

ON THE RIVER MARADI

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT JIBIYA
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1975

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	23.80	4.30	10.80	356.60	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	9.60	2.30	5.10	96.20	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	5.70	55.50	3.70	85.50	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	7.90	14.70	4.30	37.09	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	3.10	6.50	3.40	417.90	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	2.30	52.10	2.80	108.70	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	16.40	104.10	11.00	57.70	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	10.10	20.40	2.30	23.20	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	4.50	6.80	7.10	112.10	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	4.50	3.30	3.70	88.30	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	2.30	6.50	0.00	76.98	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	4.10	0.00	26.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	4.50	0.00	342.40	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	26.60	10.50	0.00	384.90	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	66.80	6.80	3.80	2.30	384.90	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	37.40	3.10	3.10	0.00	363.20	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	5.10	4.30	450.90	8.20	338.70	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	7.60	3.40	87.20	84.90	74.69	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	2.30	19.79	340.50	38.50	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	2.30	10.50	87.50	394.30	21.80	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	11.20	7.60	16.98	349.98	10.80	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	6.20	3.80	19.79	410.40	7.60	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	22.60	11.60	367.90	31.70	7.40	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	6.20	3.40	113.20	24.30	5.10	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	33.96	2.30	499.97	11.00	3.10	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	5.90	2.30	104.10	409.40	2.60	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	3.40	3.40	16.10	368.80	2.50	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	2.40	2.30	9.30	82.60	2.40	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	2.40	10.90	105.70	2.30	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	19.20	2.30	4.10	387.70	2.30	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	30.60	357.50	499.97	445.30	417.90	0.00	0.00	0.00
MAX.	0.00	0.00	0.00	0.00	66.80	26.60	499.97	445.30	417.90	0.00	0.00	0.00
MIN.	0.00	0.00	0.00	0.00	0.00	0.00	2.30	0.00	2.30	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	22.54	16.30	213.21	303.63	300.80	0.00	0.00	0.00

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT JIBIYA
 MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

ON THE RIVER MARADI

Year : 1976

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.70	19.79	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.80	11.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.60	10.80	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.20	15.90	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.50	41.90	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.70	35.70	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	2.40	18.11	56.60	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.90	82.80	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	398.10	36.20	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	84.90	86.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.40	395.30	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.50	29.50	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	87.10	12.70	13.60	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	100.80	14.40	14.40	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	403.80	38.20	15.90	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	86.00	21.50	9.30	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	74.69	20.90	7.40	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	351.90	23.80	7.30	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	56.60	20.40	4.50	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	32.80	19.20	17.79	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	2.50	19.79	104.10	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	3.50	13.60	27.20	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	14.70	11.60	11.60	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	56.60	9.10	20.70	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	11.30	6.80	24.90	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	94.30	2.80	78.69	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	32.20	0.00	23.80	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	7.60	20.70	14.70	0.00	0.00	0.00
29	0.00	*	0.00	0.00	0.00	0.00	4.50	46.40	10.50	0.00	0.00	0.00
30	0.00		0.00	0.00	0.00	0.00	6.20	14.70	5.90	0.00	0.00	0.00
31	0.00		0.00	0.00	0.00	0.00	2.60	10.50		0.00	0.00	0.00
MAX.	0.00	*	0.00	0.00	0.00	0.00	403.80	398.10	395.30	0.00	0.00	0.00
MIN.	0.00	*	0.00	0.00	0.00	0.00	0.00	0.00	4.50	0.00	0.00	0.00
TOTAL	0.00	*	0.00	0.00	0.00	0.00	123.73	92.23	106.58	0.00	0.00	0.00

ON THE RIVER MARADI

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT JIBIYA
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1977

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	91.15	7.30	25.95	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	44.50	*	69.75	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	19.10	50.30	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	48.35	15.40	25.20	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	7.90	23.90	61.10	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	1.95	22.40	7.70	21.90	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	8.50	3.95	61.10	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	55.69	85.00	20.40	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	13.20	*	19.10	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	12.05	*	99.05	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	16.60	*	21.15	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	10.55	*	10.35	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	24.70	*	25.20	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	8.30	62.30	13.20	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	1.30	3.70	*	14.50	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	1.65	*	73.80	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	5.95	10.55	26.50	15.20	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	9.89	65.69	12.70	16.35	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	28.25	71.80	10.75	10.55	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	13.20	22.70	7.40	13.85	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	4.50	10.75	106.20	5.35	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	2.30	*	*	2.90	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	*	*	*	16.10	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	22.20	56.05	*	10.35	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	17.10	9.50	*	3.40	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	4.00	9.70	*	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	2.30	3.90	*	21.65	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	1.80	3.45	69.75	0.15	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	13.60	*	59.90	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	3.40	*	13.40	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	19.10	70.75	0.00	0.00	0.00	0.00
MAX.	0.00	0.00	0.00	0.00	0.00	*	*	*	99.05	0.00	0.00	0.00
MIN.	0.00	0.00	0.00	0.00	0.00	*	*	*	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	*	*	*	64.88	0.00	0.00	0.00

ON THE RIVER MARADI

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT JIBIYA
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1979

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	*	*	*	*	*	*	24.60	*	139.80	24.60	0.00	0.00
2	*	*	*	*	*	*	14.80	63.00	24.80	15.20	0.00	0.00
3	*	*	*	*	*	*	23.60	25.80	44.60	12.50	0.00	0.00
4	*	*	*	*	*	*	168.50	100.40	74.80	10.00	0.00	0.00
5	*	*	*	*	*	*	48.50	78.80	26.00	10.30	0.00	0.00
6	*	*	*	*	*	*	*	24.60	24.80	6.40	0.00	0.00
7	*	*	*	*	*	*	82.70	13.40	20.00	4.90	0.00	0.00
8	*	*	*	*	*	*	*	21.80	45.60	4.00	0.00	0.00
9	*	*	*	*	*	*	*	22.00	17.20	3.50	0.00	0.00
10	*	*	*	*	*	*	52.40	27.00	22.50	2.50	0.00	0.00
11	*	*	*	*	*	*	21.50	15.00	140.70	2.30	0.00	0.00
12	*	*	*	*	*	*	15.20	*	26.00	2.00	0.00	0.00
13	*	*	*	*	*	*	74.80	141.70	24.80	1.80	0.00	0.00
14	*	*	*	*	*	*	13.80	88.60	15.40	1.50	0.00	0.00
15	*	*	*	*	*	*	139.80	*	11.60	1.30	0.00	0.00
16	*	*	*	*	*	*	117.10	51.40	130.90	1.10	0.00	0.00
17	*	*	*	*	*	*	*	17.90	55.30	0.00	0.00	0.00
18	*	*	*	*	*	*	*	*	73.90	0.00	0.00	0.00
19	*	*	*	*	*	*	48.50	62.10	24.10	0.00	0.00	0.00
20	*	*	*	*	*	*	52.40	21.10	13.40	0.00	0.00	0.00
21	*	*	*	*	*	*	25.30	*	7.90	0.00	0.00	0.00
22	*	*	*	*	*	*	126.90	80.70	75.80	0.00	0.00	0.00
23	*	*	*	*	*	*	55.30	*	63.10	0.00	0.00	0.00
24	*	*	*	*	*	*	129.90	173.40	21.50	0.00	0.00	0.00
25	*	*	*	*	*	*	42.70	145.70	22.20	0.00	0.00	0.00
26	*	*	*	*	*	*	154.60	27.00	16.80	0.00	0.00	0.00
27	*	*	*	*	*	*	60.10	43.60	14.50	0.00	0.00	0.00
28	*	*	*	*	*	*	*	113.20	8.50	0.00	0.00	0.00
29	*	*	*	*	*	*	133.80	32.00	6.20	0.00	0.00	0.00
30	*	*	*	*	*	*	62.10	65.00	53.30	0.00	0.00	0.00
31	*	*	*	*	*	*	18.80	4.30	0.00	0.00	0.00	0.00
MAX.	*	*	*	*	*	*	*	*	140.70	24.60	0.00	0.00
MIN.	*	*	*	*	*	*	*	*	6.20	0.00	0.00	0.00
TOTAL	*	*	*	*	*	*	*	*	107.65	8.98	0.00	0.00

ON THE RIVER MARADI

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT JIBIYA
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1980

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	*	2.60	99.40	47.50	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	35.90	45.60	46.50	22.90	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	125.00	*	27.70	*	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	*	77.80	139.80	114.10	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	79.70	73.90	62.10	56.20	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	15.70	82.70	50.40	25.80	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	10.20	56.20	*	20.20	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	4.60	*	93.50	140.50	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	151.60	91.50	50.40	45.60	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	24.80	23.40	*	24.30	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	5.70	23.40	34.00	14.80	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	5.20	79.70	22.00	11.40	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	3.00	42.70	*	6.20	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	2.60	49.90	89.00	4.60	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	2.20	22.20	63.10	9.80	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	*	14.10	171.40	5.30	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	9.60	58.20	168.50	18.40	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	*	125.00	*	12.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	123.00	104.30	94.50	8.70	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	24.80	*	53.30	6.40	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	9.60	*	77.80	5.20	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	4.10	114.10	58.20	4.60	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	72.90	43.60	*	4.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	38.80	21.10	*	3.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	83.80	17.90	*	2.60	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	22.70	61.10	88.60	2.40	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	84.70	65.00	133.80	2.40	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	39.80	*	71.90	2.40	0.00	0.00	0.00
29	0.00	*	0.00	0.00	0.00	2.70	73.90	110.20	2.20	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	2.40	26.20	111.20	1.80	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	*	*	84.70	*	0.00	0.00	0.00
MAX.	0.00	*	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
MIN.	0.00	*	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
TOTAL	0.00	*	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00

ON THE RIVER KA
DAILY DISCHARGE IN CUBIC METERS PER SECOND AT FOKKU
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1968

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	*	*	*	0.00	77.87	8.35	18.26	65.12	62.01	31.43	0.37	*
2	*	*	*	0.00	67.96	10.42	16.91	69.37	52.95	27.81	0.25	*
3	*	*	*	0.00	58.33	11.10	19.91	68.81	50.12	28.03	0.17	*
4	*	*	*	0.00	38.79	21.21	13.96	66.83	47.01	26.22	0.14	*
5	*	*	*	0.00	38.50	16.70	18.26	63.43	45.87	24.01	0.11	*
6	*	*	*	0.00	37.93	11.04	52.95	57.77	30.02	20.70	0.06	*
7	*	*	*	0.00	29.45	23.79	167.35	64.85	49.27	19.40	0.08	*
8	*	*	*	0.00	22.60	20.25	97.13	70.51	47.86	18.12	0.23	*
9	*	*	*	0.00	16.95	0.00	99.96	56.92	55.78	16.95	0.17	*
10	*	*	*	0.00	12.71	112.13	121.48	56.07	64.85	15.29	0.17	*
11	*	*	*	0.00	9.80	100.52	89.20	70.51	86.93	13.99	0.11	*
12	*	*	*	0.00	9.80	117.80	88.35	63.71	111.65	15.40	0.06	*
13	*	*	*	0.00	7.22	101.09	100.52	43.32	93.16	13.59	0.03	*
14	*	*	*	0.00	5.15	100.81	106.47	31.71	80.42	12.01	0.00	*
15	*	*	*	0.00	3.85	47.01	94.58	56.07	68.24	10.22	0.00	*
16	*	*	*	0.00	24.32	38.79	75.69	0.00	59.75	9.09	0.00	*
17	*	*	*	13.03	15.94	28.32	51.54	30.02	56.63	7.99	0.00	*
18	*	*	*	10.22	3.96	22.82	48.42	24.86	60.60	7.11	0.00	*
19	*	*	*	7.11	4.05	0.00	45.72	26.84	60.03	6.74	0.00	*
20	*	*	*	6.46	3.34	0.00	114.68	28.60	64.85	8.20	0.00	*
21	*	*	*	3.11	1.95	49.84	62.30	21.21	61.73	4.96	0.00	*
22	*	*	*	60.88	2.01	0.00	48.70	44.46	54.93	4.21	0.00	*
23	*	*	*	18.26	2.01	17.98	46.72	48.70	51.54	3.60	0.00	*
24	*	*	*	15.57	10.10	13.85	52.67	48.14	0.00	3.11	0.00	*
25	*	*	*	44.17	25.99	19.17	44.17	40.49	0.00	2.69	0.00	*
26	*	*	*	33.13	8.85	29.73	56.63	63.15	0.00	2.10	0.00	*
27	*	*	*	30.30	7.16	25.00	54.93	99.39	0.00	1.90	0.00	*
28	*	*	*	138.75	10.42	24.47	87.78	68.24	0.00	1.47	0.00	*
29	*	*	*	164.52	11.50	19.54	73.62	72.76	0.00	1.13	0.00	*
30	*	*	*	95.14	15.21	17.29	53.52	61.73	0.00	0.82	0.00	*
31	*	*	*	10.70	0.00	0.00	0.00	0.00	0.00	0.65	0.00	*
MAX.	*	*	*	164.52	77.87	117.80	167.35	99.39	111.85	31.43	0.37	*
MIN.	*	*	*	0.00	1.95	0.00	0.00	0.00	0.00	0.65	0.00	*
TOTAL	*	*	*	55.35	51.36	87.18	174.82	136.82	122.38	30.84	0.17	*

ON THE RIVER ZAMFARA

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT KALGO
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1968

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	*	*	*	*	17.78	21.38	25.80	104.49	102.79	23.50	9.22	7.33
2	*	*	*	*	17.38	26.45	21.55	101.94	99.11	18.35	9.14	7.25
3	*	*	*	*	17.38	29.73	18.43	111.57	88.91	20.10	9.06	7.25
4	*	*	*	*	17.38	26.90	17.27	97.69	80.99	19.48	8.97	7.19
5	*	*	*	*	17.38	15.40	17.70	92.60	89.20	19.06	8.89	7.16
6	*	*	*	*	16.98	21.46	23.08	88.35	95.14	18.54	8.81	7.11
7	*	*	*	5.52	16.98	16.65	43.32	82.97	104.77	18.20	8.72	7.08
8	*	*	*	7.45	16.98	17.84	56.63	79.00	115.53	17.98	8.64	7.02
9	*	*	*	9.39	16.98	14.78	69.08	83.25	105.06	17.84	8.55	6.99
10	*	*	*	7.62	16.60	13.48	79.85	90.05	95.56	16.57	8.43	6.94
11	*	*	*	6.60	16.60	12.35	88.07	77.01	90.90	18.54	8.38	6.91
12	*	*	*	10.48	16.42	24.78	98.26	73.33	89.93	15.06	8.30	6.85
13	*	*	*	13.88	15.18	51.82	105.90	69.66	100.24	14.67	8.18	6.82
14	*	*	*	18.95	13.65	63.71	115.25	64.23	104.77	14.33	8.01	6.77
15	*	*	*	21.21	12.86	70.23	123.18	57.77	112.93	13.99	7.93	6.74
16	*	*	*	25.03	12.57	66.54	128.56	53.80	111.00	13.31	7.79	6.66
17	*	*	*	30.30	12.29	62.30	129.12	41.34	123.46	12.63	7.79	6.74
18	*	*	*	37.38	11.78	60.88	126.01	39.36	116.67	12.29	7.76	6.68
19	*	*	*	43.04	10.25	64.00	130.25	38.50	96.84	12.01	7.76	6.55
20	*	*	*	45.31	16.93	58.05	106.75	37.09	80.99	11.67	7.70	6.57
21	*	*	*	47.86	24.78	43.32	97.69	37.09	64.00	11.27	7.70	6.51
22	*	*	*	49.55	18.35	37.66	77.01	46.44	48.99	10.70	7.67	6.51
23	*	*	*	50.69	13.76	32.56	66.93	54.65	44.17	10.56	7.67	6.51
24	*	*	*	49.84	14.55	29.45	96.56	59.75	39.36	10.56	7.59	6.51
25	*	*	*	34.25	15.01	44.46	106.19	63.71	35.96	10.34	7.25	6.51
26	*	*	*	39.36	13.14	53.24	114.12	67.68	31.15	10.25	7.16	6.51
27	*	*	*	26.90	15.83	52.10	120.06	62.30	30.02	10.05	7.28	6.51
28	*	*	*	20.78	27.24	37.93	120.91	60.88	28.03	9.77	7.36	6.51
29	*	*	*	17.78	33.13	27.92	117.23	85.52	26.90	9.55	7.33	6.51
30	*	*	*	17.38	38.23	24.52	112.42	85.52	25.20	9.55	7.33	6.51
31	*	*	*	30.02	30.02	109.59	109.59	96.28	25.20	9.33	7.33	0.00
MAX.	*	*	*	*	38.23	70.23	130.25	111.57	123.46	23.50	9.22	7.33
MIN.	*	*	*	*	10.25	12.35	17.27	37.09	25.20	9.33	7.16	0.00
TOTAL	*	*	*	*	47.90	96.93	231.79	190.41	205.34	38.02	20.94	17.61

ON THE RIVER ZAMFARA

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT KALGO
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1969

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	6.48	6.06	5.83	*	*	*	*	*	*	*	*	*
2	6.46	6.06	5.83	*	*	*	*	*	*	*	*	*
3	6.43	6.03	5.83	*	*	*	*	*	*	*	*	*
4	6.40	6.03	5.83	*	*	*	*	*	*	*	*	*
5	6.37	6.00	5.80	*	*	*	*	*	*	*	*	*
6	6.34	6.00	5.80	*	*	*	*	*	*	*	*	*
7	6.31	5.97	5.78	*	*	*	*	*	*	*	*	*
8	6.31	5.95	5.78	*	*	*	*	*	*	*	*	*
9	6.29	5.95	5.78	*	*	*	*	*	*	*	*	*
10	6.29	5.95	5.75	*	*	*	*	*	*	*	*	*
11	6.29	5.95	5.75	*	*	*	*	*	*	*	*	*
12	6.26	5.95	5.75	*	*	*	*	*	*	*	*	*
13	6.26	5.95	5.72	*	*	*	*	*	*	*	*	*
14	6.26	5.95	5.72	*	*	*	*	*	*	*	*	*
15	6.26	5.95	5.72	*	*	*	*	*	*	*	*	*
16	6.23	5.95	5.72	*	*	*	*	*	*	*	*	*
17	6.23	5.95	5.72	*	*	*	*	*	*	*	*	*
18	6.23	5.92	5.72	*	*	*	*	*	*	*	*	*
19	6.23	5.92	5.69	*	*	*	*	*	*	*	*	*
20	6.23	5.92	5.72	*	*	*	*	*	*	*	*	*
21	6.23	5.92	5.72	*	*	*	*	*	*	*	*	*
22	6.23	5.92	5.69	*	*	*	*	*	*	*	*	*
23	6.20	5.89	5.69	*	*	*	*	*	*	*	*	*
24	5.89	5.89	5.69	*	*	*	*	*	*	*	*	*
25	6.14	5.86	5.69	*	*	*	*	*	*	*	*	*
26	6.12	5.86	5.66	*	*	*	*	*	*	*	*	*
27	6.12	5.83	5.66	*	*	*	*	*	*	*	*	*
28	6.09	5.83	5.66	*	*	*	*	*	*	*	*	*
29	6.09	5.83	5.66	*	*	*	*	*	*	*	*	*
30	6.09	5.83	5.66	*	*	*	*	*	*	*	*	*
31	6.06	5.83	5.66	*	*	*	*	*	*	*	*	*
MAX.	6.48	6.06	5.83	*	*	*	*	*	*	*	*	*
MIN.	5.89	5.83	5.66	*	*	*	*	*	*	*	*	*
TOTAL	16.71	14.38	15.35	*	*	*	*	*	*	*	*	*

ON THE RIVER ZAMFARA

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT ANKA
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1968

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	2.80	*	*	*	9.14	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	8.07	*	*	*	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	5.49	*	*	*	19.51	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	3.37	*	*	*	2.86	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	2.66	*	*	*	1.44	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	8.60	*	*	*	0.93	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	6.26	*	*	*	0.54	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	17.98	*	*	*	0.48	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	28.60	*	*	*	0.08	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	77.87	*	*	*	0.03	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	30.87	*	*	*	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	22.60	*	*	*	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
MAX.	0.00	*	0.00	0.00	36.53	*	*	*	*	19.51	0.00	0.00
MIN.	0.00	*	0.00	0.00	0.00	*	*	*	*	0.00	0.00	0.00
TOTAL	0.00	*	0.00	0.00	8.04	*	*	*	*	3.02	0.00	0.00

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT KALGO
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

ON THE RIVER SHELLA

Year : 1968

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.23	0.40	0.23	0.14	0.14
2	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.23	0.40	0.23	0.14	0.14
3	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.23	0.37	0.23	0.14	0.11
4	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.23	0.37	0.20	0.14	0.11
5	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.23	0.37	0.20	0.14	0.14
6	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.23	0.34	0.20	0.14	0.14
7	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.23	0.31	0.20	0.14	0.14
8	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.23	0.31	0.20	0.14	0.14
9	0.00	0.00	0.00	0.00	0.00	0.08	0.34	0.20	0.31	0.17	0.14	0.14
10	0.00	0.00	0.00	0.00	0.00	0.11	0.17	0.20	0.31	0.14	0.14	0.14
11	0.00	0.00	0.00	0.00	0.00	0.20	0.37	0.20	0.31	0.14	0.14	0.17
12	0.00	0.00	0.00	0.00	0.00	0.20	0.28	0.20	0.31	0.14	0.14	0.17
13	0.00	0.00	0.00	0.00	0.00	0.20	0.23	0.20	0.28	0.14	0.14	0.14
14	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.20	0.28	0.14	0.14	0.14
15	0.00	0.00	0.00	0.00	0.00	0.17	0.20	0.20	0.28	0.14	0.14	0.14
16	0.00	0.00	0.00	0.00	0.00	0.14	0.20	0.20	0.28	0.14	0.14	0.14
17	0.00	0.00	0.00	0.00	0.00	0.14	0.20	0.23	0.25	0.14	0.14	0.14
18	0.00	0.00	0.00	0.00	0.00	0.17	0.20	0.23	0.25	0.14	0.14	0.11
19	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.25	0.23	0.14	0.14	0.11
20	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.28	0.23	0.14	0.14	0.11
21	0.00	0.00	0.00	0.00	0.00	0.23	0.23	0.28	0.20	0.14	0.14	0.11
22	0.00	0.00	0.00	0.00	0.00	0.23	0.23	0.31	0.20	0.14	0.14	0.11
23	0.00	0.00	0.00	0.00	0.00	0.23	0.23	0.34	0.20	0.14	0.14	0.11
24	0.00	0.00	0.00	0.00	0.00	0.23	0.23	0.40	0.23	0.14	0.14	0.11
25	0.00	0.00	0.00	0.00	0.00	0.23	0.23	0.42	0.23	0.14	0.14	0.11
26	0.00	0.00	0.00	0.00	0.00	0.23	0.25	0.40	0.23	0.14	0.14	0.11
27	0.00	0.00	0.00	0.00	0.00	0.20	0.25	0.37	0.20	0.14	0.14	0.11
28	0.00	0.00	0.00	0.00	0.00	0.20	0.25	0.34	0.23	0.14	0.14	0.11
29	0.00	0.00	0.00	0.00	0.00	0.20	0.25	0.31	0.23	0.14	0.14	0.11
30	0.00	0.00	0.00	0.00	0.00	0.17	0.23	0.28	0.23	0.14	0.14	0.11
31	0.00	0.00	0.00	0.00	0.00	0.23	0.23	0.37	0.23	0.14	0.14	0.11
MAX.	0.00	*	0.00	0.00	0.00	0.23	0.37	0.42	0.40	0.23	0.14	0.17
MIN.	0.00	*	0.00	0.00	0.00	0.00	0.14	0.20	0.20	0.14	0.11	0.11
TOTAL	0.00	*	0.00	0.00	0.00	0.36	0.57	0.71	0.72	0.43	0.34	0.34

ON THE RIVER SHELLA

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT KAIGO
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1969

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.11	0.11	0.20	*	*	*	*	*	*	*	*	*
2	0.11	0.11	0.20	*	*	*	*	*	*	*	*	*
3	0.11	0.11	0.20	*	*	*	*	*	*	*	*	*
4	0.11	0.11	0.20	*	*	*	*	*	*	*	*	*
5	0.11	0.11	0.20	*	*	*	*	*	*	*	*	*
6	0.11	0.11	0.20	*	*	*	*	*	*	*	*	*
7	0.11	0.28	0.20	*	*	*	*	*	*	*	*	*
8	0.11	0.28	0.20	*	*	*	*	*	*	*	*	*
9	0.11	0.28	0.20	*	*	*	*	*	*	*	*	*
10	0.11	0.28	0.20	*	*	*	*	*	*	*	*	*
11	0.11	0.17	0.20	*	*	*	*	*	*	*	*	*
12	0.11	0.28	0.20	*	*	*	*	*	*	*	*	*
13	0.11	0.28	0.20	*	*	*	*	*	*	*	*	*
14	0.11	0.28	0.20	*	*	*	*	*	*	*	*	*
15	0.11	0.28	0.20	*	*	*	*	*	*	*	*	*
16	0.11	0.28	0.20	*	*	*	*	*	*	*	*	*
17	0.11	0.28	0.20	*	*	*	*	*	*	*	*	*
18	0.11	0.28	0.20	*	*	*	*	*	*	*	*	*
19	0.11	0.28	0.20	*	*	*	*	*	*	*	*	*
20	0.11	0.28	0.20	*	*	*	*	*	*	*	*	*
21	0.11	0.28	0.20	*	*	*	*	*	*	*	*	*
22	0.11	0.28	0.20	*	*	*	*	*	*	*	*	*
23	0.11	0.23	0.20	*	*	*	*	*	*	*	*	*
24	0.11	0.23	0.20	*	*	*	*	*	*	*	*	*
25	0.11	0.23	0.20	*	*	*	*	*	*	*	*	*
26	0.11	0.23	0.20	*	*	*	*	*	*	*	*	*
27	0.11	0.23	0.20	*	*	*	*	*	*	*	*	*
28	0.11	0.23	0.20	*	*	*	*	*	*	*	*	*
29	0.11	0.20	0.20	*	*	*	*	*	*	*	*	*
30	0.11	0.20	0.20	*	*	*	*	*	*	*	*	*
31	0.11	0.20	0.20	*	*	*	*	*	*	*	*	*
MAX.	0.11	0.28	0.20	*	*	*	*	*	*	*	*	*
MIN.	0.11	0.11	0.20	*	*	*	*	*	*	*	*	*
TOTAL	0.29	0.55	0.54	*	*	*	*	*	*	*	*	*

ON THE RIVER GAWON

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT SAINIYINA
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1968

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0.01	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.06	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.07	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01	0.07	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.04	0.08	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.04	0.13	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.04	0.14	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.04	0.12	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.03	0.10	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.03	0.08	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.02	0.08	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.02	0.07	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.02	0.07	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.02	0.07	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01	0.07	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01	0.05	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.04	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.03	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01	0.04	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01	0.04	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01	0.04	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01	0.04	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.04	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.03	0.04	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.04	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.04	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.02	0.00	0.00	0.00
30	0.00	*	0.00	0.00	0.00	0.00	0.01	0.03	0.01	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.01	0.00	0.00	0.00
MAX.	0.00	*	0.00	0.00	0.00	0.00	0.12	0.05	0.14	0.01	0.00	0.00
MIN.	0.00	*	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00
TOTAL	0.00	*	0.00	0.00	0.00	0.00	0.12	0.06	0.16	0.00	0.00	0.00

ON THE RIVER BUNSURU
 DAILY DISCHARGE IN CUBIC METERS PER SECOND AT ZOBE B. (CONFLUENCE)
 MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1977

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	*	19.41	2.98	2.91	1.86	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	*	4.80	9.93	22.89	0.96	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	*	2.57	10.14	41.24	0.85	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	*	2.00	3.78	11.70	0.77	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	*	2.07	2.00	40.24	0.75	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	*	3.05	1.50	28.88	1.07	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	*	2.28	2.36	38.82	1.09	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	*	25.76	61.68	7.58	1.35	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	*	2.96	135.00	7.98	1.07	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	*	47.91	78.87	7.02	0.96	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	*	8.72	28.03	2.96	0.87	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	*	3.07	31.01	2.00	0.85	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	*	2.27	80.00	2.23	0.84	0.00	0.00
14	0.00	0.00	0.00	0.00	0.60	*	1.93	20.80	1.70	0.84	0.00	0.00
15	0.00	0.00	0.00	0.00	0.23	*	1.80	9.64	1.76	0.82	0.00	0.00
16	0.00	0.00	0.00	0.00	3.62	*	1.60	9.22	1.22	0.82	0.00	0.00
17	0.00	0.00	0.00	0.00	1.52	*	3.07	3.64	0.91	0.82	0.00	0.00
18	0.00	0.00	0.00	0.00	1.16	*	5.20	3.66	0.75	0.82	0.00	0.00
19	0.00	0.00	0.00	0.00	0.88	*	3.73	2.85	1.62	0.82	0.00	0.00
20	0.00	0.00	0.00	0.00	0.55	*	2.44	2.27	1.32	0.82	0.00	0.00
21	0.00	0.00	0.00	0.00	0.40	*	7.41	10.49	1.08	0.65	0.00	0.00
22	0.00	0.00	0.00	0.00	0.20	*	37.54	2.94	0.96	0.65	0.00	0.00
23	0.00	0.00	0.00	0.00	0.12	*	33.71	31.72	1.80	0.65	0.00	0.00
24	0.00	0.00	0.00	0.00	*	*	4.12	73.75	1.26	0.65	0.00	0.00
25	0.00	0.00	0.00	0.00	*	*	2.26	30.30	1.04	0.65	0.00	0.00
26	0.00	0.00	0.00	0.00	*	*	2.02	48.76	1.05	0.65	0.00	0.00
27	0.00	0.00	0.00	0.00	*	*	1.53	11.06	1.67	0.63	0.00	0.00
28	0.00	0.00	0.00	0.00	0.54	*	1.32	9.12	1.46	0.63	0.00	0.00
29	0.00	0.00	0.00	0.00	13.83	*	2.28	33.43	1.21	0.63	0.00	0.00
30	0.00	0.00	0.00	0.00	4.39	*	22.79	5.31	1.49	0.63	0.00	0.00
31	0.00	0.00	0.00	0.00	1.52	*	16.93	1.87	0.63	0.63	0.00	0.00
MAX.	0.00	0.00	0.00	0.00	*	*	47.91	135.00	41.24	1.86	0.00	0.00
MIN.	0.00	0.00	0.00	0.00	*	*	1.32	1.50	0.78	0.63	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	*	*	24.07	65.50	20.63	2.26	0.00	0.00

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT WARWAKAZA
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

ON THE RIVER TURAME

Year : 1978

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	1.43	0.94	7.19	6.06	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	3.16	3.26	3.20	5.91	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	4.89	1.42	5.17	9.42	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.96	1.79	3.51	6.45	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.69	2.48	6.58	6.85	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.49	1.76	4.11	1.70	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.65	0.95	6.49	2.15	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	3.78	2.38	4.21	1.64	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	6.92	1.36	6.45	8.16	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	1.70	1.79	2.91	38.97	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.91	4.08	5.48	14.18	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.85	8.02	4.63	8.96	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	2.61	6.92	5.48	6.11	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	2.68	3.75	5.48	3.99	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	1.71	1.92	6.58	3.16	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.89	1.77	4.92	1.67	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.63	5.48	5.99	7.08	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.16	9.24	4.92	1.89	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.05	6.65	5.92	36.50	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.03	2.15	4.89	24.90	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.05	1.47	5.94	7.64	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.02	2.48	5.86	8.35	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.95	4.08	6.16	8.85	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.75	3.31	26.89	6.85	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.02	3.62	8.53	5.55	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	1.36	2.51	7.92	2.15	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	1.94	2.66	9.54	1.92	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.79	3.66	37.84	1.98	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	1.36	9.42	9.06	1.61	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	1.01	5.99	3.58	1.21	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00		5.64	8.35		0.00	0.00	0.00
MAX.	0.00	0.00	0.00	0.00	0.00	6.92	9.42	37.84	38.97	0.00	0.00	0.00
MIN.	0.00	0.00	0.00	0.00	0.00	0.02	0.94	2.91	1.21	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	3.75	9.76	20.20	20.90	0.00	0.00	0.00

ON THE RIVER TURAME

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT WARWAKAZA
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1979

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	1.59	5.71	13.03	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.99	6.08	6.11	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	1.01	2.33	3.99	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	2.66	4.19	3.34	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	6.06	5.55	1.67	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	3.74	1.77	2.52	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	1.89	4.42	2.10	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	3.96	2.66	4.85	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	2.48	3.66	6.06	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	4.92	1.61	8.53	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	1.05	0.92	4.81	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	3.23	5.21	4.30	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	1.59	0.77	7.15	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	3.66	7.36	2.30	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	2.26	8.31	3.40	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	1.77	15.56	7.83	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	5.55	8.72	4.38	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	7.47	7.52	5.17	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	5.21	4.85	4.04	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	2.74	5.15	1.70	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	2.33	6.66	0.97	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	7.47	8.77	4.98	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	4.81	7.74	4.92	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	8.60	7.31	0.97	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	3.12	34.62	7.64	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	1.96	9.24	4.92	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	3.09	6.85	3.66	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	5.04	5.78	3.09	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	3.11	20.09	7.68	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	3.81	2.85	4.98	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	1.81	3.88		0.00	0.00	0.00
MAX.	0.00	0.00	0.00	0.00	0.00	0.00	8.60	34.62	13.03	0.00	0.00	0.00
MIN.	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.77	0.97	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	9.37	18.67	12.19	0.00	0.00	0.00

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT WARWAKAZA
 MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.
 ON THE RIVER TURAME

Year : 1980

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.39	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.08	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.60	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.10	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.00	0.00	0.00	0.00	0.00
29	0.00	*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MAX.	0.00	*	0.00	0.00	0.00	0.00	0.00	25.00	2.08	0.00	0.00	0.00
MIN.	0.00	*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	*	0.00	0.00	0.00	0.00	0.00	11.67	0.90	0.00	0.00	0.00

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT WARWAKAZA
ON THE RIVER TURAME
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1981

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.17	2.52	0.02	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.96	0.02	0.02	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04	0.12	0.01	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	1.48	1.97	0.03	0.01	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	1.15	0.51	0.03	0.01	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.02	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	1.17	5.51	0.02	0.01	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.22	2.70	0.01	0.01	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.02	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.03	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.28	0.01	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.04	0.04	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	14.09	0.02	0.03	0.01	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	2.41	0.02	0.04	0.01	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.16	0.03	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	0.02	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	6.76	0.02	0.33	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.89	6.03	0.03	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	8.80	9.71	0.03	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.21	4.52	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	6.57	1.32	0.54	0.01	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	14.39	0.24	0.03	0.01	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	11.16	1.20	0.04	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.96	1.29	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.04	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	9.45	5.03	0.07	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	7.95	7.22	0.03	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	15.20	9.17	0.07	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.97	0.03	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	14.60	4.26	5.74	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	5.29	4.96		0.00	0.00	0.00
MAX.	0.00	0.00	0.00	0.00	0.00	0.00	15.20	13.97	5.74	0.02	0.00	0.00
MIN.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	10.53	9.05	1.39	0.01	0.00	0.00

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT WARWAKAZA
 MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

ON THE RIVER TURAME

Year : 1982

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	1.42	0.90	0.19	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	1.10	1.11	2.57	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.90	2.34	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	2.04	0.74	2.85	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	10.25	1.42	6.16	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	5.15	3.59	6.05	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	1.36	1.94	7.61	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	1.44	0.41	5.94	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	1.67	1.79	8.72	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	1.78	1.38	6.44	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	1.73	1.05	5.83	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	1.47	1.04	5.04	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	1.19	1.04	7.56	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	1.16	1.29	7.75	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	1.25	1.87	7.48	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	1.19	1.72	7.78	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	1.55	1.50	6.75	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	1.29	1.90	5.89	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	1.21	1.72	8.72	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	1.21	2.29	7.58	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	1.25	2.41	3.31	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	1.39	1.72	2.63	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	1.36	1.44	2.32	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	1.25	1.68	0.81	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	1.13	5.94	1.13	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	1.10	2.38	1.50	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.70	1.72	1.53	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.37	1.29	1.73	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	1.79	1.75	1.25	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	1.16	2.38	1.16	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	1.25	2.10	1.16	0.00	0.00	0.00
MAX.	0.00	0.00	0.00	0.00	0.00	0.00	10.25	5.94	8.72	0.00	0.00	0.00
MIN.	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.41	0.19	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	4.58	4.70	11.80	0.00	0.00	0.00

ON THE RIVER TURAME

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT WARWAKAZA
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1983

	Jan.	Feb.	Mar.	APR.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	16.00	5.00	3.20	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	9.80	8.00	2.80	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	10.00	22.40	2.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	7.00	22.50	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	30.50	20.50	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	20.00	26.50	45.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	23.50	2.60	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	20.00	2.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	12.00	35.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	7.00	14.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	5.00	11.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	4.00	2.00	11.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	2.00	4.00	2.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	7.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	9.80	12.00	11.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	2.80	25.50	11.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	22.50	80.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	5.10	80.19	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	8.00	62.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	11.00	80.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	22.50	62.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	22.00	47.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	14.00	58.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	38.00	86.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	14.00	78.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	25.00	78.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	14.00	78.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	10.00	62.00	0.00	0.00	0.00	0.00
MAX.	0.00	0.00	0.00	0.00	0.00	20.00	38.00	86.00	3.20	0.00	0.00	0.00
MIN.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	3.34	36.62	97.65	0.69	0.00	0.00	0.00

ON THE RIVER GADA

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT NASARAWA MILE 21
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1969

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	3.00	9.00	9.00	3.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	2.00	9.00	5.00	3.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3.00	2.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	3.00	1.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	9.00	0.00	6.00	3.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	3.00	2.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	2.00	1.00	2.00	6.00	1.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	3.00	1.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	7.00	1.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	4.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	1.00	0.00	3.00	3.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	3.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	2.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	8.00	6.00	4.00	2.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	4.00	5.00	3.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	11.00	3.00	2.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	6.00	3.00	10.00	2.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	2.00	11.00	17.00	3.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	1.00	3.00	11.00	3.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	2.00	4.00	2.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	37.00	4.00	2.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	11.00	7.00	3.00	1.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	3.00	4.00	3.00	1.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	3.00	9.00	3.00	1.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	17.00	2.00	1.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	3.00	20.00	1.00	6.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	2.00	16.00	1.00	5.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	9.00	6.00	4.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	7.00	30.00	3.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	4.00	16.00	0.00	0.00	0.00	0.00
MAX.	0.00	0.00	0.00	0.00	0.00	11.00	37.00	30.00	9.00	3.00	0.00	0.00
MIN.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	3.63	16.42	14.17	8.73	1.38	0.00	0.00

ON THE RIVER SOKOTO

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT BAKOLORI
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1964

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	*	*	*	*	*	22.07	27.52	27.52	*	*	*	*
2	*	*	*	*	*	13.39	35.56	34.59	*	*	*	*
3	*	*	*	*	*	5.97	25.15	*	*	*	*	*
4	*	*	*	*	*	4.63	9.72	24.39	*	*	*	*
5	*	*	*	*	*	7.10	5.62	*	*	*	*	*
6	*	*	*	*	*	5.28	75.64	47.44	*	*	*	*
7	*	*	*	*	*	25.15	37.96	*	*	*	*	*
8	*	*	*	*	*	21.52	82.77	30.92	*	*	*	*
9	*	*	*	*	*	13.39	60.41	*	*	*	*	*
10	*	*	*	*	*	8.79	34.59	*	*	*	*	*
11	*	*	*	*	*	22.78	21.52	*	*	*	*	*
12	*	*	*	*	*	20.43	8.79	38.57	*	*	*	*
13	*	*	*	*	*	11.63	11.21	36.55	*	*	*	*
14	*	*	*	*	*	4.63	7.92	42.85	*	*	*	*
15	*	*	*	*	*	4.94	4.94	*	*	*	*	*
16	*	*	*	*	*	4.09	78.98	*	*	*	*	*
17	*	*	*	*	*	91.47	36.55	*	*	*	*	*
18	*	*	*	*	*	34.59	52.37	*	*	*	*	*
19	*	*	*	*	*	12.27	42.85	*	*	*	*	*
20	*	*	*	*	*	7.10	37.55	*	*	*	*	*
21	*	*	*	*	*	5.62	24.39	*	*	*	*	*
22	*	*	*	*	*	5.28	21.52	*	*	*	*	*
23	*	*	*	*	*	4.04	12.27	*	*	*	*	*
24	*	*	*	*	*	5.28	21.52	*	*	*	*	*
25	*	*	*	*	*	37.96	45.10	*	*	*	*	*
26	*	*	*	*	*	12.27	52.37	*	*	*	*	*
27	*	*	*	*	*	58.74	32.72	*	*	*	*	*
28	*	*	*	*	*	70.82	25.92	*	*	*	*	*
29	*	*	*	*	*	36.55	11.73	*	*	*	*	*
30	*	*	*	*	*	27.52	7.51	*	*	*	*	*
31	*	*	*	*	*	33.09	33.09	*	*	*	*	*
MAX.	*	*	*	*	*	91.47	82.77	*	*	*	*	*
MIN.	*	*	*	*	*	4.04	4.94	*	*	*	*	*
TOTAL	*	*	*	*	*	52.30	85.17	*	*	*	*	*

ON THE RIVER SOKOTO

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT BAKOLORI
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1965

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	*	*	*	*	*	31.15	43.52	83.17	199.61	8.16	0.06	*
2	*	*	*	*	*	21.75	34.15	215.41	205.50	8.04	0.04	*
3	*	*	*	*	*	34.07	36.61	70.06	81.92	19.79	0.02	*
4	*	*	*	*	*	21.10	28.85	122.44	48.40	20.43	0.02	*
5	*	*	*	*	*	9.05	24.24	191.05	54.76	11.77	*	*
6	*	*	*	*	*	8.60	22.48	366.05	101.26	12.83	*	*
7	*	*	*	*	*	48.34	9.85	191.28	62.30	32.79	*	*
8	*	*	*	*	*	75.83	10.14	98.15	63.20	43.35	*	*
9	*	*	*	*	*	38.57	11.01	48.14	164.72	32.54	*	*
10	*	*	*	*	*	57.54	8.04	89.85	127.37	17.20	*	*
11	*	*	*	*	*	59.32	15.83	39.40	49.87	9.72	*	*
12	*	*	*	*	*	105.34	30.53	36.55	40.15	5.53	*	*
13	*	*	*	*	*	137.42	50.57	55.98	77.79	3.44	*	*
14	*	*	*	*	*	44.34	69.26	151.41	104.52	2.65	*	*
15	*	*	*	*	*	28.02	73.79	105.34	114.20	2.03	*	*
16	*	*	*	*	*	23.79	42.70	108.14	82.11	1.56	*	*
17	*	*	*	*	*	20.42	6.27	35.56	34.98	1.27	*	*
18	*	*	*	*	*	120.46	19.25	80.17	34.22	1.03	*	*
19	*	*	*	*	*	94.78	19.34	35.75	21.93	0.81	*	*
20	*	*	*	*	*	31.10	27.81	61.59	12.56	0.75	*	*
21	*	*	*	*	*	31.09	9.05	33.65	6.55	0.67	*	*
22	*	*	*	*	*	87.92	40.00	48.14	5.53	0.57	*	*
23	*	*	*	*	*	42.85	66.21	346.15	22.29	0.51	*	*
24	*	*	*	*	*	31.10	30.19	90.39	6.89	0.44	*	*
25	*	*	*	*	*	48.86	29.36	27.03	8.16	0.49	*	*
26	*	*	*	*	*	123.80	140.62	18.02	6.44	0.41	*	*
27	*	*	*	*	*	45.96	56.41	20.10	5.06	0.35	*	*
28	*	*	*	*	*	24.54	40.04	33.16	5.34	0.31	*	*
29	*	*	*	*	*	56.44	41.65	50.63	6.88	0.29	*	*
30	*	*	*	*	*	22.78	95.48	38.65	18.20	0.18	*	*
31	*	*	*	*	*	88.01 36.75	49.33	100.52		0.10	*	*
MAX.	*	*	*	*	*	137.42	140.62	366.05	205.50	43.35	*	*
MIN.	*	*	*	*	*	8.60	6.27	18.02	5.06	0.10	*	*
TOTAL	*	*	*	*	*	131.53	102.09	258.50	151.43	20.74	*	*

ON THE RIVER SOKOTO

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT BAKOLORI
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1966

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	*	*	*	*	21.49	36.56	9.20	5.24	123.49	31.94	*	*
2	*	*	*	*	12.29	22.51	36.13	4.42	62.33	46.01	*	*
3	*	*	*	*	8.07	19.95	11.16	2.44	57.14	46.47	*	*
4	*	*	*	*	4.42	11.02	20.93	2.44	66.82	27.61	*	*
5	*	*	*	*	2.44	12.35	13.96	18.29	89.37	20.10	*	*
6	*	*	*	*	1.19	6.99	11.02	33.56	69.49	15.15	*	*
7	*	*	*	*	0.85	37.58	12.29	9.20	82.80	18.15	*	*
8	*	*	*	*	0.71	35.25	25.66	6.51	163.13	14.44	*	*
9	*	*	*	*	0.57	31.01	59.95	17.81	97.47	10.05	*	*
10	*	*	*	*	0.31	39.59	27.24	56.63	132.24	6.80	*	*
11	*	*	*	*	0.23	42.56	89.51	21.32	110.24	24.18	*	*
12	*	*	*	*	0.10	9.80	52.50	37.18	49.02	12.18	*	*
13	*	*	*	*	0.10	14.24	51.62	38.25	29.31	6.29	*	*
14	*	*	*	*	0.06	11.64	30.16	62.01	25.06	3.31	*	*
15	*	*	*	*	0.06	45.39	22.51	58.50	40.27	2.41	*	*
16	*	*	*	*	3.71	49.16	24.21	94.07	63.23	2.41	*	*
17	*	*	*	*	1.93	37.83	22.51	38.40	81.04	1.56	*	*
18	*	*	*	*	0.85	16.31	16.31	42.39	67.79	1.13	*	*
19	*	*	*	*	0.85	8.07	10.39	67.76	75.94	1.13	*	*
20	*	*	*	*	0.93	6.09	7.50	76.51	32.71	0.79	*	*
21	*	*	*	*	6.51	4.81	5.66	46.18	21.80	0.79	*	*
22	*	*	*	*	11.07	8.13	17.44	54.91	22.00	0.48	*	*
23	*	*	*	*	22.60	21.15	165.94	96.59	38.00	0.48	*	*
24	*	*	*	*	29.51	19.57	126.43	111.00	37.93	0.34	*	*
25	*	*	*	*	16.31	14.92	88.26	85.97	32.39	0.34	*	*
26	*	*	*	*	39.18	10.99	42.11	71.67	27.61	0.34	*	*
27	*	*	*	*	28.46	11.64	32.71	131.70	50.52	0.34	*	*
28	*	*	*	*	16.31	23.36	22.51	55.84	81.33	0.22	*	*
29	*	*	*	*	34.40	14.24	11.64	31.74	41.91	0.22	*	*
30	*	*	*	*	28.40	14.92	13.59	68.64	24.35	0.22	*	*
31	*	*	*	*	39.96	190.94	6.99	190.94	0.22	0.22	*	*
MAX.	*	*	*	*	39.96	49.16	165.94	190.94	163.13	48.47	*	*
MIN.	*	*	*	*	0.06	4.81	5.66	2.44	21.80	0.22	*	*
TOTAL	*	*	*	*	28.84	55.04	94.01	141.53	165.61	25.58	*	*

ON THE RIVER SOKOTO

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT BAKOLORI
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1967

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	*	*	*	*	*	12.27	11.22	86.56	54.84	26.12	*	0.12
2	*	*	*	*	*	9.49	15.71	33.04	127.19	4.71	*	0.12
3	*	*	*	*	*	3.14	67.12	22.49	101.79	4.04	*	0.09
4	*	*	*	*	*	3.42	35.97	22.66	61.24	3.42	*	0.06
5	*	*	*	*	*	4.37	19.16	22.83	30.05	2.60	*	0.06
6	*	*	*	*	*	35.33	32.03	36.18	40.63	2.34	*	0.06
7	*	*	*	*	*	57.30	22.00	18.70	21.84	2.11	*	0.06
8	*	*	*	*	*	22.16	20.71	10.88	34.49	2.11	*	0.06
9	*	*	*	*	*	11.79	38.82	30.24	26.85	3.42	*	0.06
10	*	*	*	*	*	11.45	26.12	52.70	13.36	4.71	*	0.06
11	*	*	*	*	*	6.49	45.84	29.86	28.52	5.23	*	0.06
12	*	*	*	*	*	87.95	14.90	*	49.59	3.85	*	0.06
13	*	*	*	*	*	2.11	34.70	19.31	15.98	2.75	*	0.06
14	*	*	*	*	*	17.53	46.57	*	11.91	2.60	*	0.06
15	*	*	*	*	*	73.94	35.54	70.49	16.12	1.90	*	0.06
16	*	*	*	*	*	13.86	19.31	106.00	31.23	1.77	*	0.06
17	*	*	*	*	*	8.10	29.09	55.11	29.28	1.57	*	0.06
18	*	*	*	*	*	13.86	89.36	38.15	27.40	1.42	*	0.06
19	*	*	*	*	*	10.66	52.97	54.57	26.48	1.31	*	0.06
20	*	*	*	*	*	36.18	45.11	23.84	25.59	1.50	*	0.06
21	*	*	*	*	*	17.10	25.59	207.57	28.14	*	*	0.06
22	*	*	*	*	*	58.13	14.77	112.70	17.53	*	0.12	0.06
23	*	*	*	*	*	37.05	15.03	59.53	16.12	*	0.12	0.06
24	*	*	*	*	*	22.66	36.18	295.43	14.77	*	0.12	0.06
25	*	*	*	*	*	38.82	17.96	294.07	13.49	*	0.12	0.06
26	*	*	*	*	*	52.70	22.33	106.00	12.27	*	0.12	0.05
27	*	*	*	*	*	53.77	155.24	34.70	11.11	*	0.12	0.05
28	*	*	*	*	*	121.70	128.91	14.90	10.55	*	0.12	0.05
29	*	*	*	*	*	47.32	37.27	50.36	10.01	*	0.12	0.05
30	*	*	*	*	*	22.66	88.65	72.99	10.01	*	0.12	0.05
31	*	*	*	*	*	9.39	94.73	35.33	*	*	0.12	0.05
MAX.	*	*	*	*	*	121.70	155.24	*	127.19	*	*	0.12
MIN.	*	*	*	*	*	3.14	11.22	*	10.01	*	*	0.05
TOTAL	*	*	*	*	*	80.82	115.68	*	79.35	*	*	0.17

ON THE RIVER SOKOTO

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT TALATA MAFARA
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1984

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	4.50	1.02	3.33	6.04	12.50	2.00	2.90	3.54	0.63	0.67	2.00	1.79
2	1.03	1.21	4.35	4.13	10.67	3.00	3.34	3.01	0.95	0.74	3.00	1.79
3	0.73	1.21	4.33	6.58	10.42	3.00	5.17	3.34	0.74	4.29	2.33	4.33
4	0.81	1.21	3.04	4.71	10.50	3.00	5.52	2.85	0.88	1.63	2.33	5.24
5	2.97	1.21	5.60	4.10	10.17	3.00	4.21	2.75	0.24	0.63	1.21	4.21
6	1.16	1.21	5.75	3.60	10.83	3.00	5.25	2.33	0.18	0.75	2.33	3.21
7	1.67	0.63	4.42	4.79	10.96	3.00	3.72	2.96	0.67	3.04	1.16	3.83
8	1.77	1.21	5.08	4.67	10.67	3.00	3.50	3.40	0.93	2.18	1.50	3.95
9	3.25	1.21	4.54	5.67	11.33	3.00	3.50	1.63	1.04	1.08	3.04	4.23
10	0.67	1.13	4.35	5.00	12.08	3.00	3.50	2.17	1.54	1.04	3.79	3.58
11	1.19	1.58	5.04	4.50	10.67	3.00	3.50	1.55	2.47	1.45	2.15	4.53
12	0.67	1.13	5.54	3.42	10.33	3.00	3.50	1.13	1.37	0.33	1.21	2.63
13	3.67	2.54	4.33	3.79	6.05	2.00	3.50	2.25	0.94	0.41	3.10	4.08
14	2.34	2.63	5.13	4.25	7.95	2.00	3.50	1.33	0.99	1.08	3.78	3.28
15	2.65	2.34	5.96	4.75	11.33	2.00	3.50	1.98	0.78	1.02	3.75	3.45
16	2.94	1.35	4.38	4.50	9.25	2.00	3.50	2.25	1.23	0.44	3.77	2.53
17	4.29	0.82	4.69	3.67	8.10	2.00	3.50	1.49	1.14	0.78	5.23	5.64
18	4.19	0.58	2.08	3.92	8.00	2.00	3.50	0.93	1.38	0.78	3.04	5.54
19	2.02	1.28	3.67	3.24	4.67	2.00	3.50	0.85	1.73	0.85	1.88	4.67
20	1.42	1.48	3.75	1.75	2.00	2.00	3.50	0.23	1.96	0.27	1.71	6.51
21	1.25	0.83	6.13	3.56	2.00	2.00	3.50	1.45	3.45	1.32	2.54	2.38
22	3.81	0.80	4.96	6.34	2.00	2.00	3.50	1.85	1.10	1.51	1.87	3.33
23	3.48	0.58	3.69	1.75	2.00	2.00	3.50	1.29	1.13	0.93	1.94	4.25
24	1.70	1.49	3.88	2.33	2.00	2.00	2.75	2.50	0.85	1.50	0.54	5.00
25	2.46	3.23	1.13	0.45	2.00	2.00	2.00	0.89	1.49	0.52	2.93	3.71
26	0.71	3.53	4.21	7.01	2.00	2.00	3.00	1.02	0.79	1.63	1.75	5.93
27	1.15	4.13	3.75	2.75	2.00	2.00	2.72	0.78	0.75	1.53	4.79	2.65
28	1.35	3.81	3.54	2.98	2.00	2.88	1.88	2.17	0.64	1.26	3.89	3.36
29	4.94	*	2.35	4.73	2.00	2.21	1.55	1.33	0.13	1.78	3.67	5.47
30	4.38		5.71	1.50	1.67	2.02	3.47	0.46	0.29	1.79	2.35	5.27
31	1.42		3.17		1.50		3.17	0.82		5.83		4.52
MAX.	4.94	*	6.13	7.01	12.50	3.00	5.52	3.54	3.45	5.83	5.23	6.51
MIN.	0.67	*	1.13	0.45	1.50	2.00	1.55	0.23	0.13	0.27	0.54	1.79
TOTAL	6.10	*	11.39	10.41	18.11	6.23	9.16	4.90	2.80	3.74	6.79	10.79

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT TALATA MAFARA
ON THE RIVER SOKOTO
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1985

	Jan.	Feb.	Mar.	APR.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	4.96	4.11	5.14	*	*	3.00	*	*	63.87	21.42	3.00	2.95
2	4.50	4.79	4.85	*	*	3.00	*	*	84.69	17.00	3.00	3.05
3	7.08	4.84	3.56	*	*	3.00	*	*	88.34	12.93	3.00	2.01
4	7.22	6.82	3.85	*	*	3.00	*	*	70.57	9.25	3.00	2.93
5	6.92	5.94	6.36	*	*	3.00	*	*	57.38	11.04	3.00	3.64
6	6.67	8.08	3.27	*	*	3.00	*	*	54.22	7.58	3.00	2.48
7	4.50	6.42	5.36	*	*	3.00	*	*	84.69	6.01	3.00	2.91
8	4.41	5.53	6.95	*	*	3.00	*	*	84.69	4.57	3.00	2.41
9	6.15	4.26	1.16	*	*	3.00	*	*	70.58	3.97	3.00	2.90
10	7.22	7.56	4.30	*	*	3.00	*	*	60.60	2.13	3.00	2.63
11	8.72	4.55	4.33	*	*	3.00	*	3.27	51.12	2.13	3.00	2.41
12	7.24	3.04	5.35	*	*	3.00	*	25.67	45.11	1.16	3.00	2.38
13	10.05	4.36	5.75	*	*	3.00	*	67.19	45.11	*	3.00	3.12
14	5.65	3.55	4.38	*	*	3.00	*	84.69	70.58	*	3.00	2.31
15	5.05	4.00	4.94	*	*	3.00	*	84.69	108.50	*	3.00	3.87
16	3.98	4.66	4.67	*	*	3.00	*	99.61	99.61	*	3.00	3.00
17	5.84	3.58	2.36	*	*	3.00	*	107.37	92.05	*	2.63	3.05
18	6.83	5.55	3.91	*	*	3.00	*	131.78	81.08	*	2.79	3.00
19	3.15	2.23	3.32	*	*	3.00	*	144.60	70.58	1.75	3.10	3.00
20	2.77	3.36	4.19	*	*	3.00	*	192.08	63.87	3.00	3.03	3.80
21	5.87	4.56	6.09	*	*	3.00	*	166.82	57.38	3.00	3.11	3.13
22	2.99	3.25	5.22	*	*	3.00	*	140.28	51.12	3.00	2.95	3.13
23	2.95	3.38	3.31	*	*	3.00	*	103.47	42.20	3.00	3.07	3.00
24	3.53	4.26	5.56	*	*	3.00	*	88.34	36.58	3.00	3.15	3.00
25	4.71	4.23	3.66	*	*	3.00	*	81.08	45.11	3.00	3.05	3.00
26	2.35	4.52	3.92	*	*	3.00	*	74.04	33.87	3.00	2.88	3.00
27	2.66	3.46	3.78	*	*	3.00	*	70.58	31.23	3.00	3.21	3.00
28	6.70	5.28	3.87	*	*	3.00	*	63.87	33.87	3.00	3.06	3.00
29	4.73		2.62	*	*	3.00	*	67.19	23.16	3.00	3.26	3.00
30	3.94		3.47	*	*	3.00	*	60.60	28.67	3.00	2.94	3.00
31	6.75		2.48	*	*	3.00	*	57.38	28.67	3.00	2.66	3.00
								45.11				
MAX.	10.05	8.08	6.95	*	*	3.00	*	*	108.50	*	3.26	3.87
MIN.	2.35	2.23	1.16	*	*	3.00	*	*	23.16	*	2.63	2.01
TOTAL	14.35	11.25	11.40	*	*	7.78	*	*	158.15	*	7.77	7.87

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT TALATA MAFARA
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

ON THE RIVER SOKOTO

Year : 1986

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	3.00	3.00	3.84	3.84	8.22	3.84	4.75	4.73	96.00	41.83	3.65	3.00
2	3.00	3.00	3.79	3.79	6.05	3.00	4.08	4.15	102.34	37.68	5.00	3.00
3	3.00	3.00	3.93	3.75	4.05	2.75	4.00	4.00	100.41	35.23	2.48	3.30
4	3.00	3.00	5.17	3.90	5.13	3.07	4.00	3.38	109.25	25.79	3.85	3.13
5	3.00	3.00	3.78	2.59	6.47	3.87	4.00	4.55	144.94	15.16	4.80	3.70
6	3.00	3.00	3.26	4.66	4.19	3.10	4.00	4.44	144.52	12.83	2.28	4.02
7	3.00	3.00	3.52	3.29	5.67	3.07	4.00	4.83	131.47	13.44	2.09	4.34
8	3.00	3.00	3.46	4.73	4.91	3.00	4.00	4.40	105.34	11.70	2.21	4.63
9	3.00	3.00	3.46	5.99	4.71	3.00	13.11	4.50	87.47	9.29	2.10	8.46
10	3.00	3.00	3.45	5.29	5.32	3.00	4.00	4.00	70.49	7.27	2.70	5.68
11	3.00	3.00	3.66	4.40	6.60	4.23	4.00	4.00	60.41	6.26	3.10	3.00
12	3.00	3.00	3.16	4.15	3.68	3.29	4.00	3.25	76.07	4.78	2.87	3.00
13	3.00	3.00	4.27	4.36	74.16	3.65	4.00	2.93	53.98	6.26	2.49	3.00
14	3.00	3.00	4.82	3.93	*	3.70	4.00	22.93	60.31	3.43	2.38	3.00
15	3.00	3.00	4.82	*	*	4.19	3.63	34.21	64.75	3.92	2.01	3.00
16	3.00	3.00	3.90	*	*	4.44	4.00	47.87	56.82	3.05	2.16	3.00
17	3.00	2.54	3.58	*	*	4.17	4.00	48.01	60.53	2.64	2.88	3.00
18	3.00	3.02	3.95	*	*	4.26	4.00	52.69	49.57	3.21	4.31	3.00
19	3.00	3.08	4.62	*	*	3.99	4.42	55.13	46.53	3.46	1.74	3.00
20	3.00	3.10	3.06	*	*	4.41	3.89	87.94	51.01	4.89	1.83	3.00
21	3.00	3.33	3.70	*	*	4.41	4.05	71.31	59.59	3.91	2.88	3.00
22	3.00	3.56	3.88	*	*	5.10	4.00	77.65	149.13	4.98	2.29	3.00
23	3.00	4.08	3.89	*	*	4.41	4.31	55.29	149.61	4.00	2.13	3.00
24	3.00	3.61	5.35	*	*	4.04	3.67	50.86	147.39	3.52	3.00	3.00
25	3.00	3.44	5.57	*	*	4.64	3.83	47.80	143.61	3.60	3.00	3.00
26	3.00	3.53	4.50	*	*	4.00	4.13	40.90	129.36	2.23	3.00	3.00
27	3.00	4.00	2.81	*	*	4.00	4.00	39.12	111.04	0.58	3.00	3.00
28	3.00	4.30	4.60	*	*	4.00	4.08	45.69	101.55	2.25	3.00	3.00
29	3.00		6.27	*	*	4.00	4.00	39.05	70.80	2.88	3.00	3.00
30	3.00		4.01	*	*	4.00	4.00	69.53	58.92	2.93	3.00	3.00
31	3.00		4.63	*	*	4.00	4.00	66.19		3.98	3.00	3.00
MAX.	3.00	4.30	6.27	*	*	5.10	13.11	77.65	149.61	41.83	5.00	8.46
MIN.	3.00	2.54	2.81	*	*	2.75	3.63	2.93	46.53	0.58	1.74	3.00
TOTAL	8.04	7.74	10.88	*	*	9.89	11.57	85.13	241.33	24.80	7.36	9.18

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT TALATA MAFARA
 ON THE RIVER SOKOTO
 MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1987

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	3.00	3.69	4.51	4.16	4.75	4.21	3.00	3.00	108.00	*	*	3.03
2	3.00	4.53	5.82	4.36	4.44	3.00	3.00	3.00	100.00	*	*	3.54
3	3.00	1.87	4.44	4.48	4.37	5.13	3.00	3.00	80.00	*	*	2.63
4	5.36	4.65	4.17	4.23	3.93	4.44	3.00	3.00	74.00	*	*	2.63
5	0.88	5.60	6.97	4.84	4.54	3.00	3.00	3.00	74.00	*	*	2.63
6	2.58	4.65	6.65	4.40	5.26	3.00	3.00	3.00	62.00	*	*	2.63
7	3.29	3.48	5.35	4.46	4.67	2.67	3.00	3.00	70.00	*	*	2.63
8	4.06	4.08	5.69	4.76	4.69	2.50	3.00	3.00	64.10	*	*	2.63
9	6.57	2.63	5.35	4.80	4.67	2.50	3.00	3.00	56.10	*	*	2.63
10	4.82	3.74	6.38	4.57	3.80	2.60	3.00	3.00	50.10	*	*	2.63
11	3.17	3.45	5.67	5.74	3.35	2.50	3.00	3.00	50.10	*	*	2.63
12	3.50	4.48	5.67	5.54	3.93	2.50	3.00	3.00	46.10	*	*	2.63
13	4.23	4.41	5.67	5.52	3.95	2.50	3.00	3.00	46.10	*	*	2.63
14	3.60	4.25	4.39	4.28	4.48	2.50	3.00	3.00	46.10	*	*	2.63
15	4.33	4.48	6.06	4.53	4.07	2.50	3.00	3.00	50.00	*	*	2.63
16	4.79	4.02	5.11	4.16	4.41	2.50	3.00	3.00	30.80	*	*	2.63
17	5.46	3.59	4.58	4.67	4.48	2.50	3.00	3.00	30.20	*	*	2.63
18	4.41	4.61	4.88	3.67	4.79	2.50	3.00	3.00	20.80	*	*	2.63
19	4.39	4.78	5.07	4.13	4.55	2.50	3.00	3.00	30.80	*	*	2.63
20	4.75	4.61	5.22	4.23	4.14	2.50	3.00	3.00	50.40	*	*	2.63
21	3.96	4.61	5.08	3.90	4.03	2.50	3.00	3.00	64.10	*	*	3.35
22	2.46	5.17	5.79	4.48	4.67	3.00	3.00	3.00	62.00	*	*	2.34
23	4.01	4.21	4.93	4.67	4.27	3.00	3.00	3.00	56.10	*	*	2.10
24	4.38	10.53	4.52	4.30	4.21	3.00	3.00	3.00	46.10	*	*	2.65
25	3.24	9.60	3.84	4.96	3.38	3.00	3.00	3.00	42.00	*	*	2.13
26	3.80	5.17	5.72	4.36	3.01	3.00	3.00	55.00	30.20	*	*	2.94
27	2.65	4.62	4.86	4.21	2.86	3.00	3.00	73.00	20.80	*	*	2.62
28	1.85		5.00	4.58	4.21	3.00	3.00	87.10	20.45	*	*	2.61
29	1.85		4.65	5.60	4.21	3.00	3.00	105.00	20.20	*	*	2.45
30	3.48		5.27	4.73	4.21	3.00	3.00	105.00	30.20	*	*	2.21
31					4.28		3.00	19.42		*	*	2.19
MAX	6.57	10.53	6.97	5.70	5.26	5.13	3.00	105.00	108.00	*	*	3.54
MIN	0.88	1.87	3.64	3.67	2.86	2.50	3.00	3.00	20.20	*	*	2.10
TOTAL	9.91	11.17	14.08	11.86	11.28	7.56	8.04	44.89	132.35	*	*	7.06

ON THE RIVER KARADUWA
DAILY DISCHARGE IN CUBIC METERS PER SECOND AT ZOBE DAM RELEASE
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1985

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	*	*	*	*	*	*	*	*	28.13	21.60	21.60	*
2	*	*	*	*	*	*	*	*	29.25	21.60	21.60	*
3	*	*	*	*	*	*	*	*	26.08	21.60	21.60	*
4	*	*	*	*	*	*	*	*	23.54	21.60	21.60	*
5	*	*	*	*	*	*	*	*	22.28	21.60	21.60	*
6	*	*	*	*	*	*	*	*	29.25	21.60	21.60	*
7	*	*	*	*	*	*	*	*	31.66	21.60	21.60	*
8	*	*	*	*	*	*	*	*	28.13	21.60	21.60	*
9	*	*	*	*	*	*	*	*	25.16	21.60	21.60	*
10	*	*	*	*	*	*	*	*	22.28	21.60	21.60	*
11	*	*	*	*	*	*	*	*	21.60	21.60	21.60	*
12	*	*	*	*	*	*	*	*	22.28	21.60	21.60	*
13	*	*	*	*	*	*	*	25.16	21.60	21.60	21.60	*
14	*	*	*	*	*	*	*	27.08	22.80	21.60	21.60	*
15	*	*	*	*	*	*	*	35.66	22.28	21.60	21.60	*
16	*	*	*	*	*	*	*	51.85	22.28	21.60	21.60	*
17	*	*	*	*	*	*	*	50.05	22.86	21.60	21.60	*
18	*	*	*	*	*	*	*	51.85	22.28	21.60	21.60	*
19	*	*	*	*	*	*	*	55.55	21.60	21.60	*	*
20	*	*	*	*	*	*	*	26.57	21.60	21.60	*	*
21	*	*	*	*	*	*	*	38.56	21.60	21.60	*	*
22	*	*	*	*	*	*	*	48.25	21.60	21.60	*	*
23	*	*	*	*	*	*	*	40.08	21.60	21.60	*	*
24	*	*	*	*	*	*	*	38.56	21.60	21.60	*	*
25	*	*	*	*	*	*	*	37.09	21.60	21.60	*	*
26	*	*	*	*	*	*	*	35.66	21.60	21.60	*	*
27	*	*	*	*	*	*	*	34.08	21.60	21.60	*	*
28	*	*	*	*	*	*	*	32.93	21.60	21.60	*	*
29	*	*	*	*	*	*	*	31.66	21.60	21.60	*	*
30	*	*	*	*	*	*	*	24.31	21.60	21.60	*	*
31	*	*	*	*	*	*	*	22.28	21.60	21.60	*	*
MAX.	*	*	*	*	*	*	*	*	31.66	21.60	*	*
MIN.	*	*	*	*	*	*	*	*	21.60	21.60	*	*
TOTAL	*	*	*	*	*	*	*	*	60.73	57.85	*	*

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT ZONE DAM RELEASE
 MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.
 ON THE RIVER KARADUWA

Year : 1986

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	*	*	*	*	*	*	*	32.93	20.04	2.71	*	*
2	*	*	*	*	*	*	*	31.66	4.86	*	*	*
3	*	*	*	*	*	*	*	29.25	15.49	*	*	*
4	*	*	*	*	*	*	*	34.08	24.97	*	*	*
5	*	*	*	*	*	*	*	29.06	23.29	*	*	*
6	*	*	*	*	*	*	*	27.08	15.49	*	*	*
7	*	*	*	*	*	*	*	27.08	10.06	*	*	*
8	*	*	*	*	*	*	*	28.13	10.06	*	*	*
9	*	*	*	*	*	*	*	25.13	5.48	*	*	*
10	*	*	*	*	*	*	*	29.06	2.71	*	*	*
11	*	*	*	*	*	*	*	29.06	1.26	*	*	*
12	*	*	*	*	*	*	*	26.08	*	*	*	*
13	*	*	*	*	*	*	*	34.08	*	*	*	*
14	*	*	*	*	*	*	*	40.08	*	*	*	*
15	*	*	*	*	*	*	*	37.09	*	*	*	*
16	*	*	*	*	*	*	*	37.09	*	*	*	*
17	*	*	*	*	*	*	*	40.08	*	*	*	*
18	*	*	*	*	*	*	*	37.09	*	*	*	*
19	*	*	*	*	*	*	*	48.29	*	*	*	*
20	*	*	*	*	*	*	*	61.36	*	*	*	*
21	*	*	*	*	*	*	*	55.55	*	*	*	*
22	*	*	*	*	*	*	*	46.57	*	*	*	*
23	*	*	*	*	*	*	*	43.25	24.97	*	*	*
24	*	*	*	*	*	*	*	40.08	28.45	*	*	*
25	*	*	*	*	*	*	0.68	29.25	26.69	*	*	*
26	*	*	*	*	*	*	1.94	10.06	28.45	*	*	*
27	*	*	*	*	*	*	11.34	11.34	30.25	*	*	*
28	*	*	*	*	*	*	41.64	8.83	31.65	*	*	*
29	*	*	*	*	*	*	37.09	15.49	14.06	*	*	*
30	*	*	*	*	*	*	31.06	14.06	5.48	*	*	*
31	*	*	*	*	*	*	30.43	15.49	*	*	*	*
MAX.	*	*	*	*	*	*	*	61.36	*	*	*	*
MIN.	*	*	*	*	*	*	*	8.83	*	*	*	*
TOTAL	*	*	*	*	*	*	*	84.13	*	*	*	*

ON THE RIVER KARADUWA
DAILY DISCHARGE IN CUBIC METERS PER SECOND AT ZOBE DAM RELEASE
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1987

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	*	*	*	*	*	*	*	*	5.48	4.48	*	*
2	*	*	*	*	*	*	*	*	10.06	3.56	*	*
3	*	*	*	*	*	*	*	*	14.06	5.48	*	*
4	*	*	*	*	*	*	*	*	14.06	4.48	*	*
5	*	*	*	*	*	*	*	*	14.00	2.91	*	*
6	*	*	*	*	*	*	*	*	16.95	1.26	*	*
7	*	*	*	*	*	*	*	*	18.48	0.68	*	*
8	*	*	*	*	*	*	*	*	15.49	0.68	*	*
9	*	*	*	*	*	*	*	*	14.06	0.68	*	*
10	*	*	*	*	*	*	*	*	12.48	0.24	*	*
11	*	*	*	*	*	*	*	*	10.06	*	*	*
12	*	*	*	*	*	*	*	*	15.49	*	*	*
13	*	*	*	*	*	*	*	*	18.48	*	*	*
14	*	*	*	*	*	*	*	*	16.76	*	*	*
15	*	*	*	*	*	*	*	*	14.06	*	*	*
16	*	*	*	*	*	*	*	*	7.65	*	*	*
17	*	*	*	*	*	*	*	*	5.48	*	*	*
18	*	*	*	*	*	*	*	*	7.65	*	*	*
19	*	*	*	*	*	*	*	*	11.34	*	*	*
20	*	*	*	*	*	*	*	*	14.06	*	*	*
21	*	*	*	*	*	*	*	*	15.49	*	*	*
22	*	*	*	*	*	*	*	*	11.34	*	*	*
23	*	*	*	*	*	*	*	*	12.48	*	*	*
24	*	*	*	*	*	*	*	*	11.34	*	*	*
25	*	*	*	*	*	*	*	*	10.06	*	*	*
26	*	*	*	*	*	*	*	*	7.65	*	*	*
27	*	*	*	*	*	*	*	*	4.48	*	*	*
28	*	*	*	*	*	*	*	*	4.48	*	*	*
29	*	*	*	*	*	*	*	0.68	3.56	*	*	*
30	*	*	*	*	*	*	*	2.71	3.56	*	*	*
31	*	*	*	*	*	*	*	4.48	*	*	*	*
MAX.	*	*	*	*	*	*	*	*	18.48	*	*	*
MIN.	*	*	*	*	*	*	*	*	3.56	*	*	*
TOTAL	*	*	*	*	*	*	*	*	29.43	*	*	*

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT NASARAWA KM30
 MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

ON THE RIVER MARADI

Year : 1972

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	62.06	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	2.08	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	33.16	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.18	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.07	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.90	0.21	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.60	0.08	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.26	0.29	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.05	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.06	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.05	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.05	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.31	2.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.14	3.14	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.51	0.52	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.07	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.06	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.10	0.06	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05	0.05	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.19	0.05	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.57	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.69	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.49	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00
29	0.00	*	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00
30	0.00		0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00
31	0.00		0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00
MAX.	0.00	*	0.00	0.00	0.00	0.00	0.00	39.90	62.06	0.00	0.00	0.00
MIN.	0.00	*	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
TOTAL	0.00	*	0.00	0.00	0.00	0.00	0.00	13.13	9.02	0.00	0.00	0.00

ON THE RIVER MARADI

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT NASARAWA KM30
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1973

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.59	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	22.07	0.00	7.92	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.35	0.26	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.63	0.44	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	11.89	0.08	0.35	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	13.47	0.18	2.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	1.81	26.23	0.39	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	2.13	0.14	0.23	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.57	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.91	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.08	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	8.63	0.39	2.32	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	46.16	0.12	0.23	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	6.79	0.10	0.07	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	5.32	7.22	0.06	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	2.04	1.85	0.06	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	44.54	0.63	0.05	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	10.70	0.23	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.15	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	0.00	0.00
MAX.	0.00	0.00	0.00	0.00	0.00	0.00	46.16	66.08	30.59	0.00	0.00	0.00
MIN.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	15.41	10.45	4.05	0.00	0.00	0.00

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT NASARAWA KM30
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

ON THE RIVER MARADI

Year : 1974

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.57	39.90	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.55	11.38	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.70	0.40	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.89	0.23	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.49	0.18	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.06	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.05	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.05	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	1.52	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	19.61	1.35	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	40.09	0.39	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	37.64	0.88	0.08	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.62	0.77	0.28	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.78	2.04	0.05	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.19	36.71	0.26	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.27	49.70	0.24	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.86	22.67	0.05	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.25	1.63	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	1.38	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.45	3.54	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.70	0.88	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	0.68	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.35	5.60	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.52	27.62	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.71	30.20	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67	0.27	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.95	0.10	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.04	28.02	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.96	1.32	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.57	0.22	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00
MAX.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	37.64	49.70	39.90	0.00	0.00
MIN.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.33	31.58	4.88	0.00	0.00

ON THE RIVER MAFADI

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT MASARAWA KM30
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1975

	Jan.	Feb.	Mar.	APR.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.06	31.58	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.89	27.82	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.74	0.00	10.70	43.72	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.05	0.05	9.57	49.49	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.05	0.30	36.93	47.74	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.05	17.62	23.66	*	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	29.60	11.38	38.52	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	27.22	10.36	16.44	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	24.45	9.41	11.89	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.08	19.02	26.81	12.48	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	10.87	50.75	19.41	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	13.67	44.33	3.32	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.06	20.49	40.70	6.49	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	10.70	18.82	5.71	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	1.85	13.27	55.98	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	5.90	49.70	*	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.06	*	22.07	46.58	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	61.22	18.42	29.60	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.06	66.04	15.06	26.23	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	66.04	20.69	25.84	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	*	48.24	25.24	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	*	44.74	24.65	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	*	*	21.68	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	*	44.74	17.24	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	*	20.69	12.68	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	*	37.91	9.10	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	47.41	*	3.14	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	23.07	58.92	2.84	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	45.58	57.03	2.79	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	22.66	37.53	2.79	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	45.58	42.90	0.00	0.00	0.00	0.00
MAX.	0.00	0.00	0.00	0.00	0.00	0.74	*	*	*	0.00	0.00	0.00
MIN.	0.00	0.00	0.00	0.00	0.00	0.00	*	*	*	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.10	*	*	*	0.00	0.00	0.00

ON THE RIVER SHINACHE

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT MALUNFASHI
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1978

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.34	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.08	0.04	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.38	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.04	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.12	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.01	0.01	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.05	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.01	0.01	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	5.92	0.00	0.04	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	2.29	0.00	0.02	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.14	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.01	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	0.03	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.14	0.02	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.07	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.01	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04	0.03	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.04	0.03	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	3.28	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.12	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
MAX.	0.00	0.00	0.00	0.00	0.00	0.00	5.92	5.38	0.34	0.00	0.00	0.00
MIN.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	1.29	0.71	0.12	0.00	0.00	0.00

ON THE RIVER SHIVACHE

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT MALUMFASHI
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1979

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.46	0.06	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.36	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.29	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.03	0.60	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.31	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.22	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.29	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.96	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.37	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.72	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.79	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.26	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.02	0.13	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.05	0.39	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	3.40	0.00	0.29	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	5.06	0.03	0.29	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.06	0.87	0.00	0.08	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	4.60	0.62	0.91	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.07	1.04	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.11	0.96	0.58	0.83	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.92	2.26	0.85	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.27	0.46	5.62	1.97	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.81	0.55	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.88	0.88	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.04	0.88	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.71	1.35	0.52	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.52	1.44	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.08	1.90	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.11	0.00	0.00	0.00	0.00
MAX.	0.00	0.00	0.00	0.00	0.00	0.27	5.06	5.62	2.79	0.00	0.00	0.00
MIN.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.07	1.67	1.24	1.63	0.00	0.00	0.00

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT MALUMFASHI
 MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

ON THE RIVER SHINACHE

Year : 1980

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.12	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	1.22	0.00	0.06	0.13	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.15	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	1.02	0.04	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.26	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.06	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.11	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00
29	0.00	*	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00
MAX.	0.00	*	0.00	0.00	0.00	1.22	0.71	0.43	0.16	0.00	0.00	0.00
MIN.	0.00	*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	*	0.00	0.00	0.00	0.24	0.10	0.15	0.07	0.00	0.00	0.00

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT MALUMFASHI
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

ON THE RIVER SHINACHE

Year : 1981

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.03	0.02	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.02	0.02	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.02	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.03	0.02	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.03	0.02	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.03	0.02	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.03	0.02	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.05	0.02	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.04	0.02	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.04	0.02	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.03	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.03	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.04	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.05	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.03	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.04	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.05	0.03	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06	0.04	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.04	0.03	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.03	0.03	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06	0.03	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.03	0.03	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.03	0.03	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.03	0.02	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.03	0.02	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.02	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.03	0.02	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06	0.02	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.04	0.02	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.02	0.00	0.00	0.00
MAX.	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.08	0.05	0.02	0.00	0.00
MIN.	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.09	0.08	0.02	0.00	0.00

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT MALUMFASHI
 MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.
 ON THE RIVER SHINACHE

Year : 1982

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.11	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.03	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
MAX.	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.24	0.00	0.00	0.00	0.00
MIN.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.08	0.00	0.00	0.00	0.00

DAILY DISCHARGE IN CUBIC METERS PER SECOND AT MALUMFASHI
ON THE RIVER SHINACHE
MONTHLY TOTAL IS IN TEN THOUSANDS CUBIC METERS.

Year : 1983

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.01	0.01	0.01	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.01	0.01	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.01	0.01	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.06	0.01	0.00	0.01	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.12	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.12	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00
MAX.	0.00	0.00	0.00	0.00	0.00	0.09	0.05	0.12	0.01	0.01	0.00	0.00
MIN.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.00	0.00	0.00	0.00

2. 2 MONTHLY DISCHARGE

MONTHLY DISCHARGE IN TEN THOUSANDS CUBIC METERS AT ARGUNGU

	Jan.	Feb.	Mar.	Apl.	May	June	July	Agu.	Sep.	Oct.	Nov.	Dec.	Max.	Min.	Total
1968	*	*	*	247.0	1278.0	*	12774.0	25978.0	26668.0	3748.0	836.0	255.0	*	*	*
1969	258.0	148.0	91.0	*	*	*	*	*	*	*	*	*	*	*	*

MONTHLY DISCHARGE IN TEN THOUSANDS CUBIC METERS AT WAMAKO

	Jan.	Feb.	Mar.	Apl.	May	June	July	Agu.	Sep.	Oct.	Nov.	Dec.	Max.	Min.	Total
1962	*	*	*	*	*	*	16619.0	52584.0	87394.0	37763.0	2187.0	*	*	*	*
1963	*	*	*	76.0	73.0	*	14927.0	28819.0	35154.0	25062.0	3853.0	690.0	*	*	*
1964	430.0	223.0	137.0	112.0	448.0	*	16725.0	36939.0	66759.0	24936.0	1653.0	736.0	*	*	*
1965	465.0	299.0	173.0	168.0	132.0	*	21874.0	62304.0	73152.0	13479.0	1808.0	1059.0	*	*	*
1966	699.0	393.0	296.0	236.0	2078.0	*	14671.0	30833.0	59145.0	29687.0	1487.0	489.0	*	*	*
1967	*	*	*	170.0	696.0	*	20145.0	58056.0	71712.0	20194.0	1042.0	496.0	*	*	*
1968	344.0	218.0	*	*	1334.0	*	25200.0	33758.0	26899.0	1345.0	312.0	189.0	*	*	*
1969	147.0	100.0	*	91.0	949.0	*	19110.0	61531.0	63292.0	13475.0	1411.0	318.0	*	*	*
1970	83.0	50.0	28.0	18.0	114.0	*	12794.0	79395.0	82098.0	*	*	333.0	*	*	*
1971	193.0	143.0	117.0	87.0	98.0	*	23955.0	81093.0	91668.0	*	568.0	275.0	*	*	*

MONTHLY DISCHARGE IN TEN THOUSANDS CUBIC METERS AT SABON BIRNI

	Jan.	Feb.	Mar.	Apl.	May	June	July	Agu.	Sep.	Oct.	Nov.	Dec.	Max.	Min.	Total
1962	*	*	*	*	*	*	16473.0	40917.0	57849.0	*	*	*	*	*	*
1963	*	*	*	*	*	*	10036.0	27639.0	14166.0	12101.0	281.0	*	*	*	*
1964	*	*	*	*	*	*	*	37085.0	45555.0	1394.0	165.0	*	*	*	*
1965	*	*	*	*	*	*	12776.0	31309.0	23718.0	1643.0	54.0	*	*	*	*
1966	*	*	*	*	*	*	13025.0	34974.0	35868.0	7599.0	147.0	*	*	*	*
1967	*	*	*	*	*	*	*	44647.0	34269.0	1895.0	285.0	90.0	*	*	*
1968	*	*	*	*	*	*	19529.0	17277.0	8844.0	569.0	*	*	*	*	*
1969	*	*	*	*	*	*	18799.0	32657.0	24536.0	4884.0	628.0	*	*	*	*
1970	*	*	*	*	*	*	*	43016.0	59034.0	2183.0	291.0	*	*	*	*

MONTHLY DISCHARGE IN TEN THOUSANDS CUBIC METERS AT GIDAN DOKA

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Max.	Min.	Total
1962	*	*	*	*	*	*	14143.0	28839.0	39920.0	6836.0	467.0	84.0	*	*	*
1963	24.0	*	*	*	*	*	6527.0	17460.0	11416.0	12992.0	384.0	26.0	*	*	*
1964	8.0	3.0	3.0	3.0	353.0	*	8593.0	23181.0	23918.0	1366.0	112.0	41.0	*	*	*
1965	*	*	*	5.0	5.0	*	10182.0	33818.0	29447.0	3916.0	243.0	58.0	*	*	*
1966	29.0	10.0	*	5.0	1835.0	*	10041.0	11814.0	21843.0	4673.0	189.0	19.0	*	*	*
1967	*	*	*	*	*	*	13555.0	32268.0	*	*	156.0	29.0	*	*	*
1968	*	*	*	*	1992.0	*	18053.0	12671.0	*	*	*	*	*	*	*
1969	*	*	*	*	*	*	13211.0	26316.0	20299.0	4390.0	970.0	*	*	*	*
1970	*	*	*	*	*	*	11329.0	*	*	1673.0	*	*	*	*	*
1971	*	*	*	*	*	*	22558.0	73993.0	49076.0	764.0	*	*	*	*	*

MONTHLY DISCHARGE IN TEN THOUSANDS CUBIC METERS AT GUSAU (CABLEWAY)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Max.	Min.	Total
1968	*	*	*	*	*	*	*	13898.0	6630.0	804.0	0.0	0.0	*	*	*
1969	0.0	0.0	0.0	0.0	189.0	8211.0	7649.0	22240.0	18601.0	2627.0	127.0	0.0	22240.0	0.0	548.4
1970	0.0	0.0	0.0	0.0	1856.0	3087.0	5722.0	23615.0	11413.0	1449.0	0.0	0.0	23615.0	0.0	471.4
1971	0.0	0.0	0.0	0.0	1131.0	2528.0	7629.0	24210.0	16834.0	140.0	0.0	0.0	24210.0	0.0	524.7
1972	0.0	0.0	0.0	0.0	921.0	1840.0	1561.0	8461.0	375.0	652.0	0.0	0.0	8461.0	0.0	143.1
1973	0.0	0.0	0.0	0.0	90.0	1371.0	7257.0	8030.0	3399.0	70.0	0.0	0.0	8030.0	0.0	202.2
1975	0.0	0.0	0.0	0.0	1202.0	501.0	7504.0	11271.0	21396.0	48.0	0.0	0.0	21396.0	0.0	419.2
1976	0.0	0.0	0.0	0.0	1081.0	1626.0	1778.0	2425.0	1469.0	5086.0	9385.0	0.0	9385.0	0.0	228.5
1977	0.0	0.0	0.0	0.0	435.0	1806.0	1136.0	*	*	*	*	*	*	*	*

MONTHLY DISCHARGE IN TEN THOUSANDS CUBIC METERS AT ZURMI

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Max.	Min.	Total
1968	0.0	0.0	0.0	0.0	*	*	*	7202.0	2662.0	*	0.0	0.0	*	*	*
1969	0.0	0.0	0.0	0.0	747.0	*	14366.0	24674.0	17216.0	3264.0	0.0	0.0	*	*	*
1970	0.0	0.0	0.0	0.0	*	*	8673.0	33612.0	31637.0	*	11.0	0.0	*	*	*
1971	0.0	0.0	0.0	0.0	*	*	*	20008.0	14495.0	*	0.0	0.0	*	*	*
1972	0.0	0.0	0.0	0.0	*	*	*	*	*	*	0.0	0.0	*	*	*
1973	0.0	0.0	0.0	0.0	0.0	200.0	2727.0	6369.0	2135.0	*	0.0	0.0	*	*	*
1974	0.0	0.0	0.0	0.0	124.0	*	*	*	*	*	*	*	*	*	*
1975	0.0	0.0	0.0	0.0	1689.0	458.0	14224.0	21103.0	25772.0	*	*	*	*	*	*
1976	0.0	0.0	0.0	0.0	*	*	10855.0	*	*	*	*	*	*	*	*
1977	0.0	0.0	0.0	0.0	*	*	22310.0	*	*	*	*	*	*	*	*

MONTHLY DISCHARGE IN TEN THOUSANDS CUBIC METERS AT ANKA

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Max.	Min.	Total
1968	0.0	0.0	0.0	0.0	804.0	*	*	*	*	302.0	0.0	0.0	*	*	*

MONTHLY DISCHARGE IN TEN THOUSANDS CUBIC METERS AT KALGO

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Max.	Min.	Total
1968	0.0	0.0	0.0	0.0	0.0	*	57.0	71.0	72.0	43.0	34.0	34.0	*	*	*
1969	29.0	55.0	54.0	*	*	*	*	*	*	*	*	*	*	*	*

MONTHLY DISCHARGE IN TEN THOUSANDS CUBIC METERS AT SAINIYINA

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Max.	Min.	Total
1968	0.0	0.0	0.0	0.0	0.0	*	12.0	6.0	16.0	0.0	0.0	0.0	*	*	*

MONTHLY DISCHARGE IN TEN THOUSANDS CUBIC METERS AT ZOBE B (CONFLUENCE)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Max.	Min.	Total
1977	0.0	0.0	0.0	0.0	*	*	2407.0	6550.0	2063.0	226.0	0.0	0.0	*	*	*

MONTHLY DISCHARGE IN TEN THOUSANDS CUBIC METERS AT WARWAKAZA

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Max.	Min.	Total
1978	0.0	0.0	0.0	0.0	0.0	375.0	976.0	2020.0	2090.0	0.0	0.0	0.0	2090.0	0.0	54.8
1979	0.0	0.0	0.0	0.0	0.0	0.0	937.0	1868.0	1219.0	0.0	0.0	0.0	1868.0	0.0	40.2
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1167.0	80.0	0.0	0.0	0.0	1167.0	0.0	12.6
1981	0.0	0.0	0.0	0.0	0.0	0.0	1053.0	906.0	139.0	1.0	0.0	0.0	1053.0	0.0	21.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	458.0	470.0	1181.0	0.0	0.0	0.0	1181.0	0.0	21.1
1983	0.0	0.0	0.0	0.0	0.0	334.0	3663.0	9755.0	69.0	0.0	0.0	0.0	9755.0	0.0	136.3

MONTHLY DISCHARGE IN TEN THOUSANDS CUBIC METERS AT NASARAWA MILE 21

	Jan.	Feb.	Mar.	Apl.	May	June	July	Agu.	Sep.	Oct.	Nov.	Dec.	Max.	Min.	Total
1969	0.0	0.0	0.0	0.0	0.0	362.0	1641.0	1416.0	872.0	138.0	0.0	0.0	1641.0	0.0	44.3

MONTHLY DISCHARGE IN TEN THOUSANDS CUBIC METERS AT BAKOLORI

	Jan.	Feb.	Mar.	Apl.	May	June	July	Agu.	Sep.	Oct.	Nov.	Dec.	Max.	Min.	Total
1984	*	*	*	*	*	*	8517.0	*	*	*	*	*	*	*	*
1985	*	*	*	*	*	*	10209.0	25850.0	15144.0	2074.0	*	*	*	*	*
1986	*	*	*	*	2884.0	*	9401.0	14153.0	16561.0	2558.0	*	*	*	*	*
1987	*	*	*	*	*	*	11568.0	*	7935.0	*	*	17.0	*	*	*

MONTHLY DISCHARGE IN TEN THOUSANDS CUBIC METERS AT TALATA MAFARA

	Jan.	Feb.	Mar.	Apl.	May	June	July	Agu.	Sep.	Oct.	Nov.	Dec.	Max.	Min.	Total
1984	610.0	392.0	1140.0	1041.0	1811.0	*	916.0	490.0	280.0	374.0	679.0	1079.0	*	*	*
1985	1435.0	1125.0	1140.0	*	*	*	*	15815.0	*	*	777.0	787.0	*	*	*
1986	804.0	774.0	1088.0	*	*	*	1157.0	8513.0	24133.0	2480.0	737.0	918.0	*	*	*
1987	991.0	1117.0	1408.0	1186.0	1129.0	*	804.0	4489.0	13235.0	*	*	706.0	*	*	*

MONTHLY DISCHARGE IN TEN THOUSANDS CUBIC METERS AT ZUBE DAM RELEASE

	Jan.	Feb.	Mar.	Apl.	May	June	July	Agu.	Sep.	Oct.	Nov.	Dec.	Max.	Min.	Total
1985	*	*	*	*	*	*	*	*	6073.0	5785.0	*	*	*	*	*
1986	*	*	*	*	*	*	*	8413.0	*	*	*	*	*	*	*
1987	*	*	*	*	*	*	*	*	2943.0	*	*	*	*	*	*

MONTHLY DISCHARGE IN TEN THOUSANDS CUBIC METERS AT NASARAWA KM30

	Jan.	Feb.	Mar.	Apr.	May	June	July	Agu.	Sep.	Oct.	Nov.	Dec.	Max.	Min.	Total
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1313.0	902.0	0.0	0.0	0.0	1313.0	0.0	22.1
1973	0.0	0.0	0.0	0.0	0.0	0.0	1541.0	1045.0	405.0	0.0	0.0	0.0	1541.0	0.0	29.9
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1533.0	3158.0	488.0	0.0	0.0	3158.0	0.0	51.8
1975	0.0	0.0	0.0	0.0	0.0	10.0	4832.0	7381.0	5365.0	0.0	0.0	0.0	7381.0	0.0	175.9

MONTHLY DISCHARGE IN TEN THOUSANDS CUBIC METERS AT MALUMFASHI

	Jan.	Feb.	Mar.	Apr.	May	June	July	Agu.	Sep.	Oct.	Nov.	Dec.	Max.	Min.	Total
1978	0.0	0.0	0.0	0.0	0.0	0.0	129.0	71.0	12.0	0.0	0.0	0.0	129.0	0.0	2.1
1979	0.0	0.0	0.0	0.0	0.0	7.0	167.0	124.0	183.0	0.0	0.0	0.0	183.0	0.0	4.8
1980	0.0	0.0	0.0	0.0	0.0	24.0	10.0	15.0	7.0	0.0	0.0	0.0	24.0	0.0	0.6
1981	0.0	0.0	0.0	0.0	0.0	0.0	17.0	9.0	8.0	2.0	0.0	0.0	17.0	0.0	0.4
1982	0.0	0.0	0.0	0.0	0.0	0.0	14.0	8.0	0.0	0.0	0.0	0.0	14.0	0.0	0.2
1983	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.1

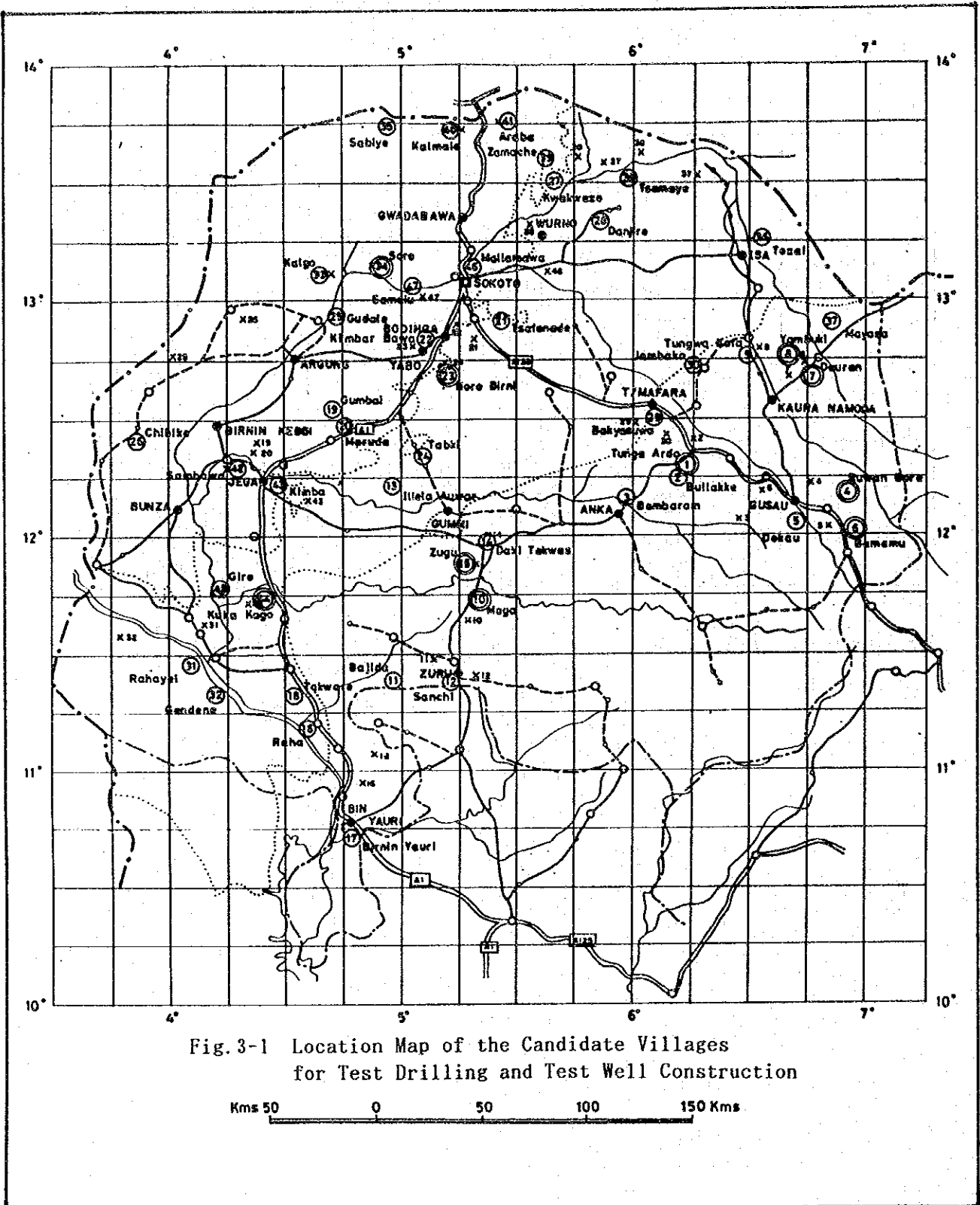
3. DRILLING RECORDS

3. DRILLING RECORDS

In phase 1 of stage II, the following eight(8) villages were selected as candidate sites for test drilling and/or test well construction. In addition to these drillings two test wells were drilled in Zugu in phase 2 of stage II.

Area	Serial No.	Village Name	Local Government	Drilling Depth		Drilling time	
				T/D(m)	T/W(m)		
Basement rock area	1	Tunga Ardo	Anka	80	-	Phase 1 of Stage II	
	4	Ruwan Bore	Gusau	84	90		
	7	Dauran	Kaura Namoda	-	84		
	8	Yambuki	Kaura Namoda	80	100		
	10	Maga	Zuru	84	130		
Sedimentary area	23	Horo Birni	Yabo	150	110		
	34	Soro	Silama	-	150		
	44	Kuka Kogo	Jega	-	110		
Basement rock area	15	Zugu	Gummi	-	120		Phase 2 of Stage II
	15	Zugu	Gummi	-	130		

Drilling records are attached in this volume.



**TEST DRILLING
AND
TEST WELL CONSTRUCTION REPORT**

THE STUDY FOR GROUNDWATER DEVELOPMENT IN SOKOTO STATE.

SUMMARY DRILLING REPORT

SITE NAME: - TUNGA ARDO

SITE NO.: - 1

JICA (JAPAN INTERNATIONAL CO-OPERATION AGENCY)

WELL DESCRIPTION

Borehole (Tunga Ardo No. 1) was drilled during the time from 23rd January to 27th January 1989 at Tunga Ardo village in Anka Local Government.

The well was drilled using a Tone Boring Top -750 B rig.

From ground level (G.L.) to 21.5m below ground level (G.L.-), it was drilled using a 10"5/8 tricone bit with air/foam.

From G.L.-21.5m to the total depth of 84.0m, it was drilled using a 6"1/4 air hammer with air/foam.

After the drilling, electric log had been carried out and then the borehole was cased with 4" blind steel pipe from G.L.+1.0m to G.L.-34.2m and from G.L.-40.7m to G.L.-46.2m and from G.L.-52.7m to G.L.-80.0m.

Two total length of 6.5m of Johnson's screen 4" I.D. (slot size 1.0mm) were inserted from G.L.-34.2m to G.L.-40.7m and from G.L.-46.2m to G.L.-52.7m.

The lithology encountered consists of schist. This is pre-Cambrian to upper-Cambrian basement complex.

The probable water bearing portion is weathered zone.

After development of the borehole the static water level was measured at G.L.-26.86m.

During the air lifting, the maximum average discharge was 13 ℓ/min. Pumping test (without step drawdown test) was carried out during the time from 2nd February to 4th February, 1989.

Continuous drawdown test was done for 24 hours with a pumping rate of 13 ℓ/min, and a drawdown of 12.0m was observed. (Dynamic water level was measured at G.L.-38.86m).

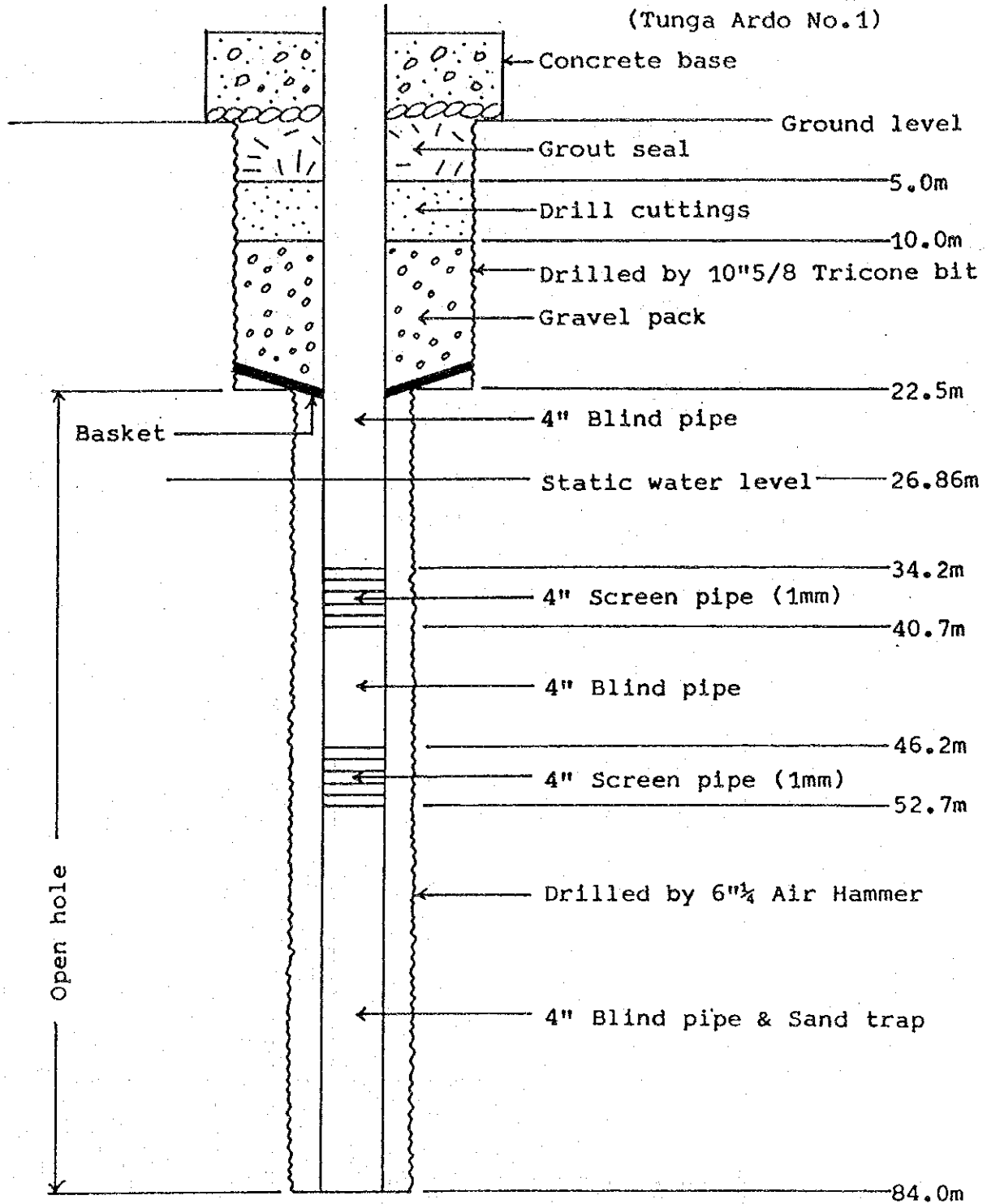
Then the recovery of water level was measured for 17 hours.

WELL SUMMARY

(Tunga Ardo No. 1)

Project Name	The study for groundwater development in Sokoto State.
Area and Location	Tunga Ardo village in Anka Local Government
Elevation	m
Coordinates	N E
Date Drilling Started	23rd January, 1989
Date well Completed	27th January, 1989
Total Depth	84 m
Screen Position	G.L.-34.2m~40.7m, G.L.-46.2m~52.7m (1.0mm)
Drilling Method	Air Hammer drilling
Drilling Rig	Tone Boring Top -750B
Drilled by	Y. Tanabe
Logged By	N. Kawabata
Static Water Level	G.L.-26.86m
Yield By Air Lifting	13 ℓ/min, 0.78m ³ /h, 18.7m ³ /d
Pumping Rate	13 ℓ/min, 18.7m ³ /d
Dynamic Water Level	G.L.-38.86m (Drawdown 12.0m)
Specific Capacity	1.1 ℓ/min/m, 1.6m ³ /d/m
Critical Capacity	-
Transmissivity	1.0×10 ⁻³ m ² /min
Permeability	1.29×10 ⁻⁴ cm/sec
Water Temperature	31 °C
Conductivity	320 μu/cm
pH	6.93


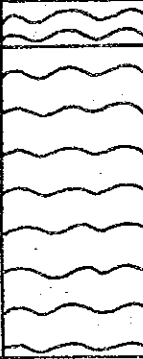
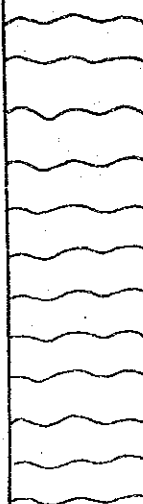
WELL SKETCH



Not to scale

WELL LITHOLOGIC LOG

(Tunga Ardo No.1)

Depth (m)	Log	Lithology		Geological Division
1.0		Sand and Clay,	Reddish brown	Top Soil
		-do-	Brown & Yellowish Brown	
14.0		-do-	Yellow	
24.0		Schist,	Dark Yellow & Dark green	Basement Complex
27.0		-do-	Yellowish green	
48.0		-do-	Black	(Upper-Cambrian)
		-do-	Black	(Pre-Cambrian)
84.0		W.Z Weathered zone F.Z Fresh zone		

PUMPING TEST

(Tunga Argo No.1)

Continuos drawdown test and Recovery test

Static water level	G.L.--26.86m
Pumping rate	13 l/m
Dynamic water level	G.L.--38.86m
Drawdown	12.0m
Specific Capacity	1.1 l/min/m
Elapsed time	24 hours

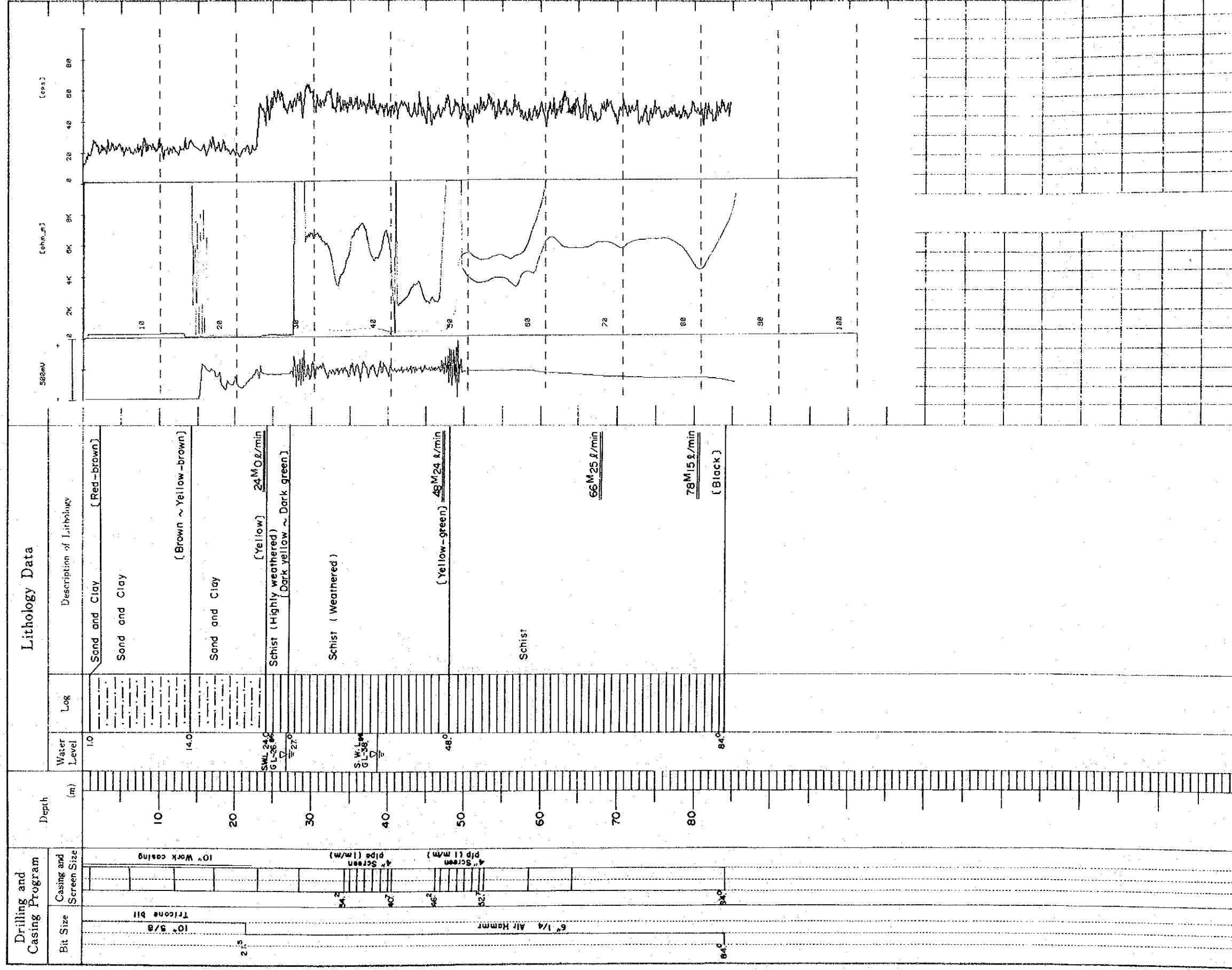
	Transmissivity (m ² /min)		Permeability (cm/sec)	
	Theis's method	Jacob's method	Theis's method	Jacob's method
Drawdown test	1.28×10^{-3}	1.98×10^{-3}	1.64×10^{-4}	2.53×10^{-4}
Recovery test	3.72×10^{-4}	4.03×10^{-3}	4.77×10^{-5}	5.17×10^{-5}
Average	1.0×10^{-3}		1.29×10^{-4}	

WELL LOG

Data No. _____

PROJECT NAME		The Study for Groundwater Development in Sokoto State		WELL NO.	
AREA AND LOCATION		TUNGA ARDO NO. 1			
ELEVATION		m	LATITUDE	LONGITUDE	
TOTAL DEPTH		84.0 m	DRILLING RIG	TOP - 750	
DRILLING STARTED		23rd. JAN. 1989	DRILLED BY	Y. Tonobe	
WELL COMPLETED		27th. JAN. 1989	LOGGED BY	N. Kawabata	

STATIC WATER LEVEL	GL - 26.86 m	WATER TEMPERATURE	31.0 °C
DYNAMIC WATER LEVEL	GL - 38.86 m	CONDUCTIVITY	320 $\mu\text{S}/\text{cm}$
PUMPING RATE	13 l/min (18.72 m ³ /d)	pH	6.93
SPECIFIC CAPACITY	1.56 m ³ /l/m	TOTAL HARDNESS	



THE STUDY FOR GROUNDWATER DEVELOPMENT IN SOKOTO STATE.

SUMMARY DRILLING REPORT

SITE NAME: - RUWAN BORE

SITE NO.: - 4

(TEST WELL)

JICA (JAPAN INTERNATIONAL CO-OPERATION AGENCY)

WELL DESCRIPTION

Test well borehole (Ruwan Bore No. 4) was drilled during the time from 21st December to 25th December 1988 at Horo Birni village in Gusau Local Government.

Test well borehole was 140m apart from test drill borehole.

The well was drilled using a Tone Bording Top -750 B rig.

From ground level (G.L.) to 4.0m below ground level (G.L.-), it was drilled using a 12"1/4 tricone bit with air.

From G.L.-4.0m to G.L.-48.0m, it was drilled using an 8"1/2 air hammer and from G.L.-48.0m to the total depth of 90.0m using a 6"1/4 air hammer. The drilling fluid for air hammer was air/foam. After the drilling electric log had been carried out and then the borehole was cased with 4" steel blind pipe from G.L. +1.0m to G.L.-52.4m and from G.L.-62.0m to G.L.-73.1m and from G.L.-74.7m to G.L.-80.2m and from G.L.-83.9m to G.L.-90.0m. Total length of 10.4m and 1.6m and 3.7m of Johnson's screen 4" I.D (slot size 0.5mm) were inserted from G.L. -52.4m to G.L.-62.0m and from G.L.-73.1m to G.L.-74.7m and from G.L.-80.2m to G.L.-83.9m.

The lithology encountered consists of crystalline schist.

This is pre-Cambrian to upper-Cambrian basement complex.

The probable water bearing portion is weathered schist with fractures.

After development of the borehole the static water level was measured at G.L.-6.11m.

During the air lifting the maximum average yield was 70 ℓ/min.

Pumping test was carried out during the time from 15th January to 19th January 1989.

By the five steps drawdown test, the critical discharge of this well was determined about 60 ℓ/min.

Continuous drawdown test was done for 48 hours with pumping rate of 70 ℓ/min, and a drawdown of 38.85m was observed. (Dynamic water level was measured at G.L.-44.96m.)

On the other hand, a drawdown of 3.25m was observed at test drill borehole that was 140m apart from test well borehole.

Then, the recovery of water level was measured for 17 hours.

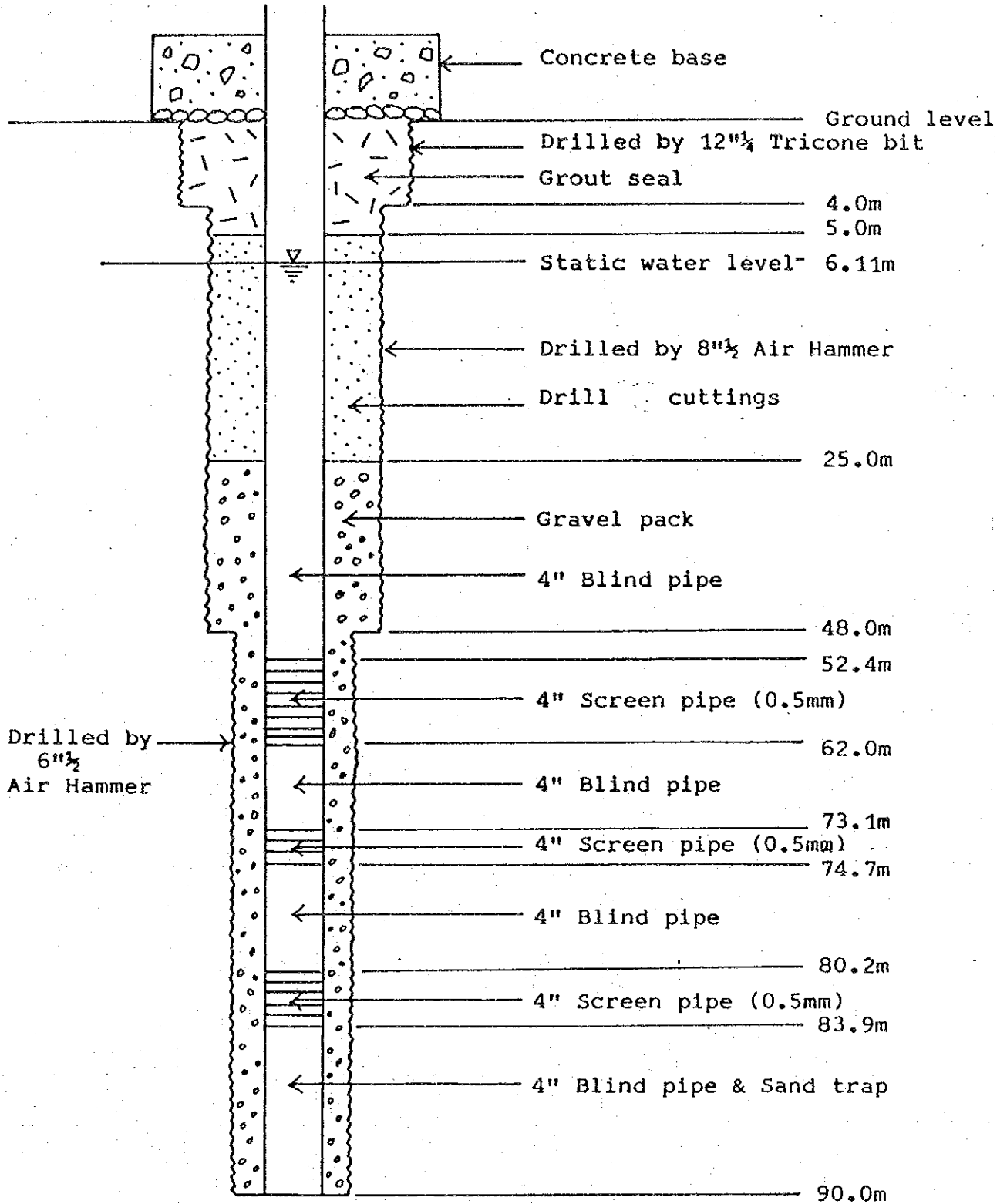
WELL SUMMARY

Test Well (Ruwan Bore No. 4)

Project Name	The study for groundwater development in Sokoto State.
Area and Location	Ruwan Bore village in Gusau Local Government
Elevation	m
Coordinates	N E
Date Drilling Started	21st December 1988
Date well Completed	26th December 1988
Total Depth	90 m
Screen Position	G.L.-52.4m~62.0m, G.L.-73.1m~74.7m G.L.-80.2m~83.9m (0.5mm)
Drilling Method	Air Hammer drilling
Drilling Rig	Tone Boring Top -750B
Drilled by	G. Kuragane
Logged By	N. Kawabata
Static Water Level	G.L.-6.11m
Yield By Air Lifting	70 ℓ/min, 4.2m ³ /h, 100.8m ³ /d
Pumping Rate	70ℓ/min, 100.8m ³ /d
Dynamic Water Level	G.L.-44.96m (Drawdown 38.85m)
Specific Capacity	1.80 ℓ/min/m, 2.59m ³ /d/m
Critical Capacity	60 ℓ/min
Transmissivity	$1.15 \times 10^{-4} \text{ m}^2/\text{m}$
Permeability	$1.28 \times 10^{-4} \text{ cm/sec}$
Water Temperature	29.1 °C
Conductivity	500 µv/cm
pH	7.58

WELL SKETCH

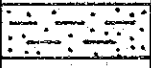
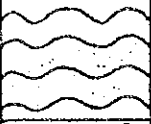

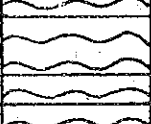
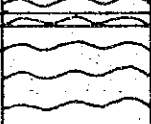
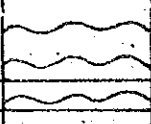
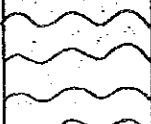

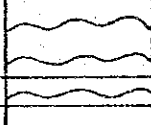
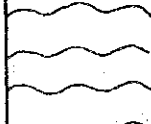

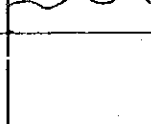

Test well (Ruwan Bore No.4)



Not to Scale

WELL LITHOLOGIC LOG

Test well (Ruwan Bore No.4)

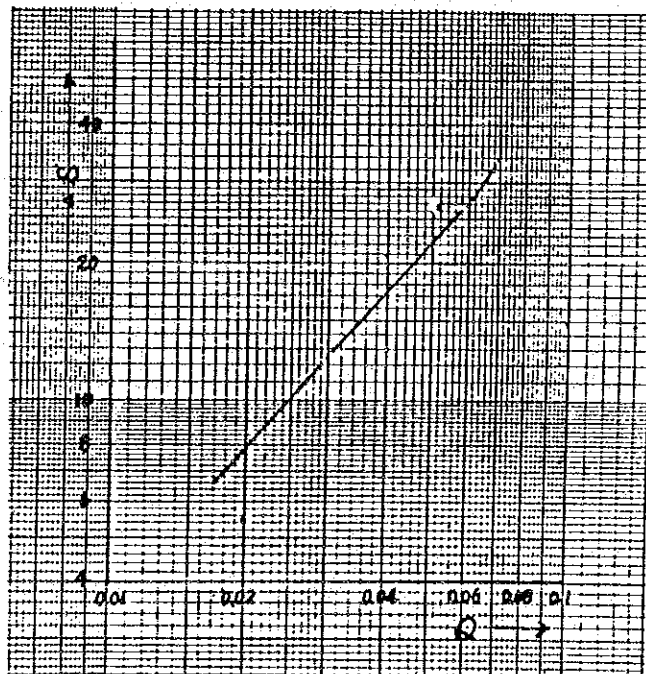
Depth (m)	Log	Lithology		Geological Division
3.5		Sand & Clay	Brown~Yellowish Brown	Top Soil
17.5			Yellowish brown	Basement Complex (Upper-Cambrian)
18.5			Black~Dark green	
22.0			Yellowish brown	
26.0			Black	
28.0			Brown	
30.0			Black	
31.0			Brown	
43.0			Black	
45.0			Grey	
68.0		Crystalline Schist,	Black	
70.0			Grey	
90.0			Black	
		W.Z Weathered zone		
		P W.Z Partially weathered zone		

PUMPING TEST

Test well (Ruwan Bore No.4)

Step drawdown test

Step	Pumping rate Q (m ³ /min)	Drawdown ΔS (m)	Specific Capacity (m ³ /min/m)
1	0.02	5.49	0.004
2	0.03	12.28	0.002
3	0.04	20.85	0.002
4	0.06	26.78	0.002
5	0.07	33.83	0.002



Critical discharge 60 l/min

PUMPING TEST

Test well (Ruwan Bore No.4)

Continuos drawdown test and Recovery test

	Test well borehole (Product well)	Test drill borehole (Observation well)
Static water level	G.L. -6.11m	G.L. -6.18m
Pumping rate	70 l/min	-
Dynamic water level	G.L. -44.96m	G.L. -9.43m
Drawdown	38.85m	3.25m
Specific Capacity	1.80 l/min/m	-
Elapse time	48 hours	

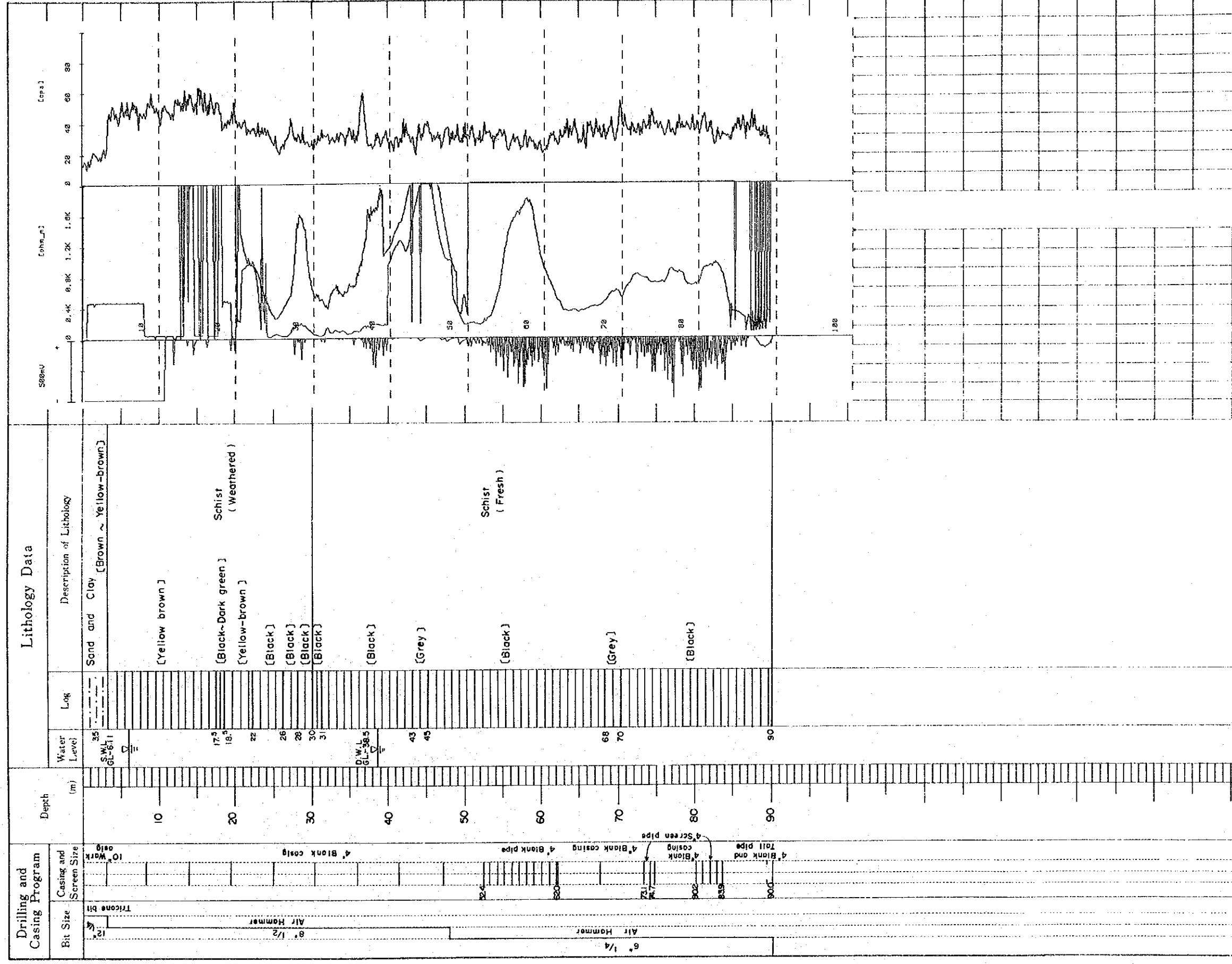
	Transmissivity (m ² /min)		Permeability (cm/sec)	
	Theis's method	Jacob's method	Theis's method	Jacob's method
Drawdown test	1.10×10^{-3}	9.85×10^{-4}	1.23×10^{-4}	1.10×10^{-4}
Recovery test	1.63×10^{-3}	8.83×10^{-4}	1.82×10^{-4}	9.88×10^{-5}
Average	1.15×10^{-4}		1.28×10^{-4}	

WELL LOG

Data No. _____

PROJECT NAME		The Study for Groundwater Development in Sokofo State		WELL NO.	
AREA AND LOCATION	RUWAN BORE NO. 4 - 1	(Test well)			
ELEVATION	m	LATITUDE	LONGITUDE		
TOTAL DEPTH	90° m	DRILLING RIG	Top - 750		
DRILLING STARTED	18th. Des. 1988	DRILLED BY	G. Kurogane		
WELL COMPLETED	23rd. Des. 1988	LOGGED BY	N. Kawabata		

STATIC WATER LEVEL	GL 6.11	m	WATER TEMPERATURE	29.1	°C
DYNAMIC WATER LEVEL	GL 38.85	m	CONDUCTIVITY	500	$\mu\text{S}/\text{cm}$
PUMPING RATE	70 // /min (100 ⁸ m ³ /d)		pH	7.58	
SPECIFIC CAPACITY	3.1	m ³ /d/m	TOTAL HARDNESS		



THE STUDY FOR GROUNDWATER DEVELOPMENT IN SOKOTO STATE.

SUMMARY DRILLING REPORT

SITE NAME: - RUWAN BORE

SITE NO.: -4

(TEST DRILL)

JICA (JAPAN INTERNATIONAL CO-OPERATION AGENCY)

WELL DESCRIPTION

Test drill borehole (Ruwan Bore No.4) was drilled during the time from 27th December to 30th December 1988 at Ruwan Bore village in Gusau Local Government.

The well was drilled using a Tone Boring Top -750 B rig.

From ground level (G.L.) to 10.0m below ground level (G.L.-), it was drilled using 12"1/4 tricone bit with air.

From G.L.-10.0m to the total depth of 84.0m, it was drilled using a 6"1/4 air hammer with air/foam.

After the drilling electric log had been carried out and then the borehole was cased with 4" P.V.C blind pipe from G.L. +1.0m to G.L.-36.0m and from G.L.-40.0m to G.L.-56.0m and from G.L.-64.0m to G.L.-70.1m and from G.L.-74.1m to 84.0m.

Total length of 4.0m and 8.0m and 3.0m of P.V.C screen 4"(slot size 1.0mm) were inserted from G.L.-36.0m to 40.0m and from 56.0m to 64.0m and from 70.1m to 74.1m.

The lithology encountered consists of crystalline schist.

This is pre-Cambrian to upper-Cambrian basement complex.

The probable water bearing portion is weathered schist with fractures.

After development of the borehole the static water level was measured at G.L.-6.18m.

During the air lifting the maximum average yield was 49 ℓ/min.

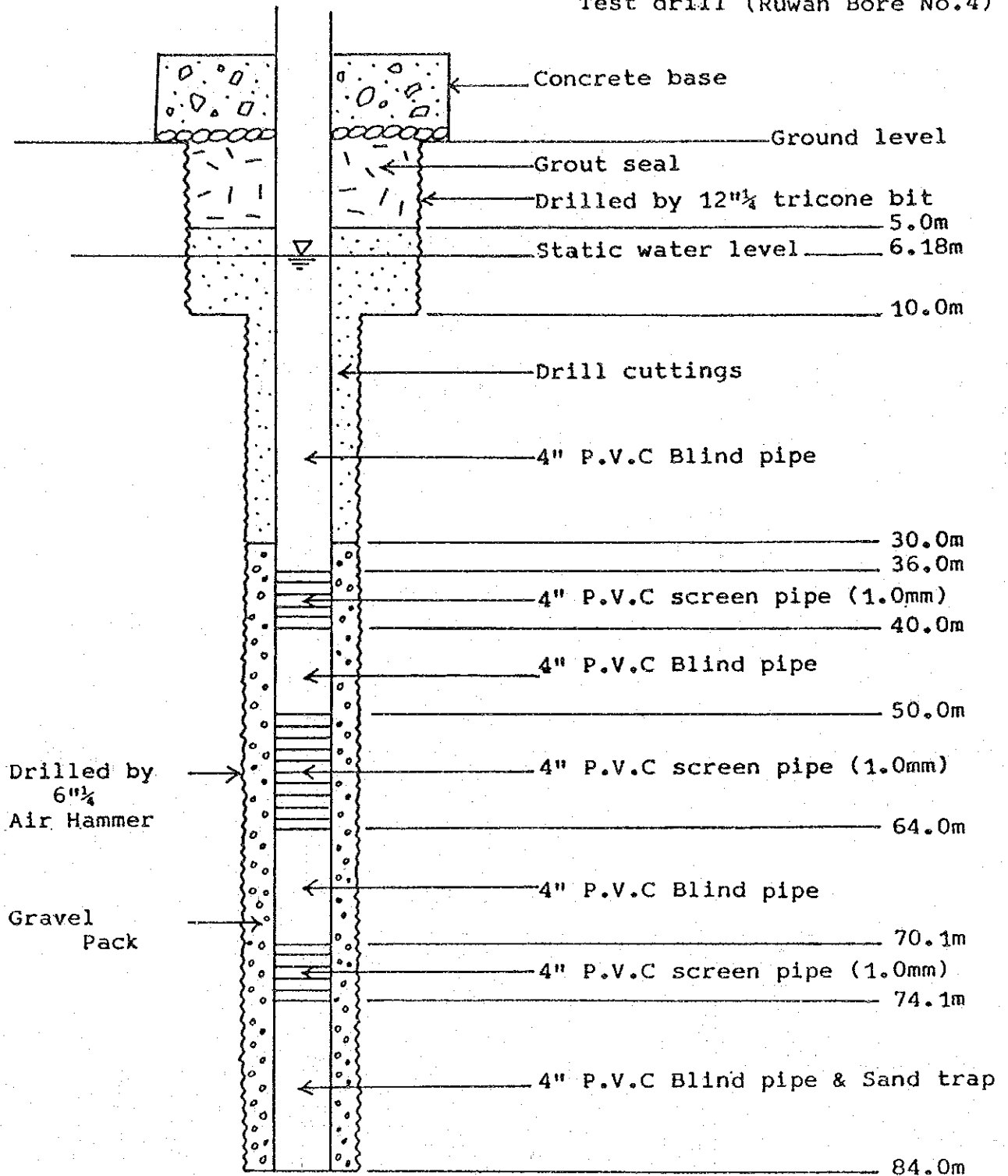
WELL SUMMARY

Test Drill (Ruwan Bore No. 4)

Project Name	The study for groundwater development in Sokoto State.
Area and Location	Ruwan Bore village in Gusau Local Government
Elevation	m
Coordinates	N E
Date Drilling Started	27th December 1988
Date well Completed	30th December 1988
Total Depth	84 m
Screen Position	G.L.-30.0m~36.0m, G.L.-50.0m~64.0m G.L.-70.1m~74.1m (1.0mm)
Drilling Method	Air Hammer drilling
Drilling Rig	Tone Boring Top -750B
Drilled by	G. Kuragane
Logged By	N. Kawabata
Static Water Level	G.L.-6.18m
Yield By Air Lifting	49 ℓ/min, 2.94m ³ /h, 70.56m ³ /d
Pumping Rate	-
Dynamic Water Level	-
Specific Capacity	-
Critical Capacity	-
Transmissivity	-
Permeability	-
Water Temperature	-
Conductivity	-
pH	-

WELL SKETCH

Test drill (Ruwan Bore No.4)



Not to scale

WELL LITHOLOGIC LOG

Test drill (Ruwan Bore No.4)

Depth (m)	Log	Lithology		Geological Division	
4.0		Sand & Clay.	Redish brown	Top Soil	
9.5		Mica Sand	Grey		
12.0		Crystalline Schist,	Black	Basement Complex	
15.0			Yellowish brown		
18.0			Black		
25.0			Yellowish brown		
26.0			Black		W.Z
27.0			Yellowish brown		
29.0			Black		
34.0			Yellowish grey		
35.0			Black		
44.0			Yellowish brown		
48.0			Black		(Upper-Cambrian)
52.0			Dark grey		P W.Z
55.0			Black		
56.0			Grey		
57.0			Black		
60.0		Grey			
61.0		Black			
62.0		Grey			
69.0		Black			
70.0		Grey			
71.0		Black			
73.0		Black			
74.0		Grey			
78.0		Black			
80.0		Grey			
82.0		Black	F.Z		
83.0		Grey			
84.0		Black			
		Grey			

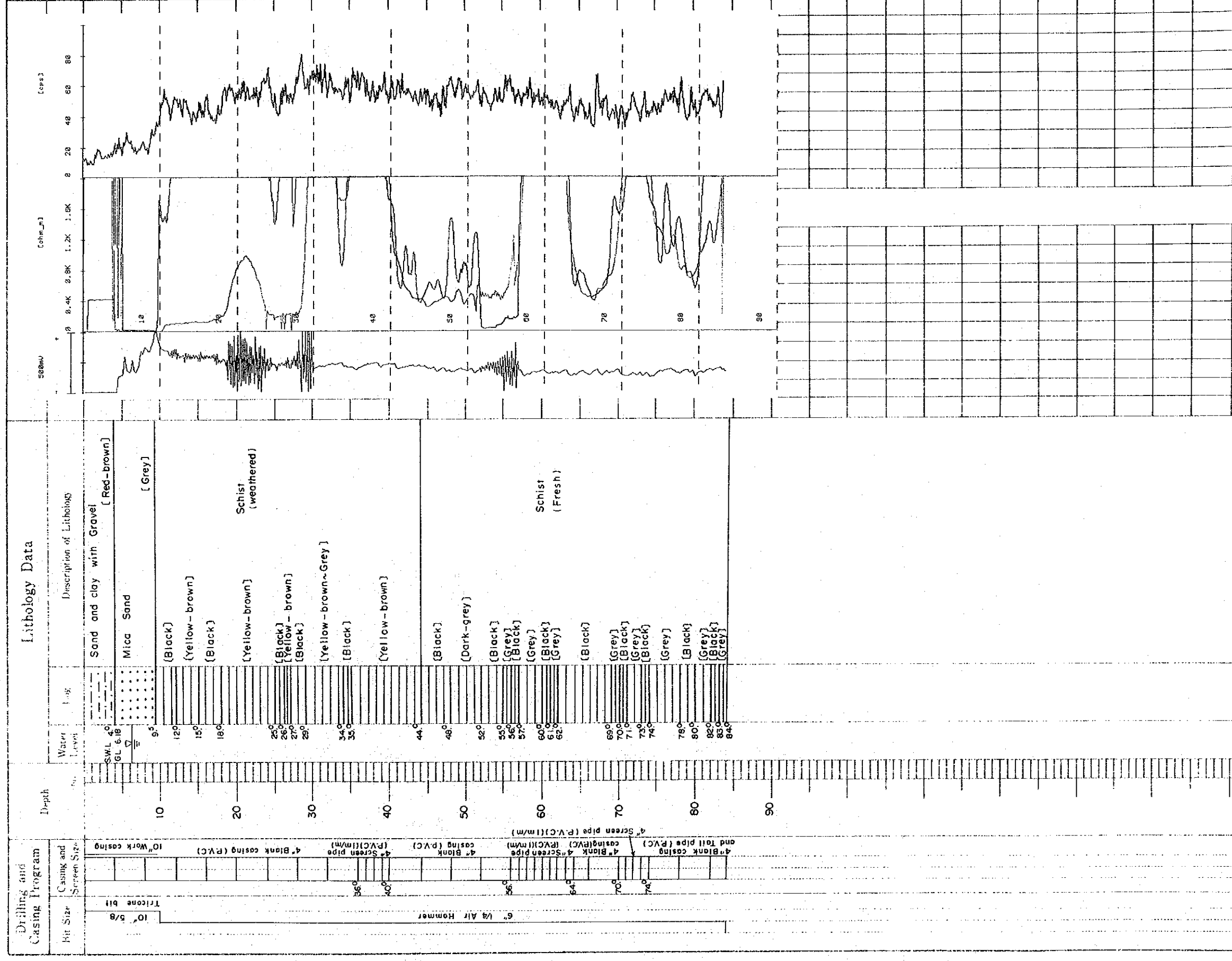
W.Z Weathered Zone
P Partially weathered zone
W.Z
F.Z Fresh Zone

WELL LOG

Data No. _____

PROJECT NAME		The Study for Groudwater Development in Sokoto State		WELL NO.	
AREA AND LOCATION		RUWAN BORE	NO. 4 - 2 (Test drilling)		
ELEVATION		in	LATITUDE	LONGITUDE	
TOTAL DEPTH		84.0 m	DRILLING RIG	Top - 750	
DRILLING STARTED		24th. Dec. 1988	DRILLED BY	G. Kuragane	
WELL COMPLETED		27th. Dec. 1988	LOGGED BY	N. Kawabata	

STATIC WATER LEVEL	GL - 6.18	in	WATER TEMPERATURE	—	°C
DYNAMIC WATER LEVEL	—	m	CONDUCTIVITY	—	μS/cm
PUMPING RATE	—	m ³ /min (— m ³ /d)	pH	—	
SPECIFIC CAPACITY	—	m ³ /d/m	TOTAL HARDNESS	—	



THE STUDY FOR GROUNDWATER DEVELOPMENT IN SOKOTO STATE.

SUMMARY DRILLING REPORT

SITE NAME: - DAURAN

SITE NO.: - 7

JICA (JAPAN INTERNATIONAL CO-OPERATION AGENCY)

WELL DESCRIPTION

The borehole (Dauran No. 7) was drilled during the time from 4th January to 12th January 1989 at Dauran village in Kaura Namoda Local Government.

The well was drilled using a Tone Boring Top -750 B rig.

From ground level (G.L.) to 7.0m below ground level (G.L.-), it was drilled using a 10"5/8 tricone bit with air.

From G.L.-7.0m to the total depth of 84.0m, it was drilled using a 6"1/4 air hammer with air/foam. Then, it was reamed from G.L.-7.0m to G.L.-25.0m by 8"1/2 air hammer.

After the drilling electric log had been carried out and then the borehole was cased with 4" blind steel pipe from G.L.+1.0m to G.L.-35.6m and from G.L.-40.4m to G.L.-51.5m and from G.L.-56.4m to G.L.-73.0m and from G.L.-77.9m to G.L.-84.0m.

Total length of 4.8m and 4.9m and 4.9m of Johnson's screen 4" I.D. (slot size 1.0mm) were inserted from G.L.-35.6m to G.L.-40.4m and from G.L.-51.5m to G.L.-56.4m and from G.L.-73.0m to G.L.-77.9m.

The lithology encountered consists of mainly crystalline schist and gneiss which accompanied by metagabbro and quartzite and pegmatite veins.

These are pre-Cambrian to upper-Cambrian basement complex.

The probable water bearing portions are near quartzite and pegmatite veins and weathered zone along fractures.

After development of the borehole the static water level was measured at G.L.-12.03m.

During the air lifting the maximum average yield was 140 ℓ/min.

Pumping test was carried out during the time from 22nd January to 24th January 1989.

By the five steps drawdown test, the critical discharge of this well was determined about 100 ℓ/min.

Continuous drawdown test was done for 24 hours with pumping rate of 129 ℓ/min, and drawdown of 6.33m was observed. (Dynamic water level was measured at G.L.-18.36m.)

Then, the recovery of water level was measured for 9 hours.

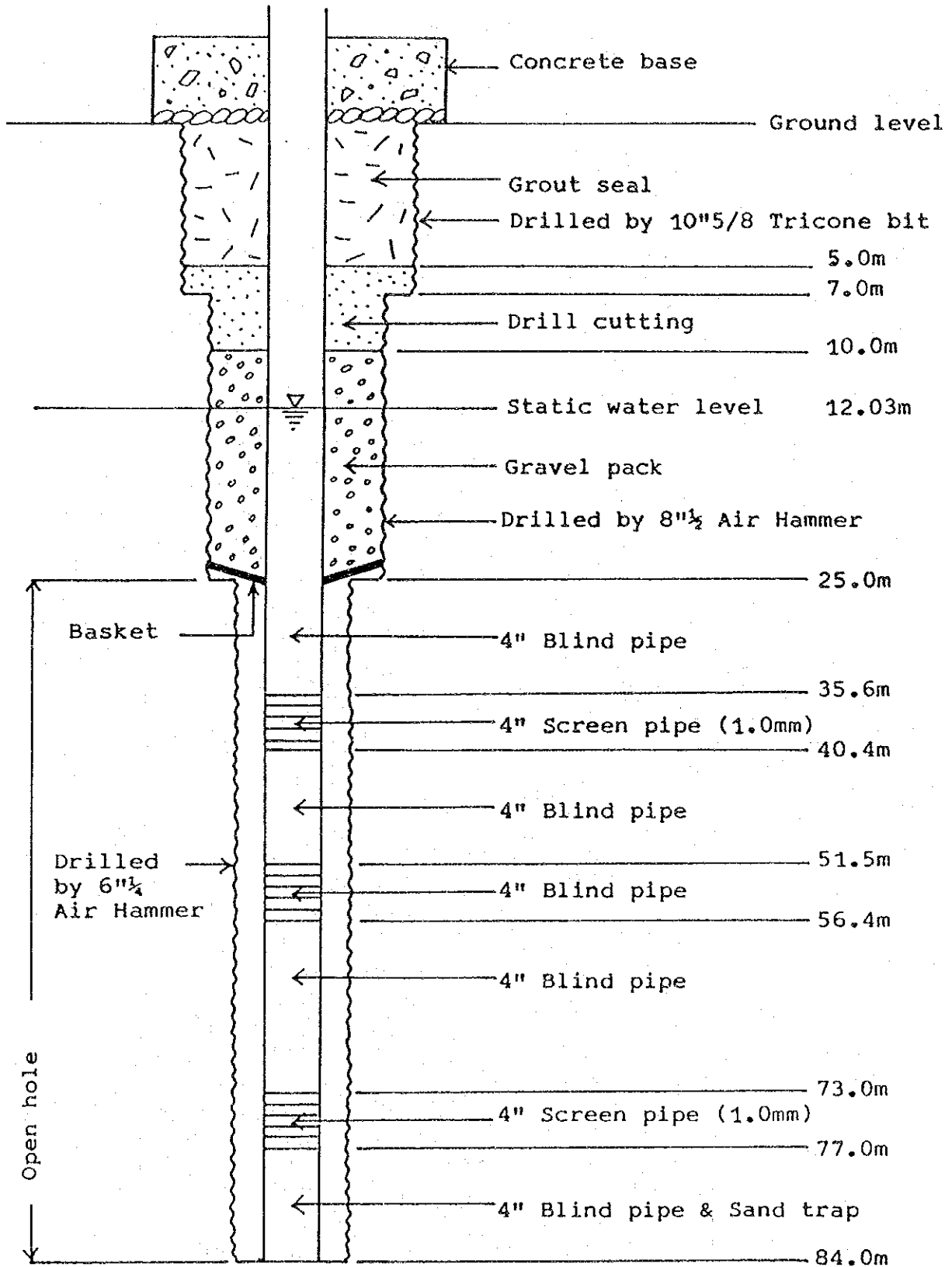
WELL SUMMARY

(Dauran No. 7)

Project Name	The study for groundwater development in Sokoto State.
Area and Location	Dauran village in Kaura Namoda Local Government
Elevation	m
Coordinates	N E
Date Drilling Started	4th January, 1989
Date well Completed	12th January, 1989
Total Depth	84 m
Screen Position	G.L.-35.6m~40.4m, G.L.-51.5m~56.4m G.L.-73.0m~77.0m (1.0mm)
Drilling Method	Air Hammer drilling
Drilling Rig	Tone Boring Top -750B
Drilled by	Y. Tanabe
Logged By	N. Kawabata
Static Water Level	G.L.-12.03m
Yield By Air Lifting	140 ℓ/min, 8.4m ³ /h, 201.6m ³ /d
Pumping Rate	129 ℓ/min, 185.8m ³ /d
Dynamic Water Level	G.L.-18.36m (Drawdown 6.33m)
Specific Capacity	20.4 ℓ/min/m, 29.4m ³ /d/m
Critical Capacity	80 ℓ/min
Transmissivity	3.11×10^{-2} m ² /min
Permeability	3.79×10^{-3} cm/sec
Water Temperature	31.4 °C
Conductivity	800 µu/cm
pH	7.32

WELL SKETCH

(Dauran No.7)



WELL LITHOLOGIC LOG

(Dauran No.7)

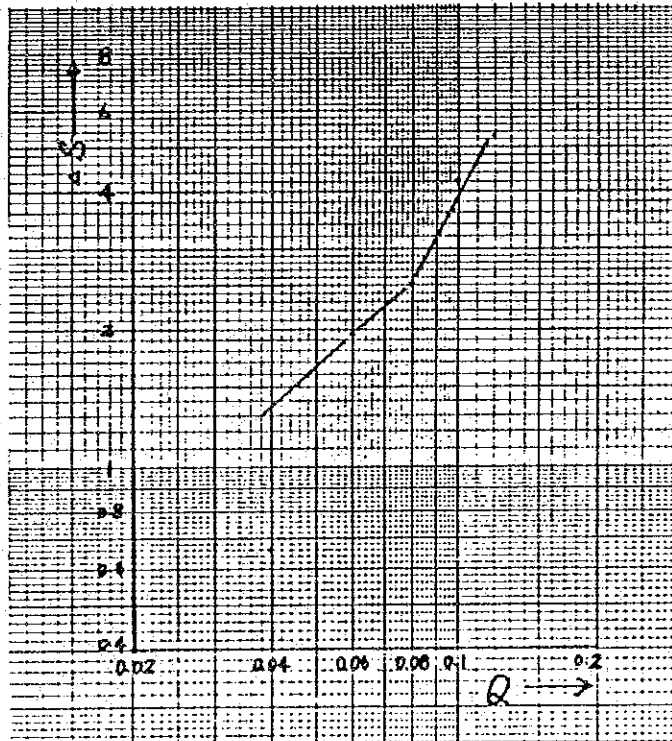
Depth (m)	Log	Lithology		Geological Division
6.0		Sand and Clay,	Yellowish brown	Top Soil
8.0		Mica Sand,	Grey	
12.0		C. Schist	Dark blue	Basement Complex (Upper-Cambrian)) (Pre-Cambrian)
18.0		Pegmatite,	Brown	
30.0		C. Schist,	Dark blue	
34.0		Quartzite,	Yellowish green	
37.0		Metagabbro,	Dark blue	
40.0		Gneiss,	Yellowish brown	
41.0		Gneiss,	Grey	
43.0		Pegmatite,	Yellow	
44.0		Pegmatite,	Yellow	
45.0		Gneiss,	Dark grey	
46.0		Pegmatite,	Yellow	
49.0		Quartzite,	Whitish grey	P W.Z
50.0		Pegmatite,	Yellow	
53.0		Gneiss,	Grey~Dark grey	
54.0		Pegmatite,	Yellow	
55.0		Gneiss,	Grey~Dark grey	
56.0		Gneiss,	Grey	
59.0		Gneiss,	Grey~Dark grey	
60.0		Gneiss,	Grey~Dark grey	
73.0		Gneiss,	Grey~Dark grey	
76.0		Metagabbro,	Dark grey	
77.0		Quartzite,	Yellowish brown	F.Z
78.0		Gneiss,	Grey~Dark grey	
84.0		Gneiss,	Grey	
		C. Schist..... Crystalline Schist		
		W.Z Weathered zone		
		P W.Z Partially weathered zone		
		F.Z Fresh zone		

PUMPING TEST

(Dauran No.7)

Step drawdown test

Step	Pumping rate Q (m ³ /min)	Drawdown ΔS (m)	Specific Capacity (m ³ /min/m)
1	0.04	0.66	0.061
2	0.06	1.95	0.031
3	0.08	2.51	0.032
4	0.10	4.22	0.024
5	0.12	5.31	0.023



Critical discharge 80 l/min

PUMPING TEST

(Dauran No.7)

Continuos drawdown test and Recovery test

Static water level	G.L. -12.03m
Pumping rate	129 l/m,
Dynamic water level	G.L. -18.36m
Drawdown	6.33m
Specific Capacity	20.4 l/min
Elapsed time	24 hours

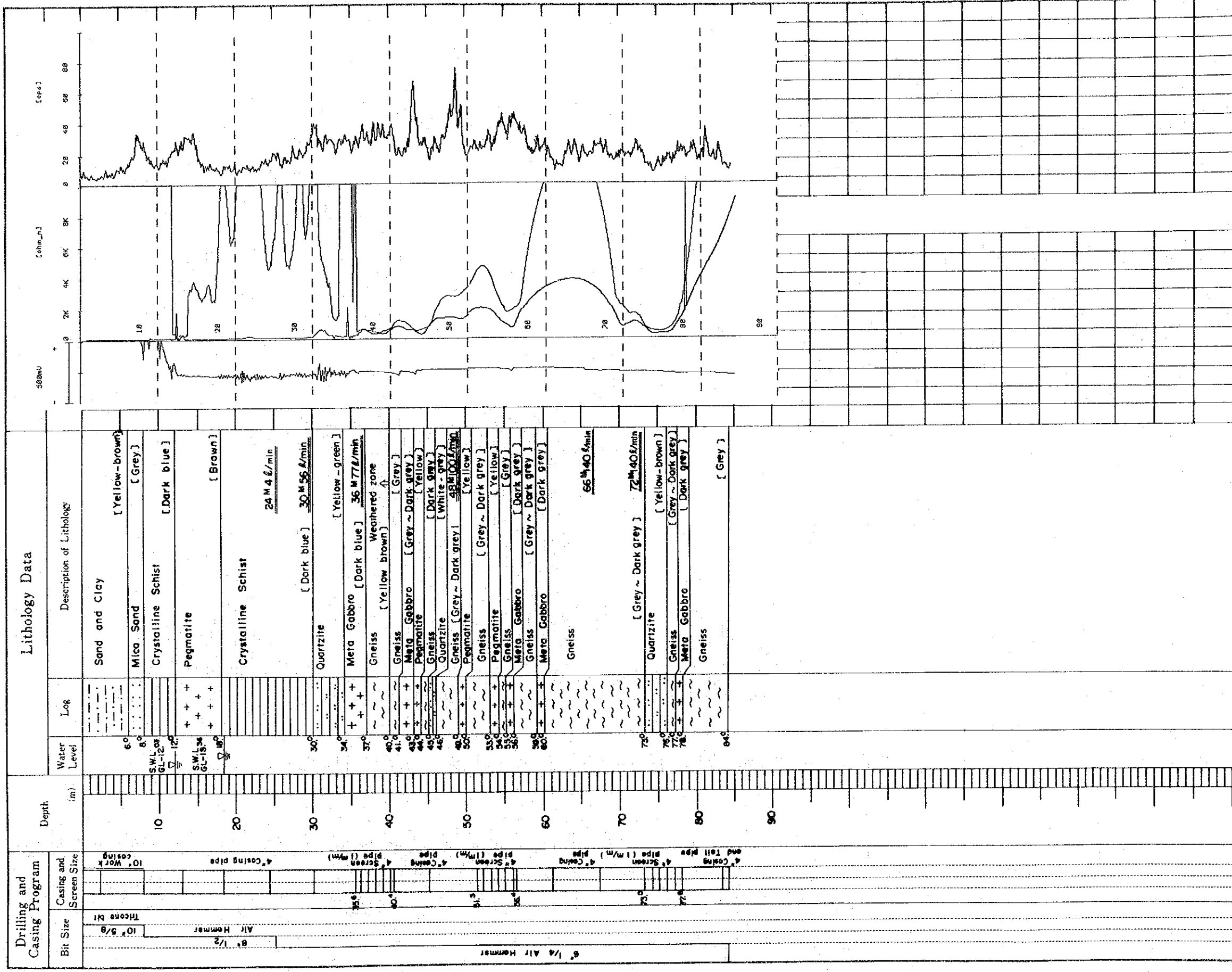
	Transmissivity (m ² /min)		Permeability (cm/sec)	
	Theis's method	Jacob's method	Theis's method	Jacob's method
Drawdown test	2.68×10^{-2}	3.37×10^{-2}	3.27×10^{-3}	4.10×10^{-3}
Recovery test	3.02×10^{-2}	3.37×10^{-2}	3.67×10^{-3}	4.10×10^{-3}
Average	3.11×10^{-2}		3.79×10^{-3}	

WELL LOG

Data No. _____

PROJECT NAME		The Study for Groundwater Development in Sokoto State		WELL NO.	
AREA AND LOCATION		DAURAN	NO. 7		
ELEVATION		m	LATITUDE	LONGITUDE	
TOTAL DEPTH		84.0	m	DRILLING RIG Top - 750	
DRILLING STARTED		3rd. JAN. 1989	DRILLED BY		G. Kuragane
WELL COMPLETED		12th. JAN. 1989	LOGGED BY		N. Kawabata

STATIC WATER LEVEL	GL - 12.03	m	WATER TEMPERATURE	31.4	°C
DYNAMIC WATER LEVEL	GL - 18.36	m	CONDUCTIVITY	800	μS/cm
PUMPING RATE	129	l/min (185.76 m ³ /d)	pH	7.32	
SPECIFIC CAPACITY	29.35	m ³ /J/m	TOTAL HARDNESS		



THE STUDY FOR GROUNDWATER DEVELOPMENT IN SOKOTO STATE.

SUMMARY DRILLING REPORT

SITE NAME: -YAMBUKI

SITE NO.: - 8

(TEST WELL)

JICA (JAPAN INTERNATIONAL CO-OPERATION AGENCY)

WELL DESCRIPTION

Test well borehole (Yambuki No. 8) was drilled during the time from 12th January to 16th January, 1989 at Yambuki village in Kaura Namoda Local Government.

Test well borehole was 220m apart from test drill borehole.

The well was drilled using a Tone Boring Top -750 B rig.

From ground level (G.L.) to 15.0m below ground level (G.L.-), it was drilled using a 10"5/8 tricone bit with air.

From G.L.-15.0m to the total depth of 102.0m, it was drilled using a 6"1/4 air hammer. Then the borehole was reamed from G.L.-15.0m to G.L.-30.0m by an 8"1/2 air hammer.

The drilling fluid for air hammer was air/foam.

After the drilling, electric log had been carried out and then the borehole was cased with 4" blind steel pipe from G.L.+1.0m to G.L.-48.6m and from G.L.-55.1m to G.L.-66.2m and from G.L.-77.7m to G.L.-89.3m and from G.L.-90.9m to G.L.-102.0m.

Total length of 6.5m and 11.5m and 1.6m of Johnson's screen 4" I.D. (slot size 1.0mm) were inserted from G.L.-48.6m to G.L.-55.1m and from G.L.-66.2m to G.L.-77.7m and from G.L.-89.3m to G.L.-90.9m.

The lithology encountered consists of mainly gneiss and granite which accompanied by pegmatite and quartzite veins.

The probable water bearing portion is weathered zone along fractures.

After development of the borehole the static water level was measured at G.L.-29.41m.

During the air lifting, the maximum average yield was 84 ℓ/min. Pumping test was carried out during the time from 27th January to 30th January, 1989.

By the five steps drawdown test, the critical discharge of this well was determined about 53 ℓ/min.

Continuous drawdown test was done for 48 hours with a pumping rate of 69 ℓ/min, and a drawdown of 8.10m was observed (Dynamic water level was measured at G.L.-37.51 m). On the other hand, a drawdown of 0.02 m was observed at test drill borehole that was 220 m apart from test well borehole.

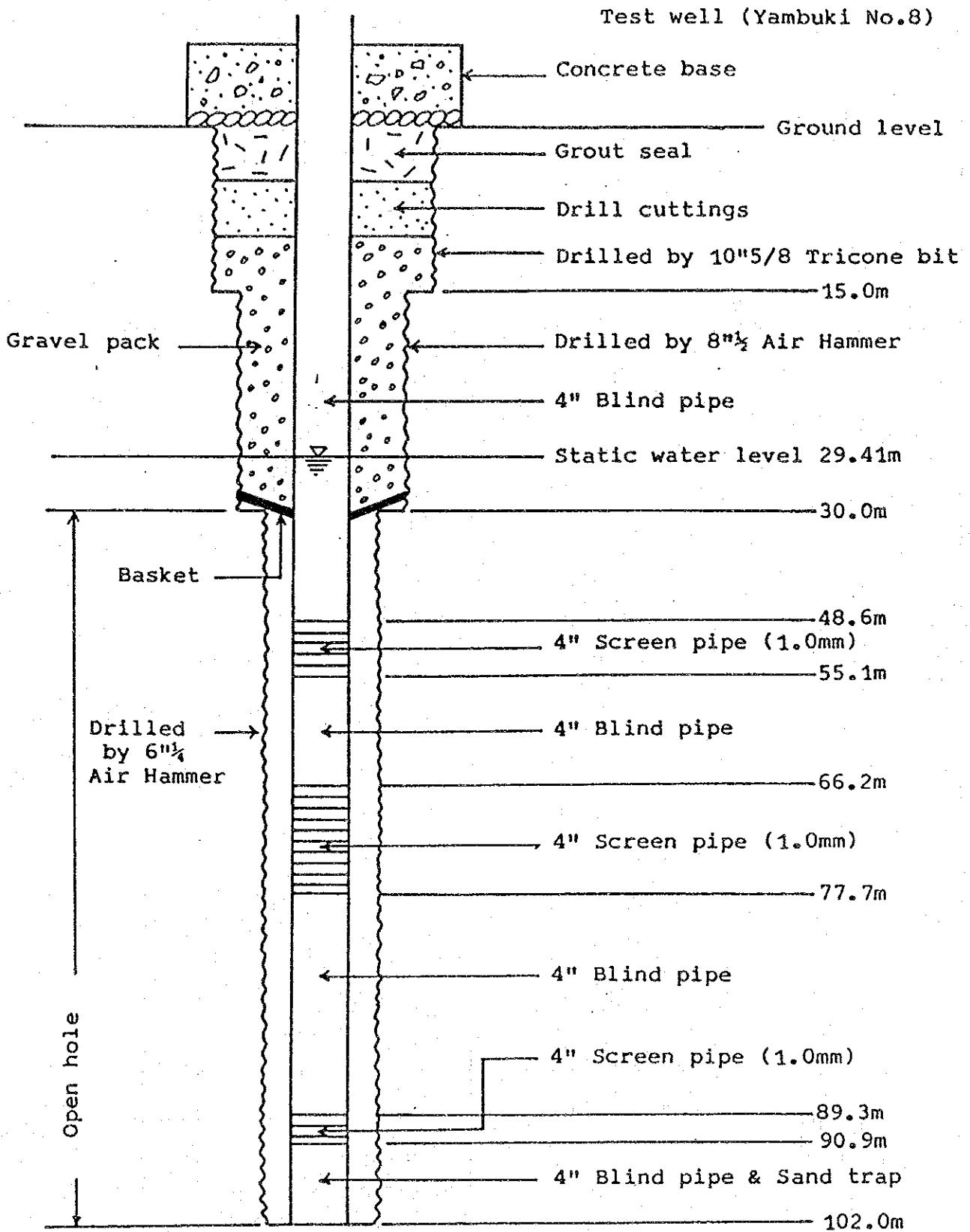
Then, the recovery of water level was measured for 11 hours.

WELL SUMMARY

Test Well (Yambuki No. 8)

Project Name	The study for groundwater development in Sokoto State.
Area and Location	Yambuki village in Kaura Namoda Local Government
Elevation	m
Coordinates	N E
Date Drilling Started	12th January, 1989
Date well Completed	16th January, 1989
Total Depth	102 m
Screen Position	G.L.48.6m~55.1m, G.L.-66.2m~77.7m G.L.89.3m~90.9m (1.0mm)
Drilling Method	Air Hammer drilling
Drilling Rig	Tone Boring Top -750B
Drilled by	Y. Tanabe
Logged By	N. Kawabata
Static Water Level	G.L.-29.41m
Yield By Air Lifting	84 ℓ/min, 5.0m ³ /h, 121.6m ³ /d
Pumping Rate	69 ℓ/min, 99.4m ³ /d
Dynamic Water Level	G.L.-37.51m (Drawdown 8.10m)
Specific Capacity	8.5 ℓ/min/m, 12.3m ³ /d/m
Critical Capacity	53 ℓ/min
Transmissivity	$4.05 \times 10^{-3} \text{ m}^2/\text{min}$
Permeability	$2.99 \times 10^{-4} \text{ cm/sec}$
Water Temperature	29.9 °C
Conductivity	520 µS/cm
pH	6.77

WELL SKETCH



Not to Scale

WELL LITHOLOGIC LOG

Test well (Yambuki No.8)

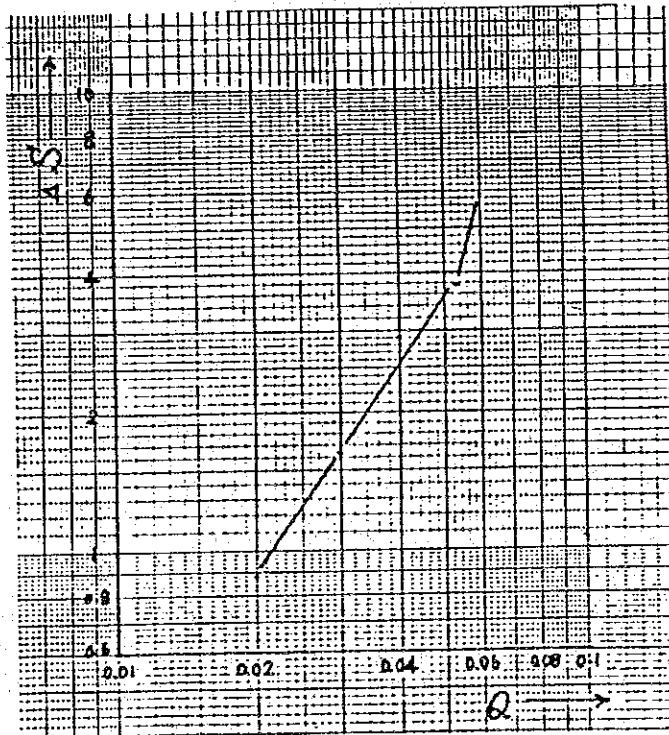
Depth (m)	Log	Lithology		Geological Division		
4.0	~ ~ ~ ~	Sand and Clay,	Yellowish brown	Top Soil :		
15.0	~ ~ ~	Gneiss,	Grey	W.Z		
16.0	~ ~ ~	Gneiss,	Light green			
21.0	~ ~ ~	Pegmatite,	Brown			
22.0	+ + +	Gneiss,	Dark grey			
23.0	+ + +	Pegmatite,	Brown			
26.0	~ ~ ~	Gneiss,	Dark grey		P W.Z	
27.0	△ △ △	Quartzite,	Light green			Basement Complex
28.0	+ + +	Gneiss,	Dark grey			
30.0	~ ~ ~	Pegmatite,	Yellow			
36.0	~ ~ ~	Gneiss,	Dark grey			
38.0	+ + +	Pegmatite,	-do-			
39.0	+ + +	Gneiss,	-do-	(Upper-Cambrian)		
40.0	~ ~ ~	Pegmatite,	Yellow			
47.0	~ ~ ~	Gneiss,	Dark grey	}		
48.0	+ + +	Pegmatite,	Yellowish brown			
49.0	+ + +	Gneiss,	Dark grey			
56.0	+ + +	Pegmatite,	Yellowish brown			
69.0	~ ~ ~	Gneiss,	Dark grey		(Pre-Cambrian)	
73.0	+ + +	Pegmatite,	Yellowish brown			
74.0	x x x	Gneiss,	Dark grey		F.Z	
79.0	x x x	Granite,	Whitish grey			
80.0	x x x	Gneiss,	Dark grey			
84.0	x x x	Granite,	Whitish grey			
85.0	x x x	Gneiss,	Dark grey			
102.0	x x x	Granite,	Whitish grey			
		W.Z ... Weathered zone, P ... Partially weathered zone				
		F.Z ... Fresh zone				

PUMPING TEST

Step drawdown test

Test well (Yambuki No.8)

Step	Pumping rate Q (m ³ /min)	Drawdown ΔS (m)	Specific Capacity (m ³ /min/m)
1	0.02	0.88	0.023
2	0.03	1.63	0.018
3	0.04	2.92	0.014
4	0.053	3.78	0.014
5	0.06	5.88	0.010



Critical discharge 53 l/min

PUMPING TEST

Test well (Yambuki No.8)

Continuos Drawdown test and Recovery test

	Test well borehole (Product well)	Test drill borehole (Observation well)
Static water level	G.L.-29.41m	G.L.-28.80m
Pumping rate	69 l/min	-
Dynamic water level	G.L.-37.51m	G.L.-28.82m
Drawdown	8.10m	0.02m
Specific Capacity	8.5 l/min/m	-
Elapsed time	48 hours	

	Transimissivity (m ² /min)		Permeability (cm/sec)	
	Theis's method	Jacob's method	Theis's method	Jacob's method
Drawdown test	5.31×10^{-3}	5.05×10^{-3}	3.92×10^{-4}	3.72×10^{-4}
Recovery test	2.81×10^{-3}	3.04×10^{-3}	2.07×10^{-4}	2.25×10^{-4}
Average	4.05×10^{-3}		2.99×10^{-4}	

