

PART 5
APPENDIX

This is a detailed black and white map of a coastal area, likely a military installation or port. The map shows a large body of water on the left, with a long pier or breakwater extending into it. Several buildings and structures are labeled, including 'H1', 'H2', 'H3', 'H4', and 'H5'. A compass rose is located in the upper left corner, and a scale bar is in the upper right corner. The map is oriented with North at the top.

TABLE A.5.1.1 Water Quality during SW Monsoon Season

Area	Point	Layer	Salinity %	Temp. °C	pH	DO mg/l	COD mg/l	SS mg/l	T-P mg/l	T-N mg/l
Inner Harbour	H1	Surface	2.35	28.8	8.20	6.5	11.69	6.00	0.18	0.12
		Middle	2.35	28.6	8.28	5.0	9.41	5.50	0.31	0.02
		Bottom	2.40	28.5	8.31	5.5	10.27	13.00	0.15	0.02
	H2	Surface	1.36	28.7	7.99	5.6	7.70	6.50	0.24	0.07
		Middle	1.58	28.6	8.14	5.5	5.70	6.00	0.15	0.11
		Bottom	1.44	28.7	8.18	5.4	7.13	9.0	0.19	0.06
	H3	Surface	2.15	28.7	8.26	5.3	2.71	4.50	0.10	0.01
		Middle	2.05	28.6	8.28	5.8	5.13	18.00	0.12	0.01
		Bottom	2.10	28.5	8.31	5.7	10.27	30.00	0.16	0.05
	H4	Surface	2.15	28.6	8.27	2.3	4.28	5.00	0.08	0.11
		Middle	2.15	28.5	8.28	3.6	4.99	4.00	0.16	0.03
		Bottom	2.15	28.6	8.19	3.4	6.56	103.00	0.41	0.02
	H5	Surface	2.20	28.5	8.29	4.3	5.70	3.00	0.07	0.24
		Middle	2.25	28.5	8.28	5.2	4.28	13.00	0.12	0.06
		Bottom	2.25	28.6	8.29	5.2	4.28	8.00	0.12	0.05
Outer Harbour	O-1	Surface	0.82	28.4	8.26	6.4	6.18	2.0	0.06	0.04
		Middle	0.94	28.8	8.30	6.5	3.20	1.5	0.06	0.05
		Bottom	1.42	28.7	8.31	6.6	3.29	1.5	0.05	0.08
	O-2	Surface	1.60	29.0	8.20	6.7	3.66	3.0	0.08	0.06
		Middle	1.68	28.9	8.33	6.7	2.52	2.0	0.05	0.01
		Bottom	1.70	28.8	8.30	6.4	5.26	2.0	0.05	0.02
	O-3	Surface	1.66	27.3	8.28	6.1	5.95	10.0	0.09	0.02
		Middle	1.78	28.9	8.60	6.3	1.83	5.0	0.06	0.01
		Bottom	2.05	28.8	8.30	5.7	5.26	13.0	0.10	0.01
	O-4	Surface	1.94	29.4	8.23	6.5	3.43	6.0	0.09	0.02
		Middle	2.20	28.9	8.32	5.4	4.35	10.0	0.10	0.01
		Bottom	2.20	28.9	8.36	5.4	3.89	12.5	0.08	0.01
	O-5	Surface	1.82	29.6	8.28	6.1	5.72	12.5	0.09	0.01
		Middle	2.10	28.9	8.25	6.0	5.26	6.0	0.08	0.01
		Bottom	2.15	28.8	8.39	6.2	8.92	6.5	0.09	0.01
Fishery Harbour	F-1	Surface	1.40	29.5	8.20	6.8	6.41	6.0	0.08	0.03
		Middle	2.20	28.9	8.26	6.0	5.03	7.0	0.09	0.02
		Bottom	2.20	28.9	-	5.9	9.61	89.5	0.32	0.05
	F-2	Surface	0.74	29.1	8.10	6.2	4.12	10.5	0.09	0.02
		Middle	2.20	28.8	8.15	4.3	11.90	102.0	0.37	0.02
		Bottom	2.20	28.8	8.38	4.3	5.95	76.5	0.34	0.02
	F-3	Surface	1.12	28.8	8.60	6.5	3.43	11.0	0.09	0.02
		Middle	2.20	28.7	8.10	4.5	10.75	128.0	0.45	0.02
		Bottom	2.25	28.7	8.19	2.1	19.44	266.0	0.85	0.01

TABLE A.5.1.2 Water Quality during SW Monsoon Season

Area	Point	Layer	Salinity %	Temp. °C	pH	DO mg/l	COD mg/l	SS mg/l	T-P mg/l	T-N mg/l
North of Kelani River Mouth	N-1	Surface	0.98	28.3	-	7.0	6.41	16.0	0.08	0.03
		Middle	1.50	28.8	-	5.2	10.29	48.5	0.21	0.04
		Bottom	1.90	28.9	-	5.7	7.78	32.0	0.14	0.01
	N-2	Surface	1.40	29.1	-	6.7	9.15	8.5	0.07	0.02
		Middle	1.92	29.1	-	5.9	8.92	14.0	0.10	0.01
		Bottom	1.98	29.0	-	4.2	14.18	895.5	0.44	0.03
	N-3	Surface	1.56	29.5	-	6.6	5.49	10.0	0.07	0.02
		Middle	1.92	29.1	-	5.7	6.41	5.0	0.05	0.09
		Bottom	1.98	29.0	-	2.0	8.46	113.5	0.23	0.02
Kelani River	R-1	Surface	0.00	27.7	-	6.7	4.58	3.0	0.05	0.02
		Bottom	0.00	27.7	-	6.8	5.72	8.5	0.07	0.02
	R-2	Surface	-	-	-	-	4.76	4.0	0.05	0.02
		Bottom	-	-	-	-	-	-	-	-
	R-3	Surface	0.00	27.7	-	7.0	6.41	4.5	0.06	0.02
		Bottom	0.00	27.7	-	7.0	8.69	26.5	0.14	0.01
	R-4	Surface	0.00	27.6	-	7.2	7.09	6.0	0.07	0.01
		Bottom	0.00	27.7	-	6.8	16.93	201.0	0.54	0.02
	R-5	Surface	0.00	27.6	-	7.2	8.24	12.0	0.07	0.02
		Bottom	0.00	27.6	-	3.5	7.78	12.0	0.09	0.01
	C-1	Surface	0.00	27.6	-	7.2	6.18	8.0	0.06	0.01
		Bottom	0.00	27.6	-	7.2	7.78	31.5	0.10	0.01
	C-2	Surface	0.00	27.6	-	7.3	6.18	8.0	0.05	0.02
		Bottom	0.00	27.6	-	7.3	5.72	8.0	0.05	0.04
	C-3	Surface	0.00	27.5	-	7.3	5.26	5.0	0.06	0.04
		Bottom	0.00	27.6	-	7.3	8.01	71.5	0.08	0.02
Well	W-1	Bottom	0.02	28.6	7.10	3.5	5.64	0.6	0.03	0.011
	W-2	Surface	0.01	29.6	6.94	2.9	3.47	0.6	0.05	0.026
		Bottom	0.01	29.3	6.96	2.6	3.69	0.4	0.04	0.118
	W-3	Bottom	0.02	29.4	7.13	1.3	8.68	6.8	0.03	0.113
	W-4	Bottom	0.01	29.3	7.46	4.5	7.38	2.6	0.04	0.046
	W-5	Bottom	0.02	28.9	7.21	4.6	3.47	0.8	0.08	0.002
	W-6	Bottom	0.00	28.4	7.75	4.3	4.56	0.8	0.03	0.105

FIGURE A.5.1.2 Locations of Water and Sediment Sampling (North of Colombo Port)

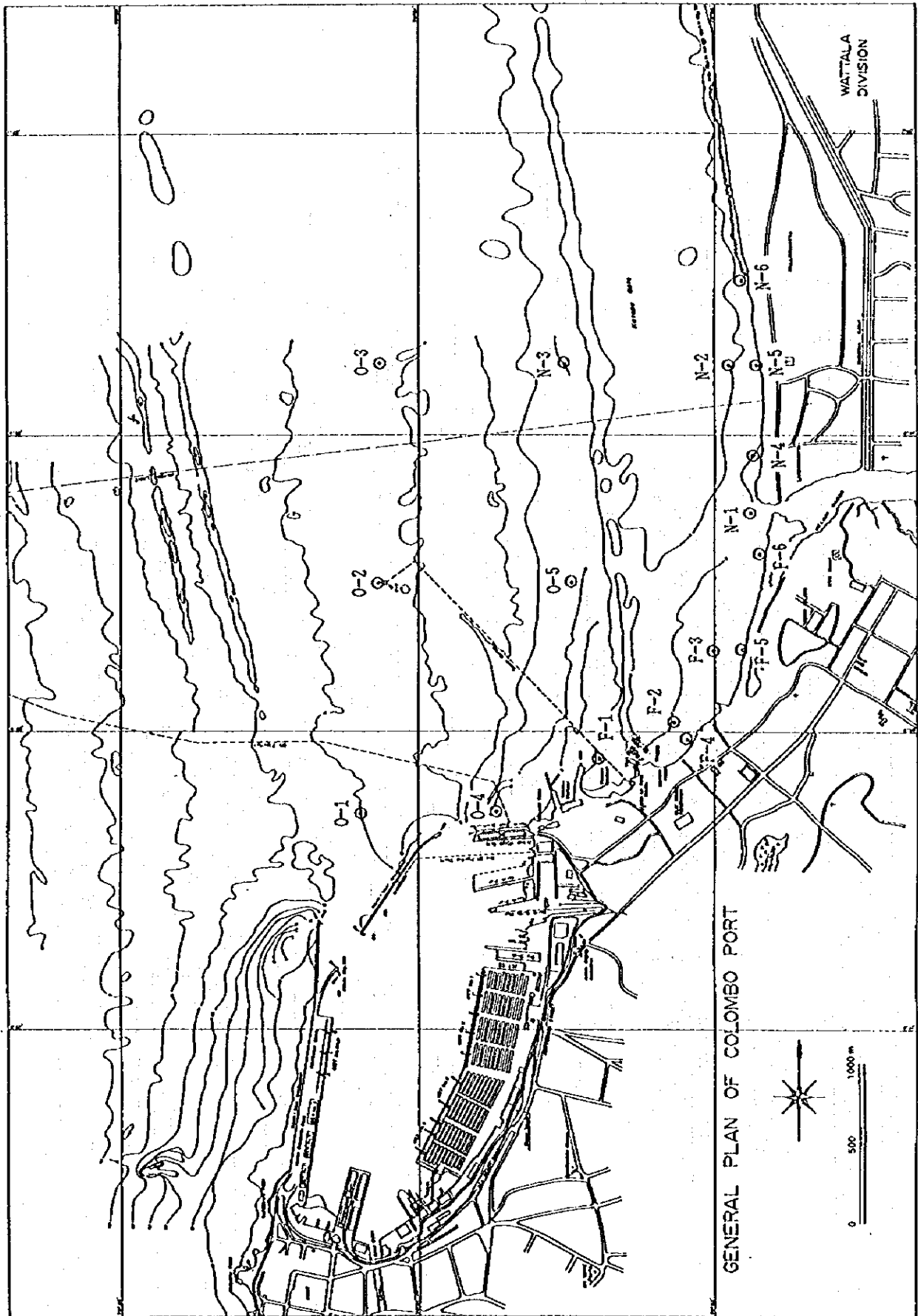


FIGURE A.5.1.3 Locations of Water and Sediment Sampling (Kelani River)

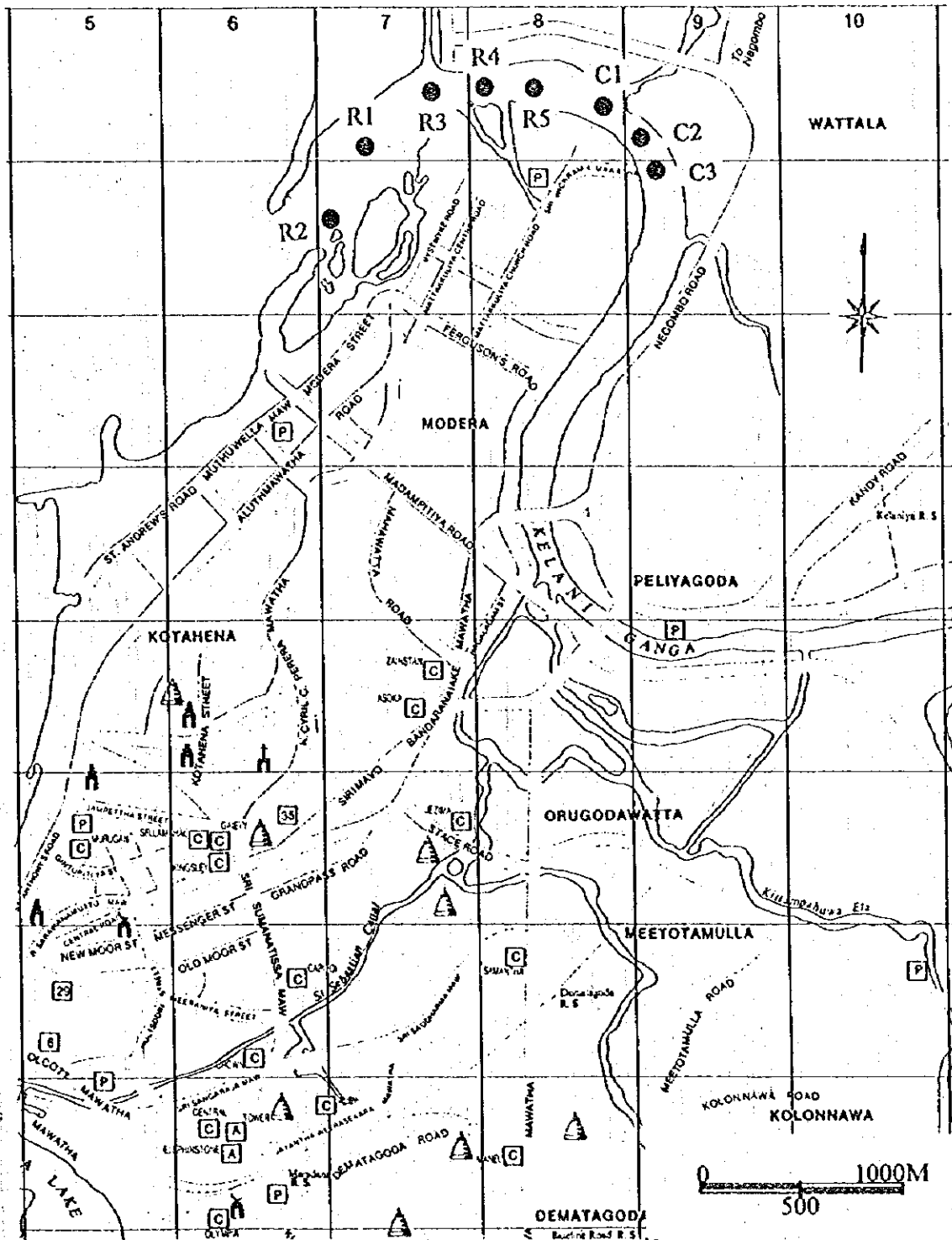


FIGURE A5.1.4 Locations of Well Water Sampling

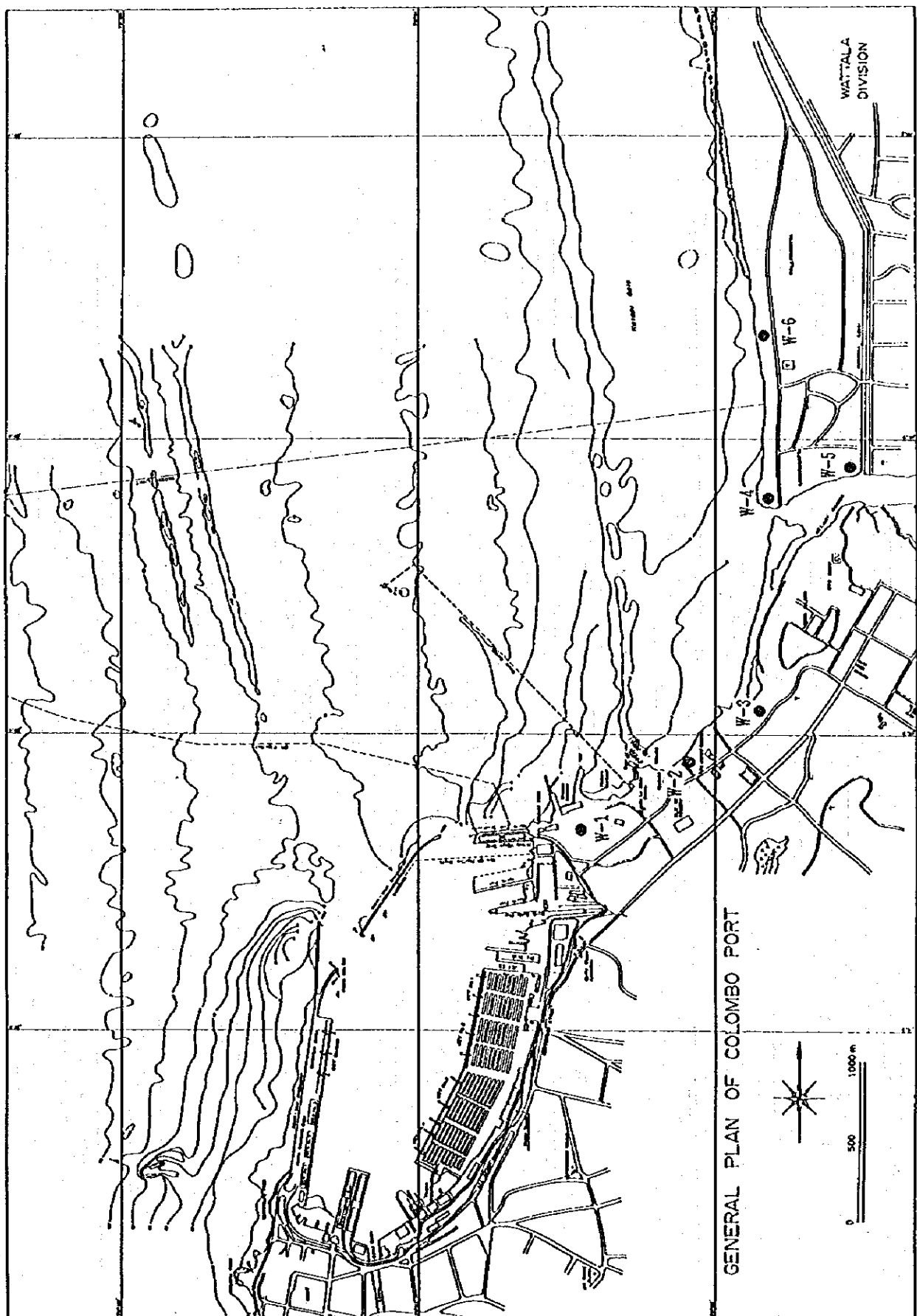


TABLE A.5.1.3 Water Quality during NE Monsoon Season

Area	Point	Layer	Salinity %	Temp. °C	pH	DO mg/l	COD mg/l	SS mg/l	T-P mg/l	T-N mg/l	Colour	Transparency	
												Cylinder cm	Secchi m
Inner Harbour	H1	Surface	1.84	28.6	7.99	4.4	12.26	7.50	0.03	0.33	Olive	>30	
		Middle	1.86	28.4	8.02	5.5	10.26	19.50	0.08	0.02	Yellow	>30	
		Bottom	1.88	28.3	8.09	11.2	6.27	19.50	0.10	0.03		>30	
	H2	Surface	1.86	28.7	8.01	1.3	9.69	6.50	0.29	0.05	Deep	>30	
		Middle	1.88	28.4	8.11	4.66	2.85	70.00	0.08	0.04	Yellow	17	
		Bottom	1.88	28.3	8.12	9.6	9.69	13.00	0.28	0.06	Green	>30	
	H3	Surface	1.80	28.4	8.15	5.5	6.56	23.00	0.07	0.05	Strong	>30	
		Middle	1.80	28.3	8.21	5.5	5.42	11.00	0.08	0.04	Yellow	>30	
		Bottom	1.82	28.3	8.23	11.3	6.27	9.50	0.07	0.03	Green	>30	
	H4	Surface	1.72	28.5	8.35	5.8	4.28	11.00	0.07	0.09	Strong	>30	
		Middle	1.74	28.3	8.30	6.5	6.27	19.00	0.10	0.05	Yellow	>30	
		Bottom	1.80	28.3	8.21	12.1	3.99	27.00	0.11	0.03	Green	29	
	H5	Surface	1.58	28.4	8.21	5.9	7.41	12.50	0.10	0.05	Strong	>30	
		Middle	1.60	28.3	8.31	5.5	8.27	23.00	0.10	0.06	Yellow	>30	
		Bottom	1.62	28.3	8.36	11.3	4.56	29.50	0.11	0.05	Green	>30	
Outer Harbour	O-1	Surface	-	-	7.9	6.6	7.50	4.50	0.07	0.03	Vivid		2.0
		Middle	-	-	8.1	6.7	8.49	4.50	0.09	0.04	Green		
		Bottom	-	-	8.0	13.7	7.93	9.50	0.11	0.05			
	O-2	Surface	-	-	7.8	6.7	7.36	10.00	0.04	0.04	Vivid		5.6
		Middle	-	-	8.0	6.9	7.08	6.50	0.07	0.05	Blue		
		Bottom	-	-	8.3	13.7	7.36	9.00	0.10	0.04	Green		
	O-3	Surface	-	-	7.8	6.8	7.93	6.00	0.14	0.07	Vivid		4.2
		Middle	-	-	7.7	6.8	3.96	12.00	0.07	0.03	Bluish		
		Bottom	-	-	8.5	13.5	7.08	5.50	0.04	0.09	Green		
	O-4	Surface	-	-	8.0	7.1	6.23	6.00	0.08	0.04	Strong		1.8
		Middle	-	-	7.9	5.7	8.61	16.00	0.16	0.05	Yellow		
		Bottom	-	-	7.8	13.1	9.97	52.00	0.21	0.05	Green		
	O-5	Surface	-	-	7.2	6.3	7.02	9.00	0.10	0.03	Strong		2.0
		Middle	-	-	7.8	7.1	5.89	22.00	0.09	0.04	Yellow		
		Bottom	-	-	8.2	13.6	8.61	17.00	0.15	0.05	Green		
Fishery Harbour	F-1	Surface	-	-	8.0	6.8	8.21	8.50	0.07	0.15	Strong		1.4
		Middle	-	-	7.9	6.6	9.91	11.50	0.09	0.11	Yellow		
		Bottom	-	-	7.6	13.4	12.46	29.50	0.19	0.15	Green		
	F-2	Surface	-	-	7.7	6.7	7.08	18.50	0.11	0.12	Olive		1.2
		Middle	-	-	7.5	6.7	5.95	11.00	0.09	0.07	Yellow		
		Bottom	-	-	7.9	13.5	8.21	10.00	0.12	0.04			
	F-3	Surface	-	-	8.1	6.7	7.64	7.00	0.07	0.07	Strong		1.2
		Middle	-	-	7.9	6.7	10.19	8.00	0.10	0.10	Yellow		
		Bottom	-	-	7.6	13.3	10.19	10.00	0.13	0.06	Green		

TABLE A.5.1.4 Water Quality during NE Monsoon Season

Area	Point	Layer	Salinity ‰	Temp. °C	pH	DO mg/l	COD mg/l	SS mg/l	T-P mg/l	T-N mg/l	Colour	Transparency	
												Cylinder cm	Secchi m
North of Kelani River Mouth	N-1	Surface	-	-	7.5	6.5	5.21	3.50	0.14	0.04	Strong	1.4	
		Middle	-	-	8.0	7.0	4.98	7.00	0.11	0.05	Yellow		
		Bottom	-	-	7.8	14.4	7.47	16.50	0.09	0.01	Green		
	N-2	Surface	-	-	7.2	7.1	8.83	3.50	0.07	0.03	Deep	1.8	
		Middle	-	-	7.5	7.9	7.25	5.50	0.10	0.04	Yellow		
		Bottom	-	-	7.9	15.3	7.47	5.00	0.10	0.03	Green		
	N-3	Surface	-	-	6.9	7.2	9.06	3.50	0.07	0.03	Strong	1.8	
		Middle	-	-	7.5	7.2	9.97	10.50	0.14	0.04	Yellow		
		Bottom	-	-	7.8	14.3	7.70	7.00	0.10	0.03	Green		
Kelani River	R-1	Surface	-	-	6.8	7.5	6.57	1.00	0.07	0.05	Strong	1.4	
		Bottom	-	-	6.6	6.8	5.89	3.00	0.09	0.08	Yellow Green		
	R-2	Surface	-	-	7.0	4.2	9.63	1.00	0.27	0.22	Grayish	1.2	
		Bottom	-	-	-	-	-	-	-	-	Olive Green		
	R-3	Surface	-	-	7.0	7.4	5.44	1.00	0.06	0.05	Strong	1.2	
		Bottom	-	-	7.2	6.3	6.34	2.00	0.08	0.07	Yellow Green		
	R-4	Surface	-	-	6.8	7.4	5.44	2.00	0.07	0.06	Strong	1.3	
		Bottom	-	-	6.5	6.5	7.02	1.50	0.07	0.06	Yellow Green		
	R-5	Surface	-	-	6.6	7.0	12.23	1.00	0.11	0.09	Deep	1.4	
		Bottom	-	-	7.7	6.2	11.55	42.50	0.28	0.23	Yellow Green		
	C-1	Surface	0.00	28.6	6.5	7.9	3.99	2.60	0.04	0.17	Deep	1.0	
		Bottom	0.00	28.3	6.1	7.7	10.83	3.00	0.03	0.08	Yellow Green		
	C-2	Surface	0.00	28.6	6.5	8.0	6.56	2.60	0.03	0.04	Deep	1.0	
		Bottom	0.00	28.4	6.6	7.7	8.27	4.40	0.03	0.10	Yellow Green		
	C-3	Surface	0.00	28.7	6.5	7.8	10.55	2.80	0.03	0.01	Deep	1.0	
		Bottom	0.00	28.4	6.6	7.7	6.84	4.00	0.04	<0.05	Yellow Green		
Well	W-1	Bottom	0.02	26.8	6.56	2.6	2.96	1.2	0.04	0.079	Clean	>30	
	W-2	Surface	-	-	-	-	-	-	-	-	Light	>30	
		Bottom	-	27.9	6.70	3.8	2.05	1.4	0.06	0.028	Blue		
	W-3	Bottom	0.01	27.7	6.53	2.0	11.17	8.8	0.03	0.058	Gold	>30	
	W-4	Bottom	0.02	28.2	6.60	5.3	5.47	0.4	0.02	0.020	Clean	>30	
	W-5	Bottom	0.01	27.6	6.78	3.5	2.51	0.6	0.04	0.008	Clean	>30	
	W-6	Bottom	0.01	27.2	7.08	4.6	4.79	0.13	0.013	0.013	Clean	>30	

TABLE A.5.1.5 (1) Water Quality Analysis Records (Other Items)

OUT HARBOUR, SEWER OUTFALL, FISHERY HARBOUR & NORTH OF THE RIVER MOUTH

Sampling Point	Depth (Layer)	Total no. of Coliforms	Total no. of E.Coli	Chromium (mg/l)	Mercury (mg/l)	Oil & Grease (mg/l)
O - 1	Surface	1100	240	< 0.001	< 10 ⁻⁴	4.2
	Middle	210	150	< 0.001	< 10 ⁻⁴	2.4
	Bottom	93	93	0.010	< 10 ⁻⁴	1.2
O - 2	Surface	1100	460	< 0.001	< 10 ⁻⁴	3.8
	Middle	150	75	< 0.001	< 10 ⁻⁴	2.4
	Bottom	93	93	0.002	< 10 ⁻⁴	0.9
O - 3	Surface	150	93	< 0.001	< 10 ⁻⁴	3.6
	Middle	150	1100	< 0.001	< 10 ⁻⁴	2.4
	Bottom	460	460	< 0.001	< 10 ⁻⁴	0.9
O - 4	Surface	240	240	< 0.001	< 10 ⁻⁴	4.0
	Middle	93	43	-	-	-
	Bottom	460	240	< 0.001	< 10 ⁻⁴	0.8
O - 5	Surface	1100	460	0.024	< 10 ⁻⁴	3.8
	Middle	460	240	< 0.001	< 10 ⁻⁴	2.1
	Bottom	> 1100	> 1100	0.030	< 10 ⁻⁴	0.9
O - S Sewer Outfall	Surface	460	240	< 0.001	< 10 ⁻⁴	4.2
	Middle	1100	1100	< 0.001	< 10 ⁻⁴	2.6
	Bottom	460	240	0.023	< 10 ⁻⁴	1.8
F - 1	Surface	> 1100	1100	0.012	< 10 ⁻⁴	4.4
	Middle	460	460	0.003	< 10 ⁻⁴	2.0
	Bottom	240	93	0.005	< 10 ⁻⁴	0.8
F - 2	Surface	1100	460	0.003	< 10 ⁻⁴	4.2
	Middle	460	460	0.009	< 10 ⁻⁴	2.2
	Bottom	150	150	0.010	< 10 ⁻⁴	1.8
F - 3	Surface	> 1100	1100	0.017	< 10 ⁻⁴	3.8
	Middle	150	150	0.001	< 10 ⁻⁴	2.0
	Bottom	93	93	0.024	< 10 ⁻⁴	2.0
N - 1	Surface	-	-	< 0.001	< 10 ⁻⁴	3.6
	Middle	1100	460	< 0.001	< 10 ⁻⁴	2.2
	Bottom	460	460	< 0.001	< 10 ⁻⁴	0.8
N - 2	Surface	> 1100	1100	-	-	-
	Middle	1100	460	< 0.001	< 10 ⁻⁴	1.8
	Bottom	460	240	< 0.001	< 10 ⁻⁴	1.0
N - 3	Surface	> 1100	1100	< 0.001	< 10 ⁻⁴	3.2
	Middle	1100	1100	< 0.001	< 10 ⁻⁴	2.0
	Bottom	1100	460	< 0.001	< 10 ⁻⁴	0.6

Sampling Days :

08th February - Out Harbour (O) & Fishery Harbour (F)
 09th February - North of the Kelani River mouth (N)

Analysis done by :

National Water Supply & Drainage Board

TABLE A.5.1.5 (2) Water Quality Analysis Records (Other Items)

KELANI RIVER & WELL WATER

Sampling Point	Depth (Layer)	BOD (mg/l)	Total no of Coliforms	Total no of E.Coli	Chromium (mg/l)	Mercury (mg/l)	Oil & Grease (mg/l)
C - 1	Surface	2.30	> 1100	150	< 0.001	< 10 ⁻⁴	
	Bottom	2.50	> 1100	93	0.024	< 10 ⁻⁴	
C - 2	Surface	2.23	> 1100	1100	0.001	< 10 ⁻⁴	
	Bottom	1.61	> 1100	460	< 0.001	< 10 ⁻⁴	
C - 3	Surface	2.16	> 1100	> 1100	< 0.001	< 10 ⁻⁴	
	Bottom	2.30	> 1100	1100	0.011	< 10 ⁻⁴	
R - 1	Surface	2.20	> 1100	> 1100	0.008	< 10 ⁻⁴	
	Bottom	1.46	1100	240	< 0.001	< 10 ⁻⁴	
R - 2	Surface	> 3.40	1100	240	< 0.001	< 10 ⁻⁴	
	Bottom	> 3.40	-	-	< 0.001	< 10 ⁻⁴	
R - 3	Surface	1.90	> 1100	> 1100	< 0.001	< 10 ⁻⁴	
	Bottom	2.59	> 1100	> 1100	< 0.001	< 10 ⁻⁴	
R - 4	Surface	2.05	> 1100	240	< 0.001	< 10 ⁻⁴	
	Bottom	1.22	> 1100	1100	< 0.001	< 10 ⁻⁴	
R - 5	Surface	2.10	1100	460	< 0.001	< 10 ⁻⁴	
	Bottom	1.42	1100	460	< 0.001	< 10 ⁻⁴	
W - 1	Surface	-	-	-	-	-	
	Middle	-	-	-	-	-	
	Bottom	0.64	> 1100	1100	0.010	< 10 ⁻⁴	
W - 2	Surface	0.78	> 1100	240	N/D	< 10 ⁻⁴	
	Middle	0.64	> 1100	150	0.014	< 10 ⁻⁴	
	Bottom	-	-	-	-	-	
W - 3	Surface	-	-	-	-	-	
	Middle	0.95	> 1100	460	0.007	< 10 ⁻⁴	0.6
	Bottom	-	-	-	-	-	
W - 4	Surface	-	-	-	-	-	
	Middle	-	-	-	-	-	
	Bottom	0.50	> 1100	460	0.002	< 10 ⁻⁴	
W - 5	Surface	-	-	-	-	-	
	Middle	-	-	-	-	-	
	Bottom	0.25	> 1100	460	0.025	< 10 ⁻⁴	
W - 6	Surface	-	-	-	-	-	
	Middle	-	-	-	-	-	
	Bottom	1.32	> 1100	240	0.010	< 10 ⁻⁴	0.4

Sampling Days :

25th January 96' • Kelani River (C)

26th January 96' • Well Water (W)

09th February 96' • Kelani River (R)

Analysis done by :

National Water Supply & Drainage Board

TABLE A.5.2.1 Characteristics of Sediments (SW monsoon season)

Area	Point	Depth (m)	Colour	Odor (T.O.N.)	Ignition Loss (%)	Description
Outer Harbour	O-1	15.0	Blackish green	4	23.7818	Silty clay material
	O-2	15.0	Blackish green	4	23.9313	Silty clay material
	O-3	13.0	Brown	3	17.6608	Silty sand
	O-4	13.0	Brownish green	1	3.0983	Shelly sand
	O-5	11.0	Light brown	1	3.7643	Fine to coarse sand with coral fragment
Near Fishery Harbour	F-1	5.0	Blackish green	3	8.1012	Coral fragments with sandy clay
	F-2	5.0	Brown	1	no data	Coarse sand
	F-3	4.5	Brownish green	1	6.0021	Pebbly sand
	F-4	2.5	Blackish green	2	14.7983	Fine sand with clay
	F-5	3.0	Blackish light green	1	5.1165	Pebbly sand
	F-6	5.5	Blackish green	8	24.3542	Fine to coarse sand
North of Kelani River Mouth	N-1	4.5	Blackish brown	2	1.8509	Fine sand with heavy mineral
	N-2	7.0	Brownish green	4	22.2040	Clay material
	N-3	7.0	Blackish green	2	12.3428	Clay material
	N-4	5.0	Brownish green	2	7.8056	Silty clay with calcareous material
	N-5	7.0	Brownish green	2	9.2769	Silty clay with calcareous material
	N-6	8.0	Black	8	26.6051	Clay material with heavy mineral
Kelani River	R-1	5.5	Greenish brown	4	2.5637	Organic material
	R-2	3.0	Brownish black	3	5.5007	Fine sand with organic materials and heavy mineral
	R-3	3.5	Brown	1	1.2171	River coarse sand
	R-4	3.5	Brown	1	1.3794	River sand with organic material
	R-5	3.0	Brown	1	1.3219	River coarse sand

T.O.N.: Threshold Odor Number

TABLE A.5.2.2 Chemical Compositions of Sediments (SW monsoon season)

Area	Point	T-N mg/kg	T-P mg/kg	O-P mg/kg	Cad- mium mg/kg	Lead mg/kg	Chro- mium mg/kg	Copper mg/kg	Zinc mg/kg
Outer Harbour	O-1	69.388	31.392	13.461	ND	41.583	6.511	30.770	128.734
	O-2	108.374	12.394	5.119	ND	36.985	2.144	13.307	190.599
	O-3	55.485	22.652	20.802	ND	28.267	2.107	8.406	174.161
	O-4	39.153	6.591	5.991	3.793	39.794	1.731	ND	98.004
	O-5	49.886	12.913	12.738	ND	ND	ND	ND	112.574
Near Fishery Harbour	F-1	77.751	18.981	18.843	ND	ND	ND	ND	166.574
	F-2	41.182	15.093	14.069	ND	ND	ND	ND	169.026
	F-3	89.654	27.793	27.612	0.297	3.895	8.132	4.505	155.891
	F-4	88.654	25.520	21.451	ND	7.607	ND	12.317	218.376
	F-5	120.249	17.581	9.232	ND	10.532	ND	ND	122.117
	F-6	654.249	23.634	22.874	ND	15.758	4.112	36.448	261.821
North of Kelani River Mouth	N-1	106.856	19.850	8.229	0.609	ND	ND	MD	199.266
	N-2	141.834	33.653	23.035	0.319	20.958	ND	22.299	258.425
	N-3	45.071	26.215	2.500	ND	ND	ND	ND	167.368
	N-4	165.234	22.541	1.737	ND	4.126	ND	12.405	226.936
	N-5	117.836	16.644	6.561	ND	ND	ND	11.250	241.329
	N-6	181.483	16.551	3.445	ND	12.377	4.306	36.262	299.899
Kelani River	R-1	82.471	18.449	17.569	ND	ND	2.166	0.959	246.477
	R-2	70.067	37.284	20.808	ND	ND	2.166	10.538	268.246
	R-3	39.939	10.383	6.44	ND	4.183	4.366	1.935	205.854
	R-4	56.306	19.075	11.005	ND	ND	2.119	ND	194.126
	R-5	25.886	11.346	10.191	ND	ND	2.014	ND	176.284

ND: Not Detected

TABLE A.5.2.3 Characteristics of Sediments (NE monsoon season)

Area	Point	Depth (m)	Colour	Odor (T.O.N)	Ignition Loss (%)	Description
Outer Harbour	O-1	8	Brown	5	10.1143	Fine sand with heavy mineral
	O-2	16	Blackish green	no sample	24.7571	Fine sand clay and organic material
	O-3	12	Brown	4	12.6631	silty clay with calcareous material
	O-4	11	Blackish brown	2	5.2656	Coarse sand with organic material
	O-5	12	Brownish green	1	24.8840	Silty clay
Near Fishery Harbour	F-1	6	Brown	3	11.3563	Fine sand with calcareous material
	F-2	4	Blackish brown	2	1.9527	Coarse sand with heavy mineral
	F-3	4	Blackish brown	1	6.3040	Coarse silty sand with calcareous sand
	F-4	3	Blackish brown	2	21.2902	Silty clay
	F-5	3	Blackish brown	no sample	ND	Silty sand with clay
	F-6	3	Brown	8	7.3919	River sand with heavy mineral
North of Kelani River Mouth	N-1	2.5	Blackish brown	2	0.4012	Coarse to silty sand
	N-2	6	Brownish black	5	28.9442	Silty clay with heavy mineral
	N-3	6.5	Brownish black	3	5.2540	Fine to clay with calcareous material
	N-4	3.5	Brownish black	2	1.6223	Fine to silty sand
	N-5	4	Brownish black	3	4.9328	Fine sand with heavy mineral
	N-6	3	Blackish brown	7	3.8314	Silty sand with heavy mineral
Kelani River	R-1	5	Brownish black	4	2.0526	Silty clay with heavy mineral
	R-2	3	Blackish brown	3	7.3440	Silty clay with organic material
	R-3	4	Brown	2	1.7934	Coarse to fine sand
	R-4	4	Brown	1	2.6103	Coarse sand
	R-5	3	Brown	1	1.4165	Coarse sand

TABLE A.5.2.4 Chemical Compositions of Sediments (NE monsoon season)

Area	Point	T-N mg/kg	T-P mg/kg	O-P mg/kg	Cad- mium mg/kg	Lead mg/kg	Chro- mium mg/kg	Copper mg/kg	Zinc mg/kg
Outer Harbour	O-1	517.98	7.77	7.48	1.00	30.00	10.00	10.00	65.00
	O-2	3667.48	27.25	22.90	2.50	25.00	35.00	20.00	140.00
	O-3	102.55	24.52	24.20	1.50	26.00	20.00	10.00	140.00
	O-4	1194.82	28.88	25.88	0.50	48.00	30.00	15.00	100.00
	O-5	2559.85	24.54	18.68	1.50	1.00	35.00	20.00	110.00
Near Fishery Harbour	F-1	1635.84	24.96	24.92	1.38	0.55	13.76	4.59	100.91
	F-2	215.50	16.46	16.20	1.00	10.00	10.00	5.00	105.00
	F-3	31.82	0.33	0.15	1.00	5.00	10.00	5.00	125.00
	F-4	2815.59	31.79	22.26	1.50	9.50	30.00	15.00	140.00
	F-5	22.42	16.65	14.40	ND	5.00	25.00	10.00	105.00
	F-6	6.7	15.37	11.86	0.50	5.00	20.00	5.00	110.00
North of Kelani River Mouth	N-1	21.62	0.43	0.14	ND	10.00	10.00	ND	100.00
	N-2	14.11	23.10	22.87	0.50	12.50	60.00	40.00	95.00
	N-3	904.13	0.39	0.18	1.00	10.00	10.00	ND	90.00
	N-4	36.28	0.35	0.11	ND	7.50	15.00	ND	90.00
	N-5	1.89	1.30	1.01	ND	10.00	25.00	10.00	95.00
	N-6	27.1	1.54	0.99	ND	ND	ND	10.00	100.00
Kelani River	R-1	549.73	15.02	14.49	0.49	14.85	14.85	4.95	163.36
	R-2	2778.82	17.80	17.35	0.98	ND	24.51	9.80	98.03
	R-3	396.96	11.04	10.65	0.55	ND	33.33	5.56	105.56
	R-4	10.50	13.23	12.78	0.50	10.50	45.00	5.00	120.00
	R-5	396.12	10.67	10.23	0.45	6.82	13.64	4.55	104.55

ND: Not Detected

TABLE A.5.2.5 (1) Sediment Quality Analysis Records (Other Items)

Quality of Sediments during the south-west monsoon period - Out Harbour

Parameters/Stations	O-1	O-2	O-3	O-4	O-5
Sulphides mg/kg	19.67	24.67	15.25	35.7	33.24
Arsenic mg/kg	2.63	0.55	2.63	2.58	0.57
Total Mercury mg/kg	2.72	1.10	1.53	0.95	0.79

Quality of Sediments during the north-east monsoon period - Out Harbour

Parameters/Stations	O-1	O-2	O-3	O-4	O-5	S-1
Sulphides mg/kg	12.94	56.75	4.95	34.22	54.26	197.11
Arsenic mg/kg	6.64	3.65	0.56	1.66	0.96	6.24
Total Mercury mg/kg	4.51	3.66	1.05	0.07	2.05	5.45

S-1' - The point where the Ocean Outfall is located

Quality of Sediments during the south-west monsoon period - Near Fishery Port

Parameters/Stations	F-1	F-2	F-3	F-4	F-5	F-6
Sulphides mg/kg	9.26	9.71	17.64	15.54	34.37	14.24
Arsenic mg/kg	3.71	2.68	1.69	1.96	1.39	0.59
Total Mercury mg/kg	1.04	0.85	0.96	0.75	0.71	0.75

TABLE A.5.2.5 (2) Sediment Quality Analysis Records (Other Items)

Quality of Sediments during the north-east monsoon period - Near Fishery Port

Parameters\Stations	F-1	F-2	F-3	F-4	F-5	F-6
Sulphides mg/kg	79.00	16.88	20.13	94.55	11.6	20.04
Arsenic mg/kg	3.91	6.35	0.66	1.17	1.25	1.01
Total Mercury mg/kg	0.51	0.75	0.99	0.71	0.68	0.63

Quality of Sediments during the south-west monsoon period - North of Kelani River Mouth

Parameters\Stations	N-1	N-2	N-3	N-4	N-5	N-6
Sulphides mg/kg	18.05	28.61	33.85	10.36	43.26	18.03
Arsenic mg/kg	0.85	1.20	0.66	1.08	0.45	1.03
Total Mercury mg/kg	2.45	1.19	1.52	0.74	1.91	0.59

Quality of Sediments during the north-east monsoon period - North of Kelani River Mouth

Parameters\Stations	N-1	N-2	N-3	N-4	N-5	N-6
Sulphides mg/kg	10.58	260.61	17.55	17.05	17.07	10.50
Arsenic mg/kg	3.25	2.06	0.46	1.06	1.02	3.65
Total Mercury mg/kg	5.95	3.30	2.25	0.55	2.11	1.65

TABLE A.5.2.5 (3) Sediment Quality Analysis Records (Other Items)

Quality of Sediments during the south-west monsoon period - Kelani River

Parameters\Stations	R-1	R-2	R-3	R-4	R-5
Sulphides mg/kg	14.70	14.90	20.68	16.81	17.76
Arsenic mg/kg	0.89	0.96	0.26	0.29	0.66
Total Mercury mg/kg	1.45	1.85	0.89	0.87	0.55

Quality of Sediments during the north-east monsoon period - Kelani River

Parameters\Stations	R-1	R-2	R-3	R-4	R-5
Sulphides mg/kg	20.19	105.83	4.40	2.94	21.65
Arsenic mg/kg	0.43	0.65	0.86	0.35	0.23
Mercury mg/kg	0.51	1.10	1.53	0.95	0.79

FIGURE A.5.2.1 (1) Results of Grain Size Distribution

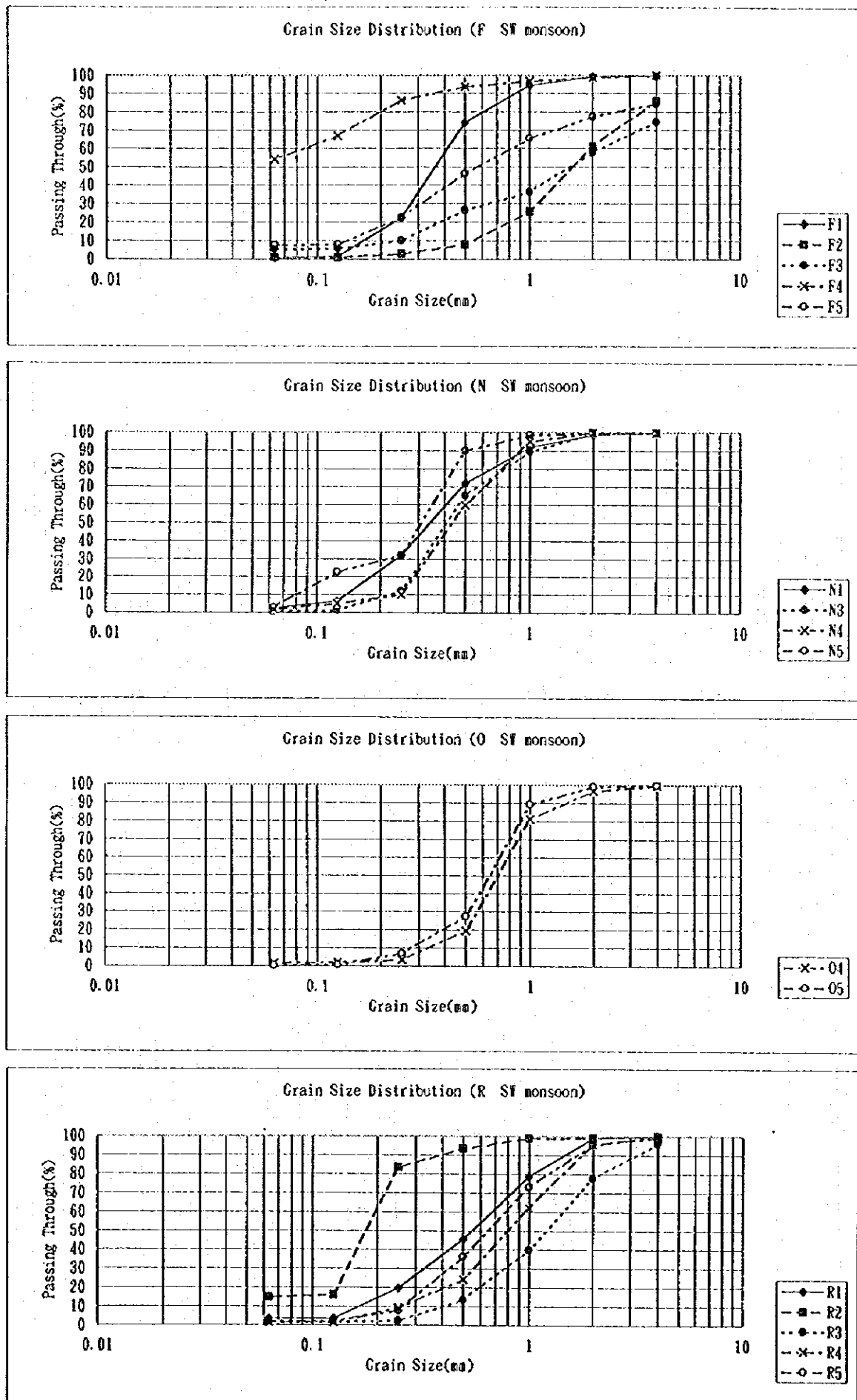


FIGURE A.5.2.1 (2) Results of Grain Size Distribution

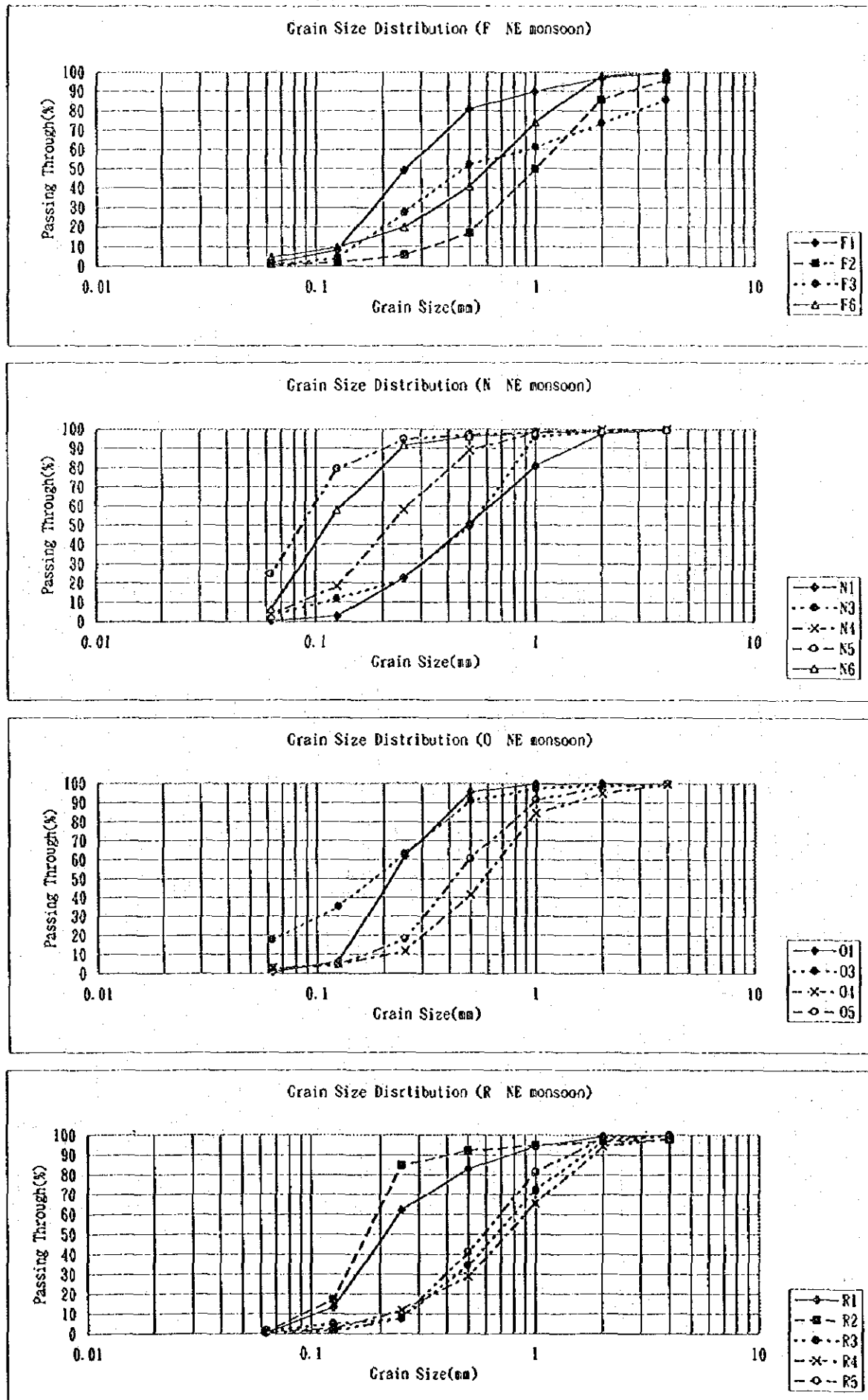


FIGURE A.5.4.1 Survey Points of Road Traffic and Air Quality

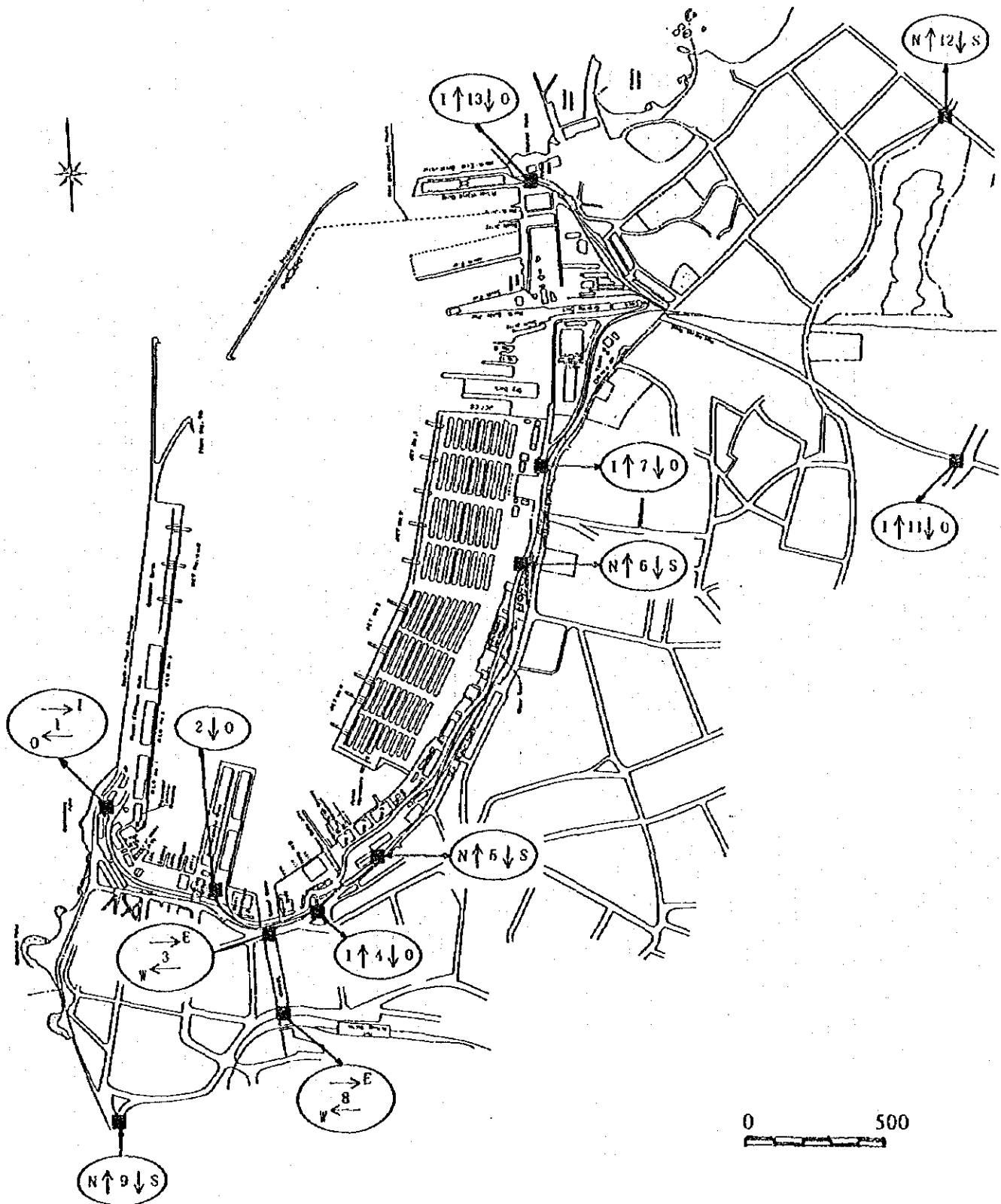
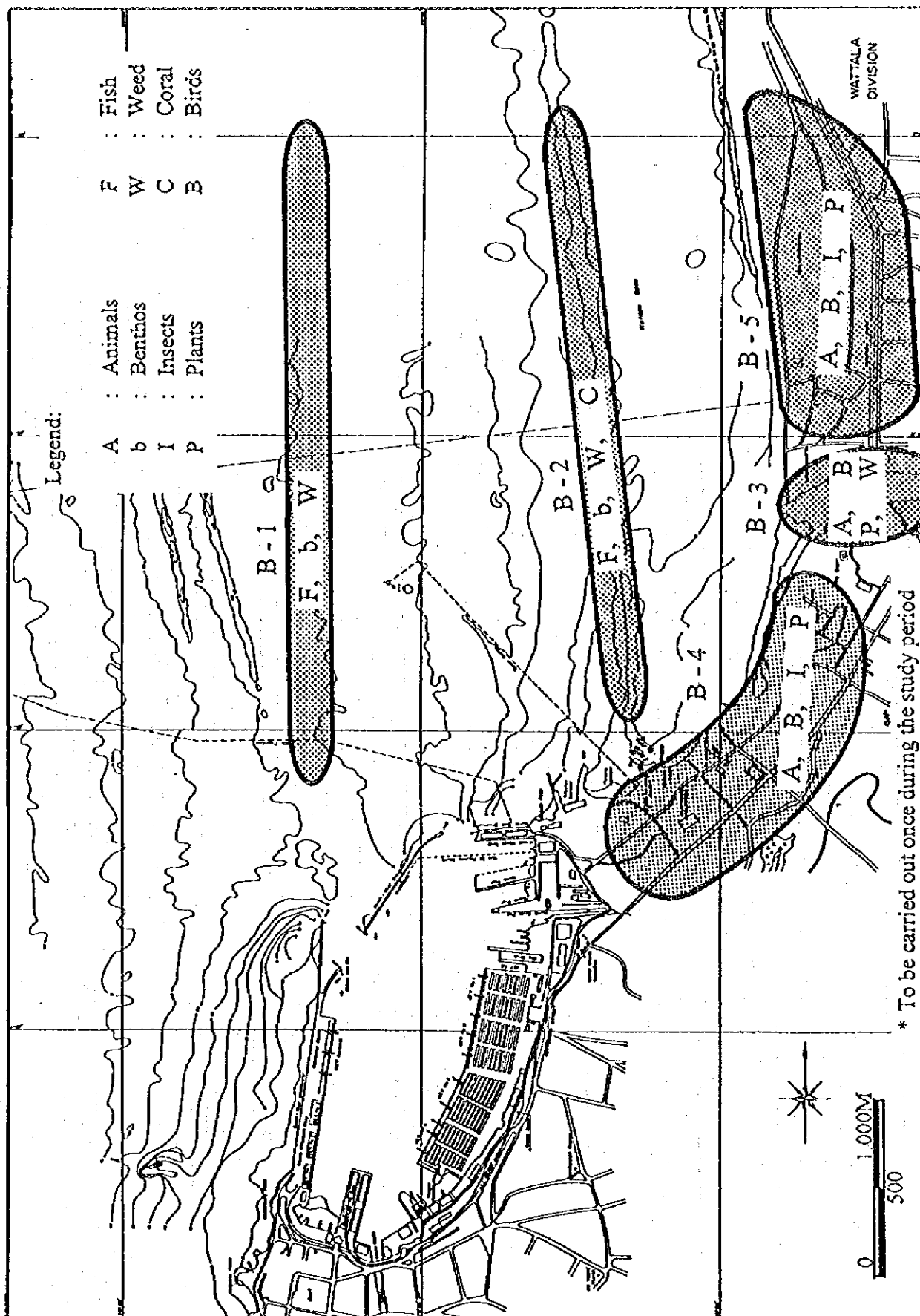


TABLE A.5.5.1 Result of Road Traffic Surveys

Location	Date Nov. '95	1. Trailers	2. Large Heavy Vehicles	3. Other Heavy Vehicles	4. Automobiles	Total	Peak No. Per Hour
R1	10 (Fri)	196	424	140	1684	2444	236
	11 (Sat)	40	300	60	728	1128	120
R2	10 (Fri)	0	232	36	308	576	56
	11 (Sat)	0	44	0	64	108	32
R3	17 (Fri)	332	1228	1108	2170	24428	2140
	18 (Sat)	496	824	784	14892	17246	1652
R4	10 (Fri)	0	280	128	1704	2144	188
	11 (Sat)	8	192	72	1052	1324	144
R5	17 (Fri)	348	1320	652	14216	16536	1640
	18 (Sat)	308	1064	484	10232	12088	1084
R6	17 (Fri)	840	1288	828	11552	13712	1292
	18 (Sat)	24	1184	428	8788	10424	896
R7	10 (Fri)	0	772	460	1076	2308	288
	11 (Sat)	4	428	64	456	1152	196
R8	17 (Fri)	212	1304	1116	26420	29052	2344
	18 (Sat)	116	944	840	21444	23344	1932
R11	10 (Fri)	1992	92	76	704	2864	236
	11 (Sat)	1072	4	4	306	1380	100
R12	17 (Fri)	68	972	580	3788	5408	448
	18 (Sat)	40	908	452	2912	4312	380
R13	10 (Fri)	4	884	188	532	1608	148
	11 (Sat)	0	920	120	376	1416	104

Note: 1) Two wheeled vehicles are excluded in the above summary.
2) R1, R2, R7 were closed on 11 Nov. '95 due to security reasons.

FIGURE A.5.6.1 Biological Survey Area



* To be carried out once during the study period

TABLE A.5.6.1 Birds (B3, *migrant species)

Little cormorant *Whiskered tern White breasted Kingfisher Median egret Common mynah Alexandrine parakeet House crow Brahmin Kite *Barn swallow Domestic pigeon White browed prinia Indian shag Koel	Greater coucal White browed bulbul Pond heron Eastern purple heron Grey heron Large egret Little egret Lotern's sunbird Red vented bulbul Common babbler Purple sunbird Small flowerpecker Magpie robin	Redrumped swallow Tailor bird Purple rumped sunbird Brown headed barbet *Blue tailed bee eater Little tern Gull billed tern *Common tern *Common sandpiper Alpine swift House sparrow *Large sand plover *Brown shrike
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TABLE A.5.6.2 Birds (B4)

*Barn swallow Tailor bird House sparrow House crow White breasted Kingfisher Little green heron Loten's sunbirds Purple sunbirds Purple rumped sunbird Small flowerpecker Mapie robin Little swift Brahmini Kite Red vented bulbul White breasted waterhen *Blue tailed bee eater Alexandrine parakeet White vented dranga	Cattle egret Common bobbler Common mynah White browed bulbul Stork billed Kingfisher White brawed Prinia *Marsh harrier Shikra Yellow bittern Layard's parakeet Little cormorant Whiskered tern Domestic pigeon Indian shag Koel *Greater coucal Pond heron Purple heron Large egret *Gull billed tern	Red wattled lapwing Little tern Red rumped swallow Palm swift Indian pitta Edible nest swift *Common tern Brown headed barbet *Common sand piper Red backed woodpecker *Ruddy Turnstone Alpine swift White backed munia *Wood sandpiper Ashy swallow shrike Large created tern Serpent eagle *Lesser crested tern Night heron
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TABLE A.5.6.3 Fish

Reef Fish**Family: Acanthuridae**

Acanthurus
xanthopterus
Acanthurus nigrofasciatus
Acanthurus triostegus
Ctenochaetus striatus

Family: Apogonidae

Apogon spp.
Chenochaelus striatus

Family: Balistidae

Balistoides veridescens

Family: Gerresidae

Gerres spp.

Family: Blennidae

Ecsenius spp.
Aspidontus taeniatus
Unidentified spp.

Family: Caeciliidae

Caesia cuning
Pterocaesia chrysozona

Family: Carangidae

Caranx sexfasciatus
Trachinotus balloni
Trachinotus blochii
Scomberoides
commersonianus
Scomberoides lysan
Caranx sp.

Family: Chaetodontidae

Chaetodon decussatus
Chaetodon citrinellus
Chaetodon kleinii
Chaetodon collare
Heniochus acuminatus
Heniochus monoderos

Family: Tetraodontidae

Canthigaster solandri
Arothron hispidus
Arothron nigropunctatus

Family: Cirrhitidae

Cirrhitichthys
oxycephalus
Cyprinocirrhites
polyactis

Family: Fistulariidae

Fistularia sp.

Family: Gobiidae

Amblygobius sp.
Cryptocentrus sp.

Family: Grammistidae

Diplopygion bifasciatum

Family: Sphyrnidae

Sphyrna barracuda
Sphyrna obtusata

Family: Haemulidae

Plectorhinchus gibbosus
Plectorhinchus schotaf

Family: Holocentridae

Myripristis sp.
Neoniphon sammara

Family: Kyphosidae

Kyphosus sp.

Family: Labridae

Bodianus diana
Bodianus neilli
Thalassoma lunare
Thalassoma hardwicke
Thalassoma janseni
Labroides dimidiatus
Unidentified spp.

Family: Lethrinidae

Lethrinus omatus
Lethrinus harak

Family: Lutjanidae

Lutjanus
quinquilineatus
Lutjanus rivulatus
Lutjanus fulvus
Lutjanus
argenteomaculatus
Lutjanus lunulatus
Lutjanus russelli
Lutjanus lutjanus

Family: Mullidae

Mugil spp.

Family: Mullidae

Paripeneus indicus
Paripeneus macronema
Paripeneus
flavolineatus

Family: Muraenidae

Gymnothorax
savaginus
Gymnothorax
flavimarginatus

Family: Nemipteridae

Scolopsis bimaculatus
Scolopsis vosmeri
Scolopsis bilineatus

Family: Pinguipedidae

Parapercis sp.

Family: Pempheridae

Pempheris ovalensis

Family: Pomacanthidae

Pomacanthus
semicirculatus
Pomacanthus annularis
Apolomichthys
xanthurus
Centropyge multispinis

Family: Serranidae

Cephalopholis argus
Cephalopholis
fomosa
Epinephelus merra
Epinephelus
malabaricus

Family: Pomacentridae

Pomacentrus coelestis
Pomacentrus chrysurus
Pomacentrus proteus
Neoglyphidodon
bonang
Abudefduf vaigiensis
Abudefduf sordidus
Abudefduf
septemfasciatus
Chrysiptera leucopoma
Chrysiptera unimaculata
Neopomacentrus
azysron
Neopomacentrus
taeniurus

Family: Siganidae

Siganus canaliculatus
Siganus lineatus

Family:

Pseudochromidae
Pseudochromis melas

Family: Scorpaenidae

Pterois antennata

Family: Zanclidae

Zanclus cornutus

TABLE A.5.6.4 Fish and Crustacean Species Commonly caught in the study area are as under.

Common Name	Scientific Name	Family Name
<u>Fish</u>		
Salaya	Sardinella sp	Clupeidae
Sudaya	Sarcinella albells	Clupeidae
Lagga	Thryssa sp.	Engraulidae
Moralla	Hemiramphus sp	Hemiramphidae
Karalla	Leiognathus sp	Leiognathidae
Mondali	Johonius sp	Scienidae
Pannawa	Otolithes sp.	Scienidae
Halnessa	Stolephorus sp.	Engraulidae
Thottawa	Opisthopterus tardoore	Cluoeidae
Keeli	Terapon sp	Teraponidae
Kossa	Epenephelus sp	Serranidae
Karattaya	Hilsa kelee	Clupeidae
Nagariya	Upeneus sp	Mullidae
Kumbalawa	Rastrelliger kanagurta	Scombridae
Wenganawa	Pellona sp	Clupeidae
Kalanda	Sillago sihama	Sillaginidae
Jeelawa	Sphraena sp	Sphyaenidae
Kalawa	Eleutheronema sp	Polynemidae
Orawa	Siganidaie sp	Siganus
Anguluwa	Arius sp	Arridae
Kalava	Ppolynemus sp	Polynemidae
Meevetiya	Lutjanus sp	Lutjanidae
Pulunna		
<u>Crustaceans</u>		
Kiri issa	Penaeus indicus	Penaeidae
Kiri issa	Penaeus merguensis	Penaeidae
Kurutu issa	Penaeus semisulcatus	Penaeidae
Kal issa	Penaeus monodon	Penaeidae
Ein issa (Mat issa)	Metapenaeus dobsoni	Penaeidae
Gal issa	Metapenaeus monoderos	Penaeidae
Serrated crab	Scylla serrata	Portunidae
Blue swimming crab	Portunus pelagics	Portunidae
Three spotted		Portunidae
Swimming crab	Portunus sanguinolentus	Portunidae
Painted swimming crab	Grapsus sp.	

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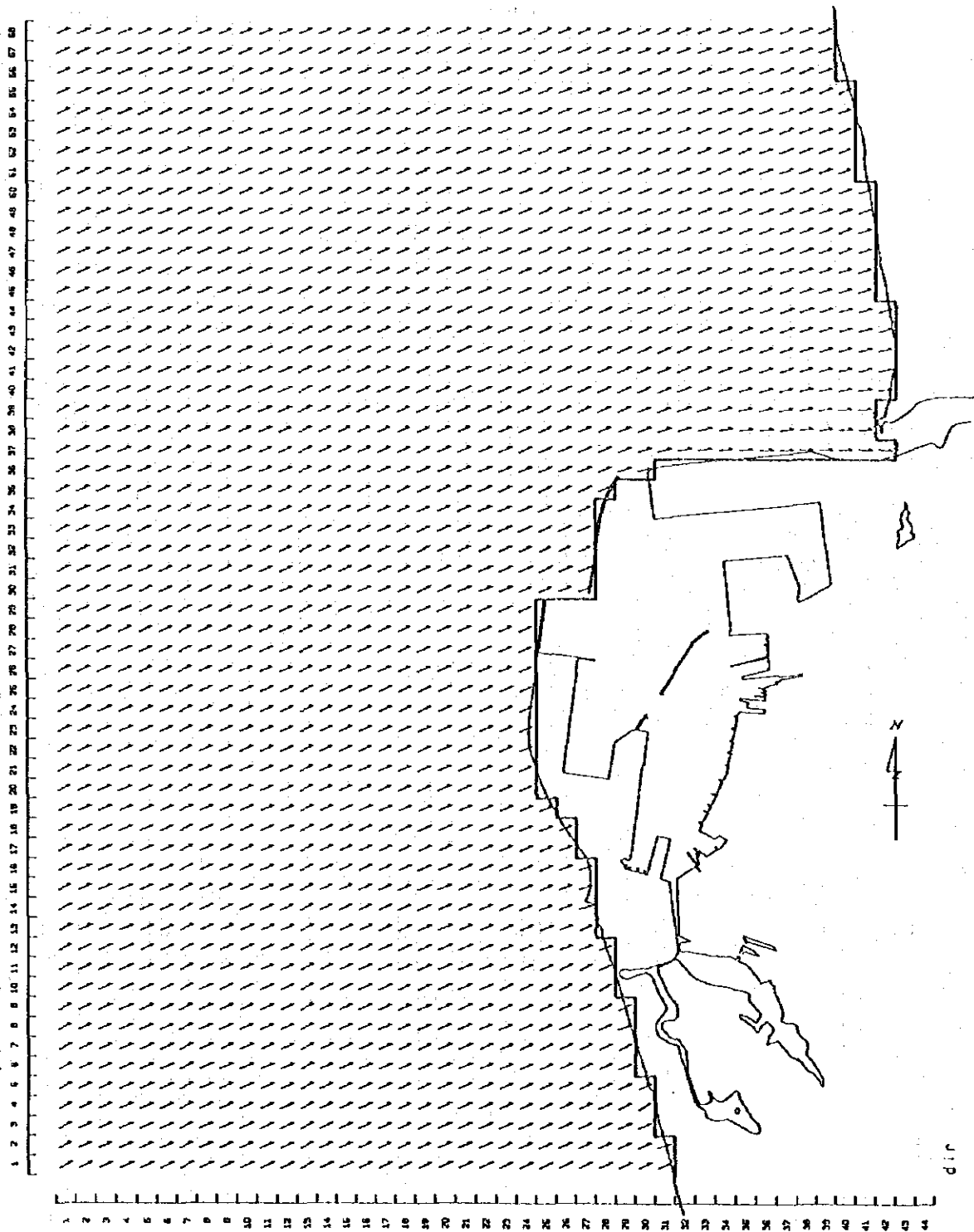


FIGURE A6.3.1(1)
Wave Refraction
and Shoaling
(WSW)

Title	The future wave condition
Wave direction	WSW
Wave period	6.00sec
smax	25

../def.grp/def/gosei2/kei/oa.W

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58

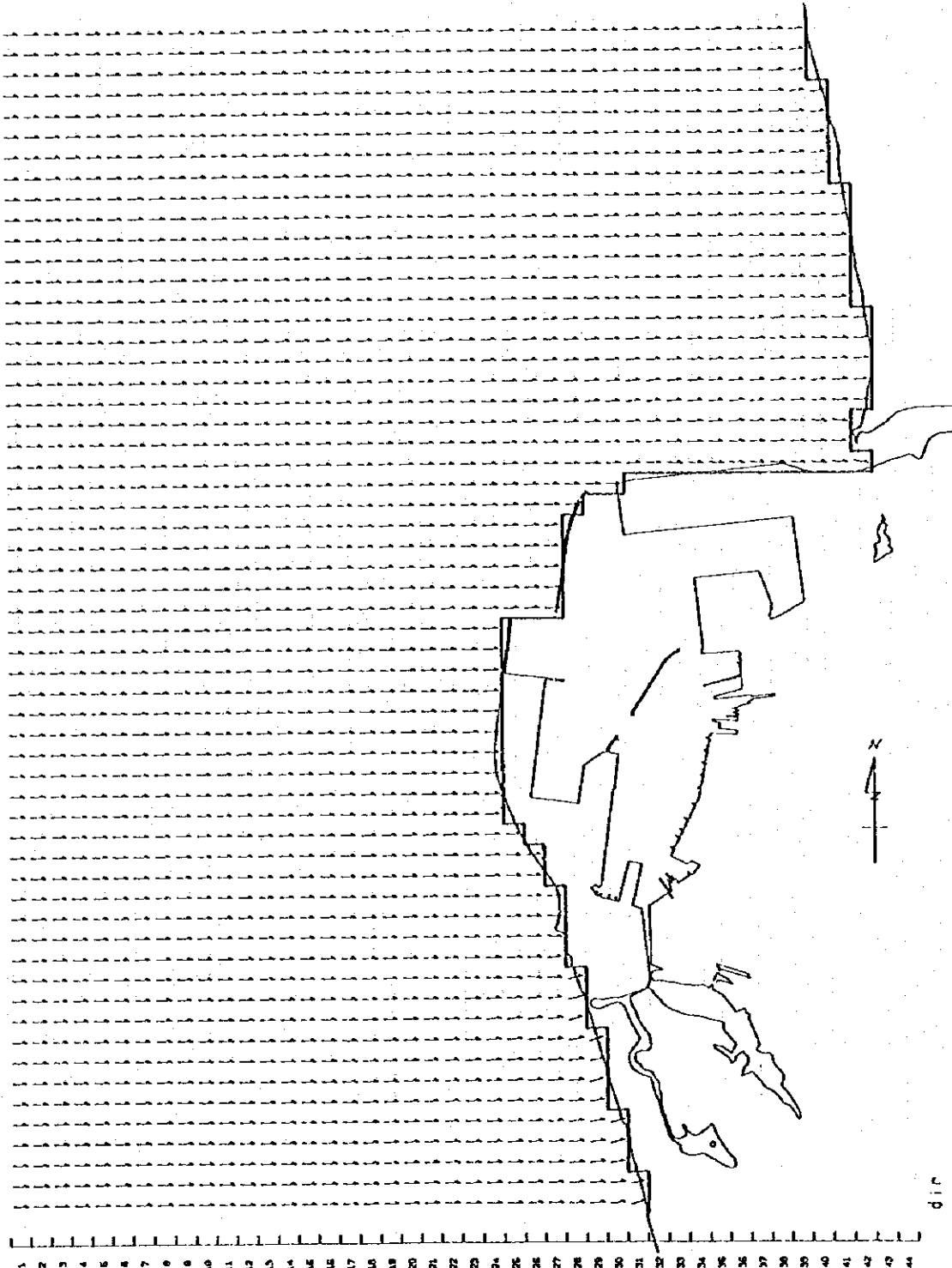


FIGURE A6.3.1(2)
Wave Refraction
and Shoaling
(W)

Title	The future wave condition
Wave direction	W
Wave period	6.00sec
shax	25

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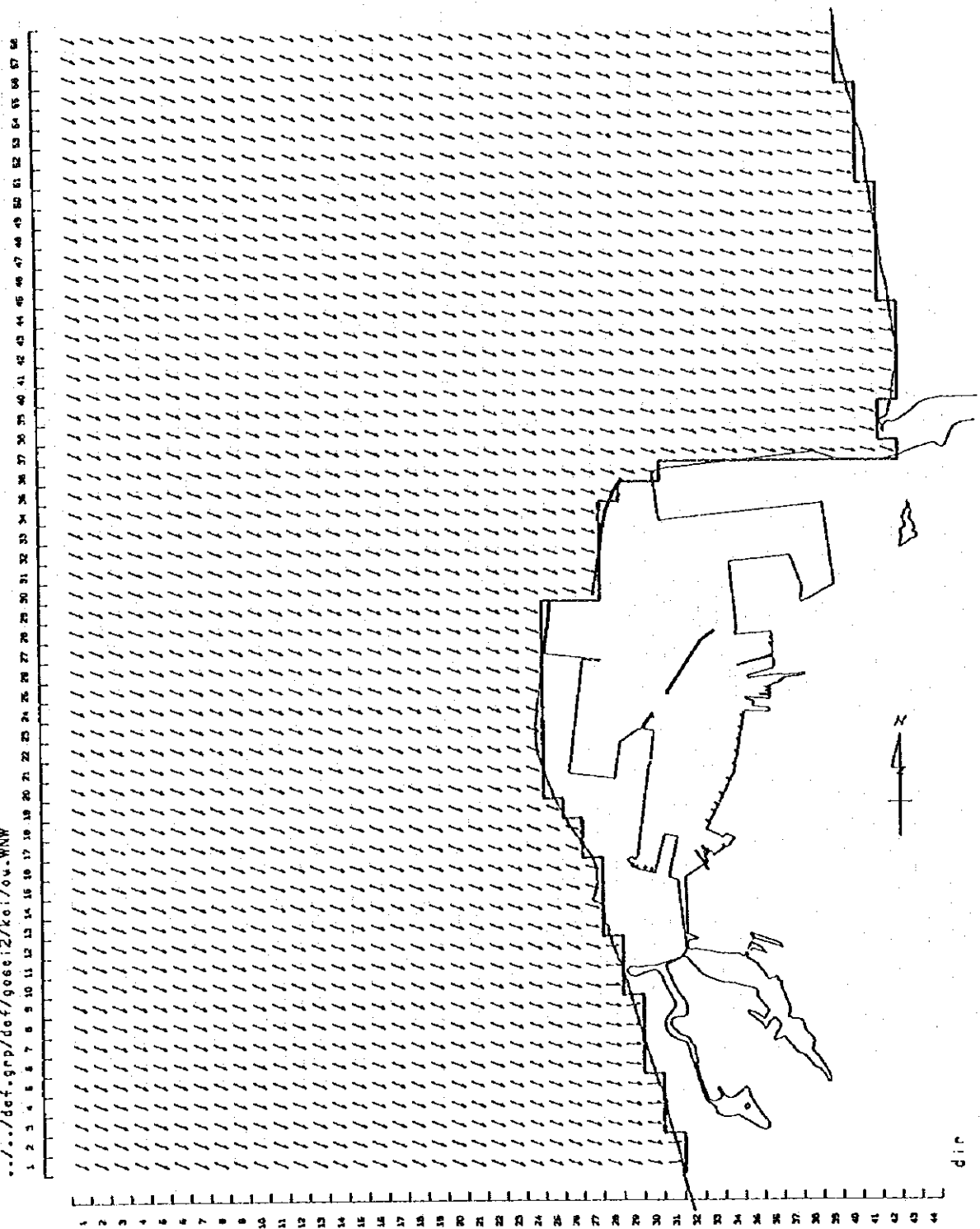


FIGURE A6.3.1(3)
Wave Refraction
and Shoaling
(WNW)

Title	The future wave condition
Wave direction	WNW
Wave period	6.00sec
snax	25

.././def.grp/def/gosei2/kei/ou.NW

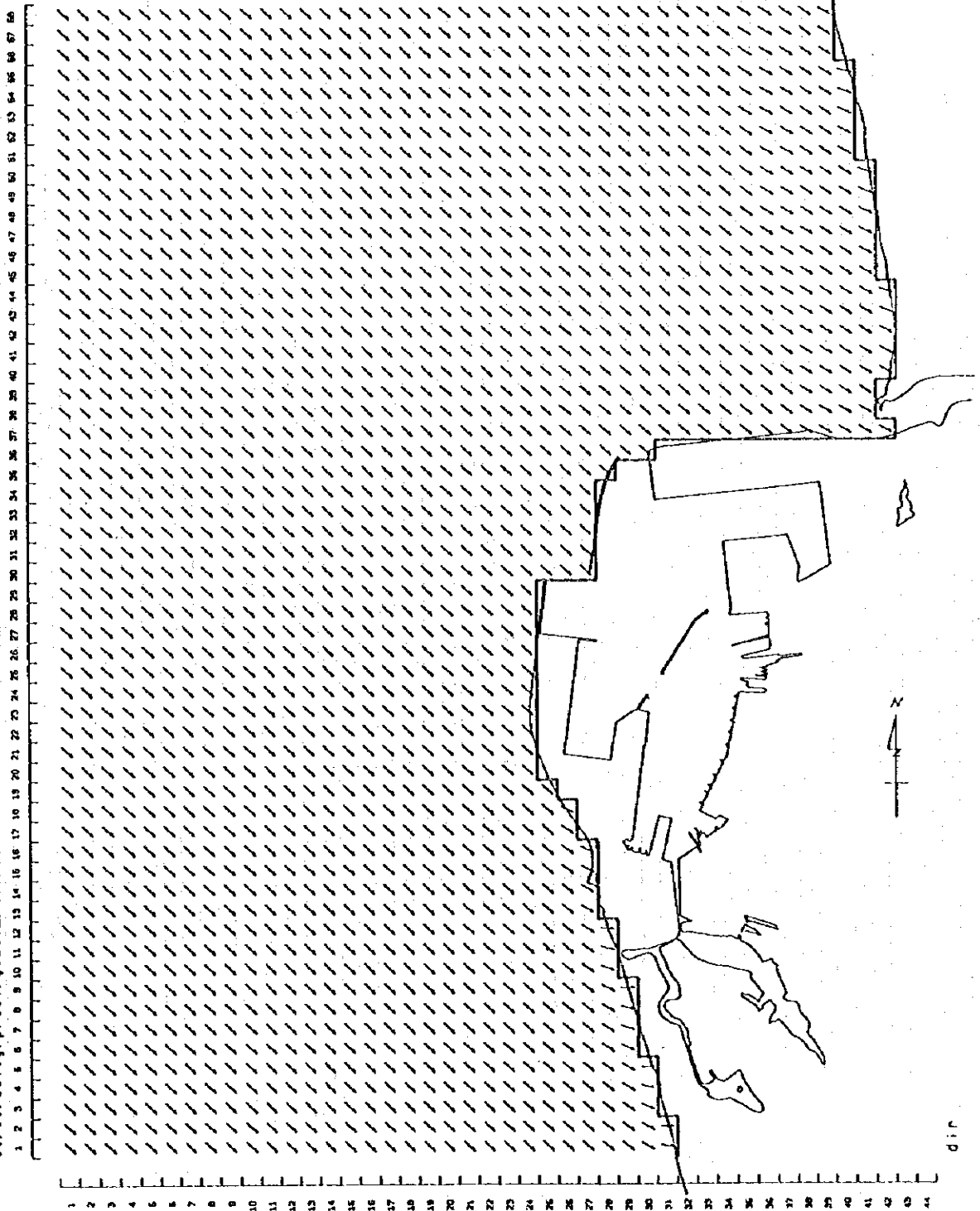


FIGURE A6.3.1(4)
Wave Refraction
and Shoaling
(NW)

Title	The future wave condition
Wave direction	NW
Wave period	4.90sec
SWAN	10

..//Sa/rea/ou..WSW

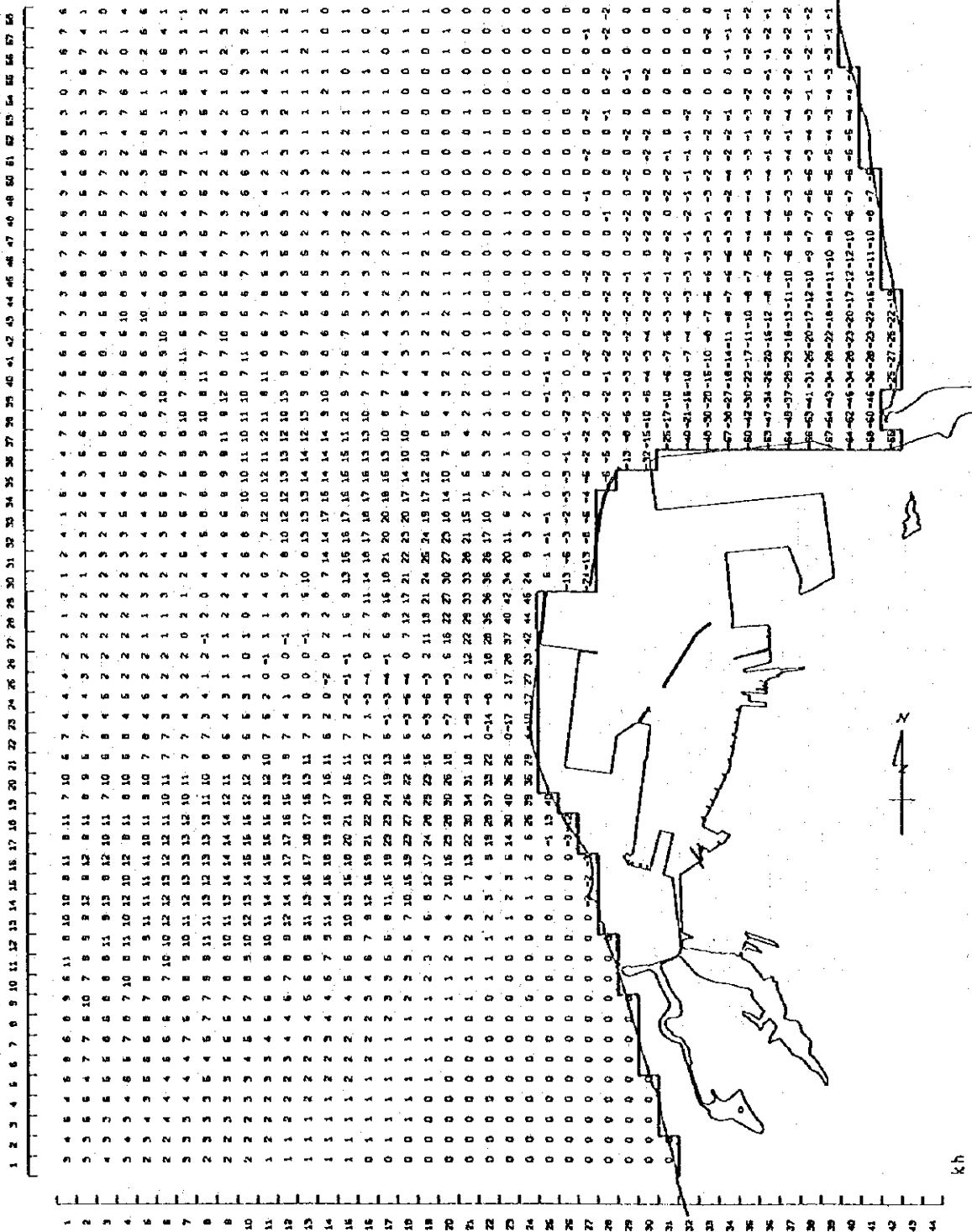


FIGURE A6.3.2(1)
Wave Height
Changes (WSW)

Title	differ- ence in wave height between the condi- tions of existing and future situation
Wave direction	WSW.
Wave period	6.00sec
smax	25
unit	cm

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58

6 9 10 8 5 12 5 5 10 5 10 6 7 5 5 5 6 2 4 0 5 0 2 1 1 4 2 5 4 8 5 9 5 7 5 5 10 5 7 8 3 7 5 3 2 4 3 1 1 3 3 1 0 0 2 2 1 0
7 5 10 9 7 11 8 7 12 7 8 7 6 7 5 6 2 4 1 2 4 2 6 4 7 6 9 10 7 8 7 8 7 6 7 5 3 4 3 1 1 2 3 1 0 0 2 1 0 0 0 0
10 8 5 11 9 8 12 8 10 9 7 10 6 5 5 2 3 2 2 1 2 1 2 3 3 5 6 7 11 7 8 7 8 7 4 6 5 3 4 3 1 2 2 3 1 1 2 1 0 0 0 1
8 10 6 8 12 9 10 11 8 12 8 10 7 7 6 4 4 3 1 3 3 4 6 6 7 0 9 8 10 7 9 5 7 8 5 3 2 2 3 1 1 1 2 1 0 0 1 1 0 0 1
5 8 10 5 10 11 5 12 9 11 5 9 7 5 4 3 3 2 5 5 5 9 7 10 10 9 8 8 7 5 8 4 5 3 2 2 3 2 1 1 1 2 1 1 0 1 1 0 1 1
0 6 5 9 7 12 10 10 12 10 11 6 6 6 4 4 3 0 2 -1 3 -1 1 7 6 9 10 8 11 10 10 11 8 10 7 8 5 4 6 4 2 3 3 2 2 1 1 1 1 0 1 0 1 0
5 9 8 5 11 9 10 12 11 11 10 10 6 7 4 4 0 2 -1 2 -2 4 2 7 6 9 8 10 12 10 11 10 8 7 8 5 5 5 3 3 2 1 1 2 2 1 1 1 0 0 0 0 0
5 5 9 8 7 12 8 12 11 12 12 11 11 7 5 6 0 -1 0 1 2 5 5 10 9 11 11 14 13 11 10 8 5 7 5 2 4 3 1 2 2 1 1 0 0 0 0 0 0 1
7 7 6 10 6 8 12 10 14 12 14 13 13 11 6 4 0 0 -1 0 1 0 5 4 11 8 14 13 14 13 13 11 10 9 7 7 4 5 3 2 2 2 0 1 0 0 0 0 0 1 1
4 7 6 5 10 8 9 13 12 14 14 14 13 11 6 7 4 1 0 -2 -1 0 0 5 5 12 11 15 13 15 13 11 10 9 7 6 5 4 2 2 2 2 0 1 0 0 0 0 1 1
6 4 7 8 7 10 11 13 13 14 14 15 13 12 10 6 4 2 -1 -2 -2 -1 2 15 8 15 13 13 13 13 12 10 8 6 6 5 3 2 2 1 1 0 0 0 0 1 1 1 0 0 0 0
4 6 5 8 7 10 10 12 14 14 15 15 15 14 11 6 6 2 -2 -3 -3 -1 3 5 9 13 15 18 17 10 15 13 12 10 7 6 5 3 2 1 1 1 1 0 0 0 0 1 1 1 0 0 0 0
3 4 6 8 5 9 8 10 11 13 14 16 17 17 18 13 10 6 3 3 -2 -3 -4 -1 1 5 11 16 17 19 20 20 16 13 11 9 7 5 4 4 2 2 1 1 1 0 0 0 1 1 0 0 0 0 0 0
4 4 4 5 7 8 8 11 13 14 17 17 10 17 15 11 6 2 -2 -4 -5 -2 1 5 11 17 19 21 18 17 12 11 8 5 4 3 2 1 1 1 0 0 1 1 0 0 0 0 0 0 0 0 0 0
2 3 4 4 7 7 8 10 12 14 16 18 15 16 16 14 2 3 -5 -5 -1 2 6 15 19 23 24 23 19 13 7 6 4 3 2 1 1 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
3 3 3 5 5 8 8 11 13 15 18 19 21 19 17 11 4 -3 -5 -8 -6 9 11 16 22 25 24 20 15 11 9 7 4 3 2 2 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0
1 2 3 3 4 6 6 9 12 14 17 20 22 23 18 14 7 -2 7 -8 -4 4 12 21 27 28 25 21 14 11 9 6 4 2 2 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2 2 2 3 4 4 5 7 10 13 15 18 22 24 23 18 9 -2 -8 -11 -8 4 17 26 31 32 31 25 20 14 9 5 4 2 2 1 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0
1 1 2 2 3 4 5 6 7 10 13 15 22 26 26 20 11 -1 -10 -14 -5 7 13 28 34 34 33 25 19 11 7 6 2 1 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
1 1 1 1 2 2 3 5 6 7 11 15 20 25 26 26 17 2 -12 -15 -7 10 25 34 38 40 36 15 9 4 2 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 1 1 1 2 2 3 4 5 7 11 15 23 30 29 21 9 -8 -19 -6 15 28 40 43 43 35 23 11 5 2 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 1 1 1 1 1 1 2 2 3 4 7 11 17 32 37 15 -4 -22 -2 22 36 42 47 50 27 17 5 2 1 0 0 0 -1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 1 1 1 1 1 2 2 3 4 5 17 32 36 19 -22 11 22 36 45 49 52 35 9 1 0 0 -1 -1 0
0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 21 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 -3 -5 -12 -15 -18 -21 -24 -27 -30 -33 -36 -39 -42 -45 -48 -51 -54 -57 -60 -63 -66 -69 -72 -75 -78 -81 -84 -87 -90 -93 -96 -99 -102 -105 -108 -111 -114 -117 -120 -123 -126 -129 -132 -135 -138 -141 -144 -147 -150 -153 -156 -159 -162 -165 -168 -171 -174 -177 -180 -183 -186 -189 -192 -195 -198 -201 -204 -207 -210 -213 -216 -219 -222 -225 -228 -231 -234 -237 -240 -243 -246 -249 -252 -255 -258 -261 -264 -267 -270 -273 -276 -279 -282 -285 -288 -291 -294 -297 -300 -303 -306 -309 -312 -315 -318 -321 -324 -327 -330 -333 -336 -339 -342 -345 -348 -351 -354 -357 -360 -363 -366 -369 -372 -375 -378 -381 -384 -387 -390 -393 -396 -399 -402 -405 -408 -411 -414 -417 -420 -423 -426 -429 -432 -435 -438 -441 -444 -447 -450 -453 -456 -459 -462 -465 -468 -471 -474 -477 -480 -483 -486 -489 -492 -495 -498 -501 -504 -507 -510 -513 -516 -519 -522 -525 -528 -531 -534 -537 -540 -543 -546 -549 -552 -555 -558 -561 -564 -567 -570 -573 -576 -579 -582 -585 -588 -591 -594 -597 -600 -603 -606 -609 -612 -615 -618 -621 -624 -627 -630 -633 -636 -639 -642 -645 -648 -651 -654 -657 -660 -663 -666 -669 -672 -675 -678 -681 -684 -687 -690 -693 -696 -699 -702 -705 -708 -711 -714 -717 -720 -723 -726 -729 -732 -735 -738 -741 -744 -747 -750 -753 -756 -759 -762 -765 -768 -771 -774 -777 -780 -783 -786 -789 -79

A5-31

Title	difference in wave height between the conditions of existing and future situation
Wave direction	W
Wave period	6.00sec
smax	25
unit	cm

..5a/ree/ou.WNW

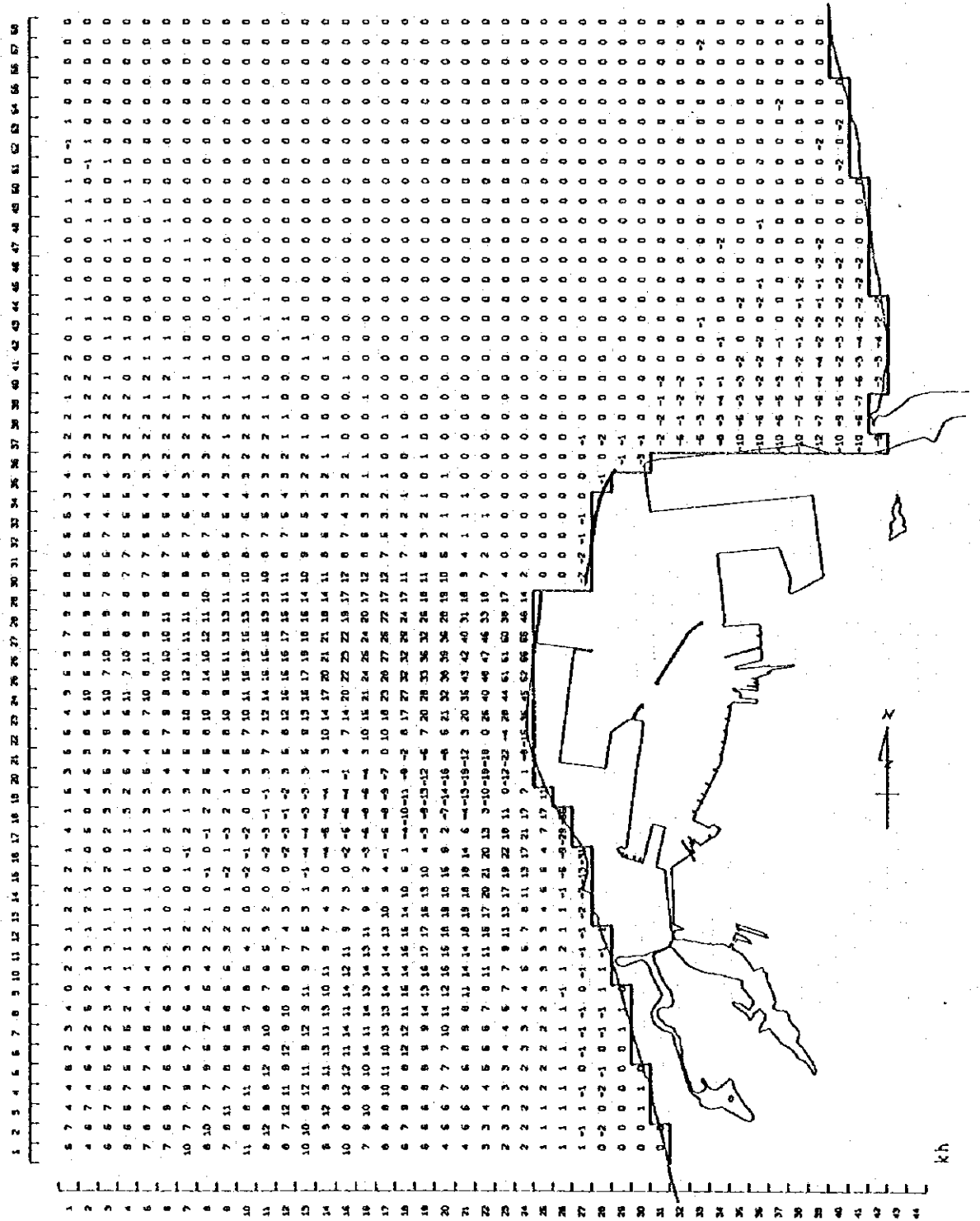


FIGURE A6.3.2(3)
Wave Height
Changes (WNW)

Title	differ- ence in wave height between the condi- tions of existing and future situation
Wave direction	WNW
Wave period	6.00sec
smax	25
unit	cm

WV.OU/ree/Sa./



FIGURE A6.3.2(4)
Wave Height
Changes (NW)

Title	Difference in wave height between the conditions of existing and future situation
Wave direction	NE
Wave period	4.90sec
amax	10
unit	cm

JICA