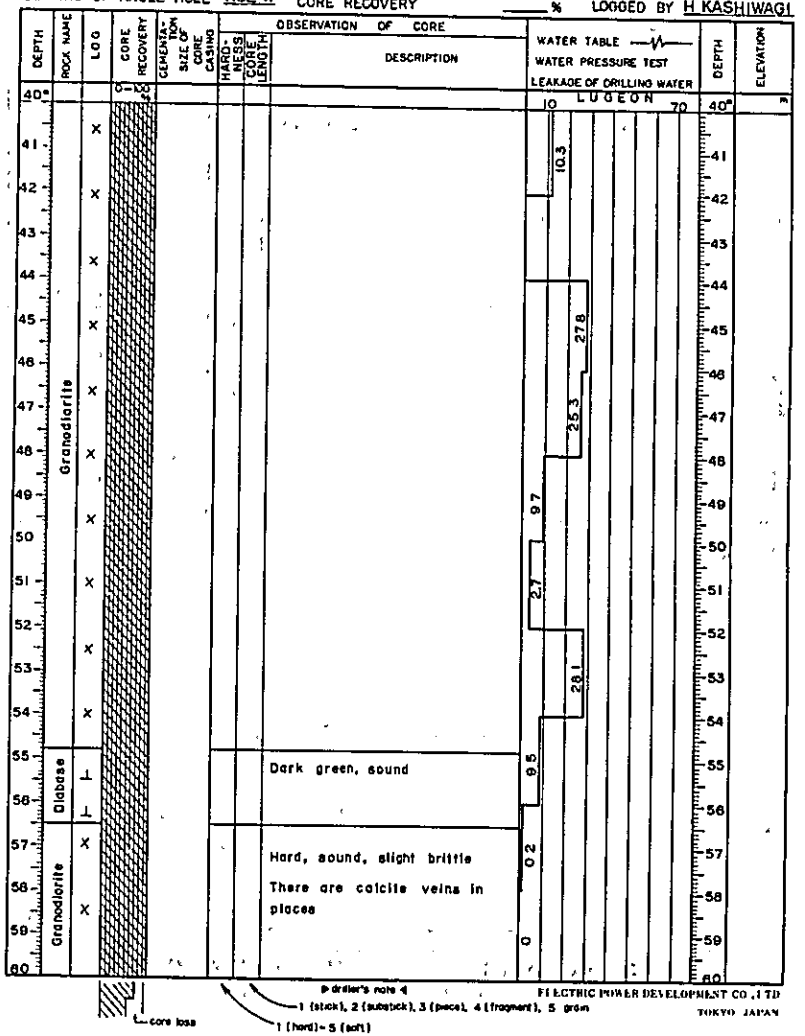

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Fig. A-2-4(25) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LSI-115 (SHEET 4 OF 5)

LOCATION LEFT BANK | DEPTH OF HOLE 100 m | COMMENCED - -
ELEVATION ____ m | DEPTH OF OVERBURDEN 0.8 m | COMPLETED - -
COORDINATE : ____ | LENGTH OF ROCK DRILLING 99.2 m | DRILLED BY OZAY TURNAĞLU
ANGLE FROM HORIZONTAL 45° | TOTAL LENGTH OF CORE ____ m
BEARING OF ANGLE HOLE N82W | CORE RECOVERY ____ % | LOGGED BY H KASHIWAGI

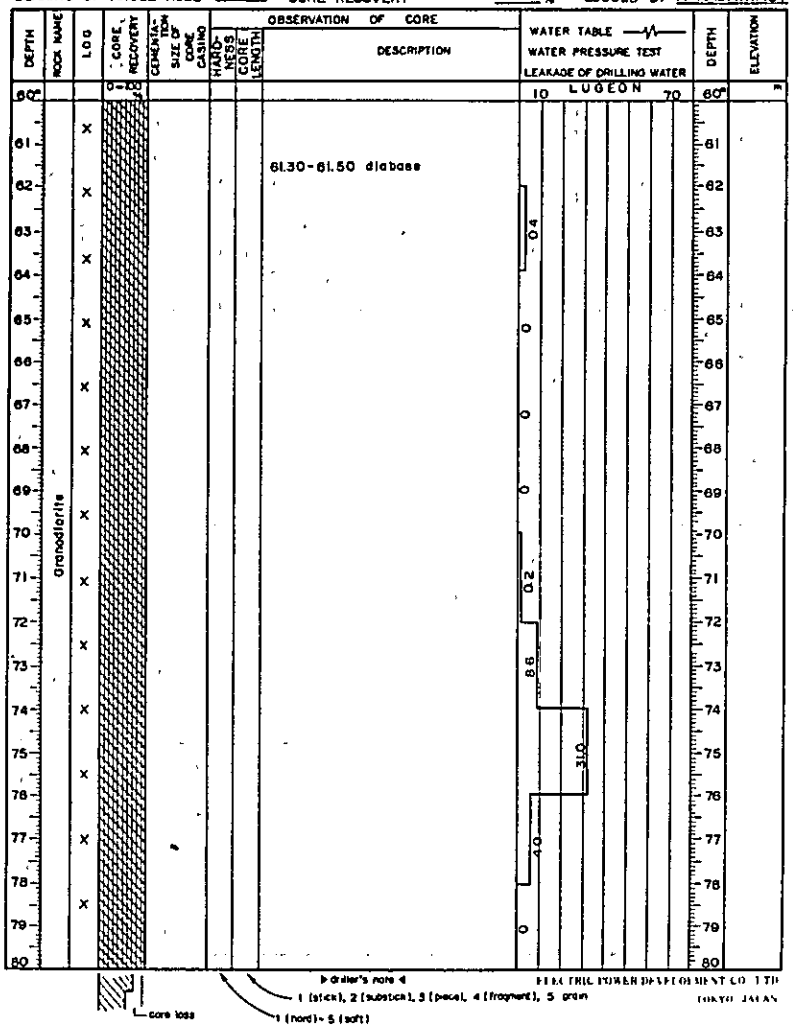

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Fig. A-2-4(26) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LSI-115 (SHEET 5 OF 5)

LOCATION LEFT BANK | DEPTH OF HOLE 100 m | COMMENCED - -
ELEVATION ____ m | DEPTH OF OVERBURDEN 0.8 m | COMPLETED - -
COORDINATE ____ | LENGTH OF ROCK DRILLING 99.2 m | DRILLED BY OZAY TURNAĞLU
ANGLE FROM HORIZONTAL 45° | TOTAL LENGTH OF CORE ____ m
BEARING OF ANGLE HOLE N82W | CORE RECOVERY ____ % | LOGGED BY H KASHIWAGI

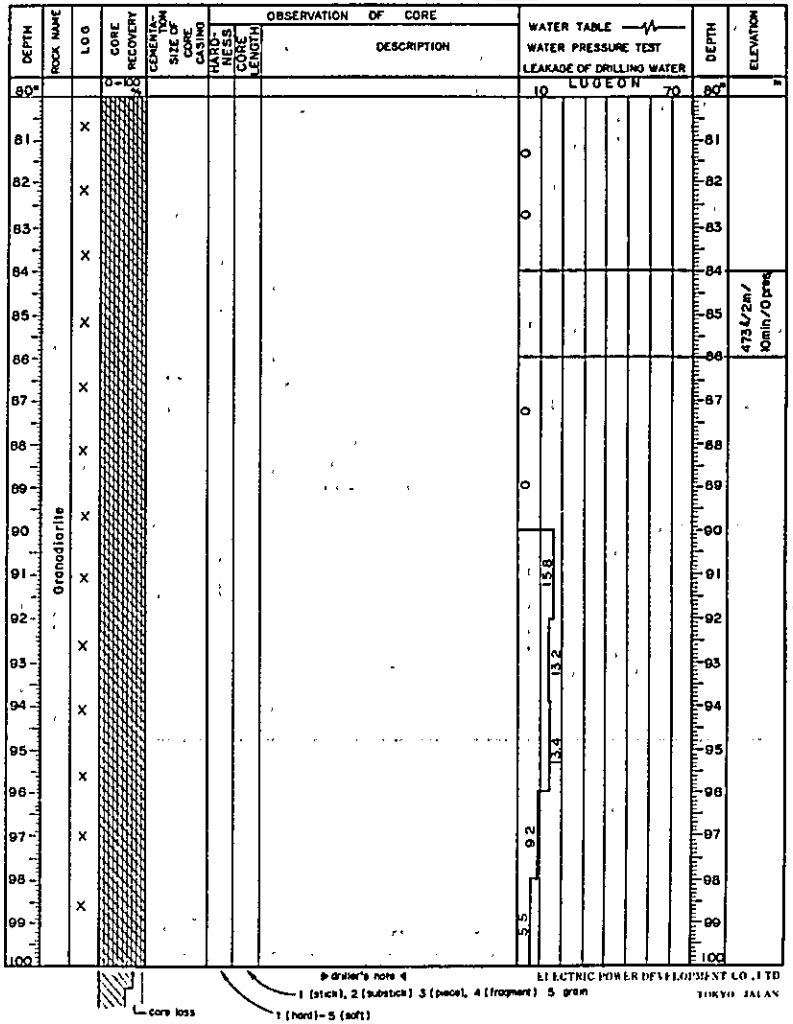

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Fig A-2-4(27) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LSI-114 (SHEET 1 OF 3)

LOCATION LEFT BANK
ELEVATION ——— m
COORDINATE ———
ANGLE FROM HORIZONTAL 55°
BEARING OF ANGLE HOLE N30 E

DEPTH OF HOLE 56.00 m
DEPTH OF OVERBURDEN 1.90 m
LENGTH OF ROCK DRILLING ——— m
TOTAL LENGTH OF CORE ——— m
CORE RECOVERY ——— %

COMMENCED — - -
COMPLETED — - -
DRILLED BY OZAY TURNAOĞLU
LOGGED BY H. KASHIWAGI

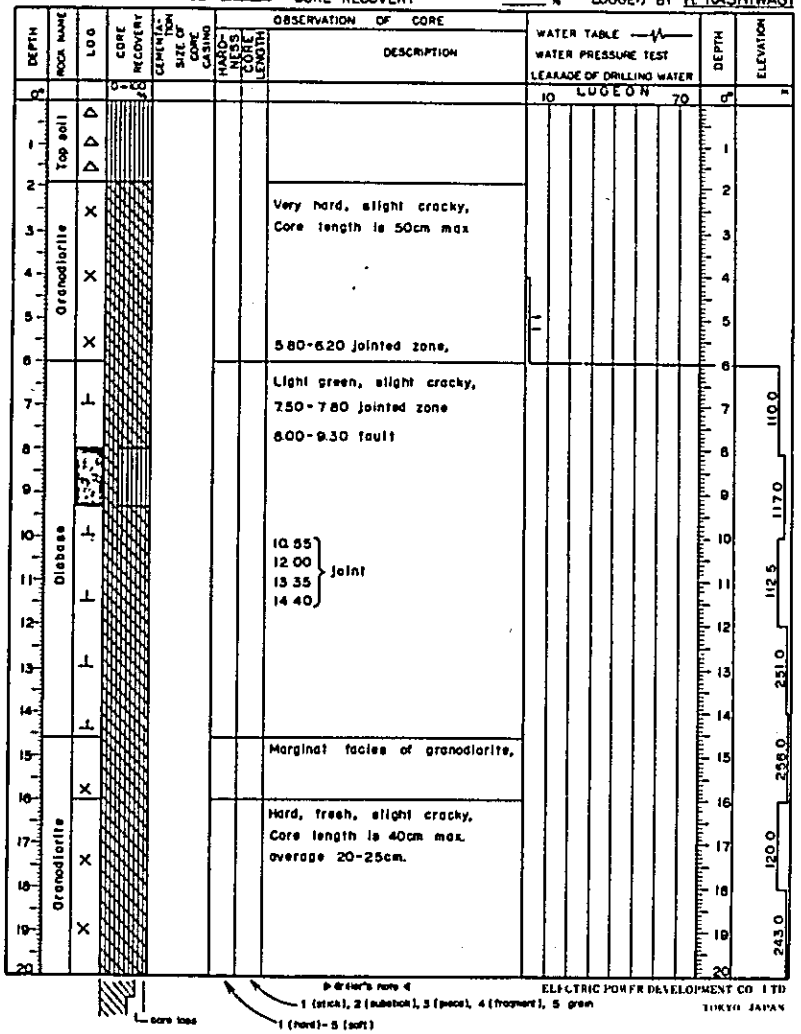

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Fig.A-2-4(28) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LSI-114 (SHEET 2 OF 3)

LOCATION LEFT BANK
ELEVATION ——— m
COORDINATE ———
ANGLE FROM HORIZONTAL 55°
BEARING OF ANGLE HOLE N30 E

DEPTH OF HOLE 56.00 m
DEPTH OF OVERBURDEN 1.90 m
LENGTH OF ROCK DRILLING ——— m
TOTAL LENGTH OF CORE ——— m
CORE RECOVERY ——— %

COMMENCED — - -
COMPLETED — - -
DRILLED BY OZAY TURNAOĞLU
LOGGED BY H. KASHIWAGI

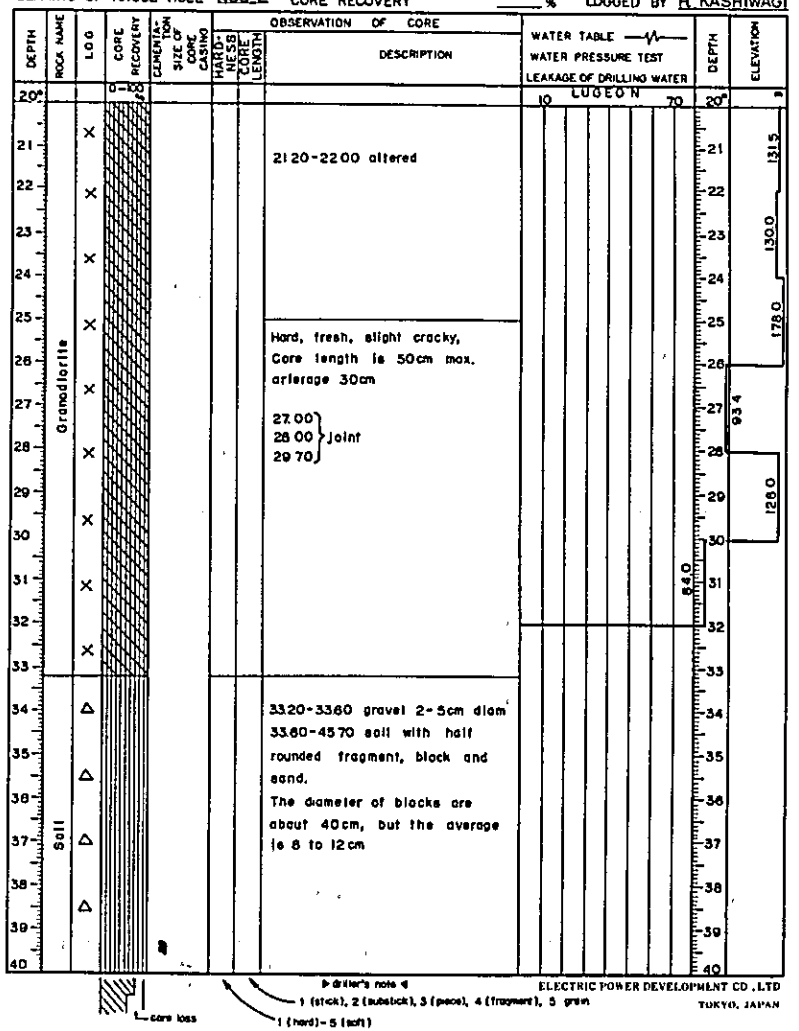

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Fig.A-2-4(29) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.LSI-114 (SHEET 3 OF 3)

LOCATION LEFT BANK | DEPTH OF HOLE 56.00 m | COMMENCED - -
ELEVATION ____ m | DEPTH OF OVERBURDEN 1.90 m | COMPLETED - -
COORDINATE ____ | LENGTH OF ROCK DRILLING ____ m | DRILLED BY ÖZAY TURNAOĞLU
ANGLE FROM HORIZONTAL 55° | TOTAL LENGTH OF CORE ____ m
BEARING OF ANGLE HOLE N30 E | CORE RECOVERY ____ % | LOGGED BY H. KASHIWAGI

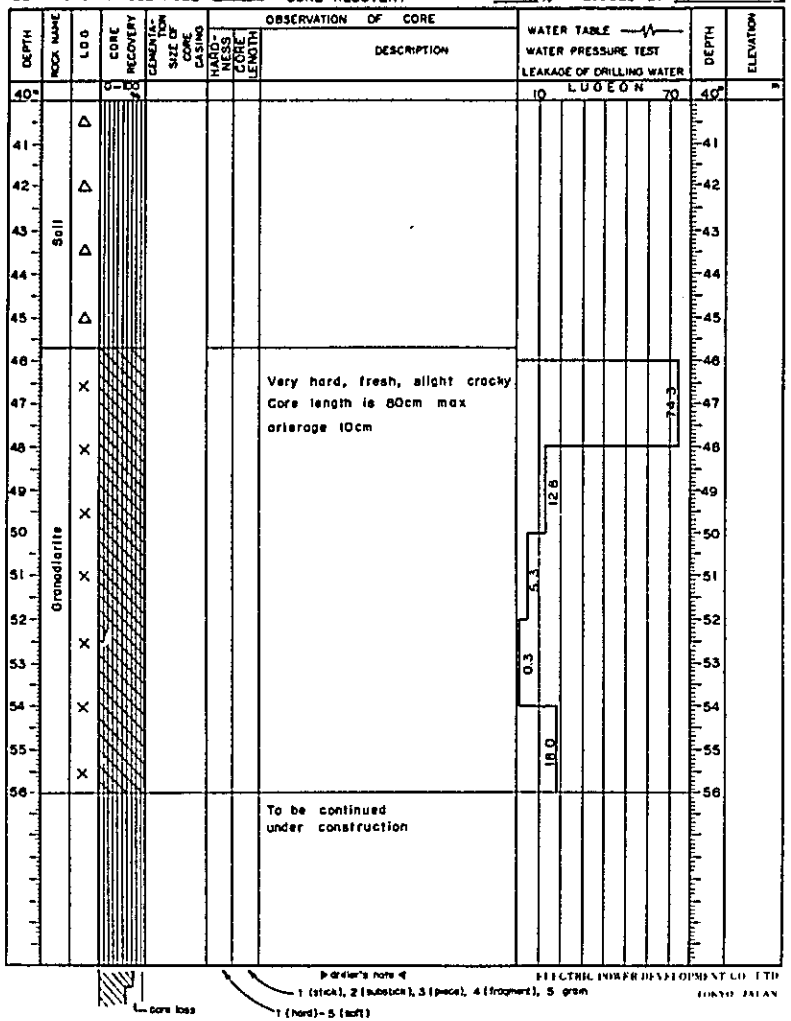

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Fig.A-2-4(30) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.RH-103 (SHEET 1 OF 5)

LOCATION RIVER BED | DEPTH OF HOLE 100.4 m | COMMENCED 8 - 11 - '67
ELEVATION 543.29 m | DEPTH OF OVERBURDEN 22.35 m | COMPLETED 18 - 1 - '68
COORDINATE ____ | LENGTH OF ROCK DRILLING 78.04 m | DRILLED BY ____
ANGLE FROM HORIZONTAL 90° | TOTAL LENGTH OF CORE ____ m
BEARING OF ANGLE HOLE ____ | CORE RECOVERY ____ % | LOGGED BY H. KASHIWAGI

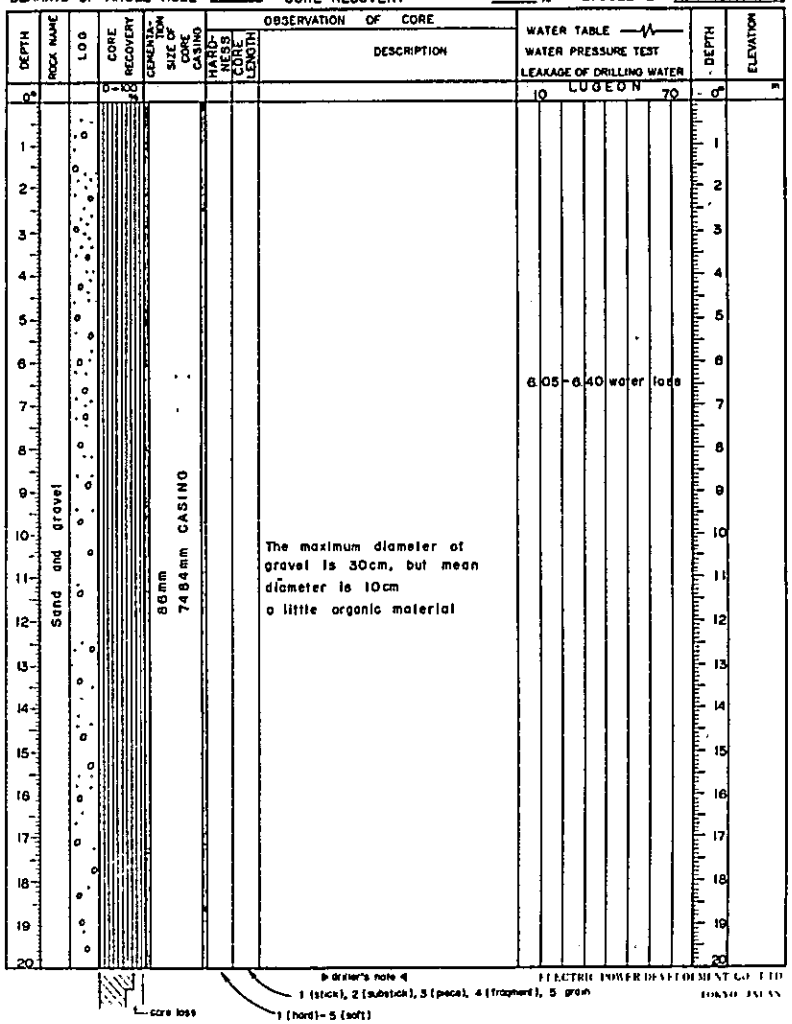

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Fig. A-2-4(31) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No. RH-103 (SHEET 2 OF 5)

LOCATION RIVER BED
ELEVATION 543.29 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 100.4 m
DEPTH OF OVERBURDEN 22.35 m
LENGTH OF ROCK DRILLING 78.04 m
TOTAL LENGTH OF CORE m
CORE RECOVERY %

COMMENCED 8-11-'67
COMPLETED 18-1-'68
DRILLED BY
LOGGED BY H. KASHIWAGI

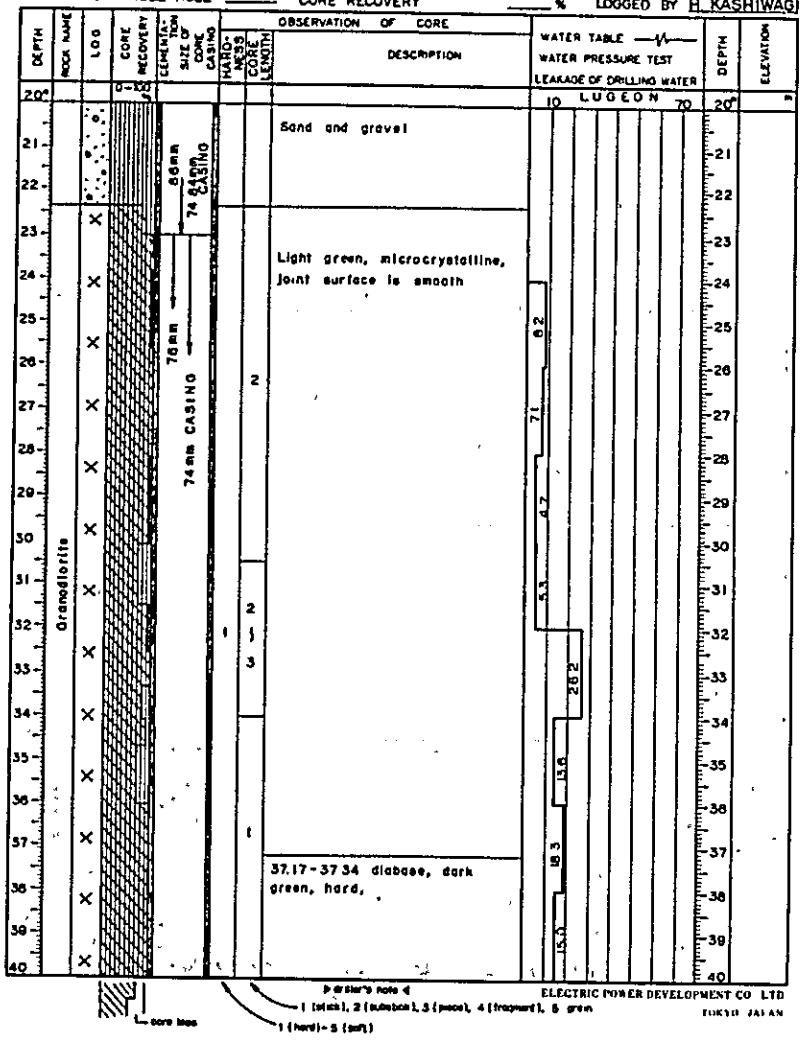

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Fig. A-2-4(32) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No. RH-103 (SHEET 3 OF 5)

LOCATION RIVER BED
ELEVATION 543.29 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 100.4 m
DEPTH OF OVERBURDEN 22.35 m
LENGTH OF ROCK DRILLING 78.04 m
TOTAL LENGTH OF CORE m
CORE RECOVERY %

COMMENCED 8-11-'67
COMPLETED 18-1-'68
DRILLED BY
LOGGED BY H. KASHIWAGI

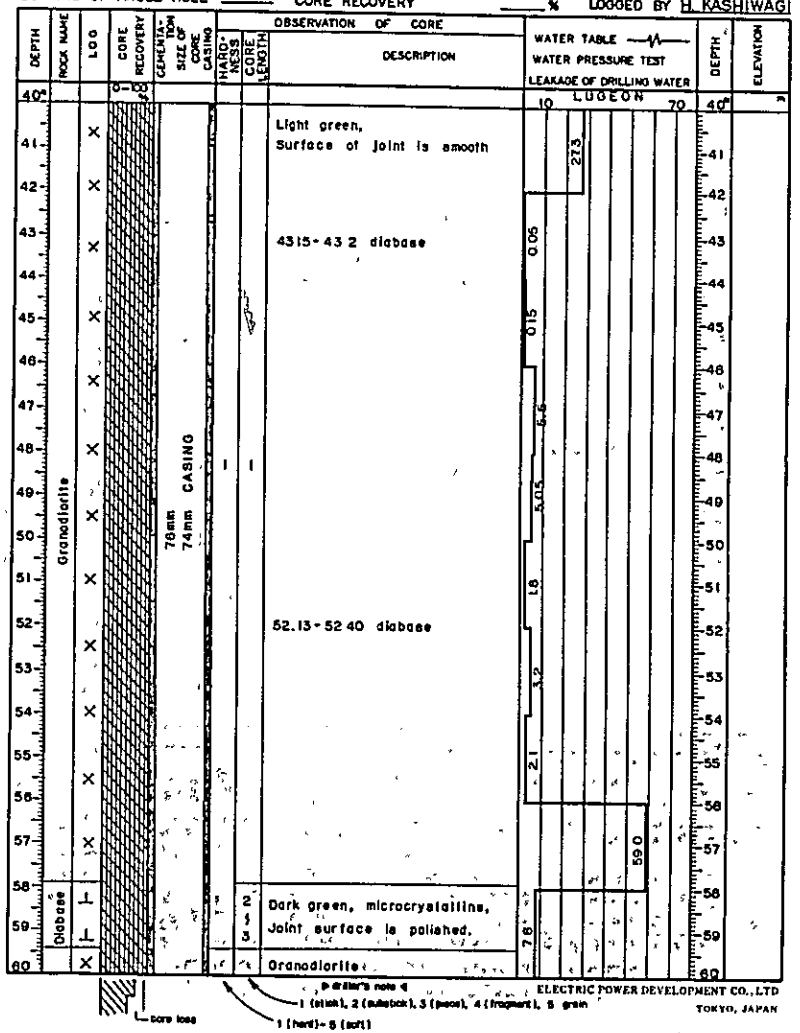

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Fig. A-2-4 (33) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No. RH103 (SHEET 4 OF 5)

LOCATION RIVER BED
ELEVATION 543.29 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 100.4 m
DEPTH OF OVERBURDEN 22.35 m
LENGTH OF ROCK DRILLING 78.04 m
TOTAL LENGTH OF CORE m
CORE RECOVERY %

COMMENCED 8-11-'67
COMPLETED 18-1-'68
DRILLED BY
LOGGED BY H. KASHIWAGI

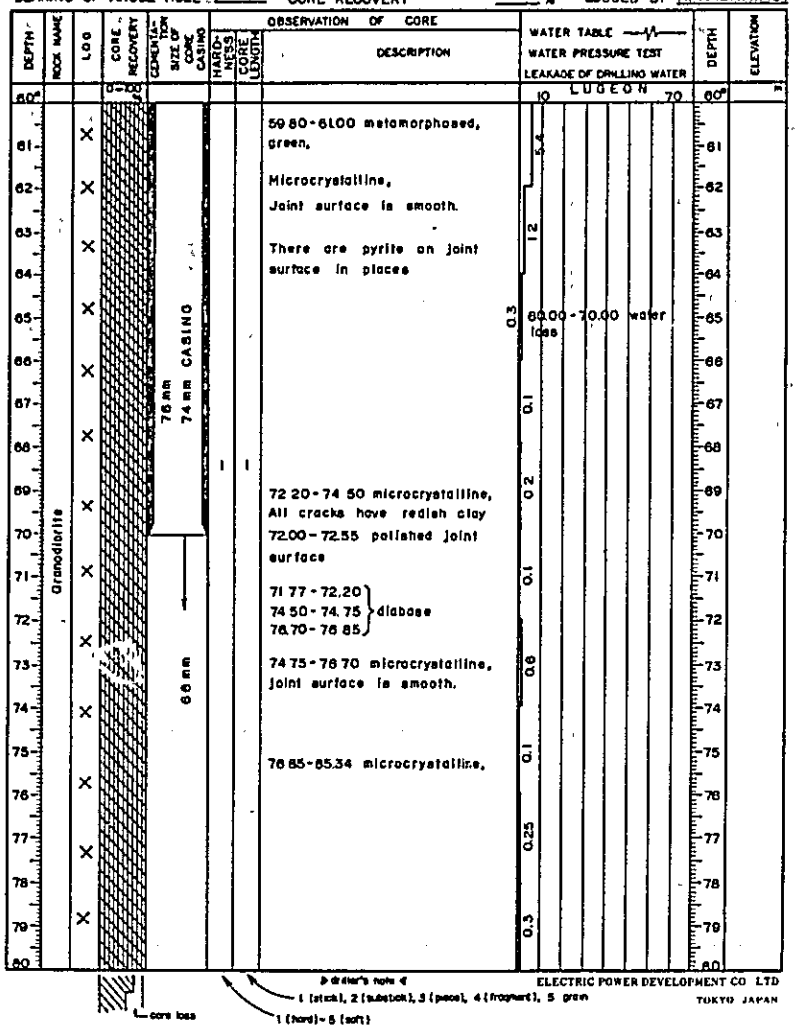

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Fig. A-2-4 (34) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No. RH103 (SHEET 5 OF 5)

LOCATION RIVER BED
ELEVATION 543.29 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 100.4 m
DEPTH OF OVERBURDEN 22.35 m
LENGTH OF ROCK DRILLING 78.04 m
TOTAL LENGTH OF CORE m
CORE RECOVERY %

COMMENCED 8-11-'67
COMPLETED 18-1-'68
DRILLED BY
LOGGED BY H. KASHIWAGI

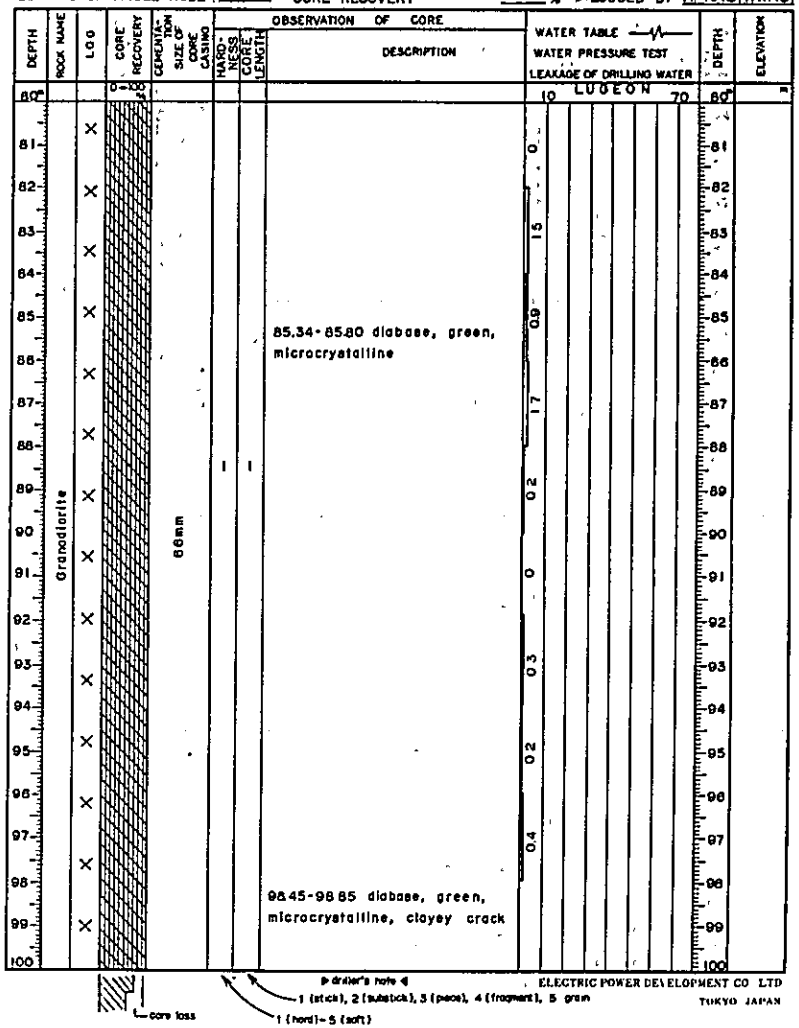

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Fig. A-2-4(35) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.RS-101 (SHEET 1 OF 5)

LOCATION	RIGHT BANK	DEPTH OF HOLE	100 m	COMMENCED	15-12-'67
ELEVATION	585 m	DEPTH OF OVERBURDEN	108 m	COMPLETED	30-1-'68
COORDINATE		LENGTH OF ROCK DRILLING	9892m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m		
BEARING OF ANGLE HOLE		CORE RECOVERY	100 %	LOGGED BY	H. KASHIWAGI

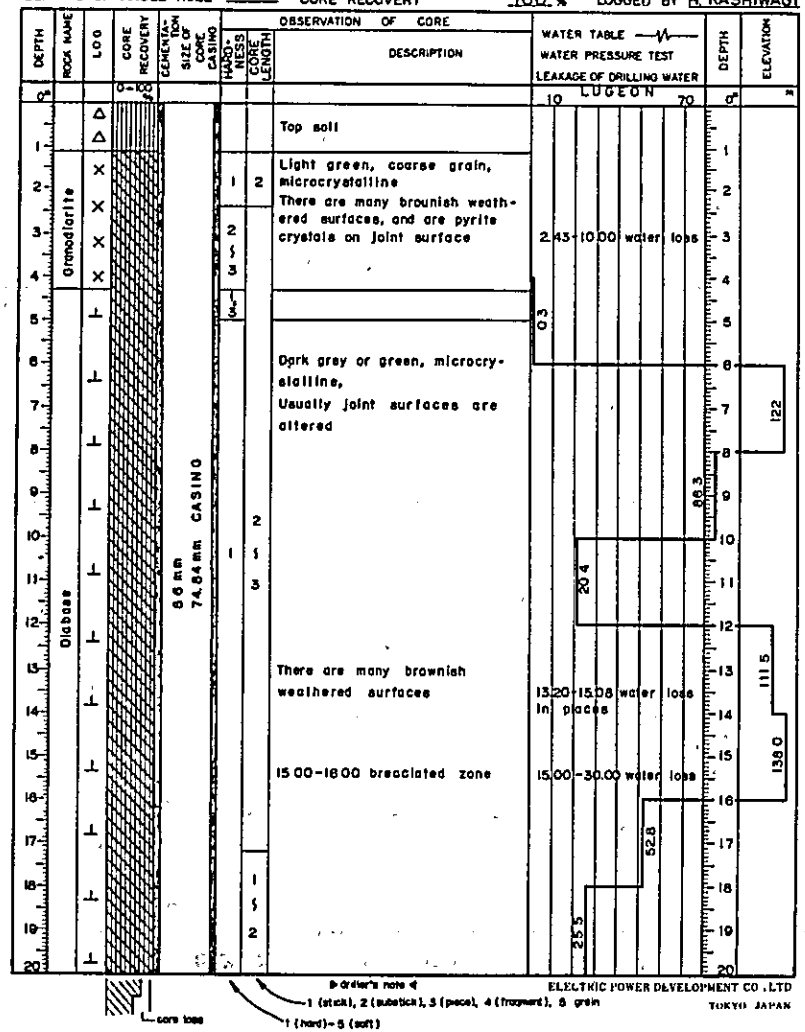

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Fig. A-2-4(36) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.RS-101 (SHEET 2 OF 5)

LOCATION	RIGHT BANK	DEPTH OF HOLE	100 m	COMMENCED	15-12-'67
ELEVATION	585 m	DEPTH OF OVERBURDEN	108 m	COMPLETED	30-1-'68
COORDINATE		LENGTH OF ROCK DRILLING	9892m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m		
BEARING OF ANGLE HOLE		CORE RECOVERY	100 %	LOGGED BY	H. KASHIWAGI

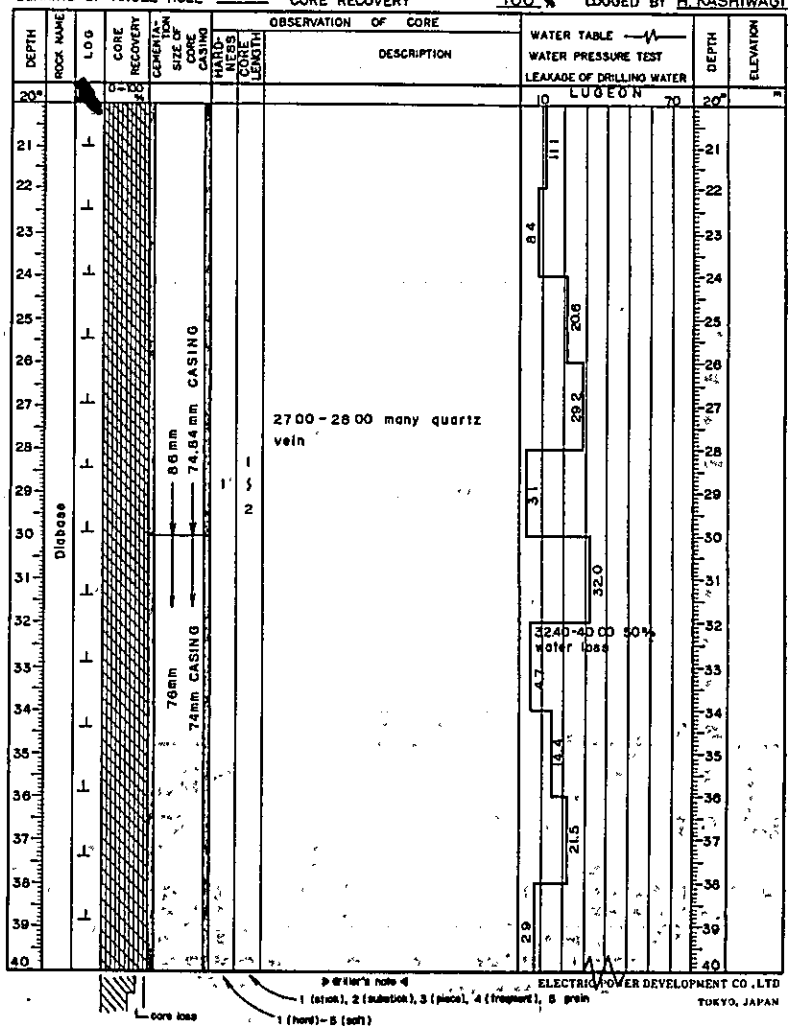

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Fig. A-2-4 (37) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No. RS-101 (SHEET 3 OF 5)

LOCATION	RIGHT BANK	DEPTH OF HOLE	100 m	COMMENCED	15-12-'67
ELEVATION	585 m	DEPTH OF OVERBURDEN	108 m	COMPLETED	30-1-'68
COORDINATE		LENGTH OF ROCK DRILLING	98.92 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m		
BEARING OF ANGLE HOLE		CORE RECOVERY	100 %	LOGGED BY	H. KASHIWAGI

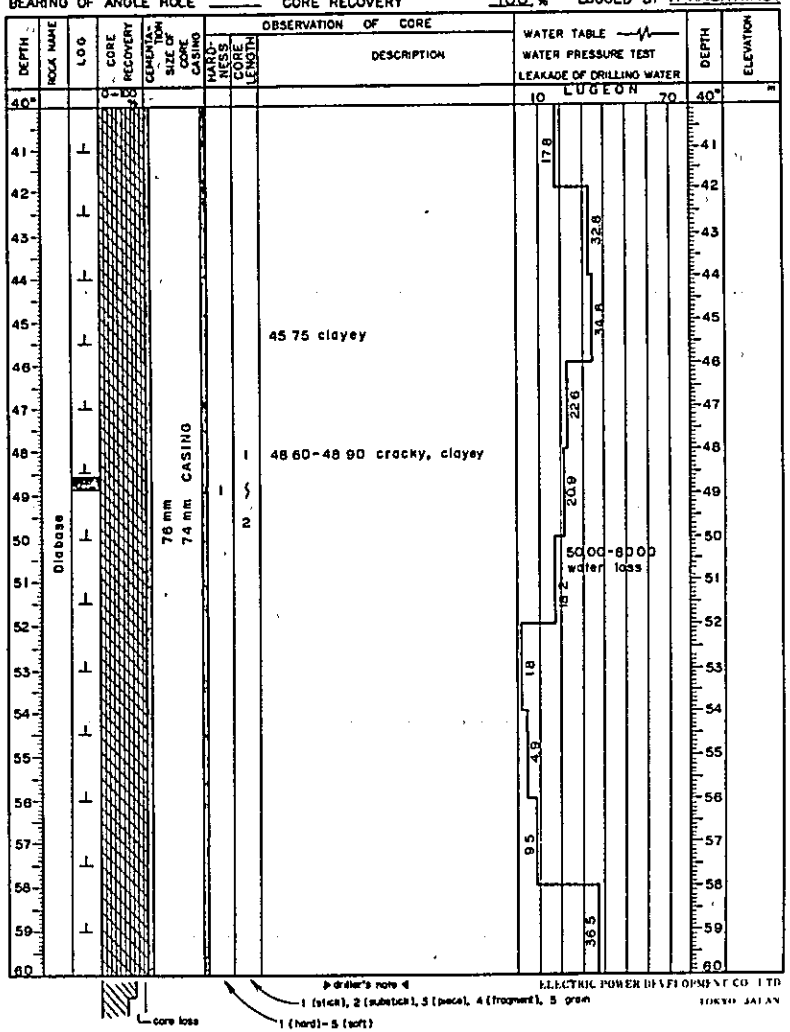

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Fig. A-2-4 (38) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No. RS-101 (SHEET 4 OF 5)

LOCATION	RIGHT BANK	DEPTH OF HOLE	100 m	COMMENCED	15-12-'67
ELEVATION	585 m	DEPTH OF OVERBURDEN	108 m	COMPLETED	30-1-'68
COORDINATE		LENGTH OF ROCK DRILLING	98.92 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m		
BEARING OF ANGLE HOLE		CORE RECOVERY	100 %	LOGGED BY	H. KASHIWAGI

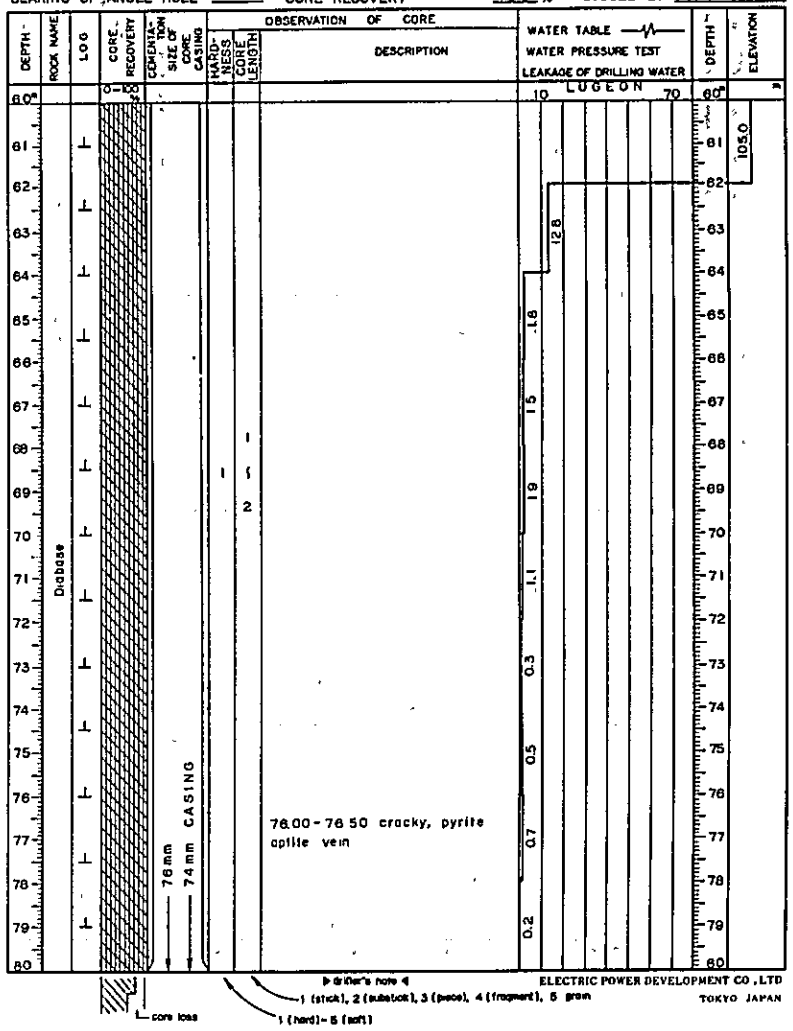

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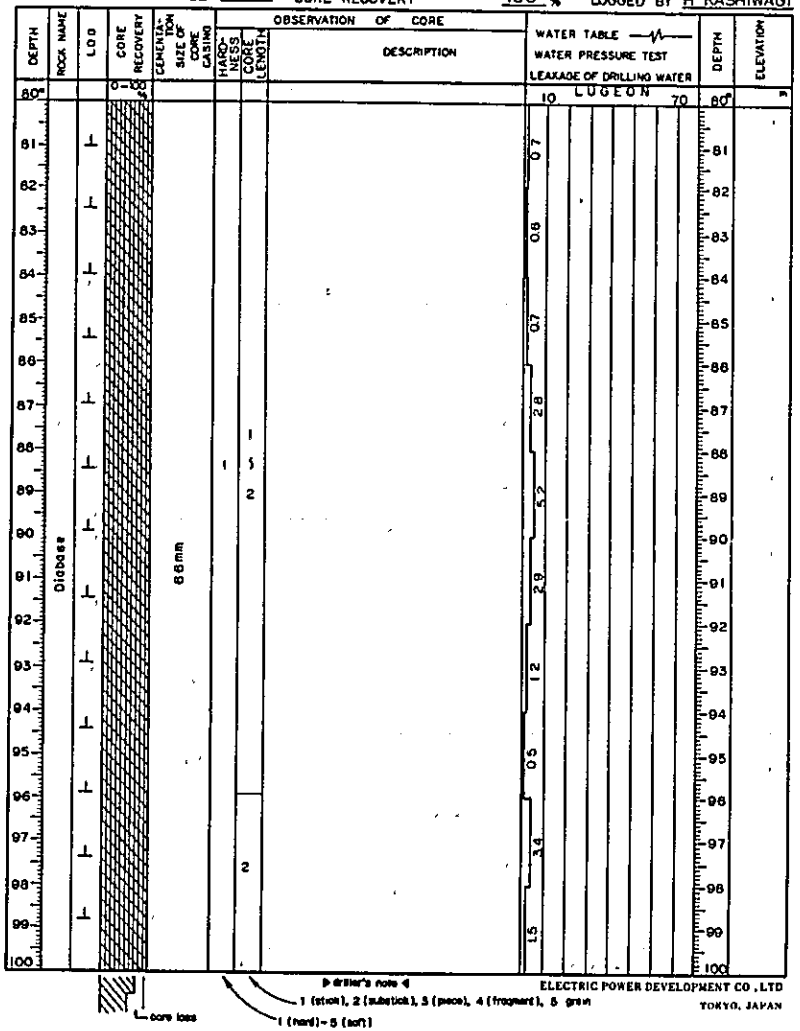
Fig.A-2-4(39) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.RS-101 (SHEET 5 OF 5)

LOCATION RIGHT BANK
ELEVATION 585 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 100 m
DEPTH OF OVERBURDEN 1.08 m
LENGTH OF ROCK DRILLING 98.92 m
TOTAL LENGTH OF CORE m
CORE RECOVERY 100 %

COMMENCED 15-12-'67
COMPLETED 30-1-'68
DRILLED BY
LOGGED BY H. KASHIWAGI



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core loss

driller's note
1 (stick), 2 (substick), 3 (piece), 4 (fragment), 5 grain
1 (hard) – 5 (soft)

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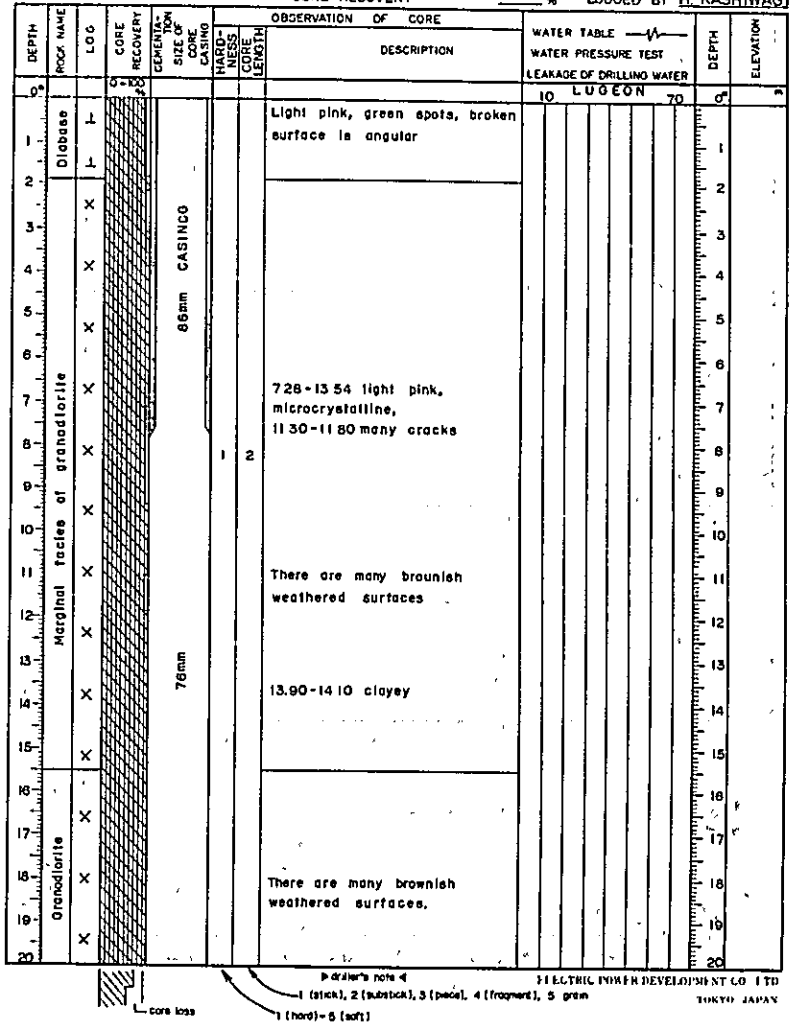
Fig.A-2-4(40) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.RSH 109 (SHEET 1 OF 5)

LOCATION RIGHT BANK
ELEVATION 619.14 m
COORDINATE
ANGLE FROM HORIZONTAL 0°
BEARING OF ANGLE HOLE S86°E

DEPTH OF HOLE 100 m
DEPTH OF OVERBURDEN 0 m
LENGTH OF ROCK DRILLING 100 m
TOTAL LENGTH OF CORE m
CORE RECOVERY %

COMMENCED 14-10-'68
COMPLETED 19-11-'68
DRILLED BY ISMET DEMIRHAN
LOGGED BY H. KASHIWAGI



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core loss

driller's note
1 (stick), 2 (substick), 3 (piece), 4 (fragment), 5 grain
1 (hard) – 5 (soft)

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Fig. A-2-4(41) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT. DAM SITE HOLE No.RSH-109 (SHEET 2 OF 5)

LOCATION RIGHT BANK
ELEVATION 619.14 m
COORDINATE
ANGLE FROM HORIZONTAL 0°
BEARING OF ANGLE HOLE S86°E

DEPTH OF HOLE 100 m
DEPTH OF OVERBURDEN 0 m
LENGTH OF ROCK DRILLING 100 m
TOTAL LENGTH OF CORE ___ m
CORE RECOVERY ___ %

COMMENCED 14-10-'68
COMPLETED 19-11-'68
DRILLED BY ISMET DEMIRHAN
LOGGED BY H KASHIWAGI

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION	SIZE OF CORE CASING	OBSERVATION OF CORE: HARDNESS	OBSERVATION OF CORE: CORE LENGTH	OBSERVATION OF CORE: DESCRIPTION	WATER TABLE / WATER PRESSURE TEST / LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
20		×			76mm	1	2	Granodiorite	10 LUGEON 70	20	m
21–25	Diabase	⊥				2 / 3	2 / 4	Dark green, Joint surfaces are altered easy breakable,		21–25	
26–40	Granodiorite	×				1	1 / 2	Dark grey or green, Joint surfaces are altered 3947–4000 core length 3		26–40	

core loss

▶ driller's note ◀ 1 (stick), 2 (substick), 3 (piece), 4 (fragment), 5 grain
1 (hard) – 5 (soft)

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Fig. A-2-4(42) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT. DAM SITE HOLE No.RSH-109 (SHEET 3 OF 5)

LOCATION RIGHT BANK
ELEVATION 619.14 m
COORDINATE
ANGLE FROM HORIZONTAL 0°
BEARING OF ANGLE HOLE S86°E

DEPTH OF HOLE 100 m
DEPTH OF OVERBURDEN 0 m
LENGTH OF ROCK DRILLING 100 m
TOTAL LENGTH OF CORE ___ m
CORE RECOVERY ___ %

COMMENCED 14-10-'68
COMPLETED 19-11-'68
DRILLED BY ISMET DEMIRHAN
LOGGED BY H KASHIWAGI

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION	SIZE OF CORE CASING	OBSERVATION OF CORE: HARDNESS	OBSERVATION OF CORE: CORE LENGTH	OBSERVATION OF CORE: DESCRIPTION	WATER TABLE / WATER PRESSURE TEST / LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
40		×			76mm	1	1/2		10 LUGEON 70	40	m
41–48	Diabase	⊥				2 / 3	2 / 4	Dark green, microcrystalline, easy breakable,		41–48	
49		×				2	2	Granodiorite, brownish weathered		49	
50–57	Diabase	⊥				1 / 2 / 3	2 / 3	Greenish, There are veins of granodiorite in places There are many brownish weathered surfaces 5515 – 5770 pinkish, altered easy breakable,		50–57	
58	Clay							Fault clay and fault breccia		58	
59–60	Granodiorite	×				1	1	Granodiorite		59–60	

core loss

▶ driller's note ◀ 1 (stick), 2 (substick), 3 (piece), 4 (fragment), 5 grain
1 (hard) – 5 (soft)

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Fig. A-2-4(43) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.RSH-109 (SHEET 4 OF 5)

LOCATION RIGHT BANK
ELEVATION 619.14 m
COORDINATE
ANGLE FROM HORIZONTAL 0°
BEARING OF ANGLE HOLE S86°E

DEPTH OF HOLE 100 m
DEPTH OF OVERBURDEN 0 m
LENGTH OF ROCK DRILLING 100 m
TOTAL LENGTH OF CORE ___ m
CORE RECOVERY ___ %

COMMENCED 14-10-'68
COMPLETED 19-11-'68
DRILLED BY ISMET DEMIRHAN
LOGGED BY H KASHIWAGI

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION SIZE OF CORE CASING	OBSERVATION OF CORE: HARDNESS	OBSERVATION OF CORE: CORE LENGTH	OBSERVATION OF CORE: DESCRIPTION	WATER TABLE / WATER PRESSURE TEST / LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
60m			0–100					10 LUGEON 70	60m	m
61–80	Granodiorite	×		76mm	1	1	Pinkish or greenish		61–80	
74					5	5	Clayey fault zone			
75–77	Marginal facies of granodiorite	×			1	2				
77		>			3/4	4	Andesite			
78–80	Andesite	>			1	2	There are many brownish weathered surfaces. Dark green.			

core loss

▶ driller's note ◀
1 (stick), 2 (substick), 3 (piece), 4 (fragment), 5 grain
1 (hard) – 5 (soft)

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Fig A-2-4(44) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.RSH-109 (SHEET 5 OF 5)

LOCATION RIGHT BANK
ELEVATION 619.14 m
COORDINATE
ANGLE FROM HORIZONTAL 0°
BEARING OF ANGLE HOLE S86°E

DEPTH OF HOLE 100 m
DEPTH OF OVERBURDEN 0 m
LENGTH OF ROCK DRILLING 100 m
TOTAL LENGTH OF CORE ___ m
CORE RECOVERY ___ %

COMMENCED 14-10-'68
COMPLETED 19-11-'68
DRILLED BY ISMET DEMIRHAN
LOGGED BY H KASHIWAGI

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION SIZE OF CORE CASING	OBSERVATION OF CORE: HARDNESS	OBSERVATION OF CORE: CORE LENGTH	OBSERVATION OF CORE: DESCRIPTION	WATER TABLE / WATER PRESSURE TEST / LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
80m			0–100					10 LUGEON 70	80m	m
81–84	Andesite	>		76mm		2			81–84	
						1				
85		×					Granodiorite, dark grey,			
86–88	Andesite	>					Dark grey,			
89–92	Granodiorite	×			1	2	Grey or cream colour, 92.47 – 92.77 cracky		89–92	
93–100	Marginal facies of granodiorite	×				2 5 3	There are many brownish weathered surfaces.		93–100	

core loss

▶ driller's note ◀
1 (stick), 2 (substick), 3 (piece), 4 (fragment), 5 grain
1 (hard) – 5 (soft)

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Fig.A-2-4(45) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.RS-102 (SHEET 1 OF 6)

LOCATION	RIGHT BANK	DEPTH OF HOLE	120.3 m	COMMENCED	27-1-'68
ELEVATION	____ m	DEPTH OF OVERBURDEN	0 m	COMPLETED	19-3-'68
COORDINATE	____	LENGTH OF ROCK DRILLING	120.25 m	DRILLED BY	KEMAL GOKMEN
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	____ m	LOGGED BY	H. KASHIWAGI
BEARING OF ANGLE HOLE	____	CORE RECOVERY	____ %		

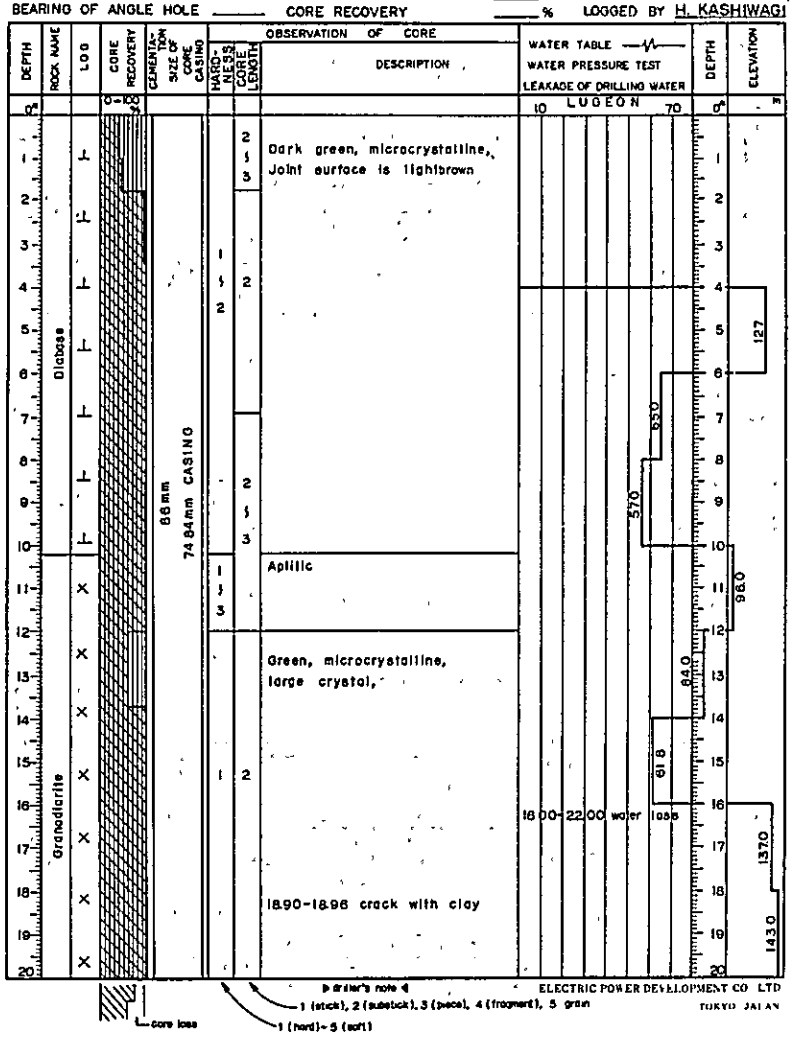

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Fig.A-2-4(46) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.RS-102 (SHEET 2 OF 6)

LOCATION	RIGHT BANK	DEPTH OF HOLE	120.3 m	COMMENCED	27-1-'68
ELEVATION	____ m	DEPTH OF OVERBURDEN	0 m	COMPLETED	19-3-'68
COORDINATE	____	LENGTH OF ROCK DRILLING	120.25 m	DRILLED BY	KEMAL GOKMEN
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	____ m	LOGGED BY	H. KASHIWAGI
BEARING OF ANGLE HOLE	____	CORE RECOVERY	____ %		

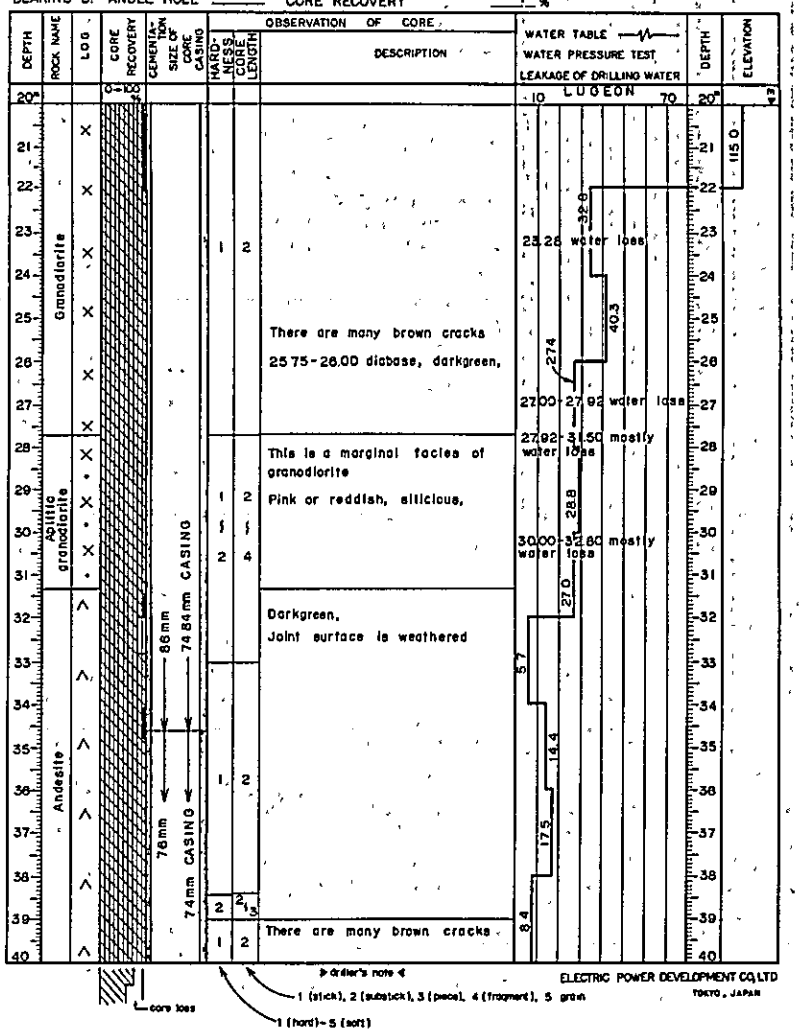

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Fig. A-2-4(47) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No RS-102 (SHEET 3 OF 6)

LOCATION RIGHT BANK
ELEVATION ____ m
COORDINATE ____
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE ____

DEPTH OF HOLE 120.3 m
DEPTH OF OVERBURDEN 0 m
LENGTH OF ROCK DRILLING 120.25 m
TOTAL LENGTH OF CORE ____ m
CORE RECOVERY ____ %

COMMENCED 27-1-'68
COMPLETED 19-3-'68
DRILLED BY KEMAL GOKMEN
LOGGED BY H. KASHIWAGI

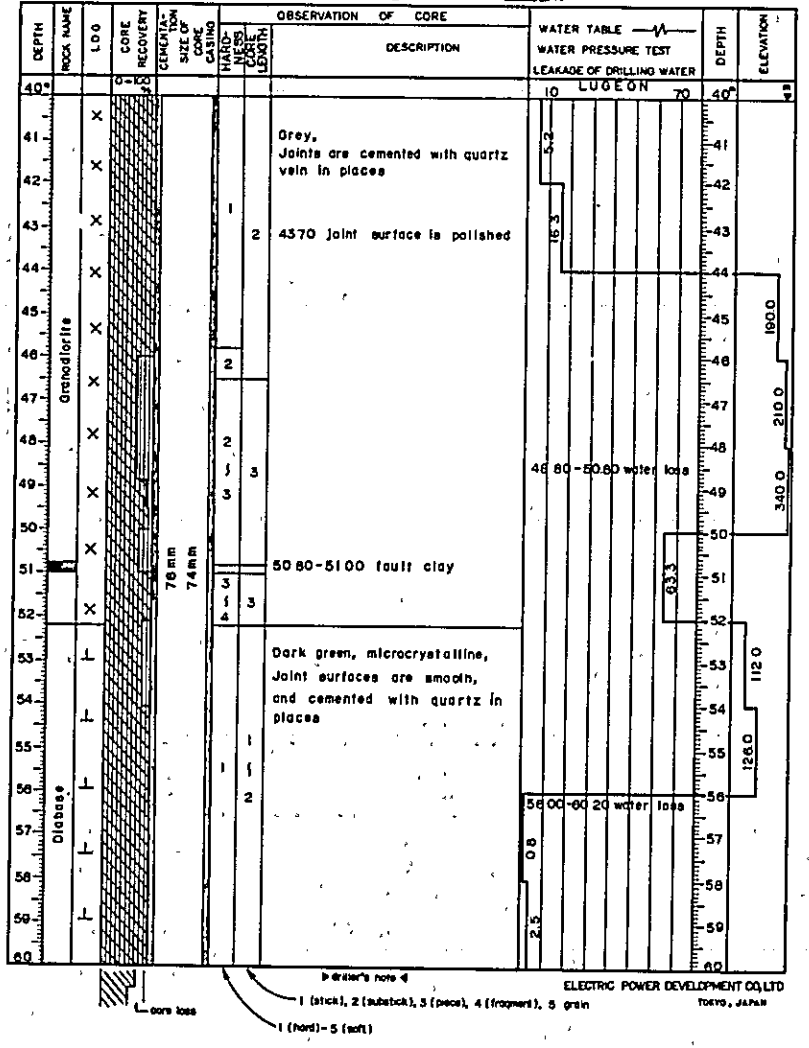

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Fig. A-2-4(48) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No RS-102 (SHEET 4 OF 6)

LOCATION RIGHT BANK
ELEVATION ____ m
COORDINATE ____
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE ____

DEPTH OF HOLE 120.3 m
DEPTH OF OVERBURDEN 0 m
LENGTH OF ROCK DRILLING 120.25 m
TOTAL LENGTH OF CORE ____ m
CORE RECOVERY ____ %

COMMENCED 27-1-'68
COMPLETED 19-3-'68
DRILLED BY KEMAL GOKMEN
LOGGED BY H. KASHIWAGI

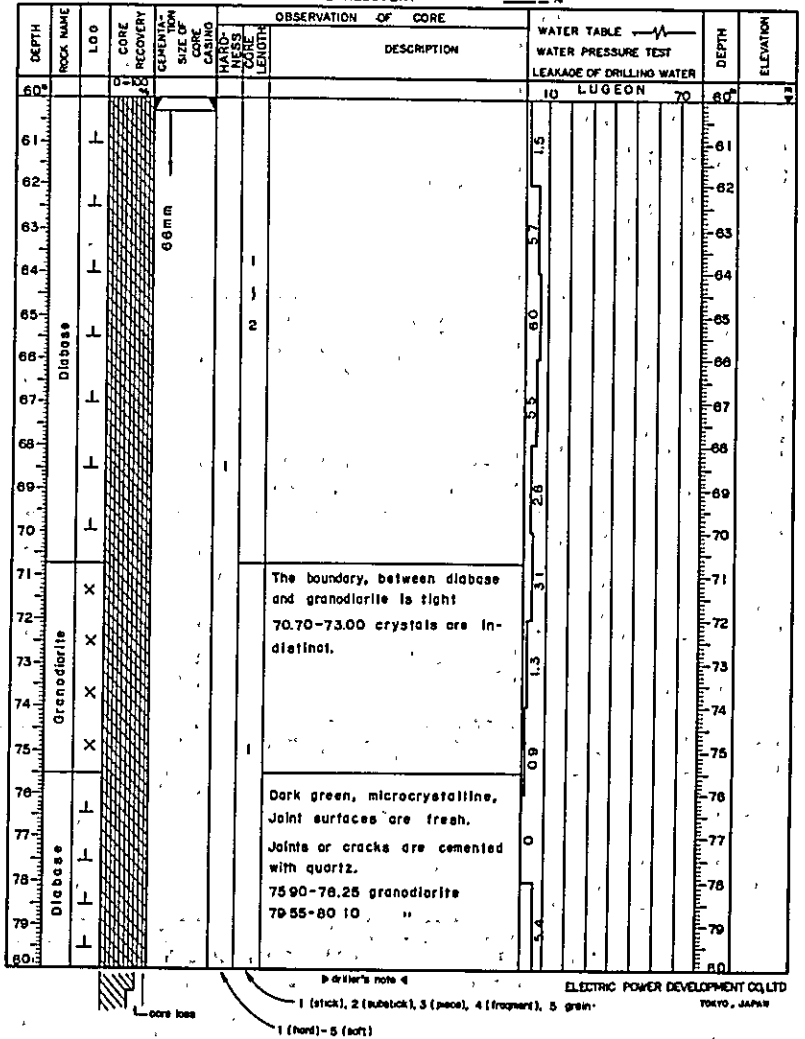

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Fig.A-2-4(49) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No RS-102 (SHEET 5 OF 6)

LOCATION	RIGHT BANK	DEPTH OF HOLE	120.3 m	COMMENCED	27-1-'68
ELEVATION	____ m	DEPTH OF OVERBURDEN	0 m	COMPLETED	19-3-'68
COORDINATE	____	LENGTH OF ROCK DRILLING	120.25 m	DRILLED BY	KEMAL GÖKMEN
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	____ m	LOGGED BY	H. KASHIWAGI
BEARING OF ANGLE HOLE	____	CORE RECOVERY	____ %		

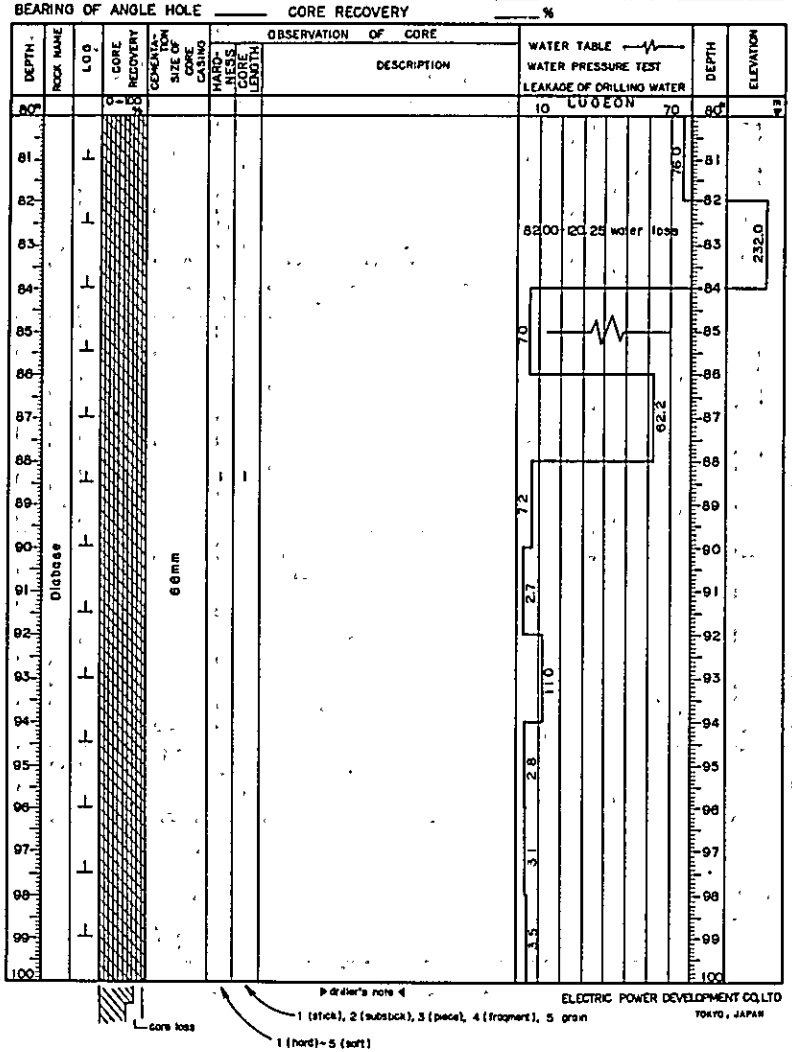

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Fig.A-2-4(50) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No RS-102 (SHEET 6 OF 6)

LOCATION	RIGHT BANK	DEPTH OF HOLE	120.3 m	COMMENCED	27-1-'68
ELEVATION	____ m	DEPTH OF OVERBURDEN	0 m	COMPLETED	19-3-'68
COORDINATE	____	LENGTH OF ROCK DRILLING	120.25 m	DRILLED BY	KEMAL GÖKMEN
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	____ m	LOGGED BY	H. KASHIWAGI
BEARING OF ANGLE HOLE	____	CORE RECOVERY	____ %		

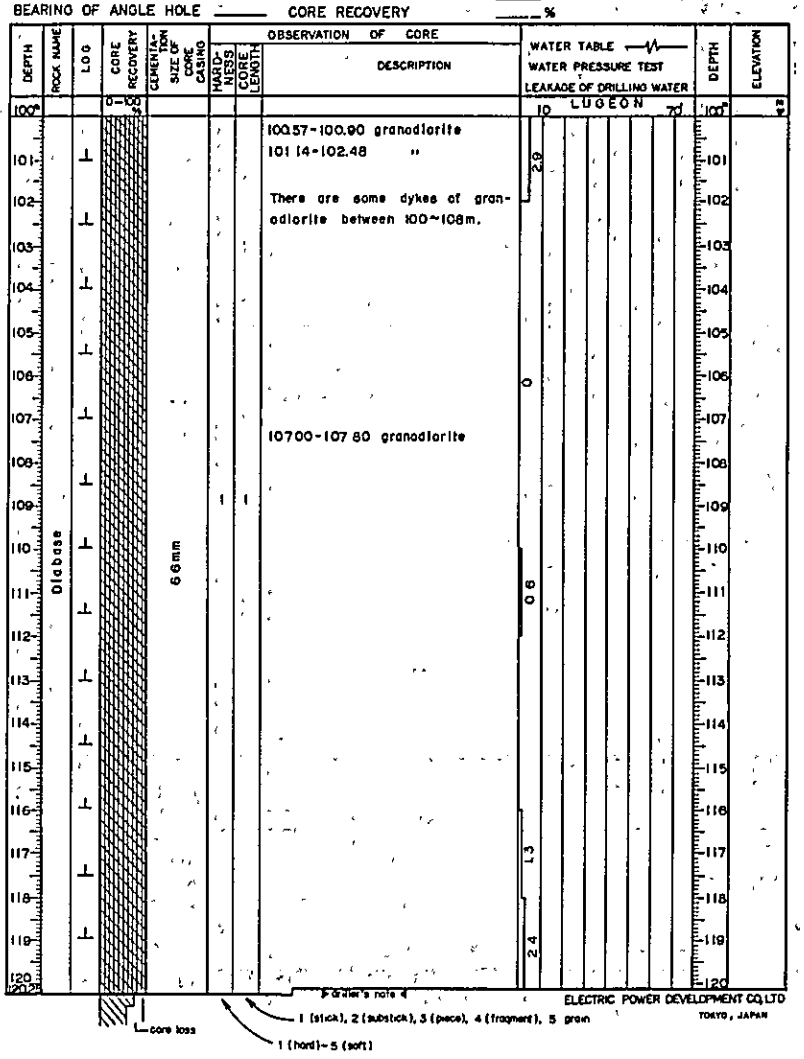

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Fig. A-2-4(51) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No. RS-110 (SHEET 1 OF 6)

LOCATION	RIGHT BANK	DEPTH OF HOLE	110 m	COMMENCED	5 - 8 - '68
ELEVATION	675 m	DEPTH OF OVERBURDEN	1.2 m	COMPLETED	10 - 10 - '68
COORDINATE		LENGTH OF ROCK DRILLING	108.8 m	DRILLED BY	ISMET DEMICHAN
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	108.8 m		
BEARING OF ANGLE HOLE		CORE RECOVERY	100 %	LOGGED BY	H. KASHIWAGI

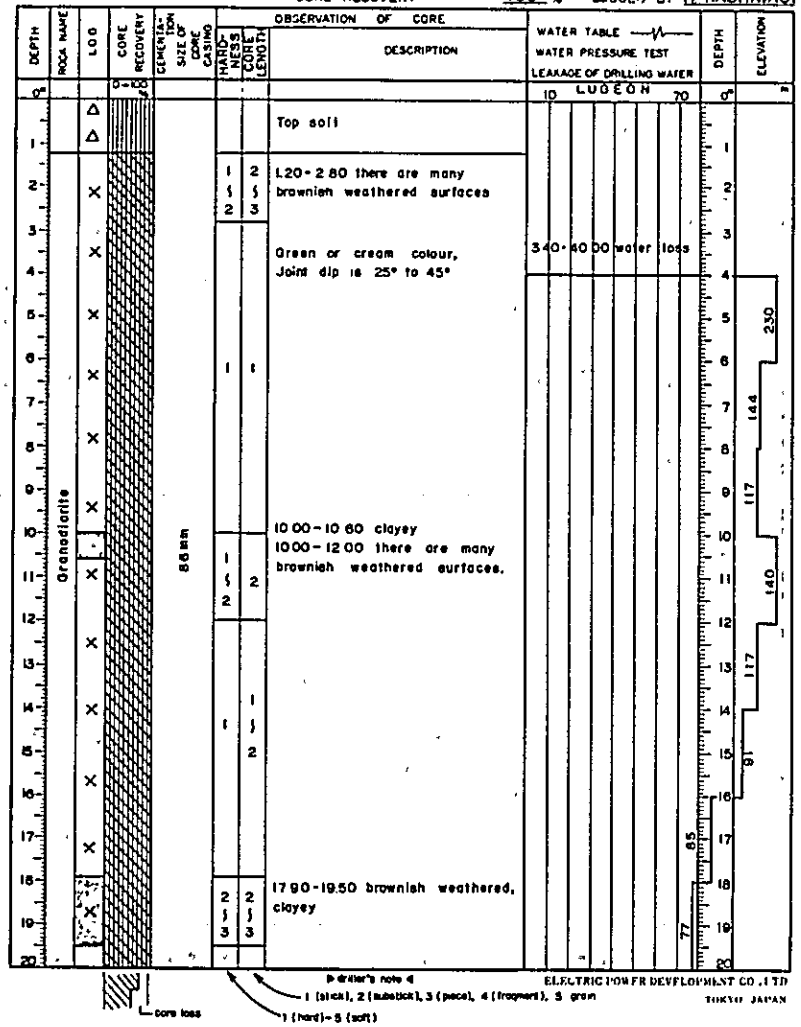

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Fig. A-2-4(52) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No. RS-110 (SHEET 2 OF 6)

LOCATION	RIGHT BANK	DEPTH OF HOLE	110 m	COMMENCED	5 - 8 - '68
ELEVATION	675 m	DEPTH OF OVERBURDEN	1.2 m	COMPLETED	10 - 10 - '68
COORDINATE		LENGTH OF ROCK DRILLING	108.8 m	DRILLED BY	ISMET DEMICHAN
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	108.8 m		
BEARING OF ANGLE HOLE		CORE RECOVERY	100 %	LOGGED BY	H. KASHIWAGI

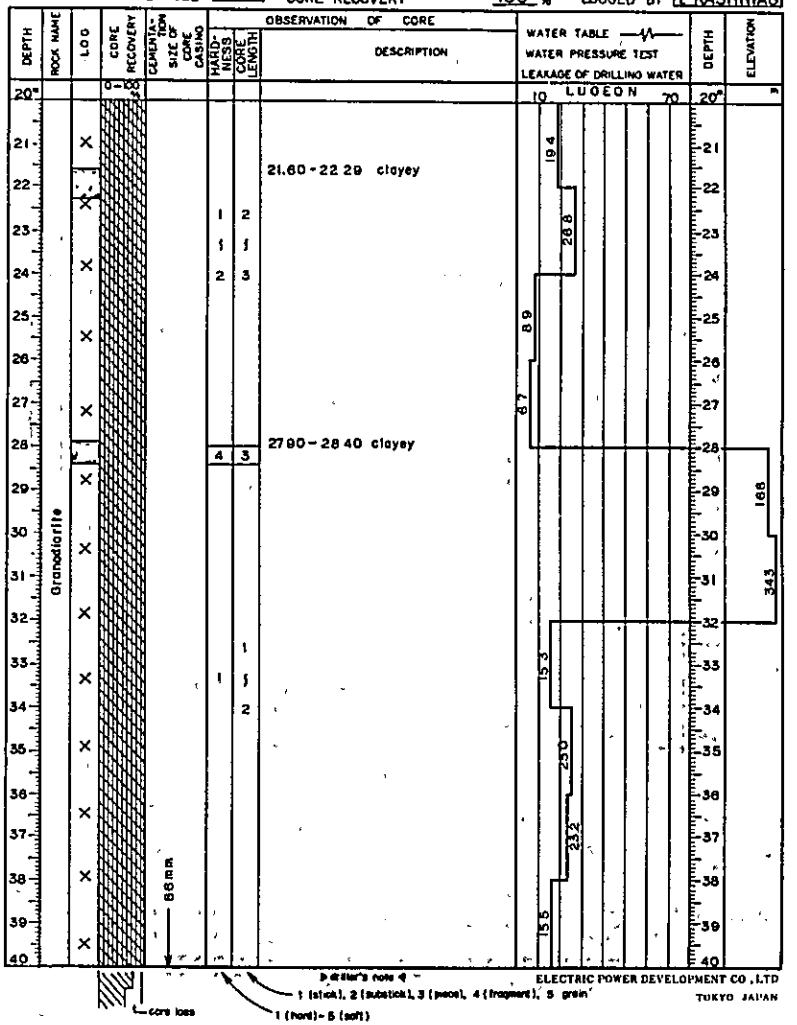

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Fig. A-2-4(53) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No RS-110 (SHEET 3 OF 6)

LOCATION	RIGHT BANK	DEPTH OF HOLE	110 m	COMMENCED	5 - 8 - '68
ELEVATION	675 m	DEPTH OF OVERBURDEN	1.2 m	COMPLETED	10 - 10 - '68
COORDINATE		LENGTH OF ROCK DRILLING	108.8 m	DRILLED BY	ISMET DEMIRHAN
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	108.8 m		
BEARING OF ANGLE HOLE		CORE RECOVERY	100 %	LOGGED BY	H. KASHIWAGI

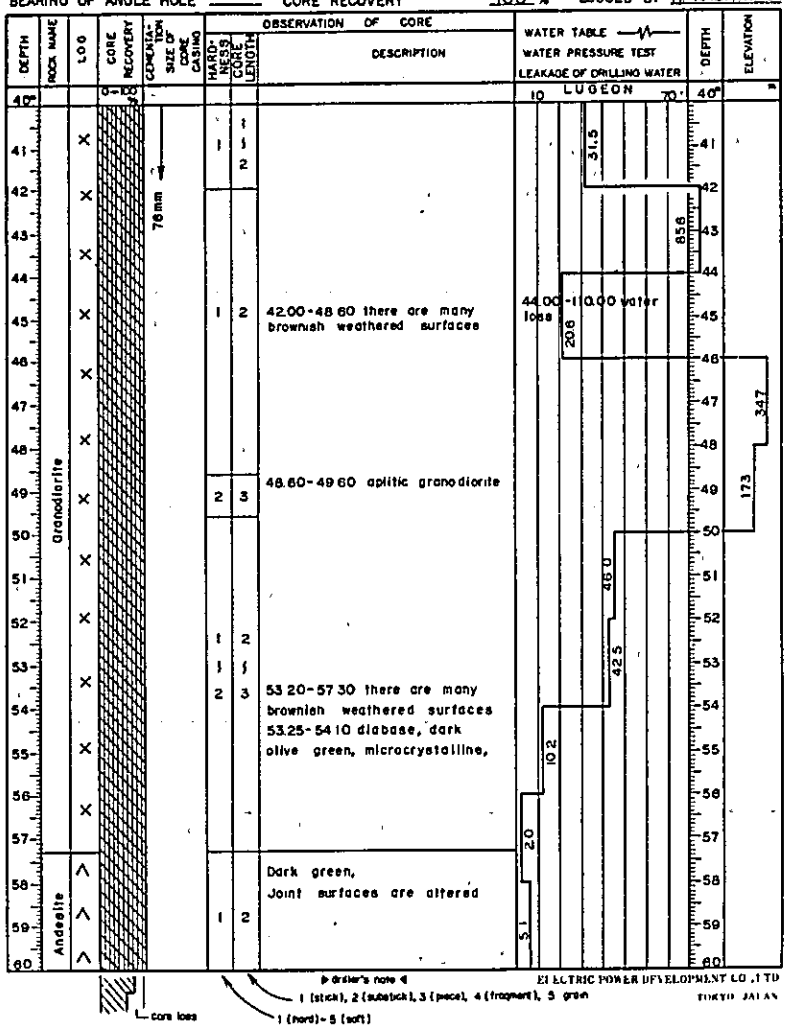

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Fig. A-2-4(54) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No RS-110 (SHEET 4 OF 6)

LOCATION	RIGHT BANK	DEPTH OF HOLE	110 m	COMMENCED	5 - 8 - '68
ELEVATION	675 m	DEPTH OF OVERBURDEN	1.2 m	COMPLETED	10 - 10 - '68
COORDINATE		LENGTH OF ROCK DRILLING	108.8 m	DRILLED BY	ISMET DEMIRHAN
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	108.8 m		
BEARING OF ANGLE HOLE		CORE RECOVERY	100 %	LOGGED BY	H. KASHIWAGI

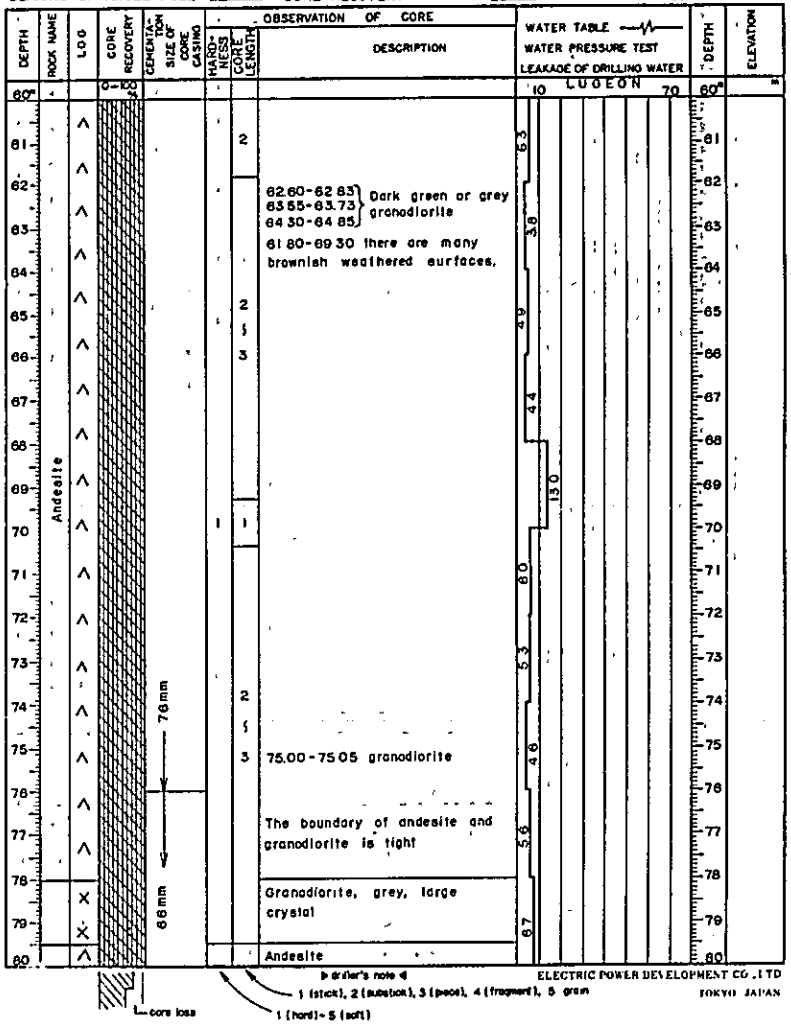

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Fig.A-2-4(55) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.RS-110 (SHEET 5 OF 6)

LOCATION RIGHT BANK
ELEVATION 675 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE
DEPTH OF HOLE 110 m
DEPTH OF OVERBURDEN 1.2 m
LENGTH OF ROCK DRILLING 108.8 m
TOTAL LENGTH OF CORE 108.8 m
CORE RECOVERY 100 %
COMMENCED 5 - 8 - '68
COMPLETED 10 - 10 - '68
DRILLED BY ISMET DEMICHAN
LOGGED BY H. KASHIWAGI

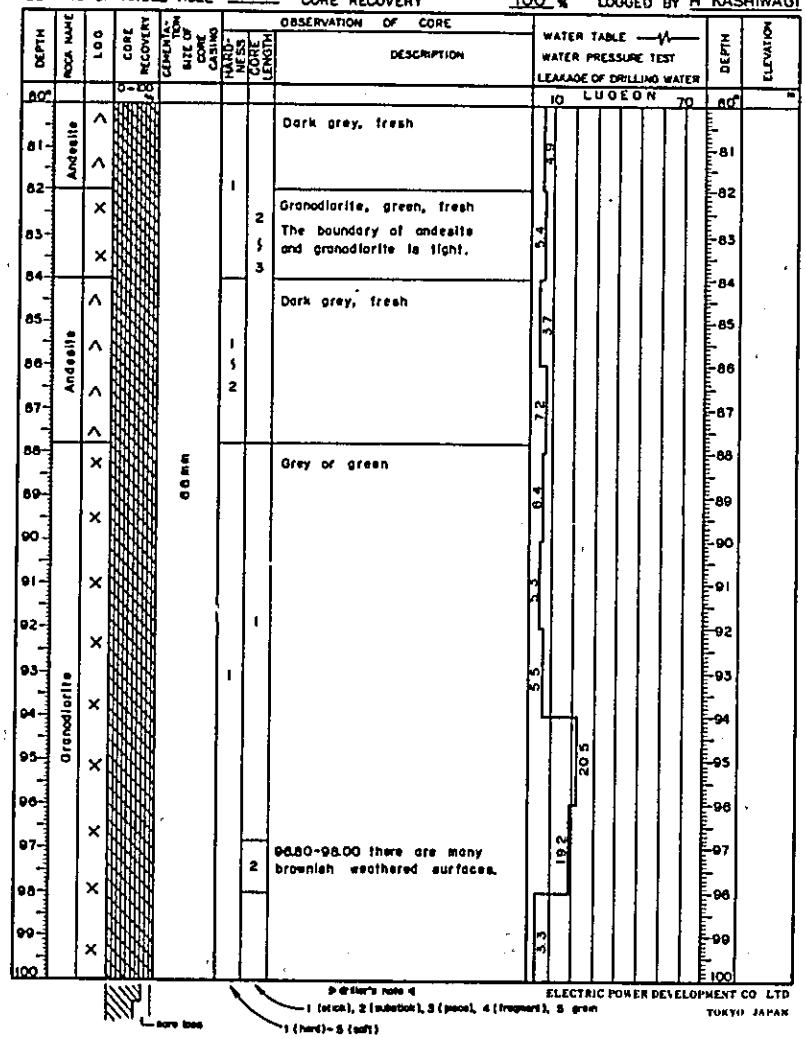

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Fig.A-2-4(56) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.RS-110 (SHEET 6 OF 6)

LOCATION RIGHT BANK
ELEVATION 675 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE
DEPTH OF HOLE 110 m
DEPTH OF OVERBURDEN 1.2 m
LENGTH OF ROCK DRILLING 108.8 m
TOTAL LENGTH OF CORE 108.8 m
CORE RECOVERY 100 %
COMMENCED 5 - 8 - '68
COMPLETED 10 - 10 - '68
DRILLED BY ISMET DEMICHAN
LOGGED BY H. KASHIWAGI

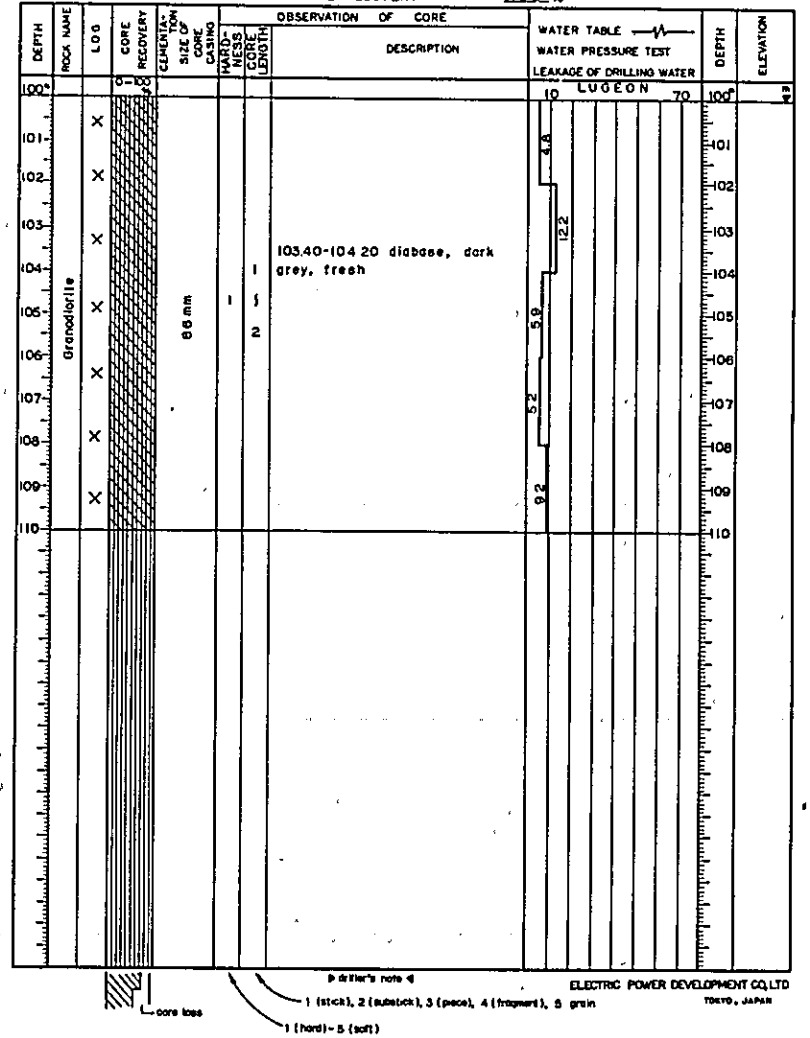

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Fig. A-2-4(57) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.SP-116 (SHEET 1 OF 2)

LOCATION RIGHT BANK — DEPTH OF HOLE 21.9 m — COMMENCED - - -
ELEVATION - m — DEPTH OF OVERBURDEN 1.50 m — COMPLETED - - -
COORDINATE — LENGTH OF ROCK DRILLING 20.35 m — DRILLED BY OZAY TURNAOĞLU
ANGLE FROM HORIZONTAL 90° — TOTAL LENGTH OF CORE — m
BEARING OF ANGLE HOLE — CORE RECOVERY — % — LOGGED BY H. KASHIWAGI

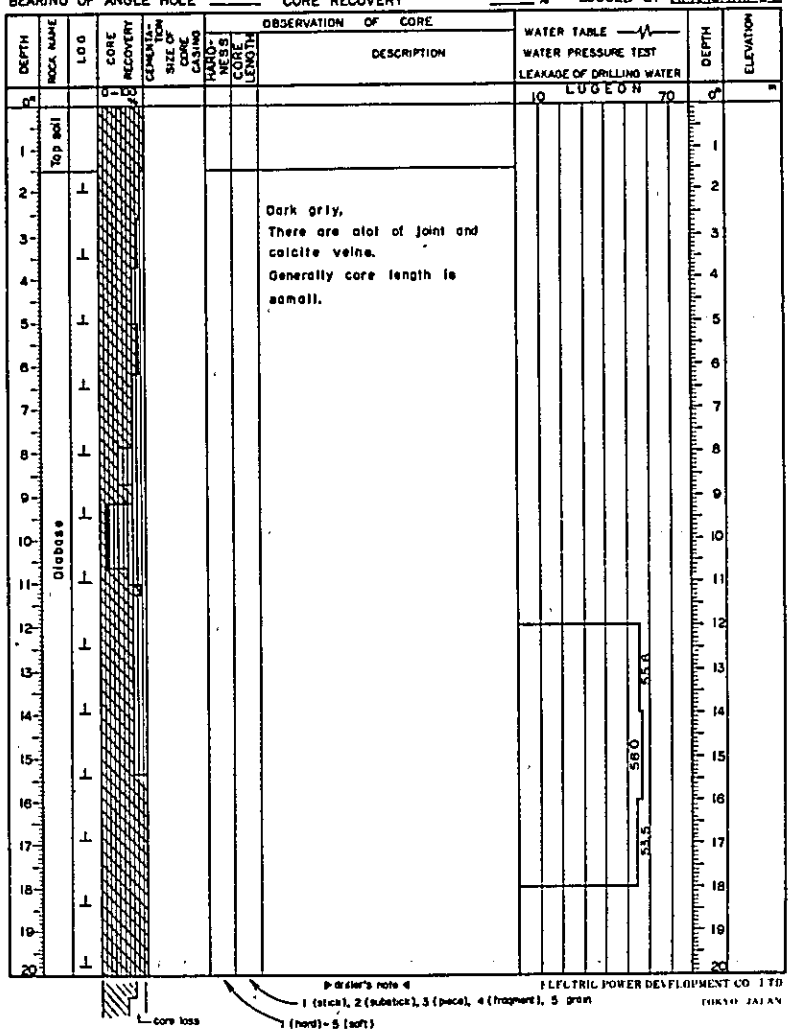

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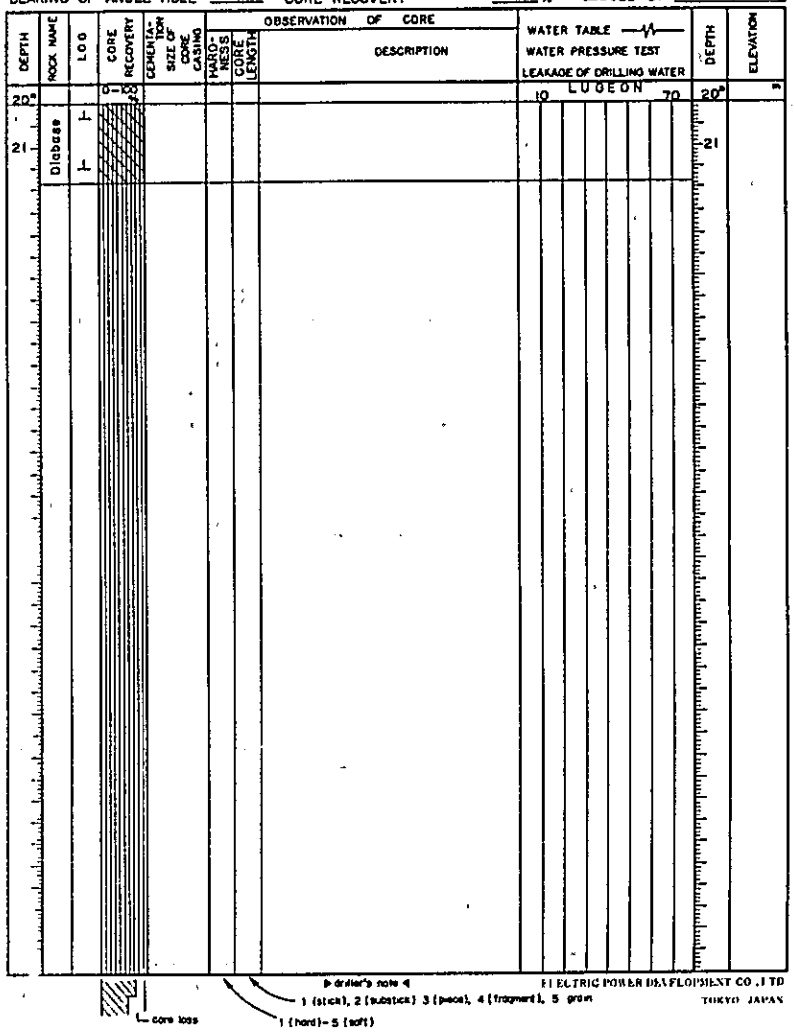
Fig. A-2-4(58) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No.SP-116 (SHEET 2 OF 2)

LOCATION RIGHT BANK — DEPTH OF HOLE 21.9 m — COMMENCED - - -
ELEVATION - m — DEPTH OF OVERBURDEN 1.50 m — COMPLETED - - -
COORDINATE — LENGTH OF ROCK DRILLING 20.35 m — DRILLED BY OZAY TURNAOĞLU
ANGLE FROM HORIZONTAL 90° — TOTAL LENGTH OF CORE — m
BEARING OF ANGLE HOLE — CORE RECOVERY — % — LOGGED BY H. KASHIWAGI



OVERSEAS TECHNICAL COOPERATION AGENCY JAPAN

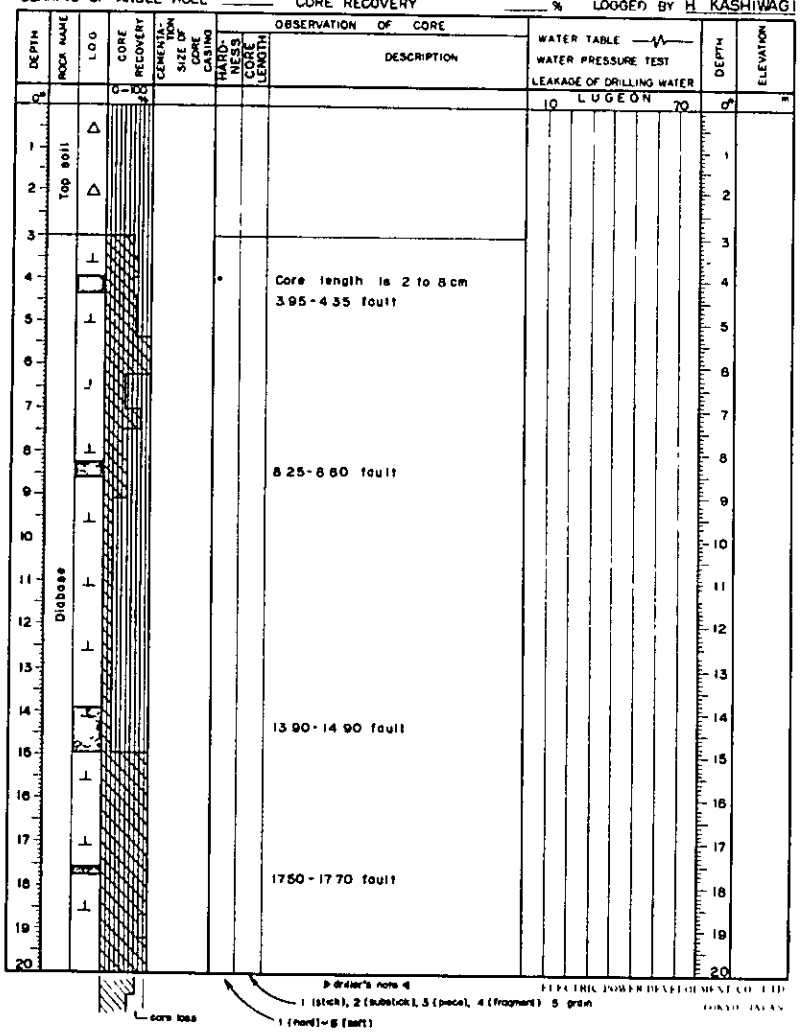
Fig A-2-4(59) GEOLOGIC LOG OF DRILL HOLE

KURTUN PROJECT DAM SITE HOLE No.SP-117 (SHEET 1 OF 2)

LOCATION RIGHT BANK
ELEVATION ---------- m
COORDINATE ----------
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE ----

DEPTH OF HOLE 27.40 m
DEPTH OF OVERBURDEN 3.0 m
LENGTH OF ROCK DRILLING 24.40 m
TOTAL LENGTH OF CORE ---- m
CORE RECOVERY ---- %

COMMENCED ---- - ----
COMPLETED ---- - ----
DRILLED BY OZAY TURNAOĞLU
LOGGED BY H. KASHIWAGI



OVERSEAS TECHNICAL COOPERATION AGENCY, JAPAN

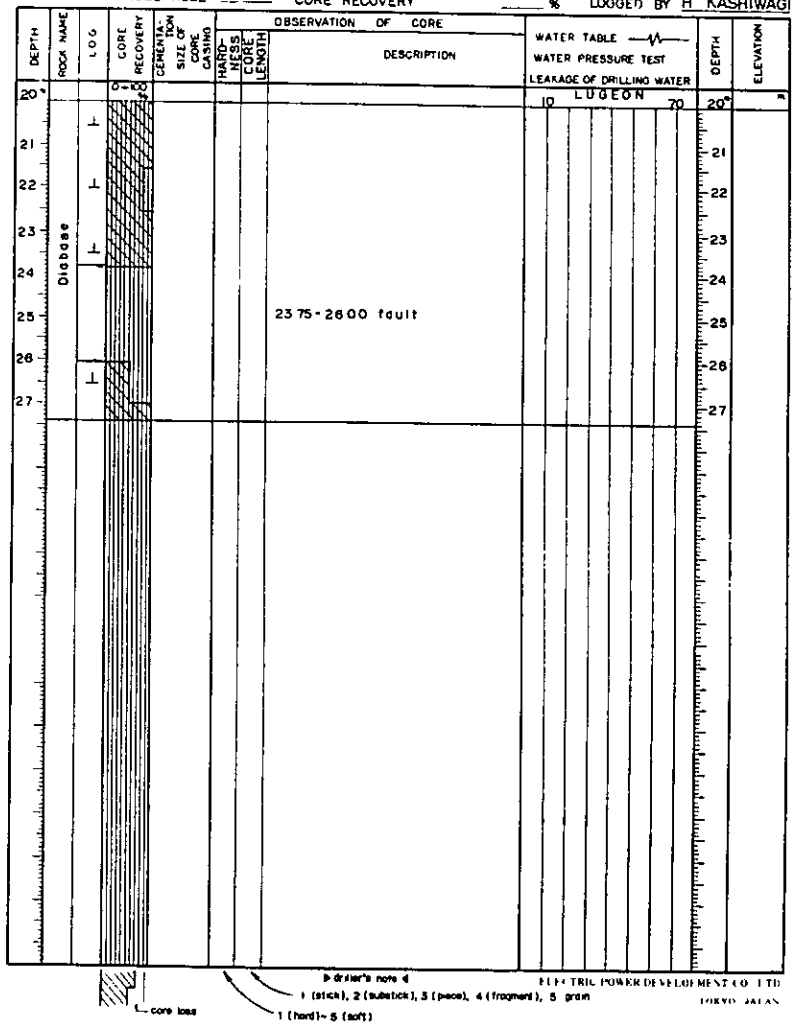
Fig A-2-4(60) GEOLOGIC LOG OF DRILL HOLE

KURTUN PROJECT DAM SITE HOLE No.SP-117 (SHEET 2 OF 2)

LOCATION RIGHT BANK
ELEVATION ---------- m
COORDINATE ----------
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE ----

DEPTH OF HOLE 27.40 m
DEPTH OF OVERBURDEN 3.0 m
LENGTH OF ROCK DRILLING 24.40 m
TOTAL LENGTH OF CORE ---- m
CORE RECOVERY ---- %

COMMENCED ---- - ----
COMPLETED ---- - ----
DRILLED BY OZAY TURNAOĞLU
LOGGED BY H. KASHIWAGI



Appendix 3 Basic Data for Comprehensive Development Plan

List of Tables

List of Figures

OVERSEAS TECHNICAL COOPERATION AGENCY, JAPAN

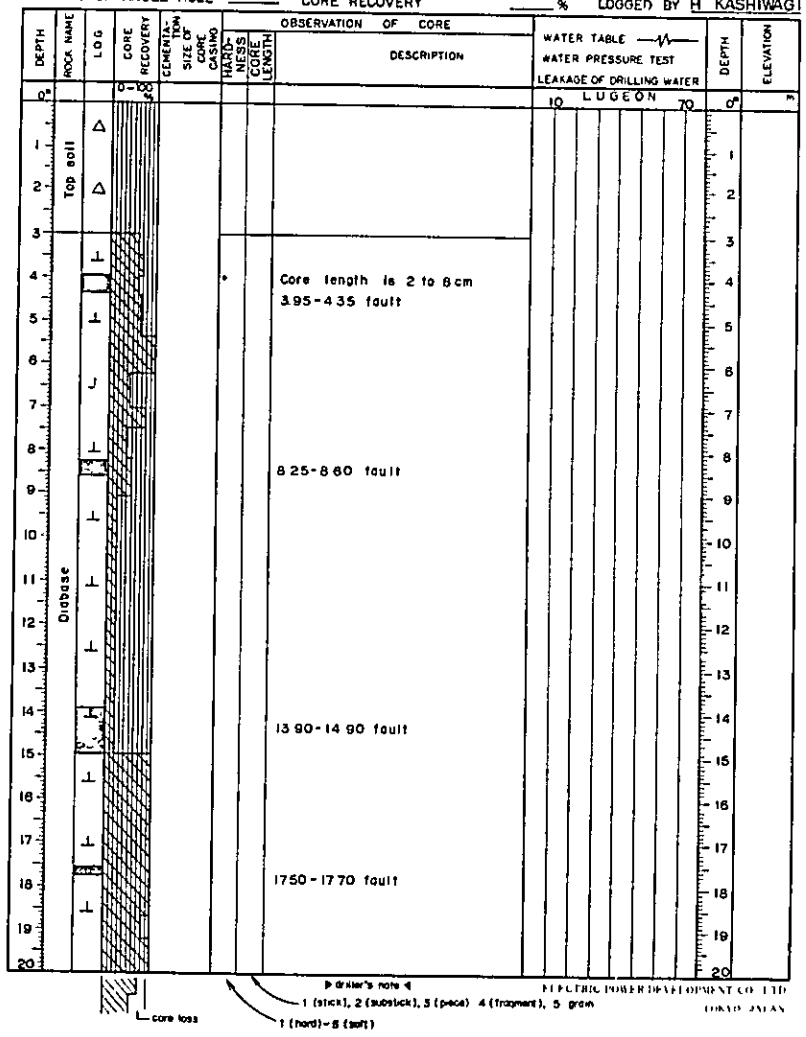
Fig A-2-4(59) GEOLOGIC LOG OF DRILL HOLE

KÜRTÜN PROJECT DAM SITE HOLE No SP-117 (SHEET 1 OF 2)

LOCATION RIGHT BANK
ELEVATION ——— m
COORDINATE ———
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE ———

DEPTH OF HOLE 27.40 m
DEPTH OF OVERBURDEN 3.0 m
LENGTH OF ROCK DRILLING 24.40 m
TOTAL LENGTH OF CORE ——— m
CORE RECOVERY ——— %

COMMENCED ———
COMPLETED ———
DRILLED BY OZAY TURNAOĞLU
LOGGED BY H KASHIWAGI



OVERSEAS TECHNICAL COOPERATION AGENCY, JAPAN

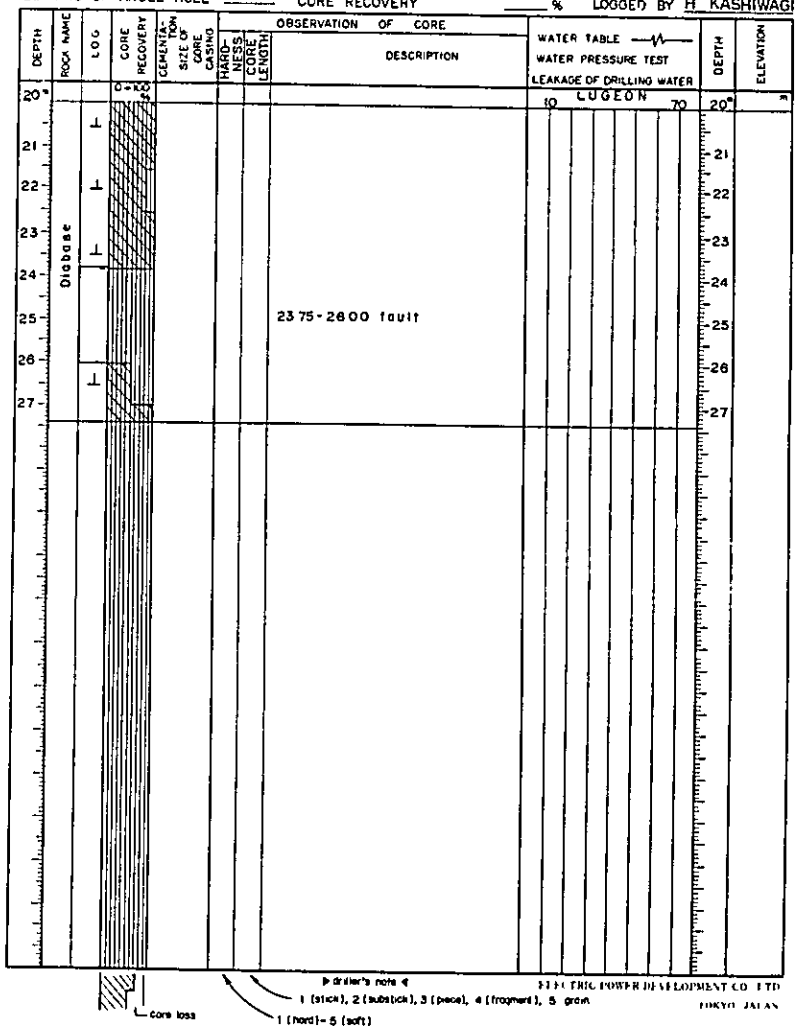
Fig A-2-4(60) GEOLOGIC LOG OF DRILL HOLE

KURTÜN PROJECT DAM SITE HOLE No SP-117 (SHEET 2 OF 2)

LOCATION RIGHT BANK
ELEVATION ——— m
COORDINATE ———
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE ———

DEPTH OF HOLE 27.40 m
DEPTH OF OVERBURDEN 3.0 m
LENGTH OF ROCK DRILLING 24.40 m
TOTAL LENGTH OF CORE ——— m
CORE RECOVERY ——— %

COMMENCED ———
COMPLETED ———
DRILLED BY OZAY TURNAOĞLU
LOGGED BY H KASHIWAGI



Appendix 3 Basic Data for Comprehensive Development Plan

List of Tables

List of Figures

Simbols of Flow Chart

QT = Monthly Runoff at Torul on Harsıt Rıver (MCM)

QK = Monthly Runoff at Kürtün on Harsit Rıver (MCM)

QG = Monthly Runoff at Giris on Harsit Rıver (MCM)

QS = Monthly Specific Runoff at Harsit on Kavraz River (MCM)

QUN = Discharge for Power in Current Month of Gunyuzu Power Station (MCM)

FUN = Over Flow at Yasmakh Diversion Site (MCM)

ISW = Read Control Switch

He = Effective Head for Kürtün Power Station in Case II, 12 and 13. (M)

Case 11 and 13 · HE 136.0

Case 12 · HE 105.0

QDL = Monthly Runoff between Dogankent and Aslancık on Harsit Rıver (MCM)

HEN = Tail Water Surface of Karacukru Power Station (M)

QI, QN, FN, QF, QMAX, E, VMAX, VN, VN-1, HN, PN (Contenued Simbols of Flow Chart)

	Power Station on the Harsit River (Harsit Project)							Power Station on the Kavraz River (Gunyuzu Project)			
								Reservoir			
Item	Torul	Karacukur	Kürtün	Akköy	Dogankent	Aslancik	Tirebolu	Aladercam	Gokcebel	Yasmakli	Günyüzü P.S.
QI	QTI	QRI	QKI	QYI	QDI	QLI	QBI	QAI	QOI	QUI	-
QN	QTN	QRN	QKN	QYN	QDN	QLN	QBN	-	-	-	QUN
FN	FTN	FRN	FKN	FYN	FDN	FLN	FBN	FAN	FON	FUN	-
QF	QTF	QRF	QKF	QYF	QDF	QLF	QBF	QAF	QOF	QUF	-
QMAX	QTMAX	QRMAX	QKMAX	QYMAX	QDMAX	QLMAX	QBMAX	QAMAX	QOMAX	QUMAX	-
E	ET	-	EK	-	-	-	EB	EA	EO	EU	-
VMAX	VTMAX	-	VKMAX	-	-	-	VBMAX	VAMAX	VOMAX	VUMAX	-
VN	VTN	-	VKN	-	-	-	VBN	VAN	VON	VUN	-
VN-1	VTN-1	-	VKN-1	-	-	-	VBN-1	VAN-1	VON-1	VUN-1	-
HN	HTN	-	HKN	-	-	-	HBN	-	-	-	HUN
PN	PTN	PRN	PKN	PYN	PDN	PLN	PBN	-	-	-	PUN

QI = Inflow in Current Month (MCM)
QN = Discharge for Power in Current Month (MCM)
FN = Overflow in Current Month (MCM)
QF = Firm Discharge for Power (MCM)
QMAX = Maximum Discharge for Power (MCM)
E = Evaporation from Reservoir (MCM)
VMAX = Maximum Storage Capacity (MCM)
VN = Storage at the End of Current Month (MCM)
VN-1 = Storage at the End of Previous Month (MCM)
HN = Water Surface at the End of Current Month (M)
PN = Energy Production in Current Month (MWH)

Table A3-1 Monthly Energy Production of Harsit Project in P. F = 70%
(Case 1 - Case 14)

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 1

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	37.8	37.8	37.8	48.2	61.2	46.4	37.8	37.8	37.8	37.8	37.8	37.8	496.0
	PTN													
KARACUKUR	QRI													
	QRN	37.8	37.8	37.8	39.8	43.0	42.7	37.8	37.8	37.8	37.8	37.8	37.8	465.7
	PRN	13,654.6	13,654.6	13,654.6	14,365.0	15,545.1	15,419.8	13,654.6	13,654.6	13,654.6	13,654.6	13,654.6	13,654.6	168,221.3
KÜRTÜN	QKI	53.4	56.8	79.8	149.1	155.2	90.6	56.6	50.0	47.7	50.5	52.5	54.7	897.1
	QKN	62.1	62.1	63.1	94.9	138.2	89.8	63.8	63.2	62.1	62.1	62.1	62.1	885.6
	PKN	18,532.0	18,326.7	19,221.1	31,577.4	46,564.3	30,220.8	21,223.9	20,602.0	19,759.3	19,369.1	19,029.9	18,761.1	283,188.6
AKKOY	QYI													
	QYN	62.1	62.1	63.0	74.6	85.2	79.3	63.7	63.0	62.1	62.1	62.1	62.1	801.4
	PYN	19,646.8	19,646.8	19,934.7	23,611.6	26,960.0	25,090.0	20,158.3	19,934.7	19,646.8	19,646.8	19,646.8	19,646.8	253,570.1
DOGANKENT	QDI	77.3	78.0	84.9	145.3	193.3	118.9	80.5	77.7	76.3	76.8	77.2	77.6	1,163.4
	QDN	77.3	78.0	84.3	106.3	114.6	106.2	80.5	77.7	76.3	76.8	77.2	77.6	1,032 8
	PDN	33,396.7	33,694.0	36,404.4	45,918.9	49,512.0	45,882.1	34,780.3	33,557.9	32,952.5	33,197.5	33,370.9	33,513.1	446,180.3
ASLANCIK	QLI	78.4	78.3	87.9	152.3	199.8	122.0	81.8	78.4	77.0	77.7	78.3	78.8	1,191.7
	QLN	78 4	79.3	87.1	109 4	115.0	107.8	81.7	78.4	77.0	77.7	78.3	78.8	1,048.9
	PLN	18,511.6	18,730.0	20,558.1	25,838.4	27,154.1	25,443.6	19,286.6	18,511.0	18,171.3	18,355.5	18,482.6	18,594.1	247,636.9
TIREBOLU	QBI	80 3	81.6	92.9	164.2	210.8	127.2	84.0	79.8	78.1	79.3	80.0	80.8	1,239.0
	QBN	85.2	84.9	86.6	132.4	196.6	126.4	87.7	86.2	84.9	84.9	84.9	84.9	1,225.6
	PBN	12,826.9	12,709.0	13,113.9	21,007.2	31,500.2	20,249 5	13,945.4	13,552.2	13,195.4	13,067.7	12,956 5	12,860.3	190,984.2
GÜNYÜZU	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108 1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 2

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12 8	17.0	19.5	21.6	518 4
	QTN	32.0	32.0	33.7	58.2	91.8	55.7	32.8	32.0	32.0	32.0	32.0	32.0	496.2
	PTN	8,440 1	8,316.4	9,121.8	17,548 6	28,111.8	17,043 7	9,888.0	9,390.0	9,139.6	8,930.3	8,741.8	8,582.0	143,254.1
KARACUKUR	QRI													
	QRN	32.0	32.0	33.2	38.8	45.2	44.0	32.8	32,0	32,0	32,0	32,0	32,0	418.0
	PRN	11,559.5	11,559.5	11,974.9	14,002.6	16,319.3	15,882.2	11,865.3	11,559.5	11,559.5	11,559.5	11,559.5	11,559 5	150,960.8
KÜRTÜN	QKI	47.6	51.0	75.7	164.7	190.8	99.9	51.8	44.2	41.9	44.7	46.7	48 9	907.9
	QKN	56.3	56.3	58.3	106.3	166.0	99.1	58.9	57.4	56.3	56.3	56.3	56 3	883.8
	PKN	16,801.1	16,615.1	17,818.3	35,445.4	55,947.0	33,374.7	19,581.3	18,713.4	17,913.9	17,560.1	17,252.5	17,008 8	284,031.6
AKKOY	QYI													
	QYN	56.3	56.3	57.1	68.8	78.5	76.4	58.5	57.1	56.3	56.3	56.3	56.3	734.2
	PYN	17,811.9	17,811.9	18,078.7	21,775.8	24,822.3	24,154.0	18,510.9	18,078.7	17,811.9	17,811.9	17,811.9	17,811,9	232,291.8
DOGANKENT	QDI	71.5	72.2	30.1	161.4	228.8	128.2	75.6	71.9	70.5	71.0	71.4	71.8	1,174.4
	QDN	71.5	72.2	78.4	99.7	107.0	103.4	75.4	71.8	70 5	71.0	71.4	71.8	964.1
	PDN	30,890.7	31,188.1	36,868.2	43,091.8	46,221.2	44,664.8	32,558.1	31,032 2	30,446.5	30,691.5	30,865.0	31,007.1	419,525.2
ASLANCIK	QLI	72.6	73.5	83.1	168.5	235.3	131.3	76.9	72.6	71.2	71.9	72.5	73.0	1,202.4
	QLN	72.6	73 5	81.2	102.6	107.4	104.1	76.5	72.5	71.2	71.9	72.5	73.0	979.0
	PLN	17,142.2	17,360.6	19,172.2	24,233.7	25,355.9	24,576.2	18,072.3	17,125.1	16,801.9	16,986.2	17,113.2	17,224.7	231,164 2
TIREBOLU	QBI	74.5	75.8	88.1	180.3	246 3	136.5	79.1	74 0	72.3	73.5	74.2	75.0	1,249.6
	QBN	79.5	79.2	81.9	143.6	226 3	135.8	82.9	80.5	79.2	79 2	79.2	79.2	1,226.5
	PBN	11,951.3	11,837.1	12,387.2	22,811.8	36,268.0	21,747.6	13,168.0	12,648.9	12,330.6	12,179.8	12,073.5	11,982.1	191,355.9
GÜNYÜZÜ	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12 1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20 6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,069.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463 3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108 1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 3

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	26.1	26.5	33 6	74.2	95.7	55.8	28.0	26.1	26.1	26.1	26.1	26.1	470.4
	PTN	5,888 4	5,936.2	8,115.9	19,233.4	24,850.0	14,484.5	7,197.9	6,512.3	6,315.6	6,170.8	6,052.2	5,964.1	116,721.3
KARACUKUR	QRI													
	QRN	26.1	26.5	28.4	37.0	39.1	38.3	27.8	26.1	26.1	26.1	26.1	26.1	353.7
	PRN	9,428.2	9,557.0	10,250.6	13,376.5	14,107.4	13,820.8	10,030.3	9,428.2	9,428.2	9,428.2			
KÜRTÜN	QKI	41.7	45.5	75.6	192.4	209.4	100.5	47.0	38.3	36.0	38.8	40.8	43.0	909.0
	QKN	50.4	50.4	57.1	120.1	173.0	99.5	54.0	51.5	50.4	50.4	50.4	50.4	857.6
	PKN	15,069 3	14,912.1	17,674.6	40,276.9	58,368.1	33,546.7	17,985.4	16,815.3	16,060.4	15,745.7	15,470.5	15,253.3	277,178.3
AKKOY	QYI													
	QYN	50.4	50.4	52.7	65.5	72.0	70.8	53.1	51.2	50.4	50.4	50.4	50.4	667.7
	PYN	15,945.2	15,945.2	16,679.2	20,721.5	22,772.2	22,390.7	16,792.9	16,189.9	15,945.2	15,945.2	15,945.2	15,945.2	211,217.6
DOGANKENT	QDI	65.6	66.3	78.9	186.3	251.4	129.2	70.7	66.0	64.6	65.1	65.5	65.9	1,175.5
	QDN	65.6	66.3	73.5	94 6	100.4	98.0	70.2	65.9	64.6	65.1	65.5	65.9	895.6
	PDN	28,341.5	28,638.9	31,767.1	40,881.6	43,368.0	42,335.4	30,308.9	28,454.2	27,897.3	28,142.3	28,315.8	28,457.9	386,908.9
ASLANCIK	QLI	66.7	67.6	81.9	193.4	257.9	132.3	72.0	66.7	65.3	66.0	66.6	67.1	1,203.5
	QLN	66.7	67.6	76.0	96.8	100.6	98 5	71.2	66.6	65.3	66.0	66.6	67.1	909.0
	PLN	15,749.2	15,967.6	17,950.1	22,858.4	23,753.5	23,259.3	16,814.3	15,716.4	15,408.9	15,593.2	15,720.2	15,831.7	214,622.8
TIREBOLU	QBI	68.6	69.9	86.9	205.3	268.9	137.6	74.2	68.1	66.4	67.6	68.3	69.1	1,250.9
	QBN	73.6	73.4	80.6	162.9	241.5	137.3	78.1	74.7	73.4	73.4	73.4	73.4	1,215.7
	PBN	11,077.7	10,967.7	12,238.9	25,937.8	38,730.7	22,099.4	12,416.8	11,744.9	11,406.1	11,291.8	11,191.9	11,105.0	190,118.7
GÜNYÜZÜ	QUI	11.7	12 2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143 1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 4

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119 1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	37.8	37.8	37.8	48.2	61.2	46.4	37.8	37.8	37.8	37.8	37.8	37.8	496.0
	PTN	11,136.8	10,919.2	11.159.5	16,007.4	21,424.9	16,131.1	12,808.2	12,515.7	12,189.3	11.896.9	11,623.9	11,370.0	159,182.9
KARACUKUR	QRI													
	QRN	37.8	37.8	37.8	39.8	43.0	42.7	37.8	37.8	37.8	37.8	37.8	37.8	465.7
	PRN	15,439.5	15,439.5	15,439.5	16,242.8	17,577.1	17,435.5	15,439 5	15,439.5	15,439.5	15,439.5	15,439.5	15,439.5	190,210.9
KURTUN	QKI	53.4	56.8	79.8	149.1	155.2	90.6	56.8	50.0	47.7	50.5	52.5	54.7	897.1
	QKN	59.4	59.4	61 8	107.1	146.3	90.2	61.7	60.6	59.4	59.4	59.4	59.4	884.1
	PKN	15,134.1	15.006.5	16,435.9	30,967.2	42,471.1	26,185.2	17,698.6	16,988.3	16,184.4	15,827.4	15,528.2	15,316.7	243,743.6
AKKOY	QYI													
	QYN	59.4	59.4	61.1	79.1	86 7	79.7	61.6	60.4	59.4	59.4	59.4	59.4	785.0
	PYN	18,792.6	18,795.6	19,334.1	25,019.3	27,436 6	25,228.0	19,482.0	19,109.0	18,792.6	18,792.6	18,792.6	18,792.6	248,367.6
DOGANKENT	QDI	74.6	75.3	83.6	158.8	202.1	119.3	78.4	75.1	73.6	74.1	74.5	74.9	1,164.3
	QDN	74.6	75.3	82.4	108.7	115.1	106.6	78.4	75.1	73.6	74.1	74.5	74.9	1,013.3
	PDN	32,230.1	32,531.5	35,584.2	46,970 1	49,738.1	46,067.6	33,856.7	32,431.6	31,785.9	32,030.9	32,204.4	32,346.5	437,777.6
ASLANCIK	QLI	75.7	76.6	86.6	165.9	208.6	122.4	79.7	75.8	74.3	75.0	75.6	76.1	1,192.3
	QLN	75.7	76.6	85.1	110.9	115.4	108.2	89.6	75.8	74.3	75.0	75.6	76.1	1,028 3
	PLN	17,874.1	18,094.7	20,095.9	26,185.4	27,234.4	25,544.1	18,781.9	17,894.8	17,533.8	17,718.1	17,845.1	17,956.6	242,758.9
TIREBOLU	QBI	77.6	78.9	91.7	177.7	219.6	127.7	81.9	77.2	75.4	76.6	77.3	78.1	1,239.7
	QBN	82.6	82.3	85.2	143.1	205.2	127.4	85.6	83.7	72.3	82.3	82.3	82.3	1,224.3
	PBN	12,432.7	12,315,8	12,915.2	22,749.9	32,904.6	20,417.8	13,624.2	13,166.2	12,797.3	12,671.6	12,561.3	12,466.3	191,022.9
GÜNYÜZU	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 5

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	32.0	32 0	33.7	58.2	91.8	55.7	32 8	32.0	32.0	32.0	32.0	32 0	496.2
	PTN	8,453.5	8,330.2	9,134.9	17,557.2	28,138.0	17,059.8	9,899.0	9,401.0	9,151.0	8,942.5	8,754.4	8,595.0	143,146.5
KARACUKUR	QRI													
	QRN	32.0	32.0	33.2	38.8	45.2	44.0	32.8	32 0	32.0	32.0	32.0	32.0	418.0
	PRN	13,070.5	13,070.5	13,540.2	15,833.0	18,452.5	17,958.3	13,416.3	13,070.5	13,070.5	13,070.5	13,070.5	13,070.5	170,693.8
KURTUN	QKI	47.6	51.0	75.7	164.6	190.8	99.9	51.8	44.2	41.9	44.7	46.7	48 9	907.8
	QKN	53.4	53.5	57.5	117.1	171.3	99.4	56.1	54.6	53.4	53 4	53.4	53.4	877.0
	PKN	13,661.4	13,567.6	15,404.7	33,879.7	49,729.6	28,842.4	16,246.7	15,326.1	14,573.3	14,260.1	14,000.6	13,818.6	243,310.8
AKKOY	QYI													
	QYN	53.4	53.5	55.4	69.4	74.4	73.0	55.9	54.2	53.4	53.4	53.4	53.4	702.9
	PYN	16,894.4	16,912.1	17,532.6	21,694.4	23,528.8	23,104.8	17,673.2	17,135.9	16,894.4	16,894.4	16,894.4	16,894.4	222,323.8
DOGANKENT	QDI	68.6	69.3	79.3	175.6	238.0	128.6	73.3	69.1	67.6	68.1	68.5	68.9	1,174.9
	QDN	68.6	69.3	76.4	98.5	102.7	100.2	72.9	68.8	67.6	68.1	68.5	68.9	929.5
	PDN	29,637.7	29,959.3	33,000.1	42,551.6	44,362.5	43,281 6	31,491.9	29,744 6	29,193.5	29,438.5	29,612.0	29,754.1	402,027.4
ASLANCIK	QLI	69.7	70.7	82.3	182.7	244 5	131.7	74.6	69.8	68.3	69.0	69.6	70.1	1,203.0
	QLN	69.7	70.7	79.0	100.5	102 9	100.7	74.0	69.6	68.3	69.0	69.6	70.1	944.1
	PLN	16,457.5	16,689.1	18,656.9	23,736.1	24,296.9	23,776.3	17,482.8	16,421.5	16,117.2	16,301.5	16,428.5	16,540.0	222,904.3
TIREBOLU	QBI	71.6	73.0	87.4	194.5	255.4	137.0	76.8	71.2	69.4	70.6	71.3	72.1	1,250.3
	QBN	76.6	76.3	80.9	155.3	234 3	136.7	80.5	77.7	76.3	76.3	76 3	76.3	1,223.5
	PBN	11,529.9	11,419.5	12,279.9	24,735.8	37,574.4	21,913.7	12,812.9	12,224.0	11,865.0	11,748.5	11,646.2	11,558.1	191,307.9
GUNYÜZU	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20 6	13.1	12 2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698 5	35,247.6	25,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 6

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25 1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	26.1	26.5	33.6	74.2	95.7	55.8	28.0	26 1	26.1	26.1	26.1	26 1	470 4
	PTN	5,888.4	5,936.2	8,115.9	19,233.4	24,850.0	14,484 5	7,197.9	6,512.3	6,315.6	6,170.8	6,052.2	5,964 1	116,721.3
KARACUKUR	QRI													
	QRN	26.1	26.5	28 4	37.0	39.1	38.3	27.8	26.1	26.1	26.1	26.1	26.1	353.7
	PRN	10,660.6	10,806.3	11,590.5	15,125.0	15,951.5	15,627 4	11,341.4	10,660 6	10,660.6	10,660.6	10,660.6	10,660 6	144,405.7
KURTUN	QKI	41.7	45.5	75.6	192.4	209.4	100.5	47.0	38 3	36.0	38.8	40.8	43 0	909.0
	QKN	47.6	48.0	57.3	129.6	170.7	99.0	51.8	48.8	47.6	47.6	47.6	47.6	843.2
	PKN	12,162.8	12,174.7	15,449.0	37,545.7	49,556.6	28,739.1	14,890.4	13,699.7	12,988.7	12,706.0	12,471.9	12,305.3	234,689 9
AKKOY	QYI													
	QYN	47.6	48.0	50.7	64.5	67.5	66.2	50.6	48.3	47.6	47.6	47.6	47.6	633 8
	PYN	15,059.4	15,182.6	16,028.5	20,395.7	21,344.2	20,939.9	15,999.6	15,278.8	15,059.4	15,059.4	15,059.4	15,059.4	200,466.3
DOGANKENT	QDI	62.8	63.9	79.0	203.1	256.6	129.0	68.6	63.3	61.8	62.3	62.7	63 1	1,176.2
	QDN	62.8	63.9	71 5	93.2	95.9	93.9	67.5	63.0	61.8	62,3	62.7	63.1	861.6
	PDN	27,131.7	27,597.4	30,883.5	40,245.4	41,423.0	40,547.9	29,158.1	27,208.4	26,687.6	26,932.6	27,106.0	27,248.2	272,169.8
ASLANCIK	QLI	63.9	65.2	82.0	210.1	263.1	132.1	69.8	64.0	62.5	63.2	63.8	64.3	1,204.0
	QLN	63.9	65 2	74 0	94.2	96.1	94.2	68.5	63.7	62.5	63.2	63.8	64.3	873.6
	PLN	15,088.2	15,398.5	17,467.3	22,239.2	22,690.6	22,239.0	16,178.1	15,035.6	14,747.8	14,932.1	15,059.2	15,170.7	206,246.3
TIREBOLU	QBI	65.8	67.5	87.1	222.0	274.1	137.4	72.0	65.4	63.6	64.8	65.5	66.3	1,251.5
	QBN	70.8	70.5	80.1	170 3	242.1	137.0	75.7	71.9	70.5	70.5	70.5	70.5	1,200.4
	PBN	10,665.2	10,566.2	12,233.0	27,206.8	38,843.5	21,963.2	12,059.2	11,319.7	10,971.8	10,864.2	10,769.7	10,688.3	188,150.8
GÜNYÜZU	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11,5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	10,463.3	38,262 3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 7

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	37.8	37.8	37.8	48.2	61.2	46.4	37.8	37.8	37.8	37.8	37.8	37.8	496.0
	PTN	11,136.8	10,919.2	11,159.5	16,007.4	21,424.9	16,131.1	12,808.2	12,515.7	12,189.3	11,896.9	11,623.9	11,370.0	159,182 9
KARACUKUR	QRI													
	QRN	37.8	37.8	37.8	39.8	43.0	42.7	37.8	37.8	37.8	37.8	37.8	37.8	465.7
	PRN	16,332.0	16,332.0	16,332.0	17,181.7	18,593.1	18,443.3	16,332.0	16,332.0	16,332.0	16,332.0	16,332.0	16,332.0	201,206.1
KÜRTÜN	QKI	53.4	56.8	79.8	149.1	155.2	90.6	56.8	50.0	47.7	50.5	52.5	54.7	897 1
	QKN	57.6	58.0	62.4	116.9	147.3	90.5	60 3	58.9	57.6	57.6	57.6	57.6	882.3
	PKN	11,861.0	11,864 6	13,849.8	28,364.8	35,828.2	21,997.2	14,483.0	13,699.2	12,895.8	12,518.2	12,214.9	12,029.0	201,605.7
AKKOY	QYI													
	QYN	57.6	58.0	61.3	79.4	82.5	78.1	60.0	58.5	57.6	57.6	57.6	57.6	765.8
	PYN	18,223.1	18,358 9	19,382.7	25,124.4	26,095.7	24,694.0	18,998 1	18,503.6	18,223.1	18,223.1	18,223.1	18,223.1	242,272.9
DOGANKENT	QDI	72 8	73.9	84 2	169.2	204.0	119.6	77.1	73.3	71.8	72.3	72.7	73.1	1,164.0
	QDN	72.8	73.9	82.2	108.2	110.8	104.8	76.8	73.2	71.8	72.3	72.7	73.1	992.6
	PDN	31,452.4	31,935.3	35,526.7	46,752.0	47,867.9	45,261.3	33,194.5	31,612.5	31,008 2	31,253.2	31,426.7	31,568.8	428,859.5
ASLANCIK	QLI	73.9	75.3	87.2	176.3	210.5	122.7	78.3	74.1	72.5	73.2	73.8	74.3	1,192.1
	QLN	73.9	75.3	84.9	109.5	111.0	106 0	78.0	73.9	72.5	73.2	73.8	74.3	1,006.3
	PLN	17,449.2	17,768.9	20,037.6	25,849.0	26,212.5	25,023 7	18,420.0	17,442.3	17,108.8	17,293.1	18,420.2	17,531.7	237,557.0
TIREBOLU	QBI	75.8	77.6	92.3	188.1	221.4	127.9	80.5	75.4	73.6	74.8	75.5	76.3	1,239.2
	QBN	80.8	80.5	84.7	151.4	210.0	127.2	84.2	81.9	80.5	80.5	80.5	80.5	1,222.7
	PBN	12,184.0	12,077.3	12,906 1	24,171.5	33,687.6	20,410.2	13,418.0	12,914.9	12,539.6	12,416.7	12,308.9	12,215.9	191,250.7
GÜNYÜZÜ	QUI	11.7	12.2	16.5	30 5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12 1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213 3	39,650 8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 8

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13 4	12.8	17.0	19 5	21.6	518.4
	QTN	32 0	32.0	33.7	58.2	91.8	55.7	32.8	32.0	32.0	32.0	32.0	32.0	496.2
	PTN	8,453.5	8,330.2	9,134.9	17,557.2	28,138.0	17,059.8	9,899.0	9,401.0	9,151.0	8,942.5	8,754.0	8,595.0	143,416.1
KARACUKUR	QRI													
	QRN	32,0	32.0	33.2	38.8	45.2	44.0	32.8	32.0	32.0	32.0	32.0	32.0	418.0
	PRN	13,826.0	13,826.0	14,322.9	16,748.2	19,519.2	18,996.4	14,191.8	13,826.0	13,826.0	13,826.0	13,826.0	13,826.0	180,560.5
KÜRTÜN	QKI	47.6	51.0	75.7	164.6	190.8	99.9	51.8	44.2	41.9	44.7	46.7	48 9	907.8
	QKN	51.7	52.2	58.4	123.8	169.5	99.4	55.3	53.0	51.7	51.7	51.7	51.7	870.1
	PKN	10,680.0	10,704.9	13,040.3	30,062.5	41,221.0	24,163.3	13,283.8	12,336.1	11,587.1	11,253.8	10,986.6	10,825.6	200,145.0
AKKOY	QYI													
	QYN	51.7	52.2	55.8	72.3	74.8	73.3	54.6	52.5	51.7	51.7	51.7	51.7	694.0
	PYN	16,356.5	16,499.7	17,666.9	22,867,5	23,674.6	23,192.9	17,270.5	16,615.9	16,356.5	16,356.5	16,356.5	16,356.5	219,570.5
DOGANKENT	QDI	66.9	68.0	80.2	185.2	239.6	128.9	72.0	67.4	65.9	66.4	66.8	67.2	1,174.5
	QDN	66.9	68.0	76.7	101.0	103.1	100.5	71.6	67.2	65.9	66.4	66 8	67.2	921.3
	PDN	28,903.2	29,396.2	33,154.1	43,634.4	44,561.6	43,402.0	30,942.0	29,034.6	28,459.0	28,704.0	28,877.5	29,019.6	398,088.2
ASLANCIK	QLI	68.0	69.4	83.2	192.3	246.1	132.0	73.3	68.2	66.6	67.3	67.9	68.4	1,202.7
	QLN	68.0	69.4	79.2	102.1	103.4	101.0	72.8	67.9	66.6	67.3	67.9	68.4	934 0
	PLN	16,056.2	16,381.4	18,708.0	24,101.9	24,405.7	23,842.1	17,182.3	16,033.5	15,715.9	15,900.1	16,027.2	16,138.7	220,490.3
TIREBOLU	QBI	69.9	71.7	88.2	204.1	257.1	137.3	75.5	69 5	67.7	68 9	69.6	70.4	1,249.9
	QBN	74.9	74.7	80.6	162.3	237.1	136.6	79.2	76.1	74.7	74.7	74.7	74.7	1,220.3
	PBN	11,296.3	11,193.6	12,279.5	25,926.8	38,043.3	21,907.2	12,628.3	11,997.5	11,631.1	11,514.9	11,413.2	11,324.8	191,156.5
GÜNYÜZÜ	QUI	11.7	12.2	16,5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13 6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 9

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	26.1	26.1	33.6	74.2	95.7	55.8	28.0	26.1	26.1	26.1	26.1	26.1	470.4
	PTN	5,888.4	5,936.2	8,115.9	19,233.4	24,850.0	14,484.5	7,197.9	6,512.3	6,315.6	6,170.8	6,052.2	5,964.1	116,721.3
KARACUKUR	QRI													
	QRN	26.1	26.5	28.0	34.9	36.4	36.0	27.7	26.1	26.1	26.1	26.1	26.1	346.1
	PRN	11,276.8	11,430.9	12,104.9	15,084.7	15,745.8	15,532.6	11,956.6	11,276.8	11,276.8	11,276.8	11,276.8	11,276.8	149,516.3
KURTÜN	QKI	41.7	45.5	75.6	192.4	209.4	100.5	47.0	38.3	36.0	38.8	40.8	43.0	909.0
	QKN	45.9	46.7	58.2	133.8	168.4	99.3	50.5	47.2	45.9	45.9	45.9	45.9	833.6
	PKN	9,451.8	9,562.5	13,086.8	32,494.8	40,938.3	24,141.8	12,143.1	10,979.8	10,276.4	9,975.5	9,733.8	9,585.6	192,370.2
AKKOY	QYI													
	QYN	45.9	46.6	49.9	63.2	65.1	64.4	49.1	46.6	45.9	45.9	45.9	45.9	614.4
	PYN	14,521.6	14,731.5	15,776.0	19,980.2	20,607.5	20,378.9	15,541.1	14,731.5	14,521.6	14,521.6	14,521.6	14,521.6	194,354.7
DOGANKENT	QDI	61.1	62.6	80.0	212.5	258.1	129.5	67.3	61.6	60.1	60.6	61.0	61.4	1,175.8
	QDN	61.1	62.6	71.0	91.8	93.8	92.2	65.9	61.2	60.1	60.6	61.0	61.4	842.7
	PDN	26,397.2	27,034.2	30,668.8	39,679.0	40,537.5	39,831.8	28,494.4	26,460.9	25,953.1	26,198.0	26,371.5	26,513.7	364,140.1
ASLANCIK	QLI	62.2	63.9	83.0	219.6	264.6	132.6	68.6	62.4	60.8	61.5	62.1	62.6	1,203.9
	QLN	62.2	63.9	73.4	92.7	93.9	92.4	67.0	62.0	60.8	61.5	62.1	62.6	854.5
	PLN	14,686.8	15,090.8	17,320.6	21,882.0	22,169.3	21,821.1	15,815.5	14,627.2	14,346.5	14,530.7	14,657.8	14,769.3	201,717.6
TIREBOLU	QBI	64.1	66.2	88.0	231.4	275.6	137.9	70.8	63.7	61.9	63.1	63.8	64.6	1,251.1
	QBN	68.9	68.9	80.1	176.8	240.3	136.6	74.2	70.0	68.6	68.6	68.6	68.6	1,190.2
	PBN	10,423.8	10,372.3	12,316.3	28,304.3	38,566.3	21,919.8	11,844.4	11,057.8	10,706.9	10,605.3	10,517.2	10,441.3	187,075.7
GÜNYÜZU	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 10

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	PTN	0.0	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KARACUKUR	QRI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	QRN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	PRN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KÜRTÜN	QKI	36.2	44.2	97.5	229.3	212.1	101.1	42.0	25.5	22.7	29.7	34.2	38.5	913.0
	QKN	46.8	47.5	58.7	133.4	170.1	99.6	51.2	47.6	46.8	46.8	46.8	46.8	842.1
	PKN	13,102.0	13,184.9	18,015.4	44,928.2	57,416.4	33,630.0	17,061.1	15,298.1	14,441.3	13,977.9	13,608.4	13,334.7	267,998.4
AKKOY	QYI													
	QYN	46.8	47.5	50.6	65.2	67.7	66.6	49.9	47.5	46.8	46.8	46.8	46.8	629.0
	PYN	14,806.3	15,018.1	16,018.8	20,616.3	21,412.2	21,067.4	15,801.4	15,034.1	14,806.3	14,806.3	14,806.3	14,806.3	198,999.8
DOGANKENT	QDI	62.0	63.4	80.4	210.3	258.2	129.8	68.0	62.0	61.0	61.5	61.9	62.3	1,180.8
	QDN	62.0	63.4	71.6	93.8	96.2	94.3	66.8	62.0	61.0	61.5	61.9	62.3	856.8
	PDN	26,786.1	27,372.7	30,941.4	40,504.6	41,578.5	40,740.8	28,881.7	26,787.4	26,341.9	26,586.9	26,760.4	26,902.5	370,184.9
ASLANCIK	QLI	63.1	64.7	83.4	217.4	264.7	132.9	69.2	62.8	61.7	62.4	63.0	63.5	1,208.8
	QLN	63.1	64.7	74.0	194.8	96.4	94.6	67.9	62.8	61.7	62.4	63.0	63.5	868.9
	PLN	14,899.3	15,275.7	17,473.7	22,371.3	22,763.1	22,334.2	16,027.1	14,822.1	14,559.0	14,743.2	14,870.3	14,981.8	205,120.3
TIREBOLU	QBI	65.0	67.0	88.5	229.2	275.7	138.1	71.4	64.1	62.8	64.0	64.7	65.5	1,256.0
	QBN	70.0	69.8	81.1	175.3	242.6	137.1	75.1	70.6	69.7	69.7	69.7	69.7	1,200.4
	PBN	10,561.2	10,481.0	12,418.5	28,045.5	38,934.5	22,007.9	11,972.4	11,315.4	10,863.8	10,757.4	10,664.0	10,583.5	188,425.1
GÜNYÜZU	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 11

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	37.8	37.8	37.8	48.2	61.2	46.4	37.8	37.8	37.8	37.8	37.8	37.8	496.0
	PTN	11,136.8	10,919.2	11,159.5	16,007.4	21,424.9	16,131.1	12,808.2	12,515.7	12,189.3	11,896.9	11,623.9	11,370.0	159,182.9
KARACUKUR	QRI													
	QRN	37.8	37.8	37.8	39.8	43.0	42.7	37.8	37.8	37.8	37.8	37.8	37.8	465 7
	PRN	13,654.6	13,654.6	13,654.6	14,365.0	15,545.1	15,419.8	13,654.6	13,654.6	13,654.6	13,654.6	13,654.6	13,654.6	168,221.3
KURTÜN	QKI	38.4	38.5	39.4	57.5	65.6	48.0	38.5	38.2	38.2	38.3	38.3	38 4	517.3
	QKN	38.4	38.5	39 4	42.9	45.2	43.8	38.5	38.2	38.2	38.3	38.3	38.4	478.1
	PKN	12,320.5	12,364 3	12,641.5	13,768.6	14,497.5	14,052.2	12,347.2	12,259.5	12,253.1	12,292.6	12,313.0	12,335.5	153,445.5
AKKÖY	QYI													
	QYN	52.7	54.6	57.9	57.9	57.9	57.8	54.1	48.7	47.7	50.3	51.3	52.9	643.8
	PYN	16,684.5	17,267.7	18,303.3	18,318.1	18,318.1	18,277.0	17,103.2	15,409.5	15,087.9	15,921.0	16,238.4	16,740.4	203,669.1
DOGANKENT	QDI	68.6	72.7	101.6	193.7	205.5	119.7	73.5	64.4	61.9	65.2	67.7	70.2	1,164.7
	QDN	68.6	72.4	84 2	86.8	86.6	85.8	71.6	63.4	61.9	65.2	67.6	69.5	883.6
	PDN	29,627.6	31,300.6	36,383.8	37,503.1	37,430.2	37,066.2	30,923.2	27,387.0	26,726 4	28,171.1	29,198.3	30,041.7	381,759.2
ASLANCIK	QLI	69.7	74 1	104.6	200.8	212.0	122.8	74.8	65.2	62.6	66.1	68 7	71.4	1,192.8
	QLN	69.7	73.7	84.8	86.8	86.7	85.9	72.6	64.1	62.6	66.1	68 5	70.6	892.1
	PLN	16,452.0	17,392.9	20,016.2	20,493.5	20,464.7	20,275.2	17,142.7	15,133.2	14,769.1	15,608 9	16,184.4	16,673.6	210,606.4
TIREBOLU	QBI	71.6	76.4	109.6	212.6	222.9	128.0	77.0	66.5	63.7	67.7	70.5	73.4	1,239.9
	QBN	73.8	75.2	94.4	188.2	213.5	127.7	78.9	74 3	72.6	72.6	73.1	74.3	1,218 6
	PBN	11,300.2	11,541.9	14,910.2	30,217.9	34,272.4	20,504.2	12,630.3	11,736.6	11,295.6	11,198.7	11,221.5	11,391.6	192,221.1
GÜNYÜZÜ	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12 1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 12

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	25.1	25.7	34.0	75.3	95.0	55.8	27.2	25.1	25.1	25.1	25.1	25.1	463.6
	PTN	5,706.1	5,822.2	8,289.0	19,529.0	24,662.5	14,490.5	6,998.7	6,282.6	6,105.2	5,978.9	5,880.5	5,809.0	115,554.2
KARACUKUR	QRI													
	QRN	25.1	25.5	27.7	35.0	36.4	36.0	26.9	25.1	25.1	25.1	25.1	25.1	338.1
	PRN	10,844.8	11,026.3	11,965.3	15,125.1	15,731.4	15,548.5	11,609.5	10,844.8	10,844.8	10,844.8	10,844.8	10,844.8	146,074.9
KÜRTÜN	QKI	25.7	26 4	35.5	103.4	119.2	58.0	27.9	25.5	25.5	25.6	25.6	25.7	524.0
	QKN	25.7	26.2	28.8	35.5	36.4	36.1	27.4	25.5	25.5	25.6	25.6	25.7	344.0
	PKN	6,363.7	6,491.0	7,142.1	8,806 4	9,032.8	8,940.3	6,804 2	6,316.6	6,311.7	6,342.3	6,358.0	6,375.3	85,284.4
AKKOY	QYI													
	QYN	36.5	36.6	36 8	36.8	36.8	36.8	36.5	35.3	34.9	35.5	35.9	36.3	484.7
	PYN	11,548.7	11,564.6	11,642.6	11,642.6	11,642.6	11,642.6	11,560.3	11,155.4	11,027.7	11,242.9	11,356.8	11,490.7	137,517.5
DOGANKENT	QDI	55.9	60.6	97.8	239.6	259.0	129.6	62.9	51.7	49.2	52.5	55.0	57.5	1,171.3
	QDN	55.6	58.6	65.4	65.8	65.8	65.3	57.8	50.4	49.2	52.5	54.3	56.1	696.8
	PDN	24,032.0	25,324.2	28,240.1	28,429.7	28,429.7	28,231.9	24,994.4	21,780.2	21,239.2	22,683.9	23,440.4	24,243.3	301,069.0
ASLANCIK	QLI	57.0	61.9	100.8	246.6	265.5	132.7	64.2	52.5	49.9	53.4	56.0	58 7	1,199.2
	QLN	56.6	59.5	65.5	65.8	65.8	65.4	58.7	51.1	49.9	53.4	55.1	57.0	703.8
	PLN	13,355.0	14,040.6	15,472.1	15,535.4	15,535.4	15,447.8	13,853.5	12,069.4	11,770.6	12,603.7	12,997.7	13,459.4	166,140.6
TIREBOLU	QBI	58.9	64.2	105.8	258.5	276.5	138.0	66 4	53.8	51.0	55.0	57.8	60.7	1,246.6
	QBN	61.6	63.5	88.7	236.9	276.2	137.7	68.8	62.5	60.8	60.8	60.9	62.1	1,240.5
	PBN	9,370.2	9,679.1	13,983.5	38,031.8	44,337.7	22,108.7	10,999.2	9,847.3	9,425.3	9,330.2	9,289.0	9,459.1	195,861.1
GÜNYÜZÜ	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 13

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	PTN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KARACUKUR	QRI													
	QRN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 0	0.0	0.0
	PRN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 0	0.0	0.0
KÜRTÜN	QKI	36 2	44.2	97.5	229.3	212.1	101.1	42.0	25.5	22.7	29.7	34.2	38.5	913.0
	QKN	31.2	32.4	34.8	34.8	34.8	34.8	32.4	24.4	22.7	27.3	28 6	30.9	369.1
	PKN	4,647.4	4,814.9	5,176.3	5,176.3	5,176.3	5,176 3	4,812.8	3,627.4	3,374.8	4,066.3	4,258.8	4,592.6	54,900.2
AKKOY	QYI													
	QYN	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.6	15.7	15.6	15.7	15.8	189.0
	PYN	4,994.5	4,998.7	4,998.7	4,998.7	4,998.7	4,998.7	4,998 7	4,933.6	4,975.7	4,946.5	4,978.7	4,998.7	59,819.9
DOGANKENT	QDI	38.5	43.7	79.8	174.4	171.9	88.7	42.5	31.5	30.7	35.0	37.5	39.8	854.0
	QDN	37.4	39.9	44.6	44.7	44.7	44.5	39.1	31.5	30.7	34.8	35.7	37.6	465.2
	PDN	16,156.1	17,220.1	19,281.3	19,313.2	19,313.2	19,226.3	16,903.3	13,609.7	13,259.0	15,038.4	15,437.5	16,242.2	201,000.3
ASLANCIK	QLI	39.7	45.0	82.8	181.4	178.4	91.8	43.8	32.3	31.4	35.9	38.5	41.0	842.0
	QLN	38.2	40.4	44.7	44.7	44.7	44.6	39 9	32.3	31.4	35.5	36.4	38.3	471.1
	PLN	9,012.6	9,546.2	10,546.5	10,553.7	10,553.7	10,519.5	9,420.7	7,621.1	7,409.9	8,381.4	8,586.1	9,040.8	111,192.2
TIREBOLU	QBI	41.5	47.3	87.9	193.3	189.4	97.0	46.0	33.6	32.6	37.5	40.3	43.0	889.4
	QBN	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	158.4
	PBN	249.3	249.3	249.3	249.3	249.3	249.3	249.3	249.3	249.3	249.3	249.3	249.3	2,991.6
GÜNYÜZÜ	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12 8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13 1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 14

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	0.0	0.0	0.0	0.0	0.0	0.0	0 0	0.0	0.0	0.0	0.0	0 0	0.0
	PTN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KARACUKUR	QRI													
	QRN	0.0	0.0	0.0	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0 0	0.0	0.0
	PRN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KÜRTÜN	QKI	36.2	44.2	97.5	229.3	212.1	101.1	42.0	25.5	22.7	29.7	34.2	38 5	913.0
	QKN	34.2	41.7	80.9	115.7	111.8	93 9	42.8	31.0	29.4	31.3	35.4	36.8	684.9
	PKN	7,989.6	9,876.1	19,595.6	28,136.3	27,195.8	22,845.1	10,385.7	7,386.4	6,815.9	7,235.0	8,185.1	8,571.0	164,217.6
AKKOY	QYI													
	QYN	33.9	38.1	45.9	50.0	49.9	49.4	39.1	30.4	29.4	31.3	33.6	34.5	465.6
	PYN	10,729.0	12,064.7	14,532.5	15,818.7	15,786.4	15,636.4	12,374.9	9,614.2	9,301.0	9,914.6	10,615.2	10,914.1	147,301.7
DOGANKENT	QDI	52.7	56.1	101.7	259.8	262.1	130.0	61.0	50.3	48.9	49 4	52.6	55.1	1,179.7
	QDN	52.6	54.2	63.9	71.0	71.0	70.1	56.8	49.6	48.9	49.4	52.4	53.6	693.5
	PDN	22,713.7	23,427.9	27,610.7	30,676.5	30,666.1	30,274.4	24,548.7	21,441.8	21,114.0	21,358.9	22,651.1	23,139.0	299,622.8
ASLANCIK	QLI	53.8	57.5	104.7	266.8	268.6	133.1	62.3	51.1	49.6	50.3	53.6	56.2	1,207.6
	QLN	53.6	55.4	64.6	71.0	71.0	70.2	57.7	50.3	49.6	50.3	53.3	54.5	701.4
	PLN	12,659.8	13,068.4	15,256.8	16,763.1	16,763.1	16,563.8	13,630.2	11,884.5	11,702.2	11,886.4	12,575.2	12,870.9	165,624.4
TIREBOLU	QBI	55.7	59.7	109.8	278.7	279.6	138.4	64.5	52.4	50.7	51.9	55.4	58.2	1,255.0
	QBN	59.6	62.5	94.1	200.7	217.0	136.3	67.0	59.2	57.9	57.9	58.0	60.8	1,131.0
	PBN	9,100.7	9,523.7	14,810.1	32,223.9	34,834.6	21,881.7	10,719.8	9,356.4	9,038.5	8,945.5	8,920.6	9,321.8	178,677.3
GÜNYÜZU	QUI	11.7	12.2	16 5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	36,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

Table A3-2 Monthly Energy Production of Harsit Project in P. F = 50%

(Case 1 - Case 14)

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 1

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13 4	12.8	17.0	19.5	21.6	518.4
	QTN	37.8	37.8	37.8	48.2	61.2	46.4	37.8	37.8	37.8	37.8	37.8	37.8	496.0
	PTN	11,136 8	10,919.2	11,159.5	16,007.4	21,424.9	16,131.1	12,808 2	12,515.7	12,189.3	11,896.9	11,623.9	11,370.0	159,182.9
KARACUKUR	QRI													
	QRN	37.8	37.8	37.8	48.2	61.2	46.4	37.8	37.8	37.8	37.8	37.8	37.8	496.0
	PRN	13,654.6	13,654.6	13,654.6	17,400.6	22,118.3	16,768.4	13,654.6	13,654.6	13,654.6	13,654.6	13,654.6	13,654.6	179,178.7
KURTÜN	QKI	53.4	56.8	79.8	149.1	155.2	90.6	56.8	50.0	47.7	50.5	52.5	54.7	897.1
	QKN	62.1	62.1	63.1	94.9	138.2	89.8	63.8	63.2	62.1	62.1	62.1	62.1	885.6
	PKN	18,532.0	18,326.7	19,222.1	31,577.4	46,564.3	30,220.8	21,223.9	20,602.0	19,759 3	19,369.1	19,029.9	18,761.1	283,188.6
AKKOY	QYI													
	QYN	62.1	62.1	63.1	94.9	138.2	89.8	63.8	63.2	62.1	62.1	62.1	62.1	885.6
	PYN	19,646.8	19,646.8	19,960.9	30,039.9	43,732.4	28,402.3	20,187.4	20,003.1	19,646.8	19,646.8	19,646.8	19,646.8	280,206.8
DOGANKENT	QDI	77.3	78.0	84.9	145.3	193.3	118 9	80.5	77.7	76.3	76 8	77.2	77.6	1,163.8
	QDN	77.3	78.0	84.3	106.3	114.6	106.2	80.5	77.7	76.3	76 8	77.2	77.6	1,032.8
	PDN	33,396.7	33,694.0	36,404.4	45,918 9	49,512.0	45,882.1	34,780.3	33,557.9	32,952.5	33,197.5	33,370 9	33,513.1	446,180.3
ASLANCIK	QLI	78.4	79.3	87.9	152.3	199.8	122.0	81.8	78.4	77.0	77.7	78.3	78 8	1,191.7
	QLN	78.4	79.3	87.1	109.4	115.0	107.8	81.7	78.4	77.0	77.7	78.3	78.8	1,048.9
	PLN	18,511.6	18,730.0	20,558.1	25,838.4	27,154.1	25,443.6	19,286.6	18,511.0	18,171.3	18,355.5	18,482.6	18,594.1	247,636.9
TIREBOLU	QBI	80.3	81.6	92.9	164.2	210.8	127.2	84.0	79.8	78.1	79.3	80.0	80.8	1,239.0
	QBN	80.5	81.3	92 6	157.3	205.6	126.9	83.7	79.5	77.8	79.0	79.7	80 5	1,224.4
	PBN	12,916.5	13,005.9	14,870.0	25,246.1	33,006.6	20,376.8	13,440.9	12,760.2	12,496.2	12,681.4	12,802.6	12,916.9	196,570.1
GÜNYÜZÜ	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196 1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108 1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 2

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	32.0	32.0	33.7	58.2	91.8	55.7	32.8	32.0	32.0	32.0	32.0	32.0	496.2
	PTN	8,440.1	8,316.4	9,121.8	17,548.6	28,111.8	17,043.7	9,888.0	9,390.0	9,139.6	8,930.3	8,741.8	8,582.0	143,254.1
KARACUKUR	QRI													
	QRN	32.0	32.0	33.7	45.4	58.7	52.1	32.8	32.0	32.0	32.0	32.0	32.0	446.7
	PRN	11,559.5	11,559 5	12,156.7	16,383.1	21,199.5	18,822.6	11,865.3	11,559.5	11,559.5	11,559.5	11,559.5	11,559.5	161,343.7
KURTÜN	QKI	47.6	51.0	75.7	164.7	190.8	99.9	51.8	44.2	41.9	44.7	46.7	48.9	907.9
	QKN	56.3	56.3	58.3	106.3	166.0	99.1	58.9	57.4	56.3	56.3	56.3	56.3	883.8
	PKN	16,801.1	16,615.1	17,818.3	35,445.4	55,947.0	33,374.7	19,581.3	18,713.4	17,913.9	17,560.1	17,252.5	17,008.8	284,031.6
AKKOY	QYI													
	QYN	56.3	56 3	57.4	72.0	85.2	81.2	58.8	57.4	56.3	56.3	56.3	56.3	749.8
	PYN	17,811.9	17,811.9	18,161.0	22,789.1	26,944.2	25,699.4	18,614.4	18,161.0	17,811.9	17,811.9	17,811.9	17,811.9	237,240.5
DOGANKENT	QDI	71.5	72.2	80.1	161.4	228.8	128.2	75.6	71.9	70.5	71.0	71.4	71.8	1,174.4
	QDN	71.5	72.2	78.7	103.4	113.8	107.9	75.6	71.9	70.5	71.0	71.4	71.8	979.7
	PDN	30,890.7	31,188.1	33,982.0	44,689.0	49,179.3	46,599.6	32,660.7	31,051.9	30,446.5	30,691.5	30,865.0	31,007.1	423,251.4
ASLANCIK	QLI	72.6	73.5	83.1	168.5	235.3	131.3	76.9	72.6	71.2	71.9	72.5	73.0	1,202.4
	QLN	72.6	73.5	81.5	106.6	114.2	108.9	76.8	72.6	71.2	71.9	72.5	73.0	995.3
	PLN	17,142.2	17,360 6	19,234.4	25,166.3	26,972.3	25,713.4	18,134.4	17,152.4	16,801.9	16,986.2	17,113.2	17,224.7	235,002.0
TIREBOLU	QBI	74.5	75.8	88.1	180.3	246.3	136.5	79.1	74.0	72.3	73.5	74.3	75.0	1,249.6
	QBN	79.5	79.2	81.9	143 6	226.3	135.8	82.9	80 5	79.2	79.2	79 2	79.2	1,226.5
	PBN	11,951.3	11,837.1	12,387.2	22,811.8	36,268.0	21,747.6	13,168.0	12,648.9	12,300.6	12,179.8	12,073.5	11,982.1	191,355.9
GÜNYÜZÜ	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 3

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19 5	21.6	518.4
	QTN	26.1	26.5	33.6	74.2	95.7	55.8	28 0	26.1	26.1	26.1	26.1	26.1	470 4
	PTN	5,888.4	5,936.2	8,115.9	19,233.4	24,850.0	14,484.5	7,197.9	6,512.3	6,315.6	6,170.8	6,052.2	5,964.1	116,721.3
KARACUKUR	QRI													
	QRN	26.1	26.5	29.8	46.4	50.9	47.6	28.0	26.1	26.1	26.1	26.1	26.1	385.8
	PRN	9,428.2	9,557.0	10,772.0	16,767.3	18,378.4	17,188.7	10,123.0	9,428.2	9,428.2	9,428.2	9,428.2	9,428.2	139,355.6
KÜRTÜN	QKI	41.7	45.5	75.6	192.4	209.4	100.5	47.0	38.3	36.0	38.8	40.8	43.0	909.0
	QKN	50.4	50.4	57.1	120.1	173.0	99.5	54.0	51.5	50.4	50.4	50.4	50.4	857.6
	PKN	15,069.3	14,912.1	17,674.6	40,276.9	58,368.1	33,546.7	17,985.4	16,815.3	16,060.4	15,745.7	15,470.5	15,253.3	277,178.3
AKKOY	QYI													
	QYN	50.4	50.4	54.3	75.0	86.2	81 8	53.9	51.5	50.4	50.4	50.4	50.4	705.1
	PYN	15,945.2	15,945.2	17,163.9	23,727.1	27,221.0	25,882.9	17,067.3	16,301 5	15,945.2	15,945.2	15,945.2	15,945.2	223,084.8
DOGANKENT	QDI	65.6	66.3	78.9	186.3	251.4	129.2	70.7	66.0	64.6	65.1	65.5	65.9	1,175.5
	QDN	65.6	66.3	75.1	104.6	114.6	108.4	70.7	66.0	64.6	65.1	65.5	65.9	932.4
	PDN	28,341.5	28,638.9	32,449.8	45,205.1	49,512.0	46,841.1	30,550 8	28,502.7	27,897.3	28,142.3	28,315.8	28,457.9	402,855.2
ASLANCIK	QLI	66.7	67.6	81.9	193.4	257.9	132.3	72.0	66 7	65.3	66 0	66.6	67.1	1,203.5
	QLN	66.7	67.6	77.6	106.8	114.8	109.4	71.9	66.7	65.3	66.0	66.6	67.1	946.5
	PLN	15,749.2	15,967.6	18,323.2	25,220.9	27,110.8	25,819.4	16,979.9	15,759.4	15,408.9	15,593.2	15,720.2	15,831.7	223,484.4
TIREBOLU	QBI	68 6	69.9	86.9	205.3	268 9	137.6	74.2	68.1	66.4	67.6	68.3	69.1	1,250.9
	QBN	73 6	73.4	80.6	162.9	241.5	137.3	78.1	74.7	73.4	73.4	73.4	73.4	1,215.7
	PBN	11,077.7	10,967.7	12,238.9	25,937.8	38,730.7	22,009.4	12,416.8	11,744.9	11,406.1	11,291.8	11,191.9	11,105.0	190,118.7
GÜNYÜZU	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196,1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 4

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	37.8	37.8	37.8	48.2	61.2	46.4	37.8	37.8	37.8	37.8	37.8	37.8	496 0
	PTN	11,136.8	10,919.2	11,159.5	16,007.4	21,424.9	16,131.1	12,808.2	12,515.7	12,189.3	11,896.9	11,623.9	11,370.0	159,182.9
KARACUKUR	QRI													
	QRN	37.8	37.8	37.8	42.1	50.3	46.4	37.8	37.8	37.8	37.8	37.8	37.8	479.0
	PRN	15,439.5	15,439.5	15,439.5	17,210.8	20,557.4	18,960.4	15,439.5	15,439.5	15,439.5	15,439 5	15,439.5	15,439.5	195,684.1
KURTÜN	QKI	53.4	56 8	79.8	149.1	155.2	90.6	56.8	50.0	47.7	50.5	52.5	54.7	897.1
	QKN	59.4	59.4	61.8	107.1	146.3	90.2	61.7	60.6	59.4	59.4	59.4	59.4	884.1
	PKN	15,134.1	15,006.5	16,435.9	30,967.2	42,471.1	26,185.2	17,698.6	16,988.3	16,184.4	15,827.4	15,528.2	15,316 7	243 743.6
AKKOY	QYI													
	QYN	59.4	59.4	61.1	79.1	86.7	79.7	61.6	60.4	59.4	59.4	59.4	59.4	785.0
	PYN	18,792.6	18,795.6	19,334.1	25,019.3	27,436.6	25,228.0	19,482.0	19,109.0	18,792.6	18,792.6	18,792.6	18,792.6	248,367.6
DOGANKENT	QDI	74.6	75.3	83.6	158.8	202.1	119.3	78.4	75.1	73.6	74.1	74 5	74.9	1,164.3
	QDN	74.6	75.3	82.4	108.7	115.1	106.6	78.4	75.1	73.6	74.1	74.5	74.9	1,013.3
	PDN	32,230.1	32,531.5	35,584.2	46,970.1	49,738 1	46,067.6	33,856.7	32,431.6	31,785.9	32,030 9	32,204.4	32,346.5	437,777 6
ASLANCIK	QLI	75.7	76.6	86.6	165.9	208.6	122.4	79 7	75.8	74.3	75.0	75 6	76.1	1,192 3
	QLN	75.7	76.6	85.1	110.9	115.4	108.2	79.6	75.8	74.3	75.0	75.6	76.1	1,028.3
	PLN	17,874.1	18,094.7	20,095.9	26,185.4	27,234 4	25,544.1	18,781.9	17,894.8	17,533.8	17,718 1	17,845.1	17,956.6	272,758.9
TIREBOLU	QBI	77.6	78.9	91.7	177.7	219.6	127.7	81 9	77.2	75.4	76.6	77.3	78.1	1,239 7
	QBN	82.6	82.3	85.2	143.1	205.2	127.4	85.6	83.7	82.3	82.3	82.3	82.3	1,224.3
	PBN	12,432.7	12,315.8	12,915.2	22,749.9	32,904.6	20,417.8	13,624.2	13,166.2	12,797.3	12,671.6	12,561.3	12,466.3	191,022.9
GÜNYÜZU	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13 1	12.2	12.1	12.1	12.1	12.1	181 6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 5

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	32.0	32.0	33.7	58.2	91.8	55.7	32.8	32.0	32.0	32.0	32.0	32.0	496.2
	PTN	8,453 5	8,330.2	9,134.9	17,557.2	28,138.0	17,059.8	9,899 0	9,401.0	9,151.0	8,942.5	8,754.4	8,595.0	143,416.5
KARACUKUR	QRI													
	QRN	32.0	32.0	33.7	45.3	58.7	52.1	32.8	32.0	32.0	32.0	32 0	32 0	446.6
	PRN	13,070.5	13,070.5	13,745.8	18,512.5	23,970.7	21,283 1	13,416.3	13,070.5	13,070.5	13,070.5	13,070.5	13,070.5	182,421.9
KURTUN	QKI	47.6	51.0	75.7	164.6	190.8	99.9	51 8	44.2	41.9	44.7	46.7	48.9	907.8
	QKN	53.4	53.5	57.5	117.1	171.3	99.4	56.6	54.6	53.4	53.4	53.4	53.4	877.0
	PKN	13,661.4	13,567.6	15,404.7	33,879.7	49,729.6	28,842.4	16,246.7	15,326.1	14,573.3	14,260 1	14,000.6	13,818.6	243,310.8
AKKOY	QYI													
	QYN	53.4	53.5	56.0	76.8	86.2	81.6	56.5	54.6	53.4	53.4	53.4	53.4	732.2
	PYN	16,894.4	16,912.1	17,712.9	24,293.4	27,258.9	25,823.6	17,889.6	17,274 0	16,894.4	16,894.4	16,894.4	16,894.4	231,636.5
DOGANKENT	QDI	68 6	69.3	79.3	175.6	238.0	128 6	73.3	69.1	67.6	68.1	68.5	68.9	1,174.9
	QDN	68.6	69.3	77.2	106.8	114.6	108 2	73.3	69.1	67.6	68.1	68.5	68.9	960.2
	PDN	29,637.7	29,959.3	33,370.0	46,163.4	49,495.4	46,769.2	31,672.3	29,842.1	29,193 5	29,438.5	29,612.0	29,754.1	414,907.5
ASLANCIK	QLI	69.7	70.7	82.3	182.7	244.5	131.7	74.6	69.8	68.3	69.0	69.6	70.1	120.3
	QLN	69 7	70.7	79 9	109.0	114.8	109.3	74.5	69.8	68.3	69.0	69.6	70.1	974.7
	PLN	16,457.5	16,689.1	18,864.7	25,744.7	27.101.8	25,805.3	17,593.5	16,491.3	16,117.2	16,301.5	16,428.5	16,540.0	230,135.1
TIREBOLU	QBI	71.6	73.0	87.4	194.5	2554	137.0	76.8	71.2	69.4	70.6	71.3	72.1	1,250.3
	QBN	76.6	76.3	80.9	155.3	234.3	136.7	80.5	77.7	76.3	76.3	76 3	76.3	1,223.5
	PBN	11,529.9	11,419.5	12,279.9	24,735.8	37,574.4	21,913 7	12,812.9	12,224 0	11,865.0	11,748.5	11,646.2	11,558.1	191,307.9
GÜNYÜZU	QUI	11.7	12 2	16 5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12 2	12.1	12.1	12.1	12.1	181 6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 6

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13 4	12.8	17.0	19.5	21.6	518.4
	QTN	26 1	26.5	33.6	74.2	95.7	55.8	28.0	26 1	26.1	26.1	26.1	26.1	470.4
	PTN	5,888.4	5,936.2	8,115.9	19,233.4	24,850.0	14,484.5	7,197.9	6,512.3	6,315.6	6,170.8	6,052.2	5,964.1	116,721.3
KARACUKUR	QRI													
	QRN	26.1	26.5	29.8	46.4	50.9	47.6	28.0	26.1	26.1	26.1	26 1	26.1	385.8
	PRN	10,660.6	10,806 3	12,180.0	18,959.0	20,780.7	19,435.5	11,446.2	10,660.6	10,660.6	10,660.6	10,660.6	10,660.6	157,571.3
KÜRTÜN	QKI	41.7	45.5	75.6	192.4	209.4	100.5	47.0	38.3	36.0	38.8	40.8	43.0	909.0
	QKN	47.6	48.0	57.3	129.6	170.7	99.0	51.8	48.8	47.6	47.6	47.6	47.6	843.2
	PKN	12,162.8	12,174.7	15,449.0	37,545.7	49,556.6	28,739.1	14,890.4	13,699.7	12.988.7	12,706.0	12,471.9	12,305.3	234,689.9
AKKOY	QYI													
	QYN	47.6	48 0	52.8	78.8	86.5	81.6	51.8	48.8	47.6	47.6	47.6	47.6	686.3
	PYN	15,059.4	15,182 6	16,699.8	24,940.4	27,355.9	25,808.9	16,384.7	15,446.3	15,059.4	15,059.4	15,059.4	15,059.4	217,115.6
DOGANKENT	QDI	62.8	63.9	79 0	203.1	256.6	129.0	68.6	63.3	61.8	62.3	62.7	63.1	1,176.2
	QDN	62.8	63.9	73.6	107.9	114 9	108.2	68.6	63.3	61.8	62.3	62.7	63.1	913.1
	PDN	27,131.7	27,597.4	31,795.2	46,613.0	49,627.9	46,740.1	29,620.0	27,334 7	26,687.6	26,932.6	27,106.0	27,248 2	394,434.4
ASLANCIK	QLI	63 9	65.2	82 0	210.1	263.1	132 1	69.8	64.0	62.5	63.2	63.8	64.3	1,204.0
	QLN	63.9	65.2	76.1	109.9	115.1	109.1	69.8	64.0	62.5	63.2	63.8	64.3	926.9
	PLN	15,088.2	15,398 5	17,965.5	25,940.6	27,174.2	25,763.4	16,470.5	15,121.2	14,747.8	14,932.1	15,059.2	15,170.7	218,831.9
TIREBOLU	QBI	65.8	67.5	87.1	222.0	274.1	137.4	72.0	65.4	63.6	64.8	65.5	66.3	1,251.5
	QBN	70.8	70.5	80 1	170.3	242.1	137.0	75.7	71.9	70.5	70.5	70.5	70.5	1,200.4
	PBN	10,665.2	10,566.2	12,233.0	27,206.8	38,843.5	21,963.2	12,059.2	11,319.7	10,971.8	10,864.2	10,769.7	10,688.3	188,150.8
GÜNYÜZU	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 7

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	37.8	37.8	37.8	48.2	61.2	46.4	37.8	37.8	37.8	37.8	37.8	37.8	496.0
	PTN	11,136.8	10,919.2	11,159.5	16,007.4	21,424.9	16,131.1	12,808 2	12,515.7	12,189.3	11,896.9	11,623.9	11,370.0	159,182.9
KARACUKUR	QRI													
	QRN	37.8	37.8	37.8	42.1	50.3	46.4	37.8	37.8	37.8	37.8	37.8	37.8	479.0
	PRN	16,332.0	16,332.0	16,332.0	18,205.7	21,745.7	20,056.4	16,332.0	16,332.0	16,332.0	16,332.0	16,332.0	16,332.0	206,995.8
KÜRTÜN	QKI	53.4	56.8	79.8	149.1	155.2	90.6	56.8	50.0	47.7	50.5	52.5	54.7	897.1
	QKN	57.6	58.0	62.4	116.9	147.3	90 5	60.3	58.9	57.6	57.6	57.6	57.6	882.3
	PKN	11,861.0	11,864.6	13,849.8	28,364.8	35,828.2	21,997.2	14,483.0	13,699.2	12,895.8	12,518.2	12,214.9	12,029.0	201,605 7
AKKOY	QYI													
	QYN	57.6	58.0	61.6	82.9	87.2	80.0	60.2	58 7	57.6	57.6	57.6	57.6	776.6
	PYN	18,223.1	18,358.9	19,492.4	26,239.4	27,576.3	25,303.7	19,053.0	18,558.5	18,223.1	18,223.1	18,223 1	18,223.1	245,697.7
DOGANKENT	QDI	72.8	73.9	84.2	169.2	204.0	119.6	77.1	73.3	71.8	72.3	72.7	73.1	1 164 0
	QDN	72.8	73.9	82 6	112.0	115.6	106.9	77.0	73.3	71.8	72.3	72.7	73.1	1,004.0
	PDN	31,452.4	31,935.3	35,679.4	48,381.0	49,928.9	46,171.0	33,270.9	31,679.8	31,008.2	31,253.2	31,426 7	31,568.8	433,755.6
ASLANCIK	QLI	73.9	75.3	87.2	176.3	210.5	122.7	78.3	74.1	72.5	73.2	73.8	74.3	1,192.1
	QLN	73.9	75.3	85.2	113.6	115.8	108.4	78.2	74.1	72.5	73.2	73.8	74.3	1,018.3
	PLN	17,449.2	17,768.9	20,121.0	26,820.2	27,338.6	25,600.7	18,461.8	17,484.0	17,108.8	17,293.1	17,420.2	17,531.7	240,398 2
TIREBOLU	QBI	75.8	77.6	92.3	188.1	221.4	127.9	80.5	75.4	73.6	74.8	75.5	76.3	1,239 2
	QBN	80.8	80.5	84.7	151.4	210.0	127.2	84.2	81.9	80.5	80.5	80.5	80.5	1,222.7
	PBN	12,184.0	12,077.3	12,906.1	24,171.5	33,687.6	20,410.2	13,418.0	12,914.9	12,539.6	12,416.7	12,308.9	12,215.9	191,250.7
GÜNYÜZU	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196 1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12 1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463 3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 8

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	32.0	32.0	33.7	58.2	91.8	55.7	32.8	32.0	32.0	32.0	32.0	32.0	496.2
	PTN	8,453 5	8,330.2	9,134.9	17,557.2	28,138.0	17,059.8	9,899.0	9,401.0	9,151.0	8,942.5	8,754.4	8,595.0	143,416.5
KARACUKUR	QRI													
	QRN	32.0	32.0	33.7	45.3	58 7	52.1	32.8	32.0	32.0	32.0	32.0	32.0	446.6
	PRN	13,826.0	13,826.0	14,540.3	19,582.5	25,356.3	22,513.4	14,191.8	13,826.0	13,826.0	13,826.0	13,826.0	13,826.0	192,966.3
KÜRTÜN	QKI	47.6	51.0	75.7	164.6	190.8	99.9	51.8	44.2	41.9	44.7	46.7	48.9	907.8
	QKN	51.7	52.2	58.4	123.8	169.5	99.4	55.3	53.0	51.7	51.7	51.7	51.7	870.1
	PKN	10,680.0	10,704.9	13,040.3	30,062.5	41,221.0	24,163.3	13,283.8	12,336.1	11,587.1	11,253.8	10,986.6	10,825.6	200,145.0
AKKOY	QYI													
	QYN	51.7	52.2	56.7	81.0	86.6	81.9	55.3	53.0	51.7	51.7	51.7	51.7	725.2
	PYN	16,356.5	16,499.7	17,943.2	25,639.3	27,404.6	25,911.8	17,486.9	16,754.1	16,356.5	16,356.5	16,356.5	16,356.5	229,422.1
DOGANKENT	QDI	66.9	68.0	80.2	185.2	239.6	128.9	72.0	67.4	65.9	66.4	66.8	67 2	1,174.5
	QDN	66 9	68.0	77.7	110.2	115.0	108 5	72.0	67.4	65.9	66.4	66.8	67.2	952.3
	PDN	28,903.2	29,396.2	33,563.8	47,597.7	49,694.4	46,889.6	31,122.4	29,132.1	28,459.0	28,704.0	28,877.5	29,019.6	411,359.5
ASLANCIK	QLI	68.0	69.4	83.2	192.3	246.1	132.0	73.3	68.2	66.6	67.3	67.9	68.4	1,202.7
	QLN	68.0	69.4	80.3	112.2	115.3	109.6	73.2	68 2	66.6	67.3	67.9	68.4	966.4
	PLN	16,056.2	16,381.4	18,964.9	26,481.0	27,210.5	25,871.1	17,293.1	16,103.3	15,715.9	15,900.1	16,027.2	16,138 7	228,143 4
TIREBOLU	QBI	69.9	71.7	88.2	204.1	257.1	137.3	75.5	69.5	67.7	68.9	69.6	70.4	1,249.9
	QBN	74.9	74.7	80.6	162.3	237.1	136.6	79.2	76.1	74.7	74.7	74.7	74.7	1,220.3
	PBN	11,296.3	11,193.6	12,279.5	25,926 8	38,043.3	21,907.2	12,628.3	11,997.5	11,631.1	11,514.9	11,413.2	11,324.8	191,156.5
GÜNYÜZÜ	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12 1	12.2	13 6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 9

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	26.1	26.5	33.6	74.2	95.7	55.8	28.0	26.1	26.1	26.1	26.1	26.1	470.4
	PTN	5,888.4	5,936.2	8,115.9	19,233.4	24,850.0	14,484.5	7,197.9	6,512.3	6,315.6	6,170.8	6,052.2	5,964.1	116,721.3
KARACUKUR	QRI													
	QRN	26.1	26.5	29.8	46.4	50.9	47.6	28.0	26.1	26.1	26.1	26.1	26.1	385.8
	PRN	11,276.8	11,430.9	12,884.1	20,054.9	21,981.9	20,559.0	12,107.8	11,276.8	11,276.8	11,276.8	11,276.8	11,276.8	166,679.4
KÜRTUN	QKI	41.7	45.5	75.6	192.4	209.4	100.5	47.0	38.3	36.0	38.8	40.8	43.0	909.0
	QKN	45.9	46.7	58.2	133.8	168.4	99.3	50.5	47.2	45.9	45.9	45.9	45.9	833.6
	PKN	9,451.8	9,562.5	13,086.8	32,494.8	40,938.3	24,141.8	12,143.1	10,979.8	10,276.4	9,975.5	9,733.8	9,585.6	192,370.2
AKKÖY	QYI													
	QYN	45.9	46.7	52.9	81.7	86.9	82.1	50.5	47.2	45.9	45.9	45.9	45.9	677.5
	PYN	14,521.6	14,770.3	16,743.6	25,834.2	27,499.3	25,961.7	15,981.0	14,926.5	14,521.6	14,521.6	14,521.6	14,521.6	214,324.6
DOGANKENT	QDI	61.1	62.6	80.0	212.5	258.1	129.5	67.3	61.6	60.1	60.6	61.0	61.4	1,175.8
	QDN	61.1	62.6	73.7	110.5	115.3	108.7	67.3	61.6	60.1	60.6	61.0	61.4	903.9
	PDN	26,397.2	27,034.2	31,855.0	47,760.7	49,823.8	46,948.8	29,068.7	26,624.7	25,953.1	26,198.0	26,371.5	26,513.7	390,549.4
ASLANCIK	QLI	62.2	63.9	83.0	219.6	264.6	132.6	68.6	62.4	60.8	61.5	62.1	62.6	1,203.9
	QLN	62.2	63.9	76.2	112.0	115.6	109.6	68.5	62.4	60.8	61.5	62.1	62.6	917.4
	PLN	14,686.8	15,090.8	17,998.1	26,435.3	27,281.2	25,877.4	16,169.2	14,733.2	14,346.5	14,530.7	14,657.8	14,769.3	216,576.3
TIREBOLU	QBI	64.1	66.2	88.0	231.4	275.6	137.9	70.8	63.7	61.9	63.1	63.8	64.6	1,251.1
	QBN	64.3	65.9	87.7	199.5	244.1	137.2	70.5	63.4	61.6	62.8	63.5	64.3	1,184.8
	PBN	10,315.6	10,581.2	14,081.0	32,023.8	39,196.3	22,020.5	11,310.9	10,183.9	9,895.3	10,080.5	10,201.7	10,316.1	190,206.8
GÜNYÜZU	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 10

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	PTN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KARACUKUR	QRI													
	QRN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	PRN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KURTÜN	QKI	36.2	44.2	97.5	229.3	212.1	101.1	42.0	25.5	22.7	29.7	34.2	38.5	913.0
	QKN	46.8	47.5	58.7	133.4	170.1	99.6	51.2	47.6	46.8	46.8	46.8	46.8	842.1
	PKN	13,102.0	13,184.9	18,015.4	44,928.2	57,416.4	33,630.0	17,061.1	15,298.1	14,441.3	13,977.9	13,608.4	13,334.7	267,998.4
AKKOY	QYI													
	QYN	46.8	47.5	53.1	81.0	86.8	82.1	51.2	47.6	46.8	46.8	46.8	46.8	683.3
	PYN	14,806.3	15,018.1	16,795.6	25,638.4	27,469.8	25,972.8	16,190.8	15,045.6	14,806.3	14,806.3	14,806.3	14,806.3	216,162.6
DOGANKENT	QDI	62.0	63.4	80.4	210.3	258.2	129.8	68.0	62.0	61.0	61.5	61.9	62.3	1,180.8
	QDN	62.0	63.4	73.9	110.0	115.2	108.7	68.0	62.0	61.0	61.5	61.9	62.3	909.9
	PDN	26,786.1	27,372.7	31,926.0	47,510.1	49,783.4	46,966.1	29,360.9	26,787.4	26,341.9	26,586.9	26,760.4	26,902.5	393,084.4
ASLANCIK	QLI	63.1	64.7	83.4	217.4	264.7	132.9	69.2	62.8	61.7	62.4	63.0	63.5	1,208.8
	QLN	63.1	64.7	76.4	111.6	115.5	109.6	69.1	62.8	61.7	62.4	63.0	63.5	923.4
	PLN	14,899.3	15,275.7	18,036.9	26,350.0	27,259.2	25,883.7	16,325.8	14,822.1	14,559.0	14,743.2	14,870.3	14,981.8	218,007.0
TIREBOLU	QBI	65.0	67.0	88.5	229.2	257.7	138.1	71.4	64.1	62.8	64.0	64.7	65.5	1,256.0
	QBN	70.0	69.8	81.1	175.3	242.6	137.1	75.1	70.6	69.7	69.7	69.7	69.7	1,200.4
	PBN	10,561.2	10,481.0	12,418.5	28,045.5	38,934.5	22,007.9	11,972.4	11,135.4	10,863.8	10,757.4	10,664.0	10,583.5	188,425.1
GÜNYÜZU	QUI	11.7	12.2	61.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 11

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23 0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	37.8	37.8	37.8	48.2	61.2	46.4	37.8	37.8	37.8	37.8	37.8	37.8	496.0
	PTN	11,136.8	10,919.2	11,159.5	16,007.4	21,424.9	16,131.1	12,808.2	12,515.7	12,189.3	11,896.9	11,623.9	11,370.0	159,182.9
KARACUKUR	QRI													
	QRN	37.8	37.8	37.8	42.1	50.3	46 4	37.8	37.8	37.8	37 8	37.8	37.8	479.0
	PRN	13,654.6	13,654.6	13,654.6	15,221.2	18,180.9	16,768.4	13,654.6	13,654.6	13,654.6	13,654.6	13,654.6	13,654.6	173,061.9
KÜRTÜN	QKI	38.4	38.5	39.4	57.5	65.6	48.0	38.5	38.2	38 2	38.3	38.3	38.4	517.3
	QKN	38.4	38.5	39.4	45.3	52.6	47.9	38 5	38.2	38.2	38.3	38.3	38 4	492.0
	PKN	12,320.5	12,364.3	12,641.5	14,529.6	16,881.1	15,383.7	12,347.2	12,259.5	12,253.1	12,292.6	12,313.0	12,335.5	157,921.6
AKKOY	QYI													
	QYN	53.4	56.8	72.4	78.9	77.9	75.4	56.3	49.4	47.7	50 5	52.5	54.5	725 7
	PYN	16,887.0	17,979.5	22,918.1	24,961 9	24,645.5	23,849 3	17,814.0	15,631.0	15,087.9	15,966 3	16,621.2	17,235.0	229,596 7
DOGANKENT	QDI	68.6	72.7	101.6	193.7	205.5	119.7	73 5	64 4	61.9	65.2	67.7	70.2	1,164.7
	QDN	68.6	72.7	95.2	107.8	106.4	102.0	73 1	64.1	61.9	65 2	67.7	70 2	954.9
	PDN	29,627.6	31,417.1	41,111.5	46,576.3	45,970.5	44,082.7	31,577.3	27,689.4	26,726.4	28,171.1	29,239.0	30,336 0	412,524.9
ASLANCIK	QLI	69.7	74.1	104 6	200.8	212.0	122.8	74.8	65.2	62.6	66.1	68.7	71.4	1,192.8
	QLN	69.7	74.1	96 4	107.8	106.5	102.9	74.3	64.8	62.6	66.1	68.7	71.3	965.2
	PLN	16,452.0	17,485.7	22,759.7	25,451.6	25,148.9	24,294.1	17,536.3	15,298.5	14,769.1	15,608 9	16,224.7	16,838.8	227,868.3
TIREBOLU	QBI	71.6	76 4	109.6	212.6	222.9	128.0	77.0	66.5	63 7	67.7	70.5	73.4	1,239.9
	QBN	73.8	75.2	94.4	188.2	213.5	127.7	78.9	74.3	72 6	72.6	73.1	74.3	1,218 6
	PBN	11,300.2	11,514.9	14,910.2	30,217.9	34,272.4	20,504.2	12,630.3	11,736.6	11,295.6	11,198 7	11,221.5	11,391.6	192,221.1
GÜNYÜZÜ	QUI	11.7	12.2	16 5	30.5	33.7	21.2	12 8	11.0	11.0	11.5	11.9	12.1	196 1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13 1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 12

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23 0	13 4	12.8	17 0	19.5	21.6	518.4
	QTN	25.1	25.7	34 0	75.3	95.0	55 8	27.2	25.1	25.1	25.1	25.1	25.1	463.6
	PTN	5,706.1	5,822.2	8,289.0	19,529.0	24,662.5	14,490.5	6,998.7	6,282.6	6,105.2	5,978.9	5,880.5	5,809.0	115,554.2
KARACUKUR	QRI													
	QRN	25.1	25 7	29.9	46.8	51.1	47.7	27.2	25.1	25.1	25.1	25 1	25.1	379.0
	PRN	10,844.8	11,092.5	12,917.3	25,229.2	22,065.4	20,616 6	11,756.4	10,844.8	10,844.8	10,844.8	10,844.8	10,844.8	163,746.2
KÜRTÜN	QKI	25.7	26.4	35.5	103.4	119 2	58.0	27.9	25.5	25 5	25 6	25.6	25 7	524.0
	QKN	25.7	26.4	31.2	47.7	51.2	48.2	27.9	25.5	25.5	25.6	25.6	25.7	386.2
	PKN	6,363.7	6,539.7	7,733.8	11,815.2	12,691.9	11,943.2	6,907.5	6,316.6	6,311.7	6,342.3	6,358.0	6,375.3	95,698.9
AKKOY	QYI													
	QYN	40.6	43.7	51.5	52.6	52.4	52.0	43 0	36 3	35.0	37.8	39 6	41.3	525 8
	PYN	12,858.5	13,824 5	16,304.9	16,641.3	16,568 5	16,444.1	13,602.0	11,469.6	11,069 9	11,948.4	12,524.2	13,059.9	166,315 8
DOGANKENT	QDI	55.9	60.6	97.8	239.6	259.0	129.6	62 9	51.7	49.2	52.5	55.0	57 5	1,171.3
	QDN	55.9	60.0	76.2	81.6	81.2	80.1	60.3	50.9	49.2	52.5	55.0	57.1	760.0
	PDN	24,140.4	25,934.6	32,910.7	35,256.3	35,075.4	34,603.4	26,038.0	22,007.8	21,239.2	22,683.9	23,751.8	24,662.5	328,304.0
ASLANCIK	QLI	57.0	61.9	100.8	246 6	265.5	132.7	64.2	52.5	49.9	53.4	56.0	58.7	1,199.2
	QLN	57.0	61.3	76.9	81.6	81.2	80.2	61.3	51.6	49.9	53.4	56.0	58.2	768.6
	PLN	13,453.6	14,470.1	18,157.0	19,265.8	19,178.0	18,929.5	14,473.2	12,193.8	11,770 6	12,610.4	13,226.2	13,734.1	181,462.3
TIREBOLU	QBI	58.9	64.2	105.8	258.5	276.5	138.0	66.4	53.8	51.0	55.0	57.8	60.7	1,246 6
	QBN	61.6	63.5	88.7	236.9	276.2	137.7	68.8	62.5	60.8	60.8	60.9	62.1	1,240.5
	PBN	9,370.2	9,679.1	13,983.5	38,031.8	44,337.7	22,108.7	10,999.2	9,847.3	9,425.3	9,330.2	9,289.0	9,459.1	195,861.1
GÜNYÜZÜ	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196 1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 13

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	PTN	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KARACUKUR	QRI													
	QRN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	PRN	0.0	0.0	0.0	0.0	0.0	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KÜRTUN	QKI	36.2	44.2	97.5	229.3	212.1	101.1	42.0	25.5	22.7	29.7	34.2	38.5	913.0
	QKN	31.2	32.4	34.8	34.8	34.8	34.8	32.4	24.4	22.7	27.3	28.6	30.9	369.1
	PKN	4,647.4	4,814.9	5,176.3	5,176.3	5,176.3	5,176.3	4,812.8	3,627.4	3,374.8	4,066.3	4,258.2	4,592.6	54,899.6
AKKOY	QYI													
	QYN	20.8	21.0	21.0	21.0	21.0	21.0	20.9	20.1	20.2	20.2	20.6	20.9	248.7
	PYN	6,584.8	6,643.9	6,643 9	6,643.9	6,643.9	6,643.9	6,615.1	6,353.7	6,402.3	6,401.7	6,510.1	6,607.0	78,696.2
DOGANKENT	QDI	33.7	39.9	78 8	182.4	172.7	87.7	38.7	23.5	23.2	29.2	32.0	35.4	777.2
	QDN	33.5	38.0	49.2	50.0	50.0	49.3	36.6	23.5	23.2	29.2	31.2	34.3	448.0
	PDN	14,473.3	16,426.3	21,256.5	21,603.2	21,603.2	21,307.5	15,799.4	10,157.5	10,025.8	12,601.0	13,488.6	14,834.4	193,576.7
ASLANCIK	QLI	34.8	41.2	81.8	189.4	179.2	90.8	40.0	24.3	23.9	30.1	33.0	36.6	805.1
	QLN	34.4	38.8	49.4	50.0	50.0	49.4	37.5	24.3	23.9	30.1	32.1	35.2	455.1
	PLN	8,129 3	9,169.7	11,672.2	11,805.0	11,805.0	11,663.9	8,849.2	5,734.7	5,643.0	7,100.7	7,568.4	8,317.9	107,459.0
TIREBOLU	QBI	36.7	43.5	86.8	201.3	190 1	96.0	42.2	25.6	25.1	31.6	34.8	38.6	852.3
	QBN	44.7	45.1	57 9	138.3	180.3	95.9	48.8	44.4	44.4	44.4	44.4	44.4	833.0
	PBN	6,229.8	6,258.2	8,658.6	22,147.3	28,944.4	15,387.5	7,749.0	6,833.6	6,611.8	6,464.2	6,345.4	6,259.5	127,889.3
GÜNYÜZÜ	QUI	11.7	12 2	16.5	30 5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213 3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108 1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 14

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57 0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	0.0	0.0	0.0	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	PTN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KARACUKUR	QRI													
	QRN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	PRN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KURTÜN	QKI	36.2	44.2	97.5	229.3	212.1	101.1	42.0	25.5	22.7	29.7	34.2	38.5	913.0
	QKN	34.2	41.7	80.9	115.7	111.8	93.9	42 8	31.0	29.4	31.3	35.4	36.8	684.9
	PKN	7,989.6	9,876.1	19,595.6	28,136.3	27,195 8	22,845.1	10,385.7	7,386.4	6,815.9	7,235.0	8,185.1	8,571.0	164,217.6
AKKOY	QYI													
	QYN	34.2	41.2	57.6	68.4	67.7	66.5	41.5	31.0	29.4	31.3	35.2	36.0	540.0
	PYN	10,820.1	13,045.6	18,208.8	21,640.0	21,413.7	21,028.7	13,138.5	9,808.3	9,301.0	9,914.6	11,148.8	11,404.7	170,872.8
DOGANKENT	QDI	52.7	56.1	101.7	259.8	262.1	130.0	61.0	50.3	48.9	49.4	52.6	55.1	1,179.7
	QDN	52.7	55.8	77.2	94.7	93.9	92.1	59.6	50.3	48.9	49.4	52.6	55.0	782.2
	PDN	22,782.0	24,110.7	33,339.9	40,916.3	40,559.7	39,777.6	25,769.1	21,735.2	21,114.0	21,358.9	22,722.0	23,765.5	337,950.7
ASLANCIK	QLI	53.8	57.5	104.7	266.8	268.6	133.1	62.3	51.1	49 6	50.3	53.6	56.2	1,207.6
	QLN	53.8	57.1	78.2	94.7	93.9	92.2	60.7	51.1	49.6	50.3	53.6	56.1	791.3
	PLN	12,711.3	13,473 5	18,453.1	22,358.7	22,177.5	21,773.4	14,326.3	12,061.3	11,702.2	11,886.4	12,663.5	13,244.0	186,831.2
TIREBOLU	QBI	55.7	59.7	109.8	287.7	279.6	138.4	64.5	52.4	50.7	51.9	55.4	58.2	1,255.0
	QBN	59.6	62.5	94.1	200.7	217.0	136.3	67.0	59.2	57.9	57.9	58.0	60.8	1,131.0
	PBN	9,100.7	9,523.7	14,810.1	32,223.9	34,834.6	21,881.7	10,719.8	9,356.4	9,038.5	8,945.5	8,920.6	9,321.8	178,677.3
GÜNYÜZÜ	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12 1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

Table A3-3 Monthly Energy Production of Harsit Project in P. F = 25%

(Case 1 - Case 14)

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 1

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55 4	133.9	119.1	57.0	23.0	13.4	12.8	17 0	19.5	21.6	518.4
	QTN	37.8	37.8	37.8	48.2	61.2	46.4	37.8	37.8	37.8	37.8	37.8	37.8	496.0
	PTN	11,136.8	10,919.2	11,159.5	16,007.4	21,424.9	16,131.1	12,808.2	12,515.7	12,189.3	11,896 9	11,623.9	11,370.0	159,182.9
KARACUKUR	QRI													
	QRN	37.8	37.8	37.8	48.2	61.2	46.4	37.8	37.8	37.8	37.8	37.8	37.8	496.0
	PRN	13,654.6	13,654.6	13,654.6	17,400.6	22,118.3	16,768.4	13,654.6	13,654.6	13,654.6	13,654 6	13,654.6	13,654 6	179,178.7
KÜRTÜN	QKI	53.4	56.8	79.8	149.1	155 2	90.6	56.8	50.0	47.7	50.5	52.5	54.7	897.1
	QKN	62.1	62.1	63.1	94.9	138 2	89.8	63.8	63.2	62.1	62.1	62.1	62.1	885.6
	PKN	18,532.0	18,326 7	19,222.1	31,577.4	46,564.3	30,220.8	21,223.9	20,602.0	19,759.3	19,369 1	19,029 9	18,761.1	283,188.6
AKKOY	QYI													
	QYN	62.1	62.1	63.1	94 9	138.2	89.8	63.8	63 2	62.1	62 1	62.1	62.1	885.6
	PYN	19,646.8	19,646.8	19,960.9	30,039.9	43,732.4	28,402.3	20,187.4	20,003.1	19,646.8	19,646 8	19,646 8	19,646.8	280,206.8
DOGANKENT	QDI	66.4	67.0	139.2	1,522.0	4,430.3	5,066.8	4,935.4	966.7	365 4	65.9	66 3	66 7	17,758.1
	QDN	66 4	67.0	78.2	149.7	246.4	278.8	257.5	100.9	72 5	65.9	66 3	66 7	1,516.3
	PDN	28,691.5	28,965.3	33,790 1	64,675.6	106,468.7	120,458.5	111,246.6	43,602.7	31,324.2	28,492.3	28,665.8	28,807.9	655,189.2
ASLANCIK	QLI	67 5	68 4	142.2	1,529 0	4,436.8	5,069.9	4,936.7	967.4	366 1	66.9	67.4	67 9	17,786.2
	QLN	67.5	68.4	81.0	154.3	247.5	278 3	257.6	101 5	73 2	66.9	67.4	67.9	1,531 5
	PLN	15,940.5	16,146.0	19,129.6	36,425.7	58,430.9	65,824.4	60,809.4	23,967.5	17,276.8	15,784.4	15,911.5	16,023.0	361,669.7
TIREBOLU	QBI	69.4	70.7	147.2	1,540 9	4,447.7	5,075 2	4,938.8	968 8	367.2	68 4	69.1	69.9	17,833.3
	QBN	84.9	84.9	93.4	161.2	291.1	339.3	313.9	127.3	93.4	84.9	84 9	84.9	1,844 1
	PBN	11,523.8	11,104.8	12,349.4	24,368.1	46,372.6	54,473.6	50,351.6	20,077.4	14,257.0	12,532.6	12,185.7	11,846.7	281,443.3
GÜNYÜZU	QUI	11.7	12.2	16.5	30.5	33 7	21.2	12.8	11.0	11.0	11.5	11 9	12.1	196.1
	QUM	12.1	12.2	13 6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108 1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 2

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133 9	119.1	57.0	23.0	13 4	12.8	17.0	19.5	21.6	518.4
	QTN	32 0	32.0	33.7	58.2	91.8	55.7	32.8	32.0	32 0	32.0	32 0	32 0	496.2
	PTN	8,440.1	8,316.4	9,121.8	17,548 6	28,111.8	17,043.7	9,888.0	9,390.0	9,139.6	8,930 3	8,741.8	8,582.0	143,254.1
KARACUKUR	QRI													
	QRN	32.0	32.0	33.7	58 2	91.8	55.7	32.8	32.0	32.0	32.0	32.0	32.0	496 2
	PRN	11,559.5	11,559.5	12,156.7	21,039.4	33,168.4	20,133.9	11,865.3	11,559.5	11,559.5	11,559.5	11,559.5	11,559.5	179,280.2
KURTÜN	QKI	47.6	51.0	75.7	164.7	190.8	99.9	51.8	44.2	41.9	44.7	46 7	48.9	907.9
	QKN	56 3	56.3	58.3	106.3	166.0	99.1	58.9	57.4	56.3	56.3	56.3	56.3	883 8
	PKN	16,801.1	16,615.1	17,818.3	35,445.4	55,947.0	33,374.7	19,581.3	18,713.4	17,913 9	17,560.1	17,252.5	17,008.8	284,031.6
AKKOY	QYI													
	QYN	56.3	56.3	58 3	106.3	166.0	99.1	58.9	57.4	56.3	56.3	56.3	56 3	883.8
	PYN	17,811.9	17,811.9	18,446.5	33,622.6	52,515.4	31,349 8	18,620.3	18,168.2	17,811 9	17,811.9	17,811.9	17,811 9	279,594.2
DOGANKENT	QDI	60.6	61 2	134.4	1,538 1	4,465.8	5,076.1	4,930.4	960.9	359.6	60 1	60.5	60.9	17,768 6
	QDN	60.6	61 2	71.7	146.7	228 4	252.5	233.2	91.7	66.0	60.1	60 5	60.9	1,393.5
	PDN	26,185.5	26,459.3	30,988 9	63,383.6	98,680.5	109,095.0	100,768.9	39,620.5	28,523 0	25,986.3	26,159.8	26,302.0	602,153.3
ASLANCIK	QLI	61.7	62.6	137.4	1,545.1	4,472.3	5,079.2	4,931.7	961.6	360.3	61.1	61 6	62.1	17,796.7
	QLN	61.7	62.6	74.5	151.3	229.2	252 6	233.3	92.3	66.7	61.1	61.6	62.1	1,508.9
	PLN	14,571.1	14,776.6	17,598.8	35,719.7	54,117.8	59,615.1	55,084.2	21,791.4	15,746.1	14,415.0	14,542.1	14,653.6	332,631.5
TIREBOLU	QBI	63.6	64.9	142.5	1,557.0	4,483.3	5,084 5	4,933.9	963.0	361.4	62.6	63.3	64 1	17,844.1
	QBN	79.2	79.2	87.1	153.4	275.9	315.6	292.0	118.6	87.1	79.2	79.2	79.2	1,725.7
	PBN	10,734 9	10,340.6	11,494.5	23,313.7	43,966.1	50,668.6	46,837.9	18,703.0	13,290.9	11,685.3	11,359.7	11,041.2	263,436.4
GÜNYÜZÜ	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20 6	13.1	12.2	12.1	12.1	12.1	12 1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187 7	35,143.1	35,108.1	529,615 0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 3

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133 9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	26.1	26.5	33.6	74 2	95.7	55.8	28.0	26.1	26.1	26 1	26.1	26.1	470.4
	PTN	5,888 4	5,936.2	8,115.9	19,233 4	24,850.0	14,484.5	7,197.9	6,512 3	6,315.6	6,170.8	6,052 2	5,964.1	
KARACUKUR	QRI													
	QRN	26.1	26 5	33.6	73.9	95.2	55 8	28.0	26.1	26.1	26.1	26 1	26 1	469.6
	PRN	9,428.2	9,557.0	12,119.4	26,685.5	34,377.3	20,141 1	10,123.0	9,428.2	9,428.2	9,428 2	9,428.2	9,428.2	169,572.5
KURTUN	QKI	41.7	45.5	75.6	192 4	209.4	100.5	47.0	38.3	36.0	38.8	40.8	43.0	909.0
	QKN	50.4	50 4	57.1	120.1	173.0	99.5	54.0	51.5	50.4	50.4	50.4	50.4	857.6
	PKN	15,069.3	14,912 1	17,674 6	40,276.9	58,368.1	33,546 7	17,985 4	16,815.3	16,060 4	15,745.7	15,470.5	15,253.3	277,178.3
AKKOY	QYI													
	QYN	50 4	50 4	57.1	120 1	173.0	99.5	54.0	51 5	50.4	50 4	50.4	50.4	857.6
	PYN	15,945.2	15,945.2	18,068.4	37,984.1	54,747.1	31,484.8	17,075.3	16,301.5	15,945.2	15,945.2	15,945.2	15,945.2	271,332.4
DOGANKENT	QDI	54.7	55.3	133 2	1,563.0	4,488.4	5,077.2	4,925.5	955.0	353 7	54.2	54.6	55.0	17,769.8
	QDN	54.7	55.3	68.3	151.4	212.2	228 8	211 3	82.8	59 5	54.2	54.6	55.0	1,288 1
	PDN	23,636.4	23,910.1	29,513.4	54,419.3	91,699 2	98,856.0	91,298 7	35,789.5	25,717.5	23,437.2	23,610.6	23,752.8	556,640.7
ASLANCIK	QLI	55.8	56.7	136.2	1,570 1	4,494.9	5,080.3	4,926.8	955.7	354.4	55 2	55.7	56.2	17,798.0
	QLN	55.8	56.7	71.1	155.4	213.1	228.8	211.4	83.4	60.2	55.2	55.7	56.2	1,303.0
	PLN	13,178.1	13,383 6	16,792.6	36,691.2	50,302.4	54,019.5	49,908.8	19,698.0	14,213.0	13,022.0	13,149.1	13,260 6	307,618.9
TIREBOLU	QBI	57.7	59 0	141.3	1,581.9	4,505.9	5,085.5	4,929.0	957.1	355.5	56.7	57.4	58.2	17,845.2
	QBN	73.4	73.4	80.8	150 3	261.0	294.6	272.5	110.3	80.8	73.4	73 4	73 4	1,617.3
	PBN	9,934.8	9,566.3	10,703.4	23,122.4	41,685.5	47,297.3	43,713.0	17,388.2	12,325.3	10,824.3	10,520.2	10,223 2	247,303.9
GÜNYÜZÜ	QUI	11 7	12 2	16.5	30.5	33.7	21.2	12.8	11 0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12 2	13.6	22 1	27.3	20.6	13 1	12.2	12.1	12 1	12.1	12.1	181.6
	PUN	35,067.2	35,213 3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 4

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133 9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	118.4
	QTN	37.8	37.8	37.8	48.2	61.2	46.4	37.8	37.8	37.8	37.8	37.8	37.8	496.0
	PTN	11,136.8	10,919.2	11,159.5	16,007.4	21,424.9	16,131.1	12,808.2	12,515.7	12,189.3	11,896.9	11,623.9	11,370.0	159,182.9
KARACUKUR	QRI													
	QRN	37.8	37.8	37.8	48 2	61 2	46.4	37.8	37.8	37.8	37.8	37.8	37.8	496.0
	PRN	15,439.5	15,439 5	15,439.5	19,675 2	25,009.6	18,960.4	15,439.5	15,439.5	15,439.5	15,439.5	15,439.5	15,439.5	202,600.7
KURTÜN	QKI	53.4	56.8	79.8	149.1	155.2	90.6	56.8	50.0	47 7	50.5	52.5	54.7	897.1
	QKN	59.4	59.4	61.8	107.1	146.3	90.2	61.7	60.6	59.4	59.4	59.4	59.4	884.1
	PKN	15,134.1	15,006.5	16,435.9	30,967.2	42,471.1	26,185.2	17,698.6	16,988.3	16,184.4	15,827.4	15,528.2	15,316.7	243,743.6
AKKOY	QYI													
	QYN	59.4	59.4	61.8	107.1	146.3	90.2	61 7	60.6	59.4	59.4	59.4	59.4	884.1
	PYN	18,792.6	18,795.6	19,565.1	33,893.8	46,297.7	28,549.7	19,512.1	19,178.5	18,792.6	18,792.6	18,792.6	18,792.6	279,755.5
DOGANKENT	QDI	63.7	64.4	138 0	1,535.5	4,439.1	5,067.3	4,933.2	964.1	362.7	63.2	63.6	64 0	17,758.8
	QDN	63.7	64.4	75.9	153.5	237.9	265.6	245.3	96.5	69 5	63.2	63.6	64.0	1,463.1
	PDN	27,524.9	27,802.7	32,779.8	66,330.7	102,775.1	114,755.1	105,996.9	41,679.9	30,006.4	27,325.7	27,499.2	27,641.3	632,117.7
ASLANCIK	QLI	64.8	65.7	140.9	1,542.5	4,445.6	5,070.4	4,934.5	964.8	363.4	64 2	64.7	65.2	17,786.7
	QLN	64.8	65.7	78.7	158 1	238.9	265.6	245.4	97.1	70.1	64.2	64.7	65.2	1,478.5
	PLN	15,303.0	15,510.7	18,577.5	37,330.3	56,412.5	62,708.0	57,941.1	22,916.9	16,556.7	15,146.9	15,274.0	15,385.5	349,063.1
TIREBOLU	QBI	66.7	68.0	146.0	1,554.4	4,456.6	5,075.6	4,936.7	966.2	364.5	65.7	66 4	67.2	17,834.0
	QBN	82.3	82 3	90.5	156.8	284.2	328.8	304.2	123.4	90.5	82.3	82.3	82.3	1,789.9
	PBN	11,155.1	10,745.6	11,965.8	23,893.0	45,327.2	52,788.1	48,793.8	19,457.8	13,815.7	12,142.7	11,804.3	11,473.3	273,362.4
GÜNYÜZU	QUI	11.7	12.2	16.5	30.5	33.7	21 2	12.8	11.0	11.0	11.5	11.9	12.1	196 1
	QUM	12.1	12 2	13 6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 5

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	32.0	32.0	33.7	58.2	91.8	55.7	32.8	32 0	32.0	32.0	32.0	32.0	496.2
	PTN	8,453.5	8,330.2	9,134.9	17,557.2	28,138.0	17,059.8	9,899.0	9,401.0	9,151 0	8,942.5	8,754.4	8,595.0	143,416.5
KARACUKUR	QRI													
	QRN	32.0	32.0	33 7	58.2	91 8	55.7	32.8	32.0	32 0	32.0	32.0	32.0	496.2
	PRN	13,070.5	13,070.5	13,745.8	23,777.4	37,504 1	22,765.8	13,416.3	13,070.5	13,070.5	13,070 5	13,070.5	13,070.5	202,702.9
KURTÜN	QKI	47.6	51 0	75.7	164.6	190.8	99.9	51.8	44.2	41.9	44.7	46 7	48.9	907.8
	QKN	53.4	53.5	57.5	117.1	171.3	99 4	56.6	54.6	53.4	53.4	53.4	53.4	877.0
	PKN	13,661.4	13,567.6	15,404.7	33,879 7	49,729.6	28,842 4	16,246.7	15,326.1	14,573.3	14,260 1	14,000.6	13,818 6	243,310.8
AKKOY	QYI													
	QYN	53.4	53.5	57.5	117.1	171.3	99.4	56.6	54.6	53 4	53.4	53.4	53 4	877.0
	PYN	16,894.4	16,912.1	18,203.2	37,034.7	54,198.5	31,437.4	17,896.6	17,282 4	16,894.4	16,894.4	16 894 4	16,894.4	277,436.9
DOGANKENT	QDI	57.7	58.4	133.6	1,552 3	4,475.0	5,076.6	4,928.1	958.1	356 7	57.2	57.6	58 0	17,769.3
	QDN	57.7	58 4	70.0	151.7	221.8	242 0	223.5	87.5	62 9	57.2	57.6	58.0	1,348.3
	PDN	24,932.5	25,230 5	30,225.7	65,552.5	95,851.2	104,558 7	96,561.0	37,820.2	27,160 6	24,733.3	24,906.8	25,049.0	582,582.0
ASLANCIK	QLI	58.8	59.7	136.6	1,559.3	4,481.4	5,079.7	4,929.4	958.8	357.4	58 2	58.7	59.2	17,797.2
	QLN	58.8	59.7	72.8	156.0	222.7	242 0	223.6	88.1	63.5	58 2	58.7	59.2	1,363.3
	PLN	13,886.4	14,105.1	17,181.8	36,827.7	52,571.5	57,136.1	52,784.6	20,807 7	15,001.6	13,730 3	13,857.4	13,968.9	321,859.1
TIREBOLU	QBI	60.7	62 0	141.7	1,571 2	4,492.4	5,084 9	4,931.6	960 2	358.5	59.7	60 4	61.2	17,844.5
	QBN	76 3	76 3	83.9	150 9	268.8	305.1	282.2	114 4	83.9	76.3	76 3	76 3	1,670 7
	PBN	10,341 9	9,963.1	11,108.4	23,137.3	42,893.9	48,983 1	45,275.7	18,046.4	12,809.9	11,257.5	10,943.7	10,636.9	255,397.8
GÜNYUZU	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13 1	12.2	12.1	12.1	12.1	12 1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108 1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 6

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133 9	119 1	57.0	23.0	13.4	12.8	17.0	19.5	21 6	518 4
	QTN	26.1	26 5	33.6	74.2	95.7	55 8	28.0	26.1	26.1	26 1	26 1	26.1	470.4
	PTN	5,888 4	5,936.2	8,115.9	19,233.4	24,850.0	14,484.5	7,197.9	6,512.3	6,315 6	6,170.8	6,052 2	5,964 1	116,721.3
KARACUKUR	QRI													
	QRN	26 1	26 5	33 6	73 9	95.2	55.8	28 0	26.1	26 1	26.1	26 1	26.1	469 6
	PRN	10,660 6	10,806.3	13,703.6	30,173.8	38,871.1	22,774.0	11,446.2	10,660.6	10,660 6	10,660 6	10,660 6	10,660 6	191,738.6
KÜRTÜN	QKI	41.7	45 5	75.6	192.4	209.4	100 5	47 0	38 3	36.0	38 8	40 8	43 0	909.0
	QKN	47 6	48.0	57.3	129 6	170.7	99.0	51.8	48.8	47.6	47.6	47 6	47.6	843.2
	PKN	12,162.8	12,174.7	15,449.0	37,545.7	49,556 6	28,739.1	14,890 4	13,699.7	12,988 7	12,706.0	12,471.9	12,305 3	234,689 9
AKKOY	QYI													
	QYN	47.6	48.0	57.3	129.6	170 7	99.0	51.8	48.8	47.6	47.6	47 6	47.6	843.2
	PYN	15,059 4	15,182.6	18,111.4	41,014.2	54,008.8	31,317 0	16,393.8	15,446 3	15,059.4	15,059.4	15,059.4	15,059.4	266,771 1
DOGANKENT	QDI	51.9	52 9	113.4	1,579.7	4,493.6	5,077.0	4,923.4	952.3	350.9	51.4	51 8	52 2	1,7750.5
	QDN	51.9	52.9	67.8	156.4	206.2	218.3	201.6	78.8	56.5	51.4	51 8	52.2	1,245 8
	PDN	22,426 6	22,868.6	29,295.2	67,596.2	89,084.7	94,318 9	87,094.5	34,025 3	24,396.8	22,227.4	22,400 9	22,543.0	538,278.1
ASLANCIK	QLI	53.0	54 3	136.3	1,586.8	4,500.1	5,080.1	4,924.7	953.0	351.6	52 4	52 9	53 4	17,798 6
	QLN	53.0	54.3	70.6	159.9	206 8	218.3	201.7	79.4	57.1	52 4	52 9	53 4	1,259 8
	PLN	12,517 0	12,814.4	16,673.3	37,743.4	48,825.0	51,540 4	47,611.6	18,733.9	13,491.3	12,361 0	12,488.0	12,599.5	297,398.8
TIREBOLU	QBI	54.9	56 6	141 4	1,598.7	4,511.1	5,085 3	4,926.9	954.4	352 7	53.9	54 6	55.4	17,845 9
	QBN	70 5	70.5	77.5	150 2	251.7	281.4	260.3	105.7	77.5	70.5	70.5	70.5	1,566 8
	PBN	9,555.7	9,211.7	10,343.2	23,305.0	40,255.6	45,178.1	41,760.7	16,661.1	11,833.4	10,401 7	10,111.8	9,828 3	238,446 3
GÜNYÜZÜ	QUI	11.7	12.2	16 5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11 9	12.1	196 1
	QUM	12.1	12 2	13.6	22 1	27.3	20.6	13.1	12.2	12.1	12 1	12.1	12 1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262 3	35,698.5	35,247 6	35,187.7	35,143 1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 7

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57 0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	37 8	37 8	37.8	48.2	61.2	46.4	37.8	37.8	37.8	37.8	37.8	37.8	496 0
	PTN	11,136 8	10,919.2	11,159.5	16,007.4	21,424.9	16,131.1	12,808.2	12,515.7	12,189.3	11,896.9	11,623.9	11,370.0	159,182 9
KARACUKUR	QRI													
	QRN	37.8	37.8	37 8	48.2	61 2	46.4	37.8	37.8	37.8	37.8	37 8	37.8	496.0
	PRN	16,332.0	16,332.0	16,332.0	20,812.5	26,455 2	20,056.4	16,332.0	16,332.0	16,332.0	16,332.0	16,332.0	16,332.0	214,312.1
KURTUN	QKI	53.4	56.8	79.8	149.1	155.2	90 6	56.8	50.0	47 7	50.5	52.5	54.7	897.1
	QKN	57.6	58 0	62 4	116.9	147 3	90.5	60.3	58.9	57.6	57.6	57.6	57.6	882.3
	PKN	11,861.0	11,864 6	13,849.8	28,364.8	35,828.2	21,997.2	14,483.0	13,699.2	12,895.8	12,518.2	12,214.9	12,029.0	201,605.7
AKKOY	QYI													
	QYN	57 6	58 0	62.4	116.9	147.3	90.5	60.3	58.9	57.6	57.6	57.6	57.6	882.3
	PYN	18,223.1	18,358.9	19,750.6	36,982.1	46,612.9	28,625.4	19,083.1	18,628.0	18,223.1	18,223.1	18,223.1	18,223.1	279,156.5
DOGANKENT	QDI	61.9	63 0	138.5	1,545 9	4,441.0	5,067.5	4,931.9	962 3	360.9	61 4	61.8	62.2	17,758.3
	QDN	61.9	63.0	76.2	159.3	233.1	257 7	238.0	93.7	67.4	61.4	61.8	62.2	1,435 7
	PDN	26,747.2	27,206.5	32,919.4	68,815.4	100,728.6	111,341.9	102,847.2	40,463.0	29,140.8	26,548.0	26,721.5	26,863 6	620,343.1
ASLANCIK	QLI	63 0	64.3	141.5	1,553.0	4,447.5	5,070.6	4,933.2	963.1	361.6	62.4	62.9	63.4	17,786.5
	QLN	63 0	64.3	79.0	163.9	234.2	257.7	238.1	94.3	68.1	62.4	62 9	63.4	1,451.3
	PLN	14,878.0	15,184.9	18,653.8	38,688 0	55,294.4	60,842.9	56,219.9	22,251.8	16,083.7	14,722.0	14,849.0	14,960.5	342,628.9
TIREBOLU	QBI	64.9	66 6	146.6	1,564.8	4,458.4	5,075.9	4,935.4	964.4	362.7	63.9	64.6	65.4	17,833.6
	QBN	80.5	80.5	88.5	154.3	278.8	320.9	296.9	120.6	88 5	80.5	80.5	80.5	1,751.0
	PBN	10,911.1	10,519.1	11,759.8	23,724.0	44,518.1	51,519.6	47,624.1	19,013.2	13,509.7	11,877.2	11,546.1	11,222 4	267,744.4
GÜNYÜZU	QUI	11.7	12.2	16.5	30 5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12 2	13.6	22.1	27.3	20 6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698 5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 8

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25 1	55.4	133.9	119.1	57.0	23 0	13.4	12.8	17.0	19.5	21.6	518 4
	QTN	32.0	32.0	33.7	58 2	91.8	55.7	32.8	32 0	32.0	32.0	32.0	32.0	496 2
	PTN	8,453 0	8,330.2	9,134.9	17,557 2	28,138.0	17,059.8	9,899.0	9,401.0	9,151.0	8,942.5	8,754.4	8,595.0	143,416.0
KARACUKUR	QRI													
	QRN	32.0	32 0	33.7	58.2	91.8	55.7	32.8	32.0	32.0	32.0	32.0	32.0	496.2
	PRN	13,826 0	13,826.0	14,540.3	25,151 8	39,672.0	24,081.7	14,191.8	13,826.0	13,826.0	13,826.0	13,826.0	13,826 0	214,419.6
KURTÚN	QKI	47.6	51.0	75.7	164.6	190.8	99.9	51.8	44.2	41 9	44.7	46.7	48.9	907.8
	QKN	51.7	52.2	58.4	123.8	169.5	99.4	55 3	53.0	51.7	51.7	51 7	51.7	870.1
	PKN	10,680.0	10,704.9	13,040.3	30,062.5	41,221.0	24,163.3	13,283.8	12,336.1	11,587.1	11,253.8	10,986.6	10,825.6	200,145.0
AKKOY	QYI													
	QYN	51.7	52.2	58.4	123.8	169.5	99.4	55.3	53.0	51.7	51.7	51.7	51.7	870.1
	PYN	16,356 5	16,499.7	18,479.8	39,177.4	53,627.4	31,442.2	17,493.9	16,762.4	16,356 5	16,356.5	16,356.5	16,356.5	275,265.3
DOGANKENT	QDI	56.0	57.1	134.5	1,561.9	4,476.6	5,076 8	4,926.9	956.4	355.0	55.5	55.9	56.3	17,768.9
	QDN	56.0	57.1	70.6	156 3	216.7	234 1	216.2	84 8	61.0	55.5	55.9	56.3	1,320.5
	PDN	24,198.0	24,667.4	30,489.7	67,547.2	93,636.3	101,144 7	93,415.1	36,639 2	26,336.8	23,998 8	24,172.3	24,314.5	570,560.0
ASLANCIK	QLI	57.1	58.4	137.5	1,568.9	4,483.1	5,080.0	4,928.1	957.2	355.7	56 5	57.0	57.5	17,797.0
	QLN	57.1	58.4	73.4	160.4	217.5	234.1	216.3	85.4	61 6	56.5	57 0	57.5	1,335 2
	PLN	13,485 0	13,797.4	17,326.1	37,879.7	51,361.4	55,271.0	51,065.9	20,162.3	14,551.4	13,329.0	13,456.0	13,567.5	315,252.7
TIREBOLU	QBI	59 0	60.7	142.6	1,580.8	4,494.0	5,085.2	4,930.3	958.5	356.8	58.0	58.7	59.5	17,844.1
	QBN	74.7	74 7	82.2	150.3	264.9	299.8	277.3	112.2	82.2	74.7	74.7	74.7	1,642 4
	PBN	10,110 8	9,744.3	10,921.0	23,202.1	42,307.6	48,132.2	44,484.7	17,695.6	12,543.5	11,016.0	10,706.5	10,404.2	251,268 5
GÜNYÜZU	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196 1
	QUM	12.1	12.2	13.6	22.1	27.3	20 6	13.1	12.2	12 1	12 1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 9

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20 6	25 1	55.4	133 9	119.1	57.0	23.0	13 4	12.8	17.0	19.5	21 6	518.4
	QTN	26 1	26 5	33.6	74 2	95.7	55.8	28.0	26 1	26 1	26 1	26 1	26 1	470.4
	PTN	5,888.4	5,936.2	8,115.9	19,233 4	24,850.0	14,484 5	7,197.9	6,512 3	6,315.6	6,170.8	6,052.2	5,964 1	116,721.3
KARACUKUR	QRI													
	QRN	26.1	26.5	33.6	73.9	95 2	55.8	28.0	26 1	26.1	26 1	26.1	26 1	469.6
	PRN	11,276.8	11,430.9	14,495.7	31,917.9	41,117.9	24,090.4	12,107.8	11,276.8	11,276 8	11,276.8	11,276.8	11,276.8	202,821 4
KÜRTÜN	QKI	41.7	45 5	75.6	192 4	209.4	100.5	47.0	38.3	36 0	38 8	40 8	43.0	909.0
	QKN	45.9	46.7	58.2	133.8	168.4	99.3	50.5	47.2	45.9	45.9	45 9	45 9	833 6
	PKN	9,451.8	9,562.5	13,086.8	32,494 8	40,938.3	24,141.8	12,143.1	10,979 8	10,276.4	9,975.5	9,733 8	9,585.6	192,370.2
AKKOY	QYI													
	QYN	45.9	46 7	58.2	133.6	168 0	99.3	50.5	47.2	45.9	45.9	45 9	45.9	833.0
	PYN	14,521 6	14,770.3	18,406.0	42,275 4	53,150 0	31,408.7	15,990.1	14,926.5	14,521.6	14,521.6	14,521.6	14,521 6	263,535.0
DOGANKENT	QDI	50.2	51 6	134.3	1,589.2	4,495.1	5,077 5	4,922.1	950.6	349 2	49 7	50.1	50.5	17,770 1
	QDN	50 2	51.6	68.6	159 7	202.8	213.0	196.6	76 5	54 6	49.7	50.1	50 5	1,223.9
	PDN	21,692.1	22,305.4	29,621 3	68,997 2	87,618 7	92,028.7	84,960 0	33,031.6	23,610.4	21,492 9	21,666.4	21,808.5	528,833 2
ASLANCIK	QLI	51.3	53 0	137.3	1,596 3	4,501.6	5,080.6	4,923.4	951.4	349.9	50.7	51 2	51.7	17,798 4
	QLN	51.3	53 0	71.4	162.9	203.1	213.0	196.7	77 1	55.3	50.7	51.2	51 7	1,237.4
	PLN	12,115 7	12,506 7	16,851.5	38,458.3	47,960.3	50,289 2	46,445.3	18,190.9	13,061.6	11,959.6	12,086.7	12,198 2	292,124.0
TIREBOLU	QBI	53.2	55 3	142 3	1,608.1	4,512.6	5,085 8	4,925.6	952.7	351.0	52 2	52.9	53 7	17,845 4
	QBN	68 6	68.6	75.6	151.0	246.5	273 5	253.0	102 8	75 4	68.6	68.6	68 6	1,520.8
	PBN	9,324.4	9,002.4	10,181.1	23,587.1	39,450.2	43,909.7	40,589.8	16,206.8	11,519 7	10,131.5	9,853.0	9,581.1	233,336 8
GÜNYÜZÜ	QUI	11.7	12 2	16.5	30.5	33.7	21.2	12.8	11 0	11.0	11.5	11 9	12.1	196.1
	QUM	12 1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12 1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187 7	35,143.1	35,108 1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 10

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133 9	119.1	57 0	23.0	13 4	12.8	17.0	19.5	21.6	518.4
	QTN	0.0	0.0	0.0	0.0	0.0	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	PTN	0 0	0 0	0.0	0 0	0 0	0.0	0.0	0.0	0 0	0.0	0 0	0.0	0 0
KARACUKUR	QRI													
	QRN	0.0	0.0	0 0	0.0	0.0	0.0	0 0	0.0	0.0	0 0	0.0	0 0	0.0
	PRN	0.0	0.0	0.0	0 0	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KURTÜN	QKI	36.2	44.2	97.5	229.3	212 1	101.1	42.0	25.5	22.7	29.7	34.2	38 5	913.0
	QKN	46.8	47 5	58.7	133.4	170.1	99.6	51 2	47.6	46.8	46 8	46.8	46 8	842.1
	PKN	13,102.0	13,184.9	18,015.4	44,928 2	57,416 4	33,630.0	17,061.1	15,298.1	14,441.3	13,977 9	13,608.4	13,334 7	267,998.4
AKKOY	QYI													
	QYN	46.8	47.5	58.7	133.4	170.1	99.6	51 2	47.6	46.8	46 8	46.8	46.8	842.1
	PYN	14,806.3	15,018.1	18,557.2	42,197.0	53,813.7	31,521.5	16,204 0	15,045.6	14,806.3	14,806.3	14,806.3	14,806.3	266,388.6
DOGANKENT	QDI	51.1	52 4	134.8	1,587.0	4,495 2	5,077.7	4,922.8	951.0	350.1	50.6	51.0	51.4	17,775.1
	QDN	51.1	52.4	69.1	159 6	205.1	215.7	199.2	77.7	55.6	50 6	51.0	51.4	1,238.5
	PDN	22,080.9	22,643.9	29,861.0	68,952.1	88,616.6	93,195 7	86,049.1	33,550.0	24,025 2	21,881 7	22,055.2	22,197.4	535,108.8
ASLANCIK	QLI	52.2	53 8	137.8	1,594 0	4,501.7	5,080.9	4,924.1	951.8	350 8	51.6	52 1	52.6	17,803.4
	QLN	52.2	53 8	71.9	162.8	205.4	215.7	199.2	78 3	56.3	51.6	52.1	52.6	1,251.9
	PLN	12,328 2	12,691.7	16,982.5	38,433.6	48,505.5	50,926.5	47,040.2	18,474.2	13,288.3	12,172 1	12,299.2	12,410 7	295,552.7
TIREBOLU	QBI	54.1	56 0	142.8	1,605.9	4,512.6	5,086 1	4,926.3	953.1	351.9	53 1	53.8	54 6	17,850.3
	QBN	69.7	69.7	77.2	151.8	250.4	278.8	257.9	104.6	76.7	69 7	69.7	69 7	1,545.9
	PBN	9,447.3	9,112.2	10,347.9	23,647.4	40,063.8	44,760.6	41,372.5	16,487.9	11,702.3	10,283.7	9,997.1	9,716 8	236,939.5
GÜNYÜZU	QUI	11.7	12.2	16.5	30.5	33.7	21 2	12.8	11 0	11.0	11.5	11 9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20 6	13.1	12.2	12.1	12.1	12 1	12.1	181.6
	PUN	35,067 2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698 5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 11

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21 6	518.4
	QTN	37.8	37 8	37.8	48.2	61.2	46 4	37.8	37.8	37.8	37.8	37.8	37.8	496.0
	PTN	11,136.8	10,919.2	11,159 5	16,007 4	21,424.9	16,131.1	12,808.2	12,515.7	12,189.3	11;896.9	11,623 9	11,370.0	159,182.9
KARACUKUR	QRI													
	QRN	37.8	37.8	37.8	48 2	61.2	46.4	37.8	37.8	37.8	37.8	37.8	37.8	496.0
	PRN	13,654.6	13,654.6	13,654.6	17,400 6	22,118 3	16,768.4	13,654.6	13,654.6	13,654.6	13,654.6	13,654.6	13,654.6	179,178.7
KURTÜN	QKI	38.4	38.5	39.4	57 5	65.6	48.0	38.5	38.2	38.2	38 3	38.3	38.4	517.3
	QKN	38.4	38.5	39.4	51.7	64 4	48.0	38 5	38.2	38.2	38.3	38 3	38.4	510 3
	PKN	12,320.5	12,364.3	12,641.5	16,594.2	20,690.4	15,421.2	12,347.2	12,259.5	12,253.1	12,292 6	12,313.0	12,335.5	163,833 0
AKKOY	QYI													
	QYN	53.4	56.8	76.3	89.4	87.6	80.0	56 7	49.8	47.7	50.5	52.5	54.7	755.4
	PYN	16,887 0	17,979 5	24,132.0	28,283.8	27,719.6	25,313.1	17,924.7	15,741.7	15,087.9	15,966 3	16,621.2	17,320.4	238,977.2
DOGANKENT	QDI	68.6	72.7	101 6	193.7	205.5	119.7	73.5	64.4	61.9	65.2	67.7	70.2	1,164.7
	QDN	68.6	72.7	98 1	118.2	116 0	106.9	73.4	64.4	61 9	65.2	67.7	70.2	983.3
	PDN	29,627.6	31,417.1	42,372.3	51,075.7	50,124.6	46,179 7	31,730.0	27,834.6	26,726.4	28,171.1	29,239.0	30,336.0	424,834.1
ASLANCIK	QLI	69.7	74.1	104.6	200.8	212.0	122.8	74.8	65.2	62.6	66.1	68 7	71.4	1,192.8
	QLN	69.7	74.1	100.0	118.3	116 2	108 4	74.6	65.1	62 6	66.1	68 7	71.4	995.2
	PLN	16,452.0	17,485.7	23,606.7	27,939.3	27,445 6	25,604.2	17,619.7	15,381.9	14,679 1	15,608.9	16,224.7	16,858.0	234,995.8
TIREBOLU	QBI	71.6	76.4	109.6	212.6	222.9	128.0	77 0	66.5	63.7	67.7	70 5	73.4	1,239.9
	QBN	73 8	75.2	94.4	188.2	213 5	127.7	78.9	74.3	72.6	72.6	73 1	74.3	1,218 6
	PBN	11,300.2	11,541.9	14,910.2	30,217.9	34,272.4	20,504.2	12,630.3	11,736.6	11,295.6	11,198.7	11,221.5	11,391.6	192,221.1
GÜNYÜZU	QUI	11.7	12 2	16 5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196 1
	QUM	12.1	12.2	13 6	22.1	27.3	20 6	13.1	12.2	12.1	12 1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650 8	6,4671.9	79,901.2	60,463 3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108 1	529,615 0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM, AND ENERGY PRODUCTION (PN - MWH) OF CASE 12

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20 6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.1	21.6	518.4
	QTN	25.1	25.7	34.0	75.3	95.0	55.8	27.2	25.1	25.1	25.1	25.1	25.1	463.6
	PTN	5,706.1	5,822.2	8,289.0	19,529.0	24,662.5	14,490.5	6,998.7	6,282.6	6,105.2	5,978.9	5,880.5	5,809.0	115,554.2
KARACUKUR	QRI													
	QRN	25.1	25.7	34.0	75.0	94.4	55.8	27.2	25.1	25.1	25.1	25.1	25.1	462.7
	PRN	10,844.5	11,092.5	14,680.1	32,410.5	40,799.7	24,099.0	11,756.4	10,844.8	10,844 8	10,844.8	10,844.8	10,844.8	199,907.0
KÜRTÜN	QKI	25.7	26.4	35.5	103.4	119.2	58.0	27.9	25.5	25.5	25.6	25.6	25.7	524.0
	QKN	25.7	26.4	35.5	77.2	95.7	57.3	27.9	25.5	25.5	25.6	25.6	25.7	473.6
	PKN	6,363.7	6,539.7	8,812.2	19,125.9	23,713.8	14,203 3	6,907.5	6,316.6	6,311.7	6,342.3	6,358.0	6,375.3	117,370.0
AKKOY	QYI													
	QYN	40.7	44.7	68.3	89.0	87.4	82.2	46.1	37.3	35.0	37.8	39.8	42.0	650.3
	PYN	12,869 0	14,143.0	21,615.7	28,163.6	27,635.2	25,995.4	14,597.5	11,794.4	11,069.9	11,948.4	12,603.3	13,302.5	205,737.9
DOGANKENT	QDI	55.9	60.6	97.8	239.6	259.0	129.6	62.9	51.7	49.2	52.5	55.0	57.5	1,171.3
	QDN	55.9	60.6	89.7	117.8	115.9	108.8	62.9	51.7	49.2	52.5	55.0	57.5	877.5
	PDN	24,140.4	26,177.6	38,755.8	50,892.8	50,093.8	46,994.8	27,178.4	22,347.4	21,239.2	22,683.9	23,751.8	24,848.8	379,104.7
ASLANCIK	QLI	57.0	61.9	100.8	246 6	265.5	132.7	64.2	52.5	49.9	53.4	56.0	58.7	1,199.2
	QLN	57.0	61.9	91.7	117.9	116.1	109.7	64.1	52.5	49.9	53.4	56.0	58.7	888.9
	PLN	13,453.6	14,622.6	21,646.9	27,839.4	27,402 0	25,902.9	15,136 8	12,395.9	11,770.6	12,610.4	13,226.2	13,859.5	209,866.8
TIREBOLU	QBI	58.9	64.2	105.8	258.5	276.5	138.0	66.4	53.8	51.0	55.0	57.8	60.7	1,246.6
	QBN	61.6	63.5	88.7	193.2	223.0	136.2	68.8	62 5	60.8	60.8	60.9	62.1	1,142.1
	PBN	9,370.2	9,679.1	13,983.5	38,031.8	44,337.7	22,108.7	10,999.2	9,847.3	9,425.3	9,330.2	9,289.0	9,459.1	195,861.1
GÜNYÜZÜ	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 13

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57 0	23.0	13.4	12.8	17 0	19.5	21.6	518.4
	QTN	0.0	0.0	0.0	0.0	0.0	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0 0
	PTN	0.0	0 0	0.0	0.0	0.0	0 0	0.0	0.0	0.0	0.0	0.0	0 0	0.0
KARACUKUR	QRI													
	QRN	0.0	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 0	0.0	0.0	0 0
	PRN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 0	0.0	0.0	0.0
KÜRTÜN	QKI	36.2	44 2	97.5	229.3	212.1	101.1	42.0	25.5	22.7	29.7	34.2	38.5	913.0
	QKN	31 2	32.4	34.8	34.8	34.8	34.8	32.4	24.4	22.7	27.3	28.6	30.9	369.1
	PKN	4,647.4	4,814.9	5,176.3	5,176.3	5,176.3	5,176.3	4,812.8	3,627.4	3,374.8	4,066.3	4,258 2	4,592 6	54,899.6
AKKOY	QYI													
	QYN	31.2	32.4	34.8	34.8	34.8	34.8	32.4	24.4	22.7	27.3	28 6	30.9	369.1
	PYN	9,884 9	10,241 1	11,009.8	11,009.8	11,009.8	11,009.8	10,236.6	7,715.5	7,178.2	8,648.8	9,057 1	9,768.3	116,769.7
DOGANKENT	QDI	40 5	49 1	173.6	1,650.6	4,499.3	5,078.2	4,913.6	929.0	326.0	133.5	38 4	43.1	17,774.9
	QDN	40 5	48.4	69.7	73.6	73.0	73 6	69.2	34.5	27.6	33.5	38 1	42.0	623.7
	PDN	17,487.1	20,919.8	30,124.1	31,799.8	31,522 4	31,799.8	29,892.8	14,892.5	11,936.0	14,474.4	16,455 8	18,143.7	269,448.2
ASLANCIK	QLI	41.6	50.5	176.6	1,657.6	4,505 8	5,081 3	4,914 9	929.8	326.7	34.4	39.5	44.3	17,803.0
	QLN	41.6	49.6	70.3	73 6	73.0	73 6	69.3	35 1	28.3	34.4	39.0	43.0	630.8
	PLN	9,814.1	11,703.0	16,586.6	17,377.0	17,236.4	17,377.0	16,353.8	8,278.9	6,682.1	8,124.4	9,211.4	10,162.9	148,907.6
TIREBOLU	QBI	43.5	52.8	181.6	1,169.5	4,516.7	5,086.5	4,917.0	931.1	327.8	35.9	41.2	46.3	17,849.9
	QBN	56.5	57.8	71.4	166.9	216.0	226.2	209.2	84.8	62.2	56 5	56 5	57.2	1,321.2
	PBN	7,294.9	7,380.7	10,294.4	26,747.0	34,671.4	36,316.0	33,555.3	13,237.5	9,199.9	7,973 2	7,697 5	7,579.2	201,947.0
GÜNYÜZU	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12 8	11.0	11 0	11 5	11 9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12 2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213 3	39,650.8	64,671.9	79,901.2	60,463.3	38,262 3	35,698.5	35,247.6	35,187.7	35,143 1	35,108 1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 14

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25 1	55 4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19 5	21.6	518.4
	QTN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 0	0 0	0.0
	PTN	0.0	0 0	0.0	0.0	0 0	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KARACUKUR	QRI													
	QRN	0.0	0 0	0 0	0.0	0.0	0.0	0.0	0 0	0 0	0.0	0.0	0.0	0 0
	PRN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 0	0.0	0.0
KURTÜN	QKI	36 2	44.2	97.5	229.3	212.1	101.1	42.0	25.5	22.7	29.7	34 2	38.5	913.0
	QKN	35.5	40 3	84.9	187.1	183.8	100.5	43.4	33.3	32.0	32 6	36.7	38.4	848.5
	PKN	7,961.5	9,237.0	20,436.2	45,499.7	44,685.0	24,431.8	10,516 4	7,846.2	7,269.2	7,315.1	8,213.6	8,621.9	202,033.6
AKKOY	QYI													
	QYN	35.5	40.3	67.3	89.4	87.4	82.3	43.4	33.3	32.0	32.6	36 7	38 4	618.6
	PYN	11,221.4	12,755.0	21,293.2	28,283.8	27,652.1	26,024.4	13,722.9	10,538.8	10,126 7	10,316.0	11,595.6	12,134 9	195,664 8
DOGANKENT	QDI	41.4	47.3	99.8	256.0	243.1	116.1	50.3	37.6	36.2	37.8	42 7	44 9	1,053 2
	QDN	41.4	47.3	86.2	118.4	115.3	102 9	50.3	37 6	36.2	37.8	42.7	44.9	761.0
	PDN	17,878.1	20,442.0	37,234.5	51,156.2	49,809.1	44,462.2	21,725 9	16,242 8	15,639.1	16,339.5	18,430 4	19,402.4	328,762.2
ASLANCIK	QLI	42.5	48 7	102 8	263.1	249.6	119 2	51.6	38 4	36 9	38.7	43.7	46.1	1,081.3
	QLN	42 5	48.7	87.5	118.4	115.4	104.3	51.6	38.4	36 9	38.7	43.7	46.1	772.2
	PLN	10,031.5	11,488.4	20,649.8	27,954.2	27,246.4	24,634.3	12,175.1	9,060.0	8,710.5	9,143.5	10,318.4	10,883.3	182,295.4
TIREBOLU	QBI	44.4	51.0	107.8	274.9	260.5	124.5	53.8	39.7	38.1	40 3	45.5	48.1	1,128.6
	QBN	57.9	58.8	72.8	166.5	210.7	123.2	63.4	58.8	57.9	57.9	57.9	57.9	1,043.7
	PBN	7,678.7	7,645.5	10,468.4	26,655.8	33,822.5	19,775.5	10,030.8	9,007.0	8,559.5	8,294.6	8,093.3	7,891.6	157,923.2
GÜNYÜZÜ	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12 1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

Table A3-4

Monthly Energy Production of Harsit Project in P. F = 70%

Without Cunyuzu Project (Case 2 - 8, Case 10 - 12 and Case 14)

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 2

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20 6	25 1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19 5	21.6	518 4
	QTN	32 0	32.0	33.7	58 2	91.8	55 7	32.8	32.0	32 0	32.0	32 0	32.0	496 2
	PTN	8,440.1	8,316.4	9,121.8	17,548.6	28,111 8	17,043 7	9,888 0	9,390 0	9,139 6	8,930 3	8,741.8	8,582 0	143,254.1
KARACUKUR	QRI													
	QRN	32 0	32.0	33.2	38 8	45 2	44 0	32 8	32 0	32 0	32 0	32.0	32.0	418.0
	PRN	11,559.5	11,559 5	11,974 9	14,002 6	16,319 3	15,882 2	11,865.3	11,559 5	11,559.5	11,559.5	11,559.5	11,559.5	150,960.8
KÜRTÜN	QKI	47.6	51 0	75 7	164.7	190 8	99.9	51.8	44.2	41.9	44.7	46 7	48.9	907 9
	QKN	56.3	56.3	58.3	106.3	166.0	99.1	58.9	57.4	56 3	56.3	56.3	56 3	883.8
	PKN	16,801.1	16,615 1	17,818.3	35,445.4	55,947.0	33,374 7	19,581.3	18,713 4	17,913.9	17,560.1	17,252.5	17,008.8	284,031 6
AKKOY	QYI													
	QYN	56.3	56 3	57 1	68 8	78.5	76 4	58 5	57.1	56.3	56.3	56 3	56.3	734.2
	PYN	17,811.9	17,811.9	18,078.7	21,775 8	24,822.3	24,154.0	18,510.9	18,078 7	17,811.9	17,811.9	17,811.9	17,811.9	232,291 8
DOGANKENT	QDI	62.2	63 3	73 2	150.8	209.8	114.3	65.7	61.7	60.5	61.5	62.3	62.9	1,048.2
	QDN	62 2	63 3	72.2	97 9	105.8	97.9	65.7	61.7	60.5	61 5	62 3	62.9	873.9
	PDN	26,878 6	27,348.1	31,191 8	42,298.7	45,699.5	42,312.2	28,394.6	26,662.2	26,134.5	26,576.3	26,919.9	27,155.3	377,571.7
ASLANCIK	QLI	63.3	64.7	76.2	157.9	216.3	117 4	67.0	62.5	61.2	62.4	63.4	64.0	1,076.3
	QLN	63 3	64.7	75.0	100.8	106.2	99.0	67.0	62 5	61 2	62 4	63.4	64 0	889.5
	PLN	14,949.8	15,262.3	17,709.7	23,802.9	25,070.8	23,380.9	15,819.1	14,753.6	14,445.6	14,737.4	14,957.4	15,119.9	210,009.4
TIREBOLU	QBI	65.2	66.9	81.3	169.7	227.3	122 7	69.2	63.8	62.4	64.0	65 1	66.0	1,123 6
	QBN	79 2	79 2	79.2	110.0	171.7	113.3	80 9	80 1	79 2	79.2	79.2	79 2	1,110.4
	PBN	9,969.6	9,582.4	9,616.0	14,852.9	23,082 2	16,565.3	12,412.8	11,977 2	11,407.8	11,026.3	10,668.5	10,310.4	151,471.4
GÜNYÜZÜ	QUI	11 7	12.2	16 5	30 5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12 1	196 1
	QUM	12.1	12 2	13 6	22.1	27.3	20.6	13.1	12.2	12.1	12 1	12.1	12.1	181.6
	PUN	35,067 2	35,213 3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698 5	35,247.6	35,187.7	35,143 1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 3

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20 6	25.1	55.4	133.9	119.1	57.0	23.0	13 4	12.8	17.0	19.5	21.6	518.4
	QTN	26.1	26 5	33.6	74.2	95 7	55 8	28.0	26.1	26.1	26.1	26 1	26.1	470.4
	PTN	5,888.4	5,936 2	8,115.9	19,233 4	24,850 0	14,484.5	7,197.9	6,512.3	6,315.6	6,170.8	6,052.2	5,964 1	116,721.3
KARACUKUR	QRI													
	QRN	26.1	26 5	28.4	37.0	39.1	38 3	27.8	26.1	26.1	26 1	26.1	26.1	353.7
	PRN	9,428.2	9,557.0	10,250.6	13,376.5	14,107.4	13,820.8	10.030.3	9,428 2	9,428 2	9,428 2	9,428.2	9,428.2	127,711.8
KURTÜN	QKI	41.7	45 5	75.6	192 4	209.4	100 5	47.0	38.3	36 0	38.8	40.8	43.0	909.0
	QKN	50 4	50 4	57 1	120 1	173 0	99 5	54.0	51.5	50.4	50.4	50.4	50.4	857.6
	PKN	15,069.3	14,912.1	17,674.6	40,276.9	58,368.1	33,546 7	17,985.4	16,815.3	16,060.4	15,745.7	15,470.5	15,253.3	277,178 3
AKKOY	QYI													
	QYN	50 4	50 4	52 7	65.5	72.0	70.8	53.1	51.2	50.4	50.4	50.4	50 4	667.7
	PYN	15,945.2	15,945.2	16,679.2	20,721 5	22,772.2	22,390.7	16,792.9	16,189 9	15,945.2	15,945.2	15,945.2	15,945.2	211,217.6
DOGANKENT	QDI	56.3	57.4	72.0	175 7	232.4	115 3	60.8	55.8	54.6	55.6	56.4	57.0	1,049.3
	QDN	56.3	57 4	68.2	94 5	99.5	94.2	60.8	55.8	54 6	55.6	56.4	57.0	810.3
	PDN	24,329.4	24,798 9	29,459.4	40,816.8	42,974.4	40,712 0	26,260.1	24,113.0	23,585.4	24,027.2	24,370 7	24,606.1	350,053.4
ASLANCIK	QLI	57.4	58.8	75.0	182 8	238 9	118.5	62 1	56.6	55.3	56.5	57.5	58.1	1,077 5
	QLN	57 4	58 8	70 7	96.7	99 7	95.1	62 0	56.6	55.3	56 5	57 5	58.1	824.4
	PLN	13,556 8	13,869 3	16,689.1	22,836.2	23,538.5	22,450 0	14,630.7	13,360 7	13,052.7	13,344 5	13,564.4	13,726.9	194,619.8
TIREBOLU	QBI	59.3	61 0	80.1	194 6	249.9	123 7	64.3	57.9	56.5	58.1	59.2	60.1	1,124.7
	QBN	73.4	73 4	75.0	123.0	192.9	122 7	76.1	74.3	73.4	73.4	73.4	73.4	1,104.4
	PBN	9,423.4	9,092.8	9,420.2	18,466.3	30,664.3	19,419.1	11,699.6	11,089.3	10,604.0	10,288.1	9,998.0	9,705 5	159,870.6
GÜNYÜZÜ	QUI	11.7	12 2	16.5	30 5	33.7	21.2	12 8	11 0	11.0	11.5	11 9	12.1	196 1
	QUM	12.1	12 2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12 1	12.1	12.1	181 6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463 3	38,262.3	35,698.5	35,247.6	35,187 7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 4

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133 9	119.1	57.0	23.0	13.4	12 8	17.0	19.5	21.6	518 4
	QTN	37.8	37.8	37.8	48 2	61 2	46 4	37.8	37.8	37.8	37.8	37 8	37.8	496.0
	PTN	11,136.8	10,919.2	11,159.5	16,007 4	21,424.9	16,131.1	12,808.2	12,515.7	12,189.3	11,896.9	11,623 9	11,370.0	159,182.9
KARACUKUR	QRI													
	QRN	37 8	37 8	37.8	39.8	43.0	42.7	37.8	37.8	37.8	37.8	37.8	37.8	465.7
	PRN	15,439.5	15,439.5	15,439.5	16,242 8	17,577 1	17,435 5	15,439.5	15,439.5	15,439 5	15,439.5	15,439.5	15,439.5	190,210.9
KURTÜN	QKI	53.4	56.8	79.8	149.1	155 2	90 6	56 8	50 0	47.7	50 5	52.5	54.7	897.1
	QKN	59.4	59.4	61.8	107.1	146 3	90 2	61.7	60.6	59.4	59.4	59.4	59.4	884 1
	PKN	15,134 1	15,006.5	16,435.9	30,967 2	42,471.1	26,185.2	17,698.6	16,184 4	15,827.4	15,827.4	15,528 2	15,316 7	243,743.6
AKKOY	QYI													
	QYN	59.4	59 4	61.1	79.1	86 7	79 7	61 6	60.4	59 4	59.4	59.4	59 4	785 0
	PYN	18,792.6	18,795 6	19,334.1	25,019.3	27,436.6	25,228 0	19,482 0	19,109 0	18,792.6	18,792.6	18,792 6	18,792.6	248,367.6
DOGANKENT	QDI	65.3	66 4	76.8	148.2	183.1	105 5	68 5	64.9	63.6	64 6	65.4	66 0	1,038.3
	QDN	65.3	66.4	76.2	107.9	114 2	97.6	68.5	64.9	63.6	64 6	65.4	66 0	920.6
	PDN	28,218.0	28,691.5	32,907.8	46,616 2	49,344.5	42,168.7	29,612.5	28,041.9	27,473 9	27,915.7	28,259.3	28,494 7	397,744.7
ASLANCIK	QLI	66.4	67 8	79.8	155.2	189.6	108 6	69.8	65 7	64.3	65 5	66.5	67 1	1,066.3
	QLN	66.4	67.8	79.0	110.5	114.4	99.5	69 8	65.7	64.3	65.5	66 5	67 1	936.5
	PLN	15,681 7	15,996 4	18,647.4	26,089.4	27,019.3	23,485.5	16,484.7	15,507.6	15,177.6	15,469 4	15,689.3	15,851.8	221,100.1
TIREBOLU	QBI	68.3	70.1	84.8	167.1	200.6	113.8	72.0	67.0	65.5	67.1	68 2	69.1	1,113.6
	QBN	82.3	82.3	82 3	105 3	149.2	107.8	83.6	83.3	82.3	82 3	82.3	82.3	1,105.3
	PBN	9,667.7	9,319.9	9,486.5	17,208.5	28,686.2	18,575.3	11,988.9	11,433.3	10,913 2	10,581.3	10,271.9	9,965.2	158,097.9
GÜNYÜZU	QUI	11.7	12 2	16.5	30 5	33.7	21.2	12.8	11.0	11 0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20 6	13.1	12.2	12 1	12.1	12.1	12 1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463 3	38,262 3	35,698.5	35,247 6	35,187.7	35,143.1	35,108 1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 5

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25 1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21 6	518.4
	QTN	32.0	32 0	33.7	58.2	91.8	55.7	32 8	32 0	32 0	32.0	32.0	32 0	496.2
	PTN	8,453.5	8,330.2	9,134.9	17,557.2	28,138.0	17,059 8	9,899.0	9,401.0	9,151.0	8,942.5	8,754.4	8,595.0	143,416.5
KARACUKUR	QRI													
	QRN	32.0	32.0	33 2	38.8	45 2	44.0	32.8	32.0	32.0	32.0	32.0	32.0	418.0
	PRN	13,070 5	13,070.5	13,540.2	15,833 0	18,452.5	17,958.3	13,416.3	13,070.5	13,070 5	13,070.5	13,070.5	13,070 5	170,693.8
KURTÜN	QKI	47.6	51.0	75 7	164.6	190.8	99.9	51.8	44.2	41.9	44 7	46.7	48 9	907.8
	QKN	53.4	53.5	57.5	117.1	171.3	99.4	56.6	54.6	53.4	53.4	53.4	53 4	877.0
	PKN	13,661.4	13,567.6	15,404.7	33,879.6	49,729.6	28,842.4	16,246.7	15,326.1	14,573.3	14,260.1	14,000 6	13,818.6	243,310.8
AKKÖY	QYI													
	QYN	53.4	53 5	55 4	69 4	74.4	73 0	55.9	54.2	53.4	53.4	53.4	53.4	702.8
	PYN	16,894.4	16,912 1	17,532 6	21,964.4	23,528.8	23,104 8	17,673.2	17,135.9	16,894.4	16,894 4	16,894.4	16,894.4	222,323.8
DOGANKENT	QDI	59.3	60.5	72.5	165.0	218.9	114.8	63.4	58.9	57.6	58.6	59.4	60 0	1,048.9
	QDN	59.3	60.5	70 6	98 4	101 8	95 5	63.4	58.9	57.6	58.6	59.4	60.0	844.0
	PDN	25,625.6	26,119.3	30,498.3	42,509.6	43,969.0	41,270.1	27,406.1	25,452 4	24,881.5	25,323.3	25,666.9	25,902.3	364,624.4
ASLANCIK	QLI	60.4	61 8	75 4	172.0	225 4	117.9	64.7	59.7	58.3	59 5	60.5	61 1	1,076.7
	QLN	60 4	61.8	73.2	100 4	102.0	96.6	64.7	59.7	58.3	59 5	60 5	61 1	858.2
	PLN	14,265.1	14,590 8	17,289.8	23,696.6	24,081.9	22,801.9	15,264.8	14,092.6	13,761.0	14,052 8	14,272.7	14,435 2	202,605.2
TIREBOLU	QBI	62.3	64 1	80.5	183.9	236.4	123.1	66 9	61.0	59.5	61.1	62 2	63.1	1,124.1
	QBN	76.3	76.3	77 0	116.6	181.7	118.1	78.6	77.3	76.3	76 3	76.3	76 3	1,107.1
	PBN	8,215.4	8,106 5	10,198.1	28,760.3	40,144.7	19,774 2	10,376.8	9,521 5	9,001.7	8,753.1	8,548 9	8,372.3	169,773 5
GÜNYÜZÜ	QUI	11 7	12.2	16.5	30.5	33.7	21.2	12 8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12 2	12.1	12.1	12 1	12.1	181 6
	PUN	35,067 2	35,213.3	39,650.8	64,671.9	79,901.2	60,463 3	38,262.3	35,698 5	35,247.6	35,187 7	35,143 1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 6

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	26 1	26.5	33.6	74 2	95.7	55.8	28.0	26.1	26.1	26.1	26.1	26.1	470.4
	PTN	5,888 4	5,936 2	8,115.9	19,233 4	24,850.0	14,484 5	7,197.9	6,512.3	6,315.6	6,170.8	6,052.2	5,964.1	116,721.3
KARACUKUR	QRI													
	QRN	26.1	26.5	28.4	37.0	39.1	38 3	27.8	26.1	26.1	26 1	26.1	26.1	353 7
	PRN	10,660.6	10,806 3	11,590.5	15,125 0	15,951.5	15,627 4	11,341.4	10,660.6	10,660.6	10,660 6	10,660.6	10,660 6	144,405 7
KURTÜN	QKI	41.7	45.5	75 6	192.4	209 4	100.5	47.0	38 3	36.0	38 8	40.8	43.0	909.0
	QKN	47.6	48.0	57.3	129.6	170 7	99.0	51.8	48 8	47 6	47.6	47.6	47.6	843.2
	PKN	12,162 8	12,174.7	15,449.0	37,545.7	49,556.6	28,739.1	14,890.4	13,699.7	12,988.7	12,706.0	12,471.9	12,305.3	234,689.9
AKKOY	QYI													
	QYN	47.6	48 0	50.7	64.5	67.5	66 2	50.6	48.3	47.6	47.6	47.6	47.6	633.8
	PYN	15,059.4	15,182 6	16,028.5	20,395.7	21,344.2	20,939 9	15,999.6	15,278.8	15,059.4	15,059 4	15,059.4	15,059.4	200,466 3
DOGANKENT	QDI	53 5	55.0	72.2	192.4	237 6	115.2	58.7	53 1	51.8	52.8	53.6	54.2	1,050 1
	QDN	53.5	55 0	66 1	93.0	95.0	90.6	58 4	53 1	51.8	52 8	53.6	54.2	777.1
	PDN	23,119 6	23,757.4	28,575.9	40,164.2	41,029.4	39,131.2	25,251.5	22,945.0	22,375.6	22,817.4	23,160.9	23,396.4	335,724.5
ASLANCIK	QLI	54.6	56 3	75 2	199 5	244.1	118 3	60 0	53.9	52.5	53.7	54.7	55 3	1,078.1
	QLN	54.6	56 3	68.6	94 0	95.2	91.2	59.6	53.9	52.5	53.7	54.7	55.3	789.6
	PLN	12,895.8	13,300.1	16,206 3	22,194 8	22,475 6	21,528.0	14,079.6	12,721 0	12,391.6	12,683.4	12,903.3	13,065.9	186,445.4
TIREBOLU	QBI	56 5	58 6	80.2	211.4	255.1	123 5	62.2	55 2	53.7	55.3	56.4	57.3	1,125.4
	QBN	70.5	70.5	72.9	130.8	205.4	122.5	73.6	71.5	70.5	70.5	70 5	70.5	1,099.7
	PBN	9,179.6	8,876.0	9,379.2	20,091.3	32,779.3	19,471.7	11,414.1	10,765.2	10,284.6	9,989 3	9,716.5	9,445.7	161,392.5
GÜNYÜZU	QUI	11.7	12 2	16.5	30.5	33.7	21.2	12 8	11.0	11.0	11 5	11.9	12.1	196 1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13 1	12.2	12 1	12 1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262 3	35,698.5	35,247.6	35,187.7	35,143.1	35,108 1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 7

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133 9	119.1	57 0	23.0	13.4	12.8	17.0	19 5	21.6	518.4
	QTN	37.8	37.8	37.8	48.2	61.2	46.4	37.8	37.8	37.8	37.8	37.8	37 8	496.0
	PTN	11,136.8	10,919 2	11,159.5	16,007.4	21,424.9	16,131.1	12,808.2	12,515.7	12,189.3	11,896.9	11,623.9	11,370 0	159,182.9
KARACUKUR	QRI													
	QRN	37.8	37.8	37.8	39.8	43.0	42.7	37.8	37.8	37.8	37.8	37.8	37.8	465.7
	PRN	16,332.0	16,332.0	16,332.0	17,181.7	18,593.1	18,443.3	16,332.0	16,332.0	16,332.0	16,332 0	16,332.0	16,332.0	201,206.1
KURTÜN	QKI	53.4	56.8	79.8	149.1	155.2	90.6	56.8	50.0	47.7	50 5	52.5	54.7	897.1
	QKN	57.6	58.0	62.4	116.9	147.3	90.5	60.3	58.9	57.6	57.6	57.6	57.6	882.3
	PKN	11,861.0	11,864.6	13,849.8	28,364 8	35,828.2	21,997.2	14,483 0	13,699.2	12,895.8	12,518 2	12,214.9	12,029.0	201.605.7
AKKOY	QYI													
	QYN	57.6	58 0	61 3	79.4	82.5	78.1	60.0	58.5	57.6	57.6	57.6	57.6	765.8
	PYN	18,223.1	18,358.9	19,382 7	25,124.4	26,095.7	24,694.0	18,998.1	18,503.6	18,223.1	18,223.1	18,223.1	18,223.1	242,272 9
DOGANKENT	QDI	63.5	65.0	77.3	158.6	184.9	105.7	67.2	63.2	61.8	62.8	63.6	64.2	1,037.8
	QDN	63.5	65.0	76 4	108 1	109.9	96.3	67.2	63.2	61.8	62.8	63.6	64.2	902 0
	PDN	27,440.3	28,095.3	33,025.0	46,695.5	47,474.3	41,607.1	29,026.7	27,290.1	26,696.2	27,138.0	27,481.5	27,717.0	389,687.0
ASLANCIK	QLI	64.6	66.4	80.3	165 7	191.4	108.8	68.5	63.9	62.5	63.7	64.7	65.3	1,065.8
	QLN	64.6	66 4	79.1	109.3	110.1	98 1	68.5	63.9	62.5	63.7	64 7	65.3	916.2
	PLN	15,256.8	15,670 6	18,670.6	25,804.6	25,997.4	23,166.7	16,164.6	15,096.8	14,752.6	15,044 4	15,264.3	15,426.9	226,316.3
TIREBOLU	QBI	66.5	68.7	85 4	177.5	202.4	114.1	70.7	65.3	63.7	65.3	66 4	67.3	1,113.3
	QBN	80.5	80.5	80.6	109.2	158.0	108.5	82.2	81.6	80.5	80.5	80 5	80.5	1,103.1
	PBN	10,296.5	9,945.0	10,056.3	16,179.2	24,912.4	17,077.5	12,595.6	12,136.3	11,591.2	11,243.7	10,919.4	10,603.2	157,556.3
GÜNYÜZÜ	QUI	11.7	12 2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12 1	12.2	13.6	22.1	27.3	20.6	13.1	12 2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671 9	79,901.2	60,463.3	38,262.3	35,698 5	35,247.6	35,187.7	35,143.1	35,108.1	529,961.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 8

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	32 0	32.0	33.7	58.2	91.8	55.7	32.8	32 0	32.0	32.0	32.0	32.0	496.2
	PTN	8,453 5	8,330.2	9,134.9	17,557.2	28,138.0	17,059.8	9,899.0	9,401.0	9,151.0	8,942.5	8,754 4	8,595 0	143,416.5
KARACUKUR	QRI													
	QRN	32.0	32.0	33.2	38.8	45.2	44.0	32.8	32.0	32.0	32 0	32 0	32.0	418.0
	PRN	13,826 0	13,826.0	14,322.9	16,748.2	19,519.2	18,996.4	14,191.8	13,826.0	13,826.0	13,826 0	13,826 0	13,826.0	180,560.5
KURTÜN	QKI	47.6	51.0	75.7	164.6	190 8	99.9	51.8	44.2	41.9	44.7	46.7	48.9	907.8
	QKN	51.7	52.2	58.4	123.8	169.5	99.4	55.3	53.0	51.7	51.7	51 7	51.7	870.1
	PKN	10,680.0	10,704.9	13,040.3	30,062.5	41,221.0	24,163.3	13,283.8	12,336.1	11,587.1	11,253.8	10,986 6	10,825 6	200,145.0
AKKOY	QYI													
	QYN	51.7	52.2	55.8	72.3	74.8	73.3	54.6	52 5	51.7	51.7	51.7	51 7	694.0
	PYN	16,356.5	16,499.7	17,666.9	22,867.5	23,674.6	23,192.9	17,270.5	16,615.9	16,356.5	16,356.5	16,356 5	16,356 5	219,570.5
DOGANKENT	QDI	57.6	59.2	73.3	174.6	220.6	115.0	62.2	57.3	55.9	56.9	57.7	58 3	1,048.6
	QDN	57.6	59.2	71.0	100.8	102.2	95.8	62.2	57 3	55.9	56.9	57.7	58.3	834.9
	PDN	24,891.1	25,556.2	30,681.8	43,571.4	44,168.0	41,390.5	26,856.3	24,742 4	24,147.0	24,588.8	24,932.4	25,167.8	360,693.7
ASLANCIK	QLI	58.7	60 5	76.3	181.6	227.1	118.1	63.4	58.0	56 6	57.8	58.8	59 4	1,076.3
	QLN	58.7	60.5	73.7	101.9	102.5	96.9	63.4	58.0	56.6	57.8	58.8	59.4	848.2
	PLN	13,863.8	14,283.1	17,390.1	24,057 5	24,190.6	22,867.7	14,964.4	13,704.6	13,359.6	13,651.4	13,871 4	14,033.9	200,238.1
TIREBOLU	QBI	60.6	62.8	81.4	193.5	238.0	123.4	65.6	59 4	57.8	59.4	60.5	61.4	1,123.8
	QBN	74.7	74.7	75.9	119.8	187.3	120.9	77.2	75 8	74.7	74 7	74.7	74.7	1,105.1
	PBN	9,608.3	9,279.2	9,570.2	18,045 4	29,743.2	19,141 8	11,882.3	11,322 1	10,802.8	10,481.4	10,186 7	9,896.3	159,959 7
GÜNYÜZÜ	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11 0	11.5	11.9	12.1	196 1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12 2	12.1	12 1	12.1	12 1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 10

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25 1	55.4	133 9	119 1	57.0	23.0	13.4	12.8	17.0	19 5	21.6	518.4
	QTN	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0 0	0.0	0 0	0 0	0.0	0.0
	PTN	0 0	0.0	0.0	0.0	0.0	0.0	0 0	0.0	0 0	0.0	0.0	0 0	0 0
KARACUKUR	QRI													
	QRN	0.0	0.0	0.0	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 0	0.0
	PRN	0 0	0 0	0 0	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KÜRTÜN	QKI	36.2	44.2	97.5	229.3	212.1	101.1	42 0	25.5	22.7	29.7	34.2	38.5	913.0
	QKN	46.8	47.5	58.7	133 4	170.1	99 6	51.2	47.6	46.8	46.8	46.8	46.8	842.1
	PKN	13,102 0	13,184 9	18,015.4	44,928.2	57,416.4	33,630.0	17,061.1	15,298.1	14,441.3	13,977.9	13,608 4	13,334.7	267,998 4
AKKOY	QYI													
	QYN	46.8	47.5	50.6	65 2	67.7	66 6	49.9	47 5	46.8	46.8	46 8	46.8	629 0
	PYN	14,806 3	15,018.1	16,018.8	20,616 3	21,412.2	21,067.4	15,801.4	15,034 1	14,806.3	14,806.3	14,806 3	14,806.3	198,999 8
DOGANKENT	QDI	52.7	54 5	73.6	199.7	239.2	115.9	58.1	51.8	51 0	52.0	52.8	53.4	1,054.7
	QDN	52.7	54.5	66.4	93.6	95.3	91.0	57.8	51.8	51.0	52.0	52.8	53.4	772.3
	PDN	22,774.0	23,532.7	28,706.6	40,423 4	41,185.0	39,334.2	24,986.7	22,397.7	22,029.9	22,471.7	22,815.3	23,050.7	333,707.9
ASLANCIK	QLI	53.8	55.8	76.6	206 7	245.7	119 0	59.4	52 6	51.7	52.9	53 9	54.5	1,082 6
	QLN	53.8	55 8	68 9	94.6	95.6	91 7	59.0	52.6	51.7	52.9	53 9	54.5	785 0
	PLN	12,706.9	13,177.3	16,271.3	22,336.4	22,560.6	21,638.9	13,934.9	12,423 3	12,202.7	12,494 5	12,714.5	12,877.0	185,338 3
TIREBOLU	QBI	55.7	58.1	81.6	218.6	256.6	124.3	61.6	53.9	52.9	54.5	55.6	56.5	1,129 9
	QBN	69.7	69.7	73.3	135.5	209.7	122.7	73.0	70.2	69.7	69.7	69.7	69.7	1,102.6
	PBN	9,129.8	8,834.5	9,546.2	20,956.8	33,487.6	19,550.4	11,360.4	10,608.4	10,208.4	9,920.4	9,653.4	9,386.8	162,643 1
GÜNYÜZÜ	QUI	11.7	12.2	16.5	30.5	33.7	21 2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12 2	13.6	22 1	27.3	20 6	13.1	12 2	12.1	12.1	12 1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143 1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 11

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	37.8	37.8	37.8	48.2	61.2	46.4	37.8	37.8	37.8	37.8	37.8	37.8	496.0
	PTN	11,136.8	10,919.2	11,159.5	16,007.4	21,424.9	16,131.1	12,808.2	12,515.7	12,189.3	11,896.9	11,623.9	11,370.0	159,182.9
KARACUKUR	QRI													
	QRN	37.8	37.8	37.8	39.8	43.0	42.7	37.8	37.8	37.8	37.8	37.8	37.8	465.7
	PRN	13,654.6	13,654.6	13,654.6	14,365.0	15,545.1	15,419 8	13,654.6	13,654.6	13,654.6	13,654.6	13,654 6	13,654.6	168,221.3
KURTÜN	QKI	53.4	56 8	79.8	149.1	155.2	90.6	56.8	50.0	47.7	50.5	52.5	54.7	897.1
	QKN	53.4	56.8	79.8	132.6	132.4	90.6	56.8	50.0	47.7	50.5	52 5	54.7	857.8
	PKN	7,942 0	8,453.8	11,870.4	19,726.3	19,689.3	13,473.5	8,442.2	7,434.7	7,094.9	7,507.4	7,814.1	8,142.9	127,591.5
AKKOY	QYI													
	QYN	52.7	54.6	57 9	57.9	57.9	57.8	54.1	48.7	47.7	50.3	51.3	52.9	643.8
	PYN	16,689 6	17,268 0	18,303.7	18,318.1	18,318.1	18,277.1	17,104.9	15,409.7	15,090.7	15,923.7	16,234.6	16,742.8	203,681.0
DOGANKENT	QDI	59.3	63.8	94.7	183.1	186.4	105.8	63.6	54.3	51.9	55.7	58.5	61.3	1,038.4
	QDN	59.3	63 8	81.3	86.8	86.1	84.2	63.0	53.6	51.9	55.7	58.5	61.3	805.0
	PDN	25,623.2	27,575.7	35,121.4	37,503.1	37,191.5	36,366.7	27,202.6	23,151.5	22,418.3	24,058.6	25,292.7	26,263.5	347,768.8
ASLANCIK	QLI	60.4	65.2	97.7	190.2	192.9	108.9	64.9	55.0	52.6	56.6	59.6	62.5	1,066.5
	QLN	60.4	65.1	82.0	86.8	86.2	84.7	64.1	54.3	52.6	56.6	59.6	61.9	814.3
	PLN	14,263.8	15,367.0	19,369.4	20,493 5	20,351.6	19,994.9	15,143.6	12,818.7	12,415.0	13,361.6	14,068.3	14,609.0	192,256.4
TIREBOLU	QBI	62.3	67.5	102.8	202.0	203.9	114.2	67.1	56.4	53 8	58.1	61.3	64.5	1,113.9
	QBN	72 6	72.6	75.8	134.3	189.3	113.7	75.6	73.9	72.6	72.6	72.6	72.6	1,098.2
	PBN	9,927.8	9,791.5	10,842.5	21,385.1	30,367.1	18,232.9	11,949.3	11,350.1	10,781.8	10,499.2	10,275.2	10,092.4	165,494.9
GÜNYÜZU	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 12

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133 9	119.1	57 0	23.0	13.4	12.8	17.0	19 5	21.6	518.4
	QTN	25.1	25.7	34.0	75 3	95.0	55.8	27.2	25.1	25.1	25.1	25 1	25.1	463.6
	PTN	5,706.1	5,822.2	8,289.0	19,529.0	24,662.5	14,490 5	6,998.7	6,282.6	6,105.2	5,978.9	5,880.5	5,809.0	115,554.2
KARACUKUR	QRI													
	QRN	25.1	25.5	27.7	35 0	36.4	36.0	26 9	25.1	25.1	25.1	25.1	25.1	338.1
	PRN	10,844 8	11,026 3	11,965.3	15,125.1	15,731 4	15,548 5	11,609.5	10,844.8	10,844.8	10,844.8	10,844.8	10,844.8	146,074 9
KURTÜN	QKI	40.7	44.7	76.0	195.0	208.8	100.6	46.2	37 3	35.0	37.8	39.8	42.0	903.9
	QKN	40 7	44.7	70.8	103.8	101.8	89 9	46.2	37 3	35.0	37.8	39.8	42.0	689.8
	PKN	6,053.0	6,650 0	10,525.3	15,439.5	15,139.0	13,376.7	6,867.0	5,545.7	5,205.9	5,618.4	5,925.0	6,253 9	102,599.4
AKKÖY	QYI													
	QYN	36.5	36 6	36.8	36.8	36.8	36.8	36.5	35 3	34 9	35.6	35.9	36.3	434.8
	PYN	11,550.4	11,565.6	11,642.6	11,642.6	11,642.6	11,642.6	11,558.0	11,154.3	11,030.6	11,243.9	11,356.1	11,491.8	137,521.1
DOGANKENT	QDI	46.6	51.7	90.9	229.0	240.0	115 8	53.0	41.6	39.2	43.0	45.8	48.6	1,045.2
	QDN	46 6	50.9	63.3	65.8	65.6	64.8	50.1	40.6	39 2	43.0	45.8	47.8	623.4
	PDN	20,136.0	21,982 0	27,367.6	28,429.7	28,325.5	27,978 8	21,627.8	17,544.7	16,931.1	18,571.4	19,737.4	20,656.7	269,288.7
ASLANCIK	QLI	47.7	53.1	93.9	236.0	246.5	118.9	54.3	42.3	39.9	43.9	46.9	49.8	1,073.2
	QLN	47.7	52.1	63.9	65.8	65.6	64.8	51.0	41.3	39.9	43.9	46 6	48.9	631.5
	PLN	11,263 1	12,295.0	15,089.6	15,535.4	15,489.5	15,309.5	12,034.1	9,754.9	9,416.5	10,363 1	11,009.0	11,533.9	149,093.6
TIREBOLU	QBI	49.6	55.3	99.0	247 9	257.4	124.1	56.5	43 7	41.1	45.4	48.6	51.8	1,120 4
	QBN	60.8	60.9	71.0	180.0	250.2	123.2	65.6	62.1	60.8	60.8	60.8	60.8	1,117.0
	PBN	9,486 2	9,125.2	9,132.1	15,407.2	26,585.2	17,417.5	11,939.7	11,432.1	10,875.3	10,485.5	10,113.4	9,786.7	151,786.1
GÜNYÜZÜ	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 14

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133 9	119.1	57.0	23.0	13 4	12.8	17.0	19.5	21 6	518 4
	QTN	0.0	0 0	0.0	0 0	0.0	0.0	0 0	0 0	0.0	0.0	0 0	0 0	0.0
	PTN	0 0	0.0	0.0	0.0	0 0	0 0	0.0	0 0	0.0	0.0	0.0	0 0	0 0
KARACUKUR	QRI													
	QRN	0.0	0 0	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0 0	0 0	0.0	0.0
	PRN	0.0	0.0	0 0	0.0	0.0	0 0	0.0	0.0	0.0	0 0	0.0	0.0	0 0
KÜRTUN	QKI	36 2	44 2	97.5	229 3	212.1	101 1	42.0	25.5	22 7	29 7	34.2	38.5	913.0
	QKN	34.2	41.7	80.9	115 7	111.8	93.9	42.8	31 0	29.4	31.3	35 4	36 8	684 9
	PKN	7,989.6	9,876.1	19,595 6	28,136.3	27,195.8	22,845.1	10,385.7	7,386 4	6,815.9	7,235 0	8,185 1	8,571 0	164,217.6
AKKOY	QYI													
	QYN	33.9	38.1	45.9	50 0	49.9	49 4	39.1	30 4	29 4	31.3	33.6	34 5	465 5
	PYN	10,729.0	12,064 7	14,532.5	15,818 7	15,786 4	15,636 4	12,374 9	9,614.2	9,301.0	9,914 6	10,615.2	10,914 1	147,301 7
DOGANKENT	QDI	40 1	48 7	104.5	260 2	243.1	116 1	49.7	35.3	33.6	36 6	41.4	43.4	1,052 7
	QDN	40.1	48.7	85.4	118 4	115.3	102.9	49.7	35 3	33.6	36 6	41.4	43.4	750 8
	PDN	17,330.1	20,453.0	27,175.2	30,676.5	30,516.2	30,021.1	20,467.6	15,122 9	14,511.5	15,791.2	17,566 6	18,149.1	257,781.0
ASLANCIK	QLI	41.2	50 1	107.5	267.3	249 6	119.2	51.0	36.1	34.3	37 5	42 5	44.6	1,080.9
	QLN	41.2	48 3	63.6	71.0	70.7	69 6	48 4	35.7	34.3	37 5	41 5	43 0	604.8
	PLN	9,732.1	11,411.8	15,005.9	16,763.1	16,686.5	16,425 4	11,418.4	8,431.5	8,094.2	8,843.9	9,796 8	10,144 8	142,754 4
TIREBOLU	QBI	43.1	52 4	112 6	279.1	260.5	124 5	53.1	37.4	35 5	39 0	44.2	46 6	1,128 0
	QBN	57.9	58 8	72.8	166.5	210.7	123 2	63.4	58 8	57.9	57.9	57.9	57 9	1,043.7
	PBN	7,466 6	7,455.2	10,372.6	26,655.8	33,822.5	19,775 5	10,021.7	8,964 4	8,478 7	8,191.3	7,944.5	7,697 3	156,846.1
GÜNYÜZÜ	QUI	11.7	12.2	16.5	30 5	33.7	21 2	12.8	11.0	11.0	11.5	11 9	12.1	196.1
	QUM	12.1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12 1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463 3	38,262.3	35,698.5	35,247 6	35,187.7	35,143 1	35,108 1	529,615.0

Table A3-5
Monthly Energy Production of Harsit Project in P.F = 70%, 50% and 25%
Without Günyüzü Project (Case 1, Case 9 and Case 13)

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM)
AND ENERGY PRODUCTION (PN - MWH) OF CASE 1

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21 6	518.4
	QTN	37.8	37.8	37.8	48 2	61.2	46 4	37.8	37.8	37.8	37.8	37 8	37.8	496.0
	PTN	11,136 8	10,919.2	11,159.5	16,007 4	21,424.9	16,131 1	12,808.2	12,515.7	12,189.3	11,896.9	11,623 9	11,370 0	159,182.9
KARACUKUR	QRI													
	QRN	37.8	37.8	37.8	48.2	61.2	46.4	37 8	37.8	37 8	37.8	37.8	37 8	496 0
	PRN	13,654.6	13,654.6	13,654 6	17,400.6	22,118.3	16,768.4	13,654 6	13,654.6	13,654 6	13,654 6	13,654.6	13,654.6	179,178.7
KÜRTÜN	QKI	53 4	56.8	79.8	149.1	155.2	90.6	56 8	50.0	47 7	50.5	52.5	54 7	897 1
	QKN	62.1	62.1	63.1	94 9	138 2	89.8	63.8	63.2	62.1	62.1	62.1	62 1	885.6
	PKN	18,532 0	18,326.7	19,222.1	31,577.4	46,564 3	30,220.8	21,223.9	20,602 0	19,759.3	19,369.1	19,029.9	18,761 1	283,188.6
AKKOY	QYI													
	QYN	62.1	62.1	63.1	94.9	138.2	89.8	63.8	63 2	62.1	62 1	62 1	62.1	885.6
	PYN	19,646.8	19,646.8	19,960.9	30,039.9	43,732.4	28,402.3	20,187.4	20,003 1	19,646 8	19,646.8	19,646 8	19,646.8	280,206 8
DOGANKENT	QDI	68.0	69.1	78.0	134.7	174.3	105 0	70.7	67.5	66.3	67.3	68 1	68.7	1,037.7
	QDN	68 0	69.1	78.0	127 5	168.5	105.0	70 7	67.5	66.3	67.3	68.1	68 7	1,024.7
	PDN	29,384.6	29,854.1	33,706.0	55,091.3	72,806.5	45,366 6	30,534.7	29,168.1	28,640.5	29,082 3	29,425.8	29,661 3	442,721.8
ASLANCIK	QLI	69.1	70.5	81.0	141.7	180.8	108 1	72.0	68.3	67 0	68.2	69.2	69 8	1,065.7
	QLN	69.1	70.5	81.0	133 7	174.3	108 1	72 0	68 3	67 0	68.2	69.2	69.8	1,051.2
	PLN	16,319.2	16,631.7	19,124.5	31,578 7	41,164.0	25,523 3	16,988 6	16,123.0	15,815.0	16,106 8	16,326.8	16,489 3	248,190.9
TIREBOLU	QBI	71.0	72.7	86.1	153 6	191.7	113.3	74.1	69.6	68 2	69.8	70.9	71.8	1,112.8
	QBN	84.9	84.9	84.9	103 4	134.2	102.7	85 9	85.8	84 9	84.9	84.9	84.9	1,106 3
	PBN	8,025.8	7,591.9	7,565.7	12,095.5	18,831 8	14,120.3	11,049.8	10,493.8	9,780.3	9,260.2	8,839.3	8,414 4	126,068.8
GÜNYÜZÜ	QUI	11.7	12 2	16.5	30.5	33.7	21 2	12.8	11.0	11 0	11.5	11.9	12 1	196.1
	QUM	12.1	12.2	13.6	22 1	27.3	20 6	13.1	12.2	12.1	12.1	12 1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698 5	35,247.6	35,187.7	35,143 1	35,108.1	529,615.0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 9

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	26.1	26.5	33.6	74.2	95.7	55.8	28.0	26.1	26.1	26.1	26.1	26.1	470.4
	PTN	5,888.4	5,936.2	8,115.9	19,233 4	24,850.0	14,484.5	7,197.9	6,512 3	6,315.6	6,170.8	6,052.2	5,964.1	116,721.3
KARACUKUR	QRI													
	QRN	26.1	26.5	29.8	46.4	50.9	47.6	28.0	26.1	26 1	26 1	26.1	26.1	485.8
	PRN	11,276.8	11,430.9	12,884.1	20,054.9	21,981.9	20,559.0	12,107.8	11,276.8	11,276.8	11,276.8	11,276.8	11,276.8	166,679.4
KURTÜN	QKI	41.7	45.5	75.6	192 4	209 4	100.5	47.0	38.3	36.0	38.8	40 8	43.0	909.0
	QKN	45.9	46.7	58.2	133.8	168.4	99.3	50.5	47.2	45.9	45.9	45.9	45.9	833.6
	PKN	9,451.8	9,562.5	13,086.8	32,494.8	40,938.3	24,141.8	12,143.1	10,979.8	10,276.4	9,975.5	9,733.8	9,585 6	192,370.2
AKKOY	QYI													
	QYN	45.9	46.7	52.9	81.7	86.9	82.1	50.5	47.2	45.9	45.9	45.9	45.9	677.5
	PYN	14,521.6	14,770 3	16,743.6	25,834.2	27,499.3	25,961.7	15,981.0	14,926 5	14,521.6	14,521.6	14,526.1	14,526.1	214,324.6
DOGANKENT	QDI	51 8	53.7	73.1	201.9	239.1	115.7	57.4	51.5	50.1	51.1	51.9	52 5	1,049.8
	QDN	51.8	53 7	68.4	110.5	114.4	102.6	57.4	51.5	50.1	51.1	51.9	52.5	815.9
	PDN	22,385.1	23,194.3	29,547.3	47,729.5	49,430 2	44,337.0	24,802.5	22,235.0	21,641.1	22,082.9	22,426.4	22,661.9	352,473.2
ASLANCIK	QLI	52.9	55 0	76.1	209.0	245.6	118.8	58.7	52.2	50.8	52.0	53.0	53 6	1,077.7
	QLN	52.9	55 0	70 9	111.8	114.6	104.1	58.7	52.2	50.8	52.0	53.0	53.6	829.6
	PLN	12,494.4	12,992 4	16,737.1	26,390 9	27,066 1	24,575 7	13,856 3	12,334.4	11,990.2	12,282.0	12,502.0	12,664.5	195,886.0
TIREBOLU	QBI	54.8	57 3	81.1	220 8	256.6	124.0	60.9	53.6	52.0	53.6	54.7	55.6	1,125.0
	QBN	56.9	57.6	72.9	184.2	236.2	123 8	62 4	58.0	56.5	56.5	56.5	56.5	1,078.0
	PBN	8,857.3	8,966.5	11,542.0	29,571 4	37,917.8	19,868.6	9,988.0	9,213.8	8,907.1	8,860.6	8,830.6	8,817.7	171,341.4
GÜNYUZU	QUI	11.7	12.2	16.5	30.5	33.7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12.1	12.2	13.6	22 1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	36,698.5	35,247.6	35,187.7	35,143.1	35,108.1	529,615 0

30 YEARS AVERAGE MONTHLY INFLOW (QI - MCM), POWER DISCHARGE (QN - MCM) AND ENERGY PRODUCTION (PN - MWH) OF CASE 13

POWER STATION	ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TORUL	QTI	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	518.4
	QTN	17.0	17 2	18.4	18.4	18.4	18.4	17.4	13.4	12.8	15.1	15.7	16.9	199.1
	PTN	2,002 1	2,034.8	2,172.1	2,172.1	2,172.1	2,172 1	2,055.2	1,586.2	1,512.2	1,783.3	1,849.8	1,997.4	23,509.4
KARACUKUR	QRI													
	QRN	17 0	17.2	18.4	18.4	18.4	18 4	17 4	13 4	12.8	15 1	15 7	16.9	199 1
	PRN	6,126 5	6,226 5	6,646.7	6,646 7	6,646 7	6,646 7	6,289.1	4,853.8	4,627.4	5,457.0	5,660.5	6,112.1	71,939.7
KURTUN	QKI	36.2	44.2	97 5	229.3	212.1	101.1	42 0	25.6	22.7	29.7	34.0	38.5	912.9
	QKN	31.2	32 4	34 8	34 8	34.8	34 8	32.4	24.5	22.7	27 4	28 5	30 9	369 2
	PKN	4,647 4	4,814 9	5,176 3	5,176 3	5,176 3	5,176 3	4,812.8	3,640.8	3,377.8	4,074.7	4,233.4	4,592.6	54,899.6
AKKOY	QYI													
	QYN	20 8	21.0	21.0	21 0	21.0	21 0	20.9	20.2	20.3	20.3	20.6	20.9	249.0
	PYN	6,584 8	6,643 9	6,643.9	6,643.9	6,643.9	6,643 9	6,615 1	6,382 1	6,408.6	6,419.6	6,510.1	6,607.0	78,746.8
DOGANKENT	QDI	40.9	46.3	56.8	56 8	56.8	56 2	44.2	29.1	26.9	34.8	37.4	41.4	527.6
	QDN	39 7	43.6	50.0	50 0	50.0	49 8	42.3	28.9	26.9	34.1	36.0	39.7	491.0
	PDN	17,139 4	18,827.3	21,602.0	21,603.2	21,603.2	21,516.0	18,288 6	12,485.3	11,621.1	14,732.8	15,548.5	17,166.1	212,133.5
ASLANCIK	QLI	43.2	52.5	115.4	270 4	249.8	119.4	50.2	30.7	27.6	35 8	41.1	46.3	1,082.4
	QLN	40.4	44.0	50.0	50 0	50.0	49.8	43.0	29.6	27.6	34.8	36.6	40.4	496.2
	PLN	9,531.0	10,393.7	11,805.0	11,805.0	11,805.0	11,766 8	10,141.9	6,990 2	6,514.8	8,219.1	8,646 7	9,527.6	117,146.8
TIREBOLU	QBI	45.1	54 8	120.4	282 2	260 7	124 7	52.3	32.0	28.8	37.4	42.8	48.3	1,129.5
	QBN	47.7	50.9	96.6	207.7	209.1	123.1	55.5	45.8	44.4	44.4	47.0	49.8	1,022.0
	PBN	7,112.0	7,653 6	15,280 2	33,348.6	33,567.4	19,761.0	8,872.7	7,154 4	6,750.3	6,667.1	7,034.6	7,456.8	160,658.7
GÜNYÜZU	QUI	11.7	12 2	16.5	30 5	33 7	21.2	12.8	11.0	11.0	11.5	11.9	12.1	196.1
	QUM	12 1	12.2	13.6	22.1	27.3	20.6	13.1	12.2	12.1	12.1	12.1	12.1	181.6
	PUN	35,067.2	35,213.3	39,650.8	64,671.9	79,901.2	60,463.3	38,262.3	35,698.5	35,247.6	35,187 7	35,143 1	35,108.1	529,615.0

Table A3-6 Harsit River Comprehensive Development Plan Case : 1

Description	Power Station	TORUL	KARACUKUR		KÜRTÜN	AKKÖY		GÜNYÜZÜ	DOGANKENT		ASLANCIK		TIREBOLU	TOTAL		Remark
Drainage Area	Sq.km	2,026	2,026		2,753	2,753		299	2,912		2,995		3,266			
Dam Height	m	180	-		173	-		-	-		-		95			
Length of Waterway	m	-	6,000		-	12,700		7,400	7,127		8,320		-			
High Water Level	m	1,015	850		690	545		1,630	383		180		70			
Low Water Level	m	962	840		642	535		1,586	-		-		48			
Effective Storage Capacity	10^6 cum	355.0	-		182.85	-		74.8	-		-		171.2			
Design Head	m	137	153		127	137		1,215	183		100		58			
Firm Discharge	c.m/sec	14.4	14.4		23.6	23.6		4.6	28.6		28.7		32.3			
Plant Factor	%	25	70	50	25	70	50	40	70	50	70	50	25	70	50	
Maximum Discharge	c.m/sec	57	20	29	94	34	34	11.0	45	45	45	45	129			
Installed Capacity	KW	66,000	26,000	37,000	101,000	40,000	40,000	113,000	70,000	70,000	38,000	38,000	63,000	317,000	328,000	
December Output	KW	42,200	26,000	37,000	87,600	40,000	40,000	110,000	70,000	70,000	38,000	38,000	63,000	476,800	487,800	
Annual Energy Production	10^6 kwh	159.2	168.2	179.2	283.2	253.6	253.6	529.6	446.2	446.2	247.6	247.6	247.6	2,278.6	2,289.7	
Project Cost																
at 5% Interest Rate	10^6 TL	727.6	87.8	107.9	716.3	228.3	228.3	330.0	223.9	223.9	162.6	162.6	252.3	2,728 8	2,748.9	
at 8% Interest Rate	10^6 TL	763.6	91.7	112.7	751.8	238.5	238.5	346.5	226.1	226.1	169.8	169.8	264.8	2,852.8	2,873.8	

Harsit River Comprehensive Development Plan Case : 2

Description	Power Station	TORUL	KARACUKUR		KÜRTÜN	AKKÖY		GUNYÜZÜ	DOGANKENT		ASLANCIK		TIREBOLU	TOTAL		Remark
Drainage Area	Sq km	2,026	2,026		2,753	2,753		299	2,912		2,995		3,266			
Dam Height	m	155	-		173	-		-	-		-		95			
Length of Waterway	m	-	6,000		-	12,700		7,400	7,127		8,320		-			
High Water Level	m	990	850		690	545		1,630	383		180		70			
Low Water Level	m	946	840		642	435		1,586	-		-		48			
Effective Storage Capacity	10^6 cum	207.8	-		182.85	-		74.8	-		-		171.2			
Design Head	m	115	153		127	137		1,215	183		100		58			
Firm Discharge	c.m/sec	12.2	12.2		21.4	21.4		4.6	26.4		26.5		30.1			
Plant Factor	%	25	70	50	25	70	50	40	70	50	70	50	25			
Maximum Discharge	c.m/sec	48	18	25	85	31	34	11	42	45	42	45	120			
Installed Capacity	KW	47,000	23,000	32,000	92,000	36,000	40,000	113,000	65,000	70,000	35,000	38,000	59,000	470,000	491,000	
December Output	KW	37,500	23,000	32,000	79,400	36,000	40,000	110,000	65,000	70,000	35,000	38,000	59,000	445,900	465,900	
Annual Energy Production	10^6 kwh	143.2	151.0	161.3	284.0	232.3	237.2	529.6	416.5	423.2	231.2	235.0	191.3	2,179.1	2,204.8	
Project Cost																
at 5% Interest Rate	10^6 TL	544.1	85.0	99.9	709.3	218.1	228.3	330.0	219.6	223.9	154.9	162.6	251.0	2,512.0	2,549.1	
at 8% Interest Rate	10^6 TL	571.1	88.8	104.3	744.4	227.7	238.5	346.5	221.6	226.1	161.8	169.8	263.5	2,625.4	2,664.2	

Harsit River Comprehensive Development Plan Case : 3

Description	Power Station	TORUL	KARACUKUR		KÜRTÜN	AKKOY		GUNYÜZU	DOGANKENT		ASLANCIK		TIREBOLU	TOTAL		Remark
Drainage Area	Sq km	2,026	2,026		2,753	2,753		299	2,912		2,995		3,266			
Dam Height	m	135	-		173	-		-	-		-		95			
Length of Waterway	m	-	6,000		-	12,700		7,400	7,127		8,320		-			
High Water Level	m	970	850		690	545		1,630	383		180		70			
Low Water Level	m	942	840		642	535		1,586	-		-		48			
Effective Storage Capacity	10^6 cum	103.82	-		182.85	-		74.8	-		-		171.2			
Design Head	m	101	153		127	137		1,215	183		100		58			
Firm Discharge	c.m/sec	9.9	9.9		19.2	19.2		4 6	24.2		24.3		27.9			
Plant Factor	%	25	70	50	25	70	50	40	70	50	70	50	25	70	50	
Maximum Discharge	c.m/sec	40	14	20	76	28	34	11	39	45	39	45	112			
Installed Capacity	KW	34,000	18,000	26,000	82,000	33,000	40,000	113,000	61,000	70,000	33,000	38,000	55,000	429,000	458,000	
December Output	KW	27,700	18,000	26,000	73,600	33,000	40,000	110,000	61,000	70,000	33,000	38,000	55,000	411,300	440,300	
Annual Energy Production	10^6 kwh	116.7	127.7	139.3	277.2	211.2	223.1	529.6	386.9	402.8	214.6	223.5	190.1	2,054.0	2,102.5	
Project Cost																
at 5% Interest Rate	10^6 TL	405.5	78.5	89.7	701.3	213.5	228.3	330 0	213.2	223.9	148.2	162.6	249.5	2,339.7	2,390.8	
at 8% Interest Rate	10^6 TL	425.6	82.0	93.7	736.0	223.0	238.5	346.5	214.9	226.1	154.8	169.8	262.0	2,444.8	2,498.2	

Harsit River Comprehensive Development Plan Case : 4

Description	Power Station	TORUL	KARACUKUR		KÜRTUN	AKKOY		GÜNYUZU	DOGANKENT		ASLANCIK		TIREBOLU	TOTAL		Remark
Drainage Area	Sq.km	2,026	2,026		2,753	2,753		299	2,912		2,995		3,266			
Dam Height	m	180	-		153	-		-	-		-		95			
Length of Waterway	m	-	6,500		-	12,700		7,400	7,127		8,320		-			
High Water Level	m	1,015	850		670	545		1,630	383		180		70			
Low Water Level	m	962	840		630	535		1,586	-		-		48			
Effective Storage Capacity	10^6 cum	355.0	-		123.36	-		74.8	-		-		171.2			
Design Head	m	137	173		110	137		1,215	183		100		58			
Firm Discharge	c.m/sec	14.4	14.4		22.6	22.6		4.6	27.6		27.7		31 3			
Plant Factor	%	25	70	50	25	70	50	40	70	50	70	50	25	70	50	
Maximum Discharge	c.m/sec	57	20	29	90	34	34	11	45	45	45	45	125			
Installed Capacity	KW	66,000	29,000	42,000	84,000	40,000	40,000	113,000	70,000	70,000	38,000	38,000	61,000	501,000	514,000	
December Output	KW	42,200	29,000	42,000	73,700	40,000	40,000	110,000	70,000	70,000	38,000	38,000	61,000	463,900	476,900	
Annual Energy Production	10^6 kwh	159.2	190.2	195.7	243.7	248.4	248.4	529.6	437.8	437.8	242.7	242.7	191.0	2,242.6	2,248.1	
Project Cost																
at 5% Interest Rate	10^6 TL	727.6	94.6	115.2	535.5	228.3	228.3	330.0	223.9	223.9	162.6	162.6	251.7	2,554.2	2,574.8	
at 8% Interest Rate	10^6 TL	763.6	98.8	120.4	562.0	238.5	238.5	346.5	226.1	226.1	169.8	169.8	264.1	2,669.4	2,691.0	

Harsit River Comprehensive Development Plan Case : 5

Description	Power Station	TORUL	KARACUKUR		KÜRTÜN	AKKÖY		GÜNYÜZU	DOGANKENT		ASLANCIK		TIREBOLU	TOTAL		Remark
Drainage Area	Sq.km	2,026	2,026		2,753	2,753		299	2,912		2,995		3,266			
Dam Height	m	155	-		153	-		-	-		-		95			
Length of Waterway	m	-	6,500		-	12,700		7,400	7,127		8,320		-			
High Water Level	m	990	850		670	545		1,630	383		180		70			
Low Water Level	m	946	840		630	535		1,586	-		-		48			
Effective Storage Capacity	10^6 cum	207.8	-		123.36	-		74.8	-		-		171.2			
Design Head	m	115	173		110	137		1,215	183		100		58			
Firm Discharge	c.m/sec	12.2	12.2		20.3	20.3		4.6	25.3		25.4		29.0			
Plant Factor	%	25	70	50	25	70	50	40	70	50	70	50	25			
Maximum Discharge	c.m/sec	48	18	25	81	29	34	11	40	45	40	45	116			
Installed Capacity	KW	47,000	26,000	36,000	76,000	33,000	40,000	113,000	62,000	70,000	34,000	38,000	57,000	448,000	477,000	
December Output	KW	37,600	26,000	36,000	66,800	33,000	40,000	110,000	62,000	70,000	34,000	38,000	57,000	426,400	455,400	
Annual Energy Production	10^6 kwh	143.4	170.7	182.4	243.3	222.3	231.6	529.6	402.0	414.9	202.6	230.1	191.3	2,125.5	2,166.6	
Project Cost																
at 5% Interest Rate	10^6 TL	544.1	90.4	106.1	526.6	215.5	228.3	330.0	216.4	223.9	150.2	162.6	250.4	2,323.6	2,372.0	
at 8% Interest Rate	10^6 TL	571.1	94.4	111.8	552.7	225.0	238.5	346.5	218.3	226.1	156.9	169.8	262.9	2,427.8	2,465.0	

Harsit River Comprehensive Development Plan Case : 6

Description	Power Station	TORUL	KARACUKUR		KÜRTUN	AKKOY		GÜNYUZÜ	DOGANKENT		ASLANCIK		TIREBOLU	TOTAL		Remark
Drainage Area	Sq.km	2,026	2,026		2,753	2,753		299	2,912		2,995		3,266			
Dam Height	m	135	-		153	-		-	-		-		95			
Length of Waterway	m	-	6,500		-	12,700		7,400	7,127		8,320		-			
High Water Level	m	970	850		670	545		1,630	383		180		70			
Low Water Level	m	942	840		630	535		1,586	-		-		48			
Effective Storage Capacity	10^6 cum	103.82	-		123.36	-		74.8	-		-		171.2			
Design Head	m	101	173		110	137		1,215	183		100		58			
Firm Discharge	c.m/sec	9.9	9.9		18.1	18.1		4.6	23.1		23.2		26.8			
Plant Factor	%	25	70	50	25	70	50	40	70	50	70	50	25			
Maximum Discharge	c.m/sec	40	14	20	72	26	34	11	37	45	37	45	107			
Installed Capacity	KW	34,000	20,000	29,000	67,000	30,000	40,000	113,000	57,000	70,000	31,000	38,000	52,000	404,000	443,000	
December Output	KW	27,700	20,000	29,000	59,400	30,000	40,000	110,000	57,000	70,000	31,000	38,000	52,000	387,100	426,100	
Annual Energy Production	10^6 kwh	116.7	144.4	157.6	234.7	200.5	217.1	529.6	372.2	394.4	206.2	218.8	188.1	1,992.4	2,057.0	
Project Cost																
at 5% Interest Rate	10^6 TL	405.5	81.1	94.5	521.2	206.1	228.3	330.0	208.6	223.9	143.9	162.6	249.9	2,146.3	2,215.9	
at 8% Interest Rate	10^6 TL	425.6	84.7	98.7	547.1	215.2	238.5	346.5	210.1	226.1	150.3	169.8	262.3	2,241.8	2,314.6	

Harsit River Comprehensive Development Plan Case : 7

Description	Power Station	TORUL	KARACUKUR		KÜRTUN	AKKOY		GÜNYUZU	DOGANKENT		ASLANCIK		TIREBOLU	TOTAL		Remark
Drainage Area	Sq.km	2,026	2,026		2,753	2,753		299	2,912		2,995		3,266			
Dam Height	m	180	-		133	-		-	-		-		95			
Length of Waterway	m	-	6,500		-	12,700		7,400	7,127		8,320		-			
High Water Level	m	1,015	850		650	545		1,630	383		180		70			
Low Water Level	m	962	840		620	535		1,586	-		-		48			
Effective Storage Capacity	10^6 cum	355.0	-		73.34	-		74.8	-		-		171.2			
Design Head	m	137	183		92	137		1,215	183		100		58			
Firm Discharge	c.m/sec	14.4	14.4		21.9	21.9		4.6	26.9		27.0		30.6			
Plant Factor	%	25	70	50	25	70	50	40	70	50	70	50	25	70	50	
Maximum Discharge	c.m/sec	57	20	29	87	32	34	11	43	45	43	45	122			
Installed Capacity	KW	66,000	31,000	45,000	68,000	37,000	40,000	113,000	66,000	70,000	36,000	38,000	60,000	477,000	500,000	
December Output	KW	42,200	31,000	45,000	53,900	37,000	40,000	110,000	66,000	70,000	36,000	38,000	60,000	436,100	459,100	
Annual Energy Production	10^6 kwh	159.2	201.2	207.0	201.6	242.3	245.7	529.6	428.8	433.7	237.5	240.4	191.2	2,191.4	2,208.4	
Project Cost																
at 5% Interest Rate	10^6 TL	727.6	95.6	117.3	397.6	223.2	228.3	330.0	220.1	223.9	157.5	162.6	251.0	2,402.6	2,438.3	
at 8% Interest Rate	10^6 TL	763.6	99.8	122.5	417.3	233.2	238.5	346.5	222.1	226.1	164.5	169.8	263.5	2,510.5	2,547.8	

Harsit River Comprehensive Development Plan Case : 8

Description	Power Station	TORUL	KARACUKUR		KURTUN	AKKÖY		GUNYUZU	DOGANKENT		ASLANCIK		TIREBOLU	TOTAL		Remark
Drainage Area	Sq.km	2,026	2,026		2,753	2,753		299	2,912		2,995		3,266			
Dam Height	m	155	-		133	-		-	-		-		95			
Length of Waterway	m	-	65,000		-	12,700		7,400	7,127		8,320		-			
High Water Level	m	990	850		650	545		1,630	383		180		70			
Low Water Level	m	946	840		620	535		1,586	-		-		48			
Effective Storage Capacity	10^6 cum	207.8	-		73.34	-		74.8	-		-		171.2			
Design Head	m	115	183		92	137		1,215	183		100		58			
Firm Discharge	c.m/sec	12.2	12.2		19.7	19.7		4.6	24.7		24.8		28.4			
Plant Factor	%	25	70	50	25	70	50	40	70	50	70	50	25	70	50	
Maximum Discharge	c.m/sec	48	18	25	78	29	34	11	40	45	40	45	114			
Installed Capacity	KW	47,000	28,000	39,000	61,000	33,000	40,000	113,000	62,000	70,000	34,000	38,000	56,000	434,000	464,000	
December Output	KW	37,600	28,000	39,000	48,600	33,000	40,000	110,000	62,000	70,000	34,000	38,000	56,000	409,200	439,000	
Annual Energy Production	10^6 kwh	143.4	180.5	193.0	200.1	219.6	229.4	529.6	398.1	411.3	220.5	228.1	191.1	2,082.9	2,126.0	
Project Cost																
at 5% Interest Rate	10^6 TL	544.1	91.1	107.9	391.6	217.4	228.3	330.0	216.4	223.9	150.2	162.6	249.8	2,190.6	2,238.2	
at 8% Interest Rate	10^6 TL	571.1	95.2	112.7	411.0	227.1	238.5	346.5	218.3	226.1	156.9	169.8	262.2	2,288.3	2,337.9	

Harsit River Comprehensive Development Plan Case : 9

Description	Power Station	TORUL	KARACUKUR		KÜRTÜN		AKKÖY		GÜNYÜZÜ	DOGANKENT		ASLANCIK		TIREBOLU	TOTAL		Remark
Drainage Area	Sq.km	2,026	2,026		2,753		2,753		299	2,912		2,995		3,266			
Dam Height	m	135	-		133		-		-	-		-		95			
Length of Waterway	m	-	6,500		-		12,700		7,400	7,127		8,320		-			
High Water Level	m	970	850		650		545		1,630	383		180		70			
Low Water Level	m	942	840		620		535		1,586	-		-		48			
Effective Storage Capacity	10^6 cum	103.82	-		73.34		-		74.8	-		-		171.2			
Design Head	m	101	183		92		137		1,215	183		100		58			
Firm Discharge	c.m/sec	9.9	9.9		17.4		17.4		4.6	22.4		22.5		26.1			
Plant Factor	%	25	70	50	25	70	50		40	70	50	70	50	25	70	50	
Maximum Discharge	c.m/sec	40	14	20	70	25	34		11	36	45	36	45	104			
Installed Capacity	KW	34,000	22,000	31,000	55,000	29,000	40,000		113,000	56,000	70,000	31,000	38,000	51,000	391,000	432,000	
December Output	KW	27,700	22,000	31,000	42,900	29,000	40,000		110,000	56,000	70,000	31,000	38,000	51,000	369,600	410,600	
Annual Energy Production	10^6 kwh	116.7	149.5	166.7	192.4	194.3	214.3		529.6	364.1	390.5	201.7	216.6	187.1	1,935.4	2,013.9	
Project Cost																	
at 5% Interest Rate	10^6 TL	405.5	81.9	95.9	386.7	202.0	228.3		330.0	206.8	223.9	142.6	162.6	249.6	2,005.1	2,082.5	
at 8% Interest Rate	10^6 TL	425.6	85.5	100.2	405.9	210.9	238.5		346.5	208.2	226.1	149.0	169.8	262.0	2,093.6	2,174.6	

Harsit River Comprehensive Development Plan Case : 10

Description	Power Station	TORUL	KARACUKUR	KÜRTUN	AKKÖY		GÜNYÜZÜ	DOGANKENT		ASLANCIK		TIREBOLU	TOTAL		Remark
Drainage Area	Sq.km			2,753	2,753		299	2,912		2,995		3,266			
Dam Height	m			173	-		-	-		-		95			
Length of Waterway	m			-	12,700		7,400	7,127		8,230		-			
High Water Level	m			690	545		1,630	383		180		70			
Low Water Level	m			642	535		1,586	-		-		48			
Effective Storage Capacity	10^6 cum			182.85	-		74.8	-		-		171.2			
Design Head	m			127	137		1,215	183		100		58			
Firm Discharge	c.m/sec			17.8	17.8		4.6	22.8		22.9		26.5			
Plant Factor	%			25	70	50	40	70	50	70	50	25	70	50	
Maximum Discharge	c.m/sec			71	26	34	11	37	45	37	45	106			
Installed Capacity	KW			77,000	30,000	40,000	113,000	57,000	70,000	31,000	38,000	52,000	360,000	390,000	
December Output	KW			58,000	30,000	40,000	110,000	57,000	70,000	31,000	38,000	52,000	338,000	365,000	
Annual Energy Production	10^6 kwh			268.0	199.0	216.2	529.6	370.2	382.5	205.1	211.8	188.4	1,760.3	1,845.0	
Project Cost															
at 5% Interest Rate	10^6 TL			695.1	200.3	228.3	330 0	208.6	223.9	142.6	162.6	248.8	1,825.4	1,888.7	
at 8% Interest Rate	10^6 TL			729.5	209.2	238.5	346.5	210.1	226.1	149.0	169.8	261.2	1,905.5	2,016.7	

Harsit River Comprehensive Development Plan Case : 11

Description	Power Station	TORUL	KARACUKUR		KÜRTÜN		AKKÖY		GÜNYÜZÜ	DOGANKENT		ASLANCIK		TIREBOLU	TOTAL		Remark
Drainage Area	Sq km	2,026	2,026		2,092		2,753		299	2,912		2,995		3,266			
Dam Height	m	180	-		-		-		-	-		-		95			
Length of Waterway	m	-	6,000		9,000		12,700		7,400	7,127		8,320		-			
High Water Level	m	1,015	850		690		545		1,630	383		180		70			
Low Water Level	m	962	840		688		542		1,586	-		-		48			
Effective Storage Capacity	10^6 cum	355	-		-		-		74.8	-		-		171.2			
Design Head	m	137	153		136		137		1,215	183		100		58			
Firm Discharge	c m/sec	14.4	14 4		14.4		15.4		4.6	20.4		20.5		27.6			
Plant Factor	%	25	70	50	70	50	70	50	40	70	50	70	50	25	70	50	
Maximum Discharge	c.m/sec	57	20	29	20	29	22	30	11	33	41	33	41	111			
Installed Capacity	KW	66,000	26,000	37,000	23,000	33,000	25,000	35,000	113,000	52,000	63,000	28,000	35,000	54,000	387,000	436,000	
December Output	KW	42,200	26,000	37,000	23,000	33,000	25,000	35,000	110,000	52,000	63,000	28,000	35,000	54,000	360,200	409,200	
Annual Energy Production	10^6 kwh	159.2	168.2	173.1	153.4	157.9	203.7	229.6	529.6	381.7	412.5	210.6	227.9	192.2	1,998.6	2,082.0	
Project Cost																	
at 5% Interest Rate	10^6 TL	727.6	87.8	107.9	129.0	154.0	192.8	217.2	330.0	203.1	217.4	137.0	152.1	249.6	2,056.9	2,155.8	
at 8% Interest Rate	10^6 TL	763.6	91.7	112.7	136.3	162.3	201.3	226.8	346.5	204.4	219.3	143.1	139.2	262.0	2,148.9	2,232.4	

Harsit River Comprehensive Development Plan Case : 12

Description	Power Station	TORUL	KARACUKUR		KURTUN		AKKOY		GUNYUZU	DOGANKENT		ASLANCIK		TIREBOLU	TOTAL		Remark
Drainage Area	Sq.km	2,026	2,026		2,092		2,753		299	2,912		2,995		3,266			
Dam Height	m	135	-		-		-		-	-		-		95			
Length of Waterway	m	-	6,500		9,000		12,700		7,400	7,127		8,320		-			
High Water Level	m	970	850		660		545		1,630	383		100		70			
Low Water Level	m	942	840		658		542		1,586	-		-		48			
Effective Storage Capacity	10^6 cum	103.82	-		-		-		74.8	-		-		171.2			
Design Head	m	101	183		105		137		1,215	183		100		58			
Firm Discharge	c.m/sec	9.9	9.9		9.9		10.1		4.6	15.1		15.2		23.1			
Plant Factor	%	25	70	50	70	50	70	50	40	70	50	70	50	25	70	50	
Maximum Discharge	c.m/sec	40	14	20	14	20	14	20	11	25	31	25	31	92			
Installed Capacity	KW	34,000	22,000	31,000	12,000	17,000	16,000	23,000	113,000	39,000	48,000	21,000	26,000	45,000	302,000	337,000	
December Output	KW	27,700	22,000	31,000	12,000	17,000	16,000	23,000	110,000	39,000	48,000	21,000	26,000	45,000	292,700	327,700	
Annual Energy Production	10^6 kwh	116.7	146.1	163.7	85.3	95.7	137.5	166.3	529.6	301.1	328.2	166.1	181.5	180.0	1,662.4	1,761.8	
Project Cost																	
at 5% Interest Rate	10^6 TL	405.5	81.9	95.9	110.7	123.7	162.0	182.1	330.0	174.7	200.9	115.2	137.1	246.6	1,626.6	1,721.8	
at 8% Interest Rate	10^6 TL	425.6	85.5	100.2	117.0	130.7	169.2	190.2	346.5	174.7	202.1	120.3	124.5	258.8	1,697.6	1,778.6	

Harsit River Comprehensive Development Plan Case : 8

Description	Power Station	TORUL	KARACUKUR	KÜRTÜN	AKKÖY	GÜNYÜZÜ	DOGANKENT	ASLANCIK	TIREBOLU	TOTAL	Remark
Drainage Area	Sq.km	2,026	2,026	2,753	2,753	299	2,912	2,995	3,266		
Dam Height	m	155	-	133	-	-	-	-	95		
Length of Wterway	m	-	6,500	-	12,700	7,400	7,127	8,320	-		
High Water Level	m	990	850	650	545	1,630	383	180	70		
Low Water Level	m	946	840	620	535	1,586	-	-	48		
Effective Storage Capacity	10^6 cum	207.8	-	73.34	-	74.8	-	-	171.2		
Design Head	m	115	183	92	137	1,215	183	100	58		
Firm Discharge	c.m/sec	12.2	12.2	19.7	19.7	4.6	24.7	24.8	28.4		
Plant Factor	%	25	25	25		40			25		
Maximum Discharge	c.m/sec	48	48	78	34	11	45	45	114		
Installed Capacity	KW	47,000	74,000	61,000	40,000	113,000	70,000	38,000	56,000	499,000	
December Output	KW	37,600	74,000	48,600	40,000	110,000	70,000	38,000	56,000	474,200	
Annual Energy Production	10^6 kwh	143.4	214.4	200.1	229.4	529.6	411.3	228.1	191.1	2,147.4	
Project Cost											
at 5% Interest Rate	10^6 TL	544.1	159.8	391.6	228.3	330.0	223.9	162.6	249.8	2,290.1	
at 8% Interest Rate	10^6 TL	571.1	166.9	411.0	238.5	346.5	226.1	169.8	262.2	2,382.1	

Harsit River Comprehensive Development Plan Case : 11

Description	Power Station	TORUL	KARACUKUR	KÜRTÜN	AKKÖY	GÜNYÜZÜ	DOGANKENT	ASLANCIK	TIREBOLU	TOTAL	Remark
Drainage Area	Sq.km	2,026	2,026	2,092	2,753	299	2,912	2,995	3,266		
Dam Height	m	180	-	-	-	-	-	-	95		
Length of Waterway	m	-	6,000	9,000	12,700	7,400	7,127	8,320	-		
High Water Level	m	1,015	850	690	545	1,630	383	180	70		
Low Water Level	m	962	840	688	542	1,586	-	-	48		
Effective Storage Capacity	10^6 cum	355.0	-	-	-	74.8	-	-	171.2		
Design Head	m	137	153	136	137	1,215	183	100	58		
Firm Discharge	c.m/sec	14.4	14.4	14.4	15.4	4.6	20.4	20.5	27.6		
Plant Factor	%	25	25	25		40			25		
Maximum Discharge	c.m/sec	57	57	57	34	11	45	45	111		
Installed Capacity	KW	66,000	74,000	61,000	40,000	113,000	70,000	38,000	54,000	516,000	
December Output	KW	42,200	74,000	61,000	40,000	110,000	70,000	38,000	54,000	489,200	
Annual Energy Production	10^6 kwh	159.2	179.2	163.8	239.0	529.6	424.8	235.0	192.2	2,122.8	
Project Cost											
at 5% Interest Rate	10^6 TL	727.6	164.8	211.9	228.3	330.0	223.9	162.6	249.6	2,298.7	
at 8% Interest Rate	10^6 TL	763.6	172.1	221.4	238.5	346.5	226.1	169.8	262.0	2,400.0	

Harsit River Comprehensive Development Plan Case : 12

Description	Power Station	TORUL	KARACUKUR	KÜRTÜN	AKKÖY	GÜNYÜZÜ	DOGANKENT	ASLANCIK	TIREBOLU	TOTAL	Remark
Drainage Area	Sq.km	2,026	2,026	2,092	2,753	299	2,912	2,995	3,266		
Dam Height	m	135	-	-	-	-	-	-	95		
Length of Waterway	m	-	6,500	9,000	12,700	7,400	7,127	8,320	-		
High Water Level	m	970	850	660	545	1,630	383	180	70		
Low Water Level	m	942	840	658	542	1,586	-	-	48		
Effective Storage Capacity	10^6 cum	103.82	-	-	-	74.8	-	-	171.2		
Design Head	m	101	183	105	137	1,215	183	100	58		
Firm Discharge	c.m/sec	9.9	9.9	9.9	10.1	4.6	15.1	15.2	23.1		
Plant Factor	%	25	25	25		40			25		
Maximum Discharge	c.m/sec	40	40	40	34	11	45	45	92		
Installed Capacity	KW	34,000	62,000	35,000	40,000	113,000	70,000	38,000	45,000	437,000	
December Output	KW	27,700	62,000	35,000	40,000	110,000	70,000	38,000	45,000	427,700	
Annual Energy Production	10^6 kwh	116.7	200.0	117.4	205.7	529.6	379.1	209.9	180.0	1,938.4	
Project											
at 5% Interest Rate	10^6 TL	405.5	135.9	181.7	228.3	330.0	223.9	162.6	246.6	1,914.7	
at 8% Interest Rate	10^6 TL	425.6	141.9	190.0	238.5	346.5	226.1	169.8	258.8	1,997.2	

Table A3-7-(1) TORUL and KÜRTÜN Project Cost Classified in Various Cases Unit : x 10^6 TL

Description	Case	TORUL			KÜRTÜN									
		1.4.7.11	2.5.8	3.6.9.12	1	2	3	4	5	6	7	8	9	10
Design Head	m	137	115	101	127	127	127	110	110	110	92	92	92	127
Max. Discharge	c.m/sec	57	48	40	94	85	76	90	81	72	87	78	70	71
Plant Factor	%	25	25	25	25	25	25	25	25	25	25	25	25	25
Installed Capacity	KW	66,000	47,000	34,000	101,000	92,000	82,000	84,000	76,000	67,000	68,000	61,000	55,000	77,000
Dam Volume	cu.m	1,200,000	800,000	500,000	1,200,000	1,200,000	1,200,000	800,000	800,000	800,000	500,000	500,000	500,000	1,200,000
Length of Waterway	m	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Cost														
Dam		390.8	272.8	184.8	393.4	393.4	393.4	275.4	275.4	275.4	186.9	186.9	186.9	393.4
Dam Body		345.0	236.0	147.5	354.0	354.0	354.0	236.0	236.0	236.0	147.5	147.5	147.5	354.0
Coffer Dam		4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Diversion Channel		5.8	5.8	5.8	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Spillway and Gate		26.8	26.8	26.8	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2
Intake		4.6	3.7	2.8	7.0	6.0	5.1	6.5	5.6	4.7	6.2	5.3	4.5	5.5
Tunnel		-	-	-	-	-	-	-	-	-	-	-	-	-
Surge Tank		-	-	-	-	-	-	-	-	-	-	-	-	-
Penstock Line		7.4	6.2	5.0	10.8	10.2	9.6	10.6	9.9	9.2	10.3	9.7	9.2	8.4
Power Station		34.6	27.5	21.9	49.3	46.0	42.0	42.5	38.0	35.8	36.0	33.3	31.2	38.4
Including Building, Boundation, Turbine, Generator, Transformer and Others														
Tailrace		-	-	-	-	-								
Sub Total		437.4	310.2	214.0	460.5	455.6	450.1	335.0	328.9	325.1	239.4	235.2	231.8	445.7
Contingency	15%	65.6	46.5	32.1	69.1	68.3	67.5	50.3	49.3	48.8	35.9	35.3	34.8	66.9
Total		503.0	356.7	246.1	529.6	523.9	517.6	385.3	378.2	373.9	275.3	270.5	266.6	512.6
Over Head	15%	75.5	53.5	36.9	79.4	78.6	77.6	57.8	56.7	56.1	41.3	40.6	40.0	76.9
Land and Compensation		62.5	62.5	62.5	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7
Road		24.0	24.0	24.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0
Camp Facility		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Total		667.5	499.2	372.0	657.2	650.7	643.4	491.3	483.1	478.2	364.8	359.3	354.8	637.7
Interest during Construction Period														
at 5% Interest Rate		60.1	44.9	33.5	59.1	58.6	57.9	44.2	43.5	43.0	32.8	32.3	31.9	57.4
at 8% Interest Rate		96.1	71.9	53.6	94.6	93.7	92.6	70.7	69.6	68.9	52.5	51.7	51.1	91.8
Grand Total														
at 5% Interest Rate		727.6	544.1	405.5	716.3	709.3	701.3	535.5	526.6	521.2	397.6	391.6	386.7	695.1
at 8% Interest Rate		763.6	571.1	425.6	751.8	744.4	736.0	562.0	552.7	547.1	417.3	411.0	405.9	729.5

Table A3-7-(2) KARACUKUR Project Cost Classified in Various Cases Unit : x 10^6 TL

Description	Case	1 . 11	2	3	4	5	6	7	8	9 . 12
Design Head	m	153	153	153	173	173	173	183	183	183
Max. Discharge	c.m/sec	20	18	14	20	18	14	20	18	14
Plant Factor	%	70	70	70	70	70	70	70	70	70
Installed Capacity	KW	26,000	23,000	18,000	29,000	26,000	20,000	31,000	28,000	22,000
Dam Volume	cu.m	-	-	-	-	-	-	-	-	-
Length of Waterway	m	6,000	6,000	6,000	6,500	6,500	6,500	6,500	6,500	6,500
Project Cost										
Dam		9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
Dam Body		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Spillway and Gate		1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Intake		1.0	0.9	0.8	1.0	0.9	0.8	1.0	0.9	0.8
Tunnel		27.6	27.0	24.6	31.2	29.9	27.0	31.2	29.9	27.0
Surge Tank		2.3	2.1	1.7	2.3	2.1	1.7	2.3	2.1	1.7
Penstock Line		2.2	2.1	1.8	2.4	2.2	1.9	2.5	2.3	2.0
Power Station		17.7	16.7	14.2	18.6	17.5	14.7	19.3	17.9	15.5
Including Building,		2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Foundation,		3.0	2.8	2.2	3.1	2.9	2.3	3.3	3.0	2.3
Turbine,		2.8	2.6	2.1	2.9	2.6	2.1	3.0	2.8	2.3
Generator,		3.8	3.6	2.9	4.0	3.8	3.0	4.2	3.7	3.2
Transformer and		1.9	1.7	1.5	2.0	1.9	1.6	2.0	1.9	1.7
Others		3.5	3.3	2.8				4.1	3.8	3.3
Tailrace		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Sub Total		61.5	59.5	53.8	66.2	63.3	56.8	67.0	63.8	57.7
Contingency	15%	9.2	8.9	8.1	10.0	9.5	8.5	10.0	9.6	8.2
Total		70.7	68.4	61.9	76.2	72.8	65.3	77.0	73.4	65.9
Over Head	15%	10.6	10.3	10.8	11.4	10.9	9.8	11.5	11.0	9.9
Total		81.3	78.7	72.7	87.6	83.7	75.1	88.5	84.4	75.8
Interest during Construction Period										
at 5% Interest Rate		6.5	6.3	5.8	7.0	6.7	6.0	7.1	6.7	6.1
at 8% Interest Rate		10.4	10.1	9.3	11.2	10.7	9.6	11.3	10.8	9.7
Grand Total										
at 5% Interest Rate		87.8	85.0	78.5	94.6	90.4	81.1	95.6	91.1	81.9
at 8% Interest Rate		91.7	88.8	82.0	98.8	94.4	84.7	99.8	95.2	85.5

Table A3-7-(3) KARACUKUR Project Cost Classified in Various Cases Unit : x 10^6 TL

Description	Case	1 . 11	2	3	4	5	6	7	8	9 . 12	8	11	12
Design Head	m	153	153	153	173	173	173	183	183	183	183	153	183
Max. Discharge	c.m/sec	29	25	20	29	25	20	29	25	20	48	57	40
Plant Factor	%	50	50	50	50	50	50	50	50	50	25	25	25
Installed Capacity	KW	37,000	32,000	26,000	42,000	36,000	29,000	45,000	39,000	31,000	74,000	74,000	62,000
Dam Volume	cu.m	-	-	-	-	-	-	-	-	-	-		
Length of Waterway	m	6,000	6,000	6,000	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,000	6,500
Project Cost													
Dam		9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
Dam Body		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Spillway and Gate		1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Intake		1.1	1.0	1.0	1.1	1.0	1.0	1.1	1.0	1.0	1.9	2.4	1.5
Tunnel		36.0	33.0	28.8	29.0	35.7	31.2	39.0	35.7	31.2	52.0	52.7	42.2
Surge Tank		3.0	2.7	2.3	3.0	2.7	2.3	3.0	2.7	2.3	4.6	6.0	3.8
Penstock Line		3.0	2.7	2.2	3.1	2.8	2.4	3.3	2.9	2.5	5.2	5.1	4.4
Power Station		21.8	19.8	17.7	23.8	21.4	18 6	25.0	22.6	19.4	37.5	38.6	32.5
Including Building, Foundation, Turbine, Generator, Transformer and Others													
Tailrace		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Sub Total		75.6	69.9	62.9	80.7	74.3	66.2	82.1	75.6	67.1	111.9	115.4	95.1
Contingency	15%	11.3	10.5	9.4	12.1	11.1	9.9	12.3	11.3	10.1	16.8	17.3	14.3
Total		86.9	80.4	72.3	92.8	85.4	76.1	94 4	86.9	77.2	128.7	132.7	109.4
Over Head	15%	13.0	12.1	10.8	13.9	12.8	11.4	14.2	13.0	11.6	19.3	19.9	16.4
Total		99.9	92.5	83.1	106.7	98.2	87.5	108.6	99.9	88.8	148.0	152.6	125.8
Interest during Construction Period													
at 5% Interest Rate		8.0	7.4	6.6	8.5	7.9	7.0	8.7	8.0	7.1	11.8	12.2	10.1
at 8% Interest Rate		12.8	11.8	10.6	13.7	12.6	11.2	13.9	12.8	11.4	18.9	19.5	16.1
Grand Total													
at 5% Interest Rate		107.9	99.9	89.7	115.2	106.1	94.5	117.3	107.9	95.9	159.8	164.8	135.9
at 8% Interest Rate		112.7	104.3	93.7	120.4	111.8	98.7	122.5	112.7	100.2	166.9	172.1	141.9

Table A3-7-(4) KURTUN (Waterway Type) Project Cost Classified in Various Cases Unit : x 10^6 TL

Description	Case	11	11	11	12	12	12
Design Head	m	136	136	136	105	105	105
Max. Discharge	c.m/sec	20	29	57	14	20	40
Plant Factor	%	70	50	25	70	50	25
Installed Capacity	KW	23,000	33,000	61,000	12,000	17,000	35,000
Dam Volume	cu.m	-	-	-	-	-	-
	m	9,000	9,000	9,000	9,000	9,000	9,000
Project Cost							
Dam		12.2	12.2	12.2	12.2	12.2	12.2
Dam Body		10.0	10.0	10.0	10.0	10.0	10.0
Spillway and Gate		2.2	2.2	2.2	2.2	2.2	2.2
Intake		0.5	0.7	1.2	0.5	0.5	1.2
Tunnel		53.4	62.0	85.6	48.5	53.4	75.7
Surge Tank		2.5	3.5	5.5	2.0	2.5	5.0
Penstock Line		2.0	2.6	4.3	1.6	2.0	3.5
Power Station		15.2	21.6	33.0	8.2	11.5	23.0
Including Building, Foundation, Turbine, Generator, Transformer and Other							
Tailrace		1.0	1.0	1.0	1.0	1.0	1.0
Sub Total		86.8	103.6	142.8	74.0	83.1	121.6
Contingency	20%	17.0	20.5	28.0	15.1	16.5	26.2
Total		103.8	124.1	170.8	89.1	99.6	147.8
Over Head	15%	15.6	18.6	25.5	13.4	14.9	22.2
Total		119.4	142.7	196.3	102.5	114.5	170.0
Interest during Construction Period							
at 5% Interest Rate		9.6	11.3	15.6	8.2	9.2	11.7
at 8% Interest Rate		16.9	19.6	25.1	14.5	16.2	20.0
Grand Total							
at 5% Interest Rate		129.0	154.0	211.9	110.7	123.7	181.7
at 8% Interest Rate		136.3	162.3	221.4	117.0	130.7	190.0

Table A3-7-(5) AKKÖY Project Cost Classified in Various Cases Unit : x 10^6 TL

Description	Case	1	2	3	4	5	6	7	8	9	10	11	12	11	12
Design Head	m	137	137	137	137	137	137	137	137	137	137	137	137	137	137
Max. Discharge	c.m/sec	34	31	28	34	29	26	32	29	25	26	22	14	30	20
Plant Factor	%	70	70	70	70	70	70	70	70	70	70	70	70	50	50
Installed Capacity	KW	40,000	36,000	33,000	40,000	33,000	30,000	37,000	33,000	29,000	30,000	25,000	16,000	35,000	23,000
Dam Volume	cu.m	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Length of Waterway	m	12,700	12,700	12,700	12,700	12,700	12,700	12,700	12,700	12,700	12,700	12,700	12,700	12,700	12,700
Project Cost															
Dam		13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
Dam Body		9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
Spillway and Gate		3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Intake		1.5	1.5	1.4	1.5	1.4	0.8	1.5	1.4	0.8	0.8	0.8	0.5	1.5	0.8
Tunnel		114.3	109.2	107.9	114.3	109.2	105.5	113.1	109.9	102.9	101.5	99 0	82.5	109.1	92.0
Surge Tank		4.5	4.2	3.8	4.5	3.9	3.5	4.2	3.9	3.4	3.5	3.1	1.8	4.2	3.0
Penstock Line		2.9	2.8	2.6	2.9	2.6	2.3	2.8	2.6	2.3	2.3	2.1	1.6	2.8	2.0
Power Station		22.6	21.0	19.8	22.6	19.8	18.2	21.2	19.8	18.0	18.2	16 0	13.0	20.5	15.7
Including Building, Foundation, Turbine, Generator, Transformer and Others															
Tailrace		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Sub Total		159.8	152.7	149.5	159.8	150.9	144.3	156.3	151.6	141.4	140.3	135.0	113.4	152.1	127.5
Contingency	15%	24.0	22.9	22.4	24.0	22.6	21.6	23.4	22.7	21.2	21.0	20.2	17.0	22.8	19.1
Total		183.8	175.6	171.9	183.8	173.5	165.9	179.7	174.3	162.6	161.3	155.2	130.4	174.9	146.6
Over Head	15%	27.6	26.3	25.8	27.6	26.0	24.9	27.0	26.1	24.4	24.2	23.3	19.6	26.2	22.0
Total		211.4	201.9	197.7	211.4	199.5	190.8	206.7	201.3	187.0	185.5	178.5	150.0	201.1	168.6
Interest during Construction Period															
at 5% Interest Rate		16.9	16.2	15.8	16.9	16 0	15.3	16.5	16.1	15.0	14.8	14.3	12.0	16.1	13.5
at 8% Interest Rate		27.1	25.8	25.3	27.1	25.5	24.4	26.5	25.8	23.9	23.7	22.8	19.2	25.7	21.6
Grand Total															
at 5% Interest Rate		228.3	218.1	213.5	228.3	215.5	206.1	223.2	217.4	202.0	200.3	192.8	162.0	217.2	182.1
at 8% Interest Rate		238.5	227.7	223.0	238.5	225.0	215.2	233.2	227.1	210.9	209.2	201.3	169.2	226.8	190.2

Table A3-7-(6) DOGANKENT Project Cost Classified in Various Cases Unit : x 10^6 TL

Description	Case	1	2	3	4	5	6	7	8	9	10	11	12	11	12
Design Head	m	183	183	183	183	183	183	183	183	183	183	183	183	183	183
Max. Discharge	c.m/sec	45	42	39	45	40	37	43	40	36	37	33	21	41	31
Plant Factor	%	70	70	70	70	70	70	70	70	70	70	70	70	50	50
Installed Capacity	KW	70,000	65,000	61,000	70,000	62,000	57,000	66,000	62,000	56,000	57,000	52,000	32,000	63,000	48,000
Dam Volume	cu.m	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Length of Waterway	m	7,127	7,127	7,127	7,127	7,127	7,127	7,127	7,127	7,127	7,127	7,127	7,127	7,127	7,127
Project Cost of 1st Stage		174.7	174.7	174.7	174.7	174.7	174.7	174.7	174.7	174.7	174.7	174.7	174.7	174.7	174.7
Project Cost of 2nd Stage															
Tunnel		11.33	10.30	7.95	11.33	10.00	7.00	10.40	10.00	6.83	7.00	6.23	0	10.20	6.0
Surge Tank		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Penstock Line		2.25	2.10	2.10	2.25	2.00	1.75	2.20	2.00	1.05	1.70	1.43	0	2.00	1.35
Power Station		19.97	18.20	16.44	19.97	16.50	14.50	18.40	16.50	13.52	14.50	11.79	0	17.00	10.50
Including Building, Foundation, Turbine, Generator, Transformer and Others															
Tailrace		0.9	0.8	0.5	0.9	0.7	0.5	0.8	0.7	0.45	0.5	0.45	0	0.70	0.50
Sub Total		34.45	31.40	26.99	34.45	29.20	23.75	31.80	29.20	22.45	23.70	19.90	0	29.90	18.35
Contingency	15%	5.17	4.71	4.00	5.17	4.38	3.56	4.77	4.38	3.37	3.56	2.99	0	4.49	2.75
Total		39.62	36.11	30.99	39.62	33.58	27.31	36.57	33.58	25.82	27.26	22.89	0	34.39	21.10
Over Head	15%	5.94	5.42	4.65	5.94	5.03	4.10	5.49	5.04	3.87	4.09	3.43	0	5.16	3.17
Total		45.56	41.53	35.64	45.56	38.61	31.41	42.06	38.62	29.69	31.35	26.32	0	39.55	24.27
Interest during Construction Period															
at 5% Interest Rate		3.64	3.32	2.85	3.64	3.09	2.51	3.36	3.09	2.38	2.51	2.11	0	3.16	1.94
at 8% Interest Rate		5.83	5.32	4.56	5.83	4.94	4.02	5.38	4.94	3.80	4.01	3.37	0	5.06	3.11
Grand Total															
at 5% Interest Rate		49.20	44.85	38.49	49.20	41.70	33.92	45.42	41.71	32.07	33.86	28.43	0	42.71	26.21
at 8% Interest Rate		51.39	46.85	40.20	51.39	43.55	35.43	47.44	43.56	33.49	35.36	29.69	0	44.61	27.38

Table A3-7-(7) ASLANCIK Project Cost Classified in Various Cases Unit : x 10^6 TL

Description		Case 1	2	3	4	5	6	7	8	9	10	11	12	11	12
Design Head	m	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Max. Discharge	c.m/sec	45	42	39	45	40	37	43	40	36	37	33	25	41	31
Plant Factor	%	70	70	70	70	70	70	70	70	70	70	70	70	50	50
Installed Capacity	KW	38,000	35,000	33,000	38,000	34,000	31,000	36,000	34,000	31,000	31,000	28,000	21,000	35,000	26,000
Dam Volume	cu.m	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Length of Waterway	m	8,320	8,320	8,320	8,320	8,320	8,320	8,320	8,320	8,320	8,320	8,320	8,320	8,320	8,320
Project Cost															
Dam		17.48	17.48	17.48	17.48	17.48	17.48	17.48	17.48	17.48	17.48	17.48	17.48	17.48	17.48
Dam Body		14.85	14.85	14.85	14.85	14.85	14.85	14.85	14.85	14.85	14.85	14.85	14.85	14.85	14.85
Spillway and Gate		2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63
Intake		1.20	1.20	1.05	1.20	1.10	1.05	1.20	1.10	1.05	1.05	0.90	0.80	1.10	0.90
Tunnel		63.65	58.80	54.91	63.65	56.00	53.20	60.40	56.00	52.42	52.42	50.75	41.70	57.40	54.10
Surge Tank		4.13	4.08	4.35	4.13	4.05	4.00	4.09	4.04	3.98	3.98	3.75	2.87	4.06	3.50
Penstock Line		3.53	3.49	3.38	3.53	3.43	3.23	3.51	3.43	3.15	3.15	2.20	1.77	3.46	2.10
Power Station		22.82	22.40	21.85	22.82	22.10	21.09	22.60	22.10	21.09	21.09	18.17	15.40	22.40	17.30
Including Building, Foundation, Turbine, Generator, Transformer, and Others															
Tailrace		1.00	1.00	0.75	1.00	1.00	0.70	1.00	1.00	0.68	0.68	0.60	0.60	0.60	0.60
Sub Total		113.81	108.45	103.77	113.81	105.16	100.75	110.28	105.15	99.85	99.85	95.93	80.62	106.50	95.98
Contingency	15%	17.08	16.27	15.57	17.08	15.77	15.11	16.54	15.77	14.98	14.98	14.39	21.10	15.98	14.40
Total		130.89	124.72	119.34	130.89	120.93	115.86	126.82	120.92	114.83	114.83	110.32	92.72	122.48	110.38
Over Head	15%	19.63	18.71	17.90	19.63	18.14	17.38	19.02	18.14	17.22	17.22	16.55	13.90	18.37	16.56
Total		150.52	143.43	137.24	150.52	139.07	133.24	145.84	139.06	132.05	132.05	126.87	106.62	140.85	126.94
Interest during Construction Period															
at 5% Interest Rate		12.04	11.47	10.98	12.04	11.13	10.66	11.67	11.12	10.56	10.56	10.15	8.53	11.27	10.16
at 8% Interest Rate		19.27	18.36	17.57	19.27	17.80	17.05	18.67	17.80	16.90	16.90	16.24	13.65	18.03	16.25
Grand Total															
at 5% Interest Rate		162.56	154.90	148.22	162.56	150.20	143.90	157.51	150.18	142.61	142.61	137.02	115.15	152.12	137.10
at 8% Interest Rate		169.80	161.80	154.80	169.80	156.90	150.30	164.50	156.90	149.00	149.00	143.10	120.30	158.88	143.19

Table A3-7-(8) TIREBOLU and GÜNYÜZU Project Cost Classified in Various Cases Unit : x 10^6 TL

Description		Case	TIREBOLU 1	2	3	4	5	6	7	8	9	10	11	12	GÜNYÜZÜ
Design Head	m		58	58	58	58	58	58	58	58	58	58	58	58	1,215
Max. Discharge	c m/sec		129	120	112	125	116	107	122	114	104	106	111	92	11
Plant Factor	%		25	25	25	25	25	25	25	25	25	25	25	25	25
Installed Capacity	KW		63,000	59,000	55,000	61,000	57,000	52,000	60,000	56,000	51,000	52,000	54,000	45,000	113,000
Project Cost															
Dam			120.1	120.1	120.1	120.1	120.1	120.1	120.1	120.1	120.1	120.1	120.1	120.1	123.0
Dam Body			60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
Coffer Dam			1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Diversion Channel			18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	
Spillway and Gate			40.3	40.3	40.3	40.3	40.3	40.3	40.3	40.3	40.3	40.3	40.3	40.3	
Intake			6.7	6.4	6.0	6.6	6.2	6.0	6.4	6.1	5.8	5.8	6.0	5.3	1.0
Tunnel			-	-	-	-	-	-	-	-	-	-	-	-	53.0
Surge Tank			-	-	-	-	-	-	-	-	-	-	-	-	-
Penstock Line			3.9	3.7	3.5	3.8	3.6	3.2	3.7	3.5	3.3	3.4	3.5	3.0	14.0
Power Station			44.3	43.9	43.5	44.1	43.7	43.3	44.0	43.6	43.2	43.3	43.5	42.6	37.0
Including Building, Foundation, Turbine, Generator, Transformer and Others															
Tailrace			-	-	-	-	-	-	-	-	-	-	-	-	1.0
Sub Total			175.0	174.1	173.1	174.6	173.6	172.6	1742.	173.3	172.4	172.6	173.1	171.0	229.0
Contingency	15%		26.7	26.2	25.7	26.5	25.9	25.5	26.3	25.8	25.4	25.5	25.6	25.7	34.4
Total			201.3	200.2	199.1	200.8	199.7	198.5	200.3	199.3	198.3	198.5	199.1	196.7	263.4
Over Head	15%		30.7	30.1	29.6	30.4	29.8	29.3	30.2	29.7	29.2	29.3	29.5	29.5	39.5
Total			231.5	230.3	229.0	230.9	229.7	229.3	230.3	229.2	229.0	228.3	229.0	226.2	302.9
Interest during Construction Period															
at 5% Interest Rate			21.2	20.7	20.5	20.8	20.7	20.6	20.7	20.6	20.6	20.5	20.6	20.4	27.1
at 8% Interest Rate			33.3	33.2	33.0	33.2	33.2	33.0	33.2	33.0	33.0	32.0	33.0	32.6	43.6
Grand Total															
at 5% Interest Rate			252.3	251.0	249.5	251.7	250.4	249.9	251.0	249.8	249.6	248.8	249.6	246.6	330.0
at 8% Interest Rate			264.8	263.5	262.0	264.1	262.9	262.3	263.5	262.2	262.0	261.2	262.0	258.8	346.5

Table-A3-8-(1) Economic Comparison in Case of Waterway Type Power Station with Plant Factor 70%

Interest	Alternative Thermal Power Plant	Case	Kürtün Reservoir H.W.L (m)	Kürtün Reservoir Effective Storage (10^6 m^3)	Torul Reservoir H.W.L (m)	Torul Reservoir Effective Storage (10^6 m^3)	Total Effective Storage (10^6 m^3)	Installed Capacity (MW)	Dependable Output (MW)	Annual Energy (10^6kwh)	Construction Cost (10^6 TL)	Annual Power Benefit (10^6 TL)	Annual Energy Benefit (10^6 TL)	Annual Benefit (10^6 TL)	Annual Cost (10^6 TL)	Surplus Benefit (10^6 TL)	KV/KWH
5%	100 MW	1	690	182.9	1,015	355.0	537.9	517	476.8	2,278.6	2,728.8	86.7	129.7	216.4	183.8	32.6	8.1
		2	"	"	990	207.8	390.7	470	445.9	2,179.1	2,512.0	81.1	124.0	205.1	169.2	35.9	7.8
		3	"	"	970	103.8	286.7	429	411.3	2,054.0	2,339.7	74.8	116.9	191.7	157.6	34.1	7.7
		4	670	123.4	1,015	355.0	478.4	501	463.9	2,242.6	2,554.2	84.3	127.6	211.9	172.0	39.9	7.7
		5	"	"	990	207.8	331.2	448	426.4	2,125.5	2,323.6	77.5	120.9	198.4	156.5	41.9	7.4
		6	"	"	970	103.8	227.2	404	387.1	1,992.4	2,146.3	70.4	113.4	183.8	144.5	39.3	7.3
		7	650	73.3	1,015	355.0	428.3	477	436.1	2,191.4	2,402.6	79.3	124.7	204.0	161.8	42.2	7.4
		8	"	"	990	207.8	281.1	434	409.2	2,082.9	2,190.6	74.4	118.5	192.9	147.5	45.4	7.1
		9	"	"	970	103.8	177.1	391	369.6	1,935.4	2,005.1	67.2	110.1	177.3	135.0	42.3	7.0
	300 MW	1	690	182.9	1,015	355 0	537.9	517	476.8	2,278.6	2,728.8	71.0	127.4	198.4	183.8	14.6	8.1
		2	"	"	990	207.8	390.7	470	445.9	2,179.1	2,512.0	66.4	121.8	188.2	169.2	19.0	7.8
		3	"	"	970	103.8	286.7	429	411.3	2,054.0	2,339.7	61.2	114.8	176.0	157.6	18.4	7.7
		4	670	123.4	1,015	355.0	478.4	501	463.9	2,242.6	2,554.2	69.1	125.4	194.5	172.0	22.5	7.7
		5	"	"	990	207.8	331.2	448	426.4	2,125.5	2,323.6	63.5	118.8	182.3	156.5	25.8	7.4
		6	"	"	970	103.8	227.2	404	387.1	1,992.4	2,146.3	57.6	111.4	169.0	144.5	24.5	7.3
		7	650	73.3	1,015	355.0	428.3	477	436.1	2,191.4	2,402.6	64.9	122.5	187.4	161.8	25.6	7.4
		8	"	"	990	207.8	281.1	434	409.2	2,082.9	2,190.6	60.9	116.4	177.3	147.5	29.8	7.1
		9	"	"	970	103.8	177.1	391	369.6	1,935 4	2,005.1	55.0	108.2	163.2	135.0	28.2	7.0
8%	100 MW	1	690	182.9	1,015	355.0	537.9	517	476.8	2,278.6	2,852.8	108.6	129.7	238.3	269.0	-30.7	11.8
		2	"	"	990	207.8	390.7	470	445.9	2,179.1	2,625.4	101.6	124.0	225.6	247.6	-22.0	11.4
		3	"	"	970	103.8	286.7	429	411.3	2,054.0	2,444.8	93.7	116.9	210.6	230.5	-19.9	11.2
		4	670	123.4	1,015	355.0	478.4	501	463.9	2,242.6	2,669.4	105.7	127.6	233.3	251.7	-18.4	11.2
		5	"	"	990	207.8	331.2	448	426.4	2,125.5	2,427.8	97.1	120.9	218.0	228 9	-10.9	10.8
		6	"	"	970	103.8	227.2	404	387.1	1,992.4	2,241.8	88.2	113.4	201.6	211.4	- 9.8	10.6
		7	650	73.3	1,015	355.0	428.3	477	436.1	2,191.4	2,510.5	99.3	124.7	224.0	236.7	-12.7	10.8
		8	"	"	990	207.8	281.1	434	409.2	2,082.9	2,288.3	93.2	118.5	211.7	215.8	- 4.1	10.4
		9	"	"	970	103.8	177.1	391	369.2	1,935.4	2,093.6	84.2	110.1	194.3	197.4	- 3.1	10.2
	300 MW	1	690	182.9	1,015	355.0	537.9	517	476.8	2,278.6	2,852.8	90.2	127.4	217.6	269.0	-51.4	11.8
		2	"	"	990	207.8	390.7	470	445.9	2,179.1	2,625.4	84.3	121.8	206.1	247.6	-41.5	11.4
		3	"	"	970	103.8	286.7	429	411.3	2,054.0	2,444.8	77.8	114.8	192.6	230.5	-37.9	11.2
		4	670	123.4	1,015	355.0	478.4	501	463.9	2,242.6	2,669.4	87.7	125.4	213.1	251.7	-38.6	11.2
		5	"	"	990	207.8	331.2	448	426.4	2,125.5	2,427.8	80.6	118.8	199.4	228.9	-29.5	10.8
		6	"	"	970	103.8	227.2	404	387.1	1,992.4	2,241.8	73.2	111.4	184.6	211.4	-26.8	10.6
		7	650	73.3	1,015	355.0	428.3	477	436.1	2,191.4	2,510.5	82.5	122.5	205.0	236.7	-31.7	10.8
		8	"	"	990	207.8	281.1	434	409.2	2,082.9	2,288.3	77.4	116.4	193.8	215.8	-22.0	10.4
		9	"	"	970	103.8	177.1	391	369.2	1,935.4	2,093.6	69.9	108.2	178.1	197.4	-19.3	10.2

Table-A3-8-(2) Economic Comparison in Case of Waterway Type Power Station with Plant Factor 50%

Interest	Alternative Thermal Power Plant	Case	Kurtün Reservoir H.W.L (m)	Kurtün Reservoir Effective Storage (10^6 m^3)	Torul Reservoir H.W.L (m)	Torul Reservoir Effective Storage (10^6 m^3)	Total Effective Storage (10^6 m^3)	Installed Capacity (MW)	Dependable Output (MW)	Annual Energy (10^6kwh)	Construction Cost (10^6 TL)	Annual Power Benefit (10^6 TL)	Annual Energy Benefit (10^6 m^3)	Annual Benefit (10^6 m^3)	Annual Cost (10^6 m^3)	Surplus Benefit (10^6 m^3)	KV/KWH
5%	100 MW	1	690	182.9	1,015	355.0	537.9	528	487.8	2,289.7	2,748.9	88.7	130.3	219.0	185.1	33.9	8.1
		2	"	"	990	207.8	390.7	491	465.9	2,204.8	2,549.1	84.7	125.5	210.2	171.7	38.5	7.8
		3	"	"	970	103.8	286.7	458	440.3	2,102.3	2,390.8	80.0	119.6	199.6	161.0	38.6	7.7
		4	670	123.4	1,015	355.0	478.4	514	476.9	2,248.1	2,574.8	86.7	127.9	214.6	173.8	41.3	7.7
		5	"	"	990	207.8	331.2	477	455.4	2,166.6	2,372.0	82.8	123.3	206.1	159.7	46.4	7.4
		6	"	"	970	103.8	227.2	443	426.1	2,057.0	2,215.9	77.5	117.0	194.5	149.2	45.3	7.3
		7	650	73.3	1,015	355.0	428.3	500	459.1	2,208.4	2,438.3	83.5	125.7	209.2	164.2	45.0	7.4
		8	"	"	990	207.8	281.1	464	439.2	2,126.0	2,237.9	79.8	121.0	200.8	150.7	50.1	7.1
		9	"	"	970	103.8	177.1	432	410.6	2,013.9	2,082.5	74.6	114.6	189.2	140.2	49.0	7.0
	300 MW	1	690	182 9	1,015	355.0	537.9	528	487.8	2,289.7	2,748.9	72.6	128.0	200.6	185.1	15.5	8.1
		2	"	"	990	207.8	390.7	491	465.9	2,204.8	2,549.1	69.4	123.2	192.6	171.7	20.9	7.8
		3	"	"	970	103.8	286.7	458	440.3	2,102.3	2,390.8	65.6	117.5	183.1	161.0	22.1	7.7
		4	670	123.4	1,015	355.0	478.4	514	476.9	2,248.1	2,574.8	71.0	125.7	196.7	173.3	23.4	7.7
		5	"	"	990	207.8	331.2	477	455.4	2,166.6	2,372.0	67.8	121.1	188.9	159.7	29.2	7.4
		6	"	"	970	103.8	227.2	443	426.1	2,057.0	2,215.9	63.4	115.0	178.4	149.2	29.2	7.3
		7	650	73.3	1,015	355.0	428.3	500	459.1	2,208.4	2,438.3	68.4	123.4	191.8	164.2	27.6	7.4
		8	"	"	990	207.8	281.1	464	439.2	2,126.0	2,237.9	65.4	118.8	184.2	150.7	33.5	7.1
		9	"	"	970	103.8	177.1	432	410.6	2,013.9	2,082.5	61.1	112.6	173.7	140.2	33.5	7.0
8%	100 MW	1	690	182.9	1,015	355.0	537.9	528	487.8	2,289.7	2,873.8	111.1	130.3	241.4	271.0	-29.6	11.8
		2	"	"	990	207.8	390.7	491	465.9	2,204.8	2,664.2	106.1	125.5	231.6	251.2	-19.6	11.3
		3	"	"	970	103.8	286.7	458	440.3	2,102.3	2,498.2	100.3	119.6	219.9	235.6	-15.7	11.2
		4	670	123.4	1,015	355.0	478.4	514	476.9	2,248.1	2,691.0	108.6	127.9	236.5	253.8	-17.3	11.3
		5	"	"	990	207.8	331.2	477	455.4	2,166.6	2,465.0	103.7	123.3	227.0	232.4	- 5.4	10.8
		6	"	"	970	103.8	227.2	443	426.1	2,057.0	2,314.6	97.1	117.0	214.1	218.3	- 4.2	10.6
		7	650	73.3	1,015	355.0	428.4	500	459.1	2,208.4	2,547.8	104.6	125.7	230.3	240.3	-10.0	10.9
		8	"	"	990	207.8	281.1	464	439.2	2,126.0	2,337.9	100.0	121.0	221.0	220.5	0.5	10.4
		9	"	"	970	103.8	177.1	432	410.6	2,013.9	2,174.6	93.5	114.6	208.1	205.1	3.0	10.2
	300 MW	1	690	182.9	1,015	355.0	537.9	528	487.8	2,289.7	2,873.8	92.2	128.0	220.2	271.0	-50.8	11.8
		2	"	"	990	207.8	390.7	491	465.9	2,204.8	2,664.2	88.1	123.2	211.3	251.2	-39.9	11.3
		3	"	"	970	103.8	286.7	458	440 3	2,102.3	2,498.2	83.3	117.5	200.8	235.6	-34.8	11.2
		4	670	123.4	1,015	355.0	478.4	514	476.9	2,248.1	2,691.0	90.2	125.7	215.9	253.8	-37.9	11.3
		5	"	"	990	207.8	331.2	477	455.4	2,166.6	2,465.0	86.1	121.1	207.2	232.4	-25.2	10.8
		6	"	"	970	103.8	227.2	443	426.4	2,057.0	2,314.6	80.6	115.0	195.6	218.3	-22.7	10.6
		7	650	73.3	1,015	355 0	428.3	500	459.1	2,208.4	2,547.8	86.8	123.4	210.2	240.3	-30.1	10.9
		8	"	"	990	207.8	281.1	464	439.2	2,126.0	2,337.9	83.1	118.8	201.9	220.5	-18.6	10.4
		9	"	"	970	103.8	177.1	432	410.6	2,013.9	2,174.6	77.6	112.6	190.2	205.1	-14.9	10.2

Table-A3-8-(3) Economic Comparison in Case of Waterway Type Power Station with Plant Factor 70% (without GÜNYÜZÜ and TIREBOLU power station)

Interest	Alternative Thermal Power Plant	Case	Kurtun Reservoir H.W.L (m)	Kurtun Reservoir Effective Storage (10^6 m^3)	Torul Reservoir H.W.L (m)	Torul Reservoir Effective Storage (10^6 m^3)	Total Effective Storage (10^6 m^3)	Installed Capacity (MW)	Dependable Output (MW)	Annual Energy (10^6kwh)	Construction Cost (10^6 TL)	Annual Power Benefit (10^6 TL)	Annual Energy Benefit (10^6 TL)	Annual Benefit (10^6 TL)	Annual Cost (10^6 TL)	Surplus Benefit (10^6 TL)	KV/KWH
5%	100 MW	1	690	182.9	1,015	355.0	537.9	341	304	1,494.5	2,145.9	55.3	85.0	140.3	144.5	- 4.2	9.7
		2	"	"	990	207.8	390.7	298	276	1,398.1	1,931.0	50.2	79.6	129.8	130.0	- 0.2	9.3
		3	"	"	970	103.8	286.7	261	246	1,277.4	1,760.2	44.7	72.7	117.4	118.5	- 1.1	9.3
		4	670	123.4	1,015	355.0	478.4	327	293	1,460.3	1,972.5	53.3	83.1	136.4	132.8	3.6	9.1
		5	"	"	990	207.8	331.2	278	259	1,346.9	1,743.2	47.1	76.6	123.7	117.4	6.3	9.2
		6	"	"	970	103.8	227.2	239	225	1,218.4	1,566.4	40.9	69.3	110.2	105.5	4.7	8.7
		7	650	73.3	1,015	355.0	428.3	304	266	1,410.3	1,821.6	48.4	80.2	128.6	122.7	5.9	8.7
		8	"	"	990	207.8	281.1	265	243	1,304.5	1,610.8	44.2	74.2	118.4	108 5	9.9	8.3
		9	"	"	970	103.8	177.1	227	209	1,163.3	1,425.5	38.0	66.2	104.2	96.0	8.2	8.3
		10	690	182.9	-	0	182.9	195	176	986.0	1,246.6	32.0	56.1	88.1	83.9	5.2	8.5
		11	-	0	1,015	355.0	355.0	220	196	1,224.6	1,477.3	35.6	69.7	105.3	99.5	5.8	8.1
		12	-	0	970	103.8	103.8	144	138	904.0	1,050.0	25.1	51.4	76.5	70.7	5.8	7.8
	300 MW	1	690	182.9	1,015	355.0	537.9	341	304	1,494.5	2,145.9	45.3	83.5	128.3	144.5	-15.7	9.7
		2	"	"	990	207.8	390.7	298	276	1,398.1	1,931.0	41.1	78.2	119.3	130.0	-10.7	9.3
		3	"	"	970	103.8	286.7	261	246	1,277.4	1,760.2	36.6	71.4	108.0	118.5	-10.5	9.3
		4	670	123.4	1,015	355.0	478.4	327	293	1,460.3	1,972.5	43.6	81.6	125.2	132.8	- 7.6	9.1
		5	"	"	990	207.8	331.2	278	259	1,346.9	1,743.2	38.6	75.3	113.9	117.4	- 3.5	9.2
		6	"	"	970	103.8	227.2	239	225	1,218.4	1,566.4	33.5	68.1	101.6	105.5	- 3.9	8.7
		7	650	73.3	1,015	355.0	428.3	304	266	1,410.3	1,821.6	39.6	78.8	118.4	122.7	- 4.3	8.7
		8	"	"	990	207.8	281.1	265	243	1,304.5	1,610.8	36.2	72.9	109.1	108.5	+ 0.6	8.3
		9	"	"	970	103.8	177.1	227	209	1,163.3	1,425.5	31.1	65.1	96.1	96.0	+ 0.1	8.3
		10	690	182.9	-	0	182.9	195	176	986.0	1,246.6	26.2	55.1	81.3	83.9	- 2.6	8.5
		11	-	0	1,015	355.0	355.0	220	196	1,224.6	1,477.3	29.0	68.5	97.7	99.5	- 1.8	8.1
		12	-	0	970	103.8	103.8	144	138	904.0	1,050.0	20.5	50.5	71.0	70.7	+ 0.3	7.8

Table-A3-8-(4) Economic Comparison : in Case of Waterway Type Power Station with Plant Factor 70%

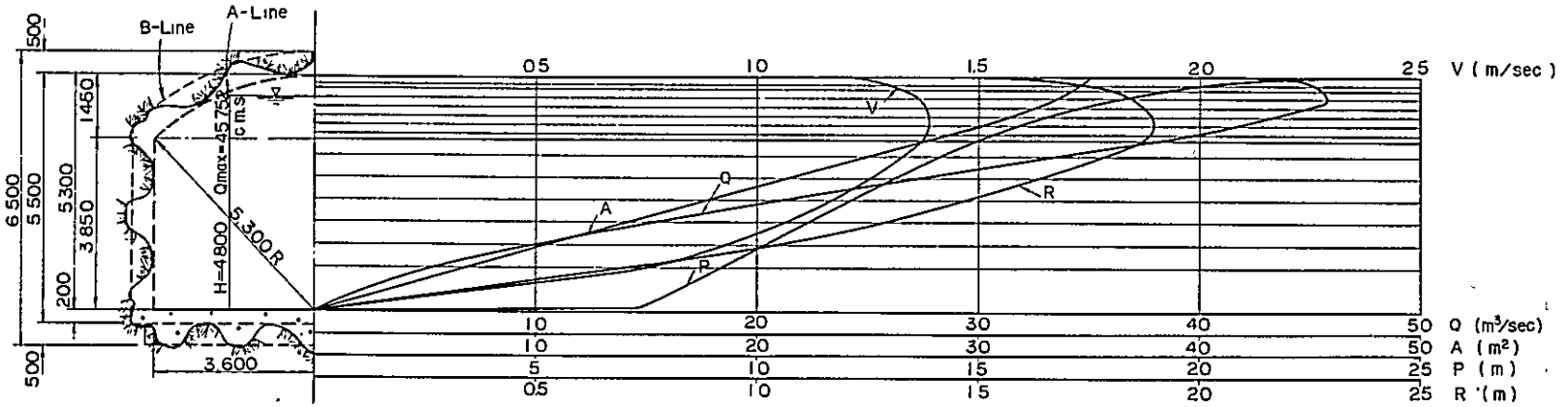
Interest	Alternative Thermal Power Plant	Case	Kurtun Reservoir H.W.L (m)	Kurtun Reservoir Effective Storage (10^6 m^3)	Torul Reservoir H.W.L (m)	Torul Reservoir Effective Storage (10^6 m^3)	Total Effective Storage (10^6 m^3)	Installed Capacity (MW)	Dependable Output (MW)	Annual Energy (10^6kwh)	Construction Cost (10^6 TL)	Annual Power Benefit (10^6 TL)	Annual Energy Benefit (10^6 TL)	Annual Benefit (10^6 TL)	Annual Cost (10^6 TL)	Surplus Benefit (10^6 TL)	KV/KWH
5%	100 MW	8	650	73.3	990	207.8	281.1	434	409.2	2,082.9	2,190.6	74.4	118.5	192.9	147.5	45.4	7.1
		10	690	182.9	-	0	182.9	360	321.0	1,760.3	1,825.4	58.4	100.2	158.6	122.9	35.7	7.0
		11	-	0	1,015	355.0	355.0	387	360.2	1,998.6	2,056.9	65.5	113.7	179.2	138.5	40.7	6.9
		12	-	0	970	103.8	103.8	302	292.7	1,662.4	1,626.6	53.2	94.6	147.8	109.5	38.3	6.6
	300 MW	8	650	73.3	990	207.8	281.1	434	409.2	2,082.9	2,190.6	60.9	116.4	177.3	147.5	29.8	7.1
		10	690	182.9	-	0	182.9	360	321.0	1,760.3	1,825.4	47.8	98.4	146.2	122.9	23.3	7.0
		11	-	0	1,015	355.0	355.0	387	360.2	1,998.6	2,056.9	53.6	111.7	165.3	138.5	26.8	6.9
		12	-	0	970	103.8	103.8	302	292.7	1,662.4	1,626.6	43.6	92.9	136.5	109.5	27.0	6.6
8%	100 MW	8	650	73.3	990	207.8	281.1	434	409.2	2,082.9	2,288.3	93.2	118.5	211.7	215.8	- 4.1	10.4
		10	690	182.9	-	0	182.9	360	321.0	1,760.3	1,938.2	73.1	100.2	173.3	182.8	- 9.5	10.4
		11	-	0	1,015	355.0	355.0	387	360.2	1,998.6	2,148.9	82.1	113.7	195.8	202.6	- 6.8	10.1
		12	-	0	970	103.8	103.8	302	292.7	1,662.4	1,697.6	66.7	94.6	161.3	160.1	1.2	9.6
	300 MW	8	650	73.3	990	207.8	281.9	434	409.2	2,082.9	2,288.3	77.4	116.4	193.8	215.8	-22.0	10.4
		10	690	182.9	-	0	182.9	360	321.0	1,760.3	1,938.2	60.7	98.4	159.1	182.8	-23.7	10.4
		11	-	0	1,015	355.0	355.0	387	360.2	1,998.6	2,148.9	68.1	111.7	179.8	202.6	-22.8	10.1
		12	-	0	970	103.8	103.8	302	292.7	1,662.4	1,697.6	55.3	92.9	148.2	160.1	-11.9	9.6

Table . Economic Comparison : in Case of Waterway Type Power Station with Load Factor 50%

5%	100 MW	8	650	73.3	990	207.8	281.9	464	439.2	2,126.0	2,237.9	79.8	121.0	200.8	150.7	50.1	7.1
		10	690	182.9	-	0	182.9	390	365.0	1,845.0	1,888.7	66.4	105.0	171.4	127.2	44.2	6.9
		11	-	0	1,015	355.0	355.0	436	409.2	2,082.0	2,155.8	74.4	118.5	192.9	145.2	47.7	7.0
		12	-	0	970	103.8	103.8	377	327.7	1,761.8	1,721.8	59.6	100.2	159.8	115.9	43.9	6.6
	300 MW	8	650	73.3	990	207.8	281.9	464	439.2	2,126.0	2,237.9	65.4	118.8	184.2	150.7	33.5	7.1
		10	690	182.9	-	0	182.9	390	365.0	1,845.0	1,888.7	54.3	103.1	157.4	127.2	30.2	6.9
		11	-	0	1,015	355.0	355.0	436	409.2	2,082.0	2,155.8	60.9	116.4	177.3	145.2	32.1	7.0
		12	-	0	970	103.8	103.8	377	327.7	1,761.8	1,721.8	48.8	98.5	147.3	115.9	31.4	6.6
8%	100 MW	8	650	73.3	990	207.8	281.9	464	439.2	2,126.0	2,337.9	100.0	121.0	221.0	220.5	0.5	10.4
		10	690	182.9	-	0	182.9	390	365.0	1,845.0	2,016.7	83.1	104.9	188.0	190.2	- 2.2	10.3
		11	-	0	1,015	355.0	355.0	436	409.2	2,082.0	2,232.4	93.2	118.5	211.7	210.5	1.2	10.1
		12	-	0	970	103.8	103.8	377	327.7	1,761.8	1,778.6	74.7	100.2	174.9	167.7	7.2	9.5
	300 MW	8	650	73.3	990	207.8	281.9	464	439.2	2,126.0	2,337.9	83.1	118.8	201.9	220.5	-18.6	10.4
		10	690	182.9	-	0	182.9	390	365.0	1,845.0	2,016.7	69.0	103.1	172.1	190.2	-18.1	10.3
		11	-	0	1,015	355.0	355.0	436	409.2	2,082.0	2,232.4	77.4	116.4	193.8	210.5	-16.7	10.1
		12	-	0	970	103.8	103.8	377	327.7	1,761.8	1,778.6	62.0	98.5	160.5	167.7	- 7.2	9.5

Table-A3-8-(5) Economic Comparison : in Case of Waterway Type Power Station with Plant Factor 25%

Interest	Alternative Thermal Power Plant	Case	Kürtün Reservoir H.W.L (m)	Kürtün Reservoir Effective Storage (10^6 m^3)	Torul Reservoir H.W.L (m)	Torul Reservoir Effective Storage (10^6 m^3)	Total Effective Storage (10^6 m^3)	Installed Capacity (MW)	Dependable Output (MW)	Annual Energy (10^6kwh)	Construction Cost (10^6 TL)	Annual Power Benefit (10^6 TL)	Annual Energy Benefit (10^6 TL)	Annual Benefit (10^6 TL)	Annual Cost (10^6 TL)	Surplus Benefit (10^6 TL)	KV/KWH	Remark
5%	100 MW	8	650	73.3	990	207.8	281.1	499	474.2	2,147.4	2,290.1	86.2	122.2	208.4	154.2	54.2	7.2	
		11	-	0	1,015	355.0	355.0	516	489.2	2,122.8	2,298.7	88.9	120.8	209.7	154.8	54.9	7.3	
		12	-	0	970	103.8	103.8	437	427.7	1,938.4	1,914.7	77.8	110.3	188.1	128.9	59.2	6.6	
	300 MW	8	650	73.3	990	207.8	281.1	499	474.2	2,147.4	2,290.1	70.6	120.0	190.6	154.2	36.4	7.2	
		11	-	0	1,015	355.0	355.0	516	489.2	2,122.8	2,298.7	72.8	118.7	191.5	154.8	36.7	7.3	
		12	-	0	970	103.8	103.8	437	427.7	1,938.4	1,914.7	63.7	108.4	172.1	128.9	43.2	6.6	
	100 MW	8	650	73.3	990	207.8	281.1	499	474.2	1,911.5	2,290.1	86.2	108.8	195.0	154.2	40.8	7.2	in case that the valve of Secondary energy is one-half of Firm energy.
		11	-	0	1,015	355.0	355.0	516	489.2	1,902.6	2,298.7	88.9	108.3	197.2	154.8	42.4	7.3	
		12	-	0	970	103.8	103.8	437	427.7	1,636.9	1,914.7	77.8	93.1	170.9	128.9	42.0	6.6	
	300 MW	8	650	73.3	990	207.8	281.1	499	474.2	1,911.5	2,290.1	70.6	106.9	177.5	154.2	23.3	7.2	
		11	-	0	1,015	355.0	355.0	516	489.2	1,902.6	2,298.7	72 8	106.4	179.2	154.8	24.4	7.3	
		12	-	0	970	103.8	103.8	437	427.7	1,636.9	1,914.7	63.7	91.5	155.2	128.9	26.3	6.6	



Notes ;

A-Line (Min thickness)
Within which no excavated rock soil timbers or lagging may project

B-Line (Max thickness)
Pay line for excavation & concrete

H (m)	A (m²)	P (m)	R (m)	n = 0.035	
				V (m/sec)	Q (m³/sec)
0	0	0	0	0	0
1.000	7.200	9.200	0.723	0.768	5.530
1.500	10.800	10.200	1.058	0.939	10.141
2.000	14.400	11.200	1.289	1.069	15.394
2.500	18.000	12.200	1.475	1.171	21.078
3.000	21.600	13.200	1.636	1.254	27.086
3.500	25.200	14.200	1.775	1.324	33.365
3.850	27.720	14.900	1.873	1.373	38.060
4.000	28.789	15.292	1.883	1.378	39.671
4.200	30.130	15.878	1.898	1.385	41.730
4.400	31.372	16.564	1.894	1.383	43.387
4.600	32.490	17.322	1.876	1.374	44.641
4.800	33.469	18.191	1.840	1.367	45.752
5.000	34.274	19.248	1.781	1.327	45.482
5.100	34.596	19.911	1.738	1.306	45.182
5.300	34.982	22.832	1.532	1.201	42.013

Notes ;

Manning's Formula

$$V = \frac{1}{n} R^{2/3} I^{1/2}$$

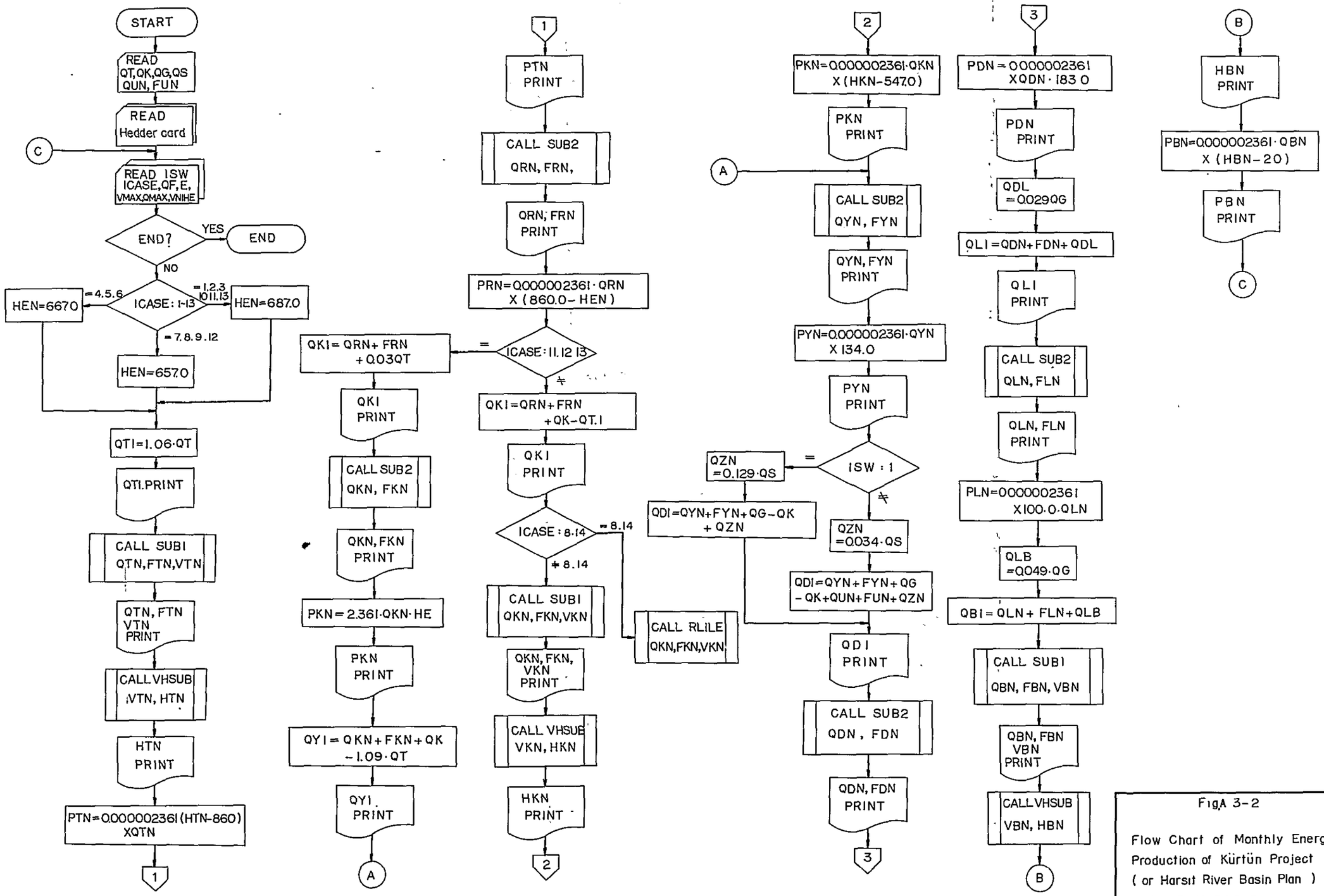
$$Q = AV$$

Where,

I = Gradient of Tunnel (= 1/1000)
H = Depth of Water (m)
A = Sectional area of flow (m²)
P = Wetted perimeter (m)
R = Hydraulic mean depth (m)
V = Velocity of flow (m/sec)
Q = Quantity of discharge (m³/sec)
n = Coefficient of roughness (= 0.035)

Fig. A3-1

Hydraulic Characteristic of DOGANKENT Headrace Tunnel



FigA 3-2

Flow Chart of Monthly Energy Production of Kürtün Project (or Harsit River Basin Plan)

— For IBM-360 Computer —

Fig. A3-3 Subroutine Rule
(For Final Result)

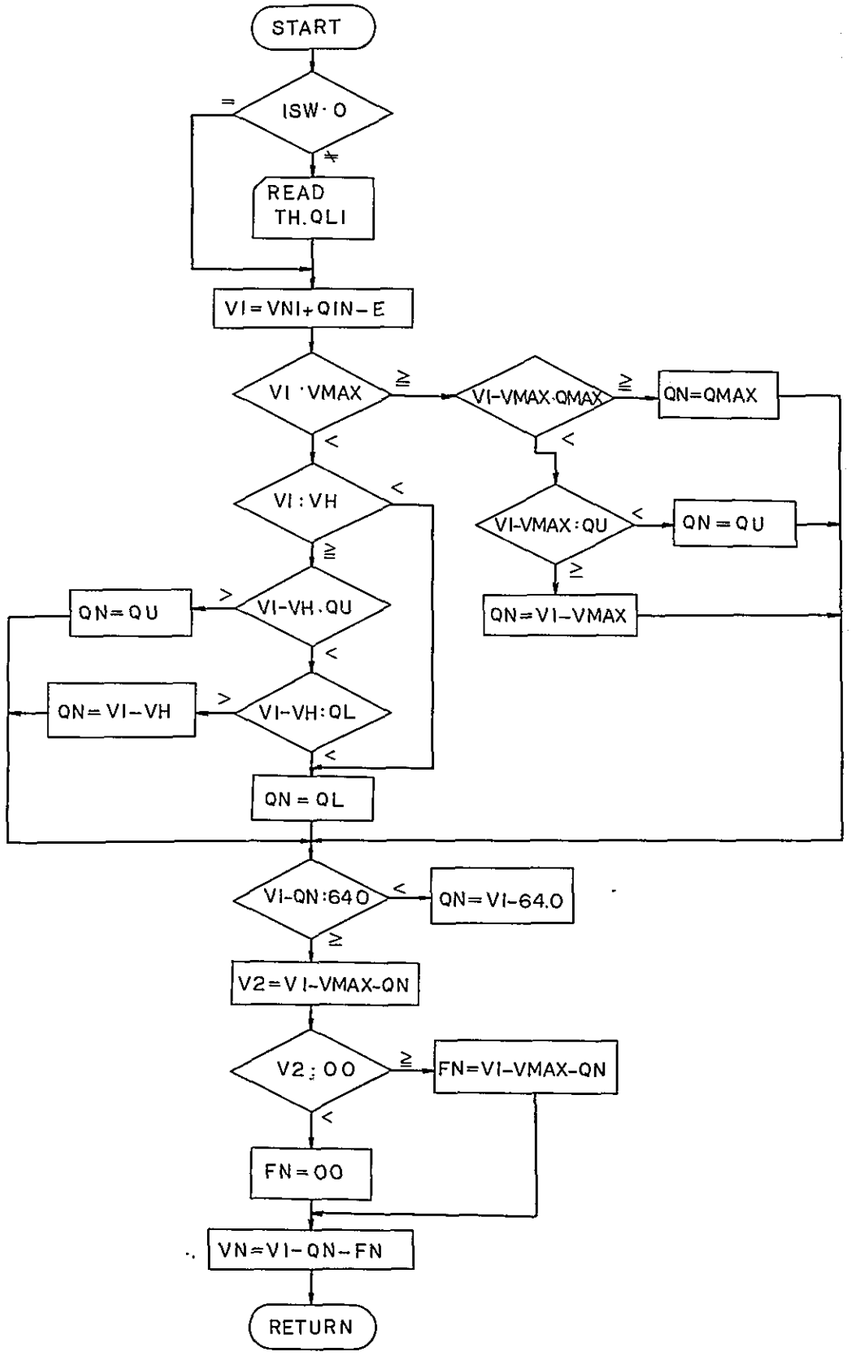


Fig. A3-4 Subroutine Vhsub

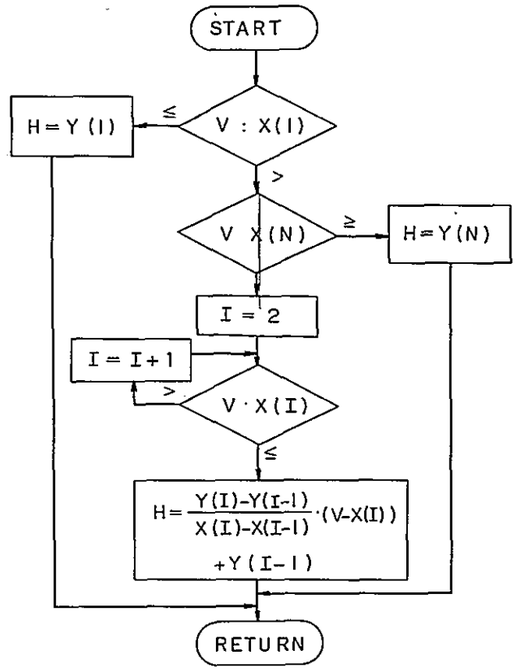


Fig. A3-5 Subroutine Sub 2
(For Run of River Type)

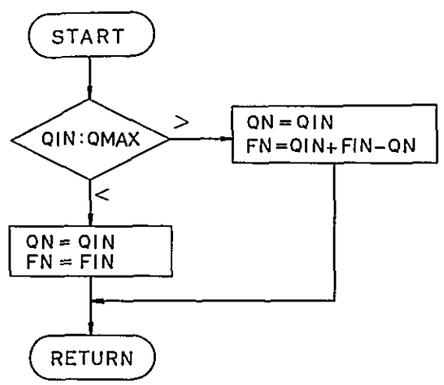


Fig. A3-6 Subroutine Sub.1
(For Dam Type)

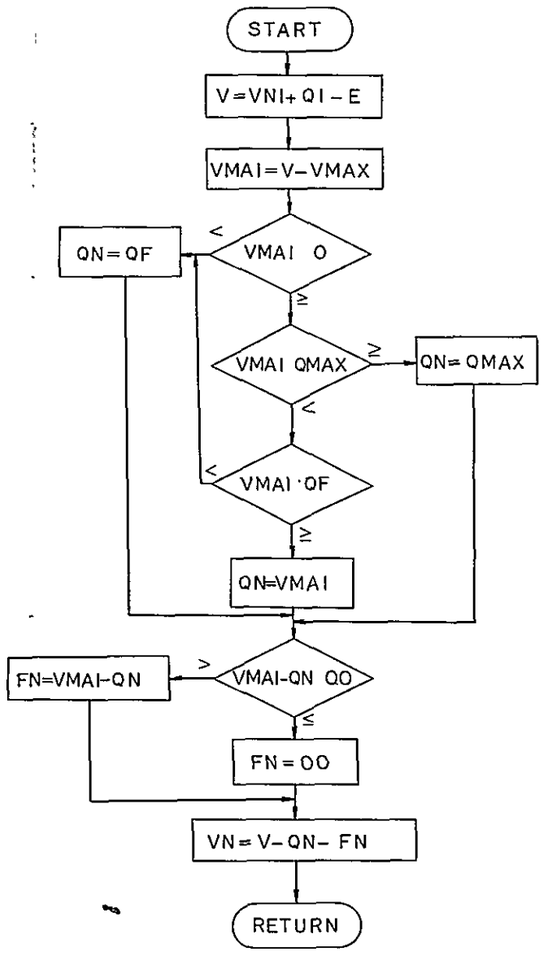


Fig. A3-3 Subroutine Rule
(For Final Result)
Fig A3-4 Subroutine Vhsub
Fig A3-5 Subroutine Sub 2
(For Run of River Type)
Fig A3-6 Subroutine Sub.1
(For Dam Type)

Appendix 4 Basic Data for Reservoir Operation and Energy Production

Contents

Note : (1) Both cases without Gunyuzu P.S.

(2) (50), (25) : Plant factor of the run of the river power station

(3) Re : Appendix 3

INFLOW IN CURRENT MONTH OF TORUL RESERVOIR (M.C.M.) - QTI -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	14.5	13.7	29.9	97.0	93.8	36.5	20.9	19.1	18.3	19.4	20.8	26.2	34.2
1940	25.9	36.5	49.2	171.1	121.0	69.7	34.3	17.3	15.1	26.2	29.8	34.5	52.4
1941	27.2	46.8	95.1	170.2	133.0	42.1	24.7	17.1	14.6	22.0	37.2	24.4	54.5
1942	23.8	29.7	56.2	152.5	132.9	41.7	17.4	13.4	13.0	22.0	43.0	37.2	48.6
1943	26.4	22.9	34.5	125.0	123.9	50.6	19.1	12.7	12.3	13.3	16.6	21.3	39.9
1944	20.4	24.6	78.6	102.5	133.5	68.3	24.5	14.8	14.4	16.5	26.5	21.4	45.5
1945	18.2	16.0	27.1	115.0	132.1	48.5	18.0	12.4	11.3	16.9	14.5	16.1	37.3
1946	15.3	15.2	42.3	124.0	132.6	65.8	22.4	15.7	12.8	30.0	18.5	15.7	42.5
1947	19.1	25.9	83.7	75.3	40.7	25.6	12.7	9.2	11.2	11.9	29.7	18.5	30.3
1948	19.3	21.1	24.1	132.1	129.0	64.4	16.0	11.8	11.6	12.9	12.8	13.5	39.0
1949	12.7	12.5	31.1	90.7	140.1	41.8	14.3	10.8	12.1	12.5	12.4	13.0	34.4
1950	36.8	32.8	50.2	157.1	121.5	39.1	17.8	12.7	11.7	21.7	19.6	17.9	44.9
1951	18.9	16.9	63.5	77.5	99.0	56.5	20.9	13.2	15.0	25.6	35.9	26.9	39.1
1952	24.1	37.2	58.0	152.5	104.9	48.9	20.1	13.6	12.6	13.1	14.6	16.4	43.0
1953	15.0	21.0	27.9	128.7	124.2	54.6	22.9	13.3	14.9	15.7	16.7	21.6	39.7
1954	22.8	25.8	82.6	149.2	152.0	77.3	33.2	15.2	13.9	13.7	14.2	16.0	51.3
1955	17.8	21.5	35.8	69.3	63.3	21.2	10.3	9.4	9.2	10.3	11.6	15.6	24.5
1956	15.6	26.8	32.4	127.6	101.0	56.7	19.3	11.7	14.5	13.5	15.7	26.6	38.4
1957	17.0	39.5	64.0	126.2	99.3	65.0	28.3	13.9	11.8	13.8	15.3	18.4	42.7
1958	17.7	24.1	50.5	116.4	73.4	56.2	27.4	15.1	12.9	13.4	13.2	15.2	37.1
1959	15.8	14.3	43.1	102.3	95.6	60.4	20.4	14.2	13.1	18.1	20.3	18.2	36.3
1960	19.6	34.3	63.2	180.6	136.2	54.1	26.7	17.5	16.3	9.0	8.8	10.2	48.1
1961	8.7	12.0	35.5	112.4	26.6	43.0	12.8	5.7	7.8	6.7	15.7	34.4	26.8
1962	22.2	25.7	88.9	101.4	125.5	50.3	16.6	8.6	8.7	15.4	16.0	18.5	41.5
1963	30.7	34.8	48.6	136.5	141.7	123.4	47.7	17.6	15.7	21.0	20.3	29.0	55.6
1964	13.6	23.3	67.4	98.3	163.8	93.0	22.3	12.5	12.5	14.8	13.9	21.4	46.4
1965	19.6	15.8	73.9	158.9	114.3	76.2	25.7	17.8	10.2	27.0	26.4	24.0	49.1
1966	33.1	42.1	93.9	176.7	164.4	58.5	23.9	10.1	9.4	8.5	8.7	13.1	53.6
1967	14.5	14.9	38.1	127.6	175.3	58.2	36.3	11.4	14.1	27.1	19.7	48.5	48.8
1968	33.4	35.6	94.1	364.5	169.2	61.2	24.5	13.3	12.7	17.5	15.2	13.9	70.4
MEAN	20.6	25.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	43.2

DISCHARGE FOR POWER IN CURRENT MONTH OF TORUL POWER STATION (M.C.M.) - QTN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	32.0	32.0	32.0	55.3	93.1	35.8	32.0	32.0	32.0	32.0	32.0	32.0	39.3
1940	32.0	32.0	32.0	110.4	120.3	69.0	33.6	32.0	32.0	32.0	32.0	32.0	49.1
1941	32.0	32.0	62.4	126.2	126.2	41.4	32.0	32.0	32.0	32.0	32.0	32.0	51.0
1942	32.0	32.0	32.0	127.2	126.2	41.0	32.0	32.0	32.0	32.0	32.0	32.0	46.9
1943	32.0	32.0	32.0	59.9	123.2	49.9	32.0	32.0	32.0	32.0	32.0	32.0	43.4
1944	32.0	32.0	32.0	32.0	126.2	67.6	32.0	32.0	32.0	32.0	32.0	32.0	42.8
1945	32.0	32.0	32.0	32.0	99.7	47.8	32.0	32.0	32.0	32.0	32.0	32.0	39.0
1946	32.0	32.0	32.0	32.0	90.9	65.1	32.0	32.0	32.0	32.0	32.0	32.0	39.7
1947	32.0	32.0	32.0	32.0	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
1948	32.0	32.0	32.0	32.0	84.0	63.7	32.0	32.0	32.0	32.0	32.0	32.0	39.0
1949	32.0	32.0	32.0	32.0	46.6	41.1	32.0	32.0	32.0	32.0	32.0	32.0	34.0
1950	32.0	32.0	32.0	57.0	129.8	38.4	32.0	32.0	32.0	32.0	32.0	32.0	42.0
1951	32.0	32.0	32.0	32.0	49.4	55.8	32.0	32.0	32.0	32.0	32.0	32.0	35.4
1952	32.0	32.0	32.0	114.3	104.2	48.2	32.0	32.0	32.0	32.0	32.0	32.0	46.2
1953	32.0	32.0	32.0	32.0	79.5	53.0	32.0	32.0	32.0	32.0	32.0	32.0	37.8
1954	32.0	32.0	32.0	70.5	126.2	76.6	32.5	32.0	32.0	32.0	32.0	32.0	48.5
1955	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
1956	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
1957	32.0	32.0	32.0	32.0	94.9	64.3	32.0	32.0	32.0	32.0	32.0	32.0	39.9
1958	32.0	32.0	32.0	32.0	55.5	36.7	32.0	32.0	32.0	32.0	32.0	32.0	36.3
1959	32.0	32.0	32.0	32.0	46.4	59.7	32.0	32.0	32.0	32.0	32.0	32.0	35.4
1960	32.0	32.0	32.0	107.3	126.2	53.4	32.0	32.0	32.0	32.0	32.0	32.0	47.9
1961	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
1962	32.0	32.0	32.0	32.0	53.4	49.6	32.0	32.0	32.0	32.0	32.0	32.0	35.3
1963	32.0	32.0	32.0	19.4	126.2	122.7	47.0	32.0	32.0	32.0	32.0	32.0	49.3
1964	32.0	32.0	32.0	43.5	126.2	92.3	32.0	32.0	32.0	32.0	32.0	32.0	45.9
1965	32.0	32.0	32.0	71.6	113.6	75.5	32.0	32.0	32.0	32.0	32.0	32.0	45.6
1966	32.0	32.0	36.9	126.2	126.2	57.8	32.0	32.0	32.0	32.0	32.0	32.0	50.4
1967	32.0	32.0	32.0	32.0	115.8	57.5	35.6	32.0	32.0	32.0	32.0	32.0	41.4
1968	32.0	32.0	44.3	126.2	126.2	60.5	32.0	32.0	32.0	32.0	32.0	32.0	51.1
MEAN	32.0	32.0	34.7	58.2	91.6	55.7	32.8	32.0	32.0	32.0	32.0	32.0	41.4

OVERFLOW IN CURRENT MONTH OF TORUL RESERVOIR (M.C.M.) - FTN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	47.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1
1942	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
1943	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1945	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1952	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0	25.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1
1955	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
1961	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0	14.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
1964	0.0	0.0	0.0	0.0	36.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1
1965	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	43.8	37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3
1967	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	237.6	42.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.3
MEAN	0.0	0.0	0.0	11.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4

STORAGE AT THE END OF CURRENT MONTH OF TORUL RESERVOIR (M.C.M.) - VTN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	281.8	262.8	260.9	301.0	301.0	301.0	289.2	275.6	261.2	247.9	236.0	225.5	270.6
1940	270.7	224.5	241.0	301.0	301.0	301.0	301.0	285.6	268.0	261.5	258.6	260.4	268.7
1941	254.9	269.0	301.0	301.0	301.0	301.0	293.0	277.4	259.3	248.6	253.1	244.8	275.3
1942	235.9	232.9	256.4	301.0	301.0	301.0	285.7	266.4	246.7	236.0	246.3	250.8	263.3
1943	244.6	234.8	236.6	301.0	301.0	301.0	287.4	267.4	247.0	227.6	211.5	200.1	255.0
1944	187.8	179.7	225.6	295.4	301.0	301.0	292.8	274.9	256.6	240.4	234.2	222.9	251.0
1945	208.4	192.6	187.0	269.3	301.0	301.0	286.3	266.0	244.6	228.8	210.6	194.0	240.8
1946	176.6	159.1	168.7	260.0	301.0	301.0	290.7	273.7	253.8	251.1	236.9	219.9	241.0
1947	206.3	199.5	250.5	293.1	301.0	293.9	273.9	250.4	228.9	208.1	205.1	190.9	241.8
1948	177.5	165.9	157.3	256.7	301.0	301.0	284.3	263.4	242.3	222.5	202.6	183.4	229.8
1949	163.0	142.8	141.2	199.2	301.0	301.0	282.6	260.7	240.1	219.9	199.6	175.9	219.3
1950	184.0	184.1	201.6	301.0	301.0	301.0	286.1	266.1	245.1	234.1	221.0	206.2	244.3
1951	192.4	176.5	207.3	252.1	301.0	301.0	289.2	269.7	252.0	244.9	248.1	242.3	248.0
1952	233.7	238.2	263.5	301.0	301.0	301.0	288.4	269.3	249.2	229.6	211.5	195.2	256.8
1953	177.5	165.8	161.0	257.0	301.0	301.0	291.2	271.8	254.0	237.0	221.0	209.9	237.3
1954	200.0	193.1	243.0	301.0	301.0	301.0	301.0	283.5	264.7	245.7	227.2	210.5	256.0
1955	195.6	184.4	187.5	223.1	253.7	242.2	219.8	196.5	173.0	150.6	129.5	112.4	189.0
1956	95.3	89.4	89.1	184.0	252.3	276.3	262.9	241.9	223.7	204.5	187.5	181.4	190.7
1957	165.7	177.5	203.8	297.3	301.0	301.0	296.6	277.8	256.9	238.0	220.6	206.3	244.8
1958	191.3	182.7	200.5	284.2	301.0	301.0	301.0	283.4	263.6	244.3	224.8	207.3	248.8
1959	190.4	171.5	181.9	251.5	301.0	301.0	288.7	270.2	250.6	236.0	223.6	205.1	239.6
1960	195.8	197.9	228.4	301.0	301.0	301.0	295.0	279.8	263.4	239.7	215.8	193.3	251.0
1961	169.3	148.6	151.4	231.1	225.0	235.3	215.4	188.4	163.5	137.5	120.5	122.2	175.7
1962	111.7	104.7	160.3	229.6	301.0	301.0	284.9	260.8	236.8	219.5	202.8	188.6	216.9
1963	186.6	183.7	204.6	301.0	301.0	301.0	301.0	285.9	268.9	257.2	244.8	241.1	256.8
1964	227.0	212.6	247.3	301.0	301.0	301.0	290.6	270.4	250.2	232.3	213.5	202.2	253.7
1965	189.1	172.2	213.4	301.0	301.0	301.0	294.0	279.1	256.6	250.9	244.6	235.9	253.2
1966	236.3	246.7	301.0	301.0	301.0	301.0	292.2	269.6	246.3	222.1	198.1	178.5	257.8
1967	160.3	141.6	147.0	242.2	301.0	301.0	301.0	279.7	261.1	255.5	242.5	258.3	240.9
1968	259.0	251.3	301.0	301.0	301.0	301.0	292.8	273.4	253.4	238.2	220.7	201.9	266.3
MEAN	197.1	189.6	210.7	274.7	295.3	295.8	285.3	266.0	246.1	230.3	217.1	206.0	242.8

WATER SURFACE AT THE END OF CURRENT MONTH OF TORUL RESERVOIR (M) - HTN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	987.05	983.33	983.54	990.12	990.12	990.12	988.24	986.05	983.74	981.59	979.63	978.43	985.22
1940	976.81	977.51	980.43	990.12	990.12	990.12	990.12	987.67	984.83	983.78	983.32	983.61	984.87
1941	982.72	984.39	990.12	990.12	990.12	990.12	988.86	986.34	983.43	981.71	982.43	981.10	986.00
1942	979.61	979.16	982.96	990.12	990.12	990.12	987.68	984.57	981.40	979.63	981.34	982.06	984.06
1943	981.06	979.41	979.74	990.12	990.12	990.12	987.95	984.73	981.45	978.08	975.11	973.01	982.57
1944	970.74	967.16	977.71	989.24	990.12	990.12	988.82	985.94	983.00	980.39	979.30	977.21	981.80
1945	974.56	971.62	971.53	985.04	990.12	990.12	987.78	984.51	981.06	978.30	974.94	971.88	980.04
1946	969.36	966.36	966.55	983.54	990.12	990.12	988.49	985.75	982.54	982.11	979.80	976.66	979.87
1947	974.15	972.33	982.01	989.87	990.12	989.00	985.78	982.00	978.32	974.48	973.93	971.31	980.24
1948	960.55	965.31	963.95	983.01	990.12	990.12	987.46	984.05	980.69	977.14	973.47	969.91	977.87
1949	965.25	960.46	960.27	972.94	990.12	990.12	987.18	983.66	980.34	976.66	972.92	969.11	975.76
1950	970.94	970.14	973.28	990.12	990.12	990.12	987.75	984.52	981.14	979.28	976.86	974.13	980.62
1951	971.57	968.33	974.34	982.27	990.12	990.12	988.24	985.10	982.25	981.11	981.63	980.69	981.32
1952	973.21	980.33	984.21	990.12	990.12	990.12	988.12	985.04	981.80	978.45	975.11	972.10	982.86
1953	964.56	965.89	964.79	983.06	990.12	990.12	988.57	985.44	982.58	979.82	976.86	974.82	979.22
1954	972.99	971.77	983.81	990.12	990.12	990.12	990.12	987.33	984.30	981.24	978.01	974.93	982.65
1955	972.18	970.11	970.64	977.25	982.53	980.68	976.64	972.34	967.53	962.42	957.17	952.56	970.17
1956	947.28	945.16	945.05	970.34	982.30	986.17	984.01	980.63	977.36	973.82	970.68	969.45	969.33
1957	965.87	967.42	972.63	989.55	990.12	990.12	989.44	986.41	983.04	980.00	976.79	974.15	980.55
1958	971.30	969.75	973.08	987.44	990.12	990.12	990.12	987.31	984.17	981.01	977.56	974.34	981.36
1959	971.22	967.13	967.57	982.17	990.12	990.12	989.16	985.19	982.03	979.63	977.34	974.67	979.78
1960	972.21	972.51	978.23	990.12	990.12	990.12	989.18	986.73	984.09	980.27	975.90	971.75	981.78
1961	965.63	961.16	962.60	978.73	977.60	979.50	975.83	970.85	965.37	959.33	954.74	955.20	967.37
1962	957.37	950.43	964.77	973.45	990.12	990.12	987.55	983.67	979.78	976.59	973.51	970.89	974.86
1963	970.53	970.33	973.84	990.12	990.12	990.12	990.12	987.71	984.98	983.09	981.10	980.50	982.76
1964	977.05	975.31	981.50	990.12	990.12	990.12	988.47	985.27	981.96	979.95	975.48	973.39	982.31
1965	970.93	967.37	975.46	990.12	990.12	990.12	983.02	986.62	983.00	982.08	981.06	979.61	982.13
1966	973.63	981.41	990.12	990.12	990.12	990.12	989.73	985.09	981.34	977.07	972.64	968.79	982.94
1967	964.63	960.77	961.60	980.68	990.12	990.12	990.12	986.71	983.72	982.82	980.72	983.27	979.57
1968	983.38	982.74	990.12	990.12	990.12	990.12	988.82	985.70	982.48	980.03	976.81	973.34	984.44
MEAN	971.13	970.26	974.19	985.80	989.19	989.28	987.58	984.43	981.12	978.36	975.97	973.76	980.08

ENERGY PRODUCTION IN CURRENT MONTH OF TORUL POWER STATION (M.W.H.) - PTN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	9530.2	9367.7	9333.7	16988.9	29601.6	10996.2	9638.8	9523.3	9348.8	9186.4	9038.3	8947.6	11718.5
1940	8625.7	9978.1	9102.5	33516.4	36957.8	21157.7	10322.4	9645.7	9431.2	9351.8	9317.1	9335.0	14690.4
1941	9271.7	9443.2	10170.1	34770.3	38770.3	12718.6	9735.6	9545.2	9325.4	9195.4	9249.8	9145.3	15362.1
1942	9036.4	9095.2	9169.9	22933.2	38770.3	12595.7	9646.5	9411.5	9172.0	9038.3	9167.5	9221.9	13939.9
1943	9156.3	9021.7	9066.6	18402.1	37848.7	15329.9	9666.9	9423.6	9175.8	8921.2	8696.8	8538.1	12768.1
1944	8377.6	9273.7	8493.2	9764.3	38770.3	20767.6	9732.6	9515.0	9292.9	9095.7	9013.4	8855.4	12525.6
1945	9657.7	9433.1	8954.3	9447.0	30629.2	14684.8	9654.0	9407.0	9146.3	8937.8	8683.9	8452.8	11207.1
1946	9134.8	7884.5	8050.1	9333.7	27925.7	19999.6	9707.7	9500.7	9258.1	9225.7	9051.1	8813.9	11411.5
1947	8624.1	9523.3	9219.1	9736.4	9861.5	9746.2	9502.9	9217.3	8939.3	8649.2	8607.6	8405.7	9086.9
1948	9291.3	9007.7	7883.6	9293.7	25805.9	19569.5	9629.9	9375.2	9118.4	8850.2	8572.9	8303.9	11048.1
1949	7951.4	7603.5	7575.6	8525.3	14316.1	17626.5	9608.7	9342.8	9091.9	8913.9	8531.3	8243.5	9352.6
1950	8313.7	9115.9	8558.5	17511.2	37111.4	11797.0	9651.8	9407.7	9152.4	9011.8	8829.0	8622.7	12190.2
1951	9430.1	9164.5	8435.6	9227.7	15174.3	17142.5	9648.8	9451.6	9236.2	9150.1	9189.4	9118.4	10220.4
1952	9036.6	9769.5	9376.3	35114.5	32011.6	14807.7	9679.7	9447.0	9202.2	8949.1	8696.8	8469.4	13652.5
1953	9231.3	9006.2	7317.1	9297.4	24423.5	16558.8	9713.7	9477.2	9261.2	9052.6	8829.0	8674.9	10784.0
1954	8574.6	9443.7	9127.4	27502.6	38770.3	23532.5	9984.4	9620.0	9391.1	9159.9	8915.9	8682.2	14330.4
1955	8475.4	9319.0	9362.1	8858.5	9257.4	9117.6	8812.4	8487.5	8124.1	7738.0	7341.4	6993.1	8323.9
1956	6534.2	6434.1	6425.7	8313.7	9240.0	9532.4	9369.2	9113.8	8866.8	8599.3	8362.1	8269.2	8260.0
1957	7933.7	8115.1	8589.5	9797.9	29154.5	19753.8	9779.5	9550.5	9295.9	9066.2	8823.7	8624.3	11545.0
1958	8415.9	9291.1	8543.4	9628.3	17173.2	17050.3	11274.7	9618.5	9377.5	9142.5	8881.9	8638.6	10503.0
1959	8407.9	9091.5	8978.2	9230.7	13947.5	18340.6	9692.7	9458.4	9219.6	9038.3	8865.3	8663.5	10102.1
1960	9477.7	9507.7	8332.5	32944.0	38770.3	16405.2	9759.8	9574.7	9375.2	9086.6	8756.5	8442.9	14087.7
1961	8060.6	7773.1	7751.6	9970.2	8884.9	9028.5	8751.2	8374.9	7960.9	7504.6	7157.8	7192.6	8111.8
1962	6970.7	6925.7	7915.6	8949.1	16405.2	15237.8	9636.7	9343.5	9049.6	8808.6	8575.9	8378.0	9676.3
1963	8359.3	9273.7	8500.4	12104.2	38770.3	37695.1	14439.0	9648.7	9442.5	9299.7	9149.3	9104.0	14581.9
1964	9343.4	9711.9	9179.0	13486.7	38770.3	28355.8	9706.2	9460.6	9214.3	8986.9	8724.7	8566.8	13500.6
1965	9234.8	9111.5	8723.2	21695.3	34899.4	23194.6	9747.7	9566.4	9292.9	9223.4	9146.3	9036.8	13417.9
1966	9042.1	9172.9	11350.5	38770.3	38770.3	17756.9	9725.8	9450.8	9167.5	8844.9	8510.2	8219.3	14948.4
1967	7995.9	7883.2	7576.1	9117.6	35575.3	17664.8	10936.8	9573.2	9347.3	9279.3	9120.6	9313.3	11924.4
1968	9721.6	9335.5	13409.6	38770.3	38770.3	18586.4	9732.6	9496.9	9253.6	9068.5	8825.2	8563.1	15269.5
MEAN	8453.5	8330.7	8134.9	17557.2	28138.0	17059.8	9899.0	9401.0	9151.0	8942.5	8754.4	8595.0	11950.6

DISCHARGE FOR POWER IN CURRENT MONTH OF KARACUKUR POWER STATION (M.C.M.) - QRN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	32.0	32.0	32.0	55.3	65.8	35.8	32.0	32.0	32.0	32.0	32.0	32.0	37.1
1940	32.0	32.0	32.0	65.8	65.8	65.8	33.6	32.0	32.0	32.0	32.0	32.0	40.6
1941	32.0	32.0	62.4	65.8	65.8	41.4	32.0	32.0	32.0	32.0	32.0	32.0	40.9
1942	32.0	32.0	32.0	65.8	65.8	41.0	32.0	32.0	32.0	32.0	32.0	32.0	38.4
1943	32.0	32.0	32.0	59.9	65.8	49.9	32.0	32.0	32.0	32.0	32.0	32.0	38.6
1944	32.0	32.0	32.0	32.0	65.8	65.8	32.0	32.0	32.0	32.0	32.0	32.0	37.6
1945	32.0	32.0	32.0	32.0	65.8	47.8	32.0	32.0	32.0	32.0	32.0	32.0	36.1
1946	32.0	32.0	32.0	32.0	65.8	65.1	32.0	32.0	32.0	32.0	32.0	32.0	37.6
1947	32.0	32.0	32.0	32.0	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
1948	32.0	32.0	32.0	32.0	65.8	63.7	32.0	32.0	32.0	32.0	32.0	32.0	37.5
1949	32.0	32.0	32.0	32.0	46.6	41.1	32.0	32.0	32.0	32.0	32.0	32.0	34.0
1950	32.0	32.0	32.0	57.0	65.8	38.4	32.0	32.0	32.0	32.0	32.0	32.0	37.4
1951	32.0	32.0	32.0	32.0	49.4	55.8	32.0	32.0	32.0	32.0	32.0	32.0	35.4
1952	32.0	32.0	32.0	65.8	65.8	48.2	32.0	32.0	32.0	32.0	32.0	32.0	39.0
1953	32.0	32.0	32.0	32.0	65.8	53.9	32.0	32.0	32.0	32.0	32.0	32.0	36.6
1954	32.0	32.0	32.0	65.8	65.8	65.8	32.5	32.0	32.0	32.0	32.0	32.0	40.5
1955	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
1956	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
1957	32.0	32.0	32.0	32.0	65.8	64.3	32.0	32.0	32.0	32.0	32.0	32.0	37.5
1958	32.0	32.0	32.0	32.0	55.9	55.5	36.7	32.0	32.0	32.0	32.0	32.0	36.3
1959	32.0	32.0	32.0	32.0	45.4	59.7	32.0	32.0	32.0	32.0	32.0	32.0	35.4
1960	32.0	32.0	32.0	65.8	65.8	53.4	32.0	32.0	32.0	32.0	32.0	32.0	39.4
1961	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
1962	32.0	32.0	32.0	32.0	53.4	49.6	32.0	32.0	32.0	32.0	32.0	32.0	35.3
1963	32.0	32.0	32.0	39.4	65.8	65.8	47.0	32.0	32.0	32.0	32.0	32.0	39.5
1964	32.0	32.0	32.0	43.9	65.8	65.8	32.0	32.0	32.0	32.0	32.0	32.0	38.6
1965	32.0	32.0	32.0	65.8	65.8	65.8	32.0	32.0	32.0	32.0	32.0	32.0	40.4
1966	32.0	32.0	32.0	65.8	65.8	57.8	32.0	32.0	32.0	32.0	32.0	32.0	40.4
1967	32.0	32.0	32.0	32.0	55.6	57.5	35.6	32.0	32.0	32.0	32.0	32.0	37.2
1968	32.0	32.0	44.3	65.8	65.8	60.5	32.0	32.0	32.0	32.0	32.0	32.0	41.0
MEAN	32.0	32.0	32.7	45.3	58.7	52.1	32.8	32.0	32.0	32.0	32.0	32.0	37.2

OVERFLOW IN CURRENT MONTH AT KARACUKUR DIVERSION SITE (M.C.M.) - FRN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	20.0	13.1	0.0	0.0	27.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3
1940	20.0	10.2	0.0	44.6	54.5	3.2	0.0	0.0	0.0	0.0	0.0	0.0	8.5
1941	20.0	20.1	0.0	123.7	66.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.2
1942	0.1	0.0	0.0	41.4	66.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0
1943	20.0	20.1	0.0	0.0	57.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8
1944	0.0	20.1	0.0	0.0	61.4	1.8	0.0	0.0	0.0	0.0	0.0	0.0	5.3
1945	20.0	20.1	0.0	0.0	33.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8
1946	20.0	20.1	0.0	0.0	35.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1
1947	20.0	20.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	20.0	20.1	0.0	0.0	18.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
1949	20.0	20.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1950	20.0	20.1	0.0	0.0	55.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6
1951	0.0	20.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1952	20.0	20.1	0.0	0.0	38.5	38.4	0.0	0.0	0.0	0.0	0.0	0.0	7.2
1953	20.0	20.1	0.0	0.0	13.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
1954	0.0	20.1	0.0	24.7	95.5	10.8	0.0	0.0	0.0	0.0	0.0	0.0	10.1
1955	20.0	20.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1956	0.0	20.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1957	0.0	20.1	0.0	0.0	29.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4
1958	0.0	20.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1959	20.0	20.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1960	0.0	20.1	0.0	61.5	69.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.3
1961	0.0	20.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	20.0	20.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1963	20.0	20.1	0.0	0.0	75.2	56.9	0.0	0.0	0.0	0.0	0.0	0.0	11.0
1964	20.0	20.1	0.0	0.0	97.7	26.5	0.0	0.0	0.0	0.0	0.0	0.0	10.3
1965	0.0	20.1	0.0	0.0	47.8	9.7	0.0	0.0	0.0	0.0	0.0	0.0	5.2
1966	20.0	20.1	0.0	0.0	97.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.3
1967	0.1	20.1	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2
1968	0.0	20.1	0.0	218.0	199.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.4
MEAN	0.1	20.1	0.1	23.9	39.1	3.6	0.0	0.0	0.0	0.0	0.0	0.0	5.6

ENERGY PRODUCTION IN CURRENT MONTH AT KARACUKUR POWER STATION (M.W.H.) - PRN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	13826.0	13826.0	17426.0	25839.1	28429.7	15467.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	16018.7
1940	13826.0	13826.0	13826.0	28429.7	28429.7	28429.7	14517.2	13826.0	13826.0	13826.0	13826.0	13826.0	17534.5
1941	13826.0	13826.0	26960.7	28429.7	28429.7	17587.4	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	17693.0
1942	13826.0	13826.0	13826.0	28429.7	28429.7	17714.6	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	16584.0
1943	13826.0	13826.0	17426.0	25839.6	28429.7	21559.9	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	16692.0
1944	13826.0	13826.0	13826.0	13826.0	28429.7	28429.7	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	16259.9
1945	13826.0	13826.0	13826.0	13826.0	28429.7	20652.6	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	15611.9
1946	13826.0	13826.0	13826.0	13826.0	28429.7	28127.3	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	16234.8
1947	13826.0	13826.0	17426.0	13826.0	13869.2	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13829.6
1948	13826.0	13826.0	13826.0	13826.0	28429.7	27527.4	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	16184.3
1949	13826.0	13826.0	13826.0	13826.0	20134.1	17757.8	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	14679.3
1950	13826.0	13826.0	13826.0	26697.6	28429.7	16591.2	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	16173.5
1951	13826.0	13826.0	13826.0	13826.0	21343.9	24109.1	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	15309.4
1952	13826.0	13826.0	13826.0	28429.7	28429.7	20825.4	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	16843.2
1953	13826.0	13826.0	13826.0	13826.0	28429.7	23288.2	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	15831.5
1954	13826.0	13826.0	13826.0	28429.7	28429.7	28429.7	14042.0	13826.0	13826.0	13826.0	13826.0	13826.0	17494.9
1955	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0
1956	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0
1957	13826.0	13826.0	13826.0	13826.0	28429.7	27781.7	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	16205.9
1958	13826.0	13826.0	13826.0	13826.0	24152.3	23979.5	15856.7	13826.0	13826.0	13826.0	13826.0	13826.0	15701.9
1959	13826.0	13826.0	13826.0	13826.0	19615.7	25794.2	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	15305.8
1960	13826.0	13826.0	13826.0	28429.7	28429.7	23072.2	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	17030.5
1961	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0
1962	13826.0	13826.0	13826.0	13826.0	23072.2	21430.3	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	15230.2
1963	13826.0	13826.0	13826.0	17023.3	28429.7	28429.7	20307.0	13826.0	13826.0	13826.0	13826.0	13826.0	17066.5
1964	13826.0	13826.0	13826.0	18967.6	28429.7	28429.7	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	16688.4
1965	13826.0	13826.0	13826.0	28429.7	28429.7	28429.7	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	17476.9
1966	13826.0	13826.0	16807.3	28429.7	28429.7	24973.2	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	17437.3
1967	13826.0	13826.0	13826.0	13826.0	28429.7	26843.6	14381.4	13826.0	13826.0	13826.0	13826.0	13826.0	16090.7
1968	13826.0	13826.0	19140.4	28429.7	28429.7	26139.8	13826.0	13826.0	13826.0	13826.0	13826.0	13826.0	17729.0
MEAN	13826.0	13826.0	14540.3	19582.5	25356.3	22513.4	14191.8	13826.0	13826.0	13826.0	13826.0	13826.0	16079.3

INFLOW IN CURRENT MONTH OF KURTUN RESERVOIR (M.C.M.) - QKI -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	43.2	42.6	55.3	130.4	165.7	64.0	48.3	46.8	46.2	47.1	48.1	52.2	65.8
1940	50.4	60.2	70.1	242.9	214.0	123.0	60.2	45.5	43.8	52.3	55.2	58.8	89.7
1941	53.1	68.2	136.1	301.3	235.3	74.0	51.2	45.2	43.4	49.1	60.8	50.9	97.4
1942	50.4	55.1	75.5	225.2	235.1	73.4	45.5	42.3	42.0	49.0	65.4	60.7	88.0
1943	52.5	49.7	58.8	156.8	219.2	89.1	46.8	41.8	41.6	42.3	44.8	48.5	74.3
1944	47.8	51.0	92.9	111.4	230.5	120.6	51.0	43.5	43.2	44.8	52.5	48.6	78.1
1945	46.2	45.1	53.0	121.0	201.9	85.4	45.9	41.5	40.7	45.2	43.2	44.5	67.8
1946	43.8	43.9	64.8	128.0	193.6	116.2	49.4	44.2	42.0	55.3	46.3	44.1	72.6
1947	46.9	57.2	96.8	90.4	63.6	51.9	41.8	39.2	40.8	41.2	55.0	46.4	55.5
1948	47.0	48.3	50.7	134.4	183.9	113.5	44.5	41.1	41.0	42.0	42.0	42.5	69.2
1949	41.6	41.8	56.0	102.3	162.0	73.5	43.1	40.4	41.4	41.7	41.6	42.1	60.6
1950	60.5	57.4	70.9	178.5	214.9	68.8	45.8	41.8	41.2	48.8	47.2	45.8	76.8
1951	46.7	45.0	81.2	92.1	126.1	99.6	48.2	42.3	43.7	51.8	59.9	52.8	65.8
1952	50.7	60.9	77.0	232.3	185.3	86.1	47.6	42.6	41.8	42.2	43.4	44.7	79.5
1953	43.6	48.3	53.7	131.6	175.7	96.2	49.8	42.4	43.5	44.2	44.9	48.7	68.5
1954	49.7	52.0	96.1	206.1	268.9	136.5	58.2	43.8	42.7	42.6	43.1	44.5	90.3
1955	45.8	48.7	59.7	84.9	81.1	48.4	40.0	39.3	39.2	40.0	41.0	44.2	51.0
1956	44.0	52.7	57.0	130.8	110.2	76.0	47.0	41.2	43.3	42.5	44.2	52.6	61.8
1957	45.1	62.6	91.6	129.8	171.8	114.7	54.0	42.8	41.2	42.8	43.8	46.2	73.0
1958	45.7	50.7	71.2	122.2	112.7	99.0	45.6	43.8	42.0	42.4	42.3	43.8	65.1
1959	44.3	42.7	65.4	111.2	119.5	106.5	47.8	43.0	42.2	46.1	47.8	46.1	63.5
1960	47.1	58.9	80.9	247.2	241.0	95.3	52.7	45.6	44.6	39.0	38.9	39.9	85.9
1961	38.7	41.2	59.6	119.1	52.5	65.4	41.9	36.4	38.1	37.3	44.2	58.6	52.8
1962	49.1	51.9	100.8	110.6	150.6	88.6	44.9	38.7	38.8	44.0	44.4	46.3	67.4
1963	55.9	59.3	69.7	145.1	250.8	218.3	83.9	45.6	44.2	48.2	47.7	54.5	93.6
1964	42.6	50.0	84.3	120.0	289.9	164.3	49.3	41.8	41.6	43.5	42.7	48.6	84.9
1965	47.3	44.2	89.3	199.5	202.1	134.6	52.0	45.8	39.9	52.9	52.5	50.6	83.7
1966	57.7	41.9	116.8	232.8	297.3	81.4	58.0	44.8	43.6	38.2	37.3	39.3	90.7
1967	43.7	51.1	50.9	141.3	222.8	117.7	90.3	90.4	38.7	40.7	38.9	81.2	84.7
1968	46.3	53.5	85.7	465.3	345.0	115.2	49.3	41.8	40.7	43.2	42.8	40.4	114.1
MEAN	47.6	51.3	75.7	164.6	190.8	99.9	51.8	44.2	41.9	44.7	46.7	48.9	75.7

DISCHARGE FOR POWER IN CURRENT MONTH OF KURTUN POWER STATION (M.C.M.) - QKN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	51.7	51.7	51.7	114.6	165.5	63.8	51.7	51.7	51.7	51.7	51.7	51.7	67.4
1940	51.7	51.7	54.0	205.1	205.1	122.8	60.0	51.7	51.7	51.7	51.7	51.7	84.1
1941	51.7	65.2	135.9	205.1	205.1	73.8	51.7	51.7	51.7	51.7	51.7	51.7	87.3
1942	51.7	51.7	66.9	205.1	205.1	73.2	51.7	51.7	51.7	51.7	51.7	51.7	80.3
1943	51.7	51.7	51.7	155.4	205.1	88.9	51.7	51.7	51.7	51.7	51.7	51.7	76.2
1944	51.7	51.7	51.7	101.7	205.1	120.4	51.7	51.7	51.7	51.7	51.7	51.7	74.4
1945	51.7	51.7	51.7	91.5	201.7	85.2	51.7	51.7	51.7	51.7	51.7	51.7	69.5
1946	51.7	51.7	51.7	74.2	193.4	116.0	51.7	51.7	51.7	51.7	51.7	51.7	70.7
1947	51.7	51.7	61.3	90.2	63.4	51.7	51.7	51.7	51.7	51.7	51.7	51.7	56.7
1948	51.7	51.7	51.7	77.4	183.7	113.3	51.7	51.7	51.7	51.7	51.7	51.7	70.0
1949	51.7	44.1	51.7	51.7	142.1	73.3	51.7	51.7	51.7	51.7	51.7	51.7	60.6
1950	51.7	51.7	51.7	150.4	205.1	68.6	51.7	51.7	51.7	51.7	51.7	51.7	74.1
1951	51.7	51.7	51.7	60.3	125.9	99.4	51.7	51.7	51.7	51.7	51.7	51.7	63.2
1952	51.7	51.7	77.0	205.1	185.1	85.9	51.7	51.7	51.7	51.7	51.7	51.7	80.1
1953	51.7	51.7	51.7	72.1	175.5	96.0	51.7	51.7	51.7	51.7	51.7	51.7	67.4
1954	51.7	51.7	55.9	205.1	205.1	136.3	58.0	51.7	51.7	51.1	51.7	51.7	85.2
1955	51.7	51.7	51.7	51.7	69.6	51.7	51.7	51.7	51.7	51.7	51.7	51.7	53.2
1956	46.3	51.7	51.7	63.3	110.0	75.8	51.7	51.7	51.7	51.7	51.7	51.7	59.0
1957	51.7	51.7	51.7	122.5	171.6	114.5	53.8	51.7	51.7	51.7	51.7	51.7	73.0
1958	51.7	51.7	51.7	91.7	112.5	98.8	65.4	51.7	51.7	51.7	51.7	51.7	65.1
1959	51.7	51.7	51.7	62.6	119.3	106.3	51.7	51.7	51.7	51.7	51.7	51.7	62.8
1960	51.7	51.7	51.7	205.1	205.1	95.1	52.5	51.7	51.7	51.7	51.7	51.7	80.9
1961	51.7	49.4	51.7	53.4	52.3	65.2	51.7	51.7	51.7	51.7	51.7	51.7	52.8
1962	51.7	51.7	51.7	131.9	150.4	88.4	51.7	51.7	51.7	51.7	51.7	51.7	67.2
1963	51.7	51.7	51.7	119.4	205.1	205.1	83.7	51.7	51.7	51.7	51.7	51.7	85.6
1964	51.7	51.7	53.5	118.8	205.1	164.1	51.7	51.7	51.7	51.7	51.7	51.7	79.7
1965	51.7	51.7	51.7	174.4	201.9	134.4	51.8	51.7	51.7	51.7	51.7	51.7	81.3
1966	51.7	51.7	93.1	205.1	205.1	81.2	57.8	51.7	51.7	51.7	51.7	51.7	83.7
1967	51.7	51.7	51.7	33.9	205.1	117.5	90.1	90.2	51.7	51.7	51.7	51.7	79.1
1968	51.7	51.7	77.4	205.1	205.1	115.0	51.7	51.7	51.7	51.7	51.7	51.7	84.3
MEAN	51.5	51.7	53.4	124.1	163.7	99.4	55.3	53.0	51.7	51.7	51.7	51.7	72.5

OVERFLOW IN CURRENT MONTH OF KURTUN RESERVOIR (M.C.M) - FKN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	37.6	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9
1941	0.0	0.0	0.0	96.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.5
1942	0.0	0.0	0.0	19.6	20.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1
1943	0.0	0.0	0.0	0.0	13.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
1944	0.0	0.0	0.0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1
1945	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0	9.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
1951	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1952	0.0	0.0	0.0	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3
1953	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.8	63.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4
1955	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	34.7	35.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9
1961	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0	45.5	13.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9
1964	0.0	0.0	0.0	0.0	84.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1
1965	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	27.5	92.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0
1967	0.0	0.0	0.0	0.0	17.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
1968	0.0	0.0	0.0	260.0	139.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3
MEAN	0.0	0.0	0.0	16.8	19.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	3.1

STORAGE AT THE END OF CURRENT MONTH OF KURTUN RESERVOIR (M.C.M.) - VKN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	127.5	118.3	121.6	137.2	137.2	137.2	133.6	128.5	122.8	117.9	114.1	114.5	125.9
1940	113.0	121.3	137.2	137.2	137.2	137.2	137.2	130.8	122.7	123.0	126.3	133.2	129.7
1941	134.5	137.2	137.2	137.2	137.2	137.2	136.5	129.8	121.3	118.5	127.5	126.5	131.7
1942	125.0	128.2	137.2	137.2	137.2	137.2	130.8	121.2	111.3	108.4	121.9	130.7	127.2
1943	131.3	129.1	136.0	137.2	137.2	137.2	132.1	122.1	111.7	102.2	95.1	91.7	121.9
1944	87.6	86.7	127.7	137.2	137.2	137.2	136.3	127.9	119.2	112.1	112.6	109.4	119.3
1945	103.6	96.8	97.9	137.2	137.2	137.2	131.2	120.8	109.7	103.0	94.3	86.9	113.0
1946	78.8	70.7	83.7	137.2	137.2	137.2	134.7	127.0	117.1	120.5	114.9	107.2	113.8
1947	102.1	102.4	137.2	137.2	137.2	137.2	127.1	114.4	103.2	92.5	95.6	90.1	114.7
1948	85.2	81.6	80.4	137.2	137.2	137.2	129.8	119.0	108.0	98.1	88.2	78.8	106.7
1949	68.5	64.0	68.1	118.5	137.2	137.2	128.4	116.9	106.4	96.2	85.9	76.1	100.3
1950	84.7	90.2	109.2	137.2	137.2	137.2	131.1	121.0	110.3	107.2	102.5	96.4	113.7
1951	91.2	84.2	113.6	137.2	137.2	137.2	133.5	124.0	115.8	115.6	123.6	124.6	119.8
1952	123.4	132.4	137.2	137.2	137.2	137.2	132.9	123.6	113.5	103.8	95.2	88.1	121.8
1953	79.7	76.1	77.9	137.2	137.2	137.2	135.1	125.6	117.2	109.5	102.5	95.4	111.2
1954	97.1	97.2	137.2	137.2	137.2	137.2	137.2	129.0	119.9	110.6	101.8	94.4	119.7
1955	88.3	85.1	92.9	125.9	137.2	133.7	121.8	109.2	96.5	84.6	73.7	66.0	101.2
1956	64.0	64.9	69.9	137.2	137.2	137.2	132.3	121.5	112.9	103.5	95.9	96.6	106.1
1957	89.8	100.5	130.1	137.2	137.2	137.2	137.2	128.1	117.4	108.3	100.2	94.5	118.1
1958	88.3	87.1	106.4	137.2	137.2	137.2	137.2	129.1	119.2	109.7	100.1	92.1	115.1
1959	84.5	75.3	88.9	137.2	137.2	137.2	133.1	124.2	114.5	108.7	104.6	98.8	112.0
1960	94.0	101.0	130.0	137.2	137.2	137.2	137.2	130.9	123.6	110.8	97.7	85.7	118.5
1961	72.5	64.0	71.7	137.2	137.2	137.2	127.2	111.8	98.0	83.3	75.7	82.4	99.8
1962	79.7	79.7	128.7	137.2	137.2	137.2	130.7	117.0	103.9	96.0	88.5	82.9	109.8
1963	86.9	94.0	111.8	137.2	137.2	137.2	137.2	130.9	123.2	119.5	115.3	117.9	120.7
1964	108.6	106.7	137.2	137.2	137.2	137.2	134.6	124.4	114.2	105.7	96.5	93.2	119.4
1965	88.6	80.9	118.3	137.2	137.2	137.2	137.2	131.1	119.1	120.1	120.7	119.5	120.6
1966	125.3	115.4	137.2	137.2	137.2	137.2	137.2	130.1	121.9	108.2	93.6	81.0	121.8
1967	72.8	72.0	80.0	137.2	137.2	137.2	137.2	137.2	124.0	112.8	99.8	129.1	114.7
1968	123.5	125.1	137.2	137.2	137.2	137.2	134.6	124.6	113.3	104.6	95.5	84.0	121.2
MEAN	96.7	95.6	112.7	136.2	137.2	137.1	133.4	124.4	114.4	107.2	102.0	99.1	116.3

WATER SURFACE AT THE END OF CURRENT MONTH OF KURTUN RESERVOIR (M) - HKN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	646.61	643.35	644.54	650.00	650.00	650.00	648.73	646.95	644.94	643.25	641.91	642.02	646.02
1940	641.51	644.43	650.00	650.00	650.00	650.00	650.00	647.75	644.91	645.04	646.19	648.60	647.37
1941	649.04	650.00	650.00	650.00	650.00	650.00	649.75	647.41	644.41	643.44	646.58	646.23	648.07
1942	645.71	646.84	650.00	650.00	650.00	650.00	647.74	644.38	640.91	639.87	644.62	647.73	646.48
1943	647.93	647.17	649.60	650.00	650.00	650.00	649.22	644.69	641.07	637.32	634.42	633.02	644.45
1944	631.36	631.00	646.67	650.00	650.00	650.00	649.68	646.74	643.68	641.18	641.39	640.23	643.49
1945	637.93	635.14	635.59	650.00	650.00	650.00	647.90	644.26	640.35	637.66	634.09	631.05	641.16
1946	627.28	623.34	629.60	650.00	650.00	650.00	649.14	646.42	642.94	644.14	642.18	639.37	641.21
1947	637.32	637.47	650.00	650.00	650.00	649.99	644.44	641.99	637.75	633.35	634.62	632.37	641.77
1948	630.38	628.53	628.11	650.00	650.00	650.00	647.40	643.61	639.73	635.68	631.60	627.30	638.54
1949	622.26	620.15	632.08	643.45	650.00	650.00	644.93	642.93	639.05	634.86	630.64	625.98	635.68
1950	630.18	632.43	640.13	650.00	650.00	650.00	647.87	644.32	640.55	639.38	637.46	634.96	641.44
1951	632.82	629.37	641.71	650.00	650.00	650.00	643.72	645.35	642.48	642.44	645.23	645.56	643.69
1952	645.16	648.32	650.00	650.00	650.00	650.00	648.51	645.25	641.69	637.98	634.49	631.54	644.41
1953	627.76	626.30	626.87	650.00	650.00	650.00	649.27	645.93	642.99	640.28	637.47	636.18	640.23
1954	635.24	635.31	650.00	650.00	650.00	650.00	650.00	647.14	643.93	640.66	637.17	634.12	643.63
1955	631.64	630.33	635.52	644.97	650.00	649.79	644.67	640.17	634.99	630.12	624.81	621.03	636.33
1956	620.05	620.45	632.96	650.00	650.00	650.00	648.28	644.51	641.49	637.89	634.74	635.03	637.95
1957	632.25	636.53	647.52	650.00	650.00	650.00	650.00	646.81	643.05	639.82	636.50	634.16	643.06
1958	631.63	631.14	639.06	650.00	650.00	650.00	650.00	647.16	642.69	640.35	636.48	633.18	641.89
1959	630.09	625.43	631.97	650.00	650.00	650.00	648.55	645.44	642.02	640.00	638.32	635.93	640.65
1960	633.98	636.35	647.49	650.00	650.00	650.00	650.00	647.75	645.24	640.73	635.51	630.59	643.18
1961	624.74	620.35	623.02	650.00	650.00	650.00	646.51	641.07	635.61	629.53	625.77	629.08	635.47
1962	627.73	627.75	647.00	650.00	650.00	650.00	647.55	642.92	638.04	634.79	631.71	629.32	639.73
1963	631.06	633.97	641.08	650.00	650.00	650.00	650.00	647.78	645.09	643.80	642.32	643.24	644.03
1964	639.98	629.21	650.00	650.00	650.00	650.00	649.07	645.51	641.92	638.78	635.01	633.65	643.59
1965	631.75	628.13	643.36	650.00	650.00	650.00	650.00	647.87	643.65	644.01	644.23	643.79	643.92
1966	645.84	642.36	650.00	650.00	650.00	650.00	650.00	647.52	644.63	639.78	633.81	628.38	644.36
1967	624.38	624.13	627.91	650.00	650.00	650.00	650.00	650.00	645.36	641.42	636.35	647.15	641.38
1968	645.19	645.74	650.00	650.00	650.00	650.00	649.10	645.57	641.63	639.32	634.60	629.86	644.17
MEAN	634.61	634.15	640.69	647.65	650.00	649.96	648.66	645.51	641.93	639.20	637.01	635.69	642.21

ENERGY PRODUCTION IN CURRENT MONTH OF KURTUN POWER STATION (M.W.H.) - PKN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	12158.9	11760.1	11796.1	27878.5	40251.7	15519.9	12417.5	12200.3	11954.9	11748.6	11585.1	11596.5	15915.1
1940	11536.2	11892.7	13134.3	49876.8	49876.8	29858.0	14588.5	17297.5	11951.3	11967.1	12107.5	12401.7	20124.1
1941	12455.4	15975.3	33149.6	49876.8	49876.8	17554.2	12542.0	12256.4	11890.2	11771.9	12155.1	12112.4	20984.6
1942	12048.9	12186.3	16120.6	49876.8	49876.8	17788.8	12296.7	11886.6	11463.0	11336.1	11915.9	12295.5	19091.0
1943	12319.9	12227.1	12523.7	37797.5	49876.8	21631.1	12355.3	11924.4	11482.5	11024.8	10670.8	10499.9	17861.2
1944	10297.3	10253.4	12166.1	24724.4	49876.8	29271.9	12533.5	12174.6	11801.1	11496.0	11521.6	11380.0	17291.4
1945	11099.3	10759.7	10813.6	19821.8	49052.4	20728.9	12316.2	11871.9	11394.6	11066.3	10630.5	10255.5	15817.8
1946	9739.3	9219.3	10793.4	18051.5	47043.9	28199.5	12467.6	12135.6	11710.8	11857.3	11618.0	11275.0	16130.8
1947	11624.8	11037.1	15323.8	21927.8	15408.1	12571.3	12138.0	11594.9	11077.3	10540.2	10695.2	10420.6	12788.2
1948	10177.7	9971.4	5770.6	18824.6	44684.9	27552.6	12255.2	11792.6	11319.0	10824.6	10326.6	9801.7	15619.3
1949	9196.5	7947.5	9164.5	11773.0	34806.6	17815.6	12194.2	11703.5	11236.0	10724.5	10209.4	9640.6	13033.5
1950	10153.3	11427.9	11373.9	26565.0	49876.8	16672.6	12312.6	11879.2	11419.1	11276.2	11041.9	10736.7	16977.9
1951	10475.5	10127.6	11560.7	16602.1	30616.7	24177.3	12416.3	12005.0	11654.6	11649.8	11990.3	12030.6	14608.9
1952	11981.8	12367.5	17479.4	49876.8	45025.3	20889.4	12390.7	11992.8	11558.2	11105.4	10679.4	10319.3	18807.2
1953	9857.2	9643.3	9749.2	17531.1	42681.0	23343.1	12483.5	12075.8	11716.9	11386.1	11043.1	10885.6	15199.7
1954	10773.3	10779.4	13598.9	49876.8	49876.8	33136.1	14114.3	12223.5	11831.6	11432.5	11006.5	10634.2	19940.3
1955	10331.5	10171.6	10561.0	12086.7	16913.4	12424.9	11913.4	11372.7	10740.4	10145.9	9497.8	9036.4	11266.3
1956	7934.3	9965.6	9272.0	15405.6	26747.7	18428.4	12362.6	11902.4	11533.8	11094.4	10709.9	10745.3	12922.7
1957	10405.9	10943.6	12269.8	29792.3	41720.5	27846.9	13075.9	12183.2	11724.2	11330.0	10924.7	10639.1	16904.4
1958	10330.3	10272.9	11237.2	22173.4	27350.8	24019.2	15906.6	12225.9	11802.3	11394.6	10922.3	10515.4	14846.2
1959	10147.3	9594.2	10359.5	15230.6	29006.9	25862.5	12395.6	12016.0	11598.5	11351.9	11146.9	10855.1	14130.0
1960	10617.1	10564.5	12266.2	49876.8	49876.8	23121.8	12769.5	12302.8	11991.5	11441.0	10803.9	10203.3	18853.3
1961	9428.2	8552.3	8374.9	12983.5	12728.2	15845.8	12146.6	11482.5	10816.1	10073.9	9615.0	10019.0	11089.0
1962	9854.2	9856.6	12206.4	24770.6	36572.3	21509.5	12273.5	11708.4	11112.7	10716.0	10340.0	10048.3	15080.7
1963	10260.7	10615.3	11483.8	29048.7	49876.8	49876.8	20359.3	12201.6	11973.2	11815.8	11635.1	11747.4	20082.9
1964	11349.5	11254.3	13044.3	29143.1	49876.8	39911.2	12459.0	12024.5	11586.3	11203.0	10742.8	10576.8	18597.6
1965	10344.9	9927.4	11762.1	42418.4	49093.5	32676.5	12599.3	12312.6	11797.5	11841.4	11868.3	11814.5	19038.1
1966	12064.8	11637.6	22805.7	49876.8	49876.8	19739.2	14065.7	12269.8	11917.1	11325.1	10596.3	9933.5	19675.7
1967	9445.3	9399.9	9876.2	20407.9	49876.8	28569.1	21901.1	21932.7	12006.2	11525.3	10906.4	12224.7	18172.5
1968	11985.4	12052.6	17539.9	49876.8	49876.8	27556.3	12462.7	12031.8	11550.9	11146.9	10692.8	10114.2	19798.9
MEAN	10660.3	10692.8	13067.9	30132.4	41270.0	24163.3	13283.8	12336.1	11587.1	11253.8	10986.6	10825.6	16687.4

DISCHARGE FOR POWER IN CURRENT MONTH OF AKKOY POWER STATION (M.C.M.) - QYN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	51.7	51.7	51.7	89.4	89.4	63.8	51.7	51.7	51.7	51.7	51.7	51.7	59.0
1940	51.7	51.7	54.0	89.4	89.4	89.4	60.0	51.7	51.7	51.7	51.7	51.7	62.0
1941	51.7	65.3	89.4	89.4	89.4	73.8	51.7	51.7	51.7	51.7	51.7	51.7	64.1
1942	51.7	51.7	66.3	89.4	89.4	73.2	51.7	51.7	51.7	51.7	51.7	51.7	61.0
1943	51.7	51.7	51.7	89.4	89.4	88.9	51.7	51.7	51.7	51.7	51.7	51.7	61.1
1944	51.7	51.7	51.7	89.4	89.4	89.4	51.7	51.7	51.7	51.7	51.7	51.7	61.1
1945	51.7	51.7	51.7	81.5	89.4	85.2	51.7	51.7	51.7	51.7	51.7	51.7	60.1
1946	51.7	51.7	51.7	74.2	89.4	89.4	51.7	51.7	51.7	51.7	51.7	51.7	59.9
1947	51.7	51.7	61.8	89.4	63.4	51.7	51.7	51.7	51.7	51.7	51.7	51.7	56.7
1948	51.7	51.7	51.7	77.4	89.4	89.4	51.7	51.7	51.7	51.7	51.7	51.7	60.1
1949	51.7	46.1	51.7	51.7	89.4	73.3	51.7	51.7	51.7	51.7	51.7	51.7	56.2
1950	51.7	51.7	51.7	89.4	89.4	68.6	51.7	51.7	51.7	51.7	51.7	51.7	59.4
1951	51.7	51.7	51.7	68.3	89.4	89.4	51.7	51.7	51.7	51.7	51.7	51.7	59.4
1952	51.7	51.7	72.0	89.4	89.4	85.9	51.7	51.7	51.7	51.7	51.7	51.7	62.5
1953	51.7	51.7	51.7	72.1	89.4	89.4	51.7	51.7	51.7	51.7	51.7	51.7	59.7
1954	51.7	51.7	55.9	89.4	89.4	89.4	58.0	51.7	51.7	51.7	51.7	51.7	62.0
1955	51.7	51.7	51.7	51.7	69.6	51.7	51.7	51.7	51.7	51.7	51.7	51.7	53.2
1956	45.8	51.7	51.7	63.3	89.4	75.8	51.7	51.7	51.7	51.7	51.7	51.7	57.3
1957	51.7	51.7	51.7	89.4	89.4	89.4	53.8	51.7	51.7	51.7	51.7	51.7	61.3
1958	51.7	51.7	51.7	89.4	89.4	89.4	65.4	51.7	51.7	51.7	51.7	51.7	62.3
1959	51.7	51.7	51.7	62.6	89.4	89.4	51.7	51.7	51.7	51.7	51.7	51.7	58.9
1960	51.7	51.7	51.7	89.4	89.4	89.4	52.5	51.7	51.7	51.7	51.7	51.7	61.2
1961	51.7	49.6	51.7	53.4	52.3	65.2	51.7	51.7	51.7	51.7	51.7	51.7	52.8
1962	51.7	51.7	51.7	89.4	89.4	88.4	51.7	51.7	51.7	51.7	51.7	51.7	61.0
1963	51.7	51.7	51.7	89.4	89.4	89.4	83.7	51.7	51.7	51.7	51.7	51.7	63.8
1964	51.7	51.7	53.6	89.4	89.4	89.4	51.7	51.7	51.7	51.7	51.7	51.7	61.3
1965	51.7	51.7	51.7	89.4	89.4	89.4	51.8	51.7	51.7	51.7	51.7	51.7	61.1
1966	51.7	51.7	89.4	89.4	89.4	81.2	57.8	51.7	51.7	51.7	51.7	51.7	64.1
1967	51.7	51.7	51.7	83.9	89.4	89.4	89.4	89.4	51.7	51.7	51.7	51.7	66.9
1968	51.7	51.7	73.4	89.4	89.4	89.4	51.7	51.7	51.7	51.7	51.7	51.7	62.9
MEAN	51.5	51.7	56.7	81.3	86.6	81.9	55.2	53.0	51.7	51.7	51.7	51.7	60.4

OVERFLOW IN CURRENT MONTH AT AKKOY DIVERSION SITE (M.C.M.) - FYN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	0.0	0.0	0.0	25.2	76.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4
1940	0.0	0.0	0.0	152.3	124.4	33.4	0.0	0.0	0.0	0.0	0.0	0.0	25.9
1941	0.0	0.0	46.5	211.7	145.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.7
1942	0.0	0.0	0.0	135.6	145.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.4
1943	0.0	0.0	0.0	66.0	129.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.3
1944	0.0	0.0	0.0	12.3	140.9	31.0	0.0	0.0	0.0	0.0	0.0	0.0	15.3
1945	0.0	0.0	0.0	0.0	112.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.4
1946	0.0	0.0	0.0	0.0	104.0	26.6	0.0	0.0	0.0	0.0	0.0	0.0	10.9
1947	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1948	0.0	0.0	0.0	0.0	94.3	23.9	0.0	0.0	0.0	0.0	0.0	0.0	9.9
1949	0.0	0.0	0.0	0.0	53.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5
1950	0.0	0.0	0.0	61.0	125.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.5
1951	0.0	0.0	0.0	0.0	36.5	10.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9
1952	0.0	0.0	0.0	142.7	95.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.9
1953	0.0	0.0	0.0	0.0	86.1	6.6	0.0	0.0	0.0	0.0	0.0	0.0	7.7
1954	0.0	0.0	0.0	116.5	179.3	46.9	0.0	0.0	0.0	0.0	0.0	0.0	28.6
1955	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0	20.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7
1957	0.0	0.0	0.0	33.1	92.2	25.1	0.0	0.0	0.0	0.0	0.0	0.0	11.7
1958	0.0	0.0	0.0	1.8	23.1	9.4	0.0	0.0	0.0	0.0	0.0	0.0	2.9
1959	0.0	0.0	0.0	0.0	29.9	16.9	0.0	0.0	0.0	0.0	0.0	0.0	3.9
1960	0.0	0.0	0.0	150.4	151.4	5.7	0.0	0.0	0.0	0.0	0.0	0.0	25.6
1961	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	12.5	61.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1
1963	0.0	0.0	0.0	30.0	161.2	128.7	0.0	0.0	0.0	0.0	0.0	0.0	26.7
1964	0.0	0.0	0.0	30.4	200.3	74.7	0.0	0.0	0.0	0.0	0.0	0.0	25.4
1965	0.0	0.0	0.0	85.0	112.5	45.0	0.0	0.0	0.0	0.0	0.0	0.0	20.2
1966	0.0	0.0	4.4	142.2	207.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.6
1967	0.0	0.0	0.0	0.0	133.2	28.1	0.7	0.8	0.0	0.0	0.0	0.0	13.6
1968	0.0	0.0	0.0	375.7	255.4	25.6	0.0	0.0	0.0	0.0	0.0	0.0	54.7
MEAN	0.0	0.0	1.7	59.6	102.9	17.0	0.0	0.0	0.0	0.0	0.0	0.0	15.2

ENERGY PRODUCTION IN CURRENT MONTH AT AKKOY POWER STATION (M.W.H.) - PYN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	16356.5	16356.5	16356.5	29293.8	28283.8	20191.0	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	18663.9
1940	16356.5	16356.5	17997.4	26283.8	28283.8	28283.8	19979.3	16356.5	16356.5	16356.5	16356.5	16356.5	19617.8
1941	16356.5	20487.3	28783.8	28283.8	28283.8	23357.9	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	20279.8
1942	16356.5	16356.5	20772.4	28283.8	28283.8	23142.8	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	19294.6
1943	16356.5	16356.5	16356.5	28283.8	28283.8	28141.5	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	19326.5
1944	16356.5	16356.5	16356.5	28283.8	28283.8	28283.8	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	19338.3
1945	16356.5	16356.5	16356.5	25797.6	28283.8	26967.7	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	19020.6
1946	16356.5	16356.5	16356.5	23494.4	28283.8	28283.8	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	18938.4
1947	16356.5	16356.5	19544.6	28283.8	20045.5	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	17923.6
1948	16356.5	16356.5	16356.5	24499.5	28283.8	28283.8	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	19022.2
1949	16356.5	16356.5	16356.5	16356.5	24283.8	23177.6	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	17770.7
1950	16356.5	16356.5	16356.5	28283.8	28283.8	21690.4	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	18788.9
1951	16356.5	16356.5	16356.5	21594.9	28283.8	28283.8	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	18781.3
1952	16356.5	16356.5	22764.3	28283.8	28283.8	27176.5	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	19780.2
1953	16356.5	16356.5	16356.5	22807.4	28283.8	28283.8	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	18882.0
1954	16356.5	16356.5	17691.6	28283.8	28283.8	28283.8	18362.3	16356.5	16356.5	16356.5	16356.5	16356.5	19616.7
1955	16356.5	16356.5	16356.5	16356.5	22003.8	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	16827.1
1956	14499.4	16356.5	16356.5	20042.3	28283.8	23974.8	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	18137.7
1957	16356.5	16356.5	16356.5	28283.8	28283.8	28283.8	17011.4	16356.5	16356.5	16356.5	16356.5	16356.5	19392.9
1958	16356.5	16356.5	16356.5	28283.8	28283.8	28283.8	20694.0	16356.5	16356.5	16356.5	16356.5	16356.5	19699.8
1959	16356.5	16356.5	16356.5	19814.5	28283.8	28283.8	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	18632.5
1960	16356.5	16356.5	16356.5	28283.8	28283.8	28283.8	16612.8	16356.5	16356.5	16356.5	16356.5	16356.5	19359.7
1961	16356.5	15689.0	16356.5	16891.2	16559.0	20614.9	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	16717.2
1962	16356.5	16356.5	16356.5	28283.8	28283.8	27583.3	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	19313.3
1963	16356.5	16356.5	16356.5	28283.8	28283.8	28283.8	26486.8	16356.5	16356.5	16356.5	16356.5	16356.5	20182.5
1964	16356.5	16356.5	16970.3	28283.8	28283.8	28283.8	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	19389.5
1965	16356.5	16356.5	16356.5	28283.8	28283.8	28283.8	16391.3	16356.5	16356.5	16356.5	16356.5	16356.5	19341.2
1966	16356.5	16356.5	28283.8	28283.8	28283.8	25680.1	18299.1	16356.5	16356.5	16356.5	16356.5	16356.5	20277.2
1967	16356.5	16356.5	16356.5	26550.1	28283.8	28283.8	28283.8	28283.8	16356.5	16356.5	16356.5	16356.5	21181.7
1968	16356.5	16356.5	23209.2	28283.8	28283.8	28283.8	16356.5	16356.5	16356.5	16356.5	16356.5	16356.5	19909.4
MEAN	16294.6	16418.2	17943.2	25719.1	27409.0	25911.8	17486.9	16754.1	16356.5	16356.5	16356.5	16356.5	19112.6

INFLOW IN CURRENT MONTH OF DOGANKENT DIVERSION SITE (M.C.M.) - QDI -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	56.2	55.9	60.3	140.1	190.2	74.2	57.9	57.4	57.2	57.5	57.9	59.3	77.0
1940	59.7	62.1	67.6	285.6	245.0	141.5	69.8	56.9	56.3	59.3	60.3	61.5	102.0
1941	59.6	78.3	160.9	343.9	269.1	85.6	58.9	56.9	56.2	58.2	62.2	58.9	112.4
1942	58.7	60.3	81.7	263.7	268.9	84.9	56.9	55.8	55.7	58.2	63.7	62.2	97.6
1943	59.4	58.5	61.5	187.6	250.9	102.9	57.4	55.6	55.5	55.8	56.7	58.0	88.3
1944	57.8	58.2	72.7	128.4	264.4	138.8	58.9	56.2	56.1	56.7	59.4	58.1	88.9
1945	57.2	56.8	59.6	111.3	235.5	98.7	57.1	55.5	55.2	56.8	56.1	56.6	79.7
1946	56.6	56.4	63.6	104.1	227.4	133.8	58.3	56.5	55.7	60.4	57.3	56.5	82.4
1947	57.4	59.3	84.0	110.3	74.8	59.2	55.6	54.6	55.2	55.4	60.3	57.3	65.3
1948	57.5	59.1	58.8	111.2	216.8	130.7	56.6	55.4	55.3	55.7	55.7	55.9	80.6
1949	55.5	60.3	60.6	75.6	181.0	85.0	56.1	55.1	55.5	55.6	55.6	55.7	70.1
1950	62.1	61.1	65.6	190.0	246.1	79.6	57.1	55.6	55.4	58.1	57.6	57.1	87.1
1951	57.4	56.9	68.9	89.0	151.8	114.9	57.9	55.8	56.3	59.2	61.9	55.5	74.1
1952	58.8	62.3	87.8	270.7	212.5	99.4	57.7	55.9	55.6	55.8	56.2	56.7	94.1
1953	56.3	58.0	59.8	105.1	207.5	111.0	58.5	55.8	56.3	56.5	56.8	58.1	78.3
1954	58.4	57.9	77.8	243.7	307.2	156.9	67.5	56.3	56.0	55.9	56.1	56.6	104.3
1955	57.1	58.1	61.9	70.1	86.7	58.0	55.0	54.7	54.6	55.0	55.3	56.5	60.3
1956	50.4	53.5	61.0	96.1	136.4	91.3	57.5	55.4	56.2	55.9	59.4	62.4	70.1
1957	56.3	61.3	69.9	162.1	198.2	131.2	59.6	54.7	54.4	56.4	57.3	57.5	84.9
1958	56.7	59.7	66.9	126.5	136.9	115.1	83.8	57.3	58.2	55.8	55.8	56.4	77.5
1959	56.5	56.7	63.8	99.3	144.4	122.8	57.8	56.1	55.8	57.2	57.8	57.2	72.9
1960	57.5	61.6	68.8	235.0	275.6	109.9	60.3	57.8	56.6	54.1	54.1	55.5	99.7
1961	54.5	53.3	60.7	89.0	65.3	77.4	56.9	53.6	56.5	54.5	57.3	64.7	61.9
1962	57.7	58.7	73.2	128.3	179.8	100.4	54.9	53.3	55.1	60.1	59.2	56.6	78.1
1963	58.3	59.4	62.2	152.8	287.9	247.1	91.9	56.3	58.2	58.8	59.1	58.3	104.1
1964	56.9	57.2	73.6	155.6	335.8	183.9	56.6	54.3	56.4	56.2	56.0	58.0	99.9
1965	57.6	56.5	71.5	214.5	231.5	154.7	59.3	57.1	54.9	55.6	59.4	58.8	94.6
1966	61.2	60.3	119.1	266.5	339.3	94.0	66.0	55.7	55.4	54.4	54.3	55.3	106.8
1967	56.2	57.3	62.2	118.1	262.8	135.5	104.2	101.3	55.4	57.7	56.3	66.8	94.5
1968	58.5	59.4	93.8	528.7	393.2	132.6	58.6	55.7	55.4	56.6	56.2	55.6	133.8
MEAN	57.4	58.7	73.3	174.9	220.8	115.0	62.2	57.3	55.9	56.9	57.7	58.3	87.4

DISCHARGE FOR POWER IN CURRENT MONTH OF DOGANKENT POWER STATION (M.C.M.) - QDN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	56.2	55.9	60.3	118.4	118.4	74.2	57.9	57.4	57.2	57.5	57.9	55.3	69.2
1940	58.7	62.1	67.6	118.4	118.4	118.4	69.8	56.9	56.3	59.3	60.3	61.5	75.6
1941	59.6	78.3	118.4	118.4	118.4	85.6	58.9	56.9	56.2	58.2	62.2	58.9	77.5
1942	58.7	60.3	81.7	118.4	118.4	84.9	56.9	55.8	55.7	58.2	63.7	62.2	72.9
1943	59.4	58.5	61.5	118.4	118.4	102.9	57.4	55.6	55.5	55.8	56.7	58.0	71.5
1944	57.8	58.2	72.7	118.4	118.4	118.4	58.9	56.2	56.1	56.7	59.4	58.1	74.2
1945	57.2	56.8	59.6	111.3	118.4	98.7	57.1	55.5	55.2	56.8	56.1	56.6	69.9
1946	56.6	56.4	63.6	104.1	118.4	118.4	58.3	56.5	55.7	60.4	57.3	56.5	72.0
1947	57.4	59.3	84.0	110.3	74.8	59.2	55.6	54.6	55.2	55.4	60.3	57.3	65.3
1948	57.5	59.1	58.8	111.2	118.4	118.4	56.6	55.4	55.3	55.7	55.7	55.9	71.4
1949	55.5	60.3	60.6	75.6	118.4	85.0	56.1	55.1	55.5	55.6	55.6	55.7	64.9
1950	62.1	61.1	65.6	118.4	118.4	79.6	57.1	55.6	55.4	58.1	57.6	57.1	70.5
1951	57.4	56.9	68.9	89.0	118.4	114.9	57.9	55.8	56.3	59.2	61.9	55.5	71.3
1952	58.8	62.3	87.8	118.4	118.4	99.4	57.7	55.9	55.6	55.8	56.2	56.7	73.6
1953	56.3	58.0	59.8	105.1	118.4	111.0	58.5	55.8	56.3	56.5	56.8	58.1	70.9
1954	58.4	57.9	77.8	118.4	118.4	118.4	67.5	56.3	56.0	55.9	56.1	56.6	74.9
1955	57.1	58.1	61.9	70.1	86.7	58.0	55.0	54.7	54.6	55.0	55.3	56.5	60.3
1956	50.4	53.5	61.0	96.1	118.4	91.3	57.5	55.4	56.2	55.9	59.4	62.4	68.6
1957	56.3	61.3	69.9	118.4	118.4	118.4	59.6	54.7	54.4	56.4	57.3	57.5	73.5
1958	56.7	59.7	66.9	118.4	118.4	115.1	83.8	57.3	58.2	55.8	55.8	56.4	75.1
1959	56.5	56.7	63.8	99.3	118.4	118.4	57.8	56.1	55.8	57.2	57.8	57.2	70.4
1960	57.5	61.6	68.8	118.4	118.4	109.9	60.3	57.8	56.6	54.1	54.1	55.5	72.7
1961	54.5	53.3	60.7	89.0	65.3	77.4	56.9	53.6	56.5	54.5	57.3	64.7	61.9
1962	57.7	58.7	73.2	118.4	118.4	100.4	54.9	53.3	55.1	60.1	59.2	56.6	72.1
1963	58.3	59.4	62.2	118.4	118.4	118.4	91.9	56.3	58.2	58.8	59.1	58.3	76.4
1964	56.9	57.2	73.6	118.4	118.4	118.4	56.6	54.3	56.4	56.2	56.0	58.0	73.2
1965	57.6	56.5	71.5	118.4	118.4	118.4	59.3	57.1	54.9	55.6	59.4	58.8	74.2
1966	61.2	60.3	118.4	118.4	118.4	94.0	66.0	55.7	55.4	54.4	54.3	55.3	76.0
1967	56.2	57.3	62.2	118.1	118.4	118.4	104.2	101.3	55.4	57.7	56.3	66.8	81.0
1968	58.5	59.4	93.8	118.4	118.4	118.4	58.6	55.7	55.4	56.6	56.2	55.6	75.5
MEAN	57.4	58.7	73.3	117.9	114.1	102.1	62.2	57.3	55.9	56.9	57.7	58.3	71.9

OVERFLOW IN CURRENT MONTH OF DOGANKENT DIVERSION SITE (M.C.M.) - FDN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	0.0	0.0	0.0	21.7	71.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8
1940	0.0	0.0	0.0	167.2	126.6	23.1	0.0	0.0	0.0	0.0	0.0	0.0	26.4
1941	0.0	0.0	42.5	225.5	150.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.9
1942	0.0	0.0	0.0	145.3	150.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.6
1943	0.0	0.0	0.0	69.2	132.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.8
1944	0.0	0.0	0.0	10.0	146.0	20.4	0.0	0.0	0.0	0.0	0.0	0.0	14.7
1945	0.0	0.0	0.0	0.0	117.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8
1946	0.0	0.0	0.0	0.0	109.0	15.4	0.0	0.0	0.0	0.0	0.0	0.0	10.4
1947	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0	98.4	12.3	0.0	0.0	0.0	0.0	0.0	0.0	9.2
1949	0.0	0.0	0.0	0.0	62.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2
1950	0.0	0.0	0.0	71.6	127.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.6
1951	0.0	0.0	0.0	0.0	33.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8
1952	0.0	0.0	0.0	152.3	94.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.5
1953	0.0	0.0	0.0	0.0	89.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4
1954	0.0	0.0	0.0	125.3	188.8	38.5	0.0	0.0	0.0	0.0	0.0	0.0	29.4
1955	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
1957	0.0	0.0	0.0	43.7	79.8	12.8	0.0	0.0	0.0	0.0	0.0	0.0	11.4
1958	0.0	0.0	0.0	10.1	18.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4
1959	0.0	0.0	0.0	0.0	26.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	2.5
1960	0.0	0.0	0.0	166.6	157.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.0
1961	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	9.5	61.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9
1963	0.0	0.0	0.0	34.4	169.5	128.7	0.0	0.0	0.0	0.0	0.0	0.0	27.7
1964	0.0	0.0	0.0	37.2	217.4	65.5	0.0	0.0	0.0	0.0	0.0	0.0	26.7
1965	0.0	0.0	0.0	96.1	113.1	36.3	0.0	0.0	0.0	0.0	0.0	0.0	20.5
1966	0.0	0.0	0.7	147.9	220.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.8
1967	0.0	0.0	0.0	0.0	144.4	17.1	0.0	0.0	0.0	0.0	0.0	0.0	13.5
1968	0.0	0.0	0.0	410.5	274.8	14.2	0.0	0.0	0.0	0.0	0.0	0.0	58.3
MEAN	0.0	0.0	1.4	64.8	106.6	13.0	0.0	0.0	0.0	0.0	0.0	0.0	15.5

ENERGY PRODUCTION IN CURRENT MONTH AT DOGANKENT POWER STATION (M.W.H.) - PDIY

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	24260.6	24165.3	26071.3	51156.3	51156.3	32047.2	25029.0	24812.6	24711.2	24847.8	25008.1	25634.7	29908.4
1940	25370.4	26810.6	29220.3	51156.3	51156.3	51156.3	30149.1	24602.7	24336.1	25635.9	26059.8	26591.0	32687.1
1941	25758.6	33828.3	51156.3	51156.3	51156.3	37004.0	25467.4	24569.1	24274.9	25157.3	26895.9	25430.4	33487.9
1942	25361.0	24048.2	35293.1	51156.3	51156.3	36667.3	24604.9	24121.2	24072.2	25147.4	27543.2	26887.7	31504.9
1943	25668.9	25257.5	26592.7	51156.3	51156.3	44476.2	24811.4	24039.1	23992.3	24117.3	24509.6	25067.0	30903.7
1944	24964.0	25452.5	31392.2	51156.3	51156.3	51156.3	25442.6	24298.6	24250.7	24498.6	25669.4	25085.1	32043.5
1945	24708.5	24546.5	25744.8	48072.9	51156.3	42641.1	24675.4	24000.0	23867.7	24555.9	24254.6	24451.8	30223.0
1946	24354.2	24348.2	27466.1	45852.8	51156.3	51156.3	25203.6	24403.8	24052.9	26082.3	24739.3	24403.3	31101.6
1947	24814.2	25611.0	36289.0	47668.7	32317.9	25574.1	24037.5	23612.0	23859.5	23939.4	26039.4	24743.7	28208.9
1948	24837.9	25042.2	25398.5	48064.0	51156.3	51156.3	24448.4	23527.8	23904.1	24063.4	24052.9	24136.7	30849.0
1949	23999.4	21594.4	26196.3	32674.6	51156.3	36718.7	24231.4	23809.9	23966.4	24014.9	24001.7	24082.6	28037.2
1950	26847.0	26393.9	28336.7	51156.3	51156.3	34393.0	24658.8	24036.9	23921.2	25114.4	24870.9	24662.2	30462.3
1951	24788.3	24533.3	29782.6	38443.6	51156.3	49642.0	25023.0	24108.0	24324.5	25566.5	26747.3	25722.3	30819.8
1952	25399.1	26898.1	37943.1	51156.3	51156.3	42968.0	24931.0	24155.4	24027.0	24087.6	24274.9	24487.0	31790.3
1953	24314.1	25038.9	25837.9	45407.5	51156.3	47553.7	25260.3	24119.5	24308.5	24403.8	24523.4	25102.8	30618.9
1954	25746.5	25596.7	33647.2	51156.3	51156.3	51156.3	29178.9	24343.8	24183.0	24158.7	24229.2	24443.0	32374.7
1955	24659.4	25097.9	26732.4	30296.4	37474.0	25057.1	23744.8	23628.1	23611.5	23747.6	23905.8	24396.7	26029.3
1956	21853.8	25704.1	26346.0	41527.3	51156.3	39450.1	24835.7	23921.2	24263.4	24141.6	25670.2	26975.1	29653.7
1957	24318.4	26315.8	30270.0	51156.3	51156.3	51156.3	25761.4	23645.0	23512.6	24363.5	24766.2	24853.2	31768.8
1958	24480.2	25375.1	28910.9	51156.3	51156.3	49709.9	36193.6	24748.0	25159.7	24123.5	24108.0	24347.7	32455.8
1959	24420.4	24177.9	27553.1	38602.0	51156.3	51156.3	24961.8	24225.3	24088.2	24696.9	24954.1	24704.6	30391.4
1960	24850.0	26616.9	29743.6	51156.3	51156.3	47501.1	26049.6	24624.1	24475.5	23391.6	23392.4	23992.4	31412.5
1961	23533.7	22919.4	26242.4	38038.1	28199.2	33455.2	24592.5	23137.3	24391.1	23541.5	24736.6	27953.9	26728.4
1962	24941.5	25124.7	31622.2	51156.3	51156.3	43382.2	23733.8	23039.5	23815.2	25948.1	25593.9	24448.9	31163.5
1963	25406.4	25240.6	26658.7	51156.3	51156.3	51156.3	39706.9	24316.5	25125.6	25404.1	25534.9	25184.8	33020.6
1964	23715.0	24697.5	31801.4	51156.3	51156.3	51156.3	24445.8	23454.1	24374.4	24296.4	24181.3	25079.7	31626.2
1965	24872.6	24414.8	30899.8	51156.3	51156.3	51156.3	25636.0	24658.8	23727.8	25732.7	25667.8	25386.4	32038.8
1966	26435.7	26061.4	51156.3	51156.3	51156.3	40632.1	28513.9	24069.9	23938.8	23489.7	23441.2	23893.1	32828.7
1967	24295.3	24756.4	26389.3	51034.5	51156.3	51156.3	45022.4	43760.0	23917.9	24937.0	24321.2	28863.3	35009.2
1968	25721.1	25677.7	40514.8	51156.3	51156.3	51156.3	25336.8	24082.6	23957.1	24460.0	24277.7	24023.7	32626.9
MEAN	24806.5	25444.9	31062.0	47545.8	49306.9	44104.9	26856.3	24742.4	24147.0	24588.8	24932.4	25167.8	31058.2

INFLOW IN CURRENT MONTH OF ASLANCIK DIVERSION SITE (M.C.M.) - QLI -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	57.0	56.6	61.9	145.4	195.3	76.2	59.0	58.4	58.2	58.6	59.0	60.7	78.9
1940	60.0	64.1	70.3	294.9	251.6	145.3	71.7	57.8	57.1	60.7	61.9	63.4	104.9
1941	61.1	80.8	166.1	353.2	276.3	87.9	60.2	57.8	57.0	59.4	64.2	60.2	115.3
1942	60.0	61.9	84.8	272.0	276.1	87.2	57.8	56.5	56.4	59.4	66.0	64.2	100.2
1943	60.8	57.7	63.4	194.4	257.6	105.7	58.4	56.3	56.2	56.5	57.6	59.2	90.5
1944	58.9	60.2	77.0	134.0	271.7	142.5	60.2	57.0	56.9	57.6	60.8	55.3	91.3
1945	58.2	57.7	61.1	117.6	242.7	101.3	58.1	56.2	55.8	57.7	56.9	57.5	81.7
1946	57.2	57.2	65.9	112.8	234.6	137.4	59.5	57.4	56.4	62.0	58.3	57.4	84.7
1947	58.4	60.7	89.6	114.4	77.0	60.6	56.3	55.1	55.8	56.0	61.9	58.3	66.9
1948	58.6	59.1	60.1	118.4	223.8	134.2	57.5	56.0	55.9	56.4	56.4	56.6	82.8
1949	56.2	50.7	62.3	80.5	189.1	87.3	56.9	55.7	56.2	56.3	56.3	56.4	72.0
1950	64.1	62.9	68.3	198.5	252.7	81.7	58.1	56.3	56.0	59.3	58.7	58.1	89.6
1951	58.4	57.7	72.4	93.2	157.2	118.0	59.0	56.5	57.1	60.6	63.9	61.0	76.3
1952	60.1	64.3	91.0	279.0	218.2	102.1	58.8	56.6	56.3	56.5	57.0	57.6	96.5
1953	57.1	59.1	61.3	112.1	214.3	114.0	59.7	56.5	57.1	57.4	57.7	59.3	80.5
1954	59.6	60.5	82.4	251.8	315.5	161.1	69.3	57.1	56.8	56.6	56.9	57.5	107.1
1955	58.1	59.3	63.8	73.8	90.1	59.2	55.6	55.2	55.1	55.6	55.9	57.4	61.6
1956	51.4	61.0	62.8	103.0	141.9	94.4	58.6	56.0	57.0	56.6	60.3	63.8	72.2
1957	57.2	63.0	73.4	169.0	203.6	134.7	61.1	55.5	55.0	57.2	58.1	58.5	87.2
1958	57.7	60.0	69.7	134.8	140.9	118.2	85.8	58.1	58.9	56.5	56.5	57.2	79.5
1959	57.4	56.3	66.1	94.9	149.6	126.1	58.9	56.9	56.5	58.2	58.9	58.2	74.9
1960	58.6	63.5	72.2	294.8	283.0	112.8	61.8	58.0	57.5	54.6	54.6	56.1	102.3
1961	55.0	53.7	62.6	94.1	66.7	79.7	57.6	53.9	56.9	54.9	58.2	66.6	63.3
1962	58.9	57.4	78.0	133.8	186.6	103.1	55.8	53.8	55.6	60.9	60.1	57.6	80.3
1963	60.5	60.3	64.9	160.2	295.6	253.8	94.5	57.3	59.1	59.9	60.2	59.9	107.2
1964	55.6	58.5	77.3	151.0	344.7	189.0	57.8	55.0	57.1	57.0	56.8	55.2	102.4
1965	59.7	57.4	75.5	223.1	237.7	158.8	60.7	58.1	55.5	61.1	60.8	60.1	97.3
1966	63.0	61.9	124.3	273.5	348.4	96.5	67.5	56.4	56.0	54.9	54.7	55.9	109.4
1967	57.0	59.1	64.2	125.4	271.5	139.1	107.0	103.4	56.0	58.8	57.1	69.8	97.3
1968	61.0	60.8	99.0	543.2	403.8	136.2	59.9	56.4	56.1	57.5	57.0	56.3	137.2
MEAN	59.5	61.2	76.3	191.9	227.3	118.1	63.4	58.0	56.6	57.8	58.8	59.4	89.7

DISCHARGE FOR POWER IN CURRENT MONTH OF ASLANCIK POWER STATION (M.C.M.) - QLN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	57.0	55.5	61.9	118.4	118.4	76.2	59.0	58.4	58.2	58.6	59.0	60.7	70.2
1940	60.0	64.1	70.3	118.4	118.4	118.4	71.7	57.8	57.1	60.7	61.9	63.4	76.8
1941	61.1	93.0	118.4	118.4	118.4	87.9	60.2	57.8	57.0	59.4	64.2	60.2	78.6
1942	60.0	61.7	84.8	118.4	118.4	87.2	57.8	56.5	56.4	59.4	66.0	64.2	74.3
1943	60.8	59.7	63.4	118.4	118.4	105.7	58.4	56.3	56.2	56.5	57.6	59.2	72.5
1944	58.9	60.2	77.0	118.4	118.4	118.4	60.2	57.0	56.9	57.6	60.8	55.3	75.3
1945	56.2	57.7	61.1	117.6	118.4	101.3	58.1	56.2	55.8	57.7	56.9	57.5	71.4
1946	57.2	57.7	65.9	112.6	118.4	118.4	59.5	57.4	56.4	62.0	58.3	57.4	73.4
1947	54.4	60.7	88.6	114.4	77.0	60.6	56.3	55.1	55.8	56.0	61.9	58.3	66.9
1948	50.6	51.1	60.1	118.4	118.4	118.4	57.5	56.0	55.9	56.4	56.4	56.6	72.6
1949	56.2	53.7	62.3	80.5	118.4	87.3	56.9	55.7	56.2	56.3	56.3	56.4	66.1
1950	64.1	62.7	68.3	118.4	118.4	81.7	58.1	56.3	56.0	59.3	58.7	58.1	71.7
1951	58.4	57.7	72.4	93.2	118.4	118.0	59.0	56.5	57.1	60.6	63.9	61.0	73.0
1952	60.1	64.3	91.0	118.4	118.4	102.1	58.8	56.6	56.3	56.5	57.0	57.6	74.8
1953	57.1	59.1	61.3	112.1	118.4	114.0	59.7	56.5	57.1	57.4	57.7	59.3	72.5
1954	59.6	60.6	82.4	118.4	118.4	118.4	69.3	57.1	56.8	56.6	56.9	57.5	76.0
1955	58.1	59.1	63.8	73.8	90.1	59.2	55.6	55.2	55.1	55.6	55.9	57.4	61.6
1956	51.4	61.1	62.9	103.0	118.4	94.4	58.6	56.0	57.0	56.6	60.3	63.8	70.3
1957	57.2	63.1	73.4	118.4	118.4	118.4	61.1	55.5	55.0	57.2	58.1	58.5	74.5
1958	57.7	63.1	69.7	118.4	118.4	118.2	85.8	58.1	58.9	56.5	56.5	57.2	76.3
1959	57.4	56.9	66.1	94.9	118.4	118.4	58.9	56.9	56.5	58.2	58.9	58.2	71.6
1960	59.6	63.5	72.2	118.4	118.4	112.8	61.8	58.0	57.5	54.6	54.6	56.1	73.9
1961	55.0	53.7	62.6	94.1	66.7	79.7	57.6	53.9	56.9	54.9	58.2	66.6	63.3
1962	58.9	57.5	78.0	118.4	118.4	103.1	55.8	53.8	55.6	60.9	60.1	57.6	73.3
1963	60.5	60.3	64.8	118.4	118.4	118.4	94.5	57.3	59.1	59.9	60.2	59.9	77.6
1964	55.6	58.5	77.3	118.4	118.4	118.4	57.8	55.0	57.1	57.0	56.8	59.2	74.1
1965	58.7	57.4	75.5	118.4	118.4	118.4	60.7	58.1	55.5	61.1	60.8	60.1	75.3
1966	63.0	61.7	118.4	118.4	118.4	96.5	67.5	56.4	56.0	54.9	54.7	55.9	76.8
1967	57.0	58.3	64.2	118.4	118.4	118.4	107.0	103.4	56.0	58.8	57.1	69.8	82.2
1968	61.0	60.1	98.7	118.4	118.4	118.4	59.9	56.4	56.1	57.5	57.0	56.3	76.5
MEAN	59.5	60.2	74.5	112.1	114.4	103.6	63.4	58.0	56.6	57.8	58.8	59.4	73.1

OVERFLOW IN CURRENT MONTH OF ASLANCIK DIVERSION SITE (M.C.M.) -FLN-

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	0.0	0.0	0.0	27.0	76.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.7
1940	0.0	0.0	0.0	176.5	133.2	26.9	0.0	0.0	0.0	0.0	0.0	0.0	28.0
1941	0.0	0.0	47.7	234.8	157.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.7
1942	0.0	0.0	0.0	153.6	157.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.9
1943	0.0	0.0	0.0	76.0	139.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.9
1944	0.0	0.0	0.0	15.6	153.3	24.1	0.0	0.0	0.0	0.0	0.0	0.0	16.1
1945	0.0	0.0	0.0	0.0	124.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4
1946	0.0	0.0	0.0	0.0	116.2	19.0	0.0	0.0	0.0	0.0	0.0	0.0	11.3
1947	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0	105.4	15.8	0.0	0.0	0.0	0.0	0.0	0.0	10.1
1949	0.0	0.0	0.0	0.0	70.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9
1950	0.0	0.0	0.0	80.1	134.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.9
1951	0.0	0.0	0.0	0.0	38.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2
1952	0.0	0.0	0.0	160.6	99.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.7
1953	0.0	0.0	0.0	0.0	95.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0
1954	0.0	0.0	0.0	133.4	197.1	42.7	0.0	0.0	0.0	0.0	0.0	0.0	31.1
1955	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0	23.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
1957	0.0	0.0	0.0	50.6	85.2	16.3	0.0	0.0	0.0	0.0	0.0	0.0	12.7
1958	0.0	0.0	0.0	16.4	22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2
1959	0.0	0.0	0.0	0.0	31.2	7.7	0.0	0.0	0.0	0.0	0.0	0.0	3.2
1960	0.0	0.0	0.0	176.4	164.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.4
1961	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	15.4	68.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0
1963	0.0	0.0	0.0	41.8	177.2	135.4	0.0	0.0	0.0	0.0	0.0	0.0	29.5
1964	0.0	0.0	0.0	42.6	226.3	70.6	0.0	0.0	0.0	0.0	0.0	0.0	28.3
1965	0.0	0.0	0.0	104.7	119.3	40.4	0.0	0.0	0.0	0.0	0.0	0.0	22.0
1966	0.0	0.0	5.9	155.1	230.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.6
1967	0.0	0.0	0.0	7.0	153.1	20.7	0.0	0.0	0.0	0.0	0.0	0.0	15.1
1968	0.0	0.0	0.0	424.8	285.4	17.8	0.0	0.0	0.0	0.0	0.0	0.0	60.7
MEAN	0.0	0.0	1.8	69.7	112.9	14.6	0.0	0.0	0.0	0.0	0.0	0.0	16.6

ENERGY PRODUCTION IN CURRENT MONTH AT ASLANCIK POWER STATION (M.W.H.) - PLN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	13446.0	13370.3	14674.4	27954.2	27954.2	17984.3	13936.7	13794.9	13739.5	13837.7	12925.3	14338.6	16575.5
1940	14170.5	15122.8	16674.9	27954.2	27954.2	16923.5	13656.6	13487.3	14339.2	14618.1	14979.2	18147.1	
1941	16429.3	13979.5	27954.2	27954.2	27954.2	20763.8	14223.5	13638.2	13453.9	14030.5	15169.4	14203.3	18570.9
1942	14166.4	14611.7	20017.7	27954.2	27954.2	20579.8	13657.8	13346.3	13319.5	14025.1	15594.0	15164.9	17532.5
1943	14357.2	14085.2	14080.1	27954.2	27954.2	24965.0	13794.3	13301.4	13275.8	13344.1	13605.7	13981.1	17133.2
1944	13931.3	14215.4	18169.4	27954.2	27954.2	24210.0	13466.8	13440.6	13599.7	14357.6	13991.0	17767.9	
1945	13738.0	13425.3	14422.6	27756.8	27954.2	23915.0	13719.9	13280.0	13184.1	13631.0	13442.7	13574.1	16853.7
1946	13407.2	13499.3	15551.8	26638.0	27954.2	27554.2	14055.6	13547.9	13309.0	14630.4	13754.8	13547.6	17327.9
1947	13795.8	14325.6	27016.1	27016.5	18179.5	14305.5	13300.5	13020.8	13179.6	13223.3	14607.0	13757.3	15802.3
1948	13432.3	13944.3	14185.9	27954.2	27954.2	27554.2	13572.3	13217.0	13204.0	13314.7	13309.0	13354.7	17149.7
1949	13279.7	11863.6	14714.3	19011.6	27954.2	20607.9	13430.1	13157.5	13261.7	13288.2	13280.9	13325.2	15606.2
1950	15142.7	14847.1	16122.0	27954.2	27954.2	19289.8	13710.9	13300.2	13213.4	14007.0	13850.4	13712.7	16925.4
1951	13731.6	13419.7	17111.3	21993.0	27954.2	27858.7	13933.5	13339.0	13481.0	14301.3	15088.2	14410.0	17238.8
1952	14134.2	15174.6	21497.5	27954.2	27954.2	24117.3	13883.2	13364.9	13294.8	13327.5	13453.9	13593.4	17649.2
1953	13475.3	13543.1	14477.3	26465.6	27954.2	26912.5	14086.8	13345.4	13472.2	13547.9	13613.3	14000.7	17107.4
1954	14077.3	14917.4	19443.9	27954.2	27954.2	27554.2	16369.7	13491.5	13403.6	13366.7	13428.9	13569.3	17944.8
1955	13711.2	13933.3	15196.5	17426.5	21287.4	13975.7	13117.0	13029.6	13020.5	13116.5	13204.9	13544.0	14540.4
1956	12137.9	14401.1	14821.7	24321.6	27954.2	22289.3	13831.1	13213.4	13447.5	13357.4	14239.9	15071.0	16589.8
1957	12511.9	14874.1	17340.9	27954.2	27954.2	27554.2	14431.4	13109.6	12990.1	13502.3	13722.3	13817.1	17596.1
1958	13613.3	14172.1	16450.4	27954.2	27954.2	27885.8	20250.1	13712.4	13913.8	13347.5	13339.0	13493.6	18008.9
1959	13567.1	13603.3	15539.6	22416.1	27954.2	27554.2	13900.0	13426.8	13328.2	13731.7	13895.8	13735.9	16908.3
1960	14839.1	14093.1	17 [illegible]	27954.2	27954.2	26641.6	14588.9	13691.9	13587.1	12900.3	12900.8	13252.3	17446.6
1961	12978.9	12683.6	14745.7	22224.1	15740.0	18824.5	13603.8	12714.1	13422.9	12958.6	13729.7	15723.9	14950.0
1962	13913.5	14550.1	19413.2	27954.2	27954.2	24243.6	13141.8	12707.9	13131.8	14368.2	14198.2	13596.1	17318.5
1963	14244.7	14761.1	15331.7	27954.2	27954.2	27954.2	22311.6	13523.8	13942.3	14141.7	14213.2	14140.0	18329.3
1964	13126.3	13613.3	16831.4	27954.2	27954.2	27554.2	13641.7	12981.7	13484.6	13465.6	13402.7	13988.1	17500.5
1965	13854.3	13853.1	17439.5	27954.2	27954.2	27554.2	14339.3	13710.9	13107.7	14415.7	14356.6	14179.3	17767.2
1966	14474.7	14413.3	21756.7	27954.2	27954.2	22793.6	15935.5	13318.2	13223.0	12953.9	12903.8	13198.0	18139.9
1967	13445.0	13764.1	15196.1	27954.2	27954.2	27954.2	25263.5	24408.4	13211.6	13886.5	13479.1	16480.6	19415.6
1968	14413.4	14364.1	24132.0	27954.2	27954.2	27554.2	14157.2	13225.2	13256.6	13578.6	13455.4	13293.0	18068.9
MEAN	13817.4	14[illegible]	17[illegible]	26471.8	26398.8	24450.5	14978.5	13704.6	13359.6	13651.4	13871.4	14033.9	17262.8

INFLOW IN CURRENT MONTH OF TIREBOLU RESERVOIR (M.C.M.) -QBI -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	56.1	57.1	64.7	144.3	203.9	79.6	60.5	60.2	59.9	60.4	60.9	63.1	82.0
1940	62.7	67.3	74.1	310.6	262.7	151.7	74.9	55.4	58.5	62.1	64.6	66.6	109.7
1941	67.6	68.7	174.3	348.5	288.5	91.8	62.5	59.4	58.3	61.4	67.6	62.4	120.4
1942	62.7	64.5	90.0	286.0	288.3	91.0	59.4	57.7	57.6	61.4	70.0	67.6	104.6
1943	63.2	63.4	66.6	305.5	269.0	110.4	60.2	57.5	57.3	57.7	59.1	61.2	94.2
1944	60.5	62.5	64.2	143.4	294.0	148.8	62.5	58.4	58.2	59.1	63.2	61.3	95.5
1945	58.0	60.2	63.6	126.2	254.8	104.8	59.8	57.3	56.8	59.3	58.2	59.0	85.2
1946	58.6	58.6	60.8	124.2	244.8	143.5	61.6	58.8	57.6	64.8	60.0	58.8	88.6
1947	60.2	61.1	64.3	121.2	80.7	63.0	57.5	56.0	56.8	57.1	64.6	60.0	69.7
1948	60.4	61.3	62.3	130.6	235.7	140.1	59.0	57.1	57.0	57.6	57.6	57.8	86.3
1949	57.3	61.3	65.2	89.6	202.8	91.1	58.2	56.7	57.3	57.5	57.4	57.6	75.1
1950	57.5	60.3	72.0	212.6	263.9	85.3	59.7	57.5	57.1	61.3	60.5	59.7	93.7
1951	60.1	59.3	78.2	100.2	166.3	123.2	60.9	57.7	58.5	63.0	67.2	63.5	79.8
1952	62.3	67.7	96.3	232.0	227.8	106.6	60.7	57.9	57.5	57.7	58.3	56.1	100.4
1953	58.5	61.3	63.9	123.9	225.7	119.0	61.8	57.7	58.5	58.8	59.2	61.3	84.1
1954	61.7	63.0	80.0	265.5	329.5	168.2	72.4	58.5	58.1	57.9	58.2	56.0	111.8
1955	59.7	61.3	67.1	80.1	95.9	61.2	56.5	56.1	55.9	56.6	57.0	58.8	63.8
1956	57.8	63.9	65.8	114.7	151.2	99.6	60.4	57.1	58.3	57.8	61.7	61.2	75.8
1957	58.8	64.6	79.3	180.6	212.7	140.7	63.7	56.8	56.1	58.5	59.5	60.2	91.1
1958	59.3	62.2	74.3	144.5	147.6	123.4	89.2	59.5	60.1	57.7	57.7	58.6	82.9
1959	58.0	58.1	70.1	104.3	158.4	131.7	60.8	58.2	57.7	59.9	60.8	59.9	78.2
1960	60.4	66.7	70.0	311.4	295.5	117.8	64.3	59.6	59.0	55.4	55.4	57.0	106.7
1961	55.8	54.3	65.9	104.4	69.1	83.7	58.8	54.4	57.6	55.5	59.6	69.8	65.8
1962	60.0	62.0	86.2	147.1	198.1	107.7	57.3	54.6	56.4	62.3	61.6	56.3	86.1
1963	63.3	63.5	69.3	172.8	308.6	265.1	98.9	58.9	60.5	61.8	62.1	62.6	112.3
1964	58.9	60.6	83.5	170.0	359.8	197.6	59.9	56.2	58.2	58.4	58.1	61.2	106.7
1965	60.5	58.3	92.3	237.7	248.7	165.8	63.1	59.7	56.4	63.6	63.2	62.3	101.8
1966	64.0	64.6	133.2	285.6	363.8	100.8	70.1	57.6	57.1	55.7	55.4	57.0	113.9
1967	58.4	60.9	67.6	137.7	286.1	145.2	111.7	107.0	57.1	60.7	58.5	74.9	102.1
1968	63.5	63.2	105.0	567.4	421.7	142.2	62.1	57.6	57.2	59.0	58.3	57.5	142.9
MEAN	60.4	62.5	81.4	193.8	238.2	123.4	65.6	59.4	57.8	59.4	60.5	61.4	93.6

DISCHARGE FOR POWER IN CURRENT MONTH OF TIREBOLU POWER STATION (M.C.M.) - QBN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	74.7	74.7	74.7	124.1	203.6	79.3	74.7	74.7	74.7	74.7	74.7	74.7	89.9
1940	74.7	74.7	74.7	205.3	262.4	151.4	74.7	74.7	74.7	74.7	74.7	74.7	107.6
1941	74.7	74.7	110.4	299.8	288.2	91.5	74.7	74.7	74.7	74.7	74.7	74.7	115.6
1942	74.7	74.7	74.7	199.1	288.0	90.7	74.7	74.7	74.7	74.7	74.7	74.7	104.2
1943	74.7	74.7	74.7	96.1	268.7	110.1	74.7	74.7	74.7	74.7	74.7	74.7	95.6
1944	74.7	74.7	74.7	74.7	237.8	148.5	74.7	74.7	74.7	74.7	74.7	74.7	94.4
1945	74.7	74.7	74.7	74.7	178.2	105.5	74.7	74.7	74.7	74.7	74.7	74.7	85.9
1946	74.7	74.7	74.7	74.7	158.2	143.2	74.7	74.7	74.7	74.7	74.7	74.7	87.4
1947	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7
1948	74.7	74.7	74.7	74.7	97.9	139.8	74.7	74.7	74.7	74.7	74.7	74.7	82.1
1949	74.7	74.7	74.7	74.7	74.7	77.8	74.7	74.7	74.7	74.7	74.7	74.7	75.0
1950	74.7	74.7	74.7	88.6	263.6	85.0	74.7	74.7	74.7	74.7	74.7	74.7	92.5
1951	74.7	74.7	74.7	74.7	74.7	117.7	74.7	74.7	74.7	74.7	74.7	74.7	78.3
1952	74.7	74.7	74.7	214.6	227.5	106.3	74.7	74.7	74.7	74.7	74.7	74.7	101.7
1953	74.7	74.7	74.7	74.7	133.7	118.7	74.7	74.7	74.7	74.7	74.7	74.7	83.3
1954	74.7	74.7	74.7	162.2	299.8	167.9	74.7	74.7	74.7	74.7	74.7	74.7	108.5
1955	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7
1956	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7
1957	74.7	74.7	74.7	74.7	97.0	140.4	74.7	74.7	74.7	74.7	74.7	74.7	81.2
1958	74.7	74.7	74.7	74.7	93.6	123.1	88.9	74.7	74.7	74.7	74.7	74.7	81.5
1959	74.7	74.7	74.7	74.7	74.7	124.8	74.7	74.7	74.7	74.7	74.7	74.7	78.9
1960	74.7	74.7	74.7	198.3	285.2	117.5	74.7	74.7	74.7	74.7	74.7	74.7	106.9
1961	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7
1962	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7
1963	74.7	74.7	74.7	74.7	276.8	264.8	98.6	74.7	74.7	74.7	74.7	74.7	109.4
1964	74.7	74.7	74.7	76.5	299.8	197.3	74.7	74.7	74.7	74.7	74.7	74.7	103.8
1965	74.7	74.7	74.7	116.1	247.9	165.5	74.7	74.7	74.7	74.7	74.7	74.7	100.1
1966	74.7	74.7	74.7	242.3	299.8	100.5	74.7	74.7	74.7	74.7	74.7	74.7	109.6
1967	74.7	74.7	74.7	74.7	212.4	144.9	111.4	106.7	74.7	74.7	74.7	74.7	97.8
1968	74.7	74.7	74.7	236.8	299.8	141.9	74.7	74.7	74.7	74.7	74.7	74.7	117.8
MEAN	74.7	74.7	74.9	117.8	187.3	120.9	77.2	75.8	74.7	74.7	74.7	74.7	92.1

OVERFLOW IN CURRENT MONTH OF TIREBOLU RESERVOIR (M.C.M.) - FBN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1941	0.0	0.0	48.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7
1942	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1943	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1952	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	0.0	0.0	1.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6

STORAGE AT THE END OF CURRENT MONTH OF TIREBOLU RESERVOIR (M.C.M.) - VBN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	312.8	312.8	312.8	312.8	312.8	312.8	299.7	284.0	268.9	254.3	240.1	228.3	283.3
1940	312.8	312.8	312.8	312.8	312.8	312.8	297.1	280.6	268.8	258.4	250.0	250.0	269.8
1941	312.8	312.8	312.8	312.8	312.8	300.3	284.7	268.0	254.4	247.1	234.4	277.3	
1942	312.8	312.8	312.8	312.8	312.8	297.2	280.0	262.6	249.0	244.0	236.7	263.9	
1943	312.8	312.8	312.8	312.8	312.8	298.0	280.6	262.9	245.6	229.7	216.0	259.3	
1944	312.8	312.8	312.8	312.8	312.8	300.3	283.7	267.0	251.1	239.3	225.5	254.0	
1945	312.8	312.8	312.8	312.8	312.8	297.6	280.0	261.8	246.1	229.4	213.4	248.2	
1946	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1947	312.8	312.8	312.8	312.8	312.8	299.9	283.4	267.0	255.6	240.5	224.3	247.6	
1948	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1949	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1950	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1951	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1952	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1953	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1954	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1955	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1956	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1957	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1958	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1959	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1960	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1961	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1962	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1963	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1964	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1965	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1966	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1967	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
1968	312.8	312.8	312.8	312.8	312.8	299.4	283.2	265.8	255.6	240.5	224.3	247.6	
MEAN	312.8	312.8	312.8	312.8	312.8	299.3	283.5	265.8	255.6	240.5	224.3	247.6	

WATER SURFACE AT THE END OF CURRENT MONTH OF TIREBOLU RESERVOIR (M) - HBN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	69.7	67.9	66.8	70.0	70.0	70.0	68.5	66.9	65.3	63.7	62.2	60.9	66.8
1940	59.3	58.2	58.2	70.0	70.0	70.0	70.0	68.3	66.5	65.3	64.1	63.2	65.3
1941	62.0	63.1	70.0	70.0	70.0	70.0	68.7	67.0	65.2	63.7	62.9	61.5	66.2
1942	60.2	58.7	60.7	70.0	70.0	70.0	68.3	66.5	64.6	63.1	62.6	61.8	64.7
1943	60.5	58.7	57.5	70.0	70.0	70.0	68.4	66.5	64.6	62.8	61.0	59.4	64.1
1944	57.3	55.4	56.8	65.0	70.0	70.0	68.6	66.9	65.1	63.3	62.1	60.6	63.4
1945	58.6	56.2	54.5	61.8	70.0	70.0	68.4	66.5	64.5	62.8	61.0	59.0	62.8
1946	56.5	54.1	53.3	60.5	70.0	70.0	68.6	66.8	64.9	63.8	62.2	60.5	62.6
1947	58.4	56.6	50.8	64.9	65.5	64.2	62.3	60.3	57.6	55.0	53.4	51.2	59.1
1948	48.8	46.5	44.3	53.3	70.0	70.0	68.3	66.3	64.4	62.5	60.6	58.3	59.4
1949	55.7	52.2	50.8	52.8	68.6	70.0	68.2	66.2	64.3	62.4	60.5	58.1	60.8
1950	57.0	55.6	55.3	70.0	70.0	70.0	68.3	66.5	64.5	63.1	61.5	59.8	63.5
1951	57.6	55.7	55.7	59.4	69.4	70.0	68.5	66.6	64.8	63.5	62.7	61.5	62.9
1952	60.1	59.0	61.6	70.0	70.0	70.0	68.5	66.6	64.7	62.9	61.1	59.1	64.5
1953	56.6	54.5	52.8	60.1	70.0	70.0	68.6	66.7	64.9	63.2	61.5	60.0	62.4
1954	58.0	56.2	58.5	70.0	70.0	70.0	69.7	67.9	66.1	64.3	62.5	60.7	64.5
1955	58.7	56.7	55.5	56.3	59.4	57.3	54.6	51.7	48.7	45.6	42.6	39.8	52.2
1956	34.9	32.4	30.4	39.1	51.9	55.6	53.4	50.7	48.0	45.1	42.8	41.4	43.8
1957	38.2	36.4	37.3	55.1	70.0	70.0	68.8	66.8	64.8	63.0	61.3	59.7	57.6
1958	57.3	55.4	55.3	64.7	70.0	70.0	70.0	68.3	66.7	64.9	63.0	61.2	63.9
1959	59.3	56.9	56.0	60.2	69.3	70.0	68.5	66.6	64.8	63.1	61.6	60.0	63.0
1960	57.8	56.6	57.0	70.0	70.0	70.0	68.8	67.2	65.5	63.4	61.2	59.0	63.9
1961	56.2	53.1	51.8	56.2	55.3	56.6	54.2	51.1	48.3	45.0	42.4	41.5	51.0
1962	38.9	36.0	39.5	50.3	66.3	69.8	67.9	65.7	63.7	62.3	60.9	58.9	56.6
1963	57.1	55.4	54.5	66.6	70.0	70.0	70.0	68.3	66.7	65.3	63.9	62.5	64.2
1964	60.6	58.7	59.9	70.0	70.0	70.0	68.4	66.3	64.5	62.7	60.9	59.2	64.3
1965	57.0	54.4	55.7	70.0	70.0	70.0	68.7	67.1	65.1	63.8	62.6	61.2	63.8
1966	60.2	58.7	65.4	70.0	70.0	70.0	69.5	67.6	65.7	63.6	61.5	59.3	65.1
1967	56.8	54.6	53.5	62.1	70.0	70.0	70.0	70.0	68.1	66.5	64.8	64.7	64.3
1968	63.5	62.2	66.5	70.0	70.0	70.0	68.6	66.7	64.8	63.1	61.3	59.2	65.4
MEAN	54.4	54.5	55.1	63.3	69.2	68.5	67.1	65.2	63.2	61.4	59.8	58.1	61.7

ENERGY PRODUCTION IN CURRENT MONTH OF TIREBOLU POWER STATION (M.W.H.) - PBN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	11945.3	11427.8	11425.7	19934.4	32685.1	12727.0	11724.9	11444.4	11157.0	10880.1	10612.0	10386.2	13877.7
1940	17111.1	9711.3	9576.5	32956.5	42121.8	24314.1	11931.2	11694.9	11382.7	11157.0	10959.4	10800.7	16442.5
1941	19533.2	13776.3	17731.5	43132.3	46277.8	14697.4	11756.6	11458.5	11141.1	10862.6	10744.3	10502.6	17890.5
1942	10256.7	9996.5	10347.4	31955.6	46243.4	14556.2	11696.6	11368.6	11038.8	10779.5	10686.1	10546.7	15789.9
1943	10322.7	10033.3	9788.4	15423.7	43141.1	17682.6	11712.5	11380.9	11044.1	10716.0	10414.5	10121.7	14313.1
1944	9747.8	9418.7	9659.6	11115.5	38172.4	23849.7	11754.8	11440.9	11121.7	10820.1	10596.1	10335.1	14002.3
1945	9975.3	9562.6	9201.0	10543.2	28638.8	16536.5	11733.7	11368.6	11022.9	10726.6	10407.4	10054.7	12514.3
1946	9620.8	9185.2	9047.6	10312.9	25395.3	22986.1	11739.0	11430.3	11098.8	10904.8	10619.0	10310.4	12720.9
1947	9952.4	9431.4	10197.3	11038.2	11197.5	10568.2	10636.7	10276.9	9814.8	9342.1	9067.0	8670.2	10071.0
1948	8241.0	7843.1	7463.8	9047.6	15714.0	22451.6	11687.8	11347.4	11007.0	10675.5	10343.9	9934.7	11314.8
1949	9467.4	8857.1	8598.6	9964.7	11746.0	12496.3	11673.7	11326.3	10989.4	10656.1	10321.0	9897.7	10416.3
1950	9700.2	9460.3	9407.9	14221.0	42311.4	13646.9	11731.9	11370.4	11026.2	10769.0	10492.1	10190.5	13691.5
1951	9737.2	9379.2	9443.8	10137.3	11894.2	18501.4	11724.9	11396.8	11082.9	10853.6	10705.5	10488.5	11318.4
1952	13246.9	10667.1	10511.5	34497.2	36521.2	17774.0	11721.3	11396.8	11063.5	10733.7	10416.2	10068.8	15358.6
1953	9633.1	9761.0	9562.2	10254.4	21449.3	19055.1	11740.7	11412.7	11098.8	10790.1	10450.3	10225.3	12033.2
1954	9878.3	9562.6	9557.7	26034.7	48132.3	26556.1	11943.6	11631.4	11310.4	10994.1	10664.9	10359.8	16451.3
1955	10007.0	9445.6	9435.6	9571.4	10123.4	9759.4	9269.8	8770.7	8241.6	7693.1	7157.0	6664.9	8861.5
1956	5899.5	5966.8	5011.6	6535.7	9874.2	9453.3	9067.0	8594.3	8111.1	7597.9	7202.8	6941.8	7374.9
1957	6386.9	6063.5	6231.0	9368.6	13973.3	22541.3	11777.8	11433.9	11074.1	10760.1	10465.6	10169.3	10853.7
1958	9753.1	9414.2	9396.8	11971.8	15019.6	19755.8	14267.8	11698.4	11416.2	11086.4	10758.4	10446.2	11998.9
1959	10115.8	9857.8	9527.3	13232.2	11857.7	20033.8	11723.1	11402.1	11072.3	10784.8	10515.0	10225.7	11433.1
1960	9941.3	9622.4	9731.9	31841.8	47395.2	18670.9	11730.1	11497.3	11194.0	10821.9	10449.7	10061.7	16090.7
1961	9553.9	9021.7	8783.1	9559.1	9402.1	9633.1	9236.3	8661.4	8165.8	7585.5	7125.2	697C.0	8638.9
1962	6504.2	6093.5	6431.9	8513.5	11336.9	11557.7	11622.4	11234.6	10881.8	10640.2	10386.2	10031.7	9629.5
1963	9723.1	9419.7	9269.1	11395.1	44446.0	42517.3	15830.2	11686.1	11410.9	11158.7	10913.6	10679.0	16537.3
1964	10333.3	9932.1	10213.7	12276.1	48132.3	31671.8	11705.5	11347.4	11028.2	10714.3	10391.5	10093.5	15658.6
1965	9709.0	9283.9	9477.9	13647.1	39795.3	26578.3	11747.2	11476.2	11123.4	10904.8	10680.8	10439.1	14990.3
1966	10264.1	10009.4	11175.4	33892.9	48132.3	16161.8	11839.5	11569.7	11229.3	10862.4	10498.5	10114.6	16732.5
1967	9677.2	9374.4	9036.4	10537.9	34102.1	23764.9	17885.6	17127.5	11652.5	11380.9	11067.0	11065.2	14682.3
1968	10846.4	10622.6	11197.2	48132.2	49132.3	22786.7	11747.9	11418.0	11081.1	10777.8	10460.3	10088.2	18107.2
MEAN	9611.8	9264.4	9555.9	18040.0	29743.2	19141.8	11842.3	11722.1	10802.8	10481.4	10186.7	9896.3	13325.8

INFLOW IN CURRENT MONTH OF TORUL RESERVOIR (M.C.M.) - QTI -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	14.5	13.7	29.9	97.0	93.8	36.5	20.9	19.1	18.3	19.4	20.8	26.2	34.2
1940	23.9	34.5	49.2	171.1	121.0	69.7	34.3	17.3	15.1	26.2	29.8	34.5	52.4
1941	27.2	44.8	85.1	170.2	133.0	42.1	24.7	17.1	14.6	22.0	37.2	24.4	54.5
1942	23.8	23.7	56.2	152.5	132.9	41.7	17.4	13.4	13.0	22.0	43.0	37.2	48.6
1943	24.5	22.3	34.5	125.0	123.9	50.6	19.1	12.7	12.3	13.3	16.6	21.3	39.9
1944	20.4	24.5	71.4	172.5	133.5	68.3	24.5	14.8	14.4	16.5	26.5	21.4	45.5
1945	19.2	14.0	27.1	115.0	132.1	48.5	18.0	12.4	11.3	16.9	14.5	16.1	37.3
1946	15.3	15.0	42.3	124.0	132.6	65.8	22.4	15.7	12.8	30.0	18.5	15.7	42.5
1947	19.1	25.9	83.7	75.3	40.7	25.6	12.7	9.2	11.2	11.9	29.7	18.5	30.3
1948	19.3	21.1	24.1	132.1	129.0	64.4	16.0	11.8	11.6	12.9	12.8	13.5	39.0
1949	12.3	12.5	31.1	90.7	149.1	41.8	14.3	10.8	12.1	12.5	12.4	13.0	34.4
1950	30.8	32.3	50.2	157.1	121.5	39.1	17.8	12.7	11.7	21.7	19.6	17.9	44.9
1951	18.9	14.9	63.5	77.5	99.0	56.5	20.9	13.2	15.0	25.6	35.9	26.9	39.1
1952	24.1	37.2	58.1	152.5	104.9	49.9	20.1	13.6	12.6	13.1	14.6	16.4	43.0
1953	15.0	21.3	27.9	128.7	124.2	54.6	22.9	13.3	14.9	15.7	16.7	21.6	39.7
1954	22.3	25.4	82.6	149.2	152.0	77.3	33.2	15.2	13.9	13.7	14.2	16.0	51.3
1955	17.9	21.5	35.8	48.3	63.3	21.2	10.3	9.4	9.2	10.3	11.6	15.6	24.5
1956	17.6	24.3	32.4	127.6	191.0	56.7	19.3	11.7	14.5	13.5	15.7	26.6	38.4
1957	17.7	39.5	64.0	126.2	99.3	65.0	28.3	19.9	11.8	13.8	15.3	18.4	42.7
1958	17.7	24.1	58.5	119.6	73.4	66.2	37.4	15.1	12.9	13.4	13.2	15.2	37.1
1959	15.3	13.1	43.1	107.3	95.6	60.4	20.4	14.2	13.1	18.1	20.9	18.2	36.3
1960	19.6	34.3	63.2	143.6	136.2	54.1	26.7	17.5	16.3	6.0	8.8	10.2	48.1
1961	7.7	13.3	35.5	113.4	26.6	43.0	12.8	5.7	7.8	6.7	15.7	34.4	26.8
1962	22.2	26.7	68.0	131.4	125.5	50.3	16.6	8.6	8.7	15.4	16.0	18.5	41.5
1963	30.7	34.9	48.6	136.5	141.7	123.4	47.7	17.6	15.7	21.0	20.3	25.0	55.6
1964	13.6	23.7	67.4	98.3	163.8	93.0	22.3	12.5	12.5	14.8	13.9	21.4	46.4
1965	19.6	16.8	73.9	154.9	114.3	76.2	25.7	17.8	10.2	27.0	26.4	24.0	49.1
1966	33.1	43.1	33.9	176.7	166.4	58.5	23.5	10.1	9.4	8.5	8.7	13.1	53.6
1967	14.5	14.3	38.1	127.9	175.3	58.2	36.3	11.4	14.1	27.1	19.7	48.5	48.8
1968	33.4	25.6	94.1	244.5	169.2	61.2	24.5	13.3	12.7	17.5	15.2	13.9	70.4
MEAN	20.6	24.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	43.2

DISCHARGE FOR POWER IN CURRENT MONTH OF TORUL POWER STATION (M.C.M.) - QTN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1942	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1943	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1952	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERFLOW IN CURRENT MONTH OF TORUL RESERVOIR (M.C.M.) - FTN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	14.5	13.7	29.9	97.0	93.8	36.5	20.9	19.1	18.3	19.4	20.8	26.2	34.2
1940	23.9	34.5	49.2	171.1	121.0	69.7	34.3	17.3	15.1	26.2	29.8	34.5	52.4
1941	27.2	44.8	85.1	170.2	133.0	42.1	24.7	17.1	14.6	22.0	37.2	24.4	54.5
1942	23.8	23.7	56.2	152.5	132.9	41.7	17.4	13.4	13.0	22.0	43.0	37.2	48.6
1943	24.5	22.3	34.5	125.0	123.9	50.6	19.1	12.7	12.3	13.3	16.6	21.3	39.9
1944	20.4	24.5	71.4	172.5	133.5	68.3	24.5	14.8	14.4	16.5	26.5	21.4	45.5
1945	19.2	14.0	27.1	115.0	132.1	48.5	18.0	12.4	11.3	16.9	14.5	16.1	37.3
1946	15.3	15.0	42.3	124.0	132.6	65.8	22.4	15.7	12.8	30.0	18.5	15.7	42.5
1947	19.1	25.9	83.7	75.3	40.7	25.6	12.7	9.2	11.2	11.9	29.7	18.5	30.3
1948	19.3	21.1	24.1	132.1	129.0	64.4	16.0	11.8	11.6	12.9	12.8	13.5	39.0
1949	12.3	12.5	31.1	90.7	149.1	41.8	14.3	10.8	12.1	12.5	12.4	13.0	34.4
1950	30.8	32.3	50.2	157.1	121.5	39.1	17.8	12.7	11.7	21.7	19.6	17.9	44.9
1951	18.9	14.9	63.5	77.5	99.0	56.5	20.9	13.2	15.0	25.6	35.9	26.9	39.1
1952	24.1	37.2	58.1	152.5	104.9	49.9	20.1	13.6	12.6	13.1	14.6	16.4	43.0
1953	15.0	21.3	27.9	128.7	124.2	54.6	22.9	13.3	14.9	15.7	16.7	21.6	39.7
1954	22.3	25.4	82.6	149.2	152.0	77.3	33.2	15.2	13.9	13.7	14.2	16.0	51.3
1955	17.9	21.5	35.8	48.3	63.3	21.2	10.3	9.4	9.2	10.3	11.6	15.6	24.5
1956	17.6	24.3	32.4	127.6	191.0	56.7	19.3	11.7	14.5	13.5	15.7	26.6	38.4
1957	17.7	39.5	64.0	126.2	99.3	65.0	28.3	13.9	11.8	13.8	15.3	18.4	42.7
1958	17.7	24.1	58.5	119.6	73.4	66.2	37.4	15.1	12.9	13.4	13.2	15.2	37.1
1959	15.3	13.1	43.1	107.3	95.6	60.4	20.4	14.2	13.1	18.1	20.9	18.2	36.3
1960	19.6	34.3	63.2	143.6	136.2	54.1	26.7	17.5	16.3	9.0	8.8	10.2	48.1
1961	7.7	13.3	35.5	113.4	26.6	43.0	12.8	5.7	7.8	6.7	15.7	34.4	26.8
1962	22.2	26.7	68.0	131.4	125.5	50.3	16.6	8.6	8.7	15.4	16.0	18.5	41.5
1963	30.7	34.9	48.6	136.5	141.7	123.4	47.7	17.6	15.7	21.0	20.3	25.0	55.6
1964	13.6	23.7	67.4	98.3	163.8	93.0	22.3	12.5	12.5	14.8	13.9	21.4	46.4
1965	19.6	16.8	73.9	154.9	114.3	76.2	25.7	17.8	10.2	27.0	26.4	24.0	49.1
1966	33.1	43.1	33.9	176.7	166.4	58.5	23.5	10.1	9.4	8.5	8.7	13.1	53.6
1967	14.5	14.3	38.1	127.9	175.3	58.2	36.3	11.4	14.1	27.1	19.7	48.5	48.8
1968	33.4	25.6	94.1	244.5	169.2	61.2	24.5	13.3	12.7	17.5	15.2	13.9	70.4
MEAN	20.6	24.1	55.4	133.9	119.1	57.0	23.0	13.4	12.8	17.0	19.5	21.6	43.2

STORAGE AT THE END OF CURRENT MONTH OF TORUL RESERVOIR (M.C.M.) - VTN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1942	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1943	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1952	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

WATER SURFACE AT THE END OF CURRENT MONTH OF TORUL RESERVOIR (M) - HTN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1940	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1941	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1942	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1943	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1944	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1945	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1946	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1947	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1948	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1949	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1950	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1951	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1952	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1953	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1954	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1955	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1956	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1957	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1958	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1959	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1960	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1961	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1962	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1963	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1964	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1965	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1966	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1967	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
1968	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00
MEAN	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	910.00	909.96

ENERGY PRODUCTION IN CURRENT MONTH OF TORUL POWER STATION (M.W.H.) - PTN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1942	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1943	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1952	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DISCHARGE FOR POWER IN CURRENT MONTH OF KARACUKUR POWER STATION (M.C.M.) - QRN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1942	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1943	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1952	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERFLOW IN CURRENT MONTH AT KARACUKUR DIVERSION SITE (M.C.M.) - FRN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	14.5	13.7	29.2	97.0	93.8	36.5	20.9	19.1	18.3	19.4	20.8	26.2	34.2
1940	23.9	14.6	40.2	171.1	121.0	69.7	34.2	17.3	15.1	26.2	29.8	34.5	52.4
1941	27.2	44.1	96.1	176.2	133.0	42.1	24.7	17.1	14.6	22.0	37.2	24.4	54.5
1942	23.4	20.7	64.3	162.5	132.9	41.7	17.4	13.4	13.0	22.0	43.0	37.2	48.6
1943	26.5	22.9	34.8	125.0	123.9	50.6	19.1	12.7	12.3	13.3	16.6	21.3	39.9
1944	20.4	25.4	78.6	197.5	133.5	68.3	24.5	14.8	14.4	16.5	26.8	21.4	45.5
1945	13.2	17.0	27.2	115.0	132.1	48.5	18.0	12.4	11.3	16.9	14.5	16.1	37.3
1946	15.1	15.2	42.3	124.0	132.6	65.8	22.4	15.7	12.6	30.0	18.5	15.7	42.5
1947	19.1	25.2	33.7	75.7	40.7	25.6	12.7	9.2	11.7	11.9	29.7	18.5	30.3
1948	19.3	21.1	24.1	132.1	129.0	64.4	16.0	11.8	11.6	12.9	12.8	13.5	39.0
1949	12.7	13.6	31.1	30.7	149.1	41.8	14.3	10.8	12.1	12.5	12.4	13.0	34.4
1950	20.8	33.3	51.2	157.1	121.5	39.1	17.8	12.7	11.7	21.7	19.6	17.9	44.9
1951	16.0	16.5	47.8	77.4	39.0	56.5	20.9	13.2	15.0	25.6	35.9	26.9	39.1
1952	24.1	27.2	58.3	152.5	134.3	48.9	21.1	13.6	12.6	12.1	14.6	16.4	43.0
1953	15.0	21.5	27.3	126.7	124.2	54.6	22.9	13.3	14.9	15.7	16.7	21.6	39.7
1954	27.1	26.1	40.4	146.7	152.0	77.3	33.2	15.2	13.9	13.7	14.2	16.0	51.3
1955	17.8	21.7	29.4	48.2	63.3	21.2	10.3	9.4	9.2	10.3	11.6	15.6	24.5
1956	15.6	26.2	29.4	127.6	101.3	56.7	19.9	11.7	14.5	13.5	15.7	26.6	38.4
1957	17.2	22.3	44.9	126.2	99.3	65.0	28.3	13.9	11.8	13.8	15.3	18.4	42.7
1958	7.7	24.1	54.5	118.4	71.4	56.2	37.4	15.1	12.9	13.4	13.2	15.2	37.1
1959	15.3	17.1	43.1	102.3	95.6	60.4	20.4	14.2	13.1	18.1	20.3	18.2	36.3
1960	19.6	20.1	47.1	140.6	136.2	54.1	26.7	17.5	16.3	9.0	8.8	10.2	48.1
1961	8.7	12.1	19.5	112.4	26.6	43.0	12.8	5.7	7.8	6.7	15.7	34.4	26.8
1962	22.7	25.7	34.9	131.4	125.5	50.3	16.6	8.6	8.7	15.4	16.0	16.5	41.5
1963	20.7	24.1	49.6	146.5	141.7	123.4	47.7	17.6	15.7	21.0	20.3	29.0	55.6
1964	17.4	21.3	47.4	149.1	163.8	83.0	22.7	12.5	12.5	14.8	13.9	21.4	46.4
1965	15.6	24.3	23.6	159.0	114.3	76.2	25.7	17.8	10.2	27.0	26.4	24.0	49.1
1966	32.1	43.1	32.0	176.7	164.4	53.5	23.9	10.1	9.4	8.5	8.7	13.1	53.6
1967	14.8	15.1	39.1	127.6	175.3	58.2	26.1	11.4	14.1	27.1	19.7	48.5	48.8
1968	32.4	34.5	44.1	164.5	169.2	61.2	24.5	13.3	12.7	17.5	15.2	13.9	70.4
MEAN	21.5	24.6	43.4	133.9	119.1	57.0	23.0	13.4	12.6	17.0	19.5	21.6	43.2

ENERGY PRODUCTION IN CURRENT MONTH AT KARACUKUR POWER STATION - (M.W.H.) - PRN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1942	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1943	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1952	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

INFLOW IN CURRENT MONTH OF KURTUN RESERVOIR (M.C.M.) - QKI -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	25.7	24.3	53.2	172.1	166.4	64.7	37.2	33.9	32.5	34.5	36.9	46.4	60.6
1940	42.3	64.7	97.3	303.6	214.7	123.7	60.9	30.8	26.9	46.5	53.0	61.3	93.0
1941	48.3	83.2	149.8	302.0	236.0	74.7	43.9	30.3	26.0	39.1	66.0	43.3	96.8
1942	42.2	52.8	99.7	270.5	235.8	74.0	30.9	23.7	23.0	39.0	76.4	65.9	86.2
1943	47.0	40.6	61.3	221.5	219.9	89.8	33.9	22.5	21.9	23.6	29.4	37.8	70.8
1944	36.2	43.6	139.5	181.9	216.8	121.3	43.5	26.3	25.6	29.3	47.0	38.0	80.8
1945	32.4	30.0	48.1	204.0	234.3	86.1	31.9	21.9	20.0	30.1	25.7	28.6	66.1
1946	27.1	27.1	75.1	220.0	235.3	116.9	39.8	27.9	22.8	53.3	32.8	27.8	75.5
1947	34.0	46.1	148.5	133.7	72.2	45.5	22.5	16.4	20.0	21.1	52.7	32.9	53.8
1948	34.3	37.4	42.8	234.5	228.9	114.2	28.5	20.9	20.6	22.9	22.8	24.0	69.3
1949	21.9	22.3	55.1	161.0	264.5	74.2	25.4	19.2	21.5	22.2	22.0	23.1	61.0
1950	65.3	56.2	89.1	278.6	215.6	69.5	31.6	22.5	20.9	38.5	34.8	31.7	79.7
1951	33.5	29.3	112.7	137.6	175.7	100.3	37.1	23.5	26.7	45.4	63.8	47.7	69.5
1952	42.9	66.1	103.9	270.5	186.0	86.8	35.7	24.2	22.4	23.3	26.0	29.1	76.3
1953	26.6	37.3	49.6	228.3	220.4	96.9	40.7	23.7	26.4	27.9	29.6	38.3	70.5
1954	40.5	45.8	146.7	264.8	269.6	137.2	58.9	26.9	24.6	24.3	25.3	28.5	91.1
1955	31.6	38.2	63.5	121.2	112.4	37.6	18.3	16.7	16.4	18.3	20.6	27.8	43.5
1956	27.4	47.5	57.4	226.4	179.2	100.7	34.3	20.9	25.8	24.0	27.9	47.2	68.2
1957	30.1	20.1	113.6	224.0	176.2	115.4	50.3	24.7	21.0	24.6	27.1	32.6	75.8
1958	31.4	47.3	89.7	206.6	130.2	99.7	66.3	26.9	22.9	23.8	23.5	27.0	65.9
1959	26.1	26.5	76.5	181.5	169.7	107.2	36.2	25.2	23.3	32.2	36.1	32.3	64.4
1960	34.5	41.7	112.1	320.5	261.7	96.0	47.4	31.1	28.9	16.0	15.7	18.1	85.3
1961	15.4	21.2	63.1	199.5	47.1	76.4	22.7	10.1	13.9	12.0	27.9	61.0	47.5
1962	39.3	49.4	157.7	180.0	222.7	89.3	29.5	15.3	15.5	27.4	28.4	32.8	73.6
1963	54.4	61.3	85.3	242.2	251.5	219.0	84.6	31.2	27.9	37.2	36.0	51.5	98.6
1964	24.2	41.3	119.7	174.4	290.6	165.0	39.6	22.2	22.1	26.3	24.6	38.0	82.3
1965	34.9	28.9	131.2	281.8	202.8	135.3	45.7	31.6	18.1	47.9	46.9	42.6	87.2
1966	58.8	52.1	170.0	233.5	298.0	82.1	49.9	22.9	21.0	14.7	14.0	20.4	86.6
1967	24.2	33.1	64.0	237.2	282.3	118.4	91.0	69.8	20.8	35.8	26.6	97.7	92.1
1968	47.7	47.1	135.5	466.0	345.7	115.9	41.8	23.1	21.4	28.7	26.0	22.3	110.1
MEAN	36.2	44.9	97.5	229.3	212.1	101.1	42.0	25.5	22.7	29.7	34.2	38.5	76.1

DISCHARGE FOR POWER IN CURRENT MONTH OF KURTUN POWER STATION (M.C.M.) - QKN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	34.0	34.0	34.0	171.5	166.2	64.5	37.0	34.0	34.0	34.0	35.0	46.2	60.4
1940	42.2	64.7	97.1	205.1	235.1	123.5	60.7	34.0	34.0	35.5	52.8	61.1	83.8
1941	48.1	83.1	103.0	205.1	235.1	74.5	43.7	34.0	34.0	34.0	58.7	43.1	86.0
1942	42.0	52.5	99.5	205.1	235.1	73.8	34.0	34.0	34.0	34.0	56.0	65.8	78.0
1943	46.5	40.4	61.1	205.1	205.1	89.6	34.0	34.0	34.0	32.0	33.6	34.0	70.8
1944	34.0	34.0	117.1	131.7	235.1	121.1	43.3	34.0	34.0	34.0	34.0	34.0	75.5
1945	34.0	34.0	37.0	203.8	235.1	85.9	34.0	34.0	34.0	34.0	37.0	32.0	66.6
1946	34.0	34.0	34.0	203.5	235.1	116.7	39.6	34.0	34.0	35.4	34.0	34.0	69.9
1947	34.0	37.0	148.3	133.5	72.0	45.3	34.0	34.0	32.0	32.0	34.0	34.0	55.9
1948	34.0	34.0	34.0	205.1	235.1	114.0	34.0	34.0	34.0	32.0	32.0	32.0	68.7
1949	32.0	32.0	34.0	108.5	235.1	74.0	34.0	34.0	32.0	32.0	32.0	32.0	56.3
1950	34.0	34.0	34.0	205.1	235.1	69.3	34.0	34.0	34.0	34.0	34.0	34.0	69.3
1951	34.0	34.0	89.3	137.4	175.6	100.1	36.9	34.0	34.0	34.0	56.6	47.5	67.2
1952	42.4	64.3	103.1	205.1	135.4	86.6	35.5	34.0	34.0	34.0	32.0	32.0	74.2
1953	34.0	34.0	34.0	135.8	235.1	86.7	40.5	34.0	34.0	34.0	34.0	34.0	67.6
1954	34.0	34.0	137.9	205.1	235.1	137.0	58.7	34.0	34.0	34.0	34.0	33.9	81.9
1955	34.0	34.0	34.0	111.1	112.2	37.4	34.0	34.0	32.0	32.0	30.5	27.6	46.0
1956	27.6	34.0	34.0	135.5	175.0	100.5	34.1	34.0	34.0	34.0	33.0	34.0	64.0
1957	34.0	34.0	34.0	205.1	176.1	115.2	50.1	34.0	34.0	34.0	32.0	34.0	75.3
1958	34.0	34.0	34.0	205.1	130.1	99.5	66.1	34.0	34.0	34.0	32.0	32.0	65.9
1959	34.0	34.0	34.0	165.0	169.5	107.0	36.0	34.0	34.0	34.0	34.0	34.0	62.5
1960	34.0	34.0	111.0	205.1	205.1	95.8	47.2	34.0	34.0	34.0	32.0	32.0	75.4
1961	32.0	32.0	34.0	165.0	46.2	76.2	34.0	32.0	32.0	32.0	28.9	32.0	46.3
1962	34.0	34.0	111.1	179.4	235.1	89.1	34.0	34.0	32.0	32.0	32.0	32.0	72.3
1963	34.0	34.0	34.0	235.1	235.1	205.1	84.4	34.0	34.0	34.0	34.0	46.8	86.4
1964	34.0	34.0	111.6	174.2	205.1	144.3	39.4	34.0	34.0	34.0	32.0	34.0	78.0
1965	34.0	34.0	34.0	205.1	205.1	135.1	45.5	34.0	34.0	34.0	41.7	42.4	77.7
1966	34.0	34.0	34.0	205.1	235.1	81.9	49.7	34.0	34.0	32.0	32.0	32.0	82.3
1967	32.0	34.0	34.0	111.6	235.1	118.9	90.8	69.6	34.0	34.0	34.0	78.1	79.5
1968	47.6	46.9	135.3	235.1	235.1	115.7	41.6	34.0	34.0	34.0	33.6	32.0	80.4
MEAN	36.1	37.6	77.4	176.1	192.6	100.5	44.0	35.1	33.7	33.6	36.2	38.4	70.8

OVERFLOW IN CURRENT MONTH OF KURTUN RESERVOIR (M.C.M.) - PKN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	99.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0
1941	0.0	0.0	46.7	30.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.6
1942	0.0	0.0	46.2	30.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0
1943	0.0	0.0	0.0	14.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6
1944	0.0	0.0	0.0	31.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6
1945	0.0	0.0	0.0	29.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4
1946	0.0	0.0	0.0	30.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5
1947	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	29.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4
1949	0.0	0.0	0.0	59.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9
1950	0.0	0.0	0.0	73.3	10.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0
1951	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1952	0.0	0.0	0.0	65.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4
1953	0.0	0.0	0.0	0.0	15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
1954	0.0	0.0	0.0	59.5	64.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3
1955	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	16.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
1958	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1959	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	115.2	36.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.6
1961	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	17.4	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	1.4
1963	0.0	0.0	0.0	46.2	13.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1
1964	0.0	0.0	0.0	0.0	35.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1
1965	0.0	0.0	0.0	76.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4
1966	0.0	0.0	0.0	28.2	92.7	0.0	0.0	0.1	0.0	0.0	0.0	0.0	10.1
1967	0.0	0.0	0.0	0.0	177.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4
1968	0.0	0.0	0.0	260.7	140.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.4
MEAN	0.0	0.0	0.0	33.9	28.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2

STORAGE AT THE END OF CURRENT MONTH OF KURTUN RESERVOIR (M.C.M.) - VKN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	127.7	117.9	136.8	137.2	137.2	137.2	137.2	136.9	135.2	135.5	137.2	137.2	134.4
1940	137.2	137.2	137.2	137.2	137.2	137.2	137.2	133.8	126.5	137.2	137.2	137.2	136.0
1941	137.2	137.2	137.2	137.2	137.2	137.2	137.2	133.3	125.1	130.0	137.2	137.2	135.3
1942	137.2	137.2	137.2	137.2	137.2	137.2	133.9	123.4	112.2	117.0	137.2	137.2	132.0
1943	137.2	137.2	137.2	137.2	137.2	137.2	136.9	125.3	112.9	104.4	100.0	103.6	125.5
1944	105.6	115.0	137.2	137.2	137.2	137.2	137.2	129.3	120.7	115.8	128.6	132.4	127.8
1945	130.5	126.3	137.2	137.2	137.2	137.2	134.9	122.6	108.5	104.4	97.9	94.3	122.4
1946	87.2	80.0	121.0	137.2	137.2	137.2	137.2	130.9	119.4	137.2	135.8	129.4	124.1
1947	129.2	137.2	137.2	137.2	137.2	137.2	125.5	107.7	95.5	84.3	102.8	101.5	119.4
1948	101.7	104.9	113.5	137.2	137.2	137.2	131.5	118.2	104.5	95.2	85.8	77.6	112.0
1949	47.3	64.0	84.9	137.2	137.2	137.2	128.4	113.4	102.7	92.7	82.5	73.4	101.7
1950	104.5	128.5	137.2	137.2	137.2	137.2	134.6	122.9	109.6	113.9	114.5	112.0	124.1
1951	111.4	106.9	137.2	137.2	137.2	137.2	137.2	126.5	119.0	130.2	137.2	137.2	129.5
1952	137.2	137.2	137.2	137.2	137.2	137.2	137.2	127.2	115.4	104.4	98.2	95.1	125.1
1953	87.5	90.6	106.0	137.2	137.2	137.2	137.2	126.7	118.9	112.6	108.0	112.2	117.6
1954	118.4	130.9	137.2	137.2	137.2	137.2	137.2	129.9	120.4	110.5	101.6	96.0	124.4
1955	73.4	97.4	126.7	137.2	137.2	137.2	121.3	103.7	87.9	74.0	64.0	64.0	103.7
1956	64.0	77.3	109.5	137.2	137.2	137.2	137.2	123.9	115.5	105.2	100.0	113.0	112.4
1957	108.9	137.2	137.2	137.2	137.2	137.2	137.2	127.7	114.5	104.9	99.8	98.2	123.1
1958	95.4	104.0	137.2	137.2	137.2	137.2	137.2	129.9	118.6	108.2	99.5	94.4	119.7
1959	88.3	73.6	121.0	137.2	137.2	137.2	137.2	128.2	117.3	115.3	117.2	115.3	119.2
1960	115.6	137.2	137.2	137.2	137.2	137.2	137.2	134.1	128.8	110.7	94.1	80.0	123.9
1961	64.0	64.0	92.9	137.2	137.2	137.2	125.7	103.7	85.4	65.1	64.0	92.8	97.4
1962	98.0	109.4	137.2	137.2	137.2	137.2	132.5	113.6	96.9	92.1	88.3	88.9	114.0
1963	109.3	136.9	137.2	137.2	137.2	137.2	137.2	134.2	127.9	130.9	132.7	137.2	132.9
1964	127.2	134.3	137.2	137.2	137.2	137.2	137.2	125.2	113.2	105.3	97.7	101.4	124.2
1965	102.1	95.7	137.2	137.2	137.2	137.2	137.2	134.6	118.5	132.2	137.2	137.2	128.6
1966	137.2	137.2	137.2	137.2	137.2	137.2	137.2	125.9	112.8	95.3	77.1	65.3	119.7
1967	64.0	64.0	95.8	137.2	137.2	137.2	137.2	137.2	123.8	125.4	117.8	137.2	117.8
1968	137.2	137.2	137.2	137.2	137.2	137.2	137.2	126.1	113.3	107.8	100.0	90.1	124.8
MEAN	108.7	113.3	129.1	137.2	137.2	137.2	135.0	125.2	114.0	109.9	107.7	107.6	121.8

WATER SURFACE AT THE END OF CURRENT MONTH OF KURTUN RESERVOIR (M) - HKN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	646.68	643.21	649.87	650.00	650.00	650.00	650.00	649.91	649.30	649.40	650.00	650.00	649.03
1940	650.00	[illegible]	650.00	650.00	650.00	650.00	650.00	648.91	646.24	650.00	650.00	650.00	649.59
1941	650.00	650.00	650.00	650.00	650.00	650.00	650.00	648.64	645.75	647.48	650.00	650.00	649.32
1942	650.00	650.00	650.00	650.00	650.00	650.00	648.83	645.15	641.22	642.91	650.00	650.00	648.18
1943	650.00	[illegible]	650.00	650.00	650.00	650.00	649.90	645.81	641.49	638.23	636.43	637.90	645.81
1944	634.74	642.22	650.00	650.00	650.00	650.00	650.00	647.22	644.21	642.46	646.97	648.31	646.68
1945	647.47	646.13	650.00	650.00	650.00	650.00	643.20	644.89	639.91	638.23	635.57	634.08	644.64
1946	631.17	627.21	644.39	650.00	650.00	650.00	650.00	647.78	643.76	650.00	645.51	647.28	645.14
1947	647.21	650.10	650.00	650.00	650.00	650.00	645.89	639.59	634.57	630.01	637.59	637.06	643.49
1948	637.17	633.47	641.63	650.00	650.00	650.00	648.00	643.33	628.30	634.45	630.62	626.71	640.72
1949	621.64	621.15	[illegible]	650.00	650.00	650.00	646.90	641.65	637.53	633.43	625.10	624.66	636.27
1950	638.30	645.15	[illegible]	650.00	650.00	650.00	643.09	644.99	640.31	641.82	642.04	641.16	645.39
1951	[illegible]	[illegible]	[illegible]	650.00	650.00	650.00	650.00	646.25	643.62	647.55	650.00	650.00	647.30
1952	650.00	[illegible]	[illegible]	650.00	650.00	650.00	650.00	646.45	642.34	638.25	635.70	634.43	645.60
1953	631.10	[illegible]	636.31	650.00	650.00	650.00	650.00	646.31	643.59	641.36	639.72	641.21	642.91
1954	643.41	[illegible]	[illegible]	650.00	650.00	650.00	650.00	647.46	644.10	640.62	637.09	634.80	645.41
1955	633.74	635.31	646.32	650.00	650.00	650.00	644.41	637.16	631.46	624.98	620.05	620.05	637.03
1956	620.35	[illegible]	[illegible]	650.00	650.01	650.00	650.00	645.32	642.37	638.59	636.43	641.51	640.63
1957	[illegible]	[illegible]	650.00	650.00	650.00	650.00	650.00	646.67	642.04	638.43	636.34	635.68	644.94
1958	634.54	[illegible]	[illegible]	[illegible]	650.00	650.00	650.00	647.44	642.49	639.80	636.24	634.13	643.64
1959	635.44	[illegible]	646.70	650.00	650.00	650.00	650.00	646.45	643.01	642.32	642.99	642.32	643.39
1960	[illegible]	[illegible]	[illegible]	650.00	650.00	650.00	650.00	646.91	647.06	642.69	634.04	627.91	645.09
1961	623.05	[illegible]	[illegible]	650.00	650.00	650.00	645.98	627.37	630.44	620.61	620.05	633.50	634.34
1962	[illegible]	[illegible]	[illegible]	650.00	650.00	650.00	648.15	641.73	635.17	633.19	631.63	631.89	641.49
1963	[illegible]	[illegible]	[illegible]	650.00	650.00	650.00	650.00	648.24	646.74	647.80	648.43	650.00	648.50
1964	[illegible]	[illegible]	[illegible]	650.00	650.00	650.00	650.00	645.31	641.56	638.59	635.45	637.03	645.33
1965	637.31	[illegible]	[illegible]	650.00	650.00	650.00	650.00	649.33	643.44	648.25	650.00	650.00	646.90
1966	650.00	[illegible]	650.00	650.00	650.00	650.00	650.00	646.15	641.44	634.50	626.47	620.69	643.26
1967	[illegible]	[illegible]	624.71	650.00	650.00	650.00	650.00	650.00	645.29	645.85	643.19	650.00	642.43
1968	[illegible]	[illegible]	[illegible]	650.00	650.00	650.00	650.00	646.12	641.62	639.62	628.43	632.37	645.51
MEAN	639.21	640.15	[illegible]	650.00	650.00	650.00	647.22	645.77	641.71	639.98	638.94	638.82	644.23

ENERGY PRODUCTION IN CURRENT MONTH OF KURTUN POWER STATION (M.W.H.) - PKN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	[illegible]	7721.3	8257.4	41715.6	40421.9	15600.2	8930.5	9261.0	8212.0	8720.1	6501.7	11242.4	14603.2
1940	13247.7	[illegible]	21176.4	49876.8	49876.8	30028.2	14758.8	8172.7	7946.4	8645.2	12837.6	14851.2	20344.2
1941	[illegible]	[illegible]	[illegible]	49876.8	49876.8	18124.4	10624.7	8159.0	7927.1	8065.9	14267.5	10481.2	20854.5
1942	[illegible]	[illegible]	[illegible]	49876.0	49876.8	17555.1	8174.3	7878.0	7563.4	7699.1	13611.0	15985.3	18819.8
1943	11273.7	[illegible]	[illegible]	49876.9	49676.8	21801.4	8260.2	7531.0	7565.1	6692.6	7092.3	7296.9	16890.4
1944	7364.3	[illegible]	21673.2	44175.1	49876.3	29442.2	10527.4	8045.9	7603.4	7664.6	8025.0	8132.6	18098.7
1945	3041.2	[illegible]	[illegible]	49555.8	49876.8	20399.1	8204.0	7858.0	7458.3	7323.4	6651.6	6575.1	15791.4
1946	[illegible]	[illegible]	[illegible]	49495.0	49876.8	28269.7	9642.2	8090.9	7767.3	8599.0	8228.9	8049.9	16598.4
1947	8044.3	[illegible]	[illegible]	22457.6	17499.4	11006.5	7938.3	7432.6	6616.1	6271.6	7272.0	7225.5	13086.8
1948	7234.3	[illegible]	7400.3	49876.8	49376.8	27722.9	8107.7	7732.8	7329.0	6610.0	6317.7	6022.2	15980.8
1949	5642.2	4377.3	6684.4	26332.7	49874.8	17985.8	8019.4	7597.9	6839.7	6530.0	6202.9	5867.4	12668.0
1950	7329.0	3074.7	[illegible]	49876.8	49876.8	16642.9	9195.2	7966.0	7490.4	7611.6	7629.2	7558.6	16484.1
1951	7560.0	7497.7	21004.2	33415.6	42674.6	24347.5	8983.2	7967.2	7756.1	8071.6	12756.9	11563.4	16124.4
1952	17360.3	15025.3	24989.5	43874.6	45135.6	21059.6	8645.2	7586.5	7653.3	7325.0	6701.5	6605.5	17702.8
1953	6767.1	[illegible]	7275.6	47868.1	49876.8	23513.4	9851.3	7572.0	7753.7	7574.7	7443.0	7562.6	15869.0
1954	7739.2	3066.7	33677.8	49876.8	49876.8	33306.3	14234.6	8964.3	7794.6	7515.3	7231.9	7019.0	19554.4
1955	6963.0	7099.4	7977.9	26874.2	27260.3	9107.2	7819.5	7301.7	6382.6	5891.5	5252.5	4758.5	10225.0
1956	4730.9	6388.2	7197.4	46095.3	43527.3	24435.0	8290.1	7892.5	7655.7	7352.3	6963.5	7586.7	14842.9
1957	7471.9	17116.4	27549.7	49876.8	42790.5	28017.1	12176.2	8000.9	7629.2	7339.5	6749.8	7118.7	17904.7
1958	7027.2	7312.2	13691.2	49876.8	31606.5	24189.4	16076.8	8062.7	7744.8	7449.4	6742.3	6582.8	15530.2
1959	6794.4	4473.6	7813.7	40132.5	41214.7	26032.7	8749.7	8015.4	7707.1	7651.7	7705.5	7651.7	14658.8
1960	7660.5	9717.6	27714.6	49876.8	49876.8	23292.1	11480.7	8180.7	8032.2	7520.9	6576.0	6112.9	17961.8
1961	5388.0	3630.5	6345.3	37690.9	11415.0	18520.8	7945.5	6869.9	6304.1	5561.4	4981.0	6535.2	10149.0
1962	7113.1	7486.4	11560.3	43724.3	49876.8	21679.8	8135.8	7604.4	6661.4	6511.8	6394.0	6413.6	16930.1
1963	7481.5	9259.4	20960.2	49876.8	49876.8	49876.8	20529.5	8183.1	8006.5	8091.6	8142.2	11385.8	20880.8
1964	7987.3	8187.1	28360.0	42372.2	49876.8	40081.4	9571.7	7931.9	7592.3	7352.3	6684.8	7227.1	18602.1
1965	7248.7	7045.4	21918.4	49876.8	49264.0	32846.7	11067.3	8195.2	7741.6	8127.7	10152.9	10320.7	18642.1
1966	14260.3	12849.8	41489.5	49876.8	49876.8	19909.4	12095.5	7951.1	7581.1	6610.8	6004.1	5567.4	19506.1
1967	4713.4	5677.7	7040.8	47555.3	49876.8	28739.4	22071.3	16923.1	7690.1	7935.1	7721.6	18985.3	18761.2
1968	11558.5	11398.9	32900.2	49876.8	49876.8	28126.5	10123.7	7956.8	7595.5	7435.0	7094.4	6449.9	19199.3
MEAN	8027.2	8907.2	19777.4	45255.5	44685.0	24431.8	10644.7	8202.9	7534.7	7381.7	7965.9	8491.6	16774.6

DISCHARGE FOR POWER IN CURRENT MONTH OF AKKOY POWER STATION (M.C.M.) - QYN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	34.0	34.0	34.0	89.4	89.4	64.5	37.0	34.0	34.0	34.0	35.0	46.2	47.1
1940	42.1	64.5	97.1	89.4	89.4	89.4	60.7	34.0	34.0	35.5	52.8	61.1	61.7
1941	48.1	82.8	89.4	89.4	89.4	74.5	43.7	34.0	34.0	34.0	58.7	43.1	60.1
1942	42.0	52.6	89.4	89.4	89.4	73.8	34.0	34.0	34.0	34.0	56.0	65.8	57.9
1943	46.8	40.4	61.1	89.4	89.4	89.4	34.0	34.0	34.0	32.0	33.6	34.0	51.5
1944	34.0	34.0	89.4	89.4	89.4	89.4	43.3	34.0	34.0	34.0	34.0	34.0	53.2
1945	34.0	34.0	37.0	89.4	89.4	85.9	34.0	34.0	34.0	34.0	32.0	32.0	47.5
1946	34.0	34.0	34.0	89.4	89.4	89.4	39.6	34.0	34.0	35.4	34.0	34.0	48.4
1947	34.0	37.0	89.4	89.4	72.0	45.3	34.0	34.0	32.0	32.0	34.0	34.0	47.3
1948	34.0	34.0	34.0	89.4	89.4	89.4	34.0	34.0	34.0	32.0	32.0	32.0	47.3
1949	32.0	25.4	34.0	89.4	89.4	74.0	34.0	34.0	32.0	32.0	32.0	32.0	45.0
1950	34.0	34.0	60.2	89.4	89.4	69.3	34.0	34.0	34.0	34.0	34.0	34.0	50.0
1951	34.0	34.0	82.3	89.4	89.4	89.4	36.9	34.0	34.0	34.0	56.6	47.5	55.1
1952	42.6	66.3	89.4	89.4	89.4	86.6	35.5	34.0	34.0	34.0	32.0	32.0	55.4
1953	34.0	34.0	34.0	89.4	89.4	89.4	40.5	34.0	34.0	34.0	34.0	34.0	48.4
1954	34.0	34.0	89.4	89.4	89.4	89.4	58.7	34.0	34.0	34.0	34.0	33.9	54.5
1955	34.0	34.0	34.0	89.4	89.4	37.4	34.0	34.0	32.0	32.0	30.5	27.6	42.4
1956	27.4	34.0	34.0	89.4	89.4	89.4	34.1	34.0	34.0	34.0	33.0	34.0	47.2
1957	34.0	41.6	89.4	89.4	89.4	89.4	50.1	34.0	34.0	34.0	32.0	34.0	54.3
1958	34.0	34.0	56.3	89.4	89.4	89.4	66.1	34.0	34.0	34.0	32.0	32.0	52.0
1959	34.0	34.0	34.0	89.4	89.4	89.4	36.0	34.0	34.0	34.0	34.0	34.0	48.0
1960	34.0	40.0	89.4	89.4	89.4	89.4	47.2	34.0	34.0	34.0	32.0	32.0	53.7
1961	31.2	21.2	34.0	89.4	46.9	76.2	34.0	32.0	32.0	32.0	28.9	32.0	40.8
1962	34.0	34.0	89.4	89.4	89.4	89.1	34.0	34.0	32.0	32.0	32.0	32.0	51.8
1963	34.0	34.0	95.3	89.4	89.4	89.4	84.4	34.0	34.0	34.0	34.0	46.8	57.4
1964	34.0	34.0	89.4	89.4	89.4	89.4	39.4	34.0	34.0	34.0	32.0	34.0	52.8
1965	34.0	34.0	89.4	89.4	89.4	89.4	45.5	34.0	34.0	34.0	41.7	42.4	54.8
1966	51.6	57.9	89.4	89.4	89.4	81.9	49.7	34.0	34.0	32.0	32.0	32.0	56.3
1967	27.3	22.0	34.0	89.4	89.4	89.4	89.4	69.6	34.0	34.0	34.0	78.1	58.5
1968	47.6	44.3	89.4	89.4	89.4	89.4	41.6	34.0	34.0	34.0	33.6	32.0	55.1
MEAN	36.4	37.4	66.4	89.4	87.4	82.3	44.0	35.1	33.7	33.6	36.2	38.4	51.9

OVERFLOW IN CURRENT MONTH AT AKKOY DIVERSION SITE (M.C.M.) -FYN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	3.2	3.1	0.0	92.1	74.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.2
1940	0.0	3.1	0.0	214.0	125.1	34.1	0.0	0.0	0.0	0.0	0.0	0.0	31.1
1941	0.0	0.0	77.2	217.4	146.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.5
1942	0.0	3.1	19.1	180.9	146.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.1
1943	0.0	0.0	0.0	132.1	130.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	21.9
1944	3.1	3.1	27.7	92.1	147.2	31.7	0.0	0.0	0.0	0.0	0.0	0.0	24.9
1945	0.0	3.1	0.0	114.4	144.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.6
1946	0.1	3.1	0.0	114.1	146.7	27.3	0.0	0.0	0.0	0.0	0.0	0.0	23.9
1947	0.0	0.1	59.1	44.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6
1948	0.1	3.1	0.1	121.1	139.3	24.4	0.0	0.0	0.0	0.0	0.0	0.0	23.8
1949	0.0	0.1	0.0	104.1	174.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2
1950	0.1	0.1	0.1	153.0	126.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.3
1951	0.1	3.1	0.0	45.0	96.1	10.7	0.0	0.0	0.0	0.0	0.0	0.0	12.1
1952	0.1	3.1	13.4	180.9	96.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.2
1953	0.0	3.1	0.0	107.4	130.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0	20.5
1954	0.1	3.1	49.1	179.7	181.0	47.4	0.0	0.1	0.0	0.0	0.0	0.0	37.7
1955	0.1	3.1	0.0	21.1	22.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7
1956	0.0	3.1	0.1	130.1	96.6	11.1	0.0	0.0	0.0	0.0	0.0	0.0	16.7
1957	0.1	3.1	74.7	134.4	96.6	25.8	0.0	0.0	0.0	0.0	0.0	0.0	22.6
1958	3.1	3.1	0.1	117.0	93.6	10.1	0.0	0.1	0.0	0.0	0.0	0.0	14.0
1959	0.0	3.1	0.0	75.6	80.1	17.6	0.0	0.0	0.0	0.0	0.0	0.0	14.4
1960	3.1	3.1	92.5	230.5	152.1	6.4	0.0	0.1	0.0	0.0	0.0	0.0	34.3
1961	0.1	0.1	0.0	56.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5
1962	3.1	3.1	64.4	89.4	132.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	22.0
1963	0.1	0.1	3.0	172.1	141.0	129.4	0.0	0.1	0.0	0.0	0.0	0.0	37.0
1964	3.1	0.1	47.4	36.1	201.0	75.4	0.0	0.0	0.0	0.0	0.0	0.0	32.4
1965	0.1	3.1	0.1	132.1	113.9	45.7	0.1	0.0	0.0	0.0	0.0	0.0	29.3
1966	0.1	3.1	81.1	143.5	206.4	0.0	0.0	0.1	0.0	0.0	0.0	0.0	36.1
1967	0.1	3.1	0.1	135.2	102.7	28.8	1.4	0.0	0.0	0.0	0.0	0.0	27.4
1968	0.1	3.1	45.0	176.4	256.1	26.3	0.0	0.1	0.0	0.0	0.0	0.0	58.7
MEAN	0.1	2.1	14.	111.1	124.5	18.7	0.0	0.1	0.0	0.0	0.0	0.0	24.2

ENERGY PRODUCTION IN CURRENT MONTH AT AKKOY STATION (M.W.H.) - FYN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	10756.7	10756.7	10756.7	28283.8	28283.8	20412.5	11696.7	10756.7	10756.7	10756.7	11060.4	14626.0	14908.6
1940	13737.1	19411.0	27549.3	28283.8	28283.8	28283.8	19203.7	10756.7	10756.7	11247.1	16701.4	19321.0	19511.0
1941	15231.2	24535.1	28283.8	28283.8	28283.8	23979.4	13822.4	10756.7	10756.7	10756.7	18561.7	13635.7	19013.0
1942	13736.9	16461.1	26703.3	28283.8	23283.3	23764.2	10756.7	10756.7	10756.7	10756.7	17707.5	20801.6	18307.2
1943	14704.0	13704.7	19438.3	28283.8	28283.8	28283.8	10756.7	10756.7	10756.7	10124.0	10627.0	10756.7	16296.4
1944	10756.7	10756.7	10756.7	28283.8	28283.8	28283.8	13696.8	10756.7	10756.7	10756.7	10756.7	10756.7	16844.0
1945	10756.7	10756.7	11717.5	28283.8	28283.8	27189.7	10756.7	10756.7	10756.7	10124.0	10124.0	10124.0	15022.0
1946	10756.7	10756.7	10756.7	28283.8	28283.8	28283.8	12544.2	10756.7	10756.7	11187.0	10756.7	10756.7	15323.3
1947	10756.7	11493.6	28283.8	28283.8	22756.3	14719.1	10756.7	10756.7	10124.0	10124.0	10756.7	10756.7	14972.9
1948	10756.7	10756.7	10756.7	28283.8	28283.8	28283.8	10756.7	10756.7	10756.7	10124.0	10124.0	10124.0	14980.3
1949	10124.0	9720.0	10756.7	28283.8	28283.8	23399.0	10756.7	10756.7	10124.0	10124.0	10124.0	10124.0	14240.5
1950	10756.7	10756.7	18473.6	28283.8	28283.8	21512.1	10756.7	10756.7	10756.7	10756.7	10756.7	10756.7	15826.1
1951	10756.7	10756.7	25259.6	28283.8	28283.8	28283.8	11696.9	10756.7	10756.7	10756.7	17857.3	15043.6	17440.6
1952	13431.9	20161.7	28283.8	28283.8	28283.8	27398.0	11247.1	10756.7	10756.7	10756.7	10124.0	10124.0	17529.5
1953	10756.7	10756.7	10756.7	28283.8	28283.8	28283.8	12816.3	10756.7	10756.7	10756.7	10756.7	10756.7	15310.1
1954	10756.7	10756.7	28794.6	28283.8	28283.8	28283.8	16583.8	10756.7	10756.7	10756.7	10756.7	10712.4	17247.6
1955	10756.7	10756.7	10756.7	28283.8	28283.8	11868.2	10756.7	10756.7	10124.0	10124.0	9436.8-	8728.8-	13401.1
1956	8678.1	10756.7	10756.7	28937.9	24293.8	28283.8	10785.2	10756.7	10756.7	10756.7	10434.0	10756.7	14940.7
1957	10756.7	13161.7	28283.8	28283.8	28283.8	28283.8	15840.8	10756.7	10756.7	10756.7	10124.0	10756.7	17170.4
1958	10756.7	10756.7	17811.0	28283.8	28283.8	28283.8	20915.5	10756.7	10756.7	10756.7	10124.0	10124.0	16467.5
1959	10756.7	10756.7	10756.7	28283.8	28283.8	28283.8	11383.1	10756.7	10756.7	10756.7	10756.7	10756.7	15190.7
1960	10756.7	10756.7	13662.3	28283.8	28283.8	28283.8	14936.0	10756.7	10756.7	10756.7	10124.0	10124.0	16999.0
1961	9543.0	6650.7	10756.7	28283.8	14850.6	24095.0	10756.7	10124.0	10124.0	10124.0	9136.9-	10124.0	12909.9
1962	10756.7	10756.7	25233.8	28283.8	28283.8	28283.8	10756.7	10756.7	10124.0	10124.0	10124.0	10124.0	16381.6
1963	10756.7	10756.7	27138.6	28283.8	28283.8	28283.8	26708.3	10756.7	10756.7	10756.7	10756.7	14812.6	18170.9
1964	10756.7	10756.7	28283.8	28283.8	28283.8	28283.8	12452.5	10756.7	10756.7	10756.7	10124.0	10756.7	16687.7
1965	10756.7	10756.7	28283.8	28283.8	28283.8	28283.8	14398.2	10756.7	10756.7	10756.7	13208.6	13426.9	17329.4
1966	15852.3	16717.7	28283.8	28283.8	28283.8	25501.5	15736.4	10756.7	10756.7	10124.0	10124.0	10124.0	17803.7
1967	8647.5	10415.0	10756.7	28283.8	26283.8	28283.8	28283.8	22016.5	10756.7	10756.7	10756.7	24699.3	18494.9
1968	15037.3	14834.4	28283.8	28283.8	28283.8	28283.8	13170.6	10756.7	10756.7	10756.7	10630.2	10124.0	17433.0
MEAN	11514.7	12471.8	21007.2	28283.8	27652.1	26024.4	13915.7	11110.9	10651.3	10618.7	11455.1	12153.8	16404.2

INFLOW IN CURRENT MONTH OF DOGANKENT DIVERSION SITE (M.C.M.) - QDI -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	38.5	38.2	42.6	197.0	190.9	74.9	43.2	39.7	39.5	39.8	41.1	53.9	69.9
1940	49.2	74.9	100.7	346.3	245.7	142.2	70.5	39.2	38.6	43.2	61.4	76.9	106.9
1941	56.1	95.8	193.6	344.6	269.8	86.3	50.9	39.2	38.5	40.5	69.2	50.3	111.2
1942	49.0	61.2	114.9	309.0	269.6	85.6	39.2	38.1	38.0	40.5	68.0	76.3	99.1
1943	54.5	47.2	71.0	253.8	251.6	103.6	39.7	37.9	37.8	36.1	38.6	40.3	84.3
1944	40.1	41.2	138.1	208.4	270.7	139.5	50.5	38.5	38.4	39.0	41.7	46.4	90.5
1945	39.5	39.1	44.9	233.5	267.9	99.4	39.4	37.8	37.5	39.1	36.4	36.9	79.3
1946	38.7	38.7	45.9	235.4	269.1	134.5	46.3	38.8	38.0	44.0	39.6	38.8	84.0
1947	39.7	45.5	170.5	153.6	83.4	52.8	37.9	36.9	35.5	35.7	42.6	39.6	64.5
1948	39.8	40.3	41.1	244.4	261.8	131.4	38.9	37.7	37.6	36.0	36.0	36.2	81.8
1949	35.8	29.3	42.9	132.5	302.1	85.7	38.4	37.4	35.8	35.9	35.9	36.0	70.6
1950	44.4	43.4	94.1	318.1	246.8	80.3	39.4	37.9	37.7	40.4	39.9	39.4	88.5
1951	39.7	39.1	99.5	158.1	201.4	115.6	43.2	38.1	38.6	41.5	66.8	55.4	78.1
1952	49.7	76.5	118.6	308.9	213.2	100.1	41.6	38.2	37.9	38.1	36.5	37.0	91.4
1953	38.6	40.3	42.1	229.8	252.2	111.7	47.3	38.1	38.6	38.8	39.1	40.4	79.8
1954	40.7	41.5	161.3	302.4	307.9	157.6	68.2	38.6	38.3	38.2	38.4	38.7	106.0
1955	39.4	40.4	44.2	128.9	129.4	43.7	37.3	37.0	34.9	35.3	34.1	32.4	53.1
1956	32.2	41.8	43.3	222.3	205.4	116.0	39.9	37.7	38.5	38.2	40.7	44.7	75.1
1957	38.6	50.8	131.6	263.4	202.6	131.9	55.9	37.0	36.7	38.7	37.6	39.8	88.7
1958	39.0	41.0	71.5	243.7	154.4	115.8	84.5	39.6	40.5	38.1	36.1	36.7	78.4
1959	38.8	38.3	46.1	191.7	194.6	123.5	42.1	38.4	38.1	39.5	40.1	39.5	72.6
1960	39.8	49.9	129.1	365.4	276.3	110.6	55.0	39.3	38.9	36.4	34.4	35.8	100.9
1961	34.0	24.5	43.0	189.6	59.9	88.4	39.2	33.9	36.8	34.8	34.4	45.0	55.3
1962	40.0	40.5	151.3	206.3	251.9	101.1	37.2	35.6	35.4	40.4	39.5	36.9	84.7
1963	41.1	40.7	96.2	275.3	288.6	247.8	92.6	38.6	40.5	41.1	41.4	53.4	108.1
1964	37.2	37.5	136.6	210.0	236.5	184.6	44.2	36.6	38.7	38.5	36.3	40.3	98.3
1965	39.9	38.8	109.5	321.8	232.2	155.4	53.0	39.4	37.2	41.9	49.5	49.5	97.3
1966	68.1	61.5	195.9	267.0	340.0	94.7	57.9	38.0	37.7	34.7	34.6	35.6	105.5
1967	31.9	38.5	44.5	229.8	322.3	136.2	104.9	80.7	37.7	40.0	38.6	93.2	99.9
1968	55.4	54.6	155.7	529.6	393.9	133.3	48.6	38.0	37.7	38.9	38.1	35.9	130.0
MEAN	42.3	46.4	97.3	254.0	243.1	116.1	50.9	39.4	37.9	38.8	42.2	45.0	87.8

DISCHARGE FOR POWER IN CURRENT MONTH OF DOGANKENT POWER STATION (M.C.M.) - QDN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	38.5	38.2	42.6	118.4	118.4	74.9	43.2	39.7	39.5	39.8	41.1	53.9	57.3
1940	49.2	74.9	100.7	118.4	118.4	118.4	70.5	39.2	38.6	43.2	61.4	76.9	75.3
1941	56.1	95.8	118.4	118.4	118.4	86.3	50.9	39.2	38.5	40.5	69.2	50.3	73.5
1942	49.0	61.2	114.9	118.4	118.4	85.6	39.2	38.1	38.0	40.5	68.0	76.3	70.6
1943	54.5	47.2	71.0	118.4	118.4	103.6	39.7	37.9	37.8	36.1	38.6	40.3	62.0
1944	40.1	41.2	118.4	118.4	118.4	118.4	50.5	38.5	38.4	39.0	41.7	40.4	66.9
1945	39.5	39.1	44.9	118.4	118.4	99.4	39.4	37.8	37.5	39.1	36.4	36.9	57.2
1946	38.7	38.7	45.9	118.4	118.4	118.4	46.3	38.8	38.0	44.0	39.6	38.8	60.3
1947	39.7	45.5	118.4	118.4	83.4	52.8	37.9	36.9	35.5	35.7	42.6	39.6	57.2
1948	39.8	40.3	41.1	118.4	118.4	118.4	38.9	37.7	37.6	36.0	36.0	36.2	58.2
1949	35.8	29.3	42.9	118.4	118.4	85.7	38.4	37.4	35.8	35.9	35.9	36.0	54.2
1950	44.4	43.4	94.1	118.4	118.4	80.3	39.4	37.9	37.7	40.4	39.9	39.4	61.1
1951	39.7	39.1	99.5	118.4	118.4	115.6	43.2	38.1	38.6	41.5	66.8	55.4	67.9
1952	49.7	76.5	118.4	118.4	118.4	100.1	41.6	38.2	37.9	38.1	36.5	37.0	67.6
1953	38.6	40.3	42.1	118.4	118.4	111.7	47.3	38.1	38.6	38.8	39.1	40.4	59.3
1954	40.7	41.5	118.4	118.4	118.4	118.4	68.2	38.6	38.3	38.2	38.4	38.7	68.0
1955	39.4	40.4	44.2	118.4	118.4	43.7	37.3	37.0	34.9	35.3	34.1	32.4	51.3
1956	32.2	41.8	43.3	118.4	118.4	116.0	39.9	37.7	38.5	38.2	40.7	44.7	59.1
1957	38.6	50.8	118.4	118.4	118.4	118.4	55.9	37.0	36.7	38.7	37.6	39.8	67.4
1958	39.0	41.0	71.5	118.4	118.4	115.8	84.5	39.6	40.5	38.1	36.1	36.7	65.0
1959	38.8	38.3	46.1	118.4	118.4	118.4	42.1	38.4	38.1	39.5	40.1	39.5	59.7
1960	39.8	49.9	118.4	118.4	118.4	110.6	55.0	39.3	38.9	36.4	34.4	35.8	66.3
1961	34.0	24.5	43.0	118.4	59.9	88.4	39.2	33.9	36.8	34.8	34.4	45.0	49.4
1962	40.0	40.5	118.4	118.4	118.4	101.1	37.2	35.6	35.4	40.4	39.5	36.9	63.5
1963	41.1	40.7	96.2	118.4	118.4	118.4	92.6	38.6	40.5	41.1	41.4	53.4	70.1
1964	37.2	37.5	118.4	118.4	118.4	118.4	44.2	36.6	38.7	38.5	36.3	40.3	65.4
1965	39.9	38.8	109.5	118.4	118.4	118.4	53.0	39.4	37.2	41.9	49.5	49.5	67.8
1966	68.1	61.5	118.4	118.4	118.4	94.7	57.9	38.0	37.7	34.7	34.6	35.6	68.2
1967	31.9	38.5	44.5	118.4	118.4	118.4	104.9	80.7	37.7	40.0	38.6	93.2	72.1
1968	55.4	54.6	118.4	118.4	118.4	118.4	48.6	38.0	37.7	38.9	38.1	35.9	68.4
MEAN	42.3	46.4	87.7	118.4	115.3	102.9	50.9	39.4	37.9	38.8	42.2	45.0	63.7

OVERFLOW IN CURRENT MONTH OF DOGANKENT DIVERSION SITE (M.C.M.) - FDN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	0.0	0.0	0.0	79.6	72.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.6
1940	0.0	0.0	0.0	227.9	127.3	23.8	0.0	0.0	0.0	0.0	0.0	0.0	31.6
1941	0.0	0.0	75.2	226.2	151.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.7
1942	0.0	0.0	0.0	190.6	151.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.5
1943	0.0	0.0	0.0	135.4	133.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.4
1944	0.0	0.0	19.7	90.0	152.3	21.1	0.0	0.0	0.0	0.0	0.0	0.0	23.6
1945	0.0	0.0	0.0	115.1	149.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.0
1946	0.0	0.0	0.0	117.0	150.7	16.1	0.0	0.0	0.0	0.0	0.0	0.0	23.6
1947	0.0	0.0	52.1	35.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3
1948	0.0	0.0	0.0	126.0	143.4	13.0	0.0	0.0	0.0	0.0	0.0	0.0	23.5
1949	0.0	0.0	0.0	14.1	133.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.5
1950	0.0	0.0	0.0	139.7	128.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.3
1951	0.0	0.0	0.0	39.7	83.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.2
1952	0.0	0.0	0.2	190.5	94.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.8
1953	0.0	0.0	0.0	111.4	133.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.4
1954	0.0	0.0	42.9	194.0	189.5	39.2	0.0	0.0	0.0	0.0	0.0	0.0	38.0
1955	0.0	0.0	0.0	10.5	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8
1956	0.0	0.0	0.0	103.9	87.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.9
1957	0.0	0.0	13.2	144.0	84.2	13.5	0.0	0.0	0.0	0.0	0.0	0.0	21.3
1958	0.0	0.0	0.0	125.3	36.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.4
1959	0.0	0.0	0.0	73.3	76.2	5.1	0.0	0.0	0.0	0.0	0.0	0.0	12.9
1960	0.0	0.0	10.7	247.0	157.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.6
1961	0.0	0.0	0.0	71.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9
1962	0.0	0.0	32.9	87.9	133.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.2
1963	0.0	0.0	0.0	156.9	170.2	129.4	0.0	0.0	0.0	0.0	0.0	0.0	38.0
1964	0.0	0.0	19.2	91.6	218.1	66.2	0.0	0.0	0.0	0.0	0.0	0.0	32.8
1965	0.0	0.0	0.0	203.4	113.8	37.0	0.0	0.0	0.0	0.0	0.0	0.0	29.5
1966	0.0	0.0	72.5	148.6	221.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.3
1967	0.0	0.0	0.0	111.4	203.9	17.8	0.0	0.0	0.0	0.0	0.0	0.0	27.8
1968	0.0	0.0	37.3	411.2	275.5	14.9	0.0	0.0	0.0	0.0	0.0	0.0	61.6
MEAN	0.0	0.0	12.7	135.6	127.8	13.2	0.0	0.0	0.0	0.0	0.0	0.0	24.1

ENERGY PRODUCTION IN CURRENT MONTH AT DOGANKENT POWER STATION (M.W.H.) - PDY -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	16613.1	16517.7	18423.8	51156.3	51156.3	32349.7	18664.7	17165.0	17063.7	17200.3	17775.3	23271.4	24779.8
1940	21239.9	32354.0	43508.7	51156.3	51156.3	51156.3	30451.5	16555.2	16688.6	18658.0	26530.7	30639.4	32541.2
1941	24220.5	41411.0	51156.3	51156.3	51156.3	37306.4	22006.5	16921.6	16627.4	17509.8	29907.4	21714.7	31757.8
1942	21178.7	26437.1	49646.2	51156.3	51156.3	36969.7	16957.4	16473.7	16424.7	17499.9	29388.1	32958.2	30520.5
1943	23538.8	29392.5	30662.7	51156.3	51156.3	44778.6	17163.9	16391.6	16344.8	15605.7	16684.9	17419.5	26774.6
1944	17316.5	17804.9	51156.3	51156.3	51156.3	51156.3	21808.9	16651.1	16603.2	16851.1	18021.9	17437.6	28926.7
1945	17060.9	16899.0	19410.8	51156.3	51156.3	42943.5	17027.9	16352.5	16220.2	16908.3	15742.9	15940.1	24734.9
1946	16706.7	16700.7	19818.6	51156.3	51156.3	51156.3	19997.2	16756.3	16405.4	19022.4	17091.7	16755.8	28060.3
1947	17186.7	19648.6	51156.3	51156.3	36033.7	22791.6	16390.0	15964.5	15347.9	15427.7	18391.9	17096.2	24714.3
1948	17190.4	17394.7	17751.0	51156.3	51156.3	51156.3	16800.9	16280.3	16256.6	15551.7	15541.3	15625.0	25155.1
1949	15487.8	12650.7	18548.8	51156.3	51156.3	37021.1	16583.9	16162.4	15454.8	15503.3	15490.0	15571.0	23398.9
1950	19199.5	18746.4	40659.1	51156.3	51156.3	34695.4	17011.3	16389.4	16273.7	17466.9	17223.4	17014.7	28416.0
1951	17140.8	16885.8	42986.5	51156.3	51156.3	49544.5	18445.7	16460.5	16677.0	17918.9	28851.5	23929.2	29312.8
1952	21484.6	33033.4	51156.3	51156.3	51156.3	43270.5	17953.2	16507.8	16379.5	16440.1	15763.3	15975.4	29189.7
1953	16666.6	17391.3	18190.4	51156.3	51156.3	48256.1	20425.5	16472.0	16661.0	16756.3	16875.9	17455.3	25621.9
1954	17599.0	17949.2	51156.3	51156.3	51156.3	51156.3	29481.4	16696.3	16535.4	16511.2	16581.7	16735.0	29392.9
1955	17011.9	17450.3	19084.9	51156.3	51156.3	18900.2	16097.3	15980.5	15099.8	15236.0	14728.8	13979.7	22156.8
1956	13903.9	18054.6	18698.5	51156.3	51156.3	50122.0	17227.1	16273.7	16615.8	16494.1	17581.9	19327.5	25551.1
1957	16670.9	21952.0	51156.3	51156.3	51156.3	51156.3	24162.7	15997.4	15865.1	16716.0	16254.6	17205.7	29120.8
1958	16832.7	17727.4	30898.4	51156.3	51156.3	50612.4	36496.0	17100.5	17512.2	16475.9	15596.3	15836.0	28066.7
1959	16772.9	16530.4	19905.6	51156.3	51156.3	51156.3	18169.8	16577.8	16440.7	17049.4	17306.6	17057.0	25773.3
1960	17202.5	21544.5	51156.3	51156.3	51156.3	47803.6	23759.7	16976.6	16827.9	15744.1	14880.8	15480.8	28640.8
1961	14693.7	10589.4	18594.8	51156.3	25866.1	38207.9	16944.9	14625.6	15879.4	15029.9	14876.0	19442.2	21325.5
1962	17294.0	17477.2	51156.3	51156.3	51156.3	43684.6	16086.2	15392.0	15303.5	17436.5	17082.3	15937.2	27430.2
1963	17758.9	17593.1	41583.4	51156.3	51156.3	51156.3	40009.4	16669.0	17478.1	17756.6	17887.4	23076.4	30273.4
1964	16067.5	17650.0	51156.3	51156.3	51156.3	51156.3	19114.2	15806.5	16726.9	16648.9	15665.6	17432.2	28261.8
1965	17225.1	16767.3	47326.9	51156.3	51156.3	51156.3	22914.0	17011.3	16080.3	18085.2	21368.7	21385.5	29302.8
1966	29434.3	26554.0	51156.3	51156.3	51156.3	40934.6	25014.2	16422.4	16291.3	14978.0	14929.5	15381.5	29450.7
1967	13765.9	16642.2	19241.8	51156.3	51156.3	51156.3	45326.8	34859.5	16270.4	17289.5	16673.7	40256.8	31149.5
1968	23919.4	23590.8	51156.3	51156.3	51156.3	51156.3	20985.9	16435.1	16309.5	16812.5	16457.4	15512.0	29554.0
MEAN	19278.8	20058.0	36589.7	51156.2	49805.1	44462.2	21989.2	17024.3	16355.5	16752.8	18238.5	19428.3	27510.8

INFLOW IN CURRENT MONTH OF ASLANCIK DIVERSION SITE (M.C.M.) - QLI -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	39.3	38.1	44.2	202.3	196.0	76.9	44.3	40.7	40.5	40.9	42.2	55.3	71.8
1940	50.5	74.3	103.4	355.6	252.3	146.0	72.4	40.1	39.4	44.6	63.0	72.8	109.8
1941	57.6	98.3	199.3	353.9	277.0	88.4	52.2	40.1	39.3	41.7	71.2	51.6	114.2
1942	50.3	62.9	119.0	317.3	276.8	87.9	40.1	38.8	38.7	41.7	70.3	78.3	101.8
1943	55.9	69.4	72.9	260.6	258.3	106.4	40.7	38.6	38.5	36.8	39.5	41.5	86.5
1944	41.2	42.5	142.4	214.0	278.0	143.2	51.8	39.3	39.2	39.9	43.1	41.6	93.0
1945	40.5	40.0	46.4	239.8	275.1	102.0	40.4	38.5	38.1	40.0	37.2	37.8	81.3
1946	39.5	39.5	43.2	242.1	276.3	138.1	47.5	39.7	38.7	45.6	40.6	39.7	86.3
1947	40.7	46.9	175.1	157.7	85.6	54.2	38.6	37.4	36.1	36.3	44.2	40.6	66.1
1948	40.9	41.4	42.4	251.6	268.9	134.9	39.8	38.3	38.2	36.7	36.7	36.9	83.9
1949	36.5	39.1	44.6	137.4	310.2	88.0	39.2	38.0	36.5	36.6	36.6	36.7	72.5
1950	46.4	44.2	96.3	326.6	253.4	82.4	40.4	38.6	38.3	41.6	41.0	40.4	90.9
1951	40.7	40.3	103.0	162.2	206.8	118.7	44.3	38.8	39.4	42.9	68.8	56.9	80.2
1952	51.0	78.5	121.8	317.2	218.9	102.8	42.7	38.9	38.6	38.8	37.3	37.9	93.7
1953	39.4	41.4	43.6	234.8	259.0	114.7	48.5	38.8	39.4	39.7	40.0	41.6	81.9
1954	41.9	42.1	165.8	310.5	316.2	161.8	70.0	39.4	39.1	38.9	39.2	39.6	108.8
1955	40.4	41.5	44.1	132.6	132.8	44.9	37.9	37.5	35.4	35.9	34.7	33.3	54.4
1956	33.9	43.3	45.1	225.2	210.9	119.1	41.0	38.3	39.3	38.9	41.6	46.1	77.1
1957	39.5	57.9	135.1	270.3	209.0	135.4	57.4	37.8	37.3	39.5	39.4	40.8	91.0
1958	40.0	42.3	74.3	260.0	158.4	118.9	86.5	40.4	41.2	38.8	36.8	37.5	80.4
1959	39.7	39.1	48.4	137.3	139.8	126.8	43.2	39.2	38.8	40.5	41.2	40.5	74.5
1960	49.3	51.3	132.5	325.2	283.7	113.5	56.5	40.3	39.8	36.9	34.9	36.4	103.5
1961	34.5	35.1	44.9	195.7	61.3	90.7	39.9	34.2	37.2	35.2	35.3	46.9	56.8
1962	41.2	41.9	154.1	211.8	258.7	103.8	38.1	36.1	35.9	41.2	40.4	37.9	86.9
1963	42.8	42.4	98.3	282.7	296.3	254.5	95.2	39.6	41.4	42.2	42.5	55.0	111.1
1964	37.9	40.3	140.9	215.4	345.4	189.7	45.4	37.3	39.4	39.3	37.1	41.5	100.8
1965	41.0	37.7	113.5	330.4	238.4	159.5	54.4	40.4	37.8	43.4	50.9	50.8	100.0
1966	69.7	63.1	291.1	274.2	349.1	97.2	59.4	39.7	38.3	35.2	35.0	36.2	108.1
1967	32.7	39.5	46.5	237.1	331.7	139.8	107.7	82.8	38.3	41.1	39.4	96.2	102.7
1968	56.9	56.0	159.9	543.9	404.5	136.9	49.9	38.7	38.4	39.8	38.9	36.6	133.4
MEAN	43.4	47.3	100.3	261.1	249.6	119.2	52.2	40.2	38.6	39.7	43.3	46.2	90.1

DISCHARGE FOR POWER IN CURRENT MONTH OF ASLANCIK POWER STATION (M.C.M.) - QLN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	39.3	33.9	44.2	118.4	118.4	76.9	44.3	40.7	40.5	40.9	42.2	55.3	58.3
1940	50.5	76.3	103.4	118.4	118.4	118.4	72.4	40.1	39.4	44.6	63.0	72.8	76.5
1941	57.6	94.3	118.4	118.4	118.4	88.6	52.2	40.1	39.3	41.7	71.2	51.6	74.6
1942	50.3	62.3	118.0	118.4	118.4	87.9	40.1	38.8	38.7	41.7	70.3	78.3	72.0
1943	55.9	68.4	72.9	118.4	118.4	106.4	40.7	38.6	38.5	36.8	39.5	41.5	63.0
1944	41.2	42.5	118.4	118.4	118.4	118.4	51.8	39.3	39.2	39.9	43.1	41.6	67.7
1945	40.5	40.0	46.4	118.4	118.4	102.0	40.4	38.5	38.1	40.0	37.2	37.8	58.1
1946	39.5	39.5	48.2	118.4	118.4	118.4	47.5	39.7	38.7	45.6	40.6	39.7	61.2
1947	40.7	46.9	118.4	118.4	85.6	54.2	38.6	37.4	36.1	36.3	44.2	40.6	58.1
1948	40.9	41.4	42.4	118.4	118.4	118.4	39.8	38.3	38.2	36.7	36.7	36.9	58.9
1949	36.5	39.1	44.6	118.4	118.4	88.0	39.2	38.0	36.5	36.6	36.6	36.7	55.0
1950	46.4	44.2	96.8	118.4	118.4	82.4	40.4	38.6	38.3	41.6	41.0	40.4	62.3
1951	40.7	40.3	103.0	118.4	118.4	118.4	44.3	38.8	39.4	42.9	68.8	56.9	69.2
1952	51.0	78.5	118.4	118.4	118.4	102.8	42.7	38.9	38.6	38.8	37.3	37.9	68.5
1953	39.4	41.4	43.6	118.4	118.4	114.7	48.5	38.8	39.4	39.7	40.0	41.6	60.3
1954	41.9	42.9	118.4	118.4	118.4	118.4	70.0	39.4	39.1	38.9	39.2	39.6	68.7
1955	40.4	41.6	46.1	118.4	118.4	44.9	37.9	37.5	35.4	35.9	34.7	33.3	52.0
1956	33.0	43.3	45.1	118.4	118.4	118.4	41.0	38.3	39.3	38.9	41.6	46.1	60.1
1957	39.5	52.9	118.4	118.4	118.4	118.4	57.4	37.8	37.3	39.5	38.4	40.8	68.1
1958	40.0	42.3	74.3	118.4	118.4	118.4	86.5	40.4	41.2	38.8	36.8	37.5	66.1
1959	39.7	39.1	48.4	118.4	118.4	118.4	43.2	39.2	38.8	40.5	41.2	40.5	60.5
1960	49.3	51.3	118.4	118.4	118.4	113.5	56.5	40.3	39.8	36.9	34.9	36.4	67.2
1961	34.5	25.2	44.9	118.4	61.3	90.7	39.9	34.2	37.2	35.2	35.3	46.9	50.3
1962	41.2	41.9	118.4	118.4	118.4	103.8	38.1	36.1	35.9	41.2	40.4	37.9	64.3
1963	42.8	42.4	98.8	118.4	118.4	118.4	95.2	39.6	41.4	42.2	42.5	55.0	71.3
1964	37.9	40.8	118.4	118.4	118.4	118.4	45.4	37.3	39.4	39.3	37.1	41.5	66.0
1965	41.0	39.7	113.5	118.4	118.4	118.4	54.4	40.4	37.8	43.4	50.9	50.8	68.9
1966	69.9	63.1	118.4	118.4	118.4	97.2	59.4	39.7	38.3	35.2	35.0	36.2	69.0
1967	32.7	39.5	46.5	118.4	118.4	118.4	107.7	82.8	38.3	41.1	39.4	96.2	73.3
1968	56.9	56.0	118.4	118.4	118.4	118.4	49.9	38.7	38.4	39.8	38.9	36.6	69.1
MEAN	43.4	47.8	86.1	118.4	115.4	104.3	52.2	40.2	38.6	39.7	43.3	46.2	64.6

OVERFLOW IN CURRENT MONTH OF ASLANCIK DIVERSION SITE (M.C.M.) - PLN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	0.0	0.0	0.0	83.9	77.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.5
1940	0.0	0.0	0.0	237.2	133.9	27.6	0.0	0.0	0.0	0.0	0.0	0.0	33.2
1941	0.0	0.0	80.4	235.5	158.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.5
1942	0.0	0.0	0.0	198.9	158.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.8
1943	0.0	0.0	20.0	142.2	139.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.5
1944	0.0	0.0	24.0	95.6	159.6	24.8	0.0	0.0	0.0	0.0	0.0	0.0	25.3
1945	0.0	0.0	0.0	121.4	156.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.2
1946	0.0	0.0	0.0	123.7	157.9	19.7	0.0	0.0	0.0	0.0	0.0	0.0	25.1
1947	0.0	0.0	56.7	39.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0
1948	0.0	0.0	0.0	133.2	150.4	16.5	0.0	0.0	0.0	0.0	0.0	0.0	25.0
1949	0.0	0.0	0.0	19.0	191.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.6
1950	0.0	0.0	0.0	208.2	135.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.6
1951	0.0	0.0	0.0	43.9	88.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	11.0
1952	0.0	0.0	2.4	198.8	100.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.2
1953	0.0	0.0	0.0	118.4	140.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.6
1954	0.0	0.0	47.4	197.1	197.8	43.4	0.0	0.0	0.0	0.0	0.0	0.0	40.1
1955	0.0	0.0	0.0	14.2	14.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4
1956	0.0	0.0	0.0	119.8	92.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	17.0
1957	0.0	0.0	16.7	151.9	89.6	17.0	0.0	0.0	0.0	0.0	0.0	0.0	22.9
1958	0.0	0.0	0.0	131.6	40.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	14.3
1959	0.0	0.0	0.0	73.9	31.4	8.4	0.0	0.0	0.0	0.0	0.0	0.0	14.1
1960	0.0	0.0	14.1	256.6	165.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.3
1961	0.0	0.0	0.0	77.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4
1962	0.0	0.0	37.7	93.4	140.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.6
1963	0.0	0.0	0.0	164.3	177.9	136.1	0.0	0.0	0.0	0.0	0.0	0.0	39.9
1964	0.0	0.0	21.9	97.0	227.0	71.3	0.0	0.0	0.0	0.0	0.0	0.0	34.8
1965	0.0	0.0	0.0	217.0	120.0	41.1	0.0	0.0	0.0	0.0	0.0	0.0	31.1
1966	0.0	0.0	32.7	155.8	230.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.1
1967	0.0	0.0	0.0	118.7	212.6	21.4	0.0	0.0	0.0	0.0	0.0	0.0	29.4
1968	0.0	[illegible]	41.5	425.5	286.1	18.5	0.0	0.0	0.0	0.0	0.0	0.0	64.3
MEAN	[illegible]	[illegible]	14.2	142.7	134.2	14.9	0.0	0.0	0.0	0.0	0.0	0.0	25.5

ENERGY PRODUCTION IN CURRENT MONTH AT ASLANCIK POWER STATION (M.W.H.) - PLN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	[illegible]	[illegible]	13469.4	27934.2	27954.2	18149.6	10459.0	9615.9	9560.5	9658.8	9973.0	13047.1	13773.0
1940	11915.4	[illegible]	24412.7	27954.2	27954.2	27954.2	17088.8	9477.6	9308.3	10526.2	14875.4	17191.4	18067.4
1941	[illegible]	[illegible]	27954.2	27954.2	27954.2	20929.1	12332.4	9459.3	9274.9	9851.5	16815.0	12172.9	17625.5
1942	[illegible]	[illegible]	[illegible]	27954.2	27954.2	20745.1	9478.8	9167.3	9140.5	9846.1	16607.1	18482.1	16994.6
1943	[illegible]	[illegible]	[illegible]	27954.2	27954.2	25130.3	9615.3	9122.4	9096.9	8693.0	5329.9	9802.2	14876.9
1944	[illegible]	[illegible]	[illegible]	27954.2	27954.2	27954.2	12224.4	9287.8	9261.6	9420.7	10178.6	9812.1	15980.1
1945	[illegible]	[illegible]	[illegible]	27954.2	27954.2	24080.3	9541.0	9101.0	9005.2	9452.0	8791.6	8922.9	13730.8
1946	[illegible]	[illegible]	[illegible]	27954.2	27954.2	27954.2	11210.8	9369.9	9130.0	10772.5	9575.8	9368.6	14441.3
1947	[illegible]	[illegible]	[illegible]	27954.2	20210.5	12785.0	9121.5	8841.8	8528.5	8572.1	10428.0	9578.3	13721.5
1948	[illegible]	[illegible]	[illegible]	27954.2	27954.2	27954.2	9393.3	9038.0	9025.0	8663.5	8657.8	8703.5	13897.4
1949	[illegible]	[illegible]	[illegible]	27954.2	27954.2	20773.2	9251.1	8573.6	8610.5	8637.0	8625.8	8674.0	12975.1
1950	[illegible]	[illegible]	[illegible]	27954.2	27954.2	19455.1	9531.9	9121.2	9034.4	9828.1	9671.4	9533.7	14714.4
1951	[illegible]	[illegible]	[illegible]	27954.2	27954.2	27954.2	10448.6	9160.1	[illegible]	10122.3	16238.0	13430.2	16326.9
1952	[illegible]	[illegible]	[illegible]	27954.2	27954.2	24282.5	10070.2	9166.0	9115.8	9148.9	8802.7	8942.2	16165.1
1953	[illegible]	[illegible]	[illegible]	27954.2	27954.2	27077.8	11444.8	9166.4	9293.2	9368.9	9434.3	9821.7	14239.1
1954	[illegible]	[illegible]	[illegible]	27954.2	27954.2	27954.2	16535.0	9212.5	9224.6	9187.8	9249.9	9357.3	16226.9
1955	[illegible]	[illegible]	[illegible]	27954.2	27954.2	10611.3	8938.0	8650.4	8369.3	8467.3	8190.2	7851.7	12284.6
1956	[illegible]	[illegible]	[illegible]	27954.2	27954.2	27954.2	9673.4	9034.4	9266.6	9178.4	9820.1	10892.0	14198.3
1957	[illegible]	[illegible]	[illegible]	27954.2	27954.2	27954.2	13557.8	8930.7	8811.1	9323.3	9071.2	9638.1	16080.2
1958	[illegible]	[illegible]	[illegible]	27954.2	27954.2	27554.2	20415.4	9533.4	5734.8	9168.5	8687.9	8842.4	15601.6
1959	[illegible]	[illegible]	1620.4	27334.2	27954.2	27954.2	13188.5	9247.8	9149.2	9552.7	9716.9	9556.9	14274.6
1960	[illegible]	[illegible]	[illegible]	27354.2	27954.2	26806.9	13337.6	9512.5	9408.1	8721.4	8249.6	8601.1	15865.1
1961	[illegible]	[illegible]	[illegible]	7354.2	14465.6	21421.6	9424.8	8563.0	8771.7	8307.5	8341.9	11072.8	11877.6
1962	[illegible]	[illegible]	[illegible]	27954.2	27954.2	24508.8	9092.9	8529.0	8480.6	9717.0	9547.1	8945.0	15183.9
1963	[illegible]	[illegible]	[illegible]	27954.2	27954.2	27954.2	22476.5	9344.8	9763.4	9962.7	10034.2	12987.8	16828.1
1964	[illegible]	[illegible]	[illegible]	27954.2	27954.2	27954.2	10728.2	8802.7	9305.6	9286.6	6751.5	9809.1	15589.1
1965	[illegible]	[illegible]	[illegible]	27454.2	27954.2	27954.2	12851.9	9531.9	8928.7	10236.8	12007.4	11993.0	16272.1
1966	[illegible]	[illegible]	[illegible]	27554.2	27954.2	22558.2	14023.1	9139.3	9044.0	8302.8	8252.7	8546.8	16294.0
1967	[illegible]	[illegible]	[illegible]	27454.2	27954.2	27954.2	25428.7	12544.7	9022.6	9707.5	9300.2	22706.5	17300.9
1968	[illegible]	[illegible]	[illegible]	27954.2	27954.2	27554.2	11774.6	9146.2	9077.6	9399.6	9182.0	8641.8	16307.1
MEAN	[illegible]	[illegible]	[illegible]	27954.2	27246.4	24634.3	12319.0	9487.0	9101.9	9369.4	10213.5	10897.5	15256.2

INFLOW IN CURRENT MONTH OF TIREBOLU RESERVOIR (M.C.M.) - QBI -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	40.6	[illegible]	47.1	[illegible]	204.6	89.3	46.2	42.5	42.7	42.7	44.1	57.7	74.9
1940	57.7	[illegible]	17.9	371.3	263.4	152.4	75.6	41.7	40.8	47.0	65.7	76.0	114.6
1941	[illegible]	[illegible]	277.5	[illegible]	289.7	92.5	54.5	41.7	40.6	43.7	74.6	53.8	119.2
1942	[illegible]	[illegible]	123.7	311.7	239.0	91.7	41.7	40.0	39.9	43.7	74.3	81.7	106.2
1943	53.1	[illegible]	74.1	272.1	267.7	111.1	42.5	39.6	39.6	38.0	41.0	43.5	90.2
1944	43.1	[illegible]	149.4	227.4	220.3	149.5	54.1	40.7	40.5	41.4	45.5	43.6	97.2
1945	[illegible]	[illegible]	48.9	250.4	237.2	106.5	42.1	39.6	39.1	41.6	38.5	35.3	84.8
1946	43.3	43.3	57.1	251.5	240.5	144.7	49.6	41.1	39.9	48.4	42.3	41.1	90.2
1947	42.5	[illegible]	157.8	154.4	89.2	56.6	39.8	38.3	37.1	37.4	46.9	42.3	68.9
1948	41.7	42.1	44.4	263.6	239.7	140.8	41.3	39.4	39.3	37.9	37.9	38.1	87.5
1949	37.4	[illegible]	47.5	145.7	273.9	91.8	40.5	39.0	37.6	37.8	37.7	37.9	75.7
1950	[illegible]	[illegible]	191.4	341.0	264.5	86.0	42.0	39.8	39.4	43.6	42.8	42.0	95.0
1951	42.4	41.3	178.8	169.4	215.9	123.0	46.2	40.0	40.6	45.3	72.1	59.4	83.8
1952	53.2	[illegible]	127.1	231.2	228.5	107.3	44.6	40.2	35.8	40.0	38.6	39.4	97.6
1953	40.3	43.3	44.2	248.5	270.4	119.7	50.6	40.0	40.8	41.1	41.5	43.6	85.5
1954	44.9	45.3	173.4	374.2	330.2	168.9	73.1	40.8	40.4	40.2	40.5	41.1	113.5
1955	[illegible]	43.5	43.4	133.9	138.6	46.9	38.8	38.4	36.2	36.9	35.8	34.7	56.7
1956	16.4	45.1	40.1	240.9	220.2	124.3	42.8	39.4	40.6	40.1	43.0	48.5	80.7
1957	41.1	56.5	151.0	281.9	217.1	141.4	60.0	39.1	38.4	40.8	39.8	42.5	95.0
1958	41.6	44.5	74.3	269.7	155.1	124.1	89.9	41.8	42.4	40.0	38.0	38.9	83.8
1959	[illegible]	40.4	52.4	206.7	208.6	132.4	45.1	40.5	40.0	42.2	43.1	42.2	77.9
1960	47.7	55.1	138.3	391.8	296.2	118.5	59.0	41.9	41.3	37.7	35.7	37.3	107.9
1961	35.3	24.3	49.2	206.0	63.7	94.7	41.1	34.7	37.9	35.8	36.7	50.1	59.2
1962	43.2	44.3	164.3	221.1	270.2	108.4	39.6	36.9	36.7	42.6	41.9	39.6	90.7
1963	45.4	45.8	103.3	295.3	309.3	265.8	99.6	41.2	42.8	44.1	44.4	57.7	116.2
1964	39.2	42.3	146.5	224.4	360.5	198.3	47.5	38.5	40.5	40.7	38.4	43.5	105.1
1965	42.8	41.2	170.3	345.0	248.9	166.5	56.8	42.0	38.7	45.9	53.3	53.0	104.5
1966	72.9	65.8	218.0	286.3	364.5	101.5	62.0	39.9	39.4	36.0	35.7	37.3	112.6
1967	34.1	41.2	49.9	249.4	345.6	145.9	112.4	86.4	39.4	43.0	40.8	101.3	107.4
1968	59.4	59.4	166.9	568.1	422.4	142.9	52.1	39.9	39.5	41.3	40.2	37.8	139.1
MEAN	45.3	50.1	105.4	272.9	260.5	124.5	54.4	41.5	39.7	41.2	45.0	48.2	94.1

DISCHARGE FOR POWER IN CURRENT MONTH OF TIREBOLU POWER STATION (M.C.M.) - QBN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	57.9	57.9	57.9	178.2	204.3	80.0	57.9	57.9	57.9	57.9	57.9	57.9	82.0
1940	57.9	57.9	57.9	231.4	231.4	152.1	75.3	57.9	57.9	57.9	57.9	57.9	96.1
1941	57.9	84.9	207.2	231.4	231.4	92.2	57.9	57.9	57.9	57.9	57.9	57.9	104.3
1942	57.9	57.9	84.2	231.4	231.4	91.4	57.9	57.9	57.9	57.9	57.9	57.9	91.8
1943	57.9	57.9	57.9	231.4	231.4	110.8	57.9	57.9	57.9	57.9	57.9	57.9	91.2
1944	57.9	57.9	57.9	191.3	231.4	149.2	57.9	57.9	57.9	57.9	57.9	57.9	90.3
1945	57.9	57.9	57.9	124.9	231.4	106.2	57.9	57.9	57.9	57.9	57.9	57.9	82.0
1946	57.9	57.9	57.9	103.6	231.4	143.9	57.9	57.9	57.9	57.9	57.9	57.9	83.3
1947	57.9	57.9	71.9	144.3	89.0	57.9	57.9	57.9	57.9	57.9	57.9	57.9	70.4
1948	57.9	57.9	57.9	110.4	231.4	140.5	57.9	57.9	57.9	57.9	57.9	57.9	83.6
1949	57.9	57.9	57.9	57.9	231.4	91.5	57.9	57.9	57.9	57.9	57.9	57.9	75.2
1950	57.9	57.9	57.9	231.4	231.4	85.7	57.9	57.9	57.9	57.9	57.9	57.9	89.1
1951	57.9	57.9	57.9	87.5	215.6	123.6	57.9	57.9	57.9	57.9	57.9	57.9	79.0
1952	57.9	57.9	110.0	231.4	228.7	107.0	57.9	57.9	57.9	57.9	57.9	57.9	94.1
1953	57.9	57.9	57.9	97.3	231.4	119.4	57.9	57.9	57.9	57.9	57.9	57.9	80.8
1954	57.9	57.9	57.9	231.4	231.4	168.6	72.8	57.9	57.9	57.9	57.9	57.9	97.3
1955	57.9	57.9	57.9	57.9	81.4	57.9	57.9	57.9	57.9	57.9	57.9	57.9	60.7
1956	57.9	57.9	57.9	216.5	124.0	57.9	57.9	57.9	57.9	57.9	57.9	57.9	76.6
1957	57.9	57.9	57.9	231.4	216.9	141.1	59.7	57.9	57.9	57.9	57.9	57.9	92.7
1958	57.9	57.9	57.9	160.5	144.8	123.8	89.6	57.9	57.9	57.9	57.9	57.9	83.5
1959	57.9	57.9	57.9	76.5	218.3	132.1	57.9	57.9	57.9	57.9	57.9	57.9	78.1
1960	57.9	57.9	57.9	231.4	231.4	116.2	58.7	57.9	57.9	57.9	57.9	57.9	91.9
1961	57.9	57.9	57.9	57.9	57.9	86.0	57.9	57.9	57.9	57.9	57.9	57.9	60.2
1962	57.9	57.9	57.9	145.0	231.4	109.1	57.9	57.9	57.9	57.9	57.9	57.9	87.1
1963	57.9	57.9	57.9	213.9	231.4	231.4	99.3	57.9	57.9	57.9	57.9	57.9	102.4
1964	57.9	57.9	57.9	217.2	231.4	198.0	57.9	57.9	57.9	57.9	57.9	57.9	97.3
1965	57.9	57.9	57.9	231.4	231.4	166.2	57.9	57.9	57.9	57.9	57.9	57.9	95.8
1966	57.9	57.9	172.4	231.4	231.4	101.7	61.7	57.9	57.9	57.9	57.9	57.9	100.3
1967	57.9	57.9	57.9	76.5	231.4	145.6	112.1	86.1	57.9	57.9	57.9	57.9	89.8
1968	57.9	57.9	154.6	231.4	231.4	142.6	57.9	57.9	57.9	57.9	57.9	57.9	102.3
MEAN	57.9	58.9	73.4	166.5	210.7	123.2	63.4	58.8	57.9	57.9	57.9	57.9	87.0

OVERFLOW IN CURRENT MONTH OF TIREBOLU RESERVOIR (M.C.M.) - FBN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	132.1	31.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6
1941	0.0	0.0	0.0	137.9	57.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.3
1942	0.0	0.0	0.0	77.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.1
1943	0.0	0.0	0.0	22.5	18.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1
1944	0.0	0.0	0.0	0.0	58.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9
1945	0.0	0.0	0.0	0.0	55.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6
1946	0.0	0.0	0.0	0.0	56.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7
1947	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0	49.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1
1949	0.0	0.0	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
1950	0.0	0.0	0.0	15.4	32.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0
1951	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1952	0.0	0.0	0.0	0.0	73.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3
1953	0.0	0.0	0.0	0.0	18.7	0.0	0.1	0.0	0.0	0.0	0.0	0.0	3.2
1954	0.0	0.0	0.0	43.0	78.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.6
1955	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	10.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
1958	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	134.1	44.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.8
1961	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0	33.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2
1963	0.0	0.0	0.0	0.0	77.6	34.1	0.0	0.0	0.0	0.0	0.0	0.0	9.3
1964	0.0	0.0	0.0	0.0	176.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	10.7
1965	0.0	0.0	0.0	52.9	17.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0
1966	0.0	0.0	0.0	54.7	137.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.6
1967	0.0	0.0	0.0	0.0	117.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5
1968	0.0	0.0	0.0	334.4	199.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.9
MEAN	0.0	0.0	0.0	35.7	44.1	1.2	0.1	0.0	0.0	0.0	0.0	0.0	7.1

STORAGE AT THE END OF CURRENT MONTH OF TIREBOLU RESERVOIR (M.C.M.) - VBN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	312.4	312.5	312.6	312.8	312.8	312.8	312.8	307.8	285.1	269.1	253.6	239.6	239.0	283.9
1940	312.5	312.6	312.7	312.8	312.8	312.8	312.8	312.8	298.7	279.9	267.8	275.3	293.1	286.1
1941	312.3	312.5	312.6	312.8	312.8	312.8	309.1	292.6	275.0	260.5	276.9	272.5	295.5	286.1
1942	312.3	312.4	312.6	312.8	312.8	312.8	296.9	278.7	259.9	245.4	261.5	285.0	284.9	286.1
1943	312.4	312.5	312.6	312.8	312.8	312.8	297.1	278.8	260.2	240.0	222.8	208.1	275.3	286.1
1944	312.3	312.4	312.5	312.8	312.8	312.8	308.7	291.2	273.5	256.7	244.1	225.4	265.5	286.1
1945	312.4	312.5	312.6	312.8	312.8	312.8	296.7	278.7	259.1	242.5	222.9	204.0	253.3	286.1
1946	312.4	312.5	312.6	312.8	312.8	312.8	304.2	287.1	268.7	259.0	243.0	225.9	253.8	286.1
1947	312.4	312.5	312.6	312.8	312.8	311.2	292.8	272.9	251.9	231.1	219.7	203.8	261.1	286.1
1948	312.3	312.4	312.5	312.8	312.8	312.8	295.9	277.1	256.2	237.9	217.6	197.4	245.3	286.1
1949	312.3	312.4	312.5	312.8	312.8	312.8	296.1	275.9	255.3	234.8	214.3	194.0	232.3	286.1
1950	312.2	312.3	312.5	312.7	312.8	312.8	296.6	278.2	259.4	244.8	229.4	213.1	253.3	286.1
1951	312.3	312.5	312.6	312.8	312.8	312.8	300.8	282.6	265.2	252.2	266.1	267.3	265.1	286.1
1952	312.3	312.4	312.5	312.8	312.8	312.8	299.2	281.2	262.6	244.5	224.9	206.1	276.5	286.1
1953	312.3	312.4	312.5	312.6	312.8	312.8	305.2	287.0	269.6	252.4	235.7	221.1	252.8	286.1
1954	312.3	312.4	312.5	312.8	312.8	312.8	295.4	277.6	259.6	241.9	224.8	271.7	286.1
1955	312.4	312.5	312.6	312.8	312.8	301.5	282.1	262.1	240.3	219.0	196.6	172.0	236.8	286.1
1956	312.2	312.3	312.4	312.8	312.8	297.4	278.5	260.9	242.8	227.6	217.9	239.4	286.1
1957	312.3	312.4	312.5	312.8	312.8	312.8	312.8	299.7	279.9	259.5	238.2	222.5	268.1	286.1
1958	312.4	312.5	312.6	312.8	312.8	312.8	312.8	296.4	280.6	262.4	242.2	222.9	263.9	286.1
1959	312.3	312.4	312.5	312.8	312.8	312.8	312.8	299.7	281.9	263.7	247.6	232.5	216.5	254.7	286.1
1960	312.3	312.5	312.6	312.8	312.8	312.8	312.8	296.5	279.6	259.2	236.7	215.9	268.0	286.1
1961	312.3	312.4	312.5	312.8	312.8	312.8	295.7	272.2	251.8	229.4	207.9	186.8	239.8	286.1
1962	312.3	312.4	312.5	312.8	312.8	312.8	294.2	273.0	251.5	235.8	219.6	201.0	253.9	286.1
1963	312.3	312.4	312.5	312.8	312.8	312.8	312.8	295.8	280.3	266.2	252.4	251.9	265.3	286.1
1964	312.3	312.4	312.5	312.8	312.8	312.8	302.1	282.4	264.7	247.3	227.4	212.8	269.3	286.1
1965	312.4	312.5	312.6	312.8	312.8	312.8	311.4	295.2	275.7	263.4	258.4	253.2	268.0	286.1
1966	312.4	312.5	312.6	312.8	312.8	312.8	312.8	294.5	275.7	253.5	230.9	210.0	281.0	286.1
1967	312.3	312.4	312.5	312.8	312.8	312.8	312.8	312.8	294.0	278.8	261.4	304.4	286.2	286.1
1968	312.4	312.5	312.6	312.8	312.8	312.8	306.7	288.4	269.8	252.9	234.9	214.5	285.8	286.1
MEAN	312.4	312.5	312.6	312.8	312.8	312.4	303.0	285.4	266.9	249.9	236.7	226.7	264.0	286.1

WATER SURFACE AT THE END OF CURRENT MONTH OF TIREBOLU RESERVOIR (M) - HBN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	69.6	67.7	66.5	70.0	70.0	70.0	68.7	67.0	65.3	63.6	62.1	62.0	66.9
1940	61.4	63.9	69.2	70.0	70.0	70.0	70.0	68.2	66.3	65.1	65.9	67.9	67.3
1941	66.1	70.0	70.0	70.0	70.0	70.0	69.6	67.8	65.9	64.4	66.1	65.7	68.1
1942	65.1	65.8	70.0	70.0	70.0	70.0	68.2	66.3	64.3	62.7	64.5	67.0	67.0
1943	67.1	66.2	68.1	70.0	70.0	70.0	69.3	66.3	64.3	62.2	60.3	58.2	65.9
1944	56.0	56.3	65.5	70.0	70.0	70.0	69.6	67.7	65.8	64.0	62.6	61.0	64.7
1945	[illegible]	56.5	55.1	70.0	70.0	70.0	68.3	66.3	64.2	62.4	60.3	57.6	63.3
1946	55.0	52.4	51.5	70.0	70.0	70.0	69.1	67.2	65.2	64.2	62.5	60.6	63.1
1947	58.5	57.2	70.0	70.0	70.0	69.8	67.8	65.7	63.4	61.2	60.0	57.6	64.3
1948	55.2	53.0	53.1	70.0	70.0	70.0	68.2	66.1	64.1	61.9	59.6	56.6	62.2
1949	53.5	47.4	47.6	69.7	70.0	70.0	68.1	66.0	63.8	61.6	59.1	56.1	60.5
1950	54.3	53.4	59.6	70.0	70.0	70.0	68.2	66.3	64.2	62.7	61.0	59.0	63.3
1951	56.6	54.1	61.2	70.0	70.0	70.0	68.7	66.7	64.9	63.5	65.0	65.1	64.6
1952	64.6	67.1	70.0	70.0	70.0	70.0	68.5	66.6	64.6	62.6	60.5	57.9	66.0
1953	55.3	53.1	51.3	70.0	70.0	70.0	69.2	67.2	65.3	63.5	61.7	60.1	63.1
1954	59.0	56.1	69.6	70.0	70.0	70.0	70.0	68.1	66.2	64.3	62.4	60.5	65.4
1955	59.3	56.1	54.0	64.5	70.0	68.8	66.7	64.6	62.2	59.8	56.5	53.0	61.3
1956	49.1	47.2	45.5	65.6	70.0	70.0	69.3	66.3	64.4	62.4	60.8	59.7	61.1
1957	57.2	[illegible]	66.7	70.0	70.0	70.0	70.0	67.9	65.8	63.9	62.0	60.3	65.0
1958	57.3	[illegible]	[illegible]	70.0	70.0	70.0	70.0	69.2	66.5	64.6	62.4	60.3	64.5
1959	57.9	[illegible]	54.3	70.0	70.0	70.0	68.6	66.7	64.7	63.0	61.3	59.5	63.4
1960	57.2	56.7	47.2	70.0	70.0	70.0	70.0	68.2	66.4	64.2	61.8	59.4	65.0
1961	[illegible]	[illegible]	49.6	63.5	69.1	70.0	68.2	65.6	63.4	61.0	58.2	57.0	61.5
1962	57.7	57.6	56.1	70.0	70.0	70.0	68.0	65.7	63.4	61.7	59.9	57.1	63.3
1963	55.3	[illegible]	60.3	70.0	70.0	70.0	70.0	68.2	66.5	65.0	63.5	63.4	64.6
1964	61.6	[illegible]	59.2	70.0	70.0	70.0	68.8	66.7	64.8	62.9	60.8	58.9	65.3
1965	56.5	56.1	67.4	70.0	70.0	70.0	69.8	68.1	66.0	64.7	64.1	63.6	64.9
1966	55.2	56.9	[illegible]	70.0	70.0	70.0	70.0	69.0	66.0	62.6	61.2	58.5	66.5
1967	[illegible]	[illegible]	51.1	70.0	70.0	70.0	70.0	70.0	68.0	66.3	64.5	69.1	64.7
1968	[illegible]	[illegible]	[illegible]	70.0	70.0	70.0	69.3	67.4	65.4	63.5	61.6	59.2	67.1
MEAN	[illegible]	[illegible]	[illegible]	69.5	70.0	70.0	68.9	67.0	65.0	63.2	61.7	60.4	64.5

ENERGY PRODUCTION IN CURRENT MONTH OF TIREBOLU POWER STATION (M.W.H.) - PBN -

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
1939	[illegible]	[illegible]	[illegible]	[illegible]	31727.4	12339.4	9119.4	8882.4	8651.9	8423.6	8217.2	8208.9	12734.4
1940	[illegible]	[illegible]	[illegible]	[illegible]	37150.3	24424.4	12086.0	9053.8	8796.8	9632.7	8742.1	9004.6	15067.3
1941	[illegible]	[illegible]	[illegible]	[illegible]	37150.3	14309.7	9241.0	8997.7	8778.0	8526.1	8766.7	8702.4	16495.1
1942	[illegible]	[illegible]	[illegible]	[illegible]	37150.3	14668.6	9053.8	8785.8	8516.5	8303.3	8539.8	8885.6	14326.3
1943	[illegible]	[illegible]	[illegible]	[illegible]	37150.9	17795.0	9064.7	8754.0	8520.6	8224.0	7969.7	7686.7	14087.8
1944	[illegible]	[illegible]	[illegible]	[illegible]	37150.8	23553.0	9235.6	8577.2	8717.5	8470.0	8282.8	8066.8	13760.5
1945	[illegible]	[illegible]	[illegible]	[illegible]	37151.3	17044.9	9059.2	8785.8	8504.2	9260.9	7971.1	7600.6	12245.1
1946	[illegible]	[illegible]	[illegible]	16628.4	37150.4	23058.5	9168.6	8917.1	8646.4	8502.9	8267.7	8016.2	12441.6
1947	[illegible]	[illegible]	[illegible]	[illegible]	14798.6	9271.1	9000.5	9707.9	8397.6	8091.4	7923.2	7596.5	10527.6
1948	[illegible]	[illegible]	[illegible]	7736.2	37150.8	27564.0	9046.9	9769.4	8491.9	8192.5	7878.1	7466.7	12353.0
1949	[illegible]	[illegible]	[illegible]	[illegible]	37153.8	14487.7	9034.6	8751.7	8448.2	8147.4	7812.5	7396.9	10768.6
1950	[illegible]	[illegible]	[illegible]	7151.8	37150.3	13759.3	9056.5	8785.9	8508.3	8293.7	8066.8	7787.9	13392.7
1951	[illegible]	[illegible]	[illegible]	[illegible]	34619.5	13843.0	9118.0	9950.1	8594.4	8403.1	[illegible]	8625.9	11949.2
1952	[illegible]	[illegible]	[illegible]	7151.8	36635.6	17196.4	9094.8	8829.6	8558.9	8285.6	6001.2	7644.4	14574.7
1953	[illegible]	[illegible]	[illegible]	[illegible]	37151.3	19167.4	9183.6	9915.7	8658.7	8407.2	6159.7	7945.1	12017.1
1954	[illegible]	[illegible]	[illegible]	[illegible]	37150.3	27168.5	11693.3	9040.1	8777.6	8512.4	8251.3	7995.8	14995.6
1955	[illegible]	[illegible]	7216.5	[illegible]	14668.7	9130.3	9843.2	8552.1	9278.1	7908.2	7450.3	6967.7	8555.3
1956	[illegible]	[illegible]	[illegible]	[illegible]	34759.1	19509.0	9669.9	8791.3	8531.6	8263.6	6035.4	7885.0	11091.3
1957	[illegible]	[illegible]	[illegible]	[illegible]	34612.5	22653.6	9588.6	9014.1	8722.9	8467.3	8156.6	7965.6	14204.0
1958	[illegible]	[illegible]	[illegible]	25767.6	26463.0	19868.2	14380.7	9053.8	8821.4	8553.4	8256.8	7971.1	12659.6
1959	[illegible]	[illegible]	[illegible]	[illegible]	33440.7	21209.3	9101.6	9840.5	8572.6	8336.1	8113.3	7856.3	11643.8
1960	[illegible]	[illegible]	[illegible]	[illegible]	37150.8	18983.7	9422.8	9355.1	8807.7	8505.6	8174.8	7844.0	14074.0
1961	[illegible]	[illegible]	[illegible]	[illegible]	9172.7	13913.3	9044.2	8697.0	8397.6	8066.6	7681.3	7515.9	8507.7
1962	[illegible]	[illegible]	[illegible]	[illegible]	37150.3	17256.4	9022.3	[illegible]	8392.1	8162.5	7920.5	7535.1	13070.8
1963	[illegible]	[illegible]	[illegible]	[illegible]	37150.8	37150.8	15942.5	9045.6	8817.3	8609.5	8405.8	8395.0	15701.3
1964	[illegible]	[illegible]	[illegible]	[illegible]	37150.9	31764.2	9138.5	8948.7	8567.6	8330.6	8036.1	7781.1	14976.2
1965	[illegible]	[illegible]	[illegible]	37151.8	37150.8	26490.7	9275.2	9336.0	8748.9	8567.1	8494.7	8418.1	14697.9
1966	[illegible]	[illegible]	[illegible]	[illegible]	37159.4	16254.2	9905.0	9026.4	8748.9	8422.2	8050.0	7725.0	15627.8
1967	[illegible]	[illegible]	[illegible]	[illegible]	37150.8	23277.3	17594.0	13920.2	9018.2	8794.0	8538.4	9172.7	13688.1
1968	[illegible]	[illegible]	[illegible]	[illegible]	37150.9	22899.0	9205.5	8536.2	8661.4	8412.6	8147.4	7815.2	16032.1
MEAN	[illegible]	[illegible]	[illegible]	[illegible]	33822.5	19775.5	10037.8	[illegible]	9619.5	8369.3	8166.8	7983.0	13208.1

Appendix 5 Technical Examination of Power Transmission Scheme

Contents

List of Figures

APPENDIX 5 TECHNICAL EXAMINATION OF POWER TRANSMISSION SCHEME

The results of studies of voltage and stability at the time of 1982 are as described below. It should be noted in this case that it was considered the distance between Samsun – Zonguldak – Adapazari would have been changed to two circuits by 1982 from the standpoint of dependability after start up of the Ayvacik Power Station.

A5-1 VOLTAGE AND POWER FLOW

As the 380 kV system becomes expanded, it is thought systems of lower potential (154 kV) will not be operated looped with the 380 kV system from the standpoint of controlling increase in short circuiting capacity and from operational standpoints such as controlling power flow, and therefore, the 154-kV system was considered to be set up in radial form with bank-down of the sub-station connecting to the 380-kV system determined referring to the results of power flow calculations by the Etibank.

As a result of examination using an AC network analyzer, there is no point on the 380 kV transmission which will be overloaded from the aspect of power flow when Kürtün Power Station and Akköy Power Station are put into operation. Regarding voltage, the charging currents of the Kürtün – Keban and Kürtün – Saman transmission lines are powerful and will raise the voltage of the 380-kV bus line of the Kürtün step-up substation (to more than 110%), and therefore, it will be necessary to install a shunt reactor of approximately 120 MVA at the Kürtün Step-up Substation corresponding to one-half the charging capacity of the Keban – Kürtün – Sumsun transmission line.

However, in the event the Keban – Samsun transmission line is to be constructed prior to construction of the Kürtün Power Station, installation of shunt reactors should be necessary at both the Keban Power Station and Samsun Substation in which case the capacity of the shunt reactor at the Kürtün Step-up Substation will be made smaller than 120 MVA.

Consequently, the maximum voltage of the Samsun Substation and the Kürtün step-up sub-station 380-kV bus line will be 105 - 106% and condensive operation of the Kürtün Power Station will be practically eliminated. The voltage and power flow diagram is indicated in Fig. A5-1.

A5-2. STABILITY

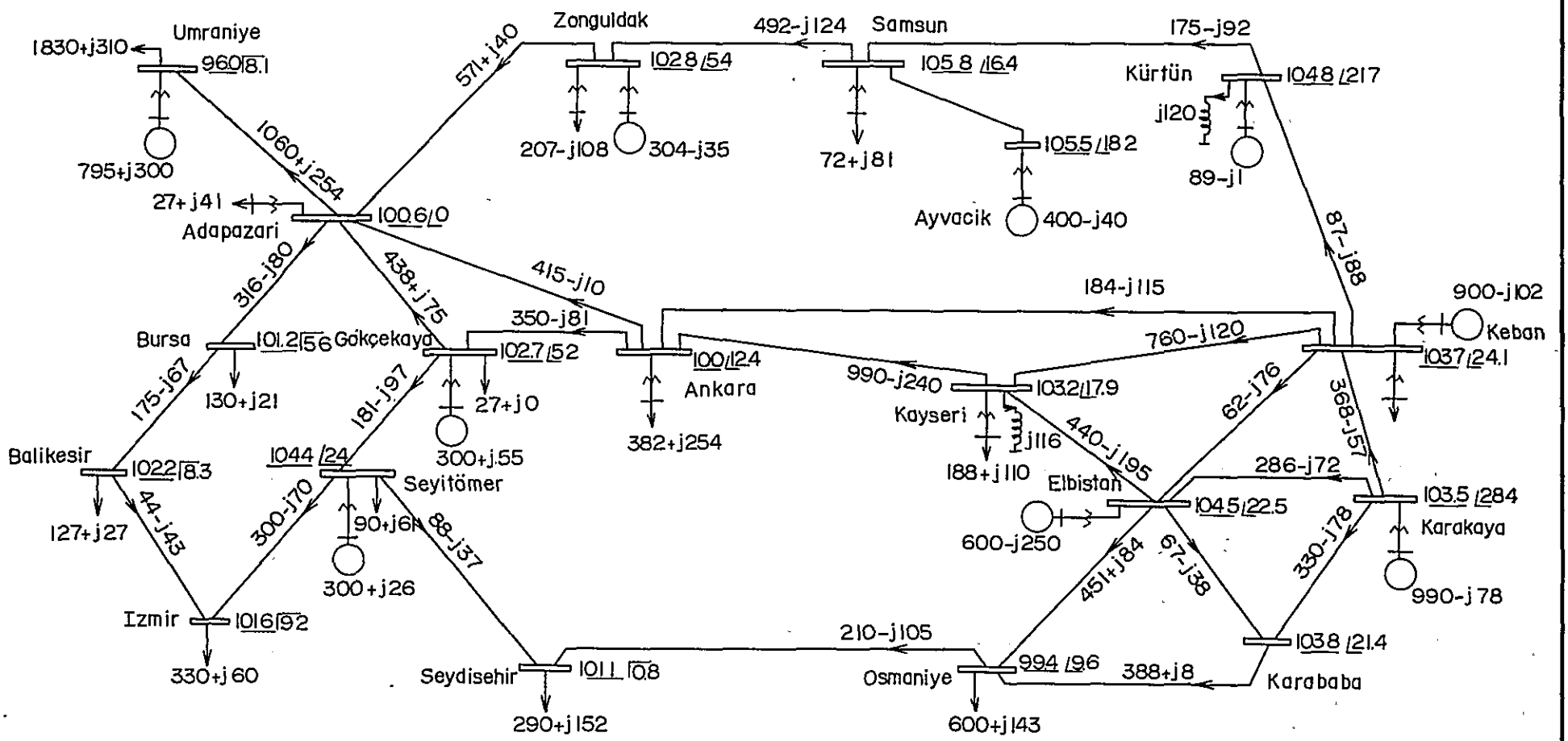
A study of the excess stability of the Kürtün Power Station and Akköy Power Station shows the result of extreme stability when outputs of the Kürtün, Akkoy and Ayvacik Power Station are at installed capacities. The fault conditions were assumed to be 3LG fault of the transmission line with 0.1 sec fault restoration (transmission line stopped) and with the trouble point at the Kürtün Sub-station outlets of the Kürtün – Keban and Kürtün – Samsun transmission lines. The swing curves of the results of study of excess stability are given in Fig. A5-2 and Fig. A5-3

The impedance map used for calculations of voltages and power flow, and calculation of excess stability are indicated in Fig. A5-4.

Fig. A5 – 1 Power Flow and Voltage Regulation

1982 Peak Unit : MW & MVAR

(voltage : % on 380 kv base)



Kürtün–Keban Transmission Line Kürtün Side 3LG
0.1 sec C.B. Open.

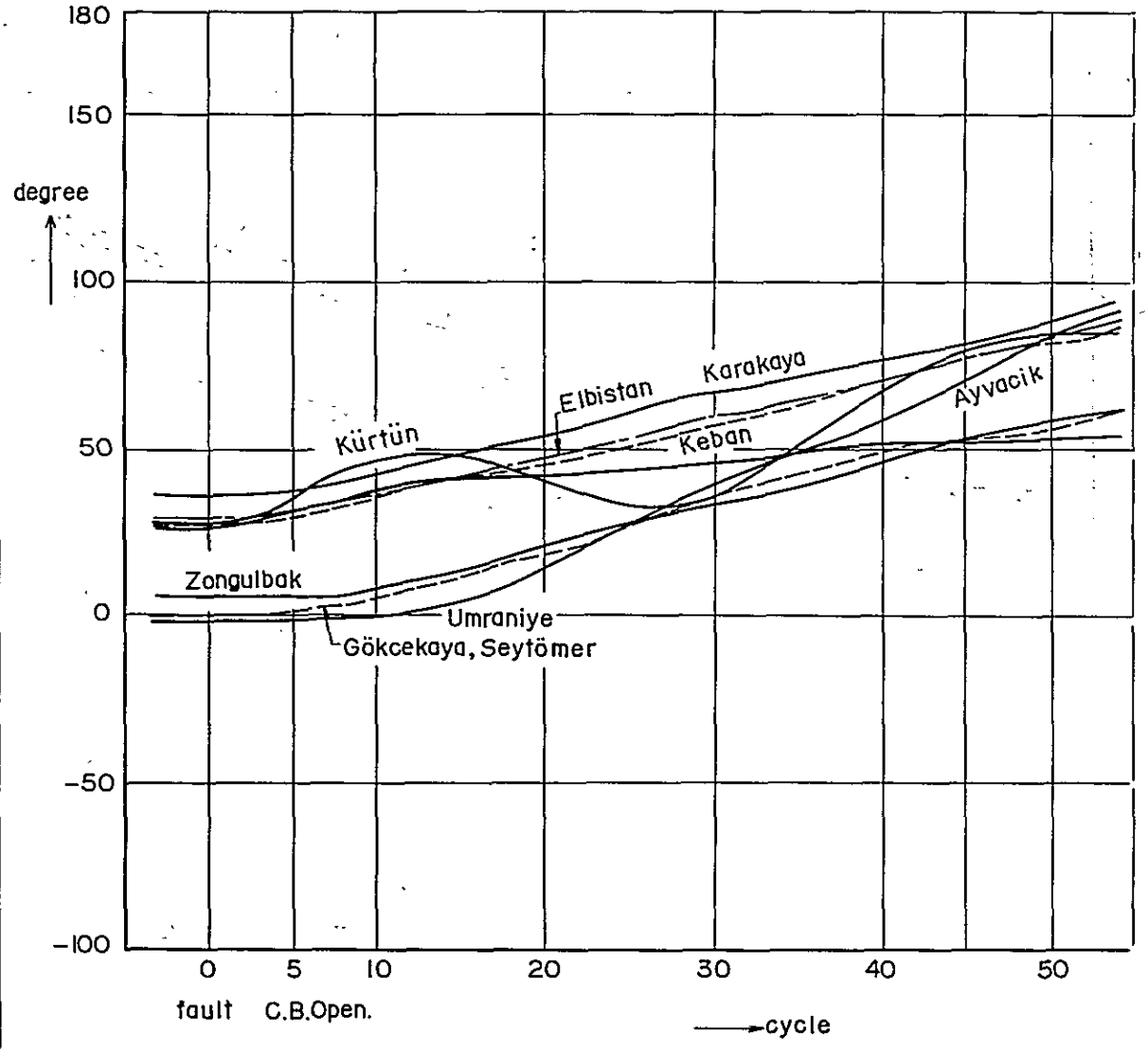


Fig. A5–2

Transient Stability
Swing Curve

Kürtün – Samsun Transmission Line Kürtün Side 3LG
0 I sec C.B. Open

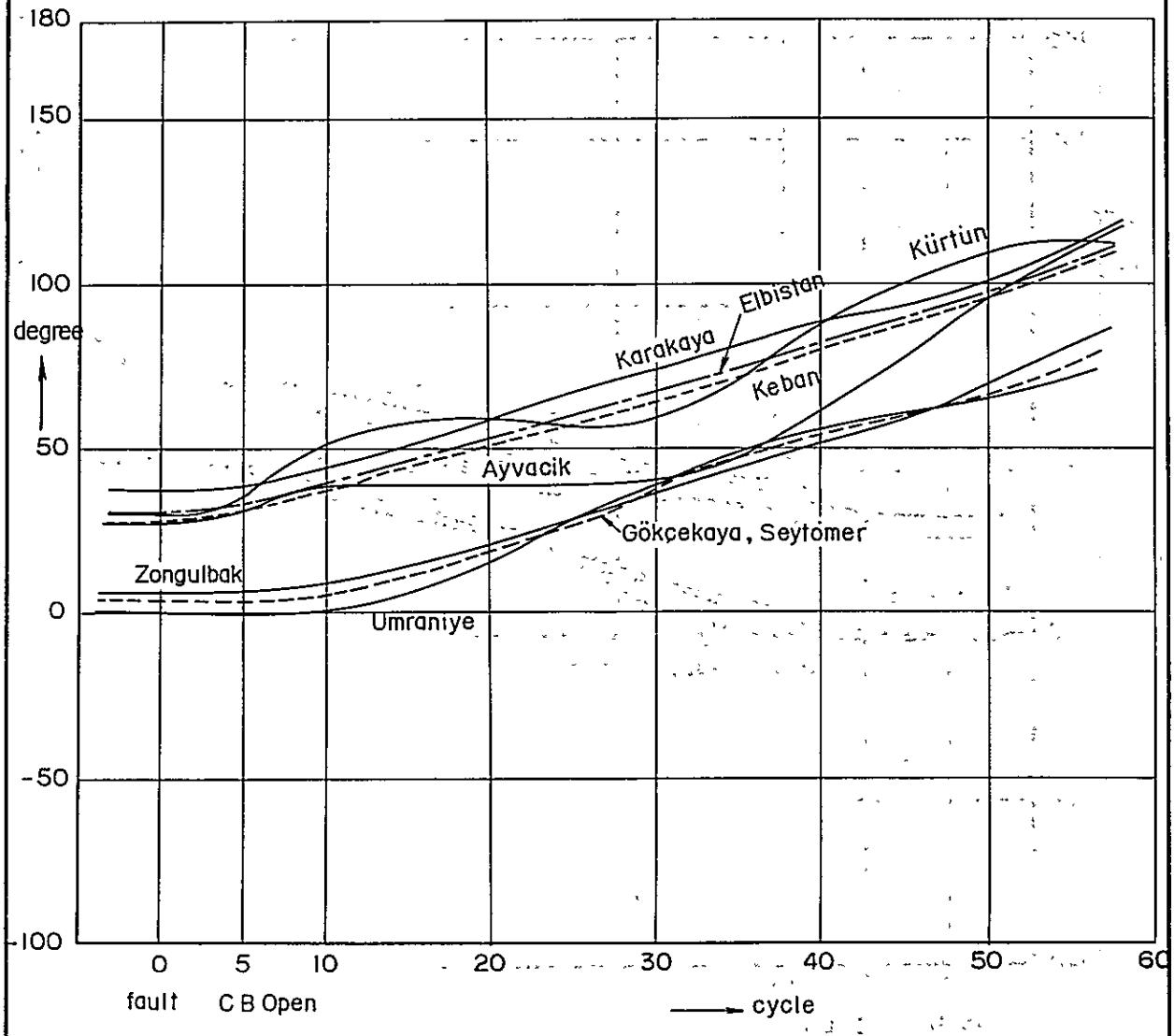


Fig. A5-3

Transient Stability
Swing Curve

Fig. A5 – 4 Impedance Map at 1982

Base 1000 MVA, 380 kV (Samsun-Zonguldak-Adapazari 2cct)