Table C-13 (4/5) WATER BALANCE IN CASE OF 30 DAYS DELAY IN CROPPING SCHEDULE FOR CASE 1 IN 1981

YEAR : 1981

PERIOD	RUNOFF	PADDY				UPLAND CROP	D & I WATER	DIVERS'N REQM'T	MAINT. FLOW	BALANCE	DEFICIT	SURPLUS	DOWNSTR. FROM BRH	WATER DEPTH
		BLOCK 1	BLOCK 2	BLOCK 3	TOTAL									
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	54.19	1.29	5.63	4.29	11.21	0.	0.47	11.68	6.00	36.51	0.	15.77	42.51	100.
6-10	52.32	0.	5.93	4.94	10.87	0.	0.47	11.34	6.00	34.98	0.	15.11	40.98	100.
11-15	27.97	8.15	8.97	4.94	22.06	0.81	0.47	23.34	6.00	8.63	0.	3.73	14.63	100.
16-20	34.74	4.79	8.61	4.94	18.34	0.30	0.47	19.10	6.00	9.64	0.	4.16	15.64	100.
21-25	32.50	5.44	8.19	4.29	17.91	0.81	0.47	19.19	6.00	7.31	0.	3.16	13.31	100.
26-END	27.20	2.72	8.97	4.94	16.62	0.81	0.47	17.90	6.00	3.30	0.	1.71	9.30	100.
FEB														
1- 5	39.70	0.54	5.75	4.29	10.58	0.	0.47	11.05	6.00	22.65	0.	9.79	28.65	100.
6-10	32.25	0.	8.57	4.94	13.50	0.24	0.47	14.21	6.00	12.04	0.	5.20	18.04	100.
11-15	31.98	0.	5.93	4.94	10.87	0.	0.47	11.34	6.00	14.64	0.	6.32	20.64	100.
16-20	51.76	0.	5.93	4.94	10.87	0.81	0.47	12.15	6.00	33.61	0.	14.52	39.61	100.
21-25	30.51	0.	2.81	2.34	5.15	0.	0.47	5.62	6.00	18.89	0.	8.16	24.89	100.
26-END	51.19	0.	2.97	4.94	7.90	0.	0.47	8.37	6.00	36.82	0.	9.54	42.82	100.
MAR														
1- 5	35.01	0.	0.	0.	0.	0.	0.47	0.47	6.00	28.54	0.	12.33	34.54	100.
6-10	23.44	0.	0.	4.29	4.29	0.81	0.47	5.57	6.00	11.87	0.	5.13	17.87	100.
11-15	24.16	0.	0.	1.69	1.69	0.81	0.47	2.97	6.00	15.19	0.	6.56	21.19	100.
16-20	17.98	0.	0.	3.29	3.29	0.	0.47	3.76	4.00	10.22	0.	4.41	14.22	100.
21-25	21.46	7.51	0.	0.69	8.20	0.81	0.47	9.48	5.00	6.98	0.	3.01	11.98	100.
26-END	19.49	4.08	0.	0.02	4.10	0.	0.47	4.57	5.00	9.92	0.	5.14	14.92	100.
APR														
1- 5	42.94	11.98	0.	0.78	12.76	0.75	0.47	13.98	6.00	22.96	0.	9.92	28.96	100.
6-10	70.29	8.76	0.	0.	8.76	0.	0.47	9.23	6.00	55.06	0.	23.79	61.06	100.
11-15	60.29	11.76	0.	0.	11.76	0.	0.47	12.23	6.00	42.06	0.	18.17	48.06	100.
16-20	78.20	0.	0.	0.	0.	0.	0.47	0.47	6.00	71.73	0.	30.99	77.73	100.
21-25	74.85	9.98	8.38	0.	18.36	0.81	0.47	19.64	6.00	49.21	0.	21.26	55.21	100.
26-END	41.88	9.98	8.38	0.	18.36	0.81	0.47	19.64	6.00	16.24	0.	7.02	22.24	100.
MAY														
1- 5	61.81	0.	6.25	0.	6.25	0.	0.47	6.72	6.00	49.09	0.	21.21	55.09	100.
6-10	80.43	0.	10.11	0.	10.11	0.	0.47	10.58	6.00	63.85	0.	27.58	69.85	100.
11-15	90.35	8.15	14.63	0.	22.78	0.81	0.47	24.06	6.00	60.29	0.	26.05	66.29	100.
16-20	100.19	6.53	13.95	0.	20.28	0.	0.47	20.75	6.00	73.44	0.	31.73	79.44	100.
21-25	99.62	8.15	9.40	4.11	21.66	0.81	0.47	22.94	6.00	70.68	0.	30.53	76.68	100.
26-END	84.44	0.	0.	0.72	0.72	0.	0.47	1.19	6.00	77.25	0.	40.05	83.25	100.
JUN														
1- 5	66.32	8.15	8.97	7.29	24.41	0.81	0.47	25.69	6.00	34.63	0.	14.96	40.63	100.
6-10	40.96	7.62	8.77	7.29	23.68	0.52	0.47	24.67	6.00	10.29	0.	4.44	16.29	100.
11-15	34.21	8.15	8.97	8.94	26.06	0.81	0.47	27.34	6.00	0.87	0.	0.37	6.87	100.
16-20	27.04	8.15	8.97	8.94	26.06	0.81	0.47	27.34	6.00	-6.30	-2.72	0.	6.00	86.
21-25	24.75	8.15	8.19	5.39	21.73	0.81	0.47	23.01	6.00	-4.06	-4.48	0.	6.00	73.
26-END	37.26	8.15	8.97	6.04	23.16	0.81	0.47	24.44	6.00	6.82	-1.53	0.	6.00	91.
JUL														
1- 5	23.90	8.15	8.97	4.94	22.06	0.81	0.47	23.34	6.00	-5.44	-3.88	0.	6.00	77.
6-10	19.46	4.93	8.69	4.94	18.56	0.41	0.47	19.44	5.00	-4.98	-6.03	0.	5.00	59.
11-15	24.19	2.50	7.33	4.94	14.77	0.	0.47	15.24	6.00	2.95	-4.76	0.	6.00	68.
16-20	19.88	2.72	8.97	4.94	16.62	0.81	0.47	17.90	5.00	-3.02	-6.06	0.	5.00	52.
21-25	19.76	0.	4.37	3.64	8.01	0.	0.47	8.48	5.00	6.28	-3.35	0.	5.00	74.
26-END	22.47	0.	3.76	0.61	4.37	0.81	0.47	5.65	6.00	10.82	0.	2.26	10.36	100.
AUG														
1- 5	16.61	0.	8.97	4.94	13.90	0.81	0.47	15.18	4.00	-2.57	-1.11	0.	4.00	90.
6-10	13.11	0.	5.93	4.94	10.87	0.81	0.47	12.15	4.00	-3.04	-2.42	0.	4.00	71.
11-15	11.68	0.	5.93	4.94	10.87	0.81	0.47	12.15	4.00	-4.47	-4.36	0.	4.00	47.
16-20	16.74	0.	0.	0.	0.	0.30	0.47	0.77	4.00	5.97	-1.78	0.	4.00	71.
21-25	15.60	0.	2.97	4.94	7.90	0.	0.47	8.37	4.00	3.23	-0.38	0.	4.00	94.
26-END	26.09	0.	0.	0.06	0.06	0.	0.47	0.53	6.00	19.56	0.	9.76	24.82	100.
SEP														
1- 5	24.25	0.	0.	4.29	4.29	0.	0.47	4.76	6.00	13.49	0.	5.83	19.49	100.
6-10	89.38	0.	0.	0.	0.	0.	0.47	0.47	6.00	82.71	0.	35.73	88.71	100.
11-15	69.06	7.44	0.	3.03	10.47	0.70	0.47	11.63	6.00	51.43	0.	22.22	57.43	100.
16-20	54.32	6.22	0.	1.21	7.44	0.	0.47	7.91	6.00	40.41	0.	17.68	46.91	100.
21-25	60.02	12.05	0.	0.	12.05	0.81	0.47	13.33	6.00	20.69	0.	8.94	26.69	100.
26-END	27.58	11.69	0.	0.	11.69	0.52	0.47	12.69	6.00	8.89	0.	3.84	14.89	100.
OCT														
1- 5	22.53	14.77	0.	0.	14.77	0.81	0.47	16.05	6.00	0.48	0.	0.21	6.48	100.
6-10	28.73	14.77	0.	0.	14.77	0.81	0.47	16.05	6.00	6.68	0.	2.89	12.68	100.
11-15	46.47	0.	0.	0.	0.	0.	0.47	0.47	6.00	40.00	0.	17.28	46.00	100.
16-20	77.12	0.50	3.67	0.	4.37	0.	0.47	4.84	6.00	66.28	0.	28.65	72.28	100.
21-25	38.71	8.15	13.27	0.	21.42	0.81	0.47	22.70	6.00	10.01	0.	4.32	16.01	100.
26-END	41.04	6.99	9.32	0.	16.31	0.07	0.47	16.85	6.00	18.19	0.	9.43	24.19	100.
NOV														
1- 5	30.96	6.44	3.96	0.	10.39	0.	0.47	10.86	6.00	14.10	0.	6.09	20.10	100.
6-10	32.74	1.39	10.55	0.	11.95	0.	0.47	12.42	6.00	14.32	0.	6.19	20.32	100.
11-15	64.02	8.15	10.62	4.29	22.46	0.81	0.47	23.74	6.00	34.28	0.	14.81	40.28	100.
16-20	65.31	0.	5.82	3.96	9.78	0.	0.47	10.25	6.00	49.06	0.	21.19	55.06	100.
21-25	108.05	5.47	4.85	5.56	15.88	0.	0.47	16.35	6.00	85.70	0.	37.02	91.70	100.
26-END	72.27	0.	1.69	4.61	5.70	0.	0.47	6.17	6.00	60.10	0.	25.96	66.10	100.
DEC														
1- 5	52.03	5.98	8.13	8.94	22.97	0.	0.47	23.44	6.00	22.59	0.	9.76	28.59	100.
6-10	83.51	8.15	8.65	8.68	25.49	0.81	0.47	26.77	6.00	50.74	0.	21.92	56.74	100.
11-15	55.51	0.	0.	0.89	0.89	0.	0.47	1.36	6.00	48.15	0.	20.80	54.15	100.
16-20	37.13	8.15	8.97	6.04	23.16	0.81	0.47	24.44	6.00	6.69	0.	2.89	12.69	100.
21-25	29.66	8.15	8.97	4.94	22.06	0.81	0.47	23.34	6.00	0.32	0.	0.14	6.32	100.
26-END	26.80	0.	3.33	2.77	6.10	0.	0.47	6.57	6.00	14.23	0.	7.38	20.23	100.

Table C-13 (5/5) WATER BALANCE IN CASE OF 30 DAYS DELAY IN CROPPING SCHEDULE FOR CASE 1 IN 1983

YEAR : 1983

PERIOD	RUNOFF	PADDY BLOCK 1	PADDY BLOCK 2	PADDY BLOCK 3	TOTAL	UPLAND CROP	D & I WATER	DIVERS'N REQM'T	MAINT. FLOW	BALANCE	DEFICIT	SURPLUS	DOWNSTR. FROM BRH	WATER DEPTH
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	39.23	0.	0.	0.	0.	0.	0.47	0.47	6.00	32.76	0.	14.15	38.76	100.
6-10	35.44	6.11	7.27	4.16	17.54	0.	0.47	18.01	6.00	11.43	0.	4.94	17.43	100.
11-15	27.60	7.40	8.53	4.81	20.74	0.81	0.47	21.62	6.00	-0.02	-0.01	0.	6.00	100.
16-20	24.84	5.44	8.97	4.94	19.34	0.81	0.47	20.62	6.00	-1.78	-0.78	0.	6.00	95.
21-25	22.11	5.44	8.97	4.94	19.34	0.81	0.47	20.62	6.00	-4.51	-2.72	0.	6.00	82.
26-END	19.29	2.72	8.97	4.94	16.62	0.81	0.47	17.90	5.00	-3.61	-4.00	0.	5.00	64.
FEB														
1- 5	16.90	2.72	8.97	4.94	16.62	0.81	0.47	17.90	5.00	-4.00	-4.32	0.	5.00	50.
6-10	16.49	0.	5.22	1.62	7.84	0.81	0.47	8.32	4.00	4.17	-4.52	0.	4.00	57.
11-15	16.69	0.	8.97	4.94	13.90	0.81	0.47	15.18	4.00	-2.49	-5.60	0.	4.00	47.
16-20	22.30	0.	5.93	4.94	10.87	0.47	0.47	11.81	6.00	4.49	-3.66	0.	6.00	56.
21-25	17.47	0.	5.93	4.94	10.87	0.07	0.47	11.41	4.00	2.06	-2.77	0.	4.00	67.
26-END	15.71	0.	2.97	4.94	7.90	0.81	0.47	9.18	4.00	2.53	-2.11	0.	4.00	65.
MAR														
1- 5	20.98	0.	2.97	4.94	7.90	0.81	0.47	9.18	5.00	6.80	0.	0.82	6.91	100.
6-10	14.94	0.	0.	4.16	4.16	0.81	0.47	5.44	4.00	5.50	0.	2.38	9.50	100.
11-15	19.25	0.	0.	4.68	4.68	0.81	0.47	5.96	5.00	8.29	0.	3.58	13.29	100.
16-20	19.61	0.	0.	1.65	1.65	0.	0.47	2.12	5.00	12.49	0.	5.40	17.49	100.
21-25	16.55	7.51	0.	3.29	10.80	0.81	0.47	12.08	5.00	1.47	0.	0.63	6.47	100.
26-END	25.39	6.26	0.	1.65	7.90	0.81	0.47	9.18	6.00	10.21	0.	5.29	16.21	100.
APR														
1- 5	15.76	12.05	0.	1.65	13.70	0.81	0.47	14.98	4.00	-3.22	-1.39	0.	4.00	74.
6-10	13.49	12.05	0.	0.	12.05	0.81	0.47	13.33	4.00	-3.84	-3.05	0.	4.00	26.
11-15	12.11	14.77	0.	0.	14.77	0.83	0.47	16.05	4.00	-7.96	-6.48	0.	4.00	-4.
16-20	10.66	14.77	0.	0.	14.77	0.81	0.47	16.05	4.00	-9.39	-10.53	0.	4.00	-70.
21-25	12.83	0.82	4.23	0.	5.05	0.	0.47	5.52	4.00	3.31	-9.10	0.	4.00	-7.
26-END	19.24	1.32	4.79	0.	6.11	0.	0.47	6.58	5.00	7.66	-5.80	0.	5.00	32.
MAY														
1- 5	33.25	5.72	7.14	0.	10.55	0.	0.47	10.82	6.00	16.43	0.	1.30	9.01	100.
6-10	24.90	6.33	12.28	0.	18.61	0.	0.47	19.08	6.00	-0.18	-0.08	0.	6.00	99.
11-15	30.39	7.62	15.99	0.	23.61	0.52	0.47	24.60	6.00	-0.21	-0.17	0.	6.00	99.
16-20	26.73	3.33	14.39	0.	17.72	0.	0.47	18.19	6.00	2.54	0.	0.93	8.15	100.
21-25	29.22	7.40	7.17	3.57	18.14	0.41	0.47	19.02	6.00	4.20	0.	1.81	10.20	100.
26-END	23.44	0.	6.32	3.57	9.89	0.	0.47	10.36	5.00	6.08	0.	3.15	13.08	100.
JUN														
1- 5	24.60	8.15	8.97	7.29	24.41	0.81	0.47	25.69	6.00	-7.69	-3.32	0.	6.00	79.
6-10	14.35	7.19	8.14	7.03	22.36	0.30	0.47	23.13	4.00	-12.78	-8.84	0.	4.00	43.
11-15	26.44	2.79	4.32	6.73	13.84	0.	0.47	14.31	6.00	6.13	-6.20	0.	6.00	63.
16-20	34.06	5.47	3.25	5.44	14.66	0.	0.47	15.13	6.00	12.93	-0.61	0.	6.00	96.
21-25	19.74	8.15	6.97	6.04	23.16	0.81	0.47	24.44	5.00	-9.70	-4.80	0.	5.00	71.
26-END	15.07	8.15	8.97	6.04	23.16	0.81	0.47	24.44	4.00	-13.37	-10.58	0.	4.00	37.
JUL														
1- 5	15.26	3.33	7.47	4.94	15.43	0.	0.47	15.90	4.00	-4.62	-12.57	0.	4.00	25.
6-10	17.42	3.22	6.17	3.64	13.02	0.	0.47	13.49	4.00	-0.07	-12.61	0.	4.00	14.
11-15	19.12	5.44	5.56	2.34	13.62	0.81	0.47	14.90	5.00	-0.78	-12.94	0.	5.00	12.
16-20	16.97	0.	0.	0.	0.	0.	0.47	0.47	4.00	12.45	-7.56	0.	4.00	40.
21-25	53.45	2.72	8.97	4.94	16.62	0.81	0.47	17.90	6.00	29.55	0.	5.20	18.04	100.
26-END	28.84	0.	7.01	3.31	10.33	0.81	0.47	11.61	6.00	11.23	0.	5.82	17.23	100.
AUG														
1- 5	42.57	0.	8.69	4.94	13.23	0.	0.47	13.70	6.00	42.87	0.	18.52	48.87	100.
6-10	47.59	0.	4.32	5.64	9.01	0.81	0.47	9.29	6.00	32.30	0.	13.95	38.30	100.
11-15	31.66	0.	0.47	0.39	0.86	0.	0.47	1.33	6.00	24.33	0.	10.51	30.33	100.
16-20	21.37	0.	2.97	4.94	7.90	0.75	0.47	9.33	6.00	16.24	0.	7.02	22.24	100.
21-25	21.72	0.	2.58	4.29	6.86	0.	0.47	7.33	5.00	9.39	0.	4.05	14.39	100.
26-END	27.00	0.	0.	4.94	4.94	0.	0.47	5.41	6.00	15.59	0.	8.08	21.59	100.
SEP														
1- 5	45.75	0.	0.	0.39	0.39	0.	0.47	0.86	6.00	38.89	0.	16.80	44.89	100.
6-10	44.46	0.	0.	2.43	2.43	0.	0.47	2.90	6.00	55.50	0.	23.98	61.50	100.
11-15	82.61	5.36	0.	2.86	8.22	0.	0.47	8.69	6.00	67.92	0.	29.34	73.92	100.
16-20	126.53	1.07	0.	1.23	2.29	0.	0.47	2.76	6.00	117.75	0.	50.87	123.75	100.
21-25	73.63	12.05	0.	1.65	13.70	0.81	0.47	16.98	6.00	52.65	0.	22.75	58.65	100.
26-END	45.13	5.19	0.	0.	5.19	0.	0.47	5.66	6.00	33.47	0.	14.46	39.47	100.
OCT														
1- 5	35.42	12.30	0.	0.	12.30	0.	0.47	12.77	6.00	16.65	0.	7.19	22.65	100.
6-10	32.67	10.91	0.	0.	10.91	0.	0.47	11.38	6.00	15.29	0.	6.61	21.29	100.
11-15	30.39	7.68	7.50	0.	15.38	0.	0.47	14.85	6.00	9.54	0.	4.12	15.54	100.
16-20	33.91	8.60	7.94	0.	16.74	0.38	0.47	17.39	6.00	10.52	0.	4.54	16.52	100.
21-25	28.33	3.33	10.69	0.	14.02	0.	0.47	14.49	6.00	17.84	0.	7.71	23.84	100.
26-END	42.15	0.	3.25	0.	3.25	0.	0.47	3.72	6.00	32.43	0.	16.81	38.43	100.
NOV														
1- 5	40.61	3.25	10.65	0.	14.40	0.	0.47	14.87	6.00	19.54	0.	8.44	25.54	100.
6-10	56.62	8.15	16.19	0.	24.34	0.81	0.47	25.62	6.00	24.40	0.	10.54	30.40	100.
11-15	46.93	8.15	10.96	4.55	23.66	0.81	0.47	24.94	6.00	17.99	0.	7.77	23.99	100.
16-20	45.67	8.15	10.96	4.55	23.66	0.81	0.47	24.94	6.00	14.73	0.	6.37	20.73	100.
21-25	35.64	7.63	6.50	6.00	20.33	0.64	0.47	21.44	6.00	8.20	0.	3.54	14.20	100.
26-END	34.57	3.86	1.93	4.26	10.05	0.	0.47	10.50	6.00	18.07	0.	7.81	24.07	100.
DEC														
1- 5	31.64	8.15	8.97	8.94	26.06	0.81	0.47	27.34	6.00	-1.50	-0.65	0.	6.00	96.
6-10	28.40	3.54	4.91	6.99	15.44	0.	0.47	15.91	6.00	6.49	0.	2.15	10.98	100.
11-15	40.40	0.	3.59	4.09	7.68	0.	0.47	8.15	6.00	26.25	0.	11.34	32.25	100.
16-20	31.67	1.29	2.53	2.79	6.59	0.	0.47	7.06	6.00	18.61	0.	7.95	24.61	100.
21-25	22.54	0.	1.25	1.06	2.29	0.	0.47	2.76	6.00	18.78	0.	8.11	24.78	100.
26-END	25.90	7.86	8.83	4.94	21.57	0.58	0.47	22.62	6.00	-2.72	-1.41	0.	6.00	92.

Table C-14 (1/5) WATER BALANCE IN CASE OF 30 DAYS DELAY IN CROPPING SCHEDULE FOR CASE 2 IN 1978

YEAR : 1978

PERIOD	RUNOFF	PADDY				UPLAND	O & I	DIVERS'N	MAINT.	BALANCE	DEFICIT	SURPLUS	DOWNSTR.	WATER
		BLOCK 1	BLOCK 2	BLOCK 3	TOTAL	CROP	WATER	REQM'T	FLOW				FROM DBH	DEPTH
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	17.68	8.15	8.97	6.93	24.05	0.81	0.60	25.46	1.50	-9.28	-4.01	0.	1.50	78.
6-10	18.58	0.	2.58	3.01	5.59	0.	0.60	6.19	1.50	10.89	0.	0.70	3.11	100.
11-15	18.77	0.97	0.36	0.	1.32	0.	0.60	1.92	1.50	15.35	0.	6.63	16.85	100.
16-20	24.80	4.15	7.47	6.02	17.64	0.	0.60	18.24	1.50	5.06	0.	2.19	6.56	100.
21-25	18.05	0.	4.45	5.20	9.65	0.	0.60	10.25	1.50	6.30	0.	2.72	7.80	100.
26-END	14.22	2.72	8.97	6.93	18.62	0.81	0.60	20.03	1.50	-7.31	-3.79	0.	1.50	73.
FEB														
1- 5	11.82	2.72	8.97	6.93	18.62	0.81	0.60	20.03	1.50	-9.71	-7.98	0.	1.50	44.
6-10	13.66	0.	8.97	6.93	15.90	0.81	0.60	17.31	1.50	-5.15	-10.20	0.	1.50	16.
11-15	13.84	0.	6.67	6.11	12.78	0.	0.60	13.38	1.50	-1.04	-10.65	0.	1.50	12.
16-20	16.55	0.	2.26	2.65	4.91	0.81	0.60	6.32	1.50	8.73	-6.88	0.	1.50	30.
21-25	10.92	0.	5.00	5.84	10.83	0.81	0.60	12.24	1.50	-2.82	-8.10	0.	1.50	17.
26-END	11.18	0.	0.	0.	0.	0.	0.60	0.60	1.50	9.08	-5.75	0.	1.50	24.
MAR														
1- 5	10.46	0.	1.52	3.56	5.08	0.	0.60	5.68	1.50	3.28	-4.33	0.	1.50	43.
6-10	11.40	0.	0.	6.29	6.29	0.81	0.60	7.70	1.50	2.20	-3.38	0.	1.50	36.
11-15	13.83	0.	0.	5.38	5.38	0.	0.60	5.98	1.50	6.35	-0.64	0.	1.50	88.
16-20	13.61	0.	0.	4.62	4.62	0.81	0.60	6.03	1.50	6.08	0.	1.99	6.10	100.
21-25	16.36	5.36	0.	2.33	7.69	0.	0.60	8.09	1.50	6.77	0.	2.92	8.27	100.
26-END	15.86	4.50	0.	0.31	4.81	0.	0.60	5.41	1.50	8.95	0.	4.64	10.45	100.
APR														
1- 5	19.77	12.05	0.	1.55	13.60	0.81	0.60	15.01	1.50	3.26	0.	1.41	4.76	100.
6-10	19.41	12.05	0.	0.	12.05	0.81	0.60	13.46	1.50	4.45	0.	1.92	5.95	100.
11-15	21.72	13.91	0.	0.	13.91	0.35	0.60	14.86	1.50	5.36	0.	2.31	6.86	100.
16-20	30.82	14.77	0.	0.	14.77	0.81	0.60	16.18	1.50	13.14	0.	5.68	14.64	100.
21-25	70.28	9.98	8.38	0.	18.36	0.81	0.60	19.77	1.50	49.01	0.	21.17	50.51	100.
26-END	41.50	9.98	8.38	0.	18.36	0.81	0.60	19.77	1.50	20.23	0.	8.74	21.73	100.
MAY														
1- 5	45.55	8.15	13.15	0.	21.30	0.81	0.60	22.71	1.50	21.34	0.	9.22	22.84	100.
6-10	57.43	0.	5.15	0.	5.15	0.	0.60	5.75	1.50	50.18	0.	21.68	51.68	100.
11-15	68.81	8.05	16.15	0.	24.20	0.75	0.60	25.55	1.50	41.76	0.	18.04	43.26	100.
16-20	45.47	8.15	16.19	0.	24.34	0.81	0.60	25.75	1.50	18.22	0.	7.87	19.72	100.
21-25	37.32	8.15	10.96	6.38	25.50	0.81	0.60	26.91	1.50	8.91	0.	3.85	10.41	100.
26-END	22.14	8.15	10.13	5.32	23.61	0.81	0.60	25.01	1.50	-4.37	-2.27	0.	1.50	85.
JUN														
1- 5	21.37	5.15	7.85	10.25	23.24	0.	0.60	23.84	1.50	-3.97	-3.99	0.	1.50	76.
6-10	19.66	3.75	5.85	9.09	18.69	0.	0.60	19.29	1.50	-1.13	-4.47	0.	1.50	73.
11-15	16.94	8.15	8.97	12.56	29.69	0.81	0.60	31.09	1.50	-15.65	-11.23	0.	1.50	39.
16-20	13.30	0.	5.70	12.28	17.98	0.	0.60	18.58	1.50	-6.78	-14.16	0.	1.50	23.
21-25	12.70	8.15	8.97	8.48	25.60	0.81	0.60	27.01	1.50	-15.81	-20.99	0.	1.50	-15.
26-END	11.81	0.	4.29	6.57	10.86	0.	0.60	11.46	1.50	-1.15	-21.49	0.	1.50	-17.
JUL														
1- 5	10.75	8.15	8.97	6.93	24.05	0.81	0.60	25.46	1.50	-16.21	-28.50	0.	1.50	-56.
6-10	16.04	4.29	8.33	6.93	19.55	0.	0.60	20.15	1.50	-5.61	-30.92	0.	1.50	-90.
11-15	13.29	5.44	7.01	4.65	17.10	0.81	0.60	18.51	1.50	-6.73	-33.83	0.	1.50	-108.
16-20	12.25	2.72	8.42	6.29	17.43	0.81	0.60	18.84	1.50	-8.09	-37.32	0.	1.50	-163.
21-25	16.29	2.72	8.97	6.93	18.62	0.81	0.60	20.03	1.50	-5.24	-39.58	0.	1.50	-179.
26-END	12.04	0.	7.10	6.93	14.04	0.	0.60	14.64	1.50	-4.10	-41.71	0.	1.50	-244.
AUG														
1- 5	9.43	0.	8.69	6.93	15.62	0.41	0.60	16.63	1.50	-8.70	-45.47	0.	1.50	-275.
6-10	8.59	0.	5.93	6.93	12.87	0.56	0.60	14.05	1.50	-6.96	-48.47	0.	1.50	-395.
11-15	14.12	0.	0.	0.	0.	0.	0.60	0.60	1.50	12.02	-43.28	0.	1.50	-342.
16-20	10.74	0.	0.	0.	0.	0.31	0.60	1.41	1.50	7.83	-39.90	0.	1.50	-429.
21-25	9.18	0.	2.97	6.93	9.90	0.81	0.60	11.31	1.50	-3.63	-41.47	0.	1.50	-450.
26-END	8.72	0.	0.	1.31	1.31	0.	0.60	1.91	1.50	5.31	-38.71	0.	1.50	-633.
SEP														
1- 5	10.27	0.	0.	6.93	6.93	0.24	0.60	7.77	1.50	1.00	-38.28	0.	1.50	-625.
6-10	11.69	0.	0.	4.20	4.20	0.	0.60	4.80	1.50	5.39	-35.95	0.	1.50	-921.
11-15	11.42	6.08	0.	3.59	9.67	0.	0.60	10.27	1.50	-0.35	-36.10	0.	1.50	-546.
16-20	8.44	0.	0.	1.43	1.43	0.	0.60	2.03	1.50	4.91	-33.98	0.	1.50	-787.
21-25	23.20	2.04	0.	0.94	2.98	0.	0.60	3.58	1.50	18.12	-26.15	0.	1.50	-343.
26-END	13.24	12.05	0.	0.	12.05	0.81	0.60	13.46	1.50	-1.72	-26.89	0.	1.50	-550.
OCT														
1- 5	12.15	14.77	0.	0.	14.77	0.81	0.60	16.18	1.50	-5.53	-29.28	0.	1.50	-372.
6-10	9.79	9.08	0.	0.	9.08	0.	0.60	9.68	1.50	-1.39	-29.88	0.	1.50	-381.
11-15	13.05	9.98	8.38	0.	18.36	0.83	0.60	19.77	1.50	-8.22	-33.43	0.	1.50	-292.
16-20	15.77	0.61	3.99	0.	4.60	0.	0.60	5.20	1.50	9.07	-29.51	0.	1.50	-246.
21-25	28.97	0.	8.43	0.	8.43	0.	0.60	9.03	1.50	18.44	-21.55	0.	1.50	-100.
26-END	58.78	3.59	6.89	0.	10.49	0.	0.60	11.08	1.50	46.12	0.	2.36	6.05	100.
NOV														
1- 5	62.77	0.	7.46	0.	7.46	0.	0.60	8.06	1.50	53.21	0.	22.99	54.71	100.
6-10	53.95	0.	2.42	0.	2.42	0.	0.60	3.02	1.50	49.43	0.	21.35	50.93	100.
11-15	67.91	0.	0.	0.73	0.73	0.	0.60	1.33	1.50	65.08	0.	28.11	66.58	100.
16-20	82.64	6.87	10.68	6.38	23.73	0.13	0.60	24.46	1.50	56.68	0.	24.49	58.18	100.
21-25	77.43	8.15	8.97	10.25	27.37	0.81	0.60	28.78	1.50	47.15	0.	20.37	48.65	100.
26-END	43.46	8.15	8.97	10.25	27.37	0.81	0.60	28.78	1.50	13.18	0.	5.70	14.68	100.
DEC														
1- 5	32.09	0.	1.41	7.27	8.67	0.	0.60	9.27	1.50	21.32	0.	9.21	22.82	100.
6-10	68.05	0.	0.	2.58	2.58	0.	0.60	3.18	1.50	63.37	0.	18.73	64.87	100.
11-15	33.45	8.15	2.50	2.10	13.75	0.81	0.60	15.16	1.50	16.79	0.	7.25	18.29	100.
16-20	23.21	6.33	6.73	6.66	19.71	0.	0.60	20.31	1.50	1.40	0.	0.60	2.90	100.
21-25	21.78	0.	5.15	6.02	11.17	0.	0.60	11.77	1.50	8.51	0.	3.67	10.01	100.
26-END	17.37	8.15	8.97	6.93	24.05	0.81	0.60	25.46	1.50	-9.59	-4.97	0.	1.50	73.

Table C-14 (2/5) WATER BALANCE IN CASE OF 30 DAYS DELAY IN CROPPING SCHEDULE FOR CASE 2 IN 1979

YEAR : 1979

PERIOD	RUNOFF	PADDY				UPLAND	D & I	DIVERSION	MAINT.	BALANCE	DEFICIT	SURPLUS	DOWNSTR.	WATER
		BLOCK 1	BLOCK 2	BLOCK 3	TOTAL	CROP	WATER	REQM'T	FLOW				FROM DAM	DEPTH
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	18.17	0.	0.	0.	0.	0.	0.60	0.60	1.50	16.07	0.	1.97	6.06	100.
6-10	17.80	4.40	6.79	6.02	17.21	0.	0.60	17.81	1.50	-1.51	-0.65	0.	1.50	96.
11-15	15.18	8.15	8.97	6.93	24.05	0.81	0.60	25.46	1.50	-11.78	-5.74	0.	1.50	69.
16-20	11.95	5.44	8.97	6.93	21.33	0.81	0.60	22.74	1.50	-12.29	-11.05	0.	1.50	32.
21-25	11.99	4.65	6.97	5.11	16.72	0.18	0.60	17.51	1.50	-7.02	-14.08	0.	1.50	13.
26-END	11.25	2.72	8.97	6.93	18.62	0.81	0.60	20.03	1.50	-10.28	-19.41	0.	1.50	-37.
FEB														
1- 5	11.10	2.72	8.97	6.93	18.62	0.81	0.60	20.03	1.50	-10.43	-23.91	0.	1.50	-69.
6-10	12.22	0.	5.36	3.28	8.65	0.13	0.60	9.37	1.50	1.35	-23.33	0.	1.50	-93.
11-15	11.84	0.	4.20	1.46	5.66	0.70	0.60	6.96	1.50	3.38	-27.87	0.	1.50	-81.
16-20	14.90	0.	0.	0.	0.	0.18	0.60	0.78	1.50	12.62	-16.42	0.	1.50	-68.
21-25	35.77	0.	0.	0.	0.	0.	0.60	0.60	1.50	33.67	-1.87	0.	1.50	81.
26-END	34.91	0.	2.97	6.93	9.90	0.81	0.60	11.31	1.50	22.10	0.	3.85	16.37	100.
MAR														
1- 5	27.97	0.	2.97	6.93	9.90	0.81	0.60	11.31	1.50	15.16	0.	6.55	16.66	100.
6-10	25.87	0.	0.	6.93	6.93	0.81	0.60	8.34	1.50	16.03	0.	6.92	17.53	100.
11-15	22.75	0.	0.	4.20	4.20	0.81	0.60	5.61	1.50	15.64	0.	6.76	17.14	100.
16-20	50.69	0.	0.	4.50	4.50	0.81	0.60	5.91	1.50	43.28	0.	18.70	44.78	100.
21-25	65.60	7.51	0.	2.19	9.70	0.81	0.60	11.11	1.50	52.99	0.	22.89	54.49	100.
26-END	39.88	6.26	0.	0.03	6.29	0.81	0.60	7.70	1.50	30.68	0.	15.91	32.18	100.
APR														
1- 5	51.33	12.05	0.	2.31	14.36	0.81	0.60	15.77	1.50	34.06	0.	14.71	35.56	100.
6-10	42.36	12.05	0.	0.	12.05	0.81	0.60	13.46	1.50	27.40	0.	13.84	28.90	100.
11-15	33.29	14.77	0.	0.	14.77	0.81	0.60	16.18	1.50	15.61	0.	6.74	17.11	100.
16-20	28.31	14.77	0.	0.	14.77	0.81	0.60	16.18	1.50	10.63	0.	4.59	12.13	100.
21-25	35.43	0.	0.	0.	0.	0.	0.60	0.60	1.50	33.33	0.	14.40	34.83	100.
26-END	45.29	1.39	4.87	0.	6.26	0.	0.60	6.86	1.50	36.93	0.	15.95	38.43	100.
MAY														
1- 5	56.30	8.15	13.27	0.	21.42	0.81	0.60	22.83	1.50	31.97	0.	13.81	33.47	100.
6-10	37.52	8.15	13.27	0.	21.42	0.81	0.60	22.83	1.50	13.19	0.	5.70	14.69	100.
11-15	50.60	8.15	11.50	0.	19.66	0.81	0.60	21.07	1.50	28.03	0.	12.11	29.53	100.
16-20	23.45	8.15	16.19	0.	24.34	0.81	0.60	25.75	1.50	-3.80	-1.64	0.	1.50	87.
21-25	19.04	8.15	10.18	6.08	24.41	0.81	0.60	25.82	1.50	-8.28	-5.22	0.	1.50	65.
26-END	26.77	0.	2.54	3.55	6.09	0.	0.60	6.69	1.50	18.58	0.	6.61	10.01	100.
JUN														
1- 5	29.59	8.15	7.41	9.03	24.59	0.81	0.60	26.00	1.50	2.09	0.	0.90	3.59	100.
6-10	66.74	0.	3.59	8.42	12.01	0.	0.60	12.61	1.50	52.63	0.	22.73	54.13	100.
11-15	67.25	1.29	0.48	4.77	6.54	0.	0.60	7.14	1.50	58.61	0.	25.32	60.11	100.
16-20	30.56	5.90	5.79	9.82	21.51	0.	0.60	22.11	1.50	6.95	0.	3.00	8.45	100.
21-25	23.12	8.15	8.97	8.48	25.60	0.81	0.60	27.01	1.50	-5.39	-2.33	0.	1.50	87.
26-END	20.28	8.15	8.97	9.48	25.60	0.81	0.60	27.01	1.50	-8.23	-5.89	0.	1.50	68.
JUL														
1- 5	17.74	8.15	8.97	6.93	24.05	0.81	0.60	25.46	1.50	-9.22	-9.87	0.	1.50	46.
6-10	15.61	2.50	2.33	6.93	16.77	0.	0.60	17.37	1.50	-3.26	-11.28	0.	1.50	33.
11-15	22.67	5.08	8.77	6.93	20.78	0.52	0.60	21.90	1.50	-0.73	-11.59	0.	1.50	29.
16-20	24.02	1.57	7.69	6.93	16.20	0.	0.60	16.80	1.50	5.72	-9.12	0.	1.50	36.
21-25	73.93	0.	0.	0.	0.	0.	0.60	0.60	1.50	71.83	0.	21.91	52.22	100.
26-END	49.59	0.	5.32	6.17	14.49	0.81	0.60	15.90	1.50	32.19	0.	16.69	33.69	100.
AUG														
1- 5	23.82	0.	7.41	5.11	12.51	0.81	0.60	13.92	1.50	8.40	0.	3.63	9.90	100.
6-10	21.66	0.	5.93	6.05	12.67	0.81	0.60	14.28	1.50	5.88	0.	2.54	7.38	100.
11-15	17.45	0.	4.37	5.11	9.48	0.81	0.60	10.89	1.50	5.06	0.	2.19	6.56	100.
16-20	20.85	0.	2.97	6.93	9.90	0.	0.60	10.50	1.50	8.85	0.	3.82	10.35	100.
21-25	26.95	0.	2.59	6.02	8.60	0.81	0.60	10.01	1.50	15.44	0.	6.67	16.94	100.
26-END	28.20	0.	0.	0.	0.	0.	0.60	0.60	1.50	26.10	0.	13.53	27.60	100.
SEP														
1- 5	43.99	0.	0.	4.20	4.20	0.	0.60	4.80	1.50	37.69	0.	16.28	39.19	100.
6-10	55.35	0.	0.	2.19	2.19	0.81	0.60	3.60	1.50	50.25	0.	21.71	51.75	100.
11-15	76.67	7.51	0.	4.62	12.13	0.81	0.60	13.54	1.50	61.63	0.	26.62	63.13	100.
16-20	80.10	6.72	0.	0.18	6.91	0.	0.60	7.51	1.50	71.09	0.	30.71	72.59	100.
21-25	42.58	12.05	0.	2.31	14.36	0.81	0.60	15.77	1.50	25.31	0.	10.93	26.81	100.
26-END	37.18	6.83	0.	0.	6.83	0.	0.60	7.43	1.50	28.25	0.	12.20	29.75	100.
OCT														
1- 5	25.41	14.77	0.	0.	14.77	0.81	0.60	16.18	1.50	7.73	0.	3.34	9.23	100.
6-10	27.25	5.97	0.	0.	5.97	0.	0.60	6.57	1.50	19.68	0.	8.50	21.18	100.
11-15	37.89	0.	0.	0.	0.	0.	0.60	0.60	1.50	35.79	0.	15.46	37.29	100.
16-20	40.53	6.97	7.26	0.	14.24	0.	0.60	14.84	1.50	24.19	0.	10.45	25.69	100.
21-25	46.28	1.29	2.51	0.	3.80	0.	0.60	4.40	1.50	40.38	0.	17.44	41.88	100.
26-END	79.24	0.46	5.59	0.	6.06	0.	0.60	6.66	1.50	71.08	0.	36.85	72.58	100.
NOV														
1- 5	73.36	0.	13.16	0.	13.16	0.	0.60	13.76	1.50	58.10	0.	25.10	59.60	100.
6-10	79.14	8.15	11.50	0.	19.66	0.81	0.60	21.07	1.50	56.57	0.	24.44	58.07	100.
11-15	80.54	0.97	5.16	5.17	11.30	0.	0.60	11.90	1.50	67.14	0.	29.01	68.64	100.
16-20	168.88	0.	5.58	5.47	11.06	0.	0.60	11.66	1.50	155.72	0.	67.27	157.22	100.
21-25	111.50	3.33	4.05	7.81	15.19	0.	0.60	15.79	1.50	94.21	0.	40.70	95.71	100.
26-END	114.39	0.	0.	0.	0.	0.	0.60	0.60	1.50	112.29	0.	48.51	113.79	100.
DEC														
1- 5	80.48	0.	5.93	12.56	18.49	0.	0.60	19.09	1.50	59.89	0.	25.87	61.39	100.
6-10	59.83	8.15	8.97	12.56	29.68	0.81	0.60	31.09	1.50	27.24	0.	11.77	28.74	100.
11-15	40.51	7.40	8.69	8.48	24.57	0.41	0.60	25.56	1.50	13.45	0.	5.81	14.95	100.
16-20	34.72	6.76	8.65	8.48	23.89	0.92	0.60	24.36	1.50	8.86	0.	3.83	10.36	100.
21-25	31.69	8.15	8.19	6.02	22.36	0.81	0.60	23.77	1.50	6.42	0.	2.77	7.92	100.
26-END	26.61	8.15	8.97	6.93	24.05	0.81	0.60	25.46	1.50	-0.35	-0.18	0.	1.50	99.

Table C-14 (3/5) WATER BALANCE IN CASE OF 30 DAYS DELAY IN CROPPING SCHEDULE FOR CASE 2 IN 1980

YEAR : 1980

PERIOD	RUNOFF	PADDY				UPLAND	D & I	DIVERSION	MAINT.	BALANCE	DEFICIT	SURPLUS	DOWNSTR.	WATER
		BLOCK 1	BLOCK 2	BLOCK 3	TOTAL	CROP	WATER	REQMT	FLOW				FROM BRH	DEPTH
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	25.45	7.40	7.91	6.02	21.33	0.41	0.60	22.34	1.50	1.61	0.	0.51	2.69	100.
6-10	22.79	6.97	3.84	1.46	12.28	0.18	0.60	13.06	1.50	8.23	0.	3.56	9.73	100.
11-15	18.84	8.15	7.41	5.11	20.67	0.81	0.60	22.08	1.50	-5.54	-2.39	0.	1.50	87.
16-20	15.61	0.	5.93	6.93	12.87	0.	0.60	13.47	1.50	0.64	-2.11	0.	1.50	87.
21-25	16.56	5.44	8.97	6.93	21.33	0.81	0.60	22.74	1.50	-9.68	-6.30	0.	1.50	61.
26-END	19.16	2.72	8.97	6.93	18.62	0.81	0.60	20.03	1.50	-2.37	-7.52	0.	1.50	47.
FEB														
1- 5	14.68	2.72	8.97	6.93	18.62	0.81	0.60	20.03	1.50	-6.85	-10.48	0.	1.50	26.
6-10	12.02	0.	8.97	6.93	15.90	0.81	0.60	17.31	1.50	-6.78	-13.41	0.	1.50	-11.
11-15	10.19	0.	8.97	6.93	15.90	0.81	0.60	17.31	1.50	-8.62	-17.13	0.	1.50	-41.
16-20	9.13	0.	5.15	6.02	11.17	0.	0.60	11.77	1.50	-4.14	-18.92	0.	1.50	-93.
21-25	12.87	0.	5.15	6.02	11.17	0.81	0.60	12.58	1.50	-1.21	-19.45	0.	1.50	-98.
26-END	28.10	0.	2.97	6.93	9.90	0.	0.60	10.50	1.50	16.10	-13.88	0.	1.50	-84.
MAR														
1- 5	36.12	0.	0.23	0.55	0.78	0.	0.60	1.38	1.50	33.24	0.	0.48	2.61	100.
6-10	59.28	0.	0.	2.37	2.37	0.58	0.60	3.55	1.50	54.23	0.	23.43	55.73	100.
11-15	21.56	0.	0.	3.28	3.28	0.	0.60	3.88	1.50	16.18	0.	6.99	17.68	100.
16-20	27.65	0.	0.	4.01	4.01	0.81	0.60	5.42	1.50	20.76	0.	8.97	22.26	100.
21-25	22.73	6.90	0.	4.62	11.52	0.	0.60	12.12	1.50	9.11	0.	3.93	10.61	100.
26-END	19.44	5.75	0.	0.	5.75	0.	0.60	6.35	1.50	11.59	0.	6.01	13.09	100.
APR														
1- 5	21.82	2.86	0.	2.31	5.17	0.	0.60	5.77	1.50	14.55	0.	6.29	16.05	100.
6-10	25.89	6.11	0.	0.	6.11	0.	0.60	6.71	1.50	17.68	0.	7.64	19.18	100.
11-15	25.50	11.76	0.	0.	11.76	0.	0.60	12.36	1.50	11.64	0.	5.03	13.14	100.
16-20	19.27	14.66	0.	0.	14.66	0.75	0.60	16.01	1.50	1.76	0.	0.76	3.26	100.
21-25	17.73	0.	3.31	0.	3.31	0.	0.60	3.91	1.50	12.32	0.	5.32	13.82	100.
26-END	44.30	9.87	8.34	0.	18.21	0.75	0.60	19.56	1.50	23.24	0.	10.04	24.74	100.
MAY														
1- 5	46.47	0.	9.91	0.	9.91	0.	0.60	10.51	1.50	34.46	0.	14.88	35.96	100.
6-10	71.65	0.	1.95	0.	1.95	0.	0.60	2.55	1.50	67.60	0.	29.29	69.30	100.
11-15	68.50	0.	12.38	0.	12.38	0.	0.60	12.96	1.50	54.02	0.	23.34	55.52	100.
16-20	57.41	0.	10.03	0.	10.03	0.	0.60	10.63	1.50	45.28	0.	19.56	46.78	100.
21-25	53.02	8.15	7.87	5.17	21.16	0.81	0.60	22.57	1.50	8.95	0.	3.87	10.45	100.
26-END	37.61	7.53	9.25	5.07	21.84	0.41	0.60	22.85	1.50	13.26	0.	6.87	14.76	100.
JUN														
1- 5	32.77	0.	5.15	9.64	14.79	0.	0.60	15.39	1.50	15.88	0.	6.86	17.38	100.
6-10	36.61	7.94	7.33	9.03	24.29	0.70	0.60	25.59	1.50	9.52	0.	4.11	11.02	100.
11-15	25.20	6.87	8.49	12.56	27.91	0.13	0.60	28.64	1.50	-4.94	-2.13	0.	1.50	88.
16-20	33.07	6.54	6.21	10.73	24.08	0.	0.60	24.68	1.50	11.89	0.	3.00	8.45	100.
21-25	24.57	6.11	8.21	8.48	22.81	0.	0.60	23.41	1.50	-0.38	-0.16	0.	1.50	99.
26-END	23.90	8.09	8.94	8.48	25.51	0.78	0.60	26.89	1.50	-4.49	-2.10	0.	1.50	89.
JUL														
1- 5	17.28	8.15	8.97	6.93	24.05	0.81	0.60	25.46	1.50	-9.76	-6.32	0.	1.50	66.
6-10	14.59	4.51	8.45	6.93	19.89	0.07	0.60	20.55	1.50	-7.46	-9.54	0.	1.50	41.
11-15	13.44	5.44	8.19	6.02	19.64	0.81	0.60	21.05	1.50	-9.11	-13.48	0.	1.50	17.
16-20	29.52	1.14	1.28	0.	2.42	0.	0.60	3.02	1.50	25.00	-2.68	0.	1.50	81.
21-25	22.95	0.	0.	0.	0.	0.	0.60	0.60	1.50	20.85	0.	6.33	16.15	100.
26-END	37.34	0.	4.50	3.89	8.39	0.	0.60	8.99	1.50	26.85	0.	13.92	28.35	100.
AUG														
1- 5	38.32	0.	8.21	6.93	15.14	0.	0.60	15.74	1.50	21.08	0.	9.11	22.58	100.
6-10	28.12	0.	5.93	6.93	12.87	0.	0.60	13.47	1.50	11.15	0.	4.82	12.65	100.
11-15	25.35	0.	4.17	5.11	9.48	0.81	0.60	10.89	1.50	12.96	0.	5.60	14.46	100.
16-20	21.11	0.	0.62	1.46	2.08	0.	0.60	2.68	1.50	16.93	0.	7.31	18.43	100.
21-25	84.01	0.	1.80	4.20	5.99	0.81	0.60	7.40	1.50	75.11	0.	32.45	76.61	100.
26-END	43.59	0.	0.	6.93	6.93	0.	0.60	7.53	1.50	34.56	0.	17.91	36.06	100.
SEP														
1- 5	30.07	0.	0.	4.20	4.20	0.	0.60	4.80	1.50	23.77	0.	10.27	25.27	100.
6-10	40.32	0.	0.	4.62	4.62	0.	0.60	5.22	1.50	33.64	0.	14.53	35.14	100.
11-15	26.64	7.51	0.	4.62	12.13	0.81	0.60	13.54	1.50	11.60	0.	5.01	13.10	100.
16-20	41.59	7.51	0.	2.01	9.52	0.81	0.60	10.93	1.50	29.16	0.	12.60	30.66	100.
21-25	75.58	6.76	0.	0.	6.76	0.	0.60	7.36	1.50	66.72	0.	28.82	68.22	100.
26-END	50.95	10.62	0.	0.	10.62	0.	0.60	11.22	1.50	38.23	0.	16.52	39.73	100.
OCT														
1- 5	47.21	2.93	0.	0.	2.93	0.	0.60	3.53	1.50	42.18	0.	18.22	43.68	100.
6-10	73.82	3.68	0.	0.	3.68	0.	0.60	4.28	1.50	68.10	0.	29.42	69.60	100.
11-15	77.04	6.44	7.06	0.	13.50	0.	0.60	14.10	1.50	61.44	0.	26.54	62.94	100.
16-20	254.74	9.98	8.38	0.	18.36	0.81	0.60	19.77	1.50	233.47	0.	100.86	234.97	100.
21-25	64.81	3.75	11.62	0.	15.39	0.	0.60	15.99	1.50	47.32	0.	20.44	48.82	100.
26-END	40.27	0.	5.83	0.	5.83	0.	0.60	6.43	1.50	32.34	0.	16.77	33.84	100.
NOV														
1- 5	35.41	0.	8.47	0.	8.47	0.	0.60	9.07	1.50	24.84	0.	10.73	26.34	100.
6-10	33.36	8.15	14.63	0.	22.78	0.81	0.60	24.19	1.50	7.67	0.	3.31	9.17	100.
11-15	36.21	6.97	8.96	5.78	21.71	0.18	0.60	22.49	1.50	12.22	0.	5.28	13.72	100.
16-20	49.29	8.15	10.18	6.06	24.41	0.81	0.60	25.82	1.50	21.97	0.	9.49	23.47	100.
21-25	70.87	0.	0.	2.95	2.95	0.	0.60	3.55	1.50	65.82	0.	28.43	67.32	100.
26-END	80.97	6.87	4.52	7.21	18.66	0.13	0.60	19.38	1.50	60.09	0.	25.96	61.59	100.
DEC														
1- 5	88.39	0.	0.	4.77	4.77	0.	0.60	5.37	1.50	81.52	0.	35.22	83.02	100.
6-10	158.55	2.79	1.04	4.17	7.99	0.	0.60	8.59	1.50	148.46	0.	64.13	149.96	100.
11-15	148.08	8.15	8.97	8.48	25.60	0.81	0.60	27.01	1.50	119.57	0.	51.65	121.07	100.
16-20	71.17	7.08	2.63	0.	9.71	0.24	0.60	10.55	1.50	59.12	0.	25.54	60.62	100.
21-25	53.13	0.	5.93	6.93	12.87	0.	0.60	13.47	1.50	38.16	0.	16.49	39.66	100.
26-END	45.23	7.28	2.92	0.	10.82	0.64	0.60	12.06	1.50	31.65	0.	16.41	33.15	100.

Table C-14 (4/5) WATER BALANCE IN CASE OF 30 DAYS DELAY IN CROPPING SCHEDULE FOR CASE 2 IN 1981

YEAR : 1981

PERIOD	RUNOFF	PADDY				UPLAND CROP	O & I WATER	DIVERSION REQM'T	MAINT. FLOW	BALANCE	DEFICIT	SURPLUS	DOWNSTR. FROM DAM	WATER DEPTH
		BLOCK 1	BLOCK 2	BLOCK 3	TOTAL									
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	54.19	1.29	5.63	6.02	12.94	0.	0.60	13.54	1.50	39.15	0.	16.91	40.65	100.
6-10	52.32	0.	5.93	6.93	12.87	0.	0.60	13.47	1.50	37.35	0.	16.14	38.85	100.
11-15	37.97	8.15	8.97	6.93	24.05	0.81	0.60	25.46	1.50	11.01	0.	4.76	12.51	100.
16-20	34.74	4.79	6.61	6.93	20.33	0.30	0.60	21.23	1.50	12.01	0.	5.19	13.51	100.
21-25	32.50	5.44	8.19	6.02	19.64	0.81	0.60	21.05	1.50	9.95	0.	4.30	11.45	100.
26-END	27.20	2.72	8.97	6.93	18.62	0.81	0.60	20.03	1.50	5.67	0.	2.94	7.17	100.
FEB														
1- 5	39.70	0.54	5.75	6.02	12.31	0.	0.60	12.91	1.50	25.29	0.	10.93	26.79	100.
6-10	32.25	0.	8.57	6.93	15.50	0.24	0.60	16.34	1.50	14.41	0.	6.23	15.91	100.
11-15	31.98	0.	5.93	6.93	12.87	0.	0.60	13.47	1.50	17.01	0.	7.35	18.51	100.
16-20	51.76	0.	5.93	6.93	12.87	0.81	0.60	14.28	1.50	35.98	0.	15.55	37.48	100.
21-25	30.51	0.	2.81	3.28	6.09	0.	0.60	6.69	1.50	22.32	0.	9.64	23.82	100.
26-END	51.19	0.	2.97	6.93	9.90	0.	0.60	10.50	1.50	39.19	0.	10.76	40.69	100.
MAR														
1- 5	35.61	0.	0.	0.	0.	0.	0.60	0.60	1.50	32.91	0.	14.22	34.41	100.
6-10	23.44	0.	0.	6.02	6.02	0.81	0.60	7.43	1.50	14.51	0.	6.27	16.01	100.
11-15	24.16	0.	0.	2.37	2.37	0.81	0.60	3.78	1.50	18.88	0.	8.16	20.38	100.
16-20	17.98	0.	0.	4.62	4.62	0.	0.60	5.22	1.50	11.26	0.	4.86	12.76	100.
21-25	21.46	7.51	0.	0.97	8.48	0.81	0.60	9.89	1.50	10.07	0.	4.35	11.57	100.
26-END	19.49	4.08	0.	0.03	4.11	0.	0.60	4.71	1.50	13.28	0.	6.88	14.78	100.
APR														
1- 5	42.94	11.98	0.	1.09	13.07	0.75	0.60	14.43	1.50	27.01	0.	11.67	28.51	100.
6-10	70.29	8.76	0.	0.	8.76	0.	0.60	9.36	1.50	59.43	0.	25.67	60.93	100.
11-15	60.29	11.76	0.	0.	11.76	0.	0.60	12.36	1.50	46.43	0.	20.06	47.93	100.
16-20	78.20	0.	0.	0.	0.	0.	0.60	0.60	1.50	76.10	0.	32.88	77.60	100.
21-25	74.85	9.98	8.39	0.	18.36	0.81	0.60	19.77	1.50	53.58	0.	23.15	55.08	100.
26-END	41.69	9.98	8.38	0.	18.36	0.81	0.60	19.77	1.50	20.61	0.	8.91	22.11	100.
MAY														
1- 5	61.61	0.	6.25	0.	6.25	0.	0.60	6.85	1.50	53.46	0.	23.10	54.96	100.
6-10	80.43	0.	10.11	0.	10.11	0.	0.60	10.71	1.50	68.22	0.	29.47	69.72	100.
11-15	90.35	8.15	14.63	0.	22.78	0.81	0.60	24.19	1.50	64.66	0.	27.93	66.16	100.
16-20	100.19	6.33	13.95	0.	20.28	0.	0.60	20.88	1.50	77.81	0.	33.61	79.31	100.
21-25	99.62	8.15	9.40	5.78	23.33	0.81	0.60	24.74	1.50	73.38	0.	31.70	74.88	100.
26-END	84.44	0.	0.	1.01	1.01	0.	0.60	1.61	1.50	81.33	0.	42.16	82.83	100.
JUN														
1- 5	66.32	8.15	8.97	10.25	27.37	0.81	0.60	28.76	1.50	36.04	0.	15.57	37.54	100.
6-10	40.96	7.62	8.77	10.25	26.63	0.52	0.60	27.75	1.50	11.71	0.	5.06	13.21	100.
11-15	34.21	8.15	8.97	12.56	29.69	0.81	0.60	31.09	1.50	1.62	0.	0.70	3.12	100.
16-20	27.04	8.15	8.97	12.56	29.68	0.81	0.60	31.09	1.50	-5.55	-2.40	0.	1.50	87.
21-25	24.95	8.15	8.19	7.57	23.91	0.81	0.60	25.32	1.50	-1.87	-3.20	0.	1.50	83.
26-END	37.26	8.15	8.97	2.48	25.60	0.81	0.60	27.01	1.50	8.75	0.	0.58	2.83	100.
JUL														
1- 5	23.90	8.15	8.97	6.93	24.05	0.81	0.60	25.46	1.50	-3.06	-1.32	0.	1.50	93.
6-10	19.46	4.93	8.69	6.93	20.55	0.41	0.60	21.56	1.50	-3.60	-2.88	0.	1.50	82.
11-15	24.19	2.50	7.37	6.93	16.77	0.	0.60	17.37	1.50	5.32	-0.58	0.	1.50	96.
16-20	19.85	2.72	8.97	6.93	18.62	0.81	0.60	20.03	1.50	-1.65	-1.29	0.	1.50	91.
21-25	19.76	0.	4.37	5.11	9.48	0.	0.60	10.08	1.50	8.18	0.	2.24	6.69	100.
26-END	22.47	0.	3.76	0.85	4.61	0.81	0.60	6.02	1.50	14.95	0.	7.75	16.45	100.
AUG														
1- 5	16.61	0.	8.97	6.93	15.90	0.81	0.60	17.31	1.50	-2.20	-0.95	0.	1.50	92.
6-10	13.11	0.	5.93	6.93	12.87	0.81	0.60	14.28	1.50	-2.67	-2.10	0.	1.50	79.
11-15	11.68	0.	5.93	6.93	12.87	0.81	0.60	14.28	1.50	-4.10	-3.87	0.	1.50	61.
16-20	10.76	0.	0.	0.	0.	0.30	0.60	0.90	1.50	8.34	-0.27	0.	1.50	96.
21-25	15.60	0.	2.97	6.93	9.90	0.	0.60	10.50	1.50	3.60	0.	1.29	4.48	100.
26-END	26.09	0.	0.	0.09	0.09	0.	0.60	0.69	1.50	23.90	0.	12.39	25.40	100.
SEP														
1- 5	24.25	0.	0.	6.02	6.02	0.	0.60	6.62	1.50	16.13	0.	6.97	17.63	100.
6-10	89.18	0.	0.	0.	0.	0.	0.60	0.60	1.50	87.08	0.	37.62	88.58	100.
11-15	69.16	7.44	0.	4.26	11.69	0.70	0.60	12.99	1.50	54.57	0.	23.57	56.07	100.
16-20	54.82	6.22	0.	1.70	7.92	0.	0.60	8.52	1.50	44.80	0.	19.35	46.30	100.
21-25	40.02	12.05	0.	0.	12.05	0.81	0.60	13.46	1.50	25.06	0.	10.83	26.56	100.
26-END	27.58	11.69	0.	0.	11.69	0.52	0.60	12.82	1.50	13.26	0.	5.73	14.76	100.
OCT														
1- 5	22.53	14.77	0.	0.	14.77	0.81	0.60	16.18	1.50	4.85	0.	2.10	6.35	100.
6-10	28.73	14.77	0.	0.	14.77	0.81	0.60	16.18	1.50	11.05	0.	4.77	12.55	100.
11-15	46.47	0.	0.	0.	0.	0.	0.60	0.60	1.50	44.37	0.	19.17	45.87	100.
16-20	77.12	0.50	3.87	0.	4.37	0.	0.60	4.97	1.50	70.65	0.	30.52	72.15	100.
21-25	38.73	8.15	13.27	0.	21.42	0.81	0.60	22.83	1.50	14.38	0.	6.21	15.88	100.
26-END	41.04	6.99	9.32	0.	16.31	0.07	0.60	16.98	1.50	22.56	0.	11.69	24.06	100.
NOV														
1- 5	30.96	6.44	3.96	0.	10.39	0.	0.60	10.99	1.50	18.47	0.	7.98	19.97	100.
6-10	32.74	1.39	10.55	0.	11.95	0.	0.60	12.55	1.50	18.69	0.	8.08	20.19	100.
11-15	64.02	8.15	10.02	6.02	24.19	0.81	0.60	25.60	1.50	36.92	0.	15.95	38.42	100.
16-20	65.31	0.	5.82	5.56	11.38	0.	0.60	11.98	1.50	51.83	0.	22.39	53.33	100.
21-25	108.05	5.47	4.85	7.81	18.13	0.	0.60	18.73	1.50	87.82	0.	37.94	89.32	100.
26-END	72.27	0.	1.09	6.48	7.57	0.	0.60	8.17	1.50	62.60	0.	27.04	64.10	100.
DEC														
1- 5	52.03	5.90	6.17	12.56	26.59	0.	0.60	27.19	1.50	23.34	0.	10.08	24.84	100.
6-10	83.51	8.15	8.65	12.19	29.00	0.81	0.60	30.41	1.50	51.60	0.	22.29	53.10	100.
11-15	55.51	0.	0.	1.25	1.25	0.	0.60	1.85	1.50	52.16	0.	22.53	53.66	100.
16-20	37.12	8.15	8.92	3.48	25.69	0.81	0.60	27.01	1.50	8.62	0.	3.72	10.12	100.
21-25	29.66	8.15	8.97	6.93	24.05	0.81	0.60	25.46	1.50	2.70	0.	1.17	4.20	100.
26-END	26.88	0.	3.37	3.89	7.22	0.	0.60	7.82	1.50	17.48	0.	9.06	18.98	100.

Table C-14 (5/5) WATER BALANCE IN CASE OF 30 DAYS DELAY IN CROPPING SCHEDULE FOR CASE 2 IN 1983

YEAR : 1983

PERIOD	RUNOFF	PADDY				UPLAND CROP	O & I WATER	DIVERSION REQMT	MAINT. FLOW	BALANCE	DEFICIT	SURPLUS	DOWNSTR. FROM BRH	WATER DEPTH
		BLOCK 1	BLOCK 2	BLOCK 3	TOTAL									
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	39.23	0.	0.	0.	0.	0.	0.60	0.60	1.50	37.13	0.	16.04	38.63	100.
6-10	35.44	6.11	7.27	5.84	19.22	0.	0.60	19.82	1.50	14.12	0.	6.10	15.62	100.
11-15	27.60	7.40	8.53	6.75	22.69	0.41	0.60	23.69	1.50	2.41	0.	1.04	3.91	100.
16-20	24.84	5.44	8.97	6.93	21.33	0.81	0.60	22.74	1.50	0.60	0.	0.26	2.10	100.
21-25	22.11	5.44	8.97	6.93	21.33	0.81	0.60	22.74	1.50	-2.13	-0.92	0.	1.50	94.
26-END	19.29	2.72	8.97	6.93	18.62	0.81	0.60	20.03	1.50	-2.24	-2.08	0.	1.50	85.
FEB														
1- 5	18.90	2.72	8.97	6.93	18.62	0.81	0.60	20.03	1.50	-2.63	-3.22	0.	1.50	77.
6-10	16.49	0.	5.22	2.55	7.77	0.81	0.60	9.18	1.50	5.81	-0.71	0.	1.50	94.
11-15	16.69	0.	8.97	6.93	15.90	0.81	0.60	17.31	1.50	-2.12	-1.62	0.	1.50	87.
16-20	22.30	0.	5.93	6.93	12.87	0.47	0.60	13.93	1.50	6.87	0.	1.34	4.61	100.
21-25	17.47	0.	5.93	6.93	12.87	0.07	0.60	13.53	1.50	2.44	0.	1.05	3.94	100.
26-END	15.71	0.	2.97	6.93	9.90	0.81	0.60	11.31	1.50	2.90	0.	0.75	4.40	100.
MAR														
1- 5	20.98	0.	2.97	6.93	9.90	0.81	0.60	11.31	1.50	8.17	0.	3.53	9.67	100.
6-10	14.94	0.	0.	5.84	5.84	0.81	0.60	7.25	1.50	6.19	0.	2.68	7.69	100.
11-15	19.25	0.	0.	6.57	6.57	0.81	0.60	7.98	1.50	9.77	0.	4.22	11.27	100.
16-20	19.63	0.	0.	2.31	2.31	0.	0.60	2.91	1.50	15.20	0.	6.57	16.70	100.
21-25	18.55	7.51	0.	4.62	12.13	0.81	0.60	13.54	1.50	3.51	0.	1.52	5.01	100.
26-END	25.39	6.26	0.	2.71	8.97	0.81	0.60	9.98	1.50	13.91	0.	7.21	15.41	100.
APR														
1- 5	15.76	12.05	0.	2.31	14.36	0.81	0.60	15.77	1.50	-1.51	-0.65	0.	1.50	89.
6-10	13.49	12.05	0.	0.	12.05	0.81	0.60	13.46	1.50	-1.47	-1.29	0.	1.50	69.
11-15	12.11	14.77	0.	0.	14.77	0.81	0.60	16.18	1.50	-5.57	-3.69	0.	1.50	41.
16-20	10.68	14.77	0.	0.	14.77	0.81	0.60	16.18	1.50	-7.02	-6.72	0.	1.50	-8.
21-25	12.67	0.82	4.27	0.	5.05	0.	0.60	5.65	1.50	5.68	-4.27	0.	1.50	50.
26-END	19.24	1.32	4.79	0.	6.11	0.	0.60	6.71	1.50	11.03	0.	0.49	2.64	100.
MAY														
1- 5	33.25	3.22	7.14	0.	10.35	0.	0.60	10.95	1.50	20.80	0.	8.98	22.30	100.
6-10	24.90	6.33	12.28	0.	18.61	0.	0.60	19.21	1.50	4.19	0.	1.81	5.69	100.
11-15	30.39	7.62	15.99	0.	23.61	0.52	0.60	24.73	1.50	4.16	0.	1.80	5.66	100.
16-20	26.72	3.33	14.39	0.	17.72	0.	0.60	18.32	1.50	6.91	0.	2.99	8.41	100.
21-25	29.22	7.40	7.17	5.02	19.58	0.41	0.60	20.59	1.50	7.13	0.	3.08	8.63	100.
26-END	21.44	0.	6.32	5.02	11.33	0.	0.60	11.93	1.50	8.01	0.	4.15	9.51	100.
JUN														
1- 5	24.80	8.15	8.97	10.25	27.37	0.81	0.60	28.78	1.50	-6.28	-2.71	0.	1.50	84.
6-10	14.35	7.19	8.14	9.88	25.21	0.30	0.60	26.10	1.50	-13.25	-8.44	0.	1.50	49.
11-15	26.44	2.79	4.32	9.46	16.56	0.	0.60	17.16	1.50	7.78	-5.08	0.	1.50	72.
16-20	34.86	5.47	3.75	7.63	16.86	0.	0.60	17.46	1.50	15.10	0.	1.65	4.85	100.
21-25	19.74	8.15	8.97	8.48	25.60	0.81	0.60	27.01	1.50	-8.77	-3.79	0.	1.50	79.
26-END	15.07	8.15	8.97	8.48	25.60	0.81	0.60	27.01	1.50	-13.44	-9.60	0.	1.50	48.
JUL														
1- 5	15.28	3.33	7.17	6.93	17.43	0.	0.60	18.03	1.50	-4.25	-11.43	0.	1.50	38.
6-10	17.42	3.22	6.17	5.11	14.49	0.	0.60	15.09	1.50	0.83	-11.08	0.	1.50	32.
11-15	19.12	5.44	5.84	3.28	14.56	0.81	0.60	15.97	1.50	1.65	-10.36	0.	1.50	36.
16-20	16.92	0.	0.	0.	0.	0.	0.60	0.60	1.50	14.82	-3.96	0.	1.50	72.
21-25	53.45	2.72	8.97	6.93	18.62	0.81	0.60	20.03	1.50	31.92	0.	9.83	24.25	100.
26-END	28.64	0.	7.01	4.65	11.67	0.81	0.60	13.08	1.50	14.26	0.	7.39	15.76	100.
AUG														
1- 5	62.57	0.	8.29	6.93	15.22	0.	0.60	15.82	1.50	45.25	0.	19.55	46.75	100.
6-10	47.59	0.	4.37	5.11	9.48	0.81	0.60	10.89	1.50	35.20	0.	15.21	36.70	100.
11-15	31.66	0.	0.47	0.55	1.02	0.	0.60	1.62	1.50	28.54	0.	12.33	30.04	100.
16-20	31.37	0.	2.97	6.93	9.90	0.75	0.60	11.25	1.50	18.62	0.	8.04	20.12	100.
21-25	23.72	0.	2.58	6.02	8.60	0.	0.60	9.20	1.50	11.02	0.	4.76	12.52	100.
26-END	27.60	0.	0.	6.93	6.93	0.	0.60	7.53	1.50	17.97	0.	9.31	19.47	100.
SEP														
1- 5	45.75	0.	0.	0.55	0.55	0.	0.60	1.15	1.50	43.10	0.	18.62	44.60	100.
6-10	64.40	0.	0.	3.41	3.41	0.	0.60	4.01	1.50	58.89	0.	25.44	60.39	100.
11-15	82.67	5.36	0.	4.01	9.37	0.	0.60	9.98	1.50	71.33	0.	30.73	72.63	100.
16-20	126.51	1.07	0.	1.70	2.78	0.	0.60	3.38	1.50	121.63	0.	52.55	123.13	100.
21-25	73.63	12.05	0.	2.31	14.36	0.81	0.60	15.77	1.50	56.36	0.	24.35	57.86	100.
26-END	45.17	5.19	0.	0.	5.19	0.	0.60	5.79	1.50	37.84	0.	16.35	39.34	100.
OCT														
1- 5	35.42	12.30	0.	0.	12.30	0.	0.60	12.90	1.50	21.02	0.	9.08	22.52	100.
6-10	32.67	10.91	0.	0.	10.91	0.	0.60	11.51	1.50	19.66	0.	8.49	21.16	100.
11-15	30.39	7.08	7.30	0.	14.38	0.	0.60	14.98	1.50	13.91	0.	6.01	15.41	100.
16-20	33.91	8.80	7.94	0.	16.74	0.18	0.60	17.52	1.50	14.89	0.	6.43	16.39	100.
21-25	38.37	3.35	10.69	0.	14.02	0.	0.60	14.62	1.50	22.21	0.	9.60	23.71	100.
26-END	42.15	0.	3.25	0.	3.25	0.	0.60	3.85	1.50	36.80	0.	19.08	38.30	100.
NOV														
1- 5	40.41	3.75	10.65	0.	14.40	0.	0.60	15.00	1.50	23.91	0.	10.33	25.41	100.
6-10	56.02	8.15	14.19	0.	24.34	0.81	0.60	25.75	1.50	28.77	0.	12.43	30.27	100.
11-15	48.93	8.15	10.96	6.38	25.50	0.81	0.60	26.91	1.50	20.52	0.	8.87	22.02	100.
16-20	45.67	8.15	10.96	6.78	25.50	0.81	0.60	26.91	1.50	17.26	0.	7.46	18.76	100.
21-25	35.64	7.63	6.50	8.42	22.76	0.64	0.60	24.00	1.50	10.14	0.	4.38	11.64	100.
26-END	34.57	3.86	1.91	5.99	11.76	0.	0.60	12.36	1.50	20.71	0.	8.95	22.21	100.
DEC														
1- 5	31.64	8.15	8.97	12.56	29.69	0.81	0.60	31.09	1.50	-0.75	-0.32	0.	1.50	98.
6-10	28.40	5.56	4.91	9.32	18.27	0.	0.60	18.87	1.50	8.03	0.	3.15	8.78	100.
11-15	40.40	0.	3.59	5.75	9.34	0.	0.60	9.94	1.50	28.96	0.	12.51	30.46	100.
16-20	31.47	1.29	2.51	3.92	7.72	0.	0.60	8.32	1.50	21.65	0.	9.35	23.15	100.
21-25	27.54	0.	1.25	1.46	2.71	0.	0.60	3.31	1.50	22.73	0.	9.82	24.23	100.
26-END	25.90	7.10	8.97	6.93	23.56	0.58	0.60	24.74	1.50	-0.34	-0.18	0.	1.50	99.

Table C-15 (1/5) WATER BALANCE IN CASE OF 30 DAYS DELAY IN CROPPING SCHEDULE FOR CASE 3 IN 1978

YEAR : 1978

PERIOD	RUNOFF	PADDY				UPLAND CROP	D R I WATER	DIVERS'N REQM'T	MAINT. FLOW	BALANCE	DEFICIT	SURPLUS	DOWNSTR. FROM BRH	WATER DEPTH
	(CUM/S)	BLOCK 1 (CUM/S)	BLOCK 2 (CUM/S)	BLOCK 3 (CUM/S)	TOTAL (CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	17.68	8.15	8.97	6.93	24.05	0.81	0.60	25.46	0.	-7.78	-3.36	0.	0.	82.
6-10	18.58	0.	2.58	3.01	5.59	0.	0.60	6.19	0.	12.39	0.	1.99	4.61	100.
11-15	18.77	0.97	0.36	0.	1.32	0.	0.60	1.92	0.	16.85	0.	7.28	16.85	100.
16-20	24.80	4.15	7.47	6.02	17.64	0.	0.60	18.24	0.	6.56	0.	2.84	6.56	100.
21-25	18.05	0.	4.45	5.20	9.65	0.	0.60	10.25	0.	7.80	0.	3.37	7.80	100.
26-END	14.22	2.72	8.97	6.93	18.62	0.81	0.60	20.03	0.	-5.81	-3.01	0.	0.	79.
FEB														
1- 5	11.82	2.72	8.97	6.93	18.62	0.81	0.60	20.03	0.	-8.21	-6.55	0.	0.	54.
6-10	13.66	0.	8.97	6.93	15.90	0.81	0.60	17.31	0.	-3.65	-8.13	0.	0.	33.
11-15	13.84	0.	6.67	6.11	12.78	0.	0.60	13.38	0.	0.46	-7.93	0.	0.	35.
16-20	16.55	0.	2.26	2.65	4.91	0.81	0.60	6.32	0.	10.23	-3.51	0.	0.	64.
21-25	10.92	0.	5.00	5.84	10.83	0.81	0.60	12.24	0.	-1.32	-4.08	0.	0.	58.
26-END	11.18	0.	0.	0.	0.	0.	0.60	0.60	0.	10.58	-1.36	0.	0.	82.
MAR														
1- 5	10.46	0.	1.52	3.56	5.08	0.	0.60	5.68	0.	4.78	0.	0.72	1.67	100.
6-10	11.40	0.	0.	6.29	6.29	0.81	0.60	7.70	0.	3.70	0.	1.60	3.70	100.
11-15	13.83	0.	0.	5.38	5.38	0.	0.60	5.98	0.	7.85	0.	3.39	7.85	100.
16-20	13.61	0.	0.	4.62	4.62	0.81	0.60	6.03	0.	7.58	0.	3.27	7.58	100.
21-25	16.36	5.36	0.	2.13	7.49	0.	0.60	8.09	0.	8.27	0.	3.57	8.27	100.
26-END	15.86	4.50	0.	0.31	4.81	0.	0.60	5.41	0.	10.45	0.	5.42	10.45	100.
APR														
1- 5	19.77	12.05	0.	1.55	13.60	0.81	0.60	15.01	0.	4.76	0.	2.06	4.76	100.
6-10	19.41	12.05	0.	0.	12.05	0.81	0.60	13.46	0.	5.95	0.	2.57	5.95	100.
11-15	21.72	13.91	0.	0.	13.91	0.35	0.60	14.86	0.	6.86	0.	2.96	6.86	100.
16-20	30.62	14.77	0.	0.	14.77	0.81	0.60	16.18	0.	14.44	0.	6.33	14.44	100.
21-25	70.28	9.98	8.38	0.	18.36	0.81	0.60	19.77	0.	50.51	0.	21.82	50.51	100.
26-END	41.50	9.98	8.38	0.	18.36	0.81	0.60	19.77	0.	21.73	0.	9.39	21.73	100.
MAY														
1- 5	45.55	8.15	13.15	0.	21.30	0.81	0.60	22.71	0.	22.84	0.	9.87	22.84	100.
6-10	57.43	0.	5.15	0.	5.15	0.	0.60	5.75	0.	51.68	0.	22.32	51.68	100.
11-15	66.81	8.05	16.15	0.	24.20	0.75	0.60	25.55	0.	43.26	0.	18.69	43.26	100.
16-20	45.47	8.15	16.19	0.	24.34	0.81	0.60	25.75	0.	19.72	0.	8.52	19.72	100.
21-25	37.32	8.15	10.96	6.38	25.50	0.81	0.60	26.91	0.	10.41	0.	4.50	10.41	100.
26-END	22.14	8.15	10.13	5.32	23.61	0.81	0.60	25.01	0.	-2.87	-1.49	0.	0.	90.
JUN														
1- 5	21.37	5.15	7.85	10.25	23.24	0.	0.60	23.84	0.	-2.47	-2.56	0.	0.	85.
6-10	19.66	3.75	5.85	9.09	18.69	0.	0.60	19.29	0.	0.37	-2.40	0.	0.	86.
11-15	16.94	8.15	8.97	12.56	29.68	0.81	0.60	31.09	0.	-14.15	-6.51	0.	0.	54.
16-20	13.30	0.	5.70	12.28	17.98	0.	0.60	18.58	0.	-5.28	-10.79	0.	0.	41.
21-25	12.70	8.15	8.97	8.48	25.60	0.81	0.60	27.01	0.	-14.31	-16.98	0.	0.	7.
26-END	11.81	0.	4.29	6.57	10.86	0.	0.60	11.46	0.	0.35	-16.83	0.	0.	8.
JUL														
1- 5	10.75	8.15	8.97	6.93	24.05	0.81	0.60	25.46	0.	-14.71	-23.18	0.	0.	-27.
6-10	16.04	4.29	8.33	6.93	19.55	0.	0.60	20.15	0.	-4.11	-26.96	0.	0.	-54.
11-15	13.28	5.44	7.81	4.65	17.10	0.81	0.60	18.51	0.	-5.23	-27.22	0.	0.	-67.
16-20	12.25	2.72	8.42	6.29	17.43	0.81	0.60	18.84	0.	-6.59	-30.07	0.	0.	-112.
21-25	16.29	2.72	8.97	6.93	18.62	0.81	0.60	20.03	0.	-3.74	-31.68	0.	0.	-125.
26-END	12.04	0.	7.10	6.93	14.04	0.	0.60	14.64	0.	-2.60	-33.03	0.	0.	-173.
AUG														
1- 5	9.43	0.	8.69	6.93	15.62	0.43	0.60	16.63	0.	-7.20	-36.14	0.	0.	-198.
6-10	8.59	0.	5.93	6.93	12.87	0.58	0.60	14.05	0.	-5.46	-38.49	0.	0.	-293.
11-15	14.12	0.	0.	0.	0.	0.	0.60	0.60	0.	13.52	-32.65	0.	0.	-233.
16-20	10.74	0.	0.	0.	0.	0.81	0.60	1.41	0.	9.33	-28.62	0.	0.	-280.
21-25	9.18	0.	2.97	6.93	9.90	0.81	0.60	11.31	0.	-2.13	-29.54	0.	0.	-292.
26-END	8.72	0.	0.	1.31	1.31	0.	0.60	1.91	0.	6.81	-26.01	0.	0.	-393.
SEP														
1- 5	10.27	0.	0.	6.93	6.93	0.24	0.60	7.77	0.	2.50	-24.93	0.	0.	-372.
6-10	11.69	0.	0.	4.20	4.20	0.	0.60	4.80	0.	6.89	-21.95	0.	0.	-524.
11-15	11.42	6.08	0.	3.59	9.67	0.	0.60	10.27	0.	1.15	-21.65	0.	0.	-284.
16-20	8.44	0.	0.	1.63	1.63	0.	0.60	2.03	0.	6.41	-18.68	0.	0.	-388.
21-25	23.20	2.04	0.	0.94	2.98	0.	0.60	3.58	0.	19.62	-10.21	0.	0.	-73.
26-END	13.24	12.05	0.	0.	12.05	0.81	0.60	13.46	0.	-0.22	-10.30	0.	0.	-149.
OCT														
1- 5	12.15	14.77	0.	0.	14.77	0.81	0.60	16.18	0.	-4.03	-12.04	0.	0.	-94.
6-10	9.79	9.08	0.	0.	9.08	0.	0.60	9.68	0.	0.11	-12.00	0.	0.	-93.
11-15	13.05	9.98	8.38	0.	18.36	0.81	0.60	19.77	0.	-6.72	-14.90	0.	0.	-75.
16-20	15.77	0.61	3.99	0.	4.60	0.	0.60	5.20	0.	10.57	-10.33	0.	0.	-21.
21-25	28.97	0.	8.43	0.	8.43	0.	0.60	9.03	0.	19.94	-1.72	0.	0.	64.
26-END	58.70	3.59	6.89	0.	10.48	0.	0.60	11.08	0.	47.62	0.	22.97	44.30	100.
NOV														
1- 5	62.77	0.	7.46	0.	7.46	0.	0.60	8.06	0.	54.71	0.	23.64	54.71	100.
6-10	53.95	0.	2.42	0.	2.42	0.	0.60	3.02	0.	50.93	0.	22.00	50.93	100.
11-15	67.91	0.	0.	0.73	0.73	0.	0.60	1.33	0.	66.58	0.	28.76	66.58	100.
16-20	82.64	6.87	10.48	6.38	23.73	0.13	0.60	24.46	0.	58.18	0.	25.14	58.18	100.
21-25	77.43	8.15	8.97	10.25	27.37	0.81	0.60	28.78	0.	48.65	0.	21.02	48.65	100.
26-END	43.46	8.15	8.97	10.25	27.37	0.81	0.60	28.78	0.	14.68	0.	6.34	14.68	100.
DEC														
1- 5	32.09	0.	1.41	7.27	8.67	0.	0.60	9.27	0.	22.82	0.	9.86	22.82	100.
6-10	48.05	0.	0.	2.58	2.58	0.	0.60	3.18	0.	44.87	0.	19.38	44.87	100.
11-15	33.45	8.15	3.50	2.10	13.75	0.81	0.60	15.16	0.	18.29	0.	7.90	18.29	100.
16-20	23.21	6.33	6.72	6.66	19.71	0.	0.60	20.31	0.	2.90	0.	1.25	2.90	100.
21-25	21.76	0.	5.15	6.62	11.17	0.	0.60	11.77	0.	10.01	0.	4.32	10.01	100.
26-END	17.37	8.15	8.97	6.93	24.05	0.81	0.60	25.46	0.	-8.09	-4.19	0.	0.	77.

Table C-15 (2/5) WATER BALANCE IN CASE OF 30 DAYS DELAY IN CROPPING SCHEDULE FOR CASE 3 IN 1979

YEAR : 1979

PERIOD	RUNOFF	PADDY				UPLAND CROP	D & I WATER	DIVERSION REQMT	MAINT. FLOW	BALANCE	DEFICIT	SURPLUS	DOWNSTR. FROM BRH	WATER DEPTH
		BLOCK 1	BLOCK 2	BLOCK 3	TOTAL									
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	18.17	0.	0.	0.	0.	0.	0.60	0.60	0.	17.57	0.	3.40	7.86	100.
6-10	17.80	4.40	6.79	6.02	17.21	0.	0.60	17.81	0.	-0.01	-0.00	0.	0.	100.
11-15	15.18	9.15	8.97	6.93	24.05	0.81	0.60	25.46	0.	-10.28	-4.44	0.	0.	76.
16-20	11.95	5.44	8.97	6.93	21.33	0.81	0.60	22.74	0.	-10.79	-9.11	0.	0.	44.
21-25	11.99	4.65	6.97	5.11	16.72	0.18	0.60	17.51	0.	-5.52	-11.49	0.	0.	29.
26-END	11.25	2.72	8.97	6.93	18.62	0.81	0.60	20.03	0.	-8.78	-16.04	0.	0.	-13.
FEB														
1- 5	11.10	2.72	8.97	6.93	18.62	0.81	0.60	20.03	0.	-8.93	-19.90	0.	0.	-40.
6-10	12.22	0.	5.36	3.28	8.65	0.13	0.60	9.37	0.	2.85	-18.67	0.	0.	-54.
11-15	11.84	0.	4.20	1.46	5.66	0.70	0.60	6.96	0.	4.88	-16.56	0.	0.	-37.
16-20	14.90	0.	0.	0.	0.	0.18	0.60	0.78	0.	14.12	-10.46	0.	0.	-7.
21-25	35.17	0.	0.	0.	0.	0.	0.60	0.60	0.	35.17	0.	4.74	10.96	100.
26-END	34.91	0.	2.97	6.93	9.90	0.81	0.60	11.31	0.	23.60	0.	6.12	23.60	100.
MAR														
1- 5	27.97	0.	2.97	6.93	9.90	0.81	0.60	11.31	0.	16.66	0.	7.20	16.66	100.
6-10	25.87	0.	0.	6.93	6.93	0.81	0.60	8.34	0.	17.53	0.	7.57	17.53	100.
11-15	22.75	0.	0.	4.20	4.20	0.81	0.60	5.61	0.	17.14	0.	7.41	17.14	100.
16-20	50.69	0.	0.	4.50	4.50	0.81	0.60	5.91	0.	44.78	0.	19.35	44.78	100.
21-25	65.60	7.51	0.	2.19	9.70	0.81	0.60	11.11	0.	54.49	0.	23.54	54.49	100.
26-END	39.28	6.26	0.	0.03	6.29	0.81	0.60	7.70	0.	32.18	0.	16.68	32.18	100.
APR														
1- 5	51.33	12.05	0.	2.31	14.36	0.81	0.60	15.77	0.	35.56	0.	15.36	35.56	100.
6-10	42.36	12.05	0.	0.	12.05	0.81	0.60	13.46	0.	28.90	0.	12.48	28.90	100.
11-15	33.29	14.77	0.	0.	14.77	0.81	0.60	16.18	0.	17.11	0.	7.39	17.11	100.
16-20	28.31	14.77	0.	0.	14.77	0.81	0.60	16.18	0.	12.13	0.	5.24	12.13	100.
21-25	35.43	0.	0.	0.	0.	0.	0.60	0.60	0.	34.83	0.	15.05	34.83	100.
26-END	45.29	1.39	4.87	0.	6.26	0.	0.60	6.86	0.	38.43	0.	16.60	38.43	100.
MAY														
1- 5	56.30	8.15	13.27	0.	21.42	0.81	0.60	22.83	0.	33.47	0.	14.46	33.47	100.
6-10	37.52	8.15	13.27	0.	21.42	0.81	0.60	22.83	0.	14.69	0.	6.35	14.69	100.
11-15	50.60	8.15	11.50	0.	19.66	0.81	0.60	21.07	0.	29.53	0.	12.76	29.53	100.
16-20	23.45	8.15	16.19	0.	24.34	0.81	0.60	25.75	0.	-2.30	-0.99	0.	0.	92.
21-25	19.04	8.15	10.18	6.08	24.41	0.81	0.60	25.82	0.	-6.78	-3.92	0.	0.	73.
26-END	26.77	0.	2.54	3.55	6.09	0.	0.60	6.69	0.	20.08	0.	6.69	12.51	100.
JUN														
1- 5	29.59	8.15	7.41	9.03	24.59	0.81	0.60	26.00	0.	3.59	0.	1.55	3.59	100.
6-10	66.74	0.	3.59	8.42	12.01	0.	0.60	12.61	0.	54.13	0.	23.38	54.13	100.
11-15	67.25	1.29	0.48	4.77	6.54	0.	0.60	7.14	0.	60.11	0.	25.97	60.11	100.
16-20	30.56	5.90	5.79	9.82	21.51	0.	0.60	22.11	0.	8.45	0.	3.65	8.65	109.
21-25	23.12	8.15	8.97	8.48	25.60	0.81	0.60	27.01	0.	-3.89	-1.68	0.	0.	91.
26-END	20.28	8.15	8.97	8.48	25.60	0.81	0.60	27.01	0.	-6.73	-4.59	0.	0.	75.
JUL														
1- 5	17.74	8.15	8.97	6.93	24.05	0.81	0.60	25.46	0.	-7.72	-7.93	0.	0.	57.
6-10	15.61	2.50	7.32	6.93	16.77	0.	0.60	17.37	0.	-1.76	-8.68	0.	0.	47.
11-15	22.67	5.08	8.77	6.93	20.78	0.52	0.60	21.90	0.	0.77	-8.35	0.	0.	49.
16-20	24.02	1.57	7.69	6.93	16.20	0.	0.60	16.80	0.	7.22	-5.23	0.	0.	63.
21-25	73.93	0.	0.	0.	0.	0.	0.60	0.60	0.	73.33	0.	26.45	61.22	100.
26-END	49.59	0.	8.32	6.17	14.49	0.81	0.60	15.90	0.	33.69	0.	17.47	33.69	100.
AUG														
1- 5	23.82	0.	7.41	5.11	12.51	0.81	0.60	13.92	0.	9.90	0.	4.28	9.90	100.
6-10	21.66	0.	5.93	6.93	12.87	0.81	0.60	14.28	0.	7.38	0.	3.19	7.38	100.
11-15	17.45	0.	4.37	5.11	9.48	0.81	0.60	10.89	0.	6.56	0.	2.83	6.56	100.
16-20	20.85	0.	2.97	6.93	9.90	0.	0.60	10.50	0.	10.35	0.	4.47	10.35	100.
21-25	26.95	0.	2.58	6.02	8.60	0.81	0.60	10.01	0.	16.94	0.	7.32	16.94	100.
26-END	28.20	0.	0.	0.	0.	0.	0.60	0.60	0.	27.60	0.	14.31	27.60	100.
SEP														
1- 5	43.99	0.	0.	4.20	4.20	0.	0.60	4.80	0.	39.19	0.	16.93	39.19	100.
6-10	55.35	0.	0.	2.19	2.19	0.81	0.60	3.60	0.	51.75	0.	22.36	51.75	100.
11-15	76.67	7.51	0.	4.62	12.13	0.81	0.60	13.54	0.	63.13	0.	27.27	63.13	100.
16-20	80.10	6.72	0.	0.18	6.91	0.	0.60	7.51	0.	72.59	0.	31.36	72.59	100.
21-25	42.58	12.05	0.	2.31	14.36	0.81	0.60	15.77	0.	26.81	0.	11.58	26.81	100.
26-END	37.18	6.83	0.	0.	6.83	0.	0.60	7.43	0.	29.75	0.	12.85	29.75	100.
OCT														
1- 5	25.41	14.77	0.	0.	14.77	0.81	0.60	16.18	0.	9.23	0.	3.99	9.23	100.
6-10	27.75	5.97	0.	0.	5.97	0.	0.60	6.57	0.	21.18	0.	9.15	21.18	100.
11-15	37.89	0.	0.	0.	0.	0.	0.60	0.60	0.	37.29	0.	16.11	37.29	100.
16-20	40.53	6.97	7.26	0.	14.24	0.	0.60	14.84	0.	25.69	0.	11.10	25.69	100.
21-25	46.28	1.29	2.51	0.	3.80	0.	0.60	4.40	0.	41.88	0.	18.09	41.88	100.
26-END	79.24	0.46	5.59	0.	6.06	0.	0.60	6.66	0.	72.58	0.	37.63	72.58	100.
NOV														
1- 5	73.36	0.	13.16	0.	13.16	0.	0.60	13.76	0.	59.60	0.	25.75	59.60	100.
6-10	79.14	8.15	11.50	0.	19.66	0.81	0.60	21.07	0.	58.07	0.	25.09	58.07	100.
11-15	80.54	0.97	5.16	5.17	11.30	0.	0.60	11.90	0.	68.64	0.	29.65	68.64	100.
16-20	168.88	0.	5.58	5.47	11.06	0.	0.60	11.66	0.	157.22	0.	67.92	157.22	100.
21-25	111.50	3.53	4.05	7.81	15.19	0.	0.60	15.79	0.	95.71	0.	41.35	95.71	100.
26-END	114.39	0.	0.	0.	0.	0.	0.60	0.60	0.	113.79	0.	49.16	113.79	100.
DEC														
1- 5	80.48	0.	5.93	12.56	18.49	0.	0.60	19.09	0.	61.39	0.	26.52	61.39	100.
6-10	59.83	8.15	8.97	12.56	29.68	0.81	0.60	31.09	0.	28.74	0.	12.42	28.74	100.
11-15	40.53	7.40	8.69	8.48	24.57	0.41	0.60	25.58	0.	14.95	0.	6.46	14.95	100.
16-20	34.72	6.76	8.45	8.48	23.69	0.07	0.60	24.36	0.	10.36	0.	4.48	10.36	100.
21-25	31.69	8.15	8.19	6.02	22.36	0.81	0.60	23.77	0.	7.92	0.	3.42	7.92	100.
26-END	26.61	8.15	8.97	6.93	24.05	0.81	0.60	25.46	0.	1.15	0.	0.60	1.15	100.

Table C-15 (3/5) WATER BALANCE IN CASE OF 30 DAYS DELAY IN CROPPING SCHEDULE FOR CASE 3 IN 1980

YEAR : 1980

PERIOD	RUNOFF	PADDY				UPLAND CROP	D & I WATER	DIVERSION REQM'T	MAINT. FLOW	BALANCE	DEFICIT	SURPLUS	DOWNSTR. FROM DAM	WATER DEPTH
		BLOCK 1	BLOCK 2	BLOCK 3	TOTAL									
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	25.45	7.40	7.91	6.02	21.33	0.41	0.60	22.34	0.	3.11	0.	1.34	3.11	100.
6-10	22.79	6.97	3.84	1.46	12.28	0.18	0.60	13.06	0.	9.73	0.	4.20	9.73	100.
11-15	18.04	8.15	7.41	5.11	20.67	0.81	0.60	22.08	0.	-4.04	-1.74	0.	0.	90.
16-20	15.61	0.	5.93	6.93	12.87	0.	0.60	13.47	0.	2.14	-0.82	0.	0.	95.
21-25	14.56	5.44	8.97	6.93	21.33	0.61	0.60	22.74	0.	-8.18	-4.35	0.	0.	73.
26-END	19.16	2.72	8.97	6.93	18.62	0.21	0.60	20.03	0.	-0.87	-4.80	0.	0.	66.
FEB														
1- 5	14.68	2.72	8.97	6.93	18.62	0.81	0.60	20.03	0.	-5.35	-7.11	0.	0.	50.
6-10	12.03	0.	8.97	6.93	15.90	0.81	0.60	17.31	0.	-5.28	-9.39	0.	0.	22.
11-15	10.19	0.	8.97	6.93	15.90	0.81	0.60	17.31	0.	-7.12	-12.67	0.	0.	-3.
16-20	9.13	0.	5.15	6.02	11.17	0.	0.60	11.77	0.	-2.64	-13.61	0.	0.	-39.
21-25	12.87	0.	5.15	6.02	11.17	0.81	0.60	12.58	0.	0.29	-13.48	0.	0.	-38.
26-END	28.10	0.	2.92	6.93	9.90	0.	0.60	10.50	0.	17.60	-7.40	0.	0.	2.
MAR														
1- 5	36.12	0.	0.23	0.55	0.78	0.	0.60	1.38	0.	34.74	0.	7.61	17.61	100.
6-10	59.28	0.	0.	2.37	2.37	0.58	0.60	3.55	0.	55.73	0.	24.07	55.73	100.
11-15	21.56	0.	0.	3.28	3.28	0.	0.60	3.88	0.	17.68	0.	7.64	17.68	100.
16-20	27.68	0.	0.	4.81	4.81	0.81	0.60	5.42	0.	22.26	0.	9.62	22.26	100.
21-25	22.73	6.90	0.	4.62	11.52	0.	0.60	12.12	0.	10.61	0.	4.58	10.61	100.
26-END	19.44	5.75	0.	0.	5.75	0.	0.60	6.35	0.	13.09	0.	6.79	13.09	100.
APR														
1- 5	21.82	2.86	0.	2.31	5.17	0.	0.60	5.77	0.	16.05	0.	6.93	16.05	100.
6-10	25.89	6.11	0.	0.	6.11	0.	0.60	6.71	0.	19.18	0.	8.28	19.18	100.
11-15	25.50	11.76	0.	0.	11.76	0.	0.60	12.36	0.	13.14	0.	5.67	13.14	100.
16-20	19.27	14.66	0.	0.	14.66	0.75	0.60	16.01	0.	3.26	0.	1.41	3.26	100.
21-25	17.73	0.	3.31	0.	3.31	0.	0.60	3.91	0.	13.82	0.	5.97	13.82	100.
26-END	44.30	9.87	8.34	0.	18.21	0.75	0.60	19.56	0.	24.74	0.	10.69	24.74	100.
MAY														
1- 5	46.47	0.	9.91	0.	9.91	0.	0.60	10.51	0.	35.96	0.	15.53	35.96	100.
6-10	71.85	0.	1.95	0.	1.95	0.	0.60	2.55	0.	69.30	0.	29.94	69.30	100.
11-15	65.50	0.	12.38	0.	12.38	0.	0.60	12.98	0.	55.52	0.	23.99	55.52	100.
16-20	57.41	0.	10.03	0.	10.03	0.	0.60	10.63	0.	46.78	0.	20.21	46.78	100.
21-25	33.02	8.15	7.83	5.17	21.16	0.81	0.60	22.57	0.	10.45	0.	4.52	10.45	100.
26-END	37.61	7.53	9.25	5.07	21.84	0.41	0.60	22.85	0.	14.76	0.	7.65	14.76	100.
JUN														
1- 5	32.77	0.	5.15	9.64	14.79	0.	0.60	15.39	0.	17.38	0.	7.51	17.38	100.
6-10	36.61	7.94	7.33	9.03	24.29	0.70	0.60	25.59	0.	11.02	0.	4.76	11.02	100.
11-15	25.20	6.87	8.49	12.56	27.91	0.13	0.60	28.64	0.	-3.44	-1.48	0.	0.	92.
16-20	36.07	6.54	6.81	10.73	24.08	0.	0.60	24.68	0.	13.39	0.	4.30	9.95	100.
21-25	24.53	6.11	8.21	8.48	22.81	0.	0.60	23.41	0.	1.12	0.	0.49	1.12	100.
26-END	23.90	8.09	8.94	8.48	25.51	0.78	0.60	26.89	0.	-2.99	-1.29	0.	0.	93.
JUL														
1- 5	17.20	8.15	8.97	6.93	24.05	0.81	0.60	25.46	0.	-8.26	-4.86	0.	0.	73.
6-10	14.59	4.51	8.45	6.93	19.89	0.07	0.60	20.55	0.	-5.96	-7.44	0.	0.	54.
11-15	13.64	5.44	8.19	6.02	19.64	0.61	0.60	21.85	0.	-7.61	-10.72	0.	0.	34.
16-20	29.52	1.14	1.28	0.	2.42	0.	0.60	3.02	0.	26.50	0.	0.72	1.67	100.
21-25	22.95	0.	0.	0.	0.	0.	0.60	0.60	0.	22.35	0.	9.66	22.35	100.
26-END	37.34	0.	4.50	3.89	8.39	0.	0.60	8.99	0.	28.35	0.	14.69	28.35	100.
AUG														
1- 5	38.52	0.	8.21	6.93	15.14	0.	0.60	15.74	0.	22.58	0.	9.75	22.58	100.
6-10	26.12	0.	5.93	6.93	12.87	0.	0.60	13.47	0.	12.65	0.	5.47	12.65	100.
11-15	25.35	0.	4.37	5.11	9.48	0.81	0.60	10.89	0.	14.46	0.	6.25	14.46	100.
16-20	21.11	0.	0.62	1.46	2.08	0.	0.60	2.68	0.	18.43	0.	7.96	18.43	100.
21-25	84.01	0.	1.20	4.20	5.99	0.81	0.60	7.40	0.	76.61	0.	33.10	76.61	100.
26-END	43.59	0.	0.	6.93	6.93	0.	0.60	7.53	0.	36.06	0.	18.69	36.06	100.
SEP														
1- 5	30.07	0.	0.	4.20	4.20	0.	0.60	4.80	0.	25.27	0.	10.92	25.27	100.
6-10	40.36	0.	0.	4.62	4.62	0.	0.60	5.22	0.	35.14	0.	15.18	35.14	100.
11-15	26.64	7.51	0.	4.62	12.13	0.81	0.60	13.54	0.	13.10	0.	5.66	13.10	100.
16-20	43.59	7.51	0.	2.01	9.52	0.81	0.60	10.93	0.	30.66	0.	13.25	30.66	100.
21-25	75.58	6.76	0.	0.	6.76	0.	0.60	7.36	0.	68.22	0.	29.47	68.22	100.
26-END	50.95	10.62	0.	0.	10.62	0.	0.60	11.22	0.	39.73	0.	17.16	39.73	100.
OCT														
1- 5	47.21	2.93	0.	0.	2.93	0.	0.60	3.53	0.	43.68	0.	18.87	43.68	100.
6-10	73.88	3.68	0.	0.	3.68	0.	0.60	4.28	0.	69.60	0.	30.07	69.60	100.
11-15	77.04	6.44	7.06	0.	13.50	0.	0.60	14.10	0.	62.94	0.	27.19	62.94	100.
16-20	254.74	9.98	8.38	0.	18.36	0.81	0.60	19.77	0.	234.97	0.	101.51	234.97	100.
21-25	64.61	3.75	11.63	0.	15.39	0.	0.60	15.99	0.	48.82	0.	21.09	48.82	100.
26-END	40.27	0.	5.83	0.	5.83	0.	0.60	6.43	0.	33.84	0.	17.54	33.84	100.
NOV														
1- 5	35.41	0.	8.47	0.	8.47	0.	0.60	9.07	0.	26.34	0.	11.38	26.34	100.
6-10	33.36	8.15	14.63	0.	22.78	0.81	0.60	24.19	0.	9.17	0.	3.96	9.17	100.
11-15	36.21	6.97	8.96	5.78	21.71	0.18	0.60	22.49	0.	13.72	0.	5.93	13.72	100.
16-20	49.29	8.15	10.18	6.08	24.41	0.81	0.60	25.82	0.	23.47	0.	10.14	23.47	100.
21-25	70.87	0.	0.	2.95	2.95	0.	0.60	3.55	0.	67.32	0.	29.08	67.32	100.
26-END	80.97	6.87	4.58	7.21	18.66	0.13	0.60	19.38	0.	61.59	0.	26.61	61.59	100.
DEC														
1- 5	88.39	0.	0.	4.77	4.77	0.	0.60	5.37	0.	83.02	0.	35.86	83.02	100.
6-10	158.53	2.79	1.04	4.37	7.99	0.	0.60	8.59	0.	149.96	0.	64.78	149.96	100.
11-15	148.08	8.15	8.97	5.48	25.60	0.81	0.60	27.01	0.	121.07	0.	52.30	121.07	100.
16-20	71.17	7.08	2.63	0.	9.71	0.24	0.60	10.55	0.	60.62	0.	26.19	60.62	100.
21-25	53.13	0.	5.93	6.93	12.87	0.	0.60	13.47	0.	39.66	0.	17.13	39.66	100.
26-END	45.21	7.88	2.93	0.	10.82	0.44	0.60	12.06	0.	33.15	0.	17.19	33.15	100.

Table C-15 (4/5) WATER BALANCE IN CASE OF 30 DAYS DELAY IN CROPPING SCHEDULE FOR CASE 3 IN 1981

YEAR : 1981

PERIOD	RUNOFF	PADDY				UPLAND	D & I	DIVERSION	MAINT.	BALANCE	DEFICIT	SURPLUS	DOWNSTR.	WATER
		BLOCK 1	BLOCK 2	BLOCK 3	TOTAL	CROP	WATER	REQMT	FLOW				FROM BRH	DEPTH
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	54.19	1.29	5.63	6.02	12.94	0.	0.60	13.54	0.	40.65	0.	17.56	40.65	100.
6-10	52.32	0.	5.93	6.93	12.87	0.	0.60	13.47	0.	38.85	0.	16.78	38.85	100.
11-15	37.97	8.15	8.97	6.93	24.05	0.81	0.60	25.46	0.	12.51	0.	5.40	12.51	100.
16-20	34.74	4.79	8.61	6.93	20.33	0.30	0.60	21.23	0.	13.51	0.	5.84	13.51	100.
21-25	32.50	5.44	8.19	6.02	19.64	0.81	0.60	21.05	0.	11.45	0.	4.95	11.45	100.
26-END	27.20	2.72	8.97	6.93	18.62	0.81	0.60	20.03	0.	7.17	0.	3.72	7.17	100.
FEB														
1- 5	39.70	0.54	5.75	6.02	12.31	0.	0.60	12.91	0.	26.79	0.	11.57	26.79	100.
6-10	32.25	0.	8.57	6.93	15.50	0.24	0.60	16.34	0.	15.91	0.	6.87	15.91	100.
11-15	31.98	0.	5.93	6.93	12.87	0.	0.60	13.47	0.	18.51	0.	8.00	18.51	100.
16-20	51.76	0.	5.93	6.93	12.87	0.81	0.60	14.28	0.	37.48	0.	16.19	37.48	100.
21-25	30.51	0.	2.81	3.28	6.09	0.	0.60	6.69	0.	23.82	0.	10.29	23.82	100.
26-END	51.19	0.	2.97	6.93	9.90	0.	0.60	10.50	0.	40.69	0.	10.55	40.69	100.
MAR														
1- 5	35.01	0.	0.	0.	0.	0.	0.60	0.60	0.	34.41	0.	14.87	34.41	100.
6-10	23.44	0.	0.	6.02	6.02	0.81	0.60	7.43	0.	16.01	0.	6.92	16.01	100.
11-15	24.16	0.	0.	2.37	2.37	0.81	0.60	3.78	0.	20.38	0.	8.80	20.38	100.
16-20	17.98	0.	0.	4.62	4.62	0.	0.60	5.22	0.	12.76	0.	5.51	12.76	100.
21-25	21.46	7.51	0.	0.97	8.48	0.81	0.60	9.89	0.	11.57	0.	5.00	11.57	100.
26-END	19.49	4.08	0.	0.03	4.11	0.	0.60	4.71	0.	14.78	0.	7.66	14.78	100.
APR														
1- 5	42.94	11.98	0.	1.09	13.07	0.75	0.60	14.43	0.	28.51	0.	12.32	28.51	100.
6-10	70.25	8.76	0.	0.	8.76	0.	0.60	9.36	0.	60.93	0.	26.32	60.93	100.
11-15	60.29	11.76	0.	0.	11.76	0.	0.60	12.36	0.	47.93	0.	20.70	47.93	100.
16-20	78.20	0.	0.	0.	0.	0.	0.60	0.60	0.	77.60	0.	33.52	77.60	100.
21-25	74.65	9.93	8.38	0.	18.36	0.81	0.60	19.77	0.	55.08	0.	23.80	55.08	100.
26-END	41.88	9.98	8.38	0.	18.36	0.81	0.60	19.77	0.	22.11	0.	9.55	22.11	100.
MAY														
1- 5	61.81	0.	6.25	0.	6.25	0.	0.60	6.85	0.	54.96	0.	23.74	54.96	100.
6-10	80.43	0.	10.11	0.	10.11	0.	0.60	10.71	0.	69.72	0.	30.12	69.72	100.
11-15	90.35	8.15	14.67	0.	22.78	0.81	0.60	24.19	0.	66.16	0.	28.58	66.16	100.
16-20	100.19	6.33	13.95	0.	20.28	0.	0.60	20.88	0.	79.31	0.	34.26	79.31	100.
21-25	99.62	8.15	9.40	5.78	23.33	0.81	0.60	24.74	0.	74.88	0.	32.35	74.88	100.
26-END	84.44	0.	0.	1.01	1.01	0.	0.60	1.61	0.	82.83	0.	42.94	82.83	100.
JUN														
1- 5	66.32	8.15	8.97	10.25	27.37	0.81	0.60	28.78	0.	37.54	0.	16.22	37.54	100.
6-10	40.96	7.62	8.77	10.25	26.63	0.52	0.60	27.75	0.	13.21	0.	5.70	13.21	100.
11-15	34.21	8.15	8.97	12.56	29.68	0.81	0.60	31.09	0.	3.12	0.	1.35	3.12	100.
16-20	27.04	8.15	8.97	12.56	29.68	0.81	0.60	31.09	0.	-4.05	-1.75	0.	0.	98.
21-25	24.95	8.15	8.19	7.57	23.91	0.81	0.60	25.32	0.	-0.37	-1.91	0.	0.	90.
26-END	37.26	8.15	8.97	8.48	25.60	0.81	0.60	27.01	0.	10.25	0.	2.52	5.83	100.
JUL														
1- 5	23.90	9.15	8.97	6.93	24.05	0.81	0.60	25.46	0.	-1.56	-0.67	0.	0.	96.
6-10	19.46	4.93	8.69	6.93	20.55	0.41	0.60	21.56	0.	-2.10	-1.58	0.	0.	90.
11-15	24.19	2.50	7.37	6.93	16.77	0.	0.60	17.37	0.	6.82	0.	1.36	3.16	100.
16-20	19.88	2.72	8.97	6.93	18.62	0.81	0.60	20.03	0.	-0.15	-0.06	0.	0.	100.
21-25	19.76	0.	4.37	5.11	9.48	0.	0.60	10.08	0.	9.68	0.	4.12	9.53	100.
26-END	22.47	0.	3.76	0.85	4.61	0.81	0.60	6.02	0.	16.45	0.	8.53	16.45	100.
AUG														
1- 5	16.61	0.	8.97	6.93	15.90	0.81	0.60	17.31	0.	-0.70	-0.30	0.	0.	98.
6-10	13.11	0.	5.93	6.93	12.87	0.81	0.60	14.28	0.	-1.17	-0.81	0.	0.	92.
11-15	11.65	0.	5.93	6.93	12.87	0.81	0.60	14.28	0.	-2.60	-1.93	0.	0.	80.
16-20	10.74	0.	0.	0.	0.	0.30	0.60	0.90	0.	9.84	0.	2.33	5.38	100.
21-25	15.60	0.	2.97	6.93	9.90	0.	0.60	10.50	0.	5.10	0.	2.20	5.10	100.
26-END	26.09	0.	0.	0.09	0.09	0.	0.60	0.69	0.	25.40	0.	13.17	25.40	100.
SEP														
1- 5	24.25	0.	0.	6.02	6.02	0.	0.60	6.62	0.	17.63	0.	7.62	17.63	100.
6-10	89.18	0.	0.	0.	0.	0.	0.60	0.60	0.	88.58	0.	38.27	88.58	100.
11-15	69.06	7.44	0.	4.26	11.69	0.70	0.60	12.99	0.	56.07	0.	24.22	56.07	100.
16-20	54.22	6.22	0.	1.70	7.92	0.	0.60	8.52	0.	46.30	0.	20.00	46.30	100.
21-25	40.02	12.05	0.	0.	12.05	0.81	0.60	13.46	0.	26.56	0.	11.47	26.56	100.
26-END	27.58	11.69	0.	0.	11.69	0.52	0.60	12.82	0.	14.76	0.	6.38	14.76	100.
OCT														
1- 5	22.53	14.77	0.	0.	14.77	0.81	0.60	16.18	0.	6.35	0.	2.74	6.35	100.
6-10	28.73	14.77	0.	0.	14.77	0.81	0.60	16.18	0.	12.55	0.	5.42	12.55	100.
11-15	46.47	0.	0.	0.	0.	0.	0.60	0.60	0.	45.87	0.	19.82	45.87	100.
16-20	77.12	0.50	3.87	0.	4.37	0.	0.60	4.97	0.	72.15	0.	31.17	72.15	100.
21-25	38.71	8.15	13.27	0.	21.42	0.81	0.60	22.83	0.	15.88	0.	6.86	15.88	100.
26-END	41.64	6.99	9.32	0.	16.31	0.07	0.60	16.98	0.	24.06	0.	12.47	24.06	100.
NOV														
1- 5	30.96	6.44	3.96	0.	10.39	0.	0.60	10.99	0.	19.97	0.	8.63	19.97	100.
6-10	32.74	1.39	10.55	0.	11.95	0.	0.60	12.55	0.	20.19	0.	8.72	20.19	100.
11-15	64.02	8.15	10.02	6.02	24.19	0.81	0.60	25.60	0.	38.42	0.	16.60	38.42	100.
16-20	65.31	0.	5.82	5.56	11.38	0.	0.60	11.98	0.	53.33	0.	23.04	53.33	100.
21-25	108.05	5.47	4.85	7.81	18.13	0.	0.60	18.73	0.	89.32	0.	38.59	89.32	100.
26-END	72.27	0.	1.09	6.48	7.57	0.	0.60	8.17	0.	64.10	0.	27.69	64.10	100.
DEC														
1- 5	52.07	5.90	8.13	12.56	26.59	0.	0.60	27.19	0.	24.84	0.	10.73	24.84	100.
6-10	83.51	8.15	8.45	12.19	29.00	0.81	0.60	30.41	0.	53.10	0.	22.94	53.10	100.
11-15	55.51	0.	0.	1.25	1.25	0.	0.60	1.85	0.	53.66	0.	23.18	53.66	100.
16-20	37.17	8.15	8.97	5.48	25.60	0.81	0.60	27.01	0.	10.12	0.	4.37	10.12	100.
21-25	29.66	8.15	8.97	6.93	24.05	0.81	0.60	25.46	0.	4.20	0.	1.81	4.20	100.
26-END	26.59	0.	3.37	3.89	7.27	0.	0.60	7.87	0.	18.98	0.	9.84	18.98	100.

Table C-15 (5/5) WATER BALANCE IN CASE OF 30 DAYS DELAY IN CROPPING SCHEDULE FOR CASE 3 IN 1983

YEAR : 1983

PERIOD	RUNOFF	PADDY				UPLAND CROP	O & I WATER	DIVERSION REQMT	MAINT. FLOW	BALANCE	DEFICIT	SURPLUS	DOWNSTR. FROM BRH	WATER DEPTH
		BLOCK 1	BLOCK 2	BLOCK 3	TOTAL									
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	39.23	0.	0.	0.	0.	0.	0.60	0.60	0.	38.63	0.	16.69	38.63	100.
6-10	35.44	6.11	7.27	5.84	19.22	0.	0.60	19.82	0.	15.62	0.	6.75	15.62	100.
11-15	27.60	7.40	8.53	6.75	22.68	0.41	0.60	23.69	0.	3.91	0.	1.69	3.91	100.
16-20	24.84	5.44	8.97	6.93	21.33	0.81	0.60	22.74	0.	2.10	0.	0.91	2.10	100.
21-25	22.11	5.44	8.97	6.93	21.33	0.81	0.60	22.74	0.	-0.63	-0.27	0.	0.	98.
26-END	19.29	2.72	8.97	6.93	18.62	0.81	0.60	20.03	0.	-0.74	-0.66	0.	0.	95.
FEB														
1- 5	18.90	2.72	8.97	6.93	18.62	0.81	0.60	20.03	0.	-1.13	-1.14	0.	0.	92.
6-10	16.49	0.	5.22	2.55	7.77	0.81	0.60	9.18	0.	7.31	0.	2.01	4.66	100.
11-15	16.69	0.	8.97	6.93	15.90	0.81	0.60	17.31	0.	-0.62	-0.27	0.	0.	98.
16-20	22.30	0.	5.91	6.93	12.67	0.47	0.60	13.93	0.	8.37	0.	3.35	7.75	100.
21-25	17.47	0.	5.93	6.93	12.87	0.07	0.60	13.53	0.	3.94	0.	1.70	3.94	100.
26-END	15.71	0.	2.97	6.93	9.90	0.81	0.60	11.31	0.	4.40	0.	1.14	4.40	100.
MAR														
1- 5	20.98	0.	2.97	6.93	9.90	0.81	0.60	11.31	0.	9.67	0.	4.18	9.67	100.
6-10	14.94	0.	0.	5.84	5.84	0.81	0.60	7.25	0.	7.69	0.	3.32	7.69	100.
11-15	19.25	0.	0.	6.57	6.57	0.81	0.60	7.98	0.	11.27	0.	4.87	11.27	100.
16-20	19.61	0.	0.	2.31	2.31	0.	0.60	2.91	0.	16.70	0.	7.21	16.70	100.
21-25	18.55	7.51	0.	4.62	12.13	0.81	0.60	13.54	0.	5.01	0.	2.16	5.01	100.
26-END	25.39	4.26	0.	2.31	8.57	0.81	0.60	9.98	0.	15.41	0.	7.99	15.41	100.
APR														
1- 5	15.76	12.05	0.	2.31	14.36	0.81	0.60	15.77	0.	-0.01	-0.00	0.	0.	100.
6-10	13.49	12.05	0.	0.	12.05	0.81	0.60	13.46	0.	0.03	0.	0.01	0.02	100.
11-15	12.11	14.77	0.	0.	14.77	0.81	0.60	16.18	0.	-4.07	-1.76	0.	0.	72.
16-20	10.66	14.77	0.	0.	14.77	0.81	0.60	16.18	0.	-5.52	-4.14	0.	0.	33.
21-25	12.83	0.82	4.23	0.	5.05	0.	0.60	5.65	0.	7.18	-1.04	0.	0.	88.
26-END	19.24	1.32	4.79	0.	6.11	0.	0.60	6.71	0.	12.53	0.	4.37	10.12	100.
MAY														
1- 5	33.25	3.22	7.14	0.	10.35	0.	0.60	10.95	0.	22.30	0.	9.63	22.30	100.
6-10	24.90	6.33	12.28	0.	18.61	0.	0.60	19.21	0.	5.69	0.	2.46	5.69	100.
11-15	30.39	7.62	15.99	0.	23.61	0.52	0.60	24.73	0.	5.66	0.	2.44	5.66	100.
16-20	26.73	3.33	14.39	0.	17.72	0.	0.60	18.32	0.	8.41	0.	3.63	8.41	100.
21-25	29.22	7.40	7.17	5.02	19.58	0.41	0.60	20.59	0.	8.63	0.	3.73	8.63	100.
26-END	21.44	0.	6.52	5.02	11.53	0.	0.60	11.93	0.	9.51	0.	4.93	9.51	100.
JUN														
1- 5	24.00	8.15	8.97	10.25	27.37	0.81	0.60	28.78	0.	-4.78	-2.06	0.	0.	88.
6-10	16.35	7.19	8.14	9.88	25.21	0.30	0.60	26.10	0.	-11.75	-7.14	0.	0.	57.
11-15	26.44	7.79	4.52	9.46	16.56	0.	0.60	17.16	0.	9.28	-3.13	0.	0.	83.
16-20	34.06	5.47	3.75	7.63	16.66	0.	0.60	17.46	0.	16.60	0.	6.86	9.35	100.
21-25	19.74	8.15	8.97	8.68	25.60	0.81	0.60	27.01	0.	-7.27	-3.14	0.	0.	83.
26-END	15.07	8.15	8.97	8.68	25.60	0.81	0.60	27.01	0.	-11.94	-8.30	0.	0.	55.
JUL														
1- 5	15.28	3.33	7.17	6.93	17.43	0.	0.60	18.03	0.	-2.75	-9.49	0.	0.	48.
6-10	17.42	3.22	6.17	5.11	14.49	0.	0.60	15.09	0.	2.33	-8.68	0.	0.	68.
11-15	19.12	5.44	5.84	3.28	14.56	0.81	0.60	15.97	0.	3.15	-7.12	0.	0.	56.
16-20	16.92	0.	0.	0.	0.	0.	0.60	0.60	0.	16.32	-0.07	0.	0.	99.
21-25	53.45	2.72	8.97	6.93	18.62	0.81	0.60	20.03	0.	33.42	0.	14.37	33.25	100.
26-END	28.84	0.	7.01	4.65	11.67	0.81	0.60	13.08	0.	15.76	0.	8.17	15.76	100.
AUG														
1- 5	62.57	0.	8.29	6.93	15.22	0.	0.60	15.82	0.	46.75	0.	20.20	46.75	100.
6-10	47.59	0.	4.37	5.11	9.48	0.81	0.60	10.89	0.	36.70	0.	15.85	36.70	100.
11-15	31.66	0.	0.47	0.55	1.02	0.	0.60	1.62	0.	30.04	0.	12.98	30.04	100.
16-20	31.37	0.	2.97	6.93	9.90	0.75	0.60	11.25	0.	20.12	0.	8.69	20.12	100.
21-25	21.72	0.	2.58	6.02	8.60	0.	0.60	9.20	0.	12.52	0.	5.41	12.52	100.
26-END	27.06	0.	0.	6.93	6.93	0.	0.60	7.53	0.	19.47	0.	10.09	19.47	100.
SEP														
1- 5	45.75	0.	0.	0.55	0.55	0.	0.60	1.15	0.	44.60	0.	19.27	44.60	100.
6-10	64.40	0.	0.	3.41	3.41	0.	0.60	4.01	0.	60.39	0.	26.09	60.39	100.
11-15	82.61	5.36	0.	4.01	9.38	0.	0.60	9.98	0.	72.63	0.	31.38	72.63	100.
16-20	126.51	1.07	0.	1.70	2.78	0.	0.60	3.38	0.	123.13	0.	53.19	123.13	100.
21-25	73.63	12.05	0.	2.31	14.36	0.81	0.60	15.77	0.	57.86	0.	25.00	57.86	100.
26-END	45.13	5.19	0.	0.	5.19	0.	0.60	5.79	0.	39.34	0.	17.00	39.34	100.
OCT														
1- 5	35.42	12.50	0.	0.	12.50	0.	0.60	12.90	0.	22.52	0.	9.73	22.52	100.
6-10	32.67	10.91	0.	0.	10.91	0.	0.60	11.51	0.	21.16	0.	9.14	21.16	100.
11-15	30.39	7.08	7.30	0.	14.38	0.	0.60	14.98	0.	15.41	0.	6.66	15.41	100.
16-20	33.91	8.80	7.94	0.	16.74	0.18	0.60	17.52	0.	16.39	0.	7.08	16.39	100.
21-25	38.33	3.33	10.69	0.	14.02	0.	0.60	14.62	0.	23.71	0.	10.24	23.71	100.
26-END	42.15	0.	3.25	0.	3.65	0.	0.60	3.85	0.	38.30	0.	19.85	38.30	100.
NOV														
1- 5	40.41	3.75	10.65	0.	14.40	0.	0.60	15.00	0.	25.41	0.	10.98	25.41	100.
6-10	56.82	8.15	16.10	0.	24.34	0.81	0.60	25.75	0.	30.27	0.	13.08	30.27	100.
11-15	48.93	8.15	10.96	6.38	25.50	0.81	0.60	26.91	0.	22.02	0.	9.51	22.02	100.
16-20	45.67	8.15	10.96	6.38	25.50	0.81	0.60	26.91	0.	18.76	0.	8.11	18.76	100.
21-25	39.64	7.83	6.50	8.42	22.76	0.64	0.60	24.00	0.	11.64	0.	5.03	11.64	100.
26-END	34.57	3.86	1.91	5.99	11.76	0.	0.60	12.36	0.	22.21	0.	9.60	22.21	100.
DEC														
1- 5	31.84	9.35	8.97	12.56	29.88	0.81	0.60	31.09	0.	0.75	0.	0.33	0.75	100.
6-10	28.40	5.54	4.91	9.82	18.27	0.	0.60	18.87	0.	9.53	0.	4.12	9.53	100.
11-15	40.40	0.	3.59	5.75	9.34	0.	0.60	9.94	0.	30.46	0.	13.16	30.46	100.
16-20	31.47	1.29	2.51	3.92	7.72	0.	0.60	8.32	0.	23.15	0.	10.00	23.15	100.
21-25	27.54	0.	1.25	1.46	2.71	0.	0.60	3.31	0.	24.23	0.	10.47	24.23	100.
26-END	25.90	7.80	8.87	6.93	23.56	0.58	0.60	24.74	0.	1.16	0.	0.60	1.16	100.

Table C-16 (1/5) WATER BALANCE UNDER 64% OVERALL EFFICIENCY FOR CASE 2 IN 1978

YEAR : 1978

PERIOD	RUNOFF	PADDY				UPLAND CROP	D & I WATER	DIVERS'N REQM'T	MAINT. FLOW	BALANCE	DEFICIT	SURPLUS	DOWNSTR. FROM BRN	WATER DEPTH
		BLOCK 1	BLOCK 2	BLOCK 3	TOTAL									
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	17.66	2.85	9.39	7.26	19.49	0.85	0.47	20.81	1.50	-4.63	-2.00	0.	1.50	86.
6-10	18.58	0.	2.77	3.15	5.67	0.	0.47	6.34	1.50	10.74	0.	2.64	7.62	100.
11-15	16.77	0.	0.37	0.	0.37	0.	0.47	0.84	1.50	16.43	0.	7.10	17.93	100.
16-20	26.80	0.	5.43	6.30	11.74	0.	0.47	12.21	1.50	11.09	0.	4.79	12.59	100.
21-25	18.05	0.	4.69	5.44	10.14	0.	0.47	10.61	1.50	5.94	0.	2.57	7.44	100.
26-END	14.22	0.	3.13	7.26	10.39	0.85	0.47	11.70	1.50	1.02	0.	0.53	2.52	100.
FEB														
1- 5	11.82	0.	3.13	7.26	10.39	0.85	0.47	11.70	1.50	-1.38	-0.60	0.	1.50	92.
6-10	13.66	0.	0.	7.26	7.26	0.85	0.47	8.57	1.50	3.59	0.	0.95	3.70	100.
11-15	13.84	0.	0.	6.40	6.40	0.	0.47	6.87	1.50	5.47	0.	2.36	6.97	100.
16-20	16.55	0.	0.	1.85	1.85	0.85	0.47	3.16	1.50	11.89	0.	5.13	13.39	100.
21-25	10.92	7.66	0.	4.07	11.94	0.85	0.47	13.25	1.50	-3.83	-1.66	0.	1.50	70.
26-END	11.18	3.87	0.	0.	3.87	0.	0.47	4.34	1.50	5.34	-0.27	0.	1.50	93.
MAR														
1- 5	10.46	5.88	0.	1.24	7.12	0.	0.47	7.59	1.50	1.37	0.	0.32	2.24	100.
6-10	11.40	12.62	0.	0.	12.62	0.85	0.47	13.93	1.50	-4.03	-1.74	0.	1.50	58.
11-15	13.83	12.54	0.	0.	12.54	0.	0.47	13.01	1.50	-0.68	-2.04	0.	1.50	67.
16-20	13.61	15.46	0.	0.	15.46	0.85	0.47	16.78	1.50	-4.67	-4.05	0.	1.50	35.
21-25	16.36	3.71	6.18	0.	9.88	0.	0.47	10.35	1.50	4.51	-2.11	0.	1.50	75.
26-END	15.86	4.13	5.18	0.	9.31	0.	0.47	9.78	1.50	4.58	0.	0.27	2.02	100.
APR														
1- 5	19.77	8.54	12.85	0.	21.38	0.85	0.47	22.70	1.50	-4.43	-1.91	0.	1.50	82.
6-10	19.41	8.54	10.99	0.	19.53	0.85	0.47	20.85	1.50	-2.94	-3.18	0.	1.50	70.
11-15	21.22	7.64	16.67	0.	24.31	0.37	0.47	25.15	1.50	-4.93	-5.31	0.	1.50	59.
16-20	30.82	8.54	16.92	0.	25.46	0.85	0.47	26.77	1.50	2.55	-4.21	0.	1.50	68.
21-25	70.28	8.54	10.58	6.23	25.45	0.85	0.47	26.77	1.50	42.01	0.	13.94	33.76	100.
26-END	41.50	8.54	3.13	2.64	14.31	0.85	0.47	15.62	1.50	24.38	0.	10.53	25.88	100.
MAY														
1- 5	45.55	8.54	9.14	10.54	28.21	0.85	0.47	29.53	1.50	14.52	0.	6.27	16.02	100.
6-10	57.43	0.	0.	5.76	5.76	0.	0.47	6.23	1.50	49.70	0.	21.47	51.20	100.
11-15	68.81	8.42	9.35	13.15	30.91	0.79	0.47	32.17	1.50	35.14	0.	15.18	36.64	100.
16-20	45.47	8.54	9.39	13.15	31.07	0.85	0.47	32.39	1.50	11.58	0.	5.00	13.08	100.
21-25	37.32	8.54	9.39	8.88	26.80	0.85	0.47	28.12	1.50	7.70	0.	3.33	9.20	100.
26-END	22.14	8.54	9.39	8.21	26.13	0.85	0.47	27.45	1.50	-6.81	-3.53	0.	1.50	81.
JUN														
1- 5	21.37	5.39	8.23	7.26	20.88	0.	0.47	21.35	1.50	-1.48	-4.17	0.	1.50	77.
6-10	19.66	2.62	6.13	5.44	14.20	0.	0.47	14.67	1.50	3.49	-2.66	0.	1.50	84.
11-15	16.94	5.69	9.39	7.26	22.33	0.85	0.47	23.65	1.50	-8.21	-6.21	0.	1.50	62.
16-20	13.30	0.	6.61	6.97	12.98	0.	0.47	13.45	1.50	-1.65	-6.92	0.	1.50	51.
21-25	12.70	2.85	9.39	7.26	19.49	0.85	0.47	20.81	1.50	-9.61	-11.07	0.	1.50	22.
26-END	11.81	0.	4.53	5.25	9.78	0.	0.47	10.25	1.50	0.06	-11.05	0.	1.50	9.
JUL														
1- 5	10.75	0.	9.39	7.26	16.64	0.85	0.47	17.96	1.50	-8.71	-14.81	0.	1.50	-22.
6-10	16.04	0.	6.26	7.26	13.51	0.	0.47	13.98	1.50	0.56	-14.57	0.	1.50	-48.
11-15	13.28	0.	4.20	4.87	9.07	0.85	0.47	10.39	1.50	1.39	-13.97	0.	1.50	-42.
16-20	12.25	0.	2.84	6.59	9.43	0.85	0.47	10.75	1.50	0.00	-13.96	0.	1.50	-85.
21-25	16.29	0.	3.13	7.26	10.39	0.85	0.47	11.70	1.50	3.09	-12.63	0.	1.50	-67.
26-END	12.04	0.	0.	7.26	7.26	0.	0.47	7.73	1.50	2.81	-11.17	0.	1.50	-112.
AUG														
1- 5	9.43	0.	0.	7.26	7.26	0.43	0.47	8.16	1.50	-0.23	-11.27	0.	1.50	-113.
6-10	8.59	0.	0.	4.84	4.84	0.61	0.47	5.92	1.50	1.17	-10.76	0.	1.50	-206.
11-15	14.12	5.39	0.	0.	5.39	0.	0.47	5.86	1.50	6.76	-7.84	0.	1.50	-40.
16-20	10.74	7.86	0.	0.	7.86	0.85	0.47	9.18	1.50	0.06	-7.82	0.	1.50	-104.
21-25	9.18	12.62	0.	2.42	15.03	0.85	0.47	16.35	1.50	-8.67	-11.56	0.	1.50	-96.
26-END	8.72	7.77	0.	0.	7.77	0.	0.47	8.24	1.50	-1.02	-12.09	0.	1.50	-192.
SEP														
1- 5	10.27	14.34	0.	0.	14.34	0.25	0.47	15.06	1.50	-6.29	-14.81	0.	1.50	-138.
6-10	11.69	11.98	0.	0.	11.98	0.	0.47	12.45	1.50	-2.26	-15.78	0.	1.50	-154.
11-15	11.42	5.95	7.08	0.	13.95	0.	0.47	13.42	1.50	-3.50	-17.30	0.	1.50	-104.
16-20	8.44	0.	0.	0.	0.	0.	0.47	0.47	1.50	6.47	-14.50	0.	1.50	-71.
21-25	23.20	0.	6.79	0.	6.79	0.	0.47	7.26	1.50	14.44	-8.27	0.	1.50	23.
26-END	13.24	8.54	13.88	0.	22.41	0.85	0.47	23.73	1.50	-11.99	-13.45	0.	1.50	-25.
OCT														
1- 5	12.15	8.54	17.00	0.	25.54	0.85	0.47	26.86	1.50	-16.21	-20.45	0.	1.50	-57.
6-10	9.79	2.58	8.23	0.	10.82	0.	0.47	11.29	1.50	-3.00	-21.74	0.	1.50	-67.
11-15	13.05	8.54	11.49	6.68	26.71	0.85	0.47	28.02	1.50	-16.47	-28.86	0.	1.50	-95.
16-20	15.77	0.	8.36	6.68	15.04	0.	0.47	15.51	1.50	-1.24	-29.39	0.	1.50	-99.
21-25	28.97	0.	2.96	8.18	11.14	0.	0.47	11.61	1.50	15.86	-22.54	0.	1.50	-36.
26-END	58.70	3.78	2.42	4.91	11.09	0.	0.47	11.56	1.50	45.64	0.	1.12	3.65	100.
NOV														
1- 5	62.77	0.	0.25	6.17	6.42	0.	0.47	6.89	1.50	54.38	0.	23.49	55.88	100.
6-10	53.95	0.	0.	1.97	1.97	0.	0.47	2.44	1.50	50.01	0.	21.60	51.51	100.
11-15	67.91	0.	0.	0.	0.	0.	0.47	0.47	1.50	65.94	0.	28.49	67.46	100.
16-20	82.64	7.19	8.89	8.88	24.96	0.13	0.47	25.56	1.50	55.58	0.	24.01	57.08	100.
21-25	77.43	8.54	9.39	7.26	25.18	0.85	0.47	26.50	1.50	49.43	0.	21.36	50.93	100.
26-END	43.46	8.54	9.39	7.26	25.18	0.85	0.47	26.50	1.50	15.46	0.	6.68	16.96	100.
DEC														
1- 5	32.09	0.	1.46	1.72	3.20	0.	0.47	3.67	1.50	26.92	0.	11.63	28.42	100.
6-10	46.05	0.	0.	0.	0.	0.	0.47	0.47	1.50	44.08	0.	19.91	47.58	100.
11-15	33.45	8.54	3.62	0.57	12.73	0.85	0.47	14.05	1.50	17.90	0.	7.73	19.40	100.
16-20	23.21	4.42	7.04	5.35	16.81	0.	0.47	17.28	1.50	4.43	0.	1.92	5.93	100.
21-25	21.78	0.	5.43	6.30	11.74	0.	0.47	12.21	1.50	8.07	0.	3.49	9.57	100.
26-END	17.37	2.85	9.39	7.26	19.49	0.85	0.47	20.81	1.50	-4.94	-2.56	0.	1.50	82.

Table C-16 (2/5) WATER BALANCE UNDER 64% OVERALL EFFICIENCY FOR CASE 2 IN 1979

YEAR : 1979

PERIOD	RUNOFF	PADDY				UPLAND CROP	D & I WATER	DIVERS'N REQM'T	MAINT. FLOW	BALANCE	DEFICIT	SURPLUS	DOWNSTR. FROM BRH	WATER DEPTH
		BLOCK 1	BLOCK 2	BLOCK 3	TOTAL									
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	18.17	0.	0.	0.	0.	0.	0.47	0.47	1.50	16.20	0.	4.64	11.78	100.
6-10	17.80	0.	7.12	6.30	13.42	0.	0.47	13.89	1.50	2.43	0.	1.04	3.91	100.
11-15	15.18	0.	9.39	7.26	16.64	0.85	0.47	17.96	1.50	-4.28	-1.85	0.	1.50	85.
16-20	11.95	0.	6.26	7.26	13.51	0.85	0.47	14.83	1.50	-4.38	-3.74	0.	1.50	62.
21-25	11.99	0.	4.61	5.35	9.96	0.19	0.47	10.62	1.50	-0.13	-3.80	0.	1.50	61.
26-END	11.25	0.	3.13	7.26	10.39	0.85	0.47	11.70	1.50	-1.95	-4.81	0.	1.50	36.
FEB														
1- 5	11.10	0.	3.13	7.26	10.39	0.85	0.47	11.70	1.50	-2.10	-5.72	0.	1.50	24.
6-10	12.22	0.	0.	3.44	3.44	0.13	0.47	4.04	1.50	6.68	-2.83	0.	1.50	46.
11-15	11.84	0.	0.	1.53	1.53	0.73	0.47	2.73	1.50	7.61	0.	0.46	2.56	100.
16-20	14.90	0.	0.	0.	0.	0.19	0.47	0.66	1.50	12.74	0.	5.50	14.24	100.
21-25	35.77	6.14	0.	0.	6.14	0.	0.47	6.61	1.50	27.66	0.	11.95	29.16	100.
26-END	34.91	13.10	0.	2.42	15.52	0.85	0.47	16.84	1.50	16.57	0.	4.30	18.07	100.
MAR														
1- 5	27.97	12.62	0.	2.42	15.03	0.85	0.47	16.35	1.50	10.12	0.	4.37	11.62	100.
6-10	25.87	12.62	0.	0.	12.62	0.85	0.47	13.93	1.50	10.44	0.	4.51	11.94	100.
11-15	22.75	15.46	0.	0.	15.46	0.85	0.47	16.78	1.50	4.47	0.	1.93	5.97	100.
16-20	50.69	15.46	0.	0.	15.46	0.85	0.47	16.78	1.50	32.41	0.	14.00	33.91	100.
21-25	65.60	10.44	8.65	0.	19.09	0.85	0.47	20.41	1.50	43.69	0.	18.87	45.19	100.
26-END	39.88	9.65	7.21	0.	16.86	0.85	0.47	18.18	1.50	20.20	0.	10.47	21.70	100.
APR														
1- 5	51.33	8.54	13.88	0.	22.41	0.85	0.47	23.73	1.50	26.10	0.	11.28	27.60	100.
6-10	42.36	8.54	12.64	0.	21.18	0.85	0.47	22.49	1.50	18.37	0.	7.93	19.87	100.
11-15	33.29	8.54	3.95	0.	12.49	0.85	0.47	13.81	1.50	17.98	0.	7.77	19.48	100.
16-20	28.31	8.54	17.00	0.	25.54	0.85	0.47	26.86	1.50	-0.05	-0.02	0.	1.50	100.
21-25	35.63	0.	0.	1.27	1.27	0.	0.47	1.74	1.50	32.19	0.	13.89	33.64	100.
26-END	45.29	0.	0.	1.91	1.91	0.	0.47	2.38	1.50	41.41	0.	17.89	42.91	100.
MAY														
1- 5	56.30	8.54	9.39	10.73	28.65	0.85	0.47	29.97	1.50	24.83	0.	10.73	26.33	100.
6-10	37.52	8.54	9.39	10.73	28.65	0.85	0.47	29.97	1.50	6.05	0.	2.62	7.55	100.
11-15	50.60	8.54	4.45	7.42	20.40	0.85	0.47	21.72	1.50	27.38	0.	11.83	28.88	100.
16-20	23.45	8.54	9.39	13.15	31.07	0.85	0.47	32.39	1.50	-10.44	-4.51	0.	1.50	75.
21-25	19.04	8.54	8.56	7.93	25.02	0.85	0.47	26.34	1.50	-8.80	-8.31	0.	1.50	55.
26-END	26.77	0.	1.65	2.44	4.09	0.	0.47	4.56	1.50	20.71	0.	2.43	6.18	100.
JUN														
1- 5	29.59	8.54	7.74	5.35	21.62	0.85	0.47	22.94	1.50	5.15	0.	2.22	6.65	100.
6-10	66.74	0.	3.79	4.39	8.18	0.	0.47	8.65	1.50	56.59	0.	24.45	58.09	100.
11-15	67.25	0.90	0.49	0.	1.39	0.	0.47	1.86	1.50	63.89	0.	27.60	65.39	100.
16-20	30.56	2.06	6.05	4.39	12.50	0.	0.47	12.97	1.50	16.09	0.	6.95	17.59	100.
21-25	23.12	2.85	9.39	7.26	19.49	0.85	0.47	20.81	1.50	0.81	0.	0.35	2.31	100.
26-END	20.28	0.	9.39	7.26	16.64	0.85	0.47	17.96	1.50	0.82	0.	0.35	2.32	100.
JUL														
1- 5	17.74	0.	9.39	7.26	16.64	0.85	0.47	17.96	1.50	-1.72	-0.74	0.	1.50	94.
6-10	15.61	0.	6.26	7.26	13.51	0.	0.47	13.98	1.50	0.13	-0.69	0.	1.50	93.
11-15	22.67	0.	6.26	7.26	13.51	0.55	0.47	14.53	1.50	6.64	0.	2.18	6.54	100.
16-20	24.02	0.	3.13	7.26	10.39	0.	0.47	10.86	1.50	11.66	0.	5.04	13.16	100.
21-25	73.93	0.	0.	0.	0.	0.	0.47	0.47	1.50	71.96	0.	31.09	73.46	100.
26-END	49.59	0.	0.	6.46	6.46	0.85	0.47	7.78	1.50	40.31	0.	20.90	41.81	100.
AUG														
1- 5	23.82	0.	0.	5.35	5.35	0.85	0.47	6.66	1.50	15.66	0.	6.76	17.16	100.
6-10	21.66	0.	0.	4.84	4.84	0.85	0.47	6.16	1.50	14.00	0.	6.05	15.50	100.
11-15	17.45	7.86	0.	3.56	11.43	0.85	0.47	12.74	1.50	3.21	0.	1.39	4.71	100.
16-20	20.85	6.21	0.	2.42	8.63	0.	0.47	9.10	1.50	10.25	0.	4.43	11.75	100.
21-25	26.95	12.62	0.	2.10	14.72	0.85	0.47	16.03	1.50	9.42	0.	4.07	10.92	100.
26-END	28.20	3.21	0.	0.	3.21	0.	0.47	3.68	1.50	23.02	0.	11.93	24.52	100.
SEP														
1- 5	43.99	12.54	0.	0.	12.54	0.	0.47	13.01	1.50	29.48	0.	12.74	30.98	100.
6-10	55.35	15.46	0.	0.	15.46	0.85	0.47	16.78	1.50	37.07	0.	16.02	38.57	100.
11-15	76.67	10.44	8.65	0.	19.09	0.85	0.47	20.41	1.50	54.76	0.	23.66	56.26	100.
16-20	80.10	7.97	7.74	0.	15.72	0.	0.47	16.19	1.50	62.43	0.	26.96	63.91	100.
21-25	42.58	8.54	13.88	0.	22.41	0.85	0.47	23.73	1.50	17.35	0.	7.50	18.85	100.
26-END	37.18	0.34	9.64	0.	9.97	0.	0.47	10.44	1.50	25.24	0.	10.90	26.74	100.
OCT														
1- 5	25.41	8.54	17.00	0.	25.54	0.85	0.47	26.86	1.50	-2.95	-1.27	0.	1.50	90.
6-10	27.75	0.	13.05	0.	13.05	0.	0.47	13.52	1.50	32.73	0.	4.23	11.28	100.
11-15	37.89	0.	0.	1.59	1.59	0.	0.47	2.06	1.50	34.33	0.	14.83	35.83	100.
16-20	40.53	5.19	9.51	6.37	21.27	0.	0.47	21.74	1.50	17.29	0.	7.47	18.79	100.
21-25	46.28	1.35	0.49	0.	1.84	0.	0.47	2.31	1.50	42.47	0.	18.35	43.97	100.
26-END	79.24	0.49	0.95	4.69	6.13	0.	0.47	6.60	1.50	71.14	0.	36.88	72.64	100.
NOV														
1- 5	73.36	0.	6.26	13.15	19.40	0.	0.47	19.87	1.50	51.99	0.	22.46	53.49	100.
6-10	79.14	8.54	4.45	7.42	20.40	0.85	0.47	21.72	1.50	55.92	0.	24.16	57.42	100.
11-15	80.54	1.01	3.33	5.06	9.41	0.	0.47	9.88	1.50	69.16	0.	29.88	70.66	100.
16-20	168.88	0.	3.79	6.02	9.80	0.	0.47	10.27	1.50	157.11	0.	67.87	158.61	100.
21-25	111.50	3.48	4.24	3.44	11.16	0.	0.47	11.63	1.50	98.37	0.	42.50	99.87	100.
26-END	114.39	0.	0.	0.	0.	0.	0.47	0.47	1.50	112.42	0.	48.57	113.92	100.
DEC														
1- 5	80.48	0.	6.26	7.26	13.51	0.	0.47	13.98	1.50	65.00	0.	28.08	66.50	100.
6-10	59.83	8.54	9.39	7.26	25.18	0.85	0.47	26.50	1.50	31.83	0.	13.75	33.33	100.
11-15	40.53	7.75	9.10	7.26	24.11	0.43	0.47	25.00	1.50	14.03	0.	6.06	15.53	100.
16-20	34.72	4.72	8.85	7.26	20.83	0.07	0.47	21.37	1.50	11.85	0.	5.12	13.35	100.
21-25	31.69	5.69	8.56	6.30	20.56	0.85	0.47	21.87	1.50	8.32	0.	3.59	9.82	100.
26-END	26.61	2.85	9.39	7.26	19.49	0.85	0.47	20.81	1.50	4.30	0.	2.23	5.80	100.

Table C-16 (3/5) WATER BALANCE UNDER 64% OVERALL EFFICIENCY FOR CASE 2 IN 1980

YEAR : 1980

PERIOD	RUNOFF (CUM/S)	PADDY BLOCK 1 (CUM/S)	PADDY BLOCK 2 (CUM/S)	PADDY BLOCK 3 (CUM/S)	PADDY TOTAL (CUM/S)	UPLAND CROP (CUM/S)	O & E WATER (CUM/S)	DIVERSION REQM'T (CUM/S)	MAINT. FLOW (CUM/S)	BALANCE (CUM/S)	DEFICIT (MCM)	SURPLUS (MCM)	DOWNSTR. FROM BRH (CUM/S)	WATER DEPTH (MM)
JAN														
1- 5	25.45	2.52	6.28	6.30	17.16	0.43	0.47	16.06	1.50	5.89	0.	2.54	7.39	100.
6-10	22.79	0.	3.69	1.53	5.52	0.19	0.47	6.18	1.50	15.11	0.	6.53	16.61	100.
11-15	18.04	0.	7.74	5.35	13.09	0.85	0.47	14.41	1.50	2.13	0.	0.92	3.63	100.
16-20	15.61	0.	6.26	7.26	13.51	0.	0.47	13.98	1.50	0.13	0.	0.05	1.63	100.
21-25	14.56	0.	6.26	7.26	13.51	0.85	0.47	14.83	1.50	-1.77	-0.77	0.	1.50	92.
26-END	19.16	0.	3.13	7.26	10.39	0.85	0.47	11.70	1.50	5.96	0.	2.32	5.98	100.
FEB														
1- 5	14.68	0.	3.13	7.26	10.39	0.85	0.47	11.70	1.50	1.48	0.	0.64	2.98	100.
6-10	12.03	0.	0.	7.26	7.26	0.85	0.47	8.57	1.50	1.96	0.	0.84	3.46	100.
11-15	10.19	0.	0.	7.26	7.26	0.85	0.47	8.57	1.50	0.12	0.	0.05	1.62	100.
16-20	9.13	0.	0.	4.20	4.20	0.	0.47	4.67	1.50	2.96	0.	1.28	4.46	100.
21-25	12.87	7.86	0.	4.20	12.06	0.85	0.47	13.38	1.50	-2.01	-0.87	0.	1.50	84.
26-END	26.10	5.57	0.	2.42	7.99	0.	0.47	8.46	1.50	18.14	0.	5.40	17.13	100.
MAR														
1- 5	36.12	3.71	0.	0.19	3.90	0.	0.47	4.37	1.50	30.25	0.	13.07	31.75	100.
6-10	59.26	12.32	0.	0.	12.32	0.61	0.47	13.39	1.50	44.39	0.	19.17	45.89	100.
11-15	21.56	11.64	0.	0.	11.64	0.	0.47	12.11	1.50	7.95	0.	3.43	9.45	100.
16-20	27.68	15.46	0.	0.	15.46	0.85	0.47	16.78	1.50	9.40	0.	4.06	10.90	100.
21-25	22.73	8.54	7.95	0.	16.48	0.	0.47	16.95	1.50	4.28	0.	1.85	5.78	100.
26-END	19.44	5.06	6.62	0.	14.68	0.	0.47	15.15	1.50	2.79	0.	1.44	4.29	100.
APR														
1- 5	21.82	0.	8.65	0.	8.65	0.	0.47	9.12	1.50	11.20	0.	4.84	12.70	100.
6-10	25.89	0.	7.58	0.	7.58	0.	0.47	8.05	1.50	16.34	0.	7.06	17.84	100.
11-15	25.50	5.39	1.98	0.	7.37	0.	0.47	7.84	1.50	16.16	0.	6.98	17.66	100.
16-20	19.27	8.42	16.96	0.	25.38	0.79	0.47	26.64	1.50	-8.87	-3.83	0.	1.50	71.
21-25	17.73	0.	8.36	6.68	15.04	0.	0.47	15.51	1.50	0.72	-3.52	0.	1.50	76.
26-END	44.30	8.42	8.15	5.41	21.99	0.79	0.47	23.24	1.50	19.56	0.	4.93	12.90	100.
MAY														
1- 5	46.47	0.	8.26	10.73	18.98	0.	0.47	17.45	1.50	27.52	0.	11.89	29.02	100.
6-10	71.85	0.	0.	1.59	1.59	0.	0.47	2.06	1.50	68.29	0.	29.50	69.79	100.
11-15	66.50	0.	5.43	12.19	17.62	0.	0.47	18.09	1.50	48.91	0.	21.13	50.41	100.
16-20	57.41	0.	2.96	9.33	12.29	0.	0.47	12.76	1.50	43.15	0.	18.64	44.65	100.
21-25	33.02	8.54	6.09	5.06	19.69	0.85	0.47	21.01	1.50	10.51	0.	4.54	12.01	100.
26-END	37.61	7.88	8.46	7.41	23.75	0.43	0.47	24.65	1.50	11.46	0.	5.94	12.96	100.
JUN														
1- 5	32.77	0.	5.43	6.30	11.74	0.	0.47	12.21	1.50	19.06	0.	8.24	20.56	100.
6-10	36.61	5.54	7.66	5.35	18.55	0.73	0.47	19.74	1.50	15.37	0.	6.64	16.87	100.
11-15	25.20	4.79	8.89	7.26	20.94	0.13	0.47	21.54	1.50	2.16	0.	0.93	3.66	100.
16-20	38.07	2.28	7.32	5.35	14.75	0.	0.47	15.22	1.50	21.35	0.	9.22	22.85	100.
21-25	24.53	2.13	8.60	7.26	18.00	0.	0.47	18.47	1.50	4.56	0.	1.97	6.06	100.
26-END	23.90	0.	9.36	7.26	16.62	0.81	0.47	17.90	1.50	4.50	0.	1.94	6.00	100.
JUL														
1- 5	17.20	0.	9.39	7.26	16.64	0.85	0.47	17.96	1.50	-2.26	-0.98	0.	1.50	92.
6-10	14.59	0.	6.26	7.26	13.51	0.07	0.47	14.06	1.50	-0.97	-1.39	0.	1.50	86.
11-15	13.44	0.	5.43	6.30	11.74	0.85	0.47	13.05	1.50	-1.11	-1.88	0.	1.50	81.
16-20	29.52	0.	0.	0.	0.	0.	0.47	0.47	1.50	27.55	0.	10.03	24.71	100.
21-25	22.95	0.	0.	0.	0.	0.	0.47	0.47	1.50	20.98	0.	9.06	22.48	100.
26-END	37.34	0.	0.	4.07	4.07	0.	0.47	4.54	1.50	31.30	0.	16.22	32.80	100.
AUG														
1- 5	36.32	0.	0.	7.26	7.26	0.	0.47	7.73	1.50	29.09	0.	12.57	30.59	100.
6-10	26.12	0.	0.	4.84	4.84	0.	0.47	5.31	1.50	19.31	0.	8.34	20.81	100.
11-15	25.35	7.86	0.	3.58	11.43	0.85	0.47	12.74	1.50	11.11	0.	4.80	12.61	100.
16-20	21.11	3.48	0.	0.51	3.99	0.	0.47	4.46	1.50	15.15	0.	6.54	16.65	100.
21-25	84.01	12.62	0.	1.46	14.08	0.85	0.47	15.40	1.50	67.11	0.	28.99	68.61	100.
26-END	43.59	7.71	0.	0.	7.71	0.	0.47	8.18	1.50	33.91	0.	17.58	35.41	100.
SEP														
1- 5	30.07	13.55	0.	0.	13.55	0.	0.47	14.02	1.50	14.55	0.	6.28	16.05	100.
6-10	40.36	9.06	0.	0.	9.06	0.	0.47	9.53	1.50	29.33	0.	12.67	30.83	100.
11-15	26.64	10.44	8.25	0.	19.69	0.85	0.47	20.41	1.50	4.73	0.	2.04	6.23	100.
16-20	41.59	10.44	8.25	0.	19.09	0.85	0.47	20.41	1.50	19.68	0.	8.50	21.18	100.
21-25	75.58	0.22	7.54	0.	7.76	0.	0.47	8.23	1.50	65.85	0.	28.45	67.35	100.
26-END	50.95	6.29	11.82	0.	18.11	0.	0.47	18.58	1.50	30.87	0.	13.34	32.37	100.
OCT														
1- 5	47.21	0.	13.87	0.	13.87	0.	0.47	14.34	1.50	31.37	0.	13.55	32.87	100.
6-10	73.68	0.	13.87	0.	13.87	0.	0.47	14.34	1.50	58.04	0.	25.07	59.54	100.
11-15	77.04	4.83	9.36	6.37	20.56	0.	0.47	20.97	1.50	54.57	0.	23.57	56.07	100.
16-20	254.74	8.54	10.66	6.37	25.56	0.85	0.47	26.88	1.50	226.36	0.	97.79	227.86	100.
21-25	64.81	3.93	7.78	10.73	22.36	0.	0.47	22.83	1.50	40.48	0.	17.49	41.98	100.
26-END	40.27	0.	3.51	6.82	10.33	0.	0.47	10.80	1.50	27.97	0.	14.50	29.47	100.
NOV														
1- 5	35.41	0.	1.32	7.42	8.73	0.	0.47	9.20	1.50	24.71	0.	10.67	26.21	100.
6-10	33.36	8.54	7.74	11.24	27.51	0.85	0.47	28.83	1.50	3.03	0.	1.31	4.53	100.
11-15	36.21	7.30	7.29	6.97	21.56	0.19	0.47	22.22	1.50	12.49	0.	5.40	13.99	100.
16-20	49.29	8.54	8.56	7.93	25.02	0.85	0.47	26.34	1.50	21.45	0.	9.27	22.95	100.
21-25	70.87	0.	0.	0.	0.	0.	0.47	0.47	1.50	68.90	0.	29.76	70.40	100.
26-END	80.97	7.19	4.78	2.48	14.45	5.13	0.47	15.05	1.50	64.42	0.	27.83	65.92	100.
DEC														
1- 5	86.39	0.	0.	0.	0.	0.	0.47	0.47	1.50	84.42	0.	37.33	87.92	100.
6-10	158.55	2.92	1.07	0.	3.99	0.	0.47	4.46	1.50	152.59	0.	65.92	154.09	100.
11-15	146.08	8.54	9.39	7.26	25.19	0.85	0.47	26.50	1.50	120.08	0.	51.88	121.58	100.
16-20	71.17	4.94	2.72	0.	7.66	0.25	0.47	8.38	1.50	61.29	0.	26.48	62.79	100.
21-25	53.13	0.	6.26	7.26	13.51	0.	0.47	13.98	1.50	37.65	0.	16.26	39.15	100.
26-END	45.21	2.75	3.03	0.	5.78	0.67	0.47	6.92	1.50	36.79	0.	19.07	38.29	100.

Table C-16 (4/5) WATER BALANCE UNDER 64% OVERALL EFFICIENCY FOR CASE 2 IN 1981

YEAR : 1981

PERIOD	RUNOFF	PADDY BLOCK 1	PADDY BLOCK 2	PADDY BLOCK 3	PADDY TOTAL	UPLAND CROP	D.S.1 WATER	DIVERSION REQMT	MAINT. FLOW	BALANCE	DEFICIT	SURPLUS	DOWNSTR. FROM BRH	WATER DEPTH
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	54.19	0.45	5.93	6.30	12.68	0.	0.47	13.15	1.50	39.54	0.	17.08	41.04	100.
6-10	52.32	0.	6.26	7.26	13.51	0.	0.47	13.98	1.50	36.84	0.	15.91	38.34	100.
11-15	37.97	0.	9.39	7.26	16.64	0.85	0.47	17.96	1.50	18.51	0.	8.00	20.01	100.
16-20	34.74	0.	6.26	7.26	13.51	0.33	0.47	14.30	1.50	18.94	0.	8.18	20.44	100.
21-25	32.50	0.	5.43	6.30	11.74	0.85	0.47	13.05	1.50	17.95	0.	7.75	19.45	100.
26-END	27.20	0.	3.13	7.26	10.39	0.85	0.47	11.70	1.50	14.00	0.	7.26	15.50	100.
FEB														
1- 5	39.76	0.	2.72	6.30	9.02	0.	0.47	5.49	1.50	28.71	0.	12.40	30.21	100.
6-10	32.25	0.	0.	7.26	7.26	0.25	0.47	7.98	1.50	22.77	0.	9.84	24.27	100.
11-15	31.98	0.	0.	7.26	7.26	0.	0.47	7.73	1.50	22.75	0.	9.83	24.25	100.
16-20	51.76	0.	0.	4.84	4.84	0.85	0.47	6.16	1.50	44.10	0.	19.05	45.60	100.
21-25	36.51	7.11	0.	2.29	9.40	0.	0.47	9.87	1.50	19.14	0.	8.27	20.64	100.
26-END	51.19	9.92	0.	2.42	12.34	0.	0.47	12.81	1.50	36.88	0.	9.56	38.38	100.
MAR														
1- 5	35.01	11.49	0.	0.	11.49	0.	0.47	11.96	1.50	21.55	0.	9.31	23.05	100.
6-10	23.44	12.62	0.	0.	12.62	0.85	0.47	13.93	1.50	8.01	0.	3.46	9.51	100.
11-15	24.16	15.46	0.	0.	15.46	0.85	0.47	16.78	1.50	5.88	0.	2.54	7.38	100.
16-20	17.98	13.78	0.	0.	13.78	0.	0.47	14.25	1.50	2.23	0.	0.97	3.73	100.
21-25	21.46	10.44	5.65	0.	16.09	0.85	0.47	20.41	1.50	-0.45	-0.19	0.	1.50	98.
26-END	19.49	2.22	4.70	0.	7.52	0.	0.47	7.99	1.50	10.00	0.	4.99	11.12	100.
APR														
1- 5	42.94	8.42	12.19	0.	20.61	0.79	0.47	21.87	1.50	19.57	0.	8.45	21.07	100.
6-10	70.29	3.37	9.51	0.	12.88	0.	0.47	13.35	1.50	55.44	0.	23.95	56.94	100.
11-15	60.29	5.39	4.03	0.	9.42	0.	0.47	9.90	1.50	48.89	0.	21.12	50.39	100.
16-20	78.20	0.	13.87	0.	13.87	0.	0.47	14.34	1.50	62.36	0.	26.94	63.86	100.
21-25	74.85	8.54	9.02	5.73	23.28	0.85	0.47	24.60	1.50	48.75	0.	21.06	50.25	100.
26-END	41.88	8.54	4.65	3.92	17.01	0.85	0.47	18.32	1.50	22.06	0.	9.53	23.56	100.
MAY														
1- 5	61.81	0.	2.14	7.56	9.68	0.	0.47	10.15	1.50	50.16	0.	21.67	51.66	100.
6-10	80.43	0.	6.26	10.73	16.98	0.	0.47	17.45	1.50	61.48	0.	26.56	62.98	100.
11-15	90.35	8.54	7.74	11.24	27.51	0.85	0.47	28.83	1.50	60.02	0.	25.93	61.52	100.
16-20	100.19	8.63	7.04	11.24	26.90	0.	0.47	25.37	1.50	73.32	0.	31.67	74.82	100.
21-25	99.62	8.54	7.74	6.97	23.25	0.85	0.47	24.56	1.50	73.56	0.	31.78	75.06	100.
26-END	84.44	0.	0.	0.	0.	0.	0.47	0.47	1.50	82.47	0.	42.75	83.97	100.
JUN														
1- 5	66.32	8.54	9.39	7.26	25.19	0.85	0.47	26.50	1.50	38.32	0.	16.56	39.82	100.
6-10	60.96	5.32	9.39	7.26	21.75	0.55	0.47	22.27	1.50	16.69	0.	7.21	18.19	100.
11-15	34.21	5.69	9.39	7.26	22.33	0.85	0.47	23.65	1.50	9.06	0.	3.91	10.56	100.
16-20	27.04	2.85	9.39	7.26	19.49	0.85	0.47	20.81	1.50	4.73	0.	2.04	6.23	100.
21-25	24.95	2.85	6.56	6.30	17.71	0.85	0.47	19.03	1.50	4.42	0.	1.91	5.92	100.
26-END	37.26	0.	9.39	7.26	16.64	0.85	0.47	17.96	1.50	17.80	0.	7.69	19.30	100.
JUL														
1- 5	23.90	0.	9.39	7.26	16.64	0.85	0.47	17.96	1.50	4.44	0.	1.92	5.94	100.
6-10	19.46	0.	6.26	7.26	13.51	0.43	0.47	14.41	1.50	3.55	0.	1.53	5.05	100.
11-15	24.19	0.	6.26	7.26	13.51	0.	0.47	13.98	1.50	8.71	0.	3.76	10.21	100.
16-20	19.86	0.	3.13	7.26	10.39	0.85	0.47	11.70	1.50	6.66	0.	2.88	8.18	100.
21-25	19.76	0.	2.50	5.75	7.65	0.	0.47	8.12	1.50	10.14	0.	4.38	11.64	100.
26-END	22.47	0.	0.	0.89	0.89	0.85	0.47	2.21	1.50	18.76	0.	9.73	20.26	100.
AUG														
1- 5	16.61	0.	0.	7.26	7.26	0.85	0.47	8.57	1.50	6.54	0.	2.82	8.04	100.
6-10	13.11	0.	0.	4.84	4.84	0.85	0.47	6.16	1.50	5.45	0.	2.36	6.95	100.
11-15	11.68	7.74	0.	4.84	12.58	0.85	0.47	14.02	1.50	-5.84	-1.66	0.	1.50	70.
16-20	10.74	7.52	0.	0.	7.52	0.31	0.47	8.30	1.50	0.94	-1.25	0.	1.50	67.
21-25	15.60	7.32	0.	2.42	9.74	0.	0.47	10.26	1.50	3.84	0.	0.40	2.43	100.
26-END	26.09	8.45	0.	0.	8.45	0.	0.47	8.92	1.50	15.67	0.	8.12	17.17	100.
SEP														
1- 5	24.25	8.50	0.	0.	8.50	0.	0.47	8.97	1.50	13.78	0.	5.95	15.28	100.
6-10	89.18	3.15	0.	0.	3.15	0.	0.47	3.65	1.50	84.03	0.	36.30	85.53	100.
11-15	69.06	10.22	6.57	0.	16.78	0.73	0.47	19.98	1.50	47.58	0.	20.55	49.08	100.
16-20	54.82	6.40	7.17	0.	13.57	0.	0.47	14.04	1.50	39.28	0.	16.97	40.78	100.
21-25	40.82	8.54	10.56	0.	19.12	0.85	0.47	20.44	1.50	18.88	0.	7.81	19.58	100.
26-END	27.58	7.97	12.65	0.	20.62	0.55	0.47	21.84	1.50	4.24	0.	1.83	5.74	100.
OCT														
1- 5	22.57	8.54	17.10	0.	25.64	0.85	0.47	26.96	1.50	-5.83	-2.52	0.	1.50	81.
6-10	26.73	8.54	15.69	0.	24.22	0.85	0.47	25.54	1.50	1.69	-1.79	0.	1.50	86.
11-15	46.47	0.	0.	0.64	0.64	0.	0.47	1.11	1.50	43.86	0.	17.16	41.23	100.
16-20	77.12	0.	0.37	2.93	3.30	0.	0.47	3.77	1.50	71.85	0.	31.04	73.35	100.
21-25	36.71	8.54	9.39	10.73	28.65	0.85	0.47	29.97	1.50	7.24	0.	3.13	8.74	100.
26-END	41.04	7.32	6.26	6.82	20.39	0.07	0.47	20.87	1.50	18.67	0.	9.68	20.17	100.
NOV														
1- 5	30.96	6.74	2.47	1.27	10.48	0.	0.47	10.95	1.50	18.51	0.	8.00	20.01	100.
6-10	32.74	1.46	3.50	9.33	14.29	0.	0.47	14.76	1.50	16.48	0.	7.12	17.98	100.
11-15	64.02	8.54	8.40	7.23	24.67	0.85	0.47	25.99	1.50	36.53	0.	15.78	38.03	100.
16-20	65.31	0.	6.03	4.50	10.34	0.	0.47	10.81	1.50	53.00	0.	22.90	54.50	100.
21-25	108.05	5.73	5.06	3.44	14.23	0.	0.47	14.70	1.50	91.85	0.	39.68	93.35	100.
26-END	72.27	0.	1.15	1.34	2.49	0.	0.47	2.96	1.50	67.81	0.	29.29	69.31	100.
DEC														
1- 5	52.83	8.16	8.52	7.26	23.94	0.	0.47	22.42	1.50	28.10	0.	12.14	29.60	100.
6-10	83.51	8.54	9.65	6.87	24.47	0.85	0.47	25.79	1.50	56.22	0.	24.29	57.72	100.
11-15	55.51	0.	0.	0.	0.	0.	0.47	0.47	1.50	53.54	0.	23.13	55.04	100.
16-20	37.13	5.69	9.39	7.26	22.33	0.85	0.47	23.65	1.50	11.98	0.	5.17	13.48	100.
21-25	29.68	5.69	9.39	7.26	22.33	0.85	0.47	23.65	1.50	4.51	0.	1.95	6.01	100.
26-END	26.80	0.	3.51	4.07	7.59	0.	0.47	8.06	1.50	17.24	0.	8.94	18.74	100.

Table C-16 (5/5) WATER BALANCE UNDER 64% OVERALL EFFICIENCY FOR CASE 2 IN 1983

YEAR : 1983

PERIOD	RUNOFF	PADDY BLOCK 1	PADDY BLOCK 2	PADDY BLOCK 3	TOTAL	UPLAND CROP	D & I WATER	DIVERSION REQMT	MAINT. FLOW	BALANCE	DEFICIT	SURPLUS	DOWNSTR. FROM BRH	WATER DEPTH
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	39.22	0.	0.	0.	0.	0.	0.47	0.47	1.50	37.26	0.	16.10	38.76	100.
6-10	35.44	0.	7.68	6.11	13.79	0.	0.47	14.20	1.50	19.74	0.	8.53	21.24	100.
11-15	27.60	0.	8.93	7.67	16.60	0.43	0.47	16.90	1.50	9.20	0.	3.97	10.70	100.
16-20	24.84	0.	6.66	7.26	13.51	0.85	0.47	14.83	1.50	8.51	0.	3.68	10.01	100.
21-25	22.11	0.	6.26	7.26	13.51	0.85	0.47	14.83	1.50	5.78	0.	2.50	7.28	100.
26-END	19.29	0.	3.13	7.26	10.39	0.85	0.47	11.70	1.50	6.09	0.	3.16	7.59	100.
FEB														
1- 5	18.90	0.	3.13	7.26	10.39	0.85	0.47	11.70	1.50	5.70	0.	2.46	7.20	100.
6-10	16.49	0.	0.	2.67	2.67	0.85	0.47	3.99	1.50	11.00	0.	4.75	12.50	100.
11-15	16.69	0.	0.	7.26	7.26	0.85	0.47	8.57	1.50	6.62	0.	2.86	8.12	100.
16-20	22.30	0.	0.	4.84	4.84	0.49	0.47	5.80	1.50	15.00	0.	6.48	16.50	100.
21-25	12.42	2.77	0.	4.54	12.21	0.87	0.47	12.75	1.50	3.22	0.	1.39	4.72	100.
26-END	15.71	13.16	0.	2.42	15.52	0.85	0.47	16.84	1.50	-2.63	-0.68	0.	1.50	82.
MAR														
1- 5	20.98	12.62	0.	2.42	15.03	0.85	0.47	16.35	1.50	3.13	0.	0.67	3.05	100.
6-10	14.94	12.62	0.	0.	12.62	0.85	0.47	13.93	1.50	-0.49	-0.21	0.	1.50	95.
11-15	19.25	15.46	0.	0.	15.46	0.85	0.47	16.78	1.50	0.97	0.	0.21	1.98	100.
16-20	19.61	13.10	0.	0.	13.10	0.	0.47	13.57	1.50	4.54	0.	1.96	6.04	100.
21-25	18.55	10.44	6.65	0.	19.09	0.85	0.47	20.41	1.50	-3.36	-1.45	0.	1.50	83.
26-END	25.39	9.65	7.21	0.	16.86	0.85	0.47	18.18	1.50	5.71	0.	1.51	4.42	100.
APR														
1- 5	15.76	8.54	13.89	0.	22.41	0.85	0.47	23.73	1.50	-9.47	-4.09	0.	1.50	62.
6-10	13.49	8.54	13.88	0.	22.41	0.85	0.47	23.73	1.50	-11.74	-9.16	0.	1.50	15.
11-15	12.11	8.54	17.60	0.	25.54	0.85	0.47	26.86	1.50	-16.25	-16.18	0.	1.50	-24.
16-20	10.66	8.54	17.00	0.	25.54	0.85	0.47	26.86	1.50	-17.70	-23.82	0.	1.50	-83.
21-25	12.83	0.	2.10	4.47	6.56	0.	0.47	6.83	1.50	4.50	-21.88	0.	1.50	-48.
26-END	15.24	0.	0.	0.57	0.57	0.	0.47	1.04	1.50	16.70	-14.67	0.	1.50	1.
MAY														
1- 5	33.25	3.27	1.24	3.72	8.23	0.	0.47	8.80	1.50	22.95	-4.75	0.	1.50	71.
6-10	24.90	6.65	9.03	10.22	24.87	0.	0.47	25.34	1.50	-1.94	-5.59	0.	1.50	66.
11-15	30.39	7.97	9.18	13.15	30.30	0.55	0.47	31.32	1.50	-2.43	-6.64	0.	1.50	64.
16-20	26.73	3.46	7.53	13.15	24.14	0.	0.47	24.63	1.50	0.60	-6.38	0.	1.50	65.
21-25	29.22	7.75	5.29	4.58	17.23	0.43	0.47	18.63	1.50	9.09	-2.46	0.	1.50	87.
26-END	21.44	0.	5.43	7.25	12.69	0.	0.47	13.16	1.50	6.78	0.	1.06	3.55	100.
JUN														
1- 5	24.80	8.54	9.39	7.26	25.19	0.85	0.47	26.50	1.50	-4.00	-1.73	0.	1.50	91.
6-10	16.55	5.02	8.52	6.68	20.22	0.51	0.47	21.00	1.50	-6.15	-5.25	0.	1.50	68.
11-15	26.44	1.95	4.53	4.81	11.49	0.	0.47	10.96	1.50	13.98	0.	0.79	3.33	100.
16-20	34.06	1.91	3.91	2.10	7.92	0.	0.47	8.39	1.50	24.17	0.	10.44	25.67	100.
21-25	19.74	2.85	9.39	7.26	19.49	0.85	0.47	20.81	1.50	-2.57	-1.11	0.	1.50	92.
26-END	15.07	0.	9.39	7.26	16.64	0.85	0.47	17.96	1.50	-4.39	-3.01	0.	1.50	75.
JUL														
1- 5	15.28	0.	7.53	7.26	14.79	0.	0.47	15.26	1.50	-1.48	-3.65	0.	1.50	70.
6-10	17.42	0.	4.61	5.35	9.96	0.	0.47	10.43	1.50	5.49	-1.27	0.	1.50	87.
11-15	19.12	0.	2.96	3.44	6.40	0.85	0.47	7.72	1.50	9.90	0.	3.00	8.45	100.
16-20	16.92	0.	0.	0.	0.	0.	0.47	0.47	1.50	14.95	0.	6.46	16.45	100.
21-25	53.45	0.	3.13	7.26	10.39	0.85	0.47	11.70	1.50	40.25	0.	17.39	41.75	100.
26-END	28.84	0.	0.	4.87	4.87	0.85	0.47	6.19	1.50	21.15	0.	10.97	22.65	100.
AUG														
1- 5	66.57	0.	0.	7.26	7.26	0.	0.47	7.73	1.50	53.34	0.	23.04	54.84	100.
6-10	47.59	0.	0.	3.56	3.56	0.85	0.47	4.88	1.50	41.21	0.	17.80	42.71	100.
11-15	31.66	5.34	0.	0.38	5.77	0.	0.47	6.24	1.50	23.92	0.	10.33	25.42	100.
16-20	31.37	7.82	0.	2.42	10.24	0.79	0.47	11.50	1.50	18.37	0.	7.94	19.87	100.
21-25	21.72	6.35	0.	3.10	10.45	0.	0.47	10.92	1.50	9.30	0.	4.02	10.80	100.
26-END	27.00	2.78	0.	0.	2.78	0.	0.47	3.25	1.50	22.25	0.	11.54	23.75	100.
SEP														
1- 5	45.75	1.98	0.	0.	1.98	0.	0.47	2.45	1.50	41.80	0.	18.06	43.30	100.
6-10	64.40	13.21	0.	0.	13.21	0.	0.47	13.68	1.50	49.22	0.	21.26	50.72	100.
11-15	82.61	3.71	2.18	0.	9.88	0.	0.47	10.35	1.50	70.76	0.	30.57	72.26	100.
16-20	126.51	0.	1.24	0.	1.24	0.	0.47	1.71	1.50	123.30	0.	53.27	124.80	100.
21-25	73.63	8.54	13.88	0.	22.41	0.85	0.47	23.73	1.50	48.40	0.	20.91	49.90	100.
26-END	45.13	0.	6.22	0.	6.22	0.	0.47	6.69	1.50	36.94	0.	15.96	38.44	100.
OCT														
1- 5	35.42	5.95	7.42	0.	13.37	0.	0.47	14.24	1.50	19.68	0.	8.50	21.18	100.
6-10	32.67	4.49	13.87	0.	18.37	0.	0.47	18.84	1.50	12.33	0.	5.33	13.83	100.
11-15	30.39	5.50	7.90	5.73	19.14	0.	0.47	19.61	1.50	9.28	0.	4.01	10.78	100.
16-20	33.91	7.30	11.03	6.68	25.02	0.19	0.47	25.68	1.50	6.73	0.	2.91	8.23	100.
21-25	38.33	3.48	5.29	9.45	18.82	0.	0.47	19.29	1.50	17.54	0.	7.58	19.04	100.
26-END	42.15	0.	0.	3.10	3.10	0.	0.47	3.57	1.50	37.08	0.	19.22	38.58	100.
NOV														
1- 5	40.41	3.92	5.56	6.27	15.88	0.	0.47	16.35	1.50	22.56	0.	9.74	24.06	100.
6-10	56.02	8.54	9.39	13.15	31.07	0.85	0.47	32.39	1.50	22.13	0.	9.56	23.63	100.
11-15	46.93	8.54	9.39	6.88	26.80	0.85	0.47	28.12	1.50	19.31	0.	8.34	20.81	100.
16-20	45.67	8.54	9.39	6.88	26.80	0.85	0.47	28.12	1.50	16.05	0.	6.93	17.55	100.
21-25	35.64	8.20	6.79	4.39	19.38	0.67	0.47	20.52	1.50	13.62	0.	5.88	15.12	100.
26-END	34.57	4.04	1.98	0.57	6.59	0.	0.47	7.06	1.50	26.01	0.	11.24	27.51	100.
DEC														
1- 5	31.84	8.54	9.39	7.26	25.18	0.85	0.47	26.50	1.50	3.84	0.	1.66	5.34	100.
6-10	26.40	3.71	5.15	4.39	13.24	0.	0.47	13.71	1.50	15.19	0.	5.70	14.69	100.
11-15	40.40	0.	3.79	4.39	8.18	0.	0.47	8.65	1.50	30.25	0.	13.07	31.75	100.
16-20	31.47	0.90	2.63	2.48	6.02	0.	0.47	6.49	1.50	23.48	0.	10.15	24.98	100.
21-25	27.54	0.	1.32	1.53	2.85	0.	0.47	3.32	1.50	22.72	0.	9.82	24.22	100.
26-END	25.90	2.72	9.25	7.26	19.23	0.61	0.47	20.31	1.50	4.09	0.	2.12	5.59	100.

Table C-17 (1/5) WATER BALANCE UNDER 60% OVERALL EFFICIENCY FOR CASE 2 IN 1978

YEAR : 1978

PERIOD	RUNOFF	PADDY				UPLAND CROP	D & I WATER	DIVERSION REQMT	MAINT. FLOW	BALANCE	DEFICIT	SURPLUS	DOWNSTR. FROM BRH	WATER DEPTH
		BLOCK 1	BLOCK 2	BLOCK 3	TOTAL									
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	17.68	3.03	16.01	7.74	26.79	0.90	0.47	22.16	1.50	-5.98	-2.58	0.	1.50	82.
6-10	16.58	0.	2.90	3.36	6.26	0.	0.47	6.73	1.50	10.35	0.	1.89	5.87	100.
11-15	18.77	0.	0.40	0.	0.40	0.	0.47	0.87	1.50	16.40	0.	7.09	17.90	100.
16-20	24.80	0.	5.80	6.72	12.52	0.	0.47	12.99	1.50	10.31	0.	4.45	11.81	100.
21-25	18.05	0.	5.01	5.81	10.81	0.	0.47	11.28	1.50	5.27	0.	2.28	6.77	100.
26-END	14.22	0.	3.34	7.74	11.08	0.90	0.47	12.45	1.50	0.27	0.	0.14	1.77	100.
FEB														
1- 5	11.82	0.	3.34	7.74	11.08	0.90	0.47	12.45	1.50	-2.13	-0.92	0.	1.50	88.
6-10	13.66	0.	0.	7.74	7.74	0.90	0.47	9.11	1.50	3.05	0.	0.39	2.41	100.
11-15	13.84	0.	0.	6.82	6.82	0.	0.47	7.29	1.50	5.05	0.	2.18	6.55	100.
16-20	16.55	0.	0.	1.97	1.97	0.90	0.47	3.34	1.50	11.71	0.	5.06	13.21	100.
21-25	10.92	8.39	0.	4.35	12.73	0.90	0.47	14.11	1.50	-4.69	-2.02	0.	1.50	64.
26-END	11.16	4.13	0.	0.	4.13	0.	0.47	4.60	1.50	5.08	-0.71	0.	1.50	82.
MAR														
1- 5	10.46	6.27	0.	1.32	7.59	0.	0.47	8.06	1.50	0.90	-0.32	0.	1.50	95.
6-10	11.40	13.46	0.	0.	13.46	0.90	0.47	14.83	1.50	-4.93	-2.45	0.	1.50	41.
11-15	13.83	13.38	0.	0.	13.38	0.	0.47	13.85	1.50	-1.52	-3.10	0.	1.50	50.
16-20	13.61	16.49	0.	0.	16.49	0.90	0.47	17.87	1.50	-5.76	-5.59	0.	1.50	10.
21-25	16.36	3.95	6.59	0.	10.54	0.	0.47	11.01	1.50	3.85	-3.93	0.	1.50	54.
26-END	15.86	4.41	5.53	0.	9.93	0.	0.47	10.40	1.50	3.96	-1.88	0.	1.50	78.
APR														
1- 5	19.77	9.10	13.70	0.	22.81	0.90	0.47	24.16	1.50	-5.91	-4.43	0.	1.50	59.
6-10	19.41	9.10	11.73	0.	20.83	0.90	0.47	22.21	1.50	-4.30	-6.29	0.	1.50	42.
11-15	21.72	8.15	17.29	0.	25.93	0.39	0.47	26.80	1.50	-6.58	-9.13	0.	1.50	30.
16-20	30.82	9.10	18.05	0.	27.15	0.90	0.47	28.53	1.50	0.79	-8.78	0.	1.50	33.
21-25	70.28	9.10	11.29	6.76	27.15	0.90	0.47	28.52	1.50	40.26	0.	8.61	21.43	100.
26-END	41.50	9.10	3.34	2.82	15.26	0.90	0.47	16.63	1.50	23.37	0.	10.09	24.87	100.
MAY														
1- 5	45.55	9.10	9.75	11.24	30.09	0.90	0.47	31.47	1.50	12.58	0.	5.44	14.08	100.
6-10	52.43	0.	0.	6.15	6.15	0.	0.47	6.62	1.50	49.31	0.	21.30	50.81	100.
11-15	68.81	8.98	9.97	14.02	32.98	0.84	0.47	34.29	1.50	33.02	0.	14.27	34.52	100.
16-20	45.47	9.10	10.01	14.02	33.14	0.90	0.47	34.51	1.50	9.46	0.	4.09	10.96	100.
21-25	37.32	9.10	10.01	9.47	28.59	0.90	0.47	29.96	1.50	5.86	0.	2.53	7.36	100.
26-END	22.14	9.10	10.01	8.75	27.87	0.90	0.47	29.24	1.50	-8.60	-4.46	0.	1.50	76.
JUN														
1- 5	21.37	5.75	8.78	7.74	22.27	0.	0.47	22.74	1.50	-2.87	-5.70	0.	1.50	69.
6-10	19.66	2.80	6.54	5.81	15.14	0.	0.47	15.61	1.50	2.55	-4.60	0.	1.50	72.
11-15	16.94	6.07	10.01	7.74	23.82	0.90	0.47	25.20	1.50	-9.76	-8.82	0.	1.50	46.
16-20	13.30	0.	6.41	7.44	13.85	0.	0.47	14.32	1.50	-2.52	-9.90	0.	1.50	30.
21-25	12.70	3.03	10.01	7.74	20.79	0.90	0.47	22.16	1.50	-10.96	-14.64	0.	1.50	-3.
26-END	11.81	0.	4.83	5.60	10.43	0.	0.47	10.90	1.50	-0.59	-14.90	0.	1.50	-23.
JUL														
1- 5	10.75	0.	10.01	7.74	17.75	0.90	0.47	19.13	1.50	-9.88	-19.16	0.	1.50	-58.
6-10	16.04	0.	6.67	7.74	14.42	0.	0.47	14.89	1.50	-0.35	-19.31	0.	1.50	-96.
11-15	13.28	0.	4.48	5.19	9.67	0.90	0.47	11.05	1.50	0.73	-19.00	0.	1.50	-93.
16-20	12.25	0.	3.03	7.03	10.06	0.90	0.47	11.43	1.50	-0.68	-19.29	0.	1.50	-155.
21-25	16.29	0.	3.34	7.74	11.08	0.90	0.47	12.45	1.50	2.34	-18.28	0.	1.50	-142.
26-END	12.04	0.	0.	7.74	7.74	0.	0.47	8.21	1.50	2.33	-17.07	0.	1.50	-223.
AUG														
1- 5	9.43	0.	0.	7.74	7.74	0.46	0.47	8.67	1.50	-0.74	-17.39	0.	1.50	-229.
6-10	8.59	0.	0.	5.16	5.16	0.65	0.47	6.28	1.50	0.81	-17.04	0.	1.50	-384.
11-15	14.12	5.75	0.	0.	5.75	0.	0.47	6.22	1.50	6.40	-14.28	0.	1.50	-155.
16-20	10.74	8.39	0.	0.	8.39	0.90	0.47	9.76	1.50	-0.52	-14.50	0.	1.50	-279.
21-25	9.18	13.46	0.	2.55	16.04	0.90	0.47	17.41	1.50	-9.73	-18.71	0.	1.50	-217.
26-END	8.72	8.29	0.	0.	8.29	0.	0.47	8.76	1.50	-1.54	-19.50	0.	1.50	-371.
SEP														
1- 5	10.27	15.29	0.	0.	15.29	0.27	0.47	16.03	1.50	-7.26	-22.64	0.	1.50	-265.
6-10	11.69	12.78	0.	0.	12.78	0.	0.47	13.25	1.50	-3.06	-23.96	0.	1.50	-286.
11-15	11.42	8.35	7.47	0.	15.82	0.	0.47	16.29	1.50	-4.37	-25.85	0.	1.50	-205.
16-20	8.44	0.	0.	0.	0.	0.	0.47	0.47	1.50	6.47	-23.05	0.	1.50	-172.
21-25	23.20	0.	7.25	0.	7.25	0.	0.47	7.72	1.50	13.98	-17.01	0.	1.50	-58.
26-END	13.24	9.10	14.80	0.	23.91	0.90	0.47	25.28	1.50	-13.54	-22.86	0.	1.50	-112.
OCT														
1- 5	12.15	9.10	18.14	0.	27.24	0.90	0.47	28.61	1.50	-17.96	-30.62	0.	1.50	-135.
6-10	9.79	2.76	8.78	0.	11.54	0.	0.47	12.01	1.50	-3.72	-32.23	0.	1.50	-147.
11-15	13.05	9.10	12.25	7.13	28.49	0.90	0.47	29.86	1.50	-18.31	-40.14	0.	1.50	-171.
16-20	15.77	0.	8.91	7.13	16.04	0.	0.47	16.51	1.50	-2.24	-41.33	0.	1.50	-178.
21-25	28.97	0.	3.14	8.73	11.89	0.	0.47	12.36	1.50	15.11	-34.58	0.	1.50	-109.
26-END	58.70	4.61	2.58	5.23	11.83	0.	0.47	12.30	1.50	44.90	-11.30	0.	1.50	32.
NOV														
1- 5	62.77	0.	0.68	6.59	6.85	0.	0.47	7.32	1.50	53.95	0.	12.01	29.29	100.
6-10	53.95	0.	0.	2.10	2.10	0.	0.47	2.57	1.50	49.88	0.	21.55	51.38	100.
11-15	67.91	0.	0.	0.	0.	0.	0.47	0.47	1.50	65.94	0.	28.49	67.44	100.
16-20	82.64	7.67	9.49	9.47	26.62	0.34	0.47	27.23	1.50	53.91	0.	23.29	55.41	100.
21-25	77.43	9.10	10.01	7.74	26.86	0.90	0.47	28.23	1.50	47.70	0.	20.61	49.20	100.
26-END	43.46	9.10	10.01	7.74	26.86	0.90	0.47	28.23	1.50	13.73	0.	5.93	15.23	100.
DEC														
1- 5	32.09	0.	1.56	1.83	3.41	0.	0.47	3.88	1.50	26.71	0.	11.54	28.21	100.
6-10	46.05	0.	0.	0.	0.	0.	0.47	0.47	1.50	46.08	0.	19.91	47.58	100.
11-15	33.45	9.10	3.67	0.61	13.38	0.90	0.47	14.95	1.50	17.00	0.	7.34	18.50	100.
16-20	23.21	4.71	7.51	5.70	17.93	0.	0.47	18.40	1.50	3.31	0.	1.43	4.81	100.
21-25	21.78	0.	5.80	6.72	12.52	0.	0.47	12.99	1.50	7.29	0.	3.15	8.79	100.
26-END	17.37	3.03	10.01	7.74	20.79	0.90	0.47	22.16	1.50	-6.29	-3.26	0.	1.50	77.

Table C-17 (2/5) WATER BALANCE UNDER 60% OVERALL EFFICIENCY FOR CASE 2 IN 1979

YEAR : 1979

PERIOD	RUNOFF (CUM/S)	PADDY BLOCK 1 (CUM/S)	PADDY BLOCK 2 (CUM/S)	PADDY BLOCK 3 (CUM/S)	PADDY TOTAL (CUM/S)	UPLAND CROP (CUM/S)	D.R.I WATER (CUM/S)	DIVERSION REQM'T (CUM/S)	MAINT. FLOW (CUM/S)	BALANCE (CUM/S)	DEFICIT (MCM)	SURPLUS (MCM)	DOWNSTR. FROM DRH (CUM/S)	WATER DEPTH (MM)
JAN														
1- 5	18.17	0.	0.	0.	0.	0.	0.47	0.47	1.50	16.20	0.	3.74	10.15	100.
6-10	17.80	0.	7.60	6.72	14.32	0.	0.47	14.79	1.50	1.51	0.	0.65	3.01	100.
11-15	15.18	0.	10.01	7.74	17.75	0.90	0.47	19.13	1.50	-5.45	-2.35	0.	1.50	81.
16-20	11.95	0.	6.67	7.74	14.42	0.90	0.47	15.79	1.50	-5.34	-4.66	0.	1.50	53.
21-25	11.99	0.	4.92	5.70	10.62	0.20	0.47	11.30	1.50	-0.81	-5.01	0.	1.50	49.
26-END	11.25	0.	3.34	7.74	11.08	0.90	0.47	12.45	1.50	-2.70	-6.41	0.	1.50	15.
FEB														
1- 5	11.10	0.	3.34	7.74	11.08	0.90	0.47	12.45	1.50	-2.85	-7.64	0.	1.50	-1.
6-10	12.22	0.	0.	3.67	3.67	0.14	0.47	4.28	1.50	6.44	-4.86	0.	1.50	8.
11-15	11.84	0.	0.	1.63	1.63	0.78	0.47	2.88	1.50	7.46	-1.63	0.	1.50	69.
16-20	14.90	0.	0.	0.	0.	0.20	0.47	0.67	1.50	12.73	0.	3.87	10.45	100.
21-25	35.77	6.55	0.	0.	6.55	0.	0.47	7.02	1.50	27.25	0.	11.77	28.75	100.
26-END	34.91	13.92	0.	2.58	16.56	0.90	0.47	17.93	1.50	15.48	0.	4.01	16.98	100.
MAR														
1- 5	27.97	13.46	0.	2.58	16.04	0.90	0.47	17.41	1.50	9.06	0.	3.91	10.56	100.
6-10	25.87	13.46	0.	0.	13.46	0.90	0.47	14.83	1.50	9.54	0.	4.12	11.04	100.
11-15	22.75	16.49	0.	0.	16.49	0.90	0.47	17.87	1.50	3.38	0.	1.46	4.88	100.
16-20	30.69	16.49	0.	0.	16.49	0.90	0.47	17.87	1.50	31.32	0.	13.53	32.82	100.
21-25	65.60	11.14	9.22	0.	20.36	0.90	0.47	21.74	1.50	42.36	0.	18.30	43.86	100.
26-END	39.88	10.30	7.69	0.	17.98	0.90	0.47	19.36	1.50	19.02	0.	9.86	20.52	100.
APR														
1- 5	51.33	9.10	14.80	0.	23.91	0.90	0.47	25.28	1.50	24.55	0.	10.61	26.05	100.
6-10	42.36	9.10	13.48	0.	22.59	0.90	0.47	23.96	1.50	16.90	0.	7.30	18.40	100.
11-15	33.29	9.10	4.22	0.	13.32	0.90	0.47	14.69	1.50	17.10	0.	7.39	18.60	100.
16-20	28.31	9.10	18.14	0.	27.24	0.90	0.47	28.61	1.50	-1.80	-0.78	0.	1.50	94.
21-25	35.43	0.	0.	1.36	1.36	0.	0.47	1.83	1.50	32.10	0.	13.09	31.80	100.
26-END	45.29	0.	0.	2.04	2.04	0.	0.47	2.51	1.50	41.28	0.	17.83	42.78	100.
MAY														
1- 5	56.30	9.10	10.01	11.44	30.56	0.90	0.47	31.93	1.50	22.87	0.	9.88	24.37	100.
6-10	37.52	9.10	10.01	11.44	30.56	0.90	0.47	31.93	1.50	4.09	0.	1.77	5.59	100.
11-15	50.60	9.10	4.74	7.91	21.76	0.90	0.47	23.13	1.50	25.97	0.	11.22	27.47	100.
16-20	23.45	9.10	10.01	14.02	33.14	0.90	0.47	34.51	1.50	-12.56	-5.43	0.	1.50	70.
21-25	19.04	9.10	9.13	8.45	26.69	0.90	0.47	28.07	1.50	-10.53	-9.97	0.	1.50	46.
26-END	26.77	0.	1.55	2.81	4.36	0.	0.47	4.83	1.50	20.44	0.	0.62	2.69	100.
JUN														
1- 5	29.59	9.10	8.26	5.70	23.06	0.90	0.47	24.44	1.50	3.65	0.	1.58	5.15	100.
6-10	66.74	0.	4.04	4.69	8.73	0.	0.47	9.20	1.50	56.04	0.	24.21	57.54	100.
11-15	67.25	0.96	0.53	0.	1.49	0.	0.47	1.96	1.50	63.79	0.	27.56	65.29	100.
16-20	30.56	2.20	6.46	4.69	13.34	0.	0.47	13.81	1.50	15.25	0.	6.59	16.75	100.
21-25	23.12	3.03	10.01	7.74	20.79	0.90	0.47	22.16	1.50	-0.54	-0.23	0.	1.50	98.
26-END	20.28	0.	10.01	7.74	17.75	0.90	0.47	19.13	1.50	-0.35	-0.38	0.	1.50	97.
JUL														
1- 5	17.74	0.	10.01	7.74	17.75	0.90	0.47	19.13	1.50	-2.89	-1.63	0.	1.50	87.
6-10	15.63	0.	6.67	7.74	14.42	0.	0.47	14.89	1.50	-0.78	-1.97	0.	1.50	80.
11-15	22.67	0.	6.67	7.74	14.42	0.59	0.47	15.47	1.50	5.70	0.	0.49	2.64	100.
16-20	24.02	0.	3.34	7.74	11.08	0.	0.47	11.55	1.50	10.97	0.	4.74	12.47	100.
21-25	73.93	0.	0.	0.	0.	0.	0.47	0.47	1.50	71.96	0.	31.09	73.46	100.
26-END	49.59	0.	0.	6.89	6.89	0.90	0.47	8.27	1.50	39.82	0.	20.64	41.32	100.
AUG														
1- 5	23.82	0.	0.	5.70	5.70	0.90	0.47	7.08	1.50	15.24	0.	6.58	16.74	100.
6-10	21.66	0.	0.	5.16	5.16	0.90	0.47	6.53	1.50	13.63	0.	5.89	15.13	100.
11-15	17.45	8.59	0.	3.60	12.19	0.90	0.47	13.56	1.50	2.39	0.	1.03	3.89	100.
16-20	26.85	6.63	0.	2.58	9.21	0.	0.47	9.68	1.50	9.67	0.	4.18	11.17	100.
21-25	26.95	13.46	0.	2.24	15.70	0.90	0.47	17.07	1.50	8.38	0.	3.62	9.88	100.
26-END	28.20	3.43	0.	0.	3.43	0.	0.47	3.90	1.50	22.80	0.	11.82	24.30	100.
SEP														
1- 5	43.99	13.38	0.	0.	13.38	0.	0.47	13.85	1.50	28.64	0.	12.37	30.14	100.
6-10	55.35	16.49	0.	0.	16.49	0.90	0.47	17.87	1.50	35.98	0.	15.55	37.48	100.
11-15	76.67	11.14	9.22	0.	20.36	0.90	0.47	21.74	1.50	53.43	0.	23.08	54.93	100.
16-20	80.10	8.51	8.26	0.	16.76	0.	0.47	17.23	1.50	61.37	0.	26.51	62.87	100.
21-25	42.58	9.10	14.80	0.	23.91	0.90	0.47	25.28	1.50	15.80	0.	6.83	17.30	100.
26-END	37.18	0.36	10.28	0.	10.64	0.	0.47	11.11	1.50	24.57	0.	10.62	26.07	100.
OCT														
1- 5	25.41	9.10	18.14	0.	27.24	0.90	0.47	28.61	1.50	-4.70	-2.03	0.	1.50	84.
6-10	27.75	0.	13.92	0.	13.92	0.	0.47	14.39	1.50	11.86	0.	3.09	8.66	100.
11-15	37.89	0.	0.	1.70	1.70	0.	0.47	2.17	1.50	34.22	0.	14.78	35.72	100.
16-20	40.53	5.75	10.14	6.79	22.68	0.	0.47	23.15	1.50	15.88	0.	6.86	17.38	100.
21-25	46.28	1.44	0.52	0.	1.96	0.	0.47	2.43	1.50	42.35	0.	18.29	43.85	100.
26-END	79.24	0.52	1.01	5.01	6.54	0.	0.47	7.01	1.50	70.73	0.	36.67	72.23	100.
NOV														
1- 5	73.36	0.	6.67	14.02	20.70	0.	0.47	21.17	1.50	50.69	0.	21.90	52.19	100.
6-10	79.14	9.10	4.74	7.91	21.76	0.90	0.47	23.13	1.50	54.51	0.	23.55	56.01	100.
11-15	80.54	1.08	3.56	5.40	10.03	0.	0.47	10.50	1.50	68.54	0.	29.61	70.04	100.
16-20	168.86	0.	4.04	6.42	10.46	0.	0.47	10.93	1.50	156.45	0.	67.59	157.95	100.
21-25	111.50	3.71	4.52	3.67	11.90	0.	0.47	12.37	1.50	97.63	0.	42.17	99.13	100.
26-END	114.39	0.	0.	0.	0.	0.	0.47	0.47	1.50	112.42	0.	48.57	113.92	100.
DEC														
1- 5	80.48	0.	6.67	7.74	14.42	0.	0.47	14.89	1.50	64.09	0.	27.69	65.59	100.
6-10	59.83	9.10	10.01	7.74	26.86	0.90	0.47	28.23	1.50	30.10	0.	13.00	31.60	100.
11-15	40.53	8.27	9.71	7.74	25.71	0.46	0.47	26.64	1.50	12.39	0.	5.35	13.89	100.
16-20	34.72	5.03	9.44	7.74	22.21	0.08	0.47	22.76	1.50	10.46	0.	4.52	11.96	100.
21-25	31.69	6.07	9.13	6.72	21.91	0.90	0.47	23.30	1.50	6.89	0.	2.98	8.39	100.
26-END	26.61	3.03	10.01	7.74	20.79	0.90	0.47	22.16	1.50	2.95	0.	1.33	4.45	100.

Table C-17 (3/5) WATER BALANCE UNDER 60% OVERALL EFFICIENCY FOR CASE 2 IN 1980

YEAR : 1980

PERIOD	RUNOFF	PADDY BLOCK 1	PADDY BLOCK 2	PADDY BLOCK 3	PADDY TOTAL	UPLAND CROP	D & I WATER	DIVERSION REQM'T	MAINT. FLOW	BALANCE	DEFICIT	SURPLUS	DOWNSTR. FROM BRH	WATER DEPTH
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	25.45	2.76	5.63	6.72	14.36	0.46	0.47	19.23	1.50	4.72	0.	2.04	6.22	100.
6-10	22.79	0.	4.26	1.63	5.89	0.20	0.47	6.56	1.50	14.23	0.	6.36	16.23	100.
11-15	18.04	0.	5.26	5.70	13.96	0.90	0.47	15.33	1.50	1.21	0.	0.52	2.71	100.
16-20	15.61	0.	6.67	7.74	14.42	0.	0.47	14.89	1.50	-0.78	-0.34	0.	1.50	97.
21-25	14.56	0.	6.67	7.74	14.42	0.90	0.47	15.79	1.50	-2.73	-1.51	0.	1.50	85.
26-END	19.16	0.	3.34	7.74	11.08	0.90	0.47	12.45	1.50	5.21	0.	1.19	3.79	100.
FEB														
1- 5	14.66	0.	3.34	7.74	11.08	0.90	0.47	12.45	1.50	0.73	0.	0.31	2.23	100.
6-10	12.03	0.	0.	7.74	7.74	0.90	0.47	9.11	1.50	1.42	0.	0.61	2.92	100.
11-15	10.19	0.	0.	7.74	7.74	0.90	0.47	9.11	1.50	-0.42	-0.18	0.	1.50	97.
16-20	9.13	0.	0.	4.48	4.48	0.	0.47	4.95	1.50	2.68	0.	0.97	3.75	100.
21-25	12.87	8.19	0.	4.48	12.67	0.90	0.47	14.24	1.50	-2.67	-1.24	0.	1.50	78.
26-END	28.10	5.94	0.	2.59	8.52	0.	0.47	8.99	1.50	17.61	0.	4.85	15.52	100.
MAR														
1- 5	36.12	3.95	0.	0.68	4.16	0.	0.47	4.63	1.50	29.99	0.	12.96	31.49	100.
6-10	59.28	13.14	0.	0.	13.14	0.65	0.47	14.26	1.50	43.52	0.	18.80	45.02	100.
11-15	21.56	12.42	0.	0.	12.42	0.	0.47	12.89	1.50	7.17	0.	3.10	8.67	100.
16-20	27.68	16.49	0.	0.	16.49	0.90	0.47	17.87	1.50	8.31	0.	3.59	9.81	100.
21-25	22.73	9.30	8.46	0.	17.55	0.	0.47	18.05	1.50	3.18	0.	1.37	4.68	100.
26-END	19.44	8.60	7.06	0.	15.66	0.	0.47	16.13	1.50	1.81	0.	0.94	3.31	100.
APR														
1- 5	21.82	0.	9.22	0.	9.22	0.	0.47	9.69	1.50	10.63	0.	4.59	12.13	100.
6-10	25.89	0.	8.08	0.	8.08	0.	0.47	8.55	1.50	15.84	0.	6.84	17.34	100.
11-15	25.50	5.75	2.11	0.	7.86	0.	0.47	8.33	1.50	15.67	0.	6.77	17.17	100.
16-20	19.27	8.98	18.09	0.	27.08	0.84	0.47	28.39	1.50	-10.62	-4.59	0.	1.50	65.
21-25	17.73	0.	8.91	7.13	16.04	0.	0.47	16.51	1.50	-0.28	-4.71	0.	1.50	68.
26-END	44.30	8.98	8.70	5.77	23.45	0.84	0.47	24.76	1.50	18.04	0.	3.08	8.64	100.
MAY														
1- 5	46.47	0.	6.67	11.44	18.12	0.	0.47	18.59	1.50	26.38	0.	11.40	27.88	100.
6-10	71.85	0.	0.	1.70	1.70	0.	0.47	2.17	1.50	68.18	0.	29.45	69.68	100.
11-15	68.50	0.	5.80	13.00	18.80	0.	0.47	19.27	1.50	47.73	0.	20.62	49.23	100.
16-20	57.41	0.	3.16	9.95	13.11	0.	0.47	13.58	1.50	42.33	0.	18.29	43.83	100.
21-25	33.02	9.18	6.56	5.40	21.00	0.90	0.47	22.38	1.50	9.14	0.	3.95	10.64	100.
26-END	37.61	8.41	9.02	7.90	25.34	0.46	0.47	26.26	1.50	9.85	0.	5.10	11.35	100.
JUN														
1- 5	32.77	0.	5.20	6.72	12.52	0.	0.47	12.99	1.50	18.28	0.	7.90	19.78	100.
6-10	36.61	5.91	8.17	5.70	19.78	0.78	0.47	21.03	1.50	14.08	0.	6.08	15.58	100.
11-15	25.20	5.11	9.49	7.74	22.34	0.14	0.47	22.95	1.50	0.75	0.	0.32	2.25	100.
16-20	38.07	2.44	7.68	5.70	15.74	0.	0.47	16.21	1.50	20.36	0.	8.80	21.86	100.
21-25	24.53	2.25	9.18	7.74	19.20	0.	0.47	19.67	1.50	3.36	0.	1.45	4.86	100.
26-END	23.90	0.	9.99	7.74	17.73	0.87	0.47	19.06	1.50	3.34	0.	1.44	4.84	100.
JUL														
1- 5	17.20	0.	10.01	2.74	12.75	0.90	0.47	14.13	1.50	-3.43	-1.48	0.	1.50	88.
6-10	14.59	0.	6.67	7.74	14.42	0.08	0.47	14.96	1.50	-1.87	-2.29	0.	1.50	77.
11-15	13.44	0.	5.80	6.72	12.52	0.90	0.47	13.89	1.50	-1.95	-3.13	0.	1.50	68.
16-20	29.52	0.	0.	0.	0.	0.	0.47	0.47	1.50	27.55	0.	8.77	21.80	100.
21-25	22.95	0.	0.	0.	0.	0.	0.47	0.47	1.50	20.98	0.	9.06	22.48	100.
26-END	37.34	0.	0.	4.35	4.35	0.	0.47	4.82	1.50	31.02	0.	16.08	32.52	100.
AUG														
1- 5	36.32	0.	0.	7.74	7.74	0.	0.47	8.21	1.50	28.61	0.	12.36	30.11	100.
6-10	26.12	0.	0.	5.16	5.16	0.	0.47	5.63	1.50	18.99	0.	8.20	20.49	100.
11-15	25.35	8.19	0.	3.60	11.79	0.90	0.47	13.56	1.50	10.29	0.	4.44	11.79	100.
16-20	21.11	3.71	0.	0.54	4.26	0.	0.47	4.73	1.50	14.88	0.	6.43	16.38	100.
21-25	84.01	13.46	0.	1.56	15.02	0.90	0.47	16.39	1.50	66.12	0.	28.56	67.62	100.
26-END	43.59	8.22	0.	0.	8.22	0.	0.47	8.69	1.50	33.40	0.	17.32	34.90	100.
SEP														
1- 5	30.07	14.45	0.	0.	14.45	0.	0.47	14.92	1.50	13.65	0.	5.89	15.15	100.
6-10	40.36	9.66	0.	0.	9.66	0.	0.47	10.13	1.50	28.73	0.	12.41	30.23	100.
11-15	26.64	11.14	9.62	0.	20.76	0.90	0.47	21.74	1.50	3.40	0.	1.47	4.90	100.
16-20	41.59	11.14	9.62	0.	20.76	0.90	0.47	21.74	1.50	18.35	0.	7.93	19.85	100.
21-25	75.58	0.24	6.04	0.	6.28	0.	0.47	6.75	1.50	65.33	0.	28.22	66.83	100.
26-END	50.95	6.71	12.61	0.	19.31	0.	0.47	19.78	1.50	29.67	0.	12.82	31.17	100.
OCT														
1- 5	47.21	0.	14.20	0.	14.20	0.	0.47	15.27	1.50	30.44	0.	13.15	31.94	100.
6-10	73.88	0.	14.20	0.	14.20	0.	0.47	15.27	1.50	57.11	0.	24.67	58.61	100.
11-15	77.04	5.85	5.92	6.79	23.87	0.	0.47	22.34	1.50	53.20	0.	22.98	54.70	100.
16-20	254.74	9.16	11.37	6.79	27.27	0.90	0.47	28.64	1.50	224.60	0.	97.03	226.10	100.
21-25	64.81	4.19	8.23	11.44	23.85	0.	0.47	24.32	1.50	38.99	0.	16.85	40.49	100.
26-END	40.27	0.	3.75	7.27	11.02	0.	0.47	11.49	1.50	27.28	0.	14.14	28.78	100.
NOV														
1- 5	35.41	0.	1.41	7.93	9.35	0.	0.47	9.79	1.50	24.12	0.	10.42	25.62	100.
6-10	33.36	9.16	8.26	11.93	29.35	0.90	0.47	30.72	1.50	1.14	0.	0.49	2.64	100.
11-15	36.21	7.79	7.77	7.44	23.00	0.28	0.47	23.67	1.50	11.04	0.	4.77	12.54	100.
16-20	49.29	9.16	9.13	8.45	26.69	0.90	0.47	28.07	1.50	19.72	0.	8.52	21.22	100.
21-25	70.27	0.	0.	0.	0.	0.	0.47	0.47	1.50	68.90	0.	29.76	70.40	100.
26-END	86.97	7.67	5.69	2.45	15.41	0.14	0.47	16.02	1.50	63.45	0.	27.41	64.95	100.
DEC														
1- 5	88.39	0.	0.	0.	0.	0.	0.47	0.47	1.50	86.42	0.	37.33	87.92	100.
6-10	156.55	3.11	1.14	0.	4.26	0.	0.47	4.73	1.50	152.32	0.	65.80	153.82	100.
11-15	148.08	9.16	10.61	7.74	26.84	0.90	0.47	28.23	1.50	118.35	0.	51.13	119.85	100.
16-20	71.17	5.27	2.90	0.	8.17	0.27	0.47	8.91	1.50	60.76	0.	26.25	62.26	100.
21-25	53.13	0.	6.67	7.74	14.42	0.	0.47	14.89	1.50	36.74	0.	15.87	38.24	100.
26-END	45.21	2.93	3.63	0.	6.56	0.71	0.47	7.35	1.50	36.36	0.	18.85	37.86	100.

Table C-17 (4/5) WATER BALANCE UNDER 60% OVERALL EFFICIENCY FOR CASE 2 IN 1981

YEAR : 1981

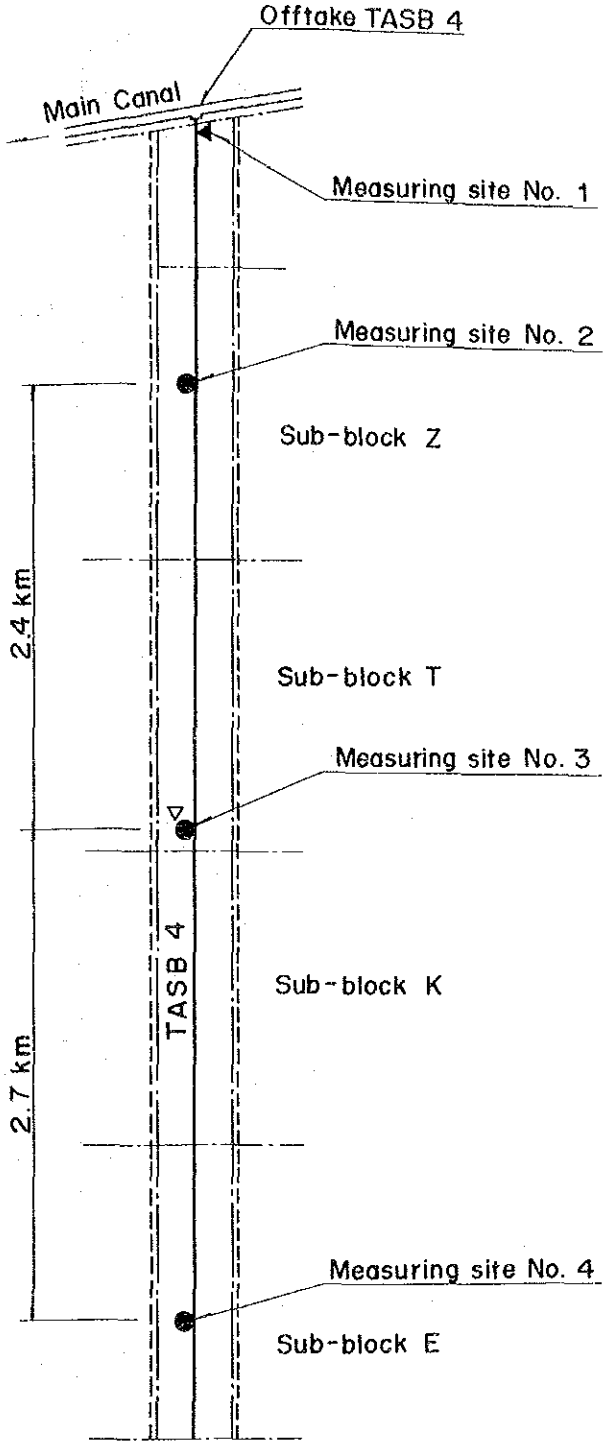
PERIOD	RUNOFF	PADDY BLOCK 1	PADDY BLOCK 2	PADDY BLOCK 3	PADDY TOTAL	UPLAND CROP	D & I WATER	DIVERSION REQMT	MAINT. FLOW	BALANCE	DEFICIT	SURPLUS	DOWNSTR. FROM BRH	WATER DEPTH
	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(CUM/S)	(MCM)	(MCM)	(CUM/S)	(MM)
JAN														
1- 5	54.19	0.44	6.52	6.72	13.53	0.	0.47	14.00	1.50	38.69	0.	16.72	40.19	100.
6-10	52.32	0.	6.67	7.74	14.42	0.	0.47	14.89	1.50	35.93	0.	15.52	37.43	100.
11-15	37.97	0.	10.01	7.74	17.75	0.90	0.47	19.13	1.50	17.34	0.	7.49	18.84	100.
16-20	34.74	0.	6.67	7.74	14.42	0.33	0.47	15.22	1.50	18.02	0.	7.79	19.52	100.
21-25	32.50	0.	5.80	6.72	12.52	0.90	0.47	13.89	1.50	17.11	0.	7.39	18.61	100.
26-END	27.20	0.	3.34	7.74	11.08	0.90	0.47	12.45	1.50	13.25	0.	6.87	14.75	100.
FEB														
1- 5	39.70	0.	2.90	6.72	9.62	0.	0.47	10.09	1.50	28.11	0.	12.14	29.61	100.
6-10	32.25	0.	0.	7.74	7.74	0.27	0.47	8.48	1.50	22.27	0.	9.62	23.77	100.
11-15	31.98	0.	0.	7.74	7.74	0.	0.47	8.21	1.50	22.27	0.	9.62	23.77	100.
16-20	51.76	0.	0.	5.16	5.16	0.90	0.47	6.53	1.50	43.73	0.	18.89	45.23	100.
21-25	30.51	7.59	0.	2.44	10.03	0.	0.47	10.50	1.50	18.51	0.	8.00	20.01	100.
26-END	51.19	10.52	0.	2.58	13.16	0.	0.47	13.63	1.50	36.06	0.	9.35	37.56	100.
MAR														
1- 5	35.01	12.26	0.	0.	12.26	0.	0.47	12.73	1.50	20.78	0.	8.98	22.28	100.
6-10	23.44	13.66	0.	0.	13.66	0.90	0.47	14.83	1.50	7.11	0.	3.07	8.61	100.
11-15	24.16	16.49	0.	0.	16.49	0.90	0.47	17.87	1.50	4.79	0.	2.07	6.29	100.
16-20	17.98	14.69	0.	0.	14.69	0.	0.47	15.16	1.50	1.32	0.	0.57	2.82	100.
21-25	21.46	11.14	9.22	0.	20.36	0.90	0.47	21.74	1.50	-1.78	-8.77	0.	1.50	91.
26-END	19.49	3.01	5.41	0.	8.42	0.	0.47	8.49	1.50	9.50	0.	4.16	9.52	100.
APR														
1- 5	42.94	5.96	15.09	0.	21.99	0.84	0.47	23.30	1.50	18.14	0.	7.84	19.64	100.
6-10	70.29	3.59	10.15	0.	13.74	0.	0.47	14.21	1.50	54.58	0.	23.58	56.08	100.
11-15	60.29	5.75	4.30	0.	10.05	0.	0.47	10.52	1.50	48.27	0.	20.85	49.77	100.
16-20	76.20	0.	14.80	0.	14.80	0.	0.47	15.27	1.50	61.43	0.	26.54	62.93	100.
21-25	74.85	9.10	9.62	8.11	26.83	0.90	0.47	28.21	1.50	47.14	0.	20.37	48.64	100.
26-END	41.86	9.10	4.96	4.07	18.14	0.90	0.47	19.51	1.50	20.87	0.	9.01	22.37	100.
MAY														
1- 5	61.83	0.	2.28	1.65	10.53	0.	0.47	10.20	1.50	49.51	0.	21.39	51.01	100.
6-10	80.43	0.	6.67	11.44	15.12	0.	0.47	16.59	1.50	60.34	0.	26.07	61.84	100.
11-15	90.35	9.10	8.28	11.99	29.35	0.90	0.47	30.72	1.50	58.13	0.	25.11	59.63	100.
16-20	100.19	7.67	7.51	11.98	26.56	0.	0.47	27.03	1.50	71.66	0.	30.96	73.16	100.
21-25	99.62	9.10	8.28	7.44	24.80	0.90	0.47	26.17	1.50	71.95	0.	31.08	73.45	100.
26-END	84.44	0.	0.	0.	0.	0.	0.47	0.47	1.50	82.47	0.	42.75	83.97	100.
JUN														
1- 5	66.32	9.10	10.01	7.74	26.85	0.90	0.47	28.23	1.50	36.59	0.	15.81	38.09	100.
6-10	40.96	5.67	9.79	7.74	23.20	0.59	0.47	24.26	1.50	15.20	0.	6.57	16.70	100.
11-15	34.21	6.07	10.01	7.74	23.82	0.90	0.47	25.20	1.50	7.51	0.	3.25	9.01	100.
16-20	27.04	3.63	10.01	7.74	20.79	0.90	0.47	22.16	1.50	3.38	0.	1.46	4.88	100.
21-25	24.95	3.03	9.17	6.72	18.89	0.90	0.47	20.27	1.50	3.18	0.	1.38	4.68	100.
26-END	37.26	0.	10.01	7.74	17.75	0.90	0.47	19.13	1.50	16.63	0.	7.19	18.13	100.
JUL														
1- 5	23.90	0.	10.01	7.74	17.75	0.90	0.47	19.13	1.50	3.27	0.	1.41	4.77	100.
6-10	19.46	0.	6.67	7.74	14.42	0.46	0.47	15.34	1.50	2.62	0.	1.13	4.12	100.
11-15	24.19	0.	6.67	7.74	14.42	0.	0.47	14.89	1.50	7.80	0.	3.37	9.30	100.
16-20	19.88	0.	3.34	7.74	11.08	0.90	0.47	12.45	1.50	5.93	0.	2.56	7.43	100.
21-25	19.76	0.	2.46	5.70	8.16	0.	0.47	8.63	1.50	9.63	0.	4.16	11.13	100.
26-END	22.47	0.	0.	0.95	0.95	0.90	0.47	2.32	1.50	18.65	0.	9.67	20.15	100.
AUG														
1- 5	16.61	0.	0.	7.74	7.74	0.90	0.47	9.11	1.50	6.00	0.	2.59	7.50	100.
6-10	13.11	0.	0.	5.16	5.16	0.90	0.47	6.53	1.50	5.08	0.	2.19	6.58	100.
11-15	11.68	8.79	0.	5.18	13.55	0.90	0.47	14.92	1.50	-4.74	-2.05	0.	1.50	63.
16-20	10.74	8.63	0.	0.	8.63	0.33	0.47	8.83	1.50	0.41	-1.87	0.	1.50	51.
21-25	15.68	7.57	0.	2.53	10.45	0.	0.47	10.92	1.50	3.16	-0.49	0.	1.50	92.
26-END	26.09	9.02	0.	0.	9.02	0.	0.47	9.49	1.50	15.10	0.	7.34	15.65	100.
SEP														
1- 5	24.25	9.06	0.	0.	9.06	0.	0.47	9.53	1.50	13.22	0.	5.71	14.72	100.
6-10	89.18	3.39	0.	0.	3.39	0.	0.47	3.86	1.50	83.82	0.	36.21	85.32	100.
11-15	69.06	10.90	9.14	0.	20.04	0.78	0.47	21.22	1.50	46.28	0.	19.99	47.78	100.
16-20	54.22	6.85	7.64	0.	14.47	0.	0.47	14.94	1.50	38.38	0.	16.58	39.88	100.
21-25	46.02	9.10	11.29	0.	20.39	0.90	0.47	21.77	1.50	16.75	0.	7.24	18.25	100.
26-END	27.56	8.51	13.70	0.	22.21	0.59	0.47	23.27	1.50	2.81	0.	1.22	4.31	100.
OCT														
1- 5	26.53	9.10	18.14	0.	27.24	0.90	0.47	28.61	1.50	-7.58	-3.28	0.	1.50	75.
6-10	28.73	9.10	16.71	0.	25.84	0.90	0.47	27.21	1.50	0.02	-3.27	0.	1.50	75.
11-15	46.47	0.	0.	0.29	0.29	0.	0.47	1.15	1.50	43.82	0.	15.66	37.76	100.
16-20	77.12	0.	0.40	3.12	3.52	0.	0.47	3.99	1.50	71.63	0.	30.94	73.13	100.
21-25	36.71	9.10	10.01	11.44	30.56	0.90	0.47	31.93	1.50	5.28	0.	2.28	6.78	100.
26-END	41.04	7.81	6.61	7.27	21.69	0.08	0.47	22.23	1.50	17.31	0.	8.97	18.81	100.
NOV														
1- 5	30.96	7.19	2.64	1.26	11.10	0.	0.47	11.65	1.50	17.81	0.	7.69	19.31	100.
6-10	32.74	1.56	3.71	9.95	15.24	0.	0.47	15.71	1.50	15.53	0.	6.71	17.03	100.
11-15	64.02	9.10	8.96	8.25	26.31	0.90	0.47	27.69	1.50	34.83	0.	15.05	36.33	100.
16-20	65.31	0.	4.38	6.72	11.03	0.	0.47	11.50	1.50	52.31	0.	22.60	53.81	100.
21-25	100.05	4.11	5.40	5.67	15.18	0.	0.47	15.65	1.50	90.90	0.	39.27	92.40	100.
26-END	72.27	0.	1.23	1.43	2.66	0.	0.47	3.13	1.50	67.64	0.	29.22	69.14	100.
DEC														
1- 5	52.05	6.59	9.09	7.74	23.42	0.	0.47	23.89	1.50	26.64	0.	11.51	28.14	100.
6-10	83.51	9.10	9.66	7.33	26.10	0.90	0.47	27.47	1.50	54.54	0.	23.56	56.04	100.
11-15	55.51	0.	0.	0.	0.	0.	0.47	0.47	1.50	53.54	0.	23.13	55.04	100.
16-20	37.13	6.67	10.01	7.74	23.82	0.90	0.47	25.20	1.50	10.43	0.	4.51	11.93	100.
21-25	29.66	6.07	10.01	7.74	23.82	0.90	0.47	25.20	1.50	2.96	0.	1.28	4.46	100.
26-END	26.80	0.	3.75	4.35	8.09	0.	0.47	8.56	1.50	16.74	0.	8.68	18.24	100.

Table C-17 (5/5) WATER BALANCE UNDER 60% OVERALL EFFICIENCY FOR CASE 2 IN 1983

YEAR : 1983

PERIOD	RUNOFF (CUM/S)	PADDY BLOCK 1 (CUM/S)	PADDY BLOCK 2 (CUM/S)	PADDY BLOCK 3 (CUM/S)	TOTAL (CUM/S)	UPLAND CROP (CUM/S)	D & I WATER (CUM/S)	DIVERSION REQMT (CUM/S)	MAINT. FLOW (CUM/S)	BALANCE (CUM/S)	DEFICIT (MCM)	SURPLUS (MCM)	DOWNSTR. FROM BRN (CUM/S)	WATER DEPTH (MM)
JAN														
1- 5	39.23	0.	0.	0.	0.	0.	0.47	0.47	1.50	37.26	0.	16.10	38.76	100.
6-10	35.44	0.	8.12	8.52	16.64	0.	0.47	15.11	1.50	18.83	0.	8.13	20.33	100.
11-15	27.60	0.	9.53	7.54	17.07	0.46	0.47	18.00	1.50	8.10	0.	3.50	9.60	100.
16-20	24.84	0.	6.67	7.74	14.42	0.90	0.47	15.79	1.50	7.55	0.	3.26	9.05	100.
21-25	22.11	0.	6.67	7.74	14.42	0.90	0.47	15.79	1.50	4.82	0.	2.08	6.32	100.
26-END	19.29	0.	3.34	7.74	11.08	0.90	0.47	12.45	1.50	5.34	0.	2.77	6.84	100.
FEB														
1- 5	18.90	0.	3.34	7.74	11.08	0.90	0.47	12.45	1.50	4.95	0.	2.14	6.45	100.
6-10	16.49	0.	0.	2.65	2.65	0.90	0.47	4.23	1.50	10.76	0.	4.65	12.26	100.
11-15	16.69	0.	0.	7.74	7.74	0.90	0.47	9.11	1.50	6.08	0.	2.62	7.58	100.
16-20	22.30	0.	0.	5.16	5.16	0.52	0.47	6.15	1.50	14.65	0.	6.33	16.15	100.
21-25	17.47	7.57	0.	5.16	13.03	0.08	0.47	13.57	1.50	2.40	0.	1.04	3.90	100.
26-END	15.71	13.98	0.	2.58	16.56	0.90	0.47	17.93	1.50	-3.72	-0.96	0.	1.50	75.
MAR														
1- 5	20.98	13.46	0.	2.58	16.04	0.90	0.47	17.41	1.50	2.07	-0.07	0.	1.50	99.
6-10	14.94	13.46	0.	0.	13.46	0.90	0.47	14.83	1.50	-1.39	-0.67	0.	1.50	84.
11-15	19.25	16.49	0.	0.	16.49	0.90	0.47	17.87	1.50	-0.12	-0.72	0.	1.50	88.
16-20	19.61	13.98	0.	0.	13.98	0.	0.47	14.45	1.50	3.66	0.	0.86	3.50	100.
21-25	18.55	11.14	9.62	0.	20.76	0.90	0.47	21.74	1.50	-4.69	-2.03	0.	1.50	76.
26-END	25.39	10.30	7.69	0.	17.98	0.90	0.47	19.36	1.50	4.53	0.	0.32	2.13	100.
APR														
1- 5	15.76	9.10	14.80	0.	23.91	0.90	0.47	25.28	1.50	-11.02	-4.76	0.	1.50	56.
6-10	13.49	9.10	14.80	0.	23.91	0.90	0.47	25.28	1.50	-13.29	-10.50	0.	1.50	2.
11-15	12.11	9.10	18.14	0.	27.24	0.90	0.47	28.61	1.50	-18.00	-18.28	0.	1.50	-40.
16-20	10.66	9.10	18.14	0.	27.24	0.90	0.47	28.61	1.50	-19.45	-26.68	0.	1.50	-105.
21-25	12.83	0.	2.24	4.55	6.79	0.	0.47	7.26	1.50	4.07	-24.93	0.	1.50	-68.
26-END	19.24	0.	0.	0.61	0.61	0.	0.47	1.08	1.50	16.66	-17.73	0.	1.50	-20.
MAY														
1- 5	33.25	3.59	1.37	5.97	8.93	0.	0.47	9.35	1.50	22.40	-8.05	0.	1.50	51.
6-10	24.90	7.07	8.56	10.90	26.53	0.	0.47	27.00	1.50	-3.60	-9.61	0.	1.50	42.
11-15	30.39	8.51	9.79	14.02	32.32	0.59	0.47	33.38	1.50	-4.49	-11.55	0.	1.50	37.
16-20	26.73	3.71	8.04	14.02	25.77	0.	0.47	26.24	1.50	-1.01	-11.98	0.	1.50	35.
21-25	29.22	2.27	5.75	4.89	12.91	0.46	0.47	19.84	1.50	7.88	-8.58	0.	1.50	53.
26-END	21.44	0.	5.80	7.74	13.53	0.	0.47	14.00	1.50	5.94	-5.50	0.	1.50	70.
JUN														
1- 5	24.00	9.10	10.01	7.74	26.86	0.90	0.47	28.23	1.50	-5.73	-7.98	0.	1.50	56.
6-10	14.35	5.35	9.69	7.13	21.57	0.33	0.47	22.37	1.50	-9.52	-12.09	0.	1.50	26.
11-15	26.44	2.08	4.83	4.28	11.18	0.	0.47	11.65	1.50	13.29	-6.35	0.	1.50	61.
16-20	34.06	2.04	4.17	2.24	8.45	0.	0.47	8.92	1.50	23.64	0.	3.86	10.44	100.
21-25	19.74	3.03	10.01	7.74	20.79	0.90	0.47	22.16	1.50	-3.92	-1.69	0.	1.50	88.
26-END	15.07	0.	10.01	7.74	17.75	0.90	0.47	19.13	1.50	-5.56	-4.10	0.	1.50	66.
JUL														
1- 5	15.28	0.	8.84	7.74	15.78	0.	0.47	16.25	1.50	-2.47	-5.16	0.	1.50	57.
6-10	17.42	0.	4.92	5.70	10.62	0.	0.47	11.09	1.50	4.83	-3.08	0.	1.50	69.
11-15	19.12	0.	3.16	3.67	6.83	0.90	0.47	8.20	1.50	9.42	0.	0.99	3.80	100.
16-20	16.92	0.	0.	0.	0.	0.	0.47	0.47	1.50	14.95	0.	6.46	16.45	100.
21-25	53.45	0.	3.34	7.74	11.08	0.90	0.47	12.45	1.50	39.50	0.	17.06	41.00	100.
26-END	28.84	0.	0.	5.19	5.19	0.90	0.47	6.57	1.50	20.77	0.	10.77	22.27	100.
AUG														
1- 5	62.57	0.	0.	7.74	7.74	0.	0.47	8.21	1.50	52.86	0.	22.84	54.36	100.
6-10	47.59	0.	0.	3.80	3.80	0.90	0.47	5.18	1.50	40.91	0.	17.67	42.41	100.
11-15	31.66	5.75	0.	0.41	6.16	0.	0.47	6.63	1.50	23.53	0.	10.17	25.03	100.
16-20	31.37	8.35	0.	2.58	10.93	0.84	0.47	12.24	1.50	17.63	0.	7.62	19.13	100.
21-25	21.72	8.90	0.	2.24	11.15	0.	0.47	11.62	1.50	8.60	0.	3.72	10.10	100.
26-END	27.00	2.96	0.	0.	2.96	0.	0.47	3.43	1.50	22.07	0.	11.44	23.57	100.
SEP														
1- 5	45.75	2.12	0.	0.	2.12	0.	0.47	2.59	1.50	41.66	0.	18.00	43.16	100.
6-10	64.40	14.10	0.	0.	14.10	0.	0.47	14.57	1.50	48.33	0.	20.88	49.83	100.
11-15	82.61	3.95	6.59	0.	10.54	0.	0.47	11.01	1.50	70.10	0.	30.28	71.60	100.
16-20	126.51	0.	1.32	0.	1.32	0.	0.47	1.79	1.50	123.22	0.	53.23	124.72	100.
21-25	73.63	9.10	14.80	0.	23.91	0.90	0.47	25.28	1.50	46.85	0.	20.24	48.35	100.
26-END	45.13	0.	6.63	0.	6.63	0.	0.47	7.10	1.50	36.53	0.	15.78	38.03	100.
OCT														
1- 5	29.42	6.55	8.24	0.	14.69	0.	0.47	15.16	1.50	18.76	0.	8.10	20.26	100.
6-10	32.67	4.79	14.80	0.	19.59	0.	0.47	20.06	1.50	11.11	0.	4.80	12.61	100.
11-15	36.39	5.67	8.43	6.11	20.41	0.	0.47	20.88	1.50	8.01	0.	3.46	9.51	100.
16-20	33.91	7.79	11.77	7.13	26.69	0.20	0.47	27.36	1.50	5.05	0.	2.18	6.55	100.
21-25	36.33	3.71	6.28	16.08	26.08	0.	0.47	26.55	1.50	16.28	0.	7.03	17.78	100.
26-END	42.15	0.	0.	3.31	3.31	0.	0.47	3.78	1.50	36.87	0.	19.11	38.37	100.
NOV														
1- 5	40.41	4.19	3.82	8.93	16.94	0.	0.47	17.41	1.50	21.50	0.	9.29	23.00	100.
6-10	56.02	9.10	10.01	14.02	33.14	0.90	0.47	34.51	1.50	20.01	0.	8.64	21.51	100.
11-15	48.93	9.10	10.01	9.47	28.59	0.90	0.47	29.96	1.50	17.47	0.	7.55	18.97	100.
16-20	45.67	9.10	10.01	9.47	28.59	0.90	0.47	29.96	1.50	14.21	0.	6.14	15.71	100.
21-25	35.64	8.74	7.25	4.89	20.88	0.71	0.47	21.86	1.50	12.28	0.	5.31	13.78	100.
26-END	34.57	4.31	2.11	0.61	7.03	0.	0.47	7.50	1.50	25.57	0.	11.05	27.07	100.
DEC														
1- 5	31.84	9.10	10.01	7.74	26.86	0.90	0.47	28.23	1.50	2.11	0.	0.91	3.61	100.
6-10	28.40	3.95	5.49	4.69	14.13	0.	0.47	14.60	1.50	12.30	0.	5.31	13.80	100.
11-15	40.40	0.	4.64	4.69	9.33	0.	0.47	9.80	1.50	29.10	0.	12.83	31.20	100.
16-20	31.47	0.96	2.81	4.65	8.42	0.	0.47	8.89	1.50	23.08	0.	9.97	24.58	100.
21-25	27.54	0.	1.41	1.63	3.03	0.	0.47	3.50	1.50	22.54	0.	9.74	24.04	100.
26-END	25.90	2.90	9.67	7.74	20.51	0.65	0.47	21.63	1.50	2.77	0.	1.44	4.27	100.

FIGURES



Measurment of water level in the canal using automatic water level recorder

1. Measurement of offtake discharge to the lot using triangular weir and automatic water level recorder
2. Measurement of standing water depth using automatic water level recorder

1. Measurement of offtake discharge to the lot using triangular weir and automatic water level recorder
2. Measurement of standing water depth using automatic water level recorder
3. Measurement of rainfall using automatic raingauge

1. Measurement of offtake discharge to the lot using triangular weir and automatic water level recorder
2. Measurment of standing water depth using automatic water level recorder

Fig. C-1

Location of Site for Field Measurement in TASB 4 Area

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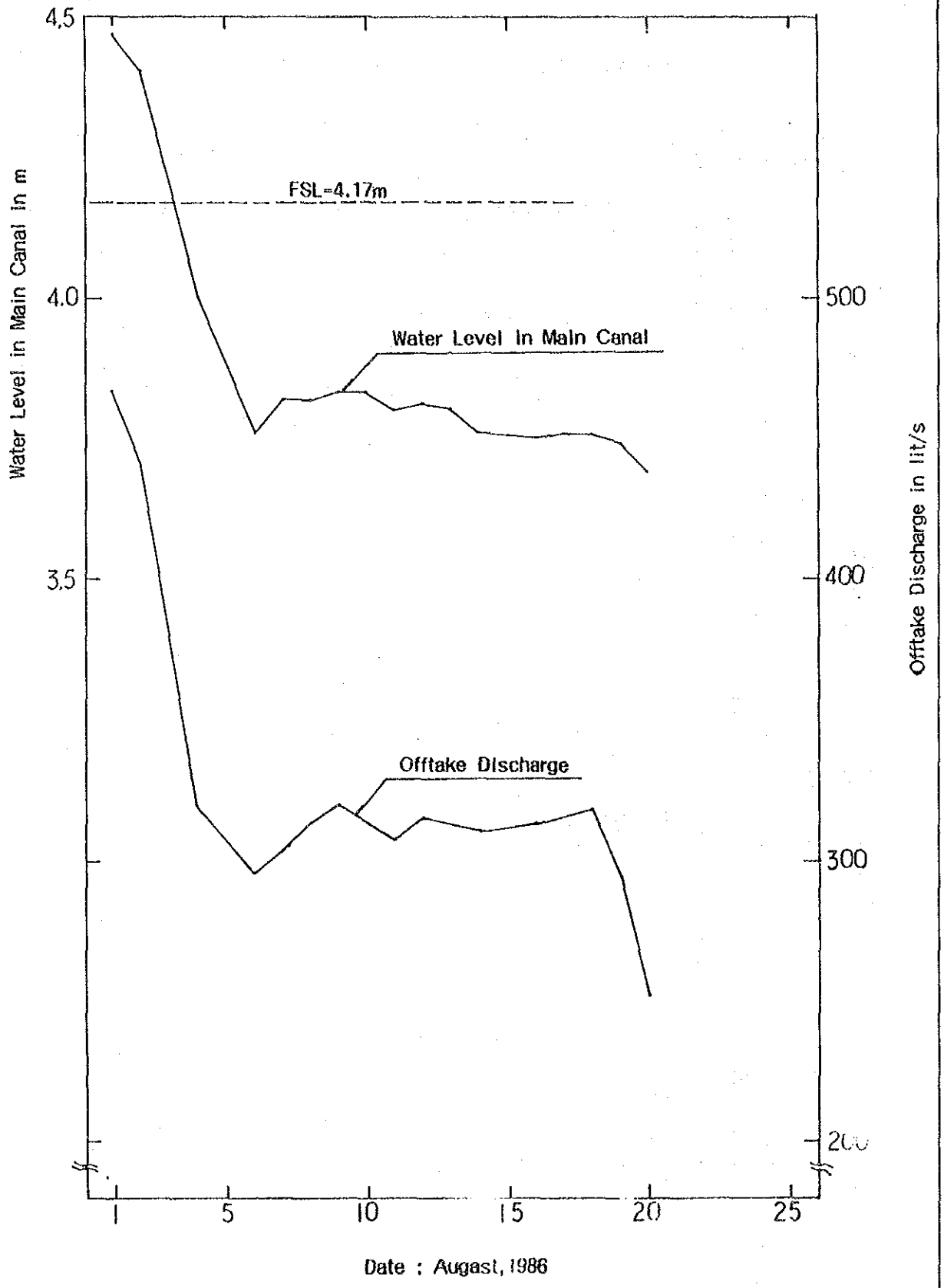

Fig. C-2

Water Level of the Main Canal during Presaturation

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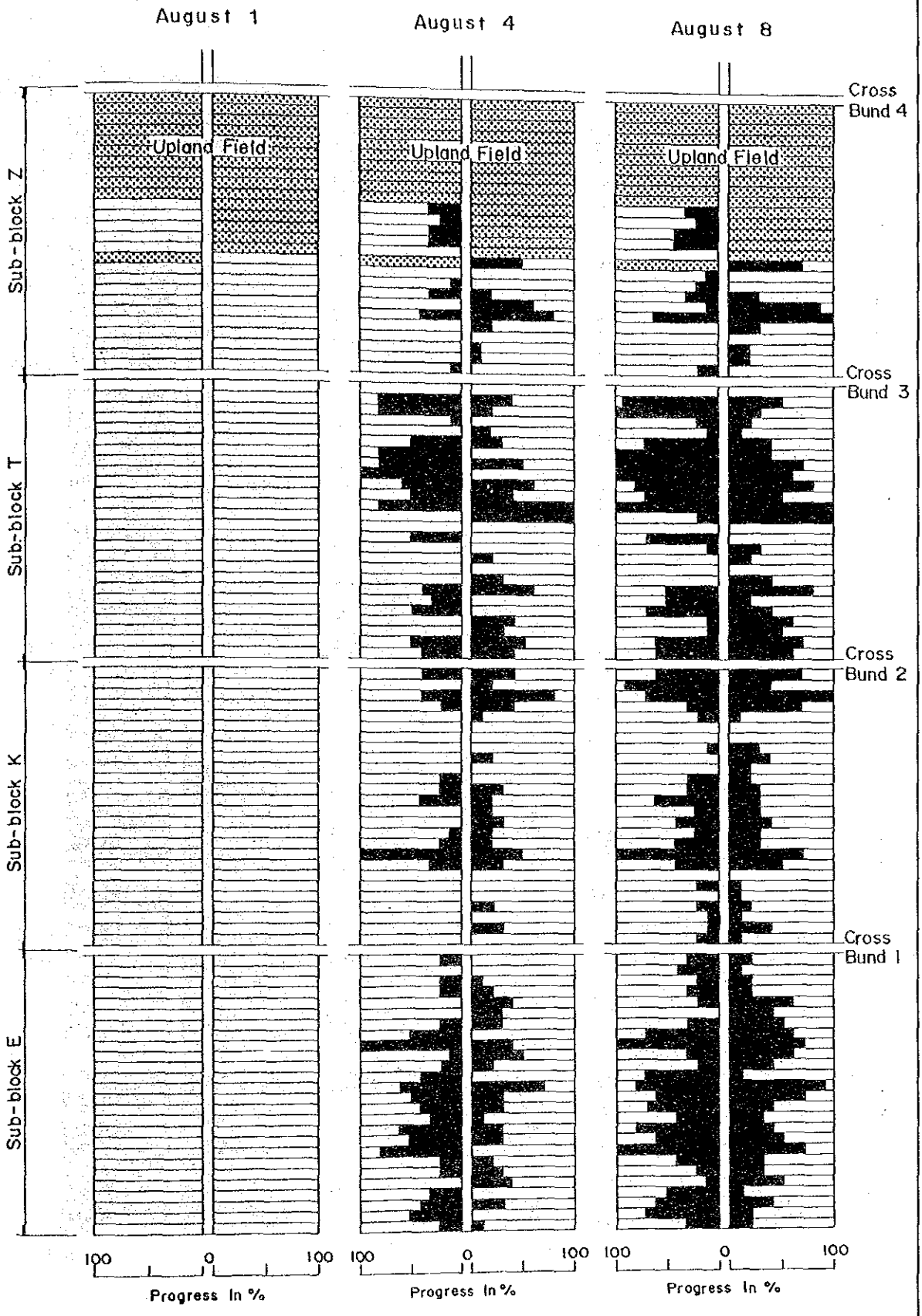

Fig. C-3 (1/2)

Progress of Presaturation in TASB 4 Area

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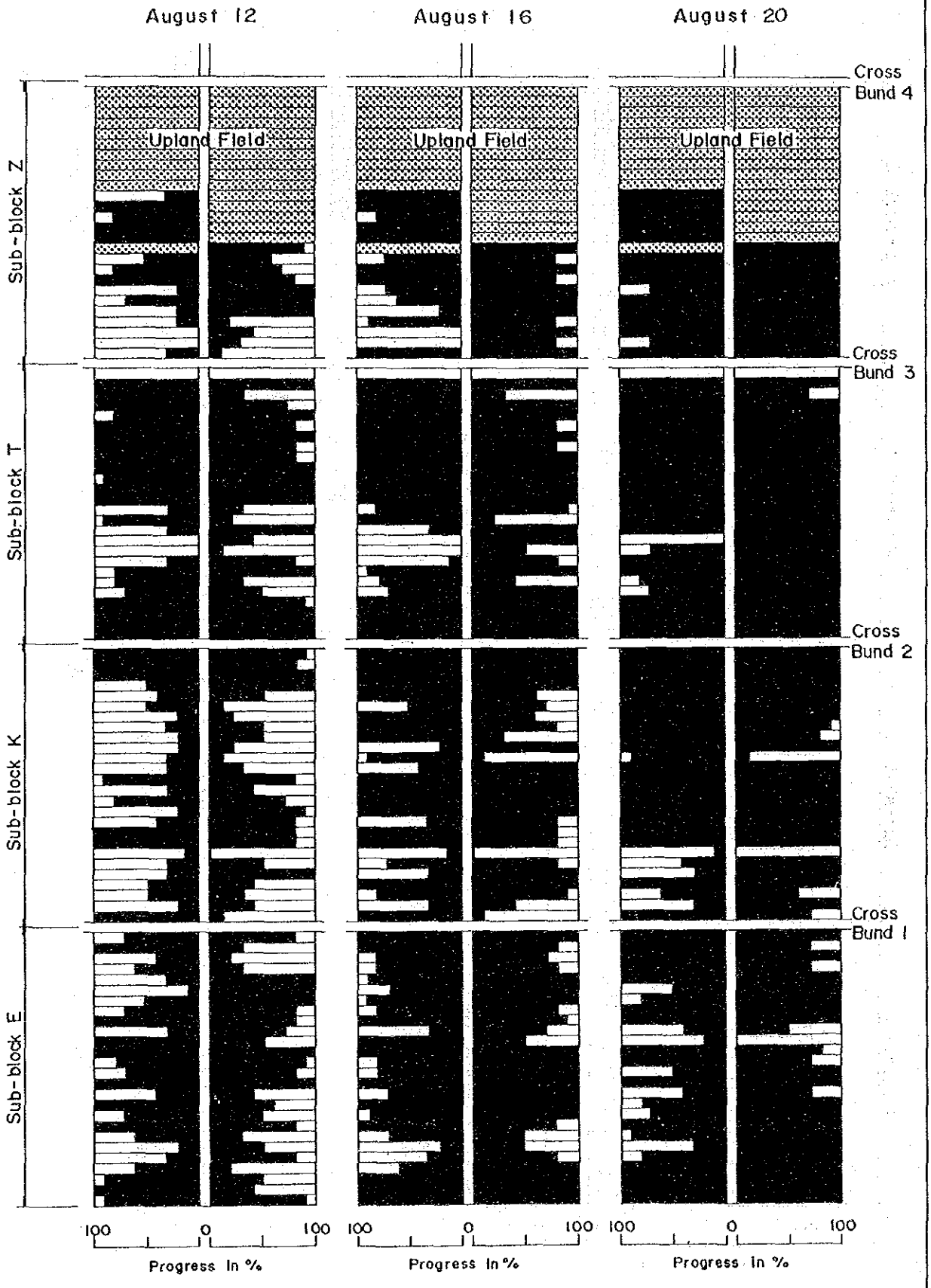

Fig. C-3 (2/2)

Progress of Presaturation in TASB 4 Area

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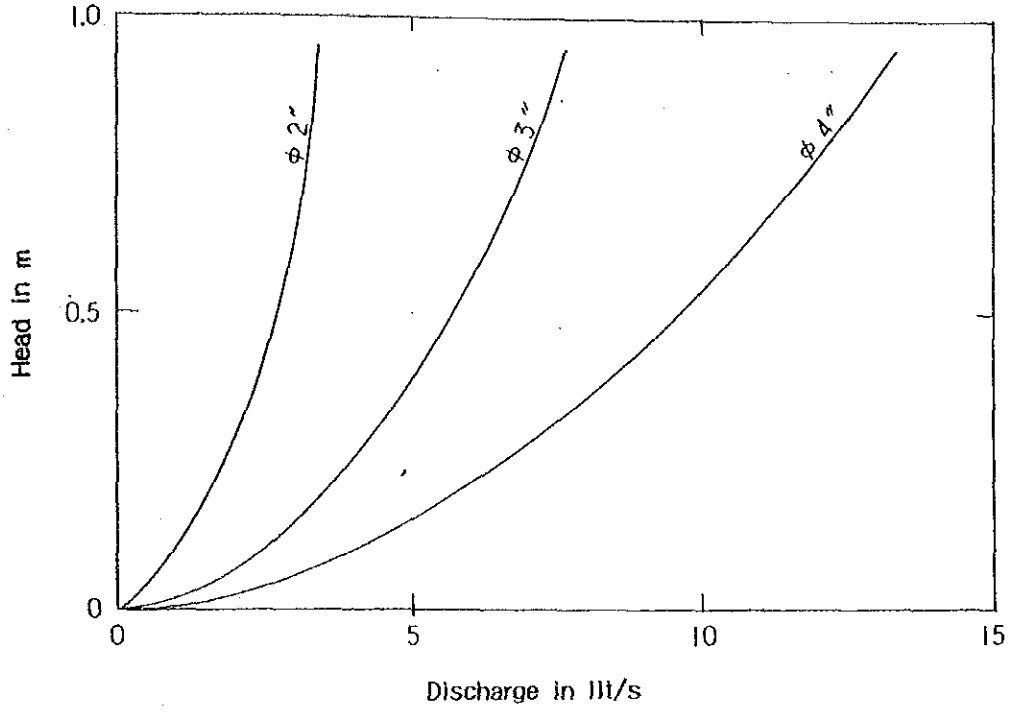

Fig. C-4

Discharge Capacity of Syphon

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ANNEX D

Characteristics of Flow in Concrete Conduit

ANNEX D
CHARACTERISTICS OF FLOW IN CONCRETE CONDUIT

CONTENTS

LIST OF TABLES

LIST OF FIGURES

1. TRIAL OPERATION OF TERTIARY CANALS

1.1 Introduction

It is planned in the present operation manual that when a compartment is under presaturation, all the tertiary canals in the compartment are filled with the full supply level (FSL) for 20 days. During normal irrigation, canals are also filled with FSL, but the offtake is opened only for 12 hours a day. It becomes necessary to repeat opening and closing of the offtake gate every 12 hours. This is impractical and nobody can comply. Water is supplied continuously even during the normal irrigation period. As a result, much water is wasted. It would be necessary to establish a more practical operation rule during normal irrigation.

In order to make clear the characteristics of flow in concrete conduit and to identify problems in distribution network, trial operation was carried out under both the design discharge and the half of design discharge. In the course of the trial, it was found that the top elevation of check gate was too high to properly control the water level in the conduit. The gates were removed and the same procedures were repeated.

1.2 Procedures

Nine canals were selected from five compartments for the trial operation. The main features of the selected canals are summarized below.

Compartment	Canal	Length (km)	Design Q Paddy (lit/s)	Design Q Capacity (lit/s)	Nos of C/B	Nos of lots Paddy	Nos of lots Total
Sg. Burong	TASB 3	7.3	524	676	4	182	235
	TASB 4	7.2	522	665	4	183	233
Sekinchan	TAS 1	6.2	422	567	3	149	202
Sg. Leman	TASL 1	5.6	339	506	3	120	179
	TASL 2	5.4	316	499	3	112	177
	TASL 8	4.5	310	431	3	110	152
P. Panjang	TAPP 7	3.4	257	299	2	93	108
P. Bedena	TAPB 1a	3.1	253	253	1	90	90
	TAPB 2a	3.1	252	252	1	90	90

The procedures of the trial operation are summarized below.

a. Survey on the basic items such as top elevation of conduit and the number and location of field offtake pipes prior to the commencement of the trial operation.
b. Examine kinds of cropping on each farm lot.
c. Confirm no water leaks from the canal. If leakage is found, such leakage is stopped before the trial is commenced.
d. Confirm that the main offtake gate is in good condition so that the diversion can be adjusted at the head of tertiary canal.
e. Open check gates as much as possible.
f. Remove weeds and debris from offtake pipes, to realize an ideal flow condition.
g. Remove slots, if any.
h. Adjust the constant head orifice gate and regulate the discharge at the head of canal to the design discharge. The discharge is confirmed by means of measurement by a current meter.
i. Measure the height from the top of a conduit down to the water level in the conduit at the points selected beforehand every 10 to 20 minutes.
j. Continue the measurement until the water level in the conduit becomes steady.
k. After confirming that water level is no more changed, discharge in the conduit is measured at the upstream reach of each check gate.
l. Decrease the discharge at the head of canal to the half of design discharge.
m. Repeat the procedures i to k above.
n. Remove all check gates and repeat the procedures h to m above.

1.3 Results

1.3.1 Flow patterns under the design discharge

(1) Before check gates are removed

Flow patterns under the design discharge are summarized in Figs. D-1 to D-9. The average water depth and mean discharge from offtake pipes in different reaches of the conduit are shown in tables below.

Water Depth above the Centre of Offtake Pipe (inch)

Name of Canal	U/S C/B4-C/B2 (cm) (inch)	Middle C/B2-C/B1 (cm) (inch)	D/S C/B1-END (cm) (inch)
TASB 3 (91%)*	11.7(4.6)	14.0(5.5)	10.4(4.1)
TASB 4 (98%)	19.3(7.6)	20.6(8.1)	16.7(6.6)
TAPP 7 (109%)	22.1(8.7)	15.0(5.9)	10.2(4.0)
TAPB 1a (104%)	25.7(10.1)	14.2(5.6)	8.1(3.2)
TAPB 2a (95%)	21.1(8.3)	11.2(4.4)	10.4(4.1)

Remarks : *;The figures in parentheses show the percentage of the discharge during the trial operation compared to the design discharge.

Mean Discharge from Offtake Pipe (lit/s)

Name of Canal	U/S C/B4-C/B2	Middle C/B2-C/B1	D/S C/B1-END
TASB 3	3.1 (1.2)*	1.9 (0.7)*	2.6 (1.0)*
TASB 4	3.3 (1.4)	2.5 (1.1)	2.3 (1.0)
TAPP 7	2.9 (1.5)	2.4 (1.2)	2.0 (1.0)
TAPB 1a	3.9 (1.8)	2.9 (1.3)	2.2 (1.0)
TAPB 2a	3.5 (1.5)	2.5 (1.0)	2.4 (1.0)

Remarks : *;The figure in parentheses is the ratio to the discharge in the downstream conduit.

The water depth above the centre of offtake pipes considerably varies between the upstream and the downstream reaches. The average water depth in the upstream reach is more than that in the downstream one. This makes it difficult to equitably distribute water to each farm lot. The discharge from each offtake pipe is calculated based on the above data. The discharge from offtake pipes in the upstream reach is 20% to 80% larger than that in the downstream one. This is because that the top elevation of the check gates are too high to properly control the water in the conduit. Under present conditions, the design discharge cannot be equally distributed to each farm lot.

(2) After check gates are removed

The check gates were removed and trial operation was repeated in two canals. The results are summarized in Figs. D-6 and D-9. The mean water depth and discharge from an offtake pipe in different reaches of the conduit are summarized below. The flow pattern in the conduit is much improved and the water depth above the centre of offtake pipe becomes almost constant in all reaches of the conduit. Consequently, there is no difference in the discharge from offtake pipes.

Water Depth above the Centre of Offtake Pipe

Name of Canal	U/S C/B4-C/B2 (cm) (inch)	Middle C/B2-C/B1 (cm) (inch)	D/S C/B1-END (cm) (inch)
TASL 8 (89%)*	10.4(4.1)	9.4(3.7)	9.9(3.9)
TAPB 2a (103%)	15.0(5.9)	14.0(5.5)	14.2(5.6)

Remarks : *;The figures in parentheses show the percentage of the discharge during the trial operation compared to the design discharge.

Mean Discharges from Offtake Pipe (lit/s)

Name of Canal	U/S C/B4-C/B2	Middle C/B2-C/B1	D/S C/B1-END
TASL 8 (89%)	1.9 (0.7)*	2.2 (0.9)*	2.6 (1.0)*
TAPB 2a (103%)	2.9 (1.0)	2.8 (1.0)	2.9 (1.0)

Remarks : *;The figures in parentheses in the ratio to the discharge in the downstream conduit.

1.3.2 *Flow patterns under the half of design discharge*

(1) Before check gates are removed

Flow patterns obtained through the trials in seven canals are shown in Figs. D-1 to D-9. The discharge from each offtake pipe was also

calculated. The average water depth and mean discharge from offtake pipe in different reaches of the conduit are shown below.

Water Depth above the Centre of Offtake Pipe

Name of Canal	U/S C/B4-C/B2 (cm) (inch)	Middle C/B2-C/B1 (cm) (inch)	D/S C/B1-END (cm) (inch)
TASB 3 (53%)*	1.3(0.5)	8.1(3.2)	5.6(2.2)
TASB 4 (54%)	8.6(3.4)	8.6(3.4)	5.1(2.0)
TAS 1 (51%)	6.6(2.6)	6.9(2.7)	2.8(1.1)
TASL 1 (55%)	1.3(0.5)	3.6(1.4)	7.1(2.8)
TASL 2 (55%)	4.8(1.9)	5.6(2.2)	5.6(2.2)
TAPP 7 (64%)	9.1(3.6)	14.7(5.8)	13.7(5.4)
TAPB 2a(54%)	10.2(4.0)	3.8(1.5)	5.6(2.2)

Remarks : *;The figures in parentheses show the percentage of the discharge during the trial operation compared to the design discharge.

Mean Discharge from Offtake Pipe (lit/s)

Name of Canal	U/S C/B4-C/B2	Middle C/B2-C/B1	D/S C/B1-END
TASB 3 (53%)	0.8 (0.4)*	2.2 (1.2)*	1.9 (1.0)*
TASB 4 (54%)	1.9 (1.7)	1.8 (1.6)	1.1 (1.0)
TAS 1 (51%)	1.0 (0.6)	2.0 (1.3)	1.6 (1.0)
TASL 1 (55%)	1.5 (1.2)	1.7 (1.3)	1.3 (1.0)
TASL 2 (55%)	1.6 (1.1)	1.5 (1.1)	1.4 (1.0)
TAPP 7 (64%)	1.5 (0.8)	1.9 (1.1)	1.8 (1.0)
TAPB 2a(54%)	2.1 (1.4)	1.2 (0.8)	1.5 (1.0)

Remarks : *;The figures in parentheses in the ratio to the discharge in the downstream conduit.

It is clear from the above tables that the check gates significantly affect the flow pattern in the conduit. In the cases where check gates are installed, the discharge from offtake pipes in the upstream reach

fluctuate between the respective tertiary canals. When the check gate can be lowered till the designed position, considerable draw down occurs in the upstream reach and enough water cannot be distributed from offtake pipes. Contrary, if the gate cannot be lowered, the water level in the upstream reach is risen, and much water is taken from offtake pipes in the upstream reach.

(2) After check gates are removed

The trial water management was repeated after the check gates were removed. Data obtained through the trials in three canals are shown in Figs. D-2, D-6 and D-9. The water level in the upstream reach drops and that in the downstream reach raises. No significant change is found in the water level in the middle reach. In upstream reach of some tertiary canals, water level becomes below the offtake pipes. As a result, the distribution of water is more in the middle and downstream reaches than in the upstream reach. Mean discharge from offtake pipes in upstream reach is about half of that in the middle and downstream reaches.

Water Depth above the Centre of Offtake Pipe

Name of Canal	U/S C/B4-C/B2 (cm) (inch)	Middle C/B2-C/B1 (cm) (inch)	D/S C/B1-END (cm) (inch)
TASB 4 (50%)*	6.6(2.6)	13.7(5.4)	18.0(7.1)
TASL 8 (40%)	0.3(0.1)	4.8(1.9)	8.1(3.2)
TAPB 2a(47%)	0.0(0.0)	4.3(1.7)	10.9(4.3)

Remarks : *;The figures in parentheses show the percentage of the discharge during the trial operation compared to the design discharge.

Mean Discharge from Offtake Pipe (lit/s)

Name of Canal	U/S C/B4-C/B2	Middle C/B2-C/B1	D/S C/B1-END
TASB 4 (50%)	1.1 (0.6)*	1.4 (0.8)*	1.8(1.0)*
TASL 8 (40%)	0.1 (0.0)	1.2 (0.7)	1.7(1.0)
TAPB 2a(47%)	0.0 (0.0)	1.3 (0.6)	2.2(1.0)

Remarks : *;The figures in parentheses in the ratio to the discharge in the downstream conduit.

1.4 Findings

Under present conditions, the design discharge is not equally distributed to each farm lot. Even if the check gates are fully opened, the upstream farm lots get more water than the downstream ones. If the check gates are removed, flow patterns in the conduits are much improved. This is because that the check gate cannot be lowered due to siltation in well chamber and the gate prevents the proper control of water level in the conduits.

At the half of design discharge, the distribution along the concrete conduit is unsatisfactory. Under the condition with check gates, the upstream farm lots get more water than the downstream ones. If the check gates are removed, considerable drawdown in water level occurs in the upstream reach and the water is supplied only in the middle and downstream reaches of the conduit.

With these facts, it can be concluded that a check gate has a great influence on the flow pattern in the conduit. The water depth in the conduit is adjustable, if the check gate is suitably installed and properly operated. Under the present condition, the check gate cannot be lowered due to siltation in well chamber.

2. HYDRAULIC SIMULATION ANALYSIS

2.1 Introduction

Each tertiary canal has different characteristics. Proper elevation of check gates and slots as well as the normal supply level (NSL) should be determined for each canal. There are numbers of tertiary canals in the project area. Thus, it takes long time to determine the above through the trial operation only. If a computer programme is developed to simulate the flow pattern in the concrete conduits, the programme could be used, prior to trial operations at the site, in determining proper height of check gates and location and height of slots in other tertiary canals and even the most suitable method of water management in tertiary canals.

2.2 Formula Applied for Simulation Analysis

The calculation formula applied for simulation analysis are expressed as follows:

(1) Energy continuity equation

In order to calculate the water level in a concrete conduit, energy continuity equation is applied between two sections. Bernoulli's energy continuity equation is expressed between two sections as follows:

$$El(i) + H(i) + V(i)^2 / 2g + hf = El(i+1) + H(i+1) + V(i+1)^2 / 2g$$

where, El : canal base elevation
H : water depth
V : Manning's mean velocity
g : acceleration of gravity
hf : head loss

(2) Discharge from an offtake pipe

Discharge from an offtake pipe is calculated as follows.

$$q = c \times a \times (2 \times g \times h)^{1/2}$$

where, q : discharge
c : discharge coefficient
a : flow area of offtake pipe
h : hydraulic head above offtake pipe

(3) Flow condition at slot

Flow conditions at slot are divided into two. One is the complete flow condition and the other is the submerged flow condition. In case of the complete flow condition, the discharge is calculated using following equation.

$$Q = k \times b \times h^{3/2}$$

where, Q : discharge
k : discharge coefficient (1.7)
b : width of slot
h : overflow depth

In case of submerged flow condition, the discharge is estimated by Villemonte's equation.

$$Qs = Q \times (1-(h2/h1)^{1.5})^{0.385}$$

where, Qs : discharge in case of submerged flow condition
Q : discharge in case of complete overflow flow condition
h1 : overflow depth
h2 : water depth above crest of slot in downstream

At the crest of check gate, the flow condition was complete flow. The water level in the downstream reach of the check gate never affect the discharge in the upstream reach. The simulation can be made separately between two check structures.

2.3 Result and Reliability of Simulation

The data obtained through the trial operations in the six tertiary canals were used for developing the computer programme. The hydraulic simulation was tried several times until the simulated flow pattern became similar to the observed flow pattern, by means of changing Manning's roughness coefficient of conduits and the coefficient of discharge from offtake pipes.

(1) Manning's roughness coefficient "n"

The designed value of "n" is 0.013. However, the actual value has been increased. The result of hydraulic simulation clearly shows the same tendency. The estimated coefficient is summarized below.

Manning's roughness coefficient, "n"

Reach	TASL1	TASL2	TASL8	TASB3	TASB4	TAPB2a	Average
C/B3-C/B2	0.017	0.018	**0.016**	0.017	0.018	-	0.017
C/B2-C/B1	0.018	0.019	**0.016**	0.018	0.017	0.018	0.018
C/B1-END	0.018	**0.024**	0.020	0.018	0.018	0.020	0.019

The Manning's roughness coefficient "n" of existing concrete conduit is apart from the designed one. The actual figure of "n" ranges from 0.016 to 0.024 as shown in the table. The averaged coefficient gradually increases toward the downstream. This is due to silt and rubbish deposited on the bottom of the canal. It can be regarded that the present conduit is made of concrete for side walls and of earth for the bottom. The coefficient "n" naturally increases and the flow capacity of the conduit becomes less. The present flow capacity is estimated at about half of the designed one.

(2) Discharge coefficient "c"

Discharge coefficient of offtake pipe, "c", also affects the flow pattern in a conduit. Present "c" are ascertained through hydraulic simulation analysis. The result of analysis is shown below.

Coefficient of Discharge of Offtake Pipe

Reach	TASL1	TASL2	TASL8	TASB3	TASB4	TAPB2a	Average
C/B3-C/B2	0.6	0.6	0.7	0.7	0.7	-	0.7
C/B2-C/B1	0.7	0.6	0.7	0.6	0.7	0.6	0.7
C/B1-END	0.6	0.6	0.8	0.8	0.6	0.6	0.7

There are a lot of weeds and rubbish in the canal. They, even though small in size, stick to the offtake pipes and the discharge from the pipes is significantly restrained. The averaged coefficient of discharge of offtake pipe used for the simulation analysis is 0.70. This is about 13 % smaller than the coefficient, 0.80, obtained through the trial operations. This indicates that some of offtake pipes was blocked by weeds or rubbish during the trial operations.

Results of simulation analysis are summarized in Table D-1 and illustrated in Fig. D-4 for TASL 1 and Fig. D-5 for TASL 2. The details of Fig. D-5 are shown in Fig. D-10. As seen in the figures, the simulated water level is quite similar to the observed one. It is evaluated that the result of simulation analysis is satisfactory. The computer programme developed for the simulation analysis and its explanation are summarized at the end of this Appendix. Flow chart of simulation programme is shown in Fig. D-11.

2.4 Procedures in Determining the Most Suitable Flow Pattern

After the presaturation period is over, the elevation of check gates and slots should be adjusted to the predetermined positions for the normal irrigation supply. The amount of water diverted into a tertiary canal should be regulated and controlled by the offtake gate, by adjusting the water level in the tertiary canal to NSL. These adjustments are to be made only once at the beginning of the normal irrigation period and water should be supplied continuously during the normal irrigation. Proper elevation of check gates and slots as well as NSL should be determined for each canal through hydraulic simulation analysis and trial operation at the site. Procedures required for determining the above are mentioned below. A general flow chart showing the procedures is shown in Fig. D-12.

(1) Surveying

The following items should be surveyed.

a. dimensions of concrete conduit (width, height, length)
b. location of offtake pipes
c. elevation of top of conduit at each offtake pipe
d. distance from the top of conduit to the centre of each offtake pipe

(2) Preparation of input data

The surveyed data should be processed into input data for the simulation analysis. Except the surveyed data, the following assumptions are necessary for the simulation.

a. boundary condition (water level in the upstream point of each check gate, which becomes the beginning point of the calculation)
b. Manning's roughness coefficient
   for upstream reach : 0.017
   for middle reach : 0.018
   for downstream reach : 0.019
c. discharge coefficient of offtake pipe, c=0.7

(3) Hydraulic simulation analysis

Water level in concrete conduit and discharge from offtake pipes are simulated by the computer programme. List of output is as follows:

a. discharge, velocity, water depth, water level at each offtake pipe point in a conduit,
b. discharge from an offtake pipe, and
c. height of slot in case of necessary.

The most suitable flow pattern in canal reaches between two check gates should be determined with the following procedures.

a. calculate the discharge during normal irrigation.
b. assume the water level at the the beginning point of calculation.
c. simulate the water level and discharge using the programme with a target to fulfill the the following conditions.

- the discharge from every offtake pipe becomes more than 1.068 lit/s, which is the water requirement by paddy for one farm lot during normal irrigation supply.
- the irrigation efficiency is more than 75%.

d. consider the installation of slot, if the conditions above cannot be satisfied.
e. relocate offtake pipes which are not properly installed, if the conditions above cannot be satisfied even after the installation of slot.

The required procedures to determine the most suitable flow pattern in canal are illustrated in Fig. D-13.

(4) Trial operation at site

In order to confirm the results of hydraulic simulation analysis, trial operation should be executed following the procedures mentioned in Section 1.2 of this Annex. Thus, the proposed flow pattern is determined for each tertiary canal for the water management during normal irrigation period.

2.5 Application of Simulation Analysis

Simulation analyses were made following the procedures above for the seven tertiary canals selected for the trial operations, TASL 1, TASL 2, TASL 8, TASB 3, TASB 4, TAPB 1a and TAPB 2a. It becomes necessary to take the following measures to realize the most suitable flow pattern.

(1) Installation of slots

The canal section gradually decreases towards downstream. The sections are determined based on the presaturation water requirements. When the discharge is decreased for normal irrigation, the drawdown of water level is great in the upstream conduit and negligible in the downstream, while the offtake pipe is constantly installed 30 cm (12 inches) below the top of conduit. The need of slots is high in upstream reach. The required number of slots derived from the simulation analysis is shown in Table D-2 and summarized in the table below. It is known that

one or two slots will be necessary in the upstream reach of the cross bund 2. The water level in the downstream reach of the cross bund 2 can be kept about 4.3 cm (1.7 inch) above the offtake pipes without slots during the normal irrigation period. It becomes parallel to the top of conduit. The discharge of water from the offtake pipe is sufficient and the distribution to each lot becomes even. Installation of slots is not necessary in the downstream reach of the cross bund 2. On the other hand, the water level in the upstream reach of the cross bund 2 becomes below the offtake pipes, the installation of slots becomes imperative.

Required Number of Slots

Reach	TASL1	TASL2	TASL8	TASB3	TASB4	TAPB1a	TAPB2a
C/B3-C/B2	0	1	0	2	2	0	0
C/B2-C/B1	0	0	0	0	0	0	0
C/B1-END	0	0	0	0	0	0	0

(2) Offtake pipe to be re-located

The distribution efficiency in tertiary canals much depends on the location of field offtake pipes. The pipes are not always installed as designed. Pipes wrongly placed should be re-located. The more number of pipes re-located, the higher efficiency will be achieved. It is estimated that the distribution efficiency is as low as 60% if no pipes are re-located. To grasp the relationship between the number of field offtake pipes to be re-located and the distribution efficiency, hydraulic simulation analysis was made. The number of offtake pipe that should be re-located so as to attain the assumed irrigation efficiencies is summarized in the table below.

Number of pipe to be re-located

Canal	TASL1	TASL2	TASL8	TASB3	TASB4	TAPB1a	TAPB2a	TOTAL	
Total nos. of pipe	179	177	153	235	233	90	90	1157	(%)
Efficiency									
85%	24	32	36	49	50	22	18	231	(20)
80%	18	23	19	37	42	15	12	166	(14)
75%	13	11	9	29	19	6	4	91	(8)
70%	5	6	3	11	15	3	4	47	(4)
65%	3	2	3	8	13	3	3	35	(4)

3 INTRODUCTION OF ROTATIONAL IRRIGATION

3.1 Introduction

The present capacity of tertiary canal is designed to cope with the peak demand for the traditional transplanting method. With the expansion of direct seeding practices in the project area, the peak water requirement has increased. If the presaturation is started for direct seeding simultaneously in all lots commanded by a tertiary canal, the peak water demand exceeds the present flow capacity of tertiary canal. In order to make best use of the present conduit, introduction of rotational irrigation should be envisaged during the presaturation period.

3.2 Flow Capacity of Tertiary Canal

In order to examine the flow capacity of tertiary canal, a tertiary canal, TASN 1, is selected as typical one. It is 3.75 km long and commands paddy fields of 150 ha. The canal is composed of six different types of conduit. FSL of the tertiary canal is set at 10 cm (4 inches) below the top of the conduit.

The flow capacity is calculated taking into account the use of the freeboard of 10 cm (4 inches). Flow capacities of eight sections of tertiary canal were calculated by applying Manning's formula as shown in Table D-3. It is recognized that the flow capacity is about 120% of the designed discharge on average. Since the designed unit discharge is 30 acres/cusec, which is equivalent to 2.33 lit/s/ha, the unit flow capacity of a conduit is 2.80 lit/s/ha.

3.3 Irrigation Demand during the Presaturation

Net amount of water supply under the dry direct seeding is 210 mm for the first presaturation, and 120 mm for the second presaturation. Net water requirement during the normal period is 7.6 mm/day. It is desirable to complete the first presaturation in the shortest period, possibly within 10 days, in order to control the growth of weeds. Assuming that the irrigation efficiency in the tertiary canal is 0.75, unit water requirement for each period is calculated as follows:

Period	Required depth	Duration	Unit Requirement
1st Presaturation	210 mm	10 days	3.24 lit/s/ha
2nd Presaturation	120 mm	10 days	1.85 lit/s/ha
Normal irrigation	7.6 mm/day	-	1.17 lit/s/ha

The unit water requirement for the first presaturation is 3.24 lit/s/ha, which is 1.16 times the present flow capacity of the conduit. If the presaturation is practiced simultaneously, the required discharge in the conduit for direct seeding is calculated as shown in the table below and Fig. D-14. The flow capacity of tertiary canal is insufficient in all the reaches of the conduit.

Item	Unit Discharge (lit/s/ha)	Upstream Reach (lit/s)	Middle Reach (lit/s)	Downstream Reach (lit/s)
Command Area (ha)	-	150	100	50
Designed Discharge	2.33	350	233	117
Flow Capacity	2.80	420	280	140
Required Discharge for Direct Seeding	3.24	486	324	162

In order to make the best use of available water resources, it is proposed to divide the project area into three irrigation schedule areas, with 30 days allowance for staggering in each area. In one irrigation schedule area, the presaturation should be finished within 30 days. For the direct seeding, it is desirable to presaturate the farm lot in the shortest period, possibly within 10 days. It is, therefore, considered to divide the area commanded by a tertiary canal into three or more blocks and to presaturate each block in rotation. Conveniently, the area can be divided into three blocks with similar extent of area by the existing cross bunds. Thus, it is possible to establish three rotation blocks. Water is to be supplied from the upstream block. Water demand during the presaturation varies and gradually increases when the presaturation supply is shifted to the downstream block. The peak water demand of a tertiary canal occurs when water for the first presaturation is supplied into the most downstream block. It would be complex and difficult to precisely control the gate at the head of tertiary canal following the changes in the actual water demand. It is, therefore, proposed to supply

constantly the peak water demand for the whole presaturation period of 30 days. With these conditions, the unit water demand required during the presaturation period is decided at 2.091 lit/s/ha as shown below.

$$Qp = (WR1 + WR2 + WR3) / 3 \times 10000 / 86400 / IE$$
$$= (21.0 + 12.0 + 7.6) / 3 \times 10000 / 86400 / 0.75$$
$$= 2.091 \quad lit/s/ha$$

where, Qp : Unit diversion water requirement at offtake (lit/s/ha)
WR1 : Water requirement for the 1st Presaturation 21.0 (mm/day)
WR2 : Water requirement for the 2nd Presaturation 12.0 (mm/day)
WR3 : Water requirement of normal irrigation period 7.6 (mm/day)
IE : Irrigation efficiency 0.75

The required diversion discharge at the head of the tertiary canal is calculated multiplying the area commanded by the tertiary canal by the above unit diversion water requirement. In case of the typical tertiary canal, the area is 150 ha and the diversion water requirement becomes 314 lit/s as shown below.

$$Q = Qp \times A$$
$$= 2.091 \times 150$$
$$= 314 \quad lit/s$$

where, Q : Diversion water requirement at offtake (lit/s)
A : Command area of a tertiary canal 150 (ha)

3.4 Introduction of Rotational Irrigation

At the first rotation period, Rotation Block 1 (RB1) receives the first presaturation supply, while RB2 and RB3 don't get any supply. In the next rotation period, RB1 get the second presaturation supply, while the first presaturation supply is let into RB2. There is no supply to RB3. In the last rotation period, RB1 get the normal irrigation supply and RB2 get the second presaturation supply while RB3 get the first presaturation supply.

In case of the typical tertiary canal, each rotation period is calculated at four days, nine days and 11 days, respectively, as shown below.

Schedule	Diverted Discharge (lit/s)	Amount of Water Requirement RB1(50ha) (mm)	RB2(50ha) (mm)	RB3(50ha) (mm)	Required Period (days)
1st rotation	314	280	-	-	3.8 (4)
2nd rotation	314	160	280	-	8.1 (9)
3rd rotation	314	111	160	280	10.2 (12)

In the above table, the third rotation period is set 12 days. This is because the required discharge exceeds the flow capacity of the conduit, if the period is set shorter than 12 days. It is clear from the table that the presaturation could be completed within 25 days.

From the above considerations, it is concluded that presaturation can be practiced so as to cope with the requirement for direct seeding without modifying the existing concrete conduit, if the rotational irrigation is applyed. Three rotation blocks are to be established on each tertiary canal dividing the area by the existing cross bunds. Presaturation is practiced from upstream to downstream block, in rotation, each for four days, nine days and 12 days, respectively. The presaturation for one tertiary canal can be completed within 25 days or at the least 30 days. Each tertiary canal has different command area. The period of rotation should be determined canal by canal.

Flow capacity of an offtake pipe will not cope with the water demand for presaturation. If the water level is at the top of conduit, the water depth at the centre of offtake pipe becomes 30 cm (12 inches). The discharge of water from the offtake pipe is 3.78 lit/s, while the maximum water demand for each lot is 3.92 lit/s. The use of syphon is imperative during the presaturation.

TABLES

Table D-1 SIMULATION ANALYSIS OF FLOW IN TERTIARY CANAL

Tertiary	Item		C/B 3	C/B 2	C/B 2	C/B 1	C/B 1	END
TASL 1		n	0.017		0.018		0.018	
		c	0.60		0.70		0.60	
	A	Q	186	143	143	53	53	0
		h	22.05	27.09	24.96	14.17	14.76	8.98
	B	Q	183	143	133	53	55	0
		h	22.07	27.09	25.24	14.18	14.68	9.01
TASL 2 Case 1		n	0.018		0.019		0.024	
		c	0.50		0.70		0.58	
	A	Q	170	149	149	49	49	0
		h	29.25	21.14	19.29	15.98	14.57	7.60
	B	Q	178	149	145	49	52	0
		h	29.22	21.13	19.40	15.98	14.16	7.61
TASL 2 Case 2		n	0.018		0.018		0.024	
		c	0.50		0.60		0.60	
	A	Q	168	136	136	56	56	0
		h	28.62	22.87	18.19	15.75	14.17	7.60
	B	Q	168	136	134	56	57	0
		h	28.63	22.86	18.33	15.76	14.94	7.61
TASL 2 Case 3		n	0.019		0.019		0.024	
		c	0.70		0.60		0.55	
	A	Q	169	111	111	41	41	0
		h	28.78	24.49	17.32	17.01	13.15	7.68
	B	Q	160	111	114	41	44	0
		h	28.94	24.50	17.26	17.01	12.95	7.61

Remarks:

A : result of observation
B : result of simulation
C/B : cross bund

n : Manning's roughness coefficient
c : discharge coefficient of offtake pipe
Q : discharge in canal (lit/s)
h : water depth in conduit (inch)

Table D-2 RESULT OF HYDRAULIC SIMULATION ANALYSIS (1/3)

Cross Bund	TASL1 No. of lot All	TASL1 No. of lot Paddy	TASL1 Q Case 1	TASL2 No. of lot All	TASL2 No. of lot Paddy	TASL2 Q Case 1	TASL2 Q Case 2	TASL8 No. of lot All	TASL8 No. of lot Paddy	TASL8 Q Case 1
C/B3										
	12	-	-	12	-	-	-	10	-	-
	10	-	-	10	-	-	-	10	2	1.08
	10	9	1.37	10	1	0.78*	1.65	8	8	1.15
	10	9	1.35	10	9	1.07	1.19	8	8	1.80
	10	10	1.72	10	10	1.75	1.74			
C/B2										
	12	12	1.24	12	12	1.32		12	12	1.41
	10	10	1.40	10	10	1.45		10	10	1.44
	10	10	1.55	10	10	1.77		10	10	1.41
	10	10	1.65	10	10	1.69		10	10	1.73
	10	10	1.18	10	10	1.26		10	10	1.55
C/B1										
	10	10	1.48	10	10	1.59		10	10	1.46
	10	10	1.68	10	10	1.66		10	10	1.24
	10	10	1.44	10	10	1.38		10	10	1.53
	10	10	1.50	10	10	1.48		10	10	1.59
END										
Total	144	120	73	144	112	72	71	120	110	72

Remarks: Q = average discharge from offtake pipe (lit/s)
case 1 = in the case no slots are installed
case 2 = in the case one slot is installed
case 3 = in the case two slots are installed
* = shortage of discharge from offtake pipe

Table D-2 RESULT OF HYDRAULIC SIMULATION ANALYSIS (2/3)

Cross Bund	TASB3 No. of lot All	Paddy	Q(lit/s) Case 1	Case 2	Case 3	TASB4 No. of lot All	Paddy	Q(lit/s) Case 1	Case 2	Case 3
C/B4										
	12	-	-	-	-	12	-	-	-	-
	10	-	-	-	-	10	-	-	-	-
	10	7	0.59*	1.24		10	7	0.18*	1.35	
	10	9	1.28	1.23		10	10	1.21	1.54	
	10	10	1.82	1.48		10	10	1.89	1.59	
C/B3										
	12	12	0.90*	1.00*	1.71	12	12	0.48*	0.82*	1.49
	10	10	0.91*	1.09	1.49	10	10	0.82*	1.21	1.63
	10	10	1.11	1.23	1.19	10	10	1.07	1.54	1.40
	10	10	1.91	1.57	1.17	10	10	1.76	1.09	1.45
	10	10	2.65	2.40	1.48	10	10	2.60	1.61	1.20
C/B2										
	12	12	1.07			12	12	1.31		
	10	10	1.80			10	10	1.38		
	10	10	1.40			10	10	1.31		
	10	10	1.28			10	10	1.50		
	10	10	1.37			10	10	1.97		
C/B1										
	12	12	1.42			12	12	1.41		
	10	10	1.41			10	10	1.23		
	10	10	1.37			10	10	1.30		
	10	10	1.63			10	10	1.66		
	10	10	1.55			10	10	1.54		
END										
Total	208	182	258	257	256	208	183	252	256	266

Remarks: Q = average discharge from offtake pipe
case 1 = in the case no slots are installed
case 2 = in the case one slot is installed
case 3 = in the case two slots are installed
* = shortage of discharge from offtake pipe

Table D-2 RESULT OF HYDRAULIC SIMULATION ANALYSIS (3/3)

Cross Bund	TAPB 1a No. of lot All	Paddy	Q Case 1	TAPB 2a No. of lot All	Paddy	Q Case 1
MC						
	10	10	1.05	10	10	1.56
	8	10	1.58	10	10	1.53
C/B1						
	10	10	1.29	10	10	1.30
	10	10	1.32	10	10	1.42
	10	10	1.50	10	10	1.72
	10	10	1.65	10	10	1.65
	8	8	1.89	8	8	1.46
C/B2						
	8	8	1.70	8	8	1.58
	8	8	1.47	8	8	1.41
	8	8	1.53	8	8	1.61
END						
Total	90	90	133	90	90	137

Remarks: Q = average discharge from offtake pipe (lit/s)
case 1 = in the case no slots are installed
case 2 = in the case one slot is installed
case 3 = in the case two slots are installed

FIGURES

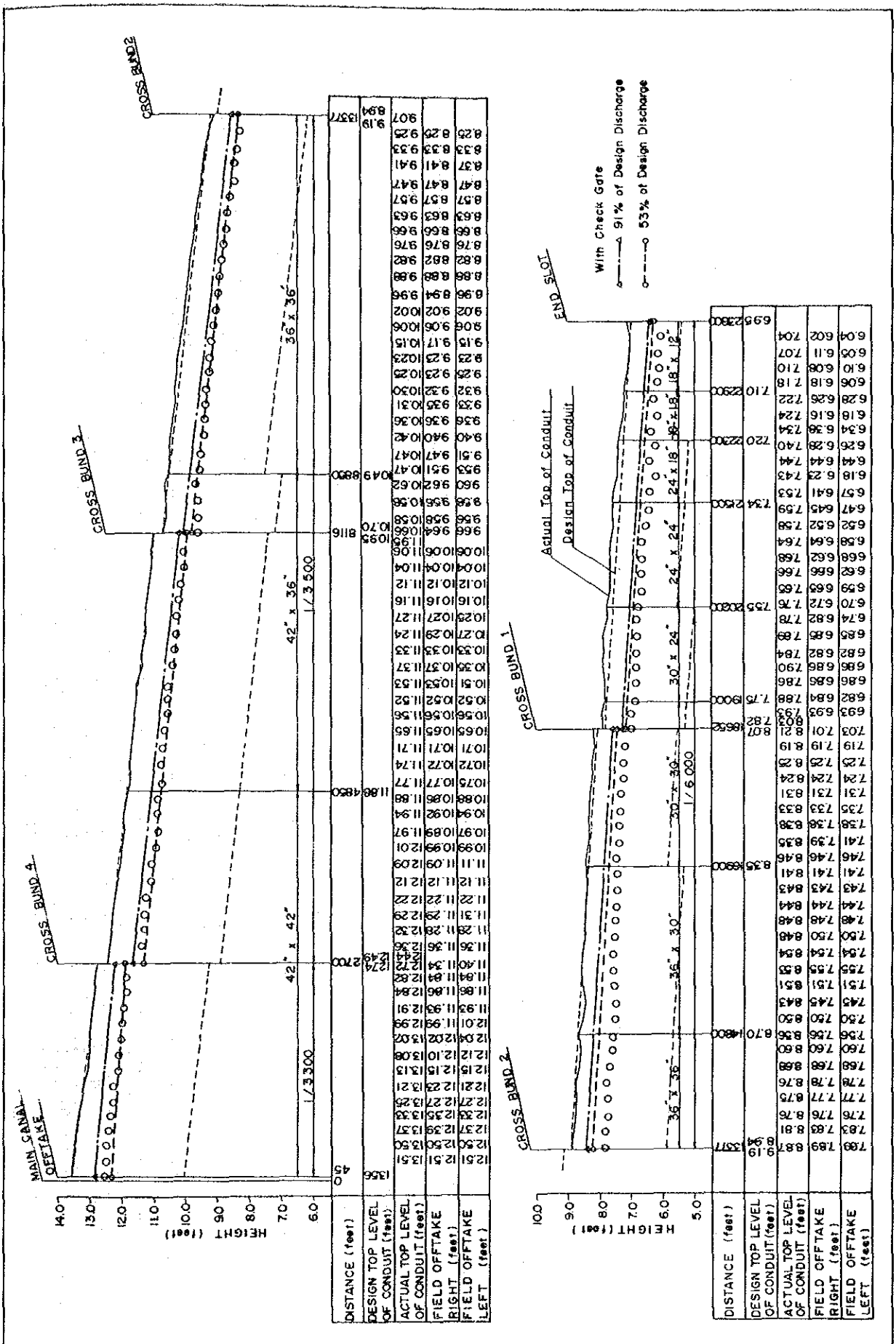

Fig.D-1 Trial Water Management in TASB 3

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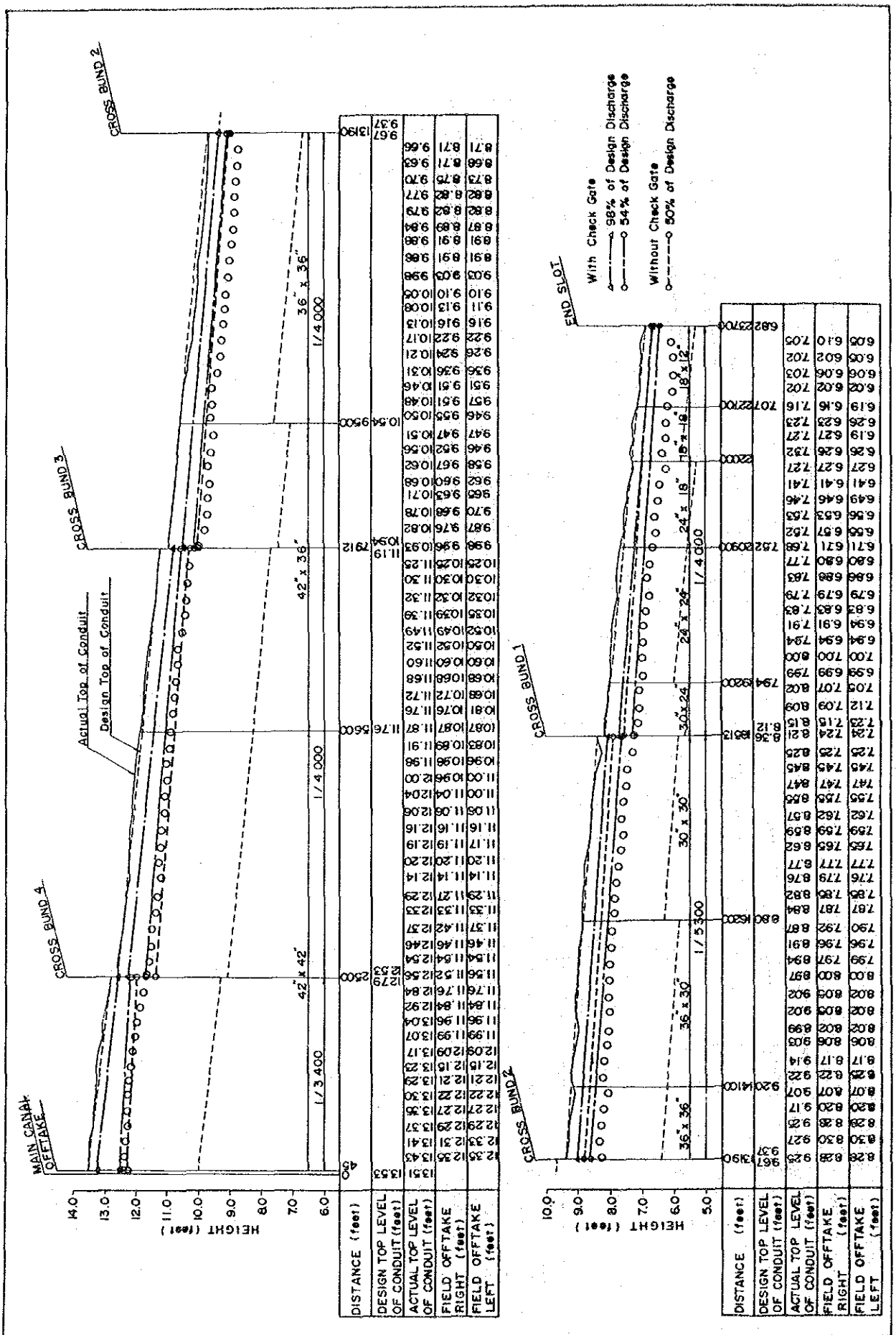

Fig. D-2 Trial Water Management in TASB 4

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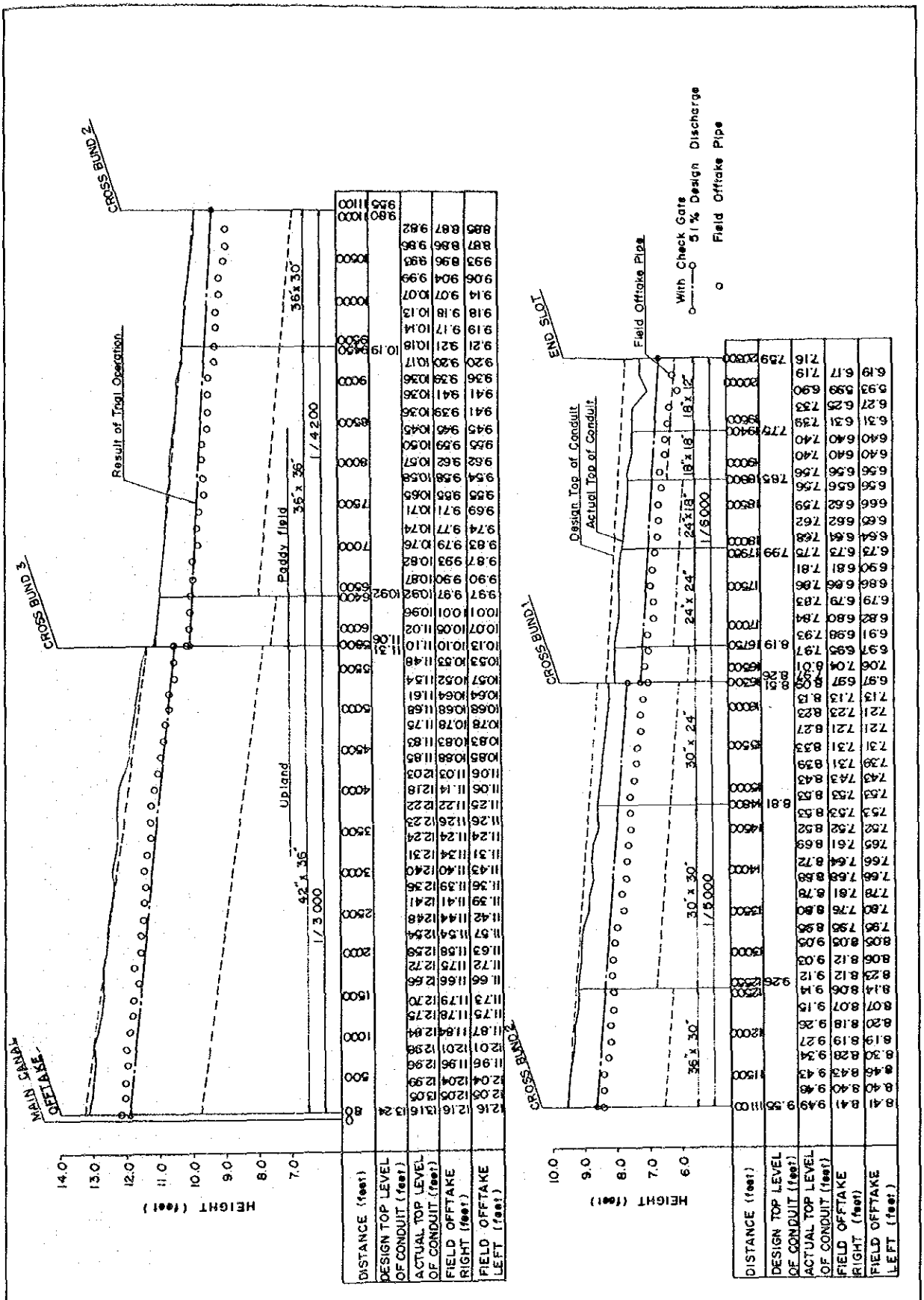

Fig. D-3 Trial Water Management in TAS 1

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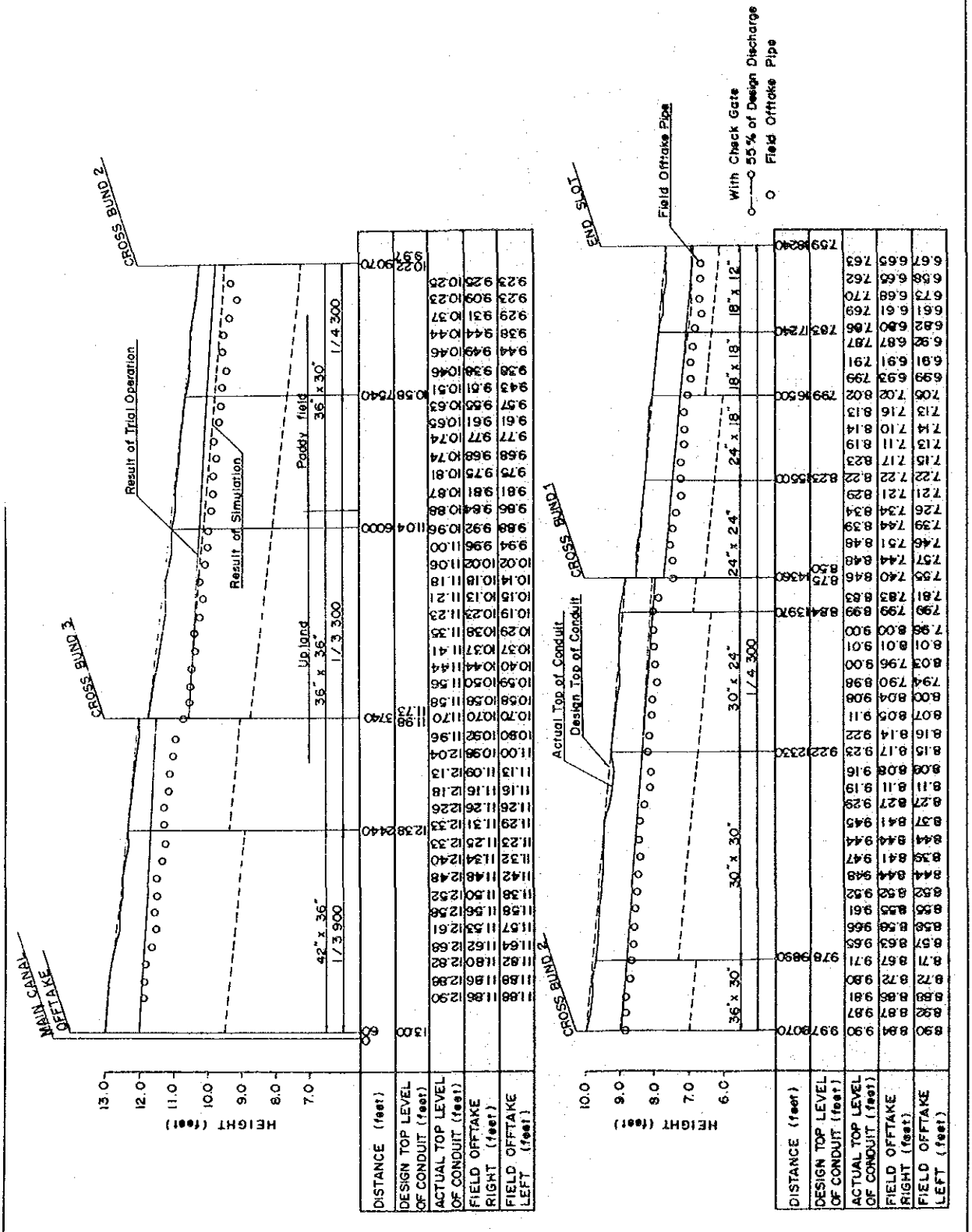

Fig.D-4 Trial Water Management in TASL 1

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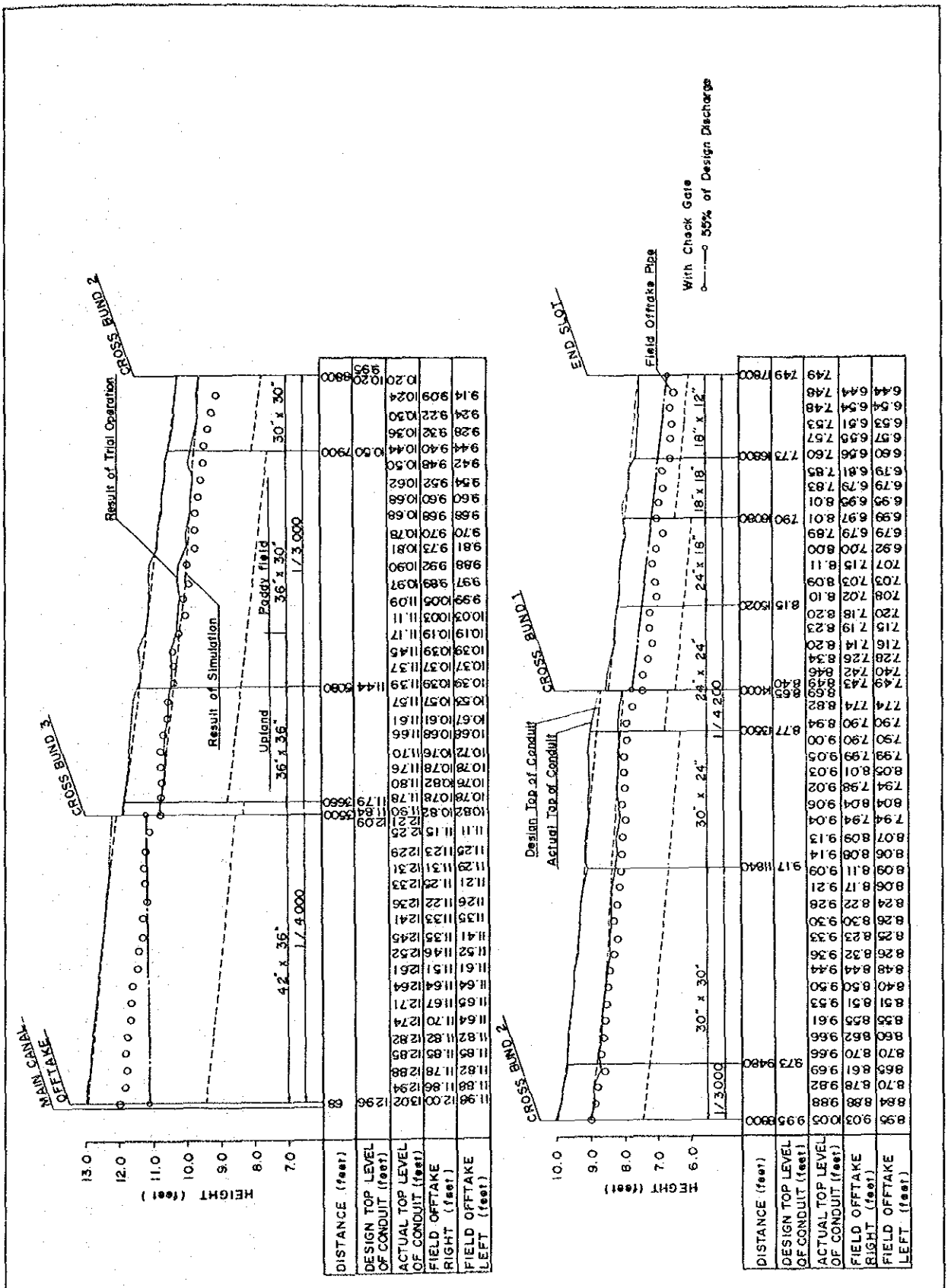

Fig. D-5 Trial Water Management in TASL 2

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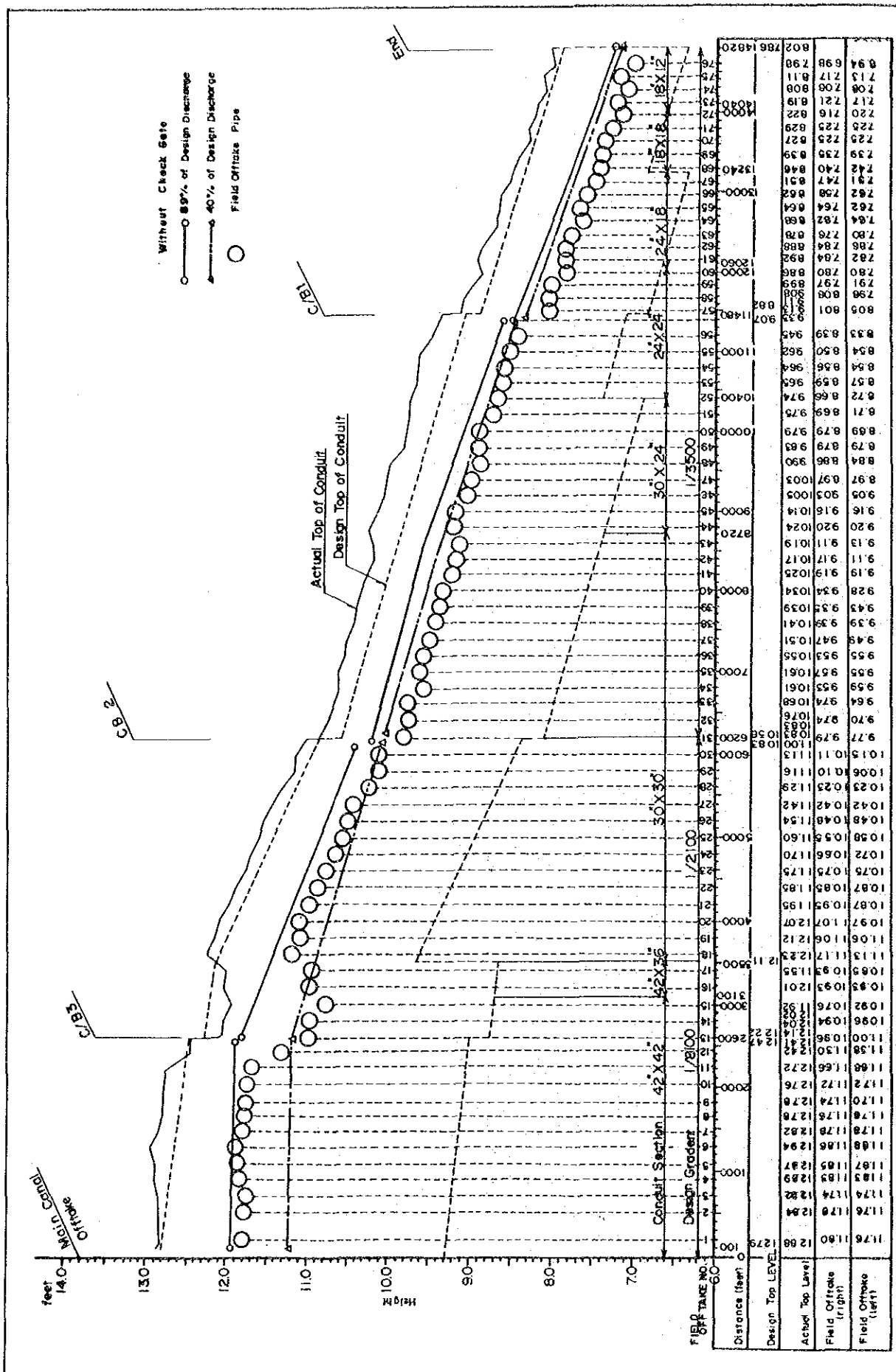

Fig. D-6 Trial Water Management in TASL 8

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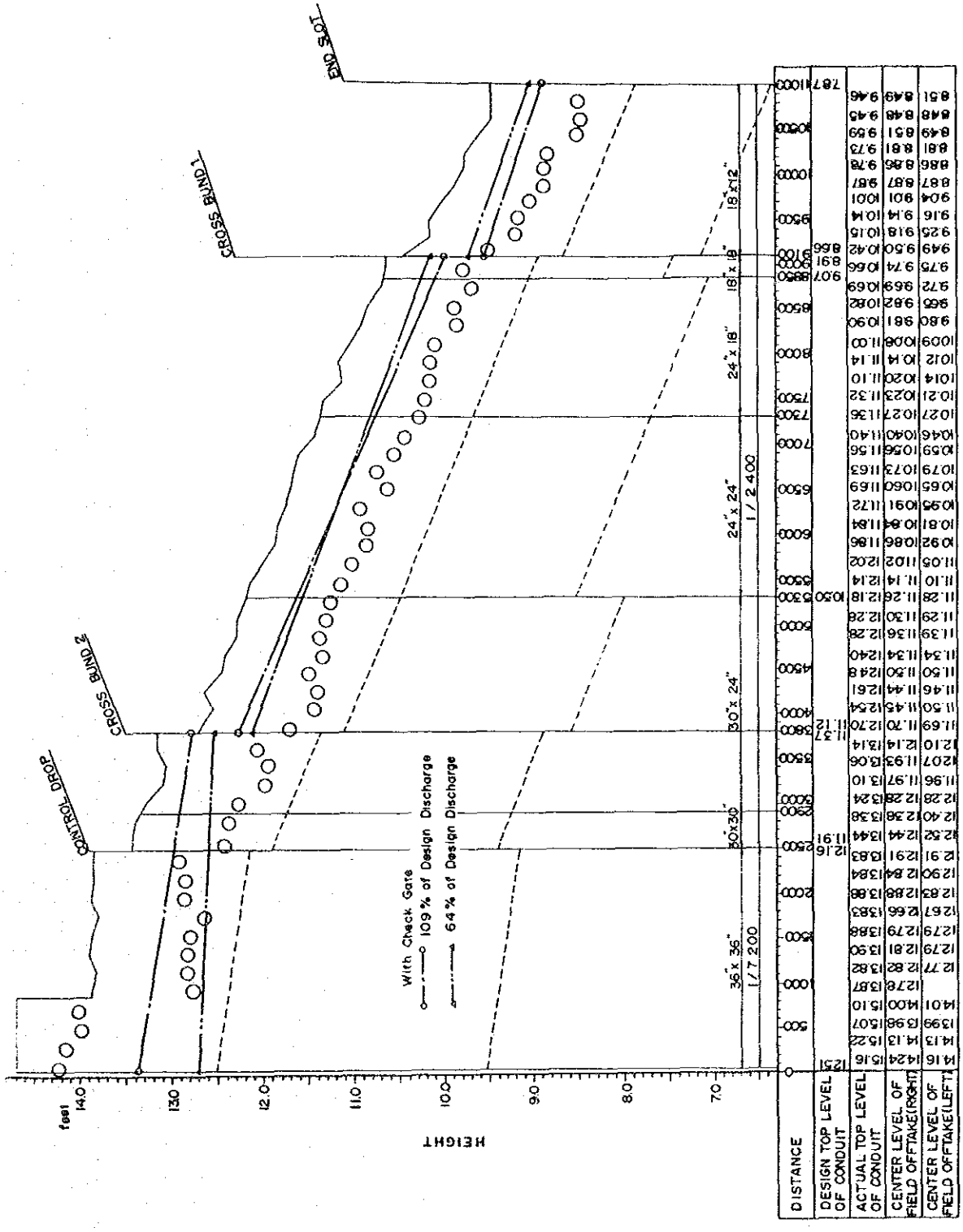

Fig. D-7 Trial Water Management in TAPP 7

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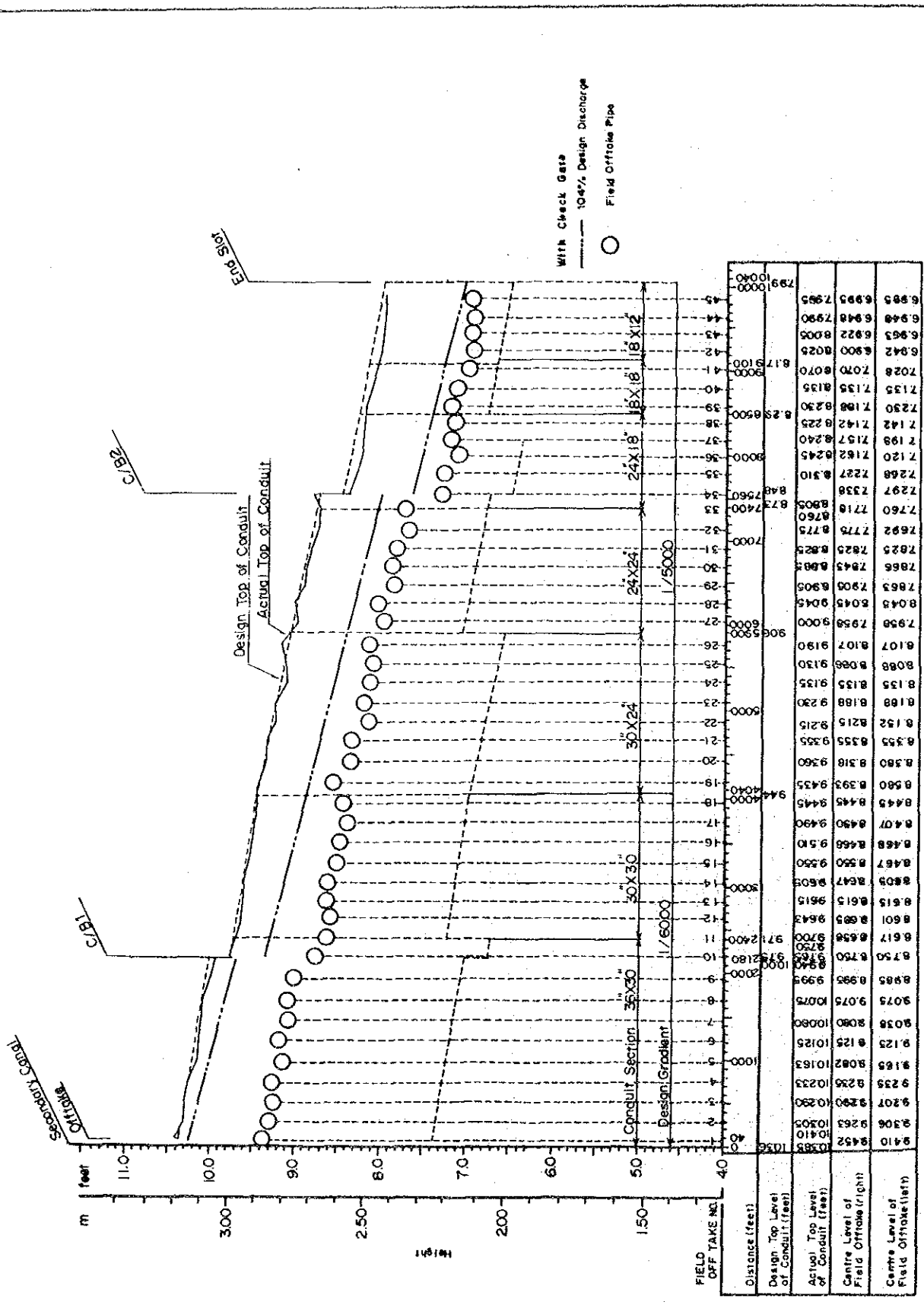

Fig. D-8 Trial Water Management in TAPB 1a

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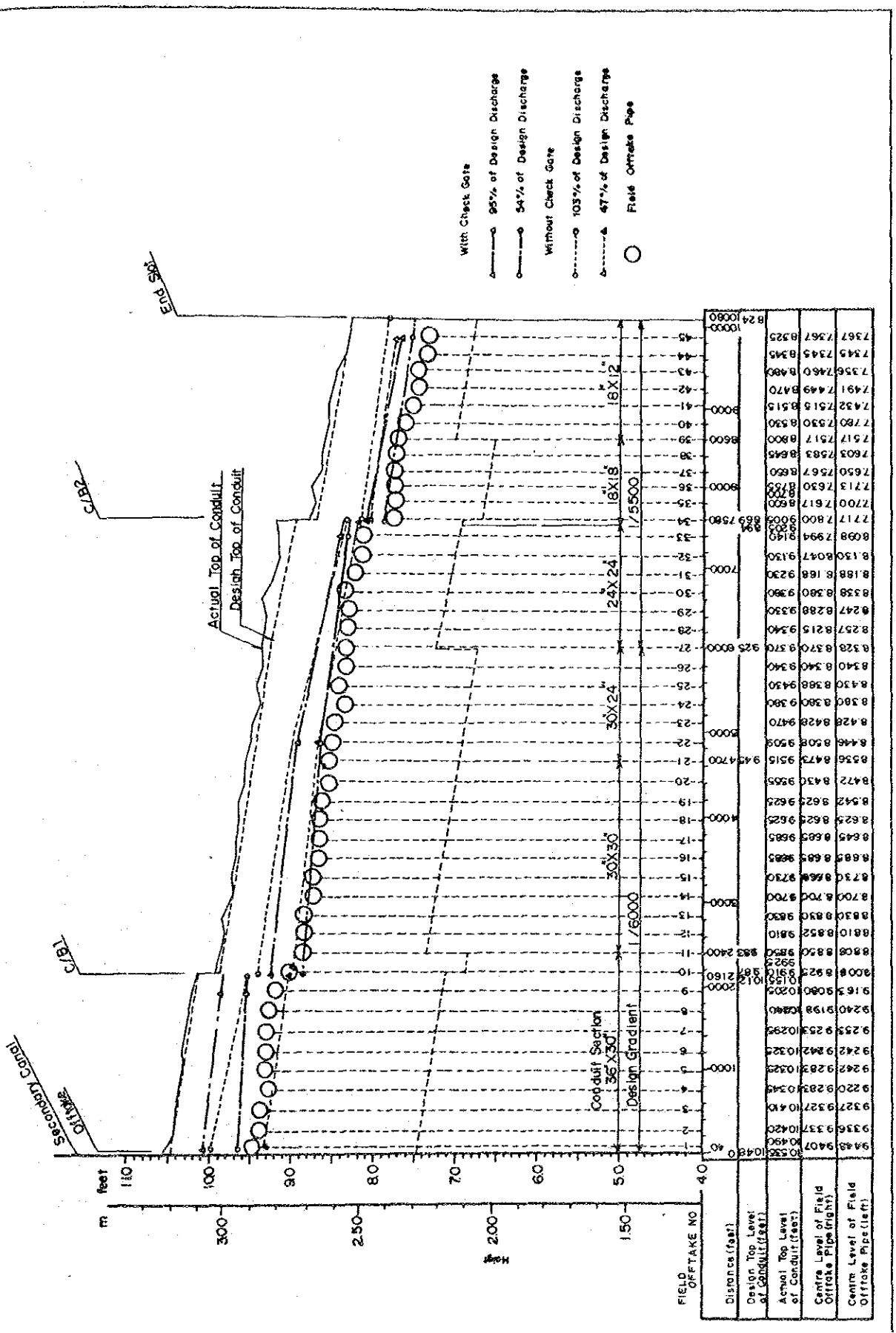

Fig. D-9 Trial Water Management in TAPB 2a

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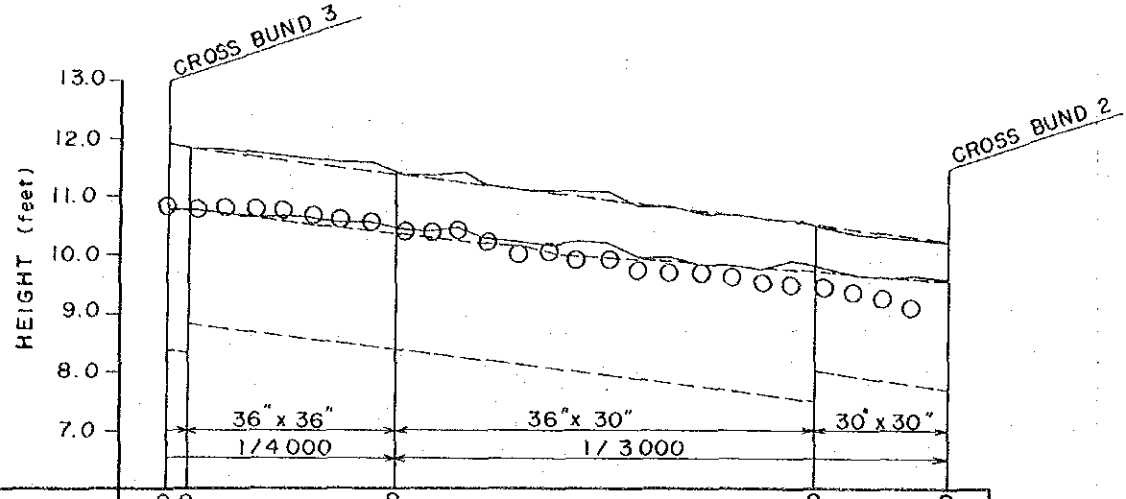
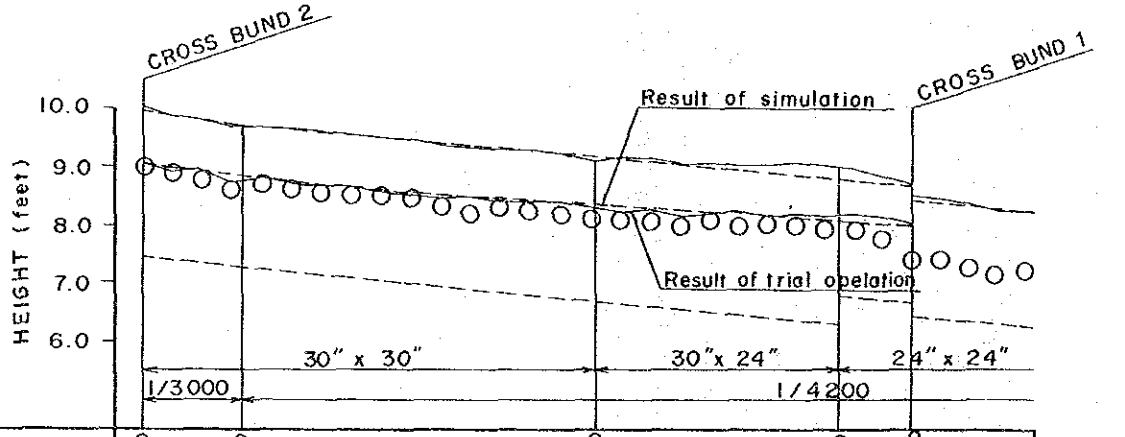


DISTANCE (feet)	3500	3660	5080	7900	8800
DESIGN TOP LEVEL OF CONDUIT (feet)	12.09	11.84	11.79	11.44	10.50	10.20	9.95
ACTUAL TOP LEVEL OF CONDUIT (feet)	12.25	12.21	11.90	11.78	11.80	11.76	11.70	11.66	11.61	11.57	11.39	11.37	11.45	11.17	11.11	11.09	10.97	10.90	10.81	10.78	10.68	10.68	10.62	10.50	10.44	10.36	10.30	10.24	10.20
FIELD OFFTAKE RIGHT (feet)	11.16	10.82	10.78	10.78	10.82	10.78	10.76	10.68	10.61	10.57	10.39	10.37	10.39	10.19	10.03	10.05	9.89	9.92	9.73	9.70	9.68	9.60	9.52	9.48	9.40	9.32	9.22	9.09	
FIELD OFFTAKE LEFT (feet)	11.11	10.82	10.78	10.76	10.78	10.72	10.68	10.67	10.53	10.39	10.37	10.39	10.19	10.03	9.99	9.97	9.88	9.81	9.70	9.68	9.60	9.54	9.42	9.44	9.28	9.24	9.14		



DISTANCE (feet)	8800	9480	11840	13500	14000
DESIGN TOP LEVEL OF CONDUIT (feet)	9.95	9.73	9.17	8.77	8.65	8.40
ACTUAL TOP LEVEL OF CONDUIT (feet)	10.05	9.88	9.82	9.69	9.66	9.66	9.61	9.53	9.50	9.44	9.36	9.33	9.30	9.28	9.21	9.09	9.14	9.13	9.04	9.06	9.02	9.03	9.05	9.00	8.94	8.82	8.69	8.49	8.46	8.34	8.20	8.23
FIELD OFFTAKE RIGHT (feet)	9.03	8.88	8.78	8.61	8.70	8.62	8.55	8.51	8.50	8.44	8.32	8.23	8.30	8.22	8.17	8.11	8.08	8.09	7.94	8.04	7.98	8.01	7.99	7.90	7.90	7.74	7.43	7.42	7.26	7.14	7.19	
FIELD OFFTAKE LEFT (feet)	8.95	8.84	8.70	8.65	8.70	8.60	8.55	8.51	8.40	8.48	8.26	8.25	8.26	8.24	8.06	8.09	8.06	8.07	7.94	8.04	7.94	8.05	7.99	7.90	7.90	7.74	7.47	7.40	7.28	7.16	7.15	

Fig.D-10 Simulation Analysis of Flow in TASL 2

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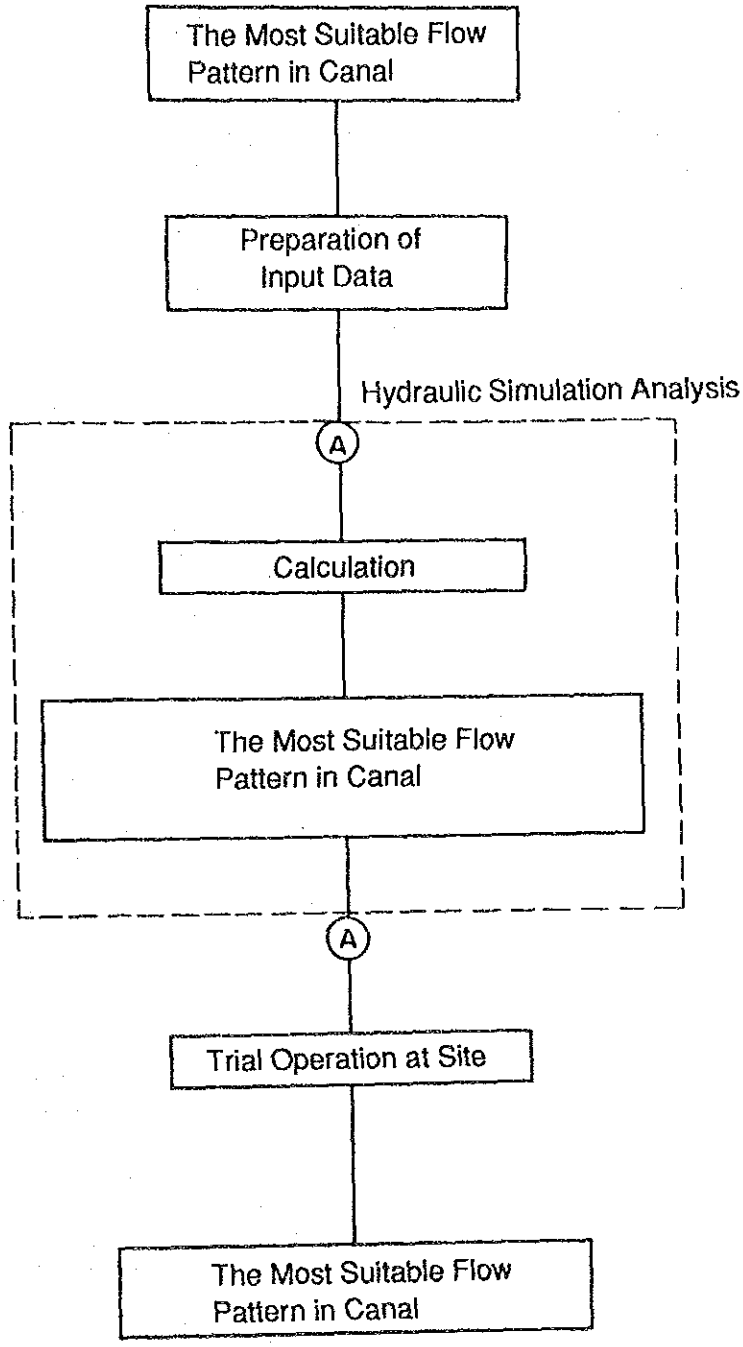

Fig. D-11 Flow Chart of Simulation Programme

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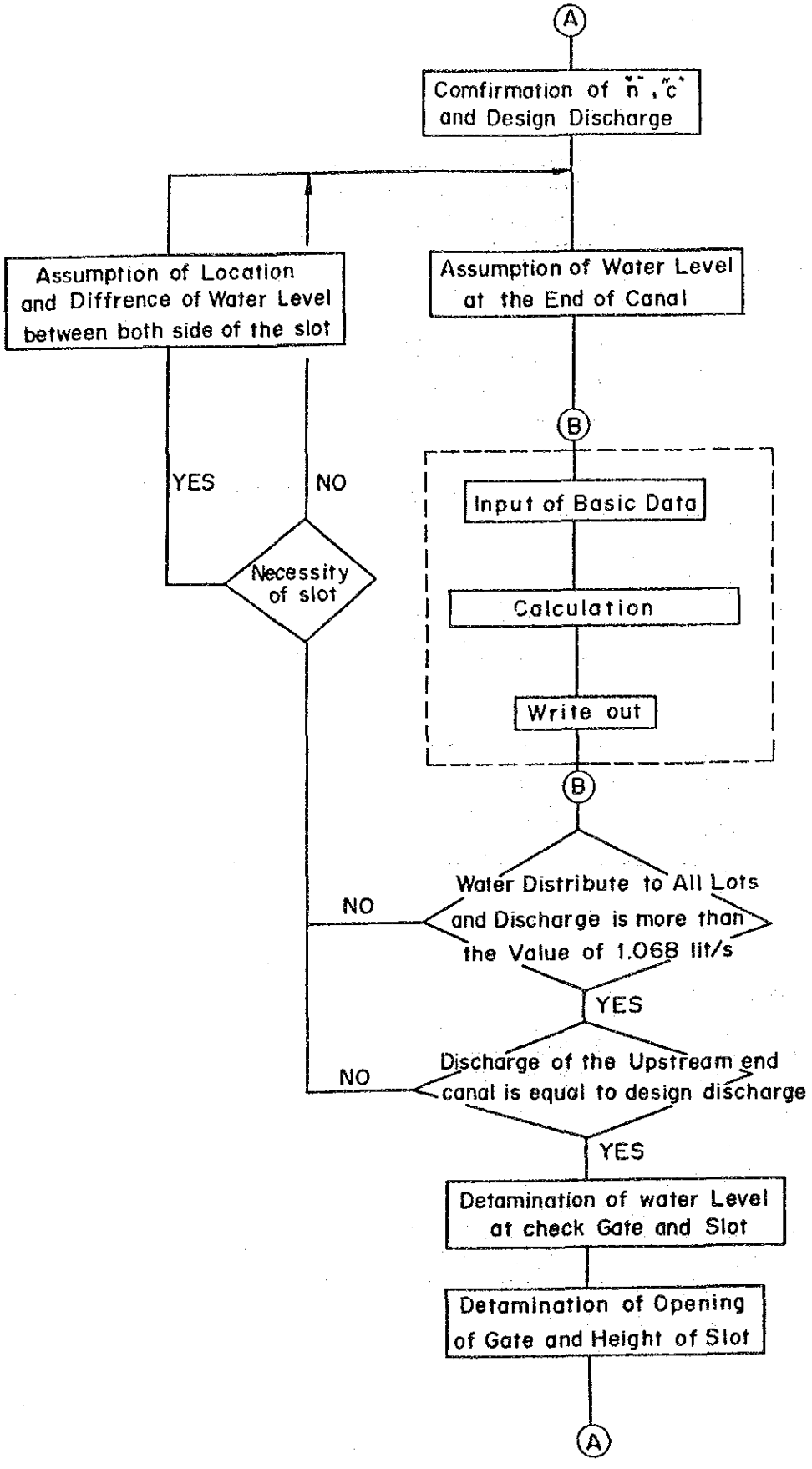

Fig.D-12 Procedure in Determining the Most Suitable Flow Pattern

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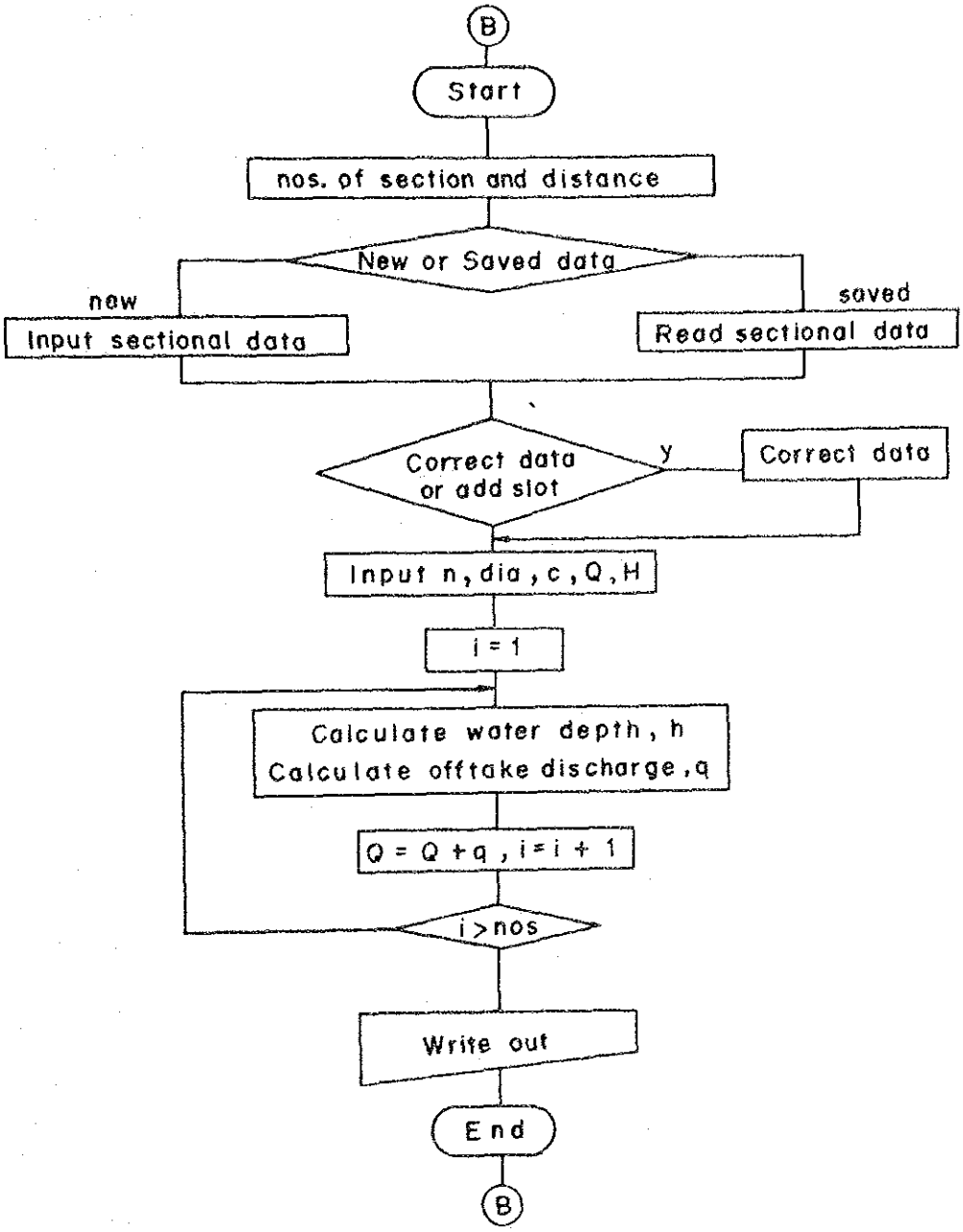

Fig.D-13 Procedure to Determine the Most Suitable Flow Pattern in Canal by Hydraulic Simulation

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Japan International Cooperation Agency

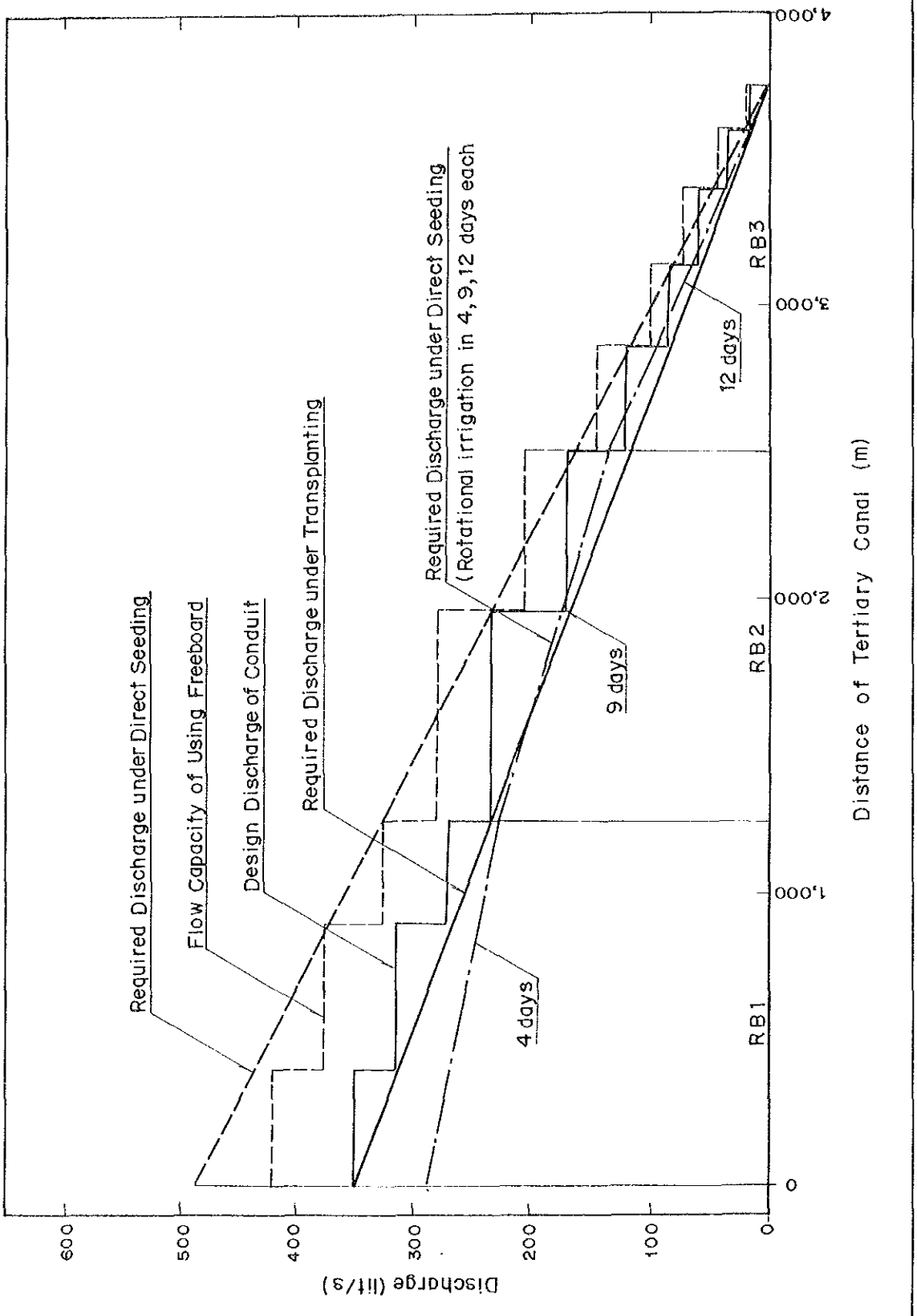

Fig.D-14 Typical Tertiary Canal

Government of Malaysia
FEASIBILITY STUDY ON THE TANJONG KARANG IRRIGATION DEVELOPMENT AND MANAGEMENT PROJECT
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APPENDIX

APPENDIX DA

MANUAL FOR HYDRAULIC SIMULATION OF CONDUIT BY MACINTOSH PLUS COMPUTER

1. Introduction

A computer programme for hydraulic simulation of concrete conduit was developed aiming to examine the flow characteristics and to establish a basic method of equitable distribution of water during normal irrigation period. The programme was prepared based on "Basic" language applicable for "Macintosh Plus Computer" which was provided to DID by JICA. This Appendix presents the programme and an operation procedure of hydraulic simulation for concrete conduit in the Tanjong Karang Irrigation Project using Macintosh computer.

2. Input Data and Output Forms

Input data required for the calculation and output obtained are as follows:

(1) Input data required

a. dimension of conduit
   - inside width
   - inside height (from bottom to top)
   - elevation of top of conduit
   - location of offtake pipes
     (measured from top of the conduit) ,

b. horizontal distance between offtake pipes
c. inside diameter of offtake pipes
d. water depth at downstream end of conduit

(2) Output obtained

a. water level at each offtake pipe
b. discharge from offtake pipes

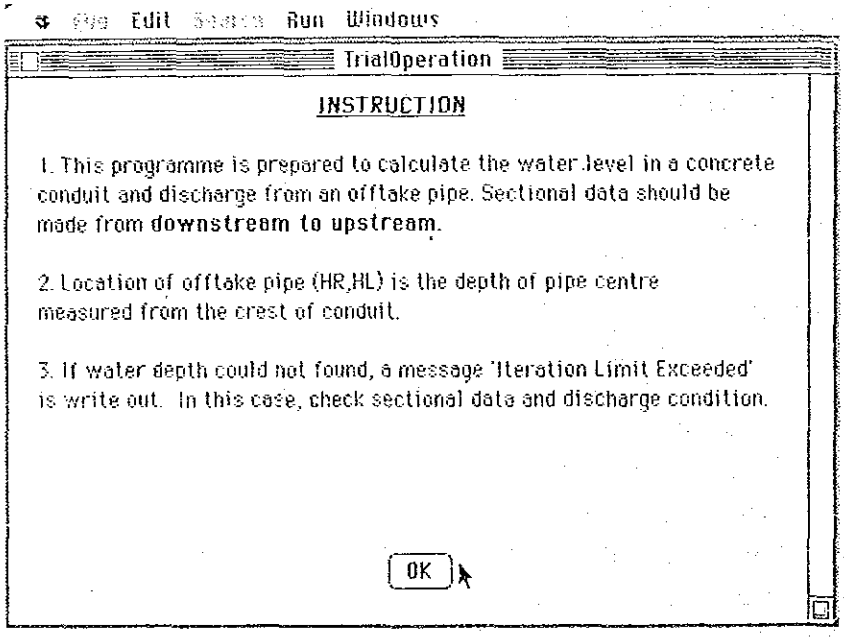
c. discharge in a conduit
d. height of required slot

3. Procedure of Operation

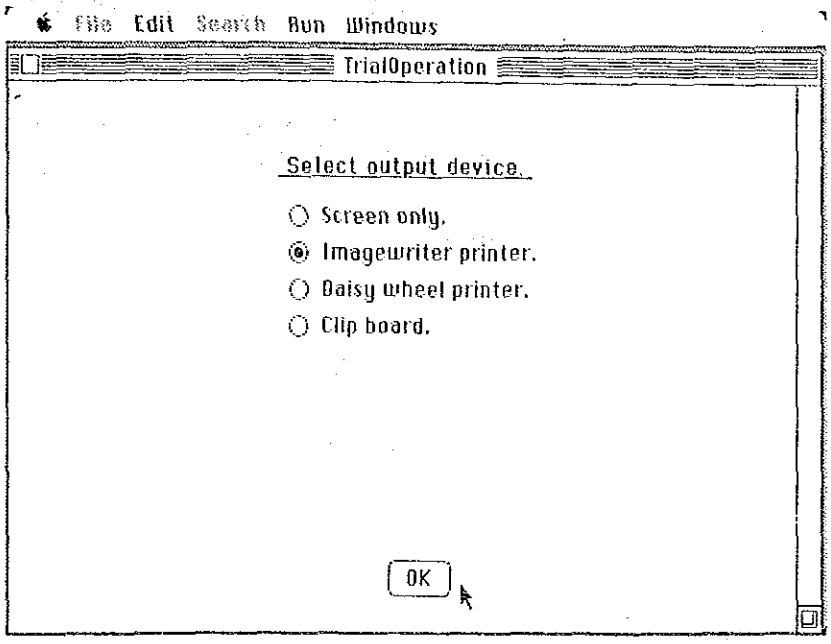
Operation of Macintosh computer should be made in accordance with the following procedure.

a. Instruction

- Prior to the calculation, an instruction for preparation of data appears on the screen.
- Click "OK" button for proceeding.



b. Select output device



c. Input of canal data

Input following data.

(1) Name of canal
(2) Nos of section to be calculated
(3) Distance between each offtake pipe (m)

d. Selection of data to be used

Specify sectional data to be used.

(1) Start with **NEW** data, or
(2) Use **SAVED** data.

If you select (1), proceed to item "f".

e. Selection of data file name

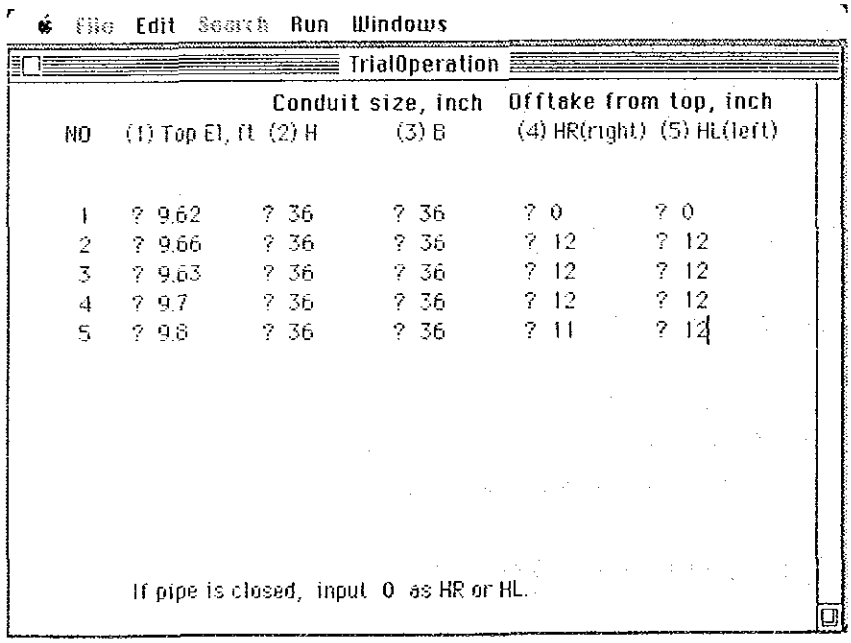
Select name of data file and proceed to item "g".

f. Input dimension of conduit

Sectional data at each offtake pipe should be prepared from downstream to upstream. Kind and nos of data are;

(1) Elevation of top of concrete conduit (feet),
(2) Height of conduit (inch),
(3) Width of conduit (inch), and
(4) Location of center of offtake pipe measured from top of the conduit (inch)
(if pipe is closed or there is no offtake pipe, input "0")

Example



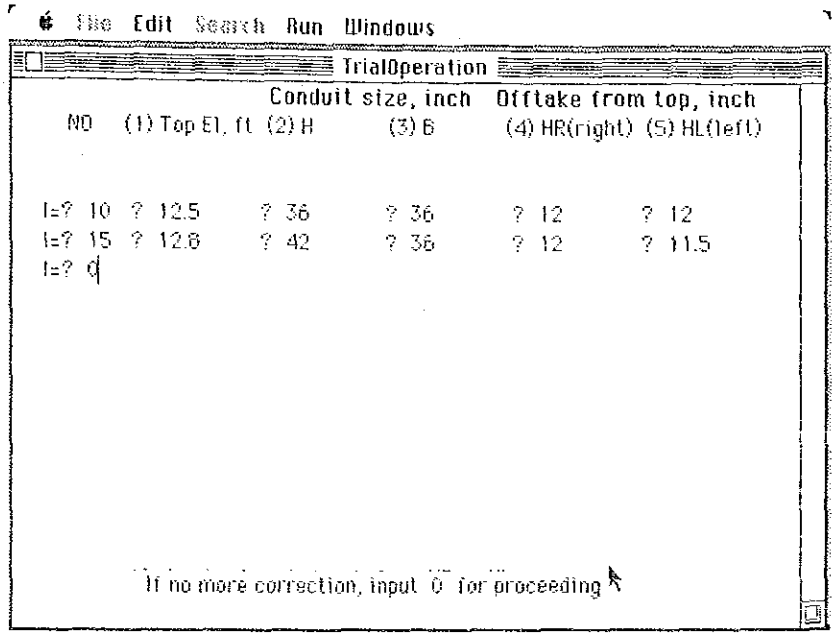
g. Data correction

(1) Correct section data (proceed to item "h")
(2) Place a slot (proceed to item "j")
(3) Proceed to calculation (proceed to item "k")

h. Correct section data

Specify section number to be corrected and input new data.
After correction of sectional data, input "0" as a section No.

Example

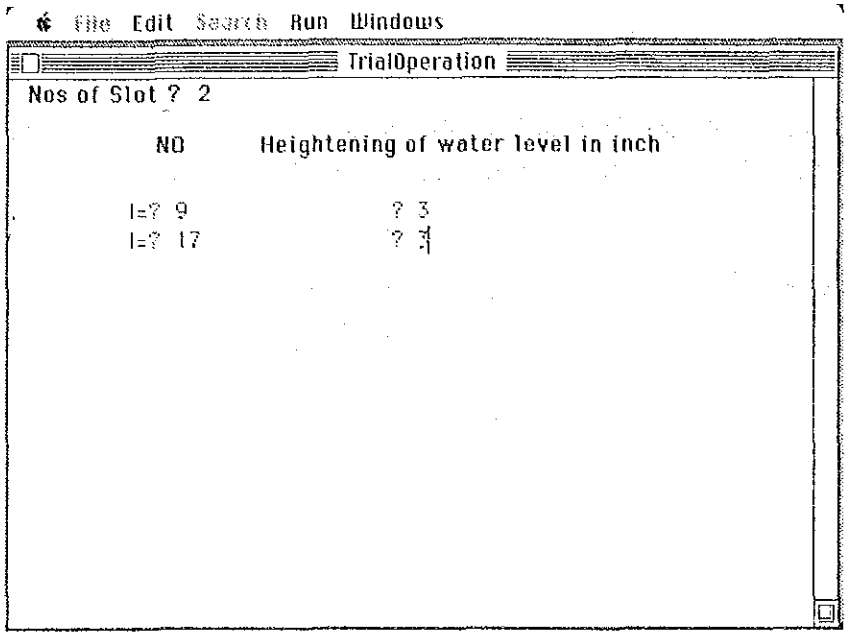


i. Input name of data file to be saved

j. Input required condition of slots

Input nos of slot required, and specify section No upstream of the slot and heightening of water level (inch) at slot.

Example



k. Input discharge coefficients

(1) Manning's coefficient of roughness, "n"
(2) Inside diameter of offtake pipe (inch)
(3) Discharge coefficient of offtake pipe

l. Initial condition

(1) Specify calculation case for your reference
(2) Discharge at downstream end (lit/sec)
(3) Water depth at downstream end (inch)

m. Select next action

(1) Change discharge condition (return to item "l")
(2) Change coefficients n and c (return to item "k")
(3) Change data file (return to item "c")
(4) Bye forever (end of calculation)

4. Example of Calculation

Sample calculations for hydraulic simulation of a concrete conduit are presented in different cases as follows:.

Case 1: sample calculation without slot condition
Case 2: sample calculation with slot condition

Assumptions, procedure and results of the sample calculation are summarized below.

Case 1: without slot condition

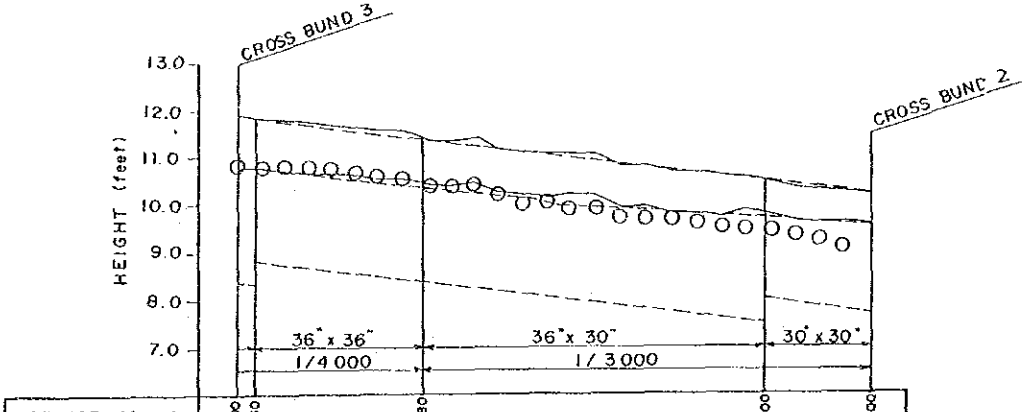
(1) Input data

Design conditions and results of survey of a concrete conduit are shown in figure below. List of input data are shown in Table 1.

- Nos of section : 27
- Total length: 5300 ft
- Distance 62.13 m

Initial conditions of the calculation are as follows:

- Initial discharge at station No 1 : 136 lit/sec
- Initial water depth at station No 1 : 22.87 inch

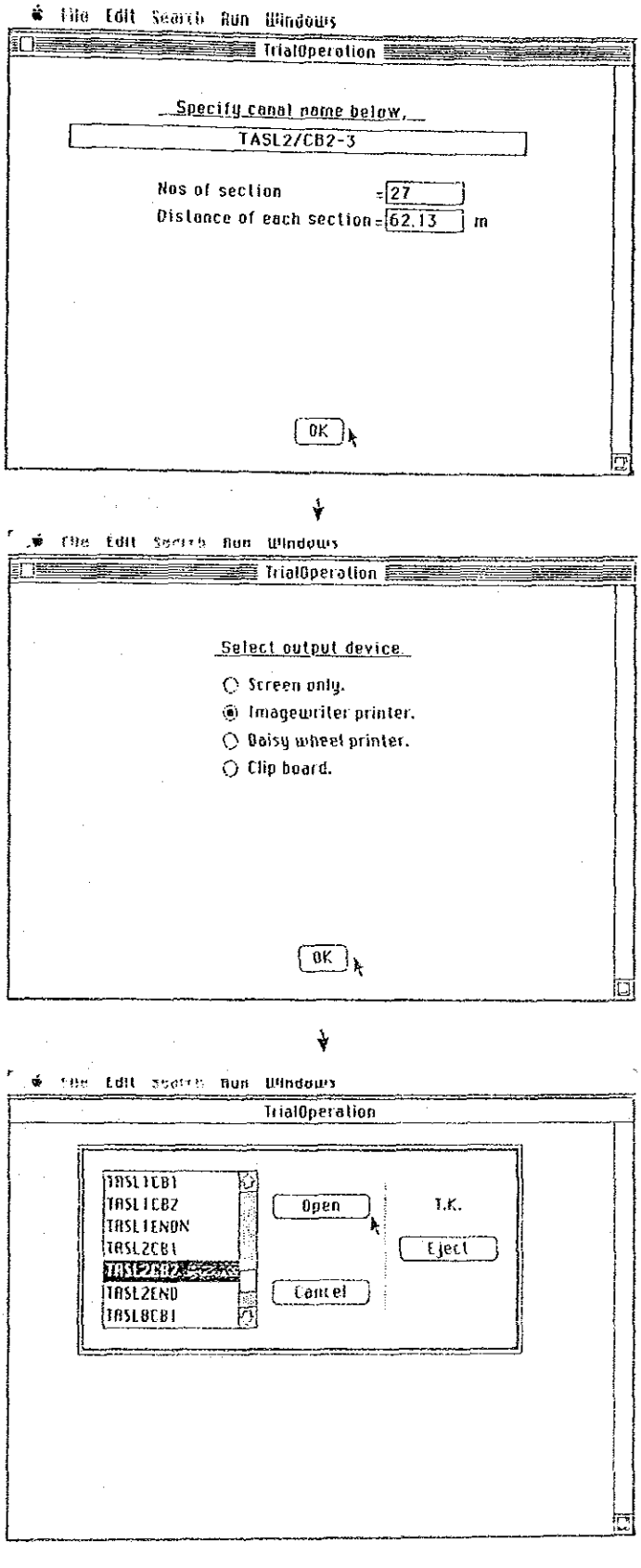


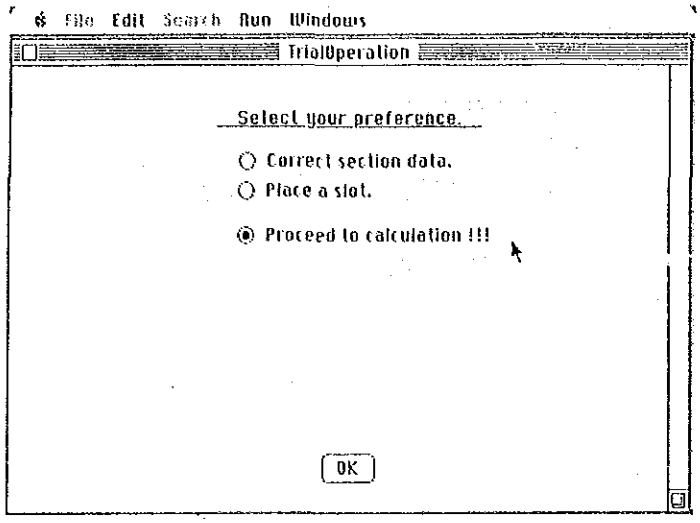
DISTANCE (feet)	3 500	3 660	5 080	7 900	8 800
DESIGN TOP LEVEL OF CONDUIT (feet)	12.09	11.94	11.79	11.44	10.50	10.20 / 9.95
ACTUAL TOP LEVEL OF CONDUIT (feet)	12.25	12.30	11.78	11.80	11.76	11.70	11.66	11.61	11.57	11.39	11.37	11.45	11.17	11.11	11.09	10.97	10.90	10.81	10.78	10.78	10.68	10.62	10.50	10.34	10.36	10.30	10.24	10.20
FIELD OFFTAKE RIGHT (feet)	11.16	10.82	10.78	10.82	10.78	10.76	10.68	10.61	10.57	10.39	10.37	10.39	10.19	10.03	10.05	9.89	9.92	9.73	9.70	9.68	9.60	9.52	9.48	9.40	9.32	9.22	9.09
FIELD OFFTAKE LEFT (feet)	11.11	10.82	10.78	10.76	10.78	10.72	10.68	10.67	10.53	10.39	10.37	10.39	10.19	10.03	9.99	9.97	9.88	9.81	9.70	9.68	9.60	9.54	9.42	9.44	9.28	9.24	9.14

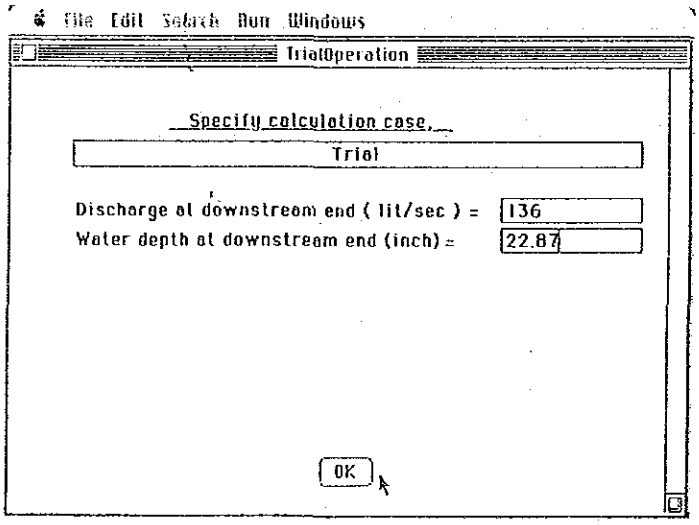
=== SECTIONAL DATA ===

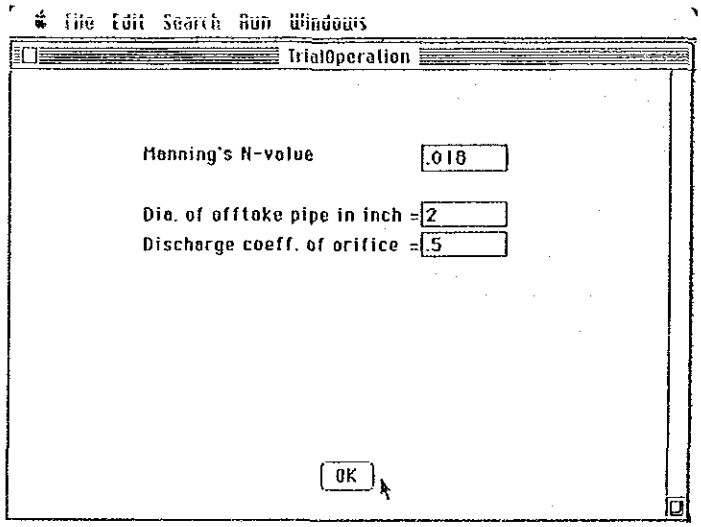
No	Top EL (feet)	Conduit HxB (inch)	(inch)	Location of offtake pipe Right(inch)	Left(inch)
1	10.200	30	30	0.00	0.00
2	10.240	30	30	13.75	13.25
3	10.300	30	30	13.00	12.75
4	10.360	30	30	12.50	13.00
5	10.500	36	30	12.25	13.00
6	10.500	36	30	12.25	13.00
7	10.620	36	30	13.25	13.00
8	10.680	36	30	13.00	13.00
9	10.780	36	30	13.00	13.00
10	10.780	36	30	13.00	13.00
11	10.810	36	30	0.00	12.00
12	10.900	36	30	0.00	0.00
13	10.970	36	30	13.00	0.00
14	11.090	36	30	0.00	0.00
15	11.110	36	30	0.00	0.00
16	11.170	36	30	0.00	0.00
17	11.450	36	30	0.00	0.00
18	11.370	36	30	0.00	0.00
19	11.390	36	30	0.00	0.00
20	11.570	36	36	0.00	0.00
21	11.610	36	36	0.00	0.00
22	11.660	36	36	0.00	0.00
23	11.700	36	36	0.00	0.00
24	11.760	36	36	0.00	0.00
25	11.800	36	36	0.00	0.00
26	11.780	36	36	0.00	0.00
27	11.900	42	36	0.00	0.00

(2) Procedure of operation




File Edit Search Run Windows
TrialOperation
Select your preference.
Correct section data.
Place a slot.
Proceed to calculation !!!
OK


File Edit Search Run Windows
TrialOperation
Specify calculation case.
Trial
Discharge at downstream end (lit/sec) = 136
Water depth at downstream end (inch) = 22.87
OK


File Edit Search Run Windows
TrialOperation
Manning's N-value .018
Dia. of offtake pipe in inch = 2
Discharge coeff. of orifice = .5
OK

(3) Result of calculation (Output form)

== Design Conditions ==

Discharge (lit./s)	136.00
Distance of each section L (m)	62.130
Manning's roughness coefficient, n	0.018
Dia. of offtake pipe (inch)	2.00
Discharge coefficient of offtake pipe	0.50

+--+
I Back Water Calculation of Tertiary Canal I
+--+

Location TASL2/CB2-3
Case Trial

Water depth at downstream end 22.870 inch

No	Discharge (m**3/s)	Velocity (m/s)	Water Depth (inch)	Base EL (feet)	Water Level (feet)	Offtake discharge Right (l/s)	Offtake discharge Left (l/s)	H above pipe Right (inch)	H above pipe Left (inch)	Slot Height (inch)
1	0.136	0.307	22.870	7.700	9.606	0.000	0.000	0.000	0.000	
2	0.136	0.307	22.922	7.740	9.650	1.847	1.776	6.672	6.172	
3	0.140	0.317	22.763	7.800	9.697	1.716	1.679	5.763	5.513	
4	0.143	0.326	22.641	7.860	9.747	1.621	1.698	5.141	5.641	
5	0.146	0.275	27.539	7.500	9.795	1.392	1.523	3.789	4.539	
6	0.149	0.276	27.941	7.500	9.828	1.464	1.589	4.191	4.941	
7	0.152	0.292	26.909	7.620	9.862	1.458	1.414	4.159	3.909	
8	0.155	0.301	26.650	7.680	9.901	1.366	1.366	3.650	3.650	
9	0.158	0.314	25.944	7.780	9.942	1.227	1.227	2.944	2.944	
10	0.160	0.313	26.476	7.780	9.986	1.333	1.333	3.476	3.476	
11	0.163	0.316	26.643	7.810	10.030	0.000	1.162	0.000	2.643	
12	0.164	0.325	26.096	7.900	10.075	0.000	0.000	0.000	0.000	
13	0.164	0.329	25.815	7.970	10.121	1.200	0.000	2.815	0.000	
14	0.165	0.342	24.965	8.090	10.170	0.000	0.000	0.000	0.000	
15	0.165	0.337	25.352	8.110	10.223	0.000	0.000	0.000	0.000	
16	0.165	0.339	25.238	8.170	10.273	0.000	0.000	0.000	0.000	
17	0.165	0.379	22.535	8.450	10.328	0.000	0.000	0.000	0.000	
18	0.165	0.352	24.281	8.370	10.393	0.000	0.000	0.000	0.000	
19	0.165	0.346	24.706	8.390	10.449	0.000	0.000	0.000	0.000	
20	0.165	0.308	23.150	8.570	10.499	0.000	0.000	0.000	0.000	
21	0.165	0.308	23.127	8.610	10.537	0.000	0.000	0.000	0.000	
22	0.165	0.310	22.990	8.660	10.576	0.000	0.000	0.000	0.000	
23	0.165	0.310	22.975	8.700	10.615	0.000	0.000	0.000	0.000	
24	0.165	0.313	22.725	8.760	10.654	0.000	0.000	0.000	0.000	
25	0.165	0.313	22.725	8.800	10.694	0.000	0.000	0.000	0.000	
26	0.165	0.304	23.438	8.780	10.733	0.000	0.000	0.000	0.000	
27	0.165	0.251	28.412	8.400	10.768	0.000	0.000	0.000	0.000	
	0.165									

Remark : * means that submerged flow occurred at slot

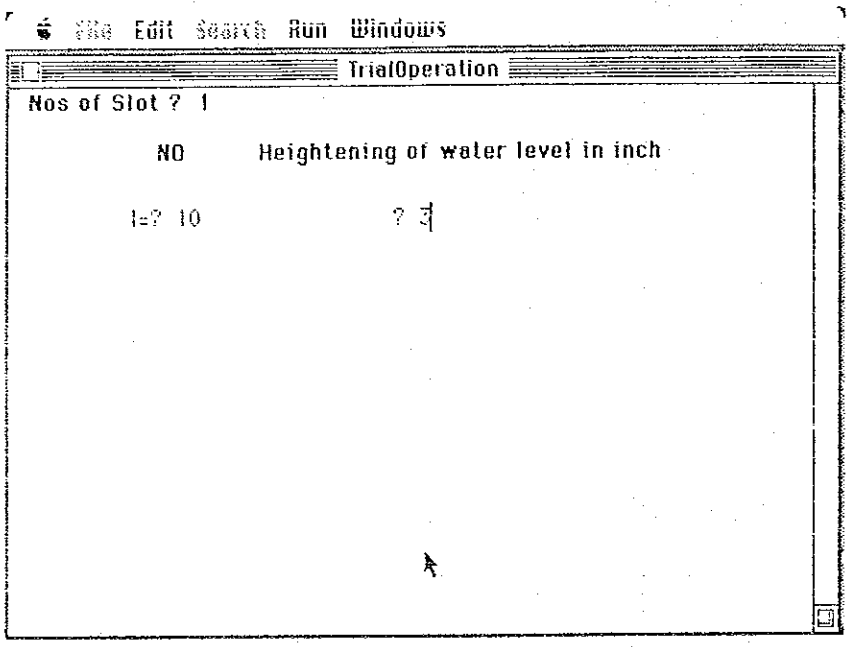
Case 2: with slot condition

(1) Setting of initial condition

Under the same conduit conditions as Case 1, sample calculation is made in the case of using slots in a conduit. Input conditions are assumed as follws:

- Location of slot: Between Sections No. 9 and 10
- Required back-up height of water level at the slot : 3 inches

(2) Procedure of operation



(3) Result of calculation (Output form)

== Design Conditions ==

Discharge (lit./s)	136.00
Distance of each section L (m)	62.130
Manning's roughness coefficient, n	0.018
Dia. of offtake pipe (inch)	2.00
Discharge coefficient of offtake pipe	0.50

I Back Water Calculation of Tertiary Canal I

Location	TASL2/CB2-3
Case	Trial

Water depth at downstream end 22.870 inch

No	Discharge (m**3/s)	Velocity (m/s)	Water Depth (inch)	Base EL (feet)	Water Level (feet)	Offtake discharge Right (l/s)	Offtake discharge Left (l/s)	H above pipe Right (inch)	H above pipe Left (inch)	Slot Height (inch)
1	0.136	0.307	22.870	7.700	9.606	0.000	0.000	0.000	0.000	
2	0.136	0.310	22.656	7.740	9.628	1.810	1.738	6.406	5.906	
3	0.140	0.320	22.512	7.800	9.676	1.679	1.640	5.512	5.262	
4	0.143	0.329	22.406	7.860	9.727	1.584	1.662	4.906	5.406	
5	0.146	0.276	27.319	7.500	9.777	1.351	1.486	3.569	4.319	
6	0.149	0.278	27.721	7.500	9.810	1.425	1.554	3.971	4.721	
7	0.152	0.294	26.696	7.620	9.845	1.420	1.375	3.946	3.696	
8	0.155	0.302	26.445	7.680	9.884	1.327	1.327	3.445	3.445	
9	0.157	0.316	25.747	7.780	9.926	1.185	1.185	2.747	2.747	
		0.317	26.020		9.948					
		0.284	29.020		10.198					16.01*
10	0.160	0.282	29.224	7.780	10.215	1.784	1.784	6.224	6.224	
11	0.163	0.289	29.179	7.810	10.242	0.000	1.627	0.000	5.179	
12	0.165	0.299	28.526	7.900	10.277	0.000	0.000	0.000	0.000	
13	0.165	0.303	28.139	7.970	10.315	1.621	0.000	5.139	0.000	
14	0.167	0.317	27.182	8.090	10.355	0.000	0.000	0.000	0.000	
15	0.167	0.313	27.455	8.110	10.398	0.000	0.000	0.000	0.000	
16	0.167	0.316	27.243	8.170	10.440	0.000	0.000	0.000	0.000	
17	0.167	0.352	24.426	8.450	10.485	0.000	0.000	0.000	0.000	
18	0.167	0.330	26.043	8.370	10.540	0.000	0.000	0.000	0.000	
19	0.167	0.326	26.377	8.390	10.588	0.000	0.000	0.000	0.000	
20	0.167	0.290	24.737	8.570	10.631	0.000	0.000	0.000	0.000	
21	0.167	0.291	24.646	8.610	10.664	0.000	0.000	0.000	0.000	
22	0.167	0.293	24.441	8.660	10.697	0.000	0.000	0.000	0.000	
23	0.167	0.294	24.365	8.700	10.730	0.000	0.000	0.000	0.000	
24	0.167	0.298	24.053	8.760	10.764	0.000	0.000	0.000	0.000	
25	0.167	0.299	23.993	8.800	10.799	0.000	0.000	0.000	0.000	
26	0.167	0.291	24.653	8.780	10.834	0.000	0.000	0.000	0.000	
27	0.167	0.242	29.589	8.400	10.866	0.000	0.000	0.000	0.000	
	0.167									

Remark : * means that submerged flow occurred at slot

5. List of Programme

```
' trial operation of concrete conduit(1/'87) Tanjong Karang
DIM el(50),w(50),HR(50),HL(50),hh(50),vv(50),qq(50),F$(50),BL(50)
DIM wl(50),QO(50,2),ch(50),bb(50),dr(50),dl(50),DV$(3),msg$(4)
DIM SILL(50),pp(50,2),TL(50),hlow(50),hup(50),vlow(50),vup(50)
DIM wlup(50),wlow(50),Ntype(50),dw(50)

  msg$(1)=" ** Iteration Limit Exceeded at"
  msg$(2)=" ** Abnormal H ; Overflow at"
  msg$(3)=" ** Iteration Limit Exceeded at slot"
  msg$(4)=" ** Water level lower than canal base at"

  FOR im%=0 TO 3:READ DV$(im%):NEXT
  DATA"SCRN:","LPT1:DIRECT","COM1:9600","CLIP:"
  GOSUB GeneralNote
   TEXTFACE 5:MOVETO 165,50:PRINT" Select output device. ":TEXTFACE 1
   BUTTON 1,1," Screen only.",(170,65)-(275,80),3
   BUTTON 2,2," Imagewriter printer.",(170,85)-(330,100),3
   BUTTON 3,1," Daisy wheel printer.",(170,105)-(325,120),3
   BUTTON 4,1," Clip board.",(170,125)-(265,140),3
   BUTTON 5,1,"OK",(235,260)-(275,280),1:b%=2:BEEP
10 Press%=DIALOG(0):D%=DIALOG(1):ButtonChange b%,1,4
   IF Press%=6 OR (Press%=1 AND D%=5) THEN DV%=b%-1:Hapus 5,0 ELSE 10
   OPEN DV$(DV%) FOR OUTPUT AS#1:WIDTH#1,110
   IF DV%=1 THEN PRINT#1,CHR$(27);"e";:LF$=CHR$(12) ELSE IF DV%=2 THEN LF$=CHR$(10)

100 MOVETO 120,40:TEXTFACE 5:PRINT"  Specify canal name below,  ":TEXTFACE 1
  EDIT FIELD 1,NM$,(50,50)-(420,65),,2
  MOVETO 120,100:PRINT"Nos of section"SPC(9)"="
  EDIT FIELD 2,STR$(nn),(310,88)-(370,102)
  MOVETO 120,120:PRINT"Distance of each section"SPC(1)"="SPC(9)"m"
  EDIT FIELD 3,STR$(LL),(310,108)-(370,122)
  E%=1:EDIT FIELD 1
  BUTTON 1,1,"OK",(235,260)-(275,280),1:BEEP
  WaitValueInput E%,3,1
  NM$=EDIT$(1):nn=VAL(EDIT$(2)):LL=VAL(EDIT$(3)):Hapus 1,3

110 MOVETO 130,50:TEXTFACE 5:PRINT"  Specify your data entry mode.  ":TEXTFACE 1
   BUTTON 1,2," Start with NEW data.",(170,80)-(330,95),3
   BUTTON 2,1," Use SAVED data.",(170,105)-(300,120),3
   BUTTON 3,1,"OK",(235,260)-(275,280),1:b%=1:BEEP

120 Press%=DIALOG(0):D%=DIALOG(1):ButtonChange b%,1,2
   IF Press%=6 OR (Press%=1 AND D%=3) THEN Hapus 3,0 ELSE 120
   IF b%=1 THEN IE%=0:GOTO 200
   DFN$=FILES$(1,"TEXT"):IF DFN$="" THEN 110
  Sectionaldata
  OPEN DFN$ FOR INPUT AS#2
  FOR i=1 TO nn: INPUT #2,a1,a2,a3,a4,a5:TL(i)=a1:ch(i)=a2:bb(i)=a3:dr(i)=a4:dl(i)=a5: NEXT i
  CLOSE #2:GOSUB Cvtmet
  GOTO 240

200 i=1:TEXTFACE 0
  GOSUB Idtsheet
210 j=j+1
```

```
  LOCATE j,5:PRINT i
  LOCATE j,10:INPUT ;TL(i)
  LOCATE j,20:INPUT ;ch(i)
  LOCATE j,30:INPUT ;bb(i)
  LOCATE j,40:INPUT ;dr(i)
  LOCATE j,50:INPUT ;dl(i)
  i=i+1: IF INT(i/10)=i/10 THEN GOSUB Idtsheet
  IF i< =nn THEN 210
  CLS:GOSUB Cvtmet

230 MOVETO 70,50:TEXTFACE 5:PRINT" Specify the output file name to save your data. ":TEXTFAC
E 1
   MOVETO 50,110:PRINT"File name is":IF DFN$="" THEN DFN$="NUF-Data"
   EDIT FIELD 1,DFN$,(145,98)-(450,112)
   BUTTON 1,1,"OK",(235,260)-(275,280),1:BEEP
   CALL WaitAction:DFN$=EDIT$(1):Hapus 1,1

240 FOR i=1 TO nn:Ntype(i)=0:NEXT:Ntype(nn+1)=0
   MOVETO 155,40:TEXTFACE 5:PRINT"   Select your preference.   ":TEXTFACE 1
   BUTTON 1,1," Correct section data.",(170,58)-(400,72),3
   BUTTON 2,1," Place a slot.",(170,78)-(400,92),3
   BUTTON 3,2," Proceed to calculation !!!",(170,108)-(400,122),3
   BUTTON 4,1,"OK",(235,260)-(275,280),1:IV%=3:BEEP
245 Press%=DIALOG(0):D%=DIALOG(1):ButtonChange IV%,1,3
   IF Press%=1 AND D%=4 THEN Hapus 4,0 ELSE 245
   IF IV%=3 THEN 259
   ON IV% GOTO 250,255
250 GOSUB CheckData
   MOVETO 70,50:TEXTFACE 5:PRINT" Specify the output file name to save your data. ":TEXTFACE
1
   MOVETO 50,110:PRINT"File name is":IF DFN$="" THEN DFN$="NUF-Data"
   EDIT FIELD 1,DFN$,(145,98)-(450,112)
   BUTTON 1,1,"OK",(235,260)-(275,280),1:BEEP
   CALL WaitAction:DFN$=EDIT$(1):Hapus 1,1

' Datasaving
   OPEN DFN$ FOR OUTPUT AS#2
   FOR i=1 TO nn: a1=TL(i):a2=ch(i):a3=bb(i):a4=dr(i):a5=dl(i):WRITE#2,a1,a2,a3,a4,a5: NEXT i
   CLOSE #2
   GOTO 259
255 GOSUB SlotNos
259 TEXTFACE 0:GOSUB Insat
   PRINT#1,LF$:TEXTFACE 1
260 CLS: MOVETO 100,60 :PRINT"Manning's N-value"SPC(10)"="
   EDIT FIELD 1,STR$(N),(310,50)-(370,65)
   MOVETO 100,100:PRINT"Dia. of offtake pipe in inch"SPC(1)"="
   EDIT FIELD 2,STR$(DIA),(310,88)-(370,102)
   MOVETO 100,120:PRINT"Discharge coeff. of orifice"SPC(1)"="SPC(9)
   EDIT FIELD 3,STR$(c),(310,108)-(370,122)
   E%=1:EDIT FIELD 1
   BUTTON 1,1,"OK",(235,260)-(275,280),1:BEEP
   WaitValueInput E%,3,1
   N=VAL(EDIT$(1)):DIA=VAL(EDIT$(2)):c=VAL(EDIT$(3)):Hapus 1,3
270 MOVETO 120,40:TEXTFACE 5:PRINT"   Specify calculation case,   ":TEXTFACE 1
   EDIT FIELD 1,CASE$,(50,50)-(470,65),,2
   MOVETO 50,100:PRINT"Discharge at downstream end ( lit/sec )"SPC(1)"="
   EDIT FIELD 2,STR$(QI),(370,88)-(470,102)
   MOVETO 50,120:PRINT"Water depth at downstream end (inch)"SPC(1)"="SPC(9)
   EDIT FIELD 3,STR$(HSTAT),(370,108)-(470,122)
   E%=1:EDIT FIELD 1
   BUTTON 1,1,"OK",(235,260)-(275,280),1:BEEP
   WaitValueInput E%,3,1
   CASE$=EDIT$(1):QI=VAL(EDIT$(2)):HSTAT=VAL(EDIT$(3)):Hapus 1,3
   TEXTFACE 0
```

```
  Initial condition
  TEXTFACE 1:MOVETO 190,100:PRINT"Calculating !!!":TEXTFACE 0
  dd=DIA*.0254:AREA=dd*dd*c*3.141593/4
  hh(1)=HSTAT*.0254
  i=1:pp(1,1)=0:pp(1,2)=0
  IF QI=0 THEN 300
  wl(1)=el(1)+hh(1):V=QI/hh(1)/w(1)/1000
  R=hh(1)*w(1)/(w(1)+2*hh(1)):E1=hh(1)+V*V/19.6
  IF Ntype(2)=90 THEN L=LL/2
  qq(1)=QI/1000:qq(2)=QI/1000:F1=.5*V*V*N*N*L/R^1.33333:vv(1)=V
  GOTO 350

300 qq(1)=0:qq(2)=0:vv(1)=0:F1=0
  wl(1)=hh(1)+el(1):E1=hh(1)
350 IF hh(1)>ch(1)*.0254 THEN PRINT#1,msg$(2),i
  QO(1,1)=0:QO(1,2)=0
360 i=i+1:L=LL
  IF Ntype(i)=90 THEN 400
  GOTO 500
400 L=LL/2:b=w(i):Q=qq(i)
  DH=(el(i)-el(i-1))/2
  IF Q=0 THEN 420
  GOSUB Bisection
  h=y:hlow(i)=h:vlow(i)=Q/b/h:wlow(i)=el(i-1)+h+DH
  GOTO 440
420 wlow(i)=wl(i-1):h=hh(i-1)-DH:hlow(i)=h:vlow(i)=0
  wlup(i)=wlow(i):vup(i)=0:hup(i)=hlow(i)
  SILL(i)=0:wl(i)=wl(i-1):vv(i)=0:hh(i)=wl(i)-el(i)
  GOTO 480
440 GOSUB slot
  GOSUB Bisection
  h=y
  IF h<=0 THEN PRINT#1,msg$(4),i:GOTO 810
  hh(i)=h:vv(i)=Q/b/h:wl(i)=el(i)+h
480 GOSUB Orifice
  GOTO 600
500 b=w(i):Q=qq(i):DH=el(i)-el(i-1)
  IF Q=0 THEN 550
  GOSUB Bisection
  h=y
  IF h<=0 THEN PRINT#1,msg$(4),i:GOTO 810
  hh(i)=h:vv(i)=Q/b/h:wl(i)=el(i)+h
  GOTO 570
550 wl(i)=wl(i-1):vv(i)=0:hh(i)=wl(i)-el(i):h=hh(i)
  IF h<=0 THEN PRINT#1,msg$(4),i:GOTO 810
570 GOSUB Orifice
600 IF hh(i)>ch(i)*.0254 THEN PRINT#1,msg$(2),i
  IF i>=nn THEN 610
  GOTO 360
610 qsum=qq(i+1)
  GOSUB Cvtft
  PRINT#1,
  PRINT#1,TAB(5)"== Design Conditions ==":PRINT#1,
  PRINT#1,USING"  Discharge (lit./s)              ###.##";QI
  PRINT#1,USING"  Distance of each section L (m)    ###.###";LL
  PRINT#1,USING"  Manning's roughness coefficient, n  ###.###";N
  PRINT#1,USING"  Dia. of offtake pipe (inch)       ###.##";DIA
  PRINT#1,USING"  Discharge coefficient of offtake pipe###.##";c
  PRINT#1,:PRINT#1,
  PRINT#1,TAB(30)"+-----------------------------------------+"
  PRINT#1,TAB(30)"| Back Water Calculation of Tertiary Canal |"
  PRINT#1,TAB(30)"+-----------------------------------------+"
  PRINT#1,:PRINT#1,
  PRINT#1,TAB(5)"Location                ";NM$
  PRINT#1,TAB(5)"Case                    ";CASE$:PRINT#1,
```

```
  PRINT#1,TAB(5)USING"Water depth at downstream end###.### inch";hh(1)
  PRINT#1,
  PRINT#1,"                Water    Base   Water  Offtake discharge   H above pipe    Slot"
  PRINT#1," No Discharge Velocity   Depth     EL   Level   Right    Left   Right    Left  Height"
  PRINT#1,"    (m**3/s)   (m/s)   (inch)   (feet)  (feet)   (l/s)   (l/s)   (inch)  (inch)  (inch)"
  i=0:PRINT#1,
630 i=i+1
  IF Ntype(i)<>90 THEN 650
  PRINT#1,SPC(13)USING"  ##.###  ##.###          ##.###";vlow(i),hlow(i),wlow(i)
  PRINT#1,SPC(13)USING"  ##.###  ##.###          ##.###                                  ###.##";vup(
i),hup(i),wlup(i),SILL(i);
  PRINT#1,F$(i)
650 PRINT#1,USING" ###   ##.###  ##.###  ##.###   ##.###  ##.###  ##.###  ##.###  ##.
###   ##.###";i,qq(i),vv(i),hh(i),BL(i),wl(i),QO(i,1),QO(i,2),pp(i,1),pp(i,2)
  IF i>=nn THEN 800
  IF INT(i/5)=i/5 THEN PRINT#1,
  GOTO 630
800 PRINT#1,USING"      ##.###";qsum
  PRINT#1,:PRINT#1," Remark : * means that submerged flow occurred at slot"
  PRINT#1,LF$
810 CLS:PRINT
   MOVETO 155,40:TEXTFACE 5:PRINT"  Select your preference.  ":TEXTFACE 1
   BUTTON 1,1," Change discharge condition.",(170,58)-(400,72),3
   BUTTON 2,1," Change coefficients n and c.",(170,78)-(400,92),3
   BUTTON 3,1," Change data file.",(170,108)-(400,122),3
   BUTTON 4,2," Bye forever !!!",(170,128)-(400,142),3
   BUTTON 5,1,"OK",(235,260)-(275,280),1:IV%=4:BEEP
820 Press%=DIALOG(0):D%=DIALOG(1):ButtonChange IV%,1,4
   IF Press%=1 AND D%=5 THEN Hapus 5,0 ELSE 820
   IF IV%=4 THEN MOVETO 240,100:PRINT"END":LINE(230,85)-STEP(45,20),,b:SYSTEM
   ON IV% GOTO 270,260,100
1000 CLOSE#1
END

CheckData:
  TEXTFACE 0:GOSUB Idtsheet
   LOCATE 18,10:PRINT"  If no more correction, input  0  for proceeding"
  nos=1
2028 j=j+1
  LOCATE j,3:INPUT"I=";k
  IF k=0 THEN 2100
  LOCATE j,10:INPUT;q1
  LOCATE j,20:INPUT;q2
  LOCATE j,30:INPUT;q3
  LOCATE j,40:INPUT;q4
  LOCATE j,50:INPUT;q5
   TL(k)=q1:ch(k)=q2:bb(k)=q3
  dr(k)=q4:dl(k)=q5:w(k)=q3*.0254
  el(k)=q1*.3048-q2*.0254:HR(k)=(q2-q4)*.0254:HL(k)=(q2-q5)*.0254
  nos=nos+1
  IF INT(nos/10)=nos/10 THEN GOSUB Idtsheet
  GOTO 2028
2100 TEXTFACE 1:CLS
RETURN
Idtsheet:
  CLS:j=4:PRINT
  TEXTFACE 1:MOVETO 160,20:PRINT"Conduit size, inch   Offtake from top, inch":TEXTFACE 0
  PRINT"      NO    (1) Top El, ft  (2) H         (3) B         (4) HR(right)  (5) HL(left)"
  LOCATE 18,10:PRINT"If pipe is closed,  input  ";:TEXTFACE 1:PRINT"0";
  TEXTFACE 0:PRINT"  as HR or HL."
  BEEP:CLS
  RETURN
Cvtmet:
  I=1
4010 w(I)=bb(I)*.0254:el(I)=TL(I)*.3048-ch(I)*.0254
  HR(I)=(ch(I)-dr(I))*.0254:HL(I)=(ch(I)-dl(I))*.0254
```

```
  IF HR(i)<0 THEN HR(i)=0
  IF HL(i)<0 THEN HL(i)=0
  i=i+1
  IF i>nn THEN 4020
  GOTO 4010
4020 RETURN
Bisection:
  ICOUNT=0
  X=.02:Z=1.6
  V=Q/b/X:R=b*X/(b+2*X)
  FA=DH-E1-F1-.5*N*N*V*V*L/R^1.33333+X+V*V/19.6
5150 ICOUNT=ICOUNT+1
  y=(X+Z)/2:V=Q/b/y:R=b*y/(b+2*y)
  FC=DH-E1-F1-.5*N*N*V*V*L/R^1.33333+y+V*V/19.6
  IF ABS(FC)<.0001 THEN GOTO 5200
  IF FA*FC<0 THEN Z=y
  IF FA*FC>0 THEN X=y:FA=FC
  IF ICOUNT<100 THEN 5150
  PRINT#1,msg$(1);i
5200 RETURN
slot:
  F$(i)=" ":h1=(Q/1.7/b)^.6667:hd=h+dw(i)-h1
  h2=h1-dw(i)
  IF (h2/h1)<=.6667 THEN 6200
  X=.005:Z=hd: H0=h+dw(i):h1=H0-X
  Q0=1.7*b*h1^1.5:h2=h-X:FA=Q-Q0*(1-(h2/h1)^1.5)^.385
  ICOUNT=0
6010 ICOUNT=ICOUNT+1
  y=(X+Z)/2:h1=H0-v: h2=h-v
  Q0=1.7*b*h1^1.5:FC=Q-Q0*(1-(h2/h1)^1.5)^.385
  IF ABS(FC)<.0001 THEN 6100
  IF FA*FC<0 THEN Z=y
  IF FA*FC>0 THEN X=y:FA=FC
  IF ICOUNT<100 THEN 6010
  PRINT#1,msg$(3);i
6100 hd=y:F$(i)="*"
6200 hup(i)=h+dw(i):wlup(i)=wlow(i)+dw(i):vup(i)=Q/b/hup(i)
  SILL(i)=hd:VNEW=vup(i)
  R=b*hup(i)/(b+2*hup(i))
  E1=hup(i)+VNEW*VNEW/19.6
  F1=.5*N*N*VNEW*VNEW*L/R^1.33333
6300 RETURN
Orifice:
  h1=h-HR(i):h2=h-HL(i)
  IF h1<=0 THEN h1=0
  IF h2<=0 THEN h2=0
  QF1=AREA*SQR(19.6*h1):QF2=AREA*SQR(19.6*h2):Q0(i,1)=QF1:Q0(i,2)=QF2
  pp(i,1)=h1:pp(i,2)=h2
  QNEW=qq(i)+QF1+QF2:VNEW=QNEW/b/h
  E1=h+VNEW*VNEW/19.6:R=b*h/(b+2*h)
  IF Ntype(i+1)=90 THEN L=LL/2
  F1=.5*N*N*VNEW*VNEW*L/R^1.33333
  qq(i+1)=QNEW
RETURN
Cvtft:
  i=0
8010 i=i+1
  hh(i)=hh(i)/.0254:BL(i)=el(i)/.3048:wl(i)=wl(i)/.3048
  Q0(i,1)=Q0(i,1)*1000:Q0(i,2)=Q0(i,2)*1000
  pp(i,1)=pp(i,1)/.0254:pp(i,2)=pp(i,2)/.0254
  IF Ntype(i)=90 THEN 8020
  GOTO 8030
8020 hlow(i)=hlow(i)/.0254:hup(i)=hup(i)/.0254:SILL(i)=SILL(i)/.0254
  wlow(i)=wlow(i)/.3048:wlup(i)=wlup(i)/.3048
8030 IF i<nn THEN 8010
  CLS
RETURN
SlotNos:
```

```
  INPUT" Nos of Slot ";nslot
  J=4
  TEXTFACE 1:MOVETO 90,40:PRINT"NO        Heightening of water level in inch":TEXTFACE 0
  BEEP:i=1
9010 J=J+1
  LOCATE J,10:INPUT"I=";k
  LOCATE J,30:INPUT height
  Ntype(k)=90:dw(k)=height*.0254
  i=i+1
  IF i<=nslot THEN 9010
  CLS:TEXTFACE 1
RETURN
SUB WaitValueInput(E%,Emax%,OK%) STATIC
Loop:
  Press%=DIALOG(0):CheckEditField Press%,E%,Emax%
  IF Press%=1 AND DIALOG(1)=OK% THEN EXIT SUB ELSE Loop
END SUB
SUB CheckEditField(P%,E%,Emax%) STATIC
  IF P%=2 THEN E%=DIALOG(2):EXIT SUB
  IF P%<>6 THEN EXIT SUB
  E%=E%+1:IF E%>Emax% THEN E%=1
  EDIT FIELD E%
END SUB
SUB ButtonChange(b%,Bmin%,Bmax%) STATIC
  SHARED Press%,D%
  IF Press%<>1 THEN EXIT SUB
  IF Bmin%=<D% AND D%<=Bmax% THEN BUTTON b%,1:b%=D%:BUTTON b%,2
END SUB
SUB Hapus(b%,E%) STATIC
  FOR i%=1 TO b%:BUTTON CLOSE i%:NEXT
  FOR i%=1 TO E%:EDIT FIELD CLOSE i%:NEXT
  CLS
END SUB
SUB WaitAction STATIC
  Press%=DIALOG(0)
  WHILE Press%<>1 AND Press%<>6
    Press%=DIALOG(0)
  WEND
END SUB
GeneralNote:
  MOVETO 190,20:TEXTFACE 5:PRINT"INSTRUCTION":TEXTFACE 0:PRINT
  PRINT TAB(3)" 1. This programme is prepared to calculate the water level in a concrete ";
  PRINT TAB(3)"conduit and discharge from an offtake pipe. Sectional data should be ";
  PRINT TAB(3)"made from ";:TEXTFACE 1:PRINT"downstream to upstream.":PRINT:TEXTFACE 0
  PRINT TAB(3)"2. Location of offtake pipe (HR,HL) is the depth of pipe centre";
  PRINT TAB(3)"measured from the crest of conduit." :PRINT
  PRINT TAB(3)"3. If water depth could not found, a message 'Iteration Limit Exceeded'";
  PRINT TAB(3)"is write out.  In this case, check sectional data and discharge condition."
  BUTTON 1,1,"OK",(235,260)-(275,280),1:BEEP:CALL WaitAction:Hapus 1,0
RETURN
Insat:
  PRINT#1,"                 === SECTIONAL DATA ===":PRINT#1,
  i=0
  PRINT#1," No   Top EL     Conduit HxB Location of offtake pipe"
  PRINT#1,"     (feet)    (inch)  (inch) Right(inch) Left(inch)"
  PRINT#1,
9900 i=i+1
  PRINT#1,USING"### ####.### #####  #####  ###.##  ###.##";i,TL(i),ch(i),bb(i),dr(i),d
l(i)
  IF i<nn THEN 9900
RETURN
```