2.27 The Time Set Up to Settlement Test (1998)

No	Point	Depth (m)	Transparency (m)	Distance from bottom to samplers		First time		Second time		Third time		Fourth time		Fifth time	
				Bottom (m)	Surface (m)	Set-on	Set-off	Set-on	Set-off	Set-on	Set-off	Set-on	Set-off	Set-on	Set-off
1	P.14	11m 10h20 - 21/7	3m 10h20 - 21/7	1	5.7	12h30 21/7	16h30 22/7	17h00 22/7	14h00 23/7	15h00 23/7	14h30 24/7	15h10 24/7	15h00 25/7	15h30 25/7	14h00 26/7
2	P.22	17.5m 13h00 - 23/7	2m 17h00 - 23/7	1	9	13h30 22/7	10h15 23/7	B: 10h30 S: 17h00 - 23/7	10h00 24/7	11h00 24/7	10h00 25/7	11h15 25/7	10h00 26/7	11h00 26/7	10h00 27/7
3	P.25	7.5m 12h00 - 23/7	1m 12h30 - 23/7	1	5	12h30 23/7	11h50 24/7	12h45 24/7	11h30 25/7	12h45 25/7	11h30 26/7	12h00 26/7	11h25 27/7	11h45 27/7	11h30 28/7
4	P.6	6.5m 16h30 - 27/7	0.6m 16h30 - 27/7	1	3	17h00 27/7	15h50 28/7	16h45 28/7	17h30 29/7	18h15 29/7	16h00 30/7	16h45 30/7	15h45 31/7	16h55 31/7	14h00 1/8
5	P.3	9.5m 16h00 - 26/7	1.2m 16h00 - 26/7	1	6	16h45 26/7	14h30 27/7	15h00 27/7	15h00 28/7	15h30 28/7	15h30 29/7	15h45 29/7	15h45 30/7	16h10 30/7	12h30 31/7

2.28 Settlement Test

Point 2

Time	Tube N°	Sample	Layer	Parameter (th-ng-st)									
				COD_{Mn} (mg/l)	$P\text{-}PO_4^{3-}$ (µg/l)	T-P (mg/l)	$N\text{-}NO_2^-$ (µg/l)	$N\text{-}NO_3^-$ (µg/l)	$N\text{-}NH_4$ (µg/l)	T-N (mg/l)	SS (g/l)	SS (g/tube)	IL (%)
First time		Before	Surface	6.01	23.0	0.36	18.33	67.06	154.4	1.24	0.0116	0.0505	46.55
	1	Test	Surface	17.62	27.1	0.44	30.70	99.34	257.6	3.64	0.3066	1.3337	9.46
	2	Test	Surface	19.87	28.8	0.49	29.56	102.11	249.7	3.27	0.3117	1.3560	9.49
	3	Test	Surface	17.62	30.3	0.47	29.36	106.53	232.4	3.03	0.2743	1.1931	8.68
		Before	Bottom	5.21	26.9	0.38	33.94	64.54	171.2	1.16	0.0197	0.0857	24.87
	1	Test	Bottom	27.23	29.5	0.43	47.46	96.35	297.4	5.27	0.6756	2.9519	7.29
	2	Test	Bottom	30.43	30.0	0.43	50.21	92.89	284.9	5.14	0.6816	2.9650	6.71
	3	Test	Bottom	28.83	29.9	0.52	46.27	101.26	299.1	4.92	0.6284	2.7335	6.87
Second time		Before	Surface	7.01	24.9	0.30	21.95	61.42	193.6	1.31	0.0104	0.0452	51.92
	1	Test	Surface	15.21	45.3	0.47	31.54	85.22	196.7	3.17	0.2069	0.8999	7.90
	2	Test	Surface	14.21	49.6	0.49	30.21	82.45	171.3	3.40	0.2013	0.8755	7.98
	3	Test	Surface	15.21	47.9	0.45	29.70	80.89	197.4	3.95	0.1567	0.8123	8.28
		Before	Bottom	5.4	23.1	0.50	31.27	52.51	196.2	1.67	0.0595	0.2588	19.83
	1	Test	Bottom	21.02	37.2	0.51	45.88	82.48	300.1	6.12	0.5819	2.5311	5.20
	2	Test	Bottom	21.62	37.1	0.57	41.96	80.84	299.7	5.99	0.6039	2.6271	5.67
	3	Test	Bottom	24.82	39.7	0.54	44.27	85.90	298.7	5.84	0.5518	2.4003	6.68
Third time		Before	Surface	6.04	21.5	0.37	22.22	58.53	169.6	1.27	0.0103	0.0448	69.90
	1	Test	Surface	12.11	29.5	0.47	27.54	99.40	117.4	3.88	0.1110	0.4834	9.57
	2	Test	Surface	11.46	31.7	0.47	27.72	94.89	101.0	4.03	0.1084	0.4715	10.03
	3	Test	Surface	10.49	29.8	0.49	30.27	97.99	109.7	4.17	0.0941	0.4092	11.84
		Before	Bottom	5.65	28.3	0.37	23.94	53.03	175.1	1.42	0.0143	0.0622	44.06
	1	Test	Bottom	16.01	50.7	0.66	36.12	88.47	238.9	6.93	0.2815	1.2244	6.89
	2	Test	Bottom	16.02	49.4	0.60	35.38	87.96	259.6	6.71	0.2444	1.0631	5.67
	3	Test	Bottom	16.02	47.2	0.59	37.01	86.87	226.3	6.19	0.2664	1.1585	6.62
Fourth time		Before	Surface	7.21	26.5	0.32	14.86	49.79	116.4	1.18	0.0105	0.0457	63.81
	1	Test	Surface	12.42	29.3	0.37	26.27	82.43	194.1	3.61	0.0669	0.2912	9.26
	2	Test	Surface	12.81	28.9	0.39	28.01	83.54	167.3	3.54	0.0708	0.3080	9.42
	3	Test	Surface	14.21	30.1	0.38	29.11	80.99	187.9	4.03	0.0743	0.3231	9.96
		Before	Bottom	7.21	34.0	0.38	16.32	50.48	157.6	1.23	0.0123	0.0535	42.28
	1	Test	Bottom	20.42	40.5	0.57	31.97	103.87	261.9	5.62	0.2232	0.9709	5.76
	2	Test	Bottom	18.62	39.7	0.54	32.87	107.27	272.4	6.01	0.2463	1.0066	6.08
	3	Test	Bottom	19.22	41.6	0.59	29.95	111.59	250.1	5.88	0.2257	0.9819	5.25
Fifth time		Before	Surface	5.21	21.3	0.29	10.43	71.47	151.9	1.02	0.0090	0.0392	72.22
	1	Test	Surface	12.81	29.5	0.38	25.91	89.24	197.9	3.29	0.0493	0.2146	10.49
	2	Test	Surface	13.61	32.6	0.35	24.07	93.33	205.1	3.03	0.0521	0.2268	10.93
	3	Test	Surface	13.61	30.3	0.37	22.86	92.67	192.3	3.71	0.0501	0.2243	9.19
		Before	Bottom	3.20	17.9	0.37	18.07	61.93	193.7	1.11	0.0093	0.0405	63.44
	1	Test	Bottom	9.61	38.7	0.49	44.54	100.20	243.4	5.62	0.1421	0.6180	6.24
	2	Test	Bottom	10.41	40.1	0.51	49.34	118.89	251.9	5.84	0.1518	0.6603	6.31
	3	Test	Bottom	13.61	39.7	0.54	50.95	129.72	257.6	5.71	0.1363	0.5929	6.45

Point 6

Time	Tube N°	Sample	Layer	Parameter (thông số)								
				COD_{Mn} (mg/l)	$P\text{-}PO_4^{3-}$ (µg/l)	T-P (mg/l)	$N\text{-}NO_2$ (µg/l)	$N\text{-}NO_3$ (µg/l)	$N\text{-}NH_4$ (µg/l)	T-N (mg/l)	SS (g/l)	SS (g/cm²)	H. (%)
First time		Before	Surface	6.46	27.1	0.69	23.26	59.15	132.8	1.78	0.0092	0.0400	35.03
	1	Test	Surface	12.92	35.3	0.83	37.56	70.03	189.6	5.48	0.1399	0.6086	9.53
	2	Test	Surface	13.72	34.7	0.96	32.95	71.36	187.3	4.97	0.1230	0.5351	10.37
	3	Test	Surface	14.53	32.6	0.79	30.0	72.83	126.2	5.02	0.1266	0.5507	11.11
		Before	Bottom	6.86	23.1	0.77	13.45	49.55	131.9	2.24	0.0157	0.0683	18.96
	1	Test	Bottom	20.99	39.7	1.12	32.50	66.54	191.7	6.68	0.3542	1.5408	10.87
	2	Test	Bottom	20.18	39.9	1.09	37.20	65.81	206.1	6.82	0.3531	1.5360	9.68
	3	Test	Bottom	19.37	37.6	1.47	35.85	63.09	194.9	6.93	0.3547	1.5429	8.87
Second time		Before	Surface	7.67	30.4	0.62	11.44	69.79	106.1	2.14	0.0143	0.0622	33.57
	1	Test	Surface	15.34	34.2	1.17	12.07	68.41	131.9	5.24	0.1530	0.6656	9.24
	2	Test	Surface	14.93	32.9	1.09	11.09	83.53	134.3	5.01	0.1457	0.6339	8.81
	3	Test	Surface	15.18	31.9	1.12	11.90	78.02	132.1	4.99	0.1465	0.6373	8.14
		Before	Bottom	6.86	27.7	0.72	22.64	35.82	152.4	2.58	0.0145	0.0631	18.62
	1	Test	Bottom	22.6	41.3	1.45	16.22	79.34	269.7	6.47	0.3230	1.4051	7.09
	2	Test	Bottom	23.41	40.3	1.38	17.12	84.57	261.7	6.14	0.3392	1.4755	7.16
	3	Test	Bottom	22.92	39.2	1.38	16.63	86.63	254.6	6.03	0.3284	1.4285	7.02
Third time		Before	Surface	5.33	26.3	0.62	10.10	60.12	85.2	2.11	0.0167	0.0726	60.45
	1	Test	Surface	13.13	30.0	1.33	17.39	67.75	119.7	4.98	0.2037	0.8561	7.19
	2	Test	Surface	12.49	29.3	1.27	17.0	65.92	114.9	5.64	0.2147	0.9339	6.40
	3	Test	Surface	13.77	34.7	1.30	18.05	66.28	126.0	5.24	0.2338	1.0170	6.76
		Before	Bottom	7.79	21.9	0.72	15.54	51.11	158.1	2.47	0.0168	0.0731	29.17
	1	Test	Bottom	18.77	27.1	1.44	25.76	72.79	205.1	6.77	0.3861	1.6795	12.83
	2	Test	Bottom	18.87	25.4	1.50	26.91	77.87	199.3	6.91	0.3617	1.5734	11.56
	3	Test	Bottom	18.05	29.6	1.36	24.11	73.93	205.6	6.18	0.3665	1.5943	12.55
Fourth time		Before	Surface	4.10	21.7	0.68	26.22	25.56	54.9	2.02	0.0137	0.0596	41.61
	1	Test	Surface	13.13	30.5	1.30	28.1	75.20	97.6	6.12	0.3113	1.3542	9.41
	2	Test	Surface	12.49	29.7	1.28	28.15	72.07	99.9	5.01	0.3309	1.4394	9.52
	3	Test	Surface	13.13	29.3	1.35	29.05	77.85	109.9	6.42	0.3339	1.4525	8.63
		Before	Bottom	3.25	17.6	0.77	28.64	44.42	198.7	2.17	0.0204	0.0887	31.67
	1	Test	Bottom	13.95	31.9	1.28	30.60	65.14	203.7	5.76	0.3087	1.3428	8.08
	2	Test	Bottom	13.13	32.4	1.19	30.67	68.53	267.1	5.21	0.2930	1.2746	8.49
	3	Test	Bottom	14.59	33.6	1.16	34.01	66.64	290.3	6.00	0.3040	1.3224	8.54
Fifth time		Before	Surface	4.1	19.8	0,70	12.39	53.31	73.6	1.87	0.0125	0.0544	50.40
	1	Test	Surface	10.52	25.1	1.25	29.72	64.06	98.3	5.24	0.2345	1.0201	9.93
	2	Test	Surface	11.49	26.5	1.19	30.07	67.26	101.3	4.87	0.2153	0.9366	10.29
	3	Test	Surface	10.67	27.9	1.26	28.91	70.02	99.8	4.75	0.2293	0.9975	10.79
		Before	Bottom	3.69	21.7	0.75	17.92	45.79	101.1	2.14	0.0146	0.0635	47.26
	1	Test	Bottom	16.41	32.6	1.20	31.91	64.01	165.7	6.30	0.3147	1.3689	8.17
	2	Test	Bottom	15.13	34.8	1.39	29.37	66.96	156.1	6.17	0.3093	1.3455	7.93
	3	Test	Bottom	16.67	33.7	1.26	31.89	65.30	159.3	5.55	0.2980	1.2963	8.81

Point 13

Time	Tube N°	Sample	Layer	Parameter (th-ng,sè)								
				COD_{Mn} (mg/l)	$P\text{-}PO_4^{3-}$ (µg/l)	T-P (mg/l)	$N\text{-}NO_2^-$ (µg/l)	$N\text{-}NO_3^-$ (µg/l)	$N\text{-}NH_4^+$ (µg/l)	T-N (mg/l)	SS (g/l)	SS (g/tube)	H, (%)
First time		Before	Surface	5.61	10.9	0.13	10.80	53.97	19.0	1.74	0.0081	0.0352	82.72
	1	Test	Surface	16.21	18.2	0.50	27.85	62.40	286.0	7.24	0.7913	3.4422	12.23
	2	Test	Surface	16.82	19.2	0.56	30.32	65.94	271.4	7.87	0.7482	3.2547	11.82
	3	Test	Surface	16.02	19.0	0.59	23.39	62.07	276.6	8.01	0.8184	3.5600	13.82
		Before	Bottom	5.61	11.5	0.15	11.19	45.32	97.5	2.14	0.0193	0.0840	51.30
	1	Test	Bottom	32.03	21.9	0.84	39.36	68.26	300.8	10.12	1.8379	7.9949	6.48
	2	Test	Bottom	33.24	22.4	0.84	38.66	71.03	303.6	11.21	1.7499	7.6121	5.71
	3	Test	Bottom	33.63	23.0	0.89	36.93	77.51	302.4	9.97	1.7374	7.5577	6.10
Second time		Before	Surface	5.61	12.7	0.21	14.78	61.81	88.1	1.82	0.0072	0.0313	73.61
	1	Test	Surface	17.62	23.8	0.58	33.68	93.54	269.1	7.20	0.5257	2.2868	12.15
	2	Test	Surface	19.62	24.1	0.69	32.96	95.85	287.2	6.97	0.4803	2.0893	11.61
	3	Test	Surface	18.21	24.3	0.65	29.78	94.94	261.0	6.66	0.5094	2.2159	11.77
		Before	Bottom	4.80	12.8	0.23	12.84	26.44	99.5	1.97	0.0167	0.0726	54.49
	1	Test	Bottom	49.65	24.7	0.99	37.68	46.28	386.2	17.51	4.7118	20.4463	5.92
	2	Test	Bottom	59.07	24.2	1.00	35.83	49.74	368.6	16.49	4.7497	20.6612	6.82
	3	Test	Bottom	52.85	25.8	1.17	38.27	45.90	384.4	18.74	4.629	20.1362	5.04
Third time		Before	Surface	4.00	9.4	0.17	13.26	72.34	193.6	1.27	0.0065	0.0283	30.77
	1	Test	Surface	16.81	22.9	0.67	36.70	78.38	261.0	6.01	0.485	2.1098	12.47
	2	Test	Surface	17.62	23.8	0.61	34.85	74.25	264.5	5.84	0.472	2.0532	11.01
	3	Test	Surface	18.42	23.7	0.60	33.39	75.60	263.5	6.37	0.496	2.1576	11.21
		Before	Bottom	4.22	12.3	0.28	6.63	70.80	110.5	1.93	0.0323	0.1405	40.56
	1	Test	Bottom	45.64	24.7	1.01	51.50	46.63	320.1	15.91	3.965	17.2478	6.54
	2	Test	Bottom	40.04	23.6	0.93	45.30	49.61	378.5	16.13	4.036	17.5566	7.51
	3	Test	Bottom	43.85	23.4	0.99	45.66	77.92	387.5	15.24	3.992	17.3652	7.63
Fourth time		Before	Surface	5.61	9.1	0.18	25.00	46.70	105.0	1.62	0.0112	0.0487	74.11
	1	Test	Surface	14.41	29.8	0.66	29.80	84.31	257.7	6.14	0.4855	2.1119	11.73
	2	Test	Surface	13.61	29.3	0.65	31.08	84.29	269.8	5.96	0.4229	1.8396	12.07
	3	Test	Surface	14.21	30.9	0.67	30.14	88.19	249.7	5.08	0.4234	1.8418	12.22
		Before	Bottom	6.41	7.4	0.20	17.76	58.03	122.5	2.14	0.0387	0.1683	21.45
	1	Test	Bottom	42.04	28.6	0.78	42.2	91.81	373.2	9.57	2.6017	11.3174	8.57
	2	Test	Bottom	44.04	28.8	0.79	45.60	92.57	371.3	9.93	2.8218	12.2748	7.81
	3	Test	Bottom	43.64	29.9	0.80	41.2	95.95	370.1	10.66	2.7857	12.1178	8.16
Fifth time		Before	Surface	5.21	17.5	0.15	14.7	75.09	119.6	1.32	0.0100	0.0435	73.00
	1	Test	Surface	13.81	27.3	0.54	55.9	99.35	289.9	5.14	0.3156	1.3729	11.94
	2	Test	Surface	13.01	28.7	0.53	52.05	97.07	266.1	4.37	0.2971	1.2924	12.87
	3	Test	Surface	12.41	26.7	0.58	51.7	94.13	259.9	4.98	0.321	1.3964	12.27
		Before	Bottom	6.01	16.7	0.20	16.47	53.33	164.6	1.86	0.0311	0.1353	36.66
	1	Test	Bottom	30.04	41.7	0.60	57.55	85.87	287.2	12.03	1.8254	7.9405	8.73
	2	Test	Bottom	28.23	38.5	0.61	53.36	84.18	317.9	10.74	1.9094	8.3059	8.04
	3	Test	Bottom	29.63	42.9	0.67	59.9	86.80	327.1	11.33	1.9783	8.6056	9.44

Time	Tube N°	Sample	Layer	Parameter (thông số) COD_{Mn} (mg/l)	P-PO_4^{3-} (µg/l)	T-P (mg/l)	N-NO_2 (µg/l)	N-NO_3 (µg/l)	N-NH_4 (µg/l)	T-N (mg/l)	SS (g/l)	SS (g/tube)	IL (%)
First time		Before	Surface	3.10	10.6	0.29	13.39	38.45	208.4	1.78	0.0129	0.0561	73.64
	1	Test	Surface	21.12	32.1	0.53	28.41	68.94	191.0	6.20	0.3214	1.3981	7.60
	2	Test	Surface	23.09	31.4	0.58	27.81	69.51	189.3	5.76	0.3415	1.4855	7.89
	3	Test	Surface	22.14	30.9	0.54	27.30	70.07	192.1	6.12	0.3364	1.4633	7.78
		Before	Bottom	3.63	10.3	0.31	22.9	35.53	172.6	1.98	0.0300	0.1305	31.33
	1	Test	Bottom	45.52	46.3	0.69	38.00	68.10	264.3	13.41	2.3850	10.3748	6.79
	2	Test	Bottom	45.21	46.9	0.71	37.14	66.20	272.1	12.84	2.1320	9.2742	6.52
	3	Test	Bottom	40.36	47.1	0.70	37.92	67.43	263.8	12.76	2.1640	9.4134	6.01
Second time		Before	Surface	4.04	12.9	0.34	16.87	46.74	118.1	1.64	0.0131	0.0570	63.36
	1	Test	Surface	23.18	40.1	0.66	31.08	76.68	229.6	7.68	0.8450	3.6558	7.89
	2	Test	Surface	24.25	37.2	0.64	29.32	72.08	233.5	7.91	0.8550	3.7193	8.21
	3	Test	Surface	22.6	37.3	0.60	31.68	78.36	247.5	7.26	0.8400	3.6540	8.33
		Before	Bottom	4.63	15.8	0.39	37.5	36.20	191.3	1.72	0.0168	0.0731	60.71
	1	Test	Bottom	84.76	58.3	0.74	38.42	68.47	209.0	23.17	6.8520	29.8062	7.54
	2	Test	Bottom	88.93	55.0	0.74	39.5	65.03	308.0	22.57	6.7670	29.4365	7.14
	3	Test	Bottom	83.95	59.6	0.73	40.12	68.69	298.5	23.45	6.9000	30.0150	6.78
Third time		Before	Surface	4.68	16.3	0.36	19.66	78.57	179.5	1.82	0.0176	0.0766	57.95
	1	Test	Surface	27.43	40.22	0.69	34.98	89.42	254.4	9.12	0.9749	4.2410	7.21
	2	Test	Surface	26.94	39.41	0.68	35.07	88.79	250.2	9.56	0.9377	4.0790	7.10
	3	Test	Surface	28.01	39.89	0.70	35.04	87.54	258.7	10.07	1.0593	4.6080	6.98
		Before	Bottom	4.44	18.8	0.43	27.01	72.92	223.1	2.44	0.0522	0.2271	22.61
	1	Test	Bottom	84.53	68.8	0.78	40.12	84.71	341.5	29.46	9.9390	43.2347	6.46
	2	Test	Bottom	84.22	69.3	0.79	39.78	86.45	348.7	28.39	9.9090	43.1042	5.48
	3	Test	Bottom	82.60	70.1	0.77	38.94	85.51	351.4	30.12	9.5690	41.6252	6.35
Fourth time		Before	Surface	3.63	11.3	0.45	19.6	50.10	182.7	1.84	0.0147	0.0639	67.35
	1	Test	Surface	23.41	35.9	0.60	36.4	53.07	211.1	8.97	0.8910	3.8759	7.02
	2	Test	Surface	26.95	34.5	0.59	37.8	51.73	212.3	8.52	0.8028	3.4922	7.31
	3	Test	Surface	25.57	31.2	0.64	41.5	62.32	237.3	7.89	0.7180	3.1233	7.57
		Before	Bottom	3.23	10.1	0.48	17.8	65.53	209.4	2.18	0.0509	0.2214	25.34
	1	Test	Bottom	58.93	39.9	0.72	31.6	96.39	307.6	19.88	4.5430	19.7662	6.69
	2	Test	Bottom	63.28	41.4	0.76	29.7	97.04	319.1	20.11	4.6320	20.1492	6.89
	3	Test	Bottom	63.77	42.9	0.76	49.3	89.83	295.7	18.79	4.5410	19.7534	6.47
Fifth time		Before	Surface	3.23	11.4	0.42	21.7	53.21	187.9	1.47	0.0095	0.0413	70.00
	1	Test	Surface	21.80	32.7	0.80	48.9	56.98	209.1	8.01	0.6360	3.7666	7.46
	2	Test	Surface	23.76	31.7	0.66	44.3	74.63	211.3	7.28	0.6072	2.6413	8.42
	3	Test	Surface	24.22	30.5	0.76	51.1	63.87	232.6	7.64	0.6286	2.7344	8.99
		Before	Bottom	3.83	12.4	0.45	18.4	47.8	199.1	2.34	0.0684	0.2975	65.09
	1	Test	Bottom	55.7	39.5	0.57	38.1	72.63	331.4	18.10	3.7480	16.3038	7.12
	2	Test	Bottom	58.12	40.1	0.60	39.7	60.34	405.4	17.82	3.6630	15.9341	6.52
	3	Test	Bottom	56.51	41.2	0.63	37.9	82.77	307.1	18.48	3.8640	16.8084	7.35

Point 25

Time	Tube N°	Sample	Layer	Parameter (thong số)								
				COD_{Mn} (mg/l)	$P\text{-}PO_4^{3-}$ (µg/l)	T-P (mg/l)	$N\text{-}NO_2$ (µg/l)	$N\text{-}NO_3$ (µg/l)	$N\text{-}NH_4$ (µg/l)	T-N (mg/l)	SS (g/l)	SS (g/tube)	IL (%)
First time		Before	Surface	5.11	16.9	0.35	10.89	36.01	113	1.87	0.0161	0.0700	47.83
	1	Test	Surface	49.19	21.0	0.76	7.47	153.34	159.0	18.72	2.6870	11.6585	6.62
	2	Test	Surface	51.52	20.7	1.08	7.39	156.96	154.5	18.30	2.5701	11.1799	5.35
	3	Test	Surface	48.56	23.0	1.02	8.23	146.58	160.9	19.17	2.5210	10.9664	8.69
		Before	Bottom	5.11	19.9	0.52	12.08	30.86	107	2.57	0.0299	0.1301	33.11
	1	Test	Bottom	81.78	20.0	1.68	9.79	145.37	225.0	30.11	11.6872	50.8393	5.19
	2	Test	Bottom	78.82	15.0	1.14	9.46	154.35	233.5	31.62	12.1019	52.6433	5.16
	3	Test	Bottom	79.23	21.9	2.56	10.36	152.03	211.0	32.09	11.9545	52.0021	6.04
Second time		Before	Surface	4.69	17.6	0.22	6.19	36.80	101.5	1.67	0.0137	0.0596	56.93
	1	Test	Surface	57.08	22.7	1.04	7.23	102.65	80.3	16.77	1.9039	8.2820	6.57
	2	Test	Surface	55.15	22.1	0.90	7.65	111.79	101.7	15.20	1.9469	8.4740	8.41
	3	Test	Surface	52.82	26.0	0.87	7.90	95.87	94.7	16.08	1.9371	8.6452	7.61
		Before	Bottom	6.82	23.3	0.22	5.99	23.37	121.9	2.62	0.0846	0.3650	17.38
	1	Test	Bottom	74.97	26.0	1.48	11.66	121.61	149.0	23.41	5.2353	22.7736	5.83
	2	Test	Bottom	71.56	24.0	1.42	10.49	137.66	94.2	24.54	5.4823	23.8430	6.53
	3	Test	Bottom	75.82	26.1	1.42	9.90	131.12	84.9	25.15	6.1937	26.9426	5.93
Third time		Before	Surface	4.80	17.6	0.28	6.13	45.73	115.8	1.88	0.0179	0.0779	51.96
	1	Test	Surface	34.71	24.9	0.67	14.26	42.39	115.9	13.11	1.7164	7.4663	4.23
	2	Test	Surface	33.22	28.1	0.57	30.06	44.78	191.8	12.35	1.3796	6.0013	5.44
	3	Test	Surface	36.01	29.2	0.66	15.4	43.32	102.3	12.00	1.2150	5.2933	3.86
		Before	Bottom	7.24	24.4	0.73	5.54	37.30	81.9	2.12	0.0271	0.1179	7.01
	1	Test	Bottom	68.15	37.8	1.40	9.68	55.89	266.8	27.54	6.3675	27.6958	6.67
	2	Test	Bottom	69.00	36.7	1.33	11.76	65.36	259.7	30.14	8.0954	35.2280	3.62
	3	Test	Bottom	65.19	34.3	1.21	12.84	40.91	293.1	26.42	6.3365	27.5639	7.64
Fourth time		Before	Surface	5.54	23.3	0.32	12.52	40.44	118.4	1.79	0.0167	0.0726	61.68
	1	Test	Surface	38.34	40.6	1.20	13.97	54.65	166.0	6.90	1.0453	4.5472	8.95
	2	Test	Surface	41.74	39.3	0.89	11.11	54.91	111.9	7.42	1.1631	5.0811	9.87
	3	Test	Surface	40.56	40.1	0.58	11.39	53.71	123.0	6.93	1.0633	4.6255	8.93
		Before	Bottom	7.67	29.3	0.41	12.56	63.33	164.0	1.81	0.0165	0.0718	53.94
	1	Test	Bottom	52.82	39.1	1.02	9.84	74.09	297.8	14.36	3.7735	16.4149	8.62
	2	Test	Bottom	59.37	38.4	0.97	10.69	78.48	374.2	15.42	2.8672	12.4723	28.63
	3	Test	Bottom	59.63	36.8	1.12	11.81	76.19	229.6	14.97	3.1303	13.6605	9.52
Fifth time		Before	Surface	5.96	35.8	0.44	14.57	66.29	103.7	1.70	0.0100	0.0435	83.00
	1	Test	Surface	27.26	46.7	0.36	12.6	69.40	161.9	4.03	0.4559	1.9830	1.20
	2	Test	Surface	28.00	46.1	1.26	26.22	65.23	192.3	4.57	0.4665	2.0294	3.02
	3	Test	Surface	28.96	44.4	0.50	22.94	63.53	198.7	5.14	0.5642	2.4543	9.13
		Before	Bottom	6.82	34.5	0.45	14.6	60.50	197.1	1.69	0.0123	0.0535	75.61
	1	Test	Bottom	55.37	44.9	0.58	28.86	77.20	259.7	10.58	1.6473	7.1656	1.91
	2	Test	Bottom	51.11	53.6	0.49	23.66	77.03	321.4	11.81	1.6748	7.2854	5.96
	3	Test	Bottom	55.37	49.3	0.30	25.42	80.31	294.5	12.12	1.8831	8.1913	6.71

2.29 Result of the Productivity Test

Point: 2

- The time set on: 11h 35' - 29/7/1998
- The time set off: 15h 30' - 29/7/1998

1 - Surface:

N°	Sample	Time	Light bottle			Dark bottle		
			T (°C)	pH	DO (mg/l)	T (°C)	pH	DO (mg/l)
1	Before	at 11h35	32.8	8.17	6.89	33.8	8.17	6.98
2	Bottle 1	3.92 h	33.2	8.24	9.22	33.2	8.17	6.41
3	Bottle 2	3.92 h	33.2	8.24	9.20	33.2	8.16	6.43
4	Bottle 3	3.92 h	33.2	8.21	9.24	33.2	8.16	6.42

Chlorophyll - a: 2.20 µg/l

COD_{Mn}: 6.41 mg/l

1 - Bottom:

N°	Sample	Time	Light bottle			Dark bottle		
			T (°C)	pH	DO (mg/l)	T (°C)	pH	DO (mg/l)
1	Before	at 11h35	31.2	8.24	5.89	31.2	8.24	5.89
2	Bottle 1	3.92 h	31.4	8.26	6.22	31.4	8.23	5.48
3	Bottle 2	3.92 h	31.4	8.26	6.24	31.4	8.24	5.46
4	Bottle 3	3.92 h	31.4	8.26	6.23	31.4	8.23	5.44

Chlorophyll - a: 2.60 µg/l

COD_{Mn}: 5.40 mg/l

Point: 6

- The time set on: 9h 30' - 29/7/1998
- The time set off: 17h 00' - 29/7/1998

1 - Surface:

N°	Sample	Time	Light bottle			Dark bottle		
			T (°C)	pH	DO (mg/l)	T (°C)	pH	DO (mg/l)
1	Before	at 9h 30'	32.0	8.35	7.27	32.0	8.35	7.27
2	Bottle 1	7.50 h	33.0	8.62	10.11	33.0	8.24	6.76
3	Bottle 2	7.50 h	33.0	8.61	10.13	33.0	8.23	6.73
4	Bottle 3	7.50 h	33.0	8.63	10.12	33.0	8.24	6.79

Chlorophyll - a: 2.50 µg/l

COD_{Mn}: 6.81 mg/l

1 - Bottom:

N°	Sample	Time	Light bottle			Dark bottle		
			T (°C)	pH	DO (mg/l)	T (°C)	pH	DO (mg/l)
1	Before	at 9h 30'	31.8	8.24	6.27	31.8	8.24	6.27
2	Bottle 1	7.50 h	31.6	8.30	6.77	31.6	8.20	5.81
3	Bottle 2	7.50 h	31.6	8.29	6.85	31.6	8.20	5.78
4	Bottle 3	7.50 h	31.6	8.29	6.84	31.6	82.1	5.85

Chlorophyll - a: 2.40 µg/l

COD_{Mn}: 5.81 mg/l

Point: 13
- The time set on: 10h 00' - 24/7/1998
- The time set off: 15h 50' - 24/7/1998

1 - Surface:

N°	Sample	Time	Light bottle			Dark bottle		
			T (°C)	pH	DO (mg/l)	T (°C)	pH	DO (mg/l)
1	Before	at 10h00'	32.0	8.37	6.24	32.0	8.37	6.24
2	Bottle 1	5.83 h	31.6	8.46	6.70	31.6	8.34	6.12
3	Bottle 2	5.83 h	31.6	8.46	6.80	31.6	8.35	6.14
4	Bottle 3	5.83 h	31.6	8.45	6.83	31.6	8.34	6.11

Chlorophyll - a: 2.40 µg/l
CODMn : 1.78 mg/l

1 - Bottom:

N°	Sample	Time	Light bottle			Dark bottle		
			T (°C)	pH	DO (mg/l)	T (°C)	pH	DO (mg/l)
1	Before	at 10h00'	31.4	8.38	6.26	31.4	8.36	6.26
2	Bottle 1	5.83 h	31.3	8.46	6.48	31.3	8.35	6.22
3	Bottle 2	5.83 h	31.3	8.45	6.53	31.3	8.35	6.23
4	Bottle 3	5.83 h	31.3	8.47	6.47	31.3	8.35	6.20

Chlorophyll - a: 2.06 µg/l
CODMn : 1.50 mg/l

Point: 22
- The time set on: 12h 00' - 25/7/1998
- The time set off: 16h 30' - 25/7/1998

1 - Surface:

N°	Sample	Time	Light bottle			Dark bottle		
			T (°C)	pH	DO (mg/l)	T (°C)	pH	DO (mg/l)
1	Before	at 12h00'	31.2	8.34	5.77	31.2	8.34	5.77
2	Bottle 1	4.50 h	30.9	8.36	6.48	30.9	8.33	5.64
3	Bottle 2	4.50 h	30.9	8.36	6.38	30.9	8.32	5.62
4	Bottle 3	4.50 h	30.9	8.36	6.44	30.9	8.33	5.66

Chlorophyll - a: 2.30 µg/l
COD_{Mn}: 2.03 mg/l

1 - Bottom:

N°	Sample	Time	Light bottle			Dark bottle		
			T (°C)	pH	DO (mg/l)	T (°C)	pH	DO (mg/l)
1	Before	at 12h00'	30.8	8.34	5.68	30.8	8.34	5.68
2	Bottle 1	4.50 h	30.8	8.35	6.23	30.8	8.33	5.66
3	Bottle 2	4.50 h	30.8	8.35	6.27	30.8	8.34	5.62
4	Bottle 3	4.50 h	30.8	8.34	6.30	30.7	8.34	5.64

Chlorophyll - a: 2.40 µg/l
COD_{Mn}: 2.02 mg/l

Point: 25
- The time set on: 10h 30' - 27/7/1998
- The time set off: 18h 05' - 27/7/1998

1 - Surface:

N°	Sample	Time	Light bottle			Dark bottle		
			T (°C)	pH	DO (mg/l)	T (°C)	pH	DO (mg/l)
1	Before	at 10h30'	31.4	8.32	5.75	31.4	8.32	5.75
2	Bottle 1	7.58 h	31.4	8.44	6.48	31.4	8.30	5.61
3	Bottle 2	7.58 h	31.4	8.44	6.47	31.4	8.30	5.63
4	Bottle 3	7.58 h	31.4	8.43	6.49	31.4	8.30	5.60

Chlorophyll - a: 2.40 µg/l
COD_{Mn}: 1.78 mg/l

1 – Bottom:

N°	Sample	Time	Light bottle			Dark bottle		
			T (°C)	pH	DO (mg/l)	T (°C)	pH	DO (mg/l)
1	Before	at 10h30'	31.4	8.36	5.58	31.4	8.36	5.58
2	Bottle 1	7.58 h	31.4	8.43	6.40	31.4	8.34	5.53
3	Bottle 2	7.58 h	31.4	8.43	6.42	31.4	8.34	5.53
4	Bottle 3	7.58 h	31.4	8.43	6.41	31.4	8.34	5.54

Chlorophyll - a: 2.06 µg/l
COD_{Mn}: 1.50 mg/l

2.30 Results of Decomposition Test

Point 2

N_o	Time	Layer	T (C)	pH	DO (mg/l)	COD_{Mn} (mg/l)	$P\text{-}PO_4^{3-}$ (µgP/l)	T-P (mgP/l)	$N\text{-}NO_3^-$ (µgN/l)	$N\text{-}NO_2^-$ (µgN/l)	$N\text{-}NH_4^+$ (µgN/l)	T-N (mgN/l)
1	Before	Surface	30.5 °C	8.24	4.16	7.67	18.3	0.56	70.20	20.16	105.51	1.68
2	Before	Bottom	30.2 °C	8.25	5.48	7.82	21.7	0.61	63.06	21.91	129.53	1.69
3	1 day	Surface	25.4 °C	8.20	4.73	7.45	28.2	0.56	82.74	20.98	133.01	1.61
4	1 day	Bottom	25.5°C	8.21	4.79	7.48	24.9	0.60	77.57	22.56	158.03	1.70
5	5 days	Surface	25.4°C	7.97	4.54	6.74	30.9	0.57	89.32	28.50	154.30	1.64
6	5 days	Bottom	25.3°C	8.13	4.63	6.82	26.0	0.63	102.52	25.92	179.10	1.67
7	10 day	Surface	25.6°C	7.64	3.92	6.09	75.2	0.58	126.66	138.70	187.91	1.63
8	10 days	Bottom	25.5°C	7.81	3.85	5.81	61.1	0.63	171.71	147.00	199.10	1.71
9	20 days	Surface	25.5°C	7.58	3.15	5.25	110.1	0.60	128.32	140.55	191.9	1.62
10	20 days	Bottom	25.4°C	7.68	3.09	5.46	86.9	0.63	174.18	151.80	233.7	1.66

Note: Transparency 1m; Surface salinity: 16‰; Depth 6m; Bottom salinity: 18‰;
Before : 9h00 - July 14, 1998 1 day : 9h00 - July 15, 1998 5 days : 9h00 - July 20, 1998
10 days : 9h00 - July 25, 1998 20 days: 9h00 - August 4, 1998

Point 6

N_o	Time	Layer	T (C)	pH	DO (mg/l)	COD_{Mn} (mg/l)	$P\text{-}PO_4^{3-}$ (µgP/l)	T-P (mgP/l)	$N\text{-}NO_3^-$ (µgN/l)	$N\text{-}NO_2^-$ (µgN/l)	$N\text{-}NH_4$ (µgN/l)	T-N (mgN/l)
1	Before	Surface	31.5 °C	8.21	7.02	5.52	23.9	0.59	63.38	23.66	32.80	1.32
2	Before	Bottom	31.4 °C	8.23	6.69	5.20	24.0	0.62	81.31	9.74	54.06	1.56
3	1 day	Surface	25.5°C	8.15	4.72	5.14	28.2	0.58	78.15	25.66	101.08	1.36
4	1 day	Bottom	25.6°C	8.19	4.68	5.08	26.9	0.64	88.89	13.01	191.80	1.60
5	5 days	Surface	25.3°C	8.09	4.01	4.58	33.5	0.60	89.44	35.10	127.90	1.31
6	5 days	Bottom	25.1°C	8.06	4.05	4.47	37.8	0.65	99.04	39.72	231.80	1.58
7	10 days	Surface	25.4°C	7.98	3.53	4.12	61.9	0.60	109.88	92.10	154.70	1.34
8	10 days	Bottom	25.5°C	7.84	3.50	3.98	74.3	0.67	159.29	48.52	259.80	1.62
9	20 days	Surface	25.4°C	7.66	3.27	3.84	110.1	0.60	128.12	140.55	191.91	1.30
10	20 days	Bottom	25.3°C	7.72	3.25	3.46	86.9	0.63	174.18	151.80	283.72	1.55

Note: Transparency 0.75m; Surface salinity 10‰; Depth 2.5m; Bottom salinity: 10‰;
Before : 12h30 - July 14, 1998 1 day : 12h30 - July 15, 1998 5 days : 12h30 - July 20, 1998
10 days : 12h30 - July 25, 1998 20 days : 12h30 - August 4, 1998

Point 13

N_o	Time	Layer	T (C)	pH	DO (mg/l)	COD_{Mn} (mg/l)	$P\text{-}PO_4^{3-}$ (µgP/l)	T-P (mgP/l)	$N\text{-}NO_3^-$ (µgN/l)	$N\text{-}NO_2^-$ (µgN/l)	$N\text{-}NH_4$ (µgN/l)	T-N (mgN/l)
1	Before	Surface	30.3°C	8.28	5.80	4.58	18.4	0.12	75.35	15.00	73.81	1.91
2	Before	Bottom	29.4°C	8.27	3.86	4.15	30.0	0.21	53.15	29.37	81.65	2.27
3	1 day	Surface	25.7°C	8.25	4.48	4.23	24.6	0.15	78.08	16.98	76.87	1.85
4	1 day	Bottom	25.6°C	8.38	4.37	3.88	34.4	0.27	57.93	37.90	87.93	2.19
5	5 days	Surface	25.5°C	8.23	4.18	3.87	26.9	0.19	85.30	36.08	99.9	1.78
6	5 days	Bottom	25.5°C	8.20	4.11	3.56	37.5	0.31	102.14	46.10	202.3	2.22
7	10 days	Surface	25.6°C	8.17	4.05	3.23	59.7	0.20	95.96	49.63	123.1	2.81
8	10 days	Bottom	25.4°C	8.14	4.01	2.82	64.3	0.35	116.00	56.52	254.0	2.27
9	20 days	Surface	25.5°C	8.11	3.89	2.83	70.6	0.20	97.32	52.84	127.9	1.84
10	20 days	Bottom	25.3°C	8.02	3.87	2.22	82.0	0.37	119.77	64.90	257.1	2.31

Note: Transparency 5.5m; Surface salinity: 30‰; Depth: 11m; Bottom salinity: 30‰;
Before : 18h00 - July 13, 1998 1 day : 18h - July 14, 1998 5 days : 18h - July 19, 1998
10 days : 18h - July 24, 1998 20 days : 18h - August 3, 1998

Point 22

N_o	Time	Layer	T (°C)	pH	DO (mg/l)	COD_{Mn} (mg/l)	$P\text{-}PO_4^{3}$ ($\mu gP/l$)	T-P (mgP/l)	$N\text{-}NO_3^{-}$ ($\mu gN/l$)	$N\text{-}NO_2^{-}$ ($\mu gN/l$)	$N\text{-}NH_4$ ($\mu gN/l$)	T-N (mgN/l)
1	Before	Surface	30.3 °C	8.26	6.44	3.63	25.7	0.34	39.13	5.90	79.33	1.76
2	Before	Bottom	30.0 °C	8.27	5.70	4.43	15.3	0.51	30.96	21.01	69.16	1.96
3	1 day	Surface	25.5°C	8.19	4.75	3.41	27.8	0.35	68.05	7.84	86.50	1.74
4	1 day	Bottom	25.4°C	8.17	4.69	4.68	18.9	0.55	65.51	23.37	99.00	2.01
5	5 days	Surface	25.5°C	8.15	4.52	3.10	38.3	0.34	82.15	16.08	96.31	1.78
6	5 days	Bottom	25.4°C	8.12	4.51	3.58	26.5	0.57	82.80	26.10	121.92	1.97
7	10 days	Surface	25.3°C	8.07	4.36	2.90	39.7	0.37	95.96	29.61	106.93	1.80
8	10 days	Bottom	25.5°C	8.06	4.31	3.10	53.9	0.59	104.99	37.06	154.71	1.94
9	20 days	Surface	25.3°C	8.01	4.05	2.62	82.5	0.36	97.66	38.91	108.14	1.75
10	20 days	Bottom	25.6°C	7.96	4.03	2.83	114.0	0.59	110.77	49.04	164.72	1.99

Note: Transparency : 2.75m. Surface salinity: 23.5 ‰; Depth: 8 m; Bottom salinity: 23.5‰;
Before : 15h - July 13, 1998 1 day : 15h - July 14, 1998 5 days : 15h - July 19, 1998
10 days: 15h - July 24, 1998 20 days : 15h - August 3, 1998

Point25

N_o	Time	Layer	T (°C)	pH	DO (mg/l)	COD_{Mn} (mg/l)	$P\text{-}PO_4^{3}$ ($\mu gP/l$)	T-P (mgP/l)	$N\text{-}NO_3^{-}$ ($\mu gN/l$)	$N\text{-}NO_2^{-}$ ($\mu gN/l$)	$N\text{-}NH_4$ ($\mu gN/l$)	T-N (mgN/l)
1	Before	Surface	30.6 °C	8.20	5.24	7.26	24.82	0.352	34.64	6.37	70.13	1.69
2	Before	Bottom	30.2 °C	8.24	5.16	8.47	18.84	0.798	32.81	3.83	88.31	1.48
3	1 day	Surface	25.4°C	8.18	5.01	6.98	28.80	0.373	36.81	7.01	78.27	1.72
4	1 day	Bottom	25.3°C	8.20	4.85	7.58	29.47	0.799	34.64	3.90	94.6	1.54
5	5 days	Surface	25.3°C	8.12	4.53	6.46	43.51	0.360	62.51	15.67	89.54	1.73
6	5 days	Bottom	25.4°C	8.16	4.53	6.07	45.48	0.802	59.18	7.06	99.47	1.51
7	10 days	Surface	25.2°C	8.07	4.30	4.23	62.42	0.343	91.42	28.02	92.14	1.68
8	10 days	Bottom	25.2°C	8.10	4.49	4.61	57.13	0.804	80.11	27.60	105.32	1.47
9	20 days	Surface	25.4°C	8.00	4.12	3.83	96.74	0.356	105.16	45.70	112.58	1.74
10	20 days	Bottom	25.1°C	8.02	4.24	2.83	89.56	0.812	89.27	44.33	124.6	1.46

Note: Transparency 1.8m; Surface salinity: 17.5‰; Depth m; Bottom salinity: 21.6‰;
Before : 12h - July 13, 1998 1 day : 12h - July 14, 1998 5 days : 12h - July 19, 1998
10 days: 12h - July 24, 1998 20 days : 12h - August 3, 1998

2.31 Results of Elution Test

Point 2

N_o	Time	T (°C)	pH	DO (mg/l)	COD_{Mn} (mg/l)	$P\text{-}PO_4^{3-}$ (µgP/l)	T-P (mgP/l)	$N\text{-}NO_3^-$ (µgN/l)	$N\text{-}NO_2$ (µgN/l)	$N\text{-}NH_4$ (µgN/l)	T-N (mgN/l)
1	Before	30.7	8.24	4.07	3.90	21.1	0.52	63.07	22.00	123.57	1.73
2	1 day	25.5	8.21	5.20	6.28	24.9	0.60	89.39	28.24	244.00	1.87
3	5 days	25.4	8.20	5.17	6.84	76.1	1.12	121.55	31.25	359.10	2.92
4	10 days	25.5	8.16	5.18	7.82	91.3	1.62	157.78	51.06	424.13	3.86
5	20 days	25.3	8.04	5.08	8.43	95.3	1.63	163.88	57.12	439.3	4.03

Note: Transparency: 1m; Bottom salinity : 18 ‰ ; Depth: 6m ;
Before : 9h30 July 14, 1998 1 day :14h July 15, 1998 5 days : 14h July 19, 1998
10 days : 14h July 24, 1998 20days : 14h August 3, 1998

Point 6

N_o	Time	T (°C)	pH	DO (mg/l)	COD_{Mn} (mg/l)	$P\text{-}PO_4^{3-}$ (µgP/l)	T-P (mgP/l)	$N\text{-}NO_3^-$ (µgN/l)	$N\text{-}NO_2$ (µgN/l)	$N\text{-}NH_4$ (µgN/l)	T-N (mgN/l)
1	Before	31.5	8.13	6.78	5.25	24.5	0.49	65.75	21.05	39.12	1.61
2	1 day	25.5	8.32	5.94	5.82	28.4	0.59	108.05	25.19	203.8	2.12
3	5 days	25.4	8.22	5.15	6.13	60.12	1.02	164.25	35.50	304.5	2.86
4	10 days	25.5	8.18	5.24	6.62	81.9	1.55	181.57	44.80	398.8	3.41
5	20 days	25.3	8.00	5.20	7.59	90.9	1.78	182.99	60.70	591.7	3.56

Note: Transparency: 1m; Bottom salinity 18 ‰; Depth 6m ;
Before : 13h00 July 14, 1998 1 day :14h July 15, 1998 5 days : 14h July 19, 1998
10 days : 14h July 24, 1998 20days : 14h August 3, 1998

Point 13

N_o	Time	T (°C)	pH	DO (mg/l)	COD_{Mn} (mg/l)	$P\text{-}PO_4^{3-}$ (µgP/l)	T-P (mgP/l)	$N\text{-}NO_3^-$ (µgN/l)	$N\text{-}NO_2$ (µgN/l)	$N\text{-}NH_4$ (µgN/l)	T-N (mgN/l)
1	Before	29.4	8.19	3.89	4.63	26.0	0.13	48.65	15.30	79.33	1.92
2	1 day	25.4	8.22	5.09	5.6	28.9	0.23	68.22	15.48	221.0	2.04
3	5 days	25.3	8.17	5.12	5.74	87.0	1.40	216.32	26.94	253.0	2.67
4	10 days	25.1	7.95	5.22	6.48	105.4	1.41	183.79	57.78	313.2	2.98
5	20 days	25.2	7.84	5.19	6.84	117.5	1.55	191.95	61.20	379.5	3.17

Note: Transparency 5.5 m; Bottom salinity :30 ‰ ; Depth : 11m ;
Before : 18h20 - July 13, 1998 1 day : 18h20 - July 13, 1998 5 days : 18h20 - July 13, 1998
10 days : 18h20 - July 13, 1998 20 days : 18h20 - July 13, 1998

Point 22

N_o	Time	T (°C)	pH	DO (mg/l)	COD_{Mn} (mg/l)	$P\text{-}PO_4^{3-}$ (µgP/l)	T-P (mgP/l)	$N\text{-}NO_3^-$ (µgN/l)	$N\text{-}NO_2$ (µgN/l)	$N\text{-}NH_4$ (µgN/l)	T-N (mgN/l)
1	Before	29.8 °C	8.17	6.01	3.67	14.6	0.42	27.07	10.99	84.70	1.84
2	1 day	25.5°C	8.15	4.85	4.42	24.4	1.40	77.71	10.76	181.5	2.12
3	5 days	25.2°C	8.17	5.31	4.15	69.1	1.78	146.02	31.46	381.3	2.84
4	10 days	25.0°C	7.93	6.56	5.52	97.8	1.93	161.75	39.47	514.1	3.34
5	20 days	25.2°C	7.91	5.22	5.89	158.1	1.97	178.17	50.09	514.9	3.41

Note: Transparency:2.75m; Bottom salinity:23.5 ‰ ; Depth: 8m ;
Before : 15h July 13, 1998 1 day : 14h July 16, 1998 5 days : 14h July 20, 1998
10 days : 14h July 25, 1998 20days : 14h August 13, 1998

Point 25

N_o	Time	T (°C)	pH	DO (mg/l)	COD_{Mn} (mg/l)	$P\text{-}PO_4^{3-}$ (µgP/l)	T-P (mgP/l)	$N\text{-}NO_3^-$ (µgN/l)	$N\text{-}NO_2$ (µgN/l)	$N\text{-}NH_4$ (µgN/l)	T-N (mgN/l)
1	Before	30.3	8.06	5.17	2.19	18.4	0.40	36.11	3.46	79.80	1.56
2	1 day	25.3	8.13	5.17	3.75	22.7	0.75	90.08	7.46	141.4	1.78
3	5 days	25.1	8.11	5.16	4.92	58.0	1.58	168.39	20.75	310.0	2.26
4	10 days	25.4	8.01	5.15	6.28	74.3	1.58	166.87	34.46	405.9	2.87
5	20 days	25.3	7.81	5.05	8.47	81.7	1.61	173.87	46.03	423.7	2.94

Note: Transparency 1.8 m; Bottom salinity 21.6 ‰ ;Depth m ;
Before : 12h10 July 13, 1998 1 day : 14h July 15, 1998 5 days : 14h July 19, 1998
10 days : 14h July 24, 1998 20days : 14h August 3, 1998

2.32 THE RESULT OF MEASURING SALINITY, TEMPERATURE AND DEPTH BY STD METER

Point 1			
Sensor	114		
Interval	0.50m		
Last data	9.00m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	32.59	16.56	31.19
0.50	32.17	16.62	31.07
1.00	31.86	16.69	31.00
1.50	31.11	17.77	32.38
2.00	31.11	17.81	32.45
2.50	31.10	17.91	32.61
3.00	31.06	18.69	33.87
3.50	31.02	19.90	35.83
4.00	30.99	20.25	36.37
4.50	30.98	20.29	36.43
5.00	30.98	20.59	36.92
5.50	30.96	20.76	37.18
6.00	30.96	21.23	38.08
6.50	30.92	21.53	38.40
7.00	30.90	22.06	39.24
7.50	30.90	22.12	39.34
8.00	30.90	22.15	39.38
8.50	30.90	22.16	39.39
9.00	30.90	18.93	34.16

Point 2			
Sensor	114		
Interval	0.50m		
Last data	2.00m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	32.10	16.27	30.42
0.50	32.04	16.48	30.75
1.00	32.00	16.69	31.09
1.50	31.81	17.38	32.15
2.00	31.45	18.84	34.36

Point 3			
Sensor	114		
Interval	0.50m		
Last data	8.00m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	32.15	15.42	29.01
0.50	32.10	15.56	29.21
1.00	32.00	15.79	29.55
1.50	31.86	16.25	30.25
2.00	31.79	16.43	30.53
2.50	31.30	17.40	31.87
3.00	31.11	17.61	32.11
3.50	31.11	18.08	32.90
4.00	31.11	18.19	33.08
4.50	31.08	19.51	35.23
5.00	30.98	20.81	37.28
5.50	30.97	21.07	37.69
6.00	30.95	21.67	38.64
6.50	30.92	21.99	39.14
7.00	30.92	22.01	39.17
7.50	30.92	22.10	39.32
8.00	30.89	22.56	40.04

THE RESULT OF MEASURING SALINITY, TEMPERATURE AND DEPTH BY STD METER

Point 4			
Sensor	114		
Interval	0.50m		
Last data	19.00m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	32.55	13.87	26.52
0.50	32.43	14.12	26.89
1.00	32.34	14.32	27.20
1.50	32.28	14.44	27.39
2.00	32.28	14.47	27.44
2.50	32.27	14.60	27.66
3.00	31.84	16.84	31.26
3.50	31.12	18.21	33.12
4.00	31.11	18.88	34.21
4.50	31.01	20.31	36.49
5.00	31.02	20.98	37.59
5.50	30.98	21.47	38.34
6.00	30.98	21.48	38.35
6.50	30.98	21.50	38.39
7.00	30.97	21.55	38.47
7.50	30.96	21.74	38.76
8.00	30.97	21.79	38.85
8.50	30.95	21.92	39.05
9.00	30.95	22.01	39.19

Point 5			
Sensor	114		
Interval	0.50m		
Last data	3.00m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	31.07	3.75	7.71
0.50	31.02	3.75	7.71
1.00	31.00	3.78	7.76
1.50	30.92	4.24	8.61
2.00	30.83	4.67	9.41
2.50	30.76	4.94	9.91
3.00	30.74	6.79	13.30

Point 6			
Sensor	114		
Interval	0.50m		
Last data	3.50m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	30.91	6.09	12.07
0.50	30.76	7.33	14.27
1.00	30.74	7.89	15.28
1.50	30.75	8.14	15.72
20.00	30.75	8.20	15.84
2.50	30.77	8.24	15.91
3.00	30.81	8.40	16.22
3.50	31.14	9.65	18.54

9.50	30.94	22.09	39.31
10.00	30.91	22.18	39.44
10.50	30.90	22.21	39.48
11.00	30.90	22.27	39.58
11.50	30.89	22.30	39.61
12.00	30.89	22.31	39.30
12.50	30.88	22.43	39.82
13.00	30.88	22.50	39.94
13.50	30.87	22.63	40.13
14.00	30.86	22.75	40.31
14.50	30.84	22.84	40.45
15.00	30.80	23.15	40.91
15.50	30.77	23.24	41.03
16.00	30.77	23.26	41.06
16.50	30.75	23.36	41.20
17.00	30.75	23.40	41.27
17.50	30.73	23.48	41.39
18.00	30.71	23.65	41.63
18.50	30.69	23.72	41.73
19.00	30.68	23.73	41.75

THE RESULT OF MEASURING SALINITY, TEMPERATURE AND DEPTH BY STD METER

Point 7				Point 8				Point 9			
Sensor	114			Sensor	114			Sensor	114		
Interval	0.50m			Interval	0.50m			Interval	0.50m		
Last data	2.00m			Last data	9.50m			Last data	12.00m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.	Depth (m)	Temp. (°C)	Salinity (‰)	Cond.	Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	32.60	13.86	26.59	0.00	32.44	11.23	21.81	0.00	31.80	14.32	26.96
0.50	32.54	14.39	27.52	0.50	32.16	1.88	22.85	0.50	31.67	14.78	27.66
1.00	31.79	16.30	30.24	1.00	31.88	17.52	32.42	1.00	31.53	15.30	28.48
1.50	30.99	17.13	31.31	1.50	31.47	19.78	35.91	1.50	31.46	15.61	28.96
2.00	30.94	17.44	31.77	2.00	31.44	20.12	36.46	2.00	31.42	15.84	29.33
				2.50	31.35	20.81	37.53	2.50	31.31	17.03	31.26
				3.00	31.26	21.39	38.40	3.00	31.15	17.55	32.04
				3.50	31.07	22.25	39.67	3.50	31.00	19.47	35.11
				4.00	30.98	22.50	40.01	4.00	31.00	19.64	35.39
				4.50	30.90	23.15	40.98	4.50	31.00	19.76	35.59
				5.00	30.73	23.55	41.49	5.00	31.00	20.60	36.95
				5.50	30.72	23.76	41.81	5.50	30.99	20.81	37.28
				6.00	30.56	24.65	43.09	6.00	30.98	20.99	37.57
				6.50	30.42	25.05	43.62	6.50	30.97	21.20	37.89
				7.00	30.30	25.53	44.27	7.00	30.96	21.34	38.11
				7.50	32.26	25.76	44.59	7.50	30.95	21.38	38.18
				8.00	30.18	26.23	45.26	8.00	30.96	21.55	38.46
				8.50	30.04	26.71	45.87	8.50	30.96	21.63	38.59
				9.00	29.96	27.20	46.57	9.00	30.94	21.76	38.78

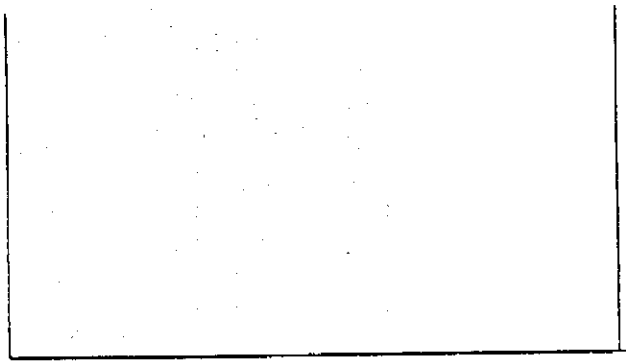
	9.50	29.91	27.39	45.81	9.50	30.90	21.92	39.02
					10.00	30.89	21.96	39.07
					10.50	30.88	22.09	39.27
					11.00	30.87	22.17	39.39
					11.50	30.86	22.34	39.67
					12.00	30.84	22.47	39.85

THE RESULT OF MEASURING SALINITY, TEMPERATURE AND DEPTH BY STD METER

Point 10			
Sensor	114		
Interval	0.50m		
Last data	6.00m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	32.12	14.90	28.09
0.50	31.91	14.98	28.12
1.00	31.82	15.40	28.80
1.50	31.54	16.03	29.71
2.00	31.55	17.72	32.55
2.50	31.72	18.07	33.25
3.00	31.79	19.57	35.78
3.50	31.69	19.56	35.71
4.00	31.58	19.60	35.69
4.50	31.54	19.83	36.05
5.00	31.15	20.73	7.26
5.50	31.11	20.81	37.36
6.00	31.09	20.86	37.43

Point11			
Sensor	114		
Interval	0.50m		
Last data	3.50m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	31.35	18.56	33.38
0.50	31.30	19.47	35.30
1.00	31.24	20.03	36.19
1.50	31.22	20.39	36.75
2.00	31.22	20.38	36.73
2.50	31.38	20.83	37.59
3.00	31.56	21.62	39.00
3.50	31.28	22.01	39.43

Point 12			
Sensor	114		
Interval	0.50m		
Last data	14.00m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	32.71	12.32	23.86
0.50	32.63	12.37	23.93
1.00	32.07	13.23	25.19
1.50	31.67	15.78	29.37
2.00	31.69	18.41	33.80
2.50	31.45	20.67	37.36
3.00	31.17	22.58	40.26
3.50	31.00	23.29	41.29
4.00	30.88	23.93	42.21
4.50	30.75	24.13	42.43
5.00	30.67	24.39	42.77
5.50	30.64	24.63	43.13
6.00	30.62	25.26	44.10
6.50	30.29	26.36	45.55
7.00	30.10	27.00	46.38
7.00	30.03	27.46	47.02
8.00	29.95	27.63	47.22
8.50	29.88	28.17	47.99
9.00	29.81	28.34	48.18



9.50	29.79	28.51	48.41
10.00	29.73	28.82	48.84
10.50	29.72	28.93	48.99
11.00	29.70	29.01	9.10
11.50	29.70	29.06	49.16
12.00	29.69	29.11	49.23
12.50	29.69	29.15	49.30
13.00	29.68	29.17	49.32
13.50	29.66	29.26	49.44
14.00	29.65	29.23	49.39

THE RESULT OF MEASURING SALINITY, TEMPERATURE AND DEPTH BY STD METER

Point 13				Point 14				Point 15			
Sensor	114			Sensor	114			Sensor	114		
Interval	0.50m			Interval	0.50m			Interval	0.50m		
Last data	17.50m			Last data	15.50m			Last data	21.50m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.	Depth (m)	Temp. (°C)	Salinity (‰)	Cond.	Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	32.30	17.14	32.03	0.00	31.64	23.04	41.35	0.00	31.20	17.23	31.53
0.50	32.22	17.30	32.25	0.50	31.63	23.02	41.32	0.50	31.12	18.71	33.94
1.00	31.98	18.61	34.29	1.00	31.61	23.04	41.34	1.00	30.97	19.96	35.88
1.50	31.37	21.22	38.22	1.50	31.60	23.08	41.39	1.50	30.68	21.65	38.42
2.00	31.31	21.68	38.92	2.00	31.57	23.12	41.44	2.00	30.55	23.46	41.22
2.50	31.26	23.07	41.13	2.50	31.49	23.23	41.59	2.50	30.38	24.37	42.51
3.00	31.02	23.91	42.29	3.00	31.45	23.30	41.63	3.00	30.40	24.59	42.87
3.50	30.85	24.35	42.85	3.50	31.31	23.42	41.71	3.50	30.45	25.80	44.82
4.00	30.84	24.39	42.91	4.00	31.11	23.52	41.73	4.00	30.34	26.23	45.40
4.50	30.86	24.41	42.96	4.50	30.97	24.07	42.50	4.50	30.16	26.63	45.86
5.00	30.86	24.55	43.18	5.00	30.94	24.32	42.87	5.00	30.06	26.95	46.27
5.50	30.78	24.74	43.42	5.50	30.81	24.95	43.78	5.50	30.07	27.22	46.96
6.00	30.63	25.10	43.86	6.00	30.72	25.32	44.27	6.00	30.03	27.39	46.91
6.50	30.53	25.49	44.39	6.50	30.63	25.52	44.53	6.50	30.04	28.07	47.97
7.00	30.34	25.94	44.94	7.00	30.50	26.30	45.63	7.00	29.72	28.58	48.47
7.50	30.30	26.55	45.86	7.50	30.32	27.19	46.86	7.50	29.68	30.47	51.28
8.00	29.99	27.75	47.44	8.00	30.15	27.51	47.20	8.00	29.57	30.70	51.52
8.50	29.94	27.84	47.53	8.50	29.98	28.55	48.65	8.50	29.54	30.84	51.71
9.00	29.93	27.95	47.68	9.00	29.82	29.70	50.26	9.00	29.55	30.84	51.72

9.50	29.88	28.53	48.53
10.00	29.81	28.71	48.74
10.50	29.71	29.53	49.90
11.00	29.68	29.59	49.95
11.50	29.66	29.74	50.17
12.00	29.63	29.98	50.49
12.50	29.61	30.10	50.67
13.00	29.59	30.15	50.72
13.50	29.57	30.49	51.21
14.00	29.52	30.66	51.42
14.50	29.52	30.67	51.43
15.00	29.52	30.67	51.43
15.50	29.52	30.68	51.45
16.00	29.51	30.69	51.45
16.50	29.52	30.68	51.45
17.00	9.52	30.69	51.47
17.50	29.52	30.68	51.45

9.50	29.70	29.94	50.49
10.00	29.68	30.15	50.80
10.50	29.61	30.49	51.24
11.00	29.55	30.87	51.76
11.50	29.51	31.16	52.15
12.00	29.50	31.18	52.17
12.50	29.50	31.18	52.17
13.00	29.50	31.18	52.17
13.50	29.49	31.19	52.18
14.00	29.49	31.19	52.18
14.50	29.49	31.19	52.18
15.00	29.49	31.19	52.18
15.50	29.49	31.19	52.18

9.50	29.54	30.91	51.81
10.00	29.53	31.11	52.10
10.50	29.50	31.39	52.49
11.00	29.46	31.48	52.58
11.50	29.43	31.52	52.61
12.00	29.43	31.53	52.63
12.50	29.43	31.53	52.63
13.00	29.43	31.53	52.63
13.50	29.43	31.53	52.63
14.00	29.43	31.54	52.64
14.50	29.43	31.54	52.64
15.00	29.43	31.53	52.63
15.50	29.43	31.54	52.64
16.00	29.43	31.54	52.64
16.50	29.43	31.54	52.64
17.00	29.43	31.54	52.64
17.50	29.42	31.54	52.64
18.00	29.43	31.54	52.64
18.50	29.43	31.54	52.64
19.00	29.42	31.54	52.64
19.50	29.42	31.54	52.64
20.00	29.42	31.54	52.64
20.50	29.42	31.56	52.66
21.00	29.42	31.54	52.64
21.50	29.42	17.43	30.85

THE RESULT OF MEASURING SALINITY, TEMPERATURE AND DEPTH BY STD METER

Point 16			
Sensor	114		
Interval	0.50m		
Last data	6.50m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	32.10	22.74	41.20
0.50	31.99	22.99	41.45
1.00	31.78	23.73	42.58
1.50	31.41	24.42	43.40
2.00	31.33	24.53	43.52
2.50	31.25	24.67	43.67
3.00	31.18	24.72	43.69
3.50	31.18	24.72	43.69
4.00	31.17	24.72	43.69
4.50	31.17	24.72	43.69
5.00	31.17	24.72	43.69
5.50	31.15	24.73	43.69
6.00	31.15	24.73	43.69
6.50	31.15	24.08	42.67

Point 17			
Sensor	114		
Interval	0.50m		
Last data	5.50m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	31.56	22.78	40.88
0.50	31.57	22.79	40.89
1.00	31.56	22.81	40.93
1.50	31.47	22.88	40.98
2.00	31.42	22.92	41.00
2.50	31.40	22.96	41.05
3.00	31.38	23.00	41.10
3.50	31.38	23.18	41.39
4.00	31.38	23.47	41.87
4.50	31.31	23.88	42.46
5.00	31.29	23.91	42.50
5.50	31.29	23.91	42.50

Point 18			
Sensor	114		
Interval	0.50m		
Last data	7.50m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	31.87	23.17	41.73
0.50	31.87	23.18	41.75
1.00	31.86	23.18	41.75
1.50	31.84	23.19	41.75
2.00	31.82	23.22	41.78
2.50	31.80	23.27	41.85
3.00	31.77	23.33	41.92
3.50	31.75	23.41	41.04
4.00	31.74	23.44	42.07
4.50	31.75	23.57	42.29
5.00	31.69	23.73	42.51
5.50	31.66	23.74	42.50
6.00	31.65	23.73	42.48
6.50	31.61	23.92	42.75
7.00	31.46	24.30	43.25
7.50	31.36	24.38	43.30

THE RESULT OF MEASURING SALINITY, TEMPERATURE AND DEPTH BY STD METER

Point 19			
Sensor	114		
Interval	0.50m		
Last data	3.00m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	32.14	24.05	43.37
0.50	32.15	24.00	43.37
1.00	32.12	24.05	43.35
1.50	32.10	24.03	43.32
2.00	31.97	24.01	43.18
2.50	31.87	24.06	43.18
3.00	31.88	24.08	43.21

Point 20			
Sensor	114		
Interval	0.50m		
Last data	3.50m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	31.99	23.95	43.09
0.50	31.87	23.98	43.04
1.00	31.87	23.97	43.03
1.50	31.81	23.99	43.03
2.00	31.71	24.03	43.01
2.50	31.70	24.02	42.99
3.00	31.65	24.06	43.01
3.50	31.63	24.08	43.03

Point 21			
Sensor	114		
Interval	0.50m		
Last data	16.50m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	32.00	21.56	39.21
0.50	32.03	22.09	40.09
1.00	32.06	22.27	40.42
1.50	32.05	22.34	40.52
2.00	32.03	22.41	40.62
2.50	31.99	22.53	40.79
3.00	31.92	22.67	40.96
3.50	31.90	22.67	40.94
4.00	31.88	22.72	41.01
4.50	31.84	22.74	41.03
5.00	31.84	22.73	41.01
5.50	31.82	22.75	41.03
6.00	31.80	22.79	41.06
6.50	31.51	23.28	41.64
7.00	31.47	23.39	41.80
7.50	31.34	23.61	42.05
8.00	31.36	23.58	42.02
8.50	31.20	23.88	42.38
9.00	31.22	23.84	42.33
9.50	31.17	23.95	42.46

10.00	31.12	24.07	42.62
10.50	31.10	24.11	42.67
11.00	31.08	24.19	42.77
11.50	31.06	24.23	42.82
12.00	31.01	24.37	43.01
12.50	30.98	24.46	43.13
13.00	30.98	24.46	43.13
13.50	30.92	24.64	43.37
14.00	30.89	24.75	43.52
14.50	30.87	24.78	43.55
15.00	30.90	24.72	43.49
15.50	30.87	24.80	43.59
16.00	30.87	24.83	43.62
16.50	30.86	24.86	43.67

THE RESULT OF MEASURING SALINITY, TEMPERATURE AND DEPTH BY STD METER

Point 22			
Sensor	114		
Interval	0.50m		
Last data	16.50m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	31.58	20.57	37.30
0.50	31.46	20.68	37.40
1.00	31.40	20.86	37.64
1.50	31.31	20.98	37.77
2.00	31.23	21.28	38.22
2.50	31.01	21.80	38.90
3.00	30.97	22.01	39.21
3.50	31.00	22.10	39.38
4.00	30.98	22.59	40.14
4.50	30.92	22.73	40.33
5.00	30.90	22.74	40.33
5.50	30.87	22.79	40.38
6.00	30.86	22.93	40.60
6.50	30.84	23.01	40.71
7.00	30.81	23.12	40.88
7.50	30.79	23.20	40.98
8.00	30.77	23.41	41.30
8.50	30.66	24.14	42.38
9.00	30.55	24.56	42.96
9.50	30.52	24.94	43.52

Point 23			
Sensor	114		
Interval	0.50m		
Last data	11.00m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	31.31	14.39	26.82
0.50	30.83	16.24	29.76
1.00	30.63	18.35	33.05
1.50	3.49	19.41	34.69
2.00	30.45	20.15	35.86
2.50	30.41	23.08	40.50
3.00	29.98	30.16	51.09
3.50	29.65	31.31	52.51
4.00	29.60	31.51	52.76
4.50	29.57	31.71	53.02
5.00	29.46	31.80	53.05
5.50	29.43	31.80	53.04
6.00	29.42	31.82	53.05
6.50	29.41	31.83	53.05
7.00	29.41	31.83	53.05
7.50	29.42	31.82	53.05
8.00	29.42	31.82	53.05
8.50	29.42	31.83	53.07
9.00	29.41	31.83	53.05
9.50	29.41	31.83	53.05

Point 24			
Sensor	114		
Interval	0.50m		
Last data	8.5m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	32.28	22.71	41.30
0.50	32.28	22.71	41.30
1.00	32.21	22.80	41.39
1.50	32.16	22.85	41.44
2.00	32.13	22.89	41.47
2.50	32.04	22.98	41.56
3.00	31.99	23.06	41.64
3.50	31.91	23.21	41.83
4.00	31.55	23.62	42.22
4.50	31.35	24.00	42.68
5.00	31.33	24.03	42.72
5.50	31.32	24.04	42.72
6.00	31.31	22.05	42.75
6.50	31.31	24.05	42.74
7.00	31.31	24.06	42.75
7.50	31.31	24.07	42.77
8.00	31.30	24.08	42.77
8.50	31.30	24.08	42.77

10.00	30.46	25.24	43.95	10.00	29.41	31.83	53.05
10.50	30.44	25.38	44.15	10.50	29.41	31.82	53.04
11.00	30.41	25.58	44.44	11.00	29.41	31.61	52.73
11.50	30.35	25.90	44.88				
12.00	30.31	26.17	45.28				
12.50	30.20	26.58	45.87				
13.00	30.14	27.48	47.15				
13.50	30.09	27.71	47.46				
14.00	30.03	28.13	48.06				
14.50	30.00	2819.00	48.12				
15.00	29.99	28.50	48.21				
15.50	29.88	29.01	49.27				
16.00	29.84	29.13	49.40				
16.50	29.82	29.26	49.59				

THE RESULT OF MEASURING SALINITY, TEMPERATURE AND DEPTH BY STD METER

Point 25			
Sensor	114		
Interval	0.50m		
Last data	9.50m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	32.05	24.28	43.67
0.50	32.05	24.28	43.67
1.00	32.02	24.29	43.67
1.50	31.99	24.32	43.69
2.00	31.99	24.29	43.64
2.50	31.92	24.29	43.59
3.00	31.89	24.29	43.57
3.50	31.87	24.30	43.40
4.00	31.64	24.31	43.32
4.50	31.51	24.32	43.32
5.00	31.46	24.34	43.32
5.50	31.44	24.35	43.32
6.00	31.42	24.36	43.32
6.50	31.41	24.37	43.25
7.00	31.29	24.38	43.23
7.50	31.24	24.39	43.21
8.00	31.23	24.39	43.21
8.50	31.23	24.39	43.21
9.00	31.22	24.39	43.21
9.50	31.23	24.39	43.21

Point 26			
Sensor	114		
Interval	0.50m		
Last data	5.00m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	32.55	23.22	42.33
0.50	32.56	23.21	42.33
1.00	32.52	23.25	42.36
1.50	32.32	23.38	42.41
2.00	32.16	23.54	42.56
2.50	31.93	23.64	42.55
3.00	31.86	23.65	42.51
3.50	31.76	23.68	42.48
4.00	31.79	23.75	42.62
4.50	31.28	24.02	42.65
5.00	31.24	24.03	42.65

Point 27			
Sensor	114		
Interval	0.50m		
Last data	6.50m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	32.40	16.08	30.27
0.50	32.39	16.11	30.32
1.00	32.37	16.17	30.41
1.50	31.86	18.08	33.34
2.00	31.52	19.11	34.84
2.50	31.43	20.04	36.32
3.00	31.37	20.72	37.40
3.50	31.33	21.38	38.44
4.00	31.32	21.54	38.69
4.50	31.33	21.67	38.92
5.00	31.34	21.75	39.05
5.50	31.35	21.95	39.38
6.00	31.38	22.28	39.94
6.50	31.46	22.81	40.86

THE RESULT OF MEASURING SALINITY, TEMPERATURE AND DEPTH BY STD METER

Point 28			
Sensor	114		
Interval	0.50m		
Last data	0.00m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	33.27	23.89	43.98

Point 29			
Sensor	114		
Interval	0.50m		
Last data	0.00m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	33.15	23.92	43.95

Point 30			
Sensor	114		
Interval	0.50m		
Last data	0.50m		
Depth (m)	Temp. (°C)	Salinity (‰)	Cond.
0.00	34.20	23.78	4.53
0.50	33.75	23.84	44.27

THE RESULT OF MEASURING SALINITY, TEMPERATURE AND DEPTH BY STD METER OF DECOMPOSITION TEST

Station 3			Station 6			Station 14			Station 22			Station 25		
Depth m	Temp. °C	Salinity ‰	Depth m	Temp. °C	Salinity ‰	Depth m	Temp. °C	Salinity ‰	Depth m	Temp. °C	Salinity ‰	Depth m	Temp. °C	Salinity ‰
0.0	30.62	16.41	0.0	31.45	9.95	0.0	30.42	24.41	0.0	29.98	24.93	0.0	30.49	19.95
0.5	30.64	16.41	0.5	31.45	9.91	0.5	30.43	24.50	0.5	29.97	24.96	0.5	30.22	22.86
1.0	30.57	16.40	1.0	31.31	9.94	1.0	30.32	25.53	1.0	29.96	24.99	1.0	30.14	23.09
1.5	30.52	16.60	1.5	31.26	9.95	1.5	30.31	25.67	1.5	29.96	25.03	1.5	30.06	23.39
2.0	30.46	16.74	2.0	31.26	11.17	2.0	30.27	25.71	2.0	29.96	25.03	2.0	29.95	23.61
2.5	30.49	17.56				2.5	30.25	25.84	2.5	29.95	25.03	2.5	29.96	23.75
3.0	30.40	18.15				3.0	30.08	26.21	3.0	29.95	25.06	3.0	29.98	23.96
3.5	30.46	18.60				3.5	30.00	26.58	3.5	29.95	25.16	3.5	29.99	23.97
4.0	30.46	18.76				4.0	29.97	26.82	4.0	29.96	25.30	4.0	29.99	23.97
4.5	30.46	18.97				4.5	29.95	27.10	4.5	29.96	25.36	4.5	29.99	23.98
5.0	30.46	19.09				5.0	29.87	27.71	5.0	29.94	25.38			

5.5	30.48	19.23		5.5	29.82	28.35	5.5	29.93	25.37		
6.0	30.48	19.22		6.0	29.60	29.76	6.0	29.91	25.34		
				6.5	29.41	30.38	6.5	29.92	25.34		
				7.0	29.40	30.46	7.0	29.91	25.65		
				7.5	29.40	30.50	7.5	29.86	25.89		
				8.0	29.39	30.71	8.0	29.84	26.16		
				8.5	29.35	30.79					
				9.0	29.32	30.96					
				9.5	29.31	31.14					
				10.0	29.34	31.16					
				10.5	29.35	31.15					
				11.0	29.35	31.14					

3. Bottom Sediment Quality Survey

Table of Contents

Data Table of Bottom Sediment

Region: Bai Chay Bay Sample ID: T2-S Date: 16/7/1998 (D/M/Y) Time: 15:55 (H:M)
Sampling point: 2
Co-ordinates: Longitude: 107°04'19" Latitude: 20°59'00"
Water depth: 2.4m
Smell: earthy

No.	Parameter	Unit	Value	No.	Parameter	Unit	Value
1	Temperature	℃	31.3	11	T-N	mg/kg	500
2	Sediment quantity	% mud	20	12	T-P	mg/kg	150
3	Color		grey	13	H_2S	mg/kg	2.9313
4	Mixed matter		Shell debris	14	Pb	mg/kg	13.938
5	Water content	%	29.52	15	As	mg/kg	1.7963
6	pH		7.24	16	Mn	mg/kg	124.750
7	ORP	mv	-317	17	T-Hg	mg/kg	nd
8	Ignition loss	%	2.59	18	Zn	mg/kg	28.062
9	COD	mg/gO_2	50.9765	19	Cr_6	mg/kg	22.562
10	TOC	mg/kg	7100	20	Cd	mg/kg	0.813

Note: mg/kg (dry weight)
Size composition

Fraction (mm)	Percentage
>1	5.08
1-0.5	6.80
0.5-0.25	16.73
0.25-0.1	44.66
0.1-0.05	7.06
0.05-0.01	0.48
0.01-0.005	1.87
0.005-0.001	4.35
<0.001	12.97

nd: not detected

Region: Bai Chay Bay Sample ID: T3-S Date: 16/7/1998 (D/M/Y) Time: 13:10 (H:M)
Sampling point: 3
Co-ordinates: Longitude: 107°04'10" Latitude: 20°58'11"
Water depth: 8.8m
Smell: earthy

No.	Parameter	Unit	Value	No.	Parameter	Unit	Value
1	Temperature	℃	30.4	11	T-N	mg/kg	3020
2	Sediment quantity	% mud	97	12	T-P	mg/kg	320
3	Color		Blackish grey	13	H_2S	mg/kg	8.0624
4	Mixed matter		Non	14	Pb	mg/kg	21.785
5	Water content	%	60.11	15	As	mg/kg	12.0125
6	pH		7.21	16	Mn	mg/kg	229.750
7	ORP	mv	-332	17	T-Hg	mg/kg	nd
8	Ignition loss	%	10.07	18	Zn	mg/kg	72.750
9	COD	mg/gO_2	146.4672	19	Cr_6	mg/kg	76.125
10	TOC	mg/kg	28,900	20	Cd	mg/kg	1.250

Note: mg/kg (dry weight)
Size composition

Fraction (mm)	Percentage
>1	
1-0.5	
0.5-0.25	
0.25-0.1	
0.1-0.05	2.60
0.05-0.01	14.39
0.01-0.005	7.83
0.005-0.001	23.34
<0.001	51.84

nd: not detected

Region: Ha Long Bay Sample ID: T6-S Date: 17/7/1998 Time: 9:00
Sampling point: 6 (D/M/Y) (H:M)
Co-ordinates: Longitude: 106°58'14" Latitude: 20°54'52"
Water depth: 4.1m
Smell: earthy

No.	Parameter	Unit	Value	No.	Parameter	Unit	Value
1	Temperature	°C	30.7	11	T-N	mg/kg	2040
2	Sediment quantity	% mud	30	12	T-P	%	270
3	Color		Yellowi-sh grey	13	H_2S	mg/kg	2.7696
4	Mixed matter		Shell debris	14	Pb	mg/kg	20.000
5	Water content	%	36.51	15	As	mg/kg	12.1875
6	pH		7.45	16	Mn	mg/kg	327.375
7	ORP	mv	-322	17	T-Hg	mg/kg	0.0103125
8	Ignition loss	%	3.64	18	Zn	mg/kg	54.875
9	COD	mg/gO_2	55.9461	19	Cr_6	mg/kg	38.125
10	TOC	mg/kg	5800	20	Cd	mg/kg	0.875

Note: mg/kg (dry weight)
Size composition

Fraction (mm)	Percentage
>1	2.66
1-0.5	16.60
0.5-0.25	34.43
0.25-0.1	14.12
0.1-0.05	2.32
0.05-0.01	6.20
0.01-0.005	4.49
0.005-0.001	0.25
<0.001	18.93

Region: Ha Long Bay Sample ID: T7-S Date: 15/7/1998 Time: 10:30
Sampling point: 7 (D/M/Y) (H:M)
Co-ordinates: Longitude: 107°12'45" Latitude: 20°57'05"
Water depth: 2.3m
Smell: Putrescent

No.	Parameter	Unit	Value	No.	Parameter	Unit	Value
1	Temperature	°C	30.5	11	T-N	mg/kg	3020
2	Sediment quantity	% mud	97	12	T-P	mg/kg	320
3	Color		Yellowish grey	13	H_2S	mg/kg	8.8670
4	Mixed matter		Putrescent leaves	14	Pb	mg/kg	29.625
5	Water content	%	60.62	15	As	mg/kg	1.7656
6	pH		7.30	16	Mn	mg/kg	213.520
7	ORP	mv	-321	17	T-Hg	mg/kg	0.0134375
8	Ignition loss	%	6.75	18	Zn	mg/kg	63.125
9	COD	mg/gO_2	107.8632	19	Cr_6	mg/kg	62.750
10	TOC	mg/kg	15,500	20	Cd	mg/kg	1.000

Note: mg/kg (dry weight)
Size composition

Fraction (mm)	Percentage
>1	
1-0.5	
0.5-0.25	
0.25-0.1	
0.1-0.05	3.36
0.05-0.01	26.24
0.01-0.005	1.24
0.005-0.001	20.90
<0.001	48.26

Region: Bai Chay Bay Sample ID: T10-S Date: 16/7/1998 Time: 11:45
Sampling point: 10 (D/M/Y) (H:M)
Co-ordinates: Longitude: 107°04'58" Latitude: 20°56'52"
Water depth: 6.3m
Smell: earthy

No.	Parameter	Unit	Value	No.	Parameter	Unit	Value
1	Temperature	°C	30.7	11	T-N	mg/kg	2180
2	Sediment quantity	% mud	72	12	T-P	mg/kg	450
3	Color		Blackish grey	13	H_2S	mg/kg	11.3042
4	Mixed matter			14	Pb	mg/kg	31.875
5	Water content	%	Coal, leaves	15	As	mg/kg	2.8750
6	pH		7.35	16	Mn	mg/kg	294.375
7	ORP	mv	-339	17	T-Hg	mg/kg	0.0221875
8	Ignition loss	%	11.45	18	Zn	mg/kg	103.000
9	COD	mg/gO_2	98.4596	19	Cr_6	mg/kg	63.625
10	TOC	%	23,700	20	Cd	mg/kg	1.125

Note: mg/kg (dry weight)
Size composition

Fraction (mm)	Percentage
>1	
1-0.5	
0.5-0.25	
0.25-0.1	17.26
0.1-0.05	10.38
0.05-0.01	19.35
0.01-0.005	5.08
0.005-0.001	14.29
<0.001	33.64

Region: Ha Long Bay Sample ID: T14-S Date: 17/7/1998 Time: 15:20
Sampling point: 14 (D/M/Y) (H:M)
Co-ordinates: Longitude: 107°08'47" Latitude: 20°47'59"
Water depth: 15.6m
Smell: earthy

No.	Parameter	Unit	Value	No.	Parameter	Unit	Value
1	Temperature	°C	29.7	11	T-N	mg/kg	780
2	Sediment quantity	% mud	46	12	T-P	mg/kg	300
3	Color		Yellowish grey	13	H_2S	mg/kg	3.1097
4	Mixed matter		Shell debris	14	Pb	mg/kg	31.750
5	Water content	%	43.62	15	As	mg/kg	1.8719
6	pH		7.31	16	Mn	mg/kg	667.500
7	ORP	mv	-308	17	T-Hg	mg/kg	0.0121875
8	Ignition loss	%	4.98	18	Zn	mg/kg	59.000
9	COD	mg/gO_2	72.7794	19	Cr_6	mg/kg	52.875
10	TOC	mg/kg	6600	20	Cd	mg/kg	1.375

Note: mg/kg (dry weight)
Size composition

Fraction (mm)	Percentage
>1	10.30
1-0.5	8.32
0.5-0.25	18.75
0.25-0.1	16.23
0.1-0.05	0.45
0.05-0.01	4.75
0.01-0.005	4.56
0.005-0.001	9.40
<0.001	27.24

Region: Ha Long Bay Sample ID: T15-S Date: 17/7/1998 Time: 17:10
Sampling point: 15 (D/M/Y) (H:M)
Co-ordinates: Longitude: 107°10'29" Latitude: 20°43'31"
Water depth: 21.9m
Smell: earthy

No.	Parameter	Unit	Value	No.	Parameter	Unit	Value
1	Temperature	℃	29.0	11	T-N	mg/kg	840
2	Sediment quantity	% mud	76	12	T-P	mg/kg	300
3	Color		Yellowish grey	13	H_2S	mg/kg	0.9883
4	Mixed matter		non	14	Pb	mg/kg	25.500
5	Water content	%	57.53	15	As	mg/kg	1.3531
6	pH		7.18	16	Mn	mg/kg	505.000
7	ORP	mv	-315	17	T-Hg	mg/kg	0.0128125
8	Ignition loss	%	5.88	18	Zn	mg/kg	60.375
9	COD	mg/gO_2	82.0008	19	Cr_6	mg/kg	53.500
10	TOC	mg/kg	11,200	20	Cd	mg/kg	1.125

Note: mg/kg (dry weight)
Size composition

Fraction (mm)	Percentage
>1	
1-0.5	
0.5-0.25	
0.25-0.1	3.23
0.1-0.05	20.86
0.05-0.01	9.21
0.01-0.005	10.25
0.005-0.001	14.71
<0.001	41.74

Region: Bai Tu Long Bay Sample ID: T18-S Date: 18/7/1998 Time: 10:30
Sampling point: 18 (D/M/Y) (H:M)
Co-ordinates: Longitude: 107°13'59" Latitude: 20°57'54"
Water depth: 8.1m
Smell: earthy

No.	Parameter	Unit	Value	No.	Parameter	Unit	Value
1	Temperature	℃	30.9	11	T-N	mg/kg	1150
2	Sediment quantity	% mud	75	12	T-P	mg/kg	320
3	Color		Blackish grey	13	H_2S	mg/kg	2.8209
4	Mixed matter		non	14	Pb	mg/kg	26.375
5	Water content	%	55.51	15	As	mg/kg	1.7708
6	pH		7.2	16	Mn	mg/kg	385.812
7	ORP	mv	-229	17	T-Hg	mg/kg	0.0246875
8	Ignition loss	%	7.23	18	Zn	mg/kg	72.750
9	COD	mg/gO_2	104.4905	19	Cr_6	mg/kg	59.997
10	TOC	mg/kg	18,200	20	Cd	mg/kg	1.313

Note: mg/kg (dry weight)
Size composition

Fraction (mm)	Percentage
>1	
1-0.5	
0.5-0.25	
0.25-0.1	4.18
0.1-0.05	20.49
0.05-0.01	12.61
0.01-0.005	9.37
0.005-0.001	16.76
<0.001	36.59

Region: Bai Tu Long Bay Sample ID: T22-S Date: 19/7/1998 Time: 14:15
Sampling point: 22 (D/M/Y) (H:M)
Co-ordinates: Longitude: 107°17'02" Latitude: 20°52'18"
Water depth: 17.0m
Smell: Fishy

No.	Parameter	Unit	Value	No.	Parameter	Unit	Value
1	Temperature	°C	29.7	11	T-N	mg/kg	640
2	Sediment quantity	% mud	35	12	T-P	mg/kg	310
3	Color		grey	13	H_2S	mg/kg	0.8366
4	Mixed matter		Shell debris	14	Pb	mg/kg	25.875
5	Water content	%	36.06	15	As	mg/kg	2.6094
6	pH		7.31	16	Mn	mg/kg	636.250
7	ORP	mv	-258	17	T-Hg	mg/kg	0.0143750
8	Ignition loss	%	3.99	18	Zn	mg/kg	43.875
9	COD	mg/gO_2	81.0750	19	Cr_6	mg/kg	32.125
10	TOC	mg/kg	4900	20	Cd	mg/kg	1.125

Note: mg/kg (dry weight)
Size composition

Fraction (mm)	Percentage
>1	5.68
1-0.5	13.16
0.5-0.25	16.91
0.25-0.1	28.07
0.1-0.05	1.63
0.05-0.01	3.99
0.01-0.005	4.28
0.005-0.001	6.53
<0.001	19.83

Region: Bai Tu Long Bay Sample ID: T22-6S Date: 19/7/1998 Time: 14:15
Sampling point: 22 (D/M/Y) (H:M)
Co-ordinates: Longitude: 107°17'02" Latitude: 20°52'18"
Water depth: 17.0m
Smell: Fishy

No.	Parameter	Unit	Value	No.	Parameter	Unit	Value
1	Temperature	°C	29.7	11	T-N	mg/kg	420
2	Sediment quantity	% mud	33	12	T-P	mg/kg	320
3	Color		grey	13	H_2S	mg/kg	0.8437
4	Mixed matter		Shell debris	14	Pb	mg/kg	28.250
5	Water content	%	35.58	15	As	mg/kg	2.3813
6	pH		7.31	16	Mn	mg/kg	717.500
7	ORP	mv	-258	17	T-Hg	mg/kg	0.0146875
8	Ignition loss	%	4.38	18	Zn	mg/kg	49.500
9	COD	mg/gO_2	42.3637	19	Cr_6	mg/kg	33.750
10	TOC	mg/kg	4,700	20	Cd	mg/kg	1.250

Note: mg/kg (dry weight)
Size composition

Fraction (mm)	Percentage
>1	7.40
1-0.5	13.34
0.5-0.25	15.93
0.25-0.1	27.56
0.1-0.05	2.45
0.05-0.01	3.81
0.01-0.005	6.41
0.005-0.001	4.15
<0.001	18.95

Field Replicate: T22-6S

Region: Bai Tu Long Bay Sample ID: T25-S Date: 18/7/1998 (D/M/Y) Time: 16:30 (H:M)
Sampling point: 25
Co-ordinates: Longitude: 107°20'55" Latitude: 20°58'33"
Water depth: 10.1m
Smell: fishy

No.	Parameter	Unit	Value	No.	Parameter	Unit	Value
1	Temperature	°C	31.0	11	T-N	mg/kg	1040
2	Sediment quantity	% mud	38	12	T-P	mg/kg	310
3	Color		Brownish grey	13	H_2S	mg/kg	1.8433
4	Mixed matter		Coal	14	Pb	mg/kg	19.125
5	Water content	%	35.73	15	As	mg/kg	0.8093
6	pH		7.22	16	Mn	mg/kg	231.125
7	ORP	mv	-295	17	T-Hg	mg/kg	0.0159375
8	Ignition loss	%	6.56	18	Zn	mg/kg	52.125
9	COD	mg/gO_2	59.1191	19	Cr_6	mg/kg	31.375
10	TOC	mg/kg	13,300	20	Cd	mg/kg	1.000

Note: mg/kg (dry weight)
Size composition

Fraction (mm)	Percentage
>1	4.58
1-0.5	4.38
0.5-0.25	9.14
0.25-0.1	40.28
0.1-0.05	3.96
0.05-0.01	5.47
0.01-0.005	6.42
0.005-0.001	4.86
<0.001	20.91

Region: Bai Tu Long Bay Sample ID: T28-S Date: 18/7/1998 (D/M/Y) Time: 17:20 (H:M)
Sampling point: 28
Co-ordinates: Longitude: 107°18'13" Latitude: 20°59'33"
Water depth: 0.8m
Smell: Fishy

No.	Parameter	Unit	Value	No.	Parameter	Unit	Value
1	Temperature	°C	33.1	11	T-N	mg/kg	3020
2	Sediment quantity	% mud	72	12	T-P	mg/kg	150
3	Color		Blackish grey	13	H_2S	mg/kg	5.6086
4	Mixed matter		Coal	14	Pb	mg/kg	34.750
5	Water content	%	39.29	15	As	mg/kg	1.5218
6	pH		6.92	16	Mn	mg/kg	101.500
7	ORP	mv	-304	17	T-Hg	mg/kg	0.0128125
8	Ignition loss	%	23.45	18	Zn	mg/kg	79.0625
9	COD	mg/gO_2	68.9351	19	Cr_6	mg/kg	63.375
10	TOC	mg/kg	47,100	20	Cd	mg/kg	1.625

Note: mg/kg (dry weight)
Size composition

Fraction (mm)	Percentage
>1	
1-0.5	
0.5-0.25	
0.25-0.1	8.26
0.1-0.05	19.96
0.05-0.01	23.98
0.01-0.005	11.49
0.005-0.001	14.03
<0.001	22.28

Region: Bai Tu Long Bay Sample ID: T29-S Date: 18/7/1998 Time: 13:15
Sampling point: 29 (D/M/Y) (H:M)
Co-ordinates: Longitude: 107°19'15" Latitude: 20°59'07"
Water depth: 1.1m
Smell: non

No.	Parameter	Unit	Value	No.	Parameter	Unit	Value
1	Temperature	℃	32.7	11	T-N	mg/kg	2460
2	Sediment quantity	% mud	39	12	T-P	mg/kg	120
3	Color		Greyish black	13	H_2S	mg/kg	1.0177
4	Mixed matter		Coal	14	Pb	mg/kg	23.500
5	Water content	%	27.69	15	As	mg/kg	1.4344
6	pH		6.90	16	Mn	mg/kg	92.500
7	ORP	mv	+245	17	T-Hg	mg/kg	0.178125
8	Ignition loss	%	22.33	18	Zn	mg/kg	54.875
9	COD	mg/gO_2	53.1537	19	Cr_6	mg/kg	37.000
10	TOC	mg/kg	24,100	20	Cd	mg/kg	1.125

Note: mg/kg (dry weight)
Size composition

Fraction (mm)	Percentage
>1	2.49
1-0.5	4.80
0.5-0.25	11.48
0.25-0.1	31.02
0.1-0.05	11.48
0.05-0.01	20.15
0.01-0.005	2.13
0.005-0.001	2.61
<0.001	13.83

Region: Bai Tu Long Bay Sample ID: T30-S Date: 18/7/1998 Time: 14:00
Sampling point: 30 (D/M/Y) (H:M)
Co-ordinates: Longitude: 107°20'50" Latitude: 20°59'58"
Water depth: 1.2m
Smell: non

No.	Parameter	Unit	Value	No.	Parameter	Unit	Value
1	Temperature	℃	32.7	11	T-N	mg/kg	1480
2	Sediment quantity	% mud	31	12	T-P	mg/kg	120
3	Color		Greyish black	13	H_2S	mg/kg	0.6086
4	Mixed matter		Coal	14	Pb	mg/kg	16.813
5	Water content	%	31.12	15	As	mg/kg	1.6531
6	pH		7.09	16	Mn	mg/kg	125.500
7	ORP	mv	-303	17	T-Hg	mg/kg	0.0140625
8	Ignition loss	%	11.73	18	Zn	mg/kg	42.500
9	COD	mg/gO_2	47.3037	19	Cr_6	mg/kg	24.562
10	TOC	mg/kg	23,700	20	Cd	mg/kg	0.875

Note: mg/kg (dry weight)
Size composition

Fraction (mm)	Percentage
>1	7.87
1-0.5	24.17
0.5-0.25	23.13
0.25-0.1	10.51
0.1-0.05	2.47
0.05-0.01	6.69
0.01-0.005	8.15
0.005-0.001	1.40
<0.001	14.61

4. Dust Survey

Table of Contents

I. INTRODUCTION

Settled dust is one type of particulate matter, which has settling velocity high enough to be self-settled. The sources of settled dust can be both natural and anthropogenic such as forest fires, volcanoes, stacks of factories, transportation and mining activities, etc. Settled dust presents a health hazard to the lungs when entered, enhances chemical reactions in the atmosphere; reduces visibility; increases the possibility of precipitation, frog and clouds; reduces solar radiation with concomitant changes in environmental temperature and biological rates of plant growth and soils materials extensively; increases turbidity when entered into water body, etc.

So, settled dust is one of important parameters to assess the quality of not only the air but also water body and soils.

In order to determine and control the affect of settled dust to the Ha long Bay, monitoring of settled dust in this area is needed. Therefore, a team of settled dust and wind survey was formed after a contract had been singed between JICA and the Hai phong Institute of Oceanology. The team carried out the survey of settled dust and wind as requested for 30 days. Besides that the team also collected related meteorological data.

II. DESCRIPTION OF SURVEY AREA

The survey area is located along the seaside from Bai Chay beach to Cua Ong with five sampling points: Bai Chay, Hon Gai, Cam Pha and Cua Ong (2 points) which were determined by JICA's experts as requested by the project.

2.1 Bai Chay Point (Points 1)

This sampling point is located on a plain area of Bai Chay beach.
- Southeast: Ha Long bay, 70 m from the Beach No. D of Bai Chay.
- Northwest: 60 m from the road No. 18A and 100 m from Khe Doi hill.
- Southwest: 1500 m from Reu island.
- Northeast: 80 m from the construction site of Royal Company.

It can be seen that, sources of settled dust, which can affect to this sampling point, are local and low ones, mainly from construction (the nearest source is the construction site of Royal company) and transportation activities. In some cases, the sampling point may be affected by farther sources such as factories in Gieng Day area, coal mining activities in Ha long city and vicinities.

2.2 Hon Gai Point (Point 2)

The sampling point is located in the garden of the Cultural House of Quang Ninh province.
- Northwest: 15 m from the road no. 18A
- Southeast: 10 m from the sea
- Northeast: 50 m from petrol station
- Southwest: 60 m from the road entering the Cultural House.

Sources of settled dust, which can affect to this sampling point, are mainly local ones from construction and transportation activities. Besides that, farther sources such as Hon Gai coal screening factory and coal mining activities in the region can also affect to the sampling point. However, during sampling period, these sources were located at the downstream of prevalent wind directions.

2.3 Cam Pha Point (Point 3)

The sampling point is located in the garden of Cam Pha Hospital.

- East: 15 m from Thanh Nien road.
- North: 30 from three-stored building of the Hospital
- West: 20 from two-stored building of the Hospital
- East: 20 m from low trees

At present, construction and transportation activities are low in this area. Other sources of settled dust, which are located far from the sampling point and at the downstream of prevalent wind directions, did not affect significantly to the point.

2.4 Cua Ong Point (Point 4)

The sampling point is located on a hill nearby Cua Ong cemetery.

- Southeast: 40 m and 55 m from the road No. 18A and the railway. Next is sea.
- East: 300 m from the waste site of Cua Ong coal screening factory
- Northwest: 30 from the local residence
- South: 15m from low trees

In generally, coal exploitation and transportation activities from the West and Northwest to the East in this region are strong while roads are in bad quality. So the sampling point may be significantly affected by these sources.

2.5 Cua Ong Temple Point (Point 5)

The sampling point is located in the frontward of the Cua Ong Low Temple.

- North: 50 m from a motorway
- East: 10 m from low trees
- South: 20 from the residence
- West: 50 m from The Low Temple

This sampling point was located not far from Cua Ong Coal Port so coal transportation activities can affect to it. However, the affect can be reduced by trees nearby.

III. METHODOLOGY

Sampling was carried out with the same method at all sampling points. In order to get more detail on the change of settled dust quantity versus time, at some sampling points, five-day and daily sampling were carried out paralelly. At some other points, based on preliminary tests, only five-day sampling was taken due to low quantity of daily settled dust.

Wind direction and velocity at sampling points were also measured, four times (obs.) per day, at 1, 7, 13 and 19 h.

Detail procedure for the measurement of settled dust and wind is provided in Annex 1.

The preparation of Petri dishes and the analysis settled dust quantity after sampling were done at the Laboratory of Standard, Measurement and Quality Branch, Department of Science, Technology and Environment of Quang Ninh province. Detailed procedure is provided in Annex 2. Analytical balance used is Metler Toledo (Switzerland) with d= ± 0.1 mg.

Meteorological data related to the survey were obtained from the Meteorological Stations of Quang Ninh province.

IV. RESULTS

Field sampling and analysis were carried out paralelly from July 14 to August 13, 1998 at the five selected sampling points. Totally, 142 of settled dust samples (daily and five-day sampling) were taken and analysed.

Wind direction and velocity were daily measured, four times (obs.) per day, during the whole period of sampling time.

Data obtained on settled dust and wind are given below.

Frequency of Wind Directions and Wind Velocity after 30 Observation Days (14/7 - 13/8/1998)

Obse. Points	Elements	Direction								
		No wind	N	NE	E	SE	S	SW	W	NW
No. 1	Frequency (%)	4.7		4.9	3.9	51.4	21.4	12.6	2.9	2.9
Bai Chay	Velocity (m/s)			1.3	1.8	3.1	2.2	2.9	1.1	1.0
No. 2	Frequency (%)	20.0	1.0	1.0	2.1	70.8	6.3	5.2	3.1	10.4
Hon Gai	Velocity (m/s)		0.7	0.9	1.5	1.9	1.3	1.4	0.9	1.4
No. 3	Frequency (%)	19.6				17.8	43.3	32.2	6.7	
Cam Pha	Velocity (m/s)					1.2	1.0	0.9	0.9	
No. 4	Frequency (%)	9.8			4.0	21.8		53.4	20.8	
Cua Ong	Velocity (m/s)				0.9	1.3		1.3	1.2	
No. 5	Frequency (%)	21.3	1.1	1.1		41.6	19.0	32.6		4.5
Cua Ong Temple	Velocity (m/s)		0.9	0.9		1.0	0.7	1.0		0.5

Observation Data of Settled Dust (mg/m²) (1/2)

Points	Period	Date														
		14/7	15/7	16/7	17/7	18/7	19/7	20/7	21/7	22/7	23/7	24/7	25/7	26/7	27/7	28/7
No. 1	24h	444	417	302	403	197	318	203		234	322	88	80	154	67	
Bai Chay	5 days					983					508					135
No. 2	24h		21	10	53	244										43
Hon Gai	5 days					1037										379
No. 3	24h	233	461	221	216	117	252	230	24	27	27					
Cam Pha	5 days					949					474					485
No. 4	24h	2411	1113	1079	1297	1032	717	820	579	539	1386	1047	21	1256	739	570
Cua Ong	5 days					5558					3310					2410
No. 5	24h	566	388	797	969	761	625	1760	1274	876	1422	525	96	297	145	316
Cua Ong Temple	5 days					2841					5466					1624

Observation Data of Settled Dust (mg/m²) (2/2)

Points	Period	Date														
		30/7	31/7	1/8	2/8	3/8	4/8	5/8	6/8	7/8	8/8	9/8	10/8	11/8	12/8	13/8
No. 1	24h	65		35	75	32	69	110	66	91	222	241	176	112		24
Bai Chay	5 days					125					311					306
No. 2	24h											151	110	105	109	69
Hon Gai	5 days					445					134					540
No. 3	24h															
Cam Pha	5 days					344					396					207
No. 4	24h	358	181	502	373	293	569	449	385	734	597	215	71	568	182	731
Cua Ong	5 days					2010					2262					2948
No. 5	24h	388		8903		247	225	521	199	655	127	248	22	465	111	250
Cua Ong Temple	5 days					1547					15392					2946

V. DISCUSSIONS

5.1 Wind

Survey area is located along the seaside from Bai Chay beach to Cua Ong. Geographic characteristics in the area are rather special: one side is sea and the other is hills and mountain. In general, the seaside runs along the direction of North East-South West. The ground surface is not plain. So the direction of wind is not the same in the whole area. In addition, this area is affected by local circulation such as hill wind and land wind so wind features in this region are complicated.

Wind directions were different from point to point in the whole sampling area. Prevalent directions were South East at Bai Chay and Hon Gai while they were South at Cam Pha, South West at the cemetery of Cua Ong (Point 4) and South East the Cua Ong Temple. These features tally with data obtained from Meteorological Stations of Hon Gai and Cua Ong.

The wind velocity of prevalent directions was higher than the other directions. The average velocities of Southeast wind were 3.1 m/s and 1.9 m/s at Bai Chay and Hon Gai respectively. The velocities of other sampling points were not higher than 1.5 m/s.

In short, prevalent directions were East, South and partial West, i.e. blowed from the sea.

5.2 Settled Dust

In general, obtained data on settled dust reflect the affects of wind directions and emission sources.

Quantity of settled dust obtained at Bai Chay in a number of days is rather high as this sampling point is located nearby construction sites and seaside where there were a lot of people's activities. For some samples, the quantities of settled reached to 441 mg/m^2.day (for daily sampling) or 982 mg/m^2.day (for five-day sampling). However, the quantity of settled dust at this point was not stable. For some days, the quantities of settled dust were only 25 mg/m^2.day.

Because there were no significant sources of dust nearby so, in general, the quantity of settled dust collected at Hon Gai was low. However, in the first five days, due to construction activities for the preparation of International Children Festival so it was higher. In remaining period, it was usually low, less than 100 mg/m^2.day

The quantity of settled dust collected at Cam Pha was also low like at Hon Gai.

The quantity of settled dust at the Point 4 nearby Cua Ong cemetery was high. In some days, it exceeded 1000 mg/m^2.day. One of reasons may be high coal exploitation and transportation in this area. Especially, coal waste site is located only 300 m from the sampling point.

Due to the effect of Cua Ong Coal Port which is located closely the sampling point so the quantity of settled dust at the Point 5 was also high and stable. It exceeded 1000 mg/m^2.day for many days.

PROCEDURE
for
The Measurement of Settled Dust and Wind

I. Measurement of Settled Dust

The measurement is followed TCVN (Vietnam Standards) 5498 - 1995:

(1) Height of measurement: 1.5m

(2) Period of measurement: Daily or every 5 days

(3) Put and collect the dish at 7am daily or every five days as follows:

- Cover the dish to be collected with its upper part. Clean the external surface of the dish with tissue.
- Put the dish into a plastic bag and seal.
- Open a new dish and put it on the right place of the former one. The upper part of the new one is put back into the plastic bag.
- Record the number of dishes to be collected and newly put
- Place vertically collected dish in a safe, cool place. Do not touch anything to the internal surface of the dish
- Hand collected samples over to designated staff when requested
- Stop sampling when unusual things such as rain, fire... happened. Sampling can only be resumed when unusual things completely finished.
- Record the period of unsampling time
- Check metering equipments daily

II. Measurement of Wind

Wind is measured following the World Meteorology Organization:

- Height of measurement: 2m above the ground
- Portable anemometers
- The direction of wind is determined by self-made equipments
- Period of measurement: 4 obs/day, at 1, 7, 13, 19 h every day
- Five minutes before the right time put the anemometer on required place and record initial number of the anemometer
- Record the direction of wind
- At the right time, start the anemometer and the timer. Keep them operating for about 100 seconds and then stop them at the same time. Record final number of the anemometer and interval of observing time
- Stop observation when unusual things such as rain, fire... happened.

PROCEDURE
for
The Preparation of Petri Dishes and the Analysis of Settled Dust Samples

1. Preparation of Vaseline

- Dry vaseline at 100°C for 2h
- Put dried vaseline into the clean container. Cover with a stopper for later use.

2. Preparation of Petri Dishes

- Number and clean Petri dishes by petrol
- Dry the dishes at 100°C for 2h
- Put dried dishes into the desicator for cooling to room temperature
- Weigh the dishes (only lower parts)
- Add 8 - 10 g of prepared vaseline into each prepared dish (only lower part)
- Dry the dishes with vaseline at 40°C for 10 min for making a thin layer of vaseline on the whole bottom of the dishes.
- Put vaseline-added dishes into the desicator for cooling to room temperature
- Weigh the dish (only lower part) containing vaseline with the accuracy of $\pm 10^{-4}$ g. Record the result as m_1.
- Cover prepared dish with its upper part. Put it into a plastic bag and seal. Now it is ready for sampling.

3. Analysis of Samples

- Pull sampled dish out of plastic bag. Carefully clean the external surface of the dish with clean and wet cloth.
- Dry the dish at 40°C for 2h
- Put the dish into the desicator for cooling to room temperature
- Weigh the dish at the accuracy of $\pm 10^{-4}$g. Record the result as m_2

4. Calculation

Quantity of settled dust (Qd) is calculated as follows:

$$Qd\ (g/m^2.day) = (m_2-m_1)/st$$

Where:

m_1 : Weight of Petri dish with vaseline before sampling, g
m_2 : Weight of Petri dish with vaseline after sampling, g
s : Area of Petri dish, m^2
t : Real sampling time (excluding stopping time due to rain, fire nearby, etc.), day (24 h)

4.1 Wind Observation Data

Point No.1, Bai Chay, Observation Height: 2m

Date	Time	Wind direction	Wind velocity (m/s)	Date	Time	Wind direction	Wind velocity (m/s)
14/07/98	1	SE	1.6	30/07/98	1	S	3.0
	7	SE	3.0		7	S	2.4
	13	SE	4.5		13	SE	4.3
	19	SE	3.2		19	SE	4.1
15/07/98	1	SE	2.5	31/07/98	1	SW	3.9
	7	S	3.5		7	S	4.0
	13	SW	2.8		13	SE	3.7
	19	SE	3.0		19	SE	4.7
16/07/98	1		0	01/08/98	1	S	3.3
	7		2.6		7	SE	4.8
	13	SW	2.7		13	SE	3.2
	19	SE	3.2		19	SE	1.1
17/07/98	1	SE	1.5	02/08/98	1	S	2.4
	7	SW	1.9		7	S	1.6
	13	SW	2.9		13	SE	4.8
	19	SE	2.6		19	SE	3.9
18/07/98	1	S	1.8	03/08/98	1		0
	7	S	1.1		7	S	2.3
	13	S	3.0		13	SE	4.0
	19	SW	1.6		19	SE	3.8
19/07/98	1		0	04/08/98	1	NW	0.9
	7	S	0.4		7	SE	2.7
	13	SW	3.2		13	SE	4.3
	19	SE	2.3		19	SE	3.2
20/07/98	1	SE	1.2	05/08/98	1	SE	4.3
	7	S	1.2		7	SE	2.1
	13	SW	3.9		13	SE	2.1
	19	SE	3.4		19	SE	3.0
21/07/98	1	SE	2.8	06/08/98	1	SE	2.9
	7	S	1.6		7	S	1.8
	13	S	2.2		13	SE	3.2
	19	SE	2.4		19	SE	2.4
22/07/98	1	SE	3.0	07/08/98	1	NW	1.0
	7				7		0
	13	SW	3.7		13		
	19	SE	1.5		19	SE	3.8
23/07/98	1	SE	2.5	08/08/98	1	S	1.8
	7	SW	2.2		7	NE	1.1
	13	SW	2.9		13		
	19	SE	1.7		19	NE	1.0
24/07/98	1	SW	2.5	09/08/98	1		
	7	W	1.0		7		
	13	SW	2.6		13		
	19	W	1.4		19	E	1.1
25/07/98	1			10/08/98	1		
	7				7	E	2.1
	13				13	NE	1.8
	19	S	2.2		19	NE	1.1
26/07/98	1	W	0.9	11/08/98	1	NE	1.3
	7	S	1.3		7		
	13	SE	3.8		13	S	3.1
	19	SE	3.7		19	SE	2.8
27/07/98	1	E	1.1	12/08/98	1	NW	1.1
	7	SE	2.9		7		0
	13	SE	4.0		13	S	2.6
	19	SE	2.8		19	SE	3.3
28/07/98	1	S	2.4	13/8/1998	1	SE	1.7
	7	SE	3.0		7	SE	3.2
	13	SE	4.6		13		
	19	SE	3.5		19	E	3.0

4.2 Wind Observation Data

Point No.2, Hong Gai, Observation Height: 2m

Date	Time	Wind direction	Wind velocity (m/s)	Date	Time	Wind direction	Wind velocity (m/s)
14/07/98	1	E	0.1	30/07/98	1	SW	1.2
	7	E	2.5		7	SE	1.7
	13	SE	3.3		13	SE	2.0
	19	SE	4.2		19	SE	1.2
15/07/98	1	SE	2.4	31/07/98	1		0
	7	SE	1.3		7	SW	1.0
	13	SE	2.5		13	SE	3.0
	19	SE	3.4		19	SE	2.5
16/07/98	1		0	1/8/98	1	NW	1.2
	7	S	0.8		7	SE	1.4
	13	SE	3.6		13	SE	2.6
	19	SE	1.9		19	SE	3.2
17/07/98	1	SE	1.3	02/08/98	1		0
	7		0		7	S	0.8
	13	S	1.7		13	S	2.1
	19	SE	2.3		19	SE	0.9
18/07/98	1	SE	1.6	03/08/98	1		0
	7		0		7	SE	1.3
	13	S	1.5		13	SE	2.2
	19	SE	1.7		19	SE	2.5
19/07/98	1		0	04/08/98	1		0
	7		0		7	SE	0.8
	13	SE	2.4		13	SE	3.6
	19	SE	2.2		19	SE	1.9
20/07/98	1	SE	1.2	05/08/98	1		0
	7	SE	1.4		7	SE	0.4
	13	SE	3.2		13	SE	3.0
	19	SE	2.3		19	SE	1.2
21/07/98	1	SE	0.8	06/08/98	1		0
	7	W	0.7		7	SE	0.8
	13	SE	0.8		13	SE	2.3
	19	SE	1.5		19	SE	1.2
22/07/98	1	NW	1.3	07/08/98	1	NW	1.4
	7	SE	1.5		7	SE	0.4
	13	SE	2.3		13	SW	1.7
	19	SE	2.1		19	SE	2.3
23/07/98	1	SE	3.5	08/08/98	1		0
	7		0		7	SW	0.6
	13	SE	1.1		13		
	19	W	0.9		19	S	0.8
24/07/98	1	NW	0.7	09/08/98	1	NW	0.7
	7	SE	0.8		7	NE	0.9
	13	W	1.3		13	NW	0.9
	19		0		19		0
25/07/98	1	N	0.8	10/08/98	1		0
	7		0		7		0
	13		0		13		0
	19	SE	2.0		19		0
26/07/98	1		0	11/08/98	1	NW	0.9
	7	SE	0.9		7	NW	0.5
	13	SE	1.0		13	NW	1.4
	19	SE	2.6		19	SE	1.4
27/07/98	1		0	12/08/98	1		0
	7	SE	0.7		7	NW	0.7
	13	SE	3.3		13	SE	0.8
	19	SE	1.8		19	SE	1.2
28/07/98	1	SE	1.0	13/8/98	1	SE	1.2
	7	SE	1.2		7	SE	1.7
	13	SE	3.0		13	SE	3.3
	19	SE	1.6		19	SE	1.4

4.3 Wind Observation Data

Point No.3, Cam Pha, Observation Height: 2m

Date	Time	Wind direction	Wind velocity (m/s)	Date	Time	Wind direction	Wind velocity (m/s)
14/07/98	1		0	30/07/98	1	SW	0.7
	7	S	1.3		7	SW	0.4
	13	S	1.5		13	S	1.2
	19	SE	1.8		19	SE	0.8
15/07/98	1	SE	1.7	31/07/98	1	S	0.4
	7	S	2.0		7	SW	0.6
	13	SE	2.0		13	S	0.7
	19	SE	1.1		19	S	0.5
16/07/98	1		0	01/08/98	1	SW	1.2
	7	S	1.7		7	S	1.3
	13	SE	2.4		13	S	1.0
	19	SE	1		19	S	0.5
17/07/98	1		0	02/08/98	1	SW	0.3
	7	S	1.3		7	S	0.8
	13	SE	2.5		13	S	1.2
	19	S	1.1		19	SW	0.5
18/07/98	1		0	03/08/98	1	W	0.3
	7		0		7	S	0.7
	13	S	1.9		13	SW	1.4
	19	SW	1.6		19	SW	0.5
19/07/98	1	W	1.9	04/08/98	1	W	0.5
	7	SW	1.6		7	W	1.0
	13	S	2.3		13	SW	1.8
	19		0		19	SE	0.3
20/07/98	1	W	0.8	05/08/98	1		0
	7	S	0.7		7	S	0.7
	13	S	1.6		13	SW	1.6
	19	S	0.7		19	S	0.4
21/07/98	1	S	1.0	06/08/98	1		0
	7	S	0.7		7	S	0.3
	13	SW	1.7		13	S	1.4
	19	SE	0.6		19	S	0.5
22/07/98	1	SE	0.7	07/08/98	1	SW	0.7
	7				7	SW	0.6
	13	S	1.4		13	SW	1.0
	19	S	0.5		19	S	0.4
23/07/98	1	S	0.7	08/08/98	1	SW	0.5
	7	SW	1.6		7	SW	0.3
	13	SW	1.5		13	SE	0.6
	19	W	0.9		19		0
24/07/98	1			09/08/98	1		0
	7		0		7		
	13	S	1.6		13		
	19		0		19	SE	0.4
25/07/98	1		0	10/08/98	1		0
	7		0		7		0
	13	SW	0.5		13	SE	0.5
	19	S	0.5		19		0
26/07/98	1	S	0	11/08/98	1		0
	7	SW	0.9		7	SW	0.5
	13	SE	2.0		13	SW	1.3
	19	SE	0.5		19	SW	0.4
27/07/98	1		0	12/08/98	1		
	7				7		0
	13	S	0.8		13	SW	1.3
	19	S	0.5		19		0
28/07/98	1	S	0.2	13/8/1998	1		
	7	SW	0.6		7	S	0.6
	13	SW	1.5		13	S	1.0
	19	SW	0.6		19		

4.4 Wind Observation Data

Point No.4, Cua Ong, Observation height: 2m

Date	Time	Wind direction	Wind velocity (m/s)	Date	Time	Wind direction	Wind velocity (m/s)
14/07/98	1		0	30/07/98	1	W	2.2
	7	SE	1.3		7	W	2.1
	13	SW	1.5		13	SW	1.3
	19	SE	2.5		19	SW	1.0
15/07/98	1	SW	1.4	31/07/98	1	SE	1.2
	7	SE	1.7		7	SE	1.6
	13	SW	2.9		13	SW	0.7
	19	SE	1.5		19	SW	1.3
16/07/98	1		0	01/08/98	1	SE	1.8
	7	SW	0.9		7	SW	0.9
	13	SW	0.9		13	SW	1.3
	19	W	1.2		19	SW	1.2
17/07/98	1		0	02/08/98	1		0
	7	SW	1.1		7	SE	0.5
	13	W	1.3		13		
	19	SW	0.8		19		0
18/07/98	1	SW	1.9	03/08/98	1		
	7	W	2.6		7		
	13	SW	0.5		13	SE	0.3
	19	W	1.0		19	E	0.6
19/07/98	1	SW	1.3	04/08/98	1		0
	7	W	0.6		7	E	0.7
	13	SW	1.9		13	SE	1.6
	19	SW	0.5		19	SW	1.1
20/07/98	1	W	0.8	05/08/98	1	SW	0.7
	7	SE	0.6		7	SW	1.3
	13	E	1.2		13	SW	1.6
	19	W	0.7		19	SW	1.1
21/07/98	1	W	0.6	06/08/98	1	W	0.6
	7	W	1.6		7	SE	1.1
	13	SW	2.0		13		
	19	SE	1.6		19	SW	1.2
22/07/98	1	W	1.4	07/08/98	1	SE	1.1
	7				7		
	13	W	1.5		13	SW	1.5
	19	SW	0.6		19	SW	1.1
23/07/98	1	W	2.5	08/08/98	1		0
	7	SW	0.8		7	SE	0.5
	13	SW	2.0		13		
	19	SW	1.5		19		0
24/07/98	1	W	1.2	09/08/98	1		
	7	SW	1.0		7		
	13	SW	1.4		13	SE	0.3
	19	W	0.6		19	E	0.6
25/07/98	1	W	1.1	10/08/98	1		0
	7				7	E	0.7
	13	SE	0.6		13	SE	1.6
	19		0		19	SW	1.1
26/07/98	1		0	11/08/98	1	E	1.1
	7		0		7	SE	1.0
	13	SW	1.4		13	SW	1.7
	19	SW	1.6		19	SW	0.6
27/07/98	1		0	12/08/98	1	SW	0.9
	7				7		0
	13	SE	1.7		13	SW	1.2
	19	SE	1.0		19	SW	1.2
28/07/98	1	SW	1.0	13/8/1998	1	SW	1.8
	7	SW	1.2		7	SW	1.2
	13	SW	1.3		13	SW	2.2
	19	SE	1.2		19	SW	2.6

4.5 Wind Observation Data

Point No.5, Cua Ong Temple, Observation height: 2m

Date	Time	Wind direction	Wind velocity (m/s)	Date	Time	Wind direction	Wind velocity (m/s)
14/07/98	1	SE	0.4	30/07/98	1	SE	0.4
	7	SE	1.4		7	SE	0.4
	13	SE	2.3		13	SE	3.3
	19	SE	1.1		19		0
15/07/98	1		0	31/07/98	1	SE	1.4
	7	SE	1.4		7	SE	0.5
	13	SW	1.4		13	SW	1.4
	19	SE	0.7		19	S	0.3
16/07/98	1	NW	0.5	01/08/98	1	S	0.7
	7	SE	1.4		7	S	1.1
	13	SE	1.5		13	SE	1.6
	19	SE	0.7		19	SE	0.3
17/07/98	1		0	02/08/98	1	S	0.4
	7	SW	0.7		7	SW	1.0
	13	SW	0.9		13	SW	1.1
	19	SE	0.5		19	SE	0.3
18/07/98	1	NW	0.6	03/08/98	1		0
	7	SW	0.7		7	SW	1.1
	13	SW	1.4		13	S	1.6
	19	SE	0.5		19	S	0.7
19/07/98	1	NW	0.5	04/08/98	1		0
	7	SW	0.7		7	S	0.9
	13	SW	1.1		13	S	0.8
	19	SE	0.4		19		0
20/07/98	1	S	0.8	05/08/98	1		0
	7	SE	1.1		7	SW	1.4
	13	SE	1.0		13	SE	1.6
	19	SE	0.4		19		0
21/07/98	1		0	06/08/98	1		0
	7	SW	1.0		7	SW	1.0
	13	SW	1.1		13		
	19	SE	0.9		19		0
22/07/98	1	S	1.2	07/08/98	1		0
	7		0		7	SW	0.7
	13	SW	1.5		13	SW	0.7
	19	SW	1.0		19	S	0.5
23/07/98	1	SW	0.5	08/08/98	1		0
	7	SW	0.6		7		
	13	SW	2.0		13		
	19	SW	0.7		19	S	0.5
24/07/98	1	NE	1.1	09/08/98	1		
	7	SW	0.8		7		
	13	SW	0.5		13		
	19	S	0.5		19	SW	0.5
25/07/98	1	NW	0.4	10/08/98	1	N	0.4
	7				7	SE	1.5
	13		0		13	SE	0.3
	19	S	0.4		19		0
26/07/98	1		0	11/08/98	1		0
	7	S	0.7		7	SE	0.5
	13	SE	1.3		13	SW	1.1
	19	SE	0.5		19	SE	1.4
27/07/98	1	S	0.5	12/08/98	1		0
	7		0		7	SE	0.4
	13	SE	1.4		13	SE	1.2
	19		0		19		0
28/07/98	1	SE	0.4	13/8/1998	1		0
	7	SE	0.3		7	S	0.6
	13	SW	2.6		13	SE	1.5
	19	SW	0.7		19		0

4.6 Settled Dust Observation Data Point No. 1, Bai Chay

Date	Total sampling time (1 day)	Total sampling time (5 days)	Weight before sampling (gr)	Weight after sampling (gr)	Area of disk (cm^2)	Dust amount ($mg/m^2/24h$)	Dust amount ($mg/m^2/5days$)	Note
14-Jul	24		61.5520	61.5565	102.0	411.1		
15-Jul	24		78.9673	78.9713	95.9	417.3		
16-Jul	24		102.0255	102.0283	92.8	301.9		
17-Jul	24		91.4768	91.4806	91.3	403.0		
18-Jul		120	76.4816	76.4909	94.6	196.5	982.7	
19-Jul	24		83.8057	83.8087	94.3	318.1		
20-Jul	24		81.4293	81.4312	93.6	203.0		
21-Jul								
22-Jul	21.25		73.6915	73.6935	96.7	233.5		Bad weather sometimes
23-Jul	17.25		90.7210	90.7232	95.0	322.2	508.2	Bad weather sometimes
24-Jul	14.1		97.1619	97.1624	96.9	87.8		Bad weather sometimes
25-Jul	16		86.0125	86.0130	93.6	80.1		Bad weather sometimes
26-Jul	20		79.1706	79.1718	93.6	153.8		
27-Jul	19		84.5210	84.5215	94.8	66.6		Bad weather sometimes
28-Jul							131.9	
30-Jul	24		79.4628	79.4634	92.1	65.2		
31-Jul								
1-Aug	21.9		72.3689	72.3692	93.8	35.1		Bad weather sometimes
2-Aug	24		78.4270	78.4277	93.6	74.8		
3-Aug	24		78.5593	78.5596	94.6	31.7	125.3	
4-Aug	19		98.4017	98.4022	92.1	68.6		
5-Aug	14		83.8988	83.8994	93.6	109.9		Bad weather sometimes
6-Aug	24		98.7941	98.7947	91.6	65.5		Bad weather sometimes
7-Aug	22.5		86.7565	86.7573	94.0	90.8		Bad weather sometimes
8-Aug	7.9		85.9988	85.9995	96.0	221.5	310.5	
9-Aug	10.1		81.7112	81.7120	78.8	241.2		Bad weather sometimes
10-Aug	16		91.4313	91.4324	93.8	175.9		Bad weather sometimes
11-Aug	17.9		81.4023	81.4031	96.2	111.5		Bad weather sometimes
12-Aug								
13-Aug	10.9		104.4702	104.4703	92.8	23.7	306.0	Bad weather sometimes

4.7 Settled Dust Observation Data Point No. 2, Hong Gai

Date	Total sampling time (1 day)	Total sampling time (5 days)	Weight before sampling (gr)	Weight after sampling (gr)	Area of disk (cm^2)	Dust amount ($mg/m^2/24h$)	Dust amount ($mg/m^2/5days$)	Note
15-Jul	24		73.7974	73.7976	93.6	21.4		
16-Jul	24		71.4934	71.4935	96.5	10.4		
17-Jul	24		90.5761	90.5766	95.0	52.6		
18-Jul	24		65.6207	65.6230	94.3	243.9	1036.6	
19-Jul								
20-Jul								
21-Jul								Disks
22-Jul								were
23-Jul								destroyed
24-Jul								by
25-Jul								bad
26-Jul								people
27-Jul								
28-Jul	24		73.9160	73.9164	93.6	42.7	379.3	
3-Aug		119	60.7533	60.7555	96.4		230.2	Bad weather sometimes
3-Aug		119	79.0135	79.0198	96.2		660.4	Bad weather sometimes
8-Aug		117.3	90.7894	90.7902	94.8		86.3	Bad weather sometimes
8-Aug		117.3	76.1971	76.1988	95.5		182.1	Bad weather sometimes
9-Aug	11.66		72.9119	72.9126	95.5	150.9		Bad weather sometimes
10-Aug	23		90.9936	90.9946	94.6	110.3		Bad weather sometimes
11-Aug	23.66		59.5308	59.5318	96.4	105.3		Bad weather sometimes
12-Aug	23.5		86.9066	86.9076	93.6	109.1		Bad weather sometimes
13-Aug	18.8		88.7948	88.7953	92.4	69.1		Bad weather sometimes
13-Aug		100.5	82.1440	82.1473	93.6		420.9	Bad weather sometimes
13-Aug		100.5	70.5484	70.5536	94.1		659.7	Bad weather sometimes

4.8 Settled Dust Observation Data Point No. 3, Cam Pha

Date	Total sampling time (1 day)	Total sampling time (5 days)	Weight before sampling (gr)	Weight after sampling (gr)	Area of disk (cm^2)	Dust amount ($mg/m^2/24h$)	Dust amount ($mg/m^2/5days$)	Note
14-Jul	24		68.1622	68.1644	94.5	232.9		
15-Jul	19.9		72.1050	72.1087	96.7	461.4		Bad weather sometimes
16-Jul	22.1		106.9248	106.9267	93.3	221.2		Bad weather sometimes
17-Jul	21.35		80.9523	80.9541	93.6	216.2		Bad weather sometimes
18-Jul	24		75.2888	75.2899	94.1	116.9	948.8	
19-Jul	18.5		104.1109	104.1127	92.6	252.2		
20-Jul	24		68.8966	68.8988	95.9	229.5		
21-Jul	22.1		81.4850	81.4852	92.1	23.6		Bad weather sometimes
22-Jul	19		73.7974	73.7976	93.6	27.0		Bad weather sometimes
23-Jul	18.3		74.7650	74.7652	96.5	27.2	474.431	Bad weather sometimes
28-Jul		111.1	74.6240	74.6282	95.0		477.597	Bad weather sometimes
28-Jul		111.1	98.0987	98.1029	92.1		492.708	Bad weather sometimes
3-Aug		116	74.8138	74.8174	95.0		392.076	Bad weather sometimes
3-Aug		116	90.1930	90.1957	94.6		295.130	Bad weather sometimes
8-Aug		98.1	86.9320	86.9343	98.1		286.739	Bad weather sometimes
8-Aug		98.1	73.1007	73.1047	96.7		505.891	Bad weather sometimes
13-Aug		54.9	93.3335	93.3340	96.9		112.793	Bad weather sometimes
13-Aug		54.9	76.1587	76.1600	94.1		301.894	Bad weather sometimes

4.9 Settled Dust Observation Data Point No. 4, Cua Ong

Date	Total sampling time (1 day)	Total sampling time (5 days)	Weight before sampling (gr)	Weight after sampling (gr)	Area of disk (cm^2)	Dust amount ($mg/m^2/24h$)	Dust amount ($mg/m^2/5days$)	Note
15-Jul	24		90.5414	90.5517	92.6	1112.5		
16-Jul	24		83.7035	83.7136	93.6	1079.0		
17-Jul	24		83.6339	83.6462	94.8	1297.3		
18-Jul	24		67.7310	67.7408	95.0	1031.7	5558.3	
19-Jul	24		78.8983	78.9052	96.2	717.3		
20-Jul	24		53.5098	53.5177	96.4	819.7		
21-Jul	22.5		82.9387	82.9439	95.9	578.7		Bad weather sometimes
22-Jul	17.9		64.7753	64.7794	102.0	538.8		Bad weather sometimes
23-Jul	24		82.1849	82.1985	98.1	1386.1	3309.5	
24-Jul	21		80.4860	80.4947	95.0	1046.8		Bad weather sometimes
25-Jul	23.7		68.2899	68.2901	96.9	20.9		
26-Jul	20.5		77.0221	77.0322	94.1	1256.3		Bad weather sometimes
27-Jul	22.7		124.9316	124.9380	91.6	739.0		
28-Jul	21.3		90.6081	90.6129	94.8	570.4	2409.8	Bad weather sometimes
30-Jul	24		70.8334	70.8368	95.0	358.0		
31-Jul	23.5		71.3425	71.3442	95.9	181.1		Bad weather sometimes
1-Aug	24		87.9242	87.9289	93.6	502.1		
2-Aug	24		62.4130	62.4168	102.0	372.5		
3-Aug	24		76.3865	76.3893	95.5	293.2	2009.7	
4-Aug	24		96.6977	96.7031	95.0	568.5		
5-Aug	24		70.9832	70.9874	93.6	448.7		
6-Aug	22.7		105.5714	105.5748	93.3	385.4		Bad weather sometimes
7-Aug	19.8		80.9920	80.9977	94.1	734.0		Bad weather sometimes
8-Aug	9.8		68.6015	68.6038	94.3	597.3	2261.9	Bad weather sometimes
9-Aug	16.3		80.5079	80.5093	95.9	215.1		Bad weather sometimes
10-Aug	21.5		71.6186	71.6192	93.8	71.4		Bad weather sometimes
11-Aug	24		68.6823	68.6878	96.9	567.6		
12-Aug	22.5		78.9223	78.9239	93.6	182.3		Bad weather sometimes
13-Aug	15.5		77.8387	77.8432	95.3	730.9	2947.6	Bad weather sometimes

4.10 Settled Dust Observation Data Point No. 5, low temple, Cua Ong

Date	Total sampling time (1 day)	Total sampling time (5 days)	Weight before sampling (g)	Weight after sampling (g)	Area of disk (cm^2)	Dust amount ($mg/m^2/24h$)	Dust amount ($mg/m^2/5days$)	Note
15-Jul	23		97.8602	97.8638	96.9	387.7		Bad weather sometimes
16-Jul	24		125.3591	125.3664	91.6	797.3		
17-Jul	24		72.2826	72.2918	95.0	968.6		
18-Jul	24		87.0148	87.0220	94.6	760.8	2841.2	
19-Jul	24		77.5551	77.5612	97.6	625.0		
20-Jul	24		78.3623	78.3789	94.3	1760.4		
21-Jul	24		96.6891	96.7012	95.0	1273.9		
22-Jul	22.5		65.0699	65.0778	96.2	876.0		Bad weather sometimes
23-Jul	22		88.1910	88.2032	93.6	1421.8	5165.5	Bad weather sometimes
24-Jul	24		79.5356	79.5406	95.3	524.5		
25-Jul	21.5		106.8075	106.8083	93.3	95.8		Bad weather sometimes
26-Jul	24		88.1867	88.1895	94.3	296.9		
27-Jul	19.25		69.2644	69.2655	94.3	145.4		
28-Jul	24		76.6798	76.6831	95.5	345.5	1623.6	
30-Jul	24		103.9280	103.9316	92.8	388.1		
31-Jul								
1-Aug	24		73.1090	73.1928	94.1	8903.2		
2-Aug	23.5		102.7672	102.7689				
3-Aug	24		78.0919	78.0942	93.3	246.6	1547.1	
4-Aug	24		73.3737	73.3759	97.6	225.4		
5-Aug	24		76.0452	76.0501	94.1	520.6		
6-Aug	23.25		85.8214	85.8232	93.6	198.5		Bad weather sometimes
7-Aug	24		122.2720	122.2780	91.6	655.3		
8-Aug	17.9		92.7156	92.7165	95.0	127.0	15392.9	Bad weather sometimes
9-Jul	11.3		86.3107	86.3118	94.3	247.8		Bad weather sometimes
10-Jul	21		65.3509	65.3511	102.0	22.4		Bad weather sometimes
11-Jul	24		90.2219	90.2262	92.6	464.5		
12-Jul	21		102.6878	102.6887	92.6	111.1		Bad weather sometimes
13-Jul	22		70.6945	70.6967	95.9	250.4	2945.9	Bad weather sometimes

4.11 Settled Dust Observation Data (Without Time Regulation) Point No. 1, Bai Chay

Date	Total sampling time (1 day)	Total sampling time (5 days)	Weight before sampling (g)	Weight after sampling (g)	Area of disk (cm^2)	Settled dust amount ($mg/m^2/day$)	Settled dust amount ($mg/m^2/5days$)	Note
14-Jul	24		61.552	61.5565	102	441.1		
15-Jul	24		78.9673	78.9713	95.9	417.3		
16-Jul	24		102.0255	102.0283	92.8	301.9		
17-Jul	24		94.4768	94.4806	94.3	403		
18-Jul							892.7	
19-Jul	24		83.8057	83.8087	94.3	318.1		
20-Jul	24		81.4293	81.4312	93.6	203		
21-Jul								
22-Jul	21h 15		73.6915	73.6935	96.7	206.8		Bad weather sometimes
23-Jul	17h 15		90.721	90.7232	95	231.6	471.2	Bad weather sometimes
24-Jul	14h 10		97.1619	97.1624	96.9	51.6		Bad weather sometimes
25-Jul	16h		86.0125	86.013	93.6	53.4		Bad weather sometimes
26-Jul	20h		79.1706	79.1718	93.6	128.2		
27-Jul	19h		84.521	84.5215	94.8	52.7		Bad weather sometimes
28-Jul							96.1	
30-Jul	24h		79.4628	79.4634	92.1	65.2		
1-Aug	21h 50		72.3689	72.3692	93.8	32		Bad weather sometimes
2-Aug	24h		78.427	78.4277	93.6	74.8		
3-Aug	24h		78.5593	78.5596	94.6	31.7	84.1	
4-Aug	19h		98.4017	98.4022	92.1	54.3		
5-Aug	14h		83.8988	83.8994	93.6	64.1		Bad weather sometimes
6-Aug	24h		98.7941	98.7947	91.6	65.5		Bad weather sometimes
7-Aug	24h		78.732	78.7328	95.2	84.1		Bad weather sometimes
8-Aug	7h 50		85.9988	85.9995	96	72.9		
9-Aug	10h 10		81.7112	81.712	78.8	101.5		Bad weather sometimes
10-Aug	16h		91.4313	91.4324	93.8	117.3		Bad weather sometimes
11-Aug	17h 50		81.4023	81.4031	96.2	83.2		Bad weather sometimes
12-Aug								
13-Aug	10h 50		104.4702	104.4703	92.8	10.8	117.7	Bad weather sometimes

4.12 Settled Dust Observation Data (Without Time Regulation) Point No. 2, Hong Gai

Date	Total sampling time (1 day)	Total sampling time (5 days)	Weight before sampling (gr)	Weight after sampling (gr)	Area of disk (cm^2)	Settled dust amount ($mg/m^2/day$)	Settled dust amount ($mg/m^2/5days$)	Note
14/Jul	24				92.1	0.0		
15/Jul	24		73.7974	73.7976	93.6	21.4		
16/Jul	24		71.4934	71.4935	96.5	10.4		
17/Jul	24		90.5761	90.5766	95.0	52.6		
18/Jul	24		65.6207	65.6230	94.3	243.9	1036.6	
19/Jul								
20/Jul								Disks
21/Jul								were
22/Jul								destroyed
23/Jul								by
24/Jul								bad
25/Jul								people
26/Jul								
27/Jul								
28/Jul	24		73.9160	73.9164	93.6	42.7	369.8	
3/Aug		119	60.7533	60.7555	96.4		228.3	Bad weather sometimes
3/Aug		119	79.0135	79.0198	96.2		654.9	Bad weather sometimes
8/Aug		117.3	90.7894	90.7902	94.8		84.4	Bad weather sometimes
8/Aug		117.3	76.1971	76.1988	95.5		178.0	Bad weather sometimes
9/Aug	11.66		72.9119	72.9126	95.5	73.3		Bad weather sometimes
10/Aug	23		90.9936	90.9946	94.6	105.7		Bad weather sometimes
11/Aug	23.66		59.5308	59.5318	96.4	103.8		Bad weather sometimes
12/Aug	23.5		86.9066	86.9076	93.6	106.8		Bad weather sometimes
13/Aug	18.8		88.7948	88.7953	92.4	54.1		Bad weather sometimes
13/Aug		100.5	82.1440	82.1473	93.6	352.5	352.5	Bad weather sometimes
13/Aug		100.5	70.5484	70.5536	94.1	552.5	552.5	Bad weather sometimes

4.13 Settled Dust Observation Data (Without Time Regulation) Point No. 3, Cam Pha

Date	Total sampling time (1 day)	Total sampling time (5 days)	Weight before sampling (gr)	Weight after sampling (gr)	Area of disk (cm^2)	Settled dust amount ($mg/m^2/day$)	Settled dust amount ($mg/m^2/5days$)	Note
14-Jul	24		68.1622	68.1644	94.5	232.9		
15-Jul	19h 52		72.1050	72.1087	96.7	382.5		Bad weather sometimes
16-Jul	22h 08		106.9248	106.9267	93.3	203.7		Bad weather sometimes
17-Jul	21h 25		80.9523	80.9541	93.6	192.3		Bad weather sometimes
18-Jul	24		75.2888	75.2899	94.1	116.9	877.6	
19-Jul	18h 30		104.1109	104.1127	92.6	194.4		
20-Jul	24h		68.8966	68.8988	95.9	229.5		
21-Jul	22h 08		81.4850	81.4852	92.1	21.7		Bad weather sometimes
22-Jul	19		73.7974	73.7976	93.6	21.4		Bad weather sometimes
23-Jul	18h 20		74.7650	74.7652	96.5	20.7	403.2	Bad weather sometimes
28-Jul		111h 10	74.6240	74.6282	95.0		442.2	Bad weather sometimes
28-Jul		111h 10	98.0987	98.1029	92.1		456.2	Bad weather sometimes
3-Aug		116	74.8138	74.8174	95.0		379.0	Bad weather sometimes
3-Aug		116	90.1930	90.1957	94.6		285.3	Bad weather sometimes
8-Aug		98h 10	86.9320	86.9343	98.1		234.4	Bad weather sometimes
8-Aug		98h 10	73.1007	73.1047	96.7		413.6	Bad weather sometimes
13-Aug		54h 50	93.3335	93.3340	96.9		51.6	Bad weather sometimes
13-Aug		54h 50	76.1587	76.1600	94.1		138.1	Bad weather sometimes

4.14 Settled Dust Observation Data (Without Time Regulation) Point No. 4, Cua Ong

Date	Total sampling time (1 day)	Total sampling time (5 days)	Weight before sampling (gr)	Weight after sampling (gr)	Area of disk (cm^2)	Settled dust amount ($mg/m^2/day$)	Settled dust amount ($mg/m^2/5days$)	Note
14-Jul	24		102.3723	102.3952	95.0	2410.9		
15-Jul	24		90.5414	90.5517	92.6	1112.5		
16-Jul	24		83.7035	83.7136	93.6	1079.0		
17-Jul	24		83.6339	83.6462	94.8	1297.3		
18-Jul	24		67.7310	67.7408	95.0	1031.7	5558.3	
19-Jul	24		78.8983	78.9052	96.2	717.3		
20-Jul	24		53.5098	53.5177	96.4	819.7		
21-Jul	22h 30		82.9387	82.9439	95.9	542.5		Bad weather sometimes
22-Jul	17h 50		64.7753	64.7794	102.0	401.9		Bad weather sometimes
23-Jul	24		82.1849	82.1985	98.1	1386.1	3152.3	
24-Jul	21		80.4860	80.4947	95.0	915.9		Bad weather sometimes
25-Jul	23h 45		68.2899	68.2901	96.9	20.6		
26-Jul	20h 30		77.0221	77.0322	94.1	1073.1		Bad weather sometimes
27-Jul	22h 45		124.9316	124.9380	91.6	699.0		
28-Jul	21h 20		90.6081	90.6129	94.8	506.3	2231.1	Bad weather sometimes
30-Jul	24		70.8334	70.8368	95.0	358.0		
31-Jul	23h 30		71.3425	71.3442	95.9	177.4		Bad weather sometimes
1-Aug	24		87.9242	87.9289	93.6	502.1		
2-Aug	24		62.4130	62.4168	102.0	372.5		
3-Aug	24		76.3865	76.3893	95.5	293.2	2001.3	
4-Aug	24		96.6977	96.7031	95.0	568.5		
5-Aug	24		70.9832	70.9874	93.6	448.7		
6-Aug	22h 45		105.5714	105.5748	93.3	364.5		Bad weather sometimes
7-Aug	19h 50		80.9920	80.9977	94.1	605.6		Bad weather sometimes
8-Aug	9h 50		68.6015	68.6038	94.3	243.9	1736.0	Bad weather sometimes
9-Aug	16h 20		80.5079	80.5093	95.9	146.1		Bad weather sometimes
10-Aug	21h 30		71.6186	71.6192	93.8	64.0		Bad weather sometimes
11-Aug	24		68.6823	68.6878	96.9	567.6		
12-Aug	22h 30		78.9223	78.9239	93.6	170.9		Bad weather sometimes
13-Aug	15h 30		77.8387	77.8432	95.3	472.0	2451.4	Bad weather sometimes

4.15 Settled Dust Observation Data (Without Time Regulation) Point No. 5, Low Temple, Cua Ong

Date	Total sampling time (1 day)	Total sampling time (5 days)	Weight before sampling (gr)	Weight after sampling (gr)	Area of disk (cm^2)	Settled dust amount ($mg/m^2/day$)	Settled dust amount ($mg/m^2/5days$)	Note
14-Jul	24		75.4595	75.4649	95.3	566.4		
15-Jul	23		97.8602	97.8638	96.9	371.5		Bad weather sometimes
16-Jul	24		125.3591	125.3661	91.6	797.3		
17-Jul	24		72.2826	72.2918	95.0	968.6		
18-Jul	24		87.0148	87.0220	94.6	760.8	2817.5	
19-Jul	24		77.5551	77.5612	97.6	625.0		
20-Jul	24		78.3623	78.3789	94.3	1760.4		
21-Jul	24		96.6891	96.7012	95.0	1273.9		
22-Jul	22h30		65.0699	65.0778	96.2	821.2		Bad weather sometimes
23-Jul	22		88.1910	88.2032	93.6	1303.3	5306.1	Bad weather sometimes
24-Jul	24		79.5356	79.5406	95.3	524.5		
25-Jul	21h30		106.8075	106.8083	93.3	85.8		Bad weather sometimes
26-Jul	24		88.1867	88.1895	94.3	296.9		
27-Jul	19h15		69.2644	69.2655	94.3	116.7		
28-Jul	24		76.6798	76.6831	95.5	345.5	1524.8	
30-Jul	24		103.9280	103.9316	92.8	388.1		
31-Jul								
1-Aug	24		73.1090	73.1928	94.1	8903.2		
2-Aug	23h50		102.7672	102.7689				
3-Aug	24		78.0919	78.0942	93.3	246.6	1544.6	
4-Aug	24		73.4000	73.4000	97.6	225.4		
5-Aug	24		76.0452	76.0501	94.1	520.6		
6-Aug	23h15		85.8214	85.8232	93.6	192.3		Bad weather sometimes
7-Aug	24		122.2720	122.2780	91.6	655.3		
8-Aug	17h55		92.7156	92.7165	95.0	94.8	14518.1	Bad weather sometimes
9-Aug	11h20		86.3107	86.3118	94.3	116.7		Bad weather sometimes
10-Aug	21		65.3509	65.3511	102.0	19.6		Bad weather sometimes
11-Aug	24		90.2219	90.2262	92.6	464.5		
12-Aug	21		102.6878	102.6887	92.6	97.2		Bad weather sometimes
13-Aug	22		70.6945	70.6967	95.9	229.5	547.5	Bad weather sometimes

5. Biological Indicators Survey

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5.1 TERRESTRIAL VEGETATION

5.1.1 Vegetation structure

According on the classification of UNESCO (1973), the vegetation structure in this area can be divided into formation and associations (based mainly on appearance, geographical, ecological characteristics).

Because of lacking information and detailed investigation conditions, most of the vegetation is distinguished into communities with the name of common species. Some of nature communities with simple species composition and cultured communities with only one species are put into associations.

Classifications of vegetation:

I. Formation class
I.A. Subformation class
I.A.1. Formation group
I. A. a. Formation
I. A. a. (1) Subformation
+ Community
+ Association
+ Species.

I. Close forest formations

I.A. Evergreen tropical close forest.

I. A. 1. Evergreen monsoon tropical close forest

I. A. 1. a. Limestone evergreen monsoon tropical close forest on low attitude

I. A. 1. a. (1). **Badly drained evergreen low valley bottom/hill foot limestone monsoon tropical close broad-leaved forest**

Distribution: Cat Ba
Structure is composed of 3 strata:
- First stratum: trees with over 12 m high, such as: *Dracontomelum dupereanum, Aglaia gigantea, Duabanga sonneratioides, Lagestroemia balansae, Pterospermum truncalobatum, Cinnamomum partheroxylon, Caryodaphnopsis tonkinensis, Pelthophorum dasyrrhachis...*
- Second stratum: trees with 10-12 m high such as: *Elaeocarpus dubius, Engelhartia spicata, Gironiera subaequalis, Garcinia bonii.*
- Third stratum: trees with 7-8 m and small trees and grass-fern. Vegetation cover is 60-80%.

I. A. a. (2). **Well drained evergreen low slope limestone monsoon tropical close broad-leaved forest**

Distribution: Cat Ba
Structure is composed of 2 strata:
- First stratum: trees with 15-20 m high such as: *Spondias lakonensis, Miliusa filipes, Dentzianthus tonkinensis, Pometia pinnata, Dimocarpus funatus, Carallia lanceofolia.*
- Second stratum: trees with below 10 m high such as *Streblus macrophyllus, Litsea* sp. below is grass-fern. Vegetation cover is 40-60%.
- *Najeia fleuryi* formation is 1-5 m high, (5)10-30 (40) cm in diameter.
- *Salix tetrasperma* formation had only one *Salix tetrasperma* with 8-15 m high, 15-20 cm in diameter.

I. A. 1. b. Evergreen low mountain monsoon tropical close forest.

I. A. 1. b. (1) Evergreen low mountain weathering crust from terrigenous rocks monsoon tropical broad-leaved forest

Distribution: Hoanh Bo, Cam Pha...

There are principally trees with 10-15 m high such as: *Erythrophloeum fordii, Lithorcarpus cornieus, Lithocarpus giganthophylla, Ormosia robusta, Peltophorum dasyrrachis, Syzygium cumini, Gironniera subequalis, Cinnamomum damhaensis, Cinnamomum parthenoxylon.* Vegetation cover is 50-60%. In lower class there are (with 5-10 m high) *Crallia lancaefolia, Grewia paniculata, Actinodaphne pilosa, Sauraja fasciculata, Archidendron clypearia, Alangium chinense, Engelhardtia spicata.* In the lowest class there are *Ardisia pseudocrispa, Maesa perlarius*, besides there are *Vatica sp, Madhuca pasquieri.*

I. A. 1. c. Evergreen low mountain monsoon tropical close Bambusoideae forest.

I. A. 1. c. (1). Evergreen low mountain weathering crust from terrigenous rocks monsoon tropical close Bambusoideae mix with broad-leaved woody trees forest

Distribution: Hoanh Bo

In *Bambusa nutans* community, there are trees with 5-10 m high, 5-10 cm in diameter, interfered with *Cinnamomun partheroxylon, Canarium albun*, some shrub trees, grass in lower class.

II. Shrub formations

II. A. Evergreen shrub formation

II. A. 1. Evergreen broad-leaved shrub formation.

II. A. 1. a. (1). Evergreen low limestone mountain broad-leaved shrub formation

Distribution: limestone mountain in Cat Ba, Ha Long bay, Bai Tu Long bay, Hoanh Bo, Cam Pha....

Communities such as: *Dracaena cambodiana, Diospyros eriantha, Bidens pilosa, Orchidaceae, Ficus sp., Euphorbia entiaurum, Schefflera pesavis, Bauhinia sp., Ceaslpinia nuga, Ficus sp.*, family *Orchidaceae ..., Dimerocarpus balansae, Streblus ilicifolia, Alangium salvifolium, Teonogia tonkinensis, Urtica fissa.* Woody trees arei 5-8 m high, separately.

Grass-fern: *Poaceae, Commelinaceae*, division Polypodiophyta (*Asplenium, Colysis, Pteris*), *Ceasalpiniaceae, Asclepiaceae, Asteraceae* and some young trees of *Garcinia, Markhamia...*, remain.

There are trees with 1-5 m, 1-2 classes. Vegetation cover is 20-40%.

II. A. 1. b. Evergreen terrigenous rock broad-leaved shrub (human secondary)

II. A. 1. b. (1). Evergreen broad-leaved shrub growing on weathering crust from terrigenous rocks in low mountain mix with woody Dicotyledoneae trees

Distribution: Uong Bi, Hoanh Bo, Cam Pha

There are *Rhodomyrtus tomentosa, Melastoma candidum*, trees such as *Engeldhartia spicata, Cratoxylon formosanum, Liquidambar formosana* with 7-10 m high, 5-8 cm in diameter. Tree cover is 10-30%. Separately there are *Bambusa nutans, Eupatorum odoratum, Ardisia maculosa, Alagium chinense, Saccharum arundinaceum, Thysanolena maxima.*

II. A. 1. b. (2). Evergreen broad-leaved shrub growing on weathering crust from terrigenous rocks in low mountain with no trees

Distribution: Uong Bi, Hoanh Bo, Cam Pha ...

Communities are *Rhodomyrtus tomentosa, Melastoma candidum, Mimosa pudica, Breynia fruticosa, Thysanolena maxima, Eupatorium odoratum, Saccharum arundinaceum.*