Table F-102 OBSERVATION RECORDS ON PADDY GROWTH IN WET SEASON AT MONITORING POINT NO. 10 IN ADRIS

Plot No.	Items Measured	Aug. 22	Aug. 30	Sept. 4	Sept. 11	Sept. 18	Sept. 26	Oct. 7	Oct. 11	Oct. 17	Oct. 24
I-1	Plant height (cm)	23	39	43	49	62	67	77	81	83	83
	No. of tillers	6	19	25	39	41	42	38	34	32	29
-2	Plant height (cm)	26	34	38	45	65	70	86	86	86	86
	No. of tillers	5	19	24	36	41	41	36	33	33	30
-3	Plant height (cm)	27	37	44	54	68	73	80	83	83	83
	No. of tillers	11	21	29	39	48	49	43	38	35	28
II-1	Plant height (cm)	26	30	36	47	58	67	78	81	89	90
	No. of tillers	5	11	15	26	28	31	26	27	27	24
-2	Plant height (cm)	24	30	35	35	49	64	74	82	83	83
	No. of tillers	7	11	11	18	19	21	18	18	17	16
-3	Plant height (cm)	30	44	39	50	62	71	88	89	90	90
	No. of tillers	9	24	30	39	48	44	41	40	40	34
III-1	Plant height(cm)	30	41	37	39	55	56	79	84	84	84
	No. of tillers	7	13	13	20	20	21	19	17	17	16
-2	Plant height (cm)	31	44	48	48	61	72	86	95	97	98
	No. of tillers	10	18	23	38	44	45	40	39	37	32
-3	Plant height (cm)	35	40	41	43	54	70	83	93	95	95
	No. of tillers	4	13	17	24	29	27	24	23	23	20
IV-1	Plant height (cm)	33	31	37	37	48	52	72	78	81	81
	No. of tillers	4	15	10	26	30	36	37	34	33	30
-2	Plant height (cm)	28	32	34	37	50	59	67	75	76	77
	No. of tillers	9	9	21	40	46	48	38	35	35	32
-3	Plant height (cm)	28	31	33	37	48	59	72	77	82	82
	No. of tillers	7	7	13	26	30	30	28	28	26	24

Note; Variety : IR36

Table F-103 RESULT OF ANALYSIS ON YIELD COMPONENTS OF WET SEASON PADDY AT MONITORING POINTS NO. 2 AND NO. 4 IN ARIS

Sample No.	No. of Panicles per Hill	No. of Panicles per m²	No. of Grains per Panicle	No. of Grains per m²	Percent of Ripened Grains (%)	Weight of 1,000 Ripened Grains (g)	Unit Yield (ton/ha)
(1) Monitoring Point No. 2							
I-1	10.2	264	46.0	12,100	76.6	26.2	2.4
I-2	10.5	314	45.7	14,300	78.4	26.5	3.0
I-3	14.2	356	40.5	14,400	79.6	25.7	3.0
II-1	16.8	421	51.7	21,800	81.1	25.5	4.5
II-2	18.0	468	45.9	21,500	72.2	25.4	3.9
II-3	19.8	475	56.7	26,900	75.9	25.6	5.2
III-1	20.4	469	50.2	23,500	77.0	25.8	4.7
III-2	16.0	447	49.7	22,200	65.3	25.3	3.7
III-3	18.9	472	49.0	23,100	84.4	25.1	4.9
IV-1	15.9	462	56.1	25,900	84.1	24.5	5.3
IV-2	13.6	381	56.8	21,600	83.6	25.4	4.6
IV-3	13.6	434	53.4	23,200	86.0	25.0	5.0
(2) Monitoring Point No. 4							
I-1	14.6	291	65.0	18,900	80.3	21.5	3.3
I-2	16.4	345	60.6	20,900	79.2	20.8	3.4
I-3	16.7	334	65.6	21,900	75.7	20.4	3.4
II-1	16.3	359	73.7	26,500	67.3	20.7	3.7
II-2	17.3	364	64.2	23,400	71.6	21.4	3.6
II-3	22.0	439	60.0	26,300	74.1	20.7	4.0
III-1	16.9	406	67.6	27,400	78.7	21.3	4.6
III-2	21.7	433	68.3	29,600	77.5	21.1	4.8
III-3	19.7	473	57.9	27,400	74.8	20.6	4.2
IV-1	23.2	511	56.8	29,000	70.4	21.6	4.4
IV-2	19.2	404	55.4	22,400	76.0	21.5	3.7
IV-3	17.7	407	51.0	20,700	75.3	21.1	3.3

Table F-104 RESULT OF ANALYSIS ON YIELD COMPONENTS OF WET SEASON PADDY AT MONITORING POINTS NO. 6 AND NO. 8 IN ARIS

Sample No.	No. of Panicles per Hill	No. of Panicles per m²	No. of Grains per Panicle	No. of Grains per m²	Percent of Ripened Grains (%)	Weight of 1,000 Ripened Grains (g)	Unit Yield (ton/ha)
(1) Monitoring Point No. 6							
I-1	12.1	340	59.8	20,300	56.5	23.3	2.7
I-2	11.7	234	82.6	19,300	59.5	24.8	2.8
I-3	10.7	214	87.9	18,800	63.2	24.8	3.0
II-1	8.9	259	72.2	18,700	56.6	24.9	2.6
II-2	13.3	333	77.1	25,700	65.4	24.4	4.1
II-3	11.9	250	97.2	24,300	59.6	24.4	3.5
III-1	13.4	282	78.7	22,200	57.0	23.6	3.0
III-2	10.4	240	88.9	21,300	60.6	24.0	3.1
III-3	10.6	254	98.4	25,000	59.1	24.4	3.6
IV-1	13.2	291	69.5	20,200	60.0	23.8	2.9
IV-2	12.2	304	69.5	21,100	60.9	24.2	3.1
IV-3	14.5	289	81.1	23,400	62.1	23.9	3.5
(2) Monitoring Point No. 8							
I-1	11.3	225	58.6	13,200	56.7	19.5	1.5
I-2	12.5	249	103.9	25,900	76.5	20.0	4.0
I-3	12.3	344	76.5	26,300	69.4	20.1	3.7
II-1	14.4	311	104.0	32,400	73.4	20.6	4.9
II-2	13.6	263	100.8	26,500	66.3	19.8	3.5
II-3	17.1	394	106.3	41,900	65.2	20.0	5.5
III-1	15.0	300	93.2	28,000	71.0	20.2	4.0
III-2	19.2	422	85.8	36,200	52.7	19.0	3.6
III-3	12.7	279	117.9	32,900	74.5	19.5	4.8
IV-1	15.6	358	102.6	36,700	70.0	20.3	5.2
IV-2	17.9	322	98.7	31,800	69.1	19.8	4.4
IV-3	16.8	336	106.1	35,700	66.6	19.9	4.7

Table F-105 RESULT OF ANALYSIS ON YIELD COMPONENTS OF WET SEASON PADDY AT MONITORING POINTS NO. 12 IN ARIS AND NO. 10 IN ADRIS

Sample No.	No. of Panicles per Hill	No. of Panicles per m²	No. of Grains per Panicle	No. of Grains per m²	Percent of Ripened Grains (%)	Weight of 1,000 Ripened Grains (g)	Unit Yield (ton/ha)
(1) Monitoring Point No. 12 in ARIS							
I-1	7.3	343	63.8	21,900	82.6	20.8	3.8
I-2	11.1	321	111.1	35,700	76.5	20.6	5.6
I-3	15.4	370	93.4	34,600	75.5	20.4	5.3
II-1	6.0	247	99.0	24,500	77.8	20.3	3.9
II-2	8.8	273	83.9	22,900	72.4	21.0	3.5
II-3	11.1	345	88.3	30,500	76.6	20.8	4.9
III-1	9.5	361	85.9	31,000	80.5	21.0	5.2
III-2	12.7	405	80.6	32,700	82.0	20.8	5.6
III-3	11.4	387	82.9	32.100	74.7	21.1	5.1
IV-1	11.0	319	75.4	24,100	81.0	21.0	4.1
IV-2	12.1	412	71.8	29,600	83.3	20.8	5.1
IV-3	12.6	404	80.3	32,400	84.6	21.3	5.8
(2) Monitoring Point No. 10 in ADRIS							
I-1	24.6	614	52.6	32,300	45.8	21.0	3.0
I-2	25.4	711	52.1	37,100	32.5	19.8	2.4
I-3	25.4	609	59.7	36,300	37.2	20.0	2.7
II-1	25.4	559	42.5	23,700	39.6	20.5	1.9
II-2	22.5	586	48.0	28,100	34.5	20.1	2.0
II-3	25.3	607	51.1	31,000	50.7	20.5	3.2
III-1	21.1	527	51.1	26,900	55.3	21.5	3.2
III-2	19.8	494	48.9	24,200	52.7	20.7	2.6
III-3	21.6	539	41.4	22,300	48.0	20.4	2.2
IV-1	21.9	526	46.4	24,400	40.2	20.9	2.1
IV-2	21.2	509	51.9	26,400	43.5	20.5	2.4
IV-3	21.7	542	41.7	22,600	35.6	19.6	1.6

Table F-106 LIST OF WET SEASON PADDY SAMPLES COLLECTED IN ARIS FOR YIELD ANALYSIS

Sample No.	Location	Variety	Harvesting Sate
1.	Main Canal (St. 33+906)	Malagkit	Sept. 20, 1984
2.	Main Canal (St. 35+129)	Malagkit	Sept. 20, 1984
3.	Lateral D (St. 2+140)	Malagkit	Sept. 21, 1984
4.	Lateral D (Head Gate)	Super 36	Sept. 28, 1984
5.	Lateral D (St. 1+040)	Super 36	Sept. 28, 1984
6.	Main Canal (St. 9+800)	IR 56	Sept. 29, 1984
7.	Main Canal (St. 10+478)	IR 56	Sept. 29, 1984
8.	Main Canal (St. 9+356)	IR 56	Oct. 6, 1984
9.	Main Canal (St. 3+120)	IR 23	Oct. 10, 1984
10.	Main Canal (St. 4+464)	IR 40	Oct. 10, 1984
11.	Main Canal (St. 5+000)	IR 36	Oct. 11, 1984
12.	Main Canal (St. 6+681)	IR 36	Oct. 11, 1984
13.	Main Canal (St. 33+290)	IR 42	Oct. 18, 1984
14.	Main Canal (St. 32+620)	IR 42	Oct. 18, 1984
15.	Main Canal (St. 32+100)	IR 42	Oct. 20, 1984
16.	Main Canal (St. 31+400)	IR 42	Oct. 20, 1984
17.	Main Canal (St. 31+291)	IR 56	Oct. 25, 1984
18.	Lateral J (St. 0+500)	IR 36	Oct. 26, 1984

Table F-107 RESULT OF ANALYSIS ON YIELD COMPONENTS OF WET SEASON PADDY IN ARIS (1/8)

Sample No.	No. of Panicles per Hill	No. of Panicles per m²	No. of Grains per Panicle	No. of Grains per m²	Percent of Ripened Grains (%)	Weight of 1,000 Ripened Grains (g)	Unit Yield (ton/ha)
Sampling Point No. 1							
I-1	8.9	275	38.7	10,600	59.7	26.4	1.7
I-2	11.0	341	62.2	21,200	60.1	26.7	3.4
I-3	12.5	346	51.6	22,500	63.1	26.6	3.8
I-4	9.4	318	58.0	18,400	67.5	26.8	3.3
I-5	10.8	368	51.4	18,900	64.4	26.6	3.2
Average	10.5	330	52.4	18,300	63.0	26.6	3.1
II-1	17.5	491	40.2	19,700	62.6	26.2	3.2
II-2	13.5	473	45.6	21,600	67.1	25.9	3.8
Average	15.5	482	42.9	20,650	64.9	26.1	3.5
Sampling Point No. 2							
I-1	13.2	462	44.2	20,400	74.0	24.1	3.6
I-2	12.9	412	48.4	19,900	80.0	23.5	3.7
I-3	11.7	410	54.6	22,400	67.4	24.2	3.7
I-4	15.0	479	49.7	23,800	75.0	24.1	4.3
Average	13.2	441	49.2	21,600	74.1	24.0	3.8
Sampling Point No. 3							
I-1	11.2	280	45.4	12,700	67.8	25.8	2.2
I-2	9.3	241	55.4	13,400	73.2	25.9	2.5
I-3	9.8	246	55.4	13,600	72.2	25.8	2.5
Average	10.1	256	52.1	13,200	71.1	25.8	2.4
Sampling Point No. 4							
I-1	12.1	290	43.5	12,600	65.1	22.3	1.8
I-2	15.9	430	36.9	15,900	61.3	23.3	2.3
I-3	16.3	359	58.7	21,000	77.9	24.2	4.0
I-4	15.7	392	62.3	24,400	78.4	24.1	4.6
Average	15.0	368	50.4	18,500	70.7	23.5	3.2
II-1	13.1	327	45.8	15,000	68.5	22.8	2.3
II-2	18.3	458	40.8	18,700	77.8	24.6	3.6
II-3	17.8	409	51.6	21,100	81.2	24.4	4.2
Average	16.4	398	46.1	18,300	75.8	23.9	3.4
III-1	16.6	448	53.4	23,900	74.0	23.8	4.2
III-2	19.1	459	57.3	26,300	73.8	24.5	4.8
III-3	14.5	362	51.5	18,600	80.4	24.1	3.6
Average	16.7	423	54.1	22,900	76.1	24.1	4.2

Table F-108 RESULT OF ANALYSIS ON YIELD COMPONENTS OF WET SEASON PADDY IN ARIS (2/8)

Sample No.	No. of Panicles per Hill	No. of Panicles per m²	No. of Grains per Panicle	No. of Grains per m²	Percent of Ripened Grains (%)	Weight of 1,000 Ripened Grains (g)	Unit Yield (ton/ha)
Sampling Point No. 5							
I-1	12.0	311	41.8	13,000	71.6	24.8	2.3
I-2	13.5	338	36.3	12,000	88.8	26.5	2.9
I-3	14.6	364	50.9	18,500	76.5	26.2	3.7
I-4	22.2	466	52.0	24,200	75.5	25.2	4.6
Average	15.6	370	45.3	17,000	78.1	25.7	3.4
II-1	15.1	318	52.8	16,800	77.2	25.8	3.3
II-2	13.7	355	54.6	19,400	82.5	25.7	4.1
II-3	12.5	349	53.8	18,800	81.6	25.6	3.9
II-4	14.3	358	50.6	18,100	82.2	25.3	3.8
Average	13.9	345	53.0	18,300	80.9	25.6	3.8
Sampling Point No. 6							
I-1	18.2	564	41.9	23,600	44.0	21.8	2.3
I-2	18.9	566	31.9	18,100	61.1	23.9	2.6
I-3	15.9	509	32.6	16,600	73.1	23.9	2.9
I-4	15.5	465	35.9	16,700	61.1	25.2	2.6
Average	17.1	526	35.6	18,800	59.8	23.7	2.6
II-1	17.0	442	39.1	17,300	75.1	24.3	3.2
II-2	12.3	370	37.8	14,000	77.7	25.4	2.8
II-3	14.7	442	29.5	13,100	63.4	24.8	2.1
II-4	14.3	400	36.8	14,700	59.5	25.4	2.2
Average	14.6	414	35.8	14,800	68.9	25.0	2.5
Sampling Point No. 7							
I-1	14.8	355	45.0	16,000	42.6	22.4	1.5
I-2	16.3	440	39.5	17,400	65.0	24.0	2.7
I-3	10.3	340	40.7	13,800	66.1	26.4	2.4
Average	13.8	378	41.7	15,700	57.9	24.3	2.2
II-1	12.8	408	49.2	20,100	82.2	25.9	4.3
II-2	10.7	299	45.5	13,600	70.8	25.6	2.5
II-3	14.3	428	56.8	24,300	79.0	25.5	4.9
Average	12.6	378	50.5	19,300	77.3	25.7	3.8

Table F-109 RESULT OF ANALYSIS ON YIELD COMPONENTS OF WET SEASON PADDY IN ARIS (3/8)

Sample No.	No. of Panicles per Hill	No. of Panicles per m²	No. of Grains per Panicle	No. of Grains per m²	Percent of Ripened Grains (%)	Weight of 1,000 Ripened Grains (g)	Unit Yield (ton/ha)
Sampling Point No. 8							
I-1	16.6	364	42.8	15,600	81.6	25.8	3.3
I-2	17.9	358	49.5	17,700	85.3	25.6	3.9
I-3	14.8	356	42.7	15,200	84.0	26.3	3.4
I-4	14.9	327	49.9	16,300	88.3	26.2	3.8
Average	16.0	351	46.2	16,200	84.8	26.0	3.6
II-1	12.0	289	46.3	13,400	81.6	25.8	2.8
II-2	15.8	427	56.1	23,900	83.6	26.6	5.3
II-3	18.4	460	65.6	30,200	88.3	25.4	6.8
II-4	13.4	335	59.2	19,800	81.4	25.5	4.1
Average	14.9	378	56.8	21,800	83.7	25.8	4.7
III-1	17.7	443	54.1	24,000	76.9	25.2	4.6
III-2	15.3	337	68.1	23,000	86.4	26.4	5.2
III-3	18.7	411	64.1	26,300	88.9	25.9	6.1
III-4	17.7	389	70.9	27,600	81.2	26.0	5.8
Average	17.4	395	64.3	25,200	83.4	25.9	5.4
Sampling Point No. 9							
I-1	7.6	191	20.0	3,820	83.4	22.7	0.7
I-2	8.1	202	21.3	4,300	55.0	22.5	0.5
I-3	9.0	224	16.8	3,800	53.7	22.2	0.5
I-4	8.8	229	20.3	4,700	66.3	21.9	0.7
Average	8.4	212	19.6	4,100	64.6	22.3	0.6
II-1	14.0	378	38.6	14,600	72.7	23.9	2.5
II-2	13.0	376	47.3	17,800	67.8	24.3	2.9
II-3	13.7	383	48.8	18,700	69.6	24.1	3.1
II-4	11.7	455	40.8	18,600	57.2	24.3	2.6
Average	13.1	398	43.9	17,400	66.8	24.1	2.8
III-1	14.5	507	41.9	21,200	81.0	24.8	4.3
III-2	14.2	481	45.1	21,700	80.0	24.4	4.2
III-3	16.8	570	46.2	26,500	78.2	24.7	5.1
III-4	17.6	597	43.4	25,900	77.9	24.7	5.0
Average	15.7	539	44.1	23,800	79.3	24.6	4.7

Table F-110 RESULT OF ANALYSIS ON YIELD COMPONENTS OF WET SEASON PADDY IN ARIS (4/8)

Sample No.	No. of Panicles per Hill	No. of Panicles per m²	No. of Grains per Panicle	No. of Grains per m²	Percent of Ripened Grains (%)	Weight of 1,000 Ripened Grains (g)	Unit Yield (ton/ha)
Sampling point No. 10							
I-1	15.5	388	36.4	14,100	66.6	23.8	2.2
I-2	18.0	396	53.2	21,100	75.6	24.0	3.8
I-3	18.9	567	45.2	25,600	70.8	24.3	4.4
I-4	18.7	468	45.5	21,300	68.6	23.8	3.5
Average	17.8	455	45.1	20,500	70.4	24.0	3.5
II-1	20.3	467	50.0	23,400	73.5	23.8	4.9
II-2	20.0	519	41.8	21,700	67.9	24.3	3.6
II-3	18.6	428	55.5	23,700	73.0	24.5	4.2
II-4	20.4	489	52.0	25,400	69.9	24.6	4.4
Average	19.8	476	49.8	23,600	71.1	24.3	4.1
III-1	17.8	446	56.5	25,200	71.2	24.7	4.4
III-2	17.2	464	62.4	29,000	68.3	24.2	4.8
III-3	17.5	472	53.0	25,000	60.1	24.2	3.6
III-4	16.7	417	55.7	23,200	71.7	24.1	4.0
Average	17.3	450	56.9	25,600	67.8	24.3	4.2
Sampling Point No. 11							
I-1	16.6	415	23.2	9,600	64.7	21.0	1.3
I-2	21.4	534	34.9	18,600	74.3	22.3	3.1
I-3	21.9	547	35.0	19,100	69.4	22.6	3.0
I-4	21.8	544	31.9	17,400	60.7	21.9	2.3
I-5	18.6	484	41.2	19,900	71.0	22.8	3.2
Average	20.0	505	33.2	16,900	68.0	22.1	2.6
II-1	16.2	404	44.4	17,900	64.5	23.5	2.7
II-2	19.6	489	52.2	25,500	71.2	23.8	4.3
II-3	17.8	516	42.7	22,000	72.4	23.9	3.8
II-4	19.0	474	35.0	16,600	68.0	22.4	2.5
II-5	22.2	532	39.7	21,100	60.4	21.9	2.8
Average	18.9	483	42.8	20,600	67.3	23.1	3.2

Table F-111 RESULT OF ANALYSIS ON YIELD COMPONENTS OF WET SEASON PADDY IN ARIS (5/8)

Sample No.	No. of Panicles per Hill	No. of Panicles per m²	No. of Grains per Panicle	No. of Grains per m²	Percent of Ripened Grains (%)	Weight of 1,000 Ripened Grains (g)	Unit Yield (ton/ha)
Sampling Point No. 12							
I-1	10.6	254	80.8	20,500	68.6	24.2	3.4
I-2	11.2	281	78.9	22,200	72.1	25.0	4.0
I-3	12.8	306	73.8	22,600	60.4	24.3	3.3
I-4	13.3	319	77.3	24,700	64.9	24.4	3.9
Average	17.3	290	77.7	22,500	66.5	24.5	3.7
II-1	13.6	286	83.5	23,900	59.6	24.9	3.6
II-2	13.2	317	94.6	20,000	62.0	24.6	3.1
II-3	11.4	285	96.5	27,500	56.7	23.9	3.7
II-4	13.9	305	90.6	27,600	56.3	24.9	3.9
Average	17.3	298	91.3	24,800	58.6	24.6	3.6
Sampling Point No. 13							
I-1	9.4	217	90.5	19,600	87.8	20.1	3.5
I-2	11.2	326	81.8	26,700	63.7	18.2	3.1
I-3	12.0	300	87.1	26,100	67.5	18.6	3.3
I-4	12.7	317	79.7	25,300	79.1	18.4	3.7
Average	11.3	294	84.8	24,900	74.5	18.8	3.5
II-1	12.1	302	77.4	23,400	90.4	19.7	4.2
II-2	10.8	260	76.3	19,800	89.0	19.2	3.4
II-3	11.0	297	87.3	25,900	88.2	18.8	4.3
II-4	15.2	303	86.4	26,200	90.1	19.3	4.6
Average	12.3	276	81.9	22,600	89.4	19.3	3.9
III-1	12.9	323	89.4	28,900	88.3	19.8	5.1
III-2	11.6	312	75.4	23,500	80.7	19.0	3.6
III-3	11.4	228	65.5	14,900	84.6	18.3	2.3
III-4	10.5	241	73.0	17,600	87.3	18.3	2.8
Average	11.6	260	75.8	19,700	85.2	18.9	3.2

Table F-112 RESULT OF ANALYSIS ON YIELD COMPONENTS OF WET SEASON PADDY IN ARIS (6/8)

Sample No.	No. of Panicles per Hill	No. of Panicles per m²	No. of Grains per Panicle	No. of Grains per m²	Percent of Ripened Grains (%)	Weight of 1,000 Ripened Grains (g)	Unit Yield (ton/ha)
Sampling Point No. 14							
I-1	8.2	205	68.3	14,000	71.2	18.3	1.8
I-2	12.6	314	81.3	25,500	74.8	18.6	3.6
I-3	14.0	350	87.0	30,500	77.0	18.6	4.4
I-4	16.7	400	79.7	31,900	75.4	18.5	4.5
Average	12.9	272	79.1	21,500	74.6	18.5	3.0
II-1	15.0	345	93.1	32,100	74.1	19.1	4.5
II-2	14.1	324	103.3	33,500	77.4	19.2	5.0
II-3	16.9	337	91.8	30,900	74.8	19.1	4.4
II-4	14.2	382	100.5	38,400	71.8	19.3	5.3
Average	15.0	345	97.2	33,500	74.5	19.2	4.8
Sampling Point No. 15							
I-1	14.4	345	83.2	28,700	65.5	19.3	3.6
I-2	11.6	256	91.3	23,400	64.8	19.1	2.9
I-3	16.5	347	98.5	34,200	67.3	19.7	4.5
I-4	12.5	326	75.1	24,500	53.6	19.2	2.5
Average	13.8	308	87.0	26,800	62.8	19.3	3.2
II-1	16.6	315	87.5	27,600	64.1	19.7	3.5
II-2	15.7	376	93.4	35,100	76.7	20.1	5.4
II-3	13.3	359	102.8	36,900	72.0	20.4	5.4
II-4	17.5	506	93.4	47,300	72.5	20.4	7.0
Average	15.8	378	94.3	35,600	71.3	20.2	5.1
III-1	11.1	278	65.4	18,200	87.4	21.2	3.4
III-2	18.9	435	69.3	30,100	71.8	20.8	4.5
III-3	12.7	305	79.4	24,200	85.0	20.3	4.2
III-4	16.7	433	76.0	32,900	77.9	20.8	5.3
Average	14.9	359	72.5	26,000	80.5	20.8	4.4

Table F-113 RESULT OF ANALYSIS ON YIELD COMPONENTS OF WET SEASON PADDY IN ARIS (7/8)

Sample No.	No. of Panicles per Hill	No. of Panicles per m²	No. of Grains per Panicle	No. of Grains per m²	Percent of Ripened Grains (%)	Weight of 1,000 Ripened Grains (g)	Unit Yield (ton/ha)
Sampling Point No. 16							
I-1	11.7	315	115.6	36,400	84.2	20.1	6.2
I-2	15.9	366	78.5	28,700	81.8	19.4	4.6
I-3	11.0	298	73.8	22,000	78.4	19.5	3.4
I-4	17.8	355	84.6	30,000	83.3	20.1	5.0
Average	14.1	327	88.1	28,800	81.9	19.8	4.7
II-1	17.2	396	75.0	29,700	72.3	20.0	4.3
II-2	17.1	410	80.7	33,100	75.9	20.1	5.1
II-3	12.8	319	102.8	32,800	87.0	20.5	5.9
II-4	15.3	368	91.1	33,500	85.1	20.6	5.9
Average	15.6	443	87.4	32,300	80.1	20.3	5.3
III-1	16.0	449	95.7	43,000	79.2	20.5	7.0
III-2	16.9	338	102.7	34,700	84.9	20.3	6.0
III-3	16.5	330	68.9	22,700	79.9	20.8	3.7
III-4	16.2	341	95.4	32,500	79.0	20.6	5.3
Average	16.4	400	90.7	36,300	80.8	20.6	6.0
Sampling Point No. 17							
I-1	15.9	333	48.9	16,300	70.5	22.2	2.6
I-2	14.1	338	50.2	17,000	69.7	22.6	2.7
I-3	18.0	360	46.3	16,700	72.4	22.0	2.7
I-4	17.0	339	55.6	18,800	79.6	23.3	3.5
Average	16.2	415	50.3	17,200	73.1	22.5	2.9
II-1	21.9	591	42.2	24,900	73.3	23.8	4.3
II-2	16.8	454	41.9	19,000	75.6	23.5	3.4
II-3	15.1	362	44.8	16,200	84.7	24.1	3.3
II-4	18.7	411	46.2	19,000	76.4	23.2	3.4
Average	18.1	483	43.8	21,200	77.5	23.7	3.9
III-1	23.8	643	50.2	32,300	73.9	23.1	5.5
III-2	20.3	590	37.9	22,400	76.8	22.2	3.8
III-3	20.8	458	34.9	16,000	74.5	24.2	2.9
III-4	23.7	498	41.6	20,700	71.5	23.7	3.5
Average	22.2	597	41.1	24,500	74.2	23.3	4.2

Table F-114 RESULT OF ANALYSIS ON YIELD COMPONENTS OF WET SEASON PADDY IN ARIS (8/8)

Sample No.	No. of Panicles per Hill	No. of Panicles per m²	No. of Grains per Panicle	No. of Grains per m²	Percent of Ripened Grains (%)	Weight of 1,000 Ripened Grains (g)	Unit Yield (ton/ha)
Sampling Point No. 18							
I-1	14.9	432	30.8	13,300	71.3	22.4	2.1
I-2	14.0	335	53.3	17,900	71.4	22.4	2.9
I-3	19.7	413	49.2	20,300	78.7	22.2	3.6
I-4	19.2	403	49.2	19,800	80.5	22.9	3.7
Average	16.9	444	45.6	20,200	75.5	22.5	3.4
II-1	17.4	486	38.4	18,700	68.8	23.2	3.0
II-2	19.5	584	47.5	27,700	78.1	22.6	4.9
II-3	17.9	465	47.8	22,200	80.3	22.3	4.0
II-4	13.7	287	70.2	20,100	78.3	22.4	3.5
Average	17.1	469	51.0	23,900	76.4	22.6	4.0
III-1	18.5	407	58.8	23,900	79.0	22.3	4.2
III-2	18.6	353	59.9	21,100	73.2	22.2	3.4
III-3	18.8	489	47.6	23,300	75.9	21.9	3.9
III-4	18.2	382	53.3	20,400	78.7	21.1	3.4
Average	18.5	438	54.9	24,000	76.7	21.9	4.0

Table F-115 NUTRIENT UPTAKE BY WET SEASON PADDY GROWN AT MONITORING POINT NO. 2 IN ARIS

Unit: %

Plant Part	Plot No.	N	P	K	SiO_2
Leaf	I	1.63	0.147	0.19	25.5
	II	1.24	0.115	0.97	19.9
	III	1.18	0.111	1.02	17.0
	IV	1.30	0.088	0.87	15.6
Stem	I	0.91	0.147	1.34	17.9
	II	0.60	0.133	1.25	7.7
	III	0.93	0.117	1.23	12.5
	IV	0.51	0.088	1.31	6.9
Brown rice	I	1.50	0.313	0.27	0.4
	II	1.28	0.374	0.32	0.3
	III	1.42	0.360	0.28	0.4
	IV	1.32	0.394	0.26	0.6
Chaff	I	0.95	0.194	0.33	14.8
	II	0.75	0.218	0.48	15.1
	II	0.94	0.304	0.37	11.3
	IV	1.07	0.192	0.32	11.9

Table F-116 NUTRIENT UPTAKE BY WET SEASON PADDY GROWN AT MONITORING POINT NO. 4 IN ARIS

Unit: %

Plant Part	Plot No.	N	P	K	SiO_2
Leaf	I	0.82	0.097	0.82	19.1
	II	1.03	0.093	0.90	20.9
	III	0.93	0.088	0.81	19.8
	IV	1.54	0.118	1.09	15.9
Stem	I	0.59	0.082	1.46	13.8
	II	0.67	0.105	1.14	18.9
	III	0.64	0.083	0.96	13.3
	IV	0.86	0.121	1.03	19.8
Brown rice	I	1.74	0.217	0.12	0.6
	II	1.57	0.394	0.25	0.5
	III	1.66	0.323	0.23	0.2
	IV	1.98	0.404	0.27	0.2
Chaff	I	1.21	0.283	0.42	11.2
	II	1.47	0.174	0.35	16.3
	III	1.26	0.241	0.39	12.6
	IV	1.20	0.210	0.38	12.7

Table F-117 NUTRIENT UPTAKE BY WET SEASON PADDY GROWN AT MONITORING POINT NO. 6 IN ARIS

Unit: %

Plant Part	Plot No.	N	P	K	SiO_2
Leaf	I	1.08	0.103	0.84	18.9
	II	1.01	0.101	0.61	19.8
	III	0.88	0.100	0.53	17.6
	IV	1.04	0.127	0.88	16.7
Stem	I	0.61	0.131	1.04	10.1
	II	0.56	0.142	1.11	17.1
	III	0.44	0.120	1.21	14.3
	IV	0.35	0.135	1.55	19.0
Brown rice	I	1.52	0.400	0.25	0.6
	II	1.38	0.360	0.23	0.6
	III	1.35	0.342	0.24	0.4
	IV	1.70	0.388	0.23	0.8
Chaff	I	0.70	0.145	0.40	15.3
	II	1.02	0.209	0.46	15.8
	III	1.50	0.177	0.43	14.9
	IV	1.17	0.191	0.45	12.3

Table F-118 NUTRIENT UPTAKE BY WET SEASON PADDY GROWN AT MONITORING POINT NO. 8 IN ARIS

Unit: %

Plant Part	Plot No.	N	P	K	SiO_2
Leaf	I	0.83	0.076	0.71	20.4
	II	0.76	0.091	0.80	16.1
	III	0.77	0.088	0.80	21.0
Stem	I	0.49	0.087	1.30	23.9
	II	0.53	0.150	1.06	17.7
	III	0.50	0.092	0.83	22.0
Brown rice	I	1.49	0.245	0.24	0.8
	II	1.46	0.346	0.24	1.0
	III	1.51	0.358	0.23	1.1
Chaff	I	1.24	0.173	0.46	13.8
	II	1.60	0.225	0.45	12.6
	III	1.15	0.232	0.45	11.5

Table F-119 NUTRIENT UPTAKE BY WET SEASON PADDY GROWN AT MONITORING POINT NO. 12 IN ARIS

Unit: %

Plant Part	Plot No.	N	P	K	SiO_2
Leaf	I	1.37	0.078	0.63	17.6
	II	1.19	0.113	0.44	22.5
	III	1.15	0.114	0.90	19.2
	IV	1.03	0.100	0.69	21.2
Stem	I	0.49	0.069	1.08	18.0
	II	0.56	0.095	1.13	14.9
	III	0.46	0.108	1.05	16.3
	IV	0.60	0.100	1.03	15.1
Brown rice	I	1.61	0.308	0.18	0.4
	II	1.65	0.379	0.24	0.7
	III	1.78	0.409	0.26	0.7
	IV	2.02	0.430	0.25	1.5
Chaff	I	0.76	0.145	0.28	14.2
	II	1.10	0.222	0.44	12.5
	III	1.11	0.216	0.47	13.1
	IV	1.38	0.277	0.37	10.2

Table F-120 NUTRIENT UPTAKE BY WET SEASON PADDY GROWN AT MONITORING POINT NO. 10 IN ADRIS

Unit: %

Plant Part	Plot No.	N	P	K	SiO_2
Leaf	I	2.12	0.172	0.75	21.1
	II	1.45	0.157	1.16	19.0
	III	1.99	0.155	0.81	21.1
	IV	1.66	0.153	0.99	20.3
Stem	I	1.13	0.135	1.12	21.9
	II	1.02	0.161	1.26	17.8
	III	1.10	0.140	1.05	21.7
	IV	1.17	0.154	1.32	17.2
Brown rice	I	2.03	0.411	0.27	1.2
	II	2.03	0.408	0.27	1.2
	III	2.54	0.447	0.27	1.0
	IV	2.00	0.430	0.27	0.8
Chaff	I	1.54	0.283	0.52	11.1
	II	1.44	0.291	0.50	10.1
	III	1.71	0.279	0.50	12.9
	IV	1.41	0.240	0.53	10.5

Table F-121 HEAVY METALS ABSORBED BY WET SEASON PADDY GROWN AT MONITORING POINT NO. 2 IN ARIS

Unit: ppm

Plant Part	Plot No.	Cu	Pb	Zn	Cd	As
Leaf	I	49.4	2.43	25.4	0.06	—
	II	10.8	2.05	18.7	0.11	—
	III	12.1	2.56	25.4	0.11	—
	IV	13.9	1.85	17.0	0.04	—
Stem	I	75.2	4.37	37.3	0.24	—
	II	57.8	3.09	60.9	0.47	—
	III	34.8	2.51	60.1	0.25	—
	IV	45.5	3.63	24.4	0.33	—
Brown rice	I	8.2	0.76	37.3	0.34	—
	II	6.2	0.37	30.9	0.32	—
	III	5.8	+	28.3	0.40	—
	IV	5.5	0.19	27.7	0.40	—
Chaff	I	13.1	+	44.4	0.44	—
	II	5.3	+	42.1	0.51	—
	III	5.3	+	40.0	0.40	—
	IV	6.8	+	20.0	0.42	—
Root	I	509	10.9	167	1.24	0.004
	II	174	12.9	155	1.22	0.021
	III	167	17.5	89.2	0.98	0.005
	IV	200	19.8	62.6	0.93	0.009

Remarks; + : Trace
— : Not analyzed

Table F-122 HEAVY METALS ABSORBED BY WET SEASON PADDY GROWN AT MONITORING POINT NO. 4 IN ARIS

Unit: ppm

Plant Part	Plot No.	Cu	Pb	Zn	Cd	As
Leaf	I	28.7	2.22	23.3	0.07	—
	II	27.5	2.89	25.3	0.15	—
	III	48.8	3.31	28.7	0.17	—
	IV	17.8	2.57	23.7	0.15	—
Stem	I	47.2	4.18	47.2	0.40	—
	II	38.8	2.20	36.1	0.59	—
	III	66.9	2.62	45.4	0.52	—
	IV	40.9	2.00	43.6	0.69	—
Brown rice	I	3.0	1.14	14.3	0.04	—
	II	5.3	+	30.7	0.13	—
	III	5.3	1.71	26.4	0.17	—
	IV	5.0	1.88	31.7	0.13	—
Chaff	I	6.7	1.11	26.4	0.09	—
	II	5.2	0.37	43.4	0.13	—
	III	6.5	1.67	34.3	0.15	—
	IV	5.0	0.37	34.6	0.15	—
Root	I	906	24.3	82.1	1.43	0.005
	II	490	20.6	86.7	2.40	0.019
	III	511	47.8	75.8	1.72	0.013
	IV	611	56.2	71.4	2.83	0.013

Remarks; + : Trace
— : Not analyzed

Table F-123 HEAVY METALS ABSORBED BY WET SEASON PADDY GROWN AT MONITORING POINT No. 6 IN ARIS

Unit: ppm

Plant Part	Plot No.	Cu	Pb	Zn	Cd	As
Leaf	I	36.4	4.21	22.7	0.06	—
	II	19.5	1.84	19.5	0.04	—
	III	10.9	9.08	19.8	0.06	—
	IV	8.6	1.80	20.5	0.07	—
Stem	I	60.3	1.92	39.3	0.07	—
	II	44.2	2.17	55.3	0.09	—
	III	55.6	1.02	52.7	0.12	—
	IV	50.9	2.55	47.4	0.18	—
Brown rice	I	6.6	0.99	28.9	+	—
	II	4.6	+	28.3	+	—
	III	3.8	0.57	20.2	+	—
	IV	4.0	1.14	17.6	0.04	—
Chaff	I	7.9	0.37	96.3	+	—
	II	5.3	0.37	43.1	0.06	—
	III	4.0	+	52.7	0.07	—
	IV	4.6	0.91	43.7	0.07	—
Root	I	505	7.80	69.6	0.66	0.014
	II	256	6.43	72.6	0.62	0.006
	III	109	4.59	55.7	0.55	0.011
	IV	149	4.60	65.7	0.10	0.010

Remarks; + : Trace
— : Not analyzed

Table F-124 HEAVY METALS ABSORBED BY WET SEASON PADDY GROWN AT MONITORING POINT NO. 8 IN ARIS

Unit: ppm

Plant Part	Plot No.	Cu	Pb	Zn	Cd	As
Leaf	I	36.6	1.63	23.6	0.04	—
	II	32.6	5.45	28.6	0.18	—
	III	26.1	2.76	27.0	0.11	—
Stem	I	75.4	0.73	40.1	0.11	—
	II	44.2	2.78	63.8	0.50	—
	III	38.7	1.80	68.3	0.67	—
Brown rice	I	5.5	0.95	25.7	0.06	—
	II	6.1	1.91	29.5	0.19	—
	III	5.1	0.38	27.7	0.15	—
Chaff	I	5.3	0.18	45.6	0.04	—
	II	5.9	0.74	40.4	0.18	—
	III	4.8	0.89	40.9	0.18	—
Root	I	352	7.80	49.0	0.52	0.014
	II	439	18.3	21.4	1.71	0.014
	III	230	14.4	70.0	2.63	0.006

Remarks; — Not analyzed

Table F-125 HEAVY METALS ABSORBED BY WET SEASON PADDY GROWN AT MONITORING POINT NO. 12 IN ARIS

Unit: ppm

Plant Part	Plot No.	Cu	Pb	Zn	Cd	As
Leaf	I	9.6	4.99	24.8	0.04	—
	II	9.8	5.45	17.8	0.04	—
	III	10.8	3.67	22.4	0.02	—
	IV	17.2	4.57	23.0	0.05	—
Stem	I	54.1	1.64	62.0	0.35	—
	II	48.1	3.74	44.5	0.45	—
	III	34.0	1.30	36.4	0.19	—
	IV	31.4	1.12	62.5	0.28	—
Brown rice	I	8.8	0.76	29.3	0.04	—
	II	6.1	2.30	26.8	0.12	—
	III	5.3	2.29	26.3	0.12	—
	IV	6.1	0.95	27.0	0.11	—
Chaff	I	6.3	0.74	58.8	0.06	—
	II	5.9	0.19	47.1	0.09	—
	III	5.6	0.93	45.5	0.07	—
	IV	6.7	1.05	76.3	0.08	—
Root	I	240	10.8	108	2.48	0.005
	II	294	33.5	92.2	4.27	0.014
	III	58.2	18.1	78.7	2.02	0.007
	IV	153	16.8	66.3	2.79	0.005

Remarks; + : Trace
— : Not analyzed

Table F-126 HEAVY METALS ABSORBED BY WET SEASON PADDY GROWN AT MONITORING POINT NO. 10 IN ADRIS

Unit: ppm

Plant Part	Plot No.	Cu	Pb	Zn	Cd	As
Leaf	I	8.0	2.01	22.8	+	—
	II	5.3	1.83	22.5	0.04	—
	III	7.1	1.27	23.5	0.02	—
	IV	6.1	2.39	25.0	+	—
Stem	I	10.4	1.46	61.2	0.02	—
	II	10.3	1.68	59.9	0.02	—
	III	10.9	1.98	68.4	0.02	—
	IV	8.9	1.95	55.5	0.02	—
Brown rice	I	4.9	1.90	26.9	0.06	—
	II	4.0	1.13	26.8	0.02	—
	III	5.6	0.94	29.3	+	—
	IV	3.4	1.32	26.0	0.02	—
Chaff	I	4.5	1.67	31.8	+	—
	II	4.0	0.54	28.4	0.02	—
	III	5.4	2.79	31.3	+	—
	IV	5.0	2.24	18.5	+	—
Root	I	11.3	5.89	318	+	0.009
	II	10.1	7.03	141	+	0.014
	III	16.2	4.76	113	+	0.012
	IV	11.8	4.29	137	+	0.013

Remarks; + : Trace
—: Not analyzed

Table F-127 MONTHLY AVERAGE AREAL RAINFALL ESTIMATED FOR 21 YEARS JUDGED HYDROLOGICALLY RELIABLE

Unit: mm

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1949	1	2	71	42	76	185	442	285	440	294	38	87	1,964
1950	6	10	75	110	149	294	791	872	360	294	24	23	3,008
1951	11	12	7	72	208	346	537	733	291	98	49	14	2,377
1952	11	10	24	110	211	266	426	590	282	104	63	31	2,129
1953	3	6	41	79	234	278	419	681	194	52	386	38	2,410
1954	1	20	121	90	87	136	279	418	277	177	259	1	1,868
1955	5	0	1	163	141	142	291	244	331	139	68	5	1,531
1956	7	34	7	134	222	153	257	385	717	149	200	38	2,304
1957	3	0	71	60	89	459	287	378	480	77	64	18	1,988
1958	15	3	2	71	92	463	581	227	424	184	8	2	2,073
1960	18	70	17	170	314	211	170	806	541	152	47	9	2,523
1961	0	0	49	58	195	274	447	435	356	208	44	3	2,071
1962	1	3	7	75	198	126	1,035	352	998	68	34	3	2,900
1963	4	2	6	4	92	197	274	250	767	50	48	35	2,450
1964	1	1	40	112	191	302	241	1,060	319	397	139	125	2,929
1965	1	9	86	156	317	330	484	285	270	68	19	0	2,026
1966	14	4	18	74	596	183	324	367	792	50	140	24	2,587
1968	2	0	3	108	155	205	629	1,279	694	26	45	0	3,044
1969	3	0	3	59	265	266	765	433	466	154	56	22	2,492
1971	17	6	2	92	119	397	705	443	220	225	56	38	2,320
1980	1	3	14	6	480	60	810	200	327	185	474	18	2,578
Mean	6	9	32	88	211	277	485	511	455	150	108	25	2,361

Table F-128 PROPOSED IRRIGATION AREA BY SYSTEM UNDER SAN ROQUE MULTIPURPOSE PROJECT

Cropping Pattern	ARIS		ARIS Extension		ADRIS		LARIS	
	%	ha	%	ha	%	ha	%	ha
1. Paddy/Paddy	47	12,620	35	8,300	25	1,900	36	4,550
2. Paddy/Tabacco	8	2,150	9	2,130	19	1,440	18	2,280
3. Paddy/Cotton	16	4,300	28	6,640	21	1,600	21	2,660
4. Paddy/Corn	17	4,560	17	4,030	17	1,300	17	2,150
5. Paddy/Vegetables (2 crops)	3	800	5	1,180	14	1,060	3	380
6. Vegetables (3 crops)	1	270	1	240	4	300	1	130
7. Sugarcane	8	2,150	5	1,180	—	—	4	500
Total	100	26,850	100	23,700	100	7,600	100	12,650

Table F-129 IRRIGATION DIVERSION REQUIREMENT FOR CROPPING PATTERNS OF PADDY-PADDY AND PADDY-TOBACCO

Unit : m³/ha

Year in Order	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
(1) Paddy-Paddy													
1									563	216	2,425	3,325	—
2	5,565	3,552	1,460	0	0	1,617	1,076	768	545	216	2,344	3,633	20,776
3	5,478	3,533	1,669	0	0	1,655	1,102	786	767	564	2,326	3,754	21,634
4	5,568	3,552	1,634	0	0	1,712	1,619	824	676	523	2,283	3,585	21,976
5	5,538	3,677	1,586	0	0	1,634	1,470	901	991	654	1,675	3,508	21,634
6	5,266	3,501	1,381	0	0	1,914	2,355	1,398	606	218	2,005	3,843	22,487
7	5,571	3,766	1,688	0	0	1,839	2,099	1,526	1,319	345	2,253	3,785	24,191
8	5,558	3,359	1,647	0	0	1,850	2,101	1,446	440	568	1,617	3,535	22,121
9	5,269	3,721	1,459	0	0	1,488	1,616	1,651	530	589	2,264	3,815	22,402
10	5,442	3,704	1,675	0	0	1,304	859	1,672	537	160	2,320	3,993	21,666
11	5,453	3,291	1,374	0	0	1,545	1,928	903	518	407	2,265	3,935	21,619
12	5,703	3,764	1,374	0	0	1,702	1,044	1,547	545	169	2,269	3,903	22,020
13	5,704	3,774	1,636	0	0	1,841	1,292	1,261	634	499	2,367	4,064	23,072
14	5,691	3,756	1,688	0	0	648	796	1,500	378	621	2,354	3,752	21,184
15	5,589	3,748	1,483	0	0	1,599	1,719	749	583	262	1,940	2,897	20,569
16	5,236	3,605	1,461	0	0	1,124	999	1,321	557	606	2,430	4,196	21,535
17	5,647	3,719	1,582	0	0	1,611	1,284	1,098	605	602	2,179	3,591	21,918
18	5,702	3,781	1,639	0	0	1,838	1,416	859	554	717	2,483	4,039	23,028
19	5,672	3,754	1,677	0	0	1,710	1,224	1,484	589	218	2,289	3,674	22,291
20	5,448	3,677	1,675	0	0	1,214	1,320	1,476	774	217	2,289	3,508	21,598
21	5,449	3,739	1,602	0	0	1,740	1,080	1,586	951	160	1,600	3,815	21,722
Mean	5,527	3,649	1,570	0	0	1,579	1,420	1,238	655	416	2,178	3,741	21,972
2) Paddy-Tobacco													
1									595	489	0	459	—
2	2,808	3,138	1,874	803	0	1,395	1,598	611	545	489	2	669	13,932
3	2,608	3,111	2,723	858	0	1,400	1,572	715	589	948	4	990	15,518
4	2,711	3,138	2,645	803	0	1,421	2,019	766	530	918	2	772	15,725
5	2,670	3,289	2,525	834	0	1,421	1,743	858	913	1,040	0	226	15,519
6	2,664	3,093	1,949	617	0	1,555	2,805	1,443	582	540	0	663	15,911
7	2,824	3,248	2,421	358	0	1,589	2,571	1,620	1,319	666	0	954	17,570
8	2,792	2,803	2,311	476	0	1,539	2,647	1,499	321	963	0	0	15,351
9	2,029	3,252	1,964	484	0	1,492	1,942	1,484	479	980	1	961	15,068
10	2,751	3,159	2,392	518	0	1,134	1,322	1,517	507	396	49	1,268	15,013
11	2,781	2,799	1,816	221	0	1,297	2,398	716	542	707	49	1,120	14,446
12	2,950	3,267	1,940	514	0	1,455	1,403	1,342	545	403	12	1,172	15,003
13	2,951	3,144	1,870	320	0	1,561	1,873	1,212	812	870	93	1,365	16,071
14	2,952	3,124	1,921	366	0	625	915	1,326	410	1,004	99	959	13,701
15	2,863	3,140	1,673	321	0	1,369	2,395	506	590	575	16	0	13,448
16	1,608	3,063	1,625	219	0	1,232	1,140	1,176	547	1,024	190	1,534	13,358
17	2,918	3,066	1,786	270	0	1,330	1,790	883	634	978	0	518	14,173
18	3,052	3,135	1,893	299	0	1,522	1,971	970	596	1,109	301	1,182	16,030
19	2,949	2,908	1,561	104	0	1,411	1,636	1,286	682	466	38	820	13,861
20	2,766	3,289	2,392	582	0	1,183	1,804	1,357	565	478	38	226	14,680
21	2,522	3,152	1,817	371	0	1,376	1,610	1,422	955	396	0	961	14,582
Mean	2,708	3,116	2,055	467	0	1,365	1,858	1,135	633	748	45	818	14,948

Table F-130 IRRIGATION DIVERSION REQUIREMENT FOR CROPPING PATTERNS OF PADDY-DIVERSIFIED CROPS (COTTON AND CORN)

Unit : m³/ha

Year in Order	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
(1) Paddy-Cotton													
1									330	52	0	830	—
2	3,470	3,456	1,788	669	0	1,865	1,930	830	381	52	4	1,390	15,835
3	3,085	3,405	2,617	784	0	1,683	1,324	822	818	588	7	1,318	16,451
4	3,276	3,456	2,495	669	0	1,796	2,051	759	664	536	2	1,089	16,793
5	3,269	3,610	2,254	669	0	1,645	1,563	941	973	637	0	474	16,065
6	3,028	3,378	1,730	394	0	2,025	2,856	1,350	627	196	0	1,011	16,595
7	3,537	3,534	2,251	448	149	1,949	2,636	1,369	1,232	238	0	1,406	18,749
8	3,402	2,985	2,330	490	378	1,919	2,449	1,202	496	462	0	0	16,113
9	2,830	3,518	1,854	465	454	1,532	1,952	1,413	472	435	10	1,635	16,570
10	3,169	3,406	2,246	447	432	1,434	1,309	1,126	443	81	0	1,946	16,039
11	3,295	2,908	1,628	99	307	2,110	2,408	697	349	166	13	1,843	15,823
12	3,461	3,464	1,563	375	394	2,216	1,496	996	381	46	0	1,818	16,210
13	3,663	3,348	1,785	367	414	2,425	1,635	838	557	201	121	2,166	17,520
14	3,519	3,306	1,962	328	436	1,098	1,346	1,606	272	293	170	1,660	15,396
15	3,506	3,318	1,598	284	412	2,085	2,359	326	463	57	0	0	14,408
16	2,457	3,125	1,605	149	497	1,766	1,116	854	394	205	281	2,456	14,905
17	3,458	3,083	1,720	157	349	2,072	1,750	579	453	151	0	1,161	14,933
18	3,585	3,120	1,591	187	812	2,607	2,098	595	383	147	545	2,091	17,761
19	3,616	3,028	1,465	190	743	2,096	2,060	1,487	216	0	0	1,618	16,519
20	3,232	3,610	2,246	371	301	1,600	2,079	1,277	684	26	0	474	15,900
21	3,164	3,377	1,744	330	328	2,173	1,950	1,066	848	81	0	1,635	16,696
Mean	3,301	3,322	1,924	395	320	1,905	1,918	977	555	230	58	1,360	16,264
(2) Paddy-Corn													
1									595	489	0	456	—
2	2,699	3,119	2,775	1,545	149	1,374	1,509	959	545	489	2	628	15,793
3	2,529	3,086	3,418	1,703	73	1,392	1,542	714	589	948	4	960	16,958
4	2,611	3,119	3,314	1,545	45	1,411	1,976	765	530	918	2	749	16,985
5	2,573	3,271	3,154	1,629	20	1,415	1,721	850	913	1,040	0	205	16,791
6	2,366	3,081	2,442	1,218	150	1,552	2,787	1,417	582	540	0	622	16,757
7	2,714	3,361	3,469	1,116	152	1,565	2,521	1,574	1,318	666	0	917	19,373
8	2,684	2,903	3,326	1,355	31	1,516	2,553	1,485	321	963	0	0	17,137
9	1,928	3,376	2,762	1,568	168	1,475	1,889	1,469	479	980	1	914	17,009
10	2,640	3,292	3,448	1,596	177	1,098	1,257	1,515	507	396	49	1,201	17,176
11	2,673	2,867	2,723	830	123	1,272	2,348	666	542	707	49	1,062	15,862
12	2,839	3,422	2,796	1,683	141	1,432	1,329	1,325	545	403	12	1,106	17,033
13	2,845	3,423	3,345	1,624	178	1,530	1,761	1,204	812	870	91	1,293	18,976
14	2,848	3,406	3,424	1,967	205	591	897	1,323	410	1,004	97	912	17,084
15	2,768	3,432	3,005	1,542	62	1,333	2,222	506	590	575	16	0	16,051
16	1,539	3,360	2,810	1,059	49	1,192	1,026	1,176	547	1,024	183	1,453	15,418
17	2,826	3,367	3,214	1,559	125	1,316	1,717	879	634	978	0	483	17,098
18	2,959	3,455	3,398	1,428	145	1,487	1,838	932	596	1,109	285	1,113	18,745
19	2,868	3,467	3,396	1,690	119	1,369	1,507	1,282	682	466	38	773	17,657
20	2,657	3,271	3,448	1,241	160	1,145	1,673	1,497	730	446	38	205	16,511
21	2,380	3,358	3,346	1,956	124	1,299	1,524	1,419	954	396	0	914	17,670
Mean	2,597	3,272	3,151	1,493	120	1,338	1,780	1,148	641	746	43	776	17,104

Table F-131 IRRIGATION DIVERSION REQUIREMENT FOR CROPPING PATTERNS OF PADDY-VEGETABLE-VEGETABLE AND TRIPLE CROPPING OF VEGETABLE

Unit : m³/ha

Year in Order	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
(1) Paddy-Vegetable-Vegetable													
1									564	263	0	485	–
2	2,586	1,744	566	0	0	1,415	1,645	952	545	263	0	603	10,319
3	2,523	2,040	1,023	0	0	1,427	1,708	719	589	925	0	1,012	11,966
4	2,525	1,749	722	0	0	1,458	2,168	775	487	692	0	770	11,346
5	2,463	1,841	717	0	0	1,443	1,821	812	863	691	0	207	10,858
6	2,228	1,741	586	0	0	1,591	2,871	1,553	581	397	0	680	12,228
7	2,612	1,876	735	0	0	1,612	2,673	1,662	1,164	446	0	954	13,734
8	2,559	1,647	698	0	0	1,571	2,771	1,588	319	660	0	0	11,813
9	1,721	1,868	629	0	0	1,503	1,970	1,494	460	716	1	964	11,326
10	2,520	1,816	729	0	0	1,145	1,360	1,521	503	298	0	1,305	11,197
11	2,458	1,367	275	0	0	1,329	2,495	773	532	349	0	1,114	10,692
12	2,609	1,571	337	0	0	1,480	1,503	1,363	545	225	0	1,160	10,793
13	2,587	1,570	400	0	0	1,582	1,930	1,185	752	376	78	1,385	11,845
14	2,622	1,557	423	0	0	630	925	1,318	407	465	79	970	9,396
15	2,507	1,563	366	0	0	1,386	2,459	506	582	300	0	0	9,669
16	1,145	1,518	392	0	0	1,255	1,220	1,147	518	516	153	1,579	9,443
17	2,399	1,223	197	0	0	1,336	1,854	873	545	279	0	360	9,166
18	2,407	1,253	209	0	0	1,542	2,017	1,009	560	309	276	1,261	10,843
19	2,507	1,258	214	0	0	1,420	1,675	1,060	625	184	0	746	9,689
20	2,489	1,841	729	0	0	1,200	1,846	1,010	691	224	0	207	10,237
21	2,117	1,693	271	0	0	1,384	1,665	1,420	873	298	0	964	10,685
Mean	2,379	1,637	511	0	0	1,385	1,929	1,137	607	431	29	817	10,862
(2) Triple Cropping of Vegetable													
1									0	0	33	1,227	–
2	3,524	3,557	2,342	2,165	3,302	100	0	0	0	0	108	2,025	17,123
3	3,343	3,537	3,226	2,627	2,636	511	0	0	0	0	216	2,828	18,924
4	3,456	3,557	3,033	2,165	2,021	399	0	0	0	0	86	2,566	17,283
5	3,572	3,607	2,687	2,411	1,620	200	0	0	0	0	0	1,000	15,097
6	3,540	3,370	2,317	1,717	3,557	917	177	0	0	0	0	1,759	17,354
7	3,544	3,699	3,208	1,573	3,253	139	0	0	0	0	66	2,911	18,393
8	3,504	3,196	3,129	1,744	1,910	414	0	0	0	0	0	0	13,897
9	3,326	3,699	2,171	2,787	4,710	197	0	0	0	0	162	2,782	19,834
10	3,368	3,664	3,214	2,578	4,803	0	0	0	0	0	0	2,931	20,558
11	3,352	2,820	2,854	1,535	1,677	0	0	0	0	0	24	2,881	15,143
12	3,612	3,702	2,490	2,837	3,401	504	0	0	0	0	0	2,720	19,266
13	3,589	3,652	3,128	2,707	4,140	0	0	0	0	0	758	2,990	20,964
14	3,547	3,672	3,169	3,186	5,281	231	0	0	0	0	687	2,453	22,226
15	3,591	3,691	2,769	2,193	2,727	0	0	0	0	0	0	0	14,971
16	2,767	3,584	2,814	908	1,637	0	0	0	0	0	1,225	3,032	15,967
17	3,406	3,644	3,031	2,681	2,949	0	0	0	0	0	0	1,847	17,558
18	3,588	3,702	3,190	2,308	3,351	126	0	0	0	0	1,434	2,522	20,221
19	3,561	3,698	3,182	2,772	3,172	0	0	0	0	0	0	2,203	18,588
20	3,360	3,607	3,214	2,164	3,982	0	0	0	0	0	0	1,000	17,327
21	3,372	3,658	2,936	3,173	2,313	917	0	0	0	0	0	2,782	19,151
Mean	3,446	3,566	2,905	2,312	3,122	233	9	0	0	0	238	2,162	17,992

Table F-132 IRRIGATION DIVERSION REQUIREMENT FOR CROPPING PATTERNS OF SUGARCANE

Unit : m³/ha

Year in Order	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1									0	0	23	853	-
2	2,757	3,415	3,679	4,414	4,254	1,035	0	0	0	0	46	1,196	20,796
3	2,792	3,403	4,490	4,731	3,053	1,283	0	0	0	0	93	1,746	21,591
4	2,936	3,415	4,439	4,414	2,675	1,098	0	0	0	0	48	1,528	20,553
5	2,789	3,475	4,395	4,450	2,278	326	0	0	0	0	0	560	18,273
6	2,235	2,963	3,567	2,956	4,052	2,801	639	0	0	0	0	866	20,079
7	2,541	3,300	4,484	3,728	4,219	1,695	167	0	0	0	46	1,751	21,931
8	2,972	3,268	4,294	4,202	2,573	1,144	29	0	0	0	0	12	18,494
9	1,773	2,843	3,732	3,890	4,845	1,703	0	0	0	0	58	1,749	20,593
10	2,621	3,429	4,528	4,520	5,367	855	0	0	0	0	14	1,712	23,046
11	2,778	3,117	3,560	2,933	2,627	87	0	0	0	0	28	1,739	16,869
12	2,971	3,599	4,157	4,605	4,339	1,974	0	0	0	0	0	1,560	23,205
13	2,898	3,533	4,516	4,666	4,512	1,522	189	0	0	0	217	2,193	24,246
14	3,207	3,712	4,702	5,295	6,165	913	0	0	0	0	254	1,705	25,953
15	2,868	3,547	4,283	4,522	3,370	662	0	0	0	0	0	0	19,252
16	1,422	2,654	3,533	2,914	1,951	10	0	0	0	0	500	2,369	15,353
17	3,269	3,695	4,546	4,670	2,676	20	0	0	0	0	0	1,127	20,003
18	2,745	3,416	4,523	4,412	4,289	1,163	128	0	0	0	846	1,814	23,336
19	3,157	3,695	4,690	4,951	4,015	315	0	0	0	0	0	1,265	22,088
20	2,700	3,475	4,528	3,118	4,674	980	64	0	0	0	0	560	20,099
21	2,356	3,481	3,847	5,269	2,515	1,161	0	0	0	0	0	1,749	20,378
Mean	2,689	3,372	4,225	4,233	3,722	1,037	61	0	0	0	108	1,360	20,807

Table F-133 MONTHLY IRRIGATION DIVERSION REQUIREMENT FOR ARIS AREA

Unit : m³/ha

Year in Order	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1									483	240	1,142	1,905	–
2	4,188	3,365	1,929	809	399	1,530	1,248	734	470	240	1,108	2,224	18,242
3	4,039	3,348	2,424	888	283	1,546	1,169	701	656	624	1,105	2,416	19,200
4	4,147	3,365	2,349	809	242	1,581	1,652	723	571	582	1,079	2,219	19,318
5	4,110	3,494	2,244	836	202	1,457	1,428	812	876	690	787	1,839	18,773
6	3,856	3,280	1,823	573	385	1,893	2,401	1,276	548	281	942	2,234	19,492
7	4,189	3,524	2,350	604	420	1,755	2,136	1,383	1,182	380	1,063	2,434	21,419
8	4,186	3,117	2,293	700	291	1,700	2,111	1,292	376	601	760	1,662	19,089
9	3,646	3,466	1,948	719	536	1,498	1,607	1,415	458	613	1,072	2,484	19,463
10	4,053	3,464	2,340	772	577	1,222	973	1,391	465	196	1,104	2,699	19,255
11	4,096	3,042	1,836	425	297	1,431	1,957	730	451	405	1,081	2,616	18,367
12	4,305	3,538	1,894	784	468	1,722	1,113	1,260	470	194	1,069	2,594	19,412
13	4,332	3,509	2,177	761	499	1,807	1,391	1,064	613	495	1,182	2,833	20,663
14	4,329	3,504	2,264	872	651	725	843	1,236	336	604	1,188	2,451	19,001
15	4,228	3,495	1,979	717	373	1,516	1,828	546	513	285	916	1,362	17,757
16	3,420	3,304	1,874	464	260	1,150	950	1,086	477	589	1,290	3,002	17,867
17	4,289	3,428	2,108	712	321	1,460	1,374	855	532	560	1,024	2,120	18,782
18	4,328	3,462	2,154	673	531	1,796	1,542	765	487	647	1,417	2,725	20,528
19	4,331	3,441	2,138	750	492	1,552	1,342	1,288	501	224	1,085	2,328	19,474
20	4,075	3,494	2,340	588	489	1,230	1,442	1,291	663	227	1,085	1,839	18,765
21	3,959	3,487	2,091	868	298	1,640	1,257	1,314	483	240	1,142	1,905	18,684
22	4,188	3,365	1,929	809	399	1,530	1,248	734	470	240	1,108	2,224	18,242
23	4,039	3,348	2,424	888	283	1,546	1,169	701	656	624	1,105	2,416	19,200
24	4,147	3,365	2,349	809	242	1,581	1,652	723	571	582	1,079	2,219	19,318
25	4,110	3,494	2,244	836	202	1,457	1,428	812	876	690	787	1,839	18,773
26	3,856	3,280	1,823	573	385	1,893	2,401	1,276	548	281	942	2,234	19,492
27	4,189	3,524	2,350	604	420	1,755	2,136	1,383	1,182	380	1,063	2,434	21,419
28	4,186	3,117	2,293	700	291	1,700	2,111	1,292	376	601	760	1,662	19,089
29	3,646	3,466	1,948	719	536	1,498	1,607	1,415	458	613	1,072	2,484	19,463
30	4,053	3,464	2,340	772	577	1,222	973	1,391	465	196	1,104	2,699	19,255
31	4,096	3,042	1,836	425	297	1,431	1,957	730					–
Average	4,087	3,386	2,136	715	388	1,527	1,548	1,054	577	444	1,052	2,283	19,199

Table F-134 MONTHLY IRRIGATION DIVERSION REQUIREMENT FOR ARIS EXTENSION AREA

Unit : m^3/ha

Year in Order	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1									472	230	850	1,594	
2	3,933	3,317	1,888	765	271	1,571	1,400	767	466	230	825	1,938	17,371
3	3,745	3,302	2,451	849	191	1,554	1,245	727	680	655	824	2,101	18,325
4	3,862	3,317	2,360	765	162	1,602	1,767	739	585	606	803	1,897	18,464
5	3,830	3,452	2,232	794	134	1,491	1,493	841	900	712	586	1,464	17,929
6	3,591	3,242	1,789	536	264	1,869	2,527	1,316	568	291	702	1,888	18,587
7	3,949	3,467	2,322	550	311	1,765	2,275	1,414	1,208	383	792	2,125	20,558
8	3,917	3,035	2,283	638	259	1,721	2,233	1,309	392	612	566	1,238	18,203
9	3,355	3,427	1,916	663	445	1,497	1,707	1,431	465	619	800	2,198	18,522
10	3,779	3,393	2,312	695	467	1,247	1,068	1,371	469	197	825	2,441	18,263
11	3,831	2,958	1,783	351	255	1,535	2,089	728	447	390	811	2,346	17,523
12	4,028	3,459	1,818	696	385	1,768	1,212	1,235	466	188	797	2,332	18,384
13	4,081	3,415	2,086	668	413	1,879	1,484	1,049	627	476	908	2,580	19,667
14	4,054	3,401	2,183	756	518	770	937	1,217	335	584	920	2,178	17,852
15	3,971	3,399	1,888	619	322	1,596	1,978	510	516	272	683	1,014	16,768
16	3,083	3,228	1,809	396	261	1,265	1,000	1,065	473	562	1,022	2,769	16,933
17	4,005	3,296	2,010	594	282	1,555	1,485	819	531	521	763	1,808	17,669
18	4,071	3,337	2,036	566	500	1,900	1,680	763	484	596	1,168	2,474	19,573
19	4,069	3,297	1,992	625	461	1,632	1,492	1,322	475	207	811	2,067	18,451
20	3,805	3,452	2,312	545	385	1,283	1,586	1,301	672	213	811	1,464	17,829
21	3,682	3,404	2,017	753	262	1,699	1,411	472	230	850	1,594	2,198	18,573
22	3,933	3,317	1,888	765	271	1,571	1,400	767	466	230	825	1,938	17,371
23	3,745	3,302	2,451	849	191	1,554	1,245	727	680	655	824	2,101	18,325
24	3,862	3,317	2,360	765	162	1,602	1,767	739	585	606	803	1,897	18,464
25	3,830	3,452	2,232	794	134	1,491	1,493	841	900	712	586	1,464	17,929
26	3,591	3,242	1,789	538	264	1,869	2,527	1,316	568	291	702	1,888	18,587
27	3,949	3,467	2,322	550	311	1,765	2,275	1,414	1,208	383	792	2,125	20,558
28	3,917	3,035	2,283	638	259	1,721	2,233	1,309	392	612	566	1,238	18,203
29	3,355	3,427	1,916	663	445	1,497	1,707	1,431	465	619	800	2,198	18,522
30	3,779	3,393	2,312	695	467	1,247	1,068	1,371	469	197	825	2,441	18,263
31	3,831	2,958	1,783	351	255	1,535	2,089	728					
Average	3,814	3,317	2,094	648	310	1,568	1,662	1,035	577	464	818	1,993	18,302

Table F-135 MONTHLY IRRIGATION DIVERSION REQUIREMENT FOR ADRIS AREA

Unit : m³/ha

Year in Order	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1									452	254	608	1,249	—
2	3,415	3,034	1,804	798	271	1,418	1,317	693	440	254	591	1,544	15,578
3	3,242	3,022	2,373	880	191	1,410	1,200	662	605	652	591	1,733	16,562
4	3,347	3,034	2,287	798	162	1,447	1,663	680	524	608	575	1,540	16,664
5	3,314	3,160	2,168	829	134	1,355	1,411	771	824	706	419	1,103	16,193
6	3,119	2,965	1,725	572	264	1,692	2,373	1,226	522	310	501	1,500	16,767
7	3,427	3,168	2,237	554	301	1,604	2,137	1,327	1,121	398	566	1,743	18,584
8	3,402	2,770	2,186	651	232	1,556	2,116	1,231	346	619	404	884	16,398
9	2,833	3,133	1,837	679	413	1,390	1,603	1,316	427	627	573	1,799	16,629
10	3,288	3,100	2,226	715	437	1,129	1,023	1,276	435	214	598	2,032	16,475
11	3,333	2,705	1,714	366	234	1,363	1,967	660	425	409	588	1,936	15,698
12	3,511	3,166	1,765	721	358	1,588	1,143	1,144	440	208	572	1,931	16,548
13	3,550	3,118	1,985	674	384	1,681	1,428	985	605	499	673	2,159	17,741
14	3,534	3,106	2,069	769	487	691	854	1,129	320	601	683	1,782	16,026
15	3,453	3,106	1,795	631	293	1,427	1,881	463	484	299	491	724	15,047
16	2,548	2,955	1,713	408	227	1,152	936	990	445	589	779	2,331	15,072
17	3,490	3,014	1,910	610	258	1,382	1,413	757	502	548	545	1,420	15,849
18	3,555	3,054	1,950	583	443	1,685	1,589	733	461	625	911	2,042	17,630
19	3,544	3,001	1,878	622	409	1,455	1,389	1,199	469	231	586	1,668	16,452
20	3,311	3,160	2,226	577	364	1,168	1,489	1,200	603	238	586	1,103	16,025
21	3,168	3,109	1,916	767	239	1,510	1,328	452	254	608	1,249	1,799	16,399
22	3,415	3,034	1,804	798	271	1,418	1,317	693	440	254	591	1,544	15,578
23	3,242	3,022	2,373	880	191	1,410	1,200	662	605	652	591	1,733	16,562
24	3,347	3,034	2,287	798	162	1,447	1,663	680	524	608	575	1,540	16,664
25	3,314	3,160	2,168	829	134	1,355	1,411	771	824	706	419	1,103	16,193
26	3,119	2,965	1,725	572	264	1,692	2,373	1,226	522	310	501	1,500	16,767
27	3,427	3,168	2,237	554	301	1,604	2,137	1,327	1,121	398	566	1,743	18,584
28	3,402	2,770	2,186	651	232	1,556	2,116	1,231	346	619	404	884	16,398
29	2,833	3,133	1,837	679	413	1,390	1,603	1,316	427	627	573	1,799	16,629
30	3,288	3,100	2,226	715	437	1,129	1,023	1,276	435	214	598	2,032	16,475
31	3,333	2,705	1,714	366	234	1,363	1,967	660					—
Average	3,303	3,032	2,011	668	291	1,416	1,569	958	534	470	597	1,609	16,458

Table F-136 MONTHLY IRRIGATION DIVERSION REQUIREMENT FOR LARIS AREA

Unit : m³/ha

Year in Order	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1									497	168	874	1,592	—
2	3,919	3,324	1,898	746	229	1,543	1,386	752	483	268	848	1,913	17,310
3	3,740	3,304	2,464	824	161	1,537	1,271	727	672	686	846	2,098	18,331
4	3,852	3,324	2,381	746	135	1,581	1,778	747	583	643	826	1,895	18,491
5	3,819	3,460	2,259	776	111	1,488	1,518	845	907	754	603	1,477	18,017
6	3,605	3,255	1,810	536	223	1,827	2,540	1,334	571	321	722	1,894	18,636
7	3,933	3,479	2,339	513	258	1,741	2,287	1,446	1,230	421	814	2,113	20,575
8	3,905	3,046	2,288	604	207	1,701	2,265	1,343	384	658	582	1,273	18,257
9	3,340	3,444	1,928	635	365	1,492	1,721	1,453	471	668	821	2,172	18,510
10	3,783	3,405	2,327	665	384	1,230	1,077	1,415	479	222	853	2,415	18,254
11	3,828	2,981	1,806	334	207	1,492	2,105	737	465	439	837	2,318	17,549
12	4,027	3,480	1,849	670	314	1,712	1,214	1,274	483	218	821	2,310	18,372
13	4,067	3,434	2,093	624	339	1,821	1,510	1,088	652	538	928	2,543	19,639
14	4,046	3,420	2,180	713	426	735	914	1,254	349	650	937	2,149	17,772
15	3,960	3,420	1,891	582	259	1,555	1,997	530	531	317	704	1,043	16,790
16	3,071	3,264	1,814	376	207	1,238	1,010	1,101	490	635	1,036	2,722	16,965
17	4,002	3,331	2,017	560	231	1,519	1,499	851	551	599	784	1,789	17,735
18	4,076	3,379	2,062	535	400	1,830	1,683	798	505	686	1,167	2,431	19,553
19	4,057	3,323	1,996	572	369	1,598	1,474	1,328	515	247	837	2,036	18,350
20	3,806	3,460	2,327	540	317	1,256	1,579	1,329	669	252	837	1,477	17,848
21	3,676	3,420	2,030	711	214	1,648	1,397	1,335	881	222	576	2,172	18,282
22	3,919	3,324	1,898	746	229	1,543	1,386	752	483	268	848	1,913	17,310
23	3,740	3,304	2,464	824	161	1,537	1,271	727	672	686	846	2,098	18,331
24	3,852	3,324	2,381	746	135	1,581	1,778	747	583	643	826	1,895	18,491
25	3,819	3,460	2,259	776	111	1,488	1,518	845	907	754	603	1,477	18,017
26	3,605	3,255	1,810	536	223	1,827	2,540	1,334	571	321	722	1,894	18,636
27	3,933	3,479	2,339	513	258	1,741	2,287	1,446	1,230	421	814	2,113	20,575
28	3,905	3,046	2,288	604	207	1,701	2,265	1,343	384	658	582	1,273	18,257
29	3,340	3,444	1,928	635	365	1,492	1,721	1,453	471	668	821	2,172	18,510
30	3,783	3,405	2,327	665	384	1,230	1,077	1,415	479	222	853	2,415	18,254
31	3,828	2,981	1,806	334	207	1,492	2,105	737					—
Average	3,808	3,333	2,109	621	254	1,539	1,673	1,083	609	486	803	1,982	18,300

Table F-137 MONTHLY SOLUBLE COPPER CONCENTRATION OF RELEASED WATER FROM PROPOSED SAN ROQUE DAM UNDER THE CASE OF RUN 1

Unit : ppb

Year in Order	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1									5.4	4.4	3.3	2.6
2	2.5	2.4	2.8	3.5	4.6	5.4	6.9	6.9	5.3	4.4	3.3	2.6
3	2.5	2.4	2.8	3.5	4.7	5.4	6.9	7.0	5.3	4.4	3.3	2.6
4	2.5	2.4	2.8	3.6	4.7	5.5	7.0	7.0	5.3	4.5	3.4	2.6
5	2.5	2.4	2.8	3.6	4.7	5.5	7.0	7.0	5.3	4.5	3.4	2.7
6	2.5	2.4	2.8	3.6	4.8	5.6	7.1	7.1	5.4	4.5	3.4	2.7
7	2.5	2.4	2.9	3.6	4.8	5.6	7.1	7.1	5.4	4.5	3.4	2.7
8	2.5	2.5	2.9	3.7	4.8	5.6	7.1	7.1	5.4	4.5	3.4	2.7
9	2.5	2.5	2.9	3.7	4.9	5.7	7.2	7.1	5.4	4.5	3.4	2.7
10	2.5	2.5	2.9	3.7	4.9	5.7	7.2	7.2	5.4	4.5	3.4	2.7
11	2.5	2.5	2.9	3.8	4.9	5.7	7.2	7.2	5.5	4.5	3.4	2.7
12	2.6	2.5	2.9	3.8	5.0	5.8	7.3	7.2	5.5	4.6	3.4	2.7
13	2.6	2.5	3.0	3.8	5.0	5.8	7.3	7.2	5.5	4.6	3.4	2.7
14	2.6	2.5	3.0	3.9	5.0	5.9	7.4	7.3	5.5	4.6	3.5	2.7
15	2.6	2.5	3.0	3.9	5.1	5.9	7.4	7.3	5.5	4.6	3.5	2.7
16	2.6	2.5	3.0	3.9	5.1	5.9	7.4	7.3	5.5	4.6	3.5	2.7
17	2.6	2.5	3.0	3.9	5.2	6.0	7.5	7.3	5.6	4.6	3.5	2.7
18	2.6	2.5	3.0	4.0	5.2	6.0	7.5	7.4	5.6	4.6	3.5	2.7
19	2.6	2.5	3.1	4.0	5.2	6.1	7.6	7.4	5.6	4.7	3.5	2.8
20	2.6	2.6	3.1	4.0	5.3	6.1	7.6	7.4	5.6	4.7	3.5	2.8
21	2.6	2.6	3.1	4.1	5.3	6.2	7.6	7.4	5.6	4.7	3.5	2.8
22	2.6	2.6	3.1	4.1	5.4	6.2	7.7	7.5	5.7	4.7	3.5	2.8
23	2.6	2.6	3.2	4.2	5.4	6.3	7.7	7.5	5.7	4.7	3.5	2.8
24	2.6	2.6	3.2	4.2	5.5	6.3	7.8	7.5	5.7	4.7	3.6	2.8
25	2.7	2.6	3.2	4.2	5.5	6.4	7.8	7.5	5.7	4.8	3.6	2.8
26	2.7	2.6	3.2	4.3	5.6	6.4	7.9	7.6	5.7	4.8	3.6	2.8
27	2.7	2.6	3.3	4.3	5.7	6.5	8.0	7.6	5.8	4.8	3.6	2.8
28	2.7	2.6	3.3	4.4	5.7	6.6	8.0	7.6	5.8	4.8	3.6	2.8
29	2.7	2.7	3.3	4.4	5.8	6.6	8.1	7.7	5.8	4.8	3.6	2.8
30	2.7	2.7	3.4	4.5	5.8	6.7	8.1	7.7	5.8	4.8	3.6	2.9
31	2.7	2.7	3.4	4.6	5.9	6.8	8.2	7.7				

Table F-138 SUSPENDED SOLID CONCENTRATION OF RELEASED WATER FROM PROPOSED SAN ROQUE DAM UNDER THE CASE OF RUN 1

Unit : mg/l

Year in Order	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1									391	519	888	787
2	551	475	558	2,245	1,222	1,192	1,326	1,300	352	519	889	787
3	552	476	562	2,249	1,224	1,193	1,328	1,286	352	519	889	788
4	552	476	566	2,259	1,226	1,195	1,330	1,273	352	520	890	788
5	552	476	570	2,258	1,228	1,196	1,332	1,261	352	520	890	788
6	553	476	574	2,263	1,230	1,198	1,334	1,248	353	520	890	789
7	553	477	578	2,266	1,232	1,200	1,336	1,236	353	520	891	789
8	553	477	582	2,269	1,234	1,201	1,338	1,225	353	521	891	790
9	554	477	586	2,272	1,236	1,203	1,340	1,213	353	521	892	790
10	554	477	590	2,275	1,238	1,205	1,342	1,202	353	521	892	791
11	554	478	595	2,278	1,240	1,206	1,344	1,191	353	521	892	791
12	555	478	599	2,281	1,242	1,208	1,346	1,180	354	522	893	792
13	555	478	604	2,284	1,244	1,210	1,349	1,170	354	522	893	792
14	555	479	608	2,287	1,246	1,212	1,351	1,159	354	522	894	793
15	556	479	613	2,291	1,249	1,214	1,353	1,149	354	522	894	793
16	556	479	617	2,294	1,251	1,215	1,355	1,139	355	523	895	794
17	557	479	622	2,297	1,253	1,217	1,358	1,130	355	523	895	794
18	557	480	627	2,301	1,255	1,219	1,360	1,120	355	523	895	794
19	557	480	632	2,304	1,258	1,221	1,362	1,111	355	523	896	795
20	558	480	637	2,308	1,260	1,223	1,365	1,102	355	524	896	795
21	558	480	642	2,311	1,262	1,393	1,559	1,248	400	594	1,026	796
22	558	480	648	2,316	1,265	1,395	1,562	1,236	401	594	1,027	797
23	559	481	654	2,320	1,268	1,398	1,565	1,225	401	594	1,027	797
24	559	481	660	2,324	1,271	1,400	1,568	1,213	401	594	1,028	798
25	560	481	667	2,329	1,274	1,403	1,571	1,202	401	595	1,028	798
26	560	481	673	2,333	1,277	1,406	1,574	1,192	402	595	1,029	799
27	561	481	680	2,338	1,280	1,408	1,577	1,181	402	595	1,029	799
28	561	482	687	2,343	1,283	1,411	1,580	1,171	402	596	1,030	800
29	561	482	694	2,348	1,287	1,414	1,584	1,161	402	596	1,030	801
30	562	482	701	2,353	1,290	1,417	1,587	1,151	403	596	1,031	801
31	562	482	708	2,358	1,293	1,419	1,590	1,142				

Table F-139 TOTAL COPPER CONCENTRATION OF SUSPENDED SOLID CONTAINED IN RELEASED WATER FROM PROPOSED SAN ROQUE DAM UNDER THE CASE OF RUN 1

Unit : ppm

Year in Order	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1									467	461	447	579
2	597	614	617	576	592	469	453	441	483	467	450	582
3	601	618	620	577	593	470	453	442	484	467	450	582
4	601	618	620	577	593	470	453	442	483	467	451	582
5	601	618	620	577	593	470	453	442	483	467	451	582
6	601	618	620	577	593	470	454	443	483	467	451	582
7	601	618	620	577	593	470	454	443	483	467	451	582
8	601	619	619	577	593	470	454	443	483	467	451	582
9	601	619	619	577	593	471	454	444	483	467	451	582
10	601	619	619	577	593	471	454	444	483	467	451	582
11	601	619	619	577	594	471	454	444	482	467	451	582
12	601	619	618	577	594	471	454	444	482	467	451	582
13	601	619	618	577	594	471	454	445	482	467	451	582
14	601	619	618	577	594	471	454	445	482	467	451	582
15	601	619	618	577	594	472	454	445	482	467	451	582
16	601	619	617	578	594	472	454	446	482	467	451	582
17	601	619	617	578	594	472	454	446	482	467	451	582
18	601	619	617	578	594	472	454	446	481	467	451	582
19	601	620	617	578	594	472	454	446	481	467	451	582
20	601	620	616	578	594	472	454	447	481	467	451	582
21	601	620	616	578	594	424	407	400	435	420	403	582
22	601	620	616	578	594	424	407	400	435	420	403	582
23	601	620	615	578	594	424	407	401	435	420	403	582
24	601	620	615	578	594	424	407	401	434	420	403	582
25	601	620	615	578	594	425	407	401	434	420	403	582
26	601	620	615	578	594	425	407	402	434	420	403	582
27	601	620	614	578	594	425	408	402	434	419	403	582
28	601	621	614	578	595	425	408	402	434	419	403	582
29	601	621	614	578	595	426	408	403	434	419	403	582
30	601	621	613	579	595	426	408	403	434	419	403	582
31	601	621	613	579	595	426	408	403				

Table F-140 SOLUBLE COPPER CONCENTRATION OF SUSPENDED SOLID CONTAINED IN RELEASED WATER FROM PROPOSED SAN ROQUE DAM UNDER THE CASE OF RUN 1

Unit : ppm

Year in Order	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1									123	120	114	155
2	172	189	193	151	168	132	118	109	138	126	117	158
3	176	193	196	152	169	133	118	109	138	126	117	158
4	176	194	196	152	169	133	118	109	138	126	117	158
5	176	194	195	152	169	133	118	109	138	126	117	158
6	176	194	195	152	169	133	118	109	138	126	117	158
7	176	194	195	152	169	133	118	109	137	126	116	158
8	176	194	195	152	169	133	118	109	137	126	116	158
9	176	194	194	152	169	133	118	109	137	126	116	158
10	176	194	194	152	169	133	118	110	137	126	116	158
11	176	194	194	152	169	133	117	110	137	126	116	158
12	176	194	194	152	169	133	117	110	137	126	116	158
13	176	194	193	152	169	133	117	110	136	126	116	158
14	176	194	193	152	169	133	117	110	136	125	116	158
15	176	194	193	153	169	133	117	110	136	125	116	158
16	177	195	193	153	169	133	117	110	136	125	116	158
17	177	195	192	153	169	133	117	110	136	125	116	158
18	177	195	192	153	169	133	117	110	135	125	116	158
19	177	195	192	153	169	133	117	110	135	125	116	157
20	177	195	192	153	170	133	117	110	135	125	116	157
21	177	195	191	153	170	117	102	97	120	110	102	157
22	177	195	191	153	170	117	102	97	119	110	101	157
23	177	195	191	153	170	117	102	97	119	110	101	157
24	177	195	191	153	170	117	102	97	119	110	101	157
25	177	196	190	153	170	117	102	97	119	110	101	157
26	177	196	190	153	170	117	102	97	119	110	101	157
27	177	196	190	153	170	117	102	97	118	110	101	157
28	177	196	189	154	170	117	102	97	118	109	101	157
29	177	196	189	154	170	117	102	98	118	109	101	157
30	177	196	189	154	170	117	102	98	118	109	101	157
31	177	196	189	154	170	117	102	98				

Table F-141 WATER SOLUBLE COPPER CONCENTRATION OF RELEASED WATER FROM PROPOSED SAN ROQUE DAM UNDER THE CASE OF RUN 4

Unit : ppb

Year in Order	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1							24.0	21.0	17.9	17.0	18.7	20.0
2	21.1	21.9	22.7	23.9	25.4	26.5	18.9	12.7	15.3	12.8	15.7	16.9
3	17.9	18.7	19.9	21.4	23.8	25.6	24.1	14.2	13.6	16.4	18.0	19.1
4	19.9	20.3	21.9	23.4	25.0	26.3	27.2	19.1	18.0	17.8	19.4	20.3
5	21.1	21.9	22.9	24.2	25.4	20.4	16.1	12.2	13.9	15.4	16.6	18.3
6	19.3	20.1	21.1	22.8	24.2	25.5	26.6	20.8	17.7	18.2	17.9	19.6
7	20.4	21.2	22.0	23.4	24.7	25.8	26.9	27.0	24.8	25.8	26.5	27.2
8	28.1	28.8	29.6	30.1	30.3	30.6	30.3	29.2	21.3	22.9	24.1	25.0
9	25.6	26.3	27.3	28.0	28.6	28.8	28.7	25.6	18.8	19.1	20.8	22.0
10	22.9	23.5	24.4	25.4	26.5	27.4	27.9	28.2	28.4	28.7	29.3	29.8
11	30.1	30.5	31.0	31.3	31.2	30.1	28.9	12.7	15.7	18.1	19.0	19.7
12	20.8	22.0	23.8	25.3	26.5	27.4	19.8	19.1	18.0	19.0	20.2	21.3
13	22.1	22.9	24.3	25.8	26.9	27.7	18.9	17.1	14.6	16.4	17.9	19.4
14	20.8	21.9	23.2	24.8	26.1	20.0	20.5	19.8	14.2	16.5	17.8	18.7
15	19.6	20.7	22.3	24.1	25.5	26.7	27.5	10.0	12.7	12.0	14.5	16.6
16	17.4	18.1	19.5	21.1	22.5	24.5	16.9	16.2	16.9	17.8	18.8	19.6
17	20.3	21.2	22.7	24.1	15.2	15.0	15.3	14.9	13.3	16.3	18.0	19.7
18	20.6	21.4	22.4	24.0	25.4	26.6	24.0	10.0	8.2	9.2	12.1	14.6
19	15.8	17.2	19.6	21.3	23.9	25.9	16.5	14.0	11.2	13.1	15.4	16.4
20	18.9	20.9	22.5	23.9	25.2	25.9	19.4	15.3	13.6	12.5	15.6	16.7
21	18.2	19.6	21.3	23.6	25.9	25.2	22.7	23.3	22.1	22.0	15.1	17.7
22	18.9	19.8	21.0	22.8	24.4	25.9	24.8	22.0	18.5	17.4	19.2	20.6
23	21.8	22.6	23.5	25.2	26.6	27.6	18.4	12.2	15.5	12.8	15.4	16.8
24	18.0	19.0	20.6	22.5	25.1	26.7	24.4	13.7	13.4	16.7	18.4	19.7
25	20.6	21.5	23.0	24.8	26.4	27.4	28.1	18.4	17.6	17.6	19.3	20.4
26	21.3	22.2	23.6	25.3	26.7	20.2	15.7	11.8	13.9	15.6	16.9	18.7
27	19.8	20.7	22.0	24.0	25.7	27.0	28.0	20.4	17.3	18.1	17.8	19.7
28	20.6	21.5	22.6	24.3	25.9	27.2	28.0	27.6	24.9	26.1	26.9	27.6
29	28.7	29.7	30.6	31.1	31.2	31.3	30.7	29.1	20.4	22.4	23.9	24.9
30	25.7	26.4	27.7	28.6	29.2	29.2	28.9	25.2	18.0	18.7	20.6	22.0
31	23.0	23.8	24.7	26.1	27.5	28.3						

Table F-142 SUSPENDED SOLID CONCENTRATION OF RELEASED WATER FROM PROPOSED SAN ROQUE DAM UNDER THE CASE OF RUN 4

Unit : mg/l

Year in Order	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1									2,075	445	1,035	791
2	561	492	477	1,394	1,142	1,368	1,392	331	581	275	1,040	781
3	542	456	988	3,376	948	1,201	1,319	529	358	942	1,040	782
4	542	457	947	2,400	1,318	1,226	1,373	1,397	1,552	546	1,042	783
5	544	460	879	3,188	2,857	1,314	1,061	229	404	584	609	794
6	560	487	493	2,406	2,285	2,636	1,779	1,363	1,525	649	509	754
7	561	487	513	3,737	2,775	2,932	1,451	1,274	1,329	922	870	739
8	2,110	3,071	3,475	2,497	1,754	2,652	1,635	1,273	1,397	1,001	982	751
9	521	453	1,763	1,479	1,612	1,388	1,260	1,351	1,510	656	906	797
10	567	499	494	923	1,582	1,576	1,256	1,276	1,262	907	2,725	2,161
11	1,592	2,228	2,881	2,317	1,637	1,227	1,320	331	624	840	1,031	762
12	519	505	2,018	2,103	1,640	1,450	1,397	1,573	594	660	1,040	783
13	546	462	749	1,543	1,170	1,829	1,417	1,081	319	668	1,040	785
14	556	488	475	1,289	2,089	1,342	1,527	1,176	236	750	1,037	771
15	525	505	4,208	1,963	2,644	2,971	1,258	334	307	283	702	799
16	558	476	724	4,050	6,384	1,983	1,440	968	555	611	1,034	766
17	515	711	5,131	4,868	1,113	628	470	419	319	1,080	1,045	796
18	559	480	687	2,981	2,484	3,956	1,334	235	126	290	1,049	787
19	546	457	981	4,239	1,195	1,226	1,476	428	235	401	1,048	784
20	560	505	521	1,025	1,051	1,416	974	293	324	305	948	789
21	553	476	640	1,693	981	1,512	1,710	1,845	953	734	263	645
22	568	496	504	3,234	3,646	2,989	1,511	1,668	1,209	508	1,198	800
23	569	498	477	2,518	1,188	1,606	1,647	360	667	312	1,205	791
24	550	459	1,360	3,527	989	1,412	1,555	563	408	1,089	1,204	792
25	550	459	1,285	2,496	1,371	1,441	1,614	1,654	1,610	595	1,206	793
26	552	463	1,160	3,340	2,996	1,556	1,045	259	461	671	700	804
27	568	494	562	2,479	2,363	3,113	2,097	1,615	1,773	675	582	764
28	569	494	588	3,854	2,912	3,466	1,709	1,505	1,568	1,083	1,022	730
29	2,185	3,226	3,643	2,599	1,824	3,135	1,928	1,505	1,650	1,174	1,152	773
30	539	443	1,804	1,544	1,680	1,637	1,489	1,596	1,727	683	1,048	808
31	575	507	496	1,157	1,938	1,860	1,485	1,504				

Table F-143 TOTAL COPPER CONCENTRATION OF SUSPENDED SOLID CONTAINED IN RELEASED WATER FROM PROPOSED SAN ROQUE DAM UNDER THE CASE OF RUN 4

Unit : ppm

Year in Order	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1									429	471	445	581
2	596	612	627	587	593	464	447	484	461	484	443	580
3	599	621	596	571	603	463	455	468	477	447	447	585
4	606	628	601	578	595	473	466	448	438	472	450	588
5	610	632	606	573	579	459	451	508	472	461	461	578
6	595	612	625	575	580	447	462	455	441	469	477	584
7	602	619	631	569	578	446	474	468	456	468	476	614
8	581	576	577	588	601	455	475	474	450	460	461	595
9	620	640	582	589	589	470	467	454	439	465	454	584
10	601	616	626	601	587	463	467	464	461	481	442	582
11	592	586	582	591	603	482	465	491	461	453	451	592
12	618	630	579	582	591	471	452	440	471	466	452	539
13	612	634	610	586	594	457	449	447	489	460	449	585
14	601	615	625	587	580	454	443	447	505	455	449	589
15	615	631	568	586	583	449	484	491	479	477	452	575
16	594	615	608	569	566	464	452	454	476	470	454	595
17	628	622	568	572	577	472	481	480	484	445	449	583
18	603	624	618	575	582	439	468	504	500	466	440	576
19	596	617	593	568	597	473	445	474	490	466	443	581
20	592	600	604	585	587	451	452	493	479	476	445	580
21	597	614	611	581	589	407	396	391	410	420	457	579
22	592	608	623	571	574	403	419	402	403	434	401	585
23	602	619	637	577	596	420	402	439	414	438	395	580
24	601	625	590	573	605	423	408	425	429	399	399	585
25	608	632	593	580	597	428	420	402	392	425	401	587
26	610	635	598	575	582	414	409	457	425	414	414	578
27	596	614	622	577	582	402	417	409	392	424	428	582
28	601	620	626	571	581	401	429	422	407	418	426	615
29	581	578	579	591	603	408	428	425	402	409	410	592
30	615	641	582	589	589	424	421	407	392	420	405	583
31	600	615	629	595	584	419	422	417				

Table F-144 SOLUBLE COPPER CONCENTRATION OF SUSPENDED SOLID CONTAINED IN RELEASED WATER FROM PROPOSED SAN ROQUE DAM UNDER THE CASE OF RUN 4

Unit : ppm

Year in Order	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1									101	129	113	156
2	172	187	202	162	168	129	112	135	122	135	111	155
3	175	196	172	147	179	131	119	124	132	114	115	160
4	182	203	176	153	170	136	130	112	108	132	117	164
5	185	208	181	149	154	123	116	157	129	122	122	154
6	171	187	201	150	155	118	130	119	110	130	136	159
7	178	195	206	145	153	118	139	132	121	131	138	189
8	156	152	152	163	176	126	141	137	116	126	126	171
9	195	215	157	164	164	134	130	119	108	127	120	160
10	177	191	202	177	162	128	130	127	126	141	113	157
11	168	161	157	166	178	144	129	140	122	118	119	168
12	193	206	155	158	167	135	116	110	130	128	119	165
13	187	209	186	161	170	124	113	113	142	122	116	160
14	177	190	201	163	156	117	112	114	154	118	117	164
15	190	206	144	162	158	121	146	136	131	128	114	150
16	170	190	183	144	142	131	116	119	135	130	121	170
17	204	197	144	147	152	132	138	136	136	112	116	158
18	179	199	193	150	157	114	130	148	142	117	107	152
19	171	193	169	144	173	133	109	129	138	121	111	157
20	168	175	179	160	162	118	116	144	132	128	111	155
21	173	189	186	157	164	104	97	95	107	114	135	154
22	167	183	199	147	149	107	114	101	101	122	102	161
23	178	195	212	152	171	115	97	119	106	118	97	156
24	176	200	165	149	181	116	104	109	114	99	100	160
25	183	207	169	155	172	121	115	97	94	115	102	163
26	185	210	173	150	157	107	104	135	111	106	107	153
27	171	189	197	152	157	105	115	103	94	116	118	158
28	176	195	201	147	156	106	124	114	104	113	120	191
29	156	153	154	166	178	112	124	118	99	107	108	167
30	191	216	157	164	165	118	112	102	93	112	104	158
31	175	191	204	171	159	114	114	111				

Table F-145 ESTIMATED MONTHLY INFLOW OF WATER SOLUBLE COPPER INTO ARIS AREA UNDER THE CASE OF RUN 1

Unit : g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									3	1	4	5	—
2	10	8	5	3	2	8	9	5	2	1	4	6	64
3	10	8	7	3	1	8	8	5	3	3	4	6	67
4	10	8	7	3	1	9	12	5	3	3	4	6	69
5	10	8	6	3	1	8	10	6	5	3	3	5	68
6	10	8	5	2	2	11	17	9	3	1	3	6	77
7	10	8	7	2	2	10	15	10	6	2	4	7	83
8	10	8	7	3	1	10	15	9	2	3	3	4	74
9	9	9	6	3	3	9	12	10	2	3	4	7	74
10	10	9	7	3	3	7	7	10	3	1	4	7	70
11	10	8	5	2	1	8	14	5	2	2	4	7	69
12	11	9	5	3	2	10	8	9	3	1	4	7	72
13	11	9	7	3	2	10	10	8	3	2	4	8	78
14	11	9	7	3	3	4	6	9	2	3	4	7	68
15	11	9	6	3	2	9	14	4	3	1	3	4	68
16	9	8	6	2	1	7	7	8	3	3	5	8	66
17	11	9	6	3	2	9	10	6	3	3	4	6	71
18	11	9	6	3	3	11	12	6	3	3	5	7	78
19	11	9	7	3	3	9	10	10	3	1	4	7	75
20	11	9	7	2	3	8	11	10	4	1	4	5	74
21	10	9	6	4	2	10	10	10	3	1	4	5	74
22	11	9	6	3	2	9	10	6	3	1	4	6	70
23	11	9	8	4	2	10	9	5	4	3	4	7	74
24	11	9	8	3	1	10	13	5	3	3	4	6	76
25	11	9	7	4	1	9	11	6	5	3	3	5	75
26	10	9	6	2	2	12	19	10	3	1	3	6	84
27	11	9	8	3	2	11	17	11	7	2	4	7	92
28	11	8	8	3	2	11	17	10	2	3	3	5	82
29	10	9	6	3	3	10	13	11	3	3	4	7	82
30	11	9	8	3	3	8	8	11	3	1	4	8	77
31	11	8	6	2	2	10	16	6					—
Average	11	9	7	3	2	9	12	8	3	2	4	6	74

Table F-146 ESTIMATED MONTHLY INFLOW OF SOLUBLE COPPER CONTAINED IN SUSPENDED SOLID INTO ARIS AREA UNDER THE CASE OF RUN 1

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									23	15	116	232	—
2	397	302	208	274	82	241	195	104	23	16	115	277	2,233
3	392	308	267	304	59	245	183	98	32	41	115	301	2,344
4	403	311	261	278	50	251	259	100	28	38	112	276	2,367
5	399	323	249	287	42	232	224	112	43	45	82	229	2,266
6	375	303	204	197	80	302	378	174	27	18	98	278	2,434
7	408	326	265	208	87	280	337	186	57	25	110	303	2,593
8	407	288	260	242	61	272	333	173	18	39	79	208	2,379
9	356	321	221	248	112	240	254	187	22	40	111	310	2,422
10	395	321	268	267	121	196	154	184	22	13	114	337	2,392
11	399	282	212	147	62	229	308	96	22	27	112	327	2,223
12	420	328	220	272	98	277	175	164	23	13	111	325	2,425
13	423	325	254	264	105	291	220	137	29	33	122	354	2,558
14	423	326	266	303	137	117	133	158	16	39	123	307	2,348
15	414	325	234	251	79	245	289	69	25	19	95	171	2,215
16	337	309	223	163	55	186	151	136	23	39	134	377	2,131
17	423	320	252	250	68	236	218	106	26	37	106	266	2,308
18	427	324	259	237	113	291	245	94	23	42	147	342	2,545
19	427	322	259	264	105	252	214	157	24	15	113	291	2,443
20	402	327	286	208	105	200	230	157	32	15	113	229	2,304
21	391	326	256	307	64	267	200	159	23	16	120	238	2,367
22	414	315	239	287	86	250	199	88	22	16	115	278	2,307
23	400	314	303	315	61	253	187	83	31	41	115	302	2,405
24	410	316	296	288	52	259	264	85	27	38	112	278	2,425
25	407	329	284	298	44	239	229	95	42	45	82	230	2,324
26	382	309	233	205	84	311	385	148	26	18	98	280	2,480
27	416	332	304	216	91	289	344	158	56	25	111	305	2,647
28	416	294	298	253	63	281	340	147	18	39	79	209	2,436
29	362	327	256	260	117	248	260	161	22	40	112	312	2,476
30	403	327	310	280	126	203	158	157	22	13	115	339	2,453
31	407	287	246	154	65	238	317	82					—
Average	401	316	256	251	82	247	246	132	28	29	109	284	2,381

Table F-147 ESTIMATED MONTHLY ACCUMULATION OF SOLUBLE COPPER ON PADDY FIELD IN ARIS AREA UNDER THE CASE OF RUN 1

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									14	9	66	131	—
2	224	171	117	152	46	137	112	60	14	9	65	155	1,263
3	221	174	151	169	33	140	105	57	19	24	65	169	1,326
4	227	175	147	154	28	143	149	58	17	22	64	155	1,340
5	225	182	141	159	24	132	129	64	26	27	47	129	1,284
6	212	171	115	110	45	172	217	100	16	11	56	156	1,381
7	230	184	149	116	49	159	194	108	35	15	62	170	1,472
8	230	163	147	134	34	155	192	100	11	23	45	117	1,350
9	201	181	125	138	63	137	146	108	14	24	63	174	1,373
10	223	181	151	148	68	112	89	107	14	8	65	190	1,354
11	225	159	119	82	35	131	177	55	13	16	64	184	1,260
12	237	185	124	151	55	158	101	95	14	8	63	182	1,374
13	239	184	143	147	59	166	126	80	18	19	70	199	1,449
14	239	184	150	169	77	67	77	92	10	23	70	173	1,329
15	234	183	132	140	44	140	167	40	15	11	54	96	1,255
16	190	174	126	90	31	106	87	79	14	23	76	212	1,208
17	239	181	142	139	38	135	126	62	16	22	60	149	1,308
18	241	183	146	132	63	166	141	55	14	25	84	192	1,443
19	241	182	146	147	59	144	123	92	15	9	64	163	1,385
20	227	185	161	115	59	114	133	91	20	9	64	129	1,308
21	221	184	145	171	36	153	115	93	14	9	68	134	1,343
22	233	178	135	159	48	143	115	51	14	9	65	156	1,307
23	226	177	171	175	34	144	108	49	19	24	65	170	1,363
24	232	178	167	160	29	148	152	50	17	22	64	156	1,376
25	230	186	160	166	25	137	132	55	26	27	47	130	1,319
26	216	175	131	114	47	178	222	86	16	11	56	158	1,410
27	235	188	171	120	52	165	198	93	35	15	63	172	1,506
28	235	166	168	141	36	161	196	86	11	23	45	117	1,385
29	205	185	144	145	66	142	150	95	13	24	63	176	1,407
30	228	185	175	156	71	116	91	92	14	8	65	191	1,392
31	230	163	139	86	37	136	183	48					—
Average	226	178	145	140	46	141	142	77	17	17	62	159	1,350

Table F-148 ESTIMATED MONTHLY INFLOW OF WATER SOLUBLE COPPER INTO ARIS EXTENSION AREA UNDER THE CASE OF RUN 1

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									3	1	3	4	—
2	10	8	5	3	1	8	10	5	2	1	3	5	62
3	9	8	7	3	1	8	9	5	4	3	3	5	65
4	10	8	7	3	1	9	12	5	3	3	3	5	68
5	10	8	6	3	1	8	10	6	5	3	2	4	66
6	9	8	5	2	1	10	18	9	3	1	2	5	75
7	10	8	7	2	1	10	16	10	7	2	3	6	81
8	10	8	7	2	1	10	16	9	2	3	2	3	73
9	8	9	6	2	2	9	12	10	3	3	3	6	72
10	9	8	7	3	2	7	8	10	3	1	3	7	67
11	10	7	5	1	1	9	15	5	2	2	3	6	67
12	10	9	5	3	2	10	9	9	3	1	3	6	69
13	11	9	6	3	2	11	11	8	3	2	3	7	75
14	11	9	7	3	3	5	7	9	2	3	3	6	65
15	10	8	6	2	2	9	15	4	3	1	2	3	66
16	8	8	5	2	1	7	7	8	3	3	4	7	63
17	10	8	6	2	1	9	11	6	3	2	3	5	68
18	11	8	6	2	3	11	13	6	3	3	4	7	76
19	11	8	6	3	2	10	11	10	3	1	3	6	73
20	10	9	7	2	2	8	12	10	4	1	3	4	71
21	10	9	6	3	1	11	11	3	1	4	6	6	71
22	10	9	6	3	1	10	11	6	3	1	3	5	68
23	10	9	8	4	1	10	10	5	4	3	3	6	71
24	10	9	8	3	1	10	14	6	3	3	3	5	74
25	10	9	7	3	1	10	12	6	5	3	2	4	73
26	10	8	6	2	1	12	20	10	3	1	3	5	82
27	11	9	8	2	2	11	18	11	7	2	3	6	90
28	11	8	8	3	1	11	18	10	2	3	2	3	80
29	9	9	6	3	3	10	14	11	3	3	3	6	80
30	10	9	8	3	3	8	9	11	3	1	3	7	74
31	10	8	6	2	2	10	17	6					—
Average	10	8	6	3	2	9	12	8	3	2	3	5	72

Table F-149 ESTIMATED MONTHLY INFLOW OF SOLUBLE COPPER CONTAINED IN SUSPENDED SOLID INTO ARIS EXTENSION AREA UNDER THE CASE OF RUN 1

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									23	14	86	194	—
2	373	298	203	259	56	247	219	109	23	15	86	241	2,128
3	364	303	270	290	40	247	195	102	33	43	86	262	2,234
4	375	306	262	263	33	255	277	102	28	40	84	236	2,262
5	372	319	248	273	28	237	235	116	44	47	61	182	2,160
6	350	299	200	185	55	298	398	179	28	19	73	235	2,319
7	384	321	262	189	65	282	359	190	58	25	82	265	2,482
8	381	281	259	220	54	275	353	175	19	40	58	155	2,270
9	327	317	218	229	93	240	270	189	22	41	83	274	2,303
10	368	314	265	240	98	200	169	181	23	13	85	305	2,261
11	374	274	206	121	53	246	328	95	22	26	84	293	2,123
12	393	321	211	241	81	284	191	160	23	12	83	292	2,292
13	399	317	243	232	87	302	234	135	30	31	94	323	2,427
14	396	316	256	263	109	124	148	155	16	38	95	273	2,190
15	389	316	223	217	68	258	313	64	25	18	71	127	2,088
16	303	302	215	139	55	204	159	133	23	37	106	347	2,024
17	395	308	240	209	60	252	236	102	26	34	79	227	2,166
18	401	312	245	199	106	308	267	94	23	39	121	310	2,427
19	401	309	242	220	98	265	238	162	23	14	84	258	2,313
20	376	323	283	192	82	209	253	158	32	14	84	183	2,189
21	364	319	247	266	56	277	224	57	11	56	167	275	2,319
22	388	310	234	271	58	256	223	92	22	15	86	242	2,199
23	371	310	306	301	41	254	199	86	32	43	85	263	2,292
24	382	311	298	262	35	262	283	87	28	40	83	238	2,318
25	380	325	283	283	29	245	239	98	43	47	61	183	2,216
26	356	306	229	192	57	308	406	152	27	19	73	237	2,361
27	392	327	300	197	68	291	366	162	57	25	82	267	2,533
28	389	287	296	230	56	284	360	149	19	40	59	155	2,324
29	333	324	251	240	97	248	276	163	22	40	83	276	2,353
30	376	321	306	252	103	207	173	155	22	13	86	307	2,319
31	381	279	239	127	56	255	339	81					—
Average	374	309	251	227	66	254	264	129	28	30	85	248	2,266

Table F-150 ESTIMATED MONTHLY ACCUMULATION OF SOLUBLE COPPER ON PADDY FIELD IN ARIS EXTENSION AREA UNDER THE CASE OF RUN 1

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									14	8	49	109	—
2	210	168	115	144	31	141	126	63	14	9	49	135	1,204
3	205	171	152	161	22	140	112	59	20	25	49	147	1,264
4	212	173	148	146	19	145	159	59	17	23	48	133	1,281
5	210	180	140	152	16	135	135	67	27	27	35	102	1,225
6	197	169	113	103	31	170	229	104	17	11	42	132	1,316
7	217	181	148	105	36	160	206	110	36	15	46	149	1,410
8	215	159	146	122	30	156	203	101	12	24	33	87	1,288
9	185	179	123	127	52	136	155	110	14	24	47	154	1,306
10	208	177	149	134	55	114	97	105	14	8	49	171	1,281
11	211	155	116	68	30	140	189	55	13	15	48	165	1,204
12	222	181	119	134	46	162	110	93	14	7	47	164	1,299
13	225	179	137	129	49	172	135	78	18	18	53	181	1,376
14	224	178	144	146	61	71	85	90	10	22	54	153	1,240
15	219	178	126	121	38	147	180	38	15	10	40	71	1,185
16	171	170	121	77	31	117	91	78	14	22	60	195	1,148
17	223	174	135	116	34	144	136	59	16	20	45	127	1,229
18	227	176	138	111	60	176	154	55	14	23	69	174	1,377
19	226	174	136	123	55	151	137	94	14	8	48	145	1,312
20	212	183	159	107	46	119	146	92	20	8	48	103	1,244
21	205	180	139	148	32	158	129	33	7	33	95	154	1,314
22	219	176	132	151	33	146	129	54	14	9	49	136	1,246
23	209	175	173	168	23	145	115	51	20	25	49	148	1,300
24	216	176	168	151	20	150	163	51	17	23	47	134	1,316
25	214	184	160	158	16	140	138	57	26	28	35	103	1,259
26	201	173	129	107	32	176	234	89	17	11	42	133	1,344
27	222	185	169	109	38	166	211	95	35	15	47	150	1,442
28	220	162	167	128	32	163	208	87	11	23	34	87	1,322
29	188	183	142	133	55	142	159	96	14	24	47	155	1,338
30	212	181	173	140	58	118	100	91	14	8	49	173	1,316
31	215	158	135	71	32	146	196	48					—
Average	211	175	142	126	37	145	152	75	17	18	48	139	1,286

Table F-151 ESTIMATED MONTHLY INFLOW OF WATER SOLUBLE COPPER INTO ADRIS AREA UNDER THE CASE OF RUN 1

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									2	1	2	3	—
2	9	7	5	3	1	8	9	5	2	1	2	4	56
3	8	7	7	3	1	8	8	5	3	3	2	5	59
4	8	7	6	3	1	8	12	5	3	3	2	4	62
5	8	8	6	3	1	7	10	5	4	3	1	3	60
6	8	7	5	2	1	9	17	9	3	1	2	4	68
7	9	8	6	2	1	9	15	9	6	2	2	5	74
8	9	7	6	2	1	9	15	9	2	3	1	2	66
9	7	8	5	3	2	8	12	9	2	3	2	5	66
10	8	8	6	3	2	6	7	9	2	1	2	5	61
11	8	7	5	1	1	8	14	5	2	2	2	5	61
12	9	8	5	3	2	9	8	8	2	1	2	5	63
13	9	8	6	3	2	10	10	7	3	2	2	6	68
14	9	8	6	3	2	4	6	8	2	3	2	5	59
15	9	8	5	2	1	8	14	3	3	1	2	2	60
16	7	7	5	2	1	7	7	7	2	3	3	6	57
17	9	8	6	2	1	8	11	6	3	3	2	4	62
18	9	8	6	2	2	10	12	5	3	3	3	6	69
19	9	8	6	2	2	9	11	9	3	1	2	5	66
20	9	8	7	2	2	7	11	9	3	1	2	3	65
21	8	8	6	3	1	9	10	3	1	3	4	5	63
22	9	8	6	3	1	9	10	5	3	1	2	4	61
23	8	8	8	4	1	9	9	5	3	3	2	5	65
24	9	8	7	3	1	9	13	5	3	3	2	4	68
25	9	8	7	3	1	9	11	6	5	3	2	3	66
26	8	8	6	2	1	11	19	9	3	1	2	4	75
27	9	8	7	2	2	10	17	10	7	2	2	5	82
28	9	7	7	3	1	10	17	9	2	3	1	2	73
29	8	8	6	3	2	9	13	10	2	3	2	5	72
30	9	8	8	3	3	8	8	10	3	1	2	6	68
31	9	7	6	2	1	9	16	5					—
Average	9	8	6	3	2	8	12	7	3	2	2	4	65

Table F-152 ESTIMATED MONTHLY INFLOW OF SOLUBLE COPPER CONTAINED IN SUSPENDED SOLID INTO ADRIS AREA UNDER THE CASE OF RUN 1

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									22	16	62	152	—
2	324	272	194	271	56	223	206	98	21	17	61	192	1,935
3	315	278	261	301	40	224	188	93	29	43	61	216	2,048
4	325	280	254	274	33	230	261	94	25	40	60	192	2,069
5	322	292	241	284	28	216	222	106	40	46	44	137	1,977
6	304	274	193	197	55	270	373	167	25	20	52	187	2,117
7	333	293	252	191	63	256	337	179	54	26	59	217	2,260
8	331	256	248	225	48	248	334	164	17	41	42	110	2.065
9	276	290	209	234	86	222	253	174	21	41	59	224	2,091
10	321	287	255	247	91	181	162	169	21	14	62	254	2,064
11	325	251	198	127	49	219	309	86	21	27	61	242	1,914
12	343	294	205	250	75	255	180	149	21	14	59	242	2,086
13	347	289	231	234	81	271	225	127	29	33	70	270	2.207
14	345	289	243	267	103	111	135	144	15	39	71	223	1,986
15	338	289	212	221	62	230	298	59	23	20	51	91	1,893
16	251	276	204	143	48	186	148	124	21	39	81	292	1,814
17	344	282	228	214	55	224	225	94	24	36	57	178	1,960
18	350	286	235	205	94	273	253	90	22	41	95	256	2,200
19	349	281	228	219	87	236	221	146	22	15	61	208	2,075
20	327	296	272	204	78	190	238	145	29	16	61	138	1,993
21	313	291	235	271	51	246	211	55	12	40	131	225	2,081
22	337	284	223	283	58	231	210	83	21	17	61	193	2,002
23	321	283	296	312	41	231	192	79	29	43	61	217	2,105
24	331	285	288	284	35	237	266	80	25	40	60	193	2,123
25	328	298	272	295	29	222	226	90	39	46	43	138	2.031
26	309	280	221	204	57	278	381	142	25	20	52	188	2,157
27	340	299	289	198	65	264	344	152	53	26	59	219	2.308
28	338	262	284	235	51	257	341	140	16	40	42	111	2,117
29	281	296	241	245	90	230	259	150	20	41	60	226	2,139
30	327	293	295	259	96	187	166	144	21	14	62	256	2,119
31	332	256	229	133	51	226	319	74					—
Average	324	283	241	234	62	229	249	120	26	30	62	200	2,060

Table F-153 ESTIMATED MONTHLY ACCUMULATION OF SOLUBLE COPPER ON PADDY FIELD IN ADRIS AREA UNDER THE CASE OF RUN 1

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									13	9	35	86	---
2	183	154	110	150	31	127	118	57	13	10	35	108	1,095
3	178	157	147	167	22	127	108	54	18	25	35	121	1,159
4	183	158	143	152	19	131	150	54	16	23	34	108	1,172
5	182	165	136	158	16	123	127	61	24	27	25	77	1,121
6	171	155	109	109	31	153	215	96	16	12	30	105	1,202
7	188	165	142	106	35	146	194	104	33	15	33	122	1,284
8	187	145	140	125	27	141	192	95	10	24	24	62	1,172
9	156	164	118	130	49	127	146	101	13	24	34	126	1,186
10	181	162	144	138	51	103	93	98	13	8	35	143	1,169
11	183	142	112	70	28	124	178	50	13	16	35	136	1,086
12	194	166	116	139	42	145	104	86	13	8	34	136	1,182
13	196	163	131	130	45	154	130	74	18	19	40	152	1,251
14	195	163	137	149	58	64	78	84	9	23	40	125	1,125
15	191	163	120	123	35	131	171	34	14	12	29	51	1,074
16	142	156	115	80	27	106	85	72	13	23	46	164	1,029
17	194	159	129	119	31	128	129	55	15	21	32	100	1,112
18	198	161	132	114	53	156	146	53	14	24	54	144	1,248
19	197	159	129	122	49	135	128	85	14	9	35	117	1,178
20	185	167	154	113	44	108	137	85	18	9	35	77	1,132
21	177	164	132	151	29	141	122	32	7	23	74	126	1,179
22	190	161	126	157	33	132	121	49	13	10	35	109	1,135
23	181	160	167	174	23	132	110	46	18	25	35	122	1,193
24	187	161	163	158	20	135	153	47	15	23	34	108	1,205
25	186	168	155	164	16	127	130	53	24	27	25	78	1,154
26	175	158	124	114	32	159	220	83	15	12	30	106	1,228
27	192	169	163	110	37	151	198	89	33	15	33	123	1,315
28	191	148	160	131	29	147	197	82	10	24	24	62	1,204
29	159	167	136	137	51	132	150	88	13	24	34	127	1,216
30	185	166	166	144	54	107	96	85	13	8	35	144	1,203
31	187	145	129	74	29	130	184	43					---
Average	183	160	136	130	35	131	144	70	16	18	35	112	1,169

Table F-154 ESTIMATED MONTHLY INFLOW OF WATER SOLUBLE COPPER INTO LARIS AREA UNDER THE CASE OF RUN 1

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									3	1	3	4	—
2	10	8	5	3	1	8	10	5	3	1	3	5	61
3	9	8	7	3	1	8	9	5	4	3	3	5	65
4	10	8	7	3	1	9	12	5	3	3	3	5	68
5	10	8	6	3	1	8	11	6	5	3	2	4	66
6	9	8	5	2	1	10	18	9	3	1	2	5	75
7	10	8	7	2	1	10	16	10	7	2	3	6	81
8	10	8	7	2	1	10	16	10	2	3	2	3	73
9	8	9	6	2	2	9	12	10	3	3	3	6	72
10	9	9	7	2	2	7	8	10	3	1	3	7	67
11	10	7	5	1	1	9	15	5	3	2	3	6	67
12	10	9	5	3	2	10	9	9	3	1	3	6	69
13	11	9	6	2	2	11	11	8	4	2	3	7	75
14	11	9	7	3	2	4	7	9	2	3	3	6	65
15	10	9	6	2	1	9	15	4	3	1	2	3	66
16	8	8	5	1	1	7	7	8	3	3	4	7	64
17	10	8	6	2	1	9	11	6	3	3	3	5	68
18	11	8	6	2	2	11	13	6	3	3	4	7	76
19	11	8	6	2	2	10	11	10	3	1	3	6	73
20	10	9	7	2	2	8	12	10	4	1	3	4	71
21	10	9	6	3	1	10	11	10	5	1	2	6	74
22	10	9	6	3	1	10	11	6	3	1	3	5	67
23	10	9	8	3	1	10	10	5	4	3	3	6	71
24	10	9	8	3	1	10	14	6	3	3	3	5	74
25	10	9	7	3	1	10	12	6	5	4	2	4	73
26	10	8	6	2	1	12	20	10	3	2	3	5	82
27	11	9	8	2	1	11	18	11	7	2	3	6	90
28	11	8	8	3	1	11	18	10	2	3	2	4	80
29	9	9	6	3	2	10	14	11	3	3	3	6	80
30	10	9	8	3	2	8	9	11	3	1	3	7	74
31	10	8	6	2	1	10	17	6					—
Average	10	8	6	2	1	9	13	8	3	2	3	5	72

Table F-155 ESTIMATED MONTHLY INFLOW OF SOLUBLE COPPER CONTAINED IN SUSPENDED SOLID INTO LARIS AREA UNDER THE CASE OF RUN 1

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									24	17	89	194	—
2	371	298	204	253	47	243	217	107	23	18	88	238	2,107
3	363	304	271	282	33	244	199	102	33	45	88	261	2,225
4	374	307	264	256	28	251	279	104	28	42	86	236	2,256
5	371	320	251	266	23	237	239	116	44	49	63	184	2,163
6	351	301	203	184	46	291	400	181	28	21	75	236	2,317
7	383	322	264	177	54	278	361	195	59	28	84	263	2,467
8	380	282	260	208	43	272	358	179	19	43	60	159	2,263
9	326	319	219	219	76	239	272	192	23	44	85	271	2,285
10	369	315	266	230	80	197	170	187	23	15	88	302	2,243
11	373	276	208	116	43	239	331	97	23	29	87	290	2,112
12	393	323	215	232	66	275	191	165	23	14	85	289	2,273
13	397	318	244	217	71	293	238	140	31	35	96	318	2,400
14	395	318	256	248	90	118	144	160	17	42	97	269	2,155
15	388	318	224	204	55	251	316	67	26	21	73	131	2,072
16	302	305	216	132	44	200	160	138	24	42	108	341	2,011
17	395	311	241	197	49	246	238	106	27	39	81	224	2,154
18	402	316	248	188	85	297	268	98	24	45	121	305	2,398
19	400	311	242	202	78	259	235	162	25	16	87	254	2,272
20	376	324	285	191	68	204	252	161	32	17	87	184	2,180
21	363	320	249	251	46	269	222	162	42	15	60	271	2,270
22	387	311	235	264	49	252	221	90	23	17	88	239	2,177
23	370	310	308	293	35	251	203	86	32	45	88	263	2,283
24	381	312	300	265	29	259	284	88	28	42	86	237	2,312
25	379	326	286	276	24	244	243	99	43	49	63	185	2,218
26	357	307	231	191	48	301	408	154	27	21	75	238	2,359
27	391	328	302	184	56	287	368	166	58	28	85	265	2,517
28	388	288	297	218	45	281	365	153	18	43	61	160	2,316
29	332	325	253	230	80	247	278	165	22	43	85	273	2,334
30	376	322	308	241	84	204	174	160	23	14	89	304	2,299
31	381	282	242	121	46	248	341	82					—
Average	374	311	253	218	54	249	266	135	29	31	84	246	2,250

Table F-156 ESTIMATED MONTHLY ACCUMULATION OF SOLUBLE COPPER ON PADDY FIELD IN LARIS AREA UNDER THE CASE OF RUN 1

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									15	10	50	109	—
2	210	169	115	141	26	138	125	61	14	10	50	134	1,193
3	205	171	153	157	19	139	114	59	20	26	50	147	1,259
4	211	173	149	142	16	143	160	60	17	25	49	133	1,278
5	209	180	142	148	13	135	137	67	27	29	36	103	1,226
6	198	170	114	103	26	166	230	105	17	12	43	133	1,316
7	216	182	149	98	30	158	207	113	36	16	48	148	1,401
8	214	159	146	116	24	155	206	104	11	25	34	89	1,285
9	184	180	124	122	43	136	157	111	14	26	48	152	1,296
10	208	178	150	128	45	112	98	108	14	9	50	170	1,270
11	211	156	118	64	24	136	190	56	14	17	49	163	1,198
12	222	182	121	129	37	157	110	96	14	8	48	162	1,288
13	224	180	138	121	40	167	137	81	19	21	55	179	1,362
14	223	179	144	138	50	68	83	93	10	25	55	151	1,221
15	219	180	126	114	31	143	182	39	16	12	42	73	1,176
16	171	172	122	73	25	114	92	80	15	24	61	192	1,141
17	223	176	136	109	28	140	137	62	16	23	46	126	1,222
18	227	179	140	105	48	169	154	57	15	26	69	171	1,360
19	226	176	137	112	44	148	135	95	15	10	49	143	1,289
20	212	183	160	106	38	117	145	94	20	10	49	104	1,238
21	205	181	140	140	26	153	128	94	26	9	34	153	1,289
22	219	176	132	147	28	144	127	53	14	10	50	135	1,235
23	209	175	174	163	20	144	117	51	20	26	50	148	1,295
24	215	176	169	148	16	148	164	51	17	25	49	134	1,312
25	214	184	161	154	14	140	140	58	27	29	36	104	1,260
26	202	173	130	107	27	172	235	90	17	12	43	134	1,343
27	221	185	170	102	32	164	212	97	36	16	48	149	1,433
28	219	163	168	121	25	161	211	90	11	25	34	90	1,318
29	187	184	143	128	45	141	161	97	14	26	49	154	1,327
30	213	182	174	134	47	117	101	94	14	9	51	171	1,305
31	215	159	136	68	26	142	197	48					—
Average	211	175	143	121	30	142	153	79	18	18	48	138	1,277

Table F-157 ESTIMATED MONTHLY INFLOW OF WATER SOLUBLE COPPER INTO ARIS AREA UNDER THE CASE OF RUN 4

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									9	4	21	38	—
2	88	74	44	19	10	41	24	9	7	3	17	38	374
3	72	63	48	19	7	40	28	10	9	10	20	46	372
4	83	68	51	19	6	42	45	14	10	10	21	45	414
5	87	77	51	20	5	30	23	10	12	11	13	34	372
6	74	66	38	13	9	48	64	27	10	5	17	44	415
7	85	75	52	14	10	45	57	37	29	10	28	66	510
8	118	90	68	21	9	52	64	38	8	14	18	42	541
9	93	91	53	20	15	43	46	36	9	12	22	55	496
10	93	81	57	20	15	33	27	39	13	6	32	80	498
11	123	93	57	13	9	43	57	9	7	7	21	52	491
12	90	78	45	20	12	47	22	24	8	4	22	55	427
13	96	80	53	20	13	50	26	18	9	8	21	55	450
14	90	77	53	22	17	14	17	24	5	10	21	46	396
15	83	72	44	17	10	40	50	5	7	3	13	23	368
16	60	60	37	10	6	28	16	18	8	10	24	59	335
17	87	73	48	17	5	22	21	13	7	9	18	42	362
18	89	74	48	16	13	48	37	8	4	6	17	40	400
19	68	59	42	16	12	40	22	18	6	3	17	38	341
20	77	73	53	14	12	32	28	20	9	3	17	31	368
21	72	68	45	20	8	41	29	31	11	5	17	34	381
22	79	67	41	18	10	40	31	16	9	4	21	46	381
23	88	76	57	22	8	43	22	9	10	8	17	41	399
24	75	64	48	18	6	42	40	10	8	10	20	44	385
25	85	75	52	21	5	40	40	15	15	12	15	38	413
26	82	73	43	14	10	38	38	15	8	4	16	42	383
27	83	73	52	14	11	47	60	28	20	7	19	48	462
28	86	67	52	17	8	46	59	36	9	16	20	46	462
29	105	103	60	22	17	47	49	41	9	14	26	62	554
30	104	91	65	22	17	36	28	35	8	4	23	59	492
31	94	72	45	11	8	40							—
Average	87	75	50	18	10	40	37	21	10	8	20	46	421

Table F-158 ESTIMATED MONTHLY INFLOW OF SOLUBLE COPPER CONTAINED IN SUSPENDED SOLID INTO ARIS AREA UNDER THE CASE OF RUN 4

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									101	14	134	235	—
2	404	310	186	183	76	270	195	33	33	9	128	269	2,095
3	383	299	412	441	48	243	183	46	31	67	132	302	2,588
4	409	312	392	297	54	264	295	113	96	42	131	285	2,690
5	414	334	357	397	89	235	176	29	46	49	58	225	2,409
6	369	299	181	207	136	589	555	207	92	24	65	268	2,992
7	418	335	248	327	178	607	431	233	190	46	128	340	3,481
8	1,378	1,455	1,211	285	90	568	487	225	61	76	94	213	6,143
9	370	338	539	174	142	279	263	228	75	51	117	317	2,892
10	407	330	234	126	146	247	159	225	74	25	340	916	3,230
11	1,096	1,091	830	163	87	253	333	34	34	40	133	335	4,429
12	431	368	592	261	128	337	180	218	36	16	132	335	3,036
13	442	339	303	189	99	410	223	130	28	40	143	356	2,702
14	426	325	216	183	212	114	144	166	12	53	144	310	2,306
15	422	364	1,199	228	156	545	336	25	21	10	73	163	3,541
16	324	299	248	270	236	299	159	125	36	47	161	391	2,595
17	451	480	1,557	510	54	121	89	49	23	68	124	267	3,792
18	433	331	286	301	207	810	267	27	9	22	159	326	3,177
19	404	304	354	458	102	253	216	71	16	11	126	287	2,602
20	383	309	218	96	83	206	163	54	28	9	114	225	1,889
21	379	314	249	231	48	258	209	230	49	20	41	189	2,216
22	397	305	193	384	217	489	215	124	57	15	135	286	2,819
23	409	325	245	340	57	286	187	30	46	23	129	298	2,376
24	401	309	527	425	43	259	267	44	27	63	130	281	2,777
25	414	332	487	323	48	254	265	130	133	47	97	238	2,767
26	394	319	366	287	181	315	261	45	28	20	71	275	2,561
27	407	329	260	228	156	574	515	230	197	30	73	294	3,292
28	419	300	271	397	132	625	447	222	61	74	93	232	3,273
29	1,243	1,711	1,093	310	174	526	384	251	75	77	133	321	6,298
30	417	331	663	195	160	236	162	226	75	15	120	345	2,946
31	412	295	166	84	92	303	331	122					—
Average	489	436	470	277	121	359	270	130	60	37	122	304	3,074

Table F-159 ESTIMATED MONTHLY ACCUMULATION OF SOLUBLE COPPER ON PADDY FIELD IN ARIS AREA UNDER THE CASE OF RUN 4

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									60	10	85	150	—
2	271	211	126	111	48	171	120	23	22	7	80	169	1,358
3	250	199	253	253	30	156	116	31	22	42	84	192	1,628
4	270	209	244	174	33	168	187	70	58	29	84	182	1,707
5	275	226	225	229	52	146	109	21	32	33	39	142	1,530
6	244	201	121	121	80	350	341	128	56	16	45	171	1,874
7	277	225	165	188	104	359	269	148	121	31	86	223	2,195
8	822	850	703	168	54	341	303	145	38	49	62	140	3,676
9	255	236	326	107	86	177	170	145	46	35	76	204	1,861
10	275	226	160	80	90	154	102	146	48	17	205	548	2,050
11	670	651	488	97	53	163	214	24	23	26	84	213	2,706
12	286	245	351	154	77	211	111	133	25	11	85	215	1,905
13	296	231	196	115	62	253	137	81	20	27	90	226	1,733
14	284	221	148	113	126	71	89	105	9	35	91	196	1,486
15	278	240	684	135	91	322	212	17	15	8	48	102	2,150
16	211	197	157	154	133	180	96	78	24	32	102	247	1,612
17	296	304	883	290	33	79	61	34	17	42	78	170	2,285
18	287	223	184	174	121	472	167	19	7	15	97	201	1,968
19	260	199	218	261	62	161	131	49	12	8	79	179	1,619
20	253	210	149	61	53	131	105	41	21	6	72	141	1,242
21	248	210	161	138	31	165	130	143	33	14	32	123	1,428
22	262	205	129	222	124	291	135	77	36	10	86	183	1,760
23	273	220	166	199	36	181	115	21	31	17	80	186	1,526
24	262	205	317	244	27	166	169	30	19	40	82	179	1,739
25	274	224	296	189	29	162	168	80	81	33	62	151	1,749
26	262	215	225	166	105	194	164	33	20	13	48	174	1,619
27	269	221	172	133	92	342	316	142	120	20	51	188	2,065
28	278	202	178	228	77	369	278	142	39	49	63	153	2,054
29	741	998	634	183	105	315	239	161	46	50	87	210	3,769
30	287	233	400	120	97	150	105	144	46	10	79	222	1,891
31	279	202	127	52	55	189	182	67					—
Average	317	281	286	162	72	219	168	83	38	24	78	193	1,921

Table F-160 ESTIMATED MONTHLY INFLOW OF WATER SOLUBLE COPPER INTO ARIS EXTENSION AREA UNDER THE CASE OF RUN 4

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									8	4	16	32	—
2	83	73	43	18	7	42	26	10	7	3	13	33	357
3	67	62	49	18	5	40	30	10	9	11	15	40	355
4	77	67	52	18	4	42	48	14	11	11	16	39	398
5	81	76	51	19	3	30	24	10	13	11	10	27	355
6	69	65	38	12	6	48	67	27	10	5	13	37	398
7	81	74	51	13	8	46	61	38	30	10	21	58	489
8	110	87	68	19	8	53	68	38	8	14	14	31	518
9	86	90	52	19	13	43	49	37	9	12	17	48	474
10	87	80	56	18	12	34	30	39	13	6	24	73	471
11	115	90	55	11	8	46	60	9	7	7	15	46	471
12	84	76	43	18	10	48	24	24	8	4	16	50	405
13	90	78	51	17	11	52	28	18	9	8	16	50	429
14	84	74	51	19	14	15	19	24	5	10	16	41	372
15	78	70	42	15	8	43	54	5	7	3	10	17	352
16	54	58	35	8	6	31	17	17	8	10	19	54	318
17	81	70	46	14	4	23	23	12	7	8	14	36	339
18	84	71	46	14	13	51	40	8	4	5	14	36	385
19	64	57	39	13	11	42	25	19	5	3	12	34	324
20	72	72	52	13	10	33	31	20	9	3	13	24	352
21	67	67	43	18	7	43	32	30	10	5	13	28	363
22	74	66	40	17	7	41	35	17	9	4	16	40	364
23	82	75	58	21	5	43	23	9	11	8	13	35	382
24	70	63	49	17	4	43	43	10	8	10	15	37	369
25	79	74	51	20	4	41	42	15	16	13	11	30	396
26	76	72	42	14	7	38	40	16	8	5	12	35	364
27	78	72	51	13	8	48	64	29	21	7	14	42	446
28	81	65	52	16	7	47	63	36	10	16	15	34	440
29	96	102	59	21	14	47	52	42	9	14	19	55	529
30	97	90	64	20	14	36	31	35	8	4	17	54	469
31	88	70	44	9	7	43							—
Average	81	74	49	16	8	41	40	21	10	8	15	40	402

Table F-161 ESTIMATED MONTHLY INFLOW OF SOLUBLE COPPER CONTAINED IN SUSPENDED SOLID INTO ARIS EXTENSION AREA UNDER THE CASE OF RUN 4

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									99	13	99	197	—
2	380	305	182	173	52	277	218	34	33	9	95	235	1,992
3	355	295	417	421	32	244	195	48	32	70	99	263	2,472
4	381	308	393	281	36	267	315	116	98	44	98	244	2,580
5	385	330	355	377	59	241	184	30	47	51	44	179	2,282
6	344	295	177	194	93	581	585	213	95	25	49	226	2,878
7	394	329	245	298	132	611	459	238	194	46	95	297	3,338
8	1,289	1,417	1,206	260	80	575	515	228	64	77	70	159	5,939
9	341	334	530	161	118	278	280	230	76	52	87	280	2,766
10	379	323	231	114	120	251	174	222	75	25	254	828	2,997
11	1,025	1,061	807	135	74	271	356	34	34	39	99	300	4,235
12	404	360	569	231	106	346	196	214	36	16	99	301	2,877
13	417	330	291	166	82	426	238	128	28	39	110	324	2,578
14	399	315	208	159	169	121	160	163	12	52	112	275	2,145
15	396	354	1,144	197	134	574	363	23	21	10	55	122	3,392
16	292	292	240	231	237	329	167	123	35	45	128	361	2,479
17	421	462	1,485	425	48	129	96	47	23	63	92	227	3,518
18	407	319	270	253	195	857	291	27	9	20	131	296	3,074
19	380	291	330	382	95	266	240	73	15	10	94	254	2,431
20	358	305	216	89	66	214	179	55	29	8	85	179	1,783
21	352	306	240	200	42	267	234	227	48	19	30	158	2,125
22	373	301	189	363	147	502	241	129	57	14	101	250	2,669
23	379	321	248	325	39	287	199	31	48	24	96	259	2,257
24	374	305	530	402	29	262	286	45	27	65	97	240	2,662
25	385	328	485	307	31	260	277	135	136	49	72	189	2,655
26	367	315	359	269	124	311	275	46	29	21	53	232	2,401
27	384	324	257	207	115	577	549	235	201	30	54	256	3,190
28	392	292	270	361	118	632	473	225	64	75	69	173	3,144
29	1,144	1,691	1,075	286	144	526	408	254	76	78	100	284	6,065
30	389	325	655	176	130	241	178	223	75	15	90	312	2,808
31	386	286	180	69	79	326	354	121					—
Average	456	427	459	250	98	368	290	131	61	37	92	263	2,931

Table F-162 ESTIMATED MONTHLY ACCUMULATION OF SOLUBLE COPPER ON PADDY FIELD IN ARIS EXTENSION AREA UNDER THE CASE OF RUN 4

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									59	9	63	126	---
2	254	208	124	105	32	175	135	24	22	6	60	147	1,292
3	232	196	256	242	20	156	124	32	23	45	62	167	1,555
4	252	206	245	164	22	170	200	71	60	30	62	155	1,638
5	256	223	223	218	34	149	114	22	33	34	29	113	1,450
6	227	198	118	114	55	346	358	132	58	16	34	145	1,802
7	261	222	163	171	77	361	286	152	123	31	64	195	2,105
8	770	827	700	153	48	345	320	147	40	50	46	104	3,551
9	235	233	320	99	72	177	181	147	47	35	57	181	1,782
10	256	222	158	72	73	157	112	143	48	17	153	495	1,907
11	627	633	474	80	45	175	229	24	23	25	63	191	2,588
12	268	240	337	137	64	217	121	130	24	11	63	193	1,805
13	279	224	188	101	51	263	146	80	21	26	69	206	1,654
14	266	214	142	98	100	75	99	103	9	34	70	174	1,385
15	261	233	652	116	78	339	230	16	15	7	36	76	2,059
16	190	193	151	132	134	198	101	77	24	30	81	228	1,538
17	276	292	842	241	29	84	65	32	17	39	58	145	2,121
18	270	215	174	147	114	499	182	19	7	14	80	183	1,903
19	244	191	203	217	58	170	146	50	11	7	59	159	1,515
20	236	207	147	56	41	136	116	41	21	6	54	112	1,174
21	231	205	156	120	27	170	146	141	32	13	24	103	1,368
22	246	202	126	210	85	299	152	80	36	10	64	159	1,668
23	254	217	168	191	24	181	122	22	32	18	60	162	1,451
24	244	202	318	230	18	168	181	30	19	42	61	153	1,667
25	255	221	295	180	19	165	175	83	84	34	46	121	1,678
26	244	213	221	156	72	192	173	34	20	14	35	147	1,521
27	254	218	169	121	68	344	337	145	122	20	38	164	2,000
28	260	197	177	207	68	373	295	143	41	50	47	114	1,972
29	682	986	623	169	87	315	253	163	47	50	65	186	3,627
30	267	228	395	108	79	152	115	142	46	10	59	201	1,802
31	260	196	123	43	47	203	194	67					---
Average	295	275	280	147	58	225	180	83	39	24	59	167	1,832

Table F-163 ESTIMATED MONTHLY INFLOW OF WATER SOLUBLE COPPER INTO ADRIS AREA UNDER THE CASE OF RUN 4

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									8	4	11	25	—
2	72	66	41	19	7	38	25	9	7	3	9	26	322
3	58	57	47	19	5	36	29	9	8	11	11	33	322
4	67	62	50	19	4	38	45	13	9	11	11	31	360
5	70	69	50	20	3	28	23	9	11	11	7	20	321
6	60	60	36	13	6	43	63	25	9	6	9	29	361
7	70	67	49	13	7	41	57	36	28	10	15	47	442
8	96	80	65	20	7	48	64	36	7	14	10	22	468
9	73	82	50	19	12	40	46	34	8	12	12	40	427
10	75	73	54	18	12	31	29	36	12	6	18	61	424
11	100	83	53	11	7	41	57	8	7	7	11	38	424
12	73	70	42	18	9	44	23	22	8	4	12	41	365
13	78	71	48	17	10	47	27	17	9	8	12	42	387
14	74	68	48	19	13	14	18	22	5	10	12	33	335
15	68	64	40	15	7	38	52	5	6	4	7	12	318
16	44	53	33	9	5	28	16	16	8	10	15	46	283
17	71	64	43	15	4	21	22	11	7	9	10	28	304
18	73	65	44	14	11	45	38	7	4	6	11	30	348
19	56	52	37	13	10	38	23	17	5	3	9	27	290
20	63	66	50	14	9	30	29	18	8	3	9	18	318
21	58	61	41	18	6	38	30	28	10	6	9	22	327
22	65	60	38	18	7	37	33	15	8	4	11	32	328
23	71	68	56	22	5	39	22	8	9	8	9	29	347
24	60	58	47	18	4	39	41	9	7	10	11	30	334
25	68	68	50	21	4	37	40	14	15	12	8	22	359
26	66	66	41	14	7	34	37	14	7	5	8	28	329
27	68	66	49	13	8	43	60	27	19	7	10	34	405
28	70	60	49	16	6	42	59	34	9	16	11	24	396
29	81	93	56	21	13	44	49	38	9	14	14	45	477
30	85	82	62	20	13	33	30	32	8	4	12	45	425
31	77	64	42	10	6	39							—
Average	70	67	47	17	8	37	37	20	9	8	11	32	363

Table F-164 ESTIMATED MONTHLY INFLOW OF SOLUBLE COPPER CONTAINED IN SUSPENDED SOLID INTO ADRIS AREA UNDER THE CASE OF RUN 4

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									95	15	71	154	—
2	329	279	174	180	52	250	205	31	31	9	68	187	1,797
3	308	270	403	437	32	222	188	43	29	70	71	217	2,290
4	330	281	381	293	36	241	297	106	88	44	70	198	2,366
5	334	302	345	394	59	219	174	28	43	50	31	135	2,113
6	299	270	171	206	93	526	549	199	88	26	35	180	2,641
7	342	301	236	300	128	555	431	223	180	48	68	243	3,056
8	1,120	1,293	1,155	265	72	520	488	215	56	78	50	114	5,425
9	288	305	508	165	109	259	262	212	70	52	62	229	2,521
10	330	295	222	117	112	228	167	207	69	27	184	689	2,648
11	892	970	775	141	68	241	335	31	32	40	72	248	3,845
12	352	329	552	240	98	311	185	198	34	18	71	250	2,637
13	362	301	277	168	76	381	229	120	27	41	81	271	2,335
14	348	288	198	162	159	109	146	151	12	53	83	225	1,933
15	344	323	1,088	201	122	513	345	21	19	11	39	87	3,114
16	242	267	227	238	205	299	156	114	33	47	97	304	2,230
17	367	422	1,411	436	44	115	92	43	22	66	66	179	3,262
18	356	292	259	260	173	760	276	25	8	21	102	244	2,776
19	331	265	311	380	84	237	224	66	15	11	68	205	2,198
20	311	279	208	95	62	195	168	51	26	9	62	135	1,601
21	303	280	228	204	38	237	220	211	46	21	22	124	1,935
22	324	275	181	379	147	454	227	117	54	16	72	199	2,444
23	328	293	240	337	39	260	192	28	43	24	69	214	2,068
24	324	279	513	419	29	237	269	42	24	66	69	195	2,466
25	334	300	471	321	31	236	262	124	125	48	52	143	2,446
26	319	288	346	287	124	282	258	43	27	22	38	184	2,217
27	333	296	248	209	112	524	515	221	187	31	39	210	2,924
28	341	267	258	369	106	571	449	211	56	76	50	123	2,877
29	966	1,547	1,030	293	134	488	383	234	70	79	71	232	5,526
30	339	297	630	181	121	218	171	208	70	16	65	259	2,575
31	335	262	173	72	72	289	333	110					—
Average	394	391	441	258	91	333	273	121	56	38	67	213	2,675

Table F-165 ESTIMATED MONTHLY ACCUMULATION OF SOLUBLE COPPER ON PADDY FIELD IN ADRIS AREA UNDER THE CASE OF RUN 4

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									57	10	45	99	—
2	221	190	118	110	32	158	127	22	21	7	43	117	1,165
3	201	180	248	251	20	142	119	29	20	44	45	137	1,437
4	218	189	237	171	22	154	188	66	53	30	45	126	1,499
5	222	204	217	228	34	136	108	20	30	34	21	85	1,339
6	197	181	114	121	55	313	336	123	53	17	24	115	1,651
7	227	202	157	172	74	328	269	142	114	32	46	160	1,924
8	669	755	671	157	43	312	304	138	35	51	33	75	3,241
9	198	213	307	101	67	164	170	135	43	35	41	148	1,622
10	223	203	152	74	68	142	108	134	45	18	111	413	1,690
11	546	579	456	84	41	155	216	21	21	26	46	157	2,348
12	234	219	327	142	59	195	114	121	23	12	45	160	1,651
13	242	205	179	102	48	235	141	75	20	27	51	172	1,497
14	232	196	135	99	94	67	90	96	9	35	52	142	1,247
15	227	213	620	119	71	303	218	14	14	8	26	54	1,888
16	157	176	143	136	116	180	95	72	22	31	62	192	1,382
17	241	267	800	248	26	74	62	30	16	41	42	114	1,961
18	236	196	166	151	101	443	173	18	7	15	62	151	1,718
19	213	174	191	216	52	151	136	46	11	8	42	128	1,368
20	206	190	142	60	39	124	108	38	19	7	39	84	1,055
21	198	187	148	122	25	152	138	131	31	15	17	80	1,244
22	214	184	120	219	85	270	143	73	34	11	46	127	1,525
23	219	199	163	197	24	165	118	20	29	18	43	134	1,328
24	211	185	308	241	18	152	170	28	17	42	44	124	1,540
25	221	203	286	188	19	150	166	76	77	33	33	91	1,542
26	212	195	213	166	72	174	162	32	19	15	25	117	1,400
27	220	199	163	122	66	312	316	136	113	21	27	135	1,831
28	226	180	169	212	61	338	279	135	36	51	33	81	1,800
29	576	902	598	173	81	292	238	150	43	51	47	152	3,302
30	233	208	381	111	74	138	110	132	43	11	43	167	1,650
31	227	179	119	45	43	180	183	61					—
Average	255	252	268	151	54	203	170	77	36	25	43	135	1,670

Table F-166 ESTIMATED MONTHLY INFLOW OF WATER SOLUBLE COPPER INTO LARIS AREA UNDER THE CASE OF RUN 4

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									9	5	16	32	—
2	83	73	43	18	6	41	26	10	7	3	13	32	355
3	67	62	49	18	4	39	31	10	9	11	15	40	355
4	77	67	52	17	3	42	48	14	10	11	16	38	398
5	81	76	52	19	3	30	24	10	13	12	10	27	356
6	70	65	38	12	5	47	68	28	10	6	13	37	399
7	80	74	51	12	6	45	62	39	31	11	22	57	490
8	110	88	68	18	6	52	69	39	8	15	14	32	519
9	86	91	53	18	10	43	49	37	9	13	17	48	473
10	87	80	57	17	10	34	30	40	14	6	25	72	471
11	115	91	56	10	6	45	61	9	7	8	16	46	471
12	84	77	44	17	8	47	24	24	9	4	17	49	404
13	90	79	51	16	9	50	29	19	10	9	17	49	427
14	84	75	51	18	11	15	19	25	5	11	17	40	369
15	78	71	42	14	7	42	55	5	7	4	10	17	351
16	53	59	35	8	5	30	17	18	8	11	19	53	318
17	81	71	46	14	4	23	23	13	7	10	14	35	340
18	84	72	46	13	10	49	40	8	4	6	14	35	383
19	64	57	39	12	9	41	24	19	6	3	13	33	321
20	72	72	52	13	8	33	31	20	9	3	13	25	351
21	67	67	43	17	6	42	32	31	19	5	9	38	375
22	74	66	40	17	6	40	34	17	9	5	16	39	363
23	82	75	58	21	4	42	23	9	10	9	13	35	381
24	69	63	49	17	3	42	43	10	8	11	15	37	369
25	79	74	52	19	3	41	43	16	16	13	12	30	397
26	77	72	43	14	6	37	40	16	8	5	12	35	364
27	78	72	51	12	7	47	64	29	21	8	14	42	446
28	80	65	52	15	5	46	63	37	10	17	16	35	442
29	96	102	59	20	11	47	53	42	10	15	20	54	528
30	97	90	64	19	11	36	31	36	9	4	18	53	468
31	88	71	45	9	6	42							—
Average	81	74	49	15	7	40	39	21	10	8	15	40	400

Table F-167 ESTIMATED MONTHLY INFLOW OF SOLUBLE COPPER CONTAINED IN SUSPENDED SOLID INTO LARIS AREA UNDER THE CASE OF RUN 4

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									104	15	102	196	—
2	378	306	183	168	44	272	216	34	34	10	98	232	1,975
3	355	295	419	409	27	242	200	48	32	74	101	263	2,463
4	380	308	397	274	30	264	317	117	98	46	101	243	2,575
5	384	331	359	369	49	241	187	30	47	54	45	181	2,276
6	345	296	179	194	79	568	587	216	96	27	50	227	2,865
7	393	330	247	278	110	602	461	243	198	51	98	295	3,306
8	1,285	1,422	1,208	246	64	568	522	234	62	83	72	163	5,931
9	339	335	534	154	96	277	282	234	77	56	89	277	2,751
10	380	325	232	109	98	248	176	229	76	28	263	820	2,983
11	1,024	1,069	817	129	60	264	359	34	35	44	103	297	4,233
12	403	362	578	223	86	335	197	220	37	18	102	298	2,860
13	415	332	292	155	67	413	242	133	30	44	112	319	2,554
14	398	317	208	150	139	115	156	168	13	58	114	272	2,107
15	395	356	1,146	185	108	559	367	24	21	11	56	125	3,354
16	291	295	240	220	188	322	169	127	37	50	130	354	2,423
17	420	467	1,490	401	39	126	97	49	24	72	95	225	3,505
18	408	323	273	239	156	825	292	28	9	23	131	291	2,999
19	379	293	331	349	76	261	237	73	17	12	97	251	2,376
20	358	306	217	89	54	210	178	56	29	10	88	181	1,775
21	352	308	242	189	34	259	232	234	90	19	20	216	2,194
22	372	302	190	355	124	494	239	127	59	17	104	246	2,627
23	379	321	249	315	33	284	203	31	47	25	99	259	2,246
24	373	305	534	392	24	259	288	46	27	69	99	240	2,657
25	384	329	491	300	26	260	282	136	137	52	74	191	2,661
26	368	316	363	269	105	304	276	47	29	23	54	233	2,387
27	382	325	259	193	96	569	552	241	205	33	56	255	3,165
28	391	293	270	342	94	445	480	230	63	81	71	178	2,938
29	1,138	1,700	1,081	274	118	524	412	258	77	84	102	280	6,049
30	389	326	659	168	106	238	180	230	77	17	93	308	2,792
31	385	289	183	66	64	316	356	123					—
Average	455	429	462	240	80	355	291	133	63	40	94	264	2,908

Table F-168 ESTIMATED MONTHLY ACCUMULATION OF SOLUBLE COPPER ON PADDY FIELD IN LARIS AREA UNDER THE CASE OF RUN 4

Unit: g/ha

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1									62	11	65	126	—
2	253	208	124	102	27	172	133	24	23	7	61	145	1,282
3	232	196	257	235	17	155	127	32	22	47	64	166	1,550
4	251	207	247	160	18	168	201	72	60	32	64	155	1,635
5	256	224	226	213	28	149	116	22	33	36	30	114	1,448
6	228	199	120	113	46	338	360	134	58	18	35	145	1,795
7	260	222	164	160	64	356	288	155	126	34	66	194	2,088
8	767	830	702	145	39	341	325	150	39	54	47	107	3,547
9	234	234	322	94	59	176	182	149	47	38	59	179	1,773
10	256	223	159	69	60	155	113	148	49	19	158	490	1,900
11	627	638	480	76	37	170	231	24	24	28	65	188	2,587
12	268	241	342	132	52	210	121	135	25	12	65	191	1,795
13	278	226	188	94	42	255	149	83	21	29	71	203	1,639
14	265	216	142	92	82	72	96	160	10	36	72	172	1,362
15	260	235	654	110	63	330	232	16	15	8	37	78	2,038
16	190	195	152	125	106	194	102	80	25	34	82	224	1,507
17	276	295	845	228	23	82	66	34	17	45	60	143	2,115
18	270	217	176	139	91	481	183	20	7	16	80	179	1,860
19	244	193	203	199	47	166	144	51	12	8	61	156	1,483
20	236	208	148	56	34	133	115	42	21	7	56	113	1,169
21	230	206	157	113	22	165	145	146	60	13	16	140	1,413
22	245	202	127	204	71	293	150	79	37	12	66	157	1,644
23	253	218	169	185	20	179	125	22	32	19	62	162	1,445
24	243	203	321	225	15	166	182	31	19	44	63	153	1,664
25	255	222	298	176	16	165	178	83	84	36	47	122	1,682
26	245	214	223	155	61	188	174	34	20	15	36	148	1,513
27	253	218	171	113	56	339	339	149	124	22	39	163	1,986
28	259	197	177	196	55	270	299	147	40	54	48	117	1,859
29	679	991	627	161	71	314	255	165	48	54	67	184	3,618
30	268	229	398	103	65	150	116	146	47	12	61	199	1,793
31	260	198	125	41	38	197	196	68					—
Average	295	277	281	141	48	218	181	85	40	27	60	167	1,819

Table F-169 ESTIMATED AVERAGE MONTHLY ACCUMULATION OF SUSPENDED SOLID AND TOTAL COPPER CONTAINED IN SUSPENDED SOLID UNDER THE CASES OF RUN 1 AND RUN 4

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
(1) Suspended Solid under the Case of Run 1 (kg/ha)													
ARIS	1,251	892	734	904	268	1,076	1,220	390	117	131	543	991	8,818
ARIS-Ex	1,167	874	719	818	214	1,105	1,310	677	117	138	423	864	8,427
ADRIS	1,011	799	690	844	201	997	1,237	627	108	139	308	697	7,659
LARIS	1,165	878	724	785	176	1,084	1,318	709	124	144	414	860	8,381
(2) Suspended Solid under the Case of Run 4 (kg/ha)													
ARIS	1,545	1,327	1,574	995	416	1,668	1,231	619	300	171	591	1,038	11,476
ARIS-Ex	1,441	1,300	1,537	901	335	1,710	1,322	623	305	171	446	899	10,989
ADRIS	1,247	1,188	1,474	929	314	1,544	1,247	578	282	176	323	726	10,026
LARIS	1,439	1,306	1,547	864	275	1,646	1,330	636	317	187	456	901	10,902
(3) Total Copper Contained in Suspended Solid under the Case of Run 1 (g/ha)													
ARIS	752	552	453	522	159	486	530	296	54	59	236	577	4,675
ARIS-Ex	701	541	444	473	127	499	569	290	54	62	183	503	4,447
ADRIS	608	495	426	488	119	451	537	269	50	63	133	406	4,043
LARIS	700	544	447	453	104	490	572	304	57	65	180	500	4,417
(4) Total Copper Contained in Suspended Solid under the Case of Run 4 (g/ha)													
ARIS	925	804	927	575	243	729	545	271	129	76	259	606	6,087
ARIS-Ex	863	787	905	520	196	748	585	273	131	76	195	525	5,803
ADRIS	746	719	868	536	183	675	552	253	121	78	141	424	5,297
LARIS	861	791	911	499	161	721	589	278	136	83	199	526	5,754

Remarks; ARIS-Ex: ARIS Extension Area

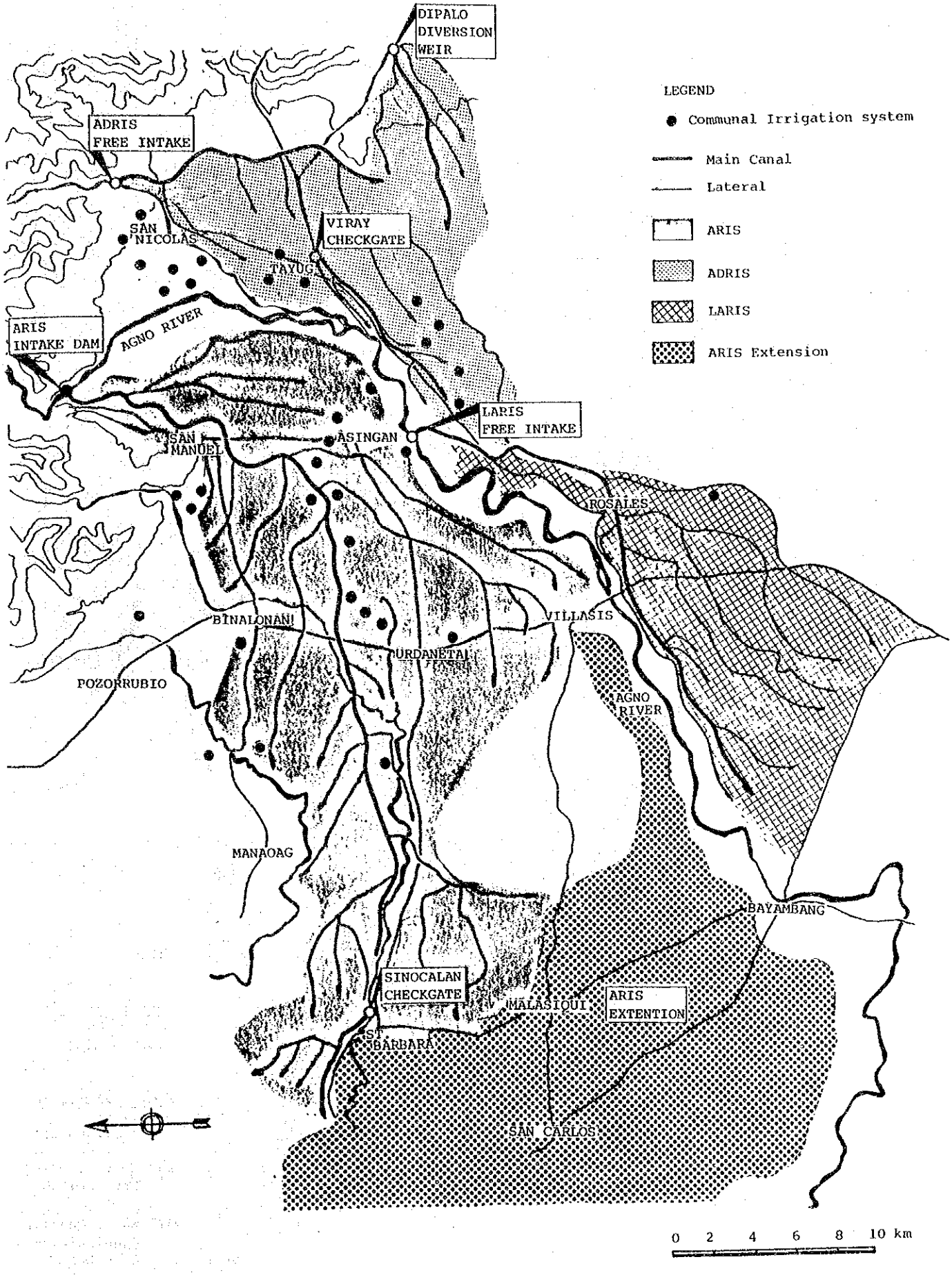

Fig. F-1 Location of NIA and Communal Irrigation System

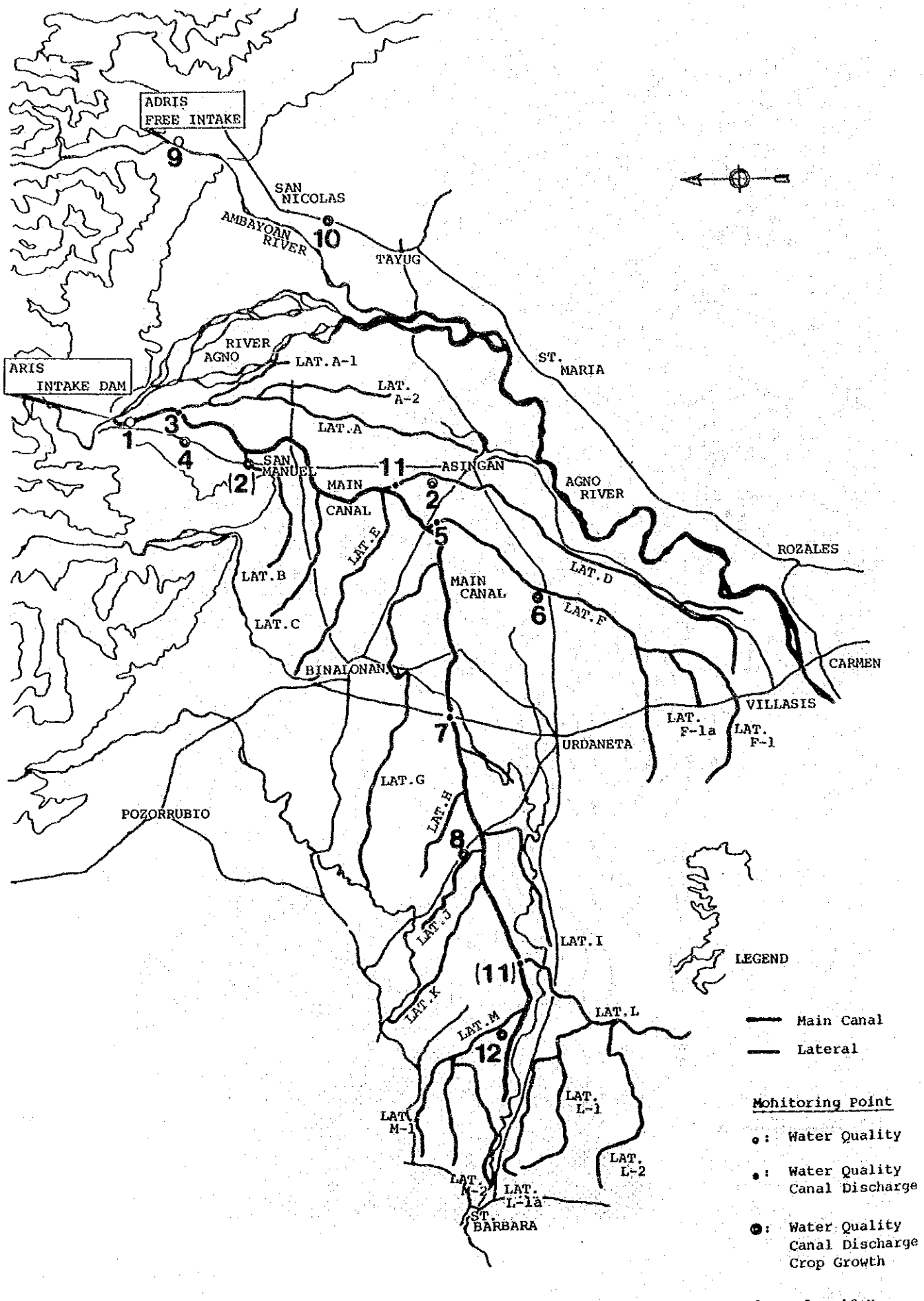

Fig. F-2 Location Map of Monitoring Points for Irrigation Water Quality

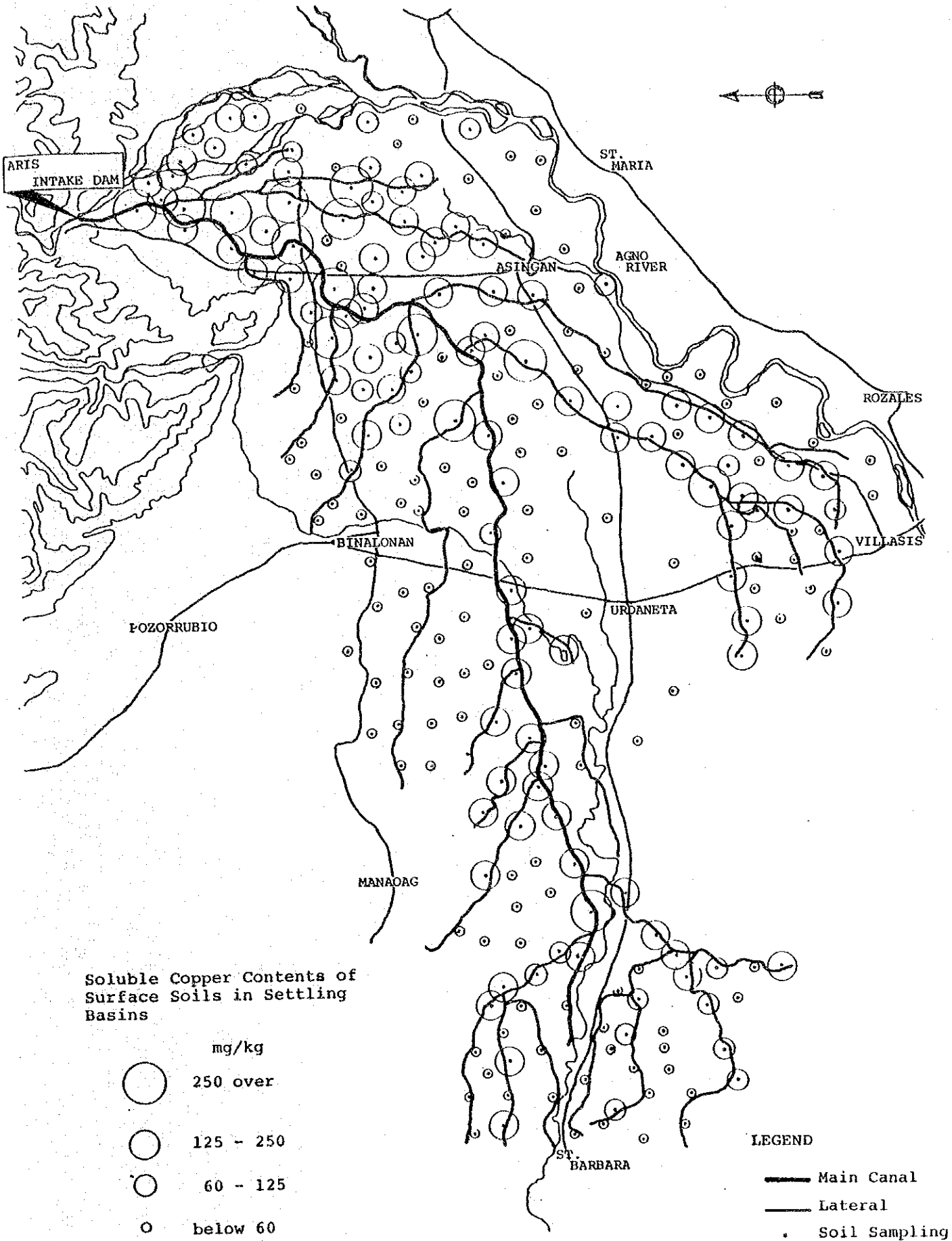

Fig. F-3 Soluble Copper Contents of Surface Soils in ARIS

資料G　Agno川流域における鉱山活動

資料 G　Agno川流域における鉱山活動

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1. Philex社の Sto. Tomas Ⅱ 鉱山 …… G－1

2. Benguet 社の金山 …… G－2

3. Itogon－Suyoc社の Itogon 鉱山 …… G－3

4. Baguio Gold社の Sto. Niño 鉱山 …… G－4

資料G　Agno川流域における鉱山活動

Cordillera Central山地の南域は，比国の最も重要な鉱山地帯であり，多数の銅および金鉱山が分布している。これらのうちAgno川流域に位置する鉱山を次の表に示す。

Mining company	Mine	Principal Commodity	Location
Philex Mining Corp.	Sto. Tomas II	Cu	Tuba Itogon, Benguet
Benguet Corp.	Acupan	Au	Itogon, Benguet
	Antamok	Au	– ditto –
	Baco	Au	– ditto –
	Kelly	Au	– ditto –
Itogon-Suyoc Mines Inc.	Itogon	Au	Itogon, Benguet
Baguio Gold Mining Co.	St. Niño	Cu	Tublay, Benguet (closed in 1982)

以下選鉱および廃さい処理を中心にこれら鉱山の概要を述べる。

(1)　Philex社のSto. Tomas Ⅱ鉱山

本鉱山はBaguio市の南方約20 kmにあり，Baguio市から良く整備された鉱山道路により達することが出来る。

鉱山は1958年に操業開始以来徐々に生産規模を拡大し，現在は25,000~27,000 t／dayの操業を行っており，過去2か年の操業実績は次の通りである。

年	出鉱量	粗鉱品位		選鉱採収率		精鉱中金属量	
	10^3DMT	Cu %	Au g／t	Cu %	Au %	Cu t	Au kg
1982	9635	0.268	0.466	87.14	84.05	23,146	4229
1983	9132	0.265	0.468	81.90	85.94	21,432	4288

745m地並に選鉱場を新設する計画は中止され，代って1985年9月までに現選鉱場を5,000 t／day拡大し，32,000 t／dayとして操業する増産計画が進められている。

1983年12月末現在の鉱量計算は次の様であり，

	鉱量 $\times 10^3$DMT	Cu %	Au g／t
Above 1020ML（確推計）	75,909	0.30	0.62
Below 1020ML（　〃　）	109,917	0.32	0.596
小　計	185,826	0.31	0.606
Broken Ore Reservs	22,435	0.265	0.468
合　計	208,261	0.31	0.59

これから計算される鉱山寿命は18年強である。

Sto. Tomas Ⅱ 鉱床は，ポーフィリカッパー型の鉱床で主に黄銅鉱よりなる銅鉱石は，ブロックケービング法によって坑内採掘されている。

Philex社の選鉱場はBanget選鉱場と称され27,000 t／dayの規模をもち，浮遊選鉱法により銅精鉱を生産している。

粗鉱は3段のクラッシャーにより砕かれ，ミルによって－200メッシュ50％程度まで磨鉱される。磨鉱は主浮選回路に送られ粗選され，粗精鉱は清掃浮選によって最終精鉱に仕上げられる。一方1次クラッシャーで分離されたスライムは金回収回路に送られた後，主回路と同様に浮選にかけられ銅精鉱が回収される。

主回路とスライム回路から得られた銅精鉱は精鉱サイクロンに送られ，サイクロンオーバフローはシックナーに送られる。シックナーアンダフローとサイクロンアンダフローはドラムフィルターで銅精鉱ケーキに仕上げられる。銅精鉱ケーキの品位は，Cu 24～30％ Au 35～50g／t，Ag 55～60g／t である。

主要な選鉱試薬は次の通りであり

捕集剤	Sodium Isobutyl Xanthate	20～35g／Ton Ore
起泡剤	Serabon MF 605	10～30g／Ton Ore
	Repoforth	10～30g／Ton Ore
石　灰		100～175g／Ton Ore

又，選鉱用水は処理鉱量t当り3～4㎥を要するとされている。

Philex社はAlbian川に第1廃さいダム，Manaa川に第2廃さいダムを造り選鉱廃さいを収容している。これらのダムは外盛り式で廃さい自身を嵩上に利用している。即ち選鉱場から送られて来た廃さいはダム堤体上に設備したサイクロンによって約40％の粗粒砂と60％のスライムに分級され，粗粒砂は下流側に嵩上材料として送られ，スライムは貯泥池の中に送られている。

上流に降る雨水を流す切替水路が設けられており，又ダム内の水は暗渠，取水塔，余水吐によって排水されている。

第1廃さいダムは1972年に投入を開始し，その設計規模60×10^6DMTの95％が既に埋立られ，現在規模を約10％増す工事を実施中である。第2廃さいダムは1981年から投入されており，その設計規模50×10^6 DMTの40％強が既に埋立てられている。

(2) Benguet社の金山

1906年からAcupan鉱山，1933年からAntamok 鉱山の採掘を行っている。又，1980年には隣接するAtok Big Wedge社の鉱山を継承し，Baco 鉱山として操業を始めており，更に1981年に新たにKelly鉱山の生産を開始した。これらの鉱山はいずれ

もBaguio市の東方Ambalanga川の流域にあり，Baguio市から舗装道路が伸びている。

4鉱山はいずれも含金粘土石英脈を坑内採掘しており，鉱石は運搬坑道で運ばれ3250 t／dayの規模をもつBalatoc選鉱場によって集中的に処理されている。

過去2か年の操業実績は次の通りである。

年	出鉱量	粗鉱品位	採収率	粗金中金属量	
	10^3DMT	Au g／t	%	Au 10^3Oz	Ag 10^3Oz
1982	1112	3.66	84	110	104
1983	1151	3.88	86	124	116

1983年12月末現在の鉱量計算は

	10^3DMT	Au g／t
確推計	1,648	5.85
予想	1,753	5.30
小計	3,401	5.57
期待	11,800	3.0
合計	15,201	3.6

で，これから計算される鉱山寿命は約13年である。

Balatoc工場では青化法により粗金を生産している。

粗鉱は1次～3次クラッシャーとボールミルによって−200メッシュ75%程度まで磨鉱される。金の溶出はボールミルの段階から始まるが，更にシックナーとアジテーター中において進行する。金－シアン溶液は，標準型シックナーと逆流デカンテーション型シックナーによって廃さいと分離された後フィルターによって浄化される。そして亜鉛粉末によって沈澱させられた金は，乾燥された後精錬され，純度500～600の粗金に仕上げられる。

主要な選鉱試薬は次の通りである。

青化ソーダ	0.8～1.0 kg／Ton Ore
石灰	5.0～5.2 kg／Ton Ore
亜鉛粉末	0.08 kg／Ton Ore

又，選鉱用水は処理鉱量t当り7～8 m^3を要し，そのうちの75～80%がリサイクルによってまかなわれている。

廃さいは粗粒部分約30%が坑内充填用に回収され残りが廃さいダムに収容される。廃さいダムは第1次ダムが1977年に堆積を終了しており，現在はその直下に設けられた第2次ダムを使用している。上流ダムと切替水路によって上流側の水は切替えられており，

又，浸透水は暗渠によって，上澄水は取水塔を通して，川に放流されている。

なお第２次ダムの設計規模は６×10^6 DMT 強であり，現在までにその 6.7 % が埋立てられている。

(3) Itogon - Suyoc 社の Itogon 鉱山

Itogon 鉱山は Benguet 社の Acupan 鉱山の東に接しており，Baguio 市から Itogon を経由する道路によって達することが出来る。

本鉱山は１９２６年に操業を開始し，１９７５～１９７６年には３２０ t／day まで操業を伸ばしたが，その後１時減産していた。近年は次の操業実績の様に３００t／day 弱の操業を行って来たが，１９８４年第 4.4 半期から３５０t／ day に増産された。

年	出鉱量	粗鉱品位	選鉱採収率	粗金中金属量	
	DMT	Aug／t	%	Au Oz	Ag Oz
1982	104,443	4.71	87	13742	5747
1983	104,083	4.66	87	13587	5316

１９８３年１２月末現在の鉱量計算は次の様であり

	t	Aug／t
Immediately available （確推予計）	124,154	4.39
not Immediately available（ 〃 ）	943,298	4.16
計	1067,452	4.19

これから計算される鉱山寿命は約８年半である。

粗鉱は１次～３次クラッシャーとボールミルによって磨鉱され，シックナーとアジテーターによって金が溶出される。金－シアン溶液はシックナーオーバーフローとして溶液タンクに導かれ，浄化され，金が沈殿され，最後に精錬され粗金が作られる。

主要な選鉱試薬は次の通りであり

青化ソーダ	1.5 kg／Ton Ore
石　　灰	1.8 kg／Ton Ore
亜鉛粉末	0.06 kg／Ton Ore

又，選鉱用水は１１００ m^3／day（処理鉱量 t 当り 3.7 m^3）を使用しており乾季には６００ m^3／day 程度をシャクナーで回収し，リサイクルしている。

廃さいは下流に設けられた第６沈澱池に収容している。

(4) Baguio Gold 社の Sto. Niño 鉱山

本鉱山は Baguio 市の北東方 Tublay にあり，Baguio 市から Mountain Trail を経由

してKM21に達し，そこから鉱山道路により鉱山に至る。

鉱山は1972年にPhilex社の技術陣によって操業が開始され，3,300t／dayの操業を行っていたが，1982年に閉山した，現在は排出水処理等は行われていない。

Sto. Niño鉱山には，Southwest鉱体とUlman鉱体の2つのポーフィリーカッパ型の銅鉱床があり，主としてSouthwest鉱体が露天掘によって採掘され浮遊選鉱法によって銅精鉱を生産していた。

資料H　Electroconultによるダム計画概要

資料H　Electroconultによるダム計画概要

San Roqueダムは次の4項目を目的とする多目的プロジェクトである。

発　電

毎年780Gwhの1次発電と434Gwhまでの2次発電を計画している。既存高圧送電線がダム計画位置から9kmの地点を走っており，大消費地マニラ首都圏の電力供給に寄与するとされている。

灌　漑

Pangasinan平野では雨期に平野に降る雨水を利用して，米および若干のサトウキビの1期作を実施しているのが現状であり，本多目的ダムによって乾期にもかんがい用水が得られると，52,500～87,000ヘクタールの地域において，2期作または2毛作が可能になるとされている。

水質保全

ダムが設置されると，ダム集水域に位置する鉱山の廃さいが，全て捕捉されるので水質が改善されるとされている。

洪水調節

現状ではPangasinan平野は周期的に起きる洪水になやまされているが，洪水調節機能をもつサンロケダムが完成するとその被害がなくなるとされている。

ELCによって策定されたダムの基本設計は次の通りである。

水　文	
集水面積	1,250 km^2
平均流入量	94.2 m^3/s
設計洪水量	12,800 m^3/s
貯水池	
総貯水量	990×10^6 m^3
有効貯水量	670×10^6 m^3
洪水調整容量	150×10^6 m^3
常時満水位（海抜）	290 m
常時低水位（〃）	225 m

ダ　ム

ダム型式	グラベルフィル
ダム堤頂高さ	210 m
ダム堤頂標高（海抜）	307 m
ダム堤長さ	1130 m
ダム堤体容積	43.15×10^6 m^3

余水吐

余水吐型式	オープンシュート
余水吐能力	15,600 m^3／s

発　電

発電能力（最大）	130×3 MW
1次発電量	780 GWh／年
2次発電量	377～434 GWh／年

かんがい

用水取入口型式	パラレル
用水取入口土台高さ（海抜）	95 m
用水取入能力	290 m^3／s
かんがい面積（最大）	87,000 ha

上記の設計によりダムを建設するに要する総投資額は505百万US$，次の条件におけるIRRは16.7%と見積られている。

常時満水位（海抜）	290 m
発電設備能力（最大）	130×3 MW

資料１　フィリピンの鉱害防止に関する行政体系および法規

資料 I

フィリピンの鉱害防止に関する行政体系および法規

1. 行政体系

1977年公布の大統領令第1121号に基づき「国家環境保護審議会」（National Environmental Council）が鉱害を含む環境行政の最高機関となり，その下部機関として「国家公害規制委員会」（National Pollution Control Commission）が設置された。

2. 法　規

鉱山活動は1974年公布の大統領令第463号「鉱物資源開発令」（Mineral Resources Development Decree of 1994）および「鉱物資源開発令施行規則」（consolidated Mines Administrative Order, rules and regulation implementing P.D. No. 463）によって規定されている。鉱害に関しては施行規則第42条－B「鉱業地域における環境保護」に詳細規定しており，選鉱廃さいの処理に関しては次の様に定められている。

Mill Waste and Tailings Disposal and Water Conservation

1) All mine/quarry operators are prohibited from directly or indirectly disposing tailings or mill waste into natural drainage systems including rivers and tributaries.
2) Impounding of mill tailings shall be far from water-shed areas and free from spillage, slides and/or washing-away of tailings by surface run-off during heavy rains into drainage systems, creeks or rivers. Flushing of tailings is likewise prohibited.
3) All mine tailings-covered areas if found not suitable for agricultural, industrial or commercial use must first be resoiled, cover-cropped, or reforested.
4) Mill effluents shall be treated such that obnoxious odor and poisonous chemicals are removed before disposal.
5) Mining companies shall at all times conserve water by recyling, developing and maintaining watershed areas, by reforestation and afforestation, and by constructing water reservoirs for domestic, industrial or aqua culture uses.

また，フィリピンの水質基準については，「1978年国家公害規制委員会規則」（1978 NPCC Rules and Regulation）の第3章に詳細規定してある。この規則によれば，地表水は次の6クラスに区分されており，Agno川は現時点では上流部はクラスC，下流部はクラスDに分類されている。

クラスAA　公共用水，消毒のみで飲料基準に合致する。

クラスA　公共用水，完全処理によって飲料水基準に合致する。

クラスB　水浴などのリクリエーションに適する。

クラスC　魚その他の水産資源の養殖に適する。

クラスD　農業，灌漑，家畜への給水，工業用水に適する。

クラスE　水運に利用する。

灌漑用水（クラスD）の水質基準を次に示す。

For Class "D"

Waters

Quality Parameter	Specifications
1. Temperature	The maximum rise above natural temperature shall not exceed 3 ℃ outside the mixing zone as determined by the Commission
2. Dissolved Oxygen	Not less than 3 mg／l.
3. Transparency	Secchi disk shall be visible at a minimum depth of 1 m.
4. Total Dissolved Solids	Not more than 1000 mg／l.
5. pH	Not less than 6.0 nor greater than 8.5.
6. Trace Elements	Not to exceed the following limits:
Aluminum	5.0mg／l
Arsenic	0.1 mg／l
Beryllium	0.01mg／l
Boron	0.75mg／l
Cadmium	0.01 mg／l
Chromium	0.10mg／l
Cobalt	0.05mg／l
Copper	0.20mg／l
Fluoride	1.0mg／l
Iron	5.0mg／l
Lead	5.0mg／l

	Lithium	2.5mg／l Recommended maximum concentration for irrigating citrus is 0.075mg／l)
	Manganese	0.20mg／l
	Molybdenum	0.01mg／l
	Nickel	0.2mg／l
	Selenium	0.02mg／l
	Vanadium	0.1mg／l
	Zinc	2.0mg／l
7.	Sodium Absorption Ration (SAR)	Not less than 8 nor more than 18.
8.	Organic Chemicals	
	Oil and Grease	5mg／l
9.	Nutrients	Shall not be present in amounts to cause deleterious or abnormal biotic growth.

資料Ｊ　インプレメンティング　アレンジメント

資料J　インプレメンティング　アレンジメント

IMPLEMENTING ARRANGEMENT ON THE TECHNICAL COOPERATION BETWEEN THE JAPAN INTERNATIONAL COOPERATION AGENCY AND THE PHILIPPINE AUTHORITIES CONCERNED FOR THE RE-STUDY OF THE SAN ROQUE MULTI-PURPOSE PROJECT AGREED BETWEEN THE JAPAN INTERNATIONAL COOPERATION AGENCY AND THE PHILIPPINE AUTHORITIES CONCERNED

October 21, 1983

(Sgd.)
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Preliminary Survey Team
Japan International Cooperation Agency

(Sgd.)
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Philippine Joint Technical Committee for the San Roque Multipurpose Project

I. INTRODUCTION

In response to the request of the Government of the Republic of the Philippines (hereinafter referred to as "GOP"), the Government of Japan (hereinafter referred to as "GOJ") has decided to conduct the Re-Study of the San Roque Multi-Purpose Project (hereinafter referred to as "the Study") and exchanged the Note Verbale with GOP concerning the implementation of the Study.

The Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of technical cooperation programs of GOJ, will undertake the Study, in accordance with the relevant laws and regulations in force in Japan.

On the part of GOP, the National Power Corporation (hereinafter referred to as "NPC") shall act as counterpart agency to the Japanese study team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

The present document constitutes the implementing arrangements between JICA and NPC under the above-mentioned Note Verbale exchanged between the two Governments.

II. IMPLEMENTATION OF THE STUDY

The study shall be implemented in accordance with the Scope of Work attached herewith (Appendix I).

III. UNDERTAKING OF GOP

In accordance with the Note Verbale exchanged between GOJ and GOP, GOP shall accord privileges, immunities and other benefits to the Japanese study team and, through the authorities concerned, take necessary measures to facilitate smooth conduct of the Study.

1. GOP shall be responsible for dealing with claims which may be brought by the third parties against the members of the JICA study team and shall hold them harmless in respect of claims or liabilities arising in the course of or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims or liabilities arise from the gross negligence or willful misconduct of the above-mentioned members.

2. The NPC shall, at its own expense, provide the Japanese study team with the following, if necessary, in cooperation with other agencies concerned:
   (1) Available data information and materials related to the Study.
   (2) Counterpart personnel consisting of engineers.
   (3) Administrative and technical support staff.
   (4) Suitable office space at Manila and project site with adequate floor space and necessary office equipment.
   (5) Suitable necessary lodging accommodation with pieces of furniture for daily life at the project site.
   (6) Credentials or identification cards to the members of the Study team.

3. The NPC shall make necessary arrangements with the governmental and non-governmental organizations concerned for the following:
   (1) To secure the safety of the Study team.
   (2) To exempt the Japanese study team members for taxes, duties, fees and other charges on equipment, machinery and other charges on equipment, machinery and other material brought into the Philippines, and out of the Philippines, for the conduct of the Study.

(3) To exempt from any taxes, duties, surcharges and the likes to be imposed on the equipment imported to the Philippines for the Study and on the JICA experts for their personal belongings carried to or sent to the Philippines, and, income tax, sales tax and any taxes to be imposed to JICA experts including the remittance from abroad.

(4) To arrange customs clearance handling and storage at the port/airport and inland transportation (to and from the Project site) and custody of equipment, machines, instruments, tools and other articles to be brought into the Philippines, for the performance of the Study.

(5) To arrange/coordinate meetings with authorities/agencies concerned.

(6) To obtain official permission for the members of the study team to enter into, stay and work in, and depart from the Philippines.

(7) To secure permission for entry into private properties or restricted areas for the conduct of the Study.

(8) To use appropriate laboratories with qualified technicians for chemical analysis.

(9) To avail medical facilities as needed and the expenses will be chargeable on the members of the study team.

(10) To hire laborers as needed, and wages will be chargeable to JICA funds.

(11) To secure permission to take all data, materials and documents related to the Study out of the Philippines.

IV. UNDERTAKING OF GOJ

In accordance with the Note Verbale exchanged between GOJ and GOP, GOJ, through JICA, will take necessary measures for the implementation of the Study.

(1) To dispatch, at its own expense study team to the Republic of the Philippines.

(2) To pursue technology transfer to the Philippine counterpart personnel in the course of the Study.

V. CONSULTATION

JICA and NPC will consult with each other in respect of any matter that may arise in the interpretation or implementation of the present arrangement.

(APPENDIX I)

SCOPE OF WORK
FOR
THE RE-STUDY
OF
THE SAN ROQUE MULTI-PURPOSE PROJECT

I. OBJECTIVES OF THE STUDY

The objectives of the Study are:

1. To assess the reservoir water quality
2. To assess the irrigation water quality
3. To review the hydrological analysis

II. SCOPE OF THE STUDY

1. Reservoir Water Quality
   a. Conduct studies to forecast the short and long term quality of water stored in the reservoir.

2. Irrigation Water Quality
   a. Assess the effects of the physical, chemical and mineral properties of the mine tailings on the irrigation water, soils and plants in the project area.
   b. Monitor the behavior of crop production in relation to the use of irrigation water water from the Agno River.
   c. Assess the future quality of the irrigation water if mine tailings are stored in the proposed San Roque reservoir.

3. Water Resources
   Review the hydrological analysis to confirm the availability and dependability of water resources for the project.

III. STUDY SCHEDULE

The Study will be executed in accordance with the tentative schedule (APPENDIX II).

IV. REPORTS

JICA will prepare and submit the following reports in English to the GOP.

1. Inception Report
   - o Twenty (20) copies
   - o Within one (1) month after the start of the Study
   - o Covering the program of the Study with its detailed schedule.

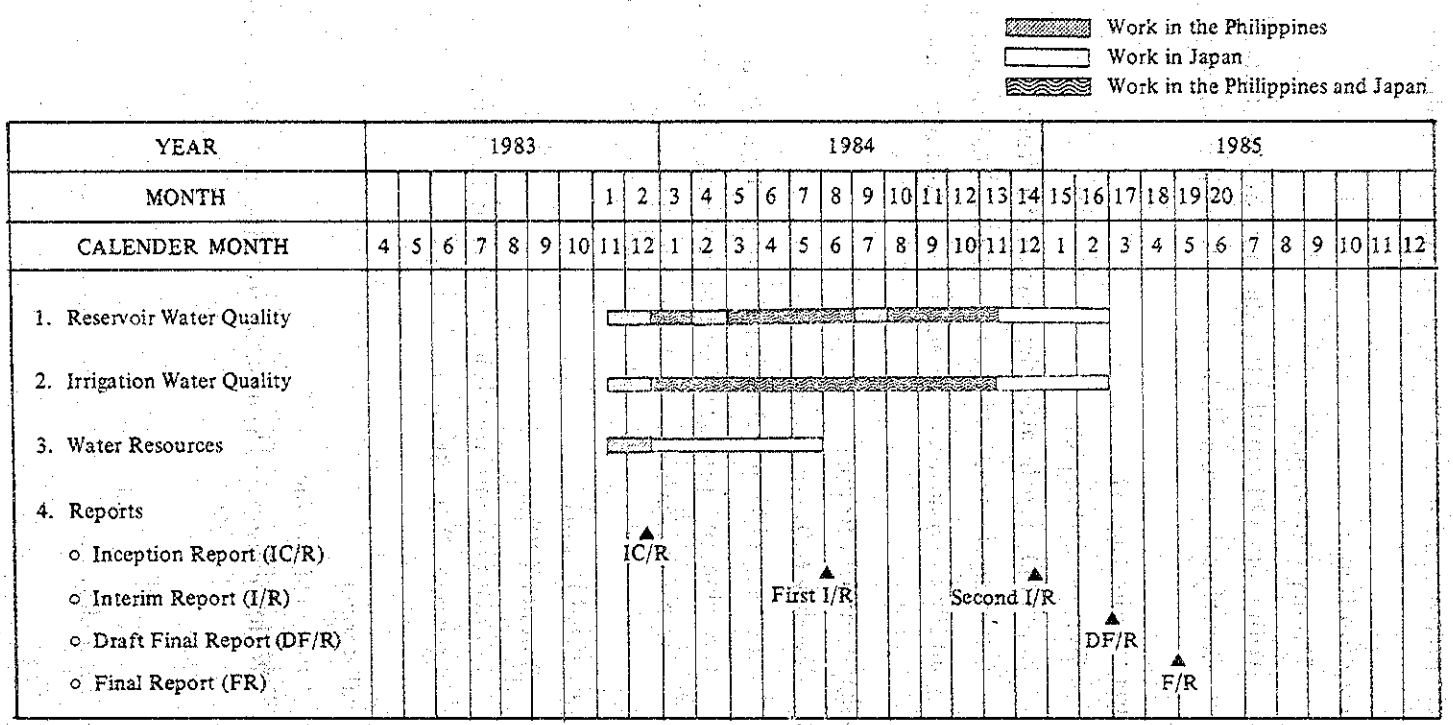
2. First Interim Report
   - o Twenty (20) copies
   - o Seven (7) months after the start of the Study
   - o Covering the result of the hydrological analysis and its evaluation and all the observation data carried out in the dry season.

3. Second Interim Report
   - o Twenty (20) copies
   - o Fourteen (14) months after the start of the Study
   - o Covering the primary result of reservoir water quality except irrigation water quality, and all the observation data.

4. Draft Final Report
   - o Twenty (20) copies
   - o Sixteen (16) months after the start of the Study
   - o Covering all the Study and analysis

5. Final Report
   - o Fifty (50) copies
   - o Within eighteen (18) months after the start of the study.

Tentative Time Schedule



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