II DEW POINT TEMPERATURE

Beryl 20th - 25th December 1961 - Dry, Wet & D.P Temp

Station : VACOAS

	20th			21st		
	Dry	Wet	D.P	Dry	Wet	D.P
00	-	-	-	-	-	-
06	21.9	21.4	21.1	22.4	21.6	21.2
09	25.9	22.9	21.5	24.9	23.2	22.4
12	21.9	20.4	19.6	24.6	23.1	22.4
18	-	-	-	-	-	-

	22nd			23rd		
	Dry	Wet	D.P	Dry	Wet	D.P
00						
00	-	-	-	23.0	21.5	21.2
06	23.2	22.8	22.6	23.5	22.5	22.0
09	24.8	23.0	22.1	23.4	22.5	22.1
12	23.0	22.4	22.1	23.1	22.3	21.6
18	22.5	21.7	21.3	22.5	22.0	21.8

	24th			25th		
	Dry	Wet	D.P	Dry	Wet	D.P
00	22.1	21.5	21.2	22.1	22.0	22.0
06	21.9	21.5	21.3	-	-	-
09	22.0	21.4	21.1	21.5	21.4	21.4
12	22.3	21.6	21.3	22.5	22.4	22.4
18	21.7	21.6	21.6	-	-	-

Beryl 20th–25th December 1961 – Dry, Wet & D.P Temp

Station : Plaisance

	20th			21st			22nd			23rd		
	Dry			Dry	Wet	D.P	Dry	Wet	D.P	Dry	Wet	D.P
00	25.2	24.5	24.2	–	–	–	23.5	23.3	23.2	23.7	23.5	23.4
01	24.5	23.3	22.7	–	–	–	24.3	23.8	23.6	24.1	23.7	23.5
02	24.1	22.7	22.0	–	–	–	23.7	23.5	23.4	24.2	23.7	23.5
03	24.4	22.8	22.0	–	–	–	23.7	23.4	23.3	25.0	24.5	24.3
04	26.0	23.7	22.7	–	–	–	24.2	23.8	23.6	26.4	25.4	25.0
05	26.6	24.9	24.2	–	–	–	25.0	24.7	24.6	27.4	25.8	25.2
06	26.6	24.9	24.2	25.1	23.5	22.7	25.4	24.8	24.5	28.0	26.0	25.2
07	26.9	24.5	23.4	25.8	24.8	24.2	26.8	25.3	24.7	27.6	25.5	24.6
08	27.4	24.8	23.7	26.2	24.3	23.4	27.0	25.4	24.7	26.0	25.0	24.6
09	28.4	25.9	24.9	27.4	25.2	24.3	27.2	25.5	24.8	26.2	25.5	25.2
10	27.0	25.3	24.6	25.8	24.9	24.5	26.8	25.0	24.2	26.3	24.9	24.3
11	28.3	26.0	25.5	27.3	25.4	24.6	26.0	25.1	24.7	26.7	25.1	24.4
12	26.3	22.6	20.8	27.0	25.8	25.3	26.8	25.4	24.9	25.9	24.5	23.9
13	25.8	25.0	24.7	27.2	25.0	24.1	24.2	23.8	23.6	25.6	24.4	23.9
14	25.8	24.5	23.9	26.2	24.9	24.3	24.3	23.9	23.7	25.6	24.5	24.0
15	25.7	24.2	23.5	25.5	24.3	23.8	24.5	24.0	23.8	25.6	23.8	23.0
16	25.9	24.9	24.5	25.6	24.6	24.2	24.9	23.9	23.5	25.6	23.1	23.4
17	25.9	24.9	24.5	25.5	24.4	23.9	25.0	23.8	23.3	24.7	23.8	23.4
18	25.7	24.7	24.3	23.8	23.5	23.4	24.8	23.9	23.5	24.7	23.8	23.4
19	25.7	24.7	24.3	23.5	23.4	23.4	24.5	23.6	23.2	24.7	23.8	23.4
20	25.3	24.5	24.1	24.2	23.9	23.8	25.4	24.0	23.6	24.7	23.7	23.3
21	25.3	24.4	24.0	24.3	23.8	23.6	23.6	23.2	23.0	24.9	23.8	23.3
22							23.6	23.2	23.0	24.9	23.8	23.3
23										24.7	23.3	22.6

Beryl 20th-25th December 1961 - Dry, Wet & D.P Temp

Station : Plaisance

	24th			25th		
	Dry	Wet	D.P	Dry	Wet	D.P
00	24.8	23.6	23.0	23.0	23.0	23.0
01	24.8	23.6	23.0	23.0	23.0	23.0
02	23.6	23.2	23.0	23.0	23.0	23.0
03	24.4	23.2	22.6	23.6	23.6	23.6
04	24.3	23.4	23.0	23.6	23.6	23.6
05	24.2	23.5	23.2	23.6	23.6	23.6
06	24.4	24.2	24.1	24.2	24.2	24.2
07	25.2	23.8	23.2	24.2	24.2	24.2
08	24.8	23.8	23.4	24.2	24.2	24.2
09	24.4	23.6	23.2	24.2	24.2	24.2
10	24.3	22.8	22.1	24.2	24.2	24.2
11	24.2	23.2	22.7	24.2	24.2	24.2
12	24.3	23.4	23.0	24.5	24.0	23.8
13	24.5	23.2	22.6	24.2	24.2	24.2
14	24.	23.2	22.	23.0	23.0	23.0
15	24.0	23.0	22.5	24.5	23.6	23.2
16	24.0	23.2	22.8	24.0	23.2	22.8
17	23.8	23.2	22.9	24.5	24.5	24.5
18	23.0	23.0	23.0	24.5	24.5	24.5
19	23.0	23.0	23.0	24.4	24.0	23.8
20	23.0	23.0	23.0	24.5	24.0	23.8
21	23.0	23.0	23.0	24.8	23.7	23.2
22	23.0	23.0	23.0			
23	23.0	23.0	23.0			

Danielle 17th-20th January 1964 - Dry, Wet & D.P Temp

Station : Plaisance

	17th			18th			19th			20th		
	Dry	Wet	D.P	Dry	Wet	D.P	Dry	Wet	D.P	Dry	Wet	D.P
00	25.4	24.8	24.5	24.8	24.4	24.2	25.3	24.7	24.4	24.5	24.4	24.4
01	25.4	24.8	24.5	24.8	24.5	24.4	25.4	24.9	24.7	24.4	24.3	24.9
02	25.8	24.8	24.4	24.9	24.4	24.2	25.2	24.7	24.5	24.6	24.5	24.5
03	25.8	24.8	24.4	25.0	24.4	24.1	25.2	24.8	24.6	24.6	24.4	24.3
04	26.2	25.1	24.6	25.3	24.7	24.4	25.4	24.8	24.5	24.6	24.4	24.3
05	26.1	25.1	24.7	24.8	24.4	24.2	25.4	24.8	24.5	25.3	24.5	24.1
06	26.4	25.2	24.7	25.3	24.8	24.6	25.2	24.8	24.6	25.7	24.8	24.4
07	25.7	25.0	24.7	25.3	24.7	24.4	25.2	24.8	24.6	26.6	24.3	23.3
08	25.7	25.2	25.0	25.6	25.0	24.7	25.0	24.8	24.7	26.9	25.1	24.3
09	25.7	25.2	25.0	25.8	25.1	24.8	25.0	24.7	24.6	26.1	24.6	24.0
10	25.7	25.2	25.0	25.7	24.7	24.3	25.0	24.8	24.7	25.5	24.1	23.5
11	25.8	25.2	24.9	25.5	24.8	24.5	25.0	24.9	24.9	25.9	24.4	23.7
12	25.8	25.0	24.7	25.1	24.7	24.5	25.0	24.9	24.9	25.9	24.1	23.3
13	25.5	24.9	24.6	25.0	24.7	24.6	25.1	24.8	24.7	25.3	23.9	23.3
14	25.5	24.8	24.5	24.7	24.5	24.4	25.1	24.8	24.7	25.3	23.5	22.6
15	25.7	24.9	24.6	24.7	24.5	24.4	24.9	24.6	24.5	25.2	23.5	22.7
16	25.5	24.9	24.6	25.0	24.7	24.6	24.8	24.6	24.5	25.5	23.3	22.2
17	25.5	24.8	24.5	25.0	24.6	24.4	24.8	24.6	24.5	25.4	23.2	22.1
18	25.7	24.5	24.0	25.0	24.5	24.3	24.8	24.6	24.5	25.4	23.0	21.8
19	25.8	24.8	24.4	25.3	24.7	24.4	24.8	24.7	24.7	25.3	22.9	21.7
20	25.4	24.6	24.3	24.8	24.5	24.4	24.8	24.7	24.7	25.3	22.9	21.7
21	25.2	24.5	24.2	25.0	24.7	24.6	24.6	24.5	24.5	25.1	22.9	21.8
22	25.0	24.4	24.1	25.3	24.6	24.3	24.5	24.5	24.5	25.0	22.8	21.7
23	25.0	24.6	24.4	25.2	24.7	24.5	24.5	24.5	24.5	25.0	22.8	21.7

Station VACOAS

	17th			18th			19th			20th		
	Dry	Wet	D.P	Dry	Wet	D.P	Dry	Wet	D.P	Dry	Wet	D.P
00	22.9	22.4	22.2	22.6	22.0	21.7	23.2	22.8	22.6	23.0	21.8	21.2
06	23.6	23.0	22.7	22.6	22.3	22.2	23.0	22.6	22.4	23.3	23.3	23.3
09	24.1	23.6	23.4	23.1	22.4	22.1	23.0	22.7	22.6	22.4	22.3	22.3
12	23.4	22.7	22.4	23.4	22.8	22.5	23.1	22.8	22.7	22.5	22.4	22.4
18				23.0	23.0	23.0	23.1	21.8	21.6			

	GERVAISE									PLAISANCE TORRENTIAL RAIN								
	5/2/75			6/2/75			7/2/75			4/1/87			5/1/87			6/1/87		
Time	Dry	Wet	Dew Point	Dry	Wet	Dew Point	Dry	Wet	Dew Point	Dry	Wet	Dew Point	Dry	Wet	Dew Point	Dry	Wet	Dew Point
00	25.4	23.1	22.0	26.0	25.0	24.6	22.4	22.0	21.8	25.3	23.5	23.1	23.7	23.2	23.0	25.4	23.5	22.6
01	25.7	23.3	22.1	25.2	24.8	24.6	24.0	23.0	22.5	25.2	23.2	22.2	23.7	23.3	23.1	25.6	23.8	23.0
02	25.7	23.9	23.1	25.4	25.0	24.8	24.9	24.2	23.9	25.3	23.0	21.9	24.0	23.3	23.0	25.8	23.7	22.8
03	26.1	24.9	24.4	26.0	25.1	24.7	25.5	24.0	23.3	25.4	23.4	22.4	24.2	23.3	22.9	26.0	23.6	22.5
04	27.5	25.7	25.0	26.0	24.9	24.4	24.7	23.7	23.3	26.7	24.0	22.8	23.8	23.2	22.9	26.6	24.0	22.8
05	28.5	25.7	24.6	25.9	25.0	24.6	25.9	23.5	22.3	27.4	24.0	22.4	24.1	23.2	22.8	27.0	24.0	22.6
06	29.4	26.0	24.6	25.9	25.0	24.6	26.0	24.0	23.1	28.0	24.7	23.3	24.2	23.5	23.2	27.3	24.4	23.1
07	30.4	26.1	24.3	25.2	24.6	24.3	26.9	24.1	22.8	27.8	24.5	23.1	24.2	23.5	23.2	28.7	25.7	24.5
08	30.0	25.6	23.8	25.5	24.6	24.2	27.5	24.4	23.0	26.1	23.9	22.9	24.3	23.5	23.1	29.2	25.5	23.9
09	30.4	26.1	24.3	25.0	24.8	24.7	27.8	24.8	23.5	27.3	23.6	21.9	24.6	23.3	22.7	30.8	26.3	24.4
10	30.4	26.0	24.2	24.8	24.6	24.5	26.6	24.8	24.0	27.6	23.6	21.7	25.1	23.6	22.9	29.2	25.4	23.7
11	30.0	26.3	24.8	24.6	24.5	24.5	27.2	25.0	24.1	27.3	23.3	21.3	24.7	23.3	22.6	27.1	24.7	23.7
12	28.8	26.0	24.9	24.6	24.5	24.5	27.5	24.5	23.1	27.4	23.7	22.0	24.6	23.7	23.3	28.7	25.4	24.0
13	28.2	25.8	25.8	24.2	24.1	24.1	27.7	24.1	22.9	27.6	23.6	21.7	25.5	24.0	23.3	28.8	25.2	23.6
14	26.2	25.2	24.8	24.1	24.0	23.9	26.9	24.0	22.7	26.8	23.3	21.6	25.4	23.5	22.6	27.6	25.3	24.4
15	26.6	25.2	24.6	24.7	24.5	24.4	26.7	24.0	22.8	26.0	24.0	23.1	25.2	23.8	23.2	26.4	25.0	24.4
16	26.4	25.2	24.7	25.0	24.9	24.9	26.6	24.3	23.3	24.7	24.1	23.6	25.0	24.0	23.6	25.8	24.7	24.2
17	26.5	25.2	24.6	25.0	24.8	24.7	26.1	24.1	23.2	26.2	24.0	23.0	25.4	24.2	23.7	25.9	24.1	23.3
18	26.2	24.8	24.2	25.0	24.8	24.7	26.7	24.1	22.9	25.9	23.9	23.0	25.5	24.3	23.8	25.2	23.7	23.0
19	26.3	24.8	23.9	25.2	24.2	23.8	26.6	24.0	22.8	26.1	24.0	23.1	25.6	24.2	23.6	24.3	23.9	23.5
20	26.6	24.6	23.7	24.0	23.8	23.7	26.6	23.9	22.7	24.9	23.7	23.2	25.7	24.0	23.2	24.6	23.7	23.3
21	25.8	24.7	24.2	23.8	23.5	23.4	26.3	23.9	22.8	24.9	23.8	23.3	25.6	24.0	23.3	24.3	23.6	23.3
22	–	–	–	22.9	22.6	22.5	–	–	–	–	–	–	–	–	–	–	–	–
23	–	–	–	22.1	22.0	22.0	–	–	–	–	–	–	–	–	–	–	–	–

	GERVAISE									VACOAS TORRENTIAL RAIN								
	5/2/75			6/2/75			7/2/75			4/1/87			5/1/87			6/1/87		
Time GMT	Dry	Wet	Dew Point	Dry	Wet	Dew Point	Dry	Wet	Dew Point	Dry	Wet	Dew Point	Dry	Wet	Dew Point	Dry	Wet	Dew Point
00	22.1	21.0	20.4	23.7	22.7	22.2	22.3	22.0	21.9	22.9	20.9	19.8	22.4	22.0	21.8	22.5	22.1	21.9
01																		
02																		
03				23.9	23.0	22.6												
04				23.8	22.9	22.5												
05				23.4	22.4	21.9												
06	26.0	23.9	23.0	22.9	22.0	21.6	23.6	23.0	22.7	24.0	22.6	21.9	22.8	22.2	21.9	23.6	23.4	23.3
07				23.0	22.1	21.7												
08				23.2	22.2	21.7												
09	27.5	23.4	21.4	22.2	22.0	21.9	24.1	23.3	22.9	23.0	22.0	21.5	22.0	22.0	22.0	24.6	23.8	23.4
10				23.3	22.3	21.8												
11				22.5	22.0	21.8												
12	27.3	23.6	21.9	22.8	22.2	21.9	24.0	23.4	23.1	24.8	22.0	20.6	22.8	22.5	22.3	24.5	24.2	24.1
13				22.9	22.0	21.6												
14				22.8	22.1	21.7												
15				23.3	22.8	22.6												
16				23.9	23.3	23.0												
17				23.9	23.4	23.2												
18	23.5	22.5	22.0	23.7	23.2	23.0	23.6	22.8	22.4	24.5	22.5	21.5	23.7	23.4	23.3	23.6	23.3	23.2
19				23.0	22.5	22.3												
20				22.9	22.3	22.0												
21				-	-	-												
22				-	-	-												
23				-	-	-												

	GERVAISE									TORRENTIAL RAIN								
	5/2/75			6/2/75			7/2/75			4/1/87			5/1/87			6/1/87		
Time	Dry	Wet	Dew Point	Dry	Wet	Dew Point	Dry	Wet	Dew Point	Dry	Wet	Dew Point	Dry	Wet	Dew Point	Dry	Wet	Dew Point
Pamplemousses																		
A.m										27.5	25.5	24.7	25.0	24.5	24.3	25.0	24.5	24.3
P.m										-	-	-	25.0	24.5	24.3	26.5	26.0	25.8
Reduit																		
A.m										25.5	23.0	21.8	23.0	22.8	22.7	24.4	24.1	24.0
P.m										-	-	-	-	-	-	24.9	24.6	24.5
Belle Rive																		
A.m	22.4	22.0	21.8	-	-	-	22.6	22.6	22.6	23.0	22.0	21.5	22.2	22.0	21.9	22.5	22.5	22.5
P.m	26.4	26.0	25.8	-	-	-	26.0	26.0	26.0	23.8	21.8	20.8	23.2	22.8	22.6	24.0	23.7	23.6
Union Park																		
A.m																		
P.m																		
Wooton																		
A.m	-	-	-	-	-	-	-	-	-	20.6	19.7	19.2	20.6	19.4	18.7	21.7	20.6	20.0
P.m	-	-	-	-	-	-	-	-	-	21.7	20.6	20.0	21.7	20.6	20.0	22.8	21.7	21.2
Harbour Radio																		
A.m										26.5	25.7	25.4	26.0	25.0	24.6	29.3	25.0	23.1
P.m										30.6	26.7	25.2	29.2	25.7	24.3	28.4	23.6	21.3
Sans Souci																		
A.m	24.5	24.2	24.1	24.5	24.0	23.8	25.4	24.3	24.5	25.0	24.2	23.8	24.2	23.0	22.4	24.5	23.0	22.3
P.m	-	-	-	-	-	-	-	-	-	26.0	25.5	25.3	25.8	24.5	23.9	26.0	24.8	23.6

Hyacinthe 15 - 27 January 1980

Plaisance

	15			16			17			18		
	DRY	WET	D. PT	DRY	WET	D. PT	DRY	WET	D. PT	DRY	WET	D. PT
00	23.7	23.5	23.4	24.0	23.9	23.9	25.2	25.0	24.9	24.5	24.3	24.2
01	23.8	23.5	23.4	24.2	24.2	24.2	25.4	25.1	25.0	24.8	24.6	24.5
02	24.2	24.0	23.9	24.4	24.3	24.3	25.5	25.0	24.8	25.6	25.4	25.3
03	26.0	25.2	24.9	25.0	24.7	24.6	26.2	25.7	25.5	24.4	24.3	24.3
04	27.2	25.5	24.8	27.4	24.9	23.8	26.8	25.8	25.4	24.9	24.7	24.6
05	28.1	26.4	25.7	26.1	25.7	25.5	27.6	26.3	25.8	25.7	25.5	25.4
06	29.2	26.8	25.9	26.6	26.0	25.8	28.8	26.7	25.9	26.1	25.7	25.5
07	30.2	27.5	26.5	26.5	26.0	25.8	28.4	27.0	26.5	27.6	26.6	26.2
08	28.3	26.7	26.1	28.1	26.6	26.0	28.4	26.4	25.6	28.4	26.6	25.9
09	29.7	27.2	26.2	26.9	26.4	26.2	28.0	26.0	25.2	27.1	26.1	25.7
10	28.7	26.2	25.2		24.6	24.4	27.5	26.0	25.4	27.6	26.8	26.5
11	27.2	25.5	24.8	26.2	26.0	25.9	25.9	25.7	25.6	28.6	27.0	26.4
12	27.3	26.4	26.0	25.9	25.6	25.5	27.6	26.5	26.1	25.7	25.5	25.4
13	28.5	26.9	26.3	25.2	24.9	24.8	28.4	26.1	25.2	25.4	25.0	24.8
14	28.5	26.5	25.7	25.4	25.0	24.8	27.2	26.2	25.8	25.7	25.1	24.8
15	25.7	25.3	25.1	24.3	24.0	23.9	27.7	26.0	25.3	25.7	25.4	25.3
16	25.5	25.1	24.9	25.8	25.5	25.4	26.5	26.0	25.8	26.2	25.8	25.6
17	25.5	25.4	25.4	26.1	25.8	25.7	25.9	25.4	25.2	25.8	24.0	23.2
18	25.1	25.0	25.0	26.0	25.7	25.6	25.0	24.8	24.7	25.4	24.8	24.5
19	25.0	24.8	24.7	26.3	25.6	25.0	25.1	25.0	25.0	26.4	26.0	25.8
20	24.7	24.4	24.3	26.0	25.5	25.3	25.0	24.9	24.9	26.5	26.1	25.9
21	24.4	24.2	24.1	23.9	23.6	23.5	25.2	25.1	25.1	26.2	25.9	25.8
22				24.9	24.7	24.6						
23				25.0	24.8	25.7						

Hyacinthe 15 - 27 January 1980

Plaisance

	19			20			21			22		
	DRY	WET	D. PT	DRY	WET	D. PT	DRY	WET	D. PT	DRY	WET	D. PT
00	24.7	24.5	24.4	23.5	23.2	23.1	24.5	24.4	24.4	23.4	23.2	23.1
01	25.2	25.0	24.9	23.5	23.4	23.4	24.5	24.5	24.5	23.4	23.4	23.4
02	24.0	23.8	23.7	23.7	23.5	23.4	24.1	24.0	24.0	23.7	23.7	23.7
03	24.5	24.4	24.4	24.4	24.0	23.8	25.0	24.8	24.7	23.9	23.9	23.9
04	26.0	25.5	24.9	24.0	23.5	23.3	24.6	24.5	24.5	24.3	24.3	24.3
05	27.0	25.8	25.3	25.2	24.4	24.0	24.5	24.2	24.1	24.3	24.3	24.3
06	27.9	26.5	25.9	24.6	24.5	24.5	24.1	24.0	24.0	24.4	24.3	24.3
07	28.0	26.3	25.6	25.7	24.9	24.6	25.0	24.7	24.6	24.2	24.1	24.1
08	25.4	25.3	25.3	24.3	24.2	24.2	26.3	25.7	25.5	24.3	24.2	24.2
09	26.1	25.9	25.8	24.8	24.7	24.7	26.0	25.2	24.9	24.4	24.3	24.3
10	26.3	26.2	26.2	25.2	25.0	24.9	25.0	24.9	24.9	24.4	24.3	24.3
11	26.6	25.9	25.6	25.0	24.7	24.6	24.5	24.5	24.5	24.4	24.4	24.4
12	27.0	26.3	26.0	25.2	24.2	23.8	24.7	24.6	24.6	24.5	24.5	24.5
13	24.7	24.5	24.4	24.0	23.6	23.4	24.5	24.5	24.5	24.1	24.0	24.0
14	25.0	24.0	24.9	24.6	24.3	24.2	24.0	24.0	24.0	24.4	24.2	24.1
15	25.0	24.8	24.7	24.6	24.5	24.5	24.2	24.0	23.9	24.5	24.3	24.2
16	24.9	24.7	24.7	25.0	24.5	24.3	24.4	24.2	24.1	24.6	24.4	24.3
17	24.7	24.5	24.4	24.9	24.7	24.6	24.5	24.3	24.2	24.5	24.4	24.4
18	24.5	24.3	24.2	24.7	24.5	24.4	24.8	24.6	24.5	24.7	24.5	24.4
19	23.3	22.7	22.4	25.0	24.5	24.3	24.5	24.5	24.5	24.1	23.5	23.2
20	23.6	23.4	23.3	25.3	24.6	24.3	24.8	24.6	24.5	24.6	24.2	24.0
21	24.0	23.7	23.6	25.2	24.5	24.2	25.0	24.7	24.6	24.7	24.4	24.3
22												
23												

Hyacinthe 15 - 27 January 1980

Plaisance

	23			24			25			26		
	DRY	WET	D. PT	DRY	WET	D. PT	DRY	WET	D. PT	DRY	WET	D. PT
00	24.5	24.0	23.8	25.2	24.8	24.6	24.7	23.7	23.3	25.3	24.6	24.3
01	24.5	24.1	23.9	25.0	24.8	24.7	25.2	24.2	23.8	25.3	24.9	24.7
02	24.4	24.0	23.8	25.0	24.6	24.4	25.8	24.5	23.9	25.3	24.8	24.6
03	24.3	24.1	24.0	25.2	24.5	24.2	25.7	25.0	24.7	25.0	24.8	24.7
04	24.2	24.0	23.9	25.4	24.7	24.4	25.8	25.3	25.1	24.4	24.3	24.3
05	24.2	24.0	23.9	25.2	23.8	23.2	25.7	25.2	25.0	26.5	25.5	25.1
06	24.8	24.7	24.7	24.1	24.0	24.0	25.7	25.3	25.1	27.5	26.0	25.4
07	24.7	24.4	24.3	24.8	24.3	24.1	25.5	25.0	24.8	26.7	26.3	26.1
08	25.5	25.0	24.8	24.0	23.4	23.1	25.1	24.9	24.8	26.5	26.1	25.9
09	25.0	24.9	24.9	24.7	24.2	24.0	25.6	25.2	25.0	26.3	25.8	25.6
10	25.1	25.0	25.0	24.6	24.2	24.0	25.4	25.0	24.8	23.7	23.1	22.8
11	25.0	24.9	24.9	24.3	24.1	24.0	25.1	25.0	25.0	26.1	25.6	25.4
12	25.1	25.0	25.0	24.5	24.2	24.1	25.0	24.8	24.7	28.4	26.4	25.6
13	25.1	24.9	24.8	24.7	24.5	24.4	24.6	24.6	24.6	26.2	25.5	25.2
14	25.1	24.6	24.4	24.4	24.0	23.8	23.8	23.7	23.7	25.9	25.6	25.5
15	25.0	24.5	24.3	24.7	24.0	23.7	24.3	23.1	22.5	25.7	25.2	25.0
16	24.8	24.8	24.8	25.4	24.6	24.3	24.8	24.5	24.4	25.2	24.6	24.3
17	24.3	24.2	24.2	25.0	24.3	24.0	25.0	24.3	24.0	25.1	24.4	24.1
18	24.9	24.5	24.3	24.7	24.3	24.1	24.5	24.0	23.8	25.5	25.0	24.8
19	24.7	24.	24.4	24.4	24.0	23.8	25.0	24.1	23.7	23.9	23.2	22.9
20	24.9	24.5	24.3	25.3	24.5	24.1	25.0	24.2	23.8	24.7	24.2	24.0
21	25.0	24.8	24.7	25.2	24.4	24.0	25.0	24.2	23.8	25.3	24.8	24.6
22												

Hyacinthe 15 - 27 January 1980

Plaisance

	27		
	DRY	WET	D. PT
00	26.6	24.1	23.0
01	26.4	24.5	23.7
02	25.7	24.4	23.8
03	26.9	24.5	23.
04	26.7	25.1	24.4
05	26.3	25.3	24.9
06	25.7	24.0	23.2
07	26.3	25.0	24.4
08	27.4	26.0	25.4
09	25.7	25.0	24.7
10	27.0	25.8	25.3
11	27.9	24.7	23.3
12	26.8	24.4	23.3
13	25.4	24.3	23.8
14	25.4	24.2	23.7
15	25.4	24.2	23.7
16	25.2	24.2	23.8
17	24.8	24.4	24.2
18	25.4	24.5	24.1
19	25.5	24.5	24.1
20	25.7	24.4	23.8
21	25.8	24.2	23.5
22			
23			

Hyacinthe 15-27 January 80 - Dry, Wet & D.P Temp

STATION : VACOAS

15th

	Dry	Wet	D.P
00	22.1	21.1	20.6
06	27.7	24.8	23.5
09	28.5	25.7	24.6
12	28.8	25.2	23.6
18	23.2	22.5	22.9

16th

	Dry	Wet	D.P
00	23.3	22.6	22.3
06	25.5	24.0	23.3
09	25.7	24.2	23.5
12	23.5	22.8	22.5
18	23.7	22.9	22.5

17th

	Dry	Wet	D.P
00	23.2	22.6	22.3
06	25.4	24.0	23.4
09	23.7	23.0	22.7
12	26.2	24.3	23.4
18	23.6	23.0	22.7

18th

	Dry	Wet	D.P
00	23.5	23.0	22.8
06	23.7	23.1	22.8
09	25.7	24.8	24.4
12	24.7	24.0	23.7
18	23.7	23.0	22.7

19th

	Dry	Wet	D.P
00	23.0	22.0	21.5
06	25.1	23.6	22.9
09	24.1	23.5	23.2
12	24.7	23.7	23.3
18	23.0	22.5	22.3

20th

	Dry	Wet	D.P
00	22.2	21.6	21.3
06	22.2	21.5	21.1
09	22.8	22.2	21.9
12	22.8	22.0	21.6
18	23.0	22.4	22.1

21st

	Dry	Wet	D.P
00	22.5	21.9	21.6
06	22.2	21.5	21.1
09	23.5	23.0	22.3
12	23.8	22.6	22.0
18	23.0	22.5	22.3

22nd

	Dry	Wet	D.P
00	22.3	21.9	21.7
06	22.5	22.0	21.8
09	23.7	23.0	22.7
12	22.7	22.2	22.0
18	22.9	22.3	22.0

Hyacinthe 15-27 January 80 - Dry, Wet & D.P Temp

23rd

	Dry	Wet	D.P
00	22.7	22.1	21.8
06	23.2	22.7	22.5
09	24.0	23.2	22.8
12	24.7	24.0	23.7
18	23.4	23.0	22.8

24th

	Dry	Wet	D.P
00	23.4	22.8	22.5
06	23.2	22.8	22.6
09	23.1	22.6	22.4
12	23.0	22.4	22.1
18	22.8	22.3	22.1

25th

	Dry	Wet	D.P
00	22.7	22.0	21.7
06	23.7	23.0	22.7
09	23.8	23.3	23.1
12	23.2	22.7	22.5
18	23.0	22.2	21.8

26th

	Dry	Wet	D.P
00	23.2	22.4	22.0
06	25.5	23.5	22.5
09	24.5	23.0	22.3
12	26.5	24.0	22.9
18	24.5	23.2	22.6

27th

	Dry	Wet	D.P
00	24.3	22.8	22.1
06	23.7	23.0	22.7
09	23.7	23.5	23.4
12	23.9	23.4	23.2
18	23.4	23.0	22.8

Clothilda 12 - 14 February 1987

Vacoas

	12			13			14		
	DRY	WET	D. PT	DRY	WET	D. PT	DRY	WET	D. PT
00	24.0	23.5	23.3	23.5	23.0	22.8	23.9	23.6	23.5
06	24.5	23.9	23.6	24.0	23.3	23.0	24.2	23.5	23.2
09	22.0	21.7	21.6	24.5	23.9	23.6	24.2	23.5	23.2
12	23.1	22.4	22.1	24.0	23.5	23.3	24.0	23.5	23.3
18	23.5	23.0	22.8	24.1	23.4	23.1	24.4	23.4	22.9

DRY, WET, DEW POINT TEMPERATURES

Clothilda 12 - 14 February 1987

Plaisance

	12			13			14		
YEAR	DRY	WET	D. PT	DRY	WET	D. PT	DRY	WET	D.PT
00	26.3	25.8	25.6	23.6	23.5	23.5	26.7	24.7	23.8
01	26.0	25.6	25.4	24.4	24.1	24.0	26.8	24.5	23.5
02	24.8	24.2	23.9	24.3	24.1	24.0	26.2	24.9	24.3
03	24.2	23.8	23.6	24.4	24.1	24.0	25.5	25.0	24.8
04	25.4	24.9	24.7	24.3	24.1	24.0	25.2	25.0	24.9
05	24.9	24.4	24.2	24.5	24.5	24.5	26.4	25.2	24.7
06	24.9	24.4	24.2	24.3	24.3	24.3	27.7	24.7	23.4
07	24.6	24.3	24.2	24.3	24.3	24.3	27.2	25.3	24.5
08	24.6	24.1	23.9	24.2	24.2	24.2	27.6	25.0	23.9
09	23.9	23.0	22.6	24.8	24.7	24.7	28.3	25.0	23.6
10	24.3	23.3	22.8	25.4	25.3	25.3	28.8	25.0	23.3
11	24.9	23.9	23.5	26.3	24.9	24.3	27.3	25.2	24.3
12	24.9	24.0	23.6	25.8	25.2	24.9	27.7	24.7	23.4
13	24.8	24.3	24.1	25.0	25.0	25.0	27.0	24.3	23.1
14	24.8	24.2	23.9	24.7	24.7	24.7	27.0	24.7	22.7
15	25.0	24.0	23.6	24.4	24.4	24.4	25.8	24.6	24.1
16	25.4	24.1	23.5	24.7	24.7	24.7	25.5	24.3	23.8
17	25.5	24.0	23.3	25.2	25.0	24.9	26.8	24.4	23.3
18	26.0	24.4	23.7	25.5	24.7	24.4	26.3	24.6	23.9
19	25.8	25.2	24.9	25.7	25.1	24.8	26.0	24.4	23.7
20	25.5	25.2	25.1	25.6	25.0	24.7	26.3	24.3	23.4
21	25.4	25.2	25.1	25.5	25.0	24.8	26.3	24.2	23.3
22	25.0	24.8	24.7	25.7	25.0	24.7	25.5	24.5	24.1
23	25.0	24.9	24.9	25.6	25.0	24.7	25.8	24.5	23.9

PROGRAM : RESERVOIR OPERATION

Input from file :
sequencial "10-SUM.MOD" (10-day flow volume at 5 stations)
Input from keybord
Demand (m^3/sec)
L.W.L (m)
Total Storage (MCM)
Leakage (Y/N)

Output 10-day water balance (OUTPUT.OPE)
Averaged water balance through the whole period (SUM.OPE)

```
10    DIM MD(36),QIMAIN(756),QIRESI(756),QW(756),E(36)
20    DIM H(30),S(30),V(30),X(30),Y(30)
30    DIM SUMDEF(36),SUMSPILL(36),SUMEV(36),SUMNDEF(36),SUMQIN(36),SUMQRESI(36)
40    DIM NUM(36),SUMQOUT(36),SUMQLEAK(36) ,SUMQW(36),SUMH(36)
45    DIM SEASON$(12)
50   OPEN "C:OUTPUT.OPE" FOR OUTPUT AS #2
60   OPEN "C:SUM.OPE" FOR OUTPUT AS #3
70   OPEN "10-SUM.MOD" FOR INPUT AS #1
80  READ X$:PRINT "   SITE : ";X$
90 FOR I=1 TO 30
100 READ H(I),S(I),V(I)
110 PRINT I,H(I),S(I),V(I)
120 IF H(I)=9999 THEN 140
```

```
130 NEXT I
140 NNN=I-1
150 '  1 :  H to V    2:  H to S
160 '  3 :  V to H    4:  V to S
162   SEASON$(1)="NOV.":SEASON$(2)="DEC.":SEASON$(3)="JAN.":SEASON$(4)="FEB."
164   SEASON$(5)="MAR.":SEASON$(6)="APR.":SEASON$(7)="MAY.":SEASON$(8)="JUN."
166   SEASON$(9)="JUL.":SEASON$(10)="AUG.":SEASON$(11)="SEP.":SEASON$(12)="OCT."
170    FOR I=1 TO 36 :MD(I)=10:NEXT I
180    MD(6)=11:MD(9)=11:MD(15)=11:MD(21)=11:MD(27)=11:MD(30)=11:MD(36)=11
190 ' -------- INFLOW DISCHARGE  -----------
200  NYEAR=21
210  NQ=14
220 FOR L = 1 TO NYEAR
230  MD(12)=8 :LMOD=(L+1)-4*INT((L+1)/4)
240   IF  LMOD =0 THEN MD(12)=9
250 FOR I=1 TO 36
260 LL=L*36-36+I
270  MD=MD(I)
280 AAA=MD*86400!/1000000!
290 IF EOF(1) THEN CLOSE(1):PRINT " DATA END ":STOP
300  INPUT #1,IYR,M,X3,X4,X5,X8,X10,X12
310 IF X3=0 THEN X3=X4*.825
320 Q1=(X4+X5+X8)/AAA
340  IF Q1>.9 THEN QD1=.17*Q1
350  IF Q1<=.9 AND Q1>=.392 THEN QD1=.153
360  IF Q1<.392 THEN QD1=.39*Q1
370 Q2=X3/AAA
380 IF Q2>.454 THEN QD2=.13*Q2
```

```
390 IF Q2<=.454 AND Q2>=.091 THEN QD2=.059
400 IF Q2<.091 THEN QD2=.65*Q2
410 QMAIN= (Q1+QD1)*AAA
420 QRESI= X10*1.47+(Q2+QD2)*AAA
430 ' ------  ABSTRACTION  ---------
440  Q006=.345: IF X8/AAA<.217 THEN Q006=-.0196+1.668*X8/AAA
450  IF Q006<0 THEN Q006=0
460  Q002=.026
470  Q003=.199: IF X10/AAA<.436 THEN Q003=-.0058+.47*X10/AAA
480  IF Q003<0 THEN Q003=0
490  Q019=.3
510        IF X3/AAA<Q019 THEN Q019=X3/AAA
520 Q026=8.000001E-03
530        IF (X4+X5)/AAA<Q026 THEN Q026=(X4+X5)/AAA
540 ' Qw : Water to  Pailess directry
550 ' Qretn    : Part of abstracted water returned to GRNW
560 '  retn    : return ratio
570 ' Qloss    : Loss through canal (m3/ km)
580 ' L3       : distance between intake(W003) and reservoir (km)
590 ' L6u      : distance between intake(W006) and Bagatelle rservoir (km)
600 ' L6d      : distance between Bagatelle reservoir and GRNW (km)
610 ' QAmain   : Abstracted water from the river where dam  exists
620 ' QAredi   : Abstracted water from the river where dam doesn't exist
630 RETN=1!
640 QLOSS=0! :L3=1.21:L6U=0    :L6D=.3
650 QW3=Q003-QLOSS*L3:QRETN3=0
660        IF QW3>.026 THEN QRETN3=(QW3-.026)*RETN : QW3=.026
670 IF QRETN3<0 THEN QRETN3=0
```

```
680 QW2=Q002
690 QW6=Q006-QLOSS*L6U :QRETN6=0
700         IF QW6>.283 THEN QRETN6=(QW6-.283)*RETN: QW6=.283
710 IF QRETN6<0 THEN QRETN6=0
720 QAMAIN=(Q006+Q026)*AAA
730 QARESI=(Q019+Q002+Q003)*AAA
740 'QW(LL)=(QW3+QW2+QW6)*AAA :' ----- Soreze System + Montebello System
750 QW(LL)=(         QW6)*AAA  :' ----- Montebello System only
760 QMRETN=QRETN6*AAA
770 QRRETN=QRETN3*AAA
780 ' ----- NET  INFLOW  -------
790 QIMAIN(LL)=QMAIN-QAMAIN+QMRETN
800 IF QIMAIN(LL)<0 THEN QIMAIN(LL)=0
810 QIRESI(LL)=QRESI-QARESI+QRRETN
820 IF QIRESI(LL)<0 THEN QIRESI(LL)=0
830 NEXT I : NEXT L
840 LN=LL
850 ' ----- EVAPORATION   ( 36 ) --------
860 E( 1)=167/3:E( 2)=169/3:E( 3)=172/3 :E( 4)=175/3 :E( 5)=178/3:E( 6)=179/3
870 E( 7)=181/3:E( 8)=182/3:E( 9)=172/3 :E(10)=161/3 :E(11)=151/3:E(12)=152/3
880 E(13)=154/3:E(14)=155/3:E(15)=146/3 :E(16)=138/3 :E(17)=129/3:E(18)=123/3
890 E(19)=117/3:E(20)=111/3:E(21)=106/3 :E(22)=101/3 :E(23)= 96/3:E(24)= 99/3
900 E(25)=101/3:E(26)=104/3:E(27)=109/3 :E(28)=114/3 :E(29)=119/3:E(30)=125/3
910 E(31)=131/3:E(32)=137/3:E(33)=146/3 :E(34)=154/3 :E(35)=163/3:E(36)=165/3
920 INPUT " Q0 (cusec) = ";Q0
930 INPUT "LWL ( m )   = ";LWL
940 K=1:X=LWL:GOSUB 1830:   SQ0=Y
950 INPUT "Total Storage Capacity (MCM) = ";SQMAX
```

```
952 LK$=" "
955 INPUT " Leakage with -- Y    without ---non Y";lk$
960 K=3:X=SQMAX    :GOSUB 1830:  HWL=Y
970  PRINT    "Total Water Requirement (cusec)          :" ;QO
980  PRINT    "LWL : ";LWL;"  HWL :";HWL"Effective  Storage :";SQMAX-SQ0;"Dead Storage :";SQ0
990   PRINT #2,"Total Water Requirement (cusec)          :" ;QO
1000  PRINT #2,"LWL : ";LWL;"  HWL :";HWL"Effective  Storage :";SQMAX-SQ0;"Dead Storage :";SQ0
1010  PRINT"Time       Inflow     from     Release  Spill-  Water Storage  Leakage  Deficit   "
1020  PRINT"        Resi.  Dam   Pipelines from Dam out     level Volume                        "
1030  PRINT"        (MCM) (MCM)   (MCM)     (MCM)    (MCM)  ( m )  (MCM)    (MCM)             "
1040  PRINT #2,"Time       Inflow     from     Release  Spill-  Water Storage  Leakage  Deficit   "
1050  PRINT #2,"        Resi.  Dam   Pipelines from Dam out     level Volume                      "
1060  PRINT #2,"        (MCM) (MCM)   (MCM)     (MCM)    (MCM)  ( m )  (MCM)    (MCM)           "
1070  SQ=SQMAX :SQ1=SQ
1080  FOR I=1 TO 36
1090  SUMQRESI(I)=0:SUMQIN(I)=0:SUMQOUT(I)=0:SUMSPILL(I)=0:SUMDEF(I)=0:SUMEV(I)=0:SUMNDEF(I)=0:NUM(I)=0:
      SUMQLEAK(I)=0:SUMQW(I)=0:SUMH(I)=0
1100  NEXT I
1110  FOR L =1  TO NYEAR
1120  MD(12)=8 :TDAY=120:LMOD=(L+1)-4*INT((L+1)/4)
1130  IF  LMOD =0 THEN MD(12)=9 : TDAY=121
1140  FOR I=1 TO 36
1150  LL=L*36-36+I
1160  IF L=1 AND I<6 THEN I=8
1170  MD=MD(I):E=E(I)
1180  AAA=MD*86400!/1000000!
1190 ' -------- LEAKAGE ----------
1195 QLEAK=0: if lk$<>"Y" and lk$<>"y" then 1220
```

```
1200 X=SQ1:K=3 :GOSUB 1830 : HHH=Y-176 : IF HHH<0 THEN 1220
1210 QLEAK=(5.461001E-04*HHH^1.55+.00115)*AAA:GOTO 1222
1220 QLEAK=0
1222  K=4:X=SQ1:GOSUB 1830: AREA=Y: EVP=AREA*E*.7/1E+09
1224  SQ1=SQ1-EVP:IF SQ1<SQ0 THEN EVP=EVP+SQ1-SQ0: SQ1=SQ0:H=LWL
1230  QOUT=QO*AAA-QW(LL)-QIRESI(LL)-QLEAK : IF QOUT<0 THEN QOUT=0
1240  DEFF$=" " : DEFF=0: NDEF=0: SPILL=0
1250  SQ=SQ1+QIMAIN(LL)-QOUT-QLEAK
1280  IF SQ<SQ0 THEN DEFF=SQ0-SQ:DEFF$="*":NDEF=1:QOUT=QOUT-DEFF:QLEAK=0:SQ=SQ0 :GOTO 1310
1290  IF SQ>=SQMAX THEN SPILL=SQ-SQMAX:SQ=SQMAX:H=HWL: GOTO 1310
1300  X=SQ: K=3:GOSUB 1830 :H=Y
1310  SQ1=SQ
1330 NUM(I)=NUM(I)+1
1340 SUMQRESI(I)=SUMQRESI(I)+QIRESI(LL)
1350 SUMQIN(I)=SUMQIN(I)+QIMAIN(LL)
1360 SUMQOUT(I)=SUMQOUT(I)+QOUT
1370 SUMSPILL(I)=SUMSPILL(I)+SPILL
1380 SUMDEF(I)=SUMDEF(I)+DEFF:SUMNDEF(I)=SUMNDEF(I)+NDEF
1390 SUMEV(I)=SUMEV(I)+EVP
1392 SUMQW(I)=SUMQW(I)+QW(LL)
1394 SUMH(I)=SUMH(I)+H
1400 SUMQLEAK(I)=SUMQLEAK(I)+QLEAK
1410  PRINT USING    "#### ## ##.## ##.##   ##.##     ##.##    ##.##  ###.# #.###     #.###   #.###  & &";L+1965,I, QIRESI
     ,QIMAIN(LL),QW(LL),QOUT,SPILL,H,SQ,QLEAK,DEFF,DEFF$
1420  PRINT #2,USING  "#### ## ##.## ##.##   ##.##     ##.##    ##.##  ###.# #.###     #.###   #.###  & &";L+1965,I, QIRES
     ,QIMAIN(LL),QW(LL),QOUT,SPILL,H,SQ,QLEAK,DEFF,DEFF$
1430 NEXT I
1440 NEXT L
```

```
1450 PRINT      "SEASON      INFLOW*     PIPELINE  RELEASE  SPILLOUT  DEFICIT   WATER LEVEL  EVAPORA-  LEAKAGE"
1455 PRINT      "             Resi  Dam   SUPPLY                       & NUMBER                TION          "
1460 PRINT      "            (MCM) (MCM)   (MCM)     (MCM)    (MCM)     (MCM)       (m)        (MCM)     (MCM) "
1462 PRINT      "_____________________________________________________________________________________________"
1470 PRINT #3,  "SEASON      INFLOW*     PIPELINE  RELEASE  SPILLOUT  DEFICIT   WATER LEVEL  EVAPORA-  LEAKAGE"
1472 PRINT #3,  "             Resi  Dam   SUPPLY                       & NUMBER                TION          "
1474 PRINT #3,  "            (MCM) (MCM)   (MCM)     (MCM)    (MCM)     (MCM)       (m)        (MCM)     (MCM) "
1480 PRINT #3,  "_____________________________________________________________________________________________"
1490 FOR I=1 TO 36
1500 M=NUM(I)
1505 K=INT((I+2)/3):KK=I+3-3*K:XXX$=SEASON$(K):IF KK<>1 THEN XXX$="    "
1510 PRINT USING "&    #   ###.## ###.##  ###.##    ###.##    ###.##    ###.## ##   ###.#     ##.###    ##.### ";XXX$,KK,
 SUMQRESI(I)/M,SUMQIN(I)/M,SUMQW(I)/M,SUMQOUT(I)/M,SUMSPILL(I)/M,SUMDEF(I)/M,SUMNDEF(I),SUMH(I)/M,SUMEV(I)/M,SUMQLEAK(I)/M
1520 PRINT #3,USING "&    #   ###.## ###.##  ###.##    ###.##    ###.##    ###.## ##   ###.#     ##.###    ##.### ";XXX$,K
,SUMQRESI(I)/M,SUMQIN(I)/M,SUMQW(I)/M,SUMQOUT(I)/M,SUMSPILL(I)/M,SUMDEF(I)/M,SUMNDEF(I),SUMH(I)/M,SUMEV(I)/M,SUMQLEAK(I)/M
1530 MSUMQRESI=MSUMQRESI+SUMQRESI(I)/M
1540 MSUMQIN=MSUMQIN+SUMQIN(I)/M
1550 MSUMQOUT=MSUMQOUT+SUMQOUT(I)/M
1560 MSUMSPILL=MSUMSPILL+SUMSPILL(I)/M
1570 MSUMDEF=MSUMDEF+SUMDEF(I)/M: MSUMNDEF=MSUMNDEF+SUMNDEF(I)
1575 MSUMQW=MSUMQW+SUMQW(I)/M
1580 MSUMEV=MSUMEV+SUMEV(I)/M
1585 MSUMQLEAK=MSUMQLEAK+SUMQLEAK(I)/M
1590 NEXT I
1600 PRINT USING     "          ###.## ###.##  ###.##    ###.##    ###.##    ###.## ##     -       ##.###    ##.###";
     MSUMQRESI,MSUMQIN,MSUMQW,MSUMQOUT,MSUMSPILL,MSUMDEF,MSUMNDEF,MSUMEV,MSUMQLEAK
1610 PRINT #3,USING "          ###.## ###.##  ###.##    ###.##    ###.##    ###.## ##     -       ##.###    ##.###";
     MSUMQRESI,MSUMQIN,MSUMQW,MSUMQOUT,MSUMSPILL,MSUMDEF,MSUMNDEF,MSUMEV,MSUMQLEAK
```

```
1620 PRINT
1630 MSUMQRESI=0:MSUMQIN=0:MSUMQOUT=0:MSUMSPILL=0:MSUMDEF=0:MSUMNDEF=0:MSUMEV=0:MSUMQLEAK=0:MSUMQW=0
1640 GOTO 920
1650 CLOSE
1660 STOP
1665 ' ------------  AREA INTERPORATION ------------
1670 DATA "TR-0 dam"
1680 '    Height(m)   Area(m^2)  Volume (MCM)
1690 DATA 121,            0,        0
1700 DATA 124,         3400,        0.01
1710 DATA 132,        17800,        0.1
1720 DATA 140,        34800,        0.3
1730 DATA 152,        68100,        0.9
1740 DATA 160,        96000,        1.6
1750 DATA 172,       152000,        3.1
1760 DATA 180,       200000,        4.5
1770 DATA 192,       290000,        7.4
1780 DATA 200,       354000,       10.0
1790 DATA 9999,9999,9999
1800 'END DATA
1810 STOP
1820 END
1830 ' ----------- SUBROUTIN INTERPORATION -----------
1860  IF K=1 THEN FOR V=1 TO NNN:X(V)=H(V):Y(V)=V(V):NEXT V:GOTO 1900
1870 IF K=2 THEN FOR V=1 TO NNN:X(V)=H(V):Y(V)=S(V):NEXT V:GOTO 1900
1880 IF K=3 THEN FOR V=1 TO NNN:X(V)=V(V):Y(V)=H(V):NEXT V:GOTO 1900
1890 IF K=4 THEN FOR V=1 TO NNN:X(V)=V(V):Y(V)=S(V):NEXT V:GOTO 1900
1900 FOR V=1 TO NNN-1
```

```
1910 IF X=>X(V) AND X<X(V+1) THEN 1930 ELSE 1920
1920 NEXT V
1930 T=(X-X(V))/(X(V+1)-X(V))
1940 Y=Y(V)*(1-T)+Y(V+1)*T
1960 RETURN
1970 END
```

(2) WATER BALANCE (WITHOUT LEAKAGE FROM RESERVOIR)

Table WATER BALANCE (1 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year	Inflow Resi. (MCM)	Inflow Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1966 9	0.82	1.70	0.27	0.00	0.77	189.0	6.675	0.000	0.000
1966 10	0.33	0.65	0.24	0.33	0.31	189.0	6.675	0.000	0.000
1966 11	0.25	0.57	0.24	0.41	0.14	189.0	6.675	0.000	0.000
1966 12	0.33	0.66	0.20	0.20	0.46	189.0	6.675	0.000	0.000
1966 13	0.27	0.53	0.24	0.39	0.13	189.0	6.675	0.000	0.000
1966 14	0.77	0.86	0.24	0.00	0.86	189.0	6.675	0.000	0.000
1966 15	1.55	1.37	0.27	0.00	1.36	189.0	6.675	0.000	0.000
1966 16	0.95	0.74	0.24	0.00	0.73	189.0	6.675	0.000	0.000
1966 17	0.61	0.48	0.24	0.05	0.42	189.0	6.675	0.000	0.000
1966 18	0.44	0.33	0.24	0.23	0.09	189.0	6.675	0.000	0.000
1966 19	0.29	0.30	0.20	0.42	0.00	188.5	6.547	0.000	0.000
1966 20	0.21	0.27	0.20	0.50	0.00	187.5	6.306	0.000	0.000
1966 21	0.15	0.25	0.19	0.65	0.00	185.8	5.903	0.000	0.000
1966 22	0.09	0.18	0.16	0.66	0.00	183.8	5.415	0.000	0.000
1966 23	0.32	0.85	0.24	0.34	0.00	185.9	5.916	0.000	0.000
1966 24	0.25	1.02	0.20	0.45	0.00	188.2	6.481	0.000	0.000
1966 25	0.36	0.72	0.14	0.41	0.11	189.0	6.675	0.000	0.000
1966 26	0.33	0.55	0.16	0.42	0.13	189.0	6.675	0.000	0.000
1966 27	0.32	0.43	0.22	0.46	0.00	188.8	6.637	0.000	0.000
1966 28	0.22	0.50	0.18	0.51	0.00	188.8	6.617	0.000	0.000
1966 29	0.30	0.74	0.19	0.42	0.26	189.0	6.675	0.000	0.000
1966 30	0.24	0.57	0.22	0.54	0.02	189.0	6.675	0.000	0.000
1966 31	0.37	0.55	0.24	0.30	0.24	189.0	6.675	0.000	0.000
1966 32	0.33	0.31	0.24	0.33	0.00	188.9	6.644	0.000	0.000
1966 33	0.20	0.23	0.24	0.47	0.00	187.9	6.398	0.000	0.000
1966 34	0.18	0.25	0.24	0.48	0.00	186.9	6.161	0.000	0.000
1966 35	0.13	0.26	0.23	0.54	0.00	185.7	5.866	0.000	0.000
1966 36	0.09	0.26	0.18	0.72	0.00	183.7	5.394	0.000	0.000

Table WATER BALANCE (2 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year	Inflow Resi. (MCM)	Inflow Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1967 1	0.06	0.18	0.15	0.69	0.00	181.5	4.874	0.000	0.000
1967 2	0.06	0.19	0.10	0.75	0.00	178.9	4.303	0.000	0.000
1967 3	0.05	0.19	0.08	0.77	0.00	175.5	3.715	0.000	0.000
1967 4	0.17	0.58	0.12	0.62	0.00	175.2	3.668	0.000	0.000
1967 5	0.09	0.18	0.10	0.72	0.00	172.1	3.124	0.000	0.000
1967 6	1.30	1.12	0.26	0.00	0.00	178.5	4.239	0.000	0.000
1967 7	1.03	0.87	0.18	0.00	0.00	182.5	5.102	0.000	0.000
1967 8	6.24	9.58	0.24	0.00	8.00	189.0	6.675	0.000	0.000
1967 9	1.64	2.59	0.27	0.00	2.57	189.0	6.675	0.000	0.000
1967 10	0.72	1.13	0.24	0.00	1.12	189.0	6.675	0.000	0.000
1967 11	0.51	0.97	0.24	0.15	0.81	189.0	6.675	0.000	0.000
1967 12	0.28	0.44	0.20	0.25	0.18	189.0	6.675	0.000	0.000
1967 13	0.44	1.10	0.24	0.22	0.86	189.0	6.675	0.000	0.000
1967 14	0.75	1.18	0.24	0.00	1.17	189.0	6.675	0.000	0.000
1967 15	2.30	3.00	0.27	0.00	2.99	189.0	6.675	0.000	0.000
1967 16	2.67	3.42	0.24	0.00	3.41	189.0	6.675	0.000	0.000
1967 17	1.74	2.33	0.24	0.00	2.33	189.0	6.675	0.000	0.000
1967 18	1.67	2.29	0.24	0.00	2.28	189.0	6.675	0.000	0.000
1967 19	1.08	1.63	0.24	0.00	1.62	189.0	6.675	0.000	0.000
1967 20	0.78	1.16	0.24	0.00	1.16	189.0	6.675	0.000	0.000
1967 21	0.57	0.73	0.27	0.16	0.56	189.0	6.675	0.000	0.000
1967 22	0.44	0.62	0.24	0.22	0.39	189.0	6.675	0.000	0.000
1967 23	0.48	0.84	0.24	0.18	0.65	189.0	6.675	0.000	0.000
1967 24	0.63	1.14	0.24	0.03	1.11	189.0	6.675	0.000	0.000
1967 25	0.44	1.03	0.24	0.22	0.81	189.0	6.675	0.000	0.000
1967 26	1.01	1.82	0.24	0.00	1.81	189.0	6.675	0.000	0.000
1967 27	1.40	2.14	0.27	0.00	2.13	189.0	6.675	0.000	0.000
1967 28	0.92	1.32	0.24	0.00	1.31	189.0	6.675	0.000	0.000
1967 29	0.73	0.86	0.24	0.00	0.85	189.0	6.675	0.000	0.000
1967 30	0.99	1.84	0.27	0.00	1.83	189.0	6.675	0.000	0.000
1967 31	0.65	1.19	0.24	0.02	1.17	189.0	6.675	0.000	0.000
1967 32	0.52	0.73	0.24	0.14	0.58	189.0	6.675	0.000	0.000
1967 33	0.52	0.58	0.24	0.14	0.43	189.0	6.675	0.000	0.000
1967 34	0.60	0.65	0.24	0.06	0.58	189.0	6.675	0.000	0.000
1967 35	0.46	0.68	0.24	0.20	0.47	189.0	6.675	0.000	0.000
1967 36	0.36	0.60	0.27	0.37	0.22	189.0	6.675	0.000	0.000

Table WATER BALANCE (3 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1968	1	1.13	2.03	0.24	0.00	2.02	189.0	6.675	0.000	0.000
1968	2	0.48	0.74	0.24	0.18	0.55	189.0	6.675	0.000	0.000
1968	3	1.59	2.24	0.24	0.00	2.23	189.0	6.675	0.000	0.000
1968	4	2.58	2.97	0.24	0.00	2.96	189.0	6.675	0.000	0.000
1968	5	2.59	3.92	0.24	0.00	3.91	189.0	6.675	0.000	0.000
1968	6	1.61	2.52	0.27	0.00	2.51	189.0	6.675	0.000	0.000
1968	7	0.64	1.16	0.24	0.02	1.13	189.0	6.675	0.000	0.000
1968	8	0.47	0.74	0.24	0.19	0.53	189.0	6.675	0.000	0.000
1968	9	0.42	0.68	0.27	0.31	0.36	189.0	6.675	0.000	0.000
1968	10	0.35	0.47	0.24	0.31	0.15	189.0	6.675	0.000	0.000
1968	11	10.69	17.68	0.24	0.00	17.67	189.0	6.675	0.000	0.000
1968	12	3.62	5.79	0.22	0.00	5.78	189.0	6.675	0.000	0.000
1968	13	4.81	6.44	0.24	0.00	6.43	189.0	6.675	0.000	0.000
1968	14	4.99	7.41	0.24	0.00	7.40	189.0	6.675	0.000	0.000
1968	15	3.48	5.80	0.27	0.00	5.79	189.0	6.675	0.000	0.000
1968	16	1.30	2.03	0.24	0.00	2.02	189.0	6.675	0.000	0.000
1968	17	0.65	0.93	0.24	0.02	0.91	189.0	6.675	0.000	0.000
1968	18	0.48	0.59	0.22	0.21	0.38	189.0	6.675	0.000	0.000
1968	19	0.38	0.51	0.19	0.34	0.17	189.0	6.675	0.000	0.000
1968	20	0.29	0.46	0.15	0.47	0.00	188.9	6.657	0.000	0.000
1968	21	0.30	0.50	0.17	0.53	0.00	188.8	6.625	0.000	0.000
1968	22	0.33	0.53	0.24	0.33	0.14	189.0	6.675	0.000	0.000
1968	23	0.21	0.54	0.17	0.52	0.01	189.0	6.675	0.000	0.000
1968	24	0.34	0.47	0.17	0.40	0.06	189.0	6.675	0.000	0.000
1968	25	0.37	0.57	0.24	0.29	0.27	189.0	6.675	0.000	0.000
1968	26	0.37	0.54	0.21	0.33	0.21	189.0	6.675	0.000	0.000
1968	27	0.44	0.88	0.22	0.34	0.53	189.0	6.675	0.000	0.000
1968	28	0.45	0.76	0.24	0.21	0.54	189.0	6.675	0.000	0.000
1968	29	0.35	0.61	0.21	0.34	0.27	189.0	6.675	0.000	0.000
1968	30	0.29	0.64	0.21	0.50	0.14	189.0	6.675	0.000	0.000
1968	31	0.28	0.42	0.22	0.41	0.01	189.0	6.675	0.000	0.000
1968	32	0.37	0.44	0.23	0.30	0.13	189.0	6.675	0.000	0.000
1968	33	0.26	0.32	0.19	0.46	0.00	188.4	6.528	0.000	0.000
1968	34	0.24	0.33	0.16	0.51	0.00	187.6	6.341	0.000	0.000
1968	35	0.16	0.33	0.14	0.60	0.00	186.4	6.058	0.000	0.000
1968	36	0.15	0.34	0.15	0.69	0.00	184.9	5.691	0.000	0.000

Table WATER BALANCE (4 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Inflow Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1969	1	0.09	0.29	0.11	0.70	0.00	183.2	5.270	0.000	0.000
1969	2	0.07	0.30	0.10	0.74	0.00	181.3	4.823	0.000	0.000
1969	3	0.07	0.30	0.08	0.75	0.00	179.2	4.368	0.000	0.000
1969	4	0.11	0.27	0.10	0.70	0.00	176.8	3.935	0.000	0.000
1969	5	0.34	0.34	0.14	0.43	0.00	176.2	3.839	0.000	0.000
1969	6	0.22	0.31	0.14	0.64	0.00	174.3	3.502	0.000	0.000
1969	7	0.14	0.26	0.11	0.65	0.00	172.0	3.099	0.000	0.000
1969	8	0.11	0.24	0.12	0.67	0.00	168.5	2.665	0.000	0.000
1969	9	0.11	0.26	0.12	0.77	0.00	164.4	2.150	0.000	0.000
1969	10	0.73	0.96	0.24	0.00	0.00	172.0	3.102	0.000	0.000
1969	11	0.44	0.56	0.24	0.22	0.00	173.9	3.437	0.000	0.000
1969	12	0.47	0.79	0.20	0.06	0.00	178.0	4.154	0.000	0.000
1969	13	0.89	1.34	0.24	0.00	0.00	184.1	5.484	0.000	0.000
1969	14	0.62	0.53	0.24	0.04	0.00	186.1	5.964	0.000	0.000
1969	15	1.40	1.12	0.27	0.00	0.40	189.0	6.675	0.000	0.000
1969	16	1.42	1.33	0.24	0.00	1.32	189.0	6.675	0.000	0.000
1969	17	1.27	1.21	0.24	0.00	1.21	189.0	6.675	0.000	0.000
1969	18	2.04	2.65	0.24	0.00	2.64	189.0	6.675	0.000	0.000
1969	19	2.98	3.60	0.24	0.00	3.60	189.0	6.675	0.000	0.000
1969	20	1.41	1.49	0.24	0.00	1.48	189.0	6.675	0.000	0.000
1969	21	0.90	0.84	0.27	0.00	0.83	189.0	6.675	0.000	0.000
1969	22	0.65	0.54	0.24	0.01	0.52	189.0	6.675	0.000	0.000
1969	23	0.54	0.40	0.24	0.12	0.28	189.0	6.675	0.000	0.000
1969	24	0.46	0.85	0.24	0.20	0.65	189.0	6.675	0.000	0.000
1969	25	0.71	1.17	0.24	0.00	1.16	189.0	6.675	0.000	0.000
1969	26	0.76	1.35	0.24	0.00	1.34	189.0	6.675	0.000	0.000
1969	27	1.05	1.89	0.27	0.00	1.88	189.0	6.675	0.000	0.000
1969	28	0.68	1.30	0.24	0.00	1.29	189.0	6.675	0.000	0.000
1969	29	0.98	1.72	0.24	0.00	1.71	189.0	6.675	0.000	0.000
1969	30	0.74	1.25	0.27	0.00	1.25	189.0	6.675	0.000	0.000
1969	31	0.47	0.82	0.24	0.19	0.62	189.0	6.675	0.000	0.000
1969	32	0.38	0.59	0.24	0.28	0.30	189.0	6.675	0.000	0.000
1969	33	0.28	0.43	0.24	0.38	0.04	189.0	6.675	0.000	0.000
1969	34	0.22	0.36	0.24	0.45	0.00	188.6	6.577	0.000	0.000
1969	35	0.15	0.31	0.24	0.51	0.00	187.7	6.364	0.000	0.000
1969	36	0.13	0.30	0.27	0.60	0.00	186.4	6.055	0.000	0.000

Table WATER BALANCE (5 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1970	1	0.09	0.27	0.19	0.62	0.00	185.0	5.700	0.000	0.000
1970	2	0.07	0.27	0.13	0.71	0.00	183.1	5.244	0.000	0.000
1970	3	0.08	0.27	0.12	0.70	0.00	181.2	4.800	0.000	0.000
1970	4	0.45	0.56	0.24	0.21	0.00	182.6	5.140	0.000	0.000
1970	5	1.71	2.14	0.24	0.00	0.60	189.0	6.675	0.000	0.000
1970	6	2.04	1.57	0.27	0.00	1.56	189.0	6.675	0.000	0.000
1970	7	1.59	1.70	0.24	0.00	1.69	189.0	6.675	0.000	0.000
1970	8	1.94	2.42	0.24	0.00	2.41	189.0	6.675	0.000	0.000
1970	9	6.24	8.77	0.27	0.00	8.76	189.0	6.675	0.000	0.000
1970	10	4.14	5.67	0.24	0.00	5.66	189.0	6.675	0.000	0.000
1970	11	1.73	2.28	0.24	0.00	2.27	189.0	6.675	0.000	0.000
1970	12	2.46	3.29	0.20	0.00	3.28	189.0	6.675	0.000	0.000
1970	13	3.54	4.20	0.24	0.00	4.19	189.0	6.675	0.000	0.000
1970	14	5.09	7.03	0.24	0.00	7.02	189.0	6.675	0.000	0.000
1970	15	6.35	9.88	0.27	0.00	9.88	189.0	6.675	0.000	0.000
1970	16	3.42	5.24	0.24	0.00	5.23	189.0	6.675	0.000	0.000
1970	17	1.94	2.83	0.24	0.00	2.82	189.0	6.675	0.000	0.000
1970	18	0.97	1.26	0.24	0.00	1.26	189.0	6.675	0.000	0.000
1970	19	0.66	0.96	0.24	0.00	0.95	189.0	6.675	0.000	0.000
1970	20	0.44	0.57	0.24	0.22	0.34	189.0	6.675	0.000	0.000
1970	21	0.48	0.73	0.27	0.25	0.48	189.0	6.675	0.000	0.000
1970	22	0.36	0.63	0.24	0.30	0.33	189.0	6.675	0.000	0.000
1970	23	0.86	1.84	0.24	0.00	1.84	189.0	6.675	0.000	0.000
1970	24	0.67	1.50	0.24	0.00	1.49	189.0	6.675	0.000	0.000
1970	25	0.57	1.32	0.24	0.09	1.23	189.0	6.675	0.000	0.000
1970	26	0.43	0.74	0.24	0.23	0.51	189.0	6.675	0.000	0.000
1970	27	0.52	0.93	0.27	0.20	0.71	189.0	6.675	0.000	0.000
1970	28	0.61	1.12	0.24	0.05	1.06	189.0	6.675	0.000	0.000
1970	29	0.60	1.04	0.24	0.07	0.97	189.0	6.675	0.000	0.000
1970	30	0.67	1.08	0.27	0.06	1.01	189.0	6.675	0.000	0.000
1970	31	0.56	0.82	0.24	0.11	0.70	189.0	6.675	0.000	0.000
1970	32	0.38	0.45	0.24	0.28	0.15	189.0	6.675	0.000	0.000
1970	33	0.26	0.34	0.24	0.41	0.00	188.7	6.599	0.000	0.000
1970	34	0.16	0.27	0.24	0.50	0.00	187.7	6.362	0.000	0.000
1970	35	0.13	0.26	0.23	0.55	0.00	186.5	6.063	0.000	0.000
1970	36	0.10	0.34	0.27	0.63	0.00	185.2	5.760	0.000	0.000

Table WATER BALANCE (6 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1971	1	0.08	0.32	0.24	0.58	0.00	184.1	5.492	0.000	0.000
1971	2	0.09	0.27	0.24	0.57	0.00	182.8	5.178	0.000	0.000
1971	3	0.09	0.28	0.24	0.58	0.00	181.5	4.873	0.000	0.000
1971	4	0.07	0.26	0.24	0.60	0.00	180.1	4.527	0.000	0.000
1971	5	0.06	0.25	0.24	0.60	0.00	178.1	4.168	0.000	0.000
1971	6	0.06	0.27	0.19	0.75	0.00	175.3	3.684	0.000	0.000
1971	7	0.28	0.26	0.24	0.38	0.00	174.6	3.553	0.000	0.000
1971	8	0.31	0.21	0.19	0.40	0.00	173.5	3.357	0.000	0.000
1971	9	0.92	0.54	0.27	0.00	0.00	176.5	3.886	0.000	0.000
1971	10	3.65	4.20	0.24	0.00	1.41	189.0	6.675	0.000	0.000
1971	11	3.54	4.38	0.24	0.00	4.37	189.0	6.675	0.000	0.000
1971	12	0.95	1.22	0.20	0.00	1.21	189.0	6.675	0.000	0.000
1971	13	0.79	0.82	0.24	0.00	0.82	189.0	6.675	0.000	0.000
1971	14	0.57	0.66	0.24	0.09	0.56	189.0	6.675	0.000	0.000
1971	15	0.59	0.61	0.27	0.14	0.47	189.0	6.675	0.000	0.000
1971	16	0.45	0.48	0.24	0.21	0.25	189.0	6.675	0.000	0.000
1971	17	0.37	0.38	0.24	0.29	0.08	189.0	6.675	0.000	0.000
1971	18	2.22	2.77	0.24	0.00	2.76	189.0	6.675	0.000	0.000
1971	19	1.08	1.14	0.24	0.00	1.13	189.0	6.675	0.000	0.000
1971	20	0.66	0.54	0.24	0.00	0.53	189.0	6.675	0.000	0.000
1971	21	1.08	1.31	0.27	0.00	1.30	189.0	6.675	0.000	0.000
1971	22	1.07	1.16	0.24	0.00	1.16	189.0	6.675	0.000	0.000
1971	23	0.61	0.56	0.24	0.06	0.50	189.0	6.675	0.000	0.000
1971	24	0.46	0.61	0.24	0.20	0.40	189.0	6.675	0.000	0.000
1971	25	0.38	0.55	0.24	0.28	0.26	189.0	6.675	0.000	0.000
1971	26	0.41	0.50	0.24	0.25	0.24	189.0	6.675	0.000	0.000
1971	27	1.06	1.45	0.27	0.00	1.44	189.0	6.675	0.000	0.000
1971	28	0.59	0.74	0.24	0.07	0.66	189.0	6.675	0.000	0.000
1971	29	0.51	0.56	0.24	0.16	0.39	189.0	6.675	0.000	0.000
1971	30	0.55	0.50	0.27	0.17	0.32	189.0	6.675	0.000	0.000
1971	31	0.48	0.49	0.24	0.18	0.30	189.0	6.675	0.000	0.000
1971	32	0.40	0.46	0.24	0.26	0.19	189.0	6.675	0.000	0.000
1971	33	0.27	0.32	0.24	0.39	0.00	188.7	6.596	0.000	0.000
1971	34	0.19	0.32	0.24	0.48	0.00	188.0	6.426	0.000	0.000
1971	35	0.17	0.28	0.24	0.49	0.00	187.0	6.203	0.000	0.000
1971	36	0.20	0.35	0.27	0.53	0.00	186.3	6.018	0.000	0.000

Table WATER BALANCE (7 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year	Inflow Resi. (MCM)	Inflow Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1972 1	0.13	0.26	0.21	0.57	0.00	184.9	5.694	0.000	0.000
1972 2	0.24	0.31	0.24	0.42	0.00	184.4	5.573	0.000	0.000
1972 3	0.27	0.30	0.23	0.40	0.00	184.0	5.466	0.000	0.000
1972 4	0.28	0.29	0.24	0.38	0.00	183.6	5.365	0.000	0.000
1972 5	0.23	0.30	0.16	0.51	0.00	182.7	5.141	0.000	0.000
1972 6	0.15	0.30	0.15	0.69	0.00	181.0	4.739	0.000	0.000
1972 7	0.16	0.28	0.09	0.65	0.00	179.2	4.354	0.000	0.000
1972 8	0.16	0.27	0.08	0.66	0.00	176.9	3.952	0.000	0.000
1972 9	0.68	0.40	0.20	0.12	0.00	178.4	4.220	0.000	0.000
1972 10	4.13	5.08	0.24	0.00	2.62	189.0	6.675	0.000	0.000
1972 11	3.67	6.04	0.24	0.00	6.03	189.0	6.675	0.000	0.000
1972 12	1.05	2.30	0.22	0.00	2.29	189.0	6.675	0.000	0.000
1972 13	1.64	3.26	0.24	0.00	3.25	189.0	6.675	0.000	0.000
1972 14	1.34	1.79	0.24	0.00	1.78	189.0	6.675	0.000	0.000
1972 15	0.97	0.94	0.27	0.00	0.93	189.0	6.675	0.000	0.000
1972 16	0.85	0.62	0.24	0.00	0.61	189.0	6.675	0.000	0.000
1972 17	2.31	3.04	0.24	0.00	3.04	189.0	6.675	0.000	0.000
1972 18	1.46	1.67	0.24	0.00	1.66	189.0	6.675	0.000	0.000
1972 19	0.85	0.73	0.24	0.00	0.72	189.0	6.675	0.000	0.000
1972 20	0.68	0.48	0.24	0.00	0.47	189.0	6.675	0.000	0.000
1972 21	0.91	0.70	0.27	0.00	0.70	189.0	6.675	0.000	0.000
1972 22	1.81	2.26	0.24	0.00	2.25	189.0	6.675	0.000	0.000
1972 23	2.19	3.01	0.24	0.00	3.01	189.0	6.675	0.000	0.000
1972 24	1.15	1.16	0.24	0.00	1.15	189.0	6.675	0.000	0.000
1972 25	0.79	0.82	0.24	0.00	0.81	189.0	6.675	0.000	0.000
1972 26	0.83	1.11	0.24	0.00	1.10	189.0	6.675	0.000	0.000
1972 27	0.85	1.25	0.27	0.00	1.24	189.0	6.675	0.000	0.000
1972 28	1.11	1.47	0.24	0.00	1.46	189.0	6.675	0.000	0.000
1972 29	3.62	5.86	0.24	0.00	5.85	189.0	6.675	0.000	0.000
1972 30	2.18	3.50	0.27	0.00	3.49	189.0	6.675	0.000	0.000
1972 31	1.00	1.17	0.24	0.00	1.16	189.0	6.675	0.000	0.000
1972 32	0.73	0.73	0.24	0.00	0.72	189.0	6.675	0.000	0.000
1972 33	0.50	0.53	0.24	0.17	0.36	189.0	6.675	0.000	0.000
1972 34	0.45	0.43	0.24	0.21	0.20	189.0	6.675	0.000	0.000
1972 35	0.75	0.92	0.24	0.00	0.91	189.0	6.675	0.000	0.000
1972 36	0.70	0.54	0.27	0.03	0.49	189.0	6.675	0.000	0.000

Table WATER BALANCE (8 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1973	1	0.60	0.48	0.24	0.07	0.41	189.0	6.675	0.000	0.000
1973	2	0.43	0.39	0.24	0.23	0.15	189.0	6.675	0.000	0.000
1973	3	1.12	1.30	0.24	0.00	1.29	189.0	6.675	0.000	0.000
1973	4	1.19	1.79	0.24	0.00	1.78	189.0	6.675	0.000	0.000
1973	5	0.68	0.57	0.22	0.01	0.55	189.0	6.675	0.000	0.000
1973	6	0.82	0.84	0.27	0.00	0.83	189.0	6.675	0.000	0.000
1973	7	1.84	2.95	0.24	0.00	2.94	189.0	6.675	0.000	0.000
1973	8	1.32	2.03	0.24	0.00	2.02	189.0	6.675	0.000	0.000
1973	9	1.55	1.93	0.27	0.00	1.92	189.0	6.675	0.000	0.000
1973	10	2.26	3.82	0.24	0.00	3.81	189.0	6.675	0.000	0.000
1973	11	1.70	2.63	0.24	0.00	2.62	189.0	6.675	0.000	0.000
1973	12	1.14	0.83	0.20	0.00	0.82	189.0	6.675	0.000	0.000
1973	13	1.80	2.77	0.24	0.00	2.76	189.0	6.675	0.000	0.000
1973	14	7.81	10.19	0.24	0.00	10.18	189.0	6.675	0.000	0.000
1973	15	2.75	3.24	0.27	0.00	3.23	189.0	6.675	0.000	0.000
1973	16	1.02	1.83	0.24	0.00	1.82	189.0	6.675	0.000	0.000
1973	17	0.77	0.98	0.24	0.00	0.98	189.0	6.675	0.000	0.000
1973	18	0.71	0.85	0.24	0.00	0.85	189.0	6.675	0.000	0.000
1973	19	0.63	0.58	0.24	0.03	0.54	189.0	6.675	0.000	0.000
1973	20	1.01	0.92	0.24	0.00	0.91	189.0	6.675	0.000	0.000
1973	21	0.90	0.58	0.27	0.00	0.57	189.0	6.675	0.000	0.000
1973	22	0.70	0.70	0.24	0.00	0.69	189.0	6.675	0.000	0.000
1973	23	0.75	0.99	0.24	0.00	0.98	189.0	6.675	0.000	0.000
1973	24	0.87	1.22	0.24	0.00	1.21	189.0	6.675	0.000	0.000
1973	25	0.98	1.11	0.24	0.00	1.10	189.0	6.675	0.000	0.000
1973	26	0.71	0.63	0.24	0.00	0.63	189.0	6.675	0.000	0.000
1973	27	0.96	1.29	0.27	0.00	1.29	189.0	6.675	0.000	0.000
1973	28	1.72	2.10	0.24	0.00	2.09	189.0	6.675	0.000	0.000
1973	29	1.00	1.18	0.24	0.00	1.17	189.0	6.675	0.000	0.000
1973	30	1.00	1.92	0.27	0.00	1.91	189.0	6.675	0.000	0.000
1973	31	0.99	1.31	0.24	0.00	1.30	189.0	6.675	0.000	0.000
1973	32	0.69	0.70	0.24	0.00	0.69	189.0	6.675	0.000	0.000
1973	33	0.68	1.16	0.24	0.00	1.16	189.0	6.675	0.000	0.000
1973	34	0.48	0.56	0.24	0.18	0.37	189.0	6.675	0.000	0.000
1973	35	0.31	0.51	0.21	0.39	0.11	189.0	6.675	0.000	0.000
1973	36	0.34	0.55	0.20	0.46	0.08	189.0	6.675	0.000	0.000

Table WATER BALANCE (9 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Inflow Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1974	1	0.22	0.44	0.19	0.50	0.00	188.7	6.613	0.000	0.000
1974	2	0.18	0.42	0.18	0.55	0.00	188.2	6.473	0.000	0.000
1974	3	0.15	0.42	0.17	0.59	0.00	187.4	6.286	0.000	0.000
1974	4	0.15	0.40	0.15	0.60	0.00	186.5	6.076	0.000	0.000
1974	5	0.18	0.33	0.17	0.56	0.00	185.5	5.839	0.000	0.000
1974	6	0.26	0.35	0.17	0.57	0.00	184.6	5.616	0.000	0.000
1974	7	0.60	0.48	0.14	0.17	0.00	185.9	5.920	0.000	0.000
1974	8	0.50	0.40	0.11	0.30	0.00	186.2	6.010	0.000	0.000
1974	9	0.46	0.40	0.11	0.43	0.00	186.1	5.973	0.000	0.000
1974	10	2.09	1.73	0.24	0.00	1.02	189.0	6.675	0.000	0.000
1974	11	2.21	1.96	0.24	0.00	1.95	189.0	6.675	0.000	0.000
1974	12	1.07	0.56	0.20	0.00	0.55	189.0	6.675	0.000	0.000
1974	13	1.46	1.11	0.24	0.00	1.10	189.0	6.675	0.000	0.000
1974	14	2.22	1.76	0.24	0.00	1.75	189.0	6.675	0.000	0.000
1974	15	1.28	0.97	0.27	0.00	0.96	189.0	6.675	0.000	0.000
1974	16	0.95	0.64	0.24	0.00	0.63	189.0	6.675	0.000	0.000
1974	17	0.76	0.53	0.24	0.00	0.52	189.0	6.675	0.000	0.000
1974	18	0.63	0.44	0.24	0.03	0.40	189.0	6.675	0.000	0.000
1974	19	0.60	0.49	0.21	0.09	0.40	189.0	6.675	0.000	0.000
1974	20	0.48	0.43	0.19	0.24	0.18	189.0	6.675	0.000	0.000
1974	21	0.47	0.42	0.18	0.35	0.07	189.0	6.675	0.000	0.000
1974	22	1.13	1.89	0.24	0.00	1.89	189.0	6.675	0.000	0.000
1974	23	0.65	0.56	0.14	0.12	0.44	189.0	6.675	0.000	0.000
1974	24	0.59	0.64	0.15	0.17	0.46	189.0	6.675	0.000	0.000
1974	25	0.64	0.94	0.18	0.08	0.84	189.0	6.675	0.000	0.000
1974	26	0.88	1.39	0.20	0.00	1.39	189.0	6.675	0.000	0.000
1974	27	0.96	0.93	0.23	0.00	0.92	189.0	6.675	0.000	0.000
1974	28	0.71	0.58	0.14	0.05	0.52	189.0	6.675	0.000	0.000
1974	29	1.11	1.52	0.24	0.00	1.51	189.0	6.675	0.000	0.000
1974	30	1.68	2.43	0.27	0.00	2.42	189.0	6.675	0.000	0.000
1974	31	1.01	0.81	0.24	0.00	0.80	189.0	6.675	0.000	0.000
1974	32	0.80	0.56	0.22	0.00	0.56	189.0	6.675	0.000	0.000
1974	33	0.62	0.52	0.19	0.10	0.41	189.0	6.675	0.000	0.000
1974	34	0.45	0.53	0.16	0.29	0.23	189.0	6.675	0.000	0.000
1974	35	0.34	0.50	0.15	0.42	0.07	189.0	6.675	0.000	0.000
1974	36	0.31	0.52	0.16	0.53	0.00	188.9	6.658	0.000	0.000

Table WATER BALANCE (10 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1975	1	0.23	0.47	0.15	0.53	0.00	188.7	6.593	0.000	0.000
1975	2	0.18	0.43	0.13	0.60	0.00	187.9	6.418	0.000	0.000
1975	3	0.15	0.39	0.21	0.55	0.00	187.2	6.249	0.000	0.000
1975	4	0.17	0.35	0.22	0.51	0.00	186.5	6.074	0.000	0.000
1975	5	0.20	0.41	0.11	0.60	0.00	185.7	5.873	0.000	0.000
1975	6	0.49	0.58	0.14	0.37	0.00	186.5	6.072	0.000	0.000
1975	7	0.32	0.42	0.14	0.45	0.00	186.4	6.039	0.000	0.000
1975	8	0.43	0.46	0.19	0.29	0.00	187.1	6.204	0.000	0.000
1975	9	0.38	0.45	0.17	0.45	0.00	187.0	6.195	0.000	0.000
1975	10	6.93	11.33	0.24	0.00	10.84	189.0	6.675	0.000	0.000
1975	11	2.09	4.60	0.24	0.00	4.59	189.0	6.675	0.000	0.000
1975	12	0.74	1.59	0.20	0.00	1.58	189.0	6.675	0.000	0.000
1975	13	0.89	1.29	0.24	0.00	1.28	189.0	6.675	0.000	0.000
1975	14	2.36	3.86	0.24	0.00	3.85	189.0	6.675	0.000	0.000
1975	15	1.38	1.64	0.27	0.00	1.63	189.0	6.675	0.000	0.000
1975	16	1.14	1.23	0.24	0.00	1.22	189.0	6.675	0.000	0.000
1975	17	0.86	1.01	0.24	0.00	1.00	189.0	6.675	0.000	0.000
1975	18	0.71	0.86	0.24	0.00	0.85	189.0	6.675	0.000	0.000
1975	19	0.67	0.99	0.24	0.00	0.98	189.0	6.675	0.000	0.000
1975	20	0.86	1.82	0.24	0.00	1.82	189.0	6.675	0.000	0.000
1975	21	1.57	2.73	0.27	0.00	2.73	189.0	6.675	0.000	0.000
1975	22	0.88	1.16	0.24	0.00	1.16	189.0	6.675	0.000	0.000
1975	23	0.68	0.73	0.24	0.00	0.72	189.0	6.675	0.000	0.000
1975	24	0.71	1.15	0.24	0.00	1.14	189.0	6.675	0.000	0.000
1975	25	0.70	0.86	0.24	0.00	0.86	189.0	6.675	0.000	0.000
1975	26	0.72	0.80	0.24	0.00	0.80	189.0	6.675	0.000	0.000
1975	27	0.57	0.66	0.27	0.16	0.49	189.0	6.675	0.000	0.000
1975	28	0.45	0.49	0.24	0.21	0.27	189.0	6.675	0.000	0.000
1975	29	0.41	0.43	0.23	0.27	0.15	189.0	6.675	0.000	0.000
1975	30	0.49	0.55	0.27	0.24	0.31	189.0	6.675	0.000	0.000
1975	31	0.55	0.59	0.24	0.11	0.47	189.0	6.675	0.000	0.000
1975	32	0.52	0.65	0.22	0.17	0.47	189.0	6.675	0.000	0.000
1975	33	0.52	0.71	0.20	0.18	0.52	189.0	6.675	0.000	0.000
1975	34	0.41	0.55	0.18	0.32	0.21	189.0	6.675	0.000	0.000
1975	35	0.28	0.44	0.17	0.45	0.00	188.9	6.647	0.000	0.000
1975	36	0.22	0.49	0.17	0.60	0.00	188.4	6.518	0.000	0.000

Table WATER BALANCE (11 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelinea (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1976	1	0.24	0.43	0.16	0.51	0.00	188.0	6.424	0.000	0.000
1976	2	0.16	0.31	0.21	0.53	0.00	187.0	6.192	0.000	0.000
1976	3	0.13	0.29	0.21	0.57	0.00	185.8	5.906	0.000	0.000
1976	4	0.09	0.34	0.14	0.67	0.00	184.4	5.562	0.000	0.000
1976	5	0.08	0.30	0.21	0.61	0.00	183.1	5.245	0.000	0.000
1976	6	0.11	0.37	0.14	0.74	0.00	181.5	4.864	0.000	0.000
1976	7	0.27	0.42	0.18	0.46	0.00	181.3	4.819	0.000	0.000
1976	8	0.33	0.38	0.13	0.44	0.00	181.0	4.753	0.000	0.000
1976	9	0.27	0.34	0.21	0.52	0.00	180.3	4.566	0.000	0.000
1976	10	3.46	3.76	0.24	0.00	1.65	189.0	6.675	0.000	0.000
1976	11	1.58	1.83	0.24	0.00	1.82	189.0	6.675	0.000	0.000
1976	12	1.34	1.96	0.22	0.00	1.95	189.0	6.675	0.000	0.000
1976	13	1.29	1.28	0.24	0.00	1.27	189.0	6.675	0.000	0.000
1976	14	1.05	0.90	0.24	0.00	0.89	189.0	6.675	0.000	0.000
1976	15	0.94	0.71	0.27	0.00	0.70	189.0	6.675	0.000	0.000
1976	16	0.58	0.45	0.23	0.10	0.35	189.0	6.675	0.000	0.000
1976	17	0.59	0.65	0.24	0.07	0.57	189.0	6.675	0.000	0.000
1976	18	1.27	1.96	0.24	0.00	1.95	189.0	6.675	0.000	0.000
1976	19	0.81	0.82	0.24	0.00	0.82	189.0	6.675	0.000	0.000
1976	20	1.09	1.37	0.24	0.00	1.37	189.0	6.675	0.000	0.000
1976	21	2.55	3.59	0.27	0.00	3.58	189.0	6.675	0.000	0.000
1976	22	1.26	1.06	0.24	0.00	1.06	189.0	6.675	0.000	0.000
1976	23	0.89	0.86	0.24	0.00	0.85	189.0	6.675	0.000	0.000
1976	24	1.98	2.42	0.24	0.00	2.42	189.0	6.675	0.000	0.000
1976	25	1.14	1.55	0.24	0.00	1.54	189.0	6.675	0.000	0.000
1976	26	0.83	0.93	0.24	0.00	0.93	189.0	6.675	0.000	0.000
1976	27	0.69	0.70	0.27	0.04	0.65	189.0	6.675	0.000	0.000
1976	28	0.63	0.64	0.24	0.03	0.60	189.0	6.675	0.000	0.000
1976	29	0.85	0.87	0.24	0.00	0.86	189.0	6.675	0.000	0.000
1976	30	0.72	0.80	0.27	0.01	0.78	189.0	6.675	0.000	0.000
1976	31	0.50	0.58	0.24	0.16	0.41	189.0	6.675	0.000	0.000
1976	32	0.46	0.54	0.24	0.20	0.34	189.0	6.675	0.000	0.000
1976	33	0.38	0.43	0.24	0.28	0.14	189.0	6.675	0.000	0.000
1976	34	0.27	0.40	0.24	0.39	0.00	189.0	6.670	0.000	0.000
1976	35	0.23	0.35	0.24	0.43	0.00	188.6	6.579	0.000	0.000
1976	36	0.37	0.44	0.26	0.37	0.00	188.9	6.645	0.000	0.000

Table WATER BALANCE (12 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1977	1	0.30	0.41	0.24	0.36	0.01	189.0	6.675	0.000	0.000
1977	2	0.27	0.42	0.17	0.47	0.00	188.7	6.613	0.000	0.000
1977	3	0.19	0.38	0.19	0.53	0.00	188.1	6.458	0.000	0.000
1977	4	0.16	0.33	0.24	0.51	0.00	187.3	6.274	0.000	0.000
1977	5	0.79	1.23	0.24	0.00	0.82	189.0	6.675	0.000	0.000
1977	6	0.48	0.58	0.27	0.25	0.33	189.0	6.675	0.000	0.000
1977	7	0.42	0.61	0.24	0.24	0.36	189.0	6.675	0.000	0.000
1977	8	2.44	3.83	0.24	0.00	3.82	189.0	6.675	0.000	0.000
1977	9	1.32	1.99	0.27	0.00	1.98	189.0	6.675	0.000	0.000
1977	10	4.03	7.26	0.24	0.00	7.25	189.0	6.675	0.000	0.000
1977	11	3.25	5.52	0.24	0.00	5.51	189.0	6.675	0.000	0.000
1977	12	0.84	1.44	0.20	0.00	1.43	189.0	6.675	0.000	0.000
1977	13	0.73	1.18	0.24	0.00	1.17	189.0	6.675	0.000	0.000
1977	14	0.55	0.85	0.24	0.11	0.73	189.0	6.675	0.000	0.000
1977	15	0.47	0.91	0.27	0.26	0.64	189.0	6.675	0.000	0.000
1977	16	0.60	1.67	0.24	0.06	1.60	189.0	6.675	0.000	0.000
1977	17	1.53	2.98	0.24	0.00	2.97	189.0	6.675	0.000	0.000
1977	18	0.96	1.34	0.24	0.00	1.33	189.0	6.675	0.000	0.000
1977	19	0.86	1.03	0.24	0.00	1.02	189.0	6.675	0.000	0.000
1977	20	0.77	1.10	0.24	0.00	1.09	189.0	6.675	0.000	0.000
1977	21	0.85	0.86	0.27	0.00	0.85	189.0	6.675	0.000	0.000
1977	22	0.80	1.06	0.24	0.00	1.05	189.0	6.675	0.000	0.000
1977	23	0.63	0.59	0.24	0.04	0.55	189.0	6.675	0.000	0.000
1977	24	0.50	0.52	0.23	0.18	0.33	189.0	6.675	0.000	0.000
1977	25	0.51	0.47	0.23	0.16	0.31	189.0	6.675	0.000	0.000
1977	26	0.71	0.63	0.24	0.00	0.63	189.0	6.675	0.000	0.000
1977	27	0.66	0.61	0.27	0.07	0.53	189.0	6.675	0.000	0.000
1977	28	0.52	0.54	0.20	0.19	0.35	189.0	6.675	0.000	0.000
1977	29	0.50	0.52	0.17	0.23	0.28	189.0	6.675	0.000	0.000
1977	30	0.52	0.56	0.17	0.31	0.24	189.0	6.675	0.000	0.000
1977	31	0.33	0.44	0.15	0.43	0.00	189.0	6.670	0.000	0.000
1977	32	0.27	0.41	0.20	0.43	0.00	188.8	6.635	0.000	0.000
1977	33	0.23	0.37	0.20	0.48	0.00	188.4	6.520	0.000	0.000
1977	34	0.27	0.36	0.20	0.44	0.00	188.0	6.434	0.000	0.000
1977	35	0.23	0.31	0.20	0.47	0.00	187.3	6.261	0.000	0.000
1977	36	0.19	0.32	0.19	0.62	0.00	186.0	5.953	0.000	0.000

Table WATER BALANCE (13 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1978	1	0.15	0.27	0.14	0.61	0.00	184.6	5.607	0.000	0.000
1978	2	0.14	0.30	0.14	0.63	0.00	183.2	5.271	0.000	0.000
1978	3	0.12	0.32	0.14	0.65	0.00	181.8	4.932	0.000	0.000
1978	4	0.21	0.41	0.14	0.56	0.00	181.1	4.773	0.000	0.000
1978	5	0.20	0.27	0.16	0.55	0.00	179.9	4.487	0.000	0.000
1978	6	0.45	0.65	0.24	0.31	0.00	181.3	4.825	0.000	0.000
1978	7	0.51	0.61	0.12	0.28	0.00	182.7	5.146	0.000	0.000
1978	8	0.41	0.39	0.24	0.26	0.00	183.2	5.272	0.000	0.000
1978	9	3.27	3.74	0.27	0.00	2.33	189.0	6.675	0.000	0.000
1978	10	1.02	0.97	0.24	0.00	0.96	189.0	6.675	0.000	0.000
1978	11	0.77	0.66	0.24	0.00	0.65	189.0	6.675	0.000	0.000
1978	12	0.48	0.36	0.16	0.09	0.26	189.0	6.675	0.000	0.000
1978	13	1.45	3.29	0.24	0.00	3.28	189.0	6.675	0.000	0.000
1978	14	1.32	1.83	0.24	0.00	1.82	189.0	6.675	0.000	0.000
1978	15	0.90	1.14	0.27	0.00	1.14	189.0	6.675	0.000	0.000
1978	16	1.93	3.20	0.24	0.00	3.19	189.0	6.675	0.000	0.000
1978	17	2.88	5.64	0.24	0.00	5.63	189.0	6.675	0.000	0.000
1978	18	2.43	4.69	0.24	0.00	4.68	189.0	6.675	0.000	0.000
1978	19	1.63	2.65	0.24	0.00	2.64	189.0	6.675	0.000	0.000
1978	20	0.92	1.23	0.24	0.00	1.22	189.0	6.675	0.000	0.000
1978	21	0.82	1.11	0.27	0.00	1.10	189.0	6.675	0.000	0.000
1978	22	0.67	1.02	0.24	0.00	1.01	189.0	6.675	0.000	0.000
1978	23	0.62	0.84	0.24	0.05	0.78	189.0	6.675	0.000	0.000
1978	24	0.58	0.71	0.24	0.09	0.62	189.0	6.675	0.000	0.000
1978	25	0.51	0.64	0.24	0.15	0.48	189.0	6.675	0.000	0.000
1978	26	0.62	0.75	0.24	0.04	0.70	189.0	6.675	0.000	0.000
1978	27	1.16	0.93	0.27	0.00	0.93	189.0	6.675	0.000	0.000
1978	28	0.84	0.55	0.24	0.00	0.55	189.0	6.675	0.000	0.000
1978	29	0.82	0.66	0.24	0.00	0.65	189.0	6.675	0.000	0.000
1978	30	0.91	0.66	0.27	0.00	0.66	189.0	6.675	0.000	0.000
1978	31	0.69	0.51	0.21	0.01	0.50	189.0	6.675	0.000	0.000
1978	32	0.61	0.48	0.20	0.10	0.38	189.0	6.675	0.000	0.000
1978	33	0.48	0.46	0.19	0.24	0.21	189.0	6.675	0.000	0.000
1978	34	0.36	0.42	0.18	0.37	0.04	189.0	6.675	0.000	0.000
1978	35	0.31	0.40	0.16	0.44	0.00	188.8	6.623	0.000	0.000
1978	36	0.31	0.45	0.20	0.49	0.00	188.6	6.571	0.000	0.000

Table WATER BALANCE (14 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1979	1	0.24	0.42	0.19	0.48	0.00	188.3	6.499	0.000	0.000
1979	2	0.19	0.39	0.23	0.48	0.00	187.9	6.401	0.000	0.000
1979	3	0.17	0.32	0.24	0.49	0.00	187.1	6.222	0.000	0.000
1979	4	0.36	0.36	0.24	0.30	0.00	187.3	6.272	0.000	0.000
1979	5	0.21	0.31	0.23	0.47	0.00	186.6	6.102	0.000	0.000
1979	6	0.21	0.41	0.13	0.66	0.00	185.5	5.838	0.000	0.000
1979	7	0.62	0.96	0.24	0.04	0.07	189.0	6.675	0.000	0.000
1979	8	0.61	0.41	0.15	0.14	0.26	189.0	6.675	0.000	0.000
1979	9	1.03	1.11	0.27	0.00	1.10	189.0	6.675	0.000	0.000
1979	10	5.01	4.87	0.24	0.00	4.86	189.0	6.675	0.000	0.000
1979	11	2.06	3.30	0.24	0.00	3.29	189.0	6.675	0.000	0.000
1979	12	1.25	1.58	0.20	0.00	1.57	189.0	6.675	0.000	0.000
1979	13	1.02	1.11	0.24	0.00	1.10	189.0	6.675	0.000	0.000
1979	14	0.77	0.94	0.24	0.00	0.93	189.0	6.675	0.000	0.000
1979	15	1.58	3.05	0.27	0.00	3.04	189.0	6.675	0.000	0.000
1979	16	0.74	0.91	0.24	0.00	0.90	189.0	6.675	0.000	0.000
1979	17	0.54	0.57	0.24	0.13	0.44	189.0	6.675	0.000	0.000
1979	18	0.69	1.15	0.24	0.00	1.14	189.0	6.675	0.000	0.000
1979	19	0.81	0.86	0.24	0.00	0.86	189.0	6.675	0.000	0.000
1979	20	0.87	0.74	0.24	0.00	0.73	189.0	6.675	0.000	0.000
1979	21	0.79	0.58	0.27	0.00	0.58	189.0	6.675	0.000	0.000
1979	22	0.63	0.66	0.24	0.04	0.62	189.0	6.675	0.000	0.000
1979	23	0.61	0.60	0.24	0.06	0.54	189.0	6.675	0.000	0.000
1979	24	0.54	0.51	0.18	0.18	0.32	189.0	6.675	0.000	0.000
1979	25	0.48	0.50	0.16	0.27	0.22	189.0	6.675	0.000	0.000
1979	26	0.42	0.51	0.15	0.34	0.16	189.0	6.675	0.000	0.000
1979	27	0.41	0.48	0.16	0.44	0.04	189.0	6.675	0.000	0.000
1979	28	0.32	0.43	0.12	0.46	0.00	188.8	6.635	0.000	0.000
1979	29	0.28	0.41	0.13	0.50	0.00	188.4	6.540	0.000	0.000
1979	30	1.03	1.39	0.27	0.00	1.24	189.0	6.675	0.000	0.000
1979	31	0.62	0.46	0.19	0.10	0.35	189.0	6.675	0.000	0.000
1979	32	0.50	0.41	0.15	0.26	0.14	189.0	6.675	0.000	0.000
1979	33	0.38	0.31	0.22	0.31	0.00	189.0	6.672	0.000	0.000
1979	34	0.28	0.35	0.24	0.39	0.00	188.8	6.622	0.000	0.000
1979	35	0.22	0.30	0.24	0.44	0.00	188.2	6.474	0.000	0.000
1979	36	0.21	0.34	0.27	0.52	0.00	187.4	6.288	0.000	0.000

Table WATER BALANCE (15 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Inflow Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1980	1	0.22	0.28	0.24	0.44	0.00	186.7	6.110	0.000	0.000
1980	2	0.17	0.29	0.21	0.53	0.00	185.6	5.855	0.000	0.000
1980	3	0.16	0.28	0.24	0.50	0.00	184.7	5.627	0.000	0.000
1980	4	0.15	0.28	0.23	0.53	0.00	183.6	5.373	0.000	0.000
1980	5	4.19	4.19	0.24	0.00	2.88	189.0	6.675	0.000	0.000
1980	6	4.47	7.31	0.27	0.00	7.30	189.0	6.675	0.000	0.000
1980	7	1.23	1.89	0.24	0.00	1.88	189.0	6.675	0.000	0.000
1980	8	6.63	7.28	0.24	0.00	7.26	189.0	6.675	0.000	0.000
1980	9	29.45	22.87	0.27	0.00	22.86	189.0	6.675	0.000	0.000
1980	10	9.68	8.12	0.24	0.00	8.11	189.0	6.675	0.000	0.000
1980	11	4.40	3.62	0.24	0.00	3.61	189.0	6.675	0.000	0.000
1980	12	2.01	3.10	0.22	0.00	3.09	189.0	6.675	0.000	0.000
1980	13	5.02	6.57	0.24	0.00	6.56	189.0	6.675	0.000	0.000
1980	14	11.14	9.14	0.24	0.00	9.13	189.0	6.675	0.000	0.000
1980	15	13.88	7.72	0.27	0.00	7.71	189.0	6.675	0.000	0.000
1980	16	6.93	3.75	0.24	0.00	3.74	189.0	6.675	0.000	0.000
1980	17	2.76	5.09	0.24	0.00	5.08	189.0	6.675	0.000	0.000
1980	18	2.93	4.20	0.24	0.00	4.20	189.0	6.675	0.000	0.000
1980	19	2.24	3.32	0.24	0.00	3.31	189.0	6.675	0.000	0.000
1980	20	0.97	1.78	0.24	0.00	1.77	189.0	6.675	0.000	0.000
1980	21	1.20	1.63	0.27	0.00	1.63	189.0	6.675	0.000	0.000
1980	22	1.27	1.93	0.24	0.00	1.93	189.0	6.675	0.000	0.000
1980	23	0.78	1.00	0.24	0.00	1.00	189.0	6.675	0.000	0.000
1980	24	0.60	0.88	0.24	0.06	0.82	189.0	6.675	0.000	0.000
1980	25	0.55	0.78	0.24	0.12	0.65	189.0	6.675	0.000	0.000
1980	26	0.46	0.56	0.24	0.20	0.35	189.0	6.675	0.000	0.000
1980	27	0.55	0.76	0.27	0.18	0.57	189.0	6.675	0.000	0.000
1980	28	0.50	0.65	0.24	0.16	0.48	189.0	6.675	0.000	0.000
1980	29	0.42	0.46	0.24	0.24	0.21	189.0	6.675	0.000	0.000
1980	30	0.39	0.45	0.23	0.38	0.06	189.0	6.675	0.000	0.000
1980	31	0.29	0.39	0.16	0.45	0.00	188.7	6.600	0.000	0.000
1980	32	0.24	0.38	0.15	0.52	0.00	188.1	6.449	0.000	0.000
1980	33	0.25	0.45	0.15	0.51	0.00	187.8	6.379	0.000	0.000
1980	34	0.22	0.39	0.14	0.55	0.00	187.1	6.208	0.000	0.000
1980	35	0.25	0.41	0.14	0.51	0.00	186.6	6.098	0.000	0.000
1980	36	0.23	0.43	0.17	0.60	0.00	185.9	5.917	0.000	0.000

Table WATER BALANCE (16 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1981	1	0.24	0.46	0.18	0.50	0.00	185.7	5.868	0.000	0.000
1981	2	0.19	0.40	0.14	0.58	0.00	184.9	5.681	0.000	0.000
1981	3	0.16	0.39	0.14	0.61	0.00	184.0	5.457	0.000	0.000
1981	4	0.16	0.40	0.21	0.54	0.00	183.4	5.312	0.000	0.000
1981	5	0.12	0.35	0.18	0.60	0.00	182.3	5.049	0.000	0.000
1981	6	0.13	0.40	0.18	0.68	0.00	181.1	4.758	0.000	0.000
1981	7	0.23	0.52	0.18	0.50	0.00	181.1	4.769	0.000	0.000
1981	8	0.16	0.37	0.13	0.61	0.00	180.1	4.524	0.000	0.000
1981	9	0.14	0.34	0.15	0.70	0.00	178.1	4.159	0.000	0.000
1981	10	0.45	0.64	0.17	0.29	0.00	180.0	4.503	0.000	0.000
1981	11	0.18	0.34	0.15	0.58	0.00	178.6	4.257	0.000	0.000
1981	12	0.13	0.25	0.10	0.49	0.00	177.2	4.009	0.000	0.000
1981	13	1.47	1.01	0.24	0.00	0.00	182.1	5.014	0.000	0.000
1981	14	0.72	0.47	0.19	0.00	0.00	184.0	5.474	0.000	0.000
1981	15	0.54	0.44	0.16	0.29	0.00	184.6	5.610	0.000	0.000
1981	16	1.11	0.93	0.24	0.00	0.00	188.4	6.538	0.000	0.000
1981	17	9.47	10.61	0.24	0.00	10.46	189.0	6.675	0.000	0.000
1981	18	2.81	4.34	0.24	0.00	4.33	189.0	6.675	0.000	0.000
1981	19	1.79	2.46	0.24	0.00	2.45	189.0	6.675	0.000	0.000
1981	20	1.13	1.62	0.24	0.00	1.61	189.0	6.675	0.000	0.000
1981	21	0.83	1.06	0.27	0.00	1.05	189.0	6.675	0.000	0.000
1981	22	0.56	0.77	0.24	0.10	0.66	189.0	6.675	0.000	0.000
1981	23	0.45	0.67	0.24	0.21	0.45	189.0	6.675	0.000	0.000
1981	24	0.34	0.56	0.24	0.33	0.23	189.0	6.675	0.000	0.000
1981	25	0.25	0.47	0.21	0.45	0.02	189.0	6.675	0.000	0.000
1981	26	0.22	0.43	0.20	0.49	0.00	188.8	6.615	0.000	0.000
1981	27	0.28	0.48	0.19	0.52	0.00	188.5	6.562	0.000	0.000
1981	28	0.39	0.54	0.19	0.33	0.09	189.0	6.675	0.000	0.000
1981	29	0.30	0.43	0.16	0.44	0.00	188.9	6.655	0.000	0.000
1981	30	0.28	0.50	0.18	0.54	0.00	188.7	6.613	0.000	0.000
1981	31	0.22	0.42	0.12	0.57	0.00	188.1	6.458	0.000	0.000
1981	32	0.25	0.41	0.12	0.54	0.00	187.6	6.328	0.000	0.000
1981	33	0.28	0.42	0.12	0.50	0.00	187.2	6.233	0.000	0.000
1981	34	0.27	0.40	0.10	0.54	0.00	186.6	6.088	0.000	0.000
1981	35	0.23	0.39	0.10	0.58	0.00	185.8	5.890	0.000	0.000
1981	36	0.21	0.35	0.19	0.60	0.00	184.7	5.636	0.000	0.000

Table WATER BALANCE (17 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1982	1	0.16	0.29	0.21	0.54	0.00	183.6	5.378	0.000	0.000
1982	2	0.14	0.28	0.20	0.57	0.00	182.4	5.080	0.000	0.000
1982	3	0.40	0.30	0.22	0.29	0.00	182.4	5.086	0.000	0.000
1982	4	1.45	1.42	0.24	0.00	0.00	188.3	6.500	0.000	0.000
1982	5	0.80	0.52	0.24	0.00	0.33	189.0	6.675	0.000	0.000
1982	6	0.59	0.41	0.27	0.13	0.26	189.0	6.675	0.000	0.000
1982	7	0.65	0.45	0.23	0.03	0.41	189.0	6.675	0.000	0.000
1982	8	0.82	0.61	0.22	0.00	0.60	189.0	6.675	0.000	0.000
1982	9	0.86	0.71	0.27	0.00	0.70	189.0	6.675	0.000	0.000
1982	10	11.57	10.64	0.24	0.00	10.63	189.0	6.675	0.000	0.000
1982	11	3.60	5.38	0.24	0.00	5.37	189.0	6.675	0.000	0.000
1982	12	11.35	10.89	0.20	0.00	10.88	189.0	6.675	0.000	0.000
1982	13	4.05	4.13	0.24	0.00	4.13	189.0	6.675	0.000	0.000
1982	14	2.36	2.46	0.24	0.00	2.45	189.0	6.675	0.000	0.000
1982	15	1.00	1.71	0.27	0.00	1.70	189.0	6.675	0.000	0.000
1982	16	0.70	1.20	0.24	0.00	1.19	189.0	6.675	0.000	0.000
1982	17	0.48	1.04	0.24	0.19	0.85	189.0	6.675	0.000	0.000
1982	18	0.44	0.79	0.24	0.22	0.56	189.0	6.675	0.000	0.000
1982	19	0.50	0.97	0.24	0.16	0.81	189.0	6.675	0.000	0.000
1982	20	1.41	2.34	0.24	0.00	2.33	189.0	6.675	0.000	0.000
1982	21	2.27	3.89	0.27	0.00	3.88	189.0	6.675	0.000	0.000
1982	22	1.37	3.02	0.24	0.00	3.02	189.0	6.675	0.000	0.000
1982	23	1.25	2.62	0.24	0.00	2.61	189.0	6.675	0.000	0.000
1982	24	0.87	1.69	0.24	0.00	1.68	189.0	6.675	0.000	0.000
1982	25	0.82	1.62	0.24	0.00	1.61	189.0	6.675	0.000	0.000
1982	26	0.75	1.47	0.24	0.00	1.46	189.0	6.675	0.000	0.000
1982	27	1.28	2.26	0.27	0.00	2.26	189.0	6.675	0.000	0.000
1982	28	1.01	1.42	0.24	0.00	1.41	189.0	6.675	0.000	0.000
1982	29	0.82	2.55	0.24	0.00	2.55	189.0	6.675	0.000	0.000
1982	30	1.19	2.61	0.27	0.00	2.60	189.0	6.675	0.000	0.000
1982	31	1.16	2.02	0.24	0.00	2.01	189.0	6.675	0.000	0.000
1982	32	1.08	1.80	0.24	0.00	1.79	189.0	6.675	0.000	0.000
1982	33	0.87	1.18	0.24	0.00	1.17	189.0	6.675	0.000	0.000
1982	34	1.87	4.04	0.24	0.00	4.03	189.0	6.675	0.000	0.000
1982	35	0.85	1.45	0.24	0.00	1.44	189.0	6.675	0.000	0.000
1982	36	0.85	1.38	0.27	0.00	1.37	189.0	6.675	0.000	0.000

Table WATER BALANCE (18 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year	Inflow Resi. (MCM)	Inflow Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1983 1	0.85	1.12	0.24	0.00	1.11	189.0	6.675	0.000	0.000
1983 2	1.13	1.48	0.24	0.00	1.47	189.0	6.675	0.000	0.000
1983 3	0.91	1.19	0.24	0.00	1.18	189.0	6.675	0.000	0.000
1983 4	0.94	1.36	0.24	0.00	1.35	189.0	6.675	0.000	0.000
1983 5	0.66	0.75	0.24	0.01	0.74	189.0	6.675	0.000	0.000
1983 6	1.53	2.29	0.27	0.00	2.28	189.0	6.675	0.000	0.000
1983 7	0.61	0.71	0.24	0.06	0.64	189.0	6.675	0.000	0.000
1983 8	0.50	0.64	0.24	0.16	0.47	189.0	6.675	0.000	0.000
1983 9	1.53	2.49	0.27	0.00	2.48	189.0	6.675	0.000	0.000
1983 10	2.07	2.53	0.24	0.00	2.52	189.0	6.675	0.000	0.000
1983 11	1.06	2.04	0.24	0.00	2.03	189.0	6.675	0.000	0.000
1983 12	0.62	0.85	0.20	0.00	0.84	189.0	6.675	0.000	0.000
1983 13	0.68	0.86	0.24	0.00	0.86	189.0	6.675	0.000	0.000
1983 14	0.56	0.61	0.24	0.11	0.50	189.0	6.675	0.000	0.000
1983 15	0.49	0.60	0.27	0.24	0.35	189.0	6.675	0.000	0.000
1983 16	0.36	0.50	0.23	0.31	0.18	189.0	6.675	0.000	0.000
1983 17	0.32	0.52	0.23	0.35	0.16	189.0	6.675	0.000	0.000
1983 18	0.25	0.50	0.24	0.41	0.08	189.0	6.675	0.000	0.000
1983 19	0.27	0.53	0.24	0.39	0.13	189.0	6.675	0.000	0.000
1983 20	0.24	0.51	0.19	0.48	0.02	189.0	6.675	0.000	0.000
1983 21	0.21	0.51	0.15	0.63	0.00	188.5	6.543	0.000	0.000
1983 22	0.18	0.40	0.11	0.62	0.00	187.6	6.326	0.000	0.000
1983 23	0.17	0.45	0.10	0.63	0.00	186.8	6.146	0.000	0.000
1983 24	0.17	0.43	0.09	0.65	0.00	185.9	5.922	0.000	0.000
1983 25	0.14	0.40	0.08	0.68	0.00	184.7	5.636	0.000	0.000
1983 26	0.19	0.50	0.09	0.63	0.00	184.2	5.503	0.000	0.000
1983 27	0.24	0.58	0.09	0.67	0.00	183.7	5.404	0.000	0.000
1983 28	0.18	0.44	0.07	0.65	0.00	182.8	5.183	0.000	0.000
1983 29	0.21	0.38	0.07	0.63	0.00	181.8	4.930	0.000	0.000
1983 30	0.21	0.43	0.08	0.71	0.00	180.6	4.650	0.000	0.000
1983 31	0.17	0.35	0.06	0.67	0.00	179.0	4.323	0.000	0.000
1983 32	0.16	0.31	0.06	0.69	0.00	176.8	3.938	0.000	0.000
1983 33	0.14	0.29	0.05	0.72	0.00	174.3	3.503	0.000	0.000
1983 34	0.11	0.26	0.05	0.75	0.00	171.3	3.013	0.000	0.000
1983 35	0.14	0.33	0.06	0.70	0.00	168.3	2.632	0.000	0.000
1983 36	0.13	0.31	0.05	0.82	0.00	164.1	2.118	0.000	0.000

Table WATER BALANCE (19 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1984	1	0.07	0.26	0.04	0.79	0.00	159.8	1.578	0.000	0.000
1984	2	0.06	0.23	0.06	0.79	0.00	153.4	1.021	0.000	0.000
1984	3	0.21	0.30	0.15	0.54	0.00	149.4	0.772	0.000	0.000
1984	4	0.32	0.34	0.09	0.49	0.00	146.3	0.613	0.000	0.000
1984	5	0.17	0.29	0.12	0.62	0.00	139.1	0.279	0.000	0.000
1984	6	7.31	5.64	0.27	0.00	0.00	185.9	5.922	0.000	0.000
1984	7	0.98	1.28	0.24	0.00	0.52	189.0	6.675	0.000	0.000
1984	8	0.67	0.86	0.24	0.00	0.85	189.0	6.675	0.000	0.000
1984	9	1.86	4.09	0.27	0.00	4.08	189.0	6.675	0.000	0.000
1984	10	3.45	4.03	0.24	0.00	4.02	189.0	6.675	0.000	0.000
1984	11	1.14	1.58	0.24	0.00	1.57	189.0	6.675	0.000	0.000
1984	12	0.74	1.02	0.22	0.00	1.01	189.0	6.675	0.000	0.000
1984	13	0.76	1.01	0.24	0.00	1.00	189.0	6.675	0.000	0.000
1984	14	0.65	0.73	0.24	0.01	0.71	189.0	6.675	0.000	0.000
1984	15	0.53	0.57	0.27	0.20	0.36	189.0	6.675	0.000	0.000
1984	16	0.44	0.62	0.24	0.22	0.39	189.0	6.675	0.000	0.000
1984	17	0.40	0.50	0.23	0.28	0.21	189.0	6.675	0.000	0.000
1984	18	0.48	0.65	0.23	0.20	0.44	189.0	6.675	0.000	0.000
1984	19	0.42	0.57	0.19	0.29	0.27	189.0	6.675	0.000	0.000
1984	20	0.34	0.50	0.17	0.40	0.10	189.0	6.675	0.000	0.000
1984	21	0.36	0.66	0.18	0.46	0.20	189.0	6.675	0.000	0.000
1984	22	0.37	0.68	0.19	0.35	0.32	189.0	6.675	0.000	0.000
1984	23	0.38	0.48	0.19	0.34	0.14	189.0	6.675	0.000	0.000
1984	24	0.33	0.44	0.15	0.42	0.01	189.0	6.675	0.000	0.000
1984	25	0.30	0.48	0.13	0.48	0.00	189.0	6.675	0.000	0.000
1984	26	0.37	0.56	0.13	0.41	0.14	189.0	6.675	0.000	0.000
1984	27	0.39	0.52	0.13	0.47	0.03	189.0	6.675	0.000	0.000
1984	28	0.48	0.80	0.15	0.28	0.52	189.0	6.675	0.000	0.000
1984	29	0.76	1.11	0.21	0.00	1.10	189.0	6.675	0.000	0.000
1984	30	0.61	0.59	0.17	0.22	0.37	189.0	6.675	0.000	0.000
1984	31	0.42	0.43	0.12	0.36	0.06	189.0	6.675	0.000	0.000
1984	32	0.44	0.48	0.15	0.32	0.15	189.0	6.675	0.000	0.000
1984	33	0.39	0.44	0.12	0.40	0.03	189.0	6.675	0.000	0.000
1984	34	0.54	0.49	0.16	0.21	0.28	189.0	6.675	0.000	0.000
1984	35	0.36	0.39	0.13	0.41	0.00	188.9	6.643	0.000	0.000
1984	36	0.31	0.38	0.12	0.57	0.00	188.0	6.441	0.000	0.000

Table WATER BALANCE (20 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1985	1	0.21	0.33	0.10	0.59	0.00	186.9	6.175	0.000	0.000
1985	2	0.20	0.33	0.12	0.59	0.00	185.8	5.905	0.000	0.000
1985	3	0.20	0.32	0.10	0.60	0.00	184.6	5.612	0.000	0.000
1985	4	0.17	0.40	0.08	0.66	0.00	183.5	5.337	0.000	0.000
1985	5	0.46	0.55	0.15	0.30	0.00	184.4	5.569	0.000	0.000
1985	6	0.62	0.64	0.18	0.19	0.00	186.2	6.001	0.000	0.000
1985	7	0.29	0.33	0.11	0.52	0.00	185.4	5.804	0.000	0.000
1985	8	8.58	6.17	0.24	0.00	5.29	189.0	6.675	0.000	0.000
1985	9	3.83	4.87	0.27	0.00	4.86	189.0	6.675	0.000	0.000
1985	10	3.79	3.01	0.24	0.00	3.00	189.0	6.675	0.000	0.000
1985	11	13.75	13.39	0.24	0.00	13.38	189.0	6.675	0.000	0.000
1985	12	10.61	10.70	0.20	0.00	10.69	189.0	6.675	0.000	0.000
1985	13	8.40	8.84	0.24	0.00	8.83	189.0	6.675	0.000	0.000
1985	14	2.45	3.20	0.24	0.00	3.19	189.0	6.675	0.000	0.000
1985	15	1.15	2.48	0.27	0.00	2.47	189.0	6.675	0.000	0.000
1985	16	0.85	1.49	0.24	0.00	1.48	189.0	6.675	0.000	0.000
1985	17	0.79	1.55	0.24	0.00	1.54	189.0	6.675	0.000	0.000
1985	18	1.06	2.22	0.24	0.00	2.21	189.0	6.675	0.000	0.000
1985	19	0.68	1.05	0.24	0.00	1.04	189.0	6.675	0.000	0.000
1985	20	0.51	0.71	0.24	0.15	0.55	189.0	6.675	0.000	0.000
1985	21	0.49	0.74	0.27	0.24	0.49	189.0	6.675	0.000	0.000
1985	22	0.38	0.59	0.24	0.29	0.30	189.0	6.675	0.000	0.000
1985	23	0.78	1.05	0.24	0.00	1.04	189.0	6.675	0.000	0.000
1985	24	0.72	0.74	0.24	0.00	0.73	189.0	6.675	0.000	0.000
1985	25	0.54	0.57	0.24	0.13	0.44	189.0	6.675	0.000	0.000
1985	26	0.48	0.65	0.24	0.19	0.46	189.0	6.675	0.000	0.000
1985	27	0.88	1.42	0.27	0.00	1.41	189.0	6.675	0.000	0.000
1985	28	0.61	0.64	0.22	0.08	0.56	189.0	6.675	0.000	0.000
1985	29	0.50	0.48	0.21	0.20	0.28	189.0	6.675	0.000	0.000
1985	30	0.72	0.64	0.24	0.04	0.59	189.0	6.675	0.000	0.000
1985	31	0.58	0.59	0.20	0.13	0.45	189.0	6.675	0.000	0.000
1985	32	0.67	0.62	0.22	0.02	0.59	189.0	6.675	0.000	0.000
1985	33	0.57	0.50	0.24	0.09	0.40	189.0	6.675	0.000	0.000
1985	34	0.46	0.35	0.23	0.21	0.12	189.0	6.675	0.000	0.000
1985	35	0.43	0.37	0.22	0.25	0.11	189.0	6.675	0.000	0.000
1985	36	0.44	0.42	0.21	0.34	0.06	189.0	6.675	0.000	0.000

Table WATER BALANCE (21 /21)
(without leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year	Inflow Resi. (MCM)	Inflow Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1986 1	0.33	0.36	0.19	0.38	0.00	188.9	6.643	0.000	0.000
1986 2	0.31	0.34	0.17	0.43	0.00	188.5	6.543	0.000	0.000
1986 3	0.27	0.47	0.20	0.43	0.00	188.6	6.576	0.000	0.000
1986 4	0.32	0.46	0.18	0.40	0.00	188.8	6.619	0.000	0.000
1986 5	0.54	0.88	0.24	0.12	0.69	189.0	6.675	0.000	0.000
1986 6	3.62	4.71	0.27	0.00	4.70	189.0	6.675	0.000	0.000
1986 7	1.42	1.39	0.24	0.00	1.38	189.0	6.675	0.000	0.000
1986 8	0.89	0.82	0.24	0.00	0.81	189.0	6.675	0.000	0.000
1986 9	0.80	1.00	0.27	0.00	0.99	189.0	6.675	0.000	0.000
1986 10	1.87	2.89	0.24	0.00	2.88	189.0	6.675	0.000	0.000
1986 11	3.28	4.04	0.24	0.00	4.03	189.0	6.675	0.000	0.000
1986 12	1.08	1.53	0.20	0.00	1.52	189.0	6.675	0.000	0.000
1986 13	1.29	1.44	0.24	0.00	1.43	189.0	6.675	0.000	0.000
1986 14	5.29	5.54	0.24	0.00	5.53	189.0	6.675	0.000	0.000
1986 15	1.30	2.44	0.27	0.00	2.43	189.0	6.675	0.000	0.000
1986 16	0.79	1.19	0.24	0.00	1.18	189.0	6.675	0.000	0.000
1986 17	0.59	0.87	0.24	0.07	0.79	189.0	6.675	0.000	0.000
1986 18	0.61	1.51	0.24	0.05	1.45	189.0	6.675	0.000	0.000
1986 19	0.94	0.93	0.24	0.00	0.92	189.0	6.675	0.000	0.000
1986 20	0.75	0.95	0.24	0.00	0.95	189.0	6.675	0.000	0.000
1986 21	0.79	0.76	0.27	0.00	0.76	189.0	6.675	0.000	0.000
1986 22	0.60	0.58	0.24	0.06	0.52	189.0	6.675	0.000	0.000
1986 23	0.50	0.49	0.21	0.20	0.29	189.0	6.675	0.000	0.000
1986 24	0.44	0.49	0.18	0.29	0.20	189.0	6.675	0.000	0.000
1986 25	0.43	0.52	0.17	0.31	0.21	189.0	6.675	0.000	0.000
1986 26	0.39	0.41	0.24	0.28	0.12	189.0	6.675	0.000	0.000
1986 27	0.35	0.41	0.25	0.40	0.00	189.0	6.675	0.000	0.000
1986 28	0.33	0.41	0.24	0.34	0.07	189.0	6.675	0.000	0.000
1986 29	1.07	1.26	0.24	0.00	1.25	189.0	6.675	0.000	0.000
1986 30	0.72	0.76	0.27	0.01	0.74	189.0	6.675	0.000	0.000
1986 31	0.50	0.46	0.24	0.16	0.30	189.0	6.675	0.000	0.000
1986 32	0.46	0.40	0.23	0.22	0.16	189.0	6.675	0.000	0.000
1986 33	0.35	0.33	0.22	0.34	0.00	188.9	6.662	0.000	0.000
1986 34	0.35	0.37	0.24	0.32	0.03	189.0	6.675	0.000	0.000
1986 35	0.36	0.51	0.24	0.30	0.19	189.0	6.675	0.000	0.000
1986 36	0.30	0.36	0.24	0.46	0.00	188.6	6.571	0.000	0.000

(3) WATER BALANCE (WITH LEAKAGE FROM RESERVOIR)

Table WATER BALANCE (1 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year	Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit (MCM)
1966 9	0.82	1.70	0.27	0.00	0.76	189.0	6.675	0.017	0.000
1966 10	0.33	0.65	0.24	0.30	0.31	189.0	6.675	0.026	0.000
1966 11	0.25	0.57	0.24	0.39	0.14	189.0	6.675	0.026	0.000
1966 12	0.33	0.66	0.20	0.17	0.46	189.0	6.675	0.021	0.000
1966 13	0.27	0.53	0.24	0.37	0.13	189.0	6.675	0.026	0.000
1966 14	0.77	0.86	0.24	0.00	0.83	189.0	6.675	0.026	0.000
1966 15	1.55	1.37	0.27	0.00	1.33	189.0	6.675	0.029	0.000
1966 16	0.95	0.74	0.24	0.00	0.70	189.0	6.675	0.026	0.000
1966 17	0.61	0.48	0.24	0.02	0.42	189.0	6.675	0.026	0.000
1966 18	0.44	0.33	0.24	0.21	0.09	189.0	6.675	0.026	0.000
1966 19	0.29	0.30	0.20	0.39	0.00	188.5	6.547	0.026	0.000
1966 20	0.21	0.27	0.20	0.48	0.00	187.5	6.306	0.025	0.000
1966 21	0.15	0.25	0.19	0.63	0.00	185.8	5.903	0.024	0.000
1966 22	0.09	0.18	0.16	0.64	0.00	183.8	5.415	0.017	0.000
1966 23	0.32	0.85	0.24	0.33	0.00	185.9	5.916	0.012	0.000
1966 24	0.25	1.02	0.20	0.43	0.00	188.2	6.481	0.017	0.000
1966 25	0.36	0.72	0.14	0.39	0.11	189.0	6.675	0.024	0.000
1966 26	0.33	0.55	0.16	0.39	0.13	189.0	6.675	0.026	0.000
1966 27	0.32	0.43	0.22	0.43	0.00	188.8	6.637	0.029	0.000
1966 28	0.22	0.50	0.18	0.48	0.00	188.8	6.617	0.026	0.000
1966 29	0.30	0.74	0.19	0.39	0.26	189.0	6.675	0.025	0.000
1966 30	0.24	0.57	0.22	0.51	0.02	189.0	6.675	0.029	0.000
1966 31	0.37	0.55	0.24	0.27	0.24	189.0	6.675	0.026	0.000
1966 32	0.33	0.31	0.24	0.31	0.00	188.9	6.644	0.026	0.000
1966 33	0.20	0.23	0.24	0.44	0.00	187.9	6.398	0.026	0.000
1966 34	0.18	0.25	0.24	0.46	0.00	186.9	6.161	0.023	0.000
1966 35	0.13	0.26	0.23	0.52	0.00	185.7	5.866	0.020	0.000
1966 36	0.09	0.26	0.18	0.71	0.00	183.7	5.394	0.019	0.000

Table WATER BALANCE (2 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1967	1	0.06	0.18	0.15	0.68	0.00	181.5	4.874	0.012	0.000
1967	2	0.06	0.19	0.10	0.74	0.00	178.9	4.303	0.008	0.000
1967	3	0.05	0.19	0.08	0.77	0.00	175.5	3.715	0.003	0.000
1967	4	0.17	0.58	0.12	0.62	0.00	175.2	3.668	0.000	0.000
1967	5	0.09	0.18	0.10	0.72	0.00	172.1	3.124	0.000	0.000
1967	6	1.30	1.12	0.26	0.00	0.00	178.5	4.239	0.000	0.000
1967	7	1.03	0.87	0.18	0.00	0.00	182.5	5.099	0.003	0.000
1967	8	6.24	9.58	0.24	0.00	7.99	189.0	6.675	0.010	0.000
1967	9	1.64	2.59	0.27	0.00	2.55	189.0	6.675	0.029	0.000
1967	10	0.72	1.13	0.24	0.00	1.09	189.0	6.675	0.026	0.000
1967	11	0.51	0.97	0.24	0.13	0.81	189.0	6.675	0.026	0.000
1967	12	0.28	0.44	0.20	0.23	0.18	189.0	6.675	0.021	0.000
1967	13	0.44	1.10	0.24	0.20	0.86	189.0	6.675	0.026	0.000
1967	14	0.75	1.18	0.24	0.00	1.15	189.0	6.675	0.026	0.000
1967	15	2.30	3.00	0.27	0.00	2.96	189.0	6.675	0.029	0.000
1967	16	2.67	3.42	0.24	0.00	3.38	189.0	6.675	0.026	0.000
1967	17	1.74	2.33	0.24	0.00	2.30	189.0	6.675	0.026	0.000
1967	18	1.67	2.29	0.24	0.00	2.25	189.0	6.675	0.026	0.000
1967	19	1.08	1.63	0.24	0.00	1.60	189.0	6.675	0.026	0.000
1967	20	0.78	1.16	0.24	0.00	1.13	189.0	6.675	0.026	0.000
1967	21	0.57	0.73	0.27	0.13	0.56	189.0	6.675	0.029	0.000
1967	22	0.44	0.62	0.24	0.20	0.39	189.0	6.675	0.026	0.000
1967	23	0.48	0.84	0.24	0.16	0.65	189.0	6.675	0.026	0.000
1967	24	0.63	1.14	0.24	0.00	1.11	189.0	6.675	0.026	0.000
1967	25	0.44	1.03	0.24	0.20	0.81	189.0	6.675	0.026	0.000
1967	26	1.01	1.82	0.24	0.00	1.79	189.0	6.675	0.026	0.000
1967	27	1.40	2.14	0.27	0.00	2.11	189.0	6.675	0.029	0.000
1967	28	0.92	1.32	0.24	0.00	1.29	189.0	6.675	0.026	0.000
1967	29	0.73	0.86	0.24	0.00	0.83	189.0	6.675	0.026	0.000
1967	30	0.99	1.84	0.27	0.00	1.81	189.0	6.675	0.029	0.000
1967	31	0.65	1.19	0.24	0.00	1.16	189.0	6.675	0.026	0.000
1967	32	0.52	0.73	0.24	0.12	0.58	189.0	6.675	0.026	0.000
1967	33	0.52	0.58	0.24	0.11	0.43	189.0	6.675	0.026	0.000
1967	34	0.60	0.65	0.24	0.03	0.58	189.0	6.675	0.026	0.000
1967	35	0.46	0.68	0.24	0.17	0.47	189.0	6.675	0.026	0.000
1967	36	0.36	0.60	0.27	0.34	0.22	189.0	6.675	0.029	0.000

Table WATER BALANCE (3 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1968	1	1.13	2.03	0.24	0.00	2.00	189.0	6.675	0.026	0.000
1968	2	0.48	0.74	0.24	0.15	0.55	189.0	6.675	0.026	0.000
1968	3	1.59	2.24	0.24	0.00	2.20	189.0	6.675	0.026	0.000
1968	4	2.58	2.97	0.24	0.00	2.93	189.0	6.675	0.026	0.000
1968	5	2.59	3.92	0.24	0.00	3.88	189.0	6.675	0.026	0.000
1968	6	1.61	2.52	0.27	0.00	2.48	189.0	6.675	0.029	0.000
1968	7	0.64	1.16	0.24	0.00	1.12	189.0	6.675	0.026	0.000
1968	8	0.47	0.74	0.24	0.16	0.53	189.0	6.675	0.026	0.000
1968	9	0.42	0.68	0.27	0.28	0.36	189.0	6.675	0.029	0.000
1968	10	0.35	0.47	0.24	0.29	0.15	189.0	6.675	0.026	0.000
1968	11	10.69	17.68	0.24	0.00	17.65	189.0	6.675	0.026	0.000
1968	12	3.62	5.79	0.22	0.00	5.76	189.0	6.675	0.024	0.000
1968	13	4.81	6.44	0.24	0.00	6.40	189.0	6.675	0.026	0.000
1968	14	4.99	7.41	0.24	0.00	7.38	189.0	6.675	0.026	0.000
1968	15	3.48	5.80	0.27	0.00	5.76	189.0	6.675	0.029	0.000
1968	16	1.30	2.03	0.24	0.00	1.99	189.0	6.675	0.026	0.000
1968	17	0.65	0.93	0.24	0.00	0.90	189.0	6.675	0.026	0.000
1968	18	0.48	0.59	0.22	0.18	0.38	189.0	6.675	0.026	0.000
1968	19	0.38	0.51	0.19	0.31	0.17	189.0	6.675	0.026	0.000
1968	20	0.29	0.46	0.15	0.44	0.00	188.9	6.657	0.026	0.000
1968	21	0.30	0.50	0.17	0.50	0.00	188.8	6.625	0.029	0.000
1968	22	0.33	0.53	0.24	0.31	0.14	189.0	6.675	0.026	0.000
1968	23	0.21	0.54	0.17	0.50	0.01	189.0	6.675	0.026	0.000
1968	24	0.34	0.47	0.17	0.38	0.06	189.0	6.675	0.026	0.000
1968	25	0.37	0.57	0.24	0.27	0.27	189.0	6.675	0.026	0.000
1968	26	0.37	0.54	0.21	0.30	0.21	189.0	6.675	0.026	0.000
1968	27	0.44	0.88	0.22	0.32	0.53	189.0	6.675	0.029	0.000
1968	28	0.45	0.76	0.24	0.19	0.54	189.0	6.675	0.026	0.000
1968	29	0.35	0.61	0.21	0.31	0.27	189.0	6.675	0.026	0.000
1968	30	0.29	0.64	0.21	0.47	0.14	189.0	6.675	0.029	0.000
1968	31	0.28	0.42	0.22	0.38	0.01	189.0	6.675	0.026	0.000
1968	32	0.37	0.44	0.23	0.28	0.13	189.0	6.675	0.026	0.000
1968	33	0.26	0.32	0.19	0.43	0.00	188.4	6.528	0.026	0.000
1968	34	0.24	0.33	0.16	0.49	0.00	187.6	6.341	0.024	0.000
1968	35	0.16	0.33	0.14	0.58	0.00	186.4	6.058	0.022	0.000
1968	36	0.15	0.34	0.15	0.67	0.00	184.9	5.691	0.021	0.000

Table WATER BALANCE (4 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1969	1	0.09	0.29	0.11	0.69	0.00	183.2	5.270	0.015	0.000
1969	2	0.07	0.30	0.10	0.72	0.00	181.3	4.823	0.011	0.000
1969	3	0.07	0.30	0.08	0.74	0.00	179.2	4.368	0.007	0.000
1969	4	0.11	0.27	0.10	0.69	0.00	176.8	3.935	0.004	0.000
1969	5	0.34	0.34	0.14	0.43	0.00	176.2	3.839	0.001	0.000
1969	6	0.22	0.31	0.14	0.64	0.00	174.3	3.502	0.001	0.000
1969	7	0.14	0.26	0.11	0.65	0.00	172.0	3.099	0.000	0.000
1969	8	0.11	0.24	0.12	0.67	0.00	168.5	2.665	0.000	0.000
1969	9	0.11	0.26	0.12	0.77	0.00	164.4	2.150	0.000	0.000
1969	10	0.73	0.96	0.24	0.00	0.00	172.0	3.102	0.000	0.000
1969	11	0.44	0.56	0.24	0.22	0.00	173.9	3.437	0.000	0.000
1969	12	0.47	0.79	0.20	0.06	0.00	178.0	4.154	0.000	0.000
1969	13	0.89	1.34	0.24	0.00	0.00	184.1	5.481	0.002	0.000
1969	14	0.62	0.53	0.24	0.03	0.00	186.0	5.962	0.013	0.000
1969	15	1.40	1.12	0.27	0.00	0.37	189.0	6.675	0.020	0.000
1969	16	1.42	1.33	0.24	0.00	1.29	189.0	6.675	0.026	0.000
1969	17	1.27	1.21	0.24	0.00	1.18	189.0	6.675	0.026	0.000
1969	18	2.04	2.65	0.24	0.00	2.62	189.0	6.675	0.026	0.000
1969	19	2.98	3.60	0.24	0.00	3.57	189.0	6.675	0.026	0.000
1969	20	1.41	1.49	0.24	0.00	1.46	189.0	6.675	0.026	0.000
1969	21	0.90	0.84	0.27	0.00	0.80	189.0	6.675	0.029	0.000
1969	22	0.65	0.54	0.24	0.00	0.51	189.0	6.675	0.026	0.000
1969	23	0.54	0.40	0.24	0.10	0.28	189.0	6.675	0.026	0.000
1969	24	0.46	0.85	0.24	0.18	0.65	189.0	6.675	0.026	0.000
1969	25	0.71	1.17	0.24	0.00	1.14	189.0	6.675	0.026	0.000
1969	26	0.76	1.35	0.24	0.00	1.31	189.0	6.675	0.026	0.000
1969	27	1.05	1.89	0.27	0.00	1.85	189.0	6.675	0.029	0.000
1969	28	0.68	1.30	0.24	0.00	1.27	189.0	6.675	0.026	0.000
1969	29	0.98	1.72	0.24	0.00	1.69	189.0	6.675	0.026	0.000
1969	30	0.74	1.25	0.27	0.00	1.22	189.0	6.675	0.029	0.000
1969	31	0.47	0.82	0.24	0.16	0.62	189.0	6.675	0.026	0.000
1969	32	0.38	0.59	0.24	0.25	0.30	189.0	6.675	0.026	0.000
1969	33	0.28	0.43	0.24	0.35	0.04	189.0	6.675	0.026	0.000
1969	34	0.22	0.36	0.24	0.42	0.00	188.6	6.577	0.026	0.000
1969	35	0.15	0.31	0.24	0.49	0.00	187.7	6.364	0.025	0.000
1969	36	0.13	0.30	0.27	0.58	0.00	186.4	6.055	0.025	0.000

Table WATER BALANCE (5 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1970	1	0.09	0.27	0.19	0.60	0.00	185.0	5.700	0.019	0.000
1970	2	0.07	0.27	0.13	0.70	0.00	183.1	5.244	0.015	0.000
1970	3	0.08	0.27	0.12	0.69	0.00	181.2	4.800	0.011	0.000
1970	4	0.45	0.56	0.24	0.20	0.00	182.6	5.140	0.007	0.000
1970	5	1.71	2.14	0.24	0.00	0.59	189.0	6.675	0.010	0.000
1970	6	2.04	1.57	0.27	0.00	1.53	189.0	6.675	0.029	0.000
1970	7	1.59	1.70	0.24	0.00	1.66	189.0	6.675	0.026	0.000
1970	8	1.94	2.42	0.24	0.00	2.39	189.0	6.675	0.026	0.000
1970	9	6.24	8.77	0.27	0.00	8.73	189.0	6.675	0.029	0.000
1970	10	4.14	5.67	0.24	0.00	5.63	189.0	6.675	0.026	0.000
1970	11	1.73	2.28	0.24	0.00	2.24	189.0	6.675	0.026	0.000
1970	12	2.46	3.29	0.20	0.00	3.26	189.0	6.675	0.021	0.000
1970	13	3.54	4.20	0.24	0.00	4.16	189.0	6.675	0.026	0.000
1970	14	5.09	7.03	0.24	0.00	7.00	189.0	6.675	0.026	0.000
1970	15	6.35	9.88	0.27	0.00	9.85	189.0	6.675	0.029	0.000
1970	16	3.42	5.24	0.24	0.00	5.21	189.0	6.675	0.026	0.000
1970	17	1.94	2.83	0.24	0.00	2.79	189.0	6.675	0.026	0.000
1970	18	0.97	1.26	0.24	0.00	1.23	189.0	6.675	0.026	0.000
1970	19	0.66	0.96	0.24	0.00	0.92	189.0	6.675	0.026	0.000
1970	20	0.44	0.57	0.24	0.19	0.34	189.0	6.675	0.026	0.000
1970	21	0.48	0.73	0.27	0.22	0.48	189.0	6.675	0.029	0.000
1970	22	0.36	0.63	0.24	0.27	0.33	189.0	6.675	0.026	0.000
1970	23	0.86	1.84	0.24	0.00	1.81	189.0	6.675	0.026	0.000
1970	24	0.67	1.50	0.24	0.00	1.46	189.0	6.675	0.026	0.000
1970	25	0.57	1.32	0.24	0.06	1.23	189.0	6.675	0.026	0.000
1970	26	0.43	0.74	0.24	0.20	0.51	189.0	6.675	0.026	0.000
1970	27	0.52	0.93	0.27	0.18	0.71	189.0	6.675	0.029	0.000
1970	28	0.61	1.12	0.24	0.03	1.06	189.0	6.675	0.026	0.000
1970	29	0.60	1.04	0.24	0.04	0.97	189.0	6.675	0.026	0.000
1970	30	0.67	1.08	0.27	0.03	1.01	189.0	6.675	0.029	0.000
1970	31	0.56	0.82	0.24	0.08	0.70	189.0	6.675	0.026	0.000
1970	32	0.38	0.45	0.24	0.26	0.15	189.0	6.675	0.026	0.000
1970	33	0.26	0.34	0.24	0.38	0.00	188.7	6.599	0.026	0.000
1970	34	0.16	0.27	0.24	0.48	0.00	187.7	6.362	0.025	0.000
1970	35	0.13	0.26	0.23	0.53	0.00	186.5	6.063	0.022	0.000
1970	36	0.10	0.34	0.27	0.61	0.00	185.2	5.760	0.021	0.000

Table WATER BALANCE (6 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1971	1	0.08	0.32	0.24	0.57	0.00	184.1	5.492	0.016	0.000
1971	2	0.09	0.27	0.24	0.56	0.00	182.8	5.178	0.013	0.000
1971	3	0.09	0.28	0.24	0.57	0.00	181.5	4.873	0.010	0.000
1971	4	0.07	0.26	0.24	0.59	0.00	180.1	4.527	0.008	0.000
1971	5	0.06	0.25	0.24	0.59	0.00	178.1	4.168	0.005	0.000
1971	6	0.06	0.27	0.19	0.74	0.00	175.3	3.684	0.003	0.000
1971	7	0.28	0.26	0.24	0.38	0.00	174.6	3.553	0.000	0.000
1971	8	0.31	0.21	0.19	0.40	0.00	173.5	3.357	0.000	0.000
1971	9	0.92	0.54	0.27	0.00	0.00	176.5	3.886	0.000	0.000
1971	10	3.65	4.20	0.24	0.00	1.40	189.0	6.675	0.001	0.000
1971	11	3.54	4.38	0.24	0.00	4.34	189.0	6.675	0.026	0.000
1971	12	0.95	1.22	0.20	0.00	1.19	189.0	6.675	0.021	0.000
1971	13	0.79	0.82	0.24	0.00	0.79	189.0	6.675	0.026	0.000
1971	14	0.57	0.66	0.24	0.06	0.56	189.0	6.675	0.026	0.000
1971	15	0.59	0.61	0.27	0.11	0.47	189.0	6.675	0.029	0.000
1971	16	0.45	0.48	0.24	0.19	0.25	189.0	6.675	0.026	0.000
1971	17	0.37	0.38	0.24	0.27	0.08	189.0	6.675	0.026	0.000
1971	18	2.22	2.77	0.24	0.00	2.74	189.0	6.675	0.026	0.000
1971	19	1.08	1.14	0.24	0.00	1.11	189.0	6.675	0.026	0.000
1971	20	0.66	0.54	0.24	0.00	0.50	189.0	6.675	0.026	0.000
1971	21	1.08	1.31	0.27	0.00	1.27	189.0	6.675	0.029	0.000
1971	22	1.07	1.16	0.24	0.00	1.13	189.0	6.675	0.026	0.000
1971	23	0.61	0.56	0.24	0.03	0.50	189.0	6.675	0.026	0.000
1971	24	0.46	0.61	0.24	0.17	0.40	189.0	6.675	0.026	0.000
1971	25	0.38	0.55	0.24	0.26	0.26	189.0	6.675	0.026	0.000
1971	26	0.41	0.50	0.24	0.22	0.24	189.0	6.675	0.026	0.000
1971	27	1.06	1.45	0.27	0.00	1.42	189.0	6.675	0.029	0.000
1971	28	0.59	0.74	0.24	0.05	0.66	189.0	6.675	0.026	0.000
1971	29	0.51	0.56	0.24	0.13	0.39	189.0	6.675	0.026	0.000
1971	30	0.55	0.50	0.27	0.15	0.32	189.0	6.675	0.029	0.000
1971	31	0.48	0.49	0.24	0.16	0.30	189.0	6.675	0.026	0.000
1971	32	0.40	0.46	0.24	0.24	0.19	189.0	6.675	0.026	0.000
1971	33	0.27	0.32	0.24	0.37	0.00	188.7	6.596	0.026	0.000
1971	34	0.19	0.32	0.24	0.45	0.00	188.0	6.426	0.025	0.000
1971	35	0.17	0.28	0.24	0.47	0.00	187.0	6.203	0.023	0.000
1971	36	0.20	0.35	0.27	0.50	0.00	186.3	6.018	0.023	0.000

Table WATER BALANCE (7 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Inflow Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1972	1	0.13	0.26	0.21	0.55	0.00	184.9	5.694	0.018	0.000
1972	2	0.24	0.31	0.24	0.40	0.00	184.4	5.573	0.015	0.000
1972	3	0.27	0.30	0.23	0.39	0.00	184.0	5.466	0.014	0.000
1972	4	0.28	0.29	0.24	0.37	0.00	183.6	5.365	0.013	0.000
1972	5	0.23	0.30	0.16	0.50	0.00	182.7	5.141	0.012	0.000
1972	6	0.15	0.30	0.15	0.68	0.00	181.0	4.739	0.011	0.000
1972	7	0.16	0.28	0.09	0.65	0.00	179.2	4.354	0.007	0.000
1972	8	0.16	0.27	0.08	0.66	0.00	176.9	3.952	0.004	0.000
1972	9	0.68	0.40	0.20	0.12	0.00	178.4	4.220	0.002	0.000
1972	10	4.13	5.08	0.24	0.00	2.61	189.0	6.675	0.003	0.000
1972	11	3.67	6.04	0.24	0.00	6.00	189.0	6.675	0.026	0.000
1972	12	1.05	2.30	0.22	0.00	2.27	189.0	6.675	0.024	0.000
1972	13	1.64	3.26	0.24	0.00	3.22	189.0	6.675	0.026	0.000
1972	14	1.34	1.79	0.24	0.00	1.76	189.0	6.675	0.026	0.000
1972	15	0.97	0.94	0.27	0.00	0.90	189.0	6.675	0.029	0.000
1972	16	0.85	0.62	0.24	0.00	0.58	189.0	6.675	0.026	0.000
1972	17	2.31	3.04	0.24	0.00	3.01	189.0	6.675	0.026	0.000
1972	18	1.46	1.67	0.24	0.00	1.63	189.0	6.675	0.026	0.000
1972	19	0.85	0.73	0.24	0.00	0.70	189.0	6.675	0.026	0.000
1972	20	0.68	0.48	0.24	0.00	0.45	189.0	6.675	0.026	0.000
1972	21	0.91	0.70	0.27	0.00	0.67	189.0	6.675	0.029	0.000
1972	22	1.81	2.26	0.24	0.00	2.23	189.0	6.675	0.026	0.000
1972	23	2.19	3.01	0.24	0.00	2.98	189.0	6.675	0.026	0.000
1972	24	1.15	1.16	0.24	0.00	1.12	189.0	6.675	0.026	0.000
1972	25	0.79	0.82	0.24	0.00	0.79	189.0	6.675	0.026	0.000
1972	26	0.83	1.11	0.24	0.00	1.08	189.0	6.675	0.026	0.000
1972	27	0.85	1.25	0.27	0.00	1.22	189.0	6.675	0.029	0.000
1972	28	1.11	1.47	0.24	0.00	1.44	189.0	6.675	0.026	0.000
1972	29	3.62	5.86	0.24	0.00	5.83	189.0	6.675	0.026	0.000
1972	30	2.18	3.50	0.27	0.00	3.47	189.0	6.675	0.029	0.000
1972	31	1.00	1.17	0.24	0.00	1.14	189.0	6.675	0.026	0.000
1972	32	0.73	0.73	0.24	0.00	0.69	189.0	6.675	0.026	0.000
1972	33	0.50	0.53	0.24	0.14	0.36	189.0	6.675	0.026	0.000
1972	34	0.45	0.43	0.24	0.19	0.20	189.0	6.675	0.026	0.000
1972	35	0.75	0.92	0.24	0.00	0.88	189.0	6.675	0.026	0.000
1972	36	0.70	0.54	0.27	0.00	0.49	189.0	6.675	0.029	0.000

Table WATER BALANCE (8 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Inflow Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1973	1	0.60	0.48	0.24	0.04	0.41	189.0	6.675	0.026	0.000
1973	2	0.43	0.39	0.24	0.20	0.15	189.0	6.675	0.026	0.000
1973	3	1.12	1.30	0.24	0.00	1.26	189.0	6.675	0.026	0.000
1973	4	1.19	1.79	0.24	0.00	1.75	189.0	6.675	0.026	0.000
1973	5	0.68	0.57	0.22	0.00	0.53	189.0	6.675	0.026	0.000
1973	6	0.82	0.84	0.27	0.00	0.80	189.0	6.675	0.029	0.000
1973	7	1.84	2.95	0.24	0.00	2.91	189.0	6.675	0.026	0.000
1973	8	1.32	2.03	0.24	0.00	2.00	189.0	6.675	0.026	0.000
1973	9	1.55	1.93	0.27	0.00	1.89	189.0	6.675	0.029	0.000
1973	10	2.26	3.82	0.24	0.00	3.79	189.0	6.675	0.026	0.000
1973	11	1.70	2.63	0.24	0.00	2.59	189.0	6.675	0.026	0.000
1973	12	1.14	0.83	0.20	0.00	0.80	189.0	6.675	0.021	0.000
1973	13	1.80	2.77	0.24	0.00	2.74	189.0	6.675	0.026	0.000
1973	14	7.81	10.19	0.24	0.00	10.15	189.0	6.675	0.026	0.000
1973	15	2.75	3.24	0.27	0.00	3.20	189.0	6.675	0.029	0.000
1973	16	1.02	1.83	0.24	0.00	1.79	189.0	6.675	0.026	0.000
1973	17	0.77	0.98	0.24	0.00	0.95	189.0	6.675	0.026	0.000
1973	18	0.71	0.85	0.24	0.00	0.82	189.0	6.675	0.026	0.000
1973	19	0.63	0.58	0.24	0.01	0.54	189.0	6.675	0.026	0.000
1973	20	1.01	0.92	0.24	0.00	0.88	189.0	6.675	0.026	0.000
1973	21	0.90	0.58	0.27	0.00	0.54	189.0	6.675	0.029	0.000
1973	22	0.70	0.70	0.24	0.00	0.67	189.0	6.675	0.026	0.000
1973	23	0.75	0.99	0.24	0.00	0.95	189.0	6.675	0.026	0.000
1973	24	0.87	1.22	0.24	0.00	1.18	189.0	6.675	0.026	0.000
1973	25	0.98	1.11	0.24	0.00	1.08	189.0	6.675	0.026	0.000
1973	26	0.71	0.63	0.24	0.00	0.60	189.0	6.675	0.026	0.000
1973	27	0.96	1.29	0.27	0.00	1.26	189.0	6.675	0.029	0.000
1973	28	1.72	2.10	0.24	0.00	2.07	189.0	6.675	0.026	0.000
1973	29	1.00	1.18	0.24	0.00	1.14	189.0	6.675	0.026	0.000
1973	30	1.00	1.92	0.27	0.00	1.89	189.0	6.675	0.029	0.000
1973	31	0.99	1.31	0.24	0.00	1.28	189.0	6.675	0.026	0.000
1973	32	0.69	0.70	0.24	0.00	0.67	189.0	6.675	0.026	0.000
1973	33	0.68	1.16	0.24	0.00	1.13	189.0	6.675	0.026	0.000
1973	34	0.48	0.56	0.24	0.15	0.37	189.0	6.675	0.026	0.000
1973	35	0.31	0.51	0.21	0.37	0.11	189.0	6.675	0.026	0.000
1973	36	0.34	0.55	0.20	0.43	0.08	189.0	6.675	0.029	0.000

Table WATER BALANCE (9 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1974	1	0.22	0.44	0.19	0.47	0.00	188.7	6.613	0.026	0.000
1974	2	0.18	0.42	0.18	0.52	0.00	188.2	6.473	0.025	0.000
1974	3	0.15	0.42	0.17	0.57	0.00	187.4	6.286	0.024	0.000
1974	4	0.15	0.40	0.15	0.58	0.00	186.5	6.076	0.021	0.000
1974	5	0.18	0.33	0.17	0.54	0.00	185.5	5.839	0.019	0.000
1974	6	0.26	0.35	0.17	0.55	0.00	184.6	5.616	0.018	0.000
1974	7	0.60	0.48	0.14	0.15	0.00	185.9	5.920	0.014	0.000
1974	8	0.50	0.40	0.11	0.28	0.00	186.2	6.010	0.017	0.000
1974	9	0.46	0.40	0.11	0.41	0.00	186.1	5.973	0.020	0.000
1974	10	2.09	1.73	0.24	0.00	1.00	189.0	6.675	0.018	0.000
1974	11	2.21	1.96	0.24	0.00	1.92	189.0	6.675	0.026	0.000
1974	12	1.07	0.56	0.20	0.00	0.53	189.0	6.675	0.021	0.000
1974	13	1.46	1.11	0.24	0.00	1.07	189.0	6.675	0.026	0.000
1974	14	2.22	1.76	0.24	0.00	1.72	189.0	6.675	0.026	0.000
1974	15	1.28	0.97	0.27	0.00	0.93	189.0	6.675	0.029	0.000
1974	16	0.95	0.64	0.24	0.00	0.60	189.0	6.675	0.026	0.000
1974	17	0.76	0.53	0.24	0.00	0.49	189.0	6.675	0.026	0.000
1974	18	0.63	0.44	0.24	0.01	0.40	189.0	6.675	0.026	0.000
1974	19	0.60	0.49	0.21	0.06	0.40	189.0	6.675	0.026	0.000
1974	20	0.48	0.43	0.19	0.22	0.18	189.0	6.675	0.026	0.000
1974	21	0.47	0.42	0.18	0.32	0.07	189.0	6.675	0.029	0.000
1974	22	1.13	1.89	0.24	0.00	1.86	189.0	6.675	0.026	0.000
1974	23	0.65	0.56	0.14	0.09	0.44	189.0	6.675	0.026	0.000
1974	24	0.59	0.64	0.15	0.14	0.46	189.0	6.675	0.026	0.000
1974	25	0.64	0.94	0.18	0.06	0.84	189.0	6.675	0.026	0.000
1974	26	0.88	1.39	0.20	0.00	1.36	189.0	6.675	0.026	0.000
1974	27	0.96	0.93	0.23	0.00	0.89	189.0	6.675	0.029	0.000
1974	28	0.71	0.58	0.14	0.03	0.52	189.0	6.675	0.026	0.000
1974	29	1.11	1.52	0.24	0.00	1.49	189.0	6.675	0.026	0.000
1974	30	1.68	2.43	0.27	0.00	2.39	189.0	6.675	0.029	0.000
1974	31	1.01	0.81	0.24	0.00	0.77	189.0	6.675	0.026	0.000
1974	32	0.80	0.56	0.22	0.00	0.53	189.0	6.675	0.026	0.000
1974	33	0.62	0.52	0.19	0.08	0.41	189.0	6.675	0.026	0.000
1974	34	0.45	0.53	0.16	0.26	0.23	189.0	6.675	0.026	0.000
1974	35	0.34	0.50	0.15	0.39	0.07	189.0	6.675	0.026	0.000
1974	36	0.31	0.52	0.16	0.50	0.00	188.9	6.658	0.029	0.000

Table WATER BALANCE (10 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1975	1	0.23	0.47	0.15	0.50	0.00	188.7	6.593	0.026	0.000
1975	2	0.18	0.43	0.13	0.57	0.00	187.9	6.418	0.025	0.000
1975	3	0.15	0.39	0.21	0.53	0.00	187.2	6.249	0.023	0.000
1975	4	0.17	0.35	0.22	0.49	0.00	186.5	6.074	0.021	0.000
1975	5	0.20	0.41	0.11	0.58	0.00	185.7	5.873	0.019	0.000
1975	6	0.49	0.58	0.14	0.35	0.00	186.5	6.072	0.019	0.000
1975	7	0.32	0.42	0.14	0.43	0.00	186.4	6.039	0.019	0.000
1975	8	0.43	0.46	0.19	0.27	0.00	187.1	6.204	0.019	0.000
1975	9	0.38	0.45	0.17	0.42	0.00	187.0	6.195	0.023	0.000
1975	10	6.93	11.33	0.24	0.00	10.82	189.0	6.675	0.020	0.000
1975	11	2.09	4.60	0.24	0.00	4.57	189.0	6.675	0.026	0.000
1975	12	0.74	1.59	0.20	0.00	1.56	189.0	6.675	0.021	0.000
1975	13	0.89	1.29	0.24	0.00	1.26	189.0	6.675	0.026	0.000
1975	14	2.36	3.86	0.24	0.00	3.83	189.0	6.675	0.026	0.000
1975	15	1.38	1.64	0.27	0.00	1.60	189.0	6.675	0.029	0.000
1975	16	1.14	1.23	0.24	0.00	1.20	189.0	6.675	0.026	0.000
1975	17	0.86	1.01	0.24	0.00	0.98	189.0	6.675	0.026	0.000
1975	18	0.71	0.86	0.24	0.00	0.83	189.0	6.675	0.026	0.000
1975	19	0.67	0.99	0.24	0.00	0.95	189.0	6.675	0.026	0.000
1975	20	0.86	1.82	0.24	0.00	1.79	189.0	6.675	0.026	0.000
1975	21	1.57	2.73	0.27	0.00	2.70	189.0	6.675	0.029	0.000
1975	22	0.88	1.16	0.24	0.00	1.13	189.0	6.675	0.026	0.000
1975	23	0.68	0.73	0.24	0.00	0.69	189.0	6.675	0.026	0.000
1975	24	0.71	1.15	0.24	0.00	1.11	189.0	6.675	0.026	0.000
1975	25	0.70	0.86	0.24	0.00	0.83	189.0	6.675	0.026	0.000
1975	26	0.72	0.80	0.24	0.00	0.77	189.0	6.675	0.026	0.000
1975	27	0.57	0.66	0.27	0.13	0.49	189.0	6.675	0.029	0.000
1975	28	0.45	0.49	0.24	0.19	0.27	189.0	6.675	0.026	0.000
1975	29	0.41	0.43	0.23	0.24	0.15	189.0	6.675	0.026	0.000
1975	30	0.49	0.55	0.27	0.21	0.31	189.0	6.675	0.029	0.000
1975	31	0.55	0.59	0.24	0.09	0.47	189.0	6.675	0.026	0.000
1975	32	0.52	0.65	0.22	0.15	0.47	189.0	6.675	0.026	0.000
1975	33	0.52	0.71	0.20	0.16	0.52	189.0	6.675	0.026	0.000
1975	34	0.41	0.55	0.18	0.30	0.21	189.0	6.675	0.026	0.000
1975	35	0.28	0.44	0.17	0.43	0.00	188.9	6.647	0.026	0.000
1975	36	0.22	0.49	0.17	0.58	0.00	188.4	6.518	0.028	0.000

Table WATER BALANCE (11 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1976	1	0.24	0.43	0.16	0.49	0.00	188.0	6.424	0.024	0.000
1976	2	0.16	0.31	0.21	0.51	0.00	187.0	6.192	0.023	0.000
1976	3	0.13	0.29	0.21	0.55	0.00	185.8	5.906	0.020	0.000
1976	4	0.09	0.34	0.14	0.65	0.00	184.4	5.562	0.017	0.000
1976	5	0.08	0.30	0.21	0.60	0.00	183.1	5.245	0.014	0.000
1976	6	0.11	0.37	0.14	0.73	0.00	181.5	4.864	0.012	0.000
1976	7	0.27	0.42	0.18	0.45	0.00	181.3	4.819	0.008	0.000
1976	8	0.33	0.38	0.13	0.43	0.00	181.0	4.753	0.007	0.000
1976	9	0.27	0.34	0.21	0.51	0.00	180.3	4.566	0.007	0.000
1976	10	3.46	3.76	0.24	0.00	1.64	189.0	6.675	0.005	0.000
1976	11	1.58	1.83	0.24	0.00	1.80	189.0	6.675	0.026	0.000
1976	12	1.34	1.96	0.22	0.00	1.93	189.0	6.675	0.024	0.000
1976	13	1.29	1.28	0.24	0.00	1.24	189.0	6.675	0.026	0.000
1976	14	1.05	0.90	0.24	0.00	0.86	189.0	6.675	0.026	0.000
1976	15	0.94	0.71	0.27	0.00	0.67	189.0	6.675	0.029	0.000
1976	16	0.58	0.45	0.23	0.07	0.35	189.0	6.675	0.026	0.000
1976	17	0.59	0.65	0.24	0.05	0.57	189.0	6.675	0.026	0.000
1976	18	1.27	1.96	0.24	0.00	1.92	189.0	6.675	0.026	0.000
1976	19	0.81	0.82	0.24	0.00	0.79	189.0	6.675	0.026	0.000
1976	20	1.09	1.37	0.24	0.00	1.34	189.0	6.675	0.026	0.000
1976	21	2.55	3.59	0.27	0.00	3.56	189.0	6.675	0.029	0.000
1976	22	1.26	1.06	0.24	0.00	1.03	189.0	6.675	0.026	0.000
1976	23	0.89	0.86	0.24	0.00	0.82	189.0	6.675	0.026	0.000
1976	24	1.98	2.42	0.24	0.00	2.39	189.0	6.675	0.026	0.000
1976	25	1.14	1.55	0.24	0.00	1.52	189.0	6.675	0.026	0.000
1976	26	0.83	0.93	0.24	0.00	0.90	189.0	6.675	0.026	0.000
1976	27	0.69	0.70	0.27	0.01	0.65	189.0	6.675	0.029	0.000
1976	28	0.63	0.64	0.24	0.00	0.60	189.0	6.675	0.026	0.000
1976	29	0.85	0.87	0.24	0.00	0.84	189.0	6.675	0.026	0.000
1976	30	0.72	0.80	0.27	0.00	0.76	189.0	6.675	0.029	0.000
1976	31	0.50	0.58	0.24	0.13	0.41	189.0	6.675	0.026	0.000
1976	32	0.46	0.54	0.24	0.17	0.34	189.0	6.675	0.026	0.000
1976	33	0.38	0.43	0.24	0.25	0.14	189.0	6.675	0.026	0.000
1976	34	0.27	0.40	0.24	0.37	0.00	189.0	6.670	0.026	0.000
1976	35	0.23	0.35	0.24	0.41	0.00	188.6	6.579	0.026	0.000
1976	36	0.37	0.44	0.26	0.34	0.00	188.9	6.645	0.027	0.000

Table WATER BALANCE (12 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year	Inflow Resi. (MCM)	Inflow Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1977 1	0.30	0.41	0.24	0.33	0.01	189.0	6.675	0.026	0.000
1977 2	0.27	0.42	0.17	0.45	0.00	188.7	6.613	0.026	0.000
1977 3	0.19	0.38	0.19	0.50	0.00	188.1	6.458	0.025	0.000
1977 4	0.16	0.33	0.24	0.48	0.00	187.3	6.274	0.023	0.000
1977 5	0.79	1.23	0.24	0.00	0.79	189.0	6.675	0.021	0.000
1977 6	0.48	0.58	0.27	0.22	0.33	189.0	6.675	0.029	0.000
1977 7	0.42	0.61	0.24	0.22	0.36	189.0	6.675	0.026	0.000
1977 8	2.44	3.83	0.24	0.00	3.79	189.0	6.675	0.026	0.000
1977 9	1.32	1.99	0.27	0.00	1.95	189.0	6.675	0.029	0.000
1977 10	4.03	7.26	0.24	0.00	7.22	189.0	6.675	0.026	0.000
1977 11	3.25	5.52	0.24	0.00	5.48	189.0	6.675	0.026	0.000
1977 12	0.84	1.44	0.20	0.00	1.41	189.0	6.675	0.021	0.000
1977 13	0.73	1.18	0.24	0.00	1.14	189.0	6.675	0.026	0.000
1977 14	0.55	0.85	0.24	0.09	0.73	189.0	6.675	0.026	0.000
1977 15	0.47	0.91	0.27	0.23	0.64	189.0	6.675	0.029	0.000
1977 16	0.60	1.67	0.24	0.04	1.60	189.0	6.675	0.026	0.000
1977 17	1.53	2.98	0.24	0.00	2.95	189.0	6.675	0.026	0.000
1977 18	0.96	1.34	0.24	0.00	1.30	189.0	6.675	0.026	0.000
1977 19	0.86	1.03	0.24	0.00	1.00	189.0	6.675	0.026	0.000
1977 20	0.77	1.10	0.24	0.00	1.06	189.0	6.675	0.026	0.000
1977 21	0.85	0.86	0.27	0.00	0.82	189.0	6.675	0.029	0.000
1977 22	0.80	1.06	0.24	0.00	1.02	189.0	6.675	0.026	0.000
1977 23	0.63	0.59	0.24	0.01	0.55	189.0	6.675	0.026	0.000
1977 24	0.50	0.52	0.23	0.15	0.33	189.0	6.675	0.026	0.000
1977 25	0.51	0.47	0.23	0.13	0.31	189.0	6.675	0.026	0.000
1977 26	0.71	0.63	0.24	0.00	0.60	189.0	6.675	0.026	0.000
1977 27	0.66	0.61	0.27	0.04	0.53	189.0	6.675	0.029	0.000
1977 28	0.52	0.54	0.20	0.16	0.35	189.0	6.675	0.026	0.000
1977 29	0.50	0.52	0.17	0.20	0.28	189.0	6.675	0.026	0.000
1977 30	0.52	0.56	0.17	0.28	0.24	189.0	6.675	0.029	0.000
1977 31	0.33	0.44	0.15	0.41	0.00	189.0	6.670	0.026	0.000
1977 32	0.27	0.41	0.20	0.41	0.00	188.8	6.635	0.026	0.000
1977 33	0.23	0.37	0.20	0.45	0.00	188.4	6.520	0.026	0.000
1977 34	0.27	0.36	0.20	0.41	0.00	188.0	6.434	0.024	0.000
1977 35	0.23	0.31	0.20	0.45	0.00	187.3	6.261	0.023	0.000
1977 36	0.19	0.32	0.19	0.60	0.00	186.0	5.953	0.023	0.000

Table WATER BALANCE (13 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1978	1	0.15	0.27	0.14	0.59	0.00	184.6	5.607	0.018	0.000
1978	2	0.14	0.30	0.14	0.61	0.00	183.2	5.271	0.014	0.000
1978	3	0.12	0.32	0.14	0.64	0.00	181.8	4.932	0.011	0.000
1978	4	0.21	0.41	0.14	0.55	0.00	181.1	4.773	0.008	0.000
1978	5	0.20	0.27	0.16	0.54	0.00	179.9	4.487	0.007	0.000
1978	6	0.45	0.65	0.24	0.30	0.00	181.3	4.825	0.005	0.000
1978	7	0.51	0.61	0.12	0.27	0.00	182.7	5.146	0.007	0.000
1978	8	0.41	0.39	0.24	0.25	0.00	183.2	5.272	0.010	0.000
1978	9	3.27	3.74	0.27	0.00	2.32	189.0	6.675	0.012	0.000
1978	10	1.02	0.97	0.24	0.00	0.93	189.0	6.675	0.026	0.000
1978	11	0.77	0.66	0.24	0.00	0.62	189.0	6.675	0.026	0.000
1978	12	0.48	0.36	0.16	0.07	0.26	189.0	6.675	0.021	0.000
1978	13	1.45	3.29	0.24	0.00	3.25	189.0	6.675	0.026	0.000
1978	14	1.32	1.83	0.24	0.00	1.80	189.0	6.675	0.026	0.000
1978	15	0.90	1.14	0.27	0.00	1.11	189.0	6.675	0.029	0.000
1978	16	1.93	3.20	0.24	0.00	3.17	189.0	6.675	0.026	0.000
1978	17	2.88	5.64	0.24	0.00	5.61	189.0	6.675	0.026	0.000
1978	18	2.43	4.69	0.24	0.00	4.65	189.0	6.675	0.026	0.000
1978	19	1.63	2.65	0.24	0.00	2.61	189.0	6.675	0.026	0.000
1978	20	0.92	1.23	0.24	0.00	1.20	189.0	6.675	0.026	0.000
1978	21	0.82	1.11	0.27	0.00	1.07	189.0	6.675	0.029	0.000
1978	22	0.67	1.02	0.24	0.00	0.99	189.0	6.675	0.026	0.000
1978	23	0.62	0.84	0.24	0.02	0.78	189.0	6.675	0.026	0.000
1978	24	0.58	0.71	0.24	0.06	0.62	189.0	6.675	0.026	0.000
1978	25	0.51	0.64	0.24	0.13	0.48	189.0	6.675	0.026	0.000
1978	26	0.62	0.75	0.24	0.01	0.70	189.0	6.675	0.026	0.000
1978	27	1.16	0.93	0.27	0.00	0.90	189.0	6.675	0.029	0.000
1978	28	0.84	0.55	0.24	0.00	0.52	189.0	6.675	0.026	0.000
1978	29	0.82	0.66	0.24	0.00	0.62	189.0	6.675	0.026	0.000
1978	30	0.91	0.66	0.27	0.00	0.63	189.0	6.675	0.029	0.000
1978	31	0.69	0.51	0.21	0.00	0.48	189.0	6.675	0.026	0.000
1978	32	0.61	0.48	0.20	0.07	0.38	189.0	6.675	0.026	0.000
1978	33	0.48	0.46	0.19	0.21	0.21	189.0	6.675	0.026	0.000
1978	34	0.36	0.42	0.18	0.34	0.04	189.0	6.675	0.026	0.000
1978	35	0.31	0.40	0.16	0.41	0.00	188.8	6.623	0.026	0.000
1978	36	0.31	0.45	0.20	0.46	0.00	188.6	6.571	0.028	0.000

Table WATER BALANCE (14 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1979	1	0.24	0.42	0.19	0.45	0.00	188.3	6.499	0.025	0.000
1979	2	0.19	0.39	0.23	0.46	0.00	187.9	6.401	0.024	0.000
1979	3	0.17	0.32	0.24	0.47	0.00	187.1	6.222	0.023	0.000
1979	4	0.36	0.36	0.24	0.28	0.00	187.3	6.272	0.021	0.000
1979	5	0.21	0.31	0.23	0.45	0.00	186.6	6.102	0.021	0.000
1979	6	0.21	0.41	0.13	0.64	0.00	185.5	5.838	0.021	0.000
1979	7	0.62	0.96	0.24	0.02	0.07	189.0	6.675	0.017	0.000
1979	8	0.61	0.41	0.15	0.12	0.26	189.0	6.675	0.026	0.000
1979	9	1.03	1.11	0.27	0.00	1.07	189.0	6.675	0.029	0.000
1979	10	5.01	4.87	0.24	0.00	4.84	189.0	6.675	0.026	0.000
1979	11	2.06	3.30	0.24	0.00	3.27	189.0	6.675	0.026	0.000
1979	12	1.25	1.58	0.20	0.00	1.55	189.0	6.675	0.021	0.000
1979	13	1.02	1.11	0.24	0.00	1.07	189.0	6.675	0.026	0.000
1979	14	0.77	0.94	0.24	0.00	0.91	189.0	6.675	0.026	0.000
1979	15	1.58	3.05	0.27	0.00	3.01	189.0	6.675	0.029	0.000
1979	16	0.74	0.91	0.24	0.00	0.88	189.0	6.675	0.026	0.000
1979	17	0.54	0.57	0.24	0.10	0.44	189.0	6.675	0.026	0.000
1979	18	0.69	1.15	0.24	0.00	1.12	189.0	6.675	0.026	0.000
1979	19	0.81	0.86	0.24	0.00	0.83	189.0	6.675	0.026	0.000
1979	20	0.87	0.74	0.24	0.00	0.71	189.0	6.675	0.026	0.000
1979	21	0.79	0.58	0.27	0.00	0.55	189.0	6.675	0.029	0.000
1979	22	0.63	0.66	0.24	0.01	0.62	189.0	6.675	0.026	0.000
1979	23	0.61	0.60	0.24	0.03	0.54	189.0	6.675	0.026	0.000
1979	24	0.54	0.51	0.18	0.16	0.32	189.0	6.675	0.026	0.000
1979	25	0.48	0.50	0.16	0.24	0.22	189.0	6.675	0.026	0.000
1979	26	0.42	0.51	0.15	0.31	0.16	189.0	6.675	0.026	0.000
1979	27	0.41	0.48	0.16	0.41	0.04	189.0	6.675	0.029	0.000
1979	28	0.32	0.43	0.12	0.44	0.00	188.8	6.635	0.026	0.000
1979	29	0.28	0.41	0.13	0.47	0.00	188.4	6.540	0.026	0.000
1979	30	1.03	1.39	0.27	0.00	1.22	189.0	6.675	0.027	0.000
1979	31	0.62	0.46	0.19	0.08	0.35	189.0	6.675	0.026	0.000
1979	32	0.50	0.41	0.15	0.23	0.14	189.0	6.675	0.026	0.000
1979	33	0.38	0.31	0.22	0.28	0.00	189.0	6.672	0.026	0.000
1979	34	0.28	0.35	0.24	0.36	0.00	188.8	6.622	0.026	0.000
1979	35	0.22	0.30	0.24	0.42	0.00	188.2	6.474	0.025	0.000
1979	36	0.21	0.34	0.27	0.49	0.00	187.4	6.288	0.026	0.000

Table WATER BALANCE (15 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1980	1	0.22	0.28	0.24	0.42	0.00	186.7	6.110	0.021	0.000
1980	2	0.17	0.29	0.21	0.51	0.00	185.6	5.855	0.019	0.000
1980	3	0.16	0.28	0.24	0.48	0.00	184.7	5.627	0.017	0.000
1980	4	0.15	0.28	0.23	0.51	0.00	183.6	5.373	0.014	0.000
1980	5	4.19	4.19	0.24	0.00	2.87	189.0	6.675	0.012	0.000
1980	6	4.47	7.31	0.27	0.00	7.27	189.0	6.675	0.029	0.000
1980	7	1.23	1.89	0.24	0.00	1.85	189.0	6.675	0.026	0.000
1980	8	6.63	7.28	0.24	0.00	7.24	189.0	6.675	0.026	0.000
1980	9	29.45	22.87	0.27	0.00	22.83	189.0	6.675	0.029	0.000
1980	10	9.68	8.12	0.24	0.00	8.08	189.0	6.675	0.026	0.000
1980	11	4.40	3.62	0.24	0.00	3.59	189.0	6.675	0.026	0.000
1980	12	2.01	3.10	0.22	0.00	3.07	189.0	6.675	0.024	0.000
1980	13	5.02	6.57	0.24	0.00	6.54	189.0	6.675	0.026	0.000
1980	14	11.14	9.14	0.24	0.00	9.10	189.0	6.675	0.026	0.000
1980	15	13.88	7.72	0.27	0.00	7.68	189.0	6.675	0.029	0.000
1980	16	6.93	3.75	0.24	0.00	3.72	189.0	6.675	0.026	0.000
1980	17	2.76	5.09	0.24	0.00	5.05	189.0	6.675	0.026	0.000
1980	18	2.93	4.20	0.24	0.00	4.17	189.0	6.675	0.026	0.000
1980	19	2.24	3.32	0.24	0.00	3.28	189.0	6.675	0.026	0.000
1980	20	0.97	1.78	0.24	0.00	1.75	189.0	6.675	0.026	0.000
1980	21	1.20	1.63	0.27	0.00	1.60	189.0	6.675	0.029	0.000
1980	22	1.27	1.93	0.24	0.00	1.90	189.0	6.675	0.026	0.000
1980	23	0.78	1.00	0.24	0.00	0.97	189.0	6.675	0.026	0.000
1980	24	0.60	0.88	0.24	0.03	0.82	189.0	6.675	0.026	0.000
1980	25	0.55	0.78	0.24	0.09	0.65	189.0	6.675	0.026	0.000
1980	26	0.46	0.56	0.24	0.17	0.35	189.0	6.675	0.026	0.000
1980	27	0.55	0.76	0.27	0.15	0.57	189.0	6.675	0.029	0.000
1980	28	0.50	0.65	0.24	0.14	0.48	189.0	6.675	0.026	0.000
1980	29	0.42	0.46	0.24	0.22	0.21	189.0	6.675	0.026	0.000
1980	30	0.39	0.45	0.23	0.35	0.06	189.0	6.675	0.029	0.000
1980	31	0.29	0.39	0.16	0.43	0.00	188.7	6.600	0.026	0.000
1980	32	0.24	0.38	0.15	0.49	0.00	188.1	6.449	0.025	0.000
1980	33	0.25	0.45	0.15	0.48	0.00	187.8	6.379	0.023	0.000
1980	34	0.22	0.39	0.14	0.53	0.00	187.1	6.208	0.023	0.000
1980	35	0.25	0.41	0.14	0.49	0.00	186.6	6.098	0.021	0.000
1980	36	0.23	0.43	0.17	0.58	0.00	185.9	5.917	0.021	0.000

Table WATER BALANCE (16 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1981	1	0.24	0.46	0.18	0.48	0.00	185.7	5.868	0.017	0.000
1981	2	0.19	0.40	0.14	0.56	0.00	184.9	5.681	0.017	0.000
1981	3	0.16	0.39	0.14	0.59	0.00	184.0	5.457	0.015	0.000
1981	4	0.16	0.40	0.21	0.52	0.00	183.4	5.312	0.013	0.000
1981	5	0.12	0.35	0.18	0.59	0.00	182.3	5.049	0.011	0.000
1981	6	0.13	0.40	0.18	0.67	0.00	181.1	4.758	0.010	0.000
1981	7	0.23	0.52	0.18	0.49	0.00	181.1	4.769	0.007	0.000
1981	8	0.16	0.37	0.13	0.60	0.00	180.1	4.524	0.007	0.000
1981	9	0.14	0.34	0.15	0.69	0.00	178.1	4.159	0.006	0.000
1981	10	0.45	0.64	0.17	0.29	0.00	180.0	4.503	0.002	0.000
1981	11	0.18	0.34	0.15	0.58	0.00	178.6	4.257	0.005	0.000
1981	12	0.13	0.25	0.10	0.49	0.00	177.2	4.009	0.002	0.000
1981	13	1.47	1.01	0.24	0.00	0.00	182.1	5.013	0.002	0.000
1981	14	0.72	0.47	0.19	0.00	0.00	184.0	5.463	0.009	0.000
1981	15	0.54	0.44	0.16	0.28	0.00	184.6	5.600	0.014	0.000
1981	16	1.11	0.93	0.24	0.00	0.00	188.3	6.513	0.014	0.000
1981	17	9.47	10.61	0.24	0.00	10.42	189.0	6.675	0.024	0.000
1981	18	2.81	4.34	0.24	0.00	4.31	189.0	6.675	0.026	0.000
1981	19	1.79	2.46	0.24	0.00	2.42	189.0	6.675	0.026	0.000
1981	20	1.13	1.62	0.24	0.00	1.59	189.0	6.675	0.026	0.000
1981	21	0.83	1.06	0.27	0.00	1.02	189.0	6.675	0.029	0.000
1981	22	0.56	0.77	0.24	0.08	0.66	189.0	6.675	0.026	0.000
1981	23	0.45	0.67	0.24	0.19	0.45	189.0	6.675	0.026	0.000
1981	24	0.34	0.56	0.24	0.30	0.23	189.0	6.675	0.026	0.000
1981	25	0.25	0.47	0.21	0.42	0.02	189.0	6.675	0.026	0.000
1981	26	0.22	0.43	0.20	0.46	0.00	188.8	6.615	0.026	0.000
1981	27	0.28	0.48	0.19	0.50	0.00	188.5	6.562	0.028	0.000
1981	28	0.39	0.54	0.19	0.30	0.09	189.0	6.675	0.025	0.000
1981	29	0.30	0.43	0.16	0.42	0.00	188.9	6.655	0.026	0.000
1981	30	0.28	0.50	0.18	0.51	0.00	188.7	6.613	0.028	0.000
1981	31	0.22	0.42	0.12	0.54	0.00	188.1	6.458	0.025	0.000
1981	32	0.25	0.41	0.12	0.51	0.00	187.6	6.328	0.024	0.000
1981	33	0.28	0.42	0.12	0.48	0.00	187.2	6.233	0.022	0.000
1981	34	0.27	0.40	0.10	0.52	0.00	186.6	6.088	0.021	0.000
1981	35	0.23	0.39	0.10	0.56	0.00	185.8	5.890	0.019	0.000
1981	36	0.21	0.35	0.19	0.58	0.00	184.7	5.636	0.019	0.000

Table WATER BALANCE (17 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1982	1	0.16	0.29	0.21	0.52	0.00	183.6	5.378	0.014	0.000
1982	2	0.14	0.28	0.20	0.56	0.00	182.4	5.080	0.012	0.000
1982	3	0.40	0.30	0.22	0.28	0.00	182.4	5.086	0.009	0.000
1982	4	1.45	1.42	0.24	0.00	0.00	188.2	6.490	0.009	0.000
1982	5	0.80	0.52	0.24	0.00	0.30	189.0	6.675	0.024	0.000
1982	6	0.59	0.41	0.27	0.11	0.26	189.0	6.675	0.029	0.000
1982	7	0.65	0.45	0.23	0.00	0.41	189.0	6.675	0.026	0.000
1982	8	0.82	0.61	0.22	0.00	0.57	189.0	6.675	0.026	0.000
1982	9	0.86	0.71	0.27	0.00	0.67	189.0	6.675	0.029	0.000
1982	10	11.57	10.64	0.24	0.00	10.61	189.0	6.675	0.026	0.000
1982	11	3.60	5.38	0.24	0.00	5.34	189.0	6.675	0.026	0.000
1982	12	11.35	10.89	0.20	0.00	10.86	189.0	6.675	0.021	0.000
1982	13	4.05	4.13	0.24	0.00	4.10	189.0	6.675	0.026	0.000
1982	14	2.36	2.46	0.24	0.00	2.42	189.0	6.675	0.026	0.000
1982	15	1.00	1.71	0.27	0.00	1.68	189.0	6.675	0.029	0.000
1982	16	0.70	1.20	0.24	0.00	1.16	189.0	6.675	0.026	0.000
1982	17	0.48	1.04	0.24	0.16	0.85	189.0	6.675	0.026	0.000
1982	18	0.44	0.79	0.24	0.19	0.56	189.0	6.675	0.026	0.000
1982	19	0.50	0.97	0.24	0.13	0.81	189.0	6.675	0.026	0.000
1982	20	1.41	2.34	0.24	0.00	2.31	189.0	6.675	0.026	0.000
1982	21	2.27	3.89	0.27	0.00	3.85	189.0	6.675	0.029	0.000
1982	22	1.37	3.02	0.24	0.00	2.99	189.0	6.675	0.026	0.000
1982	23	1.25	2.62	0.24	0.00	2.58	189.0	6.675	0.026	0.000
1982	24	0.87	1.69	0.24	0.00	1.66	189.0	6.675	0.026	0.000
1982	25	0.82	1.62	0.24	0.00	1.58	189.0	6.675	0.026	0.000
1982	26	0.75	1.47	0.24	0.00	1.43	189.0	6.675	0.026	0.000
1982	27	1.28	2.26	0.27	0.00	2.23	189.0	6.675	0.029	0.000
1982	28	1.01	1.42	0.24	0.00	1.38	189.0	6.675	0.026	0.000
1982	29	0.82	2.55	0.24	0.00	2.52	189.0	6.675	0.026	0.000
1982	30	1.19	2.61	0.27	0.00	2.57	189.0	6.675	0.029	0.000
1982	31	1.16	2.02	0.24	0.00	1.98	189.0	6.675	0.026	0.000
1982	32	1.08	1.80	0.24	0.00	1.77	189.0	6.675	0.026	0.000
1982	33	0.87	1.18	0.24	0.00	1.14	189.0	6.675	0.026	0.000
1982	34	1.87	4.04	0.24	0.00	4.00	189.0	6.675	0.026	0.000
1982	35	0.85	1.45	0.24	0.00	1.42	189.0	6.675	0.026	0.000
1982	36	0.85	1.38	0.27	0.00	1.34	189.0	6.675	0.029	0.000

Table WATER BALANCE (18 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1983	1	0.85	1.12	0.24	0.00	1.08	189.0	6.675	0.026	0.000
1983	2	1.13	1.48	0.24	0.00	1.45	189.0	6.675	0.026	0.000
1983	3	0.91	1.19	0.24	0.00	1.16	189.0	6.675	0.026	0.000
1983	4	0.94	1.36	0.24	0.00	1.33	189.0	6.675	0.026	0.000
1983	5	0.66	0.75	0.24	0.00	0.72	189.0	6.675	0.026	0.000
1983	6	1.53	2.29	0.27	0.00	2.25	189.0	6.675	0.029	0.000
1983	7	0.61	0.71	0.24	0.03	0.64	189.0	6.675	0.026	0.000
1983	8	0.50	0.64	0.24	0.13	0.47	189.0	6.675	0.026	0.000
1983	9	1.53	2.49	0.27	0.00	2.45	189.0	6.675	0.029	0.000
1983	10	2.07	2.53	0.24	0.00	2.50	189.0	6.675	0.026	0.000
1983	11	1.06	2.04	0.24	0.00	2.00	189.0	6.675	0.026	0.000
1983	12	0.62	0.85	0.20	0.00	0.82	189.0	6.675	0.021	0.000
1983	13	0.68	0.86	0.24	0.00	0.83	189.0	6.675	0.026	0.000
1983	14	0.56	0.61	0.24	0.08	0.50	189.0	6.675	0.026	0.000
1983	15	0.49	0.60	0.27	0.21	0.35	189.0	6.675	0.029	0.000
1983	16	0.36	0.50	0.23	0.29	0.18	189.0	6.675	0.026	0.000
1983	17	0.32	0.52	0.23	0.33	0.16	189.0	6.675	0.026	0.000
1983	18	0.25	0.50	0.24	0.39	0.08	189.0	6.675	0.026	0.000
1983	19	0.27	0.53	0.24	0.37	0.13	189.0	6.675	0.026	0.000
1983	20	0.24	0.51	0.19	0.46	0.02	189.0	6.675	0.026	0.000
1983	21	0.21	0.51	0.15	0.60	0.00	188.5	6.543	0.029	0.000
1983	22	0.18	0.40	0.11	0.59	0.00	187.6	6.326	0.025	0.000
1983	23	0.17	0.45	0.10	0.61	0.00	186.8	6.146	0.022	0.000
1983	24	0.17	0.43	0.09	0.63	0.00	185.9	5.922	0.020	0.000
1983	25	0.14	0.40	0.08	0.67	0.00	184.7	5.636	0.017	0.000
1983	26	0.19	0.50	0.09	0.61	0.00	184.2	5.503	0.014	0.000
1983	27	0.24	0.58	0.09	0.65	0.00	183.7	5.404	0.015	0.000
1983	28	0.18	0.44	0.07	0.64	0.00	182.8	5.183	0.012	0.000
1983	29	0.21	0.38	0.07	0.62	0.00	181.8	4.930	0.010	0.000
1983	30	0.21	0.43	0.08	0.70	0.00	180.6	4.650	0.009	0.000
1983	31	0.17	0.35	0.06	0.66	0.00	179.0	4.323	0.006	0.000
1983	32	0.16	0.31	0.06	0.69	0.00	176.8	3.938	0.004	0.000
1983	33	0.14	0.29	0.05	0.72	0.00	174.3	3.503	0.001	0.000
1983	34	0.11	0.26	0.05	0.75	0.00	171.3	3.013	0.000	0.000
1983	35	0.14	0.33	0.06	0.70	0.00	168.3	2.632	0.000	0.000
1983	36	0.13	0.31	0.05	0.82	0.00	164.1	2.118	0.000	0.000

Table WATER BALANCE (19 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1984	1	0.07	0.26	0.04	0.79	0.00	159.8	1.578	0.000	0.000
1984	2	0.06	0.23	0.06	0.79	0.00	153.4	1.021	0.000	0.000
1984	3	0.21	0.30	0.15	0.54	0.00	149.4	0.772	0.000	0.000
1984	4	0.32	0.34	0.09	0.49	0.00	146.3	0.613	0.000	0.000
1984	5	0.17	0.29	0.12	0.62	0.00	139.1	0.279	0.000	0.000
1984	6	7.31	5.64	0.27	0.00	0.00	185.9	5.922	0.000	0.000
1984	7	0.98	1.28	0.24	0.00	0.50	189.0	6.675	0.017	0.000
1984	8	0.67	0.86	0.24	0.00	0.82	189.0	6.675	0.026	0.000
1984	9	1.86	4.09	0.27	0.00	4.05	189.0	6.675	0.029	0.000
1984	10	3.45	4.03	0.24	0.00	3.99	189.0	6.675	0.026	0.000
1984	11	1.14	1.58	0.24	0.00	1.55	189.0	6.675	0.026	0.000
1984	12	0.74	1.02	0.22	0.00	0.99	189.0	6.675	0.024	0.000
1984	13	0.76	1.01	0.24	0.00	0.97	189.0	6.675	0.026	0.000
1984	14	0.65	0.73	0.24	0.00	0.69	189.0	6.675	0.026	0.000
1984	15	0.53	0.57	0.27	0.17	0.36	189.0	6.675	0.029	0.000
1984	16	0.44	0.62	0.24	0.20	0.39	189.0	6.675	0.026	0.000
1984	17	0.40	0.50	0.23	0.25	0.21	189.0	6.675	0.026	0.000
1984	18	0.48	0.65	0.23	0.17	0.44	189.0	6.675	0.026	0.000
1984	19	0.42	0.57	0.19	0.27	0.27	189.0	6.675	0.026	0.000
1984	20	0.34	0.50	0.17	0.37	0.10	189.0	6.675	0.026	0.000
1984	21	0.36	0.66	0.18	0.43	0.20	189.0	6.675	0.029	0.000
1984	22	0.37	0.68	0.19	0.32	0.32	189.0	6.675	0.026	0.000
1984	23	0.38	0.48	0.19	0.31	0.14	189.0	6.675	0.026	0.000
1984	24	0.33	0.44	0.15	0.40	0.01	189.0	6.675	0.026	0.000
1984	25	0.30	0.48	0.13	0.45	0.00	189.0	6.675	0.026	0.000
1984	26	0.37	0.56	0.13	0.38	0.14	189.0	6.675	0.026	0.000
1984	27	0.39	0.52	0.13	0.45	0.03	189.0	6.675	0.029	0.000
1984	28	0.48	0.80	0.15	0.25	0.52	189.0	6.675	0.026	0.000
1984	29	0.76	1.11	0.21	0.00	1.07	189.0	6.675	0.026	0.000
1984	30	0.61	0.59	0.17	0.19	0.37	189.0	6.675	0.029	0.000
1984	31	0.42	0.43	0.12	0.34	0.06	189.0	6.675	0.026	0.000
1984	32	0.44	0.48	0.15	0.29	0.15	189.0	6.675	0.026	0.000
1984	33	0.39	0.44	0.12	0.37	0.03	189.0	6.675	0.026	0.000
1984	34	0.54	0.49	0.16	0.18	0.28	189.0	6.675	0.026	0.000
1984	35	0.36	0.39	0.13	0.38	0.00	188.9	6.643	0.026	0.000
1984	36	0.31	0.38	0.12	0.54	0.00	188.0	6.441	0.028	0.000

Table WATER BALANCE (20 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1985	1	0.21	0.33	0.10	0.57	0.00	186.9	6.175	0.023	0.000
1985	2	0.20	0.33	0.12	0.57	0.00	185.8	5.905	0.020	0.000
1985	3	0.20	0.32	0.10	0.59	0.00	184.6	5.612	0.017	0.000
1985	4	0.17	0.40	0.08	0.65	0.00	183.5	5.337	0.014	0.000
1985	5	0.46	0.55	0.15	0.29	0.00	184.4	5.569	0.012	0.000
1985	6	0.62	0.64	0.18	0.18	0.00	186.2	6.001	0.015	0.000
1985	7	0.29	0.33	0.11	0.50	0.00	185.4	5.804	0.018	0.000
1985	8	8.58	6.17	0.24	0.00	5.28	189.0	6.675	0.016	0.000
1985	9	3.83	4.87	0.27	0.00	4.83	189.0	6.675	0.029	0.000
1985	10	3.79	3.01	0.24	0.00	2.97	189.0	6.675	0.026	0.000
1985	11	13.75	13.39	0.24	0.00	13.35	189.0	6.675	0.026	0.000
1985	12	10.61	10.70	0.20	0.00	10.67	189.0	6.675	0.021	0.000
1985	13	8.40	8.84	0.24	0.00	8.80	189.0	6.675	0.026	0.000
1985	14	2.45	3.20	0.24	0.00	3.16	189.0	6.675	0.026	0.000
1985	15	1.15	2.48	0.27	0.00	2.44	189.0	6.675	0.029	0.000
1985	16	0.85	1.49	0.24	0.00	1.45	189.0	6.675	0.026	0.000
1985	17	0.79	1.55	0.24	0.00	1.52	189.0	6.675	0.026	0.000
1985	18	1.06	2.22	0.24	0.00	2.19	189.0	6.675	0.026	0.000
1985	19	0.68	1.05	0.24	0.00	1.02	189.0	6.675	0.026	0.000
1985	20	0.51	0.71	0.24	0.13	0.55	189.0	6.675	0.026	0.000
1985	21	0.49	0.74	0.27	0.21	0.49	189.0	6.675	0.029	0.000
1985	22	0.38	0.59	0.24	0.26	0.30	189.0	6.675	0.026	0.000
1985	23	0.78	1.05	0.24	0.00	1.02	189.0	6.675	0.026	0.000
1985	24	0.72	0.74	0.24	0.00	0.71	189.0	6.675	0.026	0.000
1985	25	0.54	0.57	0.24	0.10	0.44	189.0	6.675	0.026	0.000
1985	26	0.48	0.65	0.24	0.16	0.46	189.0	6.675	0.026	0.000
1985	27	0.88	1.42	0.27	0.00	1.38	189.0	6.675	0.029	0.000
1985	28	0.61	0.64	0.22	0.05	0.56	189.0	6.675	0.026	0.000
1985	29	0.50	0.48	0.21	0.17	0.28	189.0	6.675	0.026	0.000
1985	30	0.72	0.64	0.24	0.01	0.59	189.0	6.675	0.029	0.000
1985	31	0.58	0.59	0.20	0.10	0.45	189.0	6.675	0.026	0.000
1985	32	0.67	0.62	0.22	0.00	0.58	189.0	6.675	0.026	0.000
1985	33	0.57	0.50	0.24	0.07	0.40	189.0	6.675	0.026	0.000
1985	34	0.46	0.35	0.23	0.19	0.12	189.0	6.675	0.026	0.000
1985	35	0.43	0.37	0.22	0.23	0.11	189.0	6.675	0.026	0.000
1985	36	0.44	0.42	0.21	0.31	0.06	189.0	6.675	0.029	0.000

Table WATER BALANCE (21 /21)
(with leakage)

Total Water Requirement : 1.05 m^3/sec
LWL : 139.0 m
HWL : 189.0 m
Effective Storage : 6.4 MCM Dead Storage : .275 MCM

Hydro. Year		Inflow Resi. (MCM)	Dam (MCM)	from Pipelines (MCM)	Release from Dam (MCM)	Spill-out (MCM)	Water level (m)	Storage Volume (MCM)	Leakage (MCM)	Deficit
1986	1	0.33	0.36	0.19	0.36	0.00	188.9	6.643	0.026	0.000
1986	2	0.31	0.34	0.17	0.41	0.00	188.5	6.543	0.026	0.000
1986	3	0.27	0.47	0.20	0.41	0.00	188.6	6.576	0.025	0.000
1986	4	0.32	0.46	0.18	0.38	0.00	188.8	6.619	0.025	0.000
1986	5	0.54	0.88	0.24	0.09	0.69	189.0	6.675	0.025	0.000
1986	6	3.62	4.71	0.27	0.00	4.67	189.0	6.675	0.029	0.000
1986	7	1.42	1.39	0.24	0.00	1.35	189.0	6.675	0.026	0.000
1986	8	0.89	0.82	0.24	0.00	0.78	189.0	6.675	0.026	.000
1986	9	0.80	1.00	0.27	0.00	0.97	189.0	6.675	0.029	0.000
1986	10	1.87	2.89	0.24	0.00	2.86	189.0	6.675	0.026	0.000
1986	11	3.28	4.04	0.24	0.00	4.00	189.0	6.675	0.026	0.000
1986	12	1.08	1.53	0.20	0.00	1.50	189.0	6.675	0.021	0.000
1986	13	1.29	1.44	0.24	0.00	1.41	189.0	6.675	0.026	0.000
1986	14	5.29	5.54	0.24	0.00	5.50	189.0	6.675	0.026	0.000
1986	15	1.30	2.44	0.27	0.00	2.40	189.0	6.675	0.029	0.000
1986	16	0.79	1.19	0.24	0.00	1.16	189.0	6.675	0.026	0.000
1986	17	0.59	0.87	0.24	0.05	0.79	189.0	6.675	0.026	0.000
1986	18	0.61	1.51	0.24	0.03	1.45	189.0	6.675	0.026	0.000
1986	19	0.94	0.93	0.24	0.00	0.89	189.0	6.675	0.026	0.000
1986	20	0.75	0.95	0.24	0.00	0.92	189.0	6.675	0.026	0.000
1986	21	0.79	0.76	0.27	0.00	0.73	189.0	6.675	0.029	0.000
1986	22	0.60	0.58	0.24	0.03	0.52	189.0	6.675	0.026	0.000
1986	23	0.50	0.49	0.21	0.17	0.29	189.0	6.675	0.026	0.000
1986	24	0.44	0.49	0.18	0.26	0.20	189.0	6.675	0.026	0.000
1986	25	0.43	0.52	0.17	0.28	0.21	189.0	6.675	0.026	0.000
1986	26	0.39	0.41	0.24	0.25	0.12	189.0	6.675	0.026	0.000
1986	27	0.35	0.41	0.25	0.37	0.00	189.0	6.675	0.029	0.000
1986	28	0.33	0.41	0.24	0.31	0.07	189.0	6.675	0.026	0.000
1986	29	1.07	1.26	0.24	0.00	1.22	189.0	6.675	0.026	0.000
1986	30	0.72	0.76	0.27	0.00	0.73	189.0	6.675	0.029	0.000
1986	31	0.50	0.46	0.24	0.13	0.30	189.0	6.675	0.026	0.000
1986	32	0.46	0.40	0.23	0.20	0.16	189.0	6.675	0.026	0.000
1986	33	0.35	0.33	0.22	0.31	0.00	188.9	6.662	0.026	0.000
1986	34	0.35	0.37	0.24	0.29	0.03	189.0	6.675	0.026	0.000
1986	35	0.36	0.51	0.24	0.28	0.19	189.0	6.675	0.026	0.000
1986	36	0.30	0.36	0.24	0.43	0.00	188.6	6.571	0.029	0.000

IV SEDIMENT

(1) STATION E04

SEDIMENT - DISCHARGE (1/9)

Station : E04 River Bateau

Date	Time	Sample No.	Sediment (mg/lit)		Mean	Discharge (lit/sec)
28/3/79	22 :00	1	200	250	225	276
	22 :30	2	120	140	130	691
	23 :00	3	230	190	210	562
	23 :30	4	220	140	180	384
	0 :00	5	140	180	160	311
	0 :30	6	130	140	135	277
	1 :00	7	100		100	260
	1 :30	8	200	190	195	237
	2 :00	9	100	90	95	229
	2 :30	10	120	90	105	215
	3 :00	11	80	40	60	208
	3 :30	12	150	50	100	194
	4 :00	13	50	70	60	194
	4 :30	14	40	70	55	187
	5 :00	15	110	110	110	180
	5 :30	16	50	90	70	174
	6 :00	17	130	180	155	168
	6 :30	18	120	150	135	168
	7 :00	19	140	110	125	162
	7 :30	20	60	60	60	162
	8 :00	21	150	60	105	156
	8 :30	22	100	70	85	156
	9 :00	23	80	120	100	150
	9 :30	24	100	100	100	150
		Average			119	244

SEDIMENT - DISCHARGE (2/9)

Station : E04 River Bateau

Date	Time	Sample No.	Sediment (mg/lit)		Mean	Discharge (lit/sec)
15/12/79	18 :30	1	160	180	170	277
	19 :00	2	70	70	70	619
	19 :30	3	100	50	75	475
	20 :00	4	70	30	50	285
	20 :30	5	100	90	95	201
	21 :00	6	70	20	45	222
	21 :30	7	70	30	50	187
	22 :00	8				162
	22 :30	9	70	30	50	145
	23 :00	10		140	140	135
	23 :30	11	40	100	70	121
	0 :00	12	50	50	50	109
	0 :30	13	110	100	105	103
	1 :00	14	270	360	315	96
	1 :30	15	420	400	410	92
	2 :00	16	490	470	480	88
	2 :30	17	310		310	119
	3 :00	18	650	620	635	109
	3 :30	19	250	190	220	101
	4 :00	20	210	120	165	94
	4 :30	21	130	120	125	90
	5 :00	22	80	80	80	92
	5 :30	23	70	70	70	94
	6 :00	24	180	80	130	90
		Average			170	171

SEDIMENT - DISCHARGE (3/9)

Station : E04 River Bateau

Date	Time	Sample No.	Sediment (mg/lit)		Mean	Discharge (lit/sec)
23/12/79	0 :00	1	160	90	125	277
	0 :30	2	260	230	245	3985
	1 :00	3	360	330	345	
	1 :30	4	570	450	510	
	2 :00	5	410	290	350	1728
	2 :30	6	200	220	210	829
	3 :00	7	390	310	350	584
	3 :30	8	680		680	740
	4 :00	9	120	180	150	2055
	4 :30	10	430		430	
	5 :00	11	110	70	90	2709
	5 :30	12	210	140	175	1640
	6 :00	13	130	120	125	829
	6 :30	14	170	240	205	584
	7 :00	15	240	200	220	444
	7 :30	16	200	190	195	365
	8 :00	17	480		480	329
	8 :30	18			298	302
	9 :00	19	230	160	195	285
	9 :30	20	160	70	115	268
	10 :00	21	140	90	115	252
	10 :30	22	150	140	145	245
	11 :00	23	100	100	100	229
	11 :30	24	30	110	70	222
		Average			247	900

SEDIMENT - DISCHARGE (4/9)

Station : E04 River Bateau

Date	Time	Sample No.	Sediment (mg/lit)		Mean	Discharge (lit/sec)
16/1/80	16 :00	1	220	180	200	277
	16 :30	2	90	60	75	347
	17 :00	3	50	100	75	319
	17 :30	4	150	20	85	285
	18 :00	5	80	40	60	252
	18 :30	6	110	50	80	245
	19 :00	7	150		150	222
	19 :30	8	180		180	201
	20 :00	9	40	60	50	215
	20 :30	10	80	80	80	260
	21 :00	11	100	20	60	268
	21 :30	12	70	100	85	252
	22 :00	13	110	50	80	215
	22 :30	14	60	80	70	194
	23 :00	15	120	140	130	174
	23 :30	16	90	60	75	162
	0 :00	17	40		40	162
	0 :30	18	170	140	155	156
	1 :00	19	40	100	70	145
	1 :30	20	30	20	25	140
	2 :00	21	10	20	15	135
	2 :30	22	10	30	20	150
	3 :00	23	10	20	15	145
	3 :30	24	20	40	30	140
		Average			79	211

SEDIMENT - DISCHARGE (5/9)

Station : E04 River Bateau

Date	Time	Sample No.	Sediment (mg/lit)		Mean	Discharge (lit/sec)
18/1/80	4 :00	1	60	90	75	276.7
	4 :30	2	90	90	90	328.5
	5 :00	3	90	80	85	453.9
	5 :30	4	60	60	60	464.1
	6 :00	5	40	50	45	413.4
	6 :30	6	50	60	55	355.7
	7 :00	7	40	30	35	310.6
	7 :30	8	40		40	284.9
	8 :00	9	70	40	55	268.4
	8 :30	10	40	60	50	284.9
	9 :00	11	100	100	100	346.6
	9 :30	12	70	70	70	443.7
	10 :00	13	60	70	65	403.5
	10 :30	14	20	20	20	355.7
	11 :00	15	100	70	85	310.6
	11 :30	16	40	20	30	268.4
	12 :00	17	90		90	252.3
	12 :30	18	170	110	140	244.7
	13 :00	19	50	60	55	229.4
	13 :30	20	80	120	100	229.4
	14 :00	21	100	90	95	221.7
	14 :30	22	140	100	120	214.6
	15 :00	23	70	90	80	207.6
	15 :30	24	120	90	105	201.5
		Average			73	307

SEDIMENT - DISCHARGE (6/9)

Station : E04 River Bateau

Date	Time	Sample No.	Sediment (mg/lit)	Mean	Discharge (lit/sec)
1/3/80	16 :00	1	65	65	271
	16 :30	2	65	65	276
	17 :00	3	70	70	279
	17 :30	4	95	95	279
	18 :00	5	50	50	279
	18 :30	6	95	95	279
	19 :00	7	105	105	279
	19 :30	8	115	115	276
	20 :00	9	110	110	265
	20 :30	10	90	90	259
	21 :00	11	125	125	248
	21 :30	12	110	110	242
	22 :00	13	165	165	236
	22 :30	14	45	45	234
	23 :00	15	145	145	242
	23 :30	16	100	100	248
	0 :00	17	95	95	253
	0 :30	18	160	160	253
	1 :00	19	150	150	259
	1 :30	20	140	140	265
	2 :00	21	75	75	271
	2 :30	22	110	110	287
	3 :00	23	50	50	303
	3 :30	24	70	70	314
		Average		100	267

SEDIMENT - DISCHARGE (7/9)

Station : E04 River Bateau

Date	Time	Sample No.	Sediment (mg/lit)		Mean	Discharge (lit/sec)
11/4/80	14 :00	1	280	200	240	277
	14 :30	2				1640
	15 :00	3	160	250	205	1555
	15 :30	4	260	190	225	829
	16 :00	5	90	120	105	517
	16 :30	6	90	100	95	365
	17 :00	7	210	90	150	319
	17 :30	8	180		180	293
	18 :00	9	150	220	185	277
	18 :30	10	200	280	240	260
	19 :00	11	50	90	70	245
	19 :30	12	60		60	222
	20 :00	13	140	70	105	215
	20 :30	14	60	40	50	208
	21 :00	15	50	50	50	201
	21 :30	16	70	80	75	194
	22 :00	17	60	90	75	187
	22 :30	18	280	190	235	180
	23 :00	19	160	190	175	168
	23 :30	20	50	70	60	168
	0 :00	21	120	70	95	162
	0 :30	22	90	40	65	156
	1 :00	23	70	90	80	156
	1 :30	24	100	90	95	285
		Average			127	378

SEDIMENT - DISCHARGE (8/9)

Station : E04 River Bateau

Date	Time	Sample No.	Sediment (mg/lit)	Mean	Discharge (lit/sec)
16/1/80	16 :00	1	200	200	265
	16 :30	2	75	75	365
	17 :00	3	100	100	342
	17 :30	4	150	150	330
	18 :00	5	80	80	319
	18 :30	6	110	110	319
	19 :00	7	150	150	287
	19 :30	8	180	180	259
	20 :00	9	50	50	254
	20 :30	10	80	80	248
	21 :00	11	100	100	236
	21 :30	12	85	85	228
	22 :00	13	110	110	218
	22 :30	14	70	70	209
	23 :00	15	130	130	200
	23 :30	16	75	75	196
	0 :00	17	40	40	209
	0 :30	18	155	155	254
	1 :00	19	100	100	265
	1 :30	20	30	30	276
	2 :00	21	20	20	271
	2 :30	22	20	20	271
	3 :00	23	30	30	259
	3 :30	24	30	30	232
		Average		90	263

SEDIMENT - DISCHARGE (9/9)

Station : E04 River Bateau

Date	Time	Sample No.	Sediment (mg/lit)		Mean	Discharge (lit/sec)
1/3/80	17 :00	1	60	70	65	277
	17 :30	2	40	90	65	277
	18 :00	3	90	50	70	277
	18 :30	4	80	110	95	260
	19 :00	5	60	40	50	245
	19 :30	6	110	80	95	237
	20 :00	7	110	100	105	245
	20 :30	8	110	120	115	252
	21 :00	9	130	90	110	260
	21 :30	10	80	100	90	268
	22 :00	11	130	120	125	302
	22 :30	12	110	110	110	319
	23 :00	13	140	190	165	329
	23 :30	14	60	30	45	311
	0 :00	15	130	160	145	311
	0 :30	16	110	90	100	311
	1 :00	17	70	120	95	337
	1 :30	18	160	160	160	347
	2 :00	19	140	160	150	347
	2 :30	20	130	150	140	329
	3 :00	21	90	60	75	329
	3 :30	22	100	120	110	347
	4 :00	23	40	60	50	347
	4 :30	24	60	80	70	337
		Average			100	300

(2) STATION E05

SEDIMENT - DISCHARGE (1/8)

Station : E05 River Vacoas

Date	Time	Sample No.	Sediment (mg/lit)	Mean	Discharge (lit/sec)
6/01/79	12 :00	1	170	170	434
	12 :30	2	250	250	979
	13 :00	3	110	110	598
	13 :30	4	90	90	434
	14 :00	5	70	70	308
	14 :30	6	60	60	231
	15 :00	7	100	100	215
	15 :30	8	140	140	231
	16 :00	9	100	100	247
	16 :30	10	90	90	336
	17 :00	11	70	70	434
	17 :30	12	120	120	541
	18 :00	13	120	120	413
	18 :30	14	130	130	290
	19 :00	15	90	90	273
	19 :30	16	120	120	264
	20 :00	17	130	130	255
	20 :30	18	90	90	231
	21 :00	19	240	240	223
	21 :30	20	140	140	207
	22 :00	21	30	30	199
	22 :30	22	110	110	185
	23 :00	23	40	40	170
	23 :30	24	40	40	150
			Average	110	327

Station : E05 River Vacoas

Date	Time	Sample No.	Sediment (mg/lit)			Mean	Discharge (lit/sec)
28/4/79	14 :00	1	80	70	110	87	434
	14 :30	2	70	70	50	63	806
	15 :00	3	90	90	70	83	657
	15 :30	4	50	80	70	67	487
	16 :00	5	70	60	60	63	465
	16 :30	6	80	60	60	67	575
	17 :00	7	40	90	70	67	657
	17 :30	8	120			120	575
	18 :00	9	80	100	60	80	465
	18 :30	10	120	130	160	137	374
	19 :00	11	150	130	140	140	308
	19 :30	12	170	150	140	153	247
	20 :00	13	40	80	70	63	207
	20 :30	14	80	70	80	77	185
	21 :00	15	80	70	70	73	170
	21 :30	16	70	90	90	83	163
	22 :00	17	90	80	90	87	156
	22 :30	18	90	80	80	83	143
	23 :00	19	210	110	140	153	137
	23 :30	20	170	160	160	163	130
	0 :00	21	170	150	160	160	124
	0 :30	22	230	260	240	243	118
	1 :00	23	150	100	100	117	118
	1 :30	24	80	70	60	70	112
		Average				104	326

Station : E05 River Vacoas

Date	Time	Sample No.	Sediment (mg/lit)			Mean	Discharge (lit/sec)
23/8/79	18 :00	1		150	180	165	434
	18 :30	2	120	140	140	133	444
	19 :00	3	190	130	160	160	424
	19 :30	4	110	160	130	133	355
	20 :00	5	190	120	150	153	317
	20 :30	6	110	200	110	140	273
	21 :00	7	130	110	120	120	247
	21 :30	8	80			80	231
	22 :00	9	170	200	220	197	215
	22 :30	10	500			500	207
	23 :00	11	140	120	170	143	199
	23 :30	12	140	200		170	192
	0 :00	13	120	120	110	117	192
	0 :30	14	190	110	100	133	192
	1 :00	15	90	110	120	107	185
	1 :30	16	90	140	130	120	177
	2 :00	17					170
	2 :30	18	160	120	160	147	170
	3 :00	19	110	130		120	163
	3 :30	20	150	110	100	120	156
	4 :00	21	100	180	90	123	156
	4 :30	22	90	130	170	130	150
	5 :00	23	120	110	120	117	150
	5 :30	24	110	150	130	130	150
		Average				150	231

SEDIMENT - DISCHARGE (4/8)

Station : E05 River Vacoas

Date	Time	Sample No.	Sediment (mg/lit)	Mean	Discharge (lit/sec)
16/1/80	15 :30	1	100	100	434
	16 :00	2	80	80	1742
	16 :30	3	70	70	1848
	17 :00	4	90	90	2245
	17 :30	5	50	50	1963
	18 :00	6	100	100	1578
	18 :30	7	80	80	1423
	19 :00	8	70	70	1191
	19 :30	9	30	30	1047
	20 :00	10	60	60	950
	20 :30	11	50	50	844
	21 :00	12	90	90	717
	21 :30	13	70	70	598
	22 :00	14	60	60	530
	22 :30	15	50	50	486
	23 :00	16	50	50	434
	23 :30	17	60	60	403
	0 :00	18	90	90	403
	0 :30	19	80	80	541
	1 :00	20	80	80	656
	1 :30	21	80	80	650
	2 :00	22	50	50	692
	2 :30	23	80	80	656
	3 :00	24	100	100	541
			Average	72	941

SEDIMENT - DISCHARGE (5/8)

Station : E05 River Vacoas

Date	Time	Sample No.	Sediment (mg/lit)	Mean	Discharge (lit/sec)
1/3/80	16 :00	1	105	105	434
	16 :30	2	95	95	454
	17 :00	3	115	115	465
	17 :30	4	100	100	465
	18 :00	5	75	75	464
	18 :30	6	110	110	464
	19 :00	7	90	90	454
	19 :30	8	160	160	434
	20 :00	9	115	115	423
	20 :30	10	90	90	403
	21 :00	11	70	70	380
	21 :30	12	95	95	364
	22 :00	13	120	120	354
	22 :30	14	90	90	354
	23 :00	15	90	90	362
	23 :30	16	80	80	383
	0 :00	17	100	100	403
	0 :30	18	100	100	434
	1 :00	19	75	75	444
	1 :30	20	30	30	447
	2 :00	21	90	90	454
	2 :30	22	90	90	458
	3 :00	23	40	40	464
	3 :30	24	70	70	465
			Average	91	426

SEDIMENT - DISCHARGE (6/8)

Station : E05 River Vacoas

Date	Time	Sample No.	Sediment (mg/lit)		Mean	Discharge (lit/sec)
3/3/81	10 :00	1	80	30	55	434
	10 :30	2	20	30	25	681
	11 :00	3	80	90	85	383
	11 :30	4	40	80	60	247
	12 :00	5	50	120	85	255
	12 :30	6	20	10	15	299
	13 :00	7	50	40	45	264
	13 :30	8	40		40	207
	14 :00	9	30	70	50	170
	14 :30	10	30	50	40	137
	15 :00	11	30	40	35	118
	15 :30	12	30	50	40	101
	16 :00	13	70	40	55	91
	16 :30	14	100	130	115	82
	17 :00	15	50	80	65	73
	17 :30	16	50	50	50	66
	18 :00	17	40	40	40	63
	18 :30	18	80	40	60	60
	19 :00	19	70	120	95	58
	19 :30	20	70	80	75	56
	20 :00	21	70	90	80	54
	20 :30	22				52
	21 :00	23				52
	21 :30	24				51
		Average			58	169

SEDIMENT - DISCHARGE (7/8)

Station : E05 River Vacoas

Date	Time	Sample No.	Sediment (mg/lit)		Mean	Discharge (lit/sec)
16/4/81	12 :00	1	20	10	15	434
	12 :30	2	10	10	10	844
	13 :00	3	20	50	35	2284
	13 :30	4	30	20	25	2493
	14 :00	5	30	10	20	2284
	14 :30	6	10	10	10	1744
	15 :00	7	20	10	15	1048
	15 :30	8	30	10	20	693
	16 :00	9	60	40	50	541
	16 :30	10				465
	17 :00	11	20	10	15	434
	17 :30	12	20	30	25	487
	18 :00	13	60	30	45	884
	18 :30	14	10	10	10	979
	19 :00	15	70	80	75	911
	19 :30	16	30	70	50	819
	20 :00	17	40	10	25	819
	20 :30	18	30	10	20	780
	21 :00	19	210	140	175	718
	21 :30	20	220	200	210	657
	22 :00	21	40	80	60	598
	22 :30	22	30	30	30	564
	23 :00	23	160	140	150	541
	23 :30	24	140	160	150	519
			Average		54	939

SEDIMENT - DISCHARGE (8/8)

Station : E05 River Vacoas

Date	Time	Sample No.	Sediment (mg/lit)		Mean	Discharge (lit/sec)
6/12/81	15 :00	1	120	170	145	434
	15 :30	2	120	120	120	1499
	16 :00	3	160	150	155	1105
	16 :30	4	130	50	90	657
	17 :00	5	110	70	90	434
	17 :30	6	220	50	135	308
	18 :00	7	150	10	80	247
	18 :30	8	200	170	185	239
	19 :00	9	90	70	80	215
	19 :30	10	120	120	120	192
	20 :00	11	20	20	20	177
	20 :30	12	30	50	40	170
	21 :00	13	60	20	40	156
	21 :30	14	80	60	70	150
	22 :00	15	100	30	65	143
	22 :30	16	110	200	155	143
	23 :00	17	40	50	45	150
	23 :30	18	120	120	120	150
	0 :00	19	40	50	45	143
	0 :30	20	20	20	20	143
	1 :00	21	100	50	75	137
	1 :30	22	120	110	115	130
	2 :00	23	80	100	90	124
	2 :30	24	10	10	10	124
		Average			88	307

(3) STATION E06

SEDIMENT - DISCHARGE (1/11)

Station : E06 River Gontran

Date	Time	Sample No.	Sediment (mg/lit)			Mean	Discharge (lit/sec)
22/3/79	9 :00	1					
	9 :30	2	250	230	200	227	272
	10 :00	3	230	250	260	247	496
	10 :30	4	150	130		140	1000
	11 :00	5	180	160	150	163	2551
	11 :30	6	240	280	270	263	2005
	12 :00	7	160	140	150	150	1113
	12 :30	8	140	130	100	123	654
	13 :00	9	120	170		145	464
	13 :30	10	80	80	70	77	357
	14 :00	11	80	50	50	60	303
	14 :30	12	50	90	80	73	272
	15 :00	13	60	40	60	53	246
	15 :30	14	90	80	50	73	232
	16 :00	15	60	100	90	83	245
	16 :30	16	70	80	70	73	210
	17 :00	17	70	70	50	63	195
	17 :30	18	50	100	70	73	195
	18 :00	19	70	50	60	60	181
	18 :30	20	80	40	50	57	181
	19 :00	21	60	90	90	80	176
	19 :30	22	80	80	80	80	176
	20 :00	23	150	130	70	117	170
	20 :30	24	170	180	200	183	164
		Average				116	516

Station : E06 River Gontran

Date	Time	Sample No.	Sediment (mg/lit)			Mean	Discharge (lit/sec)
17/5/79	18 :30	1	120	130	110	120	272
	19 :00	2	120	150	250	173	400
	19 :30	3	60	90	70	73	323
	20 :00	4	40	90	30	53	303
	20 :30	5	20	50	30	33	357
	21 :00	6	50	70	50	57	331
	21 :30	7	60	60	100	73	255
	22 :00	8	50	100		75	195
	22 :30	9	50	70	30	50	153
	23 :00	10	30	70		50	127
	23 :30	11	50	100	90	80	110
	0 :00	12	110	100	80	97	99
	0 :30	13	130	100	70	100	96
	1 :00	14	110	90	80	93	91
	1 :30	15	60	90	70	73	88
	2 :00	16	90	70	80	80	88
	2 :30	17	40	90	50	60	82
	3 :00	18	90	80	70	80	79
	3 :30	19	100	80	50	77	79
	4 :00	20	70	50	100	73	79
	4 :30	21	70	70	80	73	77
	5 :00	22	50	40	50	47	74
	5 :30	23	20	40	40	33	74
	6 :00	24	80	80	60	73	74
		Average				75	163

Station : E06 River Gontran

Date	Time	Sample No.	Sediment (mg/lit)			Mean	Discharge (lit/sec)
16/6/79	4 :00	1	120	170	160	150	272
	4 :30	2	130	100	80	103	295
	5 :00	3	190	170	130	163	295
	5 :30	4	90	100	90	93	295
	6 :00	5	80	110	70	87	272
	6 :30	6	110	110	100	107	215
	7 :00	7	85			85	176
	7 :30	8	80	110	70	87	147
	8 :00	9	130	140	110	127	125
	8 :30	10	90	135		113	105
	9 :00	11	110	110	110	110	93
	9 :30	12	100	80	100	93	88
	10 :00	13	80	100	80	87	82
	10 :30	14	100	100	80	93	79
	11 :00	15	120	110	70	100	77
	11 :30	16	70	100	100	90	77
	12 :00	17	100	100	50	83	77
	12 :30	18	90	90	90	90	71
	13 :00	19	90	100	80	90	68
	13 :30	20	100	90	80	90	68
	14 :00	21	120	110	70	100	68
	14 :30	22	130	110	120	120	68
	15 :00	23	100	100	100	100	68
	15 :30	24	110	110	110	110	68
		Average				103	135

SEDIMENT - DISCHARGE (4/11)

Station : E06 River Gontran

Date	Time	Sample No.	Sediment (mg/lit)			Mean	Discharge (lit/sec)
23/8/79	15 :15	1	130			130	272
	15 :45	2	120	150	130	133	476
	16 :15	3	410	410	380	400	436
	16 :45	4	100	120	140	120	385
	17 :15	5	100	100	120	107	340
	17 :45	6	200	190	210	200	286
	18 :15	7	60	90	50	67	246
	18 :45	8	120			120	215
	19 :15	9	100	100	90	97	190
	19 :45	10	80			80	176
	20 :15	11	80	80	90	83	164
	20 :45	12	80	50	60	63	159
	21 :15	13	80	40	100	73	153
	21 :45	14	40	80	50	57	153
	22 :15	15	90	100	50	80	153
	22 :45	16	50	80	50	60	153
	23 :15	17	60	110	80	83	147
	23 :45	18	50	50	60	53	147
	0 :15	19	70	30	50	50	147
	0 :45	20	30	30	30	30	147
	1 :15	21	40	50	40	43	142
	1 :45	22	40	50	20	37	136
	2 :15	23	80	80	80	80	136
	2 :45	24	80	50	60	63	133
		Average				96	212

SEDIMENT - DISCHARGE (5/11)

Station : E06 River Gontran

Date	Time	Sample No.	Sediment (mg/lit)	Mean	Discharge (lit/sec)
16/1/80	16 :30	1	245	245	270
	17 :00	2	190	190	800
	17 :30	3	170	170	1212
	18 :00	4	150	150	1601
	18 :30	5	110	110	1520
	19 :00	6	160	160	1287
	19 :30	7	160	160	1068
	20 :00	8	210	210	929
	20 :30	9	160	160	800
	21 :00	10	170	170	677
	21 :30	11	100	100	561
	22 :00	12	95	95	455
	22 :30	13	180	180	385
	23 :00	14	180	180	330
	23 :30	15	90	90	295
	0 :00	16	140	140	262
	0 :30	17	160	160	231
	1 :00	18	160	160	231
	1 :30	19	175	175	270
	2 :00	20	200	200	348
	2 :30	21	115	115	376
	3 :00	22	190	190	405
	3 :30	23	150	150	376
	4 :00	24	150	150	339
		Average		159	626

SEDIMENT - DISCHARGE (6/11)

Station : E06 River Gontran

Date	Time	Sample No.	Sediment (mg/lit)		Mean	Discharge (lit/sec)
18/1/80	4 :30	1	210	150	180	272
	5 :00	2	140	150	145	801
	5 :30	3	180	130	155	2209
	6 :00	4	140	180	160	1985
	6 :30	5	210	200	205	932
	7 :00	6	190	150	170	561
	7 :30	7	150	160	155	413
	8 :00	8	70	90	80	340
	8 :30	9	140	100	120	272
	9 :00	10	140	120	130	272
	9 :30	11	90	90	90	255
	10 :00	12	170	130	150	246
	10 :30	13	150	180	165	224
	11 :00	14	210	190	200	210
	11 :30	15	170	150	160	195
	12 :00	16	150	180	165	176
	12 :30	17	120	180	150	164
	13 :00	18	520	490	505	153
	13 :30	19	190	120	155	147
	14 :00	20	150	180	165	142
	14 :30	21	180	130	155	136
	15 :00	22	160	180	170	133
	15 :30	23	150	170	160	136
	16 :00	24	120	150	135	164
		Average			168	439

SEDIMENT - DISCHARGE (7/11)

Station : E06 River Gontran

Date	Time	Sample No.	Sediment (mg/lit)	Mean	Discharge (lit/sec)
1/3/80	7 :00	1	230	230	270
	7 :30	2	100	100	295
	8 :00	3	130	130	312
	8 :30	4	100	100	357
	9 :00	5	140	140	395
	9 :30	6	170	170	393
	10 :00	7	180	180	385
	10 :30	8	240	240	366
	11 :00	9	130	130	312
	11 :30	10	150	150	287
	12 :00	11	80	80	270
	12 :30	12	120	120	246
	13 :00	13	150	150	231
	13 :30	14	190	190	224
	14 :00	15	140	140	216
	14 :30	16	160	160	212
	15 :00	17	260	260	209
	15 :30	18	150	150	203
	16 :00	19	140	140	196
	16 :30	20	100	100	189
	17 :00	21	110	110	182
	17 :30	22	110	110	176
	18 :00	23	110	110	176
	18 :30	24	110	110	164
		Average		146	261

SEDIMENT - DISCHARGE (8/11)

Station : E06 River Gontran

Date	Time	Sample No.	Sediment (mg/lit)		Mean	Discharge (lit/sec)
3/3/80	0 :00	1	250	210	230	272
	0 :30	2	60	100	80	295
	1 :00	3	130	100	115	348
	1 :30	4	30	100	65	377
	2 :00	5	110	140	125	357
	2 :30	6	170	100	135	340
	3 :00	7	150	180	165	323
	3 :30	8	220	240	230	286
	4 :00	9	110	130	120	272
	4 :30	10	140	150	145	255
	5 :00	11	50	80	65	246
	5 :30	12	120	100	110	238
	6 :00	13	150	140	145	232
	6 :30	14	160	190	175	215
	7 :00	15	140	110	125	215
	7 :30	16	110	160	135	210
	8 :00	17	250	260	255	210
	8 :30	18	150	120	135	210
	9 :00	19	100	140	120	210
	9 :30	20	80	100	90	210
	10 :00	21	110	90	100	210
	10 :30	22	110	70	90	210
	11 :00	23	90	110	100	210
	11 :30	24	120	110	115	210
		Average			132	256

SEDIMENT- DISCHARGE (9/11)

Station : E06 River Gontran

Date	Time	Sample No.	Sediment (mg/lit)		Mean	Discharge (lit/sec)
21/7/81	18 :00	1	90	100	95	272
	18 :30	2	50	60	55	272
	19 :00	3	100	100	100	210
	19 :30	4	80	80	80	159
	20 :00	5	100	120	110	127
	20 :30	6	50	80	65	99
	21 :00	7	150	110	130	82
	21 :30	8	120	80	100	77
	22 :00	9				79
	22 :30	10	170		170	88
	23 :00	11	30	30	30	91
	23 :30	12	100	140	120	82
	0 :00	13	130	120	125	79
	0 :30	14	190	130	160	74
	1 :00	15	110	140	125	68
	1 :30	16	150	110	130	62
	2 :00	17	100	110	105	62
	2 :30	18	110	150	130	62
	3 :00	19	60		60	65
	3 :30	20	80	80	80	68
	4 :00	21	80	100	90	68
	4 :30	22	180	140	160	68
	5 :00	23	50	80	65	68
	5 :30	24	100	100	100	71
		Average			104	102

SEDIMENT- DISCHARGE (10/11)

Station: E06 River Gontran

Date	Time	Sample No.	Sediment (mg/lit)		Mean	Discharge (lit/sec)
3/12/81	1 :00	1	70	70	70	272
	1 :30	2	200	160	180	507
	2 :00	3	90	100	95	606
	2 :30	4	70	80	75	518
	3 :00	5	120	100	110	801
	3 :30	6	170	90	130	1184
	4 :00	7	210		210	864
	4 :30	8	170		170	518
	5 :00	9	390	450	420	331
	5 :30	10	250		250	238
	6 :00	11	400	300	350	190
	6 :30	12	180	200	190	147
	7 :00	13	150	50	100	125
	7 :30	14	160	70	115	113
	8 :00	15	200	60	130	147
	8 :30	16	100	100	100	153
	9 :00	17	250		250	136
	9 :30	18	110	100	105	125
	10 :00	19				110
	10 :30	20	120	110	115	105
	11 :00	21	190	170	180	99
	11 :30	22	400	440	420	93
	12 :00	23	320	330	325	93
	12 :30	24	290	220	255	91
		Average			189	315

SEDIMENT- DISCHARGE (11/11)

Station : E06 River Gontran

Date	Time	Sample No.	Sediment (mg/lit)		Mean	Discharge (lit/sec)
30/1/82	20 :30	1	150	180	165	272
	21 :00	2	150	100	125	739
	21 :30	3	130	180	155	518
	22 :00	4	100	100	100	340
	22 :30	5	150	120	135	238
	23 :00	6	80	140	110	181
	23 :30	7	90	140	115	142
	0 :00	8				110
	0 :30	9	150	70	110	93
	1 :00	10				88
	1 :30	11	70	100	85	79
	2 :00	12	60	50	55	77
	2 :30	13	50	120	85	71
	3 :00	14				68
	3 :30	15	80	80	80	68
	4 :00	16	110	50	80	65
	4 :30	17				62
	5 :00	18	40	80	60	62
	5 :30	19	150		150	60
	6 :00	20	80	110	95	60
	6 :30	21	50	90	70	60
	7 :00	22	60	80	70	60
	7 :30	23	240	320	280	57
	8 :00	24	100	100	100	57
		Average			111	151

APPENDIX - B
GEOLOGY

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1. GEOLOGY IN ALTERNATIVE DAMSITES

1.1 Regional Geology

Through geological field reconnaissance, examination of existing data, air photo interpretation, core drilling and seismic exploration, the geology of project area is summarized as follows.

Clear topographic comparison of high mountainous area and gentle flat land are the prominent feature as of the project area. The high mountain area is composed of old volcanic series. Regional geological condition of the project area will be referred to the attached geological map, Fig.B.1.2.

According to the potassium-argon dating by N. McDOUGAL and CHAMALAUN, the main shield volcano composed of the older volcanic series was built between 7.8 and 6.8 .y. ago in the early Pliocene and lavas of the younger volcanic series were erupted from about 3.5 m.y. ago to less than 0.2 m.y. ago.

The young volcanic series are composed of basaltic lavas and agglomerates, generally dipping to the north to the northwest at low angle around 5 deg. The old lavas dip about 10 deg. to 15 deg. from the south to the north or the southeast to the northwest.

As reported previously, the vesicles in the old lavas are generally filled with zeolites. The lavas of this series appears to be dark grayish, and fresh part is very hard with emitting clear sound by hammering. Uniaxial compressive strength of the fresh lavas is more than 1000 kg/cm^2. The result of uniaxial compression test on rock core samples as shown in Table B.1.7. Tuff layers and volcanic breccias intercalate with the lava layers. Weathering on the tuff layers or volcanic breccias is developed on the ground surface.

The young volcanic lavas are characteristic with frequently developed vesicular appearance. Volcanic breccias intercalate the lava layers with thickness of about 3 m to 10 m. In the upstream reaches of the Ground River North West (G.R.N.W.), hard lava layers are predominantly observed. Columnar jointed basaltic lava layers of more than 10 m in thickness expose in the river flanks,

intercalating with volcanic breccias. In the middle reaches of the G.R.N.W. volcanic breccias are observed predominantly near Municipal Dyke.

Cavities are confirmed typically in the upper slope of volcanic breccias at the confluence between the G.R.N.W. and the river Moka. In the lower river flanks of the G.R.N.W. and its tributaries predominantly developed cavities are rarely found. Cavity like features in the lower river flanks are irregular river bank surfaces of the slope formed by erosion in general. Cavities formed by gas release seem not to continue long in the lower slopes along G.R.N.W. near the project sites.

1.2 Alternative Damsites

Various alternative damsites have been identified in the G.R.N.W. basin through the previous studies and the field reconnaissance in this Feasibility study.

Out of these identified alternative damsites, six (6) damsites were finally selected as the conceivable alternative damsites for comparative study. Those are;

(i) G1 (Bocage-Guibies) site
(ii) MO4 (Baptiste) site
(iii) TRO site
(iv) NWO site
(v) TR9 site
(vi) CA2 site

Note: Details on the above selection are given in Main Report, Chapter 3 PLAN FORMULATION.

The locations of above six (6) alternative damsites are shown in Fig.B.1.1. Among these alternative damsites, MO4 (Baptiste) site, TR9 site, and CA2 site are situated in gentle flat plains. On the other hand, TRO site and NWO site are situated in the gorge along the Grand River North West and its tributary. G1 (Guibies) site is situated between mountain ridges at the foot of high mountains.

1.3 Geological Investigation on Alternative Damsites

Geological investigations consisting of the core drilling with field tests such as standard penetration test (SPT) and permeability test (Lugeon test or open-end test by constant head method), seismic exploration and laboratory tests on core samples were carried out for the comparative study on the alternative damsites.
Followings detail the geological investigations carried out:

(1) Core Drilling

In the drilled boreholes permeability tests, Lugeon test in hard consolidated rocks and open-end test in soft unconsolidated formation have been conducted. In soft material zones SPT has been made for sounding density of the materials. The location of core drilling sites are shown in Fig.B.1.1.

The number and length of core drillings carried out in the alternative damsites are as follows:

Site	Borehold No.	Drilled Depth (m)
G1 (Guibies)	Gub-1	100
MO4 (Baptiste)	BPT-1	30
TRO	TRO-1	120
	TRO-2	-
	TRO-3	120
NWO	NWO-1	60
TR9	TR9-2	50
	TR9-5	30
CA2	-	-
Total	9 holes	590 m

(2) Seismic Exploration

Seismic exploration was executed with use of explosives such as dynamites and detonators at the proposed damsites, such as Guibies, Baptiste, TR0, NW0 TR9 and CA2. In addition to this seismic exploration, seismic exploration by stacking method was performed at the proposed earth borrow areas.

a) Location and length of seismic exploration carried out

Location of seismic exploration is shown in Fig.B.1.1. The summary of seismic exploration lines is as follows:

Length of Seismic Exploration Line

Site	Line No.	Length of Line	Remarks
Guibies	A	800 (m)	along dam axis
	B	50	left bank
Baptiste	A	550	along dam axis
TR0	A	200	along dam axis
NW0	A	60	along dam axis
	B	100	top of left bank
	C	100	top of right bank
TR9	A	115	left abutment
	B	115	right abutment
CA2	A	100	left abutment
	B	85	right abutment
Sub-total	11 lines	2025 m	
Earth borrow area		1465	15 lines in total
Total	26 lines	3490 m	

(b) Applied method

The seismic exploration by refraction method has been applied for this investigation. The exploration was started by energy stacking by hammer hitting because explosives were not available at the initial stage. In the course of the exploration, explosives (dynamite and electric instantaneous detonators) were able to be obtained. Then the exploration was performed by using explosives.

The methods by dynamite blasting and hammering are essentially the same approach for recording of elastic P-waves. The recording by dynamite blasting was performed by single blasting for each recording. On the other hand, the recording by hammering is based on accumulation of wave records by repeating hammer hitting. Though generated energy by hammering is small, the emitted waves are not able to reach to deeper zones. The stacking method with hammering is adaptable for relatively shallow exploration and this method was carried out mainly in the earth borrow area. The seismic exploration for the remaining observation lines was performed by ordinary method with use of explosives. Based on the technical point of views mentioned above, the both exploration methods were adapted at each site as follows:

Stacking method

Earth borrow areas:	15 lines
Guibies damsite:	B-line
NW0 damsite:	B and C lines

With using explosives

Guibies damsite:	A line
Baptiste damsite:	A line
TR0 damsite:	A line
TR9 damsite:	A and B lines
CA2 damsite:	A and B lines

The interval of each geophones is 5 m for detecting

elastic p-waves. The interval of blasting points is 50 m in a general standard. Analysis of seismic exploration results for producing velocity profiles is made by so called ABC method and path calculation. Subsurface velocity profiles of each seismic line are obtained by adapting these analysis.

(c) Equipment for seismic exploration

Equipment used for the seismic exploration is as follows:

For the stacking method

Amp module (model-1065)

input impedance	- 600 ohm
gain	- 500-50000
frequency characteristics	- 5-80 Hz (LPF on)
	- 5-1000 Hz (LPF off)
A/D converter	- 12 bits
memory size	- 12 bits 1024 words

Control module (Model-1066)

recording range	- 50, 100, 200, 500, msec, 12,5 sec
time accuracy	- ± 0.01%

Display unit (CRT display)

screen size, color	- 5 1/2", green

Electrosensitive Printer

printing mode	- dot matrix type
printing speed	- 3 line per second (max)
line capacity	- 24 x 1120 dots/line
pare size	- 216 mm (W) x 40 in (L)

Geophone	- 12 pcs moving coil type frequency 20 Hz
Source	- Hammering

For the method with explosives

Amplifier	- Type TR-4-24
number of elements	- 24 ch
gain	- 90 dB Max
frequency characteristics	- 5-3 KHz
filter	- LPF 5 steps
Oscillogaph	- type; field graph-32
number of elements	- 24 ch
paper speed	- 30 cm/sec
timing line	- 10 m.sec/div
timing accuracy	- ± 0.08 %
Geophone	- 24 pcs moving coil type frequency 20 Hz

1.4 Investigation Result

(1) Core drilling and seismic exploration

Geological investigation was carried out mainly by field reconnaissance, core drilling and seismic exploration. The work quantities consist of core drilling for 590 m (9 holes) and seismic exploration for 2025 m (9 lines) at the proposed damsites and 1465 m (15 lines) for the proposed earth borrow areas as mentioned.

Fig.B.1.3 to B.1.10 present the drill logs obtained through the boring investigation with the core recovery, permeability and rock quality designation. Table B.1.1 to B.1.6 indicate the details of permeability test result.

The results of seismic exploration are given in the time-distance curve and velocity profiles from Fig.B.1.11 to B.1.26.

The geological profile at each damsite obtained through the geological investigations as mentioned is seen in Fig.B.1.27 to B.1.32.

Following is a general description on findings obtained through the geological investigations carried out.

Rock facies in the project area were confirmed to consist of young volcanic rocks and old volcanic rocks by field reconnaissance and core drilling. The young volcanic rocks consist of vesicular basaltic lavas, basaltic volcanic breccias and tuff. The old volcanic rocks consist of vesicular basaltic rocks and basaltic volcanic breccias. The difference between the young and old basaltic lavas is characterized by whitish zeolites filled up vesicles.

Surface zones of gentle plains, in which the young volcanic rocks lie widely, are overlain by residual soil derived from young volcanic rocks. The residual soil lies for about 5 m to 20 m in the flat plain area generally. Predominant development of the residual soil is confirmed at Baptiste damsite, Guibies damsite, TR9 and CA2. On the contrary, rather poor development of this materials is confirmed at the NW0 damsite for less than 5 m in thickness.

Permeability of the dam foundation rocks was measured by field permeability tests; open-end with constant head method in unconsolidated materials and Lugeon test with use of packers in consolidated rock zones. Permeability coefficients in the range of x 10^{-5} cm/sec or smaller Lugeon values less than 1.0 were confirmed in the old volcanic rocks, implying practically impervious condition of the rocks. Permeability coefficients of x 10^{-4} cm/sec order or 5 to 100 of Lugeon values were obtained in the young volcanic rocks. Permeability coefficients larger than x 10^{-3} cm/sec are measured in topsoil, residual soil and scree deposits.

The seismic analysis has been completed and distribution of P-wave velocity is summarized as follows for the project area.

Relation between P-wave Velocity and Geological Facie

Velocity Layer	Velocity (km/s)	Thickness (m)	Assumed Geological Unit
V1	0.3 - 0.5	1 - 7	Topsoil and talus deposits
V2	0.8 - 1.2	4 - 13	Intensively weathered zone and scree deposits
V3	2.0 - 2.2	0 - 80	Young volcanic rocks
V4	4.0 - 4.8	?	Old volcanic rocks

(2) Uniaxial compression test on core samples

For confirming the strength of dam foundation rocks, uniaxial compressive test has been made on the recovered core samples. The core samples were selected from the boreholes, TRO-1 and NWO-1. The number of the core samples is six in total; four samples from TRO-1 hole and two samples from NWO-1 hole. The core samples are selected from weathered rock portion and fresh rock zones. The results of uniaxial compression test on rock core samples are shown in Table B.1.7.

The obtained test results show the capacities from 15.3 kg/cm^2 to 1210.4 kg/cm^2. The rocks from very fresh portion of the old volcanic series exceed their strength more than 1000 kg/cm^2. On the other hand, the strength of rocks from weathered portion is in the range less than 50 kg/cm^2.

The core sample from the fresh rock portion of the borehole, NWO-1, shows the strength of 276.3 kg/cm^2. This rather small value seems to indicate the smaller strength of the young volcanic rocks. On the contrary, the capacities of 1108 kg/cm^{-2} and 1210 kg/cm^{-2} were measured on the recovered core samples from the old volcanic rock zones of borehole, TRO-1.

Specific gravity is in the range of 1.42 to 1.75 under saturated condition. The moisture contents of fresh rocks are less than 1.0 % but the contents are 10 % for weathered rocks.

1.5 Site Geology

(1) Guibies site

The Guibies damsite is situated in a small river basin occupying about 3.5 km^2. The river basin, being surrounded by high mountain ridges such as Goat Rock, Sanil Rock, Le Pouce with the maximum elevation of 811 m at Guiby Peak, opens to the northwest.

The high mountain ridges are composed of massive, dense and very hard basaltic lavas and volcanic breccias of the old volcanic rocks. The basaltic lavas are vesicular but not intensive extent in general condition.

The lava layer of old volcanic rocks in this area strikes the northeast to the southeast and dips about 15 deg. to the northwest. The ground surface of the high mountains is overlain by thin talus deposits and residual soil. Weathering on the rocks develops partly in tuffaceous layers.

Colluvial deposits composed of talus deposits and cliff debris or scree deposits mainly with some alluvial deposits overlie the wide valley bottom, for about 800 m in width at the damsite. The surface of the colluvial deposits is gently undulated with the height difference of about 50 m. The height of the valley bottom increases gradually to the right abutment.

One borehold was drilled with the target depth of 100 m for the purpose of confirming the depth of the colluvial deposits composed of talus deposits and scree deposits. The previous investigation reports indicate the depth of this materials is more than 100 m at this site without a sufficient depth of core drilling or seismic exploration. The geologica investigation in the previous stages was concentrated into the area of left abutment. The geological profile of Guibies site is shown in Fig.B.1.27.

(2) Baptiste site

The damsite is situated in the section between the southwestern ridge of le Pouce and the northeastern part of

Le Agreement with occupying about 2 km of a crest length. The dam axis will cross the Moka river and it's tributaries at the central part of the dam.

The proposed damsite and reservoir areas are situated in very flat plins covered with sugarcane fields. In the reservoir area several small tributaries drain water to the western direction.

Thin overburden materials are expected on the southeastern ridge of Le Pouce, however, thick overburden materials mainly composed of residual soil are expected in the remaining areas. The residual soil is mostly derived from the young volcanics. The geological profile of Baptiste site is shown in Fig.B.1.28.

(3) TRO site

On the left lower abutment slopes, talus or scree deposits are expected for a certain depth. On the contrary, outcrops of lavas are observed widely in the upper abutment slopes. Thick overburden materials are not expected in the right abutment because the slope inclination is steeper than 55 deg.

Along the riverbed basaltic vesicular lavas, of which vesicles are filled with zeolites, crop out continuously. Judging from the appearance of these lavas, they seem to be included into the old volcanic rocks.

At this site two boreholes were drilled with the target depth of 120 m on the top of the both river banks each. Since the first 60 m is drilled with tricorn bits without coring, detail information is not available about the upper portion of these boreholes. However, fresh basaltic lavas are recovered in the section below 70 m in this borehole.

Lugeon test was conducted in the boreholes. The obtained Lugeon values range from 9 to 28, indicating the pervious but not in extensive range of the bedrocks in the section between 60 m and 70 m in depth. Smaller Lugeon values less than 1.0 were measured in the depth more than 100 m.

The geological profile of TRO site is shown in Fig.B.1.29.

(4) NWO site (near Municipal Dyke)

Both dam abutments are very steep, nearly vertical or overhanging partly, showing seep gorge topography. Deeply eroded river channel has about 60 m in width.

Volcanic breccias composed of angular shaped basalt boulders with tuffaceous matrix are predominantly exposed in slope surfaces of the gorge. In this area basaltic lavas are continued intermittently without clearly continuing lava layers.

Volcanic breccia is partly weathered and appears to be light brownish. Cavity like irregular slope surfaces are observed. However, they have closed bottom normally at the some depth. Reddish brown iron oxides stains on the slope surface in general.

Two boreholes were drilled with confirming the depth of river deposits for about 7 m. The old volcanic rocks seem to increase their surface in the right bank area. The geological profile of NWO site is shown in Fig.B.1.30.

(5) TR9 site

The Terre Rouge river flows in gentle flat plains cultivated as sugarcane fields at and around the proposed damsite. The width of river channel at the damsite is about 20 m. The inclination of river channel around the damsite is about 1 : 27, indicating relatively steep river flows.

In riverbed jointed basaltic hard lavas crop out here and there. The p-wave velocity of the lavas is confirmed as 3.0 km/sec to 3.4 km/sec by seismic exploration. The residual soil layers overlie the basaltic lavas with the thickness of about 30 m on an average. The p-wave velocity of this residual soil layers range from 0.3 km/sec to 1.0 km/sec. The residual soil layers are composed of clayey lateritic soil with weathered gravel or boulder of basalts. The surface zones of basaltic lavas are weathered moderately, having the p-wave velocity of 1.5 km/sec to 1.7 km/sec. The

geological profile of TR9 site is shown in Fig.B.1.31.

(6) CA2 site

Almost the same condition as TR9 site is also expected in this site. The proposed damsite is situated in a straight section of the river Cascade. The inclination of riverbed is rather gentle, indicating about 1 : 100 of average inclination around the damsite. The river flows in very gentle flat sugarcane fields with the river channel of about 20 m in width.

Jointed basaltic lavas crop out in the riverbed at and around the damsite. The velocity of p-wave of the basaltic lavas is from 1.0 km/sec to 3.0 km/sec, indicating hard consolidated condition of the young volcanic lavas. Thick residual soil layers derived from the lavas overlie the basaltic lavas widely. The p-wave velocity of residual soil ranges from 0.3 km/sec to 1.0 km/sec. Moderately weathered zones, in which the velocity of p-wave ranges 1.5 km/sec to 1.7 km/sec, are estimated between the thick residual soil layers and hard lavas for about 10 m in thickness. The geological profile of CA2 site is shown in Fig.B.1.32.

1.6 Engineering Geology

Judging from technical and economical view points, rock-fill type dams seem to be suitable for the proposed damsites. For a rock-fill dam construction geological conditions regarding weathering and permeability of the foundation rocks have to be examined carefully. The foundation excavation depth for a dam construction has to be decided from the geological conditions with paying the attention to the water head of the dam reservoir.

The engineering geology at each damsite is discussed below:

(1) Guibies dam

Thick scree deposits with talus deposits are confirmed for 10 m to 80 m along the dam axis. Permeability coefficients range in the order of x 10^{-3} cm/sec mostly in these material zones. P-wave velocities of these materials range from 0.6 km/sec to 1.3 km/sec. An intermediate material layer

probably composed of young volcanic rocks or old dense scree deposits underlies for about 80 m of the maximum depth below the ground surface. High permeability coefficients were confirmed in a borehole. The borehole was drilled with installation of casings because the borehole was apt to collapse without casings. Foundation excavation for embankment of earth core materials will be required for about 30 m to 80 m. This extraordinary deep foundation excavation will face to technical difficulties. Special treatments such as providing cut-off walls will be required for this site.

(2) Baptiste dam

Thick horizontally developed residual soil layers were confirmed for about 15 m on an average. This residual soil layer has permeability coefficients from x 10^{-3} cm/sec to x 10^{-4} cm/sec, indicating rather previous condition. The young volcanic rocks underlie the residual soil layers with the thickness of about 15 to 20 m. The p-wave velocity of the young volcanic rocks ranges from 2.0 km/sec to 2.2 km/sec. The old volcanic rocks underlie the young volcanic rocks probably in horizontal extent. The p-wave velocity of the old volcanic rocks is in very high range of 4.2 km/sec to 4.3 km/sec.

Taking rather high permeability of residual soil into consideration, the excavation depth for the cut-off trench will be required until reaching the young volcanic rock zones.

(3) TRO dam

Profile of this dam is an asymmetrical v-shaped topographic feature. The right abutment is very steep, especially the right abutment has an steep slope inclination more than 55 deg. River deposits are developed only less than 5 m at the damsite. The young volcanic rocks, which are composed basaltic lavas and volcanic breccias, with p-wave velocity of 1.8 km/sec to 2.1 km/sec, consist the dam abutments. Permeability coefficients of the rocks is in the order of x 10^{-4} cm/sec or 10 to 50 of Lugeon units. The old volcanic rocks underlie the young volcanic rocks nearly horizontally at the riverbed level in the damsite. Uni-axial compressive

strength of the old volcanic rocks is more than 1000 kg/cm^{-2}, indicating very hard consolidated condition. Groundwater level in the borehole drilled in the top of the left river bank is very deep, around 115 m from the top of ground surface. Residual soil develops for about 10 m and the weathering on the young volcanic rocks reaches from 10 m to 15 m at this site.

The young volcanic rocks will be suitable for the foundation rocks of the designed rock-fill dam. The foundation excavation for the impervious core will be required for eliminating intensively weathered young rock zones. The depth will be 10 m to 15 m on an average.

(4) NWO dam

About 8 m deep river deposits, which are composed of large boulders of basaltic lavas with clayey soil, were confirmed in the riverbed at the damsite. This residual soil layers develop on the flat plains of the top of river banks. The young volcanic rocks, which are composed of alternatives of basaltic lavas and volcanic breccias, have p-wave velocity from 1.8 km/sec to 2.0 km/sec. The permeability coefficients of the rocks range in the order of x 10^4 cm/sec. That is between 30 and 60 of Lugeon units. The old volcanic rocks of which p-wave velocity ranges from 4.0 km/sec to 4.2 km/sec underlie the young volcanic rocks of about 20 m in thickness in the riverbed section. In the right river bank the old volcanic rocks seem to increase their surface gradually. The permeability coefficients of the old volcanic rocks range in the order of x 10^{-6} cm/sec, less than 1.0 in Lugeon unit.

Since the damsite forms very deep gorge topography with almost vertical slopes of river banks, the slope inclination has to be reduced by bench cut excavation with the maximum inclination less than 70 deg. According to this excavation method, the maximum excavation depth will be more than 50 m.

(5) TR9 and CA2 dams

These two damsites are situated in almost the same topographic and geologic condition areas. Thick residual soil layer of 10 m to 20 m develops horizontally in the dam

abutment areas. The residual soil layers, of which P-wave velocity is 0.3 km/sec to 1.0 km/sec, are composed of clayey soil with weathered basaltic gravel or boulders. The young volcanic rocks, which crop out at the riverbed, have the p-wave velocity of 3.0 km/sec to 3.2 km/sec.

The cut-off trench will be required until reaching the weathered young volcanic rock zones. The excavation depth for the cut-off trench will be about 15 m. The spillway should also be founded on the above weathered young volcanic rock.

2. GEOLOGY IN SELECTED DAMSITE (TRO SITE)

2.1 General

TRO damsite was selected as the most optimum scheme for the Port Louis water Supply Project through the comparative study on the conceivable alternative schemes such as the G1 (Bocage-Guibies), M04 (Baptiste), TRO, NWO, TR9 and CA2 schemes.

Then, following the above selection, more detailed geological investigations (phase-II) were carried out on the selected scheme for formulating the project and examining the project feasibility.

The geological investigations were composed mainly of the core drilling with field tests in boreholes, seismic exploration, and laboratory tests. The core drilling for 630 m with field tests and seismic exploration for 1170 m were additionally carried out at the TRO damsite. The core drilling for 60 m and seismic exploration for 830 m were executed at the proposed quarry site.

The additional geological investigations executed for the selected scheme are summarized as follows:

	Core Drilling			Seismic Exploration		
Site	Number of Hole (Nos.)	Depth (m)	Lugeon Test (Times)	Line (Nos.)	Length (m)	Laboratory Test (*) (PCS.)
TRO	6	630	80	7	1,170	6
Quarry	2	60	-	4	830	4
Total	8	690	80	11	2,000	10

(*): Uniaxial compressive test with bulk density test

Core drillings at the TRO damsite consist of four boreholes, TRO-(2), TRO-(3), TRO-(5) and TRO-(6), for 460 m in the Phase-II. In the Phase-I one borehole, TRO-1, was drilled for 120 m at the top of the left abutment plateau. These boreholes are for confirming the foundation condition such as consolidation of rocks, weathering on rocks, permeability of rocks, groundwater tables in boreholes and so on.

The boreholes, TRO-(1) and TRO-(7), were drilled in the top of left bank of the damsite for confirming general geological condition of the foundation rocks and especially for permeability of the rocks and groundwater table in this area because the possibility of water leakage through lava tunnels or cavities in this part was pointed out.

The boreholes, TRO-1, and TRO-3, drilled in the Phase-I also confirmed the permeability of rocks and the elevation of the groundwater table in these boreholes, which imply the possibility or impossibility of water leakage through the abutment areas.

Seismic explorations at the TRO damsite prepare the distribution of p-wave velocities of the dam foundation rocks. The velocity profile of p-waves furnish the information on the development of weathered rock zones, and distribution of geological discontinuities such as faults, sheared zones, fractured zones, etc. The velocity profiles contribute for supplying additional geological information which connect individual information from the boreholes.

Core drillings at the quarry site confirm the obtainable rock materials, thickness of talus or scree deposits, development of weathering. Seismic explorations confirm p-wave velocities of possible rock materials and the development of weathering on rocks.

2.2 General Geology

2.2.1 Topography

The study area, which consists of basins of the main rivers such as the Plaines Wilhems, the Terre Rouge, the Cascade, the Moka and their tributaries, occupies about 130 sq.km with a rectangle shape elongated to east and west at the upstream reaches. These rivers join to be the Ground River North West (G.R.N.W.) directing north and south at the downstream, draining into the Ground River Bay to the north. The rivers flow in very gentle plaines from the east to the west or the southeast to the northwest, meandering extensively in the upstream reaches.

At the just upstream parts where each river joins to be G.R.N.W, rivers dissect the gentle plaines deeply and changes to be very steep gorges accompanying rapids and waterfalls. The G.R.N.W has the width of 50 m to 100 m in general with very steep, mostly vertical, river flanks.

The gentle plaines are bounded by outstanding high mountain ranges of Anse Courtois of which main mountain ranges are Mount Ory (349 m), Le Pouce (811 m), Ground Peak, Pieter Both, etc. The western part of the gentle Plaines are bounded by Corps de Garde (720 m) and other small hills. The boundary of eastern and southern parts are in the highlands area, and the watersheds of the study area are not very clear in these parts. The eastern and southern parts of the outside of study area continue to the river basins of the Ground River South East and River La Chaux.

The gentle plaines are composed of volcanic rocks so-called young volcanic series which are estimated to erupt at about 3 million years ago or later. The high mountain ranges are composed of volcanic rocks belong to the old volcanic series of about 7 million years ago. After intensive collapses of the old caldera, the young volcanic series are estimated to erupt overlying the old volcanic series. The young volcanic series overlie the old volcanic series uncoformably, filling lower portions of irregular topographic surfaces of the old volcanic series.

The old volcanic rocks of the mountain ranges crop out in the very steep mountains without thick overburden materials, which are composed of talus deposits, scree deposits, weathered soil, etc. The very gentle plaines, which are composed of the young volcanic series, are overlain by thick residual soil in general.

The TRO damsite is situated at the downstream of the Terre Rouge river, just upstream of the confluence between the Plaines Wilhems and the Terre Rouge river. The dam abutment forms a deep gorge of about 130 m in height.

The dam abutment of this site is very steep, about 50 deg., on the right abutment and about 35 deg. on the left abutment. Several lava bands of the young volcanic rocks expose in the upper parts of the both abutments. Continuous outcrops of lavas expose along the Terre Rouge river channel of about 30 m wide at this site. Thick talus deposits or scree deposits develop on the lower

parts of the abutment slopes.

2.2.2 Rocks underlying TRO damsite and reservoir area

The TRO damsite is situated in a straight section of the river channel of the Terre Rouge river between two confluences, one is between the Terre Rouge river and the Plaines Wilhems and the other is between the Terre Rouge river and the Profonde river. The straight section occupies about 400 m with the direction of east and west. The rivers surrounding the TRO damsite dissect gentle plateau which consists of the young volcanic lavas, which are mainly composed of the intercalation of basaltic to doleritic vesicular lavas and doleritic less vesicular lavas. The distance between TRO damsite and the estuary of the Ground River North West (G.R.N.W) is about 6 km, as the crow flies. The location of the damsite and the geological investigation sites are shown in Fig.B.2.1.

The ground surface of the gentle plateau occupies about 250 m in elevation at TRO damsite and the elevation of the riverbed is about 120 m at this part. The width of valley is about 300 m on the top of the plateau but about 30 m in the riverbed at the TRO damsite. The cross section along the assumed dam axis is a steep gauge with an unsymmetrical triangular shape.

Continuous outcrops of several kinds of volcanic lavas are observed along the bottom of the valley at and around the damsite. Vesicular basaltic lavas of which vesicles are filled up by zeolites crop out along the riverbed predominantly. Similar vesicular lavas containing frequent pyroxenes and zeolites overlies the vesicular lavas of which vesicles are filled up with zeolites. These two types of vesicular lavas seem to belong to the old volcanic series judging from densely consolidated condition. Very densely consolidated doleritic lavas, which are less vesicular and are belong to the young volcanic series, overlie the vesicular lavas belong to the old volcanic series.

The dam abutment slopes are composed of intercalation of vesicular basaltic lavas of which vesicles are not filled by zeolites but filled by whitish tuffaceous materials partly or left empty and less vesicular doleritic lavas which are densely consolidated. These lavas belong to the young volcanic series and their each lava layers have the thickness of around 5 m to 20 m in

general. The densely consolidated doleritic and basaltic lavas which belong to the young volcanic series strike nearly east and west and dip 5 deg. to 10 deg. to the north to the northwest. The geological map of TRO damsite is shown in Fig.B.2.3.

The abutment slopes of the damsite are overlain by clayey soil with angular gravel materials which are derived from the rock outcrops in upper slope. Especially in the zone between 140 m to 160 m in elevation is occupied by thick talus deposits on the left abutment.

In the reservoir area almost the same types of lava rocks as the damsite crop out along the Terre Rouge river and the Profonde river. Tuffaceous layers and agglomerates or tuff breccias are also found partly in the reservoir area. The geological map of the reservoir area is shown in Fig.B.2.4.

Weathering on the rocks distributed at the TRO damsite and the reservoir area is developed in the surface zones of the lava plateau for several meters in general, producing calyey residual soil materials with weathered gravels of lavas. Steep slopes with nearly vertical inclination are commonly observed in the river flank at and around the TRO damsite. Weathering in such vertical slopes is developed especially in tuffaceous zones and boundary zones between each lava bands. Falling of the weathered materials from the steep slopes results irregular surfaces of the rock outcrops.

Large sub-rounded boulders of vesicular lavas and doleritic lavas are deposited along the river channel of the Terre Rouge river. However, any predominant sediments of sand materials are not found in the riverbed.

Quarry site is proposed at the western ridge of Junction Peak which is at about 1 km from the TRO damsite to the northeast. On the peak there is a triangle point of 349 m in elevation. Since the elevation of the mountain foot of the ridge is about 200 m, the mountain ridge rises about 150 m above surrounding gentle plains. This mountain ridge is composed of dike rock like dark greyish lavas without and vesicular spaces and brownish agglomeratic rocks. These two types of rocks intercalates each other.

At this site two core drillings for 60 m and seismic exploration composed of 4 observation lines (830 m) were conducted. The velocity of p-wave in the rocks are about 4.6 km/s to 4.8 km/s. Talus deposits of about 3 m and weathered rock zones of about 3 m in thickness are confirmed by recovered core samples from the borehole, Q-(1), in the southern slope of this ridge. However, rocks crop out directly in the upper parts of the ridge in general. The borehole, Q-(2), was drilled in the gentle slope surrounding steep mountain ridges. Thick talus deposits are confirmed for about 20 m. The mountain ridge of the site seems to be favorable for rock quarry site judging from the recovered samples. The location of the proposed quarry site and geological investigation sites are indicated in Fig.B.2.2.

2.3 Foundation Rocks of TRO Damsite

2.3.1 Rock unit

Basaltic to doleritic vesicular and less vesicular lavas occupy the most parts of the dam foundation. Basaltic vesicular lavas, of which vesicles are filled up by zeolite crystals, are predominantly observed along the riverbed of the Terre Rouge river at the damsite. This type of basaltic lavas are found along the riverbed but not in the upper slope of the dam abutments. In the steep slopes of the gorge of the dam abutment, several lava bands of 5 m to 20 m in thickness are seen around the damsite. The lava layers around the damsite dips 5 deg. to 10 deg. to the north to the northwest in general. The distribution of measured bedding planes of lava layers at and around the TRO damsite is shown on Fig.B.2.8.

Vesicles developed in basaltic lavas have the diameter from several millimeters to 4 centimeter. Any large size vesicle which exceeds the diameter more than 10 cm is not found by the drilling carried out in this investigation. Some vesicles are filled up with tuffaceous materials or zeolites but the most of them remain fresh especially in the zone of doleritic lavas.

Weathering on the rocks has been progressed in frequently developed vesicular zones, and weathering is not developed much on the doleritic less vesicular lavas. Development of weathering on the lava rocks has no close relation between the depth from the

ground surface. In these weathered zones drill core was not recovered perfectly because the weathering has produced soil materials. These materials seem to have been washed out during drilling. The reason why these sections without core recovery is considered not to be lava tunnels or long extended spaces because the permeability coefficients from these section are in the rather small ranges of K=x10E-4 to K=x10E-5 cm/s in orders. The section without core recovery is observed very seldom. Such section is about 1 m in total length in the intensively weathered and deteriorated parts.

Though the upper parts of two borehole, TRO-1 and TRO-3 were drilled by percussion drilling in the Phase-I, 5 holes for 570 m long drilling out of 7 holes for 890 m of the total drilled depth have been made at and around the damsite in the Phase-II. Based on the results of these drilling, core recovery is almost 100 % in the lava rock zones generally. RQD (Rock Quality Designation) ranges from 0 to 100 %, indicating lower values in the section of vesicular basaltic lavas and higher values in the dorelitic less vesicular lavas. The geological profile of TRO damsite is shown in Fig.B.2.5.

2.3.2 Geological discontinuity

Irregular joints, which seem to be developed during cooling of the lavas, are partly observed in doleritic lavas. These appear to be columnar joints in the outcrops along the river flanks.

Any major geological discontinuities such as fault or fractured zones are not found by the geological investigations including geological reconnaissance along the river channels, seismic exploration, a lots of drilling works and airphoto interpretation.

There are two parallel joints striking N55deg.W with dipping of 88 deg. to the northeast in rock outcrops of the riverbed about 100 m downstream of the dam axis. These joints are opened in the outcrop of doleritic lavas with some spaces; however, the joints are tightly closed in the outcrops extended into the riverbed. One more joint is found in the riverbed around 50 m downstream of the dam axis. Along this joint 3 cm to 5 cm thick tuffaceous veins are observed. Time-distance curves obtained from the

analysis of the seismic exploration records are shown in Fig.B.2.10(1) to Fig.B.2.10(14).

Two low velocity zones are measured along the seismic observation lines, S-4, in the upper slope of the dam abutment. However, any other low velocity zones are not confirmed along other parallel observation lines. The measured low velocity zones along S-4 line seems to be not extended for a long distance accordingly.

Though not many joints are observed at and around the TRO damsite, the measured joints are oriented on the Schmidt's net, Fig.B.2.9. There is no predominant direction regarding to the observed joints. The joints strike various direction and dip very gentle to vertical irregularly. The distribution of the measured joints are shown in Fig.B.2.9.

All these joints are judged to be possible to be treated by the cement grouting without any particular problems ,although more detailed situation and extension of joints should be confirmed in the detailed design stage.

2.3.3 Recovered core sample

Total 870 m (8 boreholes, TRO-(1), TRO-(2), TRO-(3), TRO-(5), TRO-(6), TRO-(7), TRO-1 and TRO-3) is drilled at the TRO damsite and surrounding area. The core drilling was made not only at the damsite but also surrounding area, especially at the boundary parts between the dam reservoir and the outside area of the reservoir because the permeability of the rock formations which bound the dam reservoir will be a very important factor for the optimization of this dam scheme.

Core recovery of the drilling is very good in general except the surface zones which are intensively weathered and composed of residual soil materials mainly. Though core recovery is nearly 100 % in the most parts below the intensively weathered zones, it is seldom but occasionally happened that there are some sections, mostly less than 1.0 m long, without core recovery.

These without core recovery sections coincide with intensively weathered zones from which residual soil materials