

Nepal Electricity Authority
Nepal

UPGRADING FEASIBILITY STUDY
ON
UPPER SETI (DAMAULI)
STORAGE HYDROELECTRIC PROJECT
IN
NEPAL

FINAL REPORT
< APPENDIX >

June 2007

JAPAN INTERNATIONAL COOPERATION AGENCY

ELECTRIC POWER DEVELOPMENT CO., LTD.
NIPPON KOEI CO., LTD.

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Historical Data of Suspended Sediment Concentration

Historical Data of Precipitation
at Meteorological Stations

Daily Precipitation (mm)

Location : Pokhara Airport Latitude : 28° 13' N
 Index No. : 0804 Longitude : 84° 00' E
 District : Kaski Elevation : 827 m.

Note : DNA means data not available T means data less than 0.1

Year	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Month	Day																		
1	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	9.4	0.0
1	2	0.0	0.0	0.0	0.0	0.0	0.0	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0
1	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0
1	4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	T	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
1	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	0.0
1	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0
1	7	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0
1	8	0.0	0.0	T	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0
1	9	0.0	0.0	0.0	0.0	0.0	7.8	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	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	11	6.0	0.0	0.0	0.0	0.0	0.0	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	12	0.0	0.0	0.8	0.0	0.0	T	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	13	0.0	0.0	0.5	0.0	0.0	4.8	0.0	2.2	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0
1	14	0.0	10.8	0.0	0.0	0.0	1.8	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	15	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	16	0.0	0.0	0.0	0.0	0.1	11.7	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	17	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.1	0.0	0.0
1	18	0.0	0.0	0.0	0.0	0.0	0.0	3.6	21.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
1	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0
1	21	0.0	0.0	18.0	0.0	0.0	2.7	0.0	0.0	14.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	22	0.0	0.0	0.0	0.0	0.0	0.5	0.0	2.4	0.0	4.4	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0
1	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	1.5	9.6	0.0	0.0	0.0	1.7	0.0
1	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	6.0	0.0	0.0	0.0	0.0	0.0
1	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.2	0.0	2.7	0.0	0.0	19.4	0.0	0.0	0.0	0.0	0.0
1	26	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	4.3	0.0	0.0	0.0	0.0
1	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	50.6	0.0	0.0	0.0	0.0	0.6
1	28	0.0	0.0	5.4	0.0	0.0	1.2	6.8	0.0	3.2	0.0	0.0	0.0	0.4	2.3	0.0	0.0	0.0	0.0
1	29	12.0	0.0	0.0	0.0	21.0	7.0	0.0	0.0	2.6	0.0	3.9	0.0	0.0	0.0	13.0	0.0	0.0	0.0
1	30	22.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.7	T	4.0	0.0	0.0	0.0	0.0	0.0
1	31	0.0	0.0	1.2	0.0	0.0	0.0	7.3	0.0	0.0	0.0	0.0	0.0	14.2	0.0	2.4	0.0	0.0	0.0
2	1	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.2	0.0	0.0	0.0	0.0	4.7	7.6	0.0	0.0	T	0.0
2	2	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	7.6	0.0
2	3	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	9.4	0.0	0.0	0.0	0.0	0.0	0.0
2	4	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	T	0.0
2	5	0.0	0.0	0.0	0.0	0.0	0.0	2.0	11.2	10.5	0.0	0.0	4.0	0.0	16.8	0.0	0.0	0.4	0.0
2	6	0.0	0.0	0.0	0.0	14.0	1.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.2	0.0	0.0	11.7	0.0
2	7	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0
2	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	41.0	0.0	0.0	5.0	0.0	0.0	3.4	0.0
2	9	0.0	0.0	0.0	0.0	T	4.9	0.0	0.0	0.0	5.0	0.0	0.0	0.0	4.0	0.0	0.0	0.4	0.0
2	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	4.4	8.0	0.0	0.0	0.0	T	0.2
2	11	0.0	0.0	0.0	0.5	0.0	0.0	0.0	17.6	0.0	0.0	7.6	3.0	0.0	0.0	0.0	11.1	0.0	17.4
2	12	0.0	0.0	0.0	0.1	0.0	0.0	9.7	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	13	0.0	0.0	0.0	0.0	T	0.0	3.2	0.0	0.0	0.0	2.5	0.0	0.0	6.2	0.0	0.0	0.0	0.0
2	14	0.0	7.4	0.0	0.0	24.0	0.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4
2	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	24.6
2	16	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.4	0.0	T	0.0	1.9	0.0	0.0	0.0	0.2	0.2
2	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	1.8	0.0	17.0	0.0	1.7	0.0	0.0	2.1	0.0
2	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.6	0.0	11.4	0.0	0.2	0.0	0.0	0.0	0.0
2	19	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	20	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.2	0.0	0.0	0.0	0.0	6.7	0.0	0.0
2	21	0.0	0.0	0.0	T	0.0	0.7	0.0	0.0	0.0	0.5	0.0	1.4	0.0	0.0	T	0.0	0.0	0.0
2	22	0.0	0.0	40.2	T	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0
2	23	0.0	0.0	3.2	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	2.4	0.0	0.0	2.0
2	24	0.0	0.0	4.0	0.2	0.0	T	0.0	0.0	0.0	T	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
2	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0
2	26	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	T	0.0	0.0	0.0
2	27	0.0	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	28	0.0	0.0	0.8	10.0	0.0	22.2	0.0	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
2	29	0.0			0.0				0.0				3.0				0.0		

Daily Precipitation (mm)

Location : Pokhara Airport

Month	Year	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Day																				
3	1	DNA	0.0	1.0	10.5	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	19.0	2.0	5.8	0.0	0.0	0.0	0.0
3	2	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	14.5	0.0	3.1	0.0	0.0	0.0	31.6
3	3	DNA	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	22.4	0.0	0.0	0.0	0.0
3	4	DNA	0.0	14.0	6.2	0.0	0.0	T	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	T	0.0	0.0	0.0
3	5	DNA	0.0	T	T	0.9	T	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	1.7	0.0	0.0	0.0	8.6
3	6	DNA	0.0	0.0	18.4	13.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	3.0	0.0	0.0	0.0	3.2
3	7	DNA	0.0	0.0	0.0	0.0	29.4	0.0	14.2	0.0	0.0	0.0	0.0	4.4	0.0	7.9	0.0	0.0	0.0	1.3
3	8	DNA	0.0	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	1.6
3	9	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	1.2
3	10	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0
3	11	DNA	0.0	4.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0
3	12	DNA	0.0	T	0.0	0.0	0.8	0.0	11.7	0.0	0.0	35.4	0.0	T	0.0	5.7	0.0	0.2	0.0	0.0
3	13	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	14	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
3	15	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3	16	DNA	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.8	8.6	0.0	0.0	10.6
3	17	DNA	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	10.0	0.1	0.0	0.0	0.0	0.0
3	18	DNA	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.6	1.3	5.2	0.0	2.0	0.0	0.0	0.0	0.0
3	19	DNA	28.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0
3	20	DNA	4.8	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	20.2	1.0	17.8	0.0	0.0	3.0
3	21	DNA	26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.7	0.0	0.0	0.0	0.0	0.0
3	22	DNA	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	3.4	0.0	0.0	0.0
3	23	DNA	0.0	0.0	0.0	15.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
3	24	DNA	3.0	0.0	0.0	0.0	0.0	2.5	T	0.0	0.0	0.0	0.0	13.4	0.0	0.0	0.0	0.0	0.0	0.0
3	25	DNA	3.0	0.0	0.0	0.0	0.0	4.4	2.1	0.0	0.0	0.0	0.0	0.0	0.0	15.6	0.0	0.0	1.6	0.0
3	26	DNA	T	0.0	0.0	0.0	0.0	24.2	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0
3	27	DNA	5.0	0.0	T	10.0	0.0	0.0	0.0	0.0	37.3	0.0	0.0	1.0	2.8	0.0	0.0	10.2	6.4	0.0
3	28	DNA	0.0	0.0	0.0	38.0	0.0	8.4	0.0	0.0	10.6	0.0	0.9	0.0	0.0	0.0	0.0	0.0	18.6	0.0
3	29	DNA	0.0	0.0	0.0	0.8	0.0	11.7	0.0	0.0	0.0	0.4	0.0	0.0	T	0.0	0.0	0.0	0.0	1.0
3	30	DNA	0.0	0.0	0.0	28.0	0.0	1.2	0.0	0.0	0.0	30.6	9.5	7.8	5.5	0.0	0.0	0.0	0.0	0.0
3	31	DNA	0.0	0.0	0.0	0.0	0.0	13.3	0.0	0.0	0.5	4.8	0.0	0.0	35.0	0.0	0.0	1.0	0.0	0.0
4	1	DNA	0.0	0.0	16.0	0.0	0.0	T	0.0	0.5	50.2	0.0	0.0	0.0	3.6	0.0	0.0	25.1	0.0	0.0
4	2	DNA	0.0	0.0	0.0	0.0	0.0	18.9	0.0	0.0	5.0	0.0	0.0	0.0	4.8	0.0	0.0	13.2	0.0	0.0
4	3	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T
4	4	DNA	0.0	0.0	T	0.0	0.1	3.2	0.0	0.0	25.6	1.2	0.0	0.0	0.0	0.0	0.0	0.0	T	1.2
4	5	DNA	0.0	0.0	T	5.0	1.0	5.2	0.0	0.0	2.0	2.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	T
4	6	DNA	0.0	0.0	0.3	0.0	0.0	14.0	0.5	0.0	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0
4	7	DNA	0.0	0.0	29.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	T
4	8	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.2	0.0	0.0	0.0	0.0	T	0.0	0.0	1.5	0.0
4	9	DNA	0.0	1.0	0.0	1.8	0.0	0.0	0.0	0.0	1.0	0.0	0.8	8.8	0.0	0.0	0.0	0.0	0.0	0.0
4	10	DNA	0.0	2.0	23.0	10.0	0.1	0.1	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	1.8
4	11	DNA	2.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	25.6	10.8	15.0	0.0	1.5	0.0	3.0	0.4	14.9	25.4
4	12	DNA	0.0	0.0	T	2.5	0.0	0.0	0.0	0.0	11.4	0.3	12.0	0.0	66.1	8.2	2.7	0.0	0.0	18.4
4	13	DNA	0.0	0.0	19.0	4.4	0.0	0.0	0.0	0.0	8.8	0.3	0.0	0.0	3.8	0.0	5.6	0.0	0.0	57.0
4	14	DNA	0.0	15.0	0.1	0.0	10.6	2.6	0.0	0.0	0.0	0.6	0.0	0.0	0.0	17.1	0.3	0.0	0.0	4.8
4	15	DNA	0.0	7.0	0.3	11.2	0.0	0.0	0.0	0.0	8.2	0.0	0.3	0.0	6.4	3.2	0.0	0.0	0.0	0.0
4	16	DNA	0.0	T	0.5	0.0	0.0	4.6	0.0	0.6	0.0	18.2	45.0	0.0	4.4	0.0	0.0	0.0	0.0	0.0
4	17	DNA	6.4	18.2	13.0	26.6	0.0	0.0	0.0	0.0	28.0	32.7	14.0	0.0	6.4	3.2	0.0	0.0	0.0	0.0
4	18	DNA	0.0	0.0	15.0	0.0	0.0	T	0.0	0.0	9.0	12.3	0.0	0.0	6.8	57.6	0.0	18.7	0.0	0.0
4	19	DNA	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	2.6	2.3	1.3	0.0	T	3.1	9.0	0.0	1.2	0.0
4	20	DNA	0.0	0.0	22.0	0.0	0.0	0.0	55.0	0.0	T	2.4	6.8	11.6	3.4	33.2	0.0	0.0	T	0.0
4	21	DNA	0.0	0.0	0.1	0.0	0.0	0.0	20.6	29.9	0.2	0.0	1.6	0.0	0.0	9.2	0.0	0.0	T	0.0
4	22	DNA	1.5	0.0	0.6	0.0	4.0	0.0	0.4	0.2	0.0	0.1	T	14.8	0.2	0.0	0.0	0.0	0.0	11.2
4	23	DNA	9.6	0.0	0.6	0.0	16.1	0.0	0.4	0.0	0.0	2.7	0.0	0.0	0.4	4.8	7.9	2.2	0.0	23.8
4	24	DNA	0.0	0.0	18.0	0.0	13.2	31.6	2.8	0.0	8.4	0.0	0.0	0.0	2.0	20.4	7.5	0.3	0.0	0.0
4	25	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5	20.3	0.1	0.0	0.0	3.2	14.6	0.3	13.3	0.0	5.4
4	26	DNA	0.0	0.0	0.0	0.0	0.0	0.0	38.2	0.4	7.8	0.4	T	0.0	6.0	2.2	22.1	0.0	T	8.6
4	27	DNA	0.0	3.6	0.0	13.6	0.0	0.0	0.0	45.2	12.4	0.0	4.0	0.0	0.0	0.6	23.7	9.8	T	0.4
4	28	DNA	0.0	0.4	0.0	0.0	4.5	0.9	0.0	45.3	12.2	0.0	12.4	0.0	1.6	T	11.0	0.0	0.0	2.4
4	29	DNA	14.6	0.0	0.0	0.0	0.0	33.9	0.0	22.1	1.0	7.9	0.5	0.0	43.0	0.0	10.4	32.4	38.2	29.6
4	30	DNA	10.8	0.0	48.0	0.0	T	21.0	0.0	11.6	T	1.4	2.5	4.8	31.3	0.0	0.6	3.7	0.0	1.0

Daily Precipitation (mm)
Location : Pokhara Airport

	Year	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Month	Day																			
5	1	DNA	10.4	0.0	0.2	0.0	1.4	6.6	0.0	28.0	T	T	43.0	0.0	30.8	0.0	0.5	2.7	4.4	1.8
5	2	DNA	8.8	0.0	6.5	0.0	3.9	32.0	0.0	0.0	8.0	0.0	1.4	19.0	63.6	0.0	3.4	2.9	8.4	0.2
5	3	DNA	0.0	0.0	26.0	0.0	T	48.0	1.8	0.0	0.0	8.5	5.2	T	4.0	2.3	28.4	0.0	18.8	7.6
5	4	DNA	0.0	0.0	0.3	1.6	0.0	20.6	T	0.0	8.7	2.8	0.0	30.6	6.0	11.4	0.1	31.7	0.1	42.0
5	5	DNA	0.0	4.4	0.6	0.0	3.1	57.1	0.0	0.8	2.5	0.0	0.0	36.4	T	0.0	9.5	1.9	30.7	10.0
5	6	DNA	0.0	40.4	0.3	0.0	1.7	3.6	2.8	0.0	23.8	31.0	0.0	0.0	6.5	3.2	9.6	14.8	7.9	0.0
5	7	DNA	5.6	5.0	14.0	0.0	0.0	0.0	9.6	0.0	1.6	1.8	0.0	0.0	1.6	0.4	0.5	35.9	T	2.6
5	8	DNA	0.0	18.4	0.9	0.0	54.8	0.0	0.0	1.2	1.0	12.5	0.0	34.0	24.3	0.4	2.4	19.8	0.0	0.0
5	9	DNA	0.0	0.0	0.1	0.0	38.3	34.2	0.0	0.7	0.0	14.2	0.0	10.1	0.3	16.5	4.0	102.3	0.0	0.0
5	10	DNA	0.0	0.0	0.0	0.0	36.4	0.4	18.0	22.6	13.5	4.2	0.4	T	T	0.0	5.0	5.9	0.3	0.0
5	11	DNA	43.4	0.0	28.5	0.0	9.4	26.8	26.4	7.2	0.5	0.0	2.8	27.5	2.6	4.4	9.0	0.0	2.7	2.3
5	12	DNA	0.0	0.0	15.0	0.6	5.7	14.2	31.6	69.6	0.4	2.0	13.6	24.2	15.2	0.0	3.8	0.0	58.8	2.6
5	13	DNA	32.2	0.0	0.1	2.2	5.4	0.0	14.5	0.1	0.0	91.3	T	0.0	0.0	T	15.6	45.9	T	0.0
5	14	DNA	0.0	0.0	41.0	14.0	1.8	8.2	23.3	25.0	0.0	2.5	0.4	19.3	14.3	22.2	17.9	2.2	22.6	0.3
5	15	DNA	0.0	0.0	0.5	0.0	8.9	9.2	0.0	2.4	2.4	80.0	18.0	69.9	19.1	0.5	0.6	2.7	0.0	0.4
5	16	DNA	0.0	41.0	42.0	0.0	19.0	2.2	135.2	16.8	0.0	49.6	62.7	11.0	16.4	5.1	40.2	3.7	0.0	3.4
5	17	DNA	3.8	40.4	0.0	0.0	3.0	3.0	0.4	0.0	0.0	7.0	0.0	40.0	25.2	0.0	4.2	24.8	0.0	3.8
5	18	DNA	0.0	2.0	55.0	11.0	2.2	T	40.9	14.5	12.0	0.2	10.7	0.0	1.0	0.0	1.9	0.0	0.0	42.2
5	19	DNA	0.0	1.0	0.0	0.0	11.9	18.1	4.3	20.8	0.0	0.4	6.0	55.8	6.1	0.0	0.8	0.2	22.1	2.4
5	20	DNA	0.0	3.8	0.0	4.0	0.0	1.6	0.4	9.6	53.0	0.0	0.0	10.4	3.2	0.7	3.0	0.0	0.1	0.0
5	21	DNA	0.0	12.0	4.0	0.0	0.6	7.0	26.4	0.2	26.2	0.0	15.2	2.5	4.6	16.4	0.0	11.4	35.8	0.0
5	22	DNA	0.0	1.2	6.0	39.8	0.0	4.6	24.5	55.2	21.6	24.4	6.6	22.4	3.3	0.0	11.6	19.0	0.1	0.0
5	23	DNA	0.0	3.2	6.5	91.0	3.1	5.0	1.8	26.8	6.4	0.0	0.0	5.8	8.1	0.0	0.0	36.7	0.0	6.0
5	24	DNA	9.3	0.0	12.0	35.2	0.5	0.0	0.8	2.7	15.6	8.6	40.5	0.0	0.0	0.0	25.0	0.0	0.0	0.0
5	25	DNA	18.0	3.0	21.0	59.8	55.8	0.1	0.0	0.8	0.0	1.0	0.0	10.8	0.0	0.0	0.1	19.2	25.4	0.0
5	26	DNA	3.0	0.0	8.5	114.0	45.3	0.0	12.7	0.0	1.2	2.2	0.0	14.2	1.6	0.0	0.0	34.3	23.6	0.1
5	27	DNA	28.4	9.0	0.0	24.0	23.7	0.0	0.4	3.8	12.0	50.0	T	4.2	15.4	0.0	0.0	T	1.2	9.0
5	28	DNA	22.4	1.2	2.0	0.0	1.0	0.0	7.6	23.8	6.2	32.7	0.0	0.0	7.5	3.3	7.3	16.0	5.2	0.0
5	29	DNA	0.1	0.0	4.0	0.0	21.6	0.1	24.3	0.4	30.8	43.9	0.0	14.6	15.4	34.7	0.0	19.4	3.2	22.2
5	30	DNA	0.0	0.0	0.0	0.0	19.1	49.3	3.7	0.8	0.0	37.0	0.0	0.0	7.3	18.7	0.7	3.2	0.2	0.0
5	31	DNA	0.0	7.2	53.0	T	5.8	32.4	34.4	0.0	73.6	19.6	0.0	16.6	109.5	11.0	9.0	3.6	27.2	0.0
6	1	0.0	0.0	2.0	30.0	6.4	0.0	6.2	16.0	0.0	30.0	41.2	0.0	39.6	0.8	14.5	0.0	0.0	11.4	4.4
6	2	0.0	0.0	43.0	37.0	0.0	0.3	18.8	T	55.6	7.6	2.0	0.0	54.5	12.5	31.9	11.3	49.0	35.6	0.4
6	3	0.0	0.0	31.0	0.3	40.2	0.0	34.0	T	51.4	7.0	0.0	0.0	0.0	17.2	1.0	11.3	70.0	13.2	0.0
6	4	0.0	5.0	23.2	26.5	0.4	0.0	14.0	0.0	160.8	24.2	5.6	0.0	18.0	3.8	1.0	4.0	15.8	42.4	0.2
6	5	0.0	40.4	0.0	0.0	5.2	0.0	4.3	0.0	1.8	0.5	3.0	0.0	0.0	26.5	38.8	41.0	118.3	7.0	0.0
6	6	0.0	T	0.0	0.4	32.1	52.8	26.7	0.0	21.2	5.6	39.6	0.0	T	14.0	6.8	43.7	9.0	29.8	0.0
6	7	0.0	32.4	4.8	13.0	0.0	16.4	28.2	45.3	T	0.5	32.4	0.0	10.9	0.0	2.6	10.0	0.4	1.4	46.0
6	8	0.0	22.0	5.0	40.0	25.2	54.0	0.0	0.0	1.4	23.5	52.0	0.0	16.5	2.0	0.0	0.1	0.5	0.0	2.8
6	9	0.0	17.0	32.0	40.0	0.0	0.2	0.2	56.2	88.4	1.6	63.0	30.0	136.2	9.0	90.6	43.0	0.0	6.6	6.0
6	10	0.0	3.0	0.5	15.0	0.0	36.2	T	0.0	107.3	18.8	2.4	0.0	13.6	0.0	0.3	0.3	95.2	T	7.2
6	11	0.0	5.0	8.0	41.0	0.0	7.0	0.0	0.0	22.4	25.6	17.6	38.8	8.6	0.0	32.4	1.8	13.0	23.6	7.0
6	12	0.0	18.0	0.0	45.0	0.0	54.0	9.0	0.0	10.8	0.0	2.6	11.5	66.0	6.0	8.2	1.6	16.3	0.0	94.2
6	13	0.0	0.0	0.0	20.5	41.0	36.0	0.0	22.8	6.6	7.5	54.3	17.2	6.6	18.0	23.4	0.0	19.6	0.0	35.2
6	14	0.0	0.0	0.0	13.6	0.4	63.3	0.0	43.2	9.2	9.1	53.0	T	0.0	15.8	34.6	0.0	0.0	1.2	40.0
6	15	0.0	0.0	1.3	39.8	18.0	8.0	139.8	115.2	8.4	1.5	0.5	33.0	0.5	68.6	4.8	19.4	0.0	19.0	8.4
6	16	0.0	0.0	12.0	38.5	40.2	11.0	0.1	44.9	1.0	5.0	0.0	5.2	73.0	34.6	30.0	18.8	112.7	0.1	16.6
6	17	0.0	0.0	130.0	0.0	19.2	75.0	37.6	5.6	4.2	0.0	0.0	3.8	44.4	12.5	39.0	12.0	18.0	0.2	12.0
6	18	0.0	0.0	93.0	0.0	158.2	33.0	2.8	6.7	18.1	0.0	42.8	40.0	0.0	22.2	9.3	15.6	31.2	21.6	15.0
6	19	0.0	0.0	0.0	0.0	42.3	11.2	14.9	24.2	8.4	0.0	120.0	72.5	22.0	0.0	22.4	16.2	0.2	22.0	25.6
6	20	0.0	0.0	42.0	41.0	5.2	5.0	81.0	6.2	0.6	39.0	1.6	3.3	77.8	36.6	22.0	0.0	161.5	37.0	35.0
6	21	0.0	0.0	75.0	0.9	19.2	5.0	42.5	48.2	0.0	1.6	33.6	16.2	28.5	51.6	0.0	13.6	18.0	0.6	40.2
6	22	34.5	0.0	37.0	T	43.2	14.2	80.0	8.4	0.0	204.2	59.6	0.9	23.8	0.5	0.0	0.0	2.2	3.0	91.8
6	23	54.0	0.0	3.6	40.0	18.0	7.0	43.0	13.9	T	1.0	76.0	0.0	1.5	33.8	3.3	6.0	0.3	23.0	16.2
6	24	2.0	0.0	126.0	24.0	1.8	4.0	69.9	7.0	7.0	9.3	25.6	0.0	30.0	0.2	69.3	19.8	4.6	0.1	18.4
6	25	0.0	0.0	0.8	36.5	2.5	8.0	1.0	86.3	144.6	1.6	25.8	1.3	42.0	0.0	53.6	0.0	9.5	3.0	32.0
6	26	30.0	0.0	16.0	27.5	0.0	62.0	21.2	59.0	19.6	0.5	23.2	49.1	0.0	12.0	19.0	16.9	5.7	0.0	10.2
6	27	2.0	0.0	18.4	22.0	0.0	0.1	54.0	0.0	61.6	2.0	1.0	18.9	7.8	1.6	15.6	32.3	1.4	39.0	94.0
6	28	35.0	0.0	47.0	21.5	0.0	14.2	3.2	71.5	99.6	1.2	2.6	72.0	0.3	25.2	18.3	21.8	15.1	27.0	48.8
6	29	0.0	0.0	40.0	41.0	10.4	40.0	35.0	4.6	68.0	1.5	32.0	0.6	0.0	57.0	0.0	20.0	23.2	0.1	9.6
6	30	0.0	0.0	1.0	44.0	4.8	10.0	125.0	18.4	112.8	30.2	45.6	7.2	7.0	30.8	0.0	27.0	12.6	4.8	9.0

Daily Precipitation (mm)

Location : Pokhara Airport

Month	Year	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Day																				
7	1	6.0	DNA	6.7	1.0	0.0	11.2	48.3	171.2	0.0	13.0	45.6	22.5	81.6	9.6	8.2	11.7	3.6	41.6	82.1
7	2	7.0	DNA	2.8	13.0	5.0	0.1	29.6	21.4	0.5	7.2	44.6	22.5	4.8	3.0	9.4	30.8	17.6	5.1	8.4
7	3	22.0	DNA	T	18.0	86.2	52.0	58.0	9.3	101.6	18.9	5.6	21.3	0.0	47.6	6.6	12.9	15.2	2.4	0.2
7	4	T	DNA	1.4	6.5	78.0	T	24.0	51.0	26.4	100.8	16.8	0.0	51.4	32.0	35.7	10.0	43.2	223.8	14.8
7	5	17.0	DNA	0.0	5.0	4.8	61.0	62.0	T	0.4	42.6	32.0	5.5	17.6	11.4	37.6	73.6	53.5	33.8	134.2
7	6	0.0	DNA	2.6	42.0	34.8	0.0	20.2	15.7	6.0	4.3	50.6	0.0	24.7	7.8	12.6	21.7	64.0	85.4	3.8
7	7	6.0	DNA	0.0	0.5	0.5	9.2	9.2	50.0	7.2	0.3	0.0	0.0	7.7	0.0	32.6	39.4	18.4	41.0	26.8
7	8	87.0	DNA	0.0	5.0	9.6	0.0	6.8	48.8	52.8	41.6	66.4	T	15.2	21.2	7.8	64.3	95.0	16.2	1.0
7	9	3.2	DNA	47.0	11.0	3.9	T	1.1	2.8	23.8	8.0	40.6	0.2	26.0	0.0	12.1	15.1	31.0	13.9	1.4
7	10	25.2	DNA	9.0	11.0	18.4	0.0	12.4	0.7	68.8	42.6	0.0	36.7	12.5	38.0	164.2	28.0	2.4	14.6	2.0
7	11	0.0	DNA	16.0	65.0	26.0	0.0	7.8	2.9	62.8	26.0	12.0	83.6	12.6	0.0	83.0	1.5	127.0	17.4	17.0
7	12	40.0	DNA	33.0	9.0	0.0	61.2	1.1	84.3	0.4	T	7.0	6.8	0.0	20.4	34.4	0.0	171.5	36.8	0.0
7	13	44.0	DNA	45.0	6.0	35.7	19.1	49.2	41.1	63.9	79.6	0.0	15.6	114.2	53.8	11.0	0.0	56.8	10.1	0.0
7	14	72.0	DNA	10.0	15.0	0.0	14.0	86.8	11.5	50.0	5.6	0.0	3.8	23.5	13.2	1.6	18.3	41.9	9.2	94.8
7	15	59.2	DNA	46.0	T	3.6	74.0	22.1	11.2	72.1	0.3	15.2	21.0	50.0	16.4	8.0	48.2	51.3	25.2	1.6
7	16	2.0	44.2	86.0	50.0	39.6	66.6	34.3	5.8	40.4	61.0	109.3	10.2	35.3	45.6	17.3	29.7	68.4	21.3	22.6
7	17	66.0	28.2	110.0	71.0	100.4	3.4	3.7	41.6	67.2	28.6	20.5	91.0	2.0	22.6	0.7	111.1	4.7	23.2	45.3
7	18	54.6	11.5	10.6	33.0	45.4	88.8	27.4	21.0	0.0	9.8	10.3	38.2	1.4	23.2	40.0	6.0	11.6	23.6	1.8
7	19	14.0	28.2	113.0	0.0	41.8	0.0	6.3	20.4	1.0	18.6	43.0	37.0	3.0	56.2	149.0	0.7	18.0	0.0	1.0
7	20	35.5	0.4	122.0	11.0	11.0	19.4	0.0	28.4	12.2	35.6	98.5	25.6	59.4	18.0	23.4	18.2	0.0	37.8	4.8
7	21	T	40.0	20.0	0.0	24.4	1.2	0.0	28.1	51.5	65.1	48.3	4.2	16.2	8.2	0.5	13.4	25.5	0.4	143.2
7	22	20.6	40.2	80.0	6.0	61.4	0.0	26.5	84.2	3.6	13.2	9.8	67.6	5.3	7.8	2.2	32.0	48.0	30.6	47.0
7	23	58.6	40.4	44.0	6.0	23.0	0.0	77.5	95.4	3.8	33.8	1.5	4.8	40.0	2.6	1.0	1.8	9.5	71.9	4.0
7	24	26.0	9.0	144.0	1.0	0.0	21.5	8.8	66.0	40.5	0.8	10.7	111.6	24.0	3.5	27.0	1.5	6.0	16.0	2.2
7	25	0.0	0.2	6.8	20.0	128.4	66.8	8.3	92.3	181.8	4.6	5.8	45.7	38.6	0.0	14.1	1.4	8.2	44.2	19.2
7	26	12.0	40.4	86.0	16.0	65.8	173.4	25.8	84.8	24.8	0.0	2.0	3.6	33.2	135.9	0.5	57.3	24.0	23.0	28.0
7	27	0.0	39.6	68.0	5.0	23.6	0.1	3.0	23.2	28.0	7.4	85.0	26.4	18.5	60.0	7.6	23.0	128.3	25.1	27.8
7	28	17.2	12.0	35.6	37.0	56.4	1.2	6.7	29.0	2.8	0.0	188.1	23.0	22.0	28.6	23.7	0.0	8.0	5.0	0.2
7	29	6.0	2.8	25.6	9.0	56.0	5.6	101.5	13.0	0.4	4.0	18.6	25.7	11.4	47.8	1.3	21.2	92.7	4.1	2.0
7	30	4.4	0.0	54.4	11.0	76.2	78.2	17.5	21.2	0.5	19.8	4.0	2.2	150.8	29.4	0.0	7.7	73.2	2.2	8.6
7	31	0.0	40.2	30.5	50.0	39.2	11.4	76.0	0.4	23.4	24.6	3.0	12.0	23.0	37.0	82.0	13.1	12.0	0.0	22.4
8	1	25.6	6.2	56.2	T	23.9	45.0	91.2	14.6	58.4	26.6	92.0	40.0	59.0	23.0	2.8	61.2	31.0	43.0	21.2
8	2	10.4	20.0	13.6	2.0	8.6	0.1	204.8	76.3	0.2	0.0	20.8	12.7	4.0	5.5	0.0	169.2	0.0	20.4	7.4
8	3	0.0	0.0	7.0	0.0	22.2	22.0	9.2	110.4	0.0	111.2	33.0	90.7	30.0	4.3	77.6	10.1	19.6	0.8	17.0
8	4	1.4	1.8	22.8	4.0	0.0	94.0	92.0	12.0	62.8	17.0	99.6	6.4	5.2	1.6	27.3	43.4	0.0	5.4	49.0
8	5	2.8	4.0	48.0	35.5	43.6	70.0	100.0	33.6	23.1	34.8	17.2	80.6	50.8	93.6	123.0	28.6	28.5	0.0	60.6
8	6	3.6	0.4	70.4	90.0	2.8	0.6	12.5	3.6	6.8	0.0	4.0	2.8	39.2	1.7	0.4	22.6	69.5	29.1	0.0
8	7	11.2	32.6	156.0	59.0	16.1	47.2	15.5	0.0	2.4	89.4	1.0	0.2	25.6	1.1	1.2	15.6	11.0	11.2	2.0
8	8	23.4	28.4	68.0	73.0	0.8	14.4	T	0.0	20.5	17.0	30.6	277.6	3.5	25.6	32.6	30.4	80.0	31.8	42.0
8	9	73.8	0.0	17.4	7.5	2.0	1.3	24.4	T	1.0	4.2	23.0	T	0.0	T	2.7	49.0	1.4	0.8	T
8	10	6.0	40.0	23.2	9.0	75.8	42.8	9.7	T	51.5	1.0	42.0	9.2	0.0	9.8	5.0	120.0	5.0	1.8	20.4
8	11	8.2	40.4	0.0	2.0	41.6	45.5	40.0	21.6	58.2	125.4	17.6	29.3	2.4	10.4	3.0	18.7	3.5	T	0.0
8	12	12.2	2.0	7.4	6.0	34.9	7.4	50.1	11.6	32.2	23.8	38.0	74.0	1.4	108.6	3.2	0.2	16.0	1.6	10.4
8	13	36.2	0.0	1.4	0.0	0.0	0.0	1.2	0.0	57.2	46.2	0.0	17.0	3.8	15.8	7.6	0.0	56.0	1.8	0.0
8	14	7.2	30.2	0.0	6.0	7.4	36.7	13.6	27.3	6.2	91.2	0.0	57.0	11.0	4.4	0.0	1.0	0.0	18.1	40.0
8	15	0.0	32.0	0.0	0.0	0.0	0.0	T	17.0	18.5	24.6	0.0	8.6	27.2	17.5	18.8	2.4	44.5	44.0	0.0
8	16	5.2	11.0	11.0	2.0	0.0	0.0	0.5	15.4	24.3	97.5	0.0	0.0	12.4	0.0	0.0	18.4	1.2	6.8	39.4
8	17	27.0	12.0	59.4	42.0	0.0	20.1	13.1	22.0	39.4	35.2	0.0	0.0	18.6	2.4	34.4	3.1	24.6	6.8	46.2
8	18	9.0	13.0	4.6	36.0	0.0	132.2	0.0	2.0	45.0	12.7	121.0	25.6	46.8	27.3	0.0	8.0	0.3	10.0	1.0
8	19	0.0	13.5	0.0	40.0	0.8	0.7	2.0	40.6	10.5	0.0	15.3	46.4	10.6	168.6	28.8	0.6	7.5	29.0	0.0
8	20	0.0	26.3	26.8	4.0	0.0	0.0	54.1	81.4	17.0	0.4	36.4	160.0	82.2	152.9	65.5	16.1	30.0	8.0	14.0
8	21	41.0	3.0	0.0	0.0	0.0	8.3	20.3	20.4	51.0	20.5	T	107.0	65.6	1.2	20.7	T	35.0	6.2	2.2
8	22	1.8	0.0	4.0	4.6	11.6	68.0	97.2	9.2	163.7	33.6	17.0	56.7	70.0	6.0	75.8	1.1	9.0	51.4	33.2
8	23	0.0	21.4	8.2	8.8	4.0	0.0	111.0	9.1	138.2	34.3	6.8	13.8	3.0	1.4	0.0	T	4.2	47.8	1.2
8	24	0.0	4.4	105.6	10.0	0.0	T	38.2	40.0	41.0	46.8	1.1	28.0	6.2	1.0	29.7	42.7	46.0	6.4	6.4
8	25	15.5	40.0	94.8	44.0	8.0	6.2	126.1	71.6	0.0	30.0	16.9	23.0	5.0	3.3	5.5	40.0	0.0	25.6	7.0
8	26	44.4	37.4	0.0	20.5	18.5	72.2	8.0	0.1	0.0	65.6	0.6	59.2	T	T	28.4	29.6	56.0	6.8	48.4
8	27	9.0	4.0	11.2	0.0	0.1	0.0	32.0	0.0	1.2	0.4	0.0	66.6	1.0	3.0	29.4	11.3	4.2	64.0	0.2
8	28	2.8	40.4	2.4	0.0	74.5	60.2	77.2	0.6	0.0	32.1	3.3	5.0	3.5	0.0	25.2	73.0	7.2	0.0	29.6
8	29	2.8	11.0	6.6	17.8	10.0	36.0	30.8	0.0	0.0	96.8	0.0	40.0	4.8	6.9	42.8	156.2	45.0	19.2	0.0
8	30	0.0	3.0	12.4	30.0	6.2	4.4	52.0	0.5	11.0	0.0	0.2	16.0	2.0	82.0	0.0	4.2	42.2	25.4	21.4
8	31	0.0	1.8	18.6	30.5	T	11.2	102.7	9.0	23.8	0.0	6.2	47.0	T	159.6	30.7	81.7	26.8	1.8	54.0

Daily Precipitation (mm)

Location : Pokhara Airport

	Year	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
	Month	Day																		
9	1	1.0	0.0	0.0	2.0	4.4	71.4	29.3	33.2	56.6	5.0	0.0	10.0	146.0	9.4	14.2	79.3	32.0	39.2	63.0
9	2	50.0	40.4	2.8	2.5	58.4	23.3	22.2	72.6	32.4	4.5	0.0	2.0	29.0	35.6	0.0	28.8	2.5	45.2	66.4
9	3	10.5	40.4	70.6	2.0	31.2	0.0	43.0	73.6	8.0	0.5	1.0	25.5	50.0	51.0	0.0	3.6	0.0	235.4	69.4
9	4	1.0	5.8	0.0	12.0	82.4	T	85.8	18.0	7.8	4.8	2.8	83.6	5.8	51.0	1.6	7.6	10.0	33.6	140.2
9	5	2.5	3.2	10.8	4.0	31.2	0.0	5.6	5.6	0.0	0.0	24.5	42.5	36.8	3.2	2.4	32.4	7.6	16.6	134.6
9	6	35.0	19.0	1.6	T	8.4	39.0	5.1	136.8	16.0	21.5	3.0	58.0	36.0	7.8	17.1	72.0	8.6	5.2	93.4
9	7	9.0	12.0	2.6	6.0	23.6	8.2	15.0	14.4	64.6	9.4	32.8	25.0	0.2	25.3	25.0	48.4	96.0	0.0	2.6
9	8	0.0	40.0	0.0	4.8	0.4	18.1	70.0	51.6	8.0	0.0	8.8	67.0	0.0	10.3	5.8	17.8	32.0	22.6	0.0
9	9	0.0	3.6	14.0	1.3	1.0	0.0	30.2	17.6	0.0	12.0	96.8	6.0	4.5	11.3	0.0	7.0	0.3	0.0	37.4
9	10	33.0	1.4	0.0	0.0	39.8	2.0	5.2	7.1	9.2	56.6	10.2	92.9	70.7	30.5	6.0	39.0	17.6	26.6	44.9
9	11	0.0	0.0	2.2	17.0	1.2	79.0	41.2	2.0	0.0	2.5	41.3	41.0	25.2	12.6	5.6	6.0	0.0	114.7	52.8
9	12	17.5	0.0	4.2	26.0	0.4	54.9	0.5	10.1	1.0	46.1	1.8	12.2	0.0	0.0	38.6	15.6	26.6	1.2	57.0
9	13	11.0	12.8	2.0	0.0	30.8	38.8	2.0	36.4	13.2	0.5	89.8	17.9	159.2	11.2	87.6	2.9	6.4	5.4	64.6
9	14	42.0	34.4	2.3	0.0	9.2	0.1	1.0	120.7	17.3	7.8	91.7	8.0	33.0	1.1	24.3	5.3	78.6	3.4	60.4
9	15	45.0	39.2	0.7	0.0	7.0	20.0	0.0	9.0	2.0	15.0	4.0	10.4	28.5	73.6	11.9	39.0	40.2	T	25.8
9	16	49.0	0.0	0.0	0.0	0.0	78.0	17.8	104.8	0.0	0.0	0.0	4.0	1.0	0.9	10.5	25.0	32.4	16.7	1.4
9	17	42.0	22.9	8.0	24.8	0.0	144.0	6.4	9.3	20.2	5.5	0.0	3.4	11.5	1.0	0.5	55.8	33.3	52.4	0.4
9	18	2.0	40.5	0.0	2.5	0.0	1.0	25.2	41.2	0.5	0.5	0.0	0.0	16.0	6.7	156.0	11.4	17.8	T	32.0
9	19	0.0	20.0	66.0	0.0	0.0	0.1	3.7	148.2	21.4	27.8	29.0	0.0	2.1	9.8	15.6	105.0	75.8	0.0	0.0
9	20	29.5	0.0	7.2	0.0	0.0	0.0	T	60.0	71.8	24.0	0.3	0.0	0.8	71.0	62.4	24.4	81.6	0.0	0.0
9	21	19.0	0.0	6.4	0.0	0.0	0.0	55.4	T	0.0	11.6	1.8	T	30.5	0.0	11.2	29.6	0.0	16.0	59.1
9	22	0.0	32.6	0.0	40.8	1.8	23.2	0.0	0.0	21.5	45.7	0.0	30.0	T	0.0	26.9	1.8	0.8	0.0	0.2
9	23	0.0	0.1	35.8	87.0	0.0	0.0	0.0	14.0	2.8	3.4	1.0	0.0	43.0	T	1.6	19.8	0.7	1.6	40.2
9	24	41.0	26.8	76.0	35.7	66.4	91.5	T	18.8	2.0	0.0	0.0	0.0	0.0	0.0	4.4	3.1	0.0	0.0	11.8
9	25	41.0	0.0	32.0	1.0	5.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	T	T	0.1	0.6	0.0	3.4	0.4
9	26	36.0	2.0	20.0	24.8	3.6	27.0	0.0	16.0	0.2	0.0	12.5	0.0	13.2	0.0	0.0	15.9	0.0	8.6	27.6
9	27	19.6	4.8	12.0	0.0	0.0	2.3	0.0	2.4	66.0	0.0	168.0	0.0	T	2.3	0.0	T	0.0	T	28.4
9	28	40.5	0.0	34.8	42.0	T	T	0.0	61.6	0.6	16.2	17.6	0.0	17.0	2.7	0.0	13.8	0.0	16.6	26.2
9	29	0.0	1.0	14.0	0.0	0.0	0.0	0.4	10.8	0.0	11.4	0.0	0.0	48.8	58.8	29.2	0.0	0.0	11.8	14.6
9	30	36.0	14.8	15.0	101.0	1.0	0.3	45.8	0.2	25.2	0.0	0.0	0.0	15.0	24.9	0.0	12.6	0.0	20.2	9.4
10	1	0.0	0.0	0.0	0.0	1.0	50.9	22.1	15.4	26.0	0.0	2.1	49.0	T	0.0	0.0	T	0.0	T	11.6
10	2	12.0	1.8	0.0	29.6	1.0	15.8	17.7	1.9	0.8	100.0	0.0	0.0	T	0.0	0.0	0.0	0.0	5.0	0.0
10	3	43.0	0.0	0.0	3.8	0.0	87.0	15.8	44.9	0.0	71.6	0.0	0.0	0.0	0.0	0.0	17.6	0.0	0.0	2.6
10	4	43.0	0.0	0.0	0.0	0.0	73.0	0.0	30.0	7.8	38.0	0.0	53.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	5	46.0	0.0	3.0	4.8	0.0	5.6	0.0	47.2	0.6	4.2	15.3	78.5	1.0	0.0	0.0	0.0	1.2	0.0	18.6
10	6	0.0	0.0	T	18.0	0.4	0.0	0.0	0.0	29.6	20.8	0.3	0.7	41.5	0.0	0.0	0.0	1.4	10.3	3.0
10	7	0.0	0.0	4.6	11.8	6.4	14.4	15.8	50.0	8.2	24.3	2.0	31.5	3.0	0.0	0.0	0.0	0.0	0.8	7.0
10	8	0.0	0.0	1.1	11.0	16.4	60.0	12.0	T	31.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	9	0.0	0.0	0.0	42.0	0.4	10.3	11.8	44.4	2.6	1.6	3.0	48.2	0.0	0.0	8.2	13.1	0.0	3.4	0.0
10	10	0.0	12.6	0.0	25.0	0.6	0.0	T	50.4	2.4	0.0	19.8	35.1	3.7	0.0	0.1	76.6	0.0	45.0	36.6
10	11	0.0	3.3	0.0	0.0	0.0	0.0	0.0	32.4	1.0	0.0	0.0	42.8	0.0	0.0	0.0	28.4	0.0	21.2	7.2
10	12	0.0	0.0	0.0	0.0	0.0	3.0	20.2	26.9	0.0	0.0	0.0	1.0	0.0	0.0	0.0	47.7	0.0	0.2	4.2
10	13	0.0	0.0	2.4	15.0	0.0	135.6	13.8	0.0	0.0	2.0	0.0	19.5	1.0	0.0	0.0	9.9	0.0	0.0	0.0
10	14	0.0	0.0	5.2	17.0	0.0	2.7	48.0	0.0	1.2	5.6	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	36.0
10	15	0.0	0.0	2.0	0.0	0.0	0.0	76.2	0.0	0.0	1.3	0.0	5.5	0.0	0.0	0.0	0.0	17.0	0.0	1.6
10	16	0.0	0.0	0.6	22.8	0.0	0.0	8.6	0.0	0.0	34.3	0.0	T	0.0	0.0	0.0	17.9	12.8	0.8	1.8
10	17	0.0	0.0	0.0	42.0	15.0	0.0	10.2	0.0	0.0	T	0.0	1.2	T	0.0	0.0	1.0	0.0	1.2	0.0
10	18	0.0	0.0	0.0	59.0	0.0	0.0	5.1	0.0	1.0	2.4	0.3	0.0	0.0	0.0	0.0	0.0	6.6	26.8	0.0
10	19	0.0	0.0	0.0	6.0	0.0	0.3	0.0	2.4	0.0	12.5	6.3	0.0	0.0	0.0	0.0	13.6	19.0	53.4	0.0
10	20	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.2	0.0	4.4	0.0
10	21	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	21.2	0.0	T	28.0	0.0
10	22	0.0	40.2	0.0	21.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0
10	23	0.0	26.8	0.0	0.0	1.7	0.0	0.0	0.0	5.7	0.0	0.0	0.0	1.0	0.0	41.0	0.0	0.0	0.0	0.0
10	24	0.0	0.0	0.0	0.0	0.0	0.0	13.0	0.0	22.5	0.0	0.0	0.0	19.5	0.0	0.1	3.4	0.0	0.0	0.0
10	25	0.0	0.0	T	0.0	0.0	0.0	2.3	0.0	7.0	0.0	0.4	0.0	46.5	0.0	6.0	0.3	0.0	0.0	0.0
10	26	0.0	1.0	0.0	0.0	0.0	0.0	0.0	12.0	1.9	4.7	T	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	5.5	0.0	1.3	0.0	20.3	0.0	0.0	0.0	0.0	0.0
10	28	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	3.2	0.0	8.2	T	5.6	0.3	0.0	0.0	3.0	0.0
10	29	0.0	0.0	19.0	0.0	0.2	T	0.0	T	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	30	0.0	0.0	0.0	0.0	33.4	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T
10	31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.1

Daily Precipitation (mm)

Location : Pokhara Airport

Month	Year Day	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
11	1	0.0	0.0	0.0	17.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	2	0.0	0.0	0.0	0.0	0.0	8.7	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	3.6	0.0
11	3	0.0	0.0	0.0	4.8	0.0	5.8	0.0	0.0	0.0	60.0	13.6	0.0	0.0	0.0	0.0	0.0	0.0	18.0	0.0
11	4	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	14.6	0.0	0.0	0.0	29.0	0.0	0.0	0.0	T	0.0
11	5	0.0	5.6	0.2	0.0	0.0	34.7	0.0	0.0	0.0	5.0	T	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0
11	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.0
11	7	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0
11	8	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	11.0	4.3	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0
11	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	12.7	0.0	0.0	0.6	0.0
11	11	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.2	0.2
11	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4	0.0	0.0	0.2	1.3
11	13	0.0	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	5.8	T	0.0	0.0	0.0	6.7	0.0	0.0	0.0	7.5
11	14	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	15	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.6	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	16	0.0	0.0	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	17	0.0	0.0	0.0	3.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	18	0.0	0.0	0.0	22.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
11	19	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.7	0.0	0.8	0.0	0.0	0.0	0.0
11	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	26	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0
11	27	0.0	0.0	0.0	0.0	7.8	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0
11	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
11	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	2.3	1.2	0.0	0.0	0.0	0.0	0.0	2.2
12	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	30.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.3	0.0	T
12	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.8	0.0	41.6
12	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	16	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	17	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	18	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T
12	19	0.0	0.0	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	0.0	0.0	0.0	27.4
12	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	76.8	0.0	1.2	0.0
12	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.2	0.0	0.0	0.0	0.0	0.0	17.8	0.0	34.8	0.0
12	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.1	0.0
12	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
12	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	20.8	0.0	0.0	0.0	0.0

Daily Precipitation (mm)
Location : Pokhara Airport

Month	Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
1	1	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	0.0	1.5	0.0	24.2	0.0
1	2	0.0	0.0	0.0	0.0	7.6	0.0	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	3	0.0	0.0	T	0.0	2.0	0.0	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	4	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0
1	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	7	0.0	0.0	0.0	0.0	0.0	0.0	8.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	8	0.0	1.6	39.3	0.0	T	0.0	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	9	0.0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0
1	11	0.0	0.0	0.6	0.0	0.0	0.0	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	12	2.8	0.0	0.0	0.0	0.0	8.7	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	13	0.0	T	0.0	0.0	0.0	0.0	1.0	0.0	2.5	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
1	14	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	T
1	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.0	0.0	59.0	0.0	0.0	0.0	0.0	0.0	30.6	0.0	0.0
1	17	0.2	0.0	0.0	0.0	0.0	0.2	0.0	1.8	0.1	0.3	20.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0
1	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	T
1	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	25.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	22	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	8.5	0.0	0.0	0.0	0.0	0.0	0.0	3.2
1	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	7.6	1.5	0.0	0.0	0.0
1	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	T	0.0	0.0	4.4
1	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.2	0.0	0.0	0.0	23.6
1	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0
1	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.4	0.0	0.0
1	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	T	0.0
1	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	6.2	2.6	0.0
1	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0
1	31	0.0	0.0	0.0	0.0	0.0	2.2	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	1	0.0	0.0	0.0	0.0	0.0	1.5	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.3	0.0
2	2	1.2	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.2	0.0	0.0	0.6	0.0
2	3	0.0	0.0	0.0	0.0	0.3	6.3	0.0	0.0	0.0	0.0	1.0	7.4	T	0.0	0.0	0.0	0.0	0.0
2	4	3.2	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	2.2	0.0	0.0	0.0	0.0	0.0	0.0
2	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.8	0.0	0.0	6.6	0.0	0.0	0.0	T
2	7	0.0	0.0	0.0	0.0	0.0	13.4	0.0	0.0	0.0	0.0	T	0.0	0.0	0.4	0.0	T	0.0	4.5
2	8	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	4.6	T	0.0	0.0	0.0	T	0.0	0.0
2	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.4	0.0	16.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	10	0.0	0.0	0.0	1.6	0.0	0.0	0.0	10.6	0.0	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	11	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	19.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	12	0.0	0.0	0.0	0.0	1.0	0.3	0.0	0.0	0.0	6.0	0.0	0.0	0.0	4.7	0.0	17.0	0.0	0.0
2	13	0.0	1.2	0.0	0.2	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	14	0.0	0.8	0.0	19.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	15	0.0	1.2	0.0	7.2	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
2	16	0.1	0.0	0.0	2.6	0.0	0.0	0.0	0.0	5.5	4.3	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0
2	17	17.2	0.0	0.0	0.0	0.0	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	18	1.2	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
2	19	0.0	0.0	3.4	0.1	0.2	0.0	13.6	0.0	1.3	0.0	0.0	3.0	0.0	1.4	10.6	14.7	23.5	0.0
2	20	0.0	0.0	10.3	0.0	0.0	0.0	1.8	0.0	0.0	T	2.2	2.0	0.0	0.0	0.2	0.0	17.5	6.1
2	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
2	22	0.0	8.0	0.3	0.0	0.0	0.0	0.0	5.0	T	2.0	0.0	T	21.0	0.0	0.6	4.5	0.0	T
2	23	3.2	0.0	0.2	14.2	0.0	0.0	0.3	5.7	15.8	0.0	3.2	0.0	0.0	0.0	0.1	0.0	0.0	T
2	24	0.0	7.3	0.0	4.1	0.0	0.0	0.0	0.0	1.6	0.0	0.0	T	0.0	0.0	0.6	T	0.0	0.0
2	25	5.4	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	9.2	0.0	0.0	4.8	8.0	1.1	0.0
2	26	T	0.2	0.0	0.0	0.2	0.0	0.1	0.0	0.0	4.2	T	0.2	T	0.0	8.0	9.8	0.4	0.0
2	27	T	0.0	0.0	2.6	19.8	0.0	0.0	T	9.8	12.6	T	0.0	T	0.0	0.0	0.0	16.2	0.0
2	28	31.4	0.0	0.0	T	0.0	0.0	1.6	0.0	1.8	T	3.2	0.0	1.6	T	0.0	0.0	0.0	T
2	29		5.4				0.0				0.0				0.0				T

Daily Precipitation (mm)
Location : Pokhara Airport

Month	Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
3	1	0.0	0.0	0.0	1.8	4.8	0.0	0.2	0.2	16.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	2	0.0	0.2	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
3	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.4	0.0	4.5	0.0	0.0
3	4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6	1.2	0.0	0.0	0.0	0.0	1.7	T	0.0
3	5	T	0.0	0.0	0.0	7.7	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	6	0.0	24.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.2	31.6	0.0	0.0
3	7	2.0	1.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	T	0.0	0.0
3	8	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.2	0.0	1.0	0.0	0.0	0.0	0.0	T	0.0
3	9	9.8	14.8	0.0	21.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.3	0.0	0.0	0.0
3	10	50.7	5.5	0.0	18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11	1.2	0.0	0.0	22.9	0.0	0.0	0.0	0.6	0.0	1.2	0.0	0.0	0.0	1.8	0.0	0.0	0.0	3.8
3	12	0.1	1.9	9.6	0.8	0.0	0.0	6.0	0.0	0.0	4.6	0.0	T	0.0	T	0.0	0.0	T	0.4
3	13	T	6.3	0.0	5.8	0.1	0.0	0.0	T	0.0	11.8	0.0	1.0	0.0	18.6	0.0	0.0	6.4	4.0
3	14	2.0	T	5.6	1.6	5.6	0.0	0.0	2.2	0.0	T	1.0	0.6	0.0	2.4	2.1	0.0	0.0	4.7
3	15	2.3	1.0	31.8	0.0	4.8	0.0	6.0	16.0	0.0	0.0	0.0	0.0	0.0	0.4	3.4	T	T	0.1
3	16	T	0.0	T	0.0	0.0	T	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	15.4
3	17	8.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0
3	18	1.1	T	0.0	0.0	0.0	0.0	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	T	0.6	0.0
3	19	0.0	1.9	14.9	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	7.0	0.0
3	20	0.0	9.2	1.4	1.5	0.0	0.0	0.0	T	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	T
3	21	0.3	0.0	1.6	0.0	0.0	0.5	0.0	0.2	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	22	0.0	0.2	0.6	T	0.0	0.0	0.0	0.0	1.8	0.0	4.5	T	0.0	0.4	T	0.4	13.0	0.0
3	23	T	6.3	0.0	21.9	0.0	0.0	0.0	1.2	0.2	1.1	3.8	2.6	0.0	1.4	2.4	11.7	0.7	0.0
3	24	0.0	0.0	0.0	12.2	18.4	0.0	1.0	0.0	1.8	0.0	0.0	T	0.0	16.6	4.6	T	7.4	0.0
3	25	0.0	0.0	0.0	1.7	0.6	0.0	T	T	6.7	10.6	0.0	40.2	0.0	0.0	0.0	1.2	37.5	0.0
3	26	4.2	0.0	0.0	0.0	0.0	0.0	27.8	6.2	16.1	0.0	0.0	0.4	0.0	0.0	1.5	0.0	0.3	0.0
3	27	0.0	0.9	0.0	0.0	0.0	0.0	12.5	1.0	15.8	0.6	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
3	28	T	0.2	0.0	0.1	0.0	0.0	0.0	0.0	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0
3	29	0.0	0.0	0.0	2.4	0.0	0.0	0.0	28.6	1.8	1.6	0.1	22.8	0.0	0.0	0.0	0.0	0.3	0.0
3	30	0.0	0.0	T	1.1	0.0	0.0	0.0	16.4	4.0	0.0	34.8	28.0	0.0	0.0	0.0	1.8	12.0	0.0
3	31	0.0	0.0	0.0	1.8	30.6	0.0	0.0	0.6	0.0	0.3	0.2	0.0	T	0.0	0.8	8.4	9.0	0.0
4	1	20.2	0.0	0.0	0.0	0.7	T	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	T	2.5	2.2	0.0
4	2	18.7	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	1.2	0.0	0.0	T	T	0.0
4	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	23.4
4	4	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	4.8	13.6	4.4	T	0.0	T	T	0.0	37.0
4	5	0.0	0.0	0.0	T	0.0	0.0	0.0	16.6	0.0	0.0	0.0	1.6	0.0	0.0	T	0.5	8.0	38.1
4	6	0.0	0.0	0.0	T	0.0	0.0	0.0	0.5	0.0	0.0	2.4	0.2	0.0	0.0	0.0	0.0	3.5	T
4	7	0.0	0.0	0.0	5.8	1.4	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	T	0.0	1.5	5.3
4	8	0.0	0.0	0.0	14.8	0.0	0.0	0.0	0.0	0.0	0.8	0.0	26.4	0.0	0.0	0.0	6.5	16.8	38.0
4	9	6.8	0.0	0.0	0.2	16.6	0.0	0.0	0.0	0.0	0.0	10.0	1.3	16.0	0.0	0.0	14.4	2.4	32.5
4	10	0.4	0.0	0.0	5.1	10.2	0.0	T	0.0	4.8	0.0	0.2	T	T	0.0	0.0	19.5	0.0	18.0
4	11	0.0	0.0	11.6	0.0	0.0	0.0	2.2	0.0	18.0	0.0	0.2	0.0	0.0	8.6	T	8.3	0.0	0.0
4	12	T	0.0	0.0	0.0	0.2	0.0	19.0	0.0	6.6	0.0	T	0.0	0.0	0.0	0.0	T	15.0	T
4	13	0.0	T	0.0	T	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.5	0.2
4	14	0.0	34.8	0.0	T	0.0	0.0	7.2	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.5	0.0	0.0	0.0
4	15	0.0	T	0.0	0.0	0.0	0.0	0.0	4.6	0.0	0.0	0.1	0.0	0.0	8.5	16.5	0.0	6.8	0.0
4	16	0.0	0.3	0.0	T	0.0	0.0	1.4	0.4	0.2	0.0	11.6	0.0	0.0	0.0	0.0	0.0	5.1	0.0
4	17	0.0	34.4	0.0	0.2	0.0	0.0	14.3	0.0	T	T	2.1	0.0	0.0	12.6	21.0	0.0	22.5	0.0
4	18	0.0	1.8	0.0	0.0	0.0	0.0	53.8	0.0	27.0	0.0	0.0	T	0.0	1.8	0.0	T	1.2	1.5
4	19	19.9	0.6	0.0	0.0	0.0	4.4	0.8	0.0	T	0.0	T	9.2	0.0	6.0	16.0	7.8	0.0	6.4
4	20	0.0	10.8	0.0	T	0.1	0.0	0.0	0.1	0.0	0.2	0.0	71.0	0.0	0.2	7.4	0.0	10.5	4.4
4	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	25.8	T	16.2	0.0	45.7	0.0	0.0
4	22	0.0	9.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	T	14.8	T	68.6	10.7	23.5	8.0	30.7
4	23	11.2	0.0	0.0	0.0	0.0	0.0	27.4	14.6	0.0	T	4.0	29.2	3.4	19.0	4.5	0.8	0.0	12.3
4	24	T	0.1	0.0	0.0	0.0	0.0	38.0	2.6	T	1.0	0.0	T	0.0	6.8	0.0	3.6	19.0	0.0
4	25	12.2	0.0	0.0	12.8	16.0	0.0	4.6	0.0	0.0	T	76.6	8.4	0.0	2.6	0.0	12.0	1.7	0.0
4	26	0.2	43.8	0.1	T	0.0	0.0	3.2	0.0	1.6	2.4	0.2	8.6	0.0	0.0	7.5	13.2	32.4	0.5
4	27	10.6	0.0	0.0	4.0	0.2	7.2	0.0	0.0	0.0	0.0	4.0	25.4	T	0.0	1.8	17.5	30.5	0.0
4	28	2.2	0.0	T	0.1	18.6	0.5	0.0	0.0	2.6	0.0	43.0	0.0	0.0	30.2	1.4	16.6	1.7	16.0
4	29	2.1	0.0	T	1.2	0.2	8.4	29.5	0.0	0.8	12.3	0.2	12.0	0.0	14.4	0.4	0.1	13.0	1.4
4	30	12.8	0.0	0.0	0.0	0.0	33.4	T	0.0	14.2	17.0	49.2	0.6	0.0	4.0	24.0	9.6	0.3	0.0

Daily Precipitation (mm)
Location : Pokhara Airport

Month	Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Day																			
5	1	1.0	0.0	0.0	6.0	0.2	20.4	T	0.0	0.0	24.6	7.2	T	30.8	0.0	0.1	0.0	0.0	12.7
5	2	1.8	1.8	0.0	0.0	30.0	12.9	0.0	0.0	0.0	3.8	16.6	39.4	42.2	28.4	37.6	0.0	13.4	0.7
5	3	20.0	2.4	0.0	0.4	3.4	8.8	0.0	0.0	0.0	10.4	37.4	2.0	1.4	0.0	1.8	59.0	0.1	0.0
5	4	T	T	0.0	5.3	3.5	19.5	2.6	0.0	0.0	17.9	21.0	68.0	31.4	0.0	25.2	2.4	16.2	0.0
5	5	0.0	0.0	0.0	11.8	0.0	18.5	T	0.0	T	0.5	T	30.7	12.8	0.0	0.4	2.2	15.5	2.8
5	6	T	18.2	0.0	T	1.0	2.8	21.4	T	0.0	0.0	11.0	0.8	60.4	0.0	0.0	1.0	0.0	11.5
5	7	26.8	0.0	0.0	1.0	47.6	18.4	28.0	1.4	4.0	T	0.0	7.5	12.4	12.6	47.5	23.6	0.0	0.0
5	8	2.4	7.2	0.0	0.0	6.8	0.0	3.8	9.0	20.0	5.4	30.2	3.0	1.8	0.0	0.0	1.4	0.0	0.0
5	9	0.1	3.2	0.0	0.0	13.0	1.0	5.4	1.8	0.0	73.8	1.0	0.3	3.8	0.0	1.5	3.5	0.0	6.4
5	10	0.0	0.0	0.0	1.1	0.0	3.3	6.0	73.8	T	0.0	0.3	16.0	18.8	0.0	51.4	31.6	2.0	5.8
5	11	0.0	0.0	0.0	1.2	0.0	7.8	9.0	5.2	34.6	0.0	0.0	T	5.2	0.0	19.7	18.5	0.0	0.0
5	12	0.0	0.0	37.4	37.8	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	66.2	39.8	0.0	T	20.4	0.0
5	13	0.0	0.0	17.0	60.1	0.0	0.0	0.0	0.0	3.0	1.1	0.0	0.4	0.0	0.0	0.0	72.0	3.6	0.0
5	14	0.8	4.4	9.4	32.2	0.0	0.0	35.2	0.0	9.6	0.0	0.0	3.5	5.2	1.8	74.0	24.5	6.5	50.3
5	15	0.0	4.6	0.2	T	24.0	10.8	12.4	0.0	23.3	0.0	0.0	46.6	6.0	0.0	0.0	2.8	0.5	18.8
5	16	0.0	0.9	0.0	0.0	59.0	0.0	0.0	1.6	31.8	4.0	0.0	0.0	59.6	28.6	3.5	7.5	12.8	22.4
5	17	0.0	16.9	8.2	78.8	36.2	12.8	38.8	0.3	101.2	60.2	0.0	0.0	0.2	0.4	0.0	0.4	4.5	15.4
5	18	0.0	85.4	1.3	23.3	9.7	1.8	15.6	13.4	5.2	39.4	0.0	17.2	30.6	20.2	1.8	27.5	24.5	80.2
5	19	0.0	7.0	97.8	0.0	16.9	0.0	5.2	2.2	0.0	0.0	0.0	20.8	0.0	16.0	27.5	3.5	43.6	23.8
5	20	0.0	2.1	7.2	6.0	0.1	0.0	37.0	8.8	25.1	2.0	34.0	0.0	0.0	27.2	6.0	0.0	2.4	2.8
5	21	0.0	0.0	74.9	17.9	20.8	7.2	23.8	2.2	24.6	0.0	16.8	2.8	19.0	3.2	0.0	26.4	T	6.4
5	22	1.8	0.0	5.0	11.8	1.0	0.0	0.0	35.2	T	0.2	0.0	16.0	5.6	42.2	1.8	0.0	17.0	1.8
5	23	34.7	3.2	42.8	0.0	7.0	14.8	0.0	4.6	T	0.8	0.4	30.2	50.4	35.5	9.4	0.0	1.0	8.6
5	24	0.8	0.3	6.3	16.5	0.0	T	0.0	78.4	0.0	0.0	8.4	7.6	8.8	138.2	4.0	5.0	3.5	4.4
5	25	0.0	10.0	16.9	0.0	0.0	4.4	33.4	6.5	0.0	9.0	18.6	49.4	41.2	20.6	3.4	35.6	8.4	1.8
5	26	1.0	T	29.5	6.4	12.0	0.2	0.0	39.5	0.0	43.4	0.8	2.0	61.0	27.2	17.3	14.0	5.3	44.3
5	27	11.4	28.4	114.4	12.8	21.0	29.2	61.0	0.8	0.0	36.6	T	0.6	183.0	66.6	17.0	3.2	T	0.4
5	28	0.0	1.2	23.6	1.9	8.6	26.8	10.4	3.0	0.0	0.0	28.8	50.2	21.2	24.8	0.0	0.0	2.5	4.5
5	29	0.0	32.6	26.2	1.7	7.5	T	5.2	65.0	0.0	0.0	56.8	0.1	105.6	47.6	0.1	58.5	0.0	95.5
5	30	8.0	10.6	0.2	27.1	22.8	25.2	4.2	14.2	0.0	10.4	1.6	0.2	2.3	94.0	0.8	10.5	0.0	10.2
5	31	T	0.4	0.0	0.0	6.2	0.0	0.0	13.8	T	28.4	17.8	0.0	12.8	8.0	7.4	2.5	42.2	1.0
6	1	T	23.6	0.0	50.8	0.4	0.0	0.0	0.0	2.4	57.4	0.0	66.0	0.6	0.0	2.2	0.0	12.0	10.2
6	2	7.4	0.0	10.2	4.1	0.0	0.0	17.2	7.3	0.6	29.2	3.4	0.0	5.0	7.0	42.2	0.0	0.8	54.6
6	3	10.4	0.4	0.5	105.3	10.5	0.0	13.4	49.2	12.6	22.2	T	65.5	0.0	14.2	123.5	1.8	0.0	18.8
6	4	0.7	0.0	26.2	8.7	0.4	0.0	4.2	12.2	9.6	1.4	0.0	1.6	0.0	19.2	19.9	4.6	62.2	43.2
6	5	2.2	1.9	T	3.0	6.8	0.0	33.2	8.4	75.3	3.0	0.3	2.2	0.0	21.8	74.5	27.6	2.7	1.0
6	6	34.4	T	60.4	5.6	20.0	9.0	26.0	36.2	99.8	7.6	7.0	46.4	0.0	2.6	21.2	T	4.2	0.0
6	7	0.5	2.8	2.5	30.5	124.2	17.0	3.4	0.0	86.6	0.0	13.0	0.0	0.0	31.8	11.4	95.4	16.4	81.2
6	8	0.0	6.0	19.4	2.9	38.8	12.9	2.5	0.0	28.2	1.2	55.4	37.4	0.4	116.0	12.8	0.0	47.5	0.0
6	9	15.4	0.0	1.2	13.4	0.0	0.0	80.0	0.0	1.8	0.1	35.0	0.0	0.0	58.0	19.2	0.0	2.6	4.8
6	10	14.7	37.7	4.0	72.0	45.6	2.8	3.6	46.0	8.6	0.0	6.9	0.0	43.0	2.6	2.0	0.2	62.2	0.0
6	11	7.8	0.1	43.1	83.6	8.4	0.0	7.0	10.2	38.4	64.5	18.0	0.0	29.0	8.0	65.2	79.1	34.2	35.5
6	12	33.7	29.8	0.0	2.5	6.0	6.3	22.7	3.0	1.0	T	8.0	0.0	12.4	25.4	0.1	28.8	1.5	0.5
6	13	24.0	50.4	11.6	T	4.2	17.2	0.4	5.8	98.9	T	16.2	0.0	201.0	8.4	58.5	5.5	1.8	0.0
6	14	T	39.3	6.6	33.6	30.6	0.0	T	8.0	91.0	93.6	47.2	0.2	26.2	50.4	16.0	26.4	1.5	15.2
6	15	0.5	113.1	11.0	31.6	18.6	14.4	0.4	11.6	0.8	0.0	1.2	2.0	0.0	43.2	7.0	78.5	33.5	5.0
6	16	82.0	19.3	20.8	45.2	2.2	0.0	66.4	3.0	4.0	5.8	84.0	T	56.2	47.8	39.2	14.0	7.0	10.0
6	17	31.6	107.8	6.0	0.0	1.8	0.0	12.6	49.2	9.4	31.8	13.2	0.0	5.8	43.0	17.6	34.6	47.5	11.5
6	18	0.8	54.2	13.4	62.6	11.2	0.0	16.2	37.0	42.2	121.5	82.6	0.0	6.4	6.2	35.7	32.8	0.3	67.5
6	19	8.8	39.8	81.1	7.8	41.8	86.0	115.0	95.6	172.4	3.6	80.2	71.6	7.4	10.6	11.4	11.3	0.8	15.5
6	20	24.0	0.7	19.0	67.8	0.2	12.7	51.4	17.6	70.0	0.3	0.4	84.0	0.0	0.0	17.5	48.5	39.4	0.1
6	21	2.8	66.4	17.1	49.8	5.6	61.8	13.4	63.2	75.7	13.6	3.0	44.0	38.2	117.6	0.8	46.1	20.0	118.0
6	22	12.8	0.0	60.3	5.1	5.4	2.8	2.0	45.0	20.0	14.6	7.2	59.2	12.0	122.0	28.5	4.0	52.7	91.5
6	23	1.6	5.4	2.6	18.0	16.6	128.4	39.0	11.0	15.0	9.0	14.4	55.4	5.0	7.2	18.5	20.2	2.8	24.8
6	24	73.5	108.9	3.7	34.1	25.2	0.0	0.0	44.0	122.8	0.6	0.0	29.2	96.2	28.8	0.2	35.5	10.3	25.2
6	25	9.4	14.9	3.2	15.8	0.0	13.0	14.8	6.2	41.0	46.0	0.6	14.4	179.2	29.0	0.0	T	21.1	5.5
6	26	74.5	11.7	6.2	113.4	11.2	7.0	0.2	20.0	4.0	29.0	0.0	51.4	18.6	0.1	5.2	16.0	2.1	12.5
6	27	0.8	14.4	109.1	19.4	1.4	20.0	24.6	5.0	1.0	11.8	17.6	35.2	84.4	8.4	0.5	47.5	26.6	57.8
6	28	97.8	31.4	8.6	5.6	6.8	19.4	4.4	49.6	30.0	0.1	0.8	47.2	19.6	T	47.2	0.6	42.2	26.2
6	29	71.4	1.8	10.5	20.5	0.0	30.0	1.0	27.0	136.6	52.6	16.4	52.2	0.0	46.4	7.0	2.4	111.5	14.7
6	30	12.2	0.8	35.8	18.8	52.3	8.4	77.1	15.6	91.6	67.0	13.8	4.6	133.0	0.0	6.5	42.0	118.0	22.2

Daily Precipitation (mm)
Location : Pokhara Airport

Month	Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Day																			
7	1	26.7	12.2	168.3	1.0	15.4	6.8	18.0	38.4	57.0	39.0	45.4	59.4	22.4	59.0	10.0	95.5	52.1	0.2
7	2	51.8	80.0	4.2	0.0	3.0	0.2	83.2	2.2	65.2	11.0	0.0	21.0	12.2	0.6	207.5	3.6	1.2	1.2
7	3	97.8	0.1	27.1	37.3	36.6	26.5	62.2	24.0	21.1	3.8	0.0	108.2	30.2	6.6	16.5	6.2	22.0	19.2
7	4	35.7	72.1	22.4	0.6	94.0	25.4	82.8	1.0	7.8	42.0	19.2	4.2	40.0	69.0	18.4	3.0	142.5	1.8
7	5	8.2	90.0	15.5	0.6	10.6	23.5	58.2	5.0	23.5	14.6	68.4	70.0	4.4	64.0	24.5	1.0	42.2	8.8
7	6	19.2	57.2	3.1	1.2	25.0	65.8	28.2	42.6	28.4	88.5	33.0	12.6	0.0	55.6	0.0	211.5	29.2	13.4
7	7	20.4	24.0	51.4	0.0	167.4	43.6	17.8	36.0	108.2	12.4	21.4	61.2	1.4	135.0	12.7	92.0	11.7	9.1
7	8	26.2	104.9	10.6	101.6	36.0	0.5	5.5	44.1	38.4	6.2	28.0	44.0	3.0	24.6	0.5	38.0	27.3	8.4
7	9	71.0	26.8	10.7	45.6	32.0	135.5	0.0	14.5	5.8	29.0	77.0	24.0	60.2	1.8	0.6	1.5	161.0	14.2
7	10	23.8	19.1	14.2	1.8	2.8	74.2	15.2	65.2	156.0	38.0	18.8	1.2	12.8	70.8	1.0	135.9	159.1	18.8
7	11	37.4	4.9	25.5	34.5	48.4	1.6	0.0	27.5	135.0	88.4	59.5	23.6	243.6	57.6	42.4	5.5	1.0	61.2
7	12	0.2	31.0	45.4	0.0	6.4	22.6	0.0	133.0	50.0	11.2	35.0	65.4	5.8	0.0	17.4	40.5	1.0	3.0
7	13	9.0	77.7	8.5	10.0	1.2	16.2	36.6	5.2	139.4	62.0	97.2	0.8	15.6	0.0	T	0.2	3.8	82.6
7	14	17.2	1.2	43.2	157.9	24.0	42.2	76.0	0.2	31.4	94.4	40.4	T	0.6	9.0	75.2	41.0	49.5	24.4
7	15	28.2	0.1	64.7	11.0	99.0	0.0	1.0	142.2	18.6	32.0	25.8	26.5	0.0	23.2	75.4	183.0	9.6	15.5
7	16	0.0	13.0	20.6	0.6	0.8	4.4	38.2	0.0	2.4	16.2	82.6	13.2	T	30.2	67.1	1.5	30.2	6.0
7	17	152.4	0.0	26.3	5.8	0.0	44.2	8.6	44.2	24.4	88.0	0.8	68.0	0.6	T	35.0	3.5	1.8	28.4
7	18	T	23.7	25.6	97.8	8.2	24.4	0.0	38.0	14.3	50.7	13.8	43.5	72.4	5.0	1.0	0.5	19.0	25.5
7	19	52.0	46.2	120.0	0.0	5.0	16.3	86.3	75.2	4.2	27.4	43.8	59.0	104.6	41.8	27.5	7.0	16.8	131.5
7	20	16.2	0.0	11.5	34.5	0.0	8.6	45.4	65.1	39.8	36.6	0.8	10.0	34.6	9.6	60.5	115.0	81.5	52.0
7	21	51.4	70.2	10.6	7.7	27.4	0.8	25.8	63.8	25.2	1.0	179.0	14.4	24.6	2.0	0.8	198.0	20.2	23.0
7	22	31.2	19.5	0.0	29.7	3.5	33.0	74.4	1.6	7.9	46.6	23.2	17.8	34.6	9.5	114.4	8.8	78.3	43.6
7	23	61.2	18.2	0.6	27.6	76.6	0.8	24.0	17.2	0.0	31.0	2.6	75.4	36.5	3.0	38.3	14.6	0.3	5.0
7	24	29.6	70.3	0.0	14.3	18.8	79.0	9.6	1.6	0.7	2.0	107.2	4.0	13.2	217.2	0.2	93.5	101.2	7.4
7	25	102.0	41.9	1.8	0.0	2.6	9.2	5.3	5.2	T	6.0	25.0	8.6	64.4	34.8	59.5	26.7	0.0	34.5
7	26	51.9	60.6	0.0	28.4	0.0	0.0	24.6	13.7	1.0	0.0	0.0	0.2	13.0	0.6	22.8	18.8	4.1	9.7
7	27	4.8	0.4	98.7	6.6	0.0	0.5	0.1	45.4	228.0	41.0	0.0	26.6	24.5	0.2	1.4	62.9	38.2	31.4
7	28	15.6	2.7	10.3	72.0	T	T	62.1	1.2	3.4	0.6	42.8	32.4	43.2	7.4	12.3	30.8	45.5	16.5
7	29	73.5	13.6	69.1	2.8	45.2	0.0	44.1	22.8	0.0	2.0	0.0	8.2	0.4	13.5	88.0	72.0	1.2	13.5
7	30	73.8	24.6	35.2	0.0	7.4	0.6	0.2	37.2	4.0	5.8	22.8	0.4	14.5	24.6	26.4	62.0	87.2	3.4
7	31	24.4	87.3	28.8	1.6	0.4	87.2	32.2	7.0	126.0	9.4	0.0	13.4	8.4	44.2	6.0	37.2	50.7	3.7
8	1	49.6	112.0	53.9	2.2	2.4	108.6	145.2	0.0	50.0	8.6	3.8	32.0	0.0	65.6	90.5	0.4	2.8	4.4
8	2	12.0	50.1	8.8	34.6	63.5	7.2	35.3	11.2	3.2	31.0	4.0	5.2	T	18.8	104.2	100.4	5.0	32.0
8	3	46.7	0.0	0.0	12.0	5.2	26.0	1.5	2.0	5.0	25.2	0.0	90.2	0.2	17.0	4.0	43.0	5.0	0.0
8	4	0.6	10.4	20.2	0.0	26.8	5.1	0.0	0.0	0.6	2.4	14.4	20.4	0.8	85.2	15.4	14.8	0.0	0.0
8	5	0.0	0.0	33.4	14.5	44.8	0.0	18.0	14.6	58.9	2.0	73.8	0.8	10.0	42.2	10.0	5.0	T	43.0
8	6	18.4	1.5	19.5	0.3	6.0	67.2	47.5	35.6	2.3	0.0	0.4	5.8	23.0	79.2	0.0	1.6	22.6	0.6
8	7	16.0	93.1	11.3	0.0	9.8	148.1	5.2	8.4	28.6	10.2	0.8	5.0	0.0	91.0	0.1	25.5	10.4	13.0
8	8	6.4	2.1	84.6	10.0	14.8	1.3	95.5	9.4	2.8	35.0	18.0	2.0	2.6	40.6	11.8	0.0	17.2	22.4
8	9	61.4	0.3	118.0	41.8	24.4	0.0	87.6	199.2	32.6	25.5	2.4	33.6	21.4	16.5	0.0	0.0	0.2	27.8
8	10	38.0	2.2	9.6	51.8	23.0	0.0	47.3	6.5	5.6	45.2	45.4	27.6	5.0	70.4	29.6	24.6	25.5	9.0
8	11	65.6	0.2	28.8	64.2	23.0	0.2	30.6	45.3	0.4	3.0	36.6	149.0	7.5	8.4	12.8	35.8	14.0	T
8	12	74.2	31.0	11.4	139.8	0.6	0.0	0.0	13.2	28.0	64.2	58.4	68.0	10.6	14.0	6.8	73.0	27.5	3.5
8	13	79.6	12.0	16.0	57.2	6.8	0.8	19.2	16.2	19.2	168.0	37.4	38.5	65.2	4.6	46.5	43.8	0.6	0.2
8	14	46.2	0.0	17.3	41.6	95.0	0.0	37.1	71.4	3.6	62.2	29.6	42.0	41.8	24.0	1.0	9.2	0.2	32.0
8	15	T	T	0.0	21.2	13.0	113.8	15.3	4.8	149.0	64.0	7.6	18.4	14.0	1.0	0.0	7.4	0.0	7.0
8	16	0.0	23.0	31.6	2.4	37.7	2.0	42.0	0.8	115.4	9.0	4.6	7.5	4.0	4.6	9.8	1.2	0.0	8.4
8	17	30.2	0.9	149.5	51.0	35.0	28.4	2.6	8.7	4.0	58.0	0.2	152.6	21.6	2.0	43.8	18.8	5.0	7.0
8	18	0.0	23.0	37.1	27.7	20.5	1.8	9.6	35.0	92.4	54.6	125.5	128.4	23.5	0.8	357.0	1.7	121.2	15.2
8	19	10.8	18.8	13.8	61.4	3.0	0.4	124.2	1.4	2.4	36.6	56.4	52.6	3.8	40.2	111.7	6.5	19.0	37.5
8	20	7.6	18.6	66.8	0.8	44.0	16.0	1.8	1.6	45.0	0.8	6.4	2.4	48.4	5.0	9.0	64.1	21.0	164.5
8	21	T	27.7	14.1	0.0	0.4	20.2	27.8	64.3	0.2	12.5	0.4	151.1	T	152.0	69.1	70.0	12.7	0.5
8	22	6.8	44.1	41.6	12.6	0.0	42.0	118.6	1.2	0.0	12.2	25.0	15.2	60.4	34.6	159.5	45.5	0.0	0.0
8	23	29.3	80.2	0.0	16.6	1.0	43.8	4.4	13.2	0.0	0.3	9.2	31.0	51.4	4.8	53.0	3.0	112.2	0.0
8	24	60.0	32.2	3.4	20.0	0.0	109.6	8.0	82.3	21.2	0.0	0.8	31.0	2.0	70.0	49.0	12.2	9.4	0.0
8	25	0.0	52.7	11.2	18.7	0.0	29.4	78.6	92.3	0.0	0.2	0.0	86.0	239.2	51.7	2.7	1.8	T	0.0
8	26	63.8	28.7	19.3	5.0	T	1.8	25.3	15.4	0.0	10.4	35.0	40.2	129.0	0.5	0.6	0.2	9.4	32.8
8	27	4.6	3.6	16.6	16.3	22.0	18.6	T	11.0	34.2	18.0	3.6	31.2	10.6	57.2	112.0	68.8	8.5	43.2
8	28	13.6	70.2	0.0	6.6	20.4	0.0	4.8	22.4	1.4	0.0	0.0	25.6	52.2	85.6	117.0	0.0	7.6	0.5
8	29	T	58.8	30.4	11.8	22.2	6.4	24.1	4.6	23.1	28.6	0.6	29.5	15.5	29.5	85.1	1.2	47.6	53.7
8	30	0.2	9.1	3.4	0.0	37.0	0.0	32.8	0.0	16.4	28.7	2.2	72.6	28.6	48.4	0.1	3.3	7.4	171.3
8	31	0.0	4.0	0.0	0.4	0.6	0.0	78.4	2.4	0.0	41.0	1.6	98.1	7.4	27.0	9.8	10.5	74.0	59.2

Daily Precipitation (mm)

Location : Pokhara Airport

Month	Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Day																			
9	1	196.4	0.0	2.6	0.0	20.3	9.6	24.2	7.8	0.0	48.5	0.2	70.0	38.0	7.6	35.8	3.0	83.0	29.6
9	2	76.0	2.4	0.0	34.2	94.7	0.0	T	30.6	0.0	14.8	T	0.4	22.0	41.6	34.6	7.4	177.2	113.0
9	3	141.2	1.6	21.0	0.0	66.0	0.3	6.8	31.2	41.6	2.0	T	93.0	0.6	0.4	14.0	0.8	3.8	76.0
9	4	3.6	58.7	79.6	8.0	9.6	0.0	0.1	2.0	28.6	24.0	0.0	7.5	0.0	2.4	1.0	114.3	8.5	50.0
9	5	0.0	76.3	2.5	0.3	16.9	0.0	39.8	0.0	24.2	27.4	0.0	68.8	1.8	17.8	207.5	28.0	90.2	0.0
9	6	T	150.5	23.7	0.0	22.0	1.8	67.2	0.2	3.4	57.0	2.0	106.2	33.0	14.2	9.8	0.5	0.3	0.0
9	7	5.8	186.6	1.0	1.6	50.4	0.0	35.2	1.8	0.4	20.2	2.6	36.6	58.8	0.8	24.4	0.0	27.4	55.0
9	8	78.2	40.4	99.6	0.0	102.6	7.0	0.2	0.0	T	5.6	10.2	0.0	111.4	57.4	18.4	0.0	0.0	13.0
9	9	0.1	100.2	5.0	54.4	45.0	0.6	1.0	101.9	0.0	6.8	0.0	0.0	28.2	10.4	33.3	0.0	T	45.0
9	10	T	1.3	7.9	80.6	49.6	16.4	2.7	157.2	0.0	17.8	3.8	T	92.6	4.0	40.2	7.3	5.4	93.0
9	11	3.2	0.0	15.6	104.2	139.6	0.0	T	8.3	0.0	7.8	3.0	0.8	0.0	5.6	92.0	0.2	0.0	1.0
9	12	0.3	19.5	64.1	0.3	58.2	1.5	0.1	0.0	0.0	25.0	43.0	1.0	0.0	0.0	1.5	1.5	21.8	74.2
9	13	0.4	13.1	0.0	0.0	0.2	15.6	44.2	40.3	0.0	4.4	2.8	0.0	15.2	0.0	31.6	1.0	151.2	41.0
9	14	T	0.3	21.9	7.4	11.2	22.1	47.4	33.3	17.4	0.2	16.2	0.0	2.4	0.0	17.8	0.0	42.2	47.2
9	15	T	9.7	5.6	0.8	23.7	15.4	3.6	38.2	96.6	20.0	15.0	0.0	0.0	35.8	0.0	11.2	41.5	37.5
9	16	0.0	14.7	0.0	0.0	29.8	15.0	5.7	27.6	0.3	0.0	3.8	0.0	1.8	7.0	6.0	0.0	48.1	17.0
9	17	0.0	5.9	0.0	11.0	95.8	T	2.4	T	0.0	T	0.0	0.0	0.0	11.4	T	5.5	T	26.8
9	18	0.0	17.3	63.4	47.8	1.0	0.3	0.0	1.6	55.4	13.5	14.4	0.0	75.8	80.8	14.7	2.5	43.3	7.5
9	19	23.4	T	10.5	1.4	15.8	0.0	0.0	9.5	0.8	0.6	18.0	23.4	0.4	70.0	0.0	1.5	24.0	1.4
9	20	58.4	0.0	41.8	4.8	1.4	0.0	T	23.4	0.6	4.6	T	0.0	2.5	29.2	0.0	0.0	10.0	16.0
9	21	17.2	1.0	135.4	15.7	0.0	0.0	5.2	0.0	1.2	0.0	53.8	21.5	44.4	0.6	0.0	0.0	29.6	20.8
9	22	45.4	T	48.8	0.0	16.2	0.0	0.8	0.0	35.6	0.0	T	33.2	0.6	0.0	T	25.0	11.5	0.4
9	23	19.2	0.0	23.0	0.0	19.6	0.0	14.0	0.0	42.3	0.0	0.0	4.4	17.6	0.4	0.3	13.5	7.8	0.0
9	24	0.0	9.6	22.8	0.0	37.0	0.0	87.1	0.0	94.6	6.6	28.6	4.0	57.4	87.4	33.3	29.6	24.0	13.5
9	25	5.4	0.0	81.0	36.6	11.2	0.0	30.8	4.8	57.0	138.2	0.2	40.2	43.0	39.0	48.3	21.5	21.4	0.0
9	26	10.2	11.0	1.0	0.4	0.0	31.0	42.4	2.8	1.2	79.0	1.4	23.5	30.6	0.0	15.5	8.5	1.5	6.0
9	27	6.4	31.5	7.8	20.3	4.4	67.8	0.6	T	0.0	101.0	20.2	22.8	3.6	2.8	27.6	50.4	0.2	12.4
9	28	9.0	26.5	0.0	96.2	0.0	82.4	8.6	1.3	26.6	10.2	58.8	173.0	4.4	0.1	0.0	T	46.5	25.2
9	29	27.9	15.8	1.2	0.8	21.0	97.2	6.6	0.0	32.2	68.2	28.0	6.4	0.2	39.6	8.5	0.0	5.1	16.8
9	30	0.4	0.0	20.4	3.4	30.4	12.5	1.8	0.0	T	T	3.4	3.6	44.4	6.4	0.0	2.2	27.5	24.7
10	1	1.2	0.0	0.8	5.0	0.2	1.8	28.1	T	0.0	0.1	34.0	22.6	21.8	0.0	0.0	0.0	0.5	27.2
10	2	28.4	0.0	0.0	0.0	0.0	0.0	18.0	0.0	1.3	45.2	0.0	0.0	29.6	0.0	7.0	0.0	1.5	12.0
10	3	5.2	0.0	0.0	35.6	0.0	0.0	15.0	0.0	46.1	0.0	0.0	0.6	32.5	43.2	0.0	0.0	0.0	33.2
10	4	0.0	0.0	0.0	2.4	0.0	26.8	0.0	0.0	7.2	3.6	6.6	10.0	1.6	0.1	42.5	0.0	0.0	1.2
10	5	7.0	0.0	0.0	0.4	21.8	34.8	4.8	38.2	41.8	40.0	0.0	0.0	0.2	0.0	0.0	13.2	0.0	19.5
10	6	0.0	0.0	3.5	0.0	0.0	22.2	0.2	5.0	26.0	T	18.0	0.0	0.0	16.0	0.0	4.8	0.0	0.0
10	7	0.0	0.1	0.0	0.0	6.8	0.0	2.2	1.6	15.4	0.0	0.0	0.0	0.0	20.0	0.0	0.0	23.5	0.5
10	8	0.0	0.0	0.0	0.0	0.0	0.0	96.4	0.8	0.0	0.5	0.0	0.0	36.0	0.0	0.0	5.5	0.0	4.6
10	9	0.2	0.0	21.3	23.3	0.0	0.0	0.0	0.0	0.0	1.2	0.0	8.6	0.1	4.8	2.6	23.3	0.0	48.4
10	10	0.0	0.0	0.0	0.0	0.0	0.0	12.4	10.4	0.0	4.8	28.4	5.8	0.0	7.6	0.8	0.0	0.0	22.2
10	11	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	19.6	13.6	0.0	37.6	0.0	17.2	0.0	0.0	0.0	0.2
10	12	0.0	0.0	4.2	0.6	0.0	16.2	0.0	0.0	2.2	T	0.2	0.0	4.8	T	0.0	25.5	0.0	1.2
10	13	T	0.0	0.0	0.0	0.0	12.6	43.6	0.0	12.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2
10	14	2.8	0.0	0.0	32.4	0.0	3.4	56.2	0.0	33.8	0.0	T	0.0	0.0	0.4	25.6	0.0	0.0	0.0
10	15	4.5	11.4	0.0	T	0.0	11.3	0.0	0.0	3.2	0.1	T	0.0	0.0	5.0	0.0	0.0	0.0	4.8
10	16	0.0	T	0.0	0.0	0.0	43.4	8.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	17	0.0	0.0	0.0	0.0	0.0	50.1	T	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	18	0.0	0.0	4.2	0.0	0.0	9.9	0.0	0.0	18.6	0.0	0.0	0.0	0.1	0.0	0.0	0.0	T	0.0
10	19	18.2	0.0	14.4	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	17.4	T	0.0	21.0	3.0	0.0	0.0
10	20	61.4	0.0	12.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	8.4	0.0	13.0	0.0	0.0	0.0
10	21	0.0	0.0	1.5	0.0	3.8	23.8	0.0	0.0	0.0	0.0	0.4	0.3	5.3	0.0	0.8	T	0.0	0.0
10	22	0.0	T	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	1.8	3.0	0.0	0.0	0.0	0.0	0.0	0.0
10	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.6	0.0	15.2	0.0	0.0
10	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.4	12.4	0.0	8.6	0.5	0.0	0.0	0.0
10	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	26.0	0.0	0.0	0.5	0.0	0.0	0.0	T
10	26	0.0	0.0	0.0	0.0	0.0	10.2	0.0	0.0	0.0	3.4	0.0	18.6	0.0	0.0	0.0	0.0	0.0	T
10	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	T	0.0	0.2	0.0	0.0	0.0	0.0	15.2	0.0
10	28	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	T
10	29	16.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	30	13.3	0.0	0.0	0.0	0.0	0.0	0.0	11.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	T
10	31	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0

Daily Precipitation (mm)
Location : Pokhara Airport

Month	Year Day	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
11	1	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.5	4.3	0.0	0.0
11	2	0.0	0.0	0.0	0.0	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	0.0
11	3	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	4	0.0	T	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
11	5	0.0	3.6	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.5	0.0	0.0	0.0
11	6	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0	0.0
11	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
11	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0
11	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.3	0.0	T	T	0.0	0.0	0.0	0.0	0.0	0.0
11	12	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.2	T	0.0
11	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.8	0.0	0.0	0.0	0.0
11	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
11	16	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
11	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
11	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
11	20	0.0	0.0	0.8	0.0	0.0	0.0	8.2	0.0	0.0	0.0	T	0.4	0.0	0.4	0.0	0.0	0.0	0.0
11	21	0.0	0.0	27.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	22	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	T	0.0	0.0	0.0
11	23	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.0
11	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	26	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	28	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0
11	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0
11	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	3	0.0	0.0	0.0	0.0	0.0	13.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	4	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	5	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0
12	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.8	0.0	T	0.0	0.0	0.0
12	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.4	0.0	0.0	0.0	0.0	0.0	6.4	0.0
12	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
12	12	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
12	13	24.9	0.0	32.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	14	1.2	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	23	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	24	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	25	0.0	0.0	4.6	0.0	19.8	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
12	26	0.0	T	0.0	0.0	11.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	27	0.0	40.4	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	28	0.0	14.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.0	0.0
12	29	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5	0.0
12	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	31	0.0	0.0	0.0	2.9	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0

Daily Precipitation (mm)

Location : Kharini Tar Latitude : 28° 02' N

Index No. : 0815 Longitude : 84° 06' E

District : Tanahun Elevation : 500 m.

Note : DNA means data not available T means data less than 0.1

Year	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Month Day																	
1 1	DNA	0.0	0.0	0.0	9.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 2	DNA	0.0	0.0	0.0	1.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5	0.0	0.0
1 3	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 4	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 5	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 6	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0
1 7	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
1 8	DNA	0.0	1.5	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 9	DNA	0.0	0.5	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 10	DNA	0.0	6.5	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 11	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 12	DNA	0.0	T	0.0	0.0	DNA	0.0	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	6.2
1 13	DNA	0.0	0.5	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 14	DNA	0.0	0.0	17.2	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 15	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 16	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 17	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.7	0.0	0.0	1.3
1 18	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 19	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 20	DNA	0.0	0.0	0.0	0.0	DNA	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 21	DNA	0.0	5.0	0.0	0.0	DNA	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 22	DNA	0.0	0.0	0.0	5.1	DNA	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 23	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	36.6	0.0	0.0	0.0	0.0	0.0	0.0
1 24	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	2.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0
1 25	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	25.8	0.0	0.0	0.0	0.0	0.0	0.0
1 26	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0	0.0
1 27	DNA	0.0	1.5	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	19.3	0.0	0.0	0.0	0.0	0.0
1 28	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0
1 29	DNA	6.0	0.0	0.0	0.0	DNA	0.0	0.0	8.9	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0
1 30	DNA	0.0	0.0	0.0	3.5	DNA	0.0	0.0	4.0	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0
1 31	DNA	0.0	0.0	0.0	2.4	DNA	0.0	0.0	0.0	0.0	2.0	0.0	2.8	0.0	0.0	0.0	0.0
2 1	DNA	0.0	0.0	0.0	3.1	DNA	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0	0.0	0.0
2 2	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	6.2	0.0	0.0
2 3	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	3.8	0.0	T	0.0	0.0	0.0	0.0	0.0
2 4	DNA	3.0	5.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	10.4
2 5	DNA	0.0	0.0	0.0	2.9	DNA	15.5	0.0	0.0	3.0	0.0	11.8	0.0	0.0	0.0	0.0	0.0
2 6	DNA	5.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 7	DNA	0.0	1.0	0.0	0.0	DNA	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 8	DNA	0.0	0.0	0.0	0.0	DNA	0.0	15.5	12.6	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
2 9	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.8	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0
2 10	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.8	0.0	2.6	0.0	0.0	0.0	0.0	0.0	2.0
2 11	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0	20.1	0.0
2 12	DNA	0.0	0.0	4.2	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 13	DNA	1.0	0.0	0.0	3.1	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 14	DNA	35.5	0.0	0.0	1.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 15	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.6	0.0
2 16	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.7	1.5
2 17	DNA	1.0	0.0	0.0	0.0	DNA	0.0	1.5	0.0	21.8	0.0	1.8	0.0	0.0	4.5	0.0	0.0
2 18	DNA	1.0	0.0	0.0	0.0	DNA	0.0	16.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 19	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	2.0	0.0	0.0	0.1	0.0	T	0.0	0.0	0.0
2 20	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	3.1	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0
2 21	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 22	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 23	DNA	0.0	0.0	0.0	12.9	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3
2 24	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 25	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 26	DNA	0.0	4.5	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 27	DNA	0.0	22.0	0.0	5.0	DNA	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 28	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	10.5	0.0	0.0	0.0	0.0
2 29	DNA	0.0				DNA				2.3				0.0			

Daily Precipitation (mm)
Location : Kharini Tar

Month	Year Day	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
3	1	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	5.4	1.0	0.0	0.0	0.0	0.0	0.0	0.0
3	2	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	12.2	0.0	1.6	0.0	0.0	0.0	0.0	0.0
3	3	DNA	0.0	0.0	0.0	0.0	DNA	0.0	1.5	0.0	0.0	0.0	23.3	0.0	0.0	0.0	0.0	0.0
3	4	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	5	DNA	7.0	5.0	0.0	0.0	DNA	0.0	1.5	0.0	0.0	5.8	T	0.0	0.0	0.0	0.0	0.0
3	6	DNA	11.0	25.0	0.0	0.0	DNA	0.0	0.0	0.0	8.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0
3	7	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	18.7	0.0	0.0	0.0	4.9	0.0
3	8	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.0
3	9	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	T	6.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0
3	10	DNA	0.0	7.0	0.0	0.0	DNA	0.0	0.0	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	8.5
3	11	DNA	0.0	0.0	0.0	0.0	DNA	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2
3	12	DNA	0.0	0.0	0.0	0.0	DNA	0.0	8.8	0.0	1.7	0.0	3.3	0.0	0.0	0.0	0.0	0.0
3	13	DNA	0.0	0.0	0.0	0.0	DNA	0.6	26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	14	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	15	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0
3	16	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	1.2	0.0	3.8	0.0	0.0	26.8	0.0
3	17	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	6.7
3	18	DNA	0.0	0.0	0.0	0.0	DNA	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	19	DNA	0.0	0.0	0.0	0.0	DNA	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	20	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	4.3	0.0	0.0	7.5	0.0	0.0	0.0	0.0
3	21	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.2	0.0	2.6	0.0	0.0	0.0	0.0
3	22	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	4.0	0.0	T	0.0	0.0	0.0	0.0
3	23	DNA	1.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	24	DNA	0.0	0.0	1.0	14.8	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	25	DNA	0.0	0.0	11.5	0.0	DNA	0.0	0.0	0.0	0.0	0.0	8.5	0.0	0.0	0.0	0.0	0.0
3	26	DNA	0.0	0.0	0.0	2.2	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4
3	27	DNA	1.0	0.0	0.0	0.0	DNA	9.0	0.0	0.0	2.3	9.6	0.0	0.0	0.0	0.0	0.0	0.0
3	28	DNA	5.5	0.0	16.6	0.0	DNA	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	29	DNA	1.0	0.0	2.1	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	30	DNA	13.5	0.0	12.0	0.0	DNA	0.0	0.7	1.9	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0
3	31	DNA	0.0	0.0	1.8	0.0	DNA	3.5	12.2	0.0	T	12.8	3.4	0.0	0.0	0.0	0.0	0.0
4	1	DNA	0.0	0.0	12.0	0.0	DNA	29.1	0.0	0.0	0.0	1.9	0.0	0.0	28.9	0.0	0.0	16.0
4	2	DNA	0.0	0.0	7.4	0.0	DNA	0.0	0.0	0.0	0.0	30.2	0.0	0.0	0.0	0.0	0.0	0.0
4	3	DNA	0.0	0.0	0.0	0.0	DNA	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	4	DNA	0.0	0.0	1.1	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	5	DNA	0.0	0.0	61.4	0.0	DNA	6.3	0.0	0.4	0.0	2.5	0.0	0.0	0.0	0.0	10.4	0.0
4	6	DNA	0.0	0.0	0.0	0.0	DNA	0.3	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	7	DNA	2.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0
4	8	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0
4	9	DNA	0.0	0.0	0.0	0.0	DNA	9.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2
4	10	DNA	3.0	0.0	0.7	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.7	0.0	1.3
4	11	DNA	6.0	0.0	0.0	0.0	DNA	0.0	0.0	31.5	0.0	20.5	0.0	0.8	0.0	0.0	1.5	0.0
4	12	DNA	1.0	0.0	0.5	0.0	DNA	26.9	7.3	0.3	0.0	30.4	0.0	T	0.0	0.0	18.7	0.0
4	13	DNA	0.0	0.0	0.0	0.0	DNA	0.0	5.6	0.0	0.0	0.3	3.9	3.3	0.0	0.0	93.5	0.0
4	14	DNA	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	18.4	7.0	0.0	0.0	0.0	0.0
4	15	DNA	0.0	0.0	13.3	0.0	DNA	16.2	0.0	2.3	0.0	1.4	25.0	T	0.0	0.0	0.0	0.0
4	16	DNA	0.0	0.0	0.0	0.0	DNA	0.8	5.0	15.9	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0
4	17	DNA	0.0	0.0	0.9	0.0	DNA	25.6	5.5	0.3	0.0	8.2	10.7	0.0	0.0	0.0	0.0	0.0
4	18	DNA	0.0	0.0	0.0	0.9	DNA	0.0	3.1	0.0	0.0	22.2	24.3	0.0	13.7	0.0	0.0	0.0
4	19	DNA	0.0	0.0	0.0	22.4	DNA	5.4	17.5	6.0	0.0	0.0	2.5	8.6	0.0	6.3	0.0	13.0
4	20	DNA	0.0	0.0	0.0	3.2	DNA	0.0	2.6	4.0	8.3	1.3	31.4	0.0	0.0	0.0	0.0	0.0
4	21	DNA	0.0	0.0	0.0	1.4	DNA	0.0	0.0	0.0	0.0	0.0	6.3	0.0	0.0	0.0	5.1	0.0
4	22	DNA	0.0	37.0	0.0	7.3	DNA	0.0	1.5	T	0.0	0.0	0.0	1.6	0.0	0.0	52.5	0.0
4	23	DNA	0.0	24.0	5.5	0.0	DNA	0.0	9.3	0.1	0.0	2.2	3.5	15.9	0.0	0.0	18.7	5.0
4	24	DNA	0.0	27.0	0.0	0.0	DNA	39.7	0.0	0.0	0.0	14.5	27.0	1.1	0.0	0.0	0.0	3.9
4	25	DNA	0.0	0.0	0.0	21.4	DNA	42.6	0.0	0.0	0.0	14.3	10.9	0.0	2.2	0.0	5.2	17.0
4	26	DNA	0.0	0.0	1.2	0.0	DNA	5.2	0.0	0.3	0.0	4.2	16.5	0.0	0.0	0.0	0.5	1.0
4	27	DNA	0.0	0.0	14.5	0.0	DNA	2.5	0.0	0.2	0.0	0.1	8.3	0.2	0.0	0.0	1.2	2.7
4	28	DNA	0.0	0.0	6.1	0.0	DNA	18.2	0.0	0.0	0.1	0.0	0.0	11.9	0.0	0.0	0.0	0.0
4	29	DNA	0.0	0.0	20.7	0.0	DNA	3.7	6.5	T	0.0	25.1	0.0	21.2	25.6	87.2	15.4	0.0
4	30	DNA	0.0	10.0	1.0	0.0	DNA	0.0	39.0	2.4	0.2	25.7	0.0	0.2	6.1	0.0	11.7	21.5

Daily Precipitation (mm)
Location : Kharini Tar

	Year		1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Month	Day																		
5	1	DNA	0.0	0.0	4.4	0.0	0.0	0.0	2.7	7.0	61.1	0.0	0.0	0.0	47.5	11.1	0.0	0.0	3.0
5	2	DNA	0.0	0.0	52.0	0.0	0.0	0.0	6.1	0.0	T	0.0	0.0	0.0	7.8	4.1	0.0	0.0	21.0
5	3	DNA	0.0	0.0	12.3	0.0	0.0	0.0	0.0	0.0	0.0	17.4	40.4	0.0	8.8	0.0	5.7	6.7	0.0
5	4	DNA	0.0	0.0	0.9	0.0	0.0	0.0	24.4	31.8	0.0	0.0	1.5	0.0	11.7	47.7	0.0	22.0	0.0
5	5	DNA	0.0	1.5	30.0	0.0	0.0	0.0	7.2	0.0	0.0	25.5	0.0	0.0	18.2	1.2	54.9	24.0	0.0
5	6	DNA	0.0	1.5	0.0	0.0	0.0	1.1	35.1	13.2	0.0	31.4	27.4	0.0	26.4	5.3	4.5	0.0	68.0
5	7	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.5	0.0	0.0	73.3	0.0	0.0	0.0
5	8	DNA	0.0	9.0	33.6	0.0	15.3	6.5	12.5	0.0	27.5	30.1	8.1	2.1	4.0	0.0	0.0	0.0	21.4
5	9	DNA	0.0	13.0	0.5	1.0	8.7	0.0	37.0	0.0	0.1	2.3	10.8	29.2	75.5	0.0	0.0	0.0	0.0
5	10	DNA	0.0	9.0	6.9	6.4	0.0	3.6	1.1	6.5	1.6	0.9	0.0	T	0.0	0.0	0.0	0.0	0.0
5	11	DNA	0.0	3.0	1.2	23.0	30.2	0.0	T	1.3	17.2	9.1	4.3	8.2	1.4	0.0	29.0	0.0	0.0
5	12	DNA	20.0	24.0	11.0	35.2	37.8	0.0	3.0	2.7	21.6	0.0	0.0	0.2	0.0	31.8	2.5	0.0	0.0
5	13	DNA	0.0	0.0	6.7	0.0	0.0	0.0	66.0	0.8	T	0.0	0.0	1.7	51.6	13.0	6.1	6.0	0.0
5	14	DNA	13.0	2.0	0.0	0.0	30.0	0.0	9.2	0.0	0.0	0.0	0.0	34.4	1.5	0.0	23.6	2.5	0.0
5	15	DNA	2.5	30.0	6.9	6.3	0.0	2.7	101.2	0.0	0.0	57.5	0.0	2.9	0.8	9.5	24.3	0.0	0.0
5	16	DNA	66.5	18.0	4.8	42.1	0.0	0.0	39.1	17.4	14.5	30.3	0.0	18.4	1.9	0.0	6.4	0.0	0.0
5	17	DNA	0.0	13.0	0.0	8.1	20.0	0.0	6.6	0.0	8.6	22.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	18	DNA	40.5	0.0	18.1	0.0	2.5	0.0	T	0.0	0.0	0.2	0.0	25.4	0.0	13.9	27.8	0.0	0.0
5	19	DNA	10.0	21.0	5.7	0.5	35.2	0.0	0.0	0.0	61.8	0.0	0.0	T	0.0	33.4	8.8	0.0	0.0
5	20	DNA	15.0	1.0	64.5	3.4	2.0	5.4	0.0	0.0	11.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	21	DNA	0.0	0.0	34.5	0.5	0.0	36.2	1.2	10.6	5.5	4.9	10.5	0.0	0.0	28.4	25.0	0.0	0.0
5	22	DNA	24.0	0.0	15.9	7.0	0.0	8.2	72.0	0.3	0.0	18.9	0.0	13.9	4.6	2.8	0.0	13.2	0.0
5	23	DNA	62.5	5.0	0.0	14.1	0.0	6.8	0.1	0.1	100.6	3.6	0.0	0.0	55.5	0.0	6.1	32.2	0.0
5	24	DNA	68.0	0.5	0.0	0.0	0.0	8.4	3.5	0.4	0.0	0.0	0.0	2.8	19.5	0.0	0.0	0.0	0.0
5	25	DNA	25.5	46.5	0.0	5.0	4.5	0.0	3.4	0.0	48.6	0.0	0.0	0.2	11.1	0.0	0.0	0.0	0.0
5	26	DNA	19.0	29.5	0.0	0.0	0.0	0.0	0.0	0.0	70.9	2.9	0.0	0.0	19.3	15.5	0.0	0.0	0.0
5	27	DNA	18.0	14.5	0.0	13.1	2.9	0.0	45.3	0.0	4.8	3.0	0.0	0.2	9.6	3.3	11.4	5.4	0.0
5	28	DNA	0.0	0.5	0.3	62.7	1.2	0.0	9.8	0.0	2.2	34.0	1.4	0.0	36.3	0.0	0.0	0.0	0.0
5	29	DNA	0.0	5.5	0.0	0.0	0.0	16.5	57.4	0.0	0.2	0.4	39.8	0.1	4.1	15.4	5.7	0.0	0.0
5	30	DNA	0.0	40.0	0.0	29.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	3.9	21.6	0.0	0.0	T
5	31	DNA	0.0	0.0	0.2	22.1	0.0	7.7	32.4	0.0	0.0	20.4	17.5	0.0	0.0	35.2	0.0	0.0	0.0
6	1	DNA	23.0	0.0	0.4	0.0	0.0	0.0	0.0	75.0	0.0	0.0	0.0	13.7	27.9	0.0	0.0	1.5	0.0
6	2	DNA	0.0	T	0.4	0.0	0.0	0.0	0.0	0.0	16.3	4.0	4.4	0.0	0.0	22.0	0.0	26.8	0.0
6	3	DNA	7.0	T	22.1	0.0	0.0	18.2	16.5	0.0	19.0	10.5	0.0	T	9.5	0.0	0.0	26.8	0.0
6	4	DNA	9.0	T	0.0	0.0	0.0	47.0	0.4	0.0	10.6	21.7	T	0.0	3.4	41.8	0.5	39.0	0.0
6	5	DNA	18.0	52.0	4.4	0.0	5.1	17.4	8.9	0.0	0.0	72.2	15.8	55.2	16.6	10.0	0.0	2.2	0.0
6	6	DNA	20.5	22.5	25.9	8.9	57.4	9.4	3.0	0.0	0.0	34.0	45.6	28.4	1.2	13.0	0.0	52.8	0.0
6	7	DNA	0.0	4.0	0.0	2.7	47.8	14.0	7.5	0.0	0.0	0.0	0.0	3.0	T	0.0	0.7	4.9	5.1
6	8	DNA	0.0	50.0	0.0	2.6	0.0	0.0	23.0	10.8	24.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
6	9	DNA	0.0	7.0	2.2	0.0	2.2	10.3	29.7	30.0	162.7	1.7	97.3	25.5	0.0	0.0	26.7	0.0	0.0
6	10	DNA	0.0	0.0	0.0	0.0	60.3	12.7	9.3	0.0	0.6	0.0	2.5	0.5	39.2	0.0	0.0	5.5	0.0
6	11	DNA	0.0	0.0	0.0	0.0	65.1	4.4	4.6	3.8	T	0.2	40.6	5.5	4.9	32.4	0.0	11.9	0.0
6	12	DNA	0.0	2.0	0.0	0.0	88.7	0.0	0.8	0.5	13.2	T	5.7	0.0	61.4	0.0	0.0	0.6	0.0
6	13	DNA	0.0	24.0	11.1	0.0	5.7	0.0	2.1	39.1	11.3	0.0	10.1	0.0	19.4	0.0	45.3	0.0	0.0
6	14	DNA	71.0	18.5	33.5	51.9	15.6	3.9	21.8	T	0.0	0.0	43.3	27.5	0.0	37.0	9.0	0.0	0.0
6	15	DNA	0.0	45.0	9.2	3.2	9.6	8.2	2.2	33.4	22.2	0.0	1.1	13.8	0.0	35.3	0.0	0.0	0.0
6	16	DNA	22.0	1.0	0.0	31.8	4.6	1.1	5.6	18.2	22.9	0.0	0.9	0.0	32.2	3.0	0.0	4.5	0.0
6	17	DNA	42.5	35.0	3.3	0.0	3.6	0.3	0.1	0.0	0.0	34.0	9.9	0.0	1.4	0.0	0.0	11.9	0.0
6	18	DNA	6.5	11.0	6.1	61.6	14.2	0.0	6.6	16.2	0.0	0.0	5.0	28.6	72.0	37.0	64.5	2.1	0.0
6	19	DNA	15.0	4.0	10.3	1.3	17.3	0.0	53.2	59.0	0.0	0.0	0.0	0.0	0.0	4.1	86.2	0.0	0.0
6	20	DNA	15.0	0.5	11.6	32.3	0.0	66.6	5.4	0.0	10.9	0.0	28.6	0.0	5.0	37.5	14.2	0.0	0.0
6	21	DNA	33.5	0.0	62.7	22.8	0.0	0.4	0.0	61.2	23.2	25.5	0.0	0.0	8.7	9.8	0.0	0.0	0.0
6	22	DNA	17.5	13.5	33.5	0.0	0.0	52.0	47.2	3.4	14.2	9.2	0.0	0.0	4.9	0.0	25.0	0.0	0.0
6	23	DNA	104.5	43.0	45.5	2.7	0.5	0.4	16.4	0.0	0.6	0.8	1.7	0.0	0.0	2.0	15.0	4.7	0.0
6	24	DNA	2.5	6.0	2.7	33.4	37.3	22.3	0.2	0.0	14.0	0.0	2.4	0.0	1.4	0.0	25.2	27.4	0.0
6	25	DNA	1.0	63.0	0.0	22.4	2.7	0.0	7.4	5.1	7.7	0.0	24.9	20.0	4.1	0.0	47.0	0.0	0.0
6	26	DNA	0.0	43.0	0.0	13.9	21.5	0.0	26.6	27.8	0.0	0.0	6.2	T	8.9	0.0	0.0	31.6	0.0
6	27	DNA	0.0	0.0	1.5	0.0	71.6	6.0	0.6	0.0	0.0	10.2	47.2	0.0	0.0	0.0	89.3	23.9	0.0
6	28	DNA	0.0	19.0	0.0	17.1	16.5	17.2	12.0	20.2	12.5	89.3	6.0	37.9	4.1	43.0	37.9	40.0	0.0
6	29	DNA	11.0	0.0	20.0	1.4	0.0	0.0	32.3	1.2	16.3	107.1	5.2	29.0	5.8	3.0	22.1	13.5	0.0
6	30	DNA	0.0	0.0	1.5	77.4	0.0	5.2	74.6	14.9	0.0	22.6	0.0	40.1	0.0	1.5	37.5	0.0	0.0

Daily Precipitation (mm)

Location : Kharini Tar

Month	Year	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Day																		
7	1	DNA	0.0	0.0	56.7	86.7	0.0	27.4	6.3	54.7	12.2	10.7	0.0	0.0	0.0	6.5	0.9	0.0
7	2	DNA	3.0	5.0	61.4	4.0	104.3	0.0	8.8	113.2	0.0	4.2	0.0	40.4	2.9	5.9	10.7	55.5
7	3	DNA	66.5	0.0	64.4	78.1	0.0	1.9	39.8	0.1	0.0	1.0	30.0	61.2	18.2	0.0	0.0	17.4
7	4	DNA	9.5	12.0	1.0	18.6	0.0	11.7	0.2	6.1	0.0	98.2	22.9	24.9	39.3	40.0	0.0	166.0
7	5	DNA	19.5	14.0	0.2	1.2	0.0	1.7	35.9	0.0	9.6	0.9	50.1	142.7	0.2	12.0	13.0	13.7
7	6	DNA	14.5	0.0	0.0	0.0	0.0	0.8	39.9	0.0	24.5	7.1	9.1	3.2	8.5	33.8	36.8	15.0
7	7	DNA	9.0	0.5	3.8	0.0	0.0	0.9	2.5	0.0	12.3	6.6	128.5	5.3	1.5	33.0	0.0	0.0
7	8	DNA	9.5	0.0	3.1	3.7	0.0	8.3	57.5	13.2	15.6	5.5	11.5	0.1	38.9	7.7	2.2	70.0
7	9	DNA	1.0	0.0	0.0	0.0	6.3	19.8	6.0	1.0	41.4	T	9.5	0.0	27.5	24.9	7.3	65.5
7	10	DNA	4.5	0.0	0.4	0.0	2.4	36.5	0.0	7.9	1.1	5.5	0.0	19.2	3.9	8.0	1.3	49.4
7	11	DNA	14.0	0.0	0.3	0.8	9.1	25.4	5.3	96.0	5.8	0.0	57.0	1.1	65.8	13.5	22.3	34.5
7	12	DNA	0.0	18.0	0.0	119.3	0.0	9.8	4.6	13.4	0.0	1.1	0.3	0.0	3.9	7.8	0.0	2.0
7	13	DNA	0.0	7.0	31.8	11.6	5.2	16.5	0.0	19.2	0.0	40.6	3.6	0.0	0.0	15.2	0.0	66.3
7	14	DNA	0.0	0.0	20.6	2.2	23.9	0.4	0.0	9.4	12.3	3.3	T	0.0	0.0	8.3	38.0	0.0
7	15	DNA	9.0	11.0	34.1	0.9	0.0	3.0	0.0	6.0	5.0	37.6	0.0	141.5	4.6	6.5	0.0	0.0
7	16	DNA	137.0	1.0	2.8	0.0	50.4	2.7	133.3	11.5	45.3	9.6	10.3	132.3	6.2	5.5	30.7	0.0
7	17	DNA	24.5	0.0	30.7	5.4	10.0	30.1	28.9	9.3	0.2	43.2	0.0	241.9	6.6	5.9	38.0	135.1
7	18	DNA	32.5	45.0	3.6	22.8	0.0	18.8	70.5	58.9	1.6	20.8	55.5	5.5	5.4	1.9	5.0	14.3
7	19	DNA	55.5	1.0	0.0	21.2	0.0	9.7	16.8	4.2	0.4	7.4	27.5	2.2	15.9	8.4	0.0	3.4
7	20	DNA	3.5	0.0	1.7	4.9	2.2	35.5	52.8	26.4	23.7	20.6	23.5	26.7	0.0	0.0	0.0	1.8
7	21	DNA	111.5	5.0	3.2	2.6	0.0	10.0	12.8	5.7	13.2	2.6	0.0	62.7	0.0	16.0	42.0	0.0
7	22	DNA	67.5	0.0	25.9	3.1	2.0	19.0	6.0	29.0	4.2	5.1	0.0	26.5	23.5	29.8	25.7	14.9
7	23	DNA	9.0	0.0	15.2	33.1	0.0	T	10.6	4.0	15.2	16.0	0.0	5.7	6.6	0.0	0.0	59.0
7	24	DNA	0.0	30.5	0.4	70.0	0.0	8.5	10.8	74.1	45.6	13.1	0.0	6.3	26.8	27.3	2.9	13.5
7	25	DNA	9.0	14.5	1.8	52.0	32.0	8.0	1.1	54.0	7.0	0.0	84.8	3.8	6.7	52.2	21.4	86.0
7	26	DNA	32.5	41.5	15.3	23.9	44.2	0.0	0.0	9.5	0.0	32.6	9.1	73.8	0.2	6.2	62.2	15.0
7	27	DNA	82.5	10.0	0.0	37.2	0.0	T	6.8	32.9	5.8	112.5	2.0	40.2	44.9	7.0	27.7	5.0
7	28	DNA	120.0	0.0	42.9	3.1	3.0	1.0	67.6	38.7	18.8	28.0	15.0	DNA	16.0	26.0	0.0	1.6
7	29	DNA	126.5	2.0	44.5	3.6	4.5	0.0	32.0	33.8	1.8	0.0	0.5	DNA	34.0	0.0	0.0	3.5
7	30	DNA	22.5	12.0	5.7	0.2	0.0	2.0	38.5	5.0	28.3	12.4	0.0	DNA	56.1	0.0	2.5	5.6
7	31	DNA	28.5	31.5	39.4	1.2	0.0	18.0	T	0.0	11.3	2.0	84.0	DNA	25.3	0.0	13.4	1.6
8	1	DNA	0.5	14.5	27.5	DNA	0.0	0.0	32.1	17.3	32.5	0.0	0.0	DNA	10.5	11.5	52.6	21.2
8	2	DNA	0.0	T	10.8	DNA	0.0	2.0	2.3	12.3	3.7	0.0	0.4	DNA	0.0	2.5	51.8	0.0
8	3	DNA	10.0	0.0	11.3	DNA	0.0	19.2	33.6	35.0	8.4	1.5	17.6	DNA	11.3	0.5	20.8	11.6
8	4	DNA	4.5	12.0	34.7	DNA	19.5	41.0	0.9	5.8	10.8	0.1	42.0	DNA	0.0	0.3	0.0	1.5
8	5	DNA	13.0	14.0	98.7	DNA	8.5	3.0	49.4	11.9	30.2	2.2	85.8	DNA	0.0	0.0	10.9	0.0
8	6	DNA	0.0	0.5	25.7	DNA	24.1	0.0	0.5	3.3	14.2	2.1	0.1	DNA	0.0	58.8	0.0	11.8
8	7	DNA	5.0	13.0	2.1	DNA	0.0	39.7	0.0	0.0	13.8	0.6	0.1	DNA	42.2	0.0	0.0	11.5
8	8	DNA	15.5	0.0	2.9	DNA	3.9	28.9	18.5	99.3	6.0	37.1	126.1	DNA	38.0	0.0	0.0	0.0
8	9	DNA	10.5	0.0	0.0	DNA	0.4	7.3	27.2	0.0	1.0	0.0	0.0	DNA	0.0	0.5	0.0	0.0
8	10	DNA	22.0	45.0	0.0	DNA	0.0	6.6	0.5	42.7	0.0	0.0	0.5	DNA	0.0	0.0	1.5	115.0
8	11	DNA	2.5	30.0	0.7	DNA	0.0	8.2	2.4	1.6	15.1	2.4	5.6	DNA	0.0	0.0	0.0	45.5
8	12	DNA	0.0	0.0	0.8	DNA	32.7	4.2	41.1	0.0	1.1	92.7	0.5	DNA	6.3	1.4	26.2	86.0
8	13	DNA	0.0	4.0	6.0	DNA	0.6	31.0	0.2	71.2	10.1	22.2	2.4	DNA	10.4	0.0	0.0	69.5
8	14	DNA	7.5	0.0	29.3	DNA	9.6	91.6	0.0	36.3	0.0	2.2	0.2	DNA	0.0	0.1	0.0	22.2
8	15	DNA	0.0	0.0	0.0	DNA	55.3	27.4	0.2	16.2	13.9	0.0	0.0	DNA	8.8	13.0	0.0	0.0
8	16	DNA	2.0	0.0	0.0	DNA	7.7	40.5	0.4	0.0	14.7	10.5	0.0	DNA	24.5	5.0	26.0	0.0
8	17	DNA	0.0	0.0	0.0	DNA	11.2	24.7	0.0	0.0	0.0	3.0	0.5	DNA	8.1	6.0	0.0	0.0
8	18	DNA	4.0	12.0	0.4	DNA	7.1	0.2	8.0	0.0	0.0	0.0	0.0	168.5	8.3	34.3	0.0	0.0
8	19	DNA	0.0	2.0	14.2	DNA	16.1	2.6	35.5	0.0	0.0	70.0	52.0	6.8	2.2	31.5	0.0	6.7
8	20	DNA	0.0	2.0	0.0	DNA	0.0	0.0	54.4	36.8	0.0	114.2	9.9	10.5	13.4	0.0	5.8	49.4
8	21	DNA	0.0	2.5	45.9	DNA	0.0	8.5	0.1	128.0	9.9	1.8	1.7	1.0	0.9	0.0	0.0	0.0
8	22	DNA	7.0	7.5	0.6	DNA	10.5	72.2	15.5	56.7	21.2	31.1	0.0	0.0	0.0	32.5	0.0	0.0
8	23	DNA	0.0	0.5	0.0	DNA	12.8	4.5	11.6	0.0	0.0	20.4	T	0.0	0.0	38.7	3.5	1.8
8	24	DNA	0.0	0.0	0.0	DNA	50.8	0.0	1.1	0.0	6.8	1.4	56.0	6.2	6.3	11.2	36.8	0.0
8	25	DNA	2.5	0.0	12.9	DNA	0.0	88.9	0.3	0.0	6.4	T	9.4	30.4	0.0	0.0	10.7	0.0
8	26	DNA	6.0	17.0	16.2	DNA	0.0	0.0	0.2	0.0	17.5	3.1	5.4	2.2	37.3	0.0	7.8	25.5
8	27	DNA	1.0	10.5	22.4	DNA	0.0	41.0	0.0	47.1	4.9	2.8	34.5	12.5	2.0	5.9	41.9	0.0
8	28	DNA	19.5	6.5	26.0	DNA	3.4	34.0	0.3	2.7	3.9	0.0	3.5	0.0	0.0	1.3	57.9	0.0
8	29	DNA	0.0	14.0	2.8	DNA	0.0	40.7	0.0	0.0	4.6	0.0	0.0	18.0	0.0	26.5	0.0	0.0
8	30	DNA	0.0	9.5	64.1	DNA	0.0	0.0	0.0	39.2	0.0	0.4	T	24.7	50.0	4.0	0.0	0.0
8	31	DNA	0.0	T	118.4	DNA	10.5	0.0	3.5	9.6	0.0	71.4	29.3	2.1	23.8	0.0	0.0	0.0

Daily Precipitation (mm)
Location : Kharini Tar

Month	Year		1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
	Day																		
9	1		DNA	T	7.5	29.4	DNA	DNA	1.0	3.5	3.8	103.2	9.0	1.6	33.5	0.0	4.7	69.1	2.4
9	2		DNA		39.5	50.5	43.7	DNA	DNA	0.5	0.0	0.0	15.7	0.2	0.2	0.0	0.0	6.4	84.0
9	3		DNA		28.0	11.5	39.2	DNA	DNA	0.0	2.3	7.7	23.2	27.1	0.0	0.0	0.0	50.4	0.0
9	4		DNA		75.5	0.0	34.5	DNA	DNA	0.0	0.9	157.6	0.8	0.0	0.0	0.0	0.0	28.7	0.0
9	5		DNA		20.0	0.0	0.0	DNA	DNA	0.0	3.3	5.8	29.8	0.0	T	6.3	0.0	11.4	0.0
9	6		DNA		T	1.0	0.0	DNA	DNA	2.4	15.4	33.8	37.2	2.0	0.0	0.0	22.5	0.0	0.0
9	7		DNA		2.5	5.0	0.0	DNA	DNA	0.0	21.4	2.7	0.2	4.2	0.0	0.0	136.2	0.0	71.0
9	8		DNA		3.0	0.0	0.0	DNA	DNA	0.0	0.5	0.0	0.0	1.7	1.0	0.0	26.5	0.0	0.0
9	9		DNA		T	0.0	0.0	DNA	DNA	20.8	9.5	2.8	T	6.1	0.0	0.0	0.0	0.0	37.7
9	10		DNA		24.0	0.0	45.9	DNA	DNA	5.0	4.7	7.4	17.0	46.7	0.0	27.3	0.0	0.0	35.7
9	11		DNA		8.0	0.0	37.6	DNA	DNA	3.2	9.5	14.5	11.7	2.3	10.3	0.0	0.5	12.1	0.0
9	12		DNA		T	15.0	0.3	DNA	DNA	16.7	0.0	23.2	0.0	0.0	40.0	13.1	0.0	0.5	41.2
9	13		DNA		20.0	131.5	0.0	DNA	DNA	9.0	3.0	0.9	23.0	0.6	111.5	0.0	0.0	0.0	108.0
9	14		DNA		5.0	T	0.0	DNA	DNA	0.5	92.6	15.0	0.4	0.3	31.0	0.0	0.0	10.5	63.0
9	15		DNA		3.0	3.0	0.0	DNA	DNA	T	1.9	0.0	0.0	41.7	0.1	T	65.0	0.0	21.5
9	16		DNA		0.0	49.0	1.8	DNA	DNA	0.0	0.0	7.9	0.0	1.0	0.0	0.0	70.5	22.5	0.0
9	17		DNA		T	55.0	34.1	DNA	DNA	0.0	0.0	12.2	0.0	0.0	10.1	0.0	115.5	71.0	0.0
9	18		DNA		0.0	24.0	3.1	DNA	DNA	0.0	T	0.0	3.0	0.0	0.5	30.5	26.2	0.0	0.0
9	19		DNA		0.0	20.0	0.3	DNA	DNA	3.2	33.5	0.0	0.9	0.0	0.2	7.0	47.0	0.0	0.0
9	20		DNA		0.0	0.0	0.4	DNA	DNA	3.2	0.0	T	1.2	0.0	78.2	0.0	15.2	0.0	35.5
9	21		DNA		0.0	0.0	0.6	DNA	DNA	0.0	0.0	T	28.8	0.0	5.5	80.2	0.0	0.0	1.1
9	22		DNA		0.0	3.5	0.0	DNA	DNA	T	0.0	0.0	0.1	0.0	24.3	8.5	0.0	0.0	0.0
9	23		DNA		0.0	2.0	2.8	DNA	DNA	0.0	5.7	0.0	0.0	0.0	0.0	38.8	0.0	0.0	6.9
9	24		DNA		0.5	5.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	1.8
9	25		DNA		2.0	13.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	3.7	0.0
9	26		DNA		12.0	11.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	12.2	1.5
9	27		DNA		1.0	38.5	0.0	DNA	DNA	0.0	13.9	0.0	0.2	2.9	0.0	0.0	0.0	3.3	0.0
9	28		DNA		1.0	0.0	0.0	DNA	DNA	0.0	22.0	0.0	0.0	18.0	0.0	0.0	0.0	1.0	19.5
9	29		DNA		0.0	0.0	0.2	DNA	DNA	T	0.0	0.0	2.4	48.0	0.0	0.0	0.0	0.9	8.1
9	30		DNA		0.0	0.0	0.0	DNA	DNA	0.0	12.1	0.0	61.6	39.5	0.0	0.0	0.0	7.8	4.1
10	1		DNA		0.0	8.0	0.0	DNA	DNA	0.0	34.2	5.4	0.1	0.0	0.0	0.0	0.0	25.2	0.0
10	2		DNA		0.0	4.0	0.0	DNA	DNA	1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	3		DNA		5.0	1.0	0.0	DNA	DNA	21.8	0.0	0.0	0.0	0.0	0.0	18.5	0.0	0.0	5.5
10	4		DNA		30.0	0.0	0.0	DNA	DNA	7.9	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0
10	5		DNA		5.0	0.0	0.0	DNA	DNA	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.9
10	6		DNA		5.0	5.5	0.0	DNA	DNA	0.6	2.9	0.0	8.6	0.0	0.0	0.0	0.0	46.6	14.9
10	7		DNA		1.0	T	0.0	DNA	DNA	28.2	1.0	7.1	0.9	0.0	0.0	0.0	0.0	4.1	0.0
10	8		DNA		1.0	0.0	0.5	DNA	DNA	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	9		DNA		0.5	4.0	0.0	DNA	DNA	0.0	0.0	T	0.0	0.0	1.9	26.6	0.7	6.8	7.4
10	10		DNA		0.0	5.0	0.0	DNA	DNA	7.2	0.0	27.8	3.7	0.0	6.4	14.1	0.0	91.1	0.0
10	11		DNA		0.0	0.0	0.0	DNA	DNA	0.0	0.0	12.0	0.0	0.0	0.0	36.7	0.0	23.4	22.1
10	12		DNA		0.0	3.0	0.2	DNA	DNA	0.0	0.0	1.9	0.0	0.0	0.0	41.1	0.0	0.0	4.4
10	13		DNA		0.0	4.0	0.1	DNA	DNA	0.0	0.0	6.4	1.2	0.0	0.0	0.0	0.0	30.0	0.0
10	14		DNA		0.0	3.0	0.0	DNA	DNA	22.5	0.0	0.4	0.0	0.0	0.0	0.0	0.0	4.7	0.0
10	15		DNA		0.0	4.0	0.0	DNA	DNA	1.0	0.0	0.1	0.0	0.0	0.0	0.0	28.3	0.0	25.2
10	16		DNA		0.0	3.0	0.0	DNA	DNA	31.8	0.0	0.0	0.0	0.0	0.0	6.5	0.0	4.0	0.0
10	17		DNA		0.0	4.0	9.5	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0
10	18		DNA		0.0	4.0	0.0	DNA	DNA	15.5	T	0.0	0.0	0.0	0.0	0.0	52.5	0.0	0.0
10	19		DNA		40.0	4.0	0.0	DNA	DNA	28.0	6.8	0.0	0.0	0.0	0.0	0.0	19.8	0.0	38.2
10	20		DNA		35.0	2.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	65.0
10	21		DNA		0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	16.8	0.0	0.0	0.0
10	22		DNA		0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	2.4	0.0	0.1	0.0	0.0	0.0	0.0
10	23		DNA		0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
10	24		DNA		0.0	0.0	2.4	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
10	25		DNA		0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	14.6	0.0	0.0	0.0	0.0	0.0	0.0
10	26		DNA		0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.2	0.0	3.0	0.0	0.0	0.0	0.0
10	27		DNA		0.0	0.0	0.0	DNA	DNA	T	0.0	7.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	28		DNA		0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	29		DNA		2.0	0.0	0.0	DNA	DNA	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	30		DNA		30.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0
10	31		DNA		0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Daily Precipitation (mm)

Location : Kharini Tar

Month	Year Day	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
11	1	DNA	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.3
11	2	DNA	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	3	DNA	0.0	0.0	0.0	DNA	DNA	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0
11	4	DNA	0.0	0.0	0.0	DNA	DNA	20.8	0.0	0.0	0.0	30.5	0.0	0.0	0.0	0.0	0.0	0.0
11	5	DNA	0.0	0.0	0.0	DNA	DNA	26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	6	DNA	0.0	0.0	0.0	DNA	DNA	11.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	7	DNA	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	8	DNA	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	9	DNA	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.5	0.0	0.0
11	10	DNA	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0
11	11	DNA	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0
11	12	DNA	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0
11	13	DNA	0.0	4.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	23.2	0.0	0.0	0.0	22.4	0.0
11	14	DNA	12.0	4.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	15	DNA	15.0	4.0	0.0	DNA	DNA	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	16	DNA	T	4.0	0.0	DNA	DNA	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	17	DNA	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	18	23.5	0.0	3.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.0
11	19	1.0	0.0	4.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	20	0.5	0.0	4.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	21	T	0.0	4.0	0.0	DNA	DNA	0.0	T	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0
11	22	T	0.0	4.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0
11	23	T	0.0	4.0	0.0	DNA	DNA	0.0	1.2	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0
11	24	T	2.0	4.0	0.0	DNA	DNA	0.0	1.0	0.0	2.4	0.0	3.5	DNA	0.0	0.0	0.0	0.0
11	25	0.0	T	4.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0
11	26	0.0	1.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0
11	27	0.0	17.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.2	DNA	0.0	0.0	0.0	0.0
11	28	0.5	3.0	0.0	0.0	DNA	DNA	0.0	0.0	1.4	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0
11	29	T	T	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	30	0.0	0.0	0.0	0.0	DNA	DNA	0.0	0.0	3.1	1.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0
12	1	0.0	0.0	0.0	0.0	DNA	DNA	0.0	0.0	43.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	2	0.0	0.0	0.0	0.0	DNA	DNA	0.0	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	0.0
12	3	0.0	T	0.0	0.0	DNA	DNA	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	4	0.0	T	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	5	T	2.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	6	0.5	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	7	T	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	8	0.0	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	9	T	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	10	0.0	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	11	0.0	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	12	0.0	T	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	13	0.0	T	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.5
12	14	0.0	T	0.0	0.0	DNA	DNA	0.0	1.9	0.0	0.0	0.0	0.0	0.0	9.2	0.0	23.3	0.0
12	15	0.0	T	0.0	0.0	DNA	DNA	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	16	0.0	T	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	17	0.0	T	0.0	0.0	DNA	DNA	0.0	0.3	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	18	0.0	1.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0
12	19	0.0	T	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.2	0.0
12	20	0.0	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	21	0.0	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	22	0.0	0.0	0.0	0.0	DNA	DNA	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	23	0.0	0.0	0.0	0.0	DNA	DNA	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	24	0.0	T	0.0	0.0	DNA	DNA	0.0	0.4	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	25	0.0	T	0.0	0.0	DNA	DNA	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	26	0.0	T	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	8.6	0.0	0.0	0.0	0.0
12	27	0.0	0.0	0.0	0.0	DNA	DNA	29.6	0.0	0.0	0.0	0.0	0.0	16.6	0.0	0.0	0.0	0.0
12	28	0.0	0.0	0.0	0.0	DNA	DNA	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.8	0.0	0.0
12	29	0.0	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0
12	30	0.0	0.0	0.0	0.0	DNA	DNA	0.2	0.0	10.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	31	0.0	T	0.0	0.0	DNA	DNA	0.0	0.5	12.2	0.0	0.0	5.1	0.0	1.0	0.0	0.0	0.0

Daily Precipitation (mm)
Location : Kharini Tar

Month	Year Day	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
1	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	20.0	0.0
1	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0
1	3	0.0	0.0	0.0	19.0	0.0	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	4	0.0	0.0	0.0	0.0	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
1	5	0.0	0.0	0.0	0.0	0.0	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	6	0.0	0.0	0.0	0.0	0.0	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	7	0.0	0.0	0.0	0.0	0.0	6.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	8	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	9	0.0	67.5	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0
1	11	0.0	0.0	0.0	0.0	0.0	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	12	0.0	0.0	0.0	0.0	5.1	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	13	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0
1	14	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0
1	15	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	2.5	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1	16	0.0	0.0	0.0	0.0	0.0	0.0	28.8	0.0	57.1	0.0	0.0	0.0	0.0	0.0	28.0	0.0	0.0
1	17	0.0	0.0	0.0	0.0	0.0	0.0	1.9	T	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	18	0.0	0.0	0.0	0.0	0.0	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	19	0.0	0.0	0.0	0.0	0.0	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	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	10.5
1	23	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	12.2	0.0	0.0	7.0	2.5	0.0	0.0	0.0
1	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.5	0.0	0.0	4.5
1	25	0.0	0.0	0.0	0.0	0.0	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	26	0.0	0.0	0.0	0.0	0.0	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	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0
1	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	0.0	0.0
1	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0
1	30	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.9	0.0
1	31	0.0	0.0	0.0	0.0	3.5	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0
2	1	0.0	0.0	0.0	0.0	1.6	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.0	0.0
2	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0	2.5	0.0
2	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	1.6	0.0	0.0	0.0	0.0	0.0	0.0
2	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	18.0	0.0	0.0	0.0	0.0	0.0	0.0
2	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	11.5	0.0	0.0	3.0	0.0	0.0	0.0	0.0
2	7	0.0	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	8	0.0	0.0	0.0	0.0	4.4	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
2	9	0.0	0.0	0.0	0.0	0.0	0.0	23.9	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	10	0.0	0.0	0.0	0.0	0.0	0.0	10.6	0.0	20.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	11	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	12	0.0	0.0	0.0	6.1	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0	5.0	0.0	15.0	0.0	0.0
2	13	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	14	4.7	0.0	16.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	15	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.9	13.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	17	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	19	0.0	4.4	0.0	0.0	0.0	0.4	0.0	4.5	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0
2	20	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.0	0.0
2	21	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	22	0.0	0.0	T	0.0	0.4	0.0	10.4	0.0	2.0	0.0	0.0	0.2	0.0	13.0	0.2	0.0	0.0
2	23	0.0	0.2	0.0	0.0	0.0	0.0	8.0	19.1	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	25	8.5	0.0	0.0	0.0	0.0	T	0.0	0.0	0.2	0.0	17.0	T	0.0	0.0	0.0	32.0	0.0
2	26	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	5.8	0.0	0.8	T	0.0	10.9	0.0	6.5	0.0
2	27	0.0	0.0	15.1	0.0	0.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
2	28	0.0	0.0	0.0	21.2	0.0	0.0	T	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	29	5.0				0.0				0.0				0.0				0.0

Daily Precipitation (mm)
Location : Kharini Tar

Month	Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Day																		
3	1	0.0	0.0	2.5	21.2	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	10.0	0.0	0.0
3	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	5.0	0.0	0.0
3	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	6	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0
3	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
3	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	19.8	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3	9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	10	15.4	0.0	16.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	12	0.0	18.3	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0
3	13	18.8	0.0	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	27.0	3.0
3	14	0.0	1.7	5.8	0.0	0.0	0.0	0.0	0.0	0.0	T	0.2	0.0	0.0	0.6	0.0	0.0	11.0
3	15	0.0	1.1	0.0	0.0	0.0	0.0	T	0.0	0.0	T	0.0	0.0	T	5.0	0.0	0.0	0.0
3	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.2	0.0	0.0	0.0	0.0
3	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.0	0.0
3	19	0.0	14.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	40.2	0.0
3	20	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
3	21	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	22	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	T	0.0	0.0
3	23	0.0	0.0	20.0	0.0	0.0	T	0.0	0.0	1.0	0.0	0.0	0.0	0.0	2.0	10.0	0.0	0.0
3	24	0.0	0.0	8.5	0.0	0.0	0.6	0.0	0.0	0.0	0.0	T	0.0	19.0	1.9	T	0.0	0.0
3	25	0.0	0.0	5.5	5.6	0.0	0.9	0.0	2.9	37.8	0.0	0.2	0.0	0.0	0.0	1.0	29.0	0.0
3	26	0.0	0.0	0.0	0.0	0.0	38.3	0.0	3.0	0.7	0.0	4.9	0.0	0.0	0.9	0.0	0.0	0.0
3	27	4.5	0.0	0.0	0.0	0.0	7.4	9.2	9.5	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.0	0.0
3	28	0.0	0.0	T	0.0	0.0	0.0	1.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0
3	29	0.0	0.0	1.5	0.0	0.0	0.0	T	9.0	T	0.0	33.0	0.0	0.0	0.0	0.2	16.0	0.0
3	30	0.0	4.1	0.0	0.0	0.0	0.0	0.0	10.5	0.0	13.4	43.4	0.0	0.0	0.0	11.2	0.0	0.0
3	31	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	6.0	3.9	0.0	0.0	0.0	4.6	T	0.6	0.0
4	1	0.0	0.0	0.0	24.4	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	3.0	0.0
4	2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	T	0.3	0.0
4	3	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	6.2
4	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	5.0	2.0	0.0	0.0	0.0	0.0	0.0	14.6
4	5	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.3	0.0	0.0	0.8	0.0	2.0	12.0
4	6	0.0	0.0	0.0	0.0	0.0	0.0	11.4	0.0	0.0	0.3	8.0	0.0	0.0	0.0	0.0	0.0	0.0
4	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	2.5	0.0	0.0	0.2	0.0	T	0.0
4	8	0.0	0.0	41.4	0.0	0.0	0.0	0.0	0.0	0.9	0.0	T	0.0	0.0	0.0	0.0	0.0	8.6
4	9	0.0	0.0	0.0	0.0	0.0	2.2	0.0	T	0.0	11.2	0.2	5.5	0.0	0.0	3.0	0.0	28.0
4	10	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0	0.0	16.2	0.2	0.0	0.0	0.0	6.0	0.0	8.5
4	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2	0.0	3.1	0.0	0.0	0.0	0.0	4.0	0.0	0.0
4	12	0.0	0.0	0.0	0.0	0.0	15.2	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3	0.0
4	13	46.0	0.0	0.0	0.0	0.0	11.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	8.9
4	14	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0	20.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	15	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	1.0	0.0	0.0	9.5	0.5	0.0	32.0	0.0
4	16	1.4	0.0	0.0	0.0	0.0	12.6	T	0.0	0.0	T	0.0	0.0	0.0	5.5	0.0	T	0.0
4	17	63.9	0.0	0.0	0.0	0.0	25.0	0.0	0.0	T	T	T	0.0	29.0	9.0	0.0	19.0	0.0
4	18	15.1	0.0	0.0	0.0	0.0	58.2	T	6.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	1.0	0.0
4	19	0.3	0.0	0.0	0.0	T	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.0	0.0	0.0
4	20	58.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	26.5	0.0	6.5	0.8	0.0	3.0	0.0
4	21	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	59.0	0.0	0.8	0.2	37.0	0.0	0.0
4	22	0.0	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.3	0.0	38.8	6.0	17.4	5.0	40.0
4	23	0.0	0.0	0.0	0.0	0.0	96.1	2.5	0.0	T	26.4	5.5	13.0	4.0	T	0.0	0.6	25.0
4	24	0.5	0.0	0.4	0.0	0.0	0.2	T	0.5	T	0.0	T	0.0	0.6	0.0	0.2	5.0	T
4	25	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	T	10.2	17.2	0.0	40.1	0.0	16.0	0.0	T
4	26	7.7	0.0	0.0	0.0	0.0	0.0	0.0	3.2	1.5	T	6.8	0.0	2.0	19.0	0.0	15.0	0.0
4	27	0.0	0.0	9.8	0.0	0.0	0.0	0.0	0.0	0.0	14.3	39.5	0.0	1.0	7.0	12.8	15.2	0.0
4	28	0.0	0.0	23.0	0.0	1.3	0.0	T	23.9	0.0	23.5	0.0	0.0	24.2	8.0	5.5	0.0	25.5
4	29	0.0	0.0	0.0	0.0	0.0	16.2	0.0	0.0	4.9	2.9	0.0	0.0	4.1	0.0	0.0	0.0	20.0
4	30	0.0	0.0	0.0	0.0	T	0.0	T	0.0	19.5	78.7	0.0	0.0	2.9	48.0	19.4	10.0	0.0

Daily Precipitation (mm)
Location : Kharini Tar

Month	Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Day																		
5	1	0.0	0.0	4.5	0.0	T	0.0	0.0	0.0	30.0	11.4	0.0	62.2	23.9	0.0	0.0	0.0	0.0
5	2	0.0	0.0	0.0	84.4	14.7	10.1	0.0	0.0	0.0	9.5	38.9	0.0	21.0	55.0	0.0	5.0	6.0
5	3	6.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	8.0	2.0	76.0	0.0	6.2	0.0	57.0	9.8	0.0
5	4	0.0	0.0	16.0	0.0	60.5	0.0	0.0	0.0	13.0	8.0	75.6	11.2	0.0	32.0	0.0	0.3	3.0
5	5	0.0	0.0	16.0	0.0	7.8	2.9	0.0	0.0	0.2	T	10.7	0.0	0.0	0.2	24.5	0.0	5.5
5	6	51.7	0.0	0.0	45.4	21.0	18.6	0.0	0.0	0.0	T	T	42.5	0.0	0.0	0.2	0.0	11.0
5	7	0.0	0.0	52.0	0.0	35.0	36.0	2.8	0.0	0.0	0.0	10.5	0.5	12.8	22.5	14.0	0.0	0.0
5	8	0.0	0.0	0.0	0.0	0.0	14.1	3.9	29.0	19.5	17.0	3.7	0.2	0.0	0.0	0.0	0.0	0.0
5	9	0.0	0.0	0.0	0.0	30.0	0.0	15.4	0.0	51.0	7.2	0.0	5.2	0.0	0.8	2.3	0.0	40.0
5	10	0.0	0.0	0.0	0.0	0.0	28.9	6.1	T	0.0	0.0	28.5	16.8	4.0	40.0	142.2	6.0	0.0
5	11	0.0	0.0	11.6	0.0	8.0	2.7	6.1	3.4	0.0	0.0	0.0	T	0.0	T	14.4	0.0	0.2
5	12	0.0	19.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.0	56.3	0.0	0.0	27.0	0.0
5	13	7.7	87.5	67.4	0.0	0.0	0.0	0.0	8.1	0.0	0.0	0.0	T	4.0	0.0	15.0	0.0	9.4
5	14	7.1	25.0	38.2	0.0	0.0	13.5	0.0	41.0	0.0	0.0	4.0	11.0	20.0	38.0	4.5	6.4	0.0
5	15	5.8	0.0	0.0	0.0	43.0	38.2	1.7	0.0	T	0.0	61.7	4.8	0.0	0.0	30.0	0.0	10.5
5	16	0.0	0.0	0.0	0.0	0.0	4.0	T	16.0	47.5	0.0	0.0	6.2	57.2	10.2	2.0	14.0	0.4
5	17	58.9	3.1	2.0	0.0	33.0	25.0	0.1	38.9	24.2	0.0	0.0	0.0	0.0	2.0	T	5.0	0.0
5	18	18.8	0.0	22.5	0.0	21.0	8.5	T	T	6.6	0.0	55.8	54.0	9.5	0.2	48.5	40.4	0.4
5	19	8.9	66.3	0.0	0.0	0.0	0.0	10.0	T	T	0.0	14.7	0.4	33.0	0.0	9.0	0.0	36.0
5	20	0.0	140.7	13.5	0.0	0.0	18.4	4.8	0.0	1.9	38.1	0.0	0.0	27.5	18.0	0.0	3.0	11.0
5	21	0.0	16.4	31.2	0.0	8.0	54.5	0.0	5.8	0.0	33.0	0.0	6.0	T	0.0	0.0	0.3	20.0
5	22	0.0	86.0	15.3	0.0	41.0	0.0	173.3	0.0	0.0	0.0	2.0	10.2	79.0	3.0	0.0	14.0	5.0
5	23	6.3	15.5	15.3	0.0	15.0	0.0	5.8	0.0	0.0	0.0	2.3	150.2	8.5	25.0	0.0	0.0	6.0
5	24	9.0	0.0	30.3	0.0	0.0	0.0	63.9	0.0	0.0	0.0	11.0	64.0	75.5	8.0	5.0	0.0	0.0
5	25	56.9	0.0	0.0	0.0	15.0	1.2	7.5	0.0	0.0	12.4	25.0	0.8	11.5	11.5	8.0	33.0	30.0
5	26	6.6	3.4	0.0	0.0	3.0	0.0	1.2	0.0	T	1.0	27.0	3.0	3.0	66.0	0.2	0.0	15.0
5	27	89.9	84.1	0.0	0.0	12.0	29.2	0.0	0.0	2.5	1.8	5.2	63.8	2.8	7.5	20.0	0.0	26.0
5	28	34.0	16.9	0.0	0.0	0.0	6.1	T	0.0	0.0	7.5	1.5	0.8	25.5	T	0.0	0.0	0.0
5	29	60.0	48.0	0.0	0.0	0.0	T	12.5	0.0	0.0	47.0	T	99.2	52.2	63.3	9.2	0.0	6.5
5	30	0.0	3.9	52.1	0.0	13.0	0.0	0.7	0.0	29.3	0.2	0.3	0.2	33.0	2.2	41.2	0.0	6.8
5	31	0.0	2.3	0.0	0.0	0.0	0.0	6.4	0.0	6.5	T	0.0	39.2	T	40.0	0.0	12.0	0.0
6	1	3.7	0.0	11.2	0.0	0.0	45.9	5.8	T	49.0	0.0	23.0	0.0	T	0.0	4.8	5.0	16.0
6	2	0.0	2.4	T	0.0	0.0	20.2	43.4	T	18.0	3.5	0.0	T	0.4	7.2	0.0	T	4.0
6	3	0.0	0.0	16.0	0.0	0.0	0.4	32.5	17.0	37.0	0.0	22.5	0.0	0.0	0.0	17.2	0.0	T
6	4	0.0	23.8	20.0	0.0	0.0	39.0	2.2	27.0	T	0.0	T	T	0.0	99.0	14.0	13.0	21.5
6	5	3.0	0.0	13.9	0.0	0.0	60.5	6.8	85.5	0.2	0.0	14.2	0.0	0.0	40.0	30.5	3.0	23.0
6	6	9.7	0.7	31.0	30.6	5.0	13.5	15.5	0.2	6.0	20.0	37.2	0.0	5.0	3.2	4.5	5.0	0.0
6	7	T	0.0	92.0	0.0	0.4	5.4	T	7.6	0.0	23.0	0.0	0.0	46.0	33.0	70.2	8.2	3.0
6	8	14.8	57.0	0.0	0.0	61.2	0.0	0.0	82.0	10.0	21.5	0.0	0.0	118.0	7.0	0.0	10.2	0.0
6	9	0.0	0.0	8.0	0.0	0.0	14.3	0.0	55.0	0.0	20.3	0.0	0.0	32.0	1.6	0.0	20.0	0.4
6	10	14.8	0.0	73.5	0.0	1.2	7.2	42.3	42.5	0.0	9.2	0.0	21.0	0.0	0.0	0.0	40.0	0.0
6	11	1.0	5.2	47.4	0.0	3.0	20.2	1.5	83.1	53.3	18.5	0.0	0.8	0.0	0.0	76.2	39.8	38.5
6	12	7.8	1.5	0.6	0.0	T	4.9	2.0	8.0	1.0	37.0	T	42.0	13.0	0.0	T	7.1	0.0
6	13	36.5	78.0	2.0	0.0	12.0	T	2.5	20.5	11.6	0.0	0.0	170.2	T	10.0	4.0	9.5	0.0
6	14	13.7	3.4	0.0	0.0	0.0	0.0	28.2	23.5	15.5	118.5	0.5	32.8	0.0	4.2	7.0	12.0	T
6	15	26.5	24.3	0.0	2.3	67.0	0.0	57.5	10.0	0.3	37.6	1.5	0.0	16.5	2.0	60.2	1.8	1.4
6	16	47.7	25.1	39.0	15.1	0.0	14.0	6.5	T	37.5	66.2	4.4	0.0	40.0	0.0	21.6	6.0	16.5
6	17	32.7	0.0	0.0	3.1	0.0	15.8	46.0	16.5	1.8	15.0	0.0	6.0	4.0	36.0	25.0	0.0	4.9
6	18	0.0	18.3	55.7	3.1	0.0	0.0	0.0	51.6	0.0	55.1	0.0	0.0	5.0	10.0	4.6	0.0	80.2
6	19	4.7	18.0	2.4	12.0	6.5	86.9	9.0	129.0	14.5	19.0	5.5	3.4	12.0	T	14.4	0.0	3.9
6	20	0.0	0.0	2.8	7.6	0.0	0.0	2.6	74.0	0.9	0.0	61.0	0.4	16.5	44.0	52.6	T	0.4
6	21	51.0	6.0	2.3	0.0	51.2	12.0	11.0	4.5	12.0	0.0	43.0	T	T	8.0	55.5	0.2	0.9
6	22	0.6	0.0	0.0	34.7	5.3	0.0	50.0	40.0	27.4	38.0	134.0	T	63.0	8.0	41.0	42.2	98.2
6	23	0.0	5.0	5.6	20.9	67.8	44.0	14.0	182.0	9.0	50.0	12.0	0.0	33.0	18.4	0.0	27.0	15.0
6	24	75.5	0.0	2.0	2.8	6.4	0.0	63.5	38.0	0.0	0.5	2.4	22.5	69.0	T	35.2	14.5	53.2
6	25	0.0	11.7	0.0	0.0	50.0	80.8	13.2	8.3	9.0	0.5	T	27.8	66.0	0.2	0.0	37.8	0.4
6	26	0.0	25.6	77.0	27.4	T	1.0	8.2	0.0	2.0	0.9	26.3	13.4	0.0	9.6	27.0	28.3	15.7
6	27	0.0	15.6	58.0	5.1	1.9	43.3	9.1	T	4.4	18.0	35.5	50.0	0.0	1.5	16.5	20.0	0.5
6	28	36.6	5.2	0.8	0.0	1.0	29.6	0.2	0.0	22.0	T	40.5	23.5	1.5	0.0	0.6	6.9	0.0
6	29	5.5	0.5	5.5	1.2	28.0	0.0	18.2	64.0	39.8	8.5	14.4	2.5	12.0	47.0	0.0	7.0	0.0
6	30	0.0	63.5	11.5	20.5	T	T	25.2	61.0	6.5	15.8	0.0	40.0	10.2	9.0	21.6	42.8	0.8

Daily Precipitation (mm)
Location : Kharini Tar

Month	Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
7	1	0.0	60.0	0.0	15.4	0.0	60.7	27.0	52.0	6.5	58.9	24.4	59.0	0.0	10.4	26.5	29.8	65.5
7	2	72.5	39.0	0.0	0.0	0.0	100.7	T	59.0	0.0	0.0	26.2	65.2	0.2	0.0	36.2	0.0	0.0
7	3	0.0	59.0	18.2	9.5	T	6.0	20.8	90.0	0.0	0.0	6.5	72.0	0.0	14.0	46.6	0.0	20.0
7	4	10.8	19.4	0.0	69.5	0.0	48.7	4.4	0.0	0.0	T	8.5	12.0	0.0	0.0	0.2	4.0	0.0
7	5	70.5	1.0	18.3	T	T	60.8	0.0	6.0	0.0	8.0	11.6	0.0	103.1	22.0	8.5	13.0	0.0
7	6	51.8	0.0	14.1	19.9	51.2	52.0	0.0	6.5	30.1	5.7	9.6	0.0	18.9	0.0	3.0	0.0	49.0
7	7	28.2	0.0	0.0	83.9	31.0	2.0	97.0	128.5	4.4	8.7	38.0	0.0	46.2	0.0	0.0	0.0	0.2
7	8	14.8	51.3	103.0	5.9	4.0	3.5	14.0	29.0	4.2	17.7	90.0	8.4	24.0	8.5	7.7	50.0	33.0
7	9	17.9	0.0	60.0	37.9	2.0	0.0	0.0	1.5	20.5	78.2	35.5	2.0	0.0	1.8	32.0	60.5	10.0
7	10	1.4	0.4	9.0	9.9	29.0	0.0	8.0	21.5	10.5	T	3.5	22.0	T	4.0	4.3	60.0	61.0
7	11	0.0	139.0	39.5	34.5	T	T	9.5	108.0	64.0	49.2	0.0	80.0	63.0	35.0	2.4	5.8	18.0
7	12	59.8	16.0	0.0	13.2	4.0	T	12.0	36.0	34.0	4.0	6.5	7.0	0.0	12.0	27.8	0.2	100.2
7	13	30.0	4.4	0.0	0.0	13.0	T	T	15.0	37.0	2.6	3.5	6.5	3.0	0.0	0.2	10.0	12.5
7	14	0.0	54.0	91.5	7.9	1.0	T	0.0	37.8	80.0	14.2	T	0.0	15.5	0.3	80.2	45.4	18.0
7	15	T	51.0	3.5	90.9	T	2.1	17.5	0.0	26.5	0.4	3.2	0.0	4.5	91.1	24.6	0.9	1.0
7	16	41.2	31.8	0.0	5.9	4.0	18.3	0.0	0.0	19.4	115.0	7.7	0.0	15.0	40.0	0.0	5.0	0.0
7	17	0.0	10.0	3.6	0.0	31.6	10.1	T	61.0	33.5	4.2	5.4	8.4	1.0	30.6	0.0	11.0	4.0
7	18	3.9	56.7	11.0	0.0	15.2	T	0.4	6.5	30.2	0.3	38.4	23.5	40.0	5.5	0.0	0.0	12.0
7	19	7.5	87.0	85.0	7.3	6.6	33.2	41.0	15.1	6.5	46.1	45.0	6.0	6.9	0.0	0.0	0.0	1.0
7	20	0.0	4.4	46.3	4.5	67.4	41.6	19.5	19.0	3.5	0.0	12.0	4.5	0.0	9.5	56.0	45.5	11.0
7	21	16.8	0.0	0.0	0.0	6.5	7.5	0.5	3.9	0.0	54.0	30.5	1.5	14.5	0.1	129.2	5.0	20.0
7	22	12.8	0.0	0.0	1.1	12.5	18.0	4.5	15.0	T	17.0	68.2	T	6.2	2.6	7.0	10.0	6.0
7	23	13.5	30.9	68.5	53.7	16.5	48.1	10.0	0.0	0.0	0.0	78.2	0.0	T	0.0	53.0	5.0	T
7	24	18.4	0.0	0.0	0.0	3.7	3.3	2.4	0.0	0.0	25.0	1.5	7.2	0.0	0.0	50.0	0.0	0.2
7	25	0.0	0.0	0.0	10.3	6.5	5.6	T	T	0.0	16.3	3.5	82.2	9.5	11.0	84.5	0.0	33.0
7	26	108.2	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	3.4	55.2	1.5	10.8	74.5	0.0	3.5
7	27	3.7	T	53.0	0.0	0.8	7.3	41.0	3.0	17.0	3.0	T	14.0	0.0	14.5	0.0	5.4	8.0
7	28	2.2	12.8	7.0	0.0	T	41.6	T	5.2	0.2	42.5	0.4	44.0	6.8	0.0	99.2	3.0	T
7	29	0.0	79.0	0.0	T	0.0	19.3	6.5	0.0	8.5	0.2	10.0	T	T	60.0	78.2	2.1	4.5
7	30	3.5	18.0	0.0	5.9	0.0	0.0	10.0	0.0	0.3	12.0	1.2	23.0	8.5	33.0	17.0	80.4	4.2
7	31	59.4	29.0	0.0	T	16.0	50.0	3.2	2.0	0.0	2.0	0.0	7.0	24.0	9.5	0.0	102.5	4.0
8	1	34.3	16.0	0.0	5.6	142.5	15.5	0.0	23.5	14.5	0.0	5.5	T	65.0	32.5	0.0	11.5	0.0
8	2	8.6	15.0	11.0	4.6	4.2	4.5	2.5	10.5	10.0	4.0	0.3	T	17.5	1.6	45.2	0.0	0.3
8	3	0.0	0.0	12.2	1.0	16.5	3.3	61.5	8.8	1.0	T	84.2	4.0	17.5	4.4	40.0	5.0	0.1
8	4	10.5	0.0	0.0	51.9	0.8	0.0	0.0	0.4	0.0	0.0	18.3	2.2	14.0	8.0	1.0	0.0	0.0
8	5	0.0	0.0	0.0	41.4	0.0	3.0	0.0	3.0	7.0	9.4	1.5	2.8	0.2	13.0	0.0	0.0	26.0
8	6	0.0	5.6	1.4	1.5	8.4	32.4	5.5	0.0	0.0	1.5	6.7	0.2	0.0	0.0	0.0	18.2	0.0
8	7	128.4	0.0	4.3	8.4	50.8	3.5	5.9	0.0	0.0	19.0	5.0	T	10.0	0.0	18.2	0.0	1.5
8	8	3.1	0.0	0.5	33.8	0.0	7.2	1.0	1.0	9.7	8.0	1.5	9.5	65.0	17.4	0.0	21.4	10.0
8	9	0.0	0.0	21.0	70.8	0.0	162.2	25.9	1.4	32.9	2.5	7.5	4.2	3.0	2.5	0.0	0.0	1.0
8	10	14.6	25.2	24.5	0.3	0.0	27.0	0.2	15.0	5.0	51.0	0.4	3.5	75.0	27.0	24.5	0.0	24.9
8	11	0.0	37.5	8.0	5.2	0.0	28.2	5.6	15.5	5.0	20.0	57.0	0.0	2.3	0.0	52.2	0.0	0.0
8	12	29.9	36.0	120.0	0.3	0.0	0.0	6.5	46.0	0.0	27.5	77.6	3.4	0.0	1.5	31.0	6.0	0.0
8	13	12.1	0.0	48.0	0.3	12.0	0.0	2.8	23.0	100.1	25.0	3.5	90.0	T	28.0	0.0	0.0	0.0
8	14	6.3	0.0	19.5	0.3	0.0	0.0	64.8	3.5	28.5	40.0	48.0	78.0	15.0	3.5	1.5	0.0	0.0
8	15	T	0.0	0.0	15.9	109.0	T	22.0	33.0	13.0	0.8	20.3	12.6	2.0	0.0	5.6	0.0	0.0
8	16	34.2	17.0	0.0	53.4	1.5	22.7	2.0	5.5	8.0	0.0	17.4	2.5	37.5	0.0	0.0	0.0	7.0
8	17	0.0	5.6	23.4	72.2	3.3	11.0	7.6	0.0	25.0	0.4	0.0	18.0	29.6	29.0	6.0	0.0	0.0
8	18	6.6	0.0	31.6	0.0	1.5	17.0	12.2	23.0	25.3	41.5	20.6	0.0	9.4	36.0	0.0	85.0	39.0
8	19	0.0	0.0	9.2	0.0	0.0	24.5	0.0	0.0	17.0	7.5	14.4	6.0	26.1	91.8	27.5	60.0	55.2
8	20	17.2	0.0	5.2	52.2	1.1	3.3	0.0	5.5	3.5	0.0	58.0	0.2	2.0	7.8	37.5	38.0	28.0
8	21	23.0	32.0	0.0	0.0	57.2	T	11.0	3.2	4.0	36.0	86.0	T	40.0	0.2	32.0	20.0	8.9
8	22	20.6	0.0	0.0	0.0	15.8	6.5	3.2	3.0	20.0	T	18.0	55.0	1.5	102.2	36.5	0.0	5.0
8	23	121.5	6.0	0.0	9.9	34.0	12.0	39.8	0.0	2.0	2.2	T	60.0	0.0	17.0	T	0.0	0.0
8	24	53.5	0.0	0.0	0.3	24.2	19.0	9.0	13.8	0.0	0.0	40.6	20.0	2.5	52.3	5.0	0.0	0.0
8	25	0.0	37.0	1.7	0.0	7.4	18.1	54.6	0.0	0.0	0.0	16.0	67.0	11.5	0.0	0.0	0.0	0.0
8	26	72.5	0.0	0.0	0.0	T	15.0	16.0	0.0	0.0	26.3	14.0	83.0	0.2	0.0	25.4	5.0	0.0
8	27	0.0	0.0	68.0	22.3	5.0	0.0	9.0	9.5	20.0	0.0	56.0	13.5	4.5	1.6	33.0	60.0	0.0
8	28	5.5	0.0	0.0	84.4	0.0	2.0	48.1	0.0	0.0	0.0	0.0	21.0	63.0	65.0	0.0	18.0	0.4
8	29	19.0	5.9	0.0	19.5	0.0	5.6	4.5	0.0	T	14.2	0.0	4.9	0.6	7.5	0.4	2.0	5.0
8	30	8.5	0.0	0.0	15.2	0.0	16.4	0.0	8.2	16.2	9.5	60.0	12.0	0.0	T	T	2.4	5.0
8	31	0.0	0.0	0.0	29.5	0.0	34.1	0.0	0.0	3.0	0.2	76.0	0.0	0.0	0.0	T	2.0	53.0

Location : Kharini Tar

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	
Month	Day																	
9	1	0.0	8.6	0.0	40.0	0.0	12.8	0.3	0.0	33.0	6.5	8.0	0.0	6.8	25.0	0.0	6.5	27.0
9	2	0.0	0.0	0.0	50.0	0.0	T	26.5	0.0	5.4	13.8	5.5	15.0	0.0	37.2	27.2	0.0	18.5
9	3	0.0	0.0	0.0	31.0	10.9	3.2	25.5	9.6	15.2	0.0	8.6	0.0	0.2	21.8	0.0	5.0	18.0
9	4	3.6	0.0	0.0	30.9	0.0	1.0	12.0	36.0	9.5	0.0	3.0	0.0	0.0	9.6	95.5	0.0	36.0
9	5	52.1	12.0	0.0	10.6	0.0	45.7	0.0	26.0	77.9	0.0	0.3	12.0	0.0	50.0	43.0	0.2	0.2
9	6	45.5	10.0	0.0	0.0	T	94.6	0.0	10.1	26.0	9.9	19.0	29.0	2.0	20.0	0.5	5.0	0.0
9	7	168.0	0.0	T	0.0	0.0	11.3	2.2	6.5	0.0	0.9	4.2	21.0	18.0	11.5	0.0	1.0	0.8
9	8	33.8	8.0	2.7	7.6	0.0	0.9	0.0	T	10.1	2.8	0.0	10.4	0.0	3.5	0.0	0.0	51.3
9	9	51.1	0.0	0.0	32.8	2.4	0.4	0.0	T	2.0	0.0	0.0	3.0	3.5	1.0	0.0	0.0	60.0
9	10	0.0	0.0	28.0	9.6	0.0	4.5	64.1	0.0	2.0	T	0.0	27.0	21.2	T	32.0	0.4	59.5
9	11	0.0	40.0	19.0	21.5	0.0	T	9.5	0.0	1.5	0.0	2.0	0.0	26.6	0.2	0.4	0.0	T
9	12	0.0	26.0	0.0	1.9	0.0	0.0	0.0	T	36.0	1.2	1.8	0.0	2.0	3.0	0.0	0.0	19.2
9	13	0.0	0.0	0.0	0.0	44.0	3.7	34.5	0.0	4.0	6.0	0.2	1.0	0.0	30.0	1.4	9.5	0.2
9	14	0.0	6.0	0.0	2.5	16.0	3.5	19.3	3.4	0.0	1.5	0.0	0.0	0.0	8.5	0.0	5.0	52.4
9	15	1.3	5.0	0.0	3.5	7.2	T	65.5	0.0	0.0	0.0	0.0	0.0	12.5	0.0	T	T	6.0
9	16	55.3	0.0	4.0	0.0	6.4	13.5	47.5	0.2	0.0	0.0	0.0	2.0	0.0	T	6.2	0.4	9.5
9	17	1.5	0.0	0.0	23.3	0.0	1.5	0.0	0.0	0.0	0.0	0.0	1.0	5.8	0.0	41.0	T	6.5
9	18	5.2	0.0	77.0	0.0	0.0	0.0	0.2	3.9	0.0	0.0	0.0	0.0	15.5	0.0	1.5	7.5	T
9	19	0.8	4.0	0.0	0.0	0.0	0.0	4.9	2.0	T	14.0	0.0	0.0	14.5	0.0	0.0	10.0	T
9	20	0.0	0.0	0.0	0.0	0.0	0.0	29.1	1.8	1.5	T	0.0	0.0	2.6	0.0	0.0	12.0	0.0
9	21	2.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	19.5	55.0	37.5	0.0	0.0	0.0	33.0	T
9	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	7.3	0.4	0.0	0.0	42.2	0.2	T
9	23	0.0	0.0	12.5	0.0	0.0	43.4	0.0	0.0	0.0	T	T	0.0	0.0	0.0	19.2	0.0	0.0
9	24	0.5	0.0	0.0	0.0	0.0	83.8	0.0	3.5	0.0	0.0	0.0	0.0	T	5.0	22.0	T	T
9	25	0.0	9.0	49.8	0.0	0.0	30.5	0.0	0.0	28.5	0.0	0.5	8.0	18.0	T			

Daily Precipitation (mm)
Location : Kharini Tar

[illegible]

Daily Precipitation (mm)

Location : Damauli Latitude : 27° 58' N

Index No. : 0817 Longitude : 84° 17' E

District : Tanahun Elevation : 358 m.

Note : DNA means data not available T means data less than 0.1

Month	Year	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Day																	
1	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	T	0.0	0.0	0.0	0.0
1	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.1	0.0	0.0	0.0	0.0
1	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.1	0.0	0.0	0.0	0.2
1	5	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	2.5	0.0	0.0	0.0	0.0
1	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	8	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	40.0
1	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	40.0
1	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	2.0	0.0	0.0
1	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	13	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	14	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	17.0	0.0
1	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	16.0	0.0	0.0	T	0.0	0.0
1	18	0.0	0.0	24.5	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	19	0.0	0.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	22	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	27	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	29	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	1.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	30	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
1	31	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
2	1	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
2	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	1.0	0.0	0.0	0.0	0.0
2	3	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
2	4	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	9.0	0.0	0.0
2	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
2	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	T	0.0	0.0	0.0	0.0
2	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
2	8	0.0	0.0	0.0	0.0	0.0	18.3	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
2	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.1	0.0	0.0	0.0	0.0	0.0
2	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.6	0.0	0.0	0.0
2	11	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	DNA	T	0.0	12.0	0.0	0.0	0.0
2	12	76.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	1.0	0.0	0.0	0.0
2	13	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
2	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
2	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	19.0	0.0	4.0	0.0
2	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	2.5	2.0	0.0	0.0
2	17	0.0	0.0	0.0	0.0	5.2	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
2	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	1.0	0.0	0.0
2	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	2.0
2	20	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	DNA	2.5	0.0	0.0	0.0	0.0	0.0
2	21	0.0	2.0	0.0	0.0	0.0	0.0	0.0	T	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
2	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	1.4	0.0
2	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	19.5	7.4	0.0
2	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	1.0	0.0
2	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
2	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
2	27	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
2	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	DNA	0.0	0.0	0.0	1.0	0.0	0.0
2	29			0.0				10.0				0.0				3.6	

Daily Precipitation (mm)

Location : Damauli

Month	Year Day	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
3	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
3	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
3	3	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	64.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
3	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
3	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
3	6	0.0	4.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	DNA	0.0	0.0	T	0.0	0.0	0.0
3	7	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	DNA	0.0	0.0	T	0.0	0.0	0.0
3	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	DNA	0.0	0.0	0.0	2.0	0.0	0.0
3	9	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	DNA	0.0	0.0	0.0	1.3	8.0	0.0
3	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.3	36.0	0.0
3	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	2.5	0.0	0.0
3	12	0.0	0.0	0.0	0.0	30.1	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.3	14.0	4.0
3	13	0.0	0.0	0.0	0.0	9.2	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.5	0.0	0.0
3	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	T	0.0	0.0	0.0	0.0
3	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	T	16.5	0.0	0.0
3	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	13.4	0.0	0.0	0.0
3	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	DNA	0.0	0.0	0.0	7.0	0.0	0.0
3	18	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	20.0	0.0	0.0
3	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	T	0.0	2.8	18.0
3	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	DNA	0.0	0.0	T	0.0	9.0	0.0
3	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	DNA	0.0	0.0	0.0	0.0	0.0	13.0
3	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
3	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
3	24	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
3	25	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	DNA	0.0	T	0.0	0.0	0.0	0.0
3	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	T	0.0	0.0	2.8	0.0
3	27	18.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	7.0	T	0.0	0.0	0.0	0.0
3	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	16.0	0.0	0.0	0.0	0.0
3	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	1.0	0.0	0.0	0.0	0.0
3	30	1.4	0.0	0.0	0.0	0.0	0.0	4.0	3.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	4.0
3	31	3.4	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
4	1	11.8	0.0	0.0	33.0	0.0	0.0	0.0	4.0	0.0	0.0	63.8	0.0	0.0	7.5	0.0	0.0
4	2	10.2	0.0	0.0	13.5	0.0	0.0	0.0	10.0	0.0	3.0	12.0	0.0	0.0	31.7	0.0	0.0
4	3	0.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	4	0.0	0.0	0.0	43.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
4	5	3.8	0.1	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	6	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	8	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
4	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
4	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	11.0	0.0	2.0	0.0	0.0
4	11	0.0	0.0	0.0	24.0	0.0	11.5	0.0	0.0	0.0	0.0	0.0	0.0	10.3	0.0	0.0	0.0
4	12	76.5	0.0	0.0	82.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
4	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	30.0	0.0	0.0	0.0
4	14	153.5	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	4.5	0.0	22.0	0.0
4	15	0.0	0.0	0.0	0.0	0.0	6.0	T	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
4	16	0.0	0.0	0.0	0.0	0.0	31.0	0.0	16.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	17	0.0	0.0	0.5	35.5	0.0	0.0	0.0	45.0	2.0	T	0.0	0.0	0.0	0.0	19.6	0.0
4	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.0	4.0	T	47.0	0.0	0.0	0.0	4.8	0.0
4	19	0.0	0.0	0.0	0.0	0.0	11.0	6.5	0.0	7.0	7.0	4.0	7.0	0.0	2.0	0.0	0.0
4	20	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	4.0	0.0	0.0	16.0	0.0
4	21	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	47.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
4	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	33.0	0.0	0.0	0.0
4	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	13.0	3.0	10.2	0.0
4	24	0.0	0.0	0.0	30.0	0.0	0.0	0.0	4.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
4	25	0.0	0.0	5.1	36.5	0.0	0.0	0.0	0.0	7.0	0.0	4.5	0.0	3.3	9.5	2.8	0.0
4	26	0.0	0.0	0.0	0.0	0.0	T	0.0	7.0	24.0	T	1.0	0.0	5.5	5.5	0.0	0.0
4	27	21.0	0.0	17.1	0.0	0.0	10.5	0.0	0.0	6.0	5.0	0.0	0.0	1.0	8.5	0.0	0.0
4	28	0.0	0.0	8.5	0.0	0.0	T	0.0	1.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
4	29	0.0	0.0	28.2	0.0	0.0	3.0	5.0	6.0	0.0	19.0	24.4	9.0	28.0	0.0	0.0	0.0
4	30	0.0	2.0	9.0	6.0	0.0	13.0	11.0	16.0	0.0	2.0	21.0	0.0	2.0	31.5	0.0	0.0

Daily Precipitation (mm)
Location : Damauli

Month	Year Day	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
5	1	0.0	0.0	16.4	0.0	0.0	T	0.0	9.0	0.0	51.0	5.0	1.5	0.0	10.0	0.0	0.0
5	2	51.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	2.0	0.0	0.0	0.0	9.4	0.0
5	3	11.2	16.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	13.0	0.0	0.0	13.5	14.0	6.6	0.0
5	4	26.5	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0	38.0	20.0	3.5	17.0	0.0	0.0	0.0
5	5	70.0	6.2	0.0	15.4	8.3	0.0	0.0	7.0	0.0	8.0	0.0	29.0	24.0	0.0	2.6	0.0
5	6	0.0	0.0	3.4	0.0	58.9	0.0	29.0	3.0	0.0	36.0	55.0	11.0	0.0	7.5	0.0	0.0
5	7	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	57.0	T	0.0	14.0	0.0	0.0
5	8	1.2	0.0	14.5	3.0	13.1	0.0	8.0	79.0	0.0	3.0	6.0	0.0	0.0	15.0	0.0	0.0
5	9	0.0	0.0	20.4	0.0	3.2	0.0	0.0	0.0	0.0	39.0	43.0	0.0	10.0	0.0	0.0	0.0
5	10	11.3	0.0	0.0	0.0	0.0	3.0	0.0	170.0	0.0	0.0	23.0	0.0	0.0	0.0	3.0	0.0
5	11	50.1	0.0	7.3	0.0	0.0	1.9	20.0	10.0	0.0	0.0	0.0	2.0	13.5	0.0	0.0	0.0
5	12	40.0	0.0	0.0	0.0	15.5	1.9	0.0	2.0	0.0	1.0	0.0	9.0	3.4	0.0	0.0	0.0
5	13	0.0	0.0	24.1	0.0	12.3	0.0	0.0	0.0	0.0	37.0	66.0	10.0	4.5	0.0	0.0	37.0
5	14	1.2	0.0	18.9	40.1	0.0	2.2	0.0	15.0	0.0	1.0	0.5	15.0	1.5	2.5	9.0	10.0
5	15	0.0	0.0	0.0	5.2	76.2	T	2.0	50.0	0.0	0.0	0.0	4.5	3.4	0.0	0.0	0.0
5	16	48.0	0.0	11.6	0.0	53.5	33.0	2.0	70.0	0.0	6.0	24.0	0.0	16.0	0.0	0.0	0.0
5	17	2.1	0.0	0.0	0.0	107.1	0.0	36.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	10.0	0.0
5	18	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	2.0	26.0	0.0	6.6	16.8
5	19	42.5	0.0	0.0	0.0	0.0	T	6.0	0.0	0.0	T	0.0	25.0	13.0	0.0	27.0	0.0
5	20	52.2	0.0	0.0	15.1	30.0	3.0	3.0	0.0	6.0	3.0	5.0	0.0	0.0	0.0	1.0	6.8
5	21	30.0	0.0	70.4	10.1	5.1	5.1	1.0	0.0	0.0	T	12.0	5.0	10.5	0.0	0.0	37.0
5	22	7.0	0.0	34.2	5.9	15.0	0.0	40.0	0.0	0.0	25.0	23.0	5.0	0.0	1.5	0.0	0.4
5	23	0.0	0.0	0.0	0.0	0.0	0.0	42.0	0.0	0.0	7.0	33.0	0.0	8.0	16.5	0.0	0.0
5	24	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	5.0	12.0	0.0	0.0	0.0	63.0	0.0
5	25	0.0	0.0	20.9	0.0	7.0	0.0	3.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	10.8	0.0
5	26	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	T	39.0	T	0.0	0.0	0.0	6.0
5	27	0.0	0.0	0.0	0.0	29.5	0.0	19.0	0.0	0.0	T	T	1.0	1.0	0.0	63.0	60.0
5	28	0.0	0.0	0.0	0.0	39.7	0.0	0.0	31.0	0.0	T	18.0	1.0	0.0	0.0	2.6	0.0
5	29	0.0	0.0	0.0	24.1	21.5	0.0	0.0	0.0	0.0	T	11.0	1.0	0.0	0.0	24.8	40.5
5	30	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	33.0	0.0	1.0	0.0	11.0
5	31	0.0	0.0	0.0	21.0	0.2	0.0	18.0	0.0	0.0	8.0	0.0	8.0	0.0	0.0	0.0	30.0
6	1	10.0	0.0	24.6	10.1	21.7	0.0	0.0	0.0	0.0	0.0	0.0	67.0	5.0	2.5	0.0	0.0
6	2	8.0	2.2	0.0	0.0	T	0.0	22.0	41.0	0.0	33.0	0.0	52.0	0.0	16.0	0.0	0.0
6	3	0.0	0.0	0.0	25.0	14.3	0.0	9.0	0.0	0.0	0.0	25.0	0.0	0.0	13.5	0.0	34.0
6	4	0.0	7.5	0.0	45.9	0.0	0.0	0.0	12.0	0.0	4.0	0.0	8.0	0.0	31.0	0.0	47.0
6	5	0.0	0.0	0.0	5.1	15.4	0.0	0.0	24.0	0.0	8.0	62.0	0.0	0.0	0.2	9.0	0.0
6	6	68.0	0.0	93.1	6.5	7.3	0.0	0.0	0.0	0.0	10.0	0.0	35.0	0.0	1.5	0.0	0.2
6	7	10.0	8.6	0.0	0.0	5.1	0.0	3.0	0.0	0.0	0.1	0.0	27.0	43.5	11.0	0.0	0.0
6	8	5.0	0.0	0.0	5.0	48.1	15.0	26.0	0.0	0.0	18.0	0.0	20.0	0.0	0.0	0.6	18.0
6	9	1.0	0.0	0.0	0.0	20.5	35.0	168.0	0.0	0.0	19.0	0.0	21.0	5.4	50.5	0.0	0.0
6	10	0.0	0.0	47.5	0.0	9.1	T	30.0	0.0	0.0	T	86.0	0.0	0.0	59.0	2.0	0.0
6	11	28.8	0.0	0.0	12.5	3.2	T	0.0	0.0	0.0	0.0	10.0	32.0	0.0	9.0	0.0	4.0
6	12	0.0	0.0	20.0	0.0	0.0	3.0	32.0	0.0	0.0	1.0	26.0	0.0	18.0	0.0	32.6	0.0
6	13	0.0	0.0	10.4	0.0	0.0	66.2	0.0	0.0	0.0	0.0	12.0	0.0	16.4	0.0	45.6	14.3
6	14	26.5	40.5	0.5	0.0	79.7	T	17.0	0.0	0.0	0.0	0.0	85.0	12.0	0.0	5.4	1.6
6	15	0.0	50.0	26.4	0.0	2.8	26.2	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	T
6	16	0.0	0.0	0.0	24.6	1.1	0.0	8.0	0.0	0.0	21.0	25.0	14.0	0.0	1.0	0.0	5.0
6	17	10.0	0.0	12.0	0.0	0.0	0.0	6.0	0.0	4.0	0.0	0.0	0.0	0.4	30.0	0.0	26.0
6	18	5.5	0.0	0.0	0.0	T	10.0	0.0	3.0	8.0	0.0	115.0	19.0	30.5	2.0	0.0	111.0
6	19	10.0	0.0	0.0	0.0	79.0	70.0	0.0	5.0	0.0	0.0	0.5	15.0	24.0	0.0	7.2	3.0
6	20	40.0	0.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	T	6.0	2.0	0.0	0.0	2.0
6	21	20.0	0.0	0.0	0.0	20.0	51.0	3.0	2.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.4
6	22	10.8	1.0	0.0	40.2	0.6	3.0	9.0	28.0	0.0	0.0	2.5	0.0	23.0	0.0	29.0	0.0
6	23	384.2	2.0	0.0	10.2	4.4	0.0	8.0	0.0	0.0	26.0	0.0	6.0	9.4	17.0	0.0	0.0
6	24	2.2	1.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	6.0	3.0	0.0	51.0	9.5	15.0	0.0
6	25	10.0	10.0	16.7	0.0	3.8	1.5	0.0	0.0	5.0	4.0	0.0	0.0	11.4	0.2	10.0	34.0
6	26	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	8.0	4.0	3.0	1.0	36.0	34.5	0.0	1.0
6	27	0.0	0.0	0.0	20.2	T	9.0	0.0	0.0	0.0	54.0	0.0	0.0	99.5	T	0.0	0.8
6	28	0.0	0.0	5.3	0.0	9.2	14.0	2.0	43.0	14.0	7.0	9.0	42.5	11.5	25.0	0.0	8.0
6	29	12.0	1.0	41.1	0.0	17.3	T	32.0	80.0	0.0	86.0	0.0	1.0	22.5	81.0	45.0	1.3
6	30	26.5	9.0	84.1	10.5	27.5	T	0.0	17.0	0.0	8.0	0.0	0.0	0.4	30.0	0.4	0.0

Daily Precipitation (mm)

Location : Damauli

Month	Year Day	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
7	1	19.0	4.0	0.0	14.2	30.9	115.0	0.0	24.0	0.0	3.0	5.5	6.0	0.4	0.0	0.0	85.0
7	2	37.2	1.0	44.0	0.0	11.7	39.4	0.0	1.0	0.0	50.0	27.0	4.0	5.0	31.0	128.0	0.0
7	3	27.0	8.0	20.1	0.0	16.6	3.0	0.0	38.0	0.0	19.0	16.0	0.0	0.0	197.0	0.0	27.0
7	4	0.0	0.0	30.2	10.2	T	9.0	2.0	0.0	22.2	28.0	5.0	39.0	0.4	100.0	2.0	0.2
7	5	0.0	0.0	0.0	16.0	4.2	0.0	1.0	4.0	1.0	7.0	1.0	19.0	0.0	9.0	48.0	0.0
7	6	0.0	0.0	0.0	11.0	32.4	0.0	46.0	0.0	14.0	11.1	16.5	6.5	19.5	12.3	47.0	14.0
7	7	0.0	0.0	0.0	20.1	T	0.0	7.0	9.0	100.0	0.0	0.0	52.0	T	15.0	0.0	1.0
7	8	0.0	0.0	0.0	41.0	27.7	0.0	17.0	30.0	0.0	0.0	33.5	10.0	3.0	63.5	0.4	10.0
7	9	0.0	0.0	0.0	46.0	27.8	T	30.0	1.0	0.0	T	30.5	3.0	5.0	48.0	10.0	0.0
7	10	0.0	0.0	6.0	49.5	0.0	32.0	0.0	2.0	17.0	7.0	12.0	2.7	0.2	27.0	1.6	0.0
7	11	0.0	0.0	0.0	29.5	4.0	36.0	0.0	0.1	9.0	0.0	11.0	21.0	5.5	14.0	0.2	143.0
7	12	5.0	1.0	0.0	5.0	4.8	20.0	0.0	2.0	0.0	T	25.0	9.0	0.0	1.5	55.0	0.2
7	13	15.0	8.0	0.0	10.1	T	31.8	0.0	28.0	0.0	0.0	3.0	4.6	2.0	1.0	15.0	16.2
7	14	70.6	0.0	20.5	25.5	0.0	8.0	1.0	7.0	0.0	0.0	0.0	29.0	42.5	0.0	2.0	72.0
7	15	2.0	0.0	75.6	24.5	1.8	14.0	13.0	51.0	0.0	94.0	0.0	4.6	4.0	36.5	12.0	49.0
7	16	0.0	0.0	0.0	20.2	110.0	18.0	18.0	22.0	0.0	74.0	7.0	3.0	96.0	0.0	4.2	16.2
7	17	4.0	0.0	0.0	6.0	10.0	2.0	0.0	11.0	0.0	210.0	8.0	3.0	42.5	14.0	0.0	0.0
7	18	1.2	0.0	0.0	8.5	33.1	0.0	0.0	36.0	26.0	1.1	9.5	0.0	5.0	3.0	1.0	3.0
7	19	0.0	1.0	0.0	0.0	0.6	0.0	1.0	26.0	81.0	0.0	15.0	8.0	0.2	14.0	34.0	122.0
7	20	13.8	3.0	0.0	0.0	27.4	3.0	19.0	21.0	23.0	24.5	0.0	0.0	2.0	0.5	2.0	4.0
7	21	17.0	1.0	0.0	5.0	2.2	13.0	9.0	3.0	0.0	34.0	2.0	0.7	23.0	2.5	32.0	3.0
7	22	21.0	8.0	0.0	10.5	6.7	6.0	11.0	5.0	0.0	13.0	5.0	0.0	12.5	19.5	16.0	2.0
7	23	11.5	2.0	0.0	10.0	14.8	3.0	6.0	3.0	0.0	1.0	2.0	28.0	2.0	49.5	0.0	27.0
7	24	9.0	2.0	0.0	12.2	10.1	86.0	11.0	9.0	42.0	0.0	54.5	15.5	0.2	5.5	0.0	0.0
7	25	48.0	4.0	0.0	5.1	1.3	0.0	7.0	0.0	32.0	3.0	13.5	42.0	16.0	92.0	8.0	0.4
7	26	21.0	3.0	16.0	6.0	0.0	2.0	1.0	6.0	0.0	55.0	51.0	7.0	73.0	35.3	17.0	0.0
7	27	36.0	4.5	0.0	8.1	4.2	3.0	9.0	118.0	4.0	28.0	52.0	0.0	12.0	1.2	2.8	41.4
7	28	12.0	0.0	0.0	2.5	28.2	13.0	64.0	45.0	14.0	0.5	14.0	6.0	0.0	2.5	4.0	10.0
7	29	27.0	0.0	0.0	41.5	19.8	27.0	4.0	0.2	0.0	2.0	11.1	0.3	0.0	3.0	1.0	64.0
7	30	18.0	0.0	10.0	25.5	15.4	0.0	4.0	6.0	0.0	4.5	26.5	0.0	9.0	2.0	0.0	20.0
7	31	9.0	0.0	20.7	6.0	T	9.0	6.0	35.0	0.0	T	2.0	0.0	2.0	3.0	30.0	26.0
8	1	20.0	0.0	25.0	2.1	28.1	52.0	32.0	29.0	0.0	0.0	5.0	7.0	5.5	5.5	7.0	10.0
8	2	31.0	0.0	1.7	10.3	1.8	48.0	36.0	1.0	0.0	33.0	0.0	8.0	7.0	T	6.0	0.4
8	3	16.0	16.0	0.0	20.5	3.4	51.0	1.0	0.1	0.0	1.0	10.0	0.0	3.0	5.5	0.0	0.0
8	4	68.0	0.0	20.0	0.0	0.0	10.0	12.0	2.0	0.0	4.0	0.0	0.0	1.5	5.5	17.0	0.0
8	5	13.0	0.1	25.0	0.0	14.0	19.0	0.0	17.0	53.0	19.0	0.0	4.0	1.5	0.0	0.0	0.0
8	6	0.0	0.0	13.0	20.5	0.2	9.0	4.0	0.0	0.0	9.0	0.0	0.0	0.0	19.0	0.0	0.0
8	7	14.0	0.0	0.0	14.5	0.0	T	22.0	1.0	0.0	2.0	0.3	0.0	15.0	2.5	70.0	0.0
8	8	0.0	0.0	0.0	24.0	9.1	89.0	1.0	3.0	77.0	0.4	12.0	0.0	14.0	0.3	0.0	11.0
8	9	31.0	0.0	0.0	5.5	31.0	5.0	0.0	35.0	0.0	0.0	0.0	2.0	0.0	0.3	0.0	28.0
8	10	30.5	0.0	0.0	2.2	2.6	62.0	0.0	0.0	0.0	T	0.2	2.0	3.0	4.5	16.0	5.0
8	11	5.0	0.0	28.0	23.1	3.9	T	0.0	0.0	0.0	0.0	0.3	0.6	0.0	4.5	0.0	5.0
8	12	18.0	0.0	11.2	41.5	35.0	8.0	25.0	2.0	0.0	T	3.0	0.0	40.0	34.0	31.0	32.0
8	13	0.0	0.0	9.8	45.0	0.0	13.0	1.0	0.0	0.0	0.0	19.0	0.0	0.0	76.0	9.0	0.0
8	14	0.0	0.0	10.0	39.0	0.0	8.0	24.0	1.0	0.0	0.0	0.0	2.0	0.0	14.0	0.0	0.0
8	15	0.0	0.0	13.1	0.0	0.6	10.0	12.0	0.0	0.0	0.0	9.5	13.0	0.0	1.5	1.0	0.0
8	16	0.0	0.0	41.0	2.5	1.5	0.0	0.0	0.0	0.0	T	7.5	1.0	8.0	0.0	9.0	11.0
8	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	9.0	0.3	5.0	3.0	0.0	29.0
8	18	0.0	0.0	0.0	0.0	35.5	0.0	0.0	0.0	0.0	15.0	17.5	0.3	0.0	2.0	35.0	2.0
8	19	48.0	0.0	0.0	0.0	12.3	0.0	0.0	4.0	0.0	0.0	3.5	17.0	0.0	T	20.0	0.0
8	20	31.0	0.0	0.0	0.0	2.8	4.0	0.0	79.0	0.0	23.0	29.1	T	15.0	3.3	0.0	14.0
8	21	21.0	0.0	0.0	0.0	T	77.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	24.0	11.0
8	22	22.5	0.0	10.0	0.0	T	9.0	0.0	1.0	0.0	T	7.0	14.0	0.0	0.3	21.0	1.0
8	23	0.0	0.0	27.5	0.0	20.9	0.0	1.0	5.0	0.0	3.4	0.0	9.5	0.1	0.0	92.0	0.0
8	24	0.0	0.0	10.0	0.0	T	0.0	3.0	1.0	0.0	1.7	13.0	9.0	36.5	12.5	28.0	0.0
8	25	47.0	0.0	0.0	5.1	0.0	0.0	5.0	0.0	0.0	36.0	0.0	0.0	11.5	0.0	10.0	0.0
8	26	32.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	2.0	26.0	0.0	0.4	36.0	68.0	4.0
8	27	0.0	0.0	7.0	6.2	0.0	0.0	4.5	0.0	0.0	15.0	2.0	4.0	2.5	0.0	0.0	0.0
8	28	42.0	0.0	0.0	0.0	T	0.0	5.0	0.0	8.0	0.0	0.0	1.5	6.0	4.0	4.0	1.2
8	29	31.5	0.0	0.0	0.0	0.2	6.0	4.5	0.0	0.0	11.0	8.0	24.0	0.0	1.0	11.0	0.0
8	30	51.0	2.0	0.0	0.0	0.3	4.0	12.0	0.0	0.0	2.0	11.0	8.0	0.0	1.0	1.0	1.4
8	31	59.3	0.0	10.0	0.0	13.4	3.0	8.0	108.0	0.0	8.0	74.0	0.0	0.0	0.0	0.0	1.0

Daily Precipitation (mm)

Location : Damauli

Month	Year Day	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
9	1	3.0	DNA	19.0	0.0	0.0	T	190.0	9.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0	0.4
9	2	12.0	DNA	30.2	0.0	0.1	8.0	15.0	0.0	0.0	4.0	3.0	0.0	3.0	41.5	0.0	0.0
9	3	0.0	DNA	0.0	0.0	3.4	29.0	4.0	0.0	0.0	T	0.0	28.0	0.0	17.0	0.0	0.0
9	4	0.0	DNA	0.0	0.0	0.1	52.0	3.0	0.0	0.0	T	0.0	98.0	0.0	3.0	10.0	0.0
9	5	0.0	DNA	0.0	0.0	4.5	54.0	37.0	0.0	0.0	T	10.0	6.0	1.5	T	18.0	1.0
9	6	0.0	DNA	3.0	0.0	18.2	7.5	33.0	0.0	0.0	8.0	17.0	0.0	40.0	6.0	1.4	0.0
9	7	0.0	DNA	0.0	0.0	19.9	1.0	0.0	3.0	0.0	T	133.0	0.0	0.0	0.9	46.0	0.0
9	8	0.0	DNA	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	38.0	0.0	0.0	T	57.0	0.0
9	9	0.0	DNA	0.0	0.0	14.4	0.0	0.0	10.0	0.0	5.0	0.0	0.0	1.5	10.0	12.0	0.0
9	10	0.0	DNA	0.0	0.0	11.5	0.8	0.0	46.0	0.0	17.0	0.0	0.0	4.0	2.0	0.0	0.0
9	11	21.0	DNA	0.0	12.2	4.1	0.0	0.0	0.0	0.0	5.0	1.0	21.0	16.0	T	0.0	34.0
9	12	0.0	DNA	8.0	0.0	T	0.0	0.0	0.0	0.0	16.0	17.0	0.3	100.0	0.0	0.0	16.0
9	13	0.0	DNA	20.0	21.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.0	0.0	0.0	0.0
9	14	12.0	DNA	14.0	2.2	36.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	65.0	0.0	0.0	18.6
9	15	32.0	DNA	3.2	0.0	0.9	0.0	41.0	2.0	0.0	0.0	135.0	0.0	28.0	0.0	0.0	3.6
9	16	3.2	DNA	0.0	0.0	0.0	35.8	0.0	0.0	0.0	0.0	17.0	52.0	0.0	0.0	36.0	0.0
9	17	32.0	DNA	0.0	0.0	T	0.0	0.0	0.0	0.0	3.0	51.0	86.0	0.0	0.0	0.2	0.6
9	18	0.0	DNA	0.0	25.2	0.0	0.0	0.0	0.0	0.0	27.0	43.0	0.0	0.0	0.0	7.0	19.0
9	19	0.0	DNA	0.0	10.5	21.6	0.0	1.0	0.0	0.0	51.0	16.0	0.0	0.0	0.0	0.2	21.6
9	20	0.0	DNA	0.0	0.0	0.0	0.0	2.0	0.0	0.0	T	2.0	0.0	0.0	0.5	0.4	0.0
9	21	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0	0.0	0.0	0.9	2.5	0.0	2.6
9	22	0.0	DNA	0.0	0.0	1.2	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	3.0	0.0	0.0
9	23	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.0	0.0	0.0	0.8	2.0	0.0	0.0
9	24	0.0	DNA	0.0	0.0	T	0.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	32.0	0.0
9	25	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	6.0	6.5	0.0	0.0	0.0
9	26	0.0	DNA	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	13.0	1.5	0.0	0.0	0.0
9	27	0.0	DNA	0.0	0.0	10.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
9	28	0.0	DNA	0.0	0.0	8.4	0.0	0.0	0.0	0.0	0.2	0.0	0.0	13.0	0.0	32.0	0.0
9	29	0.0	DNA	0.0	24.1	0.0	0.0	0.0	265.0	0.0	0.0	0.0	0.0	12.0	2.5	0.0	0.6
9	30	0.0	DNA	0.0	0.0	6.2	0.0	0.0	8.0	0.0	0.0	0.0	12.0	3.0	3.5	0.0	24.0
10	1	DNA	DNA	0.0	0.0	43.0	0.0	0.0	0.0	T	0.0	0.0	1.0	22.3	0.0	0.0	0.4
10	2	DNA	DNA	0.0	0.0	0.0	5.0	3.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10	3	DNA	DNA	0.0	T	0.0	0.0	0.0	0.0	0.0	21.0	0.0	0.0	0.0	0.0	0.0	0.0
10	4	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0
10	5	DNA	DNA	0.0	0.0	0.2	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0
10	6	DNA	DNA	0.0	44.1	10.5	0.0	0.0	0.0	0.0	0.0	0.0	7.0	4.0	0.0	2.0	0.0
10	7	DNA	DNA	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
10	8	DNA	DNA	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
10	9	DNA	DNA	0.0	0.0	0.0	T	0.0	0.0	0.0	10.0	1.5	61.0	T	0.0	0.0	0.0
10	10	DNA	DNA	0.0	0.0	0.0	12.0	0.0	0.0	0.0	2.0	0.0	64.0	0.0	0.0	0.0	0.0
10	11	DNA	DNA	0.0	0.0	0.0	5.0	0.0	0.0	0.0	15.5	0.0	0.0	2.0	0.0	0.0	0.0
10	12	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.0	0.0	0.0	2.5	0.0	0.0	0.0
10	13	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	19.0	0.0	0.0	0.0
10	14	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	15	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.0	0.0	26.0	0.0	0.0	0.0
10	16	DNA	DNA	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	3.0	0.0	1.5	0.0	0.0	0.0
10	17	DNA	DNA	45.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
10	18	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.0	0.0	0.0	0.0	0.0
10	19	DNA	DNA	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.0	0.0	28.0	0.0	1.0
10	20	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	0.0	67.0	0.0	0.0
10	21	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	22	DNA	DNA	20.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	23	DNA	DNA	0.0	0.0	0.2	0.0	4.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
10	24	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
10	25	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	26	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	27	DNA	DNA	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	28	DNA	DNA	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0
10	29	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	30	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	31	DNA	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0	0.0

Location : Damauli

[illegible]

Daily Precipitation (mm)
Location : Damauli

Month	Year Day	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
1	1	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.0	21.9	0.0
1	2	0.0	13.0	0.0	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	3	0.0	0.0	0.0	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	4	0.0	0.0	0.0	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	5	0.0	0.0	0.0	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	6	0.0	0.0	0.0	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	7	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	8	0.0	0.0	0.0	2.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	9	0.0	0.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0
1	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
1	11	0.0	0.0	0.0	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	12	0.0	0.0	1.0	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	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0
1	14	0.0	0.0	0.0	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	15	0.0	0.0	0.0	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	16	0.0	0.0	0.0	0.0	25.4	0.0	58.3	0.0	0.0	0.0	0.0	0.0	21.3	0.0	0.0
1	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
1	18	0.0	0.0	0.0	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	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	T
1	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0
1	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
1	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.4	0.0	0.0	0.0	0.0	0.0	0.0	3.8
1	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0	1.0	T	0.0	0.0	0.2
1	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	6.6
1	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0
1	26	0.0	0.0	0.0	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	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0
1	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	6.7	0.0	0.0
1	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	0.0	0.0
1	30	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.8	0.0
1	31	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	8.6	0.0
2	1	0.0	0.0	4.4	10.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	17.0	0.0
2	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.9	0.0
2	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	T	0.0
2	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	5	0.0	0.0	0.0	0.0	0.0	1.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	2.7	0.0	0.0	0.0	0.0
2	7	0.0	0.0	15.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	19.0	0.0	0.0
2	9	0.0	0.0	0.0	0.0	28.6	0.0	4.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	10	0.0	0.0	0.0	0.0	6.8	0.0	14.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	11	10.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	12	0.0	0.0	0.0	0.0	0.0	0.0	21.6	DNA	0.0	0.0	4.0	0.0	15.3	0.0	0.0
2	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	14	20.0	0.0	0.0	0.0	0.0	T	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	15	13.0	0.0	0.0	0.0	0.0	12.6	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	17	0.0	0.0	0.0	0.0	0.0	0.0	4.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	18	0.0	0.0	0.0	0.0	0.0	8.8	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	25.2	0.0
2	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	17.3	0.0
2	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	22	0.0	0.0	0.0	0.0	12.6	0.0	0.0	DNA	0.0	0.0	0.0	6.4	0.0	0.0	0.0
2	23	0.0	0.0	0.0	0.0	0.8	23.2	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	13.0	0.0	0.0	0.0	T	0.0	0.0
2	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	1.2	9.3	5.7	0.0
2	26	0.0	0.0	0.0	1.0	0.0	0.0	2.2	DNA	0.0	0.0	0.0	10.0	5.0	5.2	0.0
2	27	8.0	14.4	0.0	0.0	0.0	16.6	10.8	DNA	0.0	0.0	0.0	0.0	0.0	24.6	0.0
2	28	0.2	0.0	0.0	0.0	0.0	4.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	T	0.0
2	29			0.0				0.0				0.0				31.2

Daily Precipitation (mm)
Location : Damauli

Month	Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Day																
3	1	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0
3	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0
3	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	0.0	2.0	0.0	0.0
3	4	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0
3	5	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	6	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
3	7	0.0	0.0	0.0	0.0	0.0	10.0	17.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	9	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	10	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	12	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	13	9.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	T	0.0	0.0	7.6	1.2
3	14	3.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.3
3	15	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5	0.0	0.0	0.0
3	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.4
3	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8
3	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0
3	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	3.2	0.0
3	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.4
3	21	0.0	0.0	0.2	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	T	0.0
3	23	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	11.0	0.0	0.0
3	24	15.2	22.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.8	5.2	T	0.0	0.0
3	25	0.0	3.8	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	1.8	28.1	0.0
3	26	0.0	0.0	0.0	46.0	0.0	9.2	0.4	0.0	0.0	0.0	0.0	T	0.0	T	0.0
3	27	0.0	0.0	0.0	6.6	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	T	0.0
3	28	0.6	0.0	0.0	0.0	1.0	0.0	0.0	0.0	19.0	0.0	2.0	0.0	0.0	0.0	0.0
3	29	6.0	0.0	0.0	0.0	15.8	10.0	0.0	0.0	67.0	0.0	0.0	0.0	0.0	T	0.0
3	30	0.0	0.0	0.0	0.0	1.0	0.0	0.0	42.0	0.0	0.0	0.0	T	0.0	14.3	0.0
3	31	0.0	8.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	15.4	1.7	0.0
4	1	0.0	16.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	T	0.0
4	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	3.7	0.0
4	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	T	71.2
4	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	3.2	11.0
4	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	10.0
4	6	0.0	0.0	0.0	0.0	34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	7	1.2	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T
4	8	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0	0.0	1.5	T	0.4
4	9	1.8	21.0	0.0	1.0	0.0	3.6	0.0	10.0	0.0	0.0	0.0	0.0	0.7	0.0	7.0
4	10	0.2	0.0	0.0	0.6	0.0	23.0	0.0	50.0	0.0	0.0	0.0	0.0	14.2	0.0	13.3
4	11	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0
4	12	0.0	0.8	0.0	42.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0
4	13	0.0	0.0	0.0	15.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	76.3
4	14	0.0	0.0	0.0	0.4	0.0	0.0	0.0	32.0	0.0	0.0	0.0	1.1	0.0	T	0.0
4	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.4	6.1	0.0	24.4	0.0
4	16	0.0	0.0	0.0	1.0	0.0	0.0	0.0	15.0	0.0	0.0	0.0	T	0.0	0.0	0.0
4	17	0.0	0.0	0.0	0.8	0.0	7.2	0.0	0.0	0.0	0.0	9.2	1.2	0.0	6.5	0.0
4	18	0.0	0.0	0.0	12.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.4	0.0	0.0
4	19	0.0	0.0	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0
4	20	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	70.0	0.0	46.6	0.0	T	T	0.0
4	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	110.0	0.0	0.0	0.0	0.6	1.3	0.0	0.0
4	22	0.0	0.0	0.0	0.0	7.6	0.0	0.0	0.0	54.6	32.0	7.2	6.3	T	T	1.0
4	23	0.0	0.0	0.0	43.8	3.4	0.0	0.0	0.0	8.0	0.0	45.6	1.4	0.0	T	10.4
4	24	0.2	0.0	0.0	37.0	3.0	0.0	0.0	0.0	0.0	0.0	3.4	3.2	0.0	15.4	T
4	25	0.0	22.4	0.0	0.0	0.0	2.0	0.0	3.0	3.0	0.0	7.4	7.3	2.3	0.0	0.0
4	26	0.0	0.0	0.0	0.2	0.0	0.0	2.0	0.0	3.3	0.0	0.0	21.3	T	3.0	0.0
4	27	5.0	0.0	0.0	0.0	0.0	72.0	0.0	0.0	19.0	0.0	T	4.6	11.0	15.6	0.0
4	28	0.0	2.2	0.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0	11.8	23.3	T	T	20.1
4	29	0.0	4.2	0.0	66.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	8.1
4	30	0.0	22.4	0.0	0.0	T	0.0	80.4	0.0	0.0	21.4	6.2	11.4	16.5	2.7	0.0

Daily Precipitation (mm)
Location : Damauli

Month	Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Day																
5	1	6.0	T	0.0	0.0	0.0	0.0	31.0	0.0	0.0	16.2	1.6	T	0.0	0.0	2.4
5	2	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	76.0	0.0	12.6	24.2	T	0.0	0.2
5	3	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.2	0.0	3.0	22.3	0.0	0.0
5	4	22.8	8.0	0.0	3.8	0.0	0.0	0.0	11.0	76.0	0.4	0.0	20.2	12.3	6.4	0.0
5	5	7.6	0.0	0.0	25.0	0.0	0.0	17.6	0.0	29.3	40.2	0.0	5.2	0.0	T	0.3
5	6	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	2.2	T	0.0	0.3
5	7	26.4	62.0	0.0	25.0	3.4	67.6	0.0	0.0	22.2	0.0	82.0	27.2	14.3	0.0	0.0
5	8	1.4	10.0	0.0	13.0	13.0	0.0	0.0	15.0	3.0	4.8	0.0	3.0	T	0.0	0.0
5	9	0.0	18.0	0.0	0.0	0.0	9.4	6.6	0.0	0.0	9.0	0.0	2.5	0.0	0.0	0.0
5	10	0.0	18.4	0.0	34.0	4.0	0.0	0.0	5.0	9.0	16.4	17.6	32.0	50.2	2.1	0.0
5	11	0.0	0.0	0.0	0.0	5.0	0.0	0.0	9.0	0.0	38.0	0.0	5.0	14.2	T	4.2
5	12	0.0	0.0	0.0	0.0	0.0	25.0	0.4	0.0	0.0	0.4	23.7	3.0	0.0	0.0	0.0
5	13	20.2	0.0	0.0	0.0	0.0	40.0	1.0	0.0	0.0	25.5	7.4	0.0	0.0	0.0	1.3
5	14	1.6	0.0	0.0	16.0	5.8	T	0.0	0.0	3.3	0.0	1.4	T	28.0	15.0	T
5	15	0.0	5.0	0.0	9.8	2.4	3.2	24.4	0.0	5.0	0.0	0.0	1.2	1.2	0.2	0.0
5	16	0.0	62.0	0.0	1.0	4.2	45.0	18.0	0.0	0.0	5.0	25.4	7.0	T	30.4	T
5	17	0.4	0.0	0.0	25.0	1.0	1.0	52.0	0.0	0.0	0.0	0.0	T	1.0	2.4	T
5	18	27.0	6.0	0.0	10.0	8.4	0.0	31.0	0.0	9.0	9.6	48.2	T	6.5	32.3	2.8
5	19	0.0	44.4	0.0	12.0	0.0	21.4	0.0	0.0	0.0	0.0	39.0	1.5	8.0	31.5	12.0
5	20	9.0	0.0	0.0	37.0	0.0	0.0	0.0	37.0	0.0	0.0	19.8	7.8	T	0.0	7.8
5	21	10.4	5.0	0.0	38.0	23.8	0.0	0.0	13.0	0.0	18.4	0.0	1.2	9.8	T	21.8
5	22	1.4	0.0	0.0	0.0	18.4	0.0	0.0	0.0	0.0	93.0	18.0	T	0.0	13.3	0.6
5	23	0.0	21.0	0.0	0.0	40.0	0.0	0.0	0.0	2.0	35.4	5.0	12.6	T	T	T
5	24	10.0	0.0	0.0	0.0	60.0	0.0	0.0	10.0	2.0	0.0	42.6	3.8	T	9.4	13.2
5	25	0.0	0.0	15.2	12.6	1.0	0.0	0.0	9.0	2.0	0.0	34.0	20.1	10.2	26.5	T
5	26	14.6	0.6	3.6	0.0	0.0	0.0	0.0	2.0	31.0	113.4	13.8	18.4	20.4	2.7	22.8
5	27	0.0	11.0	9.0	67.8	8.6	0.0	0.0	0.0	25.0	0.0	26.6	20.2	5.2	T	20.6
5	28	0.0	0.2	0.0	0.0	T	0.0	0.0	4.0	7.0	19.0	6.1	18.1	0.0	0.0	53.8
5	29	43.0	20.2	0.0	0.0	40.2	0.0	24.4	27.0	0.0	0.0	7.0	5.0	T	0.0	1.2
5	30	19.4	10.4	38.2	15.2	0.0	0.0	20.7	0.0	7.0	25.2	27.0	15.0	23.8	0.0	0.0
5	31	0.0	9.2	0.0	0.0	T	0.0	1.4	0.0	0.0	0.0	0.0	5.1	5.3	T	0.0
6	1	0.0	10.4	0.0	12.0	0.0	0.0	20.8	0.0	0.0	0.0	0.0	T	T	10.2	6.2
6	2	0.0	0.0	0.0	1.0	64.0	4.6	12.2	0.0	0.0	0.0	0.0	31.0	T	1.4	7.4
6	3	16.0	0.0	0.0	5.0	0.0	22.0	24.0	0.0	3.0	0.0	0.0	73.6	2.3	T	3.6
6	4	1.0	0.0	0.0	8.0	20.0	40.8	0.0	0.0	11.0	0.0	0.0	7.7	4.8	12.4	5.0
6	5	12.0	0.0	0.0	9.4	17.2	T	0.0	0.0	22.0	0.0	0.0	63.7	15.0	6.2	2.0
6	6	3.0	0.0	3.0	31.8	0.0	3.0	0.0	0.0	37.0	0.0	4.4	6.3	0.5	1.4	1.6
6	7	38.0	39.4	0.0	4.0	0.0	0.0	0.0	18.0	0.0	0.0	33.6	1.8	11.0	0.0	9.6
6	8	25.0	15.8	76.0	2.0	0.0	T	0.0	15.0	0.0	0.0	83.2	53.2	0.0	T	0.0
6	9	3.0	0.0	0.0	18.8	39.4	17.0	0.0	0.0	0.0	10.6	47.8	14.7	0.0	T	0.8
6	10	4.0	11.4	1.4	2.0	43.8	54.6	0.0	7.0	0.0	0.0	0.4	0.0	0.0	46.6	0.0
6	11	4.0	7.0	0.0	9.0	0.0	4.2	15.6	0.0	0.0	32.8	0.0	0.0	29.8	36.0	8.0
6	12	0.0	11.4	11.0	4.0	2.0	30.0	0.0	0.0	0.0	122.4	1.6	0.0	0.0	12.2	0.0
6	13	0.0	11.2	60.0	3.8	0.0	7.0	0.0	104.0	0.0	30.4	0.0	5.1	49.4	T	1.0
6	14	0.0	72.2	0.0	0.0	4.8	0.0	0.0	0.0	2.0	0.0	0.0	0.0	T	8.2	0.0
6	15	0.0	15.8	13.4	0.0	16.2	4.8	0.0	13.0	1.0	0.0	60.0	0.0	T	T	0.6
6	16	3.8	5.2	0.0	0.0	72.6	5.0	8.7	0.0	0.0	9.2	18.6	39.4	0.0	8.5	1.6
6	17	0.0	21.8	0.0	0.0	0.0	27.4	0.0	35.0	0.0	0.0	6.6	23.0	5.0	0.0	4.0
6	18	36.0	0.2	0.0	4.0	22.2	78.4	5.0	5.0	0.0	1.0	5.0	52.1	6.4	0.0	80.0
6	19	0.0	13.8	0.0	5.0	5.6	0.0	0.0	0.0	0.0	0.0	11.6	5.7	2.3	0.0	12.0
6	20	6.0	0.0	30.2	0.0	7.0	0.0	14.0	0.0	49.3	0.0	1.2	7.4	91.5	T	1.0
6	21	4.0	3.8	43.1	0.0	26.6	24.4	9.2	76.0	52.0	0.0	8.4	25.0	103.8	0.0	0.0
6	22	8.4	0.0	25.1	12.4	0.0	31.6	0.0	0.0	0.0	8.0	85.2	45.0	3.2	40.1	52.0
6	23	2.4	3.4	30.3	0.0	21.2	85.0	10.6	98.4	0.0	25.0	42.8	9.2	0.0	19.1	1.4
6	24	0.0	3.8	40.0	0.0	0.0	75.0	0.0	0.0	33.0	5.4	12.0	0.0	31.8	10.4	17.0
6	25	0.0	0.0	25.0	27.0	2.8	0.0	0.0	0.0	0.0	0.0	1.0	4.0	T	24.4	T
6	26	2.4	73.0	30.3	0.2	10.6	0.0	2.0	0.0	0.0	45.0	0.0	3.8	7.0	0.0	0.0
6	27	17.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0	49.0	22.4	T	0.0	16.4	0.0	0.0
6	28	0.0	3.0	13.0	6.0	6.2	16.0	13.0	7.0	0.0	3.6	22.3	0.0	0.0	8.0	0.0
6	29	13.0	0.0	18.4	0.0	32.2	49.0	39.7	24.3	82.0	22.2	4.5	0.0	0.0	21.2	0.0
6	30	35.0	18.4	0.0	0.0	6.6	32.0	2.0	75.0	0.0	42.0	9.9	43.5	20.8	48.1	0.0

Daily Precipitation (mm)
Location : Damauli

Month	Year Day	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
7	1	0.0	0.0	0.0	38.4	0.0	24.4	1.4	0.0	2.0	26.2	8.3	16.8	16.0	44.2	41.4
7	2	0.0	0.0	0.0	26.0	42.4	62.4	0.0	0.0	0.0	50.6	76.8	0.9	88.6	T	0.2
7	3	28.0	2.0	3.2	0.6	T	0.0	0.0	0.0	9.3	119.0	0.0	2.4	1.0	T	23.2
7	4	5.0	37.0	0.0	18.0	12.8	0.0	0.0	39.0	0.0	55.0	0.0	0.0	0.0	82.7	1.4
7	5	14.0	0.2	11.2	17.0	0.0	4.2	0.0	4.3	32.0	0.0	33.8	45.7	8.0	18.0	0.0
7	6	9.0	18.4	0.0	0.0	0.0	52.4	8.4	0.0	10.0	2.0	32.6	0.0	0.0	16.3	94.0
7	7	0.0	36.0	12.6	6.0	0.0	30.0	4.0	0.0	30.0	1.2	36.8	0.0	0.0	T	2.0
7	8	61.0	18.0	0.0	10.0	0.0	0.0	1.4	60.0	90.3	8.2	15.0	4.0	0.0	17.5	8.8
7	9	27.0	38.4	0.4	0.0	4.6	12.8	11.0	0.0	33.0	39.4	0.0	0.8	T	167.8	8.6
7	10	4.4	4.0	1.8	0.0	10.0	0.0	34.0	54.2	23.0	49.6	0.0	10.7	39.2	146.9	29.0
7	11	60.4	55.0	2.0	0.0	0.0	62.4	47.4	3.3	0.0	21.0	10.8	21.3	4.7	6.3	27.2
7	12	2.0	11.8	7.6	0.0	2.8	13.6	18.0	0.0	0.0	0.0	0.0	30.3	3.2	T	43.6
7	13	0.0	0.0	22.2	0.0	0.0	9.4	120.5	36.0	0.0	10.2	4.3	T	0.0	T	1.2
7	14	37.0	9.0	0.2	0.0	11.2	9.6	76.2	0.0	3.0	0.0	14.5	T	87.3	29.2	2.4
7	15	11.0	44.0	0.0	0.0	0.0	0.0	2.0	25.3	0.0	T	13.0	25.5	11.2	21.3	0.8
7	16	0.0	4.4	0.0	18.0	0.0	19.0	3.2	0.0	12.0	T	16.8	39.8	0.0	3.1	0.6
7	17	0.0	0.0	25.2	16.0	0.0	13.2	64.2	0.0	16.0	17.0	8.1	30.6	0.0	0.8	1.6
7	18	66.0	0.0	25.2	0.0	25.6	5.0	32.6	13.2	18.0	21.0	8.0	1.3	0.0	T	8.2
7	19	69.6	18.0	2.2	38.0	0.0	40.4	4.4	0.0	21.0	0.0	2.0	T	0.0	23.6	6.4
7	20	35.0	20.0	3.0	40.0	0.0	6.8	0.0	12.3	11.4	10.0	0.4	14.5	10.2	16.8	2.4
7	21	0.0	7.0	2.6	0.0	5.6	0.0	0.0	33.0	82.0	1.4	8.2	0.0	11.0	7.3	8.0
7	22	2.6	0.2	21.6	40.0	2.4	6.8	0.0	0.0	0.0	2.0	9.1	1.3	8.0	39.7	0.4
7	23	0.4	1.4	2.0	36.0	7.2	0.0	0.0	0.0	96.0	9.2	0.0	0.0	54.9	9.2	0.0
7	24	0.0	0.0	4.0	0.0	10.6	0.0	0.0	40.0	18.0	4.2	4.7	T	46.9	26.3	0.4
7	25	1.0	42.0	0.0	0.0	5.2	2.0	0.0	0.0	0.0	74.8	5.2	13.1	20.3	T	7.0
7	26	7.0	4.4	0.0	0.0	79.0	6.0	0.0	0.0	0.0	18.8	0.0	T	10.6	0.0	78.0
7	27	4.4	0.0	10.0	24.2	0.0	0.0	14.0	6.3	0.0	3.0	3.0	7.5	T	1.3	8.2
7	28	16.4	0.0	0.2	12.4	6.2	0.0	0.0	40.0	17.3	42.2	0.0	6.3	1.2	12.4	0.2
7	29	1.4	10.4	0.0	20.0	10.0	0.0	0.0	13.0	1.3	0.2	5.6	78.6	5.2	3.1	23.2
7	30	7.0	0.0	0.0	17.4	2.0	0.0	0.0	0.0	0.0	20.8	7.4	67.6	0.0	13.2	2.4
7	31	14.0	0.0	8.0	0.2	0.0	0.0	0.0	16.0	0.0	13.0	40.0	28.0	T	158.8	2.0
8	1	37.0	3.0	41.8	0.0	9.2	0.0	6.0	3.0	0.0	0.0	46.0	22.5	23.8	22.3	0.0
8	2	12.4	2.4	4.6	6.4	20.0	0.0	26.6	0.0	0.0	0.0	15.0	12.3	5.3	3.2	0.8
8	3	8.0	0.0	9.0	0.0	0.0	9.6	0.0	0.0	35.0	0.4	26.1	10.4	T	T	T
8	4	1.0	45.4	0.0	0.0	5.6	11.8	5.9	10.0	20.0	2.0	0.0	6.4	T	0.0	15.8
8	5	6.0	37.4	0.0	4.0	0.0	4.0	12.0	20.0	24.0	6.4	0.0	26.7	2.3	T	18.2
8	6	0.0	0.6	0.0	68.6	32.0	0.0	0.0	14.0	9.0	0.6	0.0	0.0	4.8	2.1	0.4
8	7	2.4	11.6	16.0	0.0	0.0	0.0	0.0	4.0	4.0	0.0	5.8	0.0	15.0	0.0	0.6
8	8	0.4	10.0	0.0	12.4	0.0	0.0	0.0	0.0	1.0	1.4	35.7	8.3	0.5	43.4	1.2
8	9	10.0	34.0	3.0	87.2	11.4	0.0	16.0	15.0	11.0	0.6	3.2	2.4	11.0	0.0	23.2
8	10	7.0	2.4	0.0	66.0	2.0	0.0	3.2	29.0	0.0	3.2	64.2	30.0	0.0	0.0	9.2
8	11	1.8	0.0	0.0	18.0	6.0	0.0	8.4	3.4	57.3	0.0	1.8	T	0.0	T	0.8
8	12	79.0	0.0	0.0	0.0	30.2	19.4	0.0	26.0	70.0	1.4	0.0	0.0	0.0	T	T
8	13	38.0	0.0	1.0	0.0	16.0	0.0	75.4	2.0	3.0	85.4	T	34.7	29.8	1.3	0.0
8	14	28.4	8.0	0.0	0.0	34.0	6.3	21.0	0.0	22.0	79.8	6.9	3.2	0.0	0.0	0.4
8	15	6.0	33.8	78.0	0.0	3.8	10.0	0.0	0.0	21.0	38.4	1.4	0.0	49.4	0.0	0.8
8	16	0.0	81.0	6.0	4.0	4.0	0.0	3.6	0.0	34.0	1.8	23.4	11.3	T	3.1	12.0
8	17	2.6	40.0	2.2	6.0	4.8	4.0	32.3	2.0	0.0	14.0	0.0	T	9.4	T	23.2
8	18	1.4	10.0	0.4	0.0	0.0	1.6	18.5	16.0	123.0	1.4	8.9	62.3	5.3	82.7	1.0
8	19	1.6	0.0	0.0	12.0	1.6	23.4	13.4	0.0	13.0	31.4	63.4	0.0	39.7	76.1	22.6
8	20	0.4	28.0	0.0	16.0	32.6	7.6	12.6	0.0	0.0	4.2	0.0	58.4	20.7	0.0	28.0
8	21	0.0	0.0	61.0	0.0	T	0.0	4.4	1.0	39.0	0.0	8.5	4.6	35.7	0.0	1.6
8	22	0.0	0.0	26.6	0.0	16.2	0.0	44.6	10.0	4.0	39.4	0.0	74.2	22.3	26.4	0.0
8	23	0.0	0.0	1.8	0.0	3.0	18.0	2.4	0.0	0.0	30.0	0.7	138.1	3.5	21.6	0.0
8	24	0.0	1.6	38.8	39.0	47.4	0.0	0.0	0.0	0.0	8.0	0.2	0.0	10.7	0.8	0.0
8	25	0.0	0.0	17.0	0.0	24.0	0.0	0.0	22.0	7.0	74.6	9.0	0.0	T	0.0	0.0
8	26	39.0	1.0	0.0	0.0	0.0	43.0	0.0	0.0	7.0	71.3	0.0	0.0	0.0	0.0	0.0
8	27	72.0	1.8	0.0	27.0	12.2	0.0	25.6	0.0	12.0	0.0	0.0	19.3	T	0.0	0.0
8	28	8.0	36.0	0.0	10.8	17.0	0.0	0.0	0.0	0.0	T	34.8	13.1	T	4.3	0.0
8	29	3.4	2.8	0.0	0.0	0.0	2.0	0.0	15.0	16.0	8.0	3.2	1.3	0.0	0.8	2.6
8	30	0.0	0.0	0.0	17.0	0.0	0.0	28.0	3.0	56.3	0.0	30.3	0.0	0.0	6.7	0.4
8	31	0.0	0.4	0.0	31.8	0.0	0.0	0.0	4.0	0.0	0.4	18.0	0.0	0.0	3.4	2.2

Location : Damauli

Month	Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
		Day														
9	1	0.0	0.0	0.0	17.0	40.4	0.0	28.6	20.0	0.0	T	2.0	17.4	0.0	4.1	65.2
9	2	0.0	10.0	0.0	0.0	0.0	29.6	2.0	0.0	0.0	45.4	29.0	31.7	0.0	17.6	1.8
9	3	0.0	5.0	2.0	7.4	26.8	24.0	0.0	0.0	0.0	3.6	0.0	28.6	0.0	18.2	10.8
9	4	0.0	0.2	0.0	0.4	0.0	32.0	0.0	0.0	13.0	0.0	7.0	0.0	59.7	T	26.6
9	5	0.0	5.0	0.0	39.0	0.0	11.0	0.0	17.0	0.0	0.0	8.2	93.0	13.2	8.1	T
9	6	0.4	1.0	6.0	82.0	0.0	0.0	5.6	8.0	49.0	10.6	1.0	28.3	T	T	0.0
9	7	0.6	0.0	0.0	6.0	6.6	0.0	0.0	6.0	1.2	20.6	8.2	T	T	6.4	0.2
9	8	0.0	0.6	0.0	6.8	0.0	0.0	0.0	6.0	0.0	1.0	6.4	9.6	0.0	0.0	15.8
9	9	0.0	3.2	7.0	6.0	0.0	0.0	0.0	10.0	0.0	2.0	7.8	0.0	0.0	T	14.8
9	10	0.4	16.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	2.6	10.4	0.0	0.0	0.0	131.2
9	11	32.0	2.2	2.0	0.0	30.0	0.0	0.0	3.0	0.0	T	23.4	0.0	0.0	0.0	0.2
9	12	4.4	7.0	0.0	0.0	22.0	0.0	0.0	17.0	0.0	0.0	0.0	4.0	2.1	0.0	12.6
9	13	0.0	0.0	26.0	2.6	0.0	0.0	0.0	3.0	0.0	3.0	0.0	35.3	0.0	T	T
9	14	0.0	2.0	34.0	0.0	64.0	0.0	6.0	0.0	0.0	2.3	0.0	12.3	T	T	3.6
9	15	5.0	0.0	7.0	13.0	56.0	0.0	0.0	0.0	0.0	3.4	17.6	0.0	T	0.0	0.4
9	16	0.0	1.0	0.0	17.0	59.6	0.0	12.4	0.0	0.0	2.4	T	0.0	8.2	T	5.4
9	17	0.0	6.0	0.0	0.0	7.2	0.0	0.0	0.0	0.0	0.0	1.4	0.0	28.6	1.3	T
9	18	20.0	0.0	0.0	0.0	1.0	4.0	0.0	0.0	0.0	T	13.6	0.0	25.9	1.6	18.2
9	19	1.4	0.0	0.0	0.0	30.6	0.0	0.0	0.0	0.0	0.0	14.8	0.0	28.7	T	0.0
9	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	12.1	31.8
9	21	1.6	0.0	0.0	5.2	0.0	0.0	0.0	18.0	20.0	15.8	0.0	0.0	0.0	3.8	0.4
9	22	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	53.1	0.0	1.6
9	23	0.0	0.0	0.0	22.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	2.7	0.0
9	24	0.4	0.0	0.0	86.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	20.1	0.0
9	25	30.0	0.0	0.0	38.0	0.0	0.0	0.0	0.0	0.0	1.8	T	0.0	7.3	22.3	0.0
9	26	0.0	0.0	0.0	34.0	0.0	0.0	43.0	0.0	0.0	T	0.0	8.5	26.0	2.4	0.0
9	27	0.0	0.0	0.0	0.0	0.0	6.0	27.4	8.0	0.0	T	0.0	0.0	0.0	0.0	6.0
9	28	0.0	0.0	8.0	0.0	0.0	0.0	2.0	0.0	40.0	0.0	0.0	0.0	0.0		

Daily Precipitation (mm)
Location : Damauli

Month	Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
11	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	T	0.0	0.0	0.0
11	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.8	0.0	0.0	0.0
11	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	10	0.0	0.0	0.0	0.0	0.0	38.6	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	11	0.0	0.0	0.0	0.0	0.0	39.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	25.8	0.0	0.0
11	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	T	0.0	0.0	0.0
11	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	1.0	0.0
11	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.8	0.0	0.0	0.0	0.0
11	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	23	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	24	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	14.6
11	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	T	0.0	0.0	0.0	0.0	0.0
11	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	29	0.0	0.0	0.0	0.0	4.4	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
11	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	3	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	4	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	5	0.0	0.0	24.2	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.0	DNA	1.6	0.0	0.0	0.0	0.0	0.0
12	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.8	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	25	0.0	37.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	26	0.0	35.0	0.0	0.0	0.0	2.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	T
12	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	10.8	0.0
12	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	3.0	0.0
12	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0
12	31	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0

Daily Precipitation (mm)

Location : Silkesh Latitude : 28° 22' N
 Index No. : 0824 Longitude : 84° 06' E
 District : Kaski Elevation : 1,820 m.
 Note : DNA means data not available T means data less than 0.1

Month	Year	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Day															
1	1	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0
1	2	DNA	7.2	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	T	0.0
1	3	DNA	3.8	0.0	0.0	0.0	0.0	12.2	0.0	3.0	0.0	0.0	0.0	3.6	0.0
1	4	DNA	25.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0
1	5	DNA	1.2	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0
1	6	DNA	0.0	0.0	0.0	0.0	0.0	0.0	25.0	13.8	0.0	0.0	0.0	T	0.0
1	7	DNA	0.0	0.0	0.0	0.0	0.0	0.0	10.1	0.0	0.0	0.0	0.0	0.8	0.0
1	8	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.8	0.0
1	9	DNA	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.3	0.0
1	10	DNA	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0
1	11	DNA	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	T	0.0
1	12	DNA	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	9.3	0.0	T	0.0
1	13	DNA	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	14	DNA	0.0	0.0	0.0	7.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	15	DNA	0.0	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	16	DNA	0.0	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	17	DNA	0.0	1.1	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0
1	18	DNA	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0
1	19	DNA	0.0	0.0	0.0	1.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1	20	DNA	0.0	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	21	DNA	0.0	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	22	DNA	30.0	0.0	0.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	23	DNA	0.0	0.0	0.0	14.4	0.0	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0
1	24	DNA	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	25	DNA	0.0	0.0	0.0	16.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	26	DNA	0.0	0.0	0.0	0.0	25.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	27	DNA	1.4	0.0	0.0	0.0	86.1	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	28	DNA	0.0	5.2	26.2	0.0	10.6	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
1	29	DNA	0.0	5.0	4.8	0.0	15.7	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	30	DNA	5.6	0.0	0.0	3.8	8.0	18.3	0.0	9.0	0.0	0.0	0.0	0.0	0.0
1	31	DNA	2.8	0.0	0.0	5.6	5.0	10.0	0.0	T	0.0	0.0	0.0	0.0	0.0
2	1	DNA	0.0	0.0	0.7	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
2	2	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	2.1	0.0	0.0	0.0
2	3	DNA	0.0	0.0	14.5	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	T	0.0
2	4	DNA	0.0	0.0	0.3	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	T	4.5
2	5	DNA	0.0	0.0	7.0	0.0	3.0	10.0	0.0	4.0	0.0	0.0	0.0	3.0	3.0
2	6	DNA	0.0	0.0	0.0	14.4	0.0	0.0	0.0	21.0	0.0	0.0	0.0	3.3	0.2
2	7	DNA	0.0	0.0	0.0	0.0	1.6	0.0	T	0.0	0.0	0.0	0.0	0.0	0.3
2	8	DNA	22.2	36.5	0.0	0.0	0.0	0.0	0.0	3.0	3.1	0.0	0.0	0.0	7.8
2	9	DNA	0.3	0.0	0.0	0.0	0.0	0.0	22.3	6.2	T	0.0	0.0	0.0	0.5
2	10	DNA	0.0	3.2	3.0	0.0	0.0	0.0	0.6	2.3	1.0	0.0	0.0	0.0	8.7
2	11	DNA	0.0	2.1	4.9	4.2	1.3	0.0	0.0	0.0	5.0	0.0	0.0	0.0	14.7
2	12	DNA	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0	5.6
2	13	DNA	17.2	0.0	0.0	0.0	1.6	0.0	0.0	0.0	1.2	0.0	0.0	0.0	6.3
2	14	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	16.0	0.0	10.4
2	15	DNA	0.0	0.0	1.5	0.7	0.0	0.0	0.0	0.0	T	0.0	10.9	19.2	13.4
2	16	DNA	2.0	0.0	7.0	0.0	32.1	0.0	0.0	5.3	T	2.0	6.4	4.4	3.0
2	17	DNA	1.6	0.0	30.0	0.0	25.3	0.0	0.0	1.0	1.3	T	2.2	4.5	0.0
2	18	DNA	36.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	7.7	4.1	7.0	0.0
2	19	DNA	0.4	0.0	0.0	0.0	4.3	0.0	7.9	0.0	0.0	0.0	0.0	8.3	0.6
2	20	DNA	0.8	18.3	5.0	0.0	0.0	7.0	0.0	0.0	T	0.0	0.0	13.3	0.0
2	21	DNA	0.0	9.2	0.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0	0.0	5.6	11.0
2	22	DNA	0.0	6.1	T	25.5	0.0	76.0	0.0	0.0	34.4	0.0	20.1	12.2	13.0
2	23	DNA	0.0	34.5	11.2	0.0	0.0	4.0	0.0	0.0	0.0	19.4	0.0	9.0	22.4
2	24	DNA	0.0	0.0	18.4	9.8	0.0	3.0	0.0	0.0	0.0	0.0	0.7	0.0	12.4
2	25	DNA	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	T	33.0	0.0	8.4
2	26	DNA	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0
2	27	DNA	9.0	9.7	4.2	0.0	0.0	29.3	0.0	0.0	0.0	0.0	0.0	0.0	23.0
2	28	DNA	0.0	0.0	0.0	4.5	0.0	14.0	0.0	0.0	0.0	0.7	0.0	0.0	6.6
2	29				0.0				0.0				13.0		

Daily Precipitation (mm)

Location : Silkesh

Month	Year Day	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
3	1	DNA	0.0	5.3	34.7	5.9	8.2	0.0	0.0	0.0	6.4	0.0	0.0	0.0	4.4
3	2	DNA	0.0	0.0	12.1	0.0	15.0	0.0	0.0	0.0	5.2	T	0.0	0.0	2.9
3	3	DNA	0.0	0.0	0.0	0.0	21.1	0.0	T	0.0	0.0	0.0	0.0	0.0	8.8
3	4	DNA	2.8	0.5	11.2	0.0	0.0	0.0	0.0	0.0	0.0	9.4	0.0	0.0	2.6
3	5	DNA	4.8	0.0	17.9	0.0	1.0	0.0	0.0	0.7	37.7	1.9	10.0	0.0	0.0
3	6	DNA	0.0	0.0	21.0	0.0	12.6	0.0	3.1	0.0	5.5	0.0	12.1	0.0	0.0
3	7	DNA	6.0	0.0	1.7	12.2	17.3	0.0	0.0	0.0	0.8	12.7	0.2	0.0	0.0
3	8	DNA	0.0	0.0	0.0	0.0	1.4	T	0.0	0.0	2.4	2.6	0.4	0.0	0.0
3	9	DNA	0.0	2.0	0.0	3.5	0.0	0.0	0.0	0.0	1.5	8.4	0.7	0.0	1.4
3	10	DNA	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	T	3.9	6.9	0.0	18.0
3	11	DNA	16.9	0.0	0.8	5.3	2.3	0.0	0.0	0.0	T	0.3	0.0	6.2	27.8
3	12	DNA	50.4	0.0	0.0	4.8	0.0	0.0	0.0	0.0	18.3	7.1	16.6	9.2	1.8
3	13	DNA	43.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	83.6	2.7	6.7	0.0	7.9
3	14	DNA	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.3	26.7	8.0	2.0	1.6
3	15	DNA	0.0	2.8	0.0	0.0	0.0	0.0	8.4	0.0	0.0	T	12.1	T	2.0
3	16	DNA	T	0.0	T	32.5	11.5	11.9	0.0	0.0	20.2	2.7	12.0	15.0	4.1
3	17	DNA	0.0	0.0	34.8	8.3	85.7	0.0	0.0	0.0	0.5	6.8	5.0	2.3	5.0
3	18	DNA	22.9	0.0	3.8	0.0	23.6	0.0	0.0	0.0	0.0	5.0	8.2	1.0	3.2
3	19	DNA	13.0	5.6	0.0	0.0	0.0	18.8	0.0	0.0	0.0	71.7	7.6	0.0	4.0
3	20	DNA	0.0	0.0	0.0	9.7	0.0	8.7	0.0	0.0	0.6	0.1	8.1	0.0	4.1
3	21	DNA	7.9	0.0	1.5	21.0	0.0	0.7	0.0	0.0	0.0	5.0	0.0	16.0	5.0
3	22	DNA	0.0	0.0	0.0	19.9	1.5	8.0	0.0	0.0	0.4	0.0	0.0	18.8	3.4
3	23	DNA	0.0	0.0	13.4	0.0	14.5	7.9	0.0	0.0	0.0	0.0	0.0	17.9	5.1
3	24	DNA	0.0	0.0	38.3	0.0	1.9	0.0	0.0	0.0	0.1	0.0	0.0	0.0	7.8
3	25	DNA	0.0	0.0	1.1	0.0	19.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	2.1
3	26	DNA	3.3	0.0	0.0	0.1	3.9	0.0	23.0	0.0	2.5	11.5	0.0	0.0	0.3
3	27	DNA	0.0	0.0	0.0	18.4	0.4	0.0	0.0	4.6	0.0	36.5	3.1	0.0	1.3
3	28	DNA	0.0	4.5	0.0	0.0	18.7	0.0	0.0	7.2	0.0	3.1	1.0	0.0	1.0
3	29	DNA	8.0	0.0	0.0	0.5	12.6	0.0	0.0	72.5	0.0	0.0	0.0	4.0	8.4
3	30	DNA	11.2	10.0	13.5	6.0	7.5	0.0	0.0	10.5	0.0	1.3	0.0	2.0	10.2
3	31	DNA	15.4	10.0	3.5	27.2	3.3	0.0	25.4	6.4	0.0	6.7	0.0	1.2	0.4
4	1	DNA	0.0	43.4	0.0	21.3	0.0	0.0	17.2	0.0	0.0	4.2	0.0	1.3	0.0
4	2	DNA	0.0	30.2	0.0	2.3	0.0	0.0	16.1	0.0	0.0	8.0	0.0	26.2	0.0
4	3	DNA	0.0	7.3	0.0	1.1	0.0	0.0	0.0	17.0	1.3	0.0	0.0	0.0	4.1
4	4	DNA	10.1	32.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0	5.0
4	5	DNA	12.6	1.0	0.0	13.2	0.0	0.0	0.0	7.0	4.1	0.0	0.0	0.0	1.0
4	6	DNA	0.0	0.0	0.0	0.0	0.0	8.3	0.0	4.0	0.0	0.0	0.0	0.0	0.1
4	7	DNA	0.0	0.0	0.0	0.7	0.0	0.0	10.7	0.0	14.5	2.4	0.0	0.0	0.3
4	8	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	3.0	31.1	0.0	0.0	12.2
4	9	DNA	0.0	4.5	1.9	0.0	0.0	0.0	T	0.0	4.0	0.7	0.0	0.0	7.1
4	10	DNA	0.0	7.6	0.0	0.3	0.0	0.0	0.0	32.4	5.0	0.0	0.0	0.0	6.4
4	11	DNA	3.8	15.3	0.0	1.0	0.8	12.4	0.0	1.0	20.3	0.0	0.0	2.3	11.0
4	12	DNA	2.0	5.9	0.0	11.2	10.3	T	0.0	0.0	5.5	0.0	0.0	7.6	27.4
4	13	DNA	3.1	0.0	0.0	5.4	1.6	19.1	0.0	0.0	5.4	0.0	0.0	T	4.5
4	14	DNA	0.4	0.0	0.0	0.9	3.4	9.7	0.0	0.0	52.5	0.0	0.0	1.0	31.0
4	15	DNA	4.9	1.0	3.5	12.3	17.0	0.0	0.0	0.0	18.3	0.0	91.7	0.0	1.5
4	16	DNA	0.0	49.2	0.0	19.8	1.8	0.0	33.1	0.0	41.2	0.0	10.1	0.0	2.0
4	17	DNA	0.0	2.2	0.0	31.9	1.0	0.0	11.0	0.0	0.0	0.0	12.3	0.0	3.7
4	18	DNA	8.8	0.0	0.0	47.9	25.4	0.0	0.0	0.0	0.0	26.4	7.9	0.0	5.8
4	19	DNA	4.1	1.5	0.0	0.0	4.0	11.9	0.0	0.0	0.0	1.0	0.6	0.0	11.3
4	20	DNA	95.6	1.6	0.0	8.1	3.7	T	0.0	4.9	0.0	T	15.0	0.0	97.6
4	21	DNA	0.0	12.2	0.0	0.0	9.0	0.0	6.8	5.5	1.7	59.0	50.0	0.0	19.2
4	22	DNA	51.0	43.0	0.0	0.7	0.0	0.0	0.0	1.1	0.0	0.7	4.5	0.0	29.6
4	23	DNA	0.0	0.0	0.0	50.9	0.0	12.8	0.0	94.6	0.0	4.0	0.0	0.0	1.7
4	24	DNA	3.0	0.0	0.0	12.5	1.1	8.7	12.1	0.0	0.0	29.3	0.9	0.0	0.6
4	25	DNA	0.0	0.0	0.0	0.0	2.7	3.9	8.3	0.0	0.0	20.5	3.0	0.0	12.0
4	26	DNA	14.4	0.0	0.0	10.2	22.5	31.8	6.3	0.0	7.9	0.0	9.0	7.4	1.0
4	27	DNA	0.0	0.0	0.0	0.0	0.1	0.9	5.2	0.0	0.9	4.9	0.0	T	2.3
4	28	DNA	0.0	5.4	0.0	0.0	1.6	1.2	15.8	0.0	2.8	0.0	0.0	1.0	81.6
4	29	DNA	14.5	31.5	33.5	0.0	27.2	25.0	60.1	0.0	2.0	1.9	6.0	1.2	0.0
4	30	DNA	0.0	0.0	0.0	6.9	12.5	0.0	28.6	0.0	5.7	T	0.0	0.0	0.6

Daily Precipitation (mm)

Location : Silkesh

Month	Year Day	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
5	1	DNA	0.0	26.2	0.0	7.2	0.0	45.3	7.2	22.0	0.0	7.5	0.0	62.0	15.8
5	2	DNA	0.0	0.0	0.0	0.0	0.0	8.7	4.5	T	0.0	10.9	0.0	0.0	0.0
5	3	DNA	17.6	1.6	0.0	16.5	0.0	12.5	0.0	41.1	6.3	2.5	0.0	0.0	0.0
5	4	DNA	0.0	0.0	18.2	0.4	35.3	0.0	0.2	T	80.2	3.4	0.0	0.0	7.0
5	5	DNA	13.0	0.0	8.5	3.8	0.0	4.7	0.0	9.2	9.2	7.8	3.0	0.0	10.2
5	6	DNA	23.0	0.0	13.1	0.0	6.5	31.1	2.2	1.0	0.0	5.1	2.1	0.0	1.0
5	7	DNA	4.5	0.0	0.0	1.2	25.5	0.0	110.6	T	0.0	5.3	0.0	0.0	0.0
5	8	DNA	0.0	0.0	3.7	33.5	0.0	3.6	1.4	8.0	0.0	6.4	1.0	0.0	0.0
5	9	DNA	0.0	0.0	3.2	2.3	11.8	6.5	27.8	2.0	3.4	23.2	1.7	0.0	0.0
5	10	DNA	0.0	0.0	0.0	0.0	17.0	14.3	10.0	T	0.0	5.7	1.9	0.0	0.0
5	11	DNA	0.0	13.5	8.5	2.1	16.9	2.4	0.7	4.4	0.0	9.1	14.2	0.0	0.0
5	12	DNA	0.0	0.0	51.1	1.0	25.0	T	0.0	11.5	6.5	2.0	38.4	7.8	12.4
5	13	DNA	32.4	3.8	0.0	1.3	11.2	22.1	13.2	5.6	17.2	8.0	8.0	9.3	8.2
5	14	DNA	10.6	0.0	17.6	0.0	6.7	0.3	27.6	0.0	10.6	34.3	34.0	7.6	24.2
5	15	DNA	13.2	69.8	0.0	11.5	0.0	1.6	0.6	57.0	31.5	18.0	0.0	0.0	0.0
5	16	DNA	18.8	80.2	29.5	11.6	0.0	21.7	99.3	0.0	10.1	2.2	5.0	0.0	1.1
5	17	DNA	11.7	0.0	15.9	13.2	0.0	13.5	8.5	5.0	53.9	12.1	0.7	0.0	1.0
5	18	DNA	0.0	7.7	T	0.0	0.0	17.3	80.3	7.6	20.8	4.1	12.8	2.9	40.8
5	19	DNA	0.0	0.0	18.8	0.0	0.0	0.0	4.5	9.0	2.1	2.2	10.2	12.0	16.0
5	20	DNA	20.2	16.4	7.2	0.0	5.3	5.9	0.0	3.0	0.4	18.1	7.8	12.1	15.0
5	21	DNA	13.0	0.0	30.1	8.2	0.0	4.8	41.9	18.4	0.0	0.0	1.0	37.2	11.0
5	22	DNA	0.0	137.7	21.2	2.4	0.0	16.8	26.4	T	0.0	0.0	10.2	3.0	10.0
5	23	DNA	0.0	14.9	22.4	17.8	0.0	1.7	28.8	0.0	0.0	0.0	3.0	7.0	1.0
5	24	DNA	22.1	2.5	T	0.3	0.0	22.5	1.5	7.5	5.2	0.0	2.5	20.4	8.2
5	25	DNA	0.0	0.0	T	0.0	0.0	2.3	5.5	22.0	0.0	0.0	3.0	4.4	1.4
5	26	DNA	14.0	9.1	4.2	0.0	0.0	1.9	24.6	18.5	0.0	2.2	7.3	10.0	7.0
5	27	DNA	6.4	0.0	3.2	39.7	0.0	0.0	2.2	6.7	5.9	12.1	3.1	75.8	16.0
5	28	DNA	10.6	0.0	10.7	15.6	0.0	0.6	15.8	16.4	0.0	0.0	18.4	24.2	3.0
5	29	DNA	20.2	0.0	11.3	4.0	0.0	9.7	17.7	13.0	1.8	4.1	4.4	36.0	1.4
5	30	DNA	20.8	0.0	T	1.5	0.0	1.2	12.1	1.0	0.0	2.2	0.0	5.0	5.6
5	31	DNA	19.6	0.0	0.0	0.0	0.0	0.0	1.8	22.5	0.0	0.0	0.0	3.2	1.4
6	1	0.0	11.8	0.0	0.0	0.3	30.0	0.0	0.7	11.0	0.0	18.2	44.4	22.0	35.0
6	2	0.0	10.4	0.0	3.8	3.7	13.3	T	0.0	19.8	0.0	16.4	0.0	3.6	26.0
6	3	0.0	39.4	0.0	36.0	2.4	4.0	21.0	15.1	35.5	0.0	0.0	0.0	1.5	1.3
6	4	0.0	5.4	0.0	9.4	8.0	29.0	36.3	15.4	19.0	31.5	38.1	0.0	2.3	2.4
6	5	0.0	0.0	0.0	3.5	7.2	13.0	4.3	50.0	2.5	0.0	22.3	2.5	5.2	30.0
6	6	0.0	0.0	0.0	2.7	7.5	1.5	1.0	10.0	40.0	2.0	4.0	0.4	25.0	15.1
6	7	0.0	0.0	23.0	22.0	0.0	22.4	4.0	10.0	5.5	18.0	3.0	5.2	10.3	4.0
6	8	0.0	10.2	3.0	90.3	18.7	70.0	28.5	10.5	13.4	1.2	1.0	1.0	12.2	4.5
6	9	0.0	27.7	36.0	7.0	4.5	9.6	1.5	2.3	3.7	22.0	3.5	0.0	9.1	25.6
6	10	0.0	18.3	0.0	101.0	1.0	12.9	6.2	8.8	0.0	8.3	0.0	1.6	16.0	14.4
6	11	0.0	38.3	1.9	9.5	4.1	16.5	0.0	39.8	T	18.9	1.0	25.8	20.3	2.8
6	12	0.0	0.0	2.8	0.0	0.0	11.9	0.0	20.1	1.2	13.8	5.1	25.0	17.3	12.7
6	13	0.0	0.0	18.8	0.0	1.9	52.0	0.0	T	4.2	13.9	6.2	12.5	15.0	10.8
6	14	0.0	14.4	5.9	4.8	5.3	6.5	0.0	0.2	3.9	7.5	3.0	13.0	11.9	1.9
6	15	0.0	5.1	36.0	T	7.2	12.5	12.6	11.7	10.5	5.6	2.0	25.0	20.0	2.8
6	16	0.0	11.5	0.0	11.1	2.2	10.6	6.3	27.0	4.6	53.1	1.0	35.8	16.0	9.6
6	17	0.0	6.7	2.0	2.3	29.5	15.7	2.0	45.2	36.5	3.3	0.0	25.1	15.1	1.5
6	18	0.0	14.1	21.0	0.0	40.0	20.6	16.1	16.4	11.2	18.9	0.0	15.3	23.0	86.2
6	19	0.0	42.0	36.6	0.1	1.0	23.2	3.2	6.5	6.9	19.5	4.0	8.0	39.6	35.6
6	20	0.0	3.1	1.4	14.7	1.3	12.7	0.0	65.1	5.6	9.6	3.1	7.9	7.3	14.3
6	21	0.0	16.8	18.2	19.9	17.5	0.0	7.0	6.5	5.2	10.2	0.0	18.2	59.3	24.6
6	22	109.2	7.3	1.0	5.5	1.3	1.5	0.0	20.4	33.3	58.8	T	13.3	T	22.0
6	23	0.8	12.5	8.1	13.0	5.5	2.9	27.0	6.4	8.9	14.1	40.2	2.4	2.0	3.0
6	24	4.8	34.4	7.9	15.0	8.0	15.3	12.8	24.1	22.7	154.7	25.7	15.3	112.3	9.7
6	25	51.8	44.5	89.7	24.2	8.3	28.0	0.9	13.3	39.0	20.4	9.2	22.6	11.2	78.4
6	26	24.0	36.0	55.8	6.3	12.1	5.7	0.6	7.7	58.6	86.9	17.7	10.6	10.2	10.4
6	27	0.4	80.3	55.2	40.5	17.4	6.1	28.2	6.4	43.4	68.3	0.0	17.9	32.6	18.6
6	28	8.4	9.3	12.8	68.1	27.0	1.3	28.3	9.4	18.3	54.0	18.1	67.6	47.4	3.0
6	29	2.4	58.4	39.4	14.4	33.4	0.0	12.6	4.6	0.0	16.2	68.0	7.7	75.4	17.0
6	30	11.8	30.0	31.8	1.5	60.5	17.5	74.1	87.2	15.0	62.2	120.4	5.0	3.5	10.1

Daily Precipitation (mm)

Location : Silkesh

Month	Year Day	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
7	1	8.5	22.2	20.5	38.4	10.8	17.5	26.8	95.3	24.0	97.2	14.2	16.6	42.3	10.2
7	2	2.0	5.5	31.7	115.2	24.9	5.5	66.8	36.3	10.3	12.0	14.5	T	T	0.0
7	3	30.1	28.6	58.6	T	8.2	2.0	13.9	31.7	0.0	0.2	38.4	61.7	89.8	80.2
7	4	43.2	11.2	113.5	4.5	17.7	24.4	9.8	48.3	38.5	9.5	18.8	17.6	16.6	29.2
7	5	45.1	27.0	13.5	2.4	40.5	24.0	25.7	40.0	87.6	5.4	18.9	59.0	17.1	42.0
7	6	0.7	32.3	23.5	40.1	28.5	35.8	6.8	33.7	47.6	23.5	52.7	115.8	20.0	65.6
7	7	3.2	4.1	3.5	68.9	5.5	28.3	4.3	42.6	44.3	2.8	16.3	45.0	19.5	29.1
7	8	42.4	90.3	0.0	20.5	39.8	27.5	6.7	47.7	14.5	16.4	59.6	75.2	9.8	80.3
7	9	10.5	50.4	0.0	45.4	3.9	10.5	6.9	38.9	10.2	23.5	15.5	38.2	10.6	92.5
7	10	22.9	0.0	3.1	16.7	15.4	46.5	29.7	11.5	86.2	18.8	21.4	1.3	18.4	21.0
7	11	33.2	33.0	60.5	44.1	0.2	46.3	3.4	37.4	32.3	19.5	61.7	24.4	12.6	88.6
7	12	21.6	7.5	45.4	0.8	76.3	2.9	0.0	63.1	52.6	T	23.8	135.4	19.3	42.2
7	13	63.2	7.2	2.6	36.5	39.4	26.0	0.0	42.5	44.2	3.5	59.8	51.2	15.0	92.2
7	14	31.4	39.0	19.4	45.9	32.4	24.0	3.9	61.2	40.2	158.5	2.4	11.0	28.6	150.6
7	15	15.2	25.0	11.5	90.2	1.5	36.8	46.2	4.7	20.4	51.0	23.6	32.0	15.1	48.5
7	16	6.0	27.4	51.2	142.0	42.2	8.4	9.1	6.2	30.4	30.9	1.7	56.0	17.1	12.7
7	17	9.2	19.5	50.6	14.4	19.8	30.1	145.2	50.9	48.5	31.3	41.3	108.0	12.0	39.6
7	18	23.7	28.0	28.6	38.0	14.1	13.0	3.1	68.0	25.8	14.7	1.2	42.0	7.5	146.6
7	19	41.0	20.0	21.1	33.4	46.3	78.9	45.0	7.0	8.0	8.8	22.2	7.0	41.7	42.8
7	20	43.4	25.9	8.5	87.7	22.5	26.1	28.0	36.8	32.3	7.9	12.0	14.3	9.0	14.6
7	21	61.8	20.0	6.8	33.0	21.0	50.5	42.0	20.4	27.4	31.0	43.4	54.3	12.1	1.9
7	22	3.2	20.0	15.9	16.2	34.3	21.5	0.6	17.3	60.9	37.3	10.3	24.4	36.6	18.2
7	23	16.0	3.5	29.6	84.6	23.6	10.5	21.3	20.8	45.3	40.2	33.3	40.7	9.1	70.2
7	24	18.8	48.1	35.8	16.8	63.9	20.5	1.2	21.2	17.2	19.1	13.3	41.5	3.5	99.7
7	25	57.4	48.7	59.8	8.1	4.7	46.9	5.2	6.8	36.8	68.2	50.2	115.2	4.1	23.0
7	26	T	12.0	4.3	35.6	45.5	11.3	62.7	47.4	26.4	92.9	15.3	42.6	2.0	5.0
7	27	76.8	14.7	5.5	7.2	77.2	9.5	18.8	44.9	32.1	51.1	17.4	1.3	7.4	22.0
7	28	8.0	112.8	12.0	55.9	79.1	73.4	19.5	55.5	24.8	4.5	92.2	123.6	7.3	52.8
7	29	2.4	31.3	24.8	52.7	38.0	8.5	28.1	49.8	11.6	10.2	17.0	40.9	119.2	15.7
7	30	55.6	25.0	41.8	48.7	14.0	4.9	22.7	2.4	21.8	40.4	12.0	13.7	48.4	12.9
7	31	5.2	69.0	56.6	26.1	45.6	56.6	8.1	1.0	1.0	30.4	48.8	19.2	37.0	2.6
8	1	29.6	43.0	61.1	35.8	45.5	3.4	31.8	73.3	17.9	58.4	15.2	99.5	56.6	11.6
8	2	12.8	59.6	20.1	11.5	73.3	0.3	49.2	5.8	6.3	5.4	17.2	65.0	36.0	17.2
8	3	102.8	5.2	12.3	61.3	75.8	7.3	43.2	41.5	15.4	40.2	109.4	0.0	6.0	T
8	4	21.4	9.4	46.1	2.7	45.3	20.4	33.1	16.5	82.7	20.4	41.7	19.7	3.1	1.6
8	5	40.6	35.6	12.3	31.2	15.5	105.9	18.5	1.4	6.8	14.6	3.4	66.3	13.7	16.6
8	6	T	46.7	53.3	17.4	46.5	0.8	41.5	28.2	11.8	11.4	10.8	19.2	67.7	12.8
8	7	36.4	9.5	24.2	80.4	10.8	11.3	23.3	8.0	1.6	12.0	32.0	66.1	16.0	46.2
8	8	7.2	28.9	12.3	26.4	14.9	77.6	26.6	64.6	8.0	27.3	11.0	17.4	21.6	16.8
8	9	52.8	37.7	174.5	10.1	0.3	0.5	13.7	0.2	7.3	6.4	15.4	18.2	66.0	26.0
8	10	1.2	3.2	0.0	34.7	23.8	25.0	36.3	5.0	35.5	42.5	30.1	61.9	3.2	24.4
8	11	76.0	79.9	14.3	12.4	13.6	46.3	18.4	23.3	7.8	T	242.1	19.2	29.6	166.8
8	12	16.8	67.9	18.9	12.0	11.2	9.2	47.7	33.3	4.0	24.8	120.7	46.2	23.2	35.0
8	13	6.4	1.1	23.9	28.3	25.4	8.4	148.5	32.2	6.8	0.2	37.2	33.1	22.4	23.4
8	14	85.4	0.0	8.0	22.2	14.5	0.0	15.1	0.0	42.0	0.1	76.8	6.2	4.5	20.0
8	15	20.8	8.8	22.8	57.4	17.5	6.3	4.3	38.4	1.8	58.3	6.4	33.0	93.0	1.9
8	16	16.5	10.5	12.4	0.6	34.6	9.2	15.9	21.6	1.8	54.2	0.0	40.5	52.6	13.2
8	17	16.5	28.9	T	24.2	37.0	15.9	66.7	69.7	3.7	19.5	0.0	19.4	38.9	57.0
8	18	2.4	33.1	27.3	6.5	15.2	16.1	15.6	21.4	0.2	33.0	1.2	29.2	20.0	36.0
8	19	8.4	27.2	27.8	6.2	43.7	17.9	0.6	7.4	23.8	16.8	85.9	99.1	23.1	42.4
8	20	41.3	39.1	17.0	44.9	42.2	9.2	34.4	20.9	10.6	68.3	4.9	44.6	46.4	T
8	21	31.0	2.4	47.7	34.1	1.7	29.5	40.3	11.0	4.4	3.0	32.7	54.0	17.3	0.2
8	22	15.2	9.5	35.4	10.6	17.5	119.3	22.1	18.0	79.5	12.8	3.1	5.2	44.2	2.3
8	23	23.3	40.1	22.4	0.5	33.3	2.5	10.2	6.1	40.6	15.5	5.8	104.6	19.7	60.8
8	24	40.8	30.0	4.1	11.0	29.9	63.6	26.1	83.7	20.7	13.3	48.7	2.8	20.5	18.2
8	25	70.4	7.5	14.4	24.3	1.5	36.1	38.8	42.3	2.7	1.3	0.0	13.0	42.3	5.4
8	26	94.0	8.5	5.6	6.5	3.4	80.7	23.8	62.5	13.4	5.5	64.6	26.5	41.1	15.3
8	27	5.0	0.0	27.6	6.2	5.2	38.1	2.5	42.8	24.5	5.5	10.1	35.6	19.1	16.3
8	28	71.5	3.9	25.9	115.0	5.9	16.9	T	5.8	10.2	38.8	75.2	15.0	20.9	0.6
8	29	96.8	0.0	1.6	3.3	3.4	61.1	63.6	33.1	43.0	1.0	9.1	18.7	40.1	0.4
8	30	9.2	0.0	39.0	17.5	19.5	27.4	64.0	24.9	29.4	19.0	54.4	10.6	19.2	3.3
8	31	1.0	1.9	3.5	99.0	47.6	78.8	23.2	14.9	5.6	3.5	16.5	31.6	31.0	7.0

Daily Precipitation (mm)
Location : Silkesh

Month	Year Day	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
9	1	1.4	1.6	33.0	52.0	28.5	18.4	28.1	4.2	35.7	19.5	40.4	1.3	6.8	1.1
9	2	21.4	10.2	3.8	10.0	22.0	0.5	26.0	34.3	49.5	19.0	65.5	32.2	34.0	21.8
9	3	2.8	3.0	T	0.0	14.3	3.9	29.0	2.1	11.6	0.3	40.3	74.4	6.7	11.8
9	4	10.4	7.2	29.2	19.3	0.0	0.4	40.1	50.0	37.0	24.4	22.0	17.3	25.0	4.0
9	5	T	36.5	8.0	37.1	6.6	13.0	50.1	46.3	35.2	14.4	0.3	19.3	6.5	94.3
9	6	45.9	13.7	74.7	45.0	34.3	T	32.3	22.6	9.0	29.2	8.3	32.2	54.4	19.0
9	7	41.0	11.5	17.2	0.5	43.7	11.3	1.2	23.2	1.3	11.3	2.3	43.0	15.3	116.2
9	8	0.8	16.2	1.5	0.0	16.0	13.0	9.6	83.0	4.2	1.5	36.5	32.3	20.3	0.6
9	9	8.8	3.6	12.1	7.9	36.0	0.0	8.1	28.0	0.3	23.0	8.5	76.2	2.2	30.2
9	10	23.1	6.2	43.9	28.1	51.9	1.3	50.5	40.1	1.0	85.5	0.5	38.3	2.0	37.0
9	11	36.5	34.3	19.6	45.2	2.0	32.8	15.9	71.2	30.4	56.0	18.9	6.2	11.2	76.2
9	12	17.0	2.2	0.0	2.5	1.6	60.9	17.0	38.0	19.4	33.0	4.1	3.4	34.4	5.1
9	13	39.0	14.9	7.1	39.9	2.2	8.0	0.0	21.2	35.5	73.0	4.7	9.0	31.4	10.6
9	14	2.0	40.5	8.7	3.4	6.1	1.1	30.7	13.1	6.9	60.0	0.9	10.5	45.0	16.0
9	15	8.0	9.1	25.5	29.5	8.1	1.0	30.8	17.0	22.1	30.5	22.9	40.0	6.0	89.8
9	16	34.0	17.2	3.7	5.6	5.5	0.0	30.5	20.5	41.2	4.2	0.0	30.2	1.0	35.1
9	17	11.6	35.1	1.4	40.5	12.7	5.9	25.8	34.6	0.1	7.0	0.0	30.5	38.4	19.0
9	18	34.0	36.3	9.5	44.7	65.5	22.6	3.8	36.8	T	1.0	0.0	2.4	9.2	37.0
9	19	4.8	27.5	5.0	13.3	4.8	104.5	62.0	34.6	1.1	0.0	0.5	11.0	24.0	15.9
9	20	8.0	2.4	0.0	2.0	29.3	15.0	20.1	11.3	11.8	0.0	8.9	10.7	42.9	1.5
9	21	3.0	0.0	1.4	29.5	5.8	21.2	17.8	1.6	7.1	64.2	2.6	21.9	39.2	0.0
9	22	9.8	0.0	2.5	0.1	0.0	0.0	0.0	0.0	11.3	1.5	10.5	2.1	16.5	15.5
9	23	0.9	15.2	2.0	1.5	0.0	5.0	39.8	3.3	20.4	42.1	8.3	10.3	15.2	0.7
9	24	13.5	0.0	5.0	4.5	0.0	4.3	14.9	1.4	12.4	T	0.0	12.0	12.6	2.0
9	25	1.8	34.1	0.3	16.4	5.7	1.0	2.2	0.0	19.5	1.4	14.0	0.0	2.0	14.6
9	26	T	13.4	0.0	22.4	0.2	0.0	38.4	0.0	15.8	49.1	2.4	0.0	3.2	1.0
9	27	15.2	26.4	0.0	3.0	14.7	T	0.0	0.0	T	13.5	4.1	10.6	6.0	58.3
9	28	7.1	31.9	0.0	1.5	7.0	0.0	0.0	1.5	1.1	16.9	2.2	28.7	47.0	6.6
9	29	4.2	0.4	0.0	1.3	79.6	1.3	0.0	0.0	3.4	37.1	2.0	5.0	8.4	0.1
9	30	10.2	25.8	2.9	11.2	19.8	0.0	0.0	0.0	27.8	1.0	4.5	0.0	25.0	1.6
10	1	20.0	5.5	0.0	12.0	0.0	0.0	0.0	0.0	T	8.2	0.0	12.1	0.0	0.0
10	2	23.5	2.7	3.6	0.0	9.6	0.0	0.0	0.0	3.3	2.8	0.0	0.0	0.0	0.0
10	3	12.0	0.0	5.8	8.1	0.6	0.0	6.9	0.0	0.0	4.3	0.0	0.0	3.0	9.0
10	4	11.7	0.0	3.5	0.0	28.3	0.0	17.5	0.0	0.0	0.2	T	0.0	1.0	0.0
10	5	T	8.5	16.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1	3.5	8.5	12.0	0.0
10	6	14.2	1.2	19.9	18.3	0.0	0.0	0.0	0.0	0.8	40.3	0.0	0.0	2.0	0.0
10	7	5.0	5.8	0.2	0.0	0.0	2.5	0.0	0.0	2.5	0.8	0.0	0.0	0.0	0.0
10	8	0.4	0.0	11.5	0.0	0.0	4.0	0.0	T	0.0	2.2	0.0	0.0	0.0	T
10	9	3.9	7.6	29.5	0.0	0.4	1.4	14.5	0.3	17.1	0.0	1.2	0.0	0.0	2.6
10	10	5.1	14.4	6.0	2.3	0.0	1.8	23.6	1.9	39.5	0.0	0.0	0.0	0.0	70.0
10	11	T	0.0	40.7	1.0	0.0	0.0	17.0	0.0	18.9	2.7	0.0	0.0	3.0	36.2
10	12	T	0.0	64.2	0.6	0.0	0.0	28.8	14.0	1.6	11.3	0.0	0.0	1.0	4.6
10	13	1.2	0.0	4.0	14.5	1.1	0.0	40.3	0.0	1.5	5.1	0.0	0.0	4.0	0.0
10	14	T	4.4	14.3	0.0	0.0	0.0	9.0	0.0	0.0	10.4	0.0	0.0	0.0	8.8
10	15	T	0.0	2.3	0.0	0.0	0.0	0.0	5.9	3.0	13.2	0.0	9.0	0.0	T
10	16	18.8	0.0	0.0	3.3	0.0	0.0	0.0	22.4	6.0	5.8	0.0	2.4	0.0	0.3
10	17	0.8	0.0	0.0	T	0.0	0.0	13.2	0.0	6.8	14.9	0.0	0.0	0.0	0.0
10	18	0.2	2.6	0.0	0.0	0.0	0.0	1.7	1.0	41.5	0.0	0.0	0.0	6.7	0.5
10	19	12.2	4.6	T	9.2	0.0	0.0	0.0	5.5	41.8	0.0	27.8	0.0	1.6	0.0
10	20	T	0.0	0.7	13.6	0.0	0.0	0.0	T	9.4	0.0	0.0	T	2.6	0.0
10	21	0.0	1.5	0.0	T	0.0	23.7	0.0	0.0	1.0	0.0	0.0	1.0	2.0	0.0
10	22	0.0	4.7	0.0	0.0	0.0	4.6	0.0	0.0	0.0	0.0	T	1.8	0.0	0.0
10	23	0.0	T	0.0	2.2	0.0	9.1	0.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0
10	24	0.0	0.0	0.0	2.2	0.0	0.1	4.5	0.0	0.0	0.0	80.2	0.0	0.0	0.0
10	25	17.6	0.0	0.0	3.0	0.0	3.1	1.5	0.0	0.0	0.0	5.0	0.0	0.0	0.0
10	26	20.2	0.0	0.0	1.5	2.3	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0
10	27	14.8	11.0	0.0	0.5	4.5	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
10	28	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0
10	29	2.7	0.0	1.0	0.0	0.0	0.0	T	1.5	1.0	0.0	0.0	0.0	6.1	0.0
10	30	0.2	0.0	3.3	0.0	0.0	0.0	0.0	0.0	T	0.8	0.0	0.0	0.0	0.0
10	31	T	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	1.2	T	0.0	0.0	0.0

Daily Precipitation (mm)

Location : Silkesk

Month	Year Day	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
11	1	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0
11	2	0.2	0.0	2.6	0.0	0.0	4.5	0.0	0.0	1.0	0.0	1.5	0.0	8.8	0.0
11	3	10.9	9.5	1.0	0.0	0.6	0.0	0.0	0.0	8.4	0.0	0.9	0.0	10.1	0.0
11	4	90.0	0.0	0.0	0.0	18.3	0.0	0.0	0.0	0.2	0.0	0.0	T	1.6	0.0
11	5	26.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.4	0.0	0.0	8.8	0.8	0.0
11	6	1.0	1.2	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	7.4	10.1	0.0
11	7	1.2	0.0	0.0	0.0	17.4	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	8	T	1.4	0.0	0.0	30.4	4.8	0.0	T	7.1	0.0	0.0	0.0	0.0	0.0
11	9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
11	10	0.0	1.0	0.0	0.0	7.2	18.2	0.0	2.3	3.4	0.0	0.0	0.0	0.0	0.0
11	11	0.2	1.2	0.0	0.0	1.0	2.2	0.0	0.4	4.1	0.0	0.0	0.0	0.0	0.0
11	12	0.0	3.4	0.0	0.0	1.2	1.4	0.0	2.4	2.7	19.9	0.0	0.0	0.0	0.0
11	13	4.1	0.0	0.0	0.0	7.5	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
11	14	0.0	0.0	0.0	0.0	18.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0
11	17	4.8	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0
11	18	0.0	5.5	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0
11	19	0.0	3.2	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0
11	20	0.0	0.0	2.5	0.0	0.0	0.0	5.5	0.0	T	0.3	0.0	0.0	8.6	0.0
11	21	0.0	1.0	0.1	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	25.2	0.0
11	22	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	23	0.0	7.2	0.2	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	24	0.0	1.6	7.7	3.2	0.0	5.7	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0
11	25	0.0	0.0	0.0	0.0	0.0	0.4	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0
11	26	0.0	0.0	0.0	1.8	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	27	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
11	28	0.0	0.0	3.1	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	29	0.0	0.0	1.5	10.2	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	30	1.0	0.0	3.4	0.7	0.0	0.0	0.0	0.0	0.0	19.2	0.0	0.0	0.0	0.0
12	1	2.8	0.0	40.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	2	0.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	3	0.0	16.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0
12	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
12	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0
12	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
12	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	12	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.0	0.0	T	0.0
12	13	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	17.0	16.0	0.0	8.4	0.0
12	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.7	T	0.0	0.0
12	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	6.4	0.0	0.0
12	16	1.2	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	17	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0
12	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	20	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	29.5	0.0	5.0	0.0	0.0
12	21	0.0	0.0	7.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	1.0	0.0	0.0
12	22	9.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	11.9	0.0
12	23	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	T	0.0
12	24	0.0	0.0	0.0	0.0	0.0	3.5	7.0	0.0	0.0	0.0	0.0	9.6	0.1	0.0
12	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.0	0.0
12	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	6.0	0.0
12	27	33.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.1	0.0	0.0	0.0	2.3	0.0
12	28	14.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.5	0.0	0.0	0.0	0.0	0.0
12	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	30	0.0	0.0	15.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	31	0.0	0.0	6.3	0.0	0.0	10.6	0.0	0.4	0.0	0.0	0.0	1.3	0.0	5.4

Daily Precipitation (mm)
Location : Silkesk

Month	Year Day	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
1	1	17.4	T	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	30.9	0.0
1	2	4.2	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	3	1.2	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	4	0.0	0.0	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	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0	0.0
1	6	0.0	0.0	T	0.0	0.0	T	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1	7	0.0	0.0	45.4	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
1	8	T	0.0	1.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0
1	9	0.5	0.0	0.0	0.0	22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	10	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	15.4	0.0	0.0	0.0	0.0	0.0
1	11	0.0	0.0	0.7	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	12	0.0	21.4	1.2	1.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	13	0.0	T	18.2	2.0	6.7	0.0	0.0	0.0	0.0	36.7	0.0	0.0	0.0	0.0
1	14	0.0	0.0	T	5.0	0.0	1.3	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.2
1	15	10.5	0.0	T	24.0	0.0	1.6	0.0	0.0	0.0	0.1	0.0	T	0.0	0.0
1	16	0.0	0.0	T	0.0	T	47.8	0.0	0.0	0.0	0.0	0.0	66.2	0.0	0.0
1	17	0.0	0.0	1.2	0.0	1.3	0.0	T	0.0	0.0	0.0	0.0	1.0	0.0	0.0
1	18	0.0	0.0	T	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	19	T	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	20	0.9	0.0	0.0	0.0	1.0	0.0	22.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	21	2.1	17.0	0.0	0.0	8.0	0.0	5.2	0.0	0.0	48.6	0.0	T	0.0	0.2
1	22	2.0	T	0.0	0.0	2.2	0.0	4.1	0.0	0.0	1.5	0.0	0.0	0.0	14.0
1	23	10.0	0.1	0.0	0.0	16.0	0.0	5.1	0.0	0.0	3.0	2.0	0.0	0.0	0.0
1	24	0.2	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	1.0	5.4	0.0	0.0	6.3
1	25	0.4	0.0	0.0	0.0	8.5	0.0	2.1	0.0	0.0	1.0	0.2	6.6	0.0	28.0
1	26	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.1	T	2.3	0.0	0.0
1	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	0.0	0.8	0.0	0.0
1	28	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	T	0.0	8.2	0.0	0.0
1	29	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	4.2	12.4	0.0
1	30	0.0	0.0	0.0	10.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0
1	31	0.0	T	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.4	0.0
2	1	0.0	5.0	0.0	0.0	0.0	0.0	12.4	0.0	0.0	0.0	0.0	0.0	28.7	0.0
2	2	10.6	9.2	0.0	0.0	0.0	0.0	6.0	0.0	25.8	3.5	0.0	0.0	0.2	7.9
2	3	3.9	8.2	0.0	0.0	0.0	0.0	27.1	4.8	T	4.8	0.0	0.0	0.0	0.0
2	4	2.0	8.1	0.0	0.0	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.1	0.0	0.0
2	5	0.0	10.1	T	2.6	3.7	0.0	1.2	0.8	0.0	0.0	0.0	0.0	0.0	0.0
2	6	0.0	1.0	0.0	3.4	13.2	0.0	2.5	0.7	0.0	18.7	0.0	0.0	0.0	0.0
2	7	0.0	10.2	0.0	20.1	0.0	0.0	3.1	6.4	0.0	0.2	0.0	4.4	0.0	2.0
2	8	0.0	1.0	0.0	T	T	T	3.1	0.0	0.0	5.8	0.0	0.1	0.4	0.0
2	9	0.0	0.0	0.0	T	7.5	11.3	T	0.0	0.0	7.7	0.0	0.0	0.5	0.0
2	10	0.0	T	0.0	1.5	0.9	16.6	T	0.0	0.0	T	0.0	0.0	0.1	0.0
2	11	0.0	3.0	0.0	3.3	0.0	21.2	0.0	0.0	0.0	T	0.0	0.0	T	0.0
2	12	0.0	9.8	0.0	10.7	0.0	3.4	1.0	0.0	0.0	8.4	0.0	29.0	T	0.0
2	13	7.1	1.0	0.0	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
2	14	0.0	0.7	0.0	T	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0
2	15	0.0	T	0.0	0.0	17.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.2
2	16	0.0	3.4	6.7	0.0	8.1	7.0	0.0	32.2	0.0	0.0	2.2	0.0	1.2	0.0
2	17	0.0	2.0	37.4	0.0	24.0	0.0	6.0	T	0.0	T	0.0	0.0	1.5	0.0
2	18	0.0	12.2	2.6	T	2.8	T	1.5	T	0.0	0.0	T	0.0	0.0	0.0
2	19	16.7	1.0	14.0	0.0	3.5	0.2	2.0	27.8	0.0	0.0	10.4	3.5	49.4	2.2
2	20	0.0	T	T	0.0	0.0	33.8	5.0	6.6	0.0	0.0	2.2	0.0	0.0	20.0
2	21	0.0	7.8	0.8	0.0	6.2	5.5	7.1	T	0.0	0.0	16.6	0.0	16.4	0.3
2	22	0.0	0.7	0.0	0.0	2.6	1.4	0.0	0.6	4.1	0.0	9.4	5.4	T	0.0
2	23	0.0	0.0	0.0	0.0	16.0	0.0	0.0	10.1	0.0	0.0	0.0	0.0	7.2	T
2	24	0.0	1.0	1.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	1.5	0.0	0.1	T
2	25	T	5.7	2.3	3.5	0.0	4.4	4.0	5.6	0.0	0.0	15.3	20.2	5.6	0.0
2	26	4.5	T	T	7.0	0.0	18.6	10.6	T	20.5	0.0	26.8	4.4	14.7	0.0
2	27	14.3	0.0	4.0	2.0	8.0	17.2	8.1	0.0	T	19.1	0.9	0.0	0.2	0.0
2	28	1.6	0.0	50.6	28.6	6.2	2.7	0.0	0.0	1.3	2.0	0.0	13.6	0.4	1.0
2	29	0.0					0.0				3.7				12.7

Daily Precipitation (mm)
Location : Silkesh

Month	Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Day															
3	1	3.2	0.0	0.0	11.8	19.0	0.0	0.0	T	0.0	1.3	0.0	1.7	0.0	0.0
3	2	0.0	0.0	1.2	T	0.0	T	0.0	4.0	0.0	18.9	1.3	0.0	4.0	0.0
3	3	0.0	0.0	T	0.0	0.0	0.0	39.1	3.0	0.0	12.8	0.0	12.4	T	0.0
3	4	2.0	0.0	0.0	4.0	0.0	49.6	11.5	1.0	0.0	T	0.0	3.4	0.0	0.0
3	5	22.3	0.0	1.0	4.8	0.0	T	T	11.0	0.0	4.4	0.0	0.0	T	0.0
3	6	18.4	0.0	T	0.0	0.0	T	0.0	40.3	0.0	0.1	0.0	8.2	T	0.0
3	7	0.0	0.0	0.0	0.0	1.0	0.0	0.0	9.5	0.0	0.0	0.0	2.0	1.0	5.7
3	8	0.0	0.0	0.0	0.0	3.0	20.4	0.0	13.7	0.0	0.0	7.0	0.6	39.0	0.0
3	9	8.0	0.0	0.0	0.0	0.0	T	0.0	T	0.0	T	7.2	7.6	0.0	0.0
3	10	5.4	0.0	0.0	0.0	7.4	0.0	T	11.7	0.0	1.3	0.0	T	T	10.8
3	11	0.0	0.0	0.0	6.8	0.0	0.0	T	22.8	0.0	16.0	0.0	0.0	0.0	0.0
3	12	T	0.0	22.0	0.0	0.0	17.1	102.8	T	0.0	38.8	0.0	0.0	0.0	1.0
3	13	T	0.0	0.2	22.2	0.3	1.8	2.4	7.0	0.0	3.0	2.2	0.3	8.0	1.3
3	14	14.5	0.0	0.0	T	0.0	T	8.0	0.2	0.0	18.6	0.0	14.6	0.0	4.4
3	15	1.4	18.0	12.4	12.9	0.0	13.1	0.0	0.0	0.0	T	5.2	3.5	3.2	0.0
3	16	0.0	8.5	0.0	T	0.0	8.8	15.4	0.0	0.0	2.0	7.0	4.6	T	13.2
3	17	0.0	0.0	0.0	11.8	T	0.0	T	0.0	0.0	6.8	1.6	0.0	36.0	0.0
3	18	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0	8.4	12.4	T	2.4	0.7	0.0
3	19	0.0	16.0	T	T	T	0.0	3.0	4.1	0.0	2.4	0.0	0.0	T	T
3	20	0.0	T	T	T	1.0	0.0	3.5	5.0	0.0	1.0	0.0	0.0	0.0	0.0
3	21	6.0	3.1	0.0	3.8	0.0	T	0.7	6.0	0.0	0.6	11.6	1.0	3.0	53.4
3	22	4.6	0.0	T	0.0	0.0	0.0	8.0	6.2	0.0	9.0	3.6	22.8	5.4	3.4
3	23	T	0.0	0.0	4.7	0.0	15.4	0.0	2.1	0.0	4.2	8.8	3.1	0.0	T
3	24	0.0	0.0	1.0	0.0	12.8	0.0	0.0	80.2	0.0	25.5	0.2	42.4	13.0	0.0
3	25	16.0	0.0	5.0	13.7	2.0	1.6	0.0	1.0	0.0	0.0	0.0	4.0	10.4	0.0
3	26	0.0	0.0	36.0	18.4	60.0	T	4.2	T	12.4	0.0	T	T	2.2	0.0
3	27	0.0	0.0	0.8	12.6	25.3	9.6	0.4	0.0	7.8	0.0	6.0	8.1	0.0	0.0
3	28	0.0	0.0	0.0	0.4	12.8	9.4	0.0	6.6	T	0.0	0.0	0.0	0.0	0.0
3	29	0.0	0.0	0.0	13.0	1.3	6.8	2.4	7.0	0.2	0.0	30.0	0.0	22.6	0.0
3	30	0.0	0.0	0.0	9.0	12.7	19.2	49.9	35.1	0.0	0.0	0.0	0.0	0.0	0.0
3	31	1.0	0.0	0.0	0.1	0.0	17.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	1	58.0	0.0	T	28.4	0.0	0.0	0.0	0.0	3.4	0.0	48.0	30.0	3.1	5.4
4	2	3.0	0.0	T	19.5	0.0	0.0	16.8	0.0	0.0	4.0	0.0	15.4	2.3	0.0
4	3	24.1	0.0	0.0	0.0	0.0	0.0	6.3	0.0	0.0	0.0	3.0	58.4	7.1	23.4
4	4	1.2	0.0	0.0	4.5	0.0	4.9	0.0	3.7	7.7	T	0.0	1.0	26.3	2.4
4	5	3.0	3.5	0.0	63.4	0.0	0.0	0.0	8.6	0.0	0.0	1.8	1.0	15.4	6.0
4	6	2.4	T	0.0	0.6	0.0	7.4	0.0	T	0.0	0.0	0.0	0.0	T	T
4	7	3.1	0.0	0.0	T	0.0	0.0	0.0	1.0	0.0	0.0	8.8	0.4	0.0	9.4
4	8	0.0	0.0	0.0	T	0.0	6.8	0.0	0.0	0.0	0.0	2.0	T	0.0	8.4
4	9	17.0	0.0	12.9	0.4	0.0	0.0	0.0	0.0	16.2	0.0	1.0	5.6	0.0	20.9
4	10	18.3	0.0	1.3	0.0	5.5	0.0	13.0	15.0	T	0.0	0.0	0.0	0.0	11.0
4	11	T	0.0	1.0	0.0	11.2	0.0	15.0	T	0.0	0.0	1.8	35.0	22.3	79.9
4	12	9.1	0.0	7.0	0.0	18.3	0.0	14.0	1.2	0.0	0.0	0.0	3.0	0.0	1.6
4	13	1.0	0.0	12.0	0.0	24.3	0.0	14.0	0.3	T	0.0	4.0	0.0	19.0	69.6
4	14	5.0	0.0	11.0	0.0	0.0	0.0	0.0	1.1	16.5	0.0	0.0	0.0	13.0	0.4
4	15	5.8	0.0	0.0	5.0	0.0	4.5	11.0	0.0	0.0	18.0	2.0	0.0	6.0	32.4
4	16	0.0	0.0	2.2	1.5	0.4	0.0	13.0	0.0	0.0	2.4	1.5	T	18.3	12.2
4	17	0.0	0.0	T	0.0	2.0	3.0	4.0	T	0.0	6.0	7.0	16.8	0.0	0.0
4	18	0.0	7.6	41.6	4.8	10.4	0.0	10.2	10.0	0.0	2.8	3.1	38.6	0.0	16.3
4	19	0.0	0.0	11.0	5.5	35.4	0.0	0.0	2.0	0.0	0.0	14.0	0.0	0.0	0.5
4	20	2.2	0.0	T	14.0	12.7	2.9	0.0	20.8	0.0	0.0	6.0	3.4	T	0.3
4	21	0.0	0.0	1.0	11.0	1.0	0.0	0.0	5.9	0.0	9.4	35.4	3.0	0.0	0.8
4	22	0.0	0.0	2.0	4.4	0.0	0.0	3.0	T	0.0	19.0	16.6	0.0	22.7	12.8
4	23	4.3	0.0	9.9	15.2	0.0	0.2	2.2	1.0	0.0	6.3	18.5	0.0	0.0	77.4
4	24	0.5	0.2	16.1	2.3	19.1	T	0.0	0.0	61.6	20.0	20.7	1.6	T	1.0
4	25	11.9	0.0	T	7.0	0.0	T	5.0	1.0	T	19.2	0.0	4.4	6.0	1.3
4	26	5.8	0.0	13.0	T	13.5	17.2	10.1	6.7	5.4	2.7	T	4.8	T	2.5
4	27	4.1	27.4	0.0	7.6	0.0	0.0	12.0	28.2	2.7	5.0	50.5	7.0	T	0.0
4	28	0.0	2.4	0.0	2.6	59.7	2.2	20.0	T	T	2.8	31.3	20.8	3.9	20.7
4	29	0.0	1.1	5.2	0.0	0.0	0.8	2.0	3.7	0.0	5.8	61.8	T	2.2	6.4
4	30	4.5	18.1	0.0	11.5	35.6	8.2	5.0	T	15.4	20.4	26.2	8.6	4.5	6.8

Daily Precipitation (mm)
Location : Silkesh

Month	Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
5	1	3.4	8.5	0.0	0.0	0.0	8.1	1.5	35.1	T	1.6	0.8	1.8	2.1	58.6
5	2	4.6	12.6	0.0	1.0	16.4	7.8	0.0	2.5	T	1.3	26.8	23.8	7.1	2.4
5	3	2.0	4.8	T	T	0.0	0.3	13.1	0.0	0.0	0.0	1.2	1.7	0.0	0.0
5	4	0.0	5.2	2.8	0.0	0.0	8.8	1.0	12.8	22.8	0.0	6.8	T	30.2	0.0
5	5	0.0	12.0	14.2	11.0	0.0	0.3	2.8	11.2	10.0	T	1.3	7.8	T	0.0
5	6	38.4	1.3	18.4	0.0	0.0	1.0	8.0	22.4	12.1	15.9	9.6	42.0	0.0	0.0
5	7	48.0	0.0	5.5	0.0	25.8	0.0	2.1	2.0	1.7	65.2	20.7	0.8	0.0	0.0
5	8	18.0	5.2	18.2	6.2	46.2	2.8	5.0	0.0	T	0.7	30.4	T	T	0.0
5	9	19.4	0.0	4.0	23.0	0.0	3.0	12.1	T	T	T	25.0	1.2	0.0	16.6
5	10	9.5	46.0	19.0	24.4	1.3	0.0	20.3	0.0	24.6	T	15.2	16.1	T	0.0
5	11	4.2	20.3	2.0	8.0	11.6	5.5	0.0	0.0	11.6	T	1.0	40.6	0.0	48.2
5	12	0.0	1.6	41.5	0.0	0.0	4.8	0.0	0.0	12.8	T	0.0	T	T	0.0
5	13	2.1	T	3.0	0.0	1.3	9.5	0.0	0.0	1.1	1.3	0.3	0.0	0.0	7.3
5	14	T	6.3	56.2	0.0	25.2	5.5	24.8	0.0	20.2	0.0	9.6	32.2	7.4	1.0
5	15	3.0	1.2	9.0	4.0	13.4	31.8	0.0	0.0	12.8	0.0	0.8	0.0	T	5.0
5	16	6.0	40.4	2.3	2.0	62.2	17.5	0.0	0.0	0.7	8.5	2.6	4.9	7.1	T
5	17	0.0	5.0	6.2	0.0	35.5	12.4	0.0	10.5	T	0.0	9.4	1.6	4.3	12.2
5	18	7.8	14.4	3.8	0.0	94.6	7.0	0.0	15.0	3.0	0.0	2.1	107.2	26.7	27.4
5	19	13.3	2.0	6.0	5.0	18.6	T	0.0	40.1	1.6	0.0	1.1	54.0	9.0	2.1
5	20	1.4	9.1	3.8	2.4	30.4	3.0	29.8	0.0	0.4	12.0	1.2	6.2	9.2	71.0
5	21	3.0	6.8	T	0.0	2.4	0.0	20.1	73.0	18.0	26.0	0.8	10.2	9.7	76.4
5	22	15.3	0.0	0.0	0.0	0.0	4.4	20.1	36.2	3.2	80.0	3.1	32.0	7.8	3.1
5	23	53.0	T	0.0	0.0	2.6	25.2	12.2	0.0	17.9	28.1	3.6	0.0	T	14.2
5	24	2.6	0.7	0.0	13.0	0.0	17.0	0.0	0.0	24.2	40.0	13.8	T	7.7	2.2
5	25	0.0	1.0	29.2	16.0	0.0	18.9	12.4	3.4	24.6	10.4	31.3	11.4	61.8	1.1
5	26	5.5	21.5	T	12.1	0.0	14.8	20.4	T	13.0	20.4	31.7	6.5	8.0	1.2
5	27	13.9	29.2	49.8	0.1	0.0	1.1	0.0	20.0	46.2	70.4	1.3	T	9.6	8.0
5	28	2.6	1.0	1.6	0.0	0.0	1.8	32.8	80.0	39.8	40.0	0.3	5.2	4.3	7.0
5	29	T	2.6	19.8	15.0	0.0	37.4	12.6	160.0	16.8	9.0	25.5	62.5	29.0	15.1
5	30	2.4	45.0	0.0	4.0	0.0	T	21.8	2.3	4.2	14.1	21.0	7.2	5.2	4.0
5	31	31.0	5.0	8.0	41.5	6.5	1.0	10.5	0.0	44.3	7.5	14.0	0.0	25.1	9.0
6	1	14.1	0.0	36.0	11.7	0.0	21.4	10.2	2.3	0.0	11.4	T	21.2	6.0	9.7
6	2	0.0	0.0	4.0	6.7	1.2	16.8	4.0	0.1	11.2	2.4	1.2	0.1	T	8.8
6	3	0.0	0.0	10.0	6.0	3.0	14.8	0.0	T	0.0	T	31.6	4.4	5.2	45.0
6	4	0.0	0.0	8.5	11.3	2.3	4.7	T	0.0	4.7	T	42.0	10.6	17.6	3.2
6	5	5.9	T	11.2	12.0	6.0	8.1	9.4	0.0	0.0	7.6	24.6	4.1	T	22.4
6	6	1.6	0.0	5.0	1.0	30.0	1.0	10.1	0.0	0.0	12.4	13.1	18.8	30.0	0.0
6	7	13.0	6.2	3.2	2.1	60.0	2.2	14.2	0.0	0.0	43.3	39.6	4.6	5.0	25.0
6	8	17.8	12.4	26.0	0.0	12.2	7.0	5.0	2.6	0.0	87.4	26.0	0.6	2.0	7.5
6	9	15.0	2.1	8.7	0.0	13.0	0.0	8.0	3.8	0.0	48.2	6.4	T	72.4	0.0
6	10	14.0	6.0	9.6	0.0	11.0	0.0	9.3	7.0	83.5	2.9	3.1	39.8	5.9	9.7
6	11	0.0	0.0	4.0	0.0	10.0	5.2	4.0	0.0	15.8	3.3	3.6	46.2	1.4	0.0
6	12	6.0	3.3	7.5	8.1	23.4	4.2	5.0	0.0	7.0	24.6	0.0	14.8	2.0	33.2
6	13	14.0	14.0	4.0	45.3	60.1	5.0	10.0	0.0	229.4	6.6	39.4	7.4	71.0	22.3
6	14	26.0	23.1	21.6	37.4	10.4	11.6	12.0	0.0	14.2	23.1	8.4	13.2	35.2	16.0
6	15	18.8	33.0	11.7	30.8	11.4	0.0	52.0	T	1.0	22.6	40.3	7.9	9.2	12.0
6	16	31.8	0.0	32.2	6.2	4.4	5.0	20.0	1.0	17.0	5.8	47.0	16.0	33.8	16.3
6	17	9.0	0.0	7.0	35.8	77.4	15.0	42.6	4.5	60.7	7.2	39.4	11.0	25.1	25.2
6	18	15.3	T	6.6	22.2	68.3	17.2	26.0	46.0	0.0	52.4	2.5	16.4	11.8	12.2
6	19	22.8	33.6	69.8	39.2	101.6	5.2	26.0	10.2	5.6	35.6	8.4	7.0	34.0	12.6
6	20	4.5	2.9	39.4	2.3	68.4	4.0	16.0	13.0	6.0	1.4	14.4	9.6	6.4	4.2
6	21	18.2	75.6	14.0	67.6	34.3	33.2	6.0	22.0	27.4	60.3	5.4	36.2	33.4	41.0
6	22	18.9	1.6	7.8	76.6	T	247.2	12.0	T	27.0	41.5	12.4	5.8	54.0	11.0
6	23	28.7	83.8	22.0	0.3	26.6	7.6	8.0	27.0	7.3	35.6	42.3	0.0	90.3	13.2
6	24	83.2	2.0	T	34.7	116.6	1.7	4.0	16.1	54.6	47.7	4.7	39.3	27.2	4.3
6	25	36.0	4.5	24.8	16.6	11.0	7.2	34.0	9.0	31.0	12.2	20.5	1.0	8.2	14.0
6	26	6.1	2.0	6.7	19.6	2.4	94.0	203.0	4.1	1.4	2.6	7.4	14.0	2.2	0.0
6	27	4.7	10.5	32.2	5.4	33.0	50.4	2.5	0.0	39.8	4.0	19.0	46.7	86.0	9.4
6	28	10.1	12.0	12.2	4.0	28.0	2.5	6.7	0.0	21.3	11.6	7.5	4.5	40.0	8.2
6	29	17.0	3.6	4.7	113.4	170.5	25.5	10.0	T	14.6	103.8	30.3	2.8	73.7	47.0
6	30	20.5	1.0	6.0	7.4	78.0	6.6	20.0	2.7	20.5	71.7	24.3	45.0	33.0	87.4

Daily Precipitation (mm)
Location : Silkesh

Month	Year Day	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
7	1	30.9	16.0	36.6	23.3	44.3	3.0	32.7	39.5	10.6	46.0	27.2	50.4	34.9	19.1
7	2	23.6	11.4	36.0	32.2	22.0	13.0	2.5	40.2	16.0	65.6	2.5	54.6	14.5	9.3
7	3	20.0	24.0	19.0	55.7	86.3	44.3	4.5	17.6	50.6	60.6	3.0	9.8	43.3	6.7
7	4	35.1	11.4	12.9	9.0	14.8	6.5	35.5	12.9	19.2	1.4	10.9	14.0	44.4	4.3
7	5	8.3	17.2	11.7	53.0	28.0	3.3	175.0	105.3	15.8	40.0	19.2	112.6	13.8	1.3
7	6	11.0	14.5	9.0	3.3	51.7	13.0	21.1	25.4	5.5	8.6	T	10.4	13.0	25.0
7	7	20.8	24.4	1.2	3.4	55.0	24.4	106.1	20.2	23.7	92.4	16.8	25.2	54.4	34.2
7	8	24.4	6.5	27.9	14.3	23.7	99.2	70.8	1.1	17.8	20.6	5.0	18.6	72.0	15.2
7	9	43.4	5.5	6.1	T	9.0	13.0	15.1	3.6	29.4	2.4	3.2	5.0	67.0	9.0
7	10	1.4	25.6	7.1	4.4	75.7	12.4	7.4	10.8	9.8	24.3	30.2	30.6	47.8	9.1
7	11	20.7	8.6	50.3	14.8	78.0	27.2	31.8	3.5	94.0	21.6	72.6	34.0	7.0	40.0
7	12	3.3	41.2	1.0	5.0	42.0	12.4	17.5	20.2	6.8	1.4	7.8	4.6	9.0	20.4
7	13	3.2	6.2	T	31.2	54.4	61.8	85.5	31.0	29.9	99.3	28.9	25.6	32.0	141.8
7	14	20.0	8.6	34.4	0.1	5.0	61.6	35.9	32.3	11.5	103.3	21.9	6.2	32.6	42.0
7	15	25.4	2.2	13.0	45.8	18.0	33.6	3.6	22.4	2.8	53.6	32.5	10.6	8.8	11.3
7	16	11.0	5.0	85.0	0.0	30.2	9.2	4.0	78.8	17.9	16.0	29.2	2.0	40.0	5.4
7	17	6.0	31.4	10.3	0.0	33.6	71.8	32.2	35.7	2.3	T	3.7	20.0	57.2	7.2
7	18	30.0	29.0	3.3	2.5	17.2	167.4	43.8	31.2	14.0	0.0	11.6	13.0	9.0	135.6
7	19	40.1	29.3	3.0	36.4	9.0	24.6	13.1	23.6	13.4	T	30.6	59.1	65.6	32.0
7	20	2.2	4.8	10.0	0.1	64.4	13.4	37.0	5.6	30.0	106.4	25.0	91.7	30.8	17.1
7	21	2.4	16.0	15.1	18.1	4.1	53.0	26.9	26.2	9.0	20.2	26.1	18.2	57.6	11.0
7	22	4.8	5.6	7.4	47.1	31.2	25.0	21.6	16.6	3.8	55.7	48.8	58.9	0.4	50.4
7	23	12.4	9.1	28.0	14.0	0.0	26.0	41.2	44.2	29.7	0.9	2.8	41.9	5.8	4.1
7	24	2.9	62.0	3.4	60.4	2.2	8.2	7.0	10.0	11.0	14.0	20.0	20.4	3.6	25.0
7	25	1.0	25.1	33.2	17.1	10.0	10.0	6.7	8.1	13.0	84.2	9.8	10.6	29.4	38.0
7	26	1.6	5.2	27.0	70.0	4.0	0.0	15.2	7.9	9.4	6.1	10.0	17.3	33.5	21.3
7	27	12.1	4.0	14.4	108.4	130.8	67.0	23.8	11.1	17.1	62.7	88.0	59.0	28.0	22.4
7	28	26.8	3.3	30.3	13.6	11.4	9.0	4.4	12.1	13.2	76.3	46.9	9.0	50.4	5.1
7	29	16.6	1.1	15.0	10.3	14.0	7.3	0.0	1.4	0.7	20.5	25.5	35.2	38.2	43.4
7	30	14.8	T	20.5	24.8	2.7	11.3	36.7	14.0	9.2	31.2	15.0	32.6	59.2	8.3
7	31	26.9	22.0	10.7	8.7	54.5	15.0	13.2	7.1	44.6	40.0	18.0	30.0	8.0	88.5
8	1	16.2	26.4	36.3	20.3	33.1	12.3	34.2	19.4	5.1	54.2	0.3	52.8	37.2	36.6
8	2	43.0	8.2	112.0	20.0	24.5	5.2	87.7	11.2	4.6	63.1	0.7	22.5	30.4	38.0
8	3	63.5	39.8	79.0	8.0	22.0	46.0	2.5	64.0	4.2	77.4	32.0	10.4	33.4	35.0
8	4	20.6	30.3	81.3	19.1	50.0	1.3	14.1	40.0	40.0	18.4	18.0	0.0	1.0	0.0
8	5	15.6	9.0	107.0	2.4	12.2	19.2	28.4	10.9	14.2	3.8	90.0	0.0	0.0	6.0
8	6	5.1	11.2	25.0	8.4	23.8	3.2	12.8	31.0	67.6	2.4	T	0.0	0.0	8.0
8	7	15.1	30.5	9.7	46.0	5.0	96.0	17.1	3.1	T	65.1	9.0	0.0	0.0	10.2
8	8	30.3	14.4	35.2	6.0	40.0	26.3	31.5	12.6	21.6	37.4	7.0	0.0	48.1	72.0
8	9	12.1	2.3	17.8	8.5	40.1	83.0	30.2	24.0	14.8	24.2	1.0	T	2.0	6.0
8	10	27.8	10.5	26.0	37.0	12.0	96.8	16.9	0.7	3.4	37.2	T	50.4	58.8	42.2
8	11	62.1	5.7	5.1	20.3	13.0	34.0	8.8	33.4	18.2	12.8	24.0	53.0	6.8	3.5
8	12	10.2	4.0	4.0	182.0	3.3	2.5	68.6	73.0	16.0	8.0	4.0	57.8	4.0	5.9
8	13	9.1	2.3	8.9	19.1	40.0	163.4	37.1	79.6	35.6	2.7	1.2	108.8	82.8	2.4
8	14	5.6	0.0	18.4	15.4	16.2	89.0	73.1	68.0	17.0	18.9	6.1	43.0	99.4	54.0
8	15	54.1	50.5	25.0	8.0	50.0	84.0	49.1	42.0	33.9	2.1	71.5	20.7	32.3	68.4
8	16	19.1	2.5	17.1	10.0	27.0	16.4	35.2	13.0	9.4	5.2	15.5	2.5	50.1	79.8
8	17	124.8	21.4	53.1	10.3	2.0	26.6	42.2	13.2	9.9	1.5	31.5	2.5	14.1	9.9
8	18	5.8	24.0	14.2	34.8	12.1	25.1	39.9	127.0	33.2	32.0	44.5	70.0	20.6	48.3
8	19	60.0	19.5	96.4	11.0	18.0	28.4	4.8	38.8	3.6	57.8	90.8	30.2	24.8	54.7
8	20	63.9	18.0	25.4	20.6	54.2	44.0	1.2	4.8	5.6	52.6	17.6	87.4	14.0	61.7
8	21	6.6	48.3	8.4	34.4	6.3	28.6	10.4	114.8	5.4	57.2	35.6	57.0	10.6	11.0
8	22	T	47.8	10.2	1.6	2.0	32.2	3.0	14.2	35.4	52.2	120.0	77.0	T	10.3
8	23	0.1	9.7	12.0	96.0	1.3	3.9	15.0	9.4	67.0	40.0	25.2	29.2	95.6	17.3
8	24	48.1	61.8	17.8	55.4	75.0	10.4	11.0	34.4	18.6	38.2	46.0	1.4	43.2	0.0
8	25	13.7	17.8	27.4	100.7	26.4	0.0	0.0	72.2	40.1	44.9	35.4	14.5	28.0	0.0
8	26	20.4	9.3	6.7	31.1	32.2	4.5	2.0	54.6	56.2	0.2	45.6	4.2	90.4	12.0
8	27	26.4	54.6	24.4	3.2	32.0	35.4	0.0	5.1	7.2	38.8	14.1	4.8	16.7	20.0
8	28	69.0	0.3	23.0	28.5	12.6	1.6	60.0	35.5	59.0	72.3	20.4	9.6	37.0	10.4
8	29	29.0	11.0	10.0	0.0	46.4	5.5	20.0	17.2	2.6	27.2	29.0	6.4	0.1	17.0
8	30	112.0	16.5	11.0	0.0	20.4	13.4	6.3	20.6	30.0	64.7	0.1	3.0	16.8	11.4
8	31	1.2	15.8	7.0	T	5.0	8.2	9.0	27.9	77.3	33.4	3.4	2.0	48.2	20.0

Daily Precipitation (mm)
Location : Silkesh

Month	Year Day	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
9	1	20.4	1.0	58.0	21.3	4.3	36.0	13.1	113.0	40.0	63.0	20.9	T	87.8	8.4
9	2	10.7	1.6	8.0	3.0	0.0	21.6	5.0	18.3	20.6	1.1	27.7	11.6	13.0	21.3
9	3	18.5	15.2	41.5	59.0	5.0	10.9	4.0	73.4	39.3	28.1	15.3	85.0	74.8	26.0
9	4	16.3	12.4	13.3	4.8	20.0	49.6	1.3	86.4	3.6	36.0	0.2	24.2	50.8	36.2
9	5	28.0	28.2	33.5	0.0	100.0	38.1	11.7	21.5	5.0	10.2	76.8	1.4	24.2	3.2
9	6	59.0	9.4	76.0	0.0	36.0	89.4	11.3	46.0	11.2	0.6	20.5	5.4	32.5	3.3
9	7	8.3	1.1	9.3	0.0	20.0	12.9	15.1	T	3.1	11.4	29.1	T	0.0	24.4
9	8	10.5	4.4	14.0	0.0	8.3	30.0	6.2	1.1	36.1	33.0	22.6	4.4	2.0	13.8
9	9	13.2	1.8	5.2	25.2	4.4	7.2	9.0	0.1	28.1	37.0	31.9	74.8	21.0	32.8
9	10	9.5	5.0	3.2	38.2	T	2.2	11.3	T	17.7	3.5	5.4	0.6	13.8	0.0
9	11	19.0	48.4	14.0	T	34.0	3.9	12.1	21.0	6.4	16.8	35.8	11.0	16.4	4.3
9	12	1.2	43.2	T	2.2	0.0	12.2	52.5	13.5	18.3	14.4	17.5	1.4	5.2	30.0
9	13	2.5	24.0	29.0	2.9	52.4	0.2	30.4	25.8	16.0	1.8	48.2	T	34.0	13.3
9	14	7.4	19.5	30.0	10.1	8.2	0.7	21.6	49.4	4.3	T	23.8	3.1	86.5	11.6
9	15	9.2	58.2	13.3	32.2	18.9	5.8	74.0	12.6	1.6	43.8	T	0.0	3.2	20.2
9	16	8.6	10.6	2.3	26.0	2.0	T	48.0	5.0	14.6	2.2	8.3	0.0	1.6	1.3
9	17	64.0	1.0	7.3	0.0	12.2	0.0	1.1	21.3	29.6	27.6	1.6	18.1	22.2	12.1
9	18	T	0.0	0.0	68.0	42.3	7.0	4.2	31.0	4.1	33.7	27.0	24.3	1.2	20.4
9	19	0.0	8.5	0.0	19.0	4.5	1.3	4.4	4.3	26.6	63.0	T	18.2	63.4	1.8
9	20	20.3	0.0	12.0	2.0	2.0	0.0	T	22.0	29.6	133.7	0.0	T	2.2	22.3
9	21	3.2	0.0	0.0	9.0	1.0	0.0	10.0	14.5	40.0	3.7	0.0	T	44.1	0.0
9	22	0.0	0.0	11.6	0.0	6.5	0.0	32.4	4.5	1.6	16.8	1.8	49.7	13.1	13.2
9	23	3.0	0.0	2.0	0.0	5.1	0.3	15.3	16.1	16.0	26.1	13.1	13.7	11.6	9.6
9	24	3.0	0.0	119.1	1.0	7.5	0.0	20.3	3.4	44.9	14.5	6.1	1.4	0.0	4.8
9	25	0.0	15.0	21.0	4.0	4.1	7.0	0.0	12.0	2.8	3.5	30.4	5.0	7.0	27.8
9	26	14.5	5.1	16.7	4.3	2.0	30.6	22.2	9.7	18.0	2.1	4.6	32.8	12.2	10.2
9	27	6.6	7.8	4.7	25.1	3.2	10.1	15.0	11.4	5.6	0.0	2.0	37.4	19.1	3.0
9	28	0.4	33.8	0.0	T	0.3	6.4	15.3	40.3	2.6	4.0	0.0	0.8	17.4	5.0
9	29	1.0	62.4	3.0	2.7	3.4	24.3	3.4	30.6	2.6	10.1	5.4	0.0	0.0	13.8
9	30	0.0	24.0	1.0	0.0	T	12.0	0.0	4.4	13.6	5.2	3.1	0.0	T	30.0
10	1	T	15.0	0.0	4.7	3.6	0.1	0.0	13.6	16.6	T	2.1	T	0.0	0.1
10	2	0.0	5.0	1.0	T	3.8	1.2	0.0	40.0	31.3	0.0	12.6	1.2	0.0	0.0
10	3	0.0	T	8.1	1.6	6.1	3.2	0.0	46.8	32.4	0.0	1.6	0.0	0.0	8.7
10	4	0.0	2.0	T	11.0	1.0	20.1	2.2	3.0	3.2	0.0	15.5	0.0	0.0	30.6
10	5	18.4	1.5	9.1	38.0	3.4	20.0	0.0	8.2	74.0	0.0	38.6	2.0	0.0	16.0
10	6	7.0	0.0	3.3	17.0	0.3	2.3	0.0	0.0	28.8	0.0	1.2	T	0.0	0.0
10	7	9.2	0.0	2.6	9.5	0.0	1.0	0.0	0.0	3.8	0.0	0.2	4.2	T	6.0
10	8	1.7	0.0	3.0	1.1	0.0	9.2	0.0	T	0.1	0.0	T	0.0	0.0	0.2
10	9	0.0	0.0	0.0	0.0	0.0	1.0	22.4	16.6	T	0.0	16.0	T	T	10.2
10	10	0.0	0.0	0.0	0.0	0.0	1.0	0.0	T	2.4	0.0	14.8	T	6.4	4.3
10	11	0.0	T	0.0	0.0	0.0	1.2	0.0	T	0.0	6.0	49.0	T	0.0	T
10	12	0.0	24.0	4.3	1.0	22.1	1.2	0.0	0.0	7.2	2.8	T	4.1	0.0	T
10	13	0.0	19.1	T	0.0	3.2	0.0	1.1	0.0	T	3.1	T	T	0.0	6.3
10	14	0.0	0.0	0.0	0.0	1.8	0.0	1.4	0.0	T	1.3	10.4	T	0.0	0.0
10	15	T	1.0	0.0	0.0	0.0	2.2	1.2	0.0	0.0	T	0.0	0.0	0.0	4.0
10	16	T	28.0	0.3	0.0	0.0	0.0	4.4	0.0	0.0	0.0	10.6	0.0	0.0	0.0
10	17	5.9	3.4	25.3	0.0	1.2	0.0	0.4	0.0	T	0.0	0.0	0.0	0.0	0.0
10	18	0.0	12.3	11.0	0.0	21.8	0.0	0.0	T	4.9	0.0	5.1	7.6	0.0	0.0
10	19	0.0	0.0	4.9	0.0	0.0	0.0	T	16.8	T	0.0	2.9	0.0	0.0	0.0
10	20	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	7.9	0.0	1.0	0.0	0.0	0.0
10	21	T	7.4	0.0	0.0	0.0	0.0	2.4	T	0.0	2.2	0.0	0.0	0.0	0.0
10	22	2.6	0.0	0.0	0.0	0.0	0.0	6.3	28.8	0.0	T	0.0	6.0	0.0	0.0
10	23	0.0	21.6	0.0	0.0	0.0	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0	0.0
10	24	0.0	15.7	0.0	0.0	0.0	0.0	13.1	T	0.0	3.6	2.6	0.0	0.0	0.0
10	25	1.0	2.0	0.0	0.0	0.0	8.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	T
10	26	0.0	6.3	T	0.0	0.0	4.9	0.0	2.3	0.0	2.6	0.0	0.0	0.0	T
10	27	6.0	T	T	T	0.0	1.2	0.0	T	0.0	4.0	0.0	0.0	8.7	T
10	28	0.0	0.0	3.7	1.7	0.0	0.0	0.0	T	0.0	0.0	T	0.0	0.0	0.0
10	29	0.0	0.0	0.0	6.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	30	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	T	0.0	0.0	8.7
10	31	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	3.0	0.0	0.0	0.0

Daily Precipitation (mm)

Location : Silkesk

Month	Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Day															
11	1	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	T	0.0	0.0	4.0	0.0	0.0
11	2	0.0	0.0	0.0	4.6	T	0.0	T	0.0	0.0	0.0	0.9	0.0	0.0	0.0
11	3	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0
11	4	T	0.0	T	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
11	5	4.8	0.0	2.2	0.0	0.0	0.0	0.0	0.0	3.8	0.0	T	0.0	0.0	0.0
11	6	T	0.0	T	0.0	0.0	0.0	0.0	0.0	0.3	T	7.4	3.1	0.0	0.0
11	7	0.0	0.0	T	0.0	0.0	0.0	T	0.0	4.8	0.0	T	1.0	0.0	0.0
11	8	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	9	T	0.0	0.6	0.0	0.0	0.0	10.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
11	10	3.4	0.0	0.0	0.0	10.2	0.1	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	11	7.0	0.0	0.0	0.0	89.9	T	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	12	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	1.1	0.0	0.0	0.0	0.0
11	13	0.0	0.0	0.0	2.0	0.0	0.0	T	0.0	0.0	T	0.0	0.0	0.0	0.0
11	14	0.0	0.0	1.9	0.0	0.0	0.0	13.5	0.0	0.0	0.1	0.0	0.0	0.0	0.0
11	15	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0
11	16	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0
11	17	0.0	0.0	4.8	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.6	0.0
11	18	0.0	0.0	0.7	0.0	0.0	0.0	0.0	T	T	0.0	0.0	0.0	1.0	0.0
11	19	0.0	0.0	1.0	0.0	0.0	0.0	22.1	T	0.0	0.0	0.0	0.0	0.0	T
11	20	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.4	0.0	0.9	T	0.0	0.0	0.0
11	21	0.1	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	22	T	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4	0.0	0.0	0.0
11	23	0.0	10.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	1.4	0.0	0.0	0.0
11	24	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	11.0
11	25	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	26	0.0	0.0	0.0	0.0	0.0	0.0	13.7	0.0	0.0	0.2	0.0	0.0	0.0	0.0
11	27	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
11	28	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0
11	29	T	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T
11	30	1.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	1	1.0	0.0	0.0	7.1	0.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	2	0.0	0.0	0.0	8.3	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	3	0.0	T	0.0	5.0	0.0	0.0	1.8	0.0	0.0	0.0	13.5	0.0	0.0	0.0
12	4	0.0	2.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	5	0.0	3.1	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
12	6	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0
12	7	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
12	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.6	0.0	0.0	0.0
12	9	0.0	0.0	0.0	0.0	0.0	0.0	7.6	1.0	0.0	0.0	3.0	0.0	0.0	0.0
12	10	T	0.0	0.0	0.0	0.0	0.0	46.9	2.0	0.0	0.0	1.0	0.0	0.6	0.0
12	11	0.0	0.0	0.0	0.0	0.0	0.0	36.4	T	0.0	0.0	0.6	0.0	2.3	0.0
12	12	0.0	0.0	0.0	0.0	0.0	0.0	T	3.5	0.0	0.0	0.0	0.0	0.0	0.0
12	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	14	0.0	0.0	T	0.0	0.0	0.0	66.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	15	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	17	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	19	T	0.0	0.0	T	T	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0
12	20	2.0	0.0	0.0	T	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T
12	21	6.8	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	22	7.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T
12	23	15.1	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	24	7.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	25	3.1	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.9	T
12	26	8.2	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	T	2.5	0.0
12	27	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	T	11.0	0.0
12	28	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	T	3.6	0.0
12	29	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
12	30	5.2	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
12	31	2.1	T	0.0	3.3	1.1	0.0	0.0	0.0	0.0	1.8	0.0	2.0	0.0	0.0

Monthly Precipitation (mm)

Location : Pokhara Airport Latitude : 28° 13' N
 Index No. : 0804 Longitude : 84° 00' E
 District : Kaski Elevation : 827 m.
 Note : DNA means data not available

Month/Year	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
1	47.5	10.8	29.5	0.0	21.1	39.9	19.3	38.4	22.8	23.1	5.4	5.0	1.5	62.3	55.3	19.7	47.8	22.3	0.6
2	0.0	7.4	58.0	10.8	46.4	35.5	3.5	36.9	33.6	10.6	34.6	70.5	55.5	16.7	42.4	5.7	17.9	25.8	46.8
3	DNA	86.3	19.0	41.1	105.9	43.1	65.7	42.1	0.0	65.4	108.5	15.0	73.0	103.4	71.1	29.8	11.4	26.6	64.0
4	DNA	44.9	47.2	225.7	75.1	49.6	136.0	117.9	165.6	273.4	95.7	116.2	40.0	195.3	177.4	104.1	119.1	63.4	191.0
5	DNA	185.4	193.2	348.0	397.2	383.4	384.3	445.8	333.8	321.0	527.4	226.5	479.3	412.9	151.2	214.1	460.2	298.8	158.9
6	157.5	142.8	792.6	699.0	533.9	627.9	892.4	703.6	1090.8	460.1	858.6	421.5	729.1	512.8	592.7	407.5	823.3	372.7	726.2
7	705.5	DNA	1,256.0	534.0	1,099.1	839.4	861.9	1,176.7	1,018.6	717.7	994.8	768.3	925.9	800.8	855.1	713.6	1,330.5	904.9	768.2
8	380.5	480.2	857.0	584.2	413.4	846.5	1,429.4	649.9	965.1	1,118.3	643.6	1,400.4	594.8	938.5	722.1	1,058.4	705.2	525.0	574.2
9	613.1	417.7	441.0	437.2	408.0	722.3	510.8	1,096.0	468.3	332.3	638.7	539.4	823.8	512.0	558.5	723.5	600.8	696.4	1,164.2
10	146.0	85.7	37.9	328.8	76.6	459.6	292.6	358.7	149.7	332.6	57.7	376.2	117.2	25.9	78.3	235.7	58.0	203.5	130.3
11	0.0	6.6	0.2	66.8	31.8	49.2	0.0	0.0	1.6	100.9	28.9	3.9	2.5	33.8	32.3	0.0	0.0	50.8	14.2
12	0.0	0.0	0.0	0.0	0.0	0.0	9.1	0.0	0.0	54.6	17.7	67.6	0.4	0.0	20.9	94.6	1.1	58.1	69.0
Annual	DNA	DNA	3,731.6	3,275.6	3,208.5	4,096.4	4,605.0	4,666.0	4,249.9	3,810.0	4,011.6	4,010.7	3,843.0	3,614.4	3,357.3	3,606.7	4,175.2	3,248.3	3,907.6

Month/Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Average
1	3.0	1.6	68.0	0.0	9.9	12.7	9.4	34.7	16.0	59.7	62.5	0.0	7.5	10.6	3.0	44.4	36.6	31.2	24.9
2	62.9	26.1	14.2	59.6	22.4	24.7	20.2	49.5	43.4	75.4	15.0	24.8	22.6	13.3	25.0	54.0	84.6	10.9	29.4
3	85.9	73.4	65.5	114.7	77.6	0.5	55.7	73.2	85.5	94.6	45.6	107.6	0.0	51.5	15.3	61.9	100.1	28.4	54.0
4	117.3	135.6	11.7	44.8	64.2	53.9	205.2	59.6	75.8	38.5	224.6	238.9	20.6	199.5	111.7	202.1	202.6	265.7	124.3
5	110.6	241.4	518.3	361.1	358.3	247.0	358.4	380.7	282.4	371.9	308.7	415.3	899.7	682.9	359.2	437.1	245.9	432.5	329.0
6	655.7	782.6	594.1	931.5	496.2	469.1	652.1	686.9	1,391.3	687.5	545.8	769.7	979.6	875.7	711.5	703.4	785.4	773.0	607.6
7	1,212.8	1,093.5	973.9	732.5	797.7	793.8	965.6	1,020.3	1,367.1	936.8	1,113.5	917.2	950.5	1,032.0	856.4	1,815.1	1,291.8	716.9	903.9
8	741.6	810.5	871.6	742.5	602.9	798.7	1,168.3	794.4	745.5	857.4	604.1	1,493.5	899.7	1,182.4	1,521.9	693.3	586.0	788.7	783.5
9	728.1	793.9	807.2	530.2	993.6	396.5	478.5	523.8	560.0	703.4	329.4	740.3	730.7	572.7	716.1	335.4	953.0	864.0	616.0
10	167.2	15.0	58.4	99.7	56.8	246.1	294.7	97.8	202.8	131.7	115.8	158.7	176.4	136.0	115.3	114.0	17.2	184.2	186.9
11	5.0	3.6	44.4	0.0	0.8	2.4	8.8	1.8	80.8	0.0	30.0	9.6	0.0	18.4	77.1	23.5	16.9	33.0	22.3
12	28.3	55.0	42.9	2.9	35.2	26.2	0.0	0.0	3.9	0.0	133.9	3.4	0.8	0.0	0.0	0.0	42.1	0.0	20.7
Annual	3,918.4	4,032.2	4,070.2	3,619.5	3,515.6	3,071.4	4,216.9	3,722.7	4,854.5	3,956.9	3,528.9	4,879.0	4,688.1	4,785.0	4,512.5	4,484.2	4,362.2	4,128.5	3,848.1

Location : Kharini Tar Latitude : 28° 02' N
 Index No. : 0815 Longitude : 84° 06' E
 District : Tanahun Elevation : 500 m.
 Note : DNA means data not available

Month/Year	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
1	DNA	6.0	15.5	17.2	21.0	DNA	12.3	4.0	12.9	2.8	68.9	35.3	20.8	21.7	9.6	0.0	7.5	6.0	67.5
2	DNA	46.5	32.5	4.2	28.0	DNA	15.5	34.4	25.8	31.5	2.6	25.1	10.5	3.6	10.7	60.4	20.2	26.3	4.6
3	DNA	40.0	37.0	45.0	17.0	DNA	13.1	66.7	6.6	40.6	45.2	59.1	13.9	0.0	0.0	34.2	49.8	48.8	44.3
4	DNA	12.0	98.0	146.3	56.6	DNA	241.4	102.9	67.5	8.6	213.7	188.7	71.8	76.5	124.4	234.4	83.6	193.1	0.0
5	DNA	384.5	288.0	310.4	279.8	191.4	177.5	556.0	101.2	471.1	310.7	135.1	281.0	420.9	284.0	208.2	164.2	427.6	618.3
6	DNA	419.5	464.0	307.9	387.4	547.3	317.0	493.0	344.8	402.2	443.0	421.1	339.9	304.1	333.1	552.9	330.3	385.8	390.8
7	DNA	1,022.5	261.5	510.9	611.4	299.5	327.4	695.3	737.2	362.2	548.2	634.7	DNA	489.4	409.3	404.0	915.6	648.8	854.1
8	DNA	133.0	217.0	574.4	DNA	284.7	667.9	339.8	673.0	250.7	493.2	483.5	DNA	304.3	285.5	354.2	479.2	629.9	238.8
9	DNA	245.0	446.0	273.9	DNA	DNA	65.5	255.7	295.3	360.4	251.3	314.5	249.0	525.1	243.8	574.6	229.1	462.2	159.6
10	DNA	154.5	58.5	12.7	DNA	DNA	165.5	52.2	68.3	31.7	6.4	12.0	154.3	35.5	247.4	137.9	128.1	7.3	8.8
11	DNA	50.0	47.0	0.0	DNA	DNA	59.5	6.9	4.5	3.4	30.5	44.0	DNA	0.0	10.0	36.8	19.3	7.0	84.6
12	0.5	3.0	0.0	0.0	DNA	DNA	43.6	15.6	68.8	0.7	0.0	9.1	25.2	10.2	22.8	63.3	22.5	76.1	7.5
Annual	DNA	2,516.5	1,965.0	2,202.9	DNA	DNA	2,106.2	2,622.5	2,405.9	1,965.9	2,413.7	2,362.2	DNA	2,191.3	1,980.6	2,660.9	2,449.4	2,920.9	2,478.9

Month/Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Average
1	0.0	19.0	8.6	7.0	34.4	11.3	60.1	45.9	0.0	4.5	18.1	7.2	35.4	33.4	15.0	19.5
2	36.8	27.3	19.4	10.5	53.3	38.9	71.4	15.8	37.4	0.2	8.2	23.9	15.6	80.2	0.0	22.5
3	75.5	26.8	0.0	47.2	10.2	35.7	65.3	17.3	96.8	0.0	25.5	21.9	44.3	140.8	15.5	33.0
4	74.9	24.4	1.3	254.8	20.2	53.0	26.8	215.9	168.0	18.5	164.4	107.6	124.6	121.4	197.3	112.9
5	388.9	129.8	381.0	309.9	322.2	142.2	240.2	196.1	454.4	671.4	566.4	445.4	447.2	176.2	248.7	311.7
6	578.2	186.4	367.9	558.9	516.9	1,130.8	388.7	596.6	477.9	458.3	563.1	398.9	604.2	407.3	398.4	399.1
7	631.5	487.1	322.5	640.4	349.2	721.5	436.8	585.2	572.4	610.6	412.3	426.2	948.8	554.5	499.8	572.5
8	409.5	600.2	495.2	494.0	421.2	256.3	370.7	346.5	814.3	573.5	514.9	549.8	422.5	354.5	270.3	400.6
9	199.9	266.7	90.4	388.9	341.1	103.8	309.7	135.6	216.8	185.1	147.2	246.3	328.1	155.3	419.6	309.4
10	36.3	0.0	90.3	18.4	15.5	108.3	108.3	55.6	49.9	118.5	7.9	21.2	65.9	8.0	29.4	80.1
11	0.0	1.1	6.9	0.0	2.5	63.3	0.0	11.1	8.5	0.0	11.0	27.0	21.0	5.0	19.0	26.9
12	11.8	43.3	30.2	0.0	0.0	1.2	0.0	176.4	0.0	6.0	0.0	0.0	0.0	19.0	0.0	21.7
Annual	2,443.3	1,812.1	1,813.7	2,790.0	2,086.7	2,688.8	2,078.0	2,398.0	2,896.4	2,644.6	2,439.0	2,275.4	3,057.6	2,055.6	2,113.0	2,349.5

Location : Damauli Latitude : 27° 58' N
 Index No. : 0817 Longitude : 84° 17' E
 District : Tanahun Elevation : 358 m.
 Note : DNA means data not available

Year/Month	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
1	28.7	19.0	32.1	0.0	8.0	12.0	0.0	24.0	29.0	DNA	16.0	2.7	0.0	2.0	17.0	80.2
2	76.5	10.8	0.0	0.0	5.2	30.3	14.0	0.0	0.0	DNA	2.6	1.0	35.1	32.5	17.4	2.0
3	32.8	12.0	0.0	0.0	39.3	0.0	16.5	20.0	71.0	DNA	7.0	17.0	13.4	50.4	72.6	39.0
4	286.8	18.1	68.4	307.0	0.0	100.0	22.5	137.0	112.0	60.0	178.0	37.0	134.6	103.2	76.2	0.0
5	509.4	28.3	245.4	149.4	496.1	50.1	231.0	446.0	6.0	286.2	472.5	166.5	165.3	82.0	239.4	255.5
6	688.5	132.8	381.7	215.8	396.6	303.9	375.0	256.0	39.0	309.1	379.0	472.5	421.9	424.4	201.8	311.6
7	424.3	50.5	243.1	469.7	445.7	493.2	287.0	543.3	385.2	669.7	459.1	323.9	382.9	803.3	473.2	756.6
8	631.8	18.1	262.3	262.0	216.6	487.0	217.0	295.1	138.0	185.5	266.9	127.2	177.5	236.2	480.0	167.0
9	115.2	DNA	97.4	95.4	163.8	190.1	327.0	345.0	0.0	213.7	495.0	322.3	339.7	94.4	255.2	142.0
10	DNA	DNA	68.6	44.1	56.0	26.0	7.0	0.0	0.0	123.1	26.5	217.3	77.3	115.8	2.0	8.4
11	DNA	0.0	0.0	0.0	0.5	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.2	1.2	13.8
12	DNA	0.0	0.0	3.5	8.0	68.0	2.0	0.0	0.0	30.5	6.1	59.5	60.9	15.2	67.0	7.0
Annual	DNA	DNA	1,399.0	1,546.9	1,835.8	1,768.6	1,499.0	2,066.4	780.2	DNA	2,308.7	1,746.9	1,808.8	1,960.6	1,903.0	1,783.1

Year/Month	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Average
1	0.0	22.0	4.0	5.6	26.4	22.8	58.3	29.0	0.0	4.0	3.8	4.3	39.7	31.3	20.6	18.0
2	51.2	14.4	19.4	11.0	48.8	66.2	56.6	DNA	13.0	0.0	6.7	17.6	48.6	95.9	31.2	15.2
3	69.2	48.4	0.2	58.6	28.6	31.6	25.6	42.0	90.0	0.0	32.2	15.5	41.0	61.0	44.3	26.1
4	42.4	89.4	0.0	232.0	48.0	113.8	85.4	122.0	213.3	82.2	174.6	96.1	80.7	79.5	228.8	102.6
5	221.2	344.4	66.0	346.2	239.2	212.6	228.5	142.0	309.8	491.1	458.8	264.5	232.7	172.2	165.3	239.3
6	234.0	341.0	420.2	177.4	421.0	611.8	176.8	477.7	341.3	380.0	460.1	515.2	401.0	314.4	214.8	331.9
7	483.6	381.6	165.2	378.2	237.6	380.4	442.7	395.9	525.6	620.0	364.4	447.0	427.5	865.8	432.8	450.7
8	365.8	391.2	307.2	426.2	333.0	160.7	359.9	199.4	588.6	504.1	406.5	539.5	289.2	298.2	165.0	260.5
9	106.2	59.4	93.2	382.4	344.2	134.6	129.4	131.0	133.2	120.1	151.8	268.7	274.7	123.8	385.1	213.1
10	32.4	0.0	62.2	0.0	0.0	26.0	61.4	28.0	62.0	51.0	9.4	12.5	21.3	4.3	62.8	55.2
11	0.0	0.0	4.8	0.0	4.4	77.6	0.0	8.7	DNA	0.0	0.8	0.8	25.8	1.0	14.6	1.7
12	4.0	72.0	28.8	0.0	0.0	2.0	0.0	160.8	DNA	1.6	0.0	0.0	0.0	13.8	0.0	21.8
Annual	1,610.0	1,763.8	1,171.2	2,017.6	1,731.2	1,840.1	1,624.6	DNA	DNA	2,254.1	2,069.1	2,181.7	1,882.2	2,061.2	1,765.3	1,723.6

Location : Silkesh Latitude : 28° 22' N
 Index No. : 0824 Longitude : 84° 06' E
 District : Kaski Elevation : 1,820 m.
 Note : DNA means data not available

Year/Month	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
1	DNA	83.3	11.3	31.0	71.2	151.2	70.5	77.6	35.9	0.0	9.3	1.5	108.7	0.0	49.4	38.5
2	DNA	89.5	127.9	107.7	59.4	73.7	160.3	30.8	45.2	55.1	34.5	106.4	89.8	175.8	60.7	101.1
3	DNA	205.6	40.7	211.8	176.6	263.0	56.0	94.9	101.9	186.0	226.1	118.7	95.6	144.6	102.8	45.6
4	DNA	228.3	294.8	38.9	258.6	145.7	145.7	231.3	168.2	201.2	194.1	211.0	46.0	380.6	184.3	60.3
5	DNA	291.7	383.4	298.4	195.1	161.2	273.0	576.9	312.4	265.1	208.5	193.7	339.9	218.7	310.4	308.7
6	213.6	587.9	508.3	526.6	336.8	466.2	334.5	540.8	479.4	792.9	431.2	429.1	646.6	533.3	473.0	333.2
7	801.7	909.2	860.2	1,270.0	936.8	828.6	711.5	1,091.3	1,003.2	960.7	873.2	1,429.1	708.7	1,452.5	503.1	476.2
8	1,053.5	679.1	815.8	854.2	775.5	945.0	999.0	857.8	569.8	633.0	1,181.6	1,121.4	959.0	698.7	990.5	623.4
9	416.2	476.4	318.0	517.9	523.9	346.4	624.7	639.9	472.1	719.6	336.1	611.0	591.8	742.6	358.3	441.6
10	184.5	74.5	229.2	92.3	46.8	51.8	178.5	52.5	203.7	124.3	126.7	34.8	45.0	132.0	51.8	164.3
11	141.4	42.1	27.8	15.9	102.2	56.5	5.5	10.5	33.8	39.6	2.4	16.2	78.6	0.0	16.3	15.1
12	64.4	23.8	87.3	0.0	0.0	14.1	12.1	3.9	79.6	46.5	33.7	56.2	30.7	5.4	70.8	9.4
Annual	DNA	3,691.4	3,704.7	3,964.7	3,482.9	3,523.4	3,571.3	4,208.2	3,505.2	4,024.0	3,657.4	4,329.1	3,742.4	4,484.2	3,171.4	2,617.4

Year/Month	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Average
1	68.7	48.7	82.5	50.7	44.7	1.2	15.4	101.3	21.3	89.3	75.5	51.7	49.3
2	119.4	92.0	120.2	143.3	107.1	97.6	51.7	73.9	85.3	80.7	126.9	68.3	87.9
3	79.6	150.0	166.1	190.5	251.4	277.5	28.8	179.1	91.7	142.7	148.5	93.2	139.3
4	147.2	209.2	249.1	58.1	176.6	110.2	128.9	143.8	365.0	258.8	172.1	429.8	186.1
5	324.3	188.7	394.0	250.7	283.4	526.5	387.6	452.4	312.3	476.9	271.3	393.1	289.1
6	456.4	623.7	1,074.5	624.3	590.0	171.4	701.0	789.2	564.8	449.0	822.0	520.8	477.1
7	582.8	727.0	1,027.2	946.9	971.8	719.6	581.7	1,175.3	692.7	931.1	1,011.2	903.5	926.0
8	954.8	858.1	758.1	1,046.4	772.1	1,115.6	756.7	1,045.9	839.5	821.1	946.4	772.0	859.8
9	549.0	360.0	407.6	419.7	470.2	712.6	503.5	646.9	479.1	404.3	680.3	424.1	508.5
10	76.6	91.6	68.3	78.0	65.0	188.2	212.6	25.8	187.2	25.1	15.1	95.1	112.0
11	16.1	24.9	100.1	0.1	63.8	3.8	11.9	4.5	20.1	8.1	20.1	11.0	37.7
12	0.0	29.0	9.9	0.0	169.8	6.5	0.0	1.8	18.7	4.4	121.7	0.0	33.6
Annual	3,374.9	3,402.9	4,457.6	3,808.7	3,965.9	3,930.7	3,379.8	4,639.9	3,677.7	3,691.5	4,411.1	3,762.6	3,711.8

Historical Data of Air Temperature
at Meteorological Stations

Daily Temperature (deg C)

Location : Pokhara Airport Latitude : 28° 13' N

Index No. : 0804 Longitude : 84° 00' E

District : Kaski Elevation : 827 m.

Note : DNA means data not available

Year	1987	1988	1989	1990	1991	1992	1993	1994	1995
Month Day	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin
1 1	18.0 3.8	19.6 11.5	19.7 6.9	18.0 5.9	15.4 10.2	16.4 2.8	20.1 7.0	21.0 7.8	17.2 3.4
1 2	17.8 4.6	21.6 8.0	20.8 7.1	19.4 6.0	18.9 6.0	16.4 2.3	19.6 7.6	17.3 7.0	16.5 2.5
1 3	18.9 6.0	21.0 7.9	16.0 8.4	19.3 4.5	17.5 6.0	16.8 5.5	19.7 6.9	18.8 6.2	17.6 3.5
1 4	18.2 4.8	21.1 7.6	19.5 4.9	19.6 4.9	17.6 4.5	18.2 3.4	20.1 8.0	20.5 5.8	19.2 3.0
1 5	19.8 4.6	20.0 11.3	19.6 7.2	18.6 5.5	18.3 4.0	18.2 4.0	17.6 9.5	20.2 7.0	20.3 5.5
1 6	20.9 4.8	20.6 7.8	19.2 7.6	19.1 5.6	19.4 5.5	18.4 5.0	13.5 11.0	20.1 6.4	19.6 6.0
1 7	19.3 5.5	20.0 7.0	16.1 7.1	20.0 6.5	19.4 5.2	20.0 5.5	15.7 9.5	20.0 6.8	20.5 4.8
1 8	21.0 7.2	19.8 6.0	11.2 9.7	20.1 6.4	19.4 6.2	19.0 5.9	14.5 9.4	20.6 8.3	13.6 6.0
1 9	20.9 5.4	20.4 8.6	14.4 9.0	18.9 7.1	19.5 5.3	19.5 6.2	18.2 6.6	20.4 6.8	16.9 6.0
1 10	21.8 5.6	20.1 10.6	17.9 6.3	19.7 10.4	20.0 5.5	19.5 5.4	18.4 6.7	17.8 7.8	19.0 5.0
1 11	19.8 7.6	20.6 9.4	15.4 8.5	20.8 8.5	20.2 6.4	16.0 6.0	16.8 8.6	19.0 8.0	20.2 6.5
1 12	22.0 9.9	18.4 11.3	15.3 6.7	20.5 8.5	20.4 6.9	16.6 7.2	18.3 8.5	21.0 10.5	20.0 8.3
1 13	21.0 7.0	22.4 7.5	16.1 4.1	20.7 7.4	19.7 7.9	19.0 5.6	17.9 9.5	23.1 11.3	18.8 3.6
1 14	21.0 6.8	20.2 6.2	17.4 2.6	20.4 7.3	19.5 4.9	19.5 7.8	16.4 6.7	23.0 9.4	19.6 3.5
1 15	20.9 7.6	20.3 6.8	17.8 3.6	20.6 8.0	18.3 4.6	19.5 6.6	17.2 7.3	16.1 8.6	17.1 5.5
1 16	21.7 7.5	20.7 7.5	19.3 8.0	21.4 8.0	19.5 4.4	19.6 5.8	19.4 8.0	14.6 6.2	15.6 6.5
1 17	20.2 12.0	19.9 7.4	17.3 7.0	21.0 6.5	20.2 5.5	20.0 4.6	19.6 5.9	16.6 3.8	17.1 6.8
1 18	21.2 7.0	21.4 8.8	17.9 4.9	21.6 7.6	20.6 6.3	18.4 8.0	19.5 7.9	17.1 4.6	19.5 5.0
1 19	21.0 9.0	18.2 11.6	18.0 4.9	21.9 8.0	19.6 5.7	17.5 10.2	20.5 10.2	19.1 5.2	18.0 5.5
1 20	20.3 6.4	21.3 12.2	18.0 4.5	19.6 13.9	18.3 5.3	18.8 8.0	16.7 8.9	20.5 5.4	19.3 5.8
1 21	20.2 6.9	20.6 9.8	17.2 8.4	23.8 9.5	17.4 7.8	17.5 9.5	17.6 5.0	20.5 5.9	18.8 4.8
1 22	20.7 6.3	21.0 8.4	21.3 9.6	23.6 10.5	18.1 6.8	19.0 10.0	18.5 6.0	20.6 5.5	18.5 5.2
1 23	21.0 5.9	21.6 8.4	19.0 5.4	23.4 12.2	17.9 5.2	19.5 5.9	19.1 7.9	20.0 6.0	18.0 5.0
1 24	20.8 5.6	20.6 8.2	20.2 6.4	23.7 12.5	16.7 6.1	20.0 6.9	19.0 8.0	20.1 6.9	18.1 6.0
1 25	21.4 6.4	21.0 6.6	19.5 5.9	24.9 10.8	18.5 5.8	20.0 7.0	19.0 8.6	21.4 9.6	18.5 3.8
1 26	22.9 6.9	20.6 5.4	19.7 6.3	23.0 12.0	20.9 6.0	20.0 11.1	19.0 10.6	21.7 8.4	18.8 6.0
1 27	22.0 6.5	19.4 5.4	20.2 7.9	23.2 12.4	25.6 6.5	21.0 9.8	20.6 7.5	22.2 9.6	20.4 7.8
1 28	21.0 7.4	19.3 5.8	19.4 7.2	22.7 11.0	23.6 5.8	21.0 8.4	22.4 8.2	22.5 9.5	20.2 6.7
1 29	21.6 11.0	19.4 6.4	19.8 9.7	24.4 10.5	22.6 7.0	21.8 8.9	22.2 8.8	20.5 10.2	20.5 5.5
1 30	22.3 8.6	20.1 6.6	20.2 10.6	23.9 10.3	23.0 6.9	24.5 10.2	23.0 8.4	20.7 9.2	21.0 7.0
1 31	23.4 9.2	20.8 7.1	19.7 7.4	22.1 9.7	23.0 7.4	18.0 12.6	21.2 7.5	20.0 7.0	20.4 9.5
2 1	22.9 10.0	21.9 7.2	21.3 8.0	23.0 10.4	22.4 7.8	21.0 8.5	21.9 4.6	18.5 9.2	21.3 9.4
2 2	22.2 6.6	22.3 11.2	21.4 8.4	22.6 8.4	22.2 6.6	20.0 10.5	22.0 6.5	20.3 7.0	21.7 8.6
2 3	22.8 6.7	22.4 10.6	21.2 13.0	21.8 7.9	21.1 6.3	19.0 7.0	22.2 6.5	19.4 8.2	21.4 9.0
2 4	18.7 9.9	25.1 8.2	22.0 13.4	21.1 9.0	22.2 5.0	19.5 5.5	22.8 8.3	19.5 7.9	22.1 8.0
2 5	19.3 5.0	23.2 8.4	22.9 10.9	21.0 10.3	21.2 5.8	19.0 7.2	22.5 6.4	20.3 8.0	18.8 7.0
2 6	21.3 6.4	22.6 9.2	24.0 9.1	21.8 10.6	21.6 6.5	19.5 9.5	24.2 8.5	22.6 8.0	20.5 7.5
2 7	22.0 7.2	24.0 11.2	22.2 9.3	20.9 12.5	22.4 6.8	12.8 10.9	24.8 9.0	23.5 7.7	21.6 7.0
2 8	22.3 8.0	23.9 12.0	21.4 7.0	21.7 11.2	23.0 8.0	16.6 9.0	23.5 11.4	17.2 11.3	21.0 10.0
2 9	22.8 8.5	23.7 9.7	21.5 6.0	24.0 10.4	23.6 8.5	19.7 5.9	22.6 14.8	18.5 9.2	18.1 10.0
2 10	22.3 8.6	24.6 10.2	21.6 6.2	22.5 11.0	23.5 11.9	20.0 7.4	25.0 14.7	19.4 5.5	20.8 8.0
2 11	23.0 12.0	23.7 10.4	21.6 6.3	21.7 10.9	24.8 10.4	19.8 10.9	24.0 13.4	19.7 7.0	22.3 9.5
2 12	22.9 14.0	23.7 10.0	20.6 5.6	22.7 10.5	25.5 10.0	20.0 9.0	24.0 15.5	17.5 7.0	23.5 10.0
2 13	23.9 12.4	24.2 11.7	20.2 7.1	15.9 11.6	24.9 8.4	14.0 10.5	24.1 13.5	19.8 7.0	24.8 10.0
2 14	20.2 11.8	22.4 7.0	19.8 8.4	18.2 11.5	25.0 8.5	21.5 6.7	24.4 12.4	20.3 7.5	20.0 10.4
2 15	20.2 11.8	21.1 7.7	20.4 7.4	21.4 8.7	24.9 7.5	21.1 9.0	23.0 12.8	20.0 6.9	19.5 9.5
2 16	23.0 10.5	20.2 7.8	20.8 6.5	21.6 7.7	25.4 6.6	20.9 9.6	24.0 15.0	22.2 6.8	19.8 6.0
2 17	23.3 8.0	22.4 7.2	21.4 6.1	21.0 8.8	25.5 9.8	20.8 7.4	26.3 10.9	21.5 6.7	22.0 10.0
2 18	20.6 7.4	23.7 6.4	18.6 6.9	17.4 8.5	26.3 11.8	19.2 5.6	25.5 10.5	22.5 8.6	21.0 9.2
2 19	23.3 7.4	24.2 9.2	11.3 6.4	23.2 8.4	24.2 7.0	21.0 5.6	23.0 8.0	23.1 8.0	20.6 6.2
2 20	23.9 8.4	21.2 13.7	15.9 3.2	20.8 7.1	26.3 10.0	20.5 8.0	22.5 6.5	23.2 8.8	22.0 8.0
2 21	25.0 9.0	24.4 11.9	13.6 5.4	22.5 7.5	25.6 8.5	21.2 7.0	20.2 5.9	21.7 9.5	23.5 7.0
2 22	24.5 11.6	22.0 9.4	18.3 4.9	21.1 8.1	27.4 9.1	22.2 7.0	19.8 5.0	20.5 7.5	22.2 11.0
2 23	24.4 10.6	21.6 9.6	18.6 3.4	20.8 6.9	24.2 12.5	22.0 7.5	20.0 5.5	20.0 4.6	17.5 9.0
2 24	25.5 10.6	22.6 8.4	21.6 5.4	20.6 5.8	24.8 10.0	20.0 6.5	21.0 9.4	21.0 7.5	20.6 6.5
2 25	26.2 12.4	23.0 10.0	24.0 6.5	20.1 8.9	25.8 11.4	20.0 4.2	22.2 11.0	21.6 10.0	21.1 6.3
2 26	24.8 11.1	22.7 9.7	24.7 7.5	22.0 8.5	19.9 12.9	21.0 6.1	22.2 9.5	22.0 11.0	21.8 8.4
2 27	16.8 13.4	23.2 11.2	25.6 9.1	20.6 7.5	22.0 10.5	18.1 8.4	22.5 9.5	22.1 11.5	21.6 8.7
2 28	21.8 6.8	20.8 13.2	27.5 10.4	15.4 12.3	24.5 10.6	21.5 7.5	23.1 9.5	22.7 10.0	22.3 7.5
2 29		24.0 8.4				22.6 8.5			

Daily Temperature (deg C)
 Location : Pokhara Airport

Year		1987		1988		1989		1990		1991		1992		1993		1994		1995	
Month	Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
5	1	26.3	16.9	30.8	21.9	30.4	19.0	28.1	13.5	30.0	18.8	27.5	16.8	29.3	18.8	31.5	16.5	33.5	20.2
5	2	21.6	15.0	27.6	17.9	34.0	16.8	28.1	16.1	29.5	17.6	29.5	13.0	28.5	21.3	32.6	20.0	34.8	18.6
5	3	23.7	13.8	26.4	18.9	35.7	20.4	29.8	16.0	27.2	17.0	27.4	16.8	29.7	21.6	34.6	20.3	35.3	18.0
5	4	24.3	13.5	29.8	17.0	35.7	21.4	22.9	14.3	31.6	17.0	24.5	16.8	31.8	21.0	36.0	21.4	34.0	17.5
5	5	26.5	15.8	27.6	17.6	36.4	20.1	29.4	14.9	31.6	18.9	28.5	11.7	32.2	20.0	34.8	21.0	34.5	16.4
5	6	24.2	15.0	29.5	16.2	37.3	19.5	28.2	17.2	30.8	18.6	30.4	16.0	29.5	19.0	33.6	17.0	34.8	17.4
5	7	23.4	15.6	30.1	19.4	37.2	18.3	27.7	16.5	29.2	17.0	31.0	15.6	28.5	18.0	32.7	15.2	32.7	16.4
5	8	27.0	15.8	30.1	20.5	36.4	18.0	30.4	15.4	31.0	18.6	31.5	17.0	28.5	20.5	32.5	16.6	30.6	17.0
5	9	28.6	15.2	30.5	21.2	34.9	16.2	31.7	17.2	31.4	18.7	31.1	18.0	28.4	18.5	28.4	19.5	32.3	19.6
5	10	31.0	16.6	31.7	19.7	34.5	16.6	31.0	18.5	32.0	17.8	30.5	16.5	28.0	16.5	29.1	14.5	32.0	18.0
5	11	30.3	15.7	32.3	19.9	33.6	17.9	32.0	15.6	32.4	19.0	31.7	17.9	26.5	18.5	29.7	15.5	31.0	19.3
5	12	31.0	16.0	32.0	18.4	30.5	17.4	30.4	17.0	31.5	17.0	31.4	17.9	29.1	15.0	31.6	17.3	32.1	22.2
5	13	31.0	17.0	31.0	17.6	28.3	17.9	30.5	16.9	31.7	17.5	33.0	18.0	30.1	15.1	32.5	18.2	31.4	21.0
5	14	30.2	16.3	29.8	15.9	27.4	17.6	27.5	19.0	31.0	18.0	29.5	18.5	28.6	15.4	33.6	19.9	30.5	21.3
5	15	32.2	17.5	27.6	18.4	29.9	17.0	29.3	20.3	29.3	18.5	28.5	18.4	28.6	18.0	33.0	18.2	30.7	21.2
5	16	32.9	18.2	30.6	19.5	31.7	21.5	32.0	21.7	28.0	18.9	31.3	19.0	27.9	18.6	31.4	16.0	29.4	21.7
5	17	33.1	18.4	28.3	18.6	29.5	21.0	32.0	20.5	28.0	20.4	30.2	17.5	28.8	18.0	27.2	17.5	24.5	21.2
5	18	32.9	17.5	26.8	18.4	32.0	21.0	27.5	20.0	29.9	19.9	30.6	16.3	28.0	16.0	26.8	17.5	30.2	22.0
5	19	33.5	17.5	29.3	19.0	30.1	19.5	30.5	20.5	28.0	18.4	33.0	18.2	28.0	18.0	28.6	18.8	31.8	20.8
5	20	33.6	19.2	29.3	18.0	29.8	20.9	29.1	19.6	28.1	19.0	30.8	17.7	27.5	17.5	27.5	18.8	31.6	20.0
5	21	32.8	21.2	31.1	19.0	27.1	20.0	28.2	18.5	30.0	20.5	29.7	13.6	28.9	15.0	31.5	20.5	31.1	19.0
5	22	32.7	18.8	29.9	20.8	30.9	20.5	30.2	16.6	27.0	19.6	26.5	16.2	30.1	17.6	28.1	20.0	31.7	20.0
5	23	31.1	17.2	29.9	21.2	31.1	19.8	31.0	18.6	29.5	19.0	28.5	17.2	31.2	22.2	29.8	21.0	32.5	18.8
5	24	32.4	18.0	30.7	18.0	33.0	20.6	29.9	18.9	32.1	18.4	28.7	19.6	31.1	20.5	28.8	19.6	32.8	20.5
5	25	32.4	19.5	30.4	19.8	29.9	19.5	30.5	19.0	31.1	20.6	22.8	16.8	30.5	17.5	29.8	20.2	33.8	20.6
5	26	30.7	17.7	31.0	20.4	21.6	21.0	25.0	19.5	30.6	22.4	28.4	17.2	31.9	20.5	30.1	18.6	33.6	20.6
5	27	32.8	17.2	31.6	20.4	22.2	19.5	30.0	18.1	30.6	21.2	29.5	16.8	23.6	18.8	31.0	21.5	33.1	20.0
5	28	33.1	19.2	32.0	21.2	29.2	18.1	31.6	20.9	30.6	21.7	28.5	19.0	25.7	18.0	31.0	22.0	32.5	20.2
5	29	33.0	20.8	30.3	18.6	27.5	19.0	27.4	21.4	30.5	21.4	28.7	20.9	29.2	18.9	31.2	19.5	33.0	22.2
5	30	32.2	19.8	29.5	21.6	30.1	17.9	29.8	19.4	29.0	20.0	31.0	16.7	29.8	19.0	30.3	20.8	32.6	22.8
5	31	34.0	22.0	31.7	23.0	30.0	19.5	31.4	21.3	29.0	15.5	32.5	20.8	31.0	21.5	30.6	19.5	32.8	24.0
6	1	32.3	21.4	29.8	20.5	30.2	19.0	33.0	19.8	29.9	16.0	32.7	17.9	31.6	22.0	30.7	21.0	33.0	23.5
6	2	31.7	20.1	30.1	21.2	32.2	20.2	32.4	22.6	30.4	17.5	33.0	16.4	30.1	18.5	31.7	20.6	33.3	22.6
6	3	30.7	21.0	31.3	21.0	31.9	20.5	30.2	21.3	31.0	19.5	33.0	19.0	29.6	19.5	30.8	19.6	32.0	23.6
6	4	29.6	21.7	31.1	21.9	27.3	19.6	32.8	20.6	30.4	21.0	33.4	21.5	30.0	21.0	31.5	19.2	31.5	23.5
6	5	31.9	19.4	29.9	20.0	29.9	19.9	30.6	21.7	31.0	20.5	33.7	20.5	30.4	20.0	30.8	18.5	27.5	22.3
6	6	31.3	18.8	30.9	19.4	28.6	19.0	31.6	18.9	30.5	20.5	32.2	17.3	30.6	21.0	29.3	18.0	25.5	22.0
6	7	28.2	21.0	31.1	18.9	30.0	20.1	30.8	17.5	29.5	20.5	31.6	20.6	29.0	19.8	31.0	19.2	27.5	22.2
6	8	30.8	21.0	31.1	18.3	30.6	19.4	31.0	17.6	29.0	20.0	29.7	18.7	30.0	21.4	31.3	23.8	28.2	22.0
6	9	28.6	20.4	31.5	22.6	32.7	21.5	29.2	20.5	31.5	21.6	30.5	19.0	27.8	20.0	32.2	24.0	25.5	23.0
6	10	30.6	19.4	28.6	20.5	32.4	19.4	29.5	20.5	28.4	20.8	29.6	18.7	30.5	20.5	26.8	20.5	24.3	23.0
6	11	30.6	20.2	31.9	22.1	31.1	20.3	29.2	19.6	27.1	21.0	31.7	18.3	31.0	20.5	28.9	22.2	26.5	22.0
6	12	31.3	22.2	30.8	21.5	32.1	22.4	31.0	20.2	29.0	21.6	31.1	20.2	31.0	20.2	30.2	22.5	26.7	23.0
6	13	31.8	22.2	27.1	20.0	29.5	21.6	30.9	22.0	31.0	21.6	28.2	15.7	30.5	22.5	30.8	20.5	29.5	21.6
6	14	32.2	22.3	29.1	20.5	30.0	21.1	32.4	21.1	28.5	21.5	31.3	21.0	30.8	21.8	30.7	21.5	31.0	21.7
6	15	32.2	23.3	29.3	19.6	29.9	21.0	31.7	20.3	31.0	21.7	31.0	19.8	33.4	21.0	31.0	22.2	32.5	22.8
6	16	31.0	21.0	29.6	20.4	30.4	21.7	31.8	20.9	31.4	21.5	32.0	22.0	31.1	20.0	31.4	22.3	32.8	23.0
6	17	29.2	22.8	29.2	20.4	29.4	20.9	31.9	23.0	31.0	21.2	33.0	22.7	29.8	22.0	31.5	21.2	27.0	22.4
6	18	32.3	22.5	30.3	20.8	26.0	20.2	30.7	21.5	29.5	22.3	32.0	23.0	30.2	22.5	30.0	23.0	27.4	20.5
6	19	33.3	20.3	30.2	20.1	31.5	19.6	31.0	22.0	27.5	21.4	31.6	19.7	31.0	21.0	28.5	22.5	28.6	20.7
6	20	31.5	18.2	31.5	22.3	30.6	19.0	31.5	21.0	30.1	21.0	31.6	20.8	30.7	20.0	28.5	23.5	28.4	20.2
6	21	31.7	20.5	29.9	20.6	30.2	20.1	30.8	20.3	31.5	21.4	31.1	21.8	31.7	20.0	25.3	22.5	29.5	20.5
6	22	31.0	21.2	30.6	22.5	27.2	19.5	31.2	21.3	30.5	23.7	30.6	22.5	31.8	21.5	31.0	21.5	30.0	21.5
6	23	30.5	21.7	31.4	21.8	30.1	22.5	28.7	22.5	28.2	22.9	29.5	21.0	29.0	21.5	28.5	22.8	23.6	21.0
6	24	30.0	21.4	27.3	21.1	30.9	22.0	31.4	22.3	28.1	22.0	30.6	22.5	32.5	23.0	29.2	22.0	24.8	19.4
6	25	31.7	21.7	29.6	21.4	31.4	22.5	32.0	22.9	29.5	22.4	30.8	21.0	27.1	21.0	30.6	21.9	31.2	21.5
6	26	31.7	21.8	30.8	23.2	31.0	21.5	32.5	20.0	27.5	21.0	30.4	22.9	30.5	22.5	28.4	20.6	30.6	22.4
6	27	32.1	22.4	33.0	24.8	31.3	20.9	31.4	20.6	31.1	21.0	29.6	21.8	26.6	22.5	30.9	20.8	30.2	23.0
6	28	28.7	22.7	29.3	21.4	30.4	21.8	31.0	22.0	32.0	22.0	31.1	20.5	31.1	22.0	30.5	20.9	31.0	22.0
6	29	26.3	21.8	31.0	24.6	31.0	20.2	31.6	21.4	31.5	23.8	31.0	20.3	31.2	23.0	30.2	21.2	29.9	20.5
6	30	31.1	22.4	31.6	23.2	30.5	21.0	31.4	22.4	26.6	21.8	30.5	21.2	30.8	22.5	30.5	22.5	30.2	20.5

Daily Temperature (deg C)
Location : Pokhara Airport

Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	
Month Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
7 1	30.4	23.0	31.4	23.0	29.9	20.4	31.4	23.9	31.5	22.5
7 2	30.4	22.4	29.5	21.8	28.0	20.8	32.3	23.5	30.5	22.6
7 3	26.8	21.5	31.0	23.2	28.1	20.4	31.8	20.6	29.3	22.5
7 4	28.2	21.5	30.0	21.6	29.1	20.9	31.9	22.0	27.4	22.5
7 5	32.6	22.5	26.6	21.9	29.5	21.6	30.4	22.6	28.8	22.0
7 6	31.0	21.8	25.5	20.9	28.1	21.9	31.3	21.6	29.5	22.8
7 7	29.4	21.6	30.0	21.3	26.8	21.0	31.1	22.7	24.4	21.5
7 8	22.8	21.6	29.4	21.9	29.3	21.5	24.0	21.0	31.0	21.0
7 9	27.2	21.0	29.8	21.8	30.3	22.4	30.1	19.5	29.6	21.5
7 10	29.6	21.7	30.7	22.4	29.5	22.6	28.8	21.4	31.2	20.8
7 11	30.7	21.8	30.4	22.9	30.1	22.6	30.5	21.8	28.2	21.7
7 12	31.6	23.0	29.4	22.4	26.0	22.6	30.6	21.0	29.8	21.5
7 13	30.3	21.5	30.3	22.0	27.5	21.5	31.5	22.4	30.6	21.7
7 14	30.5	22.7	31.9	23.0	21.8	21.0	25.4	22.0	30.5	21.7
7 15	30.7	21.8	30.9	22.6	23.7	20.0	31.4	21.2	28.6	21.0
7 16	31.9	22.6	30.9	21.5	28.3	20.8	31.0	22.5	31.7	22.2
7 17	28.1	22.2	31.8	23.2	28.8	21.2	30.0	22.4	31.1	23.4
7 18	31.7	22.3	31.2	22.4	28.0	22.0	24.2	21.0	31.2	23.4
7 19	29.6	21.4	30.4	21.5	25.3	21.5	26.1	20.5	31.2	22.8
7 20	28.4	21.8	31.4	23.9	30.6	21.3	28.1	20.6	31.2	23.0
7 21	26.0	21.4	28.1	22.6	30.0	22.4	30.8	21.9	30.5	22.5
7 22	30.4	21.6	30.4	22.4	32.4	21.6	31.4	21.3	31.0	21.9
7 23	27.6	21.8	30.7	22.0	32.2	21.7	31.2	22.0	30.5	21.5
7 24	27.4	21.7	30.8	21.6	32.2	23.2	32.2	21.0	31.5	23.0
7 25	23.1	10.8	27.3	22.6	30.6	21.2	29.6	22.5	31.6	23.0
7 26	27.2	20.8	30.0	22.3	30.0	22.0	26.0	21.5	32.8	23.2
7 27	29.4	21.7	30.3	23.0	27.6	21.5	30.4	21.3	32.0	22.5
7 28	30.1	21.7	30.4	22.5	28.1	21.1	30.3	21.4	31.6	22.5
7 29	30.2	21.6	28.5	22.6	23.8	21.3	30.3	22.0	32.0	22.8
7 30	26.8	22.0	29.0	22.1	22.8	20.4	30.2	21.9	30.0	23.0
7 31	29.2	22.4	26.5	22.8	25.8	18.8	26.5	22.6	30.5	22.4
8 1	29.6	22.3	25.6	20.6	23.2	18.9	31.5	22.0	29.2	22.5
8 2	25.9	22.2	30.4	20.9	27.3	19.5	27.9	21.0	30.0	21.5
8 3	28.6	21.3	32.6	22.5	31.6	20.5	30.5	20.5	28.0	22.4
8 4	29.4	21.0	30.8	22.6	31.3	19.5	30.0	22.6	30.0	22.0
8 5	30.0	22.7	31.0	22.8	30.3	21.5	31.4	22.0	29.0	22.0
8 6	29.2	21.7	30.6	23.3	27.8	20.5	29.4	21.9	30.0	22.6
8 7	29.4	21.0	28.2	21.5	30.5	21.0	31.3	22.0	28.8	22.5
8 8	30.7	21.8	31.3	22.8	28.7	21.1	31.9	21.0	26.0	22.1
8 9	27.1	22.4	30.7	22.7	30.3	20.3	30.6	21.0	29.0	22.0
8 10	26.6	22.4	30.7	22.9	29.7	20.8	30.7	20.8	30.5	21.8
8 11	24.0	21.4	29.7	22.8	30.5	20.8	26.7	21.0	29.3	22.0
8 12	22.6	20.5	30.7	22.3	30.3	20.6	26.5	20.9	30.5	23.0
8 13	29.4	19.7	28.7	22.6	30.6	21.5	24.0	20.7	31.6	22.3
8 14	28.2	20.3	30.7	22.9	31.3	22.8	27.9	20.3	29.6	22.2
8 15	30.6	19.8	25.3	23.4	31.3	21.9	30.5	20.7	29.7	21.2
8 16	30.4	20.5	30.7	22.4	29.8	21.0	31.4	21.6	24.2	22.0
8 17	30.0	20.6	31.2	23.4	28.7	21.0	29.6	19.8	30.0	21.0
8 18	31.1	22.2	30.7	22.5	30.1	21.0	30.6	21.5	31.4	21.5
8 19	31.3	21.0	29.1	22.0	29.5	21.6	30.4	20.8	31.5	22.4
8 20	29.8	19.8	30.1	22.4	28.3	21.5	31.4	21.4	30.6	21.9
8 21	29.7	21.3	29.8	22.3	29.4	20.6	31.0	22.6	32.0	22.4
8 22	30.4	21.0	27.7	21.5	30.5	20.5	31.3	22.0	31.4	23.0
8 23	31.7	22.2	28.9	21.1	31.2	21.4	31.1	21.5	31.0	22.5
8 24	31.6	21.0	29.7	21.2	31.3	21.5	30.9	20.5	31.9	23.0
8 25	32.3	21.7	28.3	21.4	31.6	21.0	29.3	21.5	32.0	22.0
8 26	30.0	21.0	28.2	21.2	30.6	21.1	30.4	22.7	31.0	23.5
8 27	30.5	22.6	28.4	21.8	30.6	20.0	26.7	20.9	26.0	22.0
8 28	31.3	21.4	29.4	22.0	30.6	21.5	31.4	22.0	31.0	22.4
8 29	30.2	22.6	24.6	22.0	29.3	21.5	31.9	20.4	29.5	22.4
8 30	31.1	21.2	28.6	21.4	30.5	22.0	31.9	22.4	30.6	20.8
8 31	31.2	22.4	29.3	21.5	29.5	21.5	31.3	22.8	30.3	21.5

Daily Temperature (deg C)
Location : Pokhara Airport

Year	1987	1988	1989	1990	1991	1992	1993	1994	1995
Month Day	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin
9 1	30.5 21.6	29.8 21.9	31.5 21.9	31.5 21.6	28.3 21.5	32.7 22.4	26.6 19.3	30.4 19.3	32.0 22.5
9 2	30.7 20.7	29.6 21.9	31.0 21.0	31.8 21.0	28.2 20.4	32.5 22.7	29.3 20.5	31.2 21.4	32.0 22.3
9 3	28.7 DNA	29.8 22.5	30.5 21.3	30.8 21.0	28.5 21.4	32.0 21.0	29.6 21.2	30.6 21.0	28.2 21.4
9 4	30.3 21.3	29.2 22.2	27.3 21.5	30.9 22.0	30.2 22.2	31.0 23.5	26.7 21.5	29.7 22.0	29.1 22.2
9 5	28.0 22.0	30.0 21.9	28.9 22.5	30.6 21.5	29.9 21.1	31.5 21.5	25.6 20.6	30.7 22.8	29.5 21.4
9 6	26.4 22.7	27.3 21.5	30.0 21.5	30.5 22.0	30.9 21.8	30.3 22.0	20.7 18.5	29.0 23.5	28.7 21.5
9 7	31.3 22.2	25.6 21.2	30.0 22.0	29.4 20.5	31.2 21.6	31.1 21.3	29.5 19.0	30.6 22.5	30.0 21.5
9 8	28.3 20.8	27.9 20.9	30.1 21.5	30.6 21.6	29.3 20.8	30.5 21.4	27.6 21.4	31.2 22.6	29.5 22.0
9 9	31.2 21.3	29.4 19.8	30.8 21.5	29.5 21.9	26.8 21.2	30.7 22.0	30.3 21.5	29.5 21.6	30.1 21.5
9 10	28.2 21.2	29.2 20.9	30.8 21.4	26.8 21.9	29.6 21.0	31.4 20.0	31.6 22.0	24.5 21.8	30.0 21.6
9 11	26.5 21.2	29.6 21.0	29.5 20.6	25.6 20.6	30.0 19.9	31.0 21.5	30.0 21.9	30.5 21.0	30.4 21.4
9 12	29.2 21.5	30.2 20.5	28.3 20.0	30.5 21.5	31.2 21.2	30.6 21.5	30.2 DNA	27.5 22.0	30.1 21.4
9 13	31.0 21.7	30.7 21.6	29.5 20.9	31.4 21.0	31.2 21.8	26.6 21.5	29.6 19.5	25.5 21.6	30.0 21.0
9 14	31.0 21.7	30.7 21.1	25.6 21.4	31.5 21.4	30.5 21.2	29.1 20.3	29.2 20.0	22.5 21.5	29.0 20.4
9 15	30.7 20.8	30.2 22.4	30.6 20.4	31.0 20.9	29.0 20.3	28.5 21.0	24.5 21.0	20.6 19.0	29.8 19.8
9 16	30.2 22.2	29.5 19.4	30.2 21.5	30.1 22.3	30.0 21.0	29.0 21.0	29.1 21.0	29.5 19.0	30.5 20.7
9 17	31.2 22.7	23.8 19.4	31.0 21.5	31.1 21.0	29.1 20.5	29.6 21.0	29.5 20.5	30.3 21.3	30.4 20.2
9 18	30.4 22.7	27.6 19.0	29.0 19.6	28.8 20.3	29.0 20.8	29.8 19.5	30.2 20.0	29.2 21.6	26.5 21.0
9 19	30.1 22.2	30.0 20.4	29.3 20.5	30.0 20.1	30.7 20.0	30.0 21.0	30.5 21.0	23.5 21.4	26.7 21.8
9 20	27.2 21.1	29.4 20.6	29.3 20.0	31.1 20.5	30.6 20.5	30.1 19.0	31.2 21.0	28.5 20.2	30.6 22.0
9 21	31.5 20.0	29.9 20.5	29.3 19.9	29.2 19.5	31.0 20.7	30.1 20.0	28.5 21.0	30.0 21.8	31.0 22.4
9 22	28.7 20.0	29.7 21.5	29.0 20.5	29.3 20.0	30.5 20.0	30.6 21.0	29.2 21.0	29.6 21.7	30.1 22.0
9 23	30.1 20.4	31.6 22.4	29.7 20.5	29.7 20.3	29.6 19.0	30.3 19.0	28.6 20.5	30.0 21.0	30.0 21.2
9 24	29.5 21.6	31.4 21.7	28.5 20.5	24.5 20.5	29.1 18.0	30.5 18.9	23.5 20.0	30.0 22.0	29.6 21.0
9 25	30.0 21.7	30.4 21.6	28.5 19.2	24.6 18.0	29.1 18.6	29.6 18.4	22.6 19.5	29.7 21.6	27.3 20.0
9 26	30.0 19.8	30.5 22.9	28.3 20.5	28.7 19.6	30.0 20.4	29.6 18.5	26.3 19.5	29.2 22.2	28.1 20.2
9 27	29.7 20.3	30.6 22.8	29.6 19.0	29.1 19.3	30.0 20.9	30.0 19.5	28.6 19.5	28.8 22.0	29.6 20.0
9 28	29.0 19.0	30.1 21.3	30.0 19.0	29.1 19.3	30.5 21.0	27.5 19.8	28.2 20.0	29.0 21.5	28.6 20.3
9 29	28.0 17.4	30.4 21.5	26.7 21.0	29.1 18.8	29.8 21.5	22.5 20.0	28.0 20.8	29.0 21.2	28.0 19.5
9 30	29.1 19.3	29.6 21.4	24.7 19.0	28.6 18.3	30.2 19.5	24.5 19.7	29.3 20.5	29.2 21.4	28.6 19.8
10 1	28.8 20.2	30.4 18.6	29.1 17.0	29.1 17.5	30.2 20.5	28.0 20.5	29.3 20.0	28.8 20.2	29.0 19.5
10 2	28.8 20.0	29.4 19.5	29.6 19.2	29.0 18.3	30.2 20.0	29.2 19.7	28.6 20.0	28.6 19.6	28.2 20.8
10 3	28.7 19.6	29.4 20.6	29.8 20.4	28.8 17.7	30.2 18.5	28.2 18.6	28.4 17.3	28.4 20.4	27.7 19.5
10 4	26.5 18.8	28.6 19.9	29.5 18.0	29.5 18.5	29.5 19.0	28.4 18.5	28.6 20.2	27.7 18.5	28.3 18.7
10 5	27.7 17.0	26.7 21.1	30.1 19.5	30.1 20.4	29.0 18.9	28.2 15.7	27.0 20.4	27.8 17.0	27.8 16.5
10 6	27.8 17.0	27.7 17.1	29.6 19.6	30.3 19.4	28.6 20.5	27.6 15.5	28.0 18.0	27.8 16.5	28.5 17.4
10 7	28.6 17.7	28.1 18.9	29.0 17.4	31.1 19.4	29.5 20.8	28.1 16.7	28.0 19.5	27.6 17.6	28.0 17.8
10 8	27.9 15.8	28.2 18.6	29.1 19.2	29.9 19.6	29.0 20.0	28.4 17.0	28.6 20.3	27.1 18.0	28.7 18.0
10 9	27.9 15.8	28.2 17.0	28.0 16.5	24.4 18.0	28.1 18.2	29.2 17.3	28.6 21.0	27.5 17.0	28.6 18.5
10 10	27.0 13.7	28.3 15.6	27.4 17.5	27.9 19.1	29.0 18.0	29.0 17.7	28.6 20.0	27.5 19.0	28.4 19.0
10 11	27.8 17.4	29.4 16.0	28.0 18.0	27.5 19.0	28.7 17.3	26.2 20.2	28.2 18.5	28.3 19.0	27.6 18.3
10 12	28.5 17.5	30.1 17.6	29.0 16.0	29.1 17.5	28.5 16.0	22.5 19.0	28.8 18.5	28.5 19.5	28.2 19.6
10 13	28.5 19.7	29.5 17.2	29.1 16.0	28.0 16.6	28.6 14.9	27.6 18.5	27.8 19.0	27.8 18.3	28.1 20.0
10 14	28.0 19.7	28.8 18.0	28.8 16.4	22.8 16.0	27.1 14.0	28.0 18.0	27.3 17.0	25.1 17.0	27.5 20.5
10 15	28.3 17.2	28.2 15.5	29.5 15.7	26.2 15.8	28.2 16.2	29.6 20.6	28.0 19.5	27.7 12.5	28.2 20.8
10 16	27.4 17.4	28.0 16.5	29.2 15.6	26.5 13.0	28.5 18.4	23.2 19.0	27.4 19.2	26.7 12.5	27.8 19.5
10 17	26.9 16.3	28.5 15.8	28.7 16.4	26.9 15.0	28.3 17.0	26.6 18.4	26.8 18.0	26.6 12.4	27.3 18.8
10 18	26.2 17.2	30.1 15.3	28.0 15.5	26.4 14.5	28.1 17.3	26.0 18.5	26.5 19.2	27.0 13.0	27.3 18.0
10 19	17.5 DNA	28.2 14.3	27.4 16.9	26.7 14.6	28.1 17.0	26.8 17.0	26.5 18.3	27.0 12.8	27.6 18.5
10 20	25.2 14.4	27.3 15.9	27.1 15.0	26.7 15.4	26.9 15.4	27.1 17.0	26.2 17.0	26.6 13.5	27.5 16.8
10 21	26.4 16.6	27.5 15.9	26.3 12.0	26.9 15.3	26.1 16.7	27.3 15.6	26.4 16.5	26.8 13.4	27.0 16.0
10 22	26.2 16.2	26.7 17.0	27.1 12.4	26.9 14.5	26.7 16.8	26.0 15.5	25.8 15.6	26.5 13.0	26.7 16.3
10 23	26.0 16.6	27.7 15.6	27.2 13.3	26.5 13.0	27.1 15.8	26.1 14.0	25.1 14.5	26.7 12.8	26.6 16.4
10 24	26.3 14.4	27.8 14.8	27.1 14.0	26.0 12.3	27.5 15.0	25.5 15.2	25.1 14.0	26.3 12.5	26.0 16.0
10 25	26.8 14.4	27.6 15.4	27.1 14.0	26.4 12.4	26.5 13.0	25.5 15.0	24.8 14.0	26.0 12.5	26.7 14.9
10 26	26.4 14.6	27.7 15.5	26.6 14.4	26.2 12.4	26.1 14.2	24.4 12.0	25.5 14.5	26.0 14.0	26.0 15.0
10 27	25.8 12.8	28.0 16.0	26.7 15.0	26.0 12.3	26.0 14.0	25.2 11.0	25.2 15.5	25.4 15.0	26.3 16.3
10 28	25.7 14.4	28.2 14.7	25.6 14.5	25.8 11.7	26.7 13.9	25.7 12.6	25.1 14.0	26.0 14.5	27.3 15.0
10 29	25.4 17.4	27.9 13.5	25.6 13.4	25.6 12.2	26.0 12.2	27.6 12.8	25.0 13.8	26.0 14.6	28.0 14.2
10 30	24.8 16.9	26.8 12.9	25.3 12.0	25.2 11.0	26.2 12.0	27.1 12.4	25.0 12.3	25.7 14.2	27.3 13.5
10 31	25.0 17.0	26.4 12.6	26.5 11.4	26.0 11.0	27.5 11.5	27.4 12.8	26.7 12.5	23.0 15.0	26.4 15.6

Daily Temperature (deg C)

Location : Pokhara Airport

Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	
Month Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
11 1	25.1	15.3	26.1	12.9	25.5	11.5	25.1	10.1	26.0	11.5
11 2	24.7	13.4	26.8	12.6	23.8	12.0	25.0	11.9	26.2	11.8
11 3	25.2	16.0	27.8	12.9	24.5	11.5	27.9	10.0	25.5	14.6
11 4	25.5	14.2	25.1	13.4	23.5	13.0	25.7	10.5	25.5	11.9
11 5	24.6	12.8	24.4	12.1	23.8	11.0	25.5	10.5	23.9	12.9
11 6	24.8	13.4	24.4	9.5	25.5	11.0	26.0	14.4	25.1	11.2
11 7	26.7	16.8	25.3	10.1	25.0	9.5	25.8	12.5	25.1	11.0
11 8	27.9	12.4	25.1	10.0	24.1	10.4	26.0	14.0	25.1	12.2
11 9	26.0	11.4	26.0	10.5	24.6	10.0	28.1	13.5	24.8	9.7
11 10	25.0	12.5	25.7	10.2	25.0	10.0	27.2	11.4	24.3	9.2
11 11	24.8	14.7	26.1	10.3	24.1	10.4	26.5	11.3	18.8	14.2
11 12	26.4	11.8	26.6	10.5	24.1	12.0	26.6	12.4	23.7	8.8
11 13	27.0	10.4	25.6	10.5	24.5	11.9	26.2	12.0	24.5	9.4
11 14	23.4	9.8	25.4	11.5	24.4	12.4	27.1	11.9	24.8	10.3
11 15	24.8	11.7	25.5	11.5	23.7	13.0	27.4	10.0	24.8	10.0
11 16	23.6	11.8	25.3	11.9	23.5	11.7	26.4	10.9	24.5	9.0
11 17	25.0	13.0	25.5	12.5	24.0	13.7	26.3	11.0	24.4	8.7
11 18	23.2	9.6	26.1	11.4	24.5	14.3	25.6	10.5	24.5	9.0
11 19	23.6	9.6	25.6	10.0	23.6	11.7	25.1	9.6	23.3	8.8
11 20	23.5	9.5	25.7	9.5	22.4	10.2	23.1	12.1	22.2	9.5
11 21	24.0	10.6	24.8	9.1	22.0	11.2	25.5	14.9	22.6	8.9
11 22	25.0	10.2	24.8	9.0	21.5	11.5	24.9	10.4	21.5	9.2
11 23	24.5	8.8	25.8	8.4	23.4	11.0	24.8	10.0	22.5	8.4
11 24	23.8	9.7	25.1	8.5	24.0	10.9	25.0	10.1	23.6	9.0
11 25	23.2	9.8	23.4	8.3	20.5	12.0	24.4	10.0	23.0	9.0
11 26	24.0	10.2	24.2	7.9	20.9	7.2	23.6	9.2	22.6	9.5
11 27	23.2	9.4	24.3	6.9	22.0	7.6	24.0	9.7	23.1	9.4
11 28	23.2	10.7	25.8	6.6	22.5	11.6	24.1	9.6	22.0	8.3
11 29	24.2	12.4	23.5	9.3	21.2	7.4	23.5	8.9	22.4	11.4
11 30	23.4	10.4	24.2	9.3	21.6	7.0	23.5	8.4	21.6	9.0
12 1	23.0	10.4	24.7	9.4	21.6	6.9	21.8	8.2	21.0	7.5
12 2	23.5	10.2	24.6	10.0	22.0	6.4	22.3	10.6	21.4	6.0
12 3	23.0	8.8	25.1	10.5	22.0	5.9	21.3	10.3	20.0	6.5
12 4	20.8	13.0	24.8	10.1	21.0	6.4	22.6	10.9	21.3	5.7
12 5	22.0	12.2	24.1	13.2	21.1	6.4	22.5	8.4	21.3	5.8
12 6	22.1	12.1	20.9	13.6	22.6	6.8	22.2	8.2	21.7	7.5
12 7	22.8	9.8	23.4	12.8	22.0	6.5	21.6	8.0	23.4	7.6
12 8	22.7	9.6	22.7	11.5	20.3	7.4	22.8	7.6	23.0	7.1
12 9	22.7	8.9	22.5	10.4	21.0	8.0	21.5	8.0	21.5	6.0
12 10	21.6	10.1	22.8	9.3	20.1	8.0	22.4	10.0	22.2	6.5
12 11	20.9	11.6	23.1	9.1	19.5	9.8	22.6	8.4	22.0	6.0
12 12	14.9	DNA	21.2	9.5	19.5	11.4	22.6	7.4	21.7	7.0
12 13	19.6	11.3	21.5	10.5	20.0	7.5	22.2	7.1	22.0	6.9
12 14	21.6	12.2	22.1	10.2	19.5	6.1	22.1	7.4	22.5	7.0
12 15	21.8	8.7	22.3	10.5	20.4	5.8	21.5	7.9	23.5	6.5
12 16	21.5	7.6	21.8	8.5	20.8	6.8	21.5	5.0	23.9	6.5
12 17	21.7	7.7	18.9	7.9	20.0	7.0	22.2	5.3	23.5	7.0
12 18	20.2	7.8	22.0	8.2	20.2	7.0	22.1	4.8	23.0	7.0
12 19	22.1	7.0	21.1	6.5	19.2	7.4	22.0	5.9	23.0	7.5
12 20	22.7	6.2	21.6	7.9	18.4	8.0	22.5	6.8	22.0	6.6
12 21	22.2	6.4	21.3	7.5	19.8	9.0	21.6	6.0	20.0	6.6
12 22	21.6	5.8	20.6	7.9	19.9	7.5	22.0	6.8	20.4	9.9
12 23	20.8	6.4	23.4	8.5	17.6	10.4	22.0	8.4	18.2	8.0
12 24	20.5	6.7	19.7	9.5	18.4	10.6	21.0	6.6	15.0	6.0
12 25	21.4	6.3	14.9	10.4	19.4	6.1	21.4	6.5	14.9	8.5
12 26	21.3	6.1	13.8	10.1	19.0	6.4	21.7	6.6	16.0	5.8
12 27	21.0	6.5	17.0	7.6	17.3	2.5	21.5	6.8	17.8	6.6
12 28	20.0	6.8	18.8	8.0	17.4	3.5	20.6	7.0	19.0	9.5
12 29	19.4	7.3	21.0	5.7	18.1	5.4	17.3	10.4	16.6	4.0
12 30	21.0	6.2	20.4	6.5	18.5	5.6	14.0	7.4	16.1	5.0
12 31	20.0	7.2	20.0	7.5	18.4	5.4	20.6	8.0	16.6	4.5

Daily Temperature (deg C)
Location : Pokhara Airport

Year	1996		1997		1998		1999		2000		2001		2002		2003		2004	
Month Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
1 1	20.3	7.0	21.6	7.7	17.2	7.0	19.8	6.0	20.6	6.5	20.8	10.5	20.5	5.6	18.5	8.5	19.0	5.5
1 2	20.3	7.5	20.6	6.6	19.0	7.5	20.7	6.5	21.6	6.0	21.3	10.0	20.4	5.5	19.0	5.4	19.4	6.5
1 3	15.6	9.3	18.0	8.5	18.3	6.0	21.8	6.3	21.1	6.0	21.2	9.0	22.0	5.5	20.0	6.0	19.5	7.4
1 4	20.3	7.5	20.5	6.5	19.1	7.0	21.3	6.5	21.1	6.5	16.0	7.0	21.0	5.5	20.0	6.0	19.5	7.2
1 5	20.0	7.4	19.5	6.5	19.5	7.5	20.8	7.0	21.1	6.5	18.2	7.4	21.0	5.0	20.0	5.7	20.5	8.0
1 6	20.2	8.5	20.2	7.5	19.0	6.5	20.5	6.5	20.5	6.5	17.8	6.2	21.3	6.0	20.0	7.4	21.5	8.5
1 7	20.5	8.6	19.2	5.5	19.7	7.5	17.0	8.0	20.4	6.5	18.5	5.0	19.0	5.5	20.0	5.4	21.4	6.5
1 8	19.0	6.7	17.7	5.5	19.5	8.0	20.4	6.5	19.7	6.4	18.8	5.0	22.0	6.0	19.2	6.5	21.5	6.5
1 9	20.1	6.0	20.6	7.0	19.5	8.8	17.1	7.5	20.4	7.0	18.1	5.4	22.2	6.0	19.5	6.0	22.0	6.0
1 10	18.7	6.0	20.7	5.0	18.0	8.5	16.6	4.0	20.8	6.5	17.7	4.8	21.6	7.0	20.0	5.2	21.5	6.0
1 11	20.0	5.5	21.0	6.0	17.8	9.0	18.1	3.8	21.1	7.5	17.8	5.4	21.5	6.8	19.5	5.5	21.6	6.0
1 12	19.7	5.6	20.6	6.0	17.5	6.5	19.1	4.5	22.6	7.5	18.3	5.0	22.0	7.5	19.5	6.5	21.1	6.5
1 13	18.6	5.4	20.2	5.5	18.0	6.5	19.7	5.0	19.0	10.0	18.8	5.4	22.0	8.2	19.5	6.0	18.5	7.0
1 14	18.0	6.0	19.6	5.4	12.6	9.0	19.5	3.8	20.2	7.2	18.6	6.4	21.5	7.4	19.2	6.0	21.1	9.8
1 15	11.0	6.5	18.6	5.6	17.6	8.0	19.7	4.4	21.1	7.2	20.6	6.2	21.0	7.0	20.2	6.5	20.5	8.0
1 16	17.3	6.0	18.7	5.0	19.8	6.5	20.0	6.0	22.2	6.0	20.6	7.0	18.0	10.8	22.0	5.5	18.5	8.1
1 17	18.0	7.0	18.2	3.5	17.3	6.0	20.8	5.5	21.5	4.8	20.9	7.0	14.7	6.9	21.6	6.0	21.0	7.5
1 18	18.0	6.8	19.0	5.0	18.6	5.5	20.6	6.0	21.5	5.4	20.4	7.0	19.4	8.2	22.0	6.5	20.0	7.5
1 19	13.7	7.5	18.3	5.5	17.8	6.0	20.5	6.0	21.1	6.2	20.8	7.5	22.5	9.0	22.5	6.4	21.0	8.0
1 20	16.2	6.2	14.2	6.0	17.6	6.0	21.5	7.0	20.1	6.5	20.6	7.0	16.6	8.7	22.0	7.5	21.3	8.4
1 21	17.8	7.0	17.2	6.0	18.5	7.0	22.0	7.6	19.3	10.3	21.5	7.4	20.2	7.0	21.0	8.5	17.1	9.6
1 22	17.5	5.5	17.5	3.5	17.8	4.5	22.5	7.5	17.6	8.5	22.0	8.0	21.5	8.0	20.2	8.0	19.5	10.0
1 23	17.5	6.6	17.5	5.4	17.9	5.6	22.2	8.0	16.2	8.8	20.0	9.4	21.7	6.5	20.0	7.0	16.0	10.5

Daily Temperature (deg C)
Location : Pokhara Airport

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004									
Month Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin								
5 1	29.1	18.0	28.9	15.8	30.3	20.0	32.2	15.5	29.4	14.5	30.4	17.3	29.0	16.3	29.5	19.0	26.5	16.2
5 2	29.6	19.0	28.6	16.6	30.5	18.5	31.3	15.5	29.5	12.3	28.0	15.5	30.6	16.0	27.6	17.8	30.5	15.3
5 3	30.4	18.0	28.6	14.0	30.6	21.0	33.3	19.0	28.8	14.5	29.5	18.5	28.0	16.0	29.5	18.0	31.0	17.0
5 4	31.5	17.4	30.0	14.0	29.3	19.6	31.3	18.5	29.8	15.5	26.1	18.5	27.7	20.0	28.0	15.4	30.5	16.0
5 5	32.0	18.5	31.3	15.5	29.1	18.5	31.6	19.4	28.4	16.5	30.6	16.5	30.5	19.5	30.0	15.0	29.5	15.2
5 6	31.9	17.8	30.8	14.7	29.5	18.5	30.5	21.0	30.6	13.5	29.0	19.2	30.6	17.6	31.2	16.7	30.5	14.8
5 7	32.0	19.6	30.5	18.0	28.7	20.4	30.8	21.0	27.3	13.5	29.5	17.0	30.0	17.4	31.2	16.4	32.0	18.8
5 8	30.0	17.9	24.4	17.5	30.0	15.5	31.8	21.4	30.2	14.0	28.8	21.6	31.5	21.0	31.4	15.8	31.8	20.8
5 9	30.5	14.5	27.3	14.5	30.6	17.5	31.5	19.4	30.5	21.2	25.6	20.3	29.7	20.5	30.5	15.6	31.7	19.8
5 10	32.3	20.0	28.5	15.4	26.4	15.5	29.5	17.2	31.1	15.5	29.1	18.5	26.0	20.0	28.1	14.0	32.4	21.6
5 11	31.6	19.0	30.4	15.5	26.6	15.2	27.7	17.5	32.8	16.0	29.4	20.0	30.5	19.8	29.0	15.2	33.0	20.5
5 12	29.3	15.6	31.3	16.5	28.6	15.5	27.8	15.8	32.3	14.5	32.0	20.5	32.6	21.8	29.4	15.6	33.5	21.6
5 13	30.4	17.0	32.7	18.0	30.1	17.4	26.0	19.0	31.2	17.0	31.6	23.0	32.6	21.0	30.5	18.2	32.6	22.0
5 14	30.1	18.0	33.2	19.0	30.1	18.0	26.2	17.5	32.9	17.0	30.1	18.2	30.0	21.0	30.5	16.5	32.8	19.8
5 15	29.4	18.5	34.5	19.0	30.1	16.2	28.6	17.0	32.5	15.7	29.1	20.0	32.0	22.0	29.8	17.0	34.0	22.0
5 16	29.6	14.4	32.6	20.5	31.5	20.5	27.4	18.0	28.2	15.2	29.0	19.5	28.5	22.0	29.6	15.5	33.3	22.0
5 17	29.8	14.2	33.0	18.5	31.9	23.4	30.5	18.2	31.4	15.5	26.7	18.6	30.5	22.4	25.5	18.8	31.6	22.5
5 18	30.8	15.3	32.3	18.0	31.0	19.5	27.8	17.5	31.0	15.5	30.1	17.5	25.3	21.0	29.5	16.0	31.5	21.1
5 19	32.2	17.5	31.0	18.0	31.6	19.0	31.8	19.0	30.9	14.7	29.0	18.5	30.0	21.0	29.5	15.5	31.1	20.0
5 20	32.2	17.0	28.2	17.7	33.2	22.0	30.0	19.5	23.5	14.5	30.0	19.0	31.8	19.4	30.0	18.0	24.5	20.8
5 21	31.2	18.5	30.1	17.0	32.4	23.0	28.5	19.5	25.1	15.5	29.5	20.0	31.7	17.0	30.5	17.8	28.4	19.0
5 22	31.1	20.0	31.5	17.6	32.6	22.0	30.0	20.5	29.2	20.0	30.3	20.5	32.0	18.0	32.6	19.0	30.0	19.4
5 23	31.8	20.5	30.7	17.5	31.8	21.5	30.3	20.0	29.6	19.5	30.5	20.0	31.8	20.6	29.8	18.0	28.6	19.6
5 24	33.0	18.5	29.0	17.3	32.3	21.5	30.0	22.0	26.5	20.0	30.2	21.0	30.5	18.5	30.5	19.5	27.5	19.6
5 25	33.0	22.5	28.0	17.0	31.5	20.5	31.0	22.0	28.5	14.3	30.7	20.6	28.5	18.0	30.7	19.0	29.0	19.0
5 26	32.5	20.0	28.7	16.5	29.6	21.0	30.8	20.5	30.0	15.6	30.1	18.5	27.7	18.5	31.2	20.0	30.0	17.5
5 27	32.1	20.4	27.3	19.6	30.6	22.0	29.6	20.6	30.0	13.5	29.4	18.6	28.0	18.0	32.0	20.0	30.0	19.2
5 28	32.1	21.5	28.2	18.0	29.0	21.0	29.2	21.5	30.8	14.5	31.2	20.5	30.1	20.0	32.6	19.5	29.0	20.0
5 29	31.8	18.4	29.0	17.5	31.4	22.5	29.6	20.4	30.5	13.0	29.9	19.4	29.3	17.0	32.8	20.5	30.5	18.2
5 30	31.0	16.5	26.6	19.0	32.0	19.5	31.0	19.2	28.1	13.5	30.3	19.3	26.5	19.0	32.6	23.0	30.5	19.5
5 31	29.0	17.6	29.5	17.0	33.3	22.5	31.0	18.0	29.0	20.2	30.5	19.5	30.5	19.0	31.8	19.0	31.0	20.5
6 1	28.1	19.5	30.7	19.7	32.6	20.5	31.8	17.8	29.4	13.6	29.2	22.0	30.5	21.0	31.0	22.4	28.2	18.5
6 2	27.0	17.3	31.5	17.0	32.3	21.0	31.1	17.0	30.3	14.5	30.2	21.2	32.0	19.9	32.6	19.6	30.5	20.0
6 3	29.6	16.0	31.0	18.9	31.6	20.5	28.8	17.2	31.2	15.5	27.8	20.4	31.7	19.0	33.5	22.8	30.5	20.0
6 4	27.3	19.0	31.5	18.0	31.8	22.6	30.6	18.0	32.5	14.5	28.4	20.5	31.2	20.6	30.5	19.5	31.5	19.8
6 5	26.6	18.0	31.5	19.0	32.1	19.5	31.6	18.2	32.2	13.0	28.9	20.4	30.0	21.0	30.5	19.7	30.2	20.0
6 6	29.0	16.0	31.5	18.5	32.6	19.0	32.5	20.5	26.4	14.5	30.0	21.0	31.0	20.5	30.0	18.5	31.2	20.8
6 7	29.8	18.5	31.3	16.0	33.2	22.2	31.4	21.0	26.4	20.0	30.6	20.0	31.0	20.3	31.0	20.0	30.3	19.5
6 8	29.3	20.0	30.5	17.0	32.8	21.5	33.1	21.0	25.4	14.0	30.9	19.0	31.5	22.5	28.0	20.0	31.5	20.8
6 9	30.6	22.3	30.8	18.0	33.5	23.2	33.6	24.0	25.7	14.5	30.9	20.4	32.1	23.5	32.3	20.0	30.6	20.2
6 10	31.6	22.8	30.0	19.0	34.1	23.5	30.8	20.4	30.0	16.0	31.8	21.0	32.7	22.5	31.0	20.0	29.5	20.8
6 11	29.5	20.0	30.3	19.5	35.0	23.8	29.1	21.0	31.3	16.4	32.0	20.5	31.6	20.5	29.5	21.0	32.0	20.6
6 12	29.4	23.0	31.1	20.0	33.8	22.3	22.6	21.3	31.1	21.5	32.8	23.0	29.6	22.0	31.5	21.5	32.0	20.9
6 13	30.5	21.4	30.8	19.4	33.0	23.5	26.1	19.5	31.8	21.5	31.5	21.5	30.4	22.0	31.5	21.2	32.0	22.0
6 14	29.3	19.8	30.5	20.2	32.0	21.5	31.1	19.7	31.0	20.5	30.6	21.0	31.3	22.0	31.5	20.0	32.6	20.2
6 15	31.1	21.8	31.5	20.0	32.0	22.0	31.9	22.0	28.0	21.5	31.4	21.5	30.4	19.5	31.4	19.0	32.0	22.5
6 16	31.0	22.3	30.8	19.5	31.6	23.0	30.6	21.5	31.2	22.5	30.5	20.5	31.4	20.9	31.4	21.6	30.1	22.5
6 17	31.0	21.2	31.3	20.0	33.4	22.5	31.0	21.5	30.5	15.5	29.7	21.0	31.5	20.0	31.5	21.4	27.4	21.6
6 18	31.4	21.0	28.4	19.5	32.6	23.5	29.2	22.8	31.5	15.5	29.8	22.0	31.0	21.5	32.8	22.0	28.8	20.8
6 19	30.6	22.5	27.8	20.0	29.5	23.0	31.9	22.0	30.8	15.7	30.0	22.0	31.5	23.0	32.0	22.0	31.0	22.4
6 20	32.2	21.8	30.8	20.4	25.6	22.0	31.0	23.5	31.2	16.0	29.4	22.0	31.6	21.5	29.8	22.0	31.9	22.2
6 21	29.1	22.8	30.5	21.4	26.4	23.0	31.5	21.5	30.9	15.0	29.2	23.0	31.7	21.0	29.8	22.4	31.4	22.0
6 22	27.0	22.2	30.5	21.5	29.7	22.0	29.5	21.5	26.5	15.0	29.0	22.0	32.0	21.0	30.0	21.5	31.0	22.0
6 23	29.5	23.0	28.5	20.0	31.0	22.4	30.2	22.0	29.5	14.5	31.6	22.5	32.0	23.0	30.6	22.0	31.0	22.0
6 24	24.6	23.0	31.2	23.0	31.0	23.0	29.0	21.5	28.4	14.5	32.6	22.0	33.0	22.0	27.0	22.5	30.9	22.0
6 25	27.5	22.0	29.7	22.4	29.8	23.0	28.8	21.5	31.0	14.5	31.2	23.0	32.5	23.0	31.7	21.0	31.7	22.4
6 26	29.7	22.0	31.0	22.5	26.1	22.5	26.3	22.5	31.5	15.5	31.9	23.0	32.4	23.4	31.3	23.0	31.5	20.0
6 27	29.0	21.5	31.3	22.0	29.2	22.0	25.4	21.5	30.5	16.0	32.2	23.5	31.4	22.0	29.5	21.5	32.0	20.4
6 28	29.7	22.5	30.3	23.0	32.1	22.5	29.4	21.0	31.5	14.5	32.5	21.5	31.7	23.0	30.0	22.0	32.5	21.0
6 29	27.5	21.6	29.7	22.0	31.6	22.5	31.3	20.5	31.0	15.5	32.0	22.5	32.0	23.0	29.5	22.2	32.5	22.0
6 30	29.1	21.5	24.5	22.0	32.0	23.0	30.4	21.0	31.2	16.3	32.0	23.0	28.5	22.5	31.0	21.5	32.0	21.5

Daily Temperature (deg C)
Location : Pokhara Airport

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	
Month Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
9 1	25.2	21.0	31.0	21.5	29.8	21.5	30.6	21.7	29.9	21.0
9 2	28.4	21.4	30.5	22.5	29.4	22.5	30.1	21.5	26.7	21.5
9 3	29.2	22.0	30.5	22.0	30.6	21.0	30.2	22.3	31.1	22.7
9 4	29.5	21.8	30.6	22.0	30.0	21.0	30.5	22.8	28.0	22.5
9 5	29.0	21.0	30.6	22.5	28.8	21.8	30.6	22.0	30.6	21.7
9 6	29.4	20.2	28.1	20.5	23.4	21.5	29.3	22.0	30.5	22.0
9 7	28.2	21.2	29.4	22.0	31.0	18.8	29.4	22.0	30.2	22.0
9 8	28.7	21.8	30.0	20.5	31.5	21.0	30.6	21.5	26.5	22.0
9 9	28.8	21.8	29.2	22.5	31.2	21.8	29.0	21.5	24.7	21.0
9 10	30.5	21.4	29.7	20.6	29.1	21.0	29.3	21.0	27.0	21.5
9 11	30.8	22.0	26.4	20.5	30.1	21.3	30.8	21.0	29.0	21.8
9 12	28.7	20.0	27.5	21.0	30.6	22.2	30.4	22.0	30.8	21.8
9 13	30.6	21.0	28.0	21.6	30.2	21.6	29.4	21.8	31.7	21.5
9 14	30.6	22.0	29.6	20.5	31.3	21.0	31.0	21.5	31.5	22.4
9 15	27.3	20.0	29.5	21.2	31.5	21.0	30.2	22.0	29.3	21.0
9 16	31.5	20.2	30.1	21.5	31.5	20.4	30.2	21.5	27.5	21.0
9 17	31.2	20.0	27.0	22.0	31.8	21.0	29.2	22.4	29.4	21.0
9 18	30.5	19.0	29.2	21.0	31.0	21.0	30.7	20.8	26.4	21.0
9 19	29.2	18.0	29.7	21.0	31.3	21.5	31.1	22.4	26.5	20.4
9 20	29.0	18.5	30.1	23.0	31.0	23.0	31.1	22.0	28.0	20.5
9 21	30.3	18.5	28.5	20.5	28.1	21.5	28.6	19.5	28.0	20.5
9 22	29.8	21.0	29.0	20.5	30.1	21.0	29.5	21.4	29.0	19.5
9 23	30.6	22.0	29.1	21.5	30.6	22.5	29.0	21.2	28.6	20.5
9 24	29.0	22.0	29.2	19.0	30.6	20.8	30.2	20.6	28.7	16.0
9 25	26.4	20.8	29.2	18.0	29.6	20.6	28.0	21.0	29.3	18.5
9 26	29.5	22.0	29.2	20.0	30.4	21.5	27.5	21.0	28.5	17.8
9 27	28.8	20.0	28.1	20.0	30.1	21.5	29.5	20.0	28.4	16.5
9 28	28.7	20.8	27.0	19.5	26.0	21.0	30.2	21.0	28.6	19.2
9 29	29.0	20.0	27.3	18.0	27.7	20.5	29.6	21.5	28.5	17.8
9 30	29.3	21.0	27.2	16.0	30.4	21.0	30.1	20.4	28.4	17.0
10 1	29.0	20.0	25.5	15.0	29.3	20.0	29.4	20.5	28.6	16.0
10 2	29.3	17.0	25.6	14.6	29.5	21.0	29.1	19.3	28.6	18.0
10 3	29.6	20.4	26.5	16.0	27.8	20.2	24.7	18.5	28.7	20.5
10 4	21.8	19.0	26.1	13.0	29.3	19.5	27.8	19.5	29.0	19.4
10 5	24.1	17.5	27.5	14.5	29.6	20.8	28.6	21.0	29.5	21.0
10 6	27.0	18.0	27.7	14.0	29.9	20.0	24.4	20.0	29.5	20.4
10 7	28.8	18.8	28.4	17.8	30.5	20.7	28.0	19.0	30.4	21.0
10 8	28.2	18.8	28.5	14.8	31.0	20.5	28.0	19.5	29.4	21.0
10 9	27.5	16.5	28.0	15.0	30.2	19.5	28.5	19.5	29.5	18.5
10 10	26.6	17.2	28.4	12.5	29.5	19.0	28.8	20.0	28.6	18.0
10 11	27.0	17.8	26.3	14.7	29.4	19.0	28.5	19.8	29.1	18.0
10 12	26.6	16.8	26.4	15.0	29.6	18.8	27.6	17.0	28.6	19.4
10 13	27.7	15.5	25.8	13.4	29.6	20.0	27.8	18.0	28.6	18.0
10 14	27.6	16.5	26.2	15.0	28.8	17.5	27.9	17.4	28.4	17.5
10 15	27.3	14.8	25.3	14.5	28.6	18.0	27.7	16.5	28.0	14.0
10 16	26.7	13.0	26.0	14.4	28.0	18.5	28.7	17.2	28.4	15.5
10 17	26.8	15.5	26.6	15.0	28.3	20.2	28.2	16.5	28.8	15.0
10 18	28.0	14.5	26.4	15.0	23.1	20.0	27.8	17.0	28.4	15.7
10 19	27.6	14.0	26.1	14.6	28.3	18.8	24.1	18.5	28.5	16.5
10 20	27.3	15.4	25.8	16.0	30.0	19.0	27.2	18.0	27.2	16.0
10 21	27.4	15.0	26.5	15.0	29.0	19.5	26.4	15.5	27.1	16.8
10 22	26.4	14.5	24.7	12.0	29.6	21.0	27.5	16.0	27.5	19.0
10 23	23.8	17.2	23.6	14.0	28.2	20.5	28.2	16.0	26.2	17.5
10 24	22.6	14.2	14.0	12.5	28.1	20.5	27.5	14.5	26.2	16.8
10 25	21.6	17.8	23.5	10.0	28.1	20.0	27.0	15.2	25.5	16.5
10 26	20.6	16.8	24.4	10.4	28.3	17.3	28.0	15.0	27.0	16.0
10 27	24.3	13.5	24.4	12.5	28.1	18.0	27.8	14.8	27.0	14.5
10 28	24.0	16.0	25.3	14.0	27.1	17.8	28.0	14.5	26.6	15.5
10 29	23.5	16.1	25.6	12.0	27.3	18.5	28.3	15.3	23.4	17.2
10 30	26.8	15.0	25.1	14.5	26.8	17.6	27.5	15.2	26.1	15.0
10 31	27.2	16.5	25.0	12.5	25.7	18.0	27.6	15.2	25.7	13.5

Daily Temperature (deg C)

Location : Pokhara Airport

Year		1996		1997		1998		1999		2000		2001		2002		2003		2004	
Month	Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
11	1	27.0	17.0	25.1	13.0	25.8	17.4	27.0	14.4	26.4	15.0	27.0	13.0	25.5	13.3	27.1	16.6	24.7	11.0
11	2	27.2	15.5	25.0	12.8	26.5	17.2	27.2	14.2	26.6	14.0	27.5	17.0	26.3	13.3	26.5	15.4	25.0	11.2
11	3	27.7	15.8	25.0	14.5	27.0	14.5	26.4	16.0	26.2	13.0	28.1	18.0	25.2	13.4	26.5	14.0	26.0	10.6
11	4	28.5	13.6	26.0	13.0	26.8	14.5	27.0	15.5	24.7	16.7	26.7	17.0	25.5	13.0	26.7	15.8	25.2	10.2
11	5	27.6	13.0	26.2	12.4	26.5	15.0	26.2	14.6	26.0	13.5	26.8	16.0	25.0	12.8	26.0	17.0	25.0	9.5
11	6	27.2	13.0	25.7	13.0	26.5	14.0	26.3	15.0	25.3	16.0	26.6	16.0	25.0	12.0	25.5	15.8	25.0	10.0
11	7	26.8	12.5	26.2	13.0	25.6	13.5	26.3	13.5	25.2	16.2	23.6	15.0	24.6	13.5	25.5	14.5	25.0	11.0
11	8	26.2	12.0	25.2	12.5	25.2	14.0	26.3	13.5	24.5	15.5	24.5	11.6	26.6	13.0	25.6	14.6	24.6	11.5
11	9	25.2	11.5	25.0	14.0	22.6	13.0	25.6	12.5	25.0	14.5	24.0	10.3	26.0	11.6	25.1	15.0	24.2	11.2
11	10	25.5	14.0	24.4	12.5	24.3	12.4	25.3	11.5	25.0	16.5	25.6	11.8	25.6	11.0	24.5	14.0	24.5	13.5
11	11	25.5	14.5	23.8	10.5	24.7	11.5	24.1	11.5	24.6	16.8	27.6	11.0	25.4	11.0	24.5	15.2	23.8	13.0
11	12	24.7	13.5	23.5	10.0	24.9	13.8	24.5	15.0	24.0	16.0	26.1	12.0	23.0	13.0	25.0	13.4	24.0	12.0
11	13	24.8	12.4	23.2	11.3	25.4	14.5	24.8	12.5	24.0	16.2	25.6	12.0	24.0	13.5	24.5	11.0	23.5	12.0
11	14	24.8	12.6	23.3	12.0	25.2	12.2	25.3	14.4	23.6	15.6	27.0	13.0	24.0	13.5	24.8	12.4	23.4	11.4
11	15	24.8	11.5	22.8	12.0	26.6	12.5	25.2	13.0	23.4	14.5	28.5	12.4	24.5	13.5	25.6	13.6	23.2	13.2
11	16	24.5	12.5	23.2	11.0	22.2	12.0	24.5	13.8	23.6	14.0	27.0	12.4	25.0	12.3	25.0	14.4	22.6	13.0
11	17	23.8	12.5	22.0	12.5	22.0	14.2	24.4	13.0	23.5	14.0	25.5	14.0	24.6	11.2	23.5	11.4	23.4	12.0
11	18	23.7	12.0	21.8	13.5	23.2	13.0	23.7	12.5	23.1	13.5	25.0	12.7	24.0	13.0	24.0	12.0	20.0	12.0
11	19	23.3	12.0	22.0	12.0	20.3	15.0	22.4	11.0	22.5	14.4	26.0	15.0	23.5	13.0	24.2	11.4	22.6	13.5
11	20	24.0	12.0	22.3	10.5	25.2	14.5	22.6	11.0	23.6	11.8	25.5	12.0	23.5	13.0	24.0	11.5	22.5	11.0
11	21	23.8	11.5	22.5	10.0	26.1	14.0	22.2	10.5	23.8	12.3	26.0	13.5	23.5	13.0	23.6	10.8	23.4	11.0
11	22	23.2	10.0	21.7	11.5	26.6	13.6	22.5	10.8	22.5	10.4	26.0	14.0	24.0	11.0	25.4	13.0	23.2	10.5
11	23	22.6	11.4	23.7	13.0	25.0	13.8	22.6	9.5	22.5	11.0	24.0	15.0	24.5	11.6	24.3	12.2	22.1	12.0
11	24	22.6	10.0	23.5	11.0	24.6	15.0	20.0	10.0	22.5	12.8	23.6	15.0	24.3	11.4	24.0	12.2	20.3	9.0
11	25	22.2	10.0	19.5	13.0	24.1	12.5	21.0	12.0	22.9	14.0	23.5	10.5	24.0	13.1	24.0	11.6	22.0	9.0
11	26	22.6	11.0	17.9	13.0	24.1	13.5	24.0	12.0	23.3	13.0	24.5	10.5	23.5	12.0	23.7	13.0	22.8	12.5
11	27	22.5	13.0	19.3	11.0	24.0	11.5	22.7	12.4	23.8	12.5	23.6	12.5	24.3	11.7	25.0	12.0	24.5	9.5
11	28	21.7	9.5	20.5	8.5	24.2	11.0	21.7	14.6	20.7	13.0	23.0	10.2	24.5	11.5	23.0	12.8	23.2	8.8
11	29	21.6	9.5	17.6	8.8	23.7	10.5	23.6	10.0	22.4	8.0	23.0	12.6	24.5	11.8	22.5	12.2	22.5	9.5
11	30	22.3	9.0	19.8	9.0	23.3	10.5	24.7	10.0	21.5	8.8	22.5	10.0	23.5	12.1	22.0	11.0	23.2	9.0
12	1	22.7	8.0	19.3	12.0	23.1	10.5	22.6	10.2	20.4	7.0	21.6	10.5	23.5	10.8	22.6	9.5	22.1	7.5
12	2	22.6	7.5	19.0	6.4	22.6	10.5	23.5	10.0	19.7	7.5	22.8	10.0	23.5	10.5	22.6	10.2	21.5	7.5
12	3	22.7	7.0	20.8	8.0	22.6	10.5	23.6	12.0	20.4	7.0	19.5	10.5	23.0	10.0	21.6	11.0	22.2	8.5
12	4	22.3	7.0	21.5	8.0	23.5	10.0	23.5	9.5	21.7	6.5	20.5	10.0	24.0	10.4	21.0	11.0	23.5	8.0
12	5	22.0	6.8	21.6	8.7	23.0	9.4	22.9	9.8	20.8	7.5	21.4	10.0	23.5	9.8	21.7	10.5	23.0	7.8
12	6	21.4	6.5	20.6	7.5	23.1	12.6	22.6	10.4	20.2	7.0	22.0	10.6	22.5	9.0	20.5	10.0	22.0	8.4
12	7	21.4	6.6	21.5	9.5	23.7	12.0	23.0	10.0	20.1	7.2	20.5	10.0	22.5	9.4	21.2	10.0	23.4	9.5
12	8	21.1	6.0	18.2	9.5	22.5	10.4	18.9	12.0	21.0	8.5	19.8	13.5	21.5	9.0	21.0	11.0	23.3	9.0
12	9	21.1	6.5	13.5	12.5	22.3	11.4	22.9	11.0	20.7	9.0	19.5	12.5	23.0	13.0	21.6	10.4	22.6	9.6
12	10	21.2	7.0	12.5	10.7	21.5	10.5	22.3	9.5	20.0	9.4	17.0	10.0	22.6	9.0	22.0	11.0	22.5	10.2
12	11	22.3	8.0	12.0	6.5	20.8	10.4	21.5	9.0	20.1	8.0	17.0	7.5	22.9	8.5	22.5	10.0	23.2	11.2
12	12	21.5	7.5	18.1	9.5	21.0	9.5	22.5	9.0	19.8	8.0	19.1	7.6	22.0	8.5	23.0	9.2	23.3	9.8
12	13	22.0	7.5	18.3	8.5	21.6	9.0	22.5	8.4	20.5	9.0	19.5	8.5	22.6	9.4	23.6	8.0	23.0	12.3
12	14	21.7	6.0	11.8	9.0	20.8	8.5	21.5	9.4	21.2	8.0	21.6	7.8	22.6	10.0	23.2	8.4	23.2	12.5
12	15	20.8	8.0	15.0	5.5	21.5	7.5	22.5	9.0	21.5	8.4	21.3	10.6	22.5	9.3	22.0	8.5	22.6	9.7
12	16	22.0	7.2	17.2	5.5	21.3	6.2	21.7	8.5	20.7	8.5	22.0	7.5	22.2	8.8	21.6	7.5	22.4	9.0
12	17	21.5	7.0	17.7	5.4	21.2	6.0	22.0	8.0	21.4	8.0	22.0	8.2	21.9	8.0	21.8	6.5	23.0	11.0
12	18	22.0	7.0	18.8	5.7	20.6	6.0	22.6	7.0	21.2	8.5	22.5	8.0	20.6	9.0	21.0	7.0	22.4	9.8
12	19	22.2	7.0	20.5	7.5	21.2	6.5	21.5	7.8	20.7	8.5	22.0	8.0	20.0	8.5	22.5	8.4	21.8	11.0
12	20	21.3	7.0	19.1	6.5	21.3	6.8	20.5	7.6	19.0	9.0	22.4	8.4	19.5	8.2	22.0	6.8	21.5	11.5
12	21	21.4	8.0	18.4	8.0	20.5	7.5	19.7	10.0	20.6	10.0	22.5	8.0	19.5	9.0	22.5	7.5	20.3	8.8
12	22	21.4	7.0	19.7	7.6	20.6	6.5	20.0	11.5	22.2	9.5	23.5	8.4	17.6	9.5	22.5	6.8	20.1	7.5
12	23	21.6	7.0	20.0	7.0	20.3	6.5	21.8	8.0	22.7	8.0	23.6	6.8	19.2	7.8	22.6	7.0	19.4	8.0
12	24	21.5	7.0	18.5	6.5	20.8	6.4	20.6	8.5	21.6	8.9	22.3	6.5	18.5	9.0	21.5	6.0	18.6	9.0
12	25	22.0	7.0	19.1	7.4	20.4	6.5	21.5	8.3	21.0	8.4	22.0	7.5	20.2	7.0	20.6	6.2	18.1	8.0
12	26	21.3	7.0	19.3	7.0	20.6	6.5	21.0	8.8	21.2	9.0	20.7	8.0	20.0	7.0	21.7	6.2	17.5	7.6
12	27	21.3	7.8	18.7	6.5	21.3	6.5	20.8	7.0	20.8	7.5	22.0	8.4	19.4	8.0	16.5	5.2	12.6	8.0
12	28	21.1	8.4	19.0	5.5	20.8	5.7	20.6	8.5	20.6	7.5	20.6	7.8	19.0	9.0	18.0	7.6	18.0	3.0
12	29	20.0	10.0	18.2	7.0	20.6	5.6	20.8	7.5	20.3	7.6	21.0	7.3	19.0	8.5	17.1	5.8	19.6	3.5
12	30	22.3	9.5	19.6	7.0	20.1	6.5	19.3	9.0	18.8	7.8	20.5	7.0	18.0	5.5	17.5	6.5	17.4	5.0
12	31	22.0	7.0	19.0	7.4	20.5	6.0	19.0	7.5	17.7	11.6	20.0	6.0	12.0	6.0	18.0	6.5	19.0	7.5

Daily Temperature (deg C)

Location : Kharini Tar Latitude : 28° 02' N

Index No. : 0815 Longitude : 84° 06' E

District : Tanahun Elevation : 500 m.

Note : DNA means data not available

Year	1987	1988	1989	1990	1991	1992	1993	1994	1995
Month Day	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin	Tmax Tmin
1 1	20.0 5.9	23.5 10.0	21.0 9.0	21.5 7.0	22.2 9.8	19.5 4.5	19.6 10.0	22.5 9.0	18.0 5.1
1 2	20.0 5.8	24.0 9.2	21.0 9.6	21.8 6.2	22.0 9.0	18.5 5.5	20.0 9.8	19.0 8.6	17.5 1.5
1 3	20.7 6.6	23.5 10.0	19.8 9.0	22.0 5.4	19.8 7.6	19.5 5.5	20.7 8.7	18.9 8.5	18.5 3.0
1 4	20.5 6.2	22.5 9.2	20.5 7.2	22.0 6.8	20.8 7.2	20.5 5.5	20.6 8.5	20.4 7.5	19.2 3.5
1 5	19.5 7.0	23.8 11.2	22.1 7.8	21.8 6.8	20.0 7.6	19.5 6.0	17.0 9.5	21.0 8.0	20.2 6.5
1 6	17.6 7.2	23.1 9.6	20.0 8.2	22.0 7.2	20.2 7.8	20.5 6.4	17.1 7.5	21.5 8.0	19.5 6.5
1 7	21.0 7.6	23.1 9.6	19.8 8.0	22.5 6.8	23.0 7.8	22.0 6.5	15.3 12.1	21.2 8.1	20.5 7.0
1 8	23.0 7.6	22.0 6.8	17.4 8.0	22.8 8.0	23.4 7.8	20.5 8.0	15.1 10.0	21.5 8.5	20.5 7.0
1 9	23.5 7.3	23.0 9.4	16.5 10.0	22.8 7.6	23.0 9.2	21.5 7.0	18.8 10.0	21.5 7.5	22.3 11.2
1 10	23.9 7.2	22.6 10.8	20.6 9.8	22.8 7.0	22.5 10.0	20.5 8.0	19.0 10.0	21.5 10.2	20.5 10.5
1 11	18.5 7.0	22.5 9.2	19.0 10.0	23.5 8.2	22.6 7.2	16.3 7.3	19.8 9.8	21.4 8.0	20.5 8.5
1 12	23.5 9.8	18.5 10.8	17.9 5.9	23.8 7.8	23.0 10.0	19.8 9.5	20.5 10.3	21.5 10.5	22.0 9.5
1 13	23.2 7.2	23.0 10.4	19.0 4.0	23.5 7.8	20.1 6.2	20.0 9.0	20.0 8.0	24.0 12.0	20.5 5.0
1 14	23.0 9.3	22.6 8.0	20.2 4.6	22.5 7.8	23.0 8.0	20.8 10.0	17.5 7.0	24.5 10.0	20.2 6.2
1 15	23.4 9.4	23.0 8.2	20.2 5.0	23.0 7.4	23.0 8.0	20.5 9.5	19.0 7.2	15.5 8.0	20.6 7.0
1 16	23.8 8.6	23.0 8.4	21.8 6.8	24.0 7.8	20.0 8.8	22.0 8.5	21.0 6.4	16.0 10.0	15.6 8.0
1 17	21.8 10.4	23.0 8.0	21.0 7.6	24.2 7.2	21.2 8.0	22.5 9.0	21.0 6.6	18.5 6.4	18.0 10.5
1 18	22.8 9.6	23.1 8.4	20.2 6.6	24.5 8.8	23.0 6.6	20.0 9.5	21.6 7.7	19.8 7.0	20.5 6.5
1 19	23.4 9.0	23.1 8.6	20.8 5.8	24.5 9.0	22.8 6.2	22.2 10.0	22.6 10.2	19.9 6.5	18.5 6.5
1 20	23.2 7.6	24.0 9.2	21.0 6.2	24.5 9.8	23.0 6.2	22.0 9.5	17.5 8.2	21.5 7.3	20.0 6.5
1 21	23.1 7.2	24.2 9.0	20.8 6.4	25.9 9.8	23.2 5.2	22.0 10.0	18.5 5.2	21.0 7.9	20.0 6.9
1 22	23.2 6.8	24.0 8.8	23.0 7.6	30.5 11.2	22.8 5.4	21.0 9.0	20.8 6.0	22.2 6.7	20.0 8.5
1 23	23.8 6.2	24.2 9.2	25.0 6.2	25.9 11.4	21.0 5.0	21.0 7.8	21.4 7.4	21.5 7.0	20.4 7.5
1 24	23.8 6.4	24.5 10.0	22.2 6.4	25.8 12.4	20.6 6.0	22.3 9.0	21.2 7.5	22.5 8.0	20.2 6.9
1 25	23.6 7.2	24.1 8.8	22.1 6.8	25.8 12.0	21.0 5.8	22.5 9.5	21.0 6.9	23.8 9.4	19.6 6.8
1 26	24.8 6.4	23.8 9.2	23.0 6.4	25.6 12.8	23.0 6.4	22.7 10.0	21.5 7.4	24.4 8.9	20.4 5.5
1 27	24.0 6.6	23.0 5.4	22.8 8.2	25.6 12.0	21.2 6.2	21.3 11.3	22.4 7.5	24.6 9.5	21.2 6.5
1 28	24.1 7.0	23.0 6.2	22.5 8.6	25.9 12.4	22.0 6.0	22.0 11.2	23.2 7.5	25.0 10.5	21.5 6.5
1 29	24.5 9.2	22.8 7.0	22.2 8.4	26.2 12.8	26.0 8.0	24.2 9.9	23.6 7.7	22.9 10.4	21.2 7.5
1 30	25.1 9.1	23.0 7.1	24.0 DNA	27.4 12.0	25.8 5.2	24.2 11.0	25.0 8.3	22.7 12.8	22.6 7.5
1 31	25.7 8.6	23.2 7.4	25.2 8.0	27.4 12.0	25.9 6.2	20.0 13.5	24.2 6.2	22.8 8.4	20.6 9.4
2 1	25.0 9.2	24.0 9.0	24.0 9.6	27.6 12.2	26.0 7.4	22.8 13.0	22.7 6.0	22.0 9.9	22.8 9.5
2 2	25.0 5.3	25.0 8.0	24.0 10.2	26.0 12.4	28.0 6.4	23.0 13.2	24.5 6.4	22.2 6.8	23.4 8.9
2 3	24.6 6.4	24.0 9.4	24.0 9.8	26.4 12.2	25.8 8.0	22.5 7.8	25.1 6.4	23.1 7.9	23.0 8.5
2 4	22.1 10.2	25.9 9.4	23.9 11.8	25.8 8.0	25.8 4.0	22.8 7.5	25.2 8.0	22.4 7.0	22.7 8.0
2 5	22.8 5.6	26.0 8.6	24.2 11.6	23.5 8.8	25.2 5.0	21.5 8.0	24.8 7.5	23.5 8.0	22.1 9.5
2 6	23.8 7.8	25.5 8.6	27.2 9.2	24.0 9.7	25.2 5.4	23.0 8.5	26.2 9.0	24.5 8.4	22.1 8.9
2 7	24.6 8.2	25.8 10.4	25.5 7.6	23.9 11.2	26.8 6.0	15.4 12.5	27.5 9.0	26.6 6.5	22.9 8.5
2 8	24.6 8.0	26.0 11.0	24.5 6.2	26.8 9.6	26.8 6.0	19.7 10.8	26.3 9.5	18.5 10.5	22.6 9.8
2 9	25.1 7.8	26.8 9.8	24.5 5.2	26.8 9.4	26.0 6.4	22.7 9.8	23.5 13.5	20.5 11.0	21.0 12.9
2 10	25.0 7.6	26.9 11.0	24.8 5.2	26.5 10.0	29.0 6.6	22.8 8.0	25.5 14.5	22.0 8.8	22.6 9.0
2 11	25.4 9.2	27.1 9.8	24.8 6.0	25.2 11.2	29.8 8.0	22.5 9.8	26.3 12.5	22.1 8.2	24.5 9.5
2 12	25.8 9.0	25.6 10.0	24.0 5.6	25.0 11.2	29.5 8.0	23.2 8.5	27.1 14.5	22.8 8.5	25.4 10.0
2 13	26.2 10.0	23.9 8.6	22.9 6.7	17.9 12.0	28.8 7.2	19.5 9.0	27.0 15.0	23.0 9.2	26.2 9.2
2 14	21.8 9.0	24.1 8.4	23.4 8.0	20.5 14.0	29.0 7.8	24.0 10.4	27.1 14.0	23.6 8.0	19.0 10.4
2 15	21.9 12.2	24.1 8.0	23.5 6.4	24.8 10.0	29.0 6.2	24.4 9.8	25.5 13.5	23.7 7.0	21.7 13.5
2 16	25.9 11.4	26.1 8.4	23.8 5.2	25.0 9.8	28.2 7.2	23.5 9.5	27.0 14.0	25.1 7.0	20.0 9.9
2 17	25.4 8.4	26.1 6.8	25.0 5.8	24.4 9.6	26.0 8.0	24.5 8.5	29.7 15.0	24.2 7.4	23.8 9.0
2 18	24.0 7.8	26.6 8.2	19.2 5.8	25.4 10.0	25.0 6.0	22.5 5.0	29.0 11.5	26.0 8.5	23.6 8.0
2 19	26.4 6.8	26.6 9.0	13.0 7.2	25.6 9.0	21.0 8.0	23.8 6.5	27.0 7.5	26.5 12.5	22.0 8.4
2 20	27.0 6.4	26.9 9.4	18.0 4.8	25.6 7.6	20.0 5.8	23.8 8.0	25.3 6.3	26.4 7.7	24.0 7.5
2 21	28.5 7.6	26.0 11.0	16.8 5.0	25.1 8.2	30.5 5.6	25.0 6.5	23.6 5.4	25.0 9.4	24.5 7.0
2 22	28.1 10.4	25.0 11.1	22.0 5.4	25.0 8.0	20.8 5.2	25.2 6.0	23.2 5.0	23.5 9.0	24.5 10.0
2 23	27.9 10.2	25.0 10.4	22.5 5.0	25.0 8.0	22.0 5.0	25.0 6.5	23.5 5.4	23.5 6.0	17.5 11.8
2 24	27.8 10.6	25.0 9.4	24.2 4.6	23.0 7.0	24.0 4.8	24.4 4.5	24.0 9.5	24.5 8.8	22.5 9.5
2 25	29.4 11.0	25.4 11.0	26.3 5.8	23.0 10.2	25.2 5.0	23.5 3.8	24.3 10.8	24.5 9.0	23.6 8.4
2 26	29.2 10.0	26.0 10.2	28.0 5.9	25.8 8.8	27.0 5.9	24.5 5.3	24.0 10.0	25.5 10.8	23.5 9.0
2 27	20.9 13.0	26.0 10.2	29.0 8.0	25.6 11.6	28.0 8.0	20.5 5.7	26.5 12.7	26.1 7.5	24.5 10.4
2 28	25.0 8.6	23.0 13.0	30.1 9.2	22.0 12.0	28.0 9.2	25.2 11.0	26.6 10.0	26.6 11.2	23.9 9.5
2 29		26.0 10.4				25.4 9.0			

Daily Temperature (deg C)

Location : Kharini Tar

Year	1987	1988	1989	1990	1991	1992	1993	1994	1995										
Month Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	
3	1	25.6	8.4	27.5	12.0	28.9	10.2	25.2	9.2	26.0	8.8	27.4	10.4	21.5	9.5	27.5	9.9	25.0	9.0
3	2	25.9	7.8	28.0	12.3	29.8	7.4	25.8	8.8	28.0	7.0	28.2	12.0	27.5	7.5	26.0	11.0	26.2	10.0
3	3	25.9	8.2	28.5	15.0	29.0	6.7	25.6	9.0	28.9	6.9	29.0	11.5	28.0	8.5	26.5	10.5	27.6	9.5
3	4	27.1	11.6	28.5	9.4	28.9	6.8	26.0	10.0	29.0	7.0	29.5	10.5	30.0	10.2	27.5	11.0	25.6	9.0
3	5	27.4	10.4	28.4	13.2	28.8	7.4	26.0	8.0	28.1	7.6	29.8	11.0	30.2	9.3	29.5	11.4	22.6	12.5
3	6	27.0	12.0	28.5	12.2	28.8	10.0	26.0	8.0	29.0	10.0	30.3	10.5	28.8	9.2	30.1	11.5	26.2	12.5
3	7	DNA	10.6	30.0	12.9	29.5	10.0	25.8	6.8	28.0	9.8	30.8	9.5	28.2	10.1	30.2	11.8	18.5	11.0
3	8	27.0	12.8	28.5	12.8	29.8	10.7	26.8	7.4	28.8	9.8	30.5	9.8	30.0	10.5	28.5	11.0	25.3	11.5
3	9	27.5	11.0	28.4	15.0	29.8	11.6	26.6	8.0	30.0	10.0	30.0	9.5	30.5	11.1	30.5	10.5	25.7	10.4
3	10	27.8	10.2	27.5	14.4	30.0	9.2	23.5	11.0	29.8	10.0	29.5	9.8	31.5	11.5	29.0	11.8	28.4	10.5
3	11	27.4	8.8	28.8	14.0	26.5	9.0	25.2	10.8	28.8	10.4	30.6	9.2	31.5	10.2	29.7	12.5	29.0	10.0
3	12	19.4	13.9	29.8	12.8	25.8	12.4	25.4	10.6	29.6	11.0	31.0	10.0	30.6	14.5	29.5	14.0	28.4	9.2
3	13	25.4	12.6	24.1	12.4	26.5	11.8	24.8	11.0	24.1	12.4	31.6	11.5	33.0	10.5	28.5	17.6	28.0	8.9
3	14	25.4	12.0	25.0	14.2	26.3	11.8	22.4	15.4	25.2	14.4	33.2	13.2	32.9	12.0	29.5	18.0	30.2	10.0
3	15	26.9	14.8	28.0	10.0	27.2	9.8	27.9	13.4	26.8	10.0	31.5	11.5	30.7	9.9	30.5	16.6	30.0	9.8
3	16	27.6	14.6	28.8	11.2	27.2	9.6	27.5	13.0	27.0	10.4	31.0	9.5	32.7	9.8	31.6	16.0	30.0	12.4
3	17	28.5	15.2	29.5	12.4	28.9	9.8	30.0	14.0	28.0	9.6	30.4	10.5	31.6	9.5	33.5	15.0	31.0	11.0
3	18	28.9	12.4	32.0	13.0	29.0	14.2	31.5	13.9	28.4	14.0	29.6	11.5	29.6	9.7	33.1	17.0	31.0	10.2
3	19	30.1	12.6	31.8	14.1	29.0	14.6	30.8	12.4	31.0	14.8	31.5	11.4	29.5	8.3	33.0	20.0	32.8	12.0
3	20	27.0	13.4	32.0	9.8	30.0	15.0	32.0	12.8	31.9	15.0	31.7	12.5	28.5	7.0	32.9	21.0	32.8	12.5
3	21	28.9	9.6	28.0	11.2	30.5	14.8	32.0	9.4	30.0	14.0	33.8	13.0	22.5	7.9	33.5	15.5	33.5	13.0
3	22	30.0	12.4	28.5	12.2	31.9	14.8	32.0	13.0	29.0	13.8	35.5	14.5	28.1	7.0	35.6	21.5	34.0	14.0
3	23	31.8	13.1	28.8	12.6	33.2	14.4	34.0	15.2	28.9	15.0	32.0	17.0	22.1	12.0	34.4	12.0	33.5	16.0
3	24	31.4	15.1	29.8	13.2	33.0	15.0	23.0	13.2	30.0	15.0	35.5	11.0	20.9	9.7	32.5	14.3	33.4	17.5
3	25	32.1	16.6	30.9	13.2	33.1	12.6	26.2	14.0	31.0	16.0	34.4	14.5	24.9	14.5	32.4	15.0	33.5	18.4
3	26	31.1	18.4	33.7	13.8	33.6	12.6	28.0	8.3	30.0	13.4	35.5	14.5	17.7	8.5	30.5	14.0	21.0	15.5
3	27	32.5	14.4	28.9	16.6	24.7	14.8	26.2	8.8	30.4	17.0	36.5	13.4	26.6	10.6	28.5	10.6	23.5	15.5
3	28	33.2	12.6	31.5	12.4	26.8	15.4	26.8	13.6	31.6	16.0	35.5	14.3	28.3	9.0	29.8	14.5	30.5	13.5
3	29	33.1	13.0	31.6	12.2	25.8	14.2	27.0	13.4	31.4	16.0	38.0	15.8	29.3	9.5	24.5	18.5	29.8	9.5
3	30	33.6	14.6	32.0	13.0	28.1	12.4	27.4	14.0	32.0	16.0	34.7	12.3	30.5	10.5	24.5	18.4	30.6	15.0
3	31	33.1	13.9	32.6	14.2	30.5	12.6	30.0	14.0	33.0	16.0	34.5	14.5	31.7	11.0	31.0	19.2	31.9	14.4
4	1	32.4	17.0	33.0	11.0	31.6	16.2	30.0	11.0	31.2	17.4	34.6	11.5	DNA	DNA	34.0	15.5	31.4	10.8
4	2	32.0	17.2	33.6	10.2	31.8	16.1	31.0	10.0	33.5	17.2	33.2	12.5	32.8	11.5	34.0	13.1	31.2	11.0
4	3	33.6	16.4	33.8	11.6	32.5	16.4	28.6	10.2	33.4	21.0	33.6	12.2	33.9	14.0	31.5	13.0	31.8	10.0
4	4	34.4	17.0	34.8	13.2	32.0	12.2	27.9	9.4	33.9	20.9	34.0	13.3	33.0	9.5	31.6	15.0	30.8	10.8
4	5	34.0	14.2	36.5	13.6	32.5	10.2	27.9	13.2	34.0	21.0	34.7	12.6	33.8	10.7	31.7	15.5	30.4	12.0
4	6	33.0	14.2	37.2	13.2	32.5	10.0	29.1	14.6	33.8	21.4	34.5	15.5	33.8	10.7	32.5	17.4	32.2	10.1
4	7	33.0	14.0	38.5	14.2	31.4	10.2	29.0	14.6	32.8	20.0	36.2	13.6	34.5	10.4	34.3	20.5	33.0	11.7
4	8	32.0	15.3	35.8	16.0	31.5	11.4	27.9	15.0	33.0	21.0	36.5	14.5	35.5	12.4	34.9	16.0	32.5	13.0
4	9	27.1	19.2	35.2	17.2	31.6	13.0	29.8	14.8	32.8	22.0	36.5	14.2	30.4	14.5	33.9	13.6	32.8	17.0
4	10	32.5	13.8	36.6	16.4	33.1	13.2	30.8	15.1	33.0	22.4	39.0	15.5	32.0	10.5	35.0	16.5	33.7	17.0
4	11	33.0	13.3	37.0	14.8	33.5	16.6	31.2	16.2	33.8	22.6	40.0	17.7	31.4	14.7	34.1	12.0	30.4	17.0
4	12	32.5	11.4	34.5	16.2	32.5	12.4	32.2	17.8	33.0	14.0	40.4	15.0	29.0	15.4	33.7	12.5	32.0	13.8
4	13	33.7	11.2	33.8	16.0	33.4	12.4	33.4	17.8	32.2	18.0	40.5	14.0	24.2	17.2	35.4	10.6	32.0	13.5
4	14	33.5	12.4	34.1	20.1	35.0	12.8	33.2	16.2	33.8	20.0	40.7	12.5	27.5	13.8	36.0	12.5	32.5	13.0
4	15	34.0	10.4	37.9	14.6	34.0	13.6	34.2	14.2	32.0	20.0	38.5	12.5	29.2	18.7	34.4	18.5	33.5	17.2
4	16	32.5	11.2	26.1	16.0	36.0	14.0	35.0	15.7	30.9	18.6	37.5	12.5	31.6	18.5	34.5	18.0	34.5	14.0
4	17	32.8	12.8	30.8	15.8	37.2	13.9	35.0	15.4	31.0	16.8	37.2	13.0	32.0	16.5	33.0	12.5	33.5	15.0
4	18	32.9	15.0	29.8	17.8	37.1	13.6	34.2	17.8	34.0	18.0	36.5	16.0	32.0	15.8	34.4	13.0	32.0	15.0
4	19	32.4	13.6	31.1	15.0	37.4	14.0	31.5	18.2	32.8	18.0	36.5	13.0	32.0	14.0	35.0	14.0	34.0	15.0
4	20	33.6	15.2	31.5	15.6	37.5	14.0	32.8	15.6	33.0	19.0	37.2	16.0	32.3	17.0	35.5	13.0	29.5	17.0
4	21	34.4	17.4	30.5	17.4	37.2	13.0	33.5	16.2	33.6	19.4	37.0	18.5	32.2	16.5	33.5	14.8	34.0	15.2
4	22	34.3	17.8	31.4	16.0	36.5	13.0	34.5	15.2	36.0	20.8	39.8	20.0	33.4	19.2	30.2	15.5	33.4	15.0
4	23	33.0	16.6	27.6	19.0	36.5	14.0	35.8	17.2	37.8	18.6	38.5	16.0	30.5	17.9	31.5	14.5	34.5	16.0
4	24	33.0	15.2	31.2	17.3	38.0	16.4	35.0	19.0	36.0	15.0	38.0	14.5	31.1	19.2	34.3	14.5	36.5	16.0
4	25	32.8	17.2	32.1	17.0	37.8	14.8	34.0	20.0	37.4	16.0	37.5	15.5	32.4	18.0	35.6	13.6	38.0	17.0
4	26	30.0	13.4	30.9	16.6	36.0	14.2	34.0	18.4	36.8	18.0	37.5	16.8	31.4	18.2	35.8	15.5	36.1	16.9
4	27	30.1	15.7	31.2	16.8	33.6	15.8	34.0	18.9	34.2	18.6	36.0	18.0	34.0	20.5	35.5	15.5	37.2	17.4
4	28	31.4	19.0	33.6	19.0	34.5	13.9	32.0	17.6	33.4	19.4	34.0	18.8	33.7	21.5	35.5	13.4	32.6	17.5
4	29	30.2	20.2	31.8	19.8	35.4	13.2	29.8	18.4	34.2	20.0	35.5	17.5	33.0	18.5	34.5	17.4	34.2	21.0
4	30	26.5	17.4	33.8	19.6	35.8	14.0	30.4	18.6	34.6	20.6	29.5	20.8	32.5	22.5	36.0	15.5	34.0	20.0

Daily Temperature (deg C)

Location : Kharini Tar

Year	1987	1988	1989	1990	1991	1992	1993	1994	1995									
Month Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
5 1	30.0	17.8	34.2	22.0	33.8	19.4	31.8	15.5	30.4	20.4	32.4	18.0	32.7	20.7	38.5	21.0	36.0	19.5
5 2	29.4	15.0	27.5	19.4	37.5	17.4	31.8	16.9	31.4	17.4	33.0	17.0	32.0	23.4	38.5	20.0	38.0	18.1
5 3	27.0	15.2	DNA	20.2	38.5	21.0	33.2	18.2	30.2	18.8	33.0	17.0	33.8	24.0	39.9	25.0	38.5	18.0
5 4	28.7	14.8	32.4	17.0	39.5	21.6	33.0	18.0	30.4	19.0	26.0	17.0	35.0	23.0	40.9	21.5	37.9	17.0
5 5	29.4	16.6	31.0	17.1	40.5	19.8	32.5	17.6	32.0	18.0	33.5	15.4	34.2	21.5	41.1	20.5	38.1	16.0
5 6	30.6	16.0	31.4	17.4	40.6	18.2	32.6	18.4	28.0	19.0	34.0	17.5	31.1	20.5	39.0	17.2	38.5	16.0
5 7	30.8	17.2	32.4	18.0	40.6	16.1	30.4	18.2	30.0	17.0	34.5	18.0	30.5	22.5	37.5	14.6	33.5	16.0
5 8	29.2	17.0	33.5	18.9	39.4	15.5	33.5	17.2	33.0	19.0	34.6	19.0	31.4	22.5	38.4	18.5	33.5	18.5
5 9	31.4	17.0	33.9	20.9	37.2	16.0	33.0	19.4	33.0	21.0	34.0	19.0	32.5	18.5	32.9	20.8	33.0	21.0
5 10	34.4	18.2	35.2	20.6	37.9	DNA	34.5	20.0	35.4	20.0	33.5	19.0	32.4	17.5	34.1	18.0	34.4	19.5
5 11	33.9	14.8	33.5	21.0	37.2	16.8	34.0	21.2	35.0	21.4	35.0	20.0	30.8	20.0	35.1	16.5	34.2	19.9
5 12	35.0	16.0	35.4	18.7	34.5	19.2	34.6	21.0	34.6	18.0	36.0	20.0	31.7	16.5	38.1	17.6	34.9	20.0
5 13	34.6	17.2	34.8	18.8	30.2	19.0	34.8	19.0	29.2	18.0	35.5	20.0	33.5	18.5	37.5	18.5	34.5	22.5
5 14	32.4	15.8	34.5	17.2	29.0	18.7	34.8	20.2	34.5	18.0	33.5	22.0	31.8	17.6	39.0	20.0	33.5	22.0
5 15	37.0	17.4	29.2	17.4	33.2	19.8	32.5	22.4	32.9	17.6	30.5	20.0	31.1	19.0	36.9	18.0	33.8	23.0
5 16	36.8	17.6	32.9	17.8	34.0	23.4	35.0	20.6	31.6	19.0	29.0	20.0	30.5	20.2	36.0	16.0	35.0	23.5
5 17	36.6	17.4	31.5	19.8	32.1	22.8	35.5	23.2	33.4	20.2	32.5	19.5	32.6	19.5	31.5	19.0	29.7	22.8
5 18	36.0	17.0	30.5	20.2	35.2	23.0	34.5	22.4	30.6	20.6	33.0	17.0	31.4	19.0	31.5	19.5	32.7	23.0
5 19	37.1	17.0	32.6	19.6	33.0	21.4	33.5	22.2	33.0	19.4	34.0	18.5	31.4	18.9	31.9	20.5	34.1	24.0
5 20	37.1	18.4	33.4	19.0	31.4	21.4	32.5	20.4	32.8	19.4	33.5	17.5	30.6	17.5	33.1	22.0	33.8	21.0
5 21	35.8	21.4	33.9	20.2	29.8	22.8	32.1	20.2	34.0	22.0	31.0	14.5	33.1	17.2	36.6	21.6	33.6	20.6
5 22	35.0	20.6	32.8	21.0	34.0	22.0	30.4	18.4	33.8	21.8	30.0	16.0	34.1	19.2	32.2	20.5	34.5	21.2
5 23	35.1	18.0	34.0	21.2	34.4	21.8	33.5	18.4	32.0	22.0	30.5	20.0	35.1	23.5	32.4	22.0	35.5	19.0
5 24	35.4	18.8	34.1	19.8	35.4	21.8	32.5	20.8	34.0	20.0	32.0	20.0	34.5	21.5	33.1	21.5	36.0	20.5
5 25	35.6	19.8	34.1	18.9	32.5	21.0	33.1	21.4	34.1	20.0	23.0	19.0	33.5	19.5	34.1	21.5	36.5	20.6
5 26	35.8	20.0	34.1	19.6	23.1	DNA	33.8	22.0	34.0	14.0	32.5	19.5	35.4	22.0	35.1	22.0	37.0	20.5
5 27	35.9	16.8	33.8	20.0	26.9	21.0	34.1	20.6	29.8	15.0	32.5	20.0	30.1	19.5	34.9	23.5	35.9	20.5
5 28	36.1	19.7	34.9	20.0	31.9	DNA	35.8	20.8	31.6	12.0	32.5	22.5	30.5	20.5	35.6	23.5	35.6	20.5
5 29	36.4	21.8	32.8	18.9	29.3	20.4	35.6	21.0	31.6	14.0	32.5	21.0	32.1	20.5	35.5	22.0	36.0	22.5
5 30	36.0	21.0	32.8	18.0	33.1	19.8	35.0	20.4	30.8	13.0	33.4	21.0	32.1	20.5	33.1	22.9	36.0	23.5
5 31	36.6	23.4	34.5	23.9	32.8	22.0	35.5	20.6	30.9	14.0	34.0	22.0	34.1	22.7	33.5	22.5	36.5	25.0
6 1	35.1	15.8	33.0	23.6	33.6	21.2	36.1	23.0	32.0	16.0	34.0	19.0	34.8	22.2	34.9	22.3	36.6	25.0
6 2	34.6	20.1	33.5	21.7	34.5	22.6	36.0	22.8	31.8	17.0	37.0	19.0	33.3	19.5	34.4	20.5	37.0	24.0
6 3	33.1	22.4	33.8	21.6	34.5	22.0	33.5	24.2	32.6	18.0	37.0	20.4	32.5	21.0	34.4	21.0	34.0	24.5
6 4	31.4	23.0	34.8	21.4	30.5	21.2	34.5	23.4	34.0	18.0	37.5	20.5	32.6	21.1	33.8	21.6	33.0	24.0
6 5	34.5	18.6	32.1	21.6	32.1	21.9	32.8	23.6	34.0	21.0	36.0	21.5	33.2	21.0	33.5	20.4	30.8	23.5
6 6	34.5	18.6	34.5	19.6	32.5	22.0	34.5	20.4	32.6	17.0	35.5	18.5	32.7	22.5	32.6	20.5	30.0	24.5
6 7	30.9	22.8	34.3	19.6	33.1	19.4	34.4	24.0	35.0	21.0	35.5	20.0	31.3	21.7	34.8	21.0	26.8	24.0
6 8	33.0	22.9	34.4	19.2	34.0	20.4	34.8	19.6	33.2	19.0	30.2	19.5	32.5	23.6	31.8	24.5	30.5	23.5
6 9	32.8	21.4	34.6	23.9	35.4	23.6	31.9	22.2	34.0	18.0	34.5	21.0	29.8	21.6	36.9	24.5	26.7	24.0
6 10	32.9	20.8	31.6	22.6	35.9	25.4	32.0	23.0	33.0	18.2	31.5	20.5	33.5	21.9	28.5	23.0	25.6	23.6
6 11	33.8	22.1	33.9	24.4	34.2	22.8	32.8	21.2	34.5	20.2	35.5	20.0	34.4	21.8	33.4	20.4	27.3	24.5
6 12	34.0	23.2	31.8	22.4	35.1	24.4	34.2	23.4	32.6	22.0	34.0	23.5	35.5	23.0	33.6	24.0	28.5	24.0
6 13	35.5	23.4	28.5	20.8	31.0	22.8	34.2	23.4	34.0	20.2	32.8	21.7	34.5	24.5	35.4	23.8	30.0	24.0
6 14	35.8	23.4	31.1	22.6	33.5	22.0	35.5	23.8	32.5	22.0	36.5	23.0	34.8	23.5	37.3	23.5	33.5	23.0
6 15	35.9	24.6	32.6	21.4	33.0	22.8	35.5	23.8	35.5	23.0	35.0	22.0	37.5	23.6	35.4	22.7	34.0	24.5
6 16	33.4	22.8	32.5	21.8	33.5	22.8	34.8	24.0	32.5	21.0	35.8	23.0	34.0	22.4	36.0	24.5	34.5	23.5
6 17	30.7	23.8	32.5	21.4	31.5	22.8	35.5	24.0	34.8	20.0	37.5	25.2	34.4	23.5	36.1	23.5	25.5	23.5
6 18	34.8	25.0	33.5	24.0	26.8	21.4	35.6	23.2	35.0	18.0	35.5	25.0	33.8	23.4	33.2	26.0	29.0	23.0
6 19	35.0	21.6	34.1	21.8	33.5	21.4	34.8	23.0	33.0	22.0	36.3	23.5	33.6	22.6	31.1	21.0	30.0	22.0
6 20	35.0	21.4	34.5	23.6	33.1	22.6	35.5	23.8	30.4	18.0	34.8	25.0	34.8	22.4	33.8	25.3	29.8	22.0
6 21	35.4	21.2	32.5	21.8	34.4	22.8	35.5	23.8	33.5	23.0	34.5	23.5	35.8	22.0	33.8	21.7	32.0	23.0
6 22	35.4	22.0	33.4	24.0	31.5	23.2	35.2	23.4	32.0	18.0	35.5	24.5	35.1	24.5	34.3	23.0	23.6	21.5
6 23	32.6	23.3	34.8	23.6	34.0	24.4	31.8	24.4	32.5	22.6	33.0	23.0	32.8	23.5	34.8	24.0	30.0	21.2
6 24	32.8	23.6	30.7	23.0	33.9	24.6	35.1	25.2	36.0	21.0	35.0	23.5	35.1	24.1	34.4	23.5	33.0	22.5
6 25	35.0	23.4	30.4	22.4	33.9	24.0	35.5	25.8	33.0	23.0	33.2	22.0	29.5	21.6	34.0	23.9	33.6	24.0
6 26	35.4	23.0	33.5	22.4	33.6	23.8	37.5	22.2	32.0	20.0	33.5	23.8	33.5	24.0	32.3	22.5	32.0	25.2
6 27	34.3	24.8	35.9	23.4	34.5	22.8	33.9	22.8	32.4	22.6	33.4	22.5	28.1	23.6	37.4	23.0	34.8	25.5
6 28	31.0	24.2	31.8	23.2	33.0	24.1	34.0	25.2	32.1	20.6	33.5	23.0	36.6	24.0	34.2	23.5	34.8	22.5
6 29	32.0	24.2	33.8	24.6	33.8	23.0	35.0	23.8	30.4	18.6	34.6	22.5	35.1	24.5	33.5	23.5	31.5	23.0
6 30	34.0	23.2	37.5	23.2	33.0	23.2	35.0	24.0	29.4	18.0	35.4	23.8	34.0	25.0	34.5	24.2	32.5	22.5

Daily Temperature (deg C)

Location : Kharini Tar

Year		1987		1988		1989		1990		1991		1992		1993		1994		1995	
Month	Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
7	1	33.2	25.2	34.4	24.0	33.2	24.0	35.8	23.0	DNA	DNA	35.7	23.5	32.6	23.6	32.5	24.2	31.0	23.5
7	2	33.0	21.5	32.0	22.6	29.8	22.2	36.1	23.4	DNA	DNA	34.8	24.3	33.5	23.0	31.2	24.1	31.0	22.0
7	3	29.0	23.6	33.6	23.6	32.8	22.6	34.8	23.0	DNA	DNA	35.3	20.5	35.1	24.5	33.0	24.1	30.0	23.0
7	4	31.3	23.0	32.8	23.7	34.8	23.0	34.8	23.2	DNA	DNA	35.0	23.5	34.3	22.5	33.5	24.1	31.0	24.5
7	5	34.9	23.4	28.0	22.4	33.0	24.6	32.2	24.2	DNA	DNA	36.5	23.5	33.9	23.1	33.0	23.5	32.5	21.6
7	6	32.3	23.8	27.5	22.6	32.0	24.6	34.2	23.8	DNA	DNA	34.2	23.0	35.1	23.5	31.3	23.5	32.4	23.9
7	7	32.1	23.0	33.5	22.8	33.0	24.2	34.1	24.6	DNA	DNA	33.6	23.0	33.6	24.6	33.0	23.5	25.4	23.2
7	8	24.2	21.8	32.5	23.0	32.5	23.4	29.0	23.4	DNA	DNA	34.4	23.5	36.0	23.8	32.0	22.5	29.5	23.4
7	9	27.9	22.2	33.5	23.4	34.1	24.6	31.5	22.8	DNA	DNA	34.0	23.0	35.7	25.8	33.5	22.1	30.5	24.5
7	10	33.8	23.1	34.8	24.8	33.8	24.1	31.5	23.0	DNA	DNA	33.0	23.0	34.6	24.0	34.2	24.1	30.5	23.5
7	11	31.6	23.6	33.1	25.2	32.2	24.2	32.4	22.8	DNA	DNA	33.5	24.5	33.6	25.0	33.0	24.0	27.0	22.6
7	12	33.4	24.4	32.4	23.2	29.4	24.2	34.1	24.4	DNA	DNA	31.5	23.0	35.0	25.5	34.4	25.6	32.5	22.9
7	13	32.9	24.0	32.5	23.2	28.8	24.0	34.5	24.0	DNA	DNA	28.2	23.5	35.1	25.1	34.4	24.0	30.8	23.5
7	14	32.5	25.4	34.9	24.8	23.8	22.2	29.5	23.0	DNA	DNA	33.6	23.5	34.8	24.5	34.5	26.2	32.9	23.0
7	15	33.9	23.7	36.0	23.6	25.5	21.8	34.5	23.6	DNA	DNA	31.2	24.4	35.6	24.8	34.5	23.7	32.8	24.5
7	16	33.8	24.0	36.0	23.1	31.5	22.2	34.5	24.6	DNA	DNA	28.2	24.0	31.9	23.6	35.2	25.5	33.0	25.0
7	17	30.2	23.7	34.8	23.4	32.5	23.8	32.5	23.8	DNA	DNA	33.8	22.2	32.0	24.0	35.0	24.9	33.0	23.7
7	18	34.0	23.4	34.0	24.2	29.5	24.0	32.5	23.0	DNA	DNA	33.5	22.5	34.5	24.0	32.0	25.2	32.0	24.8
7	19	31.6	24.2	34.9	23.8	27.1	24.2	32.5	22.4	DNA	DNA	34.5	23.5	31.9	25.0	29.9	23.0	32.0	24.4
7	20	32.6	24.2	34.0	25.2	34.0	23.8	30.5	23.0	DNA	DNA	32.7	23.0	33.7	24.5	33.2	23.5	32.0	22.8
7	21	32.5	23.0	34.3	24.6	33.2	25.2	30.4	24.2	DNA	DNA	34.5	24.5	35.1	25.5	33.0	24.4	32.4	19.8
7	22	33.1	23.8	33.4	24.2	35.2	25.0	35.1	22.8	DNA	DNA	30.0	23.0	30.4	23.0	33.0	25.1	31.0	25.2
7	23	33.1	23.8	34.2	24.4	37.0	22.6	34.8	24.2	DNA	DNA	34.0	25.0	34.0	23.0	32.9	24.0	32.6	25.0
7	24	29.5	24.2	33.4	22.8	35.4	25.2	35.4	24.2	DNA	DNA	31.5	23.5	33.2	25.0	33.6	25.0	32.5	25.0
7	25	26.0	21.8	33.2	23.6	34.5	25.8	35.0	25.0	DNA	DNA	35.5	23.7	35.5	25.0	33.0	25.7	32.9	25.5
7	26	27.9	22.4	31.7	23.8	33.8	25.2	34.3	24.2	DNA	DNA	34.8	24.5	35.1	25.0	31.5	25.2	34.5	24.8
7	27	33.0	23.0	32.4	24.6	33.0	22.4	28.4	24.2	DNA	DNA	34.0	24.4	34.0	25.8	32.4	24.0	32.5	23.5
7	28	33.0	23.4	33.8	24.0	31.8	23.8	33.5	24.0	DNA	DNA	33.5	24.5	27.5	24.0	32.6	25.6	33.5	24.4
7	29	32.5	23.8	33.6	24.0	25.5	23.6	33.2	24.0	DNA	DNA	34.8	24.0	30.0	22.8	30.8	24.5	31.4	24.5
7	30	DNA	24.2	32.0	23.6	26.3	23.0	33.0	23.8	DNA	DNA	34.5	25.5	33.0	24.2	33.0	24.2	32.1	24.9
7	31	29.0	24.6	30.4	24.2	29.2	22.2	33.0	23.4	DNA	DNA	28.5	23.4	34.5	23.0	33.0	24.4	32.9	24.0
8	1	32.4	24.0	27.9	21.9	26.2	22.0	34.8	24.0	DNA	DNA	29.0	23.0	32.0	24.0	35.1	26.0	32.5	23.5
8	2	29.7	23.8	32.5	22.4	30.0	21.8	32.9	23.2	DNA	DNA	31.5	23.0	35.0	24.0	33.9	24.0	32.0	23.5
8	3	27.8	23.2	34.8	24.4	37.3	24.0	34.5	21.6	DNA	DNA	34.0	23.0	35.1	25.0	33.6	23.9	32.0	23.2
8	4	32.5	23.4	33.9	24.6	34.2	23.0	34.6	24.0	DNA	DNA	32.5	24.0	35.0	25.0	33.8	25.9	32.9	23.5
8	5	33.0	23.4	34.1	24.2	34.0	24.0	34.8	24.0	DNA	DNA	34.5	23.0	34.6	23.6	32.1	25.6	33.0	24.5
8	6	32.5	23.2	32.9	25.0	30.0	24.2	32.5	24.4	DNA	DNA	34.0	24.0	33.7	24.5	32.6	24.4	33.5	24.5
8	7	31.0	23.4	30.8	23.0	34.0	24.0	34.0	24.0	DNA	DNA	34.5	22.5	33.0	25.0	34.0	25.5	33.0	25.0
8	8	30.8	23.2	34.9	24.2	33.2	24.0	34.2	24.2	DNA	DNA	34.2	24.4	29.0	23.0	32.9	25.5	33.5	25.0
8	9	33.0	23.6	33.5	24.2	33.0	23.0	34.2	23.0	DNA	DNA	34.0	24.4	26.5	20.0	31.5	24.5	32.5	22.9
8	10	28.5	20.0	33.1	24.4	33.0	24.0	34.6	23.1	DNA	DNA	33.5	23.5	34.5	23.6	32.8	25.1	32.0	24.0
8	11	25.5	21.4	33.0	24.0	35.0	24.0	34.8	23.4	DNA	DNA	35.5	23.0	34.5	23.5	31.5	24.0	32.0	24.5
8	12	25.5	22.0	32.9	23.8	34.0	22.8	33.6	22.6	DNA	DNA	34.5	24.4	34.5	24.5	31.4	24.2	31.0	24.1
8	13	31.2	21.6	31.6	23.4	33.0	24.2	25.1	20.0	DNA	DNA	34.5	24.5	35.5	24.5	33.0	24.5	27.2	22.9
8	14	29.9	21.8	32.1	23.6	34.0	25.0	31.2	22.4	DNA	DNA	35.5	22.0	30.8	25.0	28.5	23.0	31.5	23.0
8	15	30.8	21.8	26.5	24.2	34.0	24.0	33.5	22.6	DNA	DNA	29.5	22.5	32.5	25.0	30.2	24.5	32.0	23.5
8	16	33.9	22.0	33.5	23.6	33.3	23.4	34.1	23.0	DNA	DNA	33.0	23.5	33.5	23.5	33.5	24.5	32.0	23.5
8	17	33.7	22.6	33.5	24.6	31.0	23.0	34.2	23.2	DNA	DNA	32.6	24.0	34.8	23.8	34.5	23.0	33.1	24.0
8	18	33.5	22.8	33.5	24.2	34.0	25.0	33.2	24.6	DNA	DNA	33.4	24.0	34.3	24.8	32.1	23.1	32.5	23.0
8	19	34.4	22.4	32.1	23.4	33.0	24.4	33.8	23.4	DNA	DNA	35.2	23.0	29.5	22.8	33.8	24.3	32.5	24.9
8	20	33.2	20.8	33.9	23.5	33.4	23.0	DNA	24.0	DNA	DNA	34.8	23.0	34.5	23.5	33.5	25.5	31.5	23.5
8	21	33.4	22.9	33.0	23.0	33.0	24.3	34.5	24.0	DNA	DNA	34.0	23.5	34.0	25.0	31.0	23.5	30.0	23.4
8	22	33.8	25.0	29.0	23.8	34.3	24.0	34.8	24.6	DNA	DNA	33.0	24.0	33.9	24.0	30.8	23.5	32.0	24.5
8	23	32.8	23.0	32.4	22.2	33.3	23.0	33.9	25.8	DNA	DNA	30.2	24.0	33.0	24.9	32.5	23.7	30.7	24.5
8	24	34.5	23.0	31.9	22.2	34.0	24.0	34.0	25.2	DNA	DNA	29.7	23.5	33.4	23.5	32.5	24.0	31.5	23.8
8	25	37.0	23.6	30.5	23.4	34.0	22.2	34.2	25.0	DNA	DNA	32.0	23.5	28.5	23.2	31.8	23.2	33.0	24.5
8	26	33.2	23.2	33.0	22.1	35.0	24.0	34.2	24.8	DNA	DNA	31.2	23.4	33.2	23.5	31.7	24.0	33.4	24.5
8	27	33.0	24.0	31.0	23.2	34.3	24.0	32.0	22.4	DNA	DNA	34.0	23.8	33.3	24.5	33.4	24.8	31.0	24.0
8	28	33.0	23.0	32.5	23.0	34.0	24.4	34.2	23.6	DNA	DNA	34.0	24.0	31.3	24.3	33.4	21.9	33.0	24.0
8	29	33.2	23.2	27.8	23.2	33.0	24.1	34.5	23.7	32.1	DNA	35.0	24.3	31.1	24.0	33.1	23.0	32.9	23.5
8	30	34.9	24.2	31.9	22.4	32.3	24.2	34.6	24.6	32.4	25.0	35.5	24.8	28.4	23.6	34.0	24.5	33.0	23.5
8	31	33.3	24.4	33.0	23.6	33.2	22.8	35.1	25.2	32.3	25.0	35.5	25.4	32.6	22.0	33.9	23.8	33.9	24.0

Daily Temperature (deg C)

Location : Kharini Tar

Year	1987	1988	1989	1990	1991	1992	1993	1994	1995									
Month Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
9 1	33.5	24.0	33.5	23.6	33.5	24.1	34.6	24.0	26.0	21.0	36.0	25.0	27.6	21.2	32.2	24.7	33.5	24.0
9 2	33.6	23.4	33.5	23.8	32.1	23.8	34.0	23.8	DNA	22.4	36.6	24.5	32.0	22.3	33.1	22.7	33.7	24.5
9 3	30.9	23.2	33.6	23.6	33.5	23.0	34.4	24.0	DNA	22.4	34.5	23.7	31.6	23.5	31.8	22.6	30.0	23.0
9 4	30.9	23.2	33.8	23.8	31.0	24.2	34.1	24.8	32.4	24.0	34.8	24.5	29.0	23.5	31.9	23.2	29.6	23.5
9 5	31.9	23.6	33.6	23.8	32.0	24.0	34.5	24.0	29.4	23.0	34.2	24.0	27.5	22.0	33.0	24.5	30.2	23.0
9 6	29.8	21.0	27.1	22.8	32.3	24.2	34.5	24.2	34.4	25.3	32.5	23.0	21.9	20.1	32.6	24.8	30.5	22.6
9 7	32.4	24.4	27.0	22.2	34.0	24.2	32.8	23.2	33.8	24.5	35.0	23.0	32.0	20.5	32.9	24.0	31.5	23.5
9 8	28.5	22.4	28.9	22.4	32.0	24.4	32.8	21.6	31.3	23.0	34.4	23.5	31.2	23.0	33.5	24.8	30.5	24.0
9 9	29.1	22.4	31.1	21.0	33.3	24.4	33.1	21.8	28.5	23.3	34.2	23.0	32.5	23.2	31.0	25.0	32.0	23.0
9 10	28.9	22.0	32.0	21.2	34.0	23.2	34.0	21.2	33.3	22.9	34.8	22.2	33.5	23.5	25.5	23.5	31.8	22.0
9 11	28.0	23.2	33.1	23.0	33.3	22.2	33.0	21.4	33.0	23.0	34.2	24.0	33.0	23.5	32.6	23.4	31.5	23.0
9 12	32.0	23.4	33.1	22.4	30.0	21.3	34.0	22.0	32.7	23.7	32.5	23.5	33.7	23.5	31.5	22.2	32.0	22.9
9 13	32.8	23.2	33.5	23.0	33.0	24.0	34.0	24.2	34.3	23.6	32.0	22.4	33.5	22.5	26.4	22.0	32.0	22.1
9 14	31.0	23.2	34.0	23.0	29.0	23.3	34.1	24.0	32.5	23.0	33.5	22.5	33.0	22.0	23.7	22.4	30.5	21.7
9 15	33.5	23.2	33.8	20.4	33.0	23.0	34.0	23.8	32.5	22.5	31.0	23.0	27.0	23.8	27.9	20.8	32.0	21.9
9 16	33.9	22.8	32.3	20.0	34.0	24.0	33.5	23.8	33.3	23.3	33.5	22.8	32.0	22.8	31.5	20.5	32.0	23.0
9 17	33.8	23.4	26.0	20.6	34.0	24.0	33.9	23.6	31.5	23.3	33.4	22.8	33.4	22.5	32.6	23.0	32.0	23.0
9 18	32.8	23.4	29.1	21.4	33.0	22.0	30.8	21.4	DNA	22.9	32.0	21.5	33.7	22.0	30.9	24.0	32.0	23.0
9 19	34.4	22.2	33.2	22.0	32.0	23.2	32.8	22.4	33.7	22.6	33.0	22.5	34.0	23.0	25.4	22.1	28.0	23.4
9 20	28.4	22.0	33.1	21.2	32.3	22.2	32.0	23.0	34.2	23.6	33.7	23.0	34.5	23.5	27.8	21.9	32.5	22.6
9 21	32.8	22.8	33.1	21.4	32.0	22.3	31.8	23.6	34.4	23.5	34.0	22.5	31.6	22.4	31.6	23.0	32.8	22.3
9 22	31.2	22.8	31.6	22.8	32.0	22.3	32.0	24.0	34.0	23.7	34.5	23.2	33.0	22.0	31.7	23.0	32.0	23.8
9 23	31.9	21.9	32.9	22.0	33.0	23.2	33.4	24.4	34.6	21.5	34.0	21.6	30.6	21.5	31.7	22.8	32.0	22.2
9 24	30.8	21.8	33.9	23.0	32.0	22.2	27.8	21.4	34.5	20.2	34.2	21.8	25.2	21.4	31.5	23.2	31.5	22.5
9 25	33.5	23.6	33.9	23.2	32.2	22.0	25.9	21.2	32.6	21.7	33.5	20.0	24.5	20.1	31.0	23.0	31.0	22.9
9 26	33.5	22.8	32.8	24.2	30.0	23.2	30.0	20.8	33.0	23.0	33.4	21.0	28.6	21.0	31.4	22.3	28.0	22.0
9 27	32.8	22.6	33.9	24.2	32.0	22.0	33.6	21.2	33.5	22.9	33.0	22.0	31.6	22.0	30.5	22.9	30.0	21.5
9 28	33.0	17.6	33.9	22.2	31.0	22.2	34.0	21.0	33.5	23.5	31.0	23.0	31.5	22.1	30.8	22.5	30.5	22.0
9 29	33.0	18.2	33.9	22.6	32.0	23.2	33.1	22.0	33.6	23.7	28.5	22.0	32.0	22.0	31.2	21.5	29.5	21.0
9 30	32.0	20.4	33.4	21.0	29.0	21.0	32.8	20.2	34.0	22.8	29.0	22.5	32.7	22.7	30.8	22.0	30.0	20.6
10 1	31.0	20.2	32.8	22.0	31.8	20.6	34.6	23.0	33.5	24.0	30.4	22.0	32.8	22.8	30.6	21.0	30.6	20.2
10 2	32.0	18.9	32.8	21.9	32.5	21.2	34.8	21.0	33.6	22.7	31.6	21.5	32.2	22.4	30.3	21.6	30.0	21.8
10 3	31.0	19.2	33.0	21.8	32.4	21.6	32.8	21.0	33.5	22.7	32.5	21.0	31.6	19.6	30.0	21.1	30.0	21.5
10 4	32.0	18.8	31.9	22.8	32.9	21.4	34.1	20.2	33.0	22.0	32.0	19.5	32.0	22.0	29.5	20.5	29.0	19.9
10 5	32.0	18.8	27.8	23.0	33.0	22.2	34.5	21.4	33.0	20.0	30.5	17.5	32.0	22.0	29.5	20.5	29.4	17.5
10 6	31.0	18.4	30.9	20.0	32.9	22.0	33.1	22.2	32.5	23.0	31.5	17.5	31.6	20.7	29.5	20.8	29.0	20.5
10 7	31.0	20.6	31.4	19.8	31.8	21.0	34.1	21.9	32.5	21.5	31.2	19.5	31.0	21.5	29.4	20.2	29.5	20.5
10 8	31.2	18.0	31.4	19.8	31.8	22.2	34.0	20.1	32.3	21.0	32.0	20.5	31.5	21.5	28.5	20.5	29.8	20.9
10 9	30.8	17.6	31.0	19.2	32.8	21.4	33.8	20.2	32.5	20.1	32.0	20.5	31.5	21.5	29.4	20.0	29.2	20.0
10 10	31.3	18.0	31.5	17.4	31.0	17.9	30.1	20.4	32.6	21.0	31.8	19.5	32.2	22.1	30.2	21.5	29.2	21.0
10 11	30.5	16.2	32.1	17.6	31.4	18.0	30.9	20.6	32.0	18.5	32.5	20.0	31.5	21.5	29.4	21.0	29.0	20.9
10 12	31.5	21.2	33.1	19.2	31.4	18.2	31.2	20.0	32.4	19.3	27.0	18.4	31.6	21.6	29.6	21.5	29.0	21.5
10 13	31.5	21.4	32.9	19.8	30.8	18.6	31.4	22.2	32.0	16.0	29.5	19.5	30.2	20.0	29.5	20.5	28.5	21.5
10 14	30.8	21.2	32.2	20.6	32.4	18.8	26.5	18.0	31.5	17.0	31.5	21.0	31.0	21.8	26.5	20.0	29.0	22.0
10 15	31.4	19.6	32.5	20.0	33.0	20.4	29.2	17.4	31.6	18.2	32.5	21.0	31.4	21.6	28.2	20.0	29.0	22.0
10 16	30.3	20.2	32.5	19.2	32.8	18.6	30.0	18.0	32.0	20.0	27.0	21.6	31.0	21.5	27.4	14.2	28.5	21.2
10 17	26.8	19.6	32.5	17.4	32.5	19.2	29.8	17.4	32.2	18.0	29.3	20.2	30.4	19.5	27.4	14.0	27.5	21.0
10 18	26.8	20.2	31.8	17.2	31.8	17.7	30.0	18.2	31.5	18.8	28.5	20.0	30.5	20.0	27.5	15.0	28.0	19.9
10 19	20.0	17.8	32.4	17.4	30.8	20.2	30.4	18.6	32.2	18.4	30.0	19.5	29.9	20.0	27.5	14.5	28.0	21.0
10 20	27.5	16.6	30.6	16.4	30.6	19.8	30.4	19.2	31.0	17.5	30.7	21.5	30.1	18.5	27.4	15.5	27.5	19.0
10 21	29.0	16.8	30.6	16.0	30.5	19.4	30.2	17.8	30.5	17.8	30.5	18.0	29.6	17.5	27.0	15.5	27.5	17.0
10 22	29.4	16.8	30.4	17.7	30.0	15.8	30.0	18.4	30.4	18.5	29.0	17.5	29.1	17.0	26.8	14.5	26.9	18.2
10 23	30.2	17.0	30.5	17.6	29.8	16.0	29.8	16.4	30.5	17.9	28.5	16.5	28.6	15.5	26.8	14.5	26.5	18.0
10 24	29.3	18.0	30.8	17.4	30.8	16.0	30.0	18.0	30.5	15.5	28.5	16.5	28.6	15.5	27.0	14.0	26.0	17.5
10 25	29.4	16.2	31.1	17.4	31.0	16.8	34.0	15.2	30.5	15.5	28.0	16.2	28.1	15.5	26.5	13.5	26.4	17.0
10 26	29.8	16.8	31.0	19.0	31.0	17.0	34.0	14.2	29.5	14.5	27.5	14.0	28.6	17.5	26.4	14.9	26.5	16.0
10 27	28.6	15.0	30.6	18.7	30.6	16.8	28.8	14.2	29.5	15.5	27.5	13.0	28.5	16.0	25.6	16.5	26.8	16.6
10 28	29.0	17.2	31.0	17.2	30.0	16.6	28.8	12.6	29.5	16.0	29.0	14.0	28.5	15.0	26.5	18.5	27.1	17.0
10 29	28.8	17.8	30.5	15.2	29.5	16.0	29.1	13.2	29.5	14.0	29.5	14.5	28.0	15.0	27.0	18.0	27.0	15.0
10 30	27.8	19.6	29.8	13.6	30.0	17.0	28.9	13.2	29.4	12.2	29.5	14.5	27.5	14.0	26.5	16.5	27.0	14.0
10 31	27.8	18.0	29.0	14.0	29.2	16.8	30.1	13.0	30.3	12.5	29.5	15.0	27.5	14.5	23.6	18.5	26.0	15.5

Daily Temperature (deg C)

Location : Kharini Tar

Year		1987		1988		1989		1990		1991		1992		1993		1994		1995	
Month	Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
11	1	27.9	16.0	29.8	14.6	28.5	14.0	30.2	14.8	29.4	12.2	29.5	15.3	27.6	12.9	26.5	18.5	26.5	17.0
11	2	27.0	17.2	29.8	14.0	28.0	14.2	29.4	15.0	29.5	13.0	28.5	14.5	28.0	14.2	25.9	15.5	26.2	16.5
11	3	26.5	17.2	29.8	14.0	27.9	14.0	29.2	14.6	28.8	13.0	28.2	15.0	28.6	15.5	25.5	14.0	25.5	12.2
11	4	28.0	16.4	27.2	14.0	26.8	15.4	27.6	16.0	28.6	13.2	27.0	12.0	28.7	15.5	25.5	12.5	25.5	12.8
11	5	27.8	16.7	22.5	13.2	25.0	15.4	26.0	16.0	28.2	12.0	27.5	12.5	28.4	16.1	25.9	13.0	25.0	12.8
11	6	27.8	16.7	27.0	10.8	25.0	15.2	26.2	16.0	28.5	12.5	27.8	14.5	26.8	16.0	25.5	13.4	26.0	13.7
11	7	28.8	14.6	27.1	11.4	27.5	15.4	27.8	16.2	28.0	11.6	26.6	13.0	26.2	15.0	25.5	13.5	26.5	14.0
11	8	28.8	14.8	28.1	12.0	26.5	12.4	28.2	15.2	27.8	13.0	27.5	13.0	26.0	16.5	25.5	13.5	26.0	16.5
11	9	28.5	14.8	28.2	12.0	27.5	11.6	28.8	12.0	27.2	10.2	28.0	12.5	26.9	15.8	25.8	12.5	21.5	12.5
11	10	27.5	15.4	28.8	11.4	27.2	12.2	30.5	13.0	27.8	9.5	28.0	13.4	26.3	15.8	26.6	12.2	18.9	15.8
11	11	27.8	16.4	28.0	11.0	27.4	13.0	30.1	13.2	21.0	14.0	27.0	14.7	26.0	15.5	26.0	12.8	20.4	15.8
11	12	27.8	13.8	28.5	13.4	27.5	13.0	30.5	13.2	27.0	12.2	27.8	14.0	26.5	15.2	25.5	13.5	23.5	17.0
11	13	27.6	13.4	28.1	11.2	27.2	13.6	30.5	13.4	28.0	11.0	27.8	14.4	25.7	16.0	25.0	13.5	24.0	17.0
11	14	28.8	13.6	28.4	12.6	26.9	14.2	30.2	13.6	28.0	10.5	27.5	14.5	26.9	15.5	24.3	11.5	24.5	15.1
11	15	27.0	11.8	28.0	13.6	26.8	14.4	30.0	13.2	28.0	11.0	27.2	14.0	26.2	14.4	23.5	11.5	24.5	16.2
11	16	28.4	13.2	28.5	13.8	26.0	14.2	31.0	15.0	27.0	9.7	27.5	12.3	27.0	14.9	24.5	12.0	24.5	15.5
11	17	26.3	13.6	28.5	13.6	26.4	14.0	29.9	14.0	27.0	9.5	26.2	12.5	25.5	15.0	24.0	12.0	24.5	15.4
11	18	26.0	11.2	28.2	12.0	26.8	15.2	29.0	12.8	26.6	10.0	26.0	13.6	24.8	15.0	24.0	11.4	24.0	14.5
11	19	26.4	10.8	28.0	11.0	26.8	15.0	29.0	11.4	26.2	10.0	25.5	13.0	24.0	16.0	23.9	11.0	23.5	15.0
11	20	26.0	10.6	27.8	11.2	26.4	13.2	26.4	13.2	25.8	10.1	26.6	12.7	23.8	14.8	23.5	10.5	22.5	13.5
11	21	27.5	10.2	27.1	10.2	24.5	12.6	28.9	15.8	25.4	9.5	26.7	13.0	23.5	13.5	23.5	10.2	22.2	13.0
11	22	27.5	11.2	27.0	10.0	24.8	12.8	30.0	12.4	25.0	9.5	27.0	14.0	24.5	13.5	23.5	8.5	22.5	13.2
11	23	26.8	10.6	27.4	9.6	24.5	12.6	29.0	12.1	25.4	10.6	27.0	14.5	24.0	12.5	22.0	10.2	22.5	12.5
11	24	26.5	12.2	27.2	8.6	24.0	13.6	29.0	13.0	25.5	10.9	23.5	11.0	24.0	12.0	22.5	10.0	22.0	12.7
11	25	26.5	12.0	27.5	8.8	24.9	13.0	27.5	11.0	25.5	11.0	23.5	13.2	24.8	12.6	22.5	11.0	22.0	12.0
11	26	26.5	12.0	26.8	9.2	22.5	11.2	27.2	11.4	25.5	10.5	23.7	10.0	24.1	11.5	22.5	11.5	21.8	13.5
11	27	26.8	12.0	26.1	7.6	24.0	10.4	26.8	11.0	25.0	10.5	24.5	9.5	24.2	12.5	22.5	11.0	21.0	12.5
11	28	25.5	11.2	26.6	6.9	25.0	10.6	26.5	11.2	25.2	9.8	23.8	9.8	24.3	12.4	23.2	11.5	21.0	13.0
11	29	26.2	12.2	26.5	7.0	23.8	11.8	27.1	11.0	25.0	10.5	24.3	10.5	24.0	12.0	22.5	12.5	20.9	12.0
11	30	26.2	12.2	26.6	9.8	23.8	11.6	28.0	12.0	24.2	10.5	24.2	11.0	24.0	10.8	20.2	11.8	21.0	10.5
12	1	26.0	10.6	27.0	10.4	23.6	9.6	24.0	11.8	22.5	10.0	25.2	13.0	24.1	11.5	19.5	14.8	20.5	11.5
12	2	25.2	10.8	27.8	12.2	24.1	9.4	25.0	12.0	22.5	8.3	20.0	10.8	23.0	11.2	19.5	14.0	19.9	11.5
12	3	25.5	10.2	27.9	12.4	24.1	8.4	26.8	8.8	22.0	7.0	22.5	11.0	24.0	11.0	20.0	11.6	20.5	11.0
12	4	21.5	11.2	27.0	11.8	24.0	8.6	26.5	10.2	24.5	6.5	20.5	10.5	23.0	10.5	21.7	12.6	20.0	11.5
12	5	23.2	11.0	26.7	12.9	24.2	9.0	24.2	9.4	23.0	8.0	20.5	10.0	23.5	10.5	22.4	11.5	21.0	11.0
12	6	25.0	11.2	22.8	12.4	23.8	8.8	24.8	10.0	24.0	8.5	21.0	9.5	24.4	11.9	22.5	10.5	20.5	11.5
12	7	24.1	12.0	25.5	12.0	23.8	8.9	24.0	8.9	24.0	8.5	21.0	10.0	24.2	12.5	22.1	8.9	20.5	11.5
12	8	24.4	12.0	25.5	11.8	23.8	9.6	23.8	10.0	23.0	9.0	21.5	9.5	23.1	10.0	21.5	9.5	20.5	11.0
12	9	23.8	11.9	25.6	12.0	24.0	10.6	24.0	10.6	24.0	8.5	21.2	9.5	23.5	11.0	21.4	10.0	20.5	11.8
12	10	23.2	11.8	25.5	12.0	22.8	9.8	24.5	8.8	24.5	8.0	20.2	8.8	24.3	10.6	21.5	10.0	20.0	12.1
12	11	23.0	11.6	24.8	10.0	23.0	10.0	24.5	8.6	24.5	8.5	22.5	10.0	23.4	10.6	21.0	11.0	21.5	12.1
12	12	23.3	11.4	23.0	10.8	23.8	8.0	25.5	8.4	24.0	8.0	23.0	9.6	22.1	10.0	20.2	11.0	18.5	12.0
12	13	21.4	12.8	23.3	12.2	18.0	8.2	25.5	9.0	24.0	7.6	21.1	9.3	22.3	9.3	20.5	9.4	18.5	11.5
12	14	23.8	13.4	23.5	11.2	21.2	8.8	24.8	8.6	24.5	8.0	22.0	9.5	21.5	9.0	20.6	8.5	19.5	11.9
12	15	22.0	11.2	24.0	10.2	22.8	8.8	23.0	9.0	25.0	8.5	22.0	9.5	21.5	9.0	20.6	9.0	19.5	11.0
12	16	23.2	11.0	23.0	10.2	22.8	8.2	23.6	8.8	24.0	9.0	21.5	8.5	20.6	6.8	20.4	9.1	20.4	12.0
12	17	22.5	10.0	20.1	8.6	23.1	9.6	23.1	8.6	24.0	9.0	21.0	9.0	21.4	7.0	20.5	9.1	19.0	12.5
12	18	22.4	10.0	23.9	10.2	23.8	8.8	23.9	8.8	23.0	9.0	21.0	8.5	22.5	8.0	20.4	8.5	20.9	12.4
12	19	23.5	9.2	23.8	6.8	23.0	8.0	23.4	8.2	22.5	9.5	20.5	8.5	22.0	8.5	20.5	8.0	20.0	11.5
12	20	23.3	9.0	24.0	6.8	23.0	8.8	23.0	8.0	23.5	9.0	20.9	9.0	21.5	8.5	20.6	8.1	19.0	11.9
12	21	22.5	8.8	23.9	9.0	21.8	8.0	23.0	8.2	21.0	8.0	20.2	9.0	21.5	8.0	20.6	7.0	18.5	11.5
12	22	23.5	8.9	22.5	9.0	21.8	9.6	25.0	8.0	22.5	10.5	20.5	9.3	21.0	7.5	20.5	6.5	18.0	12.0
12	23	23.5	9.0	24.2	10.0	19.8	10.6	25.5	5.8	22.8	8.5	21.2	9.0	21.0	7.1	20.5	6.5	20.0	10.4
12	24	22.5	9.1	20.2	9.6	21.4	11.4	24.4	6.0	15.7	8.5	21.0	8.1	22.0	7.5	20.6	6.5	19.5	8.5
12	25	23.0	8.2	16.8	11.2	21.5	9.6	24.0	6.2	14.5	11.3	21.4	7.3	22.4	8.0	20.7	7.0	19.5	8.5
12	26	23.0	8.4	15.5	11.2	22.2	9.0	24.1	7.2	17.0	10.0	21.2	7.8	21.6	7.5	21.0	7.0	19.5	10.5
12	27	23.0	8.8	19.9	10.0	20.5	5.4	21.0	7.6	20.5	10.3	21.0	8.0	20.5	7.5	21.5	7.2	14.5	8.5
12	28	22.8	8.6	19.9	10.0	20.8	6.2	20.6	7.6	20.5	9.5	20.6	8.0	18.5	10.0	19.4	8.5	18.0	9.0
12	29	23.0	8.8	21.1	9.8	20.6	6.4	21.0	7.5	20.0	8.0	20.0	9.1	22.2	10.0	20.5	9.4	20.0	8.5
12	30	22.5	8.8	21.9	9.0	21.3	6.4	24.0	6.8	17.5	7.0	17.8	9.3	22.5	8.0	20.2	10.5	19.9	8.5
12	31	22.5	8.4	21.8	9.4	21.5	6.6	22.0	8.8	19.0	6.0	19.7	10.0	22.5	8.7	21.0	7.5	20.4	10.9

Location : Kharini Tar

Year	1996.	1997	1998	1999	2000	2001	2002	2003	2004										
Month Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	
1	1	19.9	8.5	20.5	8.9	16.5	10.0	20.4	7.2	20.0	8.0	23.3	12.5	22.8	6.9	19.0	11.5	20.5	7.0
1	2	20.4	9.0	20.0	9.4	18.4	9.5	20.6	8.0	21.0	8.0	23.0	10.5	22.5	6.5	19.2	8.5	20.5	7.0
1	3	16.5	9.0	19.8	9.4	18.0	9.0	21.6	8.5	20.5	7.8	22.6	10.5	22.6	7.6	21.0	8.9	20.6	7.0
1	4	20.2	10.4	20.5	8.8	18.0	8.5	20.5	8.4	20.9	8.5	14.0	9.5	20.8	5.5	20.8	9.2	20.0	7.0
1	5	20.2	9.7	20.5	9.5	18.5	10.5	20.6	8.5	20.3	8.5	18.8	10.4	21.6	5.5	20.4	8.5	21.0	6.2
1	6	20.9	9.5	20.4	8.5	18.0	10.0	20.6	8.5	20.9	8.5	17.5	6.5	21.0	6.2	20.6	9.4	18.6	8.0
1	7	20.4	9.0	18.3	8.5	18.7	10.4	15.6	8.4	20.4	6.9	19.8	6.5	22.0	6.0	20.6	7.5	22.8	5.9
1	8	18.0	8.5	16.3	8.6	19.0	9.5	20.0	8.0	19.5	7.5	20.8	6.5	22.7	7.0	20.5	8.5	22.6	6.5
1	9	19.6	DNA	19.4	8.8	19.0	9.9	17.5	7.5	20.4	6.2	20.8	5.8	23.0	7.6	20.9	7.3	21.6	6.8
1	10	18.4	9.0	20.0	7.0	16.0	9.5	17.5	6.5	20.4	7.0	20.2	6.0	22.6	7.0	20.8	6.0	21.6	5.4
1	11	19.5	8.5	20.3	7.7	17.2	9.5	18.6	6.5	21.4	8.1	20.2	6.0	23.0	6.5	20.5	7.6	21.6	5.7
1	12	19.4	7.5	20.4	7.4	17.2	9.5	19.0	6.5	21.5	8.8	21.0	4.5	22.5	8.0	20.0	8.5	22.5	5.5
1	13	18.9	7.5	19.9	6.0	16.0	9.5	20.5	6.6	19.0	11.5	21.0	4.0	22.5	9.0	21.0	8.0	22.8	6.3
1	14	18.0	7.0	19.5	5.9	14.8	10.0	19.9	4.0	19.7	10.5	21.4	5.5	21.6	7.5	20.9	8.0	23.0	9.0
1	15	18.2	8.8	18.6	6.6	17.5	9.0	20.1	5.4	21.6	9.5	21.5	5.0	21.5	8.4	20.8	8.0	22.0	6.0
1	16	17.2	9.9	18.5	6.4	18.5	9.5	20.6	6.5	21.8	7.2	22.6	6.0	19.4	10.0	22.0	7.5	22.2	7.1
1	17	18.1	9.9	18.5	5.5	18.6	8.5	21.1	6.0	20.4	6.5	22.5	6.0	16.0	10.0	23.0	7.6	23.2	8.0
1	18	17.0	9.1	19.0	6.0	19.0	9.2	21.2	6.5	20.6	7.0	22.0	5.7	20.4	11.1	23.6	8.0	20.5	7.5
1	19	15.5	11.4	18.1	6.8	18.5	8.7	21.5	6.2	21.4	7.0	22.8	7.0	22.9	12.0	22.5	8.5	23.6	9.0
1	20	15.6	9.0	14.4	9.5	18.5	8.0	21.5	6.2	20.2	8.5	23.5	6.4	21.5	11.5	23.0	9.5	21.0	9.7
1	21	17.5	9.5	18.5	10.0	18.6	6.8	22.5	6.5	20.4	8.5	23.0	6.9	14.0	10.2	22.9	9.5	23.2	9.0
1	22	17.8	8.5	18.0	6.5	18.9	6.4	23.0	7.0	17.8	9.1	24.0	7.5	20.4	10.0	23.0	6.6	20.6	11.8
1	23	17.9	9.2	18.5	8.5	19.0	6.5	23.0	8.0	16.3									

Daily Temperature (deg C)

Location : Kharini Tar

Year		1996		1997		1998		1999		2000		2001		2002		2003		2004	
Month	Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
3	1	26.4	13.9	26.6	12.0	25.6	12.6	29.0	8.5	24.0	12.5	27.6	12.2	26.0	13.2	27.4	13.8	31.1	12.4
3	2	26.0	14.5	26.5	12.5	25.2	8.6	29.0	9.1	24.0	9.0	28.0	9.0	24.0	13.5	28.0	13.6	30.5	12.6
3	3	24.5	14.1	27.5	11.6	26.6	11.0	29.5	11.0	22.5	12.8	29.0	7.6	21.0	13.5	29.6	15.7	31.0	13.0
3	4	27.3	13.0	26.3	8.5	27.0	13.5	30.0	13.6	25.4	11.5	30.0	9.5	25.5	11.8	28.4	13.0	28.5	14.0
3	5	28.3	11.0	28.5	10.0	25.0	14.5	31.0	12.0	28.8	10.0	28.0	9.8	25.9	13.4	25.5	10.0	30.0	13.7
3	6	29.5	12.8	28.6	10.3	22.5	14.8	32.0	12.6	29.9	10.0	27.6	9.0	26.8	16.2	25.6	9.0	30.0	14.5
3	7	28.0	13.0	28.5	10.5	24.3	9.8	32.6	15.5	31.6	11.2	27.0	10.2	28.9	14.6	25.6	10.5	29.4	12.0
3	8	26.0	14.0	27.8	11.5	24.0	10.0	34.0	15.5	30.0	10.8	27.8	11.0	28.1	15.0	25.2	12.2	29.5	12.1
3	9	28.0	13.5	29.2	11.5	24.5	11.0	36.5	13.0	28.4	8.5	27.8	9.3	29.3	10.5	25.9	10.2	32.0	11.5
3	10	28.0	16.9	29.5	13.5	25.5	11.5	35.0	11.4	27.0	10.0	27.8	8.6	30.8	11.5	27.0	11.0	31.0	11.0
3	11	28.0	17.5	30.4	14.9	26.3	11.0	34.5	11.5	27.0	11.5	29.2	9.4	30.5	13.0	29.2	11.5	29.0	14.5
3	12	29.0	18.5	30.4	14.0	26.0	13.0	33.6	10.5	28.1	9.9	29.5	9.5	31.0	12.5	26.5	13.0	30.6	15.5
3	13	29.5	18.0	23.5	13.5	24.5	13.5	32.0	10.0	23.0	11.0	29.6	11.2	30.5	16.0	24.5	12.0	29.0	16.6
3	14	29.6	17.0	28.0	12.5	26.7	9.5	31.5	8.0	29.6	11.0	29.7	10.0	30.4	14.9	26.0	15.0	29.5	15.5
3	15	30.5	16.8	31.5	13.0	28.0	9.5	29.1	10.5	29.2	10.5	29.2	12.0	30.4	13.6	26.1	12.8	30.6	17.5
3	16	31.0	17.0	29.0	13.0	29.0	11.0	30.1	12.0	29.9	10.0	29.2	10.5	29.6	12.9	28.0	14.0	29.5	16.0
3	17	31.9	16.9	30.5	12.0	26.8	14.5	33.0	12.0	29.5	11.0	31.0	10.2	29.4	15.0	28.6	11.9	32.0	18.5
3	18	32.0	15.0	30.2	12.9	23.0	14.4	35.2	11.5	29.6	10.6	31.5	10.6	31.4	14.6	24.7	13.0	32.5	20.0
3	19	31.4	13.8	31.6	12.5	26.5	12.0	34.1	10.6	30.6	10.0	32.4	11.6	31.9	14.5	24.7	11.5	33.0	20.1
3	20	31.5	12.0	30.9	14.5	28.9	12.0	32.5	10.2	31.5	11.0	31.0	13.1	32.8	16.0	27.2	13.4	31.2	22.2
3	21	30.5	11.0	30.0	11.1	28.0	15.2	32.6	10.5	31.6	10.0	32.6	12.5	32.2	16.0	28.0	14.8	31.5	23.0
3	22	24.5	16.5	27.0	12.5	29.0	15.2	31.4	9.9	32.6	10.5	24.9	16.5	32.0	13.0	28.5	14.7	32.5	21.2
3	23	29.0	11.5	30.5	13.2	29.4	15.0	31.6	11.0	21.0	14.0	31.7	12.5	32.0	14.6	29.5	17.0	34.8	20.0
3	24	29.5	8.1	31.2	10.2	27.5	13.5	32.0	11.6	27.6	10.6	31.1	10.1	31.0	15.0	28.1	16.0	36.5	19.5
3	25	28.9	8.0	29.2	10.0	27.2	11.5	33.0	12.0	30.0	10.0	32.4	12.0	31.5	13.8	29.0	15.5	36.4	15.8
3	26	22.0	15.5	29.5	10.5	27.2	12.0	29.5	12.5	31.6	12.0	31.6	12.4	33.0	15.0	29.0	15.5	36.0	14.0
3	27	29.5	14.5	30.8	11.3	28.5	13.0	33.5	12.0	30.8	12.5	31.5	14.4	31.4	12.0	29.0	15.6	36.0	15.8
3	28	27.6	17.5	31.0	13.0	29.0	13.4	32.0	11.2	32.7	12.0	32.5	15.5	31.5	13.0	30.3	13.4	35.7	14.2
3	29	30.5	17.5	28.0	14.8	18.9	14.0	31.5	14.5	34.0	13.0	31.8	16.5	32.0	11.5	25.2	18.3	35.5	14.0
3	30	31.0	16.4	25.5	14.9	22.6	13.5	33.0	15.6	34.2	14.0	24.0	13.1	30.5	14.5	28.7	15.0	33.0	14.0
3	31	31.5	14.5	27.8	10.6	27.2	15.0	34.0	16.5	34.2	15.4	31.0	13.5	27.0	17.4	30.1	15.1	31.0	13.2
4	1	29.6	12.0	29.0	15.2	30.1	14.8	36.0	16.5	36.4	17.0	32.0	11.6	29.5	16.0	30.4	17.5	31.8	13.5
4	2	30.5	11.0	28.9	13.2	29.5	14.3	36.8	17.5	37.0	17.0	32.0	11.4	29.4	19.5	30.8	17.0	30.6	16.0
4	3	29.5	12.0	21.6	16.5	30.7	16.5	38.0	16.0	36.2	15.8	33.3	11.8	28.4	14.6	30.8	18.0	29.6	17.8
4	4	30.5	11.0	28.6	14.5	25.5	16.0	39.0	15.0	35.5	15.0	33.1	12.7	29.2	16.6	31.0	15.6	30.6	18.2
4	5	31.7	13.6	29.2	14.9	29.5	17.0	37.6	14.5	36.5	13.0	35.2	12.2	30.5	20.2	31.0	15.5	29.4	17.7
4	6	32.9	12.5	28.0	10.2	29.8	17.5	34.5	12.0	36.1	13.5	35.5	16.3	31.4	20.8	32.0	16.0	32.7	19.6
4	7	34.5	15.0	28.5	9.0	30.0	19.5	34.6	13.4	36.2	13.6	36.0	11.5	32.0	20.5	33.0	15.5	32.2	18.5
4	8	34.0	14.5	29.8	12.9	24.5	20.5	34.4	17.0	34.4	13.0	36.1	14.6	30.5	18.1	33.0	14.5	29.6	17.0
4	9	33.5	13.0	27.5	16.2	26.1	15.5	33.5	16.4	36.0	14.4	34.5	14.5	30.6	17.8	33.0	15.5	30.4	17.9
4	10	33.5	13.0	23.4	15.8	32.4	14.0	34.0	21.0	34.5	14.3	34.5	14.6	31.0	15.5	33.3	17.0	31.4	18.5
4	11	33.5	12.5	28.7	14.0	33.5	15.0	35.0	19.5	34.1	13.8	36.8	15.2	31.6	12.0	32.0	17.4	31.7	18.0
4	12	33.5	13.0	28.2	18.0	33.9	14.5	35.5	22.5	34.0	15.2	37.6	14.5	30.6	14.0	33.0	16.6	32.0	18.5
4	13	33.5	13.5	29.6	18.0	33.7	16.5	37.6	23.6	33.8	17.0	37.2	15.5	31.0	17.0	33.5	17.8	32.6	17.8
4	14	34.5	13.6	28.6	19.4	32.9	12.5	38.0	21.0	30.1	19.2	31.5	20.0	29.8	17.5	31.0	15.5	33.0	19.0
4	15	35.9	12.4	30.9	17.5	34.9	19.0	37.0	18.0	29.3	16.4	32.8	18.8	30.5	19.2	32.0	16.6	32.5	18.0
4	16	34.4	17.0	30.5	16.5	34.6	19.0	38.0	15.1	33.7	16.2	32.5	14.9	32.5	19.0	32.6	16.0	33.0	18.5
4	17	35.5	17.5	33.0	14.0	33.0	13.6	36.6	13.0	32.1	16.5	30.6	15.2	34.2	20.2	30.6	16.5	32.5	21.0
4	18	35.5	16.0	33.0	13.5	33.5	DNA	35.0	14.1	33.0	16.2	24.8	17.5	35.6	19.5	33.5	19.1	33.0	18.4
4	19	36.0	17.5	33.9	13.8	31.6	20.3	34.0	14.5	24.0	16.8	32.0	16.0	34.2	19.4	33.4	19.0	32.0	20.5
4	20	36.5	18.2	33.3	14.3	30.0	15.5	35.0	16.0	31.6	19.9	32.5	16.0	34.0	20.0	33.4	18.2	32.2	23.0
4	21	36.0	19.0	33.3	14.5	30.0	17.0	36.2	20.5	23.6	18.4	34.0	15.0	32.5	17.6	33.0	18.8	33.0	16.4
4	22	35.5	17.9	33.0	17.5	31.0	19.5	36.5	23.0	31.0	18.0	33.0	16.0	31.4	16.9	32.5	16.6	32.0	16.6
4	23	35.9	14.5	31.5	15.0	27.8	17.6	35.0	22.5	31.7	18.2	33.6	15.4	30.6	19.9	32.6	20.2	26.0	18.2
4	24	28.0	15.0	32.0	21.4	31.0	18.3	36.8	20.5	29.2	17.2	35.0	17.2	32.0	19.9	32.4	22.3	30.5	17.5
4	25	22.8	16.5	26.0	17.2	31.6	20.5	37.0	21.2	28.5	18.0	29.5	20.0	31.6	20.0	33.0	23.0	30.2	16.0
4	26	31.0	16.0	28.9	17.7	32.0	20.2	38.0	21.5	30.1	18.9	33.8	18.2	24.0	17.5	33.5	20.0	32.0	19.0
4	27	32.7	19.0	29.4	19.5	32.0	19.5	37.7	21.0	30.5	18.7	32.4	18.0	30.4	15.2	30.5	21.6	33.0	18.0
4	28	33.5	20.0	28.5	19.5	32.5	21.2	37.5	22.0	30.0	19.4	33.0	17.6	31.4	16.4	32.1	20.5	22.0	18.4
4	29	27.5	21.0	30.2	18.4	32.2	19.5	36.0	22.0	31.4	19.5	32.5	19.2	27.0	18.5	28.0	19.6	31.0	17.5
4	30	30.1	19.6	30.5	18.0	34.1	21.5	36.2	17.5	30.3	17.6	30.4	18.0	29.4	16.0	30.5	17.0	30.4	19.6

Daily Temperature (deg C)

Location : Kharini Tar

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004									
Month Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
5 1	31.2	19.6	31.5	16.3	33.8	23.0	32.5	18.5	31.9	19.7	32.5	19.6	30.6	18.2	30.5	19.2	29.5	13.5
5 2	32.0	21.0	31.1	18.0	32.0	18.9	33.0	18.6	31.4	18.0	29.6	18.0	32.0	18.4	30.8	20.8	32.5	17.0
5 3	32.5	20.0	31.6	16.0	30.5	21.6	34.2	18.8	31.5	20.2	32.6	16.0	32.0	16.6	31.5	20.1	32.9	17.5
5 4	35.0	19.5	32.8	16.5	31.5	19.6	32.9	21.0	32.0	21.0	30.9	17.6	30.0	20.5	29.8	17.6	32.5	17.5
5 5	25.5	19.5	34.4	17.0	32.0	21.5	33.5	20.5	31.0	21.6	32.2	17.5	32.0	19.0	32.5	16.4	31.7	16.5
5 6	35.0	18.0	34.4	15.5	32.5	21.6	33.2	20.0	32.0	18.8	30.5	16.0	32.2	20.0	33.7	17.1	32.8	16.2
5 7	34.5	20.0	33.5	19.4	31.6	21.5	33.6	23.0	27.8	19.6	31.2	18.9	31.9	19.6	33.4	16.0	34.2	19.4
5 8	32.0	19.5	25.5	19.5	33.6	18.0	35.2	23.6	32.5	18.7	30.0	22.8	32.6	22.0	33.5	16.0	35.0	16.5
5 9	32.5	18.0	30.1	15.6	33.5	19.0	34.0	20.6	32.8	20.5	27.2	23.4	32.6	23.0	33.6	15.5	35.0	20.5
5 10	34.0	20.0	31.9	16.4	27.4	9.5	33.9	18.5	33.5	20.2	31.4	20.2	24.4	21.4	33.0	23.0	35.4	22.0
5 11	32.9	18.5	33.1	15.8	27.7	16.0	34.0	19.5	35.5	21.3	32.0	23.6	32.0	20.8	32.0	19.0	36.0	21.0
5 12	32.0	16.6	33.5	16.9	31.5	16.4	28.6	18.5	33.8	19.0	33.5	22.5	33.0	23.5	31.4	19.0	36.8	22.5
5 13	32.8	17.0	36.0	18.3	33.0	20.6	28.2	18.6	30.6	21.0	34.0	24.5	33.5	22.0	32.6	18.5	35.6	21.5
5 14	32.5	18.5	36.3	18.9	32.5	22.0	28.5	19.5	34.4	20.6	32.5	20.8	30.5	22.6	32.6	18.5	37.2	23.0
5 15	31.5	18.5	37.0	19.2	32.5	19.4	31.7	19.2	35.2	22.5	30.5	21.8	33.5	21.8	32.0	19.0	35.0	23.5
5 16	31.5	17.5	35.6	20.5	33.5	22.0	29.6	20.5	29.4	21.1	31.5	20.8	31.6	23.2	31.0	18.9	33.8	24.5
5 17	31.0	17.0	35.7	17.0	34.6	23.5	33.6	20.5	33.0	22.2	35.6	21.5	32.0	24.0	32.0	18.0	32.8	22.2
5 18	32.9	16.0	35.7	16.5	33.1	19.8	29.6	19.0	32.0	19.5	32.0	20.2	26.0	22.0	32.5	18.4	32.8	24.5
5 19	34.0	17.5	33.4	17.9	34.4	20.5	33.5	20.2	32.0	19.0	32.7	21.0	32.2	22.5	30.6	18.0	32.0	22.5
5 20	33.0	17.5	30.0	19.0	36.1	23.5	32.4	21.0	27.8	21.8	32.0	21.0	33.0	21.5	32.0	20.4	29.6	22.0
5 21	34.5	19.5	32.2	19.1	35.0	25.2	32.5	22.0	27.5	22.5	32.0	21.0	33.0	18.9	32.5	18.5	29.8	21.0
5 22	34.5	22.0	33.5	21.5	36.0	23.5	32.5	23.0	30.3	21.0	31.3	21.5	34.0	18.2	30.6	20.5	29.5	21.2
5 23	34.5	22.5	32.8	18.3	35.5	23.6	32.0	21.5	31.3	21.6	32.4	21.5	32.6	21.6	31.6	21.0	30.6	21.0
5 24	35.5	24.0	31.9	19.0	35.2	23.0	32.4	23.2	27.1	21.5	33.0	22.5	32.6	20.0	32.5	21.0	29.9	20.8
5 25	36.0	24.5	31.0	18.2	33.0	23.0	34.0	24.0	30.2	22.5	32.6	19.1	32.4	20.2	32.5	20.5	32.0	19.0
5 26	35.5	22.4	31.7	19.6	31.6	23.0	33.4	23.4	31.6	22.0	30.5	19.6	31.9	20.0	33.5	19.0	32.0	19.0
5 27	34.5	22.9	29.4	21.0	31.5	23.6	31.0	22.8	31.4	21.5	31.9	21.0	29.4	18.5	32.5	20.4	31.6	21.0
5 28	35.2	23.0	31.0	21.0	31.5	23.2	31.6	24.0	31.9	21.5	32.8	22.0	30.2	21.4	34.8	19.8	30.6	20.0
5 29	34.5	19.5	31.4	18.5	33.5	24.6	31.4	23.0	32.2	22.1	31.5	20.5	31.2	19.0	34.6	20.6	29.0	19.9
5 30	33.0	18.8	29.1	20.6	33.3	21.5	32.4	20.7	28.4	20.5	32.2	21.4	25.5	19.7	34.8	23.4	32.0	20.4
5 31	31.0	20.5	31.0	18.5	35.0	20.6	32.0	21.0	28.4	22.6	32.0	19.5	32.5	21.6	33.9	20.2	33.5	21.2
6 1	31.0	21.5	33.7	20.6	35.0	21.5	32.5	20.9	31.9	22.0	31.0	24.0	33.0	22.5	32.5	23.0	33.5	20.7
6 2	28.7	19.7	34.3	19.9	34.5	23.0	33.6	18.5	32.4	22.0	31.9	22.8	33.0	22.5	35.0	21.5	32.5	22.5
6 3	31.0	19.0	34.2	19.8	34.3	21.5	29.6	17.8	33.8	23.6	26.6	21.4	33.0	18.5	36.0	21.6	33.0	21.6
6 4	29.0	20.6	34.5	20.0	33.1	21.0	33.0	19.6	35.0	23.0	33.4	22.4	33.5	20.5	31.5	22.0	32.8	21.4
6 5	28.5	20.0	35.0	21.0	33.5	19.5	33.5	19.5	34.0	22.0	29.5	22.0	32.0	21.0	33.1	20.4	32.0	21.0
6 6	31.0	18.0	34.0	20.3	33.8	19.2	34.9	21.0	28.1	22.6	32.0	22.5	33.0	22.4	31.5	19.0	33.5	22.0
6 7	32.5	21.0	34.0	20.1	34.6	23.6	34.0	21.0	28.1	22.1	32.0	20.8	31.4	21.0	31.6	23.6	32.5	22.2
6 8	32.0	21.0	33.5	19.8	35.0	23.4	35.6	23.0	25.3	21.6	32.6	21.2	33.3	23.5	31.5	23.0	34.0	24.0
6 9	33.5	23.0	33.7	20.4	35.0	24.5	35.6	25.5	28.6	22.0	32.9	21.6	33.5	25.0	32.5	23.0	33.5	21.5
6 10	33.9	23.5	33.5	22.0	36.0	24.5	29.9	22.0	31.9	23.8	33.0	23.8	34.1	24.5	32.5	22.0	31.5	21.4
6 11	31.0	21.2	32.3	19.5	37.2	25.0	29.8	24.4	33.9	24.2	34.2	24.5	33.3	24.5	31.5	22.0	32.4	20.6
6 12	31.2	24.0	33.5	19.5	37.1	22.5	33.5	23.0	33.5	23.1	35.0	27.4	33.0	24.2	33.0	22.5	34.1	22.5
6 13	32.5	22.5	33.5	21.5	35.5	24.5	26.5	20.5	34.4	22.8	33.2	23.2	33.1	23.5	33.1	21.7	33.5	22.6
6 14	31.0	22.5	33.5	21.0	32.6	23.5	33.0	21.5	33.1	24.0	33.5	23.3	33.5	23.5	31.7	22.0	34.0	23.5
6 15	33.0	23.5	33.4	18.5	34.7	23.8	34.0	24.5	32.6	23.0	33.0	23.5	33.9	21.5	33.0	22.1	33.6	24.6
6 16	33.5	24.0	32.1	20.2	33.5	24.5	30.0	24.9	33.5	24.0	33.0	23.2	33.0	22.0	31.0	23.0	30.6	23.5
6 17	33.0	24.1	33.2	20.8	35.0	25.5	33.5	23.5	32.6	22.1	31.8	22.8	33.0	22.0	34.5	23.8	29.8	24.0
6 18	33.5	24.5	30.6	20.2	34.4	26.0	32.6	25.0	33.0	23.5	30.2	23.5	32.0	24.5	34.5	23.0	30.0	22.6
6 19	31.8	23.5	30.6	22.0	30.2	25.0	34.1	24.8	33.0	23.8	33.0	22.8	33.5	24.5	34.5	24.0	32.3	24.4
6 20	35.5	25.0	33.5	22.9	27.5	23.5	34.2	25.0	32.5	23.5	31.0	23.5	33.5	22.4	32.5	24.8	33.5	24.0
6 21	30.0	24.5	33.5	24.0	27.8	22.8	33.0	24.5	33.4	23.7	29.5	24.0	33.5	22.2	33.0	24.0	32.5	24.5
6 22	26.6	24.0	33.0	23.0	29.9	23.5	31.5	24.6	26.1	23.6	28.5	24.0	33.6	21.0	32.5	22.8	33.0	23.5
6 23	31.0	24.5	29.5	23.9	33.4	25.0	33.0	24.5	32.4	22.5	33.0	24.2	34.6	25.0	33.0	23.2	32.4	21.0
6 24	27.5	24.3	33.2	24.5	33.5	25.2	30.2	23.1	29.0	22.5	34.2	24.6	34.0	23.2	27.6	23.0	32.2	21.5
6 25	30.0	24.1	32.5	24.5	31.4	26.0	31.0	23.4	33.0	22.0	32.3	24.2	34.0	24.0	33.4	22.8	33.5	22.5
6 26	32.0	24.0	33.4	24.5	27.6	24.5	30.7	24.2	32.8	22.0	33.0	24.6	33.4	25.5	33.0	24.5	34.0	22.5
6 27	29.9	24.0	33.5	23.7	31.5	24.0	28.9	23.0	31.4	24.5	34.0	24.5	32.4	24.0	31.5	24.2	34.0	22.4
6 28	30.2	24.6	33.0	24.9	33.7	24.0	29.2	23.4	33.0	25.2	33.3	25.2	32.4	24.9	31.4	24.0	34.9	23.0
6 29	29.5	23.9	29.6	23.9	33.6	23.0	33.4	23.0	33.0	24.0	DNA	24.2	34.5	25.0	30.9	23.1	35.0	25.3
6 30	29.5	23.7	26.0	23.5	35.0	26.0	32.9	22.0	32.5	23.1	DNA	24.5	31.6	24.0	31.6	22.0	34.6	25.0

Daily Temperature (deg C)

Location : Kharini Tar

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004									
Month Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
7 1	33.5	23.5	30.5	22.6	32.0	24.5	30.4	19.0	33.2	23.0	DNA	24.5	28.5	23.4	33.0	24.0	30.9	23.0
7 2	33.6	25.0	34.5	24.6	34.1	24.5	27.8	23.4	34.2	22.6	DNA	25.5	29.3	24.2	34.0	25.0	34.4	25.0
7 3	34.1	24.5	34.0	25.5	34.0	24.5	28.0	23.0	33.0	23.2	DNA	24.2	31.7	24.5	34.0	25.6	32.9	23.6
7 4	33.4	23.5	35.0	25.0	34.4	24.0	29.0	22.5	32.5	24.5	DNA	24.6	31.0	24.8	26.4	23.6	34.5	25.0
7 5	33.0	24.0	32.3	24.0	33.6	24.6	31.5	25.5	33.0	23.0	DNA	22.5	33.5	24.5	31.8	23.4	34.3	25.4
7 6	33.0	23.3	33.5	24.5	32.3	24.5	33.2	23.4	26.0	24.0	DNA	25.2	32.6	23.0	33.5	23.8	31.2	23.4
7 7	32.5	24.0	33.2	24.5	27.0	24.3	33.6	23.8	28.6	22.6	DNA	25.5	34.2	25.2	33.5	22.9	30.6	24.2
7 8	33.0	24.0	31.5	24.5	27.5	23.5	28.6	23.5	33.2	23.8	DNA	23.4	35.0	25.5	26.5	23.2	30.9	24.2
7 9	30.0	24.0	30.0	23.6	27.5	23.4	31.0	24.5	32.0	25.0	DNA	24.8	33.2	24.0	25.5	23.0	30.9	23.0
7 10	29.0	23.5	27.4	24.5	33.5	24.0	30.0	24.0	31.5	24.5	DNA	24.8	29.5	25.0	27.8	22.1	29.9	23.0
7 11	26.6	24.0	28.1	23.5	34.9	25.5	36.6	22.5	33.0	23.5	DNA	23.8	31.2	23.5	32.9	22.1	32.2	24.5
7 12	30.5	24.2	33.0	24.0	33.0	23.5	29.4	23.0	34.5	25.0	DNA	24.2	33.0	23.6	33.5	24.0	30.5	23.0
7 13	28.0	23.5	31.5	24.0	33.0	24.8	31.5	22.7	34.3	23.2	DNA	25.6	29.2	24.2	32.4	24.5	31.5	23.0
7 14	25.6	23.2	30.1	24.0	32.9	24.3	32.8	24.6	33.0	24.0	DNA	24.0	30.6	23.6	29.5	23.4	32.2	22.6
7 15	31.5	24.5	33.5	23.8	32.6	24.5	33.6	24.1	31.5	24.5	DNA	23.5	31.0	24.0	32.4	23.2	33.5	23.8
7 16	32.0	24.2	33.5	23.7	32.2	24.6	33.8	25.0	32.0	24.0	DNA	23.6	34.8	25.0	34.0	24.3	34.4	24.5
7 17	30.2	24.0	34.0	24.6	29.8	25.0	28.0	24.2	34.2	23.9	DNA	23.8	34.0	24.8	33.0	24.0	33.5	24.0
7 18	28.8	23.6	34.5	25.0	30.8	24.2	32.0	24.1	34.0	23.5	DNA	24.5	34.0	25.3	33.5	23.8	30.5	24.2
7 19	32.5	23.8	33.0	24.0	29.0	24.1	32.4	23.6	33.0	24.5	DNA	24.5	34.5	25.2	30.5	24.0	29.9	24.5
7 20	31.5	24.5	34.0	24.9	29.5	23.9	31.5	24.2	32.6	24.2	DNA	24.2	28.3	24.0	31.5	23.5	32.5	24.5
7 21	34.0	24.5	32.4	22.0	32.5	24.5	32.7	24.5	33.5	24.0	DNA	25.0	27.6	23.6	33.4	23.9	32.0	25.0
7 22	33.0	22.5	33.6	23.2	31.9	24.6	31.3	24.2	33.2	24.0	DNA	24.5	29.4	23.8	32.6	24.0	30.5	24.0
7 23	33.9	25.5	34.0	25.2	30.7	24.0	31.3	23.0	32.4	24.5	DNA	25.2	29.6	23.0	34.5	25.2	33.9	24.5
7 24	32.5	24.9	33.5	24.4	29.0	24.5	30.4	24.2	32.1	24.0	DNA	24.0	31.5	24.2	35.0	23.2	32.5	24.5
7 25	34.5	25.5	32.2	22.5	29.1	25.2	32.0	23.2	32.6	24.0	DNA	24.8	31.5	23.0	35.5	24.0	30.5	23.0
7 26	32.9	25.5	33.0	25.3	33.9	24.9	28.0	23.2	32.6	24.2	DNA	24.5	31.5	24.0	34.5	25.0	32.5	23.5
7 27	33.0	24.0	33.1	25.0	28.8	23.5	30.8	22.0	32.0	24.0	DNA	23.2	33.4	25.4	34.4	25.5	32.5	23.0
7 28	32.0	25.0	33.3	23.9	31.5	23.5	30.6	23.0	32.6	23.6	DNA	24.2	31.6	22.6	33.6	24.5	30.2	24.5
7 29	29.9	24.7	34.0	25.5	32.0	25.0	29.5	24.0	31.0	23.2	DNA	23.8	31.1	25.0	33.0	24.4	33.0	23.5
7 30	33.0	25.2	34.0	24.5	33.6	25.5	33.7	24.8	31.6	24.0	DNA	24.4	32.0	23.2	29.6	24.5	31.5	22.9
7 31	33.9	25.0	33.8	25.5	DNA	DNA	31.8	24.5	26.2	23.5	DNA	24.2	32.2	24.3	29.0	23.0	33.0	26.0
8 1	34.0	25.0	33.8	24.9	31.5	24.8	35.0	25.2	25.8	22.5	DNA	24.2	33.0	24.5	33.1	23.0	34.4	24.8
8 2	33.5	24.0	33.6	25.5	30.6	24.5	32.5	25.4	33.0	23.0	DNA	24.8	32.4	24.0	31.6	24.5	33.7	24.5
8 3	33.4	24.0	34.5	25.8	27.3	24.0	33.5	22.9	28.0	22.0	DNA	24.5	32.8	23.2	31.5	23.5	35.0	24.0
8 4	32.5	24.5	34.0	25.5	33.0	24.2	33.0	24.5	33.0	22.5	DNA	25.5	34.0	24.5	34.5	23.6	34.4	25.2
8 5	34.1	24.8	33.8	24.3	30.6	24.5	32.5	23.1	33.5	24.5	DNA	22.0	34.2	25.2	34.2	24.7	32.0	24.2
8 6	32.8	25.2	34.1	24.6	32.0	25.1	33.5	23.6	32.5	24.2	DNA	25.0	34.5	25.5	34.0	24.0	33.0	24.4
8 7	32.5	24.9	31.5	24.1	33.5	25.6	33.5	25.5	32.5	25.2	DNA	24.8	34.5	22.6	35.3	24.0	30.0	25.0
8 8	32.5	24.0	30.6	24.9	33.5	25.6	33.0	24.4	32.5	23.8	DNA	23.5	35.0	25.5	32.0	24.2	33.8	23.5
8 9	32.0	24.0	32.5	24.5	34.0	25.5	32.0	24.5	31.0	24.0	DNA	24.5	35.0	25.0	33.0	25.0	34.6	24.5
8 10	32.0	24.5	24.9	23.6	34.0	25.6	32.0	24.6	30.6	23.0	DNA	24.0	31.2	24.8	34.4	24.6	33.0	23.0
8 11	32.5	24.5	28.4	22.0	30.4	23.9	31.9	25.0	32.6	23.8	40.2	25.5	31.6	24.0	34.4	24.5	34.2	25.0
8 12	30.8	25.0	25.5	23.5	30.0	23.5	32.0	24.4	32.5	24.5	32.8	25.0	30.0	24.0	32.5	25.0	35.0	24.5
8 13	25.5	23.5	32.0	23.2	31.0	24.5	24.8	23.1	32.0	24.5	31.8	23.0	32.1	24.0	34.6	25.5	35.2	25.0
8 14	28.5	23.0	32.0	23.5	31.0	24.2	27.0	22.5	32.0	23.6	34.5	25.6	33.0	24.2	34.8	25.0	34.5	25.2
8 15	31.6	23.0	33.4	23.0	29.5	23.8	28.0	23.0	31.0	24.5	34.8	24.6	33.5	24.2	34.4	26.0	33.5	25.0
8 16	31.4	23.5	33.5	24.0	32.5	24.5	31.5	24.5	32.5	23.5	33.6	24.9	34.0	25.5	34.5	23.6	34.0	24.3
8 17	31.0	23.2	32.0	24.5	31.9	24.6	32.5	23.0	33.1	24.2	33.5	28.2	32.5	24.6	34.0	24.2	34.0	24.1
8 18	31.7	23.4	27.0	22.5	25.4	23.8	29.0	24.2	32.6	24.5	28.0	24.6	32.5	24.7	28.0	24.0	34.0	23.8
8 19	32.5	23.9	33.5	22.5	30.8	23.5	32.0	23.0	33.0	23.6	30.2	23.5	33.4	20.4	27.6	23.0	32.8	23.5
8 20	32.5	24.5	33.0	23.0	30.6	23.5	32.0	23.8	32.2	24.5	33.6	25.0	31.7	23.4	25.1	23.2	32.0	23.8
8 21	32.3	22.5	33.6	23.5	30.0	23.5	33.4	24.5	30.1	23.0	33.4	24.8	27.5	22.5	33.0	23.0	33.5	23.9
8 22	30.6	23.0	32.4	23.8	34.0	24.0	33.3	23.0	33.5	24.5	27.0	23.0	27.0	21.5	34.6	23.0	34.9	24.5
8 23	32.0	23.6	33.0	23.5	30.6	24.6	26.0	23.5	31.5	25.0	29.9	22.0	31.8	22.0	31.6	24.8	34.5	24.5
8 24	33.5	23.5	33.0	24.0	29.4	24.8	32.0	22.8	31.5	25.0	30.4	21.8	32.5	24.0	33.0	24.6	35.0	23.0
8 25	34.5	24.5	34.6	24.5	32.2	24.4	26.7	22.6	30.0	22.5	32.8	24.0	33.4	24.2	32.5	24.8	34.0	24.5
8 26	33.9	25.0	32.5	21.9	32.0	23.1	24.9	21.0	32.5	23.1	33.0	24.0	33.5	23.5	34.1	25.0	34.5	25.2
8 27	33.0	23.5	35.3	23.6	31.5	23.8	29.8	22.5	32.5	14.6	32.6	25.0	33.5	24.0	33.0	23.0	34.2	25.0
8 28	32.5	25.0	33.3	23.5	33.6	24.4	29.8	22.5	32.0	23.0	31.0	23.8	34.5	25.0	33.0	24.0	33.5	24.9
8 29	30.0	24.5	32.8	23.0	33.0	24.2	31.5	23.0	31.8	24.2	31.0	25.4	33.5	24.5	29.0	24.0	33.0	25.0
8 30	28.5	23.5	32.0	23.5	27.0	23.4	30.5	22.0	32.0	23.9	33.6	23.5	34.0	24.2	29.0	23.4	33.5	25.0
8 31	32.0	24.0	29.7	24.8	27.5	23.6	32.0	22.6	33.0	23.5	32.8	23.4	33.5	24.0	33.0	24.0	33.5	23.5

Daily Temperature (deg C)

Location : Kharini Tar

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	
Month Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
9 1	26.5	23.0	32.2	23.6	29.5	22.2	31.8	23.5	33.0	24.0
9 2	30.0	23.5	32.6	23.8	31.6	23.6	31.6	23.0	32.1	24.1
9 3	32.0	24.5	32.5	23.0	33.1	23.0	32.0	23.5	33.0	23.0
9 4	32.5	22.0	33.3	23.5	32.5	24.0	33.5	22.4	29.5	24.5
9 5	29.5	23.0	33.3	24.0	31.2	24.0	32.5	24.0	32.0	24.0
9 6	31.4	22.0	29.8	22.0	31.8	23.7	28.7	23.0	32.5	23.5
9 7	31.5	24.0	30.9	24.4	32.6	21.8	29.8	23.0	31.5	24.0
9 8	31.5	23.3	32.5	23.2	33.6	23.0	33.4	23.4	29.4	23.5
9 9	31.5	23.5	31.2	23.8	33.4	23.4	30.0	23.5	26.8	23.0
9 10	32.6	24.0	32.1	23.0	31.0	23.5	32.2	22.5	29.4	23.2
9 11	32.5	24.0	30.8	23.0	31.3	24.6	32.6	23.0	30.0	24.0
9 12	30.0	23.4	28.0	23.0	33.0	24.3	32.0	23.9	33.0	23.0
9 13	33.4	23.0	28.0	23.5	33.1	24.2	32.1	23.4	33.0	24.6
9 14	33.0	23.8	32.0	22.6	33.4	23.5	32.4	21.0	33.0	24.0
9 15	28.9	22.0	31.5	23.0	33.0	23.6	31.0	23.0	30.0	23.0
9 16	33.0	23.4	30.9	23.2	34.0	22.5	31.6	23.5	30.0	23.5
9 17	33.0	22.5	28.0	24.0	34.2	23.7	28.8	24.1	31.0	22.8
9 18	31.5	20.0	30.0	23.0	33.3	23.2	32.0	23.1	29.0	23.0
9 19	30.5	20.0	32.0	23.0	34.2	24.5	32.6	24.8	28.1	22.5
9 20	30.6	20.5	32.5	24.2	33.0	23.0	32.4	23.5	31.0	20.9
9 21	32.0	21.5	31.2	22.0	29.6	22.4	30.4	21.0	31.0	22.1
9 22	31.4	22.0	31.0	21.6	32.6	23.0	31.0	23.6	32.0	21.5
9 23	32.0	23.4	31.1	22.6	33.0	24.0	33.0	23.0	30.5	21.6
9 24	30.5	24.0	29.8	21.2	32.6	22.0	31.2	22.5	31.0	21.5
9 25	28.2	22.4	31.4	21.0	33.5	22.5	29.5	22.5	31.0	20.0
9 26	30.0	24.0	30.8	22.3	32.6	24.2	28.4	22.5	31.4	20.6
9 27	29.2	22.0	29.5	21.5	32.7	23.0	29.8	21.5	30.2	18.2
9 28	29.5	22.8	28.0	21.2	31.7	22.0	31.1	22.0	31.0	21.0
9 29	30.0	22.0	28.5	20.0	31.2	23.5	30.2	22.0	31.0	18.5
9 30	30.7	23.0	28.0	17.4	32.5	22.2	31.0	22.5	31.0	18.0
10 1	31.0	23.0	26.5	17.0	30.3	22.0	31.0	20.7	31.0	18.0
10 2	29.6	20.2	26.5	16.0	31.0	22.5	28.0	18.6	31.0	20.2
10 3	28.0	22.9	27.0	18.1	29.0	22.0	24.4	20.5	31.4	22.0
10 4	28.1	20.6	27.3	16.0	30.5	21.5	28.5	21.0	31.5	22.2
10 5	22.5	18.0	27.5	17.5	31.5	21.5	29.5	22.0	31.5	21.0
10 6	27.5	20.0	28.0	17.0	31.9	22.5	29.1	22.0	31.9	20.6
10 7	29.0	21.0	27.0	19.0	32.0	22.1	29.5	20.6	32.6	21.5
10 8	28.5	20.5	28.5	17.9	32.0	23.8	29.0	22.0	31.6	22.5
10 9	28.0	19.5	28.5	17.1	31.2	21.5	29.2	22.0	31.6	20.6
10 10	27.3	19.5	27.0	14.5	30.6	22.0	28.5	21.0	31.2	19.0
10 11	27.5	19.0	27.0	17.0	29.8	21.5	28.6	21.0	31.5	20.1
10 12	27.0	19.7	27.5	17.5	30.6	21.0	27.5	19.5	31.0	20.6
10 13	28.0	21.0	27.0	16.5	30.6	22.0	27.5	20.0	31.0	19.9
10 14	27.5	20.5	27.1	18.0	29.5	18.2	27.4	19.6	31.0	20.5
10 15	27.5	16.5	25.8	17.2	28.8	20.4	27.0	19.5	30.9	14.9
10 16	26.5	15.0	26.4	17.5	29.5	21.2	28.0	20.2	30.6	16.7
10 17	27.0	18.5	27.0	19.5	29.5	22.0	27.4	19.8	30.2	15.6
10 18	27.0	18.3	26.7	17.5	24.9	21.6	27.0	18.0	30.6	17.9
10 19	27.0	17.0	26.6	18.0	29.0	20.6	24.0	19.4	30.5	17.5
10 20	26.8	19.0	26.5	18.1	30.5	21.9	27.0	19.8	30.0	17.0
10 21	27.0	18.0	26.6	17.6	29.9	20.4	25.5	18.0	30.0	18.0
10 22	26.8	17.5	25.4	14.5	30.8	23.0	26.5	18.5	29.5	19.8
10 23	24.5	19.7	24.4	16.0	29.5	22.0	26.8	18.0	29.0	20.0
10 24	24.5	19.5	25.4	15.0	28.6	22.0	26.9	16.6	28.0	17.5
10 25	23.0	20.0	23.0	13.5	29.6	21.9	26.5	17.0	27.4	17.5
10 26	22.5	18.6	24.1	13.5	29.0	20.5	26.8	16.0	28.7	19.0
10 27	23.5	17.5	24.4	15.0	29.5	20.8	27.0	16.0	28.9	16.6
10 28	24.2	18.8	25.5	16.5	28.0	20.0	26.8	16.7	29.4	16.9
10 29	24.1	18.7	25.0	15.2	28.6	20.0	27.1	17.6	29.5	17.0
10 30	26.5	19.5	24.9	15.5	28.5	19.0	26.9	17.5	28.5	17.0
10 31	27.0	18.9	24.8	15.2	27.3	18.2	27.0	18.4	28.5	15.6

Daily Temperature (deg C)

Location : Kharini Tar

Year		1996		1997		1998		1999		2000		2001		2002		2003		2004	
Month	Day	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
11	1	26.8	18.5	24.9	16.2	27.0	19.0	26.6	16.6	29.1	16.0	29.0	15.7	27.1	15.0	29.5	18.0	26.6	14.5
11	2	27.0	18.3	25.4	16.5	27.0	18.6	26.8	15.5	29.6	14.0	28.6	15.6	27.0	15.0	29.0	17.8	27.5	14.2
11	3	27.0	19.5	25.4	16.4	27.4	17.2	26.5	18.5	28.9	13.3	29.4	19.5	26.6	16.2	28.0	16.0	26.6	12.8
11	4	26.5	16.5	25.6	14.0	27.4	17.6	26.2	18.0	27.8	16.0	28.2	19.8	26.2	16.0	28.0	17.4	25.6	11.5
11	5	27.0	15.0	25.5	15.0	27.0	17.2	26.2	17.0	28.0	14.5	27.6	20.0	26.2	16.0	27.6	17.6	25.8	11.8
11	6	26.5	15.5	25.3	15.0	27.0	16.0	25.2	17.6	27.9	17.0	28.6	16.0	26.3	15.0	27.6	18.4	26.2	13.0
11	7	25.7	15.0	25.5	16.1	26.9	15.6	25.4	15.0	28.0	14.9	25.0	15.5	26.0	16.0	27.4	17.5	26.9	13.0
11	8	25.2	13.5	25.2	15.2	25.8	16.5	25.5	15.5	26.8	16.8	26.0	14.5	26.0	16.0	28.0	18.0	26.0	14.2
11	9	24.5	14.0	25.5	16.2	23.4	15.6	24.5	15.5	26.5	17.8	26.0	12.0	27.5	15.1	27.6	16.6	26.0	14.0
11	10	25.1	15.5	24.2	14.0	24.6	16.1	24.4	14.0	26.6	18.0	26.0	13.5	27.5	15.4	26.5	16.5	25.9	13.9
11	11	25.0	15.5	23.9	12.5	25.6	17.0	24.4	13.7	26.0	17.0	27.0	14.0	26.8	13.6	26.5	16.5	25.5	13.0
11	12	24.7	14.9	23.6	13.0	25.0	16.2	24.2	15.6	26.5	16.8	26.0	13.9	23.6	14.8	26.5	16.2	26.2	13.5
11	13	24.2	15.0	23.8	13.0	25.0	16.5	24.2	15.0	26.5	17.0	26.5	14.2	25.0	16.0	26.0	13.0	24.8	14.0
11	14	24.5	15.5	23.5	14.0	25.3	14.5	24.4	15.0	26.5	17.0	26.5	14.6	25.5	15.0	26.0	15.0	24.9	14.6
11	15	24.5	15.5	23.6	13.5	25.5	15.5	24.4	15.0	25.5	16.8	28.0	14.6	25.5	16.0	27.6	14.8	23.8	14.6
11	16	23.5	15.5	23.5	13.6	21.0	13.6	24.0	15.0	24.5	16.1	27.6	14.5	27.0	14.5	27.0	16.2	22.6	15.5
11	17	23.5	14.5	22.5	13.8	22.6	16.4	23.6	14.5	25.5	16.5	26.7	14.0	26.1	14.0	26.2	11.6	23.5	15.0
11	18	23.0	13.5	23.4	15.0	23.0	16.2	23.0	14.6	25.0	16.0	26.3	14.2	25.6	14.8	25.4	14.5	19.0	15.2
11	19	23.8	14.4	23.4	14.6	21.8	18.4	22.4	12.5	24.5	15.5	27.3	15.0	25.0	14.5	25.6	15.0	21.9	15.8
11	20	23.6	14.5	22.5	14.0	24.8	17.5	22.5	11.9	24.5	14.6	26.0	14.3	24.5	15.0	25.6	14.6	20.7	14.5
11	21	23.0	14.5	23.0	13.0	26.5	16.4	21.4	12.8	24.9	14.0	26.0	15.0	24.8	15.0	25.0	13.5	23.5	14.0
11	22	22.5	14.2	22.5	13.8	26.5	16.8	21.2	12.8	24.0	13.5	26.5	15.0	24.6	14.0	26.5	13.6	23.0	14.2
11	23	22.4	14.5	24.0	12.5	25.6	16.8	22.2	12.2	24.0	13.5	24.8	15.6	24.5	14.3	25.5	13.8	23.0	14.8
11	24	22.2	13.5	23.9	13.0	25.2	17.1	18.8	12.5	24.8	13.9	24.5	15.0	25.2	14.8	26.0	14.0	20.0	13.0
11	25	22.1	12.5	21.0	14.5	24.0	14.2	21.1	14.2	24.8	15.2	24.5	14.0	24.7	14.2	25.0	14.0	22.5	12.5
11	26	22.6	13.0	17.6	13.8	24.0	15.1	23.8	14.2	24.8	15.2	24.5	14.2	23.4	14.6	25.4	14.0	23.8	14.3
11	27	22.6	13.5	24.2	13.8	23.8	13.5	23.0	12.6	25.5	14.5	24.5	13.0	24.6	14.6	24.4	12.5	23.6	12.5
11	28	21.5	12.6	19.5	12.0	23.8	13.6	23.8	12.2	21.0	13.5	24.4	13.0	25.4	14.0	24.0	13.0	22.6	11.0
11	29	20.5	12.4	17.5	12.5	23.6	12.7	22.5	12.0	22.6	11.0	24.4	12.0	25.6	15.1	24.1	12.0	24.4	11.2
11	30	20.5	12.0	23.6	13.1	23.5	12.8	22.4	13.1	23.5	11.0	22.0	11.0	24.6	15.0	24.2	12.0	19.0	11.3
12	1	21.4	10.4	19.0	12.5	23.0	13.5	23.0	12.8	22.9	8.5	22.9	12.0	24.2	14.0	24.4	11.8	23.5	9.5
12	2	21.5	9.0	19.0	9.5	22.6	14.0	23.0	13.5	20.7	9.0	22.2	11.0	24.0	14.0	23.1	12.0	23.0	10.2
12	3	21.5	9.5	19.8	9.7	22.5	13.6	22.4	13.5	22.1	8.2	22.5	11.9	24.3	12.5	23.2	12.0	23.8	10.5
12	4	21.0	9.5	20.9	10.5	22.8	12.5	22.9	9.8	23.0	7.0	23.6	12.0	24.0	12.6	23.2	11.8	24.5	10.2
12	5	20.9	9.5	21.1	10.5	22.8	12.5	22.1	11.1	23.0	8.5	21.6	12.5	24.0	12.2	22.5	11.4	24.0	10.9
12	6	20.5	9.4	20.0	10.2	23.5	13.0	22.2	12.0	22.5	8.0	21.0	12.4	23.6	12.0	22.5	10.5	24.0	10.8
12	7	20.2	9.2	20.7	11.5	23.5	12.5	22.4	10.1	22.4	8.0	19.0	13.2	23.5	12.1	20.0	13.0	24.5	11.2
12	8	20.5	9.1	17.6	10.5	22.5	12.5	21.8	10.1	22.0	9.5	20.9	14.4	23.5	11.7	21.5	11.4	24.0	11.6
12	9	20.5	9.5	14.9	13.0	22.6	13.0	21.9	9.0	21.0	9.4	20.6	13.2	24.0	13.5	23.4	9.5	24.2	12.0
12	10	20.5	8.9	14.4	12.0	22.0	12.5	21.4	8.0	22.0	10.0	19.0	12.0	22.5	11.2	24.0	13.5	24.6	11.9
12	11	21.5	9.1	15.5	10.0	21.0	13.0	21.5	8.2	21.5	10.0	19.5	12.0	23.6	11.0	24.5	11.6	24.8	12.5
12	12	21.5	9.2	19.0	11.5	21.0	11.8	22.0	9.8	20.5	10.5	17.4	11.2	23.0	11.0	24.7	10.5	24.3	12.1
12	13	21.5	10.0	18.0	11.7	21.4	12.0	22.1	9.6	21.5	10.5	17.4	11.0	23.6	12.0	23.5	10.9	24.8	10.2
12	14	20.8	10.2	14.0	10.8	19.2	11.0	21.8	10.4	21.5	10.0	21.2	10.8	23.5	11.9	24.0	10.2	24.8	11.8
12	15	20.7	10.2	13.0	7.6	20.6	10.3	21.7	9.2	21.6	10.5	22.8	11.2	24.5	11.5	23.5	10.0	24.8	12.5
12	16	20.5	9.5	14.0	8.5	20.5	8.5	21.4	10.0	22.0	9.9	22.7	10.2	24.3	10.5	22.5	10.6	24.3	11.8
12	17	20.6	9.5	15.5	8.0	21.5	8.0	21.9	10.2	22.6	8.8	22.2	10.2	23.6	10.3	23.0	8.6	24.3	12.1
12	18	21.0	10.5	17.4	9.0	20.5	6.5	21.0	9.6	22.5	9.6	23.0	9.6	20.6	10.5	22.2	8.5	23.0	12.2
12	19	20.9	10.4	19.0	10.6	21.2	8.0	21.6	10.5	22.0	10.2	22.6	8.5	19.0	11.5	24.0	9.4	23.8	12.4
12	20	20.5	9.5	18.5	10.2	20.6	9.0	20.6	10.6	21.5	10.5	22.4	9.4	25.5	11.2	23.8	8.0	22.0	12.6
12	21	20.4	9.5	18.0	10.0	20.2	9.0	21.0	11.0	23.0	13.5	23.2	9.2	24.4	12.2	22.5	8.5	23.0	12.2
12	22	20.2	9.0	18.8	7.5	20.4	8.3	19.7	10.5	24.0	10.4	23.9	8.2	20.0	11.4	22.6	8.0	23.5	12.0
12	23	19.5	8.9	19.0	8.6	20.5	8.0	20.6	10.5	24.2	9.5	22.8	8.5	18.0	11.0	24.0	8.2	20.4	11.8
12	24	19.5	9.0	18.0	9.3	20.5	8.3	20.6	10.5	24.0	9.9	22.4	9.4	20.4	11.5	22.5	8.0	20.5	11.5
12	25	20.0	9.0	18.4	10.0	20.5	8.4	20.6	10.0	23.2	10.0	22.0	9.6	21.0	11.0	22.6	8.0	19.0	11.2
12	26	20.7	9.0	18.4	8.9	20.5	8.5	20.5	10.0	23.2	9.0	22.5	10.0	21.0	10.0	21.0	DNA	17.5	10.5
12	27	20.5	9.5	17.4	8.0	20.5	8.0	20.4	10.0	22.0	8.0	22.0	9.5	20.5	11.0	20.6	DNA	16.8	9.0
12	28	21.5	10.4	15.5	8.1	20.6	5.5	20.6	10.5	22.2	8.5	22.2	9.6	20.6	11.0	15.0	DNA	19.0	6.5
12	29	21.8	9.5	17.5	9.9	20.6	7.7	19.8	10.0	21.0	8.5	21.6	8.5	20.5	9.0	18.6	DNA	20.6	6.5
12	30	21.0	10.5	19.0	7.5	20.0	8.0	18.9	10.5	20.6	8.5	22.0	7.4	18.7	7.5	18.0	DNA	18.0	7.8
12	31	21.0	8.5	18.5	10.2	20.5	7.2	18.5	9.5	18.0	12.0	DNA	DNA	18.8	8.0	17.6	DNA	20.0	8.8

Monthly Average Temperature (deg C)

Location : Pokhara Airport Latitude : 28° 13' N
 Index No. : 0804 Longitude : 84° 00' E
 District : Kaski Elevation : 827 m.
 Note : DNA means data not available

Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Month	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
1	20.7	6.9	20.4	8.2	18.2	6.9	21.3	8.6	19.6	6.1
2	22.5	9.5	22.9	9.7	20.9	7.4	21.0	9.3	23.9	8.9
3	25.4	12.6	25.6	12.4	25.8	11.9	23.7	10.6	26.9	12.6
4	28.7	15.2	30.0	16.1	30.9	14.5	28.3	15.0	29.5	15.2
5	30.1	17.4	30.0	19.3	31.2	19.1	29.5	18.2	30.1	18.9
6	30.9	21.2	30.3	21.2	30.3	20.6	31.2	20.9	29.8	21.2
7	29.0	21.5	29.8	22.3	28.2	21.4	29.7	21.7	30.4	22.3
8	29.5	21.4	29.4	22.2	29.9	21.0	30.0	21.4	29.9	22.1
9	29.6	21.1	29.5	21.3	29.3	20.7	29.5	20.6	29.8	20.7
10	26.7	16.8	28.2	16.5	28.0	15.9	27.2	15.6	28.0	16.5
11	24.6	11.7	25.3	10.2	23.5	11.0	25.5	11.1	23.7	10.2
12	21.3	8.6	21.4	9.3	19.8	7.0	21.5	7.6	20.5	6.7
Average	26.6	15.3	26.9	15.7	26.3	14.8	26.5	15.1	26.8	15.1

Year Month	1997		1998		1999		2000		2001		2002		2003		2004		Average	
	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
1	18.9	6.2	18.4	6.8	20.6	6.5	20.5	7.3	19.6	7.5	20.1	7.1	19.7	6.9	19.8	7.5	19.6	7.1
2	20.2	7.8	22.1	9.7	25.3	10.7	20.6	7.6	23.3	10.0	23.4	9.9	21.9	9.6	23.4	10.3	22.1	9.1
3	26.4	12.5	24.2	11.9	29.4	13.2	26.1	10.9	27.9	12.3	27.1	13.7	25.7	12.8	29.3	15.9	26.4	12.6
4	26.5	14.5	28.8	16.3	33.6	18.6	30.2	12.6	30.8	15.4	29.2	16.5	30.1	16.9	28.9	16.6	29.8	15.5
5	29.9	17.1	30.5	19.6	30.0	19.1	29.7	15.7	29.6	19.2	29.8	19.3	30.2	17.6	30.6	19.3	30.2	18.5
6	30.4	20.0	31.5	22.2	30.1	20.8	30.0	16.3	30.7	21.6	31.4	21.6	30.8	21.1	31.0	21.0	30.5	20.9
7	30.5	22.3	29.8	22.6	29.3	21.7	30.0	19.8	30.7	22.5	30.2	22.4	30.5	22.1	29.9	22.1	29.9	21.9
8	30.2	22.0	29.2	22.6	29.1	21.4	29.5	22.1	30.4	22.2	30.3	22.1	31.4	22.5	31.4	22.6	30.0	22.0
9	29.0	20.8	30.0	21.3	29.9	21.4	28.7	20.5	29.8	20.8	29.7	20.7	30.1	21.0	29.4	21.1	29.4	20.9
10	25.7	14.0	28.6	19.3	27.6	17.4	27.9	17.3	28.7	17.8	28.0	16.9	29.0	17.6	27.3	16.2	27.5	16.8
11	22.9	11.8	24.7	13.5	24.3	12.7	23.9	13.8	25.5	13.2	24.6	12.4	24.7	13.3	23.5	11.1	24.3	11.9
12	18.3	7.7	21.5	8.2	21.6	9.1	20.6	8.3	21.1	8.8	20.9	8.9	21.2	8.3	21.1	8.7	20.8	8.1
Average	25.7	14.7	26.6	16.2	27.6	16.1	26.5	14.3	27.3	15.9	27.1	16.0	27.1	15.8	27.1	16.0	26.7	15.4

Location : Kharini Tar Latitude : 28° 02' N
 Index No. : 0815 Longitude : 84° 06' E
 District : Tanahun Elevation : 500 m.
 Note : DNA means data not available

Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Month	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
1	22.6	7.6	23.1	8.8	21.1	7.4	24.3	9.1	22.3	7.2
2	25.3	8.8	25.5	9.6	23.7	7.0	24.7	10.1	26.3	6.5
3	28.6	12.5	29.4	12.8	29.1	11.7	27.3	11.3	29.2	12.2
4	32.4	15.2	33.2	15.9	34.5	13.6	31.9	15.7	33.7	19.2
5	33.9	17.9	33.1	19.4	34.1	20.1	33.5	19.9	32.2	18.4
6	33.8	22.4	33.2	22.4	33.2	22.7	34.6	23.3	33.0	19.9
7	31.6	23.5	33.1	23.8	31.6	23.7	33.1	23.6	DNA	DNA
8	32.1	22.9	32.2	23.5	33.2	23.7	33.7	23.7	32.3	25.0
9	31.8	22.5	32.3	22.4	32.2	23.1	32.8	22.7	32.8	23.0
10	29.7	18.4	31.4	18.6	31.4	18.9	31.3	18.3	31.5	18.4
11	27.2	13.5	27.6	11.3	26.0	13.3	28.7	13.4	26.7	11.1
12	23.3	10.3	23.3	10.5	22.4	8.7	24.0	8.6	22.1	8.6
Average	29.4	16.3	29.8	16.6	29.4	16.2	30.0	16.6	29.3	15.4

Year	1997		1998		1999		2000		2001		2002		2003		2004		Average	
Month	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin	Tmax	Tmin
1	19.1	8.0	18.5	8.8	21.0	7.6	20.4	8.6	21.4	7.4	20.9	8.5	20.9	8.7	21.5	7.7	21.0	8.2
2	21.5	8.5	23.2	10.8	27.1	10.6	22.1	8.3	25.2	9.9	25.3	11.0	23.1	11.0	25.4	10.0	24.2	9.4
3	28.9	12.2	26.1	12.5	32.2	11.8	29.0	11.2	29.6	11.4	29.6	13.9	27.4	13.5	31.9	15.7	29.2	12.5
4	29.6	15.9	31.1	17.5	36.2	18.3	32.4	16.6	33.3	15.6	30.9	17.8	32.0	17.8	31.1	18.2	32.8	16.3
5	32.5	18.2	32.9	21.1	32.3	20.9	31.3	20.8	31.8	20.6	31.4	20.7	32.4	19.2	32.7	20.3	32.9	19.8
6	32.8	21.7	33.3	23.7	32.2	22.7	31.9	23.1	32.2	23.5	33.2	23.1	32.5	22.7	33.0	22.7	33.0	22.7
7	32.7	24.3	31.6	24.4	31.2	23.6	32.2	23.9	DNA	24.3	31.6	24.2	32.1	23.9	32.0	24.0	32.3	24.0
8	32.1	23.8	31.1	24.3	31.0	23.6	31.8	23.5	32.4	24.3	32.8	24.0	32.6	24.2	33.8	24.4	32.4	23.9
9	30.8	22.6	32.5	23.3	31.3	22.9	30.9	22.4	31.4	22.9	31.3	22.4	31.8	22.9	31.3	23.1	31.7	22.8
10	26.3	16.6	29.7	21.3	27.5	19.3	30.3	18.8	30.4	19.5	29.5	19.3	30.7	19.7	29.5	17.9	29.6	18.8
11	23.4	14.1	25.0	16.0	23.8	14.5	25.8	15.2	26.3	14.8	25.6	15.0	26.4	15.1	24.0	13.6	25.6	13.8
12	17.7	9.9	21.3	10.1	21.3	10.4	22.1	9.5	21.6	10.6	22.3	11.3	22.2	10.2	22.6	10.9	21.7	9.9
Average	27.3	16.3	28.0	17.8	28.9	17.2	28.4	16.8	28.7	17.1	28.7	17.6	28.7	17.4	29.1	17.4	28.8	16.8

Historical Data of Humidity at Meteorological Stations

Daily Humidity (%)

Location : Pokhara Airport Latitude : 28° 13' N

Index No. : 0804 Longitude : 84° 00' E

District : Kaski Elevation : 827 m.

Note : DNA means data not available

Year		1987			1988			1989			1990			1991			1992		
Month	Day	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
1	1	80.9	61.1	71.0	93.2	70.1	81.7	91.3	64.6	78.0	93.4	60.6	77.0	92.8	75.0	83.9	94.1	58.4	76.3
1	2	84.9	74.3	79.6	90.4	56.7	73.6	87.8	70.9	79.4	87.5	44.6	66.1	94.8	59.2	77.0	92.7	68.3	80.5
1	3	92.1	64.6	78.4	88.1	65.5	76.8	73.6	79.7	76.7	94.6	57.8	76.2	81.7	65.3	73.5	97.1	63.5	80.3
1	4	94.5	53.4	74.0	90.1	69.6	79.9	89.1	62.0	75.6	97.3	60.8	79.1	86.1	57.9	72.0	91.2	52.0	71.6
1	5	97.3	73.4	85.4	91.0	64.7	77.9	89.8	61.3	75.6	89.5	62.9	76.2	91.7	55.1	73.4	92.8	52.0	72.4
1	6	77.8	79.1	78.5	92.5	60.7	76.6	91.2	70.1	80.7	88.2	64.0	76.1	97.3	55.7	76.5	94.4	52.0	73.2
1	7	81.1	75.4	78.3	89.9	72.5	81.2	91.1	80.5	85.8	94.7	57.0	75.9	93.3	55.0	74.2	94.6	53.4	74.0
1	8	90.9	62.6	76.8	79.8	58.3	69.1	95.0	96.3	95.7	93.4	57.1	75.3	96.2	73.0	84.6	94.6	53.4	74.0
1	9	83.6	57.3	70.5	77.7	63.5	70.6	97.4	83.5	90.5	92.4	67.6	80.0	96.0	53.0	74.5	94.6	56.3	75.5
1	10	80.2	69.1	74.7	95.2	67.6	81.4	80.5	64.3	72.4	92.7	58.6	75.7	94.7	59.9	77.3	89.2	66.7	78.0
1	11	87.3	78.3	82.8	97.6	64.4	81.0	90.9	67.6	79.3	97.6	60.2	78.9	81.5	49.3	65.4	92.1	95.2	93.7
1	12	89.3	60.9	75.1	95.4	78.3	86.9	85.2	68.0	76.6	92.4	57.6	75.0	87.4	53.1	70.3	94.7	69.7	82.2
1	13	87.6	70.7	79.2	87.7	71.4	79.6	95.7	58.0	76.9	95.0	63.5	79.3	94.9	51.4	73.2	94.7	63.7	79.2
1	14	90.9	62.9	76.9	82.5	53.7	68.1	94.2	47.6	70.9	94.9	54.1	74.5	90.5	45.7	68.1	97.3	38.6	68.0
1	15	82.8	63.6	73.2	82.9	55.4	69.2	93.0	57.1	75.1	91.4	55.5	73.5	90.0	51.0	70.5	97.4	62.1	79.8
1	16	92.5	53.6	73.1	88.0	57.5	72.8	92.4	57.9	75.2	92.6	51.4	72.0	78.5	48.0	63.3	93.4	62.1	77.8
1	17	94.2	70.2	82.2	91.4	60.6	76.0	94.8	61.5	78.2	90.1	54.9	72.5	88.0	45.9	67.0	96.0	58.1	77.1
1	18	94.9	78.7	86.8	84.0	65.3	74.7	91.8	56.3	74.1	93.8	55.9	74.9	89.6	46.2	67.9	97.5	62.6	80.1
1	19	82.5	50.6	66.6	93.0	64.4	78.7	97.2	48.6	72.9	92.7	61.7	77.2	92.1	50.3	71.2	97.6	63.0	80.3
1	20	89.6	79.8	84.7	93.2	60.2	76.7	89.3	61.4	75.4	94.6	73.6	84.1	94.4	51.8	73.1	97.4	70.2	83.8
1	21	92.2	58.2	75.2	95.4	60.6	78.0	80.2	56.8	68.5	93.0	63.8	78.4	91.1	53.6	72.4	93.7	89.1	91.4
1	22	88.1	59.8	74.0	92.6	64.9	78.8	95.0	38.3	66.7	95.5	60.6	78.1	94.5	56.8	75.7	88.0	63.5	75.8
1	23	86.0	62.1	74.1	85.8	61.6	73.7	91.9	49.3	70.6	93.5	61.3	77.4	96.0	69.6	82.8	95.8	62.1	79.0
1	24	81.9	70.8	76.4	88.1	61.3	74.7	96.1	48.2	72.2	88.2	62.1	75.2	97.3	68.2	82.8	94.7	59.4	77.1
1	25	85.8	70.6	78.2	82.5	51.7	67.1	94.7	49.2	72.0	93.2	65.9	79.6	94.4	50.6	72.5	92.1	67.5	79.8
1	26	88.4	62.9	75.7	84.3	58.0	71.2	92.2	49.4	70.8	97.7	65.9	81.8	93.4	46.2	69.8	96.5	66.3	81.4
1	27	81.1	64.9	73.0	84.7	57.1	70.9	90.3	51.4	70.9	96.7	56.8	76.8	84.8	38.9	61.9	95.2	63.2	79.2
1	28	85.1	63.2	74.2	84.4	56.6	70.5	80.1	39.5	59.8	95.4	71.5	83.5	75.2	48.3	61.8	97.6	57.2	77.4
1	29	92.0	68.8	80.4	92.1	58.6	75.4	92.7	56.1	74.4	84.6	53.1	68.9	88.9	29.7	59.3	93.8	59.5	76.7
1	30	85.4	63.2	74.3	89.8	56.4	73.1	94.1	51.7	72.9	94.3	55.5	74.9	82.4	39.1	60.8	95.3	60.3	77.8
1	31	90.4	68.3	79.4	92.4	57.8	75.1	96.2	64.1	80.2	97.7	67.9	82.8	88.0	38.3	63.2	88.8	71.7	80.3
2	1	89.5	52.7	71.1	92.4	68.6	80.5	97.5	67.1	82.3	81.4	50.6	66.0	82.2	81.2	81.7	90.3	60.9	75.6
2	2	84.8	52.3	68.6	91.0	51.7	71.4	98.8	69.9	84.4	81.5	52.1	66.8	84.7	56.0	70.4	94.1	86.6	90.4
2	3	81.4	49.0	65.2	88.5	55.3	71.9	95.6	65.3	80.5	92.8	54.8	73.8	85.1	48.6	66.9	94.7	81.6	88.2
2	4	85.3	46.7	66.0	90.3	52.0	71.2	94.5	67.0	80.8	86.1	64.2	75.2	73.3	39.0	56.2	93.3	70.2	81.8
2	5	90.6	55.4	73.0	90.4	62.0	76.2	96.6	57.9	77.3	87.3	53.5	70.4	84.5	46.9	65.7	92.2	70.4	81.3
2	6	86.4	48.1	67.3	86.5	61.3	73.9	82.2	41.5	61.9	86.8	59.1	73.0	81.8	48.0	64.9	90.6	67.8	79.2
2	7	87.7	50.7	69.2	87.7	55.9	71.8	86.0	38.8	62.4	86.9	82.3	84.6	86.5	49.4	68.0	93.9	90.3	92.1
2	8	89.1	52.7	70.9	80.6	52.3	66.5	84.1	31.3	57.7	95.5	58.6	77.1	93.8	51.8	72.8	90.0	57.6	73.8
2	9	88.3	41.2	64.8	92.0	48.8	70.4	85.1	29.3	57.2	89.8	49.0	69.4	91.0	45.0	68.0	97.4	62.1	79.8
2	10	70.9	42.9	56.9	82.1	52.9	67.5	66.3	31.0	48.7	84.7	83.5	84.1	84.9	58.3	71.6	97.3	54.7	76.0
2	11	84.4	53.3	68.9	87.9	46.7	67.3	83.7	39.2	61.5	97.6	56.9	77.3	93.2	62.4	77.8	97.6	70.2	83.9
2	12	88.6	54.3	71.5	88.8	53.0	70.9	82.6	41.2	61.9	96.5	51.1	73.8	84.8	57.1	61.0	96.2	59.1	77.7
2	13	83.6	49.6	66.6	75.5	60.0	67.8	87.5	44.6	66.1	93.5	97.8	95.7	75.9	38.8	57.4	92.8	88.7	90.8
2	14	89.1	66.4	77.8	74.4	46.8	60.6	89.1	50.2	69.7	95.4	74.5	85.0	69.6	45.0	57.3	92.2	56.0	74.1
2	15	89.1	57.7	73.4	75.2	52.8	64.0	79.3	52.0	65.7	82.4	69.9	76.2	59.8	45.3	52.6	95.2	49.6	72.4
2	16	87.0	82.7	84.9	90.2	51.5	70.9	80.5	31.8	56.2	88.0	48.5	68.3	75.1	45.5	60.3	86.1	47.5	66.8
2	17	87.0	67.8	77.4	76.8	50.5	63.7	69.0	26.2	47.6	77.1	50.0	63.6	77.5	40.4	59.0	93.8	47.8	70.8
2	18	87.3	49.5	68.4	79.4	47.6	63.5	76.1	41.6	58.9	92.8	57.7	75.3	65.9	45.0	55.5	89.4	40.2	64.8
2	19	72.5	37.2	54.9	87.5	51.8	69.7	90.5	88.8	89.7	79.4	41.1	60.3	72.8	41.9	57.4	80.1	36.7	58.4
2	20	84.7	37.1	60.9	87.4	59.7	73.6	97.1	51.4	74.3	81.2	45.1	63.2	60.0	34.9	47.5	84.3	57.1	70.7
2	21	78.5	42.9	60.7	86.5	71.3	78.9	93.3	81.6	87.5	77.9	36.3	57.1	68.3	43.7	56.0	86.4	48.9	67.7
2	22	89.1	53.3	71.2	93.0	53.2	73.1	94.6	67.0	80.8	83.6	81.9	82.8	63.5	34.9	49.2	80.4	46.5	63.5
2	23	78.9	37.7	58.3	87.3	60.6	74.0	70.0	49.9	60.0	86.7	49.3	68.0	78.9	58.9	68.9	81.9	45.6	63.8
2	24	84.3	73.4	78.9	79.6	81.1	80.4	70.7	27.3	49.0	87.5	42.4	65.0	84.3	53.2	68.8	82.0	53.4	67.7
2	25	88.6	50.8	69.7	76.3	59.8	68.1	70.8	24.2	47.5	73.1	50.9	62.0	89.0	54.3	71.7	77.4	48.1	62.8
2	26	84.7	44.2	64.5	78.4	54.1	66.3	65.8	32.9	49.4	77.7	57.8	67.8	87.1	65.3	76.2	77.0	51.2	64.1
2	27	84.3	79.2	81.8	79.2	50.5	64.9	72.2	38.3	55.3	86.0	58.8	72.4	81.3	58.3	69.8	80.1	65.9	73.0
2	28	77.7	39.7	58.7	87.4	71.6	79.5	72.5	30.9	51.7	82.5	74.9	78.7	82.4	42.9	62.7	84.1	52.8	68.5
2	29				86.4	53.0											88.3	50.7	

Daily Humidity (%)

Location : Pokhara Airport

Year		1987			1988			1989			1990			1991			1992		
Month	Day	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
3	1	78.5	58.1	68.3	87.1	39.6	63.4	76.7	31.8	54.3	73.9	41.6	57.8	69.6	42.2	55.9	88.8	53.2	71.0
3	2	71.8	49.5	60.7	75.9	49.6	62.8	55.3	19.2	37.3	75.0	49.1	62.1	65.9	32.1	49.0	90.1	52.5	71.3
3	3	77.8	46.4	62.1	65.2	43.3	54.3	59.0	23.0	41.0	79.4	47.6	63.5	76.6	53.2	64.9	91.5	43.1	67.3
3	4	67.2	87.7	77.5	71.3	47.3	59.3	55.4	31.5	43.5	70.7	33.4	52.1	79.5	57.7	68.6	89.3	36.4	62.9
3	5	79.2	54.7	67.0	77.9	93.5	85.7	66.3	33.4	49.9	79.4	34.8	57.1	97.7	89.4	93.6	79.8	48.5	64.2
3	6	79.5	85.4	82.5	80.9	53.0	67.0	69.9	38.3	54.1	78.0	42.6	60.3	88.5	50.3	69.4	74.4	39.7	57.1
3	7	82.5	61.6	72.1	80.4	52.8	66.6	79.3	39.7	59.5	65.7	42.6	54.2	84.6	43.8	64.2	73.2	49.1	61.2
3	8	81.7	85.5	83.6	74.8	53.4	64.1	70.9	30.1	50.5	77.3	90.3	83.8	79.2	52.0	65.6	74.9	36.7	55.8
3	9	69.8	56.0	62.9	90.6	67.4	79.0	61.0	31.0	46.0	89.8	81.5	85.7	77.2	40.0	58.6	68.4	44.8	56.6
3	10	81.4	79.8	80.6	80.4	55.8	68.1	60.2	37.9	49.1	90.8	80.1	85.5	79.8	31.4	55.6	78.1	39.4	58.8
3	11	61.4	52.5	57.0	72.5	63.6	68.1	59.6	86.4	73.0	88.5	77.1	82.8	59.4	29.4	44.4	66.9	36.3	51.6
3	12	88.9	67.5	78.2	81.2	69.1	75.2	91.9	46.9	69.4	87.7	94.4	91.1	67.1	32.1	49.6	65.2	40.2	52.7
3	13	72.7	64.7	68.7	86.6	61.9	74.3	68.5	68.9	68.7	86.9	50.7	68.8	63.7	31.4	47.6	71.1	41.8	56.5
3	14	84.0	79.8	81.9	60.3	53.8	57.1	74.9	80.9	77.9	93.5	73.3	83.4	62.6	61.6	62.1	75.8	40.5	58.2
3	15	78.3	63.9	71.1	70.9	41.5	56.2	78.5	40.4	59.5	68.7	47.4	58.1	62.1	29.0	45.6	51.6	52.0	51.8
3	16	87.4	89.0	88.2	71.1	40.4	55.8	74.9	40.9	57.9	78.2	44.5	61.4	62.1	31.7	46.9	63.6	36.4	50.0
3	17	90.3	86.1	88.2	76.2	35.9	56.1	60.8	36.8	48.8	71.4	49.8	60.6	59.6	31.2	45.4	62.1	42.7	52.4
3	18	75.8	67.7	71.8	63.8	51.9	57.9	59.5	89.4	74.5	72.3	43.9	58.1	64.0	31.8	47.9	66.9	44.9	55.9
3	19	84.2	64.6	74.4	70.1	67.3	68.7	91.7	53.6	72.7	58.3	40.7	49.5	70.4	25.5	48.0	70.6	41.6	56.1
3	20	85.6	82.0	83.8	86.5	54.0	70.3	86.1	72.2	79.2	68.9	47.4	58.2	53.3	28.4	40.9	56.4	42.3	49.4
3	21	62.1	38.8	50.5	74.0	46.5	60.3	76.9	76.4	76.7	68.6	49.2	58.9	60.4	27.7	44.1	66.7	40.8	53.8
3	22	64.2	45.7	55.0	70.2	40.9	55.6	78.5	49.3	63.9	79.1	35.0	57.1	57.6	31.0	44.3	60.9	31.0	46.0
3	23	72.3	54.3	63.3	68.0	39.5	53.8	67.7	37.6	52.7	94.5	69.6	82.1	48.3	61.5	54.9	53.7	32.4	43.1
3	24	71.1	58.7	64.9	63.7	43.7	53.7	60.9	27.1	44.0	93.1	43.2	68.2	74.4	79.8	77.1	60.4	29.9	45.2
3	25	70.3	89.0	79.7	57.9	44.5	51.2	62.7	25.3	44.0	65.0	41.6	53.3	71.3	29.7	50.5	53.5	26.2	39.9
3	26	79.2	66.5	72.9	61.6	20.4	41.0	62.0	22.0	42.0	65.7	38.4	52.1	63.5	42.2	52.9	58.9	20.5	39.7
3	27	77.4	64.8	71.1	79.9	38.2	59.1	75.2	53.1	64.2	73.9	48.1	61.0	55.3	42.5	48.9	51.1	24.8	38.0
3	28	70.1	31.9	51.0	52.3	30.0	41.2	72.4	50.8	61.6	61.4	41.5	51.5	65.3	58.5	61.9	48.4	26.4	37.4
3	29	66.1	44.5	55.3	54.6	31.7	43.2	71.1	63.1	67.1	75.7	64.9	70.3	69.8	41.5	55.7	60.2	23.5	41.9
3	30	67.6	48.8	58.2	61.7	28.0	44.9	67.3	40.0	53.7	79.0	44.8	61.9	69.6	55.4	62.5	47.0	29.9	38.5
3	31	64.2	90.2	77.2	55.0	31.9	43.5	59.0	42.0	50.5	52.3	25.8	39.1	89.0	79.6	84.3	48.8	28.5	38.7
4	1	91.4	87.0	89.2	45.9	18.7	32.3	66.2	40.3	53.3	40.4	33.8	37.1	85.0	51.7	68.4	37.4	29.7	33.6
4	2	85.4	57.3	71.4	43.2	14.8	29.0	67.3	34.4	50.9	55.3	39.7	47.5	70.0	56.2	63.1	48.1	23.7	35.9
4	3	58.1	39.2	48.7	43.8	16.0	29.9	56.8	24.4	40.6	55.2	41.6	48.4	79.5	52.1	65.8	53.3	35.1	44.2
4	4	53.1	29.2	41.2	49.1	28.5	38.8	63.8	19.9	41.9	72.0	38.2	55.1	65.5	34.9	50.2	52.4	34.4	43.4
4	5	61.5	23.6	42.6	47.2	14.8	31.0	46.6	20.4	33.5	65.9	45.0	55.5	69.6	46.9	58.3	53.7	34.4	44.1
4	6	50.2	31.7	41.0	41.4	15.5	28.5	53.4	23.9	38.7	72.1	50.9	61.5	72.3	82.4	77.4	55.9	37.9	46.9
4	7	66.8	46.0	56.4	43.5	15.1	29.3	57.1	32.3	44.7	86.4	71.9	79.2	72.1	62.2	67.2	54.6	24.6	39.6
4	8	62.3	52.6	57.5	47.2	15.6	31.4	61.7	31.9	46.8	73.7	75.9	74.8	59.2	69.6	64.4	52.2	25.1	38.7
4	9	83.0	64.4	73.7	59.4	23.5	41.5	56.1	35.3	45.7	79.4	73.3	76.4	75.4	77.3	76.4	50.1	26.3	38.2
4	10	58.5	50.0	54.3	54.0	20.0	37.0	58.5	35.8	47.2	72.5	43.8	58.2	72.8	44.5	58.7	48.8	23.7	36.3
4	11	53.0	47.1	50.1	48.0	17.9	33.0	53.4	31.8	42.6	69.4	54.9	62.2	55.6	52.8	54.2	36.4	19.0	27.7
4	12	52.3	32.1	42.2	44.7	39.9	42.3	55.7	24.0	39.9	69.1	50.9	60.0	51.2	32.2	41.7	37.1	10.8	24.0
4	13	41.3	15.3	28.3	60.0	88.2	74.1	59.9	27.4	43.7	66.2	58.6	62.4	53.8	42.5	48.2	36.5	5.3	20.9
4	14	48.5	52.3	50.4	74.6	56.8	65.7	56.1	22.1	39.1	68.0	36.4	52.2	58.5	44.2	51.4	35.2	5.0	20.1
4	15	45.9	38.4	42.2	68.8	40.3	55.1	65.1	42.6	53.9	53.2	29.4	41.3	49.8	29.8	39.8	30.0	7.1	18.6
4	16	45.4	23.2	34.3	85.2	80.7	83.0	58.1	26.0	42.1	52.3	40.9	46.6	46.5	30.0	38.3	30.9	9.9	20.4
4	17	63.6	32.2	47.9	72.7	80.8	76.8	55.3	26.8	41.1	49.5	39.4	44.5	46.4	27.1	36.8	27.7	13.0	20.4
4	18	59.3	89.6	74.5	82.0	54.3	68.2	50.9	28.8	39.9	58.9	52.1	55.5	63.7	33.4	48.6	35.2	49.1	42.2
4	19	71.9	30.4	51.2	70.6	86.5	78.6	45.7	18.1	31.9	67.7	54.3	61.0	54.1	50.8	52.5	65.7	23.4	44.6
4	20	57.9	33.6	45.8	81.1	72.8	77.0	48.7	17.0	32.9	67.7	51.7	59.7	58.5	35.1	46.8	50.6	30.5	40.6
4	21	58.7	40.0	49.4	68.0	75.1	71.6	29.2	14.8	22.0	60.5	52.7	56.6	46.1	23.0	34.6	50.8	39.6	45.2
4	22	69.7	87.2	78.5	60.1	56.0	58.1	39.7	17.4	28.6	56.8	30.0	43.4	58.3	22.0	40.2	57.0	7.7	32.4
4	23	65.7	45.3	55.5	69.1	58.2	63.7	45.7	24.4	35.1	54.8	40.6	47.7	46.5	33.4	40.0	31.5	11.2	21.4
4	24	50.2	52.0	51.1	67.6	53.2	60.4	43.7	22.3	33.0	60.2	78.0	69.1	44.3	71.3	57.8	31.3	15.5	23.4
4	25	62.1	55.0	58.6	65.1	93.7	79.4	35.2	39.2	37.2	59.8	64.1	62.0	60.1	27.9	44.0	30.5	17.1	23.8
4	26	45.0	88.0	66.5	65.3	44.3	54.8	52.3	20.3	36.3	67.2	77.7	72.5	49.8	51.1	50.5	38.2	18.8	28.5
4	27	73.6	38.5	56.1	54.5	56.6	55.6	54.9	37.0	46.0	79.5	66.2	72.9	46.0	58.2	52.1	63.1	74.1	68.6
4	28	88.5	48.5	68.5	64.4	58.4	61.4	39.9	35.2	37.6	98.0	42.5	70.3	79.1	62.3	70.7	82.5	45.1	63.8
4	29	83.3	52.6	68.0	51.6	35.4	43.5	40.5	20.6	30.6	94.2	37.2	65.7	74.7	74.6	74.7	64.5	34.3	49.4
4	30	88.3	48.4	68.4	64.3	47.9	56.1	30.6	29.8	30.2	57.0	51.3	54.2	70.6	62.8	66.7	89.6	90.8	90.2

Daily Humidity (%)

Location : Pokhara Airport

Month	Year	1987			1988			1989			1990			1991			1992		
		8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
5	1	83.4	52.5	68.0	71.7	83.7	77.7	56.3	51.5	53.9	57.0	38.4	47.7	71.4	95.2	83.3	80.3	86.1	83.2
5	2	77.1	65.3	71.2	67.6	62.3	65.0	52.3	40.5	46.4	51.9	84.0	68.0	78.2	79.8	79.0	65.2	39.3	52.3
5	3	68.0	63.3	65.7	82.0	44.8	63.4	49.0	32.8	40.9	64.2	84.7	74.5	79.1	52.9	66.0	84.0	82.2	83.1
5	4	66.1	55.6	60.9	56.9	44.4	50.7	52.3	35.9	44.1	73.6	91.2	82.4	62.5	51.3	56.9	90.4	90.0	90.2
5	5	57.2	56.3	56.8	51.9	65.6	58.8	41.0	16.8	28.9	82.6	35.1	58.9	63.0	73.4	68.2	62.0	39.4	50.7
5	6	84.9	64.8	74.9	60.3	44.2	52.3	35.4	11.4	23.4	60.1	52.2	56.2	64.2	86.7	75.5	57.9	66.3	62.1
5	7	92.0	62.0	77.0	62.5	74.6	68.6	27.1	8.9	18.0	90.5	41.3	65.9	86.1	72.0	79.1	62.1	36.4	49.3
5	8	78.6	51.0	64.8	84.1	79.0	81.6	26.5	5.3	15.9	48.0	41.0	44.5	72.5	70.6	71.6	65.2	38.9	52.1
5	9	55.5	46.2	50.9	70.3	54.2	62.3	21.7	14.1	17.9	53.1	49.1	51.1	71.4	63.6	67.5	62.5	68.5	65.5
5	10	51.9	20.9	36.4	61.2	55.5	58.4	31.8	13.6	22.7	63.7	80.3	72.0	64.1	47.7	55.9	68.5	39.9	54.2
5	11	44.5	31.6	38.1	56.4	40.9	48.7	30.2	24.5	27.4	64.6	47.9	56.3	45.8	51.7	48.8	36.6	40.5	38.6
5	12	53.0	31.6	42.3	56.9	48.2	52.6	66.8	79.6	73.2	51.9	51.0	51.5	57.4	44.9	51.2	68.5	43.8	56.2
5	13	68.0	42.3	55.2	53.0	65.7	59.4	88.5	81.1	84.8	80.1	58.2	69.2	63.8	50.4	57.1	63.0	39.8	51.4
5	14	59.3	31.2	45.3	78.0	41.7	59.9	71.2	58.5	64.9	70.6	76.7	73.7	58.1	51.7	54.9	79.7	47.7	63.7
5	15	53.4	28.7	41.1	94.2	59.5	76.9	59.7	48.8	54.3	76.7	70.5	73.6	78.8	87.7	83.3	83.1	73.5	78.3
5	16	50.0	25.4	37.7	75.2	45.7	60.5	63.2	45.7	54.5	68.5	63.6	66.1	91.1	66.2	78.7	71.9	90.8	81.4
5	17	47.8	27.4	37.6	93.3	65.9	79.6	89.4	55.2	72.3	86.0	67.9	77.0	84.2	91.1	87.7	66.9	87.2	77.1
5	18	44.0	27.5	35.8	85.8	54.0	69.9	67.8	48.6	58.2	89.7	75.6	82.7	82.5	72.3	77.4	64.9	41.8	53.4
5	19	49.5	35.9	42.7	79.8	47.8	63.8	76.8	48.5	62.7	69.0	70.5	69.8	81.7	73.8	77.8	55.4	37.9	46.7
5	20	45.8	34.0	39.9	70.6	51.3	61.0	83.4	66.8	75.1	79.8	80.5	80.2	81.1	68.1	74.6	40.6	79.9	60.3
5	21	50.2	68.0	59.1	57.6	49.1	53.4	95.4	61.3	78.4	70.8	66.3	68.6	91.3	88.3	89.8	61.7	68.5	65.1
5	22	60.3	77.4	68.9	62.8	67.3	65.1	71.5	48.0	59.8	73.7	69.3	71.5	89.5	88.9	89.2	71.4	43.8	57.6
5	23	69.8	72.9	71.4	72.8	68.0	70.4	78.2	53.5	65.9	62.5	56.9	59.7	68.5	61.2	64.9	90.3	46.9	68.6
5	24	65.9	36.3	51.1	72.2	67.2	69.7	62.5	45.5	54.0	92.7	53.1	72.9	68.1	46.4	57.3	84.6	52.4	68.5
5	25	57.0	52.4	54.7	69.0	77.6	73.3	65.6	68.6	67.1	74.0	61.8	67.9	81.7	58.5	70.1	75.3	42.1	58.7
5	26	48.3	79.6	64.0	68.7	80.6	74.7	92.8	91.1	92.0	96.3	71.8	84.1	85.3	62.8	74.1	75.3	42.1	58.7
5	27	60.1	40.7	50.4	79.6	59.7	69.7	94.5	82.9	88.7	65.2	56.6	60.9	82.3	70.6	76.5	90.6	44.1	67.4
5	28	58.3	48.5	53.4	72.8	DNA	72.8	77.3	95.3	86.3	72.7	63.6	68.2	90.5	63.2	76.9	84.2	46.6	65.4
5	29	60.0	77.2	68.6	76.6	65.0	70.8	91.7	77.3	84.5	79.1	68.7	73.9	73.8	64.0	68.9	77.2	88.4	82.8
5	30	64.6	58.0	61.3	86.1	86.9	86.5	71.8	47.8	59.8	89.8	58.9	74.4	80.8	70.4	75.6	70.7	39.0	54.9
5	31	59.5	65.3	62.4	84.2	65.3	74.8	69.5	63.1	66.3	60.5	79.6	70.1	59.5	86.6	73.1	59.7	35.2	47.5
6	1	72.4	81.2	76.8	69.2	58.0	63.6	56.9	57.9	57.4	69.2	57.2	63.2	64.0	48.2	56.1	57.3	38.1	47.7
6	2	65.6	53.9	59.8	77.0	47.4	62.2	80.6	57.5	69.1	72.9	62.9	67.9	62.2	51.3	56.8	45.8	34.1	40.0
6	3	71.5	57.8	64.7	86.4	37.9	62.2	70.3	63.1	66.7	89.3	65.3	77.3	75.9	57.7	66.8	53.4	31.4	42.4
6	4	94.8	59.1	77.0	69.4	59.7	64.6	84.4	75.9	80.2	83.1	71.4	77.3	67.1	63.3	65.2	60.8	37.8	49.3
6	5	66.5	90.8	78.7	70.1	78.3	74.2	79.7	50.1	64.9	91.5	88.9	90.2	79.0	60.6	69.8	59.7	65.8	62.8
6	6	58.3	61.7	60.0	64.4	77.9	71.2	94.4	75.5	85.0	69.8	96.2	83.0	85.0	71.4	78.2	63.4	43.4	53.4
6	7	83.6	66.4	75.0	67.8	64.2	66.0	69.3	79.9	74.6	78.8	81.8	80.3	91.4	65.6	78.5	67.8	86.1	77.0
6	8	81.4	83.5	82.5	56.5	47.0	51.8	83.1	47.7	65.4	74.4	64.7	69.6	83.3	63.2	73.3	90.9	54.6	72.8
6	9	91.3	70.8	81.1	70.5	56.9	63.7	69.1	46.5	57.8	68.5	89.9	79.2	66.0	49.2	57.6	57.9	72.0	65.0
6	10	79.1	65.6	72.4	84.2	67.3	75.8	66.8	51.9	59.4	96.4	74.4	85.4	93.1	68.1	80.6	68.5	46.2	57.4
6	11	69.6	58.4	64.0	86.7	62.4	74.6	71.5	65.5	68.5	79.3	58.9	69.1	91.4	71.9	81.7	61.2	39.7	50.5
6	12	68.2	71.1	69.7	87.2	72.7	80.0	65.0	47.6	56.3	67.9	79.0	73.5	78.4	84.6	81.5	75.6	48.6	62.1
6	13	62.4	83.3	72.9	98.1	76.7	87.4	93.8	54.6	74.2	81.0	73.5	77.3	87.0	73.9	80.5	84.0	68.7	76.4
6	14	62.6	83.7	73.2	89.6	73.8	81.7	68.6	82.6	75.6	82.0	62.4	72.2	88.4	77.5	83.0	71.7	47.5	59.6
6	15	65.1	65.1	65.1	89.5	57.9	73.7	76.8	86.2	81.5	84.1	69.6	76.9	77.1	72.2	74.7	83.7	50.1	66.9
6	16	96.4	64.3	80.4	86.2	66.3	76.3	76.4	67.1	71.8	81.5	62.6	72.1	86.9	67.2	77.1	64.5	49.0	56.8
6	17	74.8	79.7	77.3	89.6	69.5	79.6	85.1	65.1	75.1	74.9	64.8	69.9	84.1	86.4	85.3	60.9	45.0	53.0
6	18	74.4	89.7	82.1	81.1	87.8	84.5	95.5	73.5	84.5	93.2	68.2	80.7	84.1	77.0	80.6	70.7	52.7	61.7
6	19	75.3	51.6	63.5	88.0	61.2	74.6	78.8	59.7	69.3	96.5	65.8	81.2	91.5	77.5	84.5	89.2	58.7	74.0
6	20	63.1	69.2	66.2	64.1	60.5	62.3	79.5	60.8	70.2	79.4	69.4	74.4	84.0	90.1	87.1	94.7	62.2	78.5
6	21	59.9	66.0	63.0	85.2	66.1	75.7	72.2	64.4	68.3	86.3	75.6	81.0	69.1	76.2	72.7	97.3	56.1	76.7
6	22	64.7	91.1	77.9	78.4	58.5	68.5	75.8	74.3	75.1	87.1	77.3	82.2	88.8	75.5	82.2	83.9	66.2	75.1
6	23	90.8	81.8	86.3	74.4	71.3	72.9	78.5	63.3	70.9	73.4	93.4	83.4	96.6	79.3	88.0	94.8	67.0	80.9
6	24	90.1	67.0	78.6	93.0	76.9	85.0	60.3	59.8	60.1	91.8	78.2	85.0	91.5	83.7	87.6	70.8	67.1	69.0
6	25	71.1	88.0	79.6	83.7	81.9	82.8	90.0	58.9	74.5	89.0	54.1	71.6	89.8	76.2	83.0	80.8	65.3	73.1
6	26	77.4	72.2	74.8	90.1	66.9	78.5	95.7	70.7	83.2	80.9	64.2	72.6	93.1	72.0	82.6	90.0	90.8	90.4
6	27	71.8	91.8	81.8	79.2	76.7	78.0	74.2	65.8	70.0	90.8	84.0	87.4	84.0	70.9	77.5	88.3	77.9	83.1
6	28	94.9	78.7	86.8	72.7	76.6	74.7	93.9	71.8	82.9	84.2	62.0	73.1	90.1	78.4	84.3	70.4	52.7	61.6
6	29	100.0	88.2	94.1	88.0	68.3	78.2	88.0	59.6	73.8	82.4	57.5	70.0	80.2	77.9	79.1	94.7	66.3	80.5
6	30	94.9	71.1	83.0	88.7	59.3	74.0	90.8	67.2	79.0	96.6	70.9	83.8	98.2	80.2	89.2	76.9	72.7	74.8

Daily Humidity (%)

Location : Pokhara Airport

Year	1993	1994	1995	1996	1997	1998		
Month	Day	8:45 17:45 mean	8:45 17:45 mean	8:45 17:45 mean	8:45 17:45 mean	8:45 17:45 mean		
1	1	92.2 58.2 75.2	92.4 54.7 73.6	94.1 52.3 73.2	93.5 49.3 71.4	82.6 56.5 69.6	97.4 68.4 82.9	
1	2	95.0 58.3 76.7	87.1 58.6 72.9	88.3 50.9 69.6	87.4 50.6 69.0	85.0 59.5 72.3	92.1 63.9 78.0	
1	3	94.8 59.5 77.2	86.9 59.3 73.1	88.2 55.0 71.6	83.1 75.2 79.2	88.0 68.5 78.3	94.5 74.2 84.4	
1	4	96.3 54.7 75.5	87.0 48.8 67.9	89.6 52.5 71.1	89.7 58.0 73.9	92.1 57.6 74.9	96.0 62.1 79.1	
1	5	95.1 74.9 85.0	87.5 44.1 65.8	93.1 45.0 69.1	91.2 54.3 72.8	89.7 61.8 75.8	94.7 67.5 81.1	
1	6	92.9 78.0 85.5	87.1 46.7 66.9	94.4 53.4 73.9	83.4 49.3 66.4	89.8 51.0 70.4	89.5 61.4 75.5	
1	7	85.3 77.7 81.5	80.9 54.4 67.7	91.8 49.2 70.5	83.5 45.3 64.4	94.6 59.7 77.2	97.4 65.9 81.7	
1	8	96.2 79.5 87.9	93.8 51.3 72.6	89.7 83.4 86.6	89.7 49.8 69.8	89.4 76.9 83.2	97.5 65.1 81.3	
1	9	97.3 61.9 79.6	89.7 52.7 71.2	94.9 66.2 80.6	93.3 51.7 72.5	87.3 46.6 67.0	97.5 64.2 80.9	
1	10	94.4 59.6 77.0	88.4 58.0 73.2	87.7 51.8 69.8	82.4 53.4 67.9	86.8 48.5 67.7	97.4 78.6 88.0	
1	11	97.5 66.4 82.0	89.7 61.8 75.8	94.6 44.6 69.6	85.1 66.5 75.8	86.9 49.0 68.0	97.5 60.8 79.2	
1	12	96.2 68.0 82.1	88.2 54.5 71.4	92.5 49.2 70.9	82.8 47.2 65.0	88.1 41.8 65.0	93.4 69.7 81.6	
1	13	96.2 45.1 70.7	90.8 58.3 74.6	93.9 41.4 67.7	90.7 62.2 76.5	89.2 38.0 63.6	97.3 65.3 81.3	
1	14	91.9 56.9 74.4	89.2 49.2 69.2	87.2 36.8 62.0	92.4 52.0 72.2	86.8 44.6 65.7	90.1 76.4 83.3	
1	15	94.9 50.5 72.7	83.2 80.0 81.6	87.0 51.7 69.4	92.4 88.3 90.4	89.4 58.1 73.8	97.3 58.7 78.0	
1	16	90.2 48.6 69.4	87.1 62.1 74.6	76.8 62.7 69.8	89.5 64.6 77.1	91.5 74.5 83.0	94.7 61.7 68.2	
1	17	97.3 58.1 77.7	88.6 54.3 71.5	72.5 55.8 64.2	84.8 57.1 71.0	91.2 43.3 67.3	91.8 61.0 76.4	
1	18	96.2 57.6 76.9	93.0 51.7 72.4	86.6 48.6 67.6	84.0 55.4 69.7	88.9 59.7 74.3	91.6 52.8 72.2	
1	19	92.9 49.8 71.4	91.6 52.1 71.9	89.1 65.7 77.4	90.3 78.7 84.5	89.2 61.2 75.2	89.1 49.9 69.5	
1	20	96.1 58.1 77.1	90.7 41.7 66.2	82.8 60.7 71.8	88.1 63.8 76.0	82.9 74.9 78.9	89.0 46.2 67.6	
1	21	97.1 53.7 75.4	76.5 40.2 58.4	87.6 49.6 68.6	93.6 56.8 75.2	92.1 61.1 76.6	90.7 46.7 68.7	
1	22	91.9 51.5 71.7	77.0 43.2 60.1	80.2 54.2 67.2	89.1 63.5 76.3	94.1 63.5 78.8	85.9 52.0 69.0	
1	23	94.8 51.1 73.0	83.4 48.3 65.9	89.4 56.1 72.8	85.7 62.1 73.9	94.5 54.4 74.5	86.0 46.0 66.0	
1	24	91.2 52.6 71.9	87.3 49.7 68.5	86.6 50.8 68.7	93.5 59.0 76.3	95.9 70.1 83.0	89.0 48.0 68.5	
1	25	86.1 61.0 73.6	94.4 44.7 69.6	84.0 43.3 63.7	92.6 80.5 86.6	94.8 63.9 79.4	93.1 47.1 70.1	
1	26	88.0 53.3 70.7	92.6 43.9 68.3	94.6 57.7 76.2	88.4 66.6 77.5	92.4 62.0 77.2	91.8 41.3 66.6	
1	27	90.0 48.6 69.3	92.6 50.3 71.5	92.2 59.3 75.8	89.9 53.0 71.5	91.1 56.5 73.8	94.6 46.4 70.5	
1	28	88.5 45.0 66.8	92.9 51.5 72.2	89.6 51.0 70.3	91.0 68.6 79.8	88.1 57.2 72.7	77.6 45.0 61.3	
1	29	88.9 39.7 64.3	93.0 71.9 82.5	97.3 50.3 73.8	91.1 51.0 71.1	87.4 54.5 71.0	89.8 65.0 77.4	
1	30	86.6 53.6 70.1	93.8 79.2 86.5	94.6 52.0 73.3	85.6 60.4 73.0	96.2 49.9 73.1	90.7 60.8 75.8	
1	31	85.3 79.3 82.3	87.5 43.1 65.3	91.7 54.1 72.9	92.8 45.9 69.4	96.1 52.7 74.4	92.4 51.7 72.1	
2	1	90.4 48.1 69.3	87.7 46.8 67.3	96.3 53.3 74.8	89.6 52.7 71.2	90.0 75.0 82.5	92.6 58.4 75.5	
2	2	84.3 46.5 65.4	77.5 44.6 61.1	83.0 49.6 66.3	88.4 62.0 75.2	96.0 46.7 71.4	93.1 84.3 88.7	
2	3	88.5 36.5 62.5	90.3 55.4 72.9	93.8 45.7 69.8	87.5 54.6 71.1	94.9 73.7 84.3	93.8 51.0 72.4	
2	4	87.9 43.5 65.7	87.7 46.6 67.2	89.9 47.4 68.7	88.0 46.4 67.2	87.1 56.9 72.0	81.7 71.4 76.6	
2	5	89.0 45.0 67.0	89.0 49.5 69.3	90.0 88.0 89.0	91.6 53.9 72.8	83.7 60.2 70.2	85.5 48.3 66.9	
2	6	81.4 40.4 60.9	87.8 40.7 64.3	92.4 53.1 72.8	89.9 51.6 70.8	90.8 55.1 73.0	86.0 54.7 70.4	
2	7	88.4 41.6 65.0	82.4 33.5 58.0	89.9 54.3 72.1	88.8 49.3 69.1	93.6 75.5 84.6	88.5 72.1 80.3	
2	8	91.1 52.0 71.6	86.4 63.7 75.1	92.9 58.7 75.8	86.6 84.3 85.5	91.1 67.0 79.1	87.1 60.2 73.7	
2	9	89.6 43.8 66.7	80.1 72.5 76.3	86.4 50.5 68.5	93.5 79.2 86.4	91.9 58.6 75.3	92.4 60.9 76.7	
2	10	89.4 45.0 67.2	89.5 51.4 70.5	87.0 56.2 71.6	95.1 95.1 95.1	79.5 33.7 56.6	90.3 50.8 70.6	
2	11	88.3 58.3 73.3	87.5 50.9 69.2	90.6 59.2 74.9	95.0 73.1 84.1	85.1 54.2 69.7	88.0 58.9 73.5	
2	12	86.8 61.2 74.0	88.4 50.3 69.4	88.4 48.2 68.3	91.8 59.5 75.7	78.4 45.7 62.1	87.0 43.6 65.3	
2	13	94.7 57.9 76.3	85.1 44.0 64.6	81.5 49.1 65.3	88.5 58.3 73.4	85.2 44.5 64.9	80.5 52.0 66.3	
2	14	93.5 53.2 73.4	91.2 48.0 69.6	89.7 78.3 84.0	88.0 56.6 72.3	88.5 56.5 72.5	77.1 57.9 67.5	
2	15	91.5 67.3 79.4	82.6 50.2 66.4	89.9 62.9 76.4	90.5 78.4 84.5	87.0 49.3 68.2	92.3 62.0 77.2	
2	16	92.8 62.9 77.9	76.0 41.7 58.9	87.0 58.6 72.8	87.4 49.6 68.5	90.6 36.5 63.6	93.1 52.9 73.0	
2	17	85.2 43.8 64.5	84.1 46.8 65.5	75.5 55.0 65.3	85.7 41.2 63.5	84.6 51.3 68.0	89.1 46.3 67.7	
2	18	83.0 77.8 80.4	89.4 31.7 60.6	91.5 45.8 68.7	90.7 49.3 70.0	82.4 39.7 61.1	90.8 38.4 64.6	
2	19	83.2 61.0 72.1	79.0 31.6 55.3	86.9 33.4 60.2	89.1 68.8 79.0	84.8 53.5 69.2	88.4 50.8 69.6	
2	20	75.6 31.2 53.4	79.4 37.8 58.6	87.5 50.2 68.9	85.8 43.5 64.7	77.1 23.2 50.2	87.0 55.9 71.5	
2	21	75.7 39.8 57.8	80.9 57.8 69.4	88.4 DNA	88.4 85.6 58.6	72.1 75.6 34.4	55.0 88.7 32.2	60.5
2	22	71.3 59.4 65.4	83.2 58.3 70.8	89.1 55.6 72.4	84.1 39.1 61.6	74.9 64.7 69.8	81.4 28.3 54.9	
2	23	92.0 40.1 66.1	86.6 31.3 59.0	93.7 61.4 77.6	84.6 36.2 60.4	85.2 35.5 60.4	83.2 33.4 58.3	
2	24	82.4 40.0 61.2	82.4 51.2 66.8	89.7 43.4 66.6	82.7 64.5 73.6	83.7 45.9 64.8	77.4 89.0 83.2	
2	25	85.2 45.9 65.6	86.4 53.1 69.8	84.7 50.4 67.6	89.1 73.0 81.1	82.7 83.1 82.9	95.3 60.3 77.8	
2	26	84.1 45.3 64.7	74.7 56.9 65.8	88.0 53.3 70.7	86.5 85.0 85.8	86.0 43.8 64.9	90.0 45.3 67.7	
2	27	82.6 42.1 62.4	78.7 58.7 68.7	88.0 73.2 80.6	80.6 55.7 68.2	77.5 57.5 67.5	81.9 57.9 69.9	
2	28	87.0 42.4 64.7	88.6 54.2 71.4	84.1 57.2 70.7	83.0 56.4 69.7	93.2 39.7 66.5	93.6 58.7 76.2	
2	29				84.9 50.7			

Daily Humidity (%)

Location : Pokhara Airport

Year		1993			1994			1995			1996			1997			1998		
Month	Day	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
9	1	91.2	76.7	84.0	86.1	74.4	80.3	69.3	59.9	64.6	88.2	78.8	83.5	84.0	60.2	72.1	90.8	71.9	81.4
9	2	88.2	70.8	79.5	94.8	59.2	77.0	84.1	68.2	76.2	93.9	74.8	84.4	88.6	73.6	81.1	93.3	86.7	90.0
9	3	82.2	68.6	75.4	88.4	66.1	77.3	90.7	76.5	83.6	83.7	92.5	88.1	78.3	60.1	69.2	93.1	69.1	81.1
9	4	91.5	74.9	83.2	88.3	64.8	76.6	79.6	66.7	73.2	91.7	81.5	86.6	96.6	60.4	78.5	91.4	69.7	80.6
9	5	96.4	88.4	92.4	88.6	68.3	78.5	91.4	80.6	86.0	89.7	79.4	84.6	82.8	91.8	87.3	98.2	81.5	89.9
9	6	96.2	91.0	93.6	87.0	77.5	82.3	91.6	73.0	82.3	91.3	63.9	77.6	94.7	70.5	82.6	96.5	97.3	96.9
9	7	91.1	67.3	79.2	88.4	57.8	73.1	89.9	70.6	80.3	93.1	78.3	85.7	91.5	74.4	83.0	91.3	57.5	74.4
9	8	94.8	80.2	87.5	84.0	65.9	75.0	90.1	72.2	81.2	91.5	68.6	80.1	86.2	68.2	77.2	82.3	63.1	72.7
9	9	93.2	69.9	81.6	96.6	64.5	80.6	81.4	59.4	70.4	93.1	72.8	83.0	90.1	82.6	86.4	96.5	52.1	74.3
9	10	92.5	63.4	78.0	97.4	85.2	91.3	83.7	61.6	72.7	90.5	82.2	86.4	73.8	69.9	71.9	89.1	71.9	80.5
9	11	80.8	80.3	80.6	90.7	68.7	79.7	89.1	62.9	76.0	94.9	73.2	84.1	91.4	79.1	85.3	94.0	69.4	81.7
9	12	90.9	100.0	95.5	87.0	91.3	89.2	84.6	62.2	73.4	96.4	69.3	82.9	90.6	76.3	83.5	85.2	61.5	73.4
9	13	85.8	76.5	81.2	88.8	84.0	86.4	86.8	91.5	89.2	81.2	85.0	83.1	89.8	81.0	85.4	70.2	69.1	69.7
9	14	84.8	74.3	79.6	91.3	86.3	88.8	88.8	69.1	79.0	90.9	77.0	84.0	85.2	69.7	77.5	83.1	58.8	71.0
9	15	86.6	86.8	86.7	96.3	94.5	95.4	86.4	72.2	79.3	87.8	77.5	82.7	90.7	71.7	81.2	88.6	57.0	72.8
9	16	88.9	60.1	74.5	91.8	61.8	76.8	88.2	58.5	73.4	80.2	66.5	73.4	90.7	70.3	80.5	74.8	64.7	69.8
9	17	88.3	54.1	71.2	82.4	62.4	72.4	84.2	75.0	79.6	73.2	65.9	69.6	88.3	73.7	81.0	75.3	67.7	71.5
9	18	86.3	61.8	74.1	85.2	71.1	78.2	93.1	85.8	89.5	75.8	76.9	76.4	96.4	91.8	94.1	84.1	68.7	76.4
9	19	90.3	68.5	79.4	88.0	94.0	91.0	91.5	78.0	84.8	78.6	86.1	82.4	89.8	70.8	80.3	89.4	60.2	74.8
9	20	83.6	62.6	73.1	90.4	74.4	82.4	78.2	69.9	74.1	87.6	58.2	72.9	90.1	65.1	77.6	85.6	62.0	73.8
9	21	94.7	71.9	83.3	83.7	62.8	73.3	85.5	67.1	76.3	75.9	57.9	66.9	89.6	76.4	83.0	91.4	70.9	81.2
9	22	89.8	65.0	77.4	91.5	66.8	79.2	81.9	72.1	77.0	73.4	61.9	67.7	88.0	56.4	72.2	96.4	88.3	92.4
9	23	92.8	68.7	80.8	81.3	67.7	74.5	80.0	65.2	72.6	88.4	73.3	80.9	79.3	90.1	84.7	91.6	65.1	78.4
9	24	96.3	81.3	88.8	82.5	66.6	74.6	91.3	66.6	79.0	94.8	80.2	87.5	76.9	77.0	77.0	83.7	75.2	79.5
9	25	82.8	81.5	82.2	86.7	69.3	78.0	96.4	65.1	80.8	94.7	82.4	88.6	74.9	76.2	75.6	80.0	91.6	85.8
9	26	94.5	66.6	80.6	87.6	66.1	76.9	86.7	76.7	81.7	91.5	96.5	94.0	81.1	76.2	78.7	85.3	94.8	90.1
9	27	93.7	63.4	78.6	87.5	65.6	76.6	83.1	67.5	75.3	88.9	77.8	83.4	84.7	88.5	86.6	90.1	89.0	89.6
9	28	81.6	66.5	74.1	87.2	68.1	77.7	89.8	72.8	81.3	96.4	79.6	88.0	81.3	90.8	86.1	96.5	81.7	89.1
9	29	94.6	65.1	79.9	90.5	66.9	78.7	88.0	64.8	76.4	75.5	75.0	75.3	90.9	81.9	86.4	96.4	75.9	86.2
9	30	89.8	74.7	82.3	89.8	67.9	78.9	91.3	60.7	76.0	91.3	80.0	85.7	83.4	76.5	80.0	91.4	61.4	76.4
10	1	79.1	88.3	83.7	88.0	68.7	78.4	81.3	65.0	73.2	82.9	76.5	79.2	94.0	78.0	86.0	94.6	66.3	80.5
10	2	90.4	74.2	82.3	89.6	68.2	78.9	91.3	67.5	79.4	84.2	67.3	75.8	90.0	63.2	76.6	92.2	73.8	83.0
10	3	85.9	56.4	71.2	83.0	60.9	72.0	91.1	68.3	79.7	86.5	93.2	89.9	76.8	91.3	84.1	92.8	66.9	79.9
10	4	76.3	83.3	79.8	87.9	64.0	76.0	88.9	68.2	78.6	91.8	95.3	93.6	77.7	63.5	70.6	91.2	58.2	74.7
10	5	85.6	87.6	86.6	86.4	62.7	74.6	89.1	67.1	78.1	94.2	90.5	92.4	76.8	55.5	66.2	81.5	58.7	70.1
10	6	87.8	75.2	81.5	85.4	62.0	73.7	89.5	65.4	77.5	90.9	66.0	78.5	76.6	55.9	66.3	80.3	63.5	71.9
10	7	80.2	72.0	76.1	84.0	65.9	75.0	91.1	63.6	77.4	73.8	73.6	73.7	78.5	69.3	73.9	76.4	65.0	70.7
10	8	93.6	69.7	81.7	80.4	62.4	71.4	94.7	63.6	79.2	82.9	75.5	79.2	67.8	49.8	58.8	87.2	67.3	77.3
10	9	92.9	70.2	81.6	75.7	75.0	75.4	79.6	63.2	71.4	76.3	70.7	73.5	75.2	71.3	73.3	81.8	63.6	72.7
10	10	97.3	70.8	84.1	85.4	73.6	79.5	94.5	84.7	89.6	80.6	74.4	77.5	70.2	57.7	64.0	88.9	98.1	93.5
10	11	87.7	72.6	80.2	84.5	63.5	74.0	84.1	89.7	86.9	83.1	89.3	86.2	68.3	71.4	69.9	92.9	77.5	85.2
10	12	83.0	68.7	75.9	79.6	66.8	73.2	89.4	74.4	81.9	87.2	69.2	78.2	69.8	53.8	61.8	88.9	64.7	76.8
10	13	86.2	72.6	79.4	83.8	62.7	73.3	93.0	73.9	83.5	68.3	64.6	66.5	83.0	90.6	86.6	88.9	61.0	75.0
10	14	93.5	61.6	77.6	88.0	85.8	86.9	91.2	66.4	78.8	80.8	66.2	73.5	74.6	75.5	75.1	84.0	62.3	73.2
10	15	87.1	72.5	79.8	80.0	39.6	59.8	88.0	67.4	77.7	75.0	69.9	72.5	84.7	64.0	74.4	89.2	59.9	74.6
10	16	90.3	68.2	79.3	81.6	42.5	62.1	82.9	66.8	74.9	73.6	66.7	70.2	81.3	64.3	72.8	79.7	57.3	68.5
10	17	90.1	75.2	82.7	81.0	49.1	65.1	89.3	83.7	86.5	81.7	68.2	75.0	85.1	66.8	76.0	87.7	66.8	77.3
10	18	96.3	73.0	84.7	88.3	44.2	66.3	86.5	76.5	81.5	63.7	68.5	66.1	76.0	78.2	77.1	91.3	96.3	93.8
10	19	87.5	73.8	80.7	77.3	56.4	66.9	85.8	73.9	79.9	80.1	67.2	73.7	81.6	51.6	66.6	90.9	66.7	78.8
10	20	84.0	72.0	78.0	82.0	44.7	63.4	89.0	75.3	82.2	78.7	58.8	68.8	78.5	81.2	79.9	94.6	63.3	79.0
10	21	90.6	87.1	88.9	86.5	40.1	63.3	86.2	69.9	78.1	81.7	56.7	69.2	83.1	81.3	82.2	77.7	70.0	73.9
10	22	97.1	66.2	81.7	80.4	41.3	60.9	88.8	71.3	80.1	80.2	71.8	76.0	77.5	63.5	70.5	88.0	65.6	76.8
10	23	89.2	68.9	79.1	81.0	48.8	64.9	87.9	64.8	76.4	87.7	81.3	84.5	85.0	71.4	78.2	82.0	65.6	73.8
10	24	77.6	69.7	73.7	76.1	45.3	60.7	87.0	69.2	78.1	84.9	84.2	84.6	93.3	93.3	93.3	91.3	68.6	80.0
10	25	90.2	68.6	79.4	82.7	49.9	66.3	81.5	61.8	71.7	90.5	90.8	90.7	95.3	70.2	82.8	82.9	84.6	83.8
10	26	81.2	67.4	74.3	85.4	58.1	71.8	74.4	59.0	66.7	95.0	85.5	90.3	76.1	59.1	67.6	90.8	63.5	77.2
10	27	83.3	62.8	73.1	86.3	58.2	72.3	83.2	57.2	70.2	86.2	65.5	75.9	80.7	68.1	74.4	82.9	62.5	72.7
10	28	79.9	67.2	73.6	84.0	59.9	72.0	67.2	50.6	58.9	88.5	70.6	79.6	77.3	76.6	77.0	83.0	65.1	74.1
10	29	81.0	65.7	73.4	88.2	73.8	81.0	79.8	52.1	66.0	79.1	81.8	80.5	71.5	81.8	76.7	85.8	68.8	77.3
10	30	79.3	65.0	72.2	87.3	61.8	74.6	70.6	52.6	61.6	96.0	60.1	78.1	77.4	66.0	71.7	84.0	61.1	72.6
10	31	80.3	54.6	67.5	96.0	70.2	83.1	93.2	61.9	77.6	81.6	71.3	76.5	87.7	78.5	83.1	75.7	68.5	72.1

Daily Humidity (%)

Location : Pokhara Airport

Year		1993			1994			1995			1996			1997			1998		
Month	Day	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
11	1	76.5	58.7	67.6	90.0	61.6	75.8	88.6	58.1	73.4	75.6	71.9	73.8	79.2	61.1	70.2	85.5	66.6	76.1
11	2	84.2	58.5	71.4	88.3	52.3	70.3	92.0	53.1	72.6	76.6	64.0	70.3	77.4	63.3	70.4	87.0	62.3	74.7
11	3	84.3	66.4	75.4	85.7	35.1	60.4	94.7	49.5	72.1	66.1	62.2	64.2	78.5	60.8	69.7	77.8	64.5	71.2
11	4	92.1	74.4	83.3	70.7	54.6	62.7	94.9	70.9	82.9	72.5	63.0	67.8	86.2	73.6	79.9	85.6	64.4	75.0
11	5	86.4	70.8	78.6	80.2	57.5	68.9	84.0	61.3	72.7	67.6	62.3	65.0	80.3	65.5	72.9	90.4	64.6	77.5
11	6	85.1	69.1	77.1	84.5	53.6	69.1	74.6	44.3	59.5	72.4	65.4	68.9	85.0	68.5	76.8	88.4	54.3	71.4
11	7	89.8	73.6	81.7	81.8	45.0	63.4	79.8	47.1	63.5	76.1	63.4	69.8	80.7	60.8	70.8	86.1	57.7	71.9
11	8	85.7	76.4	81.1	77.6	53.2	65.4	73.9	41.3	57.6	78.4	60.1	69.3	82.2	61.7	72.0	89.9	73.3	81.6
11	9	83.0	66.0	74.5	73.7	53.2	63.5	82.5	64.1	73.3	68.2	60.8	64.5	80.7	58.1	69.4	91.6	74.7	83.2
11	10	89.9	54.8	72.4	73.1	53.8	63.7	95.8	96.9	96.4	81.0	67.4	74.2	80.3	77.2	78.8	83.9	63.3	73.6
11	11	85.9	64.4	75.2	76.1	53.7	64.9	69.5	80.2	74.9	97.9	66.9	82.4	71.1	90.1	80.6	80.6	75.4	78.0
11	12	91.8	70.5	81.2	81.7	52.3	67.0	89.6	72.0	80.8	86.0	66.1	76.1	82.0	49.4	65.7	97.9	73.9	85.9
11	13	86.2	73.8	80.0	75.8	56.4	66.1	96.9	55.7	76.3	89.7	65.0	77.4	81.2	65.5	73.4	95.8	60.9	78.4
11	14	91.8	71.3	81.6	75.8	56.2	65.8	93.8	69.8	81.8	88.1	68.0	78.1	78.5	58.9	68.7	78.9	64.4	71.7
11	15	92.9	72.2	82.6	79.9	57.1	68.5	97.9	56.7	77.3	90.0	75.2	82.6	93.7	65.3	79.5	87.4	46.3	66.9
11	16	94.0	71.2	82.6	74.9	65.5	70.2	69.7	65.7	67.7	80.9	63.9	72.4	97.8	58.3	78.1	84.8	73.8	79.3
11	17	86.6	72.8	79.7	79.2	59.0	69.1	80.4	56.1	68.3	92.7	62.3	77.5	97.8	65.3	81.6	86.5	75.3	80.9
11	18	92.0	73.1	82.6	75.9	56.5	66.2	91.7	54.6	73.2	89.7	61.4	75.6	93.5	66.6	80.1	88.6	73.6	81.1
11	19	91.7	74.0	82.9	76.6	54.1	65.4	81.7	50.2	66.0	83.1	61.6	72.4	93.4	55.6	74.5	93.9	82.0	88.0
11	20	91.3	71.6	81.5	85.2	44.4	64.8	87.4	52.8	70.1	87.7	62.0	74.9	84.6	50.8	67.7	86.1	69.9	78.0
11	21	85.9	65.3	75.6	78.5	49.1	63.8	89.1	59.5	74.3	91.4	62.1	76.8	76.6	57.6	67.1	89.7	63.6	76.7
11	22	82.9	69.7	76.3	73.1	56.4	64.8	93.4	55.6	74.5	91.3	65.5	78.4	88.8	62.7	75.8	90.0	68.5	79.3
11	23	79.0	43.9	61.5	80.7	47.2	64.0	81.2	62.1	71.7	81.0	58.7	69.9	92.4	66.9	79.7	86.3	76.9	81.6
11	24	84.8	53.2	69.0	77.7	48.6	63.2	86.1	58.5	72.3	90.0	60.4	75.2	94.4	68.8	81.6	93.8	64.3	79.1
11	25	90.6	60.5	75.6	79.0	55.7	67.4	78.2	62.9	70.6	89.0	69.4	79.2	80.3	85.6	83.0	87.8	71.3	79.6
11	26	88.9	66.2	77.6	90.9	49.3	70.1	94.4	63.7	79.1	91.3	68.8	80.1	96.7	86.4	91.6	87.8	54.4	71.1
11	27	89.1	64.5	76.8	90.7	47.4	69.1	91.2	69.3	80.3	85.3	81.5	83.4	95.2	71.4	83.3	77.9	61.6	69.8
11	28	89.3	66.1	77.7	95.4	54.8	75.1	97.7	50.7	74.2	83.9	65.4	74.7	86.1	64.4	75.3	87.3	51.6	69.5
11	29	89.2	61.0	75.1	83.0	50.5	66.8	87.6	58.3	73.0	88.4	60.9	74.7	97.5	79.9	88.7	84.0	52.6	68.3
11	30	92.7	45.8	69.3	88.7	79.2	84.0	86.5	53.8	70.2	90.7	61.1	75.9	97.5	63.7	80.6	85.1	65.4	75.3
12	1	89.0	63.4	76.2	88.8	64.3	86.6	86.4	58.5	72.5	86.2	48.5	67.4	97.7	77.1	87.4	87.0	61.3	74.2
12	2	88.7	62.5	75.6	84.7	61.1	72.9	88.4	55.7	72.1	83.0	50.0	66.5	97.2	54.7	76.0	89.1	64.0	76.6
12	3	84.8	51.8	68.3	90.4	63.7	77.1	82.0	60.9	71.5	72.9	50.0	61.5	91.4	52.0	71.7	83.0	65.9	74.5
12	4	84.3	59.2	71.8	88.0	67.6	77.8	90.7	58.4	74.6	70.5	48.8	59.7	88.3	56.7	72.5	74.4	48.3	61.4
12	5	84.3	48.5	66.4	92.9	47.9	70.4	90.4	59.5	75.0	88.2	56.5	72.4	85.9	59.0	72.5	83.2	66.4	74.8
12	6	93.2	68.4	80.8	90.3	48.3	69.3	95.4	58.6	77.0	70.7	55.5	63.1	87.8	64.7	76.3	93.5	64.0	78.8
12	7	82.6	55.6	69.1	89.3	57.2	73.3	87.0	55.9	71.5	74.4	55.0	64.7	88.4	58.2	73.3	89.3	60.6	75.0
12	8	78.5	60.1	69.3	88.4	39.1	63.8	92.6	64.0	78.3	85.2	53.1	69.2	95.1	70.2	82.7	87.0	59.1	73.1
12	9	89.0	58.4	73.7	90.3	52.3	71.3	86.2	62.5	74.4	95.0	61.0	78.0	85.3	95.4	90.4	93.5	64.9	79.2
12	10	78.5	48.6	63.6	86.2	59.2	72.7	97.6	65.9	81.9	88.1	52.9	70.5	95.3	97.6	96.5	84.6	68.0	76.3
12	11	77.0	57.4	67.2	91.7	62.9	77.3	91.7	60.9	76.3	83.8	57.6	70.7	94.5	86.0	90.3	90.7	71.3	81.0
12	12	88.2	58.7	73.5	90.2	48.2	69.2	91.7	64.0	77.9	88.4	58.1	73.3	87.8	62.1	75.0	88.4	61.9	75.2
12	13	92.1	56.2	74.2	81.4	50.1	65.8	95.2	57.0	76.1	86.3	58.8	72.6	97.5	79.6	88.6	88.1	58.0	73.1
12	14	91.5	51.7	71.6	91.9	65.8	78.9	91.6	66.4	79.0	94.9	54.4	74.7	94.9	84.8	89.9	88.1	59.9	74.0
12	15	90.6	39.2	64.9	80.2	51.3	65.8	85.7	63.8	74.8	95.2	61.9	78.6	94.3	75.1	84.7	84.8	47.6	66.2
12	16	80.8	50.6	65.7	94.8	54.7	74.8	90.7	64.0	77.4	95.2	55.4	75.3	97.2	78.4	87.8	81.3	45.0	63.2
12	17	85.1	53.6	69.4	89.7	47.5	68.6	88.2	68.8	78.5	87.5	56.2	71.9	93.1	71.1	82.1	80.2	48.9	64.6
12	18	77.2	56.0	66.6	90.0	53.6	71.8	92.1	68.0	80.1	87.5	59.0	73.3	93.4	65.3	79.4	87.1	48.2	67.7
12	19	85.7	49.5	67.6	84.6	54.3	69.5	96.5	73.7	85.1	88.8	56.5	72.7	90.0	48.8	69.4	82.8	55.9	69.4
12	20	87.9	46.5	67.2	91.1	55.3	73.2	95.2	67.8	81.5	87.6	68.4	78.0	84.1	51.4	67.8	74.2	58.5	66.4
12	21	85.1	48.2	66.7	85.6	43.8	49.7	97.6	58.3	78.0	92.6	59.0	75.8	97.4	52.3	74.9	86.4	50.2	68.3
12	22	87.4	53.1	70.3	84.0	42.8	63.4	92.6	66.1	79.4	92.5	67.0	79.8	94.7	60.5	77.6	92.3	46.8	69.6
12	23	87.1	51.4	69.3	89.2	47.3	68.3	92.4	52.9	72.7	87.8	57.4	72.6	89.9	63.8	76.9	85.1	40.7	62.9
12	24	85.1	45.0	65.1	79.6	50.9	65.3	90.0	39.4	64.7	89.9	58.2	74.1	94.8	62.1	78.5	92.1	48.9	70.5
12	25	95.0	51.7	73.4	88.1	48.5	68.3	85.3	81.3	83.3	87.7	55.4	71.6	94.7	52.0	73.4	87.3	49.3	68.3
12	26	75.6	50.4	63.0	89.9	53.1	71.5	89.5	68.9	79.2	92.5	57.6	75.1	97.4	48.8	73.1	89.9	45.7	67.8
12	27	87.4	42.2	64.8	88.1	54.4	71.3	97.2	74.0	85.6	92.7	57.7	75.2	65.0	48.2	56.6	86.0	25.2	55.6
12	28	85.6	67.6	76.6	79.2	60.0	69.6	97.3	62.0	79.7	88.6	56.2	72.4	90.7	55.7	73.2	77.5	46.8	62.2
12	29	85.6	55.6	70.6	92.5	55.7	74.1	82.5	44.6	63.6	90.8	67.1	79.0	91.1	72.8	82.0	87.3	49.5	68.4
12	30	87.3	57.0	72.2	95.1	52.8	74.0	82.2	47.3	64.8	89.3	58.1	73.7	93.4	60.6	77.0	87.3	42.3	64.8
12	31	86.5	49.6	68.1	89.2	43.6	66.4	92.8	60.7	76.8	88.7	59.9	74.3	97.4	63.4	80.4	89.6	58.3	74.0

Daily Humidity (%)

Location : Pokhara Airport

Month	Year	Day	1999			2000			2001			2002			2003			2004		
			8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
1	1	1	86.9	51.3	69.1	92.1	51.3	71.7	97.6	43.4	70.5	89.2	35.3	62.3	97.4	57.1	77.3	97.2	65.6	81.4
1	2	2	92.2	47.9	70.1	84.4	42.0	63.2	85.9	54.1	70.0	88.7	56.0	72.4	91.7	52.0	71.9	97.3	63.9	80.6
1	3	3	89.6	52.0	70.8	83.5	45.9	64.7	85.3	46.4	65.9	89.1	49.7	69.4	89.5	57.6	73.6	97.3	67.7	82.5
1	4	4	79.4	46.5	63.0	90.7	48.6	69.7	96.0	71.3	83.7	80.4	56.8	68.6	94.6	41.2	67.9	97.4	58.7	78.1
1	5	5	94.7	45.0	69.9	87.3	48.6	68.0	82.2	52.0	67.1	82.1	49.7	65.9	89.3	61.5	75.4	92.1	50.1	71.1
1	6	6	92.4	48.1	70.3	94.7	47.8	71.3	97.2	47.7	72.5	89.1	47.9	68.5	97.4	36.0	66.7	85.4	38.9	62.2
1	7	7	92.5	54.2	73.4	94.6	45.0	69.8	94.1	44.6	69.4	89.1	60.3	74.7	92.0	46.2	69.1	87.1	51.5	69.3
1	8	8	82.5	36.6	59.6	91.9	39.0	65.5	94.4	50.6	72.5	88.2	42.0	65.1	94.8	48.2	71.5	89.6	49.6	69.6
1	9	9	84.7	70.0	78.5	92.1	50.0	71.1	91.8	43.6	67.7	86.5	48.0	67.3	95.9	45.0	70.5	90.8	50.0	70.4
1	10	10	97.0	44.0	70.5	92.1	50.8	71.5	94.2	49.1	71.7	86.8	45.0	65.9	95.7	46.6	71.2	91.8	29.8	60.8
1	11	11	85.9	57.9	71.9	85.2	48.6	66.9	94.2	53.1	73.7	87.1	47.8	67.5	97.2	53.1	75.2	89.1	38.9	64.0
1	12	12	91.7	39.2	65.5	89.8	49.2	69.5	94.2	39.5	66.9	92.3	48.2	70.3	97.2	51.7	74.5	92.1	45.9	69.0
1	13	13	89.1	27.8	58.5	88.2	68.2	78.2	86.5	45.3	65.9	87.3	48.1	67.7	94.5	51.3	72.9	92.1	72.8	82.5
1	14	14	80.4	35.1	57.8	84.8	56.0	70.4	94.4	45.9	70.2	87.1	61.0	74.1	97.2	55.6	76.4	90.2	50.6	70.4
1	15	15	83.7	38.9	61.3	85.2	37.3	61.3	91.9	44.8	68.4	94.7	65.5	80.1	94.7	41.3	68.0	95.0	47.7	71.4
1	16	16	88.9	27.6	58.3	89.5	39.0	64.3	84.0	38.1	61.1	95.1	69.9	82.5	89.2	42.8	66.0	87.9	58.3	73.1
1	17	17	84.2	34.8	59.5	81.7	40.4	61.1	86.5	41.4	64.0	100.0	80.7	90.4	91.9	37.2	64.6	94.6	50.6	72.6
1	18	18	80.1	38.4	59.3	89.0	39.3	64.2	91.8	49.8	70.8	100.0	65.7	82.9	92.0	47.7	69.9	94.7	57.5	76.1
1	19	19	92.1	43.4	67.8	89.5	37.4	63.5	96.0	37.0	66.5	90.2	59.4	74.8	92.2	35.8	64.0	96.1	53.3	74.7
1	20	20	89.6	39.7	64.7	87.0	53.4	70.2	82.9	48.8	65.9	90.1	75.2	82.7	97.4	44.8	71.1	90.3	63.2	76.8
1	21	21	95.0	34.1	64.6	91.5	59.4	75.5	89.7	44.1	66.9	97.3	54.8	76.1	97.5	47.2	72.4	92.9	72.5	82.7
1	22	22	89.9	51.0	70.5	86.0	92.1	89.1	89.7	37.2	63.5	94.9	44.6	69.8	97.4	41.0	69.2	97.5	69.6	83.6
1	23	23	88.9	50.3	69.6	100.0	75.4	87.7	98.7	49.3	74.0	89.5	42.8	66.2	94.6	43.4	69.0	95.1	89.1	92.1
1	24	24	90.2	45.0	67.6	97.6	64.6	81.1	97.3	48.6	73.0	89.5	59.9	74.7	94.5	49.3	71.9	95.2	68.8	82.0
1	25	25	87.0	42.2	64.6	97.5	59.8	78.7	92.5	56.5	74.5	93.5	49.1	71.3	91.8	76.0	83.9	97.2	52.0	74.6
1	26	26	88.0	41.6	64.8	92.2	59.8	76.0	92.5	69.3	80.9	97.4	51.4	74.4	94.2	56.8	75.5	74.3	61.0	67.7
1	27	27	92.6	48.8	70.7	87.2	48.9	68.1	92.2	62.1	77.2	92.6	78.1	85.4	94.6	53.4	74.0	89.1	67.4	78.3
1	28	28	87.0	45.4	66.2	92.5	39.2	65.9	91.9	57.6	74.8	97.4	92.7	95.1	92.6	69.3	81.0	94.6	59.7	77.2
1	29	29	91.7	41.9	66.8	87.2	43.4	65.3	90.2	52.9	71.6	93.0	66.5	79.8	90.0	73.1	81.6	97.4	53.4	75.4
1	30	30	82.9	29.9	56.4	87.1	41.2	64.2	92.4	56.0	74.2	84.3	49.6	67.0	93.0	63.9	78.5	97.3	49.3	73.3
1	31	31	76.2	34.8	55.5	88.4	62.4	75.4	86.8	65.2	76.0	88.9	44.4	66.7	92.9	86.9	89.9	83.5	57.2	70.4
2	1	1	87.3	25.8	56.6	92.6	65.8	79.2	93.2	67.8	80.5	91.1	52.3	71.7	95.1	73.9	84.5	89.6	48.8	69.2
2	2	2	82.4	48.1	65.3	83.6	48.1	65.9	86.9	50.8	68.9	92.5	45.9	69.2	100.0	70.8	85.4	87.5	44.6	66.1
2	3	3	77.1	60.1	68.6	85.6	48.0	66.8	88.2	43.6	65.9	95.0	48.0	71.5	98.6	54.1	76.4	91.9	43.8	67.9
2	4	4	83.2	49.6	66.4	97.4	58.1	77.8	87.5	42.0	64.8	95.0	53.3	74.2	94.8	58.3	76.6	87.3	66.8	77.1
2	5	5	81.4	34.3	57.9	87.1	75.1	81.1	87.2	37.8	62.5	93.1	48.8	71.0	89.5	40.7	65.1	97.3	53.5	75.4
2	6	6	84.1	50.6	67.4	95.0	61.0	78.0	75.7	32.8	54.3	95.0	49.3	72.2	80.6	49.3	65.0	92.1	57.5	74.8
2	7	7	90.4	44.6	67.4	90.0	44.0	67.0	80.4	34.4	57.4	90.9	50.8	70.9	90.9	50.3	70.6	93.8	56.4	75.1
2	8	8	80.9	41.5	61.2	85.1	48.0	66.6	82.8	43.8	63.3	90.2	51.2	70.7	95.1	55.4	75.3	81.8	40.3	61.1
2	9	9	76.8	44.2	60.5	88.5	46.2	67.4	87.7	42.0	64.9	85.8	48.4	67.1	92.8	49.3	71.1	89.5	36.2	62.9
2	10	10	78.0	31.8	54.9	87.5	45.9	66.7	87.8	43.4	65.6	89.4	45.0	67.2	82.8	33.8	58.3	92.5	46.4	69.5
2	11	11	77.8	32.3	55.1	90.0	80.2	85.1	90.5	42.1	66.3	86.7	54.7	70.7	81.0	36.2	58.6	88.0	46.6	67.3
2	12	12	77.1	36.1	56.6	97.5	59.8	78.7	85.7	43.1	64.4	90.3	42.2	66.3	87.6	45.0	66.3	95.0	34.2	64.6
2	13	13	81.7	37.9	59.8	85.2	45.0	65.1	88.0	45.0	66.5	88.9	57.2	73.1	82.9	40.5	61.7	80.1	34.5	57.3
2	14	14	80.7	37.3	59.0	89.0	34.4	61.7	93.0	52.0	72.5	77.1	41.0	59.1	85.5	34.8	60.2	79.2	57.7	68.5
2	15	15	81.3	47.6	64.5	80.1	49.5	64.8	59.7	57.2	58.5	83.6	49.1	66.4	87.6	34.6	61.1	77.1	40.5	58.8
2	16	16	81.2	40.1	60.7	84.1	37.1	60.6	84.0	39.7	61.9	88.4	34.9	61.7	92.8	49.7	71.3	80.0	40.7	60.4
2	17	17	79.6	38.6	59.1	85.2	34.0	59.6	78.0	41.2	59.6	83.1	40.7	61.9	91.0	62.2	76.6	82.0	47.8	64.9
2	18	18	81.3	46.9	64.1	76.6	51.7	64.2	84.4	35.2	59.8	88.7	45.0	66.9	88.8	68.0	78.4	86.6	39.7	63.2
2	19	19	83.1	47.6	65.4	72.8	32.8	52.8	83.0	39.4	61.2	83.8	41.0	62.4	95.3	72.1	83.7	81.9	83.5	82.7
2	20	20	77.9	43.4	60.7	74.5	26.4	50.5	88.9	45.7	67.3	86.6	52.0	69.3	95.0	44.1	69.6	91.7	42.1	66.9
2	21	21	79.6	41.2	60.4	70.7	31.6	51.2	90.8	54.7	72.8	89.0	82.1	85.6	81.2	44.4	62.8	86.2	63.1	74.7
2	22	22	78.6	37.7	58.2	76.6	29.7	53.2	97.4	44.5	71.0	86.4	43.7	65.1	89.4	51.0	70.2	95.6	52.5	74.1
2	23	23	80.2	49.6	64.9	67.9	26.0	47.0	89.1	49.1	69.1	84.9	44.8	64.9	86.8	54.6	70.7	87.3	49.1	68.2
2	24	24	84.5	52.9	68.7	76.3	26.4	51.4	92.7	71.6	82.2	81.2	38.5	59.9	85.3	67.7	76.5	89.7	60.2	75.0
2	25	25	84.1	47.9	66.0	78.4	33.8	56.1	91.4	77.4	84.4	88.4	63.2	75.8	95.5	62.9	79.2	86.1	57.3	71.7
2	26	26	81.1	44.2	62.7	76.3	53.2	64.8	84.2	45.7	65.0	85.6	36.9	61.3	89.0	97.7	93.4	89.6	49.0	69.3
2	27	27	71.8	28.5	50.2	71.5	40.9	56.2	82.2	27.4	54.8	77.1	43.9	60.5	88.5	48.9	68.7	91.7	51.2	71.5
2	28	28	71.4	28.2	49.8	73.0	55.1	64.1	82.5	34.5	58.5	78.1	56.1	67.1	85.4	59.3	72.4	84.1	50.8	67.5
2	29	29				80.6	61.0											79.1	35.3	

Daily Humidity (%)

Location : Pokhara Airport

Month	Year	1999			2000			2001			2002			2003			2004		
		8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
3	1	68.1	29.4	48.8	82.0	48.7	65.4	74.9	36.0	55.5	76.8	51.8	64.3	89.3	51.2	70.3	74.9	35.7	55.3
3	2	64.8	38.7	51.8	79.7	66.4	73.1	73.7	27.1	50.4	93.4	72.7	83.1	80.1	60.5	70.3	75.4	40.0	57.7
3	3	77.3	42.0	59.7	100.0	64.0	82.0	74.5	31.8	53.2	95.5	57.8	76.7	82.2	38.2	60.2	85.4	51.6	68.5
3	4	79.5	39.1	59.3	87.3	38.5	62.9	80.1	35.7	57.9	86.3	33.3	59.8	81.6	44.9	63.3	88.3	47.8	68.1
3	5	79.8	34.7	57.3	75.4	36.7	56.1	71.6	23.1	47.4	88.2	53.7	71.0	88.5	41.1	64.8	89.7	48.8	69.3
3	6	79.5	39.7	59.6	73.8	31.7	52.8	83.2	34.5	58.9	89.3	51.8	70.6	86.4	51.8	69.1	89.6	42.5	66.1
3	7	81.5	38.7	60.1	71.4	20.9	46.2	80.1	43.9	62.0	85.2	46.3	65.8	87.0	46.5	66.8	79.2	32.7	56.0
3	8	81.4	30.7	56.1	60.0	23.2	41.6	81.6	64.6	73.1	87.3	47.4	67.4	81.8	30.6	56.2	77.9	32.2	55.1
3	9	66.6	22.5	44.6	66.8	31.6	49.2	79.7	39.7	59.7	71.4	42.5	57.0	79.9	36.9	58.4	64.4	29.8	47.1
3	10	54.1	15.5	34.8	70.1	34.2	52.2	67.3	33.5	50.4	77.6	39.3	58.5	68.3	50.4	59.4	68.7	35.5	52.1
3	11	53.7	19.7	36.7	77.2	38.6	57.9	68.5	31.3	49.9	76.9	36.7	56.8	74.9	35.5	55.2	93.6	46.6	70.1
3	12	52.8	13.8	33.3	70.9	93.2	82.1	68.5	39.9	54.2	80.5	41.0	60.8	71.4	70.6	71.0	90.2	79.5	84.9
3	13	53.6	18.3	36.0	88.4	81.2	84.8	70.2	65.9	68.1	85.4	54.9	70.2	88.3	49.3	68.8	95.8	61.3	78.6
3	14	52.0	22.3	37.2	88.4	36.1	62.3	85.2	74.1	79.7	90.1	44.8	67.5	87.0	48.3	67.7	90.1	65.9	78.0
3	15	63.3	35.1	49.2	74.9	29.4	52.2	86.5	39.9	62.0	75.5	35.0	55.3	80.3	60.3	70.3	90.8	75.4	83.1
3	16	78.6	42.8	60.7	73.1	35.7	54.4	68.7	35.2	52.0	72.3	44.8	58.6	86.4	50.7	68.6	84.3	49.9	67.1
3	17	71.8	31.4	51.6	73.9	33.9	53.9	63.0	27.4	45.2	79.4	53.3	66.4	79.2	46.8	63.0	87.0	41.1	64.1
3	18	65.3	15.6	40.5	75.4	32.5	54.0	68.4	28.2	48.3	80.5	43.8	62.2	76.0	80.4	78.2	84.1	55.0	69.6
3	19	53.4	20.2	36.8	65.0	14.6	39.8	65.8	24.7	45.3	77.2	31.5	54.4	89.0	53.9	71.5	78.8	55.7	67.3
3	20	57.1	15.7	36.4	64.3	24.4	44.4	64.5	35.2	49.9	82.1	37.5	59.8	71.6	46.1	58.9	92.7	66.4	79.6
3	21	55.0	17.7	36.4	62.8	49.7	56.3	65.3	32.4	48.9	79.7	45.1	62.4	79.3	46.9	63.1	86.2	69.2	77.7
3	22	62.8	26.6	44.7	62.3	18.9	40.6	50.7	47.0	48.9	72.1	83.3	77.7	92.0	54.3	73.2	87.9	58.6	73.3
3	23	68.2	28.9	48.6	54.7	80.1	67.4	72.5	65.3	68.9	74.3	37.8	56.1	86.8	54.5	70.7	81.2	48.4	64.8
3	24	61.7	30.6	46.2	88.0	28.0	58.0	68.4	30.2	49.3	70.6	56.4	63.5	81.2	95.8	88.5	84.5	26.0	55.3
3	25	50.6	26.9	38.8	56.8	24.7	40.8	58.3	34.1	46.2	80.4	39.3	59.9	93.6	43.8	68.7	68.4	41.0	54.7
3	26	57.6	24.5	41.1	63.7	23.3	43.5	65.1	36.4	50.8	71.1	49.0	60.1	83.5	45.0	64.3	56.7	20.7	38.7
3	27	56.2	25.8	41.0	72.1	32.0	52.3	72.1	37.9	55.0	65.1	37.0	51.1	75.2	49.6	62.4	52.3	25.6	39.0
3	28	58.3	28.8	43.6	60.3	27.8	44.1	70.8	42.4	56.6	70.6	44.5	57.6	83.5	56.9	70.2	55.4	19.2	37.3
3	29	60.1	36.4	48.3	54.9	27.4	41.2	72.7	33.6	53.2	55.0	34.9	45.0	86.4	81.6	84.0	56.1	27.6	41.9
3	30	65.2	43.3	54.3	60.5	26.5	43.5	62.9	59.8	61.4	68.0	38.9	53.5	80.2	55.3	67.8	66.6	34.1	50.4
3	31	64.5	35.3	49.9	61.0	30.4	45.7	66.6	43.0	54.8	88.4	55.7	72.1	77.9	47.5	62.7	59.4	33.6	46.5
4	1	60.6	46.7	53.7	71.3	31.3	51.3	66.2	26.3	46.3	69.3	51.4	60.4	76.7	58.3	67.5	74.9	34.4	54.7
4	2	79.0	34.0	56.5	63.5	23.7	43.6	49.1	24.5	36.8	77.3	49.9	63.6	75.0	96.2	85.6	74.0	85.4	79.7
4	3	57.4	26.6	42.0	53.7	23.9	38.8	51.4	26.7	39.1	76.2	46.6	61.4	85.2	56.2	70.7	86.4	63.7	75.1
4	4	52.1	19.9	36.0	62.0	23.4	42.7	56.2	25.2	40.7	75.9	53.7	64.8	78.7	48.2	63.5	92.3	86.4	89.4
4	5	41.8	17.7	29.8	59.0	18.8	38.9	53.3	21.6	37.5	88.9	62.2	75.6	85.7	39.4	62.6	88.7	67.2	78.0
4	6	35.0	20.7	27.9	60.9	17.1	39.0	57.4	91.4	74.4	80.1	52.9	66.5	72.7	38.5	55.6	68.1	47.4	57.8
4	7	48.3	21.5	34.9	47.3	16.6	32.0	47.2	13.8	30.5	76.9	60.0	68.5	64.8	34.9	49.9	84.7	67.7	76.2
4	8	58.7	42.8	50.8	53.2	20.1	36.7	46.1	24.4	35.3	79.0	90.4	84.7	69.1	37.5	53.3	78.0	81.9	80.0
4	9	75.3	35.7	55.5	58.1	19.3	38.7	56.7	26.8	41.8	82.3	85.6	84.0	64.3	35.4	49.9	86.5	68.5	77.5
4	10	70.3	44.6	57.5	55.6	17.6	36.6	54.5	47.7	51.1	79.0	80.2	79.6	67.3	39.6	53.5	85.7	60.1	72.9
4	11	68.9	47.3	58.1	65.7	24.3	45.0	46.4	29.2	37.8	74.2	51.4	62.8	68.4	81.8	75.1	84.0	61.2	72.6
4	12	69.2	51.5	60.4	63.9	32.4	48.2	29.5	-7.3	11.1	73.0	47.5	60.3	78.0	57.1	67.6	76.8	79.8	78.3
4	13	73.3	46.8	60.1	66.4	42.1	54.3	53.5	35.3	44.4	75.2	56.4	65.8	68.1	48.4	58.3	75.2	52.9	64.1
4	14	55.7	35.7	45.7	53.4	61.8	57.6	45.3	85.3	65.3	83.8	69.9	76.9	76.2	77.9	77.1	71.6	63.8	67.7
4	15	62.2	28.2	45.2	85.5	45.8	65.7	77.4	54.3	65.9	84.3	71.1	77.7	71.5	50.4	61.0	83.1	43.3	63.2
4	16	48.0	12.2	30.1	69.6	40.4	55.0	71.9	95.6	83.8	82.3	65.3	73.8	79.2	61.3	70.3	77.4	50.7	64.1
4	17	43.0	17.9	30.5	75.0	75.9	75.5	70.3	67.1	68.7	80.0	63.8	71.9	71.1	46.5	58.8	75.4	58.2	66.8
4	18	55.9	20.7	38.3	72.4	43.0	57.7	78.2	56.2	67.2	84.7	54.0	69.4	73.5	47.2	60.4	78.7	67.0	72.9
4	19	46.5	24.9	35.7	90.6	72.2	81.4	66.8	44.5	55.7	84.2	48.0	66.1	72.4	48.4	60.4	64.5	53.4	59.0
4	20	57.9	37.7	47.8	75.9	90.6	83.3	70.2	39.4	54.8	72.7	67.9	70.3	64.2	42.1	53.2	87.2	53.6	70.4
4	21	66.4	43.6	55.0	77.3	96.1	86.7	57.1	41.5	49.3	74.5	76.5	75.5	76.1	83.2	79.7	86.3	90.4	88.4
4	22	72.1	49.4	60.8	95.2	98.1	96.7	72.8	50.3	61.6	81.4	63.4	72.4	60.0	46.2	53.1	77.5	67.3	72.4
4	23	67.9	43.1	55.5	80.2	62.2	71.2	74.8	36.4	55.6	90.8	65.6	78.2	78.6	51.9	65.3	73.0	67.7	70.4
4	24	62.2	31.2	46.7	75.9	90.6	83.3	61.6	39.1	50.4	85.5	88.0	86.8	86.6	59.1	72.9	71.0	52.9	62.0
4	25	56.4	34.7	45.6	86.8	58.3	72.6	67.4	88.9	78.2	87.4	57.3	72.4	88.3	70.5	79.4	83.4	42.1	62.8
4	26	56.3	38.3	47.3	78.9	52.1	65.5	82.2	46.7	64.5	86.9	59.3	73.1	83.3	68.7	76.0	85.0	40.8	62.9
4	27	59.7	38.3	49.0	85.8	96.0	90.9	76.1	59.9	68.0	86.8	47.4	67.1	71.7	52.6	62.2	60.4	58.7	59.6
4	28	61.2	36.8	49.0	72.1	84.2	78.2	80.7	47.3	64.0	67.8	57.3	62.6	75.7	63.8	69.8	96.0	77.7	86.9
4	29	56.8	35.6	46.2	78.4	53.5	66.0	69.8	93.6	81.7	69.6	86.4	78.0	72.7	45.8	59.3	69.1	48.3	58.7
4	30	70.9	98.0	84.5	73.3	51.1	62.2	79.2	70.5	74.9	71.6	51.3	61.5	65.2	36.4	50.8	72.5	54.3	63.4

Daily Humidity (%)
Location : Pokhara Airport

Year		1999			2000			2001			2002			2003			2004		
Month	Day	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
5	1	77.4	100.0	88.7	72.4	85.4	78.9	62.1	50.2	56.2	78.4	56.9	67.7	76.3	49.4	62.9	67.0	50.0	58.5
5	2	75.6	43.8	59.7	75.7	52.1	63.9	90.6	56.1	73.4	70.3	100.0	85.2	69.8	56.1	63.0	66.2	36.1	51.2
5	3	71.8	61.2	66.5	82.3	55.4	68.9	78.3	95.2	86.8	77.6	69.2	73.4	74.9	41.4	58.2	55.9	39.5	47.7
5	4	81.6	89.5	85.6	82.3	51.9	67.1	82.1	64.3	73.2	93.6	69.0	81.3	86.5	51.5	69.0	60.3	89.8	75.1
5	5	73.9	63.7	68.8	77.5	57.0	67.3	69.4	45.1	57.3	84.7	63.0	73.9	66.1	41.8	54.0	67.6	79.8	73.7
5	6	89.1	84.0	86.6	68.8	70.6	69.7	74.7	63.8	69.3	65.4	74.7	70.1	60.1	30.0	45.1	70.8	40.7	55.8
5	7	85.6	84.4	85.0	86.1	52.1	69.1	85.7	45.8	65.8	89.0	49.1	69.1	54.4	32.9	43.7	68.5	48.3	58.4
5	8	83.8	87.8	85.8	65.6	44.5	55.1	78.9	68.3	73.6	74.6	54.0	64.3	59.4	30.8	45.1	73.5	67.6	70.6
5	9	58.5	41.8	50.2	72.9	59.8	66.4	86.3	93.7	90.0	94.6	61.2	77.9	57.4	51.4	54.4	79.7	57.7	68.7
5	10	86.2	52.7	69.5	72.2	54.3	63.3	89.3	60.4	74.9	89.5	100.0	94.8	62.3	45.1	53.7	88.5	74.2	81.4
5	11	90.6	56.2	73.4	64.8	54.9	59.9	98.2	57.2	77.7	86.1	56.1	71.1	74.6	95.9	85.3	81.5	47.7	64.6
5	12	96.1	84.4	90.3	74.6	52.1	63.4	66.9	59.9	63.4	72.2	59.9	66.1	85.3	48.0	66.7	64.0	45.1	54.6
5	13	74.1	93.5	83.8	84.2	62.1	73.2	81.0	59.6	70.3	96.5	65.1	80.8	77.0	80.6	78.8	70.6	76.5	73.6
5	14	94.3	79.6	87.0	64.6	55.9	60.3	76.9	53.1	65.0	93.0	59.1	76.1	84.7	57.0	70.9	83.5	79.5	81.5
5	15	70.0	48.6	59.3	72.2	89.4	80.8	69.6	75.9	72.8	79.5	67.5	73.5	68.8	91.2	80.0	77.1	83.7	80.4
5	16	94.3	55.0	74.7	91.1	63.3	77.2	86.3	55.1	70.7	94.8	65.7	80.3	90.6	56.3	73.5	81.4	64.2	72.8
5	17	61.3	49.1	55.2	71.4	53.8	62.6	75.4	74.7	75.1	68.4	87.0	77.7	74.5	94.3	84.4	83.5	72.9	78.2
5	18	98.1	60.4	79.3	86.0	82.9	84.5	69.8	50.9	60.4	89.6	88.2	88.9	74.7	98.0	86.4	90.0	90.2	90.1
5	19	75.2	41.0	58.1	80.0	64.3	72.2	84.4	74.2	79.3	78.7	66.8	72.8	79.6	84.2	81.9	79.3	76.5	77.9
5	20	77.5	91.1	84.3	86.9	82.9	84.9	87.5	59.5	73.5	76.4	69.2	72.8	74.7	81.2	78.0	91.1	94.6	92.9
5	21	87.9	88.3	88.1	87.9	82.6	85.3	71.9	58.0	65.0	73.4	70.5	72.0	65.7	48.7	57.2	80.3	91.3	85.8
5	22	91.4	68.5	80.0	94.6	63.3	79.0	80.5	71.8	76.2	66.2	46.1	56.2	81.3	61.5	71.4	86.1	66.1	76.1
5	23	81.6	64.5	73.1	92.8	76.5	84.7	81.1	70.5	75.8	75.6	70.1	72.9	75.4	63.0	69.2	77.2	85.8	81.5
5	24	85.3	95.7	90.5	87.8	71.3	79.6	91.4	67.8	79.6	76.7	58.2	67.5	81.8	36.8	59.3	81.5	75.9	78.7
5	25	85.6	66.5	76.1	87.7	75.6	81.7	80.7	91.0	85.9	92.7	79.0	85.9	94.9	81.3	88.1	90.7	56.4	73.6
5	26	87.0	65.3	76.2	90.9	79.2	85.1	73.9	89.4	81.7	90.8	74.1	82.5	77.0	56.4	66.7	92.7	59.7	76.2
5	27	79.7	66.4	73.1	85.7	100.0	92.9	81.3	63.8	72.6	85.2	63.1	74.2	76.0	65.1	70.6	78.3	62.7	70.5
5	28	98.2	74.2	86.2	91.2	100.0	95.6	73.0	57.3	65.2	83.4	57.9	70.7	65.3	53.1	59.2	86.1	82.2	84.2
5	29	93.2	70.0	81.6	86.8	92.4	89.6	74.8	81.8	78.3	85.0	58.5	71.8	87.4	55.5	71.5	87.6	41.8	64.7
5	30	85.2	84.8	85.0	90.9	75.3	83.1	78.6	58.5	68.6	93.4	75.9	84.7	69.1	90.5	79.8	91.0	85.9	88.5
5	31	82.6	84.0	83.3	83.6	69.2	76.4	80.4	57.2	68.8	85.6	54.6	70.1	71.6	59.5	65.6	81.8	59.9	70.9
6	1	67.2	50.0	58.6	74.9	83.0	79.0	93.1	72.1	82.6	91.3	76.6	84.0	91.7	75.1	83.4	92.6	66.8	79.7
6	2	87.6	53.1	70.4	81.1	61.1	71.1	98.2	71.1	84.7	77.1	84.6	80.9	70.9	58.0	64.5	86.4	60.1	73.3
6	3	63.8	57.1	60.5	95.6	58.3	77.0	95.6	77.8	86.7	72.4	91.3	81.9	70.6	55.4	63.0	83.3	100.0	91.7
6	4	61.3	46.2	53.8	78.1	51.0	64.6	88.0	76.3	82.2	81.0	63.5	72.3	79.9	91.4	85.7	76.0	70.5	73.3
6	5	61.8	52.3	57.1	75.0	55.6	65.3	91.4	64.5	78.0	91.3	78.3	84.8	82.4	72.3	77.4	82.9	58.4	70.7
6	6	64.6	34.7	49.7	87.2	78.2	82.7	79.6	89.8	84.7	82.4	61.5	72.0	75.4	63.4	69.4	73.0	98.2	85.6
6	7	63.4	71.1	67.3	90.3	69.9	80.1	77.8	62.8	70.3	91.4	58.7	75.1	84.8	72.6	78.7	89.4	62.1	75.8
6	8	63.6	54.6	59.1	98.2	81.0	89.6	73.0	59.8	66.4	84.1	58.8	71.5	88.0	79.0	83.5	87.0	54.5	70.8
6	9	73.7	61.4	67.6	88.1	84.1	86.1	85.2	60.4	72.8	80.3	68.6	74.5	91.5	59.1	75.3	89.7	62.9	76.3
6	10	83.7	71.4	77.6	90.0	60.1	75.1	89.1	81.4	85.3	69.6	64.2	66.9	87.9	91.9	89.9	86.1	91.3	88.7
6	11	84.1	84.6	84.4	80.1	88.5	84.3	93.9	57.6	75.8	79.7	64.7	72.2	91.3	91.0	91.2	71.1	85.9	78.5
6	12	94.8	96.4	95.6	75.2	86.3	80.8	76.3	61.4	68.9	93.1	93.2	93.2	86.9	76.7	81.8	67.1	52.6	59.9
6	13	95.4	81.0	88.2	90.1	55.1	72.6	96.5	66.3	81.4	93.1	67.9	80.5	79.6	86.9	83.3	68.5	91.0	79.8
6	14	83.7	59.9	71.8	84.3	67.8	76.1	81.9	68.8	75.4	91.5	64.8	78.2	79.3	57.9	68.6	75.2	54.6	64.9
6	15	75.7	78.3	77.0	98.2	71.3	84.8	80.8	67.2	74.0	90.9	64.0	77.5	88.0	56.3	72.2	90.0	64.3	77.2
6	16	91.5	68.2	79.9	94.9	70.9	82.9	74.3	85.6	80.0	90.6	57.0	73.8	93.1	64.1	78.6	95.8	69.3	82.6
6	17	82.6	61.7	72.2	89.8	68.1	79.0	96.5	95.7	96.1	81.0	60.0	70.5	83.7	54.7	69.2	88.4	78.0	83.2
6	18	88.7	78.6	83.7	90.7	55.9	73.3	76.1	72.5	74.3	84.3	72.4	78.4	70.6	55.7	63.2	96.4	71.0	83.7
6	19	88.6	81.3	85.0	79.8	67.5	73.7	90.1	75.0	82.6	91.7	72.8	82.3	68.2	80.3	74.3	90.1	67.5	78.8
6	20	74.7	66.9	70.8	87.0	62.8	74.9	95.7	74.1	84.9	88.4	62.9	75.7	96.5	87.1	91.8	82.6	94.9	88.8
6	21	78.0	65.9	72.0	78.0	75.2	76.6	88.7	72.8	80.8	73.2	64.3	68.8	87.1	84.4	85.8	93.3	84.4	88.9
6	22	80.0	71.1	75.6	94.8	83.8	89.3	98.3	87.2	92.8	81.1	57.7	69.4	93.2	71.1	82.2	96.5	92.0	94.3
6	23	90.2	96.5	93.4	82.2	87.0	84.6	87.2	61.9	74.6	91.7	68.8	80.3	86.9	73.2	80.1	84.0	88.6	86.3
6	24	90.1	71.1	80.6	93.1	76.6	84.9	80.9	68.9	74.9	94.0	59.4	76.7	92.4	84.6	88.5	87.5	70.1	78.8
6	25	96.5	71.6	84.1	91.6	63.2	77.4	85.0	66.0	75.5	77.9	91.5	84.7	91.5	65.4	78.5	81.2	77.5	79.4
6	26	94.2	84.4	89.3	74.2	69.4	71.8	90.2	69.2	79.7	80.2	91.9	86.1	93.4	69.7	81.6	77.0	100.0	88.5
6	27	95.7	85.6	90.7	93.3	69.2	81.3	87.8	62.4	75.1	90.1	68.4	79.3	90.0	74.2	82.1	75.1	64.6	69.9
6	28	93.1	68.7	80.9	85.8	60.6	73.2	96.6	72.2	84.4	77.3	61.1	69.2	87.8	78.1	83.0	77.0	63.2	70.1
6	29	77.0	71.8	74.4	91.7	65.9	78.8	91.7	69.7	80.7	85.1	92.0	88.6	89.4	84.4	86.9	90.0	75.9	83.0
6	30	98.2	76.1	87.2	87.7	77.6	82.7	85.0	63.4	74.2	94.1	91.9	93.0	89.2	65.5	77.4	88.5	73.4	81.0

Daily Humidity (%)

Location : Pokhara Airport

Month	Year	1999			2000			2001			2002			2003			2004			
		Day	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
7	1		94.1	95.0	94.6	93.9	74.2	84.1	88.6	70.0	79.3	98.3	84.4	91.4	93.8	67.5	80.7	95.7	70.5	83.1
7	2		93.2	94.0	93.6	91.6	85.8	88.7	84.0	92.0	88.0	96.6	88.6	92.6	94.1	60.6	77.4	76.0	59.3	67.7
7	3		97.4	81.3	89.4	89.1	63.5	76.3	74.0	64.8	69.4	85.9	90.5	88.2	94.8	61.4	78.1	94.8	65.4	80.1
7	4		96.5	70.3	83.4	96.6	65.4	81.0	71.2	63.9	67.6	84.4	93.5	89.0	96.5	86.3	91.4	82.5	60.6	71.6
7	5		88.6	62.4	75.5	94.0	63.8	78.9	85.2	58.8	72.0	84.2	73.0	78.6	96.5	70.2	83.4	81.2	77.2	79.2
7	6		72.4	63.8	68.1	96.6	91.5	94.1	71.1	65.6	68.4	98.3	71.3	84.8	90.0	69.1	79.6	88.4	71.4	79.9
7	7		76.2	59.9	68.1	96.4	70.5	83.5	86.7	62.0	74.4	87.5	68.8	78.2	98.3	66.4	82.4	90.1	91.7	90.9
7	8		89.3	71.7	80.5	83.1	59.9	71.5	81.4	66.5	74.0	88.8	70.6	79.7	96.5	85.6	91.1	88.5	84.1	86.3
7	9		94.1	67.9	81.0	96.6	65.3	81.0	71.7	67.6	69.7	88.7	72.0	80.4	97.3	93.9	95.6	88.3	96.5	92.4
7	10		96.6	86.0	91.3	91.6	77.5	84.6	87.2	63.5	75.4	88.6	85.7	87.2	92.2	77.4	84.8	96.5	77.0	86.8
7	11		96.4	84.1	90.3	93.3	56.7	75.0	88.7	71.8	80.3	95.0	84.4	89.7	86.8	85.8	86.3	96.6	83.3	90.0
7	12		96.6	83.7	90.2	74.9	66.5	70.7	89.4	70.2	79.8	93.3	60.1	76.7	80.0	84.0	82.0	91.6	87.8	89.7
7	13		93.1	70.4	81.8	82.6	69.2	75.9	86.0	100.0	93.0	74.6	65.4	70.0	84.1	84.4	84.3	91.4	84.0	87.7
7	14		91.8	69.3	80.6	87.2	64.3	75.8	93.3	91.7	92.5	94.9	73.7	84.3	93.2	77.1	85.2	89.9	71.9	80.9
7	15		77.8	73.7	75.8	87.1	77.8	82.5	98.2	79.8	89.0	97.4	74.8	86.1	90.8	62.6	76.7	83.7	56.3	70.0
7	16		82.5	64.9	73.7	93.3	66.9	80.1	94.8	88.5	91.7	89.4	65.4	77.4	88.5	61.4	75.0	94.8	71.4	83.1
7	17		94.0	80.3	87.2	71.8	69.5	70.7	84.1	84.4	84.3	84.0	71.0	77.5	91.6	70.4	81.0	90.1	66.9	78.5
7	18		96.5	72.8	84.7	93.3	72.7	83.0	84.4	96.6	90.5	94.9	64.6	79.8	82.6	81.6	82.1	96.5	74.1	85.3
7	19		87.0	73.9	80.5	90.2	72.2	81.2	87.1	100.0	93.6	80.1	77.6	78.9	94.8	90.2	92.5	96.5	84.3	90.4
7	20		87.8	82.1	85.0	77.1	71.4	74.3	96.6	79.0	87.8	99.1	89.4	94.3	98.2	77.8	88.0	90.8	74.0	82.4
7	21		88.5	67.1	77.8	92.4	72.7	82.6	88.8	81.0	84.9	100.0	88.7	94.4	88.7	67.6	78.2	96.6	90.2	93.4
7	22		86.2	67.5	76.9	85.2	68.3	76.8	82.9	68.8	75.9	90.2	91.9	91.1	94.9	63.5	79.2	96.5	77.7	87.6
7	23		84.1	74.0	79.1	89.5	90.4	90.0	93.4	75.1	84.3	96.5	79.3	87.9	94.3	64.4	79.4	88.5	63.2	75.9
7	24		91.7	88.3	90.0	94.9	84.4	89.7	84.4	83.2	83.8	94.9	63.1	79.0	71.4	59.4	65.4	94.9	94.9	94.9
7	25		96.5	91.8	94.2	91.6	63.5	77.6	87.1	90.3	88.7	98.2	81.1	89.7	76.6	73.4	75.0	100.0	74.3	87.2
7	26		93.1	90.0	91.6	91.0	71.7	81.4	96.6	89.6	93.1	93.2	69.6	81.4	88.6	65.1	76.9	93.9	59.5	76.7
7	27		100.0	75.5	87.8	89.4	66.9	78.2	91.8	74.3	83.1	94.9	66.3	80.6	88.6	62.5	75.6	91.4	79.0	85.2
7	28		89.1	81.9	85.5	93.2	65.7	78.5	94.1	78.4	86.3	93.2	80.4	86.8	77.6	61.8	69.7	97.4	78.3	87.9
7	29		91.9	80.4	86.2	95.7	74.7	85.2	94.1	93.5	93.8	98.2	80.2	89.2	83.2	91.9	87.6	86.7	68.1	77.4
7	30		88.6	68.2	78.4	94.8	78.9	86.9	96.6	78.9	87.8	94.8	72.3	83.6	98.3	88.8	93.6	91.5	70.4	81.0
7	31		88.4	68.8	78.6	94.8	94.0	94.4	95.0	82.1	88.6	100.0	65.9	83.0	98.3	75.7	87.0	87.0	62.0	74.5
8	1		84.5	64.8	74.7	98.2	100.0	99.1	96.6	71.2	83.9	93.1	61.2	77.2	93.3	67.2	80.3	85.6	67.5	76.6
8	2		86.4	68.8	77.6	94.8	96.6	95.7	95.0	75.4	85.2	94.8	67.8	81.3	90.1	81.3	85.7	85.6	77.5	81.6
8	3		91.7	66.5	79.1	91.8	98.3	95.1	96.6	75.8	86.2	90.0	65.6	77.8	81.2	66.6	73.9	87.0	59.3	73.2
8	4		89.6	71.0	80.3	98.3	74.8	86.6	93.3	86.9	90.1	80.6	66.9	73.8	84.0	82.5	83.3	82.7	79.5	81.1
8	5		85.2	70.7	78.0	78.7	66.3	72.5	86.6	56.8	71.7	85.6	64.2	74.9	84.4	92.6	88.5	93.3	65.9	79.6
8	6		87.6	64.0	75.8	91.2	73.8	82.5	91.6	70.0	80.8	91.5	63.6	77.6	93.5	65.1	79.3	73.8	67.2	70.5
8	7		82.3	88.6	85.5	22.6	75.6	49.1	88.6	93.2	90.9	77.9	60.8	69.4	74.8	69.7	72.3	91.7	88.7	90.2
8	8		86.5	98.3	92.4	95.0	65.9	80.5	91.5	67.4	79.5	79.1	59.5	69.3	95.8	68.1	82.0	91.5	75.4	83.5
8	9		91.7	67.9	79.8	95.7	69.3	82.5	91.9	70.6	81.3	80.2	77.8	79.0	86.4	64.6	75.5	81.3	70.8	76.1
8	10		93.3	63.3	78.3	94.8	74.0	84.4	90.3	69.9	80.1	98.3	82.9	90.6	93.3	75.4	84.4	82.2	76.3	79.3
8	11		94.1	82.5	88.3	80.0	62.8	71.4	81.6	74.9	78.3	93.2	81.6	87.4	84.3	75.8	80.1	78.9	64.8	71.9
8	12		87.1	98.3	92.7	94.9	77.0	86.0	88.6	73.6	81.1	97.4	86.0	91.7	94.9	74.0	84.5	85.5	70.2	77.9
8	13		93.3	94.8	94.1	91.6	71.1	81.4	96.5	77.9	87.2	93.2	68.5	80.9	88.7	63.4	76.1	87.1	88.3	87.7
8	14		98.2	79.8	89.0	91.5	69.6	80.6	87.5	70.2	78.9	84.0	70.3	77.2	85.5	65.5	75.5	78.3	61.6	70.0
8	15		94.9	90.1	92.5	89.4	75.5	82.5	91.8	57.2	74.5	91.7	69.6	80.7	84.3	66.8	75.6	84.4	74.1	79.3
8	16		86.2	68.6	77.4	88.4	73.2	80.8	82.9	96.7	89.8	85.9	97.5	91.7	74.3	61.9	68.1	88.6	72.5	80.6
8	17		91.6	70.0	80.8	84.0	63.6	73.8	91.9	75.5	83.7	91.0	60.6	75.8	93.3	100.0	96.7	93.3	74.3	83.8
8	18		91.5	77.6	84.6	88.7	76.0	82.4	98.3	78.8	88.6	85.5	62.5	74.0	96.6	92.5	94.6	83.5	87.0	85.3
8	19		94.8	68.1	81.5	84.2	66.1	75.2	96.6	80.6	88.6	90.2	67.2	78.7	94.0	92.5	93.3	96.5	82.8	89.7
8	20		93.2	86.4	89.8	91.5	78.7	85.1	91.7	66.0	78.9	96.5	81.8	89.2	93.0	91.6	92.3	96.5	88.7	92.6
8	21		80.0	98.1	89.1	90.7	76.7	83.7	96.6	85.1	90.9	97.3	83.4	90.4	84.9	59.9	72.4	87.1	72.6	79.9
8	22		94.8	85.6	90.2	90.7	67.3	79.0	95.7	96.6	96.2	98.1	87.3	92.7	75.1	55.7	65.4	78.6	61.1	69.9
8	23		90.8	87.1	89.0	98.3	71.5	84.9	93.8	74.7	84.3	93.8	90.1	92.0	90.1	68.5	79.3	77.2	63.9	70.6
8	24		90.1	70.2	80.2	98.2	77.1	87.7	98.2	69.1	83.7	92.4	75.1	83.8	90.1	69.1	79.6	75.2	62.6	68.9
8	25		96.5	84.7	90.6	91.2	69.3	80.3	75.6	65.9	70.8	96.5	71.1	83.8	88.5	66.2	77.4	77.5	70.4	74.0
8	26		98.2	93.1	95.7	91.6	75.8	83.7	76.1	72.9	74.5	92.4	77.6	85.0	90.1	63.6	76.9	84.4	91.7	88.1
8	27		88.9	94.9	91.9	95.7	76.6	86.2	96.5	66.5	81.5	93.3	69.9	81.6	90.1	69.1	79.6	94.9	75.2	85.1
8	28		88.9	70.7	79.8	96.5	94.0	95.3	96.5	76.2	86.4	80.1	74.7	77.4	91.8	84.4	88.1	91.7	83.2	87.5
8	29		89.8	65.5	77.7	93.2	77.6	85.4	98.2	78.7	88.5	86.4	65.9	76.2	94.9	68.3	81.6	93.3	84.7	89.0
8	30		79.3	73.8	76.6	94.9	98.2	96.6	82.4	59.6	71.0	84.1	61.5	72.8	87.1	90.6	88.9	91.7	93.3	92.5
8	31		86.9	72.9	79.9	96.5	70.3	83.4	87.1	61.7	74.4	93.2	65.6	79.4	91.7	94.9	93.3	96.5	98.3	97.4

Daily Humidity (%)

Location : Pokhara Airport

Month	Year	1999			2000			2001			2002			2003			2004		
		8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
9	1	86.6	77.5	82.1	93.1	80.3	86.7	94.8	96.4	95.6	87.0	88.5	87.8	94.9	91.7	93.3	94.9	80.2	87.6
9	2	96.5	69.8	83.2	94.8	81.5	88.2	96.4	96.5	96.5	83.7	68.8	76.3	93.2	65.9	79.6	93.3	69.0	81.2
9	3	75.3	67.9	71.6	90.1	66.3	78.2	93.0	80.9	87.0	90.0	69.8	79.9	93.2	75.2	84.2	94.0	82.6	88.3
9	4	71.9	88.6	80.3	86.2	77.9	82.1	85.6	74.9	80.3	96.4	80.0	88.2	91.6	78.4	85.0	92.3	73.9	83.1
9	5	90.1	65.9	78.0	84.0	68.7	76.4	95.6	66.1	80.9	93.0	70.5	81.8	96.5	77.9	87.2	87.1	58.1	72.6
9	6	94.9	71.5	83.2	81.2	64.3	72.8	85.6	91.7	88.7	82.3	55.5	68.9	90.0	65.7	77.9	90.7	72.9	81.8
9	7	91.6	71.3	81.5	93.3	80.3	86.8	89.8	72.0	80.9	76.6	59.9	68.3	81.1	74.7	77.9	93.2	80.5	86.9
9	8	92.4	70.8	81.6	93.1	93.1	93.1	89.8	84.4	87.1	76.3	54.9	65.6	88.3	80.0	84.2	95.0	72.6	83.8
9	9	96.5	74.0	85.3	94.7	88.3	91.5	82.6	75.2	78.9	75.9	65.9	70.9	80.9	71.9	76.4	98.3	98.3	98.3
9	10	91.3	74.2	82.8	95.7	91.7	93.7	94.9	100.0	97.5	87.8	74.0	80.9	88.6	62.9	75.8	96.4	84.0	90.2
9	11	82.5	61.7	72.1	94.8	70.5	82.7	78.6	64.1	71.4	82.5	71.4	77.0	77.4	85.4	81.4	89.3	98.3	93.8
9	12	82.6	69.9	76.3	83.1	61.8	72.5	91.5	83.8	87.7	91.5	77.7	84.6	84.0	80.2	82.1	96.6	94.1	95.4
9	13	90.8	94.8	92.8	77.0	62.6	69.8	93.0	73.9	83.5	91.4	77.5	84.5	86.8	77.9	82.4	98.2	87.0	92.6
9	14	83.7	66.1	74.9	84.2	70.2	77.2	89.8	68.3	79.1	91.4	64.4	77.9	93.3	71.1	82.2	96.5	72.2	84.4
9	15	91.6	86.3	89.0	93.0	68.7	80.9	75.0	80.2	77.6	90.8	65.1	78.0	74.6	76.2	75.4	91.1	71.8	81.5
9	16	87.5	68.9	78.2	88.2	75.7	82.0	76.0	72.2	74.1	91.4	85.8	88.6	85.2	61.3	73.3	89.6	98.3	94.0
9	17	85.2	73.4	79.3	94.8	96.5	95.7	79.9	74.3	77.1	93.8	82.2	88.0	85.2	74.8	80.0	89.7	83.7	86.7
9	18	84.6	69.5	77.1	90.5	94.7	92.6	85.6	62.1	73.9	94.6	83.3	89.0	94.8	71.1	83.0	79.1	74.8	77.0
9	19	90.0	66.8	78.4	93.0	77.1	85.1	81.1	72.6	76.9	83.0	56.5	69.8	94.8	77.2	86.0	87.8	78.3	83.1
9	20	91.6	69.4	80.5	86.1	68.9	77.5	85.5	66.4	76.0	84.7	60.4	72.6	90.0	76.6	83.3	88.3	93.1	90.7
9	21	83.1	66.7	74.9	89.7	83.8	86.8	80.7	66.9	73.8	76.7	69.5	73.1	98.2	77.5	87.9	88.3	67.7	78.0
9	22	92.2	66.7	79.5	91.1	67.8	79.5	86.3	71.5	78.9	96.3	91.1	93.7	85.4	74.7	80.1	86.6	70.4	78.5
9	23	92.2	66.1	79.2	91.3	73.8	82.6	88.3	81.8	85.1	97.3	62.9	80.1	96.5	84.4	90.5	81.0	93.0	87.0
9	24	90.5	78.6	84.6	94.5	98.1	96.3	86.9	75.2	81.1	92.9	73.4	83.2	94.6	89.6	92.1	86.6	73.6	80.1
9	25	93.9	92.6	93.3	94.7	63.3	79.0	93.2	77.1	85.2	88.2	89.7	89.0	94.5	83.3	88.9	88.3	79.7	84.0
9	26	93.0	94.8	93.9	79.7	73.9	76.8	89.7	77.5	83.6	94.6	83.8	89.2	94.5	73.7	84.1	78.9	76.0	77.5
9	27	88.6	66.1	77.4	83.7	61.8	72.8	83.6	59.1	71.4	89.4	64.5	77.0	91.3	69.3	80.3	96.4	80.7	88.6
9	28	81.9	65.5	73.7	86.3	65.6	76.0	77.5	62.5	70.0	84.7	67.8	76.3	82.7	67.8	75.3	96.3	74.1	85.2
9	29	91.4	67.3	79.4	79.9	73.8	76.9	86.6	62.8	74.7	77.8	71.0	74.4	90.9	84.0	87.5	96.2	80.5	88.4
9	30	86.6	72.8	79.7	86.5	53.3	69.9	83.7	59.1	71.4	73.8	68.7	71.3	92.8	69.9	81.4	96.4	77.8	87.1
10	1	91.3	94.0	92.7	74.1	54.9	64.5	71.6	83.5	77.6	85.1	60.7	72.9	87.0	69.1	78.1	94.4	83.7	89.1
10	2	82.9	74.1	78.5	79.6	66.5	73.1	87.1	63.0	75.1	82.1	66.0	74.1	83.3	60.4	71.9	94.5	61.3	77.9
10	3	90.8	88.2	89.5	81.9	83.5	82.7	88.0	63.7	75.9	89.0	69.9	79.5	86.4	58.2	72.3	98.1	66.2	82.2
10	4	87.6	68.6	78.1	89.7	65.9	77.8	94.8	80.5	87.7	94.8	73.2	84.0	84.5	64.5	74.5	84.8	83.5	84.2
10	5	81.9	78.1	80.0	91.3	66.9	79.1	87.2	62.3	74.8	89.6	70.6	80.1	96.3	47.2	71.8	96.3	77.4	86.9
10	6	94.6	76.4	85.5	91.3	74.6	83.0	82.8	71.8	77.3	85.8	68.7	77.3	82.9	62.6	72.8	83.0	72.3	77.7
10	7	86.9	63.7	75.3	82.3	76.1	79.2	85.4	68.1	76.8	96.4	74.8	85.6	82.6	61.2	71.9	86.5	72.4	79.5
10	8	78.5	65.0	71.8	83.7	70.6	77.2	89.9	70.6	80.3	86.4	63.1	74.8	80.1	74.1	77.1	91.1	81.5	86.3
10	9	77.4	76.1	76.8	80.2	89.7	85.0	85.2	70.5	77.9	86.9	63.0	75.0	81.6	78.2	79.9	92.7	74.7	83.7
10	10	91.1	73.7	82.4	82.4	72.3	77.4	89.9	71.9	80.9	79.2	49.5	64.4	80.1	66.0	73.1	92.9	75.4	84.2
10	11	91.3	89.9	90.6	78.4	70.0	74.2	82.4	66.3	74.4	81.1	76.4	78.8	91.4	69.9	80.7	94.7	76.6	85.7
10	12	86.6	72.4	79.5	86.1	76.7	81.4	87.9	66.5	77.2	82.0	62.8	72.4	85.2	65.4	75.3	90.8	93.2	92.0
10	13	86.7	69.0	77.9	87.6	76.5	82.1	82.9	75.0	79.0	80.7	58.8	69.8	79.4	65.6	72.5	92.6	55.4	74.0
10	14	89.1	66.2	77.7	74.6	77.9	76.3	82.4	66.7	74.6	79.7	52.5	66.1	81.1	63.8	72.5	84.7	60.6	72.7
10	15	90.7	61.8	76.3	68.3	60.4	64.4	89.4	42.1	65.8	82.0	68.1	75.1	73.2	66.2	69.7	71.9	42.5	57.2
10	16	80.7	63.0	71.9	86.6	69.9	78.3	79.7	62.1	70.9	72.8	62.0	67.4	82.8	59.3	71.1	79.0	61.5	70.3
10	17	73.8	63.8	68.8	81.9	64.8	73.4	84.0	66.3	75.2	89.1	77.3	83.2	84.2	68.3	76.3	81.5	50.0	65.8
10	18	82.0	63.2	72.6	83.9	57.5	70.7	77.2	60.8	69.0	75.7	69.1	72.4	81.0	63.0	72.0	96.1	56.9	76.5
10	19	86.2	79.9	83.1	80.8	45.2	63.0	98.1	71.0	84.6	86.2	58.3	72.3	82.8	94.8	88.8	74.8	50.1	62.5
10	20	94.2	65.6	79.9	82.0	67.2	74.6	96.2	62.2	79.2	76.6	60.3	68.5	80.8	56.4	68.6	86.8	55.4	71.1
10	21	81.5	54.9	68.2	80.6	60.2	70.4	87.0	61.7	74.4	88.7	63.5	76.1	81.9	53.6	67.8	83.4	59.2	71.3
10	22	81.9	55.9	68.9	85.9	70.2	78.1	87.9	56.8	72.4	75.0	56.9	66.0	81.6	49.3	65.5	88.2	58.3	73.3
10	23	85.5	54.5	70.0	92.3	75.9	84.1	87.0	56.4	71.7	96.9	57.1	77.0	75.9	46.3	61.1	90.2	61.3	75.8
10	24	73.1	53.1	63.1	86.9	75.9	81.4	79.1	60.1	69.6	78.3	45.0	61.7	81.0	62.7	71.9	77.7	60.2	69.0
10	25	82.4	61.0	71.7	88.7	69.8	79.3	83.7	64.9	74.3	79.2	52.5	65.9	72.5	70.9	71.7	86.1	53.2	69.7
10	26	83.4	51.1	67.3	87.1	61.3	74.2	76.0	59.2	67.6	86.5	40.6	63.6	79.8	66.4	73.1	86.1	60.7	73.4
10	27	71.7	61.8	66.8	84.8	61.2	73.0	83.5	57.6	70.6	74.9	47.8	61.4	83.4	66.3	74.9	75.4	65.5	70.5
10	28	82.1	57.5	69.8	83.3	61.8	72.6	88.7	62.2	75.5	83.0	51.2	67.1	85.0	65.7	75.4	74.0	57.9	66.0
10	29	80.0	51.1	65.6	90.4	70.4	80.4	81.5	60.3	70.9	88.3	54.5	71.4	79.0	61.0	70.0	93.5	61.6	77.6
10	30	80.2	60.5	70.4	77.8	57.1	67.5	83.8	63.0	73.4	88.3	50.3	69.3	92.6	64.9	78.8	83.6	61.7	72.7
10	31	93.2	50.0	71.6	82.7	58.8	70.8	74.3	64.6	69.5	82.7	60.6	71.7	92.4	56.7	74.6	78.3	57.5	67.9

Daily Humidity (%)

Location : Pokhara Airport

Year		1999			2000			2001			2002			2003			2004		
Month	Day	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
11	1	79.2	66.2	72.7	86.6	53.8	70.2	92.3	64.3	78.3	82.1	61.2	71.7	75.1	61.3	68.2	83.5	50.4	67.0
11	2	83.9	56.4	70.2	77.8	85.9	81.9	89.0	62.9	76.0	85.9	63.8	74.9	87.6	58.3	73.0	81.8	51.8	66.8
11	3	86.8	69.8	78.3	79.8	52.7	66.3	88.8	72.7	80.8	86.1	82.4	84.3	81.1	64.4	72.8	81.2	37.4	59.3
11	4	86.2	58.0	72.1	90.2	59.9	75.1	85.5	65.0	75.3	86.0	62.0	74.0	92.1	71.5	81.8	67.2	46.9	57.1
11	5	78.5	65.7	72.1	82.6	62.3	72.5	96.0	68.6	82.3	82.1	74.9	78.5	95.2	66.9	81.1	69.7	48.7	59.2
11	6	85.7	64.0	74.9	83.5	71.9	77.7	88.5	59.2	73.9	76.6	59.3	68.0	96.0	63.9	80.0	75.5	59.3	67.4
11	7	80.7	74.7	77.7	91.3	62.2	76.8	88.2	58.3	73.3	93.7	68.2	81.0	93.9	61.8	77.9	77.5	52.3	64.9
11	8	74.3	62.0	68.2	95.9	70.7	83.3	83.3	73.8	78.6	79.0	55.1	67.1	93.9	67.4	80.7	89.6	52.0	70.8
11	9	80.4	53.9	67.2	95.9	70.4	83.2	78.8	58.1	68.5	83.4	55.3	69.4	92.0	65.5	78.8	72.1	49.2	60.7
11	10	79.8	56.7	68.3	90.4	75.0	82.7	79.2	58.1	68.7	69.9	47.6	58.8	95.8	74.1	85.0	91.8	56.4	74.1
11	11	87.3	66.9	77.1	98.0	74.7	86.4	81.5	55.9	68.7	71.8	49.0	60.4	93.9	70.0	82.0	87.7	59.8	73.8
11	12	95.8	66.6	81.2	98.0	65.4	81.7	79.8	60.1	70.0	91.5	66.5	79.0	91.6	67.3	79.5	87.6	59.3	73.5
11	13	89.7	65.8	77.8	83.1	66.9	75.0	83.8	54.3	69.1	93.6	66.2	79.9	85.1	64.2	74.7	91.2	66.6	78.9
11	14	95.8	64.2	80.0	90.0	66.9	78.5	91.8	58.1	75.0	91.4	69.7	80.6	91.7	68.3	80.0	87.0	61.8	74.4
11	15	81.0	75.7	78.4	85.7	66.1	75.9	85.7	58.7	71.2	85.8	57.9	71.9	91.8	56.4	74.1	93.6	63.2	78.4
11	16	93.8	74.4	84.1	97.9	71.6	84.8	89.7	53.2	71.5	85.7	53.9	69.8	90.0	69.9	80.0	97.8	70.1	84.0
11	17	91.7	57.2	74.5	91.5	70.1	80.8	80.3	56.0	68.2	87.4	60.3	73.9	85.2	90.3	87.8	95.6	70.3	83.0
11	18	90.6	55.9	73.3	93.7	67.6	80.7	87.8	66.9	77.4	95.6	52.5	74.1	85.3	66.1	75.7	96.6	80.3	88.5
11	19	89.1	61.0	75.1	91.8	88.3	90.1	93.9	58.2	76.1	97.8	61.5	79.7	84.9	62.0	73.5	91.4	68.9	80.2
11	20	96.6	59.5	78.1	93.5	56.4	75.0	78.5	52.1	65.3	93.6	57.0	75.3	87.4	50.8	69.1	97.7	69.7	83.7
11	21	90.0	66.6	78.3	83.3	52.0	67.7	80.7	69.3	75.0	89.0	59.9	74.5	87.3	65.3	76.3	97.8	84.0	90.9
11	22	89.0	65.2	77.1	87.0	58.3	72.7	95.8	63.9	79.9	91.2	56.7	74.0	95.6	53.6	74.6	91.3	70.5	80.9
11	23	88.7	54.0	71.4	89.0	58.5	73.8	91.7	73.4	82.6	93.5	66.1	79.8	91.5	70.4	81.0	87.3	90.9	89.1
11	24	94.0	71.9	83.0	91.4	63.3	77.4	97.9	56.9	77.4	85.0	55.2	70.1	93.5	67.5	80.5	97.6	76.9	87.3
11	25	91.4	68.6	80.0	93.8	57.7	75.8	100.0	64.0	82.0	90.3	46.2	68.3	91.4	70.1	80.8	93.1	78.0	85.6
11	26	97.8	58.7	78.3	91.5	51.3	71.4	86.9	59.3	73.1	87.3	57.8	72.6	93.6	61.7	77.7	95.6	68.3	82.0
11	27	95.6	52.5	74.1	87.4	45.3	66.4	97.8	55.7	76.8	84.9	58.6	71.8	94.4	52.2	73.3	84.7	46.3	65.5
11	28	92.7	52.6	72.7	87.4	55.4	71.4	92.1	58.3	75.2	85.1	63.3	74.2	92.2	57.2	74.7	80.6	60.5	70.6
11	29	82.0	60.4	71.2	85.8	61.9	73.9	89.2	57.2	73.2	91.5	61.3	76.4	100.0	59.5	79.8	84.3	57.2	70.8
11	30	87.0	56.2	71.6	88.4	34.8	61.6	90.6	59.2	74.9	97.8	64.1	81.0	95.3	59.9	77.6	88.7	33.1	60.9
12	1	80.2	61.5	70.9	84.8	44.0	64.4	93.3	58.1	75.7	95.5	62.0	78.8	95.1	65.7	80.4	79.0	41.9	60.5
12	2	94.4	67.4	80.9	90.1	41.9	66.0	85.7	56.0	70.9	93.4	59.8	76.6	95.3	70.3	82.8	82.3	49.6	66.0
12	3	97.7	36.2	67.0	86.0	48.3	67.2	94.3	73.3	83.8	91.0	61.4	76.2	97.6	57.1	77.4	90.7	51.8	71.3
12	4	79.9	31.9	55.9	84.0	43.8	63.9	95.3	64.2	79.8	88.7	46.1	67.4	100.0	71.9	86.0	88.2	61.0	74.6
12	5	88.6	47.2	67.9	84.7	59.1	71.9	94.0	85.9	90.0	84.4	49.6	67.0	97.6	60.9	79.3	79.9	57.0	68.5
12	6	86.5	41.4	64.0	92.4	45.1	68.8	95.3	65.7	80.5	81.7	57.2	69.5	97.6	62.8	80.2	93.0	58.3	75.7
12	7	77.7	40.6	59.2	89.8	56.9	73.4	95.2	71.8	83.5	84.0	62.7	73.4	92.8	66.6	79.7	95.3	64.4	79.9
12	8	86.1	70.4	78.3	94.9	55.6	75.3	95.6	74.9	85.3	85.1	61.7	73.4	93.1	72.7	82.9	92.8	55.5	74.2
12	9	81.9	32.5	57.2	96.2	45.6	70.9	97.7	76.2	87.0	93.4	59.8	76.6	95.5	94.6	95.1	91.9	62.7	77.3
12	10	78.4	41.0	59.7	88.1	50.9	69.5	97.6	79.6	88.6	86.2	59.5	72.9	96.4	63.0	79.7	94.2	56.5	75.4
12	11	82.2	44.1	63.2	91.3	57.2	74.3	100.0	51.4	75.7	90.2	59.0	74.6	88.6	62.7	75.7	92.2	58.5	75.4
12	12	79.3	45.3	62.3	92.2	58.1	75.2	100.0	63.6	81.8	76.1	57.2	66.7	90.7	61.6	76.2	84.2	64.5	74.4
12	13	88.2	50.8	69.5	97.5	57.8	77.7	100.0	66.6	83.3	91.7	64.3	78.0	88.4	52.0	70.2	93.4	65.2	79.3
12	14	91.7	43.8	67.8	94.9	47.8	71.4	97.5	69.6	83.6	97.6	59.0	78.3	77.1	59.7	68.4	95.6	57.4	76.5
12	15	88.4	48.5	68.5	92.6	45.9	69.3	88.3	54.1	71.2	87.5	36.9	62.2	90.3	49.5	69.9	84.3	52.5	68.4
12	16	88.3	49.5	68.9	91.1	43.2	67.2	87.9	60.9	74.4	81.7	46.0	63.9	94.8	55.6	75.2	88.5	62.3	75.4
12	17	90.5	66.1	78.3	87.6	42.9	65.3	91.3	62.1	76.7	85.8	50.4	68.1	80.1	53.6	66.9	88.8	58.8	73.8
12	18	88.0	50.8	69.4	92.6	61.7	77.2	92.6	55.7	74.2	92.6	68.9	80.8	87.6	45.0	66.3	90.8	61.2	76.0
12	19	87.0	46.4	66.7	95.0	62.5	78.8	95.0	62.3	78.7	92.5	68.0	80.3	88.0	40.8	64.4	97.7	59.2	78.5
12	20	92.7	50.7	71.7	86.9	65.5	76.2	85.4	53.3	69.4	97.4	73.3	85.4	86.2	45.0	65.6	95.4	43.4	69.4
12	21	88.3	50.6	69.5	88.4	49.6	69.0	91.4	54.6	73.0	97.5	65.6	81.6	83.0	45.1	64.1	92.7	53.3	73.0
12	22	90.8	63.7	77.3	88.1	41.6	64.9	83.7	56.8	70.3	97.6	79.5	88.6	97.4	46.5	72.0	92.5	57.1	74.8
12	23	85.6	54.7	70.2	87.5	45.0	66.3	82.4	55.3	68.9	94.9	75.1	85.0	87.3	48.0	67.7	95.0	63.0	79.0
12	24	90.2	56.2	73.2	90.1	52.5	71.3	83.5	57.2	70.4	95.0	73.5	84.3	82.4	60.1	71.3	97.5	69.6	83.6
12	25	91.4	57.2	74.3	92.6	50.7	71.7	85.4	74.3	79.9	89.6	48.7	69.2	88.1	45.0	66.6	97.4	68.1	82.8
12	26	95.1	54.7	74.9	90.3	43.5	66.9	92.6	54.5	73.6	89.8	60.3	75.1	94.5	53.4	74.0	93.5	89.4	91.5
12	27	86.5	50.6	68.6	87.4	46.5	67.0	92.6	55.7	74.2	97.4	58.6	78.0	90.0	77.8	83.9	90.8	74.7	82.8
12	28	88.0	54.5	71.3	87.5	49.0	68.3	95.0	50.2	72.6	100.0	68.4	84.2	91.9	65.4	78.7	96.9	53.4	75.2
12	29	92.4	58.3	75.4	92.4	49.1	70.8	87.6	55.5	71.6	97.4	44.8	71.1	94.4	75.9	85.2	85.9	48.9	67.4
12	30	97.5	60.6	79.1	94.7	49.6	72.2	89.7	43.4	66.6	95.7	49.4	72.6	97.2	68.7	83.0	91.9	67.0	79.5
12	31	93.6	48.6	71.1	85.3	87.0	86.2	89.1	42.8	66.0	94.5	91.2	92.9	97.3	67.4	82.4	91.0	52.6	71.8

Daily Humidity (%)

Location : Kharini Tar

Year		1987			1988			1989			1990			1991			1992		
Month	Day	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
3	1	97.5	57.2	77.4	89.8	59.6	74.7	89.3	52.6	71.0	85.7	56.3	71.0	95.7	55.1	75.4	97.7	88.8	93.3
3	2	87.4	57.4	72.4	86.6	55.8	71.2	81.5	43.0	62.3	87.6	60.8	74.2	87.7	67.0	77.4	97.8	83.2	90.5
3	3	91.7	47.0	69.4	83.1	62.1	72.6	81.4	49.2	65.3	91.6	67.1	79.4	97.7	52.6	75.2	95.5	77.8	86.7
3	4	67.6	49.6	58.6	82.9	59.6	71.3	84.6	51.7	68.2	85.7	70.4	78.1	86.8	49.7	68.3	91.3	75.5	83.4
3	5	85.9	53.8	69.9	84.9	49.0	67.0	82.4	49.7	66.1	85.9	53.4	69.7	88.9	57.1	73.0	91.8	76.6	84.2
3	6	94.6	54.9	74.8	96.7	53.5	75.1	89.1	61.3	75.2	86.4	60.4	73.4	86.8	59.8	73.3	88.7	75.1	81.9
3	7	81.8	14.9	48.4	84.4	55.3	69.9	77.0	53.7	65.4	90.2	60.7	75.5	74.3	44.2	59.3	89.6	77.7	83.7
3	8	97.8	69.3	83.6	88.9	61.3	75.1	80.6	46.5	63.6	75.4	55.1	65.3	73.3	45.6	59.5	89.7	80.7	85.2
3	9	100.0	51.4	75.7	84.0	66.5	75.3	82.5	44.6	63.6	80.3	51.7	66.0	71.3	49.9	60.6	89.6	77.6	83.6
3	10	95.4	61.5	78.5	83.2	65.8	74.5	75.4	45.7	60.6	93.3	54.3	73.8	80.7	57.9	69.3	91.5	77.8	84.7
3	11	97.6	68.4	83.0	92.2	84.1	88.2	19.8	45.9	32.9	96.5	84.0	90.3	79.1	58.9	69.0	88.4	71.3	79.9
3	12	83.4	78.7	81.1	92.3	87.9	90.1	93.6	44.3	69.0	88.5	95.5	92.0	77.5	80.7	79.1	88.8	81.2	85.0
3	13	93.4	63.6	78.5	93.4	74.9	84.2	88.0	91.1	89.6	90.9	61.5	76.2	68.6	76.5	72.6	88.3	78.8	83.6
3	14	90.3	94.0	92.2	85.2	73.5	79.4	97.8	78.0	87.9	97.9	81.4	89.7	82.5	75.3	78.9	88.6	64.7	76.7
3	15	87.0	92.0	89.5	87.3	52.5	69.9	97.6	69.7	83.7	95.7	60.0	77.9	89.7	68.3	79.0	88.0	97.5	92.8
3	16	96.0	83.8	89.9	89.5	94.2	91.9	84.2	73.2	78.7	95.8	67.3	81.6	84.3	74.9	79.6	83.8	80.7	74.3
3	17	95.9	83.4	89.7	88.1	90.6	89.4	98.9	63.2	81.1	89.8	61.1	75.5	97.8	64.7	81.3	88.1	63.6	75.9
3	18	100.0	54.2	77.1	86.2	90.6	88.4	78.0	92.9	85.5	80.7	47.0	63.9	81.2	88.9	85.1	84.2	62.4	73.3
3	19	80.8	59.2	70.0	82.4	75.6	79.0	94.8	64.4	79.6	78.5	48.6	63.6	90.6	81.2	85.9	86.4	81.1	83.8
3	20	82.0	66.5	74.3	81.6	63.9	72.8	92.2	81.1	86.7	88.3	39.3	63.8	89.2	74.4	81.8	86.6	56.9	71.8
3	21	90.1	55.2	72.7	93.6	64.1	78.9	88.2	84.3	86.3	76.7	55.1	65.9	90.3	65.1	77.7	91.5	67.9	79.7
3	22	73.5	87.1	80.3	81.1	55.8	68.5	80.4	58.5	69.5	77.8	35.2	56.5	81.2	56.4	68.8	87.2	61.9	74.6
3	23	76.1	44.7	60.4	84.4	52.2	68.3	75.7	44.7	60.2	87.2	82.8	85.0	72.3	80.6	76.5	83.1	64.9	74.0
3	24	71.8	54.5	63.2	80.9	52.9	66.9	74.4	44.4	59.4	80.6	65.6	73.1	56.3	67.3	61.8	84.6	68.3	76.5
3	25	84.1	56.9	70.5	72.5	57.0	64.8	86.0	48.2	67.1	70.7	65.6	68.2	73.8	73.4	73.6	85.4	70.5	78.0
3	26	78.2	55.4	66.8	78.0	51.2	64.6	100.0	40.1	70.1	77.3	64.2	70.8	79.0	56.7	67.9	84.0	60.7	72.4
3	27	81.6	57.0	69.3	90.9	49.6	70.3	85.1	72.5	78.8	76.8	57.9	67.4	88.3	57.8	73.1	85.0	64.7	74.9
3	28	63.3	34.0	48.7	67.2	45.9	56.6	81.2	63.2	72.2	76.3	66.1	71.2	57.3	58.9	58.1	96.3	84.4	90.4
3	29	73.1	51.6	62.4	78.7	46.2	62.5	73.6	86.0	79.8	98.2	61.0	79.6	75.1	51.6	63.4	85.5	44.8	65.2
3	30	72.1	60.2	66.2	80.5	42.1	61.3	91.4	52.4	71.9	95.6	57.3	76.5	71.4	42.1	56.8	78.3	46.9	62.6
3	31	76.5	59.7	68.1	98.3	41.4	69.9	82.6	55.9	69.3	91.3	52.6	72.0	88.9	52.0	70.5	75.0	46.8	60.9
4	1	90.2	56.7	73.5	62.2	35.7	49.0	75.7	27.0	51.4	41.7	34.6	38.2	85.7	31.8	58.8	50.9	59.4	55.2
4	2	85.0	57.4	71.2	62.1	38.2	50.2	72.3	30.3	51.3	76.2	35.3	55.8	87.4	56.4	71.9	73.1	65.2	69.2
4	3	79.7	49.5	64.6	67.3	43.4	55.4	72.2	30.6	51.4	82.0	37.0	59.5	29.7	64.2	47.0	79.6	64.8	72.2
4	4	84.2	47.0	65.6	63.4	41.7	52.6	68.1	34.1	51.1	49.5	36.3	42.9	34.3	47.2	40.8	82.4	65.3	73.9
4	5	78.0	48.9	63.5	67.6	30.1	48.9	62.6	40.6	51.6	70.6	39.3	55.0	37.4	47.9	42.7	83.3	72.1	77.7
4	6	68.4	47.0	57.7	66.9	37.9	52.4	66.0	34.1	50.1	72.6	49.2	60.9	39.4	45.5	42.5	82.7	55.6	69.2
4	7	71.6	49.2	60.4	62.4	86.9	74.7	63.3	40.0	51.7	69.3	90.0	79.7	39.9	42.4	41.2	81.1	70.7	75.9
4	8	72.2	54.0	63.1	67.6	45.6	56.6	69.2	48.6	58.9	85.9	88.1	87.0	46.6	55.7	51.2	83.2	70.7	77.0
4	9	90.1	79.1	84.6	72.8	45.4	59.1	75.3	52.6	64.0	90.2	89.9	90.1	51.6	61.4	56.5	83.0	69.6	76.3
4	10	74.8	40.8	57.8	61.9	35.7	48.8	80.7	44.3	62.5	88.4	89.9	89.2	54.4	69.8	62.1	73.6	50.0	61.8
4	11	59.2	46.4	52.8	67.6	43.7	55.7	66.7	45.5	56.1	58.7	52.8	55.8	54.6	60.8	57.7	71.7	62.0	66.9
4	12	72.2	43.2	57.7	71.4	47.8	59.6	62.7	39.7	51.2	82.7	49.6	66.2	78.0	42.7	60.4	72.8	54.1	63.5
4	13	97.2	48.3	72.8	87.1	46.4	66.8	73.8	38.8	56.3	79.5	52.8	66.2	79.5	51.6	65.6	74.8	65.6	70.2
4	14	96.2	43.1	69.7	86.2	33.3	59.8	66.5	96.3	81.4	60.5	27.0	43.8	83.7	36.0	59.9	73.5	64.7	69.1
4	15	47.0	40.9	44.0	82.2	63.2	72.7	67.8	93.7	80.8	67.3	37.8	52.6	79.0	63.4	71.2	83.3	59.9	71.6
4	16	63.9	48.3	56.1	89.1	90.4	89.8	68.0	31.6	49.8	70.2	40.6	55.4	83.0	DNA	83.0	82.6	47.8	65.2
4	17	78.9	50.8	64.9	83.7	81.3	82.5	57.7	28.0	42.9	70.4	50.5	60.5	73.8	DNA	73.8	76.5	68.6	72.6
4	18	69.3	81.1	75.2	84.4	68.3	76.4	58.2	28.3	43.3	70.7	49.5	60.1	69.3	49.7	59.5	84.6	54.2	69.4
4	19	75.2	55.1	65.2	71.0	100.0	85.5	58.0	33.7	45.9	91.7	70.1	80.9	91.8	DNA	91.8	83.8	76.8	80.3
4	20	74.7	53.6	64.2	75.4	100.0	87.7	55.1	24.9	40.0	91.8	48.1	70.0	90.1	50.3	70.2	78.5	62.1	70.3
4	21	90.4	57.8	74.1	76.2	79.2	77.7	56.1	23.8	40.0	91.0	46.4	68.7	88.7	49.4	69.1	87.2	74.6	80.9
4	22	91.1	80.4	85.8	73.9	65.1	69.5	62.4	23.8	43.1	88.7	37.5	63.1	95.0	53.2	74.1	83.7	50.8	67.3
4	23	76.4	48.7	62.6	85.5	71.5	78.5	60.4	32.1	46.3	67.9	44.6	56.3	68.1	65.5	66.8	73.7	40.3	57.0
4	24	64.2	84.8	74.5	69.3	72.0	70.7	70.2	28.4	49.3	74.7	41.4	58.1	93.1	63.7	78.4	65.3	51.0	58.2
4	25	66.9	84.7	75.8	81.1	85.0	83.1	52.6	32.5	42.6	80.8	72.6	76.7	88.3	59.5	73.9	67.2	53.7	60.5
4	26	68.7	85.0	76.9	76.3	84.9	80.6	51.0	11.0	31.0	66.1	91.0	78.6	96.6	79.0	87.8	78.0	62.4	70.2
4	27	78.7	57.2	68.0	73.7	77.5	75.6	58.3	55.1	56.7	66.3	65.3	65.8	76.8	68.1	72.5	80.8	91.5	86.2
4	28	74.7	42.2	58.5	69.5	65.6	67.6	57.0	63.4	60.2	92.4	64.2	78.3	64.6	63.3	64.0	78.4	61.9	70.2
4	29	70.8	58.0	64.4	63.4	61.8	62.6	49.9	65.5	57.7	87.2	68.8	78.0	72.4	61.0	66.7	96.5	58.9	77.7
4	30	92.2	66.7	79.5	65.3	61.2	63.3	45.4	67.5	56.5	63.5	58.0	60.8	77.9	55.2	66.6	92.7	83.2	88.0

Daily Humidity (%)

Location : Kharini Tar

Month	Year	Day	1987			1988			1989			1990			1991			1992		
			8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
5	1		81.2	82.6	81.9	71.3	82.7	77.0	61.1	66.2	63.7	73.5	48.3	60.9	79.2	91.2	85.2	78.9	92.2	85.6
5	2		91.3	75.3	83.3	77.6	72.6	75.1	56.0	70.5	63.3	71.2	50.5	60.9	68.1	49.7	58.9	84.8	75.3	80.1
5	3		73.9	69.9	71.9	94.6	62.2	78.4	63.8	76.8	70.3	75.0	58.0	66.5	74.7	68.1	71.4	82.9	95.4	89.2
5	4		74.0	67.2	70.6	76.0	57.6	66.8	54.7	70.2	62.5	85.3	92.5	88.9	72.3	90.7	81.5	83.6	92.5	88.1
5	5		59.2	68.2	63.7	72.7	79.9	76.3	56.2	59.0	57.6	85.4	48.4	66.9	90.7	81.1	85.9	96.2	77.7	87.0
5	6		98.1	73.7	85.9	84.6	81.6	83.1	65.7	62.9	64.3	77.3	47.7	62.5	82.2	64.2	73.2	84.8	77.9	81.4
5	7		85.2	77.1	81.2	84.7	89.0	86.9	73.8	68.0	70.9	94.4	54.0	74.2	82.4	91.4	86.9	73.6	70.3	72.0
5	8		75.8	78.4	77.1	90.6	71.7	81.2	29.8	35.8	32.8	75.2	56.9	66.1	91.4	77.7	84.6	86.9	61.5	74.2
5	9		75.2	68.0	71.6	76.1	67.4	71.8	33.3	17.8	25.6	73.8	53.6	63.7	70.8	66.1	68.5	93.3	68.1	79.7
5	10		72.5	37.0	54.8	76.3	56.8	66.6	43.9	23.3	33.6	76.6	78.5	77.6	74.1	55.3	64.7	82.7	74.6	78.7
5	11		67.9	46.1	57.0	78.3	54.0	66.2	42.6	27.9	35.3	83.9	81.6	82.8	83.8	66.9	75.4	68.1	75.2	71.7
5	12		67.3	52.0	59.7	66.6	59.2	62.9	77.4	92.7	85.1	86.9	83.2	85.1	63.4	63.4	63.4	84.2	73.3	78.8
5	13		70.6	54.5	62.6	72.4	60.1	66.3	96.3	87.3	91.8	87.0	77.8	82.4	89.5	70.2	79.9	90.6	59.2	74.9
5	14		63.1	56.6	59.9	63.1	57.5	60.3	77.3	78.3	77.8	88.6	72.9	80.8	61.7	60.3	61.0	96.5	79.7	88.1
5	15		65.0	48.0	56.5	85.2	70.3	77.8	74.1	56.3	65.2	84.3	64.9	74.6	82.6	70.6	76.6	94.7	92.2	93.5
5	16		63.8	37.8	50.8	86.0	70.5	78.3	65.9	53.8	59.9	87.4	61.7	74.6	86.6	71.4	79.0	90.5	98.1	94.3
5	17		66.6	44.0	55.3	87.3	73.3	80.3	79.0	57.4	68.2	85.7	71.5	78.6	83.5	60.3	71.9	91.6	92.8	92.2
5	18		65.8	92.3	79.1	86.0	69.7	77.9	64.8	49.4	57.1	86.9	71.4	79.2	83.8	70.8	77.3	91.1	75.9	83.5
5	19		54.6	36.0	45.3	84.1	57.6	70.9	98.2	74.0	86.1	73.0	72.5	72.8	89.2	56.3	72.8	87.4	73.2	80.3
5	20		62.9	46.1	54.5	75.1	62.6	68.9	78.4	75.5	77.0	80.8	61.3	71.1	80.9	87.7	84.3	84.3	85.1	84.7
5	21		59.6	80.3	70.0	71.6	62.5	67.1	86.7	71.8	79.3	81.1	62.5	71.8	70.2	63.4	66.8	90.8	84.9	87.9
5	22		86.5	89.2	87.9	79.1	90.3	84.7	85.4	53.6	69.5	70.1	66.6	68.4	75.5	70.0	72.8	97.1	88.0	92.6
5	23		89.7	87.5	88.6	79.8	89.4	84.6	75.2	68.5	71.9	70.1	65.5	67.8	79.0	77.2	78.1	91.0	45.6	68.3
5	24		76.4	51.1	63.8	80.4	77.0	78.7	74.4	53.2	63.8	83.5	73.3	78.4	79.0	77.2	78.1	94.7	75.1	84.9
5	25		73.2	40.0	56.6	80.5	91.8	86.2	67.2	64.4	65.8	77.1	72.8	75.0	77.7	77.2	77.5	96.2	89.6	92.9
5	26		71.4	75.6	73.5	78.9	100.0	89.5	95.7	94.8	95.3	77.2	74.0	75.6	80.5	51.6	66.1	87.0	82.8	84.9
5	27		75.8	53.8	64.8	87.1	84.7	85.9	96.4	88.3	92.4	77.7	64.0	70.9	75.9	62.6	69.3	94.6	81.3	88.0
5	28		68.5	49.0	58.8	84.2	DNA	84.2	76.9	96.3	86.6	61.3	67.1	64.2	67.4	49.4	58.4	74.1	70.8	72.5
5	29		72.1	63.2	67.7	78.5	76.6	77.6	83.5	92.6	88.1	52.6	77.0	64.8	80.7	44.7	62.7	96.5	91.8	94.2
5	30		75.8	56.5	66.2	78.2	85.1	81.7	70.1	54.6	62.4	51.5	77.2	64.4	74.6	47.9	61.3	96.5	74.8	85.7
5	31		68.4	58.7	63.6	82.2	74.0	78.1	79.1	62.7	70.9	47.9	80.1	64.0	74.4	57.2	65.8	87.8	63.1	75.5
6	1		75.8	100.0	87.9	90.4	62.1	76.3	63.0	68.5	65.8	73.8	80.5	77.2	83.4	50.5	67.0	90.4	68.9	79.7
6	2		75.5	69.8	72.7	90.0	72.1	81.1	73.6	59.0	66.3	78.9	80.4	79.7	75.1	63.2	69.2	86.0	75.4	80.7
6	3		82.7	70.8	76.8	72.8	74.4	73.6	76.7	64.7	70.7	76.4	72.2	74.3	90.7	59.5	75.1	92.0	86.6	89.3
6	4		94.9	68.4	81.7	78.6	75.8	77.2	83.8	71.1	77.5	80.2	74.6	77.4	75.1	53.6	64.4	90.8	87.5	89.2
6	5		76.9	96.3	86.6	71.9	88.7	80.3	64.2	63.3	63.8	87.3	94.1	90.7	83.9	83.1	83.5	88.1	96.5	92.3
6	6		78.4	92.7	85.6	80.1	82.6	81.4	84.8	58.1	71.5	87.3	98.2	92.8	81.7	46.6	64.2	95.0	74.6	84.8
6	7		91.7	70.4	81.1	72.5	83.5	78.0	70.3	100.0	85.2	90.3	75.8	83.1	83.9	78.5	81.2	85.6	94.5	90.1
6	8		86.2	86.3	86.3	82.8	93.0	87.9	82.2	60.4	71.3	85.8	83.8	84.8	75.3	51.5	63.4	96.4	72.5	84.5
6	9		87.0	72.7	79.9	79.5	61.1	70.3	72.1	63.1	67.6	84.3	98.3	91.3	54.2	77.7	66.0	89.1	91.4	90.3
6	10		82.1	67.3	74.7	88.6	72.3	80.5	63.3	65.7	64.5	68.9	74.6	71.8	66.5	81.7	74.1	93.3	88.6	91.0
6	11		78.2	67.9	73.1	87.2	76.5	81.9	83.8	69.5	76.7	90.3	77.3	83.8	76.7	75.6	76.2	86.1	86.5	86.3
6	12		76.4	79.3	77.9	85.0	80.4	82.7	89.3	63.0	76.2	77.9	76.0	77.0	84.2	64.2	74.2	90.0	85.0	87.5
6	13		69.2	81.8	75.5	98.2	82.8	90.5	98.3	71.5	84.9	79.1	73.6	76.4	86.7	70.8	78.8	80.0	88.7	84.4
6	14		77.2	68.6	72.9	85.5	82.1	83.8	77.9	77.3	77.6	73.2	74.5	73.9	91.8	60.5	76.2	88.1	76.8	82.5
6	15		74.8	88.5	81.7	82.7	65.3	74.0	90.2	77.0	83.6	70.1	73.7	71.9	81.4	72.5	77.0	93.6	74.4	84.0
6	16		90.2	78.5	84.4	83.3	64.0	73.7	83.0	71.3	77.2	69.7	78.9	74.3	84.2	65.1	74.7	91.7	84.9	88.3
6	17		81.0	82.3	81.7	84.8	68.8	76.8	81.3	68.9	75.1	76.0	82.8	79.4	76.7	72.5	74.6	91.2	83.2	87.2
6	18		77.8	73.3	75.6	81.7	74.6	78.2	93.0	96.6	94.8	89.2	77.7	83.5	74.1	78.6	76.4	84.3	82.5	83.4
6	19		75.8	63.3	69.6	91.5	72.6	82.1	89.7	65.1	77.4	91.4	80.3	85.9	76.3	77.2	76.8	93.7	78.7	86.2
6	20		70.5	74.6	72.6	82.8	67.4	75.1	79.3	66.7	73.0	80.2	71.4	75.8	70.2	68.8	69.5	95.2	92.8	94.0
6	21		72.4	66.2	69.3	85.0	79.2	82.1	74.7	64.7	69.7	85.2	67.2	76.2	84.2	78.6	81.4	98.3	87.8	93.1
6	22		67.2	62.4	64.8	79.6	75.0	77.3	87.9	76.8	82.4	84.8	70.8	77.8	70.2	64.9	67.6	90.9	83.5	87.2
6	23		92.6	76.8	84.7	76.5	72.4	74.5	86.9	66.3	76.6	82.1	85.6	83.9	85.3	64.2	74.8	96.7	90.2	93.5
6	24		84.6	78.1	81.4	92.7	70.3	81.5	86.2	66.9	76.6	79.8	77.4	78.6	47.9	78.9	63.4	95.3	92.1	93.7
6	25		79.9	81.4	80.7	83.0	72.3	77.7	91.9	70.7	81.3	83.8	81.5	82.7	83.9	70.8	77.4	93.6	88.9	91.3
6	26		80.8	89.7	85.3	83.1	76.0	79.6	75.8	69.3	72.6	84.5	62.7	73.6	83.8	62.7	73.3	90.6	95.0	92.8
6	27		89.2	90.4	89.8	81.8	73.6	77.7	73.3	71.0	72.2	88.8	82.1	85.5	84.2	69.5	76.9	92.2	92.6	92.4
6	28		95.1	83.8	89.5	88.5	78.7	83.6	85.3	70.8	78.1	91.4	75.0	83.2	79.5	74.4	77.0	90.1	91.4	90.8
6	29		90.4	98.3	94.4	87.5	76.4	82.0	82.2	71.4	76.8	79.2	70.1	74.7	69.8	70.2	70.0	95.8	92.8	94.3
6	30		86.8	81.7	84.3	87.6	64.2	75.9	84.4	75.1	79.8	78.2	70.2	74.2	78.1	69.0	73.6	90.4	93.0	91.7

Daily Humidity (%)

Location : Kharini Tar

Year		1987			1988			1989			1990			1991			1992		
Month	Day	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
7	1	85.9	65.2	75.6	80.5	91.7	86.1	83.1	77.0	80.1	81.6	84.5	83.1	DNA	DNA	DNA	91.8	93.0	92.4
7	2	87.5	66.8	77.2	88.9	92.0	90.5	94.9	72.8	83.9	74.3	85.2	79.8	DNA	DNA	DNA	86.6	90.2	88.4
7	3	89.9	90.4	90.2	82.2	73.2	77.7	91.6	72.2	81.9	82.4	71.9	77.2	DNA	DNA	DNA	90.7	91.8	91.3
7	4	100.0	75.8	87.9	86.7	91.2	89.0	80.3	67.0	73.7	81.6	93.5	87.6	DNA	DNA	DNA	93.7	92.3	93.0
7	5	82.1	68.6	75.4	94.2	91.9	93.1	84.6	76.3	80.5	89.9	93.6	91.8	DNA	DNA	DNA	90.9	86.7	88.8
7	6	84.5	86.1	85.3	97.4	85.8	91.6	89.7	64.4	77.1	79.2	93.5	86.4	DNA	DNA	DNA	95.3	80.3	87.8
7	7	87.5	80.6	84.1	85.3	84.6	85.0	90.4	66.4	78.4	84.9	93.4	89.2	DNA	DNA	DNA	86.0	87.9	87.0
7	8	93.2	94.8	94.0	89.4	74.3	81.9	87.5	59.0	73.3	83.6	91.9	87.8	DNA	DNA	DNA	86.4	89.8	88.1
7	9	95.8	92.6	94.2	72.8	69.7	71.3	86.8	83.2	85.0	87.4	95.1	91.3	DNA	DNA	DNA	96.6	92.2	94.4
7	10	86.8	79.3	83.1	88.9	69.6	79.3	74.6	83.8	79.2	92.0	93.5	92.8	DNA	DNA	DNA	90.6	91.0	90.8
7	11	86.6	86.9	86.8	85.6	81.4	83.5	98.3	80.8	89.6	88.9	79.6	84.3	DNA	DNA	DNA	92.9	81.9	87.4
7	12	80.2	93.5	86.9	93.5	90.5	92.0	91.9	95.1	93.5	86.2	68.3	77.3	DNA	DNA	DNA	97.6	95.2	96.4
7	13	81.9	90.4	86.2	88.9	76.0	82.5	90.3	81.9	86.1	89.0	70.0	79.5	DNA	DNA	DNA	98.3	95.2	96.8
7	14	77.9	77.6	77.8	79.6	65.5	72.6	98.2	96.5	97.4	91.2	67.3	79.3	DNA	DNA	DNA	92.0	98.5	95.3
7	15	80.0	83.4	81.7	74.4	71.3	72.9	98.2	88.6	93.4	81.9	77.3	79.6	DNA	DNA	DNA	90.3	87.1	88.7
7	16	81.0	86.3	83.7	85.9	75.8	80.9	93.3	90.4	91.9	81.8	79.7	80.8	DNA	DNA	DNA	94.3	89.8	94.1
7	17	96.6	87.8	92.2	78.4	65.0	71.7	88.8	92.9	90.9	83.4	93.5	88.5	DNA	DNA	DNA	91.9	83.6	87.8
7	18	95.0	88.5	91.8	80.9	68.4	74.7	86.1	89.1	87.6	86.3	90.3	88.3	DNA	DNA	DNA	88.2	83.1	85.7
7	19	80.8	89.5	85.2	87.6	68.7	78.2	96.6	88.1	92.4	DNA	90.3	90.3	DNA	DNA	DNA	85.0	76.0	80.5
7	20	81.6	79.7	80.7	84.7	75.1	79.9	85.3	65.2	75.3	91.8	79.6	85.7	DNA	DNA	DNA	82.3	84.8	83.6
7	21	76.6	75.1	75.9	93.5	84.8	89.2	78.9	65.3	72.1	84.7	78.2	81.5	DNA	DNA	DNA	89.4	88.0	88.7
7	22	91.9	75.2	83.6	84.7	74.8	79.8	79.8	64.0	71.9	87.5	86.4	87.0	DNA	DNA	DNA	93.6	93.9	93.8
7	23	93.6	92.2	92.9	78.1	78.4	78.3	79.5	65.8	72.7	93.6	81.8	87.7	DNA	DNA	DNA	97.5	90.2	93.9
7	24	87.6	98.3	93.0	85.9	73.8	79.9	76.5	67.4	72.0	80.3	82.7	81.5	DNA	DNA	DNA	90.7	91.4	91.1
7	25	96.5	95.0	95.8	DNA	84.3	84.3	74.0	70.7	72.4	89.1	84.9	87.0	DNA	DNA	DNA	91.5	88.3	89.9
7	26	87.2	93.7	90.5	89.7	78.3	84.0	81.6	80.6	81.1	89.0	99.2	94.1	DNA	DNA	DNA	86.7	87.4	87.1
7	27	84.4	87.8	86.1	85.0	78.2	81.6	94.8	85.2	90.0	98.3	79.4	88.9	DNA	DNA	DNA	90.9	90.5	90.7
7	28	83.7	71.2	77.5	84.9	72.7	78.8	91.9	83.4	87.7	84.5	78.7	81.6	DNA	DNA	DNA	93.6	85.9	89.8
7	29	87.4	74.4	80.9	84.9	77.4	81.2	98.3	92.6	95.5	87.7	75.9	81.8	DNA	DNA	DNA	88.1	89.7	88.9
7	30	95.1	80.5	87.8	99.2	81.3	90.3	93.1	94.8	94.0	92.1	77.2	84.7	DNA	DNA	DNA	90.8	98.4	94.6
7	31	86.2	82.1	84.2	91.9	81.8	86.9	87.1	64.2	75.7	89.2	78.0	83.6	DNA	DNA	DNA	98.3	98.3	98.3
8	1	86.0	82.3	84.2	97.3	85.7	91.5	89.9	86.4	88.2	89.2	81.2	85.2	DNA	DNA	DNA	95.0	93.5	94.3
8	2	91.1	93.4	92.3	86.9	76.7	81.8	82.6	73.9	78.3	91.9	82.5	87.2	DNA	DNA	DNA	94.4	95.2	94.8
8	3	91.8	95.9	93.9	82.1	65.7	73.9	88.9	55.5	72.2	88.5	77.3	82.9	DNA	DNA	DNA	93.7	95.6	94.7
8	4	86.7	90.4	88.6	86.2	68.8	77.5	74.9	73.5	74.2	87.8	86.8	87.3	DNA	DNA	DNA	90.7	96.9	93.8
8	5	85.3	78.1	81.7	70.5	80.7	75.6	59.9	75.3	67.6	88.5	82.5	85.5	DNA	DNA	DNA	90.7	95.3	93.0
8	6	84.5	84.2	84.4	80.1	98.3	89.2	75.3	73.9	74.6	96.7	68.9	82.8	DNA	DNA	DNA	92.2	96.8	94.5
8	7	82.4	71.4	76.9	96.6	79.3	88.0	80.0	72.8	76.4	88.9	84.7	86.8	DNA	DNA	DNA	95.9	86.2	91.1
8	8	84.3	68.9	76.6	80.0	70.6	75.3	86.0	76.9	81.5	90.4	82.3	86.4	DNA	DNA	DNA	91.6	90.0	90.8
8	9	96.7	67.8	82.3	82.0	81.4	81.7	96.6	75.2	85.9	81.4	88.1	84.8	DNA	DNA	DNA	92.3	97.0	94.7
8	10	96.7	64.1	80.4	95.0	72.2	83.6	96.7	70.9	83.8	87.2	89.6	88.4	DNA	DNA	DNA	93.7	89.2	91.5
8	11	100.0	95.0	97.5	84.0	71.9	78.0	91.8	71.1	81.5	84.2	91.1	87.7	DNA	DNA	DNA	81.2	69.9	75.6
8	12	100.0	90.2	95.1	84.5	84.7	84.6	91.8	58.4	75.1	85.8	93.5	89.7	DNA	DNA	DNA	95.2	96.7	96.0
8	13	88.7	71.0	79.9	85.3	85.3	85.3	69.9	65.8	67.9	94.9	75.8	85.4	DNA	DNA	DNA	95.2	93.0	94.1
8	14	87.2	79.1	83.2	79.3	80.3	79.8	87.6	64.5	76.1	93.3	68.6	81.0	DNA	DNA	DNA	92.4	96.7	94.6
8	15	91.6	80.3	86.0	93.5	97.5	95.5	77.9	73.3	75.6	86.9	79.6	83.3	DNA	DNA	DNA	95.0	95.3	95.2
8	16	80.8	44.3	62.6	88.1	76.3	82.2	88.9	72.7	80.8	87.0	82.3	84.7	DNA	DNA	DNA	95.3	88.4	91.9
8	17	77.1	71.5	74.3	86.3	76.9	81.6	84.6	78.3	81.5	83.3	83.6	83.5	DNA	DNA	DNA	96.7	92.5	94.6
8	18	81.4	87.2	84.3	92.0	77.6	84.8	80.5	72.2	76.4	83.9	69.9	76.9	DNA	DNA	DNA	95.2	95.6	95.4
8	19	85.8	85.1	85.5	92.0	72.7	82.4	84.6	73.9	79.3	94.9	65.3	80.1	DNA	DNA	DNA	95.2	90.4	92.8
8	20	84.1	74.4	79.3	86.7	73.9	80.3	85.3	94.9	90.1	84.9	65.2	75.1	DNA	DNA	DNA	95.3	94.1	94.7
8	21	86.0	73.0	79.5	85.9	91.9	88.9	72.0	77.8	74.9	86.4	67.5	77.0	DNA	DNA	DNA	96.0	92.5	94.3
8	22	86.4	86.0	86.2	88.9	95.9	92.4	83.9	44.8	64.4	90.7	65.8	78.3	DNA	DNA	DNA	96.6	95.5	96.1
8	23	84.9	84.1	84.5	96.6	75.8	86.2	91.8	78.5	85.2	82.8	68.1	75.5	DNA	DNA	DNA	98.3	96.9	97.6
8	24	92.3	80.0	86.2	86.5	88.7	87.6	83.9	72.8	78.4	83.5	74.3	78.9	DNA	DNA	DNA	98.3	96.9	97.6
8	25	92.3	83.9	88.1	85.9	88.7	87.3	66.8	67.0	66.9	87.2	74.4	80.8	DNA	DNA	DNA	96.7	89.4	93.1
8	26	95.0	81.2	88.1	98.3	91.0	94.7	85.9	54.6	70.3	87.2	75.6	81.4	DNA	DNA	DNA	95.0	96.8	95.9
8	27	93.4	76.3	84.9	87.3	87.2	87.3	86.5	62.4	74.5	87.2	93.4	90.3	DNA	DNA	DNA	95.1	89.7	92.4
8	28	90.3	87.6	89.0	83.1	89.6	86.4	80.5	70.2	75.4	84.2	73.7	79.0	DNA	DNA	DNA	90.8	92.8	91.8
8	29	90.4	75.4	82.9	88.8	88.5	88.7	91.8	78.3	85.1	78.7	79.9	79.3	DNA	99.2	99.2	92.3	90.0	91.2
8	30	87.7	69.0	78.4	90.0	78.0	84.0	84.6	79.0	81.8	78.6	75.3	77.0	96.7	91.7	94.2	88.0	94.4	91.2
8	31	82.1	79.1	80.6	83.1	74.6	78.9	92.1	94.8	93.5	86.3	77.4	81.9	98.3	98.4	98.4	95.3	84.9	90.1

Daily Humidity (%)
Location : Kharini Tar

Year		1987			1988			1989			1990			1991			1992		
Month	Day	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
9	1	84.7	68.0	76.4	89.0	71.0	80.0	80.5	82.0	81.3	84.0	79.3	81.7	99.2	98.3	98.8	93.9	97.9	95.9
9	2	85.2	70.7	78.0	90.6	75.7	83.2	87.5	82.7	85.1	89.6	82.0	85.8	96.6	98.3	97.5	93.2	98.3	95.8
9	3	94.1	76.7	85.4	87.5	79.0	83.3	87.4	80.6	84.0	86.0	67.0	76.5	96.9	96.6	96.8	95.2	92.5	93.9
9	4	90.3	78.6	84.5	89.0	69.1	79.1	91.7	97.5	94.6	81.7	75.7	78.7	97.5	95.4	96.5	93.1	94.1	93.6
9	5	88.0	82.7	85.4	80.7	80.9	80.8	90.0	89.2	89.6	80.4	75.3	77.9	96.6	100.0	98.3	92.2	92.7	92.5
9	6	92.7	77.9	85.3	93.4	90.2	91.8	83.9	84.7	84.3	76.3	74.4	75.4	98.4	99.2	98.8	95.1	95.5	95.3
9	7	97.6	82.3	90.0	98.3	91.9	95.1	85.8	70.9	78.4	93.4	77.4	85.4	96.0	91.0	93.5	92.1	94.1	93.1
9	8	85.8	94.4	90.1	97.4	83.3	90.4	90.0	77.6	83.8	98.3	77.4	87.9	78.1	90.7	84.4	95.2	93.4	94.3
9	9	94.2	83.4	88.8	96.5	63.2	79.9	92.0	98.5	95.3	93.2	80.7	87.0	89.3	97.6	93.5	95.2	95.5	95.4
9	10	90.3	85.3	87.8	98.3	80.0	89.2	93.5	98.5	96.0	96.4	93.5	95.0	87.8	96.2	92.0	92.9	92.8	92.9
9	11	84.3	85.1	84.7	91.7	72.7	82.2	84.3	84.9	84.6	79.7	93.5	86.6	95.9	97.0	96.5	95.2	94.1	94.7
9	12	88.2	86.3	87.3	86.1	80.9	83.5	85.1	79.4	82.3	88.0	82.2	85.1	95.1	97.6	96.4	90.6	89.0	89.8
9	13	70.9	72.9	71.9	89.9	79.7	84.8	87.3	77.2	82.3	90.3	77.2	83.8	95.9	83.7	89.8	98.3	98.3	98.3
9	14	89.6	66.2	77.9	88.1	71.1	79.6	91.7	77.2	84.5	85.7	75.0	80.4	94.3	95.3	94.8	93.5	95.1	94.3
9	15	85.7	67.0	76.4	85.5	96.3	90.9	90.8	83.5	87.2	85.7	81.4	83.6	94.9	95.5	95.2	96.6	98.3	97.5
9	16	86.2	73.4	79.8	95.7	94.6	95.2	84.6	72.9	78.8	86.2	84.0	85.1	94.3	97.6	96.0	93.5	95.5	94.5
9	17	79.5	70.8	75.2	91.3	68.2	79.8	83.6	90.0	86.8	90.4	82.3	86.4	97.4	87.5	92.5	95.1	96.2	95.7
9	18	85.4	89.6	87.5	93.1	81.0	87.1	90.0	91.6	90.8	98.2	82.2	90.2	94.2	96.9	95.6	92.7	95.4	94.1
9	19	93.4	87.2	90.3	88.0	74.6	81.3	85.8	76.4	81.1	84.2	84.9	84.6	95.1	94.9	95.0	97.4	96.9	97.2
9	20	100.0	86.4	93.2	88.7	83.6	86.2	82.8	71.4	77.1	87.0	87.8	87.4	96.7	95.5	96.1	93.4	92.5	93.0
9	21	86.3	86.5	86.4	95.0	83.5	89.3	84.0	75.9	80.0	85.7	92.3	89.0	96.7	94.0	95.4	92.6	94.1	93.4
9	22	87.2	87.3	87.3	90.4	86.0	88.2	84.7	66.9	75.8	85.0	92.4	88.7	96.7	94.1	95.4	95.1	96.2	95.7
9	23	88.8	85.8	87.3	86.0	86.0	86.0	82.8	72.3	77.6	82.4	92.4	87.4	93.2	97.0	95.1	94.1	95.5	94.8
9	24	83.7	85.8	84.8	89.0	84.5	86.8	82.8	77.6	80.2	90.4	96.5	93.5	85.2	87.8	86.5	95.0	95.5	95.3
9	25	84.4	88.3	86.4	92.0	79.7	85.9	85.5	77.7	81.6	96.5	100.0	98.3	95.0	96.9	96.0	94.8	92.5	93.7
9	26	78.6	75.3	77.0	86.0	88.1	87.1	84.3	77.4	80.9	91.4	84.3	87.9	95.0	93.9	94.5	93.2	93.8	93.5
9	27	82.8	77.8	80.3	86.1	82.3	84.2	91.6	72.3	82.0	86.7	78.6	82.7	94.1	93.2	93.7	91.9	98.4	95.2
9	28	76.9	91.6	84.3	83.2	79.3	81.3	90.8	77.3	84.1	88.3	81.6	85.0	93.4	92.5	93.0	96.7	84.2	90.5
9	29	89.4	94.4	91.9	80.5	75.4	78.0	82.8	77.6	80.2	85.3	70.8	78.1	88.1	85.8	87.0	91.3	95.0	93.2
9	30	80.6	80.3	80.5	84.5	74.3	79.4	85.5	83.9	84.7	87.0	80.2	83.6	92.6	92.5	92.6	96.6	95.0	95.8
10	1	84.9	86.7	85.8	97.5	85.9	91.7	83.1	77.3	80.2	88.5	76.5	82.5	90.3	88.1	89.2	93.3	93.5	93.4
10	2	83.9	79.4	81.7	91.8	81.6	86.7	82.2	81.7	82.0	96.6	78.0	87.3	90.9	94.0	92.5	97.4	96.8	97.1
10	3	91.5	77.3	84.4	90.3	76.6	83.5	90.1	84.5	87.3	86.9	83.5	85.2	91.5	86.3	88.9	93.3	85.9	89.6
10	4	88.3	85.6	87.0	90.2	89.0	89.6	75.7	77.3	76.5	88.8	91.7	90.3	93.2	93.7	93.5	95.6	96.9	96.3
10	5	82.8	85.7	84.3	96.6	79.6	88.1	81.5	77.4	79.5	83.1	91.7	87.4	93.1	93.8	93.5	94.4	96.7	95.6
10	6	83.7	78.6	81.2	91.3	83.5	87.4	82.8	77.3	80.1	78.6	88.1	83.4	95.0	95.4	95.2	94.7	96.7	95.7
10	7	86.6	83.9	85.3	88.0	79.6	83.8	82.6	78.0	80.3	91.7	82.0	86.9	90.9	95.3	93.1	96.4	98.4	97.4
10	8	89.4	76.9	83.2	89.5	78.9	84.2	86.9	78.1	82.5	81.6	86.4	84.0	95.6	92.8	94.2	78.9	98.4	88.7
10	9	83.9	85.7	84.8	90.2	83.8	87.0	85.3	78.8	82.1	94.7	82.3	88.5	86.9	95.3	91.1	96.4	96.8	96.6
10	10	82.7	85.7	84.2	90.8	98.4	94.6	90.9	78.1	84.5	93.8	82.5	88.2	97.3	96.8	97.1	97.3	92.8	95.1
10	11	94.7	85.7	90.2	94.4	79.7	87.1	87.5	68.8	78.2	98.2	81.0	89.6	93.7	96.0	94.9	91.5	98.3	94.9
10	12	80.8	81.4	81.1	87.3	83.1	85.2	83.5	79.6	81.6	83.6	82.8	83.2	96.3	95.0	95.7	95.4	97.3	96.4
10	13	76.7	83.5	80.1	85.1	77.9	81.5	76.5	81.0	78.8	91.8	81.5	86.7	94.4	86.0	90.2	97.2	97.5	97.4
10	14	80.2	84.2	82.2	87.1	75.2	81.2	82.3	76.9	79.6	79.0	96.2	87.6	93.4	95.1	94.3	96.5	98.4	97.5
10	15	91.3	81.6	86.5	74.1	83.9	79.0	75.3	70.5	72.9	90.7	86.6	88.7	89.9	95.1	92.5	96.5	96.7	96.6
10	16	83.6	74.8	79.2	68.8	81.6	75.2	88.7	70.7	79.7	84.0	86.7	85.4	91.5	92.0	91.8	96.5	96.6	96.6
10	17	85.4	93.4	89.4	69.6	82.4	76.0	88.0	75.4	81.7	81.0	88.1	84.6	89.3	93.6	91.5	96.5	97.5	97.0
10	18	81.8	85.1	83.5	68.1	83.9	76.0	77.9	92.6	85.3	75.1	96.5	85.8	82.7	93.4	88.1	95.6	93.3	94.5
10	19	100.0	DNA	100.0	59.3	88.5	73.9	86.2	69.7	78.0	68.9	93.1	81.0	92.5	97.5	95.0	97.2	95.8	96.5
10	20	89.7	81.7	85.7	95.3	68.7	82.0	82.7	69.5	76.1	64.0	71.1	67.6	94.4	88.5	91.5	92.9	96.7	94.8
10	21	89.8	78.0	83.9	92.5	76.1	84.3	80.2	79.5	79.9	64.1	86.7	75.4	94.4	91.3	92.9	94.5	95.0	94.8
10	22	95.2	76.5	85.9	92.7	77.2	85.0	81.6	78.4	80.0	94.4	83.7	89.1	92.8	92.6	92.7	96.1	93.1	94.6
10	23	85.3	84.6	85.0	90.0	83.5	86.8	85.1	83.6	84.4	92.4	83.2	87.8	92.6	95.0	93.8	96.1	96.6	96.4
10	24	80.6	91.1	85.9	87.4	85.9	86.7	98.1	83.5	90.8	80.7	80.3	80.5	97.0	93.2	95.1	90.1	96.4	93.3
10	25	80.4	84.0	82.2	86.0	82.1	84.1	80.9	75.9	78.4	95.2	77.6	86.4	94.1	91.5	92.8	98.0	96.5	97.3
10	26	92.4	85.0	88.7	91.9	79.7	85.8	84.2	74.4	79.3	95.3	80.7	88.0	92.2	93.0	92.6	93.9	98.2	96.1
10	27	94.0	75.6	84.8	86.2	67.4	76.8	85.7	74.2	80.0	92.8	62.1	77.5	94.1	93.0	93.6	95.7	96.3	96.0
10	28	92.4	68.8	80.6	88.8	66.6	77.7	83.7	74.1	78.9	95.8	78.1	87.0	96.2	94.7	95.5	95.8	96.5	96.2
10	29	90.8	83.1	87.0	98.0	63.4	80.7	85.5	81.0	83.3	97.9	79.4	88.7	97.9	94.6	96.3	96.9	98.2	97.6
10	30	80.2	78.4	79.3	90.2	54.9	72.6	85.4	75.1	80.3	97.8	84.7	91.3	95.8	94.6	95.2	64.9	96.4	80.7
10	31	92.0	73.6	82.8	90.0	75.9	83.0	78.9	78.1	78.5	88.1	59.0	73.6	95.7	96.4	96.1	93.9	DNA	93.9

Daily Humidity (%)

Location : Kharini Tar

Year		1993			1994			1995			1996			1997			1998			
Month	Day	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	
1	1	97.5	87.6	92.6	98.7	69.7	84.2	98.5	97.7	98.1	98.7	81.5	90.1	96.1	79.8	88.0	98.8	86.9	92.9	
1	2	97.5	87.5	92.5	94.9	77.7	86.3	98.3	90.0	94.2	100.0	80.5	90.3	98.7	77.0	87.9	98.8	80.8	89.8	
1	3	93.6	88.6	91.1	97.4	80.9	89.2	98.4	69.0	83.7	100.0	91.4	95.7	97.5	84.5	91.0	100.0	81.0	90.5	
1	4	93.7	89.6	91.7	97.3	71.2	84.3	98.4	62.1	80.3	97.5	73.3	85.4	97.3	77.8	87.6	96.1	82.9	89.5	
1	5	97.4	86.3	91.9	97.3	74.4	85.9	94.7	66.4	80.6	100.0	85.4	92.7	89.1	69.5	79.3	98.7	91.6	95.2	
1	6	95.4	94.5	95.0	97.3	76.0	86.7	97.2	81.2	89.2	100.0	83.5	91.8	98.7	74.1	86.4	97.5	83.1	90.3	
1	7	93.2	97.7	95.5	98.7	71.9	85.3	98.6	76.8	87.7	100.0	77.9	89.0	97.3	74.8	86.1	98.7	81.3	90.0	
1	8	97.6	95.5	96.6	97.5	85.5	91.5	98.6	92.6	95.6	100.0	79.1	89.6	100.0	87.9	94.0	97.4	77.9	87.7	
1	9	95.2	89.5	92.4	97.4	69.1	83.3	92.7	81.6	87.2	DNA	81.5	81.5	97.4	79.0	88.2	98.7	83.4	91.1	
1	10	94.1	89.5	91.8	97.4	81.6	89.5	88.3	71.0	79.7	97.4	89.4	93.4	98.6	DNA	98.6	97.5	77.1	87.3	
1	11	95.2	96.8	96.0	96.2	70.1	83.2	93.6	74.3	84.0	98.7	89.4	94.1	98.6	75.1	86.9	95.1	84.5	89.8	
1	12	97.6	81.9	89.8	91.9	76.8	84.4	81.7	46.6	64.2	98.6	75.6	87.1	98.6	72.1	85.4	98.7	79.3	89.0	
1	13	96.2	89.1	92.7	91.5	70.6	81.1	98.5	61.4	80.0	100.0	69.9	85.0	97.1	64.5	80.8	98.7	79.8	89.3	
1	14	97.3	92.9	95.1	97.6	67.3	82.5	97.0	60.3	78.7	100.0	80.0	90.0	98.6	66.6	82.6	92.8	85.7	89.3	
1	15	93.4	97.7	95.6	97.5	79.2	88.4	93.4	76.5	85.0	100.0	100.0	100.0	97.3	54.4	75.9	94.8	79.1	87.0	
1	16	94.6	97.8	96.2	82.1	78.2	80.2	98.7	86.6	92.7	98.7	88.8	93.8	98.6	76.7	87.7	100.0	86.5	93.3	
1	17	97.3	84.7	91.0	93.0	74.2	83.6	97.5	72.8	85.2	100.0	76.8	88.4	97.1	65.3	81.2	97.4	79.8	88.6	
1	18	97.3	91.5	94.4	97.2	64.9	81.1	98.6	70.8	84.7	98.7	82.4	90.6	97.2	75.0	86.1	97.4	70.9	84.2	
1	19	97.6	85.1	91.4	97.2	91.9	94.6	98.6	81.0	89.8	95.2	75.3	85.3	97.2	71.2	84.2	93.6	71.3	82.5	
1	20	95.0	83.3	89.2	95.9	66.9	81.4	98.6	58.7	78.7	97.5	80.6	89.1	96.2	85.4	90.8	96.0	68.8	82.4	
1	21	97.2	91.4	94.3	84.1	73.3	78.7	97.3	66.6	82.0	98.7	75.1	86.9	92.6	74.6	83.6	100.0	68.0	84.0	
1	22	97.2	96.7	97.0	97.3	70.9	84.1	94.8	59.2	77.0	98.7	77.8	88.3	98.5	81.2	89.9	97.1	68.4	82.8	
1	23	91.3	87.0	89.2	75.7	74.6	75.2	98.6	55.8	77.2	100.0	83.5	91.8	96.0	70.8	83.4	97.2	70.8	84.0	
1	24	94.9	91.4	93.2	97.5	66.7	82.1	97.3	61.2	79.3	98.8	77.7	88.3	100.0	77.3	88.7	98.6	76.7	87.7	
1	25	94.7	97.9	96.3	97.5	63.8	80.7	97.2	85.1	91.2	97.6	83.5	90.6	94.8	67.4	81.1	98.6	DNA	98.6	
1	26	86.9	96.9	91.9	95.1	67.9	81.5	83.5	69.6	76.6	97.6	76.6	87.1	100.0	71.5	85.8	98.6	79.0	88.8	
1	27	97.5	95.9	96.7	97.5	67.6	82.6	97.2	62.0	79.6	98.7	78.5	88.6	97.3	71.8	84.6	98.6	69.4	84.0	
1	28	96.1	93.2	94.7	95.2	67.5	81.4	97.2	69.9	83.6	100.0	70.9	85.5	98.7	80.3	89.5	97.4	64.2	80.8	
1	29	92.8	89.4	91.1	96.4	75.7	86.1	98.7	75.3	87.0	100.0	85.4	92.7	96.2	81.8	89.0	98.7	77.6	88.2	
1	30	95.1	89.3	92.2	97.7	66.5	82.1	98.7	56.6	77.7	95.3	51.5	73.4	98.7	68.5	83.6	97.4	74.8	86.1	
1	31	97.4	86.7	92.1	94.9	90.3	92.6	97.5	67.4	82.5	98.8	87.9	93.4	100.0	73.8	86.9	100.0	63.7	81.9	
2	1	94.4	90.6	92.5	95.2	60.3	77.8	91.0	63.9	77.5	97.6	78.2	87.9	98.7	88.5	93.6	96.3	68.5	82.4	
2	2	94.5	95.0	94.8	72.4	56.3	64.4	98.7	58.2	78.5	98.8	87.5	93.2	100.0	74.2	87.1	94.3	84.2	89.3	
2	3	93.2	96.3	94.8	97.5	57.2	77.4	98.7	59.1	78.9	100.0	69.0	84.5	96.3	77.6	87.0	96.6	70.4	83.5	
2	4	93.9	97.1	95.5	97.4	61.6	79.5	98.7	71.5	85.1	100.0	82.5	91.3	86.0	89.5	87.8	97.5	62.8	80.2	
2	5	96.2	83.8	90.0	97.5	62.0	79.8	95.0	67.0	81.0	100.0	76.8	88.4	91.3	88.5	89.9	97.3	58.2	77.8	
2	6	95.0	87.1	91.1	97.5	66.0	81.8	98.8	57.1	78.0	98.8	64.1	81.5	97.5	70.8	84.2	96.2	64.0	80.1	
2	7	97.5	85.4	91.5	83.8	54.8	69.3	93.6	61.2	77.4	95.4	68.4	81.9	97.4	64.1	80.8	98.7	73.4	86.1	
2	8	95.4	81.0	88.2	94.0	77.1	85.6	97.5	56.5	77.0	100.0	90.3	95.2	97.3	73.6	85.5	98.7	61.3	80.0	
2	9	95.7	77.2	86.5	83.5	88.0	85.8	87.1	63.7	75.4	95.0	87.0	91.0	98.6	56.8	77.7	98.7	66.7	82.7	
2	10	94.7	72.5	83.6	94.8	71.0	82.9	97.5	63.6	80.6	98.8	94.0	96.4	97.3	64.9	81.1	97.5	74.2	85.9	
2	11	97.8	78.4	88.1	95.0	58.9	77.0	97.5	64.6	81.1	98.8	83.7	91.3	100.0	57.5	78.8	93.9	59.7	76.8	
2	12	96.9	80.8	88.9	92.5	66.6	79.6	97.6	56.6	77.1	94.8	69.2	82.0	95.0	90.4	92.7	96.4	69.2	82.8	
2	13	82.6	81.0	81.8	95.0	63.6	79.3	97.5	61.9	79.7	98.7	71.5	85.1	97.3	71.4	84.4	95.5	64.0	79.8	
2	14	95.8	77.7	86.8	97.4	71.3	84.4	95.2	92.9	94.1	100.0	74.6	87.3	97.4	66.7	82.1	98.8	62.0	80.4	
2	15	96.8	81.6	89.2	98.7	57.0	77.9	93.3	84.4	88.9	100.0	DNA	100.0	100.0	61.8	80.9	98.9	63.9	81.4	
2	16	93.8	82.4	88.1	83.5	48.3	65.9	91.0	94.4	92.7	97.4	61.8	79.6	97.5	54.2	75.9	95.4	62.3	78.9	
2	17	90.3	53.3	71.8	81.8	58.6	70.2	97.6	DNA	97.6	96.3	68.0	82.2	100.0	44.2	72.1	97.7	53.1	75.4	
2	18	89.8	71.1	80.5	90.6	44.8	67.7	98.7	60.7	79.7	97.7	95.4	68.8	82.1	97.4	53.2	75.3	97.7	51.4	74.6
2	19	96.1	71.2	83.7	85.1	60.2	72.7	95.9	54.0	75.0	100.0	62.0	81.0	97.6	54.5	76.1	82.3	53.9	68.1	
2	20	78.9	59.4	69.2	69.2	52.4	60.8	97.3	46.3	71.8	97.7	50.8	74.3	100.0	50.8	75.4	94.0	49.4	71.7	
2	21	92.3	71.0	81.7	82.0	68.3	75.2	90.2	40.4	65.3	98.8	76.5	87.7	82.4	45.4	63.9	96.3	42.0	69.2	
2	22	90.7	65.2	78.0	91.7	68.3	80.0	77.5	77.1	77.3	95.0	78.5	86.8	75.3	80.9	78.1	93.7	42.6	68.2	
2	23	94.6	68.5	81.6	93.5	44.5	69.0	95.2	66.8	81.0	95.0	58.4	76.7	97.3	59.3	78.3	85.4	49.8	67.6	
2	24	80.0	71.3	75.7	92.5	54.9	73.7	92.3	47.8	70.1	100.0	81.2	90.6	92.6	56.2	74.4	87.0	93.6	90.3	
2	25	94.5	80.2	87.4	97.6	58.9	78.3	87.1	49.8	68.5	95.6	39.7	67.7	87.2	76.6	81.9	95.5	79.2	87.4	
2	26	96.5	97.0	96.8	87.2	62.0	74.6	98.7	47.8	73.3	95.5	91.7	93.6	96.3	59.4	77.9	95.4	61.3	78.4	
2	27	91.5	58.8	75.2	87.8	59.3	73.6	90.2	60.3	75.3	95.4	66.0	80.7	84.6	58.2	71.4	91.0	64.6	77.8	
2	28	91.1	49.8	70.5	91.0	47.8	69.4	92.5	52.9	72.7	94.3	68.8	81.6	97.6	55.8	76.7	93.6	58.4	76.0	
2	29										95.4	59.5	77.5							

Daily Humidity (%)
Location : Kharini Tar

Year		1993			1994			1995			1996			1997			1998		
Month	Day	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
5	1	68.2	57.8	63.0	46.2	64.9	55.6	73.8	35.1	54.5	98.1	88.0	93.1	82.9	84.5	83.7	67.5	85.7	76.6
5	2	87.0	75.1	81.1	49.2	33.0	41.1	56.7	22.5	39.6	86.9	86.4	86.7	85.6	83.4	84.5	84.9	73.0	79.0
5	3	87.9	72.3	80.1	53.6	38.0	45.8	66.8	23.8	45.3	85.9	85.5	85.7	80.1	58.7	69.4	91.5	87.9	89.7
5	4	77.4	77.5	77.5	75.3	58.4	66.9	54.6	16.1	35.4	83.5	93.7	88.6	74.3	DNA	74.3	91.3	79.0	85.2
5	5	90.3	78.7	84.5	81.4	25.1	53.3	69.2	21.1	45.2	84.2	91.9	88.1	67.2	27.5	47.4	76.5	77.5	77.0
5	6	79.2	81.8	80.5	46.3	74.2	60.3	49.0	29.3	39.2	85.0	97.1	91.1	67.2	42.4	54.8	73.4	68.3	70.9
5	7	78.0	80.2	79.1	63.2	30.9	47.1	56.4	44.1	50.3	87.6	99.1	93.4	66.8	80.7	73.8	80.8	79.4	80.1
5	8	86.7	76.2	81.5	62.3	34.4	48.4	85.9	56.5	71.2	90.9	94.1	92.5	87.5	74.2	80.9	79.4	61.2	70.3
5	9	70.4	85.0	77.7	91.9	52.6	72.3	73.8	67.9	70.9	98.1	97.1	97.6	75.3	69.0	72.2	63.7	55.6	59.7
5	10	80.8	49.6	65.2	72.7	44.6	58.7	80.2	44.8	62.5	81.7	95.7	88.7	68.1	48.1	58.1	88.5	54.1	71.3
5	11	86.6	54.5	70.6	65.3	29.2	47.3	74.7	55.5	65.1	90.4	98.5	94.5	68.1	50.6	59.4	92.2	52.8	72.5
5	12	66.8	63.7	65.3	68.9	25.1	47.0	60.1	51.1	55.6	91.0	96.9	94.0	67.9	44.1	56.0	74.8	45.0	59.9
5	13	69.4	90.0	79.7	59.5	27.5	43.5	84.8	60.0	72.4	84.9	98.5	91.7	64.1	62.2	63.2	72.1	54.6	63.4
5	14	76.4	58.2	67.3	62.4	50.1	56.3	86.9	61.0	74.0	90.0	89.9	90.0	62.1	46.3	54.2	86.5	DNA	86.5
5	15	87.0	83.4	85.2	64.2	36.3	50.3	82.9	54.3	68.6	96.5	99.1	97.8	65.6	43.6	54.6	79.5	61.3	70.4
5	16	80.6	91.9	86.3	80.2	34.0	47.1	91.9	68.8	80.4	91.0	94.2	92.6	52.0	50.4	51.2	58.3	70.6	64.5
5	17	77.5	56.6	67.1	86.5	45.6	66.1	93.2	88.5	90.9	83.8	90.7	87.3	71.2	36.7	54.0	77.6	60.7	69.2
5	18	59.1	52.6	55.9	89.1	30.6	59.9	78.7	74.5	76.6	71.9	45.0	58.5	DNA	42.7	42.7	71.9	50.6	61.3
5	19	78.0	94.3	86.2	86.2	48.9	67.6	83.4	41.3	62.4	68.4	51.8	60.1	58.9	97.2	78.1	73.6	58.4	66.0
5	20	83.3	96.1	89.7	81.5	43.7	62.6	74.1	86.2	80.2	85.7	66.3	76.0	87.7	90.7	89.2	87.7	62.8	75.3
5	21	90.6	46.9	68.8	57.8	64.2	61.0	88.5	59.1	73.8	73.7	63.6	68.7	80.0	50.1	65.1	70.9	83.4	77.2
5	22	70.2	64.0	67.1	96.3	58.6	77.5	70.2	41.0	55.6	77.7	69.7	73.7	78.2	53.1	65.7	72.5	69.8	71.2
5	23	73.7	62.0	67.9	66.4	85.5	76.0	83.9	42.3	63.1	78.8	89.6	84.2	83.0	66.6	74.8	74.5	81.7	78.1
5	24	83.0	81.7	82.4	90.6	57.7	74.2	71.3	47.8	59.6	76.8	72.3	74.6	77.0	80.6	78.8	77.4	59.0	68.2
5	25	78.7	56.3	67.5	74.7	54.0	64.4	77.9	DNA	77.9	80.9	82.8	81.9	88.4	86.3	87.4	91.7	81.2	86.5
5	26	72.0	62.5	67.3	76.8	47.8	62.3	73.6	38.1	55.9	84.2	84.4	84.3	74.3	66.0	70.2	98.3	77.8	88.1
5	27	96.2	74.7	85.5	85.5	95.5	90.5	69.9	61.4	65.7	79.0	76.9	78.0	91.3	80.4	85.9	77.6	79.2	78.4
5	28	88.2	81.7	85.0	74.9	87.7	81.3	83.1	56.5	69.8	78.4	64.2	71.3	85.5	90.1	87.8	80.0	70.9	75.5
5	29	81.8	64.8	73.3	87.7	80.9	84.3	73.2	48.5	60.9	79.1	98.1	88.6	89.5	71.2	80.4	74.3	43.4	58.9
5	30	70.1	60.3	65.2	83.5	80.5	82.0	68.7	50.5	59.6	88.6	79.9	84.3	89.5	66.8	78.2	79.4	67.8	73.6
5	31	73.1	61.4	67.3	82.1	90.6	86.4	72.6	55.9	64.3	83.8	93.2	88.5	69.1	56.8	63.0	74.0	89.3	81.7
6	1	72.2	57.1	64.7	80.0	82.3	81.2	79.1	67.9	73.5	86.2	94.7	90.5	69.8	75.1	72.5	78.4	67.6	73.0
6	2	71.1	66.0	68.6	75.7	96.4	86.1	42.1	53.0	47.6	81.9	94.4	88.2	75.1	54.8	65.0	85.2	88.0	86.6
6	3	76.4	98.2	87.3	91.6	73.8	82.7	52.0	80.4	66.2	76.0	79.6	77.8	73.3	53.4	63.4	81.8	79.8	80.8
6	4	84.0	95.5	89.8	75.8	82.2	79.0	92.0	72.5	82.3	78.1	82.1	80.1	69.3	59.9	64.6	73.9	91.9	82.9
6	5	75.6	88.2	81.9	76.4	60.6	68.5	93.5	75.6	84.6	82.2	81.6	81.9	69.4	56.5	63.0	83.5	94.4	89.0
6	6	79.4	84.7	82.1	79.7	74.4	77.1	88.9	74.4	81.7	89.2	83.5	86.4	77.6	92.7	85.2	92.9	72.5	82.7
6	7	84.4	65.8	75.1	74.6	57.9	66.3	90.9	95.1	93.0	81.1	65.2	73.2	83.3	90.8	87.1	85.9	59.5	72.7
6	8	87.0	62.9	75.0	87.0	71.5	79.3	98.3	79.1	88.7	79.3	DNA	79.3	78.5	92.8	85.7	71.1	65.7	68.4
6	9	95.6	86.5	91.1	83.6	62.3	73.0	98.3	89.0	93.7	84.5	77.0	80.8	84.2	90.6	87.4	78.8	62.3	70.6
6	10	79.1	93.3	86.2	98.3	81.9	90.1	98.3	97.5	97.9	79.2	80.3	79.8	79.5	81.8	80.7	76.7	62.3	69.5
6	11	83.3	59.6	71.5	90.0	65.3	77.7	97.5	84.5	91.0	97.4	87.8	92.6	85.3	96.2	90.8	72.6	43.4	58.0
6	12	72.5	63.6	68.1	93.4	90.3	91.9	93.4	81.3	87.4	89.1	86.6	87.9	83.6	64.8	74.2	73.1	69.1	71.1
6	13	79.8	60.6	70.2	78.2	60.2	69.2	88.8	80.2	84.5	96.6	88.4	92.5	77.1	68.8	73.0	79.5	80.8	80.2
6	14	71.1	63.9	67.5	78.8	84.0	81.4	96.7	70.8	83.8	96.6	95.6	96.1	82.7	98.2	90.5	76.3	69.9	73.1
6	15	DNA	53.3	53.3	76.5	56.5	66.5	89.2	71.0	80.1	82.1	83.5	82.8	74.5	98.1	86.3	91.2	59.4	75.3
6	16	68.5	86.3	77.4	77.5	63.3	70.4	81.8	91.6	86.7	98.4	89.3	93.9	76.6	71.3	74.0	81.8	61.6	71.7
6	17	77.2	67.2	72.2	75.4	58.6	67.0	98.3	91.9	95.1	92.0	88.6	90.3	76.0	70.3	73.2	75.7	61.2	68.5
6	18	74.5	67.8	71.2	80.9	83.4	82.2	90.0	87.3	88.7	89.0	84.7	86.9	93.1	71.5	82.3	80.2	64.0	72.1
6	19	70.5	69.0	69.8	92.0	73.7	82.9	98.3	74.4	86.4	95.1	89.8	92.5	95.7	68.9	82.3	97.6	75.1	86.4
6	20	71.9	89.9	80.9	80.6	81.5	81.1	92.2	64.2	78.2	86.4	90.9	88.7	82.8	65.1	74.0	99.1	83.9	91.5
6	21	74.7	69.0	71.9	69.4	87.5	78.5	82.7	80.2	81.5	85.9	95.9	90.9	84.5	81.9	83.2	98.3	92.2	95.3
6	22	75.4	64.7	70.1	83.1	64.8	74.0	96.6	95.5	96.1	99.2	94.4	96.8	84.2	71.3	77.8	98.3	78.1	88.2
6	23	97.4	66.7	82.1	95.0	70.2	82.6	98.2	91.6	94.9	94.4	86.6	90.5	95.0	78.3	86.7	87.5	69.3	78.4
6	24	75.3	69.9	72.6	83.6	69.1	76.4	84.1	70.6	77.4	92.1	98.3	95.2	83.2	60.6	71.9	87.4	70.7	79.1
6	25	93.2	77.3	85.3	93.4	73.9	83.7	91.9	65.0	78.5	94.3	91.7	93.0	77.3	67.3	72.3	82.2	81.4	81.8
6	26	77.3	92.5	84.9	90.0	92.8	91.4	82.1	73.4	77.8	90.5	96.9	93.7	80.5	90.3	85.4	96.7	86.2	91.5
6	27	91.9	91.9	91.9	81.4	60.6	71.0	77.7	66.3	72.0	90.5	92.5	91.5	81.6	68.4	75.0	98.3	75.7	87.0
6	28	92.7	97.2	95.0	72.2	66.3	69.3	90.1	77.4	83.8	90.5	91.6	91.1	84.7	75.6	80.2	89.7	79.6	84.7
6	29	79.7	97.9	88.8	83.6	94.5	89.1	95.0	72.9	84.0	98.3	98.4	98.4	90.3	79.1	84.7	95.1	71.1	83.1
6	30	80.9	79.2	80.1	88.9	87.2	88.1	92.6	81.6	87.1	88.9	99.1	94.0	93.4	88.6	91.0	75.1	70.2	72.7

Daily Humidity (%)

Location : Kharini Tar

Year		1993			1994			1995			1996			1997			1998		
Month	Day	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
11	1	94.7	75.5	85.1	88.8	82.0	85.4	98.0	82.8	90.4	94.5	81.6	88.1	89.1	82.5	85.8	96.2	86.4	91.3
11	2	91.9	73.9	82.9	89.9	77.2	83.6	92.0	73.2	82.6	92.4	82.7	87.6	88.3	84.1	86.2	94.4	83.1	88.8
11	3	93.0	75.3	84.2	95.7	77.1	86.4	80.7	65.6	73.2	89.1	83.5	86.3	96.0	68.8	82.4	99.0	81.8	90.4
11	4	96.1	57.3	76.7	93.3	77.9	85.6	97.9	74.4	86.2	96.0	DNA	96.0	97.8	74.9	86.4	92.2	82.9	87.6
11	5	93.2	78.1	85.7	97.8	93.8	95.8	95.6	70.4	83.0	94.7	81.9	88.3	89.6	82.5	86.1	98.0	81.7	89.9
11	6	94.0	77.5	85.8	98.9	80.2	89.6	97.8	78.5	88.2	92.9	81.1	87.0	95.8	82.6	89.2	92.1	89.3	90.7
11	7	90.1	84.2	87.2	97.8	81.9	89.9	95.7	90.8	93.3	91.7	69.3	80.5	95.9	88.6	92.3	93.9	89.4	91.7
11	8	91.2	90.9	91.1	97.8	77.0	87.4	93.9	92.6	93.3	96.7	75.6	86.2	95.8	75.1	85.5	98.0	77.7	88.2
11	9	96.1	82.4	89.3	95.6	89.1	92.4	95.5	81.2	88.4	89.8	96.1	93.0	77.2	83.8	80.5	95.8	83.7	89.8
11	10	92.2	77.9	85.1	95.5	64.4	80.0	96.9	96.9	96.9	94.1	91.2	92.7	90.6	82.2	86.4	91.8	79.1	85.5
11	11	96.0	85.7	90.9	97.7	70.1	83.9	87.2	80.6	83.9	95.9	79.0	87.5	98.9	80.1	89.5	94.2	80.9	87.6
11	12	95.8	83.2	89.5	95.6	74.4	85.0	96.0	81.2	88.6	96.8	80.9	88.9	89.2	78.9	84.1	94.9	77.7	86.3
11	13	97.9	77.3	87.6	95.6	72.0	83.8	94.1	83.8	89.0	97.9	83.9	90.9	94.4	74.9	84.7	92.0	82.1	87.1
11	14	96.9	76.6	86.8	97.6	91.7	94.7	93.9	85.7	89.8	97.9	80.7	89.3	91.5	75.4	83.5	95.8	79.1	87.5
11	15	97.8	96.3	97.1	97.6	74.9	86.3	96.0	92.5	94.3	97.9	76.5	87.2	93.6	81.5	87.6	95.9	73.3	84.6
11	16	84.4	66.9	75.7	97.7	73.1	85.4	87.8	83.8	85.8	97.9	80.5	89.2	97.8	72.3	85.1	86.3	86.6	86.5
11	17	94.8	DNA	94.8	97.7	86.3	92.0	98.9	80.7	89.8	97.8	80.2	89.0	97.8	80.1	89.0	91.9	87.3	89.6
11	18	95.8	72.5	84.2	97.6	68.0	82.8	95.7	86.1	90.9	98.9	88.6	93.8	95.8	83.7	89.8	91.0	89.7	90.4
11	19	96.9	86.2	91.6	97.6	69.3	83.5	85.8	92.5	89.2	97.8	84.6	91.2	89.6	74.8	82.2	93.3	84.3	88.8
11	20	93.7	81.7	87.7	94.0	69.7	81.9	95.6	77.6	86.6	97.9	94.4	96.2	89.5	81.2	85.4	90.4	81.4	85.9
11	21	96.8	74.4	85.6	97.5	73.2	85.4	94.4	90.4	92.4	DNA	81.8	81.8	92.1	80.9	86.5	78.5	81.7	80.1
11	22	94.5	78.3	86.4	97.4	73.1	85.3	85.1	84.9	85.0	95.6	90.2	92.9	96.9	DNA	96.9	90.2	81.4	85.8
11	23	95.6	83.1	89.4	88.8	71.2	80.0	95.6	79.4	87.5	95.8	73.2	84.5	90.0	71.7	80.9	98.0	81.2	89.6
11	24	96.6	78.8	87.7	97.5	88.1	92.8	98.9	76.5	87.7	94.6	78.5	86.6	97.8	79.9	88.9	95.0	74.3	84.7
11	25	91.6	81.0	86.3	97.5	73.9	85.7	97.7	76.7	87.2	98.8	84.6	91.7	97.9	86.9	92.4	97.8	77.3	87.6
11	26	95.4	78.1	86.8	97.7	70.9	84.3	97.8	90.3	94.1	98.9	81.0	90.0	95.6	89.8	92.7	94.7	72.4	83.6
11	27	95.6	90.5	93.1	97.6	70.9	84.3	97.8	86.5	92.2	97.8	81.0	89.4	95.6	91.6	93.6	95.6	77.0	86.3
11	28	97.8	74.0	85.9	98.8	57.7	78.3	98.9	85.9	92.4	97.7	83.6	90.7	93.0	88.5	90.8	97.7	86.4	92.1
11	29	95.5	72.3	83.9	97.7	80.9	89.3	94.2	84.4	89.3	98.8	97.9	98.4	95.5	91.6	93.6	93.4	76.1	84.8
11	30	97.7	71.8	84.8	89.1	76.6	82.9	97.5	87.3	92.4	100.0	85.9	93.0	91.0	82.2	86.6	93.3	84.7	89.0
12	1	97.7	86.9	92.3	94.6	84.0	89.3	97.6	78.3	88.0	97.5	78.2	87.9	95.7	88.8	92.3	94.5	83.3	88.9
12	2	97.6	80.9	89.3	87.2	82.3	84.8	95.3	82.3	88.8	98.7	83.5	91.1	96.2	81.2	88.7	95.6	83.3	89.5
12	3	97.6	72.0	84.8	97.6	68.2	82.9	97.6	78.6	88.1	98.7	81.8	90.3	97.5	81.8	89.7	95.7	81.4	88.6
12	4	97.6	80.4	89.0	88.7	75.4	82.1	93.3	82.5	87.9	100.0	81.9	91.0	98.7	78.8	88.8	95.4	85.8	90.6
12	5	97.6	82.1	89.9	97.6	77.0	87.3	98.8	79.1	89.0	100.0	84.9	92.5	95.0	77.9	86.5	97.7	55.2	76.5
12	6	97.7	83.4	90.6	97.5	65.6	81.6	97.6	75.6	86.6	98.7	81.8	90.3	98.7	85.9	92.3	95.5	76.9	86.2
12	7	97.8	71.8	84.8	97.4	69.7	83.6	97.6	77.6	87.6	98.7	79.9	89.3	95.4	83.7	89.6	97.8	85.4	91.6
12	8	97.6	74.3	86.0	97.5	77.2	87.4	98.8	79.1	89.0	97.4	80.8	89.1	98.8	97.9	98.4	97.8	80.5	89.2
12	9	97.6	77.8	87.7	97.5	78.6	88.1	97.7	82.5	90.1	100.0	81.3	90.7	97.8	95.6	96.7	97.8	85.1	91.5
12	10	80.8	73.6	77.2	97.5	72.0	84.8	98.8	77.5	88.2	98.7	80.6	89.7	100.0	100.0	100.0	97.7	75.0	86.4
12	11	80.8	74.2	77.5	98.8	79.9	89.4	100.0	75.8	87.9	100.0	77.2	88.6	90.2	81.5	85.9	97.7	79.2	88.5
12	12	97.6	81.0	89.3	97.6	96.9	97.3	98.8	84.3	91.6	100.0	75.9	88.0	86.7	91.5	89.1	95.3	80.6	88.0
12	13	95.3	69.1	82.2	98.7	95.8	97.3	100.0	84.1	92.1	100.0	81.9	91.0	95.3	87.6	91.5	96.5	85.2	90.9
12	14	97.5	76.3	86.9	97.3	88.1	92.7	100.0	82.4	91.2	98.7	75.8	87.3	90.4	90.4	90.4	97.6	87.9	92.8
12	15	97.5	75.4	86.5	98.7	76.9	87.8	98.8	82.3	90.6	97.5	91.9	94.7	94.6	90.4	92.5	97.5	75.6	86.6
12	16	96.0	79.1	87.6	98.7	79.8	89.3	100.0	84.2	92.1	100.0	75.1	87.6	98.7	DNA	98.7	97.3	81.4	89.4
12	17	97.3	73.0	85.2	97.4	79.6	88.5	97.7	92.7	95.2	100.0	82.8	91.4	98.7	92.0	95.4	98.6	75.6	87.1
12	18	97.4	74.3	85.9	97.4	76.2	86.8	100.0	82.3	91.2	96.3	69.2	82.8	84.7	86.9	85.8	98.6	78.4	88.5
12	19	98.7	77.9	88.3	97.2	87.5	92.4	98.8	84.0	91.4	98.7	85.9	92.3	98.7	86.1	92.4	98.7	71.9	85.3
12	20	93.5	99.0	96.3	97.3	66.5	81.9	98.8	87.7	93.3	98.7	80.0	89.4	97.5	79.3	88.4	98.7	74.1	86.4
12	21	98.7	76.1	87.4	98.6	83.2	90.9	98.8	91.6	95.2	98.7	76.0	87.4	97.5	81.6	89.6	98.7	74.4	86.6
12	22	97.3	71.7	84.5	98.6	DNA	98.6	97.6	89.7	93.7	98.7	79.0	88.9	98.6	83.5	91.1	98.7	71.8	85.3
12	23	97.4	81.2	89.3	97.1	62.9	80.0	100.0	78.8	89.4	97.4	83.3	90.4	98.7	83.0	90.9	98.7	72.4	85.6
12	24	97.3	72.0	84.7	98.6	73.9	86.3	100.0	78.6	89.3	100.0	85.1	92.6	98.7	81.3	90.0	98.6	62.2	80.4
12	25	97.3	73.8	85.6	97.2	67.2	82.2	100.0	93.0	96.5	96.1	74.4	85.3	97.5	79.6	88.6	98.6	61.3	80.0
12	26	97.3	81.3	89.3	97.2	63.5	80.4	90.2	79.8	85.0	97.4	77.8	87.6	97.4	83.0	90.2	98.7	92.4	95.6
12	27	97.4	80.6	89.0	98.7	77.9	88.3	97.4	90.7	94.1	98.7	75.9	87.3	97.3	79.8	88.6	98.7	71.4	85.1
12	28	98.8	75.9	87.4	98.7	85.8	92.3	100.0	91.2	95.6	98.8	73.5	86.2	100.0	85.0	91.2	97.2	78.8	88.0
12	29	97.6	74.4	86.0	97.4	78.2	87.8	100.0	85.2	92.6	98.7	66.4	82.6	100.0	87.3	93.7	98.6	67.2	82.9
12	30	98.7	79.6	89.2	92.8	67.0	79.9	98.7	77.5	88.1	97.6	78.8	88.2	97.5	83.3	90.4	97.3	85.6	91.5
12	31	97.4	76.2	86.8	98.7	68.2	83.5	95.2	88.8	92.0	98.7	79.9	89.3	98.7	77.9	88.3	94.5	60.2	77.4

Daily Humidity (%)

Location : Kharini Tar

Month	Day	1999			2000			2001			2002			2003			2004		
		8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
1	1	97.2	77.1	87.2	97.3	79.3	88.3	95.5	76.3	85.9	97.3	77.9	87.6	82.1	82.2	82.2	86.7	78.6	82.7
1	2	96.0	73.4	84.7	97.3	77.0	87.2	86.9	70.6	78.8	98.6	66.6	82.6	93.4	89.1	91.3	97.3	68.6	83.0
1	3	97.3	63.1	80.2	94.6	69.4	82.0	100.0	79.3	89.7	95.8	80.2	88.0	98.7	86.7	92.7	98.6	75.0	86.8
1	4	97.3	72.7	85.0	98.7	71.4	85.1	95.0	84.4	89.7	98.5	78.0	88.3	96.1	80.8	88.5	100.0	83.1	91.6
1	5	100.0	76.0	88.0	98.7	79.3	89.0	88.4	76.8	82.6	100.0	68.2	84.1	97.4	79.3	88.4	97.2	84.5	90.9
1	6	98.7	72.2	85.5	100.0	79.9	90.0	97.3	77.9	87.6	94.4	77.7	86.1	97.4	77.4	87.4	100.0	61.5	80.8
1	7	100.0	91.4	95.7	97.2	79.0	88.1	98.6	83.0	90.8	100.0	77.3	88.7	98.6	87.2	92.9	100.0	81.2	90.6
1	8	97.4	61.1	79.3	98.6	70.8	84.7	98.6	71.2	84.9	98.7	66.2	82.5	97.3	85.0	91.2	100.0	83.3	91.7
1	9	98.6	67.7	83.2	94.4	67.0	80.7	98.6	62.4	80.5	98.6	65.6	82.1	97.3	74.8	86.1	100.0	71.3	85.7
1	10	97.2	68.6	82.9	97.3	74.8	86.1	100.0	66.1	83.1	98.6	66.3	82.5	98.5	68.8	83.7	100.0	81.3	90.7
1	11	98.6	76.8	87.7	100.0	74.3	87.2	100.0	74.8	87.4	98.6	52.4	75.5	98.6	69.6	84.1	100.0	81.9	91.0
1	12	100.0	69.6	84.8	100.0	79.2	89.6	98.5	68.4	83.5	98.7	52.1	75.4	98.7	66.2	82.5	100.0	72.3	86.2
1	13	98.6	60.3	79.5	97.6	93.9	95.8	98.5	72.8	85.7	100.0	57.7	78.9	100.0	78.6	89.3	100.0	71.0	85.5
1	14	96.9	58.5	77.7	95.0	68.3	81.7	100.0	59.8	79.9	98.6	90.1	94.4	94.6	75.1	84.9	92.7	64.0	78.4
1	15	97.1	57.9	77.5	97.5	61.1	79.3	90.2	61.5	75.9	98.7	98.9	98.8	97.3	82.7	90.0	98.7	45.4	72.1
1	16	97.1	60.2	78.7	97.2	83.3	90.3	97.2	62.2	79.7	94.2	75.6	84.9	98.7	91.5	95.1	88.2	56.0	72.1
1	17	97.1	62.9	80.0	100.0	55.5	77.8	100.0	68.6	84.3	100.0	86.8	93.4	97.2	81.4	89.3	100.0	77.9	89.0
1	18	98.6	60.7	79.7	97.2	67.9	82.6	97.2	71.3	84.3	86.3	81.8	84.1	98.7	83.2	91.0	76.2	60.0	68.1
1	19	97.2	54.7	76.0	97.3	67.6	82.5	100.0	75.8	87.9	93.0	71.5	82.3	100.0	93.6	96.8	97.5	78.2	87.9
1	20	97.2	67.0	82.1	97.3	72.1	84.7	97.3	71.7	84.5	95.3	89.3	92.3	98.7	60.1	79.4	100.0	87.5	93.8
1	21	97.2	62.6	79.9	98.7	72.2	85.5	98.6	68.8	83.7	97.6	90.8	94.2	98.7	64.2	81.5	100.0	80.7	90.4
1	22	98.6	62.9	80.8	97.4	79.8	88.6	100.0	57.3	78.7	97.6	90.9	94.3	98.6	60.0	79.3	80.8	93.9	87.4
1	23	98.7	58.7	78.7	89.1	87.0	88.1	96.2	74.5	85.4	97.3	80.6	89.0	97.3	70.6	84.0	93.2	83.7	88.5
1	24	98.7	66.7	82.7	95.3	93.8	94.6	92.4	62.9	77.7	97.3	77.9	87.6	100.0	74.6	87.3	94.2	82.3	88.3
1	25	98.7	56.6	77.7	95.2	80.5	87.9	88.1	71.5	79.8	97.6	62.4	80.0	94.8	78.5	86.7	93.7	78.2	86.0
1	26	100.0	68.1	84.1	95.1	84.7	89.9	95.0	51.5	73.3	95.0	80.4	87.7	98.6	97.6	98.1	93.0	93.2	93.1
1	27	97.5	55.2	76.4	96.1	79.9	88.0	98.8	62.2	80.5	97.5	77.5	87.5	98.8	74.3	86.6	90.0	85.1	87.6
1	28	100.0	46.3	73.2	98.7	75.6	87.2	98.6	70.0	84.3	97.6	88.6	93.1	96.3	82.0	89.2	97.3	81.5	89.4
1	29	88.6	62.2	75.4	100.0	68.6	84.3	97.4	65.5	81.5	84.0	84.4	84.2	95.4	75.3	85.4	95.0	65.1	80.1
1	30	97.5	DNA	97.5	97.4	55.5	76.5	98.7	68.8	83.8	95.0	77.7	86.4	88.9	82.8	85.9	97.3	58.7	78.0
1	31	97.1	81.4	89.3	90.8	75.6	83.2	86.1	55.7	70.9	100.0	58.2	79.1	96.5	76.8	86.7	92.7	65.2	79.0
2	1	98.6	53.8	76.2	88.7	79.3	84.0	95.4	81.4	88.4	97.4	65.6	81.5	88.8	83.5	86.2	87.7	71.8	79.8
2	2	94.2	61.6	77.9	97.5	64.9	81.2	97.6	61.6	79.6	98.7	62.0	80.4	90.8	89.3	90.1	97.4	51.2	74.3
2	3	92.5	79.5	86.0	98.8	77.9	88.4	96.3	66.0	81.2	98.7	67.5	83.1	85.1	89.8	87.5	98.6	39.5	69.1
2	4	98.7	72.0	85.4	100.0	65.6	82.8	97.5	68.8	83.2	97.5	59.8	78.7	91.6	81.5	86.6	97.2	83.5	90.4
2	5	97.5	48.5	73.0	98.7	93.1	95.9	100.0	67.6	83.8	97.4	52.4	74.9	90.1	80.1	85.1	98.7	60.4	79.6
2	6	98.7	58.4	78.6	88.7	79.3	84.0	98.6	48.2	73.4	97.5	61.8	79.7	97.4	87.5	92.5	97.4	60.3	78.9
2	7	97.5	55.2	76.4	98.7	64.8	81.8	98.6	45.1	71.9	97.7	46.0	71.9	100.0	59.6	79.8	94.8	82.2	88.5
2	8	100.0	57.1	78.6	97.3	59.2	78.3	66.2	63.9	65.1	93.0	72.3	82.7	97.7	52.1	74.9	84.1	60.4	72.3
2	9	87.4	65.6	76.5	97.4	58.7	78.1	97.4	64.1	80.8	95.3	75.2	85.3	91.9	89.9	90.9	89.6	74.9	82.3
2	10	97.7	62.0	79.9	97.4	55.9	76.7	95.1	53.4	74.3	97.6	66.9	82.3	88.0	63.3	75.7	97.4	70.4	83.9
2	11	94.0	58.6	76.3	92.5	84.6	88.6	97.4	60.0	78.7	82.8	78.2	80.5	84.8	66.8	75.8	97.5	50.9	74.2
2	12	93.0	62.2	77.6	90.8	77.0	83.9	96.2	63.6	79.9	86.6	46.7	66.7	97.5	59.4	78.5	90.8	70.7	80.8
2	13	97.6	88.7	93.2	95.0	56.9	76.0	97.5	62.6	80.1	88.2	66.0	77.1	97.3	58.2	77.8	82.6	56.6	69.6
2	14	97.7	16.8	57.3	97.5	83.4	90.5	97.6	57.4	77.5	92.9	53.9	73.4	97.4	62.6	80.0	88.2	35.6	61.9
2	15	86.7	52.4	69.6	94.8	50.9	72.9	91.2	75.0	83.1	97.6	56.6	77.1	96.2	71.8	84.0	76.7	70.6	73.7
2	16	95.5	59.6	77.6	88.2	50.8	69.5	81.4	48.8	65.1	97.7	52.6	75.2	98.8	70.1	84.5	88.4	72.0	80.2
2	17	97.8	59.0	78.4	97.3	34.2	65.8	79.0	47.8	63.4	77.1	74.4	75.8	97.7	80.7	89.2	83.1	38.9	61.0
2	18	98.9	52.6	75.8	87.6	35.3	61.5	77.3	50.8	64.1	98.8	60.0	79.4	91.4	82.6	87.0	90.8	43.3	67.1
2	19	95.7	51.5	73.6	84.8	40.8	62.8	95.4	44.6	70.0	85.3	53.1	69.2	94.5	83.5	89.0	69.8	58.7	64.3
2	20	97.8	44.4	71.1	82.4	33.1	57.8	80.0	56.0	68.0	98.9	54.8	76.9	88.8	62.8	75.8	93.2	56.2	74.7
2	21	92.3	68.8	80.6	81.8	37.0	59.4	87.2	90.8	89.0	87.5	83.3	85.4	90.4	64.5	77.5	89.1	65.2	77.2
2	22	82.3	49.7	66.0	77.6	44.8	61.2	91.9	57.1	74.5	85.2	52.9	69.1	97.6	52.9	75.3	85.9	24.7	55.3
2	23	85.4	60.7	73.1	89.6	41.4	65.5	98.9	70.3	84.6	83.4	54.5	69.0	97.6	54.7	76.2	93.3	71.9	82.6
2	24	85.8	57.6	71.7	88.2	41.3	64.8	89.8	70.7	80.3	95.5	78.6	87.1	95.5	93.6	94.6	94.6	53.3	74.0
2	25	89.6	94.4	92.0	79.2	41.2	60.2	94.7	86.4	90.6	97.7	81.9	89.8	97.8	98.9	98.4	81.2	63.3	72.3
2	26	81.3	46.9	64.1	74.0	41.9	58.0	95.8	83.8	89.8	96.7	69.3	83.0	85.9	79.4	82.7	98.9	66.5	82.7
2	27	92.8	31.1	62.0	95.0	36.0	65.5	97.6	62.6	80.1	98.7	64.3	81.5	91.2	70.2	80.7	96.9	60.8	78.9
2	28	70.0	30.3	50.2	77.1	69.4	73.3	87.1	63.7	75.4	91.2	83.4	87.3	77.1	69.8	73.5	93.8	34.7	64.3
2	29				90.7	53.7	72.2										93.3	51.5	72.4

Daily Humidity (%)

Location : Kharini Tar

Month	Year	Day	1999			2000			2001			2002			2003			2004			
			8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	
3	1		70.6	32.0	51.3	77.3	75.7	76.5	79.9	36.9	58.4	83.4	70.9	77.2	97.9	74.7	86.3	83.0	56.8	69.9	
3	2		79.1	47.7	63.4	81.5	88.2	84.9	92.3	38.2	65.3	79.3	85.1	82.2	94.7	65.6	80.2	79.5	48.6	64.1	
3	3		89.3	42.6	66.0	88.9	71.2	80.1	72.9	44.8	58.9	93.6	86.4	90.0	80.0	59.1	69.6	95.6	86.7	91.2	
3	4		87.1	39.1	63.1	96.5	48.2	72.4	68.1	42.4	55.3	93.1	63.8	78.5	75.1	54.9	65.0	89.3	73.8	81.6	
3	5		76.6	44.7	60.7	86.7	33.3	60.0	78.5	49.0	63.8	95.5	60.8	78.2	84.1	49.8	67.0	95.7	52.2	74.0	
3	6		70.4	51.0	60.7	88.5	41.8	65.2	70.0	44.4	57.2	73.2	46.7	60.0	95.0	57.3	76.2	90.1	39.0	64.6	
3	7		83.4	50.2	66.8	84.1	24.0	54.1	78.9	89.4	84.2	76.0	47.0	61.5	87.2	44.0	65.6	73.3	30.3	51.8	
3	8		81.6	29.2	55.4	82.2	27.9	55.1	79.2	46.0	62.6	87.9	41.6	64.8	90.8	41.6	66.2	69.7	36.9	53.3	
3	9		78.8	72.3	75.6	58.2	36.3	47.3	67.5	34.2	50.9	74.6	69.1	71.9	74.4	67.7	71.1	65.8	39.0	52.4	
3	10		58.9	24.8	41.9	74.8	45.4	60.1	74.1	33.4	53.8	74.7	41.1	57.9	79.8	37.8	58.8	72.2	39.3	55.8	
3	11		65.5	74.5	70.0	79.3	37.8	58.6	66.2	30.7	48.5	84.1	38.2	61.2	76.2	56.6	66.4	73.1	50.5	61.8	
3	12		65.1	15.5	40.3	73.8	73.2	73.5	71.0	31.8	51.4	76.2	45.9	61.1	72.0	78.9	75.5	76.6	45.2	60.9	
3	13		58.4	27.2	42.8	84.8	53.5	69.2	66.0	70.2	68.1	85.5	58.2	71.9	91.9	66.7	79.3	86.9	58.5	72.7	
3	14		79.1	24.2	51.7	81.0	43.0	62.0	72.4	97.8	85.1	90.5	74.0	82.3	89.4	60.9	75.2	70.6	57.4	64.0	
3	15		74.3	39.9	57.1	91.1	32.4	61.8	82.2	57.2	69.7	63.2	48.6	55.9	87.5	61.1	74.3	91.5	51.8	71.7	
3	16		77.7	38.3	58.0	70.3	35.0	52.7	69.9	70.8	70.4	64.5	44.2	54.4	84.5	38.3	61.4	79.6	69.0	74.3	
3	17		79.5	30.2	54.9	70.7	39.0	54.9	67.6	32.6	50.1	78.1	67.0	72.6	93.7	89.7	91.7	92.6	62.9	77.8	
3	18		69.2	21.0	45.1	81.4	37.5	59.5	62.2	24.8	43.5	79.4	42.6	61.0	74.1	86.5	80.3	80.1	44.1	62.1	
3	19		59.5	21.9	40.7	64.0	36.9	50.5	74.6	43.2	58.9	76.5	54.2	65.4	79.9	67.2	73.6	67.8	47.2	57.5	
3	20		67.5	71.8	69.7	64.8	30.0	47.4	71.5	36.0	53.8	68.1	41.0	54.6	72.2	52.2	62.2	91.5	63.3	77.4	
3	21		71.6	92.3	82.0	63.1	31.7	47.4	71.2	67.4	69.3	70.8	53.0	61.9	79.2	49.0	64.1	66.6	56.9	61.8	
3	22		64.6	24.2	44.4	60.7	27.9	44.3	72.5	62.4	67.5	65.1	98.9	82.0	89.5	35.8	62.7	74.1	53.2	63.7	
3	23		74.5	37.1	55.8	48.3	33.3	65.8	80.6	62.6	71.6	76.5	64.0	70.3	82.0	69.9	76.0	80.3	45.6	63.0	
3	24		67.5	90.5	79.0	86.9	86.9	85.7	61.3	67.6	26.0	46.8	71.8	44.6	58.2	85.4	90.9	88.2	65.0	23.8	44.4
3	25		66.2	26.9	46.6	76.5	68.3	72.4	68.7	51.5	60.1	71.5	67.1	69.3	89.9	64.2	77.1	57.6	24.4	41.0	
3	26		68.5	30.0	49.3	77.8	1.3	39.6	97.2	37.4	67.3	74.3	79.3	76.8	81.0	67.7	74.4	62.1	27.5	44.8	
3	27		79.5	27.0	53.3	69.4	33.4	51.4	76.0	58.7	67.4	71.8	37.1	54.5	79.5	64.7	72.1	72.8	67.4	70.1	
3	28		68.8	96.9	82.9	83.6	50.1	66.9	72.1	38.6	55.4	61.6	61.7	61.7	77.8	63.1	70.5	59.9	22.8	41.4	
3	29		64.3	39.6	52.0	66.0	32.3	49.2	74.8	43.0	58.9	65.4	29.7	47.6	96.1	90.3	93.2	54.7	23.1	38.9	
3	30		71.2	97.0	84.1	66.3	35.3	50.8	55.8	77.6	66.7	70.6	60.7	65.7	82.9	80.2	81.6	61.1	28.1	44.6	
3	31		68.7	41.3	55.0	65.6	64.2	64.9	68.5	52.4	60.5	83.8	74.0	78.9	91.8	65.0	78.4	63.9	29.4	46.7	
4	1		64.9	37.6	51.3	68.7	35.3	52.0	64.5	54.7	59.6	75.6	57.4	66.5	81.4	74.4	77.9	57.9	29.1	43.5	
4	2		70.5	27.2	48.9	74.4	26.6	50.5	47.6	35.7	41.7	61.4	53.1	57.3	76.5	51.0	63.8	95.4	72.4	83.9	
4	3		55.6	22.4	39.0	68.5	52.2	60.4	59.3	69.0	64.2	74.7	48.7	61.7	94.5	50.0	72.3	81.2	72.5	76.9	
4	4		52.6	23.8	38.2	65.6	27.0	46.3	56.7	46.3	51.5	55.5	62.3	58.9	80.1	66.1	73.1	87.8	98.2	93.0	
4	5		51.4	22.4	36.9	96.6	19.6	58.1	63.8	64.2	64.0	81.3	55.4	68.4	65.3	51.2	58.3	81.5	69.0	75.3	
4	6		48.3	22.1	35.2	59.1	23.6	41.4	59.0	60.1	59.6	74.5	51.1	62.8	74.4	50.3	62.4	83.1	61.7	72.4	
4	7		57.0	37.0	47.0	56.6	24.8	40.7	48.6	67.8	58.2	74.8	54.0	64.4	52.5	48.0	50.3	63.9	67.3	65.6	
4	8		60.5	38.6	49.6	64.8	30.8	47.8	64.5	57.7	61.1	87.6	63.0	75.3	76.6	59.5	68.1	69.9	90.6	80.3	
4	9		73.5	48.7	61.1	64.3	75.4	69.9	54.7	66.0	60.4	73.5	87.5	80.5	66.3	48.2	57.3	87.2	87.7	87.5	
4	10		69.6	47.2	58.4	63.2	32.7	48.0	48.8	45.2	47.0	75.6	56.0	65.8	66.3	37.1	51.7	92.5	86.7	89.6	
4	11		66.6	35.0	50.8	54.0	36.8	45.4	62.8	23.1	43.0	65.4	28.3	46.9	76.2	82.7	79.5	75.4	56.2	65.8	
4	12		64.7	49.9	57.3	70.7	39.1	54.9	64.3	20.6	42.5	63.0	42.6	52.8	87.7	72.4	80.1	66.2	75.6	70.9	
4	13		64.2	60.2	62.2	68.1	42.9	55.5	60.0	39.2	49.6	85.2	66.7	76.0	94.1	63.9	79.0	85.6	61.9	73.8	
4	14		56.3	32.7	44.5	61.9	83.6	72.8	54.4	67.0	60.7	76.6	58.7	67.7	73.2	98.1	85.7	91.1	72.6	81.9	
4	15		64.8	30.6	47.7	86.9	59.3	73.1	78.7	23.8	51.3	79.7	59.9	69.8	78.6	65.5	72.1	88.9	45.6	67.3	
4	16		52.6	23.8	38.2	77.2	44.9	61.1	80.1	64.5	72.3	78.2	70.6	74.4	60.8	97.9	79.4	82.5	55.3	68.9	
4	17		50.5	23.4	37.0	76.8	65.6	71.2	78.7	46.3	62.5	81.8	52.9	67.4	81.6	76.4	79.0	88.2	57.8	73.0	
4	18		64.3	20.5	42.4	73.1	50.9	62.0	85.4	73.5	79.5	69.9	60.4	65.2	71.8	67.5	69.7	90.8	55.9	73.4	
4	19		55.1	30.1	42.6	96.3	86.8	91.6	71.9	96.4	84.2	81.3	56.9	69.1	64.5	62.1	63.3	71.6	56.3	64.0	
4	20		54.3	39.2	46.8	83.8	75.9	79.9	68.7	58.6	63.7	75.4	62.9	69.2	57.4	78.0	67.7	64.7	66.0	65.4	
4	21		62.6	39.3	51.0	76.0	95.1	85.6	62.6	83.9	73.3	92.2	76.1	84.2	66.9	79.3	73.1	94.6	97.9	96.3	
4	22		57.4	86.7	72.1	78.5	94.3	86.4	77.5	78.0	77.8	77.6	63.7	70.7	69.3	64.4	66.9	68.8	59.9	64.4	
4	23		88.4	38.8	63.6	73.6	53.0	63.3	74.8	68.1	71.5	84.4	75.4	79.9	72.9	65.6	69.3	82.2	81.4	81.8	
4	24		67.3	37.0	52.2	80.8	92.3	86.6	68.5	33.4	51.0	75.1	79.8	77.5	68.5	73.0	70.8	66.6	62.5	64.6	
4	25		64.1	41.3	52.7	79.4	75.6	77.5	58.7	92.7	75.7	78.6	67.0	72.8	80.0	68.0	74.0	81.2	50.3	65.8	
4	26		50.2	48.4	49.3	80.5	83.6	82.1	91.3	64.0	77.7	64.2	72.4	68.3	96.5	84.2	90.4	63.6	49.9	56.8	
4	27		63.5	27.8	45.7	89.4	96.2	92.8	69.4	96.2	82.8	66.6	55.1	60.9	98.2	58.0	78.1	64.5	59.9	62.2	
4	28		59.6	36.5	48.1	74.6	73.0	73.8	87.6	63.5	75.6	55.8	60.9	58.4	69.4	64.4	66.9	88.6	87.3	88.0	
4	29		66.7	45.8	56.3	88.7	46.7	67.7	69.3	98.1	83.7	66.9	96.1	81.5	70.7	61.1	65.9	87.9	57.1	72.5	
4	30		66.6	98.0	82.3	80.9	91.3	86.1	77.0	74.1	75.6	75.5	67.8	71.7	67.0	64.0	65.5	52.9	65.3	59.1	

Daily Humidity (%)

Location : Kharini Tar

Month	Year	1999			2000			2001			2002			2003			2004		
		8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
5	1	87.8	88.9	88.4	84.2	93.6	88.9	59.5	58.1	58.8	75.4	49.7	62.6	85.6	65.5	75.6	57.9	69.3	63.6
5	2	88.0	63.7	75.9	86.0	58.8	72.4	73.0	66.6	69.8	76.5	51.4	64.0	74.1	60.4	67.3	71.6	44.3	58.0
5	3	83.0	52.0	67.5	79.1	67.4	73.3	72.5	99.0	85.8	78.3	65.8	72.1	77.5	58.0	67.8	69.6	48.7	59.2
5	4	88.0	84.7	86.4	88.2	58.8	73.5	74.2	70.0	72.1	71.2	75.0	73.1	74.3	61.2	67.8	68.8	73.5	71.2
5	5	82.4	86.1	84.3	75.6	44.3	60.0	77.1	61.2	69.2	78.6	77.0	77.8	73.6	50.3	62.0	84.3	87.0	85.7
5	6	93.2	69.2	81.2	78.1	93.5	85.8	83.4	64.6	74.0	66.1	73.6	69.9	70.2	40.4	55.3	80.8	64.9	72.9
5	7	88.6	60.3	74.5	96.4	55.8	76.1	84.2	71.8	78.0	90.1	66.6	78.4	67.5	43.5	55.5	64.6	55.0	59.8
5	8	77.1	68.1	72.6	74.2	64.8	69.5	80.5	82.0	81.3	81.5	63.8	72.7	68.2	89.2	78.7	71.8	68.5	70.2
5	9	65.2	47.5	56.4	72.4	61.8	67.1	82.2	80.0	81.1	89.8	64.0	76.9	63.2	83.7	73.5	74.2	45.6	59.9
5	10	84.4	72.1	78.3	83.6	60.8	72.2	87.9	62.1	75.0	91.5	94.7	93.1	83.5	56.7	70.1	78.6	67.5	73.1
5	11	82.6	52.4	67.5	70.3	68.5	69.4	76.5	72.0	74.3	89.4	76.3	82.9	71.9	94.3	83.1	78.4	63.9	71.2
5	12	98.1	61.2	79.7	91.7	58.9	75.3	64.6	56.4	60.5	85.2	72.6	78.9	82.6	57.4	70.0	68.4	67.6	68.0
5	13	80.7	56.2	68.5	91.5	64.4	78.0	64.4	54.5	59.5	91.5	70.0	80.8	76.2	82.2	79.2	80.9	91.4	86.2
5	14	92.7	89.1	90.9	62.6	61.1	61.9	81.5	72.5	77.0	91.5	66.9	79.2	85.0	63.3	74.2	84.8	98.3	91.6
5	15	56.1	50.1	53.1	73.4	44.1	58.8	70.6	83.0	76.8	80.4	74.5	77.5	71.1	92.3	81.7	75.3	68.5	71.9
5	16	94.5	53.0	73.8	92.3	62.7	77.5	80.7	54.5	67.6	85.5	75.4	80.5	81.4	80.3	80.9	83.8	71.8	77.8
5	17	67.3	48.3	57.8	72.2	75.7	74.0	88.4	75.5	82.0	83.7	78.6	81.2	71.2	90.4	80.8	78.6	63.2	70.9
5	18	94.5	67.5	81.0	77.1	97.2	87.2	76.2	47.8	62.0	91.5	95.7	93.6	85.8	86.4	86.1	83.8	71.8	77.8
5	19	67.7	45.8	56.8	81.4	98.5	90.0	73.0	94.7	83.9	83.9	62.2	73.1	81.1	70.2	75.7	78.6	53.6	66.1
5	20	72.8	79.4	76.1	91.3	76.4	83.9	92.9	55.8	74.4	91.5	68.8	80.2	70.8	76.0	73.4	85.7	98.2	92.0
5	21	82.3	78.0	80.2	90.0	77.6	83.8	73.3	64.6	69.0	71.9	38.5	55.2	71.0	71.9	71.5	85.1	83.7	84.4
5	22	82.4	65.6	74.0	83.8	69.4	76.6	89.3	68.1	78.7	64.0	61.9	63.0	75.7	74.4	75.1	72.8	84.1	78.5
5	23	84.1	74.4	79.3	91.9	67.5	79.7	87.0	72.1	79.6	68.8	77.5	73.2	67.5	69.2	68.4	72.9	85.9	79.4
5	24	81.4	79.1	80.3	98.2	76.3	87.3	83.5	86.6	85.1	89.3	78.7	84.0	77.7	89.6	83.7	81.8	65.2	73.5
5	25	84.5	67.3	75.9	94.0	80.5	87.3	75.8	94.4	85.1	86.2	76.0	81.1	94.7	53.8	74.3	71.0	62.8	66.9
5	26	82.8	68.6	75.7	86.0	90.4	88.2	80.4	85.3	82.9	98.3	88.9	93.6	63.4	58.1	60.8	79.0	91.1	85.1
5	27	85.6	67.1	76.4	94.8	88.5	91.7	70.1	74.9	72.5	83.2	67.6	75.4	70.8	65.5	68.2	91.3	84.5	87.9
5	28	93.4	79.8	86.6	89.8	87.1	88.5	69.4	81.2	75.3	79.3	57.4	68.4	64.7	59.6	62.2	62.7	64.6	63.7
5	29	90.1	70.8	80.5	84.3	86.5	85.4	72.1	82.8	77.5	70.4	76.8	73.6	63.3	58.1	60.7	89.6	71.3	80.5
5	30	80.4	98.2	89.3	93.0	82.7	87.9	86.1	79.5	82.8	94.5	78.8	86.7	77.5	59.6	68.6	84.9	65.1	75.0
5	31	85.0	71.5	78.3	85.5	70.6	78.1	78.2	71.1	74.7	80.9	64.6	72.8	75.4	76.0	75.7	81.0	61.5	71.3
6	1	72.5	48.2	60.4	84.2	74.5	79.4	85.8	72.5	79.2	74.0	61.4	67.7	84.7	75.6	80.2	79.9	85.7	82.8
6	2	76.6	49.7	63.2	74.8	66.2	70.5	91.8	81.6	86.7	79.9	68.1	74.0	74.4	73.8	74.1	71.2	64.9	68.1
6	3	73.4	74.4	73.9	72.4	57.6	65.0	84.1	84.2	84.2	84.5	91.2	87.9	64.9	65.9	65.4	76.5	94.6	85.6
6	4	83.2	57.6	70.4	70.5	54.4	62.5	90.1	84.4	87.3	85.3	87.9	86.6	68.0	89.7	78.9	77.9	93.0	85.5
6	5	66.0	65.1	65.6	77.6	53.9	65.8	92.4	85.1	88.8	82.5	85.6	84.1	78.2	75.1	76.7	88.4	88.7	88.6
6	6	72.1	47.3	59.7	95.0	85.7	90.4	67.1	81.0	74.1	71.6	64.4	68.0	80.4	70.5	75.5	73.7	52.0	62.9
6	7	67.9	62.8	65.4	96.5	77.2	86.9	81.2	61.9	71.6	96.5	82.5	89.5	76.9	71.2	74.1	82.1	63.8	73.0
6	8	69.0	38.4	53.7	98.2	82.3	90.3	80.9	83.0	82.0	72.9	70.5	71.7	81.2	91.7	86.5	69.2	74.1	71.7
6	9	72.0	63.2	67.6	94.8	84.3	89.6	79.7	89.8	84.8	75.6	67.6	71.6	88.6	66.0	77.3	75.5	79.4	77.5
6	10	82.7	71.5	77.1	77.7	74.2	76.0	74.9	62.7	68.8	74.1	74.6	74.4	77.5	98.3	87.9	84.5	83.7	84.1
6	11	79.0	89.1	84.1	79.6	73.9	76.8	77.5	90.6	84.1	77.6	70.5	74.1	75.9	94.8	85.4	73.7	69.8	71.8
6	12	94.9	DNA	94.9	89.0	60.8	74.9	70.6	65.3	68.0	83.1	83.0	83.1	81.8	82.1	82.0	72.4	61.6	67.0
6	13	94.9	81.2	88.1	74.5	62.7	68.6	88.1	79.4	83.8	94.1	76.2	85.2	74.9	93.0	84.0	87.9	59.7	73.8
6	14	90.7	67.8	79.3	81.7	63.1	72.4	72.8	78.9	75.9	96.6	67.5	82.1	80.8	66.0	73.4	69.7	66.0	67.9
6	15	90.1	73.9	82.0	94.2	76.7	85.5	81.6	78.3	80.0	98.2	93.4	95.8	80.8	76.7	78.8	90.4	61.2	75.8
6	16	87.5	66.9	77.2	74.2	65.7	70.0	83.2	79.4	81.3	93.2	62.8	78.0	96.6	71.2	83.9	95.1	75.2	85.2
6	17	84.3	67.3	75.8	96.6	72.1	84.4	84.6	82.0	83.3	80.0	69.1	74.6	84.1	77.5	80.8	91.0	84.7	87.9
6	18	87.7	67.5	77.6	96.6	66.5	81.6	90.2	90.6	90.4	80.5	87.2	83.9	73.4	70.2	71.8	93.2	84.9	89.1
6	19	81.8	67.8	74.8	94.9	83.0	89.0	73.2	68.4	70.8	81.7	91.7	86.7	71.4	68.3	69.9	84.4	67.9	76.2
6	20	81.8	71.2	76.5	84.5	65.1	74.8	88.8	78.8	83.8	76.6	80.4	78.5	81.4	83.9	82.7	80.5	75.4	78.0
6	21	77.3	70.1	73.7	87.6	63.8	75.7	81.8	82.4	82.1	73.9	68.3	71.1	77.7	87.2	82.5	83.1	78.6	80.9
6	22	85.9	73.2	79.6	93.3	93.5	93.4	85.7	95.1	90.4	74.9	64.5	69.7	91.3	92.9	92.1	90.4	83.9	87.2
6	23	83.2	80.5	81.9	87.2	84.3	85.8	83.4	74.4	78.9	71.4	66.8	69.1	72.8	74.6	73.7	82.3	96.4	89.4
6	24	84.2	74.6	79.4	78.5	95.7	87.1	79.5	88.3	83.9	76.6	73.6	75.1	90.4	88.9	89.7	87.1	77.0	82.1
6	25	92.6	85.3	89.0	84.3	68.4	76.4	76.9	76.6	76.8	89.2	83.7	86.5	90.3	78.0	84.2	73.9	75.4	74.7
6	26	95.0	88.0	91.5	81.5	76.5	79.0	91.8	91.3	91.6	82.2	98.4	90.3	87.9	82.3	85.1	79.0	86.7	82.9
6	27	70.7	87.7	79.2	81.1	72.5	76.8	86.2	66.3	76.3	77.5	71.8	74.7	86.8	79.2	83.0	66.2	62.0	64.1
6	28	96.6	74.7	85.7	90.5	69.9	80.2	80.6	70.4	75.5	74.7	71.8	73.3	91.8	79.8	85.8	73.0	64.3	68.7
6	29	82.9	73.6	78.3	87.4	72.0	79.7	80.8	71.8	76.3	79.9	92.1	86.0	95.8	79.3	87.6	67.5	74.8	71.2
6	30	89.3	96.7	93.0	88.8	74.4	81.6	80.5	86.1	83.3	88.8	93.5	91.2	84.7	72.9	78.8	76.5	72.4	74.5

Daily Humidity (%)

Location : Kharini Tar

Year		1999			2000			2001			2002			2003			2004		
Month	Day	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
7	1	87.3	64.5	75.9	87.1	86.4	86.8	84.5	82.2	83.4	89.3	87.7	88.5	91.9	66.0	79.0	83.1	70.7	76.9
7	2	96.6	81.8	89.2	96.7	82.3	89.5	78.0	81.3	79.7	95.0	84.4	89.7	84.3	76.0	80.2	79.0	72.5	75.8
7	3	94.9	84.5	89.7	93.5	78.4	86.0	79.5	88.1	83.8	84.7	75.8	80.3	78.0	72.2	75.1	91.8	73.2	82.5
7	4	98.3	84.5	91.4	84.3	79.8	82.1	74.8	83.9	79.4	86.2	87.7	87.0	96.7	91.9	94.3	74.4	73.8	74.1
7	5	87.4	77.0	82.2	94.9	73.6	84.3	77.5	66.5	72.0	89.3	71.9	80.6	95.0	84.7	89.9	82.0	83.4	82.7
7	6	89.8	78.0	83.9	98.3	93.5	95.9	71.2	66.6	68.9	87.4	78.4	82.9	80.3	69.7	75.0	93.3	78.0	85.7
7	7	83.1	70.2	76.7	97.4	81.8	89.6	76.7	80.0	78.4	92.1	79.5	85.8	95.0	99.1	97.1	87.5	83.8	85.7
7	8	92.1	84.7	88.4	79.1	64.1	71.6	86.0	81.0	83.5	80.8	76.5	78.7	91.8	96.5	94.2	88.8	79.6	84.2
7	9	86.0	86.2	86.1	92.1	72.2	82.2	76.9	72.3	74.6	84.7	73.7	79.2	100.0	98.3	99.2	95.7	77.1	86.4
7	10	90.4	84.7	87.6	83.2	74.3	78.8	84.7	85.7	85.2	88.9	92.8	90.9	96.5	77.2	86.9	85.3	81.6	83.5
7	11	98.3	88.8	93.6	84.5	84.5	84.5	75.5	79.7	77.6	87.6	99.1	93.4	91.5	81.2	86.4	76.7	93.5	85.1
7	12	96.6	76.6	86.6	93.7	78.9	86.3	76.6	76.1	76.4	83.2	69.5	76.4	80.9	97.5	89.2	87.2	81.6	84.4
7	13	85.9	77.0	81.5	78.9	78.0	78.5	79.6	61.7	70.7	72.2	68.5	70.4	91.8	79.7	85.8	80.4	77.6	79.0
7	14	98.3	70.8	84.6	75.0	64.4	69.7	80.8	98.3	89.6	93.2	80.6	86.9	96.6	80.2	88.4	84.1	90.2	87.2
7	15	84.9	73.4	79.2	75.6	74.7	75.2	95.8	91.9	93.9	84.1	86.3	85.2	84.3	75.8	80.1	76.3	66.3	71.3
7	16	85.1	75.9	80.5	91.8	78.2	85.0	98.3	98.3	98.3	82.6	73.0	77.8	74.4	65.7	70.1	83.3	74.8	78.9
7	17	96.6	85.5	91.1	85.7	72.2	79.0	84.4	87.5	86.0	80.4	84.0	82.2	84.5	70.2	77.4	81.8	71.9	76.9
7	18	92.6	74.3	83.5	77.7	65.1	71.4	76.7	71.2	74.0	72.9	70.2	71.6	73.7	90.6	82.2	91.9	78.0	85.0
7	19	84.3	84.8	84.6	93.5	80.8	87.2	95.3	83.2	89.3	74.5	84.8	79.7	87.2	84.5	85.9	89.0	93.4	91.2
7	20	91.9	79.0	85.5	92.0	80.8	86.4	87.3	82.8	85.1	96.6	91.8	94.2	96.6	91.0	93.8	82.0	89.1	85.6
7	21	90.4	72.2	81.3	88.9	86.5	87.7	75.6	94.0	84.8	94.9	94.3	94.6	88.9	72.3	80.6	90.6	70.8	80.7
7	22	88.8	68.1	78.5	90.3	66.2	78.3	81.6	70.6	76.1	89.0	90.7	89.9	76.1	71.3	73.7	95.0	84.7	89.9
7	23	85.9	87.5	86.7	76.7	DNA	76.7	90.8	71.7	81.3	91.8	93.3	92.6	86.0	63.8	74.9	75.4	61.0	68.2
7	24	95.2	93.5	94.4	80.8	90.4	85.6	97.6	84.5	91.1	95.1	85.9	90.5	73.7	75.1	74.4	80.5	74.9	77.7
7	25	94.2	75.7	85.0	88.0	69.4	78.7	85.9	89.2	87.6	93.2	89.6	91.4	78.2	72.8	75.5	94.9	71.8	83.4
7	26	95.0	89.1	92.1	87.4	70.5	79.0	91.9	95.8	93.9	84.2	79.6	81.9	78.8	72.3	75.6	81.4	71.8	76.6
7	27	94.0	80.1	87.1	87.2	69.4	78.3	89.6	82.0	85.8	91.2	78.2	84.7	78.4	77.9	78.2	93.3	72.0	82.7
7	28	90.2	86.3	88.3	83.0	70.2	76.6	86.0	84.9	85.5	92.0	74.4	83.2	74.4	86.9	80.7	80.8	93.5	87.2
7	29	92.0	95.1	93.6	85.9	84.7	85.3	91.9	86.0	89.0	95.1	82.1	88.6	72.3	96.6	84.5	67.9	87.8	77.9
7	30	90.3	81.9	86.1	96.6	89.1	92.9	95.8	76.4	86.1	91.8	81.6	86.7	98.3	93.5	95.9	96.8	73.6	85.2
7	31	92.0	79.9	86.0	98.4	95.1	96.8	95.0	85.9	90.5	89.1	73.2	81.2	100.0	92.0	96.0	83.4	70.7	77.1
8	1	87.7	74.2	81.0	96.6	90.2	93.4	87.4	82.2	84.8	86.2	78.9	82.6	80.5	79.5	80.0	82.0	80.6	81.3
8	2	84.5	73.8	79.2	88.7	93.3	91.0	86.7	87.6	87.2	96.6	72.3	84.5	81.6	70.7	76.2	74.5	67.9	71.2
8	3	90.4	75.2	82.8	94.8	84.6	89.7	95.1	79.3	87.2	78.9	84.1	81.5	73.9	72.0	73.0	76.8	68.5	72.7
8	4	89.1	73.7	81.4	76.7	81.5	79.1	89.0	86.7	87.9	75.2	76.4	75.8	76.9	67.9	72.4	73.9	73.9	73.9
8	5	87.4	77.4	82.4	84.7	76.5	80.6	77.5	63.9	70.7	82.9	69.3	76.1	80.8	95.1	88.0	84.6	81.1	82.9
8	6	84.3	72.4	78.4	78.3	77.1	77.7	87.3	83.4	85.4	68.3	64.1	66.2	75.7	58.2	67.0	71.4	76.2	72.0
8	7	87.8	89.1	88.5	83.7	81.5	82.6	79.4	72.6	76.0	74.2	88.0	81.1	76.4	69.1	72.8	91.1	84.7	87.9
8	8	92.0	72.5	82.3	96.6	81.2	88.9	81.6	69.0	75.3	75.1	66.5	70.8	84.4	82.3	83.4	75.3	78.0	76.7
8	9	90.5	73.2	81.9	95.1	87.4	91.3	81.8	66.7	74.3	80.9	81.6	81.3	76.4	72.0	74.2	78.5	68.5	73.5
8	10	92.8	69.2	81.0	96.6	80.4	88.5	79.3	68.1	73.7	95.9	76.2	86.1	84.7	65.5	75.1	80.9	81.8	81.4
8	11	87.5	93.5	90.5	81.6	76.6	79.1	95.2	83.4	89.3	98.3	92.3	95.3	75.9	65.5	70.7	80.9	73.3	77.1
8	12	89.0	93.4	91.2	85.8	80.0	82.9	90.6	39.9	65.3	95.0	84.6	89.8	79.4	73.0	76.2	77.0	72.2	74.6
8	13	96.6	100.0	98.3	85.8	70.2	78.0	86.6	66.4	76.5	82.2	81.5	81.9	85.7	75.4	80.6	89.1	68.3	78.7
8	14	98.3	87.4	92.9	91.8	69.5	80.7	87.1	79.3	83.2	76.6	80.9	78.8	78.1	68.4	73.3	75.0	63.1	69.1
8	15	91.9	90.6	91.3	89.1	79.5	84.3	75.2	67.6	71.4	88.9	64.1	76.5	93.1	78.1	85.6	80.6	72.2	76.4
8	16	92.1	78.3	85.2	91.9	72.7	82.3	80.6	79.6	80.1	79.6	90.3	85.0	84.5	66.3	75.4	82.6	89.0	85.8
8	17	85.9	73.0	79.5	86.7	80.9	83.8	78.3	93.9	86.1	74.5	72.0	73.3	81.2	93.5	87.4	84.0	97.5	90.8
8	18	92.7	81.8	87.3	93.5	90.4	92.0	98.3	92.1	95.2	92.1	72.3	82.2	96.6	91.7	94.2	82.1	95.9	89.0
8	19	92.6	75.6	84.1	83.2	74.0	78.6	90.3	95.2	92.8	85.3	78.7	82.0	97.5	95.1	96.3	92.6	92.8	92.7
8	20	84.5	80.8	82.7	78.7	92.0	85.4	88.0	74.9	81.5	92.5	98.3	95.4	97.5	99.1	98.3	87.4	93.5	90.5
8	21	84.7	77.7	81.2	96.7	73.9	85.3	84.7	79.2	82.0	98.2	93.4	95.8	82.9	74.4	78.7	75.8	73.1	74.5
8	22	98.3	81.8	90.1	83.0	67.2	75.1	98.3	99.2	98.8	96.5	80.7	88.6	88.3	72.5	80.4	79.3	59.0	69.2
8	23	94.2	90.4	92.3	86.9	84.1	85.5	96.5	86.2	91.4	88.2	86.5	87.4	76.7	70.8	73.8	59.0	66.4	62.7
8	24	94.9	78.2	86.6	93.5	82.1	87.8	96.4	87.5	92.0	83.0	80.1	81.6	84.7	74.4	79.6	88.1	70.6	79.4
8	25	93.2	85.9	89.6	84.9	77.4	81.2	80.5	76.9	78.7	77.5	77.7	77.6	82.0	70.6	76.3	75.8	66.0	70.9
8	26	96.5	94.9	95.7	96.6	84.9	90.8	82.3	77.3	79.8	72.9	97.5	85.2	83.4	79.2	81.3	82.2	71.2	76.7
8	27	88.6	84.4	86.5	93.6	73.2	83.4	92.7	83.0	87.9	96.8	85.1	91.0	80.4	85.2	82.8	71.3	67.4	69.4
8	28	88.4	81.6	85.0	94.9	82.7	88.8	93.4	92.0	92.7	70.5	72.0	71.3	87.4	83.3	85.4	73.7	80.5	77.1
8	29	88.7	76.7	82.7	93.5	73.3	83.4	85.5	80.5	83.0	76.7	70.3	73.5	78.0	78.2	78.1	84.7	93.7	89.2
8	30	88.0	80.6	84.3	85.2	77.0	81.1	94.9	65.6	80.3	84.7	84.7	84.7	95.2	84.9	90.1	89.1	90.2	89.7
8	31	93.4	76.3	84.9	84.9	68.3	76.6	75.4	75.9	75.7	86.2	78.2	82.2	86.0	90.5	88.3	77.8	91.2	84.5

Daily Humidity (%)
Location : Kharini Tar

Month	Year	Day	1999			2000			2001			2002			2003			2004		
			8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
9	1		87.4	82.0	84.7	80.7	59.2	70.0	95.7	90.2	93.0	84.8	86.6	85.7	91.1	93.5	92.3	86.3	81.4	83.9
9	2		90.2	76.2	83.2	86.4	91.2	88.8	96.5	98.3	97.4	81.5	80.5	81.0	95.2	70.9	83.1	92.6	95.1	93.9
9	3		84.2	75.2	79.7	71.6	70.2	70.9	89.3	87.5	88.4	76.3	63.1	69.7	84.2	83.1	83.7	95.1	93.6	94.4
9	4		93.4	81.7	87.6	86.2	79.1	82.7	80.8	76.7	78.8	96.5	94.9	95.7	75.4	78.2	76.8	93.4	80.8	87.1
9	5		87.8	78.2	83.0	80.3	72.5	76.4	94.9	81.8	88.4	85.3	84.8	85.1	74.4	75.4	74.9	89.1	84.4	86.8
9	6		91.9	86.2	89.1	87.2	66.0	76.6	79.1	88.8	84.0	84.5	78.1	81.3	83.1	86.6	84.9	77.2	73.7	75.5
9	7		91.9	83.4	87.7	93.6	92.1	92.9	84.3	71.2	77.8	75.2	74.7	75.0	78.3	74.9	76.6	94.3	83.6	89.0
9	8		91.9	77.1	84.5	93.4	92.5	93.0	87.9	86.1	87.0	75.0	79.9	77.5	88.2	84.7	86.5	83.6	86.6	85.1
9	9		91.7	84.7	88.2	91.7	94.9	93.3	87.4	83.4	85.4	78.9	78.4	78.7	90.4	79.1	84.8	96.7	97.5	97.1
9	10		96.6	62.1	79.4	90.2	95.0	92.6	92.0	81.2	86.6	85.3	87.1	86.2	83.3	76.4	79.9	93.3	91.9	92.6
9	11		87.3	80.6	84.0	96.6	69.4	83.0	91.3	69.2	80.3	80.0	90.3	85.2	75.8	82.7	79.3	85.9	89.8	87.9
9	12		84.4	76.9	80.7	91.8	70.3	81.1	88.7	91.7	90.2	83.0	91.1	87.1	78.0	78.3	78.2	81.9	88.8	85.4
9	13		90.2	83.5	86.9	92.0	56.4	74.2	93.1	84.3	88.7	82.9	66.7	74.8	78.3	73.6	76.0	87.0	95.2	91.1
9	14		94.0	75.9	85.0	88.0	61.6	74.8	91.7	90.4	91.1	93.5	72.5	83.0	79.3	78.0	78.7	85.6	83.3	84.5
9	15		85.9	80.5	83.2	88.6	91.2	89.9	91.6	79.5	85.6	83.0	61.6	72.3	77.3	77.5	77.4	90.2	83.0	86.6
9	16		91.9	76.1	84.0	87.2	80.3	83.8	86.9	87.5	87.2	82.5	96.3	89.4	72.5	70.0	71.3	87.8	96.4	92.1
9	17		88.7	86.0	87.4	93.6	74.9	84.3	68.1	76.1	72.1	89.9	84.0	87.0	87.2	71.8	79.5	72.4	79.7	76.1
9	18		85.8	80.6	83.2	91.7	93.2	92.5	78.2	74.9	76.6	85.7	84.5	85.1	93.4	78.0	85.7	84.1	83.3	83.7
9	19		70.1	75.7	72.9	85.3	74.7	80.0	88.5	76.1	82.3	83.9	81.8	82.9	98.3	76.7	87.5	81.9	74.2	78.1
9	20		86.8	78.4	82.6	76.9	81.6	79.3	93.4	74.7	84.1	69.9	80.2	75.1	84.3	80.8	82.6	74.9	77.0	76.0
9	21		82.8	83.4	83.1	88.4	74.7	81.6	86.0	70.8	78.4	76.2	78.2	77.2	87.2	82.0	84.6	85.8	79.0	82.4
9	22		88.6	76.1	82.4	96.4	61.9	79.2	81.8	78.1	80.0	98.2	92.1	95.2	93.4	80.5	87.0	87.3	69.9	78.6
9	23		91.8	66.7	79.3	90.3	68.3	79.3	80.5	79.0	79.8	83.8	83.1	83.5	77.5	88.8	83.2	81.3	69.1	75.2
9	24		91.7	82.0	86.9	85.1	86.8	86.0	78.9	79.5	79.2	93.1	98.2	95.7	82.5	96.4	89.5	90.3	75.2	82.8
9	25		94.1	80.5	87.3	91.4	73.0	82.2	81.4	77.4	79.4	86.6	83.8	85.2	96.4	63.9	80.2	91.6	86.7	89.2
9	26		94.0	93.3	93.7	77.5	82.9	80.2	78.6	87.7	83.2	78.1	84.1	81.1	84.4	76.3	80.4	83.9	74.8	79.4
9	27		88.2	84.5	86.4	82.9	76.9	79.9	80.0	75.4	77.7	81.3	79.7	80.5	80.2	67.4	73.8	94.8	90.1	92.5
9	28		93.3	80.6	87.0	85.1	76.3	80.7	70.9	69.4	70.2	83.4	95.3	89.4	72.9	82.0	77.5	91.4	90.4	90.9
9	29		91.2	80.3	85.8	84.3	69.4	76.9	88.6	89.3	89.0	84.2	89.2	86.7	84.9	87.3	86.1	91.1	90.1	90.6
9	30		90.1	82.6	86.4	76.4	78.2	77.3	80.0	76.2	78.1	65.5	93.8	79.7	93.0	87.0	90.0	89.8	84.6	87.2
10	1		85.4	99.1	92.3	78.8	79.5	79.2	80.0	75.5	77.8	84.5	89.9	87.2	85.3	78.6	82.0	98.2	72.0	85.1
10	2		90.8	90.2	90.5	81.0	77.2	79.1	83.9	83.9	83.9	91.9	92.3	92.1	77.2	73.3	75.3	88.5	81.4	85.0
10	3		91.2	89.6	90.4	85.5	74.1	79.8	84.0	76.0	80.0	85.4	88.9	87.2	87.5	64.4	76.0	91.3	84.1	87.7
10	4		89.9	89.3	89.6	88.5	73.8	81.2	86.4	88.6	87.5	84.3	77.5	80.9	94.4	79.9	87.2	92.1	55.4	73.8
10	5		82.6	78.5	80.6	87.3	74.5	80.9	82.8	73.3	78.1	83.8	76.3	80.1	91.1	79.8	85.5	78.0	85.9	82.0
10	6		94.8	80.1	87.5	91.4	85.2	88.3	73.3	65.5	69.4	83.0	80.6	81.8	87.1	90.3	88.7	89.6	85.1	87.4
10	7		85.1	81.3	83.2	84.4	80.9	82.7	84.1	70.6	77.4	82.8	77.0	79.9	83.3	70.6	77.0	91.6	69.5	80.6
10	8		89.3	80.0	84.7	94.8	63.0	78.9	90.1	81.8	86.0	81.4	84.1	82.8	94.6	70.2	82.4	80.9	75.6	78.3
10	9		94.8	79.8	87.3	83.1	73.6	78.4	80.9	53.9	67.4	78.2	83.3	80.8	73.9	69.0	71.5	86.6	76.5	81.6
10	10		89.6	85.4	87.5	86.3	75.1	80.7	86.3	81.8	84.1	78.6	71.5	75.1	86.6	69.4	78.0	80.0	75.4	77.7
10	11		97.3	81.2	89.3	74.9	88.7	81.8	82.3	73.3	77.8	80.9	61.9	71.4	90.8	70.5	80.7	81.0	67.0	74.0
10	12		87.7	80.9	84.3	69.7	84.0	76.9	88.0	78.7	83.4	75.5	81.1	78.3	84.6	94.9	89.8	77.7	92.4	85.1
10	13		86.2	81.0	83.6	68.8	78.1	73.5	78.9	92.4	85.7	93.5	80.9	87.2	78.8	66.7	72.8	95.1	96.5	95.8
10	14		87.6	81.2	84.4	91.1	79.7	85.4	78.3	88.4	83.4	83.4	89.9	86.7	76.6	72.1	74.4	94.1	90.1	92.1
10	15		92.7	88.5	90.6	75.3	80.6	78.0	91.6	73.5	82.6	75.5	83.6	79.6	80.6	78.2	79.4	62.7	63.9	63.3
10	16		87.7	86.0	86.9	90.5	71.2	80.9	84.7	69.3	77.0	77.1	82.2	79.7	83.2	81.3	82.3	49.3	71.1	60.2
10	17		92.7	83.8	88.3	94.1	68.7	81.4	91.7	81.1	86.4	86.2	85.3	85.8	84.6	71.2	77.9	89.7	85.7	87.7
10	18		96.1	76.0	86.1	87.2	74.5	80.9	79.3	80.4	79.9	81.3	80.3	80.8	83.5	78.5	81.0	96.1	73.6	84.9
10	19		95.4	95.5	95.5	96.1	66.6	81.4	87.7	74.5	81.1	72.6	79.0	75.8	91.2	73.0	82.1	79.3	74.6	77.0
10	20		91.3	83.4	87.4	94.3	72.7	83.5	89.5	77.6	83.6	77.6	80.7	79.2	92.0	72.4	82.2	89.7	83.1	86.4
10	21		94.2	91.3	92.8	88.7	65.8	77.3	87.3	75.6	81.5	89.0	86.4	87.7	90.8	76.2	83.5	87.1	82.6	84.9
10	22		96.3	77.3	86.8	85.4	81.9	83.7	97.2	66.5	81.9	90.9	84.2	87.6	88.3	73.6	81.0	94.1	76.0	85.1
10	23		96.1	81.9	89.0	94.6	67.9	81.3	90.8	70.8	80.8	84.3	88.0	86.2	88.1	71.1	79.6	93.9	74.6	84.3
10	24		100.0	77.4	88.7	89.0	89.1	89.1	97.9	70.3	84.1	79.4	75.3	77.4	80.8	68.8	74.8	88.6	85.5	87.1
10	25		94.0	79.7	86.9	87.3	85.7	86.5	89.9	81.8	85.9	84.0	77.1	80.6	81.8	66.3	74.1	79.6	72.3	76.0
10	26		93.8	81.1	87.5	67.4	77.4	72.4	83.2	82.6	82.9	93.0	87.2	90.1	78.0	55.4	66.7	87.5	74.6	81.1
10	27		83.4	80.1	81.8	94.1	74.9	84.5	83.5	78.1	80.8	90.4	98.2	94.3	82.6	68.1	75.4	75.0	64.0	69.5
10	28		94.1	83.3	88.7	92.2	79.0	85.6	98.0	61.7	79.9	81.7	82.6	82.2	74.6	62.3	68.5	83.0	80.8	81.9
10	29		92.3	83.0	87.7	90.5	79.3	84.9	80.9	66.7	73.8	84.4	85.7	85.1	84.3	74.5	79.4	90.9	75.9	83.4
10	30		96.1	73.2	84.7	85.4	80.9	83.2	89.0	73.2	81.1	95.0	85.7	90.4	86.7	69.5	78.1	84.8	57.3	71.1
10	31		99.1	86.8	93.0	81.3	84.9	83.1	72.8	73.2	73.0	90.7	90.1	90.4	90.9	74.1	82.5	81.0	67.2	74.1

Daily Humidity (%)

Location : Kharini Tar

Month	Year	1999			2000			2001			2002			2003			2004		
	Day	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean	8:45	17:45	mean
11	1	89.5	78.7	84.1	86.8	75.8	81.3	99.0	89.6	94.3	81.2	68.5	74.9	90.4	73.9	82.2	91.4	73.5	82.5
11	2	95.0	81.8	88.4	92.1	73.6	82.9	94.5	76.2	85.4	88.2	89.2	88.7	90.4	74.4	82.4	90.6	73.8	82.2
11	3	94.3	85.3	89.8	95.7	74.7	85.2	94.5	79.0	86.8	81.0	74.5	77.8	77.6	75.4	76.5	93.3	90.4	91.9
11	4	86.6	80.7	83.7	92.1	73.9	83.0	83.0	77.4	80.2	84.5	81.8	83.2	83.7	49.4	66.6	95.4	72.3	83.9
11	5	87.0	75.4	81.2	75.7	65.1	70.4	81.0	88.0	84.5	83.6	79.3	81.5	90.6	73.0	81.8	84.5	73.1	78.8
11	6	90.5	74.8	82.7	97.0	67.4	82.2	65.1	76.4	70.8	74.1	82.5	78.3	96.2	82.6	89.4	89.3	83.0	86.2
11	7	92.1	73.2	82.7	94.7	70.9	82.8	77.2	82.3	79.8	90.1	87.5	88.8	81.5	74.6	78.1	95.7	74.2	85.0
11	8	87.2	81.6	84.4	92.5	86.0	89.3	87.5	81.4	84.5	90.1	85.5	87.8	92.3	82.9	87.6	94.7	79.6	87.2
11	9	93.7	72.3	83.0	90.5	91.2	90.9	97.7	81.3	89.5	96.9	95.0	96.0	85.4	70.4	77.9	91.6	76.3	84.0
11	10	91.5	85.2	88.4	92.5	82.8	87.7	94.7	67.3	81.0	95.9	90.3	93.1	92.2	76.0	84.1	91.8	82.1	87.0
11	11	93.7	82.5	88.1	96.0	90.8	93.4	83.8	66.5	75.2	66.4	85.4	75.9	90.3	77.5	83.9	67.4	74.2	70.8
11	12	95.9	82.0	89.0	96.0	82.0	89.0	95.7	71.4	83.6	89.8	79.9	84.9	98.0	66.1	82.1	94.7	43.4	69.1
11	13	93.7	79.7	86.7	93.1	80.2	86.7	96.8	94.6	95.7	84.7	78.9	81.8	75.9	98.1	87.0	97.8	75.1	86.5
11	14	100.0	84.8	92.4	94.1	79.3	86.7	100.0	81.7	90.9	93.7	77.1	85.4	90.1	88.0	89.1	91.5	78.2	84.9
11	15	97.9	85.2	91.6	88.4	75.9	82.2	96.9	66.0	81.5	93.8	58.6	76.2	90.9	87.1	89.0	94.8	88.5	91.7
11	16	97.9	82.0	90.0	99.0	77.7	88.4	98.9	73.5	86.2	98.9	81.9	90.4	92.1	58.2	75.2	93.7	92.4	93.1
11	17	98.9	77.3	88.1	88.4	79.3	83.9	98.9	77.2	88.1	95.7	88.4	92.1	80.3	87.5	83.9	88.9	87.0	88.0
11	18	98.9	73.7	86.3	93.9	82.5	88.2	100.0	70.1	85.1	95.7	80.3	88.0	87.8	86.2	87.0	95.8	94.9	95.4
11	19	97.7	81.6	89.7	95.9	89.8	92.9	86.4	70.7	78.6	95.7	90.2	93.0	93.7	88.5	91.1	94.0	72.5	83.3
11	20	95.4	80.7	88.1	97.8	84.3	91.1	96.8	77.9	87.4	91.7	88.3	90.0	91.7	81.4	86.6	98.9	86.4	92.7
11	21	97.7	78.2	88.0	93.4	81.7	87.6	97.9	76.2	87.1	95.7	84.7	90.2	92.4	64.7	78.6	97.9	87.4	92.7
11	22	98.9	91.9	95.4	95.6	79.6	87.6	97.9	81.9	89.9	97.8	85.1	91.5	96.0	81.2	88.6	95.7	86.7	91.2
11	23	82.3	78.0	80.2	95.5	81.2	88.4	99.0	86.1	92.6	96.7	76.0	86.4	97.8	82.1	90.0	98.9	93.5	96.2
11	24	93.1	88.1	90.6	95.8	82.4	89.1	91.8	73.8	82.8	96.8	82.9	89.9	97.8	80.3	89.1	86.2	73.6	79.9
11	25	93.7	86.4	90.1	93.9	83.4	88.7	97.8	85.1	91.5	97.8	85.9	91.9	89.6	92.1	90.9	96.6	90.1	93.4
11	26	93.7	78.0	85.9	97.9	87.7	92.8	100.0	88.6	94.3	94.6	78.2	86.4	97.8	77.9	87.9	93.6	86.6	90.1
11	27	96.7	82.1	89.4	91.7	77.5	84.6	100.0	90.4	95.2	97.9	90.3	94.1	98.9	79.4	89.2	95.5	91.1	93.3
11	28	89.8	78.6	84.2	93.4	93.7	93.6	93.2	70.2	81.7	91.3	81.6	86.5	91.3	88.3	89.8	91.8	61.5	76.7
11	29	96.5	77.5	87.0	97.6	82.7	90.2	98.8	70.7	84.8	95.7	86.9	91.3	97.7	91.9	94.8	93.1	66.7	79.9
11	30	97.7	76.6	87.2	98.8	50.8	74.8	97.6	69.9	83.8	96.8	84.5	90.7	95.3	84.9	90.1	97.6	81.5	89.6
12	1	98.9	81.4	90.2	98.7	69.8	84.3	93.2	91.5	92.4	95.6	75.3	85.5	95.3	82.2	88.8	96.2	78.7	87.5
12	2	98.9	75.2	87.1	97.4	65.6	81.5	98.8	78.9	88.9	93.5	85.4	89.5	87.4	87.9	87.7	98.7	58.1	78.4
12	3	97.8	75.6	86.7	97.4	82.7	90.1	98.8	82.6	90.7	95.5	88.4	92.0	97.7	78.5	88.1	98.8	84.1	91.5
12	4	100.0	77.2	88.6	97.3	76.4	86.9	95.4	87.8	91.6	95.4	88.4	91.9	98.8	69.7	84.3	98.8	87.7	93.3
12	5	97.6	81.3	89.5	97.3	72.0	84.7	97.7	76.6	87.2	88.8	86.3	87.6	98.8	79.6	89.2	92.9	87.9	90.4
12	6	96.4	79.6	88.0	93.5	70.3	81.9	98.8	80.5	89.7	97.7	82.3	90.0	97.6	91.7	94.7	97.6	81.0	89.3
12	7	98.7	78.6	88.7	97.4	70.6	84.0	95.6	86.0	90.8	98.8	84.3	91.6	95.5	89.6	92.6	95.2	89.6	92.4
12	8	96.3	67.9	82.1	97.5	79.8	88.7	87.6	85.9	86.8	96.5	81.0	88.8	97.6	85.8	91.7	98.8	87.0	92.9
12	9	90.7	79.6	85.2	98.7	84.3	91.5	93.5	88.8	91.2	95.6	80.5	88.1	89.5	80.7	85.1	97.6	89.8	93.7
12	10	97.3	77.7	87.5	98.7	77.9	88.3	97.8	79.9	88.9	92.9	73.1	83.0	94.5	78.7	86.6	100.0	60.4	80.2
12	11	97.4	73.3	85.4	98.7	79.8	89.3	97.7	91.5	94.6	88.0	83.9	86.0	95.3	74.4	84.9	97.7	93.9	95.8
12	12	97.5	73.5	85.5	97.5	79.8	88.7	97.6	94.5	96.1	85.9	80.8	83.4	97.6	93.6	95.6	95.4	88.1	91.8
12	13	100.0	72.8	86.4	100.0	79.5	89.8	96.3	93.3	94.8	96.4	84.3	90.4	89.6	81.2	85.4	98.9	75.6	87.3
12	14	100.0	70.3	85.2	100.0	69.9	85.0	98.8	78.5	88.7	95.3	93.9	94.6	98.7	81.8	90.3	97.7	73.2	85.5
12	15	98.7	67.4	83.1	98.8	80.1	89.5	96.5	80.3	88.4	97.6	87.9	92.8	97.5	81.5	89.5	93.3	86.2	89.8
12	16	98.8	73.3	86.1	100.0	79.9	90.0	100.0	93.8	96.9	98.8	86.9	92.9	98.8	85.1	92.0	97.6	80.5	89.1
12	17	100.0	82.0	91.0	100.0	71.5	85.8	97.5	83.3	90.4	95.0	92.8	93.9	97.4	63.1	80.3	98.8	75.0	86.9
12	18	100.0	78.3	89.2	98.7	74.5	86.6	97.5	79.3	88.4	97.5	90.7	94.1	98.7	81.3	90.0	97.6	84.3	91.0
12	19	97.5	72.6	85.1	100.0	70.2	85.1	98.7	87.2	93.0	98.8	93.5	96.2	100.0	88.8	94.4	98.9	81.0	90.0
12	20	96.3	78.7	87.5	94.0	85.5	89.8	92.4	89.3	90.9	97.6	89.4	93.5	98.7	67.9	83.3	97.7	81.6	89.7
12	21	97.7	81.8	89.8	92.4	76.6	84.5	98.7	85.5	92.1	93.3	82.4	87.9	98.7	85.3	92.0	100.0	82.5	91.3
12	22	96.4	76.8	86.6	100.0	71.8	85.9	98.7	88.8	93.8	94.0	83.8	88.9	98.7	78.7	88.7	98.8	79.8	89.3
12	23	95.1	80.1	87.6	96.2	85.9	91.1	98.7	76.3	87.5	97.6	85.2	91.4	98.7	75.6	87.2	97.6	81.8	89.7
12	24	96.3	73.9	85.1	98.7	73.6	86.2	98.7	83.3	91.0	91.9	86.4	89.2	98.6	75.6	87.1	98.8	80.7	89.8
12	25	100.0	70.6	85.3	97.5	77.0	87.3	100.0	84.2	92.1	96.4	80.6	88.5	98.7	70.5	84.6	100.0	80.0	90.0
12	26	97.6	84.6	91.1	98.7	69.9	84.3	100.0	83.4	91.7	93.8	76.2	85.0	83.4	70.3	76.9	90.4	80.4	85.4
12	27	97.5	69.5	83.5	98.7	85.5	92.1	100.0	78.5	89.3	97.6	87.6	92.6	100.0	78.6	89.3	87.5	81.0	84.3
12	28	98.8	84.2	91.5	100.0	65.8	82.9	98.7	88.9	93.8	97.6	62.7	80.2	92.3	96.1	94.2	98.5	71.5	85.0
12	29	93.8	80.7	87.3	100.0	67.0	83.5	98.7	81.4	90.1	86.4	70.6	78.5	98.7	74.0	86.4	97.2	78.2	87.7
12	30	97.6	77.0	87.3	98.7	76.3	87.5	86.1	69.0	77.6	97.3	80.2	88.8	100.0	67.9	84.0	100.0	93.3	96.7
12	31	98.7	73.1	85.9	90.9	91.3	91.1	DNA	DNA	DNA	97.4	97.5	97.5	94.8	95.3	95.1	97.4	90.2	93.8

Monthly Average Humidity (%)

Location : Pokhara Airport Latitude : 28° 13' N
 Index No. : 0804 Longitude : 84° 00' E
 District : Kaski Elevation : 827 m.
 Note : DNA means data not available

Month/Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
1	76.8	75.5	75.6	76.7	71.6	78.5	75.6	71.0	71.3	74.0
2	68.6	70.6	65.2	72.6	64.1	74.3	67.6	66.5	72.4	74.0
3	70.3	59.9	57.6	64.2	56.8	52.3	51.1	65.8	64.4	66.4
4	55.4	52.9	39.5	58.4	54.6	37.6	57.7	50.2	55.4	50.6
5	55.1	66.2	56.2	67.5	71.3	63.6	70.1	59.1	61.4	65.5
6	74.9	73.2	71.5	77.0	77.5	65.7	75.8	76.0	82.3	79.1
7	84.8	81.2	82.6	81.9	80.2	76.8	80.0	78.0	80.9	79.2
8	80.4	82.0	78.9	80.1	82.1	79.5	83.7	78.8	78.1	81.4
9	80.5	80.1	83.2	78.3	80.7	75.3	81.3	80.0	78.2	81.6
10	76.6	70.7	71.3	70.2	73.2	79.1	78.8	71.5	76.9	78.4
11	71.5	66.3	76.9	64.4	69.9	72.7	76.9	67.3	73.3	74.2
12	74.9	76.6	78.0	72.2	75.9	75.5	69.7	70.7	76.2	72.2
Average	72.5	71.3	69.7	71.9	71.5	69.2	72.4	69.6	72.5	73.0

Month/Year	1997	1998	1999	2000	2001	2002	2003	2004	Average
1	73.7	75.3	65.7	70.4	70.7	73.5	73.0	74.6	74.7
2	69.0	71.3	61.1	64.4	65.8	68.0	71.8	68.8	69.6
3	59.7	69.7	46.5	54.8	55.4	62.7	67.3	61.8	60.9
4	64.5	64.0	47.9	59.8	54.5	71.0	64.1	70.2	51.2
5	65.7	71.9	76.9	74.9	72.4	75.0	67.5	72.8	63.6
6	78.4	76.4	75.3	78.4	79.3	78.0	79.0	79.4	75.3
7	82.6	84.4	83.2	81.1	82.9	84.2	82.1	83.1	80.6
8	79.9	86.1	84.3	83.0	82.6	81.1	81.4	81.0	80.5
9	80.8	80.2	80.8	82.0	80.8	79.5	82.6	85.6	79.9
10	74.7	77.1	75.5	75.8	74.9	72.4	73.4	75.7	74.7
11	76.2	76.5	75.3	76.3	74.6	73.8	77.7	74.3	71.3
12	78.6	70.2	69.4	70.9	76.8	75.9	75.8	75.2	74.2
Average	73.7	75.3	70.2	72.7	72.6	74.6	74.6	75.2	

Monthly Average Humidity (%)

Location : Kharini Tar Latitude : 28° 02' N
 Index No. : 0815 Longitude : 84° 06' E
 District : Tanahun Elevation : 500 m.
 Note : DNA means data not available

Month/Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
1	89.8	88.3	89.8	85.2	91.7	94.8	93.2	84.3	83.6	89.3
2	82.9	82.8	83.9	83.0	83.3	90.2	85.1	75.5	78.9	85.5
3	73.0	73.9	71.6	73.8	72.0	79.4	73.1	68.0	65.0	73.4
4	66.8	67.1	52.5	65.1	64.2	70.8	DNA	52.6	57.2	64.8
5	67.2	76.5	67.5	72.1	72.9	83.4	74.8	62.5	62.8	84.7
6	80.0	79.2	75.5	79.8	73.2	88.5	77.5	78.6	83.4	88.6
7	85.4	82.2	83.1	85.1	DNA	90.5	81.3	80.6	83.2	93.8
8	83.8	84.3	78.0	82.7	97.3	93.2	86.2	83.9	83.4	90.1
9	84.0	85.0	83.8	85.3	94.2	94.4	86.0	88.2	84.7	85.8
10	84.7	83.1	80.6	84.8	93.2	95.0	85.9	87.9	85.3	87.2
11	90.0	87.8	88.0	87.2	95.1	95.2	86.9	86.1	88.8	89.6
12	90.3	90.8	87.3	90.4	93.9	94.1	87.0	87.2	90.7	89.0
Average	81.5	81.8	78.5	81.2	84.6	89.1	83.4	77.9	78.9	85.1

Month/Year	1997	1998	1999	2000	2001	2002	2003	2004	Average
1	86.3	87.9	82.3	86.0	82.8	86.3	87.6	85.3	89.0
2	80.4	79.0	74.9	73.8	77.7	78.7	83.2	74.7	83.1
3	61.9	74.0	58.7	60.0	61.3	67.4	73.7	61.2	72.3
4	67.1	69.4	50.3	66.1	64.0	68.2	70.4	72.8	62.4
5	69.0	73.7	75.7	78.3	75.0	76.6	71.8	74.0	72.4
6	78.8	78.8	76.6	79.0	80.8	79.5	80.4	77.6	80.4
7	80.8	DNA	85.8	82.7	83.2	84.7	83.8	81.5	85.0
8	82.2	88.4	85.8	84.1	82.8	82.1	80.5	78.7	86.3
9	84.6	84.3	84.5	82.1	83.3	83.0	81.7	85.8	87.1
10	84.3	86.1	87.6	81.4	80.6	83.3	79.0	80.8	86.8
11	87.5	87.7	87.2	86.5	85.7	86.9	85.0	86.2	89.5
12	91.1	87.1	87.0	87.0	90.6	89.5	88.4	89.3	90.1
Average	79.5	81.5	78.0	78.9	79.0	80.5	80.5	79.0	

Historical Data of Evaporation
at Meteorological Stations

Monthly Evaporation (mm)

Location : Pokhara Airport
 Index No. : 0804
 District : Kaski

Latitude : 28°13' N
 Longitude : 84°00' E
 Elevation : 827 m.

Year	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Month																											
Jan	2.1	2.4	2.6	2.4	2.2	2.3	2.1	2.1	2.2	2.3	1.9			2.4	2.0	1.9	2.1	1.9	2.0	1.5			2.8	2.5	1.9	1.6	
Feb	3.4	3.5	3.4	3.6	3.2	3.4	3.1	3.1	3.4	3.6	2.9			3.2	3.1	3.0	3.1	2.7	2.6	3.1	2.4			8.0	3.1	2.3	2.5
Mar	4.2	5.4	6.2	5.3	4.7	4.5	4.7	4.7	4.5	4.6	4.4				4.7	4.6	4.2	4.1	3.7	5.1	3.6			8.0	4.7	3.9	3.6
Apr	6.0	5.2	6.5	7.0	5.0	5.1	5.9	5.9	4.9	5.4	7.7				5.4	5.3	5.2	4.5	5.1	6.0			6.6		4.3	5.1	5.1
May	5.2	5.4	6.2	6.3	5.8	5.5	6.7	6.7	5.9	5.7	5.4	6.3			5.9	5.6	6.9	4.7	5.5	5.4			6.1	5.9	5.5	5.8	5.8
Jun	4.7	5.4	5.8	6.5	6.4	6.2	7.3	7.3	6.1	7.0	7.3	7.9	5.5		9.8	5.8	6.0	6.5	5.1	6.3				3.9	5.6	6.2	6.2
Jul	5.3	5.4	5.6	6.8	6.4	5.9	5.3	5.3		6.3	6.7	6.0	6.0		6.0	5.5	5.3	4.9	5.2					6.1	6.1	5.3	5.3
Aug	4.4	5.6	5.4	6.0	7.3	5.1	5.8	5.8	6.4	5.1	7.3	6.6	5.6		6.7	4.0	5.9	4.1	3.4	6.3				4.7	4.5	4.0	4.0
Sep	4.2	4.6	5.6	4.5	4.9	4.4	6.3	6.3	6.4	6.4	5.2	6.0	5.7			4.7	4.2	3.8	3.6					4.6	3.0	3.3	3.6
Oct	3.9	4.1	3.9	4.1	4.5	4.4	4.4	4.4	4.8	4.1	3.7	4.1	3.7		3.8	2.9	3.6	3.5	3.0						2.3	2.0	2.1
Nov	2.7	3.0	2.7	2.7	2.6	2.4	2.4	2.4	2.7	3.0	2.3	2.7	3.0			1.8	2.0	2.6	2.5	2.2			7.6	3.5	2.3	2.0	2.1
Dec	2.2	2.2	2.2	2.2	1.9	2.1	2.1	2.4	2.0	2.2	1.8	2.2	1.9				2.0	2.0	1.9	2.0			7.4	2.4	1.9	1.7	1.6
Year	50.5			59.6	54.0		56.4			55.0	54.9	57.8				48.8	50.6	44.2								46.4	

Location : Kharini Tar
 Index No. : 0815
 District : Tanahun

Latitude : 28°02' N
 Longitude : 84°06' E
 Elevation : 500 m.

Year	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Month	Jan	1.6	1.7	1.4	2.2	2.3	1.9	1.5	1.5	1.4	1.4	1.2	1.8		1.8	1.2	1.1	1.2	1.4	1.5	0.9	
	Feb	2.1	2.8	2.7	2.5	2.5	2.5	2.7	2.3	2.5	2.9	1.7	1.6			2.1	2.0	2.5	2.2	1.9	1.8	
	Mar	4.8	4.7	4.4	4.5	3.8	4.2	4.4	4.2	3.7	4.1	2.9	3.1			4.0	3.8	3.4	3.5	3.1	3.0	
	Apr	3.5	3.7	5.6	5.9	5.2	6.9	4.1	4.7	4.3	4.4	4.3	5.1			5.9	5.4	5.1	4.8	4.2	4.5	
	May	5.8	6.2	6.0	5.3	6.1	5.6	5.6	4.9	4.9	5.3	3.7	4.9			6.6	5.2	5.9	5.8	4.7		
	Jun	7.1	5.0	6.6	5.1	5.6	6.0	6.8	3.3	5.2	5.2	5.5	4.8			5.4	6.4	5.2	4.3			
	Jul	5.7	5.9	3.9	4.8	4.9	5.3	6.2	7.2	4.1	3.1	5.2	4.1		4.4	4.8	5.5	4.5	4.5	4.1		
	Aug	6.2	4.7	4.5	4.6	4.4	5.1	5.3	4.4	3.7	3.6	3.9	3.2		3.7	4.4	4.4	4.5	4.7	4.4		
	Sep	4.7	3.9	3.9	4.4	4.7	3.9	5.9	3.7	3.4	3.5	3.7	3.1		3.9	4.1	3.2	3.7	3.4	3.1		
	Oct	3.5	3.2	3.4	3.4	3.4	2.9	3.5	3.1	2.8	3.7	2.6	2.7		2.6	2.8	2.8	2.3	2.6	2.0		
	Nov	2.6	2.3	2.4	2.3	2.4	2.1	2.4	2.8	1.9	2.0	1.9	2.1		1.7	1.8	1.7	1.7	1.6	1.4		
	Dec	1.3	1.6	1.6	1.9	1.8	1.7	1.5	1.6		1.2	1.1	1.8		1.4	1.1	1.2	0.9	0.6	0.4		
Year		45.0	47.1	46.2	47.7	48.1	49.9		39.9			36.4	37.0			44.2	42.7			35.1		

Historical Data of Wind Speed
at Meteorological Stations

Daily Wind Speed (km/h)

Location : Pokhara Airport Latitude : 28° 13' N
 Index No. : 0804 Longitude : 84° 00' E
 District : Kaski Elevation : 827 m.
 Note : DNA means data not available

	Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Month	Day												
1	1	DNA	1.5	2.0	2.2	2.7	2.1	0.3	1.9	1.9	1.6	2.1	0.2
1	2	DNA	0.9	1.7	2.3	3.4	2.5	1.1	1.6	2.4	2.3	2.0	0.2
1	3	DNA	1.9	3.9	2.0	2.2	1.7	0.8	0.6	2.0	2.5	2.2	0.2
1	4	DNA	1.7	2.2	2.2	2.5	2.1	1.6	1.0	1.9	1.1	1.3	0.2
1	5	DNA	1.8	2.4	2.8	2.9	2.5	1.5	1.9	2.0	1.9	2.6	0.2
1	6	DNA	4.2	2.9	2.8	2.0	2.4	2.1	2.0	2.3	2.5	1.8	0.1
1	7	DNA	DNA	1.7	2.0	2.7	1.8	0.6	1.7	2.2	2.8	2.3	0.2
1	8	DNA	DNA	2.3	2.8	2.6	2.7	1.2	1.5	2.7	1.2	1.9	0.2
1	9	DNA	1.8	1.9	1.9	1.2	2.7	0.6	1.7	1.7	1.6	1.9	0.1
1	10	DNA	1.5	2.1	1.7	2.9	2.1	DNA	1.8	2.2	1.7	2.6	0.2
1	11	DNA	2.5	4.2	1.7	2.8	2.6	DNA	1.2	2.4	1.5	2.5	0.2
1	12	DNA	1.6	3.4	1.9	2.6	2.5	DNA	1.4	2.5	2.4	2.3	0.1
1	13	DNA	1.6	2.8	2.0	2.6	2.3	2.0	1.7	3.3	2.3	2.9	0.2
1	14	DNA	3.9	1.9	1.6	4.1	1.9	3.5	2.4	1.6	1.8	2.8	0.3
1	15	DNA	2.8	2.4	2.0	3.6	2.0	1.3	2.7	2.6	1.6	3.0	0.1
1	16	DNA	2.5	2.2	1.5	2.9	1.8	1.5	4.4	1.6	0.8	2.4	0.2
1	17	DNA	3.0	2.0	2.6	2.5	2.6	1.7	1.2	1.8	1.3	4.6	0.2
1	18	DNA	2.5	2.1	2.5	2.8	2.7	1.4	2.0	2.4	2.4	2.4	0.2
1	19	DNA	2.1	2.3	2.5	3.4	1.2	1.5	2.1	2.3	2.9	2.3	0.2
1	20	DNA	0.6	2.2	1.8	3.9	1.2	1.5	2.1	1.4	1.0	2.7	0.2
1	21	DNA	1.6	2.7	2.3	3.2	1.3	1.4	2.5	2.8	1.6	2.0	0.2
1	22	DNA	2.3	1.8	2.1	3.5	2.6	1.4	2.4	2.4	1.4	3.6	0.2
1	23	DNA	2.8	2.2	2.6	2.1	1.3	1.7	2.3	2.2	1.8	3.1	0.2
1	24	DNA	2.6	2.3	2.5	1.4	2.0	2.2	2.3	2.1	1.8	1.8	0.2
1	25	DNA	3.1	2.4	2.0	2.6	1.8	1.4	2.0	1.5	1.9	2.8	0.2
1	26	DNA	2.9	2.6	2.3	2.3	1.7	1.6	2.4	1.9	0.8	2.6	0.2
1	27	DNA	2.9	2.0	2.4	3.2	1.4	0.8	2.2	1.9	1.9	1.9	0.3
1	28	DNA	2.5	2.7	2.5	2.8	1.7	0.9	2.1	1.8	1.8	1.4	0.2
1	29	DNA	2.5	2.8	2.0	3.4	1.4	1.3	2.0	2.0	1.8	2.1	0.2
1	30	DNA	2.8	2.8	3.3	3.1	1.9	1.3	2.4	2.0	2.8	1.8	0.2
1	31	DNA	3.0	1.7	2.3	2.7	2.4	1.3	2.3	2.2	1.9	3.0	0.2
2	1	DNA	3.3	2.0	2.0	2.8	1.3	0.0	1.9	2.1	1.9	2.0	0.2
2	2	5.1	2.1	2.5	2.6	4.5	4.2	4.0	0.9	1.6	2.6	2.7	0.2
2	3	3.5	2.8	2.2	2.4	2.2	4.3	1.5	2.9	2.5	3.4	2.4	0.1
2	4	3.2	2.4	1.9	2.5	6.4	2.5	1.8	1.9	2.4	2.3	2.4	0.2
2	5	2.5	1.8	2.6	2.1	3.5	2.3	1.9	2.4	2.7	2.2	2.8	0.3
2	6	3.4	2.5	4.0	2.0	3.7	3.2	2.0	1.9	3.0	1.8	2.8	0.3
2	7	3.4	2.4	4.1	1.9	3.5	2.6	1.7	3.9	2.0	2.5	2.9	0.3
2	8	3.0	2.1	3.7	2.6	3.6	0.4	1.9	3.1	2.4	1.7	3.1	0.3
2	9	3.2	2.5	3.5	2.6	3.4	2.0	1.8	2.1	2.8	2.7	2.0	0.2
2	10	4.3	2.9	3.4	3.8	3.6	2.5	0.6	2.5	1.8	3.7	2.6	0.3
2	11	3.2	2.9	3.7	4.5	4.0	3.4	0.5	2.2	1.7	5.1	2.9	0.2
2	12	3.0	3.1	3.8	3.0	4.5	3.0	0.7	3.7	1.9	3.0	3.4	0.3
2	13	2.5	4.4	3.9	2.2	5.5	2.3	1.6	1.4	3.3	2.6	2.2	0.3
2	14	3.2	3.5	3.4	1.4	4.8	0.6	1.3	2.2	3.3	2.5	2.2	0.2
2	15	1.8	4.8	3.5	3.5	4.4	2.9	2.2	2.4	1.7	2.4	2.7	0.2
2	16	3.2	3.3	4.6	1.7	4.4	3.6	1.9	3.0	3.7	3.2	2.6	0.4
2	17	4.4	2.1	5.3	2.6	3.7	2.9	2.6	3.3	3.1	2.8	3.3	0.3
2	18	3.1	4.2	4.3	2.7	3.1	5.5	3.1	2.5	3.8	2.5	3.2	0.4
2	19	2.7	2.5	4.0	2.8	5.7	3.1	3.3	3.0	3.9	1.4	3.4	0.5
2	20	3.8	2.9	2.9	2.3	4.4	2.6	4.5	2.7	3.1	2.2	3.8	0.4
2	21	4.0	3.1	2.8	2.5	4.4	3.6	2.6	2.3	3.7	2.9	3.2	0.4
2	22	3.8	3.9	2.7	3.5	4.0	2.9	2.7	3.5	3.0	5.0	3.1	0.4
2	23	4.7	2.5	3.7	5.1	4.4	3.8	3.5	4.2	3.8	2.5	4.3	0.3
2	24	4.3	4.1	3.6	6.3	4.0	3.6	2.3	2.9	1.9	3.3	3.0	0.4
2	25	3.9	2.5	3.5	2.8	3.4	3.6	2.5	3.3	3.0	3.4	2.6	0.2
2	26	5.0	2.6	3.4	1.5	8.4	3.4	1.9	3.0	2.7	3.4	1.9	0.2
2	27	3.6	2.5	4.0	4.0	0.6	3.5	1.6	2.9	3.7	2.9	3.7	0.3
2	28	3.4	2.4	4.2	3.9	2.7	1.6	4.0	3.2	2.6	4.0	3.0	0.3
2	29		3.3				2.6			2.6			

Daily Wind Speed (km/h)
Location : Pokhara Airport

Month	Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Day													
3	1	3.4	2.2	4.6	1.6	5.6	3.0	3.5	3.8	4.0	2.9	2.7	0.3
3	2	4.9	3.9	4.4	3.9	3.7	3.1	1.2	3.2	3.1	3.0	3.4	0.4
3	3	3.4	3.1	4.0	3.9	4.3	3.5	2.8	1.5	3.0	2.5	3.9	0.3
3	4	4.9	3.2	4.0	4.3	4.5	3.6	2.5	2.8	3.2	2.9	4.2	0.4
3	5	3.0	3.0	4.3	3.8	3.6	3.4	3.0	3.1	1.8	2.7	3.8	0.4
3	6	2.8	3.8	4.1	3.7	2.2	4.0	3.4	2.8	1.9	3.9	3.6	0.4
3	7	3.2	3.8	4.5	4.6	3.8	3.5	3.4	3.8	3.2	4.4	3.6	0.4
3	8	3.8	3.6	4.9	3.7	3.9	3.8	2.8	3.4	1.8	3.1	4.3	0.3
3	9	4.0	5.4	5.7	2.8	3.6	3.9	3.2	3.2	4.0	1.9	2.9	0.3
3	10	5.9	3.0	5.1	2.9	4.4	4.5	1.8	2.9	4.1	3.1	3.8	0.4
3	11	4.7	2.0	4.0	3.0	4.4	5.1	2.3	3.8	4.5	1.8	2.7	0.4
3	12	3.8	4.7	4.2	3.7	3.4	4.2	4.5	2.5	4.1	2.4	4.0	0.4
3	13	1.9	2.9	2.7	3.4	5.5	4.1	2.1	3.5	4.3	1.5	4.3	0.3
3	14	4.1	4.0	4.2	3.9	6.3	4.9	3.1	1.3	3.4	2.9	3.7	0.3
3	15	2.8	3.9	3.9	2.1	4.5	5.4	3.8	1.5	4.3	3.9	3.0	0.4
3	16	3.5	2.6	4.7	3.1	3.2	4.0	1.6	2.1	4.2	3.5	4.4	0.4
3	17	2.9	3.2	3.6	3.2	4.3	4.3	4.0	2.7	4.4	3.1	4.5	0.4
3	18	4.6	4.0	4.0	3.2	4.9	4.3	3.8	3.5	4.4	4.0	4.0	0.3
3	19	5.7	4.0	4.0	4.7	4.1	3.9	4.4	2.4	3.4	3.4	4.2	0.4
3	20	4.5	4.1	3.9	4.3	4.7	4.0	3.1	3.5	4.6	4.4	4.8	0.4
3	21	5.5	4.6	2.8	DNA	5.7	4.0	3.1	3.4	4.4	4.9	5.0	0.3
3	22	5.1	4.5	4.1	DNA	5.1	4.8	1.9	3.6	4.4	3.0	4.4	0.3
3	23	5.0	3.7	4.3	6.4	4.7	5.5	1.9	5.7	3.6	3.8	4.7	0.4
3	24	5.4	4.9	5.7	4.4	10.4	4.2	0.6	4.0	3.6	3.0	4.5	0.5
3	25	4.5	2.7	4.1	4.4	1.7	4.4	1.8	3.6	3.5	3.6	3.6	0.4
3	26	5.5	3.8	3.2	4.9	3.9	3.9	2.5	3.5	6.6	2.6	5.6	0.4
3	27	4.9	5.8	3.2	4.4	3.7	4.5	2.0	2.8	2.4	1.9	4.4	0.3
3	28	5.5	4.3	2.1	2.8	3.3	4.9	2.2	2.0	4.0	3.1	4.1	0.3
3	29	3.8	4.0	3.3	4.1	2.3	3.7	3.2	3.1	3.8	1.3	4.1	0.3
3	30	4.7	4.0	3.2	3.5	3.3	5.7	5.3	1.0	5.5	2.4	3.0	0.1
3	31	5.0	4.7	3.2	4.7	4.3	3.7	1.6	0.7	4.1	3.8	1.2	0.2
4	1	3.6	6.4	3.8	4.6	2.4	2.5	4.3	2.4	3.8	4.0	1.6	0.3
4	2	2.9	2.2	3.4	5.6	3.8	6.5	2.6	5.0	2.8	4.1	2.3	0.3
4	3	3.5	3.6	5.5	9.3	5.1	4.0	2.1	4.6	3.2	3.6	2.1	0.3
4	4	3.6	3.8	4.4	4.9	5.5	4.4	3.8	3.1	4.0	4.6	1.1	0.3
4	5	4.1	4.1	5.2	2.8	5.3	4.8	3.8	3.3	4.4	3.0	2.2	0.2
4	6	3.7	4.5	4.7	3.0	3.4	4.4	3.6	2.2	4.0	3.9	3.5	0.3
4	7	3.0	3.3	4.9	3.3	5.5	5.0	3.5	4.2	3.3	3.4	4.0	0.3
4	8	1.9	3.8	4.2	2.5	4.0	4.7	3.3	3.4	3.5	3.8	3.8	0.4
4	9	4.7	3.3	3.9	4.3	5.6	4.6	5.3	5.8	3.5	3.5	4.2	0.2
4	10	3.0	3.6	4.4	4.5	2.7	4.8	3.1	2.6	4.3	3.8	3.0	0.3
4	11	4.7	4.8	5.0	3.7	3.5	5.1	3.8	4.6	4.8	4.1	3.0	0.3
4	12	4.3	3.5	5.2	3.9	4.4	5.2	1.4	3.9	3.2	3.6	2.9	0.4
4	13	4.0	3.4	4.2	4.6	4.8	4.6	1.4	3.2	4.5	3.9	3.2	0.4
4	14	3.5	6.0	4.8	2.8	3.0	6.1	1.4	3.6	4.0	4.3	4.0	0.3
4	15	3.3	4.6	4.5	4.4	4.4	4.5	1.6	4.0	3.7	4.1	2.6	0.3
4	16	3.4	3.3	5.6	4.4	5.6	4.8	2.0	3.0	4.0	4.0	3.2	0.3
4	17	3.5	4.9	1.9	4.8	3.5	3.9	2.2	2.0	5.7	3.5	5.7	0.4
4	18	3.3	2.6	4.8	3.5	4.2	4.5	2.7	4.1	4.6	3.4	5.3	0.4
4	19	4.7	4.2	4.6	4.3	4.3	4.9	3.6	3.6	5.1	3.6	5.0	0.3
4	20	2.7	4.3	5.5	3.8	4.9	3.6	2.0	4.0	4.4	3.8	5.1	0.3
4	21	2.9	3.7	4.6	4.5	4.2	4.9	2.4	3.9	3.4	4.1	3.7	0.2
4	22	4.2	5.0	5.0	5.8	4.1	4.4	3.6	3.7	3.0	3.5	5.7	0.2
4	23	4.2	2.3	4.6	4.1	4.2	5.9	2.5	2.7	3.6	4.1	3.1	0.3
4	24	4.8	3.3	4.0	5.1	5.1	6.0	2.0	3.8	4.2	6.7	3.7	0.2
4	25	5.4	3.8	4.8	5.3	4.6	4.4	1.2	3.9	3.5	5.1	5.3	0.2
4	26	4.2	4.4	6.2	3.5	4.1	4.4	2.7	3.9	4.9	1.7	2.7	0.2
4	27	3.5	2.1	5.9	4.0	4.2	4.7	1.6	4.7	4.3	2.7	2.0	0.2
4	28	3.1	2.9	4.9	3.5	5.5	4.5	1.8	3.8	4.5	3.6	3.7	0.3
4	29	3.4	5.3	5.3	4.3	3.4	4.9	4.1	3.5	3.2	2.9	1.5	0.3
4	30	2.8	3.4	4.2	3.9	3.1	4.3	1.8	3.7	5.5	2.0	3.1	0.3

Daily Wind Speed (km/h)
Location : Pokhara Airport

Month	Year Day	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
5	1	3.0	DNA	5.1	4.7	3.8	3.4	0.1	4.1	2.9	2.0	2.3	0.4
5	2	4.1	DNA	5.6	3.9	4.0	2.8	0.9	3.4	4.3	3.4	2.9	0.3
5	3	4.7	DNA	4.6	3.9	3.8	4.5	0.8	2.6	4.7	2.7	2.8	0.3
5	4	3.5	DNA	5.9	3.6	2.5	3.2	2.3	3.4	5.2	4.1	3.2	0.3
5	5	3.6	DNA	6.4	2.0	4.0	3.2	1.8	4.9	7.0	3.4	5.2	0.3
5	6	3.4	DNA	6.0	2.0	5.0	4.2	2.8	5.5	4.1	4.4	3.9	0.2
5	7	2.6	DNA	5.6	5.5	3.9	4.0	2.2	5.3	6.6	3.7	3.2	0.2
5	8	3.1	DNA	5.0	3.5	3.4	4.0	0.7	5.9	3.4	2.9	3.8	0.2
5	9	3.6	DNA	5.9	3.9	3.6	4.4	1.1	3.3	2.2	3.0	2.1	0.2
5	10	4.0	DNA	5.8	5.2	4.0	4.7	2.7	3.9	4.7	2.3	3.0	0.4
5	11	4.4	DNA	3.5	5.0	2.7	5.0	0.8	0.4	3.8	4.1	3.4	0.3
5	12	4.1	DNA	6.1	4.3	4.1	3.9	3.1	6.6	2.3	4.3	2.7	0.2
5	13	3.4	DNA	4.5	4.6	5.6	2.8	1.4	3.7	4.9	3.4	3.2	0.3
5	14	5.0	DNA	4.5	3.6	4.5	4.4	2.8	3.9	3.4	3.6	3.4	0.3
5	15	3.1	DNA	3.0	2.2	3.7	2.8	2.3	4.1	2.6	3.9	3.3	0.4
5	16	3.6	DNA	3.6	4.4	3.7	1.4	0.5	4.3	2.8	3.2	3.7	0.2
5	17	4.0	4.5	4.2	4.3	3.2	3.0	1.8	4.9	2.9	3.5	3.0	0.0
5	18	4.7	4.6	4.6	3.9	3.3	3.8	0.5	4.1	1.8	3.5	3.1	0.3
5	19	4.2	3.5	6.3	2.7	3.4	3.6	0.8	3.0	0.8	3.6	3.6	0.3
5	20	4.8	4.2	4.1	3.4	2.8	3.7	1.2	2.7	3.5	4.6	3.0	0.3
5	21	4.4	4.3	3.2	3.2	3.2	4.7	0.2	1.3	2.1	2.7	2.1	0.2
5	22	4.3	4.0	2.5	2.8	3.1	3.3	0.3	2.0	7.1	3.9	2.7	0.6
5	23	4.2	3.4	4.1	2.5	3.7	2.2	0.5	1.7	3.4	3.0	3.5	0.2
5	24	3.3	4.2	4.1	2.7	3.1	1.9	0.5	3.4	2.8	2.1	3.2	0.2
5	25	3.1	3.5	4.2	1.9	2.2	3.4	1.8	2.4	2.5	3.0	3.2	0.2
5	26	4.6	3.3	5.1	3.9	3.1	3.1	1.9	2.9	2.4	3.1	3.0	0.2
5	27	5.9	3.8	3.1	2.4	3.2	4.6	1.2	3.4	2.6	2.7	2.7	0.3
5	28	3.1	3.2	2.2	3.1	3.1	2.9	0.4	2.2	2.3	2.6	3.0	0.3
5	29	3.0	4.8	3.9	3.6	2.3	2.8	0.8	2.6	2.3	3.6	2.9	0.1
5	30	3.9	5.1	2.7	1.9	2.8	3.3	1.4	2.6	2.0	2.7	2.4	0.4
5	31	4.0	2.1	2.3	2.7	4.2	3.3	1.6	1.8	3.0	2.5	1.6	0.2
6	1	DNA	2.6	3.9	4.2	3.1	3.2	0.5	1.8	3.2	1.6	3.2	0.3
6	2	DNA	3.1	3.5	3.0	2.4	2.8	1.5	2.4	1.7	1.1	3.2	0.2
6	3	DNA	3.6	2.4	3.1	3.6	2.8	1.9	2.5	3.8	1.6	3.5	0.3
6	4	DNA	1.9	2.9	2.2	2.9	2.6	1.0	2.8	2.3	2.3	2.6	0.2
6	5	DNA	4.1	1.4	2.4	4.5	2.8	1.2	2.8	3.3	1.7	2.9	0.3
6	6	DNA	2.8	3.1	5.0	4.6	5.0	1.1	3.1	1.3	1.8	3.4	0.2
6	7	DNA	4.0	2.6	1.0	5.8	2.7	2.1	2.9	1.8	3.1	2.3	0.2
6	8	DNA	3.8	3.4	2.8	4.1	3.4	1.3	1.8	0.5	2.6	2.9	0.3
6	9	DNA	2.7	2.3	3.6	3.9	2.5	0.8	1.9	2.9	2.0	1.8	0.2
6	10	DNA	5.4	4.9	3.1	2.8	3.7	0.5	3.2	2.7	2.5	2.7	0.2
6	11	DNA	3.9	4.5	2.4	1.1	2.1	1.4	1.1	0.4	3.2	2.6	0.2
6	12	DNA	4.4	2.2	1.9	1.0	2.8	1.3	1.6	0.9	2.5	3.1	0.4
6	13	DNA	3.4	3.7	2.4	1.3	2.9	2.9	3.7	1.0	3.8	3.0	0.3
6	14	DNA	1.5	4.4	3.2	5.6	2.3	2.4	3.2	1.7	3.2	2.4	0.3
6	15	DNA	4.2	4.1	4.1	0.6	3.7	0.7	2.6	1.4	1.5	2.3	0.2
6	16	DNA	4.2	3.2	2.9	1.4	2.2	3.0	3.3	1.1	3.1	3.1	0.2
6	17	DNA	3.4	4.4	3.9	1.9	3.1	1.3	3.7	2.3	2.7	2.7	0.2
6	18	DNA	3.1	3.5	4.7	2.0	3.0	2.0	2.5	1.7	2.3	2.9	0.3
6	19	DNA	5.3	3.2	4.5	1.8	4.7	2.8	3.2	1.7	1.2	2.5	0.3
6	20	DNA	2.7	2.9	4.2	0.9	3.0	2.6	1.1	1.7	1.2	1.2	0.2
6	21	DNA	3.7	3.1	4.3	2.7	3.3	2.3	2.1	2.6	3.0	3.1	0.0
6	22	DNA	3.8	4.2	4.3	2.6	0.1	2.7	1.7	1.3	3.3	2.5	0.0
6	23	DNA	3.6	1.0	4.6	3.0	4.7	1.8	1.9	2.1	0.2	2.4	0.2
6	24	DNA	3.6	3.1	3.2	2.4	0.8	1.0	2.2	0.9	1.7	2.5	0.2
6	25	DNA	1.7	4.0	3.6	2.3	3.4	2.2	3.7	1.1	0.5	3.8	0.1
6	26	DNA	2.7	2.9	4.2	2.2	2.7	0.8	3.2	2.4	0.7	3.3	0.2
6	27	DNA	3.2	4.3	3.2	1.1	1.8	2.0	2.3	2.1	1.6	3.4	0.1
6	28	DNA	4.2	4.4	3.0	2.4	3.4	0.0	2.2	2.3	1.5	3.5	0.1
6	29	DNA	3.8	5.1	2.9	2.5	2.5	0.9	4.2	2.6	1.6	3.0	0.3
6	30	DNA	3.1	3.0	3.2	3.6	1.9	2.4	2.1	2.6	1.1	3.3	0.3

Daily Wind Speed (km/h)
Location : Pokhara Airport

Month	Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Day													
7	1	DNA	3.6	3.7	1.3	1.0	3.2	0.1	2.8	2.7	1.5	2.2	0.3
7	2	3.0	2.4	2.3	2.5	2.9	2.4	2.0	2.5	2.5	2.1	2.6	0.2
7	3	3.9	2.4	2.5	4.6	3.5	3.6	1.5	2.6	1.5	4.3	3.5	0.1
7	4	2.6	3.4	3.0	3.5	2.3	2.6	3.0	3.3	2.9	2.2	3.5	0.3
7	5	1.2	2.9	3.1	2.2	1.2	2.0	3.0	2.7	1.5	1.9	4.0	0.2
7	6	4.2	2.6	3.2	2.5	2.1	2.5	1.1	2.5	3.3	2.8	1.6	0.2
7	7	3.7	2.3	2.7	2.5	1.9	2.2	2.0	1.5	2.4	2.1	2.6	0.2
7	8	3.3	3.6	1.7	3.1	1.0	2.6	3.0	3.4	0.5	2.9	1.9	0.0
7	9	3.0	2.9	3.0	1.1	3.2	3.6	4.0	1.9	1.6	1.8	2.2	0.1
7	10	2.4	3.0	2.1	1.9	0.9	1.2	3.0	2.4	3.7	1.4	2.7	0.1
7	11	4.1	3.7	2.4	2.0	2.9	1.9	3.0	2.5	2.3	1.0	0.8	0.3
7	12	2.3	3.1	3.0	1.5	2.4	2.9	2.0	4.2	0.5	0.5	1.6	0.2
7	13	4.1	2.1	1.2	3.4	2.4	1.4	3.0	4.1	4.7	1.9	2.9	0.3
7	14	3.7	2.3	2.1	3.1	3.3	1.3	2.0	1.9	0.3	0.1	3.0	0.3
7	15	4.0	3.3	1.7	1.9	2.5	2.5	2.0	3.6	0.6	0.4	1.2	0.3
7	16	2.2	3.6	1.0	2.5	1.3	1.3	3.0	1.7	3.9	2.2	2.6	0.3
7	17	3.8	3.0	2.5	2.6	3.2	2.0	2.0	3.0	2.2	2.2	2.8	0.2
7	18	1.9	3.8	2.2	2.2	3.9	3.8	2.0	1.5	1.3	1.8	3.4	0.2
7	19	3.0	2.5	1.6	0.8	3.5	3.7	2.0	2.1	3.0	1.4	4.2	0.1
7	20	3.3	3.7	0.8	1.5	1.7	3.8	1.0	1.1	3.9	1.3	3.3	0.1
7	21	3.8	2.7	2.4	1.4	3.3	2.4	2.0	2.8	3.0	2.2	2.4	0.1
7	22	1.8	2.1	3.0	3.6	1.7	3.1	2.0	3.7	3.3	2.9	2.4	0.2
7	23	2.7	4.4	3.4	3.7	3.2	2.2	2.0	0.5	1.4	1.6	2.9	0.2
7	24	2.1	2.9	2.5	3.6	1.7	2.3	2.0	1.6	2.2	2.6	2.9	0.2
7	25	3.2	2.6	3.5	2.7	2.8	2.6	2.0	2.3	3.0	3.0	2.6	0.3
7	26	1.4	0.6	3.1	2.7	2.2	2.3	2.3	2.3	2.7	2.3	3.8	0.2
7	27	3.0	2.9	2.3	1.3	2.2	3.9	2.8	2.4	2.8	2.2	2.1	0.3
7	28	3.4	3.9	0.8	2.4	4.4	3.8	1.8	2.1	1.0	2.7	2.9	0.1
7	29	3.1	3.5	2.7	2.0	3.1	2.1	0.5	2.4	3.3	2.7	2.6	0.2
7	30	2.5	3.7	1.0	2.2	3.1	2.2	0.6	1.4	2.5	1.7	3.6	0.2
7	31	DNA	2.7	2.4	1.1	1.9	2.5	1.4	2.0	2.8	2.5	3.4	0.2
8	1	DNA	2.8	3.4	1.8	2.8	1.6	1.5	3.2	0.5	2.2	4.2	0.1
8	2	3.0	5.0	3.2	2.9	1.5	1.9	0.9	4.3	2.8	2.6	2.6	0.2
8	3	2.3	1.9	1.7	2.2	1.4	1.1	1.1	2.9	2.7	2.2	3.3	0.1
8	4	3.0	3.7	3.6	1.1	1.2	2.8	2.4	3.1	2.6	2.0	2.6	0.1
8	5	2.4	2.4	2.7	3.0	1.5	2.7	2.5	2.4	3.0	2.5	2.9	0.3
8	6	4.3	3.9	2.5	3.8	1.2	2.1	2.1	2.4	2.2	3.1	3.2	0.2
8	7	3.0	4.2	3.0	2.9	2.8	2.4	1.3	2.0	2.2	3.5	3.7	0.2
8	8	2.9	1.4	2.4	2.6	2.5	3.1	2.7	1.4	1.7	1.0	2.3	0.3
8	9	2.3	2.7	3.4	2.9	1.2	2.1	1.0	1.8	2.4	1.4	2.4	0.4
8	10	3.5	2.6	1.4	2.7	2.9	2.8	0.1	1.1	2.6	2.2	1.9	0.3
8	11	5.6	2.2	1.9	1.7	1.9	2.1	0.4	2.7	2.6	1.5	1.6	0.1
8	12	2.1	2.0	2.7	2.6	1.4	2.6	1.8	2.5	1.1	1.9	1.3	0.2
8	13	DNA	2.0	2.4	1.2	2.1	2.4	3.6	2.2	1.7	1.2	0.4	0.2
8	14	DNA	1.9	2.3	1.1	2.6	3.1	1.4	1.5	1.2	0.5	3.0	0.2
8	15	2.6	1.8	2.5	0.9	2.3	2.5	0.9	0.7	1.8	1.2	3.9	0.2
8	16	3.1	0.5	2.8	2.3	2.5	1.0	0.5	0.7	3.1	1.1	3.4	0.2
8	17	6.9	2.0	2.9	3.7	0.8	2.2	2.2	2.6	1.6	2.7	3.7	0.2
8	18	3.7	3.2	2.2	4.0	1.9	2.5	2.1	2.5	3.7	2.9	2.9	0.2
8	19	3.6	1.5	2.8	1.7	1.6	2.6	2.1	2.6	2.5	2.4	1.5	0.1
8	20	4.4	2.7	2.4	1.5	3.7	2.1	0.8	2.8	3.8	2.0	2.2	0.1
8	21	4.2	3.6	3.6	2.7	3.6	2.4	0.8	2.4	1.6	2.4	3.2	0.1
8	22	5.7	1.0	1.8	2.2	0.7	2.6	1.1	0.9	2.1	2.1	3.2	0.0
8	23	2.9	1.4	1.9	3.0	2.3	0.2	2.5	1.5	1.9	1.6	2.8	0.3
8	24	3.2	1.3	1.6	3.5	1.5	0.5	1.8	2.1	2.4	2.6	3.3	0.2
8	25	0.9	1.7	2.4	2.1	2.0	0.1	2.2	1.3	1.4	2.3	2.6	0.2
8	26	6.2	1.8	3.0	2.3	1.5	2.4	0.3	1.7	3.0	3.2	3.6	0.3
8	27	1.8	2.3	2.6	3.3	3.5	2.3	0.6	1.4	2.5	2.5	2.3	0.3
8	28	3.7	2.6	2.5	0.7	0.7	2.3	2.1	3.1	2.3	2.0	5.7	0.2
8	29	2.5	2.7	2.5	3.2	2.7	3.1	0.8	2.5	2.4	1.8	0.3	0.3
8	30	4.1	1.3	2.5	2.2	3.2	1.4	0.4	3.0	1.2	2.1	2.9	0.1
8	31	2.7	1.7	2.7	2.5	1.7	2.4	1.3	3.1	0.7	1.5	3.2	0.2

Daily Wind Speed (km/h)
Location : Pokhara Airport

Month	Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Day													
9	1	4.0	3.0	3.2	2.0	2.2	2.7	2.4	2.4	1.4	2.6	2.3	0.0
9	2	3.1	2.8	2.6	2.4	2.9	2.1	1.5	2.3	2.2	1.3	3.6	0.2
9	3	4.3	3.1	2.9	1.6	1.6	3.4	2.3	3.1	2.5	2.4	3.3	0.3
9	4	2.1	2.9	1.4	2.4	1.0	2.6	2.4	2.1	1.2	2.6	3.4	0.4
9	5	1.4	2.1	2.1	3.1	2.9	3.1	1.4	1.4	1.3	2.4	2.8	0.2
9	6	2.9	3.7	3.5	3.6	2.3	2.9	0.3	2.5	1.1	1.8	3.9	0.2
9	7	1.0	2.4	3.2	3.7	2.1	1.8	0.4	1.5	2.5	1.7	2.0	0.1
9	8	3.8	1.7	2.7	1.9	1.8	3.3	1.0	1.3	1.1	1.4	3.1	0.2
9	9	2.1	3.0	1.9	3.1	2.0	3.2	0.8	2.6	2.1	1.3	2.5	0.2
9	10	2.0	1.2	3.1	1.6	2.2	3.5	1.5	1.3	2.4	1.4	3.4	0.2
9	11	1.3	2.0	2.6	2.7	2.0	1.2	1.8	0.4	2.4	2.5	3.5	0.3
9	12	2.6	3.4	3.2	1.0	2.0	2.8	2.3	1.2	2.0	2.6	1.8	0.2
9	13	2.1	3.8	1.8	2.5	2.3	2.2	2.4	1.9	3.5	1.1	1.9	0.2
9	14	3.0	3.8	2.3	2.0	2.4	0.8	2.5	0.8	2.6	2.3	0.8	0.3
9	15	3.0	3.4	0.0	3.1	2.6	2.3	1.2	0.1	2.0	2.2	2.3	0.2
9	16	1.7	3.8	2.1	2.2	2.1	0.8	0.7	0.2	2.1	1.1	2.2	0.3
9	17	1.3	5.0	2.3	2.8	2.7	1.8	1.8	1.1	2.9	1.4	2.4	0.3
9	18	1.8	1.9	2.3	1.0	2.0	2.9	1.9	2.8	2.4	2.9	2.5	0.4
9	19	2.5	1.6	1.9	6.3	1.1	1.3	1.6	1.6	0.6	2.4	1.3	0.3
9	20	2.6	3.2	2.0	2.6	2.4	2.4	3.4	0.4	0.8	2.4	1.5	0.2
9	21	0.9	1.3	2.5	2.8	1.8	1.8	1.6	0.9	3.9	1.7	2.6	0.3
9	22	2.0	1.1	2.1	2.5	2.4	2.2	2.5	1.7	1.4	2.2	1.7	0.1
9	23	1.4	1.2	2.9	2.4	3.0	2.8	1.4	1.4	3.3	2.4	2.1	0.2
9	24	0.9	1.5	2.5	2.3	3.3	1.8	2.4	1.9	2.3	2.3	2.5	0.3
9	25	2.5	2.1	3.1	2.1	3.3	2.8	0.4	2.3	1.9	1.8	2.8	0.2
9	26	2.2	3.1	1.7	1.0	2.2	4.6	1.3	1.5	1.1	0.5	2.3	0.3
9	27	2.7	1.7	1.7	2.2	2.6	3.4	1.1	2.1	1.6	2.6	3.4	0.2
9	28	2.6	2.1	3.0	2.6	1.9	1.7	0.7	2.0	2.3	1.1	2.3	0.2
9	29	2.3	2.7	1.8	2.4	1.7	2.4	3.4	0.4	2.0	2.4	2.2	0.2
9	30	2.1	1.7	2.2	3.6	2.4	0.8	0.4	1.5	2.3	1.8	2.5	0.2
10	1	2.4	2.4	1.2	3.3	2.5	0.5	2.2	1.8	3.0	1.9	2.4	0.3
10	2	2.9	1.7	1.1	1.9	1.7	0.1	2.1	1.8	1.9	2.6	2.2	0.2
10	3	2.6	2.1	2.1	3.1	1.8	1.0	2.4	2.1	1.9	1.6	2.3	0.3
10	4	1.3	2.8	3.0	2.4	2.0	1.6	1.5	1.8	2.2	2.4	2.2	0.1
10	5	2.2	0.9	1.7	2.5	3.8	3.0	1.8	3.3	2.2	1.0	2.2	0.2
10	6	1.9	0.9	1.6	2.1	2.5	1.0	1.7	1.7	1.5	1.6	2.1	0.2
10	7	2.4	2.4	1.8	1.6	1.4	1.7	2.4	2.3	2.0	1.8	1.7	0.2
10	8	2.3	2.6	2.4	2.5	1.2	1.7	2.2	2.2	1.4	1.6	1.4	0.2
10	9	2.8	1.5	3.5	3.2	1.8	1.6	1.2	1.7	1.5	3.1	2.2	0.3
10	10	1.7	2.2	2.4	3.1	1.7	1.5	2.0	1.8	1.6	2.4	4.6	0.4
10	11	2.1	0.6	2.7	3.7	1.8	1.7	1.6	1.5	2.5	2.5	1.7	0.1
10	12	1.3	1.1	2.6	2.6	1.8	0.9	1.5	1.3	2.0	2.4	2.5	0.2
10	13	1.7	1.8	2.3	1.7	1.8	0.0	1.8	1.7	1.6	1.9	1.8	0.2
10	14	1.4	2.0	1.6	4.0	2.1	0.7	3.1	1.7	1.8	2.0	2.4	0.2
10	15	3.0	2.9	2.1	1.4	1.8	2.4	1.3	0.6	1.4	2.5	2.0	0.2
10	16	2.1	1.8	1.7	2.5	1.8	1.9	2.0	1.4	1.5	2.0	2.5	0.2
10	17	1.1	1.5	2.3	1.9	1.7	1.6	1.5	1.8	1.7	1.8	2.4	0.2
10	18	1.4	1.9	2.9	1.5	1.6	1.0	1.8	1.5	1.6	2.2	2.1	0.1
10	19	1.2	1.7	3.0	2.0	1.7	1.6	1.4	1.4	1.9	1.7	2.2	0.1
10	20	0.7	2.4	3.1	2.3	2.9	1.8	2.0	1.4	1.8	1.9	2.7	0.2
10	21	1.6	2.9	3.9	2.3	2.9	2.2	2.3	1.3	1.8	2.2	1.5	0.2
10	22	2.0	2.6	1.8	2.1	2.2	1.0	1.8	2.0	1.9	2.0	2.6	0.3
10	23	1.9	2.6	1.7	1.8	1.2	2.7	1.9	1.9	1.8	1.6	2.2	0.2
10	24	2.2	2.3	1.9	2.0	1.5	1.3	2.1	1.8	1.8	0.8	2.6	0.2
10	25	1.8	2.6	2.2	1.9	1.8	1.7	1.9	1.8	1.5	0.9	0.7	0.2
10	26	2.1	2.3	2.3	1.8	2.6	2.5	1.6	1.5	1.6	0.6	1.4	0.2
10	27	1.1	1.9	3.6	1.8	3.7	1.0	1.7	2.0	1.6	2.2	2.2	0.2
10	28	1.7	2.2	1.1	1.9	2.6	1.2	2.2	1.2	1.3	1.0	1.9	0.2
10	29	1.7	2.3	3.3	2.0	1.7	1.5	1.8	1.7	3.1	1.4	1.5	0.3
10	30	0.8	2.0	2.6	2.2	1.8	0.8	2.0	1.9	1.7	1.7	2.0	0.2
10	31	1.5	2.5	1.9	2.0	2.1	1.0	1.6	1.3	1.0	2.4	2.1	0.2

Daily Wind Speed (km/h)
Location : Pokhara Airport

Month	Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Day													
11	1	1.4	2.5	2.9	2.3	1.5	1.2	1.0	0.6	0.8	1.5	1.9	0.3
11	2	2.0	2.8	1.2	2.0	1.8	1.2	1.3	2.0	1.9	1.8	2.1	0.2
11	3	1.7	1.7	2.5	2.7	1.7	1.4	1.7	1.6	2.3	2.1	2.1	0.2
11	4	1.5	2.7	1.5	1.6	1.6	1.4	2.3	2.2	1.7	2.0	2.3	0.2
11	5	1.2	4.3	1.9	2.0	2.3	0.0	3.4	1.4	1.8	1.8	1.5	0.2
11	6	1.6	2.8	2.4	2.2	1.1	2.7	1.7	1.6	1.3	2.1	1.7	0.2
11	7	1.7	2.1	2.2	2.1	1.7	1.5	1.2	1.6	2.6	2.0	1.7	0.2
11	8	0.8	2.3	2.7	2.3	1.8	1.3	1.0	1.6	1.6	2.1	2.8	0.2
11	9	1.0	2.0	2.1	2.2	2.1	1.3	1.0	1.9	2.1	2.1	2.1	0.1
11	10	1.1	2.2	2.2	2.0	2.2	1.3	1.6	2.0	1.4	1.4	2.4	0.2
11	11	1.4	2.1	2.3	2.6	2.2	1.4	1.5	1.8	0.1	1.6	1.6	0.2
11	12	1.4	2.2	2.1	2.5	2.3	2.1	1.4	1.6	0.4	1.4	2.1	0.2
11	13	1.6	2.8	2.3	2.3	2.2	1.3	1.4	4.4	1.0	1.6	1.9	0.2
11	14	0.8	2.3	1.9	2.7	1.9	1.4	1.3	2.0	1.0	1.6	2.2	0.2
11	15	1.8	2.3	2.0	2.3	2.1	1.5	1.2	2.5	1.1	1.8	2.0	0.2
11	16	1.6	2.4	2.7	2.4	2.2	1.2	1.9	1.8	1.1	1.5	2.1	0.2
11	17	1.5	1.9	2.4	2.3	1.6	1.2	1.3	1.3	1.3	1.6	1.7	0.1
11	18	0.9	2.0	2.4	2.4	1.9	1.1	1.3	1.6	1.2	1.6	2.0	0.1
11	19	1.3	2.4	2.0	2.4	1.9	1.2	1.4	1.7	1.3	1.6	2.2	0.2
11	20	1.5	1.9	2.7	2.1	1.9	1.4	2.3	1.9	1.6	1.6	1.1	0.1
11	21	1.3	2.6	2.4	2.2	2.4	1.8	0.9	1.5	1.7	1.4	1.8	0.2
11	22	1.6	2.8	1.6	2.1	2.0	1.6	1.1	2.3	1.2	2.0	1.8	0.2
11	23	1.2	1.9	1.8	2.6	1.4	1.9	1.3	1.2	1.1	1.9	1.2	0.2
11	24	1.2	2.1	1.4	2.4	1.7	1.2	1.8	2.4	1.2	2.4	1.5	0.2
11	25	1.4	2.8	3.3	2.4	1.4	1.2	1.6	1.8	1.3	1.6	1.7	0.2
11	26	1.4	3.0	1.3	2.8	1.4	1.5	0.9	1.5	1.4	1.7	1.3	0.2
11	27	1.6	2.9	1.7	2.4	1.4	1.4	1.1	1.7	1.5	1.9	1.0	0.2
11	28	1.6	2.8	2.2	2.4	2.1	1.2	1.2	1.4	1.4	1.7	0.8	0.2
11	29	1.4	2.7	2.5	2.6	2.0	1.0	1.4	1.6	1.4	2.0	1.8	0.2
11	30	1.2	2.9	1.9	2.2	1.3	1.3	1.1	1.4	1.4	1.9	1.2	0.2
12	1	1.7	2.2	1.8	2.3	2.9	1.1	2.3	0.9	1.4	1.6	1.3	0.2
12	2	2.1	2.8	1.7	2.9	2.6	1.3	1.1	1.4	1.5	2.0	1.6	0.2
12	3	1.7	2.7	1.9	2.1	1.9	2.4	1.3	1.5	1.2	2.2	1.7	0.2
12	4	1.3	1.9	2.1	1.8	1.7	1.9	1.7	1.4	1.2	2.0	1.5	0.2
12	5	2.0	2.2	2.4	1.7	2.1	1.5	1.2	1.7	1.1	2.2	1.6	0.2
12	6	1.6	2.2	2.2	2.2	1.7	1.2	0.9	1.9	1.3	2.1	1.5	0.2
12	7	1.2	0.5	1.9	2.1	1.1	1.3	1.1	1.6	0.7	2.1	1.6	0.1
12	8	0.9	2.2	1.9	2.0	2.0	1.1	1.2	1.5	1.3	2.2	1.5	0.2
12	9	0.9	1.8	1.9	2.6	1.7	1.1	1.2	1.2	1.1	2.3	1.0	0.2
12	10	1.3	2.5	1.5	2.4	2.0	1.0	1.4	2.5	1.2	1.9	0.2	0.2
12	11	1.3	1.9	1.7	2.8	2.2	0.9	0.6	1.7	1.4	1.9	0.8	0.2
12	12	0.9	2.5	1.6	2.7	1.9	0.9	2.3	1.8	1.1	1.8	1.4	0.2
12	13	0.8	1.7	3.1	2.5	2.0	1.0	1.7	1.8	1.3	1.6	1.1	0.2
12	14	2.7	1.7	2.7	2.6	1.8	1.2	1.2	2.1	1.4	1.8	2.1	0.2
12	15	1.4	2.0	1.9	2.6	1.8	1.2	1.4	1.6	1.4	1.6	0.8	0.1
12	16	1.6	2.6	2.2	1.2	2.1	1.3	1.6	1.7	1.2	1.0	1.2	0.2
12	17	1.7	2.3	1.8	2.9	2.0	1.5	1.2	1.6	1.5	1.4	1.2	0.2
12	18	2.0	2.0	2.0	3.0	2.1	1.3	1.2	1.8	1.5	1.9	1.5	0.2
12	19	2.1	2.8	1.9	2.6	1.7	1.8	1.2	1.8	1.2	1.4	1.8	0.2
12	20	1.6	2.7	1.6	2.5	1.7	0.9	1.6	1.9	1.2	2.2	1.7	0.2
12	21	1.5	1.9	1.2	2.6	1.6	0.7	1.8	2.6	1.3	2.2	2.0	0.2
12	22	1.7	2.4	2.5	2.3	1.5	0.7	1.8	1.8	1.6	1.9	2.0	0.2
12	23	1.6	2.6	2.5	2.4	4.0	1.1	1.9	1.8	1.1	1.7	1.4	0.2
12	24	1.9	2.8	1.9	2.5	1.3	1.6	1.5	1.9	2.2	1.6	1.5	0.2
12	25	1.8	2.3	1.9	2.4	3.1	1.2	1.7	1.4	2.4	1.7	1.8	0.2
12	26	1.6	2.0	2.5	2.4	2.1	1.3	1.7	1.9	0.7	1.6	1.6	0.2
12	27	1.9	2.4	3.4	2.5	2.2	1.5	1.5	1.8	1.0	2.2	1.9	0.2
12	28	1.9	1.7	2.7	2.9	2.3	1.6	1.2	1.6	0.7	2.2	1.6	0.2
12	29	1.9	2.3	2.1	2.3	2.7	0.8	0.9	1.5	1.1	1.9	2.0	0.2
12	30	2.1	2.3	1.8	1.1	1.9	1.5	1.7	1.9	1.5	2.3	1.4	0.2
12	31	1.4	2.2	1.7	2.1	2.0	0.1	1.5	3.2	1.9	1.8	1.9	0.2
	Max	6.9	6.4	6.4	9.3	10.4	6.5	5.3	6.6	7.1	6.7	5.7	0.6
	Min	0.7	0.5	0.0	0.7	0.6	0.0	0.0	0.1	0.1	0.1	0.2	0.0

Daily Wind Speed (km/h)

Location : Kharini Tar Latitude : 28° 02' N
 Index No. : 0815 Longitude : 84° 06' E
 District : Tanahun Elevation : 500 m.
 Note : DNA means data not available

	Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Month	Day												
1	1	1.7	0.7	1.3	1.2	0.6	0.6	0.4	0.9	0.5	0.3	0.1	0.1
1	2	1.4	1.1	0.9	1.0	0.8	1.0	0.9	0.8	0.5	0.5	0.2	0.4
1	3	1.4	1.2	1.2	1.0	0.9	0.7	0.8	0.6	1.0	0.5	0.4	0.4
1	4	1.3	1.2	0.7	0.8	0.7	0.5	0.9	0.6	0.8	0.2	0.2	0.2
1	5	1.4	1.1	1.5	0.8	0.8	0.7	0.4	0.8	0.5	0.8	0.3	DNA
1	6	1.4	1.3	1.1	1.0	0.8	0.7	1.8	0.4	1.0	DNA	0.2	DNA
1	7	1.4	1.4	1.3	0.6	0.7	0.7	0.9	0.6	1.1	0.3	0.2	DNA
1	8	1.1	1.6	1.8	0.3	0.7	0.8	0.2	0.7	1.0	0.4	0.4	DNA
1	9	1.1	1.6	1.4	0.4	0.6	0.8	0.4	0.5	0.5	0.3	0.1	DNA
1	10	1.4	1.3	0.8	0.7	0.8	0.3	1.3	1.0	0.6	0.3	0.5	0.9
1	11	1.1	1.5	3.6	1.0	0.7	DNA	0.9	0.2	0.8	0.3	0.4	2.6
1	12	1.7	1.0	2.7	0.8	0.8	0.8	0.7	0.6	1.0	0.5	1.0	0.4
1	13	1.2	1.3	1.8	0.8	1.8	0.8	1.1	0.7	0.8	0.3	0.1	0.6
1	14	1.3	1.7	1.1	0.7	0.6	1.0	1.4	1.5	0.7	0.4	0.4	2.0
1	15	1.7	1.5	1.1	0.9	0.8	0.8	0.9	0.6	0.7	0.5	0.5	0.4
1	16	1.6	1.5	1.3	1.1	1.2	0.5	0.6	1.3	0.8	0.2	0.5	0.3
1	17	1.4	1.7	1.6	0.7	0.8	0.7	0.5	0.7	0.4	0.3	1.2	0.7
1	18	1.7	2.1	1.5	0.9	0.8	1.1	3.8	0.9	1.1	0.3	0.2	DNA
1	19	1.3	1.3	1.5	1.4	0.5	0.7	0.9	0.7	0.4	1.1	0.4	0.8
1	20	1.5	1.0	1.2	0.9	1.2	1.1	2.0	1.5	1.0	0.6	0.6	0.4
1	21	1.6	1.7	0.7	0.4	1.0	0.6	1.0	0.1	1.6	0.1	0.3	0.3
1	22	1.3	1.3	2.0	0.9	1.0	1.0	1.0	0.9	1.3	0.7	0.5	0.5
1	23	1.3	1.7	1.2	0.9	0.7	1.1	1.1	1.0	1.1	0.3	0.5	0.1
1	24	1.3	1.8	2.0	0.9	0.8	1.0	1.2	0.8	0.8	0.6	0.5	0.3
1	25	1.4	1.5	0.6	1.0	0.8	1.1	1.0	0.7	1.2	1.1	1.0	0.3
1	26	1.7	1.5	1.2	0.7	0.9	1.0	0.6	0.6	0.7	0.4	0.8	0.4
1	27	1.4	2.0	1.0	1.3	0.7	0.7	0.5	0.6	0.8	0.4	0.5	0.4
1	28	2.0	1.4	1.7	0.6	0.8	0.9	0.6	0.7	0.6	0.4	0.3	0.5
1	29	1.2	1.4	1.4	2.4	1.0	0.7	0.5	0.8	0.8	0.6	0.7	0.2
1	30	1.6	1.4	1.0	0.7	1.1	0.9	0.5	1.3	1.1	1.0	0.6	0.4
1	31	1.3	1.7	1.4	1.1	1.2	0.8	0.8	0.7	1.0	0.8	0.1	0.8
2	1	2.5	1.5	2.1	1.3	0.7	1.7	1.3	1.0	1.0	0.5	0.4	0.4
2	2	1.4	1.4	1.5	0.9	1.8	3.3	0.8	0.9	0.9	0.4	0.6	0.8
2	3	2.1	1.5	1.6	1.3	2.0	2.1	0.7	1.0	1.1	0.2	0.1	0.4
2	4	2.0	1.4	1.2	2.1	1.2	1.4	0.8	1.0	1.2	0.7	0.4	0.7
2	5	1.9	1.2	2.2	1.4	1.1	1.2	0.8	0.9	0.5	0.1	0.4	0.9
2	6	1.5	1.3	1.8	1.5	1.5	1.6	1.3	0.9	3.3	0.5	0.9	0.7
2	7	2.5	1.5	2.0	1.5	2.5	1.6	0.9	1.3	1.0	0.6	0.1	0.8
2	8	2.4	1.4	2.0	2.5	1.6	0.8	1.1	1.0	0.9	0.9	0.5	0.4
2	9	1.7	1.2	2.3	2.3	0.9	1.2	1.1	1.1	1.5	DNA	0.4	0.6
2	10	1.6	1.7	1.5	1.4	0.8	1.5	1.2	1.4	0.9	1.1	0.5	0.3
2	11	2.6	1.7	2.1	1.0	2.5	1.8	0.6	1.3	0.8	0.9	0.4	0.2
2	12	2.0	1.6	1.1	0.4	1.8	1.6	1.3	1.5	0.9	0.5	0.5	0.7
2	13	1.5	1.3	2.0	1.6	0.8	1.6	1.0	1.4	1.5	1.4	0.7	0.4
2	14	1.5	2.6	1.8	0.9	0.9	1.5	1.3	0.8	1.3	0.7	1.1	1.0
2	15	1.5	2.3	1.7	1.6	1.1	1.8	0.9	1.1	0.7	0.6	0.2	0.9
2	16	1.8	1.4	2.1	1.9	0.8	2.0	0.8	1.0	1.2	0.8	0.9	1.0
2	17	2.9	2.2	2.6	1.6	0.8	1.8	1.4	1.0	1.5	0.7	0.9	1.6
2	18	2.0	2.6	1.5	1.6	1.1	1.8	2.3	1.3	2.4	0.6	0.5	0.5
2	19	2.5	1.8	2.1	1.5	1.0	1.6	1.8	1.1	0.7	0.4	0.6	1.7
2	20	DNA	3.0	1.6	1.3	1.2	1.4	1.9	0.9	1.4	1.5	1.0	0.8
2	21	DNA	2.3	1.5	0.9	1.5	1.6	1.6	1.1	1.2	0.9	0.1	0.8
2	22	2.0	0.8	1.7	2.9	5.1	1.3	1.6	2.6	1.4	1.0	1.3	0.8
2	23	2.5	0.7	2.4	2.8	1.4	1.6	1.6	0.4	2.4	0.5	0.2	0.8
2	24	2.0	1.6	1.4	3.2	1.7	1.7	1.4	0.7	0.8	0.6	0.5	1.0
2	25	3.0	3.6	1.4	1.7	1.6	1.4	1.7	1.3	1.0	0.9	0.6	0.2
2	26	2.4	1.7	2.1	1.4	1.7	1.4	1.3	1.0	1.1	0.8	0.3	0.5
2	27	2.2	1.9	1.2	3.6	1.2	1.4	1.3	1.0	1.6	0.8	1.2	0.9
2	28	2.5	1.7	1.8	1.6	1.5	0.7	2.7	2.0	1.4	0.9	0.6	1.1
2	29		3.0				1.4				1.1		

Daily Wind Speed (km/h)
Location : Kharini Tar

Month	Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Day													
3	1	1.7	2.0	2.1	1.5	1.8	1.4	1.8	1.7	1.8	1.0	0.8	0.8
3	2	2.7	2.5	2.4	2.0	1.4	1.6	0.9	1.3	1.5	1.2	0.8	1.1
3	3	1.7	1.9	2.4	1.8	1.4	1.8	1.4	0.9	1.3	0.1	1.0	1.3
3	4	2.4	2.2	2.8	1.7	0.9	2.0	1.4	1.1	1.3	0.8	1.8	1.3
3	5	2.8	2.1	1.6	1.9	1.0	1.9	1.7	1.2	1.8	0.8	1.4	0.7
3	6	2.3	3.2	2.2	2.1	1.1	1.9	1.7	1.1	1.1	0.7	1.1	1.7
3	7	3.0	2.7	1.9	1.1	0.7	1.7	2.0	1.8	1.8	0.9	1.3	1.3
3	8	2.3	2.3	2.1	2.4	1.1	1.9	1.8	0.7	1.1	1.3	0.9	1.1
3	9	3.6	3.9	2.6	2.8	0.8	2.0	1.8	1.4	2.5	0.7	1.0	0.5
3	10	3.0	3.5	2.5	2.3	1.3	2.0	1.2	1.4	1.8	1.2	0.8	1.5
3	11	2.6	2.6	1.0	2.4	1.2	2.4	1.2	1.4	1.8	0.8	0.8	1.6
3	12	2.8	2.8	3.6	2.8	1.1	1.9	2.7	1.2	2.0	1.1	1.8	0.6
3	13	2.0	2.7	1.7	2.5	1.2	2.0	1.4	1.3	1.7	0.7	1.2	0.7
3	14	3.4	3.0	2.0	1.6	1.2	2.4	1.9	0.9	1.9	1.5	1.3	0.3
3	15	3.1	3.3	2.2	1.2	1.0	2.7	2.5	1.5	1.9	1.4	0.3	0.5
3	16	2.3	2.0	2.1	1.6	1.4	2.6	1.7	1.2	1.3	1.3	1.3	1.7
3	17	3.0	2.2	1.6	1.3	1.4	2.2	2.1	1.8	2.0	2.0	1.5	1.9
3	18	3.6	4.0	2.1	2.4	1.0	2.5	2.1	1.8	1.8	1.5	1.4	1.1
3	19	2.8	3.7	2.9	2.4	1.1	2.5	2.3	1.8	1.8	1.8	1.1	1.0
3	20	2.4	1.9	2.0	2.0	1.5	2.1	2.6	1.9	1.7	1.7	1.7	1.1
3	21	0.6	2.0	1.4	1.5	2.3	2.6	1.6	3.1	1.8	1.3	1.8	1.2
3	22	2.5	2.8	3.9	2.0	1.5	2.2	1.2	3.5	1.6	1.0	2.2	0.7
3	23	3.1	2.6	2.3	3.8	1.1	3.1	1.4	2.8	1.3	0.8	2.2	2.5
3	24	2.5	3.0	2.7	3.5	1.4	2.4	0.8	1.8	2.1	0.8	0.7	1.5
3	25	2.8	2.9	2.4	2.3	1.4	2.7	2.1	2.1	1.8	1.7	1.5	2.2
3	26	3.8	2.0	3.1	1.6	2.3	2.4	2.1	2.8	2.6	0.4	1.3	1.1
3	27	3.1	3.6	1.0	2.5	1.4	2.6	0.9	2.4	1.2	0.8	1.2	1.0
3	28	3.6	2.4	1.6	1.6	1.1	2.6	1.7	1.5	1.9	0.7	1.3	1.3
3	29	2.4	2.7	1.8	2.3	1.5	2.5	1.7	3.6	1.9	1.1	1.2	1.1
3	30	2.9	2.4	2.2	2.7	1.3	3.5	1.8	2.1	3.3	1.9	2.2	0.6
3	31	3.2	2.7	3.8	2.5	2.8	2.9	1.9	1.5	1.8	2.0	1.1	0.8
4	1	3.5	3.2	1.8	1.9	2.9	3.9	2.1	2.4	1.7	1.3	0.9	1.5
4	2	3.1	2.3	2.1	3.5	6.3	2.6	0.2	2.6	1.3	1.2	1.4	1.6
4	3	3.4	2.1	1.5	1.5	3.6	2.0	2.1	2.5	1.3	0.9	1.3	1.0
4	4	2.1	2.3	1.9	3.9	DNA	2.3	2.7	2.8	1.5	2.3	0.6	0.2
4	5	3.0	3.0	2.7	2.4	6.0	2.3	3.7	1.9	1.5	0.2	1.0	0.8
4	6	2.3	2.7	2.4	2.5	2.6	2.1	0.1	2.4	1.9	1.1	1.3	1.4
4	7	2.2	2.4	2.2	3.1	3.2	3.1	2.0	3.1	1.8	1.1	1.3	0.6
4	8	1.0	1.8	2.3	2.1	3.4	1.4	2.0	2.2	1.7	2.2	1.1	1.5
4	9	4.2	1.9	1.9	2.3	2.8	2.4	3.8	2.9	1.7	1.5	1.9	0.8
4	10	3.2	2.2	1.7	2.9	3.2	2.5	0.7	2.5	2.5	1.4	1.4	1.3
4	11	3.6	2.8	1.9	2.9	1.9	4.1	1.9	2.5	2.9	1.3	1.0	0.7
4	12	3.0	2.0	2.8	2.1	4.5	3.1	2.0	2.9	1.3	1.2	1.0	1.3
4	13	2.7	5.9	3.0	2.4	1.3	2.9	1.7	1.8	2.4	1.0	1.0	1.0
4	14	2.7	3.0	2.3	2.6	1.6	3.1	1.9	2.0	1.7	1.3	1.5	0.9
4	15	1.9	1.5	4.4	2.4	1.9	3.9	1.2	3.3	2.1	1.6	1.1	1.3
4	16	2.0	1.8	3.5	1.9	1.5	2.9	0.1	2.4	2.1	1.2	1.7	1.3
4	17	2.0	3.7	2.7	3.3	1.2	2.4	1.7	2.5	2.3	1.5	2.8	1.7
4	18	2.5	3.1	3.4	2.1	2.4	2.3	2.4	2.0	2.9	1.0	1.6	1.4
4	19	4.6	2.7	1.9	4.3	1.2	3.2	2.5	2.4	3.2	1.1	1.8	2.0
4	20	1.8	3.3	1.6	4.6	1.2	2.1	1.0	2.2	3.0	1.8	1.2	1.9
4	21	2.0	3.3	1.0	3.6	2.0	2.9	1.7	3.2	1.3	2.0	2.3	2.2
4	22	1.0	3.8	2.8	4.5	1.9	3.0	2.0	2.3	2.7	0.8	0.8	1.4
4	23	5.1	1.6	4.4	1.8	1.4	3.9	2.4	2.1	1.5	2.8	1.4	1.5
4	24	3.4	2.7	2.1	3.4	1.2	3.8	1.9	3.1	1.9	2.3	0.7	0.7
4	25	4.3	2.2	3.6	1.4	1.0	2.6	1.7	2.3	2.2	2.4	1.2	1.3
4	26	3.0	2.8	4.1	2.8	0.4	2.6	1.8	2.4	3.3	0.8	1.2	0.9
4	27	3.0	2.2	3.8	7.7	1.7	3.9	1.5	3.1	2.2	1.9	0.5	1.8
4	28	2.8	2.6	2.8	3.5	1.6	3.1	1.9	2.6	3.8	0.8	1.5	1.4
4	29	3.7	3.9	3.4	2.8	1.4	3.8	3.0	2.1	2.6	1.8	0.8	2.1
4	30	3.6	3.4	2.5	3.4	1.6	4.2	1.9	2.7	3.4	0.9	1.9	0.9

Daily Wind Speed (km/h)
Location : Kharini Tar

Month	Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Day													
5	1	2.5	2.7	2.9	3.4	1.4	4.4	1.9	2.3	2.6	2.0	0.8	1.6
5	2	2.7	4.7	4.2	3.4	1.8	3.4	1.9	1.8	3.2	1.0	0.9	2.3
5	3	4.3	2.7	3.3	2.1	2.1	2.2	1.1	3.3	3.3	1.8	1.2	1.1
5	4	2.8	3.6	3.8	2.5	2.6	3.3	3.3	1.3	3.9	1.6	1.2	2.4
5	5	3.0	2.6	3.8	1.7	1.5	2.1	2.8	2.6	2.6	1.5	1.7	1.3
5	6	3.0	3.2	3.4	2.4	2.0	2.7	2.9	3.3	2.8	2.7	1.4	1.3
5	7	2.8	3.7	2.7	1.9	1.8	2.5	2.3	2.8	3.7	1.5	0.8	1.9
5	8	3.5	1.6	3.4	1.5	1.7	2.5	1.3	3.5	2.9	1.7	1.2	1.2
5	9	2.6	1.9	2.0	1.8	2.0	2.9	1.7	2.5	1.1	1.7	0.9	1.2
5	10	3.0	4.1	3.0	3.1	1.0	4.1	2.1	2.8	2.1	1.9	1.7	1.9
5	11	2.0	2.8	2.2	2.3	1.2	3.9	2.3	2.6	3.6	1.4	1.4	0.9
5	12	2.0	3.7	1.9	1.5	1.7	2.0	3.0	1.7	2.1	1.0	1.1	1.5
5	13	2.1	2.7	3.2	3.8	2.0	2.9	1.6	1.6	2.4	1.5	1.7	1.3
5	14	3.0	3.2	3.6	3.5	1.7	2.3	1.7	1.9	2.5	1.6	1.2	1.6
5	15	2.5	2.9	2.6	1.8	1.3	3.0	2.7	3.2	1.6	2.6	1.3	2.7
5	16	2.5	3.0	2.3	2.5	1.2	2.1	1.3	2.7	2.0	1.9	2.2	0.9
5	17	2.5	3.7	3.0	3.2	1.6	2.9	2.1	2.7	1.9	1.8	1.1	1.6
5	18	3.5	3.6	2.6	3.3	1.6	3.3	1.8	3.1	2.2	1.6	1.1	2.6
5	19	3.2	2.7	3.0	3.1	2.9	3.4	1.4	2.3	1.1	1.4	1.0	2.0
5	20	3.0	2.7	4.1	2.6	2.5	3.4	2.2	2.2	2.1	1.1	1.7	1.6
5	21	2.3	3.0	2.4	2.1	2.3	2.8	1.8	2.0	2.3	1.2	1.4	2.0
5	22	2.8	2.4	2.4	1.6	1.8	2.9	1.1	2.0	2.3	1.2	0.9	1.5
5	23	3.2	2.8	3.3	2.9	2.0	1.3	2.4	1.9	2.2	0.7	1.6	2.1
5	24	3.0	2.7	3.0	2.6	2.0	1.0	1.4	1.8	2.0	1.3	1.3	2.2
5	25	2.2	3.0	3.7	1.5	2.0	1.9	3.1	2.4	1.8	1.1	1.1	1.4
5	26	3.4	1.3	4.0	2.7	1.8	2.6	2.2	2.5	2.0	1.4	1.3	2.4
5	27	3.7	2.8	2.3	2.5	2.7	2.4	2.2	1.5	2.1	1.2	0.9	2.0
5	28	1.8	2.1	3.3	2.0	2.9	5.0	2.1	1.5	1.9	1.4	0.7	2.7
5	29	2.0	3.4	2.3	2.9	2.3	DNA	1.2	1.4	1.7	1.9	1.6	1.3
5	30	3.2	3.0	3.0	2.1	2.6	3.4	3.2	2.0	1.6	1.8	1.0	1.5
5	31	2.7	1.7	2.3	2.0	1.8	2.8	2.0	1.0	1.8	0.9	0.2	2.5
6	1	5.2	3.1	4.5	2.1	2.4	3.5	1.3	1.1	1.2	0.6	1.3	2.1
6	2	4.1	2.3	1.2	2.3	1.7	2.8	2.2	1.6	2.3	1.9	1.5	2.1
6	3	3.1	2.4	2.9	2.4	2.4	3.0	2.0	1.4	2.1	0.9	1.1	1.9
6	4	3.1	2.1	3.2	1.6	2.6	1.4	1.5	1.4	2.6	1.5	0.6	1.7
6	5	2.4	2.3	2.3	1.9	1.7	2.3	1.7	1.6	1.2	0.8	2.4	2.1
6	6	3.4	2.6	4.2	2.6	1.8	2.5	1.7	2.1	0.6	0.8	0.4	1.5
6	7	2.9	2.3	2.9	1.8	2.3	2.2	1.9	0.9	1.0	1.3	DNA	0.9
6	8	1.6	2.4	2.9	2.6	2.4	2.1	1.8	1.1	0.5	1.0	1.2	1.7
6	9	3.6	1.7	2.1	1.7	2.1	2.4	2.3	0.9	0.9	0.5	0.7	0.8
6	10	2.8	3.0	2.3	2.7	2.4	2.1	1.3	1.1	0.5	1.1	0.8	1.5
6	11	2.9	2.7	3.8	2.3	1.7	1.2	1.5	0.4	0.4	1.1	1.4	1.5
6	12	4.2	4.1	1.6	0.9	2.5	1.6	2.4	1.3	0.4	1.9	1.5	1.8
6	13	1.9	3.9	2.6	1.7	2.1	2.9	2.1	0.9	1.0	0.7	1.0	1.3
6	14	3.6	1.8	2.3	1.8	6.6	0.7	1.5	0.8	0.4	1.8	1.2	1.8
6	15	2.9	2.7	3.7	2.1	2.4	2.0	1.8	1.2	0.9	0.7	0.9	1.8
6	16	5.2	2.8	2.5	2.0	2.4	1.4	1.9	1.1	0.1	1.0	2.5	1.2
6	17	3.0	2.8	3.5	2.0	2.0	1.3	1.3	1.8	1.9	0.7	1.4	0.7
6	18	1.2	2.5	2.7	2.4	1.9	1.6	2.3	1.0	1.1	0.6	1.4	1.0
6	19	3.2	3.2	2.7	1.8	2.0	0.9	2.5	1.0	2.3	0.4	0.7	1.8
6	20	3.2	2.1	2.4	1.8	2.1	3.1	2.7	0.7	1.4	1.3	0.6	2.3
6	21	3.3	3.7	2.9	2.0	2.0	1.2	1.6	0.9	1.1	1.3	0.4	0.2
6	22	2.9	2.7	2.9	2.6	2.7	0.8	0.8	0.7	2.2	2.4	1.8	0.5
6	23	4.3	2.2	1.3	2.2	2.3	1.6	1.5	0.4	0.7	0.2	1.0	0.1
6	24	3.0	2.7	2.6	2.0	1.7	1.1	0.5	1.1	0.8	1.8	0.5	0.6
6	25	3.0	2.3	2.0	2.0	2.0	1.6	1.5	0.9	0.9	0.9	0.6	0.7
6	26	2.4	1.8	2.2	2.1	2.1	1.4	0.7	1.3	1.1	0.4	0.7	0.5
6	27	1.7	2.3	2.1	2.2	2.0	1.4	0.9	1.1	1.1	0.6	1.0	0.5
6	28	1.3	2.9	3.6	1.4	3.1	1.5	0.2	0.6	0.7	0.2	0.8	0.6
6	29	2.5	1.8	4.0	1.5	2.2	1.4	0.6	1.6	0.5	0.4	1.5	0.9
6	30	1.9	2.1	2.2	2.0	2.3	0.8	1.4	0.4	1.8	0.6	2.6	0.5

Daily Wind Speed (km/h)
Location : Kharini Tar

Month	Year Day	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
7	1	3.8	1.7	0.6	2.2	2.1	1.4	1.5	0.6	DNA	0.5	1.4	1.8
7	2	2.4	2.9	3.9	0.8	1.7	1.5	2.0	1.2	1.8	0.6	0.8	0.5
7	3	3.0	2.5	2.0	1.8	0.7	1.4	1.4	0.7	0.5	1.2	0.8	1.1
7	4	3.5	2.8	2.5	1.6	0.8	1.4	1.2	1.1	1.2	0.7	0.9	0.8
7	5	0.7	2.1	2.4	1.3	1.2	1.4	1.1	1.1	0.9	0.7	1.1	0.9
7	6	3.2	1.7	2.3	1.5	1.5	1.5	0.6	1.0	0.2	0.6	0.8	0.5
7	7	2.7	1.1	1.7	1.7	1.5	1.3	0.9	0.9	1.4	0.8	0.2	0.5
7	8	1.5	2.3	1.4	1.3	0.6	0.8	1.6	0.9	0.1	0.6	0.6	0.2
7	9	2.0	2.4	2.4	1.4	1.5	1.6	1.1	0.9	0.9	0.7	0.8	DNA
7	10	1.7	2.1	2.2	0.8	0.6	0.7	1.7	0.3	0.8	0.2	2.2	0.3
7	11	2.1	2.4	2.0	1.1	1.4	0.9	1.5	0.8	0.8	0.2	0.2	0.6
7	12	3.4	2.5	1.9	2.3	1.0	0.8	0.8	1.5	0.3	0.7	0.8	1.0
7	13	2.4	1.7	1.2	1.9	0.9	0.4	1.5	1.2	0.6	0.5	1.4	0.8
7	14	2.8	1.7	2.5	1.7	1.0	0.3	1.5	0.4	1.3	0.1	3.1	0.5
7	15	3.1	2.7	1.5	0.9	1.6	0.6	0.8	0.8	0.6	0.6	0.2	0.4
7	16	2.6	2.8	0.8	1.9	0.4	0.6	1.3	0.4	1.0	0.3	0.6	1.3
7	17	3.0	1.8	1.7	0.9	1.5	0.4	0.7	0.7	0.9	0.7	0.4	0.3
7	18	2.4	2.4	1.6	0.8	1.4	1.2	1.7	0.5	1.0	0.6	0.5	1.0
7	19	1.6	1.9	3.3	DNA	1.1	1.6	1.8	1.2	0.6	0.5	0.8	0.3
7	20	1.8	2.1	0.7	DNA	1.4	1.3	2.4	0.4	1.4	1.1	0.8	0.1
7	21	2.8	2.0	1.6	0.5	1.4	1.1	1.6	0.7	0.4	0.2	1.1	0.3
7	22	2.2	1.5	1.8	1.8	3.4	0.9	1.1	0.8	1.1	1.0	0.8	0.9
7	23	2.1	2.3	2.1	1.4	5.7	0.9	1.4	0.6	0.5	0.4	0.5	1.0
7	24	2.3	2.9	2.0	2.2	1.2	0.8	0.7	0.7	0.7	0.7	0.5	1.6
7	25	2.0	DNA	1.8	1.4	1.4	1.2	0.7	0.6	0.7	0.9	0.6	0.5
7	26	1.3	DNA	1.7	0.9	1.1	0.6	1.1	1.1	0.5	0.4	0.5	1.1
7	27	2.0	1.7	3.6	0.6	1.0	1.3	1.4	1.1	0.6	1.0	0.7	0.8
7	28	2.8	2.7	1.0	0.8	1.2	1.7	0.9	0.4	1.0	0.3	0.7	0.4
7	29	3.1	2.5	1.9	2.3	1.3	0.7	0.6	0.8	1.3	0.9	0.7	0.8
7	30	1.9	2.5	1.2	1.4	1.4	0.8	0.4	0.5	1.1	0.7	0.8	0.3
7	31	1.4	1.9	0.9	1.2	0.6	1.0	0.9	0.2	0.7	1.8	0.6	0.4
8	1	1.3	2.0	1.8	0.9	1.2	0.6	0.9	0.6	0.2	0.7	0.6	0.5
8	2	2.8	1.9	1.5	1.5	0.6	0.1	0.9	0.7	0.7	0.9	0.6	0.2
8	3	1.6	1.8	1.8	1.6	1.2	0.4	0.7	0.8	0.8	0.6	0.2	0.1
8	4	1.4	2.1	1.6	1.0	0.5	1.0	0.8	0.4	0.3	0.5	1.3	0.3
8	5	1.6	1.7	1.7	1.6	0.6	0.4	1.3	0.8	0.7	1.5	0.8	1.1
8	6	2.5	2.2	2.6	1.1	0.5	1.0	0.9	0.5	0.5	0.2	0.4	0.8
8	7	1.8	2.7	1.7	1.0	1.1	0.9	0.5	0.6	0.6	0.6	0.5	1.2
8	8	DNA	1.0	2.1	1.1	1.1	0.9	1.8	1.1	1.0	0.3	0.3	0.4
8	9	DNA	2.0	1.9	1.6	0.3	0.7	1.8	0.9	0.4	0.6	1.2	1.4
8	10	3.5	2.2	1.5	1.6	1.2	0.5	0.6	0.8	0.5	0.4	0.9	0.7
8	11	3.4	2.0	3.2	1.0	1.4	0.8	0.1	1.3	0.2	0.1	0.7	0.7
8	12	1.0	1.4	2.3	1.5	0.6	0.9	0.8	0.6	0.7	1.1	0.5	0.3
8	13	1.0	2.5	1.7	0.8	1.8	0.9	1.3	0.6	1.0	1.1	0.2	0.4
8	14	2.1	1.7	1.7	0.5	0.5	0.6	0.6	0.6	0.2	0.3	0.6	0.4
8	15	1.6	2.2	1.4	1.1	1.0	1.3	0.7	0.6	0.6	0.1	0.9	0.2
8	16	3.0	0.5	2.4	1.0	1.2	0.5	0.4	0.4	1.3	0.4	0.6	1.2
8	17	1.0	1.8	2.5	1.2	0.3	0.4	0.8	0.8	0.3	0.2	1.5	1.0
8	18	1.4	2.1	2.4	1.3	0.7	0.6	0.8	0.8	1.6	0.7	0.7	1.6
8	19	2.6	1.8	0.9	1.2	0.7	0.7	1.4	1.0	0.6	0.6	0.2	0.4
8	20	2.1	1.7	1.4	0.6	1.0	0.7	0.2	0.8	0.7	0.3	0.4	0.5
8	21	2.0	2.3	0.9	0.3	0.7	0.8	0.7	0.3	0.5	0.5	0.4	0.9
8	22	2.8	1.8	2.2	0.8	0.5	0.7	0.6	0.2	0.9	0.9	0.3	0.3
8	23	2.0	2.0	1.0	2.5	0.8	0.5	0.8	0.5	0.8	0.2	0.5	0.3
8	24	2.4	1.0	1.8	1.6	0.7	0.3	0.7	0.2	0.5	1.0	0.5	0.6
8	25	2.6	1.8	2.0	1.3	1.1	0.5	0.9	0.5	0.2	0.5	0.5	0.2
8	26	2.2	1.8	1.3	1.1	0.6	1.2	0.2	0.5	0.4	0.6	0.6	0.3
8	27	2.3	1.9	1.9	1.8	1.2	0.4	0.4	0.5	0.3	0.4	0.4	0.9
8	28	1.6	1.6	1.9	0.8	0.6	0.9	1.1	0.5	0.4	0.3	0.3	0.2
8	29	1.7	2.1	1.5	1.1	0.4	1.0	0.3	0.6	0.4	0.7	0.7	0.4
8	30	2.3	0.5	2.3	1.5	1.4	0.9	0.5	0.9	1.0	0.4	0.8	0.7
8	31	3.2	1.2	DNA	1.3	0.7	0.7	0.4	0.7	DNA	0.5	0.8	0.2

Daily Wind Speed (km/h)
Location : Kharini Tar

Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Month Day												
9 1	1.4	1.7	DNA	1.4	1.1	1.3	1.4	0.5	0.2	1.4	0.2	0.2
9 2	2.1	2.4	1.6	0.6	1.0	0.9	0.3	0.5	0.5	0.1	0.3	0.6
9 3	1.9	1.5	2.4	0.7	0.6	0.9	0.7	0.6	0.8	0.2	0.3	DNA
9 4	2.3	2.1	1.9	1.6	0.5	0.8	0.5	0.3	0.5	0.8	0.6	0.4
9 5	1.4	2.2	2.2	1.5	0.8	0.6	0.6	0.1	1.0	0.5	0.5	DNA
9 6	1.9	2.7	1.8	1.4	0.6	1.5	DNA	0.4	0.5	0.4	0.1	1.0
9 7	1.1	2.2	2.0	1.4	0.9	0.7	0.8	0.4	0.6	0.3	0.4	0.2
9 8	2.5	1.0	1.9	0.7	0.9	0.9	1.2	0.4	0.5	0.6	0.9	0.2
9 9	1.4	1.6	1.6	0.6	1.1	1.0	DNA	0.1	0.2	0.4	0.4	0.2
9 10	1.7	1.9	1.4	1.3	0.9	1.1	0.3	1.4	0.7	0.4	1.0	0.3
9 11	1.6	1.3	0.8	1.8	0.7	0.6	0.7	0.1	0.6	0.2	0.6	0.5
9 12	1.8	2.6	3.5	1.6	0.9	1.2	0.5	0.2	0.4	0.3	0.7	0.8
9 13	2.0	1.6	1.5	0.4	1.4	0.7	0.7	0.5	0.4	0.4	0.2	0.6
9 14	1.9	1.9	1.8	1.3	1.2	0.5	1.0	0.1	0.5	0.1	0.4	0.4
9 15	2.1	1.7	0.7	1.6	0.7	0.7	0.5	0.1	0.6	0.7	1.2	0.2
9 16	1.9	2.1	1.0	0.8	0.8	0.4	0.5	0.1	0.6	2.6	0.3	0.4
9 17	1.6	2.2	1.2	0.9	1.0	0.7	0.3	0.5	0.6	6.7	0.7	0.2
9 18	1.8	0.9	1.8	1.7	1.0	0.6	0.3	0.3	0.4	1.2	DNA	0.8
9 19	1.0	1.4	2.1	1.0	0.6	0.5	0.5	0.2	0.4	0.3	0.4	0.2
9 20	3.6	1.1	2.3	1.2	0.7	0.6	0.4	0.2	0.4	0.9	0.1	0.2
9 21	1.5	1.3	2.3	1.5	0.6	0.6	0.3	0.7	0.4	0.8	0.2	0.6
9 22	1.8	0.7	1.5	1.7	0.7	0.8	0.9	0.4	0.4	0.6	0.4	0.1
9 23	1.8	1.6	1.3	1.5	0.8	0.6	1.3	0.3	0.5	1.7	0.2	0.4
9 24	1.4	1.2	2.2	0.1	1.1	0.6	0.5	0.5	0.4	0.3	0.5	0.4
9 25	1.0	1.5	2.3	0.6	0.8	0.7	0.3	0.7	1.0	0.5	0.9	0.6
9 26	2.1	2.4	1.4	0.4	0.8	0.7	0.1	0.8	0.3	0.1	0.4	0.4
9 27	4.5	1.8	1.3	1.5	0.9	0.9	0.2	1.0	0.2	0.6	0.5	0.6
9 28	2.1	2.8	1.8	0.6	0.7	1.4	1.7	0.4	0.6	0.6	0.6	0.9
9 29	2.2	1.7	1.7	1.2	0.8	2.5	2.8	0.4	0.7	0.3	0.8	0.2
9 30	1.9	1.0	2.2	1.0	0.8	1.5	0.3	0.4	1.1	0.8	0.9	DNA
10 1	1.7	1.5	1.0	1.2	0.6	0.4	0.6	0.3	0.7	0.1	0.4	0.6
10 2	2.5	2.1	1.3	1.1	0.7	1.1	0.6	0.4	1.0	0.7	0.3	0.7
10 3	1.7	1.0	0.8	1.1	0.6	0.8	1.0	0.6	0.2	0.2	0.5	0.4
10 4	1.7	2.4	1.3	0.8	0.7	0.7	0.5	0.3	0.5	0.4	1.0	0.5
10 5	1.7	1.1	1.4	1.0	1.0	0.9	0.7	0.6	1.0	0.1	0.4	0.2
10 6	1.9	1.6	1.2	1.0	2.2	0.4	0.7	0.8	0.3	0.3	0.3	0.3
10 7	1.8	2.2	1.0	0.9	3.9	0.6	1.2	DNA	0.6	0.6	0.2	0.1
10 8	1.5	2.0	1.9	1.9	0.8	0.7	1.6	0.3	0.6	0.5	0.1	0.3
10 9	1.8	1.4	0.8	1.0	0.8	0.4	0.6	0.3	0.1	0.3	0.2	0.2
10 10	1.7	1.2	1.8	1.5	1.0	0.5	0.6	0.5	0.3	0.5	1.4	0.8
10 11	1.6	1.4	1.2	1.7	0.8	0.5	0.3	0.7	0.4	0.6	0.6	1.3
10 12	1.7	0.9	1.2	0.8	0.8	0.2	0.4	0.7	0.9	0.4	0.4	DNA
10 13	1.6	1.3	1.6	1.3	0.3	0.1	1.1	0.4	0.7	0.3	0.2	0.4
10 14	2.2	1.6	1.6	1.8	0.8	0.3	1.5	0.6	1.0	0.4	0.2	0.1
10 15	2.0	2.0	1.1	0.2	0.8	0.8	0.4	0.3	0.8	0.2	0.2	0.5
10 16	2.0	2.3	0.9	1.5	0.8	1.1	1.0	0.4	0.4	0.2	0.2	0.8
10 17	1.3	1.5	1.4	1.0	0.7	0.4	0.2	0.5	0.5	0.3	0.9	0.1
10 18	1.5	1.5	1.0	1.1	0.7	0.7	1.5	0.4	0.5	0.4	0.4	0.2
10 19	1.0	1.6	1.3	1.3	0.8	1.7	0.7	0.3	1.1	0.4	0.4	DNA
10 20	2.1	0.8	1.9	1.2	0.8	0.1	0.6	0.4	0.6	0.4	0.7	0.1
10 21	1.5	2.0	1.4	0.3	0.9	0.6	0.6	0.4	0.3	0.4	0.5	0.3
10 22	1.5	1.1	1.1	0.4	1.1	1.0	0.6	0.3	0.5	0.1	0.4	1.2
10 23	1.4	1.8	1.2	0.8	0.8	0.3	0.6	0.6	0.5	0.6	0.7	0.1
10 24	2.1	1.7	1.2	1.2	0.8	0.8	0.7	0.4	1.5	0.2	0.2	0.3
10 25	2.0	1.1	1.2	0.3	0.7	0.6	0.5	0.3	0.3	0.3	DNA	0.7
10 26	1.3	1.6	1.4	0.7	0.8	0.6	0.8	0.4	0.3	0.1	0.2	0.5
10 27	1.2	1.4	1.0	0.9	0.7	0.4	0.8	0.9	0.4	0.1	0.3	0.4
10 28	1.7	1.4	1.3	0.9	0.8	0.4	0.7	0.2	0.3	0.1	0.7	0.5
10 29	1.5	1.4	1.8	1.1	0.8	0.6	0.7	0.8	0.3	0.2	0.2	0.2
10 30	2.0	1.3	1.8	0.7	0.6	0.3	0.5	0.2	0.2	1.4	0.6	0.2
10 31	2.5	1.4	DNA	1.0	0.7	0.4	0.8	0.3	0.7	0.7	0.3	0.2

Daily Wind Speed (km/h)
Location : Kharini Tar

Month	Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Day													
11	1	2.3	1.4	0.7	1.2	0.6	0.7	0.5	0.3	0.5	0.2	0.3	1.0
11	2	1.8	1.1	1.0	1.9	0.7	0.5	0.5	0.5	0.2	0.2	0.2	0.5
11	3	1.8	1.5	1.6	0.8	0.7	0.9	0.7	0.2	0.5	0.4	0.3	0.5
11	4	1.4	1.1	1.0	0.4	1.1	0.6	0.9	0.3	0.5	0.3	0.4	0.6
11	5	1.4	1.9	1.4	0.3	0.3	0.4	1.0	0.3	0.5	0.1	0.3	0.6
11	6	1.7	1.4	1.7	0.5	0.6	0.6	0.9	0.5	0.6	0.3	0.1	0.1
11	7	1.8	1.1	0.9	0.8	0.5	0.5	0.5	0.2	0.6	0.3	0.3	0.3
11	8	1.1	1.2	1.4	0.8	0.6	0.8	0.4	0.3	0.1	0.5	0.5	0.3
11	9	1.3	1.7	1.3	1.0	0.6	0.6	1.2	0.3	0.1	0.3	0.1	0.5
11	10	1.2	1.3	0.8	0.5	0.8	0.6	0.1	0.3	0.8	0.5	0.1	0.4
11	11	1.5	2.1	1.2	1.1	0.7	0.4	0.7	0.4	0.2	0.1	0.4	0.4
11	12	1.2	1.7	1.0	0.9	0.4	0.7	0.4	0.4	0.2	0.6	0.5	0.3
11	13	2.6	0.7	0.6	0.9	0.8	0.5	0.9	0.4	0.3	0.2	0.5	0.5
11	14	2.0	0.7	1.1	0.7	0.7	0.4	0.9	0.3	0.2	0.4	0.4	0.4
11	15	3.7	1.4	0.9	1.5	0.6	0.4	0.5	0.4	0.3	0.2	0.4	0.3
11	16	1.2	1.3	1.5	0.8	0.6	0.4	0.5	0.3	0.1	0.1	0.4	0.4
11	17	1.5	1.8	1.2	0.5	0.6	0.5	0.7	0.3	0.7	0.1	0.3	1.0
11	18	1.1	0.8	0.7	0.3	0.6	0.7	0.7	0.3	0.2	0.1	0.7	DNA
11	19	1.3	1.0	0.7	0.8	0.8	0.3	0.8	0.5	0.2	0.1	0.5	DNA
11	20	1.1	1.1	0.5	0.9	0.6	0.3	0.6	0.6	0.7	0.4	0.2	0.3
11	21	1.0	1.1	2.6	0.6	3.4	0.7	0.6	0.2	0.3	0.4	0.3	0.7
11	22	1.6	1.4	0.9	0.6	5.0	1.3	0.5	0.3	0.4	0.1	0.1	0.6
11	23	0.8	1.1	0.8	0.8	1.0	0.6	0.7	0.4	0.3	1.2	0.6	0.5
11	24	1.2	0.9	0.5	1.2	0.2	0.7	2.1	0.4	0.3	0.7	0.5	0.3
11	25	1.4	1.5	1.1	0.5	0.7	0.5	0.4	0.8	0.3	0.5	0.3	0.5
11	26	1.9	0.9	0.4	0.8	0.6	0.6	0.4	0.8	0.4	0.1	0.6	0.7
11	27	0.9	1.1	0.9	0.8	0.7	0.4	0.6	0.3	0.4	0.4	DNA	0.3
11	28	1.1	1.0	1.2	0.7	0.8	0.4	0.5	0.8	0.5	0.4	0.1	0.8
11	29	1.1	1.7	1.0	0.9	0.7	0.5	0.5	0.2	0.2	0.4	0.4	0.3
11	30	1.0	1.2	1.1	0.7	0.7	0.5	0.5	1.0	0.3	0.8	0.1	0.3
12	1	1.5	0.5	0.8	0.8	0.8	0.4	0.5	1.6	0.5	0.2	0.5	0.1
12	2	1.3	1.7	1.1	0.6	1.0	0.4	0.7	1.6	0.2	0.1	0.4	0.5
12	3	1.2	1.4	0.7	0.7	0.6	1.1	0.5	1.4	0.2	0.3	0.3	0.3
12	4	1.7	1.0	1.0	0.8	0.5	0.4	0.5	0.7	0.1	0.5	0.3	0.3
12	5	2.1	1.3	0.8	0.4	0.7	1.0	0.4	0.8	0.1	0.4	0.2	0.7
12	6	1.5	1.4	0.7	0.5	0.8	0.5	0.4	0.5	0.2	0.4	0.3	0.2
12	7	1.5	0.8	1.1	0.9	0.6	0.6	0.5	0.6	0.4	0.4	0.5	0.2
12	8	0.7	1.5	1.0	0.4	0.9	0.3	0.7	1.0	0.3	0.4	0.2	0.3
12	9	1.2	1.5	0.7	0.6	0.5	0.5	0.7	0.9	0.3	0.4	0.2	0.3
12	10	1.3	0.8	0.7	0.4	0.7	0.2	0.4	0.6	0.6	0.2	0.1	0.4
12	11	1.2	0.9	0.8	0.3	0.8	0.6	0.1	0.8	0.1	0.2	0.3	0.4
12	12	0.9	1.1	1.0	1.2	0.6	0.4	1.2	0.9	0.7	0.2	0.1	0.4
12	13	0.8	1.4	1.0	0.8	0.6	0.7	0.5	0.8	DNA	0.4	0.2	0.2
12	14	2.6	1.2	2.2	0.4	0.6	0.6	0.5	0.2	0.5	0.1	0.5	0.2
12	15	1.6	0.9	1.0	1.1	0.6	0.5	0.5	0.6	0.3	0.2	0.5	0.2
12	16	1.6	1.3	1.0	0.7	0.7	0.3	0.5	0.3	0.2	0.4	0.3	DNA
12	17	1.1	1.2	0.8	0.7	0.8	0.4	0.4	1.2	0.6	0.1	0.9	0.1
12	18	1.5	0.8	1.0	0.5	0.8	0.4	0.5	0.2	0.1	0.3	0.5	0.3
12	19	1.3	1.1	0.9	0.6	1.0	1.2	0.5	0.5	0.5	0.4	1.0	0.6
12	20	1.0	1.9	0.3	1.7	0.4	DNA	0.7	0.5	0.4	0.3	0.4	DNA
12	21	1.3	1.3	0.8	0.7	0.5	0.6	0.8	0.7	0.4	0.4	DNA	0.6
12	22	2.1	1.4	1.1	1.2	0.5	0.6	0.3	0.5	0.4	0.4	0.3	DNA
12	23	0.6	1.1	1.0	0.9	1.2	0.5	0.5	0.3	0.2	0.3	0.2	0.6
12	24	1.3	1.5	1.2	0.7	0.7	0.6	0.4	1.0	0.6	0.2	0.2	0.3
12	25	1.2	1.0	0.8	0.7	0.9	0.6	0.5	0.7	0.6	0.4	0.4	0.7
12	26	1.3	1.8	0.8	0.6	0.6	0.7	0.6	1.0	0.1	1.3	0.4	0.3
12	27	1.3	1.1	1.2	0.7	1.2	0.5	0.5	0.8	0.2	0.4	0.1	0.3
12	28	1.8	1.8	1.3	0.8	1.3	0.8	0.6	0.6	0.5	0.7	0.2	0.3
12	29	1.5	1.8	0.5	0.6	0.8	0.6	0.4	0.8	0.3	0.4	0.5	0.6
12	30	1.2	1.7	1.3	0.8	1.2	0.6	0.9	0.8	0.3	0.7	0.3	0.5
12	31	1.8	1.5	0.8	0.4	0.7	0.2	0.5	0.9	0.4	0.3	0.6	0.3
	Max	5.2	5.9	4.5	7.7	6.6	5.0	3.8	3.6	3.9	6.7	3.1	2.7
	Min	0.6	0.5	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Monthly Average Wind Speed (km/h)

Location : Pokhara Airport Latitude : 28° 13' N
 Index No. : 0804 Longitude : 84° 00' E
 District : Kaski Elevation : 827 m.
 Note : DNA means data not available

Month/Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Average
1	DNA	2.3	2.4	2.2	2.8	2.0	1.4	2.0	2.1	1.8	2.4	0.2	2.0
2	3.5	2.9	3.5	2.9	4.1	2.9	2.2	2.7	2.8	2.8	2.9	0.3	2.8
3	4.3	3.8	4.0	3.8	4.3	4.2	2.8	2.9	3.8	3.1	3.9	0.3	3.4
4	3.7	3.9	4.7	4.3	4.3	4.7	2.7	3.7	4.0	3.7	3.4	0.3	3.6
5	3.9	3.9	4.4	3.5	3.5	3.5	1.3	3.4	3.4	3.3	3.1	0.3	3.1
6	DNA	3.5	3.4	3.4	2.7	2.9	1.7	2.6	1.9	2.0	2.8	0.2	2.5
7	3.0	3.0	2.4	2.4	2.5	2.6	2.1	2.4	2.4	2.0	2.7	0.2	2.3
8	3.5	2.3	2.6	2.4	2.0	2.1	1.5	2.2	2.2	2.1	2.8	0.2	2.1
9	2.3	2.5	2.4	2.5	2.2	2.4	1.6	1.6	2.0	2.0	2.5	0.2	2.0
10	1.8	2.0	2.3	2.3	2.0	1.5	1.9	1.7	1.8	1.9	2.1	0.2	1.8
11	1.4	2.5	2.2	2.3	1.8	1.4	1.5	1.8	1.4	1.8	1.8	0.2	1.7
12	1.6	2.2	2.1	2.4	2.1	1.2	1.4	1.8	1.3	1.9	1.5	0.2	1.6
Average	2.9	2.9	3.0	2.9	2.9	2.6	1.8	2.4	2.4	2.4	2.7	0.2	

Location : Kharini Tar Latitude : 28° 02' N
 Index No. : 0815 Longitude : 84° 06' E
 District : Tanahun Elevation : 500 m.
 Note : DNA means data not available

Month/Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Average
1	1.4	1.4	1.4	0.9	0.9	0.8	1.0	0.8	0.8	0.5	0.4	0.6	0.9
2	2.1	1.8	1.8	1.7	1.5	1.6	1.3	1.1	1.3	0.7	0.6	0.7	1.4
3	2.7	2.7	2.3	2.1	1.3	2.3	1.7	1.8	1.8	1.1	1.3	1.2	1.9
4	2.9	2.7	2.6	3.0	2.3	2.9	1.9	2.5	2.2	1.4	1.3	1.3	2.3
5	2.8	2.9	3.0	2.5	1.9	2.8	2.1	2.3	2.3	1.5	1.2	1.8	2.3
6	3.0	2.6	2.7	2.0	2.3	1.8	1.6	1.1	1.1	1.0	1.2	1.2	1.8
7	2.4	2.2	1.9	1.4	1.4	1.0	1.2	0.8	0.8	0.7	0.8	0.7	1.3
8	2.1	1.8	1.8	1.2	0.8	0.7	0.8	0.6	0.6	0.6	0.6	0.6	1.0
9	1.9	1.7	1.8	1.1	0.8	0.9	0.7	0.4	0.5	0.8	0.5	0.4	1.0
10	1.7	1.5	1.3	1.0	0.9	0.6	0.7	0.5	0.6	0.4	0.4	0.4	0.8
11	1.5	1.3	1.1	0.8	0.9	0.6	0.7	0.4	0.4	0.3	0.3	0.5	0.7
12	1.4	1.3	0.9	0.7	0.8	0.6	0.5	0.8	0.3	0.4	0.4	0.4	0.7
Average	2.2	2.0	1.9	1.5	1.3	1.4	1.2	1.1	1.1	0.8	0.8	0.8	

Historical Data of River Discharge
at Stream Gauging Stations

Average Daily River Discharge (m3/sec)

Location : Phoolbari River : Seti

Index No. : 430 Drainage area : 582 km²

Note : DNA means data not acquired

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Month Day																					
1	15.20	16.60	12.50	11.10	12.40	9.35	9.85	12.70	13.90	14.20	17.30	15.60	11.00	12.20	19.50	20.00	15.60	11.60	20.50	17.40	15.60
2	15.20	16.60	12.20	10.80	12.40	9.10	9.85	12.70	13.90	14.20	16.80	14.80	11.00	12.20	18.60	19.50	15.60	11.20	20.50	17.40	15.60
3	15.20	16.60	12.50	10.80	12.10	9.60	9.85	12.70	13.50	14.20	16.80	16.00	11.00	11.50	19.10	19.50	15.20	11.60	20.50	17.40	15.60
4	15.20	16.10	12.20	10.80	12.10	9.10	9.60	12.30	13.50	13.40	16.80	15.60	10.60	11.50	18.60	19.50	15.20	11.60	20.50	17.40	15.60
5	15.20	16.10	11.80	10.10	12.10	9.35	9.85	12.30	13.50	13.40	16.40	15.60	10.60	11.20	17.40	19.50	15.20	11.20	20.50	17.40	15.20
6	15.10	15.70	11.80	9.70	12.10	9.35	9.85	12.30	13.50	13.40	16.80	16.50	10.30	11.20	16.90	19.10	15.20	11.60	20.50	17.40	15.20
7	15.00	15.70	11.80	9.70	12.10	8.85	9.85	11.90	13.50	12.60	17.30	14.80	10.30	11.20	16.50	19.10	14.80	11.60	20.00	17.40	14.30
8	15.00	15.70	11.50	9.70	11.80	8.85	9.60	11.90	13.10	12.60	16.80	14.40	10.30	10.90	16.10	19.10	14.50	10.80	20.00	17.40	14.30
9	15.00	15.70	11.80	9.35	12.10	8.60	9.60	11.50	12.70	12.60	16.40	15.20	9.96	10.90	16.90	19.10	14.50	10.40	20.00	16.50	14.30
10	15.00	15.70	12.20	9.35	11.80	8.35	9.60	11.50	12.70	12.60	17.80	14.80	9.96	10.60	16.50	19.10	14.50	10.10	20.00	16.10	14.30
11	14.80	15.20	11.50	9.00	11.60	8.60	9.35	11.50	12.70	12.10	17.30	14.80	9.96	10.60	16.50	19.10	14.10	9.78	20.00	16.10	14.30
12	14.80	15.20	11.50	9.00	11.60	8.60	9.35	11.20	12.70	11.70	16.80	15.20	9.62	10.90	16.50	19.10	13.70	9.78	20.00	16.10	14.30
13	14.80	14.80	11.50	9.35	11.60	8.60	9.10	11.20	12.70	11.30	17.80	14.80	9.62	10.30	16.10	19.10	13.70	9.78	20.00	16.10	14.30
14	14.80	14.80	11.50	9.35	11.30	8.85	9.10	11.20	12.30	11.30	17.80	15.20	9.62	10.30	16.10	18.60	13.70	9.78	20.00	16.10	14.30
15	14.80	15.20	11.50	9.70	11.80	8.85	9.35	11.20	12.30	11.30	18.20	15.20	9.62	10.00	16.50	18.20	13.70	9.78	20.00	16.10	14.30
16	14.50	15.20	11.10	9.70	11.30	8.60	9.60	10.80	12.30	11.70	17.30	15.20	9.96	10.00	15.60	17.80	13.70	9.78	20.00	16.10	14.70
17	14.50	15.20	11.10	9.70	11.30	8.60	9.60	10.80	12.30	11.70	17.00	16.00	10.30	9.70	15.60	17.40	13.40	9.47	19.50	16.10	14.30
18	14.50	15.70	11.50	9.70	11.30	8.60	9.35	10.50	11.50	11.30	16.80	16.00	10.30	9.70	15.20	17.40	13.40	9.16	19.50	16.10	13.90
19	14.50	16.10	11.10	9.00	11.30	8.35	9.35	10.50	11.50	11.00	16.40	15.20	10.60	9.70	15.20	16.90	13.40	9.16	19.50	16.10	13.90
20	14.50	15.70	11.10	9.00	11.30	8.35	9.35	10.50	11.20	11.00	16.40	15.60	11.30	9.70	15.60	16.90	13.40	9.16	19.50	16.10	13.90
21	14.30	14.80	10.80	9.00	11.30	8.35	9.10	10.50	11.20	11.00	17.30	16.50	11.00	10.30	14.50	16.90	13.40	9.16	19.10	16.10	13.90
22	14.30	15.20	11.10	9.00	11.00	8.35	9.10	10.20	10.80	11.00	16.00	15.20	11.00	9.70	19.50	16.90	13.40	9.78	19.10	16.10	13.50
23	14.30	16.60	11.10	9.00	11.30	8.10	8.85	10.20	10.50	9.90	15.50	15.60	10.60	10.00	19.10	16.90	13.00	9.47	19.10	16.10	13.50
24	14.30	17.00	10.80	9.35	11.30	7.85	8.85	10.20	10.50	10.60	16.40	14.40	10.30	10.30	17.80	16.90	13.00	10.40	19.10	15.60	13.50
25	14.30	16.60	10.80	9.35	11.00	7.60	8.85	9.85	10.20	10.20	17.80	14.80	9.96	10.00	16.90	16.50	13.00	10.40	19.10	15.60	13.50
26	14.30	16.10	10.80	9.00	11.00	7.60	9.10	9.85	9.85	10.20	17.80	14.80	9.96	9.70	16.50	16.50	13.70	9.47	19.10	15.60	13.50
27	14.30	15.20	10.80	9.00	10.40	7.85	8.85	9.52	9.85	10.60	17.80	14.80	9.62	10.30	16.10	16.50	13.40	9.16	19.10	15.60	13.10
28	14.30	16.10	10.40	9.00	10.10	7.40	9.10	9.52	9.85	9.55	17.30	14.80	10.60	10.00	14.80	16.50	13.00	9.16	19.10	15.60	13.10
29	14.30	15.20	10.40	8.72	10.40	7.60	8.85	9.52	10.20	9.55	17.30	14.80	10.30	10.30	17.40	16.50	13.40	9.16	19.10	15.60	13.10
30	14.30	15.70	10.80	8.72	11.30	7.60	8.60	9.19	9.85	9.55	16.40	15.20	10.30	10.30	16.90	16.10	13.40	9.47	19.10	15.60	13.10
31	14.30	15.20	10.40	9.70	11.00	7.40	8.85	9.52	9.85	9.55	17.30	15.20	10.60	9.40	16.10	16.10	13.00	8.85	18.60	15.60	12.70

Average Daily River Discharge (m³/sec)

Location : Phoolbari River : Seti

Index No. : 430

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Month Day																					
2 1	14.30	13.90	10.10	9.70	10.70	7.20	8.60	9.52	9.52	9.20	16.80	16.50	10.60	9.70	16.10	16.10	13.00	8.54	18.60	15.60	12.70
2 2	14.30	13.90	10.10	9.35	10.40	7.20	8.35	9.85	9.52	9.20	16.40	15.20	10.60	9.40	15.20	15.60	13.40	8.54	18.60	15.60	12.70
2 3	13.90	13.90	10.10	9.70	10.10	7.20	8.35	9.52	9.52	9.20	16.00	15.60	10.60	9.70	14.50	15.20	13.00	8.54	18.60	15.60	12.70
2 4	13.90	13.90	10.10	9.70	9.85	7.20	8.60	9.85	9.52	8.85	15.50	14.80	11.30	9.70	14.50	15.20	13.40	8.54	18.60	15.60	12.70
2 5	13.90	13.40	10.10	9.70	9.60	7.00	8.35	9.19	9.52	8.85	16.00	14.80	12.40	9.70	14.80	15.20	13.40	8.54	18.60	15.60	12.40
2 6	13.90	13.90	10.10	10.10	9.60	7.20	8.10	9.19	10.20	9.20	15.50	14.80	12.40	9.40	14.50	15.60	13.40	8.54	18.60	15.60	12.40
2 7	13.90	13.40	10.10	10.10	9.35	7.20	8.10	9.19	9.85	9.20	14.70	14.20	11.30	9.10	14.80	16.50	13.00	8.23	18.60	15.60	12.40
2 8	13.90	13.00	10.40	10.10	9.35	6.80	7.85	9.19	9.52	8.85	14.20	15.20	11.30	9.10	14.50	21.50	13.40	7.92	18.60	15.60	12.00
2 9	13.90	13.40	10.40	9.70	9.35	6.80	7.85	8.86	9.85	8.50	15.10	14.40	10.60	8.80	17.40	16.90	13.40	7.61	18.60	15.60	12.00
2 10	13.90	13.90	10.10	10.10	9.10	6.80	7.85	8.86	9.85	8.85	15.10	14.40	10.60	9.10	15.60	16.50	13.40	7.92	18.60	15.60	12.00
2 11	13.90	13.90	10.10	10.10	9.10	6.60	7.60	8.86	9.52	8.50	15.50	14.80	10.60	9.10	15.20	16.90	13.40	7.61	18.60	15.60	11.60
2 12	13.90	13.40	10.40	10.10	9.10	6.60	7.60	8.86	9.52	8.15	14.20	15.20	10.60	9.40	14.50	16.50	13.00	7.92	18.60	15.60	11.60
2 13	13.90	13.00	10.80	9.70	8.85	6.60	7.60	8.53	9.52	8.50	15.10	14.80	11.00	9.70	14.10	16.10	13.00	8.54	18.60	15.60	11.60
2 14	13.90	13.40	10.40	9.35	8.53	7.40	7.60	8.53	10.20	8.15	14.20	14.80	10.60	10.00	13.00	16.10	13.70	8.54	18.60	15.60	11.60
2 15	13.90	13.90	10.40	9.70	8.60	7.20	7.60	8.86	9.85	8.15	13.80	15.20	11.70	10.30	13.40	16.10	13.70	7.92	18.60	15.60	11.60
2 16	14.30	13.40	10.40	9.35	9.35	6.80	7.60	8.53	9.52	7.80	15.50	15.20	11.00	9.70	13.40	15.60	13.00	7.92	18.60	15.60	11.60
2 17	14.30	13.00	10.40	10.10	9.35	6.80	7.60	8.53	9.52	7.80	15.10	14.80	11.00	9.10	22.50	15.20	13.00	8.23	18.60	15.60	11.60
2 18	14.30	13.00	10.40	9.70	9.10	6.60	7.40	8.20	9.52	7.80	16.00	14.80	10.30	9.70	22.00	16.50	13.00	8.54	18.60	15.60	11.60
2 19	14.30	13.40	10.10	9.70	9.60	6.40	7.85	8.20	9.19	7.50	16.40	14.80	10.30	9.10	21.50	16.50	12.60	8.54	18.20	14.70	11.60
2 20	14.30	13.40	10.10	9.70	9.60	6.60	7.60	7.92	9.19	7.80	16.00	14.40	10.30	9.40	20.50	15.60	13.00	8.54	18.20	14.70	11.60
2 21	14.30	13.40	10.10	9.35	9.35	6.20	7.60	7.92	9.19	7.50	15.10	14.80	10.60	9.40	20.50	15.60	13.00	8.54	18.20	14.70	11.60
2 22	14.30	13.90	10.10	9.35	9.35	6.20	8.10	7.92	9.19	7.20	16.40	14.00	9.96	9.70	20.50	15.20	13.00	7.92	18.20	14.70	11.20
2 23	13.90	13.90	10.40	9.00	9.85	6.40	8.60	8.20	9.19	6.90	15.50	14.40	9.62	9.10	19.50	15.60	13.00	8.23	18.20	14.70	10.80
2 24	13.90	14.30	10.10	8.72	9.35	6.80	8.10	7.92	8.86	7.20	16.00	14.40	9.62	9.70	19.10	14.50	13.00	8.54	18.20	14.70	10.80
2 25	13.90	14.30	10.40	8.44	9.35	6.40	8.60	7.64	8.86	6.90	16.80	14.40	9.96	8.80	17.80	14.80	13.00	8.23	17.80	14.70	10.80
2 26	13.90	13.90	10.10	8.44	9.10	6.40	8.10	7.64	8.86	6.60	17.30	14.80	9.96	9.10	17.40	14.80	12.60	7.61	17.80	14.70	10.80
2 27	13.90	13.90	10.10	9.35	9.60	6.20	7.85	7.92	8.53	7.20	16.00	14.80	9.96	9.70	15.60	14.80	13.00	7.61	17.80	14.70	10.80
2 28	13.90	13.40	10.40	9.70	9.60	6.20	8.10	8.20	8.53	7.50	15.10	14.80	9.96	9.10	16.10	14.50	13.40	8.23	17.80	14.30	10.80
2 29	13.90				10.10				8.53				10.60								

Average Daily River Discharge (m³/sec)

Location : Phodibari River : Seti

Index No. : 430

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9
3	13.90	12.50	10.10	9.35	9.85	6.20	7.85	7.92	8.53	7.80	16.40	14.40	11.00	9.10	15.20	14.10	13.40	7.92	17.80	14.30	10.40
3	13.90	13.00	9.70	9.00	10.10	6.00	7.85	8.20	8.53	7.50	16.40	14.80	9.96	8.80	15.20	14.50	13.40	7.61	17.80	14.30	11.20
3	13.90	13.40	10.10	8.72	10.10	6.20	7.60	8.53	8.86	7.50	15.50	14.80	9.62	9.10	14.10	15.20	13.00	7.30	17.80	14.30	11.20
3	13.90	13.90	10.10	8.72	9.85	6.20	7.60	9.19	8.86	7.50	16.40	15.20	9.62	9.10	13.70	14.80	13.40	7.92	17.80	14.30	12.00
3	13.90	13.40	10.10	8.72	10.40	6.40	7.60	9.52	8.86	7.80	16.40	14.80	8.94	9.10	13.40	14.50	20.00	7.92	17.80	14.30	11.60
3	13.90	13.40	9.70	8.72	10.40	6.60	7.40	9.52	8.86	7.50	16.00	14.80	8.60	9.10	13.00	14.50	21.00	8.23	17.80	13.90	11.20
3	13.90	13.40	10.10	8.44	11.00	6.40	7.60	8.86	8.86	7.80	15.50	15.20	8.60	9.70	13.40	14.10	15.20	9.47	17.80	13.50	11.60
3	13.90	13.40	9.70	8.44	14.90	6.40	7.40	8.53	8.53	7.50	15.50	14.80	8.60	9.40	13.00	14.10	14.50	7.92	17.80	13.50	11.20
3	13.90	13.90	10.10	8.44	12.40	6.60	7.40	8.53	8.20	7.50	15.10	15.20	8.60	9.10	12.60	13.70	14.50	7.92	17.80	13.50	11.20
3	13.90	13.40	9.70	8.44	11.60	6.60	7.40	8.20	8.20	7.20	14.20	14.80	8.40	8.80	12.60	13.70	13.00	7.61	18.20	13.50	11.20
3	13.90	13.00	9.70	9.00	11.00	6.60	7.40	8.53	8.20	7.50	14.20	14.80	8.60	8.50	12.60	13.70	13.00	7.61	18.60	13.50	11.60
3	13.90	13.40	9.70	10.40	11.00	6.80	7.60	8.53	8.20	7.20	14.20	14.40	8.60	8.50	12.60	14.10	12.60	7.30	21.00	13.50	11.60
3	13.90	12.50	10.10	9.70	11.30	6.80	7.60	8.20	7.92	6.90	13.80	14.40	8.40	8.50	18.20	12.60	12.60	7.15	22.00	13.50	11.20
3	13.90	13.90	9.70	10.10	11.00	6.80	7.60	8.20	7.92	6.90	13.80	14.80	8.60	9.10	16.90	13.00	12.60	7.00	22.00	13.50	11.20
3	13.90	13.90	9.70	10.10	11.60	6.80	7.60	8.86	7.92	7.20	13.80	14.40	8.40	9.10	16.10	12.60	12.60	7.30	22.00	13.50	11.20
3	13.90	13.90	9.35	10.10	11.00	6.60	7.40	8.86	7.92	6.90	14.20	13.60	8.94	9.40	16.10	12.60	14.80	12.00	22.00	13.50	11.20
3	13.90	14.30	9.35	9.70	11.60	6.80	7.40	8.86	7.92	7.92	13.80	13.60	9.62	9.10	15.20	14.10	16.10	10.40	24.00	13.50	11.60
3	13.90	14.30	9.35	9.70	12.70	7.00	7.20	8.53	7.92	10.20	13.80	13.60	9.96	9.70	15.20	13.70	13.40	9.47	23.50	13.50	11.60
3	13.90	13.90	9.35	9.35	13.00	7.00	7.40	9.19	7.92	10.20	13.80	13.60	9.96	9.10	14.50	14.10	13.40	10.10	23.00	13.50	11.20
3	13.90	13.90	9.70	9.70	12.40	6.40	7.20	8.86	10.20	9.55	13.80	13.20	9.62	9.10	14.10	13.70	14.10	10.40	22.50	13.10	10.80
3	13.90	13.90	9.70	9.00	12.10	7.20	7.40	8.86	10.20	8.85	13.80	13.20	9.28	9.40	13.70	14.10	15.60	20.30	22.50	13.10	10.40
3	13.90	13.90	9.00	9.35	11.80	7.00	7.20	8.53	9.85	9.20	13.80	13.60	9.96	9.70	13.70	14.10	17.40	12.70	22.50	13.10	11.20
3	13.90	14.30	9.35	9.00	11.30	7.85	7.60	8.53	9.92	8.85	14.70	12.80	9.62	10.30	13.00	13.00	18.20	9.78	23.00	13.10	11.60
3	13.90	13.90	9.35	8.44	11.60	8.60	7.60	8.53	10.20	8.50	14.20	12.80	8.94	10.60	12.60	14.80	15.60	8.54	23.50	13.10	11.60
3	13.90	13.90	9.70	8.72	11.30	8.10	7.60	8.20	10.20	8.85	15.50	12.80	9.28	10.00	12.20	13.00	14.10	7.92	23.00	13.50	11.60
3	13.90	14.30	9.70	10.40	10.70	8.10	7.60	8.20	9.85	9.20	14.70	12.80	9.28	10.00	11.50	14.50	13.70	7.92	23.00	13.50	12.70
3	13.90	13.90	9.70	9.70	11.60	8.60	7.60	8.53	9.85	8.50	16.40	12.80	9.62	10.00	13.00	15.20	13.00	8.54	23.00	13.50	11.60
3	13.90	13.90	9.70	9.70	11.60	8.10	7.60	8.53	9.85	9.90	17.30	13.20	9.62	10.30	11.90	13.70	13.40	7.92	23.00	13.50	11.20
3	13.90	13.90	9.70	9.35	11.80	7.85	7.60	8.86	9.85	9.20	16.40	13.20	8.60	10.30	11.50	15.60	13.70	9.78	23.00	13.50	12.40
3	13.90	14.30	9.70	9.00	11.60	7.40	7.40	8.86	10.20	9.55	16.80	13.20	8.94	11.20	11.90	17.40	14.10	10.80	23.00	13.50	12.70
3	13.90	13.90	9.35	9.35	11.30	7.00	7.40	9.19	9.82	9.55	16.00	12.40	8.60	13.00	13.40	16.50	13.00	10.10	23.00	13.50	13.50

Average Daily River Discharge (m³/sec)

Location : Phoolbari River : Seti

Index No. : 430

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9
4	14.30	13.90	9.00	10.10	10.70	6.80	7.40	8.86	9.85	9.55	15.50	12.40	8.60	10.90	12.20	19.10	14.10	11.20	23.00	13.50	14.30
4	13.90	13.90	9.00	10.10	10.40	7.00	7.40	9.85	10.20	9.55	16.80	12.00	8.94	10.60	13.70	18.20	13.70	10.10	23.00	13.50	13.50
4	14.30	14.30	9.35	10.40	10.10	6.80	7.60	9.85	9.52	9.20	17.30	12.00	8.60	11.50	13.00	17.80	13.40	11.20	23.00	13.50	12.70
4	14.30	13.90	9.00	10.10	10.70	6.80	7.60	9.52	9.85	9.55	17.30	11.70	8.60	11.90	13.00	16.50	12.60	12.00	24.50	13.50	12.00
4	14.30	14.30	9.00	10.10	10.40	7.00	7.60	9.85	9.85	9.20	17.30	11.30	8.94	12.20	12.60	15.20	13.40	10.40	24.00	13.50	11.20
4	14.30	14.30	9.00	9.70	10.70	6.80	7.40	10.50	9.52	8.85	18.20	11.00	8.60	12.20	12.20	15.20	13.70	12.00	23.00	13.50	10.80
4	14.30	13.90	9.35	9.70	10.70	7.00	7.40	10.80	9.85	9.55	17.30	11.00	8.60	11.50	11.50	17.40	14.50	10.10	22.50	13.50	10.40
4	14.30	13.90	8.72	9.70	11.00	6.60	7.40	10.80	9.19	9.55	19.10	11.30	8.94	10.30	11.50	17.40	15.20	10.10	22.50	13.50	10.40
4	14.30	16.10	9.35	9.35	12.70	6.40	7.20	10.80	8.53	10.20	19.10	10.60	8.94	10.60	12.20	17.80	15.20	10.10	22.50	13.50	10.40
4	14.30	15.70	9.00	8.44	12.10	6.40	7.40	10.80	8.53	10.60	17.80	10.30	8.60	14.50	11.20	17.80	14.50	11.60	22.50	13.90	10.40
4	14.30	15.20	8.72	9.00	12.40	6.40	7.20	10.50	8.53	11.70	17.30	10.30	8.94	15.20	12.20	19.10	14.50	14.30	22.50	13.90	10.40
4	14.80	15.70	8.16	9.00	12.10	6.60	7.40	11.50	8.86	11.00	16.80	10.30	8.60	13.70	11.50	20.00	14.50	16.90	22.50	14.30	10.40
4	14.80	15.70	8.16	9.00	11.80	6.80	7.85	11.20	8.86	12.60	16.80	10.30	8.94	13.40	12.20	17.80	14.80	13.10	22.50	14.70	10.40
4	14.80	15.70	8.72	9.70	12.10	6.80	7.60	11.90	8.86	12.60	17.80	11.00	8.60	12.20	11.50	17.80	14.80	12.70	22.50	14.70	10.80
4	14.30	16.10	8.44	10.10	12.40	6.80	7.85	12.30	8.53	13.00	17.30	10.30	9.28	11.50	12.20	18.20	13.00	19.20	22.50	14.30	12.40
4	14.30	15.70	8.16	10.10	11.60	7.00	17.00	13.50	8.86	12.60	18.20	10.30	8.94	10.90	13.70	20.50	13.00	20.30	22.50	14.30	11.60
4	14.80	15.70	8.44	11.80	11.30	6.60	18.00	13.50	8.86	13.00	16.90	10.30	8.60	18.60	13.00	20.00	13.00	25.20	23.00	14.30	12.70
4	14.30	15.70	9.00	13.90	11.00	6.80	12.30	13.90	8.53	13.00	20.00	9.62	9.28	11.50	13.00	18.20	13.00	24.00	23.00	14.30	13.10
4	14.30	16.10	8.44	13.00	11.60	7.20	10.80	22.50	8.53	13.00	17.80	9.62	8.60	12.20	11.90	17.40	13.40	17.80	22.50	14.30	13.50
4	14.80	16.10	8.44	12.20	11.30	7.20	10.80	27.20	8.86	13.80	16.80	9.28	8.40	20.00	13.70	18.20	14.80	18.30	22.50	12.70	14.70
4	14.80	15.20	8.72	10.80	12.40	7.60	10.50	17.00	8.53	13.00	17.80	8.94	10.60	13.70	11.90	19.50	17.40	19.20	22.50	12.70	13.10
4	14.80	15.20	9.00	11.50	11.80	7.20	14.30	16.50	8.53	13.40	22.50	8.94	11.70	13.40	12.60	19.10	18.60	24.00	23.00	12.70	12.00
4	15.20	15.20	9.00	12.20	11.80	7.20	14.30	15.50	8.53	13.80	20.50	8.60	13.60	14.50	11.50	16.90	18.60	26.40	23.50	12.70	13.10
4	15.20	14.80	9.70	10.40	12.10	7.00	15.50	16.00	8.53	14.20	21.50	9.96	14.40	13.70	13.00	16.90	17.80	21.90	24.00	12.70	12.40
4	15.20	14.80	9.00	10.40	12.40	7.00	14.30	15.10	8.86	13.80	18.20	10.60	17.50	15.20	13.00	17.80	17.40	18.30	25.10	12.40	12.40
4	15.20	14.80	9.70	10.40	12.10	7.20	19.00	15.10	8.86	13.00	20.00	10.30	18.50	14.10	13.00	18.20	16.50	17.80	25.60	12.40	12.70
4	14.80	14.80	9.00	10.80	12.40	6.80	20.50	14.70	12.30	14.20	22.00	11.30	18.50	20.50	12.20	18.60	16.50	15.60	25.60	12.40	14.70
4	14.80	15.20	9.35	10.40	12.40	6.80	19.00	14.30	12.70	13.80	23.00	10.60	27.20	21.50	19.10	23.50	16.90	15.60	25.10	12.40	13.10
4	14.80	14.80	9.70	10.80	12.40	7.00	17.00	14.30	12.70	13.40	23.50	10.30	18.50	19.50	22.00	28.40	17.80	19.20	24.50	12.40	16.10
4	19.00	16.10	9.00	13.00	13.00	7.60	15.10	15.50	12.30	13.00	24.00	12.00	19.50	16.50	20.50	19.50	19.50	21.40	24.50	12.40	17.40

Average Daily River Discharge (m3/sec)

Location : Phoolbari River : Seti

Index No. : 430

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Month Day																					
5 1	22.00	16.10	9.35	13.00	14.90	8.10	13.90	16.00	12.70	13.40	19.60	12.40	20.00	16.10	21.50	25.10	20.00	19.20	25.60	12.40	14.30
5 2	23.20	16.10	10.10	10.80	14.90	7.40	13.10	15.50	11.90	13.40	17.80	11.00	20.50	15.20	22.50	25.10	20.50	19.20	25.60	12.40	14.30
5 3	23.80	16.10	10.80	10.40	17.70	7.40	14.30	16.00	11.90	13.80	16.40	10.60	20.00	15.20	25.60	25.10	20.50	19.80	25.60	12.00	14.30
5 4	23.80	16.10	9.70	10.80	16.90	7.00	14.70	15.50	12.30	13.00	17.30	11.70	21.60	13.70	26.20	25.10	20.50	20.30	25.60	12.00	14.70
5 5	25.00	16.10	10.10	10.40	17.30	7.20	14.30	16.00	11.50	12.60	18.20	11.30	17.50	11.90	23.40	24.00	22.00	21.90	25.60	12.00	15.20
5 6	28.00	16.10	9.35	10.10	15.80	7.20	17.50	16.00	11.20	13.80	18.60	10.30	15.20	14.80	28.40	19.50	22.00	21.40	26.70	12.00	19.80
5 7	25.00	16.10	10.10	10.10	14.90	6.80	15.50	15.50	10.50	13.40	17.30	11.30	16.00	13.70	25.60	24.50	21.00	16.90	28.40	12.00	25.80
5 8	25.60	15.70	9.00	9.70	14.20	6.80	14.70	15.50	9.85	14.20	18.60	11.30	15.60	12.20	24.50	19.50	21.50	22.90	29.50	12.00	16.10
5 9	28.70	15.70	10.10	10.40	14.90	6.60	13.10	14.70	9.85	13.80	17.80	10.30	15.60	10.60	32.20	22.00	20.00	19.20	31.70	13.10	38.40
5 10	33.60	16.10	9.70	11.10	13.60	6.40	14.70	15.50	9.85	14.70	18.60	9.96	18.50	22.50	31.10	22.00	19.50	19.20	30.00	14.30	18.30
5 11	34.30	16.10	10.40	13.00	13.00	8.10	15.10	16.00	15.50	14.70	20.50	10.30	14.80	16.90	27.80	23.50	18.60	20.80	30.00	13.90	16.90
5 12	28.70	16.10	9.70	12.50	13.60	8.85	13.50	16.50	15.50	14.20	21.00	10.60	18.50	15.20	26.70	22.00	18.60	18.70	30.00	14.30	17.80
5 13	35.00	16.10	9.70	11.50	13.00	8.35	13.10	17.00	16.00	15.10	22.00	11.00	19.00	13.00	40.10	23.00	17.40	17.80	30.00	14.30	18.70
5 14	36.60	15.70	9.00	11.50	13.60	8.35	15.10	21.50	15.50	14.70	22.50	11.00	20.00	19.10	39.40	23.00	16.50	19.20	31.10	14.30	20.80
5 15	35.00	15.70	8.70	11.50	12.70	8.85	19.00	23.50	19.00	15.50	22.00	11.30	21.60	27.80	53.90	27.80	17.40	22.40	30.00	16.90	20.80
5 16	31.50	17.00	9.00	13.90	12.70	7.85	21.50	21.00	17.00	16.00	22.00	11.30	15.60	30.00	46.20	36.80	19.10	30.00	29.50	16.90	22.90
5 17	32.90	18.00	9.70	10.80	15.20	7.60	19.50	20.00	15.50	16.90	22.00	11.30	20.00	30.00	46.20	25.10	20.50	22.90	28.90	16.90	27.00
5 18	36.60	18.00	10.10	10.80	13.30	7.40	18.00	20.50	18.50	15.10	17.80	10.60	24.80	17.80	36.80	22.00	21.50	24.60	27.80	16.90	21.90
5 19	37.40	16.10	10.10	10.80	15.20	7.20	18.00	18.50	17.00	17.30	15.50	10.60	18.50	21.50	35.00	24.00	22.50	24.00	26.70	17.40	22.40
5 20	36.60	16.10	10.10	10.40	15.50	7.40	18.00	18.00	22.00	13.00	16.80	10.60	18.50	21.50	35.00	24.00	22.50	24.00	26.70	17.40	24.00
5 21	37.40	18.00	10.10	11.10	18.40	7.00	18.50	18.00	20.50	13.00	15.50	11.00	19.00	31.10	35.00	28.90	23.00	27.00	26.70	17.40	27.00
5 22	38.20	16.10	10.40	11.50	19.60	7.20	18.50	19.00	23.50	13.00	16.40	10.60	21.00	24.00	40.70	30.00	25.10	24.60	27.30	17.40	25.80
5 23	39.00	16.10	10.10	11.10	18.00	7.00	17.50	20.50	73.30	12.10	15.50	10.30	21.60	19.10	33.30	21.50	25.10	19.20	26.70	17.40	25.80
5 24	39.00	16.10	11.50	10.80	17.70	7.20	17.50	20.50	60.60	13.00	14.20	11.30	19.00	17.80	30.60	20.00	23.50	18.70	26.70	17.40	22.40
5 25	36.60	16.60	11.50	13.90	16.90	8.10	17.50	22.00	46.80	15.10	13.40	10.30	17.50	20.50	32.80	20.50	23.50	17.40	26.70	17.80	73.50
5 26	33.60	18.00	11.80	11.10	18.00	8.35	18.00	20.50	63.00	28.60	16.40	11.70	16.00	17.80	38.10	21.50	25.60	17.40	26.70	17.80	30.70
5 27	32.90	19.00	11.50	10.80	17.30	9.10	20.00	19.50	42.60	43.30	17.30	12.00	16.50	31.10	40.10	20.50	26.20	17.80	27.30	17.80	27.00
5 28	32.20	18.50	11.80	11.10	20.40	8.85	19.00	20.00	40.50	37.70	17.30	11.00	20.00	25.10	44.10	20.00	26.70	22.90	27.30	17.80	28.80
5 29	31.50	18.00	11.80	11.10	18.80	8.35	14.30	20.00	36.40	32.20	16.00	12.40	21.60	26.70	46.20	20.00	30.00	21.90	27.80	17.80	32.10
5 30	31.50	18.00	11.80	11.10	21.40	7.85	13.50	16.00	34.00	33.40	16.80	12.00	20.00	50.40	42.70	19.10	35.00	21.40	27.80	19.20	32.80
5 31	31.50	18.00	11.80	13.40	20.90	7.80	13.90	22.00	33.40	31.00	19.10	12.40	21.60	44.10	39.40	18.20	40.70	36.30	28.40	DNA	30.00

Average Daily River Discharge (m3/sec)

Location : Phoolbari River : Seti

Index No. : 430

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Month Day																					
6 1	31.50	18.00	12.50	13.00	22.20	8.60	13.90	24.50	32.80	28.00	21.00	14.40	23.20	40.70	46.20	19.50	35.50	24.60	30.60	DNA	27.60
6 2	31.50	18.50	13.90	14.30	22.20	9.60	21.50	27.20	32.80	23.50	23.50	12.00	24.80	38.10	39.40	18.60	30.60	31.40	33.30	DNA	28.80
6 3	32.20	18.50	12.20	11.80	28.60	10.10	21.50	29.40	28.20	22.00	22.00	11.00	27.20	45.50	39.40	19.50	23.00	27.60	34.40	DNA	30.70
6 4	32.20	22.60	14.80	13.40	25.00	10.40	13.10	35.80	26.00	20.00	23.00	12.40	40.70	42.00	42.70	18.60	23.00	25.20	35.50	DNA	30.70
6 5	31.50	23.80	13.40	12.50	23.20	11.80	20.00	36.40	26.60	21.00	20.00	12.40	31.70	39.40	40.10	19.50	23.50	25.20	37.50	DNA	33.50
6 6	30.80	23.80	14.30	18.50	23.60	12.70	16.50	34.00	26.60	29.20	21.50	13.00	56.60	38.10	38.80	18.50	23.00	25.20	43.40	DNA	33.50
6 7	30.10	22.60	14.30	12.20	25.00	13.30	16.00	40.50	23.60	34.60	23.50	13.20	47.80	35.00	36.20	19.50	24.00	25.20	44.10	DNA	37.00
6 8	31.50	22.60	13.00	14.30	27.60	13.60	16.00	49.60	21.50	37.00	23.00	13.60	47.80	32.20	52.50	19.10	30.00	25.20	49.00	DNA	42.60
6 9	30.80	21.50	19.50	16.80	27.60	18.00	17.00	55.80	20.50	39.10	23.50	15.60	256.00	38.10	68.80	25.10	143.00	25.20	44.10	DNA	37.70
6 10	31.50	22.00	20.00	21.00	29.00	15.80	14.70	66.20	20.50	39.80	23.50	15.60	125.00	33.30	63.20	18.60	153.00	25.80	51.10	DNA	52.00
6 11	30.80	23.80	20.50	21.00	28.10	15.20	16.50	78.00	19.50	42.60	17.80	14.00	74.70	30.00	49.70	18.60	160.00	24.60	58.40	DNA	52.00
6 12	31.50	25.00	18.50	72.00	41.10	15.50	15.50	91.00	18.00	47.00	17.80	13.60	117.00	32.20	44.10	34.40	159.00	25.20	141.00	DNA	69.00
6 13	32.20	26.20	28.70	27.40	35.50	13.30	15.10	105.00	19.00	61.70	18.60	13.20	92.00	34.40	42.70	25.60	146.00	26.40	66.40	19.80	50.40
6 14	32.90	28.70	20.00	35.00	41.10	13.60	19.00	110.00	31.00	166.00	29.20	13.60	101.00	31.70	52.50	33.90	39.10	26.40	51.10	20.30	41.90
6 15	35.80	30.80	21.50	40.40	49.20	13.00	19.00	100.00	28.20	119.00	25.60	14.80	72.90	32.80	49.70	33.90	37.70	30.00	65.60	19.80	40.50
6 16	38.20	122.00	18.00	25.00	60.80	12.70	35.20	96.00	28.80	126.00	37.00	15.80	77.40	31.10	53.90	26.20	35.60	30.00	73.80	19.80	40.50
6 17	35.80	113.00	14.80	22.60	127.00	13.00	247.00	84.00	41.20	114.00	42.60	17.00	70.20	29.50	54.60	25.10	32.80	30.70	76.50	19.80	60.00
6 18	32.90	145.00	18.00	22.60	96.70	14.20	98.00	69.70	43.30	122.00	46.20	19.50	73.80	35.50	62.40	25.60	30.00	38.40	61.60	19.80	89.00
6 19	32.90	120.00	23.80	23.20	106.00	15.20	44.70	81.00	92.00	108.00	51.50	20.00	47.80	32.20	82.80	34.40	33.50	30.00	45.60	25.20	52.80
6 20	38.20	120.00	49.40	26.20	108.00	15.20	36.40	84.00	135.00	103.00	55.80	23.80	61.40	35.00	85.50	35.00	53.60	39.10	42.60	31.40	119.00
6 21	38.20	123.00	24.40	22.60	100.00	19.60	37.00	101.00	116.00	79.70	67.60	25.40	69.30	67.20	84.60	35.50	57.60	52.00	41.20	39.80	84.00
6 22	40.60	122.00	30.10	26.80	91.20	23.20	62.20	107.00	69.70	75.30	83.50	34.40	64.80	53.20	87.30	35.50	49.60	44.00	137.00	45.60	75.30
6 23	39.00	107.00	61.00	21.50	81.30	25.00	55.00	99.00	91.00	72.80	63.40	37.20	56.60	46.90	109.00	42.70	52.80	43.30	230.00	54.40	73.50
6 24	39.80	98.20	44.60	21.50	78.00	24.50	48.20	103.00	75.10	66.00	51.50	40.00	71.10	62.40	117.00	42.00	61.80	56.00	136.00	62.70	71.70
6 25	41.40	109.00	60.00	24.40	95.60	21.80	39.80	113.00	67.90	58.30	46.20	46.30	164.00	57.60	142.00	41.40	72.60	52.00	42.60	70.80	154.00
6 26	43.80	89.40	82.20	52.80	104.00	19.60	44.70	114.00	68.80	133.00	43.30	49.40	74.70	57.60	122.00	103.00	71.70	79.00	38.40	74.40	69.00
6 27	49.40	109.00	59.10	36.60	164.00	19.20	52.80	118.00	62.20	118.00	48.80	53.40	129.00	49.70	118.00	58.40	80.00	86.00	37.00	77.10	52.00
6 28	45.40	125.00	44.60	41.40	100.00	18.80	73.30	211.00	57.40	125.00	46.20	270.00	173.00	51.80	109.00	81.00	75.30	95.00	38.40	81.00	52.00
6 29	44.60	110.00	55.50	42.20	97.80	18.80	54.20	174.00	55.80	222.00	103.00	161.00	137.00	67.20	172.00	76.50	76.20	165.00	38.40	86.00	60.00
6 30	43.00	131.00	36.60	47.80	106.00	20.90	58.20	182.00	98.00	189.00	150.00	160.00	227.00	59.20	170.00	92.00	88.00	154.00	39.10	88.00	85.00

Average Daily River Discharge (m3/sec)

Location : Phoolbari River : Seti

Index No. : 430

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9
7	38.20	129.00	57.30	52.80	96.70	18.80	59.80	167.00	61.40	154.00	172.00	368.00	142.00	53.90	170.00	68.80	184.00	123.00	38.40	89.00	132.00
7	38.20	110.00	74.00	51.00	116.00	18.40	68.80	181.00	56.60	144.00	208.00	273.00	116.00	66.40	144.00	89.10	178.00	136.00	44.00	91.00	149.00
7	42.20	107.00	58.20	58.20	122.00	18.00	61.40	176.00	142.00	130.00	117.00	144.00	146.00	61.60	135.00	143.00	117.00	132.00	42.60	94.00	141.00
7	45.40	120.00	79.00	84.60	222.00	27.20	57.40	133.00	181.00	78.80	105.00	144.00	127.00	137.00	125.00	100.00	107.00	146.00	40.50	94.00	154.00
7	42.20	120.00	68.00	62.00	178.00	18.40	51.80	132.00	130.00	227.00	86.00	142.00	120.00	122.00	159.00	67.20	101.00	143.00	41.90	95.00	173.00
7	50.20	146.00	56.40	55.50	132.00	20.40	54.20	168.00	124.00	142.00	94.00	148.00	118.00	115.00	179.00	58.40	156.00	137.00	70.80	96.00	178.00
7	45.40	179.00	99.50	65.00	124.00	20.00	53.40	142.00	117.00	94.00	94.00	144.00	107.00	107.00	165.00	57.60	127.00	125.00	78.00	97.00	182.00
7	47.80	177.00	96.90	168.00	120.00	21.50	55.80	123.00	117.00	78.80	96.00	136.00	93.00	93.00	202.00	57.60	122.00	201.00	93.00	98.00	190.00
7	50.20	179.00	113.00	221.00	196.00	24.50	110.00	115.00	127.00	81.50	127.00	124.00	84.00	106.00	184.00	60.00	161.00	128.00	106.00	89.00	192.00
7	37.40	146.00	177.00	168.00	175.00	21.80	76.00	115.00	126.00	77.00	124.00	126.00	278.00	127.00	153.00	71.20	135.00	158.00	114.00	90.00	159.00
7	39.00	138.00	222.00	151.00	133.00	21.40	77.00	212.00	118.00	72.80	129.00	120.00	142.00	125.00	164.00	74.70	140.00	126.00	180.00	101.00	197.00
7	33.60	119.00	268.00	132.00	134.00	82.40	85.00	127.00	117.00	77.00	116.00	152.00	125.00	141.00	146.00	71.20	127.00	289.00	221.00	102.00	192.00
7	39.80	125.00	173.00	106.00	144.00	69.00	102.00	116.00	110.00	79.70	125.00	160.00	193.00	134.00	125.00	103.00	140.00	180.00	130.00	103.00	192.00
7	40.60	110.00	194.00	87.00	160.00	51.80	97.00	92.00	105.00	79.70	134.00	161.00	356.00	126.00	128.00	79.20	210.00	155.00	125.00	104.00	190.00
7	36.60	129.00	143.00	117.00	156.00	63.50	140.00	116.00	98.00	132.00	127.00	146.00	366.00	123.00	136.00	114.00	190.00	143.00	127.00	104.00	184.00
7	41.40	145.00	119.00	117.00	140.00	65.30	247.00	128.00	172.00	128.00	130.00	144.00	222.00	125.00	177.00	105.00	281.00	203.00	122.00	103.00	156.00
7	43.80	117.00	95.60	165.00	122.00	73.00	300.00	133.00	305.00	77.90	130.00	173.00	296.00	114.00	160.00	83.70	203.00	176.00	123.00	102.00	144.00
7	43.80	122.00	76.60	205.00	152.00	77.00	290.00	134.00	290.00	102.00	136.00	201.00	178.00	136.00	162.00	95.00	215.00	202.00	120.00	102.00	153.00
7	46.20	114.00	58.20	113.00	152.00	81.30	332.00	119.00	173.00	90.00	122.00	182.00	188.00	173.00	183.00	103.00	203.00	171.00	144.00	103.00	138.00
7	44.60	112.00	47.00	113.00	152.00	73.00	289.00	145.00	147.00	98.00	105.00	248.00	149.00	144.00	177.00	107.00	254.00	178.00	137.00	104.00	127.00
7	52.80	153.00	60.00	120.00	145.00	74.00	254.00	130.00	117.00	90.00	81.50	178.00	143.00	158.00	155.00	158.00	217.00	161.00	119.00	102.00	142.00
7	55.50	153.00	44.60	138.00	140.00	77.00	196.00	135.00	146.00	91.00	165.00	166.00	164.00	171.00	137.00	123.00	211.00	159.00	154.00	102.00	154.00
7	63.00	149.00	56.40	102.00	260.00	67.10	190.00	130.00	117.00	88.00	159.00	200.00	137.00	221.00	134.00	137.00	224.00	153.00	215.00	101.00	160.00
7	74.00	129.00	77.00	93.00	211.00	74.00	230.00	135.00	113.00	170.00	156.00	265.00	196.00	149.00	144.00	189.00	167.00	171.00	230.00	100.00	160.00
7	94.30	145.00	153.00	93.00	192.00	86.80	186.00	130.00	130.00	203.00	138.00	290.00	380.00	136.00	152.00	146.00	155.00	147.00	138.00	104.00	129.00
7	106.00	141.00	129.00	73.00	180.00	90.10	228.00	129.00	117.00	112.00	160.00	323.00	180.00	136.00	130.00	126.00	179.00	212.00	130.00	105.00	173.00
7	113.00	122.00	93.00	67.00	164.00	92.30	176.00	107.00	168.00	84.20	141.00	260.00	149.00	177.00	194.00	134.00	180.00	305.00	134.00	100.00	182.00
7	120.00	112.00	156.00	96.90	154.00	95.60	232.00	124.00	186.00	97.00	174.00	274.00	142.00	135.00	215.00	200.00	235.00	230.00	130.00	100.00	196.00
7	129.00	143.00	99.50	93.00	168.00	97.80	265.00	124.00	288.00	117.00	555.00	284.00	131.00	120.00	176.00	210.00	170.00	205.00	142.00	102.00	195.00
7	131.00	166.00	60.00	76.00	139.00	103.00	407.00	121.00	311.00	138.00	244.00	257.00	132.00	239.00	161.00	160.00	164.00	179.00	141.00	103.00	194.00
7	137.00	145.00	65.00	68.00	132.00	108.00	480.00	130.00	150.00	159.00	465.00	180.00	144.00	150.00	164.00	184.00	167.00	227.00	257.00	104.00	195.00

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9
8	143.00	141.00	194.00	72.20	127.00	122.00	240.00	119.00	128.00	350.00	352.00	180.00	168.00	166.00	179.00	171.00	178.00	205.00	247.00	104.00	173.00
8	137.00	192.00	217.00	103.00	146.00	128.00	176.00	121.00	228.00	238.00	420.00	179.00	132.00	136.00	180.00	138.00	179.00	205.00	266.00	144.00	154.00
8	153.00	190.00	106.00	78.00	136.00	142.00	295.00	116.00	268.00	384.00	253.00	372.00	119.00	481.00	182.00	167.00	250.00	210.00	150.00	130.00	142.00
8	148.00	154.00	120.00	113.00	127.00	198.00	153.00	120.00	198.00	356.00	302.00	315.00	201.00	201.00	195.00	131.00	178.00	196.00	174.00	136.00	182.00
8	153.00	196.00	182.00	125.00	122.00	120.00	157.00	133.00	194.00	338.00	555.00	195.00	141.00	162.00	191.00	130.00	176.00	182.00	190.00	118.00	108.00
8	166.00	173.00	146.00	95.60	115.00	116.00	278.00	258.00	168.00	404.00	270.00	172.00	171.00	138.00	173.00	126.00	158.00	174.00	154.00	114.00	108.00
8	170.00	143.00	96.90	81.00	103.00	122.00	500.00	181.00	176.00	211.00	276.00	166.00	156.00	128.00	167.00	119.00	220.00	154.00	142.00	111.00	98.00
8	172.00	149.00	81.00	110.00	116.00	127.00	365.00	198.00	169.00	172.00	231.00	154.00	144.00	143.00	205.00	198.00	188.00	150.00	131.00	110.00	116.00
8	166.00	156.00	96.90	120.00	133.00	120.00	241.00	185.00	151.00	154.00	169.00	144.00	144.00	125.00	191.00	130.00	177.00	132.00	254.00	107.00	103.00
8	188.00	209.00	134.00	132.00	127.00	164.00	238.00	142.00	404.00	160.00	145.00	144.00	161.00	135.00	168.00	131.00	164.00	128.00	253.00	110.00	107.00
8	223.00	186.00	109.00	106.00	118.00	258.00	211.00	119.00	433.00	145.00	145.00	137.00	212.00	177.00	221.00	132.00	150.00	129.00	236.00	112.00	108.00
8	259.00	215.00	90.60	128.00	146.00	241.00	200.00	120.00	166.00	148.00	146.00	132.00	159.00	170.00	185.00	136.00	168.00	132.00	149.00	108.00	103.00
8	306.00	181.00	109.00	151.00	146.00	220.00	178.00	117.00	158.00	136.00	134.00	129.00	144.00	168.00	150.00	132.00	155.00	170.00	211.00	110.00	116.00
8	264.00	236.00	96.90	102.00	134.00	148.00	153.00	141.00	152.00	128.00	145.00	115.00	128.00	260.00	130.00	119.00	153.00	146.00	201.00	112.00	107.00
8	346.00	182.00	73.00	96.90	122.00	115.00	136.00	122.00	128.00	128.00	132.00	107.00	120.00	166.00	121.00	116.00	172.00	138.00	205.00	114.00	116.00
8	268.00	166.00	64.00	91.80	106.00	110.00	290.00	148.00	128.00	120.00	116.00	102.00	128.00	253.00	115.00	118.00	230.00	129.00	233.00	115.00	100.00
8	255.00	163.00	106.00	81.00	110.00	121.00	198.00	121.00	128.00	104.00	129.00	99.00	124.00	251.00	126.00	120.00	123.00	129.00	166.00	107.00	122.00
8	223.00	153.00	96.90	85.80	109.00	127.00	169.00	127.00	251.00	308.00	134.00	95.00	144.00	173.00	149.00	126.00	132.00	134.00	154.00	108.00	110.00
8	268.00	168.00	81.00	90.60	108.00	138.00	139.00	167.00	107.00	165.00	138.00	90.00	158.00	123.00	113.00	136.00	127.00	195.00	166.00	108.00	122.00
8	279.00	172.00	105.00	76.00	127.00	144.00	128.00	150.00	107.00	150.00	146.00	93.00	173.00	141.00	113.00	174.00	132.00	197.00	190.00	108.00	118.00
8	261.00	205.00	91.80	70.00	157.00	132.00	117.00	125.00	90.00	136.00	144.00	106.00	184.00	127.00	104.00	186.00	184.00	158.00	230.00	108.00	114.00
8	213.00	175.00	141.00	70.00	228.00	120.00	110.00	142.00	96.00	181.00	101.00	116.00	180.00	121.00	103.00	170.00	137.00	178.00	85.00	108.00	111.00
8	188.00	160.00	161.00	163.00	210.00	146.00	108.00	145.00	95.00	144.00	145.00	122.00	368.00	141.00	104.00	154.00	125.00	176.00	84.00	108.00	119.00
8	209.00	154.00	148.00	106.00	196.00	140.00	120.00	130.00	86.00	126.00	148.00	106.00	188.00	152.00	105.00	142.00	158.00	154.00	84.00	108.00	135.00
8	246.00	151.00	125.00	80.00	150.00	156.00	250.00	154.00	128.00	107.00	133.00	103.00	167.00	184.00	110.00	142.00	134.00	194.00	166.00	108.00	88.00
8	238.00	137.00	109.00	110.00	109.00	163.00	148.00	140.00	142.00	98.00	150.00	144.00	152.00	361.00	105.00	172.00	123.00	186.00	146.00	108.00	138.00
8	221.00	149.00	98.20	96.90	120.00	138.00	157.00	117.00	148.00	90.00	144.00	198.00	146.00	197.00	96.00	185.00	155.00	159.00	154.00	108.00	152.00
8	28	201.00	110.00	87.00	118.00	186.00	146.00	107.00	164.00	91.00	138.00	157.00	132.00	176.00	83.70	140.00	177.00	142.00	162.00	108.00	141.00
8	181.00	161.00	128.00	81.00	112.00	156.00	144.00	100.00	142.00	93.00	151.00	226.00	128.00	338.00	74.70	143.00	129.00	142.00	161.00	108.00	142.00
8	165.00	149.00	165.00	77.00	104.00	142.00	134.00	119.00	128.00	99.00	156.00	160.00	116.00	197.00	72.00	155.00	117.00	129.00	156.00	108.00	141.00
8	173.00	140.00	135.00	73.00	127.00	120.00	110.00	121.00	128.00	105.00	145.00	144.00	112.00	164.00	74.70	136.00	153.00	132.00	154.00	108.00	135.00

Average Daily River Discharge (m³/sec)

Location : Phoolbari River : Seti

Index No. : 430

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Month	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day
9	1	186.00	137.00	153.00	70.00	128.00	105.00	115.00	128.00	100.00	173.00	146.00	118.00	137.00	77.40	131.00	186.00	158.00	150.00	108.00	136.00
9	2	173.00	140.00	105.00	77.00	151.00	102.00	118.00	135.00	114.00	148.00	144.00	197.00	142.00	66.40	124.00	153.00	153.00	144.00	108.00	125.00
9	3	161.00	126.00	96.00	73.00	156.00	110.00	102.00	138.00	90.00	139.00	176.00	162.00	135.00	74.70	127.00	173.00	171.00	136.00	108.00	105.00
9	4	180.00	120.00	87.00	70.00	148.00	105.00	113.00	198.00	107.00	129.00	148.00	166.00	128.00	84.60	136.00	162.00	150.00	138.00	108.00	138.00
9	5	153.00	113.00	61.00	70.00	133.00	98.00	114.00	160.00	101.00	143.00	157.00	135.00	119.00	76.50	128.00	207.00	137.00	128.00	108.00	118.00
9	6	149.00	165.00	53.70	72.00	134.00	118.00	96.00	150.00	127.00	128.00	156.00	132.00	144.00	81.90	103.00	203.00	137.00	117.00	108.00	108.00
9	7	143.00	109.00	54.60	90.60	118.00	84.00	92.00	138.00	110.00	113.00	150.00	136.00	141.00	96.00	112.00	147.00	138.00	112.00	108.00	178.00
9	8	135.00	122.00	82.20	172.00	112.00	84.00	106.00	128.00	94.00	111.00	144.00	124.00	140.00	83.70	126.00	132.00	161.00	108.00	108.00	142.00
9	9	117.00	110.00	110.00	103.00	108.00	86.00	121.00	141.00	86.00	105.00	144.00	113.00	128.00	90.00	138.00	159.00	164.00	104.00	108.00	142.00
9	10	82.20	117.00	60.00	107.00	102.00	86.00	126.00	140.00	89.00	103.00	161.00	104.00	122.00	101.00	128.00	146.00	168.00	105.00	108.00	141.00
9	11	77.00	112.00	93.00	93.00	96.70	82.00	90.00	128.00	129.00	111.00	155.00	102.00	147.00	93.00	114.00	144.00	137.00	135.00	108.00	140.00
9	12	132.00	128.00	95.60	85.80	90.10	82.00	116.00	124.00	221.00	144.00	161.00	76.50	168.00	106.00	100.00	137.00	127.00	38.40	108.00	125.00
9	13	184.00	110.00	85.80	81.00	85.70	83.00	94.00	128.00	186.00	132.00	134.00	109.00	176.00	117.00	93.00	166.00	123.00	176.00	108.00	119.00
9	14	170.00	103.00	94.30	125.00	86.80	78.00	82.00	151.00	128.00	124.00	144.00	111.00	136.00	114.00	95.00	130.00	127.00	131.00	108.00	119.00
9	15	161.00	94.30	79.00	103.00	106.00	73.30	68.80	128.00	130.00	144.00	143.00	101.00	110.00	92.00	93.00	121.00	118.00	98.00	108.00	114.00
9	16	156.00	90.80	110.00	93.00	114.00	74.20	60.60	128.00	145.00	121.00	143.00	94.00	108.00	82.80	93.00	137.00	108.00	97.00	108.00	107.00
9	17	153.00	83.40	77.00	85.80	109.00	74.20	71.50	101.00	221.00	125.00	144.00	88.20	111.00	81.00	77.40	146.00	110.00	102.00	108.00	103.00
9	18	154.00	66.00	76.00	80.00	103.00	70.60	66.20	95.00	135.00	139.00	144.00	81.00	105.00	72.00	72.90	142.00	119.00	97.00	108.00	102.00
9	19	149.00	62.00	68.00	81.00	95.60	106.00	62.20	91.00	136.00	131.00	179.00	75.60	101.00	95.00	70.40	119.00	112.00	95.00	108.00	108.00
9	20	146.00	57.30	67.00	76.00	93.40	103.00	58.20	87.00	129.00	120.00	179.00	82.80	103.00	73.80	66.40	115.00	109.00	93.00	107.00	119.00
9	21	140.00	58.20	65.00	91.80	90.10	97.00	54.20	86.00	127.00	115.00	162.00	66.40	94.00	88.00	62.40	121.00	94.00	88.00	107.00	121.00
9	22	141.00	51.90	61.00	88.20	90.10	91.00	65.40	89.00	121.00	112.00	151.00	68.00	105.00	69.60	60.80	95.00	87.30	31.40	108.00	114.00
9	23	156.00	54.60	57.30	102.00	85.70	133.00	88.90	90.00	117.00	103.00	140.00	71.20	102.00	63.20	59.20	88.00	86.40	30.70	108.00	97.00
9	24	154.00	49.40	47.80	76.00	83.50	93.40	115.00	99.00	108.00	96.00	118.00	66.40	95.00	61.60	57.60	85.00	81.00	30.00	108.00	89.00
9	25	146.00	46.20	51.00	71.00	80.20	106.00	154.00	75.30	113.00	90.00	99.00	72.90	90.00	66.40	57.60	81.00	77.40	83.00	107.00	28.80
9	26	143.00	45.40	47.00	70.00	82.40	92.30	162.00	71.90	128.00	87.00	90.00	70.40	82.80	71.20	53.20	78.00	74.70	80.00	107.00	82.00
9	27	135.00	42.20	44.60	70.00	79.10	100.00	113.00	73.60	104.00	86.00	94.00	80.10	73.80	125.00	51.80	75.30	76.50	77.10	107.00	71.70
9	28	135.00	39.80	45.40	68.00	75.00	95.00	92.00	97.00	96.00	84.00	93.00	64.00	68.00	84.60	51.10	72.60	81.00	72.60	103.00	62.70
9	29	126.00	42.20	43.80	73.00	73.00	93.00	116.00	85.10	94.00	84.00	92.00	63.20	64.00	74.70	51.10	74.40	144.00	69.00	98.00	56.00
9	30	120.00	40.60	42.20	55.50	76.00	94.00	115.00	81.50	89.00	84.00	87.00	62.40	64.80	71.20	57.60	78.00	84.60	64.50	98.00	51.20

Average Daily River Discharge (m3/sec)

Location : Phoolbari River : Seti

Index No. : 430

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Month Day																					
10 1	90.60	39.80	40.60	54.60	75.00	61.70	91.00	101.00	78.80	88.00	75.60	87.00	56.00	61.60	65.60	61.60	75.30	77.40	60.90	98.00	48.80
10 2	76.00	39.80	43.00	51.90	128.00	55.40	83.00	93.00	77.90	90.00	71.10	92.00	54.60	66.40	59.20	54.60	69.00	73.80	57.60	98.00	48.00
10 3	68.00	38.20	39.80	50.20	228.00	49.20	75.10	69.70	76.20	420.00	72.90	88.00	52.50	71.20	54.60	58.40	61.80	69.60	53.60	98.00	44.00
10 4	61.00	37.40	41.40	47.00	531.00	44.00	69.70	70.60	72.80	290.00	72.00	93.00	51.80	73.80	53.90	72.90	57.60	66.40	49.60	97.00	44.00
10 5	54.60	38.20	45.40	50.20	599.00	44.00	65.40	72.40	68.50	133.00	71.10	92.00	48.90	75.60	56.80	63.20	69.00	62.40	44.00	97.00	44.00
10 6	50.20	39.00	40.60	46.20	453.00	44.80	60.60	75.10	67.60	117.00	69.30	91.00	45.50	71.20	52.50	53.90	56.80	60.00	40.50	97.00	43.30
10 7	35.00	36.60	39.00	43.00	385.00	43.20	58.20	76.00	68.50	109.00	69.30	89.00	48.30	66.40	52.50	49.70	52.00	57.60	39.80	105.00	43.30
10 8	32.90	32.20	37.40	43.00	353.00	44.00	55.80	78.00	64.20	136.00	72.90	90.00	50.40	65.60	49.70	49.00	50.40	56.80	39.10	104.00	41.90
10 9	32.90	32.20	34.30	40.60	322.00	42.50	54.20	88.00	64.20	128.00	72.00	88.00	49.00	63.20	46.90	63.20	48.00	54.60	39.10	106.00	41.20
10 10	34.30	30.80	35.00	39.80	240.00	41.80	53.40	72.40	58.30	120.00	68.40	91.00	48.30	60.00	45.50	74.70	45.60	52.50	38.40	104.00	39.10
10 11	37.40	31.50	32.90	43.00	266.00	41.80	53.40	72.40	49.20	114.00	66.60	88.00	46.20	56.80	42.70	87.30	43.30	50.40	38.40	104.00	38.40
10 12	37.40	30.80	31.50	41.40	216.00	38.30	51.80	64.60	47.00	99.00	68.40	70.20	44.80	53.20	40.70	77.40	42.60	49.70	20.80	98.00	37.70
10 13	39.80	29.40	30.10	38.00	168.00	36.20	50.30	71.50	45.50	536.00	70.20	63.00	43.40	50.40	40.10	66.40	40.50	48.30	37.70	97.00	37.00
10 14	43.80	28.70	30.10	35.00	114.00	34.20	52.60	63.80	44.80	222.00	66.60	58.20	39.40	49.00	38.10	60.80	39.10	46.90	37.00	96.00	37.00
10 15	48.60	27.40	29.40	33.60	83.50	32.90	46.80	61.40	44.00	157.00	70.20	54.20	39.40	49.00	36.80	56.00	37.70	46.20	36.30	96.00	37.00
10 16	57.30	26.80	28.70	33.60	68.00	33.60	44.70	73.30	43.30	95.00	65.70	52.60	46.20	48.30	35.50	53.20	37.00	46.20	35.60	96.00	37.00
10 17	62.00	28.20	29.40	32.00	59.90	33.60	41.90	66.20	43.30	85.10	63.00	52.60	40.00	46.90	34.40	50.40	37.00	46.20	34.90	16.90	32.80
10 18	59.10	25.00	28.00	30.10	40.40	32.20	39.10	84.00	44.00	74.50	64.80	54.20	39.40	46.20	34.40	48.30	37.00	46.20	34.20	16.90	35.60
10 19	59.10	25.60	27.40	30.10	40.40	33.60	39.10	84.00	43.30	77.90	63.00	51.00	37.40	44.80	32.80	46.20	37.00	46.20	33.50	16.90	34.20
10 20	60.00	26.00	26.80	28.70	37.60	31.60	38.40	73.30	41.20	60.90	62.20	50.20	36.20	43.40	31.70	44.80	36.30	46.20	32.10	16.90	32.10
10 21	59.10	25.60	25.60	28.70	33.60	31.60	37.00	67.90	40.50	60.00	54.20	48.60	35.00	42.70	31.10	44.80	36.30	46.20	19.20	16.90	30.00
10 22	57.30	24.40	25.00	28.00	31.00	32.90	37.00	62.20	39.80	54.90	49.40	47.80	33.40	42.00	31.10	44.10	36.30	46.20	19.20	16.50	29.40
10 23	54.60	23.80	25.00	27.40	27.60	32.90	37.00	62.20	39.80	53.20	47.00	47.00	33.30	40.70	31.10	44.10	40.50	46.20	19.20	16.50	29.40
10 24	53.70	23.80	25.60	27.40	24.00	31.00	37.70	55.80	37.00	53.20	47.00	47.00	35.00	40.70	31.10	44.10	36.30	46.20	19.20	16.50	29.40
10 25	51.00	23.20	23.80	26.80	18.00	30.30	36.40	51.80	37.00	50.80	47.00	47.00	33.30	40.10	31.10	44.10	36.30	46.20	19.20	16.90	18.70
10 26	50.20	23.20	23.20	26.80	14.90	29.00	36.40	52.60	37.00	44.80	47.00	46.30	31.60	39.40	31.70	44.10	35.60	45.50	28.80	16.90	28.80
10 27	50.20	22.60	22.00	26.20	13.30	28.10	35.20	48.20	36.40	44.00	44.90	44.90	29.40	38.10	31.10	44.80	35.60	45.50	28.20	16.90	28.20
10 28	49.40	22.00	22.00	25.60	17.30	26.80	35.20	46.10	35.20	44.00	44.20	44.20	27.80	38.80	30.60	44.10	34.90	44.10	27.60	17.40	27.60
10 29	47.80	21.50	21.50	25.60	27.60	26.30	34.00	46.10	37.70	43.30	43.50	42.80	27.80	38.10	30.60	44.10	33.50	42.70	27.00	16.90	28.20
10 30	47.80	21.00	20.50	25.00	26.80	25.40	34.00	45.40	34.00	42.60	42.80	41.40	25.60	36.80	30.60	44.10	31.40	39.40	27.00	17.40	28.20
10 31	47.80	22.00	20.50	24.40	25.80	25.00	33.40	46.80	32.20	41.90	42.80	40.00	32.20	37.50	30.60	44.10	30.00	35.00	26.40	16.90	26.40

Year		1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984									
Month	Day	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
11	1	49.40	29.40	20.00	24.40	26.30	24.50	32.80	44.00	31.60	41.90	33.00	39.30	28.40	36.20	30.60	43.40	28.80	32.80	26.40	17.40	28.20									
11	2	48.60	25.60	20.50	23.80	25.00	24.00	31.60	40.50	31.00	44.00	30.40	33.00	25.00	35.00	30.00	43.40	28.20	31.70	25.80	17.80	28.80									
11	3	47.80	24.40	20.50	23.50	24.50	22.70	31.60	41.20	31.00	43.30	27.80	33.70	23.00	40.70	30.00	42.70	27.60	31.70	25.80	16.90	28.20									
11	4	45.40	25.00	20.00	23.20	24.00	22.70	31.00	37.70	31.00	41.20	26.50	32.40	25.00	53.20	30.00	41.40	27.00	33.90	25.20	16.90	27.60									
11	5	43.00	47.00	19.50	22.60	24.00	22.70	31.00	35.80	31.00	40.50	26.50	30.40	25.00	49.00	30.00	40.10	27.00	30.60	24.60	16.90	27.00									
11	6	41.40	27.40	19.50	22.00	23.20	21.40	30.50	36.40	29.20	40.50	23.80	29.80	23.50	45.60	29.50	38.50	27.00	28.90	24.00	16.50	26.40									
11	7	40.60	25.00	20.00	21.50	23.20	21.40	30.50	34.60	28.00	38.40	21.00	29.10	21.50	47.50	29.50	37.80	27.00	28.90	23.50	17.40	25.80									
11	8	39.80	23.80	19.50	21.00	22.70	20.40	29.90	34.60	26.80	38.40	22.10	29.80	20.00	44.10	29.50	37.50	26.40	31.10	22.90	16.90	25.20									
11	9	38.20	22.60	19.00	20.00	22.70	20.40	29.40	34.00	25.00	37.70	21.00	27.80	19.50	42.70	29.50	37.50	26.40	27.80	22.40	16.90	23.50									
11	10	37.40	23.20	19.00	21.00	22.50	20.40	29.40	32.80	25.00	37.00	20.00	27.80	18.20	40.70	29.50	35.50	26.40	26.70	21.90	16.50	22.90									
11	11	35.80	22.60	19.00	21.00	21.80	19.60	29.40	31.00	24.50	37.00	19.50	27.20	21.00	38.10	28.90	35.00	26.40	25.10	21.40	16.90	22.90									
11	12	34.30	21.00	19.00	20.50	20.90	19.60	28.80	31.00	23.50	37.00	19.50	26.50	19.50	36.80	28.90	33.90	26.40	24.50	18.30	16.90	22.90									
11	13	34.30	19.50	18.50	20.00	19.60	20.00	29.40	31.00	23.50	37.00	20.00	24.80	19.50	37.50	28.90	32.80	26.40	24.50	20.30	16.90	22.40									
11	14	34.30	18.50	18.00	20.00	19.60	19.60	28.80	30.40	22.50	37.00	18.50	24.80	17.80	35.50	28.90	31.70	26.40	23.50	20.30	16.90	22.40									
11	15	34.30	19.50	17.50	19.50	18.80	18.80	28.80	28.80	25.00	37.00	17.50	24.80	17.80	32.80	28.90	31.10	26.40	23.00	19.80	17.40	18.30									
11	16	34.30	20.00	17.50	19.50	18.80	17.30	27.20	28.20	25.00	37.40	18.00	24.30	16.90	32.20	28.40	30.60	25.80	22.50	19.80	16.90	16.90									
11	17	33.60	19.50																												

Average Daily River Discharge (m3/sec)

Location : Phoolbari River : Seti

Index No. : 430

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Month	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day
12	1	31.50	16.10	13.90	18.00	13.00	15.20	19.00	25.50	16.80	16.50	17.00	17.40	25.10	25.10	25.60	17.40	21.50	18.70	21.90	18.70
12	2	32.20	16.10	13.40	17.50	13.00	14.90	19.00	24.50	15.50	17.00	17.00	18.20	24.00	27.30	23.50	17.40	21.50	18.70	21.90	18.30
12	3	30.80	15.70	13.40	17.00	12.70	14.90	19.00	23.50	15.50	17.00	16.50	16.90	23.00	25.60	22.50	16.90	21.50	18.70	21.90	17.80
12	4	30.10	15.70	13.40	17.00	12.40	14.90	18.50	23.50	16.40	17.00	16.00	16.90	22.00	25.10	21.50	16.90	21.50	18.70	21.90	17.80
12	5	29.40	16.10	13.40	17.00	12.70	14.20	18.00	23.50	16.40	16.00	16.00	19.50	21.50	24.00	21.00	16.90	21.50	18.30	21.90	17.80
12	6	28.70	15.20	12.50	16.60	12.40	13.90	17.00	23.00	15.50	16.00	15.60	19.10	21.00	23.50	20.50	16.90	21.50	18.30	21.90	17.80
12	7	30.10	15.20	12.50	16.60	12.10	13.90	16.50	23.00	16.80	15.20	15.60	17.80	20.50	23.50	20.00	16.50	21.50	18.30	21.90	17.40
12	8	29.40	15.70	12.50	16.60	11.80	13.90	16.50	22.50	16.00	15.20	15.60	17.40	22.50	23.00	19.50	16.50	21.50	18.30	21.90	16.90
12	9	30.80	14.80	12.20	16.10	11.60	13.60	16.50	22.00	16.00	15.60	15.60	16.90	20.50	23.00	19.50	16.10	21.50	18.30	21.90	16.90
12	10	31.50	14.80	12.20	16.10	11.80	13.30	16.00	22.00	15.50	14.80	14.80	16.50	20.00	23.00	19.10	16.10	21.00	18.30	21.40	16.50
12	11	32.20	14.30	11.80	16.60	11.60	13.00	15.50	21.50	15.50	14.40	14.80	17.40	19.10	23.00	18.60	15.60	21.00	18.30	21.40	17.40
12	12	32.20	14.30	11.80	16.10	11.30	12.70	15.50	21.50	15.50	14.40	14.80	16.50	19.50	22.50	18.60	15.60	21.00	DNA	21.40	16.90
12	13	32.20	14.30	11.50	16.10	11.60	12.70	15.10	19.00	16.00	13.60	14.40	16.50	18.20	22.00	18.60	14.70	21.00	18.30	21.40	16.50
12	14	31.50	14.30	11.50	16.10	11.00	12.40	15.50	17.00	15.50	13.60	14.40	16.10	18.20	22.00	18.60	15.20	21.00	18.30	18.70	16.10
12	15	29.40	14.30	11.50	16.10	11.00	12.10	15.50	17.00	15.50	13.60	14.40	15.60	17.80	22.00	18.20	15.20	21.00	18.30	16.50	15.60
12	16	26.80	14.30	11.10	15.70	11.00	11.60	15.50	16.50	15.50	17.50	14.40	15.20	16.90	21.00	17.80	14.70	21.00	18.30	16.50	DNA
12	17	24.40	14.80	11.10	15.70	11.00	11.60	15.50	16.50	15.50	17.00	14.00	15.20	16.90	21.00	17.80	14.70	21.00	18.30	16.50	DNA
12	18	23.80	13.90	11.50	15.20	10.70	11.30	15.10	16.00	15.50	16.50	14.00	15.20	16.90	21.00	17.80	14.70	21.00	18.30	16.50	15.20
12	19	22.00	14.30	11.50	15.20	10.40	11.00	14.70	16.00	15.50	16.00	13.60	14.50	17.80	21.00	17.80	14.70	21.00	18.30	16.10	DNA
12	20	21.00	13.90	11.10	14.80	10.10	10.70	14.70	16.00	15.50	16.00	13.20	14.50	17.40	21.00	17.80	14.30	21.00	17.80	16.10	14.70
12	21	19.50	14.30	11.10	14.80	10.10	10.40	14.70	16.00	15.50	16.50	13.20	14.50	16.10	21.00	17.40	14.30	20.50	17.80	16.10	DNA
12	22	18.50	13.90	11.10	15.20	9.60	10.40	14.30	15.50	15.50	15.60	12.80	14.50	16.10	21.00	16.90	13.50	20.50	DNA	15.60	14.30
12	23	18.00	13.40	11.10	14.80	10.10	9.85	14.30	15.50	15.10	16.50	12.80	13.70	16.50	21.00	16.90	12.70	20.50	DNA	15.60	DNA
12	24	17.50	13.90	11.10	14.80	9.85	10.10	13.90	15.10	15.10	16.50	12.40	13.70	21.50	21.50	16.90	12.70	20.50	DNA	15.60	13.90
12	25	17.00	13.40	11.10	14.30	9.60	10.10	13.90	14.70	15.10	16.50	12.40	13.70	20.50	21.00	16.90	12.40	20.50	17.80	15.60	DNA
12	26	17.00	13.90	11.10	14.30	9.35	10.40	13.50	14.70	14.70	16.00	12.00	13.70	23.00	21.00	16.90	12.00	20.50	17.80	DNA	13.50
12	27	16.60	13.90	10.80	14.30	9.60	10.10	13.10	14.70	15.10	16.00	12.00	14.10	21.50	20.50	16.50	12.00	20.50	17.80	DNA	13.10
12	28	16.60	13.40	11.10	13.90	9.60	9.85	13.10	14.30	14.20	15.20	11.70	13.00	22.50	20.50	16.10	11.60	20.50	17.80	DNA	13.10
12	29	16.60	13.40	11.10	13.90	9.60	10.10	13.90	14.20	14.20	15.20	11.30	13.00	21.00	20.00	16.10	11.60	20.50	17.40	DNA	12.70
12	30	16.60	13.00	11.10	13.90	9.35	10.40	12.70	13.90	14.20	15.20	11.30	13.00	20.50	20.50	16.10	11.20	20.50	17.40	DNA	12.70
12	31	16.60	13.00	11.10	13.90	9.60	10.10	12.70	13.90	14.20	15.20	11.00	12.60	19.50	20.00	16.10	11.20	20.50	17.40	DNA	12.40

Average Daily River Discharge (m3/sec)

Location : Shisaghat River : Madi

Index No. : 438 Drainage area : 858 km2

Note : DNA means data not acquired

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Day	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	21.70	27.20	16.60	11.50	18.30	32.10	21.70	27.20	19.30	17.60	23.00	22.10	20.40	16.00	22.70	16.60	19.10	7.40	26.60	20.20	17.80	15.40	17.89	20.00	46.42	47.57	
2	22.50	27.20	16.60	11.50	17.50	33.10	21.70	28.20	19.30	17.60	23.70	22.10	19.70	15.10	22.70	17.20	18.30	7.30	25.20	20.50	17.80	15.20	17.72	19.40	45.56	43.05	
3	22.50	26.20	15.80	10.80	17.50	33.10	19.90	28.20	19.30	17.60	23.00	22.10	19.70	14.70	22.10	16.60	18.40	7.20	25.20	20.20	17.60	15.20	17.39	18.43	45.56	42.50	
4	21.70	26.20	15.80	10.80	17.50	32.10	19.90	27.20	18.70	17.00	23.00	21.20	19.70	14.70	22.10	16.10	18.50	7.20	25.20	20.50	17.80	15.20	17.39	18.43	45.56	42.50	
5	21.70	26.20	14.90	10.80	16.60	32.10	19.00	27.20	18.70	17.00	22.40	21.20	18.90	14.50	22.10	16.10	20.60	7.10	24.50	20.00	17.30	15.20	17.22	18.62	44.72	41.96	
6	20.80	25.20	14.90	10.80	16.60	31.10	19.00	27.20	18.70	17.00	21.70	21.20	18.90	13.90	21.60	16.10	20.20	7.00	22.90	19.50	17.30	15.20	16.90	18.43	45.56	41.96	
7	20.00	26.20	14.90	11.50	16.60	32.10	18.20	27.20	18.20	17.00	21.10	20.40	18.90	13.50	21.60	16.10	19.70	6.90	22.90	19.00	17.30	15.00	16.73	18.05	44.72	41.96	
8	20.00	25.20	14.90	10.80	16.60	32.10	18.20	27.20	18.20	17.00	21.10	20.40	18.90	13.50	21.60	16.60	19.60	6.90	22.10	18.50	16.90	14.70	16.41	18.05	44.72	41.96	
9	20.00	26.20	14.90	10.10	16.60	32.10	18.20	26.20	17.60	17.00	20.40	37.60	18.90	13.90	22.70	16.60	19.90	7.50	20.40	18.20	16.90	14.60	16.41	18.05	43.88	41.42	
10	19.10	26.20	14.90	10.10	16.60	31.10	17.40	26.20	17.60	16.50	21.10	25.80	18.20	13.90	22.70	16.10	19.60	7.20	19.50	17.80	18.20	15.00	16.26	18.05	42.23	41.15	
11	19.10	26.20	14.10	10.10	16.60	30.10	17.40	27.20	17.60	16.50	21.10	23.00	18.20	13.50	23.90	16.10	19.70	7.30	17.60	17.80	17.90	14.60	15.94	17.49	43.88	41.15	
12	19.10	28.20	14.10	10.10	15.80	29.20	16.60	26.20	17.60	15.90	21.10	22.10	18.20	13.40	21.00	16.60	19.90	7.30	17.60	17.80	17.90	14.60	16.57	17.49	44.72	40.88	
13	19.10	28.20	14.10	10.10	15.80	29.20	16.60	25.20	17.60	15.40	20.40	22.10	18.20	13.20	21.00	16.60	19.70	7.00	20.40	17.80	16.40	14.40	16.57	17.30	44.72	40.08	
14	19.10	25.20	13.20	10.10	14.90	29.20	16.60	25.20	17.60	15.90	20.40	22.10	18.90	14.10	21.00	15.60	19.50	7.00	39.20	17.60	16.90	14.40	16.10	17.12	43.88	40.34	
15	18.30	24.20	13.20	10.10	14.90	28.20	16.60	25.20	17.60	15.40	19.80	22.10	18.90	13.90	20.40	15.60	22.40	7.10	32.90	17.30	16.40	14.40	15.94	17.30	57.30	40.08	
16	18.30	24.20	12.40	10.10	14.90	29.20	20.80	24.20	17.00	15.40	19.80	21.20	18.90	13.20	20.40	16.10	20.00	7.20	29.30	17.30	16.10	14.20	15.63	16.94	46.42	40.08	
17	18.30	24.20	12.40	10.10	14.90	28.20	17.40	25.20	16.50	15.40	19.80	21.20	18.90	12.80	20.40	15.10	19.90	7.20	25.90	17.30	16.00	14.00	15.48	17.30	44.72	40.08	
18	18.30	23.40	13.20	9.37	14.90	28.20	16.60	24.20	15.90	15.40	19.80	20.40	19.70	12.30	19.80	15.10	19.60	7.10	18.60	19.00	15.60	14.10	15.48	17.12	43.88	40.08	
19	18.30	23.40	12.40	9.37	14.90	29.20	16.60	24.20	15.40	15.40	19.80	20.40	19.70	12.30	19.80	14.60	19.50	7.20	17.60	18.70	15.60	14.00	15.48	16.76	43.88	40.08	
20	18.30	23.40	12.40	9.37	14.90	29.20	16.60	24.20	14.80	15.40	19.80	20.40	19.70	12.30	19.80	14.10	19.50	7.00	15.50	18.50	15.30	14.00	15.32	16.76	43.05	39.81	
21	18.30	22.50	12.40	9.37	14.90	28.20	15.80	23.40	14.80	15.40	19.80	20.40	19.70	13.20	21.00	14.10	19.50	7.00	14.30	18.70	15.30	13.60	15.02	16.94	43.05	39.02	
22	18.30	22.50	12.40	10.10	14.90	29.20	15.80	23.40	14.80	14.80	19.30	20.40	19.70	13.20	19.80	14.10	19.50	7.20	14.30	17.90	15.30	13.60	15.02	16.94	43.05	39.02	
23	17.40	22.50	12.40	9.37	14.10	28.20	15.00	22.50	14.30	14.80	19.30	20.40	19.70	12.40	19.80	13.70	19.50	6.90	14.30	17.80	15.20	13.60	15.02	16.94	43.05	39.55	
24	18.30	22.50	12.40	11.50	14.10	28.20	15.00	22.50	14.30	14.80	19.30	20.40	19.70	12.40	19.80	13.70	19.50	6.90	14.30	17.80	15.20	13.60	15.02	16.94	43.05	39.55	
25	17.40	22.50	12.40	9.37	16.60	28.20	15.00	22.50	14.80	14.80	18.70	20.40	19.70	12.40	20.40	14.60	19.90	6.80	14.30	17.80	15.20	13.70	15.02	16.94	43.05	38.76	
26	17.40	22.50	12.40	9.37	16.60	28.20	15.00	22.50	14.80	14.80	18.70	21.20	18.90	13.00	20.40	14.60	20.00	6.80	14.30	17.50	14.90	13.60	14.87	17.12	43.05	39.02	
27	16.60	22.50	11.50	9.37	29.90	27.20	15.00	21.70	14.80	14.80	18.70	21.20	18.90	13.00	20.40	14.60	20.00	6.80	14.30	17.50	14.70	13.60	14.87	17.12	43.05	38.76	
28	16.60	22.50	12.40	9.37	18.30	27.20	14.20	22.50	14.30	14.80	18.20	21.20	18.20	13.40	19.80	14.10	20.00	6.80	11.60	17.30	14.70	13.60	14.57	16.94	45.56	39.29	
29	17.40	24.20	12.40	9.37	16.60	30.10	14.20	21.70	15.40	14.80	18.20	21.20	17.40	13.40	19.80	13.70	20.00	6.80	11.60	17.30	14.70	13.60	14.57	16.76	43.05	40.61	
30	16.60	22.50	12.40	7.95	15.80	30.10	14.20	21.70	14.30	14.80	18.20	21.20	17.40	13.40	19.20	13.30	20.70	6.80	10.00	17.30	14.90	13.50	14.57	17.12	41.42	39.55	
31	16.60	22.50	12.40	10.10	14.90	29.20	14.20	21.70	14.30	14.80	18.20	21.20	16.60	13.20	21.00	14.60	20.50	6.80	10.00	17.30	14.70	13.20	14.57	16.94	42.23	39.29	

Average Daily River Discharge (m³/sec)
 Location : Shisaghat River : Madi
 Index No. : 438

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Month Day																										
1	16.60	22.50	12.40	9.37	17.50	28.20	14.20	21.70	13.90	14.30	18.70	21.20	16.60	13.00	20.40	17.70	19.50	6.80	10.00	17.30	14.70	13.20	14.57	17.30	42.23	47.57
2	15.70	21.70	12.40	8.66	14.90	28.20	15.00	20.80	13.90	14.30	18.70	21.20	15.90	14.10	19.80	15.10	18.90	6.80	10.00	17.60	14.70	13.30	14.43	16.41	43.05	41.42
3	15.70	21.70	14.10	8.66	14.90	27.20	15.80	21.70	13.90	14.30	18.70	20.40	15.90	13.00	27.90	15.10	18.90	6.80	10.00	17.80	14.70	13.10	14.13	15.88	43.05	39.02
4	15.70	21.70	13.20	8.66	15.80	27.20	14.20	20.80	13.90	14.30	18.70	20.40	15.90	12.80	21.00	17.20	18.80	6.60	10.00	17.60	14.60	13.10	14.13	15.88	43.05	38.76
5	15.00	21.70	12.40	8.66	15.80	27.20	14.20	20.80	13.90	14.30	18.20	21.20	15.90	11.80	19.20	16.60	18.70	6.60	10.00	17.20	14.40	12.80	14.13	15.37	43.05	38.50
6	15.00	20.80	11.50	8.66	14.10	27.20	13.40	25.20	13.90	14.30	18.70	20.40	15.90	11.80	19.20	17.20	18.50	6.80	10.00	16.90	14.40	12.80	15.32	15.03	43.05	38.24
7	15.00	21.70	11.50	9.37	14.10	26.20	13.40	20.80	13.90	14.30	18.70	20.40	15.10	11.80	21.00	14.60	18.40	6.60	10.00	16.90	14.00	12.80	14.43	15.20	42.23	37.73
8	16.60	34.10	12.40	8.66	17.50	26.20	12.60	21.70	13.40	14.30	19.30	19.70	15.90	11.60	21.60	14.10	18.80	6.80	10.00	16.70	14.00	12.80	14.13	15.71	42.23	37.73
9	15.70	23.40	11.50	7.95	17.50	26.20	12.60	22.50	13.40	13.90	18.70	18.90	15.90	11.80	20.40	14.60	19.70	7.10	13.00	16.40	13.80	12.80	14.13	16.05	41.42	37.73
10	15.00	23.40	11.50	9.37	14.90	26.20	11.80	21.70	13.90	13.90	18.20	18.20	15.10	11.80	18.70	14.10	19.20	6.60	17.60	16.30	13.60	12.70	14.13	16.58	42.23	37.47
11	15.00	22.50	11.50	7.95	14.90	26.20	11.80	20.80	13.40	13.90	18.20	18.20	15.10	11.60	19.20	14.10	18.50	6.80	22.90	16.00	13.60	12.50	14.13	16.05	43.05	37.21
12	15.00	22.50	11.50	7.95	14.10	26.20	11.00	20.80	13.40	13.90	18.70	18.90	16.60	12.30	19.20	13.30	18.80	6.50	16.60	16.00	13.60	12.50	13.99	15.37	42.23	37.21
13	15.70	22.50	12.40	7.95	14.10	25.20	11.00	20.80	13.40	13.90	18.70	18.90	16.60	12.30	19.20	13.30	18.80	6.80	14.30	16.00	13.60	12.50	13.70	15.20	41.42	36.45
14	15.70	22.50	12.40	7.95	14.10	25.20	11.00	20.80	13.40	13.90	18.20	17.40	16.60	11.40	18.70	17.70	18.30	6.50	10.00	15.60	14.10	12.50	13.70	15.20	40.61	36.45
15	15.00	22.50	11.50	7.95	14.10	25.20	11.00	20.80	13.90	13.90	18.20	17.40	16.60	11.60	18.20	15.60	18.30	7.00	25.20	15.80	13.80	12.50	13.28	15.03	40.61	35.70
16	15.00	21.70	13.20	7.95	16.60	25.20	11.00	20.00	13.90	13.90	17.60	17.40	16.60	11.60	18.20	15.10	18.40	7.00	17.60	15.60	15.70	12.50	13.28	14.87	40.61	35.95
17	15.70	21.70	12.40	7.95	17.50	25.20	12.60	20.00	13.90	14.30	17.00	17.40	16.60	11.40	17.70	17.20	18.30	6.50	17.60	15.60	14.20	12.40	13.28	14.54	39.81	35.70
18	26.20	21.70	10.80	7.95	15.80	24.20	11.80	20.00	13.90	13.90	17.00	18.20	15.90	11.40	18.70	13.30	18.00	7.80	17.60	15.60	14.20	12.10	13.28	14.54	39.81	35.95
19	19.10	21.70	10.10	7.95	16.60	25.20	11.00	22.50	13.40	13.40	17.00	18.20	15.90	11.60	17.70	12.40	17.90	6.60	16.60	15.60	16.90	12.10	13.01	15.71	39.81	50.21
20	15.70	24.20	10.10	7.24	14.90	25.20	11.00	24.20	13.40	13.40	17.00	17.00	15.10	10.80	17.70	12.00	17.90	6.50	10.00	15.40	18.40	12.10	12.87	14.54	39.81	44.16
21	15.00	21.70	10.80	7.95	15.80	28.20	11.00	21.70	12.90	12.90	17.00	17.40	15.10	11.10	17.70	11.60	17.80	6.40	18.60	15.20	15.40	12.30	12.87	15.03	39.81	39.29
22	15.00	21.70	10.80	7.24	14.10	33.10	11.00	19.10	12.90	12.90	19.30	18.20	18.20	11.10	17.20	11.10	18.70	6.10	16.60	15.20	14.00	12.00	12.87	15.03	39.81	39.55
23	15.00	21.70	10.80	7.24	14.90	30.10	11.00	27.20	12.50	13.90	17.00	16.60	17.40	11.60	17.20	10.70	18.30	6.50	14.30	15.70	13.50	11.80	12.87	14.87	39.02	37.98
24	14.30	20.80	14.10	7.24	13.20	28.20	10.50	25.20	12.50	12.50	19.30	16.60	17.40	11.60	16.60	10.70	18.00	6.60	14.30	15.40	13.80	11.80	12.73	15.54	39.02	37.73
25	14.30	20.80	14.10	7.24	13.20	27.20	10.50	29.20	12.00	12.50	18.20	17.40	16.60	11.40	16.60	10.70	17.90	6.20	14.30	15.60	16.00	11.80	12.46	16.05	43.05	37.21
26	15.00	20.80	12.40	7.24	14.10	27.20	10.50	26.20	12.00	13.40	17.00	17.40	15.90	12.30	16.10	10.30	17.90	6.20	21.30	15.30	14.60	12.50	12.46	20.61	42.23	40.61
27	15.70	20.80	13.20	7.24	14.90	30.10	10.50	26.20	12.00	12.90	17.60	19.70	18.90	12.10	16.10	10.30	18.00	7.00	10.00	16.30	14.20	12.10	12.46	15.71	40.61	40.61
28	15.00	20.80	13.20	7.24	14.90	29.20	9.96	28.20	12.00	13.90	17.00	19.70	16.60	11.80	16.10	13.30	19.10	6.90	20.40	16.60	14.20	12.10	12.46	15.37	40.61	37.47
29			12.40		18.20		10.50								16.10				17.60			12.46				

Month	Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
3	1	1500	2000	1660	795	1580	2920	1050	3210	1340	1290	1700	1890	1660	1140	1560	1200	1870	700	1860	1600	1410	1180	1246	1487	3981	3824
3	2	1500	2000	1240	724	1580	2920	1180	3010	1290	1250	1700	1660	1660	1120	1720	1070	1830	680	1760	1540	1540	1180	1314	1438	3981	3721
3	3	1500	2000	1240	724	1920	2920	1180	2920	1250	1250	1700	1740	1660	1110	1920	1070	1850	680	1660	1950	1420	1180	1356	1438	4061	3798
3	4	1500	2000	1410	795	1580	2920	1180	2620	1200	1250	1650	1740	1590	1110	2040	1070	1870	650	2800	1760	1440	1180	1342	1438	3981	3902
3	5	1430	2000	1660	724	1580	2820	1100	2720	1100	1200	1820	1660	1510	1240	1980	1030	1830	640	1950	1660	1670	1180	1328	1390	3902	3798
3	6	1430	2000	1920	724	1580	2820	1100	2620	1650	1200	1760	1660	1510	1280	1870	1030	1800	640	1760	1700	1990	1200	1314	1390	4142	3721
3	7	1500	2000	1660	866	2000	2720	1180	2620	1430	1250	1760	1740	1510	1110	1820	1030	1880	680	1550	1810	2210	1210	1287	1390	4061	3721
3	8	1430	2000	1410	795	1660	2720	1100	2520	1340	1290	1700	1740	1510	1110	1820	1030	1830	670	2040	1610	1640	1170	1287	1343	3902	4305
3	9	1430	1910	1240	724	1660	2920	1180	2620	1250	1290	2630	1740	1510	1110	1820	1030	1800	660	1860	1600	1560	1190	1246	1359	3981	3824
3	10	1500	1910	1150	653	1580	2820	1580	2520	1250	1340	2240	1820	1970	1260	1820	1030	1840	670	1760	1660	1470	1170	1246	1328	3902	3773
3	11	1500	1910	1150	653	1410	2920	1180	2420	2110	1340	1820	1740	1890	1160	1770	953	1800	680	1430	1630	1580	1150	1314	1328	3981	3721
3	12	3110	1910	1080	653	1410	2820	2530	2250	3230	1390	2240	1820	1740	1140	1870	987	1800	640	1160	2380	1520	1140	1328	1359	3981	3645
3	13	2250	1910	1080	653	1320	2820	1500	2080	3880	1390	2040	1740	1740	1110	1720	953	2100	650	2800	2340	1460	1110	1610	1283	4142	3645
3	14	1830	1910	1080	582	1320	2820	1260	2000	2040	1820	1870	1740	1660	1110	1820	953	1930	640	2290	2110	1440	1110	DNA	1313	4472	3670
3	15	1660	1910	1010	582	1490	2820	1180	2000	1540	1430	1820	1890	1590	1110	1770	1030	2370	660	2590	1970	1380	1080	DNA	1328	4061	3824
3	16	1660	1910	1150	866	1660	2920	1100	1910	1480	1430	1700	1820	1660	1090	1720	987	2050	680	2930	1940	1400	1080	DNA	1454	3981	3798
3	17	1570	1910	1240	1010	2000	2920	1180	1910	1430	1870	1820	1820	1740	1110	1820	953	2300	660	2520	2000	1360	1110	DNA	1328	3981	4169
3	18	1910	1910	1240	795	2880	2820	1180	1830	1340	2240	1820	1660	1820	1090	1770	919	2130	680	2290	1900	1330	1080	DNA	1328	3981	3773
3	19	2000	2000	1240	724	2110	3110	1100	1740	1290	2040	1820	1890	1740	1090	1720	919	2090	670	1860	2210	1500	1090	DNA	1283	3902	3747
3	20	1830	1910	1150	1010	1920	2920	996	1660	1250	1540	1820	2390	1660	1090	1720	919	2300	690	1550	2320	1360	1170	DNA	1283	3981	3747
3	21	1660	1910	1150	1320	2000	2820	996	1740	1250	1480	1700	1970	2300	1090	1720	885	2130	680	2100	2070	1410	1180	DNA	1454	4061	3929
3	22	1570	1910	1410	1150	2330	2720	1050	2000	1250	1480	1700	2040	1970	1080	1980	851	2050	680	2080	2140	1350	1110	DNA	1438	4061	3902
3	23	1570	1910	1830	937	2220	2620	1260	1830	1100	1480	1700	2670	2580	1080	1770	851	1930	810	2180	1950	2620	1080	DNA	1472	3902	3824
3	24	1500	1910	1410	724	2330	2620	1100	1830	1060	1430	1930	2300	2670	1080	1720	817	1850	820	2120	1820	2120	1080	DNA	1324	5730	4556
3	25	1500	1910	1320	653	2220	2620	996	1740	1060	1390	1820	2120	1970	1060	1720	817	1920	790	2080	1760	2120	1190	DNA	1283	4642	4305
3	26	1500	1830	1240	653	1920	2720	1340	1740	1010	1540	1820	1970	1740	1040	1660	1280	2220	1040	2120	1760	1790	1100	DNA	1313	4728	3929
3	27	1430	1830	1150	653	1830	2620	1340	1660	1010	1480	1760	1890	1660	1040	1720	1280	2020	1600	2240	1750	1670	1060	DNA	1298	4223	4008
3	28	1500	1830	1080	653	1920	2520	1180	2080	1010	1430	1760	1820	1590	1040	1870	885	1920	990	2200	1750	1820	1060	DNA	1283	4061	3773
3	29	1500	1910	1010	795	1830	2520	1260	2170	1200	1390	1650	1890	1510	1040	1870	817	2430	1040	2170	1760	1900	1190	DNA	1503	3981	4444
3	30	1500	2000	1410	1320	1830	2520	1420	2250	1060	1340	1590	1820	1510	1090	1660	783	2300	980	2540	2830	2500	1230	DNA	1328	3824	5051
3	31	1570	2520	1240	1490	2000	2620	1660	2720	1060	1290	1700	1740	1510	1640	1610	851	2220	830	2390	2070	2020	1250	DNA	1298	3902	4528

Month	Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
4	1	15.70	28.20	11.50	14.90	20.00	26.20	24.40	20.80	10.10	14.30	17.00	16.60	15.10	30.20	15.60	7.49	24.50	7.50	22.40	20.00	19.50	12.80	DNA	12.53	43.88	43.05
4	2	15.00	21.70	10.80	11.50	22.20	26.20	19.00	19.10	10.10	14.30	15.90	26.70	14.40	18.40	15.60	7.15	22.40	7.30	21.20	24.00	18.40	13.10	DNA	12.10	48.15	45.00
4	3	15.00	20.80	10.80	10.80	20.00	26.20	15.00	20.00	9.73	15.90	16.50	26.70	14.40	22.00	16.10	6.81	20.90	7.10	21.30	22.10	17.30	11.90	DNA	11.95	50.81	43.88
4	4	14.30	22.50	10.80	11.50	21.10	26.20	11.80	19.10	9.73	13.90	16.50	20.40	15.10	13.70	15.60	6.81	21.00	7.00	21.00	22.90	18.40	11.70	DNA	12.53	45.56	47.57
4	5	15.70	21.70	11.50	11.50	23.30	25.20	10.50	18.30	9.36	13.90	16.50	20.40	15.10	12.80	15.10	6.81	35.50	7.00	20.70	21.60	19.20	11.40	DNA	12.53	46.42	44.72
4	6	15.00	20.00	10.80	13.20	20.00	25.20	9.96	17.40	9.36	13.90	16.50	22.10	15.10	12.10	16.10	7.15	22.90	6.90	20.90	21.80	17.80	11.00	DNA	14.06	46.42	41.42
4	7	15.00	20.00	11.50	10.80	20.00	26.20	9.44	15.70	9.36	15.40	17.60	22.10	15.10	11.90	16.10	8.17	21.50	6.80	20.70	20.90	17.60	10.80	DNA	11.95	47.28	39.81
4	8	14.30	20.80	12.40	10.10	20.00	26.20	10.50	16.60	8.99	14.80	19.30	23.90	18.20	11.80	15.60	8.17	20.70	6.90	21.30	19.00	20.90	11.50	DNA	13.13	44.72	39.02
4	9	15.70	22.50	12.40	10.10	18.30	25.20	9.96	16.60	9.36	21.10	19.30	25.80	21.20	20.60	18.20	8.51	20.50	7.10	21.20	20.40	18.90	11.90	DNA	13.13	49.03	38.24
4	10	16.60	22.50	13.20	8.66	20.00	26.20	9.96	25.20	10.60	15.90	18.20	23.00	20.40	19.90	18.70	8.17	19.90	8.00	20.80	20.90	17.80	11.60	DNA	12.83	47.28	38.24
4	11	15.70	27.20	11.50	11.50	18.30	27.20	9.44	28.20	19.30	15.90	18.20	21.20	20.40	13.00	18.20	9.87	19.30	8.40	20.00	21.80	17.30	11.50	DNA	12.53	43.05	46.13
4	12	16.60	22.50	12.40	13.20	19.20	25.20	9.44	30.10	18.20	14.30	18.70	21.20	23.00	13.20	17.70	9.19	18.90	8.00	20.00	19.70	16.40	13.30	DNA	12.68	43.05	41.42
4	13	17.40	21.70	11.50	14.90	18.30	25.20	8.92	32.10	25.00	12.90	17.60	20.40	29.40	12.80	17.70	9.19	18.50	8.50	19.90	19.70	15.80	13.70	17.55	12.83	42.23	40.08
4	14	18.30	20.80	12.40	11.50	17.50	30.10	8.92	31.10	52.60	12.50	18.20	19.70	23.90	12.30	19.20	12.40	18.40	6.30	20.40	24.00	16.00	15.20	18.06	19.20	43.88	44.44
4	15	20.00	20.80	11.50	14.90	20.00	26.20	11.80	30.10	28.50	12.90	28.50	19.70	22.10	12.30	18.20	10.70	18.80	6.30	20.40	20.90	15.40	13.00	17.89	16.23	43.05	42.23
4	16	19.10	29.20	12.40	20.00	20.00	26.20	11.00	28.20	23.70	12.90	23.70	22.10	23.00	12.10	17.70	9.87	18.30	6.20	20.90	22.10	14.70	12.10	16.10	14.70	44.72	41.96
4	17	21.70	24.20	11.50	20.00	22.20	26.20	23.50	28.20	17.00	12.90	22.40	19.70	24.80	11.40	16.10	10.70	18.10	6.30	20.40	23.00	15.40	11.50	17.22	14.70	49.03	44.16
4	18	24.20	21.70	10.80	26.60	25.50	25.20	19.00	26.20	13.90	13.40	19.30	18.90	22.10	11.20	22.10	11.10	18.70	7.60	21.60	22.90	16.40	11.50	15.48	17.86	51.71	42.23
4	19	41.90	20.80	13.20	16.60	22.20	25.20	19.90	26.20	13.40	15.90	21.10	18.20	33.40	11.60	16.60	10.30	19.90	9.40	20.70	21.20	17.00	11.00	15.79	15.88	53.54	43.33
4	20	30.10	20.80	14.10	15.80	20.00	24.20	17.40	27.20	13.40	14.80	21.70	18.90	27.60	11.40	16.60	9.87	19.90	7.70	21.60	20.70	17.20	11.90	16.10	15.71	49.03	47.57
4	21	21.70	28.20	17.50	15.80	20.00	24.20	13.40	26.20	14.80	14.80	21.70	18.90	27.60	11.40	16.60	9.87	19.90	7.70	21.60	20.00	20.00	13.00	17.55	17.67	48.15	42.78
4	22	20.00	27.20	18.30	15.90	19.20	25.20	11.00	40.80	35.40	16.50	19.30	18.20	39.70	11.20	15.60	10.30	19.50	7.10	20.90	20.40	18.50	14.10	20.90	19.01	47.28	40.88
4	23	31.10	22.50	25.50	25.50	18.30	30.10	9.96	70.00	31.50	17.60	23.70	20.40	31.30	11.40	16.60	13.70	20.60	8.00	20.40	21.10	19.40	13.70	18.06	21.87	48.15	40.88
4	24	30.10	21.70	18.30	20.00	23.30	29.20	12.60	32.10	30.80	18.20	19.30	19.70	28.50	11.20	16.10	18.20	18.90	8.10	20.00	21.80	18.20	17.50	20.53	17.67	47.28	43.88
4	25	23.40	22.50	16.60	15.80	21.10	26.20	14.20	27.20	64.40	19.30	19.30	18.90	29.40	11.20	16.10	14.60	18.80	7.90	20.40	26.00	38.80	13.60	17.72	19.60	49.92	44.72
4	26	18.30	23.40	15.80	15.80	23.30	29.20	11.00	24.20	18.70	19.30	20.40	19.70	26.70	11.20	15.60	12.40	18.50	9.70	21.60	23.40	24.00	13.30	18.92	21.66	50.81	45.28
4	27	20.80	23.40	14.90	14.90	21.10	29.20	11.80	22.50	15.40	16.50	18.70	18.90	28.50	11.80	17.20	9.19	18.50	8.80	20.00	24.60	23.20	14.50	18.92	34.23	49.92	44.16
4	28	20.00	24.20	14.90	13.20	20.00	29.20	12.60	20.80	15.40	15.90	19.30	18.90	45.30	11.40	15.60	8.51	18.70	15.10	20.70	24.00	21.20	13.20	18.92	27.46	48.15	43.05
4	29	24.20	40.80	17.50	14.90	26.60	37.50	29.20	14.80	14.80	14.80	19.80	18.90	30.30	13.00	15.60	14.10	19.10	9.90	21.60	24.60	20.70	12.70	18.06	26.47	46.42	46.13
4	30	23.40	25.20	13.20	16.60	28.80	31.10	31.60	24.20	14.30	27.80	21.10	18.20	26.70	12.40	19.80	8.85	19.60	11.50	23.70	24.80	36.90	13.20	21.65	23.64	46.42	41.69

Average Daily River Discharge (m³/sec)

Location : Shisaghat River : Madi

Index No. : 438

Month	Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
5	1	35.20	34.10	13.20	17.50	21.10	39.70	20.80	29.20	13.90	20.40	21.10	18.90	25.80	15.70	25.10	8.17	19.50	10.40	23.60	22.10	30.90	13.80	19.44	22.75	47.28	41.42
5	2	24.20	32.10	14.90	15.80	22.20	32.10	15.80	28.20	15.40	25.70	23.00	23.90	25.80	13.90	22.10	9.19	18.30	9.50	23.00	23.80	30.90	14.20	18.06	64.35	47.28	41.42
5	3	27.20	32.10	16.60	18.30	29.90	32.10	15.80	28.20	14.80	23.70	20.40	23.90	23.00	17.50	20.40	8.51	19.90	8.70	22.50	22.90	39.70	13.30	18.23	27.96	49.03	42.23
5	4	26.20	29.20	16.60	16.60	37.00	31.10	15.80	29.20	14.80	21.70	20.40	25.80	25.80	15.30	23.30	9.53	20.70	8.40	23.00	21.90	49.60	13.80	18.57	24.33	47.28	52.02
5	5	25.20	27.20	20.00	20.00	25.50	54.10	17.40	30.10	14.80	18.70	19.80	25.80	26.70	13.20	22.10	16.10	21.20	8.10	23.60	24.60	51.00	12.50	20.34	23.19	48.15	45.28
5	6	39.70	24.20	15.80	26.60	27.70	55.30	66.80	32.10	14.80	21.70	19.30	24.80	26.70	13.70	19.20	15.60	20.30	8.70	27.90	23.40	35.00	14.70	19.44	21.24	53.54	41.42
5	7	35.20	23.40	18.30	20.00	26.60	47.80	37.60	29.20	14.80	22.40	19.30	25.80	23.90	30.20	18.20	23.90	19.10	9.00	24.00	21.90	40.80	14.00	25.46	25.74	52.62	40.61
5	8	34.10	22.50	16.60	39.40	24.40	37.50	26.20	27.20	14.80	19.30	19.30	26.70	22.10	22.80	18.20	24.50	21.00	10.60	23.70	24.00	30.90	13.70	20.53	23.19	49.92	39.02
5	9	28.20	25.20	15.80	23.30	20.00	36.30	122.00	27.20	16.50	23.00	30.80	26.70	23.00	25.10	16.60	17.20	22.40	9.30	24.90	26.80	26.00	14.10	19.44	62.57	54.47	38.50
5	10	32.10	21.70	16.60	23.30	28.80	41.90	36.40	29.20	15.40	19.80	21.70	27.60	46.50	28.80	29.30	20.40	29.50	10.20	23.40	25.80	25.40	16.40	19.44	38.49	68.32	39.81
5	11	36.30	25.20	16.60	20.00	32.20	38.60	26.20	39.70	14.80	19.30	23.00	29.40	48.80	16.80	22.70	23.30	20.40	13.60	25.20	26.80	22.70	15.70	19.98	35.41	73.65	38.50
5	12	34.10	27.20	18.30	20.00	27.70	49.10	24.40	37.50	15.40	17.60	30.80	26.70	40.70	17.70	21.60	23.30	20.60	10.50	23.20	23.60	22.30	20.20	24.01	31.68	66.24	41.42
5	13	61.90	26.20	16.60	17.50	25.50	43.10	47.00	28.20	22.40	16.50	24.40	25.80	44.20	14.90	20.40	20.40	21.50	11.00	23.60	22.30	21.80	14.70	25.04	29.25	61.19	43.33
5	14	41.90	34.10	14.10	17.50	37.00	39.70	40.00	38.20	23.70	17.00	24.40	25.80	44.20	14.90	20.40	20.40	20.50	12.00	29.60	24.00	23.00	16.10	24.21	42.07	84.94	46.42
5	15	46.60	46.60	14.90	20.00	26.60	38.60	37.60	104.00	27.00	15.90	24.40	23.90	38.60	15.50	21.60	23.30	22.10	13.50	26.60	23.60	24.40	16.60	22.81	32.23	66.24	45.28
5	16	51.60	197.00	16.60	23.30	25.50	41.90	160.00	68.70	38.80	16.50	22.40	25.80	36.50	18.40	20.40	22.70	23.50	45.40	26.20	23.20	22.30	17.30	27.40	33.37	84.94	44.72
5	17	52.80	38.60	19.20	21.10	23.30	41.90	82.00	60.50	41.30	15.90	21.70	43.00	57.50	18.20	36.00	23.30	19.90	71.00	26.90	22.10	22.90	14.10	26.96	27.71	67.27	46.99
5	18	50.30	34.10	16.60	20.00	22.20	40.80	63.60	39.70	30.00	17.00	45.90	29.40	51.10	17.30	31.40	22.70	26.20	94.60	26.90	22.30	27.70	24.20	28.74	26.22	120.94	45.00
5	19	47.80	30.10	18.30	20.00	21.10	38.60	44.20	45.30	23.00	15.90	40.50	40.70	46.50	23.60	26.50	18.70	20.20	46.20	25.30	21.90	29.20	14.00	30.37	37.55	112.68	45.00
5	20	46.60	32.10	15.80	21.10	21.10	41.90	40.00	36.30	21.70	16.50	46.80	33.40	45.30	18.70	22.70	19.20	30.50	37.10	23.60	26.80	25.40	14.00	38.80	26.71	90.89	45.85
5	21	67.30	41.90	20.00	28.80	20.00	39.70	51.20	40.80	19.80	18.20	29.30	62.70	50.00	27.80	22.70	18.70	23.00	16.50	22.80	25.60	24.60	17.30	35.06	25.98	80.32	42.50
5	22	46.60	59.20	20.00	23.30	20.00	43.10	57.20	34.10	18.20	19.80	27.00	40.70	39.70	21.20	19.80	17.20	29.00	15.20	23.20	32.00	32.00	19.40	32.54	26.71	76.95	50.81
5	23	40.80	34.10	21.10	20.00	20.00	39.70	78.00	32.10	17.00	36.20	30.80	43.00	34.50	34.40	21.60	17.20	26.20	13.20	23.20	35.80	31.30	33.30	33.53	27.46	72.57	45.00
5	24	40.80	30.10	15.80	18.30	19.20	47.80	47.00	31.10	15.90	50.70	37.10	45.30	36.50	22.80	19.80	18.70	44.80	12.40	26.20	29.50	33.30	30.60	55.59	29.78	73.65	46.99
5	25	40.80	28.20	15.80	16.60	19.20	38.60	49.80	44.20	15.40	22.40	28.50	40.70	31.30	27.80	23.30	21.60	39.50	11.70	25.30	30.40	45.40	32.30	38.26	38.80	73.65	53.85
5	26	41.90	27.20	16.60	17.50	21.10	40.80	66.80	89.30	15.40	20.40	26.30	70.90	51.10	29.80	22.10	19.80	37.30	11.70	27.60	27.70	30.90	37.20	45.18	33.37	70.42	49.92
5	27	44.20	30.10	15.80	78.80	22.20	41.90	54.00	59.20	15.40	17.60	30.00	127.00	41.90	26.30	40.80	39.10	27.10	12.10	27.30	26.60	30.40	63.40	82.96	43.77	68.32	51.41
5	28	55.30	26.20	14.90	31.00	27.70	39.70	57.20	46.60	14.80	19.30	30.00	79.40	38.60	46.60	28.60	22.10	26.70	12.40	28.80	30.20	44.10	53.10	63.57	40.41	67.27	50.21
5	29	54.10	25.20	15.80	23.30	29.90	38.60	65.20	43.10	13.90	20.40	30.80	70.90	53.60	25.10	21.00	27.90	25.70	12.10	28.70	31.30	41.70	60.60	55.94	33.94	86.11	50.51
5	30	49.10	24.20	15.80	20.00	35.80	45.30	55.60	37.50	14.80	21.10	31.50	56.20	40.70	29.10	39.10	24.50	28.00	12.70	28.70	31.60	63.80	39.70	62.81	32.23	83.77	52.32
5	31	51.60	24.20	23.30	38.20	34.60	41.90	74.00	40.80	14.80	21.10	30.80	51.10	35.50	26.00	29.30	23.30	28.00	13.30	28.30	29.50	38.80	33.30	55.94	36.32	70.42	51.11

Average Daily River Discharge (m³/sec)

Location : Shisaghat River : Madi

Index No. : 438

Month	Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
6	1	50.30	24.20	18.30	41.80	43.00	39.70	51.20	54.10	17.60	27.00	35.40	45.30	54.90	22.00	25.80	29.30	25.20	13.20	27.30	28.60	35.80	26.60	50.54	39.76	71.49	60.86
6	2	48.60	24.20	31.00	80.40	35.80	38.60	47.00	78.80	14.80	23.70	27.80	41.90	46.50	19.60	25.80	26.50	26.70	13.10	32.20	29.70	35.30	24.80	49.25	101.31	70.42	54.16
6	3	52.80	26.20	23.30	47.50	31.00	89.30	128.00	74.30	14.80	23.70	27.00	43.00	137.00	18.00	25.10	25.80	41.80	13.80	29.60	29.00	34.00	21.90	49.89	140.46	68.32	50.81
6	4	50.30	25.20	40.60	44.50	29.90	78.80	88.00	83.20	18.20	46.80	25.00	66.70	90.30	21.20	25.80	27.90	33.50	13.20	30.00	26.40	33.30	20.40	44.28	176.05	68.32	58.26
6	5	47.80	23.40	23.30	38.20	53.50	50.30	166.00	75.80	14.80	39.60	25.70	48.80	75.20	34.80	25.10	30.70	27.50	28.60	28.30	26.80	30.20	19.20	47.34	108.84	71.49	53.85
6	6	112.00	24.20	20.00	34.60	49.00	47.80	122.00	77.30	19.30	28.50	25.70	103.00	61.40	30.50	24.50	32.90	27.80	91.00	27.70	27.90	32.30	18.20	77.70	93.57	69.37	50.51
6	7	60.50	24.20	28.80	28.80	52.00	45.30	92.00	78.80	27.00	37.10	27.80	54.90	54.90	98.60	25.10	31.40	26.00	74.70	26.60	27.90	33.30	17.60	181.86	67.08	84.94	59.56
6	8	63.20	37.50	38.20	27.70	40.60	44.20	82.00	52.80	18.70	37.10	26.30	51.10	47.70	70.60	29.30	30.70	27.30	51.90	26.30	29.90	31.80	17.30	312.47	72.78	73.65	55.72
6	9	94.10	51.60	196.00	28.80	108.00	50.30	66.80	49.10	21.70	37.10	25.70	51.10	56.20	33.30	24.50	34.40	26.20	56.10	26.20	29.00	29.70	17.30	156.46	79.31	78.06	54.78
6	10	78.80	32.10	49.00	27.70	50.50	43.10	94.00	45.30	18.20	57.90	37.10	53.60	101.00	97.00	25.80	30.70	34.60	57.10	26.30	35.00	28.30	26.80	105.77	89.57	106.02	63.86
6	11	64.60	49.10	39.40	26.60	85.20	47.80	112.00	67.30	27.00	45.90	41.30	60.10	97.00	74.50	24.50	30.70	24.60	44.80	34.30	36.40	27.50	24.20	90.33	60.39	125.18	78.44
6	12	67.30	46.60	146.00	26.60	59.60	46.60	142.00	45.30	37.10	43.00	55.80	51.10	64.00	48.50	26.50	55.70	33.70	52.80	28.70	34.80	39.70	83.30	87.52	80.35	111.33	70.07
6	13	77.30	41.90	40.60	26.60	59.60	41.90	100.00	41.90	63.20	41.30	132.00	84.10	62.70	50.40	36.80	56.60	51.00	202.80	30.60	31.10	33.00	208.50	78.13	172.50	106.02	78.44
6	14	145.00	39.70	39.40	32.20	67.60	37.50	86.00	46.60	56.80	33.00	70.20	72.40	54.90	106.90	33.70	52.70	51.30	141.90	40.00	31.60	30.40	69.80	77.70	95.91	107.33	70.42
6	15	83.20	56.60	40.60	31.00	59.60	43.10	86.00	44.20	37.10	33.80	109.00	159.00	240.00	73.80	63.00	80.30	49.70	89.00	30.80	31.80	28.60	42.90	118.25	98.88	119.54	71.85
6	16	71.40	39.70	39.40	44.50	128.00	43.10	112.00	66.00	46.80	69.00	83.60	103.00	85.60	77.20	34.40	73.10	75.60	68.20	31.60	146.80	30.90	48.00	85.68	141.23	115.40	75.84
6	17	66.00	36.30	34.60	37.00	150.00	46.60	114.00	60.50	43.00	45.90	109.00	97.00	82.50	63.30	33.70	61.90	80.90	192.10	47.80	44.80	29.70	60.60	124.54	122.91	112.68	74.74
6	18	71.40	49.10	29.90	77.20	102.00	45.30	126.00	56.60	91.50	55.80	98.30	90.30	143.00	58.20	34.40	74.30	135.50	646.00	40.50	111.10	48.60	41.10	120.51	98.28	108.66	76.95
6	19	100.00	50.30	32.20	35.80	64.40	47.80	102.00	54.10	92.80	41.30	118.00	161.00	131.00	83.40	60.80	129.00	113.20	391.90	39.60	75.70	46.30	61.80	131.63	85.69	188.97	72.21
6	20	75.80	43.10	70.80	43.00	61.20	45.30	104.00	97.20	130.00	33.80	79.80	155.00	145.00	72.50	55.70	103.00	73.90	254.10	35.80	61.00	55.30	52.40	114.36	122.21	138.37	113.58
6	21	117.00	64.60	53.50	47.50	55.00	46.60	267.00	109.00	57.90	31.50	122.00	122.00	157.00	70.60	197.00	74.30	132.70	276.50	51.30	43.20	61.80	52.70	157.13	103.78	157.00	94.15
6	22	139.00	46.60	44.50	46.00	52.00	45.30	158.00	72.90	174.00	38.80	99.60	95.00	122.00	66.30	77.90	81.50	172.20	172.20	94.00	51.30	94.00	78.00	285.06	178.74	126.61	151.18
6	23	114.00	46.60	47.50	56.50	53.50	77.30	180.00	100.00	244.00	38.80	98.30	75.20	116.00	159.80	144.00	127.00	145.60	171.40	9.60	63.80	58.70	54.90	194.71	149.84	118.15	122.82
6	24	117.00	49.10	78.80	50.50	61.20	59.20	134.00	80.20	185.00	38.80	126.00	127.00	113.00	215.10	77.90	82.80	144.90	424.00	93.60	41.40	55.00	121.50	371.04	103.78	152.23	142.40
6	25	214.00	70.00	69.20	49.00	100.00	46.60	162.00	95.60	140.00	34.50	109.00	91.90	122.00	133.90	84.10	127.00	104.40	227.80	38.20	58.70	14.00	140.70	207.32	124.31	118.15	109.10
6	26	193.00	230.00	53.50	55.00	61.20	46.60	124.00	83.20	145.00	37.90	98.30	118.00	131.00	105.20	86.70	85.40	118.80	197.90	76.10	62.60	41.50	106.80	161.89	95.32	116.77	104.28
6	27	199.00	135.00	62.80	94.00	58.00	77.30	116.00	164.00	150.00	34.50	135.00	189.00	155.00	95.40	75.50	109.00	83.70	155.70	60.50	54.20	23.80	141.50	159.16	92.99	14.52	133.40
6	28	166.00	141.00	55.00	110.00	59.60	90.90	148.00	147.00	161.00	49.70	118.00	216.00	113.00	101.90	75.50	94.50	73.50	118.10	47.60	56.00	16.00	124.90	140.23	97.09	123.76	158.60
6	29	203.00	139.00	58.00	277.00	55.00	78.80	136.00	112.00	146.00	135.00	91.50	187.00	119.00	91.50	98.80	86.70	114.40	527.40	40.20	110.50	14.00	103.80	236.71	107.56	120.94	237.66
6	30	299.00	158.00	56.50	289.00	52.00	158.00	273.00	114.00	168.00	220.00	83.60	155.00	117.00	132.90	82.80	93.20	85.10	413.10	50.60	78.50	13.70	106.80	197.04	122.21	233.71	191.92

Average Daily River Discharge (m3/sec)
 Location : Shisaghat River : Madi
 Index No. : 438

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2
Day	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2
7	1297.00	162.00	199.00	215.00	50.50	124.00	315.00	126.00	177.00	176.00	106.00	224.00	113.00	173.00	71.90	129.00	89.00	442.80	31.50	109.90	243.10	102.00	240.22	114.06	218.26	185.46
7	2148.00	336.00	43.00	150.00	49.00	111.00	282.00	107.00	150.00	143.00	191.00	153.00	91.90	163.00	75.50	130.00	94.60	276.50	29.60	76.60	364.10	120.20	259.24	103.78	328.43	159.14
7	3162.00	344.00	83.60	224.00	55.00	121.00	252.00	100.00	135.00	181.00	118.00	213.00	125.00	199.00	73.10	124.00	155.70	202.80	38.10	83.40	372.00	473.10	247.36	101.92	218.26	208.25
7	4220.00	203.00	84.60	251.00	106.00	107.00	459.00	156.00	168.00	148.00	145.00	159.00	135.00	191.00	65.10	134.00	112.00	154.10	41.10	86.50	248.90	236.30	229.77	93.57	251.74	301.71
7	5241.00	164.00	92.00	222.00	229.00	107.00	459.00	156.00	168.00	148.00	145.00	159.00	135.00	191.00	65.10	134.00	112.00	154.10	41.10	86.50	248.90	236.30	229.77	93.57	251.74	301.71
7	6307.00	124.00	312.00	163.00	157.00	128.00	490.00	220.00	150.00	174.00	242.00	153.00	113.00	183.00	90.60	116.00	95.70	132.00	31.60	321.80	229.60	118.80	292.01	89.57	264.15	222.71
7	7232.00	104.00	140.00	136.00	231.00	83.20	435.00	307.00	121.00	126.00	203.00	135.00	107.00	270.00	116.00	134.00	89.00	363.40	31.30	326.70	298.90	177.90	326.24	90.70	216.36	202.12
7	8487.00	121.00	144.00	248.00	357.00	78.80	466.00	106.00	115.00	211.00	150.00	157.00	123.00	189.00	82.80	130.00	155.70	168.80	41.70	166.40	307.10	177.90	229.77	90.70	262.06	302.45
7	9418.00	114.00	165.00	144.00	357.00	77.30	378.00	132.00	113.00	161.00	176.00	157.00	123.00	189.00	82.80	130.00	155.70	168.80	41.70	166.40	307.10	177.90	229.77	90.70	262.06	302.45
7	10336.00	170.00	142.00	217.00	263.00	203.00	342.00	258.00	126.00	159.00	168.00	120.00	147.00	183.00	80.30	115.00	96.70	159.70	60.50	178.80	238.50	131.90	206.52	80.88	251.74	360.39
7	11309.00	174.00	165.00	144.00	439.00	86.10	381.00	244.00	119.00	195.00	162.00	121.00	224.00	233.00	94.50	140.00	107.80	448.60	125.10	194.60	136.30	331.00	261.10	212.24	199.70	284.78
7	12265.00	145.00	144.00	319.00	176.00	77.30	402.00	280.00	115.00	166.00	256.00	149.00	149.00	177.00	126.00	134.00	103.30	349.10	88.90	186.10	184.20	154.80	208.94	206.22	212.60	264.85
7	13218.00	168.00	248.00	170.00	170.00	80.20	444.00	297.00	109.00	168.00	244.00	127.00	151.00	165.00	115.00	120.00	99.90	307.50	46.70	169.90	156.40	114.90	249.16	124.31	249.71	360.39
7	14223.00	148.00	368.00	168.00	162.00	487.00	414.00	263.00	392.00	148.00	177.00	173.00	267.00	169.00	109.00	127.00	108.40	196.90	103.20	246.50	140.00	119.50	229.77	156.33	214.48	261.37
7	15197.00	230.00	338.00	163.00	156.00	453.00	366.00	247.00	233.00	138.00	157.00	211.00	207.00	277.00	109.00	127.00	108.40	196.90	103.20	246.50	140.00	119.50	229.77	156.33	214.48	261.37
7	16355.00	289.00	589.00	341.00	148.00	158.00	348.00	256.00	209.00	132.00	172.00	149.00	177.00	195.00	96.00	156.00	79.60	169.70	214.00	171.60	147.60	105.00	222.12	400.07	188.97	252.42
7	17239.00	272.00	404.00	319.00	133.00	128.00	336.00	177.00	176.00	153.00	220.00	171.00	297.00	171.00	183.00	138.00	73.90	171.40	308.10	138.50	158.90	161.40	223.81	245.28	158.60	251.06
7	18241.00	344.00	390.00	373.00	150.00	128.00	336.00	177.00	176.00	153.00	220.00	171.00	297.00	171.00	183.00	138.00	73.90	171.40	308.10	138.50	158.90	161.40	223.81	245.28	158.60	251.06
7	19251.00	253.00	365.00	371.00	234.00	120.00	294.00	177.00	168.00	150.00	157.00	287.00	300.00	177.00	195.00	156.00	118.80	139.70	317.60	166.40	208.50	120.20	168.15	172.50	187.21	257.91
7	20365.00	263.00	509.00	365.00	137.00	120.00	300.00	166.00	161.00	172.00	137.00	251.00	220.00	171.00	177.00	167.00	120.70	211.90	304.70	127.00	246.50	142.20	177.90	159.70	200.17	274.72
7	21267.00	297.00	454.00	384.00	166.00	96.00	321.00	155.00	197.00	240.00	193.00	165.00	179.00	228.00	153.00	149.00	107.30	139.70	289.80	142.20	177.90	159.70	200.17	261.30	243.64	243.64
7	22265.00	317.00	368.00	382.00	130.00	92.00	300.00	315.00	170.00	205.00	166.00	155.00	254.00	167.00	138.00	167.00	156.50	112.00	220.60	151.60	233.00	188.90	161.21	158.81	237.66	252.42
7	23214.00	325.00	493.00	363.00	145.00	80.00	312.00	267.00	157.00	220.00	168.00	145.00	244.00	197.00	138.00	167.00	156.50	112.00	220.60	151.60	233.00	188.90	161.21	158.81	237.66	252.42
7	24282.00	454.00	424.00	349.00	187.00	92.00	330.00	233.00	161.00	201.00	157.00	135.00	216.00	179.00	220.00	154.00	116.30	103.30	219.90	132.60	165.60	270.50	202.53	140.46	359.57	208.25
7	25239.00	363.00	410.00	309.00	162.00	84.00	303.00	363.00	159.00	452.00	162.00	139.00	179.00	167.00	169.00	145.00	141.90	92.00	194.20	146.10	155.60	243.10	267.67	287.87	384.52	236.34
7	26212.00	325.00	376.00	445.00	154.00	162.00	381.00	338.00	164.00	280.00	179.00	123.00	183.00	161.00	160.00	167.00	140.50	106.10	185.70	122.20	129.10	213.70	197.04	266.00	257.91	229.15
7	27243.00	341.00	373.00	699.00	218.00	154.00	393.00	349.00	213.00	220.00	157.00	159.00	179.00	155.00	144.00	149.00	303.30	327.70	183.90	135.50	121.50	200.50	206.52	210.22	225.91	255.84
7	28404.00	365.00	472.00	412.00	203.00	102.00	300.00	312.00	213.00	224.00	191.00	127.00	193.00	179.00	137.00	197.00	191.20	163.00	178.60	127.70	101.40	193.70	225.50	213.25	294.28	237.66
7	29376.00	382.00	390.00	439.00	170.00	96.00	375.00	287.00	224.00	191.00	168.00	305.00	175.00	183.00	127.00	179.00	174.80	133.40	171.80	110.50	102.00	140.70	253.71	455.68	303.20	242.31
7	30255.00	363.00	557.00	384.00	150.00	80.00	327.00	270.00	240.00	189.00	150.00	216.00	161.00	183.00	137.00	175.00	158.90	118.80	161.30	142.20	98.50	138.50	188.59	443.81	312.26	334.70
7	31302.00	439.00	451.00	512.00	191.00	80.00	230.00	235.00	270.00	185.00	240.00	218.00	165.00	187.00	167.00	187.00	154.10	147.20	148.70	106.20	137.70	177.90	298.06	331.12	225.91	337.07

Average Daily River Discharge (m3/sec)

Location : Shisaghat River : Madi

Index No. : 438

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2
Day	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
8	1395.00	390.00	481.00	390.00	158.00	132.00	357.00	183.00	185.00	179.00	386.00	263.00	147.00	175.00	269.00	264.00	168.20	166.30	138.20	120.20	119.50	121.50	270.52	270.76	251.74	259.98
8	2439.00	325.00	430.00	626.00	150.00	294.00	230.00	159.00	161.00	193.00	247.00	209.00	157.00	233.00	181.00	320.00	43.70	158.90	133.00	177.90	97.40	116.20	437.47	257.81	316.83	254.47
8	3355.00	395.00	547.00	390.00	180.00	225.00	180.00	166.00	177.00	218.00	165.00	187.00	137.00	294.00	185.00	259.00	124.40	151.70	148.70	143.00	409.90	260.70	342.61	338.03	235.88	249.03
8	4357.00	336.00	439.00	363.00	176.00	279.00	240.00	157.00	170.00	177.00	222.00	155.00	129.00	242.00	191.00	231.00	113.00	147.20	135.80	139.20	179.70	168.20	298.06	236.44	241.84	233.71
8	5294.00	328.00	412.00	490.00	612.00	205.00	158.00	143.00	247.00	157.00	159.00	159.00	135.00	220.00	175.00	264.00	111.40	143.40	138.20	146.10	172.50	106.20	234.96	241.94	225.91	215.73
8	6292.00	302.00	387.00	338.00	150.00	228.00	156.00	142.00	152.00	191.00	161.00	238.00	163.00	211.00	187.00	231.00	134.10	124.60	175.80	129.10	163.90	100.80	208.13	229.96	190.74	205.18
8	7263.00	674.00	496.00	330.00	135.00	205.00	154.00	138.00	137.00	162.00	349.00	185.00	139.00	270.00	233.00	199.00	118.90	113.80	188.70	137.70	128.40	106.20	194.71	162.16	170.09	196.69
8	8319.00	688.00	407.00	387.00	282.00	182.00	627.00	137.00	233.00	161.00	169.00	185.00	133.00	270.00	212.00	220.00	108.80	122.60	147.70	155.60	160.50	98.50	181.86	194.52	158.60	213.22
8	9376.00	442.00	395.00	154.00	170.00	164.00	154.00	122.00	201.00	209.00	155.00	282.00	159.00	231.00	171.00	254.00	145.60	124.60	195.40	131.20	169.00	89.70	179.65	152.25	152.23	187.21
8	10275.00	390.00	376.00	144.00	156.00	156.00	147.00	121.00	242.00	218.00	247.00	191.00	165.00	224.00	164.00	291.00	127.80	118.10	228.10	178.80	132.60	92.90	229.77	170.75	168.42	191.92
8	11421.00	376.00	376.00	304.00	148.00	186.00	152.00	119.00	197.00	327.00	181.00	228.00	228.00	249.00	154.00	216.00	224.10	105.00	203.60	140.70	292.30	97.90	191.64	157.16	180.26	181.99
8	12379.00	373.00	379.00	309.00	154.00	223.00	212.00	118.00	191.00	383.00	242.00	203.00	436.00	244.00	153.00	185.00	195.30	103.30	173.50	308.40	353.30	138.50	198.60	165.56	247.88	186.63
8	13265.00	360.00	379.00	309.00	139.00	423.00	178.00	150.00	179.00	258.00	173.00	216.00	203.00	216.00	142.00	158.00	169.60	130.60	388.80	248.90	331.00	181.50	173.84	214.27	237.66	204.56
8	14234.00	371.00	379.00	165.00	123.00	360.00	130.00	124.00	166.00	267.00	157.00	183.00	176.00	314.00	132.00	205.00	223.30	103.30	497.50	252.40	278.10	158.90	159.84	157.98	218.26	216.36
8	15216.00	328.00	365.00	251.00	133.00	182.00	184.00	113.00	195.00	211.00	228.00	181.00	154.00	240.00	208.00	171.00	184.30	140.50	317.60	195.60	252.40	168.20	195.48	145.10	197.89	211.35
8	16139.00	304.00	336.00	234.00	111.00	174.00	133.00	13.00	193.00	181.00	155.00	238.00	165.00	290.00	153.00	171.00	157.60	136.20	302.20	192.70	202.50	122.20	155.12	215.30	201.52	250.38
8	17236.00	304.00	325.00	236.00	DNA	162.00	195.00	109.00	152.00	164.00	153.00	322.00	165.00	322.00	177.00	185.00	140.10	113.20	450.20	230.70	276.80	120.80	145.94	191.67	176.84	235.02
8	18398.00	338.00	322.00	179.00	DNA	158.00	189.00	129.00	152.00	48.00	157.00	233.00	247.00	162.00	197.00	171.00	70.30	127.90	351.00	600.90	643.30	132.60	170.27	445.49	210.73	245.66
8	19232.00	398.00	328.00	404.00	DNA	154.00	199.00	115.00	205.00	153.00	240.00	216.00	184.00	193.00	173.00	334.00	177.20	118.10	284.10	218.90	325.30	122.90	181.86	476.48	210.73	212.60
8	20299.00	475.00	330.00	412.00	DNA	190.00	197.00	116.00	181.00	146.00	189.00	211.00	144.00	252.00	171.00	245.00	145.60	166.30	225.40	186.10	226.40	123.50	161.89	327.02	305.45	207.02
8	21212.00	460.00	395.00	267.00	DNA	146.00	143.00	16.00	70.00	40.00	189.00	203.00	139.00	166.00	195.00	240.00	153.10	176.60	262.20	159.70	824.20	115.60	258.31	369.64	296.50	194.89
8	22203.00	487.00	360.00	253.00	DNA	172.00	156.00	129.00	183.00	135.00	183.00	270.00	129.00	149.00	269.00	238.00	136.50	118.10	219.90	147.60	545.70	114.90	247.36	1911.85	347.42	208.87
8	23205.00	401.00	319.00	241.00	DNA	166.00	135.00	118.00	174.00	129.00	330.00	211.00	124.00	151.00	269.00	212.00	162.20	106.10	185.70	146.80	328.10	188.00	200.17	839.32	268.35	255.84
8	24176.00	387.00	371.00	181.00	DNA	146.00	421.00	109.00	162.00	203.00	272.00	189.00	136.00	171.00	296.00	212.00	155.70	163.80	165.60	147.60	375.20	120.20	214.64	481.78	235.88	229.15
8	25212.00	346.00	344.00	224.00	DNA	218.00	172.00	134.00	153.00	127.00	228.00	191.00	148.00	153.00	254.00	216.00	200.50	119.40	150.20	131.90	475.00	247.70	229.77	369.64	207.02	230.44
8	26201.00	376.00	330.00	277.00	DNA	203.00	203.00	124.00	168.00	235.00	235.00	205.00	126.00	156.00	214.00	187.00	246.70	119.40	142.60	142.20	393.10	471.20	170.98	355.04	188.97	227.20
8	27234.00	457.00	297.00	163.00	DNA	160.00	182.00	118.00	157.00	155.00	238.00	220.00	146.00	164.00	227.00	167.00	179.30	132.00	166.20	105.60	333.90	196.60	218.78	295.43	181.99	238.32
8	28172.00	360.00	355.00	150.00	DNA	160.00	184.00	145.00	153.00	168.00	233.00	181.00	117.00	156.00	193.00	160.00	175.80	136.90	138.70	87.60	235.20	240.80	326.24	366.69	168.42	234.36
8	29162.00	333.00	302.00	146.00	DNA	156.00	199.00	155.00	146.00	155.00	256.00	201.00	114.00	166.00	183.00	156.00	148.10	134.80	137.80	98.50	380.00	183.30	253.71	275.58	155.40	269.76
8	30158.00	317.00	227.00	150.00	DNA	252.00	205.00	176.00	129.00	153.00	216.00	175.00	108.00	236.00	167.00	179.00	129.50	123.90	154.90	109.20	228.60	271.80	334.91	223.59	142.91	266.25
8	31246.00	341.00	183.00	185.00	DNA	180.00	193.00	168.00	124.00	145.00	189.00	169.00	112.00	183.00	167.00	181.00	122.70	110.20	142.20	105.00	434.30	214.70	252.80	226.76	147.53	259.29

Average Daily River Discharge (m3/sec)

Location : Shisaghat River : Madi

Index No. : 438

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003		
Month Day	1	158.00	309.00	472.00	176.00	DNA	261.00	180.00	170.00	211.00	193.00	187.00	159.00	98.80	191.00	154.00	171.00	114.40	129.00	305.00	100.20	576.10	179.70	290.38	208.87	133.90	251.06	
9	2	124.00	338.00	371.00	165.00	DNA	195.00	170.00	157.00	162.00	161.00	181.00	165.00	93.30	259.00	147.00	156.00	134.80	126.80	266.60	124.90	338.30	182.40	352.16	211.98	129.50	316.07	
9	3	121.00	349.00	349.00	165.00	DNA	342.00	166.00	172.00	140.00	177.00	201.00	153.00	90.70	197.00	142.00	179.00	139.00	129.80	224.30	99.10	387.30	273.00	249.79	189.56	125.18	271.88	
9	4	135.00	412.00	236.00	152.00	DNA	200.00	162.00	199.00	183.00	170.00	191.00	187.00	88.00	175.00	140.00	160.00	105.00	129.40	249.40	81.90	312.60	190.80	226.76	170.65	196.09	295.76	
9	5	128.00	442.00	352.00	152.00	DNA	215.00	162.00	256.00	176.00	148.00	195.00	183.00	126.00	201.00	144.00	197.00	95.70	130.80	247.10	82.90	283.20	152.40	189.78	345.02	170.09	349.03	
9	6	145.00	319.00	421.00	168.00	DNA	261.00	164.00	205.00	191.00	146.00	197.00	191.00	100.00	201.00	149.00	276.00	86.10	128.20	358.80	91.80	318.20	180.60	247.53	215.73	152.23	420.00	
9	7	154.00	302.00	248.00	146.00	DNA	273.00	227.00	161.00	164.00	135.00	235.00	189.00	146.00	183.00	135.00	189.00	83.20	127.10	257.90	80.00	198.50	129.80	260.13	192.51	136.87	255.16	
9	8	132.00	317.00	227.00	159.00	DNA	273.00	189.00	152.00	137.00	155.00	265.00	216.00	112.00	197.00	135.00	167.00	79.10	125.60	208.30	158.00	165.60	123.50	357.92	231.10	126.61	248.35	
9	9	282.00	322.00	152.00	161.00	DNA	215.00	166.00	146.00	272.00	135.00	226.00	171.00	123.00	198.00	135.00	166.00	116.30	125.30	190.40	85.00	139.20	170.80	261.30	244.98	122.35	244.98	
9	10	287.00	322.00	478.00	325.00	DNA	300.00	246.00	138.00	247.00	129.00	205.00	155.00	165.00	199.00	134.00	147.00	162.10	119.10	186.60	81.40	120.80	136.30	224.64	235.68	126.61	257.91	
9	11	220.00	352.00	346.00	154.00	DNA	228.00	168.00	137.00	275.00	130.00	183.00	183.00	155.00	242.00	160.00	144.00	110.20	115.80	222.10	99.70	110.50	117.50	192.62	252.42	118.15	273.30	
9	12	154.00	299.00	219.00	146.00	DNA	180.00	158.00	130.00	325.00	121.00	169.00	177.00	174.00	189.00	167.00	134.00	106.70	114.00	186.60	132.60	100.80	116.90	186.05	248.35	119.54	255.84	
9	13	168.00	150.00	355.00	150.00	DNA	164.00	162.00	122.00	369.00	118.00	161.00	155.00	154.00	179.00	177.00	130.00	118.10	112.20	154.90	120.20	95.70	107.40	170.75	213.85	112.68	227.85	
9	14	333.00	130.00	282.00	146.00	DNA	195.00	170.00	116.00	406.00	113.00	155.00	183.00	146.00	171.00	153.00	142.00	118.10	111.20	137.00	99.10	89.10	106.80	153.88	183.14	107.33	217.62	
9	15	208.00	118.00	179.00	172.00	DNA	215.00	166.00	109.00	263.00	116.00	147.00	159.00	144.00	167.00	149.00	137.00	141.20	111.80	146.10	124.20	75.20	92.90	153.88	173.45	111.33	276.86	
9	16	162.00	134.00	176.00	142.00	DNA	190.00	191.00	118.00	187.00	109.00	145.00	145.00	132.00	164.00	144.00	129.00	116.30	109.80	118.80	126.30	62.60	96.20	138.94	168.42	109.99	229.15	
9	17	148.00	114.00	272.00	144.00	DNA	111.00	215.00	180.00	110.00	103.00	101.00	175.00	141.00	142.00	160.00	130.00	95.70	108.10	106.80	116.90	55.60	90.70	155.51	162.39	115.40	186.63	
9	18	139.00	102.00	304.00	154.00	DNA	107.00	210.00	168.00	110.00	159.00	101.00	137.00	139.00	137.00	156.00	126.00	116.90	113.60	103.80	105.00	64.70	71.10	179.64	158.60	138.37	177.98	
9	19	205.00	110.00	165.00	144.00	DNA	119.00	324.00	160.00	115.00	143.00	103.00	137.00	141.00	149.00	116.00	113.00	105.00	104.20	93.00	87.00	59.80	53.10	352.16	138.87	103.41	160.22	
9	20	137.00	102.00	154.00	144.00	DNA	176.00	213.00	451.00	110.00	134.00	122.00	131.00	163.00	141.00	149.00	116.00	113.00	105.00	104.20	93.00	87.00	59.80	53.10	352.16	138.87	103.41	
9	21	126.00	94.00	206.00	132.00	DNA	152.00	186.00	160.00	119.00	135.00	107.00	124.00	181.00	132.00	145.00	106.00	89.50	106.60	88.20	99.10	52.70	81.40	202.27	129.99	132.42	164.02	
9	22	128.00	83.80	154.00	126.00	DNA	201.00	195.00	147.00	124.00	127.00	134.00	121.00	169.00	126.00	142.00	102.00	79.10	113.60	76.90	89.70	52.70	81.40	202.27	129.99	132.42	164.02	
9	23	121.00	78.80	150.00	122.00	DNA	132.00	252.00	132.00	119.00	134.00	118.00	122.00	159.00	120.00	138.00	97.40	106.00	76.00	111.60	75.00	52.70	94.00	184.21	139.87	115.40	164.57	
9	24	116.00	78.80	138.80	98.00	DNA	137.00	188.00	126.00	119.00	127.00	104.00	123.00	163.00	126.00	134.00	96.00	189.00	72.20	130.30	78.70	72.90	72.50	94.60	164.71	134.88	108.66	181.99
9	25	116.00	78.80	138.80	98.00	DNA	137.00	188.00	126.00	119.00	127.00	104.00	123.00	163.00	126.00	134.00	96.00	189.00	72.20	130.30	78.70	72.90	72.50	94.60	164.71	134.88	108.66	181.99
9	26	117.00	61.20	128.00	72.40	DNA	97.20	249.00	111.00	113.00	140.00	103.00	135.00	147.00	120.00	121.00	88.00	59.90	121.00	146.10	66.30	53.80	99.10	135.18	125.66	112.68	143.93	
9	27	251.00	58.00	72.40	82.00	DNA	97.20	184.00	107.00	109.00	146.00	94.20	118.00	137.00	123.00	120.00	94.50	120.00	56.80	113.80	172.80	65.50	49.00	74.30	118.09	125.66	128.05	138.37
9	28	187.00	70.80	67.60	124.00	DNA	90.90	154.00	104.00	109.00	145.00	90.10	116.00	141.00	130.00	116.00	113.00	53.80	118.20	131.90	81.40	68.00	86.00	112.74	119.08	111.33	130.96	
9	29	164.00	66.00	92.00	314.00	DNA	87.70	142.00	100.00	121.00	134.00	87.40	117.00	133.00	117.00	113.00	189.00	51.90	123.20	191.40	80.50	60.20	73.40	116.74	115.85	104.71	120.94	
9	30	189.00	55.00	144.00	136.00	DNA	83.20	114.00	95.60	116.00	137.00	88.80	113.00	139.00	123.00	113.00	149.00	48.50	115.20	116.90	75.70	53.50	85.50	102.54	109.99	102.12	122.82	

Average Daily River Discharge (m3/sec)
 Location : Shisaghat River : Madi
 Index No. : 438

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Month Day																										
10	1178.00	56.50	74.00	108.00	80.20	100.00	92.50	104.00	132.00	83.60	101.00	125.00	118.50	109.00	135.00	112.00	46.50	113.60	107.40	73.80	81.40	66.80	94.15	110.43	99.57	118.15
10	2119.00	56.50	69.20	106.00	77.30	102.00	89.30	98.30	143.00	84.90	93.40	123.00	97.60	108.00	124.00	109.00	44.00	115.90	130.50	61.40	63.40	78.50	90.14	111.33	98.30	112.68
10	3116.00	61.20	66.00	122.00	74.30	98.00	87.70	91.50	118.00	77.30	91.90	119.00	94.80	100.00	112.00	106.00	40.80	113.80	100.90	61.40	60.60	116.20	89.01	107.33	93.33	109.99
10	4111.00	64.40	62.80	104.00	72.90	92.00	87.70	90.10	115.00	69.00	91.90	116.00	89.30	103.00	106.00	102.00	39.30	109.80	110.50	56.40	62.20	71.10	85.15	120.47	94.56	104.71
10	5117.00	74.00	59.60	66.00	71.40	92.00	87.70	90.10	113.00	72.50	93.40	105.00	101.00	100.00	120.00	102.00	42.10	106.00	178.20	56.80	54.20	90.20	79.83	111.33	92.10	99.57
10	6107.00	59.60	59.60	62.80	70.00	88.00	86.10	88.80	116.00	65.50	91.90	101.00	79.20	105.00	96.00	97.40	41.80	99.00	116.20	58.30	50.00	107.40	77.26	122.35	90.89	98.72
10	7104.00	58.00	59.60	62.80	70.00	80.00	86.10	87.40	109.00	63.20	88.80	99.00	79.90	116.00	90.60	100.00	37.30	95.30	106.80	48.30	48.60	79.00	71.80	114.94	89.68	93.33
10	898.00	55.00	56.50	61.20	68.70	80.00	86.10	82.40	106.00	62.10	93.40	95.00	75.20	106.00	84.10	97.40	33.00	93.40	88.70	47.00	47.60	61.40	72.78	104.71	89.68	89.28
10	997.20	55.00	53.50	58.00	68.70	88.00	86.10	83.60	103.00	61.10	85.60	99.00	89.30	93.20	77.90	89.30	32.00	88.70	75.00	49.00	45.70	50.70	71.32	110.43	89.68	87.29
10	1094.10	152.00	53.50	55.00	70.00	116.00	86.10	127.00	99.60	60.00	84.10	91.90	83.40	90.60	88.00	85.40	29.90	89.20	79.70	42.90	41.10	45.40	68.94	114.49	84.94	84.94
10	1190.90	132.00	52.00	53.50	67.30	154.00	83.20	94.20	106.00	59.00	84.10	87.20	83.40	90.60	88.00	85.40	28.20	90.50	102.10	75.50	41.10	42.00	65.25	104.71	83.77	83.77
10	1286.10	163.00	50.50	53.50	66.00	233.00	83.20	87.40	110.00	59.00	79.40	84.10	79.20	81.50	73.10	84.10	28.20	90.50	80.20	39.70	42.00	45.10	59.54	100.84	81.46	82.61
10	1383.20	85.20	49.00	53.50	64.60	210.00	80.20	81.10	107.00	57.90	73.80	76.60	86.30	80.30	73.10	97.40	25.00	97.00	75.90	38.50	41.10	36.60	57.85	98.30	79.19	79.57
10	1481.70	74.00	47.50	52.00	60.50	200.00	94.10	78.60	99.60	56.80	68.10	75.20	68.70	80.30	74.30	89.30	21.90	88.90	65.00	38.50	40.20	35.60	56.61	95.80	78.06	75.84
10	1578.80	62.80	46.00	46.00	60.50	162.00	81.70	76.10	101.00	55.80	64.00	73.80	59.90	77.90	115.00	86.70	20.30	83.30	59.90	37.70	39.40	34.00	55.38	92.92	76.95	75.47
10	1675.80	61.20	44.50	50.50	59.20	114.00	80.20	86.10	98.30	54.70	58.80	68.10	61.60	76.70	109.00	84.10	18.70	88.50	54.00	36.10	38.80	32.50	53.38	90.89	76.95	74.01
10	1773.30	58.00	43.00	47.50	57.80	98.00	75.80	101.00	98.30	49.70	56.20	61.40	59.30	71.90	86.70	80.30	17.00	85.20	51.90	35.80	39.70	30.90	53.38	87.29	74.74	72.21
10	1870.00	55.00	40.60	46.00	57.80	86.00	77.30	92.80	91.50	74.80	57.50	60.10	57.70	66.20	79.10	75.50	16.40	83.30	51.20	33.80	36.90	30.40	51.82	87.29	74.74	69.01
10	1967.00	53.50	39.40	44.50	57.80	82.00	72.90	86.10	90.10	54.70	57.50	58.80	52.90	63.00	82.80	74.30	16.40	80.40	50.20	33.80	39.40	30.20	49.53	85.72	72.57	67.27
10	2064.00	50.50	38.20	44.50	56.60	78.00	71.40	83.60	88.80	53.70	57.50	56.20	55.50	61.90	74.30	70.70	15.90	78.70	49.20	32.50	38.00	28.30	51.43	84.55	72.57	65.21
10	2161.00	49.00	38.20	44.50	56.60	78.00	70.00	81.10	86.10	52.60	53.70	53.60	52.90	55.00	70.70	68.40	15.60	76.60	47.90	32.30	39.40	27.00	53.78	83.38	69.37	63.86
10	2258.00	47.50	39.40	43.00	55.30	74.00	67.30	79.80	86.10	53.70	53.60	53.60	52.90	55.00	65.10	67.30	15.60	75.00	47.00	36.90	36.10	26.40	47.68	80.32	67.27	61.85
10	2355.00	47.50	37.00	43.00	55.30	74.00	66.00	77.30	84.90	51.60	51.10	52.30	49.40	59.70	63.00	66.20	15.20	74.00	46.70	34.30	35.30	25.60	48.05	80.70	67.27	62.19
10	2452.00	46.00	35.80	43.00	52.80	72.00	64.60	76.10	84.90	49.70	50.00	52.30	47.50	58.60	63.00	63.00	14.90	71.80	47.00	32.50	34.50	24.60	45.17	78.81	67.27	60.86
10	2549.00	46.00	34.60	40.60	52.80	68.40	63.20	76.10	83.60	47.80	48.80	51.10	46.60	56.60	58.60	61.90	15.00	69.80	43.60	31.60	33.80	23.80	43.43	77.69	67.27	62.85
10	2646.00	44.50	33.40	39.40	52.80	66.80	61.90	65.50	82.40	46.80	47.70	50.00	43.80	55.70	55.70	60.80	15.00	70.90	43.00	30.60	32.30	23.20	41.40	76.95	66.24	59.23
10	2743.00	43.00	32.20	40.60	51.60	65.20	60.50	56.80	81.10	46.80	46.50	48.80	43.00	55.70	53.70	59.70	15.10	68.10	42.70	30.20	31.80	22.70	41.73	75.47	66.24	57.30
10	2840.00	41.80	31.00	39.40	51.60	122.00	59.20	53.70	81.10	46.80	45.30	47.70	42.50	47.90	51.70	57.60	15.00	66.60	41.00	30.60	31.60	21.90	41.07	74.38	65.21	57.30
10	2937.00	40.60	31.00	39.40	50.30	62.00	56.60	52.60	81.10	47.80	44.20	46.50	41.20	47.00	47.90	56.60	14.60	64.50	40.20	29.00	31.10	21.60	41.07	74.74	64.20	56.04

Average Daily River Discharge (m³/sec)

Location : Shisaghat River : Madi

Index No. : 438

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003				
Month Day	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
11	54.10	39.40	29.90	38.20	49.10	62.00	55.30	52.60	79.80	44.90	44.20	44.20	39.10	46.10	46.10	55.70	14.40	62.10	39.30	28.60	30.20	21.10	41.40	73.65	63.19	55.09				
11	52.80	38.20	28.80	37.00	49.10	58.80	55.30	48.80	78.60	44.00	44.20	45.30	39.10	46.10	45.20	54.70	14.30	60.10	38.50	27.90	29.20	20.50	42.41	72.57	62.19	54.47				
11	55.30	37.00	28.80	38.20	49.10	57.20	55.30	48.80	78.60	43.00	41.90	44.20	37.90	46.10	44.40	49.80	13.90	58.20	37.20	27.70	29.00	20.00	38.17	71.49	61.19	52.32				
11	52.80	35.80	27.70	46.00	47.80	57.20	55.30	45.90	77.30	43.00	40.70	43.00	37.10	46.10	43.50	48.80	13.60	56.80	36.10	27.70	27.90	19.20	38.17	71.85	61.19	52.02				
11	51.60	35.80	27.70	38.20	47.80	55.60	54.10	44.90	77.30	42.20	44.20	41.90	37.10	45.20	41.70	47.00	13.30	57.10	35.40	27.00	27.70	18.40	37.55	71.49	60.21	51.41				
11	50.30	34.60	26.60	38.20	46.60	54.00	52.80	44.00	61.10	41.30	39.70	40.70	35.60	44.40	40.80	46.10	13.10	54.70	34.90	26.20	27.30	18.10	37.55	70.42	59.23	51.11				
11	50.30	33.40	26.60	38.20	47.80	54.00	52.80	42.20	37.10	40.50	38.60	40.70	35.60	44.40	39.90	45.20	13.00	53.60	34.60	26.20	26.80	17.60	37.24	70.07	59.23	50.51				
11	49.10	33.40	25.50	37.00	45.30	52.60	51.60	41.30	36.20	39.60	37.60	39.70	34.40	43.50	39.40	45.20	12.80	52.90	33.90	25.40	26.20	17.20	35.71	67.27	58.26	49.62				
11	49.10	32.20	25.50	35.80	45.30	51.20	50.30	41.30	35.40	38.80	37.60	39.70	33.70	41.70	38.30	45.20	12.70	52.50	33.40	25.00	25.60	16.70	34.82	65.90	58.26	49.03				
11	47.80	32.20	25.50	33.40	47.80	49.80	51.60	41.30	34.50	38.80	36.50	37.60	33.00	39.90	37.60	43.50	12.70	81.90	33.20	24.60	25.20	16.40	33.65	66.24	57.30	48.44				
11	47.80	31.00	24.40	33.40	45.30	49.80	50.30	42.20	34.50	38.80	35.50	37.60	31.50	39.10	36.00	42.60	12.70	114.50	32.50	24.20	25.00	16.30	34.82	65.21	56.35	48.15				
11	46.60	29.90	23.30	31.00	44.20	48.40	49.10	40.50	37.90	38.80	35.50	37.60	30.80	39.10	35.20	41.70	12.50	77.90	32.00	23.80	24.40	15.80	37.24	64.53	56.35	46.99				
11	45.30	29.90	22.30	31.00	45.30	47.00	47.80	37.90	33.80	37.90	34.50	37.60	29.80	37.60	32.90	41.70	11.90	65.10	31.10	22.90	23.80	15.80	32.80	63.52	58.26	46.13				
11	43.10	28.80	22.20	29.90	44.20	45.60	47.80	36.20	33.40	36.20	33.40	36.50	29.50	37.60	33.70	41.70	11.90	62.70	30.60	22.70	23.40	15.40	31.68	63.86	55.41	45.28				
11	43.10	28.80	22.20	28.80	44.20	44.20	46.60	36.20	31.50	35.40	33.40	36.50	29.50	36.80	32.90	41.70	11.70	61.10	30.60	22.30	23.80	15.00	31.40	63.52	54.47	43.88				
11	43.10	27.70	22.20	28.80	43.10	42.80	47.80	35.40	31.50	35.40	33.40	36.50	28.50	36.80	32.10	40.80	11.50	59.20	30.40	22.10	23.20	14.60	31.13	63.19	54.47	43.88				
11	41.90	27.70	21.10	27.70	43.10	40.00	46.60	35.40	30.80	34.50	34.50	33.40	28.50	36.00	31.40	36.80	11.40	57.80	29.50	21.80	22.90	14.40	30.05	62.85	53.54	41.96				
11	41.90	28.80	21.10	26.60	44.20	38.80	46.60	34.50	30.00	33.80	34.50	33.40	28.50	35.20	30.70	30.70	11.30	55.10	29.10	24.80	23.20	14.40	28.73	62.85	53.54	41.96				
11	41.90	28.80	21.10	26.60	41.90	38.80	46.60	33.80	30.00	33.80	33.40	34.50	26.60	34.40	29.30	29.30	11.20	53.30	28.40	23.40	22.70	14.40	28.73	61.85	52.62	41.42				
11	41.90	28.80	21.10	26.60	41.90	37.60	46.60	33.00	29.30	33.00	34.50	32.40	25.70	33.70	27.90	28.60	10.90	50.30	27.40	21.40	21.60	14.00	27.96	60.86	52.62	41.15				
11	40.80	27.70	20.00	26.60	41.90	37.60	46.60	33.00	29.30	33.00	33.40	32.40	25.10	32.90	30.70	28.60	10.60	49.50	27.00	20.90	21.20	13.80	27.21	59.88	52.62	40.61				
11	41.90	27.70	19.20	25.50	40.80	36.40	45.30	32.30	28.50	33.00	33.40	32.40	25.10	32.90	30.70	28.60	10.60	49.50	27.00	20.90	21.20	13.80	27.21	59.88	52.62	40.61				
11	40.80	25.50	19.20	25.50	40.80	35.20	45.30	32.30	28.50	32.30	32.40	31.30	24.20	32.90	27.20	28.60	10.40	48.70	26.80	20.50	21.60	13.60	26.96	59.88	52.62	40.61				
11	39.70	25.50	18.30	24.40	40.80	35.20	44.20	31.50	27.00	31.50	30.30	32.40	23.90	32.10	26.50	27.90	10.40	47.50	26.80	21.40	21.10	13.30	27.21	59.23	52.62	40.61				
11	38.60	26.60	18.30	24.40	39.70	34.00	44.20	31.50	27.00	31.50	30.30	32.40	23.60	32.10	26.50	27.90	10.40	47.10	26.40	24.00	20.70	12.60	26.71	58.59	52.62	40.08				
11	37.50	25.50	18.30	24.40	40.80	34.00	44.20	31.50	26.30	30.80	30.30	31.30	23.10	32.10	26.50	27.20	10.20	46.70	26.20	21.40	20.70	12.50	25.98	58.26	51.71	40.34				
11	36.30	24.40	18.30	23.30	39.70	34.00	43.10	30.80	25.70	30.00	28.50	30.30	23.10	31.40	26.50	27.20	10.20	45.50	26.00	20.50	20.50	12.50	25.03	57.94	51.71	40.08				
11	36.30	24.40	17.50	23.30	39.70	32.80	41.90	30.00	25.00	30.80	27.60	29.40	23.30	31.40	25.80	26.50	10.30	44.20	25.40	20.00	20.50	12.40	25.03	57.30	51.71	39.55				
11	36.30	24.40	18.30	23.30	38.60	32.80	41.90	29.30	24.40	30.00	27.60	28.50	23.30	30.70	25.10	26.50	11.30	42.40	24.80	19.70	20.00	12.10	24.79	56.35	50.81	39.02				

Average Daily River Discharge (m³/sec)
 Location : Shisaghat River : Madi
 Index No. : 438

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
Month Day	1	36.30	27.70	17.50	23.30	39.70	30.40	40.80	29.30	24.40	29.30	27.60	28.50	23.60	30.00	25.10	26.50	10.80	42.00	24.30	21.40	19.70	12.10	24.10	56.98	49.92	39.02
12	2	39.70	24.40	17.50	23.30	38.60	31.60	39.70	28.50	23.70	30.00	27.60	28.50	22.20	30.00	25.10	25.80	10.10	41.50	23.90	20.70	19.70	11.90	23.87	56.35	49.03	38.50
12	3	38.60	24.40	16.60	23.30	37.50	30.40	39.70	27.80	23.70	29.30	29.40	28.50	22.80	29.30	26.50	25.80	10.10	40.60	23.70	20.00	19.50	11.80	23.87	56.35	49.03	38.50
12	4	36.30	23.30	16.60	22.20	38.60	29.20	38.60	27.80	23.70	29.30	28.50	27.60	22.20	28.60	24.50	25.10	9.90	41.50	23.30	19.50	19.40	11.80	23.64	56.35	49.03	37.98
12	5	35.20	23.30	16.60	22.20	37.50	28.00	37.50	27.80	23.70	28.50	29.40	27.60	22.20	27.90	24.50	25.10	9.60	40.60	22.80	19.20	19.40	11.60	23.41	55.41	49.03	37.47
12	6	34.10	22.20	16.60	22.20	37.50	28.00	36.30	27.00	23.00	27.80	27.60	26.70	21.70	28.60	23.30	24.50	9.50	40.60	22.60	19.00	19.20	11.50	23.41	55.09	48.15	36.45
12	7	34.10	21.10	15.80	22.20	36.30	27.10	36.30	27.00	22.40	27.80	27.60	26.70	20.90	27.90	22.70	23.90	9.40	40.10	22.30	18.70	19.00	11.50	23.41	55.09	47.28	35.95
12	8	34.10	20.00	15.80	22.20	36.30	27.10	35.20	26.30	21.70	27.80	27.60	26.70	19.60	27.20	22.70	23.90	9.70	40.10	22.30	18.70	18.70	11.20	22.75	54.78	47.28	35.95
12	9	34.10	20.00	15.80	22.20	36.30	27.10	35.20	25.70	21.70	27.80	27.60	26.70	19.90	27.20	21.60	23.30	9.60	39.20	22.30	20.40	18.70	11.10	22.53	54.47	47.28	35.95
12	10	34.10	20.00	15.80	22.20	36.30	27.10	35.20	25.70	21.70	27.80	27.60	26.70	19.90	27.20	21.60	23.30	9.40	38.70	22.10	20.40	18.70	11.00	22.53	54.16	46.42	35.45
12	11	33.10	20.00	14.90	21.10	36.30	26.20	35.20	25.00	21.10	27.80	27.60	25.80	19.90	25.80	22.10	23.30	9.20	37.70	21.80	20.40	18.50	10.80	22.09	53.54	46.42	35.70
12	12	33.10	19.20	14.90	21.10	36.30	26.20	34.10	24.40	20.40	33.00	26.70	25.80	20.10	25.80	21.60	23.30	9.00	37.20	21.80	20.40	18.20	10.80	22.09	53.54	46.42	35.20
12	13	32.10	19.20	14.90	20.00	36.30	26.20	34.10	24.40	20.40	30.00	25.80	25.80	20.60	25.80	21.60	22.70	9.00	43.70	21.80	23.40	18.10	10.60	22.31	53.24	46.42	35.20
12	14	32.10	19.20	14.10	20.00	35.20	25.30	34.10	23.70	20.40	27.80	24.80	25.80	18.90	25.80	20.40	22.70	9.00	36.10	21.40	20.40	17.80	10.40	22.09	52.62	46.42	34.70
12	15	32.10	18.30	14.10	19.20	36.30	25.30	33.10	23.70	20.40	27.80	24.80	24.80	18.90	25.80	20.40	22.10	9.10	35.60	21.20	20.40	17.60	10.30	22.09	52.62	46.42	34.46
12	16	31.10	19.20	14.10	19.20	36.30	24.40	32.10	23.70	20.40	27.80	24.80	24.80	19.90	25.80	19.20	22.10	8.80	34.60	21.20	22.10	17.30	9.60	21.87	50.81	45.56	34.21
12	17	30.10	18.30	14.10	18.30	35.20	24.40	32.10	23.00	20.40	27.80	23.90	23.90	18.40	25.80	19.20	21.00	8.60	34.60	21.20	22.30	17.30	9.60	22.09	50.51	45.56	33.24
12	18	29.20	18.30	14.10	18.30	34.10	24.40	32.10	23.00	21.70	26.30	23.00	23.90	16.40	25.80	19.20	21.00	8.60	34.60	21.10	21.60	17.00	9.60	21.87	50.21	45.56	32.05
12	19	31.10	18.30	14.10	17.50	34.10	23.50	31.10	21.70	21.10	25.70	23.00	23.90	16.40	25.10	19.20	21.00	8.60	34.60	20.70	21.80	16.90	9.60	22.31	49.92	45.56	32.76
12	20	30.10	17.50	14.10	18.30	34.10	23.50	31.10	21.10	20.40	25.00	23.00	23.00	15.70	25.10	19.20	21.00	8.20	34.60	20.70	21.40	16.90	9.60	21.45	49.92	44.72	32.28
12	21	30.10	18.30	14.10	17.50	34.10	23.50	31.10	21.10	19.30	23.70	22.10	23.00	15.70	25.10	18.70	21.00	8.00	33.40	20.70	21.10	16.40	9.60	21.45	50.21	43.88	31.58
12	22	30.10	16.60	13.20	17.50	34.10	21.70	30.10	21.10	19.30	23.70	22.10	23.00	15.70	24.50	18.70	21.00	7.80	32.30	20.60	20.50	16.40	9.60	21.03	49.62	43.88	31.58
12	23	29.20	16.60	13.20	17.50	33.10	21.70	29.20	20.40	18.70	23.70	22.10	23.00	15.50	23.90	18.20	21.00	7.80	31.10	20.10	20.00	16.40	9.60	21.03	49.03	43.05	31.34
12	24	29.20	17.50	13.20	17.50	33.10	21.70	30.10	20.40	18.70	23.70	22.10	23.00	15.30	23.90	17.70	21.00	7.80	31.10	20.10	19.70	16.10	9.60	21.24	49.32	43.05	30.64
12	25	29.20	16.60	13.20	17.50	32.10	20.80	29.20	19.80	18.20	23.00	22.10	23.00	15.30	27.90	17.70	21.00	7.60	31.10	20.10	19.50	16.00	9.50	21.03	48.74	43.05	30.41
12	26	28.20	16.60	9.37	17.50	32.10	26.20	29.20	21.10	18.20	23.00	50.00	21.20	15.30	29.30	17.70	21.00	7.60	31.10	19.80	19.20	16.00	9.40	20.41	48.74	43.05	30.18
12	27	28.20	16.60	7.24	17.50	32.10	27.10	28.20	29.30	18.20	23.00	28.50	21.20	15.10	24.50	18.20	20.40	7.60	30.50	19.60	19.00	16.00	9.40	20.41	48.15	43.05	30.18
12	28	28.20	16.60	11.50	18.30	32.10	23.50	29.20	28.50	18.20	23.00	24.80	21.20	15.10	24.50	17.20	20.40	7.50	29.30	19.60	18.70	16.00	9.20	20.00	47.86	43.05	45.28
12	29	28.20	16.60	11.50	17.50	32.10	22.60	28.20	23.00	18.20	23.00	21.20	14.50	23.90	17.20	20.40	7.50	29.30	19.10	18.70	16.00	9.10	19.80	46.99	43.05	33.73	
12	30	28.20	16.60	11.50	16.60	31.10	22.60	28.20	20.40	17.60	23.00	23.00	20.40	14.70	23.30	17.20	20.40	7.40	28.60	18.80	18.50	15.80	9.10	19.80	46.99	43.05	32.05
12	31	28.20	17.50	10.10	18.30	33.10	22.60	27.20	19.80	17.60	23.00	23.00	20.40	15.10	23.30	17.20	20.40	7.50	27.30	18.70	18.10	15.60	9.10	19.60	46.99	43.05	31.58

Average Daily River Discharge (m³/sec)

Location : Damauli at Patan

River : Seti

Index No. : 430.5

Drainage area : 1,505 km²

Note : DNA means data not acquired

Month	Year Day	2000	2001	2002	2003	2004
1	1	25.80	21.55	23.28	47.92	24.89
1	2	25.07	21.55	22.80	34.92	24.35
1	3	25.07	21.05	22.33	31.49	23.29
1	4	24.35	20.89	22.80	29.57	23.29
1	5	24.35	20.89	21.41	29.57	22.78
1	6	24.35	20.56	21.41	28.34	22.27
1	7	23.65	20.40	20.96	27.74	21.78
1	8	22.96	20.24	20.96	27.74	22.27
1	9	22.96	20.08	21.41	27.74	19.88
1	10	22.29	20.08	21.41	27.15	20.34
1	11	22.29	20.08	20.52	27.15	21.29
1	12	22.96	19.60	20.52	27.15	21.78
1	13	22.29	19.60	20.09	27.15	20.34
1	14	22.29	19.60	21.41	27.15	20.34
1	15	21.63	19.60	19.66	26.57	19.88
1	16	21.63	19.44	24.77	26.57	19.43
1	17	21.63	19.60	26.33	26.57	18.98
1	18	20.98	19.13	22.33	26.57	18.98
1	19	20.98	19.13	21.41	26.00	19.43
1	20	21.63	18.68	21.41	25.44	19.43
1	21	21.63	18.68	21.41	25.44	19.43
1	22	22.29	18.68	21.41	24.89	21.78
1	23	22.29	18.68	21.41	24.35	18.12
1	24	22.29	18.98	20.52	24.35	19.88
1	25	21.63	19.92	19.24	23.81	21.29
1	26	20.98	19.13	20.52	23.81	19.88
1	27	20.98	18.23	20.52	23.81	21.29
1	28	20.98	18.52	21.87	25.44	20.81
1	29	20.98	19.60	22.80	28.34	20.81
1	30	20.35	20.56	21.87	27.15	19.43
1	31	20.35	19.13	20.09	44.36	20.34

Average Daily River Discharge (m3/sec)

Location : Damauli at Patan

River : Seti

Index No. : 430.5

Year		2000	2001	2002	2003	2004
Month	Day					
2	1	20.35	19.13	20.09	36.37	19.88
2	2	20.98	16.37	20.09	28.34	19.43
2	3	20.35	18.23	19.66	25.44	18.98
2	4	19.73	17.64	19.24	24.89	18.55
2	5	19.73	17.49	18.82	24.35	18.55
2	6	20.98	16.10	18.82	23.81	18.55
2	7	20.35	15.70	18.82	22.78	18.55
2	8	19.73	15.96	18.82	21.78	18.55
2	9	19.12	17.35	18.02	21.29	18.12
2	10	19.12	16.92	18.02	20.81	18.12
2	11	19.73	16.92	20.96	20.81	18.12
2	12	19.73	15.56	21.41	20.81	17.28
2	13	19.73	15.17	19.66	21.29	16.48
2	14	19.12	14.91	18.02	19.43	16.09
2	15	19.12	15.04	17.24	18.98	16.88
2	16	18.52	15.17	17.24	19.88	16.09
2	17	18.52	15.17	17.24	20.34	20.34
2	18	18.52	15.56	17.24	19.88	15.33
2	19	18.52	17.78	17.24	28.34	16.88
2	20	18.52	17.21	17.63	30.20	16.48
2	21	17.37	18.37	17.24	24.89	17.70
2	22	16.82	18.23	17.24	22.27	17.28
2	23	16.82	16.51	16.86	21.78	16.88
2	24	16.82	17.64	16.86	20.81	16.48
2	25	16.27	16.92	22.80	23.81	16.09
2	26	17.37	19.76	20.52	41.83	16.09
2	27	17.37	18.37	17.63	26.57	18.55
2	28	17.37	16.10	17.24	23.81	16.88
2	29	17.37				16.09

Average Daily River Discharge (m³/sec)

Location : Damauli at Patan

River : Seti

Index No. : 430.5

Year		2000	2001	2002	2003	2004
Month	Day					
3	1	16.82	15.70	15.76	22.78	16.09
3	2	16.82	15.30	15.76	22.27	15.71
3	3	19.73	14.91	18.02	21.78	15.71
3	4	17.94	14.91	17.24	21.29	15.33
3	5	17.94	15.04	17.24	20.81	15.71
3	6	17.94	14.53	17.24	20.34	15.71
3	7	18.52	14.79	16.86	20.34	15.71
3	8	19.12	14.79	16.49	20.34	14.96
3	9	19.73	15.17	16.49	19.88	16.88
3	10	18.52	14.66	16.12	18.12	14.60
3	11	17.94	14.91	16.12	18.98	14.60
3	12	19.12	14.04	16.49	18.55	14.60
3	13	18.52	13.80	16.86	21.29	14.60
3	14	19.12	14.16	16.49	20.34	18.12
3	15	19.12	15.17	17.63	19.88	16.75
3	16	18.52	14.53	17.24	20.34	19.58
3	17	17.37	13.92	16.49	20.81	16.22
3	18	19.12	12.75	15.41	21.29	19.43
3	19	19.12	12.97	15.41	27.74	15.96
3	20	17.37	11.65	15.41	21.78	18.55
3	21	17.37	11.13	15.41	21.78	19.43
3	22	16.27	16.10	16.49	20.81	17.84
3	23	17.37	23.29	16.49	20.81	17.56
3	24	16.27	15.70	20.09	24.35	16.35
3	25	19.73	13.56	20.09	34.92	17.01
3	26	17.37	13.56	16.49	24.35	16.09
3	27	17.37	12.75	17.24	22.78	14.84
3	28	17.37	12.41	15.76	20.81	14.37
3	29	14.71	13.09	17.24	19.88	13.90
3	30	17.37	13.09	15.41	18.55	13.90
3	31	20.98	12.08	16.49	18.98	13.45

Average Daily River Discharge (m³/sec)

Location : Damauli at Patan

River : Seti

Index No. : 430.5

Year			2000	2001	2002	2003	2004
Month	Day						
4	1		21.63	12.08	15.76	20.81	13.23
4	2		22.29	11.75	15.41	20.81	12.90
4	3		24.35	11.75	15.41	19.88	14.02
4	4		19.73	10.82	15.76	19.43	16.88
4	5		19.12	10.53	15.76	19.43	18.26
4	6		16.27	11.13	16.12	19.88	16.88
4	7		14.71	10.82	16.49	19.43	14.13
4	8		18.52	11.44	20.96	18.98	26.38
4	9		19.73	12.08	21.87	19.43	25.81
4	10		16.27	10.82	24.77	20.81	26.57
4	11		16.27	10.53	20.52	24.35	17.42
4	12		19.73	10.23	18.82	26.57	18.98
4	13		19.12	11.75	19.24	24.35	29.15
4	14		16.82	10.82	16.49	22.78	20.34
4	15		17.37	12.08	17.24	28.34	18.69
4	16		20.35	11.75	16.86	24.35	18.55
4	17		21.63	12.75	18.02	37.87	17.01
4	18		24.35	12.08	20.09	29.57	26.76
4	19		27.30	13.44	24.77	27.74	DNA
4	20		17.94	13.80	23.77	26.57	DNA
4	21		19.12	13.80	29.09	26.00	20.19
4	22		26.55	14.53	28.52	26.00	26.19
4	23		30.49	15.70	22.80	24.89	37.62
4	24		20.98	14.91	21.41	24.89	26.95
4	25		22.29	14.16	25.28	28.34	21.78
4	26		22.29	16.10	24.27	38.64	18.98
4	27		17.37	17.78	27.96	43.51	17.56
4	28		21.63	18.23	30.26	32.16	26.19
4	29		23.65	16.92	75.69	31.49	23.99
4	30		24.35	24.76	25.80	28.95	19.28

Average Daily River Discharge (m3/sec)

Location : Damauli at Patan

River : Seti

Index No. : 430.5

Year		2000	2001	2002	2003	2004
Month	Day					
5	1	30.49	19.60	45.64	25.44	23.99
5	2	26.55	59.39	19.66	26.57	25.07
5	3	21.63	27.69	40.95	24.89	19.58
5	4	21.63	32.22	50.74	25.44	18.55
5	5	27.30	22.06	28.52	29.57	23.64
5	6	78.96	19.60	33.98	30.20	23.81
5	7	31.32	34.33	34.63	26.00	19.88
5	8	22.96	22.58	27.96	23.29	20.97
5	9	20.98	29.57	42.47	23.29	22.44
5	10	20.35	35.06	76.91	22.78	23.12
5	11	22.29	28.93	83.21	21.29	27.15
5	12	56.32	32.91	48.14	29.57	22.27
5	13	77.39	38.85	62.25	26.00	20.97
5	14	44.69	49.24	65.42	30.20	24.35
5	15	66.99	34.33	49.00	27.74	22.44
5	16	35.73	31.54	65.42	32.83	25.07
5	17	27.30	28.30	40.95	30.84	30.84
5	18	34.82	25.90	145.20	41.02	67.06
5	19	45.77	26.49	109.26	55.72	89.95
5	20	77.39	30.22	80.64	37.87	127.14
5	21	49.12	25.90	70.99	32.83	110.91
5	22	103.29	26.49	72.14	40.21	74.69
5	23	69.86	32.91	64.35	32.83	72.10
5	24	292.09	30.87	54.38	32.16	91.09
5	25	94.09	38.07	68.72	39.42	51.23
5	26	87.14	48.30	62.25	32.16	64.12
5	27	153.60	45.57	54.38	31.49	69.06
5	28	101.40	35.79	62.25	33.52	71.08
5	29	99.54	50.19	58.21	29.57	64.61
5	30	103.29	38.85	65.42	28.34	52.54
5	31	82.17	45.57	55.32	49.79	52.99

Average Daily River Discharge (m³/sec)

Location : Damauli at Patan

River : Seti

Index No. : 430.5

Year		2000	2001	2002	2003	2004
Month	Day					
6	1	76.87	35.79	51.63	55.72	81.61
6	2	64.66	90.17	53.45	54.69	67.56
6	3	52.24	150.50	53.45	40.21	81.61
6	4	59.74	111.19	58.21	66.85	92.24
6	5	57.16	191.47	76.91	49.79	84.34
6	6	82.71	135.71	63.30	44.36	64.12
6	7	221.64	123.93	244.13	63.34	109.03
6	8	772.98	107.73	124.46	47.01	79.98
6	9	324.09	102.71	85.84	37.87	72.61
6	10	164.65	84.35	80.64	100.79	61.24
6	11	129.31	85.78	101.47	112.89	89.95
6	12	171.71	71.05	129.87	89.73	69.56
6	13	136.07	84.35	117.52	81.04	74.17
6	14	118.56	131.69	115.83	76.95	104.10
6	15	288.25	139.82	110.88	70.50	102.88
6	16	142.28	161.78	119.22	91.25	145.85
6	17	281.92	135.71	145.20	99.14	166.53
6	18	285.71	144.02	170.79	86.76	299.10
6	19	241.40	120.18	117.52	99.14	190.92
6	20	261.12	243.49	168.54	102.45	178.13
6	21	205.04	150.50	253.24	161.00	308.21
6	22	761.08	194.12	164.09	500.95	422.76
6	23	598.82	164.11	126.24	271.09	488.33
6	24	653.47	173.69	306.38	256.92	282.25
6	25	530.29	186.26	141.25	214.87	221.23
6	26	258.75	135.71	151.30	170.80	196.65
6	27	273.23	109.45	180.06	403.17	191.74
6	28	248.24	116.52	143.21	398.24	181.29
6	29	482.97	188.85	131.72	671.78	252.71
6	30	305.15	199.49	210.21	696.53	428.70

Average Daily River Discharge (m3/sec)

Location : Damauli at Patan

River : Seti

Index No. : 430.5

Year	2000	2001	2002	2003	2004
Month Day					
7 1	465.26	168.85	531.22	514.62	311.27
7 2	478.51	129.72	677.93	334.09	339.49
7 3	272.00	157.19	324.64	347.09	376.68
7 4	311.82	133.69	509.13	528.44	262.07
7 5	285.71	154.94	256.34	428.55	291.11
7 6	632.37	111.19	487.44	329.84	385.70
7 7	744.99	120.18	495.53	321.47	DNA
7 8	598.82	107.73	343.73	463.50	387.97
7 9	328.25	99.46	309.96	1,464.19	311.27
7 10	467.02	152.70	476.74	974.71	298.09
7 11	524.74	228.09	306.38	614.51	391.38
7 12	338.09	157.19	295.81	511.87	469.66
7 13	283.18	129.72	218.32	482.08	646.40
7 14	328.25	135.71	347.65	539.60	338.43
7 15	510.05	336.66	500.95	474.08	394.81
7 16	506.40	596.87	292.35	428.55	460.87
7 17	348.14	506.40	244.13	413.17	469.66
7 18	265.92	249.87	269.01	460.87	553.69
7 19	265.92	228.09	265.80	463.50	563.17
7 20	489.23	256.37	591.03	611.55	381.18
7 21	231.38	216.30	873.13	460.87	486.54
7 22	278.17	309.31	553.69	360.49	490.13
7 23	193.15	219.20	599.79	471.43	382.30
7 24	534.01	173.69	665.65	413.17	421.58
7 25	567.93	276.65	567.93	317.35	435.88
7 26	273.23	249.87	509.13	374.30	386.83
7 27	294.67	225.10	573.67	369.65	450.40
7 28	302.50	237.24	593.95	393.36	397.11
7 29	303.82	632.37	585.22	378.99	377.80
7 30	279.42	588.12	629.38	466.14	345.92
7 31	510.96	495.53	525.66	737.53	392.52

Average Daily River Discharge (m³/sec)

Location : Damauli at Patan

River : Seti

Index No. : 430.5

Year		2000	2001	2002	2003	2004
Month	Day					
8	1	617.47	509.13	355.60	506.40	364.45
8	2	519.21	593.95	542.41	490.13	383.43
8	3	538.67	503.67	539.60	460.87	333.12
8	4	348.14	328.66	351.61	413.17	296.09
8	5	326.85	316.94	351.61	369.65	327.86
8	6	480.29	234.16	278.83	347.09	279.32
8	7	499.14	191.47	320.92	321.47	269.67
8	8	338.09	231.11	210.21	313.27	341.63
8	9	317.23	202.22	173.08	313.27	339.49
8	10	662.60	234.16	189.71	313.27	339.49
8	11	333.85	176.15	324.64	317.35	DNA
8	12	318.59	210.58	531.22	369.65	311.27
8	13	263.51	256.37	553.69	355.98	276.41
8	14	255.21	183.69	460.87	342.71	282.25
8	15	340.94	183.69	328.39	466.14	295.09
8	16	267.13	280.14	229.52	418.25	292.10
8	17	233.58	216.30	235.28	403.17	DNA
8	18	228.10	737.53	253.24	548.04	DNA
8	19	340.71	724.81	282.16	474.08	DNA
8	20	340.71	550.86	611.55	413.17	DNA
8	21	516.45	579.44	550.86	383.73	DNA
8	22	532.15	1,741.41	623.41	644.39	DNA
8	23	323.42	914.60	471.43	588.12	DNA
8	24	304.30	869.71	328.39	378.99	DNA
8	25	333.98	873.13	306.38	309.24	DNA
8	26	290.83	545.22	232.39	329.84	DNA
8	27	470.54	593.95	275.53	355.98	DNA
8	28	569.84	753.55	218.32	355.98	DNA
8	29	484.75	585.22	215.59	342.71	DNA
8	30	559.37	479.40	197.20	460.87	DNA
8	31	490.13	348.92	202.33	369.65	DNA

Average Daily River Discharge (m³/sec)

Location : Damauli at Patan

River : Seti

Index No. : 430.5

Year		2000	2001	2002	2003	2004
Month	Day					
9	1	492.83	474.08	224.05	347.09	435.88
9	2	525.66	539.60	200.23	681.02	520.13
9	3	286.04	299.30	186.40	408.15	526.59
9	4	319.52	235.28	498.24	492.83	496.43
9	5	248.80	164.09	360.49	463.50	389.10
9	6	314.38	313.58	246.69	393.36	DNA
9	7	298.12	463.50	214.87	329.84	360.05
9	8	340.71	299.30	186.40	317.35	341.63
9	9	333.98	474.08	173.33	282.12	488.33
9	10	245.60	317.23	191.84	274.73	476.74
9	11	234.16	492.83	173.33	250.06	267.76
9	12	226.09	302.82	165.84	240.04	472.31
9	13	209.64	285.53	151.64	309.24	409.84
9	14	190.59	476.74	142.72	463.50	498.24
9	15	287.23	250.18	147.12	369.65	482.97
9	16	DNA	235.28	147.12	297.37	375.56
9	17	212.48	182.43	149.37	271.09	369.99
9	18	310.57	182.43	144.91	256.92	348.08
9	19	324.72	173.08	149.37	263.93	DNA
9	20	323.42	137.37	140.55	233.54	308.21
9	21	255.28	137.37	124.16	567.93	281.27
9	22	223.12	143.21	236.77	369.65	264.91
9	23	202.22	139.30	151.64	211.88	249.02
9	24	208.70	177.71	165.84	246.69	267.76
9	25	176.98	164.09	170.80	250.06	267.76
9	26	155.69	139.30	161.00	240.04	296.09
9	27	154.94	141.25	227.18	236.77	214.31
9	28	143.31	131.72	165.84	224.05	259.25
9	29	131.03	135.47	161.00	203.10	250.86
9	30	126.48	122.69	151.64	189.10	258.31

Average Daily River Discharge (m3/sec)

Location : Damauli at Patan

River : Seti

Index No. : 430.5

Year		2000	2001	2002	2003	2004
Month	Day					
10	1	112.94	139.30	144.91	178.46	353.50
10	2	110.61	149.25	130.12	175.88	254.57
10	3	110.03	122.69	126.12	170.80	293.10
10	4	106.60	143.21	122.23	156.26	235.38
10	5	104.92	131.72	126.12	149.37	284.21
10	6	97.33	120.95	114.71	140.55	231.80
10	7	94.21	115.83	111.10	130.12	259.25
10	8	92.17	117.52	109.32	126.12	237.18
10	9	89.67	112.51	112.89	120.31	DNA
10	10	91.67	112.51	109.32	118.42	227.37
10	11	85.30	120.95	99.14	114.71	222.98
10	12	84.82	95.55	120.31	109.32	209.20
10	13	79.72	94.11	95.92	100.79	203.30
10	14	75.72	95.55	94.34	95.92	183.68
10	15	74.43	91.29	89.73	94.34	189.30
10	16	69.81	89.90	91.25	94.34	178.13
10	17	70.22	94.11	88.23	88.23	171.12
10	18	67.78	89.90	85.30	89.73	149.45
10	19	68.59	88.53	89.73	85.30	147.28
10	20	64.63	85.84	82.44	82.44	145.13
10	21	62.72	80.64	82.44	78.30	140.88
10	22	62.35	80.64	82.44	78.30	136.69
10	23	61.60	79.38	89.73	75.63	133.24
10	24	63.48	76.91	81.04	71.76	125.80
10	25	60.49	76.91	82.44	55.72	122.49
10	26	61.97	74.50	78.30	55.72	131.19
10	27	58.31	69.85	73.03	97.52	127.14
10	28	57.24	66.51	73.03	94.34	114.07
10	29	57.95	68.72	81.04	88.23	105.32
10	30	55.85	67.61	73.03	85.30	110.91
10	31	54.81	64.35	71.76	69.27	101.67

Average Daily River Discharge (m3/sec)

Location : Damauli at Patan

River : Seti

Index No. : 430.5

Year		2000	2001	2002	2003	2004
Month	Day					
11	1	53.80	67.61	69.27	66.85	105.93
11	2	53.13	60.21	69.27	66.85	104.10
11	3	50.83	61.22	65.66	65.66	97.49
11	4	47.99	61.22	65.66	59.98	95.73
11	5	75.29	65.42	64.49	57.82	88.82
11	6	48.30	60.21	61.08	55.72	86.01
11	7	47.38	78.14	61.08	54.69	83.24
11	8	47.07	57.23	57.82	52.69	77.84
11	9	45.87	53.45	56.76	50.74	115.35
11	10	44.39	56.27	55.72	50.74	88.82
11	11	42.67	53.45	54.69	50.74	79.98
11	12	42.11	49.86	53.68	49.79	70.57
11	13	40.73	49.00	64.49	48.85	71.59
11	14	39.92	49.00	56.76	47.92	69.06
11	15	63.48	48.14	48.85	47.01	67.56
11	16	40.73	44.84	47.92	46.12	67.06
11	17	38.33	44.04	47.01	46.12	66.08
11	18	36.04	44.84	46.12	45.23	65.10
11	19	34.81	56.27	46.12	44.36	62.67
11	20	34.09	46.47	46.12	43.51	73.65
11	21	33.38	43.25	45.23	43.51	65.58
11	22	33.85	42.47	44.36	41.83	60.30
11	23	32.45	41.71	44.36	41.02	60.77
11	24	32.22	39.48	43.51	38.64	60.30
11	25	31.77	38.75	43.51	37.87	57.50
11	26	31.10	37.34	42.66	36.37	60.30
11	27	30.65	36.65	41.83	36.37	53.43
11	28	30.22	35.96	41.02	35.64	50.36
11	29	28.93	35.96	41.02	35.64	49.07
11	30	28.51	35.96	41.02	34.21	48.22

Average Monthly River Discharge (m³/sec)

Location : Phoolbari River : Seti

Index No. : 430 Drainage area : 582 km²

Index No.	Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
	Month																					
1	1	14.67	15.72	11.35	9.52	11.49	8.47	9.32	10.96	11.89	11.60	17.01	15.26	10.31	10.48	16.84	18.02	13.98	10.11	19.71	16.36	14.16
2	2	14.02	13.62	10.24	9.58	9.48	6.74	7.98	8.62	9.38	8.11	15.55	14.83	10.68	9.41	16.49	15.89	13.14	8.21	18.41	15.30	11.67
3	3	13.88	13.72	9.69	9.27	11.42	7.00	7.51	8.66	8.95	8.32	15.05	13.94	9.15	9.55	13.90	14.17	14.46	9.12	21.02	13.58	11.50
4	4	14.71	15.09	8.95	10.54	11.66	6.91	11.36	13.45	9.47	11.92	18.83	10.55	11.52	13.93	13.23	18.60	15.20	16.33	23.33	13.39	12.44
5	5	31.83	16.75	10.26	11.31	16.14	7.68	16.28	18.28	24.41	18.10	18.01	11.09	18.87	21.64	34.50	23.35	22.68	21.48	27.90	15.36	24.45
6	6	36.00	69.73	29.31	26.69	65.51	15.87	42.13	86.57	49.23	81.42	42.34	39.21	87.85	42.65	75.87	36.58	64.05	46.26	62.12	47.54	58.19
7	7	62.01	135.55	105.46	106.84	155.22	59.11	175.86	134.48	150.35	112.69	158.56	197.19	175.61	133.22	159.23	112.12	174.84	174.23	125.43	99.48	167.84
8	8	212.68	170.19	119.91	98.48	132.55	145.45	190.29	138.81	167.39	179.65	190.10	151.68	158.06	188.87	138.26	144.35	161.35	160.81	171.42	122.06	123.52
9	9	144.57	87.87	73.78	85.79	102.85	121.93	93.34	98.27	116.18	122.50	117.47	141.10	99.77	114.68	83.81	89.68	129.11	120.46	97.69	107.00	108.75
10	10	51.90	28.91	30.50	35.63	150.81	36.71	49.01	67.28	50.13	119.82	60.81	84.26	40.81	51.61	40.16	54.15	43.86	51.19	35.09	59.49	35.51
11	11	37.88	21.66	17.82	20.10	19.43	18.61	26.24	31.27	23.76	34.36	20.22	24.98	20.14	34.55	28.62	32.44	24.75	25.24	20.82	19.60	20.74
12	12	24.85	14.44	11.79	15.62	10.95	12.05	15.42	18.47	15.45	18.06	15.73	14.02	15.60	20.00	22.25	18.64	14.60	20.97	18.15	19.21	15.77
Average		54.92	50.27	36.59	36.61	58.13	37.21	53.73	52.94	53.05	60.55	57.47	58.18	54.87	54.22	53.60	48.17	57.67	55.37	53.42	44.86	50.38

Location : Shisaghat River : Madi

Index No. : 438 Drainage area : 858 km²

Index no.	Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
Drainage area, '000 km ²	Month	1	18.94	24.51	13.64	10.11	16.38	29.87	17.07	24.90	16.67	15.87	20.36	22.85	18.97	13.48	21.01	15.65	19.78	7.09	20.32	18.32	16.35	14.37	15.93	17.58	44.59	40.77
	2	15.84	22.33	12.12	8.05	15.20	27.05	11.95	22.58	13.35	13.78	18.12	18.73	16.74	11.88	18.76	13.90	18.55	6.70	14.70	16.20	14.53	12.48	13.51	15.67	41.34	38.91	
	3	16.40	19.51	12.99	8.19	18.28	27.84	12.44	22.24	14.44	14.46	18.25	18.75	17.53	11.31	17.86	9.77	20.08	7.61	20.85	19.15	16.77	11.45	13.25	13.64	41.12	39.48	
	4	20.34	23.65	13.65	14.88	20.99	27.03	14.24	26.39	19.24	15.96	19.43	20.59	24.23	13.68	16.97	9.92	20.32	8.05	20.90	22.01	19.61	12.70	18.08	16.94	47.18	42.93	
	5	42.25	35.92	16.98	23.92	25.65	41.26	51.45	41.25	18.82	21.02	27.47	40.08	37.24	22.53	24.11	20.26	24.99	19.07	25.38	25.94	32.85	23.47	33.18	33.06	70.01	45.45	
	6	107.98	60.84	52.02	61.83	64.60	56.63	123.97	77.57	79.38	48.69	75.39	98.95	103.19	77.56	55.35	65.97	72.04	172.68	40.06	50.52	36.22	62.81	140.48	107.42	109.25	93.01	
	7	281.61	261.26	318.32	302.55	175.24	138.60	354.32	225.00	175.94	188.94	178.45	169.84	183.48	189.65	127.51	147.39	124.28	212.54	153.21	154.94	194.40	178.68	229.12	200.82	244.90	262.84	
	8	269.84	392.32	366.84	279.10	186.06	201.32	205.32	133.26	175.32	188.65	216.26	209.68	160.16	216.23	195.55	216.84	157.85	130.86	215.79	174.70	305.42	161.05	226.45	305.37	214.16	224.94	
	9	168.50	192.00	234.67	151.53	121.59	217.17	166.82	136.90	189.07	123.92	161.20	162.10	130.99	168.33	133.25	145.37	96.37	118.70	170.22	95.56	139.92	117.57	204.86	179.03	123.06	219.97	
	10	84.33	65.55	47.23	57.33	62.84	106.30	77.30	85.14	99.78	58.88	69.26	76.88	69.34	79.08	84.23	82.60	25.47	87.64	72.60	41.68	43.35	45.49	60.65	95.69	79.19	78.79	
	11	45.02	30.20	22.95	30.85	44.12	45.13	48.57	38.10	39.95	36.59	35.73	36.33	30.00	37.96	33.93	38.36	11.93	57.96	30.90	23.65	24.04	15.60	32.06	64.19	55.87	45.47	
	12	31.86	19.44	14.07	19.73	35.09	25.46	33.05	24.28	20.71	26.48	26.04	24.59	18.43	26.30	20.59	22.49	8.73	35.59	21.28	22.35	17.56	10.31	21.92	51.76	45.70	34.50	
Average		91.91	95.63	93.79	80.67	65.50	78.64	93.04	71.47	71.89	62.77	72.16	74.95	67.53	72.37	62.43	65.71	50.03	72.04	67.19	55.42	71.75	55.50	84.12	91.76	93.03	97.26	

Location : Damauli at Patan River : Seti

Index No. : 430.5 Drainage area : 1,505 km²

Year	2000	2001	2002	2003	2004
Month	1	2	3	4	5
1	22.39	19.74	21.58	28.20	20.91
2	18.76	16.83	18.59	24.13	17.56
3	18.08	14.34	16.71	21.52	16.11
4	20.74	13.31	22.84	25.87	21.10
5	65.37	33.79	59.34	31.38	46.86
6	275.00	135.67	133.22	173.86	172.98
7	394.00	251.10	465.20	498.37	406.66
8	401.48	488.72	346.64	402.47	315.45
9	258.70	257.69	190.35	322.82	363.48
10	77.68	97.33	97.15	105.53	184.18
11	41.34	49.81	52.24	47.75	73.42
12	25.56	29.17	33.31	28.13	35.69
Average	134.92	117.29	121.43	142.50	129.04

Average Daily River Discharge (m³/sec)

Location : Damauli at Patan

River : Seti

Index No. : 430.5

Year		2000	2001	2002	2003	2004
Month	Day					
12	1	28.30	33.98	40.21	34.21	47.80
12	2	28.30	33.98	39.42	33.52	46.54
12	3	26.49	32.70	38.64	33.52	42.06
12	4	27.28	32.08	37.87	32.83	42.06
12	5	27.08	32.08	37.12	32.83	42.86
12	6	31.32	32.70	35.64	32.16	41.27
12	7	27.89	32.70	34.92	32.16	42.06
12	8	27.08	32.08	34.92	30.84	41.27
12	9	27.08	32.08	34.21	30.84	42.46
12	10	26.88	32.08	34.21	30.84	37.42
12	11	26.68	32.08	33.52	30.20	38.18
12	12	27.89	31.46	33.52	31.49	39.33
12	13	25.90	30.85	33.52	30.20	40.14
12	14	25.71	32.70	32.83	29.57	36.68
12	15	25.71	30.85	32.83	28.34	35.93
12	16	25.32	29.09	33.52	26.57	35.20
12	17	25.71	29.09	33.52	26.00	29.25
12	18	24.76	27.96	34.21	26.00	29.93
12	19	25.32	28.52	32.16	25.44	32.34
12	20	25.32	27.41	32.83	24.35	27.38
12	21	24.57	27.96	32.16	23.81	31.99
12	22	24.20	25.28	31.49	23.29	31.99
12	23	23.65	24.77	30.84	23.29	30.95
12	24	23.47	24.77	30.20	23.29	31.29
12	25	23.29	25.28	30.20	22.78	29.59
12	26	24.02	25.28	29.57	22.78	28.92
12	27	23.47	24.77	29.57	22.78	30.61
12	28	22.76	24.77	29.57	27.74	28.92
12	29	22.58	24.77	29.57	28.34	27.93
12	30	22.24	25.28	29.57	26.57	28.26
12	31	22.06	24.77	30.20	25.44	DNA

Generated River Discharge
at Upper Seti Dam Site

Generated Daily River Discharge (m3/sec)

Location : Upper Seti Dam Site River : Seti

Index No. Drainage area : 1,502 km2

Note : DNA means data not acquired

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Month																		
Day																		
1	1	32.91	35.94	27.07	24.04	26.85	20.25	21.33	27.50	30.10	30.75	37.46	33.78	23.82	37.19	41.81	29.19	21.08
2	1	32.91	35.94	26.42	23.39	26.85	19.70	21.33	27.50	30.10	30.75	36.38	32.05	23.82	36.81	41.27	29.19	20.65
3	1	32.91	35.94	27.07	23.39	26.20	19.70	21.33	27.50	29.23	30.75	36.38	34.55	23.82	37.35	40.52	28.16	20.56
4	1	32.91	34.86	26.42	23.39	26.20	19.70	20.79	26.63	29.23	29.02	36.38	33.78	22.95	36.22	40.52	28.16	20.56
5	1	32.91	34.86	25.55	21.87	26.20	20.25	21.33	26.63	29.23	29.02	35.51	33.78	22.95	34.92	39.35	27.50	20.13
6	1	32.70	34.00	25.55	21.00	26.20	20.25	21.33	26.63	29.23	29.02	36.38	35.73	22.30	33.71	40.52	27.50	20.56
7	1	32.48	34.00	25.55	21.00	26.20	19.16	21.33	25.77	29.23	27.28	37.46	32.05	22.30	32.68	40.09	27.06	21.08
8	1	32.48	34.00	24.90	21.00	25.55	19.16	20.79	25.77	28.37	27.28	36.38	31.18	22.30	32.25	39.35	26.74	19.69
9	1	32.48	34.00	25.55	20.25	26.20	18.62	20.79	24.90	28.37	27.28	35.51	32.91	21.57	33.12	40.09	26.74	19.18
10	1	32.48	34.00	26.42	20.25	25.12	18.62	20.79	24.90	27.50	27.28	38.54	32.05	21.57	32.45	40.09	26.74	18.74
11	1	32.05	32.91	24.90	20.25	25.55	18.08	20.25	24.90	26.20	26.20	37.46	32.05	21.57	32.02	40.09	26.15	18.42
12	1	32.05	32.91	24.90	19.49	25.12	18.62	20.25	24.25	27.50	25.33	36.38	32.91	20.83	32.02	40.09	25.71	18.07
13	1	32.05	32.05	24.90	20.25	25.12	18.62	19.70	24.25	27.50	24.47	38.54	32.05	20.83	31.58	41.57	25.28	18.07
14	1	32.05	32.05	24.90	20.25	25.55	19.16	19.70	24.25	26.63	24.47	38.54	32.91	20.83	31.58	39.35	24.61	18.07
15	1	32.05	32.91	24.90	21.00	25.55	19.70	20.25	24.25	26.63	24.47	39.41	32.91	20.83	30.99	38.07	24.61	18.07
16	1	31.40	32.91	24.04	21.00	25.12	19.16	20.25	24.25	27.50	25.33	37.46	32.91	20.83	31.42	37.63	24.61	18.07
17	1	31.40	32.91	24.04	21.00	24.47	18.62	20.79	23.39	26.63	25.33	36.81	34.65	21.57	30.45	37.20	24.02	18.07
18	1	31.40	34.00	24.90	21.00	24.47	18.62	20.25	23.39	24.90	24.47	36.38	34.65	22.30	30.45	36.18	24.29	17.74
19	1	31.40	34.86	24.04	19.49	24.47	18.08	20.25	22.74	24.25	23.82	35.51	32.91	22.95	30.02	36.18	24.29	16.86
20	1	31.40	34.00	24.04	19.49	24.47	18.08	20.25	22.74	24.25	23.82	35.51	32.91	21.00	30.45	35.63	23.70	16.86
21	1	30.96	32.05	23.39	19.49	24.47	18.08	19.70	22.74	24.25	24.47	37.46	35.73	22.30	29.26	34.97	23.70	17.53
22	1	30.96	32.91	24.04	19.49	23.82	18.08	19.70	22.09	23.39	23.82	34.65	32.91	23.82	34.67	34.97	23.70	17.74
23	1	30.96	35.94	24.04	19.49	24.47	17.54	19.16	22.09	22.74	21.44	33.56	33.78	21.65	33.57	34.97	23.26	17.74
24	1	30.96	36.81	23.39	20.25	24.47	17.00	19.16	21.33	22.09	22.95	35.51	31.18	22.30	32.83	34.97	23.26	18.20
25	1	30.96	35.94	23.39	20.25	23.82	16.46	19.16	21.33	22.09	22.09	37.46	32.91	21.57	31.19	34.53	23.26	19.78
26	1	30.96	34.86	23.39	19.49	23.82	16.46	19.70	21.33	21.33	22.09	38.54	32.05	21.57	30.76	34.53	24.02	17.20
27	1	30.96	32.91	23.39	19.49	22.52	17.00	19.16	20.61	21.33	22.95	38.54	32.05	22.30	29.73	34.53	23.03	16.86
28	1	30.96	34.86	22.52	19.49	21.87	16.02	19.70	20.61	21.33	20.88	37.46	32.05	21.65	28.32	34.53	23.26	16.86
29	1	30.96	32.91	22.52	18.88	22.52	16.46	19.16	20.61	21.33	20.88	37.46	32.05	22.30	31.73	35.79	23.70	16.86
30	1	30.96	34.00	23.39	18.88	24.47	16.46	18.62	19.90	21.33	20.68	35.51	32.91	22.30	30.60	34.10	23.70	16.14
31	1	30.96	32.91	22.52	21.00	23.82	16.02	19.16	20.61	21.33	20.68	37.46	32.91	20.35	29.73	34.10	23.26	9.58

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km2

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Month Day																		
2 1	30.96	30.10	21.87	21.00	23.17	15.59	18.62	20.61	20.61	19.92	36.38	35.73	22.95	21.00	29.73	34.10	23.26	16.19
2 2	30.96	30.10	21.87	20.25	22.52	15.59	18.08	21.33	20.61	19.92	35.51	32.91	22.95	20.35	28.09	32.97	23.70	15.66
2 3	30.10	30.10	21.87	21.00	21.87	15.59	18.08	20.61	20.61	19.92	34.65	33.76	22.95	21.00	27.66	32.53	24.52	15.66
2 4	30.10	30.10	21.87	21.00	21.33	15.59	18.62	21.33	20.61	19.16	33.56	32.05	24.47	21.00	27.33	32.53	24.29	15.66
2 5	30.10	29.02	21.87	21.00	20.79	15.16	18.08	19.90	20.61	19.16	33.65	32.05	26.85	21.00	27.14	32.53	23.70	15.66
2 6	30.10	30.10	21.87	21.87	20.79	15.59	17.54	19.90	22.05	19.92	33.56	32.05	26.85	20.35	26.81	32.30	23.03	15.66
2 7	30.10	29.02	21.87	21.87	20.25	15.59	17.54	19.90	21.33	19.92	31.83	31.18	25.33	19.70	26.81	33.94	22.60	15.85
2 8	30.10	28.15	22.52	21.87	20.25	14.72	17.00	19.90	20.61	19.16	30.75	32.91	24.47	19.70	28.32	48.54	23.70	14.99
2 9	30.10	29.02	22.52	21.00	20.25	14.72	17.00	19.19	21.33	19.16	32.70	31.18	22.95	19.70	28.00	35.20	23.03	14.13
2 10	30.10	30.10	21.87	21.87	19.70	14.72	17.00	19.19	21.33	18.41	33.56	32.05	22.95	19.70	27.57	34.97	23.03	15.52
2 11	30.10	30.10	21.87	21.87	19.70	14.29	16.46	19.19	20.61	18.41	30.75	32.05	22.95	19.70	26.90	34.53	22.60	14.47
2 12	30.10	29.02	22.52	21.87	19.70	14.29	16.46	18.47	20.61	17.65	30.75	32.05	22.95	20.35	26.81	34.53	23.26	15.14
2 13	30.10	28.15	23.39	21.00	19.16	14.29	16.46	18.47	20.61	18.41	32.70	32.05	22.95	21.65	25.71	34.10	24.02	15.14
2 14	30.10	29.02	22.52	20.25	19.70	16.02	16.46	18.47	22.09	17.65	30.75	32.05	22.95	22.30	25.62	34.10	23.35	14.47
2 15	30.10	30.10	22.52	21.00	18.62	15.59	16.46	19.19	21.33	17.65	29.88	32.91	25.33	22.30	25.62	32.97	23.85	14.47
2 16	30.96	29.02	22.52	20.25	20.25	14.72	16.46	18.47	20.61	16.89	33.56	32.91	23.82	21.00	25.62	32.97	23.85	14.47
2 17	30.96	28.15	22.52	21.87	20.25	14.72	16.46	18.47	20.61	16.89	32.70	32.05	23.82	19.70	26.14	32.53	23.26	14.80
2 18	30.96	28.15	22.52	21.00	19.70	14.29	16.02	17.76	20.61	16.89	34.65	32.05	22.30	21.00	43.77	32.53	22.08	14.80
2 19	30.96	29.02	21.87	21.00	20.79	13.86	17.00	17.76	19.90	16.24	35.51	32.05	22.30	19.70	37.97	33.94	21.56	15.14
2 20	30.96	29.02	21.87	21.00	20.79	14.29	16.46	17.15	19.90	16.89	34.65	31.18	22.30	19.70	34.91	35.79	21.12	14.61
2 21	30.96	29.02	21.87	20.25	20.25	13.43	16.46	17.15	19.90	16.24	32.70	32.05	22.95	20.35	33.31	32.97	22.08	15.14
2 22	30.96	30.10	21.87	20.25	20.25	13.43	17.54	17.15	19.90	15.59	35.51	30.32	21.57	21.00	33.31	32.53	22.08	13.94
2 23	30.10	30.10	22.52	19.49	21.33	13.86	18.62	17.76	19.90	14.94	33.56	31.18	20.83	19.70	32.23	32.97	22.08	14.27
2 24	30.10	30.96	21.87	18.88	20.25	14.29	17.54	17.15	19.19	15.59	34.65	31.18	20.83	21.00	31.27	31.11	24.52	14.61
2 25	30.10	30.96	22.52	18.28	20.25	13.86	18.62	16.54	19.19	14.94	36.38	31.18	21.57	19.06	29.87	31.43	25.11	14.27
2 26	30.10	30.10	21.87	18.28	19.70	13.86	17.54	16.54	19.19	14.29	37.46	32.05	21.57	19.70	29.95	31.43	22.83	13.60
2 27	30.10	30.10	21.87	20.25	20.79	13.43	17.00	17.15	18.47	15.59	34.65	32.05	21.57	21.00	28.52	31.43	23.85	13.60
2 28	30.10	29.02	22.52	21.00	20.79	13.43	17.54	17.76	18.47	16.24	32.70	32.05	21.57	19.70	28.54	31.11	23.85	14.27
2 29	30.10				21.87				18.47				22.95				14.51	

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km²

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
Day	30.10	27.07	21.87	20.25	21.33	13.43	17.00	17.15	18.47	16.89	35.51	31.18	23.82	19.70	27.57	30.08	26.81	14.47
3	30.10	28.15	21.00	19.49	21.87	12.99	17.00	17.76	18.47	16.24	35.51	32.05	21.57	19.06	27.57	30.52	23.70	13.60
3	30.10	29.02	21.87	18.88	21.87	13.43	16.46	18.47	19.19	16.24	33.56	32.05	20.83	19.70	26.38	31.27	23.26	13.27
3	30.10	30.10	21.87	18.88	21.33	13.43	16.46	19.90	19.19	16.24	35.51	32.91	20.83	19.70	25.95	30.84	24.95	14.47
3	30.10	29.02	21.87	18.88	22.52	13.86	16.46	20.61	19.19	16.89	35.51	32.05	19.36	19.70	25.10	30.52	33.95	13.94
3	30.10	29.02	21.00	18.88	22.52	14.29	16.02	20.61	19.19	16.24	34.65	32.05	18.62	19.70	24.67	30.52	36.96	14.27
3	30.10	29.02	21.87	18.28	23.82	13.86	16.46	19.19	19.19	16.89	33.56	32.91	18.62	21.00	25.62	30.08	28.76	16.67
3	30.10	29.02	21.00	18.28	32.26	13.86	16.02	18.47	18.47	16.24	33.56	32.05	18.62	20.35	24.67	30.08	26.15	14.47
3	30.10	30.10	21.87	18.28	26.85	14.29	16.02	18.47	17.76	16.24	32.70	32.05	18.62	19.70	24.24	28.98	24.89	13.94
3	30.10	30.10	21.00	18.28	25.12	14.29	16.02	17.76	17.76	15.59	30.75	32.05	18.19	19.06	24.76	28.98	22.60	13.08
3	30.10	29.02	21.00	22.52	23.82	14.72	16.02	17.76	17.76	16.24	30.75	32.05	18.62	18.41	24.76	28.98	22.60	13.08
3	30.10	27.07	21.87	21.00	24.47	14.72	16.46	18.47	17.76	15.59	30.75	31.18	18.62	18.41	41.88	29.42	21.64	12.74
3	30.10	30.10	21.87	23.82	23.82	14.72	16.46	17.76	17.15	14.94	29.88	31.18	18.19	18.41	36.38	28.23	21.64	12.58
3	30.10	30.10	21.00	21.87	25.12	14.72	16.46	19.19	17.15	15.59	29.88	31.18	18.19	19.70	29.73	27.79	21.12	12.22
3	30.10	30.10	20.25	21.87	23.82	14.29	16.02	19.19	17.15	14.94	30.75	29.45	19.36	20.35	29.73	27.79	24.54	19.41
3	30.10	30.10	20.25	21.00	25.12	14.72	16.02	19.19	17.15	20.68	29.88	29.45	20.83	19.70	28.09	29.42	26.62	18.74
3	30.10	30.10	20.25	21.00	27.50	15.16	15.59	18.47	17.15	22.09	29.88	29.45	21.57	21.00	30.61	30.52	23.70	16.14
3	30.10	30.10	20.25	20.25	28.15	15.16	16.02	19.90	17.15	22.09	29.88	28.58	20.83	19.70	30.52	30.08	23.70	16.30
3	30.10	30.10	21.00	26.85	26.85	13.86	15.59	19.19	22.09	20.68	29.88	28.58	20.83	19.70	28.82	28.98	23.79	18.74
3	30.10	30.10	21.00	19.49	26.20	15.59	16.02	19.19	22.09	19.16	29.88	28.58	20.09	20.35	27.13	29.42	25.41	31.76
3	30.10	30.10	19.49	20.25	25.55	15.16	15.59	18.47	21.33	19.92	29.88	29.45	21.57	21.00	26.46	29.42	29.29	22.27
3	30.10	30.10	20.25	19.49	24.47	17.00	16.46	18.47	20.61	19.16	31.83	27.72	20.83	22.30	25.71	28.23	33.26	17.53
3	30.10	30.10	20.25	18.28	25.12	18.62	16.46	18.47	22.09	18.41	30.75	27.72	19.36	22.95	24.76	30.18	27.34	14.61
3	30.10	30.10	21.00	18.88	24.47	17.54	16.46	17.76	22.09	19.16	33.56	27.72	20.09	21.65	24.32	28.23	25.05	13.41
3	30.10	30.10	21.00	22.52	23.17	17.54	16.46	18.47	21.33	19.92	31.83	27.72	20.09	21.65	23.56	29.26	24.02	13.41
3	29.02	30.10	21.00	21.87	25.12	18.62	16.46	18.47	21.33	18.41	35.51	27.72	20.83	21.65	24.67	30.02	22.60	14.08
3	30.10	30.10	21.00	21.00	25.12	17.54	16.46	18.47	21.33	21.44	37.46	28.58	20.83	22.30	24.00	28.39	22.51	13.41
3	30.10	30.10	21.00	20.25	25.55	17.00	16.46	19.19	21.33	19.92	35.51	28.58	18.62	22.30	23.56	31.04	22.32	16.48
3	30.10	30.10	21.00	19.49	25.12	16.02	16.02	19.19	22.09	20.68	36.38	28.58	19.36	24.25	24.00	33.66	25.71	21.47
3	30.10	30.10	20.25	20.25	24.47	15.16	16.02	19.90	20.61	20.68	34.65	26.85	18.62	28.15	26.14	36.54	23.26	10.94

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km2

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Month Day																		
4 1	30.96	30.10	19.49	21.87	23.17	14.72	16.02	19.19	21.33	20.68	33.56	26.85	18.62	23.60	24.84	41.57	23.79	23.17
4 2	30.10	30.10	19.49	21.87	22.52	15.16	16.02	21.33	22.09	20.68	36.38	25.98	19.36	22.95	25.95	35.78	22.83	19.46
4 3	30.96	30.96	20.25	22.52	21.87	14.72	16.46	21.33	20.61	19.92	37.46	25.98	18.62	24.90	25.19	34.68	22.51	20.13
4 4	30.96	30.10	19.49	21.87	23.17	14.72	16.46	20.61	21.33	20.68	37.46	25.98	18.62	25.77	24.67	34.53	21.64	21.51
4 5	30.96	30.96	19.49	21.87	22.52	15.16	16.46	21.33	21.33	19.92	37.46	24.47	19.36	26.42	25.27	32.53	23.03	19.78
4 6	30.96	30.96	19.49	21.00	23.17	14.72	16.02	22.74	20.61	19.16	39.41	23.82	18.62	26.42	24.32	31.27	22.83	22.77
4 7	30.96	30.10	20.25	21.00	23.17	15.16	16.02	23.39	21.33	20.68	38.54	23.82	18.62	24.90	23.56	33.66	24.22	18.94
4 8	30.96	30.10	18.88	21.00	23.82	14.29	16.02	23.39	19.90	20.68	41.36	24.47	19.36	22.30	23.05	34.25	25.64	18.42
4 9	30.96	34.86	20.25	20.25	27.50	13.86	15.59	23.39	18.47	22.09	41.36	22.95	19.36	22.95	24.84	35.94	25.64	18.42
4 10	30.96	34.00	19.49	18.28	26.20	13.86	16.02	23.39	18.47	22.95	38.54	22.30	18.62	31.40	24.43	35.94	25.48	18.98
4 11	30.96	32.91	18.88	19.49	26.85	13.86	15.59	22.74	18.47	25.33	37.46	22.30	19.36	32.91	24.84	40.83	24.22	24.00
4 12	32.05	34.00	17.67	19.49	26.20	14.29	16.02	24.90	19.19	23.82	36.38	22.30	18.62	29.67	24.75	38.32	24.89	28.08
4 13	32.05	34.00	19.49	19.49	25.55	14.72	17.00	24.25	19.19	27.28	36.38	22.30	19.36	29.02	26.10	35.35	24.54	25.22
4 14	30.96	34.00	18.88	21.00	26.20	14.72	16.46	25.77	19.19	27.28	38.54	23.82	18.62	26.42	26.01	34.68	25.21	22.27
4 15	30.96	34.86	18.28	21.87	26.85	14.72	17.00	26.63	18.47	28.15	37.46	22.30	20.09	24.90	28.03	35.12	22.60	31.83
4 16	30.96	34.00	17.67	21.87	25.12	15.16	16.81	29.23	19.19	27.28	39.41	22.30	19.36	23.60	28.98	43.83	23.26	36.80
4 17	32.05	34.00	18.28	25.55	24.47	14.29	16.81	29.23	19.19	28.15	36.59	22.30	18.62	40.28	30.15	39.58	22.60	42.10
4 18	30.96	34.00	19.49	30.10	23.82	14.72	26.63	30.10	18.47	28.15	43.31	20.83	20.09	24.90	32.00	35.78	22.08	45.69
4 19	30.96	34.86	18.28	28.15	25.12	15.59	23.39	48.72	18.47	28.15	38.54	20.83	18.62	26.42	43.93	34.25	24.29	31.57
4 20	32.05	34.86	18.28	26.42	24.47	15.59	23.39	58.90	19.19	29.88	36.38	20.09	18.19	43.31	37.13	35.12	26.47	31.52
4 21	32.05	32.91	18.88	23.39	26.85	16.46	22.74	36.81	18.47	28.15	38.54	19.36	22.95	29.67	28.96	42.01	31.80	32.49
4 22	32.05	32.91	19.49	24.90	25.55	15.59	30.96	35.73	18.47	29.02	48.72	19.36	25.33	29.02	28.46	40.83	33.70	37.69
4 23	32.91	32.91	19.49	26.42	25.55	15.59	30.96	33.56	18.47	29.88	44.39	18.62	29.45	31.40	35.49	34.97	39.03	47.48
4 24	32.91	32.05	21.00	22.52	26.20	15.16	33.56	34.65	18.47	30.75	46.56	21.57	31.18	29.67	36.38	34.38	32.83	38.53
4 25	32.91	32.05	19.49	22.52	26.85	15.16	30.96	32.70	19.19	29.88	39.41	22.95	37.89	32.91	31.41	35.94	31.14	31.52
4 26	32.91	32.05	21.00	22.52	26.20	15.59	41.14	32.70	19.19	28.15	43.31	22.30	40.06	30.53	27.63	37.04	29.57	30.98
4 27	32.05	32.05	19.49	23.39	26.85	14.72	44.39	31.83	26.63	30.75	47.64	24.47	40.06	44.39	28.62	37.48	28.90	27.93
4 28	32.05	32.91	20.25	22.52	26.85	14.72	41.14	30.96	27.50	29.88	49.80	22.95	58.90	46.56	35.50	43.37	29.34	26.67
4 29	32.05	32.05	21.00	23.39	26.85	15.16	36.81	30.96	27.50	29.02	50.89	22.30	40.06	42.22	41.75	60.96	32.24	31.83
4 30	41.14	34.86	19.49	28.15	28.15	16.46	32.70	33.56	26.63	28.15	51.97	25.98	42.22	35.73	39.53	39.78	30.89	35.47

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km²

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Month	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day
5	1	47.64	34.86	20.25	32.26	17.54	30.10	34.65	27.50	29.02	42.44	26.85	43.31	34.86	49.36	52.44	31.43	33.75
5	2	50.24	34.86	21.87	32.26	16.02	28.37	33.56	25.77	29.02	38.54	23.82	44.39	32.91	42.29	42.91	33.23	32.49
5	3	51.54	34.86	23.39	32.26	16.02	30.96	34.65	25.77	29.02	35.51	22.95	43.31	32.91	47.87	50.96	34.49	35.00
5	4	51.54	34.86	21.00	36.59	15.16	31.83	33.56	26.63	28.15	37.46	25.33	46.77	29.67	47.78	48.81	34.49	34.28
5	5	54.13	34.86	21.87	37.46	15.59	30.96	34.65	24.90	27.28	39.41	24.47	37.89	25.77	44.11	46.14	38.64	38.53
5	6	60.63	34.86	20.25	34.21	15.59	37.89	34.65	24.25	29.86	40.28	22.30	32.91	32.05	60.16	39.04	35.53	42.88
5	7	54.13	34.86	21.87	32.26	14.72	33.56	33.56	22.74	29.02	37.46	24.47	34.65	32.91	53.80	43.86	36.29	33.12
5	8	55.43	34.00	19.49	30.75	14.29	31.83	33.56	21.33	30.75	40.28	22.30	33.78	26.42	51.79	37.78	35.58	53.99
5	9	62.15	34.00	21.87	32.26	14.29	28.37	33.56	21.33	29.88	38.54	22.30	33.78	22.95	55.76	42.49	33.36	41.31
5	10	72.76	34.86	21.00	29.45	13.86	31.83	33.56	33.56	31.83	44.39	22.30	32.05	36.59	56.99	43.03	32.44	37.34
5	11	74.27	34.86	22.52	28.15	17.54	32.70	34.65	33.56	31.83	44.39	22.30	32.05	36.59	56.99	43.03	32.44	37.34
5	12	82.15	34.86	21.00	29.45	19.16	29.23	35.73	31.83	30.75	47.64	22.95	40.06	32.91	54.17	45.05	33.70	35.06
5	13	75.79	34.86	21.00	28.15	19.70	28.37	36.81	34.65	32.70	45.47	23.82	41.14	28.15	89.28	44.31	31.14	32.24
5	14	79.25	34.00	19.49	29.45	18.08	32.70	46.56	33.56	31.83	48.72	23.82	43.31	41.36	73.70	50.17	28.31	33.75
5	15	75.79	34.00	18.84	24.90	19.16	32.70	50.89	41.14	33.56	47.64	24.47	46.77	60.20	92.88	64.62	29.88	39.07
5	16	68.21	36.81	19.49	27.50	17.00	46.56	45.47	36.81	34.65	43.31	25.33	38.98	64.96	82.30	185.80	32.98	49.74
5	17	71.24	38.98	21.00	32.91	16.46	42.22	43.31	33.56	36.59	47.64	24.47	33.78	72.11	89.14	55.77	36.42	40.43
5	18	79.25	38.98	21.00	28.80	16.02	38.98	44.39	40.06	32.70	38.54	22.30	43.31	48.72	79.28	51.79	32.98	37.34
5	19	80.98	38.98	21.87	32.91	15.59	38.98	40.06	36.81	37.46	33.56	22.95	53.70	38.54	75.26	46.12	36.84	41.45
5	20	79.25	34.86	21.00	33.56	16.02	38.98	38.98	47.64	28.15	36.38	22.95	40.06	46.56	72.42	49.77	36.07	41.62
5	21	80.98	38.98	21.87	39.84	15.16	40.06	38.98	44.39	28.15	33.56	23.82	41.14	67.34	87.76	62.33	39.72	50.57
5	22	82.72	34.86	22.52	42.44	15.59	40.06	41.14	50.89	28.15	35.51	22.95	45.47	51.97	78.59	76.34	41.99	43.90
5	23	84.45	34.86	21.87	38.98	15.16	37.89	44.39	158.72	26.20	33.56	22.30	46.77	41.36	66.28	48.54	42.81	35.61
5	24	84.45	34.86	24.90	38.33	15.59	37.89	44.39	131.22	28.15	30.75	24.47	41.14	38.54	63.36	43.95	37.15	33.80
5	25	79.25	35.94	24.90	36.59	17.54	37.89	47.64	101.34	32.70	29.02	24.47	37.89	44.39	65.74	43.09	37.15	31.14
5	26	72.76	38.98	25.55	38.98	18.08	38.98	44.39	136.42	61.93	35.51	25.33	34.65	38.54	72.29	43.43	40.02	31.80
5	27	71.24	41.14	24.90	37.46	19.70	43.31	42.22	92.24	93.76	37.46	25.96	35.73	67.34	76.16	44.50	40.07	77.66
5	28	69.72	40.06	25.55	44.17	19.16	41.14	43.31	87.70	81.63	37.46	23.82	43.31	54.35	88.72	41.07	39.95	47.76
5	29	68.21	38.98	25.55	40.71	18.08	30.96	43.31	78.82	69.72	34.65	26.85	46.77	57.82	90.10	40.32	44.19	40.97
5	30	68.21	38.98	25.55	46.34	17.00	29.23	34.65	73.62	72.32	36.38	25.98	43.31	109.13	82.61	38.61	49.60	37.99
5	31	68.21	38.98	25.55	45.26	16.46	30.10	47.64	72.32	67.13	41.36	26.85	46.77	95.49	80.89	37.63	61.33	39.30

River : Seti
Drainage area

Month	Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
6	1	68.21	38.98	27.07	28.15	48.07	18.62	30.10	53.05	71.02	60.63	45.47	31.18	50.24	88.13	87.29	39.04	51.99	57.60
6	2	68.21	40.06	30.10	30.96	48.07	20.79	46.56	58.90	71.02	50.89	50.89	25.98	53.70	82.50	77.18	38.07	56.10	93.57
6	3	69.72	40.06	28.42	25.55	61.93	21.87	46.56	63.66	61.06	47.64	47.64	23.82	58.90	98.82	81.78	40.52	42.16	65.08
6	4	69.72	48.94	32.05	29.02	54.13	22.52	28.37	77.52	56.30	43.31	49.80	26.85	88.13	90.95	83.50	38.81	54.98	60.25
6	5	68.21	51.54	29.02	27.07	50.24	25.55	43.31	78.82	57.60	45.47	43.31	26.85	68.64	85.82	78.83	38.45	42.71	55.59
6	6	66.69	51.54	30.96	40.06	51.10	27.50	35.73	73.62	57.60	63.23	46.56	30.32	122.56	82.50	124.99	38.07	39.72	52.92
6	7	65.18	48.94	30.96	26.42	54.13	28.80	34.65	87.70	50.89	74.92	50.89	28.58	103.50	75.79	84.02	39.04	47.32	48.82
6	8	66.21	48.94	28.15	30.96	59.76	29.45	34.65	107.40	46.56	80.12	49.80	29.45	103.50	69.72	103.67	48.46	60.78	47.81
6	9	66.69	46.56	42.22	35.94	59.76	38.98	36.81	120.83	44.39	84.67	50.89	33.78	554.33	82.50	144.21	65.41	300.04	48.62
6	10	68.21	47.64	43.31	45.47	62.80	34.21	31.83	143.35	44.39	86.18	50.89	33.78	270.67	72.11	126.81	43.92	201.95	48.46
6	11	66.69	51.54	44.39	45.47	60.85	32.91	35.73	169.90	42.22	92.24	38.54	30.32	161.75	64.96	101.67	56.52	202.42	46.34
6	12	68.21	54.13	40.06	155.91	89.00	33.56	33.56	197.05	38.98	101.77	38.54	29.45	253.35	69.72	97.61	71.77	280.32	46.99
6	13	69.72	56.73	62.15	59.33	76.87	28.80	32.70	227.36	41.14	133.60	40.28	28.58	199.21	74.49	103.50	58.76	188.15	48.29
6	14	71.24	62.15	43.31	75.79	89.00	29.45	41.14	238.19	67.13	359.45	63.23	29.45	218.70	68.64	164.27	66.12	71.52	52.44
6	15	77.52	66.69	46.56	87.48	106.54	28.15	89.21	216.54	61.06	257.68	55.43	32.05	157.85	71.02	115.45	78.64	70.90	55.45
6	16	82.72	264.17	38.98	54.13	131.65	27.50	76.22	207.87	62.36	272.84	80.12	33.78	167.60	67.34	111.26	57.78	67.74	65.45
6	17	77.52	244.69	32.05	48.94	275.00	28.15	534.84	181.89	89.21	246.85	92.24	36.81	152.01	63.88	108.01	54.07	61.15	60.65
6	18	71.24	313.98	38.98	48.94	209.39	30.75	21.21	150.93	93.76	264.17	100.04	42.22	159.80	76.87	120.46	64.10	54.63	98.77
6	19	71.24	259.84	51.54	50.24	229.53	32.91	96.79	175.39	199.32	233.86	111.52	43.31	103.50	69.72	163.74	74.51	60.13	59.00
6	20	82.72	259.84	106.97	56.73	233.86	32.91	78.82	181.89	292.32	223.03	120.83	51.54	132.95	75.79	148.73	69.83	110.49	74.19
6	21	82.72	266.34	52.83	48.94	216.54	42.44	80.12	218.70	251.18	172.58	146.38	55.00	150.06	145.51	178.28	86.30	102.00	91.49
6	22	87.91	264.17	65.18	58.03	197.48	50.24	134.69	231.69	150.93	163.05	180.81	74.49	140.32	115.20	197.50	72.96	86.67	81.72
6	23	84.45	231.69	132.09	46.56	176.04	54.13	119.09	214.37	197.05	157.64	137.28	80.55	123.56	101.56	202.48	80.76	92.36	88.74
6	24	86.18	212.64	96.57	46.56	168.90	53.05	104.37	223.03	162.62	142.91	111.52	88.61	155.96	135.12	212.36	81.85	125.29	98.05
6	25	89.65	236.02	129.92	52.83	207.01	47.20	86.18	244.69	147.03	126.24	100.04	100.26	355.12	124.72	312.30	96.69	129.87	92.60
6	26	94.84	193.58	177.99	114.33	225.20	42.44	96.79	246.85	148.98	287.99	93.76	108.97	161.75	124.72	275.08	281.93	117.27	126.28
6	27	106.97	236.02	127.97	79.25	355.12	41.57	113.90	255.51	134.69	255.51	105.67	115.63	279.33	107.62	275.20	163.25	133.14	162.76
6	28	98.31	270.67	96.57	89.65	216.54	40.71	158.72	456.89	124.29	270.67	100.04	584.65	374.61	121.17	222.28	192.17	122.28	184.35
6	29	96.57	238.19	120.18	91.38	211.77	40.71	117.36	376.77	129.83	480.71	233.03	348.62	296.65	145.51	336.63	185.81	125.47	383.87
6	30	93.11	283.66	79.25	103.50	229.53	45.26	126.02	350.79	212.21	409.25	324.80	348.46	491.54	128.19	405.59	216.67	137.14	380.86

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km²

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Month Day																		
1	82.72	279.33	124.08	114.33	209.39	40.71	129.49	361.61	132.95	333.47	372.44	796.85	307.48	116.71	404.11	194.52	346.65	292.47
2	82.72	238.19	160.24	110.43	251.18	39.84	148.98	391.93	122.56	311.81	450.39	591.14	251.18	143.78	339.65	345.41	224.58	258.38
3	91.38	231.69	126.02	126.02	264.17	38.98	132.95	381.10	397.48	311.81	253.36	311.81	316.14	133.39	266.19	409.70	188.61	308.88
4	98.31	259.84	171.06	183.19	480.71	58.90	124.29	287.99	391.93	170.63	227.36	311.81	275.00	296.65	298.34	258.67	163.56	344.04
5	91.38	259.84	147.24	134.25	385.43	39.84	112.17	285.83	281.50	491.54	186.22	307.48	259.84	264.17	350.71	194.27	177.51	319.31
6	108.70	316.14	122.13	120.18	285.83	44.17	117.36	363.78	268.50	307.48	203.54	320.47	255.51	249.02	421.26	155.10	400.06	269.10
7	98.31	387.60	215.45	140.75	268.50	43.31	115.63	307.48	253.35	203.54	203.54	311.81	231.69	231.69	350.53	139.42	241.23	236.10
8	103.50	383.27	209.82	363.78	259.84	46.56	120.83	266.34	253.35	170.63	207.87	294.49	201.38	229.53	508.91	152.01	238.78	401.36
9	108.70	387.60	244.69	478.54	424.41	53.05	238.19	249.02	275.00	176.48	275.00	268.50	181.89	229.53	508.91	149.42	441.04	243.79
10	80.98	316.14	383.27	363.78	378.94	47.20	184.57	249.02	272.84	166.73	268.50	272.84	307.48	270.67	406.50	209.79	273.83	331.84
11	84.45	298.82	480.71	326.97	287.99	46.34	166.73	459.06	255.51	157.64	279.33	259.84	307.48	270.67	406.50	209.79	273.83	243.11
12	72.76	257.68	580.32	285.83	290.16	178.43	184.06	275.00	253.35	166.73	251.18	329.13	270.67	305.32	354.41	184.52	244.19	549.24
13	86.18	270.67	374.61	229.53	311.81	149.41	220.87	251.18	238.19	172.58	270.67	346.46	417.91	290.16	296.85	235.99	335.32	320.84
14	87.91	238.19	420.08	188.39	346.46	112.17	210.04	199.21	227.36	172.58	290.16	348.62	770.82	272.84	303.81	195.40	500.02	292.29
15	79.25	279.33	309.65	253.35	337.80	137.50	303.15	281.18	212.21	285.83	275.00	316.14	792.52	266.34	293.20	293.83	456.14	275.59
16	89.65	313.98	257.68	253.35	303.15	141.40	534.84	277.17	372.44	277.17	281.50	311.81	480.71	270.67	454.66	327.80	740.63	472.43
17	94.84	253.35	207.01	357.28	284.17	158.07	648.61	287.99	680.43	188.68	281.50	374.61	640.95	246.85	350.31	292.15	519.11	426.90
18	94.84	264.17	165.87	443.90	329.13	166.73	627.95	290.16	627.95	220.87	294.49	435.24	385.43	294.49	333.95	357.73	521.73	495.06
19	100.04	246.85	126.02	244.69	329.13	176.04	718.90	257.68	374.61	194.88	284.17	394.10	407.09	374.61	384.10	298.97	490.22	460.02
20	96.57	242.52	101.77	244.69	329.13	158.07	625.79	313.98	318.31	212.21	227.36	537.01	322.64	311.81	462.07	310.71	652.12	463.15
21	114.33	331.30	129.92	259.84	313.98	160.24	550.00	281.50	253.35	194.88	176.48	385.43	309.65	342.13	365.64	391.11	571.31	458.82
22	120.18	331.30	96.57	298.82	303.15	166.73	424.41	292.32	316.14	197.05	357.28	359.45	355.12	370.28	344.67	368.04	501.10	455.17
23	136.42	322.64	122.13	220.87	562.99	145.30	411.42	281.50	253.35	190.55	344.29	433.07	296.65	478.54	303.63	389.12	607.79	494.60
24	160.24	279.33	166.73	201.38	456.89	160.24	498.03	292.32	244.69	368.11	337.80	573.82	822.84	322.64	364.84	541.00	494.95	443.72
25	204.19	313.98	331.30	201.38	415.75	187.95	402.76	281.50	281.50	439.57	298.82	627.95	822.84	311.81	386.10	427.02	471.59	388.10
26	229.53	305.32	279.33	188.07	389.76	195.10	493.70	279.33	253.35	242.52	346.46	699.41	389.76	294.49	297.82	377.21	472.38	559.23
27	244.69	264.17	201.38	145.08	355.12	199.86	381.10	231.69	363.78	182.32	305.32	562.99	322.64	383.27	390.08	397.73	471.24	848.11
28	259.84	242.52	337.80	209.82	333.47	207.01	502.36	268.50	402.76	210.04	376.77	593.31	307.48	292.32	532.10	486.97	604.14	554.27
29	279.33	309.65	215.45	201.38	363.78	211.77	573.82	268.50	625.79	253.35	1,201.77	614.96	283.66	259.84	469.13	510.39	473.01	547.21
30	283.66	359.45	129.92	164.57	300.98	223.03	881.30	262.01	673.43	298.82	528.35	556.50	285.83	517.52	363.24	442.18	590.25	478.31
31	296.65	313.98	140.75	147.24	285.83	233.86	1,039.37	281.50	324.80	344.29	1,006.89	389.76	311.81	324.80	401.31	524.47	514.96	245.77

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km2

Year Month Day	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
8 1	309.65	305.32	420.08	156.34	275.00	264.17	519.69	257.68	277.17	757.88	762.21	389.76	363.78	359.45	486.46	474.09	549.09	510.90
8 2	296.65	415.75	469.88	223.03	316.14	277.17	381.10	262.01	493.70	515.36	909.45	387.60	285.83	294.49	520.14	390.21	512.39	685.76
8 3	331.30	411.42	229.53	168.90	294.49	307.48	443.90	251.18	580.32	831.50	547.84	805.51	257.68	1,041.54	460.07	473.47	675.95	516.32
8 4	320.47	333.47	259.84	244.69	275.00	275.00	331.30	259.84	428.74	770.87	653.94	682.09	435.24	435.24	475.63	390.78	517.98	481.16
8 5	352.95	424.41	394.10	270.67	264.17	259.84	339.96	287.99	420.08	731.88	1,201.77	422.24	305.32	350.79	424.62	383.77	495.81	560.09
8 6	359.45	374.61	316.14	207.01	249.02	251.18	601.97	558.66	363.78	874.80	584.65	372.44	370.28	298.82	403.65	360.17	457.80	438.81
8 7	368.11	309.65	209.82	175.39	223.03	264.17	1,082.68	391.93	381.10	456.89	597.64	359.45	337.80	277.17	375.67	628.21	605.68	411.23
8 8	372.44	322.64	175.39	238.19	251.18	275.00	790.36	424.41	365.95	372.44	500.20	333.47	311.81	309.65	558.30	724.12	505.09	449.13
8 9	359.45	337.80	209.82	259.84	287.99	259.84	521.85	400.59	326.97	333.47	365.95	311.81	311.81	270.67	485.37	468.23	484.29	257.01
8 10	407.09	452.56	290.16	285.83	275.00	355.12	515.36	307.48	874.80	346.46	313.98	296.65	348.62	292.32	385.64	430.79	456.14	245.27
8 11	482.87	402.76	236.02	229.53	255.51	558.66	456.89	257.68	937.80	313.98	313.98	296.65	459.06	383.27	551.20	421.50	440.98	364.90
8 12	560.83	465.55	196.18	277.17	316.14	521.85	433.07	259.84	359.45	320.47	316.14	285.83	344.29	368.11	481.10	423.60	462.70	371.85
8 13	662.60	391.93	236.02	326.97	316.14	476.38	385.43	253.35	342.13	294.49	290.16	279.33	311.81	363.78	358.74	409.64	448.62	413.00
8 14	571.65	511.02	209.82	220.87	290.16	320.47	331.30	305.32	329.13	277.17	313.98	249.02	277.17	582.99	314.12	403.72	446.45	280.32
8 15	749.21	394.10	158.07	209.82	264.17	249.02	294.49	264.17	277.17	277.17	285.83	231.69	259.84	359.45	291.04	368.61	456.65	335.38
8 16	580.32	359.45	138.58	198.78	229.53	238.19	627.95	320.47	277.17	259.84	251.18	220.87	277.17	547.84	227.49	352.99	497.96	313.04
8 17	552.17	352.95	229.53	175.39	238.19	262.01	428.74	262.01	277.17	225.20	279.33	214.37	268.50	543.51	311.27	355.16	373.97	314.52
8 18	482.87	331.30	209.82	185.79	236.02	275.00	365.95	275.00	543.51	666.93	290.16	205.71	311.81	374.61	456.20	386.85	381.49	277.70
8 19	580.32	363.78	175.39	196.18	233.86	298.82	300.98	361.61	231.69	357.28	298.82	194.88	342.13	266.34	294.23	442.13	380.52	510.45
8 20	604.14	372.44	227.36	164.57	275.00	311.81	277.17	324.80	231.69	324.80	316.14	201.38	374.61	305.32	343.87	540.32	387.41	518.54
8 21	565.16	443.90	198.78	151.58	339.96	285.83	253.35	270.67	194.88	294.49	311.81	229.53	398.43	275.00	269.67	542.20	491.87	368.89
8 22	461.22	378.94	305.32	151.58	493.70	259.84	238.19	307.48	207.87	391.93	218.70	251.18	389.76	262.01	261.92	544.88	415.05	380.17
8 23	407.09	346.46	348.62	352.95	454.73	316.14	233.86	313.98	205.71	311.81	313.98	264.17	796.85	305.32	264.49	463.84	371.69	389.11
8 24	452.56	333.47	320.47	229.53	424.41	303.15	259.84	281.50	186.22	272.84	320.47	229.53	407.09	329.13	244.08	440.47	445.94	300.84
8 25	532.68	326.97	270.67	173.23	324.80	337.80	541.34	333.47	277.17	231.69	287.99	223.03	361.61	398.43	276.17	410.10	399.95	376.00
8 26	515.36	296.65	236.02	238.19	236.02	352.95	320.47	303.15	307.48	212.21	324.80	311.81	329.13	781.69	262.60	464.80	377.67	406.61
8 27	478.54	322.64	212.64	209.82	259.84	298.82	339.96	263.35	320.47	194.88	311.81	428.74	316.14	426.58	277.31	538.89	387.87	292.91
8 28	435.24	368.11	238.19	186.39	255.51	402.76	316.14	231.69	355.12	197.05	298.82	339.96	285.83	381.10	218.06	418.30	454.66	264.88
8 29	391.93	348.62	277.17	175.39	242.52	337.80	311.81	216.54	307.48	201.38	326.97	489.37	277.17	731.89	200.90	401.55	363.42	261.91
8 30	357.28	322.64	357.28	166.73	225.20	307.48	290.16	257.68	277.17	214.37	337.80	346.46	251.18	426.58	195.02	402.68	294.86	250.80
8 31	374.61	303.15	292.32	158.07	275.00	259.84	238.19	262.01	277.17	227.36	313.98	311.81	242.52	355.12	263.14	399.89	301.24	142.91

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km2

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
Day	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
	402.76	296.65	331.30	151.58	277.17	242.52	227.36	249.02	277.17	216.54	374.61	316.14	255.51	296.65	200.86	370.77	551.09	301.46
	374.61	303.15	227.36	166.73	326.97	290.16	220.87	255.51	292.32	246.85	320.47	311.81	426.58	307.48	163.76	384.68	440.53	287.90
	348.62	272.84	207.87	158.07	337.80	323.80	238.19	244.69	342.13	194.88	300.98	381.10	350.79	292.32	170.53	396.08	445.88	307.39
	346.46	259.84	188.39	151.58	320.47	324.01	227.36	244.69	428.74	231.69	279.33	320.47	359.45	277.17	191.62	452.50	350.25	275.02
	331.30	244.69	132.09	151.58	287.99	275.00	212.21	246.85	346.46	218.70	309.65	339.96	292.32	257.68	177.66	466.07	484.92	260.95
	322.84	357.28	116.28	155.91	290.16	255.51	197.05	207.87	324.80	275.00	277.17	337.80	285.83	311.81	196.10	347.87	531.71	272.80
	309.65	236.02	118.23	196.18	255.51	298.82	181.89	199.21	298.82	238.19	244.69	324.80	294.49	305.32	218.04	345.01	342.90	257.58
	292.32	264.17	177.99	372.44	242.52	352.95	181.89	229.53	277.17	203.54	240.35	311.81	268.50	303.15	188.42	371.29	311.10	292.12
	253.35	238.19	238.19	223.03	233.86	300.98	186.22	262.01	305.32	186.22	227.36	311.81	244.69	277.17	306.38	387.98	284.76	296.85
	177.99	253.35	129.92	231.69	220.87	294.49	177.56	194.88	277.17	279.33	240.35	335.63	220.87	318.31	263.69	384.23	412.26	262.43
	166.73	242.52	201.38	201.38	209.39	307.48	179.72	203.54	277.17	402.76	285.83	290.16	236.02	381.10	251.15	199.17	349.68	245.67
	285.93	277.17	207.01	185.79	185.79	287.99	177.56	251.18	268.50	478.54	311.81	348.62	165.65	363.78	228.86	329.80	442.75	244.31
	398.43	238.19	185.79	175.39	185.79	290.16	158.72	148.98	277.17	281.50	268.50	311.81	240.35	294.49	370.15	199.17	349.68	245.67
	368.11	223.03	204.19	270.67	187.95	333.47	169.90	177.56	326.97	277.17	268.50	309.65	203.54	233.86	209.67	199.97	278.73	222.14
	348.62	204.19	171.06	223.03	229.53	313.98	158.72	148.98	277.17	281.50	268.50	311.81	240.35	294.49	370.15	199.17	349.68	245.67
	337.80	196.18	238.19	201.38	246.85	326.97	160.67	131.22	277.17	313.98	262.01	309.65	203.54	233.86	209.67	199.97	278.73	222.14
	331.30	180.59	166.73	185.79	236.02	281.50	160.67	154.82	218.70	478.54	270.67	311.81	190.98	240.35	197.35	168.26	359.60	225.79
	333.47	142.91	164.57	173.23	223.03	242.52	152.87	143.35	205.71	292.32	300.98	311.81	175.39	227.36	180.94	154.50	378.98	242.94
	322.84	134.25	147.24	175.39	207.01	233.86	229.53	134.69	197.05	294.49	283.66	506.69	163.70	218.70	254.74	157.72	251.09	227.95
	316.14	124.08	145.08	164.57	202.24	223.03	223.03	126.02	188.39	279.33	259.84	387.60	179.29	223.03	181.41	147.46	238.61	226.18
	303.15	126.02	140.75	198.78	195.10	437.40	210.04	117.36	186.22	275.00	249.02	350.79	143.78	203.54	166.98	137.20	283.63	199.57
	305.32	112.38	132.09	190.98	195.10	214.15	197.05	141.61	192.72	262.01	242.52	326.97	147.24	227.36	170.19	127.77	216.95	187.87
	337.80	118.23	124.08	220.87	185.57	202.24	287.99	192.50	194.88	253.35	223.03	303.15	154.17	220.87	158.08	122.48	206.41	183.93
	333.47	106.97	103.50	164.57	180.81	220.87	214.37	249.02	214.37	233.86	207.87	255.51	143.78	205.71	152.84	120.75	194.27	160.31
	316.14	100.04	110.43	153.74	173.66	202.24	229.53	333.47	163.05	233.86	194.88	214.37	157.85	194.88	157.84	114.82	184.02	137.44
	309.65	98.31	101.77	151.58	178.43	199.86	249.02	350.79	155.69	244.69	188.39	194.88	152.44	179.29	163.77	102.94	179.29	134.52
	292.32	86.18	96.57	151.58	171.28	199.86	216.54	244.69	159.37	225.20	186.22	203.54	173.45	159.80	321.30	99.06	135.17	143.58
	292.32	86.18	98.31	147.24	162.40	183.19	205.71	199.21	210.04	207.87	181.89	203.54	138.58	147.24	230.14	107.78	128.69	179.57
	272.84	91.38	94.84	158.07	158.07	168.90	201.38	251.18	184.27	203.54	181.89	199.21	136.85	138.58	202.39	104.22	148.72	388.55
	259.84	87.91	91.38	120.18	164.57	153.74	203.54	249.02	176.48	192.72	181.89	188.39	135.12	140.32	217.12	103.11	191.14	192.36

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km²

Year Month Day	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
10 1	196.18	86.18	87.91	118.23	162.40	133.60	197.05	218.70	170.63	190.55	163.70	188.39	121.26	133.39	202.91	108.55	136.35	163.82
10 2	164.57	86.18	93.11	112.38	277.17	119.96	179.72	201.38	168.68	194.88	153.96	199.21	118.23	143.78	152.26	100.98	125.98	158.44
10 3	147.24	82.72	86.18	108.70	493.70	106.54	162.62	150.93	165.00	909.45	157.85	190.55	113.68	154.17	145.06	108.57	115.81	165.75
10 4	132.09	80.98	89.65	101.77	1,149.81	95.28	150.93	152.83	157.84	627.95	155.91	201.38	112.17	159.80	140.60	126.64	108.89	148.94
10 5	118.23	82.72	98.31	108.70	1,297.05	95.28	141.61	156.77	148.33	287.99	153.96	199.21	101.56	163.70	148.18	123.25	118.86	116.46
10 6	108.70	84.45	87.91	100.04	980.91	97.01	131.22	162.82	146.38	253.35	150.06	197.05	98.52	154.17	136.12	102.51	105.65	111.49
10 7	75.79	79.25	84.45	93.11	833.66	93.54	126.02	164.57	148.33	236.02	150.06	192.72	104.59	143.78	133.90	96.78	100.46	108.89
10 8	71.24	72.76	80.98	93.11	764.37	95.28	120.83	168.90	139.02	294.49	157.85	194.88	109.13	142.05	127.01	93.80	96.43	106.84
10 9	71.24	69.72	74.27	87.91	697.25	92.03	117.36	190.55	139.02	277.17	155.91	190.55	106.10	136.85	122.79	124.44	91.61	102.09
10 10	74.27	66.69	75.79	86.18	519.69	90.51	115.63	156.77	126.54	259.94	148.11	197.05	104.59	129.92	118.98	193.49	89.01	97.59
10 11	80.98	68.21	71.24	93.11	575.99	90.51	115.63	156.77	106.54	246.85	144.21	190.55	100.04	122.99	113.58	192.32	85.41	94.21
10 12	80.98	66.69	68.21	89.65	467.72	82.93	112.17	139.88	101.77	214.37	148.11	152.01	97.01	115.20	107.86	204.57	83.54	93.45
10 13	86.18	63.66	65.18	82.28	363.78	78.39	108.92	154.82	98.52	1,160.63	152.01	136.42	93.98	109.13	105.06	135.02	80.15	91.93
10 14	94.84	62.15	65.18	75.79	246.85	74.06	113.90	138.15	97.01	480.71	144.21	126.02	88.13	110.65	101.78	120.65	77.53	89.30
10 15	105.24	59.33	63.66	72.76	180.81	71.24	101.34	132.95	95.28	339.96	152.01	117.36	85.32	106.10	99.26	109.53	74.90	88.55
10 16	124.08	58.03	62.15	72.76	147.24	72.76	96.79	158.72	93.76	205.71	142.26	113.90	100.04	104.59	96.82	104.13	74.14	87.44
10 17	134.25	56.73	63.66	69.29	129.70	72.76	90.73	143.35	93.76	184.27	136.42	113.90	86.61	101.56	93.41	99.91	73.03	87.44
10 18	127.97	54.13	60.63	66.69	103.50	69.72	84.67	181.89	95.28	161.32	140.32	117.36	85.32	100.04	92.29	95.27	71.92	87.44
10 19	127.97	55.43	59.33	65.18	87.48	72.76	84.67	139.88	93.76	168.68	136.42	110.43	80.98	97.01	90.56	90.77	70.14	85.21
10 20	129.92	56.73	58.03	62.15	81.42	68.43	83.15	154.82	90.73	178.43	134.69	108.70	78.39	93.98	86.18	88.14	69.38	84.10
10 21	127.97	55.43	55.43	62.15	72.76	68.43	83.15	158.72	89.21	131.87	117.36	105.24	75.79	92.46	84.57	87.03	68.49	82.99
10 22	124.08	52.83	54.13	60.63	67.13	71.24	80.12	147.03	87.70	129.92	106.97	103.50	74.49	90.95	83.53	85.16	67.60	82.99
10 23	118.23	51.54	54.13	59.33	59.76	71.24	80.12	134.69	86.18	118.88	101.77	101.77	72.11	88.13	81.53	84.05	67.60	82.99
10 24	116.28	51.54	55.43	59.33	51.97	67.13	81.63	120.83	86.18	115.20	101.77	101.77	75.79	88.13	80.50	82.94	73.04	81.88
10 25	110.43	50.24	51.54	58.03	38.98	65.61	78.82	112.17	80.12	110.00	101.77	101.77	72.11	86.83	79.53	82.94	66.71	81.88
10 26	108.70	50.24	50.24	58.03	32.26	62.80	78.82	113.90	80.12	97.01	101.77	100.26	68.43	85.32	79.15	81.83	65.07	81.12
10 27	108.70	48.94	47.64	56.73	28.80	60.85	76.22	104.37	78.82	95.28	97.22	97.22	63.66	82.50	78.50	82.59	64.18	79.34
10 28	106.97	47.64	47.64	55.43	37.46	58.03	76.22	99.82	76.22	95.28	95.71	95.71	66.26	84.02	77.96	80.72	62.53	76.94
10 29	103.50	46.56	46.56	55.43	59.76	58.95	73.62	99.82	81.63	93.76	94.19	92.68	60.20	82.50	75.95	79.61	60.13	76.31
10 30	103.50	45.47	44.39	54.13	58.03	55.00	73.62	98.31	73.62	92.24	92.88	89.65	55.43	79.69	75.07	78.72	56.96	71.85
10 31	103.50	47.64	44.39	52.83	55.87	54.13	72.32	101.34	69.72	90.73	92.68	86.61	69.72	81.20	74.10	77.83	55.45	37.89

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km²

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Month Day																		
11 1	106.97	63.66	43.31	52.83	56.95	53.05	71.02	95.28	68.43	90.73	71.46	85.10	61.50	78.39	73.21	76.18	53.33	63.81
11 2	105.24	55.43	44.39	51.54	54.13	51.97	68.43	87.70	67.13	95.28	65.83	71.46	54.13	75.79	71.60	75.29	51.87	61.73
11 3	103.50	52.83	44.39	50.89	53.05	49.15	68.43	89.21	67.13	93.76	60.20	72.97	49.80	88.13	73.45	73.64	51.22	62.62
11 4	98.31	54.13	50.24	51.97	51.97	49.15	67.13	81.63	67.13	89.21	57.38	70.16	54.13	115.20	71.60	71.35	49.76	70.78
11 5	93.11	101.77	42.22	48.94	51.97	49.15	67.13	77.52	67.13	87.70	57.38	65.83	54.13	106.10	70.71	69.94	49.76	61.43
11 6	89.65	59.33	42.22	47.64	50.24	46.34	66.04	78.82	63.23	87.70	51.54	64.53	50.89	103.07	69.21	67.64	48.94	59.59
11 7	87.91	54.13	43.31	46.56	50.24	46.34	66.04	74.92	60.63	83.15	45.47	63.01	46.56	98.52	69.21	65.35	48.94	59.59
11 8	86.18	51.54	42.22	45.47	49.15	44.17	64.74	74.92	58.03	83.15	47.85	64.53	43.31	95.49	68.32	65.35	47.46	61.09
11 9	82.72	48.94	41.14	43.31	49.15	44.17	63.66	73.62	54.13	81.63	45.47	60.20	42.22	92.46	68.32	64.46	47.48	56.62
11 10	80.98	50.24	41.14	45.47	48.72	44.17	63.66	71.02	54.13	80.12	43.31	60.20	39.41	88.13	67.35	62.29	47.48	53.65
11 11	77.52	48.94	41.14	45.47	47.20	42.44	63.66	67.13	53.05	80.12	42.22	58.90	45.47	82.50	67.67	61.75	46.66	51.92
11 12	74.27	45.47	41.14	44.39	45.26	42.44	62.36	67.13	51.97	80.12	42.22	57.38	42.22	79.69	66.70	59.67	46.66	49.49
11 13	74.27	42.22	40.06	43.31	42.44	43.31	63.66	67.13	50.89	80.12	43.31	53.70	42.22	81.20	65.82	57.67	46.66	49.49
11 14	74.27	40.06	38.98	43.31	42.44	42.44	62.36	65.83	48.72	80.12	40.06	53.70	38.54	76.87	64.85	56.47	45.85	48.41
11 15	74.27	42.22	37.89	42.22	40.71	40.71	62.36	62.36	54.13	80.12	37.89	53.70	38.54	71.02	64.04	55.01	45.03	47.05
11 16	74.27	43.31	37.89	42.22	40.71	37.46	58.90	61.06	54.13	80.98	38.98	52.62	36.59	69.72	62.68	54.47	44.38	46.51
11 17	72.76	42.22	37.89	41.14	39.84	36.59	57.60	58.90	53.05	71.02	40.06	51.54	36.59	68.64	62.68	53.82	44.38	45.70
11 18	74.27	41.14	37.89	41.14	39.84	34.21	54.13	64.74	50.89	80.12	36.81	50.24	36.59	67.34	62.68	52.46	44.38	45.70
11 19	80.98	41.14	36.81	40.06	38.98	34.21	50.89	64.74	48.72	64.53	38.98	49.15	40.28	66.26	61.79	53.00	42.92	44.88
11 20	82.72	40.06	36.81	40.06	37.46	35.73	48.72	62.36	45.47	80.12	36.81	46.77	39.41	64.96	62.68	53.28	42.27	44.07
11 21	87.91	41.14	36.81	40.06	36.59	34.86	48.72	62.36	43.31	64.53	37.89	46.77	42.22	62.58	61.79	52.63	41.62	43.53
11 22	82.72	40.06	35.94	40.06	34.86	35.73	47.64	62.36	43.31	64.53	35.73	45.47	44.39	60.20	60.98	50.62	40.26	43.53
11 23	77.52	40.06	35.94	40.06	34.21	34.21	48.72	62.36	42.44	61.93	34.65	43.31	43.31	59.11	63.52	49.43	39.02	42.71
11 24	75.79	40.06	35.94	38.98	33.56	34.21	46.56	61.06	41.36	59.33	35.73	43.31	42.22	57.82	60.98	47.26	38.48	42.71
11 25	75.79	38.98	35.94	41.14	34.21	34.21	44.39	58.90	40.28	58.03	38.98	41.14	39.41	57.82	58.97	46.61	36.73	41.90
11 26	75.79	38.98	34.86	40.06	33.56	33.56	44.39	57.60	40.28	55.43	37.89	41.14	38.54	60.20	57.51	47.42	36.08	41.90
11 27	77.52	38.98	34.00	40.06	32.91	34.21	43.31	55.22	38.54	54.13	37.89	40.06	37.68	57.82	56.69	45.42	35.54	41.90
11 28	72.76	37.89	32.05	40.06	32.26	33.56	43.31	55.22	37.46	55.43	38.98	40.06	45.47	54.35	55.26	43.52	35.00	41.08
11 29	71.24	35.94	30.96	40.06	30.10	33.56	42.22	55.22	38.54	54.13	36.81	38.98	40.28	54.35	55.26	42.98	33.21	41.08
11 30	69.72	35.94	30.96	38.98	29.45	33.56	43.31	55.22	35.51	50.89	35.73	37.89	39.41	50.89	54.61	50.02	32.83	41.08

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km²

Year Month Day	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
12 1	68.21	34.86	30.10	38.98	28.15	32.91	41.14	55.22	36.38	49.80	35.73	36.81	37.88	54.35	54.07	48.24	31.80	40.54
12 2	69.72	34.86	29.02	37.89	28.15	32.26	41.14	53.05	33.56	49.80	36.81	36.81	39.41	51.97	58.97	43.52	31.80	40.54
12 3	66.69	34.00	29.02	36.81	27.50	32.26	41.14	50.89	33.56	48.72	36.81	35.73	36.59	49.80	56.32	42.44	30.60	40.54
12 4	65.18	34.00	29.02	36.81	26.85	32.26	40.06	50.89	35.51	47.64	36.81	34.65	36.59	47.64	54.07	40.54	30.60	39.73
12 5	63.66	34.86	29.02	36.81	27.50	30.75	38.98	50.89	35.51	47.64	34.65	34.65	42.22	46.56	52.06	40.00	30.60	39.73
12 6	62.15	32.91	27.07	35.94	26.85	30.10	36.81	49.80	33.56	45.47	34.65	33.78	41.36	45.47	50.71	38.64	30.60	39.73
12 7	65.18	32.91	27.07	35.94	26.20	30.10	35.73	49.80	36.38	44.39	32.91	33.78	38.54	44.39	50.71	37.29	29.57	39.73
12 8	63.66	34.00	27.07	35.94	25.55	30.10	35.73	48.72	34.65	43.31	32.91	33.78	37.88	48.72	50.17	35.93	29.57	39.73
12 9	66.69	32.05	26.42	34.86	25.12	29.45	35.73	47.64	34.65	43.31	33.78	33.78	36.59	44.39	50.17	35.93	29.14	39.73
12 10	68.21	32.05	26.42	34.86	25.55	28.80	34.65	47.64	33.56	40.28	32.05	32.05	35.73	43.31	50.17	35.50	29.14	39.18
12 11	69.72	30.96	25.55	35.94	25.12	28.15	33.56	46.56	33.56	40.28	31.18	32.05	35.73	42.22	48.88	34.36	27.93	38.37
12 12	69.72	30.96	25.55	34.86	24.47	27.50	33.56	46.56	33.56	40.28	31.18	32.05	35.73	42.22	48.88	34.36	26.95	37.55
12 13	69.72	30.96	24.90	34.86	25.12	27.50	32.70	41.14	34.65	38.54	30.32	31.18	35.73	40.28	48.14	34.36	26.90	37.55
12 14	68.21	30.96	24.90	34.86	23.82	26.85	33.56	37.89	33.56	38.54	29.45	31.18	34.86	39.41	47.60	33.70	26.90	36.96
12 15	63.66	30.96	24.90	34.86	23.82	26.20	33.56	36.81	33.56	37.46	29.45	31.18	34.86	39.41	47.60	33.70	26.90	36.96
12 16	58.03	30.96	24.04	34.00	23.82	25.12	33.56	35.73	33.56	38.54	37.89	31.18	33.78	38.54	46.86	33.93	26.90	36.96
12 17	52.89	32.05	24.04	34.00	23.82	25.12	33.56	35.73	33.56	37.46	36.81	30.32	32.91	38.54	45.58	32.83	26.36	36.29
12 18	51.54	30.10	24.90	32.91	23.17	24.47	32.70	34.65	33.56	35.51	35.73	30.32	32.91	36.59	44.37	32.83	26.36	36.29
12 19	47.64	30.96	24.90	32.91	22.52	23.82	31.83	34.65	33.56	35.51	34.65	29.45	31.40	38.54	45.78	32.83	26.36	35.70
12 20	45.47	30.10	24.04	32.05	21.87	23.17	31.83	34.65	33.56	33.56	34.65	28.58	31.40	37.88	45.04	32.24	25.93	36.29
12 21	42.22	30.96	24.04	32.05	21.87	22.52	31.83	34.65	33.56	33.56	35.73	28.58	31.40	34.86	45.04	32.40	25.93	35.16
12 22	40.06	30.10	24.04	32.91	20.79	22.52	30.96	33.56	33.56	33.56	33.78	27.72	31.40	34.86	45.04	30.60	24.40	35.16
12 23	38.96	29.02	24.04	32.05	21.87	21.33	30.96	33.56	32.70	33.56	35.73	27.72	29.67	35.73	44.37	30.60	23.53	35.16
12 24	37.89	30.10	24.04	32.05	21.33	21.87	30.10	32.70	32.70	31.83	35.73	26.85	29.67	46.56	44.91	31.26	23.53	35.16
12 25	36.81	29.02	24.04	30.96	20.79	21.87	30.10	31.83	32.70	31.83	35.73	26.85	29.67	44.39	44.37	30.60	23.21	35.16
12 26	36.81	30.10	24.04	30.96	20.25	22.52	29.23	31.83	31.83	34.65	34.65	25.98	29.67	49.80	43.63	30.60	19.93	35.16
12 27	35.94	30.10	23.39	30.96	20.79	21.87	28.37	31.83	32.70	34.65	34.65	25.98	30.53	46.56	43.09	30.16	18.36	35.16
12 28	35.94	29.02	24.04	30.10	20.79	21.33	28.37	30.96	30.75	36.38	32.91	25.33	28.15	48.72	43.09	29.73	21.08	35.75
12 29	35.94	29.02	24.04	30.10	20.79	21.87	28.37	30.10	30.75	35.51	32.91	24.47	28.15	45.47	42.55	29.73	21.08	35.16
12 30	35.94	28.15	24.04	30.10	20.25	22.52	27.50	30.10	30.75	35.51	32.91	24.47	28.15	44.39	43.09	31.66	20.65	34.49
12 31	35.94	28.15	24.04	30.10	20.79	21.87	27.50	30.10	30.75	36.38	32.91	23.82	27.28	42.22	42.55	30.40	19.61	22.19

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km²

Month	Day	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
1	1	35.75	42.62	32.97	40.31	28.60	26.08	34.08	32.75	30.23	23.71	33.64	24.60	28.30	10.97	39.42	29.93	26.38	22.82
1	2	35.16	43.36	32.97	41.79	28.60	26.08	35.12	32.75	29.19	22.38	33.64	25.49	27.12	10.82	37.34	30.38	26.38	22.52
1	3	35.16	43.36	31.63	41.79	28.60	26.08	34.08	32.75	29.19	21.78	32.75	24.60	27.27	10.67	37.34	29.93	26.08	22.52
1	4	35.16	42.62	31.63	40.31	27.71	25.19	34.08	31.41	29.19	21.78	32.75	23.86	27.41	10.67	37.34	30.38	26.38	22.52
1	5	34.49	42.62	30.53	40.31	27.71	25.19	33.19	31.41	29.19	21.49	32.75	23.86	30.53	10.52	36.30	29.64	25.64	22.52
1	6	34.49	41.88	30.53	40.31	27.71	25.19	32.16	31.41	28.01	20.60	32.01	23.86	29.93	10.37	33.93	28.90	25.64	22.52
1	7	33.95	42.62	28.97	40.31	26.97	25.19	31.27	30.23	28.01	19.86	32.01	23.86	29.19	10.22	33.93	28.15	25.64	22.23
1	8	33.95	42.62	28.97	40.31	26.97	25.19	31.27	30.23	28.01	20.00	32.01	27.71	29.04	11.11	32.75	27.41	25.04	21.78
1	9	33.95	42.62	28.97	38.82	26.08	25.19	30.23	33.64	26.00	20.60	33.64	24.60	29.49	11.11	30.23	26.82	25.64	23.26
1	10	33.95	40.91	28.37	38.82	26.08	24.45	31.27	33.64	26.97	20.00	33.64	23.86	29.04	10.67	28.90	26.38	26.97	22.23
1	11	33.95	39.73	28.37	40.31	26.08	24.45	31.27	32.75	28.01	19.86	35.42	23.86	29.19	10.82	26.08	26.38	26.52	21.63
1	12	33.36	39.07	27.78	38.82	26.08	23.56	30.23	32.75	26.97	19.86	31.12	24.60	29.49	10.37	30.23	26.38	26.52	21.63
1	13	33.36	39.07	27.78	38.82	26.08	23.56	30.23	32.75	26.97	19.86	31.12	24.60	29.49	10.37	30.23	26.38	26.52	21.63
1	14	32.69	39.07	27.78	37.34	26.08	22.82	30.23	32.75	26.97	19.56	31.12	23.12	28.90	10.37	58.09	26.08	24.30	21.34
1	15	32.69	39.07	27.78	37.34	26.08	22.82	30.23	32.75	28.01	20.89	30.23	23.12	33.19	10.52	48.75	25.64	24.30	21.34
1	16	32.69	38.32	27.78	35.86	25.19	22.82	29.34	31.41	29.19	19.56	30.23	23.86	29.64	10.67	43.42	25.64	23.86	21.04
1	17	32.69	39.07	31.33	35.86	25.19	22.82	29.34	31.41	28.01	18.97	30.23	22.38	29.49	10.67	38.38	25.64	23.71	20.75
1	18	32.15	38.32	28.37	37.34	24.45	22.82	29.34	31.41	28.01	18.97	30.23	22.38	29.04	10.52	27.56	28.15	23.12	20.89
1	19	32.15	38.32	27.35	35.86	23.56	22.82	30.23	30.23	28.01	18.23	29.34	22.38	29.04	10.37	33.93	25.64	23.26	20.75
1	20	32.15	39.07	27.35	35.86	22.82	22.82	29.34	30.23	29.19	18.23	29.34	22.38	29.04	10.37	27.56	28.15	23.12	20.75
1	21	31.72	38.32	26.76	34.67	21.93	22.82	29.34	30.23	30.23	18.37	29.34	21.63	28.90	10.67	26.08	27.71	23.12	20.75
1	22	31.72	39.07	26.32	34.67	21.93	22.82	29.34	30.23	29.19	19.56	31.12	20.89	28.90	10.37	22.97	27.41	22.67	20.75
1	23	31.72	39.07	26.32	34.67	21.93	21.93	28.60	30.23	29.19	19.56	29.34	20.89	28.90	10.67	21.19	27.71	22.82	20.75
1	24	31.13	37.78	25.73	33.34	21.19	21.93	28.60	31.41	28.01	18.23	29.34	20.89	28.90	10.37	21.19	26.52	22.67	20.15
1	25	31.13	37.78	25.73	33.34	21.19	21.93	28.60	30.23	29.19	18.37	29.34	20.89	28.90	10.22	21.19	26.38	22.52	20.15
1	26	32.98	37.78	25.73	33.34	21.93	21.93	27.71	30.23	29.19	18.37	30.23	21.63	29.49	10.08	21.19	25.93	22.08	20.15
1	27	42.83	37.04	25.30	32.16	21.93	21.93	27.71	31.41	28.01	19.26	30.23	21.63	29.93	10.08	21.19	25.93	21.78	20.15
1	28	34.24	37.04	24.70	33.34	21.19	21.93	26.97	31.41	26.97	19.86	29.34	20.89	29.64	10.08	21.19	25.64	21.78	20.15
1	29	32.98	39.19	24.70	32.16	22.82	21.93	26.97	31.41	25.78	19.86	29.34	20.30	29.64	10.08	17.19	25.64	21.78	20.15
1	30	32.39	39.19	24.70	32.16	21.19	21.93	26.97	31.41	25.78	19.86	28.45	19.71	30.67	10.08	14.82	25.64	22.08	20.00
1	31	26.84	38.52	24.27	32.16	21.19	21.93	26.97	31.41	24.60	19.56	31.12	21.63	30.38	10.08	14.82	25.64	21.78	19.56

River : Seti
Drainage area

Month Day		1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
2	1	33.10	37.78	24.27	32.16	20.60	21.19	27.71	31.41	24.60	19.26	30.23	26.23	28.90	10.08	14.82	25.64	21.78	19.56
2	2	31.18	37.78	24.86	30.82	20.60	21.19	27.71	31.41	23.56	20.89	29.34	22.38	28.01	10.08	14.82	26.08	21.78	19.41
2	3	31.18	37.04	25.46	32.16	20.60	21.19	27.71	30.23	23.56	19.26	41.34	22.38	28.01	10.08	14.82	26.08	21.78	19.41
2	4	31.84	37.04	24.27	30.82	20.60	21.19	27.71	30.23	23.56	18.97	31.12	25.49	27.86	9.78	14.82	26.08	21.63	19.41
2	5	31.84	37.04	23.95	30.82	20.60	21.19	26.97	31.41	23.56	17.49	28.45	24.60	27.71	9.78	14.82	25.49	21.34	18.97
2	6	30.58	37.04	23.35	37.34	20.60	21.19	28.60	30.23	23.56	17.49	28.45	25.49	27.41	10.08	14.82	25.04	21.34	18.97
2	7	30.58	36.30	23.35	30.82	20.60	21.19	27.71	30.23	22.38	17.49	31.12	21.63	27.27	9.78	14.82	25.04	20.75	18.97
2	8	33.10	36.30	22.33	32.16	19.86	21.19	28.60	29.19	23.56	17.19	32.01	20.89	27.86	10.08	14.82	24.75	20.75	18.97
2	9	33.10	36.30	22.33	33.34	19.86	20.60	27.71	28.01	23.56	17.49	30.23	21.63	29.19	10.52	19.26	24.30	20.45	18.97
2	10	31.18	36.30	21.73	32.16	20.60	20.60	26.97	26.97	22.38	17.49	27.71	20.89	28.45	9.78	26.08	24.15	20.15	18.82
2	11	31.18	36.30	21.30	30.82	19.86	20.60	26.97	26.97	31.41	17.19	28.45	20.89	27.86	10.08	33.93	23.71	20.15	18.52
2	12	30.58	36.30	20.71	32.16	19.86	20.60	26.08	26.97	24.60	18.23	28.45	20.89	28.90	9.63	24.60	23.71	20.15	18.52
2	13	31.18	36.30	20.71	30.82	19.86	20.60	27.71	28.01	24.60	18.23	28.45	19.71	27.86	10.08	14.82	23.71	20.89	18.52
2	14	30.58	35.56	21.30	30.82	19.86	21.19	28.60	26.97	31.41	17.49	27.71	25.49	27.41	9.78	14.82	23.71	20.89	18.52
2	15	30.58	35.56	20.71	30.82	21.93	20.60	26.97	25.78	28.01	17.19	26.97	23.12	27.12	10.37	37.34	23.41	20.45	18.52
2	16	32.44	35.56	20.71	29.64	20.60	20.60	26.08	25.78	24.60	17.19	26.97	22.38	27.27	10.37	26.08	23.12	23.26	18.37
2	17	33.10	35.56	21.89	29.64	20.60	21.19	25.19	25.78	24.60	16.89	26.23	25.49	27.12	9.63	26.08	23.12	21.04	18.37
2	18	31.84	34.82	21.30	29.64	20.60	20.60	25.19	26.97	23.56	16.89	26.23	19.71	26.67	11.56	26.08	23.12	21.04	17.93
2	19	32.44	35.56	20.71	33.34	19.86	19.86	25.19	26.97	23.56	17.19	26.23	18.37	26.52	9.78	24.60	23.12	25.04	17.93
2	20	30.74	34.59	20.71	35.86	19.86	19.86	25.19	25.78	22.38	16.00	28.23	17.78	26.52	9.63	14.82	22.82	27.27	17.93
2	21	31.41	36.81	20.71	32.16	19.12	19.12	25.19	25.78	22.38	16.45	26.23	17.19	26.38	9.48	27.56	22.52	22.82	18.23
2	22	30.15	40.44	20.28	28.30	19.12	19.12	28.60	26.97	26.97	16.45	26.23	16.45	27.71	9.04	24.60	22.52	20.75	17.78
2	23	30.74	38.22	19.84	40.31	18.52	20.60	25.19	24.60	25.78	17.19	25.49	15.86	27.12	9.63	21.19	23.26	20.00	17.49
2	24	29.48	36.81	19.47	37.34	18.52	18.52	28.60	24.60	25.78	17.19	24.60	15.86	26.67	9.78	21.19	22.82	20.45	17.49
2	25	29.05	36.07	19.47	43.27	17.78	18.52	26.97	25.78	24.60	16.89	24.60	15.86	26.52	9.19	21.19	23.12	23.71	17.49
2	26	29.72	36.07	19.47	38.82	17.78	19.86	25.19	25.78	23.56	18.23	23.86	15.26	26.52	9.19	31.56	22.67	21.63	17.93
2	27	30.31	38.22	19.47	38.82	17.78	19.12	26.08	29.19	28.01	17.93	23.86	15.26	26.67	10.37	14.82	24.15	21.04	18.52
2	28	19.27	37.12	19.07	41.79	17.78	20.60	25.19	29.19	24.60	17.49	23.86	19.71	28.30	10.22	30.23	24.60	21.04	17.93
2	29			11.69															

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km²

Month	Day	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
3	1	30.98	37.12	19.04	47.57	19.86	19.12	25.19	28.01	24.60	16.89	23.12	17.78	27.71	10.37	27.56	23.71	20.89	17.49
3	2	30.98	37.12	20.87	44.60	19.12	18.52	25.19	24.60	24.60	16.60	25.49	15.86	27.12	10.08	26.08	22.82	22.82	17.49
3	3	33.50	37.12	20.28	43.27	18.52	18.52	25.19	25.78	24.60	16.45	28.45	15.86	27.41	10.08	24.60	28.90	21.04	17.49
3	4	30.98	37.12	21.73	38.82	17.78	18.52	24.45	25.78	23.56	16.45	30.23	15.86	27.71	9.63	41.49	26.08	21.34	17.49
3	5	30.98	36.38	20.71	40.31	16.30	17.78	26.97	24.60	22.38	18.37	29.34	15.26	27.12	9.48	28.90	24.60	24.75	17.49
3	6	30.98	35.94	20.28	38.82	24.45	17.78	26.08	24.60	22.38	18.97	27.71	15.26	26.67	10.08	26.08	25.19	29.49	17.78
3	7	34.09	34.77	21.30	38.82	21.19	18.52	26.08	25.78	22.38	16.45	26.97	15.26	27.12	9.93	30.23	23.86	32.75	17.93
3	8	31.57	34.77	20.28	37.34	19.86	19.12	25.19	25.78	22.38	16.45	26.97	15.26	26.67	9.78	27.56	23.71	23.12	17.63
3	9	31.57	36.25	20.87	38.82	18.52	19.12	28.97	25.78	22.38	16.45	26.97	15.26	27.27	9.93	26.08	24.60	21.78	17.34
3	10	31.41	35.51	23.83	37.34	18.52	19.86	33.19	26.97	29.19	18.67	26.97	15.26	26.67	10.08	21.19	24.15	23.41	17.04
3	11	30.58	36.25	21.30	35.86	31.27	19.86	26.97	25.78	28.01	17.19	26.23	14.12	26.67	9.48	17.19	35.27	22.52	16.89
3	12	33.18	35.51	31.30	33.34	47.86	20.60	33.19	26.97	25.78	16.89	27.71	14.63	26.67	9.48	17.19	35.27	22.52	16.89
3	13	33.60	35.51	23.24	30.82	57.49	20.60	30.23	25.78	25.78	16.45	25.49	14.12	31.12	9.63	41.49	34.67	21.63	16.45
3	14	33.60	35.51	21.46	29.64	30.23	26.97	27.71	25.78	24.60	16.45	26.97	14.12	28.60	9.48	33.93	31.27	21.34	16.45
3	15	34.86	35.51	20.87	29.64	22.82	21.19	26.97	28.01	23.56	16.45	26.23	15.26	35.12	9.78	38.38	29.19	20.45	16.00
3	16	36.12	36.25	20.28	28.30	21.93	21.19	25.19	26.97	24.60	16.15	25.49	14.63	30.38	10.08	43.42	28.75	20.75	16.00
3	17	40.80	36.25	21.30	28.30	21.19	27.71	26.97	26.97	25.78	16.45	26.97	14.12	34.08	9.78	37.34	29.64	20.15	16.45
3	18	46.78	35.51	21.30	27.12	19.86	33.19	26.97	24.60	26.97	16.15	26.23	13.62	31.56	10.08	33.93	28.15	19.71	16.00
3	19	40.53	37.66	20.28	25.78	19.12	30.23	26.97	28.01	25.78	16.15	25.49	13.62	30.97	9.93	27.56	32.75	22.23	16.15
3	20	38.59	35.82	19.07	24.60	18.52	22.82	26.97	35.42	24.60	16.15	25.49	13.62	34.08	10.22	22.97	34.38	20.15	17.34
3	21	39.18	35.08	18.64	25.78	18.52	21.93	25.19	29.19	34.08	16.15	25.49	13.11	31.56	10.08	31.12	30.67	20.89	17.49
3	22	41.62	34.34	19.91	29.64	18.52	21.93	25.19	30.23	29.19	16.00	29.34	12.61	30.38	10.08	30.82	31.71	20.00	16.45
3	23	41.35	33.59	21.89	27.12	16.30	21.93	25.19	39.56	38.23	16.00	26.23	12.61	28.60	12.00	32.30	28.90	38.82	16.00
3	24	42.71	33.59	20.71	27.12	15.71	21.19	28.60	34.08	39.56	17.19	25.49	12.11	27.41	12.15	31.41	26.97	31.41	16.00
3	25	41.35	34.03	19.94	25.78	15.71	20.60	26.97	31.41	29.19	15.71	25.49	12.11	28.45	11.71	30.82	26.08	31.41	17.63
3	26	39.13	34.77	23.68	25.78	14.97	22.82	26.97	29.19	25.78	15.41	24.60	18.97	32.90	15.41	31.41	26.08	26.52	16.30
3	27	38.46	34.03	22.49	24.60	14.97	21.93	26.08	28.01	24.60	15.41	25.49	18.97	29.93	23.71	33.19	25.93	24.75	15.71
3	28	39.13	33.29	20.87	30.82	14.97	21.19	26.08	26.97	23.56	15.41	27.71	13.11	28.45	14.67	32.60	25.93	26.97	15.71
3	29	38.46	33.29	22.76	32.16	17.78	20.60	24.45	28.01	22.38	15.41	27.71	12.11	36.01	15.41	32.16	26.08	28.15	17.63
3	30	38.46	33.29	24.27	33.34	15.71	19.86	23.56	26.97	22.38	16.15	24.60	11.60	34.08	14.52	37.64	41.94	37.05	18.23
3	31	33.90	34.03	26.92	40.31	15.71	19.12	25.19	25.78	22.38	24.30	23.86	12.61	32.90	12.30	35.42	30.67	29.93	18.52

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km²

Month	Day	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
4	1	39.72	34.03	33.56	30.82	14.97	21.19	25.19	24.60	22.38	44.75	23.12	11.10	36.30	11.11	33.19	29.64	28.90	18.97
4	2	41.35	34.03	28.69	28.30	14.97	21.19	23.56	39.56	21.34	27.27	23.12	10.60	33.19	10.82	31.41	35.56	27.27	19.41
4	3	39.72	34.03	24.86	29.64	14.42	23.56	24.45	39.56	21.34	32.60	23.86	10.09	30.97	10.52	31.56	32.75	25.64	17.63
4	4	42.16	34.03	21.73	28.30	14.42	20.60	24.45	30.23	22.38	20.30	23.12	10.09	31.12	10.37	31.12	33.93	27.27	17.34
4	5	43.25	33.29	19.91	27.12	13.87	20.60	24.45	30.23	22.38	18.67	22.38	10.09	52.60	10.37	30.67	32.01	28.45	16.89
4	6	39.72	33.29	19.07	25.78	13.87	20.60	24.45	32.75	22.38	17.93	23.86	10.60	33.93	10.22	30.97	32.30	26.38	16.30
4	7	39.18	34.03	18.25	23.26	13.87	22.82	26.08	32.75	22.38	17.93	23.86	12.11	31.86	10.08	30.67	30.97	26.08	15.71
4	8	39.18	34.03	19.04	24.60	13.32	21.93	28.60	35.42	26.97	17.49	23.12	12.11	30.67	10.22	31.56	28.15	30.97	17.04
4	9	37.92	33.29	18.64	24.60	13.87	31.27	29.34	38.23	31.41	30.53	26.97	12.61	30.38	10.52	31.41	30.23	28.01	17.63
4	10	39.18	34.46	18.64	37.34	15.71	23.56	26.97	34.08	30.23	29.49	27.71	12.11	29.49	11.85	30.82	30.97	26.38	17.19
4	11	37.92	35.20	18.25	41.79	28.60	23.56	26.97	31.41	30.23	19.26	26.97	14.63	28.60	12.45	29.64	32.30	25.64	17.04
4	12	38.59	34.15	18.25	44.60	26.97	21.19	27.71	31.41	34.08	19.56	26.23	13.82	28.01	11.85	29.64	29.19	24.30	19.71
4	13	37.92	34.59	17.87	47.57	37.05	19.12	26.08	30.23	43.57	18.97	26.23	13.82	27.41	12.60	29.49	29.19	23.41	20.30
4	14	37.33	38.22	18.30	46.08	77.94	18.52	26.97	29.19	35.42	18.23	28.45	18.37	27.27	9.34	30.23	35.56	23.71	22.52
4	15	39.18	34.89	22.17	44.60	42.23	19.12	42.23	29.19	32.75	18.23	26.97	15.36	27.86	9.34	30.23	30.97	22.82	19.26
4	16	41.35	34.89	20.71	41.79	35.12	19.12	35.12	32.75	34.08	17.93	26.23	14.63	27.12	9.19	30.97	32.75	21.78	17.93
4	17	41.35	34.03	31.16	41.79	25.19	19.12	33.19	29.19	36.75	16.89	23.86	15.86	26.82	9.34	30.23	34.08	22.82	17.04
4	18	43.79	34.15	28.26	38.82	20.60	19.86	28.60	28.01	32.75	16.80	32.75	16.45	27.71	11.26	32.01	33.93	24.30	17.04
4	19	40.81	34.15	29.36	38.82	19.86	31.27	27.71	26.97	39.56	16.60	26.97	13.62	28.01	13.93	30.67	31.41	25.19	16.30
4	20	39.18	31.68	28.81	40.31	19.86	23.56	31.27	26.97	49.49	17.19	24.60	15.26	29.49	13.48	30.23	30.67	25.49	17.63
4	21	39.18	31.68	24.11	38.82	21.93	21.93	32.16	28.01	40.90	16.89	24.60	14.63	29.49	11.41	32.01	29.64	29.64	19.26
4	22	39.13	32.42	21.14	60.46	52.46	24.45	28.60	26.97	58.83	16.80	23.12	15.26	28.90	10.52	30.97	30.23	27.41	20.89
4	23	39.00	36.05	21.56	103.73	46.68	26.08	35.12	30.23	46.38	16.89	24.60	20.30	30.53	11.85	30.23	31.27	28.75	20.30
4	24	43.25	35.38	22.76	47.57	45.64	26.97	28.60	29.19	42.23	16.60	23.86	26.97	28.01	12.00	29.64	32.30	26.97	25.93
4	25	42.81	32.84	23.95	40.31	95.43	28.60	28.60	28.01	43.57	16.60	23.86	21.63	27.86	11.71	30.23	38.53	57.49	20.15
4	26	44.98	35.06	21.90	35.86	27.71	28.60	30.23	29.19	39.56	16.60	23.12	18.37	27.41	14.37	32.01	34.67	35.56	19.71
4	27	43.35	35.06	24.66	33.34	22.82	24.45	27.71	28.01	42.23	17.49	25.49	13.62	27.41	13.04	29.64	36.45	34.38	21.49
4	28	41.99	35.06	23.52	30.82	22.82	23.56	28.60	28.01	67.13	16.89	23.12	12.61	27.71	22.38	30.67	35.56	31.41	19.56
4	29	46.23	41.21	39.07	40.31	21.93	21.93	29.34	28.01	44.90	19.26	23.12	20.89	28.30	14.67	32.01	36.45	30.67	18.82
4	30	26.53	36.47	42.25	35.86	21.19	41.19	31.27	26.97	39.56	18.37	29.34	13.11	29.04	17.04	35.12	36.75	54.68	19.56

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km²

Month	Day	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
5	1	43.35	42.84	30.89	43.27	20.60	30.23	31.27	28.01	38.23	23.26	37.19	12.11	28.90	15.41	34.97	32.75	45.79	20.45
5	2	44.16	37.21	27.19	35.86	22.82	38.08	34.08	35.42	38.23	20.60	32.75	13.62	27.12	14.08	34.08	35.27	45.79	21.04
5	3	49.87	36.78	26.60	41.79	21.93	35.12	30.23	35.42	34.08	40.75	30.23	12.61	29.49	12.89	33.34	33.93	58.83	19.71
5	4	55.13	36.03	27.82	43.27	21.93	32.16	30.23	38.23	38.23	22.67	34.53	14.12	30.67	12.45	34.08	32.45	73.50	20.45
5	5	46.61	53.08	29.35	44.60	21.93	27.71	29.34	38.23	39.56	19.56	32.75	23.86	31.41	12.00	34.97	36.45	75.57	18.52
5	6	49.43	53.96	70.93	47.57	21.93	32.16	28.60	36.75	39.56	20.30	28.45	23.12	30.08	12.89	41.34	34.67	51.86	21.78
5	7	50.46	48.41	55.79	43.27	21.93	33.19	28.60	38.23	35.42	44.75	26.97	35.42	28.30	13.34	35.56	32.45	60.46	20.75
5	8	50.02	40.78	36.84	40.31	21.93	28.60	28.60	39.56	32.75	37.79	28.97	36.30	31.12	15.71	35.12	35.56	45.79	20.30
5	9	49.14	41.08	131.97	40.31	24.45	34.08	45.64	39.56	34.08	33.19	24.60	25.49	33.19	13.78	36.90	39.71	38.53	20.89
5	10	53.82	46.53	46.78	43.27	22.82	29.34	32.16	40.90	68.90	42.68	43.42	30.23	43.71	15.11	34.67	38.23	37.64	24.30
5	11	56.34	43.65	37.71	58.83	21.93	28.60	34.08	43.57	36.75	24.89	33.64	34.53	33.19	20.15	37.34	39.71	33.64	23.26
5	12	53.00	51.86	37.35	55.57	22.82	26.08	45.64	39.56	60.31	26.23	32.01	34.53	30.53	15.56	34.38	34.97	33.04	29.93
5	13	51.37	47.42	55.07	50.53	33.19	24.45	36.16	38.23	65.60	22.08	30.23	41.34	30.38	16.30	34.97	33.04	32.30	21.78
5	14	61.09	44.90	52.16	41.79	35.12	25.19	36.16	39.56	68.90	21.19	32.01	34.53	32.75	20.00	39.42	34.97	36.16	24.60
5	15	52.19	46.90	50.38	154.11	40.01	23.56	36.16	35.42	57.20	22.97	30.23	33.64	34.82	67.27	38.82	34.38	33.04	25.64
5	16	50.83	49.34	143.34	101.80	57.49	24.45	33.19	38.23	54.09	27.27	30.23	33.64	29.49	105.21	39.86	32.75	33.93	20.89
5	17	48.55	49.34	89.99	89.65	61.20	23.56	32.16	63.72	85.20	26.97	53.35	34.53	38.82	140.18	39.86	33.04	41.05	35.86
5	18	46.55	48.53	72.56	58.83	44.45	25.19	68.02	43.57	75.72	25.64	46.53	33.64	29.49	68.46	37.49	32.45	43.27	20.75
5	19	45.73	46.90	56.46	67.13	34.08	23.56	60.01	60.31	63.90	34.97	39.27	27.71	29.93	54.98	34.97	39.71	37.64	20.75
5	20	44.54	49.88	53.89	53.79	32.16	24.45	69.35	49.49	67.13	27.71	33.64	28.45	45.20	24.45	33.79	37.93	36.45	25.64
5	21	43.73	48.25	63.92	60.46	29.34	26.97	43.42	92.91	74.09	41.19	33.64	27.71	34.08	22.52	34.38	47.42	47.42	28.75
5	22	44.38	50.77	71.61	50.53	26.97	29.34	40.01	60.31	58.83	31.41	29.34	25.49	42.97	19.56	34.38	53.05	46.38	49.34
5	23	43.73	48.25	85.72	47.57	25.19	53.64	45.64	63.72	51.12	50.97	32.01	25.49	38.82	18.37	38.82	43.71	49.34	45.34
5	24	43.13	54.25	59.07	46.08	23.56	75.13	54.98	67.13	54.09	33.79	29.34	27.71	66.39	17.34	37.49	45.05	67.27	47.86
5	25	43.13	47.87	62.34	65.50	22.82	33.19	42.23	60.31	46.38	41.19	34.53	32.01	58.53	17.34	40.90	41.05	45.79	55.12
5	26	44.54	49.50	82.73	132.33	22.82	30.23	38.97	105.06	75.72	44.16	32.75	29.34	55.27	17.34	40.90	39.42	45.05	93.95
5	27	45.36	50.32	69.24	87.72	22.82	26.08	44.45	188.19	62.09	38.97	60.46	57.94	40.16	17.93	40.45	45.79	65.35	78.68
5	28	50.08	48.69	73.56	69.05	21.93	28.60	44.45	117.66	57.20	69.05	42.38	32.75	39.56	18.37	42.68	44.75	65.35	89.80
5	29	52.25	47.87	83.06	63.87	20.60	30.23	45.64	105.06	79.43	37.19	31.12	41.34	38.08	17.93	42.53	46.38	61.79	58.83
5	30	56.62	54.35	76.71	55.57	21.93	31.27	46.68	83.28	60.31	43.12	57.94	36.30	41.49	18.82	42.53	46.38	94.54	58.83
5	31	46.32	31.04	87.31	60.46	21.93	31.27	45.64	75.72	52.60	38.53	43.42	34.53	41.49	19.71	41.94	43.71	57.49	49.34

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km2

Month Day	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
6 1	64.99	29.41	67.82	80.17	26.08	40.01	52.46	67.13	81.35	32.60	38.23	43.42	37.34	19.56	40.45	42.38	53.05	39.42
6 2	62.58	28.60	66.00	116.77	21.93	35.12	41.19	62.09	68.90	29.04	38.23	39.27	39.56	19.41	47.71	44.01	52.31	36.75
6 3	60.21	66.16	128.07	110.10	21.93	35.12	40.01	63.72	203.01	26.67	37.19	38.23	61.94	20.45	43.86	42.97	50.38	32.45
6 4	60.59	58.38	98.44	123.29	26.97	69.35	37.05	98.84	133.81	31.41	38.23	41.34	49.64	19.56	44.45	39.12	49.34	30.23
6 5	80.24	37.27	159.26	112.32	21.93	58.68	38.08	72.31	111.43	51.57	37.19	45.49	40.75	42.38	41.94	39.71	44.75	28.45
6 6	83.29	35.42	126.66	114.54	28.60	42.23	38.08	152.63	90.98	45.20	36.30	48.75	41.19	134.85	41.05	41.34	47.86	26.97
6 7	86.27	33.56	108.22	116.77	40.01	54.98	41.19	81.35	81.35	146.11	37.19	46.53	40.45	110.69	39.42	41.34	49.34	26.08
6 8	83.13	32.75	106.88	78.24	27.71	54.98	38.97	75.72	70.68	104.62	43.42	45.49	38.53	76.91	38.97	44.31	47.12	25.64
6 9	127.76	37.27	90.31	72.76	32.16	54.98	38.08	75.72	83.28	49.34	36.30	50.97	38.82	83.13	38.82	42.97	44.01	25.64
6 10	92.74	31.93	125.94	67.13	26.97	85.80	54.98	79.43	149.66	143.74	38.23	45.49	51.27	84.61	38.97	51.86	41.94	39.71
6 11	126.35	35.42	139.28	99.73	40.01	68.02	61.20	89.06	143.74	110.40	36.30	45.49	36.45	66.39	50.83	53.94	40.75	35.86
6 12	95.69	34.53	179.91	67.13	54.98	63.72	82.69	75.72	94.84	71.87	39.27	82.54	49.94	78.24	42.53	51.57	58.83	49.34
6 13	116.05	52.48	128.66	62.09	93.65	61.20	195.60	124.62	92.91	74.68	54.53	83.87	75.57	300.51	45.34	46.08	48.90	308.96
6 14	105.41	49.76	109.08	69.05	84.17	48.90	104.02	107.28	81.35	158.41	49.94	78.09	76.02	210.27	59.27	46.83	45.05	103.43
6 15	115.18	53.37	107.57	65.50	54.98	50.09	161.52	235.61	355.64	109.36	93.35	118.99	73.65	131.88	45.64	47.12	42.38	63.57
6 16	174.74	53.37	126.83	97.80	89.35	102.25	123.88	152.63	126.84	114.40	50.97	108.32	112.03	101.06	46.83	217.53	45.79	71.13
6 17	193.96	55.96	149.42	89.65	63.72	68.02	161.52	143.74	122.25	93.80	49.94	91.72	119.88	284.66	70.83	66.39	44.01	89.80
6 18	142.27	55.00	189.71	83.87	135.59	82.69	145.66	133.81	211.90	86.24	50.97	110.10	200.79	957.26	60.01	164.63	72.02	60.90
6 19	97.08	62.70	132.74	80.17	137.51	61.20	174.85	238.57	194.12	123.58	90.09	191.15	167.74	580.73	58.68	112.17	68.61	91.58
6 20	91.47	67.56	205.89	144.03	192.64	50.09	118.25	229.68	214.86	107.43	82.54	152.63	109.51	376.53	53.05	90.39	81.94	77.65
6 21	85.36	77.62	288.77	161.52	85.80	46.68	180.78	180.78	232.65	104.62	291.92	110.10	196.64	409.72	76.02	64.01	91.58	78.09
6 22	81.62	82.93	188.59	108.02	257.84	57.49	147.59	140.77	180.78	98.24	115.43	120.77	255.17	255.17	139.29	76.02	139.29	115.58
6 23	87.28	116.17	212.94	148.18	361.56	57.49	145.66	111.43	171.89	236.79	213.38	188.19	215.75	253.98	162.41	94.54	86.98	81.35
6 24	92.22	111.75	176.91	118.84	274.14	57.49	186.71	138.19	167.45	318.74	115.43	122.69	214.72	628.29	138.70	61.35	304.51	180.04
6 25	120.21	111.18	199.60	141.66	207.45	51.12	161.52	136.18	180.78	198.42	124.62	188.19	154.70	337.56	204.79	86.98	465.29	208.49
6 26	86.92	115.08	166.58	123.29	214.86	56.16	145.66	174.85	194.12	155.89	128.47	126.55	176.04	293.25	112.77	92.76	654.22	158.26
6 27	83.03	140.75	142.24	243.02	222.27	51.12	200.05	280.06	229.68	141.37	111.88	161.52	124.03	230.72	89.65	80.31	479.81	209.68
6 28	85.73	155.05	165.95	217.83	238.57	73.65	174.85	320.07	167.45	151.00	111.88	140.03	108.91	175.00	70.53	82.98	446.92	185.08
6 29	82.32	151.49	165.72	165.96	216.35	200.05	135.59	277.10	176.34	135.59	146.40	128.47	189.52	781.51	59.57	163.74	465.29	153.81
6 30	42.33	212.34	294.30	168.93	248.95	326.00	123.88	229.68	173.37	196.93	122.69	138.11	126.10	612.14	74.98	116.32	316.67	158.26

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km²

Month	Day	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
7	1	76.99	188.23	376.30	186.71	262.28	260.80	157.07	331.93	167.45	256.35	106.54	191.15	131.88	656.15	46.68	162.85	360.23	151.15
7	2	83.94	180.76	370.26	158.55	222.27	211.90	263.03	226.72	136.18	241.54	111.88	192.64	140.18	409.72	43.86	113.51	539.53	178.11
7	3	88.87	191.42	339.37	148.18	200.05	268.21	174.85	315.63	185.23	284.88	108.32	183.75	230.72	300.51	56.46	123.58	551.24	701.05
7	4	122.38	164.45	437.91	176.34	210.42	285.25	214.86	235.61	200.05	283.03	96.47	198.56	165.96	228.35	60.90	128.18	368.83	350.15
7	5	215.03	182.13	527.38	231.16	248.95	219.31	386.76	229.68	226.72	235.61	91.72	198.56	187.45	221.38	41.34	300.07	335.48	237.83
7	6	192.98	198.77	555.76	326.00	222.27	257.84	358.60	226.72	167.45	271.17	134.25	171.89	141.81	195.60	46.83	343.49	340.23	176.04
7	7	255.60	166.66	519.34	454.92	179.30	186.71	300.81	200.05	158.55	400.09	171.89	198.56	131.88	538.49	46.38	484.11	442.92	292.81
7	8	365.19	164.49	550.97	157.07	170.41	312.66	222.27	232.65	315.63	280.06	122.69	192.64	230.72	250.13	61.79	246.57	455.07	263.62
7	9	228.86	153.63	487.94	195.60	167.45	238.57	260.80	185.23	288.21	395.65	118.99	170.41	143.29	236.65	89.65	264.95	353.41	195.45
7	10	318.28	247.85	425.54	382.31	186.71	235.61	248.95	177.82	217.83	271.17	171.89	198.56	144.03	758.84	69.20	251.76	231.76	170.26
7	11	520.14	173.14	495.57	361.56	176.34	288.95	240.05	179.30	331.93	345.26	140.03	207.45	159.74	684.74	185.38	288.36	201.97	490.48
7	12	283.06	167.71	505.72	414.91	170.41	245.98	379.35	220.79	220.79	282.28	186.71	198.56	153.07	517.30	131.73	275.77	272.95	229.39
7	13	266.70	170.94	536.84	440.10	161.52	248.95	361.56	188.19	223.75	244.50	170.41	177.82	148.03	455.68	128.62	222.27	214.12	203.01
7	14	255.36	473.42	512.45	389.72	580.87	219.31	262.28	236.35	395.65	250.43	161.52	214.86	123.29	419.36	207.01	365.27	207.45	177.08
7	15	253.08	448.23	470.39	366.01	345.26	204.49	232.65	312.66	306.74	410.46	161.52	188.19	160.63	291.77	152.92	228.20	275.77	150.26
7	16	241.74	228.58	426.73	379.35	309.70	195.60	254.87	220.79	262.28	288.95	142.25	231.16	117.95	251.46	317.11	254.28	218.72	155.59
7	17	231.71	370.49	409.30	226.72	306.74	251.91	235.61	214.86	280.06	288.21	271.17	204.49	109.51	253.98	456.55	205.23	235.46	239.17
7	18	241.06	205.27	414.60	203.01	260.80	226.72	326.00	253.39	440.10	253.39	314.15	204.49	126.10	253.98	731.87	213.09	270.28	324.37
7	19	328.28	200.43	367.24	262.28	248.95	222.27	232.65	425.28	444.55	262.28	288.95	231.16	178.86	314.00	451.51	188.19	365.27	288.36
7	20	249.83	201.51	359.77	245.98	238.57	294.87	203.01	371.94	326.00	253.39	262.28	247.46	170.41	199.75	345.26	259.61	272.95	199.75
7	21	251.83	181.56	391.57	229.68	291.92	355.64	285.99	244.50	265.25	337.86	226.72	220.79	170.41	207.01	429.43	210.71	263.62	236.65
7	22	244.65	178.60	389.01	466.77	251.91	303.77	245.98	229.68	376.38	247.46	223.75	294.88	159.00	207.01	326.89	224.64	345.26	279.92
7	23	356.45	188.62	404.39	395.65	232.65	326.00	248.95	214.86	361.56	291.92	204.49	247.46	231.90	165.96	326.89	196.49	245.39	400.83
7	24	285.79	176.43	417.73	345.26	238.57	297.85	232.65	200.05	320.07	265.25	326.00	228.20	172.34	153.07	325.85	216.49	230.57	360.23
7	25	269.44	174.84	391.23	537.90	235.61	669.78	240.05	205.97	265.25	247.46	250.43	214.86	210.27	136.33	287.77	216.49	230.57	360.23
7	26	254.85	233.71	489.59	500.86	243.02	414.91	265.25	182.26	271.17	238.57	237.09	247.46	208.20	157.22	275.17	181.08	191.30	316.67
7	27	306.60	222.37	488.23	517.16	315.63	326.00	232.65	235.61	265.25	229.68	213.38	220.79	449.44	485.59	272.51	200.79	180.04	297.10
7	28	291.15	183.84	434.48	462.33	315.63	331.93	283.03	188.19	285.99	265.25	203.01	291.92	283.32	241.54	264.65	189.23	150.26	287.03
7	29	279.70	181.56	488.96	425.28	331.93	283.03	248.95	451.96	259.32	271.17	188.19	265.25	259.02	197.67	254.58	163.74	151.15	208.49
7	30	263.79	170.79	452.32	400.09	355.64	280.06	222.27	320.07	238.57	271.17	203.01	259.32	235.46	176.04	239.02	210.71	145.96	205.23
7	31	364.20	171.87	381.53	348.23	400.09	274.14	355.64	323.04	244.50	277.10	247.46	277.10	228.35	218.12	220.35	157.37	204.05	263.62

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km²

Month	Day	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
8	1	384.49	210.40	451.81	271.17	274.14	265.25	571.98	389.72	217.83	259.32	398.61	391.20	249.24	246.43	204.79	178.11	177.08	180.04
8	2	247.56	373.73	337.14	235.61	238.57	285.99	366.01	309.70	232.65	345.26	268.21	474.18	212.94	235.46	197.08	263.62	144.33	172.19
8	3	295.77	307.45	287.10	245.98	262.28	323.04	244.50	277.10	203.01	435.66	274.14	383.79	184.34	224.79	220.35	211.90	607.40	386.31
8	4	318.79	353.96	374.87	232.65	251.91	262.28	323.04	229.68	191.15	358.60	283.03	342.30	167.45	218.12	201.23	206.27	266.28	249.24
8	5	659.15	279.64	233.99	211.90	366.01	232.65	235.61	235.61	200.05	326.00	259.32	391.20	165.07	212.49	204.79	216.49	255.61	157.37
8	6	277.87	292.35	232.51	210.42	225.24	283.03	238.57	352.67	241.54	312.66	277.10	342.30	198.71	184.63	260.50	191.30	242.87	149.37
8	7	253.76	272.06	220.20	204.49	203.01	240.05	517.16	274.14	205.97	400.09	345.26	294.88	176.19	168.63	279.82	204.05	190.27	157.37
8	8	350.77	253.94	590.14	203.01	345.26	238.57	250.43	274.14	197.08	400.09	314.15	326.00	161.22	181.67	218.86	230.57	237.83	145.96
8	9	400.96	237.36	225.62	180.78	297.85	309.70	229.68	417.87	235.61	342.30	253.39	376.38	215.75	184.63	289.55	194.41	250.43	132.92
8	10	389.50	234.68	224.76	179.30	358.60	323.04	366.01	283.03	244.50	331.93	243.02	431.21	189.38	175.00	338.00	264.95	196.49	137.66
8	11	365.17	259.07	229.55	176.34	291.92	484.56	268.21	337.86	337.86	368.97	228.20	320.07	332.08	155.59	301.70	208.49	433.14	145.07
8	12	353.37	282.15	268.59	174.85	283.03	567.54	358.60	300.81	646.07	361.56	226.72	274.14	289.40	153.07	257.10	456.99	523.53	205.23
8	13	331.43	432.50	257.47	170.41	265.25	382.31	256.35	320.07	300.81	320.07	210.42	234.13	251.32	193.53	576.13	368.83	490.48	268.95
8	14	308.75	387.99	212.17	183.75	245.98	395.65	232.65	271.17	260.80	465.29	195.60	303.77	330.89	153.07	737.21	374.01	412.09	235.46
8	15	320.49	258.27	261.92	167.45	288.95	312.66	337.86	268.21	228.20	355.64	308.22	253.39	273.10	208.20	470.63	289.84	374.01	249.24
8	16	334.51	253.43	206.81	167.45	285.99	268.21	229.68	352.67	244.50	429.73	226.72	253.39	233.53	201.82	447.81	285.55	300.07	181.08
8	17	179.72	235.87	276.56	161.52	225.24	243.02	226.72	477.15	244.50	477.15	262.28	274.14	207.60	167.74	667.12	341.86	410.17	179.00
8	18	166.73	233.99	259.13	191.15	225.24	219.31	232.65	345.26	366.01	240.05	291.92	253.39	252.35	189.52	520.12	890.43	953.26	196.49
8	19	179.72	231.03	279.53	170.41	303.77	226.72	355.64	320.07	272.65	285.99	256.35	494.33	262.58	175.00	420.99	324.37	482.04	182.12
8	20	205.71	257.70	273.72	171.89	268.21	216.35	280.06	312.66	213.38	373.42	253.39	363.05	215.75	246.43	334.00	275.77	335.48	183.00
8	21	249.02	225.10	229.38	171.89	251.91	207.45	280.06	300.81	205.97	245.98	288.95	355.64	226.87	261.69	388.53	236.65	1221.32	171.30
8	22	166.73	244.37	235.76	191.15	271.17	200.05	271.17	400.09	191.15	220.79	398.61	352.67	202.27	175.00	325.85	218.72	808.63	170.26
8	23	232.78	239.92	458.08	174.85	257.84	191.15	489.00	312.66	183.75	223.75	398.61	314.15	240.35	157.22	275.17	217.53	486.19	278.58
8	24	249.02	225.10	458.08	161.52	240.05	300.81	403.06	280.06	201.53	253.39	438.62	314.15	230.72	242.72	245.39	218.72	555.98	178.11
8	25	179.72	278.45	267.10	198.56	226.72	188.19	337.86	283.03	219.31	226.72	376.38	320.07	297.10	176.93	222.57	195.45	703.86	367.05
8	26	158.07	267.33	299.81	183.75	248.95	348.23	348.23	303.77	186.71	231.16	317.11	277.10	365.57	176.93	211.31	210.71	582.50	698.23
8	27	166.73	235.48	299.41	174.85	232.65	229.68	352.67	326.00	216.35	243.02	336.37	247.46	265.69	195.60	246.28	156.48	494.78	291.33
8	28	175.39	235.48	288.99	214.86	226.72	248.95	345.26	268.21	173.37	231.16	285.99	237.09	260.50	202.86	205.53	129.81	348.52	356.82
8	29	174.31	232.51	301.18	229.68	216.35	229.68	379.35	297.85	168.93	245.98	271.17	231.16	219.46	199.75	204.19	145.96	563.09	271.62
8	30	168.90	303.64	304.54	260.80	191.15	226.72	320.07	259.32	160.04	349.71	247.46	265.25	191.90	183.60	229.53	161.81	338.74	402.76
8	31	166.73	250.29	289.16	248.95	183.75	214.86	280.06	250.43	165.96	271.17	247.46	268.21	181.82	163.30	210.71	155.59	643.55	318.15

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km²

Month	Day	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
9	1	162.40	310.31	280.61	251.91	312.66	285.99	277.10	235.61	146.40	283.03	228.20	253.39	189.52	191.15	451.96	148.48	853.68	266.28
9	2	155.91	261.41	261.29	232.65	240.05	238.57	268.21	244.50	138.25	383.79	217.83	231.16	199.75	187.89	395.05	185.08	501.30	270.28
9	3	147.24	370.32	236.67	254.87	207.45	262.28	297.85	227.72	134.40	299.92	210.42	265.25	205.97	192.34	332.37	146.85	544.27	404.54
9	4	149.41	265.11	269.44	294.88	271.17	215.91	283.03	277.10	130.40	289.32	207.45	237.09	205.97	191.75	369.57	121.36	463.22	282.73
9	5	138.58	276.23	247.78	379.35	260.80	251.31	288.95	271.17	186.71	297.85	213.38	231.92	141.81	193.82	366.16	122.84	419.65	225.83
9	6	126.67	310.31	238.44	303.77	283.03	216.35	291.92	283.03	148.18	297.85	220.79	408.98	127.58	189.97	531.68	136.03	471.52	267.62
9	7	121.26	319.20	360.90	238.57	243.02	200.05	348.23	280.06	216.35	271.17	200.05	280.06	123.29	188.34	382.16	118.55	294.14	192.34
9	8	116.93	319.20	293.77	225.24	203.01	229.68	392.68	320.07	165.96	291.92	200.05	247.46	172.34	182.71	282.14	125.95	208.27	253.09
9	9	112.60	276.23	276.73	216.35	403.06	200.05	334.89	253.39	182.26	352.67	200.05	231.16	172.34	182.71	282.14	125.95	208.27	253.09
9	10	113.68	339.20	334.92	204.49	366.01	191.15	303.77	229.68	244.50	294.88	198.56	213.38	163.30	171.59	329.11	147.74	163.74	174.11
9	11	146.16	285.86	276.05	203.01	407.50	192.64	271.17	229.68	358.60	320.07	204.49	213.38	163.30	171.59	329.11	147.74	163.74	174.11
9	12	161.32	250.29	252.40	192.64	481.59	179.30	250.43	262.28	257.84	280.06	247.46	198.56	158.11	168.93	276.51	196.49	149.37	173.22
9	13	190.55	238.44	248.87	180.78	546.79	174.85	238.57	229.68	228.20	280.06	262.28	192.64	175.00	164.78	229.53	178.11	141.81	159.15
9	14	141.83	261.41	254.79	171.89	601.62	167.45	229.68	271.17	216.35	253.39	226.72	210.42	175.00	164.78	229.53	178.11	141.81	159.15
9	15	106.10	276.23	246.42	161.52	389.72	171.89	217.83	235.61	213.38	247.46	220.79	203.01	208.23	165.67	216.49	184.04	111.43	137.66
9	16	105.02	257.70	257.36	174.85	277.10	161.52	214.86	214.86	195.60	243.02	213.38	191.15	172.34	162.70	176.04	187.15	92.76	142.55
9	17	192.67	276.23	244.88	176.34	245.98	157.07	214.86	208.94	198.56	283.03	226.72	183.75	141.81	160.18	158.26	173.22	82.39	134.40
9	18	184.30	272.52	234.91	163.00	235.61	149.66	259.32	208.94	210.42	237.09	192.64	171.89	140.92	168.33	153.81	155.59	95.87	105.36
9	19	191.02	356.98	235.48	170.41	211.90	152.63	203.01	205.97	203.01	231.16	186.71	170.41	173.22	158.11	146.11	128.92	126.70	95.87
9	20	231.09	273.66	462.99	183.00	198.56	180.78	194.12	241.54	208.94	220.79	171.89	167.45	155.59	154.41	137.81	128.92	88.61	78.68
9	21	207.89	253.66	248.55	176.34	200.05	158.55	183.75	268.21	195.60	214.86	157.07	155.59	132.62	157.96	130.70	146.85	92.17	167.45
9	22	240.95	261.41	232.34	183.75	188.19	198.56	179.30	250.43	186.71	210.42	151.15	163.00	117.21	168.33	113.95	132.92	78.09	120.62
9	23	188.75	303.64	202.82	176.34	198.56	174.85	180.78	235.61	177.82	204.49	144.33	157.07	112.62	165.37	111.14	113.51	78.09	139.29
9	24	192.45	258.22	189.71	176.34	188.19	154.11	182.26	241.54	186.71	198.56	142.25	280.06	106.99	193.08	116.62	108.02	107.43	140.18
9	25	172.10	250.69	181.22	171.89	203.01	152.63	171.89	247.46	183.75	192.64	140.03	226.72	98.28	194.12	247.02	102.10	79.72	132.03
9	26	158.63	300.33	171.02	167.45	207.45	152.63	200.05	217.83	177.82	179.30	130.40	192.64	88.76	179.30	216.49	98.24	79.72	146.85
9	27	155.49	252.17	156.91	161.52	216.35	139.59	174.85	203.01	182.26	177.82	140.03	177.82	84.17	168.63	256.06	97.06	72.61	110.10
9	28	145.95	225.62	144.94	161.52	214.86	133.51	171.89	208.94	192.64	171.89	167.45	183.75	79.72	175.15	195.45	120.62	100.76	127.44
9	29	139.68	211.31	134.72	179.30	198.56	129.51	173.37	197.08	173.37	167.45	280.06	188.19	76.91	182.56	283.62	119.29	89.21	108.77
9	30	69.83	190.57	126.26	171.89	203.01	131.59	167.45	205.97	182.26	167.45	220.79	170.41	71.87	170.71	173.22	112.17	79.28	126.70

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km2

Month Day	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
10 1	125.36	180.19	121.37	154.11	195.60	123.88	149.66	185.23	175.60	161.52	200.05	165.96	68.90	168.33	159.15	109.36	120.62	98.99
10 2	119.63	181.68	118.13	145.66	211.90	125.81	138.40	182.26	140.18	160.04	183.75	161.52	65.20	171.74	193.38	90.98	93.95	116.32
10 3	113.08	178.71	112.62	135.59	174.85	114.54	136.18	176.34	144.92	148.18	165.96	157.07	60.46	168.63	149.52	90.98	89.80	172.19
10 4	107.71	173.18	112.62	133.51	170.41	102.25	136.18	171.89	132.33	152.63	157.07	151.15	58.24	162.70	163.74	83.57	92.17	105.36
10 5	100.54	173.18	112.62	133.51	167.45	107.43	138.40	155.59	149.66	148.18	177.82	151.15	62.38	157.07	264.06	84.17	80.31	133.66
10 6	95.71	170.22	110.67	131.59	171.89	97.06	136.18	149.66	117.36	155.59	142.25	144.33	61.94	146.70	172.19	86.39	74.09	159.15
10 7	94.95	172.95	110.67	129.51	161.52	93.65	131.59	146.70	118.40	171.89	134.25	148.18	55.27	141.22	158.26	71.57	72.02	117.06
10 8	93.23	171.87	109.16	122.10	157.07	92.02	138.40	140.77	111.43	157.07	124.62	144.33	48.90	138.40	131.44	69.65	70.53	90.98
10 9	93.23	179.96	108.40	123.88	152.63	90.54	126.84	146.70	132.33	146.40	118.99	138.11	58.24	132.77	132.33	65.79	69.65	75.13
10 10	93.44	198.54	106.13	188.19	147.59	88.91	124.62	136.18	138.99	138.11	115.43	132.33	47.42	131.44	111.14	72.61	67.72	73.05
10 11	91.44	226.70	103.22	139.59	157.07	87.43	124.62	129.21	123.58	134.25	130.40	126.55	44.31	132.18	118.10	63.57	60.90	67.27
10 12	90.47	278.73	102.46	129.51	163.00	87.43	117.66	124.62	117.36	120.77	108.32	124.62	41.79	134.10	118.84	58.83	62.24	66.83
10 13	88.68	260.61	99.48	120.18	154.11	82.69	113.51	124.62	124.62	120.77	108.32	124.62	37.05	143.74	112.47	57.05	60.90	54.23
10 14	86.88	229.89	97.33	120.18	158.55	85.80	109.36	113.51	127.88	118.99	108.32	144.33	32.45	131.73	96.32	57.05	59.57	52.75
10 15	84.13	252.12	109.78	116.47	147.59	84.17	100.91	111.43	101.80	118.99	110.10	132.33	30.08	123.44	88.76	55.86	58.38	50.38
10 16	83.37	223.96	100.59	112.77	149.66	82.69	94.84	109.36	88.76	115.43	170.41	128.47	27.71	129.36	82.09	54.68	57.49	48.16
10 17	81.65	102.76	94.93	127.58	145.66	81.06	87.13	100.91	91.28	113.66	161.52	124.62	26.52	131.14	80.02	53.49	58.83	45.79
10 18	80.89	90.91	94.70	149.66	145.66	73.65	85.20	98.84	89.65	110.10	177.82	118.99	25.19	126.25	76.91	53.05	54.68	45.05
10 19	79.09	84.98	92.08	191.15	137.51	75.13	83.28	90.98	87.87	106.54	128.47	118.99	24.30	123.44	75.87	50.09	54.68	44.75
10 20	78.34	82.02	92.03	137.51	135.59	71.04	85.20	89.06	85.50	98.10	117.21	111.88	23.56	116.62	72.91	48.16	56.31	41.94
10 21	77.58	79.05	86.49	127.58	133.51	81.06	85.20	87.13	78.39	93.35	122.69	110.10	24.30	119.14	74.39	50.09	58.38	40.01
10 22	75.93	75.66	84.73	123.88	131.59	79.57	85.20	83.28	82.24	91.72	110.10	104.76	23.12	113.51	70.98	47.86	58.38	39.12
10 23	86.14	75.66	83.69	120.18	127.58	77.94	79.43	81.35	81.50	91.72	104.76	101.36	23.12	111.14	69.65	54.68	53.49	37.93
10 24	73.45	72.69	81.69	118.25	127.58	79.57	79.43	79.43	78.39	90.09	96.47	99.73	22.52	109.65	69.20	50.83	52.31	36.45
10 25	72.80	73.12	80.08	114.54	125.81	76.46	75.72	77.50	73.20	88.46	93.35	98.10	22.52	106.39	69.65	48.16	51.12	35.27
10 26	70.30	71.64	79.04	112.77	125.81	73.65	74.09	77.50	70.39	86.83	93.35	93.35	22.08	103.43	64.61	46.83	50.09	34.38
10 27	69.65	68.98	77.36	112.77	123.88	70.83	72.31	75.72	69.05	83.87	86.83	91.72	22.23	105.06	63.72	45.34	47.86	33.64
10 28	69.00	68.33	75.74	97.06	122.10	69.35	70.68	74.09	64.90	82.54	82.54	90.09	22.23	100.91	63.27	44.75	47.12	32.45
10 29	67.46	66.60	75.36	84.17	120.18	69.35	68.90	72.31	63.72	82.54	79.57	88.46	22.38	98.69	60.75	45.34	46.83	32.45
10 30	67.46	109.23	74.39	79.57	120.18	69.35	67.13	70.68	62.98	70.98	76.61	85.35	22.23	95.58	59.57	42.97	46.08	32.01
10 31	51.22	64.23	70.52	77.94	120.18	70.83	65.50	68.90	61.05	69.65	70.98	83.87	21.83	95.58	59.57	42.97	46.08	32.01

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km²

Month	Day	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
11	1	64.96	64.78	71.50	77.94	118.25	66.53	65.50	65.50	57.94	68.31	68.31	82.54	21.34	92.02	58.24	42.38	44.75	31.27
11	2	64.31	62.84	72.15	72.31	116.47	65.20	65.50	67.13	57.94	68.31	66.98	81.06	21.19	89.06	57.05	41.34	43.27	30.38
11	3	64.31	60.68	71.50	72.31	116.47	63.72	62.09	65.50	56.16	68.31	65.79	73.79	20.60	86.24	55.12	41.05	42.97	29.64
11	4	62.70	60.68	70.85	68.02	114.54	63.72	60.31	63.72	54.98	68.31	64.46	72.31	20.15	84.17	53.49	41.05	41.34	28.45
11	5	62.05	59.49	69.32	66.53	114.54	62.53	65.50	62.09	54.98	66.98	61.79	69.65	19.71	84.61	52.46	40.01	41.05	27.27
11	6	60.51	57.87	67.70	65.20	90.54	61.20	58.83	60.31	52.75	65.79	60.46	68.31	19.41	81.06	51.72	38.82	40.45	26.82
11	7	60.86	58.85	67.05	62.53	54.98	60.01	57.20	60.31	52.75	65.79	59.12	66.98	19.26	78.33	51.27	38.82	39.71	26.08
11	8	58.36	57.27	65.51	61.20	53.64	58.68	55.72	58.83	50.97	64.46	57.94	68.31	18.97	78.33	50.23	37.64	38.82	25.49
11	9	57.82	56.23	62.71	61.20	52.46	57.49	55.72	58.83	49.94	61.79	56.75	66.98	18.82	77.80	49.49	37.05	37.93	24.75
11	10	59.13	54.76	63.02	61.20	51.12	57.49	55.72	57.20	48.90	59.12	55.72	64.46	18.82	121.36	49.20	36.45	37.34	24.30
11	11	56.73	55.19	62.06	62.53	51.12	57.49	54.09	55.72	46.68	57.94	53.35	63.13	18.82	169.67	48.16	35.86	37.05	24.15
11	12	56.08	54.16	61.17	60.01	56.16	57.49	52.60	55.72	45.64	57.94	52.16	61.79	18.52	115.43	47.42	35.27	36.16	23.41
11	13	54.73	54.16	60.63	57.49	52.46	56.16	51.12	55.72	44.75	56.75	50.97	63.13	18.08	102.25	47.12	34.38	35.56	23.12
11	14	55.54	53.12	59.67	56.16	50.09	53.64	51.12	55.72	44.16	55.72	48.75	61.79	17.63	96.47	46.08	33.93	35.27	23.41
11	15	54.19	52.62	55.23	56.16	47.86	53.64	49.49	54.09	43.71	55.72	49.94	61.79	17.63	92.91	45.34	33.64	34.67	22.82
11	16	54.19	52.08	53.71	53.64	46.68	52.46	57.20	54.09	43.71	54.53	48.75	61.79	17.34	90.54	45.34	33.04	35.27	22.23
11	17	53.54	57.54	52.82	53.64	46.68	52.46	55.72	51.12	42.68	54.53	47.57	60.46	17.04	87.72	45.05	32.75	34.38	21.63
11	18	52.72	56.50	53.71	52.46	46.68	52.46	52.60	51.12	42.23	53.35	46.53	54.53	16.89	85.65	43.71	32.30	33.93	21.34
11	19	52.72	54.43	52.82	52.46	45.64	51.12	51.12	49.49	42.23	52.16	45.49	45.49	16.74	81.65	43.12	36.75	34.38	21.34
11	20	53.54	53.54	51.96	51.12	44.45	50.09	51.12	49.49	42.23	52.16	44.45	44.45	16.60	78.98	42.08	34.67	33.64	21.34
11	21	51.83	53.54	51.42	50.09	44.45	50.09	49.49	51.12	39.42	50.97	43.42	43.42	16.30	76.17	41.19	33.04	32.45	21.04
11	22	51.83	52.65	50.98	48.90	43.42	48.90	51.12	48.01	38.08	49.94	41.34	42.38	16.15	74.54	40.60	31.71	32.01	20.75
11	23	51.02	51.76	49.48	47.86	43.42	48.90	49.49	48.01	37.19	48.75	45.49	42.38	15.71	73.35	40.01	30.97	31.41	20.45
11	24	51.02	50.33	49.05	47.86	42.23	47.86	48.01	46.38	35.86	48.75	40.31	42.38	15.41	72.16	39.71	30.38	32.01	20.15
11	25	50.48	50.33	52.99	47.86	41.19	47.86	48.01	44.90	35.42	47.57	39.27	41.34	15.41	70.39	39.71	31.71	31.27	19.71
11	26	49.66	49.44	52.99	46.68	40.01	46.68	44.90	48.01	34.97	47.57	39.27	41.34	15.41	69.79	39.12	35.56	30.67	18.67
11	27	50.48	49.44	52.02	46.68	38.97	45.64	44.90	46.38	34.23	47.57	39.27	40.31	15.11	69.20	38.82	31.71	30.67	18.52
11	28	49.66	49.44	52.18	45.64	38.08	44.45	42.23	44.90	34.23	46.53	39.27	40.31	15.11	67.42	38.53	30.38	30.38	18.52
11	29	49.66	48.01	51.29	44.45	37.05	45.64	40.90	43.57	34.53	46.53	38.23	39.27	15.26	65.50	37.64	29.64	30.38	18.37
11	30	20.25	48.01	51.29	43.42	36.16	44.45	40.90	42.23	34.53	45.49	37.19	39.27	16.74	62.83	36.75	29.19	29.64	17.93

Location : Upper Seti Dam Site River : Seti
Index No. Drainage area : 1,502 km²

Month	Day	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
12	1	49.66	46.23	50.48	43.42	36.16	43.42	40.90	42.23	34.97	44.45	37.19	39.27	16.00	62.24	36.01	31.71	29.19	17.93
12	2	48.85	47.12	49.23	42.23	35.12	44.45	40.90	42.23	32.90	44.45	37.19	38.23	14.97	61.50	35.42	30.67	29.19	17.63
12	3	48.03	46.23	49.23	41.19	35.12	43.42	43.57	42.23	33.79	43.42	39.27	38.23	14.97	60.16	35.12	28.90	28.90	17.49
12	4	48.85	45.35	47.87	41.19	35.12	43.42	42.23	40.90	32.90	42.38	36.30	37.19	14.67	61.50	34.53	28.90	28.75	17.49
12	5	47.60	44.46	47.06	41.19	35.12	42.23	43.57	40.90	32.90	41.34	36.30	37.19	14.23	60.16	33.79	28.45	28.75	17.19
12	6	47.60	44.46	46.17	40.01	34.08	41.19	40.90	39.56	32.16	42.38	34.53	36.30	14.08	60.16	33.49	28.15	28.45	17.04
12	7	46.71	43.79	45.73	40.01	33.19	41.19	40.90	39.56	32.16	41.34	33.64	35.42	13.93	59.42	33.04	27.71	28.15	17.04
12	8	46.71	43.79	44.38	40.01	33.19	42.23	39.56	39.56	30.97	41.34	33.64	36.30	14.37	59.42	33.04	27.71	27.71	16.60
12	9	46.71	43.79	44.38	38.97	32.16	41.19	39.56	39.56	29.04	40.31	32.01	35.42	14.23	58.09	33.04	30.23	27.71	16.45
12	10	46.71	43.25	43.94	38.08	32.16	41.19	39.56	39.56	29.49	40.31	32.01	34.53	13.93	57.35	32.75	65.35	27.71	16.30
12	11	46.71	42.58	44.92	37.05	31.27	41.19	39.56	38.23	29.49	38.23	32.75	34.53	13.63	55.86	32.30	41.05	27.41	16.00
12	12	46.71	42.58	43.56	36.16	30.23	48.90	39.56	38.23	29.78	38.23	32.01	34.53	13.34	55.12	32.30	35.86	26.97	16.00
12	13	46.71	42.58	43.13	36.16	30.23	44.45	38.23	39.56	30.53	38.23	32.01	33.64	13.34	64.76	32.30	34.67	26.82	15.71
12	14	45.89	38.99	42.70	35.12	34.08	41.19	36.75	38.23	28.01	38.23	30.23	33.64	13.34	53.49	31.71	69.20	26.38	15.41
12	15	46.71	38.99	41.41	35.12	30.23	41.19	36.75	36.75	28.01	38.23	30.23	32.75	13.48	52.75	31.41	40.01	26.08	15.26
12	16	46.71	35.94	40.67	35.12	30.23	41.19	36.75	36.75	29.49	38.23	30.23	32.75	13.04	51.27	31.41	32.75	25.64	14.23
12	17	45.89	35.94	40.24	34.08	30.23	41.19	35.42	35.42	27.27	38.23	29.34	32.01	13.04	51.27	31.41	33.04	25.64	14.23
12	18	45.08	35.94	40.24	34.08	32.16	38.97	34.08	35.42	27.27	38.23	28.45	31.12	12.74	51.27	31.27	32.01	25.19	14.23
12	19	45.08	34.84	38.96	32.16	31.27	38.08	34.08	35.42	24.30	37.19	28.45	31.12	12.74	51.27	30.67	32.30	25.04	14.23
12	20	44.54	34.84	38.96	31.27	30.23	37.05	34.08	34.08	23.26	37.19	28.45	31.12	12.15	51.27	30.67	31.71	25.04	14.23
12	21	44.54	34.84	38.52	31.27	28.60	35.12	32.75	34.08	23.26	37.19	27.71	31.12	11.85	49.49	30.67	31.27	24.30	14.23
12	22	44.54	32.97	37.78	31.27	28.60	35.12	32.75	34.08	23.26	36.30	27.71	31.12	11.56	47.86	30.53	30.38	24.30	14.23
12	23	43.80	32.97	36.68	30.23	27.71	35.12	32.75	34.08	22.97	35.42	26.97	31.12	11.56	46.08	29.78	29.64	24.30	14.23
12	24	44.34	32.97	37.35	30.23	27.71	35.12	32.75	32.75	22.67	35.42	26.23	31.12	11.56	46.08	29.78	29.19	23.86	14.23
12	25	43.05	32.30	36.25	29.34	26.97	34.08	32.75	34.08	22.67	41.34	26.23	31.12	11.26	46.08	29.78	28.90	23.71	14.08
12	26	43.05	19.41	36.25	31.27	26.97	34.08	74.09	31.41	22.67	43.42	26.23	31.12	11.26	46.08	29.34	28.45	23.71	13.93
12	27	43.05	20.08	35.08	43.42	26.97	34.08	42.23	31.41	22.38	36.30	26.97	30.23	11.26	45.20	29.04	28.15	23.71	13.93
12	28	43.05	17.41	35.82	42.23	26.97	34.08	36.75	31.41	22.38	36.30	25.49	30.23	11.11	43.42	29.04	27.71	23.71	13.63
12	29	42.62	16.74	34.64	34.08	26.97	34.08	34.08	31.41	21.49	35.42	25.49	30.23	11.11	43.42	28.30	27.71	23.71	13.48
12	30	41.88	16.74	34.64	30.23	26.08	34.08	34.08	30.23	21.78	34.53	25.49	30.23	10.97	42.38	27.86	27.41	23.41	13.48
12	31	33.73	16.74	33.58	29.34	26.08	34.08	34.08	30.23	22.38	34.53	25.49	30.23	11.11	40.45	27.71	26.82	23.12	13.48

Generated River Discharge
of Madi River at Confluence of Seti River

Generated Daily River Discharge (m3/sec)
 Location : End of Madi River : Madi
 Index No. : Drainage area : 1,102 km2
 Note : DNA means data not acquired

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Month													
Day													
1	27.87	34.94	21.32	14.77	23.50	41.23	27.87	34.94	24.79	22.61	29.54	28.38	26.20
2	28.90	34.94	21.32	14.77	22.48	42.51	27.87	36.22	24.79	22.61	30.44	28.38	25.30
3	28.90	33.65	20.29	13.87	22.48	42.51	25.56	36.22	24.79	22.61	29.54	28.38	25.30
4	28.90	33.65	20.29	13.87	22.48	41.23	25.56	36.22	24.02	21.83	29.54	27.23	25.30
5	27.87	33.65	19.14	13.87	21.32	41.23	24.40	34.94	24.02	21.83	28.77	27.23	25.30
6	26.72	32.37	19.14	13.87	21.32	39.94	24.40	34.94	24.02	21.83	27.87	27.23	24.27
7	25.69	33.65	19.14	14.77	21.32	41.23	23.38	34.94	23.38	21.83	27.10	26.20	24.27
8	25.69	32.37	19.14	13.87	21.32	41.23	23.38	34.94	23.38	21.83	27.10	26.20	24.27
9	25.69	33.65	19.14	12.97	21.32	41.23	23.38	33.65	22.61	21.83	27.10	33.14	23.38
10	24.53	33.65	18.11	12.97	21.32	39.94	22.35	34.94	22.61	21.19	27.10	29.54	23.38
11	24.53	33.65	18.11	12.97	21.32	38.66	22.35	33.65	22.61	20.42	27.10	28.38	24.27
12	24.53	33.65	18.11	12.97	20.29	37.50	21.32	33.65	22.61	20.42	26.20	28.38	23.38
13	24.53	36.22	18.11	12.97	20.29	37.50	21.32	32.37	22.61	19.78	26.20	28.38	24.27
14	24.53	32.37	16.95	12.97	19.14	37.50	21.32	32.37	22.61	19.78	25.43	28.38	24.27
15	23.50	31.08	16.95	12.97	19.14	36.22	21.32	32.37	22.61	19.78	25.43	27.23	25.30
16	23.50	31.08	15.93	12.97	19.14	36.22	21.32	31.08	21.83	19.78	25.43	27.23	24.27
17	23.50	31.08	15.93	12.97	19.14	36.22	22.35	32.37	21.19	19.78	26.20	26.20	24.27
18	23.50	30.05	16.95	12.97	19.14	36.22	21.32	31.08	20.42	19.78	26.20	26.20	25.30
19	23.50	30.05	16.95	12.03	19.14	36.22	21.32	31.08	19.78	19.78	25.43	26.20	25.30
20	23.50	30.05	15.93	12.03	19.14	37.50	21.32	31.08	19.78	19.78	25.43	26.20	26.20
21	23.50	28.90	15.93	12.03	19.14	36.22	20.29	30.05	19.01	19.78	25.43	26.20	25.30
22	23.50	28.90	15.93	12.97	19.14	37.50	20.29	30.05	19.01	19.01	24.79	26.20	25.30
23	22.35	28.90	15.93	12.97	18.11	36.22	19.27	28.90	18.37	19.01	24.79	26.20	24.27
24	23.50	28.90	15.93	12.03	18.11	36.22	19.27	28.90	18.37	19.01	24.79	26.20	25.30
25	22.35	28.90	15.93	14.77	18.11	36.22	19.27	28.90	19.01	19.01	24.02	26.20	25.30
26	22.35	28.90	15.93	12.03	21.32	36.22	19.27	27.87	19.01	19.01	24.02	27.23	24.27
27	21.32	28.90	14.77	12.03	38.40	34.94	19.27	27.87	19.01	19.01	24.02	27.23	23.38
28	21.32	28.90	15.93	12.03	23.50	34.94	18.24	28.90	18.37	19.01	23.38	27.23	22.35
29	22.35	31.08	15.93	12.03	21.32	38.66	18.24	27.87	19.78	19.01	23.38	27.23	22.35
30	21.32	28.90	15.93	10.21	20.29	38.66	18.24	27.87	18.37	19.01	23.38	27.23	22.35
31	21.32	28.90	15.93	12.97	19.14	37.50	18.24	27.87	18.37	19.01	23.38	27.23	21.32

Location : End of Madi River River : Madi
Index No. Drainage area : 1,102 km²

Year Month Day	1976	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
2 1	21.32	28.90	15.93	12.03	22.48	36.22	18.24	27.87	17.85	18.37	24.02	27.23	21.32
2 2	20.16	27.87	15.93	11.12	19.14	36.22	19.27	26.72	17.85	18.37	24.02	27.23	20.42
2 3	20.16	27.87	18.11	11.12	19.14	34.94	20.29	27.87	17.85	18.37	24.02	26.20	20.42
2 4	20.16	27.87	16.95	11.12	20.29	34.94	18.24	26.72	17.85	18.37	24.02	26.20	20.42
2 5	19.27	27.87	15.93	11.12	20.29	34.94	18.24	26.72	17.85	18.37	23.38	27.23	20.42
2 6	19.27	26.72	14.77	11.12	18.11	34.94	17.21	32.37	17.85	18.37	24.79	26.20	20.42
2 7	19.27	27.87	14.77	12.03	18.11	33.65	17.21	26.72	17.85	18.37	24.02	26.20	19.39
2 8	21.32	43.80	15.93	11.12	22.48	33.65	16.18	27.87	17.21	18.37	24.79	25.30	20.42
2 9	20.16	30.05	14.77	10.21	22.48	33.65	16.18	28.90	17.21	17.85	24.02	24.27	20.42
2 10	19.27	30.05	14.77	12.03	19.14	33.65	15.16	27.87	17.85	17.85	23.38	23.38	19.39
2 11	19.27	28.90	14.77	10.21	19.14	33.65	15.16	26.72	17.21	17.85	23.38	23.38	27.23
2 12	19.27	28.90	14.77	10.21	18.11	33.65	14.13	27.87	17.21	17.85	22.61	23.38	21.32
2 13	20.16	28.90	15.93	10.21	19.14	33.65	14.13	26.72	17.21	17.85	24.02	24.27	21.32
2 14	20.16	28.90	15.93	10.21	18.11	32.37	15.16	26.72	17.21	18.37	24.79	23.38	27.23
2 15	19.27	28.90	14.77	10.21	18.11	32.37	14.13	26.72	19.01	17.85	23.38	22.35	24.27
2 16	19.27	27.87	16.95	10.21	21.32	32.37	14.13	25.69	17.85	17.85	22.61	22.35	21.32
2 17	20.16	27.87	15.93	10.21	22.48	32.37	16.18	25.69	17.85	18.37	21.83	22.35	21.32
2 18	33.65	27.87	13.87	10.21	20.29	31.08	15.16	25.69	17.85	17.85	21.83	23.38	20.42
2 19	24.53	27.87	12.97	10.21	21.32	32.37	14.13	28.90	17.21	17.21	21.83	23.38	20.42
2 20	20.16	31.08	12.97	9.30	19.14	32.37	14.13	31.08	17.21	17.21	21.83	22.35	19.39
2 21	19.27	27.87	13.87	10.21	20.29	36.22	14.13	27.87	16.57	16.57	21.83	22.35	19.39
2 22	19.27	27.87	13.87	9.30	18.11	42.51	14.13	24.53	16.57	16.57	24.79	23.38	23.38
2 23	19.27	27.87	13.87	9.30	19.14	38.66	14.13	34.94	16.05	17.85	21.83	21.32	22.35
2 24	18.37	26.72	18.11	9.30	16.95	36.22	13.49	32.37	16.05	16.05	24.79	21.32	22.35
2 25	18.37	26.72	19.14	9.30	16.95	34.94	13.49	37.50	15.41	16.05	23.38	22.35	21.32
2 26	19.27	26.72	15.93	9.30	18.11	34.94	13.49	33.65	15.41	17.21	21.83	22.35	20.42
2 27	20.16	26.72	16.95	9.30	19.14	38.66	13.49	33.65	15.41	16.57	22.61	25.30	24.27
2 28	19.27	26.72	16.95	9.30	19.14	37.50	12.79	36.22	15.41	17.85	21.83	25.30	21.32
2 29			15.93				13.49				23.38		

Location : End of Madi River : Madi
Index No. : Drainage area : 1,102 km2

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Month	1	2	3	4	5	6	7	8	9	10	11	12	1
Day	1	2	3	4	5	6	7	8	9	10	11	12	1
3	19.27	25.69	21.32	10.21	20.29	37.50	13.49	41.23	17.21	16.57	21.83	24.27	21.32
3	19.27	25.69	15.93	9.30	20.29	37.50	15.16	38.66	16.57	16.05	21.83	21.32	21.32
3	19.27	25.69	15.93	9.30	24.66	37.50	14.13	37.50	16.05	16.05	21.83	22.35	21.32
3	19.27	25.69	18.11	10.21	20.29	37.50	15.16	33.65	15.41	16.05	21.19	22.35	20.42
3	18.37	25.69	21.32	9.30	20.29	36.22	14.13	34.94	14.13	15.41	23.38	21.32	19.39
3	18.37	25.69	24.66	9.30	20.29	36.22	14.13	33.65	21.19	15.41	22.61	21.32	19.39
3	19.27	25.69	21.32	11.12	25.69	34.94	15.16	33.65	18.37	16.05	22.61	22.35	19.39
3	18.37	25.69	18.11	10.21	21.32	34.94	14.13	32.37	17.21	16.57	21.83	22.35	19.39
3	18.37	24.53	15.93	9.30	21.32	37.50	15.16	33.65	16.05	16.57	33.78	22.35	19.39
3	19.27	24.53	14.77	8.39	20.29	36.22	20.29	32.37	16.05	17.21	28.77	23.38	25.30
3	19.27	24.53	14.77	8.39	18.11	37.50	15.16	31.08	27.10	17.21	23.38	22.35	24.27
3	19.27	24.53	14.77	8.39	18.11	36.22	32.49	28.90	41.49	17.85	28.77	23.38	22.35
3	19.27	24.53	13.87	8.39	16.95	36.22	19.27	26.72	49.83	17.85	26.20	22.35	22.35
3	19.27	24.53	13.87	8.39	16.95	36.22	16.16	25.69	26.20	23.38	24.02	22.35	21.32
3	19.27	24.53	12.97	7.48	19.14	36.22	15.16	25.69	19.78	18.37	23.38	24.27	20.42
3	19.27	24.53	12.97	7.48	19.14	36.22	15.16	25.69	19.78	18.37	21.83	23.38	21.32
3	19.27	24.53	12.97	11.12	21.32	37.50	15.16	24.53	19.01	18.37	23.38	23.38	22.35
3	19.27	24.53	15.93	12.97	25.69	37.50	15.16	24.53	18.37	24.02	23.38	23.38	23.38
3	19.27	24.53	15.93	10.21	36.99	36.22	15.16	23.50	17.21	28.77	23.38	21.32	23.38
3	19.27	24.53	15.93	9.30	36.99	36.22	14.13	22.35	16.57	26.20	23.38	24.27	22.35
3	19.27	24.53	15.93	9.30	27.10	39.94	14.13	22.35	16.57	26.20	23.38	24.27	22.35
3	19.27	24.53	14.77	12.97	24.66	37.50	12.79	21.32	16.05	19.78	23.38	30.70	21.32
3	19.27	24.53	14.77	16.95	25.69	36.22	12.79	22.35	16.05	19.01	21.83	25.30	29.54
3	19.27	24.53	14.77	16.95	25.69	36.22	13.49	25.69	16.05	19.01	21.83	26.20	25.30
3	19.27	24.53	18.11	14.77	29.93	34.94	16.16	25.69	14.13	19.01	21.83	34.29	33.14
3	19.27	24.53	23.50	12.03	28.51	33.65	14.13	23.50	13.61	18.37	24.79	29.54	34.29
3	19.27	24.53	18.11	9.30	29.93	33.65	14.13	23.50	13.61	18.37	24.79	29.54	34.29
3	19.27	24.53	16.95	8.39	28.51	33.65	12.79	22.35	13.61	17.85	23.38	27.25	25.30
3	19.27	24.53	16.95	8.39	28.51	33.65	12.79	22.35	13.61	17.85	23.38	27.25	25.30
3	19.27	23.50	15.93	8.39	24.66	34.94	17.21	22.35	12.97	19.78	23.38	25.30	22.35
3	19.27	23.50	14.77	8.39	24.66	32.37	15.16	21.32	12.97	19.01	22.61	24.27	21.32
3	19.27	23.50	13.87	8.39	24.66	32.37	15.16	26.72	12.97	18.37	22.61	23.38	20.42
3	19.27	24.53	12.97	10.21	23.50	32.37	16.16	27.87	15.41	17.85	21.19	24.27	19.39
3	19.27	24.53	12.97	16.95	23.50	32.37	18.24	28.90	13.61	17.21	20.42	23.38	19.39
3	19.27	25.69	15.93	19.14	25.69	33.65	21.32	34.94	13.61	16.57	21.83	22.35	19.39

Location : End of Madi River River : Madi
Index No. Drainage area : 1,102 km2

Year Month Day	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
4 1	20.16	36.22	14.77	19.14	25.69	33.65	31.34	26.72	12.97	18.37	21.83	21.32	19.39
4 2	19.27	27.87	13.87	14.77	28.51	33.65	24.40	24.53	12.97	18.37	20.42	34.29	18.50
4 3	19.27	26.72	13.87	13.87	25.69	33.65	19.27	25.69	12.50	20.42	21.19	34.29	18.50
4 4	18.37	28.90	13.87	14.77	27.10	33.65	15.16	24.53	12.50	17.85	21.19	26.20	19.39
4 5	20.16	27.87	14.77	14.77	29.93	32.37	13.49	23.50	12.02	17.85	21.19	26.20	19.39
4 6	19.27	25.69	13.87	16.95	25.69	32.37	12.12	20.16	12.02	17.85	21.19	28.38	19.39
4 7	19.27	25.69	14.77	13.87	25.69	33.65	12.12	20.16	12.02	19.78	22.61	28.38	19.39
4 8	18.37	26.72	15.93	12.97	25.69	33.65	13.49	21.32	11.55	19.01	24.79	30.70	23.38
4 9	20.16	28.90	15.93	12.97	23.50	32.37	12.79	21.32	12.02	27.10	25.43	33.14	27.23
4 10	21.32	28.90	16.95	11.12	25.69	33.65	12.79	32.37	13.61	20.42	23.38	29.54	26.20
4 11	20.16	34.94	14.77	14.77	23.50	34.94	12.12	36.22	24.79	20.42	23.38	27.23	26.20
4 12	21.32	28.90	15.93	16.95	24.66	32.37	12.12	36.66	23.38	18.37	24.02	27.23	29.54
4 13	22.35	27.87	14.77	19.14	23.50	32.37	11.46	41.23	32.11	16.57	22.61	26.20	37.76
4 14	23.50	26.72	15.93	14.77	22.48	38.66	11.46	39.94	67.56	16.05	23.38	25.30	30.70
4 15	25.69	26.72	14.77	19.14	25.69	33.65	15.16	38.66	36.60	16.57	36.60	25.30	28.38
4 16	24.53	37.50	15.93	25.69	28.51	33.65	14.13	36.22	30.44	16.57	30.44	28.38	29.54
4 17	27.87	31.08	14.77	25.69	32.75	32.37	30.18	36.22	21.83	16.57	28.77	25.30	31.85
4 18	31.08	27.87	13.87	34.16	32.75	32.37	24.40	33.65	17.85	17.21	24.79	24.27	28.38
4 19	53.82	26.72	16.95	21.32	28.51	32.37	25.56	33.65	17.21	27.10	24.02	23.38	34.29
4 20	38.66	26.72	18.11	20.29	25.69	31.08	22.35	34.94	17.21	20.42	27.10	23.38	42.90
4 21	27.87	36.22	22.48	20.29	25.69	31.08	17.21	33.65	19.01	19.01	27.87	24.27	35.45
4 22	25.69	34.94	23.50	20.29	24.66	32.37	14.13	52.40	45.47	21.19	24.79	23.38	50.99
4 23	39.94	28.90	32.75	32.75	23.50	38.66	12.79	89.91	40.46	22.61	30.44	26.20	40.20
4 24	38.66	27.87	23.50	25.69	29.93	37.50	16.18	41.23	39.56	23.38	24.79	25.30	36.60
4 25	30.05	28.90	21.32	20.29	27.10	33.65	18.24	34.94	82.71	24.79	24.79	24.27	37.76
4 26	23.50	30.05	20.29	20.29	29.93	37.50	14.13	31.08	24.02	24.79	26.20	25.30	34.29
4 27	26.72	30.05	19.14	19.14	27.10	37.50	15.16	28.90	19.78	21.19	24.02	24.27	36.60
4 28	25.69	31.08	19.14	16.95	25.69	37.50	16.18	26.72	18.78	20.42	24.79	24.27	58.18
4 29	31.08	52.40	22.48	19.14	34.16	48.16	37.50	34.94	19.01	19.01	25.43	24.27	38.92
4 30	30.05	32.37	16.95	21.32	36.99	39.94	40.59	31.08	18.37	35.71	27.10	23.38	34.29

Location : End of Madi River : Madi
Index No. : Drainage area : 1,102 km²

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Month Day													
5 1	45.21	43.80	16.95	22.48	27.10	50.99	26.72	37.50	17.85	26.20	27.10	24.27	33.14
5 2	31.08	41.23	19.14	20.29	28.51	41.23	20.29	31.08	19.78	33.01	29.54	30.70	33.14
5 3	34.94	41.23	21.32	23.50	38.40	41.23	19.27	36.22	19.01	30.44	26.20	30.70	29.54
5 4	33.65	37.50	21.32	21.32	47.52	39.94	20.29	37.50	19.01	27.87	26.20	33.14	33.14
5 5	32.37	34.94	25.69	25.69	32.75	69.49	22.35	38.66	19.01	24.02	25.43	33.14	34.29
5 6	50.99	31.08	20.29	34.16	35.58	71.03	85.80	41.23	19.01	27.87	24.79	31.85	34.29
5 7	45.21	30.05	23.50	25.69	34.16	61.39	48.29	37.50	19.01	28.77	24.79	33.14	30.70
5 8	43.80	28.90	21.32	50.60	31.34	48.16	33.65	34.94	19.01	24.79	24.79	34.29	28.38
5 9	36.22	32.37	20.29	35.58	25.69	46.62	156.69	37.50	21.19	29.54	39.56	34.29	29.54
5 10	41.23	27.87	21.32	29.93	36.99	53.82	46.75	34.94	19.78	25.43	27.87	35.45	59.72
5 11	46.62	32.37	21.32	25.69	35.58	49.58	33.65	50.99	19.01	24.79	29.54	37.76	31.85
5 12	43.80	34.94	23.50	25.69	35.58	63.06	31.34	48.16	19.78	22.61	39.56	34.29	52.27
5 13	79.50	33.65	21.32	22.48	32.75	55.36	60.37	43.80	28.77	21.19	31.34	33.14	56.77
5 14	53.82	43.80	18.11	22.48	47.52	50.99	51.38	36.22	30.44	21.83	31.34	34.29	59.72
5 15	59.85	41.23	19.14	25.69	34.16	49.58	48.29	133.58	34.68	20.42	31.34	30.70	49.58
5 16	66.27	253.02	21.32	29.93	32.75	53.82	205.50	88.24	49.83	21.19	28.77	33.14	46.88
5 17	67.82	49.58	24.66	27.10	29.93	53.82	105.32	77.71	53.04	20.42	27.87	55.23	73.85
5 18	64.60	43.80	21.32	25.69	28.51	52.40	81.69	50.99	38.53	21.83	58.95	37.76	65.63
5 19	61.38	38.66	23.50	25.69	27.10	49.58	56.77	58.18	29.54	20.42	52.02	52.27	59.72
5 20	59.85	41.23	20.29	27.10	27.10	53.82	51.38	46.62	27.87	21.19	60.11	42.90	58.18
5 21	86.44	53.82	25.69	36.99	25.69	50.99	65.76	52.40	25.43	23.38	37.63	80.53	64.22
5 22	59.85	76.04	25.69	29.93	25.69	55.36	73.47	43.80	23.38	25.43	34.68	52.27	50.99
5 23	52.40	43.80	27.10	25.69	25.69	50.99	100.18	41.23	21.83	46.49	39.56	55.23	44.31
5 24	52.40	38.66	20.29	23.50	24.66	61.39	60.37	39.94	20.42	65.12	47.55	58.18	46.88
5 25	52.40	36.22	20.29	21.32	24.66	49.58	63.96	56.77	19.78	28.77	36.60	52.27	40.20
5 26	53.82	34.94	21.32	22.48	27.10	52.40	85.80	114.70	19.78	26.20	33.78	91.06	65.63
5 27	56.77	38.66	20.29	101.21	28.51	53.82	69.36	76.04	19.78	22.61	38.53	163.12	53.82
5 28	71.03	33.65	19.14	39.82	35.58	50.99	73.47	59.85	19.01	24.79	38.53	101.98	49.58
5 29	69.49	32.37	20.29	29.93	38.40	49.58	83.74	55.36	17.85	26.20	39.56	91.06	68.84
5 30	63.06	31.08	20.29	25.69	45.98	58.18	71.41	48.16	19.01	27.10	40.46	72.18	52.27
5 31	66.27	31.08	29.93	49.06	44.44	53.82	95.04	52.40	19.01	27.10	39.56	65.63	45.60

Location : End of Madi River : Madi
Index No. : Drainage area : 1,102 km²

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Month	6	1	23.50	53.69	55.23	50.99	55.76	69.49	22.61	34.68	45.47	58.18	70.51
6	2	31.08	39.82	103.26	45.98	49.58	60.37	101.21	19.01	30.44	35.71	53.82	59.72
6	3	33.65	29.93	61.01	39.82	114.70	184.40	95.43	19.01	30.44	34.68	55.23	175.96
6	4	64.80	52.15	57.16	38.40	101.21	113.03	106.86	23.38	60.11	32.11	85.67	115.98
6	5	61.39	30.05	49.06	68.71	64.60	213.21	97.36	19.01	50.86	33.01	62.68	96.59
6	6	143.85	31.08	25.69	62.93	61.39	186.69	99.28	24.79	36.60	33.01	132.29	78.86
6	7	77.71	31.08	36.99	66.79	58.18	118.16	101.21	34.68	47.65	35.71	70.51	70.51
6	8	81.17	48.16	49.06	52.15	56.77	105.32	67.82	24.02	47.65	33.78	65.63	61.27
6	9	120.86	66.27	251.74	138.71	64.60	85.80	63.06	27.87	47.65	33.01	65.63	72.18
6	10	101.21	41.23	62.93	64.86	55.36	120.73	58.18	23.38	74.37	47.65	68.84	129.72
6	11	82.97	63.06	50.60	109.43	61.39	143.85	86.44	34.68	58.95	53.04	77.19	124.59
6	12	86.44	59.85	187.52	34.16	59.85	182.38	58.18	47.65	55.23	71.67	65.63	82.20
6	13	99.28	53.82	52.15	34.16	53.82	128.44	53.82	81.17	53.04	169.54	108.02	80.53
6	14	186.24	50.99	50.60	41.36	48.16	110.46	59.85	72.95	42.38	90.16	92.99	70.51
6	15	106.86	72.70	52.15	39.82	55.36	110.46	56.77	47.65	43.41	140.00	204.22	308.25
6	16	91.70	50.99	50.60	57.16	55.36	143.85	84.77	60.11	88.62	107.37	132.29	109.94
6	17	84.77	46.82	44.44	47.52	192.66	146.42	77.71	56.23	58.95	140.00	124.59	105.96
6	18	91.70	63.06	38.40	99.15	58.18	161.83	72.70	117.52	71.67	126.25	115.98	183.67
6	19	128.44	41.36	45.98	82.71	61.39	131.01	69.49	119.19	53.04	151.56	206.79	188.25
6	20	97.36	55.36	90.93	55.23	58.18	133.58	124.84	166.97	43.41	102.49	199.08	186.24
6	21	150.27	82.97	68.71	61.01	59.85	342.93	140.00	74.37	40.46	156.69	156.69	201.65
6	22	178.53	59.85	57.16	59.08	58.18	202.93	93.63	223.48	49.83	127.92	122.02	156.69
6	23	146.42	59.85	61.01	72.57	99.28	231.19	128.44	313.39	49.83	126.25	96.59	148.99
6	24	150.27	63.06	101.21	64.86	76.04	172.11	103.01	237.61	49.83	161.83	163.12	145.14
6	25	274.86	89.91	88.88	128.44	59.85	208.07	122.79	179.81	44.31	140.00	118.03	156.69
6	26	247.89	295.41	68.71	70.64	59.85	159.26	106.86	186.24	48.68	126.25	151.56	188.25
6	27	255.59	173.39	80.66	78.60	99.28	148.99	210.64	192.66	44.31	173.39	242.75	199.08
6	28	213.21	181.10	70.64	74.49	116.75	190.09	188.80	206.79	63.83	151.56	277.43	145.14
6	29	260.73	178.53	74.49	70.64	101.21	174.68	143.85	187.52	173.39	117.52	240.18	152.84
6	30	384.03	202.93	72.57	66.79	202.93	350.64	146.42	215.78	282.56	107.37	199.08	150.27

Location : End of Madi River River : Madi
Index No. Drainage area : 1,102 km²

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Month	7	1	255.59	276.14	64.86	159.26	404.58	161.83	227.34	226.05	136.14	287.70	145.14
Day	7	2	318.53	431.55	55.23	142.57	362.20	127.43	192.66	183.67	245.32	196.51	118.03
	7	3	208.07	441.83	107.37	155.41	323.66	138.44	173.39	232.47	151.56	273.57	160.55
	7	4	282.56	260.73	82.71	108.66	470.08	152.84	182.36	229.90	186.24	204.22	173.39
	7	5	309.54	210.64	118.16	137.43	599.53	200.36	215.78	190.09	335.22	199.08	196.51
	7	6	394.31	159.26	400.73	164.40	629.35	282.56	192.66	223.48	310.82	196.51	145.14
	7	7	297.98	135.58	179.81	106.86	558.71	394.31	155.41	161.83	260.73	173.39	137.43
	7	8	625.49	155.41	184.95	101.21	598.52	136.14	147.70	271.00	192.66	201.65	273.57
	7	9	536.87	148.42	462.38	99.28	485.50	169.54	145.14	206.79	226.05	160.55	232.47
	7	10	431.55	182.38	278.71	280.73	439.26	331.37	161.83	204.22	215.78	154.13	188.80
	7	11	396.87	223.48	211.92	184.95	489.35	313.39	152.84	250.45	208.07	155.41	287.70
	7	12	340.36	186.24	184.95	99.28	516.32	359.63	147.70	213.21	328.80	191.37	191.37
	7	13	280.00	215.78	318.53	103.01	570.27	381.46	140.00	215.78	313.39	163.12	193.94
	7	14	286.42	190.09	472.65	625.49	531.73	337.79	503.48	190.09	227.34	222.20	342.93
	7	15	253.02	295.41	434.12	581.83	470.08	317.24	299.26	177.24	201.65	271.00	265.87
	7	16	455.96	371.19	756.50	202.93	446.97	328.80	268.44	169.54	220.91	191.37	227.34
	7	17	308.97	349.35	518.89	450.82	439.26	196.51	265.87	218.34	204.22	186.24	242.75
	7	18	309.54	441.83	500.91	164.40	431.55	175.96	226.05	196.51	282.56	219.63	381.46
	7	19	322.38	324.95	468.80	154.13	377.61	227.34	215.78	192.66	201.65	368.62	385.31
	7	20	468.80	337.79	653.75	154.13	385.31	213.21	206.79	220.91	175.96	322.38	282.56
	7	21	342.93	381.46	583.11	123.30	412.29	199.08	253.02	308.25	247.89	211.92	229.90
	7	22	340.36	407.15	472.65	118.16	385.31	404.58	218.34	263.30	213.21	199.08	326.23
	7	23	274.86	417.42	633.20	102.75	400.73	342.93	201.65	282.56	215.78	186.24	313.39
	7	24	362.20	583.11	544.58	118.16	423.85	299.26	206.79	258.16	201.65	173.39	277.43
	7	25	384.03	466.23	526.60	107.89	339.17	486.23	204.22	580.54	208.07	178.53	229.90
	7	26	272.29	417.42	482.93	208.07	489.35	434.12	210.64	359.63	229.90	157.98	235.04
	7	27	312.10	437.97	479.07	197.79	504.76	448.25	273.57	282.56	201.65	204.22	229.90
	7	28	518.89	468.80	606.23	131.01	385.31	400.73	273.57	287.70	245.32	163.12	247.89
	7	29	482.93	490.63	500.91	123.30	481.64	368.62	287.70	245.32	215.78	391.74	224.77
	7	30	327.52	466.23	715.40	102.75	419.99	346.78	308.25	242.75	192.66	277.43	206.79
	7	31	387.88	563.84	579.26	102.75	295.41	301.83	346.78	237.61	308.25	280.00	211.92

Location : End of Madi River River : Madi
Index No. Drainage area : 1,102 km2

Year Month Day	1976	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
8 1	507.33	500.91	617.79	500.91	202.93	169.54	458.52	235.04	237.61	223.90	495.77	337.79	188.80
8 2	563.84	417.42	552.28	804.02	192.66	377.61	295.41	204.22	206.79	247.89	317.24	268.44	201.65
8 3	455.96	507.33	702.56	500.91	231.19	288.99	231.19	213.21	227.34	280.00	211.92	240.18	175.96
8 4	458.52	431.55	563.84	466.23	226.05	358.34	308.23	201.65	218.34	227.34	285.13	199.08	165.69
8 5	377.61	421.28	529.17	629.35	786.04	263.30	202.93	183.67	317.24	201.65	204.22	204.22	173.39
8 6	375.04	387.88	497.06	434.12	192.66	292.84	200.36	182.38	195.23	245.32	206.79	305.68	209.35
8 7	337.79	865.67	637.05	423.85	173.39	263.30	197.79	177.24	175.96	208.07	448.25	237.61	178.53
8 8	409.72	883.66	522.74	497.06	362.20	233.76	805.31	175.96	299.26	206.79	217.06	237.61	170.82
8 9	482.93	567.70	507.33	197.79	218.34	210.64	197.79	156.69	258.16	268.44	199.08	362.20	204.22
8 10	353.21	500.91	482.93	184.95	200.36	200.36	188.80	155.41	310.82	280.00	317.24	245.32	211.92
8 11	540.72	482.93	482.93	390.45	190.09	238.90	195.23	152.84	253.02	419.99	232.47	292.84	292.84
8 12	486.78	479.07	486.78	396.87	197.79	286.42	272.29	151.56	245.32	491.92	310.82	260.73	559.99
8 13	340.36	462.38	486.78	396.87	178.53	543.29	228.62	147.70	229.90	331.37	222.20	277.43	260.73
8 14	300.55	476.51	486.78	211.92	157.98	462.38	166.97	159.26	213.21	342.93	201.65	235.04	226.05
8 15	277.43	421.28	468.80	322.38	170.82	233.76	236.33	145.14	250.45	271.00	292.84	232.47	197.79
8 16	178.53	390.45	431.55	300.55	142.57	223.48	170.82	145.14	247.89	232.47	199.08	305.68	211.92
8 17	303.11	390.45	417.42	303.11	DNA	208.07	250.45	140.00	195.23	210.64	196.51	413.57	211.92
8 18	511.18	434.12	413.57	229.90	DNA	202.93	242.75	165.69	195.23	190.09	201.65	299.26	317.24
8 19	297.98	511.18	421.28	518.89	DNA	197.79	255.59	147.70	263.30	196.51	308.25	277.43	236.33
8 20	384.03	610.08	423.85	529.17	DNA	244.03	253.02	148.99	232.47	187.52	242.75	271.00	184.95
8 21	272.29	590.82	507.33	342.93	DNA	187.52	183.67	148.99	218.34	179.81	242.75	260.73	178.53
8 22	260.73	625.49	462.38	324.95	DNA	220.91	200.36	165.69	235.04	173.39	235.04	346.78	165.69
8 23	263.30	515.04	409.72	309.54	DNA	213.21	173.39	151.56	223.48	165.69	423.85	271.00	159.26
8 24	226.05	497.06	476.51	232.47	DNA	187.52	540.72	140.00	208.07	260.73	349.35	242.75	174.68
8 25	272.29	444.40	441.83	287.70	DNA	280.00	220.91	172.11	196.51	163.12	292.84	245.32	190.09
8 26	258.16	482.93	423.85	355.77	DNA	260.73	260.73	159.26	215.78	301.83	301.83	263.30	161.83
8 27	300.55	586.96	381.46	209.35	DNA	205.50	233.76	151.56	201.65	199.08	305.68	282.56	187.52
8 28	220.91	462.38	455.96	192.66	DNA	205.50	236.33	186.24	196.51	215.78	299.26	232.47	150.27
8 29	208.07	427.70	387.88	187.52	DNA	200.36	255.59	199.08	187.52	199.08	328.80	258.16	146.42
8 30	202.93	407.15	291.55	192.66	DNA	323.66	263.30	226.05	165.69	196.51	277.43	224.77	138.71
8 31	315.96	437.97	235.04	237.61	DNA	231.19	247.89	215.78	159.26	186.24	242.75	217.06	143.85

Location : End of Madi River : Madi
Index No. Drainage area : 1,102 km2

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Month	Day												
9	1	202.93	396.87	606.23	226.05	335.22	231.19	218.34	271.00	247.89	240.18	204.22	126.90
9	2	159.26	434.12	476.51	211.92	250.45	218.34	208.07	208.07	206.79	232.47	211.92	119.83
9	3	155.41	448.25	448.25	211.92	439.26	213.21	220.91	179.81	227.34	258.16	196.51	116.49
9	4	173.39	529.17	303.11	195.23	256.88	208.07	255.59	235.04	218.34	245.32	240.18	113.03
9	5	164.40	567.70	452.10	195.23	276.14	208.07	328.80	226.05	190.09	250.45	235.04	161.83
9	6	186.24	409.72	540.72	215.78	335.22	210.64	263.30	245.32	187.52	253.02	245.32	128.44
9	7	197.79	387.88	318.53	187.52	350.64	291.55	206.79	210.64	173.39	301.83	242.75	187.52
9	8	189.54	407.15	291.55	204.22	350.64	242.75	195.23	175.96	199.08	340.36	277.43	143.85
9	9	362.20	413.57	195.23	206.79	350.64	213.21	187.52	349.35	173.39	290.27	219.63	157.98
9	10	386.62	413.57	613.93	417.42	385.31	315.96	177.24	317.24	165.69	263.30	199.08	211.92
9	11	282.56	452.10	444.40	197.79	292.84	215.78	175.96	353.21	166.97	235.04	199.08	310.82
9	12	197.79	384.03	281.28	187.52	231.19	202.93	166.97	417.42	155.41	217.06	227.34	223.48
9	13	215.78	192.66	455.96	192.66	231.19	202.93	166.97	417.42	155.41	217.06	227.34	223.48
9	14	427.70	166.97	382.20	187.52	250.45	218.34	148.99	521.46	145.14	199.08	235.04	187.52
9	15	267.15	151.56	229.90	220.91	276.14	213.21	140.00	337.79	148.99	188.80	204.22	184.95
9	16	208.07	172.11	226.05	182.38	244.03	245.32	151.56	240.18	140.00	186.24	186.24	169.54
9	17	190.09	146.42	349.35	184.95	276.14	231.19	152.84	213.21	136.14	186.24	181.10	172.11
9	18	178.53	131.01	390.45	197.79	269.72	215.78	141.28	204.22	129.72	224.77	181.10	182.38
9	19	283.30	141.28	211.92	184.95	416.14	205.50	147.70	183.67	132.29	175.96	178.53	175.96
9	20	175.96	131.01	197.79	187.52	276.05	579.26	141.28	172.11	156.69	168.25	209.35	181.10
9	21	161.83	120.73	284.58	169.54	195.23	205.50	152.84	173.39	137.43	159.26	232.47	169.54
9	22	164.40	107.37	197.79	161.83	250.45	188.80	159.26	163.12	172.11	155.41	217.06	161.83
9	23	155.41	101.21	192.66	156.69	323.66	169.54	152.84	172.11	151.56	156.69	204.22	154.13
9	24	148.99	101.21	177.24	125.87	241.46	161.83	152.84	163.12	133.58	157.98	209.35	161.83
9	25	148.99	90.93	166.97	92.99	233.76	148.99	148.99	175.96	132.29	148.99	214.49	159.26
9	26	150.27	78.60	164.40	92.99	319.81	142.57	145.14	179.81	132.29	173.39	188.80	154.13
9	27	322.38	74.49	92.99	105.32	236.33	137.43	140.00	187.52	120.99	151.56	175.96	157.98
9	28	240.18	90.93	86.82	159.26	197.79	133.58	140.00	186.24	115.72	148.99	181.10	166.97
9	29	210.64	84.77	118.16	403.30	182.38	128.44	155.41	172.11	112.26	150.27	170.82	150.27
9	30	242.75	70.64	184.95	174.68	146.42	122.79	148.99	175.96	114.05	145.14	178.53	157.98

River : Madi
Drainage area

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Month Day													
10 1	228.62	72.57	95.04	138.71	103.01	128.44	118.81	133.58	169.54	107.37	129.72	160.55	152.20
10 2	152.84	72.57	88.88	136.14	99.28	131.01	114.70	126.25	183.67	109.04	119.96	157.98	121.50
10 3	148.99	78.60	84.77	156.69	95.43	125.87	112.64	117.52	151.56	99.28	118.03	152.84	125.61
10 4	142.57	82.71	80.66	133.58	93.63	118.16	112.64	115.72	147.70	88.62	118.03	148.99	114.70
10 5	150.27	95.04	76.55	84.77	91.70	118.16	112.64	115.72	145.14	93.12	119.96	134.86	129.72
10 6	137.43	76.55	76.55	80.66	89.91	113.03	110.59	114.05	148.99	84.13	118.03	129.72	101.72
10 7	133.58	74.49	76.55	80.66	89.91	102.75	110.59	112.26	140.00	81.17	114.05	127.15	102.62
10 8	126.90	70.64	72.57	78.60	88.24	102.75	110.59	105.83	136.14	79.76	119.96	122.02	96.59
10 9	124.84	97.10	68.71	74.49	88.24	113.03	110.59	107.37	132.29	78.48	109.94	127.15	114.70
10 10	120.86	195.23	68.71	70.64	89.91	148.99	110.59	163.12	127.92	77.06	108.02	118.03	120.48
10 11	116.75	169.54	66.79	68.71	86.44	197.79	106.86	120.99	136.14	75.78	108.02	112.00	107.12
10 12	110.59	209.35	64.86	68.71	84.77	299.26	106.86	112.26	141.28	75.78	101.98	108.02	108.02
10 13	106.86	109.43	62.93	68.71	82.97	269.72	103.01	104.16	133.58	71.67	98.38	108.02	101.72
10 14	104.93	95.04	61.01	66.79	81.17	218.34	99.28	104.16	137.43	74.37	94.79	98.38	110.84
10 15	103.01	84.77	59.08	66.79	77.71	256.88	120.86	100.95	127.92	72.95	87.47	96.59	88.24
10 16	101.21	80.66	59.08	64.86	77.71	208.07	104.93	97.74	129.72	71.67	82.20	94.79	76.93
10 17	97.36	78.60	57.16	64.86	76.04	146.42	103.01	110.59	126.25	70.26	75.52	87.47	79.12
10 18	95.43	74.49	55.23	64.86	76.04	125.87	97.36	129.72	126.25	63.83	73.85	85.67	77.71
10 19	95.43	70.64	52.15	61.01	74.24	115.59	95.43	165.69	119.19	65.12	72.18	78.86	76.16
10 20	89.91	68.71	52.15	59.08	74.24	110.46	99.28	119.19	117.52	96.07	73.85	77.19	74.11
10 21	88.24	66.79	50.60	57.16	74.24	105.32	93.63	110.59	115.72	70.26	73.85	75.52	67.94
10 22	86.44	64.86	49.06	57.16	72.70	100.18	91.70	107.37	114.05	68.97	73.85	72.18	71.28
10 23	82.97	62.93	49.06	57.16	91.70	100.18	89.91	104.16	110.59	67.56	68.84	70.51	70.64
10 24	81.17	61.01	50.60	55.23	71.03	95.04	86.44	102.49	110.59	68.97	68.84	68.84	67.94
10 25	79.50	61.01	47.52	55.23	71.03	95.04	84.77	99.28	109.04	66.27	65.63	67.17	63.45
10 26	77.71	59.08	45.98	55.23	67.82	92.48	82.97	97.74	109.04	63.83	64.22	67.17	61.01
10 27	77.71	59.08	44.44	52.15	67.82	87.85	81.17	97.74	107.37	61.39	62.68	65.63	59.85
10 28	77.71	57.16	42.90	50.60	67.82	85.80	79.50	84.13	105.83	60.11	61.27	64.22	56.26
10 29	74.24	55.23	41.36	52.15	66.27	83.74	77.71	72.95	104.16	60.11	59.72	62.68	55.23
10 30	72.70	53.69	39.82	50.60	66.27	156.69	76.04	68.97	104.16	60.11	58.18	61.27	54.59
10 31	71.03	52.15	39.82	50.60	64.60	79.63	72.70	67.56	104.16	61.39	56.77	59.72	52.92

Location : End of Madi River River : Madi
Index No. Drainage area : 1,102 km²

Year Month Day	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
11 1	69.43	50.60	38.40	49.06	63.06	79.63	71.03	67.56	102.49	57.67	56.77	56.77	50.22
11 2	67.82	49.06	36.99	47.52	63.06	75.32	71.03	62.68	100.95	56.51	56.77	58.18	50.22
11 3	71.03	47.52	36.99	49.06	63.06	73.47	71.03	62.68	100.95	55.23	56.77	58.18	48.68
11 4	67.82	45.98	35.58	59.08	61.39	73.47	71.03	58.95	99.28	55.23	52.27	55.23	47.65
11 5	66.27	45.98	35.58	49.06	61.39	71.41	69.49	57.67	99.28	54.20	56.77	53.82	47.65
11 6	64.60	44.44	34.16	49.06	59.85	69.36	67.82	56.51	78.48	53.04	50.99	52.27	45.72
11 7	64.60	42.90	34.16	49.06	59.85	69.36	67.82	54.20	47.55	52.02	49.58	52.27	45.72
11 8	63.06	42.90	32.75	47.52	58.18	67.56	66.27	53.04	46.49	50.86	48.29	50.99	44.18
11 9	63.06	41.36	32.75	45.98	58.18	65.76	64.60	53.04	45.47	49.83	48.29	50.99	43.28
11 10	61.39	41.36	32.75	42.90	58.18	63.96	66.27	53.04	44.31	49.83	48.29	50.99	42.38
11 11	63.06	41.36	31.34	42.90	58.18	63.96	64.60	54.20	44.31	49.83	46.88	48.29	40.46
11 12	61.39	39.82	31.34	39.82	58.18	62.16	63.06	52.02	48.68	49.83	45.60	48.29	39.56
11 13	59.85	38.40	31.34	39.82	56.77	62.16	63.06	49.83	45.47	48.68	44.31	48.29	38.79
11 14	58.18	38.40	29.93	39.82	58.18	60.37	61.39	48.68	43.41	48.68	44.31	48.29	38.27
11 15	56.77	36.99	28.51	38.40	56.77	58.57	61.39	46.49	41.49	46.49	42.90	46.88	37.89
11 16	55.36	36.99	28.51	38.40	56.77	58.57	61.39	46.49	40.46	45.47	48.29	44.31	36.99
11 17	55.36	36.99	28.51	36.99	56.77	56.77	59.85	46.49	40.46	45.47	45.60	44.31	36.60
11 18	55.36	35.58	28.51	36.99	55.36	54.97	59.85	45.47	39.56	44.31	44.31	42.90	36.60
11 19	53.82	35.58	27.10	35.58	55.36	51.38	59.85	45.47	38.53	43.41	44.31	42.90	36.60
11 20	55.36	36.99	27.10	34.16	56.77	49.83	59.85	44.31	38.53	43.41	44.31	42.90	34.16
11 21	53.82	36.99	27.10	34.16	53.82	49.83	59.85	43.41	37.63	42.38	44.31	41.61	33.01
11 22	52.40	35.58	25.69	34.16	53.82	48.29	59.85	42.38	37.63	42.38	42.90	41.61	32.24
11 23	53.82	35.58	24.66	32.75	52.40	46.75	58.18	41.49	36.60	41.49	41.61	40.20	31.08
11 24	52.40	32.75	24.66	32.75	52.40	45.21	58.18	41.49	35.71	41.49	41.61	38.92	30.70
11 25	50.99	32.75	23.50	31.34	52.40	45.21	56.77	41.49	35.71	41.49	41.61	38.92	30.70
11 26	49.58	34.16	23.50	31.34	50.99	43.67	56.77	40.46	34.68	40.46	38.92	41.61	30.31
11 27	48.16	32.75	23.50	31.34	52.40	43.67	56.77	40.46	33.78	39.56	38.92	40.20	29.67
11 28	46.62	31.34	23.50	29.93	50.99	43.67	55.36	39.56	33.01	38.53	36.60	38.92	29.67
11 29	46.62	31.34	22.48	29.93	50.99	42.13	53.82	38.53	32.11	39.56	35.45	37.76	29.93
11 30	46.62	31.34	23.50	29.93	49.58	42.13	53.82	37.63	31.34	38.53	35.45	36.60	29.93

Location : End of Madi River : Madi
Index No. : Drainage area : 1,102 km²

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Month	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day
12	1	46.62	35.58	29.93	50.99	39.05	52.40	37.63	31.34	37.63	35.45	36.60	30.31
12	2	50.99	31.34	22.48	49.58	40.59	50.99	36.60	30.44	38.53	35.45	36.60	28.51
12	3	49.58	31.34	21.32	48.16	39.05	50.99	35.71	30.44	37.63	37.76	36.60	29.28
12	4	46.62	29.93	21.32	49.58	37.50	49.58	35.71	30.44	36.60	36.60	35.45	28.51
12	5	45.21	29.93	21.32	48.16	35.96	48.16	35.71	30.44	36.60	37.76	35.45	28.51
12	6	43.80	28.51	21.32	48.16	35.96	46.62	34.68	29.54	35.71	35.45	34.29	27.87
12	7	43.80	27.10	20.29	46.62	34.81	46.62	34.68	28.77	35.71	35.45	34.29	27.87
12	8	43.80	25.69	20.29	46.62	34.81	46.62	34.68	28.77	36.60	34.29	34.29	26.84
12	9	43.80	25.69	20.29	46.62	34.81	45.21	33.78	27.87	35.71	34.29	34.29	25.17
12	10	43.80	25.69	20.29	46.62	34.81	45.21	33.01	27.87	35.71	34.29	34.29	25.56
12	11	42.51	25.69	19.14	46.62	33.65	45.21	32.11	27.10	35.71	34.29	33.14	25.56
12	12	42.51	24.66	19.14	46.62	33.65	43.80	31.34	26.20	42.38	34.29	33.14	25.82
12	13	41.23	24.66	18.11	45.21	32.49	43.80	30.44	29.54	38.53	33.14	34.29	26.46
12	14	41.23	24.66	18.11	45.21	32.49	43.80	30.44	29.54	35.71	31.85	33.14	24.27
12	15	41.23	23.50	18.11	46.62	32.49	42.51	30.44	26.20	35.71	31.85	31.85	24.27
12	16	39.94	24.66	18.11	46.62	31.34	41.23	30.44	26.20	35.71	31.85	31.85	25.56
12	17	38.66	23.50	18.11	45.21	31.34	41.23	29.54	26.20	35.71	30.70	30.70	23.63
12	18	37.50	23.50	18.11	43.80	31.34	41.23	29.54	27.87	33.78	29.54	30.70	23.63
12	19	39.94	23.50	18.11	43.80	30.18	39.94	27.87	27.10	33.01	29.54	30.70	21.06
12	20	38.66	22.48	18.11	43.80	30.18	39.94	27.10	26.20	32.11	29.54	29.54	20.16
12	21	38.66	23.50	18.11	43.80	30.18	39.94	27.10	24.79	30.44	28.38	29.54	20.16
12	22	38.66	21.32	16.95	43.80	27.87	38.66	27.10	24.79	30.44	28.38	29.54	19.91
12	23	37.50	21.32	16.95	42.51	27.87	38.66	26.20	24.02	30.44	28.38	28.38	19.65
12	24	37.50	22.48	16.95	42.51	27.87	38.66	26.20	24.02	30.44	28.38	28.38	19.65
12	25	37.50	21.32	16.95	41.23	26.72	37.50	25.43	23.38	29.54	28.38	29.54	19.65
12	26	36.22	21.32	12.03	41.23	33.65	37.50	27.10	23.38	29.54	64.22	27.23	19.65
12	27	36.22	21.32	22.48	41.23	34.81	36.22	37.63	23.38	29.54	36.60	27.23	19.39
12	28	36.22	21.32	14.77	41.23	30.18	37.50	36.60	23.38	29.54	31.85	27.23	19.39
12	29	36.22	21.32	14.77	41.23	29.03	36.22	29.54	23.38	29.54	29.54	27.23	18.62
12	30	36.22	24.66	14.77	39.94	29.03	36.22	26.20	22.61	29.54	29.54	26.20	18.88
12	31	36.22	22.48	12.97	42.51	29.03	34.94	25.43	22.61	29.54	29.54	26.20	19.39

Location : End of Madi River River : Madi
Index No. Drainage area : 1,102 km2

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Month	1	2	3	4	5	6	7	8	9	10	11	12	1
Day	1	2	3	4	5	6	7	8	9	10	11	12	1
1	20.55	29.16	21.32	24.53	9.50	34.16	25.94	22.86	19.78	22.98	25.69	59.62	61.10
2	19.39	29.16	22.09	23.50	9.38	32.37	26.33	22.86	19.52	22.76	24.92	58.52	55.29
3	18.88	28.38	21.32	23.63	9.25	32.37	25.94	22.61	19.52	22.33	23.67	58.52	54.59
4	18.88	28.38	20.68	23.76	9.25	32.37	26.33	22.86	19.52	22.33	23.67	58.52	54.59
5	18.82	28.38	20.68	26.46	9.12	31.47	25.69	22.22	19.52	22.12	23.91	57.43	53.89
6	17.85	27.74	20.68	25.94	8.99	29.41	25.05	22.22	19.52	21.70	23.67	58.52	53.89
7	17.21	27.74	20.68	25.30	8.86	29.41	24.40	22.22	19.27	21.49	23.18	57.43	53.89
8	17.34	27.74	24.02	25.17	8.86	28.38	23.76	21.71	18.88	21.08	23.18	56.36	53.19
9	17.85	29.16	21.32	25.56	9.63	26.20	23.38	22.22	18.75	21.08	23.18	57.43	52.85
10	17.85	29.16	20.68	25.94	9.89	26.20	23.25	22.22	18.75	21.08	23.18	54.24	52.85
11	17.34	26.97	20.68	25.17	9.25	25.05	22.86	22.99	18.75	20.88	22.46	56.36	52.85
12	17.21	30.70	20.68	25.30	9.38	22.61	22.86	22.99	18.75	20.47	22.46	57.43	52.50
13	17.21	26.97	21.32	25.56	9.38	22.61	22.86	22.99	18.75	21.29	22.22	57.43	51.47
14	16.95	26.97	21.32	25.30	8.99	26.20	22.86	21.06	18.50	21.29	22.22	56.36	51.82
15	18.11	26.97	20.04	25.05	8.99	50.35	22.61	21.71	18.50	20.68	21.99	56.36	51.47
16	17.85	26.20	20.04	28.77	9.12	42.26	22.22	21.06	18.50	20.47	22.22	73.60	51.47
17	16.95	26.20	20.68	25.69	9.25	37.63	22.22	20.68	18.24	20.08	21.76	59.62	51.47
18	16.44	26.20	19.39	25.56	9.25	33.27	22.22	20.55	17.98	19.88	22.22	57.43	51.47
19	15.80	25.43	19.39	25.17	8.99	29.41	22.22	20.16	17.98	19.88	21.76	57.43	51.47
20	15.80	25.43	19.39	25.17	9.12	23.89	24.40	20.04	18.11	19.88	21.99	56.36	51.47
21	15.93	25.43	18.75	25.05	9.25	22.61	24.02	20.04	17.98	19.88	21.53	56.36	51.47
22	16.95	26.97	18.11	25.05	8.99	19.91	23.76	19.65	17.98	19.68	21.53	55.29	51.13
23	16.95	25.43	18.11	25.05	9.25	18.37	24.02	19.78	17.98	19.29	22.22	55.29	50.12
24	15.80	25.43	18.11	25.05	8.99	18.37	22.99	19.65	17.47	19.29	21.76	55.29	50.12
25	15.93	25.43	17.60	25.05	8.86	18.37	22.86	19.52	17.47	19.29	21.76	55.29	50.12
26	15.93	26.20	18.75	25.56	8.86	18.37	22.86	19.52	17.60	19.29	21.76	55.29	50.12
27	16.70	26.20	18.75	25.94	8.73	18.37	22.48	19.14	17.47	19.10	21.99	55.29	49.79
28	17.21	25.43	18.11	25.69	8.73	18.37	22.48	18.88	17.47	18.72	21.76	58.52	50.46
29	17.21	25.43	17.60	25.69	8.73	14.90	22.22	18.88	17.47	18.72	21.53	55.29	52.16
30	17.21	24.66	17.08	26.59	8.73	12.84	22.22	19.14	17.34	18.72	21.99	53.19	50.80
31	16.95	26.97	18.75	26.33	8.73	12.84	22.22	18.88	16.95	18.72	21.76	54.24	50.46

Location : End of Madi River : Madi
Index No. : 1,102 km2
Drainage area

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Month	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day
1	16.70	26.20	22.73	25.05	8.73	12.84	22.22	18.88	16.95	18.72	22.22	54.24	61.10
2	18.11	25.43	19.39	24.27	8.73	12.84	22.61	18.88	17.08	18.53	21.07	55.29	53.19
3	16.70	35.83	19.39	24.27	8.73	12.84	22.86	18.88	16.83	18.15	20.40	55.29	50.12
4	16.44	26.97	22.09	24.15	8.48	12.84	22.61	18.75	16.83	18.15	20.40	55.29	49.79
5	15.16	24.66	21.32	24.02	8.48	12.84	22.09	18.50	16.44	18.15	19.74	55.29	49.45
6	15.16	24.66	22.09	23.76	8.73	12.84	21.71	18.50	16.44	19.68	19.31	55.29	49.12
7	15.16	26.97	18.75	23.63	8.48	12.84	21.45	17.98	16.44	18.53	19.52	54.24	48.45
8	14.90	27.74	18.11	24.15	8.73	12.84	21.45	17.98	16.44	18.15	20.18	54.24	48.45
9	15.16	26.20	18.75	25.30	9.12	16.70	21.06	17.72	16.44	18.15	20.62	53.19	48.45
10	15.16	24.02	18.11	24.66	8.48	22.61	20.94	17.47	16.31	18.15	21.30	54.24	48.12
11	14.90	24.66	18.11	24.15	8.73	29.41	20.55	17.47	16.05	18.15	20.62	55.29	47.80
12	15.28	25.43	18.11	25.05	8.35	21.32	20.55	17.47	16.05	17.97	19.74	54.24	47.80
13	15.80	24.66	17.08	24.15	8.73	18.37	20.55	17.47	16.05	17.60	19.52	53.19	46.82
14	15.16	24.02	22.09	23.76	8.48	12.84	20.55	18.11	16.05	17.06	19.52	52.16	46.82
15	14.90	23.38	20.04	23.50	8.99	32.37	20.29	17.72	16.05	17.06	19.31	52.16	46.17
16	14.90	23.38	19.39	23.63	8.99	22.61	20.04	20.16	16.05	17.06	18.68	51.13	45.85
17	14.64	22.73	22.09	23.50	8.35	22.61	20.04	18.24	15.54	17.06	18.68	51.13	46.17
18	14.64	24.02	17.08	23.12	10.02	22.61	20.04	21.71	15.54	16.71	20.18	51.13	64.49
19	14.90	22.73	15.93	22.99	8.48	12.84	19.78	23.63	15.54	16.53	18.68	51.13	56.72
20	13.87	22.73	15.41	22.99	8.35	23.89	19.52	19.78	15.80	16.53	19.31	51.13	50.46
21	14.26	22.73	14.90	22.86	8.22	23.89	19.52	19.78	15.41	16.53	19.31	51.13	50.80
22	14.26	22.09	14.26	24.02	7.83	21.32	19.52	17.98	15.41	16.53	19.31	51.13	50.80
23	14.90	22.09	13.74	23.50	8.35	18.37	20.16	17.34	15.16	16.53	19.10	50.12	48.79
24	14.90	21.32	13.74	23.12	8.48	18.37	19.78	17.72	15.16	16.35	19.96	50.12	48.45
25	14.64	21.32	13.74	22.99	7.96	18.37	20.04	20.55	15.16	16.01	20.62	55.29	47.80
26	15.80	20.68	13.23	22.99	7.96	27.36	19.65	18.75	16.05	16.01	26.47	54.24	52.16
27	15.54	20.68	13.23	23.12	8.99	12.84	20.94	18.24	15.54	16.01	20.18	52.16	52.16
28	15.16	20.68	17.08	24.53	8.86	26.20	21.32	18.24	15.54	16.01	19.74	52.16	48.12
29		20.68				22.61				16.01			

Location : End of Madi River : Madi
Index No. : Drainage area : 1,102 km²

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Month	1	2	3	4	5	6	7	8	9	10	11	12	1
Day	20.04	20.04	15.41	24.02	8.99	23.89	20.55	18.11	15.16	16.01	19.10	51.13	49.12
3	14.64	22.09	13.74	23.50	8.73	22.61	19.78	19.78	15.16	16.86	18.47	51.13	47.80
3	14.39	22.09	13.74	23.50	8.73	22.61	19.78	19.78	15.16	16.86	18.47	51.13	47.80
3	14.26	24.66	13.74	23.76	8.35	21.32	25.05	18.24	15.16	17.42	18.47	51.13	50.12
3	14.26	26.20	13.74	24.02	8.35	35.96	22.61	18.50	15.16	17.24	18.47	51.13	50.12
3	15.93	25.43	13.23	23.50	8.22	25.05	21.32	21.45	15.16	17.06	17.85	53.19	48.79
3	16.44	24.02	13.23	23.12	8.22	22.61	21.83	25.56	15.41	16.88	17.85	53.19	47.80
3	14.26	23.38	13.23	23.12	8.73	22.61	23.25	28.38	15.54	16.53	17.85	52.16	47.80
3	14.26	23.38	13.23	23.50	8.61	26.20	20.68	21.06	15.03	16.53	17.25	50.12	55.29
3	14.26	23.38	13.23	23.12	8.48	23.89	20.55	20.04	15.28	16.01	17.45	51.13	49.12
3	16.18	23.38	13.23	23.63	8.61	22.61	21.32	18.88	15.03	16.01	17.06	51.13	47.80
3	14.90	22.73	12.24	23.12	8.73	18.37	20.94	20.29	14.77	16.88	17.06	51.13	46.82
3	14.64	24.02	12.68	23.12	8.22	14.90	30.57	19.52	14.64	17.06	17.45	51.13	46.82
3	14.26	22.09	12.24	26.97	8.35	35.96	30.05	18.75	14.26	20.68	16.47	53.19	46.82
3	14.26	23.38	12.24	24.79	8.22	29.41	27.10	18.50	14.26	DNA	16.86	57.43	47.14
3	14.26	22.73	13.23	30.44	8.48	33.27	25.30	17.72	13.87	DNA	17.06	52.16	49.12
3	14.00	22.09	12.68	26.33	8.73	37.63	24.92	17.98	13.87	DNA	18.68	51.13	48.79
3	14.26	23.38	12.24	29.54	8.48	32.37	25.69	17.47	14.26	DNA	17.06	51.13	53.54
3	14.00	22.73	11.80	27.36	8.73	29.41	24.40	17.08	13.87	DNA	17.06	51.13	48.45
3	14.00	22.09	11.80	26.84	8.61	23.89	28.38	19.27	14.00	DNA	16.47	50.12	48.12
3	14.00	22.09	11.80	29.54	8.86	19.91	29.80	17.47	15.03	DNA	16.47	51.13	48.12
3	14.00	22.09	11.37	27.36	8.73	26.97	26.59	18.11	15.16	DNA	18.68	52.16	50.46
3	13.87	25.43	10.93	26.33	8.73	26.72	27.49	17.34	14.26	DNA	18.47	52.16	50.12
3	13.87	22.73	10.93	24.79	10.40	28.00	25.05	33.65	13.87	DNA	18.26	50.12	49.12
3	14.90	22.09	10.49	23.76	10.53	27.23	23.38	27.23	13.87	DNA	17.65	73.60	58.52
3	13.61	22.09	10.49	24.66	10.15	26.72	22.61	27.23	15.28	DNA	16.47	59.62	55.29
3	13.36	21.32	16.44	28.51	13.36	27.23	22.61	22.99	14.13	DNA	16.86	60.73	50.46
3	13.36	22.09	16.44	25.94	20.55	28.77	22.48	21.45	13.61	DNA	16.67	54.24	51.47
3	13.36	24.02	11.37	24.66	12.72	28.26	22.48	23.38	13.61	DNA	16.47	52.16	48.45
3	13.36	24.02	10.49	31.21	13.36	27.87	22.61	24.40	15.28	DNA	19.31	51.13	57.07
3	14.00	21.32	10.06	29.54	12.59	32.62	36.35	32.11	15.80	DNA	17.06	49.12	64.88
3	21.06	20.68	10.93	28.51	10.66	30.70	26.59	25.94	16.05	DNA	16.67	50.12	58.16

Location : End of Madi River : Madi
Index No. : Drainage area : 1,102 km²

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Month													
Day													
4	38.79	20.04	9.62	31.47	9.63	28.77	25.69	25.05	16.44	DNA	16.09	56.36	55.29
4	23.63	20.04	9.18	28.77	9.38	27.23	30.83	23.63	16.83	DNA	15.53	61.84	57.80
4	28.26	20.68	8.75	26.84	9.12	27.36	28.38	22.22	15.28	DNA	15.35	65.26	56.36
4	17.60	20.04	8.75	26.97	8.99	26.97	29.41	23.63	15.03	DNA	16.09	58.52	61.10
4	16.18	19.39	8.75	45.60	8.99	26.59	27.74	24.66	14.64	DNA	16.09	59.62	57.43
4	15.54	20.68	9.18	29.41	8.86	26.84	28.00	22.86	14.13	DNA	18.06	59.62	53.19
4	15.28	20.68	10.49	27.61	8.73	26.59	26.84	22.61	13.61	DNA	15.35	60.73	51.13
4	15.16	20.04	10.49	26.59	8.86	27.36	24.40	26.84	14.77	DNA	16.86	57.43	50.12
4	26.46	23.38	10.93	26.33	9.12	27.23	26.20	24.27	15.28	DNA	16.86	62.97	49.12
4	25.56	24.02	10.49	25.56	10.26	26.72	26.84	22.86	14.90	DNA	16.47	60.73	49.12
4	16.70	23.38	12.68	24.79	10.79	25.69	28.00	22.22	14.77	DNA	16.09	55.29	59.25
4	16.95	22.73	11.80	24.27	10.26	25.69	25.30	21.06	17.08	DNA	16.28	55.29	53.19
4	16.44	22.73	11.80	23.76	10.92	25.56	25.30	20.29	17.60	22.55	16.47	54.24	51.47
4	15.80	24.66	15.93	23.63	8.09	26.20	30.83	20.55	19.52	23.19	24.66	56.36	57.07
4	15.80	23.38	13.74	24.15	8.09	26.20	26.84	19.78	16.70	22.96	20.84	55.29	54.24
4	15.54	22.73	12.68	23.50	7.96	26.84	28.38	18.88	15.54	20.68	18.89	57.43	53.89
4	14.64	20.68	13.74	23.25	8.09	26.20	29.54	19.78	14.77	22.12	18.89	62.97	56.72
4	14.39	28.38	14.26	24.02	9.76	27.74	29.41	21.06	14.77	19.88	22.94	66.42	54.24
4	14.39	23.38	11.80	24.27	12.07	26.59	27.23	21.83	14.13	20.27	20.40	68.77	55.65
4	14.90	21.32	13.23	25.56	11.69	26.20	26.59	22.09	15.28	20.68	20.18	62.97	61.10
4	14.64	21.32	12.68	25.56	9.89	27.74	25.69	25.69	16.70	22.55	22.70	61.84	54.94
4	14.39	20.04	13.23	25.05	9.12	26.84	26.20	23.76	18.11	26.84	24.41	60.73	52.50
4	14.64	21.32	17.60	26.46	10.28	26.20	27.10	24.92	17.60	23.19	28.10	61.84	52.50
4	14.39	20.68	23.38	24.27	10.40	25.69	28.00	23.38	22.48	26.37	22.70	60.73	56.36
4	14.39	20.68	18.75	24.15	10.15	26.20	33.39	49.83	17.47	22.76	25.17	64.11	57.43
4	14.39	20.04	15.93	23.76	12.46	27.74	30.05	30.83	17.08	24.30	27.82	65.26	58.16
4	15.16	22.09	11.80	23.76	11.30	25.69	31.60	29.80	18.62	24.30	43.97	64.11	56.72
4	14.64	20.04	10.93	24.02	19.39	26.59	30.83	27.23	16.95	24.30	35.27	61.84	55.29
4	16.70	20.04	18.11	24.53	12.72	27.74	31.60	26.59	16.31	23.19	33.99	59.62	59.25
4	15.93	25.43	11.37	25.17	14.77	30.44	31.85	47.39	16.95	27.81	30.36	59.62	53.54

Location : End of Madi River : Madi
Index No. Drainage area : 1,102 km2

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Month Day													
5 1	20.16	32.24	10.49	25.05	13.36	30.31	28.38	39.69	17.72	24.97	29.21	60.73	53.19
5 2	17.85	28.38	11.80	23.50	12.20	29.54	30.57	39.69	18.24	23.19	82.64	60.73	53.19
5 3	35.32	26.20	10.93	25.56	11.17	29.90	29.41	50.99	17.08	23.41	35.91	62.97	54.24
5 4	19.65	29.93	12.24	26.59	10.79	29.54	28.13	63.71	17.72	23.85	31.24	60.73	66.81
5 5	16.95	28.38	20.68	27.23	10.40	30.31	31.60	65.50	16.05	26.13	29.78	61.84	58.16
5 6	17.60	24.66	20.04	26.07	11.17	35.83	30.05	44.95	18.88	24.97	27.28	68.77	53.19
5 7	38.79	23.38	30.70	24.53	11.56	30.83	28.13	52.40	17.98	32.69	33.06	67.59	52.16
5 8	29.28	23.38	31.47	26.97	13.61	30.44	30.83	39.69	17.60	26.37	29.78	64.11	50.12
5 9	32.24	21.32	22.09	28.77	11.94	31.98	34.42	33.39	18.11	24.97	80.36	69.96	49.45
5 10	36.99	37.63	26.20	37.89	13.10	30.05	33.14	32.62	21.06	24.97	49.43	87.74	51.13
5 11	21.58	29.16	29.93	28.77	17.47	32.37	34.42	29.16	20.16	25.66	45.48	94.59	49.45
5 12	22.73	27.74	29.93	26.46	13.49	29.80	30.31	28.64	25.94	30.83	40.68	85.08	53.19
5 13	19.14	26.20	26.20	27.61	14.13	30.31	28.64	28.00	18.88	32.16	37.57	78.59	55.65
5 14	18.37	27.74	35.83	26.33	15.41	38.02	30.83	29.54	20.68	31.10	54.03	109.09	59.62
5 15	19.91	27.74	29.93	28.38	17.34	34.16	30.31	31.34	21.32	29.30	41.40	85.08	58.16
5 16	23.63	26.20	29.16	30.18	58.31	33.65	29.80	28.64	22.22	35.19	42.85	109.09	57.43
5 17	23.38	46.24	29.93	25.56	91.19	34.55	28.38	29.41	18.11	34.63	35.59	86.40	60.36
5 18	22.22	40.33	29.16	33.65	121.50	34.55	28.64	35.58	31.08	36.92	33.68	155.33	57.80
5 19	30.31	34.04	24.02	25.94	59.34	32.49	28.13	37.50	17.98	39.00	48.22	144.72	57.80
5 20	24.02	29.16	24.66	39.17	47.65	30.31	34.42	32.62	17.98	49.84	34.31	116.73	58.89
5 21	35.71	29.16	24.02	29.54	21.19	29.28	32.88	31.60	22.22	45.04	33.37	103.16	54.59
5 22	27.23	25.43	22.09	37.26	19.52	29.80	41.10	41.10	24.92	41.79	34.31	98.83	65.26
5 23	44.18	27.74	22.09	33.65	16.95	29.80	45.98	40.20	42.77	43.07	35.27	93.20	57.80
5 24	29.28	25.43	24.02	57.54	15.93	33.65	37.89	42.77	39.30	71.40	38.26	94.59	60.36
5 25	35.71	29.93	27.74	50.73	15.03	32.49	39.05	58.31	41.49	49.13	49.84	94.59	69.17
5 26	38.27	28.38	25.43	47.91	15.03	35.45	35.58	39.69	47.78	58.03	42.85	90.45	64.11
5 27	33.78	52.40	50.22	34.81	15.54	35.06	34.16	39.05	81.43	106.56	56.22	87.74	66.03
5 28	59.85	36.73	28.38	34.29	15.93	36.99	38.79	56.84	68.20	81.64	51.91	86.40	64.49
5 29	32.24	26.97	35.83	33.01	15.54	36.86	40.20	53.56	77.83	71.85	43.59	110.60	64.88
5 30	37.38	50.22	31.47	35.96	16.31	36.86	40.59	81.94	50.99	80.68	41.40	107.59	67.20
5 31	33.39	37.63	29.93	35.96	17.08	36.35	37.89	49.83	42.77	71.85	46.64	90.45	65.65

Location : End of Madi River River : Madi
Index No. Drainage area : 1,102 km2

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Month	1	2	3	4	5	6	7	8	9	10	11	12	1
Day	28.26	33.14	37.63	32.37	16.95	35.06	36.73	45.98	34.16	64.91	51.07	91.82	78.17
6	25.17	33.14	34.04	34.29	16.83	41.36	38.15	45.34	31.85	63.25	130.12	90.45	69.56
6	32.12	32.24	33.14	53.69	17.72	38.02	37.25	43.67	28.13	64.08	180.40	87.74	65.26
6	27.23	33.14	35.83	43.03	16.95	38.53	33.91	42.77	26.20	56.87	226.11	87.74	74.83
6	44.70	32.24	39.43	35.32	36.73	36.35	34.42	38.79	24.66	60.81	139.79	91.82	69.17
6	39.17	31.47	42.26	35.71	116.88	35.58	35.83	41.49	23.38	99.79	120.18	89.09	64.88
6	126.64	32.24	40.33	33.39	95.94	34.16	35.83	42.77	22.61	233.57	86.15	109.09	76.49
6	90.68	37.63	39.43	35.06	66.66	33.78	38.40	40.84	22.22	401.33	93.47	94.59	71.57
6	42.77	31.47	44.18	33.65	72.05	33.65	37.25	38.15	22.22	200.95	101.87	100.26	70.36
6	124.59	33.14	39.43	44.44	73.34	33.78	44.95	36.35	34.42	135.85	115.04	136.17	82.02
6	95.69	31.47	39.43	31.60	57.54	44.05	46.75	35.32	31.08	116.02	77.57	160.78	100.75
6	62.29	34.04	71.54	43.28	67.82	36.86	44.70	50.99	42.77	112.41	103.20	142.99	90.00
6	64.73	47.27	72.70	65.50	260.47	39.30	39.94	42.38	267.79	100.34	221.56	136.17	100.75
6	137.30	43.28	67.69	65.89	182.25	51.38	40.59	39.05	89.65	99.79	123.18	137.86	90.45
6	94.79	80.92	103.14	63.83	114.31	39.56	40.84	36.73	55.10	151.88	127.00	153.54	92.28
6	99.15	44.18	93.89	97.10	87.59	40.59	188.55	39.69	61.65	110.05	181.39	148.21	97.41
6	81.30	43.28	79.50	103.91	246.73	61.39	57.54	38.15	77.83	159.95	157.86	144.72	96.00
6	74.75	44.18	95.43	174.03	829.71	52.02	142.69	62.42	52.79	154.78	126.23	139.56	98.83
6	107.12	78.09	165.69	145.39	503.35	50.86	97.23	59.47	79.37	169.07	110.06	242.71	92.74
6	93.12	71.54	132.29	94.92	326.36	45.98	78.35	71.03	67.30	146.88	156.97	177.71	145.88
6	90.68	253.02	95.43	170.44	355.13	65.89	55.49	79.37	67.69	201.81	133.29	201.65	120.92
6	85.15	100.05	104.68	221.17	221.17	120.73	65.89	120.73	100.18	366.13	229.57	162.62	194.17
6	205.24	184.95	163.12	187.01	220.14	12.33	81.94	75.39	70.51	250.08	192.46	151.75	157.74
6	276.27	100.05	106.35	186.11	544.58	120.22	53.17	70.64	156.05	476.55	133.29	195.52	182.90
6	171.98	108.02	163.12	134.09	292.58	49.06	75.39	17.98	180.71	266.28	159.66	151.75	140.12
6	135.12	111.36	109.69	152.58	254.18	97.74	80.40	53.30	137.17	207.93	122.42	149.98	133.93
6	122.53	96.97	140.00	107.50	199.98	77.71	69.61	30.57	181.74	204.42	119.43	18.65	171.34
6	130.88	96.97	121.37	94.40	151.69	61.14	71.93	20.55	160.42	180.11	124.70	158.95	203.71
6	117.52	126.90	111.36	146.93	677.38	51.63	141.92	17.98	133.32	304.02	138.14	155.33	305.24
6	170.69	106.35	119.70	109.30	530.58	64.99	100.82	17.60	137.17	253.07	156.97	300.17	246.50

Location : End of Madi River River : Madi
Index No. Drainage area : 1,102 km2

Year Month Day	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
7 1	222.20	92.35	165.69	114.31	568.72	40.46	141.15	312.23	131.01	308.54	146.50	280.32	238.20
7 2	209.35	96.97	166.97	121.50	355.13	38.02	98.38	467.64	154.38	332.96	133.29	421.83	204.40
7 3	255.59	93.89	159.26	199.98	260.47	48.93	107.12	477.79	607.64	317.70	130.91	280.32	267.48
7 4	245.32	83.61	172.11	143.85	197.92	52.79	111.10	319.68	303.50	295.11	120.18	323.33	387.51
7 5	204.22	79.50	172.11	162.47	191.89	35.83	260.09	290.78	206.14	343.79	158.76	242.71	286.04
7 6	235.04	116.37	148.99	122.92	169.54	40.59	297.72	294.89	152.58	375.05	115.04	339.27	286.04
7 7	346.78	148.99	172.11	114.31	466.74	40.20	419.61	383.90	253.79	419.02	116.49	277.89	259.60
7 8	242.75	106.35	166.97	199.98	216.80	53.56	213.72	394.43	228.49	295.11	116.49	336.58	388.47
7 9	342.93	103.14	147.70	124.20	205.12	77.71	229.65	306.33	169.41	265.25	103.88	323.33	778.99
7 10	235.04	148.99	172.11	124.84	657.73	59.98	218.22	200.88	147.58	320.02	159.66	320.72	462.88
7 11	299.26	121.37	179.81	138.46	576.17	160.68	249.94	175.06	425.13	335.35	272.60	256.49	365.76
7 12	227.34	161.83	172.11	132.68	448.38	114.18	239.02	236.58	198.82	268.35	264.86	273.06	340.16
7 13	211.92	147.70	154.13	128.31	394.95	111.48	192.66	185.59	175.96	229.79	221.56	224.94	300.17
7 14	217.06	140.00	186.24	106.86	363.48	179.43	316.60	179.81	153.48	295.11	200.79	275.47	335.69
7 15	355.77	140.00	163.12	139.23	252.89	132.55	197.79	239.02	130.24	353.61	389.33	251.85	282.77
7 16	250.45	123.30	200.36	102.24	217.96	274.86	220.40	189.57	134.86	285.29	513.85	242.71	324.21
7 17	232.47	235.04	177.24	94.92	220.14	395.72	177.89	204.09	207.30	287.46	315.04	203.71	322.46
7 18	219.63	272.29	177.24	109.30	220.14	634.36	184.69	234.27	281.15	255.08	262.31	254.17	331.25
7 19	227.34	250.45	200.36	152.58	179.43	407.92	213.72	267.79	154.38	215.97	221.56	240.45	331.25
7 20	219.63	227.34	214.49	155.02	272.16	391.35	163.12	316.60	249.94	275.68	268.71	358.35	352.85
7 21	292.84	196.51	191.37	147.70	173.13	299.26	225.02	236.58	173.13	221.43	208.28	369.50	308.65
7 22	214.49	193.94	255.59	137.81	179.43	372.21	182.64	228.49	205.12	257.09	335.60	312.93	312.93
7 23	253.02	177.24	214.49	201.01	143.85	283.33	194.71	299.26	242.62	207.05	203.98	305.24	324.21
7 24	229.90	282.56	197.79	149.37	132.68	282.44	170.31	212.69	347.43	260.13	180.40	461.83	267.48
7 25	214.49	217.06	186.24	182.25	118.16	249.43	187.65	199.85	312.23	343.79	369.74	493.87	303.55
7 26	206.79	205.50	214.49	180.46	136.27	238.51	156.95	165.81	274.47	253.07	341.64	331.25	294.31
7 27	199.08	184.95	191.37	389.55	420.89	236.20	174.03	156.05	257.52	265.25	270.00	290.16	328.60
7 28	229.90	175.96	253.02	245.57	209.35	229.39	164.02	130.24	248.78	289.63	273.90	377.97	305.24
7 29	235.04	163.12	229.90	224.51	171.34	220.66	141.92	131.01	180.71	325.86	585.24	389.43	311.21
7 30	235.04	175.96	224.77	204.09	152.58	207.17	182.64	126.51	177.89	242.22	570.02	401.05	429.88
7 31	240.18	214.49	240.18	197.92	189.06	190.99	136.40	176.86	228.49	382.82	425.28	290.16	432.92

Location : End of Madi River River : Madi
Index No. : 1,102 km2
Drainage area

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Month	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day
8	1	224.77	345.50	339.08	216.03	177.50	154.38	153.48	156.05	347.45	347.76	323.33	333.91
8	2	299.26	232.47	411.00	184.57	170.82	228.49	125.10	149.25	561.88	331.12	406.93	326.84
8	3	377.61	237.61	332.66	159.78	190.99	183.67	526.47	334.84	440.44	434.17	302.70	319.85
8	4	310.82	245.32	296.69	145.14	189.06	174.42	230.80	216.03	382.82	303.68	310.36	300.17
8	5	282.56	224.77	339.08	143.08	177.50	187.65	221.56	136.40	301.78	310.75	290.16	277.08
8	6	271.00	240.18	296.69	172.24	225.79	165.81	210.51	129.47	267.32	295.35	244.98	263.53
8	7	346.78	289.26	255.59	152.71	242.36	176.86	164.91	136.40	250.08	208.28	218.46	252.82
8	8	346.78	272.29	282.56	139.74	189.70	199.85	206.14	126.51	233.57	249.84	203.71	273.86
8	9	296.69	219.63	326.23	187.01	250.97	168.51	217.06	115.21	230.73	195.55	195.52	240.45
8	10	287.70	210.64	373.76	164.14	292.97	229.65	170.31	119.32	295.11	219.31	216.32	246.50
8	11	319.81	197.79	277.43	287.83	261.50	180.71	375.42	125.74	246.13	201.85	231.53	233.74
8	12	313.39	196.51	237.61	250.84	222.84	396.10	453.77	177.89	255.08	212.65	318.11	239.70
8	13	277.43	182.38	202.93	217.83	499.37	319.68	425.13	233.12	223.27	275.21	305.24	262.74
8	14	403.30	169.54	263.30	286.80	638.98	324.18	357.19	204.09	205.30	202.91	280.32	277.89
8	15	308.25	267.15	219.63	236.71	407.92	251.23	324.18	216.03	199.23	276.52	258.82	321.59
8	16	372.47	196.51	219.63	202.42	388.14	247.50	260.09	156.95	187.44	246.18	227.13	301.86
8	17	413.57	227.34	237.61	179.94	578.23	296.31	355.52	155.15	187.44	246.18	227.13	301.86
8	18	208.07	253.02	219.63	218.73	450.82	771.79	826.24	170.31	218.69	572.18	270.66	315.52
8	19	247.89	222.20	428.98	227.59	364.89	281.15	417.81	157.85	233.57	611.98	270.66	273.06
8	20	323.66	219.63	314.67	187.01	289.50	239.02	290.78	158.62	207.93	420.01	392.32	265.89
8	21	213.21	230.45	308.25	196.64	336.77	205.12	1,058.59	148.47	331.77	474.76	380.82	250.32
8	22	191.37	345.50	305.68	175.32	282.44	189.57	700.89	147.58	317.70	1,171.16	446.22	268.27
8	23	193.94	345.50	272.29	208.33	238.51	188.55	421.41	241.46	257.09	1,078.65	344.67	328.60
8	24	219.63	380.16	272.29	199.98	212.69	189.57	481.90	154.38	275.68	618.79	302.70	294.31
8	25	196.51	326.23	277.43	257.52	192.91	169.41	610.08	318.14	295.11	474.76	265.89	295.98
8	26	200.36	274.86	240.18	316.86	183.15	182.64	504.89	605.20	219.60	456.00	242.71	291.82
8	27	210.64	291.55	214.49	230.29	169.54	135.63	428.86	252.51	281.00	379.45	233.74	306.09
8	28	200.36	247.89	205.50	225.79	175.83	112.51	302.09	309.26	419.02	470.97	216.32	301.01
8	29	213.21	235.04	200.36	190.22	176.99	126.51	488.07	235.43	325.86	353.94	199.59	346.48
8	30	303.11	214.49	229.90	166.33	198.95	140.25	293.61	349.10	430.15	287.18	183.55	341.96
8	31	235.04	214.49	232.47	157.59	182.64	134.86	557.81	275.76	324.69	291.24	189.49	333.02

Location : End of Madi River : Madi
Index No. : Drainage area : 1,102 km²

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Month Day													
9 1	245.32	197.79	219.63	146.93	165.69	391.74	128.70	739.93	230.80	372.96	268.27	171.97	322.46
9 2	332.66	188.80	200.36	173.13	162.86	342.42	160.42	434.51	234.27	452.31	272.26	166.33	405.95
9 3	253.02	182.38	229.90	178.53	166.71	288.09	127.28	471.75	350.64	320.82	243.47	160.78	349.20
9 4	224.77	179.81	205.50	134.86	166.20	320.32	105.19	401.50	245.06	291.24	219.18	251.85	379.87
9 5	258.16	184.95	253.02	122.92	168.00	317.37	106.48	363.74	195.74	243.76	443.14	218.46	448.29
9 6	258.16	191.37	354.49	110.59	184.66	460.84	117.91	231.96	317.92	317.92	277.08	195.52	539.44
9 7	235.04	173.39	242.75	106.86	163.24	331.24	102.75	254.95	166.71	334.10	247.26	175.79	327.72
9 8	253.02	173.39	214.49	101.59	161.32	267.54	202.93	212.69	158.62	459.71	296.82	162.62	318.98
9 9	305.68	173.39	200.36	149.37	158.36	244.55	109.17	178.79	219.37	335.60	314.65	157.14	314.65
9 10	255.59	172.11	188.80	208.20	152.97	239.67	104.55	155.15	175.06	288.53	302.70	162.62	331.25
9 11	277.43	177.24	184.95	141.54	148.73	285.26	128.05	141.92	150.91	247.39	324.21	151.75	351.02
9 12	242.75	227.34	166.97	137.04	146.42	239.67	170.31	129.47	150.14	238.96	274.66	144.72	328.60
9 13	242.75	227.34	166.97	151.69	144.11	198.95	154.38	122.92	137.94	219.31	216.32	141.27	294.31
9 14	219.63	196.51	182.38	151.69	142.82	175.96	127.28	114.44	137.17	197.64	235.22	137.86	355.59
9 15	214.49	191.37	175.96	181.35	143.59	187.65	159.52	96.59	119.32	197.64	222.77	142.99	279.51
9 16	210.64	184.95	165.69	149.37	141.03	152.58	182.22	80.40	123.56	178.45	216.32	141.27	294.31
9 17	245.32	196.51	159.26	122.92	138.84	137.17	150.14	71.41	116.49	199.73	208.57	148.21	239.70
9 18	205.50	166.97	148.99	122.14	145.91	133.32	134.86	83.10	91.32	230.73	203.71	177.71	228.59
9 19	200.36	161.83	147.70	150.14	137.04	126.64	120.73	109.81	83.10	376.19	190.15	142.99	224.94
9 20	191.37	148.99	145.14	134.86	133.83	119.45	111.74	76.81	68.20	452.31	178.36	132.82	205.78
9 21	186.24	136.14	134.86	114.95	136.92	113.28	127.28	79.89	145.14	291.24	176.43	126.26	236.71
9 22	182.38	131.01	141.28	101.59	145.91	98.77	115.21	67.69	104.55	259.79	166.95	170.08	210.67
9 23	177.24	125.10	136.14	97.61	143.34	96.33	98.38	67.69	120.73	236.59	179.65	148.21	211.37
9 24	172.11	123.30	242.75	92.73	167.36	101.08	93.63	93.12	121.50	211.55	173.24	139.56	233.74
9 25	166.97	121.37	196.51	82.59	168.25	214.11	88.49	69.10	114.44	187.37	178.36	142.99	200.96
9 26	155.41	113.03	166.97	76.93	155.41	187.65	85.15	69.10	127.28	173.62	161.39	144.72	184.86
9 27	154.13	121.37	154.13	72.95	146.16	221.94	84.13	62.93	95.43	151.67	161.39	164.47	177.71
9 28	148.99	145.14	159.26	69.10	151.81	169.41	104.55	87.34	110.46	144.80	152.94	142.99	168.20
9 29	145.14	242.75	163.12	66.66	158.24	245.83	103.39	77.32	94.27	149.93	148.80	134.49	155.33
9 30	145.14	191.37	147.70	62.29	147.96	150.14	97.23	68.71	109.81	131.70	141.27	131.17	157.74

Location : End of Madi River : Madi
Index No. : Drainage area : 1,102 km²

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Month Day													
1	140.00	173.39	143.85	59.72	145.91	137.94	94.79	104.56	85.80	120.92	141.84	127.86	151.75
2	138.71	159.26	140.00	56.51	148.86	167.61	78.86	81.43	100.82	115.77	142.99	126.26	144.72
3	128.44	143.85	136.14	52.40	146.16	129.59	78.86	77.83	149.25	114.32	137.86	119.87	141.27
4	132.29	136.14	131.01	50.48	141.03	141.92	72.44	79.89	91.32	109.36	154.73	121.45	134.49
5	128.44	154.13	131.01	54.07	136.14	228.88	72.95	69.61	115.85	102.53	142.99	118.30	127.88
6	134.86	123.30	125.10	53.69	127.15	149.25	74.88	64.22	137.94	99.23	157.14	116.73	126.80
7	146.99	116.37	128.44	47.91	122.40	137.17	62.04	62.42	101.47	92.22	147.63	115.18	119.87
8	136.14	108.02	125.10	42.38	119.96	113.92	60.37	61.14	78.86	93.47	134.49	115.18	114.67
9	126.90	103.14	119.70	50.48	115.08	114.70	57.03	65.12	65.12	90.37	141.84	115.18	112.12
10	119.70	100.05	114.70	41.10	113.92	96.33	62.93	58.70	63.32	90.37	151.75	109.09	109.09
11	116.37	113.03	109.69	38.40	114.57	102.37	55.10	52.79	58.31	88.55	147.04	107.59	107.59
12	108.02	103.14	106.35	38.40	131.14	96.97	52.79	53.94	54.33	83.80	134.49	104.63	106.11
13	104.68	93.89	108.02	36.22	116.24	103.01	50.99	53.94	57.93	76.47	129.52	101.71	102.19
14	103.14	93.89	125.10	32.11	124.59	97.48	49.45	52.79	47.01	74.30	126.26	101.71	102.19
15	103.14	95.43	111.36	28.13	114.18	83.48	49.45	51.63	45.72	72.71	123.04	100.26	97.41
16	100.05	147.70	108.02	24.02	106.99	76.93	48.42	50.60	43.67	71.13	119.34	98.83	96.94
17	98.51	140.00	103.14	22.99	113.67	69.36	46.37	49.83	41.74	68.56	115.18	97.41	92.74
18	95.43	154.13	103.14	21.83	109.43	66.66	45.98	50.99	39.69	68.56	112.12	96.00	90.00
19	92.35	111.36	103.14	21.06	106.99	65.76	43.41	47.39	39.05	66.56	112.12	96.00	88.64
20	85.03	101.59	96.97	21.06	103.26	64.48	43.41	50.60	38.79	63.62	110.09	93.20	86.40
21	80.92	106.35	95.43	21.06	101.08	63.19	41.74	48.81	36.35	66.06	108.59	93.20	83.76
22	79.50	95.43	90.81	20.42	98.38	61.52	41.49	50.60	34.68	69.07	107.10	89.09	82.02
23	79.50	90.81	87.85	20.04	98.38	60.37	47.39	46.37	33.91	61.24	103.16	86.40	79.44
24	78.09	83.61	86.44	20.04	96.33	59.98	44.05	45.34	32.88	61.71	103.65	86.40	79.87
25	76.68	80.92	85.03	19.52	95.04	59.04	41.74	44.31	31.60	58.01	101.23	86.40	80.73
26	75.26	80.92	80.92	19.14	92.22	60.37	41.74	44.31	31.60	58.01	101.23	86.40	80.73
27	72.70	75.26	79.50	19.27	89.65	56.00	40.59	43.41	30.57	55.78	99.79	85.08	76.08
28	71.54	71.54	76.68	19.27	87.47	55.23	38.30	41.49	29.80	53.17	98.83	85.08	73.60
29	71.54	68.97	76.68	19.39	87.47	54.84	38.79	40.84	29.16	53.60	96.94	83.76	73.60
30	61.52	66.40	73.98	19.27	85.54	52.66	39.30	40.59	28.13	52.75	95.53	83.76	73.60
31	60.37	61.52	72.70	18.75	82.84	51.63	37.25	39.94	27.74	52.75	96.00	82.45	71.97

Location : End of Madi River River : Madi
Index No. Drainage area : 1,102 km²

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Month Day													
1	59.21	59.21	71.54	18.50	79.76	50.48	36.73	38.79	27.10	53.17	94.59	81.16	70.76
2	59.21	58.05	70.26	18.37	77.19	49.45	35.83	37.50	26.33	54.47	93.20	79.87	69.96
3	59.21	57.03	63.96	17.85	74.75	47.78	35.58	37.25	25.69	49.02	91.82	78.59	67.20
4	59.21	55.87	62.68	17.47	72.95	46.37	35.58	35.83	24.66	49.02	92.28	78.59	66.81
5	58.05	53.56	60.37	17.08	73.34	45.47	34.68	35.58	23.63	48.22	91.82	77.33	66.03
6	57.03	52.40	59.21	16.83	70.26	44.82	33.65	35.06	23.25	48.22	90.45	76.08	65.65
7	57.03	51.25	58.05	16.70	68.84	44.44	33.65	34.42	22.61	47.82	90.00	76.08	64.88
8	55.87	50.22	59.21	16.44	67.94	43.54	32.62	33.65	22.09	45.87	86.40	74.83	63.73
9	53.56	49.19	58.05	16.31	67.43	42.90	32.11	32.88	21.45	44.72	84.64	74.83	62.97
10	51.25	48.29	55.87	16.31	106.19	42.64	31.60	32.37	21.06	43.23	85.08	73.60	62.22
11	50.22	46.24	54.71	16.31	147.06	41.74	31.08	32.11	20.94	44.72	83.76	72.38	61.84
12	50.22	45.21	53.56	16.05	100.05	41.10	30.57	31.34	20.29	47.82	82.89	72.38	60.36
13	49.19	44.18	54.71	15.67	88.62	40.84	29.80	30.83	20.04	42.85	82.02	76.08	59.62
14	48.29	42.26	53.56	15.28	83.61	39.94	29.41	30.57	20.29	42.12	81.59	74.83	59.25
15	48.29	43.28	53.56	15.28	80.53	39.30	29.16	30.05	19.78	40.68	82.02	71.16	58.16
16	47.27	42.26	53.56	15.03	78.48	39.30	28.64	30.57	19.27	40.33	81.59	69.96	56.36
17	47.27	41.23	52.40	14.77	76.04	39.05	28.38	29.80	18.75	39.98	81.16	69.96	56.36
18	46.24	40.33	47.27	14.64	74.24	37.89	28.00	29.41	18.50	38.59	80.73	68.77	54.94
19	45.21	39.43	39.43	14.51	70.77	37.38	31.85	29.80	18.50	36.90	80.73	68.77	53.89
20	45.21	38.53	38.53	14.39	68.46	36.48	30.05	29.16	18.50	36.90	79.44	67.59	53.19
21	44.18	37.63	37.63	14.13	66.02	35.71	28.64	28.13	18.24	36.24	78.59	67.59	52.85
22	43.28	35.83	36.73	14.00	64.60	35.19	27.49	27.74	17.98	35.91	78.17	67.59	52.85
23	42.26	39.43	36.73	13.61	63.58	34.68	26.84	27.23	17.72	34.94	76.91	67.59	52.16
24	42.26	34.94	36.73	13.36	62.55	34.42	26.33	27.74	17.47	34.63	76.91	67.59	52.16
25	41.23	34.04	35.83	13.36	61.01	34.42	27.49	27.10	17.08	34.94	76.08	67.59	52.16
26	41.23	34.04	35.83	13.36	60.49	33.91	30.83	26.59	16.18	34.31	75.25	67.59	51.47
27	41.23	34.04	34.94	13.10	59.98	33.65	27.49	26.59	16.05	33.37	74.83	66.42	51.82
28	40.33	34.04	34.94	13.10	58.44	33.39	26.33	26.33	16.05	32.45	74.42	66.42	51.47
29	40.33	33.14	34.04	13.23	56.77	32.62	25.69	26.33	15.93	32.14	73.60	66.42	50.80
30	39.43	32.24	34.04	14.51	54.46	31.85	25.30	25.69	15.54	31.84	72.38	65.26	50.12

Location : End of Madi River : Madi
Index No. : 1.102 km2
Drainage area

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Month	1	2	3	4	5	6	7	8	9	10	11	12	1
Day	1	2	3	4	5	6	7	8	9	10	11	12	1
12	38.53	32.24	34.04	13.87	53.94	31.21	27.49	25.30	15.54	30.95	73.19	64.11	50.12
12	38.53	32.24	33.14	12.97	53.30	30.70	26.59	25.30	15.28	30.65	72.38	62.97	49.45
12	37.63	34.04	33.14	12.97	52.15	30.44	25.69	25.05	15.16	30.65	72.38	62.97	49.45
12	36.73	31.47	32.24	12.72	53.30	29.93	25.05	24.92	15.16	30.36	72.38	62.97	48.79
12	35.83	31.47	32.24	12.33	52.15	29.28	24.66	24.92	14.90	30.07	71.16	62.97	48.12
12	36.73	29.93	31.47	12.20	52.15	29.03	24.40	24.66	14.77	30.07	70.76	61.84	46.82
12	35.83	29.16	30.70	12.07	51.50	28.64	24.02	24.40	14.77	30.07	70.76	60.73	46.17
12	35.83	29.16	31.47	12.46	51.50	28.64	24.02	24.02	14.39	29.21	70.36	60.73	46.17
12	34.94	29.16	30.70	12.33	50.35	28.64	26.20	24.02	14.26	28.93	69.96	59.62	45.53
12	34.94	27.74	29.93	12.07	49.71	28.38	25.64	24.02	14.13	28.93	69.96	59.62	45.53
12	33.14	28.38	29.93	11.82	48.42	28.00	25.58	23.76	13.87	28.37	68.77	59.62	45.21
12	33.14	27.74	29.93	11.56	47.78	28.00	25.58	23.76	13.87	28.37	68.77	59.62	45.21
12	33.14	27.74	29.16	11.56	56.13	28.00	30.05	23.25	13.61	28.65	68.38	59.62	44.57
12	33.14	26.20	29.16	11.56	46.37	27.49	29.98	22.86	13.36	28.37	67.59	59.62	44.57
12	33.14	26.20	28.38	11.69	45.72	27.23	34.68	22.61	13.23	28.37	67.59	59.62	44.26
12	33.14	26.20	28.38	11.30	44.44	27.23	28.38	22.22	12.33	28.10	65.26	58.52	43.94
12	33.14	25.43	27.74	11.30	44.44	27.23	28.64	22.22	12.33	28.37	64.88	58.52	42.69
12	33.14	24.66	26.97	11.05	44.44	27.10	27.74	21.83	12.33	28.10	64.49	58.52	41.16
12	32.24	24.66	26.97	11.05	44.44	26.59	28.00	21.71	12.33	28.65	64.11	58.52	42.08
12	32.24	24.66	26.97	10.53	44.44	26.59	27.49	21.71	12.33	27.55	64.11	57.43	41.47
12	32.24	24.02	26.97	10.28	42.90	26.59	27.10	21.06	12.33	27.55	64.49	56.36	40.56
12	31.47	24.02	26.97	10.02	41.49	26.46	26.33	21.06	12.33	27.01	63.73	56.36	40.25
12	30.70	23.38	26.97	10.02	39.94	25.82	25.69	21.06	12.33	27.01	62.97	55.29	39.36
12	30.70	22.73	26.97	10.02	39.94	25.82	25.30	20.68	12.33	27.28	63.35	55.29	39.06
12	35.83	22.73	26.97	9.76	39.94	25.82	25.05	20.55	12.20	27.01	62.59	55.29	38.77
12	37.63	22.73	26.97	9.76	39.94	25.43	24.66	20.55	12.07	26.21	62.59	55.29	38.77
12	31.47	23.38	26.20	9.76	39.17	25.17	24.40	20.55	12.07	26.21	61.84	55.29	38.77
12	31.47	22.09	26.20	9.63	37.63	25.17	24.02	20.55	11.82	25.69	61.47	55.29	38.77
12	30.70	22.09	26.20	9.63	37.63	25.17	24.02	20.55	11.82	25.69	61.47	55.29	38.77
12	29.93	22.09	26.20	9.50	36.73	24.53	23.76	20.29	11.69	25.43	60.36	55.29	41.16
12	29.93	22.09	26.20	9.63	35.06	24.02	23.25	20.04	11.69	25.17	60.36	55.29	40.56

Location : Upper Seti Dam Site
Index No.

River : Seti
Drainage area : 1,502 km²

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Month																		
1	31.77	34.04	24.58	20.61	24.89	18.35	20.18	23.72	25.74	25.12	36.84	33.04	22.32	22.69	32.26	37.67	25.24	18.20
2	30.37	29.50	22.18	20.73	20.52	14.60	17.27	18.66	20.32	17.56	33.66	32.12	23.13	20.38	29.59	33.75	22.89	14.85
3	30.06	29.70	20.98	20.06	24.72	15.16	16.25	18.75	19.38	18.01	32.59	30.18	19.82	20.69	27.20	29.80	25.28	15.59
4	31.86	32.68	19.38	22.82	25.26	14.96	24.59	29.13	20.50	25.82	40.77	22.84	24.94	30.17	29.39	37.66	26.57	28.71
5	68.92	36.28	22.22	24.48	34.95	16.62	35.26	39.58	52.87	39.19	38.98	24.02	40.87	48.85	68.65	51.89	37.13	40.06
6	77.95	151.00	63.46	57.79	141.86	34.37	91.23	187.67	106.60	176.30	91.67	84.91	190.23	92.36	162.15	84.68	107.89	95.89
7	134.27	293.51	228.35	231.34	336.10	127.99	380.80	291.21	325.57	244.01	343.35	426.99	380.26	288.47	381.04	314.96	425.14	400.55
8	460.52	368.53	259.65	213.24	287.01	314.95	412.05	300.57	362.45	389.00	411.63	328.44	342.27	408.97	349.62	446.97	446.49	376.47
9	313.05	190.27	159.75	185.77	222.70	264.02	202.12	212.78	251.57	265.26	254.36	305.53	216.04	248.32	215.58	239.35	313.65	242.69
10	112.38	62.61	66.04	77.16	326.56	79.48	106.12	145.69	108.55	259.44	131.67	139.16	88.37	111.76	105.97	107.18	82.48	96.95
11	82.03	46.89	38.59	43.52	42.07	40.30	56.82	67.72	51.45	74.40	43.78	54.09	43.61	74.82	64.34	57.50	43.81	50.19
12	53.82	31.26	25.54	33.82	23.72	26.10	33.38	40.00	33.44	39.12	34.07	30.36	33.79	43.31	47.69	34.59	26.23	36.88
Average	118.92	108.86	79.23	79.28	125.86	80.58	116.34	114.62	114.87	131.10	124.45	125.97	118.80	117.40	126.12	123.00	131.90	118.09

Location : End of Madi River
Index No.

River : Madi
Drainage area : 1,102 km²

Year	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Month																		
1	33.34	39.84	27.98	36.90	24.71	23.51	30.17	33.86	28.11	19.88	31.14	23.19	29.31	10.51	30.10	27.15	24.23	21.30
2	30.80	36.60	21.22	33.46	19.78	20.42	26.84	27.76	24.81	17.60	27.94	20.60	27.49	9.92	21.63	24.01	21.52	18.50
3	36.11	35.33	21.67	32.95	21.40	21.43	27.04	27.79	25.97	16.75	26.47	14.47	29.76	11.27	30.90	28.37	24.86	16.96
4	40.10	34.52	24.02	39.10	28.51	23.65	28.79	30.51	35.90	20.28	25.15	14.69	30.12	11.93	30.97	32.61	29.06	18.82
5	48.89	46.66	62.84	61.12	27.89	31.15	40.70	59.40	55.18	33.39	35.73	30.02	37.03	28.25	37.61	38.43	48.67	34.78
6	96.90	72.84	151.94	114.94	117.62	72.15	111.72	146.63	152.91	114.93	82.02	97.75	106.76	255.88	69.25	74.86	149.30	93.07
7	257.70	210.40	445.11	333.41	260.70	279.97	264.43	251.67	271.89	281.02	188.94	218.40	184.16	314.95	227.03	229.59	288.07	264.77
8	271.34	270.49	297.29	197.46	259.80	279.54	320.46	310.70	237.33	320.41	289.77	321.32	233.91	193.92	319.76	258.88	452.58	238.65
9	155.55	176.75	243.47	202.86	280.16	183.62	238.87	240.20	194.11	250.18	197.45	215.41	142.80	175.89	252.24	141.60	207.34	174.21
10	85.90	143.17	96.07	126.16	147.86	87.26	102.64	113.93	102.75	117.19	124.81	122.40	37.74	129.86	107.58	61.76	64.24	67.41
11	54.49	54.66	58.63	56.45	59.19	54.22	52.94	53.84	44.46	56.25	50.28	56.84	17.67	85.89	45.79	35.05	35.63	23.11
12	48.33	35.64	41.31	35.98	30.68	39.24	38.58	36.44	27.31	38.97	30.51	33.33	12.93	52.74	31.53	33.12	26.02	15.28
Average	96.37	104.74	123.46	105.90	106.53	93.01	106.93	111.06	100.06	107.25	92.52	97.37	74.14	106.75	100.37	82.12	114.29	82.24

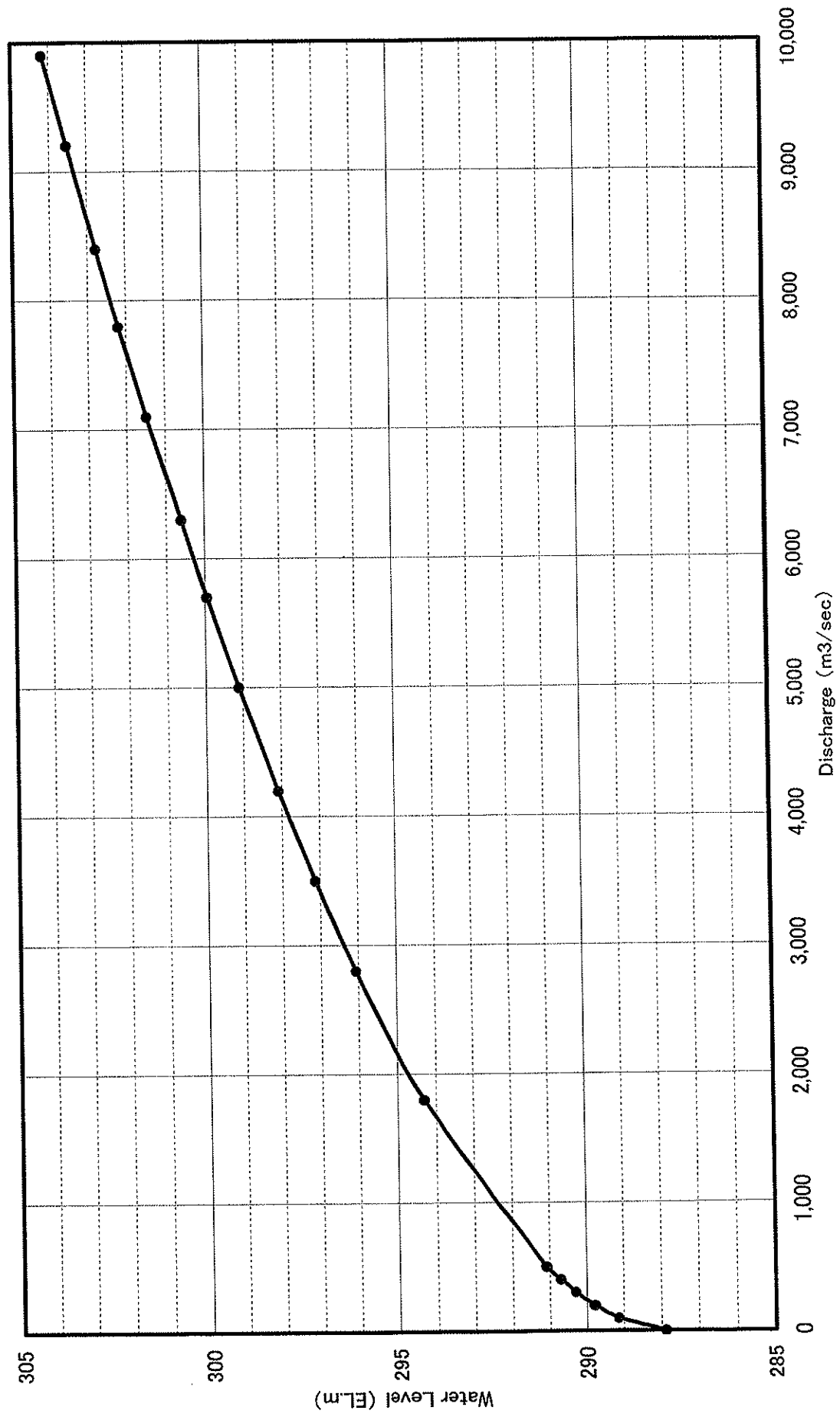
Location : End of Madi River
Index No.

River : Madi
Drainage area : 1,102 km²

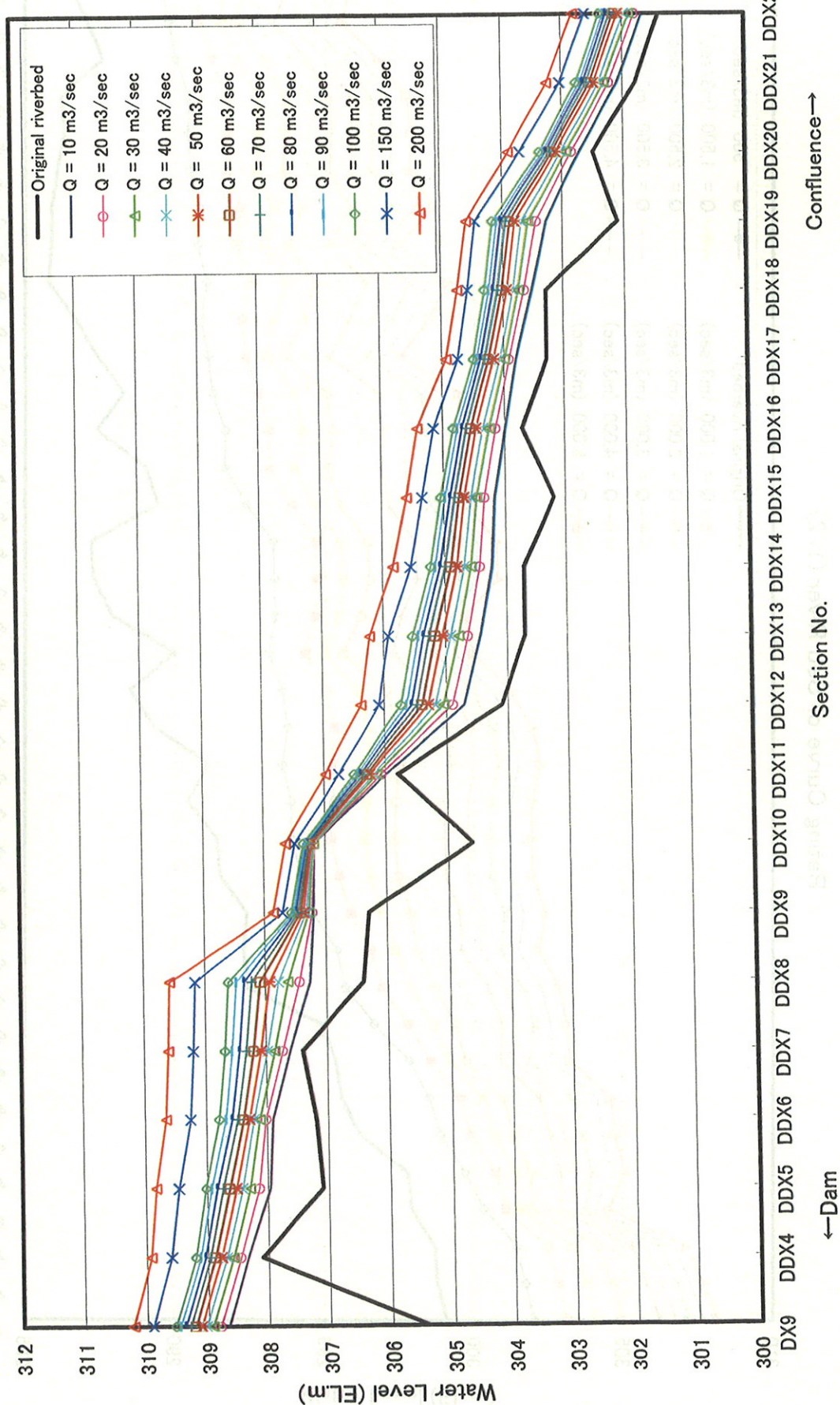
Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Month																										
1	24.32	31.48	17.82	12.99	21.04	38.36	21.93	31.99	21.42	20.38	26.15	29.35	24.37	17.32	26.99	20.10	25.41	9.11	26.09	23.53	21.01	18.46	20.47	22.58	57.27	52.37
2	20.34	28.68	15.56	10.34	19.52	34.74	15.35	29.00	17.14	17.70	23.27	24.06	21.50	15.25	24.09	17.86	23.83	8.60	18.88	20.81	18.66	16.03	17.35	20.12	53.10	49.98
3	21.06	25.06	16.68	10.52	23.48	35.76	15.98	28.56	18.54	18.57	23.43	24.08	22.51	14.52	22.94	12.55	25.80	9.77	26.78	24.59	21.54	14.70	17.01	17.52	52.82	50.70
4	26.13	30.38	17.53	19.11	26.96	34.72	18.29	33.89	24.71	20.50	24.95	26.45	31.12	17.57	21.80	12.74	26.10	10.34	26.85	28.27	25.19	16.31	23.22	21.76	60.59	55.14
5	54.26	46.13	21.81	30.72	32.94	53.00	66.08	52.97	24.18	27.00	35.28	51.48	47.83	28.94	30.97	26.02	32.03	24.49	32.60	33.31	42.19	30.15	42.62	42.46	89.92	58.37
6	138.69	78.14	66.82	79.42	82.97	72.74	159.22	99.63	101.95	62.54	96.83	127.09	132.54	99.62	71.09	84.73	92.53	221.79	51.46	64.88	46.52	80.67	180.43	137.97	140.31	119.47
7	361.70	335.56	408.85	388.59	225.08	178.01	455.09	288.99	225.97	242.67	229.20	218.14	235.66	243.58	163.77	189.30	159.62	272.99	196.78	199.00	249.69	229.49	294.28	257.93	314.55	337.59
8	346.58	503.89	471.16	358.47	238.99	258.56	263.71	171.15	225.18	242.29	277.76	269.31	205.71	277.72	251.16	278.50	202.74	168.08	277.16	224.39	392.28	206.86	230.84	392.21	275.07	288.91
9	166.48	189.69	231.65	149.71	156.16	214.56	164.82	135.26	186.80	122.43	159.26	160.15	129.42	166.81	131.65	143.62	95.21	117.27	163.18	94.41	138.24	116.15	202.40	176.88	121.59	217.33
10	108.31	84.19	60.86	73.63	80.70	136.53	99.28	109.35	128.16	75.63	88.96	98.75	89.06	101.57	108.18	106.09	32.71	112.56	93.25	53.53	55.68	58.43	77.90	122.90	101.71	101.20
11	57.82	38.79	29.48	39.63	56.66	57.96	62.39	48.93	51.31	47.00	45.89	46.67	38.54	48.76	43.58	49.26	15.32	74.45	39.69	30.38	30.88	20.03	41.18	82.44	71.76	58.40
12	40.92	24.97	18.07	25.34	45.07	32.71	42.45	31.19	26.59	34.01	33.44	31.58	23.67	33.78	26.45	28.89	11.21	45.71	27.33	28.71	22.55	13.24	28.15	66.48	58.70	44.31
Average	113.88	118.08	114.67	99.87	84.13	95.64	115.38	88.41	87.66	77.56	88.70	92.26	83.49	88.79	76.89	80.80	61.88	89.50	82.09	68.82	88.70	68.38	102.99	113.44	116.45	119.48

Rating Curves

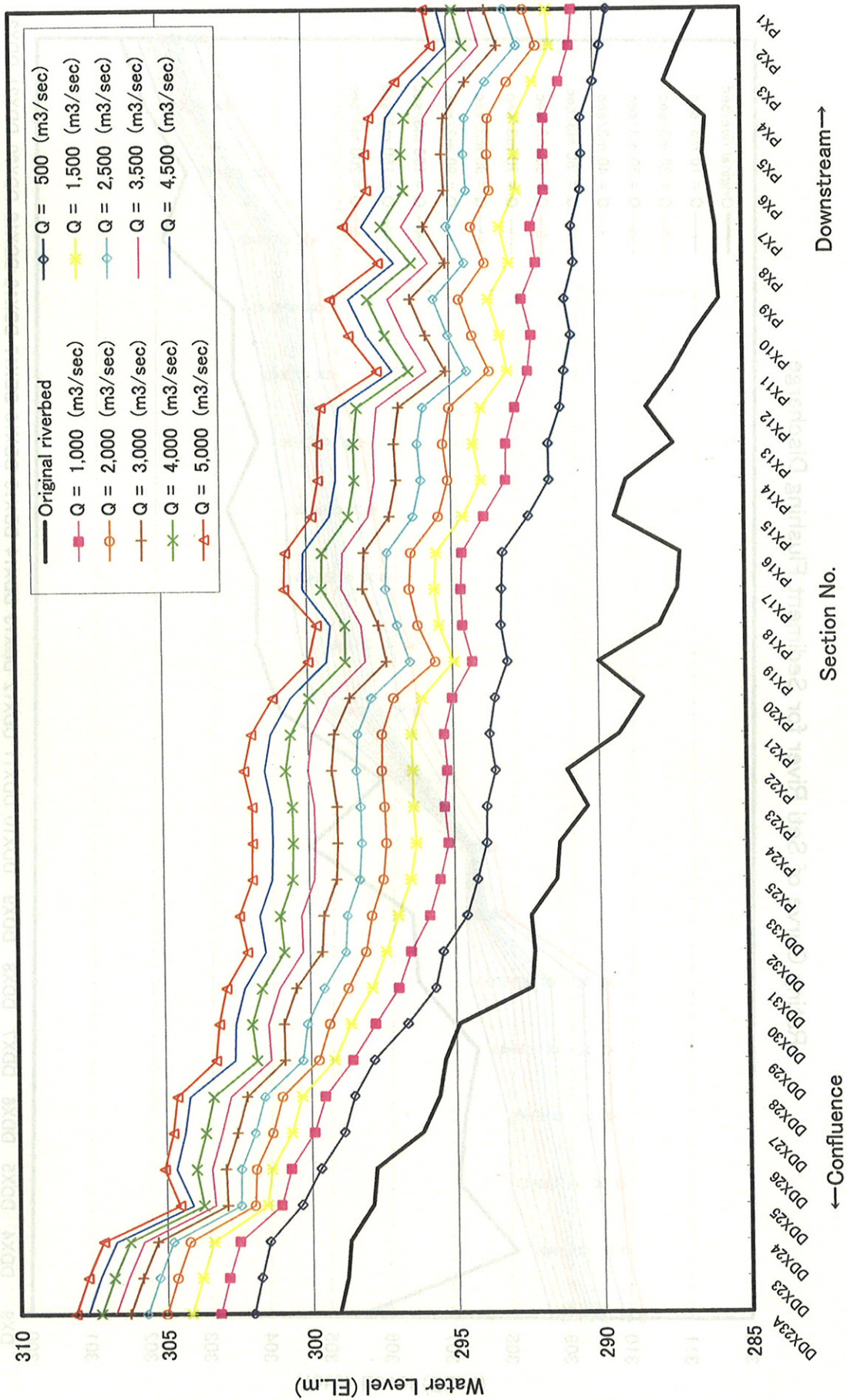
Rating Curve at Section PX-9 (Tailrace Outlet)



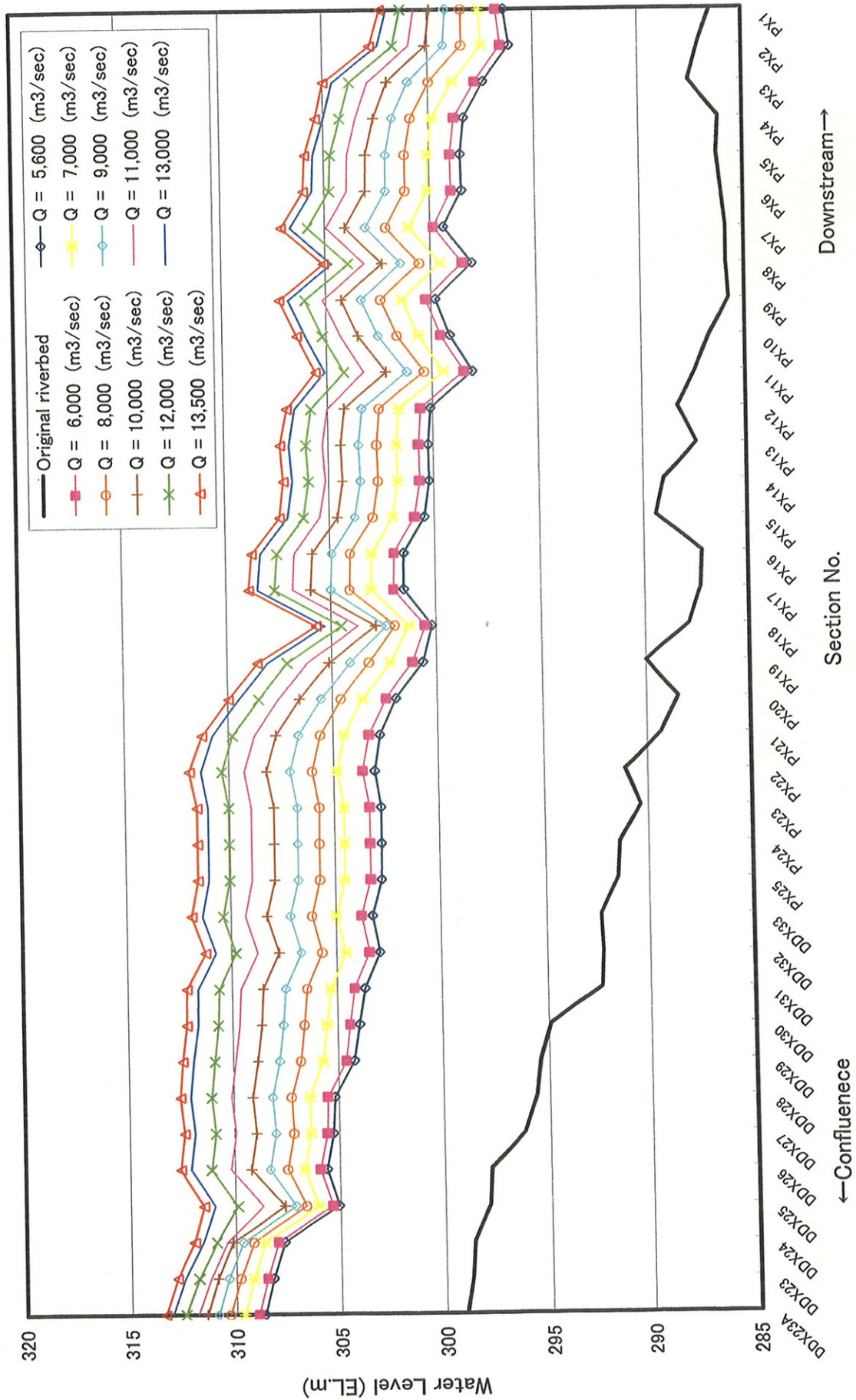
Rating Curve of Seti River for Sediment Flushing Discharge



Rating Curve of Seti River (1/2)

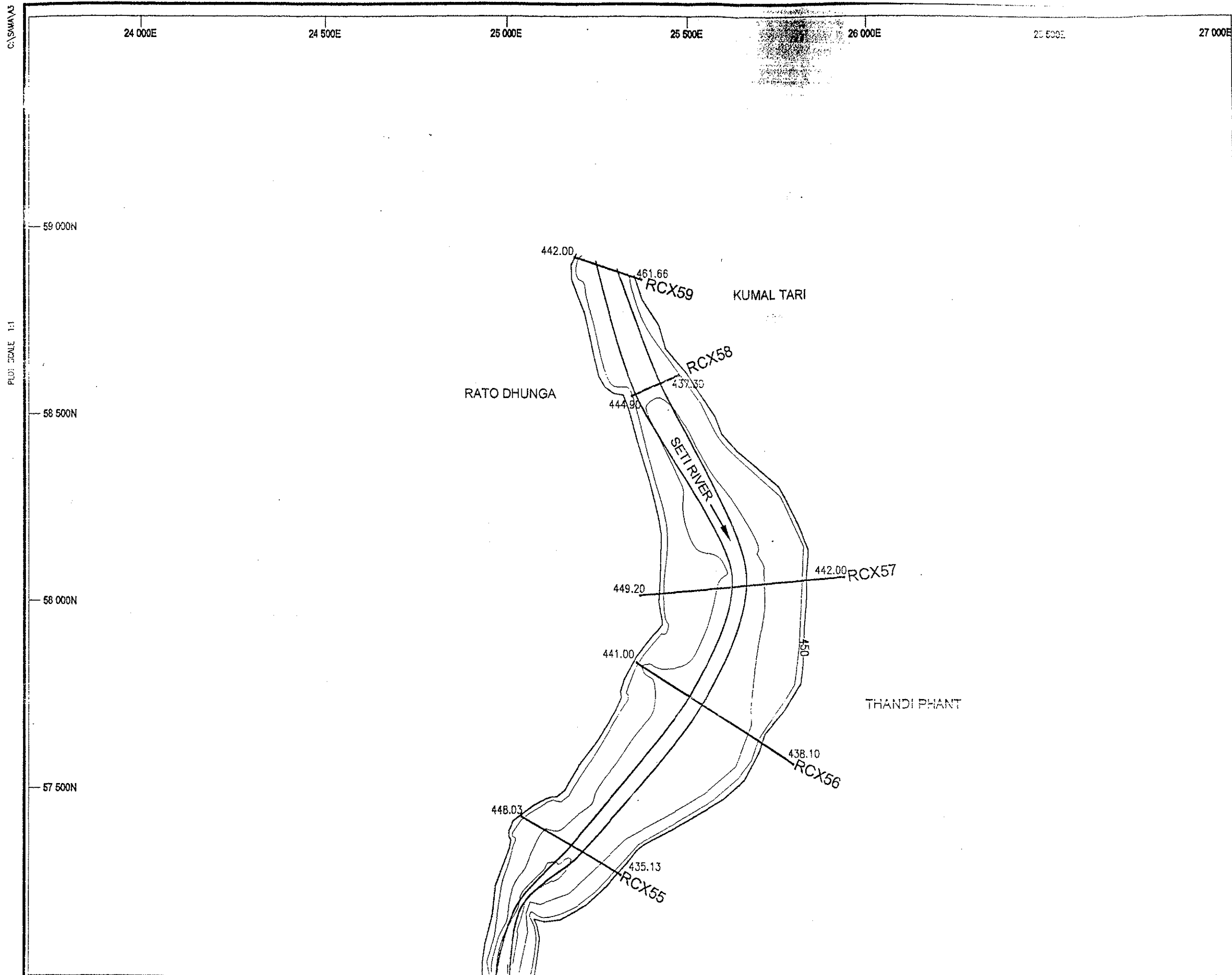


Rating Curve of Seti River (2/2)



River Cross Sections

Note : Section number “RCX-○○” of the plans corresponds to
“RX-○○” of the river cross sections.

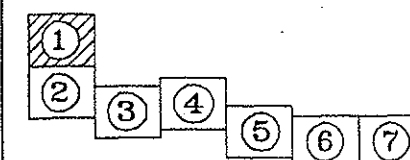


Legend

- TRACK
- ROAD
- KHOLA
- BOULDERS WITH SAND
- CLIFF
- HOUSES
- LANDSLIDE
- CULTIVATED LIMIT
- TREE
- SPOT HEIGHT 461.56



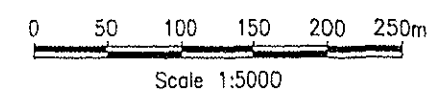
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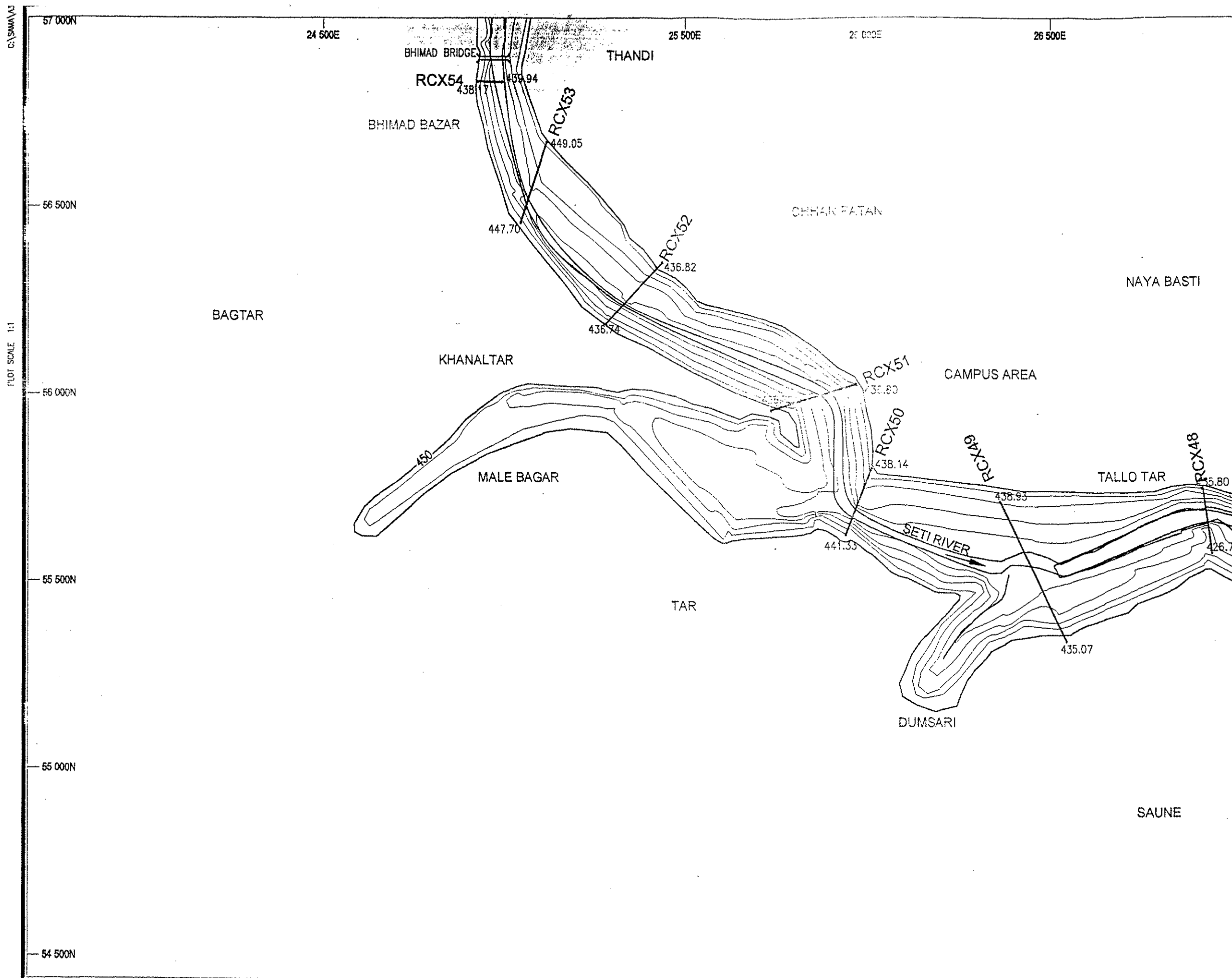


TITLE

CROSS SECTION PLAN
RESERVOIR

Figure No.

#

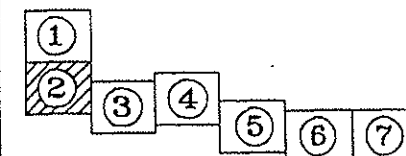


Legend

- TRACK
- ROAD
- KHOLA
- BOULDERS WITH SAND
- CLIFF
- HOUSES
- LANDSLIDE
- CULTIVATED LIMIT
- TREE
- SPOT HEIGHT 436.80



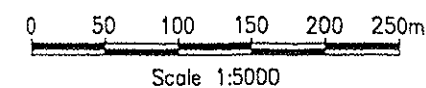
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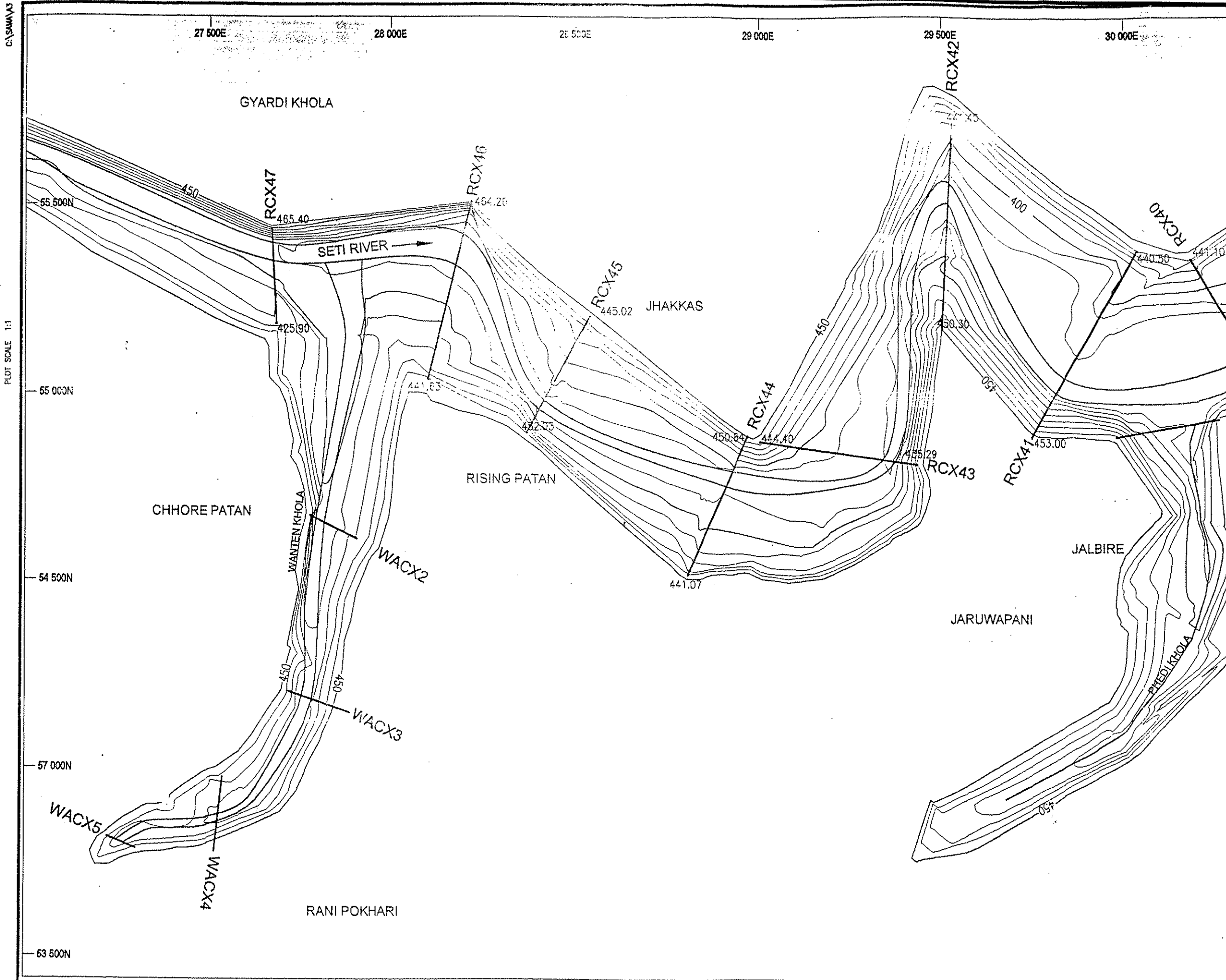


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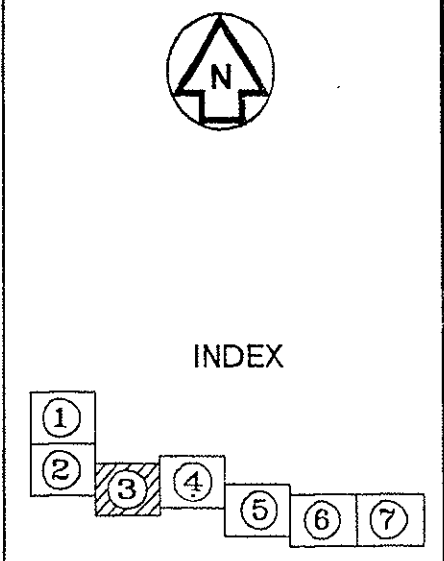
**CROSS SECTION PLAN
RESERVOIR**

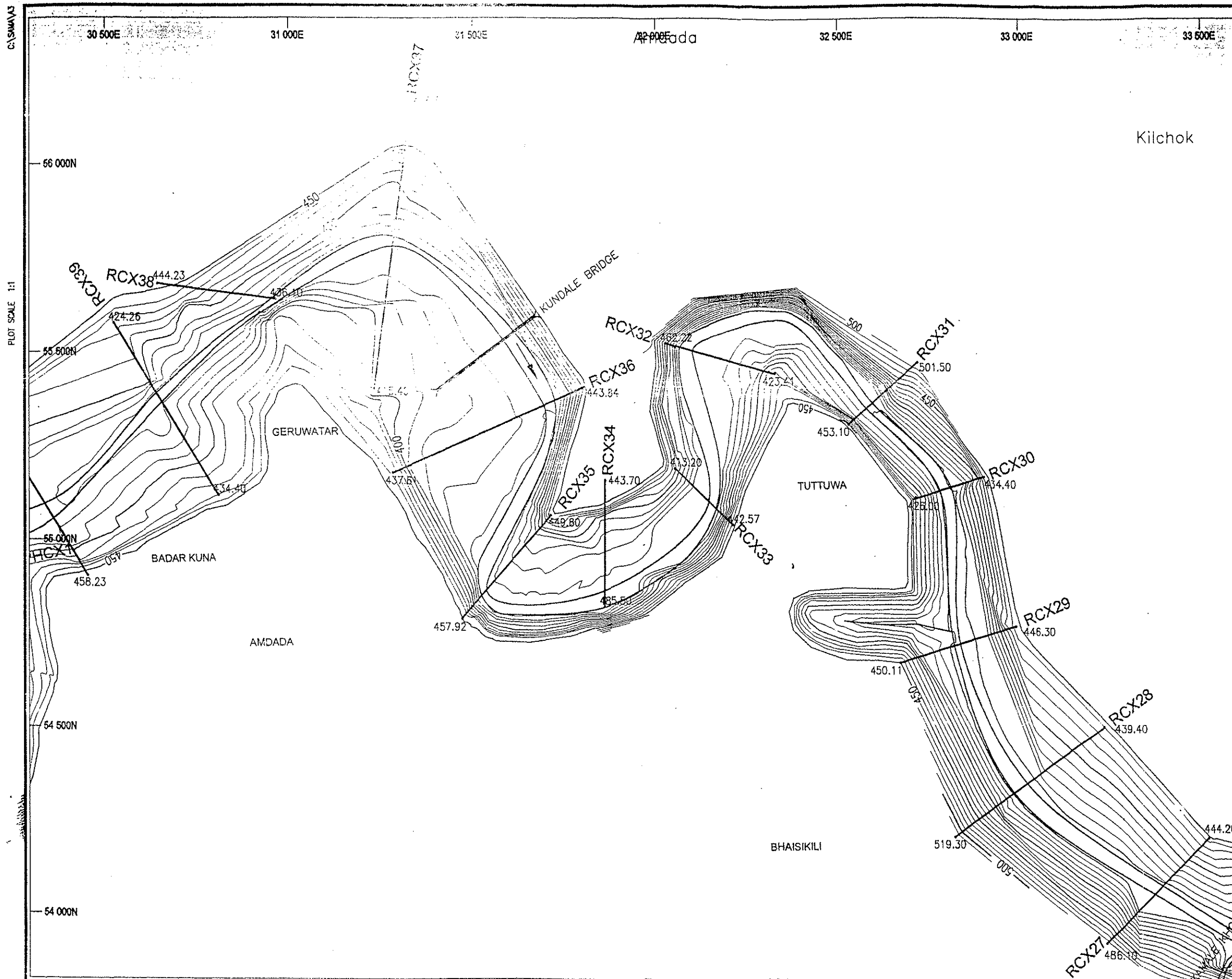
Figure No.

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- ### Legend
- TRACK
 - ROAD
 - KHOLA
 - BOULDERS WITH SAND
 - CLIFF
 - HOUSES
 - LANDSLIDE
 - CULTIVATED LIMIT
 - TREE
 - SPOT HEIGHT 453.00



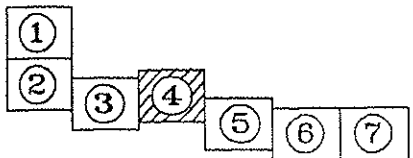


Legend

- TRACK
- ROAD
- KHOLA
- BOULDERS WITH SAND
- CLIFF
- HOUSES
- LANDSLIDE
- CULTIVATED LIMIT
- TREE
- SPOT HEIGHT



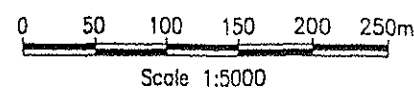
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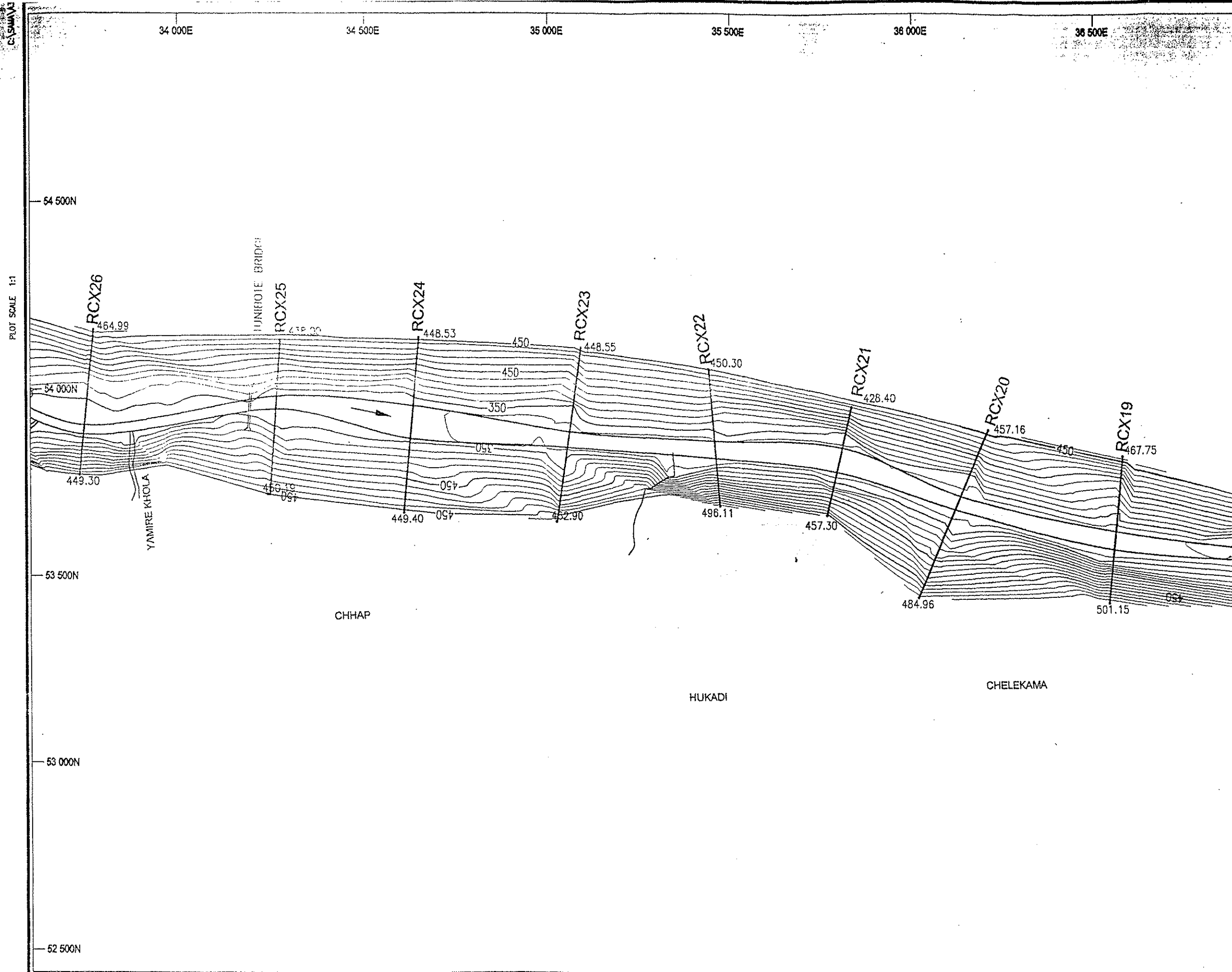


TITLE

CROSS SECTION PLAN
RESERVOIR

Figure No.

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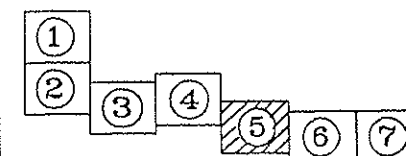


Legend

- TRACK
- FOOT
- ROAD
- BOULDER WITH SAND
- CLIFF
- HOUSE
- LANDSLIDE
- CULTIVATED LIMIT
- TREE
- SPOT HEIGHT



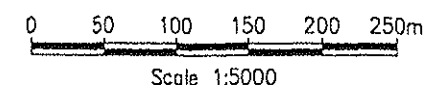
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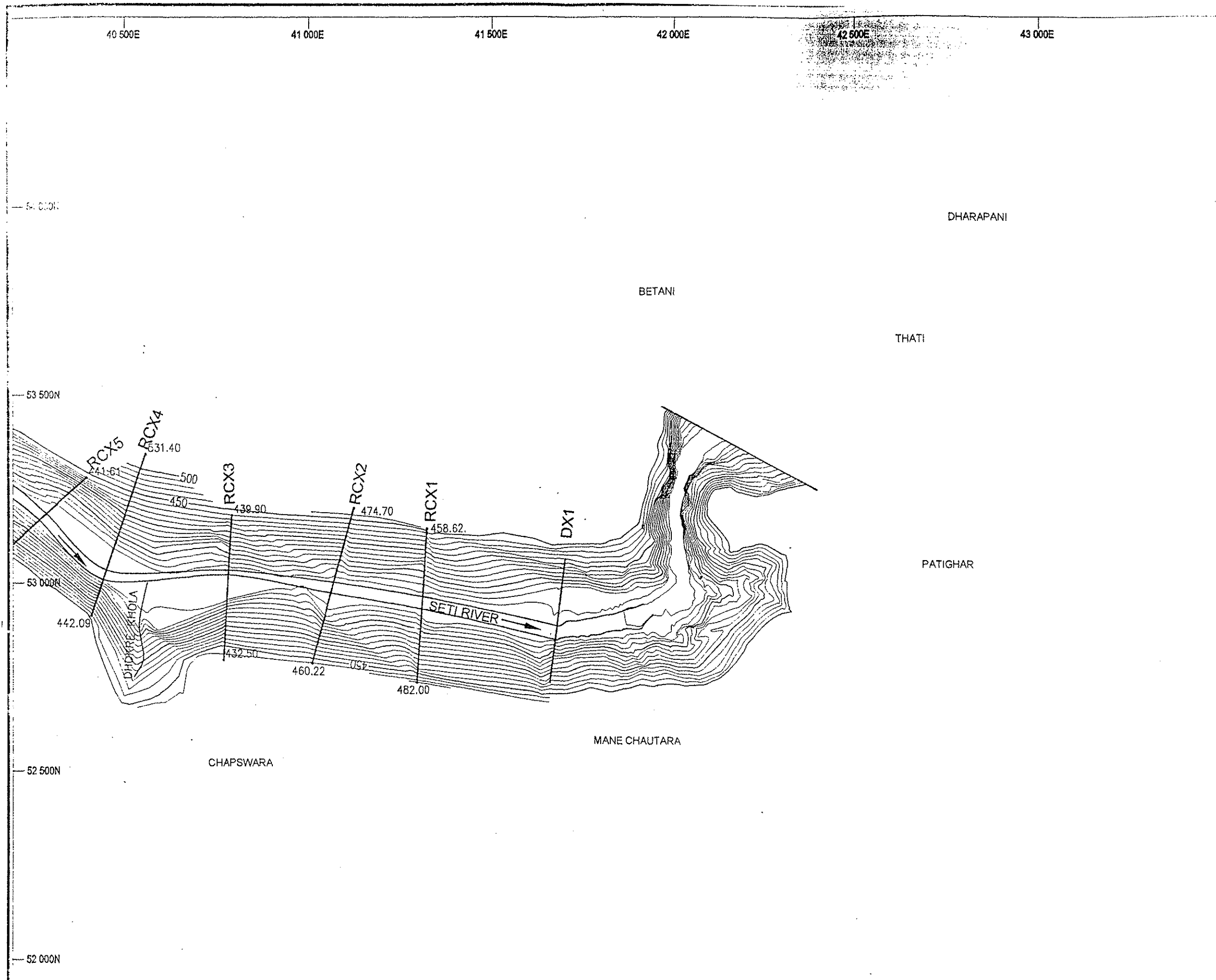


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CROSS SECTION PLAN
RESERVOIR

Figure No.

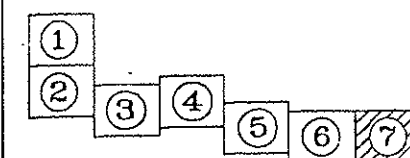
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Legend	
TRACK	
ROAD	
KHOLA	
BOULDERS WITH SAND	
CLIFF	
HOUSES	
LANDSLIDE	
CULTIVATED LIMIT	
TREE	
SPOT HEIGHT	796.60



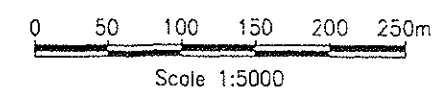
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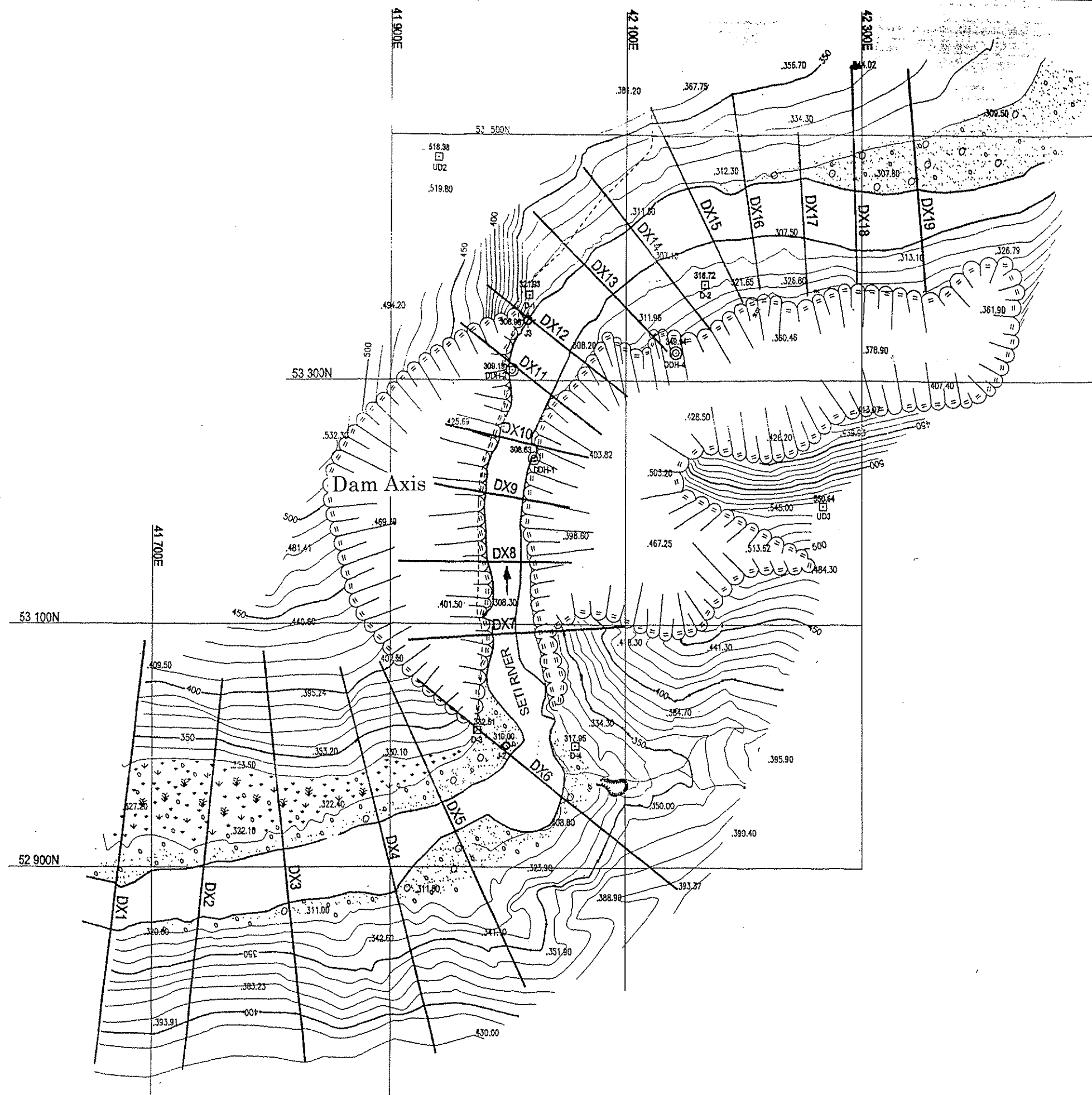


TITLE

CROSS SECTION PLAN
RESERVOIR

Figure No.

#



Legend

TRAC	
UD2	
UD3	
COLLECT WITH SAND	
CLIFF	
LANDSLIDE	
CULTIVATED LIMIT	
TREE	
SPOT HEIGHT	361.90
PERMANENT TRAVERSE POINT	550.64
TRAVERSE POINT	310.00
DRILL HOLE	349.94
	DDH-4



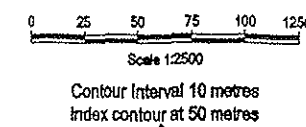
Reduced from Original Scale



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Title

CROSS SECTION PLAN OF
Dam Site

Figure No.

2.35

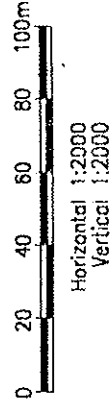
RIGHT BANK

LEFT BANK

W.L.

317.00
DATUM

ELEVATION	CHAINAGE
458.62	0+00.00
430.06	0+18.61
389.07	0+69.12
360.93	0+91.63
337.03	1+35.59
328.79	1+50.43
318.41	1+70.31
319.38	1+94.66
318.45	2+23.30
320.36	2+32.84
320.36	2+42.67
320.89	2+50.93
336.76	2+74.27
350.92	2+84.94
370.97	3+03.54
384.22	3+16.47
428.32	3+70.02
482.00	4+09.07



Section No.

River Cross Section
Reservoir

Rx 1

Title

Upper Seti Hydroelectric Project

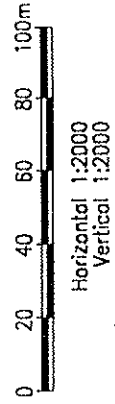
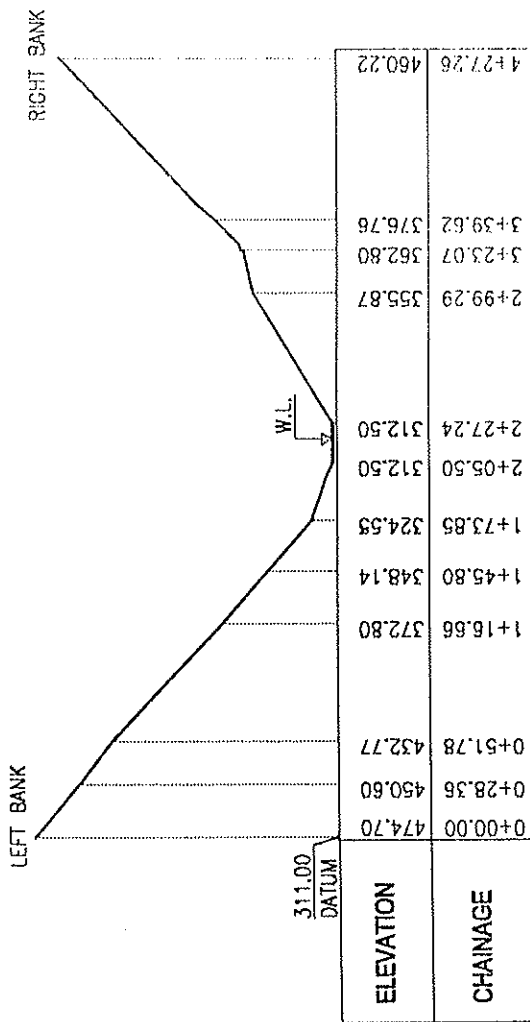
Department of Civil Engineering & Studies Department


In Association with

Soil, Water and Concrete Laboratory

Durbar Mani, Kathmandu







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Durbār Marg, Kathmandu

Project Preparation & Studies Department
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Section No. **Rx 2**

**River Cross Section
Reservoir**



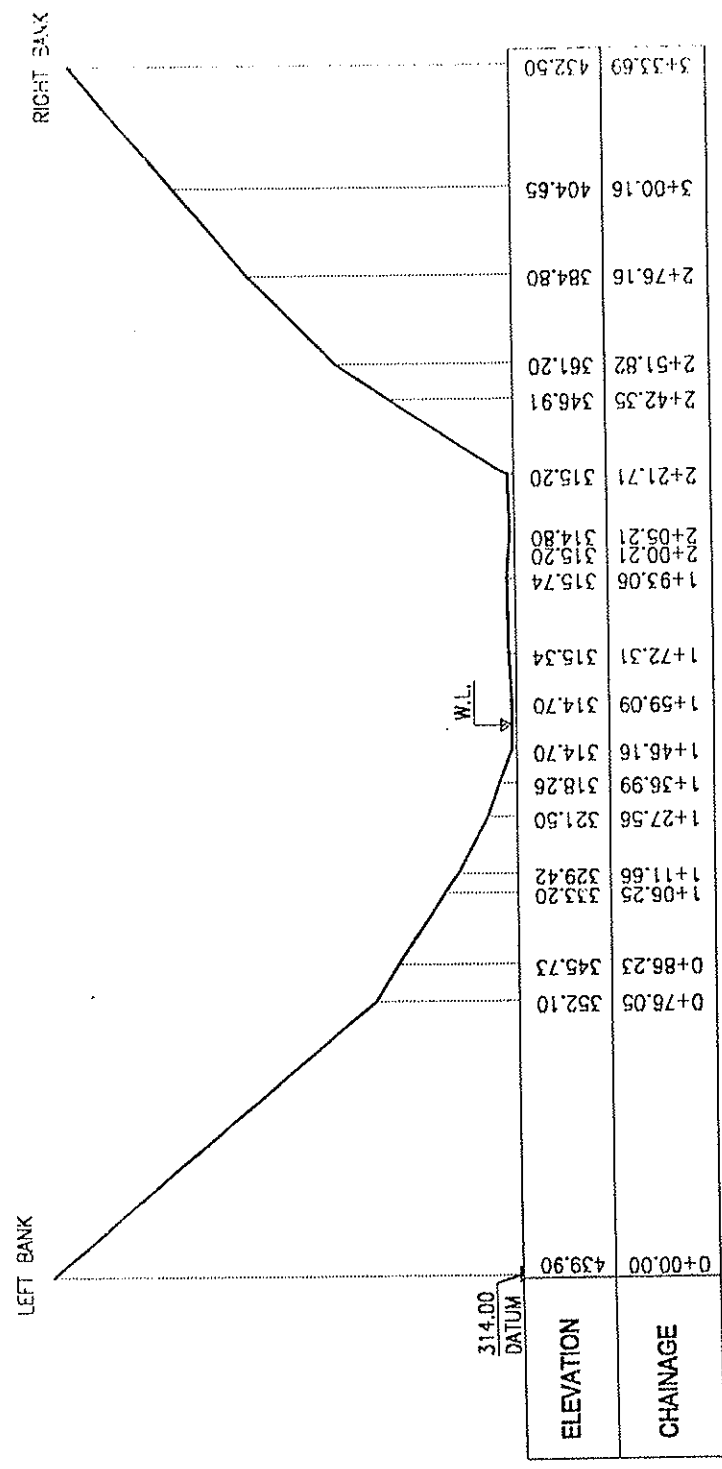
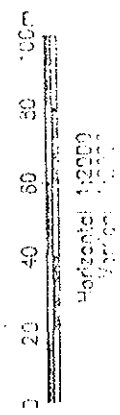
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Upper Seti Hydroelectric Project

Title

River Cross Section
Research
Rx 3



LEFT BANK

RIGHT BANK

W.L.

315.00
DATUM

ELEVATION	CHANNAGE
0+00.00	351.40
0+39.70	303.30
1+57.95	412.50
2+00.21	375.30
2+10.74	364.70
2+40.02	338.80
2+47.47	329.90
2+55.07	324.49
2+70.22	318.50
3+19.37	316.30
3+30.92	315.10
3+53.13	315.10
3+59.83	319.19
3+72.25	345.71
4+03.86	383.45
4+54.48	442.09



Horizontal 1:2000
Vertical 1:2000

Section No

Rx 4

Title

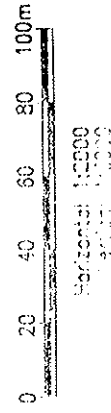
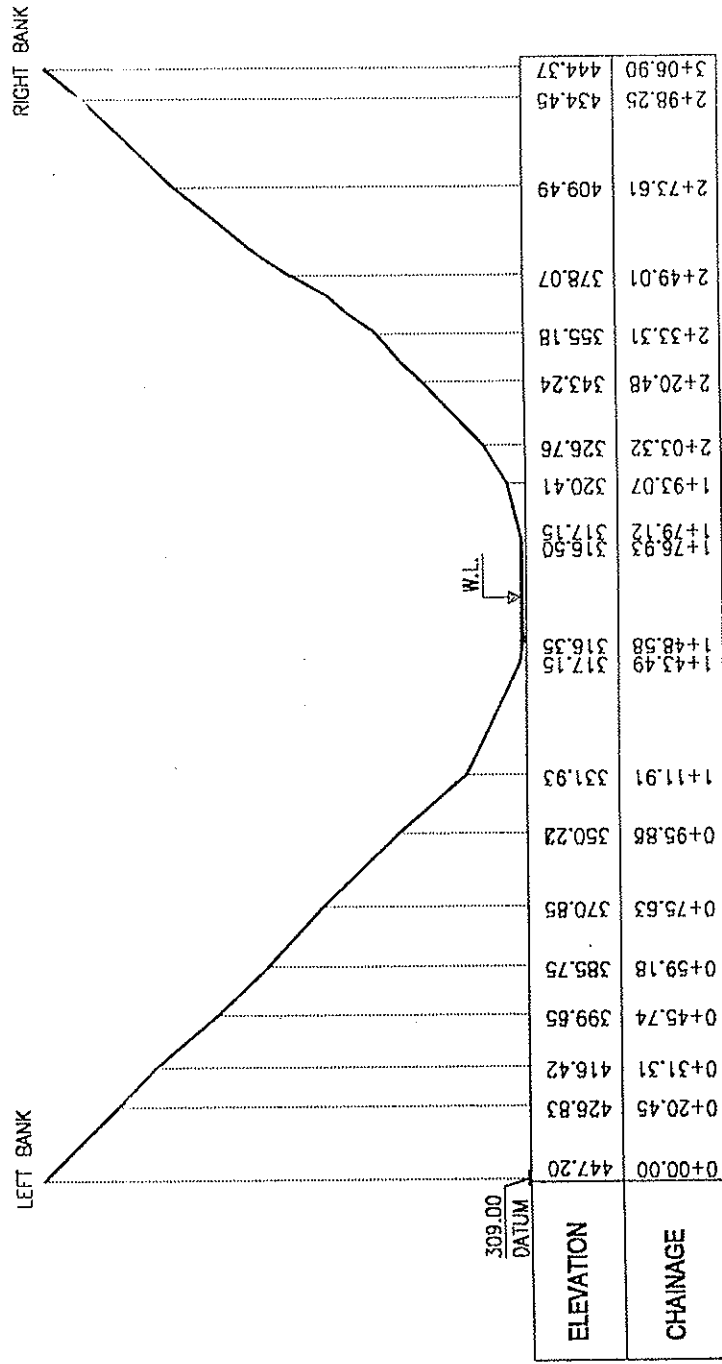
River Cross Section
Reservoir

Upper Seti Hydroelectric Project

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

Dr. L. K. Jha, JICA, UNIVERSITY
Dr. L. K. Jha, JICA, UNIVERSITY





Section No.

RX 6

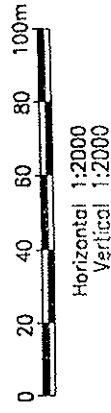
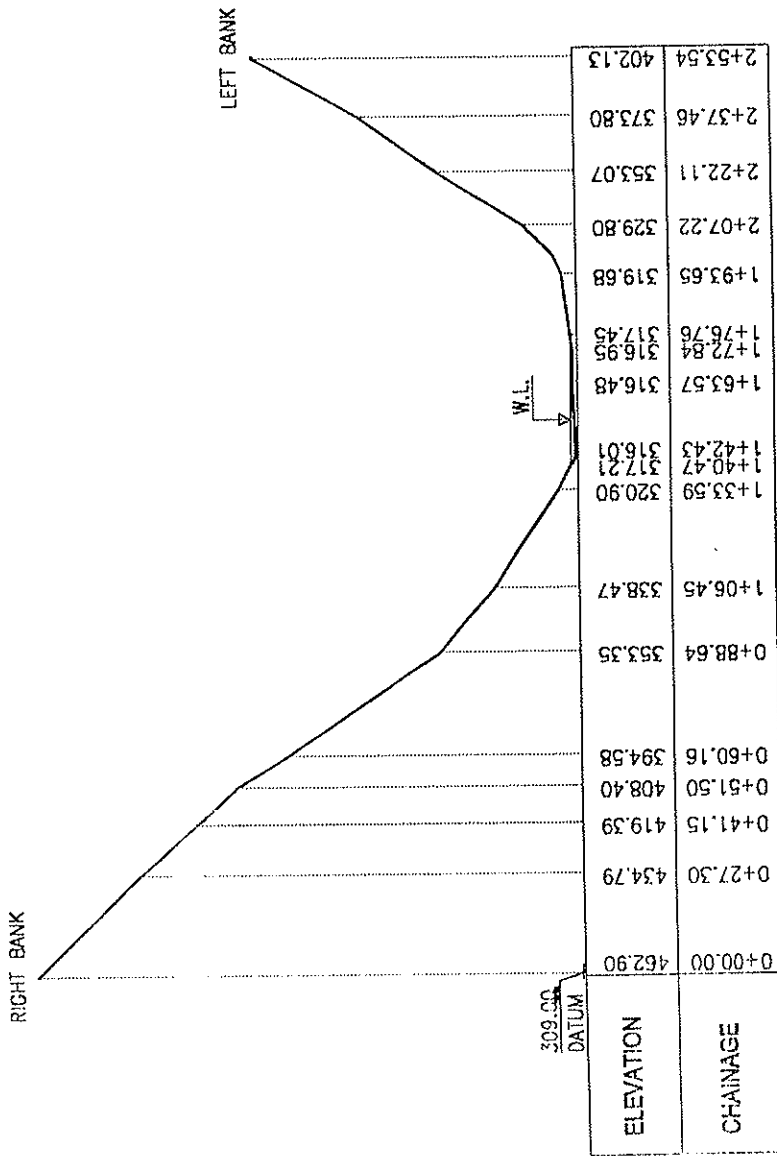
Review and Design
Department

Upper Seti Hydroelectric Project

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

NEPAL ELECTRICITY AUTHORITY
Durbar Marg, Kathmandu







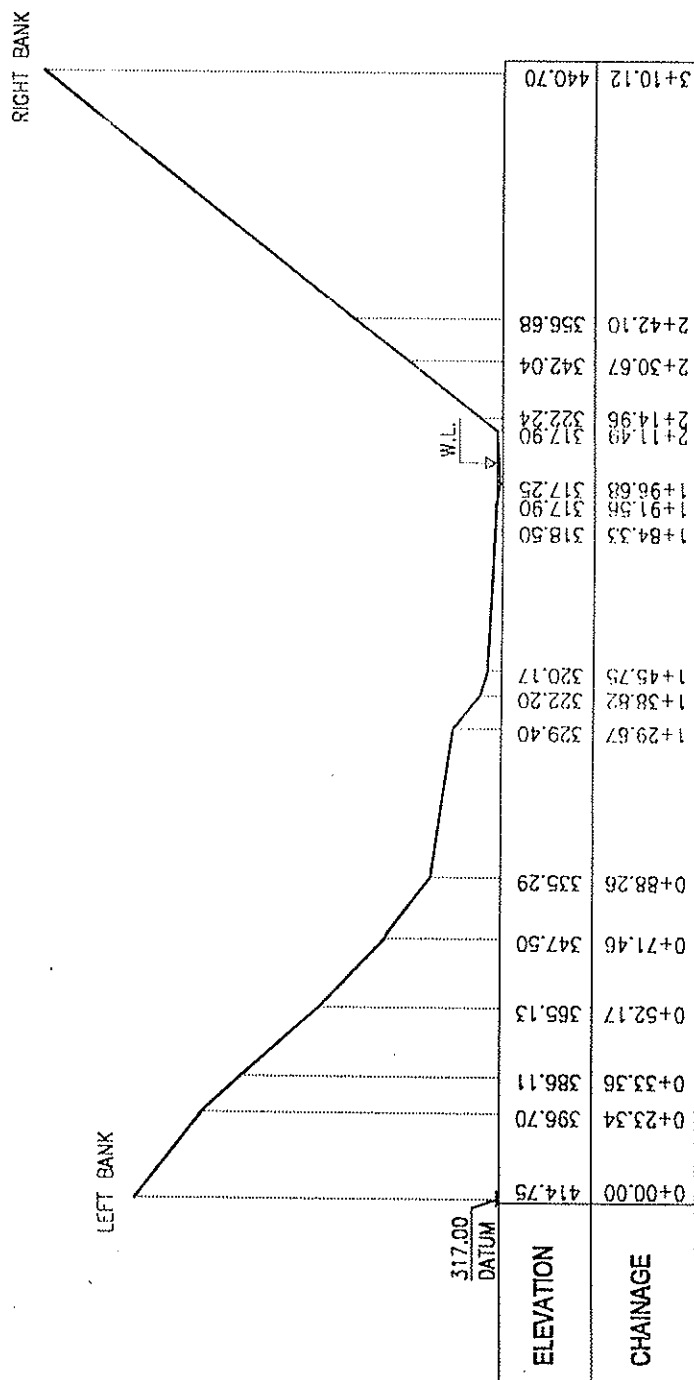
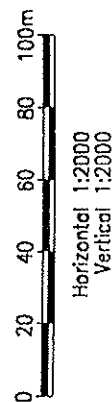
NEPAL ELECTRICITY AUTHORITY
Durbār Marg, Kathmandu

Project Preparation & Design of Upper Seti Hydroelectric Project
In Association with
Soil, Rock and Concrete Laboratory

River Cross Section
Reservoir

Section No.

Rx 8





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Durbat Marg, Kathmandu

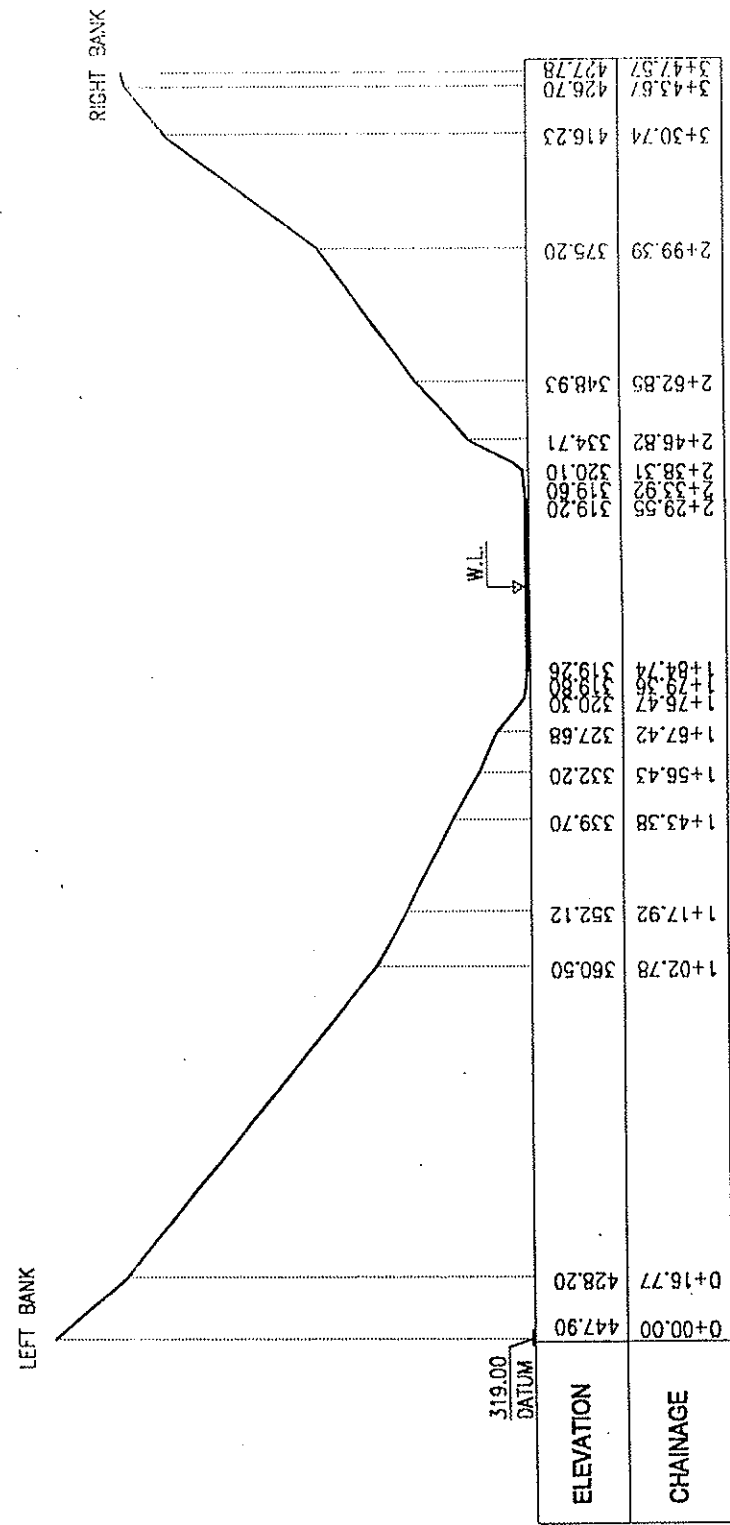
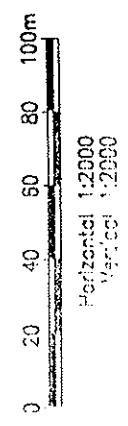
Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

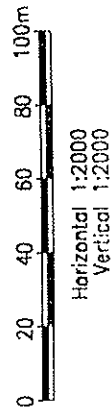
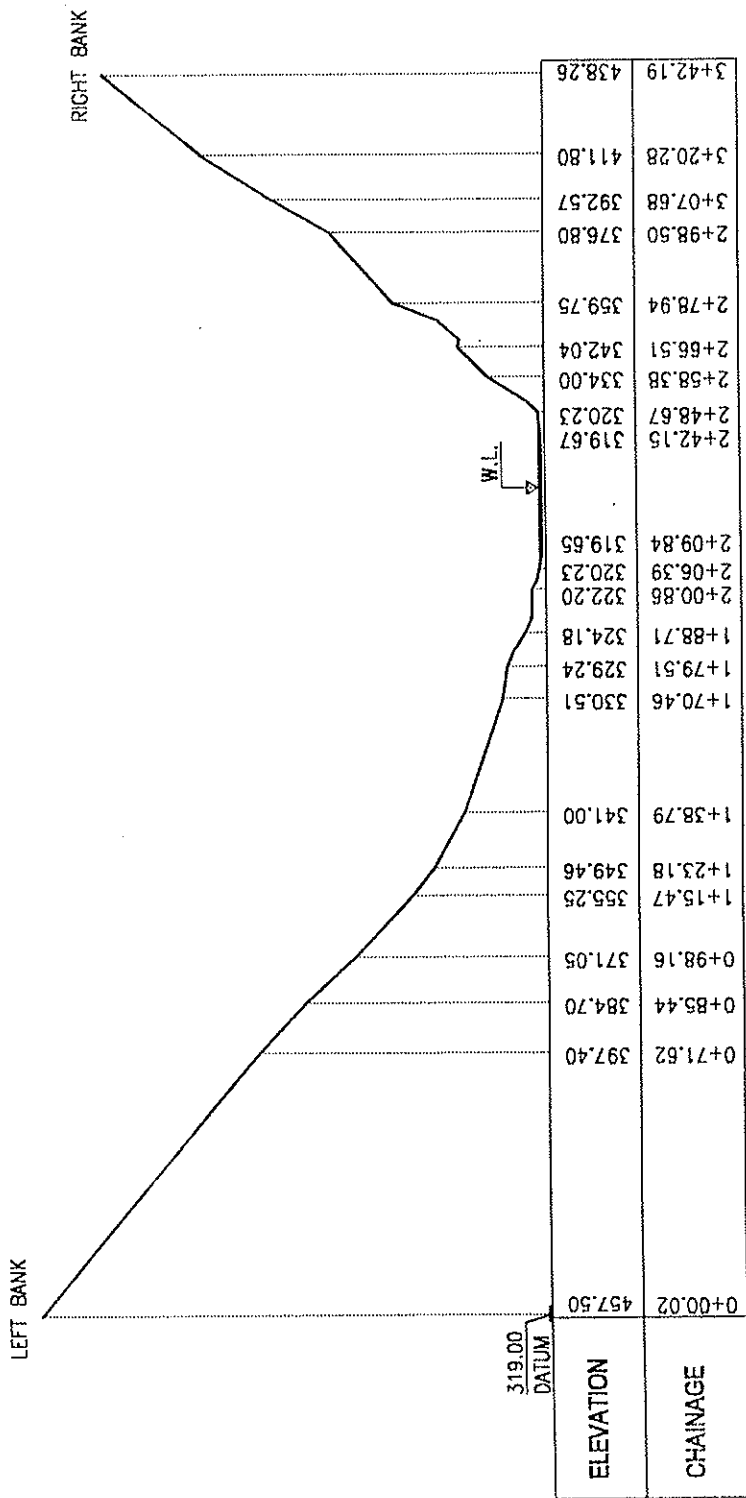
Upper Seti Hydroelectric Project

Water Cross Section
Paper No. 9

Section No.

RX 9





Rx 10

River Cross Section
Reservoir

Upper Seti Hydroelectric Project

Project Preparation & Studies Department
In Association with
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Durbhar Marg, Kathmandu



NEPAL ELECTRICITY AUTHORITY
Durbār Marg, Kathmandu

Project: Construction of Upper Seti Hydropower Project
in Association with
Soil, Rock and Concrete Laboratory

Upper Seti Hydroelectric Project

Title
River Cross Section
Reservoir

Section No.

Rx 11

RIGHT BANK

LEFT BANK

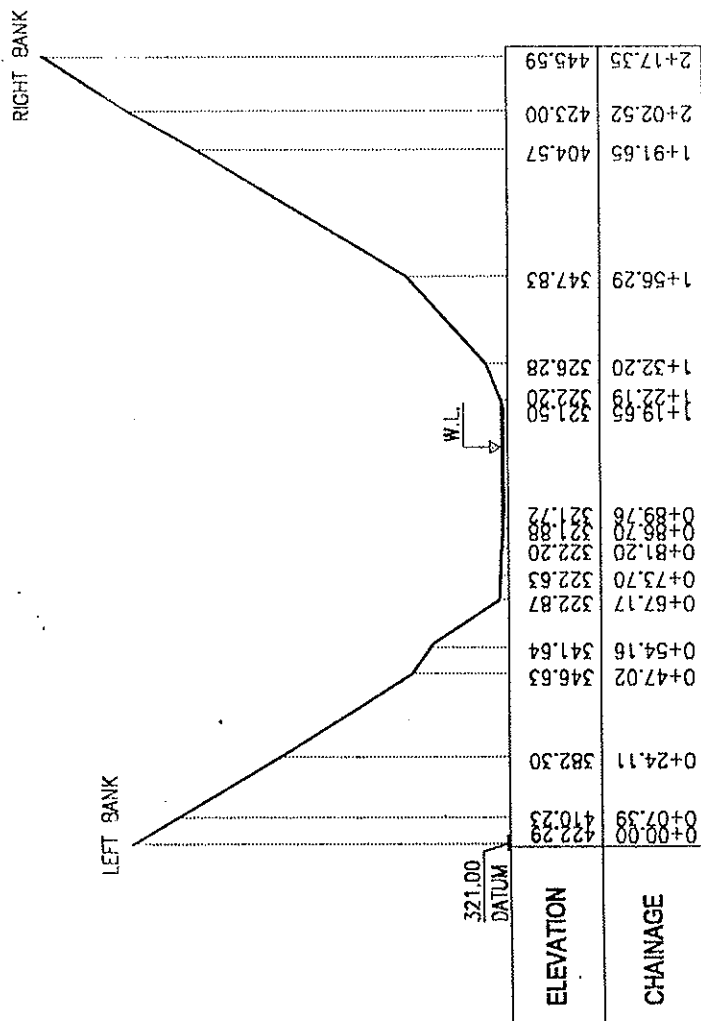
W.L.

320.00
DATUM

CHAINAGE	ELEVATION
0+00.00	442.11
0+26.62	403.81
0+36.94	395.90
0+49.25	384.30
0+57.83	374.60
0+68.59	364.26
0+77.38	355.80
0+84.28	348.50
0+96.96	340.90
1+07.80	334.76
1+24.19	329.52
1+36.34	323.20
1+43.25	321.00
1+51.20	320.29
1+84.67	320.41
1+87.70	321.10
1+97.02	323.90
2+12.08	339.00
2+27.48	365.30
2+46.39	385.40
2+80.74	423.50
2+88.75	437.50
3+22.77	473.34



Horizontal 1:2000
Vertical 1:2000



Section No.
Rx 12

**River Cross Section
Reservoir**

Upper Soil Hydrostatic Project

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

NEPAL ELECTRICITY AUTHORITY
Durbar Marg, Kathmandu





NEPAL ELECTRICITY AUTHORITY
Durbar Marg, Kathmandu

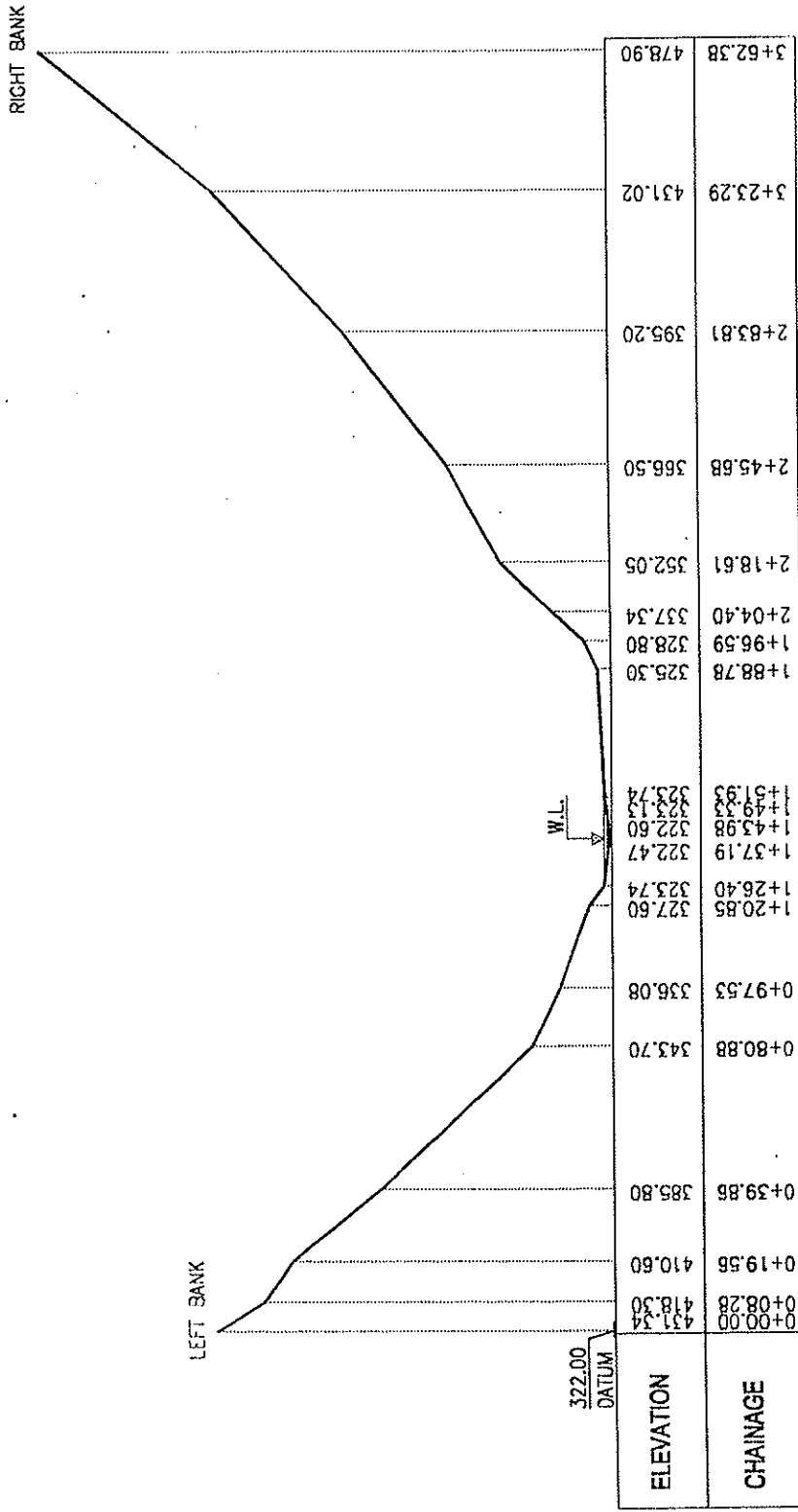
Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

Upper Seti Hydroelectric Project

Title

River Cross Section
Reservoir

PX 13



RIGHT BANK

LEFT BANK

W.L.

324.00
DATUM

ELEVATION	CHAINAGE
160.15	0+00.00
428.90	0+32.32
420.00	0+40.37
403.00	0+57.97
393.37	0+67.03
373.30	0+86.00
359.00	0+97.58
347.00	1+06.60
338.60	1+20.80
325.60	1+33.14
324.00	1+40.48
324.00	1+40.48
324.00	1+63.60
324.00	1+68.98
323.80	1+72.98
328.99	2+09.46
338.60	2+17.69
381.20	2+47.46
543.29	3+88.46



Section No.

Rx 14

Title

River Cross Section
Reservoir

Upper Seti Hydroelectric Project

Prepared by: Survey & Studies Department

In Association with

Soil, Rock and Concrete Laboratory

NEPAL ELECTRICITY AUTHORITY

Durbar Marg, Kathmandu





NEPAL ELECTRICITY AUTHORITY
Durbhar Marg, Kathmandu

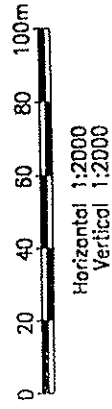
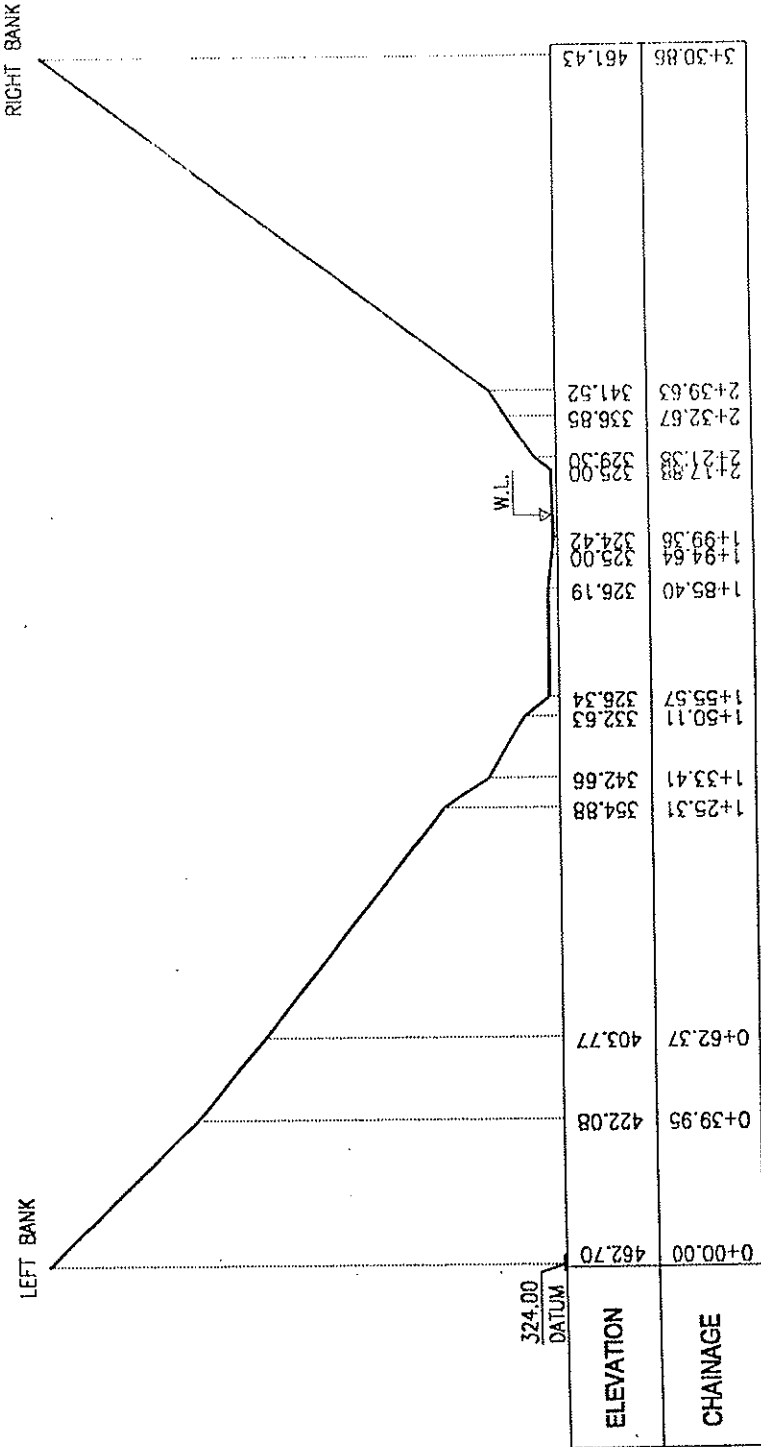
Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

Upper Seti Hydropower Project

River Cross Section
Reservoir

Section No.

Rx 15





NEPAL ELECTRICITY AUTHORITY
Durbhar Marg, Kathmandu

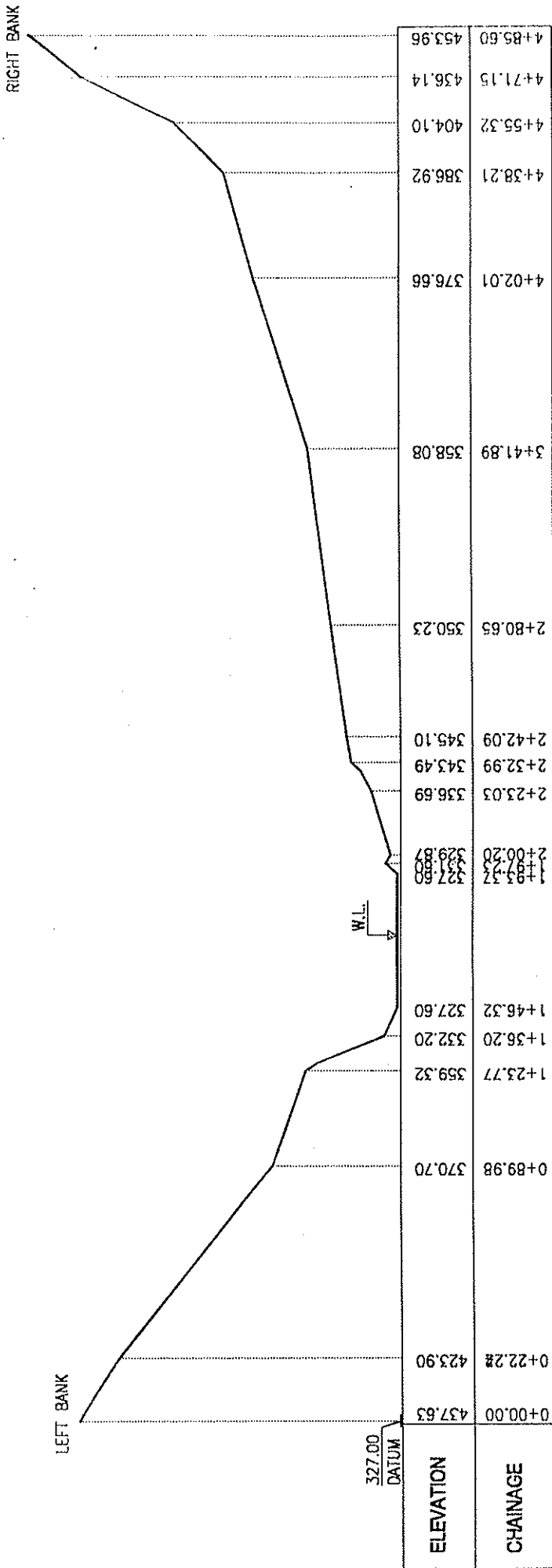
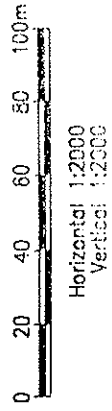
Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

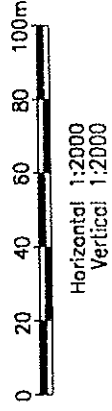
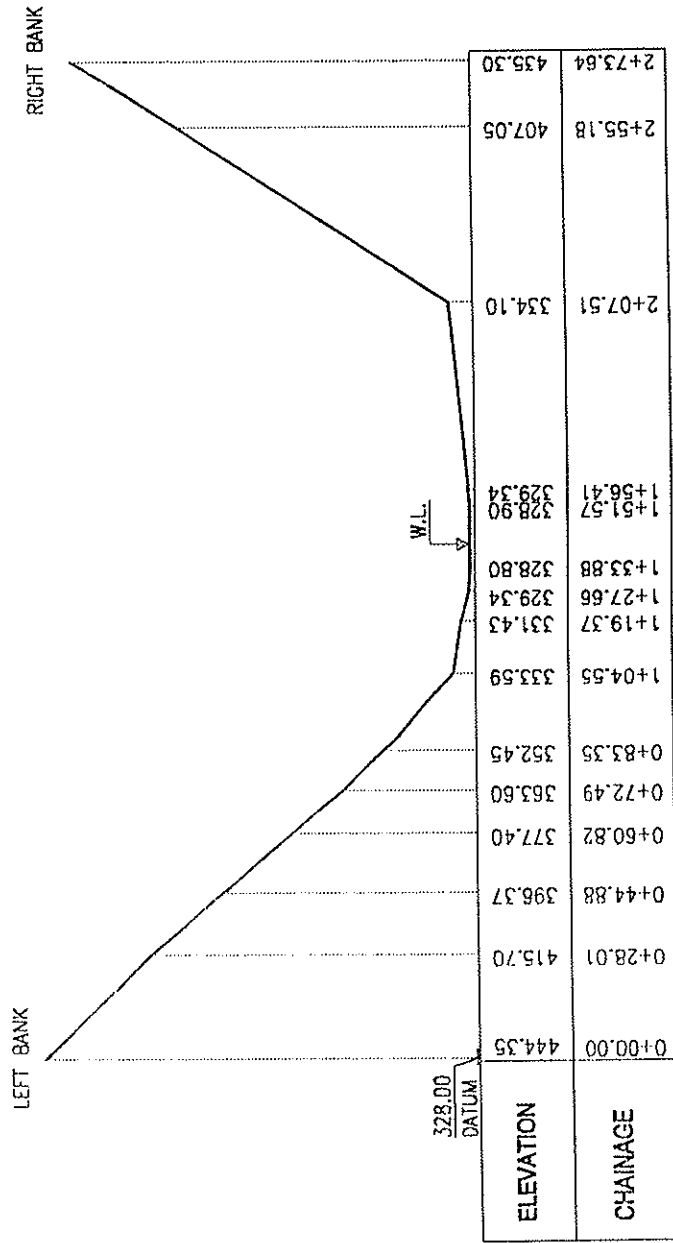
Upper Seti Hydroelectric Project

Title

River Cross Section
Reservoir

Rx 16





Section No. Rx 17

River Cross Section
Reservoir

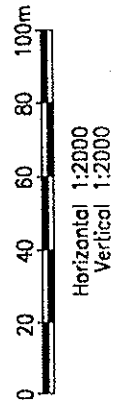
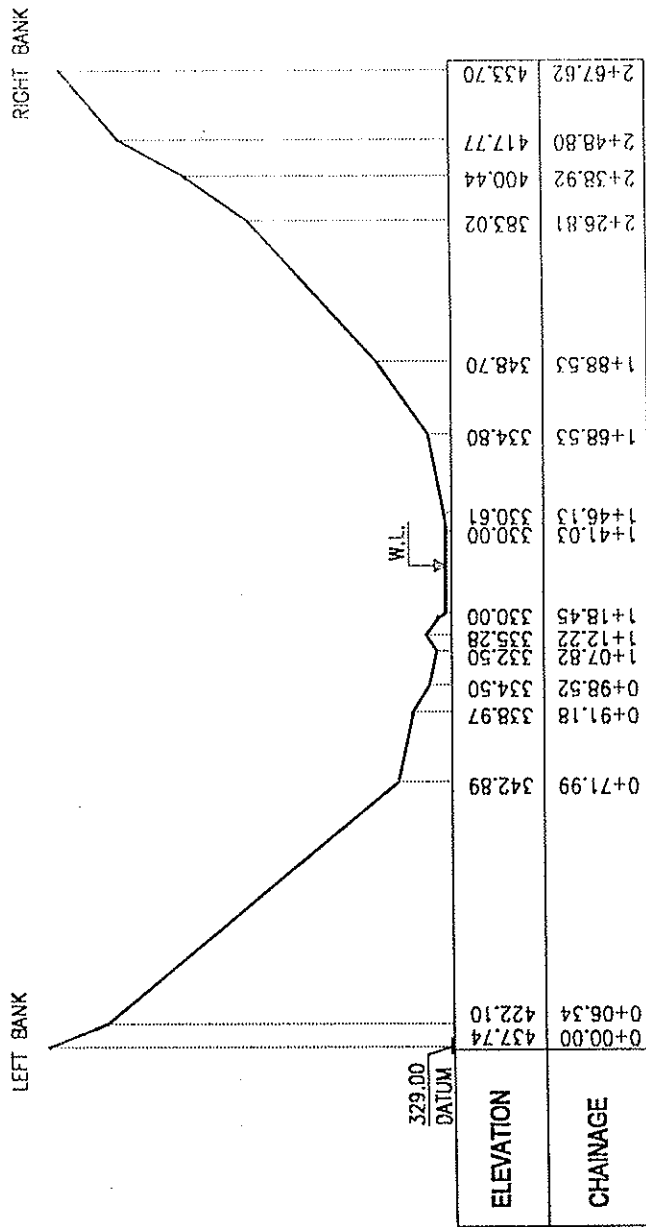
Title


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In Association with
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Dubbar Vani, Kathmandu





 <p>NEPAL ELECTRICITY AUTHORITY Durbār Marg, Kathmandu</p>	<p>Project Preparation & Studies Department In Association with Soil, Rock and Concrete Laboratory</p>	<p>Upper Soil Hydraulic Project</p>	<p>River Cross Section Reservoir</p>	<p>Section No. Rx 18</p>
	<p>Title</p>			



NEPAL ELECTRICITY AUTHORITY
Durbhar Marg, Kathmandu

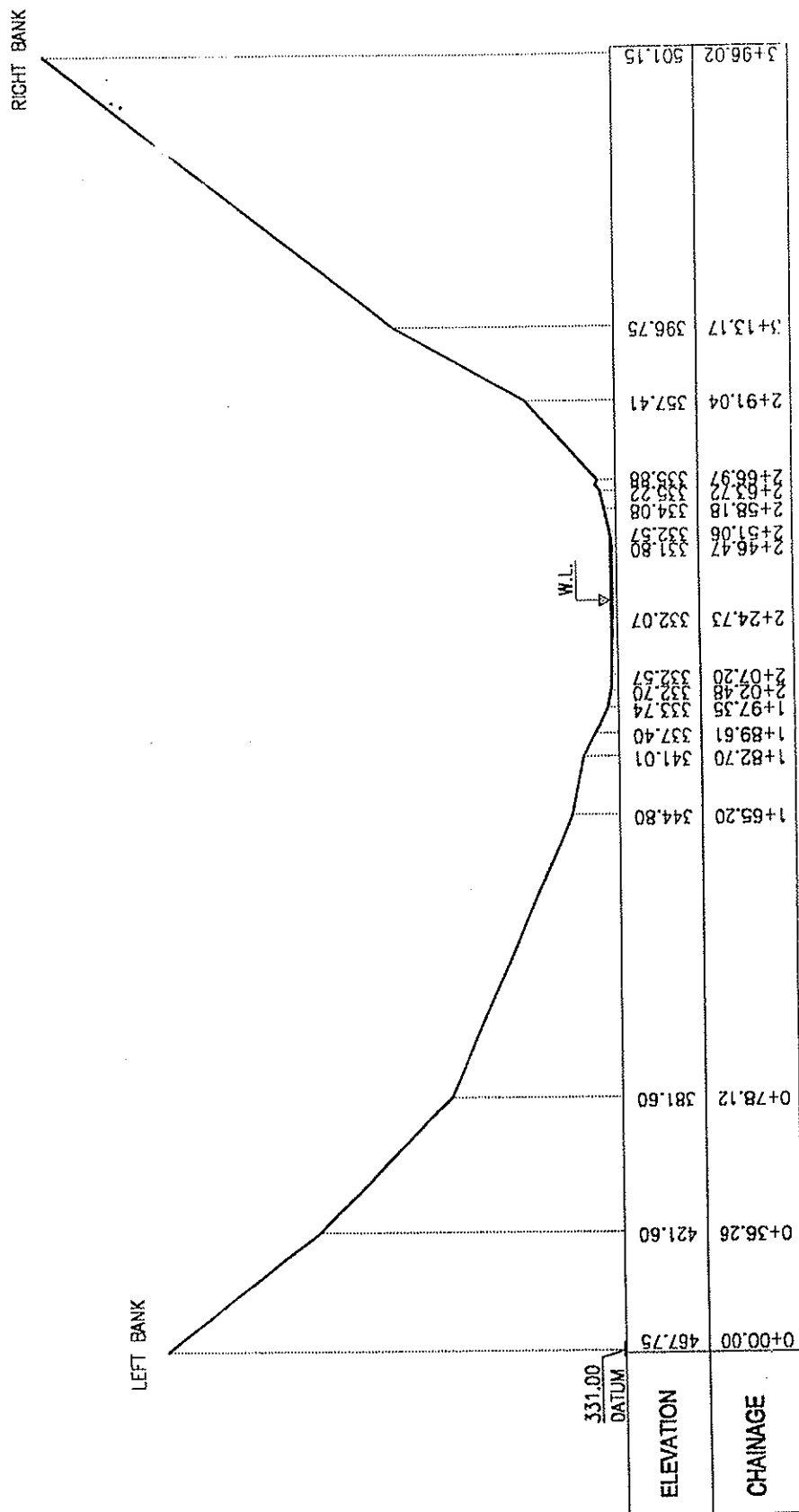
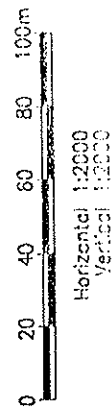
Project Preparation & Studies Department
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Upper Seti Hydroelectric Project

Title

River Cross Section Reservoir

Page 19





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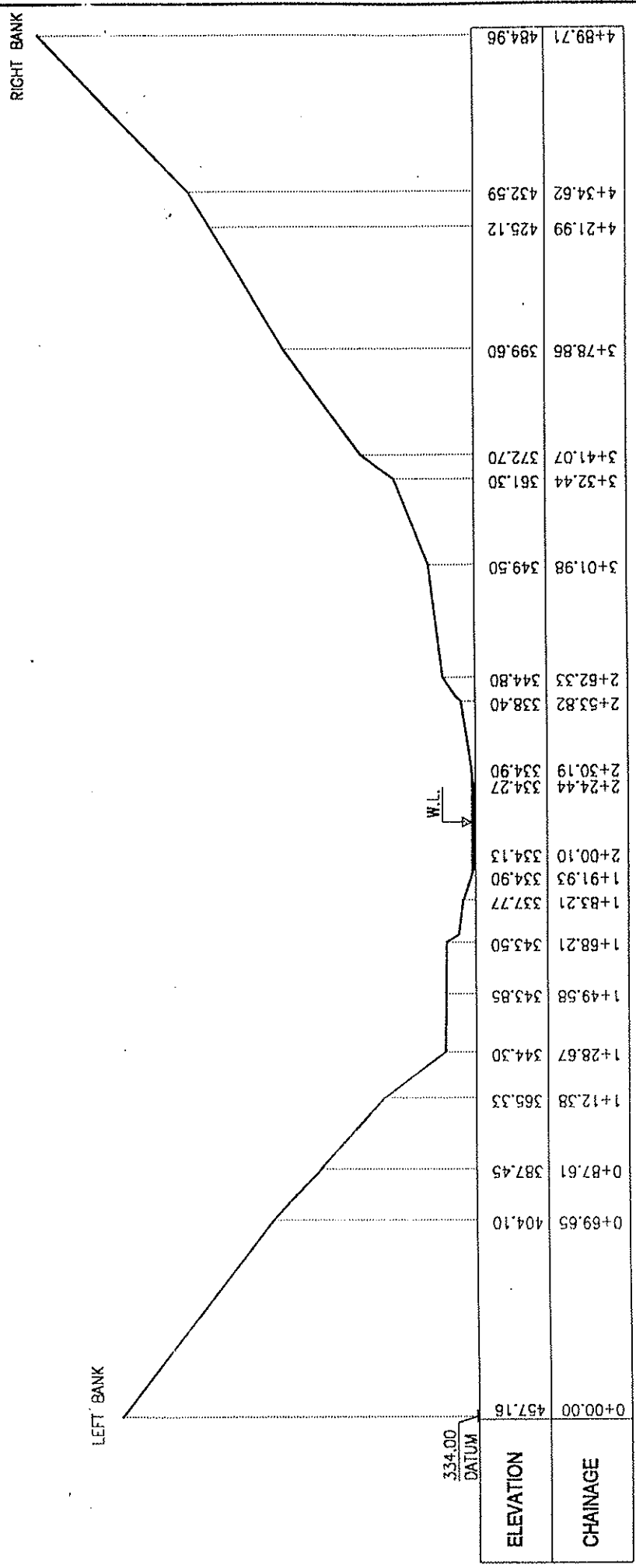
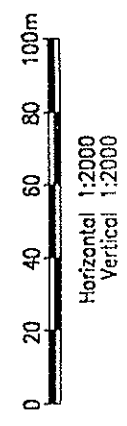
Upper Seti Hydroelectric Project

Title

River Cross Section Reservoir

Section No.

Rx 20





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Project Preparation & Studies Department
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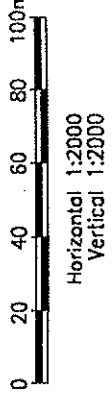
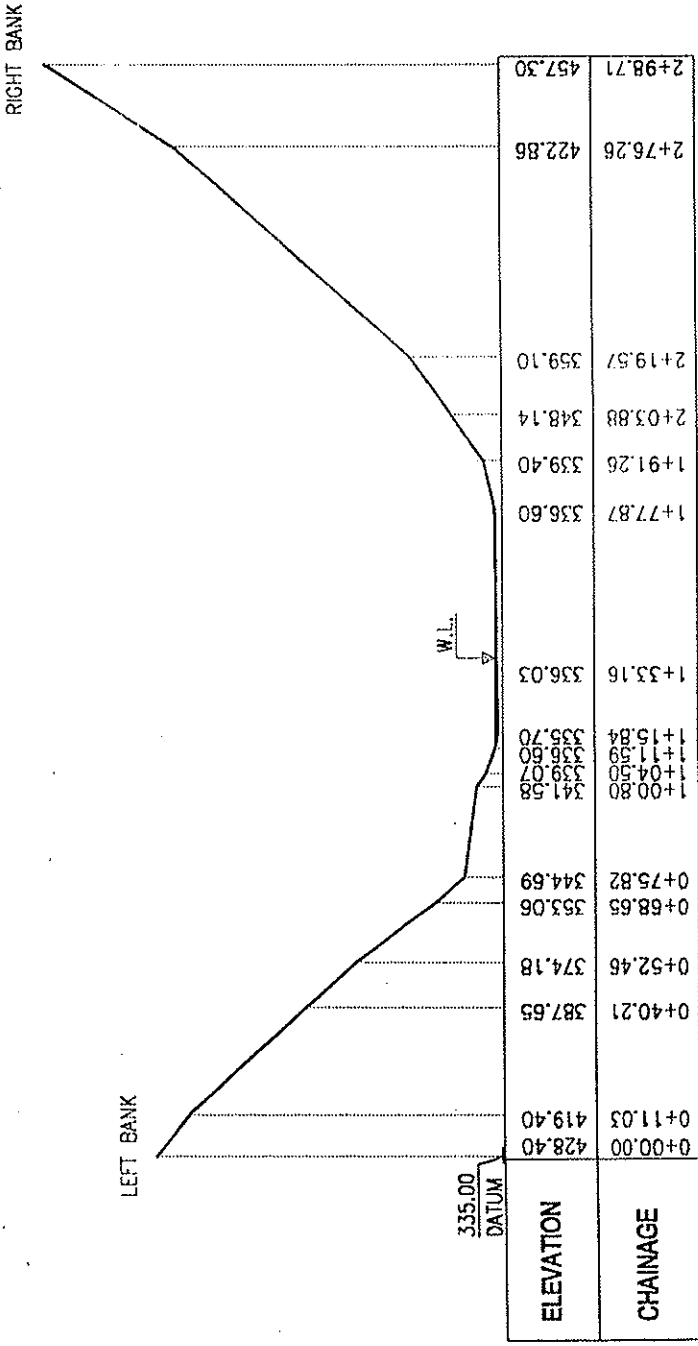
Upper Sati Hydroelectric Project

Title

River Cross Section
Reservoir

Section No.

Rx 21



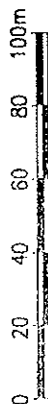
RIGHT BANK

LEFT BANK

W.L.

336.00
DATUM

ELEVATION	CHAINAGE
450.30	0+00.00
421.99	0+35.64
351.44	1+56.07
339.80	1+82.54
337.34	1+90.94
336.29	2+00.30
336.75	2+35.86
337.34	2+40.38
339.84	2+55.76
351.90	2+66.52
369.00	2+79.62
401.50	3+06.79
425.20	3+23.24
496.11	3+69.96



Section No.

Rx 22

Fig

River Cross Section
Recon. air

Upper Seti Hydroelectric Project

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Durbhar Marg, Kathmandu





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Durbhar Marg, Kathmandu

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Soil, Rock and Concrete Laboratory

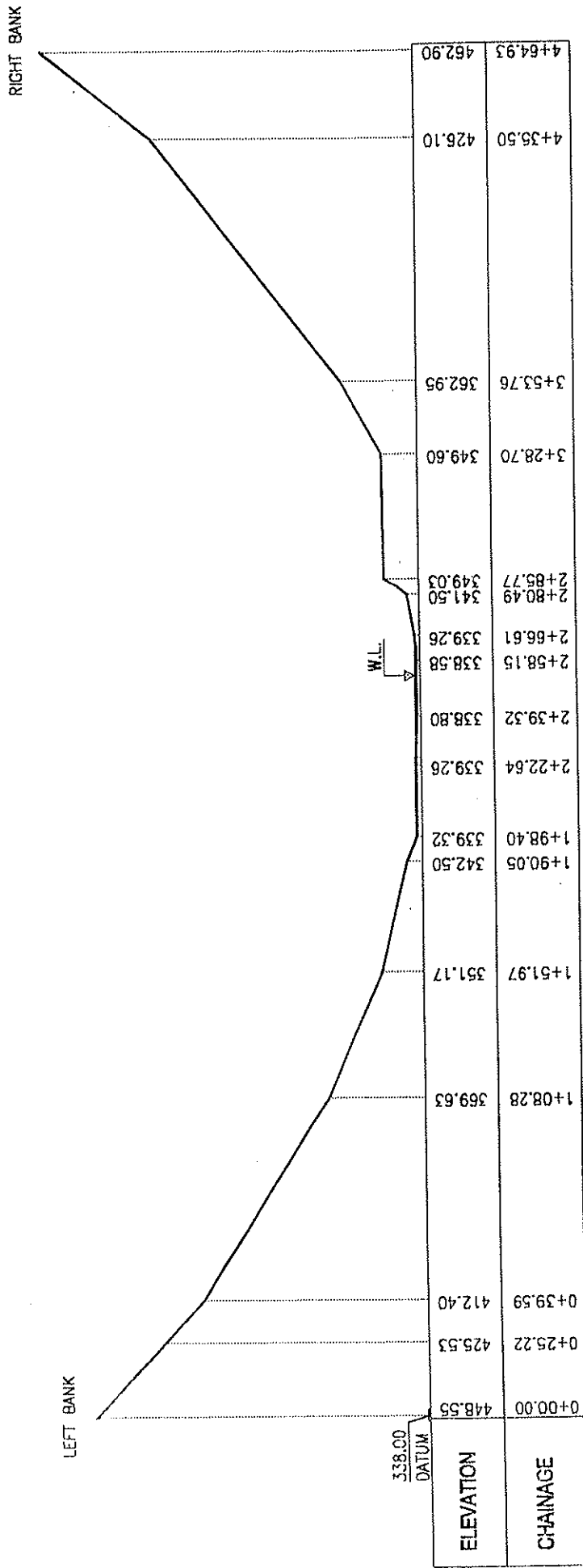
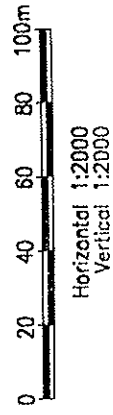
Upper Seti Hydroelectric Project

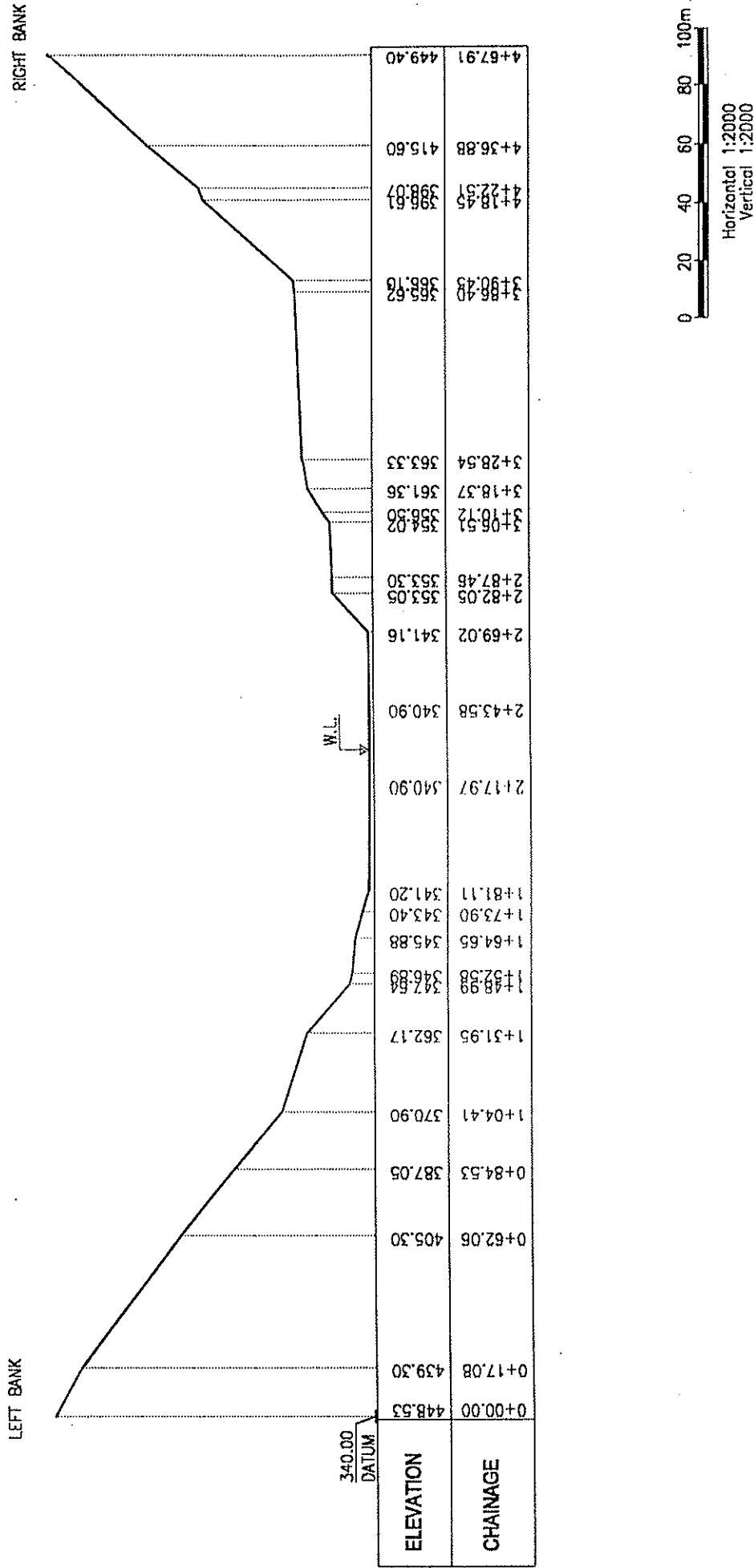
Title

River Cross Section Reservoir

Section No.

Rx 23





Section No.

Rx 24

Title

River Cross Section
Reservoir

Upper Seti Hydroelectric Project

Project Preparation & Studies Department

In Association with

Soil, Rock and Concrete Laboratory

NEPAL ELECTRICITY AUTHORITY

Durbar Marg, Kathmandu





NEPAL ELECTRICITY AUTHORITY
Durbhar Marg, Kathmandu

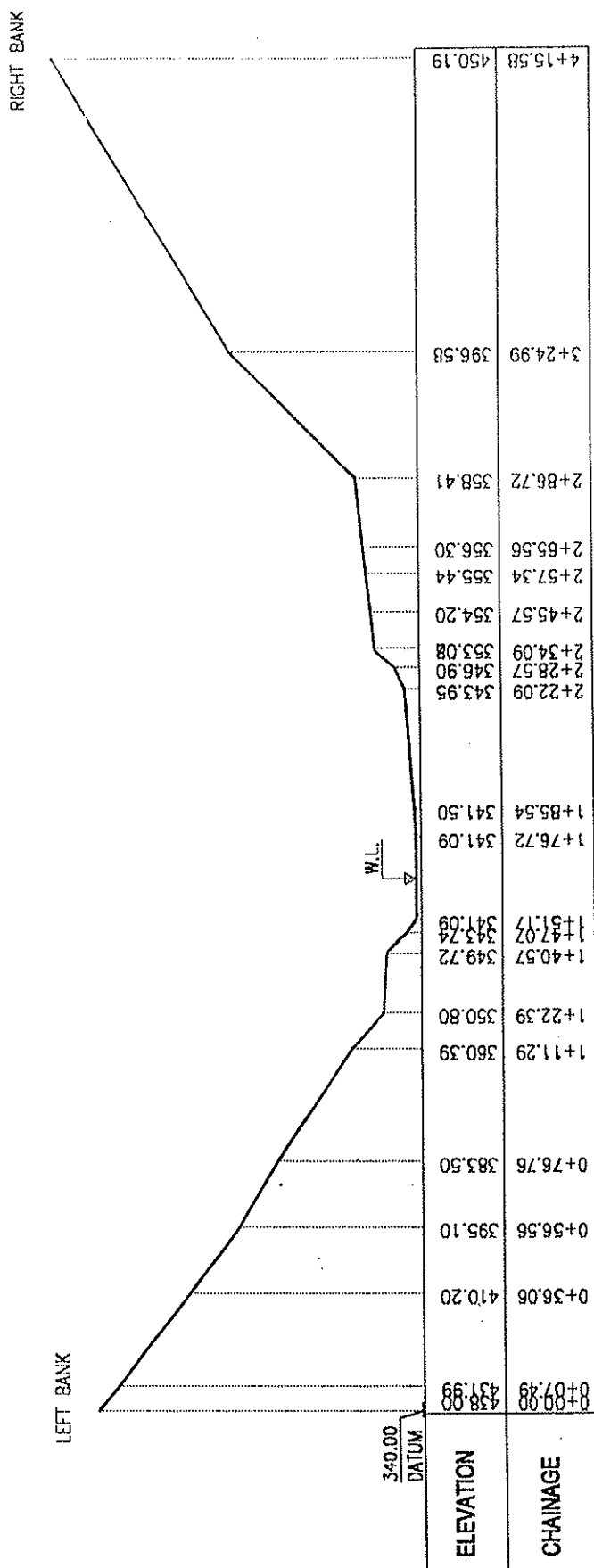
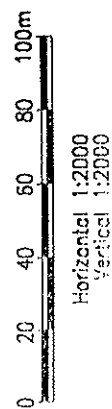
Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

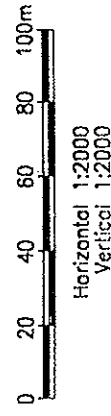
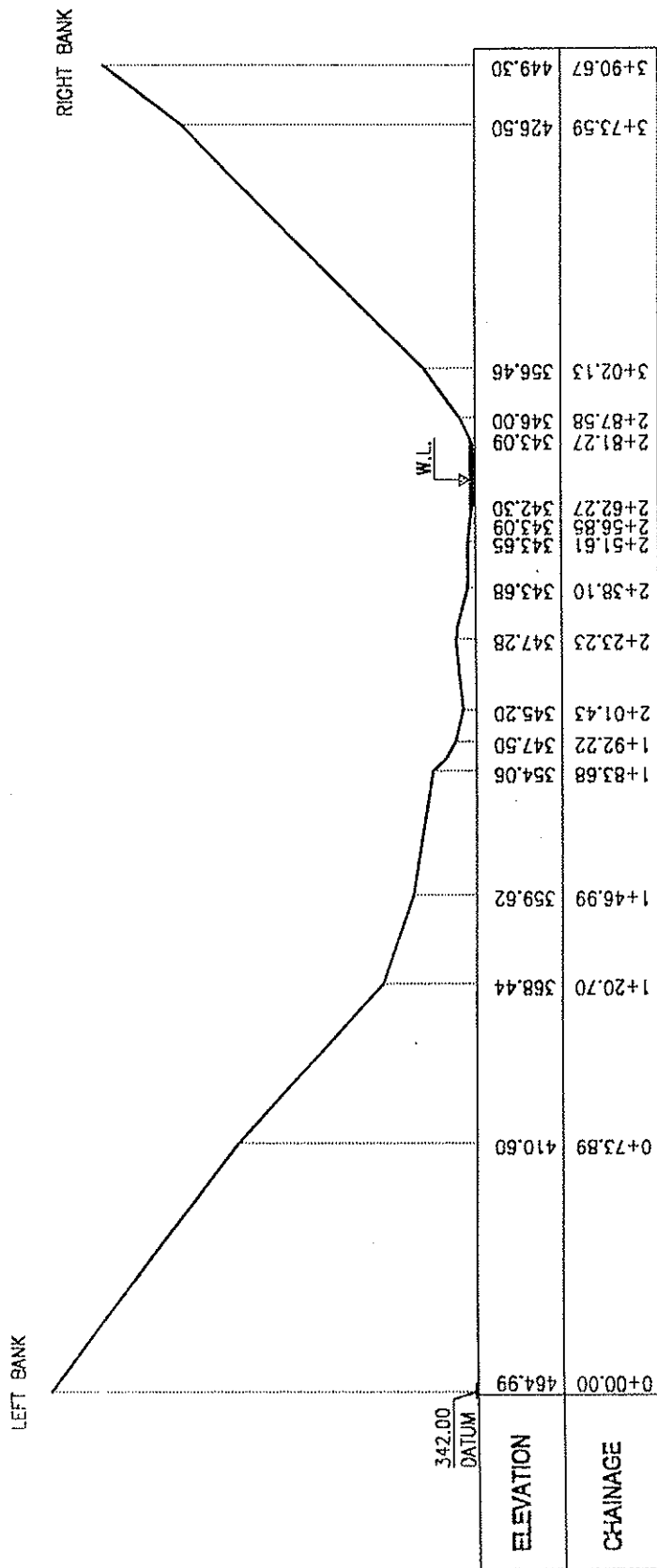
Upper Seti Hydroelectric Project

River Cross Section
Reservoir

Section No.

Rx 25





Section No. Rx 26	Title River Cross Section Reservoir	Project Preparation & Studies Department In Association with Soil, Rock and Concrete Laboratory	<div data-bbox="1348 2016 1468 2139"> </div> <div data-bbox="1364 1713 1460 1993"> NEPAL ELECTRICITY AUTHORITY Durbhar Marg, Kathmandu </div>
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NEPAL ELECTRICITY AUTHORITY
Durbhar Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

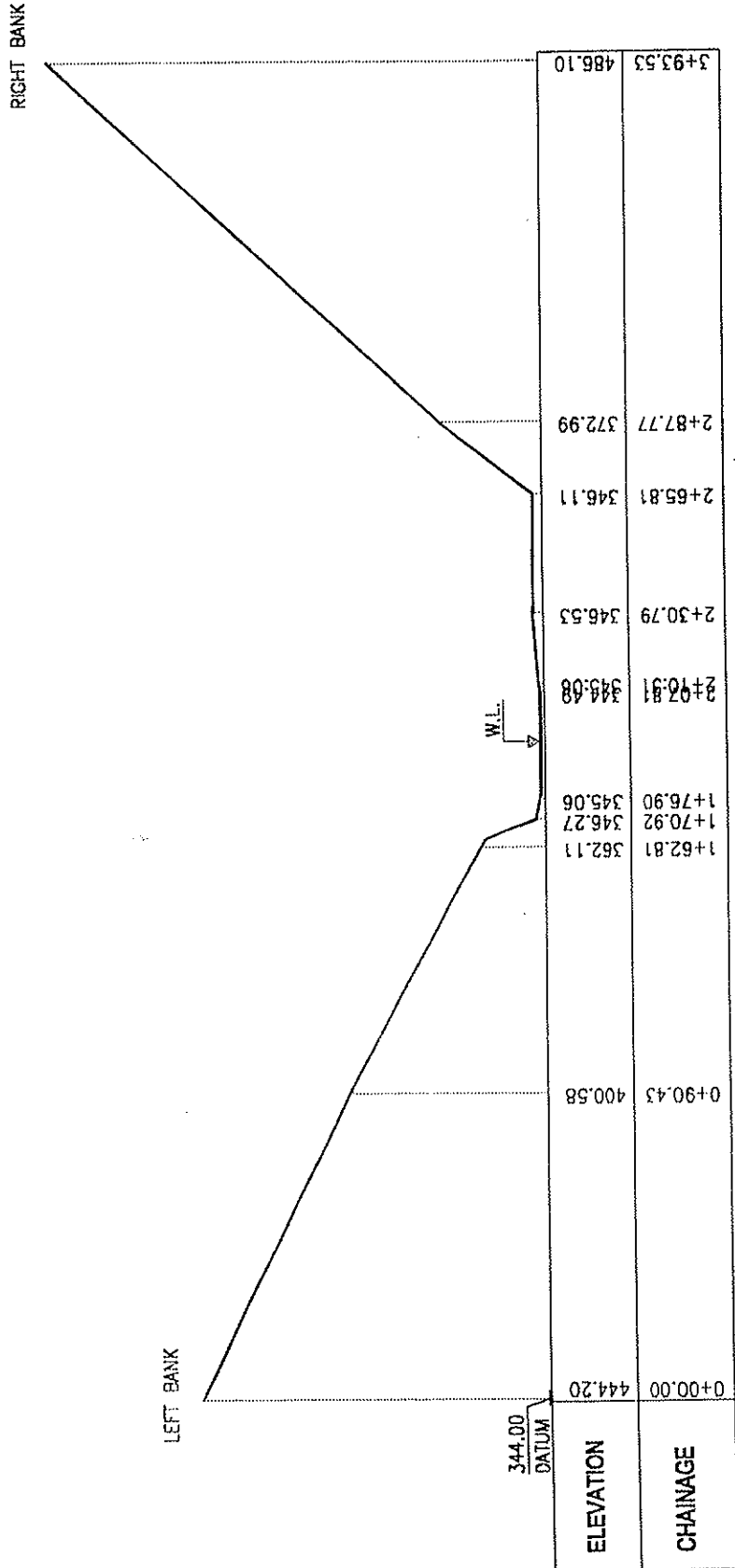
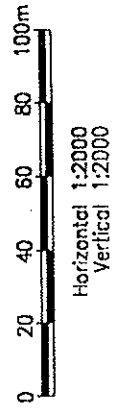
Upper Seti Hydroelectric Project

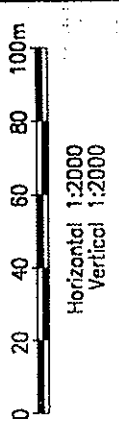
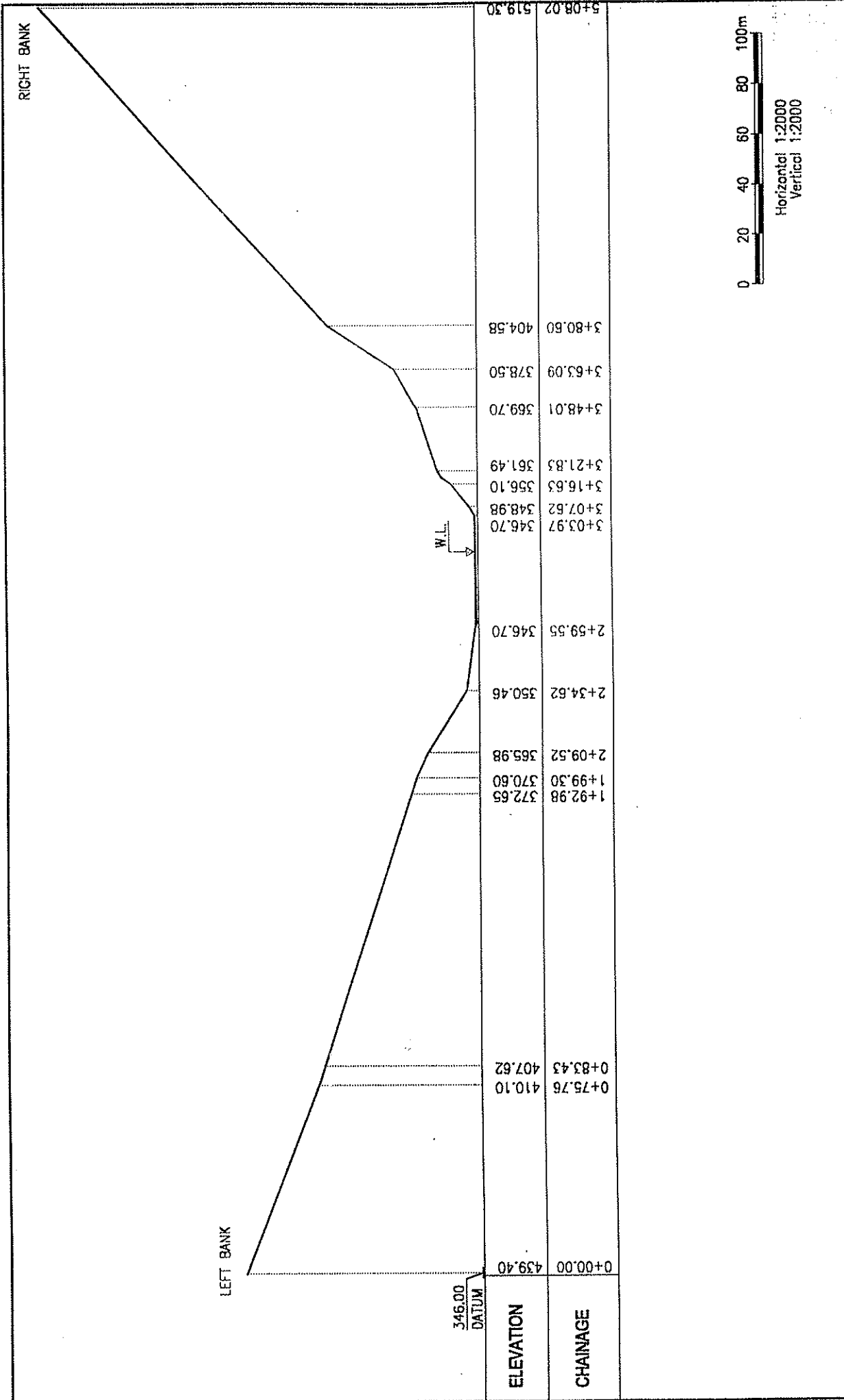
Title

River Cross Section
Reservoir

Section No.

Rx 27





Section No.	Rx 28
Project Preparation & Studies Department In Association with Soil, Rock and Concrete Laboratory	River Cross Section Reservoir
NEPAL ELECTRICITY AUTHORITY Durbar Marg, Kathmandu	Upper Seti Hydroelectric Project





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Durbhar Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

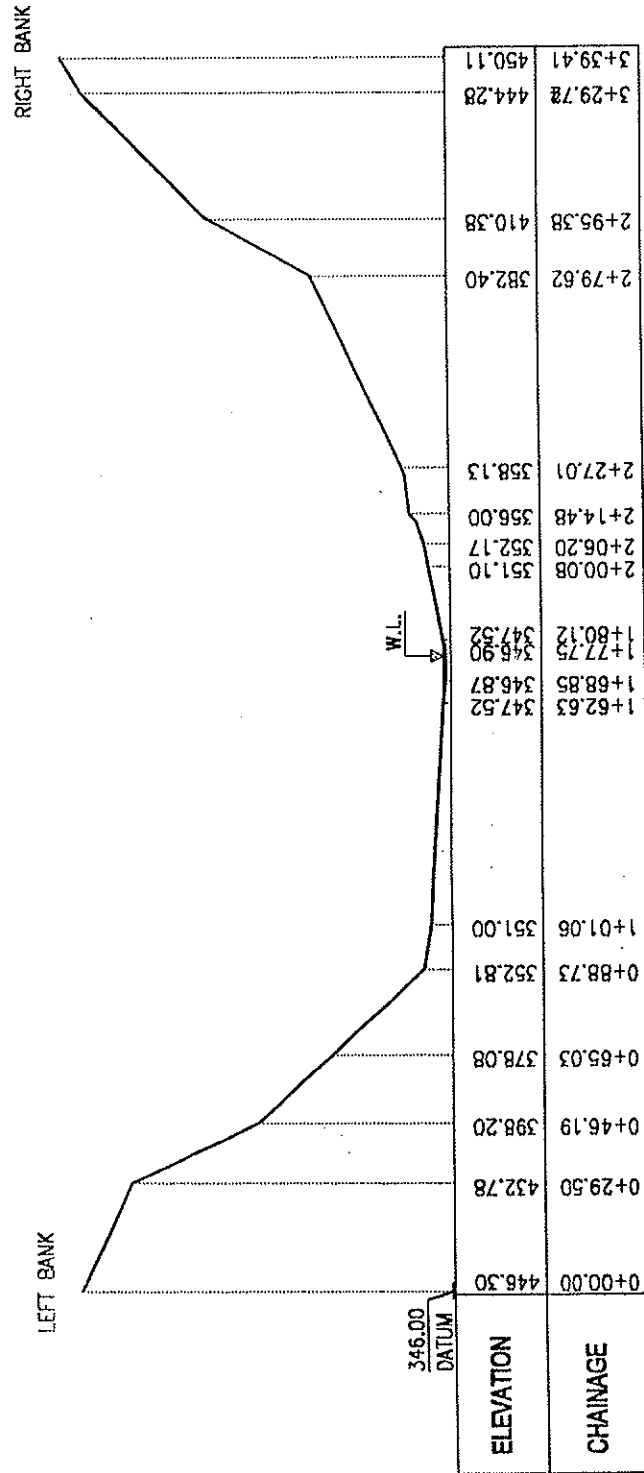
Upper Seti Hydroelectric Project

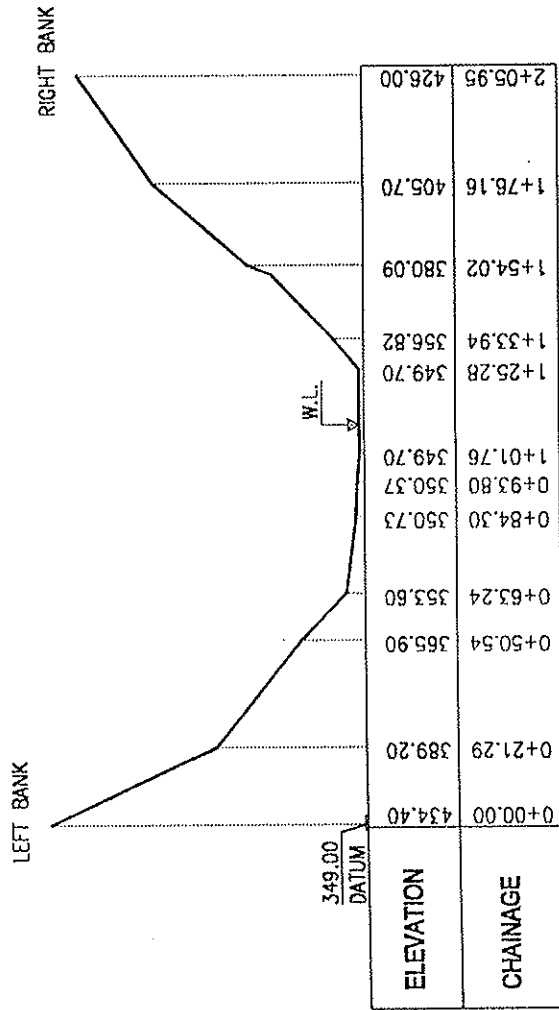
Title

River Cross Section
Reservoir

Section No.

Rx 29





NEPAL ELECTRICITY AUTHORITY
Durbat Marg, Kathmandu

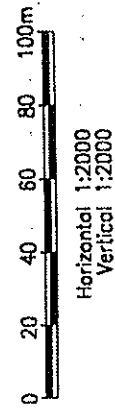
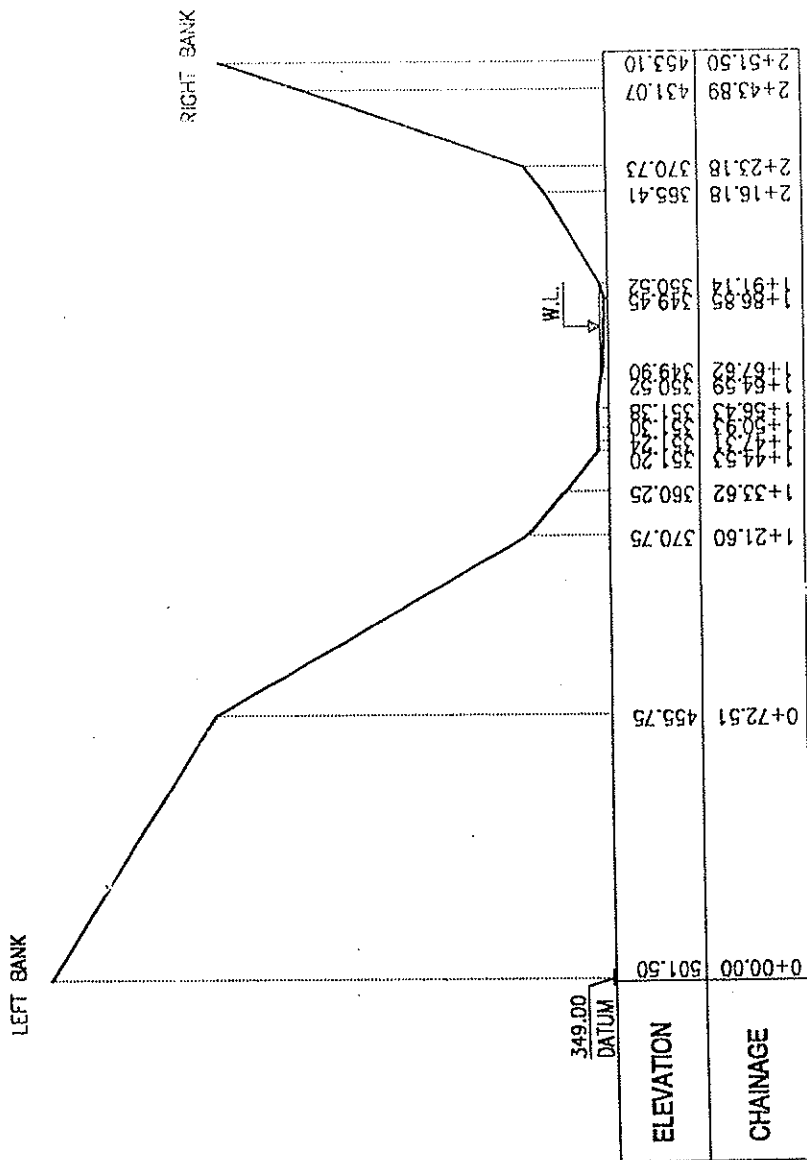


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In Association with
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Upper Seti Hydroelectric Project

River Cross Section
Reservoir

Section No.
Rx 30



Section No. Rx 31

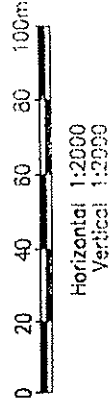
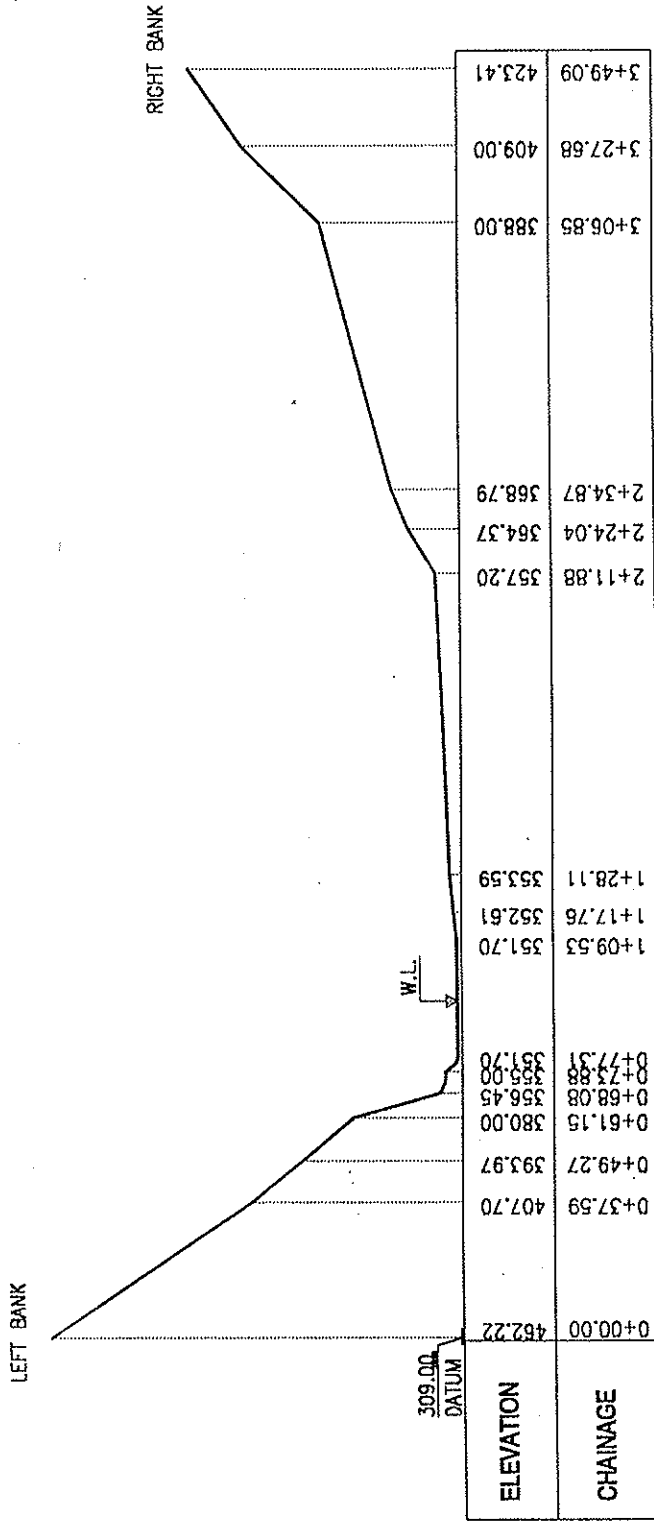
River Cross Section Reservoir


Upper Soil Hydroelectric Project

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NEPAL ELECTRICITY AUTHORITY
Durbhar Marg, Kathmandu







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Durbhar Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

Upper Seti Hydroelectric Project

Title

River Cross Section

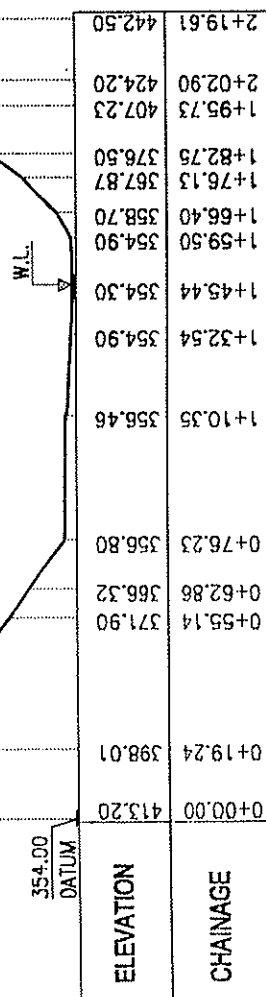
Reservoir

Section No.

PK 32

RIGHT BANK

LEFT BANK



NEPAL ELECTRICITY AUTHORITY
Durbhar Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

Upper Seti Hydroelectric Project

Title

River Cross Section
Reservoir

Section No.

Rx 33

RIGHT BANK

LEFT BANK

W.L.

356.00
DATUM

ELEVATION	CHAINAGE
443.70	0+00.00
418.51	0+14.38
397.40	0+25.09
386.37	0+38.71
369.40	1+25.83
363.50	1+34.53
361.70	1+61.83
361.31	1+79.81
359.78	1+84.62
356.60	2+26.54
356.10	2+36.84
356.09	2+52.35
356.50	2+69.96
356.60	2+81.96
485.50	3+39.60



Horizontal 1:2000
Vertical 1:2000

Section No.

Rx 34

Title

River Cross Section
Reservoir

Upper Seti Hydroelectric Project

Project Preparation & Studies Department

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NEPAL ELECTRICITY AUTHORITY

Durbar Marg, Kathmandu





NEPAL ELECTRICITY AUTHORITY
Durbār Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

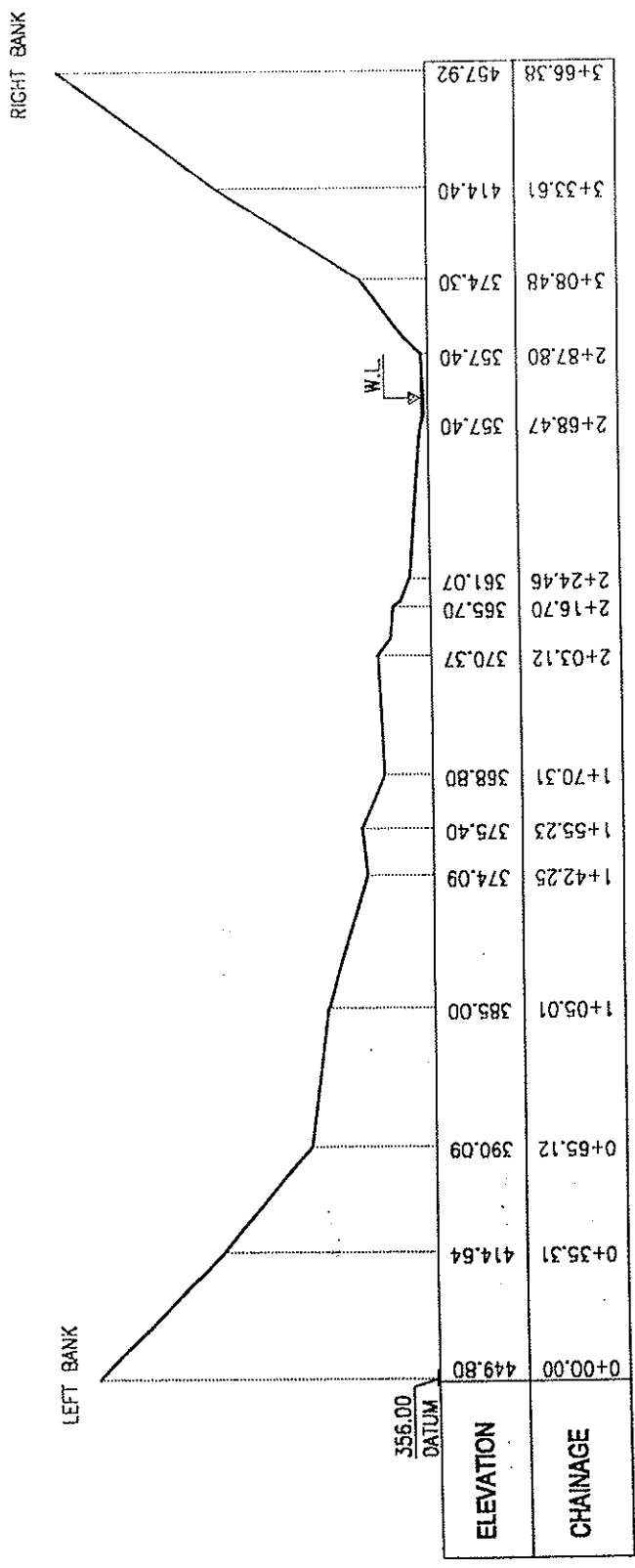
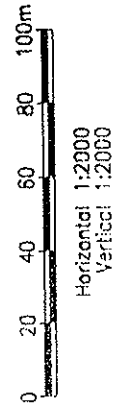
Upper Seti Hydroelectric Project

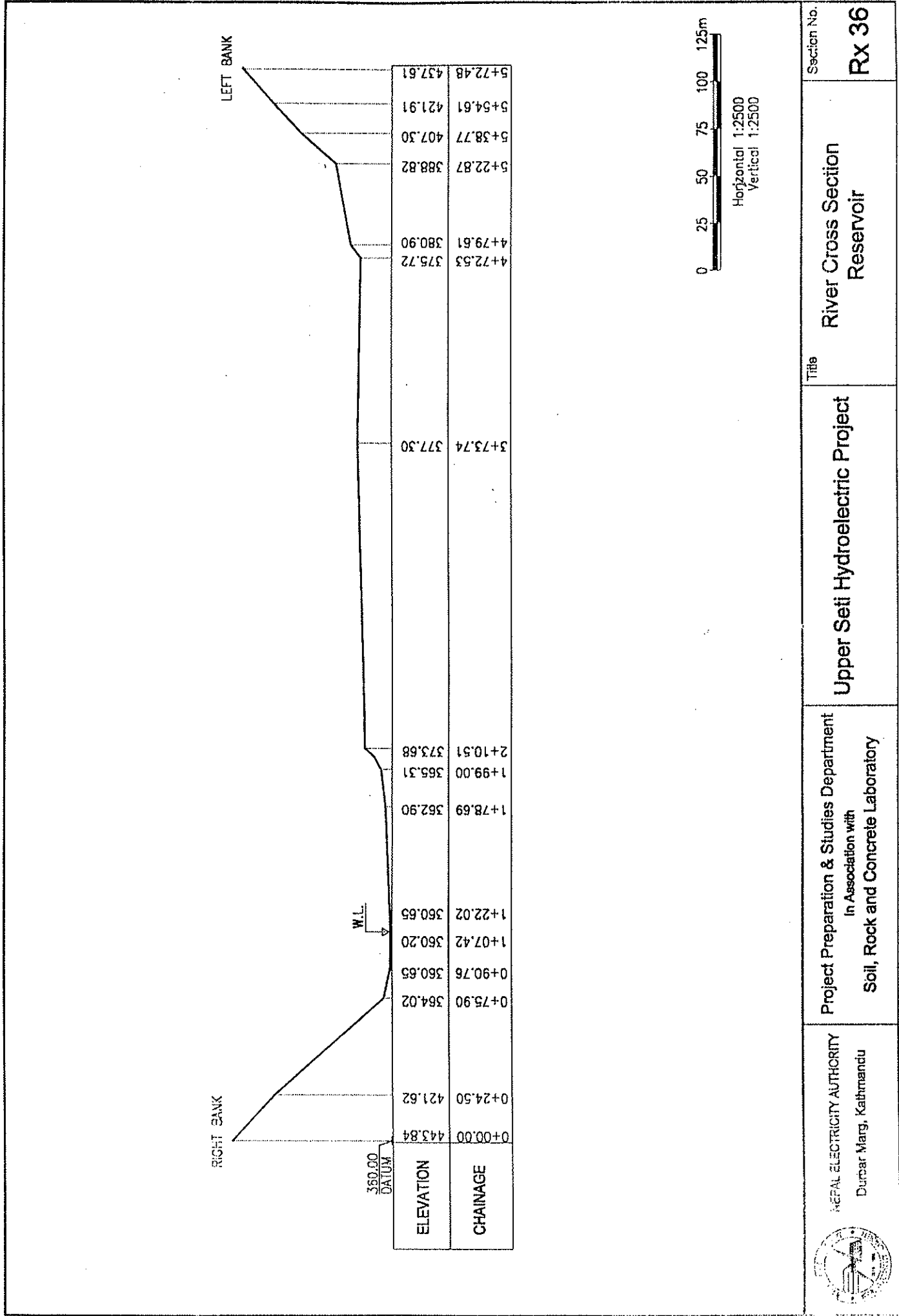
Title

River Cross Section
Reservoir

Section No.

Rx 35







NEPAL ELECTRICITY AUTHORITY
Durbār Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

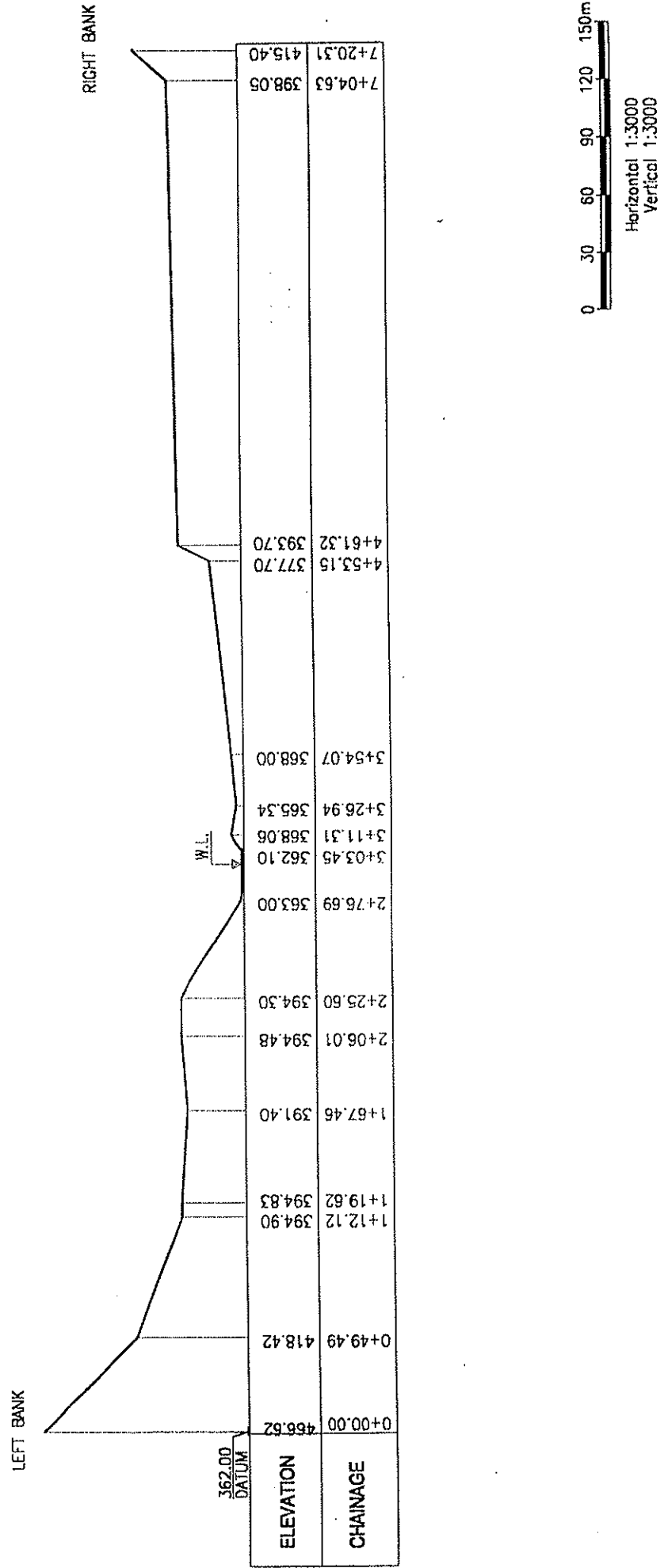
Upper Seti Hydroelectric Project

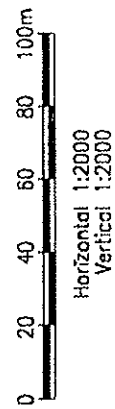
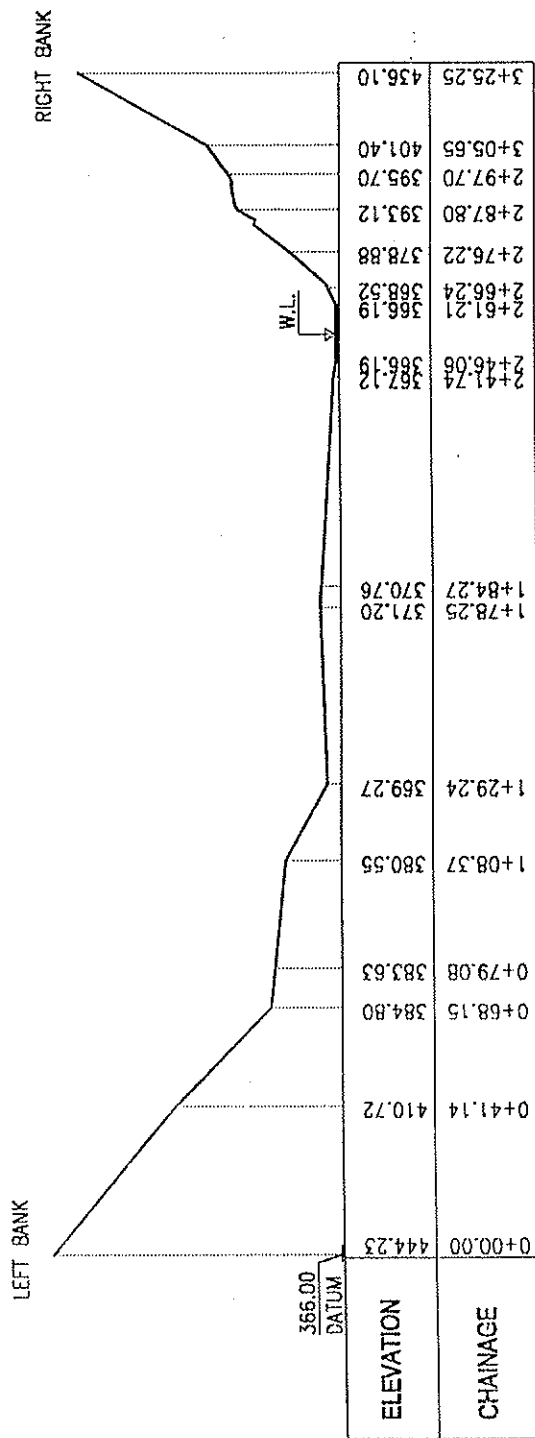
Title


River Cross Section
Reservoir

Section No.

Rx 37





Section No.	Rx 38
Title	River Cross Section Reservoir
Project Preparation & Studies Department In Association with Soil, Rock and Concrete Laboratory	

Dr. B. B. Khatiwada
Durbhar Marg, Kathmandu



NEPAL ELECTRICITY AUTHORITY
Durbār Marg, Kathmandu

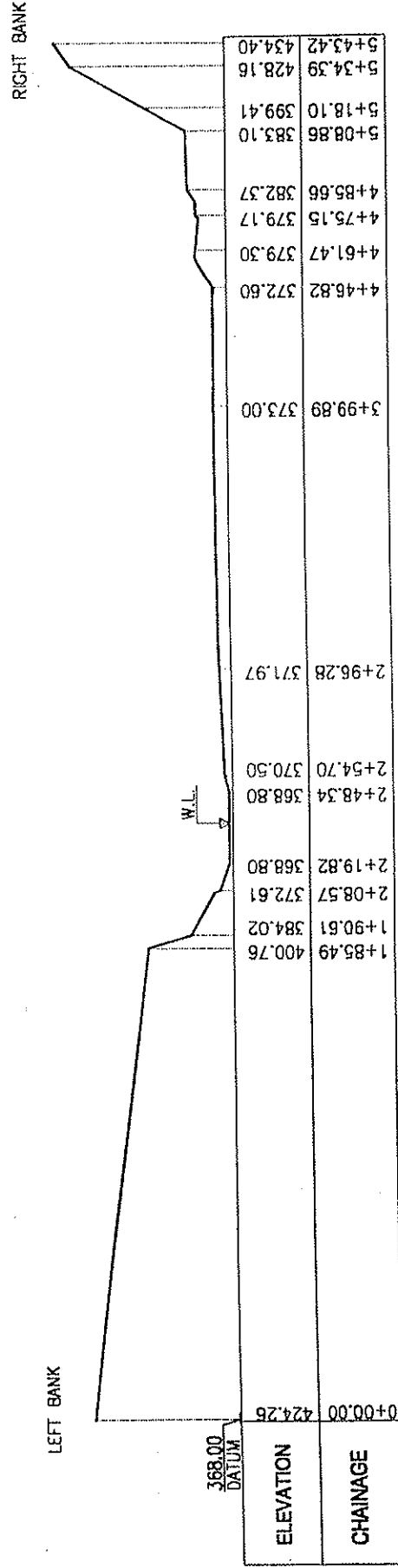
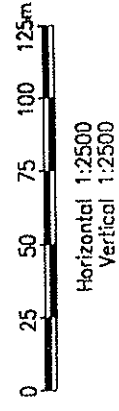
Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

Upper Sad Hydroelectric Project

River Cross Section
Reservoir

Section No.

Rx 39





NEPAL ELECTRICITY AUTHORITY
Durbar Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

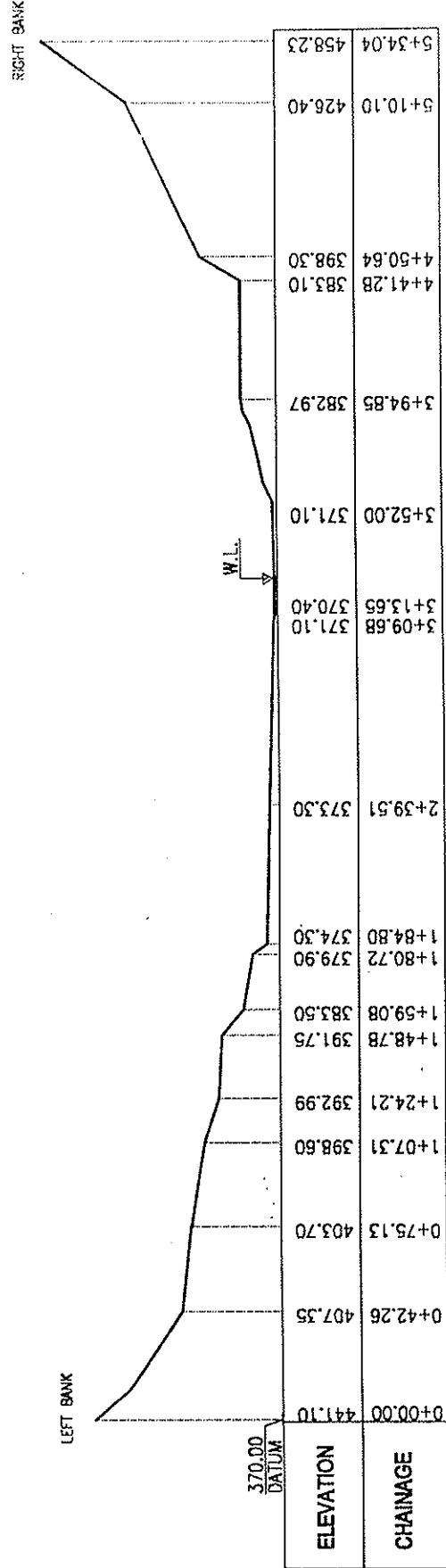
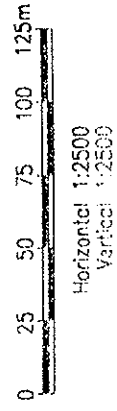
Upper Seti Hydroelectric Project

Title

River Cross Section
Reservoir

Section No.

Rx 40





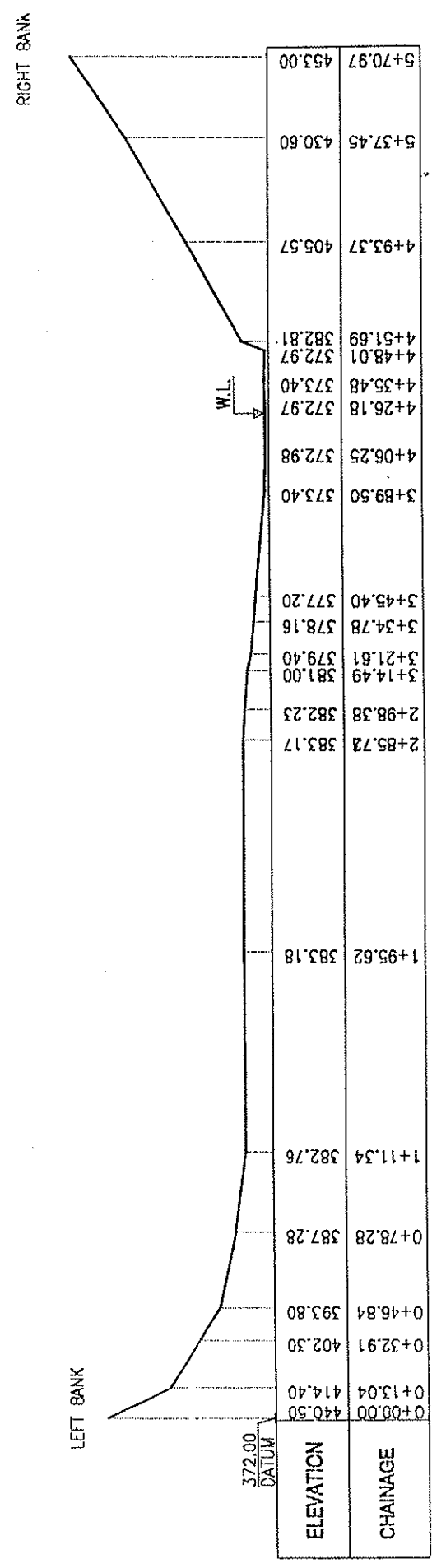
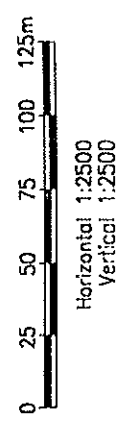
NEPAL ELECTRICITY AUTHORITY
Durbar Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

Title
Upper Seti Hydroelectric Project

River Cross Section
Reservoir

Section No.
Rx 41





NEPAL ELECTRICITY AUTHORITY
Durbar Marg, Kathmandu

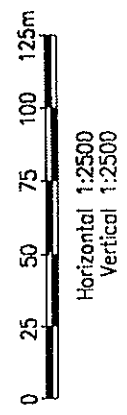
Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

Title

Upper Seti Hydroelectric Project

Section No.

Rx 42



RIGHT BANK

LEFT BANK

W.L.

374.00
DATUM

ELEVATION	CHAINAGE
441.40	0+00.00
409.99	0+27.17
389.26	0+52.02
379.37	1+31.98
374.80	1+53.49
374.80	2+04.82
375.70	2+13.09
377.22	2+26.90
381.19	2+62.96
393.28	2+74.67
394.30	3+11.90
401.60	3+52.42
406.50	3+58.67
432.88	5+17.53
450.30	5+47.40



NEPAL ELECTRICITY AUTHORITY
Durbat Marg, Kathmandu

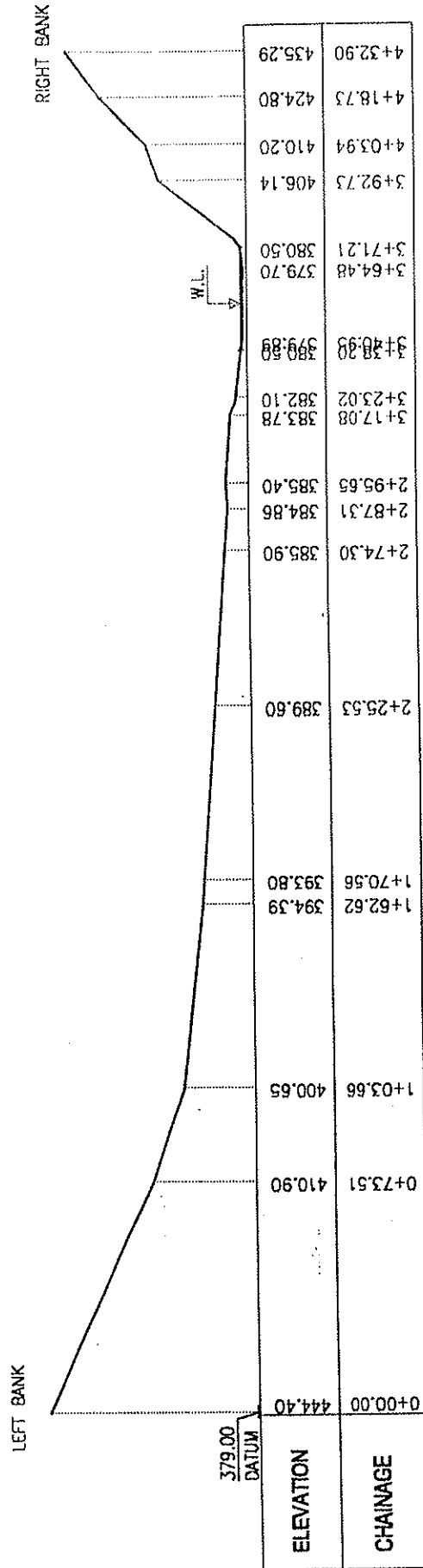
Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

Upper Seti Hydroelectric Project

River Cross Section
Reservoir

Section No.

Rx 43



0 20 40 60 80 100m

Horizontal 1:2000
Vertical 1:2000



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Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

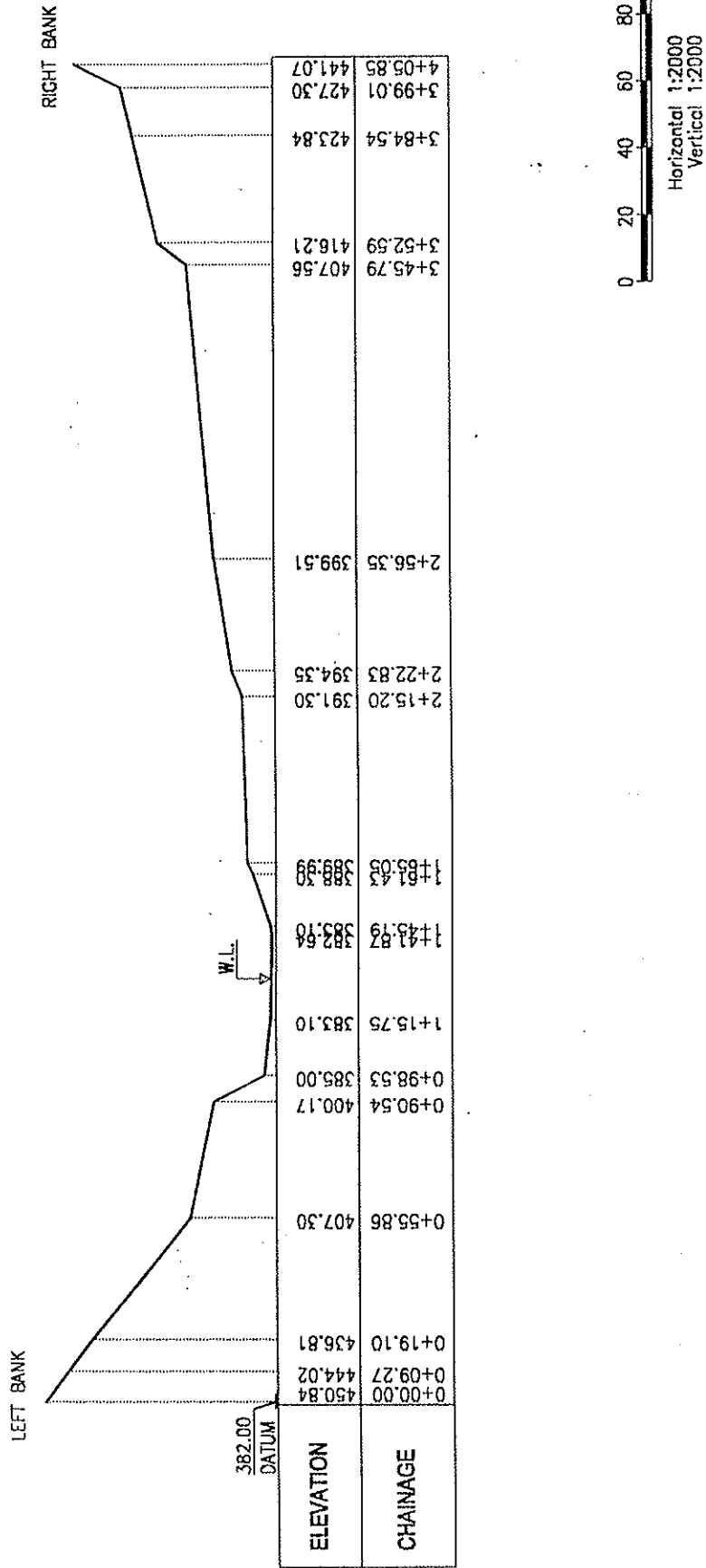
Upper Seti Hydroelectric Project

Title

River Cross Section
Reservoir

Section No.

Rx 44





NEPAL ELECTRICITY AUTHORITY
Durbār Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

Upper Seti Hydroelectric Project

Title

River Cross Section Reservoir

Section No.

Rx 45

RIGHT BANK

LEFT BANK

W.L.

385.00
DATUM

ELEVATION	CHAINAGE
445.02	0+00.00
426.50	0+25.60
424.93	0+35.27
412.86	1+13.96
407.30	1+19.29
406.45	1+53.14
402.43	1+65.28
403.28	1+92.59
393.15	1+99.11
391.20	2+27.29
388.10	2+41.34
385.60	2+50.54
385.20	2+68.41
385.62	2+75.21
385.76	2+83.76
386.00	3+08.54
406.65	3+23.07
428.80	3+39.79
452.03	3+55.14




Horizontal 1:2000
Vertical 1:2000

Section No. **Rx 46**

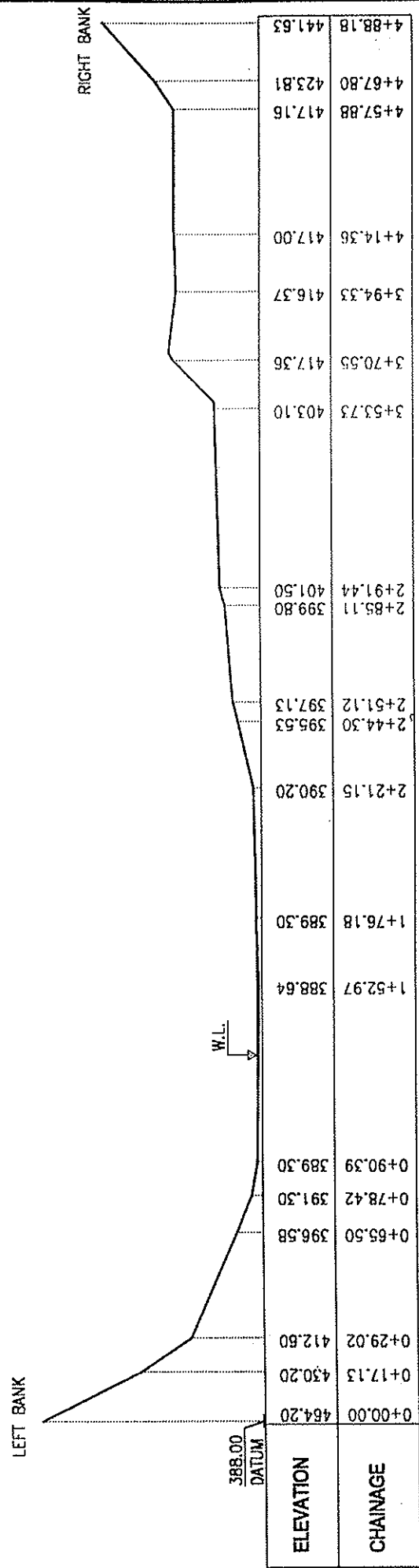
**River Cross Section
Reservoir**

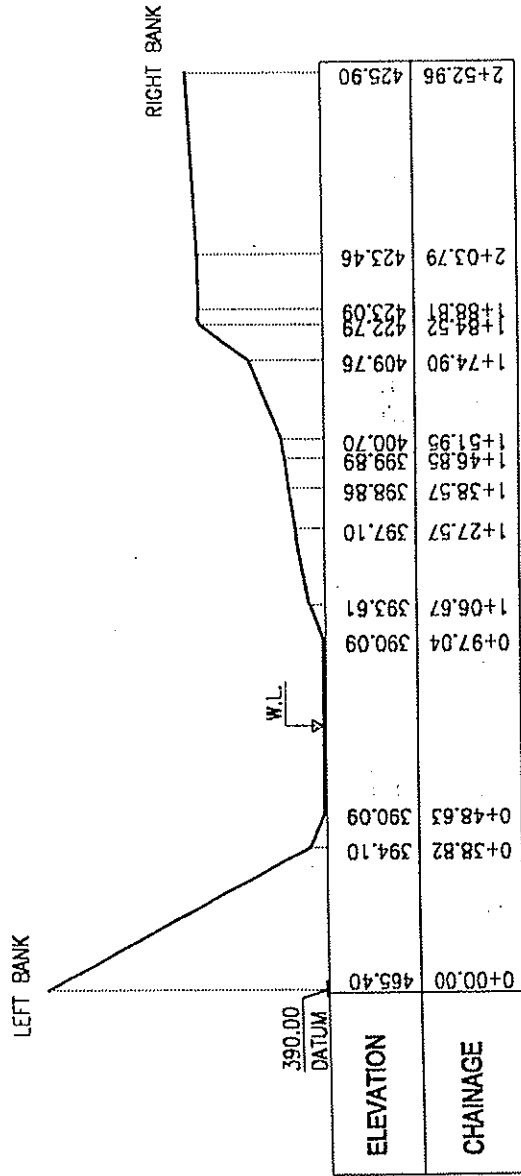
Upper Seti Hydroelectric Project

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NEPAL ELECTRICITY AUTHORITY
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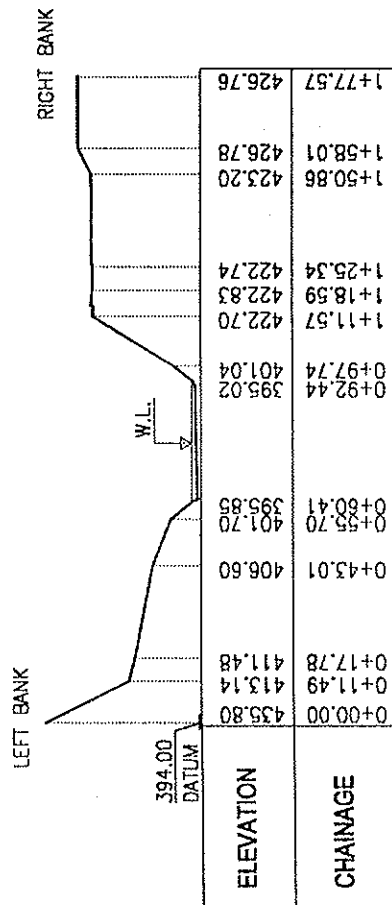
Upper Seti Hydroelectric Project

Title

River Cross Section
Reservoir

Section No.

Rx 47



Section No.
Rx 48

**River Cross Section
Reservoir**

Title

Upper Seti Hydroelectric Project

Project Preparation & Studies Department
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NEPAL ELECTRICITY AUTHORITY
Durbhar Marg, Kathmandu





NEPAL ELECTRICITY AUTHORITY
Durbhar Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

Title

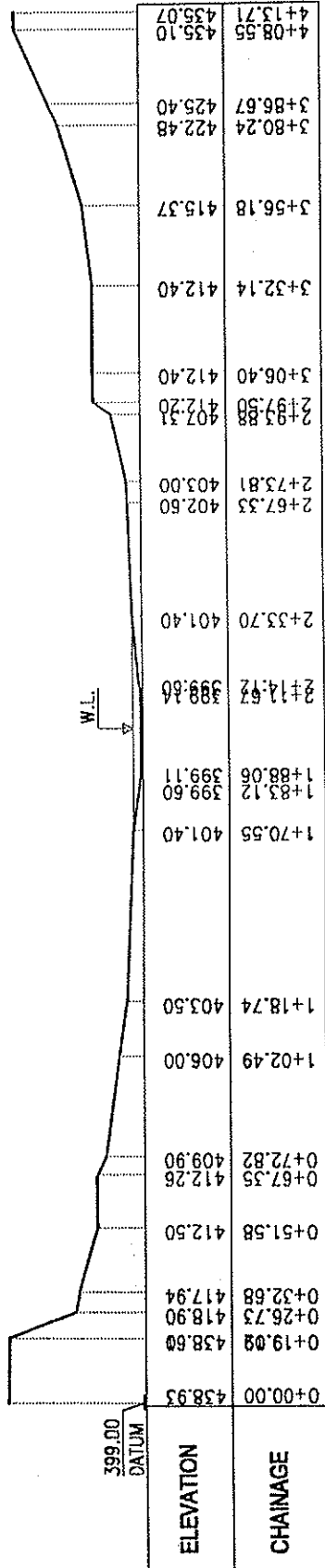
Upper Seti Hydroelectric Project

Section No.

River Cross Section
Reservoir
Rx 49

RIGHT BANK

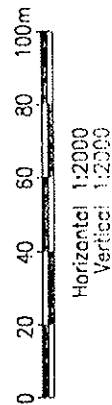
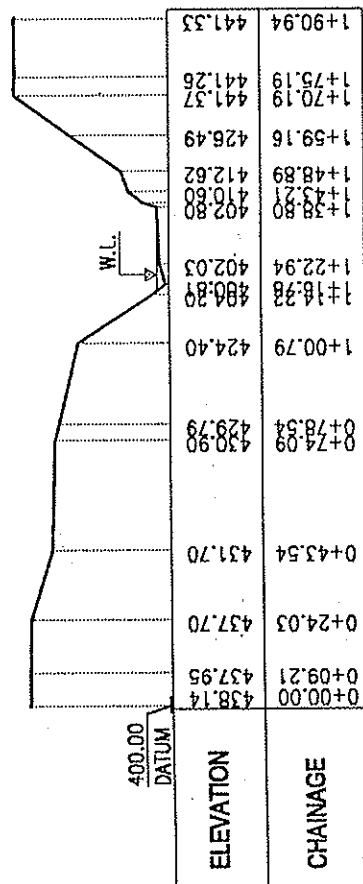
LEFT BANK



Horizontal 1:2000
Vertical 1:2000

RIGHT BANK

LEFT BANK



Scale

River Cross Section
Reservoir

Title

Upper Seti Hydroelectric Project

Project Preparation & Studies Department
in Association with
Soil, Rock and Concrete Laboratory

NEPAL ELECTRICITY AUTHORITY
Durbhar Marg, Kathmandu



Rx 50



NEPAL ELECTRICITY AUTHORITY
Durbhar Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

Upper Seti Hydroelectric Project

Title

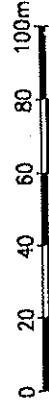
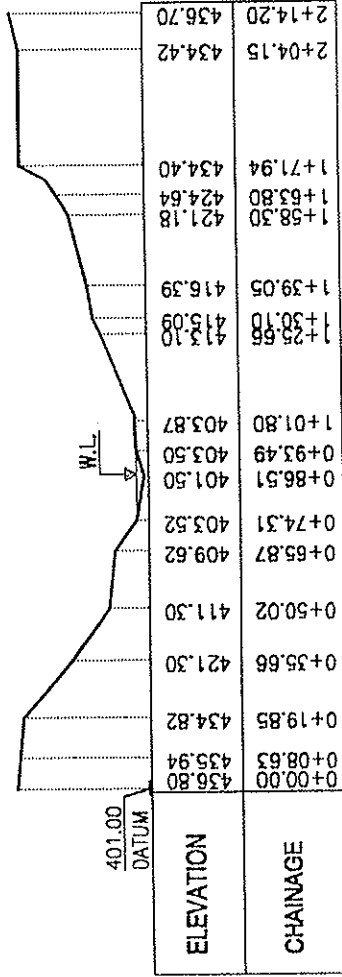
Section No.

Rx 51

River Cross Section
Reservoir

RIGHT BANK

LEFT BANK



Horizontal 1:2000
Vertical 1:2000



NEPAL ELECTRICITY AUTHORITY
Durbar Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

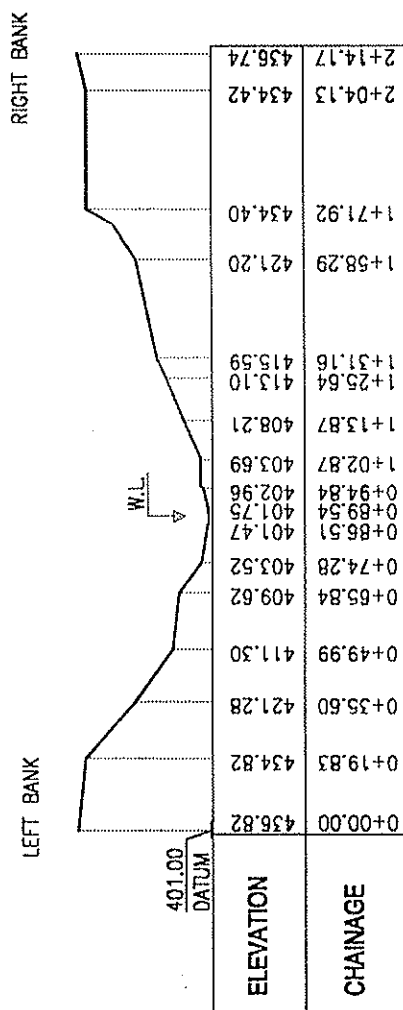
Upper Seli Hydroelectric Project

Title

River Cross Section
Reservoir

Section No.

Rx 52





NEPAL ELECTRICITY AUTHORITY
Durbār Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

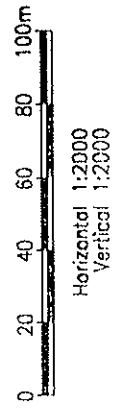
Upper Seti Hydroelectric Project

Title

River Cross Section
Reservoir

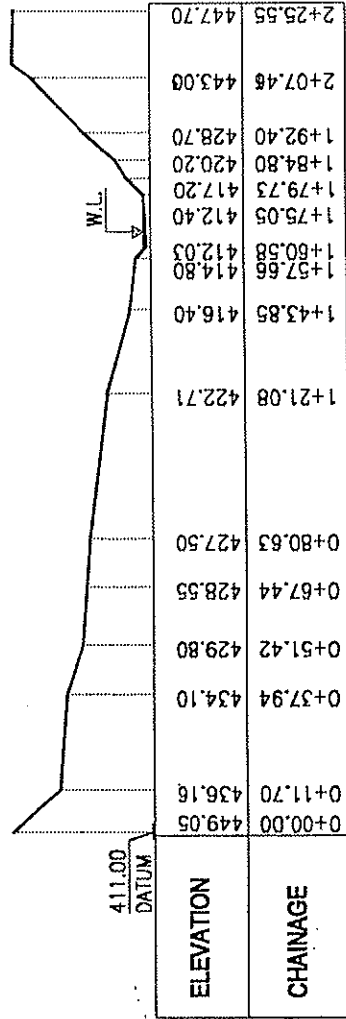
Section No.

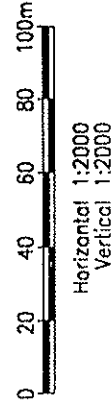
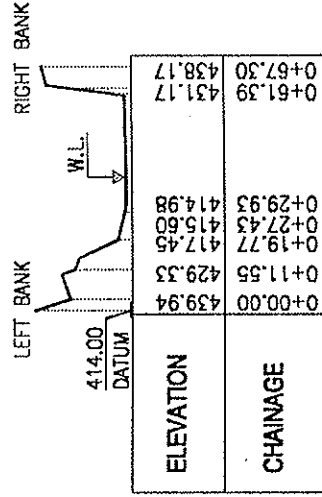
Rx 53




RIGHT BANK

LEFT BANK





 NEPAL ELECTRICITY AUTHORITY Durbar Marg, Kathmandu	Project Preparation & Studies Department In Association with Soil, Rock and Concrete Laboratory	Title Upper Sefi Hydroelectric Project	Section No. River Cross Section Reservoir Rx 54
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Durbhar Marg, Kathmandu

Project Preparation & Studies Department
in Association with
Soil, Rock and Concrete Laboratory

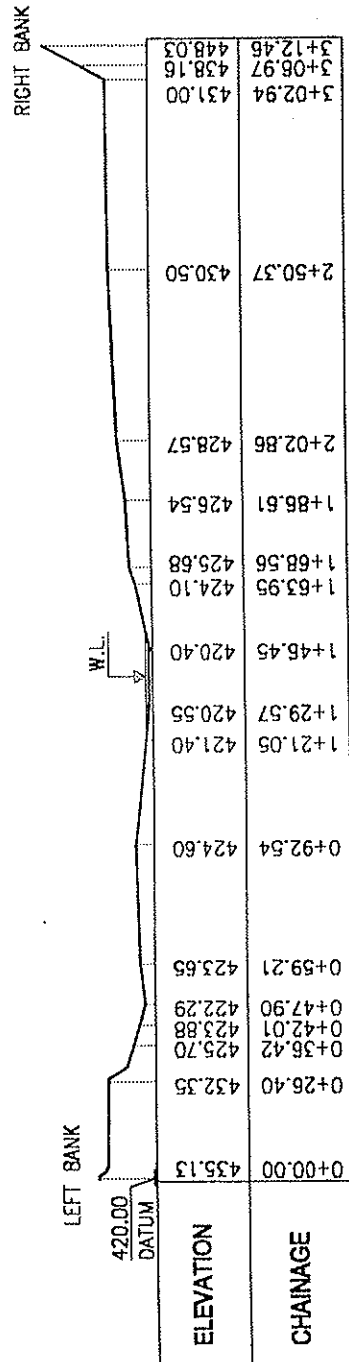
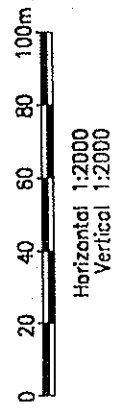
Upper Seti Hydroelectric Project

Title

River Cross Section Reservoir

Section No.

Rx 55





NEPAL ELECTRICITY AUTHORITY
Durbar Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

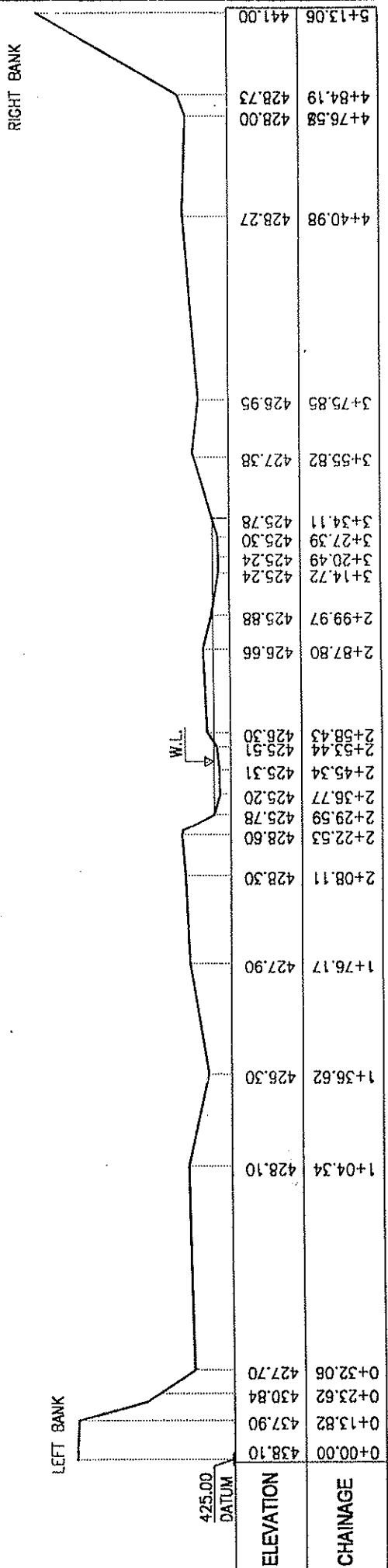
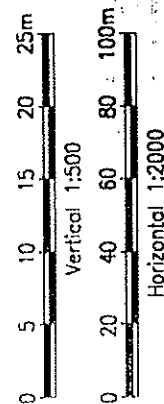
Upper Seti Hydroelectric Project

Fig

River Cross Section
Reservoir

Section No.

Rx 56





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Durbār Marg, Kathmandu

Project Preparation & Studies Department
In Association with
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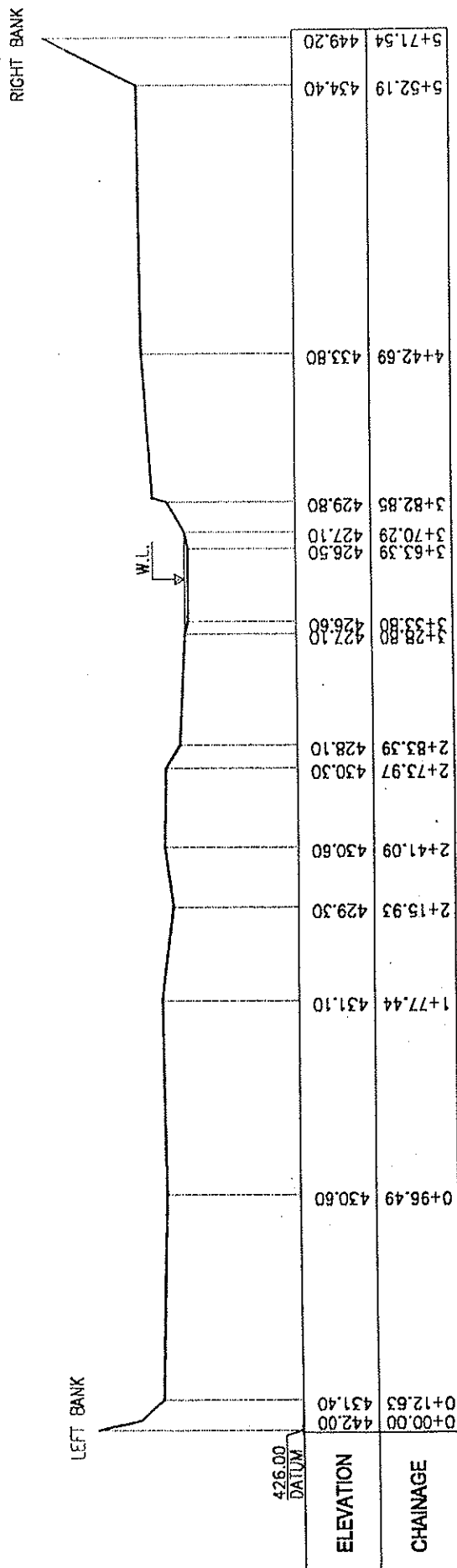
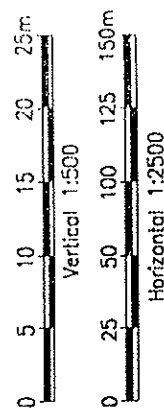
Upper Seti Hydroelectric Project

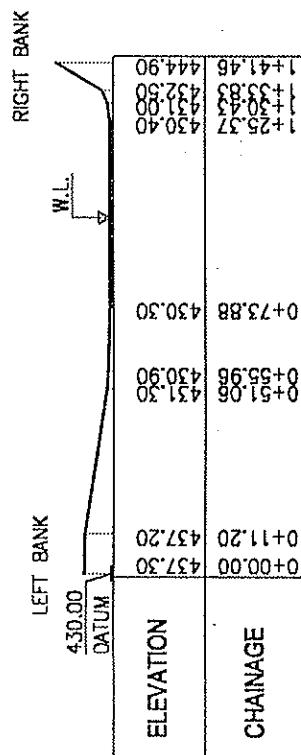
Title

River Cross Section
Reservoir

Section No

RX 57





NEPAL ELECTRICITY AUTHORITY
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Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

Upper Seti Hydroelectric Project

River Cross Section
Reservoir

Section No.
Rx 58



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Durbār Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

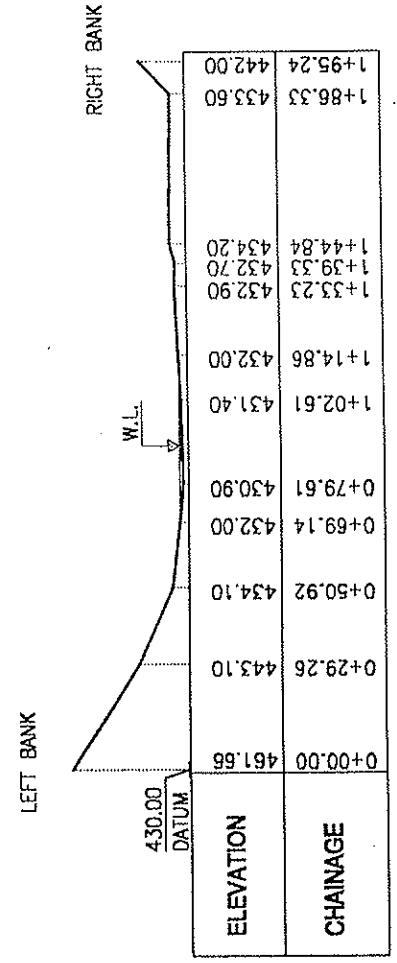
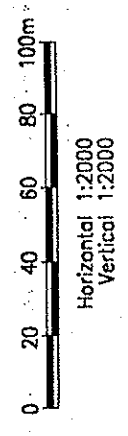
Upper Seil Hydroelectric Project

Title

River Cross Section
Reservoir

Section No.

Rx 59



RIGHT BANK

LEFT BANK

309.00
DATUM

W.L.

ELEVATION	CHAINAGE
409.50	0+00.00
389.24	0+25.48
378.40	0+28.18
361.09	0+47.43
329.90	0+73.83
326.79	1+19.45
323.86	1+28.48
322.38	1+43.62
315.48	1+52.00
311.94	1+75.75
310.60	1+77.22
309.56	1+85.41
309.58	2+04.79
310.03	2+10.13
310.74	2+16.38
325.80	2+27.96
334.66	2+35.33
345.92	2+46.81
370.31	2+67.94
388.63	2+93.06
407.99	3+09.54
424.50	3+30.12

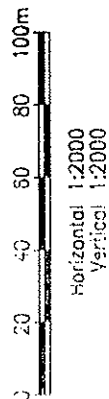


Figure No.

Dx 1

Title

Upper Seti Hydroelectric Project
Dam Site

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

NEPAL ELECTRICITY AUTHORITY
Durbar Marg, Kathmandu





NEPAL ELECTRICITY AUTHORITY
Durbhar Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

Upper Seti Hydroelectric Project

Title

River Cross Section
Dam Site

Figure No.

Dx 2

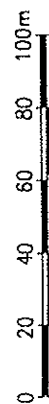
RIGHT BANK

LEFT BANK

W.L.

309.00
DATUM

ELEVATION	CHAINAGE
416.10	0+00.00
385.10	0+37.14
369.07	0+40.62
357.42	0+48.44
323.53	0+77.72
323.13	0+91.86
321.98	1+38.00
317.08	1+45.20
314.89	1+51.27
309.30	1+66.53
309.17	1+89.40
310.60	2+02.61
330.33	2+19.91
342.63	2+30.26
351.04	2+37.64
373.33	2+54.20
383.20	2+63.17
388.81	2+69.22
404.13	2+94.46
408.68	3+01.41
415.61	3+07.71
426.39	3+21.45
432.32	3+27.89



Horizontal 1:2000
Vertical 1:2000

RIGHT BANK

LEFT BANK

W.L.

308.00
DATUM

ELEVATION	CHAINAGE
427.80	0+00.00
393.36	0+42.28
376.77	0+60.60
365.19	0+72.62
322.47	1+09.23
322.31	1+14.60
321.82	1+42.15
321.85	1+52.77
319.43	1+59.47
312.42	1+60.88
308.52	1+69.58
308.66	1+82.84
308.89	1+95.28
310.50	2+08.90
315.46	2+18.38
315.46	2+21.98
327.89	2+30.62
336.72	2+38.86
346.47	2+47.11
353.67	2+54.23
369.40	2+72.18
390.92	2+92.15
405.36	3+05.89
429.00	3+39.01



Horizontal 1:2000
Vertical 1:2000

Figure No.

Dx 3

Title

River Cross Section
Dam Site

Upper Seti Hydroelectric Project

Project Preparation & Construction Management
in Association with
Soil, Rock and Concrete Laboratory

NEPAL ELECTRICITY AUTHORITY
Durbar Marg, Kathmandu





NEPAL ELECTRICITY AUTHORITY
Durbār Marg, Kathmandu

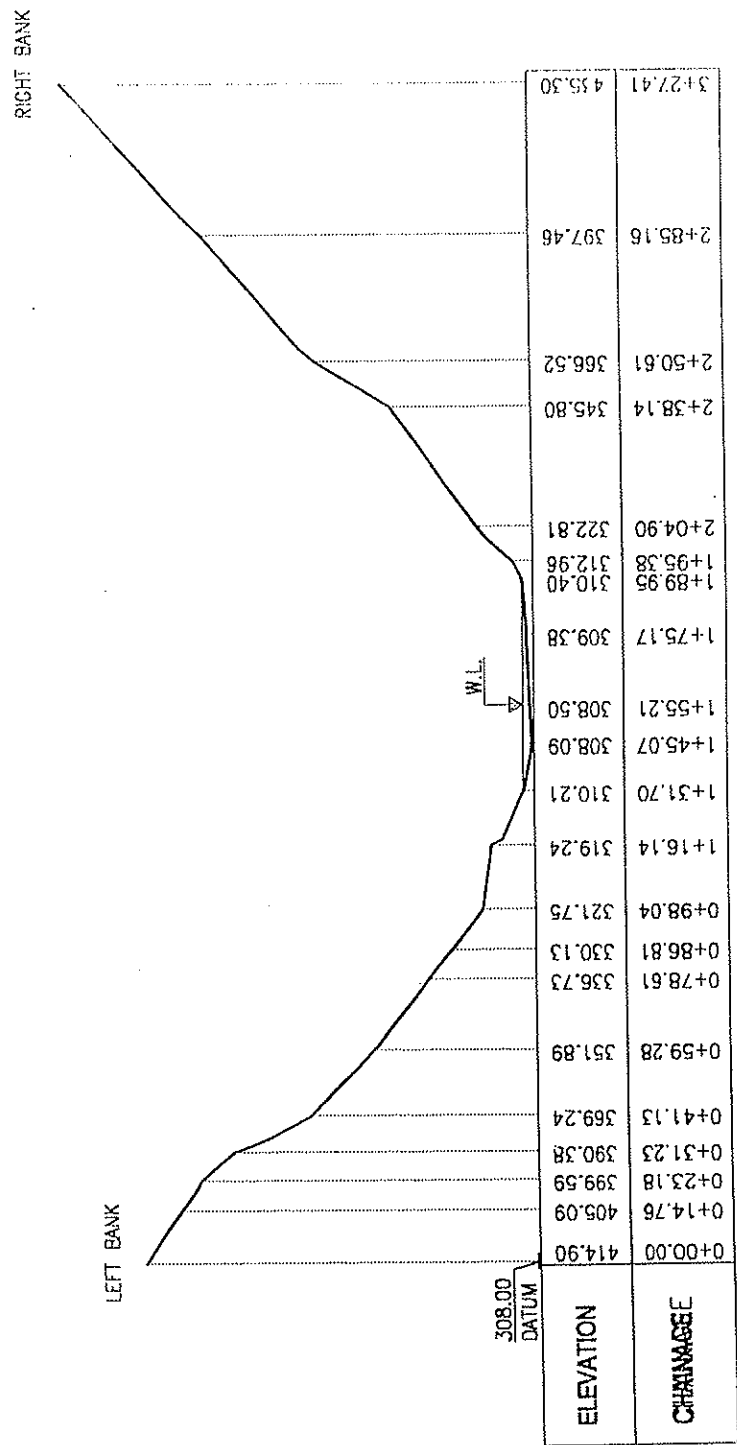
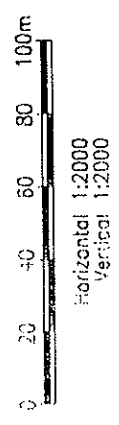
Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

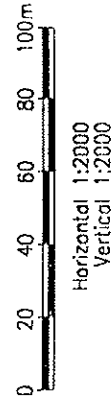
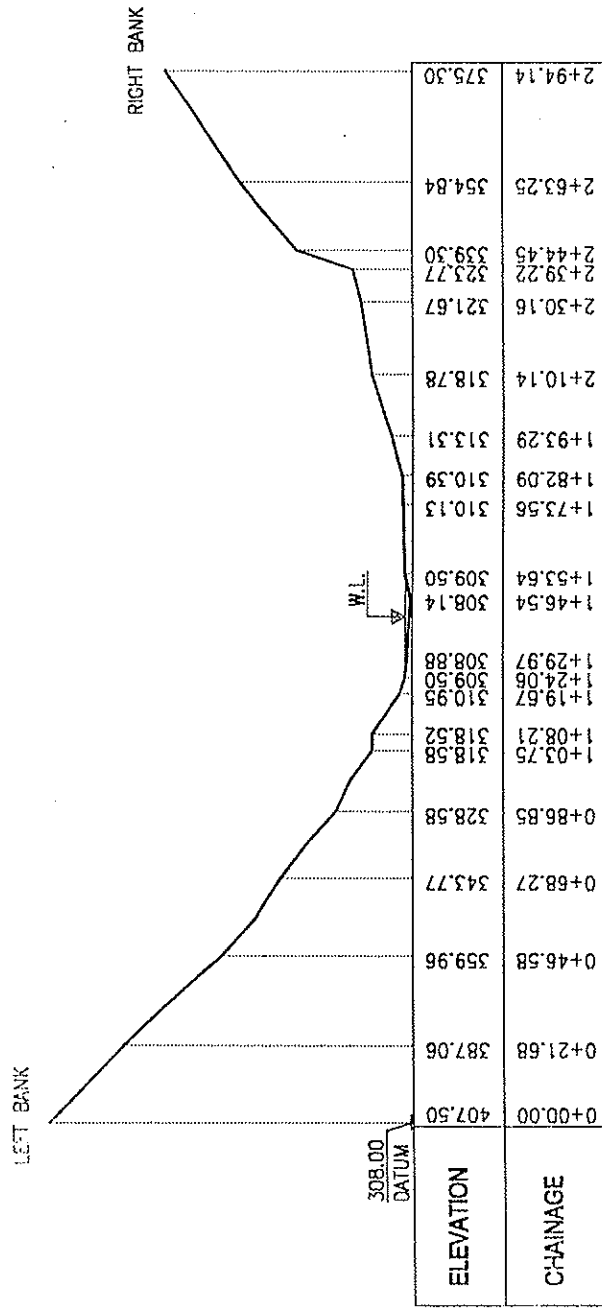
Upper Seti Hydroelectric Project

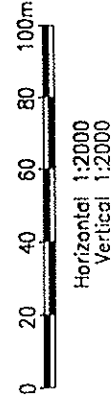
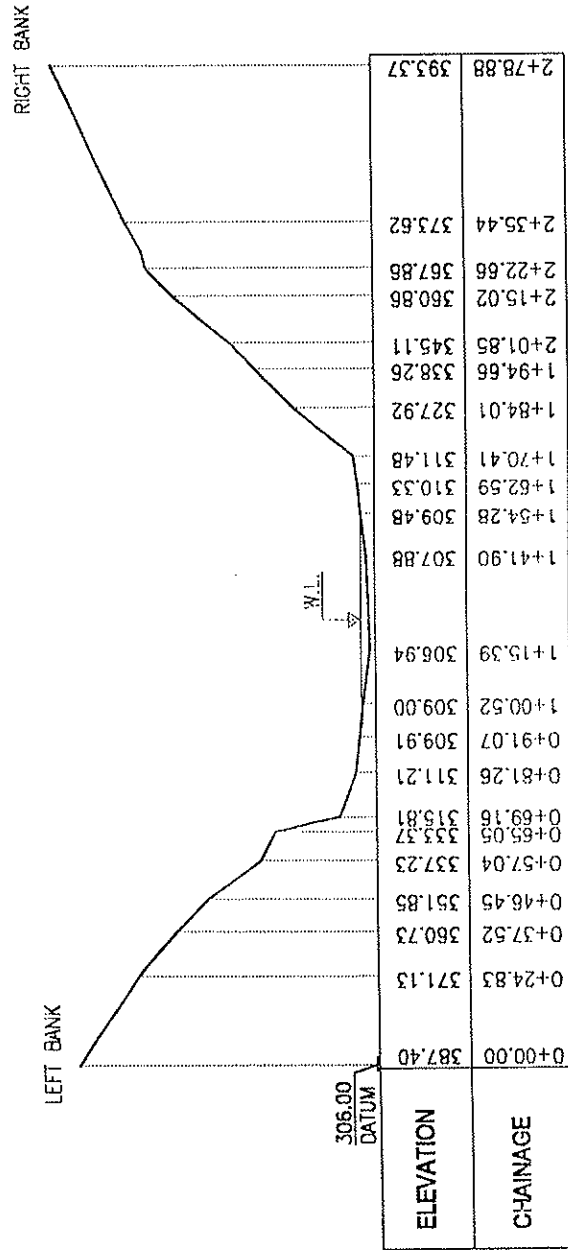
Final Cross Section
Dam Site

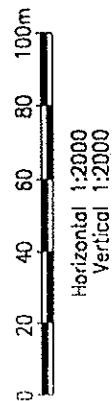
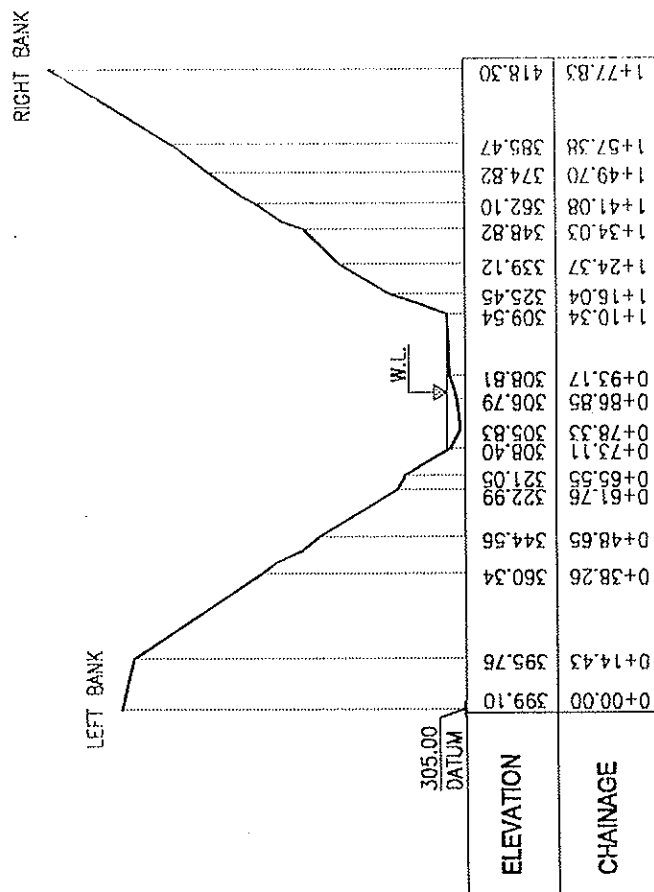
Figure No.

Dx 4









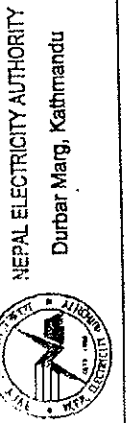
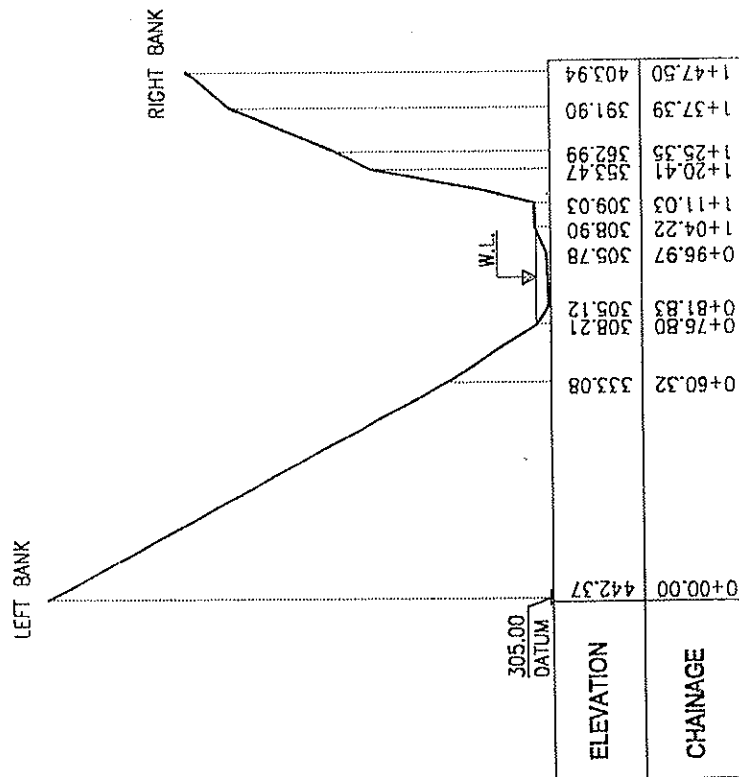
NEPAL ELECTRICITY AUTHORITY
Dunbar Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

Upper Soti Hydropower Project

River Cross Section
Dam Site

Figure No. **Dx 7**



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Durbat Marg, Kathmandu

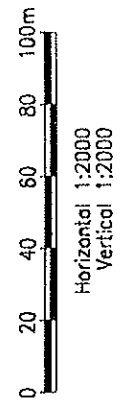
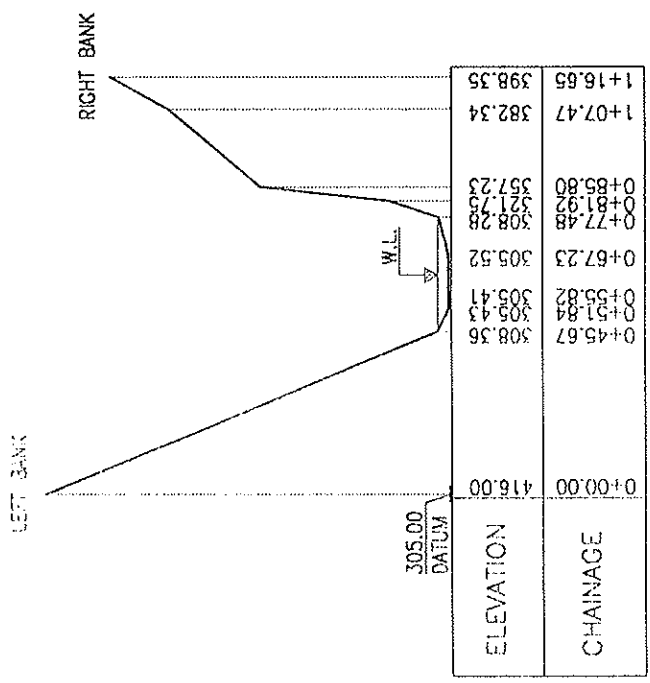
Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

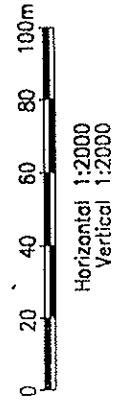
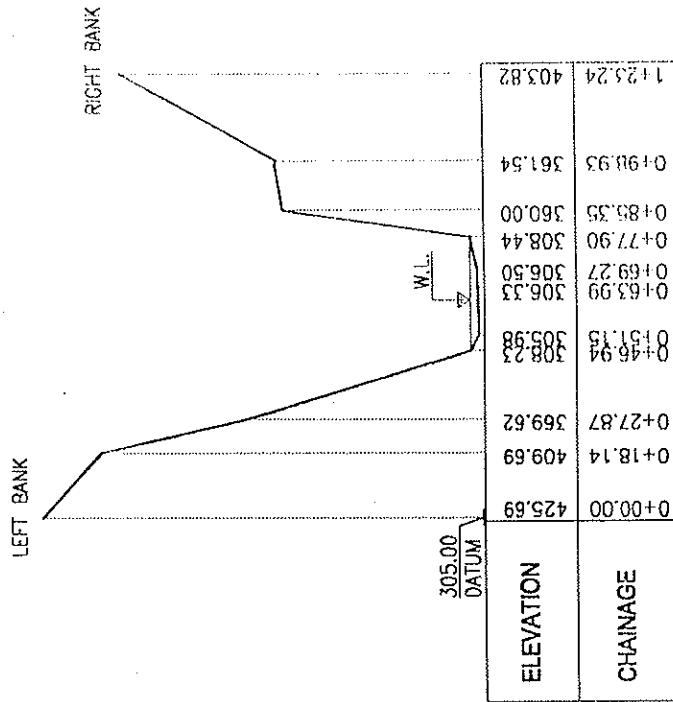
Upper Seti Hydroelectric Project

This

River Cross Section
Dam Site

DX 8





NEPAL ELECTRICITY AUTHORITY
Durbar Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

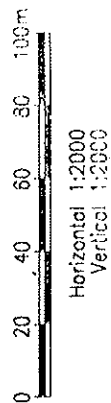
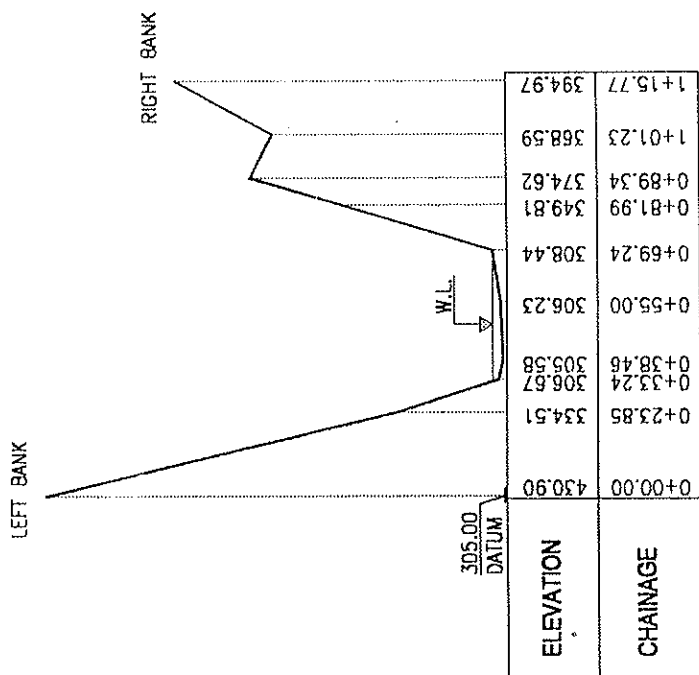
Upper Soil Physics and Project

Title

River Cross Section
Dam Site

Figure No.

Dx 10



NEPAL ELECTRICITY AUTHORITY
Durbhar Marg, Kathmandu

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

Upper Seti Hydroelectric Project

Title River Cross Section
Dam Site

IDX 11

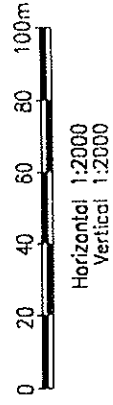
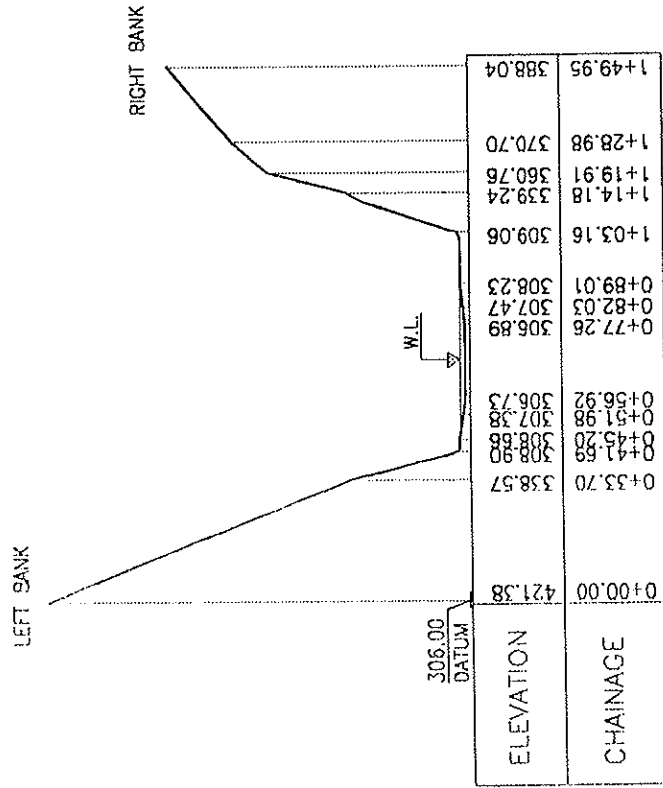


Figure No. Dx 12

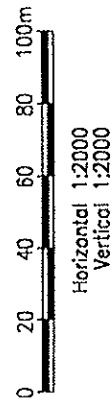
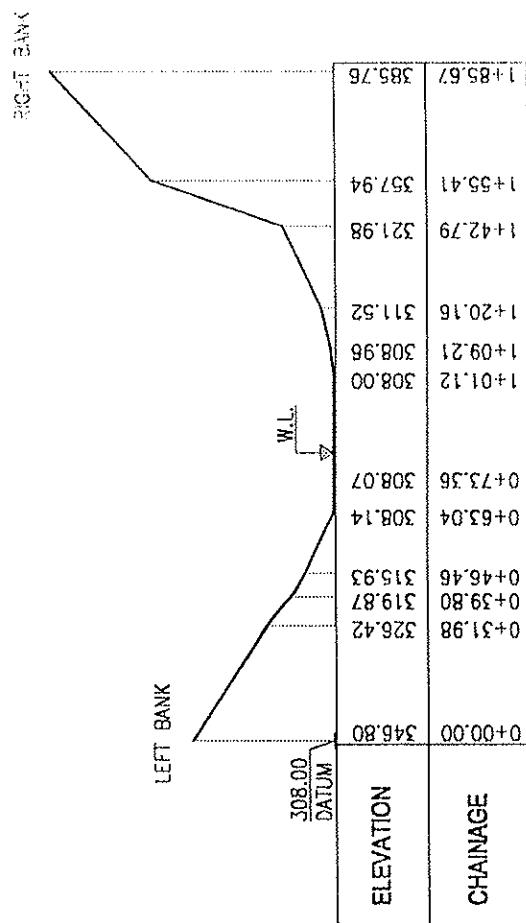
River Cross Section
Dam Site


Upper Seti Hydroelectric Project

NEPAL ELECTRICITY AUTHORITY
in Association with
Soil, Rock and Concrete Laboratory

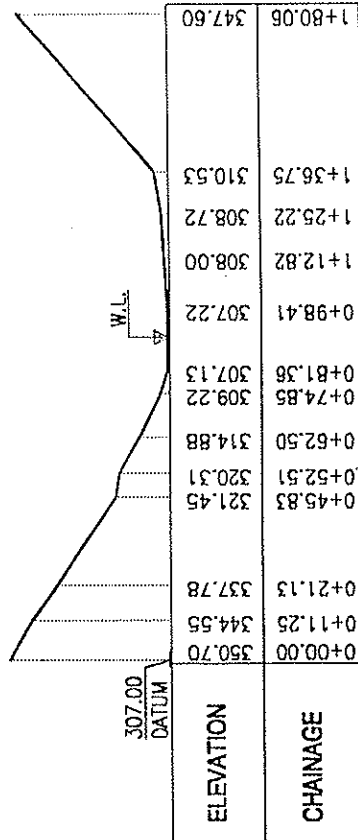
NEPAL ELECTRICITY AUTHORITY
Durbhar Marg, Kathmandu

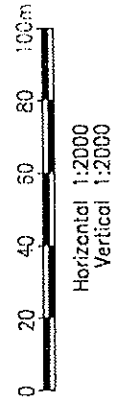
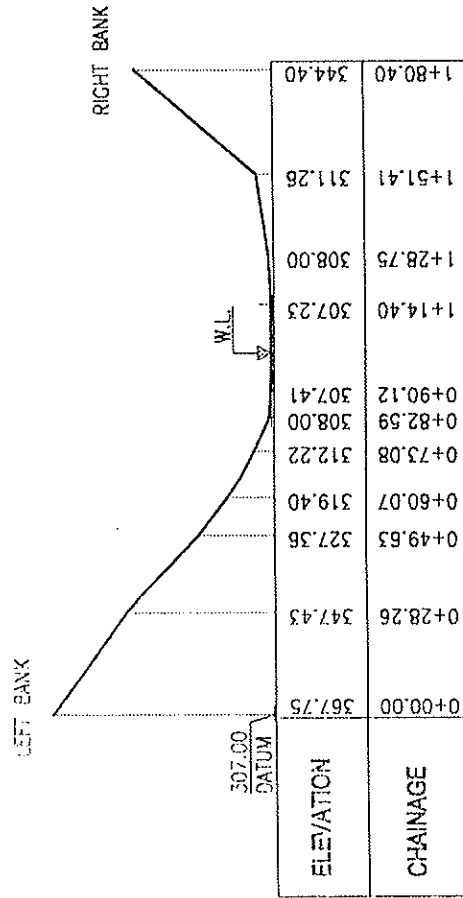





 NEPAL ELECTRICITY AUTHORITY Durbhar Marg, Kathmandu	Project Preparation & Studies Department In Association with Soil, Rock and Concrete Laboratory	Title Upper Sanjivani Project	Figure No. River Cross Section Dam Site
	Figure No. DX 13		

LEFT BANK RIGHT BANK







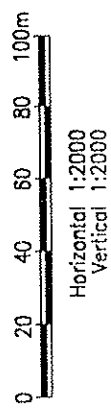
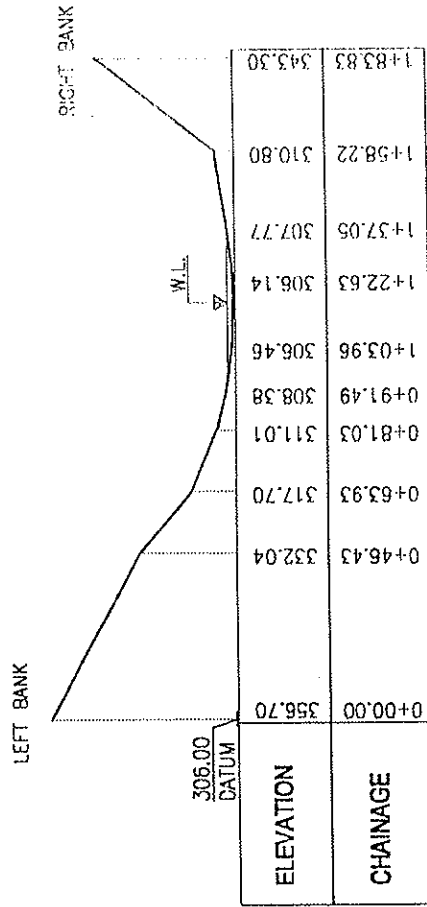
GOVERNMENT OF INDIA
Ministry of Water Resources


Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

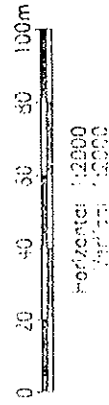
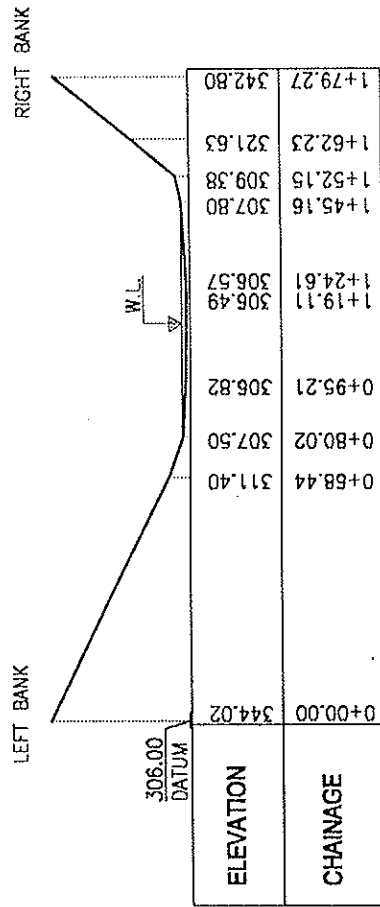
Figure No. **Dx 15**

Upper Seti Hydroelectric Project

River Cross Section
Dam Site



 <p>NEPAL ELECTRICITY AUTHORITY Durbar Marg, Kathmandu</p>	<p>Project Preparation & Studies Department In Association with Soil, Rock and Concrete Laboratory</p>	<p>Title</p> <p>River Cross Section Dam Site</p>	<p>Figure No.</p> <p>Dx 16</p>
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River Cross Section
Dam Site

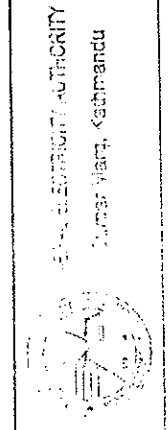
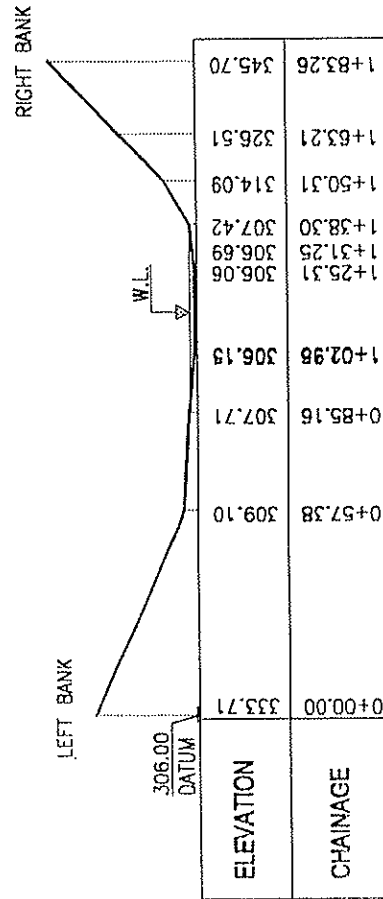
Title

Upper Seti Hydroelectric Project

Project Preparation & Studies Department
In Association with
Soil, Rock and Concrete Laboratory

NEPAL ELECTRICITY AUTHORITY
Durbhar Marg, Kathmandu





NATIONAL ENGINEERING COLLEGE
POKHARA, NEPAL

Project Preparation & Studies Department
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Soil, Rock and Concrete Laboratory

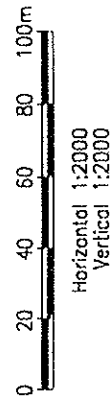
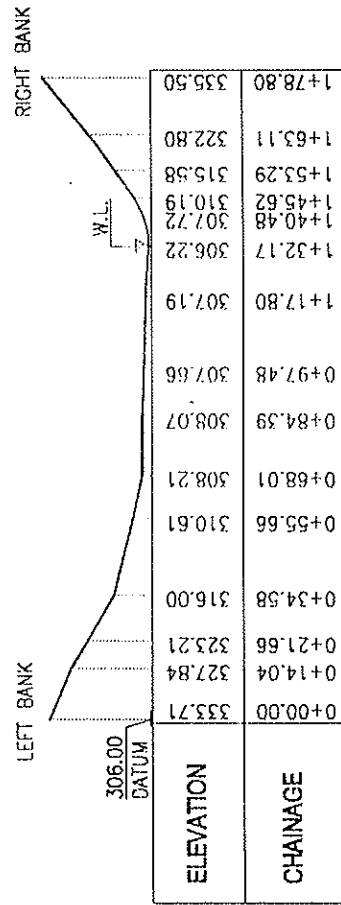
Upper Seti Hydroelectric Project

Title

River Cross Section
Dam Site

Figure No.

Dx 18



NEPAL ELECTRICITY AUTHORITY
Durbhar Marg, Kathmandu

Project Preparation & Design Consultant
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Upper Seti Hydroelectric Project

Title

River Cross Section
Dam Site

Figure No.

Dx 19

Historical Data of Suspended Sediment Concentration

Year

1974

(Unit: ppm)

[illegible]

Suspended Sediment Concentration Measurements at No.430 Stream Gauging Station

Year

1975

Month Day	Jan.	Feb.	Mar.	Apr.	May	Jun	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	50.0	200.0	748.0		684.0	1,320.0	1,460.0				61.0	65.0
2				279.0	699.0	974.0	1,170.0				52.0	
3	58.0	102.0	372.0		695.0	1,070.0	1,530.0				47.0	54.0
4				332.0	853.0	1,200.0	2,070.0				45.0	
5	91.0	100.0	327.0		702.0	3,390.0	963.0				289.0	564.0
6				284.0	692.0	2,720.0	1,380.0				150.0	
7	42.0	93.0	278.0		1,320.0	1,380.0	1,640.0				54.0	25.0
8				260.0	800.0	1,080.0	1,630.0				303.0	
9	96.0	100.0	318.0		876.0	1,520.0	1,640.0				64.0	54.0
10			1,190.0	253.0	820.0	1,460.0	1,080.0				78.0	
11	56.0	192.0	235.0		905.0	1,490.0					72.0	89.0
12					952.0	1,660.0	1,320.0				146.0	
13	33.0	340.0			128.0	1,300.0	1,800.0				103.0	133.0
14				1,480.0	748.0	1,540.0	1,090.0				70.0	
15	8.3	311.0	315.0	652.0	1,670.0	2,010.0	1,870.0			144.0	58.0	46.0
16				749.0	1,080.0	1,640.0				114.0	137.0	
17	42.0	278.0	253.0	640.0	1,060.0	1,490.0				178.0	83.0	104.0
18				736.0	1,270.0	1,380.0				164.0	58.0	294.0
19	60.0	234.0	223.0	1,490.0	1,370.0	1,230.0				181.0		
20					1,420.0	1,300.0				110.0	28.0	221.0
21		402.0	213.0	1,230.0	1,260.0	4,000.0				69.0		
22				1,440.0	3,150.0	1,230.0				113.0	53.0	63.0
23	500.0	409.0	170.0	1,090.0	1,420.0	1,250.0				224.0		
24				963.0	1,750.0	1,030.0				47.0	9.0	92.0
25	93.0	314.0	293.0	549.0	1,120.0	1,660.0				181.0		
26				660.0	1,340.0	1,810.0				85.0	125.0	70.0
27	77.0	324.0		597.0	1,340.0	1,600.0				23.0		
28				574.0	1,300.0	1,460.0				62.0	58.0	204.0
29	558.0		334.0	629.0	1,120.0	1,260.0				133.0		
30				1,080.0	1,320.0	1,340.0				163.0		
31	486.0		443.0		2,170.0							111.0

(Unit : ppm)

Suspended Sediment Concentration Measurements at No.430 Stream Gauging Station

Year 1976

Month Day	Jan.	Feb.	Mar.	Apr.	May	Jun	July	Aug.	Sep.	Oct.	Nov.	Dec.
1		217.0		592.0	1,450.0	7,050.0	2,870.0	2,520.0	38.0	57.0	17.0	
2	426.0		84.0	484.0	885.0	8,010.0	3,670.0	935.0	118.0	160.0	22.0	56.0
3		101.0		1,000.0	705.0	5,040.0	2,510.0	989.0	38.0	1,590.0	21.0	
4	22.0		137.0	1,120.0	688.0	7,170.0	2,950.0	984.0	49.0	53.0	50.0	51.0
5		112.0		401.0	667.0	5,920.0	2,460.0	837.0	40.0	69.0	47.0	
6	238.0		78.0	179.0	416.0	5,020.0	3,110.0	1,690.0	54.0	57.0	25.0	68.0
7		8.9		399.0	747.0	5,440.0	7,320.0	809.0	229.0	40.0	61.0	
8	178.0		111.0	937.0	803.0	4,950.0	4,900.0	476.0	162.0	45.0	24.0	65.0
9		309.0		874.0	457.0	60,800.0	17,100.0	1,690.0	72.0	37.0	21.0	
10	122.0		192.0	373.0	967.0	7,620.0	6,260.0	3,780.0	71.0	47.0	51.0	26.0
11		51.0		373.0	318.0	5,090.0	4,570.0	3,170.0	87.0	38.0	24.0	
12	126.0			940.0	457.0	56,000.0	16,600.0	2,800.0	113.0	36.0	31.0	
13		235.0		459.0	1,520.0	3,960.0	11,300.0	588.0	91.0	40.0	23.0	
14	145.0		167.0	352.0	6,690.0	11,200.0	7,640.0	751.0	71.0	54.0	16.0	
15		67.0	250.0	605.0	4,380.0	4,100.0	6,220.0	722.0	44.0	231.0	25.0	
16	191.0		310.0	440.0	7,990.0	979.0	9,030.0	397.0	51.0	54.0	84.0	536.0
17		292.0	268.0	567.0	5,510.0	976.0	3,740.0	248.0	28.0	59.0	462.0	
18	285.0		638.0	676.0	9,280.0	1,070.0	6,840.0	52.0	42.0	38.0		75.0
19		137.0	238.0	842.0	4,480.0	483.0	5,060.0	305.0	59.0	15.0		
20	141.0		233.0	1,790.0	5,350.0	2,580.0	6,280.0	265.0	43.0	28.0	35.0	76.0
21		126.0	239.0	427.0	3,610.0	2,200.0	2,670.0	134.0	48.0	41.0		
22	171.0		552.0	6,960.0	6,600.0	16,400.0	4,930.0	389.0	134.0	53.0	54.0	101.0
23		141.0	688.0	435.0	5,780.0	15,000.0	2,190.0	102.0	534.0	505.0		
24	69.0		625.0	463.0	6,190.0	16,300.0	3,040.0	186.0	50.0	31.0	58.0	71.0
25		112.0	903.0	2,530.0	7,750.0	2,650.0	2,380.0	433.0	92.0	1,770.0	102.0	63.0
26			690.0	641.0	5,650.0	1,360.0	2,420.0	105.0	179.0	42.0		
27		295.0	772.0	476.0	5,200.0	2,880.0	4,670.0	185.0	39.0	23.0		60.0
28	160.0		729.0	567.0	12,000.0	1,110.0	3,560.0	22.0	42.0	33.0		
29			1,000.0	5,410.0	8,000.0	1,580.0	1,800.0	97.0	56.0	21.0		
30			563.0	506.0	6,950.0	16,400.0	5,470.0	54.0	46.0	32.0	51.0	18.0
31	87.0		453.0		5,160.0		1,750.0	219.0		40.0		

(Unit : ppm)

Suspended Sediment Concentration Measurements at No.430 Stream Gauging Station

Year 1977

Month Day	Jan.	Feb.	Mar.	Apr.	May	Jun	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	246.0			157.0		5,700.0		550.0	165.0	69.0	114.0	
2		268.0	995.0	151.0	6,070.0	6,460.0		659.0	134.0		166.0	51.0
3	115.0			705.0	6,250.0	6,080.0		594.0	145.0		141.0	
4		389.0	825.0	892.0	6,790.0	6,450.0		694.0	161.0		147.0	49.0
5	37.0			129.0	4,800.0	6,870.0		537.0	141.0	61.0	122.0	
6		117.0	410.0	124.0	6,440.0	4,250.0		708.0	279.0	65.0	141.0	47.0
7	82.0			173.0	6,340.0	4,140.0		330.0	197.0	98.0	108.0	
8		2,320.0	1,360.0	159.0	6,650.0	5,060.0		433.0	163.0	63.0	118.0	121.0
9	79.0			110.0	6,880.0	4,100.0		454.0	135.0		116.0	
10		214.0	2,520.0	754.0	6,860.0	3,750.0		331.0	142.0	41.0	125.0	40.0
11	132.0			109.0	6,140.0	4,020.0		1,560.0	233.0	39.0	76.0	
12		202.0	896.0	217.0	3,810.0	4,740.0		12,300.0	242.0	76.0	34.0	50.0
13	115.0			6,810.0	3,340.0	3,840.0		9,250.0	284.0	60.0	44.0	
14		200.0	2,210.0	6,830.0	3,380.0	3,410.0		8,910.0	272.0	60.0	57.0	42.0
15	2,670.0		896.0	6,280.0	3,350.0	4,040.0		6,220.0	152.0	67.0	49.0	
16		2,240.0	2,420.0	6,860.0	2,970.0	3,970.0		1,130.0		94.0	227.0	163.0
17	2,200.0		1,260.0	6,430.0	3,460.0	2,090.0		244.0	103.0	118.0		
18		337.0	788.0	5,310.0	3,120.0	3,310.0		245.0	84.0	123.0	61.0	
19	107.0		2,190.0	5,960.0	3,250.0	3,700.0		286.0	215.0	109.0		
20		323.0	1,240.0	6,500.0	3,270.0	4,300.0			200.0	115.0	48.0	38.0
21	302.0		1,870.0	6,410.0	3,370.0	4,010.0		298.0	206.0	109.0		
22		258.0	1,130.0	6,470.0	3,480.0	4,600.0		187.0	252.0	807.0	55.0	22.0
23	140.0		2,320.0	6,650.0	4,380.0	3,380.0		207.0	284.0	100.0		
24		5,490.0	2,400.0	6,630.0	4,570.0	2,260.0			620.0	139.0	50.0	53.0
25	71.0		869.0	5,900.0	4,810.0	3,600.0		155.0	111.0	126.0		
26		2,700.0	133.0	6,670.0	2,940.0	3,980.0	473.0	161.0	30.0	121.0	139.0	849.0
27	214.0		71.0	6,250.0	3,080.0	4,170.0	985.0	215.0	93.0	111.0		
28		1,070.0	125.0	3,700.0	3,020.0	2,130.0	756.0	156.0	80.0	158.0	158.0	127.0
29	74.0		2,240.0	6,010.0	6,500.0	6,570.0	1,130.0	219.0	132.0	111.0		
30			979.0		6,890.0	378.0	581.0	103.0	113.0	91.0	39.0	228.0
31	249.0		129.0		5,470.0		479.0	108.0		96.0		

(Unit : ppm)

Suspended Sediment Concentration Measurements at No.430 Stream Gauging Station

Year 1978

Month Day	Jan.	Feb.	Mar.	Apr.	May	Jun	July	Aug.	Sep.	Oct.	Nov.	Dec.
1		458.0		1,400.0		710.0	2,290.0	1,090.0				1,330.0
2	31.0		773.0	1,090.0	2,060.0	678.0	2,420.0	1,100.0				433.0
3		603.0		914.0	1,860.0	820.0	2,400.0					841.0
4	99.0		765.0	1,240.0		759.0	1,700.0	1,260.0				170.0
5		564.0		1,180.0	1,960.0	920.0	1,380.0	1,110.0				184.0
6	292.0		11,800.0	2,190.0	1,470.0	822.0	1,580.0	1,180.0				215.0
7		699.0		703.0	1,860.0	851.0	2,300.0	1,590.0				204.0
8	680.0		643.0	1,600.0	1,210.0	833.0	1,830.0	1,190.0				90.0
9		653.0		951.0	2,230.0	902.0	1,960.0	1,380.0				144.0
10	250.0		963.0	1,270.0	1,780.0	826.0	2,550.0	1,510.0				158.0
11		261.0		1,090.0	1,520.0	1,070.0	2,560.0	1,080.0				6,700.0
12	369.0	555.0	798.0	971.0	461.0	904.0	2,530.0	1,300.0				1,050.0
13				896.0		5,260.0	2,230.0	1,170.0				
14	454.0	795.0	749.0	884.0	935.0	874.0	2,590.0					1,670.0
15			1,610.0	1,070.0	877.0	3,560.0	2,390.0	1,240.0				1,570.0
16	439.0	703.0	1,200.0	987.0	891.0	3,120.0	746.0	889.0				208.0
17			1,260.0	781.0	656.0	5,080.0	794.0					300.0
18	529.0	505.0	980.0	961.0	873.0	2,720.0	964.0					718.0
19			1,200.0	2,050.0	934.0	745.0	627.0					19.0
20	448.0	570.0	1,210.0	1,260.0	12,500.0	4,040.0	746.0					721.0
21			911.0	1,790.0	913.0	4,210.0	782.0					110.0
22	494.0	709.0	1,200.0	1,840.0	346.0	6,060.0	838.0					166.0
23			1,120.0	1,820.0	687.0	5,390.0	1,080.0					165.0
24	453.0	537.0	1,550.0	1,100.0	7,210.0	3,880.0	1,000.0					201.0
25			930.0	1,890.0	7,360.0	785.0	1,150.0					3,970.0
26	263.0	799.0	2,050.0	1,880.0	7,550.0	2,280.0	825.0					224.0
27			1,620.0	2,000.0	7,920.0	2,260.0	747.0					101.0
28	497.0	584.0	1,860.0	2,640.0	7,340.0	3,520.0	838.0					121.0
29			1,160.0	1,910.0	7,430.0	1,620.0	1,170.0					162.0
30			1,170.0	1,850.0	7,580.0	2,430.0	1,010.0				296.0	
31	458.0		889.0		7,250.0		1,140.0					223.0

(Unit : ppm)

Concentration Measurement of Suspended Sediment at No.430.5, Damauli Gauging Station
in Year of 2000

Month- Year	Date	Gauge Height(m)	River discharge (m ³ /s)	Suspended Load Concentration (ppm)	Suspended Load in Weight (ton/day)
June.2000	27	2.65	202.6	1,334.20	23,355
June.2000	28	3.18	471.4	6,796.63	276,840
July. 2000	1	3.18	471.4	3,775.20	153,771
July. 2000	2	3.15	450.6	1,999.00	77,825
July. 2000	3	2.78	251.6	1,866.17	40,571
July. 2000	4	2.80	260.0	2,404.57	54,017
July. 2000	5	2.89	300.7	2,827.07	73,458
July. 2000	6	3.09	411.3	7,982.40	283,661
July. 2000	7	3.84	1,191.9	7,334.37	755,275
July. 2000	8	3.87	1,239.8	4,430.23	474,546
July. 2000	9	3.04	380.8	5,514.50	181,444
July. 2000	10	3.07	398.9	3,054.73	105,272
July. 2000	11	3.32	580.0	2,365.77	118,546
July. 2000	12	3.09	411.3	1,688.23	59,993
July. 2000	13	2.95	330.8	2,310.33	66,039
July. 2000	14	3.02	369.2	3,064.20	97,741
July. 2000	15	3.25	523.3	3,884.03	175,605
July. 2000	16	3.24	515.6	2,716.43	121,010
July. 2000	17	3.08	405.0	2,025.23	70,874
July. 2000	18	2.87	291.2	2,026.40	50,991
July. 2000	19	2.87	291.2	1,714.37	43,139
July. 2000	20	3.35	605.8	10,626.80	556,235
July. 2000	21	2.82	268.6	1,470.90	34,138
July. 2000	22	2.98	346.8	1,327.00	39,765
July. 2000	23	2.68	213.1	1,385.53	25,513
July. 2000	24	3.52	771.8	11,282.23	752,374
July. 2000	25	3.26	531.1	6,427.87	294,945
July. 2000	26	2.86	286.6	1,538.00	38,083
July. 2000	27	2.98	346.8	4,954.07	148,455
July. 2000	28	2.99	352.3	3,626.67	110,394
July. 2000	29	2.99	352.3	4,220.47	128,469
July. 2000	30	2.87	291.2	1,860.60	46,819
July. 2000	31	3.29	555.1	4,840.47	232,135
Aug. 2000	1	3.33	588.5	3,724.63	189,376
Aug. 2000	2	3.25	523.3	4,575.20	206,854
Aug. 2000	3	3.35	605.8	3,787.33	198,239
Aug. 2000	4	3.15	450.6	2,707.47	105,407
Aug. 2000	5	3.13	437.2	1,842.83	69,604
Aug. 2000	6	3.18	471.4	1,647.63	67,111
Aug. 2000	7	3.25	523.3	2,707.70	122,421
Aug. 2000	8	3.07	398.9	2,253.77	77,669
Aug. 2000	9	3.04	380.8	2,170.80	71,426
Aug. 2000	14	2.85	282.0	947.00	23,074
Aug. 2000	15	3.07	398.9	1,303.53	44,922
Aug. 2000	16	2.83	273.0	1,067.17	25,173
Aug. 2000	17	2.72	227.9	2,329.13	45,855
Aug. 2000	18	2.67	209.6	1,545.47	27,983
Aug. 2000	19	2.73	252.6	4,535.77	98,998
Aug. 2000	25	2.96	331.6	1,765.87	50,595
Aug. 2000	27	2.99	343.2	1,432.10	42,459
Aug. 2000	28	3.53	607.7	3,275.37	171,984
Aug. 2000	29	3.13	401.1	2,283.17	79,117

Month- Year	Date	Gauge Height(m)	River discharge (m ³ /s)	Suspended Load Concentration (ppm)	Suspended Load in Weight (ton/day)
Aug. 2000	30	3.36	511.9	2,255.50	99,764
Aug. 2000	31	3.11	392.4	1,209.60	41,007
Sept. 2000	1	3.12	396.7	3,032.20	103,929
Sept. 2000	2	3.22	442.0	5,496.17	209,904
Sept. 2000	3	2.85	291.8	1,732.90	43,689
Sept. 2000	4	3.07	375.4	323.43	10,491
Sept. 2000	5	2.73	252.6	2,141.97	46,751
Sept. 2000	6	2.93	320.4	2,440.23	67,546
Sept. 2000	7	2.88	302.3	4,212.50	110,017
Sept. 2000	8	2.93	320.4	3,986.30	110,341
Sept. 2000	9	3.11	392.4	2,643.87	89,630
Sept. 2000	10	2.67	234.6	1,318.27	26,719
Sept. 2000	11	2.67	234.6	1,189.17	24,103
Sept. 2000	12	2.64	225.9	1,327.43	25,914
Sept. 2000	13	2.57	206.7	681.10	12,165
Sept. 2000	14	2.50	188.8	940.40	15,338
Sept. 2000	15	2.88	302.3	3,947.40	103,094
Sept. 2000	16	2.50	188.8	1,657.03	27,026
Sept. 2000	17	2.50	188.8	8,604.37	140,335
Sept. 2000	18	2.99	343.2	9,566.43	283,628
Sept. 2000	19	3.02	355.0	9,993.37	306,509
Sept. 2000	20	2.82	281.6	2,910.83	70,822
Sept. 2000	21	2.73	252.6	3,181.10	69,431
Sept. 2000	22	2.65	228.8	1,518.67	30,022
Sept. 2000	23	2.53	196.3	1,519.00	25,765
Sept. 2000	24	2.72	249.5	3,734.37	80,514
Sept. 2000	25	2.44	174.3	1,086.57	16,367
Sept. 2000	26	2.35	154.3	1,033.67	13,779
Sept. 2000	27	2.37	158.6	64.87	889
Sept. 2000	28	2.30	143.9	1,145.40	14,243
Sept. 2000	29	2.24	132.2	320.93	3,666
Sept. 2000	30	2.22	128.5	196.73	2,183
Oct. 2000	1	2.22	128.5	298.47	3,313
Oct. 2000	3	2.12	110.9	209.93	2,012
Oct. 2000	5	2.07	102.9	107.40	955
Oct. 2000	7	2.03	96.8	110.17	921
Oct. 2000	9	2.00	92.4	107.27	856
Oct. 2000	11	1.97	88.1	228.30	1,738
Oct. 2000	13	1.92	81.4	180.00	1,265
Oct. 2000	15	1.88	76.2	119.13	785
Oct. 2000	17	1.85	72.6	222.43	1,395
Oct. 2000	19	1.81	67.9	85.07	499
Oct. 2000	21	1.79	65.6	69.67	395
Oct. 2000	23	1.78	64.5	415.67	2,317
Oct. 2000	25	1.77	63.4	281.03	1,540
Oct. 2000	27	1.74	60.2	159.20	829
Oct. 2000	29	1.73	59.2	75.63	387
Oct. 2000	31	1.71	57.2	234.20	1,157
Nov. 2000	2	1.70	56.2	52.27	254
Nov. 2000	4	1.64	50.5	158.27	690
Nov. 2000	6	1.66	52.3	32.50	147
Nov. 2000	8	1.63	49.6	89.30	382
Nov. 2000	10	1.62	48.7	26.70	112
Nov. 2000	12	1.57	44.4	54.43	209

Month-- Year	Date	Gauge Height(m)	River discharge (m ³ /s)	Suspended Load Concentration (ppm)	Suspended Load in Weight (ton/day)
Nov. 2000	13	1.54	42.0	8.10	29
Nov. 2000	14	1.55	42.8	105.40	389
Nov. 2000	16	1.56	43.6	346.00	1,302
Nov. 2000	18	1.50	38.9	25.50	86
Nov. 2000	20	1.47	36.7	3.90	12
Nov. 2000	22	1.47	36.7	133.40	423
Nov. 2000	24	1.44	34.6	149.40	446
Nov. 2000	26	1.43	33.9	32.00	94
Nov. 2000	28	1.41	32.6	12.50	35
Nov. 2000	30	1.39	31.3	10.70	29
Dec. 2000	2	1.38	30.6	80.60	213
Dec. 2000	3	1.36	29.4	12.30	31
Dec. 2000	4	1.35	28.8	1.70	4
Dec. 2000	6	1.44	34.6	2.90	9
Dec. 2000	8	1.34	28.2	25.10	61

Concentration Measurement of Suspended Sediment at Bhimad Bajar
in Year of 2001

Month- Year	Date	Gauge Height(m)	River discharge (m ³ /s)	Suspended Load Concentration (ppm)	Suspended Load in Weight (ton/day)
June. 2001	26	2.25	135.7	1,969.00	23,087
June. 2001	27	2.11	109.5	1,503.50	14,218
June. 2001	28	2.15	116.5		
June. 2001	29	2.48	188.8	2,752.00	44,903
June. 2001	30	2.52	199.5	2,852.50	49,166
July. 2001	1	2.40	168.9	1,542.50	22,503
July. 2001	2	2.22	129.7	1,174.50	13,164
July. 2001	3	2.35	157.2	1,075.50	14,607
July. 2001	4	2.24	133.7	1,532.00	17,696
July. 2001	5	2.34	154.9	566.00	7,577
July. 2001	6	2.12	111.2	869.00	8,348
July. 2001	7	2.17	120.2	1,626.50	16,889
July. 2001	8	2.10	107.7	962.50	8,959
July. 2001	9	2.05	99.5	541.50	4,653
July. 2001	10	2.33	152.7	5,046.00	66,575
July. 2001	11	2.62	228.1	4,237.50	83,507
July. 2001	12	2.35	157.2	1,377.00	18,702
July. 2001	13	2.22	129.7	1,167.50	13,085
July. 2001	14	2.25	135.7	1,464.00	17,166
July. 2001	15	2.93	336.7	4,351.50	126,573
July. 2001	16	3.49	626.5	5,235.50	283,412
July. 2001	17	3.17	444.5	2,024.50	77,747
July. 2001	18	2.69	249.9	680.00	14,680
July. 2001	19	2.62	228.1	1,430.00	28,181
July. 2001	20	2.71	256.4	1,279.00	28,331
July. 2001	21	2.58	216.3	595.00	11,120
July. 2001	22	2.86	309.3	2,429.00	64,913
July. 2001	23	2.59	219.2	1,318.00	24,962
July. 2001	24	2.42	173.7	1,298.00	19,479
July. 2001	25	2.77	276.7	5,040.50	120,481
July. 2001	26	2.69	249.9	1,105.50	23,866
July. 2001	27	2.61	225.1	1,378.50	26,809
July. 2001	28	2.65	237.2	1,746.00	35,789
July. 2001	29	3.61	707.6	4,519.00	276,270
July. 2001	30	3.46	607.4	1,404.50	73,710
July. 2001	31	3.13	424.9	2,253.50	82,732
August. 2001	1	3.18	449.5	1,486.50	57,728
August. 2001	2	3.48	620.1	1,408.00	75,438
August. 2001	3	3.16	439.5	3,529.00	134,015
August. 2001	4	2.91	328.7	1,179.00	33,480
August. 2001	5	2.88	316.9	1,228.00	33,628
August. 2001	6	2.64	234.2	1,322.50	26,756
August. 2001	7	2.49	191.5	2,371.00	39,223
August. 2001	8	2.63	231.1	3,062.00	61,141
August. 2001	9	2.53	202.2	1,806.50	31,563
August. 2001	10	2.64	234.2	3,733.50	75,533
August. 2001	11	2.43	176.2	1,814.00	27,608
August. 2001	12	2.56	210.6	2,484.50	45,204
August. 2001	13	2.71	256.4	2,668.00	59,098
August. 2001	14	2.46	183.7	1,610.00	25,552

Month- Year	Date	Gauge Height(m)	River discharge (m ³ /s)	Suspended Load Concentration (ppm)	Suspended Load in Weight (ton/day)
August. 2001	15	2.46	183.7	2,975.50	47,224
August. 2001	16	2.78	280.1	4,782.00	115,746
August. 2001	17	2.58	216.3	3,218.50	60,149
August. 2001	18	3.95	980.5	9,238.00	782,597
August. 2001	19	3.91	944.8	4,217.00	344,249
August. 2001	20	3.33	529.6	5,179.00	236,988
August. 2001	21	3.43	588.7	4,960.50	252,330
August. 2001	23	4.48	1,555.7	5,798.50	779,398
August. 2001	24	4.35	1,395.8	6,828.00	823,415
August. 2001	25	4.36	1,407.6	4,292.00	521,980
August. 2001	26	3.31	518.4	5,197.50	232,775
August. 2001	27	3.48	620.1	6,749.50	361,624
August. 2001	28	4	1,026.5	4,860.50	431,075
August. 2001	29	3.45	601.1	7,760.25	403,061
August. 2001	30	3.07	396.8	3,089.00	105,901
August. 2001	31	2.96	348.9	3,759.50	113,337
Sept. 2001	1	3.05	388.8	7,583.00	254,730
Sept. 2001	2	3.29	503.0	1,825.50	79,338
Sept. 2001	3	2.82	299.3	1,845.50	47,724
Sept. 2001	4	2.62	235.3	2,953.50	60,039
Sept. 2001	5	2.34	164.1	5,510.00	78,119
Sept. 2001	6	2.86	313.6	1,930.00	52,290
Sept. 2001	7	3.01	371.9	3,575.00	114,876
Sept. 2001	8	2.82	299.3	2,108.00	54,512
Sept. 2001	9	3.05	388.8	3,509.50	117,892
Sept. 2001	10	2.87	317.2	2,416.50	66,234
Sept. 2001	11	3.12	419.8	3,641.00	132,056
Sept. 2001	12	2.83	302.8	2,034.00	53,217
Sept. 2001	13	2.78	285.5	2,032.50	50,141
Sept. 2001	14	3.06	393.1	5,591.50	189,915
Sept. 2001	15	2.67	250.2	1,864.50	40,302
Sept. 2001	16	2.62	235.3	2,270.00	46,145
Sept. 2001	17	2.42	182.4	1,420.00	22,382
Sept. 2001	18	2.42	182.4	1,634.50	25,764
Sept. 2001	19	2.38	173.1	1,120.50	16,756
Sept. 2001	20	2.21	137.4	1,265.50	15,020
Sept. 2001	21	2.21	137.4	1,373.50	16,302
Sept. 2001	22	2.24	143.2		
Sept. 2001	23	2.22	139.3	1,896.00	22,819
Sept. 2001	24	2.4	177.7	2,874.50	44,135
Sept. 2001	25	2.34	164.1	2,197.50	31,155
Sept. 2001	26	2.22	139.3	1,344.50	16,182
Sept. 2001	27	2.23	141.2		
Sept. 2001	28	2.18	131.7	393.50	4,478

Concentration Measurement of Suspended Sediment at Bhimad Bajar
in Year of 2004

Date- Month- Year	River discharge (m ³ /s)	Suspended Load Concentration (ppm)	Suspended Load in Weight (ton/day)
3-Jul-04	376.7	4,510.97	146,811
4-Jul-04	262.1	6,945.72	157,272
5-Jul-04	291.1	6,754.30	169,884
6-Jul-04	385.7	5,633.10	187,719
7-Jul-04	NA	4,342.08	N.A.
8-Jul-04	388.0	5,738.92	192,370
9-Jul-04	311.3	6,705.35	180,332
10-Jul-04	298.1	3,555.96	91,585
11-Jul-04	391.4	5,747.64	194,359
12-Jul-04	469.7	3,220.65	130,689
13-Jul-04	646.4	11,912.28	665,291
14-Jul-04	338.4	2,426.44	70,950
15-Jul-04	394.8	5,212.12	177,795
16-Jul-04	460.9	8,318.34	331,232
17-Jul-04	469.7	4,956.85	201,142
18-Jul-04	553.7	8,120.83	388,493
19-Jul-04	563.2	7,662.20	372,827
20-Jul-04	381.2	1,807.10	59,515
21-Jul-04	486.5	2,882.69	121,181
22-Jul-04	490.1	2,612.06	110,613
23-Jul-04	382.3	3,013.69	99,546
24-Jul-04	421.6	3,733.42	135,989
25-Jul-04	435.9	2,747.14	103,457
26-Jul-04	386.8	1,702.83	56,912
27-Jul-04	450.4	3,157.78	122,884
28-Jul-04	397.1	1,551.94	53,247
29-Jul-04	377.8	1,557.07	50,826
30-Jul-04	345.9	1,219.81	36,457
31-Jul-04	392.5	3,786.85	128,428
1-Aug-04	364.5	2,007.66	63,218
2-Aug-04	383.4	2,474.04	81,962
3-Aug-04	333.1	1,916.99	55,174
4-Aug-04	296.1	1,078.89	27,600
5-Aug-04	327.9	1,058.82	29,993
6-Aug-04	279.3	2,670.10	64,439
7-Aug-04	269.7	1,333.32	31,066
8-Aug-04	341.6	6,653.35	196,387
9-Aug-04	339.5	10,968.22	321,724
10-Aug-04	339.5	2,351.80	68,984
11-Aug-04	N.A.	1,600.61	N.A.
12-Aug-04	311.3	2,809.37	75,554
13-Aug-04	276.4	2,075.61	49,570
14-Aug-04	282.2	2,956.41	72,096
15-Aug-04	295.1	1,909.71	48,690
16-Aug-04	292.1	6,380.95	161,041
17-Aug-04	NA	1,594.31	N.A.
18-Aug-04	NA	2,139.36	N.A.
19-Aug-04	NA	5,615.86	N.A.
20-Aug-04	NA	7,035.59	N.A.
21-Aug-04	NA	3,715.66	N.A.

Date- Month- Year		River discharge (m ³ /s)	Suspended Load Concentration (ppm)	Suspended Load in Weight (ton/day)
22-Aug-04		NA	3,030.19	N.A.
23-Aug-04		NA	4,606.84	N.A.
24-Aug-04		NA	1,729.03	N.A.
25-Aug-04		NA	1,030.66	N.A.
26-Aug-04		NA	4,152.90	N.A.
27-Aug-04		NA	3,758.50	N.A.
28-Aug-04		NA	4,475.35	N.A.
29-Aug-04		NA	4,956.87	N.A.
30-Aug-04		NA	3,014.80	N.A.
31-Aug-04		NA	2,280.06	N.A.
1-Sep-04		435.9	1,138.33	42,869
2-Sep-04		520.1	4,173.81	187,567
3-Sep-04		526.6	2,606.08	118,569
4-Sep-04		496.4	2,367.52	101,547
5-Sep-04		389.1	1,272.00	42,763
6-Sep-04		N.A.	N.A.	N.A.
7-Sep-04		360.1	N.A.	N.A.
8-Sep-04		341.6	N.A.	N.A.
9-Sep-04		488.3	N.A.	N.A.
10-Sep-04		476.7	N.A.	N.A.
11-Sep-04		267.8	N.A.	N.A.
12-Sep-04		472.3	N.A.	N.A.
13-Sep-04		409.8	N.A.	N.A.
14-Sep-04		498.2	N.A.	N.A.
15-Sep-04		483.0	N.A.	N.A.
16-Sep-04		375.6	N.A.	N.A.
17-Sep-04		370.0	N.A.	N.A.
18-Sep-04		348.1	1,362.37	40,972
19-Sep-04		N.A.	650.00	N.A.
20-Sep-04		308.2	1,116.54	29,732
21-Sep-04		281.3	799.38	19,426
22-Sep-04		264.9	628.46	14,384
23-Sep-04		249.0	758.91	16,328
24-Sep-04		267.8	1,198.02	27,716
25-Sep-04		267.8	862.37	19,951
26-Sep-04		296.1	4,235.12	108,344
27-Sep-04		214.3	603.70	11,179
28-Sep-04		259.2	328.10	7,349
29-Sep-04		250.9	540.10	11,706
30-Sep-04		258.3	300.45	6,705
1-Oct-04		353.5	2,745.67	83,859
2-Oct-04		254.6	874.07	19,225
3-Oct-04		293.1	1,085.33	27,484
4-Oct-04		235.4	326.65	6,643
5-Oct-04		284.2	767.05	18,835
6-Oct-04		231.8	397.47	7,960
7-Oct-04		259.2	1,092.66	24,474

CHAPTER 7 GEOLOGY

CHAPTER 7 GEOLOGY

Geologic Logs Of The Drilled Core

B-1, B-2, B-3, B-4, B-5, B-6, B-7, B-8, B-9, B-10, B-11, B-12, BP-1, BH-1, BH-2,
BH-3, BH-4, BH-5, BH-6

Photograph Of The Drilled Core

B-1, B-2, B-3, B-4, B-5, B-6, B-7, B-8, B-9, B-10, B-11, B-12, BP-1, BH-1, BH-2,
BH-3, BH-4, BH-5, BH-6

Water Level In The Hole During Drilling

B-1, B-2, B-4, B-8, B-9, B-12, BP-1, BH-1, BH-2, BH-3, BH-4, BH-5, BH-6

Geologic Loge Of The drilled Core

B-1, B-2, B-3, B-4, B-5, B-6, B-7, B-8, B-9, B-10, B-11, B-12, BP-1, BH-1, BH-2, BH-3, BH-4,
BH-5, BH-6

BORE HOLE LOG														SHEET 1/15						
DRILL HOLE NO.: B-1				X: 3092828.494				Y: 525298.847				Z: 515.10								
COORDINATES:				DIRECTION:																
INCLINATION: Vertical																				
DRILLING MACHINE: Long Year								CASING DEPTH : HW: 2.25 m; NW: 7.35 m												
DRILLING METHOD: Rotary Drilling / Wire line System								WATER TABLE: None												
Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80			100	Classification	Weathering	Hardness
		△	Coreloss																	
1.00		△																		
	1.05	△	Overburden materials																	
2.00		△																		
	2.50	△	Top of the bedrock at 2.50 m																	
	2.70	△		>20			R,ir	cl	100	0										
3.00		△	Dolomite with quartz veins	14	SW	60°,20°	R,ir,pl	calc,cl	100	14							CM	2	3	
	3.50	△	Grey, fine grained, medium hard to hard	8	SW	30°	R,ir	calc,cl	100	0									4	
4.00	4.00	△																		
	4.50	△	In several runs low core recovery is observed that is due to mechanical grinding with	20	SW	60°	R,ir	calc,cl	100	0										
	4.76	△	in weathered section,	20	SW	60°	R,ir,pl	calc	100	0										
5.00	5.00	△	fractured zones and closely spaced joints.		SW	60°	R,ir,pl	Calc FeO	100	0										
	5.50	△	MB and fractured zones are observed between	14	F	70°	R,ir	cl	100	22							CH	2	3	
	6.00	△	2.50 m to 2.70 m	>20	F	40°	R,pl	calc,cl	25	0										
	6.70	△	7.45 m to 7.50 m																	
	7.00	△	9.00 m to 9.30 m																	
	7.45	△	Coreloss is observed between	9	F	30°,40°	R,pl	Calc FeO	100	60										
	8.00	△	5.50 m to 6.35 m																	
	8.00	△	Calcite leached on the joint surface between	14	SW	40°,75°	R,ir	cl	100	18										
	8.85	△	2.70 m to 3.50 m																	
	9.00	△	Slightly perforated on surface of the core, clay content on those perforations between	7	F	50°,40°	R,ir,pl	Calc FeO	100	65										
	9.50	△	6.70 m to 7.45 m																	
	10.00	△		11	F	40°	R,pl	calc	100	15							CH	2	3	
		△		11	F	50°,80°	R,pl	FeO	100	50										
ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered																				
MB-Mechanical Break, CL-Coreloss, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic																				
SRC Lab, NEA					Started: 2062.02.17					Completed: 2062.04.18										
Drilled by: S.R. Timishina/T. Neupane					Logged by: S.Shrestha					Reviewed by: J. M. Tamrakar										

SHEET 2/15

LOCATION: Dam Axis (L/B)

Reviewed by: J. M. Tamrakar

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BORE HOLE LOG

SHEET 3/15

DRILL HOLE NO.: B-1

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz vein Grey, fine grained, mod. hard																		
21.00			Perforations are present on the surface of the cores between	11	SW	40°,70°	R,ir	calc	100	50											21
	21.50		20.00 m - 21.50 m																		
			25.00 m - 26.45 m																		
22.00			28.10 m - 30 m	11	F	60°,70°	R,ir,pl	calc,cl FeO	100	36								CH	2	2	3
			Calcite is present on the perforations																		
			red soil on the surface of the cores																		
23.00																					23
	23.15																				
				14	F	40°,70°	Sm-r pl-ir	calc,cl	100	26								CM	2	2	3 2 4
24.00																					24
	24.30																				
				6	F	40°,70°	R,pl	FeO	100	70								B	2	2	2
25.00	25.00																				25
				8	F	50°,40° 70°	R,ir,pl	calc,cl	100	41											26
26.00																					
	26.45																				
				8	F	20°,40° 70°	Sm-r pl	calc,cl	100	39								CH	1	2	3
27.00																					27
28.00																					28
	28.10																				
29.00				9	F	50°,70°	R,ir,pl	calc,cl FeO	100	36											29
	29.60																				
				12	F	60°	R,pl	calc	100	0											30
30.00	30.00																				

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered
MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, SI-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.17

Completed: 2062.04.18

Drilled by: S.R. Timalishina/T. Neupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 4/15

DRILL HOLE NO.: B-1

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz vein Light grey, fine grained, mod. hard, calcite leached, perforated																		
31.00			In several runs cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.	11	SW	20°, 40° 60°	R,ir	calc FeO	100	15											31
32.00	32.00			10	SW	40°	R,ir	FeO	100	33								CH	2	2	3
32.50			Mechanical breaks are observed from 31.10 m to 31.40 m 33.75 m to 34.00 m 34.15 m to 34.35 m 34.85 m to 35.00 m 36.60 m to 37.00 m 37.80 m to 38.00 m	20	F	60°	R,ir	FeO	100	24											
33.00				>20	F	50°, 70°	R,ir	calc	100	0									2	2 3	3 4
34.00	34.00																		2	3	4
35.00	35.00		Red soil on the surface of the cores from 32.50 m to 35.00 m	10-15	F	40°	R,ir	none	100	30										2 3	3 4
36.00				12-20	F	60°	R,ir	none	100	20											
37.00	37.00			7-12	F	60°, 70°	R,ir,pl	calc FeO	100	0								CM	2	3	4
38.00				10-14	F	50°	R,ir,pl	none	100	0											
39.00				14-17	F	50°	R,ir	none	100	0											
40.00	40.00																				40

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Core loss, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.17

Completed: 2062.04.18

Drilled by: S.R. Timilshina/T. Neupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 5/15

DRILL HOLE NO.: B-1

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			Rec. RQD										
												20	40	60	80			100	Classification	Weathering	Hardness
			Dolomite with quartz vein Grey, fine grained, med. Hard to hard																		
				11-13	F	50°, 60°	R,ir	calc	100	39					Lugeon Value 23.9					41	
41.00			In several runs cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.																		
	41.30																				
				7-12	F	60°, 40° 70°	R,ir,pl	calc,cl FeO	100	15							CH	2	2	3	42
42.00			Mechanical breaks are observed from																		
43.00	43.00		43.20 m to 43.30 m																	43	
			45.18 m to 45.25 m																		
			46.00 m to 47.00 m																		
44.00	44.20		49.70 m to 50.00 m	12	F	60°, 40° 70°	R,ir,pl	FeO,cl	100	0							CM	2 3	3 4	3 4	44
			MW cores from 44.70 m to 44.75 m rock is obtained in the form of powder	12-19	F-sw	50°, 70°	R,ir,pl	FeO	100	0										45	
45.00	45.00		Few perforations on the surface of the cores	10-20	F-sw	50°	R,pl	none	100	20							CH	2	2	3	46
				4	F	40°, 70°	R,pl	calc FeO	100	17							CM	2	3	4	47
46.00																					
47.00	47.00			10	F	20°, 40° 70°	R,ir,pl	calc FeO	100	36							CH	2	2	3	48
																	B	2	2	2	49
48.00																					
	48.65			4	F-sw	40°, 70°	R,ir,pl	calc,cl FeO	100	52							CM	2 3	3 4	3 4	50
49.00			Red soil on the surface of the cores																		
50.00	50.00																				

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Core loss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.17

Completed: 2062.04.18

Drilled by: S.R. Timlishina/T. Neupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 6/15

DRILL HOLE NO.: B-1

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeone)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz vein Grey, fine grained, med. Hard to hard	12	SW	60°	Sm-r pl	FeO	100	44										
	50.30																			
	51.00		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in highly weathered section, fractured zones and closely spaced joints.	8	F-sw	60°, 30°	Sm-r lr	FeO	100	20								2	2	3
	52.00	52.00																		
	52.40			>20	F-sw		R,pl	calc FeO	100	0								2	3	4
	53.00		The actual depth of lost zones could not be traced because of its broken nature.	15-20	F	60°	R,pl	FeO,cl	82	0							CM	2	3	4
	53.50		Mechanical breaks are observed from																	
	54.00	54.00	52.00 m to 52.40 m	>20	F	60°	R,lr	FeO,cl	70	0								2	3	3
			52.60 m to 52.80 m	10																4
			53.80 m to 54.00 m		F-sw	60°, 70°	R,lr	calc,cl	75	0								2	3	4
			54.25 m to 54.50 m																	
			54.85 m to 55.00 m																	
	55.00	55.00	55.00 m to 55.20 m																	
			55.55 m to 55.75 m																	
			58.25 m to 58.35 m	19	F	30° 60° 70°	R,lr	FeO	100	0								2	3	3
			58.50 m to 58.60 m																	4
	56.00	56.00	59.10 m to 59.20 m																	
			59.70 m to 59.75 m																	
			Coreloss is observed from	4	F	40°, 30°	R,lr,pl	FeO	100	67										
			52.40 m to 52.60 m																	
	57.00		53.50 m to 53.65 m																	
			54.00 m to 54.25 m																	
			HW cores is present between																	
		57.30	53.65 m to 53.70 m														CH	2	2	3
	58.00			5	F	40°	R,lr,pl	calc FeO	100	43										
	59.00	59.00																		
				5	F	60°, 50°	R,lr	FeO	100	20								CM	2	3
																				3
	60.00	60.00																		4

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.17

Completed: 2062.04.18

Drilled by: S.R. Timilashina/T. Neupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG														SHEET 7/15						
DRILL HOLE NO.: B-1				LOCATION: Dam Axis (L/B)																
Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. ROD				Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80			100	Classification	Weathering	Hardness
			Dolomite with quartz vein Grey, fine grained, med. Hard to hard Red soil on the surface of the cores	8	F	60°	R,pl	none	100	46							CH	1	2	3
	60.65																			61
61.00				4	F	60°,40° 70°	R,ir,pl	calc	100	72										
			In several runs cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.																	62
62.00																				
	62.25			2	F	60°	R,ir	calc	100	90										63
63.00																				
	63.75		Mechanical breaks are observed from 60.50 m to 60.65 m 68.80 m to 69.00 m																	64
64.00				3	F	50°,40° 80°	R,pl	calc FeO	100	87							B	1	2	2
																				65
65.00																				
	65.30																			66
66.00				7	F	50°,60° 70°,80°	R,pl	calc	100	62										
																				67
67.00	66.90																			
				8	F	60°,70°	R,pl	calc	100	60										68
68.00																				
	68.15																			
	68.65			4-7	F	60°,70°	R,pl	none	100	20							CH	1	2	3
69.00																				69
				20	F	60°,50°	R,pl	calc	100	7							CM	1	2	4
70.00	70.00																CH	1	2	3
																				70
ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered MB-Mechanical Break, CL-Core loss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic																				
SRC Lab, NEA				Started: 2062.02.17				Completed: 2062.04.18												
Drilled by: S.R. Timilshina/T. Neupane				Logged by: S.Shrestha				Reviewed by: J. M. Tamrakar												

BORE HOLE LOG

SHEET 8/15

DRILL HOLE NO.: B-1

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz vein Grey, fine grained, med. Hard to hard Red soil on the surface of cores	5-7	F	50°, 70°	R,ir,pl	none	100	57								B	1	2	2
71.00																					
			In several runs cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.	8-10	F	60°, 40° 70°	R,ir,pl	calc	100	50								CH	2	2	3
72.00																					
			Mechanical breaks are observed from 74.90 m to 75.40 m 75.65 m to 77.00 m 77.80 m to 78.00 m	8-10	F	25°, 50° 60°	R,pl	calc FeO	100	60											
73.00	73.00																				
			Highly fragmented dolomite but fragments are cemented between 71.50 m to 73.00 m																		
74.00																					
74.50																					
75.00	75.00			12	F	50°, 70°	R,pl	FeO	100	40									2	2	3
				15	F	40°	R,ir	none	100	21											
75.65																					
76.00	76.00			>20	F	50°	R,ir	none	100	0											
				10-15	F	60°	R,pl	none	100	0											
77.00	77.00																				
				7-10	F	60°, 40°	R,pl	none	100	21											
78.00																					
78.50																					
79.00				10-14	F	60°	R,pl	none	100	29											
80.00	80.00																				

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Core loss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.17

Completed: 2062.04.18

Drilled by: S.R. Timishina/T. Neupane

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 9/15

DRILL HOLE NO.: B-1

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz vein Grey, fine grained, med. Hard to hard	15-20	F	30°	R,ir	none	100	69								CH	2	2	3
81.00	81.00		Few porforations and cracks developed due to chemical reactions and calcite leaching is prominent	>20	F		R,ir	none	100	0								CM	2	3	4
	81.45																				
82.00			In several runs cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.	4	F	40°	R,ir	none	100	18								CH	2	2	3
	82.65																				
83.00	83.00			8	SW	60°,20°	R,ir	calc FeO	100	28								CM	2	3	3
84.00			Mechanical breaks are observed from 80.80 m to 80.90 m 81.00 m to 82.50 m 88.70 m to 88.80 m	8	F	50°,40° 75°	R,ir	calc FeO	100	47								CH	2	2	3
	84.20																				
85.00	85.00		Highly weathered cores are observed from 88.50 m to 88.70 m	5	F	50°,60° 70°	R,ir,pl	calc	100	93											
86.00			Fragmented grains of dolomite but those grains are cemented from 82.65 m to 83.00 m	8	F	40°	R,pl	calc	100	86											
	86.70																				
87.00				6	F	50°,70°	R,ir,pl	calc FeO	100	60								B	1 2	2	2
	87.30																				
88.00				7	F	40°,70°	R,ir,pl	calc,cl FeO	100	60											
	88.80																				
89.00				7.5	F	60°,40°	R,ir,pl	FeO,cl	100	46								CH	2	2	3
	90.00																				

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Core loss, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, St-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.17

Completed: 2062.04.18

Drilled by: S.R. Timilshina/T. Neupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

SHEET 10/15

LOCATION: Dam Axis (L/B)

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered
MB-Mechanical Break, CL-Core loss, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic

SRC Lab. NEA

Started: 2062.02.17

Completed: 2062.04.18

Drilled by: S.R. Timlishina/T. Neupane

Logged by: S,Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 11/15

DRILL HOLE NO.: B-1

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
	100.60		Dolomite with quartz vein Grey, fine grained, med. Hard to hard	10-15	F				17	0											
101.00			100.00 m to 100.60 m low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.	15	F	60°, 70°	R, pl	calc FeO	100	39								CH	2	2	3
102.00	102.00			5	F	30°, 40° 50°, 70°	R, ir, pl	calc FeO	100	73								B	2	2	2
103.00				7	F	30°, 40° 45°	R, pl	calc FeO	100	75											
104.00	103.80		Mechanical breaks are observed from																		
			100.00 m to 100.10 m 101.65 m to 102.15 m 106.70 m to 107.00 m 107.45 m to 107.60 m 108.00 m to 109.00 m 109.35 m to 109.45 m		F	30°, 40° 50°	R, ir, pl	calc FeO	100	50								CH	2	2	2 3
105.00	105.00		Core loss is observed due to 100.10 m to 100.60 m	11	F	40°	R, pl	calc FeO	100	47											
106.00				12	F	40°	R, pl	calc	100	37											
107.00	107.00			10	F	40°	R, pl	none	100	0								CM	2	2	4
				6	F	40°	R, ir, pl	calc FeO	100	25								CH	2	2	3
108.00				10	F	40°	R, ir, pl	FeO	100	11								CM	2	3	4
109.00				14	F	40°	R, pl	none	100	0											
110.00	109.70																				

Lugeon Value 4.49

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Core loss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, CI-Clay, SI-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.17

Completed: 2062.04.18

Drilled by: S.R. Timishina/T. Neupane

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 12/15

DRILL HOLE NO.: B-1

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification					
					Weathering	Orientation	Roughness	Infilling materials			Rec. RQD							Classification	Weathering	Hardness	Joint spacing		
												20	40	60	80							100	
			Dolomite with quartz vein																				
			Grey, fine grained, med. Hard to hard	12	F	30°	R,pl	FeO	100	36													
	110.80																						
	111.00		In several runs cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.	12	F	60°,50°	R,pl	calc	100	34								CH	1 2	2	3		111
	112.00																						112
	112.40																						
			Mechanical breaks are observed from	13	F	40°,60°	R,ir,pl	calc FeO	100	18													
	113.00		114.15 m to 115.55 m																				113
			117.40 m to 117.60 m																				
	113.50		118.50 m to 120.00 m																				
	114.00			15	F	60°	R,ir	none	100	20											3 2	4	114
	114.15																						
				>20	F	60°	R,pl	FeO	100	0								CM	1 2				
	114.50																						
	115.00			>20	F	40°,60°	R,ir	none	100	0											3	4	115
	115.55																						
	116.00			14	F	40°,50°	R,ir,pl	calc FeO	100	36													
																							116
	116.65																						
	117.00			11	F	40°,50°	R,pl	calc	100	34								CH	1 2	2	3		117
				13	F	60°,50°	R,ir	none	100	13													
																							118
	118.00																						
																		CM	2	3		4	
	118.50																						
				>20	F		R	FeO	100	0								CL	2	3		4 5	119
	119.00			>20	F	70°	R	FeO	100	0								CM	2	3		4	
	119.15																						
	119.55																						
				10-20	F	50°	R	calc FeO	100	44								CH	1~2	2	3		120
	120.00																						

Lugeon Value 1.76

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.17

Completed: 2062.04.18

Drilled by: S.R. Timilshina/T. Neupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 13/15

DRILL HOLE NO.: B-1

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Intilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
121.00	121.20		Dolomite with quartz vein Grey, fine grained, med. Hard to hard	12	F	40°, 50°	R,ir	calc FeO	100	30											
122.00	122.30		In 123.50 m to 123.90 m low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in, fractured zones and closely spaced joints.	7	F	40°	R,pl	FeO	100	34								CH	1 2	2	3
123.00	123.30		The actual depth of lost zones could not be traced because of its broken nature.	20	F	40°	R,pl	none	100	14											
124.00	124.30		Mechanical breaks are observed from 121.20 m to 121.40 m 122.00 m to 122.12 m 122.00 m to 122.80 m 123.10 m to 123.30 m 123.90 m to 125.20 m 125.00 m to 127.25 m 128.10 m to 128.25 m 129.60 m to 129.68 m	>20	F	40°, 50°	R,pl	none	100	0											
125.00	125.30			>20	F	40°	R,ir,pl	none	73	0								CM	1 2	2 3	4
126.00	126.30		Coreloss is observed due to 123.50 m to 123.90 m	>20	F	40°, 60°	R,ir,pl	FeO	100	0											
127.00	127.25			>20	F			FeO	100	0								CL	2 3	3	4 5
128.00	128.30			16	F	40°, 60°	R,pl	none	100	19								CH	1 2	2	3
129.00	129.30			17	F	40°	R,pl	calc	100	53											
130.00	130.30			7	F	50°	R,pl	calc	100	70								B	1 2	2	2

Lugeon Value 0.84

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.17

Completed: 2062.04.18

Drilled by: S.R. Timlishina/T. Neupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 14/15

DRILL HOLE NO.: B-1

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz vein Grey, fine grained, med. Hard to hard	>20	F	0°, 05° 50°	R,ir,pl	none	100	0								CH	2	3	4
131.00	131.00																				
			In 123.50 m to 123.90 m low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in, fractured zones and closely spaced joints.	12	F	40°, 50°	R,ir,pl	none	100	10								CM	2	2	3
132.00	132.00																				
				>20	F		R	none	31	0											
133.00	132.80		The actual depth of lost zones could not be traced because of its broken nature.																		
			Mechanical breaks are observed from	12	F	40°, 50°	R,pl	none	100	54								B	2	2	2
134.00	134.00		130.00 m to 130.45 m																		
			131.00 m to 131.28 m	9	F	60°, 70°	R,pl	cl	100	39								CH	2	2	3
135.00			131.80 m to 132.00 m																		
			132.55 m to 132.80 m																		
136.00			136.00 m to 136.08 m																		
			136.35 m to 136.50 m																		
137.00	135.60		137.40 m to 137.50 m																		
				5	F	60°	R,ir	none	47	16											
138.00	136.35		Coreloss is observed from																		
			132.00 m to 132.55 m	11	F	40°	R,ir	none	100	0								CM	2	2	3
139.00	136.80		135.60 m to 136.00 m																		
			138.60 m to 139.00 m																		
140.00	137.00		139.00 m to 140.00 m	7	F	40°, 50°	R,ir,pl	FeO,cl	100	52								CH	2	2	3
138.00	138.00		Between this run there is a cave or void of 60 cm height.																		
139.00	139.00																				
140.00	140.00																				

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, SI-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.17

Completed: 2062.04.18

Drilled by: S.R. Timilshina/T. Neupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 1/10

DRILL HOLE NO.: B-2

COORDINATES:

X: 3092788.59

Y: 525389.56

Z: 515.10

INCLINATION: 45°

DIRECTION: 287°

DRILLING MACHINE: Long Year

CASING DEPTH : NW: 7.50 m

DRILLING METHOD: Rotary Drilling / Wire line System

WATER TABLE: none

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			Drilled from the bedrock NW casing advancement upto 1 m.						0	0											
1.00	1.00		Dolomite with quartz veins Grey, hard, slightly weathered fine grained, perforated, cracked and calcite leached	>20	SW			FeO	25	0											1
	1.25			>20				FeO Calc	53	30											
2.00	2.00		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in highly weathered section, fractured zones and closely spaced joints.	>20	SW				10	0								CM	3	3	4
3.00	3.00			>20	SW				70	0											3
3.50	3.50		The actual depth of lost zones could not be traced because of its broken nature.	>20	SW			R, pl	40	0											4
4.00	4.00			>20	SW			sm-r pl	45	0											5
5.00	5.00		Joint parameters can't be measured because of smaller fragments.																		
			Mechanical breaks are observed from 1.00 m to 1.25 m 2.90 m to 3.00 m 3.80 m to 4.00 m 4.55 m to 5.00 m 5.30 m to 5.50 m 6.25 m to 6.35 m	10-15	SW	50°		r, pl, ir	70	0									3	3	3
6.00	6.00																				6
				10-15	MW	40°		r, pl, ir	75	5											
7.00	7.00		Coreloss is observed from 1.25 m to 1.60 m 2.00 m to 2.90 m 3.00 m to 3.35 m 3.50 m to 3.80 m 4.00 m to 4.55 m 5.00 m to 5.30 m 6.25 m to 6.35 m 4.55 m to 5.00 m 5.30 m to 5.50 m	8	MW	40°, 50°		R, ir	33	10									2	3	7
7.50	7.50																				
8.00	8.00			5	SW to MW	50°		R, ir	100	77								CH		2	3
8.60	8.60																		2		8
9.00	9.00			7	F-SW	45°, 50°		R, ir	100	70											9
			Joints and perforations are filled by red soils between 6.00 m to 7.50 m and 9.60 m to 10.00 m. calcite leaching on joints between the run 9.60 m to 10.00 m.	13	F-SW	45°-55°		R, ir	100	33								B	2	2	2
10.00	10.00																	CM	2-3	3	3

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcite

SRC Lab, NEA

Started: 2061.12.05

Completed: 2062.02.01

Drilled by: B.Naupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 2/10

DRILL HOLE NO.: B-2

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
	10.20		Dolomite with quartz veins Grey, hard, fresh to slightly weathered fine grained, perforated, cracked and calcite leached.	10	F	50°	R,pl	calc	100	50											
	10.70			9	F-SW	50°	R,pl	FeO	100	82								B	2	2	2
11.00	11.46			14	F-SW	50°	R,pl	FeO,cl	100	69								CH	2	2	3
	11.50			8	F	40°,50°	R,pl		100	52											
12.00	12.00		Perforations and cracks are developed	6	F	40°,50°	R,pl	FeO,cl calc	100	73								B	2	2	2
	12.60			10	F	45°,50° 75°	R,pl	calc,cl	100	87								B	2	2	3
13.00			Mechanical breaks are observed from 13.40 m to 13.60 m 14.85 m to 16.30 m 19.70 m to 20.00 m	6	F	40°	R,pl	calc	100	80								CH	2	2	3
	13.30			10	F	60°	R,pl	calc	100	37											
	13.80			8	F	45°,50°	R,pl	calc	100	47											
14.00	14.40			8-12	F	40°,25°	r,pl,ir	FeO,cl calc	100	55								B	1	2	2
15.00	15.00		Joints and cracks are filled by calcite and clay.	>20	F				100	0								CM	2	3	4
	16.00			6	F	40°,50°	r,pl,ir	FeO Calc	100	62											
	17.00			7	F	40°,60°	R,pl	FeO Calc	100	43								CH	1	2	2
	17.50			9	F	40°,50°	R,pl	cl	100	64											
18.00	18.46			5	F	40°	R,ir	calc	100	37											
	19.00																				
	19.40																				
20.00	20.00																	CM	2	3	4

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcite

SRC Lab, NEA

Started: 2061.12.05

Completed: 2062.02.01

Drilled by: B.Neupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 3/10

DRILL HOLE NO.: B-2

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification				
					Weathering	Orientation	Roughness	Infilling materials			Rec. RQD							Classification	Weathering	Hardness	Joint spacing	
												20	40	60	80							100
			Dolomite with quartz veins Grey, hard, fresh, fine grained perforated, cracked and calcite leached	6	F	46°,50°	R, ir	FeO,cl calc	100	61								CH	1 2	2	2 3	21
21.00		21.40	Highly fragmented cores are obtained between 20.25 m to 20.45 m but these fragments are cemented.	8	F	40°	R, ir	FeO,cl calc	100	40												22
22.00	22.00																					
			Mechanical breaks and fractured zones are observed from 24.20 m to 24.30 m 25.65 m to 25.70 m	4	F	40°-50°	R, ir	FeO,cl calc	100	96												23
23.00	23.00																		B	1 2	2	2
24.00		24.40		10	F-SW	40°,60°		FeO Calc	100	50								CH	1 2	2	3	25
25.00		25.00		7	F	45°,75°	R, ir	calc,cl	100	71								B	1 2	2	2	26
26.00		25.70		8	F	35°,40° 55°	r,pl,ir	FeO,cl calc	100	53								CH	1 2	2	3	27
27.00		26.65		10	F	40°	R,pl	calc	100	33												28
28.00		27.25		7	F	40°,50°	R,pl	calc,cl	100	72								B	1 2	2	2	29
29.00		28.15	Perforations and cracks are developed on the cores.	7	F	40°	R,pl	FeO Calc	100	50								CH	1 2	2	2 3	30
30.00	30.00	30.15	Perforations and cracks are developed on dolomite core.	7	F	40°,60° 70°	R,pl st	calc	100	76								B	1 2	2	2	

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SRC Lab, NEA

Started: 2061.12.05

Completed: 2062.02.01

Drilled by: B. Neupane

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 4/10

DRILL HOLE NO.: B-2

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz veins Grey, hard, fresh, fine grained perforated, cracked and calcite leached	6	F	40°, 60°	r, pl, ir	FeO Calc	100	59										
31.00	30.85			17	F	40°, 50° 60°	r, pl, ir	FeO Calc	100	69							CH	1 2	2 3	2 3
32.00																				
32.30																				
33.00			Perforations are filled by calcite	4	SW	50°	R, ir	FeO Calc	100	96							B	2	2	2
33.50																				
34.00			Perforated and fractured but the fragments are cemented.	4	SW	50°	r, pl, ir st	FeO, cl	100	65										
34.45				5	SW	50°	r, pl, st		100	36										
35.00	35.00			12	SW	40°, 50°	r, pl, ir		100	36							CH	2	2 3	3
36.00				8	SW	30°, 50°	r, pl, ir	calc	100	53										
36.25																				
37.00	37.00			5	MW	50°	r, pl, ir	calc	100	55										
			Perforations and cracks are frequent. Highly fractured but the fragments are cemented.	18	MW	40°, 50°	r, pl, ir	FeO	100	72							B	1 2	2	2
38.00	37.85																			
39.00			Perforations and cracks are developed.																	
39.30				7	F-SW	50°, 75°	r, pl, ir	calc	100	83										
40.00	40.00		MB is observed between 39.80 m to 39.90 m																	

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

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SRC Lab, NEA

Started: 2061.12.05

Completed: 2062.02.01

Drilled by: B. Neupane

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 5/10

DRILL HOLE NO.: B-2

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz veins Grey, hard, fresh, fine grained perforated, cracked and calcite leached	12	F-SW	50°, 75°	R, ir	calc	100	33								CH	2	2	3
41.00	40.90		MB is observed from 42.00 m to 42.10 m 46.50 m to 46.55 m 47.85 m to 48.00 m	20	F-SW	50°	r, pl, ir	calc	100	58											41
42.00	42.10		CL is observed between 46.35 m to 46.85 m	14	F-SW	40°, 50° 20°	R, pl	FeO, cl calc	100	90								B	2	2	2
43.00	43.50		Low core recovery is due to mechanical grinding within fractured zones and closely spaced joints.																		43
44.00	44.40		The actual depth of lost zones could not be traced because of its broken nature.	10	F	40°, 30° 50°	R, ir	FeO Calc	100	29								CH	2	2	3
45.00	45.00			8	F-SW	50°	r, pl, ir	calc	100	55								B	2	2	2
			Iron stained.	6	F-SW	40°, 50° 60°	R, pl	FeO Calc	100	85											45
46.00	46.35		Calcite leaching on the joint surface of the cores.	8	F-SW	50°	r, pl, ir	FeO calc	100	33								CH	1 2	2	3
47.00	46.85		MW - HW fragments of dolomite	10	SW to MW	40°	r, pl, ir	FeO, cl calc	70	0								CM	3	3	3 4
48.00	48.15			7	F	40°, 50°	r, pl, ir	calc	100	45											47
49.00	49.75		Calcite leaching on the joint surface of the cores making the surface irregular and rough.	10	F	40°, 50°	R, pl	calc	100	50								CH	1 2	2	3
50.00	50.00		Perforated and leaching on the surface of core.	15	F	30°, 50° 60°	r, pl, ir	calc	100	22								B CH	1 2	2	3

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Core loss, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, SI-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.12.05

Completed: 2062.02.01

Drilled by: B. Neupane

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 6/10

DRILL HOLE NO.: B-2

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Intilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz veins	8	F	40°, 50° 60°	R, ir	calc	100	73											
51.00			light grey to grey, hard, fresh, fine grained perforated, cracked and calcite leached. calcite growth on voids fractured but cemented from 50.00 m to 50.30 m.																		51
	51.50																				
	52.00		Mechanica breaks are observed from	5	F	50°	R, ir	calc	100	73								B	1 2	2	2
	52.05		52.35 m to 52.45 m																		52
			53.05 m to 53.20 m	9	F	45°, 50°	R, ir	calc	100	47											
			56.00 m to 56.10 m																		53
	53.00	52.90 53.20	56.80 m to 57.00 m	10	F			calc	100	50								2	3	4	
	54.00			9	SW	50°	r, pl, ir	calc	100	86								1 2	2	2	54
	54.50																				
	55.00	55.00		7	F	50°	R, ir	calc	100	75										2 3	55
				6	F-SW	60°, 50°	R, pl	FeO Calc	100	60											
	56.00	56.00																			56
				12	F-MW	40°, 50°	R, ir	calc	100	39								CH	2	2	3
	56.80																				
	57.00			17	F-SW	40°, 50°	R, ir	calc	100	19										4	57
		57.90																		3	
	58.00		Clay coating on the surface of the cores.	6	F-SW	40°, 50°	R, ir	FeO, cl calc	100	80											58
		58.70																			
	59.00			4	F-SW	40°	R, ir		100	55								B	1 2	2	2
		59.15																			59
	60.00	60.00		3	F	50°	r, pl, ir	FeO Calc	100	91											60

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

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SRC Lab, NEA

Started: 2061.12.05

Completed: 2062.02.01

Drilled by: B.Neupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 7/10

DRILL HOLE NO.: B-2

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz veins light grey to grey, hard, fresh, fine grained.	6	F	40°	R, ir	calc	100	56								CH	1 2	2	3
	60.80		Mechanical break is observed from 60.45 m to 60.55 m	5	F	40°	R, ir	calc,cl	100	93											
	61.00																				
	62.00																				
	62.20																				
	63.00			6	F	25°,50°	R, ir	calc,cl	100	65											
	63.90																				
				10	F	35°	R, ir	FeO	100	40								B	1 2	2	2
	64.00																				
	64.20																				
				5	F	50°	R, ir	cl	100	75											
	65.00																				
	65.00																				
	65.60			8	F	40°,60°	R, ir	FeO	100	47											
	66.00			7	F	55°,50°	R, ir	FeO,cl	100	39											
	67.00																	CH	1 2	2	3
	67.20																				
				10	F	40°,50°	r,pl,ir	calc	100	54											
	68.00																				
	68.30																				
	68.80			6	F	40°,50°	sm-r pl-ir	calc	100	80											
	69.00																				
				6	F	20°,50°	r,pl,ir		100	58									1 2	2	3
	70.00																				
	70.00																				

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Core loss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, SI-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.12.05

Completed: 2062.02.01

Drilled by: B. Neupane

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

SHEET 8/10

DRILL HOLE NO.: B-2

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification				
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80			100	Classification	Weathering	Hardness	Joint spacing
	70.40		Dolomite with quartz veins light grey to grey , hard, fresh, fine grained.	12	F	40°,50°	R,pl	calc	100	37							CM	1 2	2	3 4	
	71.00		Mechanical breaks are observed from 73.75 m to 75.00 m	10	F	30°,50°	R,pl		100	34											
	71.55		77.00 m to 77.25 m																		
	72.00		79.00 m to 79.10 m	4	F	50°	R,pl		100	78							CH	1 2	2	2 3	
	72.15		79.40 m to 80.00 m	7	F	50°	R,pl	calc	100	69											
	72.80		Maximum size of fragments in MB is 4 cm.	7	F	50°	sm-r pl	calc	100	63											
	73.00																				
	73.75																				
	74.00			>20	F				100	0											
	74.10			>20	F	40°	R,pl		100	29							CM	2	3	4	
	74.55			>20	F		R,pl		100	0											
	75.00				F	40°,50°	R,pl		100	0											
	75.25																				
	76.00			10	F	40°,50°	R,pl		100	59							CH	1 2	2	2 3	
	76.25																				
	76.65			20	F	40°	R,pl		100	0											
	77.00			12	F	40°,30°	R,ir	calc,cl	100	40							CM	2	3	4	
	77.15			17	F	40°	R,ir		100	37											
	77.65			14	F	40°	r,pl,ir	FeO Calc	100	0											
	78.00																				
	78.10			6	F	40°	R,ir	calc	100	55							CH	1 2	2	3	
	79.00			6	F	50°	R,pl	FeO Calc	100	29							CM	2	3	4	
	79.70																				
	80.00			>20	F				100	0											
ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered																					
MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic																					
SRC Lab, NEA																					
Started: 2061.12.05 Completed: 2062.02.01																					
Drilled by: B.Neupane Logged by: S.Shrestha Reviewed by: J. M. Tamrakar																					

BORE HOLE LOG

SHEET 9/10

DRILL HOLE NO.: B-2

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification				
					Weathering	Orientation	Roughness	Infilling materials			Rec. RQD							Classification	Weathering	Hardness	Joint spacing	
												20	40	60	80							100
			Dolomite with quartz veins light grey to grey , hard, fresh, fine grained.	14	F	50°	R, ir		100	24												
	80.45			15	F	50°	R, ir		100	27												
	81.00		Mechanical breaks are observed from																			
			80.10 m to 80.30 m	20	F	50°	R, ir		100	13												
			80.45 m to 80.75 m																			
	81.75		81.75 m to 81.85 m																			
	82.00		82.25 m to 83.20 m	10-15	F		R, ir		100	23												
			83.80 m to 84.25 m																			
	83.35		84.10 m to 84.25 m		F	80°	R, ir	FeO	100	0												
			84.40 m to 85.70 m																			
	83.00		86.70 m to 86.15 m	10-15	F	50°	R, ir	FeO	100	41												
			88.20 m to 88.40 m																			
	83.65																					
	84.00			>20	F		R	FeO	100	0												
	84.10			>20	F		R		100	0												
				>20	F	40°	R,pl		100	0												
	84.50																					
	84.80			>20	F				100	0												
	85.00			>20	F				100	0												
				>20	F				100	0												
	85.35			>20	F	40°	R,pl		100	0												
	86.00			15-20	F	40°,50°	R, ir		100	60												
	86.50																					
	87.00		Weathered fragments of rocks are present.		F	50°	R, ir	FeO	100	20												
					F		R, ir		100	0												
	87.25			11	F	20°,50°	R, ir		100	0												
	88.00			8	F	40°	R,pl	calc	100	0												
					F				100	0												
	88.40																					
				19	F	60°,50°	R, ir		100	20												
	89.00																					
	89.20																					
				12	F	60°,50°	R, ir	FeO,cl	100	0												
	90.00																					
	90.00																					

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Core loss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic

SRCLab, NEA

Started: 2061.12.05

Completed: 2062.02.01

Drilled by: B. Neupane

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 10/10

DRILL HOLE NO.: B-2

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz veins light grey to grey, hard, fresh, fine grained.	8	F	40°, 50°	R, ir	FeO	100	20											
	90.76																				
	91.00		Mechanical breaks are observed from	7	F	50°	R	cl	100	47								CH	1	2	3
	91.30		92.00 m to 92.35 m																		
			93.75 m to 94.00 m																		
			94.20 m to 94.60 m	10	F	20°, 50°	R	calc	100	17											
	92.00		94.75 m to 94.95 m																		
			96.00 m to 96.50 m																		
	92.45																				
	93.00		Coreloss is observed from	9	F	55°	R, ir	calc	100	43								CH	1	2	3
			97.50 m to 98.30 m																		
	93.65																				
	94.00			18	F	50°	R, ir		100	20											
	94.10																				
	94.60			>20	F	50°	R, pl	calc	100	0								CM	1	2	4
	95.00			>20	F	50°	R, pl		100	0											
				17	F	60°	R, pl	FeO	100	32								CH	1	2	3
	95.70																				
	96.00			14	F	50°	R, ir		100	18											
	96.25			>20	F				100	0								CM	1	3	4
	96.50																				
	97.00			8	F	50°, 55°	R, pl	FeO	100	55											3
	97.50																				2
	98.00			9	F	50°	R, pl		70	20								CH	1	2	3
	98.30																				
	99.00			11	F	50°, 60°	R, pl	calc, cl	100	33											3
	100.00		Hole terminated at 100.00 m																		

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, SI-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.12.05

Completed: 2062.02.01

Drilled by: B.Neupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 1 of 10

DRILL HOLE NO.: B-3

LOCATION: L/B

COORDINATES: X:3092706.40

Y: 525417.22

Z: 328.50

INCLINATION: 45°

DIRECTION: 287°

DRILLING MACHINE: Long Year

CASING DEPTH : 2.80 m (NW)

DRILLING METHOD: Rotary Drilling / Wire line System

WATER TABLE: 21 m

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of Discontinuities			Core Recovery % RQD %						Permeability (Lugeons)	Other Tests	Remarks/Test Results	Rock Mass Classification					
					Orientation	Roughness	Filling Material	Joints/m	REC %	RQD %	20	40	60				80	100	Classification	Weathering	Hardness	Joint spacing
			From 0.00 m - 1.0 m Sludge (Crushed Dolomite in the size of gravel and sand) From 1.0 m - 1.5 m Fz + MB grey hard and fresh dolomite	F-sw			Feo		33	8												
1.00																						
	1.50		From 1.5 m - 2.15 m Fz + MB grey hard and fresh dolomite Rest of the material is sludge of sand and silt size obtained by crushing of dolomite	F-Sw	30°, 10°	Sm	calc		54	10								CM	2	3	3	
2.00																					4	
	2.70																					
3.00			From 3.0-3.7 m FZ + MB, grey hard dolomite in the size of gravels Rest grey dolomite	F	50°	R	Calc	>5	100	14									2	3	4	
	3.70			F	70°	R	calc	10	100	21												
4.00			From 3.7 m - 4.0 m FZ + MB Rest grey hard dolomite	F														CH	2	2	3	
	4.30																					
			Grey, hard dolomite	F	50°	R	calc	2	100	82												
5.00																			B	2	2	
6.00																					3	
	5.90																				4	
			From 5.90 m - 6.47 m grey hard dolomite From 6.47 m - 7.0 m FZ + MB	F	60°	sm-R	calc	>5	100	31												
7.00																			CH	2	2	
	7.55		Grey, hard dolomite	F	60°, 70°	Sm	calc	7	100	30											3	
8.00			Grey, hard dolomite From 8.12 m - 8.17 m - MB	F	50°-70°	Sm	calc	7	100	60												
	8.30																					
			From 8.30 m - 9.00 m Sludge obtained by crushed dolomite From 9.00 m to 9.50 m FZ+ MB				Calc		33	0									CM	2	3	
9.00																					4	
	9.50																					
	9.80		Fz + MB	F					100	0												
10.00																						
ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, Cl-Clay, Sl-Silt																						
SRC Lab, NEA																						
Started: 2060.09.22																						
Completed: 2060.10.02																						
Drilled by: S.R. Timilshina/T.Neupane																						
Logged by: S.Shrestha																						
Reviewed by: J. M. Tamrakar																						

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered,

CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, Cl-Clay, Si-Silt

SRC Lab, NEA

Started:2060.09.22

Completed:2060.10.02

Drilled by: S.R. Timilshina/T.Neupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 2 of 10

DRILL HOLE NO.: B-3

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of Discontinuities			Core Recovery %						Permeability (Lugeons)	Other Tests	Remarks/Test Results	Rock Mass Classification					
					Orientation	Roughness	Filling Material	Joints/m	REC %	RQD %	RQD %						Classification	Weathering	Hardness	Joint spacing		
											20	40	60								80	100
			Grey hard dolomite From 9.80 m - 10.22 m sludge From 10.12 m - 10.48 m FZ + MB	F	70°, 10°	Sm	none	>3	62	27								CM	2	3	4	
11.00	11.00																				11	
			Grey hard dolomite From 11.20 m - 11.35 m FZ + MB	F	50°	R	calc	3	100	68											12	
12.00	12.10																					
			Grey, hard dolomite From 12.80 m - 13.0m Fz + MB	F	50°, 35° 70°	R	calc	2	100	60								CH	1 2	2 3	2 3	13
13.00	13.30																					
			Grey, hard dolomite	F	40°, 60°	R	none	3	100	77											14	
14.00																						
			Grey Dolomite From 15.10m-15.15m	F					100	0											15	
15.00	14.85 15.15																	B	1 2	2	2	
			Grey hard dolomite	F	40°	R	none	2	100	89											16	
16.00																						
			Grey dolomite From 16.80 m - 17.20 m Fz + MB Gravel to cobble size fragments	F	50°	R	Feo	4	100	26								CM	1 2	3	3 4	17
17.00																						
			Grey, hard dolomite From 17.95 m - 18.65 m MB	F	40°	R	FeO	>6	100	23											18	
18.00	17.66																					
			Grey, hard dolomite	F	40°	R	none	1	100	98								CH	1 2	2	3	19
19.00	19.40																					
			Grey, hard dolomite	F	40°	R	none	1	100	98											20	
20.00	19.95																					

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, Pl-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, Cl-Clay, SI-Silt

SRC Lab, NEA

Started:2060.9.22

Completed:2060.10.02

Drilled by:S.R. Timilshina/T.Neupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, CI-Clay, SI-Silt

SRC Lab, NEA

Started: 2060.9.22

Completed: 2060.10.02

Drilled by: S.R. Timilshina/T. Neupane

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 3 of 10

DRILL HOLE NO.: B-3

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of			Core Recovery %						Permeability (Lugeons)	Other Tests	Remarks/Test Results	Rock Mass Classification				
					Discontinuities			RQD %									Classification	Weathering	Hardness	Joint spacing	
					Orientation	Roughness	Filling Material	Joints/m	REC %	RQD %	20	40	60								80
			Grey, hard dolomite From 19.95 m - 20.25 m MB	F	40°	R	none	3	100	35											
21.00			Grey, hard dolomite From 21.45 m - 21.80 m MB	F		R	none	1	100	43											
22.00			From 22.30 m - 22.45 m MB	F	75°	R	none	4	100	54											
23.00			Grey, hard dolomite From 23.35 m - 23.45 m MB	F	45°, 25°	R	FeO	2	100	40											
24.00			Grey, hard dolomite. From 23.65m - 23.75 m and 24.10m - 24.30 m MB	F	85°	R	Feo	3	100	29											
24.30			Grey, hard dolomite. From 24.30m - 24.50 m MB	F	30°	R	none	>5	100	0											
25.00			Grey, hard dolomite From 25.70 m - 25.90 m MB	F	70°	R	None	2	100	39											
26.00			MB grey, hard dolomite	F	70°	R	none	>4	100	41											
27.00			Highly jointed and MB grey, hard dolomite	F	70°	R	FeO	>6	100	0											
28.00			Grey, hard dolomite From 27.90 m - 28.00 m MB+Fz	F	40°	R	FeO	>6	100	0											
29.00			Grey, hard dolomite From 28.40 m - 28.55 m MB	SW		R	FeO	1	100	25											
30.00			Grey, hard dolomite	F	50°, 70°	R	FeO	6	100	44											
ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, Pl-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, Cl-Clay, Sl-Silt																					
SRC Lab, NEA																					
Started:2060.9.22 Completed:2060.10.02																					
Drilled by:S.R. Timilshina/T.Neupane Logged by: S.Shrestha Reviewed by: J. M. Tamrakar																					

Lugeon Value 4.49

Lugeon Value 3.19

BORE HOLE LOG

SHEET 4 of 10

DRILL HOLE NO.: B-3

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of Discontinuities			Core Recovery % RQD %						Permeability (Lugeons)	Other Tests	Remarks/Test Results	Rock Mass Classification								
					Orientation	Roughness	Filling Material	Joints/m	REC %	RQD %	20	40	60				80	100	Classification	Weathering	Hardness	Joint spacing			
			Grey, hard dolomite	F	30°,60°	R	FeO, Calc	3	100	60								CH	1 2	2	3				
31.00																						31			
	31.50																								
32.00			Grey, hard dolomite From 32.30 m - 32.60 m MB	F	40°	R	Cl	4	100	40									B			2			
	32.60																					32			
	33.00		Grey, hard dolomite From 32.60 m - 32.80 m and 33.55 m - 33.75 m MB	F	40°	R	none	5	100	0									CH	1 2		2	3		
	33.75																						33		
34.00			Grey, hard dolomite From 34.30 m - 34.60 m MB	F	30°	R	none	5	100	29											3	4			
	34.60																							34	
	35.00	35.00	Grey, hard dolomite	F			none		100	100									B		2	1			
			Grey, hard dolomite From 35.00 m - 35.50 m MB	F	40°	R	none	1	100	40									CM		3	3~4			
	36.00	36.00																						36	
			Grey, hard dolomite	F	50°,70°	R	none	3	100	66									B	1	2	2			
	37.00																							37	
	37.50																								
	38.00		Grey, hard dolomite From 38.75 m - 39.05 m MB	F	45°-50°	R	none	3	100	58									CH				3		
	39.00																							38	
	39.50																							39	
	40.00		Grey, hard dolomite From 39.05 m - 39.20 m MB	F		R	none		100	58															40

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, Cl-Clay, SI-Silt
 SRC Lab, NEA Started: 2060.09.22 Completed: 2060.10.02
 Drilled by: S.R. Timlishina/T.Naupane Logged by: S.Shrestha Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 5 of 10

DRILL HOLE NO.: B-3

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of Discontinuities			Core Recovery % RQD %							Permeability (Lugeons)	Other Tests	Remarks/Test Results	Rock Mass Classification				
					Orientation	Roughness	Filling Material	Joints/m	REC %	RQD %	20	40	60	80				100	Classification	Weathering	Hardness	Joint spacing
	40.60																	CH	1	2	3	
41.00			MB grey, hard dolomite	F	30°	R	none	3	100	16								CM	1	2 3	4	
	41.80																					
42.00			MB + Fz grey, hard dolomite	F	20°	R	none	1	100	0								CH	1	2	3	
	42.15																					
			MB grey, hard dolomite From 42.75 m - 43.35 m Coreless (Coreless may be due to fractured zone and grinding of rock fragments during drilling)	F	30°	R	none	1	50	11								CM	1	2~3	4	
43.00																						
	43.35																					
			Grey, hard dolomite From 43.35 m - 43.45 m; 43.80 m - 43.90 m and 44.40 m - 44.65 m MB	10°				2	100	0									1	2 3	3 4	
44.00																						
	44.65																					
45.00			MB + Fz grey, hard dolomite						53	14									1 2	3	4	
	45.50																					
46.00			Grey, hard dolomite From 45.50 m - 45.90 m MB+FZ						100	21												
	46.10																	CM	1	2 3	3 4	
			Grey, hard dolomite From 46.10 m - 46.90 m MB+Fz						50	0												
47.00									100	0												
	47.10																					
	47.30		MB + Fz grey, hard dolomite																2	3	4	
48.00			Grey, hard dolomite From 47.30 m - 48.00 m MB+Fz						62	0												
	48.60																		1 2	2 3	3 4	
49.00			MB + Fz grey, hard dolomite						100	0												
	49.25																					
			Grey, hard dolomite From 49.25 m - 49.40 m MB+FZ						16	0												
50.00																						

Lugeon Value 15.09

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered,
CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, CI-Clay, SI-Silt

SRG Lab, NEA

Started:2060.9.22

Completed:2060.10.02

Drilled by:S.R. Timilishina/T.Neupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 6 of 10

DRILL HOLE NO.: B-3

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of Discontinuities			Core Recovery % RQD %							Permeability (Lugeons)	Other Tests	Remarks/Test Results	Rock Mass Classification																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
					Orientation	Roughness	Filling Material	Joints/m	REC %	RQD %	20	40	60	80				100	Classification	Weathering	Hardness	Joint spacing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
			From 49.40 m - 50.75 m coreless (Coreless may be due to fractured zone and grinding of rock fragments during drilling)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												</

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, Cl-Clay, SI-Silt

SRC Lab, NEA

Started: 2060.9.22

Completed: 2060.10.02

Drilled by: S.R. Timilshina/T.Naupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 7 of 10

DRILL HOLE NO.: B-3

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of Discontinuities			Core Recovery % RQD %							Permeability (Lugeons)	Other Tests	Remarks/Test Results	Rock Mass Classification				
					Orientation	Roughness	Filling Material	Joints/m	REC %	RQD %	20	40	60	80				100	Classification	Weathering	Hardness	Joint spacing
			Grey, hard dolomite	F	35°, 50°	R	Cl	5	100	59								CH	2	2	3	
	60.65		Grey, hard dolomite From 60.65 m - 60.90 m MB+FZ	F	70°	R	Cl	4	73	0								CM	2	3	4	
61.00																						
	61.75		Grey, hard dolomite From 61.75 m - 62.05 m MB+FZ	F	30°, 40°	R	FeO	3	82	13								D	3	3	5	
62.00																						
	62.60		Grey, hard dolomite From 63.60 m - 63.90 m MB	F	60°	R	none		100	0												
63.00																						
	63.10		Grey, hard dolomite From 63.60 m - 63.90 m MB	F					84	19												
64.00																						
	64.40		Grey, hard dolomite From 64.70 m - 65.00 m MB	F					100	16								CM	1	2	3	
65.00																						
	65.00		Grey, hard dolomite From 65.75 m - 65.90 m MB	F					89	0												
66.00																						
	65.90		MB grey, hard dolomite	F					68	0												
67.00																						
	67.00		Grey, hard dolomite From 67.90 m - 68.00 m MB From 67.00 m - 67.90 m coreloss Coreloss is due to fractured zone	F					5	0												
68.00																						
	68.00		Grey, hard dolomite	F	40°, 60°	Sm	none	3	100	80												
69.00																						
	69.00		Grey, hard dolomite	F	50°	Sm	Cl	2	100	66								B	1	2	2	
70.00																						
ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, Pl-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, Cl-Clay, Si-Silt																						
SRC Lab, NEA																						
Started:2060.09.22																						
Completed:2060.10.02																						
Drilled by: S.R. Timlishina/T.Neupane																						
Logged by: S.Shrestha																						
Reviewed by: J. M. Tamrakar																						

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, Cl-Clay, St-Silt

SRC Lab, NEA

Started: 2060.09.22

Completed: 2060.10.02

Drilled by: S.R. Timishina/T. Neupane

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 8 of 10

DRILL HOLE NO.: B-3

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of Discontinuities			Core Recovery % RQD %						Permeability (Lugeons)	Other Tests	Remarks/Test Results	Rock Mass Classification																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
					Orientation	Roughness	Filling Material	Joints/m	REC %	RQD %	20	40	60				80	100	Classification	Weathering	Hardness	Joint spacing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

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SRC Lab, NEA

Started: 2060.9.22

Completed: 2060.10.02

Drilled by: S.R. Timlishina/T. Neupane

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 9 of 10

DRILL HOLE NO.: B-3

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of Discontinuities			Core Recovery % RQD %						Permeability (Lugeons)	Other Tests	Remarks/Test Results	Rock Mass Classification							
					Orientation	Roughness	Filling Material	Joints/m	REC %	RQD %	20	40	60				80	100	Classification	Weathering	Hardness	Joint spacing		
	80.00		Grey, hard dolomite	F	40°,20°	R	none	4	100	49						Lugeon Value 2.10		CH	1 2	2	3	81		
	81.00		Highly fractured and MB grey, hard dolomite	F					70	0								CM	2	3	4	82		
	82.00		MB + Fz grey, hard dolomite	F					100	0												83		
	83.00																					84		
	84.00		Grey, hard dolomite	F	40°,60°	R	Cl	4	100	31						Lugeon Value 1.50		CH	1	2 3			85	
	84.05		Grey, hard dolomite From 84.50 m - 84.65 m MB	F	50°	R	Calc	3	100	62								CM	1	2~3	4		86	
	85.00																					87		
	86.00		Grey, hard dolomite	F	50°,60°	R	Calc, FeO	4	100	60													88	
	87.00		Grey, hard dolomite	F	30°,60°	Sm-R	none	4	100	70						Lugeon Value 1.50		CH	1	2 3			89	
	88.00																						90	
	88.35																							
	89.00		Grey, hard dolomite From 88.35 m - 88.45 m MB	F	40°-60°	Sm-R	none	4	100	60														
	90.00																							

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, Cl-Clay, Sl-Silt

SRC Lab, NEA

Started: 2060.9.22

Completed: 2060.10.02

Drilled by: S.R. Timilshina/T. Neupane

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 10 of 10

DRILL HOLE NO.: B-3

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of Discontinuities			Core Recovery % RQD %						Permeability (Lugeons)	Other Tests	Remarks/Test Results	Rock Mass Classification						
					Orientation	Roughness	Filling Material	Joints/m	REC %	RQD %	20	40	60				80	100	Classification	Weathering	Hardness	Joint spacing	
			Grey, hard dolomite From 90.95 m - 90.75 m MB	F	60°-70°	Sm-R	none	6	100	91								CH	1	2	3	91	
91.00	91.40																						
92.00	92.65		Grey, hard dolomite From 91.70 m - 91.85 m and 92.30 m - 92.65 m MB	F	40°	Sm-R	None	3	100	40												92	
																						93	
93.00								7															
94.00	94.00																					94	
			MB grey, hard dolomite	F					17	0								CM	1 2	3	4	95	
95.00	94.85																					96	
			MB + Fz grey, hard dolomite	F					100	0												97	
96.00	95.50																					98	
			MB + Fz grey, hard dolomite						35	0												99	
																						100	
			Grey, hard dolomite From 96.00 m - 96.60 m MB	F	40°	R	none	1	100	12										1	2	3	97
97.00	96.80																						
			Grey, hard dolomite From 97.45 m - +97.60 m MB	F	70°	R	none	2	100	87												98	
98.00	97.60																					99	
			Grey, hard dolomite	F	50°, 70°	R	none	4	100	90												100	
99.00	98.95																						
			Grey, hard dolomite	F	70°	R	none	3	100	78									B	1	2	2	99
100.00	100.55																						

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered,
CW-Completely Weathered, MB-Mechanical Break, Pl-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, Cl-Clay, SI-Silt
SRC Lab, NEA Started:2060.09.22 Completed:2060.10.02

Drilled by: S.R. Timilishina/T.Neupane Logged by: S.Shrestha Reviewed by: J.M. Tamrakar

BORE HOLE LOG

SHEET 1/12

DRILL HOLE NO.: B-4

LOCATION: Dam Axis (L/B)

COORDINATES:

Y:

Z:

INCLINATION: 80°

DIRECTION: 287°

DRILLING MACHINE: LONGYEAR

CASING DEPTH : NW (5.30m),

DRILLING METHOD: Rotary Drilling / Wire line System

WATER TABLE: 20.0

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of Discontinuities			Core Recovery % RQD %						Permeability (Lugeon)	Other Tests	Remarks/Test results	Rock Mass Classification					
					Orientation	Roughness	Filling Material	Joints/m	REC %	RQD %	20	40	60				80	100	Classification	Weathering	Hardness	Joint spacing
			0 to 0.25 m gravel size fragments of gray dolomite	F-SW		R,PI	Calc		63	23												
1.00			0.25 m to 0.7 m sludge obtained from grinding of dolomite																			
			0.7 m to 1.9 m = MB (Top of the bed rock at the surface)																			
	1.90																					
2.00			MB hard grey dolomite	SW		R,PI	none		100	0												
	2.20																					
3.00			Hard, strong, grey coloured dolomite. At 2.25 m = MB	F	45°	Sm,PI	Calc	5	100	54												
	3.60																					
4.00			Hard, strong, fresh, grey coloured dolomite. 3.75 m to 4.30 m = sludge	F-SW		R,PI	Calc	>10	32	0												
	4.40		4.30 m to 4.40 m = MR																			
5.00			Hard, strong, grey dolomite 4.40 m to 4.55 m = sludge	F-SW	30°	R,PI	Calc	>10	75	0												
	5.00		4.55 m to 5.0 m = MB																			
6.00			Hard, strong, fresh, grey dolomite 5.0 m to 5.14 m = MB	F-SW	30°,50	R,PI	Calc	6	100	23												
	6.50																					
7.00			Hard, strong, grey dolomite with quartz veins	F-SW	40°	R,PI	Calc	5	100	37												
	8.00																					
8.00			Hard, strong, grey dolomite	F-SW	50°	R,PI	Calc	>10	100	70												
	8.75																					
9.00			MB/FZ Hard, strong, grey dolomite with quartz veins (Highly jointed)	F-SW			none		100	0												
	9.50																					
	9.80		MB Hard, strong, grey dolomite with quartz veins (highly jointed)	F-SW	80°	R,PI	Calc		100	0												
	10.00																					
ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, St-Stepped, FeO-Iron Oxide, CI-Clay, SI-Silt																						
SRC Lab, NEA																						
Started: 2060/12/13																						
Completed: 2061/01/20																						
Drilled by: S.R.Timlasina, T.Neupane, D.Siwakoti																						
Logged by: S.K.Karmacharya																						
Reviewed by: J. M. Tamrakar																						

BORE HOLE LOG

SHEET 2/12

DRILL HOLE NO.:4

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of Discontinuities			Core Recovery % RQD %							Permeability (Lugeon)	Other Tests	Remarks/Test results	Rock Mass Classification																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
					Orientation	Roughness	Filling Material	Joints/m	REC %	RQD %	20	40	60	80				100	Classification	Weathering	Hardness	Joint spacing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
			Hard, strong, grey dolomite 10.15 m to 10.55 m = MB	F	40°	Sm, P	Calc	>5	100	54																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													

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SRC Lab, NEA

Started: 2060/12/13

Completed: 2061/01/20

Drilled by: S.R. Timilashina, T. Neupane, D. Siwakoti Logged by: S.K. Karmacharya Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 3/12

DRILL HOLE NO.:4

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of Discontinuities			Core Recovery % RQD %							Permeability (Lugeon)	Other Tests	Remarks/Test results	Rock Mass Classification																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
					Orientation	Roughness	Filling Material	Joints/m	REC %	RQD %	20	40	60	80				100	Classification	Weathering	Hardness	Joint spacing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
			Hard, strong, grey dolomite 20.30 m to 20.65 m = MB	F-SW	40°, 50° 60°	R, PI	FeO	8	100	32																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														</

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SRC Lab, NEA

Started: 2060/12/13

Completed: 2061/01/20

Drilled by: S.R. Timilasin, T. Neupane, D. Siwakoti

Logged by: S.K. Karmacharya

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 4/12

DRILL HOLE NO.:4

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of Discontinuities			Core Recovery % RQD %							Permeability (Lugeon)	Other Tests	Remarks/Test results	Rock Mass Classification																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
					Orientation	Roughness	Filling Material	Joints/m	REC %	RQD %	20	40	60	80				100	Classification	Weathering	Hardness	Joint spacing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						

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SRC Lab, NEA

Started: 2060/12/13

Completed: 2061/01/20

Drilled by: S.R. Timlasina, T. Neupane, D. Siwakoti Logged by: S.K. Karmacharya Reviewed by: J. M. Tamraker

BORE HOLE LOG

SHEET 5/12

DRILL HOLE NO.:4

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of Discontinuities			Core Recovery % RQD %							Permeability (Lugeon)	Other Tests	Remarks/Test results	Rock Mass Classification						
					Orientation	Roughness	Filling Material	Joints/m	REC %	RQD %														
											20	40	60	80				100	Classification	Weathering	Hardness	Joint spacing		
			Hard, strong, grey dolomite	F	60°	R, Pl	none	2	100	63						Lu = 2.00				3	41			
41.00	41.00		Hard, strong, grey dolomite	F	45	R, Pl	none	3	100	56						Lu = 2.57					42			
42.00																			2					
	42.60																		2					
43.00			Hard, strong, grey dolomite	F	40°, 50°	R, Pl	none		100	72							CH	1	2	2	43			
44.00																					44			
44.20																								
45.00			Hard, strong, grey dolomite	F	25°	R, Pl	FeO	3	100	65						Lu = 6.45				3	45			
46.00	45.65																				46			
			Hard, strong, grey dolomite	F	50°, 40°	R, Pl	FeO	4	100	88										2	47			
47.00																								
	47.25																							
48.00			Hard, strong, grey dolomite	F	70°, 30°	R, Pl	Cl	3	100	79							B	1	2	2	48			
	48.75																							
49.00																Lu = 1.57					49			
			Hard, strong, grey dolomite	F	40°, 60°	R, Pl	none	5	100	50														
50.00																	CH			3	50			
ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, Pl-Planar, Sm-Smooth, R-Rough, St-Stepped, FeO-Iron Oxide, Cl-Clay, St-Silt																								
SRC Lab, NEA																	Started: 2060/12/13				Completed: 2061/01/20			
Drilled by: S.R.Timlasina, T.Neupane, D.Siwakoti																	Logged by: S.K.Karmacharya				Reviewed by: J. M. Tamrakar			

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, Pl-Planar, Sm-Smooth, R-Rough, St-Stepped, FeO-Iron Oxide, Cl-Clay, St-Silt
 SRC Lab, NEA Started: 2060/12/13 Completed: 2061/01/20
 Drilled by: S.R.Timilasina, T.Neupane, D.Siwakoti Logged by: S.K.Karmacharya Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 6/12

DRILL HOLE NO.:4

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of Discontinuities			Core Recovery %						Permeability (Lugeon)	Other Tests	Remarks/Test results	Rock Mass					
					Orientation	Roughness	Filling Material	Joints/m	REC %	RQD %	20	40	60				80	100	Classification	Weathering	Hardness	Joint spacing
	50.25																					
	51.00		Hard, strong, grey dolomite 50.70 m to 50.95 m= MB	F	70°,50°	R	none	>5	100	30							CH	1 2	2	3		
	51.80																CM	1~2	2~3	4		
	52.00		Highly jointed Hard, strong, grey dolomite 51.80 m to 52.25 m= MB	F	50°	R, PI	none		100	48							CH	1 2	2	3		
	53.00																CM	2	3	4		
	53.15																					
	54.00		Hard, strong, grey dolomite	F	50°,60°	R,PI	none	4	100	80							CH	1 2	2	3		
	54.50																					
	55.00		Highly jointed Hard, strong, grey dolomite 54.60 m to 56.0 m= MB	F	30°,40°	R, PI	none	>7	100	61												
	56.00																					
	56.15		Highly jointed Hard, strong, grey dolomite 56.25 m - 56.40 m= Core loss	F	50°,40°	R,PI	none	>7	88	27							CM	1 2	2 3	3 4		
	57.00																					
	57.95																					
	58.00		Hard, strong, grey dolomite	F	30°,60° 70°	Sm, P	None	5	100	70							B			2		
	59.00	59.00															CH	1	2	3		
	60.00		Hard, strong, grey dolomite	F	55°,75° 40°	R,PI	none	>8	100	69							B			2		
ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, St-Stepped, FeO-Iron Oxide, Cl-Clay, Si-Silt																						
SRC Lab, NEA																						
Started: 2060/12/13																						
Completed: 2061/01/20																						
Drilled by: S.R.Timlasina, T.Neupane, D.Siwakoti																						
Logged by: S.K.Karmacharya																						
Reviewed by: J. M. Tamrakar																						

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, St-Stepped, FeO-Iron Oxide, Cl-Clay, Si-Silt

SRC Lab, NEA

Started: 2060/12/13

Completed: 2061/01/20

Drilled by: S.R. Tamilasin, T. Neupane, D. Siwakoti

Logged by: S.K. Karmacharya

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 7/12

DRILL HOLE NO.: B-4

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of Discontinuities			Core Recovery %							Permeability (Lu/cm)	Other Tests	Remarks/Tests	Classification				
					Orientation	Rough	Filling	Joint	REC	RQD	RQD %							Classified	Weathering	Hardness	Joint spacing	
											20	40	60	80								100
				F	40°				100	0												
	60.60														Lu = 1.82							
61.00			Fresh, hard, strong, medium to fine grained, grey coloured dolomite.	F	40° 25°	R, Pl	none	13+MB	100	30											3	61
	61.40																					
62.00			Fresh, hard, strong, medium to fine grained, grey coloured dolomite.	F	60° 65° 30°	R, Pl, S	none	6	100	64								CH	1	2		62
			62.44-62.44m - MB																		2 3	63
63.00	63.00																					
			Fresh, hard, strong, medium to fine grained, grey coloured dolomite.	F	25° 60°	R, Pl, S	none	10	100	38												
64.00																		CM	1	2 3 4	3	64
	64.40		63.83-64.40m - MB																			
65.00			Fresh, hard, strong, medium to fine grained, grey coloured dolomite.	F	30° 40° 60°	R, Pl, S	none	12	100	20								CH	1	2	3	65
			64.40 - 64.53- MB																			
			65.00 - 65.30 - MB																			
66.00	66.00		65.55 - 66.00 - FZ																			
			From 66.35 to 66.55, a joint parallel to drill axis.	F	04° 40° 50°	R, Pl, S	none	>20	100	0											2 3 4	66
	66.60																	CM	2			
67.00			Fresh, hard, strong, fine to medium grained, grey coloured dolomite.	F	30° 55°	R, Pl, S	none	16	100	27												67
68.00	68.00																					
			Fresh, hard, strong, fine to medium grained, grey coloured dolomite.	F	40° 55°	R, Pl	none	6	100	78								CH	1	2	2 3	68
	69.00																					
	69.60																					
																					3	69
70.00																						70

ABBREVIATIONS: F - Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, Pl-Planar, Sm-Smooth, R-Rough, St-Stepped, FeO-Iron Oxide, Cl-Clay, St-Silt

SRC Lab, NEA

Started: 2060/12/13

Completed: 2061/01/20

Drilled by: S.R.Timilasila, T.Neupane, D.Siwakoti Logged by: S.K.Karmacharya Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 8/12

DRILL HOLE NO.: B-4

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/We	Description of Discontinuities			Core Recovery %										Permeability (Lu/cm)	Other Tests	Remarks/Tests	Classification			
					Orientation	Rough	Filler	RQD %													Classifica	Weatherin	Hardness	Joint spacing
								Joint	REC	RQD	20	40	60	80	100									
			Fresh, hard, strong, fine to medium grained, grey coloured dolomite. 69.60 to 69.95 is MB.	F	50°	R, PL	none	5+MB	100	69							LU = 2.38		B	1	2	2	71	
71.00	71.17																							
			Fresh, hard, strong, fine to medium grained, grey coloured dolomite.	F	60° 55°	R, PI	none	9	100	59												3	72	
72.00																								
			Fresh, hard, strong, fine to medium grained, grey coloured dolomite. From 73.30 to 74.07m, joint is 30° and 40°	F	3° 10° 40° 60°	R, PI	none	13	100	25							LU = 1.05		CH	1	2	2 3	73	
73.00	72.70																							
			Fresh, hard, strong, fine to medium grained, grey coloured dolomite.	F	55°	R, PI	none	1	100	100									B	1	2	2	75	
74.00																								
			Fresh, hard, strong, fine to medium grained, grey coloured dolomite.	F	55°	R, PI	none	5	100	85									CH	1	2	3	76	
75.00	74.25																							
			Fresh, hard, strong, fine to medium grained, grey coloured dolomite.	F	55°	R, PI	none	5	100	85									B	1	2	1 2	77	
76.00	75.80																							
			Fresh, hard, strong, fine to medium grained, grey coloured dolomite. 78.04 - 78.08 - shear zone. 78.08 - 78.50 - shear affected zone.	F	60° 70° 20°	R, PI	calc	9	100	58							LU = 1.27		CM	2	3	3 4	78	
77.00	77.30																							
			Fresh, hard, strong, fine to medium grained, grey coloured dolomite.	F	30° 50° 60°	R, PI, S	none	11	100	40									CH	1	2	3	79	
78.00																								
79.00	78.90																							
80.00																							80	

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, St-Stepped, FeO-Iron Oxide, Cl-Clay, Sl-Silt

SRC Lab, NEA

Started: 2060/12/13

Completed: 2061/01/20

Drilled by: S.R.Timilasin, T.Neupane, D.Siwakoti

Logged by: S.K.Kamacharya



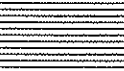




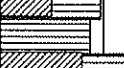





Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 9/12

DRILL HOLE NO.: B-4

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/Weathering	Description of Discontinuities			Core Recovery %							Permeability (Lugeon)	Other Tests	Remarks/Tests	Classification								
					Orientation	Rough	Filling	Joint	REC	RQD	RQD %							Classical	Weathering	Hardness	Joint spacing					
											20	40	60	80								100				
	80.15		Fractured dolomite.	F-SW	40°	R,PL,S	none	>20	100	9		Lu = 1.27														
	81.70																									
	81.00																									
	82.00			Fractured Dolomite.	F	60°	R,PI	none	>20	100	0															
	82.40																									
	83.00			Fresh, hard, strong, fine to medium grained, grey coloured dolomite	F	60°	R,PI	none	17	100	37															
	83.95			Fresh, hard, strong, fine to medium grained, grey coloured dolomite. 83.12 - 83.38 - MB 83.75 - 83.95 - core loss	F	60°	R,PI	none	8	79	41															
	84.30			Fractured Dolomite.	F		R,PI	none	>20	71	0		Lu = 2.00													
	85.00			Fresh, hard, strong, fine to medium grained, grey coloured dolomite	F	55°	R,PI	none	8	100	63															
	85.65																									
	86.00		Fresh, hard, strong, fine to medium grained, grey coloured dolomite. 85.65 - 85.90 - MB.	F	25° 55°	R,PI	none	9	100	31																
	87.00																									
	87.25		Hard, Strong, fresh, grey coloured dolomite.	F	55°	R,PI	none	5	100	95																
	87.65																									
	88.00		Fresh, hard, strong, fine to medium grained, grey coloured dolomite with laminae of limestone.	F	60°	R,PI,S	none	3	100	95																
	88.95		Fresh, hard, strong, fine to medium grained, grey coloured dolomite. 90.30 - 90.55m - joint of 2°.	F	2° 55°	R,PI	none	10	100	47		Lu = 1.30														
	90.00																									

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, St-Stepped, FeO-Iron Oxide, Cl-Clay, Sl-Silt

SRCLab, NEA

Started: 2060/12/13

Completed: 2061/01/20

Drilled by: S.R.Timlasina, T.Neupane, D.Siwakoti

Logged by: S.K.Karmacharya

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 10/12

DRILL HOLE NO.: B-4

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/We	Description of Discontinuities			Core Recovery %						Permeability (Lugeon)	Other Tests	Remarks/Test	Classification				
					Orien	Rough	Filling	Joints	REC	RQD	RQD %						Classical	Weathering	Hardness	Joint spacing	
											20	40	60								80
	90.60																	CH	1	2	3
91.00			Fresh, hard, strong, fine to medium grained, grey coloured dolomite. 91.10 - 91.85m - core loss.	F	60°	R,PI	none	>20	40	0						Lu = 1.30		CM	1	3	3~4
92.00	91.85		Fresh, hard, strong, fine to medium grained, grey coloured dolomite. 91.85 - 92.60 MB	F	60° 40° 55°	R,PI	none	13	100	32											
93.00			Fresh, hard, strong, fine to medium grained, grey coloured dolomite. 92.60 - 92.75 - MB	F	45° 60°	R,PI	none	11	100	20											
94.00	93.60																				
95.00			Fresh, hard, strong, fine to medium grained, grey coloured dolomite. 94.90 - 95.20 - MB	F	60° 40°	R,PI	none	6	100	70						Lu = 1.95		CH	1	2	3
96.00	95.20																				
97.00			Fresh, hard, strong, fine to medium grained, grey coloured dolomite.	F	60°	R,PI	none	8	100	77								B			2
98.00	96.70		Fresh, hard, strong, fine to medium grained, grey coloured fractured dolomite.	F			none	>20	57	0								CM	2	3	4
99.00	97.75		Fresh, hard, strong, fine to medium grained, grey coloured fractured dolomite. 97.75 - 98.25 - MB/FZ	F	60° 40°	R,PI	none	>20	100	13											
99.60	98.70		Fresh, hard, strong, fine to medium grained, grey coloured fractured dolomite.	F	50° 30°	R,PI	none	14	100	33						Lu = 1.42		CH	1	2	3
100.0	99.60																				

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, St-Stepped, FeO-Iron Oxide, Cl-Clay, Si-Silt

SRC Lab, NEA

Started: 2060/12/13

Completed: 2061/01/20

Drilled by: S.R.Timlasina, T.Neupane, D.Siwakoti

Logged by: S.K.Karmacharya

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 11/12

DRILL HOLE NO.: B-4

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/We	Description of			Core Recovery %					Permeability (Lugeon)	Other Tests	Remarks/Tests	Classification				
					Discontinuities			RQD %								Classical	Weathering	Hardness	Joint spacing	
					Orien	Fract	Filling	Joint	REC	RQD	20	40								60
			100.30 to 100.50m - MB/FZ	F	55°	R,PI	none	7	100	46							CH	1	2	3
	100.50		Fractured dolomite with frequent mechanical breakages. 101.10 - 101.50 - coreloss.	F			none	>20	55	0							CM	1	3	4
101.00																				
	101.50																			
	102.00		Fractured dolomite. 101.85 - 102.15 - FZ	F	60°	R,PI	none	>20	67	0										
	102.50		Hard, strong, fresh, grey coloured dolomite.																	
103.00																				
	103.50																			
	104.00		Hard, strong, fresh, grey coloured dolomite. 105.55 - 105.65 - MB	F	60° 30°	R,PI	none	13	100	45										
	104.10																			
104.50																				
	105.00		Hard, strong, fresh, grey coloured dolomite.	F	60°	R,PI	none	6	100	77										
	105.50																			
106.00																				
	106.50		Hard, strong, fresh, grey coloured dolomite.	F	40° 50° 60°	R,PI	none	9	100	67										
	107.00																			
	107.15																			
	108.00		Hard, strong, fresh, grey coloured dolomite. From 107.90 - 108.00, joint of	F	25° 50° 60° 2°	R,PI,S	none	11	100	48										
	108.50		Hard, strong, fresh, grey coloured dolomite.																	
109.00																				
	109.35																			
	109.50		109.35 - 109.55m - MB +FZ																	
	110.00																			

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, St-Stepped, FeO-Iron Oxide, CI-Clay, SI-Silt

SRC Lab, NEA

Started: 2060/12/13

Completed: 2061/01/20

Drilled by: S.R.Timlasina, T.Neupane, D.Siwakoti Logged by: S.K.Karmacharya Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 12/12

DRILL HOLE NO.: B-4

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Alteration/We	Description of Discontinuities			Core Recovery %					Permeability (Lucas)	Other Tests	Remarks/Test	Classification					
					Orient	Rough	Filling	Joints	REC	RQD	RQD %					Classificat	Weathering	Hardness	Joint spacing		
											20	40								60	80
	110.15		110.00 - 110.15m - FZ	F	60°	R,PI	none	8	100	50											
	111.00		Hard, strong, fresh, grey coloured dolomite. 110.15 - 110.25 = FZ 110.68 - 110.75 = MB	F	35° 50° 60°	R,PI	none	10	100	52						CH	1	2	2 3		
	111.65		Hard, strong, fresh, grey coloured dolomite. 112.50 - 112.75 = FZ/MB	F	50° 60°	R,PI	none	7	100	43											
	112.00																				
	112.75		Hard, strong, fresh, grey coloured dolomite. 112.75 - 112.94 = FZ/MB	F	50° 60°	R,PI	none	>20	100	15						CM	1	2 3	3 4		
	113.00																				
	114.00		Grey coloured, fractured dolomite.	F	45°	R,PI	none	>20	100	0											
	114.10																				
	114.80		Hard, strong, fresh, grey coloured dolomite. 115.75 - 115.95 = FZ	F	35° 60°	R,PI	none	13	100	26						CH	1	2	3		
	115.00																				
	116.00		116.05 - 116.30 = coreloss	F	60°	R,PI	none	9	29	0						CM	1	3	4		
	116.30		Hard, strong, fresh, grey coloured, fractured dolomite. 116.30 - 116.80m = coreloss	F			none	>20	44	0											
	117.00																				
	117.20		Hard, strong, fresh, grey coloured dolomite. 117.20 - 117.65 = FZ	F			none	11	100	25											
	118.00																				
	118.30		Hard, strong, fresh, grey coloured dolomite.	F	40° 60°	R,PI	none	16	100	0						CH	1	2	3		
	119.00																				
			Hard, strong, fresh, grey coloured dolomite.	F	60° 30°	R,PI	none	15	100	26											
	119.65																				
	120.00		Hard, strong, fresh, fractured, grey coloured dolomite with frequent mechanical breakages.	F	60° 40°	R,PI	none	>20	100	0						CM	1	3	3 4		
	120.50		End of hole at 120.50m																		

LU = 3.39

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, St-Stepped, FeO-Iron Oxide, CI-Clay, SI-Silt

SRC Lab, NEA

Started: 2060/12/13

Completed: 2061/01/20

Drilled by: S.R.Timlasina, T.Neupane, D.Siwakoti Logged by: S.K.Karmacharya Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 1/10

DRILL HOLE NO.: B-5

COORDINATES:

X: 3092798.93

Y: 525459.84

Z: 307.93

INCLINATION: Vertical

DIRECTION:

DRILLING MACHINE: Long Year

CASING DEPTH : NW: 17.55 m

DRILLING METHOD: Rotary Drilling / Wire line System

WATER TABLE: 0.00 m

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification					
					Weathering	orientation	Roughness	Filling Materials			Rec.	RQD	20	40	60			80	100	Classification	Weathering	Hardness	Joint spacing
			ALLUVIUM Consisting of Fragments of gneiss, quartzite and calc. rocks.																			1	
1.00																						2	
	1.60																					3	
			ALLUVIUM Consisting of calc rocks and schists. Max size of fragments upto 7 cm.																			4	
2.00																						5	
	2.75																					6	
3.00			ALLUVIUM Consisting of dolomite.																			7	
	3.30																					8	
			Grey, mediuemately hard, fractured dolomite and gravels of schist from 3.30 m - 3.90m																			9	
4.00			Bed rock at 3.90 m	>20	SW	20°, 50°	Pl, St r	none	55	0												10	
	4.30																					11	
			DOLOMITE Grey, hard to medium hard, fresh, fine grained & fractured	>20	SW-MW		r, pl	FeO	50	0									CM	2	3	4	12
5.00	5.00		Coreloss due to fracture zone mechanical grinding and closely spaced joints.	>20	SW	30°	r, pl		38	0												13	
	5.40																					14	
				>20	SW	50°	r, pl, st	calc	100	0									D			5	15
6.00	6.00		Fractured zone noticed from 3.90 m to 6.60 m	>20	F-SW	5°	r, pl	calc	100	0									CM			4	16
			7.00 m to 8.95 m.																			17	
			9.90 m to 10.03 m.	>20	F-SW	20°, 50°	r, pl, st	calc, FeO	85	30									CH	2	3	3	18
7.00	7.00																					19	
			The actual depth of lost zones could not be traced because of its broken nature.	>20	F-SW	60°, 50°	r, st	calc, FeO	100	0													20
	7.50																					21	
				>20	F-SW	60°, 25°	r, pl	FeO	89	0									CM	2	3	4	22
8.00																						23	
	8.40			>20	F-SW	70°, 20°	r, pl	calc, FeO	73	0													24
																						25	
9.00	8.95			16	F	70°, 50° 40°	r, pl, st	Calc.	100	0													26
				>20	F	70°, 50°	r, pl	Calc.	100	0									CH	2	2	3	27
	9.45																					28	
10.00	9.90																					29	

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreless, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, St-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.08.30

Completed: 2061.10.04

Drilled by: S.R. Timilshina/T.Neupane

Logged by: S.K.Karmacharya

Reviewed by: J. M. Tamrakar

BORE HOLE LOG															SHEET 2/10					
DRILL HOLE NO.: B-5					LOCATION: Dam Axis (L/B)															
Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	orientation	Roughness	Filling Materials			20	40	60	80			100	Classification	Weathering	Hardness
			DOLOMITE			75°														
			Grey, hard to medium hard, fresh fine grained & fractured	>20	F	40°,60°	r, pl	Calc.	100	0							CH	2	2	3
	10.50		Coreloss due to fracture zone																	11
11.00			mechanical grinding and closely spaced joints.	>20	F-SW	50°	r, pl	Calc Feo	35	0							CM	2	3	4
	11.80		Most of the cores are broken into small fragments from																	
	12.00		10.50 m - 12.10 m	>20	F	70°	r, pl	none	23	0										12
	12.10		12.31 m - 12.80 m																	
			14.95 m - 15.50 m														B	1~2	2	2
			16.25 m - 16.95 m	>20	F	75°	r, pl,st	none	57	23							CM	1~2	3	4
	12.80		18.80 m - 20.00 m																	
13.00				19	F	70°	r, pl	none	100	37										13
	13.10		Low core recovery is due to mechanical grinding within fractured zones and closely spaced joints.	16	F	50°,60° 05°	r, pl	none	100	31							CH	1	2	3
	14.00																			14
			The actual depth of lost zones could not be traced because of its broken nature.																	
	14.75																			
15.00				>20	F	50°,10°	r, pl	none	73	0							CM	1 2	2 3	4
	15.50																			
	16.00			19	F	20°-60°	r, pl	none	100	15							CH	1	2	3
	16.50																			16
	16.80			>20	F				93	0							CM	2	3	4
17.00				>20	F	50°-60° 80°	r, pl	none	88	0										17
	17.60																			
	18.00			15	F	30°,50° 60°	r,pl,st	none	100	29							CH	1 2	2	3
	18.40			>20	F	15°,50° 70°	r, pl	none	92	0										18
	19.00																			19
				>20	F		r,pl,st	none	56	0							CM	2	2 3	4
	19.80																			
20.00																				20
ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered																				
MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic																				
SRC Lab, NEA					Started: 2061.08.30					Completed: 2061.10.04										
Drilled by: S.R. Timilshina/T.Neupane					Logged by: S.K.Karmacharya					Reviewed by: J. M. Tamrakar										

SHEET 3/10

DRILL HOLE NO.: B-5

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification				
					Weathering	orientation	Roughness	Filling Materials			20	40	60	80			100	Classification	Weathering	Hardness	Joint spacing
			DOLOMITE																		
			Grey, hard to medium hard, fresh fine grained & fractured																		
			Cores are broken due to mechanical grinding in fractured zones and closely spaced joints.																		
21.00	21.00		Most of the cores are broken into small fragments from	>20	F-SW	50°	r, pl	FeO	63	0									21		
				>20	F	30°,50° 70°	r, pl	none	86	0							CM	2	3	4	
	21.70																				
22.00			20.0 m - 24.25 m	>20	F	50°	r, pl	none	82	0									22		
			25.10 m - 25.50																		
	22.25		25.50 m - 26.05 m																		
			26.40 m - 27.00 m																		
			27.55 m - 29.05 m	>20	F	20°,40° 50°,70°	r, pl,st	none	57	0							CH	2	2 3	3	
23.00			29.55 m - 30.00 m																23		
	23.30																				
			Low core recovery is due to mechanical grinding within fractured zones and closely spaced joints.	>20	F	50°,70°	r, pl	none	71	0							CM	2	3	4	
24.00	24.00																		24		
			The actual depth of lost zones could not be traced because of its broken nature.	13	F	40°,70°	r, pl	none	100	32							CH	1 2	2	3	
	24.75																				
25.00				6	F	30°,70°	r, pl	none	67	45							CH	1 2	2	25	
	25.50			>20	F	40°,70°	r, pl,st	none	91	0							CM	1	2 3	4	
26.00																			26		
	26.05			>20	F	40°,70° 30°	r, pl	none	100	16							CH	1	2	3	
27.00	27.00																		27		
				15	F	45°,60°	r, pl	none	87	47							B	1	2	2	
	27.75																				
28.00				>20	F	50°,60° 70°	r, pl	none	73	0									4	28	
	28.50																				
29.00				>20	F	50°,60° 05°	r, pl	none	90	0							CM	1 2	3	3 4	
	29.50			>20	F		r, pl	none	100	0									3 4	29	
30.00																			30		
ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered																					
MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, SI-Silt, calc-calcic																					
SRC Lab, NEA					Started:2061.08.30					Completed:2061.10.04											
Drilled by: S.R. Timishina/T. Neupane					Logged by: S.K.Karmacharya					Reviewed by: J. M. Tamrakar											

SHEET 4/10

DRILL HOLE NO.: B-5

LOCATION: Dam Axis (L/B)

Depth, m		Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification				
Weathering	orientation	Roughness	Filling Materials			20	40	60	80			100	Classification	Weathering	Hardness	Joint spacing							
																			Rec. RQD				
				DOLOMITE		F		r, pl	56	0													
				Grey, hard to medium hard, fresh fine grained & fractured	>20																		
				Cores are broken due to mechanical grinding in fractured zones and closely spaced joints.		F		r, pl	42	0													
				Most of the cores are broken into small fragments from	>20																		
				29.55 m - 32.00 m																			
				33.75 m - 34.00 m																			
				38.37 m - 39.20 m																			
					16	F	50°,70°	r, pl	93	17													
				Low core recovery is due to mechanical grinding within fractured zones and closely spaced joints.																			
				The actual depth of lost zones could not be traced because of its broken nature.																			
					16	F	50°,70° 30°,40°	r, pl	100	30													
					20	F	70° 20°,40°	r, pl	100	14													
					11	F	75° 30°,50°	r, pl	100	64													
					7	F	30°,40°	r, pl	100	80													
					>20	F	30°,70° 80°	r, pl	100	17													
					14	F	50°,60°	r, pl	100	58													

BORE HOLE LOG

SHEET 5/10

DRILL HOLE NO.: B-5

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification					
					Weathering	orientation	Roughness	Filling Materials			Rec.	RQD	20	40	60			80	100	Classification	Weathering	Hardness	Joint spacing
	40.10		DOLOMITE Grey, hard to medium hard, fresh fine grained & fractured Cores are broken due to mechanical grinding in fractured zones and closely spaced joints. Most of the cores are broken into small fragments from 42.65 m - 45.30 m 46.20 m - 47.85 m 48.40 m - 48.50 m Low core recovery is due to mechanical grinding within fractured zones and closely spaced joints. The actual depth of lost zones could not be traced because of its broken nature.	13	F	40° 50°,60°	r, pl	none	100	42								CH	1	2	3		
41.00																		B	1	2	2		
	41.45				20	F	40°,60°	r, pl	none	100	30								CH	1	2	3	
42.00	41.85																						
					17	F	40°,60° 20°	r, pl	none	83	0												
43.00	43.00				>20	F	30°,60° 70°	r, pl	none	100	0												
	43.30																						
44.00					>20	F	70°,60° 20°	r, pl	none	100	0												
	44.25																						
	44.75				>20	F	70°,60°	r, pl	none	100	0								CM	1	2 3	3 4	
45.00				>20	F	10°,60°	sm,r, pl	none	100	0													
	45.30			>20	F	10°	sm,r, pl	none	100	0													
46.00				>20	F	30°,60° 70°	sm,r, pl	none	100	0								CH	1	2	3		
	46.20																						
				>20	F	30°,15° 70°	r, pl	none	100	17								CM	1	2 3	3 4		
47.00																							
				>20	F	30°,40° 70°	r, pl	none	100	10													
48.00	48.00																	CH	1	2	3		
				19	F	70°,40°	r, pl	none	100	34													
	48.70																						
49.00				12	F	70°	r, pl	none	100	43													
	49.55																						
				19	F	60°,40° 70°	r, pl st	none	100	16													
50.00																							
ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered MB-Mechanical Break, CL-Coreless, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic SRC Lab, NEA																							
Drilled by: S.R. Timlishina/T.Neupane										Reviewed by: J. M. Tamrakar													

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Core loss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, CI-Clay, SI-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.08.30

Completed: 2061.10.04

Drilled by: S.R. Timilshina/T. Neupane

Logged by: S.K. Karmacharya

Reviewed by: J. M. Tamrakar

SHEET 6/10

LOCATION: Dam Axis (L/B)

Reviewed by: J. M. Tamrakar

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BORE HOLE LOG

SHEET 7/10

DRILL HOLE NO.: B-5

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	orientation	Roughness	Filling Materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
	60.20		DOLOMITE																		
			Grey, hard to medium hard, fresh, fine grained & fractured	>20	F				75	0								CM	2	3	4
	60.60		Cores are broken due to mechanical grinding in fractured zones and closely spaced joints.																		
	61.00			11	F	60°	r, pl	none	100	0											
	61.20		Most of the cores are broken into small fragments from	>20	F	40°, 60°	r, pl	none	100	0											
	61.55																				
	62.00		60.90 m - 61.35 m																		
			63.45 m - 63.65 m																		
			66.30 m - 66.85 m																		
			67.65 m - 70.10 m	18	F	40°, 70°	r, pl	none	100	33								CH	1	2	3
	63.00		Low core recovery is due to mechanical grinding within fractured zones and closely spaced joints.	16	F	30°, 50° 60°	r, pl	none	80	24											
	63.15																				
	63.65		The actual depth of lost zones could not be traced because of its broken nature.	8	F	20°, 40°	r, pl	none	100	82											
	64.00																				
	64.65																				
	65.00			13	F	30°, 40° 60°	r, pl lr	none	93	30								B	1	2	2
	66.00																				
	66.15																				
	67.00			13	F	50°, 60°	r, pl	none	62	14								CH	1	2	3
	67.20			>20	F	60°	r, pl	none	100	0											
	68.65		Highly fragmented cores	>20	F				60	0								CM	1	3	4
	69.00		Highly fragmented cores	>20	F				70	0											
	69.15																				
	69.45		Highly fragmented cores	>20	F				67	0								CM	1	2 3	3 4
	70.00			>20	F	20°, 60°	r, pl	none	85	0											

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Core loss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.08.30

Completed: 2061.10.04

Drilled by: S.R. Timilshina/T. Neupane

Logged by: S.K. Karmacharya

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 9/10

DRILL HOLE NO.: B-5

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	orientation	Roughness	Filling Materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
	80.10		DOLOMITE															CH	1	2	3
	80.65		Gray, hard to medium hard, fresh fine grained & fractured	>20	F	40°, 50°	r, pl, ir	none	73	0											
81.00	81.16		Cores are broken due to mechanical grinding in fractured zones and closely spaced joints.	>20	F		r, pl	none	70	0								CM	1	3	4
	81.75		Most of the cores are broken into small fragments from	>20	F	40°, 60°	r, pl, ir	calc	100	0										2	3
82.00	82.05		80.20 m - 81.75 m	19	F	40°-60°	r, pl, sm	calc	100	0										3	4
	82.55		82.55 m - 82.65 m																		
	82.90		82.90 m - 83.85 m																		
	84.00		84.00 m - 84.75 m	>20	F	50°, 60°	r, pl, ir	none	100	0								CH	1	2	3
	85.20		85.20 m - 85.45 m			70°															
83.00	83.10		85.65 m - 88.00 m																		
	88.95		88.95 m - 90.15 m																		
	82.55		Low core recovery is due to mechanical grinding within fractured zones and closely spaced joints.	>20	F	40°, 60°	r, pl	none	100	0								CM	1	2	3
84.00	84.16		The actual depth of lost zones could not be traced because of its broken nature.	>20	F	50°, 70°	r, pl, ir	none	100	18										3	4
	84.65			>20	F	30°, 60°	r, pl	none	100	0											
85.00				18	F	40°, 50°	r, pl, ir	none	100	44								B	1	2	2
	85.65																				
86.00	86.40			>20	F	40°, 60°	r, pl, ir	none	93	0										1	2
																				3	4
	87.00			>20	F	10°, 60°	r, pl, ir	none	80	0								CM		3	4
	87.25			>20	F		r, pl, ir	none	100	0										2	3
	87.55			>20	F	50°	r, pl	none	100	0									1	3	4
88.00	88.20			>20	F	45°, 60°	r, pl, ir	none	100	17											
	89.00			>20	F	40°, 60°	r, pl, ir	none	95	35								CH	1	2	3
	89.25			>20	F		r, pl, ir	none	100	0											
90.00																		CM	1	3	4

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, SI-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.08.30

Completed: 2061.10.04

Drilled by: S.R. Timilshina/T. Neupane

Logged by: S.K. Karmacharya

Reviewed by: J. M. Tamrakar

SHEET 10/10

DRILL HOLE NO.: B-5

LOCATION: Dam Axis (L/B)

[illegible]

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreless, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic

SRC Lab, NEA

Started:2061.08.30

Completed:2061,10.04

Drilled by: S.R. Timilshina/T.Neupane Logged by: S.K.Karmacharya

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 1/10

DRILL HOLE NO.: B-6

COORDINATES:

X: 3092798.93

Y: 525459.84

Z: 307.93

INCLINATION: 45°

Dip Direction: 107°

DRILLING MACHINE: Long Year

CASING DEPTH : NW: 4.00 m

DRILLING METHOD: Rotary Drilling / Wire line System

WATER TABLE: 0.5 m

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	orientation	Roughness	Filling Materials			20	40	60	80			Classification	Weathering	Hardness	Joint spacing
			Drilled from the bedrock. DOLOMITE Grey, hard, fresh and fine grained. Cores are broken into small fragments due to mechanical grinding in fractured zones and in closely spaced joints. Fragmented cores are observed from																	
1.00				18	F-SW	40°	r, pl st	Calc.	100	16										1
	1.30																			
	2.00			>20	F-SW			Calc. FeO	61	0							CM	2 3	3 4	2
	3.15		1.50 m to 2.15 m 2.80 m to 3.15 m 3.65 m to 4.90 m 4.50 m to 4.60 m 6.00 m to 6.60 m 7.00 m to 7.30 m 9.30 m to 9.85 m coreloss is observed from 1.50 m - 1.75 m	5	F-SW	40°, 50° 80°	pl, r	Calc. FeO	100	14										3
	3.90				F	40°	r	Calc.	100	29										
	4.20		Highly fragmented cores	>20	F				100	0										4
	4.60			10					100	10										
	5.00			>20	F	20°, 60°	r, pl		100	46							CH	2	2	3
	6.00																			6
	7.00			>20	F	20°	r, pl	calc.	100	8							CM	2	3	4
	7.30																			
	7.50																			
	8.00			17	F	5°, 50°	r, pl	calc	100	11										8
	8.40			5	F	70°, 10°	r	FeO	100	58							CM	2	2 3	3 4
	9.00																			9
	9.45																			
	10.00			18	F	70°, 20°		none	100	10										10

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, St-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.10.09

Completed: 2061.11.07

Drilled by: S.R. Timilshina/T. Neupane

Logged by: S.K. Karmacharya/S. Shrestha

Reviewed by: J. M. Tamraker

SHEET 2/10

LOCATION: Dam Axis (L/B)

Depth, m		Run Depth, m	Log	Description of Rock/Soll	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec.					Permeability (Lugeons)	Other tests	Rock Mass Classification																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
20	40	60	80			100	Weathering	orientation	Roughness			Filling Materials	Rec.	RQD	Classification	Weathering			Hardness	Joint spacing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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SHEET 3/10

DRILL HOLE NO.: B-6

LOCATION: Dam Axis (L/B)

[illegible]

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreless, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab. NEA

Started:2061,10.09

Completed:2061,11.07

Drilled by: S.B. Timilshina/T. Neupane

Logged by: S.K.Karmacharya/S.Shrestha

Reviewed by: J. M. Tamraker

BORE HOLE LOG

SHEET 4/10

DRILL HOLE NO.: B-6

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD	Permeability (Lugeons)	Other tests	Rock Mass Classification						
					Weathering	orientation	Roughness	Filling Materials						Classification	Weathering	Hardness	Joint spacing			
			DOLOMITE																	
	30.50		Grey, hard to mod hard, fresh fine grained & fractured	>20	F	40°, 50°	r, pl	none	100	0					CH	1	2	3		
31.00			Cores are broken due to mechanical grinding in fractured zones and closely spaced joints.			60°														
			Most of the cores are broken into small fragments from	>20	F			none	44	0										31
	31.75														D	3	3~4	5		
32.00			31.20 m - 31.75 m																	32
			32.80 m - 33.00 m																	
			34.75 m - 35.00 m	12	F	40°, 70°	sm, r, pl	FeO	100	8					CH	1	2	3		
33.00			35.50 m - 35.60 m																	33
	33.20																			
			Coreloss is observed from																	
	34.00		30.50 m - 31.20 m	6	F	30°, 40°	sm, r, pl	FeO	100	59										34
						60°														
			Low core recovery is due to mechanical grinding within fractured zones and closely spaced joints.	10-15	F		sm, r, pl	Calc	100	20					CM	2	3~4	4		
35.00																				35
			The actual depth of lost zones could not be traced because of its broken nature.	10-15	F	10°, 40°	sm, pl	Calc	100	35										
						30°, 50°														
36.00															CH	1	2	3		36
				14	F	40°, 30°	pl, r	none	100	39										
						20°														
36.72																				37
37.00																				
				14	F	40°, 10°	r, pl-ir	none	100	45										
						70°														
37.42																				
				>20	F		sm, r, pl	FeO	100	0					CM	2	2 3	2 3	3 4	
38.00																				38
38.70																				
				10	F	20°, 50°	sm, r, pl	none	100	67										
						60°														
39.00																				39
				10	F	40°, 30°	r, pl	FeO	100	67					B	1	2	2		
								calc, Si												
39.40																				
				8	F	50°, 40°	sm, r, pl	calc	100	58					CH	1	2	3		40
40.00																				

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.10.09

Completed: 2061.11.07

Drilled by: S.R. Timilshina/T.Neupane

Logged by: S.K.Karmacharya/S.Shrestha

Reviewed by: J. M. Tamrakar

SHEET 5/10

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification					
					Weathering	orientation	Roughness	Filling Materials			20	40	60	80			100	Classification	Weathering	Hardness	Joint spacing	
			DOLOMITE Grey, hard to mod hard, fresh fine grained & fractured Cores are broken due to mechanical grinding in fractured zones and closely spaced joints. Most of the cores are broken into small fragments from 43.50 m - 43.57 m 44.40 m - 44.80 m Low core recovery is due to mechanical grinding within fractured zones and closely spaced joints. The actual depth of lost zones could not be traced because of its broken nature.																			
				9	F	40°	r, pl	none	100	54								CH	1	2	3	
	40.55																					
	41.00			7	F	40°,50°	r, pl-ir	FeO,Si	100	37											41	
	41.40																					
	41.50			>20	F	40°	r, pl-ir	none	100	0								CM	1	3	4	
	41.55																					
	42.00			13	F	50°	r, pl-ir	none	100	25											42	
	42.35																					
	43.00			10	F	40°,30°	r, pl-ir	none	100	23								CH	1	2	3	43
	43.05																					
	43.50			9	F	20°,40°	sm, pl	none	100	44												
	44.00																		1	3	4	44
																			2	3		
				7	F	30°	r, pl	none	100	40								CM	1	3	4	
	45.00																					45
				8	F	40°,60°	sm,r,pl		100	53												
	45.70																					
	46.00			5	F	40°,60°	r, pl	Si	100	77												46
	46.35																					
	47.00			4	F	40°	r, pl	none	100	83								B	1	2	2	47
	47.50																					
	48.00			6	F	50°,60°	r, pl	none	100	82												48
	48.50																					
	49.00			4	F	40°,50° 20°	r, pl	FeO	100	78												49
	50.00			5	F	60°,40°	r, pl	none	100	75												50
ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic																						
SRC Lab, NEA																						
Started: 2061.10.09																						
Completed: 2061.11.07																						
Drilled by: S.R. Timilishina/T. Neupane																						
Logged by: S.K. Karmacharya/S. Shrestha																						
Reviewed by: J. M. Tamrakar																						

SHEET 6/10

LOCATION: Dam Axis (L/B)

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered		
MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, St-Silt, calc-calcic		
SRC Lab, NEA	Started:2061.10.09	Completed:2061.11.07
Drilled by: S.R. Timilshina/T.Neupane	Logged by: S.K.Karmacharya/S.Shrestha	Reviewed by: J. M. Tamrakar

SRC Lab, NEA	Started:2061.10.09	Completed:2061.11.07
Drilled by: S.R. Timilshina/T.Neupane	Logged by: S.K.Karmacharya/S.Shrestha	Reviewed by: J. M. Tamrakar

SHEET 7/10

LOCATION: Dam Axis (L/B)

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered		
MB-Mechanical Break, CL-Coreless, PI-Plaster, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic		
SRC Lab, NEA	Started: 2061.10.09	Completed: 2061.11.07
Drilled by: S.R. Timlishina/T.Neupane	Logged by: S.K.Karnacharya/S.Shrestha	Reviewed by: J. M. Tamrakar

SHEET 8/10

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	orientation	Roughness	Filling Materials			20	40	60	80			100	Classification	Weathering	Hardness
			DOLOMITE	14	F	40°,50°	none	100	58											
	70.35		Grey, hard to mod hard, fresh fine grained & fractured																	
	71.00		Cores are broken due to mechanical grinding in fractured zones and closely spaced joints.	13	F	40°,50°	none	100	0							CH	1	2	3	
	71.50		Most of the cores are broken into small fragments from																	
	72.00			20	F	40°	none	100	0											
			71.70 m - 72.00 m																	
			73.00 m - 80.00 m																	
			Corelosses are observed between fractured zones which are as follows	>20	F	40°	none	100	0							CM	1	2	4	
	73.00			>20	F		none	100	0											
	73.40			>20	F		none	100	0											
			73.75 m - 74.00 m	>20	F		none	58	0											
			74.30 m - 75.00 m																	
	74.00		75.35 m - 75.75 m																	
			76.00 m - 76.40 m																	
			76.65 m - 77.00 m	>20	F		none	30	0											
			77.20 m - 77.75 m																	
	75.00		77.75 m - 78.20 m																	
	75.00		73.00 m - 80.00 m																	
			Low core recovery is due to mechanical grinding within fractured zones and closely spaced joints.	>20	F		none	47	0							CM	1	2~3	4	
	75.75			>20	F		none	38	0							CM	1	2~3	4	
	76.40		The actual depth of lost zones could not be traced because of its broken nature.	>20	F		none	42	0							CM	1	2~3	4	
	77.00			4	F	40°	none	27	13							CM	1	2~3	4	
	77.75																			
	78.00			>20	F		none	47	0											
	78.60																			
	79.00			5	F	40°	none	100	18							CM	1	2	4	
	79.20			>20	F		none	100	22											
	79.63																			
	80.00			15	F	40°	none	100	0							CH	1	2	3	
ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered																				
MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, CI-Clay, SI-Silt, calc-calcic																				
SRC Lab, NEA																				
Started: 2061.10.09 Completed: 2061.11.07																				
Drilled by: S.R. Tmilshina/T. Neupane Logged by: S.K. Karmacharya/S. Shrestha Reviewed by: J. M. Tamrakar																				

BORE HOLE LOG

SHEET 9/10

DRILL HOLE NO.: B-6

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification					
					Weathering	orientation	Roughness	Filling Materials			Rec.	RQD	20	40	60			80	100	Classification	Weathering	Hardness	Joint spacing
			DOLOMITE Grey, hard to mod hard, fresh fine grained & fractured Cores are broken due to mechanical grinding in fractured zones and closely spaced joints. Most of the cores are broken into small fragments from	>20	F			none	55	0								CM	1	3	4		
81.00	81.00			>20	F			none	43	0								CM	1	2 (3) ~3 ~4	81		
	81.70																						
82.00			80.00 m - 83.30 m																		82		
			83.45 m - 83.90 m	>20	F	40°	pl, sm	calc	100	0													
			83.90 m - 88.00 m																				
	82.50		88.40 m - 90.00 m																				
83.00			Core loss is observed from	>20	F	40°		none	100	12								CM	1	2 (3) ~3 ~4	83		
			80.55 m - 81.00 m																				
	83.30		81.30 m - 81.75 m																				
			85.25 m - 85.67 m																				
			86.00 m - 86.60 m	>20	F	50°		none	100	20											84		
84.00	83.90		87.00 m - 87.75 m																				
			Low core recovery is due to mechanical grinding within fractured zones and closely spaced joints.	>20	F			none	100	0											85		
	84.50			>20	F			none	100	0													
85.00	85.00																						
			The actual depth of lost zones could not be traced because of its broken nature.	>20	F	40°		none	37	0													
	85.67																						
86.00				>20	F			none	35	0								CM	1	3	4		
	86.60			>20	F			none	100	0											86		
87.00	87.00																	CM	1	2~3	4		
				>20	F			none	25	0											87		
88.00	88.00																				88		
				10	F	40°, 50°	sm-r, pl	none	100	22								CM	1	2 3 ~3 ~4	89		
89.00																							
	89.16			13	F			none	100	0													
90.00	90.00																				90		

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Core loss, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.10.09

Completed: 2061.11.07

Drilled by: S.R. Timilshina/T. Neupane Logged by: S.K. Karmacharya/S. Shrestha Reviewed by: J. M. Tamrakar

SHEET 10/10

DRILL HOLE NO.: B-6

LOCATION: Dam Axis (L/B)

[illegible]

BORE HOLE LOG

SHEET 1/5

DRILL HOLE NO.: B-7

COORDINATES:

X: 3092798.93

Y: 525459.84

Z: 307.93

INCLINATION: 45°


DIRECTION: 287°

DRILLING MACHINE: Long Year

CASING DEPTH : HW: 5.50 m; NW: 25.45 m

DRILLING METHOD: Rotary Drilling / Wire line System

WATER TABLE: 0.00 m (River bed)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			Rec.	RQD		Classification	Weathering			Hardness	Joint spacing		
			ALLUVIUM (overburden) Consisting of angular to rounded fragments of gneiss, quartzite and calc. rocks. Max. size of the fragments is 20 cm																		
1.00																				1	
	1.70																			2	
2.00																					
	2.90																			3	
4.00	4.00																			4	
	4.50																				
5.00																				5	
	5.25																				
	5.50																				
6.00	6.00																			6	
	6.50																				
7.00	7.00																			7	
	8.00																		8		
	9.00	9.00																	9		
10.00	10.00																		10		

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.11.22

Completed: 2061.12.20

Drilled by: S.R. Timilshina/T. Neupane

Logged by: S. Shrestha


Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 2/5

DRILL HOLE NO.: B-7

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80			Classification	Weathering	Hardness	Joint spacing
11.00	11.00		ALLUVIUM (overburden) Consisting of angular to rounded fragments of gneiss, quartzite and calc. rocks. Max. size of the fragments is 10 cm																	
12.00	11.50																			11
13.00	13.00																			12
14.00	14.00																			13
15.00	15.00																			14
16.00	16.00																			15
17.00	17.00																			16
18.00	18.00																			17
19.00	19.00																			18
20.00	20.00																			19
																				20

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.11.22

Completed: 2061.12.20

Drilled by: S.R. Timilshina/T. Neupane

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 3/5

DRILL HOLE NO.: B-7

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			ALLUVIUM (overburden) Consisting of sand & angular to rounded fragments of gneiss, quartzite and dolomite. Max. size of the fragments is 10 cm																		
	20.50																				21
	21.00																				
	21.50																				
	22.00																				22
	23.00																				23
	24.00																				24
	24.50																				
	25.00		Top of the bedrock at 25.0m																		25
	25.50		DOLOMITE Grey, hard to mod hard, SW to fresh fine grained & fractured with quartz veins		F-SW	40°,45°	R,pl	FeO cl	100	0											
	25.70		In several runs the cores are broken into small fragments due to mechanical grinding in fractured zones and in closely spaced joints. This has also resulted the core loss in many sections.		F-SW	40°	R,pl ir	FeO	100	55								CM	2	3	3
	26.00				F-SW	40°,35°	R,pl ir	FeO	100	20											26
	26.20				F-SW	35°	R,pl	FeO	86	28											
	26.65				F-SW	35°	R,pl	FeO	100	0											
	27.00				F-SW		R,pl ir	FeO	100	0											27
	27.60		Mechanical breaks are observed from		F-SW			cl	100	0								CM	2	3	4
	28.00		26.67 m - 26.90 m																		
	28.30		27.60m - 27.80 m																		
	28.60		28.15 m - 28.30 m		F-SW	30°,35°	R,pl ir	FeO cl	100	20								CM	2	3	3~4
	29.00		29.00 m - 29.30 m																		
	29.30		Coreloss is observed from		F-SW		R,ir		60	0											29
	29.70		26.90 m - 27.60 m																		
	29.70		27.80m - 28.15 m		F-SW	40°,45°	R,ir		75	32								CM	2	3	3
	30.00		28.80 m - 29.00 m																		
	30.00		29.60 m - 29.70 m		F-SW			FeO	100	0											30

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic

SRC Lab, NEA

Started:2061.11.22

Completed:2061.12.20

Drilled by: S.R. Timilshina/T.Neupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 4/5

DRILL HOLE NO.: B-7

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80			Classification	Weathering	Hardness	Joint spacing
			DOLOMITE Grey, hard to mod hard, sw to fresh fine grained & fractured with quartz veins		F-SW	30°	R,ir	FeO	50	0							CM	2	3	4
	30.60				F-SW	40°,50°	R,ir		100	30							CH	2	2	3
	31.00				F-SW	40°	R,ir	FeO	46	0										
	31.70		In several runs the cores are broken into small fragments due to mechanical grinding in fractured zones and in closely spaced joints. This has also resulted the coreloss in many sections.		F-SW	40°,35°	R,pl	cl	75	17							CM	2	3	3
	31.75				F-SW	45°	R,ir		100	57							CH	2	2	3
	32.00				F-SW	35°,45°	R,ir		100	33										
	32.35		Mechanical breaks are observed from 30.30 m - 30.60 m 36.20m - 36.50 m 37.65 m - 38.00 m 38.00 m - 38.10 m 38.30 m - 38.35 m 39.30m - 39.40 m Coreloss is observed from 30.00 m - 30.30 m 30.60m - 30.70 m 31.10 m - 31.45 m 37.00 m - 37.65 m 38.35m - 38.70 m		F	40°	R,ir		100	86										
	32.70				F	35°	R,ir		100	50							B	1	2	2
	33.00				F	50°,35°	R,pl	ir	100	78										
	34.00				F	40°	R,ir		100	0							CH	1	2	3
	34.95				F	45°	R,ir		100	62										
	35.00				F	45°	R,ir		100	37							B	1	2	2
	35.80				F	50°	R,pl	ir	57	0							CH	1	2	3
	36.00				F	45°	R,ir		100	0							CM	1	3	4
	36.20				F	45°	R,ir		100	0										
	36.50				F	45°	R,ir		100	0										
	37.00				F	45°	R,ir		100	0										
	38.00				F	45°	R,ir	FeO	100	28							CH	1	2	3
	38.35				F	40°	R,pl	ir	62	23										
	39.00				F	40°	R,pl	ir	100	25										
	39.40				F	40°	R,pl	ir	100	25										
	40.00																			

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab, NEA

Started:2061.11.22

Completed:2061.12.20

Drilled by: S.R. Timilshina/T.Neupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 5/5

DRILL HOLE NO.: B-7

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			DOLOMITE Grey, strong to mod strong, fresh fine grained & fractured with quartz veins		F	45°	R,pl ir		100	50											
	40.60																				
	41.00				F	60°,45°	R,pl		100	62								CH	1	2	3
	41.30		In several runs the cores are broken into small fragments due to mechanical grinding in fractured zones and in closely spaced joints.		F	45°	R,ir		100	40											
	42.00	42.00	This has also resulted the core loss in many sections.		F	50°,55°	R,pl		100	27											
	42.40																				
	43.00	43.00	Mechanical breaks are observed from 42.55 m - 43.00 m 43.55 m - 45.00 m 45.50 m - 45.65 m 45.90 m - 46.50 m 46.70m - 47.15 m		F	60°	R,pl		75	0								CM	1	2 3	3 4
	44.00		47.30 m - 47.70 m 48.15 m - 48.55 m 49.00m - 50.00 m		F				62	0											
	44.20																				
	45.00	45.00	Coreloss is observed from 42.40 m - 42.55 m 43.00 m - 43.55 m 45.00 m - 45.50 m 45.65 m - 45.90 m 47.15 m - 47.30 m		F				23	0											
	45.65																				
	46.00				F				44	0											
	46.10																				
	46.30		Low core recovery is due to mechanical grinding within fractured zones and closely spaced joints.		F	40°,45°	R,pl		100	0								CM	1	2 3	4
	47.00				F	40°,45°			100	21											
	47.15																				
	47.70		The actual depth of lost zones could not be traced because of its broken nature.		F		R,ir		64	0											
	48.00				F	45°	R,pl ir	cl	100	27										2~3	3~4
	48.45				F					0										3	4
	49.00	49.00			F	40°,45°	R,ir		100	44								CH	1	2	3
	49.40				F				100	0											
	50.00	50.00	Hole terminated at 50.00m		F	45°	R,ir		100	0								CM	1	3	4

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, CI-Clay, SI-Silt, calc-calcic

SRC Lab, NEA

Started:2061.11.22

Completed:2061.12.20

Drilled by: S.R. Timilshina/T.Neupane

Logged by: S.Shrestha

Reviewed by: J. M. Tamraker

BORE HOLE LOG															SHEET 1/10					
DRILL HOLE NO.: B-8			COORDINATES:			X: 3092723.719			Y: 525502.468			Z: 401.6								
INCLINATION: 45°			DIRECTION: 107°			DRILLING MACHINE: Long Year			CASING DEPTH : NW: 9.00 m			DRILLING METHOD: Rotary Drilling / Wire line System								
									WATER TABLE: none											
Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80			100	Classification	Weathering	Hardness
			Drilled from the bedrock																	
			Dolomite		SW-MW				40	0							CM	3	3	4
	1.00	1.00	Grey, hard, slightly weathered fine grained																	
		1.35			MW	50°	R	Calc	100	0							CH	2	2~3	3
	2.00	2.00	In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.							0	0									
		3.00		4	SW	50°	R	Calc	50	12							CH	2	2~3	3
	3.00	3.00	The actual depth of lost zones could not be traced because of its broken nature.																	
		4.00		3	SW	50°	R,PI	Calc FeO	60	26							CM	2	3	3
	4.00	4.00	All joint parameters can't be measured because of smaller fragments.																	
		4.80		1	SW		R,PI	Calc	25	0										
	5.00	5.00	MB in fractured zones are observed from														CM	2	3	3~4
		5.50	0.00 m to 0.40 m	>20	F-SW		R,PI	FeO	43	0										
		6.00	1.00 m to 1.35 m																	
			3.78 m to 3.82 m																	
			5.20 m to 5.50 m	>20	F-SW			Calc	53	0							CM	2	3	4
			6.70 m to 7.00 m																	
			8.00 m to 8.50 m																	
			9.20 m to 9.40 m																	
	7.00	7.00															CM	2~3	3	4
			Coreloss is observed from																	
			0.40 m to 1.00 m	>20	F-SW		R	Calc	33	0										
			1.35 m to 2.00 m																	
			2.00 m to 2.50 m																	
			3.00 m to 3.40 m																	
			4.00 m to 4.60 m																	
			4.80 m to 5.20 m														CM	2~3	3	4
			6.00 m to 6.70 m	>20	SW		R	Calc	22	0										
			7.00 m to 8.00 m																	
			8.50 m to 9.20 m																	
	9.00	9.40																		
				1	SW	40°	R	none	17	0							CM	2	3	4
	10.00	10.00																		

ABBREVIATIONS: F- Fresh, SW- Slightly Weathered, MW- Moderately Weathered, HW- Highly Weathered, CW- Completely Weathered
MB- Mechanical Break, CL- Coreloss, PI- Planar, Sm- Smooth, R- Rough, Ir- Irregular, FeO- Iron Oxide, Cl- Clay, St- Silt, calc- calcic

SRC Lab, NEA Started: 2062.02.23 Completed: 2062.04.27

Drilled by: B. Neupane/ D. Adhikari Logged by: S. Shrestha Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 2/10

DRILL HOLE NO.: B-8

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
11.00			Dolomite with quartz veins Grey, hard, slightly weathered fine grained						0	0											
11.50			In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.	>20	SW	20°	R,PI	none	67	0											
12.00																					
13.00			Mechanical breaks are observed from 12.00 m to 13.00 m 14.00 m to 14.50 m 15.50 m to 16.00 m 18.80 m to 19.00 m 7.45 m to 7.50 m 9.00 m to 9.30 m	>20	SW		R		33	0								CL	2	3	4 5
14.00																					
14.50			Coreloss is observed from 10.00 m to 12.00 m 13.00 m to 14.00 m 14.50 m to 15.50 m 16.00 m to 18.80 m 19.00 m to 20.00 m	>20	SW	30°			33	0											
15.00																					
16.00			The above mentioned corelosses are not due to the presence of caves or caverns or voids.	>20	SW				33	0											
17.00																					
17.50																					
18.00				>20	SW				13	0											
19.00																					
19.50																					
20.00									0	0											

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, CI-Clay, SI-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.23

Completed: 2062.04.27

Drilled by: B. Neupane/ D. Adhikari

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 3/10

DRILL HOLE NO.: B-8

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz veins Grey, hard, slightly weathered fine grained		F				40	0											
	20.50																				
	21.00				F				3	0											21
			In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.																		
	22.00	22.00																			22
			Mechanical breaks and fractured zones are observed from						0	0											
	23.00																				23
			20.30 m to 20.50 m 26.00 m to 26.50 m 27.30 m to 28.00 m 29.00 m to 29.50 m																		
	23.50																				
	24.00								0	0											24
			Coreloss is observed from 20.00 m to 20.30 m 20.50 m to 21.95 m 22.00 m to 26.00 m 26.50 m to 27.30 m 28.00 m to 29.00 m 29.50 m to 30.00 m																		
	25.00	25.00		>20	F		R	FeO	33	0											25
	26.00																				26
																		CM	2	3	4
	26.50																				
	27.00			>20	F	50°	R	Calc FeO	40	0											27
	28.00	28.00																CM	2	3	4
	29.00			>20	F				33	0											28
	29.50																				29
																		CL	2	3	4~5
	30.00	30.00			F				0	0											30

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, St-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.23

Completed: 2062.04.27

Drilled by: B.Neupane/ D. Adhikari

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 4/10

DRILL HOLE NO.: B-8

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz veins Grey, hard, slightly weathered fine grained	>20	F				0	0											
31.00	31.00		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.	>20	F				17	0											
32.00			Mechanical breaks and fractured zones are observed from															CL	2	3	4~5
32.50																		CM	2	3	4
32.80			32.25 m to 32.50 m	>20	F	30°	R		100	0											
33.00			32.80 m to 33.00 m																		
			37.20 m to 37.25 m	7	F	30°,40°	R	Calc	100	14											
			37.80 m to 38.80 m																		
34.00	34.00		39.45 m to 39.60 m	10	F	40°	R,Pl		100	67											
			Most of the mechanical breaks are in fracture zones	16-20	F	20°,40°	R,Pl,i	Calc	100	0											
			Coreloss is observed from 30.00 m to 32.25 m	13	F	40°	R,Pl,i	Calc	100	0											
35.00	34.90			14	F	50°,60°	R,Pl,i	FeO	100	0											
36.00				7	F	25°,40°	R,Pl,i	FeO	100	37											
																		CH	2	2	3
37.00	37.00			10	F	30°,40°	R,Pl,i	FeO	100	22											
						50°															
38.00	38.00			13	F	40°	R,Pl,i	Calc	100	0											
39.00				12-15	F	40°,50°	R,Pl,i	Calc	100	10											
40.00	40.00			14	F	50°,40°	R,Pl,i	Calc FeO	100	0											

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.23

Completed: 2062.04.27

Drilled by: B. Neupane/ D. Adhikari

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 5/10

DRILL HOLE NO.: B-8

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification				
					Weathering	Orientation	Roughness	Infilling materials			Rec. RQD							Classification	Weathering	Hardness	Joint spacing	
												20	40	60	80							100
			Dolomite with quartz veins Grey, hard, slightly weathered fine grained	>20	F		R,PI		60	0												
41.00			In several runs cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.																			
	41.50																					
42.00				>20	F	50°,70	R,PI		67	0												
			MB is observed from 41.20 m to 41.42 m 42.80 m to 42.60 m 43.00 m to 45.00 m 45.45 m to 45.60 m 45.80 m to 46.00 m 46.15 m to 47.00 m 48.58 m to 48.72 m 49.00 m to 49.40 m 49.60 m to 49.75 m																			
43.00	43.00																					
				>20	F		R,PI		100	0												
44.00	44.00																					
			CL is observed between 40.00 m to 41.20 m 41.50 m to 42.00 m	>20	F		R,PI		100	0												
	44.50			>20	F	30°	R,PI	FeO	100	0												
45.00	45.00																					
				9	F	50°	R,PI		100	12												
	45.80		Low core recovery is due to mechanical grinding within fractured zones and closely spaced joints.																			
46.00				2	F	30°,40	R,PI	FeO	100	0												
	46.60																					
			The actual depth of lost zones could not be traced because of its broken nature.	>20	F	50°	R		100	0												
47.00	47.00																					
				9	F	50°,40	R,PI		100	54												
	47.70																					
48.00				9	F	5°,40 60°	R,PI,i	Calc	100	37												
	48.40																					
				10	F	50°,50	R,PI	Calc	100	33												
49.00	49.00			>20	F		R,PI,i	FeO	100	0												
	49.40			10	F	60°	R,PI		100	0												
50.00	50.00																					

Lugeon Value 1.23

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Core loss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, CI-Clay, SI-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.23

Completed: 2062.04.27

Drilled by: B. Neupane/ D. Adhikari

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 6/10

DRILL HOLE NO.: B-8

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification				
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing	
			Dolomite with quartz veins Grey, hard, slightly weathered fine grained	6	F	50°,40	R,Pl		100	0								CM	2	2-3	4	
	50.80																					
51.00			In several runs cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.	9-15	F	50°,40	R,Pl		100	36											51	
	51.30																					
52.00				10	F	45°,50° 70°	R,Pl	Cl	100	10								CH	1 2	2	3	52
	52.45		Mechanica breaks are observed from																			
	53.00		50.00 m to 50.20 m	7	F	50°	R,Pl		100	33												
	53.20		50.45 m to 50.65 m																			
			50.80 m to 51.00 m	15	F	40°	R,Pl		100	0											53	
			54.25 m to 54.35 m																			
			54.60 m to 54.85 m	6	F	50°,40	R,Pl,lr		100	14											54	
54.00			55.35 m to 56.00 m																			
			58.35 m to 58.60 m																			
			59.20 m to 59.35 m																			
	54.25		59.90 m to 60.00 m	4	F	50°	R,Pl		100	13												
55.00	55.00			6	F		R		100	28								CM	1 2	2 3	3 4	55
	55.35																					
	55.65			>20	F				100	0												
56.00				6	F	20°,60° 50°	R,Pl	FeO	100	9											56	
	56.80																					
				10	F	20°,50	R,Pl	FeO	100	0								CH	1 2	2	3	57
57.00																						
	57.30																					
58.00				8	F	20°,60° 50°	R,Pl		100	13											58	
	58.60																					
59.00				7-12	F	20°,40	R,Pl		100	0								CM	1 2	2 3	3 4	59
	59.50																					
	60.00			10	F	20°,60	R,Pl		100	20								CH	2	2	3	60

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Core loss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, CI-Clay, Si-Silt, calc-calcic

SRCL Lab, NEA

Started: 2062.02.23

Completed: 2062.04.27

Drilled by: B. Neupane/ D. Adhikari

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 7/10

DRILL HOLE NO.: B-8

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz veins light grey to grey, hard, fresh, fine grained.	8	F	20°, 60°	R, PI	FeO, C	100	15											
61.00	61.20		In several runs cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.	10	F	20°, 40°	R, PI	FeO, C	100	20								CH	2	2	3
62.00	61.70																				
			Mechanical break is observed from	>20	F	40°	R, PI	none	38	0											
63.00	63.00		60.00 m to 61.20 m																		
			61.70 m to 62.00 m	11	F	50°	R, PI, i	FeO, C	100	27											
	63.35		63.75 m to 63.85 m					Calc													
			64.50 m to 65.20 m																		
64.00			65.60 m to 65.75 m	12	F	20°, 40°	R, PI, i	FeO, C	100	0								CH	2	2	3
	64.55		66.10 m to 67.60 m																		
			68.30 m to 68.60 m																		
			68.80 m to 69.00 m																		
			69.40 m to 70.00 m																		
65.00			CL is observed between 62.00 m to 62.80 m	7	F	30°, 40° 60°	R, PI	none	100	0								CM	2	3	4
	65.60																				
66.00				12	F	50°, 40°	sm-r PI	FeO	100	20								CH	1 2	2	3
	66.70																				
				>20	F	40°	sm-r PI		100	0											
67.00																		CM		2 3	4
	67.70																				
	67.60			>20	F				100	0											
68.00				7	F	20°	R, PI, i		100	0									1 2		
	68.40																				
				7	F	50°, 40°	R, PI, i		100	0								CH		2	3
69.00																					
	69.10																				
				5	F	50°, 30°	R, PI	FeO	100	22								CM		2 3	4
70.00	70.00																				

Lugeon Value 1.21

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.23

Completed: 2062.04.27

Drilled by: B. Neupane/ D. Adhikari

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 8/10

DRILL HOLE NO.: B-8

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Intilling materials			Rec.	RQD						Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz veins light grey to grey , hard, fresh, fine grained.	9	F	75°,40°	R,Pl		100	33											
	70.45																				
	71.00		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.	6	F	70°,40°	R,Ir		100	30								CH	1 2	2 3	71
	72.00	72.00																B	1 2	2 2	72
			Mechanical breaks are observed from	3	F	30°,40°	R,Pl	FeO	77	13								CM	2 3	4	
	73.00																	B	1-2	2 2	73
	73.50		70.35 m to 70.45 m																		
			70.45 m to 70.50 m																		
	74.00		71.30 m to 71.40 m		>20	F			53	0								CL	1 2	3 4 5	74
			72.35 m to 72.60 m																		
			73.00 m to 73.50 m																		
			73.85 m to 74.25 m																		
	74.25		74.50 m to 75.00 m		>20	F		FeO,Cl	67	0											
			75.25 m to 76.30 m																		
	75.00	75.00	76.65 m to 77.70 m																		
			79.50 m to 80.00 m																		
			CL is observed between 72.00 m to 72.35 m		>20	F	40°	R,Pl	FeO,Cl	75	0										
			73.50 m to 73.85 m																		
	76.00	76.00	74.25 m to 74.50 m		>20	F	60°	R,Pl	FeO,Cl	60	0							CM	2 3	4	76
			75.00 m to 75.25 m																		
			76.30 m to 76.50 m																		
	77.00		The actual depth of lost zones could not be traced because of its broken nature.		>20	F	20°,60° 70°	R,Pl	FeO,Cl	100	0										
	77.50																	CL	2 3	4 5	77
	78.00	78.20																			
	79.00	79.00																CH	2 2	3	79
	80.00	80.00																CM	2 3 4	3 4	80

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, CI-Clay, SI-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.23

Completed: 2062.04.27

Drilled by: B. Neupane/ D. Adhikari

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 9/10

DRILL HOLE NO.: B-8

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification				
					Weathering	Orientation	Roughness	Infilling materials			Rec. RQD							Classification	Weathering	Hardness	Joint spacing	
												20	40	60	80							100
			Dolomite with quartz veins light grey to grey , hard, fresh, fine grained.	4	F	50°,40° 50°	R,PI	Cl	100	0								CM	1 2	2 3	3 4	81
81.00	81.00		In several runs cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.	6	F	45°,40°	R,PI		100	38												
			Mechanical breaks are observed from 80.10 m to 80.35 m 80.50 m to 80.85 m 81.00 m to 81.30 m 81.75 m to 81.85 m 83.15 m to 83.35 m 84.35 m to 84.70 m 85.00 m to 85.40 m 86.00 m to 86.35 m 87.35 m to 87.50 m 88.25 m to 88.35 m 89.45 m to 89.65 m	11	F	30°,40° 60°,50°	R,PI	Cl	100	36								CH	1 2	2	3 2 3	82
83.00	83.15			7	F	50°,40° 70°	R,PI	FeO,Cl Calc	100	47								CM	3	3	3~4	83
84.00	84.00			5	F	30°,40° 70°	R,PI	FeO	100	40								B	2	2	2	84
85.00	85.00			8	F	30°,60° 50°	R,PI	FeO,Cl	100	10								CM	2	2 3	3 4	85
86.00	86.00		CL is observed between 88.65 m to 89.45 m	9	F	30°,40° 70°	R,PI	FeO,Cl	100	20								CH	2	2	3	86
87.00	86.85		The actual depth of lost zones could not be traced because of its broken nature.	11	F	50°,40°	R,PI	FeO,Cl	100	17												87
87.60				16	F	60°	R,PI	FeO	100	0												88
88.00	88.15			10-20	F	50°,40°	R,PI	FeO	100	0								CM	2	2 3	3 4	89
88.65				>20	F				20	0												90
89.00	89.65			8	F	50°,40°	R,PI	Calc FeO	100	0								CM	2	2 3	3 4	91

Lugeon Value 18.3

Lugeon Value 6.49

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered
MB-Mechanical Break, CL-Core loss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, St-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.23

Completed: 2062.04.27

Drilled by: B. Neupane/ D. Adhikari

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 10/10

DRILL HOLE NO.: B-8

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Intiling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
	90.15		Dolomite with quartz veins light grey to grey, hard, fresh, fine grained.	10	F	30°, 40°	R, Pl	FeO, Calc	100	0								CM	2	2	3
	90.75			13	F	60°	R, Pl	FeO	100	0									2	3	4
91.00			In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.																		
	91.30																				
	92.00																				
	93.00		Mechanical breaks are observed from 90.00 m to 90.15 m	>20	F				15	0											
	93.00		92.85 m to 93.00 m																		
			93.65 m to 93.80 m	>20	F				19	0											
			94.00 m to 94.15 m																		
	93.80		94.70 m to 94.90 m																		
94.00			95.40 m to 95.60 m	8	F	40°	R, Pl, Ir	FeO	100	0								CM	2	2	3
	94.15		95.60 m to 95.80 m																		
			95.90 m to 96.15 m	>20	F	50°	R, Pl	FeO, Calc	47	0											
			96.60 m to 96.90 m																		
			97.70 m to 98.00 m																		
95.00	95.00		98.40 m to 99.25 m																		
			99.70 m to 100.00 m																		
	95.60		Coreloss is observed from	>20	F	70°, 40°	R, Pl	Calc	67	0								CM	2	3	4
				>20	F	50°	R	FeO	100	0											
96.00	95.30			>20	SW		R	FeO	100	0											
	96.15			>20	F-SW	40°	R, Pl, Ir	FeO, Calc	41	0											
97.00	97.00																	CM	2	3	4
	97.70																				
98.00	98.00			>20	F				100	0								CM	2	2	3
				>20	SW-MW	20°	R, Ir	Calc	100	0											
	98.40							FeO													
				>20	SW		R, Ir	Calc	100	0											
								FeO													
99.00																					
	99.25			>20	SW			FeO	40	0											
100.00	100.00		Hole terminated at 100.00 m															CL	2	3	4~5

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.23

Completed: 2062.04.27

Drilled by: B. Neupane/ D. Adhikari

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG															SHEET 1/15					
DRILL HOLE NO.: B-9			COORDINATES:			X: 3092749.38			Y: 525590.68			Z: 527.50								
INCLINATION: Vertical			DIRECTION:						CASING DEPTH :											
DRILLING MACHINE: Long Year									WATER TABLE:											
DRILLING METHOD: Rotary Drilling / Wire line System																				
Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Intilling materials			20	40	60	80			100	Classification	Weathering	Hardness
1.00		▲	Overburden materials Colluvial and residual deposits Coreloss NW casing advancement																	
2.00		▲																		
3.00		▲																		
4.00	4.00	▲	Top of the bedrock at 3.75m Dolomite with quartz vein	4	MW to HW	35°, 40°	R	calc FeO	40	12							CH	2 3	2 3	3
5.00		▲	Grey, fine grained, medium hard Due to weathering and leaching of calcite numerous perforations on the surface of cores filled by CaCO ₃ , FeO, Si, Cl. Joint planes and fractured planes are filled by red soil.	4	MW to HW		R	calc FeO	78	33							CH	2 3	2 3	3
6.00	5.90	▲	In several runs low core recovery is observed that is due to mechanical grinding with in highly weathered section, fractured zones and closely spaced joints.	7	F-SW		sm-r	FeO	100	72										
7.00		▲		3	F-MW	50°, 40°	sm-r pl-ir	calc, cl FeO	73	61							B	2	2	2
8.00		▲	Coreloss is observed between 5.90 m and 6.30 m 7.40 m and 8.15 m Brown colour, soft dolomite Completely weathered cores are obtained from 8.15 m to 8.90 m		CW				50	0										
9.00	8.30	▲	Mechanically broken fragments from 9.80 m to 9.90 m	6	SW	60°	R, ir	FeO	100	43							CM	4	3 4	3
10.00		▲		10	SW	50°	R	FeO	100	0							CH	2	2	2 3
		▲		6	F-SW	60°	R	FeO	80	37										

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered
MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Sil, calc-calcic

SRC Lab, NEA Started: 2061.11.29 Completed: 2062.01.31

Drilled by: S.R. Timlishina/U.B. Chhetri Logged by: S.Shrestha Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 2/15

DRILL HOLE NO.: B-9

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
	10.30		Dolomite with quartz vein Grey, fine grained, mod. Hard calcite leached, perforations due to weathering.	2	F	50°,60°	R,pl	calc FeO si	98	56											
11.00			In several runs low core recovery is observed that is due to mechanical grinding with in highly weathered section, fractured zones and closely spaced joints.	7	F-SW	50°,60°	R,pl ir	calc FeO si	85	0								CH	2	2	3
12.00	11.90		leaching of calcite between 12.20 m to 12.27 m	11	F-SW	60°,80°	R,pl ir	FeO	100	52											
13.00	13.05		Coreloss is observed from 10.10 m - 10.65 m 12.45 m - 12.55 m	20	F-SW	60°	R,ir	calc FeO	100	80											
14.00	13.20		Mechanical breaks are from 12.35 m to 12.45 m	5	F-SW	40°	R,ir	calc FeO	100	54											
15.00	14.30		The actual depth of lost zones could not be traced because of its broken nature	8	F	50°,40°	R,pl		100	43								CH	2	2	3
16.00	15.65			8	F-SW	60°,70°	sm-R pl	FeO calc	100	17									2 3	2 3	3
17.00	16.35		HW cores obtained between 17.45 m and 17.57 m	6	F-SW	40°	sm-R ir	FeO calc	100	17											2 3
18.00	17.85			6	SW	60°,75°	R,ir	FeO calc cl	100	55											
19.00	19.35		19.35 m to 19.70 m HW cores many perforations containing FeO, clay.	4	SW MW	60°,70°	R	FeO calc	100	80											
20.00																					

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic

SRC Lab, NEA

Started:2061.11.29

Completed:2062.01.31

Drilled by:S.R. Timilshina/U.B. Chhetri

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 3/15

DRILL HOLE NO.: B-9

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100		Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz vein Grey, fine grained, mod. Hard calcite leached, numerous perforations due to weathering.														B	2	2	2
21.00	20.85		Red soil on the surface of the cores from 20.85 m to 22.35 m	11	F-SW	60°, 70°	R-ir	FeO calc, cl	100	36							CM	2	3	3
22.00			In few runs low core recovery is observed that is due to mechanical grinding with in highly weathered section, fractured zones and closely spaced joints.	9	F-SW	60°, 50°	sm-R ir	FeO cl	100	9							CM	2	3	4
23.00	23.40		Mechanical breaks are observed from 22.65 m to 23.10 m 25.00 m to 25.15 m 26.55 m to 26.90 m 27.10 m to 27.80 m 28.85 m to 29.25 m	10	F-SW	60°	R,r	calc	100	20							CM	2	3	3
24.00	23.90			7	SW	60°, 70° 40°	R,ir	calc	100	58							B	2	2	2
25.00	25.00		Coreloss is observed from 26.35 m to 26.55 m	15	SW	60°	R,ir	calc Si	100	0							CM		3	4
26.00	25.40		The actual depth of lost zones could not be traced because of its fractured nature.	9	SW MW	50°, 70°	R,ir	calc	100	31							CH	2 3	2	3
27.00				>20	SW	40°, 60°	R,ir		86	0							CM	2 3	3	3 4
28.00	27.80			7	F MW	70° 40°, 60°	R,ir	FeO	100	55							CH	2 3	2	3
29.00	28.85			10	SW MW	40°, 60°	R,ir	FeO	100	31							CM	3	3	4
30.00	29.50			8	F	40°	R,ir	calc	100	32							CH	2	2	3

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SRC Lab, NEA

Started: 2061.11.29

Completed: 2062.01.31

Drilled by: S.R. Timilshina/U.B. Chhetri

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 5/15

DRILL HOLE NO.: B-9

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz vein Light grey, fine grained, mod. hard, calcite leached, perforated and cracked.	9	SW		R,ir	calc FeO	100	61							CH	2	2	2
	40.45			13	SW	40°, 50°	R,ir	calc FeO	100	50										3
41.00																				
	41.45		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in highly weathered section, fractured zones and closely spaced joints.	9	SW	40°-60°	R	calc FeO	100	50							B	2	2	2
42.00	42.00																			
				>20	SW		R		50	0							CM	2	3	4
	42.50			>20	SW				100	0								3		
	42.70		The actual depth of lost zones could not be traced because of its broken nature.	>20	SW	40°, 50°	R	calc FeO	50	0										
43.00																				
	43.50																			
			Mechanical breaks are observed from	>20	F-SW			calc	29	0										
44.00			42.00 m to 42.25 m																	
			42.50 m to 42.60 m																	
	44.35		43.10 m to 43.50 m																	
			44.10 m to 44.35 m	>20	F				23	0										
			44.85 m to 45.00 m																	
45.00	45.00		46.10 m to 46.40 m																	
			47.30 m to 48.05 m	>20	F			calc	27	0										
			49.25 m to 49.50 m																	
46.00			Coreloss is observed from																	
			42.25 m to 43.00 m																	
			42.70 m to 43.10 m																	
	46.50		43.50 m to 44.10 m																	
			44.35 m to 44.85 m																	
47.00			45.00 m to 46.10 m	>20	F-SW		R		10	0										
			46.50 m to 47.90 m																	
			48.05 m to 49.25 m																	
			49.50 m to 50.00 m																	
48.00																				
	48.05																			
49.00				>20	F		R		17	0										
	49.50																			
				>20	F		R		10	0										
50.00																				

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SRC Lab, NEA

Started: 2061.11.29

Completed: 2062.01.31

Drilled by: S.R. Timlishina/U.B. Chhetri

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 6/15

DRILL HOLE NO.: B-9

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			Rec. RQD	20	40	60	80			Classification	Weathering	Hardness	Joint spacing
51.00	51.05		Dolomite with quartz vein Light grey, fine grained, mod. hard.																		
52.00	52.55		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in highly weathered section, fractured zones and closely spaced joints.	>20	F-SW			FeO	10	0								CM	2~3	3	4
53.00	53.60		The actual depth of lost zones could not be traced because of its broken nature.	>20	F				22	0								CM	3	3	4
54.00	54.10		Mechanical breaks are observed from 50.85 m to 51.05 m 52.40 m to 52.55 m 53.75 m to 54.10 m 55.55 m to 55.60 m 56.80 m to 56.95 m 58.25 m to 58.45 m 58.65 m to 58.82 m 58.90 m to 60.00 m	>20	F				3	0								CM	2~3	3	4
55.00	55.60																	CM	3	3	4
56.00	56.80		Coreloss is observed from 50.00 m to 50.85 m 51.05 m to 52.40 m 52.55 m to 53.75 m 54.10 m to 55.55 m 55.60 m to 56.80 m 56.95 m to 58.25 m	>20	F				11	0								CM	3	3	4
57.00	57.85																	CM	3	3	4
58.00	58.45																	CM	3	3	4
59.00	59.35																	CM	3	3	4
60.00	60.85																	CM	3	3	4

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.11.29

Completed: 2062.01.31

Drilled by: S.R. Timilshina/U.B. Chhetri

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 7/15

DRILL HOLE NO.: B-9

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
	60.20		Dolomite with quartz vein	20	F-SW		R,ir	cl	100	34								CH	2	2	3
	60.40		Light grey, fine grained, medium hard to hard.	>20	F-SW	40°,20°	R,ir	FeO	100	0								CM	2	3	4
	61.00																				
	61.70		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with	>20	F-SW	40°	sm-R	FeO	35	0											
	61.85		in highly weathered section, fractured zones and closely spaced joints.	>20	F-SW		R	cl	100	0											
	62.00																				
	62.10																				
	62.85		The actual depth of lost zones could not be traced because of its broken nature.	>20	F-SW	40°	R,ir		33	0											
	63.10																				
	63.25																				
	63.65		Mechanical breaks are observed from	20	F-SW	40°	R,ir	cl	100	0											
	64.00		60.55 m to 60.85 m	16	F	40°,50°	R,ir		100	0											
	64.05		61.70 m to 62.00 m																		
	64.45		62.10 m to 62.35 m	>20	F		R,ir	calc	100	0											
	64.85		62.85 m to 63.10 m																		
	65.00		64.05 m to 64.45 m	>20	F	60°	R,ir	calc	75	0											
	65.85		64.55 m to 64.75 m																		
	66.00		65.60 m to 65.85 m	>20	F				25	0											
	66.60		66.00 m to 66.60 m																		
	67.00		67.00 m to 67.10 m																		
	67.25		69.30 m to 69.43 m																		
	68.00		69.75 m to 70.00 m	19	F	40°	R,ir	cl	100	20											
	68.85		Coreloss is observed from	>20	F																
	69.30		60.85 m to 61.70 m																		
	69.50		62.35 m to 62.85 m	13	F	80°	R,ir	calc	100	0											
	70.00		64.75 m to 65.60 m																		
			66.60 m to 67.00 m	12	F	60°,75°	R,ir	calc	47	0											
				17	F	50°,70°	R,ir	calc,cl	100	31								CH	2	2	3
				18	F	40°-60°	R,ir	calc	100	13											
				>20	F	75°	R,ir	FeO	100	0											
				>20	F	50°	R,ir	Feo,cl	100	17								CM	2	2	4

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

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SRC Lab, NEA


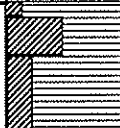
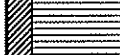

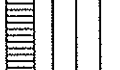

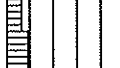
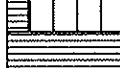
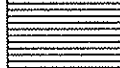
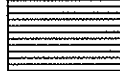

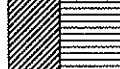




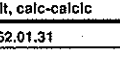


Started: 2061.11.29

Completed: 2062.01.31

Drilled by: S.R. Timilshina/U.B. Chhetri

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG														SHEET 8/15							
DRILL HOLE NO.: B-9				LOCATION: Dam Axis (L/B)																	
Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			Rec.	RQD						Classification	Weathering	Hardness	Joint spacing
	70.10		Dolomite with quartz vein Light grey, fine grained, medium hard to hard	12	F	60°	R,ir	FeO	100	50		Lugeon Value 2.0		CH	2	2	3				
	70.50		18	F	70°	R,ir	FeO	100	25												
71.00	71.15		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in highly weathered section, fractured zones and closely spaced joints.	>20	F		R,ir		23	0											
	72.00			>20	F				27	0											
	72.25			>20	F				15	0											
	73.00		The actual depth of lost zones could not be traced because of its broken nature.	>20	F				20	0											
	73.25		Mechanical breaks are observed from 70.70 m to 71.15 m 72.00 m to 72.55 m 73.90 m to 74.00 m 74.80 m to 76.00 m 76.25 m to 76.70 m 46.10 m to 46.40 m 76.65 m to 76.75 m 78.45 m to 78.70 m 79.00 m to 79.25 m 79.65 m to 80.00 m	>20	F				100	0											
74.00	74.00			>20	F			FeO,cl	20	0											
	75.00			>20	F	75°	R,ir	calc,cl	100	0											
	75.50			>20	F				100	0											
	75.85	>20		F	75°	R,ir	FeO	100	0												
76.00		Coreloss is observed from 71.15 m to 72.00 m 72.55 m to 73.35 m 73.35 m to 73.90 m 74.00 m to 74.80 m 78.00 m to 78.45 m 78.70 m to 79.00 m 79.25 m to 79.65 m	>20	F				100	0												
	76.25		>20	F				100	0												
	76.50		13	F			FeO	100	44												
	77.00		>20	F	75°			100	0												
	77.65		>20	F			cl	36	0												
	78.00		>20	F				45	0												
	78.70		>20	F				60	0												
	79.00																				
	79.25																				
	80.00																				

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, St-Silt, calc-calcic

SRC Lab, NEA

Started:2061.11.29

Completed:2062.01.31

Drilled by:S.R. Timilshina/U.B. Chhetri

Logged by:S.Shrestha

Reviewed by: J. M. Tamrakar

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, St-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.11.29

Completed: 2062.01.31

Drilled by: S.R. Timilshina/U.B. Chhetri

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 9/15

DRILL HOLE NO.: B-9

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
	80.25		Dolomite with quartz vein Light grey, fine grained, medium hard to hard	11	F	70°		calc FeO	60	0						Lugeon Value 2.0		CH	2	2	3
	81.00	81.00	In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in highly weathered section, fractured zones and closely spaced joints.	>20	SW-MW	40°		cl	30	0											
	82.00	82.00		13	SW-MW	50°, 70°	R,ir	FeO,cl	100	20								CH	2	2	3
	83.00	83.00		>20	SW	60°	R,ir sm,pl	calc	100	0								CM	2	3	4
	83.60		Mechanical breaks are observed from 80.00 m to 80.10 m 83.00 m to 83.30 m 83.45 m to 83.60 m 84.00 m to 84.20 m 85.80 m to 86.00 m 86.70 m to 86.85 m 88.00 m to 88.25 m 89.80 m to 90.00 m	>20	SW			cl	33	0											
	84.00	84.20		3	SW	70°	R,pl	FeO,cl	36	55											
	85.00			>20	SW	40°	R,pl	FeO,cl	100	0								CH	2	2	3
	85.80		Coreloss is observed from 80.00 m to 80.25 m 80.70 m to 81.00 m 83.60 m to 84.00 m 84.20 m to 85.00 m 86.85 m to 88.00 m 88.25 m to 89.80 m	18	SW	40°	R,pl	cl	100	0											
	86.00	86.20		20	MW	70°, 60°	R,pl	FeO,cl calc	100	28								CM	3	3	4
	87.00	86.85		>20	F-SW				62	0											
	88.00		Between 81.00 m and 83.00 m thick clay of brown colour is deposited on the fractured and joint surface of dolomite.																		
	88.25		Similarly between 84.20 m and 85.80; 86.20 m and 86.85 m cracks are developed on the surface of core and brown clay deposited on them and also on joint surfaces.	>20	F-SW	50°	R, pl	calc FeO	27	0											
	89.00																				
	90.00	90.00																CM	3	3	4

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered
MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.11.29

Completed: 2062.01.31

Drilled by: S.R. Timlishina/U.B. Chhetri

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 10/15

DRILL HOLE NO.: B-9

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			Rec. RQD	20	40	60	80			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz vein Light grey, fine grained, medium hard to hard																		
91.00				>20	F-SW			FeO,cl	38	0											
	91.30		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in highly weathered section, fractured zones and closely spaced joints.	>20	F-SW			FeO,cl	39	0								CM	2	3	4
92.00				>20	F-SW																
	92.20			>20	F-SW	60°	R, pl	cl	50	0								CM	2	3	3~4
	92.80		The actual depth of lost zones could not be traced because of its broken nature.																		
93.00				>20	F-SW		R, ir	FeO,cl	54	0											
	94.00		Mechanical breaks are observed from 90.80 m to 91.30 m 91.85 m to 92.20 m 92.50 m to 92.80 m 94.00 m to 94.35 m 94.70 m to 94.95 m																		
	94.35																				
	94.95			>20	F-SW				58	0											
95.00																					
	95.75																				
	96.00			17	F-SW	70°	R, ir	calc,cl	100	22								CH	2	2	3
	96.20																				
	96.55		Coreloss is observed from 90.00 m to 90.80 m 91.30 m to 91.85 m 92.20 m to 92.50 m 92.80 m to 94.00 m 94.35 m to 94.70 m 94.95 m to 95.25 m 96.90 m to 97.25 m 97.55 m to 98.20 m 98.70 m to 98.95 m 99.00 m to 99.10 m 99.60 m - 99.75 m	>20	F-SW													CM	2	3	4
	96.90																				
	97.00			>20	F-SW	60°-80°	R, pl	cl	100	0								CH	2	2	3
	97.55																				
	97.90			>20	F-SW		R, pl	cl	46	0								CM	2	3	3
	98.00																				
	98.40			>20	F-SW			cl	23	0											
	98.70																				
	99.00			>20	F-SW				100	0								CM	2	3	3~4
	99.35		Between 99.00 m and 99.35 m cracks are developed and brown colour clayey materials deposited on these cracks.																		
	99.60			17	F-SW	40°	R, pl	cl	71	0											
	99.90																				
	100.00			>20	F-SW	40°, 60°	R, ir		100	0								CM	2	3	3
									62	0											

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.11.29

Completed: 2062.01.31

Drilled by: S.R. Timlishina/U.B. Chhetri

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 11/15

DRILL HOLE NO.: B-9

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz vein Light grey, fine grained, mod. hard, calcite leached, perforated and cracked.	>20	F-SW		R, ir		23	0											
101.00	100.85			>20	F-SW		R, ir	FeO	100	0								CM	2	3	3~4
	101.25		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in highly weathered section, fractured zones and closely spaced joints.	>20	F-SW	70°	R, pl ir	cl	47	0											
102.00	102.00			>20	F-SW	40°	R, pl ir	calc	37	0								CM	2	3	4
	102.80			>20	F-SW																
103.00	103.00		The actual depth of lost zones could not be traced because of its broken nature.	>20	F-SW			FeO, cl	100	0								CM	2	3	4
	103.76			>20	F-SW			FeO, cl	40	0											
104.00	103.76		Mechanical breaks are observed from 100.65 m to 100.80 m 100.85 m to 101.25 m 101.60 m to 102.00 m 102.50 m to 103.00 m 103.45 m to 103.75 m	13	F-SW	50°, 75°	R, ir	cl	100	33								CH	2	2	3
	104.50			>20	F-SW			cl	37	0											
105.00	105.00		105.00 m to 105.30 m 106.05 m to 106.15 m 107.55 m to 107.65 m 108.90 m to 109.15 m 109.70 m to 110.00 m	>20	F-SW				12	0											
	106.00			>20	F-SW																
106.00	106.15			>20	F-SW			FeO, cl	7	0											
	107.00		Coreloss is observed from 100.00 m to 100.65 m 101.25 m to 101.60 m 102.00 m to 102.50 m 103.00 m to 103.45 m 104.50 m to 105.00 m 105.30 m to 106.05 m 106.15 m to 107.55 m 107.65 m to 108.90 m 109.15 m - 109.70 m	>20	F-SW																
	107.65			>20	F-SW	40°		cl	29	0											
108.00	108.00			>20	F-SW																
	109.00			>20	F-SW				100	0								CM	2	3	4
	109.15			>20	F-SW			FeO, cl	35	0											
110.00	110.00																	CM	2	3	4

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.11.29

Completed: 2062.01.31

Drilled by: S.R. Timilshina/U.B. Chhetri

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 12/15

DRILL HOLE NO.: B-9

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core				Permeability (Lugeons)	Other tests	Rock Mass Classification					
					Weathering	Orientation	Roughness	Infilling materials			Rec.	RQD					Classification	Weathering	Hardness	Joint spacing		
													20	40							60	80
			Dolomite with quartz vein Light grey, fine grained, medium hard to hard	>20	F-SW			cl	42	0									CM	2	3	4
	110.60			>20	F-SW			FeO,cl	33	0												
	111.00		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with																CL	2	3	4~5
		111.30	fractured zones and closely spaced joints.	>20	F-SW		R	cl	54	0									CM	2	3	4
	112.00			>20	F-SW		ir															
	112.16			>20	F-SW			calc,cl	43	0									CL	2	3	4~5
			The actual depth of lost zones could not be traced because of its broken nature.	>20	F-SW			cl	27	0												
	113.00	112.85		>20	F-SW																	
		113.40		>20	F-SW			cl	40	0									CM	2	3	4
			Mechanical breaks are observed from	>20	F-SW																	
	114.00		110.40 m to 110.60 m																			
		114.40	111.20 m to 111.50 m																			
			111.80 m to 112.15 m																			
			112.15 m to 112.85 m																			
			113.25 m to 113.40 m	>20	F-SW				25	0												
	115.00		114.00 m to 114.40 m																			
		115.20	115.00 m to 115.20 m																CM	2	3	4
			115.85 m to 116.30 m																			
			117.00 m to 119.20 m	>20	F	50°			41	0												
	116.00		119.40 m to 119.55 m																			
		116.30	Coreloss is observed from	17	F	50°	R,pl		100	57									CM	2	3	4
		116.65	110.00 m to 110.40 m																			
			110.60 m to 111.20 m																			
	117.00		111.50 m to 111.80 m	>20	F	40°	R, pl	cl	36	0												
		117.20	112.15 m to 112.55 m																			
			112.85 m to 113.25 m	>20	F	30°	R, pl	calc,cl	100	0									CM	2	3	4
		117.60	113.40 m to 114.00 m																			
			114.40 m to 115.00 m	>20	F			cl	100	0												
	118.00	118.00	115.20 m to 115.85 m																			
		118.20	116.65 m to 117.00 m	>20	F			cl	100	0												
			118.85 m to 119.40 m																			
			119.55 m to 120.00 m	15	F	40°,50°	R, pl ir	calc,cl	100	18									CH	2	2	3
	119.00	118.85																				
				>20	F				50	0												
		119.65																	CM	2	3	4
	120.00			19	F	40°			40	33												

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab, NEA

Started:2061.11.29

Completed:2062.01.31

Drilled by: S.R. Timlishina/U.B. Chhetri

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 13/15

DRILL HOLE NO.: B-9

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeon)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			Rec.	RQD	20	40	60			Classification	Weathering	Hardness	Joint spacing
	120.30		Dolomite with quartz vein Light grey, fine grained, medium hard to hard	>20	F	40°	R, ir	cl	100	0								CM	2	3	3~4
	120.65			>20	F	40°	R, pl	cl	100	0											
121.00	121.00		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in highly weathered section, fractured zones and closely spaced joints.		F	40°	R, ir		30	10											121
	122.00	122.00		>20	F		R		40	0											122
	123.75		The actual depth of lost zones could not be traced because of its broken nature.	>20	F				27	0								CM	2	3	3~4
123.00				>20	F				33	0											
	123.30		Mechanical breaks are observed from	>20	F	50°	R		33	0								CM	2	3	4
	123.75		120.30 m to 121.00 m	>20	F				5	0											124
124.00			121.10 m to 121.30 m	>20	F					0								CM	2	3	4
	124.35		122.45 m to 122.45 m	>20	F					0											
			123.15 m to 123.30 m							0											
			123.60 m to 123.75 m							0											
125.00	125.00		124.15 m to 124.35 m							0											
			125.60 m to 125.80 m	>20	F				25	0											
			126.80 m to 127.00 m							0											
			127.90 m to 128.00 m							0											
126.00	126.00		128.30 m to 128.80 m	>20	F				17	0								D	2	3~4	5
			129.40 m to 129.70 m							0											
			Coreloss is observed from	>20	F					0											
			121.30 m to 122.45 m							0											
			122.75 m to 123.15 m							0											
			123.30 m to 123.60 m	>20	F				10	0											
			123.75 m to 124.15 m							0											
			124.35 m to 124.95 m							0											
128.00	128.00		125.00 m to 125.60 m							0											
			125.80 m to 126.80 m	>20	F				62	0											
			127.00 m to 127.90 m							0											
			128.00 m to 128.30 m	>20	F	50°	R,ir		25	0								CM	2	3	4
			128.80 m to 129.40 m							0											
129.00				>20	F					0											
	129.60									0											
										0											
130.00	130.00			18	F				100	25								CM	2	3	4

Lugeon Value 8.0

Lugeon Value 7.0

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab, NEA

Started:2061.11.29

Completed:2062.01.31

Drilled by: S.R. Timishina/U.B. Chhetri

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 14/15

DRILL HOLE NO.: B-9

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80			Classification	Weathering	Hardness	Joint spacing
			Dolomite with quartz vein Light grey, fine grained, medium hard to hard	>20	F			cl	28	0										
	130.70																			
131.00				>20	F				50	0							CM	2	3	4
	131.30																			
	131.30		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in highly weathered section, fractured zones and closely spaced joints.	>20	F	40°, 50°	R,ir		50	0										
132.00	132.00			17	F	60°, 50°	R,ir		100	22										
	132.45																			
	132.45		The actual depth of lost zones could not be traced because of its broken nature.	>20	F	40°, 50°	R,ir		100	18							CM	2	2	3~4
133.00	133.00			>20	F	60°, 50°	R,ir		20	0										
			Mechanical breaks are observed from																	
134.00	134.00		130.50 m to 130.70 m	>20	F				100	0										
			131.00 m to 131.30 m																	
	134.50		131.65 m to 131.80 m	>20	F												CM	2	3	4
			132.70 m to 133.20 m																	
135.00	135.00		134.00 m to 134.55 m	>20	F				10	0										
			135.80 m to 136.00 m																	
			136.35 m to 136.50 m	>20	F				20	0										
			137.85 m to 138.00 m																	
136.00	136.00		139.40 m to 139.50 m	>20	F			FeO,cl	30	0							CM	2	3	4
	136.50																			
	137.00		Coreloss is observed from																	
			130.00 m to 130.50 m																	
			130.70 m to 131.00 m																	
			131.30 m to 131.65 m	>20	F				15	0										
			133.20 m to 134.00 m																	
138.00	138.00		134.55 m to 135.00 m														CM	2	3	4
			135.00 m to 135.80 m																	
			136.00 m to 136.35 m	>20	F				20	0										
			136.50 m to 137.00 m																	
			137.00 m to 137.85 m																	
139.00			138.00 m to 139.40 m																	
			139.50 m to 140.00 m																	
	139.50			>20	F				10	0										
140.00																				

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, St-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.11.29

Completed: 2062.01.31

Drilled by: S.R. Timishina/U.B. Chhetri

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 15/15

DRILL HOLE NO.: B-9

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification				
					Weathering	Orientation	Roughness	Infilling materials			Rec.	RQD	20	40	60			80	100	Classification	Weathering	Hardness
			Dolomite with quartz vein Light grey, fine grained, medium hard to hard	>20	F																	
	140.50			>20	F				20	0												141
	141.00																					
			In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in highly weathered section, fractured zones and closely spaced joints.	>20	F				20	0												142
	142.00																					
			The actual depth of lost zones could not be traced because of its broken nature.	>20	F				30	0												143
	143.00																					
			Mechanical breaks are observed from 140.40 m to 150.50 m 140.90 m to 141.00 m 142.30 m to 142.50 m 144.00 m to 144.15 m 146.40 m to 146.50 m 146.90 m to 147.00 m 147.55 m to 147.85 m																			144
	144.00																					
	145.00								0	0												145
	146.00			>20	F				10	0												146
			Coreloss is observed from 140.00 m to 140.40 m 140.50 m to 140.90 m 141.00 m to 142.30 m 142.50 m to 144.00 m 144.15 m to 145.50 m 147.30 m to 147.55 m 148.90 m to 149.00 m 149.35 m to 149.70 m																			
	147.00			>20	F				20	0												147
				>20	F	40°,30°	R,ir,pl		100	0									CM	2	2	3~4
	147.30			14	F	40°	R,ir,pl	cl	64	27												148
				14	F	40°			100	47												
	148.00																					
	148.55			>20	F	40°,60° 70°	R,ir,pl		78	0									CM	2	2	3~4
	149.00			8	F	40°	R,ir	FeO	60	37												149
	150.00		Hole terminated at 150.00 m																CH	2	2	3

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, SI-Silt, calc-calcic

SRC Lab, NEA

Started: 2061.11.29

Completed: 2062.01.31

Drilled by: S.R. Timilshina/U.B. Chhetri

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 1/3

DRILL HOLE NO.: B-10

COORDINATES:

X: 3092868.89

Y: 525487.21

Z: 308.45

INCLINATION: Vertical


DIRECTION:

DRILLING MACHINE: Long Year

CASING DEPTH : NW: 16.85 m

DRILLING METHOD: Rotary Drilling / Wire line System

WATER TABLE: 0.00 m (River bed)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
					Weathering	Orientation	Roughness	Infilling materials			Rec. RQD		20	40	60			80	100	Classification	Weathering	Hardness	Joint spacing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
			Overburden materials (alluvial deposits) consisting of angular to rounded fragments of dolomite, quartzite and phyllite. Maximum size upto 6 cm.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.01.28

Completed: 2062.02.03

Drilled by: U.B. Chhetri/T. Neupane

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 2/3

DRILL HOLE NO.: B-10

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80			Classification	Weathering	Hardness	Joint spacing
			Overburden materials (alluvial deposits) consisting of angular to rounded fragments of dolomite, quartzite																	
	10.35																			11
	11.00																			
	12.00																			12
	12.10																			
	13.00																			13
	13.25																			
	13.50																			
	14.00																			14
	15.00																			15
	15.05		Top of the bedrock at 15.00 m	16	F	40°, 50°	R, Pl		100	50							CH	1	2	3
	15.25			>20	F	50°	Ir-sm pl		62	0							CM	1	3	4
	16.00																			16
	16.05																			
	16.50		In several runs the cores are broken into small fragments due to mechanical grinding in fractured zones and in closely spaced joints.	>20	F	40°	R, Pl		55	0										
	16.50		This has also resulted the core loss in many sections.	13	F	50°	R, Pl		43	0							CM	1	2	4
	17.00																			17
	16.85			>20		40°, 50°	R, Pl		75	0										
	17.45																			
	18.00		Mechanical breaks are observed from 16.65 m - 16.76 m	14	F	40°	R, Pl		100	45							CH	1	2	3
	18.30		17.15 m - 17.45 m			50°														18
	19.00		19.55 m - 19.80 m																	
	19.00		Core loss is observed from 15.75 m - 16.20 m	>20	F	40°	R, Pl		47	9										19
	19.80		16.50 m - 16.70 m			50°														
	20.00		16.85 m - 17.00 m														CM	1	2	3
			18.30 m - 19.10 m																	20
			19.80 m - 20.10 m																	

ABBREVIATIONS: F- Fresh, SW- Slightly Weathered, MW- Moderately Weathered, HW- Highly Weathered, CW- Completely Weathered

MB- Mechanical Break, CL- Core loss, Pl- Planar, Sm- Smooth, R- Rough, Ir- Irregular, FeO- Iron Oxide, Cl- Clay, Sl- Silt, calc- calcic

SRC Lab, NEA

Started: 2062.01.28

Completed: 2062.02.03

Drilled by: U.B. Chhetri/T. Neupane

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 3/3

DRILL HOLE NO.: B-10

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			Grey, hard fine grained dolomite	>20					54	0								CM	1	3	4
	20.45			20	F	40°	R, Pl		100	0											
	20.80					60°															
21.00			In several runs the cores are broken into small fragments due to mechanical grinding in fractured zones and in closely spaced joints. This has also resulted the core loss in many sections.	18	F	40°	sm, pl	calc	100	0								CM	1	2	3
	21.40					50°														3	4
	22.00			15	F	60°			100	10											
	22.80		Mechanical breaks are observed from 21.40 m - 21.75 m	19	F	40°, 50°	r-sm		100	25								CH	1	2	3
	23.00		22.80 m - 23.00 m			60°	pl														
	23.70		25.00 m - 25.20 m	>20	F	40°			100	0								CM	1	3	4
	24.00		27.25 m - 27.35 m	17	F	50°	R, Pl	calc	100	14								CH	1	2	3
	24.00		28.20 m - 28.70 m	>20	F	50°	R, Pl		100	33								CM	1	2~3	3~4
	25.00		29.25 m - 30.00 m	8	F	40°, 60°	R, Pl	ir	100	65								CH	1	2	3
	25.00			15	F	40°, 50°	R, Pl		100	41								B	1	2	2
	26.00			11	F	40°	R, Pl		100	14											
	26.56			12	F	40°	R, Pl	calc	100	25								CH	1	2	3
	27.00			16	F	40°	R, Pl	calc	100	27											
	27.36								100	0											
	27.80																				
	28.00																				
	28.20			>20	F	60°	R, Pl		100	0								CM	1	2	3
	28.70																				
	29.00			15	F	60°	R, Pl		100	44								CH	1	2	3
	29.25			15	F	40°, 50°	R, Pl		100	0								CM	1	2	4
	30.00		Hole ended at 30.00 m																		

ABBREVIATIONS: F- Fresh, SW- Slightly Weathered, MW- Moderately Weathered, HW- Highly Weathered, CW- Completely Weathered

MB- Mechanical Break, CL- Core loss, Pl- Planar, Sm- Smooth, R- Rough, Ir- Irregular, FeO- Iron Oxide, Cl- Clay, St- Silt, calc- calcic

SRC Lab, NEA

Started: 2062.01.28

Completed: 2062.02.03

Drilled by: U.B. Chhetri/T. Neupane

Logged by: S. Shrestha


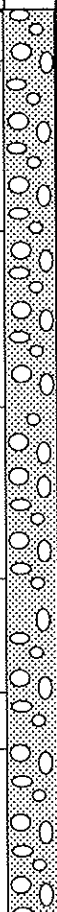
Reviewed by: J. M. Tamrakar

BORE HOLE LOG															SHEET 1/3								
DRILL HOLE NO.: B-11 COORDINATES: X: 3092875.74 Y: 525445.51 Z: 307.46 INCLINATION: Vertical DIRECTION: DRILLING MACHINE: Long Year CASING DEPTH : HW: 5.70 m; NW: 16.50 m DRILLING METHOD: Rotary Drilling / Wire line System WATER TABLE: 0.00 (River bed)																							
Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core				Permeability (Lugeons)	Other tests	Rock Mass Classification						
					Weathering	Orientation	Roughness	Infilling materials			Rec.	RQD	20	40			60	80	100	Classification	Weathering	Hardness	Joint spacing
1.00			Overburden materials (alluvial deposits) consisting of angular to rounded fragments of dolomite, quartzite gneiss, conglomerate etc. Maximum size upto 10 cm.																	1			
1.30																					2		
2.00																						3	
3.00	3.00																					4	
4.00																						5	
4.30																							6
5.00																							7
5.60	5.60																						8
7.00																							9
7.40	7.40																						10
8.00																							
8.90	8.90																						
9.00																							
10.00																							

ABBREVIATIONS: F- Fresh, SW- Slightly Weathered, MW- Moderately Weathered, HW- Highly Weathered, CW- Completely Weathered
 MB- Mechanical Break, CL- Core loss, Pl- Planar, Sm- Smooth, R- Rough, Ir- Irregular, FeO- Iron Oxide, Cl- Clay, Si- Silt, calc- calcic
 SRC Lab, NEA Started: 2062.01.17 Completed: 2062.01.24
 Drilled by: U.B. Chhetri/T. Neupane Logged by: S. Shrestha Reviewed by: J. M. Tamrakar

SHEET 2/3

LOCATION: Dam Axis (L/B)

DRILL HOLE NO.: B-11																					
LOCATION: Dohra (LL)																					
Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infiling materials			Rec. RQD		Classification	Weathering	Hardness			Joint spacing			
	10.45		Overburden materials (alluvial deposits) consisting of angular to rounded fragments of dolomite, quartzite, gneiss, conglomerate etc. Maximum size upto 4 cm.																11		
11.00																					
	11.95																		12		

BORE HOLE LOG

SHEET 3/3

DRILL HOLE NO.: B-11

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeon)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
	20.35		Light grey to grey, hard fine grained dolomite						0	0											
	20.55								0	0											
	20.80								0	0											
21.00			In several runs the cores are broken into small fragments due to mechanical grinding in fractured zones and in closely spaced joints. This has also resulted the core loss in many sections.	>20	F	60°	R,pl,ir		100	0								CM	1	3	4
	21.45			9	F	50°	sm-r	FeO	100	57								CM	1	3	4
22.00	21.85			14	F	50°	sm,pl		100	0								CH	1	2	3
			Mechanical breaks are observed from	13	F	50°,60°	sm-r	calc	100	76											
	22.85		20.55 m - 20.80 m																		
23.00			21.10 m - 21.45 m																		
	23.40		25.00 m - 25.20 m	>20	F	50°	R,ir		100	0								CM	1	2~3	3~4
			23.15 m - 23.40 m																		
	23.80		23.55 m - 23.80 m	15-25	F	40°	R,ir	calc	100	30								CH	1	2	3
24.00			24.70 m - 27.00 m																		
			27.15 m - 27.45 m																		
			28.50 m - 29.00 m	>20	F	40°	R,pl		100	0											
			29.55 m - 29.70 m																		
			Similarly corelosses zones are observed from																		
25.00	25.00		20.00 m to 20.55 m	>20	F		R,ir		100	0											
			20.80 m to 21.10 m	>20	F		pl		100	0								CM	1	2	3
	25.45		23.80 m to 24.70 m				R,ir														
	25.70		27.00 m to 27.15 m																		
26.00	26.00			>20	F	40°	R,pl		100	0											
	26.30		Low core recovery is due to mechanical grinding within fractured zones and closely spaced joints.	>20	F	50°	R,pl,ir	calc	100	0											
	26.60			>20																	
				>20																	
	27.00			>20	F	50°			100	0											
			The actual depth of lost zones could not be traced because of its broken nature.	>20	F				67	0											
	27.45																				
	27.80			>20	F	50°	R,pl,ir		100	0											
28.00				20	F	50°	R,pl,ir		100	0											
	28.10																				
	28.50			20	F	50°	R,pl,ir		100	0											
	28.70			>20	F																
29.00	29.00			>20	F	50°	R,pl,ir		100	0											
				20	F	50°	R,ir		100	33											
	29.30																				
	29.70			20	F	50°	R,pl,ir	cl	100	0											
30.00	30.00		Hole ended at 30.00 m	>20	F	50°	R,pl		100	0											

ABBREVIATIONS: F- Fresh, SW- Slightly Weathered, MW- Moderately Weathered, HW- Highly Weathered, CW- Completely Weathered

MB- Mechanical Break, CL- Coreloss, PI- Planar, Sm- Smooth, R- Rough, Ir- Irregular, FeO- Iron Oxide, CI- Clay, SI- Silt, calc- calcic

SRC Lab, NEA

Started: 2062.01.17

Completed: 2062.01.24

Drilled by: U.B. Chhetri/T. Neupane

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 1/12

DRILL HOLE NO.: B-12

COORDINATES:

X: 3092723.719

Y: 525502.468

Z: 401.6

INCLINATION: 45°

DIRECTION: 020°

DRILLING MACHINE: Long Year

CASING DEPTH : NW: 12 m

DRILLING METHOD: Rotary Drilling / Wire line System

WATER TABLE: none

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80			Classification	Weathering	Hardness	Joint spacing
			Drilled from the bedrock NW casing advancement upto 1.5 m.																	
1.00			Dolomite Grey, med. hard, slightly weathered fine grained						0	0										
1.50																				
2.00			In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in weathered section, fractured zones and closely spaced joints.		SW			FeO,cl	4	0										
2.40																				
3.00																				
3.60			The actual depth of lost zones could not be traced because of its broken nature.																	
4.00					SW		R	FeO	18	0										
5.00			Joint parameters can't be measured because of smaller fragments.																	
5.20			Mechanical breaks are observed from 4.90 m to 5.10 m 6.50 m to 6.70 m 7.75 m to 7.95 m 7.95 m to 8.25 m 9.25 m to 9.55 m 8.00 m to 8.50 m 9.55 m to 9.80 m		SW				13	0							CM 2-3	3	4	
6.00																				
6.70																				
7.00					SW				16	0										
8.00			Coreloss is observed from 0.00 m to 3.55 m 3.60 m to 4.90 m 5.20 m to 6.50 m 6.70 m to 7.75 m 8.25 m to 9.25 m 9.80 m to 10.00 m																	
8.25					SW			Calc,cl	100	0							CM 2-3	3	4	
9.00																				
9.55					SW			Cl	23	0										
9.80																				
10.00					SW			Calc	100	0							CM 2-3	3	4	

ABBREVIATIONS: F- Fresh, SW- Slightly Weathered, MW- Moderately Weathered, HW- Highly Weathered, CW- Completely Weathered

MB- Mechanical Break, CL- Coreloss, PI- Planar, Sm- Smooth, R- Rough, Ir- Irregular, FeO- Iron Oxide, Cl- Clay, SI- Silt, calc- calcic

SRC Lab, NEA

Started: 2062.02.27

Completed: 2062.04.29

Drilled by: U.B. Chhetri, S.R. Timlishina, D. Shrivakoti

Logged by: S. Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 2/12

DRILL HOLE NO.: B-12

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
11.00	11.20		Dolomite Grey, hard, slightly weathered fine grained perforated, cracked and calcite leached.		SW			Calc	18	0											
	11.45		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in weathered section, fractured zones and closely spaced joints.		SW				100	0								CM	2-3	3	4
12.00	12.75		The actual depth of lost zones could not be traced because of its broken nature.	8	SW	80°, 60°	R, Pl	Calc, cl	81	31											
13.00	14.00		Mechanical breaks are observed from	9	SW	80°, 60° 40°	R, pl, ir	Calc	100	41								CH	1 2	2	3
14.00	14.30		10.95 m to 11.45 m		SW		R		100	0											
15.00	16.30		14.60 m to 14.70 m 14.78 m to 14.86 m 15.00 m to 15.05 m 18.75 m to 18.95 m 19.05 m to 19.20 m 19.80 m to 20.00 m	10 -16	SW	50°, 60°	R	FeO Calc	100 100	18 36											
16.00	15.85		Coreloss is observed from	7	SW	50°	R, pl, ir	Calc	100	36								CM			3-4
17.00	17.35		10.00 m to 10.95 m 11.45 m to 11.70 m 17.35 m to 17.45 m 18.95 m to 19.05 m 19.30 m to 19.80 m	8	F	80°, 70°	R, pl, ir	Calc, cl FeO	100	31											
18.00	18.20			9	F	30°, 50°	R, pl, ir	FeO Calc	76	31								CH			3
19.00	19.55			12	F	40°	R		100	68											
19.00	19.30			5	F	50°, 60°	R, Pl	Calc	100	0								CM	1 2	3	4
20.00				6	F	50°	R, Pl	FeO	71	0											

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, CI-Clay, Si-Silt, calc-calcic

SRC Lab, NEA


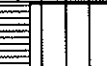

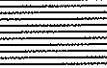

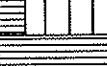
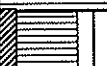
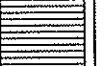

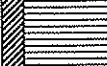
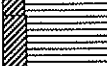

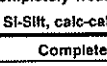
Started: 2062.02.27

Completed: 2062.04.29

Drilled by: U.B. Chhetri, S.R. Timilshina, D. Shivakoti

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG															SHEET 4/12						
DRILL HOLE NO.: B-12					LOCATION: Dam Axis (L/B)																
Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			Rec.	RQD		Classification	Weathering			Hardness	Joint spacing		
			Dolomite Grey, hard, fresh, fine grained		F	40°,50°	R,Pl	Calc	35	0											
31.00	31.00		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.	3	F	15°		Calc	67	0							CM	1 2	3	4	31
32.00	31.60			10	F	50°,60° 70°	R,pl,lr	Calc	100	0							CH	1 2	2	3	32
33.00	32.50		Mechanical breaks are observed from		F	50°	R,Pl	Calc	23	0											33
34.00	34.00		30.65 m to 31.00 m 31.20 m to 31.60 m 31.70 m to 31.80 m 33.60 m to 33.70 m 33.80 m to 34.75 m 35.75 m to 36.00 m 36.70 m to 37.40 m 38.80 m to 39.00 m 39.50 m to 39.75 m 39.88 m to 40.00 m		F		R	Calc	100	0							CM	1 2	3	4	34
35.00	34.35				F		R	FeO	100	0											35
36.00	34.75		Coreloss is observed from 30.00 m to 30.65 m 31.20 m to 31.20 m 32.50 m to 32.60 m 34.75 m to 35.00 m 36.00 m to 36.20 m 36.40 m to 36.60 m	10	F	50°,80°	R,Pl		69	14							CH	1 2	2	3	36
37.00	36.55			9	F	45°,80°	R,Pl	FeO	76	0							CM	1 2	2 3	3 4	37
38.00	36.40		The actual depth of lost zones could not be traced because of its broken nature.	7	F	70°	R,Pl		67	0											38
39.00	37.00		Joint parameters can't be measured in all runs because of smaller fragments.	8	F	40°,50°	R,pl,lr	FeO	100	18							CH	1 2	2	3	39
40.00	38.00			10	F	50°,60° 70°	R,pl,lr	Cl	100	20											40
40.00	40.00			12	F	70°	R,Pl	Calc,cl	50	20							CM	2	3	4 3	40
ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered MB-Mechanical Break, CL-Coreloss, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic																	Lugeon Value 0.13				
SRC Lab, NEA				Started: 2062.02.27				Completed: 2062.04.29													
Drilled by: U.B. Chhetri, S.R. Timlishina, D. Shrivakoti				Logged by: S.Shrestha				Reviewed by: J. M. Tamrakar													

SHEET 5/12

DRILL HOLE NO.: B-12

LOCATION: Dam Axis (L/B)

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 6/12

DRILL HOLE NO.: B-12

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD				Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Intilling materials			20	40	60	80			Classification	Weathering	Hardness	Joint spacing
			Dolomite Grey, hard, fresh, fine grained	18	F	20°, 30° 80°, 40°	R, pl, ir	Calc	62	12										
51.00			In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.	4	F	20°, 60° 70°	R, pl, ir		40	0							CH	2	2	3
52.00			Mechanical breaks are observed from																	
53.00			53.00 m to 53.10 m 53.60 m to 54.00 m 54.85 m to 55.00 m 55.30 m to 55.50 m 57.80 m to 58.00 m 58.70 m to 59.00 m 59.50 m to 59.75 m	2	F	15°	R, PI	FeO, cl	44	0							CM	2	2~3	3~4
54.00					F		R, ir	FeO	15	0							CM	2	2~3	3~4
55.00			Coreloss is observed from 50.00 m to 50.60 m 51.60 m to 52.50 m 53.10 m to 53.60 m 54.00 m to 54.85 m 55.00 m to 55.30 m 55.60 m to 56.20 m 56.50 m to 57.80 m 58.00 m to 58.70 m 59.00 m to 59.50 m 59.75 m to 59.80 m	8	F	10°	R, ir	FeO	50	0							CM	2	2~3	3~4
56.00					F	70°	R, pl, ir		33	0							CM	2	2~3	3~4
57.00					F				6	0										
58.00			The actual depth of lost zones could not be traced because of its broken nature.																	
59.00			All joint parameters can't be measured in all runs because of smaller fragments.		F				30	0							CM	2	3	4
60.00				14	F	50°, 70°	R, PI		90	0							CM	2	2~3	3~4

Lugeon Value 1.92

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.27

Completed: 2062.04.29

Drilled by: U.B. Chhetri, S.R. Timilshina, D. Shrivakoti

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 7/12

DRILL HOLE NO.: B-12

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
	60.25		Dolomite with quartz veins light grey to grey, hard, fresh, fine grained.	13	F	50°, 10°	R, pl, ir	Cl	80	0											
	61.00	61.00	In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.	7	F	40°, 60° 70°, 25°	R, pl, ir	Calc	100	55								CH	1 2	2	3
	62.00		Mechanical breaks are observed from																		
	62.30																				
	63.00		64.25 m to 64.30 m	10	F	40°, 60° 10°	R, Pl		72	11								CH	1 2	2	3
	63.40		64.60 m to 64.74 m																		
			66.00 m to 66.35 m	8	F	20°, 40° 70°	R, Pl	Calc	58	18											
			67.65 m to 67.80 m																		
	64.00	64.00	67.15 m to 67.25 m																		
			67.90 m to 68.20 m	15	F	40°	R, Pl	Calc	100	30								CH	1 2	2	3
	64.40		68.30 m to 68.45 m																		
			69.10 m to 69.15 m															CM	1~2	2~3	3~4
	65.00	65.00	69.45 m to 70.00 m	10	F	0°, 10° 70°	R, Pl	Calc	100	0											
			Coreloss is observed from	10	F	40°, 10°	R, Pl	Calc	100	24								CH	1 2	2	3
			60.25 m to 60.40 m																		
			62.50 m to 62.75 m																		
	66.00		63.40 m to 63.65 m	4	F	20°	R, ir		70	0									1 2	2~3	3~4
			65.50 m to 65.75 m																		
			67.80 m to 67.90 m																		
	66.35			15	F	40°, 10°	R, Pl	Cl	100	12											
	67.00	67.00	The actual depth of lost zones could not be traced because of its broken nature.	12	F	70°	R, Pl		100	58											
	68.00			8	F	45°, 80°	R, pl, ir		80	0								CM	1	2 3	3 4
	68.30			9	F	70°, 60°	R, Pl	Cl	100	27											
	69.00																				
	69.10																				
				8	F	50°, 60° 80°	R, ir	FeO, cl	100	11									1	3	4
	70.00	70.00																			

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.27

Completed: 2062.04.29

Drilled by: U.B. Chhetri, S.R. Timlishina, D. Shrivakoti

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

SHEET 8/12

DRILL HOLE NO.: B-12

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
	70.25		Dolomite with quartz veins light grey to grey , hard, fresh, fine grained.		F				100	0						CM	2	3	4		
	70.75			F					20	0											
71.00				In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.	7	F	10°	R,PI		53	0					CM	2	3	4		
	71.50																				
72.00					9	F	80°,50°	R,ir	Calc	57	0					CM	2	3	4		
	72.20					F		R	Calc,cl	19	0										
73.00				Mechanical breaks are observed from																	
	73.00			70.00 m to 70.25 m																	
	73.60			70.65 m to 70.75 m	17	F	40°,60°	R,PI	Calc,cl	100	0					CM	1 2	3	4		
74.00				71.05 m to 71.35 m																	
	74.00		72.85 m to 73.00 m	8	F	50°	R,PI	FeO,cl	76	12					CH	1 2	2	2 3			
	74.45		73.00 m to 73.60 m																		
75.00			79.65 m to 79.93 m																		
	75.00		Coreloss is observed from	5	F	30°,70°	R,ir	Calc	100	76											
	75.80		70.25 m to 70.65 m																		
	75.80		70.75 m to 71.05 m																		
	75.80		71.50 m to 71.80 m																		
	75.80		72.20 m to 72.85 m																		
78.00			73.60 m to 73.80 m																		
	77.00		The actual depth of lost zones could not be traced because of its broken nature.	9	F	40°,10° 50°	R,pl,ir	FeO Calc	100	32					CM	1 2	2 3	3 4			
	77.50																				
78.00				7	F	50°,30° 20°	R,pl,ir	Calc	100	43					B	1 2	2	2			
	79.00														CH			3			
	79.65			9	F	5°,40° 50°	R,PI	Calc	100	18					CH	1 2	2	3			
80.00															CM	2	2~3	4			

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreless, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.27

Completed: 2062.04.29

Drilled by: U.B. Chhetri, S.R. Timlishina, D. Shrivakoti

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 9/12

DRILL HOLE NO.: B-12

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
	80.25		Dolomite with quartz veins light grey to grey, hard, fresh, fine grained.	7	F	40°, 70°	R, Pl	FeO Calc	100	0											
	81.00		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.	8	F	50°, 60° 70° 40°, 20°	R, pl, Ir	Calc	100	20								CH	1 2	2	3
	82.00	81.85																CM	2~3	3~4	81
	82.60		Mechanical breaks are observed from		F			Calc	27	0											82
	83.00		80.07 m to 80.15 m	4	F	70°	R, Ir		37	0											83
	83.40		81.45 m to 81.85 m																		
	83.65		82.40 m to 82.60 m																		
	84.00	83.95	83.40 m to 83.65 m		F			FeO	100	0											
			84.65 m to 84.90 m	10	F	70°	R, Pl		67	0								CM	1 2	2 3	3 4
			85.20 m to 85.40 m																		
			86.55 m to 86.95 m	10	F	0°, 70°	R, Pl	FeO Calc	79	21											
	84.90		87.10 m to 87.35 m																		
			88.70 m to 88.80 m																		
	83.00	84.90	88.80 m to 89.15 m																		
			Coreloss is observed from		F	60°, 10°	R, Ir	Calc	60	0											
			31.85 m to 82.40 m																		
			82.60 m to 83.10 m																		
	86.00		83.65 m to 83.75 m		F			FeO	31	0											
			84.90 m to 85.20 m																		
			85.65 m to 86.55 m																		
			86.95 m to 87.10 m																		
	87.00	86.95	87.35 m to 88.70 m																		
			89.15 m to 90.00 m																		
			Joint parameters can't be measured because of smaller fragments.		F			R, Ir	Calc	62	0										
	88.00		All joint parameters can't be measured in all runs because of smaller fragments.		F			R	7	0											
	89.00	88.80		10	F	20°	R, Pl		100	0											
	90.00	90.15			F				25	0											

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Si-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.27

Completed: 2062.04.29

Drilled by: U.B. Chhetri, S.R. Timlishina, D. Shivakoti

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 10/12

DRILL HOLE NO.: B-12

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec. RQD					Permeability (Lugeons)	Other tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
	90.25		Dolomite with quartz veins light grey to grey, hard, fresh, fine grained.																		
	91.00		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.		F			FeO	20	0											91
	92.00	91.85			F				55	0								CM 1-2	3	4	92
	92.30																		1-2	3	4
	93.00		Mechanical breaks are observed from	2	F	40°	R,PI		38	0								CM 1-2	3	4	93
	94.00		91.55 m to 91.85 m 92.10 m to 92.30 m 93.25 m to 93.35 m 94.55 m to 94.85 m 95.50 m to 95.75 m 96.30 m to 96.45 m 97.60 m to 97.85 m		F			FeO	17	0								CM 1-2	3	4	94
	95.00	94.85			F				28	0											95
	96.00		Coreloss is observed from 90.35 m to 91.95 m 91.85 m to 92.10 m 92.30 m to 92.95 m 93.35 m to 94.55 m 94.85 m to 95.50 m 96.55 m to 97.60 m 97.85 m to 99.25 m 99.35 m to 100.00 m		F			FeO	36	0								CM 2	3	4	96
	97.00			12	F	40°,50°	R,PI		100	0								CM 2	2-3	3-4	97
	98.00	97.85	The actual depth of lost zones could not be traced because of its broken nature.	2	F	25°	R,PI		19	0								CM 2	3	4	98
	99.00		Joint parameters can't be measured because of smaller fragments.	2	F	50°	R,ir		6	0											99
	100.00				F				31	0											100

Lugeon Value 3.86

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, St-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.27

Completed: 2062.04.29

Drilled by: U.B. Chhetri, S.R. Timilshina, D. Shivakoti

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 11/12

DRILL HOLE NO.: B-12

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec.					Permeability (Lugeons)	Other tests	Classification			
					Weathering	Orientation	Roughness	Infilling materials			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
	100.30		Dolomite Grey, hard, fresh, fine grained															CM	2	3	4
	101.00		In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.	F					2	0											
	101.25		Mechanical breaks are observed from						0	0											
	102.00		100.00 m to 100.30 m 104.75 m to 105.00 m 106.00 m to 106.90 m 107.20 m to 107.60 m 108.20 m to 108.35 m 109.85 m to 110.00 m						0	0											
	102.75		Coreloss is observed from 100.35 m to 101.23 m 101.25 m to 104.75 m 105.00 m to 106.00 m 108.35 m to 109.20 m 109.50 m to 109.85 m	F				FeO	33	0								CM	2	3	4
	103.00		The actual depth of lost zones could not be traced because of its broken nature.	F				FeO Calc	33	0											
	104.00		Joint parameters can't be measured in all runs because of smaller fragments.	6	F	0°, 10°	R, PI	FeO, cl	100	20									2	3	4
	104.25			5	F	50°, 70°	R, PI	Calc	100	0								CM	1	2	3
	105.00			5	F	50°, 10° 15°	R, ir	Calc	100	17									2	3	4
	106.00			3	F	20°, 30° 40°	R, ir	FeO	20	13											
	106.50																				
	107.00																				
	107.60																				
	108.00																				
	108.35																				
	109.00																				
	109.50																				
	110.00																				

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Coreloss, PI-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, CI-Clay, SI-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.27

Completed: 2062.04.29

Drilled by: U.B. Chhetri, S.R. Timilshina, D. Shivakoti

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

BORE HOLE LOG

SHEET 12/12

DRILL HOLE NO.: B-12

LOCATION: Dam Axis (L/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	Core Rec.					Permeability (Lugeons)	Other tests	Classification			
					Weathering	Orientation	Roughness	Infilling materials			RQD							Classification	Weathering	Hardness	Joint spacing
											20	40	60	80	100						
			Dolomite with quartz vein Light grey, fine grained, medium hard to hard	8	F	10°, 20° 50°	R, Pl	Calc, cl	100	0							CM	2	3	4	
	110.50																				
	111.00				F				20	0										111	
			In several runs low core recovery is obtained and cores are broken into small fragments due to mechanical grinding with in fractured zones and closely spaced joints.														CM	2	3	4	
	111.50																				
	112.00				F				20	0										112	
			The actual depth of lost zones could not be traced because of its broken nature.																		
	112.50																				
	113.00				F				75	0								2	3	4	
	113.50			4	F	30°	R, Pl	FeO, cl	72	0							CM				113
			Mechanical breaks are observed from																		
	113.65																				
	114.00			10	F	40°, 60° 25°	R, Pl	Cl	100	20								1	2	3	114
	114.15		110.00 m to 110.50 m																		
			111.35 m to 111.50 m																		
			112.30 m to 112.50 m																		
			112.65 m to 113.10 m	7	F	30°, 60° 10°	R, Ir	FeO	59	0								2	3	4	
	115.00	115.00	113.25 m to 113.40 m																		
			113.75 m to 113.85 m																		
			114.50 m to 114.60 m	7	F	30°	R, Ir		60	13											
			114.70 m to 114.80 m																		
	115.75		115.60 m to 116.20 m																		
	116.00		116.45 m to 116.75 m		F			FeO	100	0											
			116.85 m to 117.00 m																		
			117.17 m to 117.24 m																		
			118.15 m to 118.25 m	6-12	F	0°, 30°	R, pl, Ir	FeO, cl	100	0							CM	1	2	3	116
	117.00	117.00	119.40 m to 119.65 m																		
			Core loss is observed from																		
			110.50 m to 111.30 m	9	F	0°, 30° 40°	R, Pl	FeO	100	36											
			111.50 m to 112.30 m																		
			112.50 m to 112.65 m																		
	118.00		113.10 m to 113.25 m		F	20°, 30° 75°	R, Pl	FeO	100	30							CH	1	2	3	118
			114.15 m to 114.50 m																		
			115.00 m to 115.30 m																		
			119.65 m to 119.90 m																		
	119.00		Joint parameters can't be measured in all runs because of smaller fragments.	3	F	40°, 30°	R, Pl	FeO	100	47											119
	119.65																				
	120.00		Hole Terminated at 120.00 m		F				28	0							CM	1-2	3	4	120

Lugeon Value 5.08

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered

MB-Mechanical Break, CL-Core loss, Pl-Planar, Sm-Smooth, R-Rough, Ir-Irregular, FeO-Iron Oxide, Cl-Clay, Sl-Silt, calc-calcic

SRC Lab, NEA

Started: 2062.02.27

Completed: 2062.04.29

Drilled by: U.B. Chhetri, S.R. Timlishina, D. Shivakoti

Logged by: S.Shrestha

Reviewed by: J. M. Tamrakar

SHEET 1/10

LOCATION: Underground Powerhouse (R/B)

Y: 525622,522

Z: 370.968

DIRECTION: 180°

HW: 4.50 m; NW: 8.50 m

Water Table: 56.0 m

1
2
3
4
5
6
7
8
9
10

Completed: 2006/07/11

Reviewed by: J.M. Tamrakar

Angles of the discontinuities are measured with respect to the drill core axis.

BORE HOLE LOG

SHEET 2/10

Drill Hole No: BP-1

LOCATION: Underground Powerhouse (R/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	CORE					Permeability (Lugeon)	Other Tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling Material			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
	10.20		materials of dolomite																		
	10.70																				
11.00			Light grey to grey, hard fine grained dolomite	>20	SW	20°	R, Ir	cl	13	0											11
	12.00		Washout materials are observed from 10.70 m to 12.00 m																		12
	12.20		12.20 m to 13.50 m																		
			13.70 m to 14.00 m																		
			15.20 m to 16.00 m																		
			16.15 m to 16.45 m	>20	SW		R, Pl	cl	13	0											13
			16.70 m to 17.00 m																		
			17.30 m to 17.65 m																		
	13.00																				
			The washout materials consist of fine grains (dust) of dolomite																		
	13.70																				
14.00				>20	SW	10°, 30° 50°	R, Pl	FeO, cl	54	0											14
	14.35																				
			Most of the cores are broken due to mechanical grinding in fractured zones and closely spaced joints.	>20	SW		R, Pl	FeO	35	0								CM	2	3	3
	15.00		Most of the cores are broken into small fragments from																		15
	15.20																				
			12.00 m to 12.20 m	>20	SW	20°, 25° 70°	R, Pl	none	16	0											16
	16.00		13.50 m to 13.70 m																		
	16.15		14.00 m to 14.35 m	>20	SW		R, Ir	FeO	45	0											
			14.90 m to 15.20 m																		
	16.70		16.00 m to 16.15 m	>20	SW		R, Pl	FeO	50	0								CL	2	3	4
17.00			16.45 m to 16.70 m																		
			17.00 m to 17.30 m																		
	17.90		18.00 m to 18.10 m	>20	F-SW	70°	Sm - R	FeO	69	0											
			19.40 m to 19.65 m				Pl - Ir														
18.00																		CM	2	3	4
	18.10																				
				>20	SW	5° 70°	R, Pl	FeO, cl	100	15											
19.00																		CM	2	2	4
	19.40																				3
				>20	F-SW	5°, 60° 70°	R, Pl	FeO	100	0											
20.00	19.90																				20

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered,

CW-Completely Weathered, MB-Mechanical Break, Pl-Planar, Sm-Smooth, R-Rough, FeO-iron Oxide, Cl-Clay, Sl-Silt

SRC Lab, NEA

Started: 2006/06/02

Completed: 2006/07/11

Drilled by: R. K. Adhikari, K. B. Shrestha

Logged by: S. Shrestha

Reviewed by: J.M. Tamrakar

Angles of the discontinuities are measured with respect to the drill core axis.

BORE HOLE LOG

SHEET 3/10

Drill Hole No: BP-1

LOCATION: Underground Powerhouse (R/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	CORE					Permeability (Lugeon)	Other Tests	Rock Mass Classification				
					Weathering	Orientation	Roughness	Infilling Material			Rec. RQD							Classification	Weathering	Hardness	Joint spacing	
			DOLomite Light grey to grey, hard fine grained dolomite	11	SW	5°, 75° 85° 40°-60°	R, PI	FeO, cl	100	0								CM	2	3	3 4 3	
21.00																						21
	21.30		Washout materials are observed between 21.55 m to 21.85 m	>20	F-SW	70°	R, PI	FeO	57	0								CM	2	3	3 4	
	22.00	22.00	22.65 m to 22.90 m																			22
				>20	F-SW		R	none	75	0								CL	2	3	3 4 5	
23.00	23.00		Most of the cores are broken due to mechanical grinding in fractured zones and closely spaced joints. Most of the cores are broken into small fragments from	15	F-SW	5°, 60° 70°, 80°	R, PI	FeO, cl	100	33												23
	24.00		20.55 m to 20.85 m																			24
	24.20		26.20 m to 28.10 m	>20	SW	40°	R, PI lr	FeO, cl	100	0								CM	2	3	3 5	
	24.80																					
25.00				19	SW	30°, 50° 20°	R, lr	FeO, cl	100	0								CM	2	2	3 4 3	
	25.60			>20	SW	50°	R, PI lr	none	100	0								CM	2	3	3	
26.00	26.20			>20	SW	60°	R, PI lr	cl	100	0												26
	26.80			>20	SW			cl	100	0								CL	2	3	4 5	
27.00				>20	F-SW		R, PI	none	100	0												27
	27.30																					
	27.80			>20	F-SW		R, PI	none	100	0								CL	2	3	4 5	
28.00	28.10			>20	F-SW		R, PI	none	100	0												28
	28.60			>20	F-SW	5°	R, PI	none	100	0								CM	2	3	4	
29.00				>20	F-SW	5°, 70°	R, PI	FeO	100	0												29
	29.30			11	F-SW	5°, 30° 70°, 80°	R, PI lr	FeO	100	25								CM	2	3	3	
	30.00																					30

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered,

CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, Cl-Clay, Si-Silt

SRC Lab, NEA

Started: 2006/06/02

Completed: 2006/07/11

Drilled by: R. K. Adhikari, K. B. Shrestha

Logged by: S. Shrestha

Reviewed by: J.M. Tamrakar

Angles of the discontinuities are measured with respect to the drill core axis.

BORE HOLE LOG															SHEET 4/10						
Drill Hole No: BP-1			LOCATION: Underground Powerhouse (R/B)																		
Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	CORE					Permeability (Lugeon)	Other Tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling Material			Rec. RQD	20	40	60	80			100	Classification	Weathering	Hardness
			DOLomite Light grey to grey, hard fine grained dolomite with solution cavities																		
	30.70																				
	31.00			20	F-SW	30°, 60° 20°	R, PI	cl	100	33								CH	2	2	3
	31.30		solution cavities are either open or filled with clayey materials	9	F-SW	40°, 60°	R, PI	cl	100	50								CH	2	2	3
	32.00																				
	32.10		Most of the cores are broken due to mechanical grinding in fractured zones and closely spaced joints.		F-SW		R, PI	cl	100	33											
	32.40																	CM	2	2	3
	32.85		Most of the cores are broken into small fragments from	15	F-SW	30°, 80°	R, PI	none	100	35											
	33.00																				
	34.00		30.40 m to 30.60 m 32.20 m to 32.40 m 34.30 m to 34.45 m 35.00 m to 35.20 m 35.80 m to 36.00 m 36.60 m to 36.85 m 37.00 m to 37.65 m	>20	F-SW	30°, 60° 70°	R, PI	none	100	9								CM	2	3	4
	35.00			12	F-SW	40°, 70°	R, PI	none	100	0											
	35.20																	CM	2	3	3
	35.80			>20	F-SW	10°, 50°	R, PI	none	100	0											
	36.00																				
	36.30			>20	F-SW	30°, 10° 50°, 80°	R, PI	FeO, cl	100	0								CH	2	2	3
	36.65			9	F-SW	30° 60°, 80°	R, PI	cl	100	0											
	37.00			12	SW	30° 60°, 80°	R, PI	FeO, cl	100	0								CM	2	3	3
	38.00																				
	38.30			>20	SW	30°, 60° 50°, 80°	R, PI	cl	100	0								CM	2	3	3
	39.00			20	SW	40° 30°, 60° 70°, 80°	R, PI	none	100	0								CM	2	3	3
	39.80																				
	40.00																				

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, Cl-Clay, SI-Silt

SRC Lab, NEA

Drilled by: R. K. Adhikari, K. B. Shrestha

Started: 2006/06/02

Logged by: S. Shrestha

Completed: 2006/07/11

Reviewed by: J.M. Tamrakar

Angles of the discontinuities are measured with respect to the drill core axis.

BORE HOLE LOG															SHEET 5/10						
Drill Hole No: BP-1			LOCATION: Underground Powerhouse (R/B)																		
Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	CORE					Permeability (Lugeon)	Other Tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling Material			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing
			DOLOMITE Light grey to grey, hard fine grained dolomite	13	SW	5°,60° 70°,80°	R, Pl lr	cl	100	22						Lugeon Value=11.50					
41.00	41.25		washout materials (dolomite in powdered form) is obtained from																		41
42.00			43.40 m to 43.95 m 44.70 m to 45.00 m	10	SW	40° 60°,80°	R, Pl	none	100	17											42
43.00	42.75		Most of the cores are broken due to mechanical grinding in fractured zones and closely spaced joints. Most of the cores are broken into small fragments from	>20	SW	60°,80°	R, Pl	none	63	0											43
44.00			41.30 m to 41.40 m 42.25 m to 42.50 m 43.95 m to 44.25 m 45.00 m to 45.35 m 45.00 m to 48.00 m	>20	SW	5° 70°	R, Pl	none	72	0											44
45.00	44.25			>20	SW	40°,70°	R, Pl	cl	100	0											45
46.00	45.35			>20	SW	60°	R, Pl	cl	100	0											46
47.00	46.05			>20	SW	40°,60°	R, Pl	cl	100	0											47
48.00	46.60			13	F-SW	5°,60° 40°,70°	R, Pl	none	100	8											48
49.00	46.70			5	F-SW	5°,60° 40°,70°	R, Pl lr	none	100	0											49
50.00																					50

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, Pl-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, Cl-Clay, Si-Silt

SRC Lab, NEA

Drilled by: R. K. Adhikari, K. B. Shrestha

Started: 2006/06/02

Logged by: S. Shrestha

Completed: 2006/07/11

Reviewed by: J.M. Tamrakar

Angles of the discontinuities are measured with respect to the drill core axis.

SHEET 6/10

LOCATION: Underground Powerhouse (R/B)

ABBREVIATIONS: F-Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, CI-

Completed: 2006/07/11

Reviewed by: J.M. Tamrakar

Angles of the discontinuities are measured with respect to the drill core axis.

BORE HOLE LOG															SHEET 8/10							
Drill Hole No: BP-1			LOCATION: Underground Powerhouse (R/B)																			
Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	CORE					Permeability (Lugeon)	Other Tests	Rock Mass Classification				
					Weathering	Orientation	Roughness	Infilling Material			20	40	60	80	100			Classification	Weathering	Hardness	Joint spacing	
			DOLomite Light grey to grey, hard fine grained dolomite	>20	F-SW	40°, 80°	R, PI	cl	100	0								CL	2	3	4 5	71
71.00	71.00																					
			White coloured washout materials (dolomite in powdered form) is obtained from	20	F-SW	60°, 70°	R, PI	FeO	100	0								CM	2	3	4	72
71.60	71.60																					
72.00	72.00		79.00 m to 79.85 m	18	F-SW	5°, 30° 40°, 70°	R, PI	FeO, cl	100	0								CL	2	3	3 4 5	73
			Most of the cores are broken due to mechanical grinding in fractured zones and closely spaced joints. Most of the cores are broken into small fragments from	>20	F-SW	15°, 30° 70°, 20°	R, PI	FeO, cl	100	11								CM	2	3	4	74
73.00	73.00																					
			70.60 m to 70.90 m 71.00 m to 71.10 m 72.90 m to 73.00 m 73.00 m to 73.35 m 73.65 m to 73.90 m 75.50 m to 76.00 m 77.00 m to 79.00 m 79.85 m to 80.00 m	17	F-SW	30°, 70°	R, PI	none	100	22								CM	2	3	3 4	75
74.00	74.00																					
74.40	74.40																					
				12	F-SW	25°, 60° 70°, 40°	R, PI	FeO, cl	100	0								CM	2	3	4	76
75.00	75.00																					
				11	F-SW	30° 70°, 45°	R, PI	FeO	100	0								CL	2	3	3 4 5	77
76.00	76.20																					
				>20	F-SW			cl	100	0								CL	2	3	4 5	78
77.00	77.70																					
				5	SW		R, PI	cl	15	0												79
78.00																						
79.00	79.00																					
80.00	80.00																					

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, Cl-Clay, SI-Silt

SRC Lab, NEA

Drilled by: R. K. Adhikari, K. B. Shrestha

Started: 2006/06/02

Logged by: S. Shrestha

Completed: 2006/07/11

Reviewed by: J.M. Tamrakar

Angles of the discontinuities are measured with respect to the drill core axis.

BORE HOLE LOG

SHEET 9/10

Drill Hole No: BP-1

LOCATION: Underground Powerhouse (R/B)

Depth, m	Run Depth, m	Log	Description of Rock/Soil	Joints/m	Discontinuity Characteristics				Recovery %	RQD %	CORE					Permeability (Lugeon)	Other Tests	Rock Mass Classification			
					Weathering	Orientation	Roughness	Infilling Material			Rec.	RQD						Classification	Weathering	Hardness	Joint spacing
	80.60		DOLOMITE Light grey to grey, hard fine grained dolomite with iron staining	>20	SW		R, Pl	cl	50	0											
81.00			White coloured washout materials (dolomite in powdered form) is obtained from	>20	SW	5°,10°	R, Pl	FeO,cl	67	0											
	82.00		80.10 m to 80.40 m																		
			81.20 m to 81.70 m																		
			83.00 m to 83.60 m																		
			83.75 m to 84.40 m																		
83.00			85.15 m to 86.00 m	>20	SW	5°,20°	R, Pl	FeO,cl	60	0											
			87.15 m to 87.50 m																		
			89.60 m to 90.00 m																		
	83.60		Most of the cores are broken due to mechanical grinding in fractured zones and closely spaced joints.																		
	84.00		Most of the cores are broken into small fragments from	>20	F-SW	10°	R, Pl	cl	67	0											
	85.00		80.40 m to 81.20 m																		
			81.70 m to 82.10 m																		
			82.10 m to 83.00 m																		
			83.60 m to 83.75 m																		
			84.40 m to 85.15 m																		
86.00			86.00 m to 86.60 m	>20	SW		R, Pl	FeO,cl	43	0											
			86.60 m to 87.15 m																		
	86.60		88.10 m to 89.60 m																		
87.00				>20	SW	5°	R, Pl	FeO,cl	77	0											
88.00				>20	SW	5°,30° 70°,50°	R, Pl	FeO	100	0											
89.00																					
	89.60																				
90.00	90.00																				

ABBREVIATIONS: F- Fresh, SW-Slightly Weathered, MW-Moderately Weathered, HW-Highly Weathered, CW-Completely Weathered, MB-Mechanical Break, PI-Planar, Sm-Smooth, R-Rough, FeO-Iron Oxide, Cl-Clay, SI-Silt

SRC Lab, NEA

Started: 2006/06/02

Completed: 2006/07/11

Drilled by: R. K. Adhikari, K. B. Shrestha

Logged by: S. Shrestha

Reviewed by: J.M. Tamrakar

Angles of the discontinuities are measured with respect to the drill core axis.

SHEET 10/10

LOCATION: Underground Powerhouse (R/B)

SRC Lab, NEA	Started: 2006/06/02	Completed: 2006/07/11
Drilled by: R. K. Adhikari, K. B. Shrestha	Logged by: S. Shrestha	Reviewed by: J.M. Tamrakar

Angles of the discontinuities are measured with respect to the drill core axis.

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-1


Location: Intake	Depth of Hole: 90.00 m	Commenced: 2nd Aug., 2006.
Elevation: 430.950	Depth of Overburden: 2.76 m	Completed: 11th Sept., 2006
Coordinate: 525567.697E/3092659.422N	Length of Rock Drilling: 87.24 m	Drilled by: S.R. Timilsina
Angle From Horizontal: 90°	Total Length of Rock Drill: 59.24 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 65.82%	Water Table: 81m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table Water Pressure Test Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description			
0			0-100%								0	430.950
1		Colluvium	100	NQ HW	White to Grey				Colluvium deposit of dark brown clayey materials with rock fragments.		1	
2			44						Colluvium deposit of brown, medium grained sand and pebble, cobble of dolomitic quartzite.		2	
3			69						Run of 76 cm is colluvium deposit of brown, medium grained sand. From 2.76 m Bed Rock is observed. Fine grained, highly jointed dolomite.		3	
4			30	NW	Light grey	2	3	3-4	Fine grained, highly jointed, thinly bedded dolomite with quartz vein.		4	
5			18						Do		5	
6			20						Do		6	
7			40						Do		7	
8			33						Do		8	
9			22						Do		9	
10									Do		10	

Note

RQD 

Core Loss 

Colluvium 

Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pices); 4 (Fragment); 5 (Grain)

Lugeon Value



Alluvium 

Dolomite/Quartzite/Dolomitic Quartzite 

Dolomite 



Hydro Engineering & Development Co. (P) Ltd .
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Nippon Koei Co., Ltd
Tokyo, Japan

Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project


SHEET NO : 8H-1
1/9

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-1

Location: Intake	Depth of Hole: 90.00 m	Commenced: 2nd Aug., 2006
Elevation: 430.950	Depth of Overburden: 2.76 m	Completed: 11th Sept., 2006
Coordinate: 525567.697E/3092659.422N	Length of Rock Drilling: 87.24 m	Drilled by: S.R. Timilsina
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Bearing of Angle Hole	Core Recovery : 65.82%	Water Table: 81 m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table 	Water Pressure Test	Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description					
10			0-100%						76 mm				100	420.950
										Lugeon				
11		Dolomite	10		White	2	2-3	3	Fine grained, moderately jointed, fractured, thinly bedded dolomite. Core loss : 10.00 to 10.22 m				11	
			37						Do Core loss : 11.00 to 11.14 m					
12		Dolomite	43		White to Light gray	2	3	4	Fine grained, jointed, thinly bedded dolomite. Core loss : 11.30 to 11.60 m				12	
			10						Fine grained, highly jointed, fractured, thinly bedded dolomite. Core loss : 12.00 to 12.30 m					
13		Dolomite	30		White to Light gray	2	2	2-3	Fine grained, jointed, medium bedded dolomite. MB : 13.31m & 13.34 m				13	
			84						Do Core loss : 13.50 to 14.16 m					
14		Dolomite	18		White	2	3	3-4	Fine grained, jointed, thinly bedded dolomite.				14	
			55						Do MB : 15.46 m					
15		Dolomite/Quartzite/Dolomitic Quartzite	58		White	2	2	2-3	Do MB : 15.87 m & 15.91 m				15	
			50						Fine grained, moderately jointed, thinly bedded dolomitic quartzite and quartzite. MB : 16.95 m					
16		Dolomite/Quartzite/Dolomitic Quartzite	49		White to Light gray	2	2	3-4	Do Core loss : 17.15 to 17.46 m				16	
			33						Fine grained, highly jointed, thinly bedded dolomitic quartzite.					
17		Dolomite/Quartzite/Dolomitic Quartzite	78		Light grey	3	3-4	4-5	Do Core loss : 18.10 to 19.19 m				17	
			44						Do Core loss : 19.50 to 19.72 m					
18		Dolomite											18	
19		Dolomite											19	
20		Dolomite											20	

Note

RQD 

Core Loss 

Colluvium 

Abbreviation

Weathering : w1- Fresh; w2- Slightly Weathered;

w3- Moderately Weathered; w4- Highly Weathered ;


w5- Decomposed


Hardness : H1- Strong Hard; H2- Medium Hard; H3- Hard; H4- Soft; H5- Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Lugeon Value 

Alluvium 

Dolomite/Quartzite/Dolomitic Quartzite 

Dolomite 



Contractor
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Nippon Koei Co., Ltd
Tokyo Japan

Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-1
2/9

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-1


Location: Intake	Depth of Hole: 90.00 m	Commenced: 2nd Aug., 2006.
Elevation: 430.950	Depth of Overburden: 2.76 m	Completed: 11th Sept., 2006
Coordinate: 525567.697E/3092659.422N	Length of Rock Drilling: 87.24 m	Drilled by: S.R. Timilsina
Angle From Horizontal: 90°	Total Length of Rock Drill: 59.24 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 65.82%	Water Table: 81m

Depth (m)	Log	Rock Name	Core Recovery(%)	Cementation kind of Bit Casing	Observation of Core				Description	Water Table	Water Pressure Test	Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting						
20			0-100%							0	Lugeon	100	20	410.950
21					Light grey				Fine grained, highly jointed, thinly bedded dolomitic quartzite. Core loss : 20.00 to 21.00 m				21	409.950
22						2	3-4	4-5	Fine grained, moderately jointed, thinly bedded dolomitic quartzite and quartzite. Core loss : 21.15 to 21.35 m				22	
23					White to light grey	2	2	2-3	Fine grained, jointed, thinly bedded dolomitic quartzite and quartzite with calcite. Fine grained, moderately jointed, thinly bedded dolomitic quartzite and quartzite with calcite.				23	
24					White	2	2	4	Do Do Do				24	
25									Fine grained, jointed, thinly bedded quartzite.				25	
26					White to light grey				Do Do Core loss : 26.15 to 26.27 m				26	
27						2	2	2-3	Do Core loss : 26.50 to 26.65 m				27	
28					Light grey				Do Do				28	
29						2	2	2-3	Do				29	
30									Do				30	

Note

RQD 

Core Loss 

Colluvium 

Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;

w3- Moderately Weathered; w4-Highly Weathered ; w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Alluvium 

Dolomite/Quartzite/Dolomitic Quartzite 

Dolomite 

Lugeon Value 



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Electric Power Development Co., Ltd
Nippon Koei Co., Ltd
Tokyo, Japan

Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-1
3/9

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-1

Location: Intake	Depth of Hole: 90.00 m	Commenced: 2nd Aug., 2006
Elevation: 430.950	Depth of Overburden: 2.76 m	Completed: 11th Sept., 2006
Coordinate: 525567.697E/3092659.422N	Length of Rock Drilling: 87.24 m	Drilled by: S.R. Timilsina
Angle From Horizontal: 90°	Total Length of Rock Drill: 59.24m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 65.82%	Water Table: 81m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table Water Pressure Test Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description			
30			0-100%							Lugeon	30	400.950
31			88		Light grey				Fine grained, jointed, medium bedded dolomite.		31	
32			57		Light grey to Brown	2	2	2-3	MB : 30.50 to 30.89 m		32	
33			43		Light grey				Do		33	397.950
34			31		Light grey to Brown				Fine grained, jointed, medium bedded dolomite.		34	396.950
35			47		Light grey	3	2-3	3	Do		35	
36			27		Light grey to Brown	2	2	2-3	Fine grained, moderately jointed, medium bedded dolomite with calcite vein.		36	
37			24		White to Light grey				Fine grained, highly jointed, thinly bedded dolomite.		37	
38									Fine grained, moderately jointed, medium bedded dolomite calcite vein.		38	
39									MB : 37.50 m		39	
40									Fine grained, moderately jointed, thinly bedded dolomite.		40	
									Do			
									MB : 39.92 m			
									Core loss			

Note

RQD

Core Loss

Colluvium

Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pices); 4 (Fragment); 5 (Grain)

Alluvium

Dolomite/Quartzite/Dolomitic Quartzite

Lugeon Value

Dolomite



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Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-1
4/9

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-1


Location: Intake	Depth of Hole: 90.00 m	Commenced: 2nd Aug., 2006.
Elevation: 430.950	Depth of Overburden: 2.76 m	Completed: 11th Sept., 2006
Coordinate: 525567.697E/3092659.422N	Length of Rock Drilling: 87.24 m	Drilled by: S.R. Timilsina
Angle From Horizontal: 90°	Total Length of Rock Drill: 59.24 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 65.82%	Water Table: 81m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table Water Pressure Test Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description			
40			0-100%								40	390.950
41									Core loss			
42									Core loss : 40.00 to 40.36 m			
43									Do			
44									Core loss : 41.35 to 42.00 m			
45									Do			
46									Core loss : 42.00 to 42.42 m			
47									Do			
48									Core loss : 42.00 to 42.42 m			
49									Do			
50									Core loss : 42.00 to 42.42 m			
51									Do			
52									Core loss : 42.00 to 42.42 m			
53									Do			
54									Core loss : 42.00 to 42.42 m			
55									Do			
56									Core loss : 42.00 to 42.42 m			
57									Do			
58									Core loss : 42.00 to 42.42 m			
59									Do			
60									Core loss : 42.00 to 42.42 m			
61									Do			
62									Core loss : 42.00 to 42.42 m			
63									Do			
64									Core loss : 42.00 to 42.42 m			
65									Do			
66									Core loss : 42.00 to 42.42 m			
67									Do			
68									Core loss : 42.00 to 42.42 m			
69									Do			
70									Core loss : 42.00 to 42.42 m			
71									Do			
72									Core loss : 42.00 to 42.42 m			
73									Do			
74									Core loss : 42.00 to 42.42 m			
75									Do			
76									Core loss : 42.00 to 42.42 m			
77									Do			
78									Core loss : 42.00 to 42.42 m			
79									Do			
80									Core loss : 42.00 to 42.42 m			
81									Do			
82									Core loss : 42.00 to 42.42 m			
83									Do			
84									Core loss : 42.00 to 42.42 m			
85									Do			
86									Core loss : 42.00 to 42.42 m			
87									Do			
88									Core loss : 42.00 to 42.42 m			
89									Do			
90									Core loss : 42.00 to 42.42 m			

Note

RQD 

Core Loss 

Colluvium 

Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Lugeon Value 

Alluvium 

Dolomite/Quartzite/Dolomitic Quartzite 

Dolomite 



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SHEET NO : BH-1
5/9

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-2

Location: Diversion Outlet	Depth of Hole: 50 m.	Commenced: 21 July, 2006
Elevation: 320.092 m.	Depth of Overburden: 31.22m	Completed: 26th Aug, 2006
Coordinate: 525737.629E/3092966.836N	Length of Rock Drilling: 18.78 m	Drilled by: Santa Majhi
Angle From Horizontal: 90°	Total Length of Core: 28.09 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 56.18%	Water Table : 12.05m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit	Casing	Colour	Weathering	Hardness	Core Cutting	Observation of Core	Water Table 	Water Pressure Test	Leakage of Drilling Water	Depth (m)	Elevation (m)
										Description					
0			0-100%								0			40	320.092
1										Colluvium deposit of light grey, coarse grained calcareous clay with sand and cobble of dark grey limestone.					
2										Colluvium deposit of light grey, coarse grained sand and pebble, cobble of limestone.					
3										Colluvium deposit of light grey, fine grained silty sand and pebble of limestone.					
4										Colluvium deposit of pebble, cobble of dark grey, fine grained limestone with calcite.					
5										Colluvium deposit of pebble, cobble of light grey to brown limestone with calcite and quartz vein.					
6										Do					
7										Colluvium deposit of light grey, fine grained silty sand and pebble, cobble of limestone with calcite.					
8										Colluvium deposit of pebble of dark grey, fine grained limestone.					
9										Do					
10										Colluvium deposit of light grey, fine grained silty sand.					
										Colluvium deposit of pebble, cobble of limestone.					
										Colluvium deposit of pebble of limestone.					
										Colluvium deposit of light brown silty clay and pebble of limestone.					
										Colluvium deposit of light brown, fine grained silty sand and pebble, cobble of limestone.					
										Colluvium deposit of pebble, cobble, boulder of light grey to brown limestone with calcite.					

Note

RQD 

Core Loss 


Colluvium 

Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Alluvium 

Dolomite 

Schist 



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
SHEET NO: BH-2
1/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-2

Location: Diversion Outlet	Depth of Hole: 50 m.	Commenced: 21 July, 2006
Elevation: 320.092 m.	Depth of Overburden: 31.22m	Completed: 26th Aug, 2006
Coordinate: 525737.629E/3092966.836N	Length of Rock Drilling: 18.78 m	Drilled by: Santa Majhi
Angle From Horizontal: 90°	Total Length of Core: 28.09 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 56.18%	Water Table : 12.05m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table 	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description 76 mm			
10			0-100%							Lugeon	40	310.0
11									Colluvium deposit of light grey to brown, fine grained sand with boulder of limestone.			
12									Colluvium deposit of light grey to brown, fine grained sand and pebble of limestone.			308.3
13									Colluvium deposit of light grey, fine grained sand and pebble of limestone.			307.6
14									Colluvium deposit of light grey, fine grained sand and boulder of limestone with calcite vein.			
15									Colluvium deposit of light grey, fine grained sand and pebble of limestone with calcite vein.			
16									Alluvium deposit of pebble of dark grey limestone.			
17									Alluvium deposit of light grey, fine grained sand and pebble, cobble of limestone.			
18									Do			
19									Do			
20									Do			

Note

RQD



Core Loss



Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stack); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)



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CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-2
2/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-2

Location: Diversion Outlet	Depth of Hole: 50 m.	Commenced: 21 July, 2006
Elevation: 320.092 m.	Depth of Overburden: 31.22m	Completed: 26th Aug, 2006
Coordinate: 525737.629E/3092966.836N	Length of Rock Drilling: 18.78 m	Drilled by: Santa Majhi
Angle From Horizontal: 90°	Total Length of Core: 28.09 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 56.18%	Water Table : 12.05m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit	Casing	Colour	Weathering	Hardness	Core Cutting	Observation of Core Description	Water Table Water Pressure Test Leakage of Drilling Water	Depth (m)	Elevation (m)
20			0-100%								Lugeon	40	300.092
21										Alluvium deposit of light grey, fine grained sand and pebble, cobble of limestone.		21	
22										Alluvium deposit of pebble of limestone. Water loss in drill hole.		22	
23										Alluvium deposit of light grey, fine grained sand and pebble of limestone.		23	
24										Alluvium deposit of pebble of limestone.		24	
25										Alluvium deposit of light grey, fine grained sand and pebble of limestone.		25	
26										Do		26	
27										Alluvium deposit of pebble of limestone.		27	
28										Do		28	
29										Alluvium deposit of light grey, coarse grained sand and pebble of limestone.		29	
30										Alluvium deposit of light grey, fine grained sand and pebble of reddish to grey limestone.		30	

Note

RQD

Core Loss

Colluvium



Abbreviation

Weathering : w1- Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4- Highly Weathered ;
w5- Decomposed

Hardness : H1- Strong Hard; H2- Medium Hard; H3- Hard; H4- Soft; H5- Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pices); 4 (Fragment); 5 (Grain)

Alluvium



Dolomite



Schist



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Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-2
3/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-2

Location: Diversion Outlet	Depth of Hole: 50 m.	Commenced: 21 July, 2006
Elevation: 320.092 m.	Depth of Overburden: 31.22m	Completed: 26th Aug, 2006
Coordinate: 525737.629E/3092966.836N	Length of Rock Drilling: 18.78 m	Drilled by: Santa Majhi
Angle From Horizontal: 90°	Total Length of Core: 28.09 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 56.18%	Water Table : 12.05m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit	Casing	Observation of Core					Water Table Water Pressure Test Leakage of Drilling Water	Depth (m)	Elevation (m)
						Colour	Weathering	Hardness	Core Cutting	Description			
30			0-100%								0	30	290.092
31		Aluvium	84							Alluvium deposit of light grey, fine grained sand and pebbles of reddish to grey calcareous schist and limestone.		31	
32			76							Run of 22 cm is alluvium deposit of light grey, fine grained sand. From 31.22 m Bed Rock is observed. Fine grained, highly jointed and fragmented dolomite. Sludge found as light brown, fine grained sand. Core loss : 31.30 to 31.84 m		32	
33			61							Fine grained, highly jointed and fragmented dolomite. Sludge as sand are found.		33	
34			100							Core loss : 32.28 to 32.89 m		34	
35			89							Total core loss. Sludge found as light grey, fine grained sand.		35	
36		Dolomite	24							Core loss : 33.00 to 34.00 m		36	
37			49							Fine grained, highly jointed and fragmented dolomite.		37	
38			22							Core loss : 34.00 to 34.89 m		38	
39			33							Fine grained, highly jointed and fragmented dolomite. Core loss : 35.00 to 35.12 m		39	
40			55							Fine grained, highly jointed and fragmented dolomite. Crushing materials found as coarse grained sand.		40	
										Fine grained, highly jointed and fragmented dolomite. Sludge found as sand.			
										Core loss : 36.15 to 36.30 m & 36.48 to 36.65 m			
										Do			
										Core loss : 37.17 to 37.35 m			
										Do			
										Core loss : 37.75 to 37.83 m			
										Fine grained, moderately jointed dolomite. Core loss : 38.35 to 38.41 m			
										Fine grained, highly jointed dolomite.			
										Core loss : 38.66 to 38.89 m			
										Do			
										Core loss : 39.28 to 39.45 m			
										Do			

Note

RQD



Core Loss



Colluvium



Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1(\$tck); 2(Substck); 3(Pieces); 4(Fragment); 5(Grain)

Alluvium



Dolomite



Schist



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CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project


SHEET NO : BH-2
4/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-2

Location: Diversion Outlet	Depth of Hole: 50 m.	Commenced: 21 July, 2006
Elevation: 320.092 m.	Depth of Overburden: 31.22 m	Completed: 26th Aug, 2006
Coordinate: 525737.629E/3092966.836N	Length of Rock Drilling: 18.78 m	Drilled by: Santa Majhi
Angle From Horizontal: 90°	Total Length of Core: 28.09 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 56.18%	Water Table : 12.05 m

Depth (m)	Log	Rock Name	Core Recovery(%)	Cementation kind of Bit Casing	Observation of Core					Water Table 			Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description	Water Pressure Test	Leakage of Drilling Water			
40			0-100%							Lugeon			40	280.092
41			35 46 33		Pink to Grey	2	2	2-3	MB : 39.81 m Fine grained, moderately jointed dolomite. Core loss : 40.70 to 40.76 m				41	
42			47 36		Pink				Do MB : 42.24 m; 42.34 m Fine grained, highly jointed dolomite.				42	
43			30 14		Pink to Grey	2	3	3-4	MB : 42.45 m Fine grained, highly jointed dolomite. Sludge ore found as sand. Core loss : 43.32 to 43.53 m				43	
44			10		Pink grey				Do Core loss : 44.41 to 44.51 m				44	
45			28 23						Fine grained, highly jointed, mica parting dolomite. Core loss : 45.48 to 45.71 m				45	
46			20 15			2	2	2	Fine grained, moderately jointed, mica parting dolomite.				46	
47			70		Pink to Dark grey	2	3	4	Core loss : 46.40 to 46.55 m MB : 46.05 m; 46.06 m				47	
48			25			3	4	5	Do Core loss : 47.00 to 47.35 m				48	
49			58		Pink to White	2	3	4	Do Core loss : 48.32 to 48.61 m				49	
50									Do Core loss : 49.15 to 49.64 m				50	

Note

RQD

Core Loss

Colluvium

Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Alluvium

Dolomite

Schist



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SHEET NO: BH-2
5/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-1


Location: Intake	Depth of Hole: 90.00 m	Commenced: 2nd Aug., 2006.
Elevation: 430.950	Depth of Overburden: 2.76 m	Completed: 11th Sept., 2006
Coordinate: 525567.697E/3092659.422N	Length of Rock Drilling: 87.24 m	Drilled by: S.R. Timilsina
Angle From Horizontal: 90°	Total Length of Rock Drill: 59.24 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 65.82%	Water Table: 81 m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table		Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description	Water Pressure Test	Leakage of Drilling Water		
50			0-100%									50	380.950
51					Light grey to Brown	2-3	3	3-4	Fine grained, highly jointed, thinly bedded dolomite. Core loss : 50.00 to 50.10 m			51	
52					Light grey				Do Core loss : 50.60 to 51.20 m			52	
53					Light grey	2	3	4	Fine grained, highly jointed, thinly bedded, fractured dolomite.			53	
54					Light grey to Brown	2	2	3	Fine grained, moderately jointed, thinly bedded, fractured dolomite.			54	
55					Light grey to Brown	2	2-3	4	Fine grained, moderately jointed, thinly bedded dolomite with calcite and quartz.			55	
56					Light grey	2	2	3	Do			56	
57					Light grey	2	2-3	3-4	MB : 56.43 m			57	
58					Light grey	2	2-3	3-4	Do			58	372.950
59					Light grey	2	2-3	3-4	Do			59	371.950
60					Light grey	2	3	4	Core loss : 59.00 to 59.35 m			60	

Note


RQD 

Core Loss 

Colluvium 

Alluvium 

Dolomite/Quartzite/Dolomitic Quartzite 

Dolomite 

Abbreviation

Weathering : w1-Fresh; w2-Slightly Weathered;
w3-Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2-Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Lugeon Value 



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Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-1
6/9

Geologic Log of Drill Hole


Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-1


Location: Intake	Depth of Hole: 90.00 m	Commenced: 2nd Aug., 2006
Elevation: 430.950	Depth of Overburden: 2.76 m	Completed: 11th Sept., 2006
Coordinate: 525567.697E/3092659.422N	Length of Rock Drilling: 87.24 m	Drilled by: S.R. Timilsina
Angle From Horizontal: 90°	Total Length of Rock Drill: 59.24 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 65.82%	Water Table: 81 m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table Water Pressure Test Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description			
60			0-100%							Lugeon	60	370.950
61									Core loss : 60.00 to 60.27 m		61	
62									Core loss : 61.20 to 61.54 m		62	
63									Core loss : 62.00 to 62.22 m		63	
64									Core loss : 64.00 to 64.33 m MB : 64.56 m		64	
65									Core loss : 65.31 m		65	
66									Core loss : 67.72 m & 67.76 m MB : 67.72 m & 67.76 m		66	
67									Core loss : 68.00 to 68.79 m		67	
68									Core loss : 69.00 to 69.50 m		68	
69											69	
70											70	

Note

RQD 

Core Loss 

Colluvium 

Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Alluvium 

Dolomite/Quartzite/Dolomitic Quartzite 

Dolomite 



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SHEET NO : BH-1
7/9

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-1

Location: Intake	Depth of Hole: 90.00 m	Commenced: 2nd Aug., 200
Elevation: 430.950	Depth of Overburden: 2.76 m	Completed: 11th Sept., 2006
Coordinate: 525567.697E/3092659.422N	Length of Rock Drilling: 87.24 m	Drilled by: S.R. Timilsina
Angle From Horizontal: 90°	Total Length of Rock Drill: 59.24m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 65.82%	Water Table: 81m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation Kind of Bit Casing	Observation of Core				Water Table 	Water Pressure Test Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting				
70			10-100%								100	360.95
71					Gray							
72					Light grey							
73												
74												
75					White to Grey							355.95
76												
77												
78					Light grey to Brown							
79												
80												

Note

RQD 

Core Loss 


Colluvium 

Abbreviation


Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1(Stick); 2(Substick); 3(Pieces); 4(Fragment); 5(Grain)

Lugeon Value 

Alluvium 

Dolomite/Quartzite/Dolomitic Quartzite 

Dolomite 



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(ENGINEERING PROJECT MANAGEMENT CONSTRUCTION & DEVELOPMENT)
P. O. Box : 2023
Nagarkot, Narai, Kathmandu.

Employer
Electric Power Development Co., Ltd
Nippon Koei Co., Ltd
Tokyo Japan

Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-1
8/9

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-1


Location: Intake	Depth of Hole: 90.00 m	Commenced: 2nd Aug., 2006
Elevation: 430.950	Depth of Overburden: 2.76 m	Completed: 11th Sept., 2006
Coordinate: 525567.697E/3092659.422N	Length of Rock Drilling: 87.24 m	Drilled by: S.R. Timilsina
Angle From Horizontal: 90°	Total Length of Rock Drill: 59.24 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 65.82%	Water Table: 81m


Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core				Water Table Water Pressure Test Leakage of Drilling Water	Lugeon	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting				
80			0-100%								80	450.950
81											81	349.950
82											82	
83											83	
84											84	
85											85	
86											86	
87											87	
88											88	
89											89	
90											90	


Note


RQD 

Core Loss 

Colluvium 

Alluvium 

Dolomite/Quartzite/Dolomitic Quartzite 


Dolomite 

Abbreviation

Weathering : w1- Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4- Highly Weathered ;
w5- Decomposed

Hardness : H1- Strong Hard; H2- Medium Hard; H3- Hard; H4- Soft; H5- Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Lugeon Value 



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Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-1
9/9

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-3

Location: Tailrace Outlet	Depth of Hole: 50.00 m	Commenced: 12 June, 2006
Elevation: 331.788 m.	Depth of Overburden: 39.87 m	Completed: 14 July, 2006
Coordinate: 525634.116E/3092947.201N	Length of Rock Drilling: 10.13 m	Drilled by: Santa Majhi
Angle From Horizontal	Total Length of Core: 23.75 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 47.5%	Water Table : 24.10m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table Water Pressure Test Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description			
0			0-100%							0	40	331.788
1		Alluvium							Initially 75 cm is alluvium deposit of pebble with sand particles then colluvium deposit of light brown pebbly sand with silty clay and pebble of limestone			
2									Colluvium deposit of light grey to brown, fine grained silty sand pebble of limestone			
3									Colluvium deposit of pebble, cobble of light grey, fine grained limestone			
4									Colluvium deposit of light brown, fine grained silty sand and pebble of light grey, fine grained limestone			
5									Colluvium deposit of light brown, fine grained silty sand and pebble of light grey, fine grained limestone			
6									Colluvium deposit of pebble of light grey to brownish, fine grained limestone			
7									Colluvium deposit of pebble, cobble of light grey to brown, fine grained limestone with calcite			
8									Colluvium deposit of light brown, fine grained silty sand and pebble, cobble of limestone with calcite			
9									Colluvium deposit of pebble of light grey to brownish, fine grained limestone			
10									Colluvium deposit of pebble of quartz, limestone			
11									Colluvium deposit of pebble of quartz, limestone			
12									Colluvium deposit of light grey, fine grained silty sand and pebble of limestone with calcite			
13									Colluvium deposit of pebble of limestone			
14									Colluvium deposit of light grey, medium grained sand and pebble of limestone			
15									Colluvium deposit of light grey, fine grained sand and pebble of limestone			
16									Colluvium deposit of light brown, fine grained sand and pebble of limestone			

Note

RQD

Core Loss

Colluvium



Abbreviation

Weathering : w1- Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4- Highly Weathered ;
w5- Decomposed

Hardness : H1- Strong Hard; H2- Medium Hard; H3- Hard; H4- Soft; H5- Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Alluvium

Slate

Dolomite



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Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-3
1/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-3

Location: Tailrace Outlet	Depth of Hole: 50.00 m	Commenced: 12 June, 2006
Elevation: 331.788 m.	Depth of Overburden: 39.87 m	Completed: 14 July, 2006
Coordinate: 525634.116E/3092947.201N	Length of Rock Drilling: 10.13 m	Drilled by: Santa Majhi
Angle From Horizontal	Total Length of Core: 23.75 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 47.5%	Water Table : 24.10m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table Water Pressure Test Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description 76 mm			
10			0-100%							Lugeon	40	321.7
11									Colluvium deposit of light grey to brown, fine grained sand and pebble of light grey to brown limestone			
12									Colluvium deposit of dark grey, fine grained sand and pebble of light grey to brown limestone			
13									Colluvium deposit of pebble of dark grey, fine grained limestone			
14									Colluvium deposit of dark grey, fine grained sand and pebble, cobble of dark grey limestone			
15									Colluvium deposit of dark grey, fine grained sand and pebble, cobble of dark grey limestone with calcite			
16									Colluvium deposit of pebble of dark grey limestone			
17									Do			
18									Colluvium deposit of dark grey to brown, fine grained sand and pebble of limestone			
19									Colluvium deposit of pebble of dark grey to brown limestone with calcite			
20									Colluvium deposit of pebble of dark grey to brown quartz, limestone with calcite			
21									Colluvium deposit of light grey, fine grained sand and pebble, cobble of limestone			
22									Colluvium deposit of pebble of dark grey limestone with calcite			
23									Do			
24									Colluvium deposit of dark grey, fine grained sand and pebble of limestone			
25									Do			
26									Do			

Note

RQD 

Core Loss 

Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pices); 4 (Fragment); 5 (Grain)



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CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-3
2/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-3

Location: Tailrace Outlet	Depth of Hole: 50.00 m	Commenced: 12 June, 2006
Elevation: 331.788 m.	Depth of Overburden: 39.87 m	Completed: 14 July, 2006
Coordinate: 525634.116E/3092947.201N	Length of Rock Drilling: 10.13 m	Drilled by: Santa Majhi
Angle From Horizontal	Total Length of Core: 23.75 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 47.5%	Water Table : 24.10m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table Water Pressure Test Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description			
20			0-100%							Lugeon	40	311.788
21									Colluvium deposit of dark grey to light brown, fine grained sand and pebble of limestone			
22									Do			
23									Colluvium deposit of light brown to grey, fine grained sand and pebble of dark grey to brown limestone			
24									Colluvium deposit of pebble of light to dark grey, fine grained limestone			
25									Colluvium deposit of light grey, fine grained sand and pebble of light grey to brown limestone			
26									Colluvium deposit of pebble of light grey to brown, fine grained limestone, quartzite with quartz vein			
27									Colluvium deposit of light grey, fine grained sand and pebble of light grey limestone			
28									Colluvium deposit of boulder of light grey, fine grained limestone with calcite			
29									Do			
30									Colluvium deposit of pebble of light grey, fine grained limestone with calcite			
									Colluvium deposit of light grey, fine grained sand and pebble of light grey, fine grained limestone with calcite			
									Colluvium deposit of pebble of light grey, fine grained limestone with calcite			
									Colluvium deposit of pebble of light grey, fine grained limestone and dolomite			
									Colluvium deposit of light grey, fine grained sand and pebble of light grey to brown, fine grained limestone and alluvium deposit from 29.57 m with rounded pebble of limestone, quartzite.			

Note

RQD



Core Loss



Colluvium



Alluvium



Slate



Dolomite



Abbreviation

Weathering : w1- Fresh; w2- Slightly Weathered;

w3- Moderately Weathered; w4- Highly Weathered ;

w5- Decomposed

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Core Cutting : 1 (Stick); 2 (Substick); 3 (Pices); 4 (Fragment); 5 (Grain)



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 Upper Seti (Damauli) Storage Hydroelectric Project


SHEET NO : BH-3
 3/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-3

Location: Tailrace Outlet	Depth of Hole: 50.00 m	Commenced: 12 June, 2006
Elevation: 331.788 m.	Depth of Overburden: 39.87 m	Completed: 14 July, 2006
Coordinate: 525634.116E/3092947.201N	Length of Rock Drilling: 10.13 m	Drilled by: Santa Majhi
Angle From Horizontal	Total Length of Core: 23.75 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 47.5%	Water Table : 24.10m

Depth (m)	Log	Rock Name	Core Recovery(%)	Cementation kind of Bit Casing	Observation of Core					Water Table 	Water Pressure Test	Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description					
30			0-100%							0	Lugeon	40	301.788	
31														
32														
33														
34														
35														
36														
37														
38														
39														
40														

Note

RQD 

Core Loss 

Colluvium 

Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pices); 4 (Fragment); 5 (Grain)

Alluvium 

Slate 

Dolomite 



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Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-1
4/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-3

Location: Tailrace Outlet	Depth of Hole: 50.00 m	Commenced: 12 June, 2006
Elevation: 331.788 m.	Depth of Overburden: 39.87 m	Completed: 14 July, 2006
Coordinate: 525634.116E/3092947.201N	Length of Rock Drilling: 10.13 m	Drilled by: Santa Majhi
Angle From Horizontal	Total Length of Core: 23.75 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 47.5%	Water Table : 24.10m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table Water Pressure Test Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description			
40			0-100%								40	291.788
41									Fine grained, highly jointed, thinly bedded, fragmented dolomite with stalic structure. During drilling light grey, fine grained sand found as sludge due to crushed of highly jointed and thinly bedded rock. Core loss: 40.00 to 40.90 m		41	
42									Do Core loss: 41.16 to 41.84 m		42	
43									Do Core loss: 42.00 to 42.65 m		43	
44									Do Core loss: 43.21 to 43.50 m		44	
45									Do Core loss: 43.50 to 44.85 m		45	
46									Do Core loss: 45.22 to 46.00 m		46	
47									Do Core loss: 46.00 to 46.71 m		47	
48									Do Core loss: 47.00 to 47.75 m		48	
49									Do Core loss: 48.35 to 49.00 m		49	
50									Do Core loss: 49.00 to 49.53 m		50	

Note

RQD



Core Loss



Colluvium



Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1(Stick); 2(Substick); 3(Pieces); 4(Fragment); 5(Grain)

Alluvium



Slate



Dolomite



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CORE LOGGING
Upper Seti(Damauli) Storage Hydroelectric Project

SHEET NO : BH-3
5/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-4

Location: Alternative Intake	Depth of Hole: 90 m.	Commenced: 23 June 2006
Elevation: 427.017m	Depth of Overburden: 1.15 m	Completed: 25 July 2006
Coordinate: 525669.118E/3092472.343N	Length of Rock Drilling: 88.85 m	Drilled by: S.R. Timilsina
Angle From Horizontal	Total Length of Rock Drill: 54.91 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery: 61.01%	Water Table : 18.7m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation Kind of Bit Casing	Observation of Core					Water Table Water Pressure Test Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description			
0			0-100%								0	427.017
1		Colluvium	100	NW	Light grey to Brown				Initially dark grey to brown, coarse grained sand found as sludge during drilling.		1	
2			17				3	3-4	Bed Rock encountered from 1.15 m. Fine grained, highly jointed, thinly bedded slate with quartz vein.		2	
3			50						Fine grained, highly jointed, thinly bedded slate with quartz vein.		3	
4			33				3	3-4	Core loss: 1.85 to 2.00 m		4	
5			75						Core loss: 2.80 to 3.40 m		5	
6							3	3-4	Core loss: 4.00 to 4.20 m		6	
7							3	4	Do		7	
8			44						Core loss: 5.00 to 5.80 m		8	
9			44				3	3-4	Fine grained, highly jointed, thinly bedded phyllitic slate.		9	
10			62				3	3-4	Do		10	

Note

RQD

Core Loss

Colluvium

Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2-Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Alluvium

Slate

Schist

Lugeon Value



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Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-4
1/9

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-4

Location: Alternative Intake	Depth of Hole: 90.00 m	Commenced: 23 June 2006
Elevation: 427.017m	Depth of Overburden: 1.15 m	Completed: 25 July 2006
Coordinate: 525669.118E/3092472.343N	Length of Rock Drilling: 88.85 m	Drilled by: S.R. Timilsina
Angle From Horizontal	Total Length of Rock Drill: 54.91 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery: 61.01%	Water Table : 18.7m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table			Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description	76 mm	Water Pressure Test	Leakage of Drilling Water		
10			0-100%										10	417.0
11									Fine grained, highly jointed, thinly bedded phyllitic slate.				11	
12									Core loss: 10.15 to 11.15 m				12	
13									Do				13	
14									Fine grained, highly jointed, thinly bedded phyllitic slate with quartz vein.				14	413.0
15									Do				15	
16									Fine grained, highly jointed, thinly bedded slate.				16	
17									Core loss: 14.20 to 14.40 m				17	409.8
18									Do				18	409.0
19									Fine grained, highly jointed, thinly bedded phyllitic slate with quartz vein. Dark grey, fine grained sand or sludge.				19	408.3
20									Core loss: 15.15 to 16.26 m				20	407.5

Note

RQD

Core Loss



Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 {Stick}; 2 {Substick}; 3 {Pieces}; 4 {Fragment}; 5 {Grain}



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Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project


SHEET NO : BH-4
2/9

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-4


Location: Alternative Intake	Depth of Hole: 90.00 m	Commenced: 23 June 2006
Elevation: 427.017m	Depth of Overburden: 1.15 m	Completed: 25 July 2006
Coordinate: 525669.118E/3092472.343N	Length of Rock Drilling: 88.85 m	Drilled by: S.R. Timilsina
Angle From Horizontal	Total Length of Rock Drill: 54.91 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery: 61.01%	Water Table : 18.7m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table 	Water Pressure Test	Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description					
20			0-100%										20	407.017
													100	
21									Total core loss, soft and weathered rock crushed during drilling and dark grey, fine grained sand found as sludge.				21	
									Core loss: 19.70 to 21.20 m					
22									Fine grained, highly jointed, thinly bedded slate. Water loss				22	
									Core loss: 21.20 to 22.60 m					
23									Do				23	
									Core loss: 22.70 to 24.00 m					
24									Fine grained, highly jointed, thinly bedded calcareous phyllitic slate with quartz vein.				24	
									Core loss: 24.20 to 24.77 m					
25									Fine grained, highly jointed, thinly bedded phyllitic slate with calcite vein.				25	
									Core loss: 25.00 to 25.63 m					
26									Do				26	
									Core loss: 25.75 to 26.00 m					
27									Do				27	
									Core loss: 26.40 to 26.56 m					
28									Do				28	
									Core loss: 27.00 to 27.36 m					
29									Total core loss. Dark grey, fine grained sand found as sludge.				29	
									Core loss: 27.30 to 28.20 m					
30									Fine grained, highly jointed, thinly bedded slate with calcite vein.				30	
									Do					
									Core loss: 28.70 to 29.26 m					
									Do					
									Core loss: 29.35 to 29.82 m					

Note

RQD 

Core Loss 


Colluvium 

Abbreviation

Weathering : w1- Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4- Highly Weathered ;
w5- Decomposed


Hardness : H1- Strong Hard; H2- Medium Hard; H3- Hard; H4- Soft; H5- Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Alluvium 

Slate 

Schist 

Lugeon Value 



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Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-4
3/9

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-4

Location: Alternative Intake	Depth of Hole: 90.00 m	Commenced: 23 June 2006
Elevation: 427.017 m	Depth of Overburden: 1.15 m	Completed: 25 July 2006
Coordinate: 525669.118E/3092472.343N	Length of Rock Drilling: 88.85 m	Drilled by: S.R. Timilsina
Angle From Horizontal	Total Length of Rock Drill: 54.91 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery: 61.01%	Water Table : 18.7 m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table Water Pressure Test Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description			
30			0-100%							0	30	397.017
31									Core loss: 30.00 to 30.73 m			
32									Core loss: 31.00 to 31.45 m			
33									Core loss: 31.80 to 32.00 m			
34									Core loss: 32.30 to 32.50 m			
35									Core loss: 32.85 to 32.93 m			
36									Core loss: 33.30 to 33.67 m			
37									Core loss: 33.80 to 34.77 m			
38									Core loss: 35.65 to 36.10 m			
39									Core loss: 38.00 to 38.10 m			
40									Core loss: 38.30 to 38.58 m			
									Core loss: 39.10 to 39.21 m			
									Core loss: 39.40 to 39.77 m			

Note

RQD

Core Loss

Colluvium



Alluvium



Slate



Schist



Lugeon Value



Abbreviation

Weathering : w1- Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4- Highly Weathered ;
w5- Decomposed

Hardness : H1- Strong Hard; H2- Medium Hard; H3- Hard; H4- Soft; H5- Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pices); 4 (Fragment); 5 (Grain)



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Nippon Koei Co., Ltd
Tokyo, Japan

Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project


SHEET NO : BH-4
4/9

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-4

Location: Alternative Intake	Depth of Hole: 90.00 m	Commenced: 23 June 2006
Elevation: 427.017 m	Depth of Overburden: 1.15 m	Completed: 25 July 2006
Coordinate: 525669.118E/3092472.343N	Length of Rock Drilling: 88.85 m	Drilled by: S.R. Timilsina
Angle From Horizontal	Total Length of Rock Drill: 54.91 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery: 61.01%	Water Table : 18.7 m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core				Water Table 	Water Pressure Test	Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting					
40			0-100%									0	387.017
41												100	
42													
43													
44													
45													
46													
47													
48													
49													
50													

Note

RQD

Core Loss

Colluvium



Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pices); 4 (Fragment); 5 (Grain)

Alluvium



Slate



Schist



Lugeon Value



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Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project


SHEET NO : BH-4
5/9

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-4

Location: Alternative Intake	Depth of Hole: 90.00 m	Commenced: 23 June 2006
Elevation: 427.017m	Depth of Overburden: 1.15 m	Completed: 25 July 2006
Coordinate: 525669.118E/3092472.343N	Length of Rock Drilling: 88.85 m	Drilled by: S.R. Timilsina
Angle From Horizontal	Total Length of Rock Drill: 54.91 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery: 61.01%	Water Table : 18.7m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation Kind of Bit Casing	Observation of Core					Water Table 	Water Pressure Test	Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description					
50			0-100%										0	377.01
51									Fine grained, moderately jointed, thinly bedded slate. Core loss: 50.00 to 50.13 m				100	
									Do					
									Core loss: 50.40 to 50.48 m					
									Fine grained, highly jointed, thinly bedded calcareous slate with calcite. Core loss: 50.70 to 50.83 m					
									Do					
									Do					
									Core loss: 52.04 to 52.35 m					
									Do					
									Fz: 52.35 to 52.45 m					
									Do					
									Do					
									Fz: 54.30 to 54.40 m					
									Do					
									Fz: 54.50 to 54.58 m					
									Do					
									Core loss: 55.00 to 55.16 m					
									Do					
									Core loss: 56.00 to 56.29 m					
									Do					
									Core loss: 56.65 to 56.90 m					
									Do					
									Core loss: 57.40 to 57.68 m					
									Do					
									Core loss: 58.00 to 58.25 m					
									Do					
									Core loss: 58.50 to 58.75 m					
									Do					
									Do					

Note

RQD 

Core Loss 

Colluvium 

Abbreviation

Weathering : w1- Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4- Highly Weathered ;
w5- Decomposed


Hardness : H1- Strong Hard; H2- Medium Hard; H3- Hard; H4- Soft; H5- Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Alluvium 

Slate 

Schist 

Lugeon Value 



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Title
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Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-4
6/9

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-4

Location: Alternative Intake	Depth of Hole: 90.00 m	Commenced: 23 June 2006
Elevation: 427.017 m	Depth of Overburden: 1.15 m	Completed: 25 July 2006
Coordinate: 525669.118E/3092472.343N	Length of Rock Drilling: 88.85 m	Drilled by: S.R. Timilsina
Angle From Horizontal	Total Length of Rock Drill: 54.91 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery: 61.01%	Water Table : 18.7m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table Water Pressure Test Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description			
60			0-100%							Lugeon	60	367.01
61				NG					Fine grained, highly jointed, thinly bedded calcareous slate.			
62									Do			
63									Do			
64									Do			
65									Do			
66									Do			
67									Do			
68									Do			
69									Do			
70									Do			

Note

RQD

Core Loss

Colluvium

Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Alluvium

Slate

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Lugeon Value



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Upper Seti (Damauli) Storage Hydroelectric Project


SHEET NO : BH-4
7/9

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-4

Location: Alternative Intake	Depth of Hole: 90.00 m	Commenced: 23 June 2006
Elevation: 427.017m	Depth of Overburden: 1.15 m	Completed: 25 July 2006
Coordinate: 525669.118E/3092472.343N	Length of Rock Drilling: 88.85 m	Drilled by: S.R. Timilsina
Angle From Horizontal	Total Length of Rock Drill: 54.91 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery: 61.01%	Water Table : 18.7m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table 	Water Pressure Test	Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description					
70			0-100%										70	357.01
71													71	
72													72	
73													73	
74													74	
75													75	
76													76	
77													77	
78													78	
79													79	
80													80	

Note

RQD 


Core Loss 

Colluvium 

Alluvium 

Slate 

Schist 

Lugeon Value 

Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)



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CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project


SHEET NO : BH-4
8/9

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-4

Location: Alternative Intake	Depth of Hole: 90.00 m	Commenced: 23 June 2006
Elevation: 427.017m	Depth of Overburden: 1.15 m	Completed: 25 July 2006
Coordinate: 525669.118E/3092472.343N	Length of Rock Drilling: 88.85 m	Drilled by: S.R. Timilsina
Angle From Horizontal	Total Length of Rock Drill: 54.91 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery: 61.01%	Water Table : 18.7m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table 	Water Pressure Test	Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description					
80			0-100%										80	347.017
81													81	
82													82	
83													83	
84													84	
85													85	
86													86	
87													87	
88													88	
89													89	
90													90	

Note

RQD 

Core Loss 

Colluvium 

Abbreviation

Weathering : w1- Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4- Highly Weathered ;
w5- Decomposed


Hardness : H1- Strong Hard; H2- Medium Hard; H3- Hard; H4- Soft; H5- Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Alluvium 

Slate 

Schist 

Lugeon Value 



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Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-4
9/9

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-5

Location: Left bank downstream of Dam Axis	Depth of Hole: 50 m.	Commenced: 10 June, 2006
Elevation: 358.312 m.	Depth of Overburden: 39.84 m	Completed: 7 July, 2006
Coordinate: 525591.511 E/309303.786 N	Length of Rock Drilling: 10.16 m	Drilled by: Joon Shrestha
Angle From Horizontal	Total Length of Core: 24.58 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 49.16%	Water Table : 40.5m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Colour	Weathering	Hardness	Core Cutting	Observation of Core	Water Table Water Pressure Test Leakage of Drilling Water	Depth (m)	Elevation (m)
									Description			
0			0-100%						Initially, top soil of dark brown muddy clay.	0	40	358.312
1									Colluvium deposit of cobble of light grey, fine grained limestone		1	
2									Colluvium deposit of dark brown silty clay		2	
3									Colluvium deposit of pebble of light grey, fine grained limestone		3	
4									Colluvium deposit of pebble of light grey to pinkish, fine grained limestone and dolomitic limestone		4	
5									Colluvium deposit of pebble of light grey, fine grained limestone		5	
6									Colluvium deposit of brownish grey, fine grained sand and pebble of limestone		6	
7									Colluvium deposit of pebble of light grey to white, fine grained limestone		7	
8									Colluvium deposit of pebble of light grey to white, fine grained limestone with calcite, quartz		8	
9									Do		9	
10									Do		10	
									Colluvium deposit of pebble, cobble of light grey to white, fine grained quartz, limestone with calcite			
									Colluvium deposit of pebble of light grey to white, fine grained quartz, limestone			
									Colluvium deposit of pebble of light grey, fine grained quartz, limestone with calcite			
									Colluvium deposit of pebble of white to light grey, fine grained limestone and dolomitic quartzite			
									Colluvium deposit of pebble, cobble of white to light grey, fine grained dolomitic quartzite, limestone			

Note

RQD

Core Loss

Colluvium



Abbreviation

Weathering : w1-Fresh; w2-Slightly Weathered;
w3-Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2-Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Alluvium



Slate



Phyllitic schist



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CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-5
1/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-5

Location: Left bank downstream of Dam Axis	Depth of Hole: 50.00 m	Commenced: 10 June, 2006
Elevation: 358.312 m.	Depth of Overburden: 39.84 m	Completed: 7 July, 2006
Coordinate: 525591.511E/309303.786N	Length of Rock Drilling: 10.16 m	Drilled by: Joon Shrestha
Angle From Horizontal	Total Length of Core: 24.58 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 49.16%	Water Table : 40.5m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit	Casing	Colour	Weathering	Hardness	Core Cutting	Observation of Core	Water Table Water Pressure Test Leakage of Drilling Water	Depth (m)	Elevation (m)
										Description 76 mm			
10			0-100%								Lugeon	40	348.3
11										Colluvium deposit of pebble, cobble of white to light grey, fine grained dolomitic quartzite and limestone			
12										Colluvium deposit of pebble of light grey, fine grained limestone			
13										Do			
14										Colluvium deposit of pebble of light grey to brown, fine grained, weathered limestone			
15										Do			
16										Do			
17										Colluvium deposit of pebble of white to light grey, fine grained limestone			
18										Colluvium deposit of pebble, boulder of white to light grey, fine grained dolomitic limestone			
19										Colluvium deposit of pebble, cobble of white to light grey, fine grained dolomitic limestone			
20										Colluvium deposit of pebble, cobble of white to light grey, concreted dolomitic quartzite and limestone			
										Colluvium deposit of pebble, cobble of light brown to grey, concreted dolomitic quartzite and limestone with calcite			
										Colluvium deposit of pebble of light grey, fine grained dolomitic quartzite and limestone			
										Colluvium deposit of pebble, cobble of light grey, fine grained dolomitic quartzite and limestone with calcite			

Note

RQD



Core Loss



Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;

w3- Moderately Weathered; w4-Highly Weathered ;

w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1{Stick}; 2{Substick}; 3{Pieces}; 4{Fragment}; 5{Grain}



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Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-5
2/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-5

Location: Left bank downstream of Dam Axis Depth of Hole: 50.00 m Commenced: 10 June, 2006

Elevation: 358.312 m. Depth of Overburden: 39.84 m Completed: 7 July, 2006

Coordinate: 525591.511E/309303.786N Length of Rock Drilling: 10.16 m Drilled by: Joon Shrestha


Angle From Horizontal Total Length of Core: 24.58 m Logged by: R. Sthapit

Bearing of Angle Hole Core Recovery : 49.16% Water Table : 40.5m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation Kind of Bit	Casing	Colour	Weathering	Hardness	Core Cutting	Observation of Core Description	Water Table Water Pressure Test Leakage of Drilling Water	Depth (m)	Elevation (m)
20			0-100%								Lugeon	40	338.312
21										Colluvium deposit of pebble of light grey, white to pink, fine grained dolomitic quartzite and limestone			
22										Colluvium deposit of pebble of light grey to white, fine grained quartzite, dolomitic quartzite and limestone			
23										Colluvium deposit of pebble, cobble of light grey to white, fine grained dolomitic quartzite and limestone			
24										Colluvium deposit of cobble of white, fine grained quartzite			
25										Colluvium deposit of pebble of white to pinkish grey, fine grained dolomitic quartzite and quartzite			
26										Colluvium deposit of pebble of light grey to white, fine grained quartzite and limestone			
27										Colluvium deposit of pebble of white to pinkish grey, fine grained quartzite and dolomitic quartzite			
28										Colluvium deposit of pebble of light grey to white, fine grained dolomitic quartzite and limestone			
29										Colluvium deposit of pebble of light brown, fine grained sand and pebble of white, pink to light grey dolomite and limestone			
30													

Note

RQD 

Core Loss 

Colluvium 

Abbreviation


Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1(Stick); 2(Substick); 3(Pieces); 4(Fragment); 5(Grain)

Alluvium 

Slate 

Phyllitic schist 



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Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-5
3/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-5


Location: Left bank downstream of Dam Axis Depth of Hole: 50.00 m Commenced: 10 June, 2006

Elevation: 358.312 m. Depth of Overburden: 39.84 m Completed: 7 July, 2006

Coordinate: 525591.511E/309303.786N Length of Rock Drilling: 10.16 m Drilled by: Joon Shrestha


Angle From Horizontal Total Length of Core: 24.58 m Logged by: R. Sthapit


Bearing of Angle Hole Core Recovery : 49.16% Water Table : 40.5m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit	Observation of Core					Water Table 	Water Pressure Test	Leakage of Drilling Water	Depth (m)	Elevation (m)
					Casing	Colour	Weathering	Hardness	Core Cutting					
30			0-100%										30	328.312
													31	
													32	
													33	
													34	323.782
													35	
													36	
													37	
													38	
													39	
40													40	

Note

RQD 

Core Loss 


Colluvium 

Abbreviation


Weathering : w1- Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4- Highly Weathered ;
w5- Decomposed

Hardness : H1- Strong Hard; H2- Medium Hard; H3- Hard; H4- Soft; H5- Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Alluvium 

Slate 

Phyllitic schist 



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CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project


SHEET NO : BH-5
4/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-5

Location: Left bank downstream of Dam Axis	Depth of Hole: 50 m	Commenced: 10 June, 2006
Elevation: 358.312 m.	Depth of Overburden: 39.84 m	Completed: 7 July, 2006
Coordinate: 525591.511E/309303.786N	Length of Rock Drilling: 10.16 m	Drilled by: Joon Shrestha
Angle From Horizontal	Total Length of Core: 24.58 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 49.16%	Water Table : 40.5m

Depth (m)	Log	Rock Name	Core Recovery(%)	Cementation kind of Bit	Casing	Observation of Core					Water Table 	Water Pressure Test	Leakage of Drilling Water	Depth (m)	Elevation (m)	
						Colour	Weathering	Hardness	Core Cutting	Description						
40			0-100%										0	Lugeon	40	318.312
41										Fine grained, moderately jointed, thinly bedded schist with quartz vein						317.812
42										Core loss						
43										Fine grained, highly jointed, thinly bedded phyllitic schist with quartz vein						
44										Core loss						
45										Greenish grey, fine grained sand found as sludge Core loss: 42.51 to 42.68 m						
46										Core loss						
47										Core loss: 43.10 to 43.79 m						
48										Core loss						
49										Core loss: 44.25 to 44.50 m						
50										Total core loss, sludge found as fine grained sand Core loss: 44.50 to 45.00 m						
51										Fine grained, highly jointed, thinly bedded phyllitic schist Core loss: 45.00 to 45.78 m						
52										Core loss						
53										Core loss: 46.24 to 46.78 m						
54										Core loss						
55										Core loss: 47.26 to 47.51 m						
56										Fine grained, highlyly jointed, thinly bedded phyllitic schist with quartz vein Core loss: 48.20 to 48.86 m						
57										Core loss						
58										Core loss						
59										Core loss						
60										Core loss						
61										Core loss						
62										Core loss						
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191										Core loss						

Note

RQD 

Core Loss 

Colluvium 

Abbreviation


Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Alluvium 

Slate 

Phyllitic schist 



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Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project


SHEET NO : BH-5
5/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-6


Location: Tailrace outlet (Alternative)	Depth of Hole: 50 m.	Commenced: 12 Aug, 2006
Elevation: 313.596 m.	Depth of Overburden: 6.49 m	Completed: 4 Sept., 2006
Coordinate: 527052.143E/3092078.266N	Length of Rock Drilling: 43.51 m	Drilled by: Joon Shrestha
Angle From Horizontal	Total Length of Core: 36.16 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 72.32%	Water Table : 21.90m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table 	Water Pressure Test	Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description					
0			0-100%										0	313.596
1									Colluvium deposit of dark brown clay with rock fragments and coarse grained sand and gravel of white quartzite.				1	313.596
2									Colluvium deposit of light brown, fine grained sand and pebble of white to grey quartzite.				2	
3									Do				3	
4									Colluvium deposit of pebble, cobble of greenish to grey quartzite.				4	
5									Colluvium deposit of light brown, fine grained sand and pebble of greenish to grey quartzite.				5	
6									Do				6	
7									Colluvium deposit of pebble of light grey quartzite.				7	306.196
8									Do				8	304.896
9									Do				9	304.096
10									Run of 49 cm is colluvium deposit of pebble of quartzite. From 6.49 m Bed Rock is observed. Fine grained, moderately jointed schistose quartzite.				10	

Note

RGD 

Core Loss 

Colluvium 


Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Plices); 4 (Fragment); 5 (Grain)

Dolomite 

schistose quartzite 

Phyllite 



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CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project

SHEET NO : BH-6
1/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-6


Location: Tailrace outlet (Alternative) Depth of Hole: 50.00 m Commenced: 12 Aug, 2006

Elevation: 313.596 m. Depth of Overburden: 6.49 m Completed: 4 Sept., 2006

Coordinate: 527052.143E/3092078.266N Length of Rock Drilling: 43.51 m Drilled by: Joon Shrestha

Angle From Horizontal Total Length of Core: 36.16 m Logged by: R. Sthapit

Bearing of Angle Hole Core Recovery : 72.32% Water Table : 21.90m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table 	Water Pressure Test	Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description					
10			0-100%						76 mm				0	303.5
										Lugeon			40	
11			20	66 mm NX		3	3	4	Fine grained, highly jointed and fractured schistose quartzite.				11	
12			86						Do				12	
13			100						Fine grained, highly jointed and mica poring schistose quartzite. Core loss : 11.48 to 11.65 m Free fall : 11.45 to 11.65 m				13	
14									Do				14	
15			55						Core loss : 11.65 to 12.51 m Free fall : 11.65 to 12.30 m				15	
16			29						Do				16	
17			69						Total core loss. Sludge found as light gre. fine grained sand.				17	
18			59						Core loss : 13.15 to 14.00 m				18	
19			29						Fine grained, highly jointed quartzite.				19	
20			18						Fine grained, highly jointed calcareous quartzite.				20	
			54						Core loss : 14.40 to 14.73 m					
									Do					
									Fine grained, highly jointed and mica poring schistose quartzite with calcite vein.					
									Core loss : 16.39 to 16.65 m Free fall : 16.40 to 16.65 m					
									Fine grained, highly jointed quartzite.					
									Core loss : 16.65 to 17.34 m					
									Fine grained, highly jointed and mica poring quartzite & phyllite with calcite vein.					
									Core loss : 17.65 to 18.32 m					
									Do					
									Core loss : 18.85 to 19.08 m					
									Fine grained, moderately jointed and fractured quartzite & phyllite with calcite.					

Note

RQD



Core Loss



Abbreviation

Weathering : w1-Fresh; w2-Slightly Weathered; w3-Moderately Weathered; w4-Highly Weathered; w5-Decomposed

Hardness : H1-Strong Hard; H2-Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1(Stick); 2(Substick); 3(Pieces); 4(Fragment); 5(Grain)



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Upper Seti (Damauli) Storage Hydroelectric Project


SHEET NO : BH-6
2/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-6

Location: Tailrace outlet (Alternative)	Depth of Hole: 50.00 m	Commenced: 12 Aug, 2006
Elevation: 313.596 m.	Depth of Overburden: 6.49 m	Completed: 4 Sept., 2006
Coordinate: 527052.143E/3092078.266N	Length of Rock Drilling: 43.51 m	Drilled by: Joon Shrestha
Angle From Horizontal	Total Length of Core: 36.16 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 72.32%	Water Table : 21.90m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit Casing	Observation of Core					Water Table 	Water Pressure Test	Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description					
20			0-100%							0	Lugeon		20	293.596
21		Schistose quartzite	18	66 mm		2	2-3	3-4	Core loss : 19.65 to 20.19 m MB : 20.35 m; 20.39 m & 20.43 m Fine grained, moderately jointed and fractured quartzite with calcite. Core loss : 20.65 to 20.81 m Fine grained, highly jointed and fractured quartzite & phyllite with calcite vein.				21	291.696
22			54		Light to Dark grey	2	4	4-5	Core loss : 21.75 to 22.13 m Fine grained, moderately jointed and fractured quartzite & phyllite with calcite vein.				22	
23			43			2	2	2-3	Core loss : 22.50 to 22.84 m Do				23	
24			46			2	3	4	Core loss : 23.85 to 24.00 m Fine grained, highly jointed and fractured phyllite with calcite vein. Core loss : 24.30 to 24.55 m				24	
25		Phyllite	46						Fine grained, moderately jointed and laminated phyllite with calcite vein.				25	
26			20			2	3	2-3	Fine grained, jointed and fractured phyllite with calcite. Core loss : 25.65 to 25.80 m Do				26	
27			49		Dark grey	2	3	4	MB : 26.58 m; 26.59 m & 26.61 m Fine grained, highly jointed and fractured phyllite with calcite.				27	
28			35			2	2	2-3	Fine grained, moderately jointed and fractured phyllite with calcite. Do				28	
29			32			2	3	4	Core loss : 28.41 to 28.74 m. MB : 28.13 m & 28.21 m Do				29	
30			64			2	2	2-3	MB : 29.14 m & 29.19 m Do MB : 29.53 m & 29.65 m				30	

Note

RQD 

Core Loss 

Colluvium 


Abbreviation


Weathering : w1-Fresh; w2-Slightly Weathered;
w3-Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2-Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1(Stick); 2(Substick); 3(Pieces); 4(Fragment); 5(Grain)

Dolomite 

schistose quartzite 

Phyllite 



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Title
CORE LOGGING
Upper Seti (Damauli) Storage Hydroelectric Project


SHEET NO : BH-6
3/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project

Hole No: BH-6

Location: Tailrace outlet (Alternative)	Depth of Hole: 50.00 m	Commenced: 12 Aug, 2006
Elevation: 313.596 m.	Depth of Overburden: 6.49 m	Completed: 4 Sept., 2006
Coordinate: 527052.143E/3092078.266N	Length of Rock Drilling: 43.51 m	Drilled by: Joon Shrestha
Angle From Horizontal	Total Length of Core: 36.16 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 72.32%	Water Table : 21.90m

Depth (m)	Log	Rock Name	Core Recovery(%)	Cementation kind of Bit Casing	Observation of Core				Description	Water Table 			Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting		Water Pressure Test	Leakage of Drilling Water			
30			0-100%							0	Lugeon	40	30	283.594
31		Phyllite	75	66 mm	Light to Dark grey				Fine grained, jointed and fractured phyllite and dolomite.				31	
32		Dolomite	85		Light grey				MB : 30.15 m; 30.33 m & 30.90 m.				32	
33			88		Light grey	2	2	2-3	Fine grained, jointed dolomite.				33	
34			10		Light grey				MB : 31.19 m; 31.30 m; 31.35 m & 31.80 m.				34	
35		Phyllite	36		Light grey				Do				35	
36			46		Light grey	2	2-3	4	Fine grained, moderately jointed dolomite.				36	
37			27		Light grey	2	2-3	3	Do				37	
38			47		Light grey				Fine grained, highly jointed and mica parting phyllite and dolomite.				38	
39			10		Light grey	2	2-3	3	Core loss : 34.00 to 34.07 m; MB : 34.34 m.				39	
40			27		Light grey	2	3	4	Fine grained, jointed and mica parting phyllite and dolomite.				40	
									MB : 34.67 m.					
									Fine grained, highly jointed and mica parting phyllite and dolomite.					
									MB : 35.13 m.					
									Do					
									Fine grained, moderately jointed and mica parting phyllite and dolomite.					
									Do					
									MB : 39.13 m.					
									Do					

Note

RQD

Core Loss

Colluvium

Abbreviation

Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pieces); 4 (Fragment); 5 (Grain)

Dolomite

schistose quartzite

Phyllite



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SHEET NO : BH-6
4/5

Geologic Log of Drill Hole

Upper Seti (Damauli) Storage Hydroelectric Project


Hole No: BH-6

Location: Tailrace outlet (Alternative)	Depth of Hole: 50.00 m	Commenced: 12 Aug, 2006
Elevation: 313.596 m.	Depth of Overburden: 6.49 m	Completed: 4 Sept., 2006
Coordinate: 527052.143E/3092078.266N	Length of Rock Drilling: 43.51 m	Drilled by: Joon Shrestha
Angle From Horizontal	Total Length of Core: 36.16 m	Logged by: R. Sthapit
Bearing of Angle Hole	Core Recovery : 72.32%	Water Table : 21.90m

Depth (m)	Log	Rock Name	Core Recovery (%)	Cementation kind of Bit	Observation of Core					Water Table 	Water Pressure Test	Leakage of Drilling Water	Depth (m)	Elevation (m)
					Colour	Weathering	Hardness	Core Cutting	Description					
40			0-100%										40	273.596
41									Fine grained, highly jointed and mica parting phyllite. Core loss : 40.00 to 40.21 m.				41	
									Fine grained, moderately jointed and mica parting phyllite. Fine grained, light grey sand found as sludge.					
42									Core loss : 40.64 to 40.81 m.				42	
									Fine grained, highly jointed and mica parting phyllite.					
43									Core loss : 41.45 to 42.16 m.				43	
									MB : 42.40 m & 42.43 m.					
44									Fine grained, highly jointed and mica parting phyllite with calcite & quartz vein.				44	
									Core loss : 42.75 to 43.10 m.					
45									Fine grained, highly jointed and fragmented phyllite.				45	
									Fine grained, highly jointed phyllite.					
46									Core loss : 43.90 to 44.00 m.				46	
									Fine grained, highly jointed, fragmented and mica parting phyllite with calcite.					
47									Core loss : 44.40 to 45.58 m.				47	
									Do					
48									Core loss : 45.70 to 45.90 m.				48	
									Do					
49									Core loss : 46.30 to 46.52 m.				49	
									Do					
50									Core loss : 47.00 to 47.53 m.				50	
									Fine grained, moderately jointed phyllite with calcite.					
									Fine grained, highly jointed, fragmented phyllite with calcite.					

Note

RQD 

Core Loss 


Colluvium 

Abbreviation


Weathering : w1-Fresh; w2- Slightly Weathered;
w3- Moderately Weathered; w4-Highly Weathered ;
w5-Decomposed

Hardness : H1-Strong Hard; H2- Medium Hard; H3-Hard; H4-Soft; H5-Very Soft

Core Cutting : 1 (Stick); 2 (Substick); 3 (Pices); 4 (Fragment); 5 (Grain)

Dolomite 

schistose quartzite 

Phyllite 



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SHEET NO : BH-6
5/5

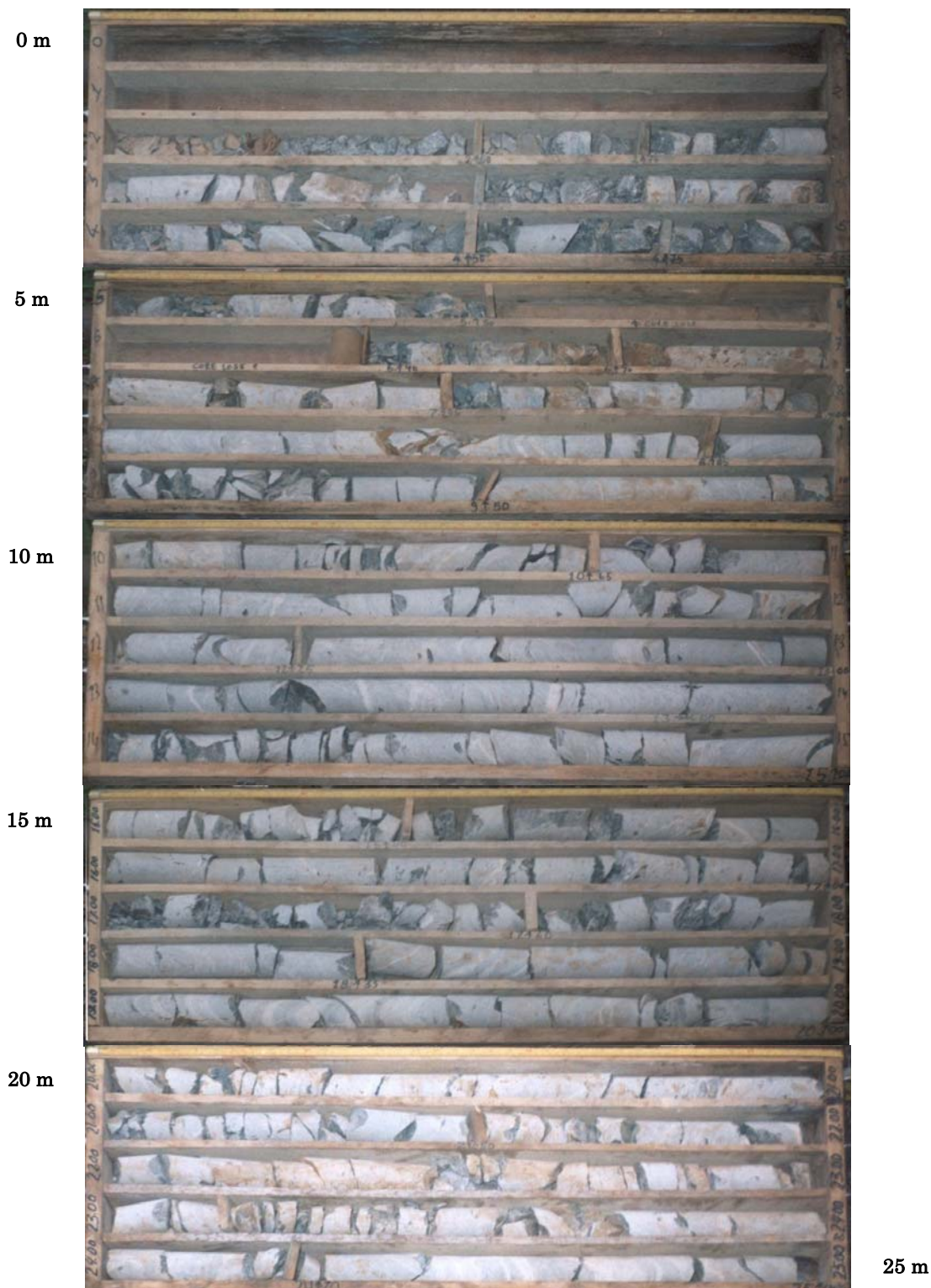
Photograph Of The Drilled Core

B-1, B-2, B-3, B-4, B-5, B-6, B-7, B-8, B-9, B-10, B-11, B-12, BP-1, BH-1, BH-2, BH-3, BH-4,
BH-5, BH-6

Upper Seti Storage Hydroelectric Power Project

B-1 Drill hole Core Photograph (1/6: 0 – 25m)

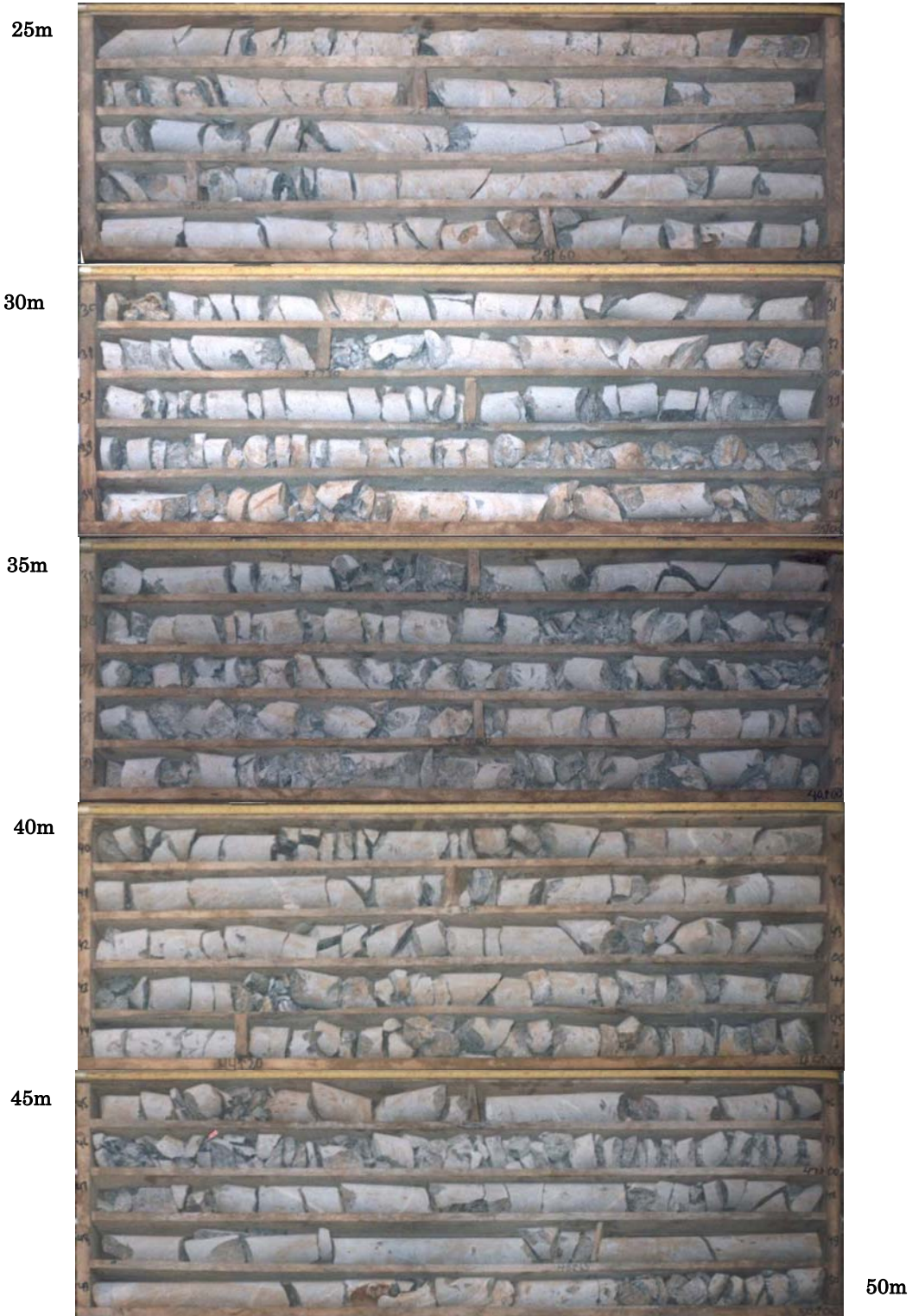
(L=150m, EL.515.0m, Vertical, Dam Axis R/B)



Upper Seti Storage Hydroelectric Power Project

B-1 Drill hole Core Photograph (2/6: 25 – 50m)

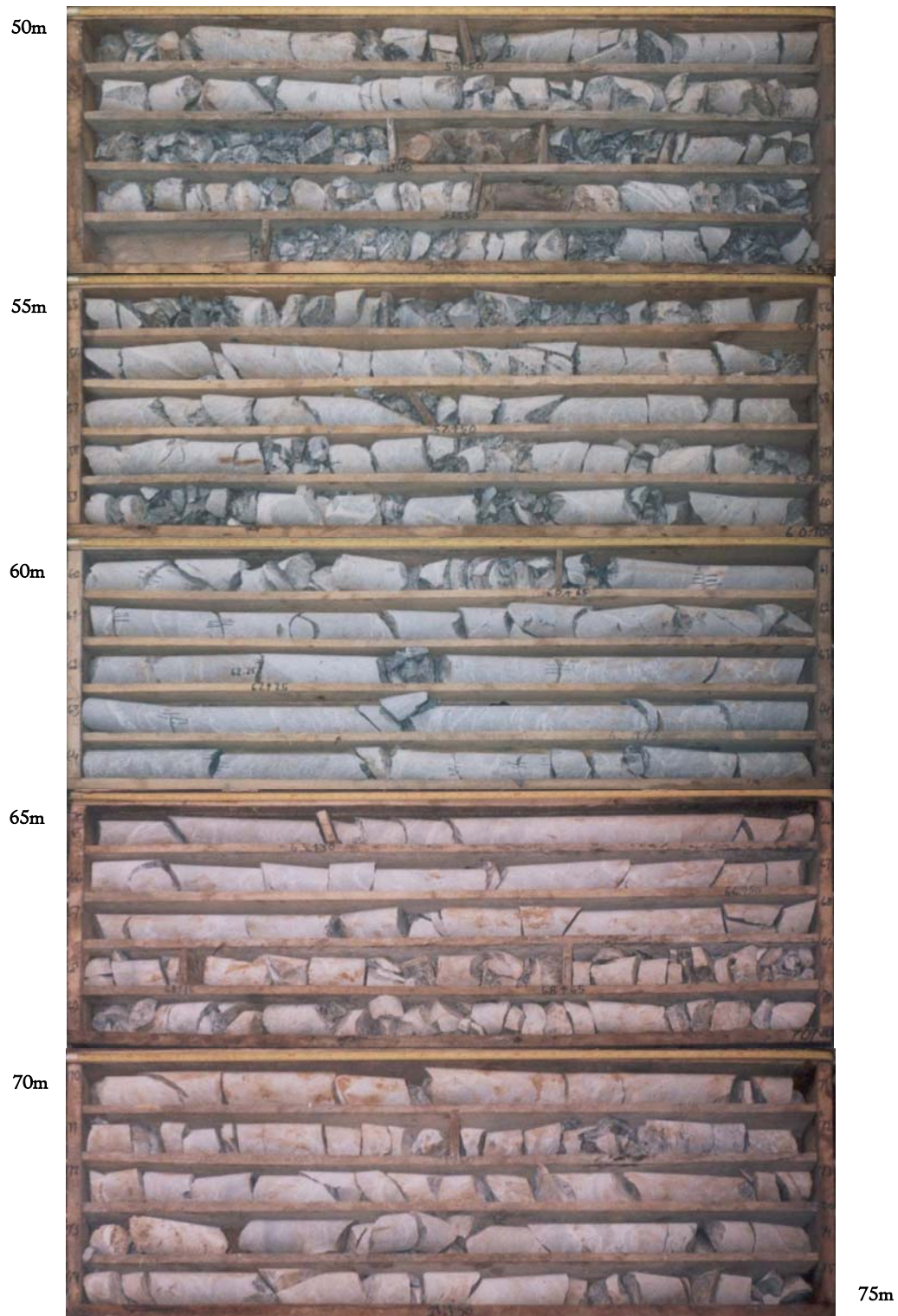
(L=150m, EL.515.0m, Vertical, Dam Axis R/B)



Upper Seti Storage Hydroelectric Power Project

B-1 Drill hole Core Photograph (3/6: 50 – 75m)

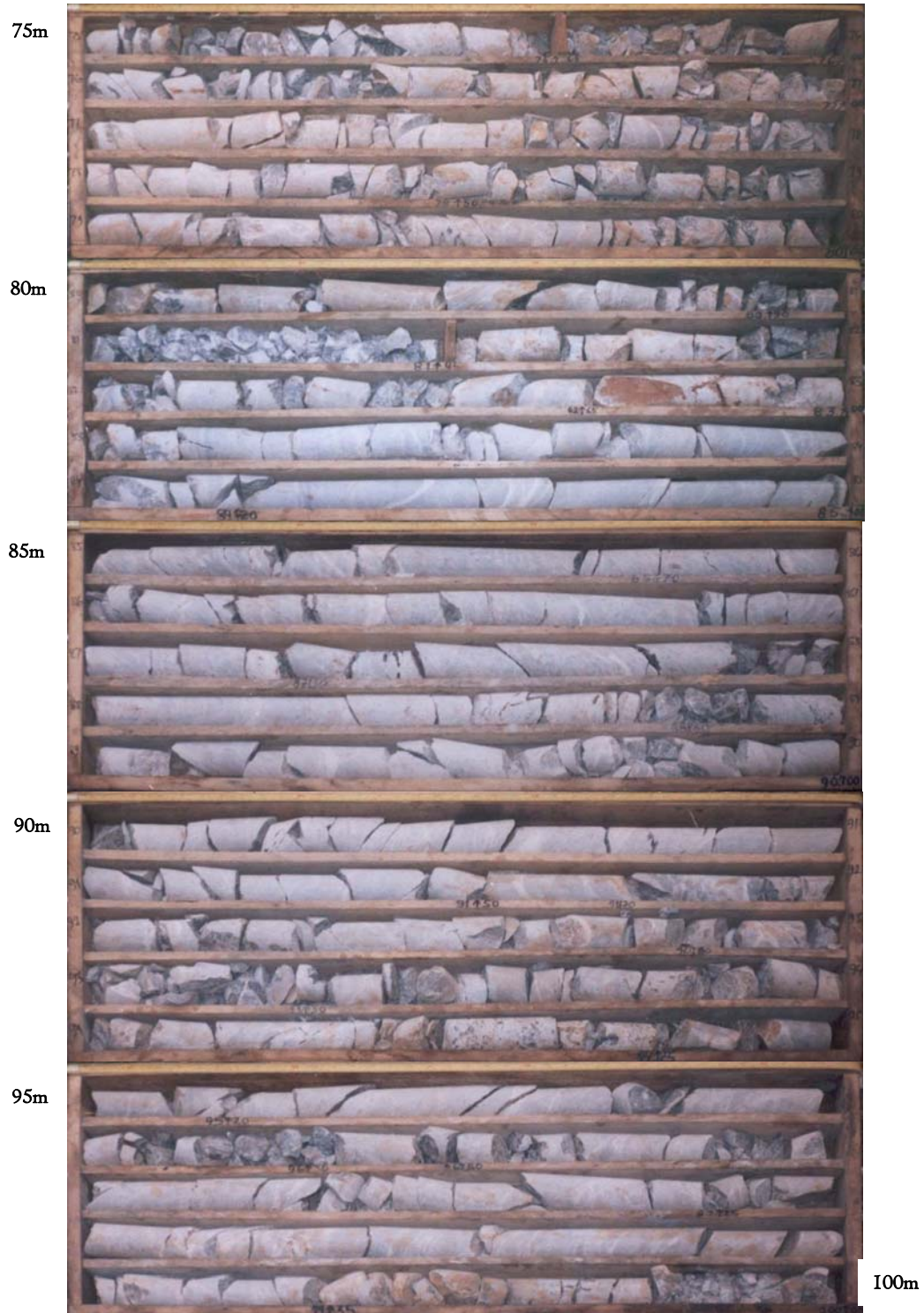
(L=150m, EL.515.0m, Vertical, Dam Axis R/B)



Upper Seti Storage Hydroelectric Power Project

B-1 Drill hole Core Photograph (1/6: 75 – 100m)

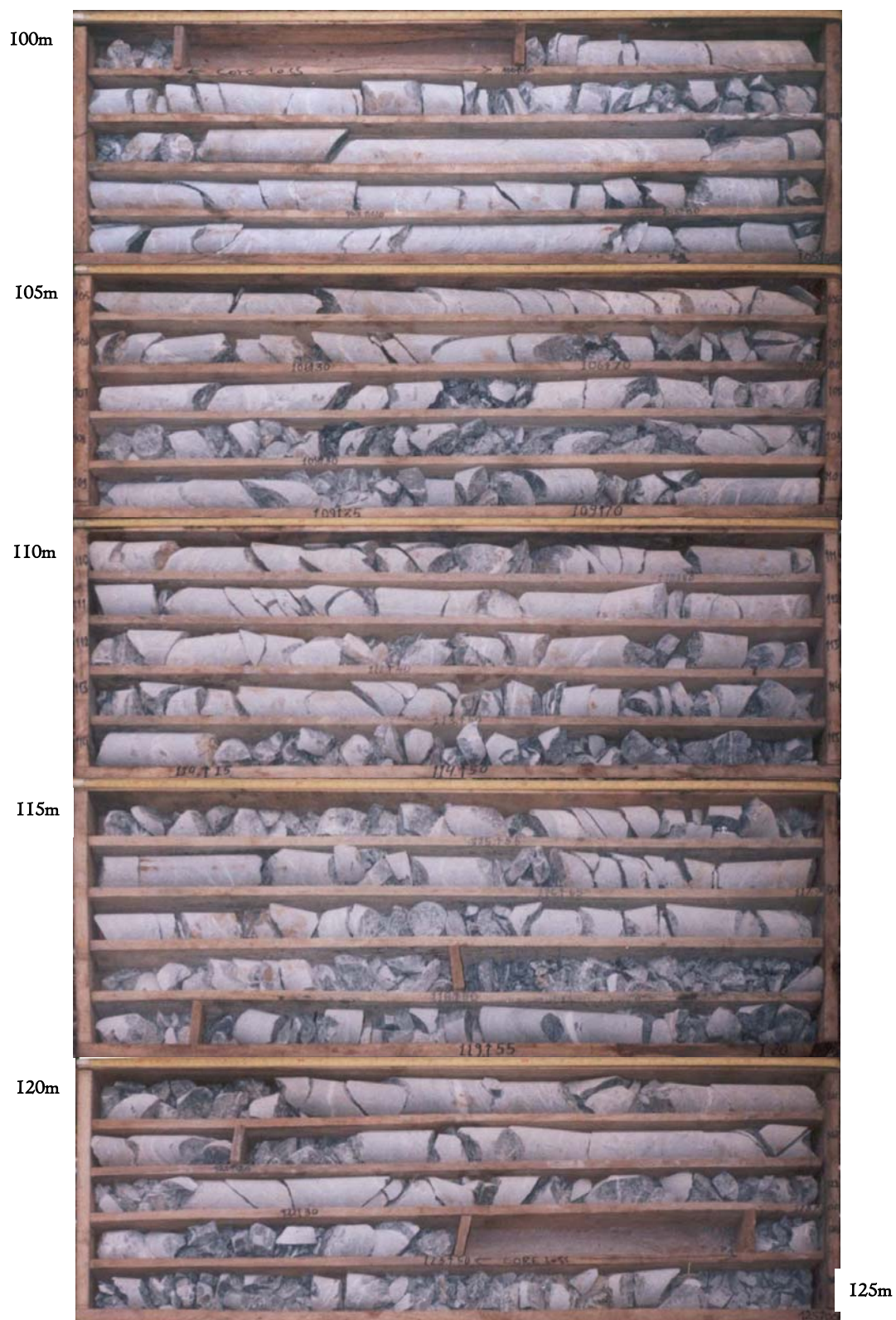
(L=150m, EL.515.0m, Vertical, Dam Axis R/B)



Upper Seti Storage Hydroelectric Power Project

B-1 Drill hole Core Photograph (1/6: 100 – 125m)

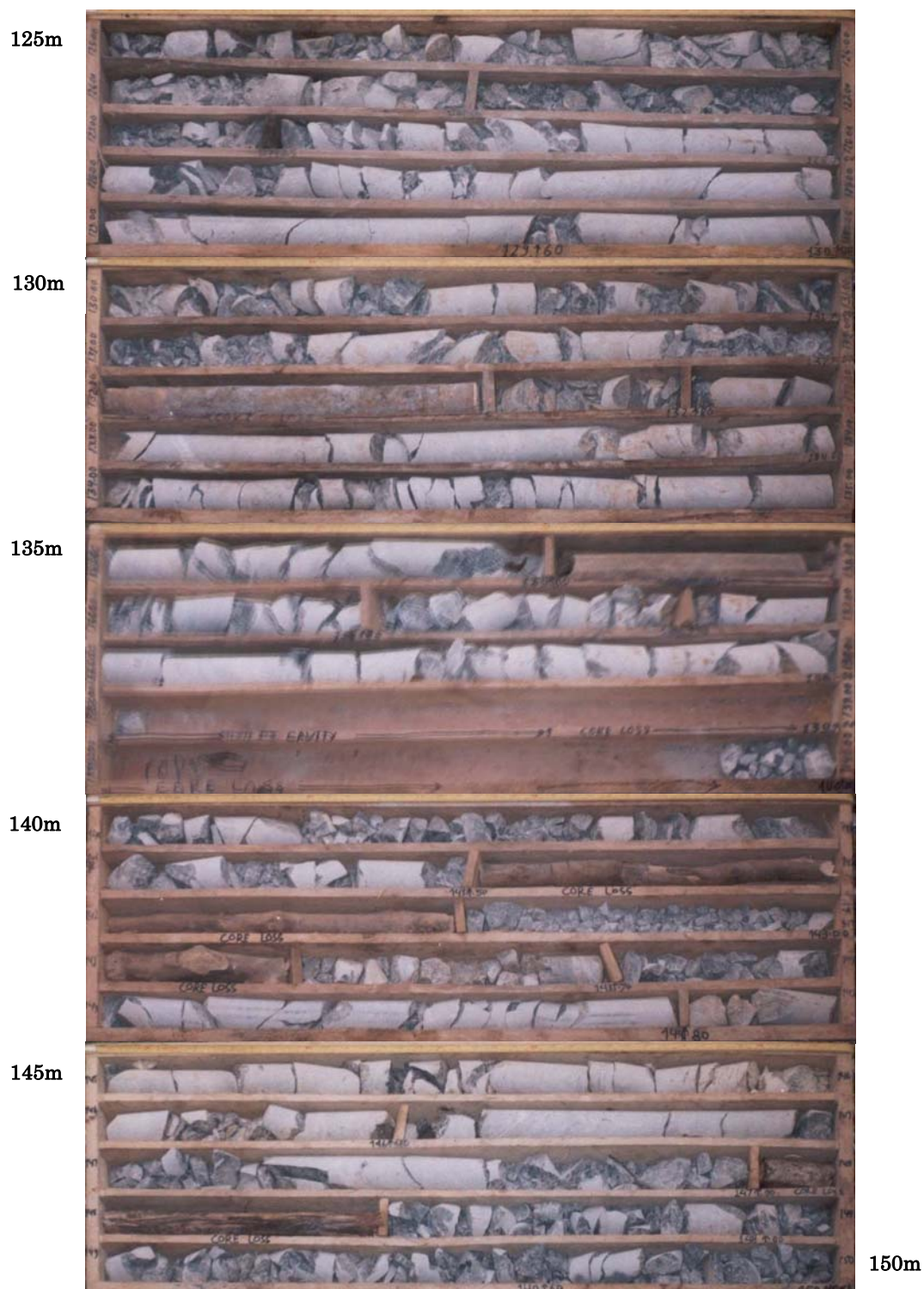
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Upper Seti Storage Hydroelectric Power Project

B-1 Drill hole Core Photograph (1/6: 125 – 150m)

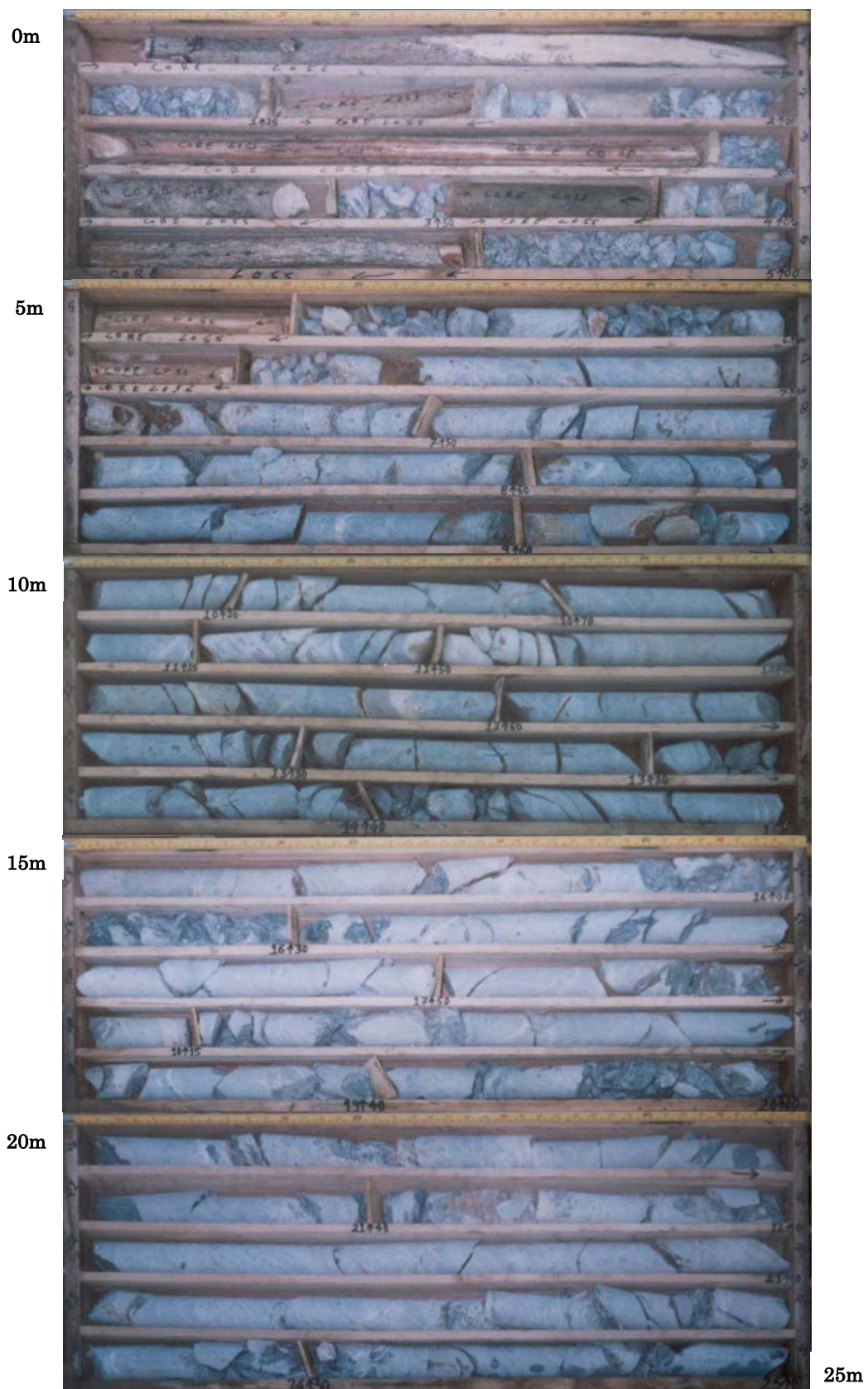
(L=150m, EL.515.0m, Vertical, Dam Axis R/B)



Upper Seti Storage Hydroelectric Power Project

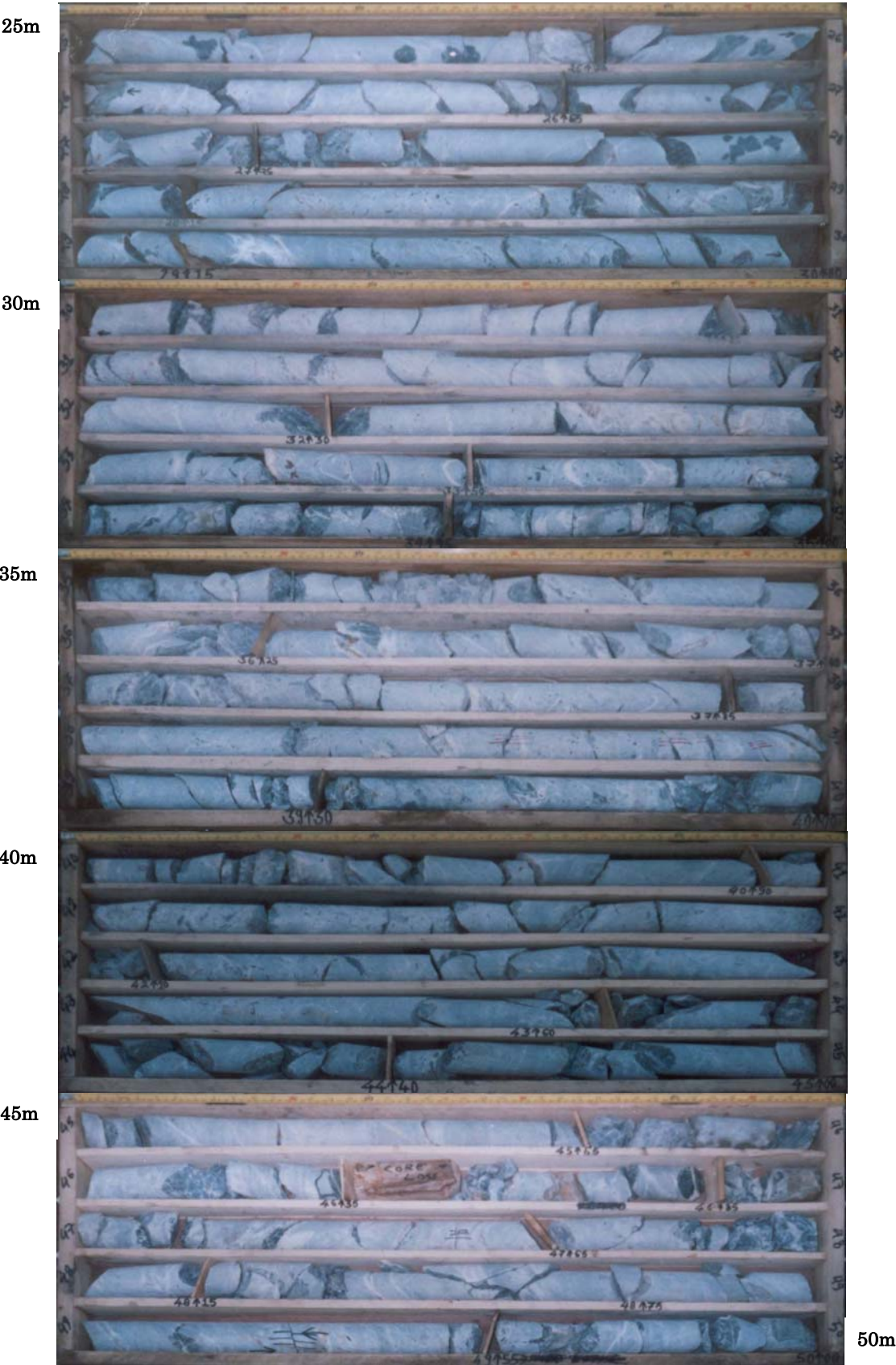
B-2 Drill hole Core Photograph (1/4: 0 – 25m)

(L=100m, EL.408.0m, N287, 45, Dam Axis L/B)



Upper Seti Storage Hydroelectric Power Project

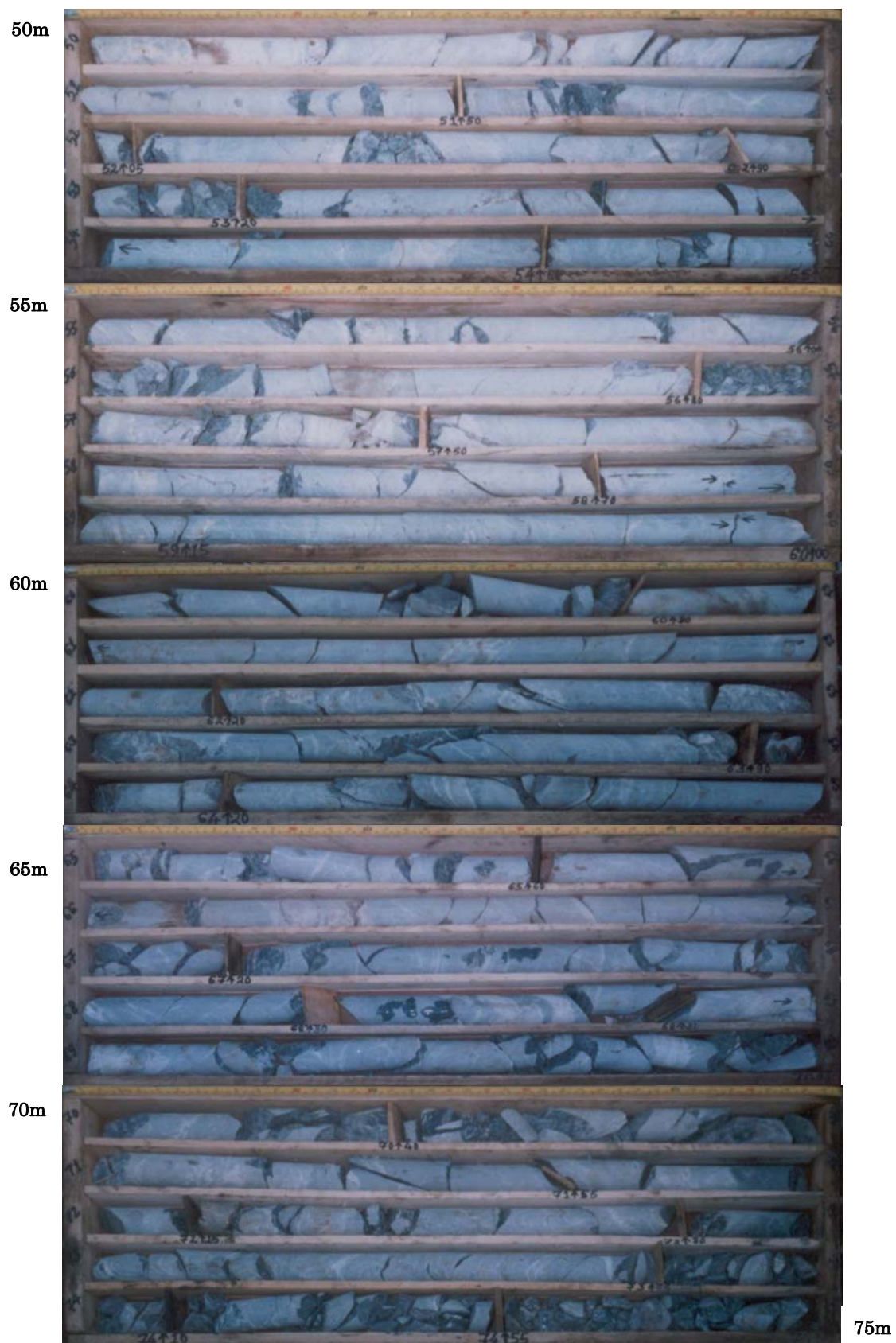
B-2 Drill hole Core Photograph (2/4: 25 – 50m)
(L=100m, EL.408.0m, N287, 45, Dam Axis L/B)



Upper Seti Storage Hydroelectric Power Project

B-2 Drill hole Core Photograph (3/4: 50 – 75m)

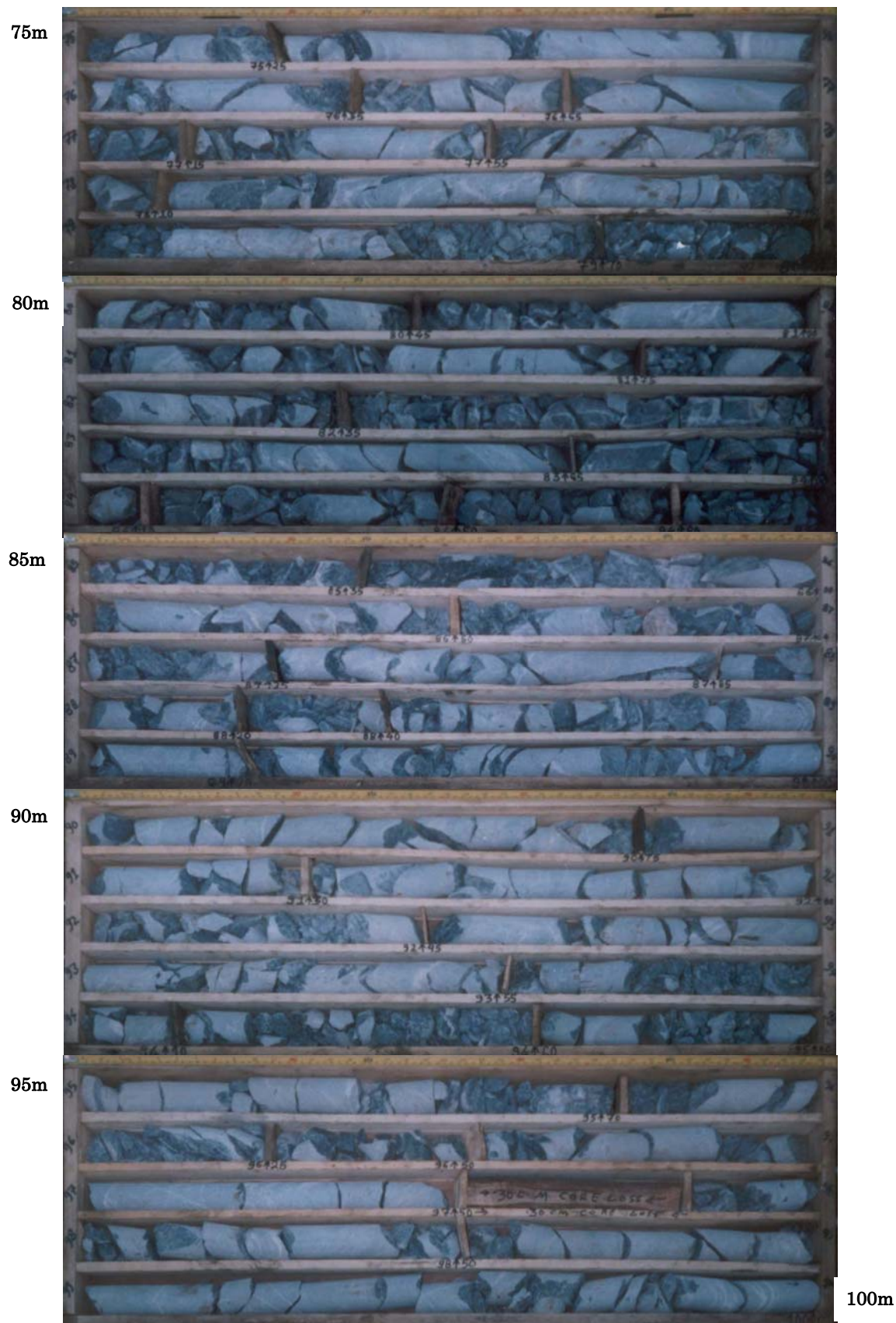
(L=100m, EL.408.0m, N287, 45, Dam Axis L/B)



Upper Seti Storage Hydroelectric Power Project

B-2 Drill hole Core Photograph (4/4: 75 – 100m)

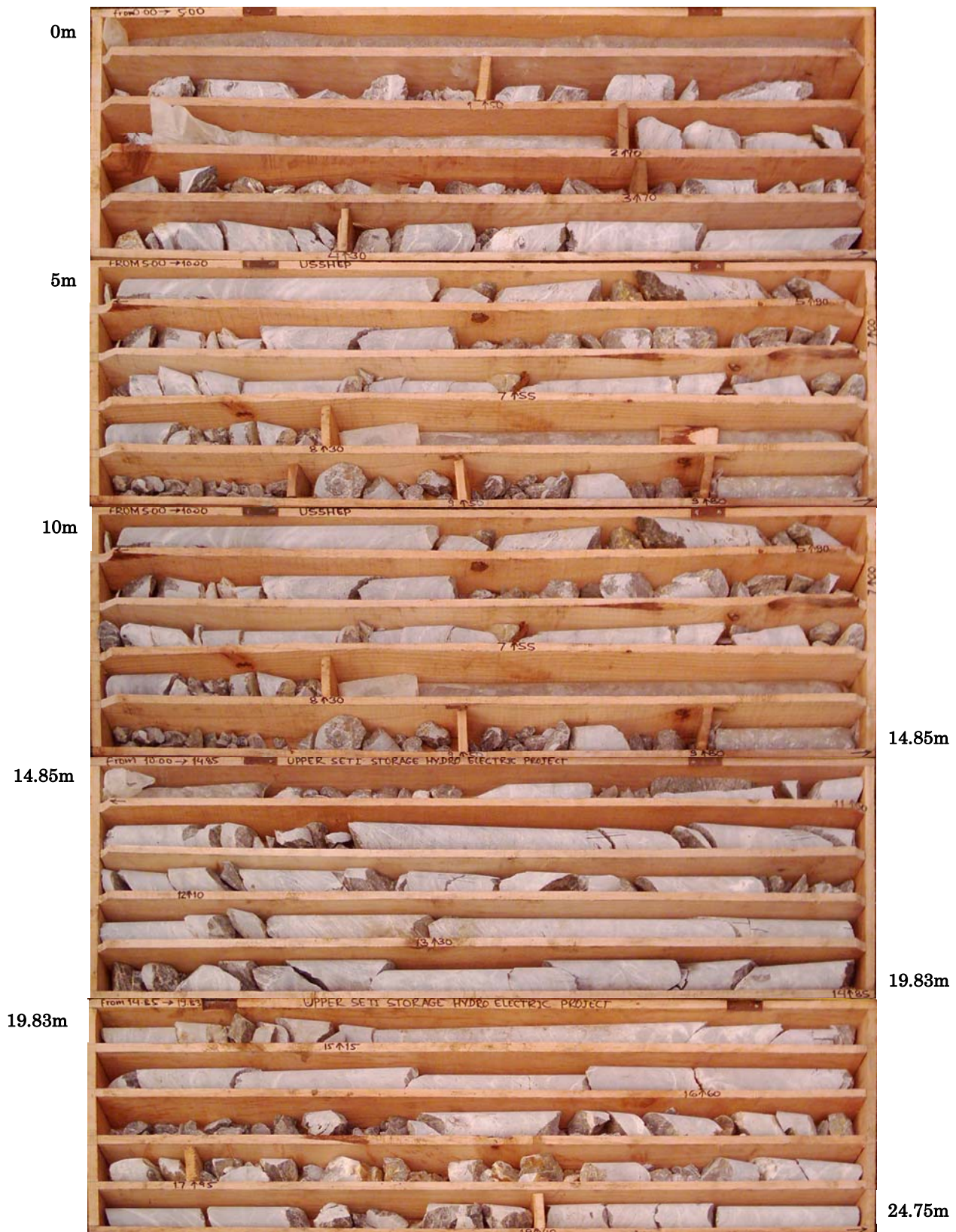
(L=100m, EL.408.0m, N287, 45, Dam Axis L/B)



Upper Seti Storage Hydroelectric Power Project

B-3 Drill hole Core Photograph (1/4: 0 – 24.75m)

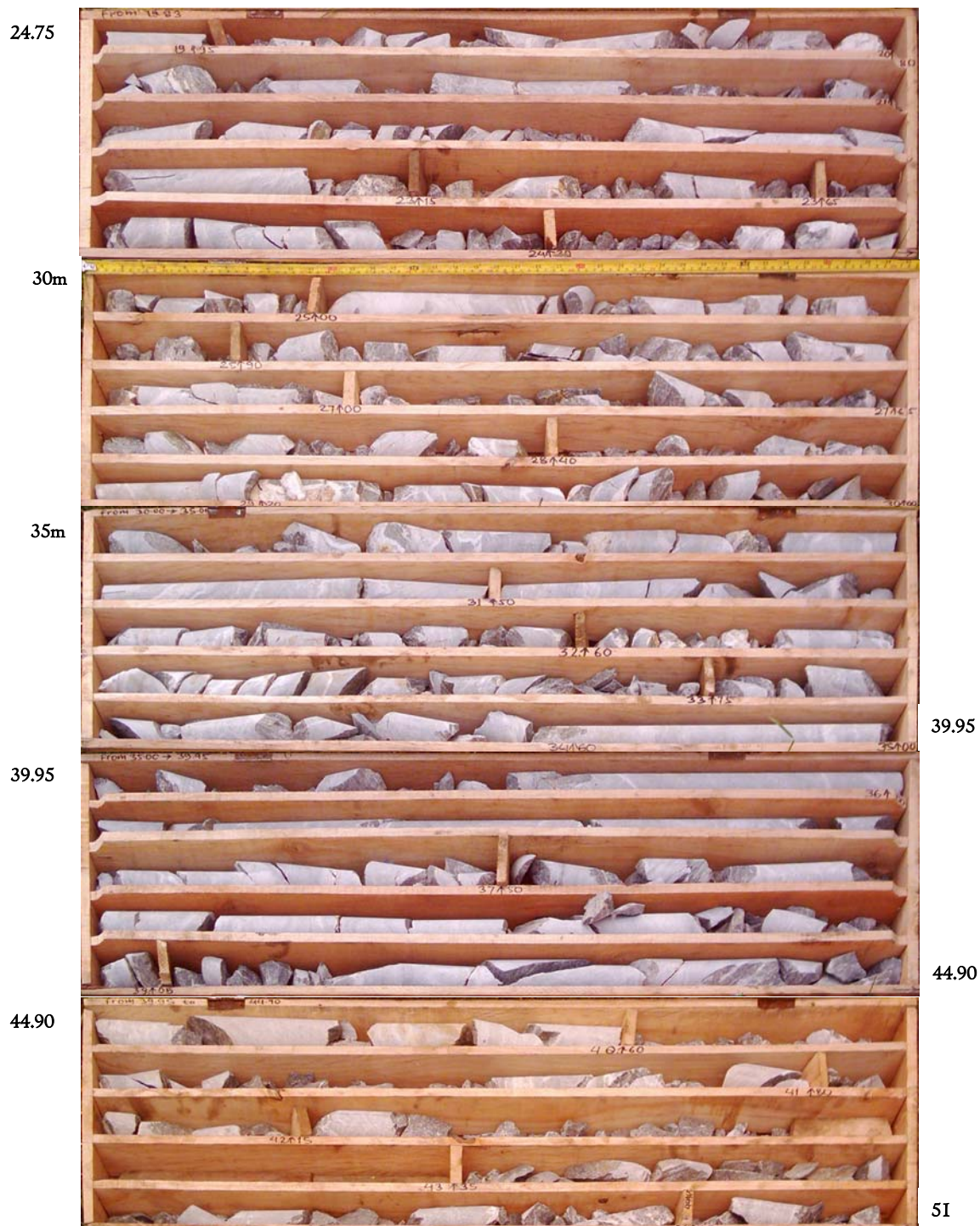
(L=100.55m, EL.328.5m, N287, 45, Dam Axis L/B)



Upper Seti Storage Hydroelectric Power Project

B-3 Drill hole Core Photograph (2/4: 24.75– 51m)

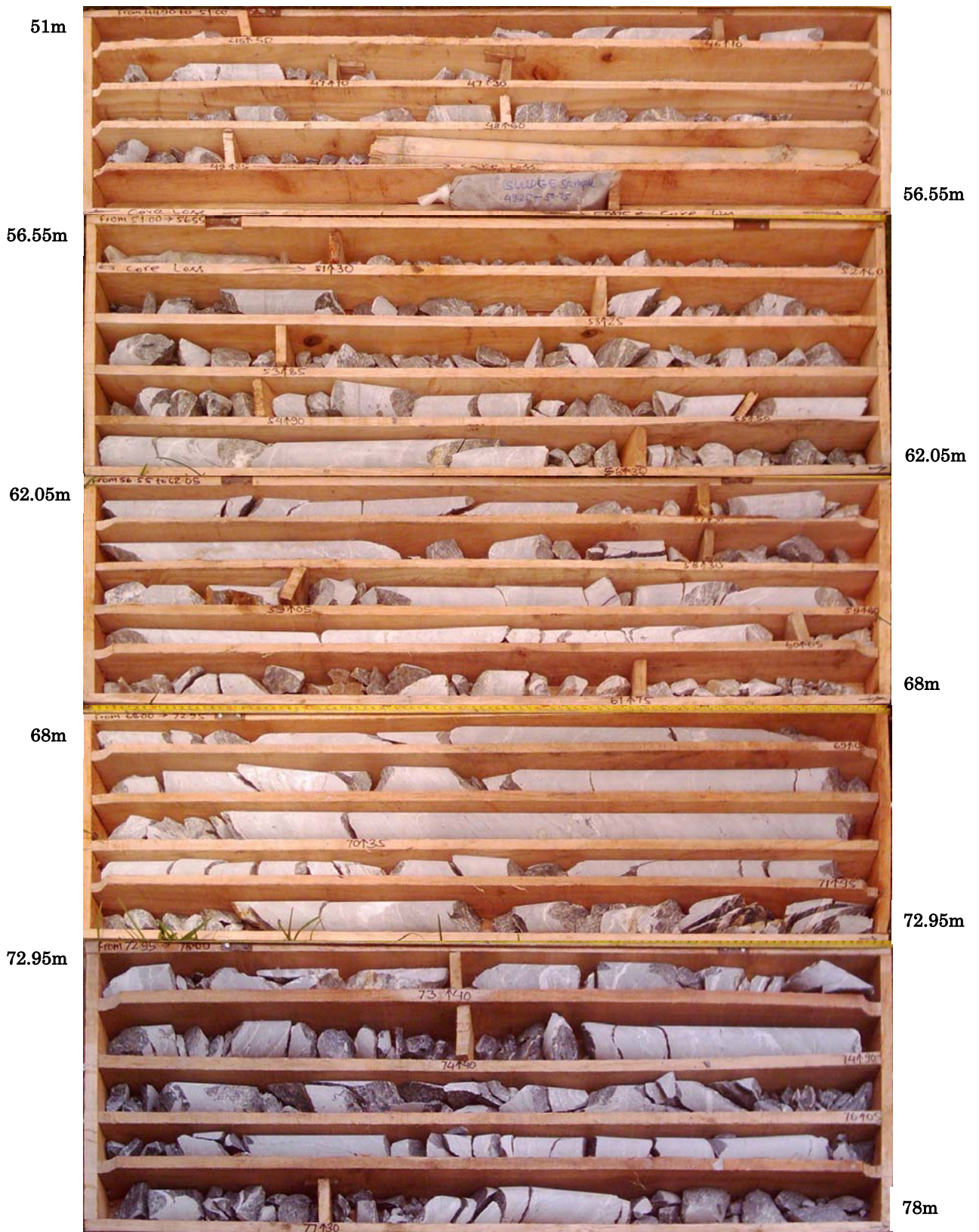
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Upper Seti Storage Hydroelectric Power Project

B-3 Drill hole Core Photograph (3/4: 51 – 78m)

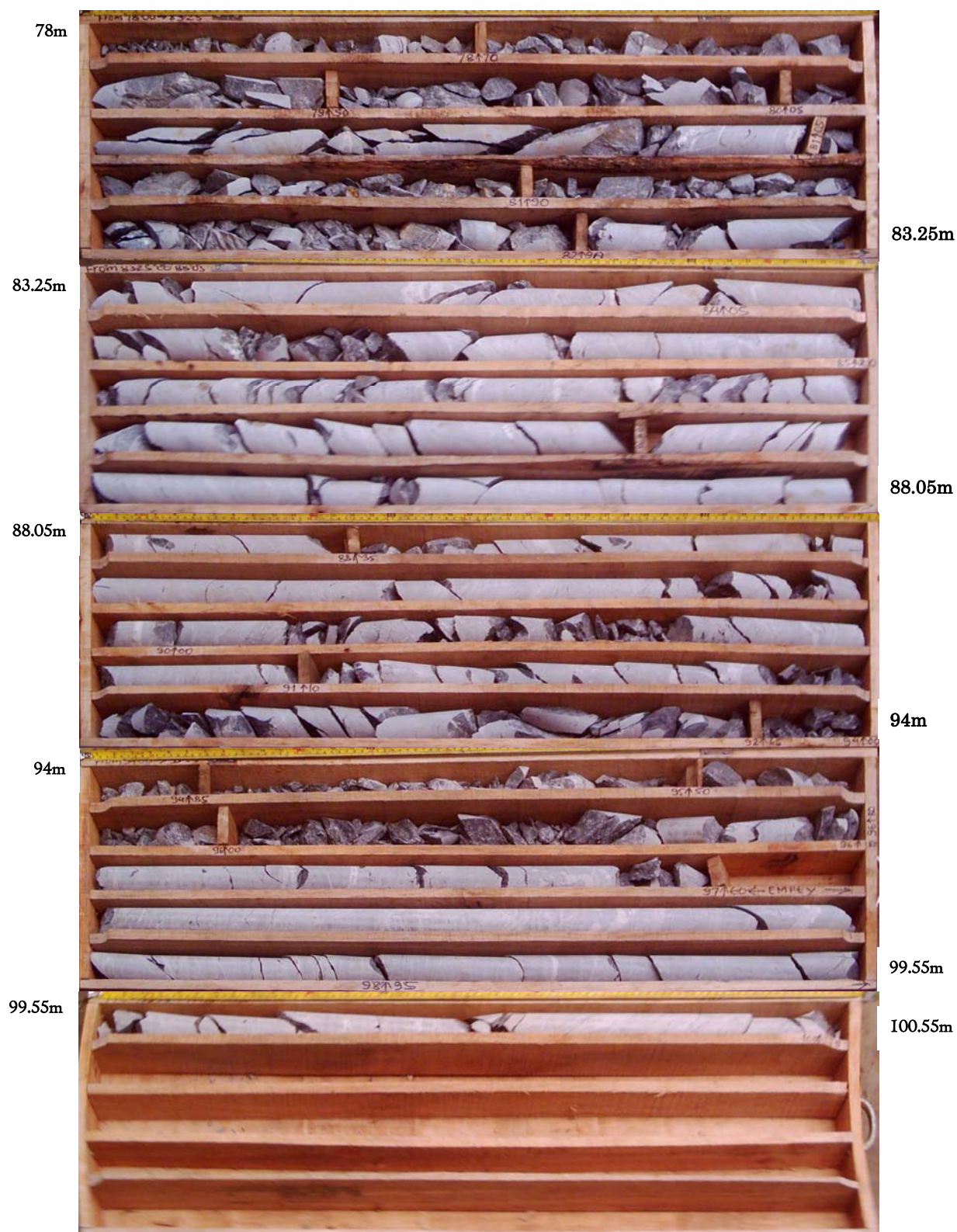
(L=100.55m, EL.328.5m, N287, 45, Dam Axis L/B)



Upper Seti Storage Hydroelectric Power Project

B-3 Drill hole Core Photograph (4/4: 78– 100.55m)

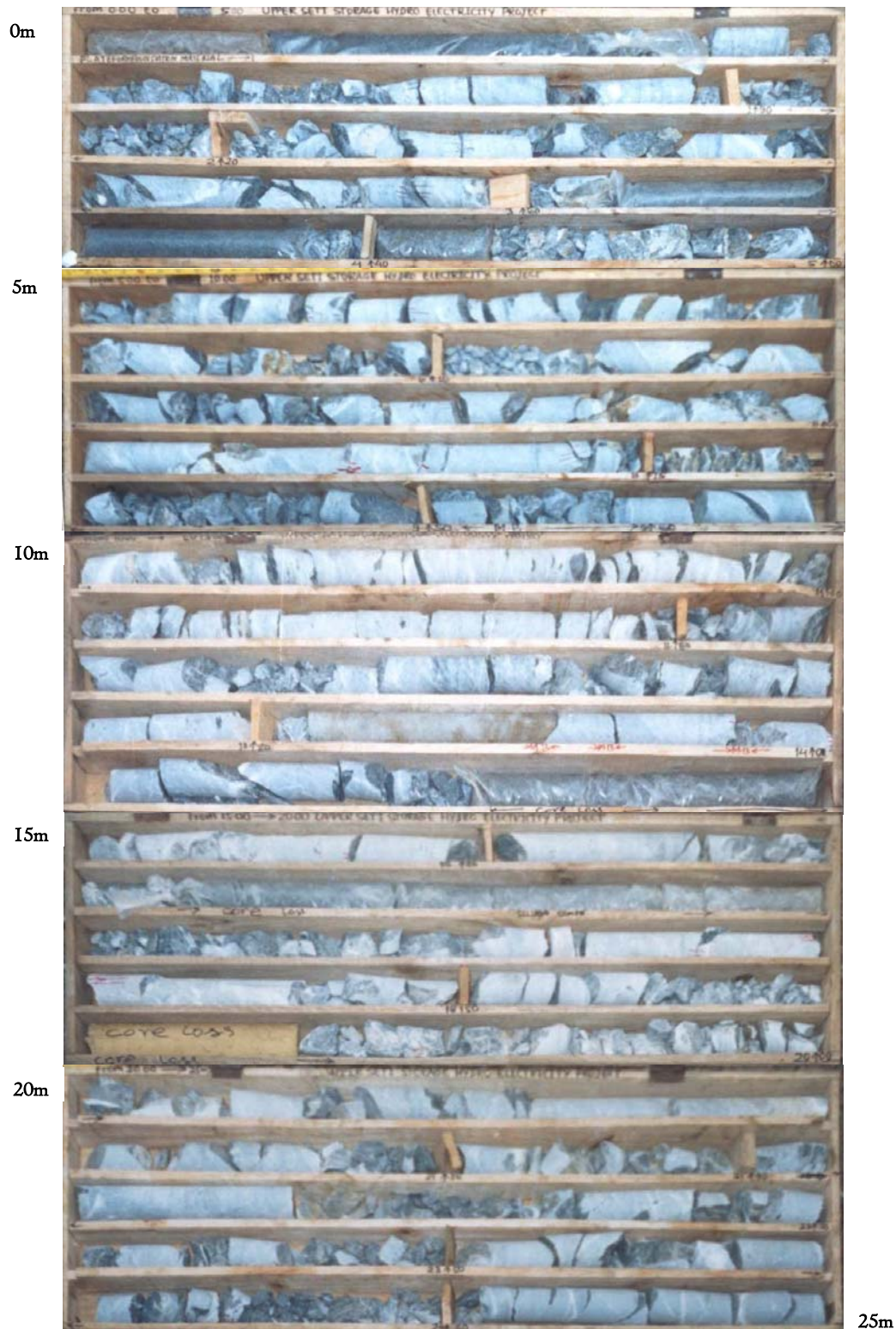
(L=100.55m, EL.328.5m, N287, 45, Dam Axis L/B)



Upper Seti Storage Hydroelectric Power Project

B-4 Drill hole Core Photograph (1/5: 0 – 25m)

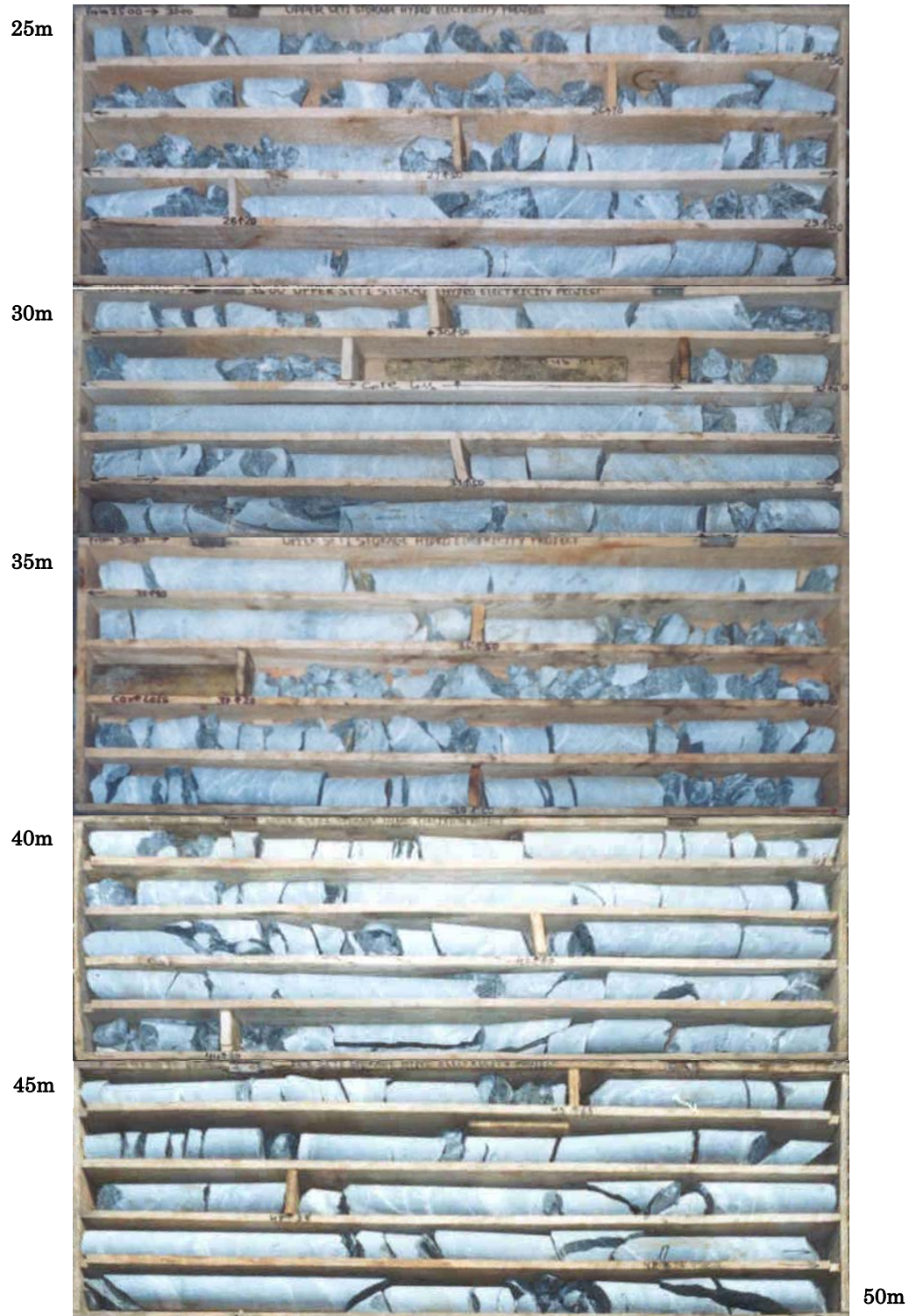
(L=120.5m, EL.328.5m, N287, 80, Dam Axis L/B)



Upper Seti Storage Hydroelectric Power Project

B-4 Drill hole Core Photograph (2/5: 25 – 50m)

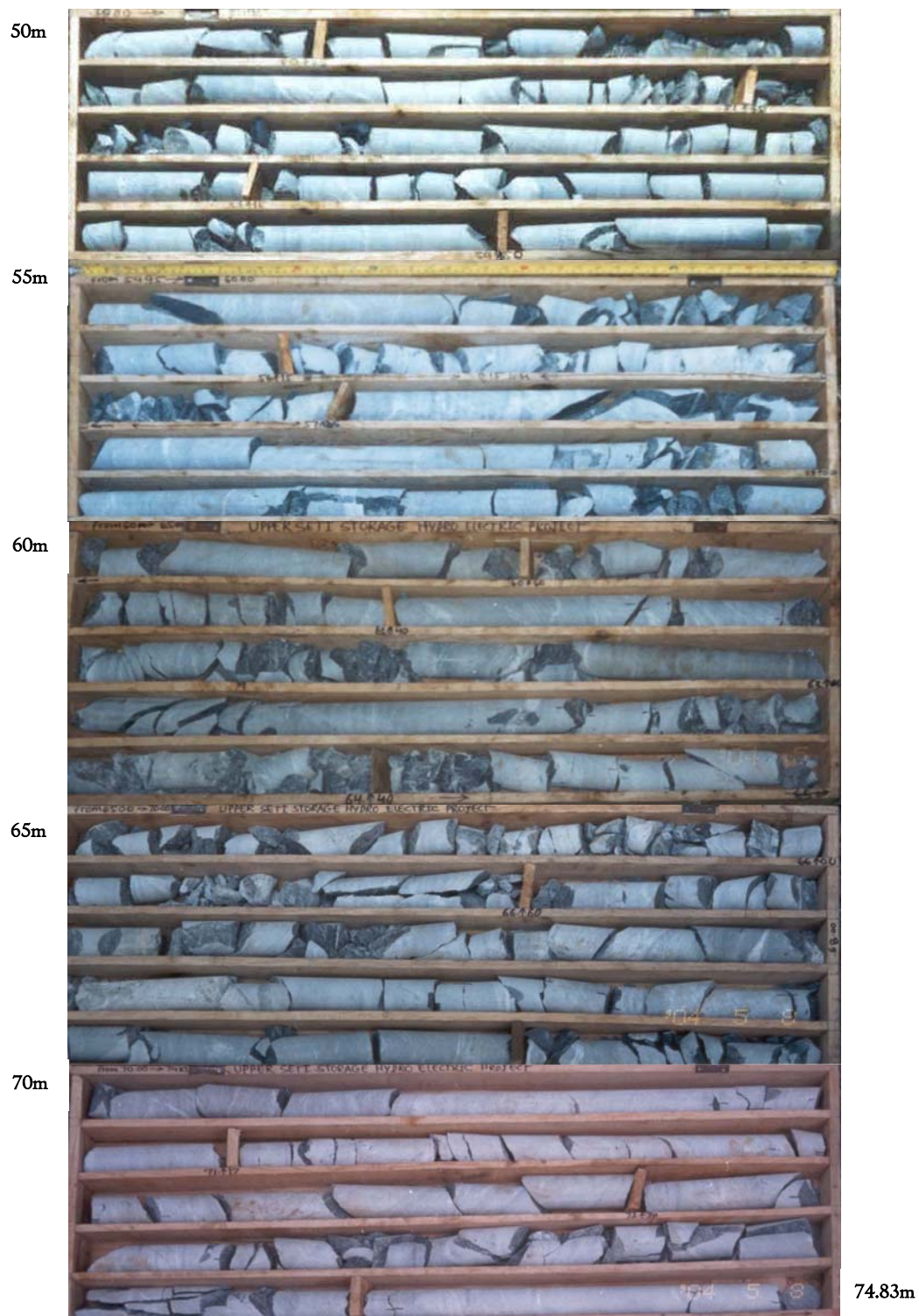
(L=120.5m, EL.328.5m, N287, 80, Dam Axis L/B)



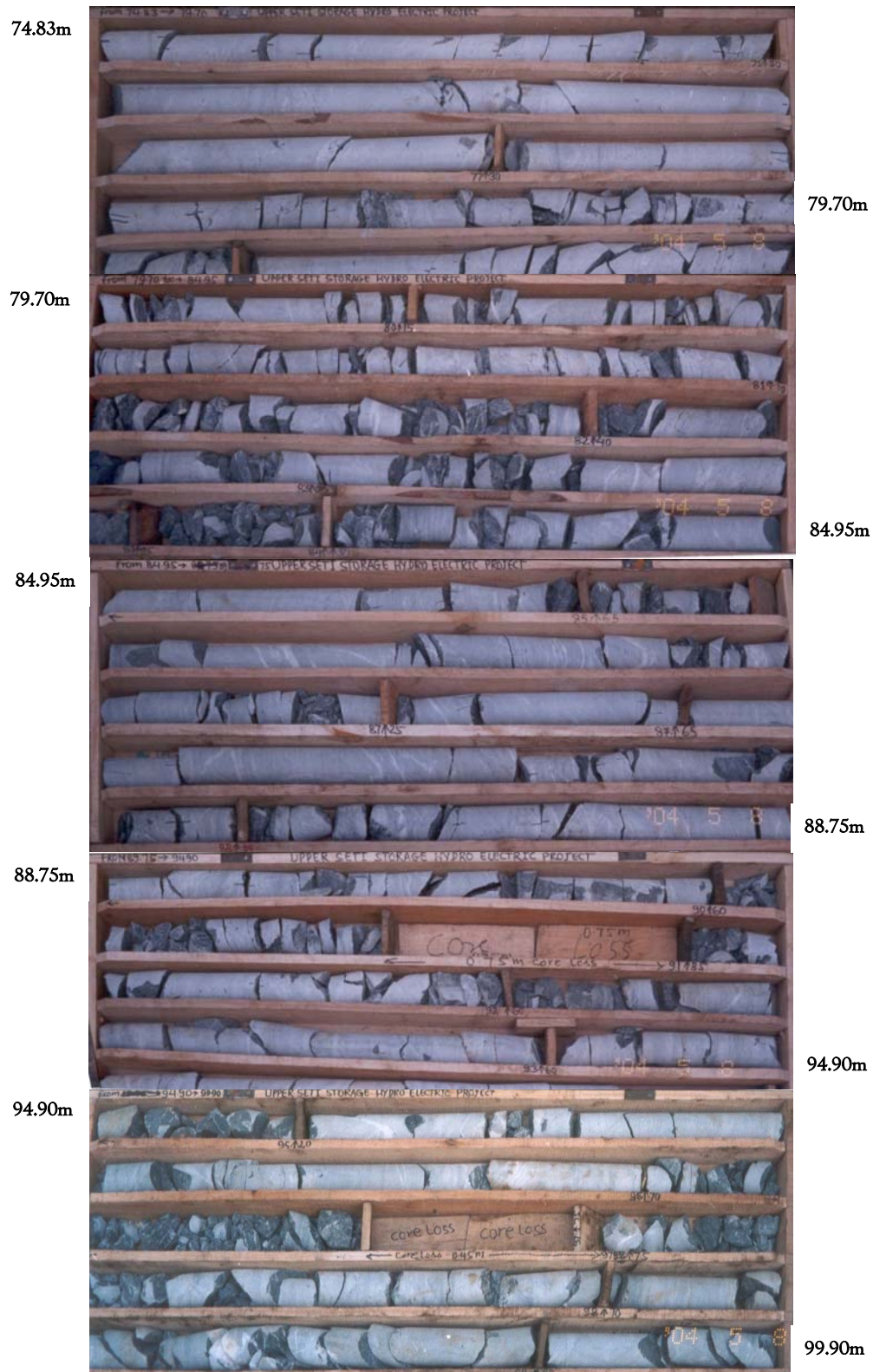
Upper Seti Storage Hydroelectric Power Project

B-4 Drill hole Core Photograph (3/5: 50 – 74.83m)

(L=120.5m, EL.328.5m, N287, 80, Dam Axis L/B)

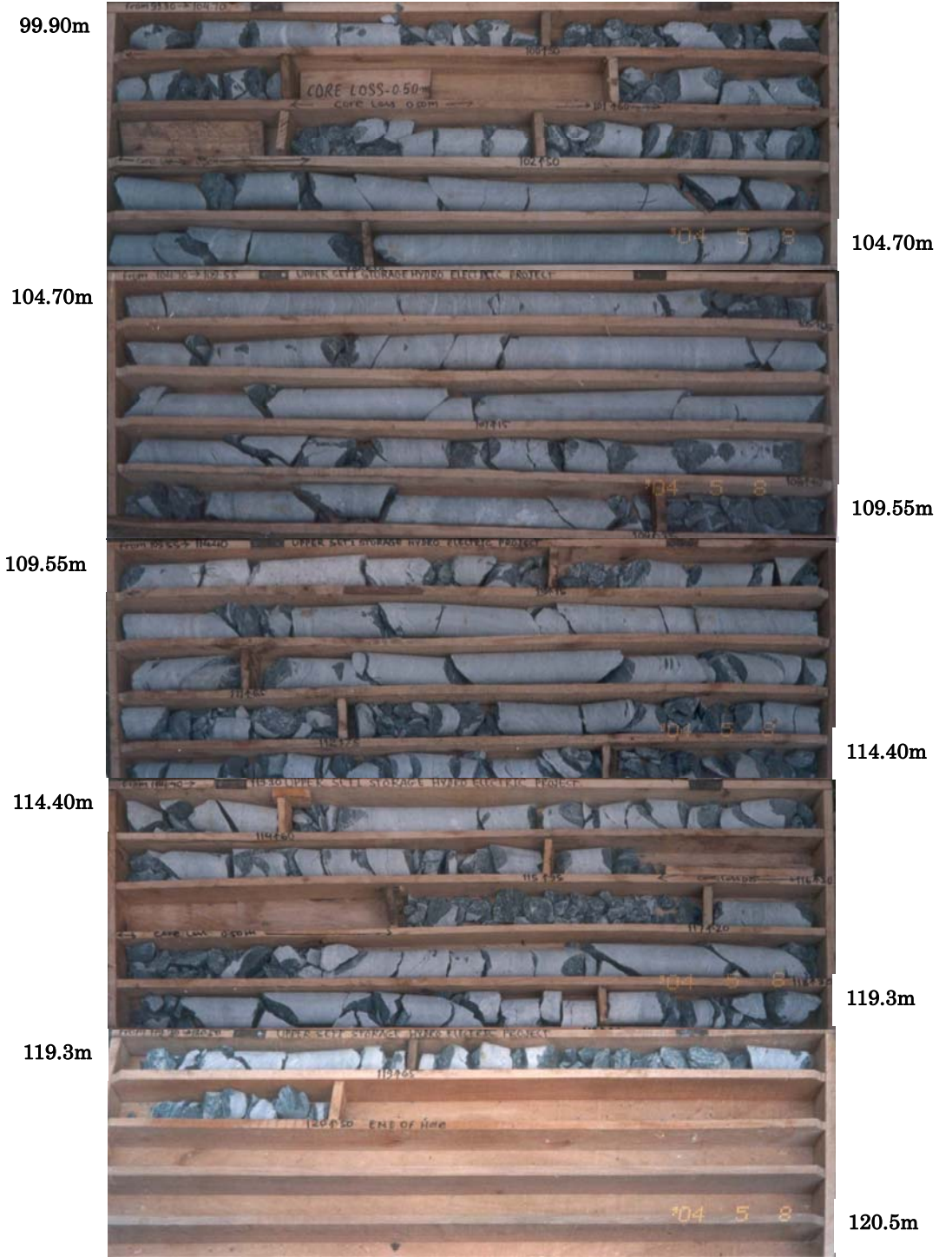


B-4 Drill hole Core Photograph (4/5: 74.83 –99.90m)
(L=120.5m, EL.328.5m, N287, 80, Dam Axis L/B)



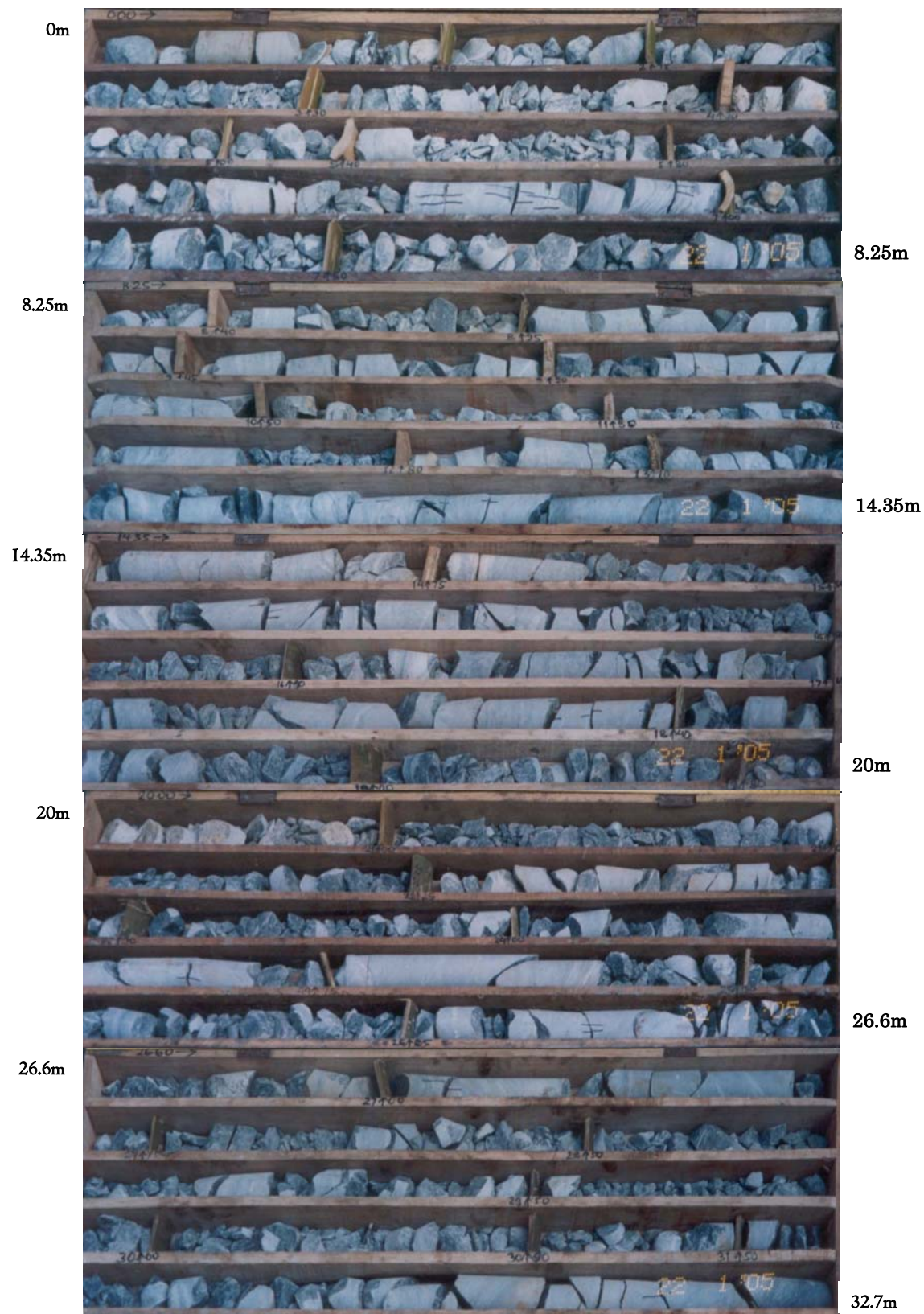
Upper Seti Storage Hydroelectric Power Project

B-4 Drill hole Core Photograph (5/5: 99.90 –120.5m)
(L=120.5m, EL.328.5m, N287, 80, Dam Axis L/B)



Upper Seti Storage Hydroelectric Power Project

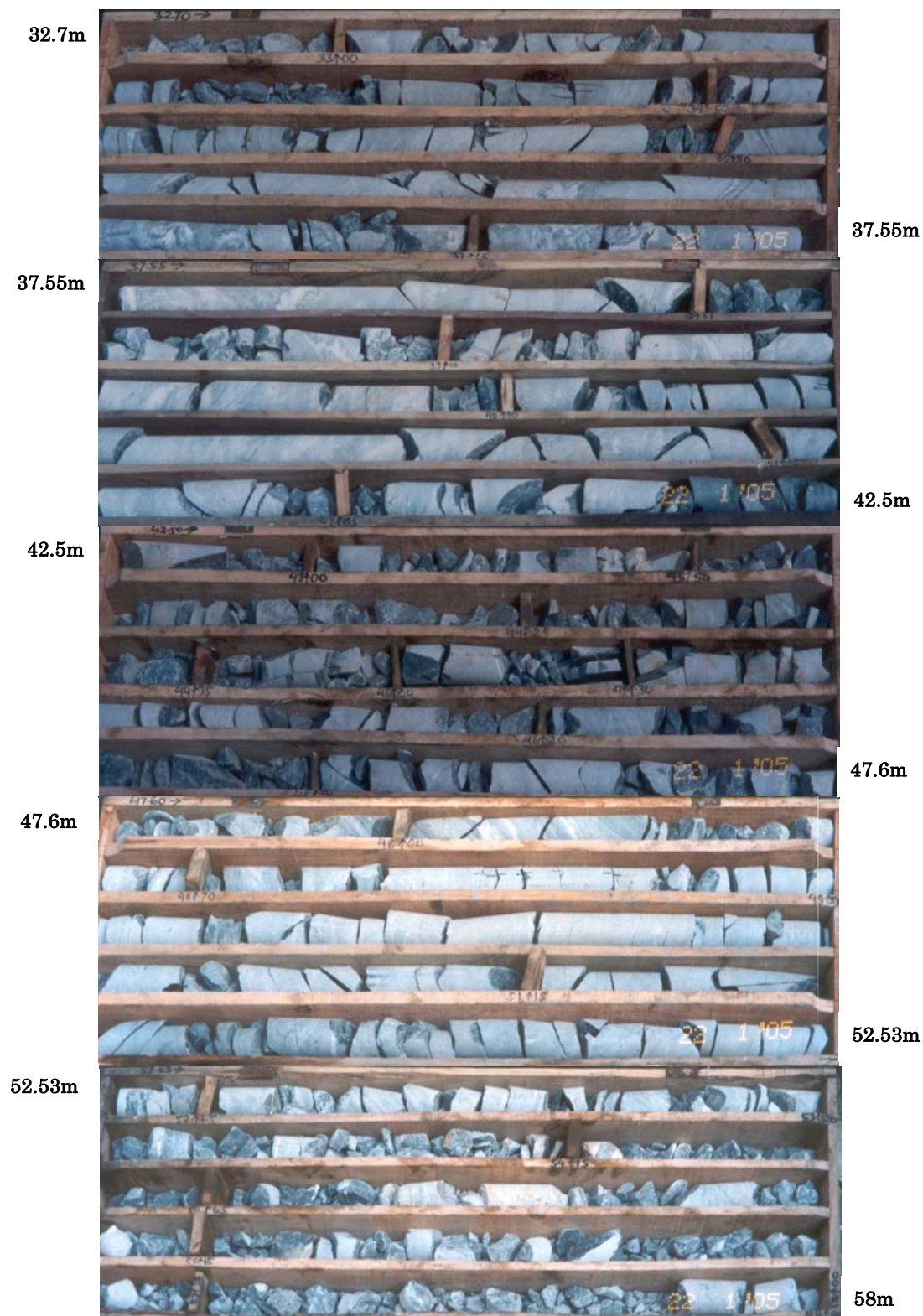
B-5 Drill hole Core Photograph (1/4: 0 – 32.7m)
(L=100.5m, EL.307.93m, Vertical, Dam Axis River Bed)



Upper Seti Storage Hydroelectric Power Project

B-5 Drill hole Core Photograph (2/4: 32.7 –58m)

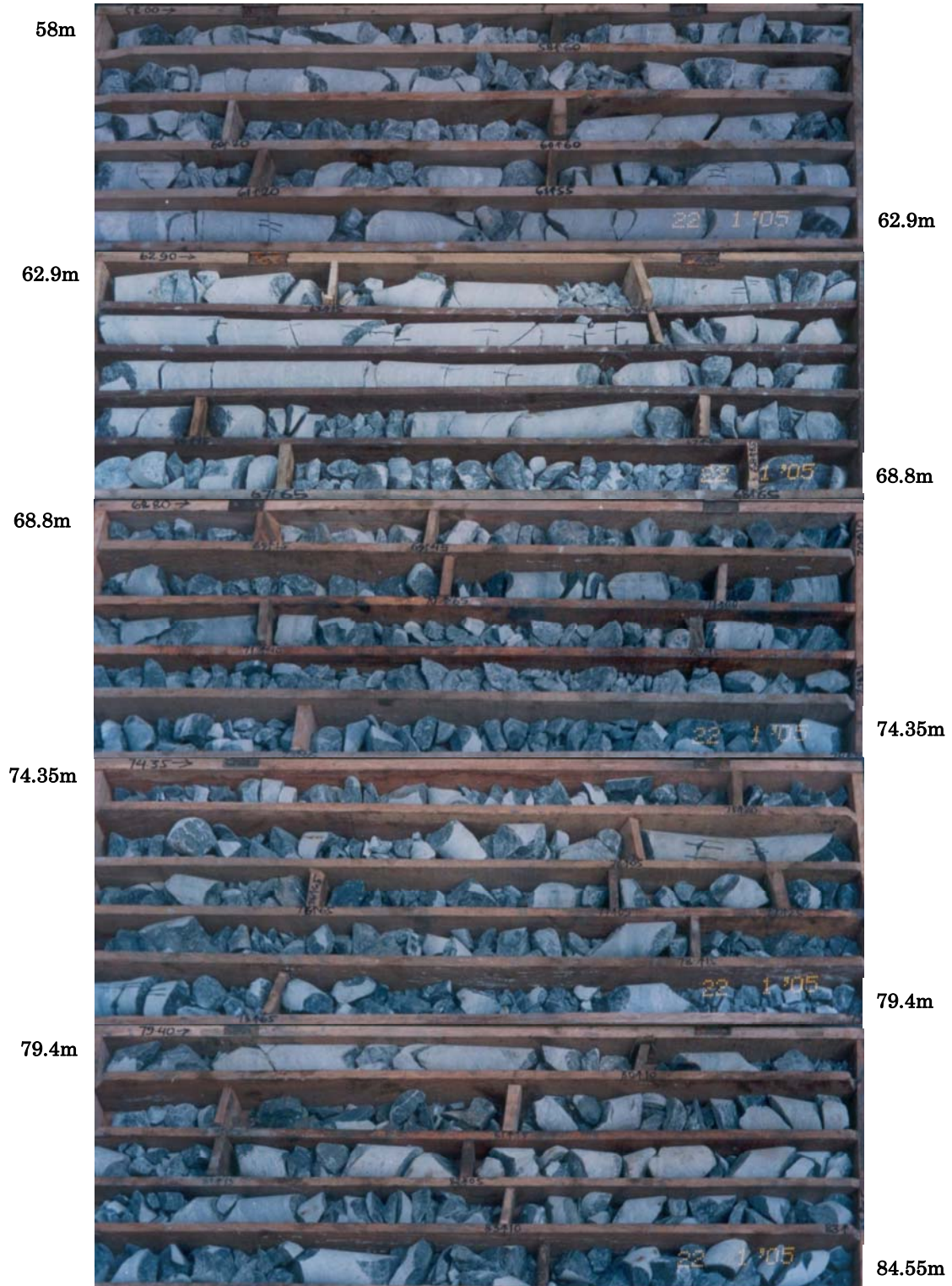
(L=100.5m, EL.307.93m, Vertical, Dam Axis River Bed)



Upper Seti Storage Hydroelectric Power Project

B-5 Drill hole Core Photograph (3/4: 58 – 84.55m)

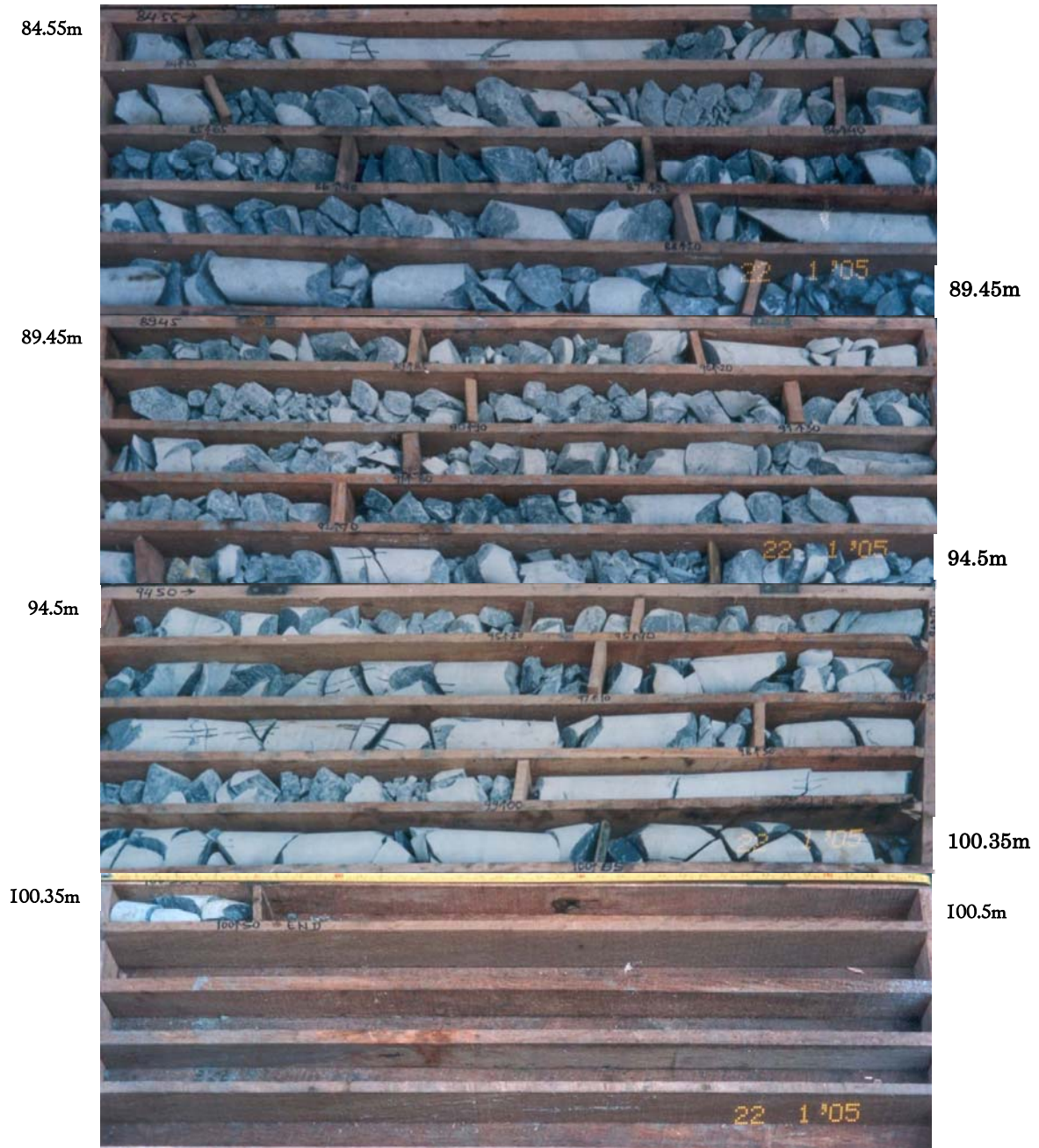
(L=100.5m, EL.307.93m, Vertical, Dam Axis River Bed)



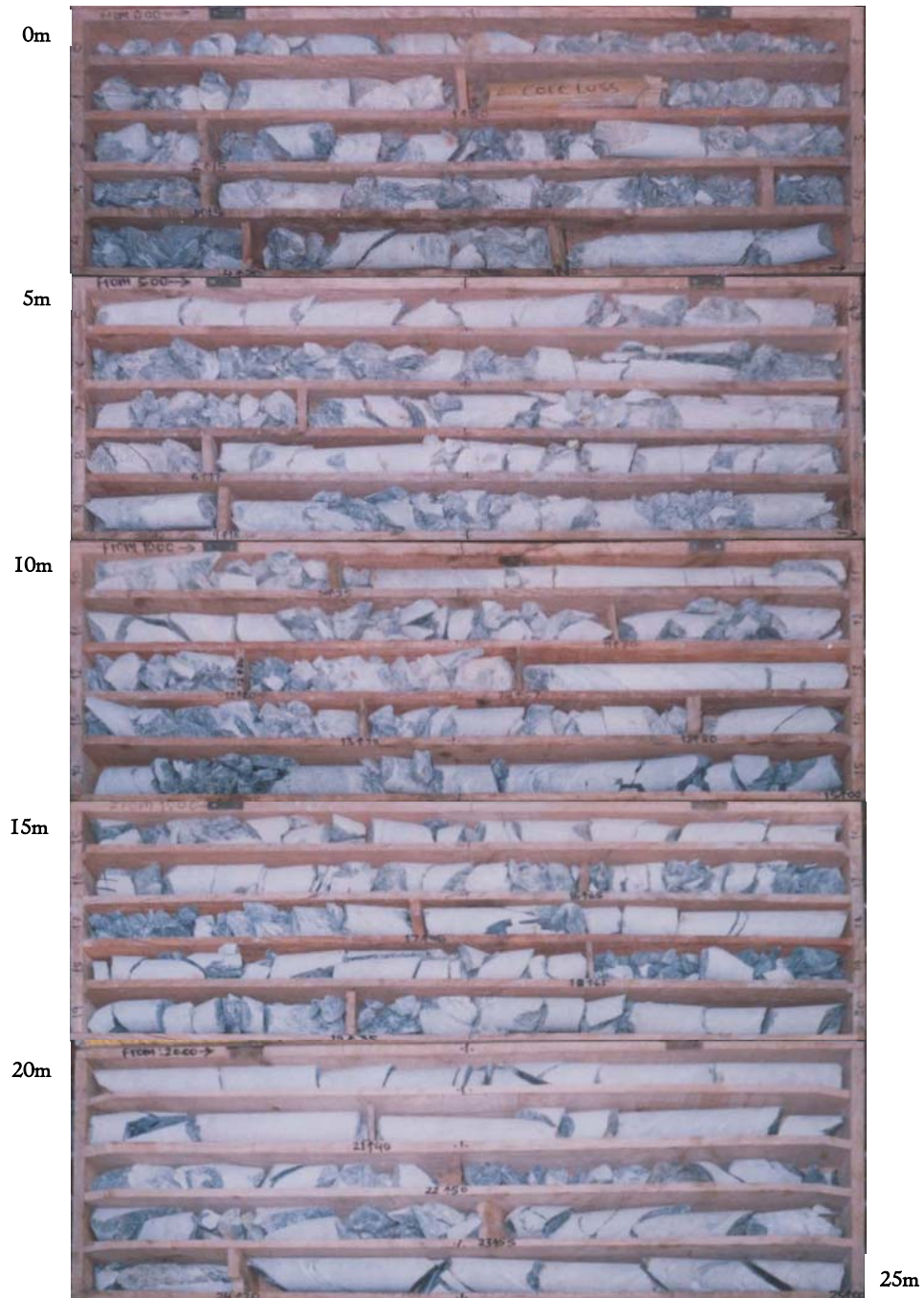
Upper Seti Storage Hydroelectric Power Project

B-5 Drill hole Core Photograph (4/4: 84.55 – 100.5m)

(L=100.5m, EL.307.93m, Vertical, Dam Axis River Bed)



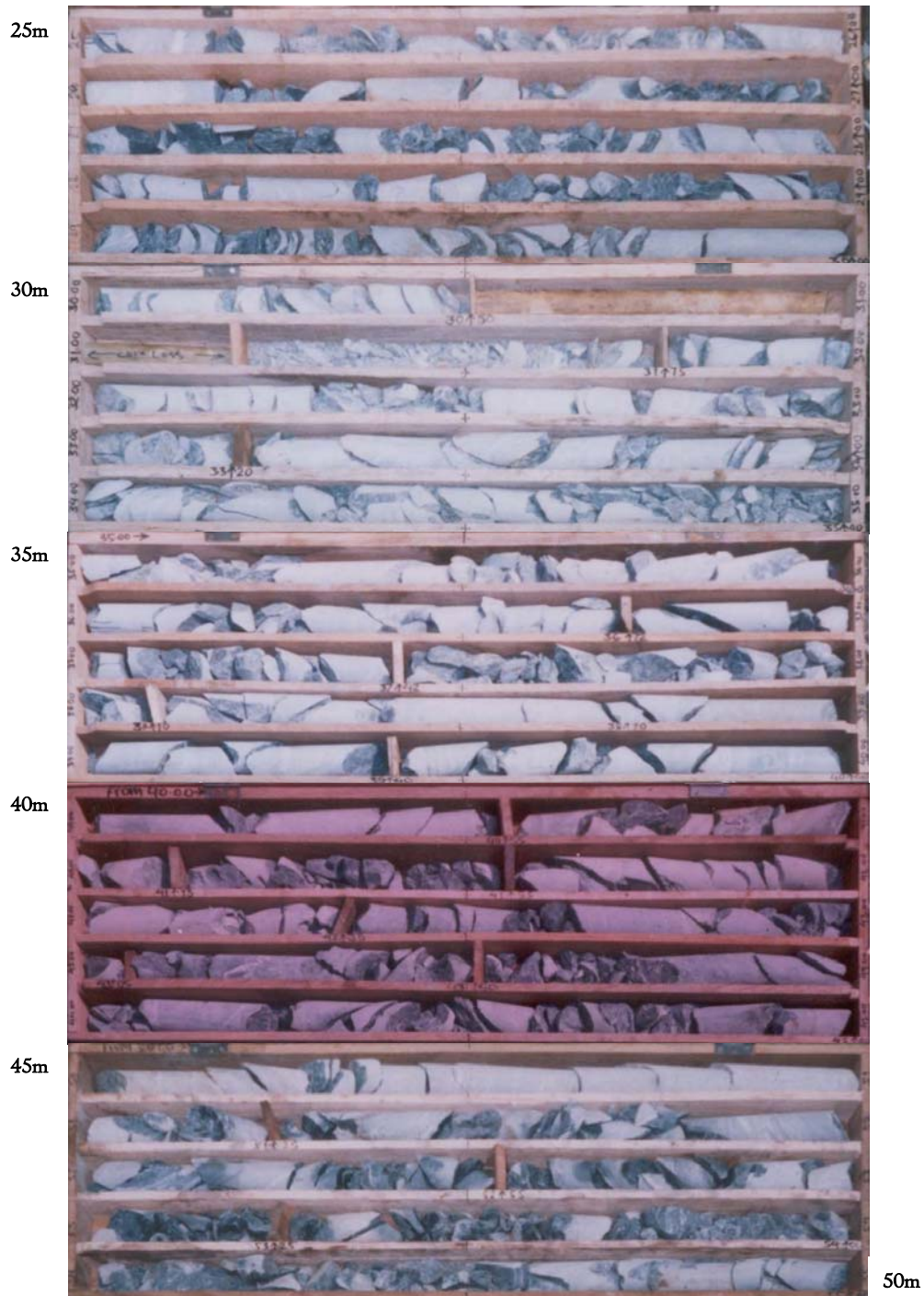
B-6 Drill hole Core Photograph (1/4: 0 – 25m)
(L=92m, EL.307.93m, N107, 45, Dam Axis L/B)



Upper Seti Storage Hydroelectric Power Project

B-6 Drill hole Core Photograph (2/4: 25 – 50m)

(L=92m, EL.307.93m, N107, 45, Dam Axis L/B)



Upper Seti Storage Hydroelectric Power Project

B-6 Drill hole Core Photograph (3/4: 50 – 75m)

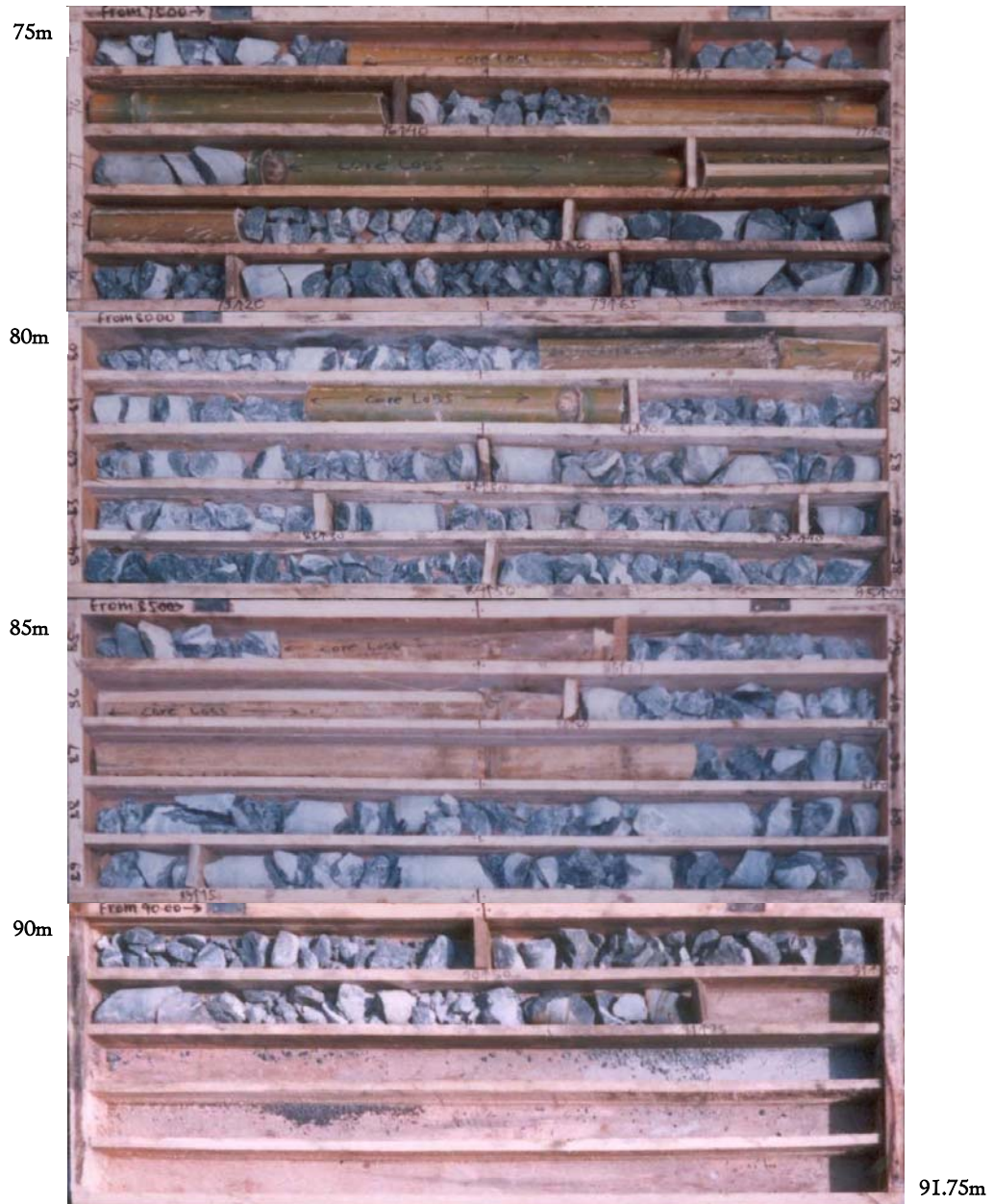
(L=92m, EL.307.93m, N107, 45, Dam Axis L/B)



Upper Seti Storage Hydroelectric Power Project

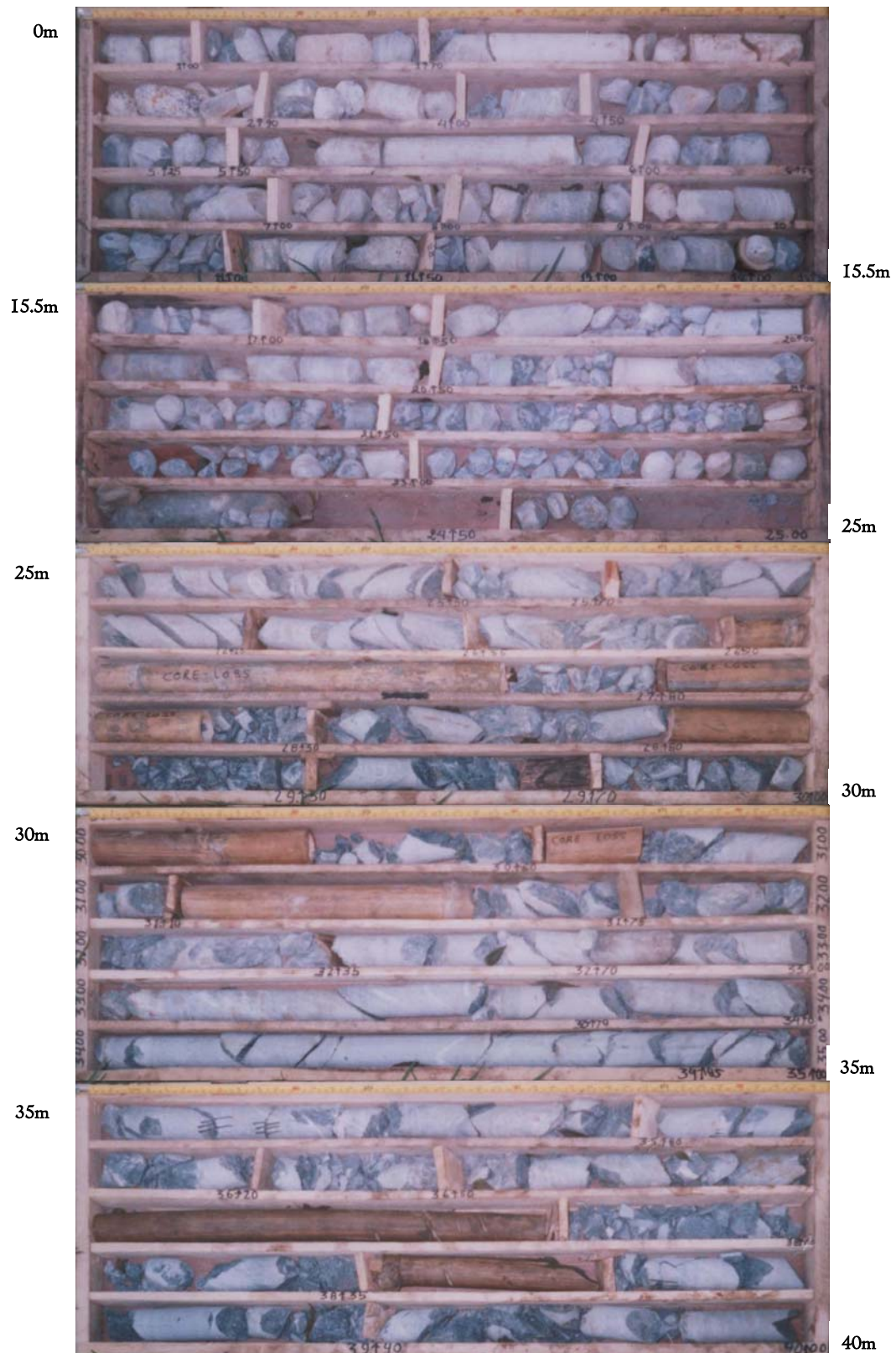
B-6 Drill hole Core Photograph (4/4: 75 – 91.75m)

(L=92m, EL.307.93m, N107, 45, Dam Axis L/B)



Upper Seti Storage Hydroelectric Power Project

B-7 Drill hole Core Photograph (1/2: 0 –40m) (L=50m, EL.397.93m, N287, 45, Dam Axis River Bed)



Upper Seti Storage Hydroelectric Power Project

B-7 Drill hole Core Photograph (2/2:40 – 50m)

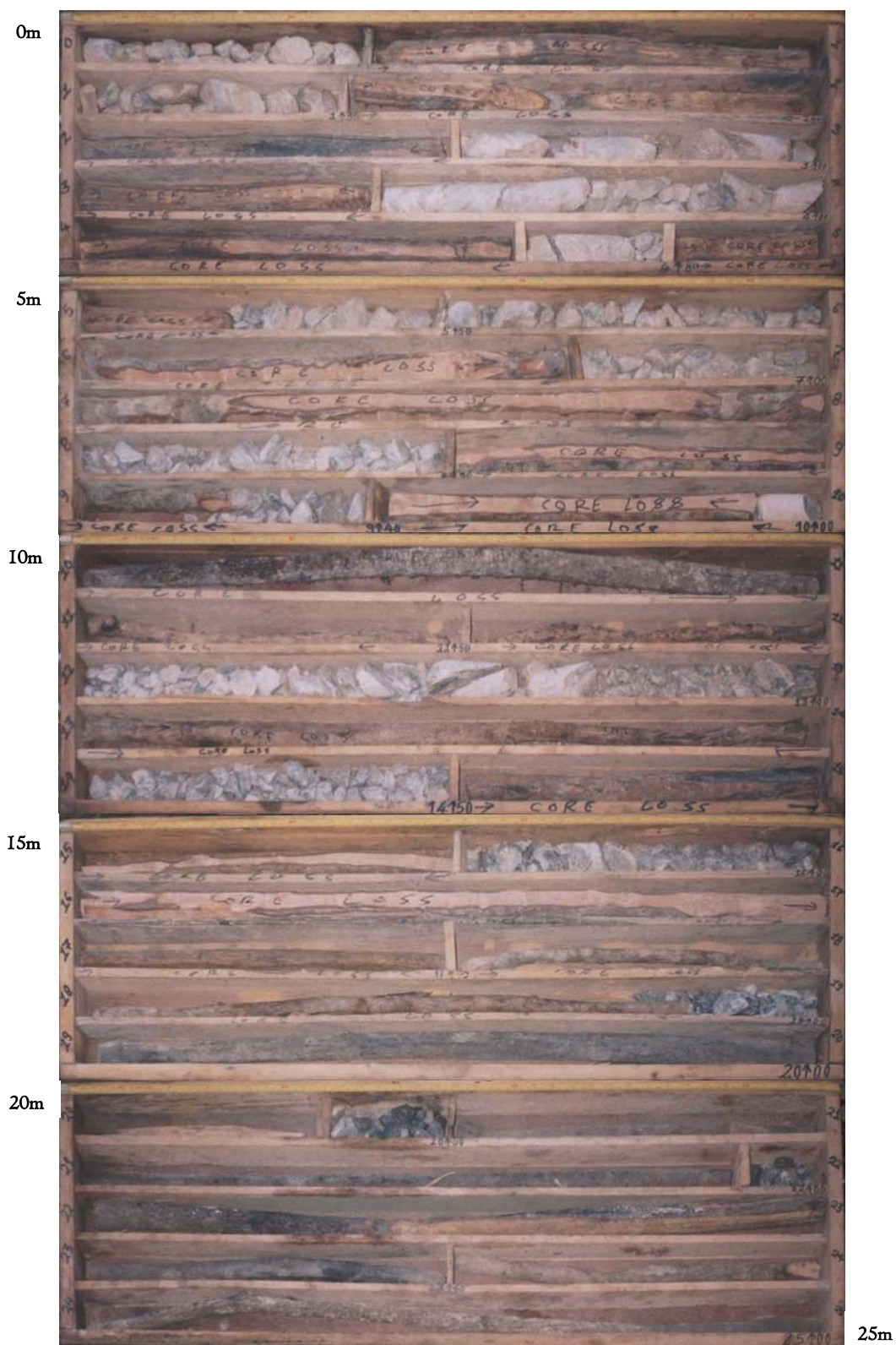
(L=50m, EL.397.93m, N287, 45, Dam Axis River Bed)



Upper Seti Storage Hydroelectric Power Project

B-8 Drill hole Core Photograph (1/4: 0 – 25m)

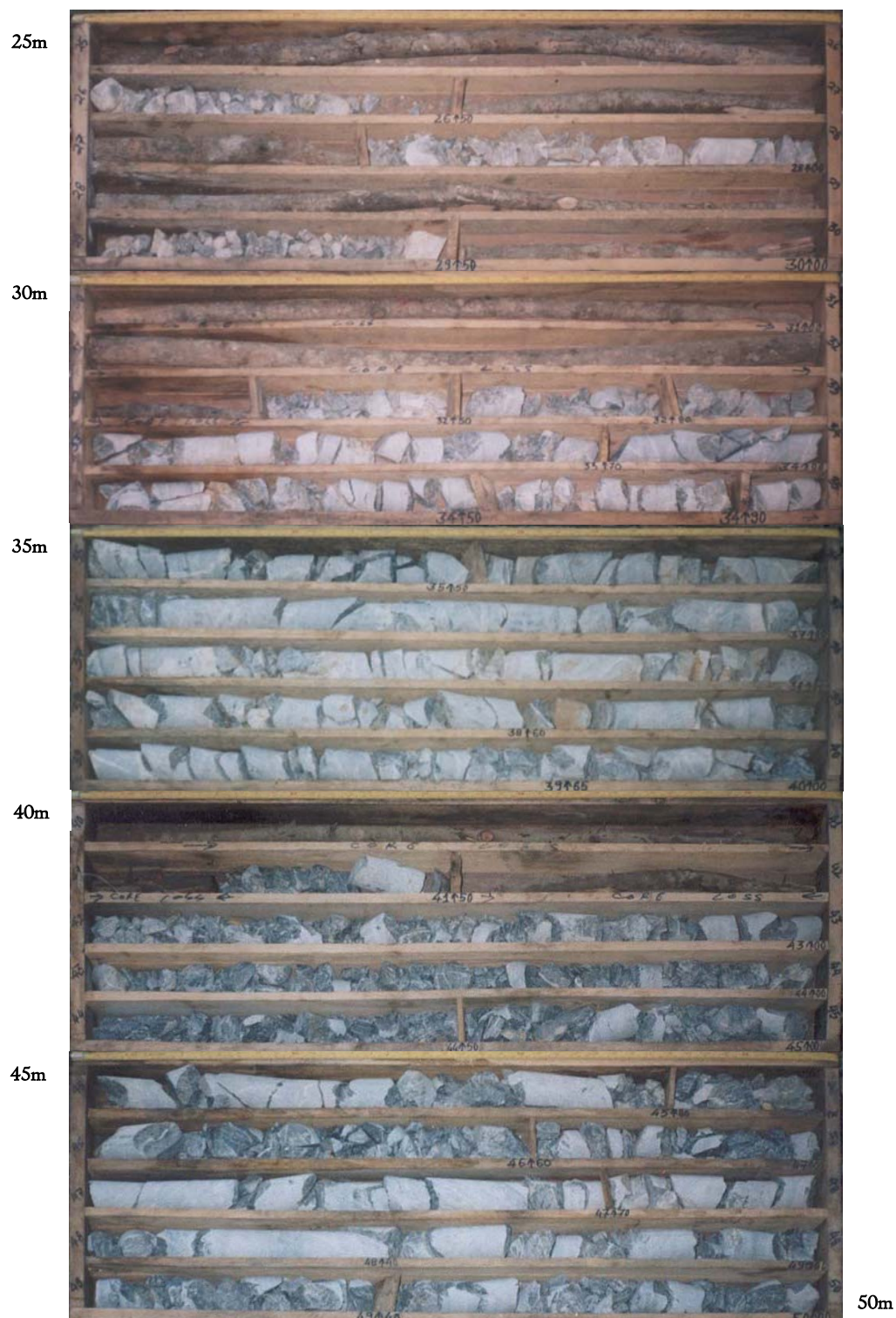
(L=100m, EL.401.6m, N107, 45, Dam Axis R/B)



Upper Seti Storage Hydroelectric Power Project

B-8 Drill hole Core Photograph (2/4: 25 – 50m)

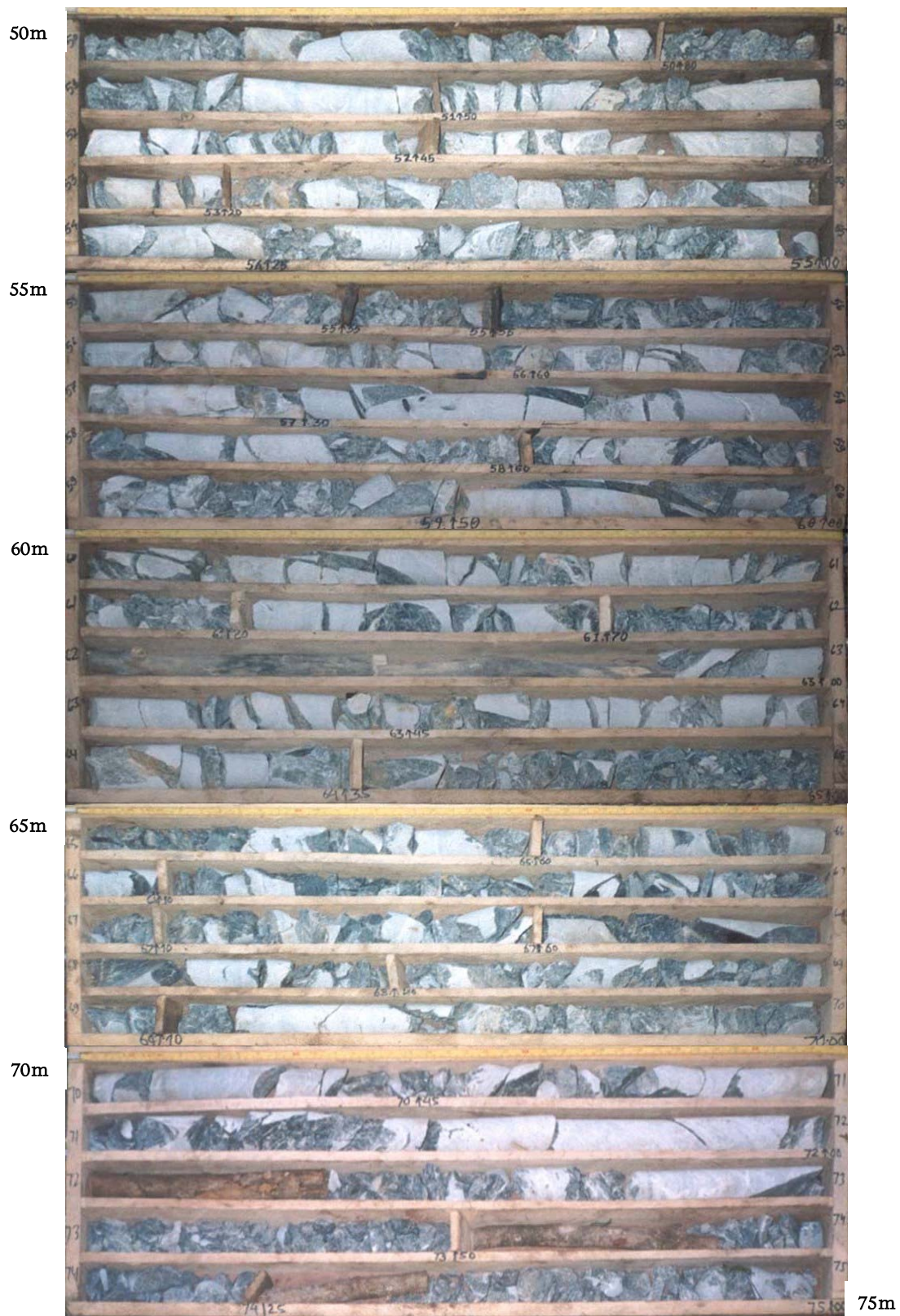
(L=100m, EL.401.6m, N107, 45, Dam Axis R/B)



Upper Seti Storage Hydroelectric Power Project

B-8 Drill hole Core Photograph (3/4: 50 – 75m)

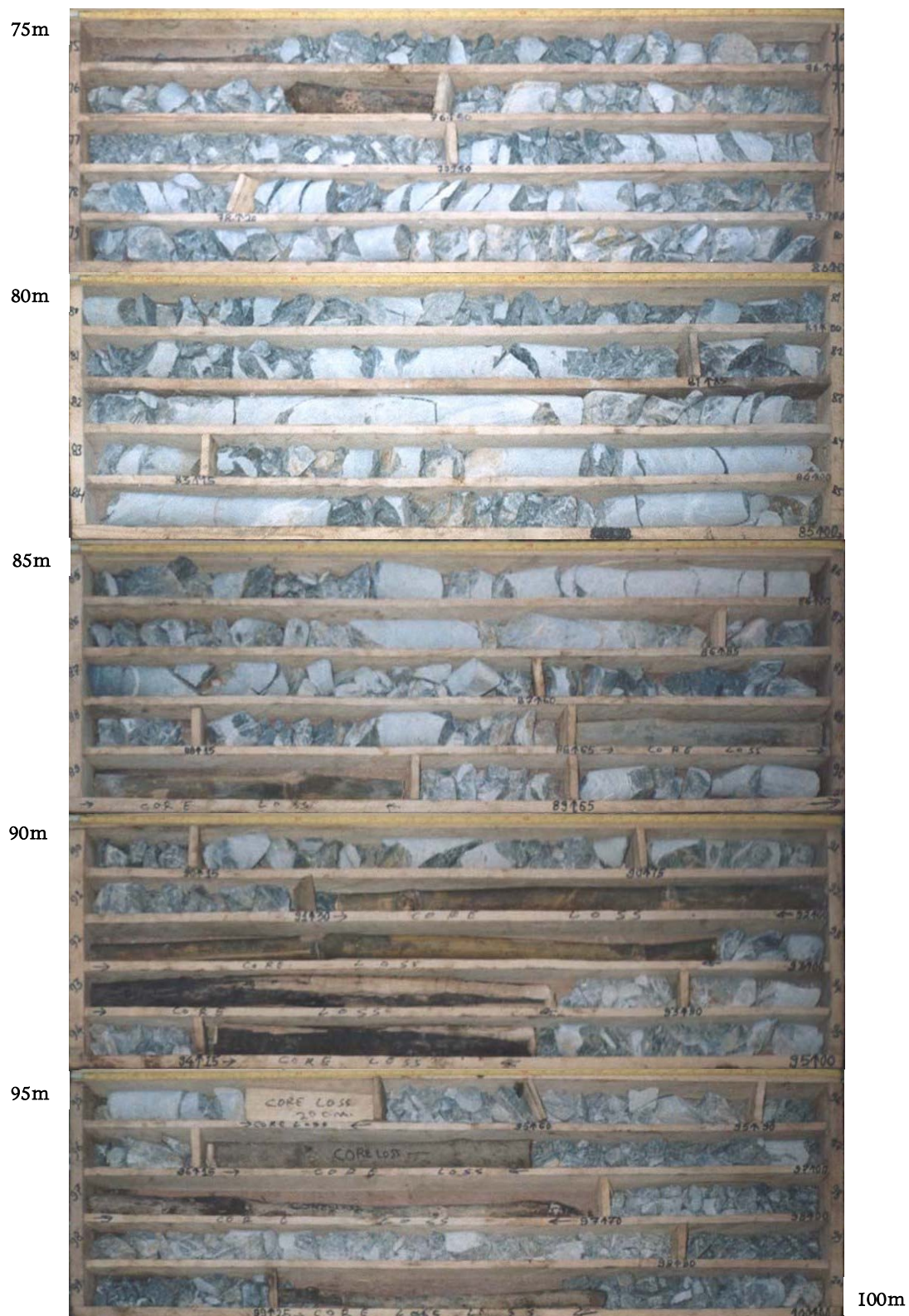
(L=100m, EL.401.6m, N107, 45, Dam Axis R/B)



Upper Seti Storage Hydroelectric Power Project

B-8 Drill hole Core Photograph (4/4: 75 – 100m)

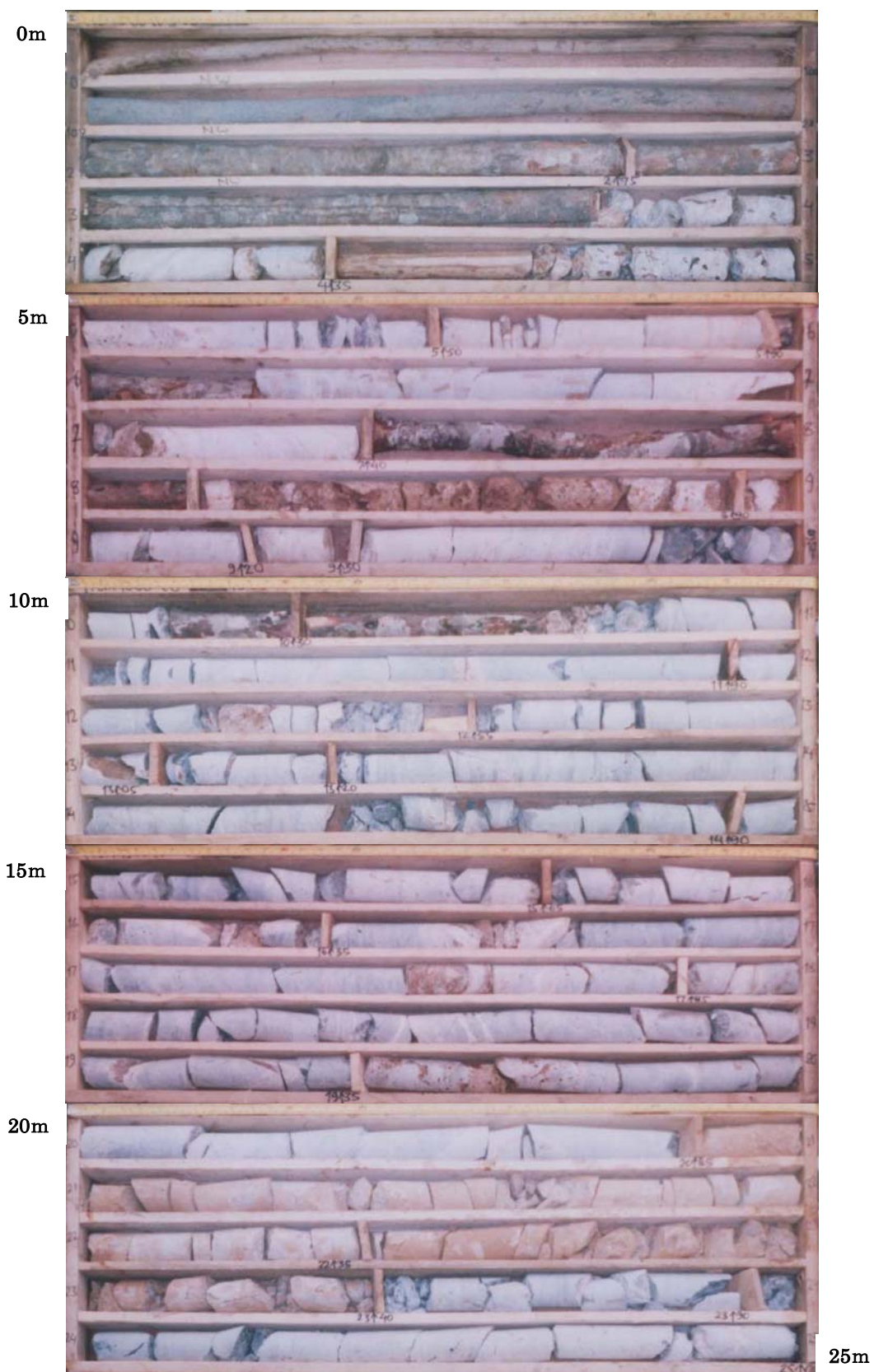
(L=100m, EL.401.6m, N107, 45, Dam Axis R/B)



Upper Seti Storage Hydroelectric Power Project

B-9 Drill hole Core Photograph (1/6: 0 – 25m)

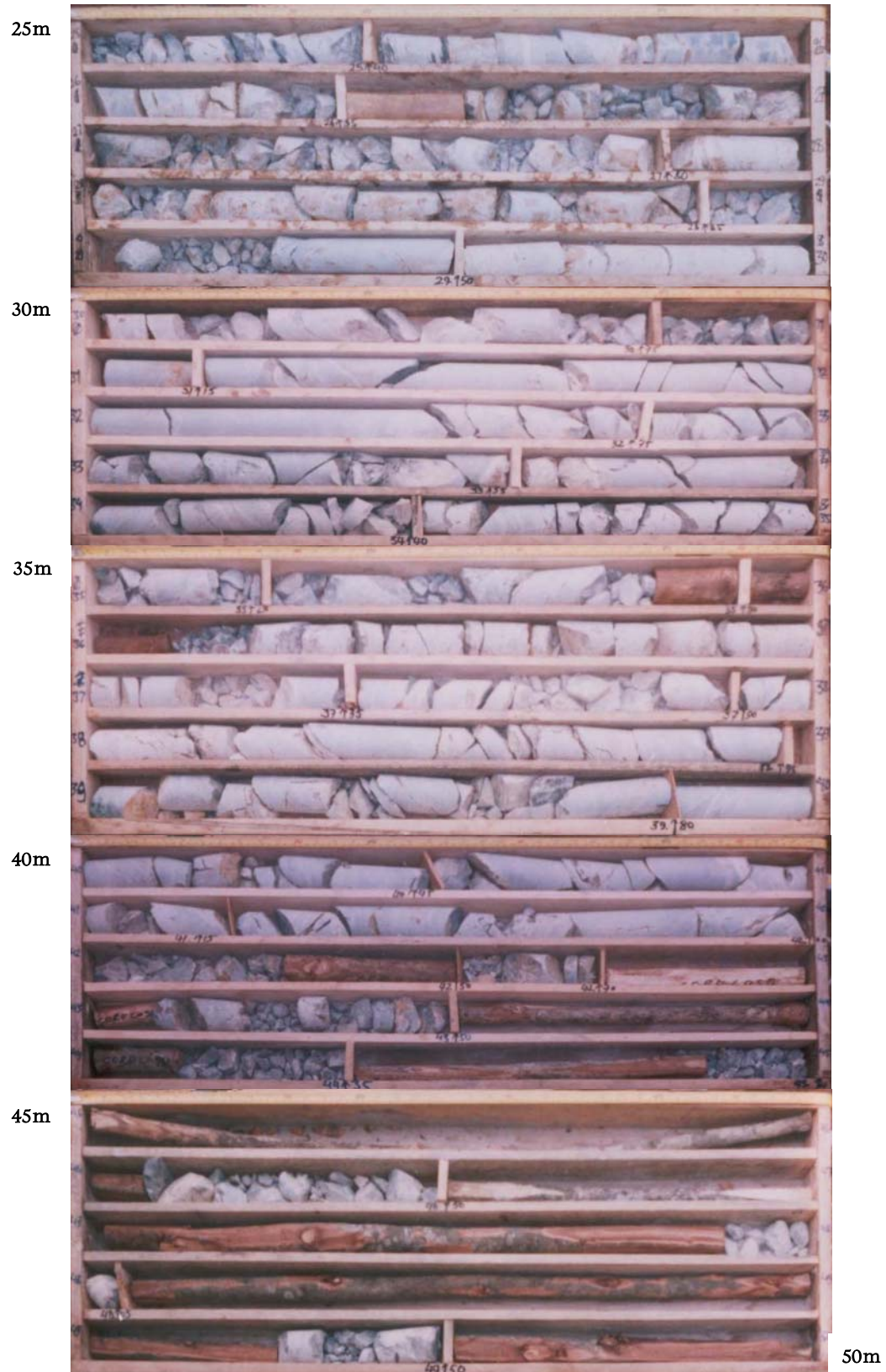
(L=150m, EL.527.5m, Vertical, Dam Axis R/B)



Upper Seti Storage Hydroelectric Power Project

B-9 Drill hole Core Photograph (2/6: 25 – 50m)

(L=150m, EL.527.5m, Vertical, Dam Axis R/B)



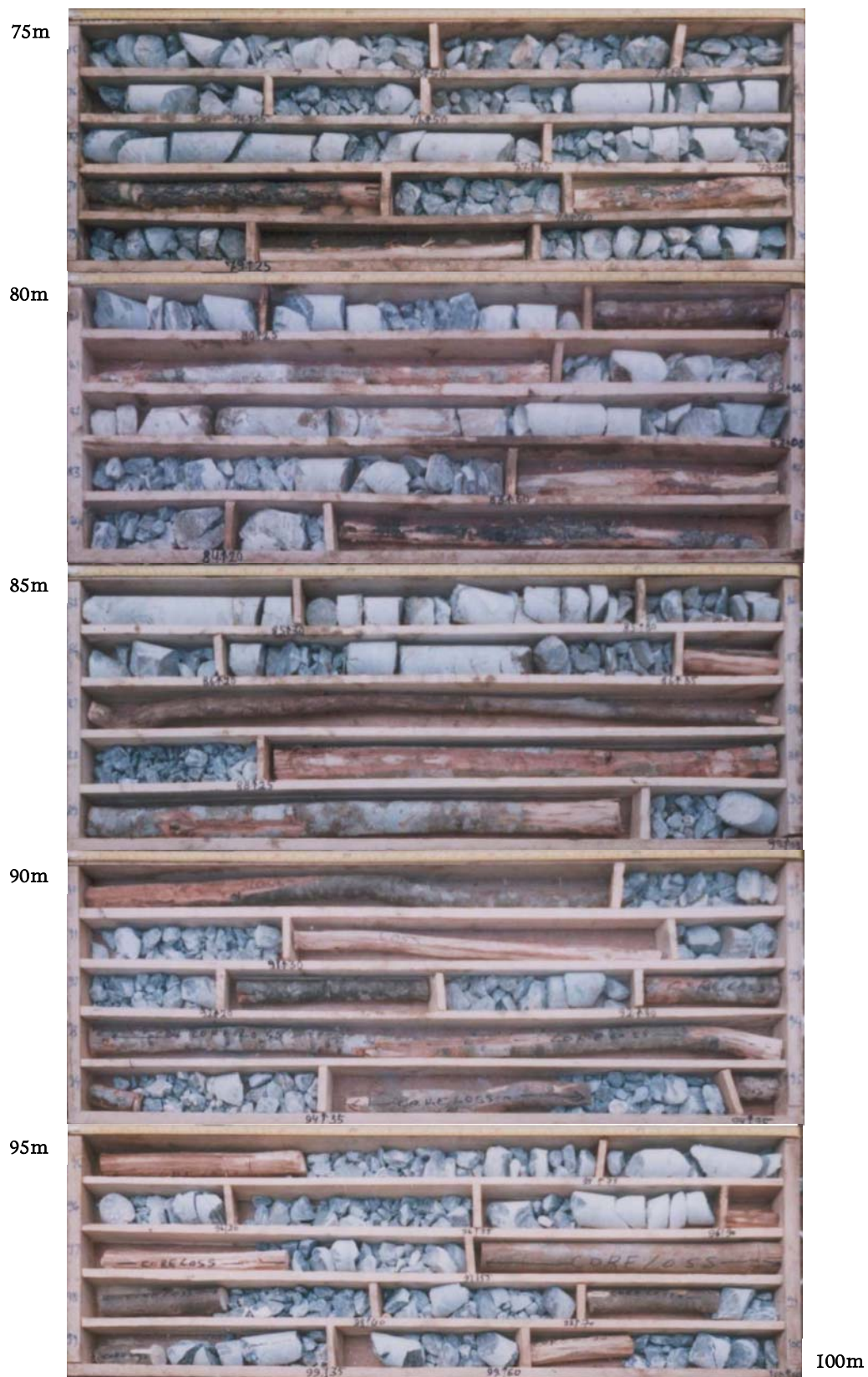
B-9 Drill hole Core Photograph (3/6: 50 – 75m)
(L=150m, EL.527.5m, Vertical, Dam Axis R/B)



Upper Seti Storage Hydroelectric Power Project

B-9 Drill hole Core Photograph (4/6: 75 – 100m)

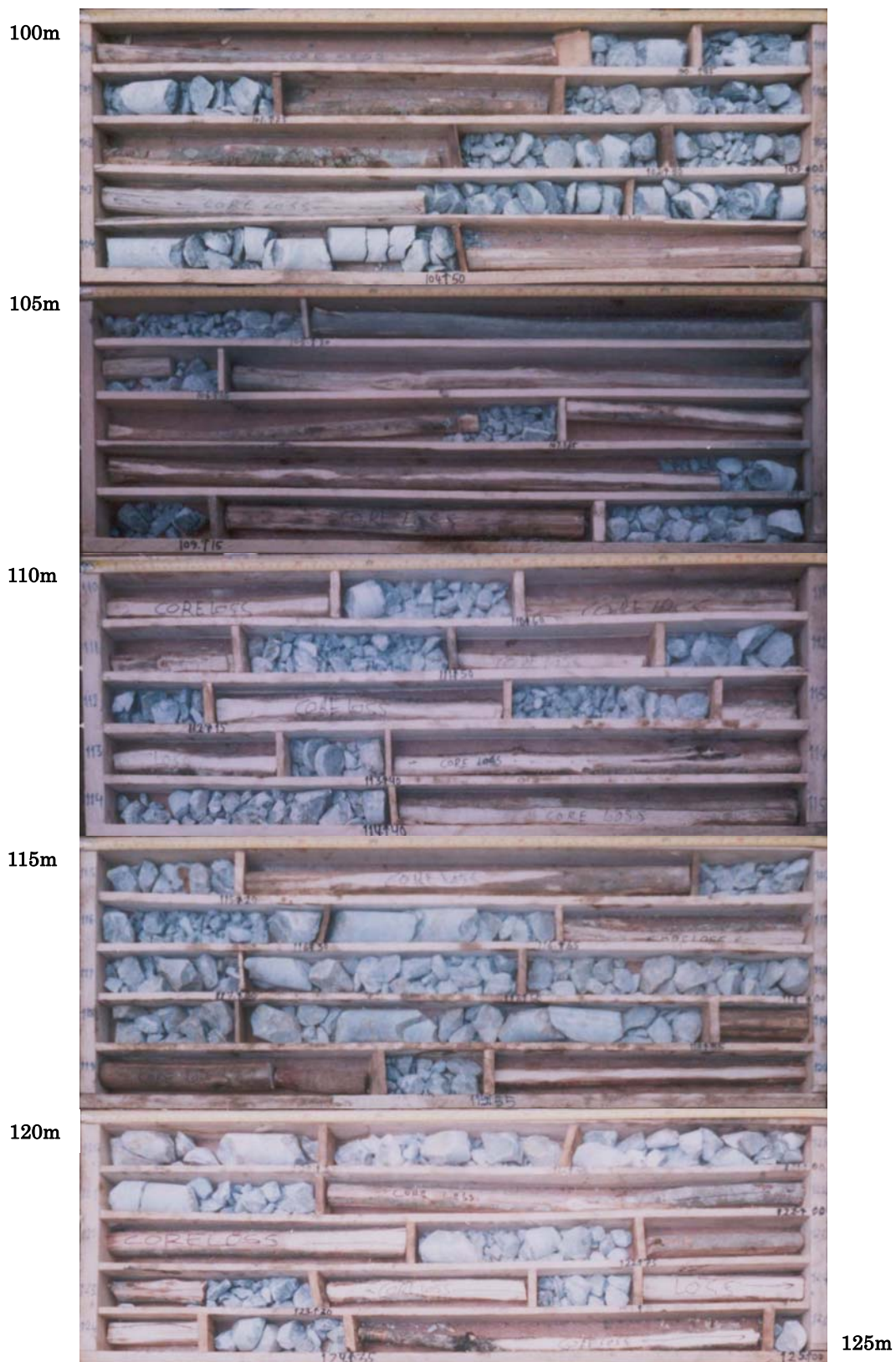
(L=150m, EL.527.5m, Vertical, Dam Axis R/B)



Upper Seti Storage Hydroelectric Power Project

B-9 Drill hole Core Photograph (5/6: 0100– 125m)

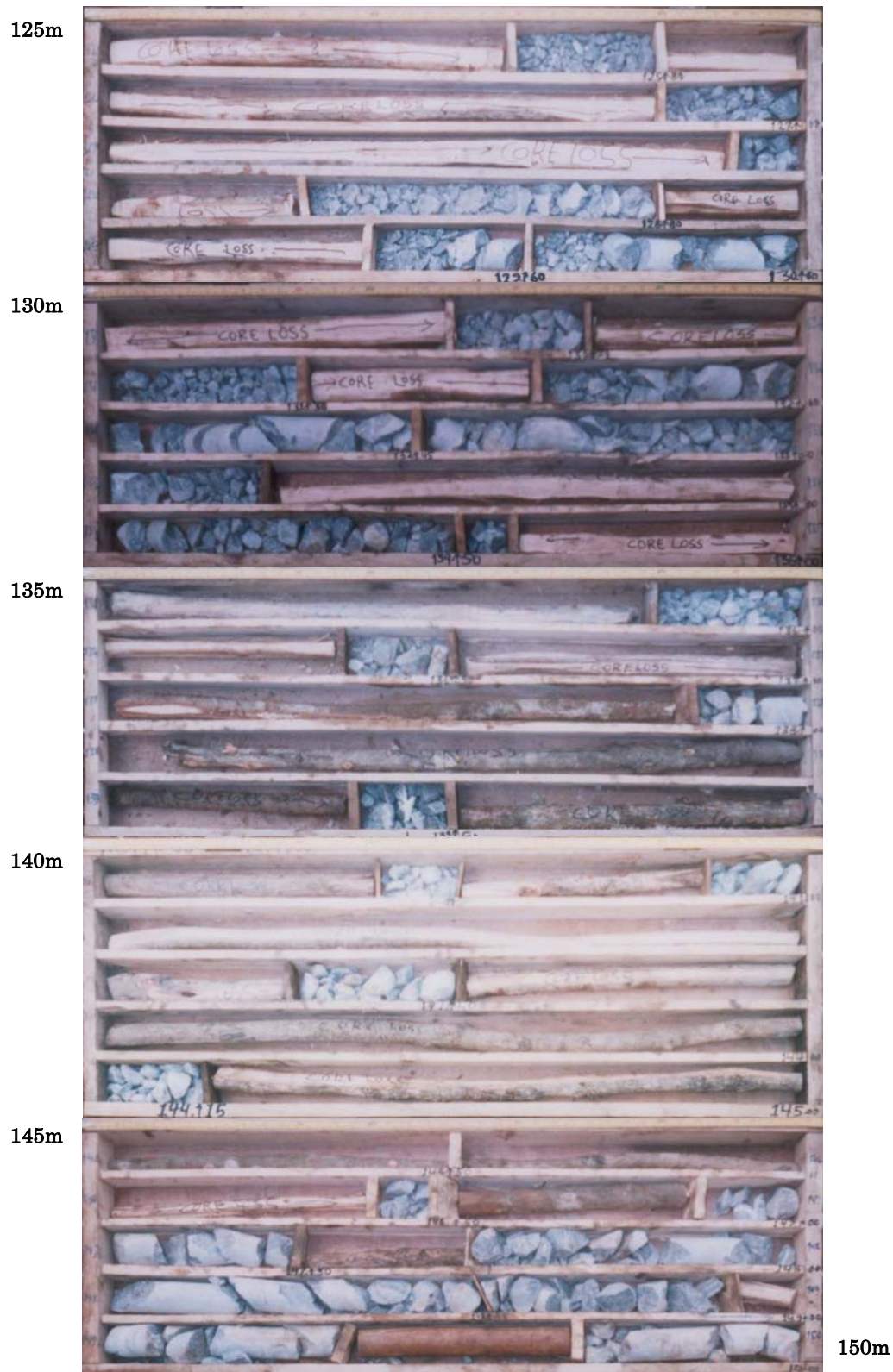
(L=150m, EL.527.5m, Vertical, Dam Axis R/B)



Upper Seti Storage Hydroelectric Power Project

B-9 Drill hole Core Photograph (6/6: 125 – 150m)

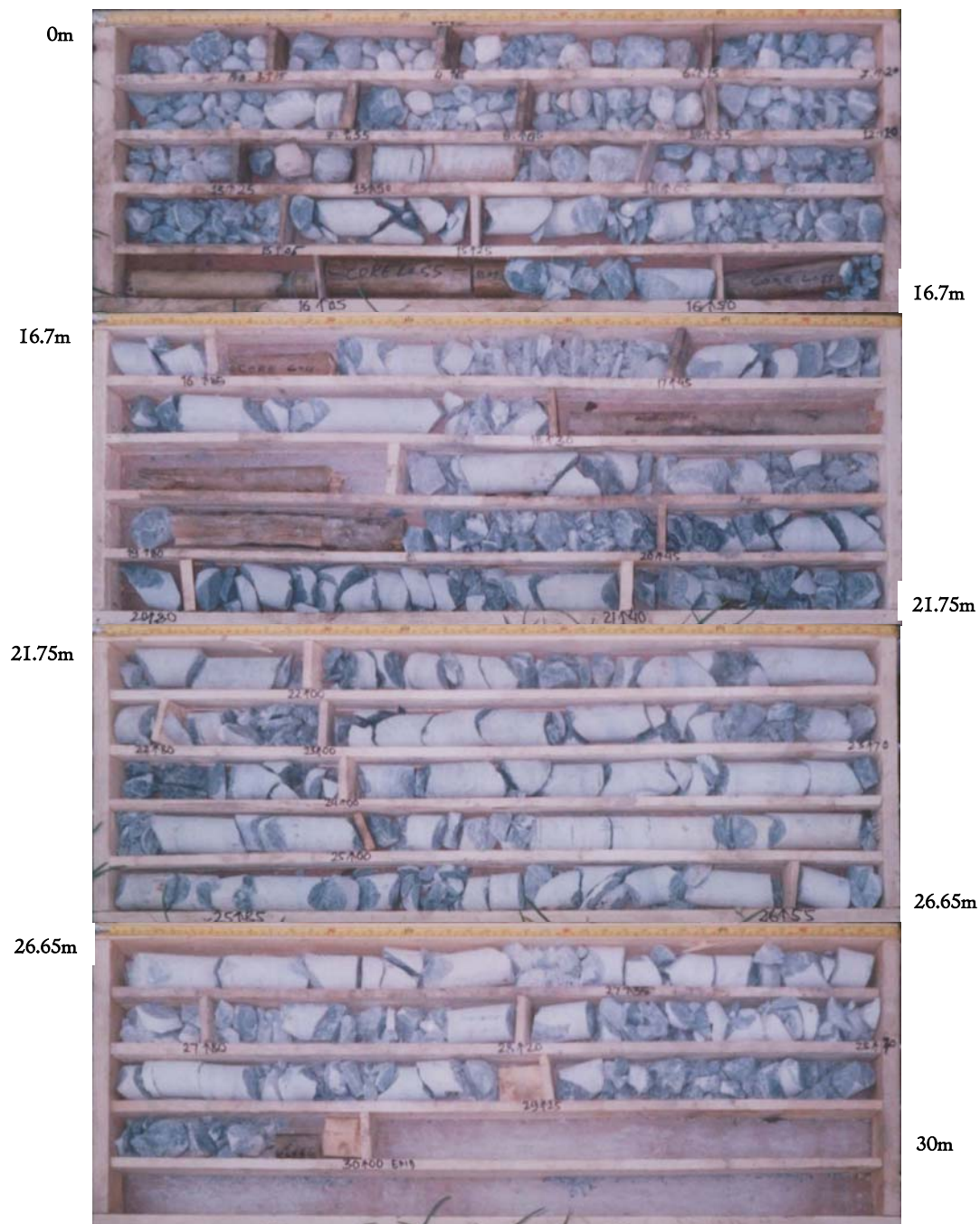
(L=150m, EL.527.5m, Vertical, Dam Axis R/B)



Upper Seti Storage Hydroelectric Power Project

B-10 Drill hole Core Photograph (1/1: 0 – 30m)

(L=30m, EL.306.45m, Vertical, Dam Toe R/B)



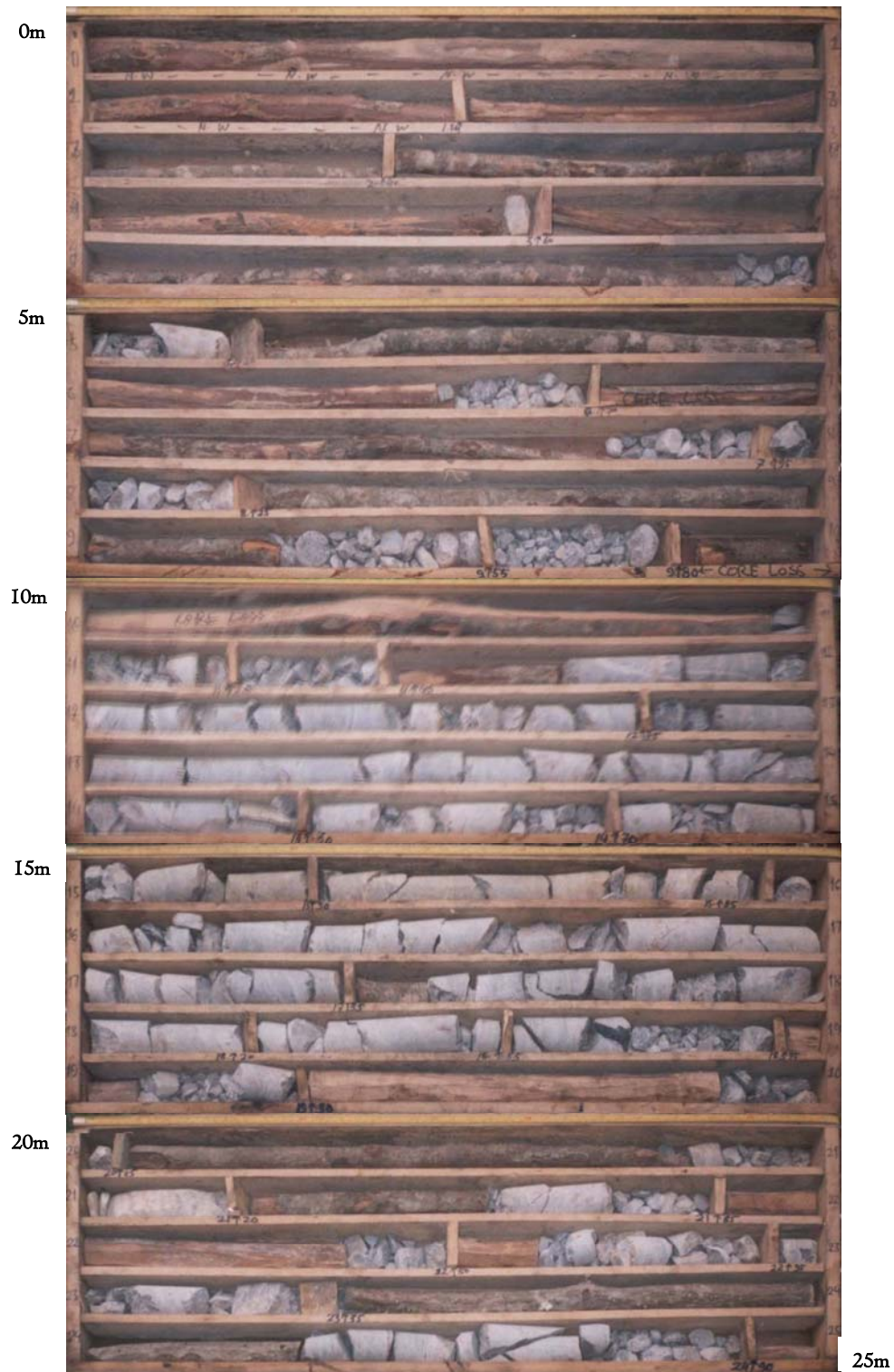
Upper Seti Storage Hydroelectric Power Project

B-11 Drill hole Core Photograph (1/1: 0 – 30m)

(L=30m, EL.307.46m, Vertical, Dam Toe L/B)



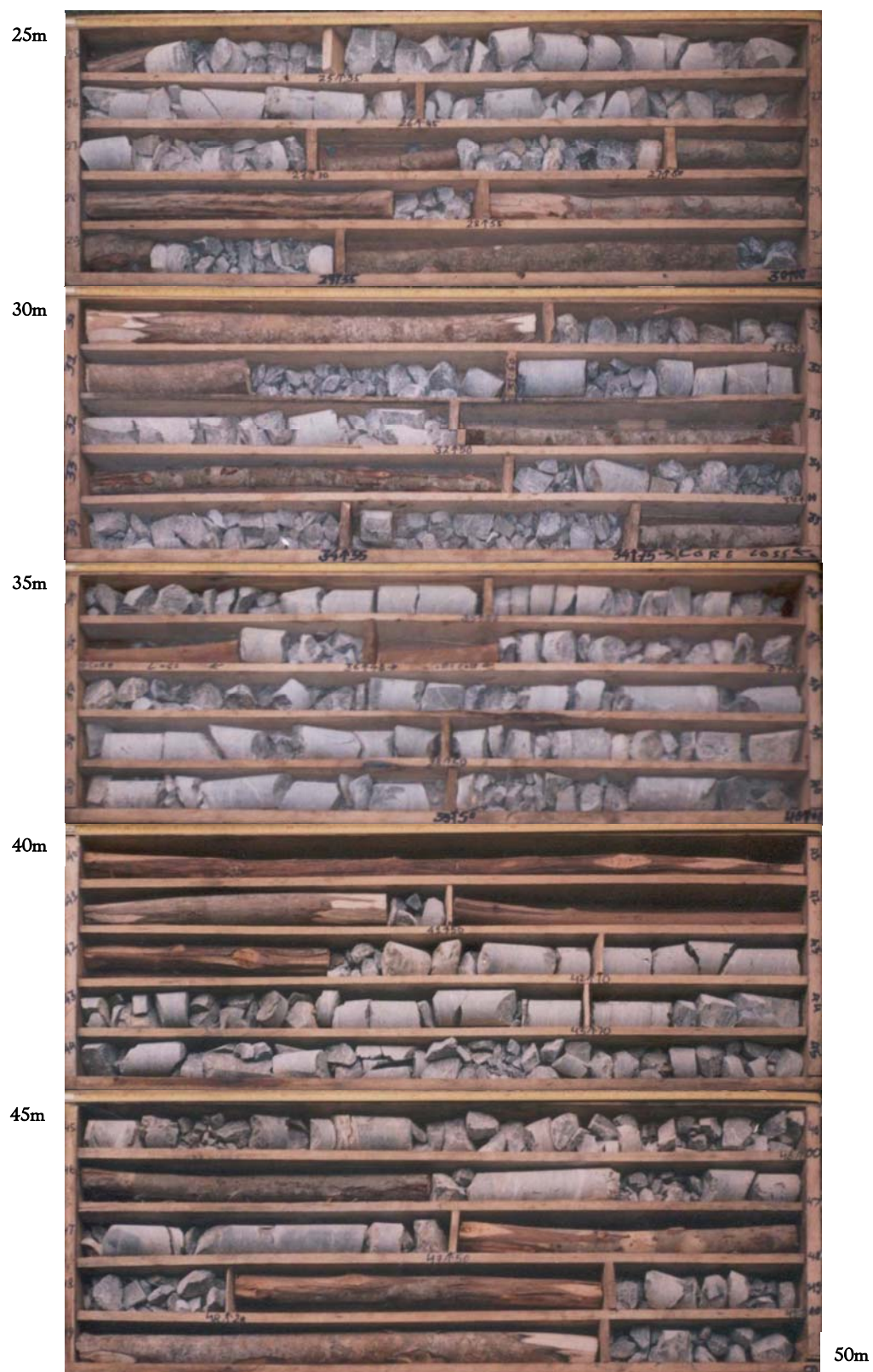
B-12 Drill hole Core Photograph (1/5: 0 – 25m)
(L=120m, EL.401.6m, N020, 45, Dam Axis R/B)



Upper Seti Storage Hydroelectric Power Project

B-12 Drill hole Core Photograph (2/5: 25 – 50m)

(L=120m, EL.401.6m, N020, 45, Dam Axis R/B)



Upper Seti Storage Hydroelectric Power Project

B-12 Drill hole Core Photograph (3/5: 50 – 75m)

(L=120m, EL.401.6m, N020, 45, Dam Axis R/B)



Upper Seti Storage Hydroelectric Power Project

B-12 Drill hole Core Photograph (4/5: 75 – 100m)

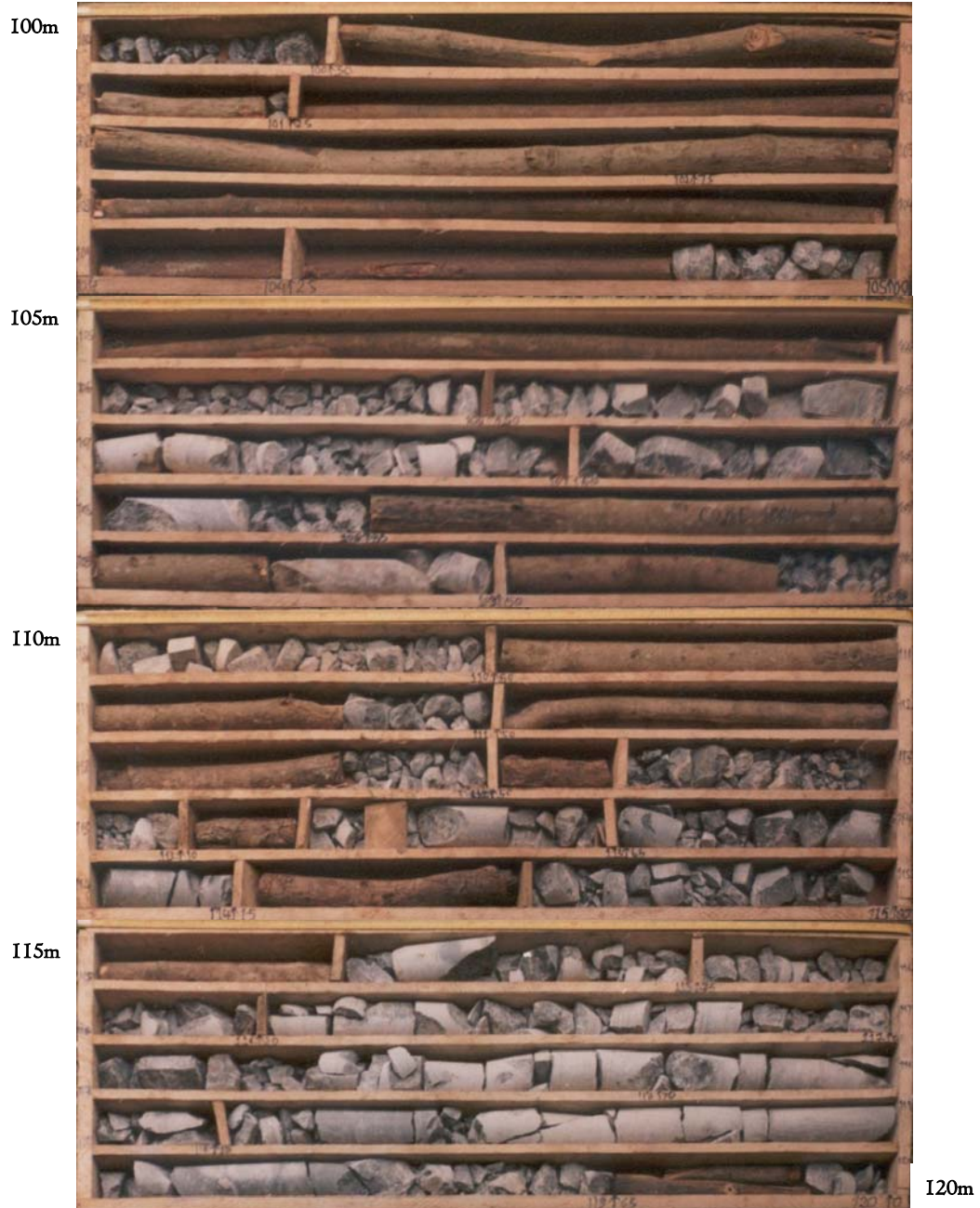
(L=120m, EL.401.6m, N020, 45, Dam Axis R/B)



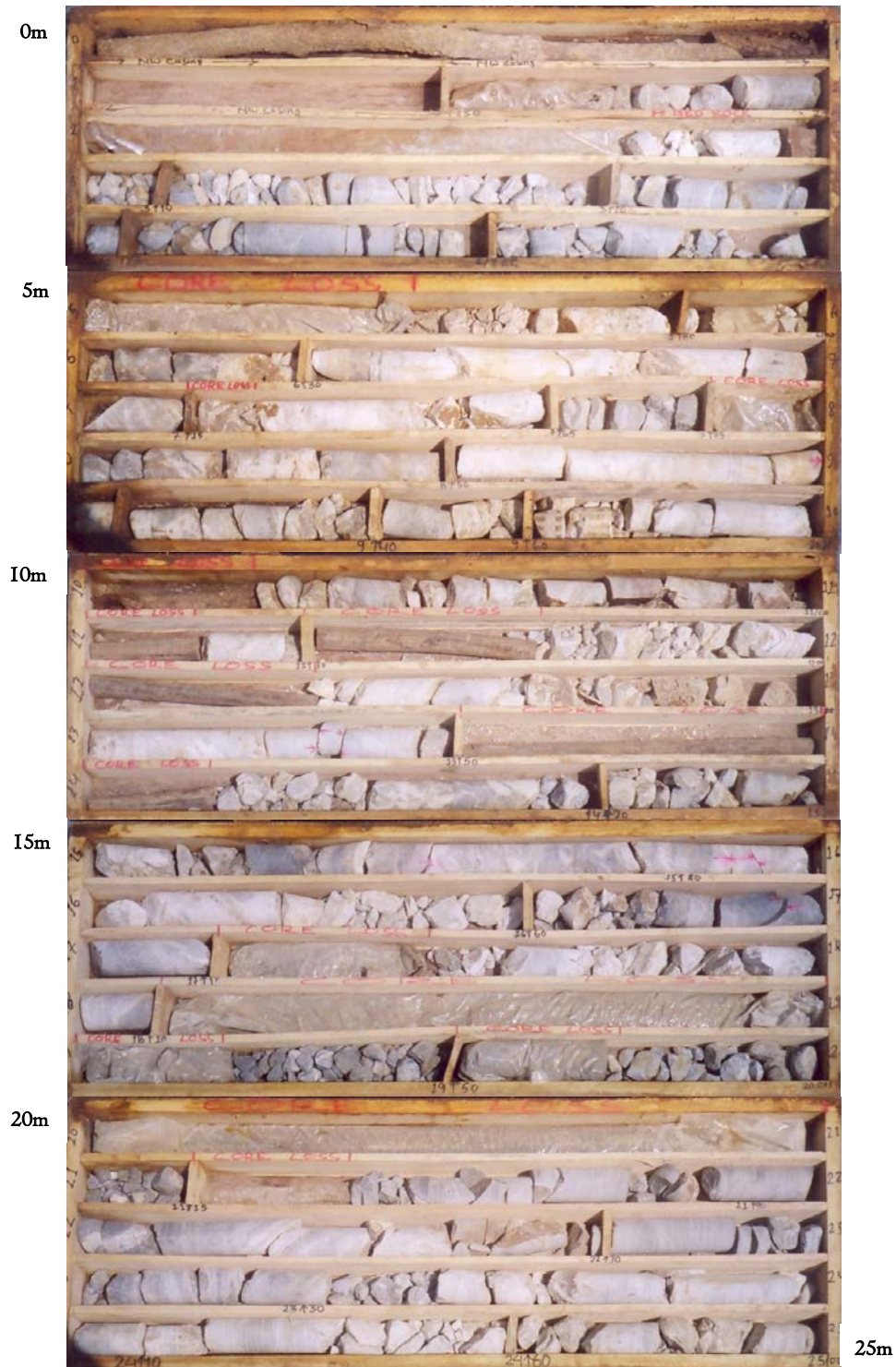
Upper Seti Storage Hydroelectric Power Project

B-12 Drill hole Core Photograph (5/5: 100 – 120m)

(L=120m, EL.401.6m, N020, 45, Dam Axis R/B)



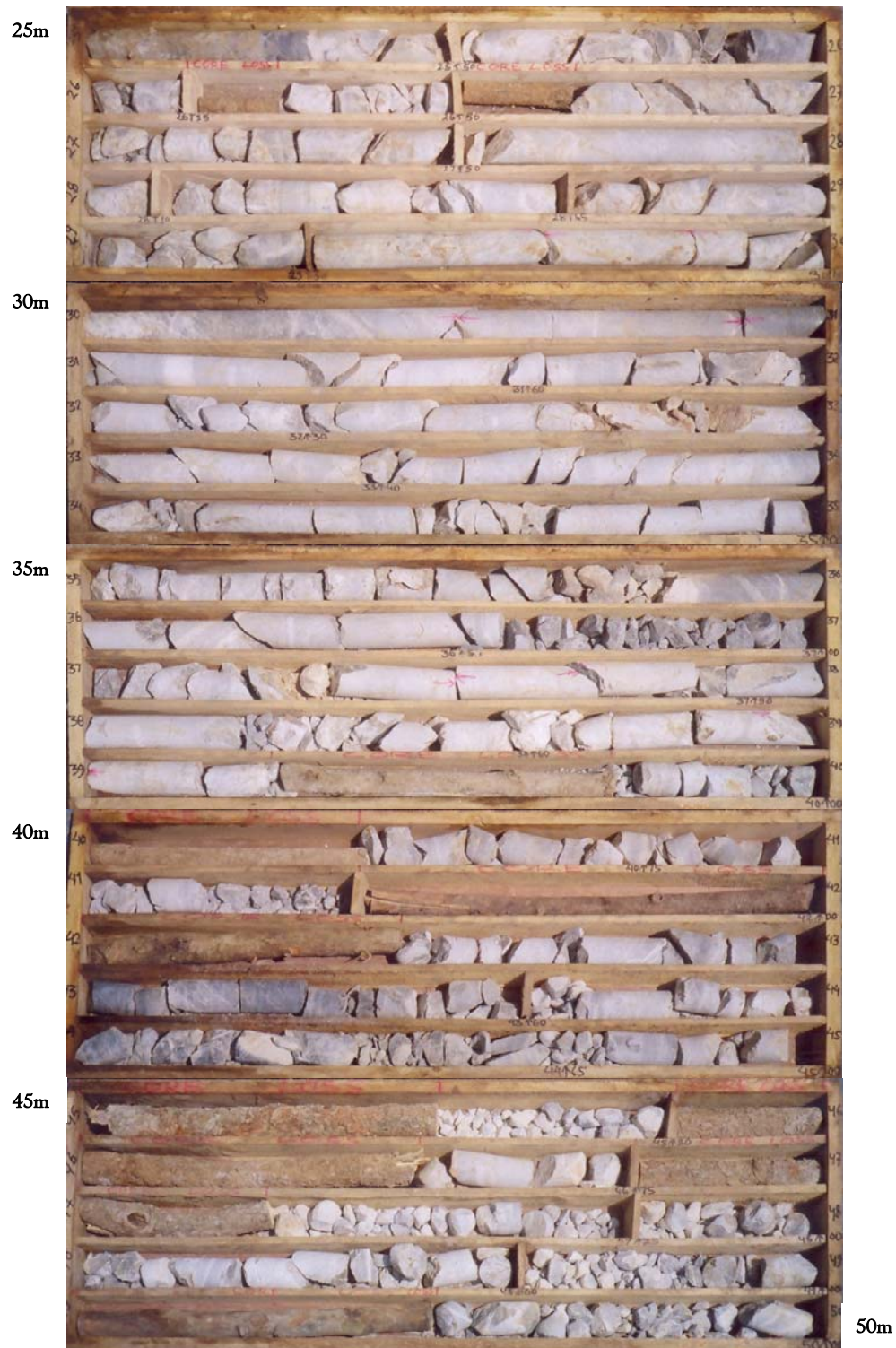
BH-1 Drill hole Core Photograph (1/4: 0 – 25m)
(L=90m, EL.430.95m, Vertical, Intake Option 2)



Upper Seti Storage Hydroelectric Power Project

BH-1 Drill hole Core Photograph (2/4: 25 – 50m)

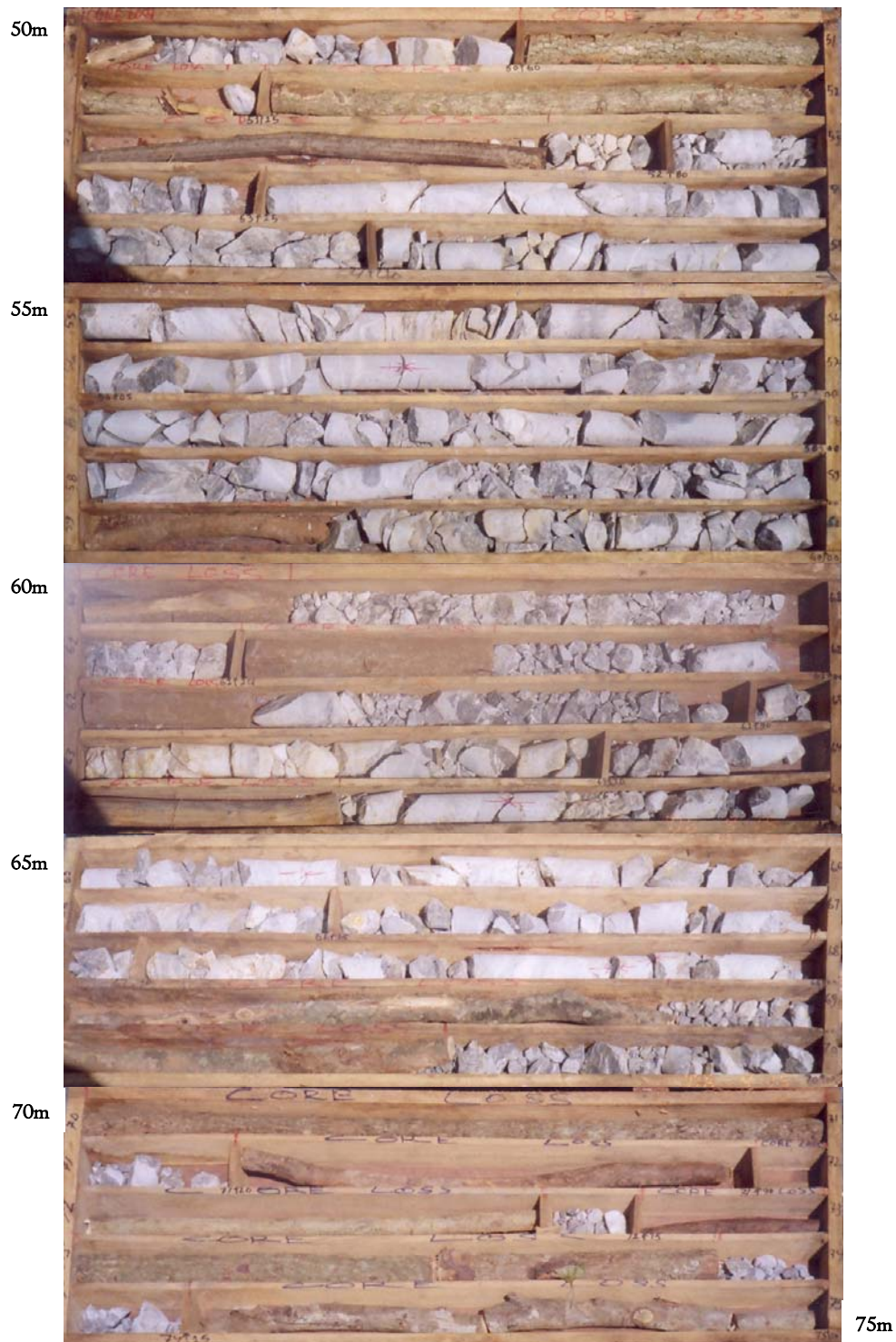
(L=90m, EL.430.95m, Vertical, Intake Option 2)



Upper Seti Storage Hydroelectric Power Project

BH-1 Drill hole Core Photograph (3/4: 50 – 75m)

(L=90m, EL.430.95m, Vertical, Intake Option 2)



Upper Seti Storage Hydroelectric Power Project

BH-1 Drill hole Core Photograph (4/4: 75 – 90m)

(L=90m, EL.430.95m, Vertical, Intake Option 2)



Upper Seti Storage Hydroelectric Power Project

BH-2 Drill hole Core Photograph (1/2: 0 –21m)

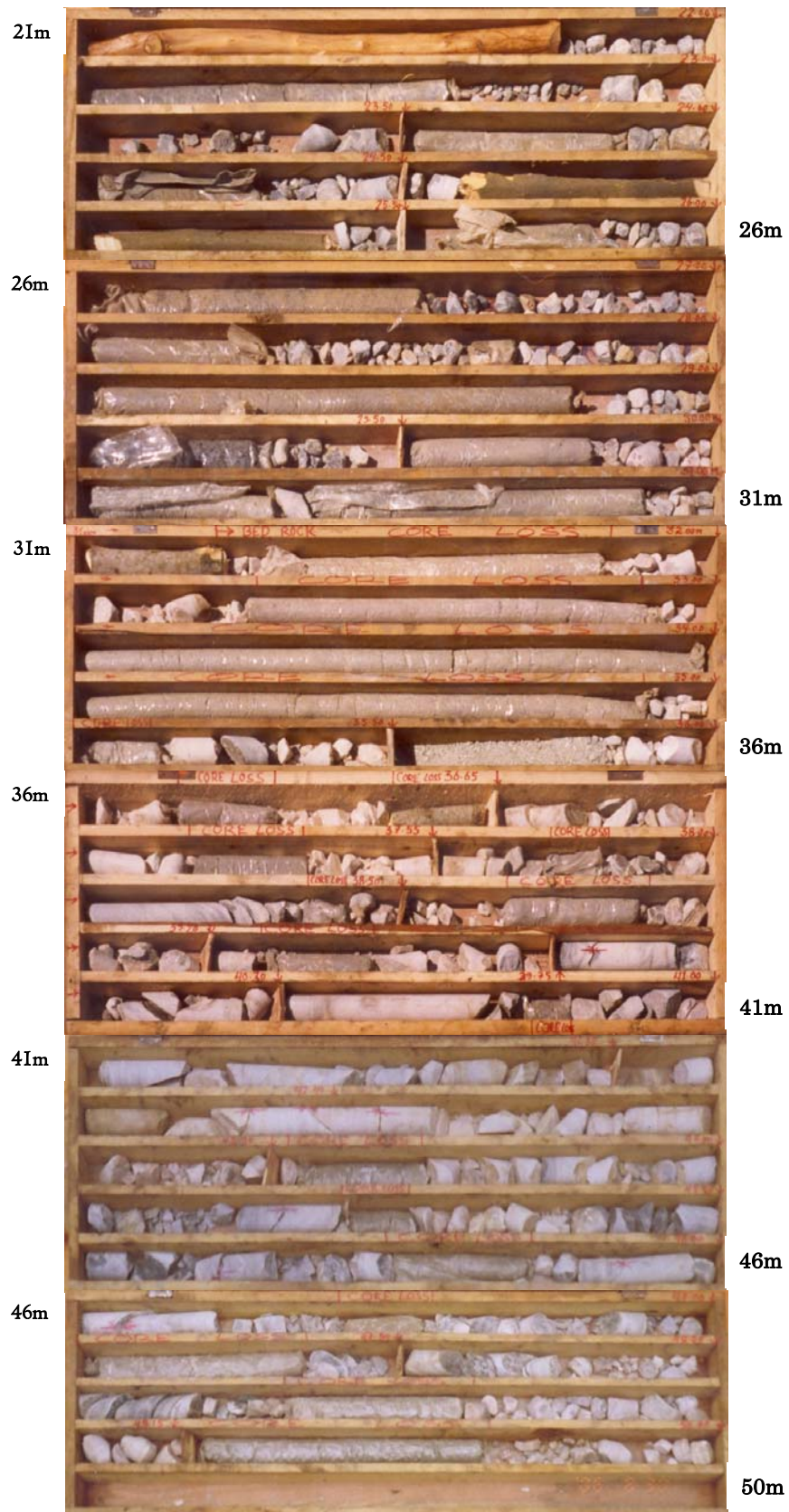
(L=50m, EL.320.09m, Vertical, Diversion Outlet)



Upper Seti Storage Hydroelectric Power Project

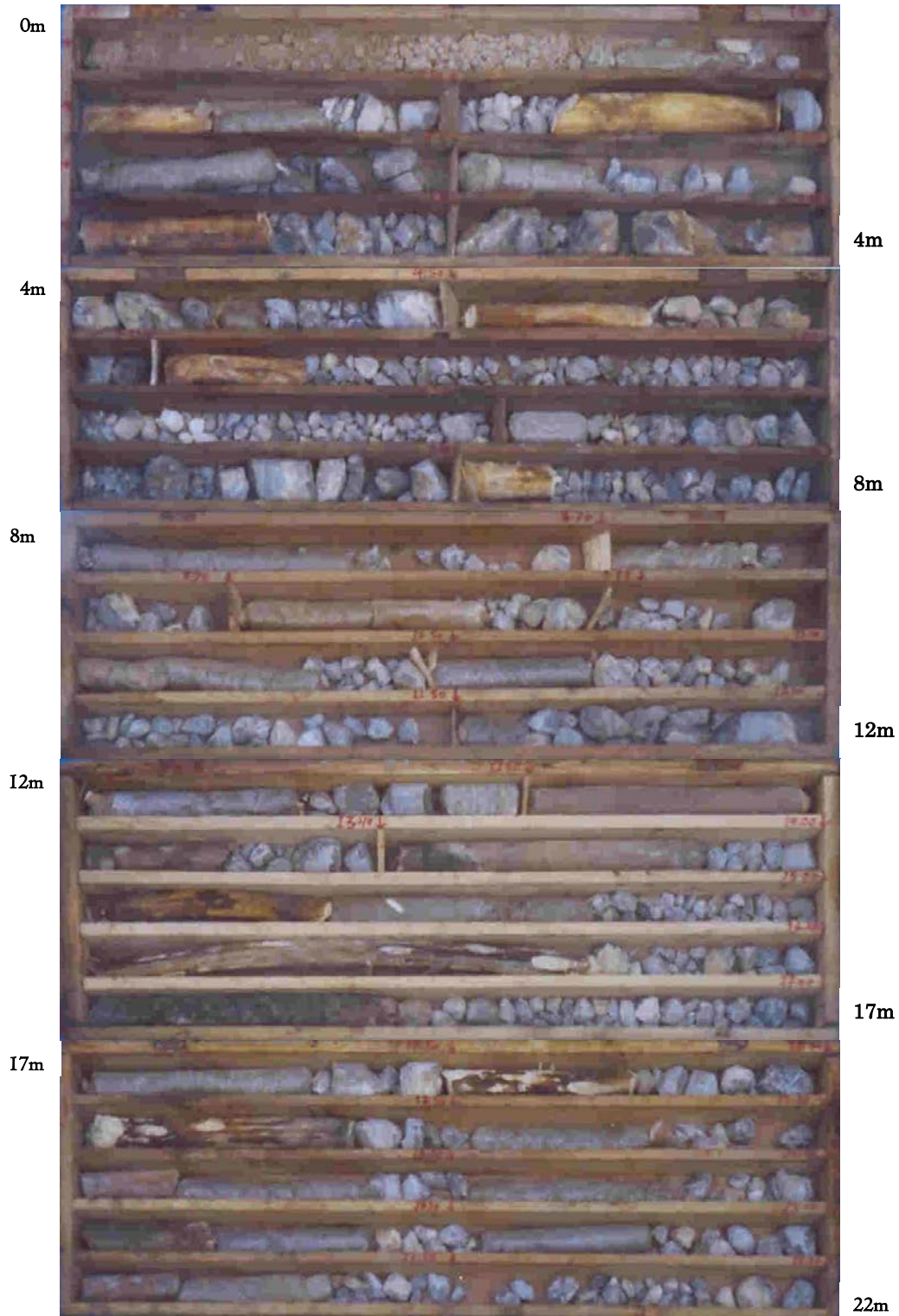
BH-2 Drill hole Core Photograph (2 /2: 21 – 50m)

(L=50m, EL.320.09m, Vertical, Diversion Outlet)



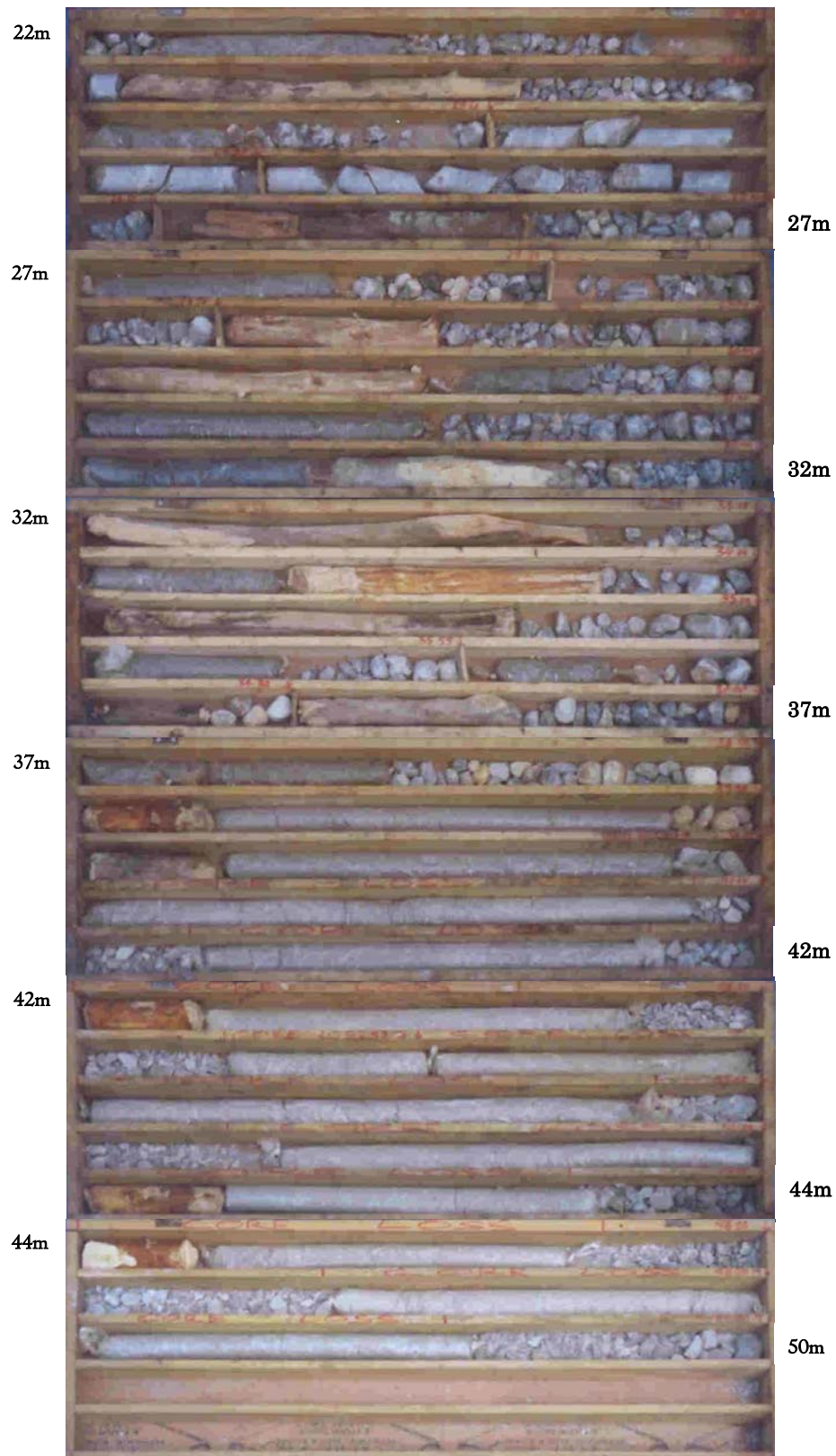
Upper Seti Storage Hydroelectric Power Project

BH-3 Drill hole Core Photograph (1/2: 0 – 22m) (L=50m, EL.331.79m, Vertical, Tailrace Outlet Option 2)



Upper Seti Storage Hydroelectric Power Project

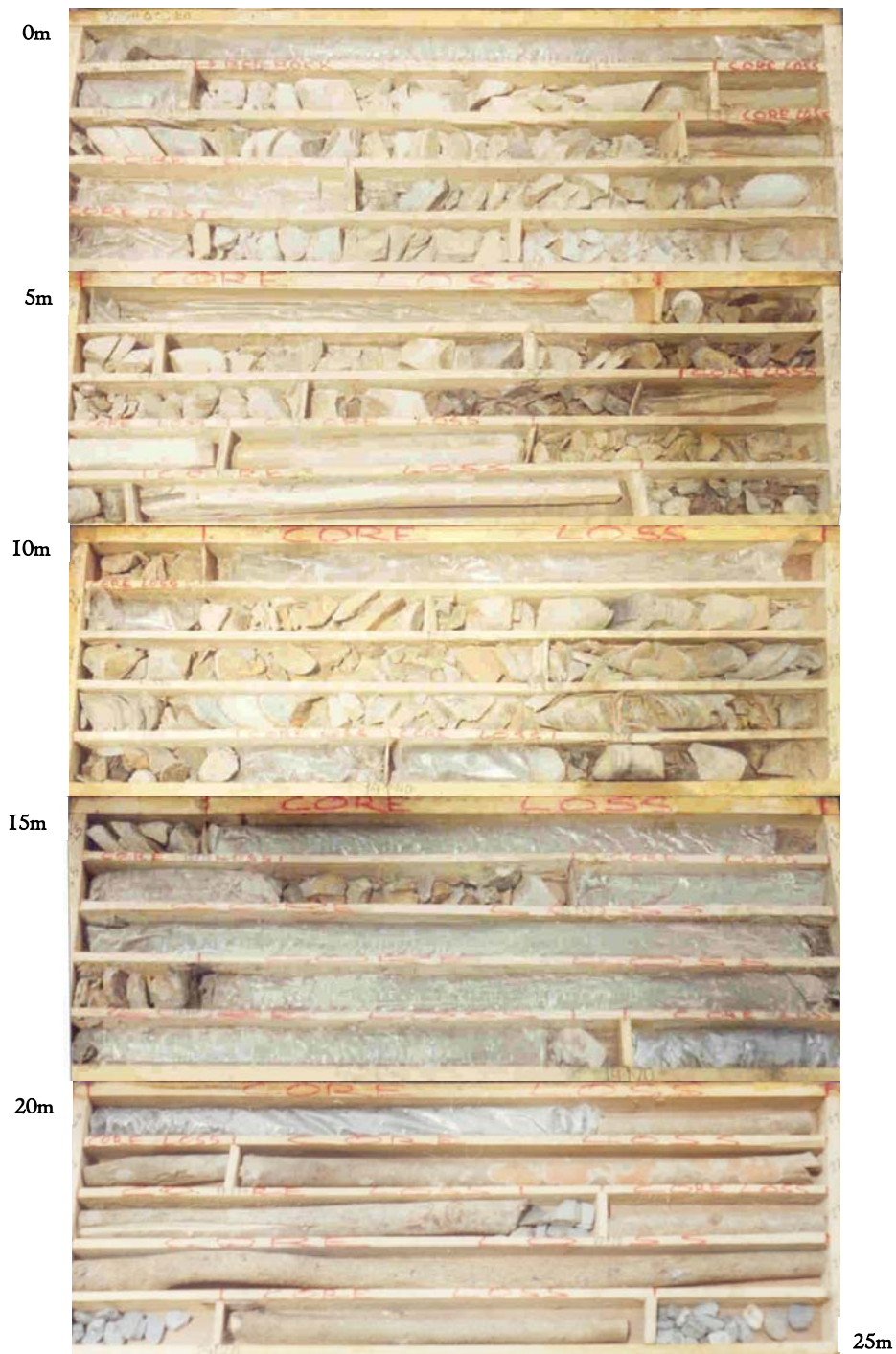
BH-3 Drill hole Core Photograph (2/2: 22– 50m)
(L=50m, EL.331.79m, Vertical, Tailrace Outlet Option 2)



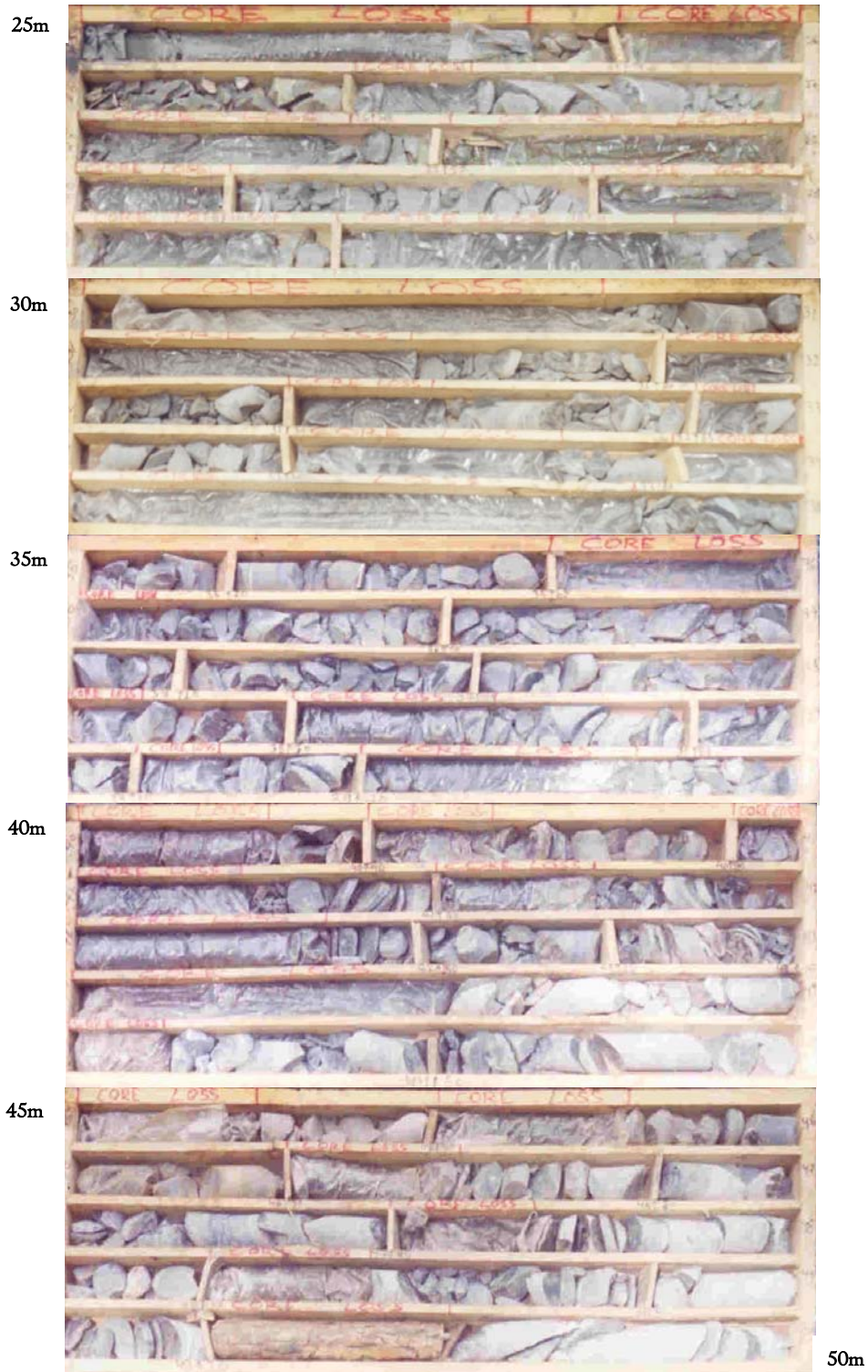
Upper Seti Storage Hydroelectric Power Project

BH-4 Drill hole Core Photograph (1/4: 0 – 25m)

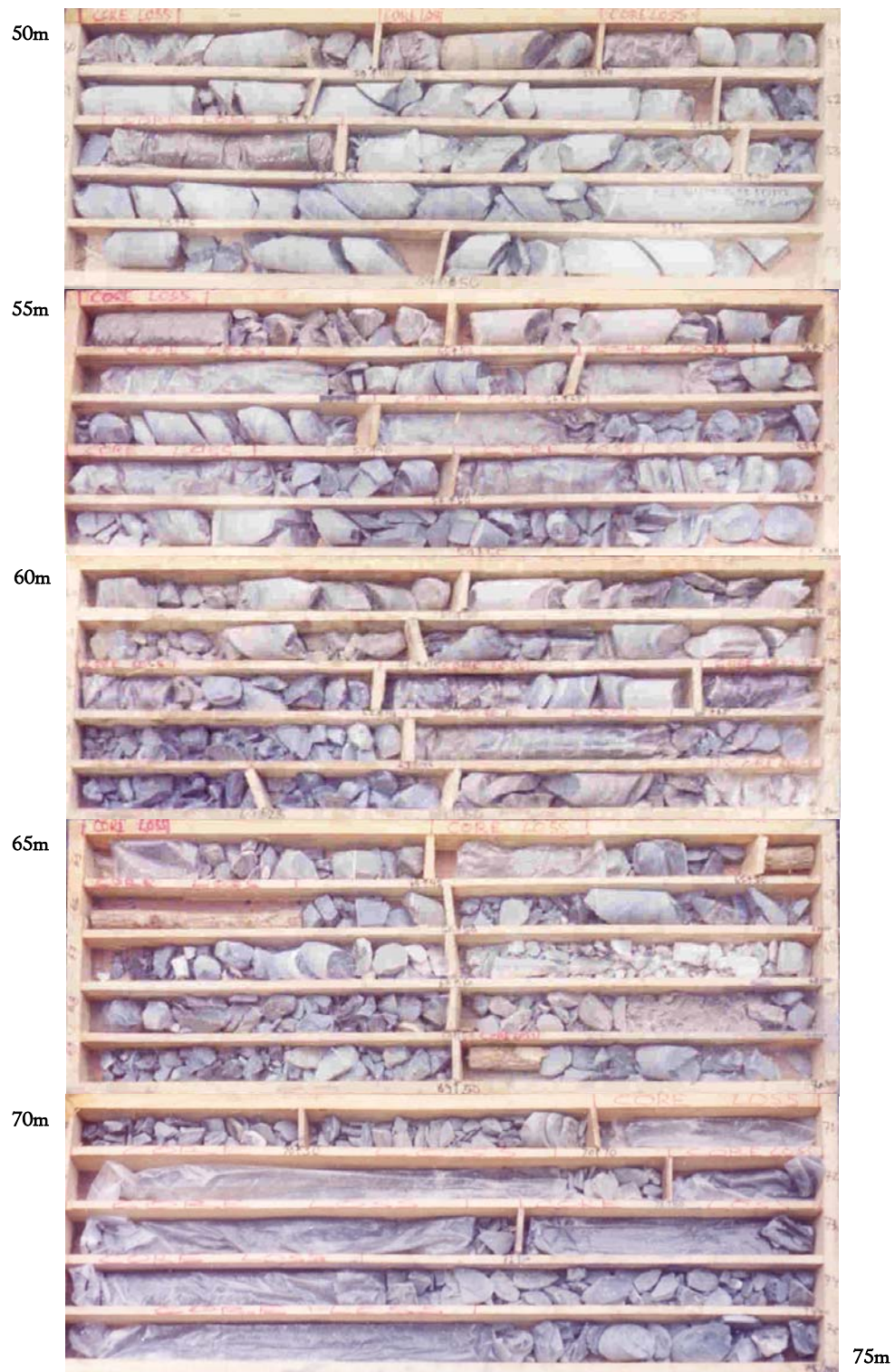
(L=90m, EL.427.02m, Vertical, Intake Option 3)



BH-4 Drill hole Core Photograph (2/4: 25 – 50m)
(L=90m, EL.427.02m, Vertical, Intake Option 3)



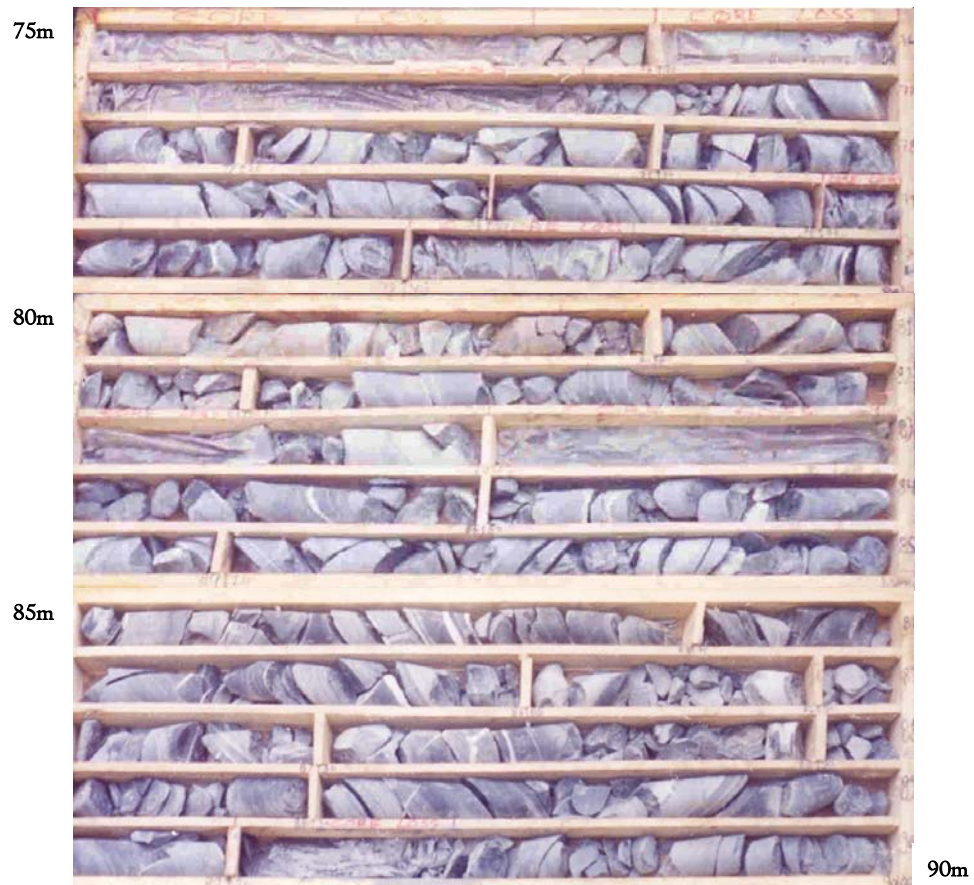
BH-4 Drill hole Core Photograph (3/4: 50 – 75m)
(L=90m, EL.427.02m, Vertical, Intake Option 3)



Upper Seti Storage Hydroelectric Power Project

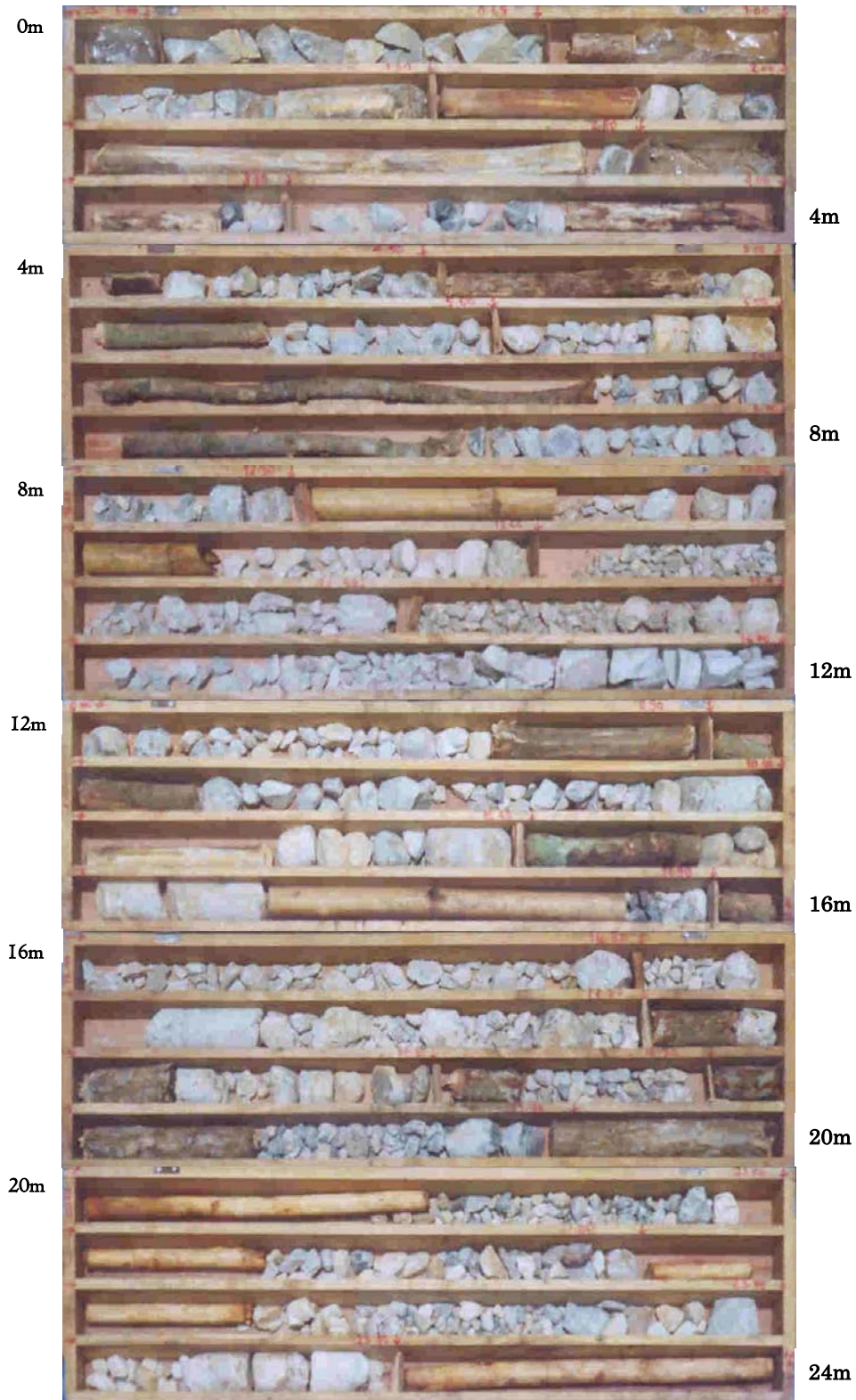
BH-4 Drill hole Core Photograph (4/4: 75 – 90m)

(L=90m, EL.427.02m, Vertical, Intake Option 3)



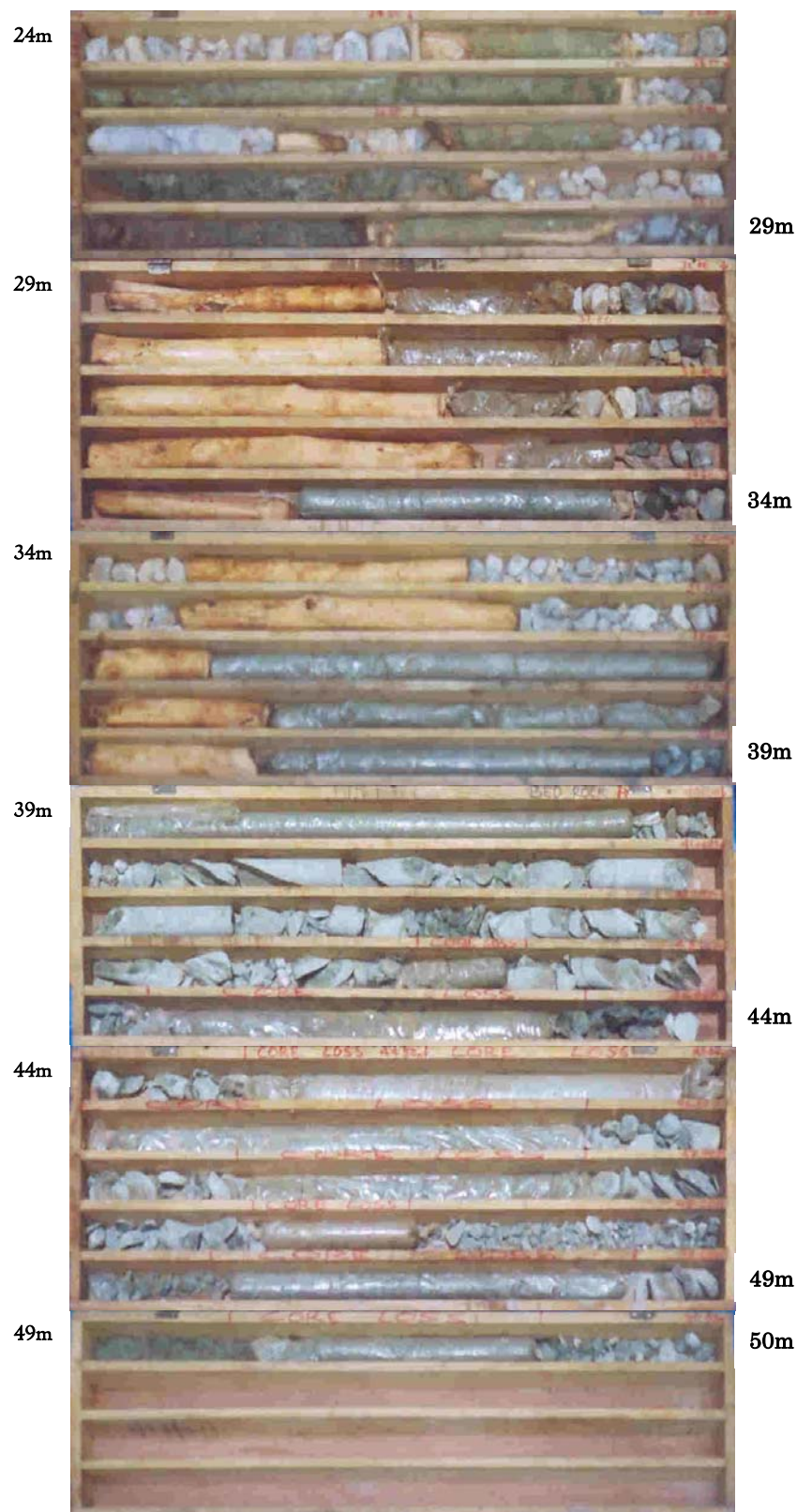
Upper Seti Storage Hydroelectric Power Project

BH-5 Drill hole Core Photograph (1/2: 0 – 24m)
(L=50m, EL.358.31m, Vertical, Downstream of dam L/B)



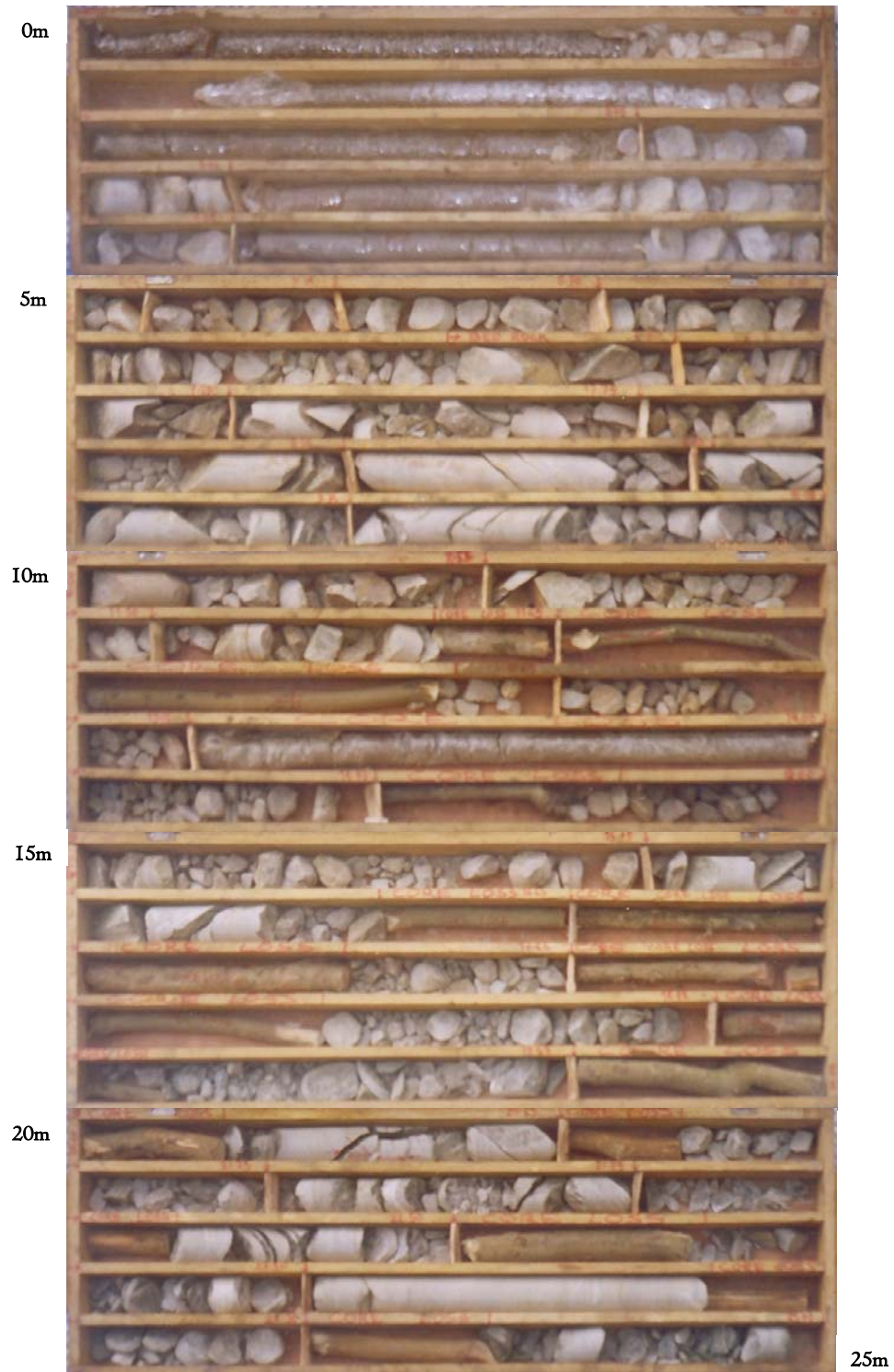
Upper Seti Storage Hydroelectric Power Project

BH-5 Drill hole Core Photograph (2/2: 24 – 50m)
(L=50m, EL.358.31m, Vertical, Downstream of dam L/B)



Upper Seti Storage Hydroelectric Power Project

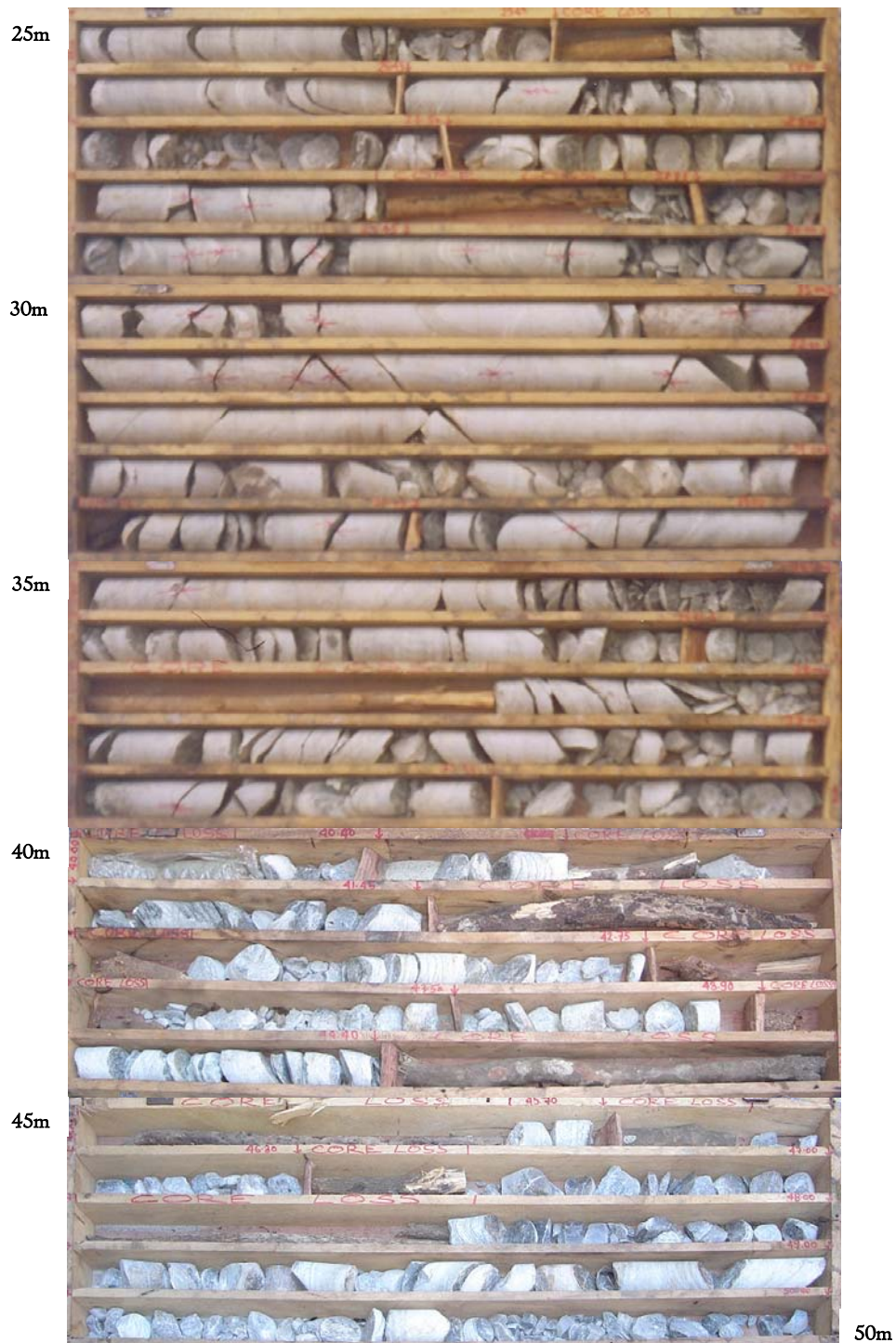
BH-6 Drill hole Core Photograph (1/2: 0 – 25m)
(L=50m, EL.313.6m, Vertical, Tailrace Outlet Option 3)



Upper Seti Storage Hydroelectric Power Project

BH-6 Drill hole Core Photograph (2/2: 25 – 50m)

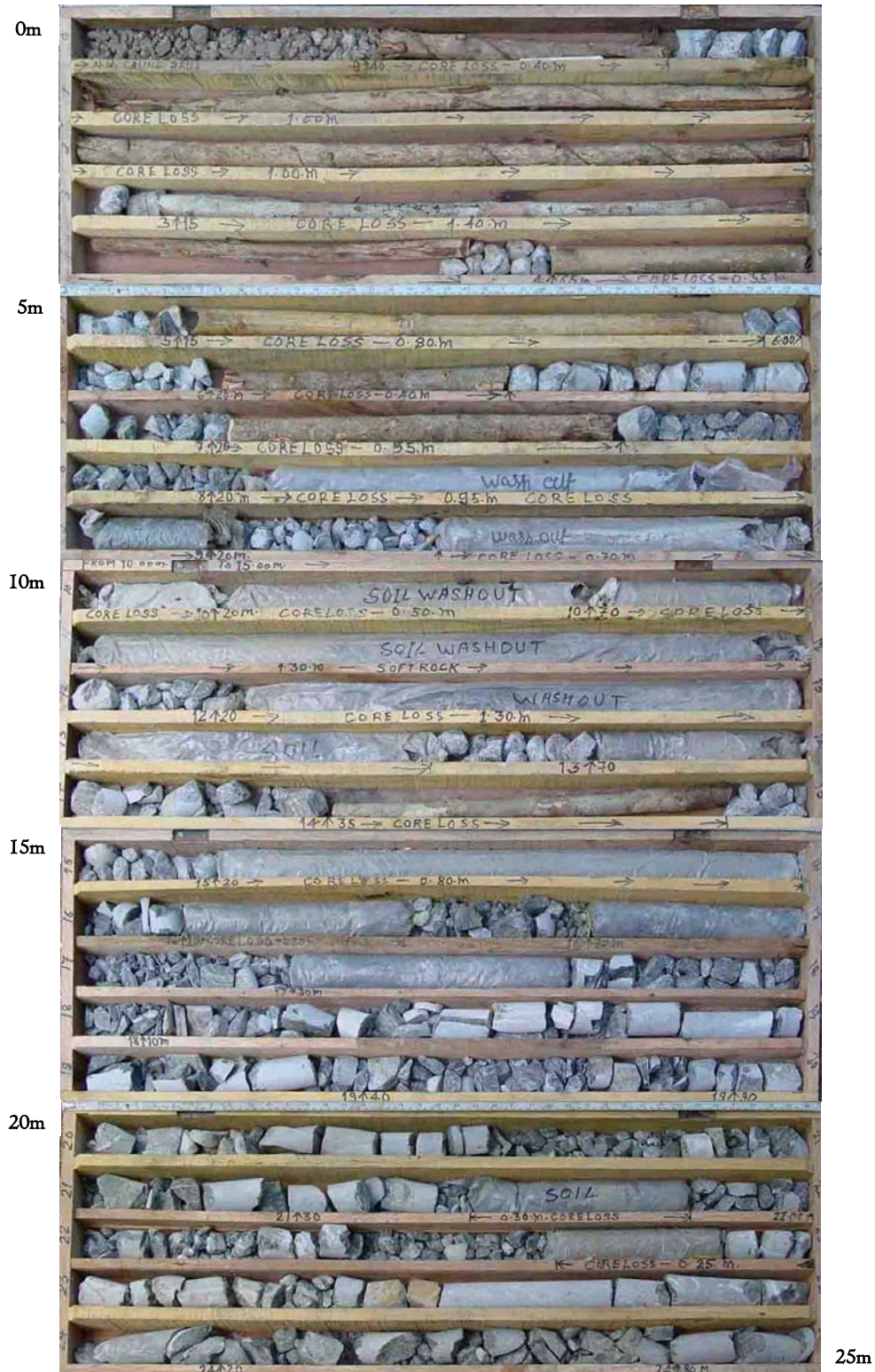
(L=50m, EL.313.6m, Vertical, Tailrace Outlet Option 3)



Upper Seti Storage Hydroelectric Power Project

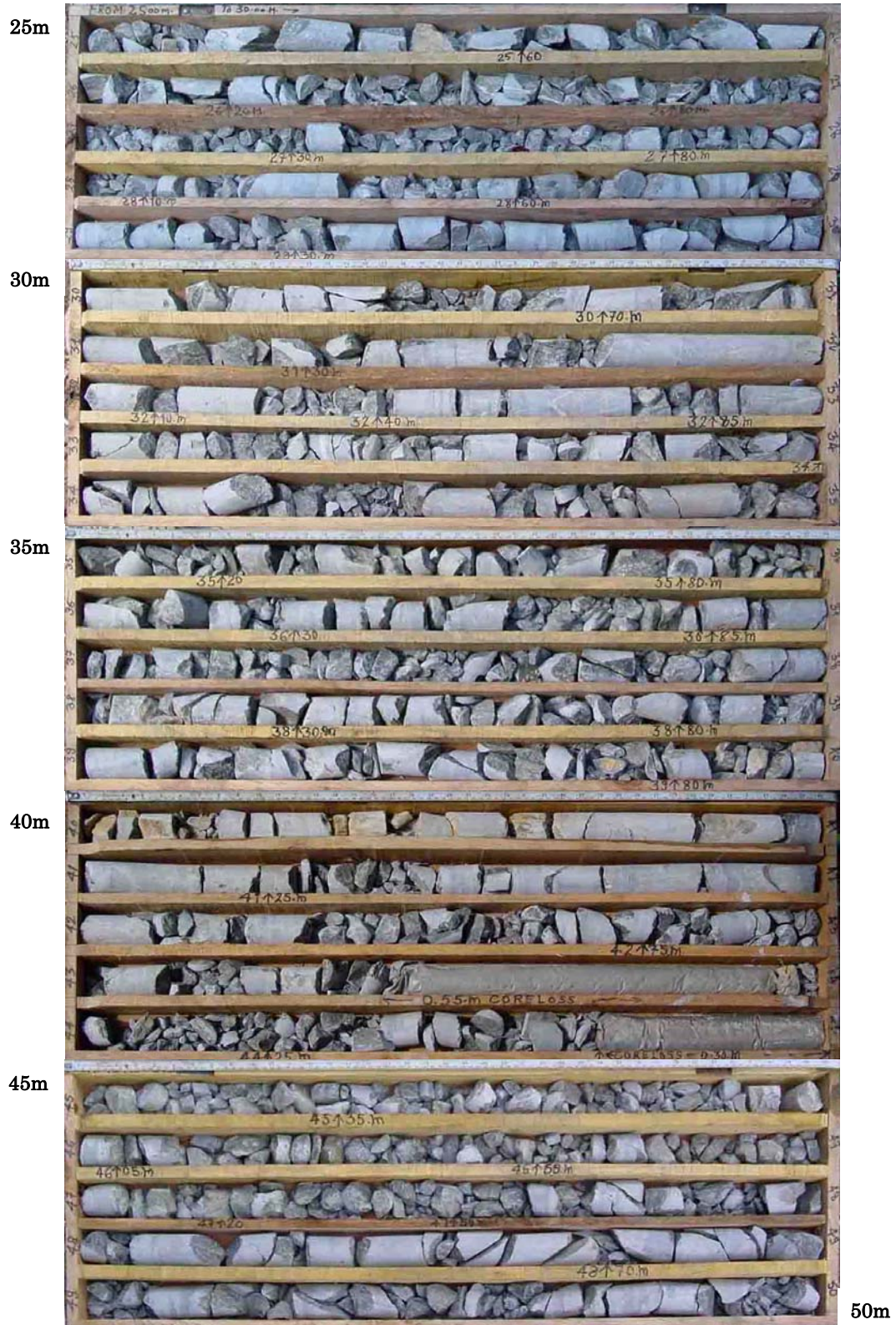
BP-1 Drill hole Core Photograph (1/4: 0 – 25m)

(L=100m, EL.370.97m, N180, 50, Underground P/S Option 2)



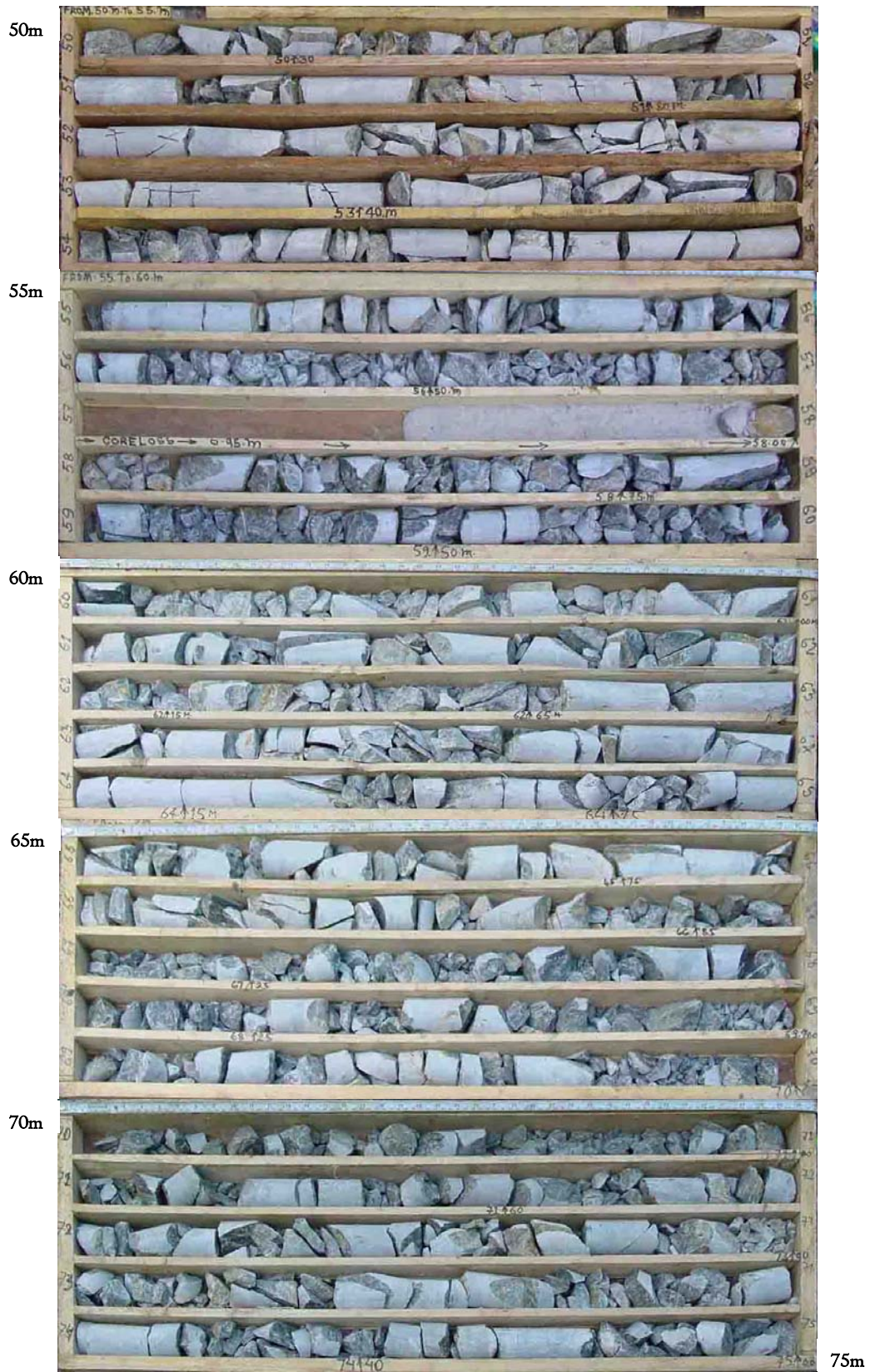
Upper Seti Storage Hydroelectric Power Project

BP-1 Drill hole Core Photograph (2/4: 25 – 50m) (L=100m, EL.370.97m, N180, 50, Underground P/S Option 2)

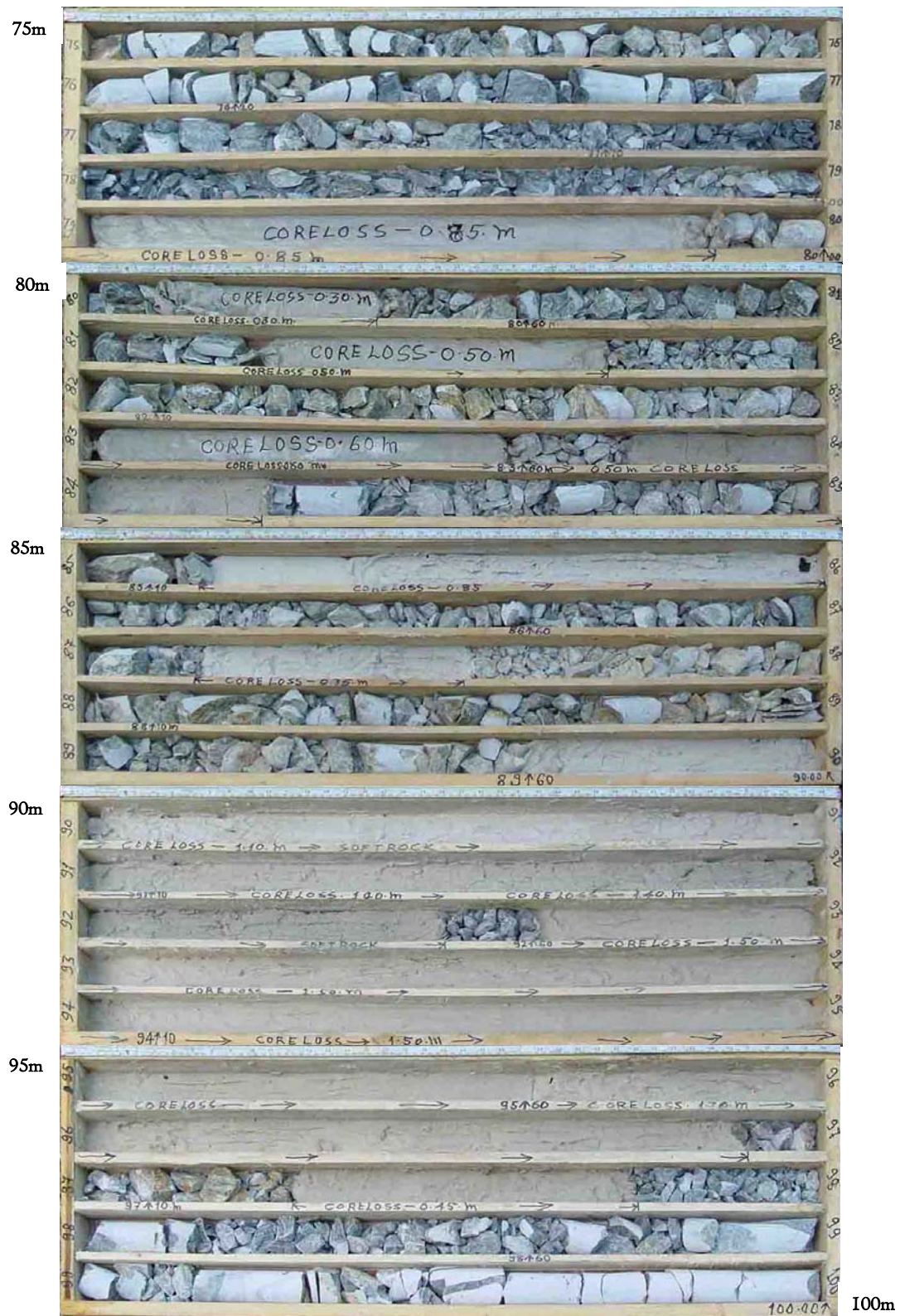


Upper Seti Storage Hydroelectric Power Project

BP-1 Drill hole Core Photograph (3/4: 50 – 75m) (L=100m, EL.370.97m, N180, 50, Underground P/S Option 2)



BP-1 Drill hole Core Photograph (4/4: 75 – 100m)
(L=100m, EL.370.97m, N180, 50, Underground P/S Option 2)

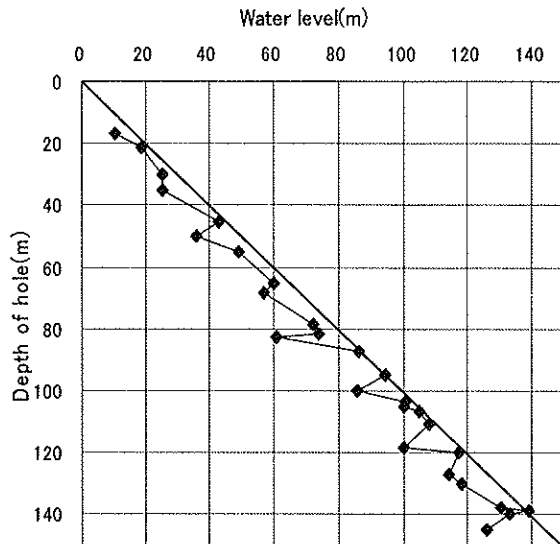


Water Level In The Hole During Drilling

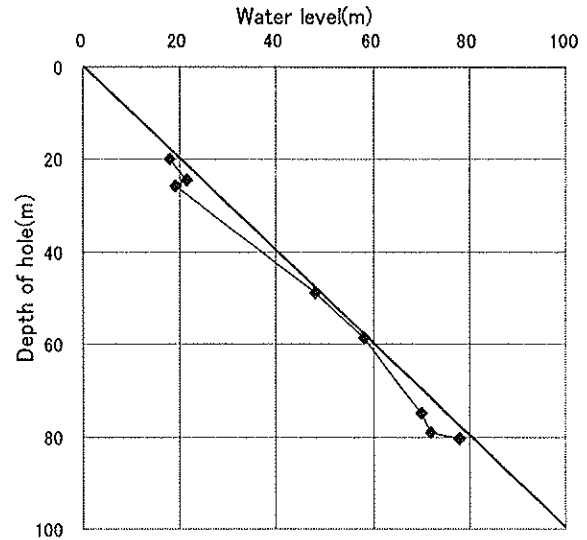
B-1, B-2, B-4, B-8, B-9, B-12, BP-1, BH-1, BH-2, BH-3, BH-4, BH-5, BH-6

Water Level in the Hole during Drilling (B-1, B-2, B-4, B-8)

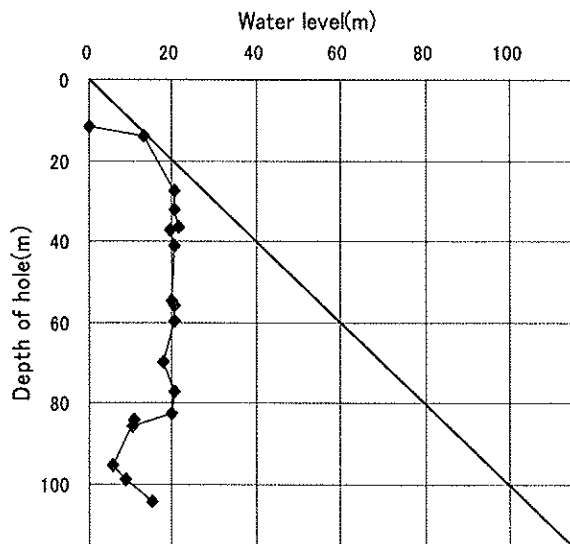
Water level during drilling B-1



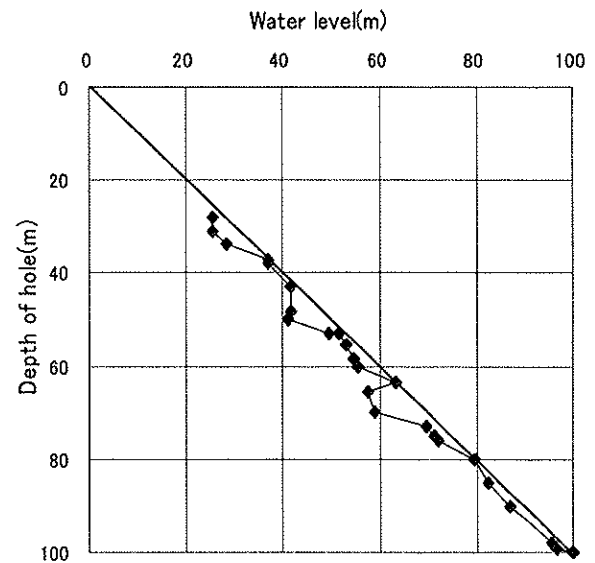
Water level during drilling B-2



Water level during drilling B-4



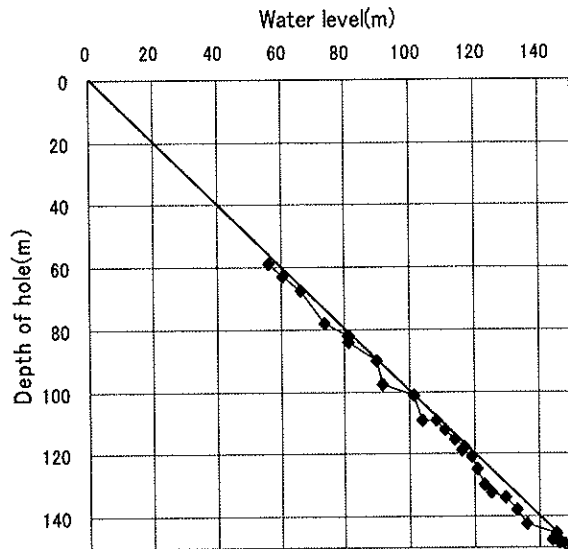
Water level during drilling B-8



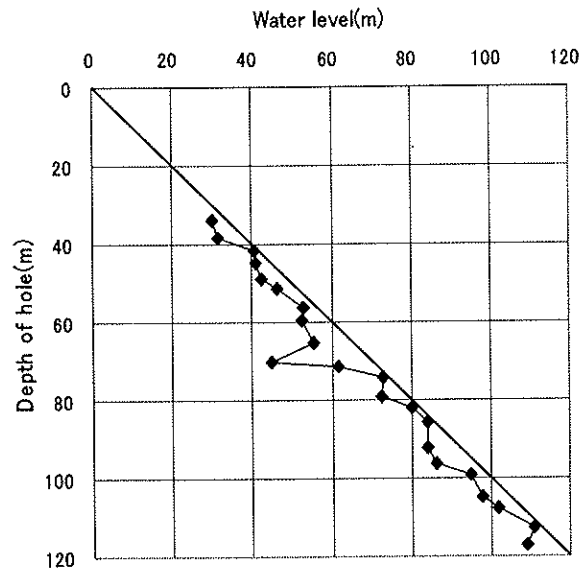
Water Level in the Hole during Drilling

(B-9, B-12, BP-1)

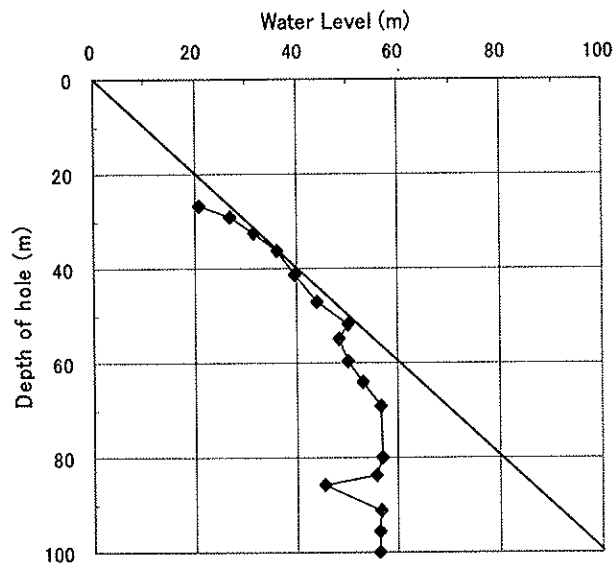
Water level during drilling B-9



Water level during drilling B-12

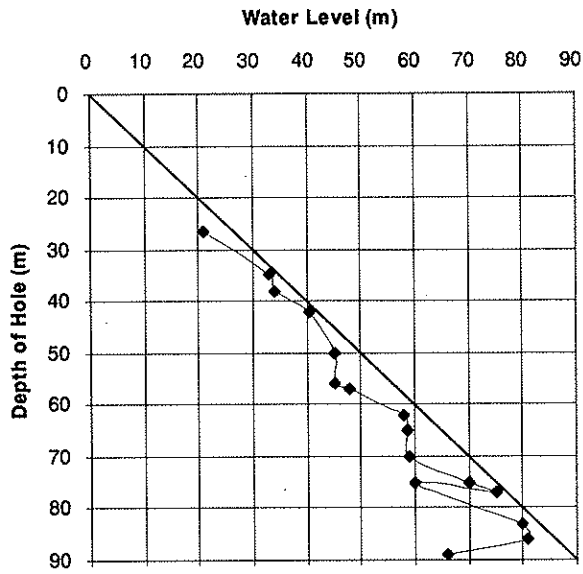


Water level during drilling BP-1

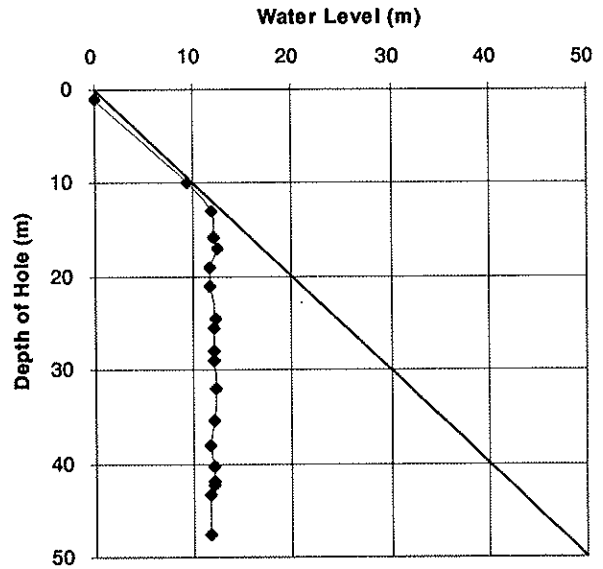


Water Level in the Hole during Drilling (BH-1, BH-2, BH-3, BH-4)

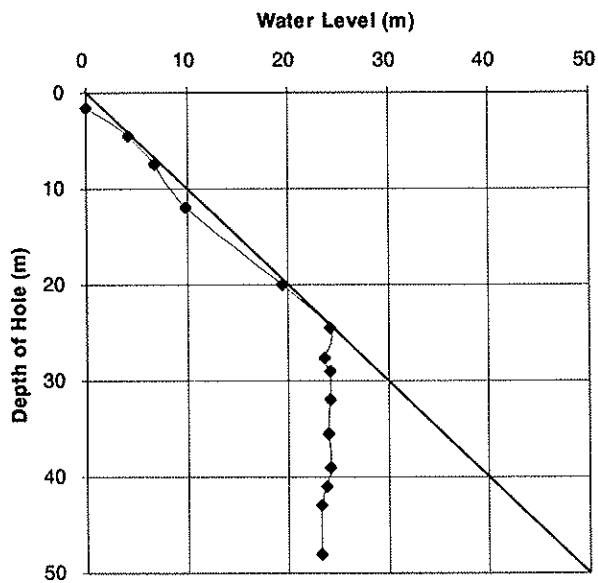
Water Level During Drilling: BH-1



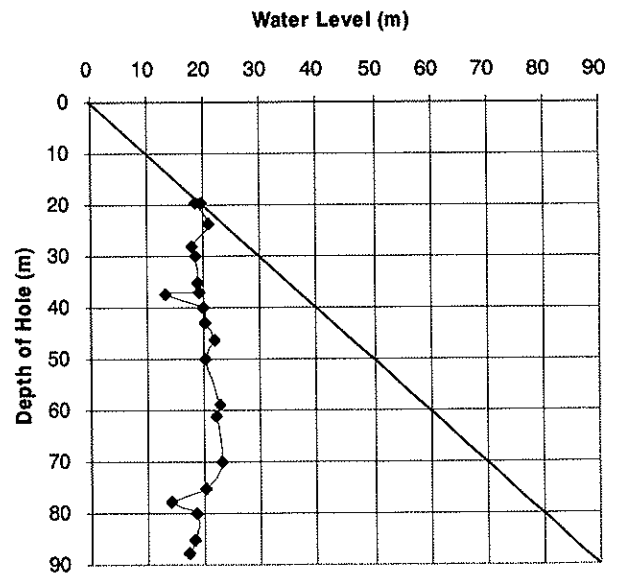
Water Level During Drilling : BH-2



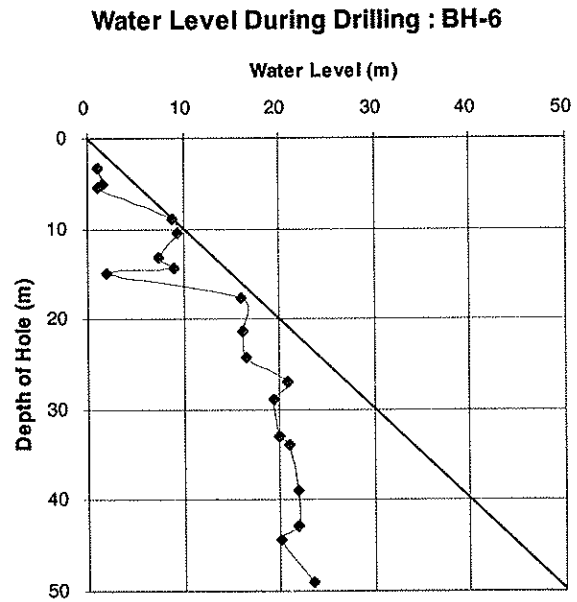
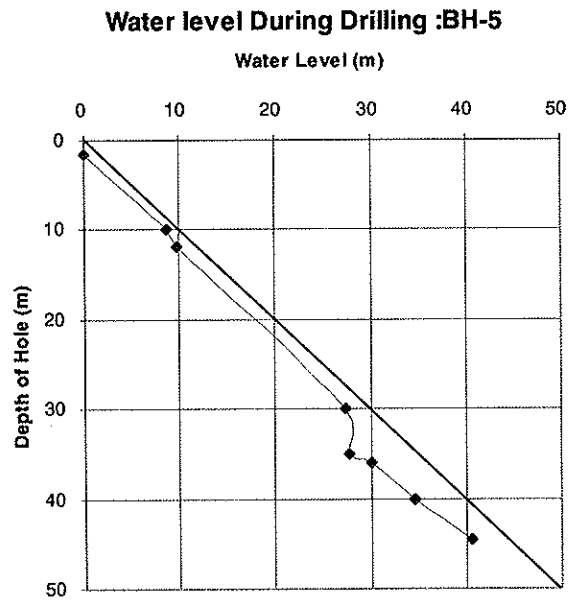
Water Level During Drilling : BH-3



Water Level During Drilling: BH-4



Water Level in the Hole during Drilling (BH-5, BH-6)



CHAPTER 9 ENVIRONMENTAL IMPACT SURVEY

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Geographical Survey

Geographical Survey

Geographical Survey

1 Outline of geographical survey

In order to implement the investigations on environmental and social considerations, the topographical maps with appropriate accuracy for the planned reservoir and its vicinity is indispensable. The topographical maps that to be able to be obtaining in the study area is on a scale of 1:25,000 made based on 1:50,000 aerial photos and a contour line interval is 20 meter. The EIA of NEA was conducted with use of these maps.

In this study, two distinct regions of survey operated such as a general mapping region which include the geographic extent of the Seti and Madi River basins and a detailed region affected by dam and power station. All survey data are made, stocked and managed by Geographic information system (GIS). The overall objective of the mapping work is to prepare GIS-based digital maps and data to support this project. The survey areas and survey items, also data accuracies are shown below.

2 Methodology of geographical survey

The both scale of data were made by digitalization of existing analog maps and the satellite image analysis were arranged and stored by Geographical Information System as one data base.

This chapter describes in various datasets used for this study and also describes the methodology adopted for mapping works of GIS database, the data parameter, the definition of the coordination system, the accuracy evaluation, etc.

3 Data sources

This section shows the data source of two distinct mapping regions, the watershed study region and the river corridor detailed study region. In general, the mapping works was done using the existing analog maps. These existing data in different formats were collected, digitized, compiled and attribute data was added as for GIS data. This study also used satellite imageries to update the existing analog maps.

(1) The watershed study region

This study created the latest topographical maps of the watershed study region on a scale of 1:25,000. These maps were made based on existing 1:25,000 and 1:50,000 scale topographical maps that the Survey Department of Nepal was publishing and updated by using the ASTER satellite imagery.

The watershed study region consists of altogether 17 sheets of existing topographical maps; 13 sheets in 1:25,000 scale and 4 sheets in 1:50,000 scales. The existing topographical maps were able to use only the accuracy of 1:50,000 for the upstream part of basin. Therefore, this study made the

latest topographical map of 1:25,000 accuracy that covered the entire the basin based on the two kinds of accuracy existing topographical maps supplemented with the satellite imageries.

Table 1 shows the existing topographical maps of 1:25,000 and 1:50,000 scales used by this study.

Table 1 List of Topographical maps

NO.	Sheet Index	Scale
1	2783_04A	1:25,000
2	2783_04B	1:25,000
3	2784_01A	1:25,000
4	2784_01B	1:25,000
5	2784_02A	1:25,000
6	2884_13C	1:25,000
7	2884_13D	1:25,000
8	2884_13B	1:25,000
9	2884_13A	1:25,000
10	2883_16D	1:25,000
11	2883_16C	1:25,000
12	2883_16A	1:25,000
13	2883_16B	1:25,000
14	2884_05	1:50,000
15	2884_09	1:50,000
16	2883_12	1:50,000
17	2883_08	1:50,000

The entire of the Seti and Madi River basins were covered by three scenes of ASTER satellite imageries. These images were acquired in October 2003 and October 2004. The ASTER satellite imageries were used for making the contour line (accuracy at 20 meters intervals by which the standard of the topographical map of 1:25,000 scale), updates of the land use data, and the update work of the hazard map in the watershed study region. Especially, the ASTER satellite image bore the key role for making the contour line. Because a part of existing topographical maps that covered the upstream were a scale of 1:50,000, the contour line was 40 meter interval, the ASTER satellite imagery were making the contour line that united the watershed study region at intervals of 20 meter were done. The list of the ASTER satellite imagery used for this study is shown in Table 2.

Table 2 List of ASTER satellite imagery

Path/Row	Date	Image Format
142-116-4	5 October. 2003	EOS HDF
142-115-4	5 October. 2003	EOS HDF
142-116-6	23 October. 2004	EOS HDF

In the survey of the watershed study region was also made the geological maps based on the map concerning the land system, land capability and land utilization that LRMP (Land Resource Mapping Project, 1986) had made.

The accuracy of this base map is 1:50,000 scales. This study obtained these maps as analog paper maps then digitized and stored them as a GIS database of this study. The study area is covered in

nine sheets of maps.

Geological maps at 1:50,000 scales published by the Department of Mines and Geology (1996-99) were used for geological mapping. Only 5 sheets of geological maps covering the watershed study region are available. The existing geological maps do not cover the entire watershed study region. The list of the geological map is shown in Table 1.2.3, and the list of the soil map is shown in Table 3.

Table 3 List of Geology maps

No.	Sheet Index	Scale
1	62 P14	1:50,000
2	62 P15	1:50,000
3	62 P16	1:50,000
4	63 M13	1:50,000
5	71 D2	1:50,000
6	71 D3	1:50,000
7	71 D4	1:50,000
8	72 A1	1:50,000
9	72 A5	1:50,000

Table 4 List of Soil maps

No.	Sheet Index	Scale
1	62 P15	1:50,000
2	62 P16	1:50,000
3	63 M13	1:50,000
4	71 D4	1:50,000
5	71 A1	1:50,000

(2) The river corridor detailed study region

QuickBird high resolution satellite imagery was used for GIS data creation for base map and land use map for a detailed region. QuickBird is the advanced earth observatory satellites that have horizontal resolution of 60cm and enable to create maps with a contour interval of 5 meters from the satellite images. This study made DEM (Digital Elevation Model) by using the two sets of QuickBird Ortho-ready Standard Imagery which changed the sensor elevation angles and generated 5 meters interval contour lines for the river corridor detailed study region. The details of the imagery scenes used for this study are shown in Table 5.

Table 5 List of QuickBird Satellite imagery

Scene ID	Band	Date
10100100042A6201	Pan & MSS (1,2,3,4)	April 13, 2005
10100100042F7501	Pan & MSS (1,2,3,4)	April 21, 2005

QuickBird imagery did not cover the downstream area of the dam site and portion of Damauli. To cover these areas, aerial photographs of at a scale of 1:15,000 were acquired from the Survey

Department were assumed the assistance of the topographical map making. The aerial photographs serial numbers are shown in Table 6.

Table 6 List of Aerial photographs

Photo Run	Photo Number	Year	Scale
19-16	007	1996-1997	1:15,000
19-16	008	1996-1997	1:15,000
19-16	009	1996-1997	1:15,000
19-16	010	1996-1997	1:15,000

The one of the main purpose of the river corridor detailed study region survey is to grasp the number of affected households (the number of residents) and the area of compensation for the land losses caused by this project. Therefore, to collect the cadastral maps that covered the extent of the impact area and made them into the database. The cadastral maps are collected in the Department of Survey branch of Damuri, and the numbers of collected cadastral maps are 170 sheets in total. Details of the collected cadastral maps are shown in "Appendix-1 collection cadastral map list".

Other materials collected for the river corridor detailed study region survey were survey results done by NEA in the past such as a topographical survey, a river crossing section survey, and an incidental facilities design, etc. These data was used partially of the database of this study after adjustment of the coordinate system and the confirmation of the positional accuracy.

4 Coordinate Reference System

The coordinate reference system used for mapping and GIS database for both the watershed study region (scale 1:25,000) and the river corridor detailed study region (scale 1:5,000) is the Nepalese standard coordinate reference system "Modified Universal Transverse Mercator (MUTM)" as adopted by the Survey Department. This coordinate reference system is an original coordinate system in Nepal that the Survey Department set. This coordinate system is different from an international standard coordinate system; however almost all maps officially published in Nepal like topographical map, soil map, geological map were used this coordinate system. In addition, NEA executed the topographical survey in the past based on this coordinate system. This study also was assumed to use this MUTM coordinate system for the reasons shown in the above-mentioned. The details of the coordinate reference system are shown below.

Table 7 Coordinate Reference System

Parameters	Value/Reference
Projection	Modified Universal Transverse Mercator (MUTM)
Spheroid	Everest 1830 (1937 Adjustment) Semi Major Axis: 63777276.345 metres Inverse Flattening: 300.8017
Central Meridian	84 Degree Longitude
False Coordinates at origin	500,000m at Central Meridian 0m at 0 Deg Latitude
Scale Factor	0.9999

5 GIS Data Formats

The database made by this study consists of two different types of data, the raster data set and the vector data set. The raster data set is the image data set like the satellite imagery and an analog map, and the vector data set indicates the GIS data that is called the point data, the line data, and the polygon data. The data formats used for raster datasets and images are Geo-TIFF format along with projection world file. The data formats used for GIS datasets are ESRI's shape format for all the vector datasets with associated projection and metadata files. The data form used by this study is shown as follows.

Table 8 Data format

Data Type	Data Format
Raster Data Set	GEO-TIFF Format with Projection World File
Vector Data Set	Shape Format with Projection file , associated attribute table and metadata file

The database model for topographic GIS datasets for the watershed study region is based on the "Specification for Geographic Information Service and National Topographic Database" prescribed by the Department of Survey.

However, the item of the attribute data was settled on the Department of Survey was corresponded to accuracy of 1:25,000 scales, and did not have a clear standard of the detailed scale data (accuracy 1:5,000) in Nepal, and then as a result of the conference with NEA, the item of the attribute table of the detailed study region was settled on.

The metadata for all the datasets is based on "FGDC Content Standards for Digital Geospatial Metadata" standard version "FGDC-STD-001-1998". The metadata contains the basic information related to the source and method of data creation, attribute definition, accuracy, projection parameters.

The description of datasets and structured list of data model is presented in Appendix-3.

6 Mapping Accuracy

In the river corridor detailed study region, the topographical map of accuracy 1:5,000 was newly made by using the QuickBird satellite imagery.

To obtain accuracy levels within permissible limits for all the mapping products, strict quality control are maintained at all levels of image processing and map preparation. The accuracy levels of the final product comply with the "Specification for National Urban Geographic Information Service in Nepal" by the Department of Survey.

Differential GPS (DGPS) survey was conducted in order to collect ground control points (GSP) and independent check points (ICP) for geometric correction of QuickBird Satellite Imagery.

The planimetric (X, Y; Latitude and Longitude) error assessment is done for geometrically corrected QuickBird satellite imageries with reference to DGPS and ICPs established on the ground. Vertical error (Z) assessment for elevation is performed for DEM and contours with reference to the contours from at a scale of 1:25,000 maps as well as elevations of DGPS ground control points and check points.

DGPS survey was conducted taking a national GPS point as a reference base station. There is only one national control point in the Seti and Madi River basins numbered 28/098 which is located in Bhairanitar near Damauli. This survey was done based on a national control point, NEA control points which NEA set up in the past, and new established control points. For the population concentrated regions, Bimad Bazarl and Risin Paton which are expected the influence of the reservoir were especially deliberate the plane table survey and the leveling survey was executed.

The National GPS control point (28/098) shows in Table 9 and the list of control points used for the image geometric correction are shown in Table 10.

Table 9 Coordinate of National GPS point

Station	Easting	Northing	Elevation	Remarks
28/094	525310.56	3097449.02	367.460	GPS Point

Table 10 Coordinates of surveyed GPS points

NO	GCP	Location	Easting	Northing	Elevation
1	B001	RISINGPATAN	512553.094	3093738.789	437.911
2	BM06	PATAN	525893.785	3094178.987	339.644
3	C001	BHAISIKILI	516002.162	3093523.038	781.482
4	C002	NAYARISHING	516203.840	3089562.430	1128.028
5	C003	CHAAP	517645.554	3092756.728	712.407
6	C004	JYAMIRETHAN	519279.676	3090243.469	1155.105
7	C005	DUMRIDANDA	517334.495	3094550.108	918.630
8	C006	MOCHABRI	512320.895	3090378.447	1027.202
9	C008	BHALUKUNN	523171.003	3091650.600	888.944
10	C009	GUDUWA	509972.917	3094586.779	434.109
11	C011	PATAN	525735.526	3094477.573	339.180
12	CP06	THANING SCHOOL	519345.441	3094686.672	868.685
13	CP09	RESINGPATAN	512605.269	3093719.136	437.888
14	CP11	BELTAR	516688.118	3098147.264	511.367
15	CP12	JAGANPUR	510070.000	3098412.926	713.857
16	CP13	CHHANGPATAN	509641.341	3095654.569	457.465
17	CP14	MISHULUNG	509474.304	3092575.749	713.212
18	CP17	BHAGARGAUN	508391.233	3098923.111	470.407
19	GC10	BADHUWAPHAT	510349.447	3094211.920	432.649
20	GC11	CHHANHATIYA	513339.302	3096774.269	880.056
21	GC12	THARPU	515583.711	3098287.063	497.228
22	GC13	SISNARIPHAT	508463.330	3096746.254	448.902
23	GC14	KHAIRENITAR	509602.414	3100207.367	501.593
24	GC15	SIMLE	506288.092	3099704.571	473.681
25	GC16	BHOTE CAMP	506748.574	3103476.140	487.091

NO	GCP	Location	Easting	Northing	Elevation
26	GCP3	LOKMA	525037.629	3092064.837	683.675
27	GCP7	TERSOBATO	514020.060	3092647.207	754.864
28	GCP9	BASPANI	507419.375	3092545.418	772.481
29	H015	BHIMAD	508381.284	3096171.689	436.791
30	H016	BHIMAD	508712.051	3095401.475	437.431
31	H017	BHIMAD	508720.290	3095274.469	442.185
32	H020	TWENTYEIGHT	509541.842	3094629.396	436.642
33	H-14	BHIMAD	508866.973	3095556.645	425.368
34	QR02	PATAN	525986.591	3094173.632	340.005
35	R001	RISINGPATAN	512631.467	3093475.365	436.420

The acquired control points were total 35 places. The acquired control points were used for the satellite image geometric correction. The RMSE error obtained in X is 1.7m and in Y is 1.14m, which is within the permissible limit for 1:5,000 scale mapping.

Table 11 Measurement accuracy evaluation and image correction accuracy evaluation

Error Summary	
Systematic Errors (m)	
Dx	0.084
Dy	0.324
RMS Error (m)	
RMS X	1.735
RMS Y	1.149
Total RMSE ^{※1}	2.081

※1 RMSE(The Root Mean Square Error) square average square root error

The detail report of GPS post-processing is attached in “Appendix-2 Plannimetric error assessment report of QuickBird Satellite imagery”.

Appendix-1 List of Cadastral Maps

VDC	SHEET_NO	VDC	SHEET_NO
Bhimad	1-Ga	ChhangBazar	9-Ja
	1-Gha		9-Jha
	1-Ka		9-Ka
	1-Kha		9-Nga
	1-Nga	Dhorphirdi	3-Cha
	2-Ga		3-Da
	2-Ka		3-Dha
	2-Kha		3-Ja
	3-Ga		3-Ka
	3-Ka		3-Kha
	3-Kha		3-Nga
	5-Kha		3-Nya
	6-Ga		3-Ta
	6-Ka		3-Tha
	6-Kha		6-Ka
	7-Ka		6-Kha
	7-Kha	Dulegauda	7-Ga
	8-Ga		7-Gha
	8-Ka		7-Ka
	8-Kha		7-Kha
	6-Cha		8-Ka
Cha Danda Keshavtar	7-Chha		8-Kha
	7-Ga		9-Ka
	7-Ja	Gunadi Mahendrapur	1-Ga
	7-Kha		1-Ka
	7-Nga		1-Kha
	7-Nya		2-Ga
ChhangBazar	1-Kha		2-Gha
	2-Gha		3-Ka
	2-Ka		4-Ka
	3-Ka		5-Ka
	4-Ga		7-Ka
	4-Ka		7-Kha
	4-Kha	Jamune Bhanjyang	1Ka
	4-Nga		2-Ka
	6-Ka		3-Gha
	7-Cha		4-Ga
	7-Ga		5-Nga
	7-Gha		6-Kha
	7-Ka		7-Ga
	7-Kha		7-Kha
	7-Nga	Kanhusivapur	1-Ga
	8-Ga		1-Gha
	8-Ka		1-Ka
	8-Kha		1-Kha
	8-Nga		2-Cha
	9-Cha		2-Gha
	9-Dha		2-Nga
	9-Gha		2-Ta

VDC	SHEET_NO	VDC	SHEET_NO
Kanhusivapur	2-Tha	Kotdarbar	1-Chha
	3-Ga		1-Da
	3-Ka		1-Dha
	3-Kha		1-Ga
Dulegauda	7-Ga		1-Gha
	7-Gha		1-Ja
	7-Ka		1-Jha
	7-Kha		1-Kha
	8-Ka		1-Nga
	8-Kha		1-Nya
	9-Ka		1-Ta
Gunadi Mahendrapur	1-Ga		1-Taa
	1-Ka		1-Tha
	1-Kha		1-Thaa
	2-Ga	Pharakchaur	9-Ga
	2-Gha		9-Gha
	3-Ka		9-Jha
	4-Ka		9-Ta
	5-Ka		9-Yna
	7-Ka	Rising Ranipokhari	7-Ga
Jamune Bhanjyang	7-Kha		7-Ka
	1Ka		7-Kha
	2-Ka		8-Ga
	3-Gha		8-Ka
	4-Ga		8-Kha
	5-Nga		9-Cha
	6-Kha		9-Ga
	7-Ga		9-Ja
Kanhusivapur	7-Kha		9-Jha
	1-Ga		9-Ka
	1-Gha		9-Kha
	1-Ka		9-Nga
	1-Kha		9-Nya
	2-Cha	SabhungBhagawti	1-Ana
	2-Gha		1-Cha
	2-Nga		1-Chha
	2-Ta		1-Da
	2-Tha		1-Dha
	3-Ga		1-Ga
	3-Ka		1-Gha
	3-Kha		1-Ja
	6-Ana		1-Ka
	6-Cha		1-Kha
Karlung	6-Da		1-Nga
	6-Ja		1-Nya
	6-Jha	Pharakchaur	9-Ga
	6-Ka		9-Gha
	6-Ta		9-Jha
	6-Tha		9-Ta
	6-Yan		9-Yna
	1-Ana	Rising Ranipokhari	7-Ga
Kotdarbar	1-Cha		7-Ka

VDC	SHEET_NO	VDC	SHEET_NO
Rising Ranipokhari	7-Ga	Uddaindhunga	1-Cha
	7-Ka		4-Cha
	7-Kha		4-Da
	8-Ga		4-Ga
	8-Ka		4-Gha
	8-Kha		4-Ka
	9-Cha		4-Kha
	9-Ga		4-Nga
	9-Ja		4-Nya
	9-Jha		5-Ga
	9-Ka		5-Ka
	9-Kha		5-Kha
	9-Nga		
	9-Nya		
SabhungBhagawti	1-Ana		
	1-Cha		
	1-Chha		
	1-Da		
	1-Dha		
	1-Ga		
	1-Gha		
	1-Ja		
	1-Ka		
	1-Kha		
	1-Nga		
	1-Nya		

Appendix-2 Plannimetric error assessment report of QuickBird Satellite imagery

GCP	LOCATION	GPS_X	GPS_Y	GPS_ELEVATION	IMAGE_X	IMAGE_Y	dX	dy	SYS_Error
B001	RISINGPATAN	512553.094	3093738.789	437.911	512553.797	3093738.615	-0.703	0.174	0.724
BM06	PATAN	525893.785	3094178.987	339.644	525894.246	3094178.787	-0.461	0.200	0.502
C001	BHAISIKILI	516002.162	3093523.038	781.482	516004.845	3093519.948	-2.683	3.090	4.093
C002	NAYARISHING	516203.840	3089562.430	1128.028	516204.210	3089562.101	-0.370	0.329	0.495
C003	CHAAP	517645.554	3092756.728	712.407	517646.181	3092756.997	-0.627	-0.269	0.682
C004	JYAMIRETHAN	519279.676	3090243.469	1155.105	519279.800	3090243.005	-0.124	0.464	0.480
C005	DUMRIDANDA	517334.495	3094550.108	918.630	517334.529	3094549.976	-0.034	0.132	0.136
C006	MOCHABRI	512320.895	3090378.447	1027.202	512321.879	3090379.072	-0.984	-0.625	1.166
C008	BHALUKUNN	523171.003	3091650.600	888.944	523168.698	3091651.144	2.305	-0.544	2.369
C009	GUDUWA	509972.917	3094586.779	434.109	509972.855	3094587.458	0.062	-0.679	0.682
C011	PATAN	525735.526	3094477.573	339.180	525735.931	3094478.621	-0.405	-1.048	1.123
CP06	THANING SCHOOL	519345.441	3094686.672	868.685	519345.876	3094686.548	-0.435	0.124	0.452
CP09	RESINGPATAN	512605.269	3093719.136	437.888	512605.476	3093718.964	-0.207	0.172	0.269
CP11	BELTAR	516688.118	3098147.264	511.367	516686.375	3098144.448	1.743	2.816	3.312
CP12	JAGANPUR	510070.000	3098412.926	713.857	510071.394	3098412.926	-1.394	0.000	1.394
CP13	CHHANGPATAN	509641.341	3095654.569	457.465	509637.370	3095652.999	3.971	1.570	4.270
CP14	MISHULUNG	509474.304	3092575.749	713.212	509474.227	3092575.377	0.077	0.372	0.380
CP17	BHAGARGAUN	508391.233	3098923.111	470.407	508393.707	3098923.953	-2.474	-0.842	2.614
GC10	BADHUWAPHAT	510349.447	3094211.920	432.649	510346.767	3094210.945	2.680	0.975	2.852
GC11	CHHANHATTYA	513339.302	3096774.269	880.056	513338.047	3096771.238	1.255	3.031	3.281
GC12	THARPU	515583.711	3098287.063	497.228	515583.354	3098287.216	0.357	-0.153	0.389
GC13	SISNARIPHAT	508463.330	3096746.254	448.902	508463.187	3096746.177	0.143	0.077	0.163
GC14	KHAIRENITAR	509602.414	3100207.367	501.593	509602.758	3100207.023	-0.344	0.344	0.486
GC15	SIMLE	506288.092	3099704.571	473.681	506292.185	3099703.727	-4.093	0.844	4.180
GC16	BHOTEKAMP	506748.574	3103476.140	487.091	506748.574	3103476.140	0.000	0.000	0.000
GCP3	LOKMA	525037.629	3092064.837	683.675	525035.343	3092064.134	2.286	0.703	2.392
GCP7	TERSOBATO	514020.060	3092647.207	754.864	514016.169	3092645.210	3.891	1.997	4.374
GCP9	BASPANI	507419.375	3092545.418	772.481	507419.045	3092545.308	0.330	0.110	0.347

H015	BHIMAD	508381.284	3096171.689	436.791	508382.381	3096173.752	-1.097	-2.063	2.337
H016	BHIMAD	508712.051	3095401.475	437.431	508712.430	3095402.043	-0.379	-0.568	0.683
H017	BHIMAD	508720.290	3095274.469	442.185	508718.746	3095273.423	1.544	1.046	1.865
H020	TWENTYEIGHT	509541.842	3094629.396	436.642	509541.984	3094629.657	-0.142	-0.261	0.297
H-14	BHIMAD	508866.973	3095556.645	425.368	508866.968	3095557.285	0.005	-0.640	0.640
QR02	PATAN	525986.591	3094173.632	340.005	525989.525	3094174.051	-2.934	-0.419	2.964
R001	RISINGPATAN	512631.467	3093475.365	436.420	512629.301	3093474.469	2.166	0.896	2.344
						Total	2.925	11.355	

Error Summary	
Sytematic Errors (m)	
Dx	0.084
Dy	0.324
RMS Error (m)	
RMS X	1.735
RMS Y	1.149
Total RMSE	2.081

Appendix-3 Data descriptions

The Seti River Watershed Study Region

Topographic (Base Map) Database

SN	Dataset	Description	Topology	Basic Attribute Field name: Type	Attribute Description
1	Building	Building points from 1:25,000 topographical maps	Point	FCODE: Integer	Feature code
				BFU: Integer	Building functional use code
				RBF: Integer	Religious building functional use code
				BUILD_TYPE: String	Building type
				FUNCT_USE: String	Building functional use type
2	Canal	Irrigation canal from 1:25,000 topographical maps	Polyline	TYPE: String	Canal type
				FCODE: Integer	Feature code
				LENGTH: Float	Length of canal
				NAME: String	Name of canal
				DEPTH: Float	Depth of canal
3	Contours	Contours from 1:25,000 topographical maps	Polyline	FCODE: Integer	Feature code
				ELEVATION: Integer	Contour elevation
				TYPE: String	Contour type
4	River_Center	River centerline from 1:25,000 topographical maps	Polyline	FCODE: Integer	Feature code
				LENGTH: Float	Length of river
				NAME: String	Name of river
				TYPE: String	River type
5	River_Polygon	River water bodies and sand area from 1:25,000 topographical maps	Polygon	FCODE: Integer	Feature code
				AREA: Float	Area of polygon
				PERIMETER: Float	Perimeter of polygon
				NAME: String	Name of river
6	Glacier	Glacier polygon from 1:25,000 topographical maps	Polygon	Category: String	Landcover classification
				FCODE: Integer	Feature code
				AREA: Float	Area of polygon
				PERIMETER: Float	Perimeter of polygon
				NAME: String	Name of glacier
7	Landcover	Landcover classification from 1:25,000 topographical maps	Polygon	Category: String	Landcover classification
				FCODE: Integer	Feature code
				AREA: Float	Area of polygon
				PERIMETER: Float	Perimeter of polygon
8	Settlement	Location name from 1:25,000 topographical maps	Point	VIL_NAME: String	Location name
9	Spotheight	Spot Height from 1:25,000 topographical maps	Point	FCODE: Integer	Feature code
				SEL: Integer	Contour elevation
10	Stream	Stream line from 1:25,000 topographical maps	Polyline	FCODE: Integer	Feature code
				LENGTH: Float	Length of stream
				NAME: String	Name of stream
				TYPE: String	River or stream type

11	Transportation	Transportation network from 1:25,000 topographical maps	Polyline	FCODE: Integer	Feature code
				TYPE: String	Structure type
				LENGTH: Float	Length of road
12	Waterbody	Waterbody from 1:25,000 topographical maps	Polygon	AREA: Float	Area of polygon
				PERIMETER: Float	Perimeter of polygon
				FCODE: Integer	Feature code
				NAME: String	Name of waterbody
				TYPE: String	Type of waterbody
13	Watershed_boundary	Upper Seti watershed area	Polygon	ID: Integer	Identification no
				AREA: Float	Area of polygon
				DESCPT: String	Description
14	AnnapurnaConservation	Annapurna conservation area boundary	Polygon	ID: Integer	Identification no
				AREA: Float	Area of polygon
				PERIMETER: Float	Perimeter of polygon
				FCODE: Integer	Feature code
				NAME: String	Name of annapurna conservation area
15	District	District boundary	Polygon	ID: Integer	Identification no
				AREA: Float	Area of polygon
				PERIMETER: Float	Perimeter of polygon
				DISTRICT: String	District name
16	National_boundary	National boundary for printing	Polyline	NATIONA_ID	Identification no
17	VDCs	VDC boundary within watershed area	Polygon	ID: Integer	Identification no
				AREA: Float	Area of polygon
				PERIMETER: Float	Perimeter of polygon
				VDC: String	VDC name
				DISTRICT: String	District name
				ZONE: String	Zonal name
18	Ward	Ward boundary within watershed area	Polygon	REGION: String	Development region name
				ANN: String	VDC name
				W_NO: String	Ward number
				D_NAME: String	District name
19	DistrictHQ_Pokhara	District headquarter of Kaski District	Point	ID: Integer	Identification no
				HD_Quarter: String	Headquarter name
				DISTRICT: String	District name
				ZONE: String	Zonal name
				DEV_REGION: String	Development region name
20	Districts_Pline	District boundary line for printing	Polyline	ID: Integer	Identification no
21	Lake	Lake and pond	Polygon	AREA: Float	Area of polygon
				PERIMETER: Float	Perimeter of polygon
				FCODE: Integer	Feature code
				Category: String	Landcover classification
				POND_NAME: String	Name of lake and pond

Geological and Hazard Database

SN	Dataset	Description	Topology	Basic Attribute Field name: Type	Attribute Description
1	Dip	Dip angles from 1:50,000 geological maps.	Point	DIP_ANGLE: String	Angle of DIP
2	Fault	Fault lines from 1:50,000 geological maps.	Polyline	LENGTH: Float	Length of line
				STRUCTURE: String	Type of fault
				IDENTIFICA: String	Identification of thrust
3	Geology	Geology polygons from 1:50,000 geological maps.	Polygon	AREA: Float	Area of polygon
				PERIMETER: Float	Perimeter of polygon
				GEO_NAME: String	Geological name
				GEO_SYMBOL: String	Geological symbol
				GEO_MEM_NA: String	Geological member name
				GEO_MEM_SY: String	Geological member symbol
				GEO_GROUP: String	Geological group
4	Landslide	Landslide polygons from 1:50,000 geological maps	Polygon	AREA: Float	Area of polygon
				PERIMETER: Float	Perimeter of polygon
				LANDSLIDE: String	Landslide type
5	Mineral	Mineral points from 1:50,000 geological maps	Point	MINERAL: String	Mineral type
6	Hazard	Hazard polygons from 1:50,000 geological maps	Polygon	AREA: Float	Area of polygon
				PERIMETER: Float	Perimeter of polygon
				HAZARD_TYP: String	Hazard type
7	Rockfall	Rockfall lines from 1:50,000 geological maps	Polyline	LENGTH: Float	Length of rockfall line
				ROCK_FALL: String	Rockfall type

Soil Database

SN	Dataset	Description	Topology	Basic Attribute Field name: Type	Attribute Description
1	Soil_LandSystem	Land form land unit polygons with dominant soil types	Polygon	AREA: Float	Area of polygon
				PERIMETER: Float	Perimeter of Polygon
				LYSY_NAME: String	Land System unit description
				LSYS_SBL: String	Land System unit symbol
				L_FORM: String	Land Form description
				L_UNIT: String	Land Unit description
				DOM_SOIL: String	Dominant Soil Type
				DOM_SLOPE: String	Dominant slope of land unit in degrees
				DOM_Texture: String	Texture of dominant soil type
				WAT_TABLE: String	Depth of water table
				DRAINAGE: String	Drainage pattern of land unit

Landuse Database

SN	Dataset	Description	Topology	Basic Attribute Field name: Type	Attribute Description
1	Landuse	Land use	Polygon	AREA: Float	Area of polygon
				PERIMETER: Float	Perimeter of Polygon
				LANDUSE: String	Landuse type class

Imagery and Raster Datasets

SN	Dataset	Description	Data Type	Basic Attribute Field name: Type	Attribute Description
1	DEM	Digital Elevation Model at 20m pixel from topographic data and ASTER imagery	32 bit raster	Pixel Value: Float	Elevation Value
2	Slope	Slope derived from DEM at 20m pixel	32 bit raster	Pixel Value: Float	Slope in angles
3	Aspect	Aspect derived from DEM at 20m pixel	8 bit raster	Pixel Value: Unsigned Integer	Pixel class code representing the aspect
				Direction: String	Compass direction of the aspect with respect to the true north
				Angle: String	Angular range of the direction
4	ASTER_CIR	Orthorectified ASTER Color Infrared Image	8 bit raster		
5	ASTER_PNC	Orthorectified ASTER Pseudo Natural Color Image	8 bit raster		

The River Corridor Detailed Study Region

Topographic (Base Map) Database

SN	Dataset	Description	Topology	Basic Attribute Field name: Type	Attribute Description
1	Annotation	Location name	Point	TEXTSTRING: String	Location name
2	Building	Footprints of buildings extracted from 0.6m quick bird stereo imagery	Polygon	ID: Integer	Identification no
				AREA: Float	Area of polygon
				PERIMETER: Float	Perimeter of polygon
				FCODE: Integer	Feature code
				REMARKS: String	Remarks
3	Canal	Irrigation canal	Polyline	CANAL_ID	Identification no
				FCODE: Integer	Feature code
				LENGTH: Float	Length of canal
				NAME: String	Name of canal
4	QBContour	Contours are extracted from 0.6m quick bird imagery	Polyline	FCODE: Integer	Feature code
				ELEVATION: Integer	Contour elevation
				TYPE: String	Contour type
5	River_Center	River centerline	Polyline	FCODE: Integer	Feature code
				LENGTH: Float	Length of river
				NAME: String	Name of river
6	River_Polygon	River water bodies and sand area	Polygon	FCODE: Integer	Feature code
				AREA: Float	Area of polygon
				PERIMETER: Float	Perimeter of polygon
				NAME: String	Name of river
				LANDCOVER: String	Landcover classification
7	Road_Edge	Road edges for printing purpose	Polyline	FCODE: Integer	Feature code
				TYPE: String	Road classification
				SURF_TYPE: String	Pavement type
8	Road_Network	Road network centerline	Polyline	FCODE: Integer	Feature code
				LENGTH: Float	Length of Road
				TYPE: String	Road classification
				SURF_TYPE: String	Pavement type
9	Spotheight	Spot Height	Point	FCODE: Integer	Feature code
				ELEVATION: Integer	Contour elevation
10	Stream	Stream line	Polyline	FCODE: Integer	Feature code
				LENGTH: Float	Length of stream
				RIVER_ID: Integer	Identification no
				NAME: String	Name of stream
				TYPE: String	River or stream type
11	Structure	Bridge structure	Polyline	FCODE: Integer	Feature code
				TYPE: String	Structure type
				HEAD: Float	Structure head
				LENGTH: Float	Length of structure
				NAME: String	Name of structure

12	River_Corridor	Upper Seti (Damauli) Storage Hydroelectric Project River Corridor area	Polygon	AREA: Float RIVERCO_ID: Integer	Area of polygon Identification no
13	Parbat_syangja_ta nahu_VDC	VDC boundary within watershed boundary of UpperSeti(Damauli) Storage Hydroelectric Project	Polygon	AREA: Float PERIMETER: Float AAN: String D_NAME: String	Area of polygon Perimeter of polygon VDC name District name
14	Ward	Ward boundary within watershed boundary of UpperSeti(Damauli) Storage Hydroelectric Project	Polygon	AREA: Float PERIMETER: Float AAN: String D_NAME: String W_NO: Integer	Area of polygon Perimeter of polygon VDC name District name Ward no
15	Major Annotations	Major Location name for printing purpose	Point	VIL_NAME: String	Location name
16	Parbat_syangja_ta nahu_vdc_Pline	VDC boundary within watershed boundary for printing purpose	Polyline	ID: Integer	Identification no
17	Sheet_plan_5000	Sheet plan in 1:5,000 scale for printing purpose	Polygon	SHEET_NO: Integer	Sheet plan number
18	WARD_PolyLine	Ward boundary within watershed boundary for printing purpose	Polyline	ID: Integer	Identification no

Cadastral Database

SN	Dataset	Description	Topology	Basic Attribute Field name: Type	Attribute Description
1	Parcel	Parcel polygons are delineated from 1:1200 and 1:2400 uncontrolled parcel sheets	Polygon	AREA: Float PERIMETER: Float PARCEL_ID: Integer PAR_TYPE: String SHEET_NO: Integer VDC: String	Area of polygon Perimeter of polygon Parcel number Parcel type Sheet number VDC name

Landuse Database

SN	Dataset	Description	Topology	Basic Attribute Field name: Type	Attribute Description
1	Landuse	Landuse polygons are delineated from 0.6m quick bird satellite imagery within river corridor Area.	Polygon	OBJECTID: Integer	Identification no
				AREA: Float	Area of polygon
				PERIMETER: Float	Perimeter of polygon
				FCODE: Integer	Feature code
				LANDCOVER: String	Landcover classification
				LANDUSE: String	Landuse classification
				COMMU_FORE: String	Community forest name
				DOMNT_SPEC: String	Dominant Species of tree
				OWNERSHIP: String	Ownership
				SPECIES_NA: String	Species name

Imagery and Raster Datasets

SN	Dataset	Description	Data Type	Basic Attribute Field name: Type	Attribute Description
1	DEM	Digital Elevation Model at 5m pixel from Quickbird and field survey	32 bit raster	Pixel Value: Float	Elevation Value
2	Slope	Slope derived from DEM at 5m pixel	32 bit raster	Pixel Value: Float	Slope in angles
3	Aspect	Aspect derived from DEM at 5m pixel	8 bit raster	Pixel Value: Unsigned Integer	Pixel class code representing the aspect
				Direction: String	Compass direction of the aspect with respect to the true north
				Angle: String	Angular range of the direction
4	QBOOrtho_PAN_Tile	Orthorectified Quickbird 0.6m Panchromatic image tiles	8 bit raster		
5	QBOOrtho_MSS_Tile	Orthorectified Quickbird 2.4m MSS image tiles	8 bit raster		
6	Aerial_Ortho_damauli	Orthorectified aerial photographs for Damauli and area	8 bit raster		

CHAPTER 10 OPTIMIZATION OF DEVELOPMENT PLAN

CHAPTER 10 OPTIMIZATION OF DEVELOPMENT

Details of Alternatives in 10.2

Option I

Option II

Option IIIa

Option IIIb

Option IV

Details of Alternatives in 10.4

Details of Alternatives in 10.5

Details of Alternatives in 10.2

Option I

Basic Parameters OP1- 395

Waterway Length											
Headrace Tunnel	m	0									
Penstock	m	186.31	12.51	83.3	72.2	18.3					
Tailrace Tunnel	m	0									
	m	186.31									
Sedimentation Level	EL.m	386.2									

Specification

Item	Unit	FSL=395									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	58.3	63.2	68	72.9	77.7	82.6	87.4	92.3	97.1	102
FSL	EL.m	395	395	395	395	395	395	395	395	395	395
MOL	EL.m	393.6	393.8	394	394.2	394.6	394.8	NG	NG	NG	NG
TWL	EL.m	307.3	307.5	307.6	307.7	307.8	307.9				
Loss	m	1	1	1	1	1	1				
Effective Head	m	86.7	86.5	86.4	86.3	86.2	86.1				
Pmax	MW	45	49	52	56	60	63				
Primary Energy	GWh	95.22	102.82	109.72	117.20	124.11	130.52				
Pfirm	MW	40.35	43.77	46.60	48.77	46.71	46.13				
Benefit	1000USD	27,830	30,112	32,100	33,986	34,509	35,393				
Cost	1000USD	30,090	30,377	31,338	31,605	31,868	32,080				
B/C		0.92	0.99	1.02	1.08	1.08	1.10				

Civil & Hydromechanical Work Quantity
(1) Dam

Design Flood	m3/s	8,306									
Dam Basis EL.	m	293									
Non- overflow Width	m	80.2									
Spillway Width	m	77									
Sand Drain Width	m	16									
Intake Width	m	21.7	22.6	23.5	24.3	25.1	25.9	26.6	27.3	28	28.7
Dam Height (Hd)	m	107									
Crest Length (L)	m	194.9	195.8	196.7	197.5	198.3	199.1	199.8	200.5	201.2	201.9
Coefficient for Ex	Y=A*X*B										
	A	22700									
	B	0.5115									
Coefficient for Conc	Y=C*X*D										
	C	0.0157									
	D	1.1514									

Item	Unit	FSL=395									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	3,675,314	3,683,985	3,692,637	3,700,311	3,707,970	3,715,614	3,722,290	3,728,955	3,735,609	3,742,251
Concrete	m3	320,372	322,076	323,781	325,297	326,815	328,334	329,663	330,993	332,324	333,656
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

included in Dam

Number	-	2									
Design Velocity	m3/s	3.7									
MOL	EL.m	393.6	393.8	394	394.2	394.6	394.8	395	395.2	395.4	395.6
Waterway Diameter	m	3.2	3.3	3.4	3.5	3.7	3.8	3.9	4	4.1	4.2
Available Height	m	1.4	1.2	1	0.8	0.4	0.2	0	-0.2	-0.4	-0.6

Item	Unit	FSL=395									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	446	624	756	863	942	1,019	1,087	1,147	1,200	1,248
Concrete	m3	192	290	367	432	481	530	574	613	648	680
Reinforce Bar	t	8	12	15	17	19	21	23	25	26	27
Intake Gate	t	124	135	146	157	168	179	189	200	211	222
Intake Screen	t	69	75	81	87	93	99	105	111	117	124

(3) Power Tunnel

Tunnel Inner Diameter	m	3.2	3.3	3.4	3.5	3.7	3.8	3.9	4	4.1	4.2
Concrete Thickness	m	0.6									
Tunnel Length	m	0									
Number	-	1									

Item	Unit	FSL=395									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	0	0	0	0	0	0	0	0	0	0
Lining Concrete	m3	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	t	0	0	0	0	0	0	0	0	0	0

(4) Penstocks

Design Velocity 1	m/s	3.7
Penstock Length 1	m	12.51
Design Velocity 2	m/s	5.35
Penstock Length 2	m	83.3
Design Velocity 3	m/s	7.27

Item	Unit	FSL=395									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3										
Lining Concrete	m3										
Reinforce Bar	t										
Penstock	t	215	231	246	261	276	292	1,174	1,238	1,301	1,365

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Reinforce Bar	0	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0	0
(6) Tailrace Tunnel											
Tunnel Excavation	0	0	0	0	0	0	0	0	0	0	0
Lining Concrete	0	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0	0
(7) Tailrace											
Excavation	0	0	0	0	0	0	0	0	0	0	0
Concrete	0	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0	0
(8) P/H Access Tunnel											
Tunnel Excavation	0	0	0	0	0	0	0	0	0	0	0
Lining Concrete	0	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0	0
(9) Miscellaneous Works	6,773	6,797	6,821	6,841	6,862	6,883	6,901	6,919	6,937	6,955	
Total	142,238	142,738	143,233	143,671	144,105	144,539	144,918	145,297	145,674	146,051	

Hydro- mechanical Works

1,000USD

Item	FSL=395									
	1	2	3	4	5	6	7	8	9	10
(1) Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2) Intake										
Gate	817	888	957	1,029	1,101	1,173	1,244	1,316	1,388	1,461
Screen	454	493	532	571	612	652	691	731	771	812
(3) Penstock	817	876	934	993	1,050	1,109	4,461	4,704	4,942	5,185
(4) Tailrace										
Gate										
(5) Others	2,793	2,827	2,860	2,894	2,928	2,962	3,655	3,726	3,796	3,867
Total	16,759	16,961	17,161	17,365	17,569	17,773	21,928	22,355	22,774	23,202

Project Cost Summary

1,000USD

Item	FSL=395									
	1	2	3	4	5	6				
1. Preparation & Compensation	2,845	2,855	2,865	2,873	2,882	2,891				
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	24,370	24,370	24,370	24,370	24,370	24,370				
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053				
(2) Dam	129,365	129,818	130,271	130,673	131,075	131,477				
(3) Intake	47	70	88	103	114	126				
(4) Power Tunnel	0	0	0	0	0	0				
(5) Penstock	0	0	0	0	0	0				
(6) Power House	0	0	0	0	0	0				
(7) Tailrace Tunnel	0	0	0	0	0	0				
(8) Tailrace	0	0	0	0	0	0				
(9) Others	6,773	6,797	6,821	6,841	6,862	6,883				
4. Hydro- Mechanical Works										
(1) Gate & Screen	2,630	2,652	2,673	2,696	2,718	2,741				
(2) Penstocks	163	175	187	199	210	222				
5. Electro- Mechanical Works	23,057	24,426	25,424	26,725	27,996	28,934				
6. Transmission Line	5,298	5,298	10,170	10,170	10,170	10,170				
Direct Cost	200,601	202,513	208,921	210,702	212,451	213,866				
7. Administration Fee	30,090	30,377	31,338	31,605	31,868	32,080				
8. Contingency	20,060	20,251	20,892	21,070	21,245	21,387				
9. Interest During Construction	50,150	50,628	52,230	52,676	53,113	53,466				
Total	300,902	303,770	313,382	316,054	318,676	320,798				

Waterway Length						
Headrace Tunnel	m	0				
Penstock	m	186.31	12.51	83.3	72.2	18.3
Tailrace Tunnel	m	0				
	m	186.31				
Sedimentation Level	EL.m	386.2				

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	75	79.8	84.6	89.4	94.2	99	103.7	108.5	113.3	118.12
FSL	EL.m	405	405	405	405	405	405	405	405	405	405
MOL	EL.m	394.4	394.6	394.8	395	395.2	395.4	395.6	395.8	396	396.2
TWL	EL.m	307.7	307.9	308	308.1	308.2	308.3	308.4	308.5	308.6	308.7
Loss	m	1	1	1	1	1	1	1	1	1	1
Effective Head	m	96.3	96.1	96	95.9	95.8	95.7	95.6	95.5	95.4	95.3
Pmax	MW	64	68	72	76	81	85	88	92	96	100
Primary Energy	GWh	130.48	138.18	145.83	153.23	160.56	167.34	173.32	179.38	184.87	190.24
Pfirm	MW	50.52	53.78	57.12	58.58	61.87	62.73	58.47	55.31	48.85	43.03
Benefit	1000USD	36,704	38,954	41,219	42,879	45,077	46,454	46,163	46,216	45,184	44,324
Cost	1000USD	34,608	34,873	35,132	35,378	35,661	35,899	36,095	36,319	36,551	36,771
B/C		1.06	1.12	1.17	1.21	1.26	1.29	1.28	1.27	1.24	1.21

Design Flood	m3/s	8,306									
Dam Basis EL.	m	293									
Non- overflow Width	m	80.2									
Spillway Width	m	77									
Sand Drain Width	m	16									
Intake Width	m	24.6	25.4	26.2	26.9	27.6	28.3	29	29.6	30.3	30.9
Dam Height (Hd)	m	117									
Crest Length (L)	m	197.8	198.6	199.4	200.1	200.8	201.5	202.2	202.8	203.5	204.1
Coefficient for Ex	Y=A*X*B										
	A	22700									
	B	0.5115									
Coefficient for Conc	Y=C*X*D										
	C	0.0157									
	D	1.1514									

(2) Intake		included in Dam									
Number	-	2									
Design Velocity	m/s	3.7									
MOL	EL.m	394.4	394.6	394.8	395	395.2	395.4	395.6	395.8	396	396.2
Waterway Diameter	m	3.6	3.7	3.8	3.9	4	4.1	4.2	4.3	4.4	4.5
Available Height	m	10.6	10.4	10.2	10	9.8	9.6	9.4	9.2	9	8.8

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(4) Penstocks		
Design Velocity 1	m/s	3.7
Penstock Length 1	m	12.51
Design Velocity 2	m/s	5.35
Penstock Length 2	m	83.3
Design Velocity 3	m/s	7.27

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3										
Lining Concrete	m3										
Reinforce Bar	t										
Penstock	t	292	309	325	341	358	374	390	406	422	438

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Reinforce Bar	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
(6) Tailrace Tunnel										
Tunnel Excavation	0	0	0	0	0	0	0	0	0	0
Lining Concrete	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
(7) Tailrace										
Excavation	0	0	0	0	0	0	0	0	0	0
Concrete	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
(8) P/H Access Tunnel										
Tunnel Excavation	0	0	0	0	0	0	0	0	0	0
Lining Concrete	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
(9) Miscellaneous Works	7,616	7,642	7,667	7,689	7,710	7,732	7,753	7,772	7,793	7,811
Total	159,938	160,474	161,000	161,459	161,914	162,367	162,818	163,206	163,653	164,038

Hydro- mechanical Works

1,000USD

Item	FSL=405									
	1	2	3	4	5	6	7	8	9	10
(1) Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2) Intake										
Gate	1,191	1,266	1,341	1,416	1,491	1,566	1,639	1,713	1,788	1,862
Screen	662	703	745	787	828	870	911	952	993	1,035
(3) Penstock	1,110	1,172	1,235	1,297	1,360	1,421	1,482	1,543	1,604	1,665
(4) Tailrace										
Gate										
(5) Others	2,968	3,004	3,040	3,076	3,111	3,147	3,182	3,217	3,252	3,288
Total	17,809	18,024	18,239	18,454	18,668	18,882	19,090	19,303	19,515	19,727

Project Cost Summary

1,000USD

Item	FSL=405									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,199	3,209	3,220	3,229	3,238	3,247	3,256	3,264	3,273	3,281
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	26,280	26,280	26,280	26,280	26,280	26,280	26,280	26,280	26,280	26,280
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	146,177	146,641	147,105	147,510	147,916	148,321	148,727	149,074	149,479	149,826
(3) Intake	92	138	175	207	235	261	285	307	328	348
(4) Power Tunnel	0	0	0	0	0	0	0	0	0	0
(5) Penstock	0	0	0	0	0	0	0	0	0	0
(6) Power House	0	0	0	0	0	0	0	0	0	0
(7) Tailrace Tunnel	0	0	0	0	0	0	0	0	0	0
(8) Tailrace	0	0	0	0	0	0	0	0	0	0
(9) Others	7,616	7,642	7,667	7,689	7,710	7,732	7,753	7,772	7,793	7,811
4. Hydro- Mechanical Works										
(1) Gate & Screen	2,746	2,769	2,793	2,816	2,839	2,863	2,885	2,909	2,932	2,955
(2) Penstocks	222	234	247	259	272	284	296	309	321	333
5. Electro- Mechanical Works	28,167	29,351	30,504	31,637	33,024	34,116	34,928	35,993	37,044	38,081
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	230,722	232,488	234,213	235,850	237,738	239,327	240,634	242,130	243,672	245,138
7. Administration Fee	34,608	34,873	35,132	35,378	35,661	35,899	36,095	36,319	36,551	36,771
8. Contingency	23,072	23,249	23,421	23,585	23,774	23,933	24,063	24,213	24,367	24,514
9. Interest During Construction	57,680	58,122	58,553	58,963	59,434	59,832	60,158	60,532	60,918	61,284
Total	346,083	348,732	351,320	353,775	356,606	358,991	360,950	363,195	365,508	367,707

Basic Parameters OP1- 410

Waterway Length						
Headrace Tunnel	m	0				
Penstock	m	186.31	12.51	83.3	72.2	18.3
Tailrace Tunnel	m	0				
	m	186.31				
Sedimentation Level	EL.m	386.2				

Specification

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	83.3	87.8	92.4	96.9	101.5	106	110.6	115.1	119.7	124.2
FSL	EL.m	410	410	410	410	410	410	410	410	410	410
MOL	EL.m	394.8	395	395.2	395.4	395.6	395.8	396	396.2	396.2	396.4
TWL	EL.m	307.9	308.1	308.2	308.3	308.4	308.5	308.6	308.7	308.8	308.8
Loss	m	1	1	1	1	1	1	1	1	1	1
Effective Head	m	101.1	100.9	100.8	100.7	100.6	100.5	100.4	100.3	100.2	100.2
Pmax	MW	75	79	83	87	91	95	99	103	107	111
Primary Energy	GW/h	149.17	156.46	163.80	170.90	177.77	184.21	190.38	195.95	201.23	206.32
Pfirm	MW	55.52	58.55	61.50	62.18	65.28	68.33	70.02	59.48	53.80	50.67
Benefit	1000USD	41,291	43,403	45,501	46,877	48,942	50,920	52,446	50,203	49,370	49,271
Cost	1000USD	36,759	37,009	37,253	37,484	37,722	37,948	38,171	38,392	38,611	38,825
B/C		1.12	1.17	1.22	1.25	1.30	1.34	1.37	1.31	1.28	1.27

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m3/s	8,306									
Dam Basis EL.	m	293									
Non- overflow Width	m	80.2									
Spillway Width	m	77									
Sand Drain Width	m	16									
Intake Width	m	26	26.7	27.4	28	28.7	29.3	29.9	30.5	31.1	31.7
Dam Height (Hd)	m	122									
Crest Length (L)	m	199.2	199.9	200.6	201.2	201.9	202.5	203.1	203.7	204.3	204.9
Coefficient for Ex	Y=A*X*B										
A		22700									
B		0.5115									
Coefficient for Conc	Y=C*X*D										
C		0.0157									
D		1.1514									

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	3,974,527	3,981,664	3,988,790	3,994,888	4,001,991	4,008,070	4,014,140	4,020,202	4,026,254	4,032,298
Concrete	m3	444,397	446,195	447,995	449,538	451,339	452,884	454,429	455,975	457,522	459,070
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

included in Dam

Number	-	2									
Design Velocity	m3/s	3.7									
MOL	EL.m	394.8	395	395.2	395.4	395.6	395.8	396	396.2	396.2	396.4
Waterway Diameter	m	3.8	3.9	4	4.1	4.2	4.3	4.4	4.5	4.5	4.6
Available Height	m	15.2	15	14.8	14.6	14.4	14.2	14	13.8	13.8	13.6

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	907	1,279	1,562	1,799	2,006	2,192	2,361	2,517	2,670	2,806
Concrete	m3	459	701	896	1,066	1,219	1,359	1,490	1,612	1,733	1,843
Reinforce Bar	t	18	28	36	43	49	54	60	64	69	74
Intake Gate	t	208	219	230	241	253	264	275	286	298	309
Intake Screen	t	116	122	128	134	140	147	153	159	165	171

(3) Power Tunnel

Tunnel Inner Diameter	m	3.8	3.9	4	4.1	4.2	4.3	4.4	4.5	4.5	4.6
Concrete Thickness	m	0.6									
Tunnel Length	m	0									
Number	-	1									

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	0	0	0	0	0	0	0	0	0	0
Lining Concrete	m3	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	t	0	0	0	0	0	0	0	0	0	0

(4) Penstocks

Design Velocity 1	m/s	3.7
Penstock Length 1	m	12.51
Design Velocity 2	m/s	5.35
Penstock Length 2	m	83.3
Design Velocity 3	m/s	7.27

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3										
Lining Concrete	m3										
Reinforce Bar	t										
Penstock	t	334	350	366	382	399	415	431	446	462	478

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Reinforce Bar	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
(6) Tailrace Tunnel										
Tunnel Excavation	0	0	0	0	0	0	0	0	0	0
Lining Concrete	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
(7) Tailrace										
Excavation	0	0	0	0	0	0	0	0	0	0
Concrete	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
(8) P/H Access Tunnel										
Tunnel Excavation	0	0	0	0	0	0	0	0	0	0
Lining Concrete	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
(9) Miscellaneous Works	8,067	8,091	8,115	8,136	8,159	8,179	8,200	8,219	8,239	8,259
Total	169,405	169,919	170,422	170,853	171,345	171,769	172,190	172,609	173,028	173,444

Hydro- mechanical Works

1,000USD

Item	FSL=410									
	1	2	3	4	5	6	7	8	9	10
(1) Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2) Intake										
Gate	1,366	1,439	1,514	1,587	1,661	1,734	1,808	1,880	1,955	2,028
Screen	759	800	841	881	923	963	1,004	1,045	1,086	1,126
(3) Penstock	1,270	1,330	1,392	1,453	1,515	1,575	1,636	1,696	1,757	1,818
(4) Tailrace										
Gate										
(5) Others	3,055	3,089	3,125	3,160	3,195	3,230	3,265	3,300	3,335	3,370
Total	18,328	18,536	18,750	18,959	19,171	19,379	19,591	19,798	20,011	20,219

Project Cost Summary

1,000USD

Item	FSL=410									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,388	3,398	3,408	3,417	3,427	3,435	3,444	3,452	3,461	3,469
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	28,230	28,230	28,230	28,230	28,230	28,230	28,230	28,230	28,230	28,230
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	155,176	155,610	156,045	156,417	156,852	157,224	157,596	157,969	158,341	158,712
(3) Intake	109	165	209	247	281	312	341	368	395	419
(4) Power Tunnel	0	0	0	0	0	0	0	0	0	0
(5) Penstock	0	0	0	0	0	0	0	0	0	0
(6) Power House	0	0	0	0	0	0	0	0	0	0
(7) Tailrace Tunnel	0	0	0	0	0	0	0	0	0	0
(8) Tailrace	0	0	0	0	0	0	0	0	0	0
(9) Others	8,067	8,091	8,115	8,136	8,159	8,179	8,200	8,219	8,239	8,259
4. Hydro- Mechanical Works										
(1) Gate & Screen	2,801	2,823	2,846	2,869	2,892	2,915	2,938	2,960	2,984	3,006
(2) Penstocks	254	266	278	291	303	315	327	339	351	364
5. Electro- Mechanical Works	30,810	31,919	33,001	34,066	35,116	36,151	37,174	38,183	39,180	40,152
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	245,057	246,726	248,356	249,896	251,483	252,985	254,472	255,944	257,403	258,835
7. Administration Fee	36,759	37,009	37,253	37,484	37,722	37,948	38,171	38,392	38,611	38,825
8. Contingency	24,506	24,673	24,836	24,990	25,148	25,299	25,447	25,594	25,740	25,883
9. Interest During Construction	61,264	61,681	62,089	62,474	62,871	63,246	63,618	63,986	64,351	64,709
Total	367,586	370,089	372,534	374,843	377,224	379,478	381,708	383,915	386,105	388,252

Waterway Length						
Headrace Tunnel	m	0				
Penstock	m	186.31	12.51	83.3	72.2	18.3
Tailrace Tunnel	m	0				
	m	186.31				
Sedimentation Level	EL.m	386.2				

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	101.88	106.7	111.6	116.5	121.3	126.2	131	135.9	140.7	145.6
FSL	EL.m	420	420	420	420	420	420	420	420	420	420
MOL	EL.m	395.6	395.8	396	396.2	396.4	396.6	396.6	396.8	397	397.2
TWL	EL.m	308.4	308.5	308.6	308.7	308.8	308.9	309	309.1	309.2	309.3
Loss	m	1	1	1	1	1	1	1	1	1	1
Effective Head	m	110.6	110.5	110.4	110.3	110.2	110.1	110	109.9	109.8	109.7
Pmax	MW	101	105	110	115	119	124	129	133	138	143
Primary Energy	GWh	191.20	198.96	206.78	214.14	220.52	226.96	232.71	238.28	243.63	248.25
Pfirm	MW	64.55	65.66	68.81	71.98	75.11	78.31	74.55	61.16	59.49	54.96
Benefit	1000USD	50,940	52,554	54,791	56,957	58,950	60,974	60,795	57,696	58,079	57,482
Cost	1000USD	41,834	42,076	42,350	42,609	42,830	43,094	43,345	43,560	43,806	44,039
B/C		1.22	1.25	1.29	1.34	1.38	1.41	1.40	1.32	1.33	1.31

(1) Dam											
Design Flood	m ³ /s	8,306									
Dam Basis EL.	m	293									
Non- overflow Width	m	80.2									
Spillway Width	m	77									
Sand Drain Width	m	16									
Intake Width	m	28.7	29.4	30.1	30.7	31.3	32	32.6	33.2	33.8	34.3
Dam Height (Hd)	m	132									
Crest Length (L)	m	201.9	202.6	203.3	203.9	204.5	205.2	205.8	206.4	207	207.5
Coefficient for Ex	Y=A*X*B										
A		22700									
B		0.5115									
Coefficient for Conc	Y=C*X*D										
C		0.0157									
D		1.1514									

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Number	-	2									
Design Velocity	m/s	3.7									
MOL	EL.m	395.6	395.8	396	396.2	396.4	396.6	396.6	396.8	397	397.2
Waterway Diameter	m	4.2	4.3	4.4	4.5	4.6	4.7	4.7	4.8	4.9	5
Available Height	m	24.4	24.2	24	23.8	23.6	23.4	23.4	23.2	23	22.8

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	1,112	1,570	1,920	2,213	2,470	2,701	2,917	3,113	3,296	3,468
Concrete	m3	590	902	1,155	1,376	1,575	1,758	1,933	2,094	2,246	2,391
Reinforce Bar	t	24	36	46	55	63	70	77	84	90	96
Intake Gate	t	266	279	291	304	316	329	342	354	367	379
Intake Screen	t	148	155	162	169	176	183	190	197	204	211

Tunnel Inner Diameter	m	4.2	4.3	4.4	4.5	4.6	4.7	4.7	4.8	4.9	5
Concrete Thickness	m	0.6									
Tunnel Length	m	0									
Number	-	1									

[illegible]

Design Velocity 1	m/s	3.7
Penstock Length 1	m	12.51
Design Velocity 2	m/s	5.35
Penstock Length 2	m	83.3
Design Velocity 3	m/s	7.27

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3										
Lining Concrete	m3										
Reinforce Bar	t										
Penstock	t	433	451	470	489	507	526	544	562	580	599

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Reinforce Bar	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
(6) Tailrace Tunnel										
Tunnel Excavation	0	0	0	0	0	0	0	0	0	0
Lining Concrete	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
(7) Tailrace										
Excavation	0	0	0	0	0	0	0	0	0	0
Concrete	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
(8) P/H Access Tunnel										
Tunnel Excavation	0	0	0	0	0	0	0	0	0	0
Lining Concrete	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
(9) Miscellaneous Works	9,030	9,059	9,086	9,110	9,133	9,160	9,183	9,207	9,229	9,249
Total	189,634	190,230	190,811	191,309	191,802	192,366	192,853	193,337	193,818	194,223

Hydro- mechanical Works

1,000USD

Item	FSL=420									
	1	2	3	4	5	6	7	8	9	10
(1) Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2) Intake										
Gate	1,749	1,831	1,914	1,997	2,079	2,162	2,244	2,327	2,409	2,491
Screen	972	1,017	1,063	1,110	1,155	1,201	1,247	1,293	1,338	1,384
(3) Penstock	1,645	1,715	1,787	1,858	1,927	1,998	2,067	2,137	2,206	2,276
(4) Tailrace										
Gate										
(5) Others	3,249	3,288	3,328	3,369	3,408	3,448	3,487	3,527	3,566	3,606
Total	19,491	19,729	19,970	20,211	20,446	20,686	20,923	21,162	21,396	21,634

Project Cost Summary

1,000USD

Item	FSL=420									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,793	3,805	3,816	3,826	3,836	3,847	3,857	3,867	3,876	3,884
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	174,412	174,908	175,405	175,830	176,256	176,752	177,177	177,602	178,027	178,381
(3) Intake	139	210	267	316	360	401	439	475	508	540
(4) Power Tunnel	0	0	0	0	0	0	0	0	0	0
(5) Penstock	0	0	0	0	0	0	0	0	0	0
(6) Power House	0	0	0	0	0	0	0	0	0	0
(7) Tailrace Tunnel	0	0	0	0	0	0	0	0	0	0
(8) Tailrace	0	0	0	0	0	0	0	0	0	0
(9) Others	9,030	9,059	9,086	9,110	9,133	9,160	9,183	9,207	9,229	9,249
4. Hydro- Mechanical Works										
(1) Gate & Screen	2,920	2,945	2,971	2,997	3,022	3,048	3,074	3,100	3,125	3,151
(2) Penstocks	329	343	357	372	385	400	413	427	441	455
5. Electro- Mechanical Works	36,476	37,445	38,639	39,815	40,747	41,896	43,030	43,930	45,040	46,137
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	278,891	280,508	282,334	284,059	285,533	287,296	288,966	290,399	292,039	293,590
7. Administration Fee	41,834	42,076	42,350	42,609	42,830	43,094	43,345	43,560	43,806	44,039
8. Contingency	27,889	28,051	28,233	28,406	28,553	28,730	28,897	29,040	29,204	29,359
9. Interest During Construction	69,723	70,127	70,583	71,015	71,383	71,824	72,242	72,600	73,010	73,398
Total	418,336	420,762	423,501	426,088	428,299	430,944	433,449	435,599	438,059	440,385

OP1-415

Headrace Tunnel	m	0
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Penstock	m	186.31	12.51	83.3	72.2	18.3
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Tailrace Tunnel	m	0
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m	186.31
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Sedimentation Level	EL.m	386.2
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Item	Unit	FSL-415									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	92.2	96.9	101.7	106.4	111.2	115.9	120.7	125.4	130.2	134.92
FSL	EL.m	415	415	415	415	415	415	415	415	415	415
MOL	EL.m	395.2	395.4	395.6	395.8	396	396.2	396.4	396.4	396.6	396.8
TWL	EL.m	308.2	308.3	308.4	308.5	308.6	308.7	308.8	308.9	309	309.1
Loss	m	1	1	1	1	1	1	1	1	1	1
Effective Head	m	105.8	105.7	105.6	105.5	105.4	105.3	105.2	105.1	105	104.9
Pmax	MW	87	91	96	100	105	109	113	118	122	126
Primary Energy	GWh	169.14	176.73	184.68	191.97	199.08	205.28	211.18	216.94	222.40	227.10
Pfirm	MW	60.81	62.65	64.24	66.91	70.09	73.21	72.09	62.61	58.08	52.05
Benefit	1000USD	46,175	47,981	49,770	51,775	53,904	55,864	56,502	54,608	54,150	53,117
Cost	1000USD	38,977	39,222	39,501	39,738	39,999	40,220	40,451	40,703	40,919	41,132
B/C		1.18	1.22	1.26	1.30	1.35	1.39	1.40	1.34	1.32	1.29

(1) Dam

Design Flood	m3/s	8,306
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Dam Basis EL.	m	293
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Non- overflow Width	m	80.2
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Spillway Width	m	77
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Sand Drain Width	m	16
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Intake Width	m	27.3	28	28.7	29.4	30	30.6	31.3	31.9	32.5	33.1
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Dam Height (Hd)	m	127
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Crest Length (L)	m	200.5	201.2	201.9	202.6	203.2	203.8	204.5	205.1	205.7	206.3
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Coefficient for Ex $Y=A*X^B$

A	22700
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B	0.5115
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Coefficient for Conc $Y=C \cdot X^D$

C 0.0157

D	1.1514
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[illegible]

(2) Intake included in Dam

Number	2
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Design Velocity	m3/s	3.7
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MOL	EL.m	395.2	395.4	395.6	395.8	396	396.2	396.4	396.4	396.6	396.8
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Waterway Diameter	m	4	4.1	4.2	4.3	4.4	4.5	4.6	4.6	4.7	4.8
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Available Height	m	19.8	19.6	19.4	19.2	19	18.8	18.6	18.6	18.4	18.2
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Item	Unit	FSL-415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	1,015	1,432	1,750	2,017	2,250	2,459	2,651	2,834	2,999	3,155
Concrete	m3	527	806	1,031	1,227	1,404	1,567	1,718	1,865	2,000	2,128
Reinforce Bar	t	21	32	41	49	56	63	69	75	80	85
Intake Gate	t	236	248	260	272	284	296	308	320	332	344
Intake Screen	t	131	138	144	151	158	164	171	178	185	191

(3) Power Tunnel

Tunnel Inner Diameter	m	4	4.1	4.2	4.3	4.4	4.5	4.6	4.6	4.7	4.8
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Concrete Thickness	m	0.6
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Tunnel Length m C

Number	1
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[illegible]

(4) Penstocks

Design Velocity 1	m/s	3.7
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Penstock Length 1	m	12.51
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Design Velocity 2	m/s	5.35
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Penstock Length 2	m	83.3
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Design Velocity 3	m/s	7.27
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Item	Unit	FSL-415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3										
Lining Concrete	m3										
Reinforce Bar	t										
Penstock	t	381	398	416	433	451	468	485	502	520	537

[illegible][illegible][illegible][illegible]

Reinforce Bar	0	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0	0
(6) Tailrace Tunnel											
Tunnel Excavation	0	0	0	0	0	0	0	0	0	0	0
Lining Concrete	0	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0	0
(7) Tailrace											
Excavation	0	0	0	0	0	0	0	0	0	0	0
Concrete	0	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0	0
(8) P/H Access Tunnel											
Tunnel Excavation	0	0	0	0	0	0	0	0	0	0	0
Lining Concrete	0	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0	0
(9) Miscellaneous Works	8,536	8,562	8,588	8,614	8,635	8,657	8,682	8,704	8,725	8,746	
Total	179,254	179,808	180,349	180,884	181,343	181,799	182,322	182,774	183,223	183,671	

Hydro- mechanical Works

1,000USD

Item	FSL=415									
	1	2	3	4	5	6	7	8	9	10
(1) Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2) Intake										
Gate	1,551	1,629	1,709	1,787	1,867	1,945	2,024	2,103	2,183	2,261
Screen	861	905	949	993	1,037	1,080	1,125	1,168	1,213	1,256
(3) Penstock	1,446	1,512	1,580	1,646	1,713	1,778	1,845	1,909	1,975	2,040
(4) Tailrace										
Gate										
(5) Others	3,147	3,185	3,223	3,261	3,299	3,336	3,374	3,412	3,450	3,487
Total	18,883	19,109	19,339	19,564	19,793	20,017	20,245	20,470	20,698	20,921

Project Cost Summary

1,000USD

Item	FSL=415									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,585	3,596	3,607	3,618	3,627	3,636	3,646	3,655	3,664	3,673
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	30,180	30,180	30,180	30,180	30,180	30,180	30,180	30,180	30,180	30,180
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	164,540	165,005	165,469	165,934	166,392	166,731	167,195	167,593	167,991	168,389
(3) Intake	125	188	239	283	322	358	392	424	454	482
(4) Power Tunnel	0	0	0	0	0	0	0	0	0	0
(5) Penstock	0	0	0	0	0	0	0	0	0	0
(6) Power House	0	0	0	0	0	0	0	0	0	0
(7) Tailrace Tunnel	0	0	0	0	0	0	0	0	0	0
(8) Tailrace	0	0	0	0	0	0	0	0	0	0
(9) Others	8,536	8,562	8,588	8,614	8,635	8,657	8,682	8,704	8,725	8,746
4. Hydro- Mechanical Works										
(1) Gate & Screen	2,858	2,882	2,907	2,931	2,956	2,981	3,005	3,030	3,055	3,079
(2) Penstocks	289	302	316	329	343	356	369	382	395	408
5. Electro- Mechanical Works	33,509	34,541	35,808	36,810	38,041	39,015	39,979	41,165	42,105	43,036
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	259,844	261,479	263,337	264,921	266,659	268,136	269,671	271,355	272,791	274,216
7. Administration Fee	38,977	39,222	39,501	39,738	39,999	40,220	40,451	40,703	40,919	41,132
8. Contingency	25,984	26,148	26,334	26,492	26,666	26,814	26,967	27,136	27,279	27,422
9. Interest During Construction	64,961	65,370	65,834	66,230	66,665	67,034	67,418	67,839	68,198	68,554
Total	389,766	392,219	395,006	397,382	399,989	402,204	404,506	407,033	409,187	411,324

QP1- 425

Headrace Tunnel	m	0				
Penstock	m	186.31	12.51	83.3	72.2	18.3
Tailrace Tunnel	m	0				
	m	186.31				
Sedimentation Level	EL.m	386.2				

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	112.5	117.4	122.2	127.1	131.9	136.8	141.6	146.5	151.3	156.2
FSL	EL.m	425	425	425	425	425	425	425	425	425	425
MOL	EL.m	396	396.2	396.4	396.6	396.8	397	397	397.2	397.4	397.6
TWL	EL.m	308.6	308.7	308.8	308.9	309	309.1	309.2	309.3	309.4	309.5
Loss	m	1	1	1	1	1	1	1	1	1	1
Effective Head	m	115.4	115.3	115.2	115.1	115	114.9	114.8	114.7	114.6	114.5
Pmax	MW	116	121	126	131	135	140	145	150	155	160
Primary Energy	GWh	215.25	223.05	230.19	237.29	243.19	249.21	254.71	260.22	265.33	269.14
Pfirm	MW	68.05	71.00	74.06	77.20	80.29	78.34	73.67	59.80	59.33	52.70
Benefit	1000USD	55,961	58,134	60,232	62,346	64,248	64,656	64,163	60,911	61,614	60,253
Cost	1000USD	44,779	45,041	45,311	45,565	45,784	46,034	46,281	46,514	46,756	46,997
B/C		1.25	1.29	1.33	1.37	1.40	1.40	1.39	1.31	1.32	1.28

[illegible][illegible]

Number	-	2									
Design Velocity	m3/s	3.7									
MOL	EL.m	396	396.2	396.4	396.6	396.8	397	397	397.2	397.4	397.6
Waterway Diameter	m	4.4	4.5	4.6	4.7	4.8	4.9	4.9	5	5.1	5.2
Available Height	m	29	28.8	28.6	28.4	28.2	28	28	27.8	27.6	27.4

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	1,202	1,698	2,076	2,394	2,672	2,923	3,157	3,370	3,568	3,756
Concrete	m3	649	993	1,272	1,515	1,735	1,937	2,130	2,307	2,476	2,637
Reinforce Bar	t	26	40	51	61	69	77	85	92	99	105
Intake Gate	t	299	312	325	338	350	363	376	389	401	414
Intake Screen	t	166	173	180	188	195	202	209	216	223	230

(3) Power Tunnel											
Tunnel Inner Diameter	m	4.4	4.5	4.6	4.7	4.8	4.9	4.9	5	5.1	5.2
Concrete Thickness	m	0.6									
Tunnel Length	m	0									
Number	-	1									

[illegible]

Design Velocity 1	m/s	3.7
Penstock Length 1	m	12.51
Design Velocity 2	m/s	5.35
Penstock Length 2	m	83.3
Design Velocity 3	m/s	7.27

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3										
Lining Concrete	m3										
Reinforce Bar	t										
Penstock	t	492	511	530	550	569	588	607	626	645	664

A	m ₂	0	0	0	0	0	0	0	0	0	0
d	m	0									

[illegible]

(7) Tailrace Included in Dam

(8) P/H Access Tunnel

Tunnel Length	m	0
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Civil Work Cost

1,000USD

[illegible]

Reinforce Bar	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
(6) Tailrace Tunnel										
Tunnel Excavation	0	0	0	0	0	0	0	0	0	0
Lining Concrete	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
(7) Tailrace										
Excavation	0	0	0	0	0	0	0	0	0	0
Concrete	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
(8) P/H Access Tunnel										
Tunnel Excavation	0	0	0	0	0	0	0	0	0	0
Lining Concrete	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
(9) Miscellaneous Works	9,551	9,578	9,607	9,633	9,658	9,683	9,708	9,729	9,753	9,778
Total	200,577	201,135	201,757	202,290	202,818	203,341	203,862	204,300	204,815	205,328

Hydro- mechanical Works

1,000USD

Item	FSL-425									
	1	2	3	4	5	6	7	8	9	10
(1) Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2) Intake										
Gate	1,965	2,050	2,133	2,217	2,300	2,385	2,469	2,553	2,636	2,721
Screen	1,091	1,139	1,185	1,232	1,278	1,325	1,372	1,419	1,464	1,511
(3) Penstock	1,869	1,943	2,015	2,089	2,161	2,234	2,306	2,378	2,449	2,522
(4) Tailrace										
Gate										
(5) Others	3,361	3,402	3,442	3,483	3,523	3,564	3,605	3,646	3,686	3,726
Total	20,163	20,411	20,653	20,899	21,140	21,386	21,628	21,873	22,113	22,358

Project Cost Summary

1,000USD

Item	FSL-425									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	4,012	4,023	4,035	4,046	4,056	4,067	4,077	4,086	4,096	4,107
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	40,960	40,960	40,960	40,960	40,960	40,960	40,960	40,960	40,960	40,960
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	184,820	185,274	185,804	186,257	186,711	187,165	187,618	187,996	188,450	188,903
(3) Intake	153	230	293	347	396	440	483	522	559	594
(4) Power Tunnel	0	0	0	0	0	0	0	0	0	0
(5) Penstock	0	0	0	0	0	0	0	0	0	0
(6) Power House	0	0	0	0	0	0	0	0	0	0
(7) Tailrace Tunnel	0	0	0	0	0	0	0	0	0	0
(8) Tailrace	0	0	0	0	0	0	0	0	0	0
(9) Others	9,551	9,578	9,607	9,633	9,658	9,683	9,708	9,729	9,753	9,778
4. Hydro- Mechanical Works										
(1) Gate & Screen	2,987	3,013	3,039	3,065	3,091	3,118	3,144	3,170	3,196	3,222
(2) Penstocks	374	389	403	418	432	447	461	476	490	504
5. Electro- Mechanical Works	39,446	40,586	41,710	42,821	43,703	44,790	45,866	46,930	47,983	49,025
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	298,525	300,275	302,074	303,770	305,230	306,892	308,539	310,091	311,709	313,316
7. Administration Fee	44,779	45,041	45,311	45,565	45,784	46,034	46,281	46,514	46,756	46,997
8. Contingency	29,853	30,028	30,207	30,377	30,523	30,689	30,854	31,009	31,171	31,332
9. Interest During Construction	74,631	75,069	75,518	75,942	76,307	76,723	77,135	77,523	77,927	78,329
Total	447,788	450,413	453,111	455,655	457,845	460,338	462,809	465,136	467,564	469,974

Waterway Length						
Headrace Tunnel	m	0				
Penstock	m	186.31	12.51	83.3	72.2	18.3
Tailrace Tunnel	m	0				
	m	186.31				
Sedimentation Level	EL.m	386.2				

Specification		FSL=435									
Item	Unit	1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	134.2	139.1	144	149	153.9	158.8	163.7	168.7	173.6	178.5
FSL	EL.m	435	435	435	435	435	435	435	435	435	435
MOL	EL.m	396.8	397	397.2	397.4	397.4	397.6	397.8	398	398.2	398.2
TWL	EL.m	309.1	309.1	309.2	309.3	309.4	309.5	309.6	309.7	309.8	309.9
Loss	m	1	1	1	1	1	1	1	1	1	1
Effective Head	m	124.9	124.9	124.8	124.7	124.6	124.5	124.4	124.3	124.2	124.1
Pmax	MW	150	155	160	166	171	176	182	187	192	198
Primary Energy	GWh	265.74	273.31	279.93	286.34	291.74	296.79	301.71	305.86	309.10	312.30
Pfirm	MW	78.12	81.26	84.31	87.43	83.37	72.85	69.28	66.56	57.04	54.75
Benefit	1000USD	67,320	69,512	71,520	73,515	73,188	70,865	70,606	70,475	68,153	67,995
Cost	1000USD	52,451	52,706	52,958	53,224	53,471	53,715	53,973	54,214	54,440	54,692
B/C		1.28	1.32	1.35	1.38	1.37	1.32	1.31	1.30	1.25	1.24

(1) Dam

[illegible][illegible]

(2) Intake

included in Dam

Number	-	2									
Design Velocity	m/s	3.7									
MOL	EL.m	396.8	397	397.2	397.4	397.4	397.6	397.8	398	398.2	398.2
Waterway Diameter	m	4.8	4.9	5	5.1	5.1	5.2	5.3	5.4	5.5	5.5
Available Height	m	38.2	38	37.8	37.6	37.6	37.4	37.2	37	36.8	36.8

Item	Unit	FSL-435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	1,364	1,927	2,357	2,719	3,039	3,326	3,588	3,831	4,059	4,278
Concrete	m3	759	1,160	1,487	1,772	2,033	2,270	2,493	2,702	2,901	3,095
Reinforce Bar	t	30	46	59	71	81	91	100	108	116	124
Intake Gate	t	367	380	393	407	420	434	447	460	474	487
Intake Screen	t	204	211	219	226	234	241	248	256	263	271

(3) Power Tunnel

Tunnel Inner Diameter	m	4.8	4.9	5	5.1	5.1	5.2	5.3	5.4	5.5	5.5
Concrete Thickness	m	0.6									
Tunnel Length	m	0									
Number	-	1									

[illegible]

(4) Penstocks

Design Velocity 1	m/s	3.7
Penstock Length 1	m	12.51
Design Velocity 2	m/s	5.35
Penstock Length 2	m	83.3
Design Velocity 3	m/s	7.27

Item	Unit	FSL-435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3										
Lining Concrete	m3										
Reinforce Bar	t										
Penstock	t	621	642	663	684	705	725	746	767	787	807

A	m ²	0	0	0	0	0	0	0	0	0	0
d	m	0									

[illegible][illegible]

Tunnel Length	m	0
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Civil Work Cost 1,000USD[illegible]

Reinforce Bar	0	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0	0
(6) Tailrace Tunnel											
Tunnel Excavation	0	0	0	0	0	0	0	0	0	0	0
Lining Concrete	0	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0	0
(7) Tailrace											
Excavation	0	0	0	0	0	0	0	0	0	0	0
Concrete	0	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0	0
(8) P/H Access Tunnel											
Tunnel Excavation	0	0	0	0	0	0	0	0	0	0	0
Lining Concrete	0	0	0	0	0	0	0	0	0	0	0
Reinforce Bar	0	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0	0
(9) Miscellaneous Works	10,658	10,689	10,718	10,742	10,771	10,799	10,823	10,851	10,875	10,898	
Total	223,825	224,459	225,076	225,592	226,192	226,787	227,288	227,876	228,372	228,866	

Hydro- mechanical Works

1,000USD

Item	FSL=435									
	1	2	3	4	5	6	7	8	9	10
(1) Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2) Intake										
Gate	2,410	2,498	2,585	2,674	2,762	2,849	2,936	3,025	3,112	3,200
Screen	1,339	1,388	1,436	1,486	1,534	1,583	1,631	1,681	1,729	1,778
(3) Penstock	2,359	2,439	2,518	2,599	2,677	2,756	2,834	2,913	2,991	3,068
(4) Tailrace										
Gate										
(5) Others	3,597	3,640	3,683	3,727	3,770	3,813	3,856	3,899	3,942	3,985
Total	21,583	21,843	22,101	22,363	22,622	22,878	23,135	23,396	23,652	23,909

Project Cost Summary

1,000USD

Item	FSL=435									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	4,476	4,489	4,502	4,512	4,524	4,536	4,546	4,558	4,567	4,577
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	61,990	61,990	61,990	61,990	61,990	61,990	61,990	61,990	61,990	61,990
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	206,936	207,450	207,964	208,393	208,907	209,421	209,850	210,364	210,792	211,220
(3) Intake	178	268	341	404	461	514	563	608	652	694
(4) Power Tunnel	0	0	0	0	0	0	0	0	0	0
(5) Penstock	0	0	0	0	0	0	0	0	0	0
(6) Power House	0	0	0	0	0	0	0	0	0	0
(7) Tailrace Tunnel	0	0	0	0	0	0	0	0	0	0
(8) Tailrace	0	0	0	0	0	0	0	0	0	0
(9) Others	10,658	10,689	10,718	10,742	10,771	10,799	10,823	10,851	10,875	10,898
4. Hydro- Mechanical Works										
(1) Gate & Screen	3,125	3,153	3,180	3,207	3,235	3,262	3,289	3,317	3,344	3,371
(2) Penstocks	472	488	504	520	535	551	567	583	598	614
5. Electro- Mechanical Works	45,613	46,623	47,635	48,834	49,825	50,807	51,971	52,935	53,891	55,024
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	349,671	351,372	353,056	354,825	356,471	358,103	359,821	361,428	362,931	364,612
7. Administration Fee	52,451	52,706	52,958	53,224	53,471	53,715	53,973	54,214	54,440	54,692
8. Contingency	34,967	35,137	35,306	35,482	35,647	35,810	35,982	36,143	36,293	36,461
9. Interest During Construction	87,418	87,843	88,264	88,706	89,118	89,526	89,955	90,357	90,733	91,153
Total	524,507	527,058	529,583	532,237	534,707	537,154	539,731	542,141	544,397	546,918

Option II

Basic Parameters OP2- 405

Waterway Length		
Headrace Tunnel	m	56.4
Penstock	m	176.2
Tailrace Tunnel	m	106
Sedimentation Level	m	386.2

Specification

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	65.4	70.2	75	79.8	84.6	89.3	94.1	98.9	103.7	108.5
FSL	EL.m	405	405	405	405	405	405	405	405	405	405
MOL	EL.m	397	397.4	397.6	398	398.2	398.6	399	399.2	399.4	399.8
TWL	EL.m	307.6	307.6	307.7	307.7	307.7	307.8	307.8	307.8	307.8	307.9
Loss	m	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Effective Head	m	96.2	96.2	96.1	96.1	96.1	96	96	96	96	95.9
Pmax	MW	56	60	64	68	73	76	81	85	89	93
Primary Energy	GWh	115.44	123.60	131.56	139.56	147.49	154.17	161.42	168.04	174.27	180.10
Pfirm	MW	45.75	49.40	52.87	56.16	58.73	59.65	54.38	49.71	44.19	43.62
Benefit	1000USD	34,541	37,108	39,584	42,014	44,214	45,693	45,413	45,200	44,661	45,539
Cost	1000USD	33,069	33,373	33,657	33,952	34,268	34,512	34,836	35,097	35,355	35,630
B/C		1.04	1.11	1.18	1.24	1.29	1.32	1.30	1.29	1.26	1.28

Civil & Hydromechanical Work Quantity
(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	117
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877
Concrete	m3	316,564	316,564	316,564	316,564	316,564	316,564	316,564	316,564	316,564	316,564
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	3.5									
MOL	EL.m	397	397.4	397.6	398	398.2	398.6	399	399.2	399.4	399.8
Waterway Diameter	m	4.9	5.1	5.2	5.4	5.5	5.7	5.9	6	6.1	6.3
Available Height	m	8	7.6	7.4	7	6.8	6.4	6	5.8	5.6	5.2

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	4,795	4,930	5,075	5,193	5,326	5,427	5,525	5,640	5,751	5,832
Concrete	m3	3,562	3,685	3,819	3,929	4,052	4,147	4,239	4,348	4,453	4,531
Reinforce Bar	t	142	147	153	157	162	166	170	174	178	181
Intake Gate	t	78	84	89	95	101	106	112	117	123	128
Intake Screen	t	43	47	50	53	56	59	62	65	68	71

(3) Power Tunnel

Tunnel Inner Diameter	m	4.9	5.1	5.2	5.4	5.5	5.7	5.9	6	6.1	6.3
Concrete Thickness	m	0.6									
Tunnel Length	m	56.4									
Number	-	1									

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	1,679	1,791	1,848	1,965	2,025	2,148	2,274	2,339	2,404	2,538
Lining Concrete	m3	615	639	650	674	685	709	733	744	756	780
Reinforce Bar	t	25	26	26	27	27	28	29	30	30	31

(3') Service Adit

Tunnel Length	m	1148
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Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	34,174	36,451	37,618	40,006	41,227	43,725	46,297	47,610	48,942	51,660

(4) Penstocks											
Design Velocity 1	m/s	3.5									
Penstock Length 1	m	5									
Design Velocity 2	m/s	4.47									
Penstock Length 2	m	117.1									
Design Velocity 3	m/s	6.08									
Penstock Length 3	m	36									
Design Velocity 4	m/s	8.76	2 penstocks								
Penstock Length 4	m	18.1									
Mean Velocity	m/s	5.542609									
Dm	m	3.876027	4.015748	4.150769	4.281534	4.408421	4.529222	4.649355	4.766461	4.880758	4.992439
tm	mm	13.81653	14.24249	14.64113	15.03937	15.4258	15.77953	16.14501	16.50129	16.84902	17.17317

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	3,566	3,765	3,962	4,158	4,353	4,542	4,735	4,926	5,117	5,307
Lining Concrete	m3	1,487	1,533	1,578	1,621	1,663	1,704	1,743	1,782	1,820	1,857
Reinforce Bar	t	18	18	19	19	20	20	21	21	22	22
Penstock	t	295	315	335	355	375	394	414	433	453	472

(5) Powerhouse											
Undergroundtype											
A	m2	741.1007	767.8156	793.3566	818.3503	842.6029	865.3919	888.3455	910.7207	932.5593	953.5667
d	m	30									

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	48,913	50,676	52,362	54,011	55,612	57,116	58,631	60,108	61,549	62,935
Concrete	m3	11,117	11,517	11,900	12,275	12,639	12,981	13,325	13,661	13,988	14,304
Reinforce Bar	t	44	46	48	49	51	52	53	55	56	57

(6) Tailrace Tunnel											
Design Velocity	m/s	3.5									
Tunnel Inner Diameter	m	4.9	5.1	5.2	5.4	5.5	5.7	5.9	6	6.1	6.3
Concrete Thickness	m	0.6									
Tunnel Length	m	106									
Number	-	1									

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	3,155	3,366	3,473	3,694	3,807	4,037	4,275	4,396	4,519	4,770
Lining Concrete	m3	1,157	1,200	1,222	1,266	1,288	1,332	1,377	1,399	1,421	1,466
Reinforce Bar	t	46	48	49	51	52	53	55	56	57	59

(7) Tailrace											
Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	4,494	4,739	4,938	5,179	5,373	5,610	5,848	6,037	6,225	6,460
Concrete	m3	1,301	1,404	1,489	1,594	1,680	1,786	1,895	1,984	2,072	2,185
Reinforce Bar	t	21	22	22	23	24	25	26	26	27	28

(8) P/H Access Tunnel											
Tunnel Length	m	1663									

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835
Lining Concrete	m3	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630
Reinforce Bar	t	499	499	499	499	499	499	499	499	499	499

Civil Work Cost 1,000USD

Item	FSL=405									
	1	2	3	4	5	6	7	8	9	10
(1) Concrete Dam										
(1).1 River Treatment(NEA F/S)	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(1).2 Concrete Dam										
Excavation	44,980	44,980	44,980	44,980	44,980	44,980	44,980	44,980	44,980	44,980
Concrete	41,153	41,153	41,153	41,153	41,153	41,153	41,153	41,153	41,153	41,153
Others	17,227	17,227	17,227	17,227	17,227	17,227	17,227	17,227	17,227	17,227
(2)Intake										
Excavation	91	94	96	99	101	103	105	107	109	111
Concrete	427	442	458	471	486	498	509	522	534	544
Reinforce Bar	118	122	127	130	135	138	141	144	148	150
Others	159	165	170	175	180	185	189	193	198	201
(3)Power Tunnel										
Tunnel Excavation	118	125	129	138	142	150	159	164	168	178
Lining Concrete	86	89	91	94	96	99	103	104	106	109
Reinforce Bar	22	22	23	24	24	25	26	26	27	27
Others	34	36	36	38	39	41	43	44	45	47
(3')Service Adit										
Tunnel Excavation	2,392	2,552	2,633	2,800	2,886	3,061	3,241	3,333	3,426	3,616

(4) Penstock										
Tunnel Excavation	499	527	555	582	609	636	663	690	716	743
Lining Concrete	208	215	221	227	233	238	244	250	255	260
Reinforce Bar	17	17	18	18	19	19	20	20	21	21
Others	145	152	159	166	172	179	185	192	198	205
(5) Power House										
Excavation	2,935	3,041	3,142	3,241	3,337	3,427	3,518	3,606	3,693	3,776
Concrete	2,112	2,188	2,261	2,332	2,401	2,466	2,532	2,596	2,658	2,718
Reinforce Bar	39	41	42	43	44	46	47	48	49	50
Others	2,543	2,635	2,722	2,808	2,891	2,970	3,048	3,125	3,200	3,272
(6) Tailrace Tunnel										
Tunnel Excavation	237	252	261	277	286	303	321	330	339	358
Lining Concrete	220	228	232	241	245	253	262	266	270	278
Reinforce Bar	41	42	43	45	45	47	48	49	50	52
Others	149	157	161	169	173	181	189	193	198	206
(7) Tailrace										
Excavation	54	57	59	62	64	67	70	72	75	78
Concrete	169	183	194	207	218	232	246	258	269	284
Reinforce Bar	17	18	18	19	20	21	21	22	23	23
Others	60	64	68	72	76	80	84	88	92	96
(8) P/H Access Tunnel										
Tunnel Excavation	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237
Lining Concrete	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162
Reinforce Bar	439	439	439	439	439	439	439	439	439	439
Others	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568
(9) Miscellaneous Works	6,586	6,614	6,637	6,665	6,687	6,714	6,742	6,763	6,784	6,811
Total	138,296	138,895	139,375	139,962	140,429	140,997	141,573	142,024	142,469	143,033

Hydro- mechanical Works

1,000USD

Item	FSL=405									
	1	2	3	4	5	6	7	8	9	10
(1) Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2) Intake										
Gate	514	551	588	624	661	697	733	769	806	842
Screen	285	306	326	347	367	387	407	427	448	468
(3) Penstock	1,121	1,198	1,273	1,348	1,424	1,497	1,572	1,647	1,722	1,795
(4) Tailrace										
Gate	514	551	588	624	661	697	733	769	806	842
(5) Others	2,862	2,896	2,930	2,964	2,998	3,031	3,064	3,098	3,132	3,165
Total	17,174	17,379	17,582	17,785	17,989	18,185	18,386	18,589	18,791	18,988

Project Cost Summary

1,000USD

Item	FSL=405									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	2,766	2,778	2,787	2,799	2,809	2,820	2,831	2,840	2,849	2,861
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	26,280	26,280	26,280	26,280	26,280	26,280	26,280	26,280	26,280	26,280
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	103,360	103,360	103,360	103,360	103,360	103,360	103,360	103,360	103,360	103,360
(3) Intake	796	823	852	876	902	923	943	967	989	1,006
(4) Power Tunnel	2,651	2,824	2,913	3,094	3,187	3,377	3,571	3,671	3,772	3,978
(5) Penstock	869	911	952	993	1,033	1,073	1,112	1,151	1,190	1,229
(6) Power House	7,629	7,904	8,167	8,424	8,674	8,909	9,145	9,375	9,600	9,816
(7) Tailrace Tunnel	646	680	696	731	748	784	820	838	857	894
(8) Tailrace	300	322	339	361	378	400	422	440	458	481
(9) P/S Access Tunnel	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405
(10) Others	6,586	6,614	6,637	6,665	6,687	6,714	6,742	6,763	6,784	6,811
4. Hydro- Mechanical Works	17,174	17,379	17,582	17,785	17,989	18,185	18,386	18,589	18,791	18,988
5. Electro- Mechanical Works	25,773	26,988	28,187	29,351	30,776	31,626	33,001	34,081	35,144	36,203
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	220,458	222,490	224,381	226,348	228,452	230,077	232,241	233,983	235,702	237,535
7. Administration Fee	33,069	33,373	33,657	33,952	34,268	34,512	34,836	35,097	35,355	35,630
8. Preliminary Cost	22,046	22,249	22,438	22,635	22,845	23,008	23,224	23,398	23,570	23,754
9. Interest During Construction	55,115	55,622	56,095	56,587	57,113	57,519	58,060	58,496	58,926	59,384
Total	330,687	333,735	336,571	339,521	342,678	345,116	348,362	350,975	353,553	356,303

Basic Parameters OP2- 410

Waterway Length		
Headrace Tunnel	m	56.4
Penstock	m	176.2
Tailrace Tunnel	m	106
Sedimentation Level	m	386.2

Specification

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	73.7	78.2	82.8	87.3	91.9	96.4	101	105.5	110.1	114.6
FSL	EL.m	410	410	410	410	410	410	410	410	410	410
MOL	EL.m	397.6	397.8	398.2	398.4	398.8	399	399.4	399.6	399.8	400.2
TWL	EL.m	307.7	307.7	307.7	307.8	307.8	307.8	307.8	307.9	307.9	307.9
Loss	m	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Effective Head	m	101.1	101.1	101.1	101	101	101	101	100.9	100.9	100.9
Pmax	MW	66	71	75	79	83	87	91	95	99	103
Primary Energy	GWh	133.90	142.01	150.02	157.39	164.94	171.94	178.92	185.12	191.13	196.56
Pfirm	MW	51.18	54.46	58.00	60.04	62.75	66.04	66.12	58.78	55.81	49.10
Benefit	1000USD	39,497	41,943	44,450	46,390	48,564	50,814	52,094	51,003	51,191	50,150
Cost	1000USD	35,090	35,404	35,689	35,953	36,232	36,487	36,760	37,011	37,259	37,523
B/C		1.13	1.18	1.25	1.29	1.34	1.39	1.42	1.38	1.37	1.34

Civil & Hydromechanical Work Quantity
(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	122
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144
Concrete	m3	353,122	353,122	353,122	353,122	353,122	353,122	353,122	353,122	353,122	353,122
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	3.5									
MOL	EL.m	397.6	397.8	398.2	398.4	398.8	399	399.4	399.6	399.8	400.2
Waterway Diameter	m	5.2	5.3	5.5	5.6	5.8	5.9	6.1	6.2	6.3	6.5
Available Height	m	12.4	12.2	11.8	11.6	11.2	11	10.6	10.4	10.2	9.8

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	5,946	6,108	6,249	6,398	6,526	6,664	6,781	6,909	7,037	7,136
Concrete	m3	4,640	4,796	4,932	5,077	5,203	5,338	5,454	5,581	5,708	5,807
Reinforce Bar	t	186	192	197	203	208	214	218	223	228	232
Intake Gate	t	91	97	102	108	113	119	124	130	135	141
Intake Screen	t	51	54	57	60	63	66	69	72	75	78

(3) Power Tunnel

Tunnel Inner Diameter	m	5.2	5.3	5.5	5.6	5.8	5.9	6.1	6.2	6.3	6.5
Concrete Thickness	m	0.6									
Tunnel Length	m	56.4									
Number	-	1									

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	1,848	1,906	2,025	2,086	2,211	2,274	2,404	2,471	2,538	2,675
Lining Concrete	m3	650	662	685	697	721	733	756	768	780	804
Reinforce Bar	t	26	26	27	28	29	29	30	31	31	32

(3') Service Adit

Tunnel Length	m	1148									
Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	37,618	38,802	41,227	42,467	45,002	46,297	48,942	50,292	51,660	54,452

(4) Penstocks											
Design Velocity 1	m/s	3.5									
Penstock Length 1	m	5									
Design Velocity 2	m/s	4.47									
Penstock Length 2	m	117.1									
Design Velocity 3	m/s	6.08									
Penstock Length 3	m	36									
Design Velocity 4	m/s	8.76	2 penstocks								
Penstock Length 4	m	18.1									
Mean Velocity	m/s	5.542609									
Dm	m	4.114638	4.238394	4.361271	4.478216	4.594684	4.705832	4.8168	4.922936	5.029115	5.130861
tm	mm	15.17503	15.57129	15.96475	16.32519	16.69775	17.0533	17.40827	17.73237	18.07169	18.39685

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	3,909	4,093	4,280	4,462	4,647	4,827	5,010	5,188	5,370	5,547
Lining Concrete	m3	1,566	1,607	1,648	1,687	1,725	1,762	1,799	1,834	1,870	1,903
Reinforce Bar	t	19	19	20	20	21	21	22	22	22	23
Penstock	t	344	364	384	403	423	442	462	481	501	520

(5) Powerhouse											
Undergroundtype											
A	m2	799.8603	823.9176	847.8042	870.2504	892.8837	914.483	936.0473	956.3568	976.9838	996.7495
d	m	30									

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	52,791	54,379	55,955	57,437	58,930	60,356	61,779	63,120	64,481	65,785
Concrete	m3	11,998	12,359	12,717	13,054	13,393	13,717	14,041	14,345	14,655	14,951
Reinforce Bar	t	48	49	51	52	54	55	56	57	59	60

(6) Tailrace Tunnel											
Design Velocity	m/s	3.5									
Tunnel Inner Diameter	m	5.2	5.3	5.5	5.6	5.8	5.9	6.1	6.2	6.3	6.5
Concrete Thickness	m	0.6									
Tunnel Length	m	106									
Number	-	1									

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	3,473	3,583	3,807	3,921	4,155	4,275	4,519	4,644	4,770	5,028
Lining Concrete	m3	1,222	1,244	1,288	1,310	1,355	1,377	1,421	1,443	1,466	1,510
Reinforce Bar	t	49	50	52	52	54	55	57	58	59	60

(7) Tailrace											
Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	4,897	5,084	5,318	5,502	5,735	5,916	6,147	6,326	6,506	6,732
Concrete	m3	1,471	1,552	1,655	1,737	1,843	1,927	2,035	2,120	2,207	2,317
Reinforce Bar	t	22	23	24	24	25	26	27	28	28	29

(8) P/H Access Tunnel											
Tunnel Length	m	1663									
Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835
Lining Concrete	m3	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630
Reinforce Bar	t	499	499	499	499	499	499	499	499	499	499

Civil Work Cost											1,000USD
Item	FSL=410										
	1	2	3	4	5	6	7	8	9	10	
(1) Concrete Dam											
(1).1 River Treatment(NEA F/S)	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	
(1).2 Concrete Dam											
Excavation	45,813	45,813	45,813	45,813	45,813	45,813	45,813	45,813	45,813	45,813	
Concrete	45,906	45,906	45,906	45,906	45,906	45,906	45,906	45,906	45,906	45,906	
Others	18,344	18,344	18,344	18,344	18,344	18,344	18,344	18,344	18,344	18,344	
(2)Intake											
Excavation	113	116	119	122	124	127	129	131	134	136	
Concrete	557	575	592	609	624	641	654	670	685	697	
Reinforce Bar	154	159	164	169	173	177	181	185	190	193	
Others	206	213	219	225	230	236	241	247	252	256	
(3)Power Tunnel											
Tunnel Excavation	129	133	142	146	155	159	168	173	178	187	
Lining Concrete	91	93	96	98	101	103	106	108	109	113	
Reinforce Bar	23	23	24	25	25	26	27	27	27	28	
Others	36	37	39	40	42	43	45	46	47	49	
(3)Service Adit											
Tunnel Excavation	2,633	2,716	2,886	2,973	3,150	3,241	3,426	3,520	3,616	3,812	

(4)Penstock										
Tunnel Excavation	547	573	599	625	651	676	701	726	752	777
Lining Concrete	219	225	231	236	242	247	252	257	262	266
Reinforce Bar	18	18	19	19	20	20	21	21	21	22
Others	157	163	170	176	182	189	195	201	207	213
(5)Power House										
Excavation	3,167	3,263	3,357	3,446	3,536	3,621	3,707	3,787	3,869	3,947
Concrete	2,280	2,348	2,416	2,480	2,545	2,606	2,668	2,726	2,784	2,841
Reinforce Bar	42	44	45	46	47	48	49	50	52	53
Others	2,745	2,827	2,909	2,986	3,064	3,138	3,212	3,282	3,352	3,420
(6)Tailrace Tunnel										
Tunnel Excavation	261	269	286	294	312	321	339	348	358	377
Lining Concrete	232	236	245	249	257	262	270	274	278	287
Reinforce Bar	43	44	45	46	48	48	50	51	52	53
Others	161	165	173	177	185	189	198	202	206	215
(7)Tailrace										
Excavation	59	61	64	66	69	71	74	76	78	81
Concrete	191	202	215	226	240	250	265	276	287	301
Reinforce Bar	18	19	20	20	21	22	22	23	23	24
Others	67	70	75	78	82	86	90	94	97	102
(8)P/H Access Tunnel										
Tunnel Excavation	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237
Lining Concrete	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162
Reinforce Bar	439	439	439	439	439	439	439	439	439	439
Others	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568
(9)Miscellaneous Works	6,984	7,006	7,033	7,055	7,082	7,103	7,130	7,151	7,172	7,198
Total	146,654	147,120	147,701	148,151	148,727	149,169	149,740	150,172	150,609	151,168

Hydro- mechanical Works

1,000USD

Item	FSL=410									
	1	2	3	4	5	6	7	8	9	10
(1)Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2)Intake										
Gate	599	636	672	708	744	780	817	852	889	924
Screen	333	353	373	393	414	434	454	474	494	513
(3)Penstock	1,307	1,382	1,458	1,531	1,607	1,680	1,756	1,828	1,903	1,977
(4)Tailrace										
Gate	599	636	672	708	744	780	817	852	889	924
(5)Others	2,943	2,977	3,011	3,044	3,077	3,110	3,144	3,177	3,210	3,243
Total	17,660	17,860	18,064	18,262	18,464	18,663	18,864	19,061	19,263	19,459

Project Cost Summary

1,000USD

Item	FSL=410									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	2,933	2,942	2,954	2,963	2,975	2,983	2,995	3,003	3,012	3,023
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	28,230	28,230	28,230	28,230	28,230	28,230	28,230	28,230	28,230	28,230
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	110,062	110,062	110,062	110,062	110,062	110,062	110,062	110,062	110,062	110,062
(3) Intake	1,030	1,063	1,093	1,124	1,151	1,181	1,205	1,233	1,260	1,281
(4) Power Tunnel	2,913	3,003	3,187	3,281	3,473	3,571	3,772	3,874	3,978	4,189
(5) Penstock	941	980	1,018	1,056	1,094	1,131	1,169	1,205	1,242	1,278
(6) Power House	8,234	8,482	8,727	8,959	9,192	9,414	9,636	9,845	10,057	10,261
(7) Tailrace Tunnel	696	714	748	766	802	820	857	875	894	932
(8) Tailrace	335	352	373	390	412	429	451	468	485	508
(9)P/S Access Tunnel	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405
(10) Others	6,984	7,006	7,033	7,055	7,082	7,103	7,130	7,151	7,172	7,198
4. Hydro- Mechanical Works	17,660	17,860	18,064	18,262	18,464	18,663	18,864	19,061	19,263	19,459
5. Electro- Mechanical Works	28,289	29,703	30,810	31,909	32,979	34,032	35,069	36,104	37,112	38,107
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	233,935	236,025	237,929	239,684	241,543	243,247	245,068	246,739	248,396	250,156
7. Administration Fee	35,090	35,404	35,689	35,953	36,232	36,487	36,760	37,011	37,259	37,523
8. Preliminary Cost	23,394	23,602	23,793	23,968	24,154	24,325	24,507	24,674	24,840	25,016
9. Interest During Construction	58,484	59,006	59,482	59,921	60,386	60,812	61,267	61,685	62,099	62,539
Total	350,903	354,037	356,893	359,527	362,315	364,871	367,602	370,108	372,593	375,234

Basic Parameters OP2- 415

Waterway Length		
Headrace Tunnel	m	56.4
Penstock	m	176.2
Tailrace Tunnel	m	106
Sedimentation Level	m	386.2

Specification

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	82.6	87.3	92.1	96.8	101.6	106.3	111.1	115.8	120.6	125.3
FSL	EL.m	415	415	415	415	415	415	415	415	415	415
MOL	EL.m	398.2	398.4	398.8	399	399.4	399.6	400	400.2	400.4	400.8
TWL	EL.m	307.7	307.8	307.8	307.8	307.8	307.9	307.9	307.9	307.9	308
Loss	m	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Effective Head	m	106.1	106	106	106	106	105.9	105.9	105.9	105.9	105.8
Pmax	MW	78	83	87	92	96	100	105	109	114	118
Primary Energy	GWh	154.52	162.73	171.05	179.12	187.02	193.85	201.13	207.22	213.60	218.79
Pfirm	MW	57.09	60.44	63.36	64.72	68.38	71.70	74.82	63.50	59.85	50.29
Benefit	1000USD	44,986	47,472	49,848	51,709	54,232	56,460	58,709	56,400	56,451	54,509
Cost	1000USD	40,361	40,666	40,946	41,241	41,515	41,766	42,072	42,317	42,597	42,859
B/C		1.11	1.17	1.22	1.25	1.31	1.35	1.40	1.33	1.33	1.27

Civil & Hydromechanical Work Quantity
(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	127
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358
Concrete	m3	392,176	392,176	392,176	392,176	392,176	392,176	392,176	392,176	392,176	392,176
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	3.5									
MOL	EL.m	398.2	398.4	398.8	399	399.4	399.6	400	400.2	400.4	400.8
Waterway Diameter	m	5.5	5.6	5.8	5.9	6.1	6.2	6.4	6.5	6.6	6.8
Available Height	m	16.8	16.6	16.2	16	15.6	15.4	15	14.8	14.6	14.2

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	7,086	7,268	7,432	7,602	7,752	7,911	8,050	8,200	8,348	8,469
Concrete	m3	5,757	5,940	6,105	6,277	6,430	6,593	6,735	6,889	7,043	7,169
Reinforce Bar	t	230	238	244	251	257	264	269	276	282	287
Intake Gate	t	105	111	117	123	129	135	141	146	152	158
Intake Screen	t	58	62	65	68	72	75	78	81	85	88

(3) Power Tunnel

Tunnel Inner Diameter	m	5.5	5.6	5.8	5.9	6.1	6.2	6.4	6.5	6.6	6.8
Concrete Thickness	m	0.6									
Tunnel Length	m	56.4									
Number	-	1									

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	2,025	2,086	2,211	2,274	2,404	2,471	2,606	2,675	2,745	2,888
Lining Concrete	m3	685	697	721	733	756	768	792	804	816	839
Reinforce Bar	t	27	28	29	29	30	31	32	32	33	34

(3') Service Adit

Tunnel Length	m	1148
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Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	41,227	42,467	45,002	46,297	48,942	50,292	53,047	54,452	55,875	58,778

(4) Penstocks

Design Velocity 1	m/s	3.5
Penstock Length 1	m	5
Design Velocity 2	m/s	4.47
Penstock Length 2	m	117.1
Design Velocity 3	m/s	6.08
Penstock Length 3	m	36
Design Velocity 4	m/s	8.76 2 penstocks
Penstock Length 4	m	18.1
Mean Velocity	m/s	5.542609

Dm	m	4.356001	4.478216	4.599681	4.715585	4.831086	4.941565	5.051902	5.157654	5.263463	5.365046
tm	mm	16.62959	17.02603	17.43359	17.82249	18.21003	18.56526	18.93514	19.28964	19.64434	19.96808

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	4,272	4,462	4,655	4,843	5,034	5,220	5,409	5,594	5,781	5,964
Lining Concrete	m3	1,646	1,687	1,727	1,765	1,804	1,841	1,877	1,912	1,947	1,981
Reinforce Bar	t	20	20	21	21	22	22	23	23	23	24
Penstock	t	399	420	442	463	485	506	527	548	570	590

(5) Powerhouse

Undergroundtype

A	m2	860.5151	884.3803	908.3679	931.2572	954.0668	975.5779	997.3609	1018.239	1039.128	1058.849
d	m	30									

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	56,794	58,369	59,952	61,463	62,968	64,388	65,826	67,204	68,582	69,884
Concrete	m3	12,908	13,266	13,626	13,969	14,311	14,634	14,960	15,274	15,587	15,883
Reinforce Bar	t	52	53	55	56	57	59	60	61	62	64

(6) Tailrace Tunnel

Design Velocity	m/s	3.5									
Tunnel Inner Diameter	m	5.5	5.6	5.8	5.9	6.1	6.2	6.4	6.5	6.6	6.8
Concrete Thickness	m	0.6									
Tunnel Length	m	106									
Number	-	1									

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	3,807	3,921	4,155	4,275	4,519	4,644	4,898	5,028	5,159	5,427
Lining Concrete	m3	1,288	1,310	1,355	1,377	1,421	1,443	1,488	1,510	1,533	1,578
Reinforce Bar	t	52	52	54	55	57	58	60	60	61	63

(7) Tailrace

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	5,312	5,502	5,741	5,928	6,164	6,348	6,584	6,766	6,949	7,179
Concrete	m3	1,652	1,737	1,846	1,932	2,043	2,131	2,245	2,334	2,425	2,540
Reinforce Bar	t	24	24	25	26	27	28	28	29	30	31

(8) P/H Access Tunnel

Tunnel Length	m	1663									
Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835
Lining Concrete	m3	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630
Reinforce Bar	t	499	499	499	499	499	499	499	499	499	499

Civil Work Cost

1,000USD

Item		FSL=415									
		1	2	3	4	5	6	7	8	9	10
(1) Concrete Dam											
(1).1 River Treatment(NEA F/S)		6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(1).2 Concrete Dam											
Excavation		46,626	46,626	46,626	46,626	46,626	46,626	46,626	46,626	46,626	46,626
Concrete		50,983	50,983	50,983	50,983	50,983	50,983	50,983	50,983	50,983	50,983
Others		19,522	19,522	19,522	19,522	19,522	19,522	19,522	19,522	19,522	19,522
(2) Intake											
Excavation		135	138	141	144	147	150	153	156	159	161
Concrete		691	713	733	753	772	791	808	827	845	860
Reinforce Bar		191	197	203	208	213	219	224	229	234	238
Others		254	262	269	277	283	290	296	303	309	315
(3) Power Tunnel											
Tunnel Excavation		142	146	155	159	168	173	182	187	192	202
Lining Concrete		96	98	101	103	106	108	111	113	114	118
Reinforce Bar		24	25	25	26	27	27	28	28	29	30
Others		39	40	42	43	45	46	48	49	50	52
(3') Service Adit											
Tunnel Excavation		2,886	2,973	3,150	3,241	3,426	3,520	3,713	3,812	3,911	4,114

(4) Penstock										
Tunnel Excavation	598	625	652	678	705	731	757	783	809	835
Lining Concrete	230	236	242	247	253	258	263	268	273	277
Reinforce Bar	19	19	20	20	21	21	21	22	22	23
Others	169	176	183	189	196	202	208	215	221	227
(5) Power House										
Excavation	3,408	3,502	3,597	3,688	3,778	3,863	3,950	4,032	4,115	4,193
Concrete	2,452	2,520	2,589	2,654	2,719	2,780	2,842	2,902	2,962	3,018
Reinforce Bar	45	47	48	49	50	52	53	54	55	56
Others	2,953	3,035	3,117	3,196	3,274	3,348	3,422	3,494	3,566	3,633
(6) Tailrace Tunnel										
Tunnel Excavation	286	294	312	321	339	348	367	377	387	407
Lining Concrete	245	249	257	262	270	274	283	287	291	300
Reinforce Bar	45	46	48	48	50	51	52	53	54	56
Others	173	177	185	189	198	202	211	215	220	229
(7) Tailrace										
Excavation	64	66	69	71	74	76	79	81	83	86
Concrete	215	226	240	251	266	277	292	303	315	330
Reinforce Bar	20	20	21	22	22	23	24	24	25	25
Others	75	78	82	86	90	94	99	102	106	110
(8) P/H Access Tunnel										
Tunnel Excavation	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237
Lining Concrete	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162
Reinforce Bar	439	439	439	439	439	439	439	439	439	439
Others	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568
(9) Miscellaneous Works	7,402	7,425	7,453	7,476	7,504	7,526	7,554	7,575	7,597	7,624
Total	155,446	155,922	156,523	156,990	157,585	158,039	158,630	159,080	159,533	160,109

Hydro- mechanical Works

1,000USD

Item	FSL=415									
	1	2	3	4	5	6	7	8	9	10
(1) Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2) Intake										
Gate	690	728	768	807	846	884	923	962	1,001	1,039
Screen	383	405	427	448	470	491	513	534	556	577
(3) Penstock	1,517	1,597	1,679	1,760	1,842	1,921	2,003	2,083	2,165	2,243
(4) Tailrace										
Gate	690	728	768	807	846	884	923	962	1,001	1,039
(5) Others	3,031	3,067	3,104	3,140	3,176	3,212	3,248	3,284	3,320	3,355
Total	18,188	18,403	18,623	18,838	19,057	19,270	19,488	19,703	19,922	20,132

Project Cost Summary

1,000USD

Item	FSL=415									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,109	3,118	3,130	3,140	3,152	3,161	3,173	3,182	3,191	3,202
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	51,040	51,040	51,040	51,040	51,040	51,040	51,040	51,040	51,040	51,040
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131
(3) Intake	1,271	1,310	1,346	1,383	1,415	1,450	1,481	1,514	1,547	1,574
(4) Power Tunnel	3,187	3,281	3,473	3,571	3,772	3,874	4,083	4,189	4,297	4,516
(5) Penstock	1,017	1,056	1,096	1,134	1,173	1,211	1,250	1,287	1,325	1,362
(6) Power House	8,858	9,104	9,351	9,587	9,821	10,043	10,267	10,482	10,697	10,900
(7) Tailrace Tunnel	748	766	802	820	857	875	913	932	952	991
(8) Tailrace	373	390	412	430	452	470	493	511	529	552
(9) P/S Access Tunnel	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405
(10) Others	7,402	7,425	7,453	7,476	7,504	7,526	7,554	7,575	7,597	7,624
4. Hydro- Mechanical Works	18,188	18,403	18,623	18,838	19,057	19,270	19,488	19,703	19,922	20,132
5. Electro- Mechanical Works	31,122	32,451	33,487	34,761	35,763	36,763	37,981	38,941	40,126	41,073
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	269,074	271,104	272,973	274,938	276,766	278,443	280,482	282,116	283,980	285,726
7. Administration Fee	40,361	40,666	40,946	41,241	41,515	41,766	42,072	42,317	42,597	42,859
8. Preliminary Cost	26,907	27,110	27,297	27,494	27,677	27,844	28,048	28,212	28,398	28,573
9. Interest During Construction	67,269	67,776	68,243	68,735	69,192	69,611	70,120	70,529	70,995	71,432
Total	403,612	406,656	409,459	412,408	415,149	417,665	420,722	423,173	425,971	428,589

Basic Parameters OP2- 420

Waterway Length		
Headrace Tunnel	m	56.4
Penstock	m	176.2
Tailrace Tunnel	m	106
Sedimentation Level	m	386.2

Specification

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	92.3	97.2	102	106.9	111.7	116.6	121.4	126.3	131.1	136
FSL	EL.m	420	420	420	420	420	420	420	420	420	420
MOL	EL.m	398.8	399	399.4	399.6	400	400.2	400.4	400.8	401	401.2
TWL	EL.m	307.8	307.8	307.8	307.9	307.9	307.9	307.9	308	308	308
Loss	m	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Effective Head	m	111	111	111	110.9	110.9	110.9	110.9	110.8	110.8	110.8
Pmax	MW	91	96	101	106	111	115	120	125	130	134
Primary Energy	GWh	176.91	185.64	194.20	202.29	209.90	216.81	223.62	230.05	235.99	241.23
Pfirm	MW	63.27	64.62	67.06	70.43	74.08	77.59	76.99	63.99	61.94	56.71
Benefit	1000USD	50,875	52,853	55,128	57,598	60,065	62,365	63,410	60,657	61,110	60,480
Cost	1000USD	39,972	40,267	40,576	40,864	41,166	41,413	41,689	41,986	42,257	42,494
B/C		1.27	1.31	1.36	1.41	1.46	1.51	1.52	1.44	1.45	1.42

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	132
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583
Concrete	m3	433,788	433,788	433,788	433,788	433,788	433,788	433,788	433,788	433,788	433,788
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	3.5									
MOL	EL.m	398.8	399	399.4	399.6	400	400.2	400.4	400.8	401	401.2
Waterway Diameter	m	5.8	5.9	6.1	6.2	6.4	6.5	6.6	6.8	6.9	7
Available Height	m	21.2	21	20.6	20.4	20	19.8	19.6	19.2	19	18.8

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	8,242	8,442	8,616	8,804	8,966	9,143	9,311	9,461	9,621	9,780
Concrete	m3	6,933	7,141	7,322	7,519	7,689	7,877	8,056	8,215	8,386	8,557
Reinforce Bar	t	277	286	293	301	308	315	322	329	335	342
Intake Gate	t	120	126	132	139	145	151	157	163	169	176
Intake Screen	t	87	70	73	77	80	84	87	91	94	98

(3) Power Tunnel

Tunnel Inner Diameter	m	5.8	5.9	6.1	6.2	6.4	6.5	6.6	6.8	6.9	7
Concrete Thickness	m	0.6									
Tunnel Length	m	56.4									
Number	-	1									

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	2,211	2,274	2,404	2,471	2,606	2,675	2,745	2,888	2,960	3,034
Lining Concrete	m3	721	733	756	768	792	804	816	839	851	863
Reinforce Bar	t	29	29	30	31	32	32	33	34	34	35

(3') Service Adit

Tunnel Length		m	1148									
Item	Unit	FSL=420										
		1	2	3	4	5	6	7	8	9	10	
Tunnel Excavation	m3	45,002	46,297	48,942	50,292	53,047	54,452	55,875	58,778	60,256	61,753	

(4) Penstocks											
Design Velocity 1	m/s	3.5									
Penstock Length 1	m	5									
Design Velocity 2	m/s	4.47									
Penstock Length 2	m	117.1									
Design Velocity 3	m/s	6.08									
Penstock Length 3	m	36									
Design Velocity 4	m/s	8.76	2 penstocks								
Penstock Length 4	m	18.1									
Mean Velocity	m/s	5.542609									
Dm	m	4.604673	4.725318	4.840587	4.955492	5.065526	5.175439	5.280892	5.386412	5.487813	5.589428
tm	mm	18.17097	18.59466	18.99946	19.38748	19.77356	20.15922	20.52922	20.88261	21.23808	21.5943

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	4,663	4,859	5,050	5,244	5,433	5,625	5,813	6,003	6,190	6,379
Lining Concrete	m3	1,729	1,769	1,807	1,845	1,882	1,918	1,953	1,988	2,022	2,056
Reinforce Bar	t	21	21	22	22	23	23	23	24	24	25
Penstock	t	461	484	507	529	552	575	597	620	642	665

(5) Powerhouse											
Undergroundtype											
A	m2	923.4325	947.6271	970.7433	993.4882	1015.548	1037.584	1058.725	1079.555	1099.878	1120.244
d	m	30									

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	60,947	62,543	64,069	65,570	67,026	68,481	69,876	71,251	72,592	73,936
Concrete	m3	13,851	14,214	14,561	14,902	15,233	15,564	15,881	16,193	16,498	16,804
Reinforce Bar	t	55	57	58	60	61	62	64	65	66	67

(6) Tailrace Tunnel											
Design Velocity	m/s	3.5									
Tunnel Inner Diameter	m	5.8	5.9	6.1	6.2	6.4	6.5	6.6	6.8	6.9	7
Concrete Thickness	m	0.6									
Tunnel Length	m	106									
Number	-	1									

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	4,155	4,275	4,519	4,644	4,898	5,028	5,159	5,427	5,564	5,702
Lining Concrete	m3	1,355	1,377	1,421	1,443	1,488	1,510	1,533	1,578	1,600	1,623
Reinforce Bar	t	54	55	57	58	60	60	61	63	64	65

(7) Tailrace											
Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	5,747	5,939	6,176	6,366	6,601	6,788	6,971	7,207	7,388	7,571
Concrete	m3	1,849	1,938	2,049	2,139	2,253	2,345	2,436	2,554	2,647	2,741
Reinforce Bar	t	25	26	27	28	29	29	30	31	31	32

(8) P/H Access Tunnel											
Tunnel Length	m	1663									
Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835
Lining Concrete	m3	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630
Reinforce Bar	t	499	499	499	499	499	499	499	499	499	499

Civil Work Cost											1,000USD
Item	FSL=420										
	1	2	3	4	5	6	7	8	9	10	
(1) Concrete Dam											
(1).1 River Treatment(NEA F/S)	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	
(1).2 Concrete Dam											
Excavation	47,422	47,422	47,422	47,422	47,422	47,422	47,422	47,422	47,422	47,422	
Concrete	56,392	56,392	56,392	56,392	56,392	56,392	56,392	56,392	56,392	56,392	
Others	20,763	20,763	20,763	20,763	20,763	20,763	20,763	20,763	20,763	20,763	
(2)Intake											
Excavation	157	160	164	167	170	174	177	180	183	186	
Concrete	832	857	879	902	923	945	967	986	1,006	1,027	
Reinforce Bar	230	237	243	250	255	262	267	273	278	284	
Others	305	314	321	330	337	345	353	360	367	374	
(3)Power Tunnel											
Tunnel Excavation	155	159	168	173	182	187	192	202	207	212	
Lining Concrete	101	103	106	108	111	113	114	118	119	121	
Reinforce Bar	25	26	27	27	28	28	29	30	30	30	
Others	42	43	45	46	48	49	50	52	53	55	
(3)Service Adit											
Tunnel Excavation	3,150	3,241	3,426	3,520	3,713	3,812	3,911	4,114	4,218	4,323	

(4) Penstock										
Tunnel Excavation	653	680	707	734	761	787	814	840	867	893
Lining Concrete	242	248	253	258	263	269	273	278	283	288
Reinforce Bar	20	20	21	21	21	22	22	23	23	23
Others	183	190	196	203	209	216	222	228	235	241
(5) Power House										
Excavation	3,657	3,753	3,844	3,934	4,022	4,109	4,193	4,275	4,356	4,436
Concrete	2,632	2,701	2,767	2,831	2,894	2,957	3,017	3,077	3,135	3,193
Reinforce Bar	49	50	51	52	54	55	56	57	58	59
Others	3,169	3,252	3,331	3,409	3,485	3,560	3,633	3,704	3,774	3,844
(6) Tailrace Tunnel										
Tunnel Excavation	312	321	339	348	367	377	387	407	417	428
Lining Concrete	257	262	270	274	283	287	291	300	304	308
Reinforce Bar	48	48	50	51	52	53	54	56	56	57
Others	185	189	198	202	211	215	220	229	233	238
(7) Tailrace										
Excavation	69	71	74	76	79	81	84	86	89	91
Concrete	240	252	266	278	293	305	317	332	344	356
Reinforce Bar	21	22	22	23	24	24	25	26	26	27
Others	83	86	91	94	99	103	106	111	115	118
(8) P/H Access Tunnel										
Tunnel Excavation	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237
Lining Concrete	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162
Reinforce Bar	439	439	439	439	439	439	439	439	439	439
Others	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568
(9) Miscellaneous Works	7,843	7,866	7,895	7,918	7,946	7,969	7,991	8,019	8,041	8,062
Total	164,694	165,185	165,790	166,268	166,867	167,340	167,801	168,398	168,853	169,311

Hydro- mechanical Works

1,000USD

Item	FSL=420									
	1	2	3	4	5	6	7	8	9	10
(1) Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2) Intake										
Gate	787	829	869	910	950	991	1,032	1,073	1,113	1,154
Screen	437	460	483	506	528	551	573	596	618	641
(3) Penstock	1,752	1,840	1,926	2,012	2,097	2,185	2,270	2,355	2,441	2,527
(4) Tailrace										
Gate	787	829	869	910	950	991	1,032	1,073	1,113	1,154
(5) Others	3,128	3,167	3,205	3,243	3,281	3,319	3,357	3,395	3,432	3,471
Total	18,769	19,002	19,228	19,458	19,684	19,915	20,142	20,369	20,595	20,825

Project Cost Summary

1,000USD

Item	FSL=420									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,294	3,304	3,316	3,325	3,337	3,347	3,356	3,368	3,377	3,386
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	124,578	124,578	124,578	124,578	124,578	124,578	124,578	124,578	124,578	124,578
(3) Intake	1,523	1,568	1,607	1,649	1,685	1,726	1,764	1,798	1,834	1,871
(4) Power Tunnel	3,473	3,571	3,772	3,874	4,083	4,189	4,297	4,516	4,628	4,741
(5) Penstock	1,097	1,138	1,177	1,216	1,255	1,293	1,331	1,370	1,407	1,445
(6) Power House	9,506	9,755	9,993	10,227	10,454	10,681	10,899	11,113	11,322	11,532
(7) Tailrace Tunnel	802	820	857	875	913	932	952	991	1,011	1,031
(8) Tailrace	413	431	454	472	495	513	531	555	574	592
(9) P/S Access Tunnel	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405
(10) Others	7,843	7,866	7,895	7,918	7,946	7,969	7,991	8,019	8,041	8,062
4. Hydro- Mechanical Works	18,769	19,002	19,228	19,458	19,684	19,915	20,142	20,369	20,595	20,825
5. Electro- Mechanical Works	33,981	35,217	36,432	37,638	38,815	39,743	40,889	42,032	43,148	44,030
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	266,478	268,448	270,505	272,429	274,443	276,084	277,927	279,907	281,712	283,292
7. Administration Fee	39,972	40,267	40,576	40,864	41,166	41,413	41,689	41,986	42,257	42,494
8. Preliminary Cost	26,648	26,845	27,050	27,243	27,444	27,608	27,793	27,991	28,171	28,329
9. Interest During Construction	66,619	67,112	67,626	68,107	68,611	69,021	69,482	69,977	70,428	70,823
Total	399,716	402,671	405,757	408,643	411,664	414,127	416,890	419,860	422,568	424,937

Basic Parameters OP2- 425

Waterway Length		
Headrace Tunnel	m	56.4
Penstock	m	176.2
Tailrace Tunnel	m	106
Sedimentation Level	m	386.2

Specification

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	102.9	107.8	112.6	117.5	122.3	127.2	132	136.9	141.7	146.6
FSL	EL.m	425	425	425	425	425	425	425	425	425	425
MOL	EL.m	399.4	399.8	400	400.2	400.6	400.8	401	401.4	401.6	401.8
TWL	EL.m	307.8	307.9	307.9	307.9	307.9	308	308	308	308	308.1
Loss	m	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Effective Head	m	116	115.9	115.9	115.9	115.9	115.8	115.8	115.8	115.8	115.7
Pmax	MW	106	111	116	122	126	131	136	141	146	151
Primary Energy	GWh	201.75	210.31	218.44	226.57	233.70	240.29	246.69	252.94	258.88	263.76
Pfirm	MW	67.72	69.79	73.14	76.57	80.21	83.36	76.93	62.61	62.09	57.31
Benefit	1000USD	56,685	58,849	61,320	63,815	66,193	68,327	67,545	64,362	65,275	64,716
Cost	1000USD	42,021	42,327	42,606	42,918	43,178	43,452	43,720	44,008	44,272	44,536
B/C		1.35	1.39	1.44	1.49	1.53	1.57	1.54	1.46	1.47	1.45

Civil & Hydromechanical Work Quantity
(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	137
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877
Concrete	m3	478,021	478,021	478,021	478,021	478,021	478,021	478,021	478,021	478,021	478,021
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	3.5									
MOL	EL.m	399.4	399.8	400	400.2	400.6	400.8	401	401.4	401.6	401.8
Waterway Diameter	m	6.1	6.3	6.4	6.5	6.7	6.8	6.9	7.1	7.2	7.3
Available Height	m	25.6	25.2	25	24.8	24.4	24.2	24	23.6	23.4	23.2

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	9,429	9,621	9,817	10,012	10,182	10,367	10,544	10,703	10,872	11,040
Concrete	m3	8,182	8,386	8,597	8,808	8,992	9,194	9,387	9,562	9,747	9,933
Reinforce Bar	t	327	335	344	352	360	368	375	382	390	397
Intake Gate	t	136	142	149	155	161	168	174	180	187	193
Intake Screen	t	76	79	83	86	90	93	97	100	104	107

(3) Power Tunnel

Tunnel Inner Diameter	m	6.1	6.3	6.4	6.5	6.7	6.8	6.9	7.1	7.2	7.3
Concrete Thickness	m	0.6									
Tunnel Length	m	56.4									
Number	-	1									

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	2,404	2,538	2,606	2,675	2,816	2,888	2,960	3,108	3,184	3,260
Lining Concrete	m3	756	780	792	804	827	839	851	875	887	899
Reinforce Bar	t	30	31	32	32	33	34	34	35	35	36

(3') Service Adit

Tunnel Length	m	1148
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Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	48,942	51,660	53,047	54,452	57,317	58,778	60,256	63,269	64,802	66,354

(4) Penstocks											
Design Velocity 1	m/s	3.5									
Penstock Length 1	m	5									
Design Velocity 2	m/s	4.47									
Penstock Length 2	m	117.1									
Design Velocity 3	m/s	6.08									
Penstock Length 3	m	36									
Design Velocity 4	m/s	8.76	2 penstocks								
Penstock Length 4	m	18.1									
Mean Velocity	m/s	5.542609									
Dm	m	4.861895	4.976309	5.085892	5.195374	5.300431	5.40557	5.506617	5.607892	5.705357	5.803165
tm	mm	19.83518	20.23932	20.64096	21.04224	21.4273	21.79574	22.16578	22.53666	22.89359	23.23361

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	5,085	5,279	5,468	5,660	5,848	6,038	6,224	6,414	6,599	6,787
Lining Concrete	m3	1,814	1,852	1,888	1,925	1,960	1,995	2,028	2,062	2,094	2,127
Reinforce Bar	t	22	22	23	23	24	24	24	25	25	26
Penstock	t	531	555	578	602	626	649	673	696	720	743

(5) Powerhouse											
Undergroundtype											
A	m2	989.442	1012.435	1034.73	1057.004	1078.378	1099.452	1120.005	1140.603	1160.427	1179.98
d	m	30									

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	65,303	66,821	68,292	69,762	71,173	72,564	73,920	75,280	76,588	77,879
Concrete	m3	14,842	15,187	15,521	15,855	16,176	16,492	16,800	17,109	17,406	17,700
Reinforce Bar	t	59	61	62	63	65	66	67	68	70	71

(6) Tailrace Tunnel											
Design Velocity	m/s	3.5									
Tunnel Inner Diameter	m	6.1	6.3	6.4	6.5	6.7	6.8	6.9	7.1	7.2	7.3
Concrete Thickness	m	0.6									
Tunnel Length	m	106									
Number	-	1									

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	4,519	4,770	4,898	5,028	5,292	5,427	5,564	5,842	5,983	6,127
Lining Concrete	m3	1,421	1,466	1,488	1,510	1,555	1,578	1,600	1,645	1,668	1,690
Reinforce Bar	t	57	59	60	60	62	63	64	66	67	68

(7) Tailrace											
Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	6,202	6,440	6,626	6,813	7,046	7,231	7,413	7,647	7,827	8,008
Concrete	m3	2,061	2,175	2,265	2,357	2,473	2,567	2,659	2,780	2,874	2,969
Reinforce Bar	t	27	28	29	29	30	31	32	32	33	34

(8) P/H Access Tunnel											
Tunnel Length	m	1663									
Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835
Lining Concrete	m3	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630
Reinforce Bar	t	499	499	499	499	499	499	499	499	499	499

Civil Work Cost											1,000USD
Item		FSL=425									
		1	2	3	4	5	6	7	8	9	10
(1) Concrete Dam											
(1).1 River Treatment(NEA F/S)		6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(1).2 Concrete Dam											
Excavation		48,202	48,202	48,202	48,202	48,202	48,202	48,202	48,202	48,202	48,202
Concrete		62,143	62,143	62,143	62,143	62,143	62,143	62,143	62,143	62,143	62,143
Others		22,069	22,069	22,069	22,069	22,069	22,069	22,069	22,069	22,069	22,069
(2) Intake											
Excavation		179	183	187	190	193	197	200	203	207	210
Concrete		982	1,006	1,032	1,057	1,079	1,103	1,126	1,147	1,170	1,192
Reinforce Bar		272	278	285	292	299	305	312	317	324	330
Others		358	367	376	385	393	401	410	417	425	433
(3) Power Tunnel											
Tunnel Excavation		168	178	182	187	197	202	207	218	223	228
Lining Concrete		106	109	111	113	116	118	119	123	124	126
Reinforce Bar		27	27	28	28	29	30	30	31	31	32
Others		45	47	48	49	51	52	53	56	57	58
(3) Service Adit											
Tunnel Excavation		3,426	3,616	3,713	3,812	4,012	4,114	4,218	4,429	4,536	4,645

(4)Penstock										
Tunnel Excavation	712	739	766	792	819	845	871	898	924	950
Lining Concrete	254	259	264	269	274	279	284	289	293	298
Reinforce Bar	21	21	22	22	22	23	23	24	24	24
Others	197	204	210	217	223	229	236	242	248	254
(5)Power House										
Excavation	3,918	4,009	4,098	4,186	4,270	4,354	4,435	4,517	4,595	4,673
Concrete	2,820	2,885	2,949	3,012	3,073	3,133	3,192	3,251	3,307	3,363
Reinforce Bar	52	53	55	56	57	58	59	60	61	62
Others	3,395	3,474	3,551	3,627	3,700	3,773	3,843	3,914	3,982	4,049
(6)Tailrace Tunnel										
Tunnel Excavation	339	358	367	377	397	407	417	438	449	460
Lining Concrete	270	278	283	287	295	300	304	313	317	321
Reinforce Bar	50	52	52	53	55	56	56	58	59	59
Others	198	206	211	215	224	229	233	243	247	252
(7)Tailrace										
Excavation	74	77	80	82	85	87	89	92	94	96
Concrete	268	283	295	306	322	334	346	361	374	386
Reinforce Bar	22	23	24	24	25	26	26	27	27	28
Others	91	96	99	103	108	112	115	120	124	128
(8)P/H Access Tunnel										
Tunnel Excavation	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237
Lining Concrete	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162
Reinforce Bar	439	439	439	439	439	439	439	439	439	439
Others	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568
(9)Miscellaneous Works	8,306	8,335	8,358	8,381	8,410	8,432	8,454	8,483	8,505	8,526
Total	174,422	175,038	175,516	175,996	176,601	177,070	177,532	178,140	178,597	179,054

Hydro- mechanical Works

1,000USD

Item	FSL=425									
	1	2	3	4	5	6	7	8	9	10
(1)Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2)Intake										
Gate	893	935	976	1,019	1,059	1,102	1,143	1,184	1,225	1,267
Screen	496	520	542	566	589	612	635	658	681	704
(3)Penstock	2,019	2,109	2,198	2,289	2,378	2,467	2,556	2,646	2,735	2,823
(4)Tailrace										
Gate	893	935	976	1,019	1,059	1,102	1,143	1,184	1,225	1,267
(5)Others	3,236	3,275	3,314	3,354	3,393	3,432	3,471	3,510	3,549	3,588
Total	19,416	19,652	19,886	20,124	20,356	20,592	20,824	21,061	21,293	21,527

Project Cost Summary

1,000USD

Item	FSL=425									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,488	3,501	3,510	3,520	3,532	3,541	3,551	3,563	3,572	3,581
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	132,413	132,413	132,413	132,413	132,413	132,413	132,413	132,413	132,413	132,413
(3) Intake	1,791	1,834	1,880	1,925	1,964	2,007	2,048	2,085	2,125	2,164
(4) Power Tunnel	3,772	3,978	4,083	4,189	4,406	4,516	4,628	4,855	4,971	5,088
(5) Penstock	1,184	1,223	1,262	1,301	1,338	1,377	1,414	1,452	1,489	1,527
(6) Power House	10,186	10,422	10,652	10,881	11,101	11,318	11,530	11,742	11,946	12,147
(7) Tailrace Tunnel	857	894	913	932	971	991	1,011	1,051	1,072	1,092
(8) Tailrace	456	479	497	516	539	558	576	600	619	638
(9)P/S Access Tunnel	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405
(10) Others	8,306	8,335	8,358	8,381	8,410	8,432	8,454	8,483	8,505	8,526
4. Hydro- Mechanical Works	19,416	19,652	19,886	20,124	20,356	20,592	20,824	21,061	21,293	21,527
5. Electro- Mechanical Works	37,077	38,247	39,389	40,739	41,626	42,734	43,817	44,887	45,943	47,002
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	280,143	282,177	284,040	286,118	287,854	289,677	291,464	293,390	295,145	296,904
7. Administration Fee	42,021	42,327	42,606	42,918	43,178	43,452	43,720	44,008	44,272	44,536
8. Preliminary Cost	28,014	28,218	28,404	28,612	28,785	28,968	29,146	29,339	29,515	29,690
9. Interest During Construction	70,036	70,544	71,010	71,529	71,964	72,419	72,866	73,347	73,786	74,226
Total	420,215	423,266	426,061	429,177	431,781	434,516	437,196	440,085	442,718	445,356

Basic Parameters OP2- 435

Waterway Length		
Headrace Tunnel	m	56.4
Penstock	m	176.2
Tailrace Tunnel	m	106
Sedimentation Level	m	386.2

Specification

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Qmax	m ³ /s	124.6	129.5	134.4	139.4	144.3	149.2	154.1	159.1	164	168.9
FSL	EL.m	435	435	435	435	435	435	435	435	435	435
MOL	EL.m	400.6	401	401.2	401.4	401.6	402	402.2	402.4	402.6	402.8
TWL	EL.m	308	308	308	308	308	308.1	308.1	308.1	308.1	308.1
Loss	m	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Effective Head	m	125.8	125.8	125.8	125.8	125.8	125.7	125.7	125.7	125.7	125.7
Pmax	MW	140	145	151	156	162	167	173	178	184	189
Primary Energy	GWh	254.59	262.84	270.84	277.99	284.96	290.87	296.81	302.14	306.49	310.72
Pfirm	MW	78.36	81.99	85.37	88.84	92.19	78.42	73.05	65.48	61.97	57.30
Benefit	1000USD	69,397	71,974	74,430	76,761	79,024	75,945	75,399	74,082	73,809	73,165
Cost	1000USD	50,325	50,613	50,908	51,171	51,461	51,741	52,026	52,281	52,561	52,811
B/C		1.38	1.42	1.46	1.50	1.54	1.47	1.45	1.42	1.40	1.39

Civil & Hydromechanical Work Quantity
(1) Dam

Design Flood	m ³ /s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	147
Crest Length (L)	m	173.2

 Coefficient for Ex $Y=A^*X^B$

A 32335

B 0.4384

 Coefficient for Conc $Y=C^*X^D$

C 0.0015

D 1.3058

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m ³	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876
Concrete	m ³	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	3.5									
MOL	EL.m	400.6	401	401.2	401.4	401.6	402	402.2	402.4	402.6	402.8
Waterway Diameter	m	6.7	6.9	7	7.1	7.2	7.4	7.5	7.6	7.7	7.8
Available Height	m	34.4	34	33.8	33.6	33.4	33	32.8	32.6	32.4	32.2

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m ³	11,815	12,016	12,226	12,436	12,637	12,818	13,011	13,204	13,389	13,570
Concrete	m ³	10,797	11,023	11,261	11,499	11,728	11,936	12,157	12,379	12,592	12,803
Reinforce Bar	t	432	441	450	460	469	477	486	495	504	512
Intake Gate	t	169	176	183	189	196	203	209	216	222	229
Intake Screen	t	94	98	101	105	109	113	116	120	124	127

(3) Power Tunnel

Tunnel Inner Diameter	m	6.7	6.9	7	7.1	7.2	7.4	7.5	7.6	7.7	7.8
Concrete Thickness	m	0.6									
Tunnel Length	m	56.4									
Number	-	1									

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m ³	2,816	2,960	3,034	3,108	3,184	3,337	3,415	3,494	3,574	3,655
Lining Concrete	m ³	827	851	863	875	887	911	923	936	948	960
Reinforce Bar	t	33	34	35	35	35	36	37	37	38	38

(3') Service Adit

Tunnel Length	m	1148
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Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m ³	57,317	60,256	61,753	63,269	64,802	67,925	69,514	71,121	72,746	74,390

(4) Penstocks											
Design Velocity 1	m/s	3.5									
Penstock Length 1	m	5									
Design Velocity 2	m/s	4.47									
Penstock Length 2	m	117.1									
Design Velocity 3	m/s	6.08									
Penstock Length 3	m	36									
Design Velocity 4	m/s	8.76	2 penstocks								
Penstock Length 4	m	18.1									
Mean Velocity	m/s	5.542609									
Dm	m	5.350039	5.454222	5.556452	5.658865	5.757462	5.854399	5.949757	6.045511	6.137901	6.22892
tm	mm	23.26694	23.68108	24.08745	24.49455	24.88649	25.2535	25.63226	26.01259	26.37956	26.74108

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	5,937	6,128	6,317	6,510	6,699	6,887	7,074	7,265	7,451	7,637
Lining Concrete	m3	1,976	2,011	2,045	2,079	2,111	2,144	2,175	2,207	2,238	2,268
Reinforce Bar	t	24	24	25	25	25	26	26	26	27	27
Penstock	t	686	712	738	764	790	815	840	867	892	918

(5) Powerhouse											
Undergroundtype											
A	m2	1118.62	1140.403	1161.778	1183.191	1203.807	1223.75	1243.683	1263.699	1283.011	1302.037
d	m	30									

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	73,829	75,267	76,677	78,091	79,451	80,768	82,083	83,404	84,679	85,934
Concrete	m3	16,779	17,106	17,427	17,748	18,057	18,356	18,655	18,955	19,245	19,531
Reinforce Bar	t	67	68	70	71	72	73	75	76	77	78

(6) Tailrace Tunnel											
Design Velocity	m/s	3.5									
Tunnel Inner Diameter	m	6.7	6.9	7	7.1	7.2	7.4	7.5	7.6	7.7	7.8
Concrete Thickness	m	0.6									
Tunnel Length	m	106									
Number	-	1									

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	5,292	5,564	5,702	5,842	5,983	6,272	6,419	6,567	6,717	6,869
Lining Concrete	m3	1,555	1,600	1,623	1,645	1,668	1,713	1,736	1,758	1,781	1,804
Reinforce Bar	t	62	64	65	66	67	69	69	70	71	72

(7) Tailrace											
Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	7,110	7,345	7,529	7,714	7,895	8,128	8,308	8,490	8,668	8,846
Concrete	m3	2,505	2,624	2,719	2,815	2,910	3,033	3,130	3,228	3,325	3,423
Reinforce Bar	t	30	31	32	33	33	34	35	35	36	37

(8) P/H Access Tunnel											
Tunnel Length	m	1663									
Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835	74,835
Lining Concrete	m3	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630	16,630
Reinforce Bar	t	499	499	499	499	499	499	499	499	499	499

Civil Work Cost

1,000USD

Civil Work Cost		FSL=435									
Item		1	2	3	4	5	6	7	8	9	10
(1) Concrete Dam											
(t).1 River Treatment(NEA F/S)		6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(1).2 Concrete Dam											
Excavation		49,714	49,714	49,714	49,714	49,714	49,714	49,714	49,714	49,714	49,714
Concrete		74,696	74,696	74,696	74,696	74,696	74,696	74,696	74,696	74,696	74,696
Others		24,882	24,882	24,882	24,882	24,882	24,882	24,882	24,882	24,882	24,882
(2)Intake											
Excavation		224	228	232	236	240	244	247	251	254	258
Concrete		1,296	1,323	1,351	1,380	1,407	1,432	1,459	1,485	1,511	1,536
Reinforce Bar		358	366	374	382	389	396	404	411	418	425
Others		470	479	489	499	509	518	527	537	546	555
(3)Power Tunnel											
Tunnel Excavation		197	207	212	218	223	234	239	245	250	256
Lining Concrete		116	119	121	123	124	128	129	131	133	134
Reinforce Bar		29	30	30	31	31	32	33	33	33	34
Others		51	53	55	56	57	59	60	61	62	64
(3')Service Adit											
Tunnel Excavation		4,012	4,218	4,323	4,429	4,536	4,755	4,866	4,978	5,092	5,207

(4)Penstock										
Tunnel Excavation	831	858	884	911	938	964	990	1,017	1,043	1,069
Lining Concrete	277	282	286	291	296	300	305	309	313	318
Reinforce Bar	23	23	23	24	24	24	25	25	26	26
Others	226	232	239	245	252	258	264	270	276	283
(5)Power House										
Excavation	4,430	4,516	4,601	4,685	4,767	4,846	4,925	5,004	5,081	5,156
Concrete	3,188	3,250	3,311	3,372	3,431	3,488	3,544	3,602	3,657	3,711
Reinforce Bar	59	60	61	62	64	65	66	67	68	69
Others	3,838	3,913	3,987	4,060	4,131	4,199	4,268	4,336	4,403	4,468
(6)Tailrace Tunnel										
Tunnel Excavation	397	417	428	438	449	470	481	493	504	515
Lining Concrete	295	304	308	313	317	325	330	334	338	343
Reinforce Bar	55	56	57	58	59	60	61	62	63	63
Others	224	233	238	243	247	257	262	267	271	276
(7)Tailrace										
Excavation	85	88	90	93	95	98	100	102	104	106
Concrete	326	341	353	366	378	394	407	420	432	445
Reinforce Bar	25	26	27	27	28	28	29	29	30	30
Others	109	114	118	121	125	130	134	138	142	145
(8)P/H Access Tunnel										
Tunnel Excavation	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237	5,237
Lining Concrete	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162
Reinforce Bar	439	439	439	439	439	439	439	439	439	439
Others	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568
(9)Miscellaneous Works	9,295	9,324	9,347	9,371	9,393	9,423	9,445	9,468	9,490	9,512
Total	195,187	195,813	196,296	196,783	197,259	197,877	198,349	198,824	199,290	199,754

Hydro- mechanical Works

1,000USD

Item	FSL=435									
	1	2	3	4	5	6	7	8	9	10
(1)Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2)Intake										
Gate	1,113	1,157	1,200	1,244	1,288	1,331	1,374	1,418	1,461	1,505
Screen	619	643	667	691	715	739	763	788	812	836
(3)Penstock	2,607	2,705	2,803	2,903	3,000	3,096	3,193	3,293	3,390	3,488
(4)Tailrace										
Gate	1,113	1,157	1,200	1,244	1,288	1,331	1,374	1,418	1,461	1,505
(5)Others	3,466	3,508	3,549	3,592	3,634	3,675	3,716	3,759	3,801	3,842
Total	20,795	21,045	21,296	21,552	21,802	22,049	22,299	22,554	22,803	23,053

Project Cost Summary

1,000USD

Item	FSL=435									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,904	3,916	3,926	3,936	3,945	3,958	3,967	3,976	3,986	3,995
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	61,990	61,990	61,990	61,990	61,990	61,990	61,990	61,990	61,990	61,990
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292
(3) Intake	2,348	2,396	2,447	2,497	2,546	2,590	2,637	2,684	2,729	2,774
(4) Power Tunnel	4,406	4,628	4,741	4,855	4,971	5,207	5,327	5,448	5,571	5,695
(5) Penstock	1,356	1,395	1,433	1,471	1,509	1,546	1,584	1,622	1,658	1,695
(6) Power House	11,515	11,740	11,960	12,180	12,392	12,598	12,803	13,009	13,208	13,403
(7) Tailrace Tunnel	971	1,011	1,031	1,051	1,072	1,113	1,134	1,155	1,176	1,198
(8) Tailrace	545	569	588	607	626	650	669	689	708	727
(9)P/S Access Tunnel	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405	9,405
(10) Others	9,295	9,324	9,347	9,371	9,393	9,423	9,445	9,468	9,490	9,512
4. Hydro- Mechanical Works	20,795	21,045	21,296	21,552	21,802	22,049	22,299	22,554	22,803	23,053
5. Electro- Mechanical Works	43,455	44,485	45,707	46,712	47,904	48,900	50,066	51,028	52,171	53,113
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	335,500	337,419	339,384	341,142	343,071	344,943	346,840	348,542	350,410	352,075
7. Administration Fee	50,325	50,613	50,908	51,171	51,461	51,741	52,026	52,281	52,561	52,811
8. Preliminary Cost	33,550	33,742	33,938	34,114	34,307	34,494	34,684	34,854	35,041	35,208
9. Interest During Construction	83,875	84,355	84,846	85,285	85,768	86,236	86,710	87,135	87,602	88,019
Total	503,250	506,129	509,077	511,713	514,606	517,414	520,260	522,813	525,615	528,113

Option IIIa

Basic Parameters OP3a- 405

Waterway Length		
Headrace Tunnel	m	137.3
Penstock	m	162.6
Tailrace Tunnel	m	1480
	m	1779.9
Sedimentation Level	m	386.2

Specification

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	65.4	70.2	75	79.8	84.6	89.3	94.1	98.9	103.7	108.5
FSL	EL.m	405	405	405	405	405	405	405	405	405	405
MOL	EL.m	397	397.4	397.6	398	398.2	398.6	399	399.2	399.4	399.8
TWL	EL.m	288.6	288.7	288.7	288.8	288.8	288.9	288.9	288.9	289	289
Loss	m	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Effective Head	m	113	112.9	112.9	112.8	112.8	112.7	112.7	112.7	112.6	112.6
Pmax	MW	66	71	76	80	85	90	95	99	104	109
Primary Energy	GWh	136.43	146.02	155.63	164.75	173.87	182.24	190.45	197.98	205.33	212.51
Pfirm	MW	54.76	59.02	63.21	67.04	70.18	70.87	64.87	59.47	52.92	52.28
Benefit	1000USD	41,029	44,037	47,027	49,821	52,407	54,121	53,794	53,525	52,878	53,978
Cost	1000USD	35,036	35,438	35,781	36,135	36,469	36,854	37,238	37,525	37,845	38,222
B/C		1.17	1.24	1.31	1.38	1.44	1.47	1.44	1.43	1.40	1.41

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	117
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
A		32335
B		0.4384
Coefficient for Conc	Y=C*X*D	
C		0.0015
D		1.3058

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877
Concrete	m3	316,564	316,564	316,564	316,564	316,564	316,564	316,564	316,564	316,564	316,564
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1
Design Velocity	m3/s	3.5
MOL	EL.m	397
Waterway Diameter	m	4.9
Available Height	m	8

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	4,795	4,930	5,075	5,193	5,326	5,427	5,525	5,640	5,751	5,832
Concrete	m3	3,562	3,685	3,819	3,929	4,052	4,147	4,239	4,348	4,453	4,531
Reinforce Bar	t	142	147	153	157	162	166	170	174	178	181
Intake Gate	t	78	84	89	95	101	106	112	117	123	128
Intake Screen	t	43	47	50	53	56	59	62	65	68	71

(3) Power Tunnel

Tunnel Inner Diameter	m	4.9
Concrete Thickness	m	0.6
Tunnel Length	m	137.3
Number	-	1

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	4,087	4,360	4,499	4,785	4,931	5,229	5,537	5,694	5,853	6,179
Lining Concrete	m3	1,498	1,555	1,583	1,640	1,669	1,726	1,783	1,812	1,841	1,899
Reinforce Bar	t	60	62	63	66	67	69	71	72	74	76

(3') Srevice Adit

Tunnel Length		m	1148									
Item	Unit	FSL=405										
		1	2	3	4	5	6	7	8	9	10	
Tunnel Excavation	m3	34,174	36,451	37,618	40,006	41,227	43,725	46,297	47,610	48,942	51,660	

(4) Penstocks											
Design Velocity 1	m/s	3.5									
Penstock Length 1	m	5									
Design Velocity 2	m/s	5.2									
Penstock Length 2	m	124.3									
Design Velocity 3	m/s	6.08									
Penstock Length 3	m	18.3									
Design Velocity 4	m/s	8.76	2 penstocks								
Penstock Length 4	m	15									
Mean Velocity	m/s	5.844167									
Dm	m	3.774702	3.91077	4.042261	4.169608	4.293178	4.410822	4.527814	4.641859	4.753168	4.861929
tm	mm	15.75245	16.23595	16.7146	17.16511	17.61455	18.02862	18.45376	18.86819	19.2578	19.65269

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	3,160	3,336	3,510	3,682	3,854	4,020	4,190	4,358	4,526	4,693
Lining Concrete	m3	1,341	1,383	1,423	1,462	1,500	1,536	1,572	1,607	1,641	1,674
Reinforce Bar	t	16	17	17	18	18	18	19	19	20	20
Penstock	t	299	320	340	360	381	401	421	441	461	481

(5) Powerhouse											
Undergroundtype											
A	m2	781.9489	809.8971	837.1281	863.2458	888.829	912.915	937.1291	960.7332	983.4799	1005.984
d	m	30									

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	51,609	53,453	55,250	56,974	58,663	60,252	61,851	63,408	64,910	66,395
Concrete	m3	11,729	12,148	12,557	12,949	13,332	13,694	14,057	14,411	14,752	15,090
Reinforce Bar	t	47	49	50	52	53	55	56	58	59	60

(6) Tailrace Tunnel											
Design Velocity	m/s	3.5									
Tunnel Inner Diameter	m	4.9	5.1	5.2	5.4	5.5	5.7	5.9	6	6.1	6.3
Concrete Thickness	m	0.6									
Tunnel Length	m	1480									
Number	-	1									

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	44,057	46,993	48,497	51,575	53,150	56,370	59,685	61,379	63,095	66,600
Lining Concrete	m3	16,148	16,759	17,066	17,680	17,987	18,604	19,223	19,533	19,843	20,465
Reinforce Bar	t	646	670	683	707	719	744	769	781	794	819

(7) Tailrace											
Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	4,494	4,739	4,938	5,179	5,373	5,610	5,848	6,037	6,225	6,460
Concrete	m3	1,301	1,404	1,489	1,594	1,680	1,786	1,895	1,984	2,072	2,185
Reinforce Bar	t	21	22	22	23	24	25	26	26	27	28

(8) P/H Access Tunnel											
Tunnel Length	m	1975									
Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	88,875	88,875	88,875	88,875	88,875	88,875	88,875	88,875	88,875	88,875
Lining Concrete	m3	19,750	19,750	19,750	19,750	19,750	19,750	19,750	19,750	19,750	19,750
Reinforce Bar	t	593	593	593	593	593	593	593	593	593	593

Civil Work Cost											1,000USD
Item	FSL=405										
	1	2	3	4	5	6	7	8	9	10	
(1) Concrete Dam											
(1).1 River Treatment(NEA F/S)	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	
(1).2 Concrete Dam											
Excavation	44,980	44,980	44,980	44,980	44,980	44,980	44,980	44,980	44,980	44,980	
Concrete	41,153	41,153	41,153	41,153	41,153	41,153	41,153	41,153	41,153	41,153	
Others	17,227	17,227	17,227	17,227	17,227	17,227	17,227	17,227	17,227	17,227	
(2)Intake											
Excavation	91	94	96	99	101	103	105	107	109	111	
Concrete	427	442	458	471	486	498	509	522	534	544	
Reinforce Bar	118	122	127	130	135	138	141	144	148	150	
Others	159	165	170	175	180	185	189	193	198	201	
(3)Power Tunnel											
Tunnel Excavation	286	305	315	335	345	366	388	399	410	432	
Lining Concrete	210	218	222	230	234	242	250	254	258	266	
Reinforce Bar	53	55	56	58	59	61	63	64	65	67	
Others	82	87	89	93	96	100	105	107	110	115	
(3')Service Adit											
Tunnel Excavation	2,392	2,552	2,633	2,800	2,886	3,061	3,241	3,333	3,426	3,616	

(4) Penstock										
Tunnel Excavation	442	467	491	515	539	563	587	610	634	657
Lining Concrete	188	194	199	205	210	215	220	225	230	234
Reinforce Bar	15	16	16	17	17	18	18	18	19	19
Others	129	135	141	147	153	159	165	171	176	182
(5) Power House										
Excavation	3,097	3,207	3,315	3,418	3,520	3,615	3,711	3,805	3,895	3,984
Concrete	2,229	2,308	2,386	2,460	2,533	2,602	2,671	2,738	2,803	2,867
Reinforce Bar	41	43	44	46	47	48	49	51	52	53
Others	2,683	2,779	2,873	2,962	3,050	3,133	3,216	3,297	3,375	3,452
(6) Tailrace Tunnel										
Tunnel Excavation	3,304	3,524	3,637	3,868	3,986	4,228	4,476	4,603	4,732	4,995
Lining Concrete	3,068	3,184	3,242	3,359	3,418	3,535	3,652	3,711	3,770	3,888
Reinforce Bar	568	590	601	622	633	655	677	688	698	720
Others	2,082	2,190	2,244	2,355	2,411	2,525	2,642	2,701	2,760	2,881
(7) Tailrace										
Excavation	54	57	59	62	64	67	70	72	75	78
Concrete	169	183	194	207	218	232	246	258	269	284
Reinforce Bar	17	18	18	19	20	21	21	22	23	23
Others	60	64	68	72	76	80	84	88	92	96
(8) P/H Access Tunnel										
Tunnel Excavation	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219
Lining Concrete	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568
Reinforce Bar	521	521	521	521	521	521	521	521	521	521
Others	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862
(9) Miscellaneous Works	7,127	7,179	7,214	7,266	7,300	7,352	7,404	7,438	7,472	7,525
Total	149,676	150,759	151,492	152,576	153,300	154,382	155,481	156,201	156,914	158,024

Hydro- mechanical Works

1,000USD

Item	FSL=405									
	1	2	3	4	5	6	7	8	9	10
(1) Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2) Intake										
Gate	514	551	588	624	661	697	733	769	806	842
Screen	285	306	326	347	367	387	407	427	448	468
(3) Penstock	1,138	1,215	1,293	1,370	1,447	1,522	1,599	1,676	1,752	1,829
(4) Tailrace										
Gate	514	551	588	624	661	697	733	769	806	842
(5) Others	2,866	2,900	2,935	2,969	3,003	3,036	3,070	3,104	3,138	3,171
Total	17,194	17,400	17,607	17,811	18,017	18,216	18,419	18,624	18,827	19,029

Project Cost Summary

1,000USD

Item	FSL=405									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	2,994	3,015	3,030	3,052	3,066	3,088	3,110	3,124	3,138	3,160
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	26,280	26,280	26,280	26,280	26,280	26,280	26,280	26,280	26,280	26,280
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	103,360	103,360	103,360	103,360	103,360	103,360	103,360	103,360	103,360	103,360
(3) Intake	796	823	852	876	902	923	943	967	989	1,006
(4) Power Tunnel	3,023	3,216	3,314	3,516	3,619	3,829	4,046	4,156	4,268	4,496
(5) Penstock	775	812	848	884	920	954	989	1,024	1,058	1,093
(6) Power House	8,050	8,337	8,618	8,886	9,150	9,398	9,647	9,890	10,124	10,356
(7) Tailrace Tunnel	9,023	9,488	9,725	10,204	10,448	10,943	11,447	11,703	11,961	12,485
(8) Tailrace	300	322	339	361	378	400	422	440	458	481
(9) P/S Access Tunnel	11,170	11,170	11,170	11,170	11,170	11,170	11,170	11,170	11,170	11,170
(10) Others	7,127	7,179	7,214	7,266	7,300	7,352	7,404	7,438	7,472	7,525
4. Hydro- Mechanical Works	17,194	17,400	17,607	17,811	18,017	18,216	18,419	18,624	18,827	19,029
5. Electro- Mechanical Works	27,257	28,628	29,959	31,012	32,294	33,560	34,794	35,766	36,974	38,152
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	233,571	236,251	238,538	240,900	243,127	245,695	248,254	250,164	252,303	254,814
7. Administration Fee	35,036	35,438	35,781	36,135	36,469	36,854	37,238	37,525	37,845	38,222
8. Preliminary Cost	23,357	23,625	23,854	24,090	24,313	24,569	24,825	25,016	25,230	25,481
9. Interest During Construction	58,393	59,063	59,634	60,225	60,782	61,424	62,063	62,541	63,076	63,704
Total	350,356	354,376	357,806	361,350	364,691	368,542	372,381	375,247	378,454	382,221

Basic Parameters			OP3a- 410
Waterway Length			
Headrace Tunnel	m	137.3	
Penstock	m	162.6	
Tailrace Tunnel	m	1480	
	m	1779.9	
Sedimentation Level	m	386.2	

Specification

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	73.7	78.2	82.8	87.3	91.9	96.4	101	105.5	110.1	114.6
FSL	EL.m	410	410	410	410	410	410	410	410	410	410
MOL	EL.m	397.6	397.8	398.2	398.4	398.8	399	399.4	399.6	399.8	400.2
TWL	EL.m	288.7	288.8	288.8	288.8	288.9	288.9	289	289	289	289.1
Loss	m	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Effective Head	m	117.9	117.8	117.8	117.8	117.7	117.7	117.6	117.6	117.6	117.5
Pmax	MW	78	82	87	92	97	101	106	111	116	120
Primary Energy	GWh	157.72	166.57	176.06	185.03	193.70	201.83	210.03	217.58	224.75	230.87
Pfirm	MW	61.35	65.19	69.35	71.82	75.20	79.10	78.48	70.00	66.72	58.68
Benefit	1000USD	46,844	49,592	52,551	54,909	57,486	60,123	61,412	60,220	60,524	59,208
Cost	1000USD	37,207	37,501	37,886	38,210	38,589	38,870	39,246	39,558	39,868	40,203
B/C		1.26	1.32	1.39	1.44	1.49	1.55	1.56	1.52	1.52	1.47

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	122
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144
Concrete	m3	353,122	353,122	353,122	353,122	353,122	353,122	353,122	353,122	353,122	353,122
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	3.5									
MOL	EL.m	397.6	397.8	398.2	398.4	398.8	399	399.4	399.6	399.8	400.2
Waterway Diameter	m	5.2	5.3	5.5	5.6	5.8	5.9	6.1	6.2	6.3	6.5
Available Height	m	12.4	12.2	11.8	11.6	11.2	11	10.6	10.4	10.2	9.8

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	5,946	6,108	6,249	6,398	6,526	6,664	6,781	6,909	7,037	7,136
Concrete	m3	4,640	4,796	4,932	5,077	5,203	5,338	5,454	5,581	5,708	5,807
Reinforce Bar	t	186	192	197	203	208	214	218	223	228	232
Intake Gate	t	91	97	102	108	113	119	124	130	135	141
Intake Screen	t	51	54	57	60	63	66	69	72	75	78

(3) Power Tunnel

Tunnel Inner Diameter	m	5.2	5.3	5.5	5.6	5.8	5.9	6.1	6.2	6.3	6.5
Concrete Thickness	m	0.6									
Tunnel Length	m	137.3									
Number	-	1									

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	4,499	4,641	4,931	5,079	5,382	5,537	5,853	6,015	6,179	6,512
Lining Concrete	m3	1,583	1,612	1,669	1,697	1,755	1,783	1,841	1,870	1,899	1,956
Reinforce Bar	t	63	64	67	68	70	71	74	75	76	78

(3') Service Adit

Tunnel Length	m	1148
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Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	37,618	38,802	41,227	42,467	45,002	46,297	48,942	50,292	51,660	54,452

Design Velocity 1	m/s	3.5									
Penstock Length 1	m	5									
Design Velocity 2	m/s	5.2									
Penstock Length 2	m	124.3									
Design Velocity 3	m/s	6.08									
Penstock Length 3	m	18.3									
Design Velocity 4	m/s	8.76	2 penstocks								
Penstock Length 4	m	15									
Mean Velocity	m/s	5.844167									
Dm	m	4.007075	4.127596	4.247261	4.361149	4.474572	4.582815	4.690881	4.794242	4.897646	4.996732
tm	mm	17.21362	17.65828	18.11224	18.54428	18.96055	19.37084	19.76578	20.15723	20.54886	20.90848

[illegible]

(6) Tailrace Tunnel											
Design Velocity	m/s	3.5									
Tunnel Inner Diameter	m	5.2	5.3	5.5	5.6	5.8	5.9	6.1	6.2	6.3	6.5
Concrete Thickness	m	0.6									
Tunnel Length	m	1480									
Number	-	1									

(7) Tailrace											
Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	4,897	5,084	5,318	5,502	5,735	5,916	6,147	6,326	6,506	6,732
Concrete	m3	1,471	1,552	1,655	1,737	1,843	1,927	2,035	2,120	2,207	2,317
Reinforce Bar	t	22	23	24	24	25	26	27	28	28	29

[illegible][illegible]

Tunnel Excavation	2,633	2,716	2,886	2,973	3,150	3,241	3,426	3,520	3,616	3,812
(4) Penstock										
Tunnel Excavation	485	507	531	553	576	598	620	642	665	687
Lining Concrete	198	203	208	213	218	222	227	231	236	240
Reinforce Bar	16	17	17	17	18	18	18	19	19	20
Others	140	145	151	157	162	168	173	179	184	189
(5) Power House										
Excavation	3,334	3,433	3,533	3,628	3,721	3,811	3,900	3,986	4,072	4,153
Concrete	2,399	2,471	2,543	2,611	2,678	2,743	2,807	2,868	2,930	2,989
Reinforce Bar	44	46	47	48	50	51	52	53	54	55
Others	2,889	2,975	3,061	3,143	3,224	3,302	3,379	3,454	3,528	3,598
(6) Tailrace Tunnel										
Tunnel Excavation	3,637	3,752	3,986	4,106	4,351	4,476	4,732	4,863	4,995	5,265
Lining Concrete	3,242	3,301	3,418	3,476	3,594	3,652	3,770	3,829	3,888	4,007
Reinforce Bar	601	612	633	644	666	677	698	709	720	742
Others	2,244	2,299	2,411	2,468	2,583	2,642	2,760	2,820	2,881	3,004
(7) Tailrace										
Excavation	59	61	64	66	69	71	74	76	78	81
Concrete	191	202	215	226	240	250	265	276	287	301
Reinforce Bar	18	19	20	20	21	22	22	23	23	24
Others	67	70	75	78	82	86	90	94	97	102
(8) P/H Access Tunnel										
Tunnel Excavation	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219
Lining Concrete	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568
Reinforce Bar	521	521	521	521	521	521	521	521	521	521
Others	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862
(9) Miscellaneous Works	7,560	7,594	7,645	7,679	7,731	7,765	7,817	7,851	7,885	7,938
Total	158,754	159,469	160,554	161,266	162,356	163,065	164,164	164,872	165,585	166,691

Hydro- mechanical Works

1,000USD

Item	FSL=410									
	1	2	3	4	5	6	7	8	9	10
(1) Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2) Intake										
Gate	599	636	672	708	744	780	817	852	889	924
Screen	333	353	373	393	414	434	454	474	494	513
(3) Penstock	1,320	1,395	1,472	1,548	1,624	1,699	1,775	1,850	1,926	2,000
(4) Tailrace										
Gate	599	636	672	708	744	780	817	852	889	924
(5) Others	2,946	2,979	3,013	3,047	3,081	3,114	3,148	3,181	3,215	3,248
Total	17,675	17,876	18,081	18,282	18,485	18,685	18,887	19,087	19,291	19,486

Project Cost Summary

1,000USD

Item	FSL=410									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,175	3,189	3,211	3,225	3,247	3,261	3,283	3,297	3,312	3,334
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	28,230	28,230	28,230	28,230	28,230	28,230	28,230	28,230	28,230	28,230
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	110,062	110,062	110,062	110,062	110,062	110,062	110,062	110,062	110,062	110,062
(3) Intake	1,030	1,063	1,093	1,124	1,151	1,181	1,205	1,233	1,260	1,281
(4) Power Tunnel	3,314	3,414	3,619	3,724	3,937	4,046	4,268	4,381	4,496	4,730
(5) Penstock	838	872	907	940	973	1,006	1,039	1,071	1,104	1,135
(6) Power House	8,667	8,925	9,184	9,430	9,673	9,906	10,137	10,361	10,584	10,795
(7) Tailrace Tunnel	9,725	9,963	10,448	10,694	11,194	11,447	11,961	12,222	12,485	13,018
(8) Tailrace	335	352	373	390	412	429	451	468	485	508
(9) P/S Access Tunnel	11,170	11,170	11,170	11,170	11,170	11,170	11,170	11,170	11,170	11,170
(10) Others	7,560	7,594	7,645	7,679	7,731	7,765	7,817	7,851	7,885	7,938
4. Hydro- Mechanical Works	17,675	17,876	18,081	18,282	18,485	18,685	18,887	19,087	19,291	19,486
5. Electro- Mechanical Works	30,045	31,075	32,328	33,557	34,774	35,726	36,908	38,062	39,198	40,107
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	248,049	250,009	252,573	254,730	257,261	259,136	261,641	263,717	265,785	268,018
7. Administration Fee	37,207	37,501	37,886	38,210	38,589	38,870	39,246	39,558	39,868	40,203
8. Preliminary Cost	24,805	25,001	25,257	25,473	25,726	25,914	26,164	26,372	26,578	26,802
9. Interest During Construction	62,012	62,502	63,143	63,683	64,315	64,784	65,410	65,929	66,446	67,004
Total	372,074	375,013	378,860	382,096	385,892	388,705	392,462	395,575	398,677	402,027

Basic Parameters OP3a- 415

Waterway Length		
Headrace Tunnel	m	137.3
Penstock	m	162.6
Tailrace Tunnel	m	1480
	m	1779.9
Sedimentation Level	m	386.2

Specification

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	82.6	87.3	92.1	96.8	101.6	106.3	111.1	115.8	120.6	125.3
FSL	EL.m	415	415	415	415	415	415	415	415	415	415
MOL	EL.m	398.2	398.4	398.8	399	399.4	399.6	400	400.2	400.4	400.8
TWL	EL.m	288.8	288.8	288.9	288.9	289	289	289	289.1	289.1	289.1
Loss	m	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Effective Head	m	122.8	122.8	122.7	122.7	122.6	122.6	122.6	122.5	122.5	122.5
Pmax	MW	90	96	101	106	111	116	122	127	132	137
Primary Energy	GWh	180.47	190.44	200.13	209.50	218.57	226.99	235.45	242.70	249.94	256.44
Pfirm	MW	68.44	72.50	75.68	77.85	82.08	86.11	88.67	75.71	71.44	60.16
Benefit	1000USD	53,071	56,087	58,788	61,127	64,032	66,760	69,053	66,460	66,478	64,255
Cost	1000USD	39,421	39,782	40,163	40,481	40,858	41,170	41,576	41,884	42,190	42,557
B/C		1.35	1.41	1.46	1.51	1.57	1.62	1.66	1.59	1.58	1.51

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	127
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358
Concrete	m3	392,176	392,176	392,176	392,176	392,176	392,176	392,176	392,176	392,176	392,176
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	3.5									
MOL	EL.m	398.2	398.4	398.8	399	399.4	399.6	400	400.2	400.4	400.8
Waterway Diameter	m	5.5	5.6	5.8	5.9	6.1	6.2	6.4	6.5	6.6	6.8
Available Height	m	16.8	16.6	16.2	16	15.6	15.4	15	14.8	14.6	14.2

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	7,086	7,268	7,432	7,602	7,752	7,911	8,050	8,200	8,348	8,469
Concrete	m3	5,757	5,940	6,105	6,277	6,430	6,593	6,735	6,889	7,043	7,169
Reinforce Bar	t	230	238	244	251	257	264	269	276	282	287
Intake Gate	t	105	111	117	123	129	135	141	146	152	158
Intake Screen	t	58	62	65	68	72	75	78	81	85	88

(3) Power Tunnel

Tunnel Inner Diameter	m	5.5	5.6	5.8	5.9	6.1	6.2	6.4	6.5	6.6	6.8
Concrete Thickness	m	0.6									
Tunnel Length	m	137.3									
Number	-	1									

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	4,931	5,079	5,382	5,537	5,853	6,015	6,344	6,512	6,683	7,030
Lining Concrete	m3	1,669	1,697	1,755	1,783	1,841	1,870	1,927	1,956	1,985	2,043
Reinforce Bar	t	67	68	70	71	74	75	77	78	79	82

(3') Service Adit

Tunnel Length	m	1148
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Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	41,227	42,467	45,002	46,297	48,942	50,292	53,047	54,452	55,875	58,778

Design Velocity 1	m/s	3.5	
Penstock Length 1	m	5	
Design Velocity 2	m/s	5.2	
Penstock Length 2	m	124.3	
Design Velocity 3	m/s	6.08	
Penstock Length 3	m	18.3	
Design Velocity 4	m/s	8.76	2 penstocks
Penstock Length 4	m	15	

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	3,782	3,949	4,119	4,285	4,453	4,616	4,783	4,945	5,110	5,271
Lining Concrete	m3	1,484	1,521	1,557	1,591	1,626	1,659	1,692	1,723	1,755	1,785
Reinforce Bar	t	18	18	19	19	20	20	20	21	21	21
Penstock	t	401	422	444	466	487	509	530	551	573	594

Undergroundtype

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	59,630	61,303	62,948	64,535	66,097	67,609	69,119	70,546	71,993	73,383
Concrete	m3	13,552	13,932	14,306	14,667	15,022	15,366	15,709	16,033	16,362	16,678
Reinforce Bar	t	54	56	57	59	60	61	63	64	65	67

[illegible]

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	53,150	54,748	58,016	59,685	63,095	64,836	68,388	70,199	72,035	75,776
Lining Concrete	m3	17,987	18,296	18,913	19,223	19,843	20,154	20,776	21,088	21,401	22,027
Reinforce Bar	t	719	732	757	769	794	806	831	844	856	881

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	5,312	5,502	5,741	5,928	6,164	6,348	6,584	6,766	6,949	7,179
Concrete	m3	1,652	1,737	1,846	1,932	2,043	2,131	2,245	2,334	2,425	2,540
Reinforce Bar	t	24	24	25	26	27	28	28	29	30	31

[illegible]

1,000USD

[illegible]

Tunnel Excavation	2,886	2,973	3,150	3,241	3,426	3,520	3,713	3,812	3,911	4,114
(4)Penstock										
Tunnel Excavation	530	553	577	600	623	646	670	692	715	738
Lining Concrete	208	213	218	223	228	232	237	241	246	250
Reinforce Bar	17	17	18	18	19	19	19	20	20	20
Others	151	157	162	168	174	179	185	191	196	202
(5)Power House										
Excavation	3,578	3,678	3,777	3,872	3,966	4,057	4,147	4,233	4,320	4,403
Concrete	2,575	2,647	2,718	2,787	2,854	2,919	2,985	3,046	3,109	3,169
Reinforce Bar	48	49	50	52	53	54	55	56	58	59
Others	3,100	3,187	3,273	3,355	3,436	3,515	3,594	3,668	3,743	3,815
(6)Tailrace Tunnel										
Tunnel Excavation	3,986	4,106	4,351	4,476	4,732	4,863	5,129	5,265	5,403	5,683
Lining Concrete	3,418	3,476	3,594	3,652	3,770	3,829	3,948	4,007	4,066	4,185
Reinforce Bar	633	644	666	677	698	709	731	742	753	775
Others	2,411	2,468	2,583	2,642	2,760	2,820	2,942	3,004	3,067	3,193
(7)Tailrace										
Excavation	64	66	69	71	74	76	79	81	83	86
Concrete	215	226	240	251	266	277	292	303	315	330
Reinforce Bar	20	20	21	22	22	23	24	24	25	25
Others	75	78	82	86	90	94	99	102	106	110
(8)P/H Access Tunnel										
Tunnel Excavation	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219
Lining Concrete	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568
Reinforce Bar	521	521	521	521	521	521	521	521	521	521
Others	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862
(9)Miscellaneous Works	8,014	8,049	8,102	8,137	8,190	8,225	8,279	8,314	8,349	8,403
Total	168,284	169,022	170,138	170,871	171,994	172,725	173,862	174,589	175,324	176,468

Hydro- mechanical Works

1,000USD

Item	FSL=415									
	1	2	3	4	5	6	7	8	9	10
(1)Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2)Intake										
Gate	690	728	768	807	846	884	923	962	1,001	1,039
Screen	383	405	427	448	470	491	513	534	556	577
(3)Penstock	1,523	1,605	1,687	1,769	1,851	1,932	2,015	2,095	2,178	2,259
(4)Tailrace										
Gate	690	728	768	807	846	884	923	962	1,001	1,039
(5)Others	3,033	3,069	3,105	3,142	3,178	3,214	3,251	3,286	3,323	3,358
Total	18,195	18,413	18,632	18,849	19,068	19,284	19,503	19,717	19,937	20,151

Project Cost Summary

1,000USD

Item	FSL=415									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,366	3,380	3,403	3,417	3,440	3,454	3,477	3,492	3,506	3,529
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	30,180	30,180	30,180	30,180	30,180	30,180	30,180	30,180	30,180	30,180
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131
(3) Intake	1,271	1,310	1,346	1,383	1,415	1,450	1,481	1,514	1,547	1,574
(4) Power Tunnel	3,619	3,724	3,937	4,046	4,268	4,381	4,612	4,730	4,849	5,092
(5) Penstock	905	940	975	1,009	1,043	1,077	1,111	1,144	1,177	1,210
(6) Power House	9,301	9,562	9,818	10,066	10,309	10,545	10,781	11,003	11,229	11,446
(7) Tailrace Tunnel	10,448	10,694	11,194	11,447	11,961	12,222	12,750	13,018	13,289	13,837
(8) Tailrace	373	390	412	430	452	470	493	511	529	552
(9)P/S Access Tunnel	11,170	11,170	11,170	11,170	11,170	11,170	11,170	11,170	11,170	11,170
(10) Others	8,014	8,049	8,102	8,137	8,190	8,225	8,279	8,314	8,349	8,403
4. Hydro- Mechanical Works	18,195	18,413	18,632	18,849	19,068	19,284	19,503	19,717	19,937	20,151
5. Electro- Mechanical Works	32,612	34,049	35,233	36,388	37,536	38,657	39,981	41,080	42,153	43,213
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	262,807	265,214	267,755	269,875	272,387	274,470	277,173	279,226	281,269	283,710
7. Administration Fee	39,421	39,782	40,163	40,481	40,858	41,170	41,576	41,884	42,190	42,557
8. Preliminary Cost	26,281	26,521	26,775	26,988	27,239	27,447	27,717	27,923	28,127	28,371
9. Interest During Construction	65,702	66,303	66,939	67,469	68,097	68,617	69,293	69,807	70,317	70,928
Total	394,210	397,821	401,632	404,813	408,581	411,705	415,759	418,840	421,904	425,566

Basic Parameters OP3a- 420

Waterway Length		
Headrace Tunnel	m	137.3
Penstock	m	162.6
Tailrace Tunnel	m	1480
	m	1779.9
Sedimentation Level	m	386.2

Specification

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	92.3	97.2	102	106.9	111.7	116.6	121.4	126.3	131.1	136
FSL	EL.m	420	420	420	420	420	420	420	420	420	420
MOL	EL.m	398.8	399	399.4	399.6	400	400.2	400.4	400.8	401	401.2
TWL	EL.m	288.9	288.9	289	289	289	289.1	289.1	289.1	289.2	289.2
Loss	m	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Effective Head	m	127.7	127.7	127.6	127.6	127.6	127.5	127.5	127.5	127.4	127.4
Pmax	MW	105	111	116	122	127	133	138	144	149	155
Primary Energy	GWh	206.15	216.41	226.00	235.78	244.60	252.87	260.71	268.52	275.20	281.71
Pfirm	MW	75.67	77.50	80.81	84.92	89.22	93.30	91.47	76.41	73.83	67.59
Benefit	1000USD	59,869	62,266	64,988	67,984	70,865	73,581	74,442	71,318	71,744	71,039
Cost	1000USD	42,307	42,660	43,035	43,381	43,751	44,092	44,397	44,795	45,096	45,426
B/C		1.42	1.46	1.51	1.57	1.62	1.67	1.68	1.59	1.59	1.56

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	132
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583
Concrete	m3	433,788	433,788	433,788	433,788	433,788	433,788	433,788	433,788	433,788	433,788
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	3.5									
MOL	EL.m	398.8	399	399.4	399.6	400	400.2	400.4	400.8	401	401.2
Waterway Diameter	m	5.8	5.9	6.1	6.2	6.4	6.5	6.6	6.8	6.9	7
Available Height	m	21.2	21	20.6	20.4	20	19.8	19.6	19.2	19	18.8

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	8,242	8,442	8,616	8,804	8,966	9,143	9,311	9,461	9,621	9,780
Concrete	m3	6,933	7,141	7,322	7,519	7,689	7,877	8,056	8,215	8,386	8,557
Reinforce Bar	t	277	286	293	301	308	315	322	329	335	342
Intake Gate	t	120	126	132	139	145	151	157	163	169	176
Intake Screen	t	67	70	73	77	80	84	87	91	94	98

(3) Power Tunnel

Tunnel Inner Diameter	m	5.8	5.9	6.1	6.2	6.4	6.5	6.6	6.8	6.9	7
Concrete Thickness	m	0.6									
Tunnel Length	m	137.3									
Number	-	1									

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	5,382	5,537	5,853	6,015	6,344	6,512	6,683	7,030	7,207	7,386
Lining Concrete	m3	1,755	1,783	1,841	1,870	1,927	1,956	1,985	2,043	2,073	2,102
Reinforce Bar	t	70	71	74	75	77	78	79	82	83	84

(3') Service Adit

Tunnel Length	m	1148
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Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	45,002	46,297	48,942	50,292	53,047	54,452	55,875	58,778	60,256	61,753

Design Velocity 1	m/s	3.5
Penstock Length 1	m	5
Design Velocity 2	m/s	5.2
Penstock Length 2	m	124.3
Design Velocity 3	m/s	6.08
Penstock Length 3	m	18.3
Design Velocity 4	m/s	8.76
Penstock Length 4	m	15
Mean Velocity	m/s	5.844167

[illegible][illegible]

(7) Tailrace											
Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	5,747	5,939	6,176	6,366	6,601	6,788	6,971	7,207	7,388	7,571
Concrete	m3	1,849	1,938	2,049	2,139	2,253	2,345	2,436	2,554	2,647	2,744
Reinforce Bar	t	25	26	27	28	29	29	30	31	31	32

Tunnel Length	m	1975
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Civil Work Cost	1,000USD
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[illegible]

Tunnel Excavation	3,150	3,241	3,426	3,520	3,713	3,812	3,911	4,114	4,218	4,323
(4) Penstock										
Tunnel Excavation	578	602	625	649	673	696	719	743	766	789
Lining Concrete	218	223	228	233	237	242	246	251	255	259
Reinforce Bar	18	18	19	19	19	20	20	20	21	21
Others	163	169	174	180	186	192	197	203	208	214
(5) Power House										
Excavation	3,832	3,932	4,027	4,123	4,214	4,304	4,392	4,480	4,563	4,647
Concrete	2,758	2,830	2,898	2,967	3,033	3,098	3,161	3,224	3,284	3,345
Reinforce Bar	51	52	54	55	56	57	59	60	61	62
Others	3,320	3,407	3,489	3,572	3,652	3,730	3,806	3,882	3,954	4,027
(6) Tailrace Tunnel										
Tunnel Excavation	4,351	4,476	4,732	4,863	5,129	5,265	5,403	5,683	5,826	5,971
Lining Concrete	3,594	3,652	3,770	3,829	3,948	4,007	4,066	4,185	4,245	4,304
Reinforce Bar	666	677	698	709	731	742	753	775	786	797
Others	2,583	2,642	2,760	2,820	2,942	3,004	3,067	3,193	3,257	3,322
(7) Tailrace										
Excavation	69	71	74	76	79	81	84	86	89	91
Concrete	240	252	266	278	293	305	317	332	344	356
Reinforce Bar	21	22	22	23	24	24	25	26	26	27
Others	83	86	91	94	99	103	106	111	115	118
(8) P/H Access Tunnel										
Tunnel Excavation	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219
Lining Concrete	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568
Reinforce Bar	521	521	521	521	521	521	521	521	521	521
Others	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862
(9) Miscellaneous Works	8,490	8,526	8,580	8,616	8,671	8,706	8,742	8,797	8,833	8,868
Total	178,295	179,053	180,185	180,939	182,084	182,833	183,576	184,743	185,483	186,233

Hydro- mechanical Works

1,000USD

Item	FSL=420									
	1	2	3	4	5	6	7	8	9	10
(1) Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2) Intake										
Gate	787	829	869	910	950	991	1,032	1,073	1,113	1,154
Screen	437	460	483	506	528	551	573	596	618	641
(3) Penstock	1,751	1,839	1,924	2,013	2,099	2,185	2,271	2,359	2,443	2,530
(4) Tailrace										
Gate	787	829	869	910	950	991	1,032	1,073	1,113	1,154
(5) Others	3,128	3,167	3,204	3,243	3,281	3,319	3,357	3,395	3,433	3,471
Total	18,768	19,001	19,227	19,459	19,685	19,916	20,143	20,373	20,597	20,828

Project Cost Summary

1,000USD

Item	FSL=420									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,566	3,581	3,604	3,619	3,642	3,657	3,672	3,695	3,710	3,725
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	124,578	124,578	124,578	124,578	124,578	124,578	124,578	124,578	124,578	124,578
(3) Intake	1,523	1,568	1,607	1,649	1,685	1,726	1,764	1,798	1,834	1,871
(4) Power Tunnel	3,937	4,046	4,268	4,381	4,612	4,730	4,849	5,092	5,216	5,341
(5) Penstock	976	1,012	1,046	1,081	1,115	1,149	1,183	1,217	1,250	1,283
(6) Power House	9,961	10,222	10,468	10,717	10,955	11,189	11,417	11,646	11,862	12,081
(7) Tailrace Tunnel	11,194	11,447	11,961	12,222	12,750	13,018	13,289	13,837	14,115	14,395
(8) Tailrace	413	431	454	472	495	513	531	555	574	592
(9) P/S Access Tunnel	11,170	11,170	11,170	11,170	11,170	11,170	11,170	11,170	11,170	11,170
(10) Others	8,490	8,526	8,580	8,616	8,671	8,706	8,742	8,797	8,833	8,868
4. Hydro- Mechanical Works	18,768	19,001	19,227	19,459	19,685	19,916	20,143	20,373	20,597	20,828
5. Electro- Mechanical Works	35,679	37,029	38,144	39,451	40,524	41,804	42,847	44,082	45,111	46,316
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	282,048	284,403	286,899	289,207	291,675	293,949	295,977	298,632	300,640	302,841
7. Administration Fee	42,307	42,660	43,035	43,381	43,751	44,092	44,397	44,795	45,096	45,426
8. Preliminary Cost	28,205	28,440	28,690	28,921	29,167	29,395	29,598	29,863	30,064	30,284
9. Interest During Construction	70,512	71,101	71,725	72,302	72,919	73,487	73,994	74,658	75,160	75,710
Total	423,072	426,605	430,349	433,811	437,512	440,923	443,965	447,948	450,960	454,261

Basic Parameters OP3a- 425

Waterway Length		
Headrace Tunnel	m	137.3
Penstock	m	162.6
Tailrace Tunnel	m	1480
	m	1779.9
Sedimentation Level	m	386.2

Specification

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	102.9	107.8	112.6	117.5	122.3	127.2	132	136.9	141.7	146.6
FSL	EL.m	425	425	425	425	425	425	425	425	425	425
MOL	EL.m	399.4	399.8	400	400.2	400.6	400.8	401	401.4	401.6	401.8
TWL	EL.m	289	289	289	289.1	289.1	289.1	289.2	289.2	289.3	289.3
Loss	m	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Effective Head	m	132.6	132.6	132.6	132.5	132.5	132.5	132.4	132.4	132.3	132.3
Pmax	MW	122	128	133	139	145	150	156	162	167	173
Primary Energy	GWh	234.21	244.44	253.83	261.01	267.61	272.46	283.93	293.26	300.79	306.91
Pfirm	MW	81.13	84.26	88.25	92.26	96.56	97.50	91.53	74.72	74.04	68.42
Benefit	1000USD	66,562	69,345	72,235	74,734	77,215	78,371	78,640	75,263	76,413	75,825
Cost	1000USD	45,309	45,713	46,020	46,357	46,753	47,055	47,384	47,777	48,073	48,396
B/C		1.47	1.52	1.57	1.61	1.65	1.67	1.66	1.58	1.59	1.57

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	137
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877
Concrete	m3	478,021	478,021	478,021	478,021	478,021	478,021	478,021	478,021	478,021	478,021
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	3.5									
MOL	EL.m	399.4	399.8	400	400.2	400.6	400.8	401	401.4	401.6	401.8
Waterway Diameter	m	6.1	6.3	6.4	6.5	6.7	6.8	6.9	7.1	7.2	7.3
Available Height	m	25.6	25.2	25	24.8	24.4	24.2	24	23.6	23.4	23.2

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	9,429	9,621	9,817	10,012	10,182	10,367	10,544	10,703	10,872	11,040
Concrete	m3	8,182	8,386	8,597	8,808	8,992	9,194	9,387	9,562	9,747	9,933
Reinforce Bar	t	327	335	344	352	360	368	375	382	390	397
Intake Gate	t	136	142	149	155	161	168	174	180	187	193
Intake Screen	t	76	79	83	86	90	93	97	100	104	107

(3) Power Tunnel

Tunnel Inner Diameter	m	6.1	6.3	6.4	6.5	6.7	6.8	6.9	7.1	7.2	7.3
Concrete Thickness	m	0.6									
Tunnel Length	m	137.3									
Number	-	1									

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	5,853	6,179	6,344	6,512	6,855	7,030	7,207	7,567	7,750	7,936
Lining Concrete	m3	1,841	1,899	1,927	1,956	2,014	2,043	2,073	2,131	2,160	2,189
Reinforce Bar	t	74	76	77	78	81	82	83	85	86	88

(3) Service Adit

Tunnel Length	m	1148
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Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	48,942	51,660	53,047	54,452	57,317	58,778	60,256	63,269	64,802	66,354

Design Velocity 1	m/s	3.5
Penstock Length 1	m	5
Design Velocity 2	m/s	5.2
Penstock Length 2	m	124.3
Design Velocity 3	m/s	6.08
Penstock Length 3	m	18.3
Design Velocity 4	m/s	8.76
Penstock Length 4	m	15
Mean Velocity	m/s	5.844

[illegible]

(6) Tailrace Tunnel										
Design Velocity	m/s	3.5								
Tunnel Inner Diameter	m	6.1	6.3	6.4	6.5	6.7	6.8	6.9	7.1	7.2
Concrete Thickness	m	0.6								7.3
Tunnel Length	m	1480								
Number	-	1								

(7) Tailrace											
Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	6,202	6,440	6,626	6,813	7,046	7,231	7,413	7,647	7,827	8,008
Concrete	m3	2,061	2,175	2,265	2,357	2,473	2,567	2,659	2,780	2,874	2,969
Reinforce Bar	t	27	28	29	29	30	31	32	32	33	34

[illegible]

Tunnel Excavation	3,426	3,616	3,713	3,812	4,012	4,114	4,218	4,429	4,536	4,645
(4) Penstock										
Tunnel Excavation	630	654	677	701	724	747	770	793	816	839
Lining Concrete	229	234	238	243	247	252	256	260	264	268
Reinforce Bar	19	19	19	20	20	20	21	21	22	22
Others	175	181	187	193	198	204	209	215	220	226
(5) Power House										
Excavation	4,097	4,193	4,286	4,377	4,465	4,554	4,638	4,723	4,804	4,886
Concrete	2,948	3,018	3,084	3,150	3,214	3,277	3,338	3,399	3,457	3,517
Reinforce Bar	55	56	57	58	60	61	62	63	64	65
Others	3,550	3,634	3,714	3,792	3,869	3,946	4,019	4,093	4,163	4,234
(6) Tailrace Tunnel										
Tunnel Excavation	4,732	4,995	5,129	5,265	5,542	5,683	5,826	6,117	6,266	6,416
Lining Concrete	3,770	3,888	3,948	4,007	4,126	4,185	4,245	4,364	4,424	4,484
Reinforce Bar	698	720	731	742	764	775	786	809	820	831
Others	2,760	2,881	2,942	3,004	3,130	3,193	3,257	3,387	3,453	3,519
(7) Tailrace										
Excavation	74	77	80	82	85	87	89	92	94	96
Concrete	268	283	295	306	322	334	346	361	374	386
Reinforce Bar	22	23	24	24	25	26	26	27	27	28
Others	91	96	99	103	108	112	115	120	124	128
(8) P/H Access Tunnel										
Tunnel Excavation	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219
Lining Concrete	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568
Reinforce Bar	521	521	521	521	521	521	521	521	521	521
Others	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862
(9) Miscellaneous Works	8,991	9,046	9,082	9,118	9,173	9,210	9,245	9,302	9,337	9,374
Total	188,806	189,965	190,720	191,476	192,641	193,400	194,148	195,335	196,085	196,844

Hydro- mechanical Works

1,000USD

Item	FSL=425									
	1	2	3	4	5	6	7	8	9	10
(1) Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2) Intake										
Gate	893	935	976	1,019	1,059	1,102	1,143	1,184	1,225	1,267
Screen	496	520	542	566	589	612	635	658	681	704
(3) Penstock	2,008	2,099	2,188	2,278	2,367	2,458	2,545	2,636	2,722	2,813
(4) Tailrace										
Gate	893	935	976	1,019	1,059	1,102	1,143	1,184	1,225	1,267
(5) Others	3,234	3,273	3,312	3,352	3,390	3,430	3,469	3,508	3,546	3,586
Total	19,402	19,640	19,874	20,110	20,342	20,580	20,811	21,048	21,278	21,515

Project Cost Summary

1,000USD

Item	FSL=425									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,776	3,799	3,814	3,830	3,853	3,868	3,883	3,907	3,922	3,937
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	40,960	40,960	40,960	40,960	40,960	40,960	40,960	40,960	40,960	40,960
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	132,413	132,413	132,413	132,413	132,413	132,413	132,413	132,413	132,413	132,413
(3) Intake	1,791	1,834	1,880	1,925	1,964	2,007	2,048	2,085	2,125	2,164
(4) Power Tunnel	4,268	4,496	4,612	4,730	4,970	5,092	5,216	5,467	5,595	5,725
(5) Penstock	1,053	1,088	1,121	1,156	1,189	1,223	1,256	1,290	1,322	1,355
(6) Power House	10,650	10,901	11,141	11,377	11,608	11,838	12,056	12,278	12,488	12,702
(7) Tailrace Tunnel	11,961	12,485	12,750	13,018	13,562	13,837	14,115	14,677	14,962	15,250
(8) Tailrace	456	479	497	516	539	558	576	600	619	638
(9) P/S Access Tunnel	11,170	11,170	11,170	11,170	11,170	11,170	11,170	11,170	11,170	11,170
(10) Others	8,991	9,046	9,082	9,118	9,173	9,210	9,245	9,302	9,337	9,374
4. Hydro- Mechanical Works	19,402	19,640	19,874	20,110	20,342	20,580	20,811	21,048	21,278	21,515
5. Electro- Mechanical Works	38,948	40,217	41,260	42,504	43,721	44,722	45,921	47,093	48,071	49,218
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	302,061	304,751	306,797	309,050	311,687	313,700	315,893	318,512	320,485	322,643
7. Administration Fee	45,309	45,713	46,020	46,357	46,753	47,055	47,384	47,777	48,073	48,396
8. Preliminary Cost	30,206	30,475	30,680	30,905	31,169	31,370	31,589	31,851	32,049	32,264
9. Interest During Construction	75,515	76,188	76,699	77,262	77,922	78,425	78,973	79,628	80,121	80,661
Total	453,092	457,126	460,195	463,575	467,530	470,551	473,839	477,768	480,728	483,964

Basic Parameters OP3a- 435

Waterway Length		
Headrace Tunnel	m	137.3
Penstock	m	162.6
Tailrace Tunnel	m	1480
	m	1779.9
Sedimentation Level	m	386.2

Specification

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	124.6	129.5	134.4	139.4	144.3	149.2	154.1	159.1	164	168.9
FSL	EL.m	435	435	435	435	435	435	435	435	435	435
MOL	EL.m	400.6	401	401.2	401.4	401.6	402	402.2	402.4	402.6	402.8
TWL	EL.m	289.1	289.2	289.2	289.2	289.3	289.3	289.3	289.4	289.4	289.4
Loss	m	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Effective Head	m	142.5	142.4	142.4	142.4	142.3	142.3	142.3	142.2	142.2	142.2
Pmax	MW	158	165	171	177	183	189	196	202	208	214
Primary Energy	GWh	293.48	303.28	309.44	313.95	318.67	328.98	339.00	349.20	354.14	359.26
Pfirm	MW	95.14	99.32	103.36	107.50	108.88	93.35	87.07	77.79	73.70	68.38
Benefit	1000USD	81,445	84,466	86,790	88,847	90,112	87,296	87,211	86,255	85,914	85,236
Cost	1000USD	54,068	54,491	54,818	55,145	55,468	55,856	56,203	56,523	56,838	57,153
B/C		1.51	1.55	1.58	1.61	1.62	1.56	1.55	1.53	1.51	1.49

Civil & Hydromechanical Work Quantity
(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	147
Crest Length (L)	m	173.2

 Coefficient for Ex $Y=A \times X^B$

A 32335

B 0.4384

 Coefficient for Conc $Y=C \times X^D$

C 0.0015

D 1.3058

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876
Concrete	m3	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	3.5									
MOL	EL.m	400.6	401	401.2	401.4	401.6	402	402.2	402.4	402.6	402.8
Waterway Diameter	m	6.7	6.9	7	7.1	7.2	7.4	7.5	7.6	7.7	7.8
Available Height	m	34.4	34	33.8	33.6	33.4	33	32.8	32.6	32.4	32.2

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	11,815	12,016	12,226	12,436	12,637	12,818	13,011	13,204	13,389	13,570
Concrete	m3	10,797	11,023	11,261	11,499	11,728	11,936	12,157	12,379	12,592	12,803
Reinforce Bar	t	432	441	450	460	469	477	486	495	504	512
Intake Gate	t	169	176	183	189	196	203	209	216	222	229
Intake Screen	t	94	98	101	105	109	113	116	120	124	127

(3) Power Tunnel

Tunnel Inner Diameter	m	6.7	6.9	7	7.1	7.2	7.4	7.5	7.6	7.7	7.8
Concrete Thickness	m	0.6									
Tunnel Length	m	137.3									
Number	-	1									

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	6,855	7,207	7,386	7,567	7,750	8,124	8,314	8,506	8,700	8,897
Lining Concrete	m3	2,014	2,073	2,102	2,131	2,160	2,219	2,248	2,277	2,307	2,336
Reinforce Bar	t	81	83	84	85	86	89	90	91	92	93

(3) Service Adit

Tunnel Length	m	1148
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Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	57,317	60,256	61,753	63,269	64,802	67,925	69,514	71,121	72,746	74,390

Design Velocity 1	m/s	3.5
Penstock Length 1	m	5
Design Velocity 2	m/s	5.2
Penstock Length 2	m	124.3
Design Velocity 3	m/s	6.08
Penstock Length 3	m	18.3
Design Velocity 4	m/s	8.76
Penstock Length 4	m	15
Mean Velocity	m/s	5.844167

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	5,247	5,415	5,582	5,751	5,917	6,082	6,247	6,415	6,579	6,742
Lining Concrete	m3	1,781	1,812	1,842	1,873	1,902	1,931	1,960	1,988	2,016	2,043
Reinforce Bar	t	21	22	22	22	23	23	24	24	24	25
Penstock	t	677	702	728	754	779	804	830	855	880	906

A	m2	1166.077	1188.506	1210.783	1233.099	1254.29	1275.409	1296.183	1316.735	1336.858	1356.682
d	m	30									

[illegible]

(7) Tailrace											
Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	7,110	7,345	7,529	7,714	7,895	8,128	8,308	8,490	8,668	8,846
Concrete	m3	2,505	2,624	2,719	2,815	2,910	3,033	3,130	3,228	3,325	3,423
Reinforce Bar	t	30	31	32	33	33	34	35	35	36	37

Tunnel Length	m	1975
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Civil Work Cost 1,000USD[illegible]

Tunnel Excavation	4,012	4,218	4,323	4,429	4,536	4,755	4,866	4,978	5,092	5,207
(4)Penstock										
Tunnel Excavation	735	758	781	805	828	852	875	898	921	944
Lining Concrete	249	254	258	262	266	270	274	278	282	286
Reinforce Bar	20	21	21	21	22	22	22	23	23	23
Others	201	206	212	218	223	229	234	240	245	251
(5)Power House										
Excavation	4,618	4,706	4,795	4,883	4,967	5,051	5,133	5,214	5,294	5,372
Concrete	3,323	3,387	3,451	3,514	3,575	3,635	3,694	3,753	3,810	3,867
Reinforce Bar	616	628	639	651	662	673	684	695	706	716
Others	4,278	4,361	4,442	4,524	4,602	4,679	4,756	4,831	4,905	4,978
(6)Tailrace Tunnel										
Tunnel Excavation	5,542	5,826	5,971	6,117	6,266	6,568	6,721	6,877	7,034	7,193
Lining Concrete	4,126	4,245	4,304	4,364	4,424	4,544	4,604	4,664	4,725	4,785
Reinforce Bar	764	786	797	809	820	842	853	864	875	886
Others	3,130	3,257	3,322	3,387	3,453	3,586	3,654	3,722	3,790	3,859
(7)Tailrace										
Excavation	85	88	90	93	95	98	100	102	104	106
Concrete	326	341	353	366	378	394	407	420	432	445
Reinforce Bar	25	26	27	27	28	28	29	29	30	30
Others	109	114	118	121	125	130	134	138	142	145
(8)P/H Access Tunnel										
Tunnel Excavation	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219	6,219
Lining Concrete	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568
Reinforce Bar	5,214	5,214	5,214	5,214	5,214	5,214	5,214	5,214	5,214	5,214
Others	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800
(9)Miscellaneous Works	10,381	10,438	10,476	10,514	10,551	10,610	10,647	10,685	10,723	10,760
Total	217,991	219,200	219,991	220,788	221,572	222,802	223,592	224,384	225,173	225,962

Hydro- mechanical Works

1,000USD

Item	FSL=435									
	1	2	3	4	5	6	7	8	9	10
(1)Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2)Intake										
Gate	1,113	1,157	1,200	1,244	1,288	1,331	1,374	1,418	1,461	1,505
Screen	619	643	667	691	715	739	763	788	812	836
(3)Penstock	2,572	2,668	2,765	2,864	2,959	3,056	3,152	3,249	3,345	3,442
(4)Tailrace										
Gate	1,113	1,157	1,200	1,244	1,288	1,331	1,374	1,418	1,461	1,505
(5)Others	3,459	3,500	3,542	3,584	3,625	3,667	3,708	3,750	3,792	3,833
Total	20,754	21,001	21,251	21,505	21,752	22,000	22,249	22,501	22,749	22,998

Project Cost Summary

1,000USD

Item	FSL=435									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	4,360	4,384	4,400	4,416	4,431	4,456	4,472	4,488	4,503	4,519
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	61,990	61,990	61,990	61,990	61,990	61,990	61,990	61,990	61,990	61,990
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292
(3) Intake	2,348	2,396	2,447	2,497	2,546	2,590	2,637	2,684	2,729	2,774
(4) Power Tunnel	4,970	5,216	5,341	5,467	5,595	5,856	5,988	6,122	6,257	6,394
(5) Penstock	1,205	1,239	1,272	1,307	1,340	1,373	1,406	1,439	1,472	1,504
(6) Power House	12,835	13,082	13,327	13,573	13,806	14,038	14,267	14,493	14,715	14,933
(7) Tailrace Tunnel	13,562	14,115	14,395	14,677	14,962	15,540	15,832	16,127	16,424	16,724
(8) Tailrace	545	569	588	607	626	650	669	689	708	727
(9)P/S Access Tunnel	16,801	16,801	16,801	16,801	16,801	16,801	16,801	16,801	16,801	16,801
(10) Others	10,381	10,438	10,476	10,514	10,551	10,610	10,647	10,685	10,723	10,760
4. Hydro- Mechanical Works	20,754	21,001	21,251	21,505	21,752	22,000	22,249	22,501	22,749	22,998
5. Electro- Mechanical Works	45,190	46,529	47,652	48,762	49,872	50,958	52,211	53,286	54,338	55,380
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	360,455	363,273	365,453	367,630	369,787	372,376	374,684	376,818	378,923	381,018
7. Administration Fee	54,068	54,491	54,818	55,145	55,468	55,856	56,203	56,523	56,838	57,153
8. Preliminary Cost	36,045	36,327	36,545	36,763	36,979	37,238	37,468	37,682	37,892	38,102
9. Interest During Construction	90,114	90,818	91,363	91,908	92,447	93,094	93,671	94,205	94,731	95,254
Total	540,682	544,910	548,180	551,446	554,681	558,564	562,026	565,227	568,385	571,527

Option IIIb

Basic Parameters OP3b3- 405

Waterway Length		
Headrace Tunnel	m	1074.8
Penstock	m	162.6
Tailrace Tunnel	m	247.2
	m	1484.6
Sedimentation Level	EL.m	386.2

Specification

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	65.4	70.2	75	79.8	84.6	89.3	94.1	98.9	103.7	108.5
FSL	EL.m	405	405	405	405	405	405	405	405	405	405
MOL	EL.m	396.4	396.6	397	397.2	397.6	397.8	398.2	398.4	398.6	399
TWL	EL.m	288.6	288.7	288.7	288.8	288.8	288.9	288.9	288.9	289	289
Loss	m	3	3	3	3	3	3	3	3	3	3
Effective Head	m	113.4	113.3	113.3	113.2	113.2	113.1	113.1	113.1	113	113
Pmax	MW	66	71	76	81	85	90	95	100	105	109
Primary Energy	GWh	136.55	146.23	155.91	165.22	174.08	182.57	190.96	198.94	206.13	213.00
Pfirm	MW	54.56	58.65	62.97	67.10	69.85	73.87	68.27	61.09	55.14	51.98
Benefit	1000USD	40,991	43,963	47,005	49,923	52,345	55,083	54,908	54,185	53,690	53,976
Cost	1000USD	35,311	35,665	36,092	36,480	36,861	37,238	37,660	38,024	38,385	38,764
B/C		1.16	1.23	1.30	1.37	1.42	1.48	1.46	1.43	1.40	1.39

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	117
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877
Concrete	m3	316,564	316,564	316,564	316,564	316,564	316,564	316,564	316,564	316,564	316,564
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

(2) Make											
Number	-	1									
Design Velocity	m3/s	4									
MOL	EL.m	396.4	396.6	397	397.2	397.6	397.8	398.2	398.4	398.6	399
Waterway Diameter	m	4.6	4.7	4.9	5	5.2	5.3	5.5	5.6	5.7	5.9
Available Height	m	8.6	8.4	8	7.8	7.4	7.2	6.8	6.6	6.4	6

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	4,851	5,007	5,135	5,277	5,390	5,516	5,617	5,735	5,848	5,932
Concrete	m3	3,612	3,755	3,875	4,006	4,113	4,231	4,326	4,438	4,546	4,627
Reinforce Bar	t	144	150	155	160	165	169	173	178	182	185
Intake Gate	t	78	84	90	95	101	106	112	118	123	129
Intake Screen	t	44	47	50	53	56	59	62	65	68	71

(3) Power Tunnel

Tunnel Inner Diameter	m	4.6	4.7	4.9	5	5.2	5.3	5.5	5.6	5.7	5.9
Concrete Thickness	m	0.6									
Tunnel Length	m	1074.8									
Number	-	1									

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	28,925	29,931	31,995	33,052	35,219	36,328	38,598	39,759	40,937	43,345
Lining Concrete	m3	11,063	11,284	11,727	11,949	12,393	12,616	13,063	13,287	13,511	13,960
Reinforce Bar	t	443	451	469	478	496	505	523	531	540	558

(3') Service Adit

Tunnel Length	m	1055
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Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	28,392	29,380	31,405	32,443	34,570	35,659	37,887	39,027	40,183	42,546

Design Velocity 1	m/s	4
Penstock Length 1	m	5
Design Velocity 2	m/s	4.47
Penstock Length 2	m	124.2
Design Velocity 3	m/s	6.08
Penstock Length 3	m	25.8
Design Velocity 4	m/s	8.76
Penstock Length 4	m	7.6
Mean Velocity	m/s	5.083373

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	3,516	3,715	3,911	4,107	4,301	4,490	4,682	4,873	5,063	5,252
Lining Concrete	m3	1,424	1,469	1,512	1,554	1,595	1,633	1,672	1,709	1,746	1,782
Reinforce Bar	t	17	18	18	19	19	20	20	21	21	21
Penstock	t	327	349	372	394	416	438	460	483	504	527

Undergroundtype

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	51,669	53,516	55,316	57,041	58,732	60,324	61,924	63,483	64,986	66,473
Concrete	m3	11,743	12,163	12,572	12,964	13,348	13,710	14,074	14,428	14,770	15,108
Reinforce Bar	t	470	487	503	519	534	548	563	577	591	604

Design Velocity	m/s	3.5									
Tunnel Inner Diameter	m	4.9	5.1	5.2	5.4	5.5	5.7	5.9	6	6.1	6.3
Concrete Thickness	m	0.6									
Tunnel Length	m	247.2									
Number	-	1									

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	7,359	7,849	8,100	8,614	8,877	9,415	9,969	10,252	10,539	11,124
Lining Concrete	m3	2,697	2,799	2,850	2,953	3,004	3,107	3,211	3,262	3,314	3,418
Reinforce Bar	t	108	112	114	118	120	124	128	130	133	137

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	4,494	4,739	4,938	5,179	5,373	5,610	5,848	6,037	6,225	6,460
Concrete	m3	1,301	1,404	1,489	1,594	1,680	1,786	1,895	1,984	2,072	2,185
Reinforce Bar	t	21	22	22	23	24	25	26	26	27	28

[illegible]

LWL	EL.m	396.4	396.6	397	397.2	397.6	397.8	398.2	398.4	398.6	399
Available Depth	m	8.6	8.4	8	7.8	7.4	7.2	6.8	6.6	6.4	6
Number of waterway	-	1									

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	14,258	15,304	16,349	17,394	18,439	19,462	20,506	21,551	22,596	23,640
Concrete	m3	4,127	4,430	4,733	5,035	5,338	5,634	5,936	6,239	6,541	6,843
Reinforce Bar	t	206	222	237	252	267	282	297	312	327	342

Tunnel Length		960									
Item	Unit	FSL _≈ 405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	25,836	26,734	28,577	29,522	31,457	32,448	34,476	35,512	36,564	38,715

1,000 USD

[illegible]

[illegible]

(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	103,360	103,360	103,360	103,360	103,360	103,360	103,360	103,360	103,360	103,360
(3) Intake	807	838	864	892	916	941	962	986	1,010	1,027
(4) Power Tunnel	6,545	6,739	7,137	7,339	7,752	7,962	8,391	8,609	8,830	9,280
(5) Penstock	850	891	932	972	1,012	1,051	1,090	1,129	1,168	1,206
(6) Power House	8,617	8,925	9,225	9,513	9,795	10,060	10,327	10,587	10,838	11,086
(7) Tailrace Tunnel	1,507	1,585	1,624	1,704	1,745	1,828	1,912	1,955	1,998	2,085
(8) Tailrace	300	322	339	361	378	400	422	440	458	481
(9) P/S Access Tunnel	10,378	10,378	10,378	10,378	10,378	10,378	10,378	10,378	10,378	10,378
(10) Surge Tank	5,729	6,065	6,481	6,821	7,245	7,583	8,014	8,362	8,711	9,152
(11) Others	7,227	6,975	7,018	7,051	7,094	7,127	7,171	7,202	7,233	7,278
4. Hydro- Mechanical Works	17,325	17,541	17,756	17,971	18,185	18,394	18,607	18,822	19,034	19,245
5. Electro- Mechanical Works	27,225	28,594	29,924	31,234	32,256	33,521	34,753	35,965	37,167	38,107
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	235,407	237,766	240,617	243,198	245,742	248,253	251,064	253,490	255,899	258,427
7. Administration Fee	35,311	35,665	36,092	36,480	36,861	37,238	37,660	38,024	38,385	38,764
8. Preliminary Cost	23,541	23,777	24,062	24,320	24,574	24,825	25,106	25,349	25,590	25,843
9. Interest During Construction	58,852	59,442	60,154	60,799	61,435	62,063	62,766	63,373	63,975	64,607
Total	353,110	356,650	360,925	364,797	368,613	372,380	376,595	380,235	383,849	387,641

Basic Parameters			OP3b3- 410
Waterway Length			
Headrace Tunnel	m	1074.8	
Penstock	m	162.6	
Tailrace Tunnel	m	247.2	
	m	1484.6	
Sedimentation Level	EL.m	386.2	

Specification

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	73.7	78.2	82.8	87.3	91.9	96.4	101	105.5	110.1	114.6
FSL	EL.m	410	410	410	410	410	410	410	410	410	410
MOL	EL.m	396.8	397.2	397.4	397.8	398	398.2	398.6	398.8	399	399.2
TWL	EL.m	288.7	288.8	288.8	288.8	288.9	288.9	289	289	289	289.1
Loss	m	3	3	3	3	3	3	3	3	3	3
Effective Head	m	118.3	118.2	118.2	118.2	118.1	118.1	118	118	118	117.9
Pmax	MW	78	82	87	92	97	102	106	111	116	121
Primary Energy	GWh	157.85	166.65	176.07	185.27	194.02	202.38	210.26	218.00	225.33	231.64
Pfirm	MW	60.98	64.95	68.94	72.05	74.64	78.51	82.63	75.67	66.37	65.09
Benefit	1000USD	46,756	49,534	52,430	55,021	57,375	60,044	62,702	62,002	60,523	61,274
Cost	1000USD	37,515	37,843	38,219	38,627	38,997	39,352	39,728	40,078	40,428	40,781
B/C		1.25	1.31	1.37	1.42	1.47	1.53	1.58	1.55	1.50	1.50

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	122
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144
Concrete	m3	353,122	353,122	353,122	353,122	353,122	353,122	353,122	353,122	353,122	353,122
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	4									
MOL	EL.m	396.8	397.2	397.4	397.8	398	398.2	398.6	398.8	399	399.2
Waterway Diameter	m	4.8	5	5.1	5.3	5.4	5.5	5.7	5.8	5.9	6
Available Height	m	13.2	12.8	12.6	12.2	12	11.8	11.4	11.2	11	10.8

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	6,013	6,160	6,320	6,453	6,602	6,742	6,861	6,992	7,122	7,244
Concrete	m3	4,705	4,846	5,002	5,131	5,277	5,416	5,533	5,663	5,793	5,916
Reinforce Bar	t	188	194	200	205	211	217	221	227	232	237
Intake Gate	t	91	97	103	108	114	119	125	130	136	141
Intake Screen	t	51	54	57	60	63	66	69	72	75	78

(3) Power Tunnel

Tunnel Inner Diameter	m	4.8	5	5.1	5.3	5.4	5.5	5.7	5.8	5.9	6
Concrete Thickness	m	0.6									
Tunnel Length	m	1074.8									
Number	-	1									

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	30,954	33,052	34,127	36,328	37,455	38,598	40,937	42,132	43,345	44,574
Lining Concrete	m3	11,505	11,949	12,171	12,616	12,839	13,063	13,511	13,735	13,960	14,185
Reinforce Bar	t	460	478	487	505	514	523	540	549	558	567

(3') Service Adit

Tunnel Length	m	1055
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Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	30,384	32,443	33,498	35,659	36,765	37,887	40,183	41,356	42,546	43,753

(4) Penstocks

Design Velocity 1	m/s	4											
Penstock Length 1	m	5											
Design Velocity 2	m/s	4.47											
Penstock Length 2	m	124.2											
Design Velocity 3	m/s	6.08											
Penstock Length 3	m	25.8											
Design Velocity 4	m/s	8.76	2 penstocks										
Penstock Length 4	m	7.6											
Mean Velocity	m/s	5.083373											
Dm	m	4.29648	4.425705	4.554013	4.676126	4.797742	4.913802	5.029673	5.1405	5.251372	5.357614		
tm	mm	18.3124	18.78918	19.27592	19.73916	20.1855	20.62542	21.04888	21.46861	21.88852	22.27412		

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	3,858	4,042	4,228	4,410	4,594	4,773	4,956	5,134	5,315	5,492
Lining Concrete	m3	1,501	1,540	1,580	1,617	1,654	1,690	1,725	1,759	1,793	1,826
Reinforce Bar	t	18	18	19	19	20	20	21	21	22	22
Penstock	t	380	401	424	446	467	489	511	533	555	576

(5) Powerhouse

Underground type

A	m2	842.8662	867.9723	893.1361	917.085	940.6709	963.4263	985.8663	1007.589	1029.321	1049.849
d	m	30									

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	55,629	57,286	58,947	60,528	62,084	63,586	65,067	66,501	67,935	69,290
Concrete	m3	12,643	13,020	13,397	13,756	14,110	14,451	14,788	15,114	15,440	15,748
Reinforce Bar	t	506	521	536	550	564	578	592	605	618	630

(6) Tailrace Tunnel

Design Velocity	m/s	3.5											
Tunnel Inner Diameter	m	5.2	5.3	5.5	5.6	5.8	5.9	6.1	6.2	6.3	6.5		
Concrete Thickness	m	0.6											
Tunnel Length	m	247.2											
Number	-	1											

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	8,100	8,355	8,677	9,144	9,690	9,969	10,539	10,829	11,124	11,725
Lining Concrete	m3	2,850	2,902	3,004	3,056	3,159	3,211	3,314	3,366	3,418	3,522
Reinforce Bar	t	114	116	120	122	126	128	133	135	137	141

(7) Tailrace

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	4,897	5,084	5,318	5,502	5,735	5,916	6,147	6,326	6,506	6,732
Concrete	m3	1,471	1,552	1,655	1,737	1,843	1,927	2,035	2,120	2,207	2,317
Reinforce Bar	t	22	23	24	24	25	26	27	28	28	29

(8) P/H Access Tunnel

Tunnel Length		m 1220									
Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900
Lining Concrete	m3	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200
Reinforce Bar	t	3,660	3,660	3,660	3,660	3,660	3,660	3,660	3,660	3,660	3,660

(9) Surge Tank

LWL	EL.m	396.8	397.2	397.4	397.8	398	398.2	398.6	398.8	399	399.2
Available Depth	m	13.2	12.8	12.6	12.2	12	11.8	11.4	11.2	11	10.8
Number of waterway	-	1									

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	16,085	17,065	18,068	19,048	20,051	21,032	22,033	23,014	24,016	24,997
Concrete	m3	4,656	4,940	5,230	5,514	5,804	6,088	6,378	6,662	6,952	7,236
Reinforce Bar	t	233	247	262	276	290	304	319	333	348	362

(9) Service Adit

Tunnel Length		m	960									
Item	Unit	FSL=410										
		1	2	3	4	5	6	7	8	9	10	
Tunnel Excavation	m3	27,648	29,522	30,482	32,448	33,454	34,476	36,564	37,632	38,715	39,813	

Civil Work Cost

1,000USD

Item	FSL=410									
	1	2	3	4	5	6	7	8	9	10

[illegible]

3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	110,062	110,062	110,062	110,062	110,062	110,062	110,062	110,062	110,062	110,062
(3) Intake	1,044	1,074	1,108	1,136	1,167	1,197	1,223	1,251	1,278	1,305
(4) Power Tunnel	6,937	7,339	7,544	7,962	8,175	8,391	8,830	9,054	9,280	9,509
(5) Penstock	921	959	997	1,035	1,072	1,109	1,146	1,182	1,219	1,254
(6) Power House	9,277	9,554	9,831	10,094	10,354	10,604	10,851	11,091	11,330	11,556
(7) Tailrace Tunnel	1,624	1,664	1,745	1,786	1,870	1,912	1,998	2,041	2,085	2,174
(8) Tailrace	335	352	373	390	412	429	451	468	485	508
(9) P/S Access Tunnel	10,378	10,378	10,378	10,378	10,378	10,378	10,378	10,378	10,378	10,378
(10) Surge Tank	6,337	6,739	7,070	7,480	7,815	8,145	8,571	8,905	9,246	9,583
(11) Others	7,670	7,395	7,428	7,470	7,503	7,533	7,578	7,608	7,638	7,671
4. Hydro- Mechanical Works	17,827	18,036	18,251	18,461	18,674	18,883	19,094	19,303	19,516	19,723
5. Electro- Mechanical Works	30,011	31,039	32,291	33,519	34,735	35,921	36,866	38,018	39,154	40,285
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	250,098	252,285	254,794	257,513	259,977	262,345	264,855	267,188	269,519	271,874
7. Administration Fee	37,515	37,843	38,219	38,627	38,997	39,352	39,728	40,078	40,428	40,781
8. Preliminary Cost	25,010	25,228	25,479	25,751	25,998	26,235	26,485	26,719	26,952	27,187
9. Interest During Construction	62,525	63,071	63,698	64,378	64,994	65,586	66,214	66,797	67,380	67,968
Total	375,147	378,427	382,191	386,269	389,966	393,518	397,282	400,782	404,279	407,811

Basic Parameters OP3b3- 415

Waterway Length		
Headrace Tunnel	m	1074.8
Penstock	m	162.6
Tailrace Tunnel	m	247.2
	m	1484.6
Sedimentation Level	EL.m	386.2

Specification

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	82.6	87.3	92.1	96.8	101.6	106.3	111.1	115.8	120.6	125.3
FSL	EL.m	415	415	415	415	415	415	415	415	415	415
MOL	EL.m	397.4	397.8	398	398.4	398.6	398.8	399	399.4	399.6	399.8
TWL	EL.m	288.8	288.8	288.9	288.9	289	289	289	289.1	289.1	289.1
Loss	m	3	3	3	3	3	3	3	3	3	3
Effective Head	m	123.2	123.2	123.1	123.1	123	123	123	122.9	122.9	122.9
Pmax	MW	91	96	101	106	111	117	122	127	132	137
Primary Energy	GWh	180.95	190.74	200.20	209.64	218.69	227.53	235.73	243.08	250.35	256.85
Pfirm	MW	68.03	72.24	75.21	77.68	81.46	85.46	89.57	93.85	98.15	102.49
Benefit	1000USD	53,034	56,063	58,659	61,101	63,867	66,662	69,374	72,001	74,635	77,272
Cost	1000USD	39,845	40,203	40,576	40,982	41,349	41,735	42,096	42,494	42,842	43,194
B/C		1.33	1.39	1.45	1.49	1.54	1.60	1.65	1.57	1.55	1.52

Civil & Hydromechanical Work Quantity
(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	127
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
A		32335
B		0.4384
Coefficient for Conc	Y=C*X*D	
C		0.0015
D		1.3058

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358
Concrete	m3	392,176	392,176	392,176	392,176	392,176	392,176	392,176	392,176	392,176	392,176
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	4									
MOL	EL.m	397.4	397.8	398	398.4	398.6	398.8	399	399.4	399.6	399.8
Waterway Diameter	m	5.1	5.3	5.4	5.6	5.7	5.8	5.9	6.1	6.2	6.3
Available Height	m	17.6	17.2	17	16.6	16.4	16.2	16	15.6	15.4	15.2

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	7,149	7,317	7,499	7,654	7,823	7,984	8,144	8,276	8,427	8,569
Concrete	m3	5,820	5,989	6,173	6,329	6,503	6,667	6,832	6,969	7,125	7,273
Reinforce Bar	t	233	240	247	253	260	267	273	279	285	291
Intake Gate	t	105	111	117	123	129	135	141	147	153	159
Intake Screen	t	58	62	65	68	72	75	78	82	85	88

(3) Power Tunnel

Tunnel Inner Diameter	m	5.1	5.3	5.4	5.6	5.7	5.8	5.9	6.1	6.2	6.3
Concrete Thickness	m	0.6									
Tunnel Length	m	1074.8									
Number	-	1									

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	34,127	36,328	37,455	39,759	40,937	42,132	43,345	45,821	47,085	48,366
Lining Concrete	m3	12,171	12,616	12,839	13,287	13,511	13,735	13,960	14,410	14,636	14,862
Reinforce Bar	t	487	505	514	531	540	549	558	576	585	594

(3') Service Adit

Tunnel Length	m	1055
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Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	33,498	35,659	36,765	39,027	40,183	41,356	42,546	44,977	46,217	47,475

(4) Penstocks

Design Velocity 1	m/s	4
Penstock Length 1	m	5
Design Velocity 2	m/s	4.47
Penstock Length 2	m	124.2
Design Velocity 3	m/s	6.08
Penstock Length 3	m	25.8
Design Velocity 4	m/s	8.76 2 penstocks
Penstock Length 4	m	7.6

Mean Velocity m/s 5.083373

Dm m 4.54851 4.676126 4.802959 4.923986 5.044591 5.159953 5.275166 5.385591 5.496076 5.602149

tm mm 19.96689 20.47098 20.95694 21.43463 21.89486 22.34982 22.8042 23.22284 23.65822 24.07622

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	4,220	4,410	4,602	4,789	4,980	5,166	5,354	5,539	5,726	5,909
Lining Concrete	m3	1,578	1,617	1,656	1,693	1,730	1,765	1,801	1,835	1,868	1,901
Reinforce Bar	t	19	19	20	20	21	21	22	22	22	23
Penstock	t	438	462	486	509	533	557	581	604	628	651

(5) Powerhouse

Underground type

A m2 904.4619 929.8381 954.8002 978.8595 1002.563 1025.491 1048.388 1070.044 1091.996 1113.071

d m 30

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	59,694	61,369	63,017	64,605	66,169	67,682	69,194	70,623	72,072	73,463
Concrete	m3	13,567	13,948	14,322	14,683	15,038	15,382	15,726	16,051	16,380	16,696
Reinforce Bar	t	543	558	573	587	602	615	629	642	655	668

(6) Tailrace Tunnel

Design Velocity m/s 3.5

Tunnel Inner Diameter m 5.5 5.6 5.8 5.9 6.1 6.2 6.4 6.5 6.6 6.8

Concrete Thickness m 0.6

Tunnel Length m 247.2

Number - 1

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	8,877	9,144	9,690	9,969	10,539	10,829	11,423	11,725	12,032	12,657
Lining Concrete	m3	3,004	3,056	3,159	3,211	3,314	3,366	3,470	3,522	3,575	3,679
Reinforce Bar	t	120	122	126	128	133	135	139	141	143	147

(7) Tailrace

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	5,312	5,502	5,741	5,928	6,164	6,348	6,584	6,766	6,949	7,179
Concrete	m3	1,652	1,737	1,846	1,932	2,043	2,131	2,245	2,334	2,425	2,540
Reinforce Bar	t	24	24	25	26	27	28	28	29	30	31

(8) P/H Access Tunnel

Tunnel Length m 1220

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900
Lining Concrete	m3	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200
Reinforce Bar	t	3,660	3,660	3,660	3,660	3,660	3,660	3,660	3,660	3,660	3,660

(9) Surge Tank

LWL ELm 397.4 397.8 398 398.4 398.6 398.8 399 399.4 399.6 399.8

Available Depth m 17.6 17.2 17 16.6 16.4 16.2 16 15.6 15.4 15.2

Number of waterway - 1

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	18,045	19,070	20,118	21,142	22,190	23,215	24,262	25,286	26,333	27,358
Concrete	m3	5,224	5,520	5,824	6,120	6,423	6,720	7,023	7,320	7,623	7,920
Reinforce Bar	t	261	276	291	306	321	336	351	366	381	396

(9) Service Adit

Tunnel Length m 960

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	30,482	32,448	33,454	35,512	36,564	37,632	38,715	40,927	42,056	43,200

Civil Work Cost

1,000USD

Item	FSL=415									
	1	2	3	4	5	6	7	8	9	10

3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131
(3) Intake	1,284	1,321	1,360	1,394	1,431	1,466	1,502	1,531	1,565	1,596
(4) Power Tunnel	7,544	7,962	8,175	8,609	8,830	9,054	9,280	9,740	9,974	10,211
(5) Penstock	996	1,035	1,074	1,112	1,151	1,189	1,227	1,264	1,301	1,338
(6) Power House	9,955	10,235	10,509	10,774	11,035	11,288	11,540	11,778	12,020	12,252
(7) Tailrace Tunnel	1,745	1,786	1,870	1,912	1,998	2,041	2,130	2,174	2,220	2,311
(8) Tailrace	373	390	412	430	452	470	493	511	529	552
(9) P/S Access Tunnel	10,378	10,378	10,378	10,378	10,378	10,378	10,378	10,378	10,378	10,378
(10) Surge Tank	7,064	7,485	7,831	8,260	8,610	8,955	9,308	9,749	10,105	10,457
(11) Others	8,150	7,840	7,874	7,917	7,951	7,982	8,016	8,060	8,091	8,124
4. Hydro- Mechanical Works	18,371	18,597	18,828	19,053	19,283	19,509	19,740	19,962	20,192	20,417
5. Electro- Mechanical Works	32,818	34,012	35,194	36,349	37,495	38,837	39,938	41,035	42,107	43,166
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	265,636	268,017	270,504	273,213	275,661	278,236	280,638	283,296	285,616	287,958
7. Administration Fee	39,845	40,203	40,576	40,982	41,349	41,735	42,096	42,494	42,842	43,194
8. Preliminary Cost	26,564	26,802	27,050	27,321	27,566	27,824	28,064	28,330	28,562	28,796
9. Interest During Construction	66,409	67,004	67,626	68,303	68,915	69,559	70,159	70,824	71,404	71,990
Total	398,454	402,026	405,756	409,820	413,491	417,354	420,957	424,944	428,424	431,937

Basic Parameters OP3b3- 420

Waterway Length		
Headrace Tunnel	m	1074.8
Penstock	m	162.6
Tailrace Tunnel	m	247.2
	m	1484.6
Sedimentation Level	EL.m	386.2

Specification

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	92.3	97.2	102	106.9	111.7	116.6	121.4	126.3	131.1	136
FSL	EL.m	420	420	420	420	420	420	420	420	420	420
MOL	EL.m	398	398.4	398.6	398.8	399.2	399.4	399.6	399.8	400.2	400.4
TWL	EL.m	288.9	288.9	289	289	289	289.1	289.1	289.1	289.2	289.2
Loss	m	3	3	3	3	3	3	3	3	3	3
Effective Head	m	128.1	128.1	128	128	128	127.9	127.9	127.9	127.8	127.8
Pmax	MW	105	111	116	122	128	133	139	144	149	155
Primary Energy	GWh	206.15	216.64	225.98	235.90	245.03	253.17	261.22	268.66	275.52	282.22
Pfirm	MW	75.19	77.18	80.19	84.28	88.55	92.60	95.04	98.17	101.13	104.02
Benefit	1000USD	59,724	62,211	64,798	67,813	70,741	73,425	75,608	77,187	78,913	80,784
Cost	1000USD	42,785	43,168	43,533	43,922	44,362	44,714	45,091	45,445	45,841	46,214
B/C		1.40	1.44	1.49	1.54	1.59	1.64	1.677	1.58	1.57	1.55

Civil & Hydromechanical Work Quantity
(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	132
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583
Concrete	m3	433,788	433,788	433,788	433,788	433,788	433,788	433,788	433,788	433,788	433,788
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	4									
MOL	EL.m	398	398.4	398.6	398.8	399.2	399.4	399.6	399.8	400.2	400.4
Waterway Diameter	m	5.4	5.6	5.7	5.8	6	6.1	6.2	6.3	6.5	6.6
Available Height	m	22	21.6	21.4	21.2	20.8	20.6	20.4	20.2	19.8	19.6

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	8,303	8,489	8,680	8,870	9,033	9,212	9,382	9,552	9,695	9,855
Concrete	m3	6,996	7,190	7,389	7,589	7,761	7,950	8,131	8,312	8,465	8,638
Reinforce Bar	t	280	288	296	304	310	318	325	332	339	346
Intake Gate	t	120	126	132	139	145	151	157	164	170	176
Intake Screen	t	67	70	74	77	80	84	87	91	94	98

(3) Power Tunnel

Tunnel Inner Diameter	m	5.4	5.6	5.7	5.8	6	6.1	6.2	6.3	6.5	6.6
Concrete Thickness	m	0.6									
Tunnel Length	m	1074.8									
Number	-	1									

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	37,455	39,759	40,937	42,132	44,574	45,821	47,085	48,366	50,980	52,313
Lining Concrete	m3	12,839	13,287	13,511	13,735	14,185	14,410	14,636	14,862	15,315	15,542
Reinforce Bar	t	514	531	540	549	567	576	585	594	613	622

(3') Service Adit

Tunnel Length	m	1055
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Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	36,765	39,027	40,183	41,356	43,753	44,977	46,217	47,475	50,041	51,349

(4) Penstocks

Design Velocity 1	m/s	4
Penstock Length 1	m	5
Design Velocity 2	m/s	4.47
Penstock Length 2	m	124.2
Design Velocity 3	m/s	6.08
Penstock Length 3	m	25.8
Design Velocity 4	m/s	8.76 2 penstocks
Penstock Length 4	m	7.6
Mean Velocity	m/s	5.083373

Dm	m	4.808171	4.934149	5.054511	5.174495	5.289391	5.404162	5.514275	5.624459	5.730341	5.836447
tm	mm	21.72999	22.24693	22.72501	23.21698	23.68809	24.14177	24.59292	25.04437	25.46024	25.89465

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	4,610	4,805	4,996	5,189	5,378	5,570	5,757	5,948	6,134	6,323
Lining Concrete	m3	1,658	1,696	1,733	1,770	1,805	1,840	1,874	1,908	1,940	1,973
Reinforce Bar	t	20	20	21	21	22	22	22	23	23	24
Penstock	t	504	530	554	580	605	630	655	680	704	730

(5) Powerhouse**Undergroundtype**

A	m2	968.6062	993.9843	1017.966	1042.131	1065.271	1088.102	1110.272	1132.457	1153.475	1174.834
d	m	30									

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	63,928	65,603	67,186	68,781	70,308	71,815	73,278	74,742	76,129	77,539
Concrete	m3	14,529	14,910	15,269	15,632	15,979	16,322	16,654	16,987	17,302	17,623
Reinforce Bar	t	581	596	611	625	639	653	666	679	692	705

(6) Tailrace Tunnel

Design Velocity	m/s	3.5									
Tunnel Inner Diameter	m	5.8	5.9	6.1	6.2	6.4	6.5	6.6	6.8	6.9	7
Concrete Thickness	m	0.6									
Tunnel Length	m	247.2									
Number	-	1									

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	9,690	9,969	10,539	10,829	11,423	11,725	12,032	12,657	12,975	13,297
Lining Concrete	m3	3,159	3,211	3,314	3,366	3,470	3,522	3,575	3,679	3,732	3,784
Reinforce Bar	t	126	128	133	135	139	141	143	147	149	151

(7) Tailrace

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	5,747	5,939	6,176	6,366	6,601	6,788	6,971	7,207	7,388	7,571
Concrete	m3	1,849	1,938	2,049	2,139	2,253	2,345	2,436	2,554	2,647	2,741
Reinforce Bar	t	25	26	27	28	29	29	30	31	31	32

(8) P/H Access Tunnel

Tunnel Length	m	1220									
Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900
Lining Concrete	m3	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200
Reinforce Bar	t	3,660	3,660	3,660	3,660	3,660	3,660	3,660	3,660	3,660	3,660

(9) Surge Tank

LWL	EL.m	398	398.4	398.6	398.8	399.2	399.4	399.6	399.8	400.2	400.4
Available Depth	m	22	21.6	21.4	21.2	20.8	20.6	20.4	20.2	19.8	19.6
Number of waterway	-	1									

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	20,184	21,254	22,303	23,373	24,420	25,490	26,538	27,608	28,655	29,725
Concrete	m3	5,843	6,152	6,456	6,766	7,069	7,379	7,682	7,992	8,295	8,604
Reinforce Bar	t	292	308	323	338	353	369	384	400	415	430

(9') Service Adit

Tunnel Length	m	960									
Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	33,454	35,512	36,564	37,632	39,813	40,927	42,056	43,200	45,535	46,725

Civil Work Cost											1,000USD
Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10

[illegible]

3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	124,578	124,578	124,578	124,578	124,578	124,578	124,578	124,578	124,578	124,578
(3) Intake	1,537	1,578	1,621	1,664	1,701	1,741	1,780	1,819	1,851	1,888
(4) Power Tunnel	8,175	8,609	8,830	9,054	9,509	9,740	9,974	10,211	10,692	10,937
(5) Penstock	1,076	1,115	1,154	1,193	1,231	1,270	1,308	1,346	1,383	1,421
(6) Power House	10,661	10,941	11,205	11,471	11,725	11,977	12,221	12,465	12,696	12,931
(7) Tailrace Tunnel	1,870	1,912	1,998	2,041	2,130	2,174	2,220	2,311	2,358	2,404
(8) Tailrace	413	431	454	472	495	513	531	555	574	592
(9) P/S Access Tunnel	10,378	10,378	10,378	10,378	10,378	10,378	10,378	10,378	10,378	10,378
(10) Surge Tank	7,848	8,288	8,638	8,995	9,439	9,800	10,157	10,520	10,977	11,344
(11) Others	8,655	8,307	8,342	8,374	8,421	8,453	8,485	8,519	8,563	8,595
4. Hydro- Mechanical Works	18,971	19,213	19,450	19,693	19,930	20,170	20,408	20,650	20,883	21,125
5. Electro- Mechanical Works	35,642	36,990	38,105	39,410	40,694	41,760	43,009	44,036	45,063	46,267
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	285,232	287,789	290,221	292,813	295,749	298,094	300,607	302,969	305,606	308,091
7. Administration Fee	42,785	43,168	43,533	43,922	44,362	44,714	45,091	45,445	45,841	46,214
8. Preliminary Cost	28,523	28,779	29,022	29,281	29,575	29,809	30,061	30,297	30,561	30,809
9. Interest During Construction	71,308	71,947	72,555	73,203	73,937	74,524	75,152	75,742	76,401	77,023
Total	427,848	431,684	435,332	439,220	443,624	447,141	450,910	454,453	458,408	462,136

Basic Parameters			OP3b3- 425
Waterway Length			
Headrace Tunnel	m	1074.8	
Penstock	m	162.6	
Tailrace Tunnel	m	247.2	
	m	1484.6	
Sedimentation Level	EL.m	386.2	

Specification

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	102.9	107.8	112.6	117.5	122.3	127.2	132	136.9	141.7	146.6
FSL	EL.m	425	425	425	425	425	425	425	425	425	425
MOL	EL.m	398.6	399	399.2	399.4	399.6	400	400.2	400.4	400.6	400.8
TWL	EL.m	289	289	289	289.1	289.1	289.1	289.2	289.2	289.3	289.3
Loss	m	3	3	3	3	3	3	3	3	3	3
Effective Head	m	133	133	133	132.9	132.9	132.9	132.8	132.8	132.7	132.7
Pmax	MW	122	128	134	139	145	151	156	162	168	174
Primary Energy	GWh	234.30	244.63	254.17	261.03	268.83	273.01	284.11	293.44	301.38	307.48
Pfirm	MW	80.61	83.65	87.60	91.57	95.56	99.93	91.10	81.01	73.48	71.27
Benefit	1000USD	66,421	69,195	72,101	74,530	77,134	79,201	78,543	77,187	76,351	76,784
Cost	1000USD	45,209	45,582	45,959	46,306	46,686	47,110	47,448	47,824	48,188	48,551
B/C		1.47	1.52	1.57	1.61	1.65	1.68	1.66	1.61	1.58	1.58

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	137
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877
Concrete	m3	478,021	478,021	478,021	478,021	478,021	478,021	478,021	478,021	478,021	478,021
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

(2) Inlake											
Number	-	1									
Design Velocity	m3/s	4									
MOL	EL.m	398.6	399	399.2	399.4	399.6	400	400.2	400.4	400.6	400.8
Waterway Diameter	m	5.7	5.9	6	6.1	6.2	6.4	6.5	6.6	6.7	6.8
Available Height	m	26.4	26	25.8	25.6	25.4	25	24.8	24.6	24.4	24.2

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	9,489	9,682	9,879	10,076	10,264	10,434	10,612	10,790	10,960	11,130
Concrete	m3	8,245	8,452	8,664	8,877	9,081	9,267	9,462	9,657	9,844	10,032
Reinforce Bar	t	330	338	347	355	363	371	378	386	394	401
Intake Gate	t	136	143	149	155	162	168	174	181	187	193
Intake Screen	t	76	79	83	86	90	93	97	100	104	107

(3) Power Tunnel

Tunnel Inner Diameter	m	5.7	5.9	6	6.1	6.2	6.4	6.5	6.6	6.7	6.8
Concrete Thickness	m	0.6									
Tunnel Length	m	1074.8									
Number	-	1									

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	40,937	43,345	44,574	45,821	47,085	49,664	50,980	52,313	53,663	55,030
Lining Concrete	m3	13,511	13,960	14,185	14,410	14,636	15,088	15,315	15,542	15,769	15,996
Reinforce Bar	t	540	558	567	576	585	604	613	622	631	640

(3') Service Adit

Tunnel Length	m	1055
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Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	40,183	42,546	43,753	44,977	46,217	48,749	50,041	51,349	52,674	54,016

(4) Penstocks

Design Velocity 1	m/s	4									
Penstock Length 1	m	5									
Design Velocity 2	m/s	4.47									
Penstock Length 2	m	124.2									
Design Velocity 3	m/s	6.08									
Penstock Length 3	m	25.8									
Design Velocity 4	m/s	8.76	2 penstocks								
Penstock Length 4	m	7.6									
Mean Velocity	m/s	5.083373									
Dm	m	5.076762	5.196231	5.310657	5.424979	5.534678	5.644463	5.749976	5.855727	5.9575	6.05963
tm	mm	23.61076	24.11932	24.60641	25.07607	25.54269	26.00968	26.4405	26.89	27.30394	27.73773

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	5,031	5,225	5,413	5,605	5,792	5,983	6,168	6,358	6,542	6,730
Lining Concrete	m3	1,740	1,777	1,812	1,847	1,880	1,914	1,946	1,979	2,010	2,041
Reinforce Bar	t	21	21	22	22	23	23	23	24	24	24
Penstock	t	579	605	631	657	682	709	734	760	785	811

(5) Powerhouse

Undergroundtype

A	m2	1035.591	1059.961	1083.302	1106.345	1128.717	1151.106	1172.329	1193.89	1214.335	1235.153
d	m	30									

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	68,349	69,957	71,498	73,019	74,495	75,973	77,374	78,797	80,146	81,520
Concrete	m3	15,534	15,899	16,250	16,595	16,931	17,267	17,585	17,908	18,215	18,527
Reinforce Bar	t	62	64	65	66	68	69	70	72	73	74

(6) Tailrace Tunnel

Design Velocity	m/s	3.5									
Tunnel Inner Diameter	m	6.1	6.3	6.4	6.5	6.7	6.8	6.9	7.1	7.2	7.3
Concrete Thickness	m	0.6									
Tunnel Length	m	247.2									
Number	-	1									

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	10,539	11,124	11,423	11,725	12,342	12,657	12,975	13,624	13,954	14,288
Lining Concrete	m3	3,314	3,418	3,470	3,522	3,627	3,679	3,732	3,837	3,889	3,942
Reinforce Bar	t	133	137	139	141	145	147	149	153	156	158

(7) Tailrace

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	6,202	6,440	6,626	6,813	7,046	7,231	7,413	7,647	7,827	8,008
Concrete	m3	2,061	2,175	2,265	2,357	2,473	2,567	2,659	2,780	2,874	2,969
Reinforce Bar	t	27	28	29	29	30	31	32	32	33	34

(8) P/H Access Tunnel

Tunnel Length	m	1220									
Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900
Lining Concrete	m3	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200
Reinforce Bar	t	366	366	366	366	366	366	366	366	366	366

(9) Surge Tank

LWL	EL.m	398.6	399	399.2	399.4	399.6	400	400.2	400.4	400.6	400.8
Available Depth	m	26.4	26	25.8	25.6	25.4	25	24.8	24.6	24.4	24.2
Number of waterway	-	1									

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	22,525	23,596	24,645	25,716	26,766	27,836	28,885	29,955	31,004	32,075
Concrete	m3	6,520	6,830	7,134	7,444	7,748	8,058	8,361	8,671	8,975	9,285
Reinforce Bar	t	326	342	357	372	387	403	418	434	449	464

(9) Service Adit

Tunnel Length	m	960									
Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	36,564	38,715	39,813	40,927	42,056	44,360	45,535	46,725	47,931	49,152

Civil Work Cost

1,000USD

Item	FSL=425									
	1	2	3	4	5	6	7	8	9	10

3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	132,413	132,413	132,413	132,413	132,413	132,413	132,413	132,413	132,413	132,413
(3) Intake	1,804	1,848	1,894	1,939	1,983	2,022	2,064	2,106	2,146	2,186
(4) Power Tunnel	8,830	9,280	9,509	9,740	9,974	10,450	10,692	10,937	11,184	11,434
(5) Penstock	1,161	1,201	1,239	1,277	1,315	1,353	1,390	1,428	1,464	1,502
(6) Power House	10,661	10,911	11,152	11,389	11,619	11,850	12,068	12,290	12,501	12,715
(7) Tailrace Tunnel	1,998	2,085	2,130	2,174	2,265	2,311	2,358	2,452	2,499	2,547
(8) Tailrace	456	479	497	516	539	558	576	600	619	638
(9) P/S Access Tunnel	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900
(10) Surge Tank	8,693	9,141	9,496	9,856	10,213	10,674	11,034	11,402	11,765	12,135
(11) Others	8,977	8,588	8,620	8,652	8,685	8,730	8,761	8,795	8,826	8,857
4. Hydro- Mechanical Works	19,635	19,884	20,128	20,376	20,620	20,867	21,109	21,357	21,598	21,846
5. Electro- Mechanical Works	38,909	40,177	41,425	42,462	43,677	44,876	45,875	47,046	48,215	49,358
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	301,390	303,881	306,395	308,708	311,239	314,067	316,323	318,829	321,253	323,675
7. Administration Fee	45,209	45,582	45,959	46,306	46,686	47,110	47,448	47,824	48,188	48,551
8. Preliminary Cost	30,139	30,388	30,639	30,871	31,124	31,407	31,632	31,883	32,125	32,367
9. Interest During Construction	75,348	75,970	76,599	77,177	77,810	78,517	79,081	79,707	80,313	80,919
Total	452,085	455,821	459,592	463,062	466,858	471,100	474,484	478,243	481,880	485,512

Basic Parameters			OP3b3- 435
Waterway Length			
Headrace Tunnel	m	1074.8	
Penstock	m	162.6	
Tailrace Tunnel	m	247.2	
	m	1484.6	
Sedimentation Level	EL.m	386.2	

Specification

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	124.6	129.5	134.4	139.4	144.3	149.2	154.1	159.1	164	168.9
FSL	EL.m	435	435	435	435	435	435	435	435	435	435
MOL	EL.m	399.8	400	400.2	400.6	400.8	401	401.2	401.4	401.6	401.8
TWL	EL.m	289.1	289.2	289.2	289.2	289.3	289.3	289.3	289.4	289.4	289.4
Loss	m	3	3	3	3	3	3	3	3	3	3
Effective Head	m	142.9	142.8	142.8	142.8	142.7	142.7	142.7	142.6	142.6	142.6
Pmax	MW	159	165	171	178	184	190	196	202	209	215
Primary Energy	GWh	293.91	303.28	312.46	321.39	329.15	336.48	343.23	349.42	354.71	359.75
Pfirm	MW	94.41	98.29	102.29	106.67	110.61	94.74	88.34	84.75	75.42	68.09
Benefit	1000USD	81,302	84,156	87,012	89,937	92,518	89,064	88,354	88,388	86,534	85,236
Cost	1000USD	53,149	53,445	53,809	54,256	54,618	54,985	55,342	55,701	56,081	56,433
B/C		1.53	1.57	1.62	1.66	1.69	1.62	1.60	1.59	1.54	1.51

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	147
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876
Concrete	m3	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

(2) Intake												
Number	-	1										
Design Velocity	m3/s	4										
MOL	EL.m	399.8	400	400.2	400.6	400.8	401	401.2	401.4	401.6	401.8	
Waterway Diameter	m	6.3	6.4	6.5	6.7	6.8	6.9	7	7.1	7.2	7.3	
Available Height	m	35.2	35	34.8	34.4	34.2	34	33.8	33.6	33.4	33.2	

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	11,872	12,089	12,300	12,497	12,699	12,897	13,091	13,286	13,472	13,655
Concrete	m3	10,862	11,106	11,345	11,569	11,799	12,026	12,249	12,473	12,689	12,901
Reinforce Bar	t	434	444	454	463	472	481	490	499	508	516
Intake Gate	t	170	176	183	190	196	203	209	216	223	229
Intake Screen	t	94	98	102	105	109	113	116	120	124	127

(3) Power Tunnel

Tunnel Inner Diameter	m	6.3	6.4	6.5	6.7	6.8	6.9	7	7.1	7.2	7.3
Concrete Thickness	m	0.6									
Tunnel Length	m	1074.8									
Number	-	1									

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	48,366	49,664	50,980	53,663	55,030	56,414	57,816	59,234	60,670	62,123
Lining Concrete	m3	14,862	15,088	15,315	15,769	15,996	16,224	16,452	16,681	16,910	17,139
Reinforce Bar	t	594	604	613	631	640	649	658	667	676	686

(3) Service Adit

Tunnel Length	m	1055
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Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	47,475	48,749	50,041	52,674	54,016	55,375	56,751	58,143	59,553	60,979

Design Velocity 1	m/s	4
Penstock Length 1	m	5
Design Velocity 2	m/s	4.47
Penstock Length 2	m	124.2
Design Velocity 3	m/s	6.08
Penstock Length 3	m	25.8
Design Velocity 4	m/s	8.76 2 penstocks
Penstock Length 4	m	7.6

Item	Unit	FSL-435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	5,882	6,072	6,261	6,454	6,642	6,830	7,017	7,208	7,394	7,580
Lining Concrete	m3	1,896	1,929	1,962	1,995	2,027	2,058	2,088	2,119	2,148	2,177
Reinforce Bar	t	23	23	24	24	24	25	25	25	26	26
Penstock	t	742	769	798	826	854	882	910	938	965	993

Undergroundtype

Item	Unit	FSL-435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	77,033	78,515	79,986	81,461	82,861	84,256	85,628	86,986	88,315	89,625
Concrete	m3	17,508	17,844	18,179	18,514	18,832	19,149	19,461	19,770	20,072	20,369
Reinforce Bar	t	70	71	73	74	75	77	78	79	80	81

[illegible]

Item	Unit	FSL-435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	12,342	12,975	13,297	13,624	13,954	14,626	14,968	15,315	15,665	16,019
Lining Concrete	m3	3,627	3,732	3,784	3,837	3,889	3,995	4,047	4,100	4,153	4,206
Reinforce Bar	t	145	149	151	153	156	160	162	164	166	168

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	7,110	7,345	7,529	7,714	7,895	8,128	8,308	8,490	8,668	8,846
Concrete	m3	2,505	2,624	2,719	2,815	2,910	3,033	3,130	3,228	3,325	3,423
Reinforce Bar	t	30	31	32	33	33	34	35	35	36	37

Tunnel Length	m	1220
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[illegible]

(c) Surge tank											
LWL	EL.m	399.8	400	400.2	400.6	400.8	401	401.2	401.4	401.6	401.8
Available Depth	m	35.2	35	34.8	34.4	34.2	34	33.8	33.6	33.4	33.2
Number of waterway	-	1									

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	27,330	28,403	29,476	30,570	31,643	32,716	33,789	34,884	35,957	37,030
Concrete	m3	7,911	8,222	8,533	8,849	9,160	9,471	9,781	10,098	10,409	10,719
Reinforce Bar	t	396	411	427	442	458	474	489	505	520	536

Tunnel Length	m	960
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Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	43,200	44,360	45,535	47,931	49,152	50,388	51,640	52,908	54,190	55,488

1.000USD

[illegible]

(1).1 River Treatment(NEA F/S)	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(1).2 Concrete Dam										
Excavation	49,714	49,714	49,714	49,714	49,714	49,714	49,714	49,714	49,714	49,714
Concrete	74,696	74,696	74,696	74,696	74,696	74,696	74,696	74,696	74,696	74,696
Others	24,882	24,882	24,882	24,882	24,882	24,882	24,882	24,882	24,882	24,882
(2)Intake										
Excavation	226	230	234	237	241	245	249	252	256	259
Concrete	1,303	1,333	1,361	1,388	1,416	1,443	1,470	1,497	1,523	1,548
Reinforce Bar	361	369	377	384	392	399	407	414	421	428
Others	472	483	493	502	512	522	531	541	550	559
(3)Power Tunnel										
Tunnel Excavation	3,386	3,477	3,569	3,756	3,852	3,949	4,047	4,146	4,247	4,349
Lining Concrete	2,081	2,112	2,144	2,208	2,240	2,271	2,303	2,335	2,367	2,399
Reinforce Bar	523	531	539	555	563	571	579	587	595	603
Others	898	918	938	978	998	1,019	1,039	1,060	1,081	1,103
(3)Service Adit										
Tunnel Excavation	3,323	3,412	3,503	3,687	3,781	3,876	3,973	4,070	4,169	4,269
Others	665	682	701	737	756	775	795	814	834	854
(4)Penstock										
Tunnel Excavation	823	850	877	904	930	956	982	1,009	1,035	1,061
Lining Concrete	265	270	275	279	284	288	292	297	301	305
Reinforce Bar	22	22	22	23	23	23	24	24	24	25
Others	222	228	235	241	247	254	260	266	272	278
(5)Power House										
Excavation	4,622	4,711	4,799	4,888	4,972	5,055	5,138	5,219	5,299	5,377
Concrete	3,326	3,390	3,454	3,518	3,578	3,638	3,698	3,756	3,814	3,870
Reinforce Bar	62	63	64	65	66	67	69	70	71	72
Others	4,005	4,082	4,159	4,235	4,308	4,381	4,452	4,522	4,592	4,660
(6)Tailrace Tunnel										
Tunnel Excavation	926	973	997	1,022	1,047	1,097	1,123	1,149	1,175	1,201
Lining Concrete	689	709	719	729	739	759	769	779	789	799
Reinforce Bar	128	131	133	135	137	141	142	144	146	148
Others	523	544	555	566	577	599	610	622	633	645
(7)Tailrace										
Excavation	85	88	90	93	95	98	100	102	104	106
Concrete	326	341	353	366	378	394	407	420	432	445
Reinforce Bar	25	26	27	27	28	28	29	29	30	30
Others	109	114	118	121	125	130	134	138	142	145
(8)P/H Access Tunnel										
Tunnel Excavation	3,842	3,842	3,842	3,842	3,842	3,842	3,842	3,842	3,842	3,842
Lining Concrete	1,586	1,586	1,586	1,586	1,586	1,586	1,586	1,586	1,586	1,586
Reinforce Bar	322	322	322	322	322	322	322	322	322	322
Others	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150
(9)Surge Tank										
Excavation	3,826	3,976	4,127	4,280	4,430	4,580	4,731	4,884	5,034	5,184
Concrete	1,464	1,521	1,579	1,637	1,695	1,752	1,810	1,868	1,926	1,983
Reinforce Bar	396	411	427	442	458	474	489	505	520	536
Others	1,137	1,182	1,226	1,272	1,317	1,361	1,406	1,451	1,496	1,541
(9') Service Adit										
Tunnel Excavation	3,023	3,104	3,187	3,354	3,440	3,526	3,614	3,702	3,792	3,883
Others	605	621	637	671	688	705	723	740	758	777
(10)Miscellaneous Works	10,105	9,617	9,649	9,694	9,726	9,761	9,793	9,825	9,857	9,889
Total	212,195	212,767	213,809	215,240	216,282	217,384	218,429	219,484	220,530	221,577

(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292
(3) Intake	2,362	2,414	2,465	2,512	2,561	2,609	2,657	2,704	2,750	2,795
(4) Power Tunnel	10,211	10,450	10,692	11,184	11,434	11,686	11,942	12,199	12,460	12,723
(5) Penstock	1,333	1,371	1,408	1,447	1,484	1,521	1,558	1,596	1,633	1,669
(6) Power House	12,015	12,246	12,476	12,706	12,924	13,142	13,356	13,567	13,775	13,979
(7) Tailrace Tunnel	2,265	2,358	2,404	2,452	2,499	2,596	2,644	2,694	2,743	2,793
(8) Tailrace	545	569	588	607	626	650	669	689	708	727
(9) P/S Access Tunnel	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900
(10) Surge Tank	10,450	10,815	11,182	11,656	12,027	12,398	12,771	13,151	13,527	13,903
(11) Others	10,105	9,617	9,649	9,694	9,726	9,761	9,793	9,825	9,857	9,889
4. Hydro- Mechanical Works	21,054	21,313	21,575	21,840	22,099	22,360	22,620	22,883	23,144	23,404
5. Electro- Mechanical Works	45,339	46,485	47,607	48,900	50,007	51,090	52,162	53,236	54,461	55,500
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	354,326	356,298	358,727	361,707	364,117	366,566	368,945	371,338	373,871	376,218
7. Administration Fee	53,149	53,445	53,809	54,256	54,618	54,985	55,342	55,701	56,081	56,433
8. Preliminary Cost	35,433	35,630	35,873	36,171	36,412	36,657	36,895	37,134	37,387	37,622
9. Interest During Construction	88,582	89,074	89,682	90,427	91,029	91,641	92,236	92,835	93,468	94,054
Total	531,489	534,447	538,090	542,561	546,175	549,848	553,418	557,007	560,806	564,327

Option IV

Basic Parameters OP4- 405

Waterway Length		
Headrace Tunnel	m	309.3
Penstock	m	148.5
Tailrace Tunnel	m	1199
	m	1656.8
Sedimentation Level	EL.m	386.2

Specification

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	65.4	70.2	75	79.8	84.6	89.3	94.1	98.9	103.7	108.5
FSL	EL.m	405	405	405	405	405	405	405	405	405	405
MOL	EL.m	397	397.4	397.6	398	398.2	398.6	399	399.2	399.4	399.8
TWL	EL.m	302.5	302.5	302.6	302.6	302.6	302.7	302.7	302.7	302.7	302.8
Loss	m	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Effective Head	m	99.3	99.3	99.2	99.2	99.2	99.1	99.1	99.1	99.1	99
Pmax	MW	58	62	66	71	75	79	83	87	92	96
Primary Energy	GWh	119.48	127.80	130.03	144.59	152.50	159.69	166.78	173.49	180.27	186.31
Pfirm	MW	47.47	51.25	54.84	58.26	60.93	61.97	56.70	51.96	46.30	45.73
Benefit	1000USD	35,785	38,420	39,901	43,551	45,778	47,385	47,076	46,858	46,376	47,291
Cost	1000USD	34,661	35,034	35,350	35,759	36,066	36,426	36,786	37,084	37,417	37,772
B/C		1.03	1.10	1.13	1.22	1.27	1.30	1.28	1.26	1.24	1.25

Civil & Hydromechanical Work Quantity**(1) Dam**

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	117
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
A		32335
B		0.4384
Coefficient for Conc	Y=C*X*D	
C		0.0015
D		1.3058

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877
Concrete	m3	316,564	316,564	316,564	316,564	316,564	316,564	316,564	316,564	316,564	316,564
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1
Design Velocity	m3/s	3.5
MOL	EL.m	397
Waterway Diameter	m	4.9
Available Height	m	8

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	4,795	4,930	5,075	5,193	5,326	5,427	5,525	5,640	5,751	5,832
Concrete	m3	3,562	3,685	3,819	3,929	4,052	4,147	4,239	4,348	4,453	4,531
Reinforce Bar	t	142	147	153	157	162	166	170	174	178	181
Intake Gate	t	78	84	89	95	101	106	112	117	123	128
Intake Screen	t	43	47	50	53	56	59	62	65	68	71

(3) Power Tunnel

Tunnel Inner Diameter	m	4.9
Concrete Thickness	m	0.6
Tunnel Length	m	309.3
Number	-	1

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	9,207	9,821	10,135	10,778	11,108	11,781	12,473	12,827	13,186	13,919
Lining Concrete	m3	3,375	3,502	3,566	3,695	3,759	3,888	4,017	4,082	4,147	4,277
Reinforce Bar	t	135	140	143	148	150	156	161	163	166	171

(3') Service Adit

Tunnel Length	m	1642.07
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Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	48,881	52,139	53,807	57,223	58,970	62,543	66,221	68,100	70,005	73,893

Design Velocity 1	m/s	3.5	
Penstock Length 1	m	5	
Design Velocity 2	m/s	5.2	
Penstock Length 2	m	110.2	
Design Velocity 3	m/s	6.08	
Penstock Length 3	m	25.7	
Design Velocity 4	m/s	8.76	2 penstocks
Penstock Length 4	m	7.6	

Item	Unit	FSL-405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	2,967	3,132	3,296	3,459	3,620	3,778	3,937	4,096	4,254	4,412
Lining Concrete	m3	1,244	1,283	1,320	1,356	1,392	1,425	1,458	1,491	1,523	1,554
Reinforce Bar	t	15	15	16	16	17	17	18	18	19	19
Penstock	t	244	260	277	293	310	326	342	359	375	391

Undergroundtype

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	49,432	51,214	52,919	54,586	56,203	57,724	59,255	60,748	62,204	63,606
Concrete	m3	11,235	11,640	12,027	12,406	12,774	13,119	13,467	13,806	14,137	14,456
Reinforce Bar	t	45	47	48	50	51	52	54	55	57	58

Design Velocity	m/s	3.5									
Tunnel Inner Diameter	m	4.9	5.1	5.2	5.4	5.5	5.7	5.9	6	6.1	6.3
Concrete Thickness	m	0.6									
Tunnel Length	m	1199									
Number	-	1									

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	35,692	38,071	39,289	41,783	43,058	45,668	48,353	49,725	51,116	53,955
Lining Concrete	m3	13,082	13,577	13,825	14,323	14,572	15,072	15,573	15,824	16,075	16,579
Reinforce Bar	t	523	543	553	573	583	603	623	633	643	663

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	4,494	4,739	4,938	5,179	5,373	5,610	5,848	6,037	6,225	6,460
Concrete	m3	1,301	1,404	1,489	1,594	1,680	1,786	1,895	1,984	2,072	2,185
Reinforce Bar	t	21	22	22	23	24	25	26	26	27	28

Tunnel Length	m	1844.1
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[illegible]

1,000USD

[illegible]

Tunnel Excavation	3,422	3,650	3,767	4,006	4,128	4,378	4,635	4,767	4,900	5,173
(4)Penstock										
Tunnel Excavation	415	438	461	484	507	529	551	573	596	618
Lining Concrete	174	180	185	190	195	200	204	209	213	218
Reinforce Bar	14	15	15	15	16	16	17	17	17	18
Others	121	127	132	138	144	149	154	160	165	171
(5)Power House										
Excavation	2,966	3,073	3,175	3,275	3,372	3,463	3,555	3,645	3,732	3,816
Concrete	2,135	2,212	2,285	2,357	2,427	2,493	2,559	2,623	2,686	2,747
Reinforce Bar	40	41	42	44	45	46	47	49	50	51
Others	2,570	2,663	2,751	2,838	2,922	3,001	3,081	3,158	3,234	3,307
(6)Tailrace Tunnel										
Tunnel Excavation	2,677	2,855	2,947	3,134	3,229	3,425	3,626	3,729	3,834	4,047
Lining Concrete	2,486	2,580	2,627	2,721	2,769	2,864	2,959	3,007	3,054	3,150
Reinforce Bar	460	478	487	504	513	531	548	557	566	584
Others	1,687	1,774	1,818	1,908	1,953	2,046	2,140	2,188	2,236	2,334
(7)Tailrace										
Excavation	54	57	59	62	64	67	70	72	75	78
Concrete	169	183	194	207	218	232	246	258	269	284
Reinforce Bar	17	18	18	19	20	21	21	22	23	23
Others	60	64	68	72	76	80	84	88	92	96
(8)P/H Access Tunnel										
Tunnel Excavation	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807
Lining Concrete	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397
Reinforce Bar	487	487	487	487	487	487	487	487	487	487
Others	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738
(9)Miscellaneous Works	7,076	7,128	7,163	7,215	7,250	7,302	7,355	7,389	7,424	7,477
Total	148,602	149,695	150,423	151,520	152,244	153,339	154,454	155,176	155,895	157,020

Hydro- mechanical Works

1,000USD

Item	FSL=405									
	1	2	3	4	5	6	7	8	9	10
(1)Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2)Intake										
Gate	514	551	588	624	661	697	733	769	806	842
Screen	285	306	326	347	367	387	407	427	448	468
(3)Penstock	927	990	1,052	1,115	1,177	1,238	1,300	1,362	1,425	1,485
(4)Tailrace										
Gate	514	551	588	624	661	697	733	769	806	842
(5)Others	2,823	2,855	2,886	2,917	2,949	2,979	3,010	3,041	3,072	3,103
Total	16,941	17,129	17,318	17,505	17,693	17,874	18,060	18,247	18,434	18,616

Project Cost Summary

1,000USD

Item	FSL=405									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	2,972	2,994	3,008	3,030	3,045	3,067	3,089	3,104	3,118	3,140
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	26,280	26,280	26,280	26,280	26,280	26,280	26,280	26,280	26,280	26,280
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	103,360	103,360	103,360	103,360	103,360	103,360	103,360	103,360	103,360	103,360
(3) Intake	796	823	852	876	902	923	943	967	989	1,006
(4) Power Tunnel	4,843	5,146	5,301	5,618	5,779	6,110	6,449	6,622	6,797	7,155
(5) Penstock	724	759	794	827	861	894	926	959	991	1,023
(6) Power House	7,710	7,988	8,254	8,514	8,766	9,003	9,242	9,475	9,702	9,921
(7) Tailrace Tunnel	7,310	7,687	7,878	8,267	8,464	8,865	9,274	9,481	9,690	10,114
(8) Tailrace	300	322	339	361	378	400	422	440	458	481
(9)P/S Access Tunnel	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430
(10) Others	7,076	7,128	7,163	7,215	7,250	7,302	7,355	7,389	7,424	7,477
4. Hydro- Mechanical Works	16,941	17,129	17,318	17,505	17,693	17,874	18,060	18,247	18,434	18,616
5. Electro- Mechanical Works	26,106	27,295	28,469	29,892	31,006	32,112	33,189	34,249	35,551	36,589
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	231,070	233,563	235,667	238,396	240,438	242,842	245,241	247,224	249,447	251,815
7. Administration Fee	34,661	35,034	35,350	35,759	36,066	36,426	36,786	37,084	37,417	37,772
8. Contingency	23,107	23,356	23,567	23,840	24,044	24,284	24,524	24,722	24,945	25,181
9. Interest During Construction	57,768	58,391	58,917	59,599	60,109	60,710	61,310	61,806	62,362	62,954
Total	346,605	350,344	353,501	357,595	360,657	364,262	367,862	370,837	374,171	377,722

Basic Parameters			OP4- 410
Waterway Length			
Headrace Tunnel	m	309.3	
Penstock	m	148.5	
Tailrace Tunnel	m	1199	
	m	1656.8	
Sedimentation Level	EL.m	386.2	

Specification

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	73.7	78.2	82.8	87.3	91.9	96.4	101	105.5	110.1	114.6
FSL	EL.m	410	410	410	410	410	410	410	410	410	410
MOL	EL.m	397.6	397.8	398.2	398.4	398.8	399	399.4	399.6	399.8	400.2
TWL	EL.m	302.5	302.6	302.6	302.6	302.7	302.7	302.7	302.8	302.8	302.8
Loss	m	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Effective Head	m	104.3	104.2	104.2	104.2	104.1	104.1	104.1	104	104	104
Pmax	MW	69	73	77	81	85	90	94	98	102	106
Primary Energy	GWh	138.78	146.67	154.93	162.66	170.16	177.66	184.89	191.32	197.51	203.09
Pfirm	MW	53.22	56.56	60.21	62.43	65.18	68.59	68.69	61.32	58.33	51.43
Benefit	1000USD	40,989	43,414	45,999	48,058	50,235	52,611	53,942	52,883	53,097	52,026
Cost	1000USD	36,822	37,127	37,486	37,783	38,139	38,469	38,820	39,108	39,394	39,740
B/C		1.11	1.17	1.23	1.27	1.32	1.37	1.39	1.35	1.35	1.31

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	122
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144	2,545,144
Concrete	m3	353,122	353,122	353,122	353,122	353,122	353,122	353,122	353,122	353,122	353,122
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	3.5									
MOL	EL.m	397.6	397.8	398.2	398.4	398.8	399	399.4	399.6	399.8	400.2
Waterway Diameter	m	5.2	5.3	5.5	5.6	5.8	5.9	6.1	6.2	6.3	6.5
Available Height	m	12.4	12.2	11.8	11.6	11.2	11	10.6	10.4	10.2	9.8

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	5,946	6,108	6,249	6,398	6,526	6,664	6,781	6,909	7,037	7,136
Concrete	m3	4,640	4,796	4,932	5,077	5,203	5,338	5,454	5,581	5,708	5,807
Reinforce Bar	t	186	192	197	203	208	214	218	223	228	232
Intake Gate	t	91	97	102	108	113	119	124	130	135	141
Intake Screen	t	51	54	57	60	63	66	69	72	75	78

(3) Power Tunnel

Tunnel Inner Diameter	m	5.2	5.3	5.5	5.6	5.8	5.9	6.1	6.2	6.3	6.5
Concrete Thickness	m	0.6									
Tunnel Length	m	309.3									
Number	-	1									

Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	10,135	10,454	11,108	11,442	12,125	12,473	13,186	13,550	13,919	14,671
Lining Concrete	m3	3,566	3,631	3,759	3,824	3,953	4,017	4,147	4,212	4,277	4,407
Reinforce Bar	t	143	145	150	153	158	161	166	168	171	176

(3') Service Adit

Tunnel Length	m	1642.07
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Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	53,807	55,502	58,970	60,743	64,369	66,221	70,005	71,936	73,893	77,887

Design Velocity 1	m/s	3.5
Penstock Length 1	m	5
Design Velocity 2	m/s	5.2
Penstock Length 2	m	110.2
Design Velocity 3	m/s	6.08
Penstock Length 3	m	25.7
Design Velocity 4	m/s	8.76 2 penstocks
Penstock Length 4	m	7.6
Mean Velocity	m/s	5.637079

[illegible][illegible]

(7) Tailrace											
Item	Unit	FSL=410									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	4,897	5,084	5,318	5,502	5,735	5,916	6,147	6,326	6,506	6,732
Concrete	m3	1,471	1,552	1,655	1,737	1,843	1,927	2,035	2,120	2,207	2,317
Reinforce Bar	t	22	23	24	24	25	26	27	28	28	29

Tunnel Length	m	1844.1
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Civil Work Cost 1,000USD

[illegible]

Tunnel Excavation	3,767	3,885	4,128	4,252	4,506	4,635	4,900	5,036	5,173	5,452
(4) Penstock										
Tunnel Excavation	455	477	498	519	541	562	583	604	625	646
Lining Concrete	183	188	193	198	202	206	211	215	219	223
Reinforce Bar	15	15	16	16	16	17	17	17	18	18
Others	131	136	141	147	152	157	162	167	172	177
(5) Power House										
Excavation	3,201	3,296	3,391	3,482	3,572	3,658	3,744	3,826	3,908	3,987
Concrete	2,303	2,372	2,441	2,506	2,570	2,633	2,695	2,753	2,813	2,870
Reinforce Bar	43	44	45	46	48	49	50	51	52	53
Others	2,773	2,856	2,939	3,017	3,095	3,170	3,244	3,315	3,386	3,455
(6) Tailrace Tunnel										
Tunnel Excavation	2,947	3,039	3,229	3,327	3,525	3,626	3,834	3,939	4,047	4,265
Lining Concrete	2,627	2,674	2,769	2,816	2,911	2,959	3,054	3,102	3,150	3,246
Reinforce Bar	487	495	513	522	539	548	566	575	584	601
Others	1,818	1,863	1,953	1,999	2,093	2,140	2,236	2,285	2,334	2,434
(7) Tailrace										
Excavation	59	61	64	66	69	71	74	76	78	81
Concrete	191	202	215	226	240	250	265	276	287	301
Reinforce Bar	18	19	20	20	21	22	22	23	23	24
Others	67	70	75	78	82	86	90	94	97	102
(8) P/H Access Tunnel										
Tunnel Excavation	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807
Lining Concrete	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397
Reinforce Bar	487	487	487	487	487	487	487	487	487	487
Others	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738
(9) Miscellaneous Works										
	7,510	7,544	7,596	7,630	7,683	7,716	7,770	7,803	7,838	7,892
Total	157,703	158,417	159,515	160,228	161,333	162,045	163,165	163,873	164,591	165,722

Hydro- mechanical Works

1,000USD

Item	FSL=410									
	1	2	3	4	5	6	7	8	9	10
(1) Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2) Intake										
Gate	599	636	672	708	744	780	817	852	889	924
Screen	333	353	373	393	414	434	454	474	494	513
(3) Penstock	1,080	1,140	1,203	1,265	1,326	1,387	1,450	1,509	1,572	1,632
(4) Tailrace										
Gate	599	636	672	708	744	780	817	852	889	924
(5) Others	2,898	2,928	2,960	2,990	3,021	3,052	3,083	3,113	3,144	3,174
Total	17,387	17,570	17,758	17,942	18,127	18,311	18,497	18,678	18,865	19,045

Project Cost Summary

1,000USD

Item	FSL=410									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,154	3,168	3,190	3,205	3,227	3,241	3,263	3,277	3,292	3,314
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	28,230	28,230	28,230	28,230	28,230	28,230	28,230	28,230	28,230	28,230
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	110,062	110,062	110,062	110,062	110,062	110,062	110,062	110,062	110,062	110,062
(3) Intake	1,030	1,063	1,093	1,124	1,151	1,181	1,205	1,233	1,260	1,281
(4) Power Tunnel	5,301	5,458	5,779	5,943	6,278	6,449	6,797	6,975	7,155	7,521
(5) Penstock	784	816	848	880	911	942	973	1,003	1,034	1,064
(6) Power House	8,320	8,567	8,816	9,052	9,285	9,509	9,733	9,945	10,159	10,365
(7) Tailrace Tunnel	7,878	8,072	8,464	8,664	9,068	9,274	9,690	9,901	10,114	10,547
(8) Tailrace	335	352	373	390	412	429	451	468	485	508
(9) P/S Access Tunnel	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430
(10) Others	7,510	7,544	7,596	7,630	7,683	7,716	7,770	7,803	7,838	7,892
4. Hydro- Mechanical Works	17,387	17,570	17,758	17,942	18,127	18,311	18,497	18,678	18,865	19,045
5. Electro- Mechanical Works	28,840	29,955	31,042	32,110	33,171	34,462	35,477	36,490	37,479	38,454
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	245,483	247,511	249,905	251,884	254,258	256,458	258,802	260,719	262,626	264,935
7. Administration Fee	36,822	37,127	37,486	37,783	38,139	38,469	38,820	39,108	39,394	39,740
8. Contingency	24,548	24,751	24,990	25,188	25,426	25,646	25,880	26,072	26,263	26,494
9. Interest During Construction	61,371	61,878	62,476	62,971	63,564	64,114	64,700	65,180	65,656	66,234
Total	368,224	371,267	374,857	377,826	381,386	384,687	388,203	391,079	393,938	397,403

Basic Parameters OP4- 415

Waterway Length		
Headrace Tunnel	m	309.3
Penstock	m	148.5
Tailrace Tunnel	m	1199
	m	1656.8
Sedimentation Level	EL.m	386.2

Specification

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	82.6	87.3	92.1	96.8	101.6	106.3	111.1	115.8	120.6	125.3
FSL	EL.m	415	415	415	415	415	415	415	415	415	415
MOL	EL.m	398.2	398.4	398.8	399	399.4	399.6	400	400.2	400.4	400.8
TWL	EL.m	302.6	302.6	302.7	302.7	302.7	302.8	302.8	302.8	302.8	302.9
Loss	m	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Effective Head	m	109.2	109.2	109.1	109.1	109.1	109	109	109	109	108.9
Pmax	MW	80	85	90	94	99	103	108	113	117	122
Primary Energy	GWh	159.33	168.09	176.67	184.74	193.15	200.21	207.66	214.26	220.50	226.19
Pfirm	MW	59.34	62.88	65.85	67.33	71.12	74.55	77.67	80.27	82.56	84.70
Benefit	1000USD	46,529	49,171	51,608	53,506	56,160	58,462	60,742	63,001	65,208	67,366
Cost	1000USD	39,025	39,363	39,758	40,050	40,440	40,728	41,115	41,433	41,716	42,098
B/C		1.19	1.25	1.30	1.34	1.39	1.44	1.48	1.41	1.40	1.34

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	127
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358
Concrete	m3	392,176	392,176	392,176	392,176	392,176	392,176	392,176	392,176	392,176	392,176
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1
Design Velocity	m3/s	3.5
MOL	EL.m	398.2
Waterway Diameter	m	5.5
Available Height	m	16.8

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	7,086	7,268	7,432	7,602	7,752	7,911	8,050	8,200	8,348	8,469
Concrete	m3	5,757	5,940	6,105	6,277	6,430	6,593	6,735	6,889	7,043	7,169
Reinforce Bar	t	230	238	244	251	257	264	269	276	282	287
Intake Gate	t	105	111	117	123	129	135	141	146	152	158
Intake Screen	t	58	62	65	68	72	75	78	81	85	88

(3) Power Tunnel

Tunnel Inner Diameter	m	5.5
Concrete Thickness	m	0.6
Tunnel Length	m	309.3
Number	-	1

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	11,108	11,442	12,125	12,473	13,186	13,550	14,292	14,671	15,054	15,836
Lining Concrete	m3	3,759	3,824	3,953	4,017	4,147	4,212	4,342	4,407	4,472	4,603
Reinforce Bar	t	150	153	158	161	166	168	174	176	179	184

(3') Srevice Adit

Tunnel Length	m	1642.07
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Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	58,970	60,743	64,369	66,221	70,005	71,936	75,877	77,887	79,923	84,074

- | | | |
|-------------------|-----|------------------|
| Design Velocity 1 | m/s | 3.5 |
| Penstock Length 1 | m | 5 |
| Design Velocity 2 | m/s | 5.2 |
| Penstock Length 2 | m | 110.2 |
| Design Velocity 3 | m/s | 6.08 |
| Penstock Length 3 | m | 25.7 |
| Design Velocity 4 | m/s | 8.76 2 penstocks |
| Penstock Length 4 | m | 7.6 |
| Mean Velocity | m/s | 5.637079 |

[illegible]

(6) Tailrace Tunnel											
Design Velocity	m/s	3.5									
Tunnel Inner Diameter	m	5.5	5.6	5.8	5.9	6.1	6.2	6.4	6.5	6.6	6.8
Concrete Thickness	m	0.6									
Tunnel Length	m	1199									
Number	-	1									

(7) Tailrace

(8) P/H Access Tunnel

Civil Work Cost

[illegible]

Tunnel Excavation	4,128	4,252	4,506	4,635	4,900	5,036	5,311	5,452	5,595	5,885
(4)Penstock										
Tunnel Excavation	497	519	542	564	586	608	630	651	673	694
Lining Concrete	193	198	202	207	211	216	220	224	228	232
Reinforce Bar	16	16	16	17	17	18	18	18	19	19
Others	141	147	152	157	163	168	173	179	184	189
(5)Power House										
Excavation	3,441	3,537	3,632	3,723	3,815	3,901	3,988	4,071	4,155	4,234
Concrete	2,476	2,546	2,614	2,680	2,745	2,807	2,870	2,930	2,990	3,047
Reinforce Bar	46	47	48	50	51	52	53	54	55	56
Others	2,981	3,065	3,147	3,228	3,305	3,380	3,455	3,528	3,600	3,668
(6)Tailrace Tunnel										
Tunnel Excavation	3,229	3,327	3,525	3,626	3,834	3,939	4,155	4,265	4,377	4,604
Lining Concrete	2,769	2,816	2,911	2,959	3,054	3,102	3,198	3,246	3,294	3,391
Reinforce Bar	513	522	539	548	566	575	592	601	610	628
Others	1,953	1,999	2,093	2,140	2,236	2,285	2,384	2,434	2,484	2,587
(7)Tailrace										
Excavation	64	66	69	71	74	76	79	81	83	86
Concrete	215	226	240	251	266	277	292	303	315	330
Reinforce Bar	20	20	21	22	22	23	24	24	25	25
Others	75	78	82	86	90	94	99	102	106	110
(8)P/H Access Tunnel										
Tunnel Excavation	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807
Lining Concrete	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397
Reinforce Bar	487	487	487	487	487	487	487	487	487	487
Others	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738
(9)Miscellaneous Works	7,965	8,000	8,054	8,089	8,143	8,178	8,233	8,268	8,303	8,359
Total	167,257	167,996	169,126	169,862	171,006	171,737	172,894	173,630	174,370	175,536

Hydro- mechanical Works

1,000USD

Item	FSL=415									
	1	2	3	4	5	6	7	8	9	10
(1)Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2)Intake										
Gate	690	728	768	807	846	884	923	962	1,001	1,039
Screen	383	405	427	448	470	491	513	534	556	577
(3)Penstock	1,250	1,316	1,384	1,450	1,518	1,583	1,651	1,717	1,785	1,850
(4)Tailrace										
Gate	690	728	768	807	846	884	923	962	1,001	1,039
(5)Others	2,978	3,011	3,045	3,078	3,111	3,144	3,178	3,211	3,244	3,277
Total	17,867	18,067	18,268	18,467	18,668	18,865	19,066	19,264	19,465	19,659

Project Cost Summary

1,000USD

Item	FSL=415									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,345	3,360	3,383	3,397	3,420	3,435	3,458	3,473	3,487	3,511
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	30,180	30,180	30,180	30,180	30,180	30,180	30,180	30,180	30,180	30,180
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131
(3) Intake	1,271	1,310	1,346	1,383	1,415	1,450	1,481	1,514	1,547	1,574
(4) Power Tunnel	5,779	5,943	6,278	6,449	6,797	6,975	7,337	7,521	7,708	8,087
(5) Penstock	847	880	913	945	977	1,009	1,041	1,072	1,103	1,134
(6) Power House	8,944	9,195	9,441	9,679	9,916	10,140	10,366	10,583	10,800	11,005
(7) Tailrace Tunnel	8,464	8,664	9,068	9,274	9,690	9,901	10,329	10,547	10,766	11,210
(8) Tailrace	373	390	412	430	452	470	493	511	529	552
(9)P/S Access Tunnel	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430
(10) Others	7,965	8,000	8,054	8,089	8,143	8,178	8,233	8,268	8,303	8,359
4. Hydro- Mechanical Works	17,867	18,067	18,268	18,467	18,668	18,865	19,066	19,264	19,465	19,659
5. Electro- Mechanical Works	31,350	32,645	33,926	34,926	36,156	37,137	38,331	39,508	40,436	41,595
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	260,169	262,417	265,052	267,001	269,600	271,523	274,099	276,223	278,109	280,650
7. Administration Fee	39,025	39,363	39,758	40,050	40,440	40,728	41,115	41,433	41,716	42,098
8. Contingency	26,017	26,242	26,505	26,700	26,960	27,152	27,410	27,622	27,811	28,065
9. Interest During Construction	65,042	65,604	66,263	66,750	67,400	67,881	68,525	69,056	69,527	70,163
Total	390,253	393,626	397,578	400,501	404,400	407,285	411,148	414,335	417,163	420,975

Basic Parameters OP4- 420

Waterway Length		
Headrace Tunnel	m	309.3
Penstock	m	148.5
Tailrace Tunnel	m	1199
	m	1656.8
Sedimentation Level	EL.m	386.2

Specification

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	92.3	97.2	102	106.9	111.7	116.6	121.4	126.3	131.1	136
FSL	EL.m	420	420	420	420	420	420	420	420	420	420
MOL	EL.m	398.8	399	399.4	399.6	400	400.2	400.4	400.8	401	401.2
TWL	EL.m	302.7	302.7	302.7	302.8	302.8	302.8	302.8	302.9	302.9	302.9
Loss	m	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Effective Head	m	114.1	114.1	114.1	114	114	114	114	113.9	113.9	113.9
Pmax	MW	94	99	104	109	114	119	123	128	133	138
Primary Energy	GWh	182.69	191.65	200.38	208.71	216.60	223.94	230.48	237.31	243.54	249.22
Pfirm	MW	65.81	67.30	69.85	73.35	77.12	80.76	79.97	66.87	64.77	59.38
Benefit	1000USD	52,680	54,741	57,079	59,631	62,186	64,602	65,541	62,830	63,320	62,721
Cost	1000USD	41,907	42,238	42,624	42,949	43,332	43,650	43,931	44,313	44,623	44,933
B/C		1.26	1.30	1.34	1.39	1.44	1.48	1.49	1.42	1.42	1.40

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	132
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583	2,634,583
Concrete	m3	433,788	433,788	433,788	433,788	433,788	433,788	433,788	433,788	433,788	433,788
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1
Design Velocity	m3/s	3.5
MOL	EL.m	398.8
Waterway Diameter	m	5.8
Available Height	m	21.2
		21
		20.6
		20.4
		20
		19.8
		19.6
		19.2
		19
		18.8

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	8,242	8,442	8,616	8,804	8,966	9,143	9,311	9,461	9,621	9,780
Concrete	m3	6,933	7,141	7,322	7,519	7,689	7,877	8,056	8,215	8,386	8,557
Reinforce Bar	t	277	286	293	301	308	315	322	329	335	342
Intake Gate	t	120	126	132	139	145	151	157	163	169	176
Intake Screen	t	67	70	73	77	80	84	87	91	94	98

(3) Power Tunnel

Tunnel Inner Diameter	m	5.8
Concrete Thickness	m	0.6
Tunnel Length	m	309.3
Number	-	1

Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	12,125	12,473	13,186	13,550	14,292	14,671	15,054	15,836	16,235	16,638
Lining Concrete	m3	3,953	4,017	4,147	4,212	4,342	4,407	4,472	4,603	4,669	4,735
Reinforce Bar	t	158	161	166	168	174	176	179	184	187	189

(3') Service Adit

Tunnel Length	m	1642.07
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Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	64,369	66,221	70,005	71,936	75,877	77,887	79,923	84,074	86,189	88,330

	m/s	3.5									
Penstock Length 1	m	5									
Design Velocity 2	m/s	5.2									
Penstock Length 2	m	110.2									
Design Velocity 3	m/s	6.08									
Penstock Length 3	m	25.7									
Design Velocity 4	m/s	8.76	2 penstocks								
Penstock Length 4	m	7.6									
Mean Velocity	m/s	5.637079									
Dm	m	4.565926	4.685556	4.799855	4.913793	5.022901	5.131889	5.236455	5.341087	5.441634	5.542395
tm	mm	18.76375	19.20297	19.62262	20.02556	20.42581	20.82562	21.2092	21.57631	21.94484	22.31415

[illegible][illegible]

(7) Tailrace											
Item	Unit	FSL=420									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	5,747	5,939	6,176	6,366	6,601	6,788	6,971	7,207	7,388	7,571
Concrete	m3	1,849	1,938	2,049	2,139	2,253	2,345	2,436	2,554	2,647	2,744
Reinforce Bar	t	25	26	27	28	29	29	30	31	31	32

Tunnel Length	m	1844.1
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Civil Work Cost	1,000USD
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[illegible]

Tunnel Excavation	4,506	4,635	4,900	5,036	5,311	5,452	5,595	5,885	6,033	6,183
(4)Penstock										
Tunnel Excavation	543	566	588	610	632	655	676	699	720	742
Lining Concrete	202	207	212	216	220	225	229	233	237	241
Reinforce Bar	16	17	17	18	18	18	19	19	19	20
Others	152	158	163	169	174	180	185	190	195	201
(5)Power House										
Excavation	3,691	3,787	3,880	3,971	4,059	4,147	4,231	4,315	4,396	4,477
Concrete	2,656	2,726	2,792	2,858	2,921	2,984	3,045	3,105	3,164	3,222
Reinforce Bar	49	50	52	53	54	55	56	58	59	60
Others	3,198	3,282	3,362	3,441	3,517	3,593	3,666	3,739	3,809	3,880
(6)Tailrace Tunnel										
Tunnel Excavation	3,525	3,626	3,834	3,939	4,155	4,265	4,377	4,604	4,720	4,837
Lining Concrete	2,911	2,959	3,054	3,102	3,198	3,246	3,294	3,391	3,439	3,487
Reinforce Bar	539	548	566	575	592	601	610	628	637	646
Others	2,093	2,140	2,236	2,285	2,384	2,434	2,484	2,587	2,639	2,691
(7)Tailrace										
Excavation	69	71	74	76	79	81	84	86	89	91
Concrete	240	252	266	278	293	305	317	332	344	356
Reinforce Bar	21	22	22	23	24	24	25	26	26	27
Others	83	86	91	94	99	103	106	111	115	118
(8)P/H Access Tunnel										
Tunnel Excavation	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807
Lining Concrete	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397
Reinforce Bar	487	487	487	487	487	487	487	487	487	487
Others	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738
(9)Miscellaneous Works	8,443	8,479	8,534	8,570	8,625	8,661	8,697	8,753	8,789	8,825
Total	177,294	178,054	179,207	179,962	181,128	181,885	182,634	183,821	184,572	185,329

Hydro- mechanical Works

1,000USD

Item	FSL=420									
	1	2	3	4	5	6	7	8	9	10
(1)Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2)Intake										
Gate	787	829	869	910	950	991	1,032	1,073	1,113	1,154
Screen	437	460	483	506	528	551	573	596	618	641
(3)Penstock	1,441	1,514	1,584	1,655	1,726	1,798	1,868	1,939	2,009	2,081
(4)Tailrace										
Gate	787	829	869	910	950	991	1,032	1,073	1,113	1,154
(5)Others	3,066	3,102	3,136	3,172	3,206	3,242	3,277	3,311	3,346	3,381
Total	18,397	18,610	18,819	19,031	19,238	19,451	19,659	19,869	20,077	20,289

Project Cost Summary

1,000USD

Item	FSL=420									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,546	3,561	3,584	3,599	3,623	3,638	3,653	3,676	3,691	3,707
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	124,578	124,578	124,578	124,578	124,578	124,578	124,578	124,578	124,578	124,578
(3) Intake	1,523	1,568	1,607	1,649	1,685	1,726	1,764	1,798	1,834	1,871
(4) Power Tunnel	6,278	6,449	6,797	6,975	7,337	7,521	7,708	8,087	8,281	8,476
(5) Penstock	914	948	980	1,013	1,045	1,077	1,109	1,140	1,172	1,203
(6) Power House	9,594	9,845	10,085	10,322	10,551	10,780	10,999	11,216	11,427	11,639
(7) Tailrace Tunnel	9,068	9,274	9,690	9,901	10,329	10,547	10,766	11,210	11,435	11,662
(8) Tailrace	413	431	454	472	495	513	531	555	574	592
(9)P/S Access Tunnel	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430
(10) Others	8,443	8,479	8,534	8,570	8,625	8,661	8,697	8,753	8,789	8,825
4. Hydro- Mechanical Works	18,397	18,610	18,819	19,031	19,238	19,451	19,659	19,869	20,077	20,289
5. Electro- Mechanical Works	34,407	35,619	36,811	37,995	39,150	40,289	41,188	42,311	43,408	44,492
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	279,383	281,584	284,160	286,326	288,878	291,002	292,874	295,417	297,488	299,555
7. Administration Fee	41,907	42,238	42,624	42,949	43,332	43,650	43,931	44,313	44,623	44,933
8. Contingency	27,938	28,158	28,416	28,633	28,888	29,100	29,287	29,542	29,749	29,956
9. Interest During Construction	69,846	70,396	71,040	71,581	72,219	72,750	73,218	73,854	74,372	74,889
Total	419,075	422,376	426,241	429,488	433,317	436,503	439,311	443,125	446,231	449,333

Basic Parameters OP4- 425

Waterway Length		
Headrace Tunnel	m	309.3
Penstock	m	148.5
Tailrace Tunnel	m	1199
	m	1656.8
Sedimentation Level	EL.m	386.2

Specification

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Qmax	m ³ /s	102.9	107.8	112.6	117.5	122.3	127.2	132	136.9	141.7	146.6
FSL	EL.m	425	425	425	425	425	425	425	425	425	425
MOL	EL.m	399.4	399.8	400	400.2	400.6	400.8	401	401.4	401.6	401.8
TWL	EL.m	302.7	302.8	302.8	302.8	302.9	302.9	302.9	302.9	302.9	303
Loss	m	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Effective Head	m	119.1	119	119	119	118.9	118.9	118.9	118.9	118.9	118.8
Pmax	MW	109	114	120	125	130	135	140	145	150	155
Primary Energy	GWh	208.02	216.82	225.47	233.65	241.03	248.06	254.63	261.07	267.18	272.22
Pfirm	MW	70.57	72.75	76.22	79.78	83.45	86.40	80.17	65.51	64.99	60.06
Benefit	1000USD	58,671	60,911	63,512	66,055	68,487	70,640	69,949	66,698	67,641	67,066
Cost	1000USD	44,872	45,257	45,608	45,923	46,301	46,613	46,920	47,296	47,600	47,905
B/C		1.31	1.35	1.39	1.44	1.48	1.52	1.49	1.41	1.42	1.40

Civil & Hydromechanical Work Quantity**(1) Dam**

Design Flood	m ³ /s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	137
Crest Length (L)	m	173.2

Coefficient for Ex $Y=A^*X^*B$

A 32335

B 0.4384

Coefficient for Conc $Y=C^*X^*D$

C 0.0015

D 1.3058

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m ³	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877
Concrete	m ³	478,021	478,021	478,021	478,021	478,021	478,021	478,021	478,021	478,021	478,021
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	3.5									
MOL	EL.m	399.4	399.8	400	400.2	400.6	400.8	401	401.4	401.6	401.8
Waterway Diameter	m	6.1	6.3	6.4	6.5	6.7	6.8	6.9	7.1	7.2	7.3
Available Height	m	25.6	25.2	25	24.8	24.4	24.2	24	23.6	23.4	23.2

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m ³	9,429	9,621	9,817	10,012	10,182	10,367	10,544	10,703	10,872	11,040
Concrete	m ³	8,182	8,386	8,597	8,808	8,992	9,194	9,387	9,562	9,747	9,933
Reinforce Bar	t	327	335	344	352	360	368	375	382	390	397
Intake Gate	t	136	142	149	155	161	168	174	180	187	193
Intake Screen	t	76	79	83	86	90	93	97	100	104	107

(3) Power Tunnel

Tunnel Inner Diameter	m	6.1	6.3	6.4	6.5	6.7	6.8	6.9	7.1	7.2	7.3
Concrete Thickness	m	0.6									
Tunnel Length	m	309.3									
Number	-	1									

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m ³	13,186	13,919	14,292	14,671	15,443	15,836	16,235	17,046	17,459	17,878
Lining Concrete	m ³	4,147	4,277	4,342	4,407	4,538	4,603	4,669	4,800	4,866	4,932
Reinforce Bar	t	166	171	174	176	182	184	187	192	195	197

(3) Service Adit

Tunnel Length	m	1642.07
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Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m ³	70,005	73,893	75,877	77,887	81,985	84,074	86,189	90,498	92,692	94,912

Design Velocity 1	m/s	3.5	
Penstock Length 1	m	5	
Design Velocity 2	m/s	5.2	
Penstock Length 2	m	110.2	
Design Velocity 3	m/s	6.08	
Penstock Length 3	m	25.7	
Design Velocity 4	m/s	8.76	2 penstocks
Penstock Length 4	m	7.6	
Mean Velocity	m/s	5.637079	
Dm	m	4.820984	4.934434
tm	mm	20.45468	20.87352

[illegible]

(6) Tailrace Tunnel											
Design Velocity	m/s	3.5									
Tunnel Inner Diameter	m	6.1	6.3	6.4	6.5	6.7	6.8	6.9	7.1	7.2	7.3
Concrete Thickness	m	0.6									
Tunnel Length	m	1199									
Number	-	1									

(7) Tailrace

(8) P/H Access Tunnel

Civil Work Cost

[illegible]

Tunnel Excavation	4,900	5,173	5,311	5,452	5,739	5,885	6,033	6,335	6,488	6,644
(4)Penstock										
Tunnel Excavation	592	614	636	659	681	703	724	746	768	790
Lining Concrete	212	217	221	225	229	234	237	241	245	249
Reinforce Bar	17	18	18	18	19	19	19	20	20	20
Others	164	170	175	180	186	191	196	201	207	212
(5)Power House										
Excavation	3,953	4,045	4,134	4,223	4,307	4,392	4,474	4,557	4,636	4,714
Concrete	2,845	2,911	2,975	3,039	3,100	3,161	3,220	3,279	3,336	3,393
Reinforce Bar	53	54	55	56	57	59	60	61	62	63
Others	3,425	3,505	3,582	3,659	3,732	3,806	3,877	3,948	4,017	4,085
(6)Tailrace Tunnel										
Tunnel Excavation	3,834	4,047	4,155	4,265	4,490	4,604	4,720	4,956	5,076	5,198
Lining Concrete	3,054	3,150	3,198	3,246	3,342	3,391	3,439	3,536	3,584	3,633
Reinforce Bar	566	584	592	601	619	628	637	655	664	673
Others	2,236	2,334	2,384	2,434	2,535	2,587	2,639	2,744	2,797	2,851
(7)Tailrace										
Excavation	74	77	80	82	85	87	89	92	94	96
Concrete	268	283	295	306	322	334	346	361	374	386
Reinforce Bar	22	23	24	24	25	26	26	27	27	28
Others	91	96	99	103	108	112	115	120	124	128
(8)P/H Access Tunnel										
Tunnel Excavation	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807
Lining Concrete	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397
Reinforce Bar	487	487	487	487	487	487	487	487	487	487
Others	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738
(9)Miscellaneous Works	8,945	9,001	9,037	9,073	9,130	9,166	9,202	9,260	9,296	9,333
Total	187,836	189,012	189,772	190,537	191,722	192,488	193,247	194,461	195,222	195,987

Hydro- mechanical Works

1,000USD

Item	FSL=425									
	1	2	3	4	5	6	7	8	9	10
(1)Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2)Intake										
Gate	893	935	976	1,019	1,059	1,102	1,143	1,184	1,225	1,267
Screen	496	520	542	566	589	612	635	658	681	704
(3)Penstock	1,659	1,733	1,806	1,881	1,953	2,028	2,101	2,175	2,248	2,321
(4)Tailrace										
Gate	893	935	976	1,019	1,059	1,102	1,143	1,184	1,225	1,267
(5)Others	3,164	3,200	3,236	3,272	3,308	3,344	3,380	3,416	3,451	3,487
Total	18,983	19,200	19,415	19,634	19,846	20,064	20,278	20,495	20,709	20,924

Project Cost Summary

1,000USD

Item	FSL=425									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,757	3,780	3,795	3,811	3,834	3,850	3,865	3,889	3,904	3,920
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	40,960	40,960	40,960	40,960	40,960	40,960	40,960	40,960	40,960	40,960
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	132,413	132,413	132,413	132,413	132,413	132,413	132,413	132,413	132,413	132,413
(3) Intake	1,791	1,834	1,880	1,925	1,964	2,007	2,048	2,085	2,125	2,164
(4) Power Tunnel	6,797	7,155	7,337	7,521	7,896	8,087	8,281	8,674	8,874	9,077
(5) Penstock	986	1,019	1,051	1,083	1,114	1,146	1,177	1,209	1,240	1,271
(6) Power House	10,275	10,514	10,746	10,977	11,196	11,418	11,632	11,845	12,051	12,254
(7) Tailrace Tunnel	9,690	10,114	10,329	10,547	10,987	11,210	11,435	11,891	12,121	12,354
(8) Tailrace	456	479	497	516	539	558	576	600	619	638
(9)P/S Access Tunnel	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430
(10) Others	8,945	9,001	9,037	9,073	9,130	9,166	9,202	9,260	9,296	9,333
4. Hydro- Mechanical Works	18,983	19,200	19,415	19,634	19,846	20,064	20,278	20,495	20,709	20,924
5. Electro- Mechanical Works	37,443	38,593	39,938	41,042	42,143	43,219	44,281	45,331	46,370	47,410
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	299,149	301,715	304,050	306,153	308,674	310,750	312,800	315,306	317,334	319,370
7. Administration Fee	44,872	45,257	45,608	45,923	46,301	46,613	46,920	47,296	47,600	47,905
8. Contingency	29,915	30,172	30,405	30,615	30,867	31,075	31,280	31,531	31,733	31,937
9. Interest During Construction	74,787	75,429	76,013	76,538	77,169	77,688	78,200	78,826	79,334	79,842
Total	448,724	452,573	456,075	459,230	463,012	466,125	469,201	472,958	476,002	479,055

Basic Parameters

OP4- 435

Waterway Length		
Headrace Tunnel	m	309.3
Penstock	m	148.5
Tailrace Tunnel	m	1199
	m	1656.8
Sedimentation Level	EL.m	386.2

Specification

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Qmax	m ³ /s	124.6	129.5	134.4	139.4	144.3	149.2	154.1	159.1	164	168.9
FSL	EL.m	435	435	435	435	435	435	435	435	435	435
MOL	EL.m	400.6	401	401.2	401.4	401.6	402	402.2	402.4	402.6	402.8
TWL	EL.m	302.9	302.9	302.9	302.9	303	303	303	303	303	303.1
Loss	m	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Effective Head	m	128.9	128.9	128.9	128.9	128.8	128.8	128.8	128.8	128.8	128.7
Pmax	MW	143	149	155	160	166	171	177	183	188	194
Primary Energy	GW/h	262.04	270.88	279.00	286.47	293.41	299.76	305.88	311.68	315.90	320.33
Pfirm	MW	81.85	85.61	89.13	92.73	95.73	81.87	76.38	68.53	64.96	60.05
Benefit	1000USD	71,788	74,510	77,030	79,458	81,609	78,583	78,034	76,716	76,402	75,722
Cost	1000USD	52,593	52,996	53,331	53,635	53,965	54,335	54,662	54,988	55,283	55,606
B/C		1.36	1.41	1.44	1.48	1.51	1.45	1.43	1.40	1.38	1.36

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m ³ /s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	147
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	

A

B

Coefficient for Conc Y=C*X*D

C

D

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m ³	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876
Concrete	m ³	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m ³ /s	3.5									
MOL	EL.m	400.6	401	401.2	401.4	401.6	402	402.2	402.4	402.6	402.8
Waterway Diameter	m	6.7	6.9	7	7.1	7.2	7.4	7.5	7.6	7.7	7.8
Available Height	m	34.4	34	33.8	33.6	33.4	33	32.8	32.6	32.4	32.2

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m ³	11,815	12,016	12,226	12,436	12,637	12,818	13,011	13,204	13,389	13,570
Concrete	m ³	10,797	11,023	11,261	11,499	11,728	11,936	12,157	12,379	12,592	12,803
Reinforce Bar	t	432	441	450	460	469	477	486	495	504	512
Intake Gate	t	169	176	183	189	196	203	209	216	222	229
Intake Screen	t	94	98	101	105	109	113	116	120	124	127

(3) Power Tunnel

Tunnel Inner Diameter	m	6.7	6.9	7	7.1	7.2	7.4	7.5	7.6	7.7	7.8
Concrete Thickness	m	0.6									
Tunnel Length	m	309.3									
Number	-	1									

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m ³	15,443	16,235	16,638	17,046	17,459	18,301	18,729	19,162	19,600	20,043
Lining Concrete	m ³	4,538	4,669	4,735	4,800	4,866	4,998	5,064	5,130	5,197	5,263
Reinforce Bar	t	182	187	189	192	195	200	203	205	208	211

(3') Service Adit

Tunnel Length	m	1642.07
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Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m ³	81,985	86,189	88,330	90,498	92,692	97,158	99,431	101,730	104,055	106,406

Design Velocity 1	m/s	3.5
Penstock Length 1	m	5
Design Velocity 2	m/s	5.2
Penstock Length 2	m	110.2
Design Velocity 3	m/s	6.08
Penstock Length 3	m	25.7
Design Velocity 4	m/s	8.76
Penstock Length 4	m	7.6
Mean Velocity	m/s	5.637079

[illegible]

(6) Tailrace Tunnel											
Design Velocity	m/s	3.5									
Tunnel Inner Diameter	m	6.7	6.9	7	7.1	7.2	7.4	7.5	7.6	7.7	7.8
Concrete Thickness	m	0.6									
Tunnel Length	m	1199									
Number	-	1									

(7) Tailrace											
Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	7,110	7,345	7,529	7,714	7,895	8,128	8,308	8,490	8,668	8,846
Concrete	m3	2,505	2,624	2,719	2,815	2,910	3,033	3,130	3,228	3,325	3,423
Reinforce Bar	t	30	31	32	33	33	34	35	35	36	37

Tunnel Length	m	1844.1
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Civil Work Cost 1,000USD[illegible]

Tunnel Excavation	5,739	6,033	6,183	6,335	6,488	6,801	6,960	7,121	7,284	7,448
(4) Penstock										
Tunnel Excavation	691	713	735	758	779	801	823	845	867	888
Lining Concrete	231	235	239	243	247	251	255	258	262	266
Reinforce Bar	19	19	19	20	20	20	21	21	21	22
Others	188	194	199	204	209	215	220	225	230	235
(5) Power House										
Excavation	4,466	4,553	4,638	4,724	4,805	4,886	4,965	5,045	5,122	5,197
Concrete	3,214	3,277	3,338	3,400	3,458	3,516	3,573	3,631	3,686	3,740
Reinforce Bar	60	61	62	63	64	65	66	67	68	69
Others	3,870	3,945	4,019	4,093	4,163	4,233	4,302	4,372	4,438	4,503
(6) Tailrace Tunnel										
Tunnel Excavation	4,490	4,720	4,837	4,956	5,076	5,321	5,445	5,571	5,698	5,827
Lining Concrete	3,342	3,439	3,487	3,536	3,584	3,681	3,730	3,779	3,828	3,877
Reinforce Bar	619	637	646	655	664	682	691	700	709	718
Others	2,535	2,639	2,691	2,744	2,797	2,905	2,960	3,015	3,071	3,127
(7) Tailrace										
Excavation	85	88	90	93	95	98	100	102	104	106
Concrete	326	341	353	366	378	394	407	420	432	445
Reinforce Bar	25	26	27	27	28	28	29	29	30	30
Others	109	114	118	121	125	130	134	138	142	145
(8) P/H Access Tunnel										
Tunnel Excavation	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807
Lining Concrete	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397
Reinforce Bar	487	487	487	487	487	487	487	487	487	487
Others	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738
(9) Miscellaneous Works	10,014	10,073	10,110	10,147	10,184	10,244	10,281	10,319	10,356	10,393
Total	210,304	211,524	212,307	213,095	213,872	215,116	215,901	216,692	217,477	218,259

Hydro- mechanical Works

1,000USD

Item	FSL=435									
	1	2	3	4	5	6	7	8	9	10
(1) Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2) Intake										
Gate	1,113	1,157	1,200	1,244	1,288	1,331	1,374	1,418	1,461	1,505
Screen	619	643	667	691	715	739	763	788	812	836
(3) Penstock	2,136	2,217	2,297	2,379	2,457	2,538	2,618	2,699	2,779	2,857
(4) Tailrace										
Gate	1,113	1,157	1,200	1,244	1,288	1,331	1,374	1,418	1,461	1,505
(5) Others	3,372	3,410	3,448	3,487	3,525	3,563	3,601	3,640	3,678	3,716
Total	20,231	20,460	20,689	20,924	21,151	21,379	21,608	21,841	22,070	22,296

Project Cost Summary

1,000USD

Item	FSL=435									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	4,206	4,230	4,246	4,262	4,277	4,302	4,318	4,334	4,350	4,365
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	61,990	61,990	61,990	61,990	61,990	61,990	61,990	61,990	61,990	61,990
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292
(3) Intake	2,348	2,396	2,447	2,497	2,546	2,590	2,637	2,684	2,729	2,774
(4) Power Tunnel	7,896	8,281	8,476	8,674	8,874	9,281	9,488	9,697	9,909	10,122
(5) Penstock	1,129	1,161	1,193	1,225	1,256	1,287	1,318	1,350	1,380	1,411
(6) Power House	11,609	11,835	12,057	12,279	12,490	12,700	12,907	13,115	13,315	13,509
(7) Tailrace Tunnel	10,987	11,435	11,662	11,891	12,121	12,589	12,826	13,065	13,306	13,548
(8) Tailrace	545	569	588	607	626	650	669	689	708	727
(9) P/S Access Tunnel	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430
(10) Others	10,014	10,073	10,110	10,147	10,184	10,244	10,281	10,319	10,356	10,393
4. Hydro- Mechanical Works	20,231	20,460	20,689	20,924	21,151	21,379	21,608	21,841	22,070	22,296
5. Electro- Mechanical Works	43,718	44,935	46,135	47,124	48,309	49,276	50,425	51,560	52,497	53,624
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	350,618	353,308	355,537	357,564	359,770	362,233	364,411	366,587	368,553	370,704
7. Administration Fee	52,593	52,996	53,331	53,635	53,965	54,335	54,662	54,988	55,283	55,606
8. Contingency	35,062	35,331	35,554	35,756	35,977	36,223	36,441	36,659	36,855	37,070
9. Interest During Construction	87,655	88,327	88,884	89,391	89,942	90,558	91,103	91,647	92,138	92,676
Total	525,927	529,962	533,305	536,346	539,655	543,350	546,617	549,880	552,830	556,056

Basic Parameters OP4- 435

Waterway Length		
Headrace Tunnel	m	309.3
Penstock	m	148.5
Tailrace Tunnel	m	1199
	m	1656.8
Sedimentation Level	EL.m	386.2

Specification

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	124.6	129.5	134.4	139.4	144.3	149.2	154.1	159.1	164	168.9
FSL	EL.m	435	435	435	435	435	435	435	435	435	435
MOL	EL.m	400.6	401	401.2	401.4	401.6	402	402.2	402.4	402.6	402.8
TWL	EL.m	302.9	302.9	302.9	302.9	303	303	303	303	303	303.1
Loss	m	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Effective Head	m	128.9	128.9	128.9	128.9	128.8	128.8	128.8	128.8	128.8	128.7
Pmax	MW	143	149	155	160	166	171	177	183	188	194
Primary Energy	GWh	262.04	270.88	279.00	286.47	293.41	299.76	305.88	311.68	315.90	320.33
Pfirm	MW	81.85	85.61	89.13	92.73	95.73	81.87	76.38	68.53	64.96	60.05
Benefit	1000USD	71,788	74,510	77,030	79,458	81,609	78,583	78,034	76,716	76,402	75,722
Cost	1000USD	52,593	52,996	53,331	53,635	53,965	54,335	54,662	54,988	55,283	55,606
B/C		1.36	1.41	1.44	1.48	1.51	1.45	1.43	1.40	1.38	1.36

Civil & Hydromechanical Work Quantity**(1) Dam**

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	147
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876
Concrete	m3	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	3.5									
MOL	EL.m	400.6	401	401.2	401.4	401.6	402	402.2	402.4	402.6	402.8
Waterway Diameter	m	6.7	6.9	7	7.1	7.2	7.4	7.5	7.6	7.7	7.8
Available Height	m	34.4	34	33.8	33.6	33.4	33	32.8	32.6	32.4	32.2

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	11,815	12,016	12,226	12,436	12,637	12,818	13,011	13,204	13,389	13,570
Concrete	m3	10,797	11,023	11,261	11,499	11,728	11,936	12,157	12,379	12,592	12,803
Reinforce Bar	t	432	441	450	460	469	477	486	495	504	512
Intake Gate	t	169	176	183	189	196	203	209	216	222	229
Intake Screen	t	94	98	101	105	109	113	116	120	124	127

(3) Power Tunnel

Tunnel Inner Diameter	m	6.7	6.9	7	7.1	7.2	7.4	7.5	7.6	7.7	7.8
Concrete Thickness	m	0.6									
Tunnel Length	m	309.3									
Number	-	1									

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	15,443	16,235	16,638	17,046	17,459	18,301	18,729	19,162	19,600	20,043
Lining Concrete	m3	4,538	4,669	4,735	4,800	4,866	4,998	5,064	5,130	5,197	5,263
Reinforce Bar	t	182	187	189	192	195	200	203	205	208	211

(3) Srevice Adit

Tunnel Length	m	1642.07
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Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	81,985	86,189	88,330	90,498	92,692	97,158	99,431	101,730	104,055	106,406

- | | | |
|-------------------|-----|------------------|
| Design Velocity 1 | m/s | 3.5 |
| Penstock Length 1 | m | 5 |
| Design Velocity 2 | m/s | 5.2 |
| Penstock Length 2 | m | 110.2 |
| Design Velocity 3 | m/s | 6.08 |
| Penstock Length 3 | m | 25.7 |
| Design Velocity 4 | m/s | 8.76 2 penstocks |
| Penstock Length 4 | m | 7.6 |
| Mean Velocity | m/s | 5.637079 |

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	4,935	5,093	5,251	5,411	5,567	5,723	5,879	6,037	6,192	6,346
Lining Concrete	m3	1,653	1,682	1,710	1,739	1,766	1,793	1,819	1,846	1,872	1,897
Reinforce Bar	t	20	20	21	21	21	22	22	22	22	23
Penstock	t	562	583	604	626	647	668	689	710	731	752

- | | Order | Genotype | A | d | m | n | p | r | s | t | v | w | x | y | z | aa | ab | ac | ad | ae | af | ag | ah | ai | aj | ak | al | am | an | ao | ap | aq | ar | as | at | au | av | aw | ax | ay | az | ba | bb | bc | bd | be | bf | bg | bh | bi | bj | bk | bl | bm | bn | bo | bp | bq | br | bs | bt | bu | bv | bw | bx | by | bz | ca | cb | cc | cd | ce | cf | cg | ch | ci | cj | ck | cl | cm | cn | co | cp | cq | cr | cs | ct | cu | cv | cw | cx | cy | cz | da | db | dc | dd | de | df | dg | dh | di | dj | dk | dl | dm | dn | do | dp | dq | dr | ds | dt | du | dv | dw | dx | dy | dz | ea | eb | ec | ed | ee | ef | eg | eh | ei | ej | ek | el | em | en | eo | ep | eq | er | es | et | eu | ev | ew | ex | ey | ez | fa | fb | fc | fd | fe | ff | fg | fh | fi | fj | fk | fl | fm | fn | fo | fp | fq | fr | fs | ft | fu | fv | fw | fx | fy | fz | ga | gb | gc | gd | ge | gf | gg | gh | gi | gj | gk | gl | gm | gn | go | gp | gq | gr | gs | gt | gu | gv | gw | gx | gy | gz | ha | hb | hc | hd | he | hf | hg | hh | hi | hj | hk | hl | hm | hn | ho | hp | hq | hr | hs | ht | hu | hv | hw | hx | hy | hz | ia | ib | ic | id | ie | if | ig | ih | ii | ij | ik | il | im | in | io | ip | iq | ir | is | it | iu | iv | iw | ix | iy | iz | ja | jb | jc | jd | je | jf | jj | jk | jl | jm | jn | jo | jp | jq | jr | js | jt | ju | jv | jw | jx | ky | kz | la | lb | lc | ld | le | lf | lg | lh | li | lj | lk | ll | lm | ln | lo | lp | lq | lr | ls | lt | lu | lv | lw | lx | ly | lz | ma | mb | mc | md | me | mf | mg | mh | mi | mj | mk | ml | mm | mn | mo | mp | mq | mr | ms | mt | mu | mv | mw | mx | my | mz | na | nb | nc | nd | ne | nf | ng | nh | ni | nj | nk | nl | nm | nn | no | np | nq | nr | ns | nt | nu | nv | nw | nx | ny | nz | oa | ob | oc | od | oe | of | og | oh | oi | oj | ok | ol | om | on | oo | op | oq | or | os | ot | ou | ov | ow | ox | oy | oz | pa | pb | pc | pd | pe | pf | pg | ph | pi | pj | pk | pl | pm | pn | po | pp | pq | pr | ps | pt | pu | pv | pw | px | py | pz | qa | qb | qc | qd | qe | qf | qg | qh | qi | qj | qk | ql | qm | qn | qo | qp | qq | qr | qs | qt | qu | qv | qw | qx | qy | qz | ra | rb | rc | rd | re | rf | rg | rh | ri | rj | rk | rl | rm | rn | ro | rp | rq | rr | rs | rt | ru | rv | rw | rx | ry | rz | sa | sb | sc | sd | se | sf | sg | sh | si | sj | sk | sl | sm | sn | so | sp | sq | sr | ss | st | su | sv | sw | sx | sy | sz | ta | tb | tc | td | te | tf | tg | th | ti | tj | tk | tl | tm | tn | to | tp | tq | tr | ts | tt | tu | tv | tw | tx | ty | tz | ua | ub | uc | ud | ue | uf | ug | uh | ui | uj | uk | ul | um | un | uo | up | uq | ur | us | ut | uu | uv | uw | ux | uy | uz | va | vb | vc | vd | ve | vf | vg | vh | vi | vj | vk | vl | vm | vn | vo | vp | vq | vr | vs | vt | vu | vv | vw | vx | vy | vz | wa | wb | wc | wd | we | wf | wg | wh | wi | wj | wk | wl | wm | wn | wo | wp | wq | wr | ws | wt | wu | wv | ww | wx | wy | wz | xa | xb | xc | xd | xe | xf | xg | xh | xi | xj | xk | xl | xm | xn | xo | xp | xq | xr | xs | xt | xu | xv | xw | xx | xy | xz | ya | yb | yc | yd | ye | yf | yg | yh | yi | yj | yk | yl | ym | yn | yo | yp | yq | yr | ys | yt | yu | yv | yw | yx | yy | yz | za | zb | zc | zd | ze | zf | zg | zh | zi | zj | zk | zl | zm | zn | zo | zp | zq | zr | zs | zt | zu | zv | zw | zx | zy | zz | aa | ab | ac | ad | ae | af | ag | ah | ai | aj | ak | al | am | an | ao | ap | aq | |
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Item	Unit	FSL-435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	74,430	75,880	77,302	78,727	80,078	81,426	82,752	84,084	85,369	86,613
Concrete	m3	16,916	17,245	17,569	17,892	18,200	18,506	18,807	19,110	19,402	19,685
Reinforce Bar	t	68	69	70	72	73	74	75	76	78	79

- [illegible]

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	59,864	62,933	64,497	66,079	67,681	70,942	72,602	74,280	75,978	77,695
Lining Concrete	m3	17,591	18,099	18,354	18,609	18,864	19,375	19,632	19,888	20,145	20,403
Reinforce Bar	t	704	724	734	744	755	775	785	796	806	816

- | Item | Unit | FSL=435 | | | | | | | | | |
|---------------|------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Excavation | m3 | 7,110 | 7,345 | 7,529 | 7,714 | 7,895 | 8,128 | 8,308 | 8,490 | 8,668 | 8,846 |
| Concrete | m3 | 2,505 | 2,624 | 2,719 | 2,815 | 2,910 | 3,033 | 3,130 | 3,228 | 3,325 | 3,423 |
| Reinforce Bar | t | 30 | 31 | 32 | 33 | 33 | 34 | 35 | 35 | 36 | 37 |

- [illegible]

1,000USD

[illegible]

Tunnel Excavation	5,739	6,033	6,183	6,335	6,488	6,801	6,960	7,121	7,284	7,448
(4)Penstock										
Tunnel Excavation	691	713	735	758	779	801	823	845	867	888
Lining Concrete	231	235	239	243	247	251	255	258	262	266
Reinforce Bar	19	19	19	20	20	20	21	21	21	22
Others	188	194	199	204	209	215	220	225	230	235
(5)Power House										
Excavation	4,466	4,553	4,638	4,724	4,805	4,886	4,965	5,045	5,122	5,197
Concrete	3,214	3,277	3,338	3,400	3,458	3,516	3,573	3,631	3,686	3,740
Reinforce Bar	60	61	62	63	64	65	66	67	68	69
Others	3,870	3,945	4,019	4,093	4,163	4,233	4,302	4,372	4,438	4,503
(6)Tailrace Tunnel										
Tunnel Excavation	4,490	4,720	4,837	4,956	5,076	5,321	5,445	5,571	5,698	5,827
Lining Concrete	3,342	3,439	3,487	3,536	3,584	3,681	3,730	3,779	3,828	3,877
Reinforce Bar	619	637	646	655	664	682	691	700	709	718
Others	2,535	2,639	2,691	2,744	2,797	2,905	2,960	3,015	3,071	3,127
(7)Tailrace										
Excavation	85	88	90	93	95	98	100	102	104	106
Concrete	326	341	353	366	378	394	407	420	432	445
Reinforce Bar	25	26	27	27	28	28	29	29	30	30
Others	109	114	118	121	125	130	134	138	142	145
(8)P/H Access Tunnel										
Tunnel Excavation	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807	5,807
Lining Concrete	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2,397
Reinforce Bar	487	487	487	487	487	487	487	487	487	487
Others	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738
(9)Miscellaneous Works	10,014	10,073	10,110	10,147	10,184	10,244	10,281	10,319	10,356	10,393
Total	210,304	211,524	212,307	213,095	213,872	215,116	215,901	216,692	217,477	218,259

Hydro- mechanical Works

1,000USD

Item	FSL=435									
	1	2	3	4	5	6	7	8	9	10
(1)Dam & Spillway										
Gate	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878
(2)Intake										
Gate	1,113	1,157	1,200	1,244	1,288	1,331	1,374	1,418	1,461	1,505
Screen	619	643	667	691	715	739	763	788	812	836
(3)Penstock	2,136	2,217	2,297	2,379	2,457	2,538	2,618	2,699	2,779	2,857
(4)Tailrace										
Gate	1,113	1,157	1,200	1,244	1,288	1,331	1,374	1,418	1,461	1,505
(5)Others	3,372	3,410	3,448	3,487	3,525	3,563	3,601	3,640	3,678	3,716
Total	20,231	20,460	20,689	20,924	21,151	21,379	21,608	21,841	22,070	22,296

Project Cost Summary

1,000USD

Item	FSL=435									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	4,206	4,230	4,246	4,262	4,277	4,302	4,318	4,334	4,350	4,365
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	61,990	61,990	61,990	61,990	61,990	61,990	61,990	61,990	61,990	61,990
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292
(3) Intake	2,348	2,396	2,447	2,497	2,546	2,590	2,637	2,684	2,729	2,774
(4) Power Tunnel	7,896	8,281	8,476	8,674	8,874	9,281	9,488	9,697	9,909	10,122
(5) Penstock	1,129	1,161	1,193	1,225	1,256	1,287	1,318	1,350	1,380	1,411
(6) Power House	11,609	11,835	12,057	12,279	12,490	12,700	12,907	13,115	13,315	13,509
(7) Tailrace Tunnel	10,987	11,435	11,662	11,891	12,121	12,589	12,826	13,065	13,306	13,548
(8) Tailrace	545	569	588	607	626	650	669	689	708	727
(9)P/S Access Tunnel	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430	10,430
(10) Others	10,014	10,073	10,110	10,147	10,184	10,244	10,281	10,319	10,356	10,393
4. Hydro- Mechanical Works	20,231	20,460	20,689	20,924	21,151	21,379	21,608	21,841	22,070	22,296
5. Electro- Mechanical Works	43,718	44,935	46,135	47,124	48,309	49,276	50,425	51,560	52,497	53,624
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	350,618	353,308	355,537	357,564	359,770	362,233	364,411	366,587	368,553	370,704
7. Administration Fee	52,593	52,996	53,331	53,635	53,965	54,335	54,662	54,988	55,283	55,606
8. Contingency	35,062	35,331	35,554	35,756	35,977	36,223	36,441	36,659	36,855	37,070
9. Interest During Construction	87,655	88,327	88,884	89,391	89,942	90,558	91,103	91,647	92,138	92,676
Total	525,927	529,962	533,305	536,346	539,655	543,350	546,617	549,880	552,830	556,056

Details of Alternatives in 10.4

Basic Parameters	OP3b3- 405	
Waterway Length		
Headrace Tunnel	m	1074.8
Penstock	m	139.64
Tailrace Tunnel	m	247.2
	m	1461.64
Sedimentation Level	EL.m	386.2

Specification

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	65.4	72.3	79.2	86.1	93	99.8	106.7	113.6	120.5	127.4
FSL	EL.m	405	405	405	405	405	405	405	405	405	405
MOL	EL.m	387.2	387.2	387.2	387.2	387.2	387.2	387.2	387.2	387.2	387.2
TWL	EL.m	288.6	288.7	288.8	288.8	288.9	288.9	289	289	289.1	289.2
Loss	m	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Effective Head	m	113.6	113.5	113.4	113.4	113.3	113.3	113.2	113.2	113.1	113
Pmax	MW	66	73	80	87	94	101	108	115	122	128
Primary Energy	GWh	132.88	146.10	159.19	172.03	184.37	196.27	207.14	217.21	226.37	234.20
Pfirm	MW	48.67	53.75	58.81	63.93	67.60	70.73	75.53	69.61	63.21	51.00
Benefit	1000USD	38,558	42,466	46,344	50,196	53,521	56,604	60,005	60,036	59,760	57,497
Cost	1000USD	34,691	35,226	35,802	36,362	36,917	37,461	38,004	38,542	39,076	39,574
B/C		1.11	1.21	1.29	1.38	1.45	1.51	1.58	1.56	1.53	1.45

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	117
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
A		32335
B		0.4384
Coefficient for Conc	Y=C*X*D	
C		0.0015
D		1.3058

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877	2,498,877
Concrete	m3	316,564	316,564	316,564	316,564	316,564	316,564	316,564	316,564	316,564	316,564
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	4									
MOL	EL.m	387.2	387.2	387.2	387.2	387.2	387.2	387.2	387.2	387.2	387.2
Waterway Diameter	m	4.6	4.8	5	5.2	5.4	5.6	5.8	6	6.2	6.4
Available Height	m	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	6,319	6,674	7,016	7,347	7,669	7,978	8,285	8,585	8,879	9,167
Concrete	m3	5,001	5,348	5,687	6,019	6,345	6,662	6,978	7,290	7,598	7,903
Reinforce Bar	t	200	214	227	241	254	266	279	292	304	316
Intake Gate	t	83	92	101	110	119	127	136	145	154	163
Intake Screen	t	46	51	56	61	66	71	76	81	86	91

(3) Power Tunnel

Tunnel Inner Diameter	m	4.6	4.8	5	5.2	5.4	5.6	5.8	6	6.2	6.4
Concrete Thickness	m	0.6									
Tunnel Base	EL.m	378	377.6	377.2	376.8	376.4	376	375.6	375.2	374.8	374.4
Tunnel Length	m	1105.2	1105.44	1105.91	1106.37	1106.61	1107.07	1107.31	1107.54	1108.01	1108.24
Number	-	1									

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	29,743	31,837	34,009	36,254	38,563	40,953	43,407	45,932	48,540	51,210
Lining Concrete	m3	11,376	11,833	12,294	12,757	13,219	13,686	14,151	14,617	15,088	15,558
Reinforce Bar	t	455	473	492	510	529	547	566	585	604	622

(3') Service Adit

Tunnel Length	m	1055
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Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	28,392	30,384	32,443	34,570	36,765	39,027	41,356	43,753	46,217	48,749

(4) Penstocks

Design Velocity 1	m/s	4										
Penstock Length 1	m	5										
Design Velocity 2	m/s	4.47										
Penstock Length 2	m	101.24	101	100.52	100.04	99.79	99.31	99.07	98.83	98.35	98.11	
Design Velocity 3	m/s	6.08										
Penstock Length 3	m	25.8										
Design Velocity 4	m/s	8.76										
Penstock Length 4	m	7.6										
Mean Velocity	m/s	5.179019	5.180177	5.182503	5.184845	5.186071	5.188436	5.189625	5.190818	5.193214	5.194419	
Dm	m	4.009777	4.215527	4.411111	4.598209	4.778343	4.948825	5.116456	5.278692	5.435387	5.588192	
tm	mm	16.6089	17.34532	18.04347	18.72396	19.36416	19.98368	20.57683	21.16588	21.71779	22.25462	

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	2,977	3,211	3,435	3,655	3,879	4,089	4,308	4,524	4,729	4,940
Lining Concrete	m3	1,213	1,265	1,312	1,356	1,401	1,440	1,481	1,521	1,556	1,592
Reinforce Bar	t	15	15	16	16	17	17	18	18	19	19
Penstock	t	278	305	331	357	383	408	433	459	483	508

(5) Powerhouse

Undergroundtype

A	m2	783.3304	823.3752	861.5165	898.2611	933.286	966.8043	999.3732	1031.18	1061.723	1091.375
d	m	30									

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	51,700	54,343	56,860	59,285	61,597	63,809	65,959	68,058	70,074	72,031
Concrete	m3	11,750	12,351	12,923	13,474	13,999	14,502	14,991	15,468	15,926	16,371
Reinforce Bar	t	47	49	52	54	56	58	60	62	64	65

(6) Tailrace Tunnel

Design Velocity	m/s	3.5										
Tunnel Inner Diameter	m	4.9	5.1	5.4	5.6	5.8	6	6.2	6.4	6.6	6.8	
Concrete Thickness	m	0.6										
Tunnel Length	m	247.2										
Number	-	1										

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	7,359	7,849	8,614	9,144	9,690	10,252	10,829	11,423	12,032	12,657
Lining Concrete	m3	2,697	2,799	2,953	3,056	3,159	3,262	3,366	3,470	3,575	3,679
Reinforce Bar	t	108	112	118	122	126	130	135	139	143	147

(7) Tailrace

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	4,494	4,807	5,161	5,466	5,768	6,063	6,360	6,654	6,946	7,237
Concrete	m3	1,301	1,433	1,585	1,721	1,858	1,996	2,137	2,279	2,423	2,570
Reinforce Bar	t	21	22	23	24	25	27	28	29	30	31

(8) P/H Access Tunnel

Tunnel Length	m	1220
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Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900
Lining Concrete	m3	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200
Reinforce Bar	t	366	366	366	366	366	366	366	366	366	366

(9) Surge Tank

LWL	EL.m	387.2
Available Depth	m	17.8 m
Number of waterway	-	1

Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	14,288	15,796	17,303	18,811	20,318	21,804	23,311	24,819	26,326	27,834
Concrete	m3	4,136	4,572	5,009	5,445	5,882	6,312	6,748	7,184	7,621	8,057
Reinforce Bar	t	207	229	250	272	294	316	337	359	381	403

(9') Service Adit

Tunnel Length	m	960
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Item	Unit	FSL=405									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	25,836	27,648	29,522	31,457	33,454	35,512	37,632	39,813	42,056	44,360

Civil Work Cost

1,000USD

Item	FSL=405									
	1	2	3	4	5	6	7	8	9	10

[illegible]

3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	103,360	103,360	103,360	103,360	103,360	103,360	103,360	103,360	103,360	103,360
(3) Intake	1,108	1,183	1,256	1,327	1,397	1,465	1,533	1,600	1,666	1,731
(4) Power Tunnel	6,674	7,074	7,486	7,909	8,341	8,786	9,240	9,705	10,183	10,669
(5) Penstock	721	769	816	861	906	949	993	1,036	1,077	1,119
(6) Power House	8,064	8,476	8,869	9,247	9,607	9,952	10,288	10,615	10,930	11,235
(7) Tailrace Tunnel	1,507	1,585	1,704	1,786	1,870	1,955	2,041	2,130	2,220	2,311
(8) Tailrace	300	327	359	387	415	443	471	500	529	558
(9) P/S Access Tunnel	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900
(10) Surge Tank	5,736	6,265	6,799	7,337	7,881	8,425	8,979	9,539	10,103	10,673
(11) Others	7,041	6,808	6,863	6,916	6,968	7,020	7,073	7,126	7,178	7,231
4. Hydro- Mechanical Works	17,196	17,497	17,794	18,091	18,389	18,680	18,977	19,275	19,567	19,862
5. Electro- Mechanical Works	27,209	29,112	30,957	32,741	34,488	36,183	37,850	39,472	41,073	42,424
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	231,275	234,842	238,682	242,415	246,110	249,738	253,359	256,943	260,504	263,827
7. Administration Fee	34,691	35,226	35,802	36,362	36,917	37,461	38,004	38,542	39,076	39,574
8. Preliminary Cost	23,127	23,484	23,868	24,242	24,611	24,974	25,336	25,694	26,050	26,383
9. Interest During Construction	57,819	58,711	59,671	60,604	61,528	62,434	63,340	64,236	65,126	65,957
Total	346,912	352,264	358,024	363,623	369,165	374,607	380,038	385,415	390,757	395,740

Project Cost Summary

1,000USD

Item	FSL=410									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,142	3,168	3,200	3,231	3,263	3,296	3,328	3,353	3,385	3,417
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	28,230	28,230	28,230	28,230	28,230	28,230	28,230	28,230	28,230	28,230
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	110,062	110,062	110,062	110,062	110,062	110,062	110,062	110,062	110,062	110,062
(3) Intake	1,349	1,424	1,498	1,570	1,641	1,711	1,780	1,844	1,911	1,977
(4) Power Tunnel	7,076	7,488	7,910	8,344	8,788	9,244	9,709	9,948	10,431	10,924
(5) Penstock	776	819	862	902	942	981	1,022	1,058	1,095	1,133
(6) Power House	8,682	9,048	9,403	9,741	10,071	10,388	10,698	10,996	11,289	11,571
(7) Tailrace Tunnel	1,624	1,704	1,786	1,870	1,955	2,041	2,130	2,220	2,265	2,358
(8) Tailrace	335	362	388	415	441	469	496	523	546	574
(9) P/S Access Tunnel	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900
(10) Surge Tank	6,346	6,853	7,365	7,882	8,404	8,931	9,464	9,907	10,447	10,993
(11) Others	7,481	7,216	7,267	7,319	7,370	7,421	7,473	7,512	7,561	7,613
4. Hydro- Mechanical Works	17,649	17,932	18,217	18,498	18,779	19,057	19,343	19,617	19,894	20,174
5. Electro- Mechanical Works	29,994	31,775	33,256	34,954	36,602	37,997	39,581	41,146	42,671	43,969
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	245,870	249,202	252,565	256,139	259,672	262,951	266,438	269,538	272,910	276,118
7. Administration Fee	36,880	37,380	37,885	38,421	38,951	39,443	39,966	40,431	40,936	41,418
8. Preliminary Cost	24,587	24,920	25,257	25,614	25,967	26,295	26,644	26,954	27,291	27,612
9. Interest During Construction	61,467	62,301	63,141	64,035	64,918	65,738	66,609	67,384	68,227	69,029
Total	368,805	373,803	378,848	384,209	389,507	394,426	399,657	404,307	409,365	414,177

Project Cost Summary

1,000USD

Item	FSL=415									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,343	3,368	3,401	3,433	3,466	3,491	3,523	3,555	3,581	3,613
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	30,180	30,180	30,180	30,180	30,180	30,180	30,180	30,180	30,180	30,180
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131
(3) Intake	1,605	1,684	1,763	1,839	1,915	1,985	2,059	2,131	2,198	2,269
(4) Power Tunnel	7,698	8,125	8,563	9,014	9,473	9,709	10,186	10,672	10,921	11,426
(5) Penstock	835	879	922	965	1,008	1,050	1,091	1,133	1,174	1,214
(6) Power House	9,316	9,667	10,009	10,336	10,656	10,964	11,266	11,557	11,844	12,124
(7) Tailrace Tunnel	1,745	1,828	1,912	1,998	2,085	2,174	2,220	2,311	2,404	2,452
(8) Tailrace	373	399	426	453	480	508	530	558	586	609
(9) P/S Access Tunnel	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900
(10) Surge Tank	7,075	7,590	8,110	8,635	9,166	9,608	10,146	10,689	11,138	11,689
(11) Others	7,960	7,658	7,710	7,763	7,815	7,854	7,904	7,956	7,996	8,046
4. Hydro- Mechanical Works	18,141	18,436	18,732	19,025	19,321	19,613	19,908	20,202	20,496	20,790
5. Electro- Mechanical Works	32,800	34,474	36,100	37,700	39,258	40,797	42,297	43,783	45,233	46,660
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	261,324	264,543	268,081	271,595	275,076	278,187	281,562	284,981	288,003	291,325
7. Administration Fee	39,199	39,681	40,212	40,739	41,261	41,728	42,234	42,747	43,201	43,699
8. Preliminary Cost	26,132	26,454	26,808	27,159	27,508	27,819	28,156	28,498	28,800	29,132
9. Interest During Construction	65,331	66,136	67,020	67,899	68,769	69,547	70,391	71,245	72,001	72,831
Total	391,987	396,814	402,121	407,392	412,614	417,280	422,344	427,472	432,005	436,987

Project Cost Summary

1,000USD

Item	FSL=420									
	1	2	3	4	5	6	7	8	9	10
1. Preparation & Compensation	3,555	3,580	3,612	3,645	3,670	3,702	3,728	3,761	3,794	3,819
(1) Access Road										
(2) Compensation										
(3) Others										
2. Environmental Mitigation	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570	35,570
3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	124,578	124,578	124,578	124,578	124,578	124,578	124,578	124,578	124,578	124,578
(3) Intake	1,876	1,960	2,041	2,122	2,198	2,274	2,348	2,424	2,499	2,569
(4) Power Tunnel	8,345	8,788	9,243	9,709	9,947	10,428	10,676	11,173	11,682	11,943
(5) Penstock	896	939	982	1,024	1,065	1,106	1,147	1,188	1,228	1,268
(6) Power House	9,976	10,316	10,643	10,962	11,269	11,566	11,858	12,145	12,422	12,696
(7) Tailrace Tunnel	1,870	1,955	2,041	2,130	2,174	2,265	2,358	2,452	2,499	2,596
(8) Tailrace	413	440	467	494	517	544	572	600	623	652
(9) P/S Access Tunnel	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900
(10) Surge Tank	7,860	8,383	8,912	9,445	9,889	10,425	10,872	11,421	11,975	12,429
(11) Others	8,464	8,124	8,176	8,229	8,267	8,319	8,359	8,412	8,462	8,501
4. Hydro- Mechanical Works	18,684	18,986	19,286	19,588	19,887	20,184	20,482	20,783	21,083	21,382
5. Electro- Mechanical Works	35,850	37,414	38,957	40,673	42,156	43,604	45,040	46,442	48,032	49,392
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	281,060	284,156	287,631	291,291	294,309	297,689	300,708	304,071	307,569	310,518
7. Administration Fee	42,159	42,623	43,145	43,694	44,146	44,653	45,106	45,611	46,135	46,578
8. Preliminary Cost	28,106	28,416	28,763	29,129	29,431	29,769	30,071	30,407	30,757	31,052
9. Interest During Construction	70,265	71,039	71,908	72,823	73,577	74,422	75,177	76,018	76,892	77,629
Total	421,590	426,233	431,447	436,937	441,464	446,533	451,062	456,107	461,354	466,777

Basic Parameters	OP3b3- 425
Waterway Length	
Headrace Tunnel	m 1074.8
Penstock	m 162.6
Tailrace Tunnel	m 247.2
	m 1484.6
Sedimentation Level	EL.m 386.2

Specification

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	102.9	107.8	112.6	117.5	122.3	127.2	132	136.9	141.7	146.6
FSL	EL.m	425	425	425	425	425	425	425	425	425	425
MOL	EL.m	398.6	399	399.2	399.4	399.6	400	400.2	400.4	400.6	400.8
TWL	EL.m	289	289	289	289.1	289.1	289.1	289.2	289.2	289.3	289.3
Loss	m	3	3	3	3	3	3	3	3	3	3
Effective Head	m	133	133	133	132.9	132.9	132.9	132.8	132.8	132.7	132.7
Pmax	MW	122	128	134	139	145	151	156	162	168	174
Primary Energy	GWh	255.15	264.49	273.70	281.95	289.31	296.88	303.84	310.11	315.75	321.40
Pfirm	MW	88.47	92.48	96.80	100.96	98.75	87.85	76.75	74.33	65.17	58.56
Benefit	1000USD	72,539	75,426	78,383	81,120	81,780	79,864	77,778	78,178	76,438	75,467
Cost	1000USD	45,214	45,588	45,965	46,313	46,692	47,117	47,456	47,832	48,196	48,560
B/C		1.60	1.65	1.71	1.75	1.75	1.70	1.64	1.63	1.59	1.55

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	137
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877	2,677,877
Concrete	m3	478,021	478,021	478,021	478,021	478,021	478,021	478,021	478,021	478,021	478,021
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	4									
MOL	EL.m	398.6	399	399.2	399.4	399.6	400	400.2	400.4	400.6	400.8
Waterway Diameter	m	5.7	5.9	6	6.1	6.2	6.4	6.5	6.6	6.7	6.8
Available Height	m	26.4	26	25.8	25.6	25.4	25	24.8	24.6	24.4	24.2

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	9,489	9,682	9,879	10,076	10,264	10,434	10,612	10,790	10,960	11,130
Concrete	m3	8,245	8,452	8,664	8,877	9,081	9,267	9,462	9,657	9,844	10,032
Reinforce Bar	t	330	338	347	355	363	371	378	386	394	401
Intake Gate	t	136	143	149	155	162	168	174	181	187	193
Intake Screen	t	76	79	83	86	90	93	97	100	104	107

(3) Power Tunnel

Tunnel Inner Diameter	m	5.7	5.9	6	6.1	6.2	6.4	6.5	6.6	6.7	6.8
Concrete Thickness	m	0.6									
Tunnel Length	m	1074.8									
Number	-	1									

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	40,937	43,345	44,574	45,821	47,085	49,664	50,980	52,313	53,663	55,030
Lining Concrete	m3	13,511	13,960	14,185	14,410	14,636	15,088	15,315	15,542	15,769	15,996
Reinforce Bar	t	540	558	567	576	585	604	613	622	631	640

(3') Service Adit

Tunnel Length	m	1055
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Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	40,183	42,546	43,753	44,977	46,217	48,749	50,041	51,349	52,674	54,016

(4) Penstocks

Design Velocity 1	m/s	4
Penstock Length 1	m	5
Design Velocity 2	m/s	4.47
Penstock Length 2	m	124.2
Design Velocity 3	m/s	6.08
Penstock Length 3	m	25.8
Design Velocity 4	m/s	8.76 2 penstocks
Penstock Length 4	m	7.6
Mean Velocity	m/s	5.083373

Dm	m	5.076762	5.196231	5.310657	5.424979	5.534678	5.644463	5.749976	5.855727	5.9575	6.05963
tm	mm	23.61076	24.11932	24.60641	25.07607	25.54269	26.00968	26.4405	26.89	27.30394	27.73773

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	5,031	5,225	5,413	5,605	5,792	5,983	6,168	6,358	6,542	6,730
Lining Concrete	m3	1,740	1,777	1,812	1,847	1,880	1,914	1,946	1,979	2,010	2,041
Reinforce Bar	t	21	21	22	22	23	23	23	24	24	24
Penstock	t	579	605	631	657	682	709	734	760	785	811

(5) Powerhouse

Underground type

A	m2	1035.591	1059.961	1083.302	1106.345	1128.717	1151.106	1172.329	1193.89	1214.335	1235.153
d	m	30									

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	68,349	69,957	71,498	73,019	74,495	75,973	77,374	78,797	80,146	81,520
Concrete	m3	15,534	15,899	16,250	16,595	16,931	17,267	17,585	17,908	18,215	18,527
Reinforce Bar	t	62	64	65	66	68	69	70	72	73	74

(6) Tailrace Tunnel

Design Velocity	m/s	3.5
Tunnel Inner Diameter	m	6.1
Concrete Thickness	m	0.6
Tunnel Length	m	247.2
Number	-	1

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	10,539	11,124	11,423	11,725	12,342	12,657	12,975	13,624	13,954	14,288
Lining Concrete	m3	3,314	3,418	3,470	3,522	3,627	3,679	3,732	3,837	3,889	3,942
Reinforce Bar	t	133	137	139	141	145	147	149	153	156	158

(7) Tailrace

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	6,202	6,440	6,626	6,813	7,046	7,231	7,413	7,647	7,827	8,008
Concrete	m3	2,061	2,175	2,265	2,357	2,473	2,567	2,659	2,780	2,874	2,969
Reinforce Bar	t	27	28	29	29	30	31	32	32	33	34

(8) P/H Access Tunnel

Tunnel Length m 1220

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900
Lining Concrete	m3	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200
Reinforce Bar	t	366	366	366	366	366	366	366	366	366	366

(9) Surge Tank

LWL	EL.m	370.5
Available Depth	m	54.5 m
Number of waterway	-	1

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	22,667	23,747	24,804	25,884	26,941	28,020	29,078	30,157	31,214	32,294
Concrete	m3	6,562	6,874	7,180	7,493	7,799	8,111	8,417	8,730	9,036	9,348
Reinforce Bar	t	328	344	359	375	390	406	421	436	452	467

(9') Service Adit

Tunnel Length m 960

Item	Unit	FSL=425									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	36,564	38,715	39,813	40,927	42,056	44,360	45,535	46,725	47,931	49,152

Civil Work Cost

1,000USD

Item	FSL=425									
	1	2	3	4	5	6	7	8	9	10

3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	132,413	132,413	132,413	132,413	132,413	132,413	132,413	132,413	132,413	132,413
(3) Intake	1,804	1,848	1,894	1,939	1,983	2,022	2,064	2,106	2,146	2,186
(4) Power Tunnel	8,830	9,280	9,509	9,740	9,974	10,450	10,692	10,937	11,184	11,434
(5) Penstock	1,161	1,201	1,239	1,277	1,315	1,353	1,390	1,428	1,464	1,502
(6) Power House	10,661	10,911	11,152	11,389	11,619	11,850	12,068	12,290	12,501	12,715
(7) Tailrace Tunnel	1,998	2,085	2,130	2,174	2,265	2,311	2,358	2,452	2,499	2,547
(8) Tailrace	456	479	497	516	539	558	576	600	619	638
(9) P/S Access Tunnel	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900
(10) Surge Tank	8,729	9,179	9,535	9,898	10,257	10,720	11,083	11,452	11,817	12,189
(11) Others	8,978	8,588	8,620	8,652	8,685	8,730	8,761	8,795	8,826	8,857
4. Hydro- Mechanical Works	19,635	19,884	20,128	20,376	20,620	20,867	21,109	21,357	21,598	21,846
5. Electro- Mechanical Works	38,909	40,177	41,425	42,462	43,677	44,876	45,875	47,046	48,215	49,358
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	301,428	303,919	306,435	308,750	311,283	314,114	316,372	318,880	321,307	323,731
7. Administration Fee	45,214	45,588	45,965	46,313	46,692	47,117	47,456	47,832	48,196	48,560
8. Preliminary Cost	30,143	30,392	30,644	30,875	31,128	31,411	31,637	31,888	32,131	32,373
9. Interest During Construction	75,357	75,980	76,609	77,188	77,821	78,528	79,093	79,720	80,327	80,933
Total	452,142	455,879	459,653	463,125	466,925	471,171	474,558	478,320	481,960	485,596

Basic Parameters	OP3b3- 435	
Waterway Length		
Headrace Tunnel	m	1074.8
Penstock	m	162.6
Tailrace Tunnel	m	247.2
	m	1484.6
Sedimentation Level	EL.m	386.2

Specification

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	124.6	129.5	134.4	139.4	144.3	149.2	154.1	159.1	164	168.9
FSL	EL.m	435	435	435	435	435	435	435	435	435	435
MOL	EL.m	399.8	400	400.2	400.6	400.8	401	401.2	401.4	401.6	401.8
TWL	EL.m	289.1	289.2	289.2	289.2	289.3	289.3	289.3	289.4	289.4	289.4
Loss	m	3	3	3	3	3	3	3	3	3	3
Effective Head	m	142.9	142.8	142.8	142.8	142.7	142.7	142.7	142.6	142.6	142.6
Pmax	MW	159	165	171	178	184	190	196	202	209	215
Primary Energy	GWh	314.34	323.08	330.92	339.11	346.07	352.38	358.06	363.28	367.83	371.87
Pfirm	MW	103.54	107.61	111.59	103.80	93.79	89.07	78.40	72.94	69.03	58.31
Benefit	1000USD	87,726	90,523	93,132	92,263	90,505	90,221	88,034	87,331	86,974	84,476
Cost	1000USD	53,156	53,452	53,816	54,264	54,626	54,993	55,351	55,710	56,090	56,443
B/C		1.65	1.69	1.73	1.70	1.66	1.64	1.59	1.57	1.55	1.50

Civil & Hydromechanical Work Quantity

(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	147
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876	2,761,876
Concrete	m3	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583	574,583
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m/s	4									
MOL	EL.m	399.8	400	400.2	400.6	400.8	401	401.2	401.4	401.6	401.8
Waterway Diameter	m	6.3	6.4	6.5	6.7	6.8	6.9	7	7.1	7.2	7.3
Available Height	m	35.2	35	34.8	34.4	34.2	34	33.8	33.6	33.4	33.2

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	11,872	12,089	12,300	12,497	12,699	12,897	13,091	13,286	13,472	13,655
Concrete	m3	10,862	11,106	11,345	11,569	11,799	12,026	12,249	12,473	12,689	12,901
Reinforce Bar	t	434	444	454	463	472	481	490	499	508	516
Intake Gate	t	170	176	183	190	196	203	209	216	223	229
Intake Screen	t	94	98	102	105	109	113	116	120	124	127

(3) Power Tunnel

Tunnel Inner Diameter	m	6.3	6.4	6.5	6.7	6.8	6.9	7	7.1	7.2	7.3
Concrete Thickness	m	0.6									
Tunnel Length	m	1074.8									
Number	-	1									

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	48,366	49,664	50,980	53,663	55,030	56,414	57,816	59,234	60,670	62,123
Lining Concrete	m3	14,862	15,088	15,315	15,769	15,996	16,224	16,452	16,681	16,910	17,139
Reinforce Bar	t	594	604	613	631	640	649	658	667	676	686

(3) Service Adit

Tunnel Length	m	1055
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Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	47,475	48,749	50,041	52,674	54,016	55,375	56,751	58,143	59,553	60,979

(4) Penstocks

Design Velocity 1	m/s	4
Penstock Length 1	m	5
Design Velocity 2	m/s	4.47
Penstock Length 2	m	124.2
Design Velocity 3	m/s	6.08
Penstock Length 3	m	25.8
Design Velocity 4	m/s	8.76 2 penstocks
Penstock Length 4	m	7.6
Mean Velocity	m/s	5.083373

Dm	m	5.586478	5.695266	5.802013	5.908952	6.011907	6.113128	6.2127	6.312686	6.409159	6.5042
tm	mm	27.5116	27.99057	28.47772	28.96574	29.41676	29.87837	30.33246	30.76868	31.20833	31.64146

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	5,882	6,072	6,261	6,454	6,642	6,830	7,017	7,208	7,394	7,580
Lining Concrete	m3	1,896	1,929	1,962	1,995	2,027	2,058	2,088	2,119	2,148	2,177
Reinforce Bar	t	23	23	24	24	24	25	25	25	26	26
Penstock	t	742	769	798	826	854	882	910	938	965	993

(5) Powerhouse

Underground type

A	m2	1167.167	1189.618	1211.916	1234.253	1255.465	1276.603	1297.396	1317.968	1338.11	1357.953
d	m	30									

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	77,033	78,515	79,986	81,461	82,861	84,256	85,628	86,986	88,315	89,625
Concrete	m3	17,508	17,844	18,179	18,514	18,832	19,149	19,461	19,770	20,072	20,369
Reinforce Bar	t	70	71	73	74	75	77	78	79	80	81

(6) Tailrace Tunnel

Design Velocity	m/s	3.5
Tunnel Inner Diameter	m	6.7
Concrete Thickness	m	0.6
Tunnel Length	m	247.2
Number	-	1

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	12,342	12,975	13,297	13,624	13,954	14,626	14,968	15,315	15,665	16,019
Lining Concrete	m3	3,627	3,732	3,784	3,837	3,889	3,995	4,047	4,100	4,153	4,206
Reinforce Bar	t	145	149	151	153	156	160	162	164	166	168

(7) Tailrace

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	7,110	7,345	7,529	7,714	7,895	8,128	8,308	8,490	8,668	8,846
Concrete	m3	2,505	2,624	2,719	2,815	2,910	3,033	3,130	3,228	3,325	3,423
Reinforce Bar	t	30	31	32	33	33	34	35	35	36	37

(8) P/H Access Tunnel

Tunnel Length m 1220

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900
Lining Concrete	m3	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200
Reinforce Bar	t	366	366	366	366	366	366	366	366	366	366

(9) Surge Tank

LWL	EL.m	370.5
Available Depth	m	64.5 m
Number of waterway	-	1

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	27,508	28,590	29,672	30,776	31,857	32,939	34,021	35,125	36,207	37,288
Concrete	m3	7,963	8,276	8,589	8,909	9,222	9,535	9,848	10,168	10,481	10,794
Reinforce Bar	t	398	414	429	445	461	477	492	508	524	540

(9) Service Adit

Tunnel Length m 960

Item	Unit	FSL=435									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	43,200	44,360	45,535	47,931	49,152	50,388	51,640	52,908	54,190	55,488

Civil Work Cost

1,000USD

Item	FSL=435									
	1	2	3	4	5	6	7	8	9	10

[illegible]

3. Civil Works										
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292	149,292
(3) Intake	2,362	2,414	2,465	2,512	2,561	2,609	2,657	2,704	2,750	2,795
(4) Power Tunnel	10,211	10,450	10,692	11,184	11,434	11,686	11,942	12,199	12,460	12,723
(5) Penstock	1,333	1,371	1,408	1,447	1,484	1,521	1,558	1,596	1,633	1,669
(6) Power House	12,015	12,246	12,476	12,706	12,924	13,142	13,356	13,567	13,775	13,979
(7) Tailrace Tunnel	2,265	2,358	2,404	2,452	2,499	2,596	2,644	2,694	2,743	2,793
(8) Tailrace	545	569	588	607	626	650	669	689	708	727
(9) P/S Access Tunnel	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900
(10) Surge Tank	10,495	10,862	11,231	11,708	12,080	12,454	12,829	13,211	13,589	13,968
(11) Others	10,107	9,617	9,649	9,694	9,726	9,761	9,793	9,825	9,857	9,889
4. Hydro- Mechanical Works	21,054	21,313	21,575	21,840	22,099	22,360	22,620	22,883	23,144	23,404
5. Electro- Mechanical Works	45,339	46,485	47,607	48,900	50,007	51,090	52,162	53,236	54,461	55,500
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
Direct Cost	354,374	356,345	358,777	361,760	364,171	366,622	369,004	371,400	373,935	376,284
7. Administration Fee	53,156	53,452	53,816	54,264	54,626	54,993	55,351	55,710	56,090	56,443
8. Preliminary Cost	35,437	35,635	35,878	36,176	36,417	36,662	36,900	37,140	37,393	37,628
9. Interest During Construction	88,594	89,086	89,694	90,440	91,043	91,656	92,251	92,850	93,484	94,071
Total	531,561	534,518	538,165	542,640	546,257	549,933	553,507	557,099	560,902	564,426

Details of Alternatives in 10.5

Basic Parameters OP3b3- 415

Waterway Length		
Headrace Tunnel	m	1074.8
Penstock	m	136.03
Tailrace Tunnel	m	247.2
	m	1458.03
Sedimentation Level	EL.m	386.2

Specification

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Qmax	m3/s	127.4	127.4	127.4	127.4	127.4	127.4	127.4	127.4	127.4	127.4
FSL	EL.m	415	415	415	415	415	415				
IWL	EL.m	390	395	400	405	410	415				
MOL	EL.m	387.2	387.2	387.2	387.2	387.2	387.2				
TWL	EL.m	289.2	289.2	289.2	289.2	289.2	289.2				
Loss	m	2.8	2.8	2.8	2.8	2.8	2.8				
Effective Head	m	98	103	108	113	118	123				
Pmax	MW	111	117	123	128	134	140				
Primary Energy	GWh	233.28	241.61	248.88	252.94	255.38	253.45				
Pfirm	MW	86.20	86.00	85.92	85.85	84.72	84.66				
Benefit	1000USD	67,919	69,359	70,643	71,353	71,452	71,087				
Cost	1000USD	42,185	42,246	42,383	42,483	42,613	42,739				
B/C		1.6100	1.6418	1.6668	1.6796	1.6768	1.6633				
		25,734	27,113	28,260	28,870	28,839	28,348				

Civil & Hydromechanical Work Quantity
(1) Dam

Design Flood	m3/s	8,306
Dam Basis EL.	m	293
Non- overflow Width	m	80.2
Spillway Width	m	77
Sand Drain Width	m	16
Intake Width	m	0
Dam Height (Hd)	m	127
Crest Length (L)	m	173.2
Coefficient for Ex	Y=A*X*B	
	A	32335
	B	0.4384
Coefficient for Conc	Y=C*X*D	
	C	0.0015
	D	1.3058

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358	2,590,358
Concrete	m3	392,176	392,176	392,176	392,176	392,176	392,176	392,176	392,176	392,176	392,176
Gate	t	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827

(2) Intake

Number	-	1									
Design Velocity	m3/s	4									
MOL	EL.m	387.2	387.2	387.2	387.2	387.2	387.2	387.2	387.2	387.2	387.2
Waterway Diameter	m	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Available Height	m	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	10,898	10,898	10,898	10,898	10,898	10,898	10,898	10,898	10,898	10,898
Concrete	m3	9,776	9,776	9,776	9,776	9,776	9,776	9,776	9,776	9,776	9,776
Reinforce Bar	t	391	391	391	391	391	391	391	391	391	391
Intake Gate	t	170	170	170	170	170	170	170	170	170	170
Intake Screen	t	94	94	94	94	94	94	94	94	94	94

(3) Power Tunnel

Tunnel Inner Diameter	m	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Concrete Thickness	m	0.6									
Tunnel Base EL.	m	374.4	374.4	374.4	374.4	374.4	374.4	374.4	374.4	374.4	374.4
Tunnel Length	m	1108.71	1108.71	1108.71	1108.71	1108.71	1108.71	1108.71	1108.71	1108.71	1108.71
Number	-	1									

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	51,231	51,231	51,231	51,231	51,231	51,231	51,231	51,231	51,231	51,231
Lining Concrete	m3	15,564	15,564	15,564	15,564	15,564	15,564	15,564	15,564	15,564	15,564
Reinforce Bar	t	623	623	623	623	623	623	623	623	623	623

(3') Service Adit

Tunnel Length	m	1055
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Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10

Tunnel Excavation	m3	48,749	48,749	48,749	48,749	48,749	48,749	48,749	48,749	48,749	48,749
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(4) Penstocks

Design Velocity 1	m/s	4									
Penstock Length 1	m	5									
Design Velocity 2	m/s	4.47									
Penstock Length 2	m	97.63	97.63	97.63	97.63	97.63	97.63	97.63	97.63	97.63	97.63
Design Velocity 3	m/s	6.08									
Penstock Length 3	m	25.8									
Design Velocity 4	m/s	8.76	2 penstocks								
Penstock Length 4	m	7.6									
Mean Velocity	m/s	5.19684	5.19684	5.19684	5.19684	5.19684	5.19684	5.19684	5.19684	5.19684	5.19684
Dm	m	5.58689	5.58689	5.58689	5.58689	5.58689	5.58689	5.58689	5.58689	5.58689	5.58689
tm	mm	23.9986	23.9986	23.9986	23.9986	23.9986	23.9986	2	2	2	2

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	4,921	4,921	4,921	4,921	4,921	4,921	4,921	4,921	4,921	4,921
Lining Concrete	m3	1,586	1,586	1,586	1,586	1,586	1,586	1,586	1,586	1,586	1,586
Reinforce Bar	t	19	19	19	19	19	19	19	19	19	19
Penstock	t	546	546	546	546	546	546	46	46	46	46

(5) Powerhouse

Undergroundtype

A	m2	1040.775	1058.182	1075.035	1091.375	1107.241	1122.664	0	0	0	0
d	m	30									

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	68,691	69,840	70,952	72,031	73,078	74,096	0	0	0	0
Concrete	m3	15,612	15,873	16,126	16,371	16,609	16,840	0	0	0	0
Reinforce Bar	t	62	63	65	65	66	67	0	0	0	0

(6) Tailrace Tunnel

Design Velocity	m/s	3.5									
Tunnel Inner Diameter	m	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
Concrete Thickness	m	0.6									
Tunnel Length	m	247.2									
Number	-	1									

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	12,657	12,657	12,657	12,657	12,657	12,657	12,657	12,657	12,657	12,657
Lining Concrete	m3	3,679	3,679	3,679	3,679	3,679	3,679	3,679	3,679	3,679	3,679
Reinforce Bar	t	147	147	147	147	147	147	147	147	147	147

(7) Tailrace

Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	7,237	7,237	7,237	7,237	7,237	7,237	7,237	7,237	7,237	7,237
Concrete	m3	2,570	2,570	2,570	2,570	2,570	2,570	2,570	2,570	2,570	2,570
Reinforce Bar	t	31	31	31	31	31	31	31	31	31	31

(8) P/H Access Tunnel

Tunnel Length	m	1220									
Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900	54,900
Lining Concrete	m3	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200
Reinforce Bar	t	366	366	366	366	366	366	366	366	366	366

(9) Surge Tank

LWL	EL.m	387.2									
Available Depth	m	27.8	m								
Number of waterway	-	1									
Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Excavation	m3	27,897	27,897	27,897	27,897	27,897	27,897	27,897	27,897	27,897	27,897
Concrete	m3	8,075	8,075	8,075	8,075	8,075	8,075	8,075	8,075	8,075	8,075
Reinforce Bar	t	404	404	404	404	404	404	404	404	404	404

(9) Service Adit

Tunnel Length	m	960									
Item	Unit	FSL=415									
		1	2	3	4	5	6	7	8	9	10
Tunnel Excavation	m3	44,360	44,360	44,360	44,360	44,360	44,360	44,360	44,360	44,360	44,360

Civil Work Cost

1,000USD

[illegible]

(2) Compensation										
(3) Others										
2. Environmental Mitigation	30,180	30,180	30,180	30,180	30,180	30,180	30,180	30,180	30,180	30,180
3. Civil Works								164,939		
(1) River Treatment	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053	6,053
(2) Dam	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131	117,131
(3) Intake	2,131	2,131	2,131	2,131	2,131	2,131	2,131	2,131	2,131	2,131
(4) Power Tunnel	10,672	10,672	10,672	10,672	10,672	10,672	10,672	10,672	10,672	10,672
(5) Penstock	1,115	1,115	1,115	1,115	1,115	1,115	1,115	1,115	1,115	1,115
(6) Power House	10,714	10,893	11,067	11,235	11,398	11,557	0	0	0	0
(7) Tailrace Tunnel	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311
(8) Tailrace	558	558	558	558	558	558	558	558	558	558
(9) P/S Access Tunnel	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900
(10) Surge Tank	10,689	10,689	10,689	10,689	10,689	10,689	10,689	10,689	10,689	10,689
(11) Others	8,448	7,922	7,931	7,939	7,948	7,956	7,378	7,378	7,378	7,378
4. Hydro- Mechanical Works	20,164	20,164	20,164	20,164	20,164	20,164	17,881	17,881	17,881	17,881
5. Electro- Mechanical Works	40,451	41,208	41,939	42,424	43,114	43,783	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6. Transmission Line	10,170	10,170	10,170	10,170	10,170	10,170	5,298	5,298	5,298	5,298
Direct Cost	281,235	281,639	282,556	283,221	284,086	284,925	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
7. Administration Fee	42,185	42,246	42,383	42,483	42,613	42,739	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
8. Preliminary Cost	28,124	28,164	28,256	28,322	28,409	28,492	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
9. Interest During Construction	70,309	70,410	70,639	70,805	71,021	71,231	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total	421,853	422,459	423,833	424,831	426,129	427,387	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

CHAPTER 11 PROJECT DESIGN

CHAPTER 11 PROJECT DESIGN

Calculation of Installed Capacity

Output list of Energy Calculation after LWL revised (without Flushing Operation)

Stability Analysis of Dam Section

Stability Analysis of Spillway Part of Dam

Dissipater Hydraulic Design

Stability Analysis of Spillway Pier

Comparison with Powerhouse Types

Countermeasure of corona interference

Output list of Energy Calculation for F/S design with Every-year Flushing Operation

Calculation of Installed capacity

Calculation of Installed capacity

The installed capacity after determination of tunnel diameters described as follows:

Symbol	Item	Unit	Value
IWL	Rated Intake Water Level	EL. m	405.0
TWL	Rated Tailrace Water Level	EL. m	289.2
Hg	Gross Head (IWL – TWL)	m	115.8
Hl	Head Loss	m	3.3
He	Effective Head (Hg – Hl)	m	112.5
Q	Maximum Discharge	m ³ /s	127.4
η_t	Efficiency of Turbine	-	0.927
η_g	Efficiency of generator	-	0.976
Pe	Installed Capacity ($9.8 * \eta_t * \eta_g * Q * H_e$)	MW	127

Output list of Energy Calculation after LWL revised
(without Flushing Operation)

Reservoir(1)

Output Time :

2007,

High Water Level	415	(m)
Intake Water Level	405	(m)
Low Water Level	391	(m)
Tail Water Level	289.2	(m)
MAX. Discharge	127.4	(m ³ /s)
MIN. Discharge	19.11	(m ³ /s)
Installed Capacity	127	(MW)
Loss	0.000203	
	0	
	0	(m)
Peak time	6	(h)
Num. of Divisions	20	

Water Level	Area	Storage
(m)	(km ²)	(MCM)
310	0	0
315	0	0
320	0	0
325	0.011059	0.012698
330	0.075022	0.232296
335	0.161819	0.822507
340	0.295238	1.963766
345	0.4497	3.799766
350	0.63122	6.479798
355	0.835245	10.15977
360	1.102092	15.04177
365	1.408941	21.35865
370	1.692081	29.07181
375	2.048022	38.50318
380	2.398674	49.60515
385	2.954407	63.15697
390	3.559411	79.39558
395	4.133232	98.93272
400	4.510401	121
405	5.107591	145
410	5.512504	171
415	5.860826	200
420	6.248732	230
425	6.680698	262
430	0	0
435	0	0

Q/Qmax	Turbine Efficiency			P/Pmax	Overall Efficiency
	H.W.L	M.W.L	L.W.L		
0.3	0.644	0.685	0.646	0.4	0.961
0.4	0.735	0.79	0.765	0.6	0.97
0.5	0.803	0.847	0.825	0.8	0.974
0.6	0.845	0.885	0.868	1	0.975
0.7	0.88	0.916	0.898		
0.8	0.907	0.934015	0.922		
0.9	0.929	0.94	0.934		
1	0.939	0.927	0.93		

1999	399.08	393.14	391.02	391.02	391.02	391.02	404.3	415	415	411.01	403.72	396.1	4801.43	400.12	1999
SUM	14670.82	14495.34	14324.02	14205.55	14120.47	14184.46	14620.83	14923.34	14940	14854.94	14763.09	14755.68	174858.5		
AVE	407.52	402.65	397.89	394.6	392.24	394.01	406.13	414.54	415	412.64	410.09	409.88	4857.18		

Effective Head (m)

	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	SUM	AVE
1964	99.02	99.28	99.34	99.01	98.93	98.93	102.7	115.06	123.06	121.33	119.21	121.04	1296.91	108.08
1965	121.04	116.85	111.82	107.05	101.84	106.54	118.46	123.06	123.06	118.91	116.65	118.15	1383.23	115.27
1966	114.73	109.05	102.74	100.89	100.56	98.93	111.82	123.06	123.06	118.91	115.4	114.09	1333.24	111.1
1967	107.9	102.17	100.81	100.48	100.25	98.93	111.82	123.06	123.06	118.91	116.65	118.78	1322.82	110.24
1968	116.18	110.04	103.58	100.81	98.93	104.42	116.58	123.06	123.06	123.06	121.04	116.15	1366.69	113.06
1969	108.84	103.2	101.29	101.31	101.18	98.93	101.03	113.55	123.06	118.91	115.85	115.18	1302.33	108.53
1970	109.04	102.99	101.2	100.24	98.93	98.93	111.82	123.06	123.06	119.41	117.18	118.68	1324.54	110.38
1971	115.64	108.84	102.88	99.52	98.93	111.82	123.06	123.06	123.06	123.06	120.31	120.31	1371.22	114.27
1972	119.59	113.81	106.04	101.82	98.93	98.93	111.82	123.06	123.06	120.16	117.98	118.7	1353.7	112.81
1973	116.08	109.4	103.08	100.06	98.93	111.82	123.06	123.06	123.06	123.06	121.04	120.09	1372.74	114.4
1974	120.09	116.65	111.82	107.05	101.84	98.93	111.82	123.06	123.06	123.06	121.04	118.86	1377.28	114.77
1975	118.46	116.24	111.82	106.34	101.51	98.93	111.82	123.06	123.06	123.06	121.04	117.91	1373.25	114.44
1976	113.58	107.39	102.58	100.19	98.93	111.82	123.06	123.06	123.06	118.91	116.65	118.78	1358.01	113.17
1977	115.59	108.94	102.67	99.33	98.93	98.93	111.82	123.06	123.06	121.15	119.03	121.04	1343.55	111.96
1978	121.04	116.65	111.82	107.05	101.84	109.07	120.69	123.06	123.06	119.37	117.14	121.04	1391.83	115.99
1979	121.04	116.65	111.82	107.05	101.84	98.93	111.82	123.06	123.06	119.76	117.55	118.98	1371.56	114.3
1980	116.69	111.31	105.9	101.13	98.93	98.93	111.82	123.06	123.06	118.91	116.65	116.81	1343.2	111.93
1981	110.23	103.55	101.24	99.59	98.93	98.93	111.82	123.06	123.06	118.91	116.65	119.65	1325.62	110.47
1982	119.65	116.65	111.82	107.05	101.84	98.93	111.82	123.06	123.06	118.91	116.65	121.04	1370.48	114.21
1983	121.04	116.65	111.82	107.05	101.84	98.93	111.82	123.06	123.06	123.06	121.04	120.24	1379.61	114.97
1984	120.01	115.24	108.44	101.99	98.93	106.77	118.66	123.06	123.06	118.91	116.65	120.62	1372.34	114.36
1985	120.62	116.65	111.82	107.05	101.84	98.93	111.82	123.06	123.06	123.06	121.04	119.33	1378.28	114.86
1986	117.3	111.07	103.66	99.78	98.93	98.93	111.82	123.06	123.06	123.06	121.04	117.99	1350.5	112.54
1987	114.09	107.65	102.22	100.38	99.17	98.93	111.82	123.06	123.06	118.91	116.65	120.12	1336.06	111.34
1988	120.12	116.65	111.82	107.05	101.84	98.93	111.82	123.06	123.06	118.91	116.65	119.97	1369.88	114.16
1989	119.97	116.65	111.82	107.05	101.84	105.53	117.56	123.06	123.06	121.76	119.67	119.43	1387.4	115.82
1990	118.39	114.41	109.73	105.99	101.84	106.97	118.84	123.06	123.06	118.91	116.65	117.1	1374.95	114.58
1991	111.25	103.39	101.15	100.79	98.92	98.93	111.82	123.06	123.06	122.68	120.64	120.07	1335.76	111.31
1992	120.07	116.65	111.82	106.97	101.75	98.93	111.82	123.06	123.06	123.06	121.04	117.94	1376.17	114.68
1993	113.89	107.42	103.2	101.34	99.37	98.93	111.82	123.06	123.06	123.06	121.04	118.65	1344.84	112.07
1994	117.09	114.02	110.89	107.05	101.84	98.93	111.82	123.06	123.06	118.91	109.85	103.88	1340.4	111.7
1995	101.61	101.64	101.57	101.53	99.66	111.82	123.06	123.06	123.06	123.06	121.04	121.04	1352.15	112.68
1996	121.04	115.84	111.03	107.05	101.84	98.93	111.82	123.06	123.06	119.88	117.68	118.2	1369.43	114.12
1997	115.53	110.96	106.72	104.45	101.53	98.93	111.82	123.06	123.06	118.91	114.44	114.27	1343.68	111.97
1998	111.14	105.08	100.96	99.52	98.93	106.18	118.13	123.06	123.06	118.91	114.6	112.56	1332.13	111.01
1999	106.75	102.26	101.14	100.96	98.93	98.93	111.82	123.06	123.06	118.91	111.25	104.32	1301.39	108.45
SUM	4154.34	3981.69	3824.06	3711.57	3611.8	3666.01	4096.75	4412.65	4430.16	4341.72	4245.41	4241.01	48717.17	
AVE	115.4	110.6	106.22	103.1	100.33	101.83	113.8	122.57	123.06	120.6	117.93	117.81	1353.25	

Power (MW)

	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	SUM	AVE
1964	103.7	98.66	97.34	103.7	105.23	105.23	111.55	127	127	127	127	127	1360.41	113.37
1965	127	127	125.91	118.42	110	117.69	127	127	127	127	127	127	1488.02	124
1966	127	121.59	108.86	53.83	65.39	105.23	125.91	127	127	127	127	127	1342.81	111.9
1967	119.77	97.24	56.82	67.94	74.82	105.23	125.91	127	127	127	127	127	1282.73	106.89
1968	127	123.14	112.79	88.26	105.23	114.32	127	127	127	127	127	127	1432.74	119.4
1969	121.25	74.6	36.61	35.67	42.43	105.23	108.86	127	127	127	127	127	1159.65	96.64
1970	121.57	92.44	41.32	75.3	105.23	105.23	125.91	127	127	127	127	127	1302	108.5
1971	127	121.26	92.09	93.49	105.23	125.91	127	127	127	127	127	127	1426.98	118.92
1972	127	127	116.79	75.74	105.23	105.23	125.91	127	127	127	127	127	1417.9	118.16
1973	127	122.13	91.44	80.21	105.23	125.91	127	127	127	127	127	127	1413.92	117.83
1974	127	127	125.91	118.42	110	105.23	125.91	127	127	127	127	127	1474.47	122.87
1975	127	127	125.91	117.28	99.85	105.23	125.91	127	127	127	127	127	1463.18	121.93
1976	127	118.96	93.12	76.51	105.23	125.91	127	127	127	127	127	127	1408.73	117.39
1977	127	121.4	103.82	97.64	105.23	105.23	125.91	127	127	127	127	127	1421.23	118.44
1978	127	127	125.91	118.42	110	121.67	127	127	127	127	127	127	1492	124.33
1979	127	127	125.91	118.42	110	105.23	125.91	127	127	127	127	127	1474.47	122.87
1980	127	125.12	116.58	108.96	105.23	105.23	125.91	127	127	127	127	127	1449.03	120.75
1981	123.44	88.74	39.62	91.94	105.23	105.23	125.91	127	127	127	127	127	1315.11	109.59
1982	127	127	125.91	118.42	110	105.23	125.91	127	127	127	127	127	1474.47	122.87
1983	127	127	125.91	118.42	110	105.23	125.91	127	127	127	127	127	1474.47	122.87
1984	127	127	120.62	110.34	105.23	118.05	127	127	127	127	127	127	1470.24	122.52
1985	127	127	125.91	118.42	110	105.23	125.91	127	127	127	127	127	1474.47	122.87
1986	127	124.74	112.96	94.69	88.71	105.23	125.91	127	127	127	127	127	1414.24	117.85
1987	127	119.37	96.98	71.23	100.87	105.23	125.91	127	127	127	127	127	1381.59	115.13
1988	127	127	125.91	118.42	110	105.23	125.91	127	127	127	127	127	1474.47	122.87
1989	127	127	125.91	118.42	110	116.08	127	127	127	127	127	127	1486.41	123.87
1990	127	127	122.66	116.71	110	118.37	127	127	127	127	127	127	1483.74	123.65
1991	125.02	111.35	43.41	57.58	105.33	105.23	125.91	127	127	127	127	127	1308.83	109.07
1992	127	127	125.91	118.28	109.85	105.23	125.91	127	127	127	127	127	1474.18	122.85
1993	127	119.01	66.86	34.37	96.83	105.23	125.91	127	127	127	127	127	1310.21	109.18
1994	127	127	124.47	118.42	110	105.23	125.91	127	127	127	122.84	71.86	1413.73	117.81
1995	17.18	14.84	20.01	22.38	90.31	125.91	127	127	127	127	127	127	1052.63	87.72
1996	127	127	124.68	118.42	110	105.23	125.91	127	127	127	127	127	1473.24	122.77
1997	127	124.57	117.89	114.24	109.49	105.23	125.91	127	127	127	127	127	1459.33	121.61
1998	124.85	115.25	93.64	93.49	105.23	117.11	127	127	127	127	127	127	1411.57	117.63
1999	117.94	79.98	44.23	51.33	105.23	105.23	125.91	127	127	127	125.03	104.94	1240.82	103.4
SUM	4403.72	4146.39	3580.62	3353.73	3671.87	3957.68	4513.34	4572	4572	4572	4565.87	4494.8	50404.02	
AVE	122.33	115.18	99.46	93.16	102	109.94	125.37	127	127	127	126.83	124.86	1400.11	

1974	7.92	8.05	7.32	9.12	8.94	17.9	24	24	24	24	10.27	6.39	171.91	14.33
1975	6.37	7.37	6.87	6.17	6	16.54	24	24	24	24	12.37	6.35	164.04	13.67
1976	6.08	6.14	6	6	7.7	24	24	24	24	20.75	6.32	6.39	161.38	13.45
1977	6.21	6.1	6	6	8.91	18.04	24	24	24	24	14.63	6.55	168.44	14.04
1978	7.87	7.24	6.3	6.92	14.82	23.92	24	24	24	24	10.82	7.45	181.34	15.11
1979	8.97	8.05	6.79	8.52	11.49	16.5	24	24	24	24	9.83	6.4	172.55	14.38
1980	6.28	6.03	6.19	6.11	6.94	21.16	24	24	24	19.57	6.36	6.29	156.93	13.08
1981	6.06	6	6	6	7.72	18.75	24	24	24	22.66	7.62	6.43	159.24	13.27
1982	6.87	7.56	8.02	9.12	10.96	19.21	24	24	24	20.35	8.64	7.02	169.75	14.15
1983	9.4	8.62	7.83	7.91	10.56	18.25	24	24	24	24	12.49	6.46	177.52	14.79
1984	6.45	6.19	6.11	6.13	12.1	23.85	24	24	24	22.3	9.28	6.48	170.89	14.24
1985	8.42	8.01	7.4	8.79	13.31	22.56	24	24	24	24	12.86	6.42	183.77	15.31
1986	6.31	6.04	6.25	6	6	23.11	24	24	24	24	13.41	6.35	169.47	14.12
1987	6.12	6.14	6	6	6	13.97	24	24	24	20.51	8.41	6.46	151.61	12.63
1988	6.51	6.64	6.26	6.81	9.28	21.92	24	24	24	23.6	8.15	6.45	167.72	13.98
1989	7.23	6.89	6.41	7.13	12.98	23.81	24	24	24	24	11	6.42	177.87	14.82
1990	6.37	6.14	6.08	7.47	12.15	23.86	24	24	24	23.62	6.5	6.3	170.49	14.21
1991	6.04	6	6	6	6.19	22.56	24	24	24	24	12.41	6.45	167.65	13.97
1992	6.75	6.82	6.17	6.15	8.23	15.96	24	24	24	24	11.59	6.35	164.02	13.67
1993	6.1	6.14	6	6	6	19.13	24	24	24	24	12.92	6.38	164.67	13.72
1994	6.3	6.11	6.15	7.06	8.54	20.27	24	24	24	10.57	6.07	6	149.07	12.42
1995	6	6	6	6	6	24	24	24	24	24	18.66	8.47	177.33	14.78
1996	7.42	6.23	6.45	7.23	8.66	13.38	24	24	24	24	7.62	6.36	159.35	13.28
1997	6.21	6.04	6.16	6.23	8.64	14.53	24	24	24	15.41	6.14	6.13	147.49	12.29
1998	6.04	6.21	6	6	9.27	23.83	24	24	24	15.89	6.15	6	157.39	13.12
1999	6.16	6	6	6	6.47	18.19	24	24	24	16.53	6.04	6	149.39	12.45
SUM	240.4	234.44	227.97	238.43	311.58	698.37	863.39	864	864	781.04	358.64	234.46	5916.72	
AVE	6.68	6.51	6.33	6.62	8.66	19.4	23.98	24	24	21.7	9.96	6.51	164.35	

Total Energy(GWh)	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	SUM	AVE
1964	19.29	17.17	18.1	18.67	43.47	47.83	81.92	94.49	91.44	94.49	61.92	34.22	623.01	51.92
1965	32.34	25.68	26.44	26.85	28.66	84.18	94.49	94.49	91.44	61.3	26.55	25.03	617.45	51.45
1966	24.25	20.75	20.25	9.69	12.16	38.64	93.67	94.49	91.44	63.99	23.63	24.08	517.04	43.09
1967	22.76	16.34	10.57	12.23	13.92	35.02	93.67	94.49	91.44	72.84	24	25.16	512.44	42.7
1968	24.6	21.67	21.88	15.89	21.19	81.5	94.49	94.49	91.44	94.49	37.8	24.59	624.03	52
1969	22.94	12.53	6.81	6.42	7.89	20.18	79.97	94.49	91.44	74.66	23.73	24.36	465.42	38.79
1970	22.98	15.53	7.68	13.55	21.45	56.2	93.67	94.49	91.44	94.49	35.7	25.14	572.32	47.69
1971	24.47	20.72	17.13	16.83	24.27	90.65	94.49	94.49	91.44	94.49	57.7	25.46	652.14	54.35
1972	25.32	22.45	22.39	13.63	32.98	65.97	93.67	94.49	91.44	94.49	34.25	25.15	616.23	51.36
1973	24.58	20.81	17.01	14.44	24.01	90.65	94.49	94.49	91.44	94.49	62.91	25.41	654.73	54.56
1974	31.19	28.63	28.58	32.41	30.48	56.52	93.67	94.49	91.44	94.49	39.12	25.18	546.2	53.85
1975	25.1	26.2	26.81	21.72	18.57	52.21	93.67	94.49	91.44	94.49	47.13	24.99	616.82	51.4
1976	23.94	21.19	17.32	13.77	25.12	90.65	94.49	94.49	91.44	81.7	24.08	25.16	603.35	50.28
1977	24.46	20.73	19.31	17.58	29.05	56.97	93.67	94.49	91.44	94.49	55.73	25.78	623.7	51.98
1978	30.97	25.75	24.6	24.59	50.54	87.3	94.49	94.49	91.44	94.49	41.24	29.32	689.22	57.44
1979	35.31	28.63	26.51	30.28	39.19	52.08	93.67	94.49	91.44	94.49	37.45	25.2	648.74	54.06
1980	24.72	21.89	22.36	19.99	22.63	66.8	93.67	94.49	91.44	77.03	24.23	24.75	584	48.67
1981	23.2	14.91	7.37	16.55	25.18	59.18	93.67	94.49	91.44	89.21	29.03	25.33	569.56	47.46
1982	27.03	26.88	31.31	32.41	37.37	60.64	93.67	94.49	91.44	80.12	32.94	27.63	635.93	52.99
1983	37	30.66	30.57	28.09	36.02	57.6	93.67	94.49	91.44	94.49	47.59	25.44	667.06	55.59
1984	25.4	22.8	22.86	20.27	39.47	84.47	94.49	94.49	91.44	87.79	35.34	25.51	644.33	53.69
1985	33.16	28.49	28.87	31.24	45.41	71.23	93.67	94.49	91.44	94.49	48.99	25.27	686.75	57.23
1986	24.85	21.1	21.9	17.04	16.5	72.95	93.67	94.49	91.44	94.49	51.09	25	624.52	52.04
1987	24.08	20.51	18.04	12.82	18.76	44.09	93.67	94.49	91.44	80.75	32.03	25.42	556.1	46.34
1988	26.01	24.47	24.45	24.18	31.63	69.2	93.67	94.49	91.44	92.93	31.06	25.39	628.92	52.41
1989	28.45	24.49	25.04	25.34	44.26	82.91	94.49	94.49	91.44	94.49	41.3	25.29	672.59	56.05
1990	25.08	21.82	23.1	26.14	41.42	84.72	94.49	94.49	91.44	93.01	24.75	24.81	645.27	53.77
1991	23.39	18.71	8.07	10.37	20.22	71.23	93.67	94.49	91.44	94.49	47.27	25.41	598.76	49.9
1992	26.56	25.13	24.08	21.84	28.03	50.37	93.67	94.49	91.44	94.49	44.17	24.99	619.26	51.61
1993	24.02	20.47	12.44	6.19	18.01	60.39	93.67	94.49	91.44	94.49	49.23	25.14	589.98	49.17
1994	24.81	21.73	23.75	25.07	29.13	64	93.67	94.49	91.44	41.61	22.39	13.37	545.46	45.46
1995	3.2	2.49	3.72	4.03	16.8	90.65	94.49	94.49	91.44	94.49	71.85	33.33	600.98	50.08
1996	29.2	22.94	24.95	25.69	29.54	42.25	93.67	94.49	91.44	94.49	29.02	25.04	602.72	50.23
1997	24.45	21.08	22.52	21.34	29.31	45.87	93.67	94.49	91.44	60.67	23.39	24.13	552.36	46.03
1998	23.37	20.04	17.42	16.83	30.23	83.72	94.49	94.49	91.44	62.56	23.43	23.63	581.65	48.47
1999	22.53	13.44	8.23	9.24	21.12	57.41	93.67	94.49	91.44	65.09	22.64	19.52	518.82	43.24
SUM	915.01	768.83	712.44	683.22	1003.99	2326.23	3355.69	3401.64	3291.84	3075.06	1365.28	908.63	21807.86	
AVE	25.42	21.36	19.79	18.98	27.89	64.62	93.21	94.49	91.44	85.42	37.92	25.24	605.77	

Primary Energy(GWh)	Primary Energy(GWh)												SUM	AVE
	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.		
1964	19.29	17.17	18.1	18.67	19.57	18.94	20.75	23.62	22.86	23.62	22.86	23.62	249.07	20.76
1965	23.62	21.34	23.42	21.32	20.46	21.18	23.62	23.62	22.86	23.62	22.86	23.62	271.54	22.63
1966	23.62	20.43	20.25	9.69	12.16	18.94	23.42	23.62	22.86	23.62	22.86	23.62	245.09	20.42
1967	22.28	16.34	10.57	12.23	13.92	18.94	23.42	23.62	22.86	23.62	22.86	23.62	234.28	19.52
1968	23.62	21.43	20.98	15.89	19.57	20.58	23.62	23.62	22.86	23.62	22.86	23.62	262.27	21.86
1969	22.55	12.53	6.81	6.42	7.89	18.94	20.25	23.62	22.86	23.62	22.86	23.62	211.97	17.66
1970	22.61	15.53	7.68	13.55	19.57	18.94	23.42	23.62	22.86	23.62	22.86	23.62	237.88	19.82
1971	23.62	20.37	17.13	16.83	19.57	22.66	23.62	23.62	22.86	23.62	22.86	23.62	260.38	21.7
1972	23.62	22.1	21.72	13.63	19.57	18.94	23.42	23.62	22.86	23.62	22.86	23.62	259.58	21.63
1973	23.62	20.52	17.01	14.44	19.57	22.66	23.62	23.62	22.86	23.62	22.86	23.62	258.02	21.5
1974	23.62	21.34	23.42	21.32	20.46	18.94	23.42	23.62	22.86	23.62	22.86	23.62	269.1	22.43
1975	23.62	21.34	23.42	21.31	18.57	18.94	23.42	23.62	22.86	23.62	22.86	23.62	267	22.25
1976	23.62	20.7	17.32	13.77	19.57	22.66	23.62	23.62	22.86	23.62	22.86	23.62	257.84	21.49
1977	23.62	20.4	19.31	17.58	19.57	18.94	23.42	23.62	22.86	23.62	22.86	23.62	259.42	21.62
1978	23.62	21.34	23.42	21.32	20.46	21.9	23.62	23.62	22.86	23.62	22.86	23.62	272.26	22.69
1979	23.62	21.34	23.42	21.32	20.46	18.94	23.42	23.62	22.86	23.62	22.86	23.62	269.1	22.43
1980	23.62	21.77	21.68	19.61	19.57	18.94	23.42	23.62	22.86	23.62	22.86	23.62	265.19	22.1
1981	22.96	14.91	7.37	16.55	19.57	18.94	23.42	23.62	22.86	23.62	22.86	23.62	240.3	20.03
1982	23.62	21.34	23.42	21.32	20.46	18.94	23.42	23.62	22.86	23.62	22.86	23.62	269.1	22.43
1983	23.62	21.34	23.42	21.32	20.46	18.94	23.42	23.62	22.86	23.62	22.86	23.62	269.1	22.43
1984	23.62	22.1	22.44	19.86	19.57	21.25	23.62	23.62	22.86	23.62	22.86	23.62	269.04	22.42
1985	23.62	21.34	23.42	21.32	20.46	18.94	23.42	23.62	22.86	23.62	22.86	23.62	269.1	22.43
1986	23.62	20.96	21.01	17.04	16.5	18.94	23.42	23.62	22.86	23.62	22.86	23.62	258.07	21.51
1987	23.62	20.05	18.04	12.82	18.76	18.94	23.42	23.62	22.86	23.62	22.86	23.62	262.23	21.02
1988	23.62	22.1	23.42	21.32	20.46	18.94	23.42	23.62	22.86	23.62	22.86	23.62	269.86	22.49
1989	23.62	21.34	23.42	21.32	20.46	20.89	23.62	23.62	22.86	23.62	22.86	23.62	271.25	22.8
1990	23.62	21.34	22.81	21.01	20.46	21.31	23.62	23.62	22.86	23.62	22.86	23.62	270.75	22.56
1991	23.25	18.71	8.07	10.37	19.59	18.94	23.42	23.62	22.86	23.62	22.86	23.62	238.93	19.91

	Flight at start of each month(m)													
	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	SUM.	AVE
1964	391.02	391.02	391.02	391.02	391.02	391.02	391.02	398.5	415	415	411.58	411.01	4788.23	399.0
1965	415	411.01	406.63	401.89	398.78	391.02	405.68	415	415	415	406.63	411.01	4890.65	407.5
1966	408.54	404.49	398.28	391.02	391.02	391.02	391.02	415	415	415	406.63	408.74	4836.76	403.0

1967	404.12	396.17	391.02	391.02	391.02	391.02	391.02	415	415	415	406.63	411.01	4818.03	401.5
1968	410.76	405.98	398.76	392.65	391.02	391.02	401.73	415	415	415	415	411.01	4862.93	405.24
1969	405.63	396.49	391.02	391.02	391.02	391.02	391.02	395.19	415	415	406.63	409.56	4798.6	399.88
1970	405.32	397.31	391.02	391.02	391.02	391.02	391.02	415	415	415	407.56	411.01	4821.4	401.78
1971	410.57	405.13	397.09	391.02	391.02	391.02	415	415	415	415	411.01	4871.86	405.99	
1972	413.85	409.57	402.65	393.65	391.02	391.02	391.02	415	415	415	409.21	411.01	4857.8	404.82
1973	410.62	405.93	397.4	391.02	391.02	391.02	415	415	415	415	411.01	4873.02	406.09	
1974	413.24	411.01	406.63	401.89	396.78	391.02	391.02	415	415	415	415	411.01	4882.6	406.88
1975	410.91	410.26	406.63	401.89	395.18	391.02	391.02	415	415	415	415	411.01	4877.92	406.49
1976	409.09	402.74	396.6	391.02	391.02	391.02	415	415	415	415	406.63	411.01	4859.13	404.93
1977	410.76	404.81	397.66	391.02	391.02	391.02	391.02	415	415	415	411.23	411.01	4844.55	403.71
1978	415	411.01	406.63	401.89	396.78	391.02	410.3	415	415	415	407.59	411.01	4896.23	408.02
1979	415	411.01	406.63	401.89	396.78	391.02	391.02	415	415	415	408.38	411.01	4877.74	406.48
1980	411.15	406.56	400.85	395.38	391.02	391.02	391.02	415	415	415	406.63	411.01	4849.64	404.14
1981	406.95	398.08	391.02	391.02	391.02	391.02	391.02	415	415	415	406.63	411.01	4822.77	401.9
1982	412.42	411.01	406.63	401.89	396.78	391.02	391.02	415	415	415	406.63	411.01	4873.41	406.12
1983	415	411.01	406.63	401.89	396.78	391.02	391.02	415	415	415	415	411.01	4884.36	407.03
1984	413.52	410.55	404.36	397.08	391.02	391.02	406.1	415	415	415	406.63	411.01	4876.29	406.36
1985	414.23	411.01	406.63	401.89	396.78	391.02	391.02	415	415	415	415	411.01	4883.59	406.97
1986	411.81	407.03	399.81	391.6	391.02	391.02	391.02	415	415	415	415	411.01	4854.32	404.53
1987	409.24	403.57	396.24	391.02	391.02	391.02	391.02	415	415	415	406.63	411.01	4835.77	402.98
1988	413.29	411.01	406.63	401.89	396.78	391.02	391.02	415	415	415	406.63	411.01	4874.28	406.19
1989	413.02	411.01	406.63	401.89	396.78	391.02	403.79	415	415	415	412.45	411.01	4892.6	407.72
1990	412	408.97	404.47	399.74	396.78	391.02	406.48	415	415	415	406.63	411.01	4882.1	406.84
1991	407.52	399.66	391.02	391.02	391.02	391.02	391.02	415	415	415	414.26	411.01	4832.55	402.71
1992	413.2	411.01	406.63	401.89	396.59	391.02	391.02	415	415	415	415	411.01	4892.37	406.86

	Power (MW)
1	14.84
0.998	17.18
0.995	20.01
0.993	22.38
0.991	34.37
0.988	35.67
0.986	36.61
0.984	39.62
0.981	41.32
0.979	42.43
0.977	43.41
0.975	44.23
0.972	51.33
0.97	53.83
0.968	56.82
0.965	57.58
0.963	65.39
0.961	66.86
0.958	67.94
0.956	71.23
0.954	71.86
0.951	74.6
0.949	74.82
0.947	75.3
0.944	75.74
0.942	76.51
0.94	79.88
0.938	80.21
0.935	88.26
0.933	88.71
0.931	88.74
0.928	90.31
0.926	91.44
0.924	91.94
0.921	92.09
0.919	92.44
0.917	93.12
0.914	93.49
0.912	93.49
0.91	93.64
0.907	94.69
0.905	96.83
0.903	96.98
0.9	97.24
0.898	97.34
0.896	97.64
0.894	98.66
0.891	99.85
0.889	100.87
0.887	103.7
0.884	103.7
0.882	103.82
0.88	104.94
0.877	105.23
0.875	105.23
0.873	105.23
0.87	105.23
0.868	105.23
0.866	105.23
0.863	105.23
0.861	105.23
0.859	105.23
0.856	105.23
0.854	105.23
0.852	105.23
0.85	105.23
0.847	105.23
0.845	105.23
0.843	105.23
0.84	105.23
0.838	105.23
0.836	105.23
0.833	105.23
0.831	105.23
0.829	105.23
0.826	105.23
0.824	105.23
0.822	105.23
0.819	105.23
0.817	105.23
0.815	105.23
0.813	105.23
0.81	105.23
0.808	105.23
0.806	105.23
0.803	105.23
0.801	105.23
0.799	105.23
0.796	105.23
0.794	105.23
0.792	105.23
0.789	105.33
0.787	108.86
0.785	108.86
0.782	108.96
0.78	109.49
0.778	109.85
0.775	110
0.773	110
0.771	110
0.769	110
0.766	110

0.764	110
0.762	110
0.759	110
0.757	110
0.755	110
0.752	110
0.75	110
0.748	110.34
0.745	111.35
0.743	111.65
0.741	112.79
0.738	112.96
0.736	114.24
0.734	114.32
0.731	115.25
0.729	116.08
0.727	116.58
0.725	116.71
0.722	116.79
0.72	117.11
0.718	117.28
0.715	117.69
0.713	117.89
0.711	117.94
0.708	118.05
0.706	118.28
0.704	118.37
0.701	118.42
0.699	118.42
0.697	118.42
0.694	118.42
0.692	118.42
0.69	118.42
0.688	118.42
0.685	118.42
0.683	118.42
0.681	118.42
0.678	118.42
0.676	118.96
0.674	119.01
0.671	119.37
0.669	119.77
0.667	120.62
0.664	121.25
0.662	121.26
0.66	121.4
0.657	121.57
0.655	121.59
0.653	121.67
0.65	122.13
0.648	122.66
0.646	122.84
0.644	123.14
0.641	123.44
0.639	124.47
0.637	124.57
0.634	124.68
0.632	124.74
0.63	124.85
0.627	125.02
0.625	125.03
0.623	125.12
0.62	125.91
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0.616	125.91
0.613	125.91
0.611	125.91
0.609	125.91
0.606	125.91
0.604	125.91
0.602	125.91
0.6	125.91
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0.593	125.91
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0.586	125.91
0.583	125.91
0.581	125.91
0.579	125.91
0.576	125.91
0.574	125.91
0.572	125.91
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0.565	125.91
0.563	125.91
0.56	125.91
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0.556	125.91
0.553	125.91
0.551	125.91
0.549	125.91
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0.537	125.91
0.535	125.91
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0.53	127
0.528	127
0.525	127

0.523	127
0.521	127
0.519	127
0.516	127
0.514	127
0.512	127
0.509	127
0.507	127
0.505	127
0.502	127
0.5	127
0.498	127
0.495	127
0.493	127
0.491	127
0.488	127
0.486	127
0.484	127
0.481	127
0.479	127
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0.285	127

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0.208	127
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0.106	127
0.104	127
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0.097	127
0.095	127
0.093	127
0.09	127
0.088	127
0.086	127
0.083	127
0.081	127
0.079	127
0.076	127
0.074	127
0.072	127
0.069	127
0.067	127
0.065	127
0.063	127
0.06	127
0.058	127
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0.053	127
0.051	127
0.049	127
0.046	127
0.044	127

0.042 127
0.039 127
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0.012 127
0.009 127
0.007 127
0.005 127
0.002 127

2.4 m³/s
310 EL.m
0.83

JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	SUM	AVE
31	28.25	31	30	31	30	31	31	30	31	30	31		
1.18	1.07	1.18	1.14	1.18	1.14	1.23	1.41	1.48	1.50	1.42	1.50	15.42	1.29
1.50	1.31	1.37	1.26	1.22	1.25	1.46	1.53	1.48	1.47	1.39	1.46	16.68	1.39
1.41	1.21	1.23	1.14	1.18	1.14	1.37	1.53	1.48	1.47	1.37	1.40	15.92	1.33
1.31	1.11	1.18	1.14	1.18	1.14	1.37	1.53	1.48	1.47	1.39	1.47	15.74	1.31
1.43	1.22	1.25	1.15	1.18	1.22	1.43	1.53	1.48	1.53	1.45	1.43	16.28	1.36
1.33	1.11	1.18	1.14	1.18	1.14	1.21	1.39	1.48	1.47	1.38	1.42	15.41	1.28
1.33	1.12	1.18	1.14	1.18	1.14	1.37	1.53	1.48	1.47	1.40	1.46	15.78	1.31
1.42	1.21	1.22	1.14	1.18	1.33	1.53	1.53	1.48	1.53	1.45	1.49	16.48	1.37
1.48	1.27	1.28	1.16	1.18	1.14	1.37	1.53	1.48	1.48	1.41	1.46	16.23	1.35
1.43	1.22	1.22	1.14	1.18	1.33	1.53	1.53	1.48	1.53	1.45	1.48	16.49	1.37
1.48	1.31	1.37	1.26	1.22	1.14	1.37	1.53	1.48	1.53	1.45	1.47	16.59	1.38
1.46	1.30	1.37	1.25	1.21	1.14	1.37	1.53	1.48	1.53	1.45	1.45	16.52	1.38
1.39	1.19	1.22	1.14	1.18	1.33	1.53	1.53	1.48	1.47	1.39	1.47	16.29	1.36
1.42	1.21	1.23	1.14	1.18	1.14	1.37	1.53	1.48	1.50	1.42	1.50	16.10	1.34
1.50	1.31	1.37	1.26	1.22	1.29	1.49	1.53	1.48	1.47	1.40	1.50	16.80	1.40
1.50	1.31	1.37	1.26	1.22	1.14	1.37	1.53	1.48	1.48	1.40	1.47	16.51	1.38
1.44	1.24	1.28	1.17	1.18	1.14	1.37	1.53	1.48	1.47	1.39	1.44	16.11	1.34
1.35	1.12	1.18	1.14	1.18	1.14	1.37	1.53	1.48	1.47	1.39	1.48	15.80	1.32
1.48	1.31	1.37	1.26	1.22	1.14	1.37	1.53	1.48	1.47	1.39	1.50	16.50	1.37
1.50	1.31	1.37	1.26	1.22	1.14	1.37	1.53	1.48	1.53	1.45	1.49	16.62	1.39
1.48	1.29	1.32	1.18	1.18	1.25	1.46	1.53	1.48	1.47	1.39	1.49	16.52	1.38
1.49	1.31	1.37	1.26	1.22	1.14	1.37	1.53	1.48	1.53	1.45	1.47	16.60	1.38
1.44	1.24	1.25	1.14	1.18	1.14	1.37	1.53	1.48	1.53	1.45	1.45	16.19	1.35
1.40	1.19	1.22	1.14	1.18	1.14	1.37	1.53	1.48	1.47	1.39	1.48	15.97	1.33
1.48	1.31	1.37	1.26	1.22	1.14	1.37	1.53	1.48	1.47	1.39	1.48	16.49	1.37
1.48	1.31	1.37	1.26	1.22	1.23	1.45	1.53	1.48	1.51	1.43	1.47	16.73	1.39
1.46	1.28	1.34	1.24	1.22	1.26	1.47	1.53	1.48	1.47	1.39	1.44	16.56	1.38
1.36	1.13	1.18	1.14	1.18	1.14	1.37	1.53	1.48	1.52	1.44	1.48	15.94	1.33
1.48	1.31	1.37	1.26	1.22	1.14	1.37	1.53	1.48	1.53	1.45	1.45	16.57	1.38
1.40	1.19	1.21	1.14	1.18	1.14	1.37	1.53	1.48	1.53	1.45	1.46	16.06	1.34
1.44	1.28	1.36	1.26	1.22	1.14	1.37	1.53	1.48	1.47	1.30	1.23	16.05	1.34
1.18	1.07	1.18	1.14	1.18	1.33	1.53	1.53	1.48	1.53	1.45	1.50	16.06	1.34
1.50	1.30	1.36	1.26	1.22	1.14	1.37	1.53	1.48	1.48	1.40	1.46	16.48	1.37
1.42	1.24	1.29	1.22	1.22	1.14	1.37	1.53	1.48	1.47	1.36	1.40	16.12	1.34
1.36	1.16	1.20	1.14	1.18	1.24	1.46	1.53	1.48	1.47	1.36	1.38	15.94	1.33

[illegible]

Stability Analysis of Dam Section

Stability Analysis of Dam Section

1. Basic Conditions

(1) Analysis Method

Analysis is executed for dam section to study stability of issues as follows;

- 1) Shearing force
- 2) No vertical tension stress at upstream side
- 3) Inner stresses don't exceed allowable compression and tension

(2) Load acting Case

Stability analysis is done for loading cases as follows;

Load acting Case

Case	Comments
Earth quake at HWL	Water Level is at N.W.L 415.000m Earthquake force acts from U/S to D/S
Design Flood	Design flood occurs. Earthquake force not considered
Before Impounding	Before impounding Half DEF acts from D/S to U/S

(3) Loads to be taken into consideration

Load as follows are taken into consideration.

Load taken into consideration

Item	Load acting case		
	NWL, Earthquake	Design Flood	Before Impounding
Self Weight	*	*	*
Earthquake	*		*
Static Pressure	*	*	
Dynamic Pressure	*		
Sedimentation	*	*	
Uplift	*	*	

(4) Input Values

1) Elevation Level of each part

Top of non-overflow part	EL.	420.000	m
Planned Sedimentation Level	EL.	386.200	m
Normal High Water Level	WL.	415.000	m
Design Flood level	WL.	416.000	m
Base rock elevation	EL.	280.000	m

2) Height of each part

Non-overflow part	140.000	m
Depth at HWL	135.000	m
Max Sedimentation Level	106.200	m

3) Specific weight of materials

Concrete	22.6	KN/m ³	(2.30×9.81)
Sedimentation (in water)	8.8	KN/m ³	(0.9×9.81)
Water	9.8	KN/m ³	(1.0×9.81)

4) Rock shearing stress

Shearing stress	2,943	KN/m ²	(300×9.81)
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5) Others

Inner Friction Coefficient (Rock)	1.000	(tan 45°)
Safety factor for Shearing friction	more than 4.0	
Horizontal earthquake coefficient (at HWL)	0.15	
Vertical earthquake coefficient	0.00	

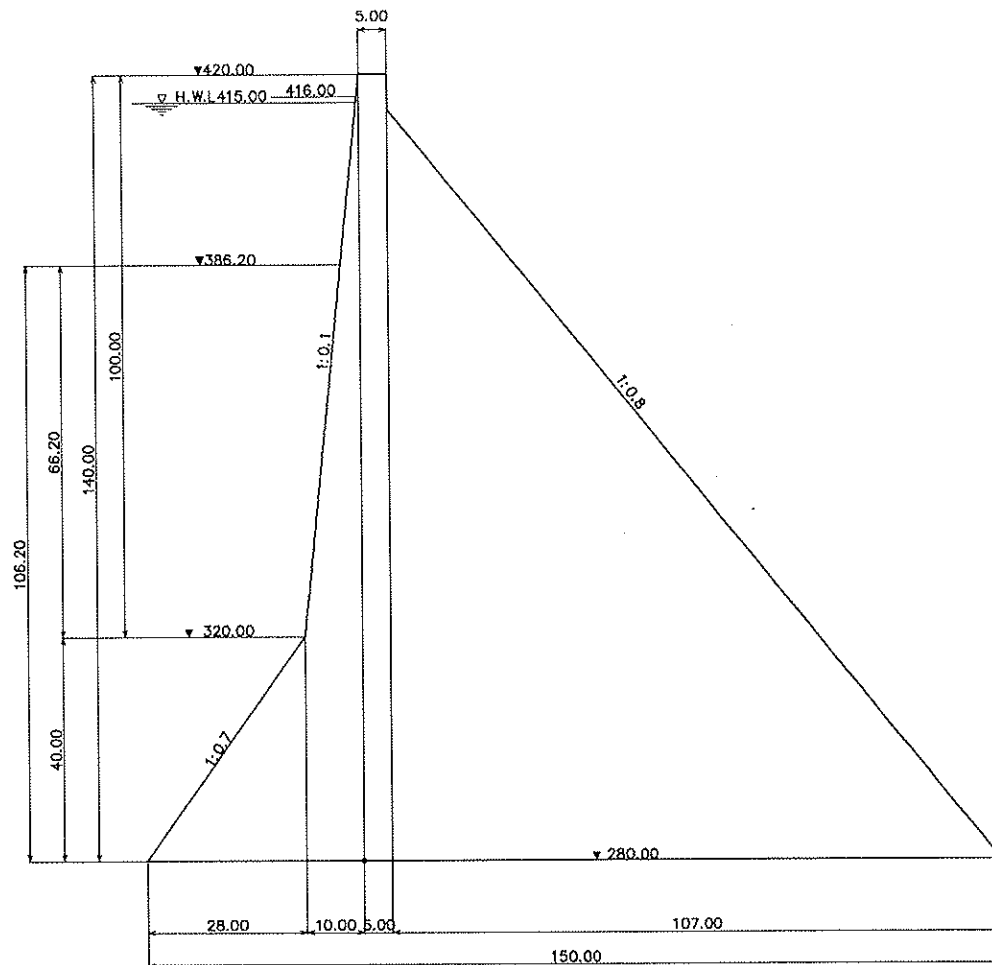
5) Analysis method

Stability analysis is made at EL. 280 for Non-overflow part and overflow part.

Analysis is made for 1 m width.

2. Stability analysis for non-overflow part

(1) Studied section



Dam top Elevation level EL. 420.000

Design Flood Level W.L 416.000

High Water Level W.L 415.000

Planned Sedimentation Level EL. 386.200

(2) Wave Height

* Wave by wind (S.M.B Method)

$$h_w = 0.00086 V_1^{1.1} F^{0.45}$$

Here h_w : Wave by wind

V : Average wind velocity during 10 min 30 m/s

F : Distance to opposite embankment 6000m

Design Flood Level, HWL

$$h_w = 0.00086 \times 30^{1.1} \times 6000^{0.45} = 1.82 \text{ m} \approx 1.8 \text{ m}$$

* Wave by earthquake

$$h_e = \frac{K\tau}{2\pi} \sqrt{gH_0}$$

Here h_e : Half wave height by earthquake at dam front surface

K : Horizontal Earthquake 0.15

τ : Earthquake Period 1set

H_0 Depth 135.0 m

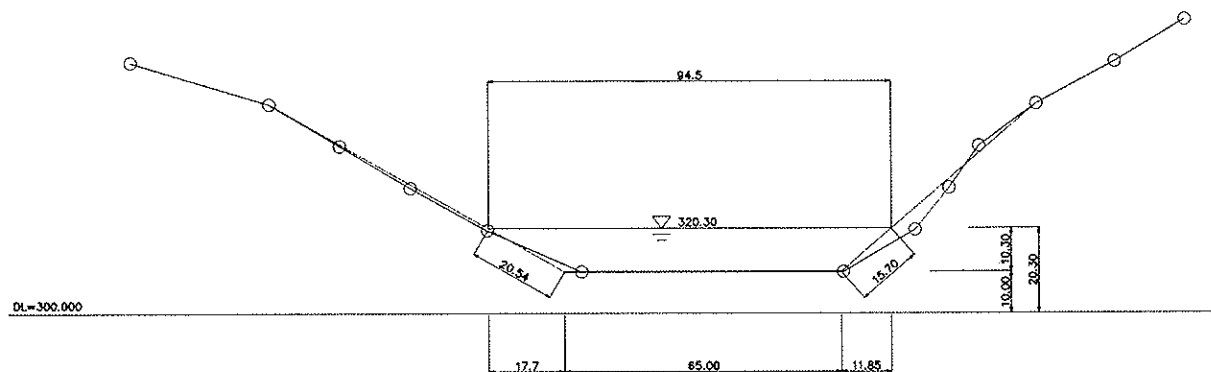
$$(415.00 - 280.00 = 135.00)$$

HWL (WL415.00)

$$h_e = \frac{0.15 \times 1.0}{2\pi} \sqrt{9.8 \times 135.0} = 0.87 \text{ m} \approx 0.9 \text{ m}$$

(3) Water Level at downstream side

• Sected section (300m downstream from dam axis)



$$Q \approx 7400 \text{ m}^3/\text{sec}$$

$$I = 1/125 \text{ (Assumed)}$$

• Flow discharge capacity

$$\text{Area : } A = (65.0 + 94.5) \times 1/2 \times 10.3 = 821.4 \text{ m}^2$$

$$\text{Wet edge : } P = 20.5 + 65.0 + 15.7 = 101.2 \text{ m}^2$$

$$\text{Radius : } R = A/P = 821.4 / 101.20 = 8.12 \text{ m}$$

$$\text{Velocity : } V = 1/n \cdot R^{2/3} \cdot I^{1/2} \dots\dots\dots \text{ (Manning Equation)}$$

$$= 1 / 0.04 \times (8.12)^{2/3} \times (1 / 125.0)^{1/2}$$

$$= 9.033 \text{ m/sec}$$

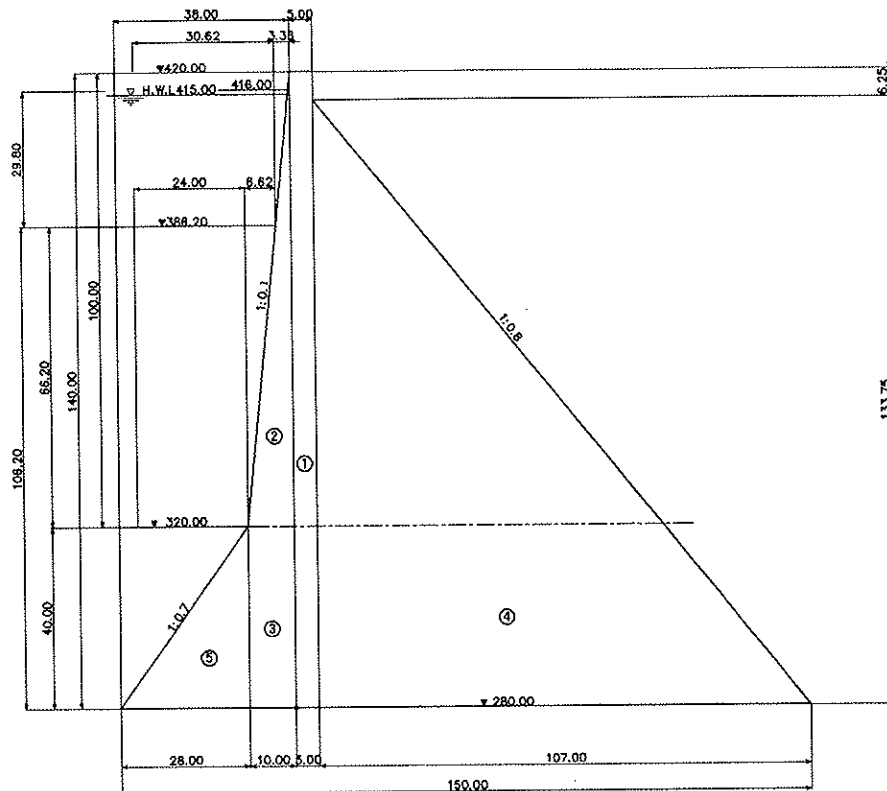
$$\therefore Q = V \cdot A = 9.033 \times 821.4 = 7419.7 \text{ m}^3/\text{sec}$$

$$\approx 7400 \text{ m}^3/\text{sec}$$

At river bed level of EL. 310, water level is 320.3m, when design discharge of 7,400m³/s flows.

(4) Outer Force

1) Dam self weight (Water level is at HWL, and Design flood)



No	Equation	Vertical	Arm length		Moment	
		N(KN/m)	X(m)	Y(m)	M·X (KN·m/m)	M·Y (KN·m/m)
①	$5.00 \times 140.00 \times 22.6$	15,820.00	40.50	70.00	640,710.00	1,107,400.00
②	$10.00 \times 100.00 \times 1/2 \times 22.6$	11,300.00	34.67	73.33	391,771.00	828,629.00
③	$10.00 \times 40.00 \times 22.6$	9,040.00	33.00	20.00	298,320.00	180,800.00
④	$107.0 \times 133.75 \times 1/2 \times 22.6$	161,717.13	78.63	44.58	12,715,817.93	7,209,349.66
⑤	$28.00 \times 40.00 \times 1/2 \times 22.6$	12,656.00	18.67	13.33	236,287.52	168,704.48
Total		$\Sigma N =$ 210,533.13			$\Sigma M.X =$ 14,282,906.45	$\Sigma M.Y =$ 9,494,883.14

Vertical Force $N = 210,533.13 \text{ KN/m}$

Horizontal Force $H = 210,533.13 \times 0.15 = 31,579.97 \text{ KN/m}$

resultant force acting point $X = 67.84 \text{ m}$ $Y = 45.10 \text{ m}$

Center of gravity $X = \frac{\Sigma M.X}{\Sigma N} = \frac{14,282,906.45}{210,533.13} = 67.84 \text{ m}$

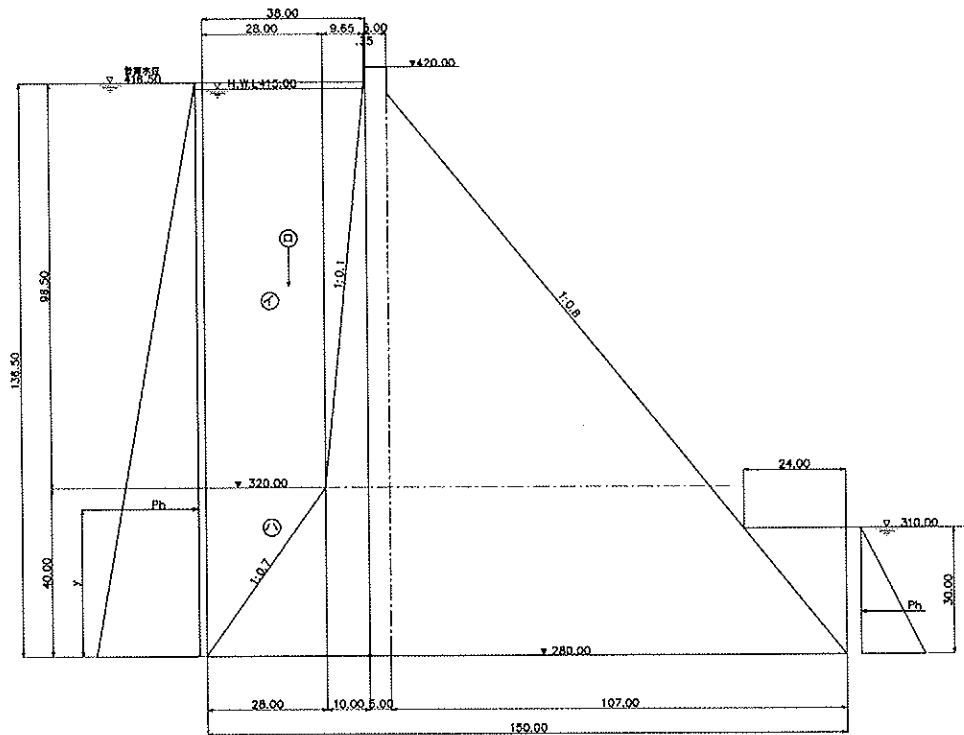
$Y = \frac{\Sigma M.Y}{\Sigma N} = \frac{9,494,883.14}{210,533.13} = 45.10 \text{ m}$

2) Static pressure

(i) Earthquake with HWL

① Upstream side

$$\begin{aligned}\text{Caliculated WL} &= \text{HWL} + \text{Wind Wave Height} + \text{Earthquake Wave Height} \\ &= \text{EI } 415.00 + 1.80 + 0.90 = \text{EI } 417.70\end{aligned}$$



• Horizontal static pressure resultant force

$$Ph = 1/2 \cdot W_w \cdot h^2 = 1/2 \times 9.8 \times 137.70^2 = 92,910.32 \text{ KN/m}$$

$$\text{Acting Point } Y = h/3 = 1/3 \times 137.70 = 45.90 \text{ m}$$

• Vertical static pressure resultant force

No.	Equation	Vertical Force	Arm	Momeny
		N(KN/m)	X(m)	M·X(KN·m/m)
①	28.00×96.50×9.8	26,479.60	14.00	370,714.40
②	9.65×96.50×1/2×9.8	4,563.00	31.22	142,456.86
③	28.00×40.00×1/2×9.8	5,488.00	9.33	51,203.04
Total		ΣN= 36,530.60		ΣM·X= 564,374.30

$$\text{Vertical Force } N = 36,530.60 \text{ KN/m}$$

$$\text{Acting point } X = 15.45 \text{ m}$$

$$\text{Center of gravity } X = \frac{\Sigma M \cdot X}{\Sigma N} = \frac{564,374.30}{36,530.60} = 15.45 \text{ m}$$

②Downstream side

River Bed = EL 310.00 m

• Horizontal static pressure

$$P_h = 1/2 \cdot W_w \cdot h^2 = 1/2 \times 9.8 \times 30.00^2 = 4,410.00 \text{ KN/m}$$

$$\text{Acting point } Y = h/3 = 1/3 \times 30.00 = 10.00 \text{ m}$$

• Vertical static pressure

$$N = 24.00 \times 30.00 \times 1/2 \times 9.80 = 3,528.00 \text{ KN/m}$$

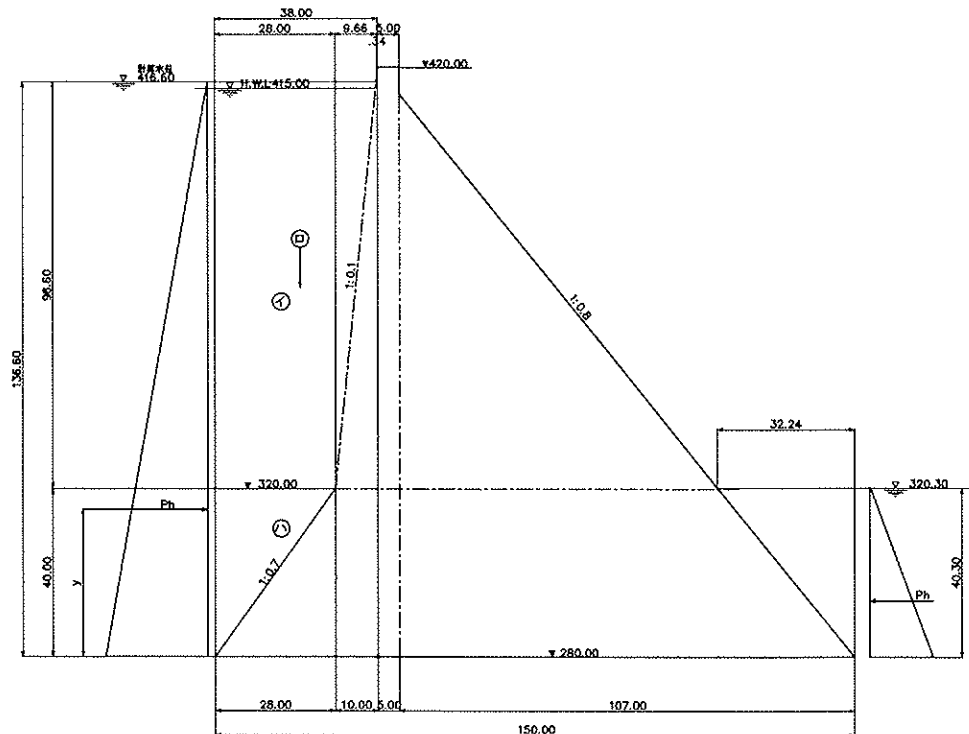
$$\text{Acting Point } X = 150.00 - (24.00 \div 3) = 142.00 \text{ m}$$

(ii) Design Flood

① Upstream side

Calculated WL = 設計洪水位+風波浪

$$= \text{EL } 416.00 + 1.80 = \text{EL } 417.80$$



• Horizontal static pressure resultant force

$$Ph = 1/2 \cdot Ww \cdot h^2 = 1/2 \times 9.8 \times 137.80^2 = 93,045.32 \text{ KN/m}$$

$$\text{Acting point } Y = h/3 = 1/3 \times 137.80 = 45.93 \text{ m}$$

• Vertical static pressure

No	Equation	Vertical Force	Arm	Moment
		N(KN/m)	X(m)	M·X(KN·m/m)
イ	28.00×96.60×9.8	22,720.32	14.00	318,084.48
ロ	9.66×96.60×1/2×9.8	4,572.46	31.22	142,752.20
ハ	28.00×40.00×1/2×9.8	4,704.00	9.33	43,888.32
Total		ΣN= 31,996.78		ΣM·X= 504,725.00

$$\text{Vertical Force } N = 31,996.78 \text{ KN/m}$$

$$\text{Acting Point } X = 15.77 \text{ m}$$

$$\text{Center of gravity } X = \frac{\Sigma M \cdot X}{\Sigma N} = \frac{504,725.00}{31,996.78} = 15.77 \text{ m}$$

②Downstream side

Calculated Water Level = EL 320.30 m

• Horizontal static pressure

$$P_h = 1/2 \cdot W_w \cdot h^2 = 1/2 \times 9.8 \times 40.30^2 = 7,958.04 \text{ KN/m}$$

$$\text{Acting point } Y = h/3 = 1/3 \times 40.30 = 13.43 \text{ m}$$

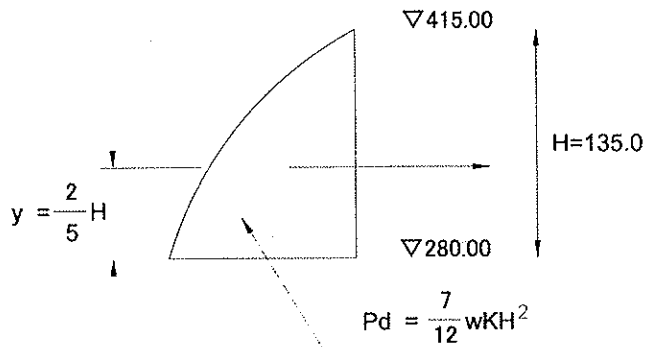
• Vertical static pressure

$$N = 32.24 \times 40.30 \times 1/2 \times 9.80 = 6,366.43 \text{ KN/m}$$

$$\text{Acting Point X} = 150.00 - (32.24 \div 3) = 139.25 \text{ m}$$

3) Dynamic pressure (Earthquake at HWL)

Dynamic pressure is estimated by next equation.



W : Water specific weight ($W = 9.8 \text{ KN/m}^3$)

K : Earthquake coefficient

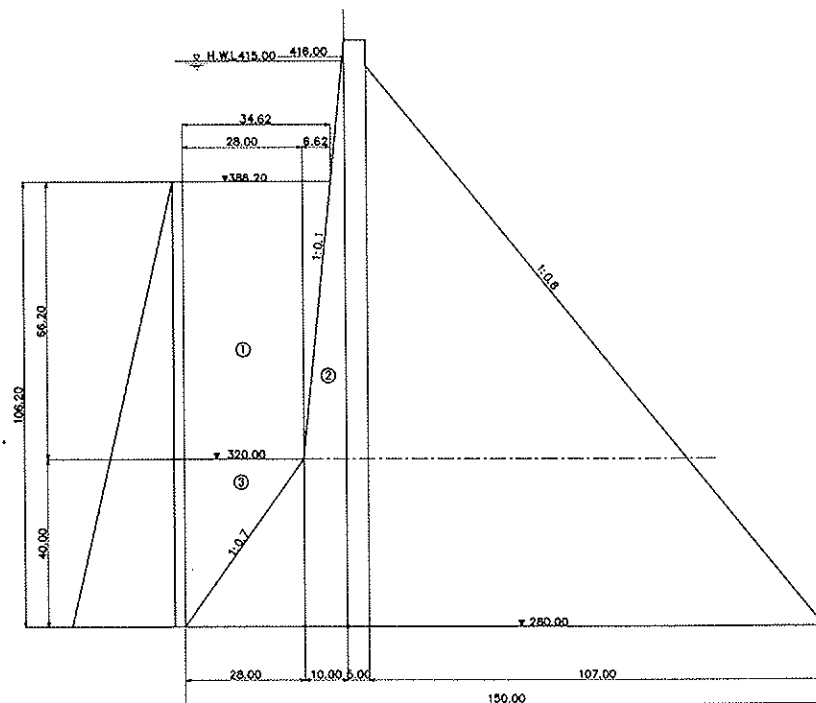
H : Water depth

$$P_d = \frac{7}{12} \times 9.8 \times 0.15 \times 135.00^2 = 15,627.94 \text{ KN/m}$$

$$\text{Acting point } Y = \frac{2}{5} \times 135.00 = 54.00 \text{ m}$$

4) Sedimentation pressure (Earthquake at HWL, Design Flood)

Sedimentation pressure acts lower than EL.386.200m.



• Horizontal sedimentation pressure

$$P_s = 1/2 C_e \cdot W_s \cdot h_s^2$$

Here P_s : Resultant force by Sedimentation (KN)

C_e : Mud pressure coefficient = 0.5

W_s : Specific weight by sedimentation = 8.8 KN/m³

h_s : Sedimentation height

$$P_s = 1/2 \times 0.5 \times 8.8 \times 106.20^2 = 24,812.57 \text{ KN/m}$$

$$\text{Acting point } Y = 1/3 \times h_s = 1/3 \times 106.20 = 35.40 \text{ m}$$

• Vertical sedimentation pressure

No	Equation	Vertical	Arm	Moment
		N(KN/m)	X(m)	M·X (KN·m/m)
①	28.00×66.20×8.8	16,311.68	14.00	228,363.52
②	6.62×66.20×1/2×8.8	1,928.27	30.21	58,253.04
③	28.00×40.00×1/2×8.8	4,928.00	9.33	45,978.24
Total		ΣN= 23,167.95		ΣM.X= 332,594.80

Vertical $N = 23,167.95 \text{ KN/m}$

Acting point $X = 14.36 \text{ m}$

$$\text{Center of gravity } X = \frac{\Sigma M.X}{\Sigma N} = \frac{332,594.80}{23,167.95} = 14.36 \text{ m}$$

5)Uplift

Uplift is estimated by next equation

$$U = \frac{P_d + P_u}{2} \cdot LB$$

Here U : Resultant force by Uplift (t f /m)
 Pd : Downstream side static pressure (KN/m²)
 Pu : Upstream side static pressure (KN/m²)
 LB : Length of dam base (m)

$$\begin{aligned} P_{od} &= \text{Dam D/S WL} - \text{Dam base EL} \\ &= (WL. 310.00 - 280.00) \times 9.8 = 294.00 \text{ KN/m}^2 \text{ (Earthquake at HWL)} \\ &= (WL. 320.30 - 280.00) \times 9.8 = 394.94 \text{ KN/m}^2 \text{ (Design Flood)} \end{aligned}$$

$$\begin{aligned} P_{ou} &= (\text{Dam U/S WL}) - \text{Dam base EL} \\ &= (WL. 415.00 - 280.00) \times 9.8 = 1,323.00 \text{ KN/m}^2 \text{ (Earthquake at HWL)} \\ &= (WL. 416.00 - 280.00) \times 9.8 = 1,332.80 \text{ KN/m}^2 \text{ (Design Flood)} \end{aligned}$$

(Earthquake at HWL)

$$\begin{aligned} P_u &= 637.00 \text{ KN/m}^2 \quad (1,323.00 - 294.00) \cdot 1/3 + 294.00 \\ P_d &= 294.00 \text{ KN/m}^2 \\ LB &= 150.00 \text{ m} \end{aligned}$$

No	Equation	Vertical Force	Arm	Moment
		N(KN/m)	X(m)	M·X (KN·m/m)
①	294.00×150.00	44,100.00	75.00	3,307,500.00
②	$(637.00 - 294.00) \times 1/2 \times 150.00$	25,725.00	50.00	1,286,250.00
Total		$\Sigma N = 69,825.00$		$\Sigma M.X = 4,593,750.00$

$$\text{Uplift} \quad U = 69,825.00 \text{ KN/m}$$

$$\text{Acting Point} \quad X = 65.79 \text{ m}$$

$$\text{Center of gravity} \quad X = \frac{\Sigma M.X}{\Sigma N} = \frac{4,593,750.00}{69,825.00} = 65.79 \text{ m}$$

(Design Flood)

$$\begin{aligned} P_u &= 707.56 \text{ KN/m}^2 \quad (1,332.80 - 394.94) \cdot 1/3 + 394.94 \\ P_d &= 394.94 \text{ KN/m}^2 \end{aligned}$$

$$LB = 150.00 \text{ m}$$

No	Equation	Vertical Force	Arm	Moment
		N(KN/m)	X(m)	M·X(KN·m/m)
①	394.94×150.00	59,241.00	75.00	4,443,075.00
②	$(707.56 - 394.94) \times 1/2 \times 150.00$	23,446.50	50.00	1,172,325.00
Total		$\Sigma N =$ 82,687.50		$\Sigma M.X =$ 5,615,400.00

Uplift $U = 82,687.50 \text{ KN/m}$

Acting point $X = 67.91 \text{ m}$

gravity center $X = \frac{\Sigma M.X}{\Sigma N} = \frac{5,615,400.00}{82,687.50} = 67.91 \text{ m}$

(5) Stability analysis

1) Earthquake at HWL

No	Vertical	Horizontal	Arm		Moment	
	N(KN/m)	H(KN/m)	X(m)	Y(m)	M·X (KN·m/m)	M·Y (KN·m/m)
Dam weight	210,533.13	31,579.97	67.84	45.10	14,282,567.54	1,424,256.65
U/S static pressure	36,530.60	92,910.32	15.45	45.90	564,397.77	4,264,583.69
D/S static pressure	3,528.00	-4,410.00	142.00	10.00	500,976.00	-44,100.00
Dynamic pressure	-	15,627.94	-	54.00	-	843,908.76
Sedimentation Pressure	23,167.95	24,812.57	14.36	35.40	332,691.76	878,364.98
Uplift	-69,825.00	-	65.79	-	-4,593,786.75	
Total	ΣN= 203,934.68	ΣN= 160,520.80	-	-	ΣM.X= 11,086,846.32	ΣM.Y= 7,367,014.08

Resultant force acting point

$$X = \frac{\Sigma M_x + \Sigma M_y}{\Sigma N} = \frac{11,086,846.32 + 7,367,014.08}{203,934.68} = 90.49 \text{ m}$$

i) Turn-over ($e \leq B/6$)

Eccentric length

$$e = B/2 - X = 150.00 / 2 - 90.49 = -15.49 \text{ m} < B/6 = 25.00 \text{ m}$$

...OK

ii) Sliding ($F_s \geq 4.0$)

$$F_s = \frac{f \Sigma N + \tau B}{\Sigma H} = \frac{1.000 \times 203,934.68 + 2,943 \times 150.00}{160,520.80} = 4.02 \text{ m}$$

> 4 ...OK

iii) Reaction force from ground

$$\therefore \sigma = \frac{\Sigma N}{B} \times \left(1 \pm \frac{6e}{B} \right)$$

$$= \frac{203,934.68}{150.00} \times \left(1 \pm \frac{6 \times -15.49}{150.00} \right) = 517.2 \text{ KN/m}^2 \quad 2,202.0 \text{ KN/m}^2$$

< 3,920 KN/m²

...OK

2) Design Flood

Item	Vertical	Horizontal	Arm length		Moment	
	N(KN/m)	H(KN/m)	X(m)	Y(m)	M·X(KN·m/m)	M·Y(KN·m/m)
Dam weight	210,533.13	-	67.84	-	14,282,567.54	-
U/S static pressure	31,996.78	93,045.32	15.77	45.93	504,589.22	4,273,571.55
D/S static pressure	6,366.43	-7,958.04	139.25	13.43	886,525.38	-106,876.48
Sedimentation pressure	23,167.95	24,812.57	14.36	35.40	332,691.76	878,364.98
Uplift	-82,687.50	-	67.91	-	-5,615,308.13	
Total	$\Sigma N =$ 189,376.79	$\Sigma H =$ 109,899.85	-	-	$\Sigma M.X =$ 10,391,065.77	$\Sigma M.Y =$ 5,045,060.05

Resultant force acting point

$$X = \frac{\Sigma M_x + \Sigma M_y}{\Sigma N} = \frac{10,391,065.77 + 5,045,060.05}{189,376.79} = 81.51 \text{ m}$$

i) Turn-over ($e \leq B/6$)

Eccentric length

$$e = B/2 - X = 150.00 / 2 - 81.51 = -6.51 \text{ m} < B/6 = 25.00 \text{ m} \quad \dots \text{OK}$$

ii) Sliding ($F_s \geq 4.0$)

$$F_s = \frac{f \Sigma N + \tau B}{\Sigma H} = \frac{1.000 \times 189,376.79 + 2,943 \times 150.00}{109,899.85} = 5.74 \text{ m} > 4 \quad \dots \text{OK}$$

iii) Reaction force from ground

$$\begin{aligned} \therefore \sigma &= \frac{\Sigma N}{B} \times \left(1 \pm \frac{6e}{B} \right) \\ &= \frac{189,376.79}{150.00} \times \left(1 \pm \frac{6 \times -6.51}{150.00} \right) = 933.8 \text{ KN/m}^2, 1,591.3 \text{ KN/m}^2 \\ &< 3,920 \text{ KN/m}^2 \quad \dots \text{OK} \end{aligned}$$

3) Before impounding

No	Vertical	Horizontal	Arm length		Moment	
	N(KN/m)	H(KN/m)	X(m)	Y(m)	M·X (KN·m/m)	M·Y (KN·m/m)
Dam Weight	210,533.13	-15,789.98	67.84	45.10	14,282,567.54	-712,128.31
Static pressure	0.00	0.00	0.00	0.00	0.00	0.00
Sedimentation Pressure	0.00	0.00	0.00	0.00	0.00	0.00
Uplift	0.00	-	0.00	-	0.00	
Total	$\Sigma N =$ 210,533.13	$\Sigma H =$ -15,789.98	-	-	$\Sigma M.X =$ 14,282,567.54	$\Sigma M.Y =$ -712,128.31

Resultant force acting point

$$X = \frac{\Sigma M_x + \Sigma M_y}{\Sigma N} = \frac{14,282,567.54 + -712,128.31}{210,533.13} = 64.46 \text{ m}$$

i) Turn-over ($e \leq B/6$)

Eccentric length

$$e = B/2 - X = 150.00 / 2 - 64.46 = 10.54 \text{ m} < B/6 = 25.00 \text{ m} \quad \dots \text{OK}$$

ii) Sliding ($F_s \geq 4.0$)

$$F_s = \frac{f \Sigma N + \tau B}{\Sigma H} = \frac{1.000 \times 210,533.13 + 2,943 \times 150.00}{15,789.98} = 41.29 \text{ m} > 4 \quad \dots \text{OK}$$

iii) Reaction force from ground

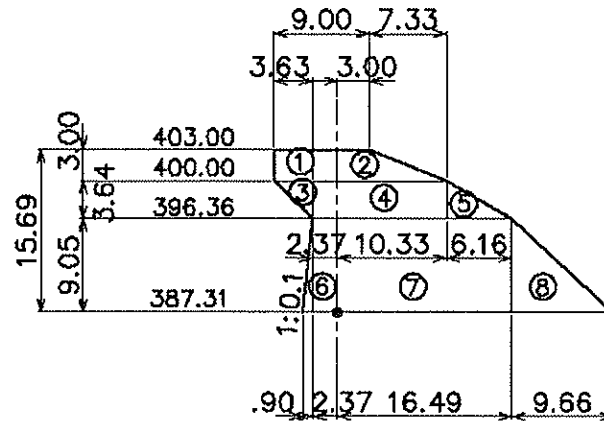
$$\begin{aligned} \therefore \sigma &= \frac{\Sigma N}{B} \times \left(1 \pm \frac{6e}{B} \right) \\ &= \frac{210,533.13}{150.00} \times \left(1 \pm \frac{6 \times 10.54}{150.00} \right) = 1,995.3 \text{ KN/m}^2, \quad 811.8 \text{ KN/m}^2 \\ &< 3,920 \text{ KN/m}^2 \quad \dots \text{OK} \end{aligned}$$

Stability Analysis of Spillway Part of Dam

(4) Outer Force

1) Dam self weight (Water level is at HWL, and Design flood)

(a) Spillway part (higher than EL387.31)



No	Equation	Vertical	Arm length		Moment	
		N(KN/m)	X(m)	Y(m)	M·X(KN·m/m)	M·Y(KN·m/m)
①	$9.00 \times 3.00 \times 22.6$	610.20	-1.50	14.19	-915.30	8,658.74
②	$7.33 \times 3.00 \times 1/2 \times 22.6$	248.49	5.44	13.69	1,351.77	3,401.79
③	$3.63 \times 3.64 \times 1/2 \times 22.6$	149.31	-3.58	11.48	-534.53	1,714.07
④	$12.70 \times 3.64 \times 22.6$	1,044.75	3.98	10.87	4,158.12	11,356.46
⑤	$6.16 \times 3.64 \times 1/2 \times 22.6$	253.37	12.38	10.26	3,136.76	2,599.61
⑥	$9.05 \times 0.9 \times 1/2 \times 22.6$	92.04	-2.67	3.02	-245.74	277.96
⑦	$18.86 \times 9.05 \times 22.6$	3,857.44	7.06	4.53	27,233.50	17,474.18
⑧	$9.66 \times 9.05 \times 1/2 \times 22.6$	987.88	19.71	3.02	19,471.11	2,983.40
Total		$\Sigma N = 7,243.48$			$\Sigma M.X = 53,655.69$	$\Sigma M.Y = 48,466.21$

Vertical Force 7,243.48 KN/m

Horizontal Force $7,243.48 \times 0.15 = 1086.52$ KN/m

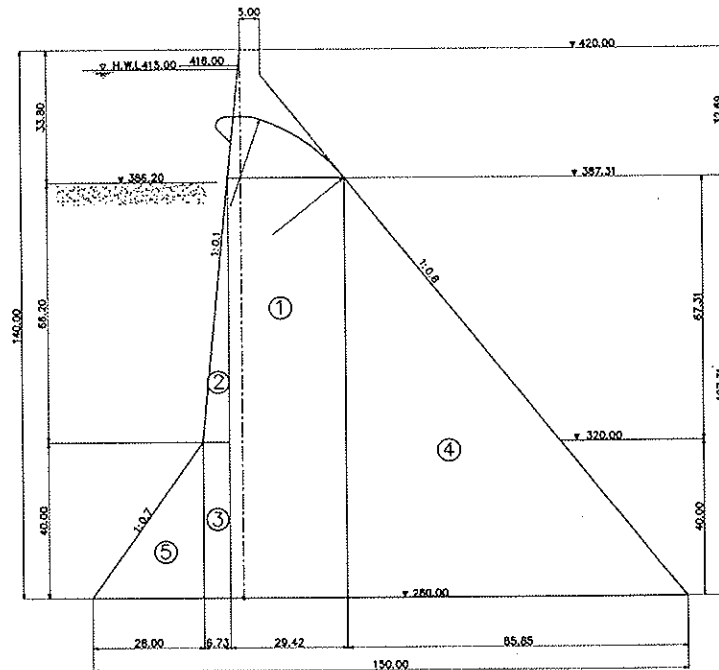
Resultant force acting point 45.41 m $Y = 114.00$ m

Center of gravity (based on EL280.00m)

$$X = \frac{\Sigma M.X}{\Sigma N} + 38.00 = \frac{53,655.69}{7,243.48} + 38.00 = 45.41 \text{ m}$$

$$Y = \frac{\Sigma M.Y}{\Sigma N} + 107.31 = \frac{48,466.21}{7,243.48} + 107.31 = 114.00 \text{ m}$$

(b) Spillway part (lower than EL387.31)



No	Equation	Vertical	Arm length		Moment	
		N(KN/m)	X(m)	Y(m)	M·X(KN·m/m)	M·Y(KN·m/m)
①	29.42×107.31×22.6	71,349.56	49.44	53.65	3,527,522.25	3,827,903.89
②	6.73×67.31×1/2×22.6	5,118.86	32.49	52.44	166,311.76	268,433.02
③	6.73×40.00×22.6	6,083.92	31.36	20.00	190,791.73	121,678.40
④	85.85×107.31×1/2×22.6	104,101.97	92.77	35.77	9,657,539.76	3,723,727.47
⑤	28.00×40.00×1/2×22.6	12,656.00	18.67	13.33	236,287.52	168,704.48
Total		ΣN= 199,310.31			ΣM.X= 13,778,453.02	ΣM.Y= 8,110,447.26

Vertical Force $N = 199,310.31 \text{ KN/m}$
 Horizontal Force $H = 199,310.31 \times 0.15 = 29,896.55 \text{ KN/m}$
 Resultant force acting point $X = 69.13 \text{ m} \quad Y = 40.69 \text{ m}$
 Center of gravity (based on EL280.00m)

$$X = \frac{\sum M.X}{\sum N} = \frac{13,778,453.02}{199,310.31} = 69.13 \text{ m}$$

$$Y = \frac{\sum M.Y}{\sum N} = \frac{8,110,447.26}{199,310.31} = 40.69 \text{ m}$$

2) Pear self weight

Pear weight is quoted in Pea stability analysis.

Pear Weight $N1 = 41,984.53 \text{ KN/m}$ (higher than EL403.00 m (Rolling device included))

$N2 = 11,300.00 \text{ KN/m}$ (lower than EL403.00m. $(25.0 \times 8.0 \times 1/2 \times 5.0 \times 22.6)$)

$\Sigma N = 53,284.53 \text{ KN/m}$

Center of gravity based on EL280.00m

$Xg = 5.713 + 38.00 = 43.71 \text{ m}$

$Yg = 7.843 + 123.00 = 130.84 \text{ m}$

Considering pear width 5.00m, pear interval 12.50m, weight per m is

$$\frac{53,284.53}{15.00} = 3,552.30 \text{ KN/m}$$

Earthquake horizontal force $He = 3,552.30 \times 0.15 = 532.8453 \text{ KN/m}$

3) Gate weight

Weight per unit $70.2 \text{ t} \times 9.81 = 688.66 \text{ KN/unit}$

Pear interval 12.50m

Center of gravity based on EL280.00m

$Xg = 2.5 + 38.00 = 40.50 \text{ m}$

$Yg = 6.25 + 123.00 = 129.25 \text{ m}$

weight per unit width of spillway part

$$\frac{688.66}{12.5} = 55.09 \text{ KN/m}$$

Earthquake horizontal force $He = 55.09 \times 0.15 = 8.26 \text{ KN/m}$

4) Static pressure

same as non-overflow part

(i) Earthquake at HWL

①U/S side

• Horizontal static pressure $Ph = 91,298.03 \text{ KN/m}$

Acting point $Y = 45.50 \text{ m}$

• Vertical static pressure $N = 36,530.60 \text{ KN/m}$

Acting point $X = 15.45 \text{ m}$

②D/S side

• Horizontal static pressure $Ph = 4,410.00 \text{ KN/m}$

Acting point $Y = 10.00 \text{ m}$

• Vertical static pressure $N = 3,528.00 \text{ KN/m}$

Acting point $X = 142.00 \text{ m}$

(ii) Design Flood

① U/S side

- Horizontal static pressure $P_h = 91,431.84 \text{ KN/m}$
Acting point $Y = 45.53 \text{ m}$
- Vertical static pressure $N = 31996.78 \text{ KN/m}$
Acting point $X = 15.77 \text{ m}$

② D/S side

- Horizontal static pressure $P_h = 7,958.04 \text{ KN/m}$
Acting point $Y = 13.43 \text{ m}$
- Vertical static pressure $N = 6,366.43 \text{ KN/m}$
Acting point $X = 139.25 \text{ m}$

5) Dynamic pressure (Earthquake at HWL)

same as non-overflow part

$$P_c = 15,628 \text{ KN/m}$$

$$\text{Acting point } Y = 35 \text{ m}$$

6) Sedimentation pressure

same as non-overflow part

- Horizontal sedimentation pressure

$$P_s = 24,813 \text{ KN/m}$$

$$\text{Acting point } Y = 35 \text{ m}$$

- Vertical sedimentation pressure

$$N = 23,168 \text{ KN/m}$$

$$\text{Acting point } X = 14 \text{ m}$$

7) Uplift

same as non-overflow part

(Earthquake at HWL)

Uplift

$$U = 69,825 \text{ KN/m}$$

$$\text{Acting Point } X = 66 \text{ m}$$

(Design Flood)

Uplift

$$U = 82,688 \text{ KN/m}$$

$$\text{Acting Point } X = 68 \text{ m}$$

(5) Stability analysis

1) Earthquake at HWL

Load item	Vertical	Horizontal	Arm length		Moment	
	N(KN/m)	H(KN/m)	X(m)	Y(m)	M·X(KN·m/m)	M·Y(KN·m/m)
Weight of dam (1)	7,243.48	1,086.52	45.41	114.00	328,907.79	123,864.55
Weight of dam	199,310.31	29,896.55	69.13	40.69	13,778,321.73	1,216,490.48
Weight of pier	3,552.30	532.85	43.71	130.84	155,281.78	69,719.08
Weight of gate	55.09	8.26	40.50	129.25	2,231.26	1,068.11
U/S static pressure	36,530.60	91,431.84	15.45	45.50	564,397.77	4,160,148.72
D/S static pressure	3,528.00	-4,410.00	142.00	10.00	500,976.00	-44,100.00
Dynamic pressure	-	15,627.94	-	35.40	-	553,229.08
Sedimentation Pressure	23,167.95	24,812.57	14.36	35.40	332,691.76	878,364.98
Uplift	-69,825.00	-	65.79	-	-4,593,786.75	
Total	$\Sigma N =$ 203,562.73	$\Sigma H =$ 158,986.53	-	-	$\Sigma M.X =$ 11,069,021.34	$\Sigma M.Y =$ 6,958,785.00

Resultant force acting point

$$X = \frac{\Sigma M_x + \Sigma M_y}{\Sigma N} = \frac{11,069,021.34 + 6,958,785.00}{203,562.73} = 88.56 \text{ m}$$

i) Turn-over ($e \leq B/6$)

Eccentric length

$$e = B/2 - X = 150.00 / 2 - 88.56 = -13.56 \text{ m} < B/6 = 25.00 \text{ m} \quad \dots \text{OK}$$

ii) Sliding ($F_s \geq 4.0$)

$$F_s = \frac{f \Sigma N + \tau B}{\Sigma H} = \frac{1.000 \times 203,562.73 + 2,943 \times 150.00}{158,986.53} = 4.06 \text{ m} > 4 \quad \dots \text{OK}$$

iii) Reaction force from foundation

$$\begin{aligned} \therefore \sigma &= \frac{\Sigma N}{B} \times \left(1 \pm \frac{6e}{B} \right) \\ &= \frac{203,562.73}{150.00} \times \left(1 \pm \frac{6 \times -13.56}{150.00} \right) = 621.0 \text{ KN/m}^2, 2,093.2 \text{ KN/m}^2 \\ &< 3,920 \text{ KN/m}^2 \quad \dots \text{OK} \end{aligned}$$

2) during Design Flood

Load item	Vertical	Horizontal	Arm length		Moment	
	N(KN/m)	H(KN/m)	X(m)	Y(m)	M·X(KN·m/m)	M·Y(KN·m/m)
Weight of dam (1)	7,243.48	0.00	45.41	114.00	328,907.79	0.00
Weight of dam	199,310.31	0.00	69.13	40.69	13,778,321.73	0.00
Weight of pier	41,984.53	0.00	43.71	0.00	1,835,269.76	0.00
Weight of gate	55.09	0.00	40.50	0.00	2,231.26	0.00
U/S static pressure	31,996.78	91,431.84	15.77	45.53	504,589.22	4,162,891.68
D/S static pressure	6,366.43	-7,958.04	139.25	13.43	886,525.38	-106,876.48
Dynamic pressure	-	0.00	-	0.00	-	0.00
Sedimentation Pressure	23,167.95	24,812.57	14.36	35.40	332,691.76	878,364.98
Uplift	-82,687.50	-	67.91	-	-5,615,308.13	
Total	ΣN= 227,437.07	ΣH= 108,286.37	-	-	ΣM.X= 12,053,228.77	ΣM.Y= 4,934,380.18

Resultant force acting point

$$X = \frac{\Sigma M_x + \Sigma M_y}{\Sigma N} = \frac{12,053,228.77 + 4,934,380.18}{227,437.07} = 74.69 \text{ m}$$

i) Turn-over ($e \leq B/6$)

Eccentric length

$$e = B/2 - X = 150.00 / 2 - 74.69 = 0.31 \text{ m} < B/6 = 25.00 \text{ m} \quad \dots \text{OK}$$

ii) Sliding ($F_s \geq 4.0$)

$$F_s = \frac{f \Sigma N + \tau B}{\Sigma H} = \frac{1.000 \times 227,437.07 + 2,943 \times 150.00}{108,286.37} = 6.18 \text{ m} > 4 \quad \dots \text{OK}$$

iii) Reaction force from ground

$$\begin{aligned} \therefore \sigma &= \frac{\Sigma N}{B} \times \left(1 \pm \frac{6e}{B} \right) \\ &= \frac{227,437.07}{150.00} \times \left(1 \pm \frac{6 \times 0.31}{150.00} \right) = 1,535.1 \text{ KN/m}^2, 1,497.5 \text{ KN/m}^2 \\ &< 3,920 \text{ KN/m}^2 \quad \dots \text{OK} \end{aligned}$$

3) Before impounding

Load item	Vertical	Horizontal	Arm length		Moment	
	N(KN/m)	H(KN/m)	X(m)	Y(m)	M·X(KN·m/m)	M·Y(KN·m/m)
Weight of dam (1)	7,243.48	-543.26	45.41	114.00	328,907.79	-61,932.27
Weight of dam	199,310.31	-14,948.27	69.13	40.69	13,778,321.73	-608,245.24
Weight of pier	3,552.30	-266.42	43.71	130.84	155,281.78	-34,859.54
Weight of gate	55.09	-4.13	40.50	129.25	2,231.26	-534.06
U/S static pressure	0.00	0.00	0.00	0.00	0.00	0.00
D/S static pressure	0.00	0.00	0.00	0.00	0.00	0.00
Dynamic pressure	-	0.00	-	0.00	-	0.00
Sedimentation Pressure	0.00	0.00	0.00	0.00	0.00	0.00
Uplift	0.00	-	0.00	-	0.00	
Total	$\Sigma N =$ 210,161.18	$\Sigma H =$ -15,762.09	-	-	$\Sigma M.X =$ 14,264,742.56	$\Sigma M.Y =$ -705,571.11

Resultant force acting point

$$X = \frac{\Sigma M_x + \Sigma M_y}{\Sigma N} = \frac{14,264,742.56 + -705,571.11}{210,161.18} = 64.52 \text{ m}$$

i) Turn-over ($e \leq B/6$)

Eccentric length

$$e = B/2 - X = 150.00 / 2 - 64.52 = 10.48 \text{ m} < B/6 = 25.00 \text{ m}$$

...OK

ii) Sliding ($F_s \geq 4.0$)

$$F_s = \frac{f \Sigma N + \tau B}{\Sigma H} = \frac{1.000 \times 210,161.18 + 2,943 \times 150.00}{15,722.85} = 41.44 \text{ m}$$

> 4 ...OK

iii) Reaction force from ground

$$\therefore \sigma = \frac{\Sigma N}{B} \times \left(1 \pm \frac{6e}{B} \right)$$

$$= \frac{210,161.18}{150.00} \times \left(1 \pm \frac{6 \times 10.48}{150.00} \right) = 1,988.4 \text{ KN/m}^2 \quad 813.7 \text{ KN/m}^2$$

< 3,920 KN/m²

...OK

Dissipitater Hydraulic Design

Dissipater Hydraulic Design

1 General

Gorge downstream from dam has river EL310m of river bed and 70m of river width, and is a little bit wider than dam axis. And river bends right embankment direction about 250m downstream from dam axis. Dissipater should be considered to be able to dissipate design discharge safely. Considering topographical and geological conditions, Chute type and Ski-jump type are nominated for candidates, and comparative study is to be made.

As guide wall is to be set at downstream part of spillway chute, which gradually narrowed down, dissipater should have capacity to spill design flood discharge of $7,377\text{m}^3/\text{s}$ \square $7,400\text{m}^3/\text{s}$.

2 Hydraulic Study

Hydraulic study is made for candidates of dissipater which are chute type and ski-jump type.

(1) Chute type dissipater

(a) length of dissipater and sill height

a) General

Dissipater is considered to be horizontal hydraulic jump type with sill, whose base is at EL310.00 and whose width is 70.00m.

b) Design Discharge

Design discharge is same as Design Flood Discharge of $7400\text{m}^3/\text{s}$.

c) Equations

Length of dissipater and sill height is as follows;

$$h_2/h_1 = \{(1 + 8 F_1^2)^{1/2} - 1\}/2$$

here, h_2 :conjugate depth(m)

h_1 :supercritical flow depth at the beginning of dissipater (m)

$$= Q/\{0.95B(2gH)^{1/2}\}$$

Q : Design Flood Discharge = $7,400\text{m}^3/\text{s}$

B : Width of dissipater = 70.00m

g : gravity acceleration = 9.8m/s^2

H : Difference of elevation between reservoir water level and dissipater base

$$= 416.00 - 310.00 = 106.00\text{m}$$

F_1 : Frude Number before hydraulic jump

$$= v_1/(g h_1)^{1/2}$$

v_1 : Velocity of dissipater entrance (m/s)

$$= Q/(h_1 B)$$

$$E_2 = q^2/(2g h_2^3) + h_2$$

Here, E_2 : Energy Height (m)

q : Discharge per unit length (m^3/s)

$$C = 1.320 + 0.969(E_j - D)/D$$

Here, D : Sill height (m)

C : Discharge Coefficient of Sill

$$L \geq 4.5h_j$$

Here, L : Dissipater Length(m)

Calculation result of dissipater length and sill height are as follos;

- supercritical flow depth at the beginning of dissipater (m)

$$h_1 = 7,400 / \{0.95 \times 70.00 \times (2 \times 9.8 \times 106.00)^{1/2}\} = 2.441 \text{ m}$$

- Velocity of dissipater entrance (m/s)

$$v_1 = 7,400 / (2.441 \times 70.00) = 43.308 \text{ m/s}$$

- Frude Number before hydraulic jump

$$F_1 = 43.308 / (9.8 \times 2.441)^{1/2} = 8.855$$

- conjugate depth(m)

$$h_j = 2.441 \times \{(1 + 8 \times 8.855^2)^{1/2} - 1\} / 2 = 29.372 \text{ m}$$

- Discharge per unit length (m³/s)

$$q = 7,400 / 70.00 = 105.714 \text{ m}^3/\text{s/m}$$

- Energy Height (m)

$$E_j = 105.714^2 / (2 \times 9.8 \times 29.372^2) + 29.372 = 30.033 \text{ m}$$

d) Sill height

$$\frac{D}{h_1} = \frac{1 + 2 \cdot F_1^2 \cdot \sqrt{1 + 8 \cdot F_1^2} - 1 - 5 \cdot F_1^2}{1 + 4 \cdot F_1^2 - \sqrt{1 + 8 \cdot F_1^2}} - \left(\frac{\sqrt{g \cdot F_1^2}}{c} \right)^{2/3}$$

$$c = 1.320 + 0.969 \times (30.033 - D) / D$$

By try and error analysis for above equation,

$$c = 2.136$$

$$D = 16.335$$

$$\approx \underline{16.30 \text{ m}}$$

e) Dissipater Length

$$L \geq 4.5 \times 29.372$$

$$\geq 132.174$$

$$\approx \underline{135.00 \text{ m}}$$

(b) Top elevation of guide wall

a) General

Top elevation of guide wall is determined by water level when design flood discharge of 7,400m³/s flows over sill.

b) Equation

Top elevation of guide wall is calculated by Gobinda Lao equations. Shape of sill and equations are as follows;

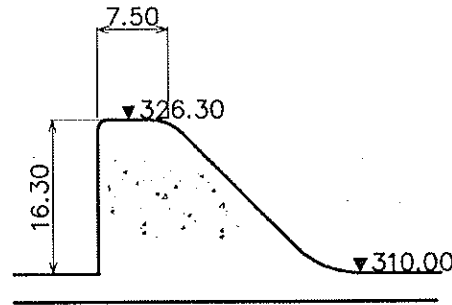


Fig-1. Shape of Sill

$$Q = C B h^{3/2}$$

$$C = 1.785 + 0.237(h/W) : (1.5 \sim 1.9) \leq h/L$$

$$h_s = v_s^2 / 2g$$

$$HR = W + h + h_s$$

Here, Q : Design Discharge = 380m³/s

C : Discharge coefficient of sill

B: Width of overflow= 15.000m

h : Depth of overflow (m)

W : Height of sill = 3.400m

h_s : Head by approaching velocity (m)

v_s : Approaching velocity (m/s)

$$= Q / \{ B (W + h) \}$$

HR : Height of Guide Wall(m)

Calculation results are as follows;

• Overflow depth

$$h = \{7,400 / (C \times 70.00)\}^{2/3}$$

$$C = 1.785 + 0.237 \times h / 16.30$$

If above equations are solved for "h",

$$h = 14.20 \text{ m}$$

• Head by approaching velocity (m)

$$v_a = 7,400 / \{70.00 \times (16.30 + 14.20)\} = 3.466 \text{ m}^3/\text{s}$$

$$h_a = 3.466^2 / (2 \times 9.8) = 0.613 \text{ m}$$

c) Guide wall height

$$HR = 16.30 + 14.20 + 0.613 = \underline{31.113 \text{ m}}$$

Therefore, top elevation of guide wall is

$$EL = 310.00 + 31.113 \square \underline{342.00 \text{ m}}$$

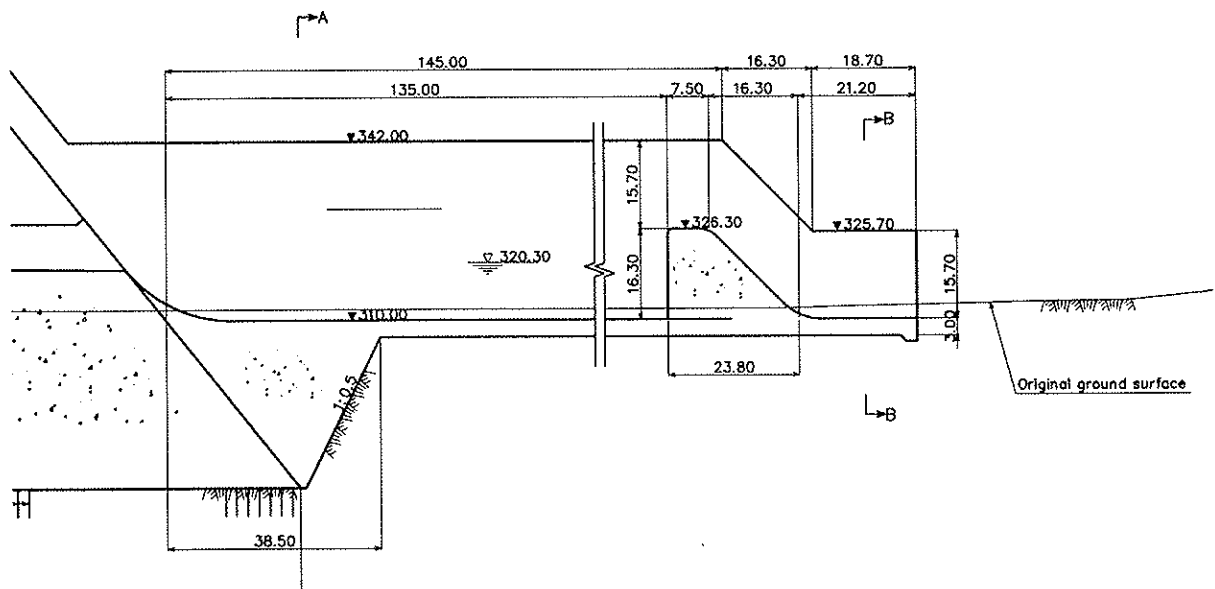


Fig-2 Shape of Chute type dissipater

(2) Ski-jump type dissipater

(a) Jump Length

a) General

Ski jump type dissipater is to dissipate discharge flow energy by having water discharge jump out into air and fall at far site from structure with hydraulic jump and diffusion. Basic shape is as follows;

Elevation of the end of chute: EL330.00 which is 10m higher than flood water level.

Elevation Level of River Bed: EL310.00

Angle of Flip: $\tan^{-1} (10.0/29.0) = 19.026^\circ$

Here, angle of flip is as shown in Fig-3.

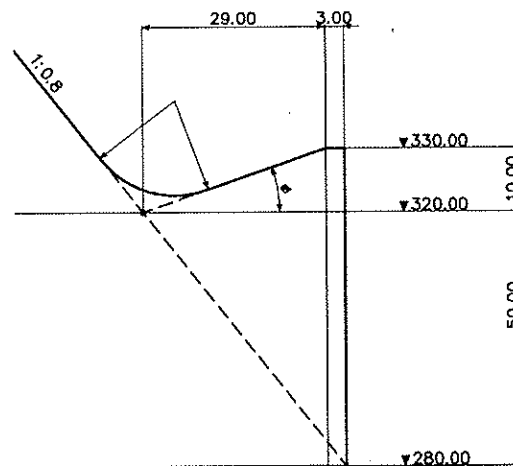


Fig-3. Flip Angle

b) Design Flood Discharge

Design flood discharge is $7400 \text{ m}^3/\text{s}$ which corresponds to Dam design discharge.

c) Equation

The distance between end of jump chute and the point where jet falls on the selected horizontal line is calculated by next equation.

$$\xi = \sin 2\phi + \sqrt{\sin^2 2\phi + 4 \cos^2 \phi \cdot \eta}$$

Here,

$$\xi = \frac{x}{H_1 - y_0}, \quad \eta = \frac{y}{H_1 - y}$$

x : Horizontal Distance from end of chute

y : Vertical Distance from end of chute

H_1 : Head at Chute end (Design Flood Level – river bed)

y_0 : Height from chute end and river bed

ϕ : Flip angle (Angle of jump starting)

c) Point where jet falls

Under this situation, symbols in equation are as follows;

$$y = y_0 = 330.00 - 310.00 = 20.00$$

$$H_1 = 416.00 - 310.00 = 106.00$$

$$\phi = \tan^{-1} \frac{10.0}{29.0} = 19.026^\circ \quad ; \quad 2\phi = 38.051^\circ$$

Therefore,

$$x = (\sin 38.051 + \sqrt{\sin^2 38.051 + 4 \cos^2 19.026 \cdot \frac{20}{86}}) \cdot 86 = 156.62 \approx 157m$$

But, as water level under flood becomes EL320, the distance where jet falls on water surface is calculated by putting the value of $y = 330 - 320 = 10$.

$$x = (\sin 38.051 + \sqrt{\sin^2 38.051 + 4 \cos^2 19.026 \cdot \frac{10}{86}}) \cdot 86 = 129.8 \approx 130m$$

Therefore, water jet falls on water surface at 130m from jump chute end. Actually, the distance can be shorten, because of air resistance.

(b) Basic Shape

Basic shape of ski-jump dissipitater is as shown in Fig-4.

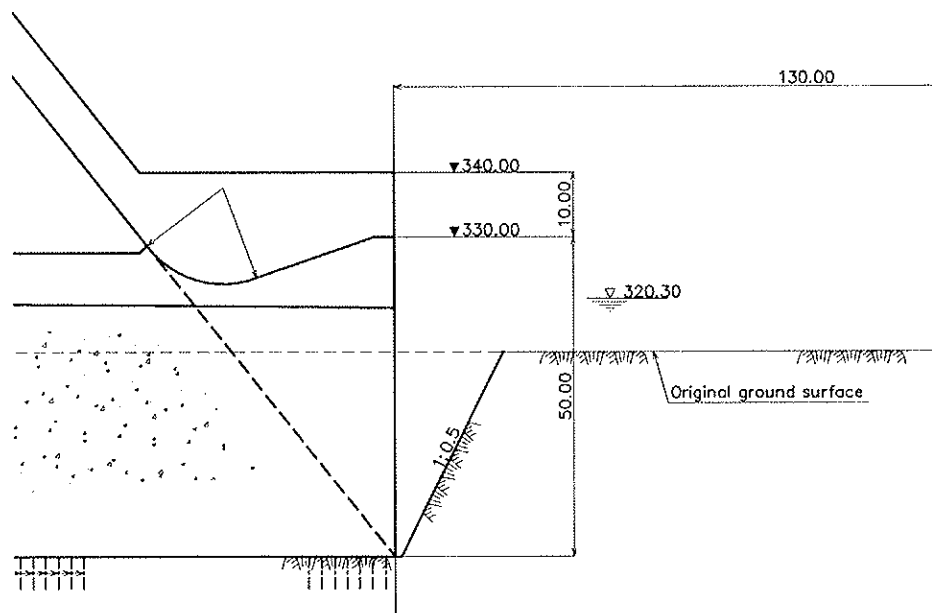


Fig-4. Basic shape of Ski-jump type dissipater

Stability Analysis of Spillway Pier

Stability Analysis of Spillway Gate Pier

(a) Studied Section

pier stability analysis is executed for next 2 sections.

Section I EL.411.50m

Section II EL.403.00m

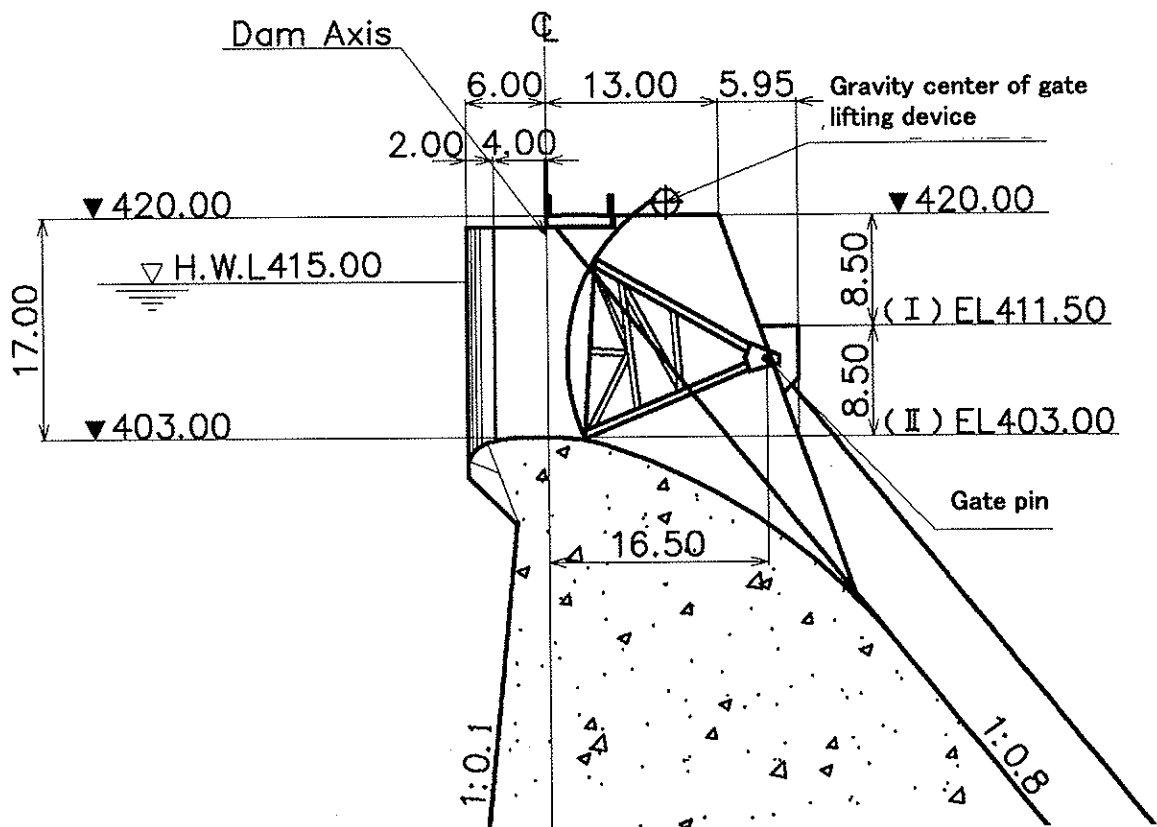


Fig-1. Pier Section

(b) Outer force Calculation

a) Self weight

a. Pier Self weight (W_1) and Earthquake force (F_1, F_2)

(Earthquake at HWL)

No.	VOL	W_1	F_1	X_g	Y_g	$W_1 \cdot X_g$	$F_1 \cdot Y_g$
	m^3	KN	KN	m	m	KN·m	KN·m
I	808.37	18,269.21	2,740.38	4.686	3.914	85,604.77	10,725.05
II	1,845.55	41,709.53	6,256.43	5.713	7.843	238,274.58	49,072.00

(Before impounding)

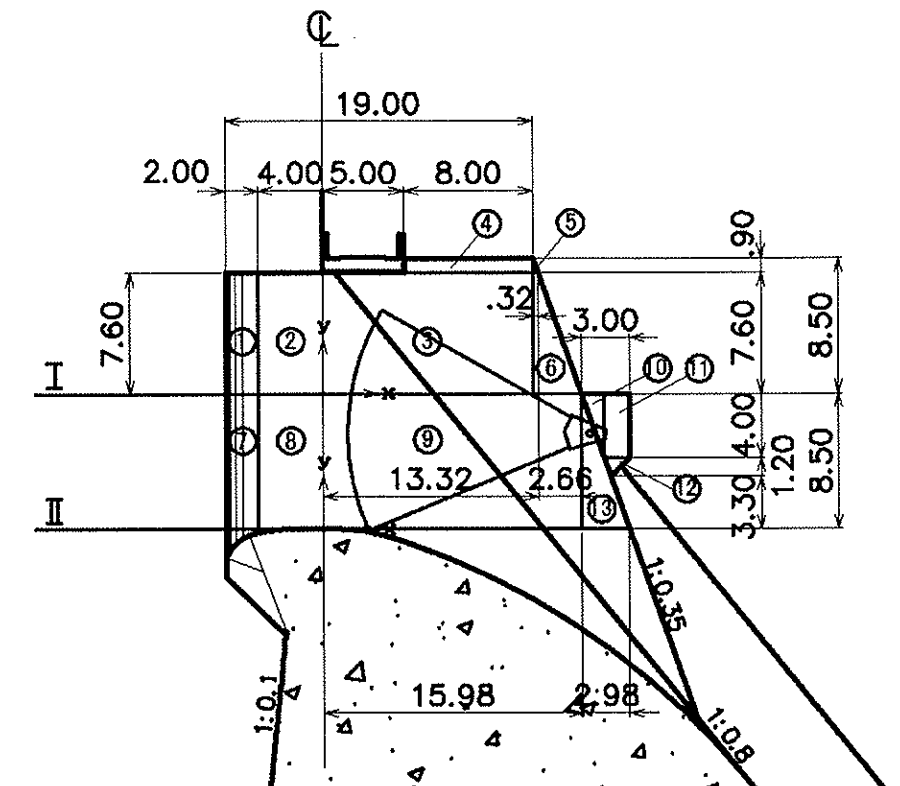
No.	VOL	W_1	F_2	X_g	Y_g	$W_1 \cdot X_g$	$F_1 \cdot Y_g$
	m^3	KN	KN	m	m	KN·m	KN·m
I	808.37	18,269.21	-1,176.18	4.686	3.914	85,604.77	-4,603.22
II	1,845.55	41,709.53	-2,886.43	5.713	7.843	238,274.58	-22,639.57

(Design Flood)

No.	VOL	W_1	X_g	$W_1 \cdot X_g$
	m^3	KN	m	KN·m
I	808.37	18,269.21	4.686	85,604.77
II	1,845.55	41,709.53	5.713	238,274.58

pier Volume and gravity center (Xg,Yg)

No	VOL Equation (m ³)		X(m)	Y(m)	VOL·X(m ⁴)	VOL·Y(m ³)
I	① $1/4 \times \pi \times 4.00^2 \times 1/2 \times 7.60$	47.75	-5.333	3.800	-254.66	181.46
	①' $2 \times 1.00 \times 7.60$	15.20	-5.000	3.800	-76.00	57.76
	② $4 \times 5.00 \times 7.60$	152.00	-2.000	3.800	-304.00	577.60
	③ $13.32 \times 5.00 \times 7.60$	506.16	6.660	3.800	3371.03	1923.41
	④ $8.00 \times 5.00 \times 0.90$	36.00	9.000	8.050	324.00	289.80
	⑤ $0.32 \times 0.90 \times 1/2 \times 5.00$	0.72	13.107	7.900	9.44	5.69
	⑥ $2.66 \times 7.60 \times 1/2 \times 5.00$	50.54	14.207	2.533	718.02	128.02
	Total	808.37			3,787.82	3,163.73
					Xg·Yg(m)	
					Xg= 4.686	
					Yg= 3.914	
II		808.37	4.686	12.414	3787.82	10034.90
	⑦ $1/4 \times \pi \times 4.00^2 \times 1/2 \times 8.50$	53.41	-5.333	4.250	-284.82	226.98
	⑦' $2 \times 1.00 \times 8.50$	17.00	-5.000	4.250	-85.00	72.25
	⑧ $4 \times 5.00 \times 8.50$	170.00	-2.000	4.250	-340.00	722.50
	⑨ $15.98 \times 5.00 \times 8.50$	679.15	7.990	4.250	5426.41	2886.39
	⑩ $1.40 \times 5.00 \times 1/2 \times 5.00$	17.50	16.913	7.167	295.98	125.42
	⑪ $1.60 \times 4.00 \times 5.00$	32.00	18.180	6.500	581.76	208.00
	⑫ $1.60 \times 1.20 \times 1/2 \times 5.00$	4.80	17.950	4.100	86.16	19.68
	⑬ $2.98 \times 8.50 \times 1/2 \times 5.00$	63.33	16.973	2.833	1074.82	179.40
	Total	1845.55			10,543.12	14,475.52
					Xg·Yg(m)	
					Xg= 5.713	
					Yg= 7.843	



b. Bridge self weight (W_2) and Earthquake force (F_3, F_4)

$$\begin{aligned} \text{Bridge Weight } W_2 &= 5.00 \times 12.50 \times 0.90 \times 23.50 \text{ KN/m}^3 \\ &= 1,321.88 \text{ KN} \\ &\approx 1,330 \text{ KN} \end{aligned}$$

(Earthquake at HWL)

No.	W_2 m^3	F_3 KN	X_g m	Y_g m	$W_2 \cdot X_g$ KN·m	$F_3 \cdot Y_g$ KN·m
I	1,330	199.50	2.500	8.050	3,325.00	1,605.98
II	1,330	199.50	2.500	16.550	3,325.00	3,301.73

(Before impounding)

No.	W_2 m^3	F_4 KN	X_g m	Y_g m	$W_2 \cdot X_g$ KN·m	$F_4 \cdot Y_g$ KN·m
I	1,330.00	-99.75	2.500	8.050	3,325.00	-802.99
II	1,330.00	-99.75	2.500	16.550	3,325.00	-1,650.86

(Design Flood)

No.	W_2 KN	X_g m	$W_1 \cdot X_g$ KN·m
I	1,330.00	2.500	3,325.00
II	1,330.00	2.500	3,325.00

c. Gate lifter weight (W_3) and Earthquake force (F_5, F_6)

$$\begin{aligned} \text{Gate lifter } (W_3) &= (62.1 + 8.1) \times 40\% = 28.08 \text{ tf} \\ &= 28.08 \times 9.80 = 275.18 \text{ KN} \approx 275 \text{ KN} \end{aligned}$$

(Earthquake at HWL)

No.	W_3	F_5	X_g	Y_g	$W_3 \cdot X_g$	$F_5 \cdot Y_g$
	KN	KN	m	m	KN·m	KN·m
I	275.00	41.25	10.000	8.500	2,750.00	350.63
II	275.00	41.25	10.000	17.000	2,750.00	701.25

(Before impounding)

No.	W_3	F_3	X_g	Y_g	$W_3 \cdot X_g$	$F_3 \cdot Y_g$
	m^3	KN	m	m	KN·m	KN·m
I	275.00	-20.63	10.000	8.500	2,750.00	-175.31
II	275.00	-20.63	10.000	17.000	2,750.00	-350.63

(Design Flood)

No.	W_3	X_g	$W_1 \cdot X_g$
	KN	m	KN·m
I	275.00	10.000	2,750.00
II	275.00	10.000	2,750.00

b) Static pressure

a. Earthquake at HWL (Ph_1 , EL 415.00 + 0.6 + 0.87 = 416.47)

Wind Wave Earthquake Wave

pier (B= 5.00 m)

No.	EL.	h	Ph_1	Y_h	$Ph_1 \cdot Y_h$
	m	m	KN	m	KN·m
I	411.50	4.970	605.79	1.657	1,003.59
II	403.00	13.470	4,449.84	4.490	19,979.77

gate (B= 12.50 m)

No.	EL.	h	Ph_2	Y_h	$Ph_2 \cdot Y_h$
	m	m	KN	m	KN·m
I	411.50	-	-	-	-
II	403.00	13.470	11,124.60	6.000	66,747.57

b. Design Flood (Ph_3) (EL 416.00 + 0.6 = 416.60)

Gate is open and no static pressure.

Pier (B= 5.00 m)

No.	EL.	h	Ph_3	Y_h	$Ph_3 \cdot Y_h$
	m	m	KN	m	KN·m
I	411.50	5.100	637.90	1.700	1,084.42
II	403.00	13.600	4,536.14	4.533	20,563.85

c) Dynamic pressure (EL 415.00)

(Earthquake at HWL) Pier (B= 5.00 m)

No.	EL.	h	Pe ₁	Yd	Pe ₁ •Yd
	m	m	KN	m	KN•m
I	411.50	3.500	326.52	1.400	457.13
II	403.00	12.000	2,072.94	4.800	9,950.09

(Earthquake at HWL) Pier (B= 12.50 m)

No.	EL.	h	Pe ₂	Yd	Pe ₂ •Yd
	m	m	KN	m	KN•m
I	411.50	-	-	-	-
II	403.00	12.000	5,182.34	6.000	31,094.03

d) Uplift (U₁, U₂)

(Earthquake at HWL) (EL 415.00 + 0.6 + 0.87 = 416.47)

B I = 5.000 m EL= 411.500 m h= 4.970 m

B II = 5.000 m EL= 403.000 m h= 13.470 m

No.	Pd ₁	Pu ₁	L	U ₁	Xu	U ₁ •Xu
	tf/m ²	KN/m ²	m	KN	m	KN•m
I	0.000	16.25	21.980	-893.04	1.327	-1,184.77
II	0.000	44.05	24.960	-2,748.53	2.320	-6,376.58

(Design Flood) (EL 415.00 + 0.6 = 415.60)

B I = 5.000 m EL= 411.500 m h= 4.100 m

B II = 5.000 m EL= 403.000 m h= 12.600 m

No.	Pd ₂	Pu ₂	L	U ₂	Xu	U ₂ •Xu
	KN/m ²	KN/m ²	m	KN	m	KN•m
I	0.000	13.41	21.980	-806.02	1.327	-1,069.32
II	0.000	41.20	24.960	-2,645.62	2.320	-6,137.84

(c) Composition of Outer Force

a) Earthquake at HWL

No.	Outer Force	Vertical Force V	Horizontal Force H	Moment M
I	W ₁	18,269.21	-	85,604.77
	F ₁	-	2,740.38	10,725.05
	W ₂	1,330.00	-	3,325.00
	F ₃	-	199.50	1,605.98
	W ₃	275.00	-	2,750.00
	F ₅	-	41.25	350.63
	Ph ₁	-	605.79	1,003.59
	Pe ₁	-	326.52	457.13
	U ₁	-893.04	-	-1,184.77
	Total	18,981.17	3,913.45	104,637.39
II	W ₁	41,709.53	-	238,274.58
	F ₁	-	6,256.43	49,072.00
	W ₂	1,330.00	-	3,325.00
	F ₃	-	199.50	3,301.73
	W ₃	275.00	-	2,750.00
	F ₅	-	41.25	701.25
	Ph ₁	-	4,449.84	19,979.77
	Ph ₂	-	11,124.60	66,747.57
	Pe ₁	-	2,072.94	9,950.09
	Pe ₂	-	5,182.34	31,094.03
	U ₁	-2,748.53	-	-6,376.58
	Total	40,566.00	29,326.89	418,819.45

b) Before impounding

No.	Outer Force	Vertical Force V	Horizontal Force H	Moment M
I	W ₁	18,269.21	-	85,604.77
	F ₂	-	-1,176.18	-4,603.22
	W ₂	1,330.00	-	3,325.00
	F ₄	-	-99.75	-802.99
	W ₃	275.00	-	2,750.00
	F ₆	-	-20.63	-175.31
	Total	19,874.21	-1,296.56	86,098.25
II	W ₁	41,709.53	-	238,274.58
	F ₂	-	-2,886.43	-22,639.57
	W ₂	1,330.00	-	3,325.00
	F ₄	-	-99.75	-1,650.86
	W ₃	275.00	-	2,750.00
	F ₆	-	-20.63	-350.63
	Total	43,314.53	-3,006.81	219,708.52

c) Design Flood

No.	Outer Force	Vertical Force V	Horizontal Force H	Moment M
I	W_1	18,269.21	–	85,604.77
	W_2	1,330.00	–	3,325.00
	W_3	275.00	–	2,750.00
	Ph_3	–	637.90	1,084.42
	U_2	–806.02	–	–1,069.32
	Total	19,068.19	637.90	91,694.87
II	W_1	41,709.53	–	238,274.58
	W_2	1,330.00	–	3,325.00
	W_3	275.00	–	2,750.00
	Ph_3	–	4,536.14	20,563.85
	U_2	–2,645.62	–	–6,137.84
	Total	40,668.91	4,536.14	258,775.59

(d) Stability Analysis

a) F_s for Sliding

(Earthquake at HWL)

No.	f	ΣV	τ	A	$\Sigma fV + \tau A$	ΣH	n
		KN	KN/m ²	m ²	KN	KN	
I	1.0	18,981.17	2,940	109.90	342087.17	3913.45	87.4
II	1.0	40,566.00	2,940	124.80	407478.00	29326.89	13.9

(Earthquake before impounding)

No.	f	ΣV	τ	A	$\Sigma fV + \tau A$	ΣH	n
		KN	KN/m ²	m ²	KN	KN	
I	1.0	19,874.21	2,940	109.90	342,980.21	1,296.56	264.5
II	1.0	43,314.53	2,940	124.80	410,226.53	3,006.81	136.4

(design Flood)

No.	f	ΣV	τ	A	$\Sigma fV + \tau A$	ΣH	n
		KN	KN/m ²	m ²	KN	KN	
I	0.8	19,068.19	1,962	109.90	230,878.35	637.90	361.9
II	0.8	40,668.91	1,962	124.80	277,392.73	4,536.14	61.2

b) Composed force acting point

(Earthquake at HWL)

No.	ΣV	ΣM	$\Sigma M / \Sigma V$	L	e	L/6
	KN	KN·m	m	m	m	m
I	18,981.17	104,637.39	5.513	21.980	0.523	3.663
II	40,566.00	418,819.45	10.324	24.960	3.844	4.160

(Earthquake before impounding)

No.	ΣV	ΣM	$\Sigma M / \Sigma V$	L	e	L/6
	KN	KN·m	m	m	m	m
I	19,874.21	86,098.25	4.332	21.980	-0.658	3.663
II	43,314.53	219,708.52	5.072	24.960	-1.408	4.160

(design Flood)

No.	ΣV	ΣM	$\Sigma M / \Sigma V$	L	e	L/6
	KN	KN·m	m	m	m	m
I	19,068.19	91,694.87	4.809	21.980	-0.181	3.663
II	40,668.91	258,775.59	6.363	24.960	-0.117	4.160

c) Vertical stress at the end of upstream and downstream

(Earthquake at HWL)

No.	ΣV	A	e	$\Sigma V / A$	$1+6e/L$	$1-6e/L$	P_1	P_2
	KN	m	m	m	m	m	KN/m ²	KN/m ²
I	18,981.17	109.90	0.523	172.713	1.143	0.857	197.36	148.07
II	40,566.00	124.80	3.844	325.048	1.924	0.076	625.44	24.66

(Earthquake before impounding)

No.	ΣV	A	e	$\Sigma V / A$	$1+6e/L$	$1-6e/L$	P_1	P_2
	KN	m	m	m	m	m	KN/m ²	KN/m ²
I	19,874.21	109.90	-0.658	180.839	0.820	1.180	148.36	213.31
II	43,314.53	124.80	-1.408	347.072	0.662	1.338	229.63	464.51

(design Flood)

No.	ΣV	A	e	$\Sigma V / A$	$1+6e/L$	$1-6e/L$	P_1	P_2
	KN	m	m	m	m	m	KN/m ²	KN/m ²
I	19,068.19	109.90	-0.181	173.505	0.951	1.049	164.92	182.09
II	40,668.91	124.80	-0.117	325.873	0.972	1.028	316.71	335.04

- e) Stability Check
 - a. Earthquake at HWL
 - b. Earthquake before impounding
 - c. Design Flood

As shearing safety factor is more than 4, it is safe against sliding for any case of a, b, and c.

As composed force acts within middle third, it is safe against turning over for any case of a, b, and c.

As maximum and minimum value of vertical stress are both between 0.00KN/m^2 and 3920KN/m^2 , it is safe for reaction force at both upstream and downstream ends for any case of a, b, and c.

Comparison with Powerhouse Types

Comparison with Powerhouse Types

The powerhouse of Option IIIB was planned as an underground type powerhouse, because a surface type powerhouse was considered to cause much excavation for large-scale slopes and to change environment in larger areas. While, JICA Study Team was requested by NEA to conduct the economic comparison between a surface type and an underground type powerhouse. The result of economic comparison explains as follows.

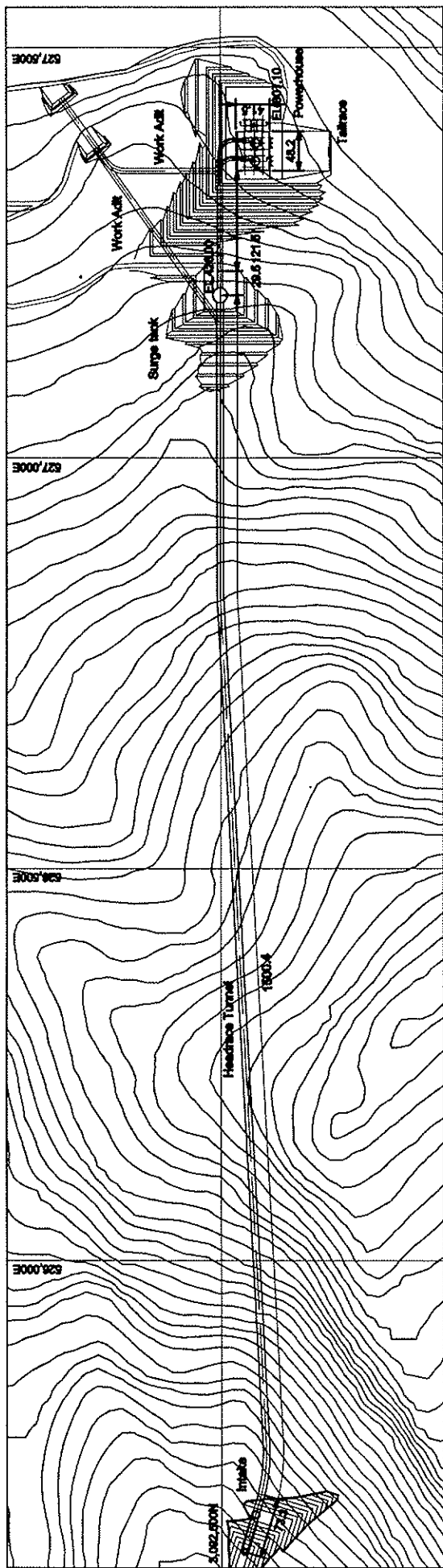
To compare the underground powerhouse selected in the Chapter 10 with a surface type one, an alternative for a surface type powerhouse shown in Fig. A11-1 was prepared. FSL is EL. 415 m in both, and features of powerhouses of both are shown in Table A11-1.

Table A11-1 Comparison of Powerhouse Types

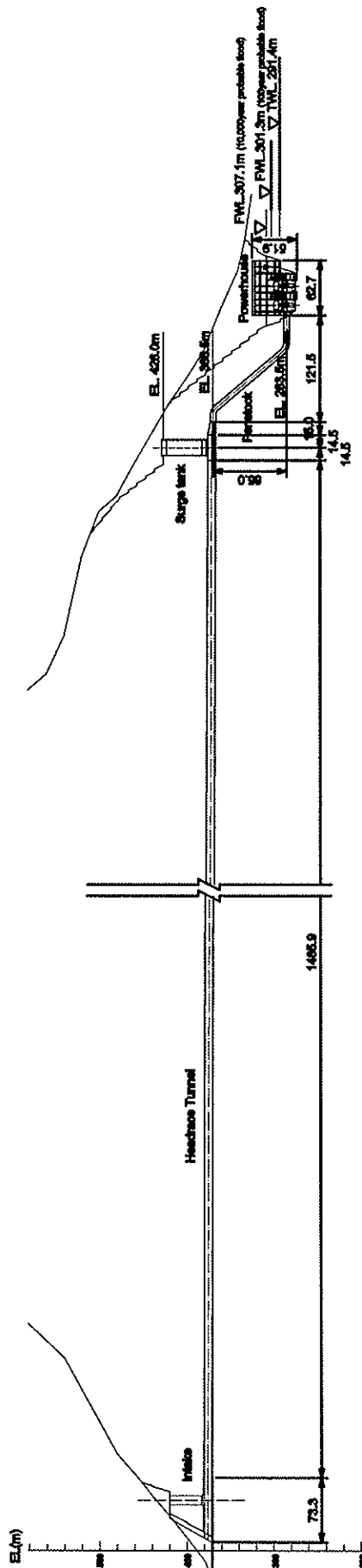
Item	Unit	Underground Type	Surface Type	Remarks
Maximum Discharge	m ³ /s	127.4	127.4	
Intake Water Level	m	405.0	405.0	
Tailrace Water Level	m	289.2	291.4	
Effective Head	m	112.5	110.3	
Installed Capacity	MW	127	125	
Firm Capacity	MW	94.2	90.8	
Primary Energy	GWh	256.58	251.86	without Flushing
Annual Energy	GWh	604.27	600.53	without Flushing
Project Cost	1,000 US\$	420,986	415,694	
Annual Bebenefit	1,000 US\$	74,520	72,647	
Annual Cost	1,000 US\$	46,308	45,726	
B/C		1.61	1.59	

For the two alternatives, annual generating energy and the project cost including, compensation cost, administration and engineering cost, interest during construction, etc were calculated. The construction cost of the surface type powerhouse was a little inexpensive, but its annual generating energy was smaller than that of the underground type powerhouse.

The benefit cost ratio was calculated to use benefit which described value of kW and kWh in Table 10.2.3-3 of Chapter 10. It was concluded that the underground type powerhouse was more economical than the surface type powerhouse.



Plan
SCALE A



Profile
SCALE A



Upgrading Feasibility Study on
Upper Seti (Damanthi)
Hydroelectric Project, NEPAL

GENERAL PLAN & PROFILE OF

Surface Powerhouse Option

Fig. A11-1 Date: February, 2007

Countermeasure of corona interference

Countermeasure of corona interference

Adopting small size conductor becomes difficult if the transmission voltage is high. Because the surface potential gradient becomes high, and corona discharge is generated. The corona discharge causes corona loss and corona noise. In consequence of this phenomenon, there is a possibility of causing radio disturbance.

At standard temperature and air pressure (20degC, 760mmHg), the potential gradient where the air electrical breakdown is produced is about 21kV/cm (effective value of sine wave alternating current). It is called corona starting potential gradient. Conductor should be selected to be not more than corona starting potential gradient. In Japan, it is thought that the trouble by the corona noise and corona loss is not produced if the surface potential gradient is approximately 15kV/cm or less.

Generally, large-gauge conductor or multi-bundled conductor is adopted in order to decrease the surface potential gradient of conductor.

In the case of voltage 220kV, Bison single conductor, the surface potential gradient of conductor is calculated as follows. There are some construction records which are 15 kV/ cm more of surface gradient. In the case of passing mountainous lands, there are construction records which are more than 15kV/cm of surface gradient in Japan.

(Calculation Conditions)

- Nominal Voltage 220kV (Maximum Voltage 245kV)
- Normal size of 220kV Tower arrangement

(Calculation Result)

- 16.6 kV/cm

Output list of Energy Calculation for F/S design
With Every-year Flushing Operation

Input

Dam			Remarks
High Water Level	H.W.L.	415	m
Intake Water Level	I.W.L.	405	m
Low Water Level	L.W.L.	391	m
Tail Water Level	T.W.L.	289.2	m

Turbine, Generator			Remarks
Max. Discharge	Qmax	127.4	m ³ /s
Min. Discharge	Qmin	15	%
Installed Capacity	Pmax	127	MW
Peak Hours	Tpeak	6	h
			Qmin/Qmax Installed Capacity at Intake Water Level

Others			Remarks
Firm Discharge	Qfirm	31.85	m ³ /s
Total Loss	Loss (a * x ²)	3.3	m
Number of Divisions		20	Coefficient of Loss = Loss / (Qmax) ² Number of Divided Storage Capacity

Efficiency (Turbine, Generator)

[illegible]

Height - Area - Volume

[illegible]

Calclated Rule

	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	MOV.	DEC.
Rule	0	0	0	0	20	20	20	0	0	0	0	0
Water Level	415.00	415.00	415.00	415.00	387.23	387.23	387.23	415.00	415.00	415.00	415.00	415.00
Storage	200.00	200.00	200.00	200.00	69.97	69.97	69.97	200.00	200.00	200.00	200.00	200.00

Inflow (MCM)

	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	SUM	AVE
1964	78.74	70.16	74.19	76.46	178.11	195.96	353.28	1227.24	805.33	294.62	206.32	137.67	3698.08	308.17
1965	84.64	65.56	73.12	78.54	90.8	385.17	779.41	980.56	487.04	161.24	115.34	77.41	3378.83	281.57
1966	59.46	47.9	49.82	44.06	53.03	158.37	605.32	688.88	407.98	170.35	93.83	61.87	2440.87	203.41
1967	48.75	44.27	47.41	52.88	59.19	143.6	613.09	564.61	475.37	200.34	106.53	84.1	2440.14	203.35
1968	60.26	45.35	59.73	59.1	87.05	361.58	893.78	762	570.76	385.96	102.9	57.05	3445.52	287.13
1969	42.59	29.51	34.28	32.66	38.03	82.94	336.41	837.54	678.07	206.5	98.24	63.48	2480.25	206.69
1970	47.68	36.05	37.23	57.54	88.12	230.17	1013.77	1097.34	517.62	277.75	141	83.03	3627.3	302.28
1971	57.05	39.43	43.66	69.21	99.64	480.3	773.52	798.7	545.36	383.81	169.26	100.71	3560.65	296.72
1972	62.41	44.85	45.53	46.92	135.26	270.09	865.93	964.49	645.93	284.18	127.01	83.3	3575.9	297.99
1973	60.8	36.77	41.78	60.65	98.57	450.75	647.1	1035.2	681.44	688.35	186.62	98.3	4086.33	340.53
1974	92.14	75.72	80.89	99.53	98.03	231.47	913.33	1096	653.18	346.32	107.31	84.91	3878.83	323.24
1975	81.96	71.85	74.46	52.88	57.85	213.84	1137.25	873.43	785.64	366.14	134.01	75	3924.31	327.03
1976	53.3	51.87	46.6	58.32	103.12	486.78	1011.9	910.39	553.65	230.34	106.79	84.1	3697.16	308.1
1977	54.37	43.55	49.01	72.06	177.58	233.28	766.02	1089.04	637.63	293.02	187.66	109.55	3654.38	304.53
1978	80.08	65.8	66.42	69.98	119.19	213.32	837.27	1190.82	552.61	277.48	160.44	121.33	3929.9	327.49
1979	94.55	75.72	73.39	91.5	132.58	213.32	837.27	1190.82	614.04	280.7	142.82	86.24	3832.95	319.41
1980	61.07	52.12	61.34	62.73	92.94	273.46	1132.16	1189.48	806.89	214.54	107.31	63.75	4117.79	343.15
1981	42.85	30.24	36.16	68.17	103.39	242.35	1098.95	1013.77	622.86	255.79	123.9	93.48	3731.91	310.99
1982	83.3	69.67	90.8	99.53	125.35	248.31	688.35	899.14	532.14	224.99	137.38	115.71	3314.67	276.22
1983	100.17	82.74	88.12	83.2	119.99	235.87	557.11	718.08	711.24	377.12	135.56	99.9	3309.1	275.76
1984	68.57	47.86	51.69	55.99	161.78	387.76	1185.46	762.81	624.67	250.97	145.67	104.19	3847.42	320.62
1985	92.4	75.24	81.96	95.13	157.22	291.6	886.55	522.56	519.7	331.59	140.23	89.99	3284.17	273.68
1986	59.73	42.09	50.89	67.65	68.3	298.6	691.83	689.42	720.06	389.71	147.23	75.8	3301.31	275.11
1987	56.51	43.55	50.89	54.95	76.87	180.66	743.26	742.18	469.67	227.13	134.27	98.57	2878.51	239.88
1988	74.46	61.39	65.89	68.43	102.58	283.31	702.01	852	613.01	288.38	130.9	96.96	3319.32	276.61
1989	84.37	61.45	68.03	72.84	152.67	373.77	667.46	825.75	616.38	298.64	133.23	91.07	3445.66	287.14
1990	68.83	54.19	63.21	86.83	141.42	390.1	721.83	629.42	496.89	268.64	109.12	66.69	3097.17	258.1
1991	47.14	36.77	38.57	46.4	83.03	291.6	746.2	851.73	642.04	307.48	139.45	98.03	3328.44	277.37
1992	76.87	63.64	64.55	58.84	89.19	206.32	499.52	769.5	505.44	327.84	124.16	75.26	2861.13	238.43
1993	55.71	44.03	73.39	31.88	73.92	247.28	578.53	854.14	552.36	321.41	141	82.76	3015.43	251.29
1994	72.05	60.72	73.39	71.8	92.67	262.05	486.93	620.32	363.92	94.55	39.66	28.12	2266.18	188.85
1995	21.7	18.14	23.84	24.62	69.37	667.07	837	513.18	449.71	341.5	216.43	134.72	3307.28	275.61
1996	74.19	48.61	76.33	74.13	94.28	173.15	601.57	850.12	647.48	281.77	112.49	77.94	3112.06	259.34
1997	66.16	52.25	69.64	78.28	96.42	187.92	608.26	687.01	360.81	159.1	84.5	82.23	2532.58	211.05
1998	58.39	46.21	60.26	69.21	124.01	381.02	765.22	1205.55	531.1	165.53	86.05	63.21	3555.76	296.31
1999	50.62	38.95	39.1	42.51	86.78	235.09	702.81	632.91	445.56	174.1	53.65	34.55	2536.63	211.39
SUM	2373.87	1874.22	2084.59	2335.41	3728.33	10399.11	27462.43	30875.25	20843.58	10127.88	4628.27	3080.98	119813.9	
AVE	65.94	52.06	57.91	64.87	103.56	288.86	762.85	857.65	578.99	281.33	128.56	85.58	3328.16	

Inflow (m3/s)	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	SUM	AVE
1964	29.4	28	27.7	29.5	66.5	75.6	131.9	458.2	310.7	110	79.6	51.4	1398.5	116.54
1965	31.6	27.1	27.3	30.3	33.9	148.6	291	366.1	187.9	60.2	44.5	28.9	1277.4	106.45
1966	22.2	19.8	18.6	17	19.8	61.1	226	257.2	157.4	63.6	36.2	23.1	922	76.83
1967	18.2	18.3	17.7	20.4	22.1	55.4	228.9	210.8	183.4	74.8	41.1	31.4	922.5	76.88
1968	22.5	18.1	22.3	22.8	32.5	139.5	333.7	284.5	220.2	144.1	39.7	21.3	1301.2	108.43
1969	15.9	12.2	12.8	12.6	14.2	32	125.6	312.7	261.6	77.1	37.9	23.7	938.3	78.19
1970	17.8	14.9	13.9	22.2	32.9	88.8	378.5	409.7	199.7	103.7	54.4	31	1367.5	113.96
1971	21.3	16.3	16.3	26.7	37.2	185.3	288.8	298.2	210.4	143.3	65.3	37.6	1346.7	112.23
1972	23.3	17.9	17	18.1	50.5	104.2	323.3	360.1	249.2	106.1	49	31.1	1349.8	112.48
1973	22.7	15.2	15.6	23.4	36.8	173.9	241.6	386.5	262.9	257	72	36.7	1544.3	128.69
1974	34.4	31.3	30.2	38.4	36.6	89.3	341	409.2	252	129.3	41.4	31.7	1464.8	122.07
1975	30.6	29.7	27.8	20.4	21.6	82.5	424.6	326.1	303.1	136.7	51.7	28	1482.8	123.57
1976	19.9	20.7	17.4	22.5	38.5	187.8	377.8	339.9	213.6	86	41.2	31.4	1396.7	116.39
1977	20.3	18	18.3	27.8	44.5	90	286	406.6	246	109.4	72.4	40.9	1380.2	115.02
1978	29.9	27.2	24.8	27	66.3	159.8	378.6	347.2	213.2	103.6	61.9	45.3	1484.8	123.73
1979	35.3	31.3	27.4	35.3	49.5	82.3	312.6	444.6	236.9	104.8	55.1	32.2	1447.3	120.61
1980	22.8	20.8	22.9	24.2	34.7	105.5	422.7	444.1	311.3	80.1	41.4	23.8	1554.3	129.53
1981	16	12.5	13.5	26.3	38.6	93.5	410.3	378.5	240.3	95.5	47.8	34.9	1407.7	117.31
1982	31.1	28.8	33.9	38.4	46.8	95.8	257	335.7	205.3	84	53	43.2	1253	104.42
1983	37.4	34.2	32.9	32.1	44.8	91	208	268.1	274.4	140.8	52.3	37.3	1253.3	104.44
1984	25.6	19.1	19.3	21.6	60.4	149.6	442.6	234.8	241	93.7	56.2	38.9	1452.8	121.07
1985	34.5	31.1	30.6	36.7	58.7	112.5	331	195.1	200.5	123.8	54.1	33.6	1242.2	103.52
1986	22.3	17.4	19	26.1	25.5	115.2	258.3	257.4	277.8	145.5	56.8	28.3	1249.6	104.13
1987	21.1	18	19	21.2	28.7	69.7	277.5	277.1	181.2	84.8	51.8	36.8	1086.9	90.58
1988	27.8	24.5	24.6	26.4	38.3	109.3	262.1	318.1	236.5	100.2	50.5	36.2	1254.5	104.54
1989	31.5	25.4	25.4	28.1	57	144.2	249.2	308.3	237.8	111.5	51.4	34	1303.8	108.65
1990	25.7	22.4	23.6	33.5	52.8	150.5	269.5	235	191.7	100.3	42.1	24.9	1172	97.67
1991	17.6	15.2	14.4	17.9	31	112.5	278.6	318	247.7	114.8	53.8	36.6	1258.1	104.84
1992	28.7	25.4	24.1	22.7	33.3	79.6	186.5	287.3	195	122.4	47.9	28.1	1081	90.08
1993	20.8	18.2	12.1	12.3	27.6	95.4	216	318.9	213.1	120	54.4	30.9	1139.7	94.98
1994	26.9	25.1	27.4	27.7	34.6	101.1	181.8	231.6	140.4	35.3	15.3	10.5	857.7	71.48
1995	8.1	7.5	8.9	9.5	25.9	253.5	312.5	191.6	173.5	127.5	83.5	50.3	1252.3	104.36
1996	27.7	19.4	28.5	28.6	35.2	66.8	224.6	317.4	249.8	105.2	43.4	29.1	1175.7	97.98
1997	24.7	21.6	26	30.2	36	72.5	227.1	256.5	139.2	59.4	32.6	30.7	956.5	79.71
1998	21.8	19.1	22.5	26.7	46.3	147	285.7	450.1	204.9	61.8	33.2	23.6	1342.7	111.89
1999	18.9	16.1	14.6	16.4	32.4	90.7	262.4	236.3	171.9	65	20.7	12.9	958.3	79.86
SUM	886.3	767.8	778.3	901	1392	4012	10253.3	11527.5	8041.5	3781.3	1785.6	1150.3	45276.9	
AVE	24.62	21.33	21.62	25.03	38.67	111.44	284.81	320.21	223.38	105.04	49.6	31.95	1257.69	

Power (MW)	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	SUM	AVE	
1964	117.86	114.97	111.01	107.48	102.83		0	0	125.32	127	127	127	127	1187.47	98.96
1965	127	127	127	127	119.01		0	0	127	127	127	127	127	1262.01	105.17
1966	127	127	118.49	101.76	62.96		0	0	126.78	127	127	127	127	1171.99	97.67
1967	127	120.04	107.56	65.4	72.02		0	0	124.34	127	127	127	127	1124.36	93.7
1968	127	127	120.85	112.15	103.61		0	0	124.48	127	127	127	127	1223.09	101.92
1969	127	113.73	52.23	34.39	40.89		0	0	125.6	127	127	127	127	1001.84	83.49
1970	127	118.86	86.14	72.47	99.31		0	0	124.02	127	127	127	127	1135.8	94.65
1971	127	127	115.65	104.85	100.55		0	0	125.03	127	127	127	127	1208.08	100.67
1972	127	127	119.51	106.6	99.31		0	0	127	127	127	127	127	1214.42	101.2
1973	127	127	115.79	103.76	99.31		0	0	127	127	127	127	127	1207.86	100.66
1974	127	127	127	127	123.89		0	0	124.01	127	127	127	127	1263.9	105.33
1975	127	127	127	127	115.38		0	0	126.13	127	127	127	127	1257.51	104.79
1976	127	126.39	115.42	104.1	99.31		0	0	126.66	127	127	127	127	1206.88	100.57
1977	127	127	117.44	108.71	103.02		0	0	123.94	127	127	127	127	1215.11	101.26
1978	127	127	127	127	115.69		0	0	126.95	127	127	127	127	1258.64	104.89
1979	127	127	127	127	122.98		0	0	124.95	127	127	127	127	1263.93	105.33
1980	127	127	123.99	116.62	106.69		0	0	124.94	127	127	127	127	1234.24	102.85
1981	127	116.34	67.53	88.47	99.31		0	0	127	127	127	127	127	1133.65	94.47
1982	127	127	127	127	123.89		0	0	126.5	127	127	127	127	1266.39	105.53
1983	127	127	127	127	123.89		0	0	127	127	127	127	127	1266.89	105.57
1984	127	127	123.49	113.13	103.84		0	0	124.49	127	127	127	127	1226.95	102.25
1985	127	127	127	127	123.89		0	0	126.09	127	127	127	127	1265.98	105.5
1986	127	127	119.51	110.61	103.63		0	0	126.79	127	127	127	127	1222.54	101.88
1987	127	126.76	115.63	104.6	97.06		0	0	124.18	127	127	127	127	1203.23	100.27
1988	127	127	127	126.31	113.01		0	0	125.81	127	127	127	127	1254.13	104.51
1989	127	127	127	127	116.46		0	0	125.43	127	127	127	127	1257.89	104.82
1990	127	127	127	125.24	114.05		0	0	125.62	127	127	127	127	1253.91	104.49
1991	127	119.86	93.61	55.45	99.41		0	0	125.81	127	127	127	127	1129.14	94.1
1992	127	127	127	125.87	111.84		0	0	124.59	127	127	127	127	1251.3	104.28
1993	127	126.44	111.95	38.51	93.18		0	0	125.84	127	127	127	127	1130.92	94.24
1994	127	127	127	127	114.44		0	0	125.45	127	127	127	121.7	1250.59	104.22
1995	63.55	14.31	19.32	21.61	86.91		0	0	125.86	127	127	127	127	839.56	69.96
1996	127	127	127	126.39	113.58		0	0	125.79	127	127	127	127	1254.76	104.56
1997	127	127	125.4	122.09	111.4		0	0	126.74	127	127	127	127	1247.63	103.97
1998	127	127	120.9	114.17	105.91		0	0	125.1	127	127	127	127	1228.08	102.34
1999	127	120.22	97.75	49.44	99.31		0	0	125.69	127	127	127	127	1127.41	93.95
SUM	4499.41	4392.92	4077.17	3730.18	3741.77		0	0	4523.93	4572	4572	4572	4566.7	43248.08	
AVE	124.98	122.03	113.25	103.62	103.94		0	0	125.66	127	127	127	126.85	1201.34	

Total Energy(GWh)														
	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	SUM	AVE
1964	23.52	20.73	21.67	20.53	50.41	0	0	90.21	91.44	91.43	66.63	44.79	521.36	43.44
1965	26.92	23.25	25.35	24.22	54.51	0	0	88.34	91.44	50.89	38.98	28.82	452.72	37.73
1966	26.27	21.68	22.62	18.32	11.71	0	0	85.15	91.44	53.66	32.44	27.59	390.88	32.57
1967	25.38	20.59	20.76	11.77	13.4	0	0	83.55	91.44	62.77	36.3	28.91	394.87	32.91
1968	26.51	22.71	22.9	21.12	29.44	0	0	86.63	91.44	96.49	35.19	28.51	460.94	38.41
1969	24.94	19.87	9.71	6.19	7.61	0	0	87.39	91.44	64.65	33.78	28.61	374.19	31.19
1970	25.43	20.46	16.02	13.04	24.64	0	0	89.3	91.44	86.3	46.78	28.9	442.31	36.86
1971	26.43	21.63	22.26	20.19	28.75	0	0	87	91.44	96.49	55.36	33.55	483.1	40.26
1972	26.59	22.87	22.74	19.23	35.74	0	0	88.34	91.44	88.26	42.52	28.9	466.63	38.89
1973	26.5	21.77	22.28	19.1	27.1	0	0	88.34	91.44	96.49	60.64	32.82	486.48	40.54
1974	28.94	23.4	25.82	27.95	65.99	0	0	89.29	91.44	96.49	36.53	28.92	514.77	42.9
1975	26.87	23.24	25.47	23.87	39.38	0	0	87.75	91.44	96.49	44.65	28.78	487.94	40.66
1976	26.07	22.03	22.23	18.9	28.17	0	0	88.12	91.44	71.89	36.38	28.91	434.14	36.18
1977	26.42	21.65	22.48	20.68	36.46	0	0	89.24	91.44	90.95	60.96	38.24	498.52	41.55
1978	26.86	23.13	25.07	23.55	71.11	0	0	88.31	91.44	86.22	52.69	39.82	528.2	44.02
1979	29.67	23.4	25.71	24.82	73.5	0	0	88.95	91.44	87.2	47.33	29.16	521.18	43.43
1980	26.57	22.97	23.28	21.66	34.91	0	0	89.94	91.44	67.09	36.53	28.61	443	36.91
1981	25.33	20.17	12.56	15.92	28.24	0	0	88.34	91.44	79.63	41.58	31.35	434.56	36.21
1982	26.9	23.27	25.72	28.47	73.44	0	0	88.01	91.44	70.27	45.67	38.11	511.3	42.61
1983	31.38	25.06	26.61	25.1	71.98	0	0	85.3	91.44	96.49	45.12	33.31	531.79	44.32
1984	26.69	23.2	23.22	21.24	47.86	0	0	86.64	91.44	78.16	48.19	34.61	481.25	40.11
1985	29.02	23.4	25.82	26.81	82.12	0	0	81.67	91.44	96.49	46.54	30.3	533.61	44.47
1986	26.55	21.96	22.74	20.92	20.93	0	0	85.16	91.44	96.49	48.67	28.8	463.66	38.64
1987	26.16	21.31	22.26	18.83	18.05	0	0	86.43	91.44	70.92	44.73	32.9	433.03	36.08
1988	26.78	23.66	24.5	22.79	47.02	0	0	87.54	91.44	83.46	43.7	32.41	483.3	40.27
1989	26.92	23.18	25.09	23.69	66.03	0	0	87.28	91.44	92.66	44.1	30.62	511.32	42.61
1990	26.69	22.58	23.87	22.67	58.77	0	0	84.4	91.44	83.54	37.08	28.66	479.7	39.97
1991	25.58	20.57	17.41	9.98	19.47	0	0	87.54	91.44	95.34	46.3	32.74	446.37	37.2
1992	26.81	23.78	24.68	22.75	41.71	0	0	86.71	91.44	96.49	41.65	28.79	484.81	40.4
1993	26.12	21.28	21.79	6.93	17.33	0	0	87.56	91.44	96.49	46.78	28.89	444.61	37.05
1994	26.66	22.71	24.53	23.11	46.83	0	0	84.28	91.44	30.61	28.44	25.99	404.6	33.71
1995	11.82	2.4	3.59	3.89	16.16	0	0	81.53	91.44	96.49	69.7	43.89	420.91	35.08
1996	26.77	23.43	24.08	22.8	45.82	0	0	87.52	91.44	87.53	38.11	28.83	476.33	39.69
1997	26.41	22.13	23.45	22.31	42.86	0	0	85.13	91.44	50.24	29.6	27.89	421.46	35.13
1998	26.42	21.83	22.91	21.36	41.49	0	0	90.06	91.44	52.19	30.07	28.61	426.38	35.54
1999	25.49	20.61	18.18	8.9	20.33	0	0	84.44	91.44	54.8	28.67	25.64	378.5	31.54
SUM	944.39	781.91	789.38	703.61	1439.27	0	0	3131.39	3291.84	2892.05	1568.7	1126.18	16898.92	
AVE	26.23	21.72	21.93	19.54	39.98	0	0	86.98	91.44	80.33	43.58	31.28	469.41	

Primary Energy(GWh)												
JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	AVE
1964	21.92	20.65	19.35	19.13		0	21.8	22.86	23.62	22.86	23.62	215.81
1965	23.62	21.34	22.86	22.14		0	21.34	22.86	23.62	22.86	23.62	227.88
1966	23.62	21.34	18.32	11.71		0	20.54	22.86	23.62	22.86	23.62	210.53
1967	23.62	20.17	11.77	13.4		0	20.14	22.86	23.62	22.86	23.62	202.07
1968	23.62	22.1	20.19	19.27		0	20.91	22.86	23.62	22.86	23.62	221.53
1969	23.62	19.11	6.19	7.61		0	21.1	22.86	23.62	22.86	23.62	180.3
1970	23.62	19.97	13.04	18.47		0	21.58	22.86	23.62	22.86	23.62	205.66
1971	23.62	21.34	18.87	18.7		0	21	22.86	23.62	22.86	23.62	218
1972	23.62	22.1	19.19	18.47		0	21.34	22.86	23.62	22.86	23.62	219.91
1973	23.62	21.34	18.68	18.47		0	21.34	22.86	23.62	22.86	23.62	217.95
1974	23.62	21.34	22.86	23.04		0	21.58	22.86	23.62	22.86	23.62	229.02
1975	23.62	21.34	22.86	21.46		0	21.19	22.86	23.62	22.86	23.62	227.05
1976	23.62	21.99	18.74	18.47		0	21.28	22.86	23.62	22.86	23.62	218.53
1977	23.62	21.34	19.57	19.16		0	21.56	22.86	23.62	22.86	23.62	220.05
1978	23.62	21.34	22.86	21.52		0	21.33	22.86	23.62	22.86	23.62	227.25
1979	23.62	21.34	22.86	22.87		0	21.74	22.86	23.62	22.86	23.62	229.01
1980	23.62	21.34	23.06	19.84		0	21.74	22.86	23.62	22.86	23.62	224.31
1981	23.62	19.54	15.92	18.47		0	21.34	22.86	23.62	22.86	23.62	204.41
1982	23.62	21.34	22.86	23.04		0	21.25	22.86	23.62	22.86	23.62	228.69
1983	23.62	21.34	22.86	23.04		0	20.57	22.86	23.62	22.86	23.62	228.01
1984	23.62	22.1	20.36	19.31		0	20.91	22.86	23.62	22.86	23.62	222.23
1985	23.62	21.34	22.86	23.04		0	19.67	22.86	23.62	22.86	23.62	227.11
1986	23.62	21.34	22.23	19.91		0	20.54	22.86	23.62	22.86	23.62	219.88
1987	23.62	21.3	21.51	18.83		0	20.86	22.86	23.62	22.86	23.62	217.13
1988	23.62	22.1	23.62	18.05		0	21.14	22.86	23.62	22.86	23.62	227.2
1989	23.62	21.34	22.86	21.02		0	21.07	22.86	23.62	22.86	23.62	227.13
1990	23.62	21.34	22.54	21.66		0	20.35	22.86	23.62	22.86	23.62	225.64
1991	23.62	20.14	17.41	18.49		0	21.14	22.86	23.62	22.86	23.62	203.74
1992	23.62	22.1	23.62	20.8		0	20.93	22.86	23.62	22.86	23.62	226.69
1993	23.62	21.24	20.82	17.33		0	21.14	22.86	23.62	22.86	23.62	204.04
1994	23.62	21.34	23.62	21.29		0	20.32	22.86	23.62	22.86	22.64	225.03
1995	11.82	2.4	3.59	16.16		0	19.63	22.86	23.62	22.86	23.62	150.45
1996	23.62	22.1	23.62	21.13		0	21.13	22.86	23.62	22.86	23.62	227.31
1997	23.62	21.34	23.32	20.72		0	20.53	22.86	23.62	22.86	23.62	224.47
1998	23.62	21.34	22.49	19.7		0	21.77	22.86	23.62	22.86	23.62	222.43
1999	23.62	20.2	18.18	18.47		0	20.36	22.86	23.62	22.86	23.62	202.69
SUM	836.82	744.88	758.32	695.94		0	756.16	822.96	850.32	822.96	849.34	7809.14
AVE	23.25	20.69	21.06	19.33		0	21	22.86	23.62	22.86	23.59	216.92

Secondary Energy(GWh)														
	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	SUM	AVE
1964	1.6	0.73	1.02	1.18	31.28		0	68.41	68.58	67.81	43.77	21.17	305.55	25.46
1965	3.3	1.91	1.73	1.36	32.37		0	67	68.58	27.27	16.12	5.2	224.84	18.74
1966	2.65	0.34	0.58	0	0		0	64.61	68.58	30.04	9.58	3.97	180.35	15.03
1967	1.76	0.42	0.75	0	0		0	63.41	68.58	39.15	13.44	5.29	192.8	16.07
1968	2.89	0.61	0.42	0.93	10.17		0	65.72	68.58	72.87	12.33	4.89	239.41	19.95
1969	1.32	0.76	0	0	0		0	66.29	68.58	41.03	10.92	4.99	193.89	16.16
1970	1.81	0.49	0	0	6.17		0	67.72	68.58	62.68	23.92	5.28	236.65	19.72
1971	2.81	0.29	0.75	1.32	10.05		0	66	68.58	72.87	32.5	9.93	265.1	22.09
1972	2.97	0.77	0.51	0.04	17.27		0	67	68.58	64.64	19.66	5.28	246.72	20.56
1973	2.88	0.43	0.74	0.42	8.63		0	67	68.58	72.87	37.78	9.2	268.53	22.38
1974	5.32	2.06	2.2	5.09	42.95		0	67.71	68.58	72.87	13.67	5.3	285.75	23.81
1975	3.25	1.9	1.85	1.01	17.92		0	66.56	68.58	72.87	21.79	5.16	260.89	21.74
1976	2.45	0.04	0.76	0.16	9.7		0	66.84	68.58	48.27	13.52	5.29	215.61	17.97
1977	2.8	0.31	0.64	1.11	17.3		0	67.68	68.58	67.33	38.1	14.62	278.47	23.21
1978	3.24	1.79	1.45	0.69	49.59		0	66.98	68.58	62.6	29.83	16.2	300.95	25.08
1979	6.05	2.06	2.09	1.96	50.63		0	67.21	68.58	63.58	24.47	5.54	292.17	24.35
1980	2.95	0.87	0.22	0.67	15.07		0	68.2	68.58	43.47	13.67	4.99	218.69	18.22
1981	1.71	0.63	0	0	9.77		0	67	68.58	56.01	18.72	7.73	230.15	19.18
1982	3.28	1.93	2.1	5.61	50.4		0	66.76	68.58	46.65	22.81	14.49	282.61	23.55
1983	7.76	3.72	2.99	2.24	48.94		0	64.73	68.58	72.87	22.26	9.69	303.78	25.32
1984	3.07	1.1	0.25	0.88	28.55		0	65.73	68.58	54.54	25.33	10.99	259.02	21.59
1985	5.4	2.06	2.2	3.95	59.08		0	62	68.58	72.87	23.68	6.68	306.5	25.54
1986	2.93	0.62	0.51	1.01	1.65		0	64.62	68.58	72.87	25.81	5.18	243.78	20.32
1987	2.54	0.01	0.75	0	0		0	65.57	68.58	47.3	21.87	9.28	215.9	17.99
1988	3.16	1.56	0.88	0.05	26		0	66.4	68.58	59.84	20.84	8.79	256.1	21.34
1989	3.3	1.84	1.47	0.83	44.37		0	66.21	68.58	69.04	21.55	7	284.19	23.68
1990	3.07	1.24	0.25	0.13	37.56		0	64.05	68.58	59.92	14.22	5.04	254.06	21.17
1991	1.96	0.43	0	0	0.98		0	66.4	68.58	71.72	23.44	9.12	242.63	20.22
1992	3.19	1.68	1.06	0.09	20.91		0	65.78	68.58	72.87	18.79	5.17	258.12	21.51
1993	2.5	0.04	0.97	0	0		0	66.42	68.58	72.87	23.92	5.27	240.57	20.05
1994	3.04	1.37	0.91	0.25	25.54		0	63.96	68.58	6.99	5.58	3.35	179.57	14.96
1995	0	0	0	0	0		0	61.9	68.58	72.87	46.84	20.27	270.46	22.54
1996	3.15	1.33	0.46	0.05	24.69		0	66.39	68.58	63.91	15.25	5.21	249.02	20.75
1997	2.79	0.79	0.13	0.33	22.14		0	64.6	68.58	26.62	6.74	4.27	196.99	16.42
1998	2.8	0.49	0.42	0.81	21.79		0	68.29	68.58	28.57	7.21	4.99	203.95	17
1999	1.87	0.41	0	0	1.86		0	64.08	68.58	31.18	5.81	2.02	175.81	14.65
SUM	107.57	37.03	31.06	32.17	743.33		0	2375.23	2468.88	2041.73	745.74	276.84	9090.23	
AVE	2.99	1.03	0.86	0.89	20.65		0	65.98	68.58	56.71	20.72	7.69	252.51	