Table APP 1.7-1(21) Preliminary Survey - 1

Date: April 24, 1992 Time: 14:05-14:15
Station: P1-21 Location: 22°51'57.9" S, 43°08'29.3" W
Weather on the day: Cloudy
Water color: Greenish brown
Secchi-disk reading: 1.2 m
Water depth: 16.3 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	27.04	32.23	51.31	11.7	178	8.00	20.641
1.0	26.81	32.24	51.16	11.8	179	-	20.722
2.0	25.40	32.56	50.10	9.9	148	-	21.402
3.0	25.15	32.69	50.35	7.4	110	-	21.726
4.0	24.90	33.07	50.28	5.5	82	-	21.938
5.0	24.79	33.21	50.42	5.1	76	-	22.076
7.0	24.49	33.52	50.77	3.6	53	-	22.400
10.0	23.83	34.02	50.70	2.7	40	-	22.973
13.0	23.50	34.44	50.74	3.0	45	-	23.386
15.0	23.44	34.56	50.87	3.0	43	-	23.494
16.0	23.44	34.56	50.87	3.0	43	-	23.494

Table APP 1.7-1(22) Preliminary Survey - 1

Date: April 24, 1992 Time: 14:25-14:32
Station: P1-22 Location: 22°51'16.7" S, 43°07'17.9" W
Water color: Grayish green brown
Secchi-disk reading: 1.8 m
Water depth: 3.7 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.89	31.96	50.77	15.4	234	8.30	20.487
1.0	26.70	32.00	50.77	14.4	218	-	20.578
1.5	26.18	32.19	50.13	-	-	-	20.883
2.0	25.76	32.30	50.12	8.5	127	-	21.096
3.0	25.20	32.85	50.31	5.1	75	-	21.681
3.5	25.21	32.83	50.32	4.9	73	-	21.663

Table APP 1.7-1(23) Preliminary Survey - 1

Date: April 24, 1992 Time: 14:25-14:32
Station: P1-23 Location: 22°51'16.7" S, 43°07'17.9" W
Water color: Brownish gray
Secchi-disk reading: 1.6 m
Water depth: 19.0 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.00	32.84	51.12	9.6	138	7.61	21.427
1.0	26.01	32.86	51.16	9.2	139	-	21.439
2.0	25.52	33.00	50.82	9.1	137	-	21.696
3.0	24.79	33.33	50.50	7.6	113	-	22.165
5.0	24.48	33.54	50.57	4.5	67	-	22.418
7.0	23.95	34.02	50.78	3.3	49	-	22.937
10.0	23.65	34.50	51.01	3.3	48	-	23.387
15.0	23.59	34.60	51.07	3.2	47	-	23.481

Table APP 1.7-1(24) Preliminary Survey - 1

Date: April 24, 1992 Time: 15:12-15:16
Station: P1-24 Location: 22°50'50.0" S, 43°11'00.2" W
Water color: Graysh brown
Secchi-disk reading: 1.4 m
Water depth: 7.0 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.41	32.61	51.30	8.4	128	7.82	21.126
1.0	26.43	32.65	51.26	8.5	129	-	21.150
2.0	25.58	32.99	50.90	-	-	-	21.670
3.0	24.84	33.32	50.60	6.1	91	-	22.144
5.0	24.18	33.85	50.65	3.0	44	-	22.741
6.0	23.88	34.06	50.62	2.7	40	-	22.988

Table APP 1.7-1(25) Preliminary Survey - 1

Date: April 24, 1992 Time: 15:30-15:35
Station: P1-25 Location: 22°51'01.3" S, 43°12'39.2" W
Water color: Grayish green brown
Secchi-disk reading: 1.0 m
Water depth: 4.5 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.28	32.35	50.71	5.9	89	7.77	20.972
1.0	26.28	32.37	50.73	5.9	89	-	20.987
2.0	26.10	32.52	50.70	5.8	88	-	21.156
2.5	25.49	32.80	50.63	5.6	70	-	21.555
3.0	25.03	32.20	50.65	3.2	48	-	21.245
3.5	24.75	33.41	50.62	1.3	20	-	22.239
4.0	24.68	33.00	50.59	0.7	10	-	21.951

Table APP 1.7-1(26) Preliminary Survey - 1

Date: April 24, 1992 Time: 15:52-16:02
Station: P1-26 Location: 22°49'55.4" S, 43°14'23.9" W
Water color: Greenish brown
Secchi-disk reading: 0.7 m
Water depth: 7.8 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	27.43	27.41	44.70	5.7	86	7.50	16.919
1.0	27.13	28.08	45.48	5.0	74	-	17.513
1.5	26.22	30.76	48.40	-	-	-	19.800
2.0	25.90	31.46	49.04	0.5	8	-	20.423
3.0	25.56	31.85	49.49	0.4	6	-	20.821
5.0	25.37	32.54	50.00	0.8	12	-	21.396
7.0	25.11	32.99	50.46	0.9	14	-	21.814

Table APP 1.7-1(27) Preliminary Survey - 1

Date: April 24, 1992 Time: 15:52-16:02
Station: P1-27 Location: 22°49'55.4" S, 43°14'23.9" W
Water color: Greenish brown
Secchi-disk reading: 1.5 m
Water depth: 4.2 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.04	31.25	48.95	2.9	44	7.47	20.223
1.0	26.04	31.25	48.95	2.9	44	-	20.223
2.0	25.96	31.33	48.93	2.3	35	-	20.308
3.0	25.75	31.66	49.23	1.1	16	-	20.620
3.5	25.55	32.22	49.60	1.1	16	-	21.101
4.0	25.30	32.50	49.55	1.1	16	-	21.388

Table APP 1.7-1(28) Preliminary Survey -1

Date: April 25, 1992 Time: 09:20-09:30
Station: P1-28 Location: 22°50'01.0" S, 43°09'11.0" W
Weather on the previous day: Clear
Weather on the day: Slightly cloudy
Air temperature: 24.8 °C (08:30)
Wind force: 0 m/s
Wind direction: -
Water color: Brownish green
Secchi-disk reading: 1.9 m
Water depth: 24.7 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	25.47	33.47	50.28	5.8	82	8.07	22.090
1.0	25.16	33.06	57.00	5.5	80	-	21.873
2.0	24.97	33.22	50.60	4.2	62	-	22.051
3.0	24.65	33.52	50.67	3.1	45	-	22.374
5.0	24.26	33.83	50.70	2.8	40	-	22.724
7.0	23.92	34.03	50.63	2.4	34	-	22.975
10.0	23.72	34.39	50.93	3.0	43	-	23.306
15.0	23.68	34.54	51.99	3.1	45	-	23.432
20.0	23.51	34.66	51.06	3.0	43	-	23.572
24.0	23.48	34.67	51.04	2.9	41	-	23.588

Table APP 1.7-1(29) Preliminary Survey -1

Date: April 25, 1992 Time: 09:50-09:55
Station: P1-29 Location: 22°49'25.3" S, 43°07'27.4" W
Light intensity onn the surface: 10000 lux (no.5 filter)
Light intensity at 0 m: 20000 lux(no. 4), 11000 lux(no. 5)
1 % light intensity water depth: 1.75 m 2.7 m
Water color: Greenish brown
Secchi-disk reading: 1.4 m
Water depth: 9.0 m

(m)	(°C)	(%)	(mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	25.47	32.71	50.40	7.5	111	8.16	21.514
1.0	25.12	32.72	50.07	6.7	98	-	21.627
2.0	25.06	32.74	50.04	6.4	94	-	21.660
2.5	25.07	32.74	50.07	5.7	83	-	21.657
3.0	25.15	32.76	50.09	5.2	77	-	21.648
4.0	25.03	32.78	50.15	4.8	70	-	21.700
4.5	25.02	32.80	50.49	-	-	-	21.718
5.0	24.99	32.87	50.15	2.8	41	-	21.780
7.0	24.13	33.75	50.46	1.5	22	-	22.702
8.0	23.82	33.99	50.49	1.4	21	-	22.974
8.5	23.80	33.56	49.17	1.4	19	-	22.669
9.0	23.63	27.91	42.31	-	-	-	18.423

Table APP 1.7-1(30) Preliminary Survey -1

Date: April 25, 1992 Time: 10:20-10:25
Station: P1-30 Location: 22°49'08.9" S, 43°06'05.2" W
Water color: Greenish brown (not transparent)
Secchi-disk reading: 0.6 m
Water depth: 2.8 m

Depth (m)	Temp. (°C)	Salinity (%)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.63	31.91	50.40	8.8	132	8.32	20.550
0.5	26.48	31.93	50.28	9.2	138	-	20.612
1.0	26.32	31.96	50.28	6.5	97	-	20.684
1.5	26.15	32.06	50.17	5.6	83	-	20.813
2.0	25.93	32.19	50.17	4.2	63	-	20.979
2.5	25.43	32.61	50.26	2.5	37	-	21.450
2.8	25.41	32.53	42.05	-	-	-	21.396

Table APP 1.7-1(31) Preliminary Survey -1

Date: April 25, 1992 Time: 10:45-10:50
Station: P1-31 Location: 22°48'37.6" S, 43°04'51.9" W
Light intensity at 0 m: 20000 lux (no.4), 11500 lux (no.5)
1 % light intensity water depth: 1.4 m >1.5 m
Water color: Greenish brown
Secchi-disk reading: 0.6 m
Water depth: 1.5 m

(m)	(°C)	(%)	(mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	27.14	31.54	50.45	9.4	142	8.35	20.109
0.5	26.86	31.61	50.23	9.1	136	-	20.250
1.0	26.78	31.63	50.20	6.8	101	-	20.291
1.5	26.77	26.30	40.10	-	-	-	16.263

Table APP 1.7-1(32) Preliminary Survey -1

Date: April 25, 1992 Time: 11:10-11:15
Station: P1-32 Location: 22°47'16.7" S, 43°05'10.9" W
Water color: Greenish brown (not transparent)
Secchi-disk reading: 0.9 m
Water depth: 3.6 m

Depth (m)	Temp. (°C)	Salinity (%)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.94	30.92	49.32	9.5	142	8.22	19.703
0.5	26.03	30.78	48.23	9.7	143	-	19.880
1.0	25.88	30.87	48.29	6.8	100	-	19.995
1.5	25.52	32.01	49.49	5.2	76	-	20.968
2.0	25.25	32.41	49.81	5.3	78	-	21.353
2.5	25.22	32.60	49.99	5.3	78	-	21.506
3.0	25.15	32.59	49.95	4.9	72	-	21.519
3.5	25.10	32.58	49.87	-	-	-	21.527

Table APP 1.7-1(33) Preliminary Survey -1

Date: April 25, 1992 Time: 11:30-11:35
Station: P1-33 Location: 22 46'60.0" S, 43°05'58.0" W
Water color: Brown
Secchi-disk reading: 0.8 m
Water depth: 8.3 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.15	31.79	49.76	10.3	153	8.27	20.608
1.0	25.75	32.32	50.28	9.8	145	-	21.133
2.0	25.23	32.69	50.10	6.8	99	-	21.571
3.0	25.06	32.73	50.04	4.4	64	-	21.653
4.0	24.65	33.10	50.13	3.1	45	-	22.055
5.0	24.26	33.51	50.29	1.5	22	7.91	22.481
6.0	24.18	33.55	50.28	1.4	20	-	22.535
7.0	24.00	33.71	50.30	0.6	9	-	22.709
8.0	23.74	33.50	50.31	0.4	6	-	22.625

Table APP 1.7-1(34) Preliminary Survey -1

Date: April 25, 1992 Time: 11:50-11:55
Station: P1-34 Location: 22 45'55.5" S, 43°05'57.0" W
Water color: Greenish brown
Secchi-disk reading: 0.8 m
Water depth: 12.7 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.55	32.30	51.09	12.3	183	8.80	20.870
1.0	25.73	32.35	50.31	9.3	137	-	21.162
1.5	25.51	*32.64	*50.34	7.1	106	-	-3.050
2.0	25.46	32.51	50.15	4.7	68	-	21.365
3.0	24.79	32.99	50.13	3.1	45	-	21.930
3.5	24.57	*33.23	*50.23	2.5	38	-	-2.773
4.0	24.65	33.13	50.18	-	-	-	22.078
5.0	24.21	33.52	50.28	1.1	22	-	22.504
6.0	24.02	33.65	50.24	-	-	-	22.658
7.0	23.91	33.77	50.29	1.1	16	-	22.781
8.0	23.82	33.83	50.29	-	-	-	22.852
9.0	23.71	33.93	50.31	-	-	-	22.960
10.0	23.68	33.95	50.32	0.8	12	-	22.984
11.0	23.63	34.00	50.31	-	-	-	23.036
12.0	23.61	33.39	50.12	0.8	12	-	22.579

*2nd time

Table APP 1.7-1(35) Preliminary Survey - 1

Date: April 25, 1992 Time: 13:50-13:55
Station: P1-35 Location: 22°45'21.9" S, 43°04'30.7" W
Weather on the day: Slightly cloudy
Air temperature: 27.5 °C (13:50)
Wind force: 3 m/s
Wind direction: SW
Water color: Greenish brown
Secchi-disk reading: 1.0 m
Water depth: 4.0 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	27.91	30.79	50.04	9.5	146	8.17	19.294
0.5	27.11	31.06	49.74	-	-	-	19.755
1.0	26.42	30.74	49.40	9.6	144	-	19.729
1.5	25.77	31.20	48.53	-	-	-	20.278
2.0	25.57	31.86	49.31	6.0	90	-	20.839
2.5	25.40	32.14	49.57	-	-	-	21.103
3.0	25.30	32.19	49.53	5.4	81	-	21.171
3.5	24.79	32.33	49.24	0.6	9	-	21.430
4.0	25.26	28.65	43.67	-	-	-	18.503

Table APP 1.7-1(36) Preliminary Survey - 1

Date: April 25, 1992 Time: 14:05-14:10
Station: P1-36 Location: 22°44'58.6" S, 43°03'43.2" W
Water color: Light greenish dark brown
Secchi-disk reading: 0.8 m
Water depth: 1.8 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	sigma-t
0.0	28.06	29.44	48.12	11.3	172	8.25	18.224
0.5	28.03	29.44	48.18	-	-	-	18.234
1.0	27.80	29.42	47.90	10.5	160	-	18.293
1.5	26.21	30.36	47.78	8.2	103	-	19.507

Table APP 1.7-1(37) Preliminary Survey - 1

Date: April 25, 1992 Time: 14:30-14:35
Station: P1-37 Location: 22°43'56.6' S, 43°04'53.6' W
Wind force: Light wind (2 m/s)
Water color: Grayish green brown
Secchi-disk reading: 0.9 m
Water depth: 4.4 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	27.61	31.23	50.45	10.8	166	8.30	19.724
0.5	27.47	31.28	50.37	-	-	-	19.807
1.0	26.51	31.57	49.81	10.2	154	-	20.330
1.5	26.15	31.56	49.51	-	-	-	20.434
2.0	26.01	31.81	49.70	8.3	124	-	20.667
2.5	25.75	31.95	49.62	6.6	99	-	20.853
3.0	25.58	33.05	40.63	5.1	77	-	21.738
3.5	24.62	33.12	50.12	0.7	11	-	22.080
4.0	24.62	33.09	50.07	0.4	5	-	22.057
4.2	-	-	-	0.0	0	-	-

Table APP 1.7-1(38) Preliminary Survey - 1

Date: April 25, 1992 Time: 14:45-14:50
Station: P1-38 Location: 22°43'21.6' S, 43°04'59.6' W
Water color: Brown
Secchi-disk reading: 0.7 m
Water depth: 4.0 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	27.80	31.31	50.70	12.1	185	8.35	19.723
0.5	27.74	31.33	50.62	-	-	-	19.758
1.0	27.12	31.31	49.98	10.9	166	-	19.941
1.5	26.35	31.44	49.48	7.8	117	-	20.281
2.0	26.17	31.56	49.51	6.3	94	-	20.428
2.5	25.96	31.72	49.51	4.5	68	-	20.614
3.0	25.23	32.64	50.10	2.4	36	-	21.533
3.3	24.85	32.97	50.15	0.2	4	-	21.897
3.5	24.78	33.02	50.15	0.2	3	-	21.956
3.8	24.78	32.99	50.10	0.1	1	-	21.933

Table APP 1.7-1(39) Preliminary Survey - 1

Date: April 25, 1992 Time: 15:00-16:05
Station: P1-39 Location: 22°43'15.7' S, 43°06'08.9' W
Water color: Greyish green brown
Secchi-disk reading: 0.7 m
Water depth: 4.1 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	27.75	32.08	51.77	11.9	183	8.36	20.322
0.5	27.77	32.09	51.82	-	-	-	20.323
1.0	27.72	32.06	51.68	12.0	184	-	20.317
1.5	26.82	32.22	51.27	11.7	178	-	20.725
2.0	25.89	32.04	49.96	6.5	98	-	20.878
2.5	25.62	32.11	49.71	5.3	78	-	21.013
3.0	25.57	32.18	49.79	5.4	81	-	21.062
3.5	24.92	32.95	50.28	2.2	33	-	21.861
3.8	24.73	33.11	50.24	0.8	10	-	22.039

Table APP 1.7-1(40) Preliminary Survey - 1

Date: April 25, 1992 Time: 15:20-15:32
Station: P1-40 Location: 22°44'29.9' S, 43°05'55.8' W
Light intensity on the surface: 7500 lux (no. 4), 3500 lux (no. 5)
Light intensity at 0 m: 5000 lux (no. 4), 3000 lux (no. 5)
1 % light intensity water depth: 2.4 m 1.7 m
Wind force: 3 m/s
Water color: Greenish brown
Secchi-disk reading: 0.6 m
Water depth: 5.9 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	27.77	32.26	52.05	15.5	239	8.53	20.452
0.5	27.72	32.25	52.02	-	-	-	20.461
1.0	27.71	32.24	52.21	10.9	167	-	20.456
1.5	26.11	32.42	50.68	9.7	145	-	21.038
2.0	25.70	32.41	50.46	8.8	132	-	21.216
2.5	25.57	32.41	50.23	6.6	98	-	21.256
3.0	25.51	32.60	50.06	5.2	77	-	21.418
3.5	25.40	32.63	50.32	4.5	67	-	21.474
4.0	24.91	32.86	50.06	3.9	58	-	21.796
4.5	24.33	33.36	50.17	0.7	11	-	22.347
5.0	24.07	33.62	50.24	0.2	4	-	22.620
5.5	24.01	33.66	50.24	0.1	1	-	22.668

Table APP 1.7-1(41) Preliminary Survey -1

Date: May 1, 1992 Time: 09:35-09:50
Station: P1-41 Location: 22°48'31.1" S, 43°08'37.9" W
Weather on the previous day: Slightly cloudy, strong wind (12-13 m/s)
Weather on the day Clear
Air temperature: 26.2 °C (8:35)
Light intensity on the surface: 17000 lux (no.4), 8500 lux (no.5)
Light intensity at 0 m: 9500 lux (no.4), 5500 lux (no.5)
1 % light intensity water depth: 1.5 m 1.2 m
Water color: Dark brown
Secchi-disk reading: 1.2 m
Water depth: 22.5 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	25.36	30.42	47.64	8.0	115	8.17	19.809
0.5	25.21	30.60	47.17	7.9	114	-	19.989
1.0	25.17	30.59	47.29	5.7	83	-	19.994
2.0	25.04	31.34	48.12	4.8	69	-	20.596
3.0	25.03	31.34	48.12	4.4	64	-	20.599
4.0	24.81	32.32	49.17	3.3	48	-	21.401
5.0	24.72	32.38	49.20	3.1	45	-	21.473
7.0	24.56	32.76	49.60	2.8	40	-	21.801
10.0	24.12	33.63	50.32	1.4	21	7.84	22.593
15.0	24.01	33.93	50.62	1.7	24	-	22.851
17.3	23.95	34.06	50.68	1.7	24	-	22.967
20.0	23.95	34.03	50.70	-	-	-	22.945
21.0	23.91	34.10	50.74	1.7	24	-	23.009

Table APP 1.7-1(42) Preliminary Survey -1

Date: May 1, 1992 Time: 10:10-10:30
Station: P1-42 Location: 22°46'55.4" S, 43°08'02.6" W
Air temperature: 28.0 °C (10:20)
Wind force: 0 m/s
Water color: Greenish dark brown
Secchi-disk reading: 1.0 m
Water depth: 17.5 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	25.53	29.75	46.29	8.3	121	8.21	19.256
1.0	25.33	30.13	46.68	6.0	87	-	19.601
2.0	25.25	30.53	47.21	4.3	62	-	19.925
3.0	25.23	30.67	47.32	3.7	53	-	20.036
3.5	24.97	31.69	48.43	-	-	-	20.880
4.0	24.97	31.63	48.48	3.1	46	-	20.835
5.0	24.76	32.33	49.20	2.8	41	-	21.424
7.0	24.54	32.89	49.71	2.1	31	-	21.911
10.0	24.29	33.32	50.04	1.3	20	-	22.309
13.0	24.29	33.37	50.13	1.3	18	-	22.347
15.0	24.28	33.38	50.15	1.3	18	-	22.365
17.0	24.23	33.47	50.29	-	-	-	22.440

Table APP 1.7-1(43) Preliminary Survey -1

Date: May 1, 1992 Time 10:55-11:05
Station: P1-43 Location: 22°44'51.3" S, 43°08'05.5" W
Light intensity on the surface: 25000 lux (no.4), 14000 lux (no.5)
Light intensity at 0 m: 20000 lux (no.4), 11000 lux (no.5)
1 % light intensity water depth: 2.0 m 2.1 m
Water color: Dark brown (not transparent)
Secchi-disk reading: 0.4 m
Water depth: 6.0 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.69	27.92	44.75	17.0	248	8.38	17.531
0.5	25.47	28.11	44.01	7.2	103	-	18.046
1.0	25.45	29.08	45.37	5.3	76	-	18.778
1.5	25.33	29.20	45.43	4.1	58	-	18.904
2.0	25.34	29.78	46.32	4.4	63	-	19.335
2.5	25.21	30.76	47.40	-	-	-	20.109
3.0	25.11	31.56	48.45	2.9	42	-	20.740
4.0	24.88	32.64	49.31	1.7	25	-	21.681
5.0	24.59	32.87	49.76	0.7	10	-	21.881
5.5	24.56	32.88	49.76	0.6	9	-	21.891

Table APP 1.7-1(44) Preliminary Survey -1

Date: May 1, 1992 Time: 13:25-13:45
Station: P1-44 Location: 22°43'52.8" S, 43°10'01.2" W
Light intensity on the surface: 45000 lux (no.4), 23000 lux (no.5)
Light intensity at 0 m: 20000 lux (no.4), 8500 lux (no.5)
1 % light intensity water depth: 2.5 m 3.1 m
Water color: Dark brown
Secchi-disk reading: 1.2 m
Water depth: 4.2 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	29.19	27.91	46.95	21.9	330	8.23	16.721
0.5	28.34	27.87	45.79	21.0	313	-	16.970
1.0	25.95	28.18	44.53	7.0	102	-	17.953
1.5	25.49	29.46	45.92	4.7	67	-	19.050
2.0	25.41	30.05	46.72	3.4	50	8.05	19.517
2.5	25.33	30.61	47.39	2.4	35	-	19.961
3.0	25.32	30.65	47.45	2.2	32	-	19.994
3.5	25.31	30.85	47.70	2.1	30	-	20.147
3.9	25.21	31.50	48.50	-	-	-	20.665
4.0	25.21	27.36	43.00	1.2	17	-	17.562

Table APP 1.7-1(45) Preliminary Survey -1

Date: May 1, 1992 Time: 14:20-14:30
Station: P1-45 Location: 22°46'33.6" S, 43°13'06.7" W
Light intensity on the surface: Clear, windy
Light intensity at 0 m: 5 m/s
1 % light intensity water depth: 26.2 °C (13:45)
Water color: Greenish dark brown
Secchi-disk reading: 0.6 m
Water depth: 5.2 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	27.52	24.70	40.80	14.9	215	8.57	14.873
0.5	27.28	25.67	41.13	15.0	217	-	15.670
1.0	25.36	27.62	43.25	14.1	201	-	17.712
1.5	25.47	29.08	45.40	11.1	160	-	18.772
2.0	25.53	29.79	46.45	6.2	89	-	19.285
2.5	25.46	30.11	46.78	5.1	73	-	19.546
3.0	25.38	30.37	47.78	4.3	62	-	19.766
3.5	25.24	30.80	47.53	3.5	48	-	20.130
4.0	25.11	31.81	48.64	1.3	19	-	20.928
4.5	24.74	32.05	48.76	0.6	8	-	21.219
5.0	24.64	32.31	49.03	0.4	7	-	21.445

Table APP 1.7-1(46) Preliminary Survey -1

Date: May 1, 1992 Time: 14:45-14:55
Station: P1-46 Location: 22°46'46.5" S, 43°14'25.2" W
Weather on the day: Cloudy and windy
Water color: Brown
Secchi-disk reading: 0.6 m
Water depth: 3.0 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.59	25.98	41.63	13.3	192	8.47	16.115
0.5	26.43	25.55	42.77	12.5	179	-	15.843
1.0	25.47	28.23	44.51	7.0	101	-	18.135
1.4	25.24	29.89	46.20	-	-	-	19.448
1.7	25.03	31.19	47.89	2.8	40	-	20.486
2.0	24.91	31.94	48.90	2.0	29	-	21.086
3.0	24.80	32.27	49.15	0.4	5	-	21.367

Table APP 1.7-1(47) Preliminary Survey -1

Date: May 1, 1992 Time: 15:20-15:35
Station: P1-47 Location: 22°46'02.0" S, 43°11'04.0" W
Light intensity on the surface: 25500 lux (no.4), 14000 lux (no.5)
Light intensity at 0 m: 10000 lux (no.4), 5500 lux (no.5)
1 % light intensity water depth: 2.8 m 2.5 m
Wind force: 2 m/s
Wind direction: S
Water color: Greenish brown
Secchi-disk reading: 0.9 m
Water depth: 6.8 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	25.99	29.88	46.93	12.2	178	8.31	19.212
0.5	25.99	29.84	46.95	13.3	194	-	19.183
1.0	26.00	29.87	46.95	8.6	126	-	19.202
1.5	25.97	29.86	46.93	8.5	124	-	19.204
2.0	25.90	29.92	47.06	8.2	119	-	19.270
2.5	25.74	30.17	47.11	8.1	117	-	19.506
2.9	25.51	30.52	47.43	-	-	-	19.839
3.5	25.12	30.94	47.78	4.6	67	8.26	20.272
3.8	25.11	31.41	48.18	-	-	-	20.627
4.1	24.53	32.78	49.50	2.2	98	-	21.831
4.7	24.39	33.06	49.82	1.4	86	-	22.083
5.0	24.39	33.08	49.85	-	-	-	22.099
5.2	24.38	33.10	49.85	-	-	-	22.117
5.6	24.27	33.09	49.85	1.4	32	-	22.142

Table APP 1.7-2(1) Field Record of the Preliminary Survey-2

Date: October 17, 1992 Time:
Station: P2-1 Location: 22°58'38.0" S, 43°07'57.5" W
Weather on the previous day: Clear
Weather on the day: Clear
Air temperature: -
Water color: -
Secchi-disk reading: 1.5 m
Water depth: 18.5 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	20.05	32.45	44.19	7.75	106	8.01	22.83
0.5	21.90	32.61	45.81	7.79	110	7.98	22.46
1.0	20.00	33.40	45.12	7.61	105	7.03	23.57
1.5	17.20	34.43	44.28	8.33	110	7.90	25.05
2.0	18.04	34.42	44.28	10.07	135	7.93	24.84
3.0	16.83	34.62	44.28	10.93	143	7.91	25.29
4.0	16.66	34.69	44.25	11.55	151	7.29	25.38
5.0	16.64	34.76	44.23	12.58	165	-	25.44
7.0	16.07	35.18	44.16	12.20	158	-	25.89
9.0	14.84	35.50	43.01	15.14	192	-	26.41
11.0	14.44	35.44	42.77	8.06	101	-	26.46
13.0	14.43	35.43	42.72	6.20	78	-	26.45
15.0	14.33	35.43	42.72	6.10	77	-	26.47
18.0	14.33	35.43	42.72	5.81	73	-	26.47

Table APP 1.7-2(2) Preliminary Survey - 2

Date: October 17, 1992 Time:
Station: P2-2 Location: 22°58'56.9" S, 43°06'37.5" W
Weather on the previous day: Clear
Weather on the day: Clear
Air temperature: -
Water color: Brown
Secchi-disk reading: 1.3 m
Water depth: 20.7 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	19.80	32.32	45.23	8.91	121	8.05	22.80
0.5	19.11	33.40	45.03	8.80	119	8.12	23.80
1.0	18.01	33.51	45.00	9.40	125	8.10	24.16
1.5	18.64	33.74	44.87	9.62	130	8.11	24.18
2.0	18.58	33.82	45.06	10.23	138	8.10	24.25
3.0	18.40	33.26	45.70	11.11	149	8.02	23.87
4.0	17.44	34.55	44.70	10.98	145	8.05	25.09
5.0	16.68	34.83	44.34	13.05	171	-	25.49
7.0	15.41	35.41	43.82	14.11	181	-	26.22
9.0	15.00	35.51	43.05	12.53	160	-	26.39
11.0	14.29	35.44	42.89	6.37	80	-	26.49
15.0	14.17	35.43	42.59	6.45	81	-	26.51
19.0	14.16	35.44	42.55	6.54	82	-	26.52

Table APP 1.7-2(3) Preliminary Survey - 2

Date: October 16, 1992 Time: 14:05
Station: P2-3 Location: 22°59'00.0" S, 43°09'00.0" W
Weather on the previous day: Clear
Weather on the day: Clear
Air temperature: 31.7 °C(13:45)
Secchi-disk reading: 1.0 m
Water depth: 24.0 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	23.43	30.51	45.54	8.64	124	8.30	20.45
0.5	23.35	30.55	45.51	8.91	127	8.33	20.50
1.0	23.30	30.55	45.48	8.81	126	8.35	20.51
1.5	23.40	30.69	45.30	8.05	115	-	20.59
2.0	20.80	31.71	44.83	7.95	110	8.32	22.08
3.0	20.65	31.07	44.95	7.28	100	8.60	21.63
4.0	20.75	32.71	45.89	7.20	100	8.36	22.85
5.0	20.90	32.76	45.50	8.20	114	-	22.85
7.0	19.25	33.43	45.17	6.37	87	-	23.79
10.0	18.00	34.03	44.76	4.16	56	-	24.55
13.0	18.66	34.84	44.45	5.12	67	-	25.49
15.0	16.45	34.91	44.35	5.08	66	-	25.60
18.0	16.40	35.03	44.25	3.95	52	-	25.70
20.0	16.10	35.15	44.15	4.92	64	-	25.86
23.0	16.94	35.22	44.09	-	-	-	25.72
24.0	15.88	35.27	44.03	-	-	-	26.00

Table APP 1.7-2(4) Preliminary Survey - 2

Date: October 16, 1992 Time: 113:35-
Station: P2-4 Location: 22°59'09." S, 43°07'51.0" W
Air temperature: 31.7 °C(13:45)
Secchi-disk reading: 0.8 m
Water depth: 8.0 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	23.85	30.20	45.45	10.34	149	8.37	20.09
0.5	23.90	30.15	45.40	10.20	147	8.41	20.04
1.0	23.18	30.16	45.00	9.95	141	8.43	20.25
1.5	21.40	30.50	44.65	9.50	132	-	21.00
2.0	21.35	31.35	44.70	8.24	115	8.24	21.66
3.0	21.30	31.45	44.75	8.02	112	8.20	21.75
4.0	21.14	31.45	44.79	7.78	108	8.01	21.79
5.0	20.33	32.45	45.15	7.58	104	-	22.76
7.0	18.25	34.50	44.95	6.54	88	-	24.85

Table APP 1.7-2(5) Preliminary Survey - 2

Date: October 16, 1992 Time: 11:55-
Station: P2-5 Location: 22°56'59.9" S, 43°07'51.3" W
Air temperature: 31.7 °C(13:45)
Secchi-disk reading 2.0 m
Water depth 13.8 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	23.12	30.90	45.45	7.35	105	8.18	20.83
0.5	21.34	31.45	45.33	7.55	105	8.28	21.74
1.0	18.52	33.32	44.90	6.57	90	8.30	23.89
1.5	18.06	34.18	44.65	-	-	-	24.65
2.0	17.25	34.45	44.50	6.51	86	7.95	25.06
3.0	16.60	34.75	44.33	6.11	80	7.94	25.44
4.0	16.22	35.04	44.15	5.98	78	7.94	25.75
5.0	16.17	35.05	44.12	5.93	77	-	25.77
7.0	16.05	35.13	44.05	6.95	90	-	25.86
9.0	15.70	35.25	43.92	5.35	69	-	26.03
10.0	15.35	35.35	43.67	5.35	68	-	26.19
13.0	15.29	35.43	43.67	-	-	-	26.25

Table APP 1.7-2(6) Preliminary Survey - 2

Date: October 16, 1992 Time: 10:50-11:30
Station: P2-6 Location: 22°56'27.2" S, 43°10'04.4" W
Air temperature: 30.4 °C(10:15)
Secchi-disk reading 0.9 m
Water depth 10.2 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	22.50	31.10	46.35	8.31	118	8.32	21.15
0.5	22	31	46	8.08	113	8.27	21.22
1.0	20	32	44	8.02	110	8.17	22.51
1.5	20	32	44	-	-	-	22.51
2.0	20	32	45	7.64	104	8.11	22.51
3.0	20	32	45	7.51	103	8.11	22.51
4.0	19	33	45	7.32	99	8.11	23.86
5.0	18	33	44	7.19	96	-	23.77
7.0	18	33	44	6.32	84	-	23.77
9.0	17	34	44	6.26	82	-	24.77

Table APP 1.7-2(7) Preliminary Survey - 2

Date: October 16, 1992 Time: 15:25-15:40
Station: P2-7 Location: 22°54'18.3" S, 43°06'58.9" W
Water color Brown
Secchi-disk reading 1.2 m
Water depth 36.8 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	22.38	30.90	45.11	7.24	102	8.33	21.04
0.5	22.65	30.80	45.11	7.43	105	8.20	20.88
1.0	22.45	30.77	45.10	7.30	103	8.33	20.92
1.5	21.70	31.48	45.18	7.46	104	8.23	21.66
2.0	18.75	31.90	45.71	7.99	107	8.30	22.75
3.0	18.74	33.63	45.02	5.70	77	8.25	24.07
5.0	18.16	33.93	44.80	5.60	75	8.25	24.44
7.0	18.00	34.03	44.75	5.62	75	-	24.55
10.0	17.85	34.13	44.68	5.22	70	-	24.67
13.0	17.22	34.52	44.58	4.85	64	-	25.12
15.0	17.07	34.65	44.55	4.89	64	-	25.25
20.0	16.15	35.11	44.19	4.85	63	-	25.82
25.0	15.74	35.27	43.97	-	-	-	26.04
30.0	15.70	35.31	43.94	-	-	-	26.08
35.0	15.69	35.30	43.92	-	-	-	26.07
36.0	15.69	35.30	43.92	-	-	-	26.07

Table APP 1.7-2(8) Preliminary Survey - 2

Date: October 16, 1992 Time: 15:55-16:15
Station: P2-8 Location: 22°53'24.0" S, 43°09'15.0" W
Weather on teh day: Clear
Air temperature: 31.7 °C(13:45)
Water color Brown
Secchi-disk reading 1.1 m
Water depth 32.3 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	22.63	30.20	45.30	7.68	109	8.24	20.44
0.5	22.50	31.25	45.10	7.56	107	8.23	21.27
1.0	20.99	32.50	45.20	7.44	104	8.15	22.62
1.5	20.48	32.45	45.20	7.32	101	8.15	22.72
2.0	20.33	32.57	45.25	7.31	101	8.16	22.85
3.0	18.16	34.00	44.73	7.23	97	8.20	24.49
5.0	17.55	34.31	44.64	6.11	81	8.30	24.88
7.0	16.33	35.05	44.26	5.43	71	-	25.73
10.0	16.11	35.14	44.15	5.64	73	-	25.85
15.0	16.05	35.18	44.14	5.27	68	-	25.90
20.0	15.96	35.21	44.08	5.16	67	-	25.94
25.0	15.98	35.20	44.07	-	-	-	25.93
30.0	15.89	35.23	44.05	-	-	-	25.97
31.0	15.90	35.23	44.06	-	-	-	25.97

Table APP 1.7-2(9) Preliminary Survey - 2

Date: October 19, 1992 Time: 10:35-10:55
Station: P2-9 Location: 22°53'09.1" S, 43°09'48.1" W
Weather on the previous day: Clear
Weather on the day: Clear
Air temperature: 29.1 °C(09:30)
Wind force: 0-1 m/s
Water color: Greenish brown
Secchi-disk reading: 0.5 m
Water depth: 20.0m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	25.63	30.20	46.15	6.60	98	8.56	19.56
0.5	25.80	30.00	47.00	5.80	86	8.54	19.36
1.0	21.90	31.98	45.53	6.46	91	8.40	21.98
0.5	20.35	32.67	45.53	6.87	95	8.17	22.92
2.0	20.13	32.79	45.37	6.52	90	8.10	23.07
3.0	18.24	33.87	44.78	6.15	82	8.08	24.37
5.0	17.00	34.40	44.37	5.71	75	8.08	25.07
7.0	16.51	34.72	44.09	5.21	68	-	25.43
10.0	15.90	34.96	43.73	5.99	77	-	25.75
13.0	15.81	34.98	43.69	5.93	76	-	25.79
15.0	15.68	35.03	43.61	5.78	74	-	25.86
19.0	15.85	24.25	35.30	6.30	76	-	17.60

Table APP 1.7-2(10) Preliminary Survey - 2

Date: October 19, 1992 Time: 11:10-11:35
Station: P2-10 Location: 22°51'56.7" S, 43°09'17.9" W
Weather on the previous day: Clear
Weather on the day: Clear
Air temperature: 29.4 °C(10:15)
Wind force: 2-3 m/s
Water color: Brown
Garbage: Yes
Oil: No
Secchi-disk reading: 0.4 m
Water depth: 21.5m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.00	30.00	47.15	14.33	213	8.66	19.30
0.5	25.80	30.00	46.90	14.06	208	8.66	19.36
1.0	25.50	30.05	46.85	13.79	203	8.64	19.49
0.5	24.70	30.25	46.46	12.93	189	8.68	19.88
2.0	22.80	31.10	45.85	10.86	155	8.6	21.07
3.0	22.41	31.50	45.85	6.96	99	8.27	21.48
5.0	19.80	33.00	45.28	6.21	85	8.26	23.31
7.0	17.00	34.65	44.13	5.69	75	-	25.26
10.0	15.82	35.03	43.61	5.51	71	-	25.82
13.0	15.34	35.17	43.43	5.32	68	-	26.04
15.0	15.27	35.21	43.42	5.21	67	-	26.09
19.0	15.17	35.26	43.36	5.28	67	-	26.15
20.0	15.16	35.26	43.36	-	-	-	26.15

Table APP 1.7-2(11) Preliminary Survey - 2

Date: October 19, 1992 Time: 11:10-11:35
Station: P2-11 Location: 22°51'48.8" S, 43°11'32.6" W
Weather on the previous day: Clear
Weather on the day: Slightly cloudy
Air temperature: 29.4 °C(10:15)
Wind force: 4-5 m/s
Water color: Brown
Garbage: No
Oil: No
Secchi-disk reading: 0.5 m
Water depth: 8.0 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	25.73	29.73	46.60	9.24	138	8.51	19.18
0.5	25.75	29.73	46.47	9.03	135	8.51	19.17
1.0	23.22	30.75	46.00	8.95	134	8.51	20.68
1.5	22.00	31.05	45.94	6.04	91	8.39	21.25
2.0	21.00	32.27	45.50	5.17	79	8.29	22.44
3.0	19.70	32.85	45.23	5.35	81	8.09	23.22
4.0	19.20	33.32	45.10	4.31	66	8.03	23.71
5.0	18.62	33.65	44.98	3.72	53	-	24.10
6.0	17.47	34.36	44.60	3.73	48	-	24.93
7.0	17.30	34.43	44.53	3.91	50	-	25.02

Table APP 1.7-2(12) Preliminary Survey - 2

Date: October 19, 1992 Time: 13:35-13:50
Station: P2-12 Location: 22°49'45.0" S, 43°11'56.0" W
Water color: Greenish brown
Secchi-disk reading: 0.4 m
Water depth: 4.8 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.43	28.97	46.08	10.44	155	8.46	18.40
0.5	26.48	29.00	46.09	10.94	163	8.47	18.41
1.0	26.25	29.00	46.09	11.12	165	8.47	18.48
1.5	26.45	28.95	46.08	11.06	164	8.47	18.38
2.0	26.40	28.95	46.09	10.87	161	8.45	18.39
3.0	26.00	29.55	45.98	10.57	156	8.46	18.96
3.5	26.00	31.00	46.00	9.61	143	8.46	20.05
4.0	22.00	33.79	45.80	7.97	114	8.06	23.32

Table APP 1.7-2(13) Preliminary Survey - 2

Date: October 19, 1992 Time: 13:10-13:25
Station: P2-13 Location: 22°49'30.4" S, 43°12'43.1" W
Wind force: 7-8 m/s
Water color: Greenish brown
Secchi-disk reading: 0.4 m
Water depth: 3.1 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.91	28.62	46.01	12.1	180	-	17.99
0.5	26.91	28.62	45.97	12.4	185	-	17.99
1.0	26.90	28.60	45.95	12.2	182	-	17.98
1.5	26.83	28.57	45.90	11.9	177	-	17.98
2.0	26.70	28.60	45.70	11.9	177	-	18.04
2.5	26.47	28.60	45.55	9.8	145	-	18.11
2.7	25.20	29.30	45.40	8.0	117	-	19.02

Table APP 1.7-2(14) Preliminary Survey - 2

Date: October 19, 1992 Time: 12:45-13:00
Station: P2-14 Location: 22°50'04.1" S, 43°13'21.9" W
Air temperature: 27.1 °C(12:45)
Wind force: 5-6 m/s
Water color: Brown
Secchi-disk reading: 0.4 m
Water depth: 2.4 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.46	28.10	44.86	8.28	122	8.36	17.74
0.5	26.46	28.10	44.85	8.25	122	8.38	17.74
1.0	26.37	28.20	44.85	8.28	122	8.39	17.84
1.3	26.00	28.40	44.87	8.24	121	-	18.11
1.5	24.80	29.63	45.45	8.09	118	8.38	19.39
1.8	-	-	-	(6.00)	(87)	-	-
2.0	24.64	29.75	45.30	4.39	64	8.15	19.52

Table APP 1.7-2(15) Preliminary Survey - 2

Date: October 20, 1992 Time: 10:00-10:15
Station: P2-15 Location: 22°50'52.9" S, 43°08'58.0" W
Air temperature: 26.5 °C(09:00)
Wind force: 2 m/s
Water color: Brown
Secchi-disk reading: 0.6 m
Water depth: 16.5 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.15	29.40	46.45	12.65	188	8.25	18.81
0.5	25.05	29.60	45.71	10.36	151	8.25	19.29
1.0	24.95	29.90	46.00	9.71	142	8.30	19.54
1.5	23.71	30.60	45.90	9.60	138	8.23	20.43
2.0	23.68	30.63	45.92	9.66	139	8.13	20.46
3.0	22.95	31.22	46.00	7.13	101	8.15	21.11
5.0	17.25	34.40	44.45	4.86	72	-	25.01
7.0	16.53	34.70	44.11	4.68	68	-	25.41
10.0	15.67	35.09	43.68	5.30	76	-	25.90
13.0	16.18	23.00	29.00	5.88	79	-	16.59
15.0	16.00	21.00	30.00	5.82	77	-	15.11

Table APP 1.7-2(16) Preliminary Survey - 2

Date: October 20, 1992 Time: 15:20-15:35
Station: P2-16 Location: 22°50'31.6" S, 43°07'28.8" W
Air temperature: 28.0 °C(13:55)
Wind force: 5-6 m/s
Wind direction: WSW
Water color: Brown
Secchi-disk reading: 1.1 m
Water depth: 7.6 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.78	27.56	44.36	9.14	135	-	17.24
0.5	26.84	27.53	44.37	9.25	137	-	17.20
1.0	26.86	27.51	44.37	9.35	138	-	17.18
1.5	26.75	27.56	44.37	9.44	140	-	17.26
2.0	25.00	28.00	44.50	8.75	127	-	18.11
3.0	24.00	30.40	45.48	6.60	95	-	20.20
4.0	21.85	31.50	45.42	5.40	76	-	21.63
5.0	20.10	32.92	45.38	5.08	70	-	23.17
6.0	19.75	33.00	45.20	4.74	65	-	23.32
7.0	19.00	33.50	45.08	4.56	62	-	23.89

Table APP 1.7-2(17) Preliminary Survey - 2

Date: October 20, 1992 Time: 10:50-11:10
Station: P2-17 Location: 22°48'55.4" S, 43°09'02.2" W
Air temperature: 25.09 °C(11:35)
Water color: Brownish green
Secchi-disk reading: 0.8 m
Water depth: 18.5 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	28.35	29.35	48.65	16.56	253	-	18.07
0.5	26.70	29.67	47.42	16.24	243	-	18.84
1.0	26.00	29.80	47.30	15.24	226	-	19.15
1.3	23.63	30.85	46.13	13.29	191	-	20.64
1.5	-	-	-	(9.50)	(137)	-	-
2.0	23.41	30.95	46.05	7.29	105	-	20.78
2.5	19.00	33.53	45.03	6.86	101	-	23.92
3.0	17.90	34.97	44.74	6.08	83	-	25.29
5.0	16.80	34.68	44.31	4.44	60	-	25.33
7.0	16.61	34.74	44.22	4.15	54	-	25.42
10.0	16.28	34.83	44.00	4.61	60	-	25.57
13.0	16.25	25.10	33.00	5.22	64	-	18.16
15.0	16.27	26.00	34.00	5.00	62	-	18.84
17.0	16.28	28.25	35.45	4.74	58	-	19.03

Table APP 1.7-2(18) Preliminary Survey - 2

Date: October 20, 1992 Time: 15:00-15:10
Station: P2-18 Location: 22°49'34.8" S, 43°07'23.1" W
Air temperature: 25.09 °C(11:35)
Wind force: 5-6 m/s
Wind direction: WSW
Water color: Brownish green
Secchi-disk reading: 0.6 m
Water depth: 9.5 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	28.30	28.95	44.73	12.18	179	-	16.30
0.5	28.37	26.90	44.78	12.56	189	-	16.25
1.0	28.50	27.00	44.75	12.72	192	-	16.28
1.5	27.60	27.36	44.60	12.44	186	-	16.83
2.0	27.00	27.55	44.25	12.28	187	-	17.16
3.0	24.70	29.00	44.65	6.98	105	-	18.94
4.0	23.45	30.50	45.52	6.51	95	-	20.43
5.0	21.00	31.00	45.50	4.29	62	-	21.48
6.0	20.15	32.85	45.44	4.09	57	-	23.11
7.0	20.00	32.80	45.32	3.98	55	-	23.11
8.0	18.72	33.75	45.05	4.25	59	-	24.16

Table APP 1.7-2(19) Preliminary Survey - 2

Date: October 20, 1992 Time: 14:25-14:40
Station: P2-19 Location: 22°47'59.3" S, 43°03'11.8" W
Weather on the previous day: Slightly cloudy
Weather on the day: Clear
Air temperature: 28.0 °C(13:55)
Wind force: 2-3 m/s
Wind direction: SW
Water color: Brown
Secchi-disk reading: 0.4 m
Water depth: 7.5 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	31.00	24.00	41.00	11.78	181	-	13.23
0.5	30.30	24.00	42.00	10.53	160	-	13.47
1.0	27.00	26.55	43.22	7.93	117	-	16.42
1.5	25.90	27.55	43.50	6.24	91	-	17.50
2.0	25.40	28.00	44.00	5.87	85	-	17.99
3.0	24.00	30.70	45.10	5.65	82	-	20.42
4.0	22.00	31.50	45.44	5.47	77	-	21.59
5.0	20.17	32.55	45.23	3.16	43	-	22.87
6.0	19.73	33.00	45.15	3.49	48	-	23.33
7.0	19.20	33.13	45.00	3.53	48	-	23.56

Table APP 1.7-2(20) Preliminary Survey - 2

Date: October 20, 1992 Time: 11:30-11:50
Station: P2-20 Location: 22°47'38.7" S, 43°07'52.5" W
Weather on the previous day: Slightly cloudy
Weather on the day: Clear
Air temperature: 25.9 °C(11:35)
Wind force: 2-3 m/s
Wind direction: SWS
Water color: Brownish green
Garbage: Yes
Oil: No
Secchi-disk reading: 0.9 m
Water depth: 17.5 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	29.28	28.04	47.15	13.41	206	-	16.79
0.5	28.80	28.00	46.75	12.36	189	-	16.92
1.0	28.35	28.05	46.50	10.51	159	-	17.10
0.5	25.90	28.65	45.23	10.54	155	-	18.32
2.0	24.42	29.58	45.30	7.20	104	-	19.46
2.5	24.00	30.55	46.00	7.43	107	-	20.31
3.0	22.60	31.35	45.60	4.32	61	-	21.31
5.0	18.70	33.72	45.10	4.15	55	-	24.14
7.0	17.61	34.36	44.77	4.07	53	-	24.89
10.0	16.75	34.78	44.40	4.41	57	-	25.42
13.0	16.22	34.98	44.09	4.80	62	-	25.69
15.0	15.86	35.10	43.86	4.82	62	-	25.87
16.0	15.84	35.10	43.84	3.41	44	-	25.87

Table APP 1.7-2(21) Preliminary Survey - 2

Date: October 20, 1992 Time: 13:55-14:05
Station: P2-21 Location: 22°46'49.6" S, 43°07'07.6" W
Weather on the previous day: Slightly cloudy
Weather on the day: Clear
Air temperature: 28.0 °C(13:55)
Wind force: 1-2 m/s
Water color: Brown
Garbage: No
Oil: No
Secchi-disk reading: 0.6 m
Water depth: 13.5 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	27.25	28.42	46.03	12.65	189	-	17.73
0.5	27.40	28.33	46.11	13.02	195	-	17.62
1.0	27.43	28.25	45.85	13.25	199	-	17.55
1.5	27.00	28.30	45.64	12.90	192	-	17.72
2.0	25.70	28.35	45.30	7.65	112	-	18.16
3.0	23.95	30.00	45.00	6.38	92	-	19.91
5.0	19.70	32.95	45.19	3.64	50	-	23.30
7.0	19.00	33.10	45.10	3.79	51	-	23.59
10.0	17.48	34.44	44.70	4.33	57	-	24.98
13.0	17.45	34.42	44.70	4.51	60	-	24.98

Table APP 1.7-2(22) Preliminary Survey - 2

Date: October 20, 1992 Time: 13:20-13:35
Station: P2-22 Location: 22°46'50.9" S, 43°05'30.8" W
Air temperature: 28.0 °C(13:20)
Weather on the day: Clear
Water color: Brown
Secchi-disk reading: 0.5 m
Water depth: 7.0 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	30.43	23.70	41.45	12.62	192	-	13.20
0.5	30.25	23.82	41.40	12.14	184	-	13.35
1.0	27.00	25.78	42.00	12.31	181	-	15.85
1.5	25.86	27.52	43.47	6.69	98	-	17.49
2.0	25.32	27.95	43.67	5.87	85	-	17.97
2.5	25.15	28.15	43.95	5.16	75	-	18.17
3.0	24.00	29.45	44.76	3.11	45	-	19.49
4.0	20.66	32.32	45.22	2.97	41	-	22.57
5.0	19.28	33.30	45.10	3.32	45	-	23.67
6.0	18.60	33.73	45.00	3.35	45	-	24.17

Table APP 1.7-2(23) Preliminary Survey - 2

Date: October 20, 1992 Time: 12:45-13:00
Station: P2-23 Location: 22°44'34.1" S, 43°05'45.1" W
Wind force: 2-3 m/s
Water color: Brown
Secchi-disk reading: 0.6 m
Water depth: 6.7 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	29.45	26.30	45.00	12.90	233	-	15.45
0.5	28.00	26.65	43.75	11.65	217	-	16.18
1.0	26.05	27.40	43.58	7.60	99	-	17.34
1.5	25.74	27.85	43.89	6.11	101	-	17.77
2.0	25.47	27.97	43.83	5.41	102	-	17.94
2.5	25.00	28.75	44.37	5.11	96	-	18.67
3.0	22.50	30.88	45.26	3.60	82	-	20.98
4.0	20.73	32.30	45.28	2.25	43	-	22.54
5.0	19.10	33.50	45.20	2.45	41	-	23.87
6.0	18.60	33.94	45.26	2.43	40	-	24.33

Table APP 1.7-2(24) Preliminary Survey - 2

Date: October 20, 1992 Time: 12:10-12:25
Station: P2-24 Location: 22°45'12.8" S, 43°07'59.4" W
Air temperature: 26.2 °C(12:10)
Water color: Brown
Secchi-disk reading: 0.6 m
Water depth: 7.5 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	27.75	26.64	43.90	8.28	169	-	16.25
0.5	27.25	26.70	43.50	8.60	161	-	16.45
1.0	25.88	27.02	42.83	8.20	90	-	17.11
1.5	25.66	27.47	43.30	6.50	93	-	17.51
2.0	25.03	28.38	44.13	5.80	99	-	18.38
3.0	24.78	29.00	44.70	6.15	106	-	18.92
4.0	22.33	31.31	45.54	5.11	89	-	21.36
5.0	21.00	32.14	45.37	3.70	63	-	22.34
6.0	19.43	33.19	45.12	2.72	53	-	23.55
7.0	18.00	34.15	45.00	2.77	52	-	24.64

Table APP 1.7-2(25) Preliminary Survey - 2

Date: October 21, 1992 Time: 16:05-16:20
Station: P2-25 Location: 22°42'50.6" S, 43°05'18.5" W
Air temperature: 20.0 °C(16:05)
Weather on the previous day: Clear
Weather on the day: Rainy
Wind force: 9-10 m/s
Water color: Dark brown
Secchi-disk reading: 0.8 m
Water depth: 3.8 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	26.07	27.41	43.56	5.32	82	8.41	17.35
0.5	26.08	27.42	43.58	5.22	82	8.75	17.35
1.0	26.08	27.42	43.56	5.10	84	-	17.35
1.5	26.10	27.42	43.58	5.02	83	-	17.34
2.0	26.10	27.42	43.48	5.05	85	-	17.34
2.5	26.09	27.43	43.59	5.06	85	-	17.35
3.0	26.09	27.44	43.59	5.00	85	-	17.36
3.5	25.57	25.02	38.92	4.94	83	-	15.72

Table APP 1.7-2(26) Preliminary Survey - 2

Date: October 21, 1992 Time: 15:15-15:25
Station: P2-26 Location: 22°55'01.0" S, 43°10'14.0" W
Air temperature: 20.0 °C(16:05)
Weather on the day: Rainy
Wind force: 4-5 m/s
Wind direction: WSW
Water color: Dark brown
Secchi-disk reading: 0.8 m
Water depth: 6.3 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	25.01	28.13	43.68	6.23	88	8.40	18.20
0.5	25.02	28.13	43.68	6.20	98	8.42	18.20
1.0	25.02	28.14	43.68	6.12	98	-	18.21
1.5	25.03	28.14	43.69	6.15	100	-	18.20
2.0	25.03	28.15	43.70	6.10	101	-	18.21
2.5	25.03	28.18	43.72	6.12	101	-	18.23
3.0	25.00	28.20	45.75	6.13	103	-	18.26
4.0	24.99	28.21	43.75	6.11	103	-	18.27
5.0	24.94	28.22	45.75	6.16	106	-	18.28
5.5	23.33	30.72	45.65	4.24	87	-	20.63
6.0	21.21	32.74	45.75	-	-	-	22.74

Table APP 1.7-2(27) Preliminary Survey - 2

Date: October 21, 1992 Time: 12:45-13:00
Station: P2-27 Location: 22°46'05.1" S, 43°13'18.3" W
Air temperature: 21.5 °C(12:45)
Weather on the day: Rainy
Wind force: 4-5 m/s
Water color: Dark gray
Secchi-disk reading: 1.0 m
Water depth: 4.5 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	24.51	28.81	44.17	6.00	95	8.34	18.86
0.5	24.51	28.81	44.15	6.03	97	8.36	18.86
1.0	24.51	28.82	44.15	5.91	95	-	18.86
1.5	24.51	28.81	44.17	5.88	97	-	18.86
2.0	24.52	28.83	44.19	5.83	97	-	18.87
2.5	24.29	29.28	44.47	5.44	92	-	19.27
3.0	23.05	30.63	45.36	4.34	74	-	20.64
4.0	22.92	30.78	45.40	3.32	57	-	20.79

Table APP 1.7-2(28) Preliminary Survey - 2

Date: October 21, 1992 Time: 11:40-14:50
Station: P2-28 Location: 22°47'20.1" S, 43°15'19.6" W
Air temperature: 23.8 °C(11:40)
Wind force: 4-5 m/s
Wind direction: WSW
Water color: Dark gray
Secchi-disk reading: 0.6 m
Water depth: 2.1 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	25.36	24.92	39.47	1.25	24	7.96	15.70
0.5	25.33	24.80	39.52	1.15	23	7.97	15.62
0.8	25.21	25.10	39.64	1.22	23	-	15.88
1.0	25.20	25.57	40.74	1.16	23	-	16.23
1.3	24.30	29.24	43.50	1.75	33	-	19.24
1.5	23.98	30.40	44.89	1.99	33	-	20.20
1.8	22.98	30.43	44.97	2.43	44	-	20.51

Table APP 1.7-2(29) Field Record of the Preliminary Survey-2

Date: October 21, 1992 Time: 11:15-11:25
Station: P2-29 Location: 22°48'17.7" S, 43°16'03.6" W
Weather on the previous day: Slightly cloudy
Weather on the day: Cloudy and slightly rainy
Air temperature: 23.8 °C(11:40)
Wind force: 2-3 m/s
Wind direction: SW
Water color: Dark brown
Secchi-disk reading: 0.5 m
Water depth: 2.7 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	25.59	25.93	41.11	1.66	24	7.96	16.39
0.5	25.48	26.10	41.48	1.45	21	7.98	16.55
0.8	25.45	26.68	42.52	0.56	8	-	16.99
1.0	25.20	27.61	42.92	0.60	9	-	17.76
1.5	24.97	28.33	43.87	0.40	6	-	18.36
1.8	24.82	28.64	44.33	0.00	0	-	18.64
2.0	24.75	28.77	44.33	0.00	0	-	18.76
2.5	24.50	28.77	44.33	0.00	0	-	18.83

Table APP 1.7-2(30) Field Record of the Preliminary Survey-2

Date: October 21, 1992 Time: 10:55-11:05
Station: P2-30 Location: 22°49'08.4" S, 43°15'58.5" W
Weather on the previous day: Clear
Weather on the day: Cloudy and slightly rainy
Air temperature: 23.8 °C(11:40)
Wind force: 4-5 m/s
Wind direction: SWS
Water color: Dark brown
Garbage: No
Oil: No
Secchi-disk reading: 0.6 m
Water depth: 5.9 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	25.61	25.91	41.02	2.46	31	8.07	16.37
0.5	25.48	26.14	41.30	2.01	25	8.08	16.58
1.0	25.42	26.33	41.44	1.83	23	-	16.74
1.5	25.33	26.71	41.91	1.66	21	-	17.05
2.0	25.07	27.49	42.80	1.65	21	-	17.71
2.5	24.71	28.63	44.08	1.09	13	-	18.66
3.0	24.59	28.85	44.30	1.08	13	-	18.86
4.0	24.30	29.36	44.70	1.08	13	-	19.33
5.0	24.20	29.57	44.94	1.19	15	-	19.52
5.5	24.18	29.63	44.97	0.89	11	-	19.57

Table APP 1.7-2(31) Field Record of the Preliminary Survey-2

Date: October 21, 1992 Time: 10:40-10:50
Station: P2-31 Location: 22°49'52.1" S, 43°15'15.7" W
Weather on the previous day: Clear
Weather on the day: Cloudy with slightly rain
Wind force: 4-5 m/s
Water color: Dark brown
Garbage: No
Oil: No
Secchi-disk reading: 0.9 m
Water depth: 8.5 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	24.95	27.86	43.22	2.41	30	8.11	18.02
0.5	24.95	27.87	43.25	2.34	29	8.13	18.02
1.0	24.94	27.99	43.41	2.30	29	-	18.12
1.5	24.93	28.09	43.55	2.19	27	-	18.20
2.0	24.51	29.17	44.67	2.22	27	-	19.13
2.5	24.48	29.27	44.75	1.93	24	-	19.21
3.0	24.47	29.31	44.79	1.78	22	-	19.24
4.0	24.34	29.46	44.90	1.73	21	-	19.39
5.0	24.21	29.58	44.95	1.45	18	-	19.52
6.0	24.16	29.65	44.98	1.33	16	-	19.59
7.0	24.12	29.66	44.97	1.32	16	-	19.61
8.0	23.95	29.87	45.11	1.16	14	-	19.81

Table APP 1.7-2(32) Field Record of the Preliminary Survey-2

Date: October 21, 1992 Time: 10:20-10:30
Station: P2-32 Location: 22°50'06.0" S, 43°14'36.3" W
Water color: Dark brown
Secchi-disk reading: 0.6 m
Water depth: 5.0 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	24.94	27.53	42.70	2.95	37	8.01	17.77
0.5	24.95	27.60	42.97	2.93	37	8.03	17.82
1.0	24.95	27.73	43.03	2.90	36	-	17.92
1.5	24.95	27.69	43.03	2.80	35	-	17.89
2.0	24.95	27.68	42.95	2.73	34	-	17.88
2.5	24.95	27.82	43.33	2.73	34	-	17.99
3.0	24.96	27.90	43.36	2.68	33	-	18.04
3.5	24.95	28.10	43.47	2.70	34	-	18.20
4.0	24.59	29.06	44.61	2.70	34	-	19.02
4.5	24.55	29.17	44.65	2.80	35	-	19.11

Table APP 1.7-2(33) Field Record of the Preliminary Survey-2

Date: October 21, 1992 Time: 10:00-10:12
Station: P2-33 Location: 22°50'06.1' S, 43°14'19.7' W
Wind force: 2-3 m/s
Water color: Brown
Secchi-disk reading: 0.8 m
Water depth: 7.5 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	25.05	28.01	43.55	2.89	36	8.10	18.10
0.5	25.05	28.01	43.53	2.92	37	8.12	18.10
1.0	25.05	28.00	43.50	2.95	37	-	18.09
1.5	25.04	28.12	43.67	2.89	36	-	18.19
2.0	24.99	28.39	43.98	2.75	34	-	18.40
2.5	24.91	28.91	44.08	2.58	32	-	18.81
3.0	24.94	26.84	44.61	2.81	35	-	18.75
3.5	24.81	29.65	45.34	2.39	30	-	19.40
4.0	24.44	29.64	45.23	4.33	54	-	19.50
5.0	24.50	30.13	45.95	4.05	51	-	19.85
6.0	24.39	30.24	46.01	4.15	52	-	19.96
7.0	23.54	30.67	45.84	3.45	43	-	20.53

Table APP 1.7-2(34) Field Record of the Preliminary Survey-2

Date: October 21, 1992 Time: 09:30-09:50
Station: P2-34 Location: 22°49'48.8' S, 43°13'48.1' W
Air temperature: 25.0 °C(08:40)
Weahter on the previous day: Slightly cloudy
Weather on the day: Cloudy with slightly rainy
Wind force: 3-4 m/s
Wind direction: SW
Water color: dark grey
Secchi-disk reading: 0.6 m
Water depth: 5.2 m

Depth (m)	Temp. (°C)	Salinity (‰)	EC (mS/cm)	DO (mg/l)	DO (%)	pH	Sigma-t
0.0	25.04	27.95	43.44	3.67	46	8.15	18.06
0.5	25.04	27.98	43.48	3.65	46	8.17	18.08
1.0	25.03	27.99	43.50	3.68	46	-	18.09
1.5	25.03	28.06	43.70	3.85	48	-	18.14
2.0	24.80	28.73	44.31	3.76	47	-	18.71
2.5	24.57	29.11	44.64	4.10	51	-	19.06
3.0	24.41	29.50	45.00	4.65	58	-	19.40
4.0	24.17	30.11	35.59	5.25	66	-	19.93
4.5	24.33	30.40	46.17	5.48	69	-	20.10
5.0	-	-	-	5.72		-	-

APPENDIX 2

WATER QUALITY IN THE BAY

Table APP 2.1-1(1) Location, Sampling Depth and Analytical Parameters of the Second Simultaneous Survey

Neap Tides - High Tide (morning)

Item / St.	Water Depth(m)	COD(Mn) DCOD(Mn)	T-KN D-KN	SS, NH4-N, NO2-N NO3-N, TP, PO4-P	Phenols, CN	n. Hex. Extract	Metals	Chl-a
1	50.0	-	-	0, 5, 25, B	-	-	0, B	0, 5
2	19.0	0, 5, B	-	0, 5, B	-	-	0, B	0, 5
3	32.0	0, 5, B	0, 5, B	0, 5, B	0, B	-	0, B	0, 5
4	12.0	0, 3, 7, B	-	0, 3, 7, B	-	-	0, B	0, 3
5	36.0	0, 5, 10, B	-	0, 5, 10, B	-	-	0, B	0, 5
6	22.0	0, 5, 10, B	0, 5, 10, B	0, 5, 10, B	0, B	-	0, B	0, 5
7	8.0	0, 3, B	-	0, 3, B	-	-	0, B	0, 3
8	8.0	0, 2, B	0, B	0, 2, B	0, B	-	0, B	0, 2
9	6.0	0, B	0, B	0, B	0, B	-	0, B	0, B
10	24.0	0, 5, B	-	0, 5, B	-	-	0, B	0, 5
11	3.5	0, B	0, B	0, B	*0, B	-	0, B	0, B
12	17.0	0, 5, B	-	0, 5, B	-	-	0, B	0, 5
13	1.8	0, B	0, B	0, B	0, B	-	0, B	0, B
14	5.6	0, 3, B	0, 3, B	0, 3, B	0, B	-	0, B	0, 3, B
15	8.0	0, 3, B	-	0, 3, B	-	-	0, B	0, 3
16	4.5	0, B	0, B	0, B	0, B	-	0, B	0, B
17	5.3	0, B	0, B	0, B	0, B	-	0, B	0, B
18	4.0	0, B	0, B	0, B	0, B	-	0, B	0, B

*Phenoles were not analysed.

Neap Tides - Low Tide (afternoon)

Item / St.	Water Depth(m)	COD(Mn) DCOD(Mn)	T-KN D-KN	SS, NH4-N, NO2-N NO3-N, TP, PO4-P	Phenols, CN	n. Hex. Extract	Metals	Chl-a
1	-	-	-	-	-	-	-	0, 5
2	18.0	0, 5, B	-	0, 5, B	-	-	-	0, 5
3	33.5	0, 5, B	0, 5, B	0, 5, B	-	-	-	0, 5
4	10.0	0, 3, 7, B	-	0, 3, 7, B	-	-	-	0, 3
5	35.0	0, 5, 10, B	-	0, 5, 10, B	-	-	-	0, 5
6	22.0	0, 5, 10, B	0, 5, 10, B	0, 5, 10, B	-	-	-	0, 5
7	7.0	0, 3, B	-	0, 3, B	-	-	-	0, 3
8	7.0	0, 2, B	0, 2, B	0, 2, B	-	-	-	0, 2
9	6.0	0, B	0, B	0, B	-	-	-	0, B
10	21.0	0, 5, B	-	0, 5, B	-	-	-	0, 5
11	2.7	0, B	0, B	0, B	-	-	-	0, B
12	16.1	0, 5, B	-	0, 5, B	-	-	-	0, 5
13	1.6	0, B	0, B	0, B	-	-	-	0, B
14	4.7	0, 2, 5, B	0, 2.5, B	0, 2.5, B	-	-	-	0, 3, B
15	8.0	0, 3, B	0, 3, B	0, 3, B	-	-	-	0, 3
16	4.5	0, B	-	0, B	-	-	-	0, B
17	4.8	0, B	0, B	0, B	-	-	-	0, B
18	3.8	0, B	0, B	0, B	-	-	-	0, B

Table APP 2.1-1(2) Location, Sampling Depth and Analytical Parameters of the Third Simultaneous Survey

Spring Tides - Low Tide (morning)

Item / St.	Water Depth(m)	COD(Mn) DCOD(Mn)	BOD T-KN D-KN	SS, NH4-N, NO2-N NO3-N, TP, PO4-P Coli-forms	Phenols, CN	n. Hex. Extract	Metals	Chl-a
1	49.7	0, 5, 25, B	*0	0, 5, 25, B	-	0	-	0, 5
2	17.0	0, 5, B	-	0, 5, B	-	0	-	0, 5
3	45.0	0, 5, B	0, 5, B	0, 5, B	-	0	-	0, 5
4	11.0	0, 3, 7, B	*B	0, 3, 7, B	-	0	-	0, 3
5	37.8	0, 5, 10, B	-	0, 5, 10, B	-	0	-	0, 5
6	19.5	0, 5, 10, B	0, B	0, 5, 10, B	-	0	-	0, 5
7	7.1	0, 3, B	0, 3, B	0, 3, B	-	0	-	0, 3
8	9.2	0, 2, B	0, 2, B	0, 2, B	-	0	-	0, 2
9	3.6	0, B	0, B	0, B	-	0	-	0, B
10	22.5	0, 5, B	-	0, 5, B	-	0	-	0, 5
11	2.6	0, B	0, B	0, B	-	0	-	0, B
12	14.5	0, 5, B	-	0, 5, B	-	0	-	0, 5
13	2.5	0, B	0, B	0, B	-	0	-	0, B
14	4.0	0, B	0, B	0, B	-	0	-	0, B
15	7.3	0, 3, B	0, 3, B	0, 3, B	-	0	-	0, 3, B
16	3.5	0, B	0, B	0, B	-	0	-	0, B
17	3.5	0, B	0, B	0, B	-	0	-	0, B
18	4.0	0, B	0, B	0, B	-	0	-	0, B
19	7.7	0, 3, B	-	0, 3, B	-	0		0, 3

*BOD was not analyzed.

Spring Tides - High Tide (afternoon)

Item / St.	Water Depth(m)	COD(Mn) DCOD(Mn)	T-KN D-KN	SS, NH4-N, NO2-N NO3-N, TP, PO4-P Coli-forms	Phenols, CN	n. Hex. Extract	Metals	Chl-a
1	-	-	-	-	-	-	-	0, 5
2	18.0	0, 5, B	-	0, 5, B	-	-	-	0, 5
3	45.0	0, 5, B	B	0, 5, B	-	-	-	0, 5
4	11.5	0, 3, 7, B	-	0, 3, 7, B	-	-	-	0, 3
5	38.5	0, 5, 10, B	-	0, 5, 10, B	-	-	-	0, 5
6	19.8	0, 5, 10, B	0, B	0, 5, 10, B	-	-	-	0, 5
7	8.0	0, 3, B	-	0, 3, B	-	-	-	0, 3
8	8.8	0, 2, B	0, B	0, 2, B	-	-	-	0, 2
9	5.5	0, B	0	0, B	-	-	-	0, B
10	22.8	0, 5, B	-	0, 5, B	-	-	-	0, 5
11	3.3	0, B	0, B	0, B	-	-	-	0, B
12	15.0	0, 5, B	-	0, 5, B	-	-	-	0, 5
13	2.0	0, B	0, B	0, B	-	-	-	0, B
14	5.5	0, 2.5, B	0, B	0, B	-	-	-	0, B
15	8.0	0, 3, B	-	0, 3, B	-	-	-	0, 3, B
16	5.0	0, B	0, B	0, B	-	-	-	0, B
17	5.5	0, B	0, B	0, B	-	-	-	0, B
18	4.0	0, B	0, B	0, B	-	-	-	0, B
19	-	-	-	-	-	-	-	-

Table APP 2.3-1(1) Results of Sea Water Analysis of the First Simultaneous Survey (Spring Tide - Low Tide)

May 18,1992 Low Tide (St.1)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli (MPN/100ml)
0.0	-	0.5	0.4	-	-	0.20	-	0.20	<0.001	<0.01	0.02	0.00	0.00	0.02	6	30	2
5.0	-	0.5	0.2	-	-	0.25	-	0.25	<0.001	<0.01	0.02	0.01	0.01	0.01	15	2	2
25.0	-	1.0	1.0	-	-	0.32	-	0.30	<0.001	0.02	0.02	0.00	0.02	0.02	53	0	0
51.0	-	0.5	0.5	-	-	0.33	-	0.30	0.006	0.02	0.04	0.02	0.01	0.02	15	2	2

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp'DDT (ug/l)	pp'DDE (ug/l)	pp'DDD (ug/l)	PCB's (ug/l)
0.0	0.46	0.50	<4	-	-	<1.0	5	<2.0	<10	<0.10	18	<0.001	<0.001	<0.001	<0.01
5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51.0	-	-	-	-	-	<1.0	13	<2.0	<10	<0.10	18	<0.001	<0.001	<0.001	<0.01

Table APP 2.3-1(2) Results of Sea Water Analysis 2 (Low Tide)

May 18,1992 Low Tide (St.2)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli (MPN/100ml)
0.0	-	-	-	-	-	0.34	-	0.30	0.009	0.03	0.09	0.09	0.02	<0.01	20	700	500
5.0	-	-	-	-	-	0.28	-	0.25	0.003	0.03	0.03	0.01	0.01	0.02	5	300	300
17.3	-	-	-	-	-	0.30	-	0.30	0.001	<0.01	0.03	0.02	0.00	0.01	16	2400	2400

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp'DDT (ug/l)	pp'DDE (ug/l)	pp'DDD (ug/l)	PCB's (ug/l)
0.0	35.04	<0.10	<4	-	-	<1.0	5	<2.0	<10	<0.10	26	<0.001	<0.001	<0.001	<0.01
5.0	11.76	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-
17.3	-	-	-	-	-	<1.0	9.5	<2.0	<10	<0.10	18	<0.001	<0.001	<0.001	<0.01

Table APP 2.3-1(3) Results of Sea Water Analysis at St. 3 (Low Tide)

May 18,1992 Low Tide (St.3)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli (MPN/100ml)
0.0	2.8	1.8	1.6	1.58	1.23	0.35	0.21	0.30	0.010	0.04	0.08	0.08	0.05	<0.01	30	500	170
5.0	-	1.0	0.8	-	-	0.37	-	0.30	0.006	0.07	0.06	0.04	0.03	0.02	30	300	300
51.0	<2.0	1.1	0.6	0.56	0.26	0.30	0.05	0.20	0.004	0.10	0.04	0.02	0.02	0.02	22	800	500

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp'DDT (ug/l)	pp'DDE (ug/l)	pp'DDD (ug/l)	PCB's (ug/l)
0.0	14.97	<0.10	<4	<0.01	0.002	<1.0	<5.0	<2.0	<10	<0.10	34	<0.001	<0.001	<0.001	<0.01
5.0	15.55	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-
51.0	-	-	-	<0.01	0.002	<1.0	13.0	<2.0	<10	<0.10	26	<0.001	<0.001	<0.001	<0.01

Table APP 2.3-1(4) Results of Sea Water Analysis at St. 4 (Low Tide)

May 18,1992 Low Tide (St.4)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli (MPN/100ml)
0.0	-	2.2	2.2	-	-	0.30	-	0.25	0.010	0.04	0.10	0.09	0.03	0.01	20	900	300
3.0	-	1.6	1.6	-	-	0.26	-	0.20	0.010	0.05	0.06	0.05	0.03	0.01	20	2400	2400
7.0	-	1.4	1.4	-	-	0.28	-	0.20	0.009	0.07	0.05	0.03	0.05	0.02	10	1700	1100
12.5	-	1.3	1.2	-	-	0.36	-	0.25	0.008	0.10	0.06	0.03	0.06	0.03	14	300	130

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp'DDT (ug/l)	pp'DDE (ug/l)	pp'DDD (ug/l)	PCB's (ug/l)
0.0	70.26	<0.10	<4	-	-	<1.0	5	<2.0	<10	<0.10	<10	<0.001	<0.001	<0.001	<0.01
3.0	64.15	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-
7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.5	-	-	-	-	-	<1.0	<5.0	<2.0	<10	<0.10	20	<0.001	<0.001	<0.001	<0.01

Table APP 2.3-1(5) Results of Sea Water Analysis at St. 5 (Low Tide)

May 18,1992 Low Tide (St.5)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IT (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	-	-	-	-	0.33	-	0.25	0.009	0.07	0.07	0.06	0.04	0.01	10	900	500
5.0	-	-	-	-	-	0.38	-	0.30	0.007	0.07	0.06	0.05	0.04	0.01	20	900	300
10.0	-	-	-	-	-	0.27	-	0.20	0.007	0.06	0.05	0.04	0.03	0.01	10	1600	900
49.0	-	-	-	-	-	0.30	-	0.25	0.004	0.05	0.06	0.04	0.04	0.02	5	300	300

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp'DDT (ug/l)	pp'DDE (ug/l)	pp'DDD (ug/l)	PCB's (ug/l)
0.0	27.49	12.07	<4	-	-	<1.0	<5.0	<2.0	<10	<0.10	46	<0.001	<0.001	<0.001	<0.01
5.0	6.68	52.72	-	-	-	-	-	-	-	-	-	-	-	-	-
10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49.0	-	-	-	-	-	<1.0	<5.0	<2.0	<10	<0.10	<10	<0.001	<0.001	<0.001	<0.01

Table APP 2.3-1(6) Results of Sea Water Analysis at St. 6 (Low Tide)

May 18,1992 Low Tide (St.6)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	4.2	2.1	1.6	0.83	0.63	0.20	0.20	0.20	<0.001	<0.01	0.10	0.06	0.03	0.04	35	4	4
5.0	-	1.7	1.6	-	-	0.36	-	0.25	0.006	0.10	0.07	0.05	0.02	0.02	20	80	23
10.0	-	1.5	1.4	-	-	0.46	-	0.25	0.007	0.20	0.05	0.03	0.01	0.02	20	70	70
19.0	1.2	1.0	1.0	1.14	0.73	0.41	0.40	0.30	0.005	0.10	0.04	0.02	0.00	0.02	5	300	300

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp'DDT (ug/l)	pp'DDE (ug/l)	pp'DDD (ug/l)	PCB's (ug/l)
0.0	11.95	<0.10	<4	<0.01	<0.001	<1.0	5	<2.0	<10	<0.10	<10	<0.001	<0.001	<0.001	<0.01
5.0	9.55	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-
10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.0	-	-	-	<0.01	0.002	<1.0	9.5	2	<10	<0.10	14	<0.001	<0.001	<0.001	<0.01

Table APP 2.3-1(7) Results of Sea Water Analysis at St. 7 (Low Tide)

May 18,1992 Low Tide (St.7)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	-	-	-	-	0.76	-	0.25	0.010	0.50	0.20	0.14	0.02	0.06	15	16000	16000
3.0	-	-	-	-	-	0.56	-	0.25	0.010	0.30	0.10	0.05	0.00	0.05	16	30000	24000
5.0	-	-	-	-	-	0.66	-	0.30	0.010	0.35	0.10	0.05	0.02	0.05	15	24000	24000

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp'DDT (ug/l)	pp'DDE (ug/l)	pp'DDD (ug/l)	PCB's (ug/l)
0.0	71.64	<0.10	<4	-	-	<1.0	<5.0	<2.0	<10	<0.10	<10	<0.001	<0.001	<0.001	<0.01
3.0	22.80	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-
5.0	-	-	-	-	-	<1.0	16.0	<2.0	<10	<0.10	20.0	<0.001	<0.001	<0.001	<0.01

Table APP 2.3-1(8) Results of Sea Water Analysis at St. 8 (Low Tide)

May 18,1992 Low Tide (St.8)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	5.0	3.1	3.0	2.64	1.17	1.47	0.75	0.20	0.020	1.25	0.30	0.10	0.00	0.20	25	24000	24000
2.0	-	2.5	1.6	-	-	1.23	-	0.30	0.030	0.90	0.30	0.15	0.05	0.15	30	24000	24000
5.0	2.4	2.3	2.3	2.23	1.20	1.03	0.40	0.20	0.030	0.80	0.20	0.10	0.05	0.10	9	11000	11000

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp'DDT (ug/l)	pp'DDE (ug/l)	pp'DDD (ug/l)	PCB's (ug/l)
0.0	61.22	<0.10	<4	<0.01	<0.001	<1.0	16.0	<2.0	<10	<0.10	<10	<0.001	<0.001	<0.001	<0.01
2.0	33.73	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-
5.0	-	-	-	<0.01	0.002	<1.0	13.0	<2.0	<10	<0.10	10.0	<0.001	<0.001	<0.001	<0.01

Table APP 2.3-1(9) Results of Sea Water Analysis at St. 9 (Low Tide)

May 18,1992 Low Tide (St.9)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	4.0	3.7	2.0	1.85	0.71	1.14	0.60	0.30	0.040	0.80	0.25	0.15	0.05	0.10	18	16000	9000
4.0	1.2	2.3	1.2	1.30	0.47	0.83	0.30	0.30	0.030	0.50	0.10	0.02	0.02	0.08	25	5000	3000

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp' DDT (ug/l)	pp' DDE (ug/l)	pp' DDD (ug/l)	PCB's (ug/l)
0.0	56.49	<0.10	<4	<0.01	<0.01	<1.0	9.5	<2.0	<10	<0.10	<10	-	-	-	-
4.0	16.15	<0.10	-	-	<0.01	<1.0	13	<2.0	<10	<0.10	18	<0.001	<0.001	<0.001	<0.01

Table APP 2.3-1(10) Results of Sea Water Analysis at St. 10 (Low Tide)

May 18,1992 Low Tide (St.10)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	-	-	-	-	0.24	-	0.20	0.001	0.04	0.09	0.09	0.03	<0.01	16	14	14
5.0	-	-	-	-	-	0.41	-	0.20	0.009	0.20	0.06	0.03	0.02	0.03	16	30	30
23.0	-	-	-	-	-	0.41	-	0.25	0.007	0.15	0.05	0.02	0.00	0.03	15	240	50

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp' DDT (ug/l)	pp' DDE (ug/l)	pp' DDD (ug/l)	PCB's (ug/l)
0.0	6.87	16.92	<4	-	-	<1.0	15.0	<2.0	<10	<0.10	16	-	-	-	-
5.0	10.69	1.78	-	-	-	-	-	-	-	-	-	-	-	-	-
23.0	-	-	-	-	-	<1.0	31.0	6.5	<10	<0.10	38	-	-	-	-

Table APP 2.3-1(11) Results of Sea Water Analysis at St. 11 (Low Tide)

May 18,1992 Low Tide (St.11)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	6.2	2.7	1.5	1.31	0.97	0.34	0.56	0.30	0.002	0.04	0.15	0.11	0.04	0.04	20	5000	3000
2.3	1.8	2.3	2.1	1.37	1.05	0.32	0.48	0.30	0.001	0.02	0.10	0.08	0.01	0.02	13	800	500

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp' DDT (ug/l)	pp' DDE (ug/l)	pp' DDD (ug/l)	PCB's (ug/l)
0.0	136.08	<0.10	<4	<0.01	<0.001	<1.0	9.5	<2.0	<10	<0.10	28	-	-	-	-
2.3	41.70	<0.10	-	<0.01	<0.001	<1.0	5	<2.0	<10	<0.10	30	-	-	-	-

Table APP 2.3-1(12) Results of Sea Water Analysis at St. 12 (Low Tide)

May 18,1992 Low Tide (St.12)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	2.7	2.4	-	-	0.27	-	0.25	0.001	0.02	0.10	0.10	0.04	<0.01	22	140	90
5.0	-	2.0	2.0	-	-	0.38	-	0.30	0.004	0.03	0.06	0.05	0.02	0.01	10	500	60
15.4	-	1.2	1.2	-	-	0.51	-	0.30	0.009	0.20	0.05	0.01	0.02	0.04	14	23	4

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp' DDT (ug/l)	pp' DDE (ug/l)	pp' DDD (ug/l)	PCB's (ug/l)
0.0	38.49	<0.10	<4	-	-	<1.0	<5.0	<2.0	<10	<0.10	<10	-	-	-	-
5.0	22.45	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-
15.4	-	-	-	-	-	<1.0	<5.0	<2.0	<10	<0.10	<10	-	-	-	-

Table APP 2.3-1(13) Results of Sea Water Analysis at St. 13 (L

May 18,1992 Low Tide (St.13)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	7.8	4.1	3.4	3.01	1.05	1.96	1.05	0.20	0.010	1.75	0.55	0.25	0.05	0.30	40	160000	50000
1.5	7.0	3.7	3.2	2.82	1.10	1.72	1.10	0.30	0.020	1.40	0.60	0.35	0.05	0.25	18	170000	110000

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp' DDT (ug/l)	pp' DDE (ug/l)	pp' DDD (ug/l)	PCB's (ug/l)
0.0	74.84	<0.10	<4	-	<0.001	<1.0	<5.0	<2.0	<10	<0.10	<10	-	-	-	-
1.5	82.86	<0.10	-	-	<0.001	<1.0	5	<2.0	<10	<0.10	18	-	-	-	-

Table APP 2.3-1(14) Results of Sea Water Analysis at St. 14 (Low Tide)

May 18,1992 Low Tide (St.14)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	7.0	4.2	2.6	2.23	1.76	0.47	0.10	0.15	0.020	0.30	0.30	0.28	0.03	0.02	18	3000	3000
3.0	-	2.6	2.6	-	-	0.51	-	0.20	0.010	0.30	0.15	0.14	0.05	0.01	15	3000	1300
5.0	3.4	1.6	1.6	1.06	0.50	0.56	0.50	0.25	0.008	0.30	0.10	0.08	0.04	0.02	20	500	140

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp' DDT (ug/l)	pp' DDE (ug/l)	pp' DDE (ug/l)	pp' DDD (ug/l)	PCB's (ug/l)
0.0	88.21	<0.10	<4	<0.01	<0.001	<1.0	16	<2.0	<10	<0.10	<10	-	-	-	-	-
3.0	62.82	<0.10	-	<0.01	<0.001	-	-	-	-	-	-	-	-	-	-	-
5.0	30.74	<0.10	-	<0.01	<0.001	<1.0	185	3.5	<10	<0.10	<10	-	-	-	-	-

Table APP 2.3-1(15) Results of Sea Water Analysis at St. 15 (Low Tide)

May 18,1992 Low Tide (St.15)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	3.0	1.5	-	-	0.31	-	0.30	0.001	0.01	0.07	0.05	0.01	0.02	15	6	0
3.0	-	2.4	1.3	-	-	0.34	-	0.30	0.002	0.04	0.07	0.05	0.02	0.02	15	2	0
6.5	-	1.5	1.1	-	-	0.46	-	0.30	0.006	0.15	0.05	0.03	0.02	0.02	20	7	4

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp' DDT (ug/l)	pp' DDE (ug/l)	pp' DDD (ug/l)	PCB's (ug/l)
0.0	32.08	<0.10	<4	-	<0.001	<1.0	13	<2.0	<10	<0.10	<10	-	-	-	-
3.0	22.72	<0.10	-	-	<0.001	-	-	-	-	-	-	-	-	-	-
6.5	-	-	-	-	<0.001	<1.0	<5.0	<2.0	<10	<0.10	<10	-	-	-	-

Table APP 2.3-1(16) Results of Sea Water Analysis at St. 16 (Low Tide)

May 18,1992 Low Tide (St.16)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	5.0	3.0	2.8	1.18	0.80	0.38	0.27	0.35	0.001	0.03	0.10	0.10	0.02	<0.01	40	50	50
3.3	3.0	1.7	1.6	1.24	0.83	0.41	0.34	0.35	0.003	0.06	0.05	0.04	0.02	0.01	25	0	0

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp' DDT (ug/l)	pp' DDE (ug/l)	pp' DDD (ug/l)	PCB's (ug/l)
0.0	44.91	<0.10	<4	<0.01	0.002	<1.0	13	<2.0	<10	<0.10	10	-	-	-	-
3.3	13.36	<0.10	-	<0.01	0.002	<1.0	42	<2.0	<10	<0.10	10	-	-	-	-

Table APP 2.3-1(17) Results of Sea Water Analysis at St. 17 (Low Tide)

May 18,1992 Low Tide (St.17)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	3.4	2.4	1.1	1.31	1.08	0.23	0.57	0.20	<0.001	0.03	0.08	0.08	0.03	<0.01	14	17	8
4.5	1.8	1.2	1.1	0.93	0.63	0.30	0.60	0.20	0.004	0.10	0.05	0.04	0.02	0.01	12	8	2

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp' DDT (ug/l)	pp' DDE (ug/l)	pp' DDD (ug/l)	PCB's (ug/l)
0.0	42.08	<0.10	<4	-	<0.001	<1.0	31	<2.0	<10	<0.10	24	-	-	-	-
4.5	20.31	<0.10	-	-	<0.001	<1.0	11	3.5	<10	<0.10	24	-	-	-	-

Table APP 2.3-1(18) Results of Sea Water Analysis at St. 18 (Low Tide)

May 18,1992 Low Tide (St.18)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	6.0	4.5	0.9	2.28	1.98	0.30	0.90	0.20	0.002	0.10	0.35	0.31	0.06	0.04	24	50	50
3.5	2.6	2.1	3.4	1.37	0.91	0.46	0.40	0.25	0.005	0.25	0.10	0.09	0.04	0.01	35	30	30

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)	pp' DDT (ug/l)	pp' DDE (ug/l)	pp' DDD (ug/l)	PCB's (ug/l)
0.0	224.53	<0.10	<4	-	<0.001	<1.0	<5.0	2	<10	<0.10	46	-	-	-	-
3.5	72.70	<0.10	-	-	<0.001	<1.0	<5.0	2	<10	<0.10	14	-	-	-	-

Table APP 2.3-2(1) Results of Sea Water Analysis of the First Simultaneous Survey (Spring Tide - High Tide)

May 18,1992 High Tide (St.2)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	0.4	0.0	-	-	0.04	-	0.04	0.002	<0.01	0.02	0.00	0.00	0.02
5.0	-	0.2	0.2	-	-	0.03	-	0.03	<0.001	<0.01	0.02	0.00	0.00	0.02
20.0	-	0.4	0.4	-	-	0.05	-	0.05	<0.001	<0.01	0.02	0.01	0.01	0.01

Depth (m)	SS (mg/l)	T-Coli (MPN)	F-Coli (MPN)	Chl-a (ug/l)	Pheo (ug/l)
0.0	22	4	0	5	<0.10
5.0	10	0	0	12	<0.10
20.0	16	50	7	-	-

Table APP 2.3-2(2) Results of Sea Water Analysis at St. 3

May 18,1992 High Tide (St.3)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	0.6	0.4	0.37	0.28	0.09	0.28	0.07	0.003	0.02	0.05	0.05	0.02	<0.01
5.0	-	0.4	0.4	-	-	0.10	-	0.07	0.004	0.03	0.04	0.04	0.02	<0.01
50.0	-	0.4	0.2	0.45	0.38	0.07	0.33	0.05	0.003	0.02	0.02	0.02	0.02	<0.01

Depth (m)	SS (mg/l)	T-Coli (MPN)	F-Coli (MPN)	Chl-a (ug/l)	Pheo (ug/l)
0.0	14	900	240	8	<0.10
5.0	20	300	300	13	<0.10
50.0	20	240	240	-	-

Table APP 2.3-2(3) Results of Sea Water Analysis at St. 4

May 18,1992 High Tide (St.4)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	1.4	1.4	-	-	0.14	-	0.08	0.010	0.05	0.06	0.06	0.02	<0.01
3.0	-	1.4	1.2	-	-	0.12	-	0.06	0.009	0.05	0.06	0.06	0.02	<0.01
7.0	-	1.0	1.0	-	-	0.13	-	0.07	0.009	0.06	0.06	0.05	0.02	0.01
7.5	-	1.2	1.2	-	-	0.14	-	0.06	0.008	0.07	0.06	0.04	0.01	0.02

Depth (m)	SS (mg/l)	T-Coli (MPN)	F-Coli (MPN)	Chl-a (ug/l)	Pheo (ug/l)
0.0	16	2400	1300	5	<0.10
3.0	14	900	900	2	<0.10
7.0	20	1600	900	-	-
7.5	12	2400	2400	-	-

Table APP 2.3-2(4) Results of Sea Water Analysis at St. 5

May 18,1992 High Tide (St.5)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	1.0	0.4	-	-	0.16	-	0.06	0.008	0.09	0.06	0.04	0.01	0.02
5.0	-	0.6	0.6	-	-	0.10	-	0.02	0.008	0.07	0.05	0.03	0.01	0.02
10.0	-	0.6	0.6	-	-	0.08	-	0.02	0.006	0.05	0.04	0.02	0.01	0.02
34.0	-	0.6	0.4	-	-	0.04	-	0.01	0.003	0.03	0.02	0.02	0.02	<0.01

Depth (m)	SS (mg/l)	T-Coli (MPN)	F-Coli (MPN)	Chl-a (ug/l)	Pheo (ug/l)
0.0	14	3000	3000	1	<0.10
5.0	14	1600	900	1	<0.10
10.0	15	2400	1300	-	-
34.0	16	500	500	-	-

Table APP 2.3-2(5) Results of Sea Water Analysis at St. 6

May 18,1992 High Tide (St.6)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	1.2	0.4	1.24	0.96	0.28	0.28	0.20	0.005	0.07	0.05	0.04	0.02	0.01
5.0	-	1.0	0.8	-	-	0.33	-	0.25	0.006	0.07	0.05	0.03	0.02	0.02
10.0	-	1.0	1.0	-	-	0.27	-	0.20	0.005	0.06	0.04	0.02	0.01	0.02
21.0	-	1.0	0.0	0.62	0.36	0.26	0.14	0.20	0.004	0.06	0.04	0.02	0.01	0.02

Depth (m)	SS (mg/l)	T-Coli (MPN)	F-Coli (MPN)	Chl-a (ug/l)	Pheo (ug/l)
0.0	6	1700	700	28	<0.10
5.0	10	1700	1100	20	<0.10
10.0	12	130	130	-	-
21.0	20	300	80	-	-

Table APP 2.3-2(6) Results of Sea Water Analysis at St. 7

May 18,1992 High Tide (St.7)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	1.6	1.4	-	-	0.46	-	0.20	0.010	0.25	0.08	0.05	0.02	0.03
3.0	-	1.6	1.6	-	-	0.28	-	0.07	0.010	0.20	0.08	0.05	0.02	0.03
5.5	-	1.2	1.2	-	-	0.28	-	0.07	0.010	0.20	0.08	0.05	0.03	0.03

Depth (m)	SS (mg/l)	T-Coli (MPN)	F-Coli (MPN)	Chl-a (ug/l)	Pheo (ug/l)
0.0	16	-	-	41	<0.10
3.0	15	16000	9000	-	-
5.5	20	-	-	-	-

Table APP 2.3-2(7) Results of Sea Water Analysis at St. 8

May 18,1992 High Tide (St.8)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	2.8	2.4	-	-	0.84	0.60	0.20	0.040	0.60	0.20	0.10	0.00	0.10
2.0	-	2.4	2.0	-	-	0.88	-	0.25	0.030	0.60	0.20	0.10	0.00	0.10
8.5	-	1.6	1.6	-	-	0.67	0.25	0.30	0.020	0.35	0.10	0.05	0.02	0.05

Depth (m)	SS (mg/l)	T-Coli (MPN)	F-Coli (MPN)	Chl-a (ug/l)	Pheo (ug/l)
0.0	20	17000	17000	44	<0.10
2.0	14	13000	13000	45	<0.10
8.5	16	2400	2400	-	-

Table APP 2.3-2(8) Results of Sea Water Analysis at St. 9

May 18,1992 High Tide (St.9)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	2.8	1.2	2.00	1.42	0.58	0.30	0.25	0.030	0.30	0.20	0.19	0.02	0.01
4.0	-	1.2	1.0	0.91	0.44	0.47	0.35	0.20	0.020	0.25	0.10	0.06	0.00	0.04

Depth (m)	SS (mg/l)	T-Coli (MPN)	F-Coli (MPN)	Chl-a (ug/l)	Pheo (ug/l)
0.0	30	800	800	59	<0.10
4.0	20	110	110	14	<0.10

Table APP 2.3-2(9) Results of Sea Water Analysis at St. 10

May 18,1992 High Tide (St.10)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	1.6	1.0	-	-	0.34	-	0.30	0.004	0.04	0.07	0.07	0.02	<0.01
5.0	-	1.6	0.8	-	-	0.41	-	0.30	0.007	0.10	0.08	0.08	0.03	<0.01
25.0	-	1.2	0.2	-	-	0.46	-	0.30	0.007	0.15	0.08	0.06	0.01	0.02

Depth (m)	SS (mg/l)	T-Coli (MPN)	F-Coli (MPN)	Chl-a (ug/l)	Pheo (ug/l)
0.0	20	170	80	27	<0.01
5.0	20	80	80	15	<0.01
25.0	20	240	130	-	-

Table APP 2.3-2(10) Results of Sea Water Analysis at St. 11

May 18,1992 High Tide (St.11)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	1.8	0.9	0.80	0.54	0.26	0.54	0.20	0.040	0.06	0.10	0.08	0.04	0.02
4.0	-	1.8	0.9	1.15	0.54	0.27	0.43	0.20	0.030	0.07	0.10	0.08	0.02	0.02

Depth (m)	SS (mg/l)	T-Coli (MPN)	F-Coli (MPN)	Chl-a (ug/l)	Pheo (ug/l)
0.0	19	500	240	34.21	<0.10
4.0	14	240	240	23.52	0.4

Table APP 2.3-2(11) Results of Sea Water Analysi. 12

May 18,1992 High Tide (St.12)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	2.0	2.0	-	-	0.22	-	0.20	0.002	0.02	0.10	0.10	0.04	<0.01
5.0	-	1.4	1.2	-	-	0.41	-	0.25	0.009	0.15	0.06	0.04	0.03	0.02
16.0	-	1.2	1.0	-	-	0.41	-	0.20	0.008	0.20	0.07	0.03	0.02	0.04

Depth (m)	SS (mg/l)	T-Coli (MPN)	F-Coli (MPN)	Chl-a (ug/l)	Pheo (ug/l)
0.0	20	-	-	34.75	15
5.0	18	110	7	17.37	<0.10
16.0	30	17	11	-	-

Table APP 2.3-2(12) Results of Sea Water Analysis at St. 13

May 18,1992 High Tide (St.13)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	4.0	3.2	2.97	1.63	1.34	0.70	0.02	0.020	1.30	0.45	0.25	0.05	0.20
1.0	-	3.6	3.0	1.51	0.47	1.04	0.40	0.02	0.020	1.00	0.40	0.25	0.10	0.15

Depth (m)	SS (mg/l)	T-Coli (MPN)	F-Coli (MPN)	Chl-a (ug/l)	Pheo (ug/l)
0.0	18	160000	160000	50.79	<0.10
1.0	30	90000	90000	102.91	<0.10

Table APP 2.3-2(13) Results of Sea Water Analysis at St. 14

May 18,1992 High Tide (St.14)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	3.6	2.4	1.23	1.18	0.05	0.32	0.02	0.001	0.03	0.15	0.15	0.03	<0.01
3.0	-	1.8	1.6	-	-	0.12	-	0.03	0.004	0.09	0.09	0.09	0.03	<0.01
4.0	-	1.4	1.4	0.69	0.45	0.24	0.20	0.03	0.006	0.20	0.08	0.06	0.03	0.02

Depth (m)	SS (mg/l)	T-Coli (MPN)	F-Coli (MPN)	Chl-a (ug/l)	Pheo (ug/l)
0.0	12	110	110	73.51	<0.10
3.0	20	11	11	16.04	6.42
4.0	20	30	13	-	-

Table APP 2.3-2(14) Results of Sea Water Analysis at St. 15

May 18,1992 High Tide (St.15)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	2.2	1.3	-	-	0.22	-	0.20	0.001	0.02	0.10	0.10	0.03	<0.01
3.0	-	1.6	0.9	-	-	0.29	-	0.20	0.004	0.09	0.07	0.06	0.02	0.01
6.5	-	0.9	0.7	-	-	0.36	-	0.15	0.008	0.20	0.10	0.07	0.02	0.03

Depth (m)	SS (mg/l)	T-Coli (MPN)	F-Coli (MPN)	Chl-a (ug/l)	Pheo (ug/l)
0.0	25	50	50	-	-
3.0	12	130	34	20.49	0.09
6.5	12	240	240	-	-

Table APP 2.3-2(15) Results of Sea Water Analysis at St. 16

May 18,1992 High Tide (St.16)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	3.4	3.0	0.91	0.89	0.02	0.13	<0.01	0.001	0.02	0.10	0.10	0.03	<0.01
3.3	-	2.0	1.6	0.83	0.58	0.25	0.60	0.20	0.003	0.05	0.07	0.07	0.03	<0.01

Depth (m)	SS (mg/l)	T-Coli (MPN)	F-Coli (MPN)	Chl-a (ug/l)	Pheo (ug/l)
0.0	30	8	2	37.86	20.60
3.3	30	8	2	29.94	<0.10

Table APP 2.3-2(16) Results of Sea Water Analysis at St. 17

May 18,1992 High Tide (St.17)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	D-COD (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	1.8	3.4	0.94	0.91	0.03	0.28	0.01	<0.001	0.02	0.10	0.10	0.02	<0.01
4.5	-	1.4	1.2	0.97	0.93	0.04	0.28	0.02	0.002	0.02	0.08	0.08	0.02	<0.01

Depth (m)	SS (mg/l)	T-Coli (MPN)	F-Coli (MPN)	Chl-a (ug/l)	Pheo (ug/l)
0.0	25	300	230	78	<0.10
4.5	20	22	11	40	<0.10

Table APP 2.3-2(17) Results of Sea Water Analysis at St. 18

May 18,1992 High Tide (St.18)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	3.0	2.4	0.83	0.79	0.04	0.23	0.02	0.002	0.02	0.10	0.10	0.06	<0.01
3.5	-	1.8	1.6	0.78	0.70	0.08	0.35	0.03	0.002	0.05	0.09	0.09	0.03	<0.01

Depth (m)	SS (mg/l)	T-Coli (MPN)	F-Coli (MPN)	Chl-a (ug/l)	Pheo (ug/l)
0.0	25	4	0	39	<0.10
3.5	30	9	9	63	<0.10

Table APP 2.3-3(1) Results of Sea Water Analysis of the Second Simultaneous Survey (Neap Tide - High Tide)

June 8, 1992 High Tide (St.1)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	1.0	1.0	-	-	0.09	-	0.08	0.002	0.01	0.04	0.03	0.03	0.01
5.0	0.6	0.4	-	-	0.07	-	0.07	0.002	<0.01	0.03	0.02	0.02	0.01
25.0	0.4	0.4	-	-	0.02	-	0.02	0.006	<0.01	0.04	0.03	0.02	0.01
49.0	0.6	0.4	-	-	0.11	-	0.10	0.005	<0.01	0.05	0.03	0.01	0.02

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	8	1.49	0.80	-	-	<1.0	5	<2.0	<10	<0.10	18
5.0	2	1.76	3.21	-	-	-	-	-	-	-	-
25.0	2	-	-	-	-	-	-	-	-	-	-
49.0	8	-	-	-	-	<1.0	13	<2.0	<10	<0.10	18

Table APP 2.3-3(2) Results of Sea Water Analysis at St. 2

June 8, 1992 High Tide (St.2)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	0.6	0.6	-	-	0.20	-	0.15	0.009	0.04	0.04	0.03	0.02	0.01
5.0	0.8	0.4	-	-	0.20	-	0.10	0.009	0.09	0.05	0.03	0.02	0.02
19.0	0.4	0.4	-	-	0.30	-	0.25	0.01	0.04	0.06	0.04	0.01	0.02

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	12	2.67	1.78	-	-	<1.0	<5.0	<2.0	<10	<0.10	<10
5.0	10	1.78	4.77	-	-	-	-	-	-	-	-
19.0	20	-	-		-	<1.0	<5.0	<2.0	<10	<0.10	<10

Table APP 2.3-3(3) Results of Sea Water Analysis at St. 3

June 8, 1992 High Tide (St.3)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	0.6	0.6	0.69	0.51	0.18	0.41	0.08	0.010	0.09	0.09	0.03	0.00	0.06
5.0	0.8	0.4	0.81	0.45	0.36	0.45	0.20	0.010	0.15	0.06	0.03	0.03	0.03
32.0	0.4	0.4	0.67	0.56	0.11	0.46	0.06	0.010	0.04	0.05	0.02	0.01	0.03

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	2	2.47	<0.01	<0.01	<0.010	<1.0	<5.0	4.5	<10	<0.10	<10
5.0	4	3.56	3.67	-	-	-	-	-	-	-	-
32.0	4	-	-	<0.01	<0.010	<1.0	5.0	<2.0	<10	<0.10	<10

Table APP 2.3-3(4) Results of Sea Water Analysis at St. 4

June 8, 1992 High Tide (St.4)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	1.0	0.8	-	-	0.26	-	0.15	0.010	0.10	0.10	0.06	0.04	0.04
3.0	0.8	0.4	-	-	0.20	-	0.09	0.010	0.10	0.09	0.05	0.04	0.04
7.0	0.6	0.4	-	-	0.18	-	0.08	0.010	0.09	0.06	0.03	0.02	0.03
11.0	0.4	0.4	-	-	0.31	-	0.20	0.010	0.10	0.06	0.02	0.01	0.04

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	12	21.38	14.64	-	-	<1.0	<5.0	<2.0	<10	<0.10	<10
3.0	3	11.58	8.06	-	-	-	-	-	-	-	-
7.0	5	-	-	-	-	-	-	-	-	-	-
11.0	4	-	-	-	-	<1.0	<5.0	3.0	<10	<0.10	<10

Table APP 2.3-3(5) Results of Sea Water Analysis at St. 5

June 8, 1992 High Tide (St.5)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	1.2	1.2	-	-	0.41	-	0.20	0.010	0.20	0.07	0.03	0.02	0.04
5.0	0.8	0.8	-	-	0.31	-	0.10	0.010	0.20	0.06	0.03	0.02	0.03
10.0	0.8	0.8	-	-	0.23	-	0.07	0.010	0.15	0.07	0.04	0.02	0.03
35.0	0.8	0.6	-	-	0.21	-	0.10	0.010	0.10	0.05	0.03	0.02	0.02

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	8	4.90	2.90	-	-	<1.0	<5.0	4.5	<10	<0.10	20
5.0	2	3.29	5.35	-	-	-	-	-	-	-	-
10.0	6	-	-	-	-	-	-	-	-	-	-
35.0	20	-	-	-	-	<1.0	<5.0	<2.0	<10	<0.10	<10

Table APP 2.3-3(6) Results of Sea Water Analysis at St. 6

June 8, 1992 High Tide (St.6)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	1.6	1.0	0.68	0.45	0.23	0.45	0.06	0.020	0.15	0.07	0.03	0.01	0.04
5.0	0.8	0.4	0.65	0.50	0.15	0.50	0.04	0.010	0.10	0.06	0.04	0.02	0.02
10.0	0.6	0.4	0.56	0.44	0.12	0.44	0.05	0.009	0.06	0.05	0.03	0.02	0.02
21.0	1.2	0.6	0.56	0.43	0.13	0.28	0.05	0.009	0.07	0.09	0.07	0.02	0.02

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	18	23.52	21.38	<0.01	<0.001	<1.0	<5.0	<2.0	<10	<0.10	20
5.0	22	4.31	4.14	-	-	-	-	-	-	-	-
10.0	6	-	-	-	-	-	-	-	-	-	-
21.0	30	-	-	<0.01	<0.001	<1.0	22.0	<2.0	<10	<0.10	24

Table APP 2.3-3(7) Results of Sea Water Analysis at St. 7

June 8, 1992 High Tide (St.7)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	2.2	2.0	-	-	0.46	-	0.04	0.020	0.40	0.30	0.20	0.10	0.10
3.0	2.8	1.4	-	-	0.28	-	0.06	0.020	0.20	0.10	0.05	0.02	0.05
7.0	0.8	1.2	-	-	0.31	-	0.05	0.010	0.25	0.10	0.04	0.01	0.06

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	16	33.41	17.11	-	-	<1.0	<5.0	<2.0	<10	<0.10	70
3.0	12	9.36	1.29	-	-	-	-	-	-	-	-
7.0	20	-	-	-	-	<1.0	<5.0	<2.0	<10	<0.10	<10

Table APP 2.3-3(8) Results of Sea Water Analysis at St. 8

June 8, 1992 High Tide (St.8)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	2.2	1.6	1.68	1.20	0.48	1.20	0.05	0.030	0.40	0.25	0.10	0.05	0.15
2.0	2.4	2.4	1.69	0.80	0.89	0.60	0.06	0.030	0.80	0.35	0.20	0.10	0.15
7.0	2.6	2.4	1.72	1.25	0.47	0.45	0.09	0.030	0.35	0.20	0.11	0.11	0.09

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	18	10.69	17.38	<0.01	<0.001	<1.0	<5.0	<2.0	<10	<0.10	<10
2.0	18	23.17	13.72	-	-	-	-	-	-	-	-
7.0	30	-	-	<0.01	<0.001	<1.0	170.0	6.0	<10	<0.10	26

Table APP 2.3-3(9) Results of Sea Water Analysis at St. 9

June 8, 1992 High Tide (St.9)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	2.8	2.2	2.32	1.45	0.88	0.65	0.06	0.060	0.75	0.35	0.15	0.10	0.20
5.0	1.4	1.4	0.91	0.50	0.41	0.30	0.09	0.020	0.30	0.10	0.03	0.03	0.07

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	20	46.33	32.25	<0.01	<0.001	<1.0	20.0	<2.0	<10	<0.10	80
5.0	20	12.47	6.73	<0.01	<0.001	<1.0	5.0	<2.0	<10	<0.10	<10

Table APP 2.3-3(10) Results of Sea Water Analysis at St. 10

June 8, 1992 High Tide (St.10)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	1.8	1.2	-	-	0.31	-	0.10	0.010	0.20	0.15	0.15	0.10	<0.01
5.0	1.0	1.6	-	-	0.11	-	0.09	0.020	0.10	0.10	0.05	0.01	0.05
23.0	0.6	1.2	-	-	0.18	-	0.08	0.009	0.09	0.10	0.07	0.02	0.03

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	15	21.38	3.56	-	-	<1.0	<5.0	<2.0	<10	<0.10	<10
5.0	24	21.63	6.06	-	-	-	-	-	-	-	-
23.0	20	-	-	-	-	<1.0	<5.0	<2.0	<10	<0.10	<10

Table APP 2.3-3(11) Results of Sea Water Analysis at St. 11

June 8, 1992 High Tide (St.11)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	2.8	2.0	0.81	0.56	0.25	0.46	0.20	0.005	0.04	0.20	0.17	0.05	0.03
2.5	2.2	1.6	0.81	0.50	0.31	0.40	0.20	0.008	0.10	0.15	0.19	0.04	0.02

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	30	26.07	18.71	<0.01	-	<1.0	5.0	<2.0	<10	<0.10	<10
2.5	30	11.58	30.85	<0.01	-	<1.0	12.0	24.0	<10	<0.10	26

Table APP 2.3-3(12) Results of Sea Water Analysis at St. 12

June 8, 1992 High Tide (St.12)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	1.6	1.6	-	-	0.30	-	0.20	0.010	0.09	0.10	0.08	0.05	0.02
5.0	1.2	1.2	-	-	0.24	-	0.02	0.020	0.20	0.07	0.05	0.03	0.02
16.0	0.8	0.8	-	-	0.21	-	0.03	0.010	0.20	0.06	0.03	0.01	0.03

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	26	9.80	5.79	-	-	<1.0	<5.0	2.0	<10	1.60	<10
5.0	18	6.24	8.86	-	-	-	-	-	-	-	-
16.0	30	-	-	-	-	<1.0	12.0	<2.0	<10	0.10	<10

Table APP 2.3-3(13) Results of Sea Water Analysis at St. 13

June 8, 1992 High Tide (St.13)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	7.2	1.8	2.25	1.65	1.55	0.70	0.03	0.020	1.50	0.40	0.20	0.00	0.20
1.5	6.8	2.6	2.52	2.18	1.72	0.80	0.30	0.020	1.40	0.30	0.15	0.15	0.15

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	6	-	30.76	<0.010	<0.001	<1.0	22.0	<2.0	<10	<0.10	12
1.5	24	-	34.21	<0.010	<0.001	<1.0	22.0	<2.0	<10	<0.10	36

Table APP 2.3-3(14) Results of Sea Water Analysis at St. 14

June 8, 1992 High Tide (St.14)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	6.4	3.0	1.84	1.10	0.74	1.10	0.01	0.030	0.70	0.30	0.15	0.10	0.15
2.5	4.0	1.6	0.85	0.40	0.45	0.40	0.03	0.020	0.40	0.09	0.03	0.02	0.06
5.0	2.6	2.0	1.85	1.50	0.35	1.30	0.04	0.010	0.30	0.07	0.02	0.01	0.05

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	20	70.84	39.56	<0.01	<0.001	<1.0	12.0	<2.0	<10	<0.10	<10
2.5	25	10.69	1.47	-	-	-	-	-	-	-	-
5.0	25	13.37	4.01	<0.01	<0.001	<1.0	22.0	<2.0	<10	<0.10	12

Table APP 2.3-3(15) Results of Sea Water Analysis at St. 15

June 8, 1992 High Tide (St.15)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	1.8	1.8	-	-	0.10	-	0.02	0.005	0.07	0.09	0.07	0.03	0.01
3.0	2.0	1.4	-	-	0.19	-	0.03	0.007	0.15	0.07	0.05	0.02	0.02
7.0	1.2	1.2	-	-	0.26	-	0.05	0.009	0.20	0.04	0.03	0.02	0.03

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	30	11.58	10.25	-	-	<1.0	<5.0	<2.0	<10	<0.10	<10
3.0	30	8.02	7.57	-	-	-	-	-	-	-	-
7.0	30	-	4.01	-	-	<1.0	<5.0	<2.0	<10	<0.10	<10

Table APP 2.3-3(16) Results of Sea Water Analysis at St. 16

June 8, 1992 High Tide (St.16)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	1.8	1.8	0.63	0.50	0.13	0.40	0.02	0.006	0.10	0.08	0.06	0.01	0.02
3.5	1.6	1.6	0.54	0.34	0.25	0.30	0.04	0.008	0.20	0.06	0.04	0.02	0.02

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	30	12.83	7.30	<0.01	<0.001	<1.0	49.0	<2.0	<10	<0.10	<10
3.5	30	8.91	7.31	<0.01	<0.001	<1.0	<5.0	<2.0	<10	<0.10	<10

Table APP 2.3-3(17) Results of Sea Water Analysis at St. 17

June 8, 1992 High Tide (St.17)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	2.6	1.6	0.52	0.48	0.04	0.48	0.01	0.010	0.02	0.05	0.04	0.02	0.01
5.0	3.8	1.8	0.61	0.40	0.21	0.40	<0.01	0.008	0.20	0.05	0.02	0.01	0.03

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	20	16.04	3.61	<0.01	<0.001	<1.0	38.0	<2.0	<10	<0.10	<10
5.0	20	13.37	0.67	<0.01	<0.001	<1.0	<5.0	<2.0	<10	<0.10	32

Table APP 2.3-3(18) Results of Sea Water Analysis at St. 18

June 8, 1992 High Tide (St.18)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	5.8	2.2	1.05	0.80	0.25	0.80	0.03	0.020	0.20	0.15	0.08	0.03	0.07
4.0	3.8	1.6	0.85	0.55	0.30	0.55	0.04	0.010	0.25	0.08	0.04	0.04	0.04

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Zn (ug/l)
0.0	20	42.77	23.27	<0.01	<0.001	<1.0	22.0	<2.0	<10	<0.10	<10
4.0	24	8.02	1.34	<0.01	<0.001	<1.0	12.0	<2.0	<10	<0.10	<10

Table APP 2.3-4(1) Results of Sea Water Analysis of the Second Simultaneous Survey (Neap Tide - Low Tide)

June 8, 1992 Low Tide (St.2)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	0.6	0.6	-	-	0.16	-	0.10	0.010	0.05	0.07	0.05	0.03	0.02
5.0	0.6	0.6	-	-	0.12	-	0.10	0.010	0.01	0.05	0.04	0.03	0.01
18.0	0.4	0.4	-	-	0.09	-	0.08	0.010	<0.01	0.04	0.04	0.03	<0.01

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)
0.0	10	5.35	12.74
5.0	12	3.12	10.38
18.0	16	-	-

Table APP 2.3-4(2) Results of Sea Water Analysis at St. 3

June 8, 1992 Low Tide (St.3)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	1.6	1.0	0.92	0.70	0.22	0.70	0.10	0.020	0.10	0.10	0.07	0.06	0.03
5.0	1.0	1.0	0.71	0.50	0.21	0.40	0.10	0.010	0.10	0.09	0.03	0.01	0.06
32.5	1.0	0.8	0.62	0.45	0.17	0.45	0.10	0.020	0.05	0.04	0.02	0.01	0.02

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)
0.0	20	31.19	16.53
5.0	10	4.01	4.10
32.5	16	-	-

Table APP 2.3-4(3) Results of Sea Water Analysis at St. 4

June 8, 1992 Low Tide (St.4)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	5.8	3.2	4.11	3.79	0.32	0.85	0.10	0.007	0.15	0.50	0.35	0.15	0.15
3.0	1.4	1.4	-	-	0.13	-	0.07	0.010	0.05	0.07	0.04	0.03	0.03
7.0	1.0	1.0	-	-	0.13	-	0.03	0.010	0.09	0.10	0.07	0.07	0.03
9.0	1.2	0.8	-	-	0.12	-	0.03	0.010	0.08	0.10	0.07	0.02	0.03

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)
0.0	20	139.00	66.08
3.0	24	6.01	2.41
7.0	22	-	-
9.0	22	-	-

Table APP 2.3-4(4) Results of Sea Water Analysis at St. 5

June 8, 1992 Low Tide (St.5)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	4.0	1.4	-	-	0.07	-	0.01	0.020	0.04	0.25	0.18	0.13	0.07
5.0	0.8	1.4	-	-	0.25	-	0.03	0.020	0.20	0.09	0.05	0.03	0.04
10.0	0.6	1.0	-	-	0.07	-	0.03	0.010	0.08	0.10	0.06	0.03	0.04
34.0	0.4	0.8	-	-	0.09	-	0.04	0.010	0.04	0.04	0.02	0.01	0.02

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)
0.0	18	61.10	39.87
5.0	15	8.26	10.79
10.0	10	-	-
34.0	6	-	-

Table APP 2.3-4(5) Results of Sea Water Analysis at St. 6

June 8, 1992 Low Tide (St.6)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	3.4	2.4	1.17	0.97	0.20	0.57	0.15	0.020	0.03	0.20	0.17	0.07	0.03
5.0	1.0	1.0	0.77	0.45	0.32	0.25	0.15	0.020	0.15	0.07	0.05	0.04	0.05
10.0	0.8	0.8	0.51	0.22	0.29	0.22	0.20	0.010	0.08	0.07	0.04	0.02	0.03
21.0	1.2	0.8	0.76	0.50	0.26	0.10	0.15	0.010	0.10	0.10	0.07	0.01	0.03

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)
0.0	24	30.29	14.61
5.0	18	14.26	13.19
10.0	22	-	-
21.0	40	-	-

Table APP 2.3-4(6) Results of Sea Water Analysis at St. 7

June 8, 1992 Low Tide (St.7)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	2.2	1.8	-	-	0.32	-	0.15	0.020	0.15	0.25	0.17	0.12	0.08
3.0	1.0	1.0	-	-	0.42	-	0.10	0.020	0.30	0.10	0.04	0.01	0.06
6.0	1.0	0.8	-	-	0.37	-	0.15	0.020	0.20	0.10	0.04	0.04	0.06

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)
0.0	24	53.46	28.87
3.0	26	-	-
6.0	24	-	-

Table APP 2.3-4(7) Results of Sea Water Analysis at St. 8

June 8, 1992 Low Tide (St.8)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	4.4	3.8	4.11	3.91	1.26	2.65	0.10	0.010	1.15	0.60	0.30	0.10	0.30
2.0	2.4	2.2	2.12	1.92	1.22	0.70	0.10	0.020	1.10	0.30	0.10	0.10	0.20
6.0	1.8	1.6	1.78	1.18	0.58	0.60	0.15	0.030	0.40	0.20	0.10	0.05	0.10

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)
0.0	20	53.46	38.22
2.0	24	31.68	34.85
6.0	20	-	-

Table APP 2.3-4(8) Results of Sea Water Analysis at St. 9

June 8, 1992 Low Tide (St.9)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	1.8	1.8	1.19	0.50	0.69	0.50	0.15	0.040	0.50	0.35	0.15	0.10	0.20
5.0	1.2	2.8	0.73	0.35	0.38	0.35	0.10	0.030	0.25	0.10	0.03	0.03	0.07

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)
0.0	16	19.60	10.96
5.0	20	11.58	4.01

Table APP 2.3-4(9) Results of Sea Water Analysis at St. 10

June 8, 1992 Low Tide (St.10)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	4.2	2.8	-	-	0.14	-	0.07	0.040	0.07	0.25	0.16	0.11	0.09
5.0	1.6	1.6	-	-	0.20	-	0.09	0.010	0.10	0.10	0.08	0.03	0.02
23.0	1.0	0.6	-	-	0.19	-	0.10	0.009	0.08	0.10	0.08	0.05	0.02

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)
0.0	30	61.48	37.69
5.0	25	3.56	4.54
23.0	20	-	-

Table APP 2.3-4(10) Results of Sea Water Analysis at St. 11

June 8, 1992 Low Tide (St.11)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	2.8	2.2	1.01	0.91	0.13	0.71	0.20	0.006	0.09	0.16	0.08	0.04	0.02
2.5	3.2	2.4	1.21	1.13	0.10	0.48	0.20	0.003	0.07	0.10	0.08	0.04	0.02

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)
0.0	30	13.37	11.90
2.5	30	17.38	19.11

Table APP 2.3-4(11) Results of Sea Water Analysis at St. 12

June 8, 1992 Low Tide (St.12)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	1.0	1.6	-	-	0.23	-	0.07	0.010	0.15	0.07	0.05	0.02	0.02
5.0	1.4	1.0	-	-	0.23	-	0.02	0.010	0.20	0.05	0.04	0.02	0.01
15.0	0.6	0.6	-	-	0.25	-	0.04	0.010	0.20	0.06	0.02	0.00	0.04

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)
0.0	24	12.03	7.75
5.0	20	8.02	10.07
15.0	10	-	-

Table APP 2.3-4(12) Results of Sea Water Analysis at St. 13

June 8, 1992 Low Tide (St.13)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	8.0	3.6	2.48	1.60	0.88	1.20	0.05	0.030	0.80	0.35	0.15	0.10	0.20
1.0	8.0	3.2	2.07	0.90	1.17	0.90	0.04	0.030	1.10	0.40	0.20	0.10	0.20

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)
0.0	30	53.46	41.03
1.0	24	45.44	35.95

Table APP 2.3-4(13) Results of Sea Water Analysis at St. 14

June 8, 1992 Low Tide (St.14)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	6.2	3.0	1.05	0.90	0.15	0.90	0.03	0.020	0.10	0.20	0.11	0.11	0.09
2.5	3.2	1.6	0.86	0.50	0.36	0.30	0.04	0.020	0.30	0.10	0.05	0.03	0.05
5.0	3.6	1.4	0.65	0.30	0.35	0.30	0.04	0.010	0.30	0.08	0.03	0.03	0.05

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)
0.0	10	97.57	54.00
2.5	26	10.69	6.15
5.0	20	9.36	4.68

Table APP 2.3-4(14) Results of Sea Water Analysis at St. 15

June 8, 1992 Low Tide (St.15)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	2.2	2.0	-	-	0.09	-	0.04	0.003	0.05	0.07	0.05	0.03	0.02
3.0	1.4	1.4	-	-	0.21	-	0.05	0.010	0.15	0.05	0.03	0.01	0.02
7.0	1.0	1.0	-	-	0.32	-	0.06	0.010	0.25	0.08	0.03	0.00	0.05

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)
0.0	20	10.69	9.27
3.0	25	7.48	4.49
7.0	20	-	-

Table APP 2.3-4(15) Results of Sea Water Analysis at St. 16

June 8, 1992 Low Tide (St.16)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	2.2	2.2	0.83	0.70	0.13	0.35	0.03	0.004	0.10	0.08	0.06	0.01	0.02
3.5	1.4	1.4	0.65	0.40	0.24	0.30	0.04	0.009	0.20	0.06	0.04	0.02	0.02

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)	Phenol (mg/l)
0.0	30	14.97	15.72	<0.001
3.5	30	6.24	6.24	<0.001

Table APP 2.3-4(16) Results of Sea Water Analysis at St. 17

June 8, 1992 Low Tide (St.17)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	4.2	1.6	0.61	0.56	0.05	0.41	<0.01	0.006	0.04	0.09	0.03	0.00	0.06
4.0	3.9	2.0	0.63	0.40	0.23	0.30	0.02	0.008	0.20	0.10	0.04	0.00	0.06

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)
0.0	18	81.53	53.19
4.0	12	14.70	4.01

Table APP 2.3-4(17) Results of Sea Water Analysis at St. 18

June 8, 1992 Low Tide (St.18)

Depth (m)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	T-P (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	9.4	3.2	1.02	0.96	0.06	0.76	0.02	0.004	0.04	0.20	0.11	0.11	0.09
3.2	4.0	1.8	0.83	0.50	0.33	0.30	0.02	0.010	0.30	0.09	0.04	0.02	0.05

Depth (m)	SS (mg/l)	Chl-a (ug/l)	Pheo (ug/l)
0.0	20	12.03	2.01
3.2	10	9.36	4.68

Table APP 2.3-5(1) Results of Sea Water Analysis of the Third Simultaneous Survey (Spring Tide - Low Tide) Nov. 10, 1992, Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	0.6	0.0	-	0.41	-	-	-	0.001	0.04	0.03	0.02	0.02	0.01
5.0	-	0.8	0.0	-	-	0.07	-	0.04	0.001	0.03	0.03	0.02	0.01	0.01
25.0	-	0.6	0.0	-	-	0.05	-	0.05	0.003	<0.01	0.03	0.02	0.01	0.01
50.0	-	0.6	0.0	-	-	0.11	-	0.10	0.001	0.01	0.04	0.01	0.01	0.03

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	20	80	0	<0.01	0.56	<4	<1.0	<5.0	<2.0	<10	<0.10	55	<5.0	12
5.0	10	0	0	0.80	<0.01	-	-	-	-	-	-	-	-	-
25.0	20	0	0	-	-	-	-	-	-	-	-	-	-	-
50.0	14	0	0	-	-	-	<1.0	<5.0	<2.0	<10	<0.10	34	<5.0	40

Table APP 2.3-5(2) Results of Sea Water Analysis at St. 2

Nov. 10, 1992, Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	1.0	0.0	-	-	0.07	-	0.03	0.002	0.04	0.04	0.03	0.01	0.01
5.0	-	1.2	1.0	-	-	0.06	-	0.04	0.006	0.01	0.06	0.03	0.02	0.03
17.0	-	2.4	0.2	-	-	0.22	-	0.07	0.001	0.15	0.09	0.08	0.02	0.01

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	12	800	300	12.92	7.66	4	<1.0	<5.0	<2.0	<10	<0.10	38	<5.0	18
5.0	10	5000	800	0.53	4.70	-	-	-	-	-	-	-	-	-
17.0	10	7000	2200	-	-	-	<1.0	<5.0	<2.0	<10	<0.10	26	<5.0	36

Table APP 2.3-5(3) Results of Sea Water Analysis at St. 3

Nov. 10, 1992, Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	4.0	3.8	0.4	1.49	1.30	0.19	0.50	0.07	0.020	0.10	0.10	0.09	0.02	0.01
5.0	-	1.8	0.0	-	-	0.21	-	0.05	0.009	0.15	0.09	0.06	0.03	0.03
47.0	<2.0	1.4	0.0	-	-	0.15	-	0.05	0.006	0.09	0.05	0.03	0.02	0.02

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	14	5000	1300	23.17	14.57	<4	<1.0	<5.0	<2.0	<10	<0.10	44	<5.0	12
5.0	10	5000	3000	6.68	9.85	-	-	-	-	-	-	-	-	-
47.0	10	5000	2300	-	-	-	<1.0	<5.0	<2.0	<10	<0.10	32	<5.0	20

Table APP 2.3-5(4) Results of Sea Water Analysis at St. 4

Nov. 10, 1992 Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	4.2	1.4	-	-	0.16	-	0.06	0.020	0.08	0.15	0.14	0.03	0.01
3.0	-	2.0	0.8	-	-	0.16	-	0.05	0.010	0.10	0.08	0.05	0.01	0.03
7.0	-	1.8	0.4	-	-	0.28	-	0.06	0.020	0.20	0.09	0.05	0.01	0.04
11.0	-	3.2	0.4	0.77	0.50	0.27	0.30	0.06	0.009	0.20	0.15	0.11	0.01	0.04

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	10	3000	800	23.67	26.04	5	<1.0	<5.0	<2.0	<10	<0.10	40	<5.0	<10
3.0	16	5000	3000	10.69	10.51	-	-	-	-	-	-	-	-	-
7.0	20	3000	1100	-	-	-	-	-	-	-	-	-	-	
11.0	50	5000	1300	-	-	-	<1.0	<5.0	<2.0	<10	<0.10	460	<5.0	18

Table APP 2.3-5(5) Results of Sea Water Analysis at St. 5

Nov. 10, 1992 Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	3.4	1.2	-	-	0.23	-	0.06	0.020	0.15	0.09	0.08	0.03	0.01
5.0	-	1.4	0.4	-	-	0.20	-	0.04	0.010	0.15	0.07	0.04	0.04	0.03
10.0	-	1.4	0.0	-	-	0.18	-	0.02	0.009	0.15	0.08	0.05	0.03	0.03
37.8	-	1.2	0.2	-	-	0.13	-	0.02	0.007	0.10	0.06	0.11	0.02	0.03

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli (MPN/100ml)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	16	500	300	20.62	20.01	4	<1.0	<5.0	<2.0	<10	<0.10	100	<5.0	10
5.0	10	5000	1700	4.90	3.20	-	-	-	-	-	-	-	-	-
10.0	16	3000	3000	-	-	-	-	-	-	-	-	-	-	
37.8	10	500	230	-	-	-	<1.0	<5.0	<2.0	<10	<0.10	36	<5.0	<10

Table APP 2.3-5(6) Results of Sea Water Analysis at St. 6

Nov. 10, 1992 Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	6	6.6	2.2	1.26	1.14	0.12	0.39	0.04	0.020	0.06	0.15	0.14	0.02	0.01
5.0	-	3.0	2.2	-	-	0.19	-	0.03	0.010	0.15	0.08	0.06	0.05	0.02
10.0	-	2.2	0.2	-	-	0.23	-	0.02	0.008	0.20	0.08	0.04	0.01	0.04
18.5	<2	1.2	1.2	0.53	0.35	0.18	0.30	0.02	0.008	0.15	0.06	0.02	0.03	0.04

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli (MPN/100ml)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	20	500	230	167.06	74.62	6	<1.0	<5.0	4.5	<10	<0.10	100	<5.0	20
5.0	20	1100	300	9.35	27.13	-	-	-	-	-	-	-	-	-
10.0	20	2300	800	-	-	-	-	-	-	-	-	-	-	
18.5	16	3000	2300	-	-	-	<1.0	<5.0	3.0	<10	<0.10	44	<5.0	10

Table APP 2.3-5(7) Results of Sea Water Analysis at St. 7

Nov. 10, 1992 Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	6.2	2.4	-	-	0.65	-	0.03	0.020	0.60	0.45	0.35	0.05	0.10
3.0	-	3.8	1.2	-	-	0.40	-	0.03	0.020	0.35	0.15	0.09	0.02	0.06
6.0	-	2.6	0.6	-	-	0.27	-	0.06	0.010	0.20	0.10	0.05	0.01	0.05

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli (MPN/100ml)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	26	23000	8000	71.28	25.74	<4	<1.0	<5.0	3.0	<10	<0.10	80	<5.0	10
3.0	20	50000	24000	18.71	0.93	-	-	-	-	-	-	-	-	-
6.0	10	1300	800	-	-	-	<1.0	<5.0	3.0	<10	<0.10	55	<5.0	<10

Table APP 2.3-5(8) Results of Sea Water Analysis at St. 8

Nov. 10, 1992 Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	10.0	5.8	3.0	2.68	1.60	1.08	1.00	0.04	0.040	1.00	0.45	0.25	0.00	0.20
2.0	-	3.4	2.0	-	-	0.99	-	0.05	0.040	0.90	0.30	0.15	0.05	0.15
8.0	2.4	2.0	2.0	1.30	0.75	0.55	0.55	0.06	0.040	0.45	0.20	0.10	0.05	0.10

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli (MPN/100ml)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	16	50000	30000	81.97	62.73	<4	<1.0	<5.0	<2.0	<10	<0.10	100	<5.0	12
2.0	10	50000	8000	32.08	39.03	-	-	-	-	-	-	-	-	-
8.0	9	8000	300	-	-	-	<1.0	<5.0	4.0	<10	<0.10	75	<5.0	12

Table APP 2.3-5(9) Results of Sea Water Analysis at St. 9

Nov. 10, 1992 Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	12.0	4.0	0.2	2.89	2.15	0.73	1.15	0.04	0.040	0.65	0.40	0.30	0.10	0.10
2.5	4.8	3.2	1.4	1.89	1.30	0.60	0.70	0.05	0.050	0.50	0.25	0.15	0.00	0.10

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	22	130000	24000	115.83	66.60	<4	<1.0	<5.0	<2.0	<10	<0.10	65	<5.0	10
2.5	16	30000	13000	22.91	34.82	-	<1.0	<5.0	<2.0	<10	<0.10	65	<5.0	20

Table APP 2.3-5(10) Results of Sea Water Analysis at St. 10

Nov. 10, 1992 Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	5.6	2.2	-	-	0.08	-	0.02	0.010	0.05	0.20	0.17	0.01	0.03
5.0	-	1.8	1.4	-	-	0.25	-	0.04	0.010	0.20	0.09	0.06	0.02	0.03
22.0	-	0.4	0.0	-	-	0.20	-	0.04	0.007	0.15	0.07	0.03	0.00	0.04

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	20	1700	800	84.00	50.98	<4	<1.0	<5.0	<2.0	<10	<0.10	85	<5.0	26
5.0	12	1300	500	21.33	42.23	-	-	-	-	-	-	-	-	-
22.0	24	1300	500	-	-	-	<1.0	<5.0	<2.0	<10	<0.10	55	<5.0	18

Table APP 2.3-5(11) Results of Sea Water Analysis at St. 11

Nov. 10, 1992 Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	5.2	7.2	5.2	1.31	1.05	0.26	0.65	0.10	0.006	0.15	0.15	0.14	0.04	0.01
1.6	3.2	2.8	1.6	1.08	0.80	0.28	0.40	0.06	0.020	0.20	0.10	0.08	0.05	0.02

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	16	8000	1100	76.62	109.24	<4	<1.0	<5.0	3.0	<10	<0.10	110	<5.0	10
1.6	16	8000	5000	28.51	10.15	-	<1.0	<5.0	4.5	<10	<0.10	110	<5.0	10

Table APP 2.3-5(12) Results of Sea Water Analysis at St. 12

Nov. 10, 1992 Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	5.6	4.6	-	-	0.02	-	0.01	0.002	0.01	0.15	0.14	0.03	0.01
5.0	-	1.6	1.6	-	-	0.24	-	0.03	0.007	0.20	0.08	0.05	0.03	0.03
13.5	-	1.4	1.4	-	-	0.23	-	0.02	0.007	0.20	0.08	0.03	0.01	0.05

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	16	300	50	56.13	44.91	<4	<1.0	<5.0	<2.0	<10	<0.10	65	<5.0	18
5.0	10	800	500	13.90	23.52	-	-	-	-	-	-	-	-	-
13.5	16	3000	300	-	-	-	<1.0	<5.0	<2.0	<10	<0.10	75	<5.0	<10

Table APP 2.3-5(13) Results of Sea Water Analysis at St. 13

Nov. 10, 1992 Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	5.2	3.6	3.6	2.65	1.10	1.55	0.90	0.03	0.020	1.50	0.45	0.15	0.00	0.30
1.5	4.0	3.0	2.6	2.26	1.10	1.16	0.50	0.04	0.020	1.10	0.30	0.10	0.05	0.20

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli (MPN/100ml)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	16	50000	17000	25.39	25.13	-	<1.0	<5.0	<2.0	<10	<0.10	150	<5.0	<10
1.5	16	240000	80000	-	-	-	<1.0	<5.0	4.0	<10	<0.10	130	<5.0	10

Table APP 2.3-5(14) Results of Sea Water Analysis at St. 14

Nov. 10, 1992 Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	4.8	4.4	3.4	1.67	1.40	0.27	0.40	0.05	0.020	0.20	0.20	0.18	0.02	0.02
3.0	5.2	4.0	3.2	1.26	1.00	0.26	0.60	0.04	0.020	0.20	0.20	0.18	0.08	0.02

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli (MPN/100ml)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	10	1700	1100	139.00	114.54	16	<1.0	<5.0	<2.0	<10	<0.10	70	<5.0	10
3.0	26	8000	700	37.42	50.52	-	<1.0	<5.0	<2.0	<10	<0.10	40	<5.0	<10

Table APP 2.3-5(15) Results of Sea Water Analysis at St. 15

Nov. 10, 1992 Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	8.6	7.6	-	-	0.09	-	0.01	0.010	0.07	0.15	0.14	0.01	0.01
3.0	-	2.2	1.8	-	-	0.25	-	0.04	0.010	0.20	0.07	0.06	0.01	0.01
6.5	-	1.6	0.0	-	-	0.29	-	0.08	0.006	0.20	0.07	0.04	0.01	0.03

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli (MPN/100ml)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	22	8000	5000	34.75	12.63	<4.0	<1.0	39.0	<2.0	<10	<0.10	550	<5.0	10
3.0	6	800	140	10.69	13.63	-	-	-	-	-	-	-	-	-
6.5	6	300	110	-	-	-	<1.0	<5.0	4.0	<10	<0.10	85	<5.0	10

Table APP 2.3-5(16) Results of Sea Water Analysis at St. 16

Nov. 10, 1992 Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	2.8	7.6	6.4	0.71	0.58	0.13	0.48	0.10	0.010	0.02	0.10	0.09	0.01	0.01
2.5	3.6	1.4	0.8	1.01	0.70	0.31	0.40	0.10	0.010	0.20	0.08	0.07	0.03	0.01

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli (MPN/100ml)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	10	2300	800	23.17	11.76	<4	<1.0	<5.0	<2.0	<10	<0.10	440	<5.0	26
2.5	10	800	500	10.69	1.78	-	<1.0	<5.0	6.0	<10	<0.10	130	<5.0	12

Table APP 2.3-5(17) Results of Sea Water Analysis at St. 17

Nov. 10, 1992 Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	8.8	2.0	1.4	1.41	1.30	0.11	0.50	0.01	0.004	0.10	0.20	0.19	0.09	0.01
3.5	4.4	5.2	3.0	0.94	0.80	0.14	0.45	0.03	0.006	0.10	0.09	0.09	0.02	<0.01

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	14	500	220	48.11	24.66	7	<1.0	<5.0	<2.0	<10	<0.10	70	<5.0	36
3.5	10	500	130	36.08	17.25	-	<1.0	<5.0	<2.0	<10	<0.10	50	<5.0	24

Table APP 2.3-5(18) Results of Sea Water Analysis at St. 18

Nov. 10, 1992 Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	16.0	11.0	4.8	4.02	3.50	0.52	0.70	0.02	0.003	0.50	0.70	0.65	0.05	0.05
2.0	4.4	3.8	2.8	1.05	0.85	0.20	0.35	0.04	0.009	0.15	0.15	0.14	0.03	0.01

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	30	1300	900	58.81	25.39	-	<1.0	<5.0	<2.0	<10	<0.10	60	<5.0	130
2.0	30	1300	800	97.68	74.58	-	<1.0	<5.0	<2.0	<10	<0.10	75	<5.0	14

Table APP 2.3-5(19) Results of Sea Water Analysis at St. 19

Nov. 10, 1992 Low Tide

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)
0.0	-	7.2	4.6	-	-	1.37	-	0.04	0.030	1.30	0.45	0.25	0.10	0.20
3.0	-	4.4	4.0	-	-	1.23	-	0.05	0.040	1.20	0.30	0.10	0.05	0.20
6.5	-	3.4	2.4	-	-	0.91	-	0.06	0.050	0.80	0.20	0.10	0.05	0.10

Depth (m)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	24	50000	30000	133.65	104.91	12	<1.0	<5.0	<2.0	<10	<0.10	80	<5.0	36
3.0	10	50000	30000	21.38	57.20	-	-	-	-	-	-	-	-	-
6.5	12	24000	13000	-	-	-	<1.0	<5.0	<2.0	<10	<0.10	90	<5.0	10

Table APP 2.3-6(1) Results of Sea Water Analysis of the Third Simultaneous Survey (Spring Tide - High Tide) Nov. 10, 1992, High Tide (St. 2)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	1.4	0.0	-	-	0.14	-	0.04	0.007	0.09	0.06	0.04	0.04	0.02	10	500	170
5.0	-	1.0	0.0	-	-	0.08	-	0.03	0.003	0.05	0.04	0.03	0.03	0.01	10	130	30
18.0	-	0.8	0.8	-	-	0.07	-	0.04	0.003	0.03	0.03	0.01	0.01	0.02	10	110	40

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	2.92	3.55	-	-	-	-	-	-	-	-	-	-	-
5.0	1.53	0.61	-	-	-	-	-	-	-	-	-	-	-
18.0	-	-	-	-	-	-	-	-	-	-	-	-	-

Table APP 2.3-6(2) Results of Sea Water Analysis at St. 3 Nov. 10, 1992, High Tide (St. 3)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	2.4	0.2	-	-	0.14	-	0.04	0.009	0.09	0.07	0.06	0.04	0.01	16	1100	800
5.0	-	1.4	0.0	-	-	0.12	-	0.03	0.005	0.08	0.05	0.03	0.01	0.02	5	500	300
45.0	-	1.0	0.0	0.53	0.42	0.11	0.32	0.03	0.004	0.08	0.04	0.02	0.02	0.02	5	500	300

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	9.36	10.29	-	-	-	-	-	-	-	-	-	-	-
5.0	2.67	5.75	-	-	-	-	-	-	-	-	-	-	-
45.0	-	-	-	-	-	-	-	-	-	-	-	-	-

Table APP 2.3-6(3) Results of Sea Water Analysis at St. 4 Nov. 10, 1992, High Tide (St. 4)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	3.0	1.0	-	-	0.17	-	0.06	0.010	0.10	0.08	0.06	0.02	0.02	10	3000	700
3.0	-	2.0	1.0	-	-	0.27	-	0.06	0.010	0.20	0.07	0.04	0.02	0.03	16	2300	800
7.0	-	1.6	0.6	-	-	0.21	-	0.05	0.008	0.15	0.07	0.04	0.03	0.03	32	8000	1100
11.5	-	1.2	0.6	-	-	0.27	-	0.06	0.009	0.20	0.07	0.03	0.01	0.04	16	500	300

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	7.72	13.07	-	-	-	-	-	-	-	-	-	-	-
3.0	7.64	12.68	-	-	-	-	-	-	-	-	-	-	-
7.0	-	-	-	-	-	-	-	-	-	-	-	-	-
11.5	-	-	-	-	-	-	-	-	-	-	-	-	-

Table APP 2.3-6(4) Results of Sea Water Analysis at St. 5 Nov. 10, 1992, High Tide (St. 5)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	2.4	0.2	-	-	0.11	-	0.02	0.010	0.08	0.09	0.08	0.04	0.01	16	8000	5000
5.0	-	2.0	0.6	-	-	0.11	-	0.02	0.010	0.08	0.06	0.03	0.03	0.03	14	3000	800
10.0	-	1.8	1.2	-	-	0.12	-	0.02	0.007	0.09	0.06	0.03	0.01	0.03	10	2300	800
38.5	-	1.0	1.0	-	-	0.05	-	0.01	0.004	0.04	0.04	0.02	0.01	0.02	16	300	230

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	6.86	10.62	-	-	-	-	-	-	-	-	-	-	-
5.0	1.78	9.03	-	-	-	-	-	-	-	-	-	-	-
10.0	-	-	-	-	-	-	-	-	-	-	-	-	-
38.5	-	-	-	-	-	-	-	-	-	-	-	-	-

Table APP 2.3-6(5) Results of Sea Water Analysis at St. 6

Nov. 10, 1992, High Tide (St. 6)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	3.0	1.6	0.64	0.52	0.12	0.42	0.03	0.010	0.08	0.08	0.07	0.01	0.01	20	500	230
5.0	-	2.6	0.8	-	-	0.13	-	0.04	0.010	0.08	0.08	0.06	0.01	0.02	16	800	500
10.0	-	1.8	1.2	-	-	0.12	-	0.02	0.009	0.09	0.06	0.01	0.00	0.05	20	700	230
17.5	-	2.6	1.4	0.98	0.60	0.10	0.53	0.02	0.009	0.07	0.10	0.07	0.03	0.03	26	500	170

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	10.02	13.36	-	-	-	-	-	-	-	-	-	-	
5.0	5.35	13.36	-	-	-	-	-	-	-	-	-	-	
10.0	-	-	-	-	-	-	-	-	-	-	-	-	
17.5	-	-	-	-	-	-	-	-	-	-	-	-	

Table APP 2.3-6(6) Results of Sea Water Analysis at St. 7

Nov. 10, 1992, High Tide (St. 7)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	5.8	3.2	-	-	0.06	-	0.03	0.010	0.02	0.20	0.18	0.03	0.02	26	90000	11000
3.0	-	3.4	3.0	-	-	0.25	-	0.03	0.020	0.20	0.10	0.05	0.00	0.05	16	30000	13000
7.5	-	2.2	1.4	-	-	0.34	-	0.03	0.010	0.30	0.10	0.03	0.00	0.07	20	50000	14000

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	60.88	52.42	-	-	-	-	-	-	-	-	-	-	-
3.0	16.04	22.32	-	-	-	-	-	-	-	-	-	-	-
7.5	-	-	-	-	-	-	-	-	-	-	-	-	-

Table APP 2.3-6(7) Results of Sea Water Analysis at St. 8

Nov. 10, 1992, High Tide (St. 8)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	4.4	2.4	2.09	1.50	0.59	0.90	0.05	0.040	0.50	0.30	0.20	0.05	0.10	22	30000	24000
2.0	-	4.8	2.4	-	-	0.54	-	0.05	0.040	0.45	0.30	0.15	0.00	0.15	24	50000	22000
7.5	-	2.2	1.2	1.47	1.00	0.47	0.60	0.03	0.040	0.40	0.20	0.11	0.01	0.09	20	24000	5000

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	73.22	36.61	-	-	-	-	-	-	-	-	-	-	-
2.0	48.11	60.41	-	-	-	-	-	-	-	-	-	-	-
7.5	-	-	-	-	-	-	-	-	-	-	-	-	-

Table APP 2.3-6(8) Results of Sea Water Analysis at St. 9

Nov. 10, 1992, High Tide (St. 9)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	4.4	1.6	1.90	1.50	0.40	0.70	0.04	0.060	0.30	0.30	0.24	0.04	0.06	22	13000	8000
4.5	-	2.0	0.4	-	-	0.31	-	0.03	0.030	0.25	0.15	0.09	0.01	0.06	12	2300	300

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	42.77	38.81	-	-	-	-	-	-	-	-	-	-	-
4.5	6.41	12.29	-	-	-	-	-	-	-	-	-	-	-

Table APP 2.3-6(9) Results of Sea Water Analysis at St. 10

Nov. 10, 1992, High Tide (St.10)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	3.2	0.4	-	-	0.04	-	0.02	0.010	0.01	0.10	0.09	0.01	0.01	18	1300	300
5.0	-	1.6	1.0	-	-	0.26	-	0.04	0.020	0.20	0.10	0.07	0.01	0.03	10	1300	800
21.5	-	0.6	0.4	-	-	0.20	-	0.04	0.010	0.15	0.08	0.04	0.00	0.04	26	500	300

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	3.56	10.78	-	-	-	-	-	-	-	-	-	-	-
5.0	6.68	15.80	-	-	-	-	-	-	-	-	-	-	-
21.5	-	-	-	-	-	-	-	-	-	-	-	-	-

Table APP 2.3-6(10) Results of Sea Water Analysis at St. 11

Nov. 10, 1992, High Tide (St.11)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	8.8	5.4	1.85	1.76	0.09	0.96	0.03	0.020	0.04	0.25	0.23	0.08	0.02	24	13000	3000
2.3	-	3.0	3.0	1.05	0.80	0.25	0.80	0.04	0.010	0.20	0.10	0.08	0.07	0.02	18	8000	1300

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	200.47	190.58	-	-	-	-	-	-	-	-	-	-	-
2.3	13.36	24.06	-	-	-	-	-	-	-	-	-	-	-

Table APP 2.3-6(11) Results of Sea Water Analysis at St. 12

Nov. 10, 1992, High Tide (St.12)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	3.4	1.8	-	-	0.01	-	0.01	0.002	<0.01	0.15	0.13	0.06	0.02	20	700	70
5.0	-	2.0	2.0	-	-	0.24	-	0.03	0.009	0.20	0.07	0.04	0.01	0.03	10	300	130
14.0	-	1.6	1.6	-	-	0.25	-	0.04	0.009	0.20	0.08	0.02	0.02	0.06	12	700	110

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	45.44	41.56	-	-	-	-	-	-	-	-	-	-	-
5.0	20.05	<0.01	-	-	-	-	-	-	-	-	-	-	-
14.0	-	-	-	-	-	-	-	-	-	-	-	-	-

Table APP 2.3-6(12) Results of Sea Water Analysis at St. 13

Nov. 10, 1992, High Tide (St.13)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	10.4	5.4	4.12	3.30	0.82	0.90	0.07	0.050	0.70	0.50	0.43	0.08	0.07	20	5000	1700
1.5	-	5.0	3.8	2.49	1.30	1.19	0.70	0.06	0.030	1.10	0.40	0.20	0.05	0.20	10	500000	300000

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	61.48	60.14	-	-	-	-	-	-	-	-	-	-	-
1.5	38.76	44.50	-	-	-	-	-	-	-	-	-	-	-

Table APP 2.3-6(13) Results of Sea Water Analysis at St. 14

Nov. 10, 1992, High Tide (St.14)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	8.6	5.0	2.84	2.71	0.13	0.71	0.02	0.020	0.09	0.35	0.33	0.04	0.02	24	500	300
2.5	-	2.8	2.8	-	-	0.24	-	0.03	0.010	0.20	0.10	0.07	0.07	0.03	10	1300	800
4.0	-	1.6	1.6	0.84	0.60	0.24	0.30	0.03	0.009	0.20	0.10	0.05	0.01	0.05	6	1300	500

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	110.93	68.70	-	-	-	-	-	-	-	-	-	-	-
2.5	17.37	12.56	-	-	-	-	-	-	-	-	-	-	-
4.0	-	-	-	-	-	-	-	-	-	-	-	-	-

Table APP 2.3-6(14) Results of Sea Water Analysis at St. 15

Nov. 10, 1992, High Tide (St.15)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	8.0	4.0	-	-	0.01	-	0.01	0.004	<0.01	0.15	0.14	0.02	0.01	14	500	70
3.0	-	1.6	0.2	-	-	0.23	-	0.02	0.010	0.20	0.07	0.06	0.01	0.01	6	230	80
7.0	-	0.6	0.0	-	-	0.24	-	0.03	0.009	0.20	0.09	0.04	0.00	0.05	10	300	230

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	38.76	22.99	-	-	-	-	-	-	-	-	-	-	-
3.0	8.55	10.90	-	-	-	-	-	-	-	-	-	-	-
7.0	-	-	-	-	-	-	-	-	-	-	-	-	-

Table APP 2.3-6(15) Results of Sea Water Analysis at St. 16

Nov. 10, 1992, High Tide (St.16)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	6.8	5.8	0.86	0.85	0.01	0.40	0.01	0.003	<0.01	0.10	0.09	0.03	0.01	12	500	80
4.0	-	6.8	1.8	0.83	0.60	0.23	0.40	0.02	0.010	0.20	0.08	0.07	0.02	0.01	6	800	500

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	62.37	8.73	-	-	-	-	-	-	-	-	-	-	-
4.0	9.35	<0.01	-	-	-	-	-	-	-	-	-	-	-

Table APP 2.3-6(16) Results of Sea Water Analysis at St. 17

Nov. 10, 1992, High Tide (St.17)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	6.2	3.6	0.81	0.78	0.03	0.48	0.01	0.003	0.02	0.20	0.19	0.02	0.01	18	800	110
4.0	-	1.8	1.4	0.63	0.40	0.23	0.40	0.02	0.005	0.20	0.08	0.06	0.01	0.02	9	220	110

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	17.37	13.50	-	-	-	-	-	-	-	-	-	-	-
4.0	9.35	11.23	-	-	-	-	-	-	-	-	-	-	-

Table APP 2.3-6(17) Results of Sea Water Analysis at St. 18

Nov. 10, 1992, High Tide (St.18)

Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	DCOD(Mn) (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	D-ON (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	D-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli
0.0	-	5.8	3.6	1.41	1.38	0.03	0.48	0.01	0.001	0.02	0.20	0.19	0.03	0.01	26	170	50
3.0	-	2.2	2.2	0.63	0.35	0.28	0.35	0.02	0.008	0.25	0.10	0.06	0.06	0.04	16	1700	110

Depth (m)	Chl-a (ug/l)	Pheo (ug/l)	n-Hexan (mg/l)	CN (mg/l)	Phenol (mg/l)	Cd (ug/l)	Pb (ug/l)	Cu (ug/l)	Cr (ug/l)	Hg (ug/l)	Fe (ug/l)	Ni (ug/l)	Zn (ug/l)
0.0	58.81	69.36	-	-	-	-	-	-	-	-	-	-	-
3.0	9.35	12.16	-	-	-	-	-	-	-	-	-	-	-

Table APP 2.3-8 TN and TON in the Surface Layer

	May(L)			May(H)		
St.	TN	TON	(%)	TN	TON	(%)
3	1.58	1.23	78	0.37	0.28	76
6	0.83	0.63	76	1.24	0.96	77
8	2.64	1.17	44	-	-	-
9	1.85	0.71	38	2.00	1.42	71
11	1.31	0.97	74	0.80	0.54	68
13	3.01	1.05	35	2.97	1.63	55
14	2.23	1.76	79	1.23	1.18	96
16	1.18	0.80	68	0.91	0.89	98
17	1.31	1.08	82	0.94	0.91	97
18	2.28	1.98	87	0.83	0.79	95
mean			66			81

	June(L)			June(H)		
St.	TN	TON	(%)	TN	TON	(%)
3	0.92	0.70	76	0.69	0.51	74
4	4.11	3.79	92	-	-	-
6	1.17	0.97	83	0.68	0.45	66
8	4.11	3.91	95	1.68	1.20	71
9	1.19	0.50	42	2.32	1.45	63
11	1.10	0.91	83	0.81	0.56	69
13	2.48	1.60	65	2.25	0.70	31
14	1.05	0.90	86	1.84	1.10	60
16	0.83	0.74	89	0.63	0.50	79
17	0.61	0.56	92	0.52	0.48	92
18	1.02	0.96	94	1.05	0.80	76
mean			90			68

	Nov(L)			Nov(H)		
St.	TN	TON	(%)	TN	TON	(%)
3	1.49	1.30	87	-	-	-
6	1.26	1.14	90	0.64	0.52	81
8	2.68	1.60	60	2.09	1.50	72
9	2.89	2.15	74	1.90	1.50	79
11	1.31	1.05	80	1.85	1.76	95
13	2.65	1.10	42	4.12	3.30	80
14	1.67	1.40	84	2.84	2.71	95
16	0.71	0.58	82	0.86	0.85	99
17	1.41	1.30	92	0.81	0.78	96
18	4.02	3.50	87	1.41	1.38	98
mean			69			88

Table APP 2.3-7(1) BOD Concentration obtained from Correlation with COD(Mn) of the First Simultaneous Survey (Low Tide)

BOD=(COD(Mn)-0.9866)/0.3992

May 18 (Survey-1) Low Tide

St. 1

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	0.5	-	-1.2
5.0	0.5	-	-1.2
25.0	1.0	-	0.0
51.0	0.5	-	-1.2

St. 2

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	-	-	-
5.0	-	-	-
17.3	-	-	-

St. 3

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.8	2.8	2.0
5.0	1.0	-	0.0
51.0	1.1	<2.0	0.3

St. 4

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.2	-	3.0
3.0	1.6	-	1.5
7.0	1.4	-	1.0
12.5	1.3	-	0.8

St. 5

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	-	-	-
5.0	-	-	-
10.0	-	-	-
49.0	-	-	-

St. 6

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.1	4.2	2.8
5.0	1.7	-	1.8
10.0	1.5	-	1.3
19.0	1.0	1.2	0.0

St. 7

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	-	-	-
3.0	-	-	-
5.0	-	-	-

St. 8

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	3.1	5.0	5.3
2.0	2.5	-	-
5.0	2.3	2.4	3.3

St. 9

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	3.7	4.0	6.8
4.0	2.3	1.2	3.3

May 18 (Survey-1) Low Tide

St. 10

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	-	-	-
2.0	-	-	-
23.0	-	-	-

St. 11

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.7	6.2	4.3
2.3	2.3	1.8	3.3
17.3	-	-	-

St. 12

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.7	-	4.3
5.0	2.0	-	2.5
15.4	1.2	-	0.5

St. 13

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	4.1	7.8	7.8
1.5	3.7	7.0	6.8

St. 14

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	4.2	7.0	8.1
3.0	2.6	-	4.0
5.0	1.6	3.4	1.5

St. 15

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	3.0	-	5.0
3.0	2.4	-	3.5
6.5	1.5	-	1.3

St. 16

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	3.0	5.0	5.0
3.3	1.7	3.0	1.8

St. 17

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.4	3.4	3.5
4.5	1.8	1.8	2.0

St. 18

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	4.5	8.0	8.8
3.5	2.1	2.6	2.8

Table APP 2.3-7(2) BOD Concentration obtained from Correlation with COD(Mn) of the First Simultaneous Survey (High Tide)

BOD=(COD(Mn)-0.9866)/0.3992

May 18 (Survey-1) High Tide

St. 1

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	-	-	-
5.0	-	-	-
25.0	-	-	-
51.0	-	-	-

St. 2

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	0.4	-	-1.5
5.0	0.2	-	-2.0
20.0	0.4	-	-1.5

St. 3

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	0.8	-	-1.0
5.0	0.4	-	-1.5
50.0	0.4	-	-1.5

St. 4

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.4	-	1.0
3.0	1.4	-	1.0
7.0	1.0	-	0.0
7.5	1.2	-	0.5

St. 5

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.0	-	0.0
5.0	0.6	-	-1.0
10.0	0.6	-	-1.0
34.0	0.6	-	-1.0

St. 6

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.2	-	0.5
5.0	1.0	-	0.0
10.0	1.0	-	0.0
21.0	1.0	-	0.0

St. 7

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.6	-	1.5
3.0	1.6	-	1.5
5.5	1.2	-	0.5

St. 8

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.8	-	4.5
2.0	2.4	-	3.5
8.5	1.6	-	1.5

St. 9

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.6	-	4.5
4.0	1.2	-	0.5

May 18 (Survey-1) High Tide

St. 10

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.6	-	1.5
2.0	1.6	-	1.5
25.0	1.2	-	0.5

St. 11

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.8	-	2.0
4.0	1.8	-	2.0

St. 12

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2	-	2.5
5.0	1.4	-	1.0
16.0	1.2	-	0.5

St. 13

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	4.0	-	7.5
1.0	3.6	-	6.5

St. 14

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	3.6	-	6.5
3.0	1.8	-	2.0
4.0	1.4	-	1.0

St. 15

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.2	-	3.0
3.0	1.8	-	1.5
6.5	0.9	-	-0.2
			-2.5

St. 16

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	3.4	-	6.0
3.3	2.0	-	2.5

St. 17

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.8	-	2.0
4.5	1.4	-	1.0

St. 18

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	3.0	-	5.0
3.5	1.8	-	2.0

Table APP 2.3-7(3) BOD Concentration obtained from Correlation with COD(Mn) of the Second Simultaneous Survey (Low Tide)

BOD=(COD(Mn)-0.9866)/0.3992

June 8 (Survey-2) Low Tide

St. 1

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	-	-	-
5.0	-	-	-
25.0	-	-	-
49.0	-	-	-

St. 2

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	0.6	-	-1.0
5.0	0.6	-	-1.0
18.0	0.4	-	-1.5

St. 3

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.6	-	1.5
5.0	1.0	-	0.0
32.5	1.0	-	0.0

St. 4

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	5.8	-	12.1
3.0	1.4	-	1.0
7.0	1.0	-	0.0
9.0	1.2	-	0.5

St. 5

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	4.0	-	7.5
5.0	0.8	-	-0.5
10.0	0.8	-	-1.0
34.0	0.4	-	-1.5

St. 6

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	3.4	-	8.0
5.0	1.0	-	0.0
10.0	0.8	-	-0.5
21.0	1.2	-	0.5

St. 7

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.2	-	3.0
3.0	1.0	-	0.0
5.0	1.0	-	0.0

St. 8

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	4.4	-	8.8
2.0	2.4	-	3.5
6.0	1.8	-	2.0

St. 9

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.8	-	2.0
5.0	1.2	-	0.5

June 8 (Survey-2) Low Tide

St. 10

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	4.2	-	8.1
5.0	1.6	-	1.5
23.0	1.0	-	0.0

St. 11

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.8	-	4.5
2.3	3.2	-	5.5

St. 12

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.0	-	0.0
5.0	1.4	-	1.0
15.0	0.6	-	-1.0

St. 13

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	8.0	-	17.6
1.0	8.0	-	17.6

St. 14

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	6.2	-	13.1
2.5	3.2	-	5.5
5.0	3.6	-	6.5

St. 15

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.2	-	3.0
3.0	1.4	-	1.0
7.0	1.0	-	0.0

St. 16

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.2	-	3.0
3.5	1.4	-	1.0

St. 17

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	4.2	-	8.1
4.0	3.9	-	7.3

St. 18

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	9.4	-	21.1
3.2	4.0	-	7.5

Table APP 2.3-7(4) BOD Concentration obtained from Correlation with COD(Mn) of the Second Simultaneous Survey (High Tide)
BOD=(COD(Mn)-0.9866)/0.3992

June 8 (Survey-2) High Tide

St. 1

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.0	-	0.0
5.0	0.6	-	-1.0
25.0	0.4	-	-1.5
49.0	0.6	-	-1.0

St. 2

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	0.6	-	-1.0
5.0	0.8	-	-0.5
19.0	0.4	-	-1.5

St. 3

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	0.6	-	-1.0
5.0	0.8	-	-0.5
32.0	0.4	-	-1.5

St. 4

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.0	-	0.0
3.0	0.8	-	-0.5
7.0	0.6	-	-1.0
11.0	0.4	-	-1.5

St. 5

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.2	-	0.5
5.0	0.8	-	-0.5
10.0	0.8	-	-0.5
35.0	0.8	-	-0.5

St. 6

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.5	-	1.5
5.0	0.6	-	-0.5
10.0	0.6	-	-1.0
21.0	1.2	-	0.5

St. 7

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.2	-	3.0
3.0	2.8	-	4.5
7.0	0.8	-	-0.5

St. 8

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.2	-	3.0
2.0	2.4	-	3.5
7.0	2.6	-	4.0

St. 9

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.8	-	4.5
5.0	1.4	-	1.0

June 8 (Survey-2) High Tide

St. 10

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.8	-	2.0
5.0	1.0	-	0.0
23.0	0.6	-	-1.0

St. 11

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.8	-	4.5
2.5	2.2	-	3.0

St. 12

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.6	-	1.5
5.0	1.2	-	0.5
16.0	0.6	-	-1.0

St. 13

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	7.2	-	15.6
1.5	6.8	-	14.6

St. 14

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	6.4	-	13.6
2.5	4.0	-	7.5
5.0	2.6	-	4.0

St. 15

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.8	-	2.0
3.0	2.0	-	2.5
7.0	1.2	-	0.5
			-2.5

St. 16

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.8	-	2.0
3.5	1.6	-	1.5

St. 17

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.6	-	4.0
5.0	3.6	-	7.0

St. 18

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	5.8	-	12.1
4.0	3.8	-	7.0

Table APP 2.3-7(5) BOD Concentration obtained from Correlation with COD(Mn) of the Third Simultaneous Survey (Low Tide)
BOD=(COD(Mn)-2.4047)/0.3569

Nov. 10 Survey-3 Low Tide

St. 1

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	0.6	-	-5.1
5.0	0.8	-	-4.5
25.0	0.6	-	-5.1
50.0	0.6	-	-5.1

St. 2

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.0	-	-3.9
5.0	1.2	-	-3.4
17.0	2.4	-	0.0

St. 3

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	3.8	4.0	3.9
5.0	1.8	-	-1.7
47.0	1.4	<2.0	-2.8

St. 4

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	4.2	-	5.0
3.0	2.0	-	-1.1
7.0	1.8	-	-1.7
11.0	3.2	-	2.2

St. 5

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	3.4	-	2.8
5.0	1.4	-	-2.8
10.0	1.4	-	-2.8
37.8	1.2	-	-3.4

St. 6

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	6.6	-	11.8
5.0	3.0	-	1.7
10.0	2.2	-	-0.6
18.5	1.2	-	-3.4

St. 7

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	6.2	-	10.6
3.0	3.8	-	3.9
8.0	2.8	-	0.6

St. 8

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	5.8	10.0	9.5
2.0	3.4	-	2.8
8.0	2.0	2.4	-1.1

St. 9

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	4.0	12.0	4.5
2.5	3.2	4.8	2.2

Nov. 10 Survey-3 Low Tide

St. 10

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	5.6	-	9.0
5.0	1.8	-	-1.7
22.0	0.4	-	-5.6

St. 11

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	7.2	5.2	13.4
1.6	1.6	3.2	-2.2

St. 12

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	5.6	-	9.0
5.0	1.6	-	-2.2
13.5	1.4	-	-2.8

St. 13

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	3.6	5.2	3.4
1.5	3.0	4.0	1.7

St. 14

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	4.4	4.8	5.6
3.0	4.0	5.2	4.5

St. 15

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	8.6	-	17.4
3.0	2.2	-	-0.6
6.5	1.6	-	-2.2

St. 16

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	7.8	2.8	14.6
2.5	1.4	3.6	-2.8

St. 17

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.0	8.3	-1.1
3.5	5.2	4.4	7.8

St. 18

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	11.0	18.0	24.1
2.0	3.8	4.4	3.9

St. 19

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	7.2	-	13.4
3.0	4.4	-	5.6
6.5	3.4	-	2.8

Table APP 2.3-7(6) BOD Concentration obtained from Correlation with COD(Mn) of the Third Simultaneous Survey (High Tide)
BOD=(COD(Mn)-2.4047)/0.3569

Nov. 10 Survey-3 High Tide

St. 1

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	-	-	-
5.0	-	-	-
25.0	-	-	-
50.0	-	-	-

St. 2

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	1.4	-	-2.8
5.0	1.0	-	-3.9
19.0	0.8	-	-4.5

St. 3

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.4	-	0.0
5.0	1.4	-	-2.8
45.0	1.0	-	-3.9

St. 4

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	3.0	-	1.7
3.0	2.0	-	-1.1
7.0	1.6	-	-2.2
11.5	1.2	-	-3.4

St. 5

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	2.4	-	0.0
5.0	2.0	-	-1.1
10.0	1.8	-	-1.7
38.5	1.0	-	-3.9

St. 6

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	3.0	-	1.7
5.0	2.6	-	0.6
10.0	1.8	-	-1.7
17.5	2.6	-	0.6

St. 7

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	5.8	-	9.5
3.0	3.4	-	2.8
7.5	2.2	-	-0.8

St. 8

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	4.4	-	5.6
2.0	4.8	-	6.7
7.5	2.2	-	-0.6

St. 9

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	4.4	-	5.6
4.5	2.0	-	-1.1

Nov. 10 Survey-3 High Tide

St. 10

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	3.2	-	2.2
5.0	1.6	-	-2.2
21.5	0.6	-	-5.1

St. 11

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	8.8	-	17.9
2.3	3.0	-	1.7

St. 12

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	3.4	-	2.8
5.0	2.0	-	-1.1
14.0	1.6	-	-2.2

St. 13

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	10.4	-	22.4
1.5	5.0	-	7.3

St. 14

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	8.8	-	17.4
2.5	2.8	-	1.1
4.0	1.8	-	-2.2

St. 15

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	8.0	-	15.7
3.0	1.8	-	-2.2
7.0	0.8	-	-5.1

St. 16

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	6.8	-	12.3
4.0	6.8	-	12.3

St. 17

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	6.2	-	10.6
4.0	1.8	-	-1.7

St. 18

Depth(m)	COD(Mn)	BOD(mg/l) (measured)	BOD(mg/l) (calculated)
0.1	5.8	-	9.5
3.0	2.2	-	-0.8

Table APP 2.4-1(1) Water Quality obtained from Small Bays and Coastal Areas

Date: April 1, 1993 Time: 09:20-10:00
Station: 33 (Botafogo)
Location: 22°56'46.0" S
43°10'44.8" W
Air temperature: 25.61 °C(09:05)
Weather on the previous day: Clear, and rain at night
Weather on the day: Clear
Wind force: 3-4 m/s
Secchi-disk reading: 1.6 m
Water depth: 2.5 m
Water color: Dark brown
Garbage: Yes
Oil: Yes

Depth (m)	Temp. (°C)	pH	DO (mg/l)	DO (%)	Salinity (‰)	Sigma-t
0.0	26.63	-	4.7	57	29.12	17.88
0.5	26.65	-	4.7	57	29.28	17.99
1.0	26.65	-	4.6	56	30.93	19.22
1.5	26.66	-	4.6	56	30.95	19.23
1.8	26.45	-	4.0	49	31.19	19.50
2.0	26.49	-	3.0	37	31.18	19.47
2.3	26.51	-	2.5	29	31.77	19.91

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Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	TOC (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli	Chl-a (ug/l)	Pheo (ug/l)
0.0	2.0	4.6	30	0.46	0.35	0.11	0.01	0.050	0.05	0.07	0.04	0.03	10	13000	8000	6.68	<0.01
2.3	<2.0	1.6	19	0.42	0.31	0.11	0.07	0.003	0.04	0.08	0.05	0.03	10	50000	5000	2.67	12.30

Table APP 2.4-1(2) Water Quality obtained from Small Bays and Coastal Areas

Date: April 1, 1993 Time: 10:15-10:30
Station: 34 (Botafogo)
Location: 22°56'22.3" S
43°09'35.1" W
Air temperature: 25.85 °C(10:20)
Weather on the previous day: Clear, and rain at night
Weather on the day: Clear
Wind force: 3-4 m/s
Secchi-disk reading: 0.5 m
Water depth: 7.1 m
Water color: Dark brown
Garbage: No
Oil: Yes

Depth (m)	Temp. (°C)	pH	DO (mg/l)	DO (%)	Salinity (‰)	Sigma-t
0.0	27.76	-	9.3	116	30.47	18.43
0.5	27.00	-	8.0	101	30.56	18.80
1.0	26.79	-	6.9	83	30.73	19.02
1.5	26.68	-	5.6	68	30.98	19.25
2.0	26.62	-	5.3	64	31.31	19.52
3.0	26.42	-	4.6	57	31.06	19.41
4.0	26.52	-	4.5	56	32.61	20.53
5.0	26.46	-	4.6	56	32.66	20.59
6.0	26.17	-	4.2	49	33.02	20.98
6.5	26.14	-	3.6	46	33.05	21.01

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Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	TOC (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli	Chl-a (ug/l)	Pheo (ug/l)
0.0	4.0	4.0	25	1.06	0.98	0.07	0.05	0.004	0.02	0.10	0.07	0.03	10	23000	13000	29.40	17.37
6.0	<2.0	1.6	23	0.33	0.26	0.08	0.03	0.005	0.04	0.06	0.04	0.03	10	8000	5000	16.04	3.61

Table APP 2.4-1(3) Water Quality obtained from Small Bays and Coastal Areas

Date: April 1, 1993 Time: 11:00-11:20
Station: 35 (Jurujuba)
Location: 22°54'59.8" S
43°07'31.3" W
Air temperature: 25.85 °C(10:20)
Weather on the previous day: Clear, and rain at night
Weather on the day: Clear
Wind force: 2-3 m/s
Secchi-disk reading: 1.0 m
Water depth: 7.8 m
Water color: Dark brown
Garbage: No
Oil: Yes

Depth (m)	Temp. (°C)	pH	DO (mg/l)	DO (%)	Salinity (‰)	Sigma-t
0.0	27.52	-	7.7	95	29.54	17.83
0.5	27.43	-	7.7	94	29.56	17.88
1.0	26.77	-	7.8	96	29.74	18.28
1.5	26.65	-	7.0	93	30.12	18.62
2.0	26.59	-	4.9	57	30.73	19.10
3.0	26.41	-	4.5	57	32.17	20.25
4.0	26.21	-	4.5	55	33.05	20.98
5.0	26.27	-	4.7	56	33.06	20.97
6.0	26.31	-	4.7	56	33.26	21.10
7.0	26.28	-	4.6	56	33.34	21.17
7.5	26.28	-	4.6	55	33.34	21.17

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Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	TOC (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli	Chl-a (ug/l)	Pheo (ug/l)
0.0	4.2	2.0	9	0.63	0.59	0.04	0.03	0.002	0.01	0.10	0.09	0.01	14	30000	23000	21.38	16.04
6.0	4.0	1.0	8	0.19	0.12	0.07	0.04	0.003	0.03	0.06	0.03	0.03	16	8000	5000	5.35	5.88

Table APP 2.4-1(4) Water Quality obtained from Small Bays and Coastal Areas

Date: April 1, 1993 Time: 11:30-11:50
Station: 36 (Jurujuba)
Location: 22°55'04.6" S
43°06'38.8" W
Air temperature: 25.85 °C(10:20)
Weather on the previous day: Clear, and rain at night
Weather on the day: Clear
Wind force: 2-3 m/s
Secchi-disk reading: 0.6 m
Water depth: 6.6 m
Water color: Dark brown
Garbage: No
Oil: Yes

Depth (m)	Temp. (°C)	pH	DO (mg/l)	DO (%)	Salinity (‰)	Sigma-t
0.0	28.35	-	11.0	142	28.91	17.02
0.5	28.27	-	11.2	140	28.96	17.09
1.0	27.12	-	6.7	83	30.24	18.52
1.5	26.69	-	5.0	60	31.10	19.33
2.0	26.61	-	5.1	62	31.38	19.57
2.5	26.48	-	5.0	60	31.66	19.84
3.0	26.51	-	4.5	59	31.66	19.82
4.0	25.49	-	4.3	53	32.05	20.52
5.0	25.93	-	0.8	5	32.89	20.98

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Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	TOC (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli	Chl-a (ug/l)	Pheo (ug/l)
0.0	10.4	7.6	7	1.22	1.16	0.06	0.02	0.002	0.04	0.20	0.16	0.04	15	50000	30000	41.43	28.73
6.0	4.0	0.4	7	0.17	0.10	0.07	0.02	0.002	0.05	0.07	0.02	0.05	10	23000	23000	21.00	17.76

Table APP 2.4-1(5) Water Quality obtained from Small Bays and Coastal Areas

Date: April 1, 1993 Time: 12:00-12:15
Station: 37 (Jurujuba)
Location: 22°55'07.1" S
43°05'54.5" W
Air temperature: 25.95 °C(12:00)
Weather on the previous day: Clear, and rain at night
Weather on the day: Clear
Wind force: 2-3 m/s
Secchi-disk reading: 0.25 m
Water depth: 3.9 m
Water color: Dark brown
Garbage: No
Oil: No

Depth (m)	Temp. (°C)	pH	DO (mg/l)	DO (%)	Salinity (‰)	Sigma-t
0.0	20.09	-	16.7	211	29.20	20.35
0.5	27.86	-	16.9	216	29.29	17.51
1.0	27.00	-	16.0	202	30.47	18.74
1.5	26.79	-	10.4	175	30.51	18.85
2.0	26.71	-	5.5	66	30.70	19.02
3.0	26.89	-	3.7	46	31.16	19.30
3.5	26.76	-	2.6	21	31.58	19.66

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Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	TOC (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli (MPN/100ml)	Chl-a (ug/l)	Pheo (ug/l)
0.0	2.4	11.0	14	3.04	2.94	0.10	0.04	0.002	0.06	0.60	0.50	0.10	40	50000	50000	132.31	43.57
3.0	12.0	0.4	9	0.61	0.58	0.03	0.01	0.002	0.02	0.10	0.07	0.03	15	30000	13000	24.67	25.70

Table APP 2.4-1(6) Water Quality obtained from Small Bays and Coastal Areas

Date: April 1, 1993 Time: 12:20-12:35
Station: 38 (Jurujuba)
Location: 22°55'48.1" S
43°06'18.5" W
Air temperature: 25.95 °C(12:00)
Weather on the previous day: Clear, and rain at night
Weather on the day: Clear
Wind force: 3-4 m/s
Secchi-disk reading: 0.6 m
Water depth: 3.5 m
Water color: Dark brown
Garbage: Yes
Oil: Yes

Depth (m)	Temp. (°C)	pH	DO (mg/l)	DO (%)	Salinity (‰)	Sigma-t
0.0	27.96	-	12.5	156	28.14	16.61
0.5	27.95	-	11.7	143	28.14	16.61
1.0	27.88	-	11.8	152	28.16	16.66
1.5	27.34	-	12.6	155	28.82	17.37
2.0	27.34	-	8.1	145	30.67	18.75
2.5	27.13	-	3.0	41	31.72	19.62
3.0	27.36	-	5.2	61	31.27	19.19

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Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	TOC (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli (MPN/100ml)	Chl-a (ug/l)	Pheo (ug/l)
0.0	10.0	4.2	11	1.60	1.58	0.02	<0.01	0.002	0.02	0.20	0.16	0.04	20	3000	240	30.29	50.79
3.0	50.0	3.0	10	2.00	1.99	0.03	<0.01	0.020	0.01	0.15	0.14	0.01	10	8000	5000	17.82	21.16

Table APP 2.4-1(7) Water Quality obtained from Small Bays and Coastal Areas

Date: April 1, 1993 Time: 13:30-13:45
Station: 39 (Centro de I. Engenho)
Location: 22°51'27.5" S
43°06'40.9" W
Air temperature: 26.86 °C(13:35)
Weather on the previous day: Clear, and rain at night
Weather on the day: Clear
Wind force: 3-4 m/s
Secchi-disk reaing: 0.4 m
Water depth: 4.6 m
Water color: Dark brown
Garbage: No
Oil: No

Depth (m)	Temp. (°C)	pH	DO (mg/l)	DO (%)	Salinity (‰)	Sigma-t
0.0	28.95	-	11.3	146	21.65	11.39
0.5	28.92	-	11.5	146	21.69	11.43
1.0	28.76	-	11.6	147	21.89	11.64
1.5	27.55	-	9.4	126	25.35	14.70
2.0	27.04	-	8.8	105	25.85	15.27
2.5	26.69	-	7.5	94	26.44	15.85
3.0	26.39	-	6.0	73	27.44	16.72
3.5	26.29	-	5.1	62	27.72	16.96
4.0	25.88	-	2.4	34	30.47	19.18

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Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	TOC (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli (MPN/100ml)	Chl-a (ug/l)	Pheo (ug/l)
0.0	9.6	6.6	9	1.20	1.20	0.00	<0.01	0.002	<0.01	0.15	0.13	0.02	20	30000	23000	32.08	17.82
4.0	2.0	0.8	7	0.60	0.54	0.00	<0.01	0.003	<0.01	0.10	0.06	0.04	12	30000	23000	26.73	12.25

Table APP 2.4-1(8) Water Quality obtained from Small Bays and Coastal Areas

Date: April 1, 1993 Time: 14:40-14:55
Station: 40 (Rio Porto)
Location: 22°53'22.9" S
43°11'54.3" W
Air temperature: 26.45 °C(14:45)
Weather on the previous day: Clear, and rain at night
Weather on the day: Clear
Wind force: 3-4 m/s
Secchi-disk reaing: 0.4 m
Water depth: 3.5 m
Water color: Dark brown
Garbage: Yes
Oil: Yes

Depth (m)	Temp. (°C)	pH	DO (mg/l)	DO (%)	Salinity (‰)	Sigma-t
0.0	29.65	-	10.7	136	26.84	14.94
0.5	29.59	-	10.9	158	26.92	15.03
1.0	28.77	-	14.3	186	28.43	16.49
1.5	28.39	-	4.7	56	28.14	16.43
2.0	29.61	-	2.9	43	26.88	14.99
2.5	27.34	-	4.6	51	29.15	17.61
3.0	26.73	-	1.3	17	30.33	18.74

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Depth (m)	BOD (mg/l)	COD(Mn) (mg/l)	TOC (mg/l)	TN (mg/l)	T-ON (mg/l)	T-IN (mg/l)	NO3-N (mg/l)	NO2-N (mg/l)	NH4-N (mg/l)	TP (mg/l)	T-OP (mg/l)	PO4-P (mg/l)	SS (mg/l)	T-Coli (MPN/100ml)	F-Coli (MPN/100ml)	Chl-a (ug/l)	Pheo (ug/l)
0.0	3.2	12.4	13	3.24	3.11	0.13	0.03	0.008	0.09	0.70	0.60	0.10	40	300000	130000	108.30	90.61
3.0	4.0	1.4	15	1.23	1.10	0.13	0.02	0.008	0.10	0.20	0.13	0.07	15	130000	130000	-	-

APPENDIX 3

SEDIMENT QUALITY

Table APP 3.1-1 Chemical Analysis of Surface Sediment

Station No.		3	4	5	6	7	8	9	11	12	13	14	15	16	17	18	20	21	22	23	24	25	26	35	36	37
Item	Unit	Sampling Date : June 4 - 6, 1992															Samling Date : October 26,30 1992							Date:Apr.6 1993		
pH		7.74	7.36	7.58	7.48	7.62	7.60	7.77	7.62	7.39	7.55	7.81	7.75	7.27	7.13	7.50	-	-	-	-	-	-	-	-	-	-
W.C.	(%)	23.4	83.4	26.9	45.1	71.9	30.3	40.9	45.7	76.9	37.8	83.3	82.8	83.9	81.2	83.2	74.5	28.8	76.9	79.2	82.0	82.5	57.2	81.0	79.7	67.9
COD(Cr)	(mgO2/g)	14.1	144.0	21.1	31.7	94.9	28.9	35.2	45.6	119.7	151.2	147.7	138.9	161.6	175.7	165.3	45.3	42.7	58.7	58.7	144.0	98.7	109.3	277.7	164.0	151.7
CN	(mg/g)	<0.010	<0.010	<0.010	-	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-	-	-	-	-	-
V.S. at 550°C	(%)	2.4	16.2	2.5	3.5	11.0	2.2	5.3	5.2	15.3	2.0	18.6	34.9	19.7	21.3	10.6	-	-	-	-	-	-	-	-	-	-
KN	(mg/g)	0.3	3.5	0.6	0.6	1.6	0.6	0.6	1.0	2.2	3.0	1.5	5.0	3.0	1.2	2.0	1.9	0.8	1.4	2.5	2.4	1.5	1.8	5.3	3.7	3.8
TP	(mg/2)	0.20	0.75	0.40	0.20	0.25	0.42	0.23	0.33	0.43	0.95	0.75	0.80	0.45	0.80	0.65	0.96	1.17	1.12	0.83	1.15	0.86	0.68	1.10	1.20	1.08
S&C	(%)	-	99	39	95	96	0	90	97	93	99	99	99	99	98	99	-	-	-	-	-	-	-	-	-	-
Cd(T)	(mg/g)	-	0.004	0.004	0.002	0.004	-	0.002	0.002	0.004	0.003	0.003	0.003	0.004	0.003	0.007	<0.001	<0.001	0.002	0.001	0.001	<0.001	0.001	0.001	<0.001	0.002
Cd(A)	(ug/g)	-	2.5	1.6	0.5	1.7	-	0.8	0.6	1.9	1.6	1.8	2.0	2.0	2.2	2.3	-	-	-	-	-	-	-	-	-	-
Pb(T)	(mg/g)	-	0.07	0.06	0.02	0.10	-	0.03	0.03	0.08	0.07	0.07	0.06	0.06	0.06	0.06	0.09	0.02	0.14	0.06	0.05	0.04	0.10	0.07	0.03	0.07
Pb(A)	(ug/g)	-	60	51	10	60	-	10	11	44	27	30	32	22	26	31	-	-	-	-	-	-	-	-	-	-
Cu(T)	(mg/g)	-	0.040	0.020	0.004	0.040	-	0.008	0.008	-	0.080	0.050	0.002	0.020	0.020	0.100	0.070	0.008	0.090	0.025	0.045	0.045	0.060	0.100	0.020	0.080
Cu(A)	(ug/g)	-	18.00	16.00	3.20	6.50	-	3.40	4.20	11.00	47.00	15.00	10.00	0.65	6.50	14.00	-	-	-	-	-	-	-	-	-	-
Cr(T)	(mg/g)	-	0.04	0.08	<0.0	0.06	-	0.02	<0.01	0.04	0.34	0.18	0.04	0.04	0.06	0.12	0.09	0.02	0.22	0.04	0.05	0.06	0.10	0.12	0.03	0.24
Cr(A)	(ug/g)	-	10.0	58.0	5.5	21.0	-	8.0	6.0	12.0	119.0	108.0	13.0	10.0	16.0	66.0	-	-	-	-	-	-	-	-	-	-
Hg(T)	(ug/g)	-	0.40	0.25	0.15	0.45	-	0.20	0.15	0.40	0.30	0.35	0.30	0.15	0.20	0.30	0.80	0.05	1.80	0.30	0.15	0.20	1.20	-	-	-
Hg(A)	(ug/g)	-	<0.004	<0.004	<0.00	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-	-	-	-	-	-	-	-	-
Zn(T)	(mg/g)	-	0.20	0.20	0.14	0.18	-	0.03	0.50	0.16	0.28	0.20	0.18	0.18	0.14	0.12	0.24	0.05	0.44	0.12	0.14	0.08	0.24	0.34	0.04	0.30
Zn(A)	(ug/g)	-	158	229	29	169	-	30	39	117	148	136	100	64	75	124	-	-	-	-	-	-	-	-	-	-
pp'DDT	(ug/g)	<0.1	<0.1	<0.1	<0.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-
op'DDE	(ug/g)	<0.1	<0.1	<0.1	<0.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-
pp'DDE	(ug/g)	<0.1	<0.1	<0.1	<0.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-
pp'DDD	(ug/g)	<0.1	<0.1	<0.1	<0.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-
PCB's	(ug/g)	<0.1	<0.1	<0.1	<0.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-

Note:
1.Sediment analysys of the fine fraction. more than 200 mesh(about 0.074 mm) for metal analysis
2.Total metal analysis = nitric and perchloric acid digestion
3.Absorbed metal analysis = cold 0.1 HCl solution, extraction
4.St.20,21,22,35,36,37 = sampled for Release Test
5.St.23,24,25,26 = surface data of Core samples
6.Results on dry weigt basis
7.W.C. : Water Content
8.S&C : Silt and Clay

Table APP 3.2-1(1) Chemical Analysis of Core Sample

Sampling date : Oct. 26 1992

St. 23

Depth (cm)	W.C. (%)	COD (Cr) (C%)	(O2mg/g)	KN (mg/g)	TP (mg/g)	T-Zn (mg/g)	T-Cu (mg/g)	T-Cr (mg/g)	T-Pb (mg/g)	T-Cd (mg/g)	T-Hg (ug/g)	Fe (mg/g)	Ni (mg/g)	Mg (mg/g)
0-5.0	79.2	2.2	58.7	2.5	0.83	0.12	0.025	0.04	0.06	0.000	0.30	33	0.020	0.75
5.0-10.0	81.3	1.8	48.0	1.7	0.76	0.12	0.020	0.04	0.06	0.000	0.30	37	0.020	0.85
10.0-15.0	82.0	1.9	50.7	1.6	0.89	0.12	0.030	0.05	0.06	0.001	0.50	41	0.025	1.00
15.0-20.0	81.0	4.1	109.3	1.5	0.67	0.10	0.020	0.04	0.06	0.001	0.30	39	0.020	0.95
20.0-25.0	79.8	3.9	104.0	1.4	0.58	0.08	0.020	0.04	0.06	0.000	0.40	36	0.020	0.80
25.0-30.0	79.3	2.2	58.7	1.4	0.64	0.12	0.020	0.04	0.06	0.000	0.50	43	0.020	0.95
30.0-40.0	76.8	4.7	125.3	1.1	0.78	0.10	0.015	0.04	0.08	0.000	0.40	39	0.020	0.75
40.0-50.0	76.6	3.6	96.0	1.2	0.68	0.10	0.015	0.04	0.05	0.000	0.30	45	0.020	0.60
84.0-94.0	50.0	1.3	34.7	0.7	0.62	0.09	0.010	0.06	0.03	0.000	0.05	51	0.025	0.40
Mean	76.2	2.9	76.1	1.5	0.71	0.11	0.019	0.04	0.06	0.000	0.34	40	0.021	0.78

Note:
1. W.C. : Water Content
2. Results on dry weigt basis

Table APP 3.2-1(2) Chemical Analysis of Core Sample

Sampling date : Oct. 26 1992

St. 24

Depth (cm)	W.C. (%)	COD (Cr) (C%)	(O2mg/g)	KN (mg/g)	TP (mg/g)	T-Zn (mg/g)	T-Cu (mg/g)	T-Cr (mg/g)	T-Pb (mg/g)	T-Cd (mg/g)	T-Hg (ug/g)	Fe (mg/g)	Ni (mg/g)	Mg (mg/g)
0-5.0	82.0	5.4	144.0	2.4	1.15	0.14	0.045	0.05	0.05	0.000	0.15	50	0.020	1.00
5.0-10.0	79.7	6.6	176.0	2.3	1.24	0.10	0.040	0.05	0.05	0.001	-	37	0.015	1.00
10.0-15.0	75.0	7.1	189.3	2.2	1.44	0.08	0.045	0.05	0.06	0.000	0.20	46	0.020	0.85
15.0-20.0	76.5	5.0	133.3	2.2	1.04	0.09	0.020	0.04	0.18	0.000	0.20	44	0.020	0.80
20.0-25.0	79.3	5.2	138.7	1.9	1.05	0.10	0.015	0.04	0.04	0.000	0.20	42	0.015	0.80
25.0-30.0	77.6	7.1	189.3	1.8	0.86	0.12	0.015	0.04	0.04	0.000	0.25	40	0.015	0.95
30.0-40.0	70.6	2.6	69.3	1.5	0.53	0.08	0.015	0.04	0.04	0.000	0.20	44	0.015	0.75
40.0-50.0	67.2	6.4	170.7	0.9	0.92	0.09	0.010	0.05	0.04	0.000	0.15	46	0.020	0.40
110-120	60.0	2.2	58.7	0.5	0.63	0.06	0.008	0.04	0.03	0.000	0.05	49	0.020	0.26
Mean	74.2	5.3	141.0	1.7	0.98	0.10	0.024	0.04	0.06	0.000	0.18	44	0.018	0.76

Note:
1. W.C. : Water Content
2. Results on dry weigt basis

Table APP 3.2-1(3) Chemical Analysis of Core Sample

Sampling date : Oct. 26 1992

St. 25

Depth (cm)	W.C. (%)	COD (Cr) (C%)	(O2mg/g)	KN (mg/g)	TP (mg/g)	T-Zn (mg/g)	T-Cu (mg/g)	T-Cr (mg/g)	T-Pb (mg/g)	T-Cd (mg/g)	T-Hg (ug/g)	Fe (mg/g)	Ni (mg/g)	Mg (mg/g)
0-5.0	82.5	3.7	98.7	1.5	0.86	0.08	0.045	0.06	0.04	0.000	0.20	39	0.015	0.75
5.0-10.0	73.8	1.9	50.7	0.9	0.68	0.06	0.015	0.05	0.05	0.000	0.20	43	0.020	0.65
10.0-15.0	72.6	3.2	85.3	0.8	0.45	0.06	0.015	0.05	0.04	0.000	0.15	50	0.020	0.55
15.0-20.0	73.9	1.9	50.7	0.8	0.89	0.10	0.015	0.05	0.03	0.000	0.10	53	0.015	0.55
20.0-25.0	65.4	3.0	80.0	0.7	0.54	0.09	0.006	0.04	0.03	0.000	0.05	49	0.015	0.42
25.0-30.0	68.0	4.2	112.0	0.5	1.64	0.08	0.008	0.05	0.04	0.000	0.00	48	0.020	0.40
30.0-40.0	66.0	2.2	58.7	0.5	0.57	0.07	0.008	0.04	0.03	0.000	0.05	54	0.015	0.34
40.0-50.0	64.5	1.9	50.7	0.5	0.64	0.06	0.008	0.04	0.03	0.000	0.00	43	0.020	0.32
110-120	53.4	0.9	24.0	0.3	0.43	0.00	0.008	0.01	0.02	0.000	0.00	41	0.015	0.24
Mean	68.9	2.5	67.9	0.7	0.74	0.07	0.014	0.05	0.03	0.000	0.08	47	0.017	0.47

Note:
1. W.C. : Water Content
2. Results on dry weigt basis

Table APP 3.2-1(4) Chemical Analysis of Core Sample

Sampling date : Oct. 26 1992

St. 26

Depth (cm)	W.C. (%)	COD (Cr) (C%)	(O2mg/g)	KN (mg/g)	TP (mg/g)	T-Zn (mg/g)	T-Cu (mg/g)	T-Cr (mg/g)	T-Pb (mg/g)	T-Cd (mg/g)	T-Hg (ug/g)	Fe (mg/g)	Ni (mg/g)	Mg (mg/g)
0-5.0	57.2	4.1	109.3	1.8	0.68	0.24	0.060	0.10	0.10	0.001	1.20	34	0.020	0.28
5.0-10.0	73.3	3.9	104.0	1.7	0.81	0.50	0.080	0.18	0.12	0.000	1.40	32	0.030	0.38
10.0-15.0	78.7	3.0	80.0	1.4	1.13	0.48	0.090	0.20	0.12	0.002	1.60	42	0.025	0.34
15.0-20.0	73.9	4.7	125.3	1.7	1.33	0.65	0.120	0.16	0.18	0.001	2.00	33	0.040	0.22
20.0-25.0	75.7	4.7	125.3	1.6	0.86	0.44	0.080	0.20	0.12	0.002	2.00	35	0.025	0.31
25.0-30.0	69.2	2.6	69.3	1.7	0.96	0.55	0.120	0.28	0.16	0.003	2.00	36	0.030	0.50
30.0-40.0	65.8	4.7	125.3	1.5	1.23	0.48	0.090	0.16	0.14	0.001	3.00	50	0.030	0.24
40.0-50.0	72.5	3.7	98.7	0.9	0.76	0.16	0.030	0.16	0.06	0.000	1.00	34	0.020	0.36
84.0-94.0	61.1	1.5	40.0	0.5	0.61	0.10	0.080	0.05	0.02	0.000	0.05	44	0.015	0.28
Mean	69.7	3.7	97.5	1.4	0.93	0.39	0.083	0.17	0.11	0.001	1.58	38	0.026	0.33

Note:
1. W.C. : Water Content
2. Results on dry weigt basis

APPENDIX 4

MEASUREMENTS AND EXPERIMENTS FOR UNDERSTANDING
OF THE MATERIAL CYCLE IN THE BAY

Table APP 4.1-1(1) Field Condition and Result of Primary Productivity Measurement-1

Station: St. 28
Location: 22°46'01.2" S, 43°11'52.2" W
Date: November 23, 1992
Time: 15:15-17:15
Weather on the day: Slightly cloudy
Air temperature: 28.0 °C (14:20)
Light intensity in the air: 4600 lux (15:37)
Light intensity at the surface: 300 lux
Light intensity at Secchi-disk depth (0.6 m): 87 lux
Depth of the 1 % light intensity: 1.8 m

Depth (m)	Start				Final						*Corrected period of incubation	Mean net production (mg O2/l/h) (mg O2/mg Chl-a/h) (mg C/m3/h) (mg C/mg Chl-a/h)	Mean respiration (O2 mg/l/h) (mg O2/mg Chl-a/h) (mg C/m3/h) (mg C/mg Chl-a/h)	Chl-a conc. at the start of each measurement (ug/l)
					Light			Dark						
	Temp. (°C)	pH	DO (mg/l)	Sal. (%)	Temp. (°C)	pH	DO (mg/l)	Temp. (°C)	pH	DO (mg/l)				
0	27.3	8.63	8.2	21.1	26.5	8.23 8.70 8.72	9.6 10.3 10.0	26.5	8.49 8.59 8.64	7.7 7.6 8.0	2.2	0.803 24.070 231.2 6.932 (gC/m2/h/0.6m)0.09	0.197 5.826 56.8 1.704 0.032	33.86
0.6	27.2	8.43	7.9	20.6	26.4	8.66 8.62 8.67	8.5 8.6 8.6	26.4	8.61 - -	7.5 - -	2.3	0.290 7.899 83.4 2.275 (gC/m2/h/1.2m)0.07	0.174 4.820 50.1 1.366 0.055	36.06
1.8	27.0	8.39	7.3	20.8	26.4	8.50 8.52 8.55	7.6 7.6 7.7	26.4	8.47 8.51 -	7.2 6.6 -	2.7	0.125 4.066 36.1 1.17	0.150 4.879 43.2 1.405	30.74

Table APP 4.1-1(2) Field Condition and Result of Primary Productivity Measurement-1

Station: St. 27
Location: 22°43'20.6" S, 43°05'49.0" W
Date: November 23, 1992
Time: 12:15-14:15
Weather on the day: Slightly cloudy
Air temperature: 28.0 °C
Light intensity in the air: 35000 lux (12:20)
Light intensity at the surface: 3600 lux
Light intensity at Secchi-disk depth (0.7 m): 360 lux
Depth of the 1 % light intensity: 1.8 m

Depth (m)	Start				Final						*Corrected period of incubation	Mean net production (mg O2/l/h) (mg O2/mg Chl-a/h) (mg C/m3/h) (mg C/mg Chl-a/h)	Mean respiration (O2 mg/l/h) (mg O2/mg Chl-a/h) (mg C/m3/h) (mg C/mg Chl-a/h)	Chl-a at the start of each measurement (ug/l)
					Light			Dark						
	Temp. (°C)	pH	DO (mg/l)	Sal. (%)	Temp. (°C)	pH	DO (mg/l)	Temp. (°C)	pH	DO (mg/l)				
0	-	8.39	8.8	15.86			12.2 12.2 -			7.5 7.4 7.4	2.2	1.574 46.486 453.3 13.388 (gc/m2/h/0.7m)0.22	0.636 18.783 183.2 5.410 0.091	33.86
0.7	-	8.39	8.0	17.54			9.8 9.4 -			7.3 7.3 7.2	2.4	0.661 35.291 190.368 10.164 (gc/m2/h/1.1m)0.11	0.267 14.255 76.896 4.105 0.098	18.73
1.8	-	8.44	7.9	17.4			8.3 7.8 -			6.7 6.8	3.2	0.047 1.851 13.538 0.533	0.363 14.297 104.544 4.118	25.39

*There was an interval between sampled water was poured and the real incubation in the sea.

Table APP 4.1-1(3) Field Condition and Result of Primary Productivity Measurement-1

Station: St. 29
Location: 22°49'27.5" S, 43°12'29.9" W
Date: November 25, 1992
Time: 11:07-13:07
Weather on the day: Cloudy and heavy rain atnight
Air temperature: 25.0 °C(10:05)
Light intensity in the air: 27000 lux (11:25)
Light intensity at the surface: 5600 lux
Light intensity at Secchi-disk depth (1.0 m): 300 lux
Depth of the 1 % light intensity: 2.2 m
Water depth: 3.0 m

Depth (m)	Start				Final						*Corrected period of incubation	Mean net production (mg O2/l/h) (mg O2/mg Chl-a/h) (mg C/m3/h) (mg C/mg Chl-a/h)	Mean respiration (O2 mg/l/h) (mg O2/mg Chl-a/h) (mg C/m3/h) (mg C/mg Chl-a/h)	Chl-a conc. at the start of each measurement (ug/l)
					Light			Dark						
	Temp. (°C)	pH	DO (mg/l)	Sal. (‰)	Temp. (°C)	pH	DO (mg/l)	Temp. (°C)	pH	DO (mg/l)				
0	26.8	7.91	3.4	18.6	25.7	8.19 8.16 8.20	7.5 7.3 7.2	26.7	7.67 7.86 7.80	2.7 2.6 2.6	2.0	1.967 55.191 566.5 15.895 (gC/m2/h/1m)0.309	0.385 10.802 110.9 3.112 0.097	35.64
1.0	26.1	7.82	1.7	20.1	26.1	7.88 7.44 7.75	2.4 2.0 2.0	26.1	7.41 7.78 7.47	1.0 1.0 1.0	2.4	0.177 6.622 51.0 1.907 (gC/m2/h/1.2m)0.03	0.286 10.700 82.4 3.082 0.077	26.73
2.2	26.0	7.65	0.7	21.3	26.1	7.65 7.73 7.47	0.6 1.0 0.6	26.1	7.36 7.72 7.74	0.3 0.3 0.2	2.7	0.013 1.390 3.7 0.400	0.161 17.219 46.4 4.959	9.35

Table APP 4.1-1(4) Field Condition and Result of Primary Productivity Measurement-1

Station: St. 30
Location: 22°49'58.4" S, 43°09'09.2" W
Date: November 25, 1992
Time: 11:30-13:30
Weather on the day: Cloudy and heavy rain at night
Air temperature: 25.0 °C(10:05)
Light intensity in the air: 27000 lux (11:25)
Light intensity at the surface: 2550 lux
Light intensity at Secchi-disk depth (0.9 m): 120 lux
Depth of the 1 % light intensity: 2.8 m
Water depth: 24.5 m

Depth (m)	Start				Final						*Corrected period of incubation	Mean net production (mg O2/l/h) (mg O2/mg Chl-a/h) (mg C/m3/h) (mg C/mg Chl-a/h)	Mean respiration (O2 mg/l/h) (mg O2/mg Chl-a/h) (mg C/m3/h) (mg C/mg Chl-a/h)	Chl-a conc. at the start of each measurement (ug/l)
					Light			Dark						
	Temp. (°C)	pH	DO (mg/l)	Sal. (‰)	Temp. (°C)	pH	DO (mg/l)	Temp. (°C)	pH	DO (mg/l)				
0	26.3	8.33	9.3	25.8	28.2	- 8.54 -	14.2 14.2 14.2	27.6	- 8.28 -	8.2 8.2 8.2	4.0	1.225 24.554 352.8 7.069 (gC/m2/h/0.9m)0.26	0.275 5.512 79.2 1.587 0.059	49.89
0.9	25.9	8.34	7.3	26.4	27.4	- 8.34 -	9.7 9.6 9.7	26.8	- 8.16 -	6.0 6.8 6.8	3.0	0.789 21.065 227.1 6.072 (gC/m2/h/1.4m)0.159	0.255 6.815 73.5 1.963	37.42
2.8	25.0	8.21	5.8	27.5	25.0	- 8.29 -	7.7 7.6 7.6	25.6	- 8.90 -	7.2 6.0 6.3	2.2	*0.843 - - -	* +0.323 +22.621 0.0	14.26

*Corrected value 0 at 2.3 m depth
*Corrected value was the same as at the upper layer

Table APP 4.1-1(5) Field Condition and Result of Primary Productivity Measurement-1

Station: St. 31
Location: 22°55'18.2' S, 43°09'07.4' W
Date: November 26, 1992
Time: 10:30-12:30
Weather on the day: Cloudy
Air temperature: 24.0 °C(09:40)
Light intensity in the air: 20000 lux (11:25)
Light intensity at the surface: 2700 lux
Light intensity at Secchi-disk depth (1.2 m): 400 lux
Depth of the 1 % light intensity: 3.5 m
Water depth: 15.5 m

Depth (m)	Start				Final Light			Final Dark			*Corrected period of incubation	Mean net production (mg O2/l/h) (mg O2/mg Chl-a/h) (mg C/m3/h) (mg C/mg Chl-a/h)	Mean respiration (O2 mg/l/h) (mg O2/mg Chl-a/h) (mg C/m3/h) (mg C/mg Chl-a/h)	Chl-a conc. at the start of each measurement (ug/l)
	Temp. (°C)	pH	DO (mg/l)	Sal. (‰)	Temp. (°C)	pH	DO (mg/l)	Temp. (°C)	pH	DO (mg/l)				
						-	9.1		-	7.3		1.925	1) +0.178	40.99
0	24.8	8.20	6.4	30.0	25.0	8.37	11.4	24.9	8.22	6.9	*2.0(3.0)	46.963	+4.344	
						-	-		-	6.6		554.4	0.0	
												14.389		
												(gC/m2/h/1.2m)0.448		
						-	7.4		-	5.8		0.667	0.173	16.04
1.2	24.8	8.18	6.1	30.0	24.9	8.20	7.4	24.9	8.14	6.1	*2.0(2.5)	41.584	10.786	
						-	7.5		-	5.1		192.1	49.8	
												11.976	3.106	
												(gC/m2/h/2.3m)0.23	0.079	
						-	6.2		-	5.8		0.046	0.065	10.69
3.5	24.5	8.10	5.9	30.5	24.4	8.11	5.4	24.4	8.11	5.8	*2.2(2.2)	4.303	6.060	
						-	-		-	5.7		13.2	18.6	
												1.239	1.751	

*The bottles were put in the dark ice box. 1)The corrected value (DO/mg Chl-a) is the same at the lower layer
( ) for respiration estimations

Table APP 4.1-1(6) Field Condition and Result of Primary Productivity Measurement-1

Station: St. 32
Location: 22°56'34.4' S, 43°10'05.0' W
Date: November 26, 1992
Time: 11:10-13:10
Weather on the day: Cloudy
Air temperature: 25.0 °C(09:40)
Light intensity in the air: 20000 lux (11:25)
Light intensity at the surface: 6400 lux
Light intensity at Secchi-disk depth (1.7 m): 550 lux
Depth of the 1 % light intensity: 4.0 m
Water depth: 12.5 m

Depth (m)	Start				Final Light			Final Dark			*Corrected period of incubation	Mean net production (mg O2/l/h) (mg O2/mg Chl-a/h) (mg C/m3/h) (mg C/mg Chl-a/h)	Mean respiration (O2 mg/l/h) (mg O2/mg Chl-a/h) (mg C/m3/h) (mg C/mg Chl-a/h)	Chl-a conc. at the start of each measurement (ug/l)
	Temp. (°C)	pH	DO (mg/l)	Sal. (‰)	Temp. (°C)	pH	DO (mg/l)	Temp. (°C)	pH	DO (mg/l)				
						8.38	8.5		8.18	6.5		0.681	0.222	24.06
0	25.1	8.26	7.0	26.3	25.1	8.42	8.5	25.1	8.20	6.5	2.3	28.304	9.227	
						8.37	8.6		-	-		196.1	64.0	
												8.152	2.657	
												(gC/m2/h/1.2m)0.20	0.095	
						8.24	6.4		8.15	6.0		0.148	0.165	16.04
1.7	24.6	8.19	6.4	26.8	24.6	8.20	6.4	24.6	8.22	6.0	2.4	9.227	10.287	
						8.25	6.5		8.20	6.0		42.6	47.7	
												2.657	2.963	
												(gC/m2/h/1.7m)0.02	0.081	
						7.94	5.7		8.18	5.7		-0.049	0.086	11.06
4.0	24.3	8.06	5.9	26.6	24.3	8.08	5.8	24.4	7.90	5.7	2.7	-4.430	7.776	
						8.09	5.8		8.07	5.6		-14.0	24.8	
												-1.276	2.239	

* Euphotic depth this station is 3.4 m, which was caluculated after correction beteen the negative production at 4 m depth and that at 1.7 m depth.

Table APP 4.1-2 Productivity and Respiration Rate (mg C/mg Chl-a/h) at each Depth: Measurement-1

St.	Product.	Respira.	(%)	Product.	Respira.	(%)	Product.	Respira.	(%)
St. 27		0.1 m			0.7 m			1.8 m	
	13.4	5.4	40	10.2	4.1	40	0.5	4.1	777
St. 28		0.1 m			0.6 m			1.8 m	
	6.9	1.7	25	2.3	1.4	60	1.2	1.4	121
St. 29		0.1 m			1.0 m			2.2 m	
	15.9	3.1	20	1.9	3.1	161	0.4	5.0	1240
St. 30		0.1 m			0.9 m			2.8 m	
	7.1	1.6	22	6.1	2.0	33	0.0	2.0	-
St. 31		0.1 m			1.2 m			3.5 m	
	14.4	3.1	21	12.0	3.1	26	1.2	1.8	141
St. 32		0.1 m			1.7 m			4.0 m	
	8.2	2.7	33	2.7	3.0	111	0.0	2.2	-

Table APP 4.1-3(1) Field Condition and Result of Primary Productivity Measurement-2

St. 50-1	April 15, 1993		St. 50-1	April 15, 1993		St. 50-1	April 15, 1993	
Time	06:00-12:00(6 h)		Time	06:00-12:00(6 h)		Time	06:00-12:00(6 h)	
Light intensity(lux)	3000		Light intensity(lux)	300		Light intensity(lux)	30	
Depth	0.1 m		Depth	1.2 m		Depth	3.5 m	
	Diff.(final-start)			Diff.(final-start)			Diff.(final-start)	
	Light	Dark		Light	Dark		Light	Dark
DO(mg/l)	6.00	-0.67	DO(mg/l)	1.10	-0.30	DO(mg/l)	0.77	-2.00
DO(mg/l/h)	1.00	-0.11	DO(mg/l/h)	0.18	-0.05	DO(mg/l/h)	0.13	-0.33
PO4-P(mg/l)	0.05	0.04	PO4-P(mg/l)	0.03	0.02	PO4-P(mg/l)	0.07	0.01
PO4-P(mg/l/h)	0.008	0.007	PO4-P(mg/l/h)	0.005	0.003	PO4-P(mg/l/h)	0.012	0.002

Table APP 4.1-3(2) Field Condition and Result of Primary Productivity Measurement-2

St. 50-3	April 15, 1993		St. 50-3	April 15, 1993		St. 50-3	April 15, 1993	
Time	12:00-13:00(1 h)		Time	12:00-13:00(1 h)		Time	12:00-13:00(1 h)	
Light intensity(lux)	9000		Light intensity(lux)	900		Light intensity(lux)	90	
Depth	0.1 m		Depth	0.6 m		Depth	0.9 m	
	Diff.(final-start)			Diff.(final-start)			Diff.(final-start)	
	Light	Dark		Light	Dark		Light	Dark
DO(mg/l)	5.57	2.63	DO(mg/l)	3.63	2.97	DO(mg/l)	-0.13	0.00
DO(mg/l/h)	5.57	2.63	DO(mg/l/h)	3.63	2.97	DO(mg/l/h)	-0.13	0.00
PO4-P(mg/l)	-0.02	-0.02	PO4-P(mg/l)	0.02	0.00	PO4-P(mg/l)	0.01	0.01
PO4-P(mg/l/h)	-0.02	-0.02	PO4-P(mg/l/h)	0.02	0.00	PO4-P(mg/l/h)	0.01	0.01

Table APP 4.1-3(3) Field Condition and Result of Primary Productivity Measurement-2

St. 51-1	April 20, 1993		St. 51-1	April 20, 1993		St. 51-1	April 20, 1993	
Time	06:00-09:00(3 h)		Time	06:00-09:00(3 h)		Time	06:00-09:00(3 h)	
Light intensity(lux)	300		Light intensity(lux)	30		Light intensity(lux)	3	
Depth	0.1 m		Depth	0.6 m		Depth	3.7 m	
	Diff.(final-start)			Diff.(final-start)			Diff.(final-start)	
	Light	Dark		Light	Dark		Light	Dark
DO(mg/l)	0.37	-0.33	DO(mg/l)	3.50	2.27	DO(mg/l)	1.27	-0.20
DO(mg/l/h)	0.122	-0.111	DO(mg/l/h)	1.17	0.76	DO(mg/l/h)	0.42	-0.07
PO4-P(mg/l)	0.00	-0.01	PO4-P(mg/l)	-0.03	-0.03	PO4-P(mg/l)	-0.02	-0.02
PO4-P(mg/l/h)	0.000	-0.003	PO4-P(mg/l/h)	-0.010	-0.010	PO4-P(mg/l/h)	-0.007	-0.007

Table APP 4.1-3(4) Field Condition and Result of Primary Productivity Measurement-2

St. 51-2	April 20, 1993		St. 51-2	April 20, 1993		St. 51-2	April 20, 1993	
Time	09:00-11:00(2 h)		Time	09:00-11:00(2 h)		Time	09:00-11:00(2 h)	
Light intensity(lux)	18000		Light intensity(lux)	1800		Light intensity(lux)	180	
Depth	0.1 m		Depth	1.0 m		Depth	4.0 m	
	Diff.(final-start)			Diff.(final-start)			Diff.(final-start)	
	Light	Dark		Light	Dark		Light	Dark
DO(mg/l)	3.03	0.33	DO(mg/l)	1.20	0.03	DO(mg/l)	-1.57	-2.30
DO(mg/l/h)	1.517	0.167	DO(mg/l/h)	0.60	0.02	DO(mg/l/h)	-0.78	-1.15
PO4-P(mg/l)	0.01	0.01	PO4-P(mg/l)	0.00	0.00	PO4-P(mg/l)	-0.04	-0.04
PO4-P(mg/l/h)	0.005	0.005	PO4-P(mg/l/h)	0.000	0.000	PO4-P(mg/l/h)	-0.02	-0.02

Table APP 4.1-3(5) Field Condition and Result of Primary Productivity Measurement-2

St. 51-3	April 20, 1993		St. 51-3	April 20, 1993		St. 51-3	April 20, 1993	
Time	11:00-13:00(2 h)		Time	11:00-13:00(2 h)		Time	11:00-13:00(2 h)	
Light intensity(lux)	80000		Light intensity(lux)	8000		Light intensity(lux)	800	
Depth	0.1 m		Depth	0.6 m		Depth	4.5 m	
	Diff.(final-start)			Diff.(final-start)			Diff.(final-start)	
	Light	Dark		Light	Dark		Light	Dark
DO(mg/l)	6.13	-0.53	DO(mg/l)	1.50	-0.60	DO(mg/l)	0.13	0.03
DO(mg/l/h)	3.067	-0.267	DO(mg/l/h)	0.750	-0.300	DO(mg/l/h)	0.067	0.017
PO4-P(mg/l)	-0.02	-0.01	PO4-P(mg/l)	0.01	-0.01	PO4-P(mg/l)	0.00	0.00
PO4-P(mg/l/h)	-0.010	-0.005	PO4-P(mg/l/h)	0.005	-0.005	PO4-P(mg/l/h)	0.000	0.000

Table APP 4.1-3(6) Field Condition and Result of Primary Productivity Measurement-2

St. 52-1	April 29, 1993		St. 52-1	April 29, 1993		St. 52-1	April 29, 1993	
Time	06:00-09:00(3 h)		Time	06:00-09:00(3 h)		Time	06:00-09:00(3 h)	
Light intensity(lux)	200		Light intensity(lux)	20		Light intensity(lux)	2	
Depth	0.1 m		Depth	0.7 m		Depth	3.7 m	
	Diff.(final-start)			Diff.(final-start)			Diff.(final-start)	
	Light	Dark		Ligh	Dark		Ligh	Dark
DO(mg/l)	2.70	-0.50	DO(mg/l)	0.30	-0.47	DO(mg/l)	-0.27	-0.30
DO(mg/l/h)	0.900	-0.167	DO(mg/l/h)	0.100	-0.156	DO(mg/l/h)	-0.089	-0.100
PO4-P(mg/l)	-0.02	0.00	PO4-P(mg/l)	-0.03	-0.03	PO4-P(mg/l)	0.02	-0.01
PO4-P(mg/l/h)	-0.02	0.00	PO4-P(mg/l/h)	-0.03	-0.03	PO4-P(mg/l/h)	0.02	-0.01

Table APP 4.1-3(7) Field Condition and Result of Primary Productivity Measurement-2

St. 52-2	April 29, 1993		St. 52-2	April 29, 1993		St. 52-2	April 29, 1993	
Time	09:00-11:00(2 h)		Time	09:00-11:00(2 h)		Time	09:00-11:00(2 h)	
Light intensity(lux)	2400		Light intensity(lux)	240		Light intensity(lux)	24	
Depth	0.1 m		Depth	0.6 m		Depth	4.0 m	
	Diff.(Final-start)			Diff.(Final-start)			Diff.(Final-start)	
	Light	Dark		Light	Dark		Light	Dark
DO(mg/l)	5.90	1.90	DO(mg/l)	0.80	-0.93	DO(mg/l)	-0.17	-0.30
DO(mg/l/h)	2.950	0.950	DO(mg/l/h)	0.400	-0.467	DO(mg/l/h)	-0.083	-0.150
PO4-P(mg/l)	-0.03	-0.02	PO4-P(mg/l)	-0.08	-0.09	PO4-P(mg/l)	0.00	0.00
PO4-P(mg/l/h)	-0.015	-0.010	PO4-P(mg/l)	-0.040	-0.045	PO4-P(mg/l)	0.000	0.000

Table APP 4.1-3(8) Field Condition and Result of Primary Productivity Measurement-2

St. 52-3	April 29, 1993		St. 52-3	April 29, 1993		St. 52-3	April 29, 1993	
Time	11:00-13:00(2 h)		Time	11:00-13:00(2 h)		Time	11:00-13:00(2 h)	
Light intensity(lux)	30000		Light intensity(lux)	3000		Light intensity(lux)	300	
Depth	0.1 m		Depth	0.7 m		Depth	4.2 m	
	Diff.(Final-start)			Diff.(Final-start)			Diff.(Final-start)	
	Light	Dark		Light	Dark		Light	Dark
DO(mg/l)	2.00	-1.47	DO(mg/l)	1.20	0.30	DO(mg/l)	-0.10	-0.13
DO(mg/l/h)	1.000	-0.733	DO(mg/l/h)	0.600	0.150	DO(mg/l/h)	-0.050	-0.067
PO4-P(mg/l)	-0.01	-0.01	PO4-P(mg/l)	-0.02	-0.01	PO4-P(mg/l)	0.00	0.00
PO4-P(mg/l/h)	-0.005	-0.005	PO4-P(mg/l)	-0.010	-0.005	PO4-P(mg/l)	0.000	0.000

Table APP 4.1-3(9) Field Condition and Result of Primary Productivity Measurement-2

St. 53-1	April 30, 1993		St. 53-1	April 30, 1993		St. 53-1	April 30, 1993	
Time	06:00-09:00(3 h)		Time	06:00-09:00(3 h)		Time	06:00-09:00(3 h)	
Light intensity(lux)	5000		Light intensity(lux)	500		Light intensity(lux)	50	
Depth	0.1 m		Depth	0.6 m		Depth	1.8 m	
	Diff.(Final-start)			Diff.(Final-start)			Diff.(Final-start)	
	Light	Dark		Light	Dark		Light	Dark
DO(mg/l)	1.30	-4.33	DO(mg/l)	-2.63	-4.60	DO(mg/l)	-0.57	-2.07
DO(mg/l/h)	0.433	-1.444	DO(mg/l/h)	-0.878	-1.533	DO(mg/l/h)	-0.189	-0.689
PO4-P(mg/l)	-0.05	-0.06	PO4-P(mg/l)	-0.01	-0.01	PO4-P(mg/l)	0.00	0.02
PO4-P(mg/l/h)	-0.017	-0.020	PO4-P(mg/l/h)	-0.003	-0.003	PO4-P(mg/l/h)	0.000	0.007

Table APP 4.1-3(10) Field Condition and Result of Primary Productivity Measurement-2

St. 53-2	April 30, 1993		St. 53-2	April 30, 1993		St. 53-2	April 30, 1993	
Time	09:00-11:00(2 h)		Time	09:00-11:00(2 h)		Time	09:00-11:00(2 h)	
Light intensity(lux)	9000		Light intensity(lux)	900		Light intensity(lux)	90	
Depth	0.1 m		Depth	0.6 m		Depth	1.5 m	
	Diff.(Final-start)			Diff.(Final-start)			Diff.(Final-start)	
	Light	Dark		Light	Dark		Light	Dark
DO(mg/l)	9.33	3.23	DO(mg/l)	6.70	2.73	DO(mg/l)	1.33	0.30
DO(mg/l/h)	4.667	1.617	DO(mg/l/h)	3.350	1.367	DO(mg/l/h)	0.667	0.150
PO4-P(mg/l)	0.01	0.02	PO4-P(mg/l)	-0.02	-0.01	PO4-P(mg/l)	0.01	0.01
PO4-P(mg/l/h)	0.005	0.010	PO4-P(mg/l/h)	-0.010	-0.005	PO4-P(mg/l/h)	0.005	0.005

Table APP 4.1-3(11) Field Condition and Result of Primary Productivity Measurement-2

St. 53-3	April 30, 1993		St. 53-3	April 30, 1993		St. 53-3	April 30, 1993	
Time	11:00-13:00(2 h)		Time	11:00-13:00(2 h)		Time	11:00-13:00(2 h)	
Light intensity(lux)	30000		Light intensity(lux)	3000		Light intensity(lux)	300	
Depth	0.1 m		Depth	0.3 m		Depth	1.2 m	
	Diff.(Final-start)			Diff.(Final-start)			Diff.(Final-start)	
	Light	Dark		Light	Dark		Light	Dark
DO(mg/l)	4.60	-0.55	DO(mg/l)	2.40	-0.30	DO(mg/l)	1.13	-0.17
DO(mg/l/h)	2.300	-0.275	DO(mg/l/h)	1.200	-0.150	DO(mg/l/h)	0.567	-0.083
PO4-P(mg/l)	0.01	0.01	PO4-P(mg/l)	-0.02	-0.02	PO4-P(mg/l)	-0.01	-0.01
PO4-P(mg/l/h)	0.005	0.005	PO4-P(mg/l/h)	-0.02	-0.02	PO4-P(mg/l/h)	-0.005	-0.005

Table APP 4.1-3(12) Field Condition and Result of Primary Productivity Measurement-2

St. 54-1	May 12, 1993		St. 54-1	May 12, 1993		St. 54-1	May 12, 1993	
Time	07:00-10:00(3 h)		Time	07:00-10:00(3 h)		Time	07:00-10:00(3 h)	
Light intensity(lux)	3300		Light intensity(lux)	330		Light intensity(lux)	33	
Depth	0.1 m		Depth	1.2 m		Depth	4.4 m	
	Diff.(final-start)			Diff.(final-start)			Diff.(final-start)	
	Light	Dark		Light	Dark		Light	Dark
DO(mg/l)	2.87	-0.33	DO(mg/l)	-0.07	-0.93	DO(mg/l)	-0.17	-0.20
DO(mg/l/h)	0.957	-0.110	DO(mg/l/h)	-0.023	-0.310	DO(mg/l/h)	-0.057	-0.067
PO4-P(mg/l)	0.00	0.05	PO4-P(mg/l)	0.00	0.05	PO4-P(mg/l)	-0.01	-0.01
PO4-P(mg/l/h)	0.000	0.017	PO4-P(mg/l/h)	0.000	0.017	PO4-P(mg/l/h)	-0.003	-0.003

Table APP 4.1-3(13) Field Condition and Result of Primary Productivity Measurement-2

St. 54-2	May 12, 1993		St. 54-2	May 12, 1993		St. 54-2	May 12, 1993	
Time	09:00-11:00(2 h)		Time	09:00-11:00(2 h)		Time	09:00-11:00(2 h)	
Light intensity(lux)	6000		Light intensity(lux)	600		Light intensity(lux)	60	
Depth	0.1 m		Depth	0.8 m		Depth	3.5 m	
	Diff.(final-start)			Diff.(final-start)			Diff.(final-start)	
	Light	Dark		Light	Dark		Light	Dark
DO(mg/l)	4.23	-0.90	DO(mg/l)	2.07	-0.90	DO(mg/l)	-0.13	-0.37
DO(mg/l/h)	1.410	-0.300	DO(mg/l/h)	1.035	-0.450	DO(mg/l/h)	-0.065	-0.123
PO4-P(mg/l)	0.00	0.00	PO4-P(mg/l)	-0.05	0.00	PO4-P(mg/l)	0.00	0.00
PO4-P(mg/l/h)	0.000	0.000	PO4-P(mg/l/h)	-0.025	0.000	PO4-P(mg/l/h)	0.000	0.000

Table APP 4.1-3(14) Field Condition and Result of Primary Productivity Measurement-2

St. 54-3	May 12, 1993		St. 54-3	May 12, 1993		St. 54-3	May 12, 1993	
Time	11:00-13:00(2 h)		Time	11:00-13:00(2 h)		Time	11:00-13:00(2 h)	
Light intensity(lux)	10000		Light intensity(lux)	1000		Light intensity(lux)	100	
Depth	0.1 m		Depth	1.2 m		Depth	4.5 m	
	Diff.(final-start)			Diff.(final-start)			Diff.(final-start)	
	Light	Dark		Light	Dark		Light	Dark
DO(mg/l)	8.07	-1.60	DO(mg/l)	2.63	-1.93	DO(mg/l)	-0.33	-0.33
DO(mg/l/h)	4.035	-0.800	DO(mg/l/h)	1.315	-0.965	DO(mg/l/h)	-0.165	-0.165
PO4-P(mg/l)	-0.05	-0.05	PO4-P(mg/l)	-0.05	-0.05	PO4-P(mg/l)	-0.05	0.01
PO4-P(mg/l/h)	-0.025	-0.025	PO4-P(mg/l/h)	-0.025	-0.025	PO4-P(mg/l/h)	-0.025	0.005

Table APP 4.1-3(15) Field Condition and Result of Primary Productivity Measurement-2

St. 55-1	May 21, 93		St. 55-1	May 21, 93		St. 55-1	May 21, 93	
Time	07:00-10:00(3 h)		Time	07:00-10:00(3 h)		Time	07:00-10:00(3 h)	
Light intensity(lux)	300		Light intensity(lux)	30		Light intensity(lux)	3	
Depth	0.1 m		Depth	1.9 m		Depth	6.8 m	
	Diff.(final-start)			Diff.(final-start)			Diff.(final-start)	
	Light	Dark		Light	Dark		Light	Dark
DO(mg/l)	1.47	0.10	DO.(mg/l)	0.13	0.23	DO.(mg/l)	0.06	0.15
DO(mg/l/h)	0.490	0.033	DO.(mg/l/h)	0.043	0.077	DO.(mg/l/h)	0.020	0.030
PO4-P(mg/l)	-0.04	-0.03	PO4-P(mg/l)	-0.01	0.04	PO4-P(mg/l)	0.01	0.00
PO4-P(mg/l/h)	-0.013	-0.010	PO4-P(mg/l/h)	-0.003	0.013	PO4-P(mg/l/h)	0.003	0.000

Table APP 4.1-3(16) Field Condition and Result of Primary Productivity Measurement-2

St. 55-2	May 21, 93		St. 55-2	May 21, 93		St. 55-2	May 21, 93	
Time	09:00-11:00(2 h)		Time	09:00-11:00(2 h)		Time	09:00-11:00(2 h)	
Light intensity(lux)	7000		Light intensity(lux)	700		Light intensity(lux)	70	
Depth	0.1 m		Depth	2.0 m		Depth	7.0 m	
	Diff.(final-start)			Diff.(final-start)			Diff.(final-start)	
	Light	Dark		Light	Dark		Light	Dark
DO(mg/l)	0.50	0.13	DO(mg/l)	0.40	0.20	DO(mg/l)	-3.17	-3.20
DO(mg/l/h)	0.250	0.065	DO(mg/l/h)	0.200	0.100	DO(mg/l/h)	-1.585	-1.600
PO4-P(mg/l)	-0.01	-0.01	PO4-P(mg/l)	-0.02	0.04	PO4-P(mg/l)	-0.06	-0.06
PO4-P(mg/l/h)	-0.005	-0.005	PO4-P(mg/l/h)	-0.010	0.020	PO4-P(mg/l/h)	-0.030	-0.030

Table APP 4.1-3(17) Field Condition and Result of Primary Productivity Measurement-2

St. 55-3	May 21, 93		St. 55-3	May 21, 93		St. 55-3	May 21, 93	
Time	11:00-13:00(2 h)		Time	11:00-13:00(2 h)		Time	11:00-13:00(2 h)	
Light intensity(lux)	10000		Light intensity(lux)	1000		Light intensity(lux)	100	
Depth	0.1 m		Depth	1.8 m		Depth	7.0 m	
	Diff.(final-start)			Diff.(final-start)			Diff.(final-start)	
	Light	Dark		Light	Dark		Light	Dark
DO(mg/l)	1.60	0.07	DO(mg/l)	0.77	0.10	DO(mg/l)	0.80	-0.03
DO(mg/l/h)	0.800	0.035	DO(mg/l/h)	0.385	0.050	DO(mg/l/h)	0.400	-0.015
PO4-P(mg/l)	-0.01	0.00	PO4-P(mg/l)	-0.02	-0.02	PO4-P(mg/l)	0.00	0.00
PO4-P(mg/l/h)	-0.005	0.000	PO4-P(mg/l/h)	-0.010	-0.010	PO4-P(mg/l/h)	0.000	0.000

Table APP 4.1-4 Productivity and Respiration Rate (mg C/mg Chl-a/h) at each Depth: Measurement-2

	Product.	Resp.	(%)	Produc	Resp.	(%)	Produc	Resp.	(%)
St. 50	0.1 m			1.2 m			3.5 m		
1	53.8	5.9	11	3.4	1.0	29	2.5	6.3	252
	0.1 m			0.6 m			0.9 m		
3	46.9	-	-	27.2	-	-	0.0	0.0	-
St. 51	0.1 m			0.6 m			3.7 m		
1	2.0	1.9	95	31.5	-	-	8.7	1.4	16
	0.1 m			1.0 m			4.0 m		
2	8.7	1.0	11	3.9	-	-	-17.5	25.8	-
	0.1 m			0.6 m			4.5 m		
3	12.2	1.1	9	5.5	2.2	40	1.4	-	-
St. 52	0.1 m			0.7 m			3.7 m		
1	12.9	2.4	19	1.4	2.3	164	-2.7	3.1	-
	0.1 m			0.6 m			4.0 m		
2	18.2	-	-	3.0	3.5	116	-3.6	6.5	-
	0.1 m			0.7 m			4.2 m		
3	12.0	8.8	73	5.4	-	-	-	-	-
St. 53	0.1 m			0.5 m			1.8 m		
1	1.5	5.1	340	-2.7	4.8	-	-1.2	4.4	-
	0.1 m			0.6 m			1.5 m		
2	16.8	-	-	8.6	-	-	4.1	-	-
	0.1 m			0.3 m			1.2 m		
3	5.3	0.6	11	6.0	0.8	13	1.7	0.3	18
St. 54	0.1 m			1.2 m			4.4 m		
1	22.9	2.6	11	-0.05	4.2	-	-1.1	1.3	-
	0.1 m			0.8 m			3.5 m		
2	19.3	4.0	21	3.9	1.7	44	-1.4	2.9	-
	0.1 m			1.2 m			4.5 m		
3	17.7	3.5	20	5.7	4.2	74	-5.1	5.1	-
St. 55	0.1 m			1.9 m			6.8 m		
1	33.0	-	-	8.1	-	-	10.1	-	-
	0.1 m			2.0 m			7.0 m		
2	20.2	-	-	17.3	-	-	-	171.0	-
	0.1 m			1.8 m			7.0 m		
3	12.3	-	-	7.9	-	-	54.1	0.0	0

Table APP 4.2-1(1) Release Rate from Sediment
(aerobic condition)

Date: Norbember.2 - 5 1992
St: St.20
Surface Area of sediment:0.0384(㎡)
Water Volume: 7.37(l)
Flow rate: 6.35(l/day)
Retention Time: 1.16(day)
Water Temp.:23.2°C 23.2°C

Date	Time	Influent (mg/l)				Effluen(mg/l)				Release Rate(g/㎡/day)			
	(Day)	TN	NH4N	TP	PO4P	TN	NH4N	TP	PO4P	TN	NH4N	TP	PO4P
Nov.3	3	0.297	0.013	0.02	0.01	1.05	0.4	0.35	0.3				
Nov.4	4	0.297	0.013	0.02	0.01	0.80	0.3	0.30	0.25	0.043	0.034	0.039	0.033
Nov.5	5	0.297	0.013	0.02	0.01	0.80	0.4	0.18	0.16	0.075	0.071	0.017	0.018
MEAN		0.297	0.013	0.02	0.01	0.88	0.4	0.28	0.24	0.059	0.053	0.028	0.025

Table APP 4.2-1(2) Release Rate from Sediment
(aerobic condition)

Date: Norbember.2 - 5 1992
St: St.21
Surface Area of sediment:0.0384(㎡)
Water Volume:7.5 7.56(l)
Flow rate: 5.23(l/day)
Retention Time: 1.44(day)
Water Temp.:23.1°C 23.1°C

Date	Time	Influent (mg/l)				Effluen(mg/l)				Release Rate(g/㎡/day)			
	(Day)	TN	NH4N	TP	PO4P	TN	NH4N	TP	PO4P	TN	NH4N	TP	PO4P
Nov.3	3	0.297	0.013	0.02	0.01	0.60	0.09	0.40	0.4				
Nov.4	4	0.297	0.013	0.02	0.01	0.40	0.08	0.30	0.3	-0.033	0.007	0.022	0.024
Nov.5	5	0.297	0.013	0.02	0.01	0.20	0.2	0.20	0.2	-0.048	0.035	0.015	0.017
MEAN		0.297	0.013	0.02	0.01	0.40	0.1	0.30	0.30	-0.041	0.021	0.019	0.021

Table APP 4.2-1(3) Release Rate from Sediment
(aerobic condition)

Date: Norbember.2 - 5 1992
St: St.22
Surface Area of sediment:0.0384(㎡)
Water Volume: 9.40(l)
Flow rate: 2.72(l/day)
Retention Time: 3.46(day)
Water Temp.: 23.2°C

Date	Time	Influent (mg/l)				Effluen(mg/l)				Release Rate(g/㎡/day)			
	(Day)	TN	NH4N	TP	PO4P	TN	NH4N	TP	PO4P	TN	NH4N	TP	PO4P
Nov.3	3	0.297	0.013	0.02	0.01	5.00	2	0.40	0.4				
Nov.4	4	0.297	0.013	0.02	0.01	4.00	2	0.55	0.55	-0.014	0.138	0.067	0.070
Nov.5	5	0.297	0.013	0.02	0.01	3.80	3.8	0.60	0.58	0.167	0.524	0.045	0.043
MEAN		0.297	0.013	0.02	0.01	4.27	2.6	0.52	0.51	0.076	0.331	0.056	0.056

Table APP 4.2-1(4) Release Rate from Sediment
(anaerbic condition)

Date: Norbember.6 - 12 1992
St: St.20
Surface Area of sediment:0.0384(m²)
Water Volume: 7.37(l)
Flow ra 4.81(l/day)
Retention Time: 1.53(day)
Water Terature 22.8°C

Date	Time	Influent (mg/l)				Effluen(mg/l)				Release Rate(g/m²/day)			
	(Day)	TN	NH4N	TP	PO4P	TN	NH4N	TP	PO4P	TN	NH4N	TP	PO4P
Nov.7	1	0.475	0.02	0.03	0.015	0.50	0.1	0.14	0.12				
Nov.8	2	0.475	0.02	0.03	0.015	0.51	0.15	0.24	0.22	-0.006	0.015	0.027	0.025
Nov.9	3	0.475	0.02	0.03	0.015	0.60	0.15	0.25	0.22	-0.006	0.015	0.027	0.025
Nov.10	4	0.475	0.02	0.03	0.015	0.60	0.25	0.10	0.1	-0.016	0.042	-0.015	-0.008
Nov.11	5	0.475	0.02	0.03	0.015	0.30	0.06	0.10	0.09	-0.101	-0.026	0.007	0.007
Nov.12	6	0.475	0.02	0.03	0.015	0.30	0.13	0.15	0.15	-0.054	0.025	0.022	0.027
MEAN		0.475	0.02	0.03	0.015	0.47	0.14	0.16	0.15	-0.041	0.015	0.015	0.017

Table APP 4.2-1(5) Release Rate from Sediment
(anaerbic condition)

Date: Norbember.6 - 12 1992
St: St.21
Surface Area of sediment:0.0384(m²)
Water Volume: 7.56(l)
Flow rate: 3.83(l/day)
Retention Time: 1.57(day)
Water Temp.: 22.7°C

Date	Time	Influent (mg/l)				Effluen(mg/l)				Release Rate(g/m²/day)			
	(Day)	TN	NH4N	TP	PO4P	TN	NH4N	TP	PO4P	TN	NH4N	TP	PO4P
Nov.7	1	0.475	0 02	0.03	0.015	0.35	0.09	0.08	0.06				
Nov.8	2	0.475	0.02	0.03	0.015	0.55	0.15	0.12	0.1	-0.015	0.018	0.011	0.012
Nov.9	3	0.475	0.02	0.03	0.015	0.50	0.1	0.12	0.1	-0.050	0.000	0.006	0.007
Nov.10	4	0.475	0.02	0.03	0.015	0.40	0.15	0.08	0.07	-0.070	0.019	-0.004	-0.001
Nov.11	5	0.475	0.02	0.03	0.015	0.45	0.15	0.10	0.09	-0.040	0.011	0.008	0.009
Nov.12	6	0.475	0.02	0.03	0.015	0.30	0.14	0.10	0.08	-0.084	0.008	0.004	0.003
MEAN		0.475	0.02	0.03	0.015	0.43	0.13	0.10	0.08	-0.054	0.011	0.005	0.006

Table APP 4.2-1(6) Release Rate from Sediment
(anaerbic condition)

Date: Norbember.6 - 12 1992
St: St.22
Surface Area of sediment:0.0384(m²)
Water Volume: 9.40(l)
Flow rate: 1.99(l/day)
Retention Time: 4.72(day)
Water Temp.:22.9°C 22.9°C

Date	Time	Influent (mg/l)				Effluen(mg/l)				Release Rate(g/m²/day)			
	(Day)	TN	NH4N	TP	PO4P	TN	NH4N	TP	PO4P	TN	NH4N	TP	PO4P
Nov.7	1	0.475	0.02	0.03	0.015	1.00	1	0.16	0.14				
Nov.8	2	0.475	0.02	0.03	0.015	1.60	0	0.32	0.31	0.070		0.037	0.042
Nov.9	3	0.475	0.02	0.03	0.015	2.00	1.8	0.40	0.4	0.062	0.424	0.028	0.034
Nov.10	4	0.475	0.02	0.03	0.015	1.80	1.5	0.35	0.35	-0.070	0.002	-0.001	0.003
Nov.11	5	0.475	0.02	0.03	0.015	2.40	1.2	0.45	0.45	0.156	-0.017	0.041	0.044
Nov.12	6	0.475	0.02	0.03	0.015	2.80	1.7	0.50	0.5	0.141	0.224	0.033	0.036
MEAN		0.475	0.02	0.03	0.015	1.93	1.20	0.36	0.36	0.072	0.158	0.028	0.032

Table APP 4.2-1(7) Release Rate from Sediment

(aerobic condition)

Date: April.10 - May.5 1993
St: St.35
Surface Area of Sediment(m^2) 0.0384
Water Volume(l) 6.72
Water Depth(m) 0.175
Sediment Thickness(m) 0.19

Date	Time	Interval Time(day)	Flow rate (l/day)	Retention Time(day)	Influent(mg/l)							Effluen(mg/l)							Release Rate(g/m^2/day)				
					Temp.°C	DO	PO4P	NH4N	COD(Mn)	TOC	T-Fe	Temp.°C	DO	PO4P	NH4N	COD(Mn)	TOC	T-Fe	PO4P	NH4N	COD(Mn)	TOC	T-Fe
Apr. 8	20:00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apr. 9	12:30	0.69	0.69	2.85	2.36	-	7.30	0.024	-	-	-	-	21.5	3.20	0.324	-	-	-	-	-	-	-	-	-
Apr.10	10:30	1.60	0.91	5.33	1.26	21.6	7.60	0.020	0.02	1.3	8	-	-	4.50	0.419	0.30	2.2	4	-	0.067	0.000	-	-	-
Apr.11	8:30	2.52	0.92	5.47	1.22	-	7.25	0.024	-	-	-	-	-	3.55	0.557	-	-	-	-	0.093	0.000	-	-	-
Apr.12	10:30	3.60	1.08	7.78	0.86	22.0	7.20	0.023	0.02	0.0	6	-	20.3	1.70	0.395	0.20	0.0	7	-	0.063	0.035	-0.049	0.435	-
Apr.13	18:00	4.92	1.32	7.34	0.92	21.5	7.00	0.018	0.01	0.5	6	-	19.9	0.90	0.221	0.10	0.0	20	-	0.029	0.011	-0.088	3.543	-
Apr.14	17:30	5.90	0.98	7.42	0.91	22.5	7.10	0.020	0.02	0.0	6	0.01	20.8	0.80	0.233	0.10	1.2	9	0.012	0.043	0.016	0.351	-0.400	-
Apr.16	13:30	7.73	1.83	7.50	0.90	-	6.60	0.016	0.01	0.4	5	0.01	-	2.20	0.191	0.15	1.2	6	0.01	0.033	0.029	0.164	0.210	0.0001
Apr.17	10:00	8.58	0.85	7.63	0.88	24.2	6.70	0.016	0.00	0.6	5	0.01	23.4	2.30	0.191	0.15	0.8	6	0.01	0.035	0.030	0.005	0.317	0.0002
Apr.19	10:30	10.60	2.02	7.34	0.92	-	6.70	0.015	0.00	1.2	-	0.01	-	3.90	0.160	0.10	0.2	-	0.01	0.027	0.018	-0.186	-	0.0002
Apr.20	15:00	11.79	1.19	6.91	0.97	24.3	6.80	0.012	0.00	0.0	-	-	23.0	4.30	0.127	0.10	0.2	-	-	0.018	0.018	0.036	-	-
Apr.22	10:00	13.58	1.79	5.83	1.15	24.9	6.80	0.018	0.00	0.4	-	-	22.9	4.40	0.147	0.10	0.0	-	-	0.020	0.015	-0.078	-	-
Apr.23	11:30	14.65	1.07	5.47	1.23	24.5	6.60	0.009	0.00	0.6	-	-	23.3	4.90	0.164	0.10	0.0	-	-	0.024	0.014	-0.105	-	-
Apr.24	15:30	15.81	1.16	5.47	1.23	24.5	6.90	0.018	0.01	0.5	-	-	23.0	3.50	0.143	0.09	0.2	-	-	0.015	0.010	-0.041	-	-
Apr.25	15:30	16.81	1.00	3.89	1.73	-	7.10	0.018	0.01	0.5	-	-	-	0.70	0.169	0.10	0.6	-	-	0.017	0.010	0.025	-	-
Apr.28	10:00	19.58	2.77	2.59	2.59	-	-	0.018	0.01	0.5	-	-	-	0.60	0.260	0.15	0.6	-	-	0.018	0.010	-0.047	-	-
Apr.29	10:00	20.58	1.00	2.88	2.33	-	-	0.018	0.01	0.5	-	-	-	-	0.281	0.20	0.4	-	-	0.021	0.020	-0.086	-	-
Apr.30	15:30	21.81	1.23	3.89	1.73	-	6.70	0.014	0.02	0.8	-	-	-	0.40	0.247	0.20	0.0	-	-	0.019	0.017	-0.179	-	-
May. 4	15:30	26.81	5.00	4.03	1.67	-	-	0.017	0.02	0.0	-	-	-	0.80	0.192	0.15	0.4	-	-	0.017	0.012	0.044	-	-
May. 5	11:00	27.63	0.82	4.32	1.56	-	7.00	0.020	0.02	0.6	-	-	-	1.10	0.198	0.15	0.2	-	-	0.020	0.013	-0.115	-	-
May. 7	14:00	29.75	2.12	4.18	1.61	-	-	0.018	0.01	0.5	-	-	-	1.20	0.157	0.10	0.2			0.012	0.007	-0.066	-	-
MEAN				5.41		23.3	6.95	0.018	0.01	0.5	6	0.01	22.0	2.37	0.239	0.14	0.5	9	0.01	0.019	0.014	-0.022	0.821	0.0002

Note:
[ ]:Because of lack of data, the mean value were used

Table APP 4.2-1(8) Release Rate from Sediment

(aerobic condition)

Date: April.10 - May.5 1993
St: St.36
Surface Area of Sediment(m^2) 0.0384
Water Volume(l) 6.34
Water Depth(m) 0.165
Sediment Thickness(m) 0.2

Date	Time	Interval Time(day)	Flow rate (l/day)	Retention Time(day)	Influent(mg/l)							Effluen(mg/l)							Release Rate(g/m^2/day)				
		(day)			Temp.°C	DO	PO4P	NH4N	COD(Mn)	TOC	T-Fe	Temp.°C	DO	PO4P	NH4N	COD(Mn)	TOC	T-Fe	PO4P	NH4N	COD(Mn)	TOC	T-Fe
Apr. 8	20:00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apr. 9	12:30	0.69	0.69	2.66	2.38	-	7.30	0.024	-	-	-	-	-	0.80	0.576	-	-	-	-	-	-	-	-	-
Apr.10	10:30	1.60	0.91	4.90	1.29	21.6	7.60	0.020	0.02	1.3	8	-	-	1.40	0.435	0.55	2.4	4	-	0.035	0.000	-	-	-
Apr.11	8:30	2.52	0.92	5.18	1.29	-	7.25	0.024	-	-	-	-	-	0.10	0.386	-	-	-	-	0.039	0.000	-	-	-
Apr.12	10:30	3.60	1.08	7.42	0.85	22.0	7.20	0.023	0.02	0.0	6	-	20.4	0.10	0.219	0.30	2.2	7	-	0.026	0.049	0.421	0.423	-
Apr.13	18:00	4.92	1.32	6.91	0.92	21.5	7.00	0.018	0.01	0.5	6	-	19.8	0.10	0.211	0.30	0.6	17	-	0.035	0.052	-0.064	2.627	-
Apr.14	17:30	5.90	0.98	6.91	0.92	22.5	7.10	0.020	0.02	0.0	6	0.01	20.1	0.30	0.230	0.30	1.8	8	0.012	0.040	0.051	0.437	-0.399	-
Apr.16	13:30	7.73	1.83	6.77	0.94	-	6.60	0.016	0.01	0.4	5	0.01	-	-	0.178	0.30	1.2	10	0.01	0.027	0.051	0.128	0.995	0.0001
Apr.17	10:00	8.58	0.85	7.50	0.85	24.2	6.70	0.016	0.00	0.6	5	0.01	23.4	0.10	0.163	0.30	1.4	6	0.01	0.027	0.059	0.197	-0.104	0.0003
Apr.19	10:30	10.60	2.02	7.34	0.86	-	6.70	0.015	0.00	1.2	-	0.01	-	0.60	0.161	0.25	1.0	-	0	0.028	0.047	-0.015	-	-0.0019
Apr.20	15:00	11.79	1.19	6.62	0.96	24.3	6.80	0.012	0.00	0.0	-	-	22.9	2.20	0.128	0.20	4.8	-	-	0.018	0.031	1.093	-	-
Apr.22	10:00	13.58	1.79	6.91	0.92	24.9	6.60	0.018	0.00	0.4	-	-	23.1	2.30	0.118	0.20	0.0	-	-	0.018	0.036	-0.209	-	-
Apr.23	11:30	14.65	1.07	7.13	0.89	24.5	6.60	0.009	0.00	0.6	-	-	23.1	2.30	0.108	0.20	0.6	-	-	0.018	0.037	0.060	-	-
Apr.24	15:30	15.81	1.16	7.13	0.89	24.5	6.90	0.018	0.01	0.5	-	-	22.9	1.90	0.103	0.20	0.0	-	-	0.016	0.035	-0.124	-	-
Apr.25	15:30	16.81	1.00	5.33	1.19	-	7.10	0.018	0.01	0.5	-	-	-	1.10	0.129	0.25	0.6	-	-	0.018	0.038	0.064	-	-
Apr.28	10:00	19.58	2.77	5.62	1.13	-	-	0.018	0.01	0.5	-	-	-	0.20	0.133	0.25	0.0	-	-	0.017	0.035	-0.091	-	-
Apr.29	10:00	20.58	1.00	5.18	1.22	-	-	0.018	0.01	0.5	-	-	-	0.40	0.149	0.30	0.2	-	-	0.019	0.044	-0.034	-	-
Apr.30	15:30	21.81	1.23	4.46	1.42	-	6.70	0.014	0.02	0.8	-	-	-	0.10	0.135	0.30	0.6	-	-	0.012	0.032	-0.029	-	-
May. 4	15:30	26.81	5.00	4.32	1.47	-	-	0.017	0.02	0.0	-	-	-	0.20	0.152	0.30	0.0	-	-	0.014	0.030	-0.002	-	-
May. 5	11:00	27.63	0.82	4.18	1.52	-	7.00	0.020	0.02	0.6	-	0.014	-	0.10	0.153	0.25	0.2	-	0.018	0.013	0.016	-0.047	-	-
May. 7	14:00	29.75	2.12	4.18	1.52	-	-	0.018	0.01	0.5	-	-	-	0.10	0.110	0.20	1.4	-	-	0.007	0.018	0.113	-	-
MEAN				5.92		23.3	6.95	0.018	0.01	0.5	6	0.01	22.0	0.79	0.204	0.28	1.0	9	0.01	0.017	0.032	0.111	0.708	-0.0005

Note:
[ ]: Because of lack of data, the mean value were used

Table APP 4.2-1(9) Release Rate from Sediment

(aerobic condition)

Date: April.10 - May.5 1993
St: St.37
Surface Area of Sediment(m^2) 0.0384
Water Volume(l) 6.53
Water Depth(m) 0.17
Sediment Thickness(m) 0.195

Date	Time	Interval Time(day)	Flow rate (l/day)	Retention Time(day)	Influent(mg/l)							Effluent(mg/l)							Release Rate(g/m^2/day)				
	(day)				Temp.°C	DO	PO4P	NH4N	COD(Mn)	TOC	T-Fe	Temp.°C	DO	PO4P	NH4N	COD(Mn)	TOC	T-Fe	PO4P	NH4N	COD(Mn)	TOC	T-Fe
Apr. 8	20:00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apr. 9	12:30	0.69	0.69	2.81	2.32	-	7.30	0.024	-	-	-	-	4.90	0.457	-	-	-	-	-	-	-	-	-
Apr.10	10:30	1.60	0.91	5.18	1.26	21.6	7.60	0.020	0.02	1.3	8	-	3.60	0.456	0.20	2.8	4	-	0.058	0.000	-	-	-
Apr.11	8:30	2.52	0.92	5.04	1.33	-	7.25	0.024	-	-	-	-	5.80	0.354	-	-	-	-	0.028	0.000	-	-	-
Apr.12	10:30	3.60	1.08	7.63	0.86	22.0	7.20	0.023	0.02	0.0	6	-	20.5	5.10	0.241	0.15	0.0	4	-	0.035	0.025	-0.059	-0.225	-
Apr.13	18:00	4.92	1.32	7.20	0.91	21.5	7.00	0.018	0.01	0.5	6	-	20.4	4.10	0.090	0.10	0.2	15	-	0.005	0.014	-0.036	2.419	-
Apr.14	17:30	5.90	0.98	7.27	0.90	22.5	7.10	0.020	0.02	0.0	6	0.01	20.4	4.90	0.075	0.10	1.6	8	0.018	0.009	0.016	0.437	-0.176	-
Apr.16	13:30	7.73	1.83	9.14	0.71	-	6.60	0.016	0.01	0.4	5	0.01	-	-	0.070	0.09	1.2	7	0.01	0.014	0.020	0.210	0.796	0.0005
Apr.17	10:00	8.58	0.85	7.92	0.82	24.2	6.70	0.016	0.00	0.6	5	0.01	23.2	5.50	0.067	0.10	0.6	7	0.01	0.011	0.022	-0.047	0.593	0.0004
Apr.19	10:30	10.60	2.02	6.91	0.95	-	6.70	0.015	0.00	1.2	-	0.01	-	4.70	0.067	0.08	1.4	-	0.016	0.010	0.014	0.067	-	0.0013
Apr.20	15:00	11.79	1.19	5.98	1.09	24.3	6.80	0.012	0.00	0.0	-	-	23.3	4.90	0.065	0.09	0.4	-	-	0.008	0.015	-0.017	-	-
Apr.22	10:00	13.58	1.79	7.20	0.91	24.9	6.60	0.018	0.00	0.4	-	-	23.3	5.00	0.077	0.08	8.0	-	-	0.012	0.015	1.661	-	-
Apr.23	11:30	14.65	1.07	7.49	0.87	24.5	6.60	0.009	0.00	0.6	-	-	23.1	4.90	0.070	0.08	4.9	-	-	0.012	0.016	0.603	-	-
Apr.24	15:30	15.81	1.16	7.49	0.87	24.5	6.90	0.018	0.01	0.5	-	-	23.3	5.90	0.064	0.08	5.9	-	-	0.009	0.014	1.136	-	-
Apr.25	15:30	16.81	1.00	5.33	1.23	-	7.10	0.018	0.01	0.5	-	-	-	3.30	0.101	0.10	0.0	-	-	0.015	0.014	-0.734	-	-
Apr.28	10:00	19.58	2.77	5.18	1.26	-	-	0.018	0.01	0.5	-	-	-	3.90	0.141	0.10	0.2	-	-	0.017	0.012	-0.055	-	-
Apr.29	10:00	20.58	1.00	5.18	1.26	-	-	0.018	0.01	0.5	-	-	-	3.70	0.138	0.10	0.0	-	-	0.015	0.012	-0.107	-	-
Apr.30	15:30	21.81	1.23	4.18	1.56	-	6.70	0.014	0.02	0.8	-	-	-	3.40	0.156	0.15	1.0	-	-	0.016	0.017	0.064	-	-
May. 4	15:30	26.81	5.00	4.32	1.51	-	-	0.017	0.01	0.5	-	-	-	-	0.178	0.15	0.6	-	-	0.017	0.015	-0.019	-	-
May. 5	11:00	27.63	0.82	4.18	1.56	-	7.00	0.020	0.01	0.5	-	-	-	-	0.170	0.15	0.6	-	-	0.014	0.015	-0.020	-	-
May. 7	14:00	29.75	2.12	4.03	1.62	-	-	0.018	0.01	0.5	-	-	-	-	0.149	0.10	1.6	-	-	0.012	0.007	0.122	-	-
MEAN				6.09		23.3	6.95	0.018	0.01	0.5	6	0.01	22.2	4.60	0.159	0.11	1.7	8	0.01	0.013	0.015	0.223	0.681	0.0007

Note:
[ ]:Because of lack of data, the mean value were used

Table APP 4.2-1(10) Release Rate from Sediment

(Anaerobic condition)

Date: April.10 - May.5 1993
St: St.35
Surface Area of Sediment(m^2) 0.0384
Water Volume(l) 6.41
Water Depth(m) 0.167
Sediment Thickness(m) 0.198

Date	Time	Interval	Flow rate	Retention	Influent(mg/l)							Effluen(mg/l)							Release Rate(g/m^2/day)				
	(day)	Time(day)	(l/day)	Time(day)	Temp.°C	DO	PO4P	NH4N	COD(Mn)	TOC	T-Fe	Temp.°C	DO	PO4P	NH4N	COD(Mn)	TOC	T-Fe	PO4P	NH4N	COD(Mn)	TOC	T-Fe
Apr. 8 20:00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apr. 9 12:30	0.69	0.69	3.50	1.83	-	0.00	0.022	-	-	-	-	-	0.20	0.560	-	-	-	-	-	-	-	-	-
Apr.10 10:30	1.60	0.91	4.10	1.56	-	0.10	0.020	0.00	-	4	-	-	0.15	0.686	0.04	-	8	-	0.067	0.000	-	-	-
Apr.11 8:30	2.52	0.92	4.75	1.41	-	0.10	0.029	-	-	-	-	-	0.20	0.739	-	-	-	-	0.089	0.000	-	-	-
Apr.12 10:30	3.60	1.08	3.96	1.62	20.5	0.10	0.020	-	-	-	-	20.5	0.10	0.847	-	-	-	-	0.096	0.000	-	-	-
Apr.13 18:00	4.92	1.32	3.31	1.94	21.5	0.10	0.019	0.01	-	-	-	20.9	0.20	0.540	0.01	-	19	-	0.016	-0.001	-	1.847	-
Apr.14 17:30	5.90	0.98	3.02	2.12	20.6	0.10	0.019	0.00	-	8	0.012	22.1	0.10	0.552	0.07	-	14	0.014	0.042	0.014	-	-0.905	-
Apr.16 13:30	7.73	1.83	3.17	2.02	-	-	0.025	0.02	-	3	0.013	-	-	0.497	0.40	-	-	0.020	0.034	0.000	-	-	-0.0002
Apr.17 10:00	8.58	0.85	2.88	2.23	23.2	0.00	0.025	0.01	-	4	0.013	23.2	0.10	0.476	0.30	-	9	0.020	0.028	0.082	-	-2.927	-0.0007
Apr.19 10:30	10.60	2.02	2.38	2.69	-	0.10	0.019	0.00	-	-	0.014	-	0.10	0.505	0.30	-	36	0.036	0.030	0.013	-	1.058	0.0008
Apr.20 15:00	11.79	1.19	2.74	2.34	22.8	0.10	0.017	0.00	-	-	-	22.8	0.10	0.451	0.02	-	-	-	0.024	0.021	-	-	-
Apr.22 10:00	13.58	1.79	2.59	2.47	23.0	0.20	0.019	0.01	-	-	-	23.0	0.10	0.442	0.04	-	-	-	0.026	-0.018	-	-	-
Apr.23 11:30	14.65	1.07	2.59	2.47	23.0	0.10	0.014	0.00	-	-	-	23.0	0.10	0.409	0.02	-	-	-	0.021	0.005	-	-	-
Apr.24 15:30	15.81	1.16	1.87	3.43	23.0	0.10	0.019	0.02	-	-	-	23.0	0.10	0.405	0.25	-	-	-	0.016	-0.005	-	-	-
Apr.25 15:30	16.81	1.00	2.02	3.17	-	0.10	0.019	0.02	-	-	-	-	0.10	0.393	0.10	-	-	-	0.016	0.042	-	-	-
Apr.28 10:00	19.58	2.77	2.74	2.34	-	-	0.019	0.02	-	-	-	-	0.40	0.355	0.04	-	-	-	0.021	-0.001	-	-	-
Apr.30 15:30	21.81	2.23	2.45	2.62	-	-	0.011	0.02	-	-	-	-	-	0.320	0.20	-	-	-	0.017	-0.004	-	-	-
May. 4 15:30	26.81	5.00	2.59	2.47	-	-	0.010	0.00	-	-	-	-	-	0.285	0.10	-	-	-	0.017	0.015	-	-	-
May. 5 11:00	27.63	0.82	2.45	2.62	-	-	0.009	0.01	-	-	-	-	-	0.276	0.15	-	-	0.010	0.015	0.017	-	-	-
May. 7 14:00	29.75	2.12	2.30	2.79	-	-	0.019	0.01	-	-	-	-	-	0.263	0.06	-	-	-	0.012	-0.003	-	-	-
MEAN			2.92		22.2	0.09	0.019	0.01		5	0.013	22.3	0.15	0.474	0.13		17	0.020	0.021	0.008	-	-0.232	0.0000

Note:
[ ]: Because of lack of data, the mean value were used

Table APP 4.2-1(11) Release Rate from Sediment

(Anaerobic condition)

Date: April.10 - May.5 1993
St: St.36
Surface Area of Sediment(m²) 0.0384
Water Volume(l) 6.34
Water Depth(m) 0.165
Sediment Thickness(m) 0.2

Date	Time	Time (day)	Interval Time(day)	Flow rate (l/day)	Retention Time(day)	Influent(mg/l) Temp.°C	DO	PO4P	NH4N	COD(Mn)	TOC	T-Fe	Effluen(mg/l) Temp.°C	DO	PO4P	NH4N	COD(Mn)	TOC	T-Fe	Release Rate(g/m²/day) PO4P	NH4N	COD(Mn)	TOC	T-Fe
Apr. 8	20:00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apr. 9	12:30	0.69	0.69	3.59	1.77	-	0.00	0.022	-	-	-	-	-	0.20	0.395	-	-	-	-	-	-	-	-	-
Apr.10	10:30	1.60	0.91	4.03	1.57	-	0.10	0.020	0.00	-	4	-	-	0.20	0.684	0.08	-	10	-	0.107	0.000	-	-	-
Apr.11	8:30	2.52	0.92	4.18	1.60	-	0.10	0.029	-	-	-	-	-	0.15	0.717	-	-	-	-	0.073	0.000	-	-	-
Apr.12	10:30	3.60	1.08	4.10	1.55	20.5	0.10	0.020	-	-	-	-	20.5	0.10	0.845	-	-	-	-	0.100	0.000	-	-	-
Apr.13	18:00	4.92	1.32	3.74	1.70	21.5	0.10	0.019	0.01	-	-	-	20.7	0.00	0.590	0.06	-	25	-	0.033	0.004	-	2.673	-
Apr.14	17:30	5.90	0.98	2.88	2.20	20.6	0.10	0.019	0.00	-	8	0.012	22.1	0.10	0.571	0.20	-	7	0.012	0.037	0.034	-	-3.201	-
Apr.16	13:30	7.73	1.83	2.52	2.52	-	-	0.025	0.02	-	3	0.013	-	-	0.516	1.10	-	8	0.011	0.027	0.124	-	0.091	-0.0015
Apr.17	10:00	8.58	0.85	3.17	2.00	23.2	0.00	0.025	0.01	-	4	0.013	23.2	0.10	0.530	0.06	-	14	0.011	0.041	-0.159	-	0.156	-0.0012
Apr.19	10:30	10.60	2.02	1.94	3.27	-	0.10	0.019	0.00	-	-	0.014	-	0.00	0.488	0.00	-	-	0.010	0.019	-0.058	-	1.061	-0.0019
Apr.20	15:00	11.79	1.19	2.88	2.20	22.8	0.10	0.017	0.00	-	-	-	22.9	0.10	0.465	0.02	-	-	-	0.030	-0.006	-	-	-
Apr.22	10:00	13.58	1.79	2.59	2.45	23.0	0.20	0.018	0.01	-	-	-	23.0	0.10	0.420	0.10	-	-	-	0.022	0.001	-	-	-
Apr.23	11:30	14.65	1.07	2.59	2.45	23.0	0.10	0.014	0.00	-	-	-	22.9	0.10	0.384	0.09	-	-	-	0.019	0.017	-	-	-
Apr.24	15:30	15.81	1.16	1.87	3.39	23.0	0.10	0.019	0.02	-	-	-	23.0	0.10	0.362	0.45	-	-	-	0.012	0.000	-	-	-
Apr.25	15:30	16.81	1.00	1.58	4.01	-	0.10	0.019	0.02	-	-	-	-	0.10	0.370	0.40	-	-	-	0.013	0.068	-	-	-
Apr.28	10:00	19.58	2.77	2.59	2.45	-	-	0.019	0.02	-	-	-	-	0.20	0.365	0.40	-	-	-	0.021	0.022	-	-	-
Apr.30	15:30	21.81	2.23	2.59	2.45	-	-	0.011	0.02	-	-	-	-	-	0.337	0.55	-	-	-	0.020	0.041	-	-	-
May. 4	15:30	26.81	5.00	2.59	2.45	-	-	0.010	0.00	-	-	-	-	-	0.305	0.40	-	-	-	0.019	0.025	-	-	-
May. 5	11:00	27.63	0.82	2.88	2.20	-	-	0.009	0.01	-	-	-	-	-	0.305	0.40	-	-	-	0.021	0.028	-	-	-
May. 7	14:00	29.75	2.12	2.59	2.45	-	-	0.019	0.01	-	-	-	-	-	0.248	0.40	-	-	-	0.011	0.025	-	-	-
MEAN				2.89		22.2	0.09	0.019	0.01		5	0.013	22.3	0.11	0.468	0.29	-	13	0.011	0.023	0.010	-	0.156	-0.0015

Note:
[ ]: Because of lack of data, the mean value were used

Table APP 4.2-1(12)Release Rate from Sediment

(Anaerobic condition)

Date: April.10 - May.5 1993
St: St.37
Surface Area of Sediment(m²) 0.0268
Water Volume(l) 3.35
Water Depth(m) 0.125
Sediment Thickness(m) 0.211

Date	Time	Time (day)	Interval Time(day)	Flow rate (l/day)	Retention Time(day)	Influent(mg/l) Temp.°C	DO	PO4P	NH4N	COD(Mn)	TOC	T-Fe	Effluent(mg/l) Temp.°C	DO	PO4P	NH4N	COD(Mn)	TOC	T-Fe	Release Rate(g/m²/day) PO4P	NH4N	COD(Mn)	TOC	T-Fe
Apr. 8	20:00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apr. 9	12:30	0.69	0.69	3.69	0.91	-	0.00	0.022	-	-	-	-	-	0.00	0.448	-	-	-	-	-	-	-	-	-
Apr.10	10:30	1.60	0.91	4.61	0.73	-	0.10	0.020	0.00	-	4	-	-	0.10	0.389	0.00	-	4	-	0.060	0.000	-	-	-
Apr.11	8:30	2.52	0.92	4.32	1.55	-	0.10	0.029	-	-	-	-	-	0.10	0.366	-	-	-	-	0.024	0.000	-	-	-
Apr.12	10:30	3.60	1.08	3.89	0.86	20.5	0.10	0.020	-	-	-	-	20.5	0.10	0.357	-	-	-	-	0.049	0.000	-	-	-
Apr.13	18:00	4.92	1.32	3.31	1.01	21.5	0.10	0.019	0.00	-	-	-	20.6	0.10	0.178	0.00	-	17	-	0.011	0.000	-	2.162	-
Apr.14	17:30	5.90	0.98	3.02	1.11	20.6	0.10	0.019	0.00	-	8	0.012	22.1	0.10	0.151	0.07	-	12	0.016	0.012	0.013	-	-0.045	-
Apr.16	13:30	7.73	1.83	2.95	1.14	-	-	0.025	0.02	-	3	0.013	-	-	0.149	0.10	-		0.013	0.013	0.009	-	-	-0.0003
Apr.17	10:00	8.58	0.85	2.88	1.16	23.2	0.00	0.025	0.01	-	4	0.013	23.2	0.00	0.147	0.07	-	7	0.013	0.012	0.003	-	0.193	-0.0002
Apr.19	10:30	10.60	2.02	2.30	1.46	-	0.10	0.019	0.00	-	-	0.014	-	0.10	0.138	0.00	-	-	0.010	0.009	-0.002	-	-	-0.0010
Apr.20	15:00	11.79	1.19	2.59	1.29	22.8	0.10	0.017	0.00	-	-	-	22.8	0.10	0.169	0.02	-	-	-	0.016	0.003	-	-	-
Apr.22	10:00	13.56	1.79	2.52	1.33	23.0	0.20	0.019	0.01	-	-	-	23.1	0.10	0.151	0.06	-	-	-	0.011	0.006	-	-	-
Apr.23	11:30	14.65	1.07	2.38	1.41	23.0	0.10	0.014	0.00	-	-	-	23.0	0.10	0.137	0.02	-	-	-	0.009	-0.001	-	-	-
Apr.24	15:30	15.81	1.16	2.02	1.66	23.0	0.10	0.019	0.02	-	-	-	23.0	0.10	0.130	0.20	-	-	-	0.007	0.026	-	-	-
Apr.25	15:30	16.81	1.00	1.87	1.79	-	0.10	0.019	0.02	-	-	-	-	0.10	0.116	0.08	-	-	-	0.004	-0.008	-	-	-
Apr.28	10:00	19.58	2.77	2.74	1.22	-	-	0.019	0.02	-	-	-	-	0.20	0.069	0.00	-	-	-	0.004	-0.003	-	-	-
Apr.30	15:30	21.81	2.23	2.59	1.29	-	-	0.011	0.02	-	-	-	-	-	0.097	0.10	-	-	-	0.009	0.009	-	-	-
May. 4	15:30	26.81	5.00	2.45	1.37	-	-	0.010	0.00	-	-	-	-	-	0.095	0.04	-	-	-	0.007	0.004	-	-	-
May. 5	11:00	27.63	0.82	2.45	1.37	-	-	0.009	0.01	-	-	-	-	-	0.097	0.09	-		0.012	0.008	0.013	-	-	-
May. 7	14:00	29.75	2.12	2.30	1.46	-	-	0.019	0.01	-	-	-	-	-	0.077	0.04	-	-	-	0.004	0.001	-	-	-
MEAN				2.92		22.2	0.09	0.019	0.01	-	5	0.013	22.3	0.09	0.182	0.06	-	10	0.013	0.009	0.005	-	0.770	-0.0005

Note:
[ ] : Because of lack of data, the mean value were used

Table APP 4.2-2(1) Quality of Sediment used for Release Test

		W.C. (%)	COD(Cr) (mg/g)	KN (mg/g)	TP (mg/g)	T-Cd (mg/g)	T-Pb (mg/g)	T-Cu (mg/g)	T-Cr (mg/g)	T-Zn (mg/g)	T-Hg (ug/g)	Fe (mg/g)	Ni (mg/g)	Mg (mg/g)
St.20	Before Test	74.5	45.3	19.0	0.96	<0.001	0.09	0.070	0.09	0.24	0.80	37	0.040	0.420
	After Test	69.6	61.3	28.0	1.34	<0.001	0.12	0.300	0.16	0.30	1.00	38	0.045	0.500
St.21	Before Test	28.8	42.7	8.0	1.17	<0.001	0.02	0.008	0.02	0.05	0.05	27	0.005	0.085
	After Test	26.5	50.7	8.0	1.13	<0.001	0.02	0.008	0.02	0.05	0.10	34	0.005	0.120
St.22	Before Test	76.9	58.7	14.0	1.12	0.002	0.14	0.090	0.22	0.44	1.80	7	0.030	0.320
	After Test	70.5	120.0	12.0	1.06	0.002	0.14	0.100	0.20	0.55	2.00	1	0.035	0.320

Table APP 4.2-2(2) Quality of Sediment used for Release Test

(Anaerobic Condition)

St.35	Depth (cm)	pH	Eh * (mV)	W.C. (%)	COD(Cr) (mg/g)	KN (mg/g)	TP (mg/g)	T-Cd (mg/g)	T-Pb (mg/g)	T-Cu (mg/g)	T-Cr (mg/g)	T-Zn (mg/g)	Fe (mg/g)	Ni (mg/g)	Mg (mg/g)
Before Test	-	-	-	81.0	227.7	5.32	1.10	<0.001	0.10	0.10	0.12	0.34	32	0.030	0.32
After Test	Surface	8.12	-407	76.6	159.7	2.93	1.15	<0.001	0.06	0.07	0.22	0.40	41	0.025	0.50
	5.0	8.07	-410	76.9	132.0	4.63	1.13	0.001	0.07	0.07	0.22	0.32	42	0.025	0.50
	10.0	8.07	-412	78.4	136.0	3.68	1.20	0.001	0.07	0.08	0.26	0.26	44	0.030	0.52
	15.0	7.78	-430	79.2	164.0	3.60	1.15	0.001	0.07	0.08	0.26	0.36	40	0.025	0.50
	20.0	8.10	-435	81.3	156.0	3.50	1.06	0.001	0.07	0.08	0.26	0.26	43	0.025	0.52

Table APP 4.2-2(3) Quality of Sediment used for Release Test

(Anaerobic Condition)

St.36	Depth (cm)	pH	Eh * (mV)	W.C. (%)	COD(Cr) (mg/g)	KN (mg/g)	TP (mg/g)	T-Cd (mg/g)	T-Pb (mg/g)	T-Cu (mg/g)	T-Cr (mg/g)	T-Zn (mg/g)	Fe (mg/g)	Ni (mg/g)	Mg (mg/g)
Before Test	-	-	-	79.7	164.0	3.70	1.20	<0.001	0.03	0.02	0.03	0.04	36	0.015	0.40
After Test	Surface	8.00	-403	77.6	212.0	4.30	0.85	<0.001	0.03	0.02	0.04	0.32	38	0.250	0.34
	5.0	7.94	-419	78.1	196.0	3.70	1.04	<0.001	0.04	0.03	0.04	0.08	50	0.020	0.54
	10.0	7.51	-453	82.3	184.0	3.85	1.10	<0.001	0.03	0.02	0.04	0.20	41	0.020	0.38
	15.0	7.56	-434	80.3	168.0	4.45	1.40	<0.001	0.03	0.02	0.03	0.10	46	0.020	0.42
	20.0	7.53	-429	80.9	176.0	3.55	1.35	<0.001	0.03	0.02	0.03	0.08	39	0.015	0.38

Table APP 4.2-2(4) Quality of Sediment used for Release Test

(Anaerobic Condition)

St.37	Depth (cm)	pH	Eh * (mV)	W.C. (%)	COD(Cr) (mg/g)	KN (mg/g)	TP (mg/g)	T-Cd (mg/g)	T-Pb (mg/g)	T-Cu (mg/g)	T-Cr (mg/g)	T-Zn (mg/g)	Fe (mg/g)	Ni (mg/g)	Mg (mg/g)
Before Test	-	-	-	67.9	151.7	3.80	1.08	<0.001	0.07	0.08	0.24	0.30	40	0.025	0.50
After Test	Surface	8.15	-374	75.4	140.0	4.67	1.20	0.001	0.10	0.12	0.10	0.10	33	0.030	0.30
	5.0	8.02	-413	74.8	172.0	4.70	1.30	0.001	0.12	0.12	0.10	0.38	36	0.030	0.36
	10.0	7.99	-409	73.4	188.0	5.14	1.20	0.002	0.12	0.12	0.14	0.40	38	0.030	0.36
	15.0	7.63	-417	77.8	204.0	5.58	1.60	0.002	0.12	0.14	0.10	0.42	39	0.030	0.36
	20.0	7.54	-420	76.3	208.0	5.06	1.25	0.002	0.12	0.12	0.12	0.46	27	0.020	0.34

Note:
1. Metal analysis in the total fraction
2. Total metal analysis = nitric and perchloric acid digestion
3. Results on dry weight basis
4. * Eh = Potential measured against TOA PTS-2019 C electrode at temperature = 23-24°C

Table APP 4.2-2(5) Quality of Sediment used for Release Test

(Aerobic Condition)

St.35	Depth (cm)	pH	Eh * (mV)	W.C. (%)	COD(Cr) (mg/g)	KN (mg/g)	TP (mg/g)	T-Cd (mg/g)	T-Pb (mg/g)	T-Cu (mg/g)	T-Cr (mg/g)	T-Zn (mg/g)	Fe (mg/g)	Ni (mg/g)	Mg (mg/g)
Before Test	-	-	-	81.0	277.7	5.32	1.10	<0.001	0.10	0.10	0.12	0.34	32	0.030	0.32
After Test	Surface	7.55	-329	73.6	143.7	3.70	1.06	<0.001	0.07	0.08	0.26	0.30	42	0.030	0.50
	5.0	7.80	-381	73.7	139.7	4.10	0.96	<0.001	0.07	0.08	0.20	0.26	44	0.030	0.52
	10.0	7.65	-407	65.2	159.7	3.90	1.06	<0.001	0.09	0.10	0.22	0.34	43	0.030	0.48
	15.0	7.72	-414	74.0	100.0	4.54	0.96	0.001	0.07	0.08	0.22	0.25	46	0.030	0.52
	19.0	7.77	-422	76.2	100.0	3.42	1.20	0.001	0.07	0.08	0.22	0.25	43	0.025	0.52

Table APP 4.2-2(6) Quality of Sediment used for Release Test

(Aerobic Condition)

St.36	Depth (cm)	pH	Eh * (mV)	W.C. (%)	COD(Cr) (mg/g)	KN (mg/g)	TP (mg/g)	T-Cd (mg/g)	T-Pb (mg/g)	T-Cu (mg/g)	T-Cr (mg/g)	T-Zn (mg/g)	Fe (mg/g)	Ni (mg/g)	Mg (mg/g)
Before Test	-	-	-	79.7	164.0	3.70	1.20	<0.001	0.03	0.02	0.03	0.04	36	0.015	0.40
After Test	Surface	7.43	-328	78.2	164.0	5.04	1.03	<0.001	0.04	0.03	0.03	0.09	48	0.020	0.34
	5.0	7.24	-383	79.6	172.0	4.42	0.98	<0.001	0.03	0.02	0.03	0.06	40	0.015	0.32
	10.0	7.21	-417	79.0	176.0	5.25	1.09	<0.001	0.03	0.02	0.03	0.08	43	0.020	0.38
	15.0	7.25	-418	82.7	176.0	4.07	1.01	<0.001	0.03	0.02	0.03	0.06	43	0.020	0.36
	20.0	7.24	-423	79.9	180.0	3.84	0.99	<0.001	0.03	0.03	0.03	0.10	46	0.020	0.40

Table APP 4.2-2(7) Quality of Sediment used for Release Test

(Aerobic Condition)

St.37	Depth (cm)	pH	Eh * (mV)	W.C. (%)	COD(Cr) (mg/g)	KN (mg/g)	TP (mg/g)	T-Cd (mg/g)	T-Pb (mg/g)	T-Cu (mg/g)	T-Cr (mg/g)	T-Zn (mg/g)	Fe (mg/g)	Ni (mg/g)	Mg (mg/g)
Before Test	-	-	-	67.9	151.7	3.80	1.08	<0.001	0.07	0.08	0.24	0.30	40	0.025	0.50
After Test	Surface	7.40	-366	71.0	148.0	5.56	1.10	0.002	0.12	0.12	0.12	0.16	36	0.030	0.34
	5.0	7.46	-377	57.9	188.0	6.77	1.40	0.001	0.12	0.12	0.12	0.46	36	0.035	0.34
	10.0	7.42	-386	71.6	176.0	6.03	1.30	0.001	0.12	0.12	0.12	0.50	36	0.030	0.36
	15.0	7.39	-417	73.2	188.0	5.32	1.05	0.002	0.12	0.12	0.12	0.48	41	0.030	0.38
	20.0	7.33	-432	74.2	172.0	5.00	1.04	0.002	0.12	0.12	0.12	0.40	36	0.035	0.34

Note:
1. Metal analysis in the total fraction
2. Total metal analysis = nitric and perchloric acid digestion
3. Results on dry weight basis
4. * Eh = Potential measured against TOA PTS-2019 C electrode at temperature = 23-24°C

Table APP 4.2-3 Release Rate from Coloid-Clay and Silt-Sand Areas

St.	Release Rate (g/m2/day) NH4N	Release Rate (g/m2/day) TP	Conc. Sediment (mg/g d.W.) NH4N	Conc. Sediment (mg/g d.W.) TP	W.C. (%)	Condition of Sediment
20	0.034	0.021	23.5	1.15	74.5	Clay,Colloid
21	0.016	0.014	8.0	1.15	28.8	Sand
22	0.245	0.044	13.0	1.09	76.9	Clay,Colloid
35	0.011	0.020	4.2	1.01	81.0	Clay,Colloid
36	0.021	0.020	4.4	1.20	80.0	Clay,Colloid
37	0.010	0.011	5.4	1.08	68.0	Silt

1.Release Rate(used all data)
Clay,Colloid Area:((St.22+St.35)/2+St.20+St.36)/3
NH4N:0.061(g/m2/day)
PO4P:0.024(g/m2/day)

Sand,Silt Area:(St.21+St.37)/2
NH4N:0.013(g/m2/day)
PO4P:0.013(g/m2/day)

2.Release Rate(exclud St.22 data)
Clay,Colloid Area:(St.35+St.20+St.36)/3
NH4N:0.016(g/m2/day)
PO4P:0.020(g/m2/day)

Sand,Silt Area:(St.21+St.37)/2
NH4N:0.013(g/m2/day)
PO4P:0.013(g/m2/day)

Areas of colloid-clay in the Guanabara Bay:144km²
Areas of silt-sand in the Guanabara Bay:208km²

Table APP 4.3-1(1) Change in Water Characteristics in Settling Test

St.38

Time (hr)	COD(Mn) (mg/l) Surface	COD(Mn) (mg/l) Bottom	KN (mg/l) Surface	KN (mg/l) Bottom	TP (mg/l) Surface	TP (mg/l) Bottom	TOC (mg/l) Surface	TOC (mg/l) Bottom	PO4P (mg/l)
Start	9.4		2.0		0.20		18		0.05
0.0	3.8	3.4	1.4	1.2	0.20	0.15	16	14	-
0.5	3.4	3.0	1.6	1.0	0.20	0.15	11	13	-
1.0	3.6	3.2	2.4	1.6	0.20	0.20	11	11	-
3.0	3.6	3.6	1.6	1.8	0.15	0.15	11	10	-
6.0	5.4	3.4	1.6	1.2	0.25	0.10	10	8	-
7.0	4.4	4.4	4.0	3.2	0.15	0.10	-	-	-
8.0	3.6	3.4	2.0	1.4	0.15	0.10	9	8	-
72.0 (Sediment)	Amount of Sedimentated Material per 72hr per 78.5cm2								
	3.9 (mg)		3.8 (mg)		0.60 (mg)		15.2 (mg)		-

Table APP 4.3-1(2) Change in Water Characteristics in Settling Test

St.39

Time (hr)	COD(Mn) (mg/l) Surface	COD(Mn) (mg/l) Bottom	KN (mg/l) Surface	KN (mg/l) Bottom	TP (mg/l) Surface	TP (mg/l) Bottom	TOC (mg/l) Surface	TOC (mg/l) Bottom	PO4P (mg/l)
Start	6.4		2.6		0.35		14		0.20
0.0	1.6	1.8	2.4	2.8	0.30	0.30	11	10	-
0.5	2.0	1.4	2.0	3.0	0.30	0.30	9	10	-
1.0	1.6	2.2	2.6	2.2	0.30	0.30	10	9	-
3.0	8.0	7.0	2.6	2.6	0.30	0.30	8	7	-
6.0	8.0	6.0	2.2	2.4	0.20	0.30	8	6	-
7.0	-	-	5.0	5.0	0.30	0.30	-	-	-
8.0	8.0	10.0	3.0	3.0	0.30	0.30	6	10	-
72.0 (Sediment)	Amount of Sedimentated Material per 72hr per 78.5cm2								
	2.4 (mg)		2.6 (mg)		0.59 (mg)		7.0 (mg)		-

Table APP 4.3-1(3) Change in Water Characteristics in Settling Test

St.40

Time (hr)	COD(Mn) (mg/l) Surface	COD(Mn) (mg/l) Bottom	KN (mg/l) Surface	KN (mg/l) Bottom	TP (mg/l) Surface	TP (mg/l) Bottom	TOC (mg/l) Surface	TOC (mg/l) Bottom	PO4P (mg/l)
Start	4.6		2.0		0.20		12		0.10
0.0	0.6	0.8	1.4	1.4	0.20	0.20	8	7	-
0.5	0.4	0.8	1.4	1.6	0.20	0.20	7	8	-
1.0	0.6	0.2	2.6	1.4	0.20	0.20	10	7	-
3.0	0.4	0.6	1.4	1.2	0.20	0.20	7	8	-
6.0	1.0	1.0	1.2	1.4	0.20	0.20	10	7	-
7.0	1.6	1.8	4.2	3.0	0.20	0.20	-	-	-
8.0	0.6	0.1	1.8	1.6	0.20	0.15	3	7	-
72.0 (Sediment)	Amount of Sedimentated Material per 72hr per 78.5cm2								
	2.0 (mg)		1.6 (mg)		0.28 (mg)		7.6 (mg)		-

Table APP 4.3-1(4) Change in Water Characteristics in Settling Test

St.41

Time (hr)	COD(Mn) (mg/l) Surface	COD(Mn) (mg/l) Bottom	KN (mg/l) Surface	KN (mg/l) Bottom	TP (mg/l) Surface	TP (mg/l) Bottom	TOC (mg/l) Surface	TOC (mg/l) Bottom	PO4P (mg/l)
Start	6.6		2.0		0.20		13		0.05
0.0	2.0	2.0	1.4	2.2	0.25	0.20	9	9	-
0.5	1.6	2.0	2.0	2.0	0.20	0.20	7	8	-
1.0	-	-	-	-	-	-	-	-	-
3.0	2.2	1.2	-	-	0.20	0.20	8	7	-
6.0	2.0	1.6	1.4	1.0	0.20	0.15	11	8	-
7.0	2.8	3.0	2.8	3.0	0.15	0.15	-	-	-
8.0	1.8	2.2	1.8	2.2	0.20	0.15	7	9	-
72.0 (Sediment)	Amount of Sedimentated Material per 72hr per 78.5cm2								
	4.0 (mg)		4.0 (mg)		0.55 (mg)		21.9 (mg)		-

Table APP 4.3-1(5) Change in Water Characteristics in Settling Test

St.42

Time (hr)	COD(Mn) (mg/l) Surface	COD(Mn) (mg/l) Bottom	KN (mg/l) Surface	KN (mg/l) Bottom	TP (mg/l) Surface	TP (mg/l) Bottom	TOC (mg/l) Surface	TOC (mg/l) Bottom	PO4P (mg/l)
Start	7.2		1.8		0.20		14		0.06
0.0	2.2	2.4	1.0	1.6	0.20	0.20	8	9	-
0.5	-	-	-	-	-	-	-	-	-
1.0	1.8	3.0	1.4	1.6	0.15	0.20	8	10	-
3.0	2.8	1.8	1.4	-	0.20	0.20	8	8	-
6.0	4.0	2.4	0.8	0.6	0.20	0.15	8	13	-
7.0	3.0	2.8	3.2	2.6	0.15	0.10	-	-	-
8.0	2.0	2.4	1.0	1.2	0.15	0.10	9	9	-
72.0 (Sediment)	Amount of Sedimentated Material per 72hr per 78.5cm2								
	3.8 (mg)		5.7 (mg)		0.69 (mg)		26.4 (mg)		-

Table APP 4.3-1(6) Change in Water Characteristics in Settling Test

St.43

Time (hr)	COD(Mn) (mg/l) Surface	COD(Mn) (mg/l) Bottom	KN (mg/l) Surface	KN (mg/l) Bottom	TP (mg/l) Surface	TP (mg/l) Bottom	TOC (mg/l) Surface	TOC (mg/l) Bottom	PO4P (mg/l)
Start	5.4		1.6		0.20		8		0.04
0.0	1.4	1.4	1.0	-	0.15	0.15	8	7	-
0.5	-	-	-	-	-	-	-	-	-
1.0	1.4	1.4	-	-	0.25	0.15	8	5	-
3.0	1.8	1.8	-	0.6	0.15	0.15	7	9	-
6.0	1.6	2.0	0.8	1.0	0.10	0.10	12	11	-
7.0	2.8	2.4	2.0	3.0	0.15	0.10	-	-	-
8.0	1.8	1.4	1.2	1.0	0.15	0.10	7	9	-
72.0 (Sediment)	Amount of Sedimentated Material per 72hr per 78.5cm2								
	3.4 (mg)		3.9 (mg)		0.44 (mg)		15.5 (mg)		-