APPENDICES TO WATER QUALITY MONITORING IN MASSACHUSETTS AND CAPE COD BAYS: JUNE AND JULY 1993

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APPENDIX A

STATION DATA TABLES AND INSTRUMENT CALIBRATION DATA

Part 1

Physical and Chemical Parameters at Discrete Bottle Measurement Depths

Depth, Temperature (Temp), Dissolved oxygen (DO), Conductivity (Cond), Sigma-T, Fluorescence (Flu), Salinity (Sal), and Beam Attenuation (Beam) were all obtained electronically from *in situ* readings made during the upcast of vertical profiling, during which water samples were taken by closing bottles. A small correction has been made to correct for the difference in the depth position of hydrocast bottles relative to the position of the electronic sensor units. The table values represent a depth-averaged value bracketing the depth interval encompassed by the hydrocast bottle at closing. Dissolved oxygen and fluorescence data represent post-survey calibrated values based on wet chemistry determinations made on a subset of the bottles (Appendix A, Part 2). The other parameters rely on factory calibrations of sensors to calculate values. The dissolved inorganic nutrient data (Table A-1) and additional measurements made at a subset of stations (Table A-2) represent direct analyses of water samples from bottles.

Data from all surveys represented in this report are included in the tables. Table A-1 lists the combined farfield/nearfield survey followed by a chronological listing of the two other nearfield surveys. Table A-2 lists data for the combined survey and the values for analytical replicates of a given bottle.

Note that % saturation for dissolved oxygen has been calculated using an algorithm given on the following page.

Saturation Values of Oxygen in Sea Water (mg/L) based on Weiss (1970)

Salinity PPT \ Temperature (°C)	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
0	14.60	14.20	13.81	13.45	13.09	12.76	12.44	12.13	11.83	11.55	11.28	11.02	10.77	10.53	10.29	10.07	9.86	9.65	9.45	9.26	9.08
1	14.50	14.10	13.72	13.36	13.01	12.67	12.35	12.05	11.76	11.47	11.21	10.95	10.70	10.46	10.23	10.01	9.80	9.59	9.40	9.21	9.02
2	14.40	14.01	13.63	13.27	12.92	12.59	12.27	11.97	11.68	11.40	11.13	10.88	10.63	10.40	10.17	9.95	9.74	9.54	9.34	9.15	8.97
3	14.31	13.91	13.54	13.18	12.84	12.51	12.19	11.89	11.61	11.33	11.06	10.81	10.57	10.33	10.11	9.89	9.68	9.48	9.28	9.10	8.92
4	14.21	13.82	13.45	13.09	12.75	12.43	12.11	11.82	11.53	11.26	10.99	10.74	10.50	10.27	10.04	9.83	9.62	9.42	9.23	9.04	8.86
5	14.11	13.72	13.36	13.00	12.67	12.34	12.04	11.74	11.46	11.18	10.92	10.67	10.43	10.20	9.98	9.77	9.56	9.36	9.17	8.99	8.81
6	14.02	13.63	13.27	12.92	12.58	12.26	11.96	11.66	11.38	11.11	10.86	10.61	10.37	10.14	9.92	9.71	9.50	9.31	9.12	8.94	8.76
7	13.92	13.54	13.18	12.83	12.50	12.18	11.88	11.59	11.31	11.04	10.79	10.54	10.30	10.08	9.86	9.65	9.45	9.25	9.06	8.88	8.71
8	13.82	13.45	13.09	12.75	12.42	12.10	11.80	11.51	11.24	10.97	10.72	10.47	10.24	10.01	9.80	9.59	9.39	9.20	9.01	8.83	8.66
9	13.73	13.36	13.00	12.66	12.33	12.02	11.72	11.44	11.16	10.90	10.65	10.41	10.18	9.95	9.74	9.53	9.33	9.14	8.96	8.78	8.61
10	13.64	13.27	12.91	12.58	12.25	11.94	11.65	11.36	11.09	10.83	10.58	10.34	10.11	9.89	9.68	9.47	9.28	9.09	8.90	8.73	8.56
11	13.54	13.18	12.83	12.49	12.17	11.87	11.57	11.29	11.02	10.76	10.52	10.28	10.05	9.83	9.62	9.42	9.22	9.03	8.85	8.67	8.51
12	13.45	13.09	12.74	12.41	12.09	11.79	11.50	11.22	10.95	10.70	10.45	10.21	9.99	9.77	9.56	9.36	9.16	8.98	8.80	8.62	8.46
13	13.36	13.00	12.66	12.33	12.01	11.71	11.42	11.15	10.88	10.63	10.38	10.15	9.92	9.71	9.50	9.30	9.11	8.92	8.74	8.57	8.41
14	13.27	12.91	12.57	12.24	11.93	11.63	11.35	11.07	10.81	10.56	10.32	10.09	9.86	9.65	9.44	9.24	9.05	8.87	8.69	8.52	8.36
15	13.18	12.82	12.49	12.16	11.85	11.56	11.27	11.00	10.74	10.49	10.25	10.02	9.80	9.59	9.38	9.19	9.00	8.82	8.64	8.47	8.31
16	13.09	12.74	12.40	12.08	11.77	11.48	11.20	10.93	10.67	10.42	10.19	9.96	9.74	9.53	9.33	9.13	8.94	8.76	8.59	8.42	8.26
17	13.00	12.65	12.32	12.00	11.70	11.41	11.13	10.86	10.60	10.36	10.12	9.90	9.68	9.47	9.27	9.08	8.89	8.71	8.54	8.37	8.21
18	12.91	12.57	12.24	11.92	11.62	11.33	11.05	10.79	10.54	10.29	10.06	9.83	9.62	9.41	9.21	9.02	8.84	8.66	8.49	8.32	8.16
19	12.82	12.48	12.15	11.84	11.54	11.26	10.98	10.72	10.47	10.23	9.99	9.77	9.56	9.35	9.16	8.97	8.78	8.61	8.44	8.27	8.11
20	12.74	12.40	12.07	11.76	11.47	11.18	10.91	10.65	10.40	10.16	9.93	9.71	9.50	9.30	9.10	8.91	8.73	8.55	8.39	8.22	8.07
21	12.65	12.31	11.99	11.68	11.39	11.11	10.84	10.58	10.33	10.10	9.87	9.65	9.44	9.24	9.04	8.86	8.68	8.50	8.33	8.17	8.02
22	12.56	12.23	11.91	11.61	11.32	11.04	10.77	10.51	10.27	10.03	9.81	9.59	9.38	9.18	8.99	8.80	8.62	8.45	8.29	8.13	7.97
23	12.48	12.15	11.83	11.53	11.24	10.96	10.70	10.45	10.20	9.97	9.74	9.53	9.32	9.12	8.93	8.75	8.57	8.40	8.24	8.08	7.92
24	12.39	12.07	11.75	11.45	11.17	10.89	10.63	10.38	10.14	9.90	9.68	9.47	9.26	9.07	8.88	8.69	8.52	8.35	8.19	8.03	7.88
25	12.31	11.98	11.67	11.38	11.09	10.82	10.56	10.31	10.07	9.84	9.62	9.41	9.21	9.01	8.82	8.64	8.47	8.30	8.14	7.98	7.83
26	12.23	11.90	11.59	11.30	11.02	10.75	10.49	10.24	10.01	9.78	9.56	9.35	9.15	8.96	8.77	8.59	8.42	8.25	8.09	7.93	7.78
27	12.14	11.82	11.52	11.23	10.95	10.68	10.42	10.18	9.94	9.72	9.50	9.29	9.09	8.90	8.71	8.54	8.37	8.20	8.04	7.89	7.74
28	12.06	11.74	11.44	11.15	10.87	10.61	10.35	10.11	9.88	9.65	9.44	9.23	9.04	8.84	8.66	8.48	8.31	8.15	7.99	7.84	7.69
29	11.98	11.66	11.36	11.08	10.80	10.54	10.29	10.05	9.81	9.59	9.38	9.18	8.98	8.79	8.61	8.43	8.26	8.10	7.94	7.79	7.65
30	11.90	11.58	11.29	11.00	10.73	10.47	10.22	9.98	9.75	9.53	9.32	9.12	8.92	8.74	8.55	8.38	8.21	8.05	7.90	7.75	7.60
31	11.81	11.51	11.21	10.93	10.66	10.40	10.15	9.92	9.69	9.47	9.26	9.06	8.87	8.68	8.50	8.33	8.16	8.00	7.85	7.70	7.56
32	11.73	11.43	11.14	10.86	10.59	10.33	10.09	9.85	9.63	9.41	9.20	9.00	8.81	8.63	8.45	8.28	8.11	7.96	7.80	7.66	7.51
33	11.65	11.35	11.06	10.78	10.52	10.26	10.02	9.79	9.56	9.35	9.14	8.95	8.76	8.57	8.40	8.23	8.07	7.91	7.76	7.61	7.47
34	11.58	11.27	10.99	10.71	10.45	10.20	9.96	9.73	9.50	9.29	9.09	8.89	8.70	8.52	8.35	8.18	8.02	7.86	7.71	7.57	7.43
35	11.50	11.20	10.91	10.64	10.38	10.13	9.89	9.66	9.44	9.23	9.03	8.83	8.65	8.47	8.29	8.13	7.97	7.81	7.66	7.52	7.38
36	11.42	11.12	10.84	10.57	10.31	10.06	9.83	9.60	9.38	9.17	8.97	8.78	8.59	8.42	8.24	8.08	7.92	7.77	7.62	7.48	7.34
37	11.34	11.05	10.77	10.50	10.24	10.00	9.76	9.54	9.32	9.11	8.92	8.72	8.54	8.36	8.19	8.03	7.87	7.72	7.57	7.43	7.29
38	11.26	10.97	10.70	10.43	10.18	9.93	9.70	9.48	9.26	9.06	8.86	8.67	8.49	8.31	8.14	7.98	7.82	7.67	7.53	7.39	7.25
39	11.19	10.90	10.62	10.36	10.11	9.87	9.64	9.41	9.20	9.00	8.80	8.61	8.43	8.26	8.09	7.93	7.78	7.63	7.48	7.34	7.21
40	11.11	10.82	10.55	10.29	10.04	9.80	9.57	9.35	9.14	8.94	8.75	8.56	8.38	8.21	8.04	7.88	7.73	7.58	7.44	7.30	7.17

$$OXsat = 1.429 * EXP(-173.4292 + 249.6339 * (100/(273.15+T)) + 143.3483 * LN((T+273.15)/100) - 21.8492 * ((T+273.15)/100) + Salinity * (-0.033096 + 0.014259 * ((T+273.15)/100) - 0.0017 * ((T+273.15)/100)^2))$$

% Saturation = 100 * DO/OXsat

Reference:

Weiss, R.F., 1970: The Solubility of Nitrogen, Oxygen, and Argon in Water and Seawater. Deep-Sea Res., 17, 721-735

Table A1. Physical and Chemical Parameters at Discrete Bottle Measurement Depths.

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9307	F01P	06-24-93	0835	1.36	W93070443	13.94	30.80	9.38	110	37.34	22.96	0.81	0.74	0.11	0.00	0.03	0.25	1.42
W9307	F01P	06-24-93	0834	4.65	W93070442	13.76	30.80	9.40	110	37.18	22.99	1.16	0.76	0.03	0.00	0.00	0.11	1.30
W9307	F01P	06-24-93	0834	4.76	W93070441	13.76	30.80	9.40	110	37.18	22.99	1.16	0.76	0.02	0.00	0.01	0.18	1.32
W9307	F01P	06-24-93	0832	13.28	W93070440	13.62	30.80	9.39	109	37.07	23.02	1.75	0.76	0.01	0.00	0.02	0.13	1.22
W9307	F01P	06-24-93	0831	20.61	W93070439	13.09	30.86	9.47	109	36.67	23.17	1.86	0.75	0.51	0.00	0.00	0.18	1.26
W9307	F02P	06-24-93	0715	0.84	W93070424	16.13	30.52	8.70	107	38.95	22.28	0.67	0.78	0.00	0.00	0.01	0.06	1.53
W9307	F02P	06-24-93	0714	11.47	W93070423	15.48	30.54	8.66	105	38.41	22.44	1.34	0.76	0.01	0.00	0.05	0.12	2.25
W9307	F02P	06-24-93	0713	19.76	W93070422	8.93	30.85	10.12	107	33.10	23.88	2.26	0.79	1.43	0.04	0.76	0.35	7.62
W9307	F02P	06-24-93	0712	23.37	W93070421	6.54	31.13	7.57	76	31.38	24.43	3.04	1.52	2.19	0.09	2.13	0.81	17.49
W9307	F02P	06-24-93	0711	26.38	W93070420	6.57	31.17	7.69	77	31.44	24.46	2.76	1.59	2.37	0.09	2.02	0.71	16.71
W9307	F03	06-24-93	0940	0.61	W93070462	14.09	30.71	9.43	111	37.37	22.85	0.29	0.69	0.03	0.01	0.04	0.09	1.09
W9307	F03	06-24-93	0939	3.89	W93070461	13.97	30.73	9.44	111	37.29	22.89	0.67	0.71	0.07	0.04	0.02	0.08	1.15
W9307	F03	06-24-93	0939	6.16	W93070460	14.00	30.73	9.48	111	37.32	22.90	0.71	0.70	0.00	0.05	-0.01	0.08	1.16
W9307	F03	06-24-93	0938	9.38	W93070459	13.93	30.82	9.57	112	37.36	22.97	1.57	0.84	0.02	0.07	-0.03	0.10	1.48
W9307	F03	06-24-93	0937	12.29	W93070458	13.75	30.84	9.59	112	37.22	23.03	2.08	0.89	0.02	0.08	-0.04	0.12	1.52
W9307	F04	06-23-93	1746	1.64	W93070408	13.97	30.85	9.59	113	37.42	22.99	0.75	0.79	0.04	0.01	0.06	0.07	1.18
W9307	F04	06-23-93	1745	9.11	W93070407	12.55	30.94	10.10	115	36.28	23.34	1.06	0.89	0.46	0.00	0.06	0.10	1.13
W9307	F04	06-23-93	1744	19.92	W93070406	7.46	31.57	10.99	112	32.55	24.66	4.15	0.92	0.04	0.03	0.06	0.16	3.36
W9307	F04	06-23-93	1744	34.20	W93070405	5.04	31.56	10.01	97	30.51	24.94	1.46	1.09	3.00	0.13	2.51	0.73	8.71
W9307	F04	06-23-93	1742	57.29	W93070404	4.57	31.66	10.15	97	30.23	25.08	0.70	1.74	3.37	0.15	2.73	0.78	8.85
W9307	F05	06-23-93	1045	2.03	W93070331	14.16	30.76	9.29	109	37.49	22.88	0.68	0.73	0.07	0.05	0.03	0.10	1.23
W9307	F05	06-23-93	1044	3.46	W93070330	14.18	30.75	9.29	110	37.49	22.87	0.75	0.73	0.06	0.06	0.01	0.04	1.29
W9307	F05	06-23-93	1043	6.70	W93070329	14.13	30.76	9.31	110	37.46	22.88	1.00	0.73	0.22	0.04	0.02	0.13	1.31
W9307	F05	06-23-93	1042	10.04	W93070328	14.07	30.75	9.29	109	37.40	22.90	1.26	0.73	0.09	0.04	0.02	0.10	1.32
W9307	F05	06-23-93	1042	15.22	W93070327	13.48	30.77	9.46	110	36.92	23.03	1.45	0.74	0.02	0.01	0.06	0.08	1.37
W9307	F06	06-23-93	1139	3.50	W93070344	13.79	30.70	9.70	113	37.10	22.91	0.80	0.84	0.05	0.08	-0.03	0.09	0.65
W9307	F06	06-23-93	1139	7.31	W93070343	13.07	30.74	9.86	114	36.52	23.08	1.29	0.82	0.05	0.08	-0.03	0.09	0.82
W9307	F06	06-23-93	1138	16.21	W93070342	8.13	31.26	10.58	110	32.83	24.32	2.37	0.73	0.08	0.07	0.39	0.20	2.92
W9307	F06	06-23-93	1137	23.46	W93070341	7.20	31.37	10.76	109	32.15	24.54	1.89	0.62	0.30	0.13	0.89	0.32	3.44
W9307	F06	06-23-93	1136	26.63	W93070340	6.61	31.48	10.93	110	31.76	24.70	1.77	0.66	0.05	0.05	0.02	0.23	3.82
W9307	F07	06-23-93	1226	1.68	W93070359	14.17	30.71	9.48	112	37.43	22.84	0.55	0.75	0.02	0.01	0.01	0.09	0.90
W9307	F07	06-23-93	1225	12.13	W93070358	8.76	31.16	10.86	114	33.25	24.15	1.98	0.81	0.05	0.05	-0.02	0.20	1.66
W9307	F07	06-23-93	1224	22.03	W93070357	6.26	31.42	10.96	109	31.41	24.70	3.30	0.71	0.33	0.10	1.15	0.45	2.64
W9307	F07	06-23-93	1223	35.43	W93070356	4.28	31.71	11.00	104	30.01	25.14	0.61	0.59	2.63	0.20	3.32	0.73	5.81
W9307	F07	06-23-93	1222	51.40	W93070355	4.11	31.75	11.03	104	29.93	25.19	0.54	0.77	2.77	0.25	3.54	0.75	6.43
W9307	F08	06-23-93	1333	1.16	W93070369	13.52	30.93	9.52	111	37.11	23.14	0.47	0.74	0.00	0.00	0.07	0.06	1.12
W9307	F08	06-23-93	1332	13.17	W93070368	12.68	31.00	9.58	110	36.46	23.36	1.09	0.76	0.01	0.00	0.05	0.12	1.28
W9307	F08	06-23-93	1331	27.38	W93070367	4.90	31.78	10.68	103	30.59	25.14	2.65	0.79	0.12	0.01	1.97	0.42	4.93
W9307	F08	06-23-93	1329	59.75	W93070366	3.50	32.02	10.17	95	29.65	25.47	0.33	0.87	3.35	0.33	4.24	0.81	10.71
W9307	F08	06-23-93	1328	78.34	W93070365	3.36	32.07	9.74	91	29.59	25.52	0.34	1.26	4.30	0.32	4.39	0.81	14.49
W9307	F09	06-24-93	1138	1.93	W93070473	14.84	30.73	9.29	111	38.04	22.72	0.99	0.88	0.02	0.00	0.07	0.10	0.88

Table A1. Physical and Chemical Parameters at Discrete Bottle Measurement Depths.

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9307	F09	06-24-93	1137	2.88	W93070472	14.59	30.72	9.38	111	37.82	22.76	1.33	0.96	0.02	0.00	0.08	0.12	0.85
W9307	F09	06-24-93	1137	8.05	W93070471	13.81	30.74	9.68	113	37.16	22.94	3.59	1.17	0.07	0.00	0.08	0.14	0.82
W9307	F09	06-24-93	1136	12.76	W93070470	13.22	30.76	9.71	112	36.67	23.07	6.22	1.33	0.46	0.00	0.10	0.23	1.05
W9307	F09	06-24-93	1135	16.20	W93070469	12.02	30.71	9.78	110	35.59	23.26	4.60	1.07	0.03	0.00	0.07	0.19	1.59
W9307	F10	06-24-93	1207	0.79	W93070488	14.40	30.71	9.45	112	37.65	22.79	0.45	0.73	0.29	0.00	0.08	0.12	0.96
W9307	F10	06-24-93	1207	5.87	W93070487	13.49	30.72	9.51	110	36.86	22.98	0.96	0.82	0.06	0.00	0.07	0.15	1.45
W9307	F10	06-24-93	1206	11.99	W93070486	10.91	30.95	9.80	108	34.88	23.64	3.95	0.96	0.35	0.01	0.29	0.30	2.29
W9307	F10	06-24-93	1206	19.71	W93070485	8.91	31.19	10.10	107	33.42	24.15	1.65	0.65	1.27	0.05	1.27	0.45	3.70
W9307	F10	06-24-93	1205	30.86	W93070484	6.21	31.50	10.65	106	31.44	24.76	1.28	0.63	0.32	0.01	0.39	0.20	4.45
W9307	F11	06-24-93	1238	0.70	W93070499	14.92	30.67	9.28	111	38.05	22.65	0.35	0.62	0.10	0.01	0.07	0.07	0.89
W9307	F11	06-24-93	1237	6.69	W93070498	12.09	30.79	10.09	114	35.73	23.30	1.06	0.81	0.04	0.01	0.05	0.12	1.39
W9307	F11	06-24-93	1237	13.72	W93070497	7.76	31.29	10.43	107	32.54	24.39	2.45	0.77	0.61	0.01	0.06	0.18	2.95
W9307	F11	06-24-93	1236	29.89	W93070496	4.49	31.62	10.87	104	30.11	25.05	0.66	0.54	0.78	0.14	3.23	0.54	5.40
W9307	F11	06-24-93	1235	50.03	W93070495	4.09	31.78	10.83	102	29.93	25.22	0.45	0.80	2.92	0.18	3.24	0.69	7.50
W9307	F12	06-23-93	1416	2.03	W93070380	13.38	31.11	9.38	109	37.18	23.31	0.55	0.74	0.47	0.01	0.01	0.12	1.34
W9307	F12	06-23-93	1414	15.65	W93070379	11.89	31.11	9.68	109	35.89	23.59	1.58	0.81	0.25	0.01	0.05	0.15	1.59
W9307	F12	06-23-93	1414	22.68	W93070378	5.97	31.68	10.90	108	31.39	24.94	4.96	0.94	0.64	0.08	1.17	0.44	4.21
W9307	F12	06-23-93	1412	61.02	W93070377	3.48	32.04	9.95	93	29.64	25.48	0.36	1.06	3.75	0.30	4.23	0.80	11.07
W9307	F12	06-23-93	1410	85.51	W93070376	3.34	32.08	9.63	90	29.58	25.53	0.36	1.44	4.23	0.32	4.37	0.81	13.64
W9307	F13P	06-23-93	0912	2.22	W93070317	13.29	30.73	9.69	112	36.70	23.04	2.77	1.47	0.03	0.00	0.01	0.91	0.73
W9307	F13P	06-23-93	0911	5.93	W93070316	13.27	30.74	9.70	112	36.69	23.04	5.60	1.48	0.03	0.01	-0.01	0.19	0.72
W9307	F13P	06-23-93	0910	8.62	W93070315	13.20	30.74	9.59	111	36.64	23.06	5.96	1.49	0.02	0.00	0.00	0.16	0.74
W9307	F13P	06-23-93	0909	13.76	W93070314	12.92	30.75	7.82	90	36.09	23.12	5.50	1.41	0.00	0.01	-0.01	0.22	1.36
W9307	F13P	06-23-93	0908	18.75	W93070313	11.11	31.50	7.67	85	35.32	24.09	3.39	1.13	0.00	0.00	0.03	0.21	1.76
W9307	F14	06-22-93	0958	1.57	W93070114	13.42	30.69	9.15	106	36.77	22.98	1.56	1.57	0.52	0.01	0.05	0.25	2.50
W9307	F14	06-22-93	0957	4.64	W93070112	12.81	30.75	9.51	109	36.30	23.14	4.21	1.51	0.00	0.01	0.04	0.19	2.35
W9307	F14	06-22-93	0956	8.36	W93070111	11.67	30.83	9.37	105	35.41	23.41	4.39	1.38	0.00	0.01	0.02	0.21	2.98
W9307	F14	06-22-93	0955	11.91	W93070110	11.30	30.86	9.37	104	35.12	23.50	3.84	1.28	0.00	0.01	0.01	0.28	3.04
W9307	F14	06-22-93	0954	15.58	W93070109	9.23	31.00	9.70	103	33.49	23.95	2.07	0.81	0.01	0.03	0.00	0.25	3.48
W9307	F15	06-22-93	1038	0.57	W93070131	15.19	30.64	9.46	114	38.26	22.57	0.59	0.71	0.02	0.01	0.03	0.02	0.81
W9307	F15	06-22-93	1037	7.06	W93070130	10.74	30.92	10.87	119	34.71	23.64	1.30	0.83	0.00	0.01	0.04	0.04	0.96
W9307	F15	06-22-93	1035	13.57	W93070129	8.95	31.04	10.84	114	33.30	24.03	3.16	1.21	0.04	0.01	0.04	0.11	1.88
W9307	F15	06-22-93	1034	26.85	W93070128	5.09	31.60	11.07	107	30.59	24.97	0.76	1.05	0.15	0.17	0.24	0.27	5.80
W9307	F15	06-22-93	1032	35.72	W93070127	4.52	31.66	10.82	103	30.18	25.08	0.50	1.04	1.77	0.01	0.05	0.43	7.09
W9307	F16	06-22-93	1126	1.50	W93070152	15.60	30.60	9.41	114	38.58	22.46	0.54	0.83	0.00	0.01	0.00	0.08	0.75
W9307	F16	06-22-93	1125	8.02	W93070151	10.40	30.75	e		34.24	23.57	0.99	1.11	0.00	0.00	0.02	0.08	0.70
W9307	F16	06-22-93	1124	19.72	W93070150	8.11	31.15	10.26	106	32.71	24.24	3.61	1.64	1.33	0.05	0.92	0.38	2.16
W9307	F16	06-22-93	1123	38.03	W93070149	4.47	31.67	10.86	104	30.15	25.09	0.57	1.41	2.54	0.14	3.24	0.71	5.49
W9307	F16	06-22-93	1122	54.62	W93070148	4.02	31.81	10.75	101	29.90	25.25	0.39	1.37	2.47	0.17	3.63	0.73	7.77
W9307	F17	06-22-93	1215	1.31	W93070164	15.32	30.58	9.53	115	38.30	22.50	0.72	0.92	0.17	0.00	0.04	0.09	0.84
W9307	F17	06-22-93	1214	11.99	W93070163	9.61	30.99	10.58	113	33.81	23.88	2.02	1.18	0.23	0.00	0.04	0.10	1.72

Table A1. Physical and Chemical Parameters at Discrete Bottle Measurement Depths.

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9307	F17	06-22-93	1213	30.50	W93070162	6.13	31.44	11.22	111	31.31	24.72	4.47	1.74	0.78	0.08	2.17	0.46	3.07
W9307	F17	06-22-93	1212	41.20	W93070161	4.04	31.77	10.89	103	29.88	25.22	0.75	1.66	2.11	0.18	3.79	0.77	5.77
W9307	F17	06-22-93	1211	70.10	W93070160	3.65	31.96	10.34	97	29.73	25.40	0.45	1.82	2.84	0.24	4.12	0.76	10.28
W9307	F18	06-22-93	1626	1.43	W93070235	11.51	31.00	10.43	116	35.45	23.58	1.72	0.83	0.33	0.00	0.03	0.21	2.12
W9307	F18	06-22-93	1625	4.45	W93070234	11.04	31.02	10.42	115	35.07	23.67	2.26	0.82	0.36	0.00	0.05	0.16	2.20
W9307	F18	06-22-93	1624	7.76	W93070233	9.28	31.12	10.44	111	33.66	24.04	2.54	0.79	0.32	0.00	0.07	0.23	4.06
W9307	F18	06-22-93	1624	12.08	W93070232	6.89	31.33	9.96	100	31.85	24.55	2.42	0.67	0.38	0.00	1.17	0.44	6.17
W9307	F18	06-22-93	1623	15.71	W93070231	6.10	31.37	9.74	96	31.22	24.67	1.13	0.64	2.21	0.10	2.79	0.74	7.52
W9307	F19	06-22-93	1319	1.22	W93070183	15.34	30.61	9.77	118	38.35	22.52	0.93	1.07	0.13	0.00	0.05	0.12	0.49
W9307	F19	06-22-93	1319	13.70	W93070182	8.17	31.27	10.95	114	32.86	24.32	4.63	0.91	0.15	0.00	0.07	0.14	1.69
W9307	F19	06-22-93	1317	25.41	W93070181	5.88	31.53	11.44	113	31.19	24.83	5.19	0.80	0.53	0.04	1.10	0.34	1.98
W9307	F19	06-22-93	1316	40.09	W93070180	4.07	31.69	10.99	104	29.83	25.14	1.21	0.61	0.93	0.05	2.37	0.37	2.34
W9307	F19	06-22-93	1313	74.05	W93070179	3.82	31.86	10.58	99	29.78	25.31	0.49	1.14	2.58	0.18	4.03	0.69	6.92
W9307	F20	06-22-93	1533	1.47	W93070224	13.89	30.83	10.20	120	37.32	22.99	4.99	1.52	0.00	0.00	0.07	0.08	1.31
W9307	F20	06-22-93	1533	5.42	W93070223	13.57	30.82	10.10	118	37.04	23.05	4.70	1.43	0.01	0.00	0.05	0.20	1.70
W9307	F20	06-22-93	1532	11.50	W93070221	7.71	31.25	10.54	108	32.46	24.37	2.87	0.73	0.05	0.00	0.07	0.23	4.11
W9307	F20	06-22-93	1531	17.38	W93070220	6.24	31.42	10.39	103	31.38	24.70	1.47	0.66	0.62	0.00	2.19	0.48	5.42
W9307	F20	06-22-93	1530	30.56	W93070219	5.03	31.57	10.59	102	30.52	24.96	0.84	0.62	1.12	0.00	0.41	0.31	6.06
W9307	F21	06-22-93	1500	1.39	W93070209	14.70	30.77	9.89	118	37.98	22.78	2.15	1.03	0.00	0.00	0.06	0.14	1.02
W9307	F21	06-22-93	1459	7.70	W93070208	11.72	30.84	10.37	116	35.46	23.41	2.12	0.88	0.00	0.01	0.07	0.13	1.39
W9307	F21	06-22-93	1458	13.81	W93070207	8.05	31.25	10.72	111	32.75	24.32	3.34	0.74	0.00	0.00	0.06	0.22	2.75
W9307	F21	06-22-93	1457	25.27	W93070206	5.14	31.55	11.09	107	30.59	24.93	1.98	0.56	0.09	0.01	0.24	0.26	3.78
W9307	F21	06-22-93	1456	51.87	W93070205	4.16	31.74	10.98	104	29.96	25.18	0.60	1.53	2.41	0.15	3.70	0.75	7.16
W9307	F22	06-22-93	1410	1.31	W93070196	14.65	30.74	9.71	116	37.89	22.76	0.85	0.86	0.00	0.01	0.03	0.05	0.80
W9307	F22	06-22-93	1410	7.13	W93070195	10.99	30.66	10.82	119	34.66	23.40	1.44	0.79	0.02	0.02	0.31	0.23	1.07
W9307	F22	06-22-93	1408	13.36	W93070194	5.98	31.43	11.05	109	31.17	24.74	3.36	0.74	0.59	0.09	1.58	0.45	2.99
W9307	F22	06-22-93	1407	37.65	W93070193	4.56	31.65	11.16	107	30.20	25.06	0.98	0.61	0.38	0.24	1.48	0.42	4.99
W9307	F22	06-22-93	1405	73.47	W93070192	3.93	31.77	11.20	105	29.80	25.23	0.62	0.74	2.00	0.22	4.12	0.66	6.13
W9307	F23P	06-25-93	0536	1.84	W93070531	12.86	30.71	8.79	101	36.30	23.10	5.43	2.29	0.84	0.05	0.54	0.30	3.12
W9307	F23P	06-25-93	0535	5.25	W93070530	12.50	30.73	8.89	101	36.02	23.19	4.66	2.09	5.86	0.14	0.93	0.83	3.21
W9307	F23P	06-25-93	0534	7.58	W93070529	12.22	30.77	9.01	102	35.82	23.27	4.18	2.01	3.69	0.17	0.90	0.51	3.31
W9307	F23P	06-25-93	0534	12.13	W93070528	11.32	30.93	9.17	102	35.21	23.55	3.47	1.69	0.84	0.01	0.64	0.36	3.31
W9307	F23P	06-25-93	0533	17.25	W93070527	10.98	30.97	9.19	101	34.96	23.65	3.11	1.59	2.03	0.13	1.11	0.51	3.46
W9307	F24	06-22-93	0601	0.67	W93070033	11.83	30.71	9.51	107	35.42	23.29	4.33	1.70	0.90	0.02	0.02	0.12	2.32
W9307	F24	06-22-93	0601	5.00	W93070032	11.86	30.68	9.51	107	35.41	23.26	4.96	1.69	2.48	0.09	0.72	0.30	2.42
W9307	F24	06-22-93	0559	9.49	W93070031	10.34	30.87	9.53	104	34.31	23.67	3.55	1.33	0.79	0.01	0.24	0.22	3.27
W9307	F24	06-22-93	0558	12.36	W93070030	7.91	31.21	9.76	101	32.59	24.31	1.76	0.78	0.51	0.00	0.05	0.24	4.28
W9307	F24	06-22-93	0556	17.00	W93070029	6.79	31.30	9.92	100	31.74	24.53	1.19	0.74	0.96	0.01	0.05	0.25	4.70
W9307	F25	06-24-93	1412	0.88	W93070516	14.29	30.75	9.81	116	37.60	22.85	1.62	1.45	0.00	0.10	-0.05	0.06	1.54
W9307	F25	06-24-93	1411	4.53	W93070515	12.66	30.81	9.60	110	36.24	23.22	5.63	1.56	0.01	0.11	-0.05	0.24	2.10
W9307	F25	06-24-93	1411	6.95	W93070514	12.04	30.86	9.53	107	35.76	23.37	6.28	1.53	0.32	0.10	-0.04	0.24	2.61

Table A1. Physical and Chemical Parameters at Discrete Bottle Measurement Depths.

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9307	F25	06-24-93	1410	8.93	W93070513	10.77	30.78	9.63	106	34.58	23.53	5.25	1.43	0.29	0.09	-0.04	0.21	3.60
W9307	F25	06-24-93	1409	13.46	W93070512	7.44	31.22	9.95	102	32.20	24.38	2.23	0.89	0.53	0.08	0.15	0.27	4.95
W9307	N01P	06-23-93	0549	1.74	W93070271	10.07	31.08	9.96	108	34.29	23.88	1.57	0.74	0.04	0.07	-0.07	0.07	2.59
W9307	N01P	06-23-93	0549	5.02	W93070270	10.08	31.08	9.87	107	34.30	23.88	2.04	0.73	0.06	0.08	-0.08	0.19	2.29
W9307	N01P	06-23-93	0548	11.05	W93070269	9.47	31.02	10.19	109	33.72	23.93	2.66	0.75	0.04	0.08	-0.08	0.11	2.77
W9307	N01P	06-23-93	0546	18.11	W93070268	5.73	31.43	10.33	101	30.96	24.76	1.40	0.59	1.86	0.16	2.04	0.58	3.66
W9307	N01P	06-23-93	0546	25.45	W93070267	4.96	31.58	10.02	97	30.46	24.97	0.89	0.85	0.24	0.04	1.48	0.30	6.29
W9307	N01P	06-25-93	0737	1.79	W93070577	13.67	30.73	9.48	111	37.03	22.95	0.66	0.65	0.07	0.01	0.01	0.16	1.09
W9307	N01P	06-25-93	0736	7.92	W93070576	10.99	30.98	10.36	114	34.98	23.65	2.03	0.78	0.05	0.01	0.02	0.19	1.45
W9307	N01P	06-25-93	0735	19.27	W93070575	9.50	31.17	10.14	108	33.90	24.05	4.14	0.89	0.05	0.01	0.01	0.23	3.04
W9307	N01P	06-25-93	0734	24.23	W93070574	9.27	31.21	9.97	106	33.74	24.11	3.35	0.86	0.07	0.01	0.03	0.34	4.19
W9307	N01P	06-25-93	0733	27.15	W93070573	8.53	31.23	9.88	103	33.13	24.24	1.99	0.86	0.57	0.06	0.76	0.49	4.41
W9307	N02	06-25-93	0803	1.82	W93070589	13.54	30.81	9.52	111	37.00	23.04	0.55	0.63	0.11	0.02	0.02	0.16	0.94
W9307	N02	06-25-93	0802	15.65	W93070587	9.49	31.12	10.24	109	33.83	24.00	3.39	0.81	0.10	0.02	0.02	0.30	3.16
W9307	N02	06-25-93	0801	21.49	W93070586	8.73	31.21	10.12	106	33.29	24.20	2.53	0.74	0.07	0.02	0.03	0.31	3.46
W9307	N02	06-25-93	0800	28.73	W93070585	6.67	31.38	10.29	103	31.71	24.61	1.50	0.61	0.10	0.01	0.01	0.30	5.21
W9307	N02	06-25-93	0759	34.76	W93070584	5.50	31.53	10.33	101	30.87	24.87	0.86	0.83	0.11	0.07	1.72	0.45	6.49
W9307	N03	06-25-93	0829	1.77	W93070600	13.74	30.77	9.42	110	37.14	22.98	0.60	0.63	0.29	0.01	0.02	0.19	1.03
W9307	N03	06-25-93	0828	9.02	W93070599	11.92	30.90	9.87	111	35.70	23.42	1.11	0.74	0.15	0.02	0.01	0.17	1.54
W9307	N03	06-25-93	0828	18.90	W93070598	8.52	31.23	10.16	106	33.13	24.24	2.52	0.76	0.99	0.08	1.02	0.48	3.63
W9307	N03	06-25-93	0827	29.39	W93070597	5.55	31.51	10.36	101	30.89	24.85	1.12	0.59	2.19	0.14	2.80	0.74	5.72
W9307	N03	06-25-93	0826	39.51	W93070596	4.80	31.63	10.38	100	30.39	25.03	0.73	0.88	2.17	0.14	3.23	0.76	7.03
W9307	N04P	06-23-93	0702	2.12	W93070291	12.27	30.85	9.79	111	35.94	23.32	1.07	0.87	0.05	0.07	-0.07	0.00	1.36
W9307	N04P	06-23-93	0701	7.71	W93070290	12.08	30.86	9.78	110	35.80	23.36	2.24	0.86	0.03	0.07	-0.07	0.09	1.26
W9307	N04P	06-23-93	0700	13.97	W93070289	8.08	31.33	10.40	108	32.85	24.38	2.55	0.71	0.04	0.08	-0.08	0.07	2.55
W9307	N04P	06-23-93	0659	23.11	W93070288	5.55	31.55	10.19	100	30.92	24.88	1.07	0.62	0.06	0.20	2.46	0.47	5.45
W9307	N04P	06-23-93	0657	43.49	W93070287	4.20	31.72	10.62	101	29.97	25.16	0.52	0.66	0.86	0.26	3.14	0.55	6.59
W9307	N04P	06-25-93	0852	1.75	W93070611	13.79	30.77	9.45	111	37.17	22.96	0.49	0.64	0.17	0.02	0.01	0.11	0.91
W9307	N04P	06-25-93	0852	9.27	W93070610	11.37	30.87	10.08	112	35.20	23.50	1.19	0.76	0.40	0.01	0.03	0.22	1.46
W9307	N04P	06-25-93	0851	21.81	W93070609	8.01	31.22	10.35	107	32.68	24.30	3.02	0.73	0.13	0.03	0.12	0.28	2.49
W9307	N04P	06-25-93	0850	31.42	W93070608	5.09	31.56	10.32	100	30.56	24.94	1.01	0.62	0.19	0.06	2.27	0.38	6.33
W9307	N04P	06-25-93	0849	44.75	W93070607	4.53	31.66	10.27	98	30.19	25.08	0.62	0.72	2.62	0.15	3.56	0.83	7.36
W9307	N05	06-25-93	0915	1.70	W93070622	13.45	30.86	9.68	112	36.97	23.10	0.63	0.72	0.04	0.04	0.01	0.05	0.89
W9307	N05	06-25-93	0915	9.09	W93070621	12.23	30.87	9.89	112	35.94	23.34	1.71	0.79	0.06	0.03	0.01	0.13	1.21
W9307	N05	06-25-93	0914	15.23	W93070620	8.40	31.20	10.15	106	33.00	24.24	3.07	0.70	0.43	0.10	0.74	0.41	3.52
W9307	N05	06-25-93	0913	29.50	W93070619	5.04	31.58	10.40	100	30.54	24.96	0.99	0.61	0.05	0.16	2.28	0.47	6.20
W9307	N05	06-25-93	0912	47.54	W93070618	4.65	31.67	10.41	100	30.30	25.08	0.55	0.66	0.05	0.17	3.85	0.56	7.95
W9307	N06	06-25-93	0937	1.07	W93070633	13.66	30.82	9.77	114	37.11	23.03	0.63	0.79	0.13	0.00	0.09	0.24	0.95
W9307	N06	06-25-93	0937	7.05	W93070632	12.80	30.90	9.71	111	36.45	23.26	1.60	0.88	0.28	0.01	0.08	0.23	1.21
W9307	N06	06-25-93	0936	13.98	W93070631	8.26	31.26	10.33	107	32.93	24.30	3.44	0.78	1.15	0.15	1.67	0.61	4.66
W9307	N06	06-25-93	0934	27.65	W93070630	5.33	31.56	10.10	98	30.76	24.92	0.92	0.62	2.30	0.19	4.30	0.78	6.84

Table A1. Physical and Chemical Parameters at Discrete Bottle Measurement Depths.

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9307	N06	06-25-93	0933	45.67	W93070629	4.51	31.69	10.41	99	30.19	25.10	0.53	0.65	0.09	0.05	2.09	0.37	7.71
W9307	N07P	06-23-93	0803	2.64	W93070303	12.55	30.77	9.88	113	36.10	23.21	0.90	0.81	0.03	0.03	-0.03	0.03	1.12
W9307	N07P	06-23-93	0802	11.08	W93070302	12.50	30.77	9.84	112	36.06	23.22	1.64	0.81	0.03	0.04	-0.04	0.05	0.94
W9307	N07P	06-23-93	0802	17.76	W93070301	8.85	31.14	10.54	111	33.32	24.12	2.79	0.76	0.05	0.05	-0.05	0.08	1.84
W9307	N07P	06-23-93	0801	27.39	W93070300	5.65	31.46	10.73	105	30.93	24.80	1.08	0.53	0.23	0.07	0.71	0.21	4.78
W9307	N07P	06-23-93	0800	40.11	W93070299	4.50	31.68	10.72	102	30.18	25.10	0.48	0.63	0.14	0.26	2.76	0.38	6.40
W9307	N07P	06-25-93	1000	3.13	W93070644	13.19	30.82	9.79	113	36.71	23.12	0.94	0.76	0.09	0.00	0.09	0.19	0.86
W9307	N07P	06-25-93	0959	7.23	W93070643	12.72	30.83	9.64	110	36.31	23.22	1.30	0.76	0.10	0.00	0.09	0.22	1.09
W9307	N07P	06-25-93	0959	14.28	W93070642	10.87	31.01	9.65	106	34.91	23.70	2.55	0.74	0.07	0.00	0.09	0.24	3.25
W9307	N07P	06-25-93	0958	28.27	W93070641	5.20	31.58	10.13	98	30.67	24.95	0.89	0.61	0.15	0.12	2.60	0.51	7.11
W9307	N07P	06-25-93	0957	43.69	W93070640	4.57	31.68	10.37	99	30.24	25.09	0.54	0.67	0.62	0.00	0.07	0.46	7.36
W9307	N08	06-25-93	1041	1.83	W93070659	13.61	30.87	9.72	113	37.13	23.08	1.17	1.02	0.09	0.00	0.09	0.20	0.97
W9307	N08	06-25-93	1041	7.01	W93070658	12.92	30.85	9.70	111	36.51	23.19	3.05	1.02	0.27	0.00	0.09	0.26	1.25
W9307	N08	06-25-93	1040	14.88	W93070657	9.48	31.19	10.15	108	33.90	24.06	4.22	0.89	0.44	0.02	0.63	0.42	3.11
W9307	N08	06-25-93	1039	21.83	W93070656	6.19	31.47	9.98	99	31.39	24.74	1.26	0.63	1.79	0.09	2.78	0.77	5.96
W9307	N08	06-25-93	1038	28.64	W93070655	5.95	31.50	10.09	100	31.22	24.80	1.16	0.63	1.86	0.09	2.90	0.78	6.12
W9307	N09	06-25-93	1117	1.72	W93070670	13.35	30.90	10.21	118	36.93	23.15	2.15	1.65	0.01	0.03	0.00	0.17	1.04
W9307	N09	06-25-93	1117	6.61	W93070669	12.54	30.91	10.14	116	36.24	23.32	5.03	1.41	0.03	0.03	0.02	0.17	1.33
W9307	N09	06-25-93	1116	12.19	W93070668	11.56	30.97	10.16	113	35.45	23.54	6.21	1.30	0.05	0.02	0.00	0.20	2.11
W9307	N09	06-25-93	1115	20.67	W93070667	7.26	31.36	10.01	102	32.18	24.52	1.54	0.71	0.58	0.01	0.34	0.27	5.32
W9307	N09	06-25-93	1114	31.49	W93070666	6.14	31.43	9.97	99	31.31	24.72	1.42	0.92	0.07	0.01	1.12	0.24	6.42
W9307	N10P	06-22-93	0911	1.37	W93070097	13.70	30.63	10.24	119	36.94	22.87	2.80	1.91	0.01	0.01	-0.01	0.13	0.99
W9307	N10P	06-22-93	0910	3.80	W93070096	12.66	30.71	10.09	115	36.13	23.14	6.05	1.72	0.47	0.04	0.26	0.36	1.54
W9307	N10P	06-22-93	0909	6.74	W93070095	11.56	30.81	9.42	105	35.29	23.42	4.65	1.37	0.05	0.02	-0.02	0.16	2.83
W9307	N10P	06-22-93	0908	12.24	W93070094	8.33	31.17	9.58	100	32.90	24.22	2.06	1.02	0.29	0.03	-0.03	0.28	4.54
W9307	N10P	06-22-93	0906	20.54	W93070093	6.92	31.34	9.70	98	31.88	24.55	1.23	0.86	0.77	0.04	-0.04	0.31	5.45
W9307	N10P	06-25-93	0624	1.82	W93070544	12.64	30.87	9.72	111	36.28	23.26	5.33	1.44	0.42	0.08	0.07	0.32	1.58
W9307	N10P	06-25-93	0624	4.96	W93070543	12.42	30.87	9.79	111	36.10	23.31	6.05	1.43	0.02	0.06	-0.01	0.20	1.63
W9307	N10P	06-25-93	0623	7.33	W93070542	12.20	30.90	9.63	109	35.94	23.37	5.98	1.47	0.02	0.05	-0.01	0.11	1.76
W9307	N10P	06-25-93	0622	14.34	W93070541	8.67	31.22	9.96	105	33.25	24.21	3.32	0.88	0.03	0.04	0.02	0.21	3.90
W9307	N10P	06-25-93	0621	22.81	W93070540	7.45	31.33	10.03	102	32.31	24.47	2.03	0.81	0.07	0.04	-0.01	0.24	4.76
W9307	N11	06-25-93	0652	1.77	W93070555	12.54	30.92	9.91	113	36.25	23.33	1.43	0.99	0.06	0.02	0.02	0.04	1.20
W9307	N11	06-25-93	0651	7.33	W93070554	11.45	30.97	9.78	109	35.36	23.56	5.56	1.40	0.41	0.02	0.30	0.27	2.64
W9307	N11	06-25-93	0650	12.83	W93070553	9.61	31.12	9.84	105	33.95	23.99	3.53	1.02	0.03	0.05	0.73	0.28	3.51
W9307	N11	06-25-93	0650	18.57	W93070552	8.98	31.18	10.09	107	33.46	24.13	2.95	0.84	0.08	0.04	-0.02	0.22	3.76
W9307	N11	06-25-93	0649	26.85	W93070551	7.41	31.33	9.83	100	32.28	24.47	1.85	0.87	0.15	0.07	0.00	0.15	5.45
W9307	N12	06-25-93	0714	1.86	W93070566	12.77	30.84	9.81	112	36.37	23.22	1.17	0.80	0.00	0.01	0.04	0.06	1.22
W9307	N12	06-25-93	0713	7.65	W93070565	12.05	30.92	10.01	113	35.83	23.42	1.52	0.80	0.00	0.02	0.01	0.06	1.53
W9307	N12	06-25-93	0713	11.34	W93070564	11.42	30.94	10.09	112	35.30	23.54	1.86	0.81	0.00	0.02	0.07	0.14	1.56
W9307	N12	06-25-93	0712	13.69	W93070563	9.61	31.12	10.16	109	33.94	23.99	4.70	0.86	0.03	0.03	0.00	0.22	3.27
W9307	N12	06-25-93	0711	17.15	W93070562	8.64	31.26	10.21	107	33.25	24.24	3.66	0.92	0.05	0.08	0.09	0.27	3.75

Table A1. Physical and Chemical Parameters at Discrete Bottle Measurement Depths.

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9307	N13	06-25-93	1210	1.79	W93070703	14.63	30.79	9.35	111	37.94	22.81	0.43	0.63	0.07	0.00	0.01	0.13	0.85
W9307	N13	06-25-93	1210	7.17	W93070702	11.76	30.89	10.15	114	35.54	23.44	0.92	0.77	0.01	0.00	0.02	0.18	1.52
W9307	N13	06-25-93	1209	14.69	W93070701	9.38	31.09	10.51	112	33.71	24.00	2.49	0.76	0.01	0.01	0.01	0.18	2.01
W9307	N13	06-25-93	1208	21.91	W93070700	8.31	31.24	10.40	108	32.95	24.28	2.73	0.74	0.02	0.00	0.02	0.17	3.56
W9307	N13	06-25-93	1207	27.74	W93070699	7.21	31.38	9.83	100	32.16	24.54	1.04	0.78	0.08	0.00	0.04	0.28	5.84
W9307	N14	06-25-93	1239	1.81	W93070723	14.49	30.85	9.61	114	37.87	22.88	0.69	0.88	0.14	0.00	0.07	0.14	1.04
W9307	N14	06-25-93	1238	9.40	W93070722	11.21	30.95	10.15	113	35.14	23.59	1.23	0.77	0.42	0.00	0.06	0.22	1.56
W9307	N14	06-25-93	1237	20.19	W93070721	8.03	31.25	10.35	107	32.73	24.32	2.79	0.74	1.59	0.06	1.14	0.57	3.36
W9307	N14	06-25-93	1237	24.86	W93070720	6.37	31.43	10.07	100	31.50	24.69	1.30	0.61	0.26	0.00	0.02	0.32	6.04
W9307	N14	06-25-93	1236	31.26	W93070719	5.43	31.53	10.31	101	30.81	24.88	0.97	0.65	2.07	0.12	2.90	0.71	6.25
W9307	N15	06-25-93	1259	1.78	W93070734	14.65	30.81	9.63	115	37.97	22.82	0.70	0.86	0.02	0.00	0.05	0.07	0.88
W9307	N15	06-25-93	1258	9.61	W93070733	12.17	30.88	9.91	112	35.89	23.36	1.43	0.76	0.05	0.00	0.04	0.13	1.17
W9307	N15	06-25-93	1258	16.88	W93070732	8.74	31.15	10.15	107	33.23	24.15	2.71	0.69	0.04	0.02	0.03	0.24	3.69
W9307	N15	06-25-93	1257	25.71	W93070731	5.15	31.57	10.37	100	30.61	24.94	1.22	0.63	0.34	0.12	3.18	0.61	6.08
W9307	N15	06-25-93	1256	41.07	W93070730	4.80	31.64	10.24	98	30.39	25.03	0.67	0.71	2.29	0.13	3.75	0.73	7.66
W9307	N16P	06-22-93	0754	1.33	W93070073	14.61	30.64	9.50	113	37.75	22.70	0.93	0.94	0.02	0.04	0.02	0.02	0.90
W9307	N16P	06-22-93	0753	7.14	W93070072A	9.51	30.95	10.75	115	33.68	23.87	2.67	0.84	0.12	0.04	0.06	0.17	1.31
W9307	N16P	06-22-93	0751	12.09	W93070072	8.46	31.18	10.58	110	33.02	24.21	3.01	0.84	0.82	0.05	0.54	0.30	2.13
W9307	N16P	06-22-93	0750	21.59	W93070071	6.63	31.39	10.39	104	31.69	24.62	1.15	0.74	2.01	0.11	2.23	0.62	4.78
W9307	N16P	06-22-93	0748	36.42	W93070070	4.67	31.67	10.37	99	30.31	25.07	0.48	0.70	0.61	0.20	3.19	0.50	6.98
W9307	N16P	06-25-93	1319	1.73	W93070745	14.30	30.96	9.67	114	37.83	23.01	0.71	0.87	0.00	0.03	0.01	0.00	1.08
W9307	N16P	06-25-93	1319	7.77	W93070744	12.83	30.91	9.78	112	36.50	23.26	1.52	0.95	0.03	0.00	0.03	0.06	1.38
W9307	N16P	06-25-93	1318	15.94	W93070743	7.80	31.14	10.36	107	32.43	24.27	5.03	0.92	0.44	0.00	0.04	0.27	4.20
W9307	N16P	06-25-93	1317	27.82	W93070742	5.24	31.58	10.11	98	30.70	24.94	0.94	0.68	2.23	0.12	3.37	0.78	7.17
W9307	N16P	06-25-93	1316	39.31	W93070741	4.94	31.63	10.24	99	30.50	25.01	0.72	0.68	2.51	0.13	3.55	0.76	7.38
W9307	N17	06-25-93	1340	0.77	W93070756	14.57	30.83	9.69	115	37.92	22.85	0.88	0.89	0.04	0.01	0.04	0.07	1.03
W9307	N17	06-25-93	1339	8.93	W93070755	13.00	30.86	9.77	112	36.58	23.19	1.85	0.92	0.11	0.01	0.03	0.17	1.36
W9307	N17	06-25-93	1338	16.17	W93070754	8.44	31.18	10.43	109	33.01	24.22	4.06	0.82	0.69	0.05	0.85	0.41	3.65
W9307	N17	06-25-93	1338	24.87	W93070753	5.46	31.55	10.18	99	30.86	24.89	1.03	0.77	0.04	0.06	2.75	0.46	6.70
W9307	N17	06-25-93	1337	36.61	W93070752	4.79	31.64	10.37	100	30.39	25.04	0.61	0.69	2.24	0.17	3.51	0.73	7.55
W9307	N18	06-25-93	1359	1.84	W93070767	14.05	30.82	10.08	119	37.46	22.95	1.58	1.29	0.01	0.01	-0.01	0.10	0.88
W9307	N18	06-25-93	1358	7.17	W93070766	12.55	30.93	10.31	118	36.27	23.33	4.08	1.39	0.24	0.01	-0.01	0.16	1.18
W9307	N18	06-25-93	1358	12.45	W93070765	11.68	30.98	10.07	113	35.58	23.53	3.02	1.05	0.14	0.01	0.08	0.20	1.94
W9307	N18	06-25-93	1357	18.90	W93070764	7.10	31.30	10.20	103	31.99	24.49	2.31	0.74	0.94	0.08	1.66	0.56	4.98
W9307	N18	06-25-93	1356	25.55	W93070763	6.53	31.42	10.25	103	31.63	24.66	1.43	0.67	1.31	0.11	2.12	0.63	5.68
W9307	N19	06-25-93	1136	1.83	W93070681	13.06	30.96	9.99	115	36.74	23.25	0.71	0.92	0.03	0.00	0.01	0.04	1.05
W9307	N19	06-25-93	1135	7.90	W93070680	12.49	30.93	10.04	114	36.22	23.34	1.48	0.95	0.10	0.01	0.01	0.08	1.10
W9307	N19	06-25-93	1134	12.99	W93070679	10.84	30.93	10.29	113	34.81	23.64	2.05	0.83	0.11	0.02	0.00	0.14	1.85
W9307	N19	06-25-93	1134	18.47	W93070678	8.75	31.23	10.09	106	33.32	24.20	3.63	0.88	0.07	0.02	0.00	0.24	4.22
W9307	N19	06-25-93	1133	20.85	W93070677	7.79	31.30	10.06	104	32.58	24.40	2.22	0.81	0.08	0.01	0.00	0.23	4.93
W9307	N20P	06-22-93	0643	0.62	W93070046	13.79	30.67	10.35	121	37.07	22.89	4.87	1.94	0.81	0.08	0.15	0.24	0.48

Table A1. Physical and Chemical Parameters at Discrete Bottle Measurement Depths.

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9307	N20P	06-22-93	0643	4.85	W93070045	12.87	30.65	9.91	114	36.25	23.05	8.42	1.94	0.11	0.07	-0.01	0.01	0.82
W9307	N20P	06-22-93	0641	10.62	W93070044	10.31	30.91	10.06	109	34.33	23.71	3.94	0.92	0.15	0.07	-0.01	0.24	2.78
W9307	N20P	06-22-93	0639	19.74	W93070043	6.02	31.47	10.06	99	31.25	24.77	1.15	0.64	0.43	0.06	1.42	0.38	6.06
W9307	N20P	06-22-93	0637	27.65	W93070042	5.09	31.60	9.93	96	30.59	24.97	1.19	0.91	0.97	0.05	1.25	0.47	7.23
W9307	N20P	06-25-93	1152	1.80	W93070692	13.70	30.98	9.69	113	37.33	23.15	0.61	0.85	0.08	0.02	0.02	0.05	1.00
W9307	N20P	06-25-93	1152	7.08	W93070691	12.22	30.89	10.02	113	35.94	23.36	1.09	0.82	0.00	0.06	-0.03	0.11	1.33
W9307	N20P	06-25-93	1151	16.49	W93070690	9.07	31.15	10.43	110	33.51	24.10	3.51	0.79	0.08	0.00	0.03	0.22	3.06
W9307	N20P	06-25-93	1151	22.55	W93070689	7.97	31.31	9.84	102	32.74	24.38	1.85	0.85	0.04	0.01	0.02	0.17	5.59
W9307	N20P	06-25-93	1150	28.37	W93070688	7.24	31.36	9.91	101	32.17	24.52	1.51	0.83	1.14	0.08	1.81	0.58	5.73
W9307	N21	06-25-93	1416	1.80	W93070778	13.59	30.91	10.09	118	37.16	23.11	1.03	1.12	0.33	0.01	0.01	0.13	1.16
W9307	N21	06-25-93	1416	8.95	W93070777	12.26	30.97	10.10	115	36.06	23.41	2.49	1.03	0.14	0.00	0.00	0.14	1.35
W9307	N21	06-25-93	1415	17.61	W93070776	8.13	31.24	10.40	108	32.80	24.30	4.15	0.79	0.52	0.01	0.88	0.41	3.46
W9307	N21	06-25-93	1414	24.36	W93070775	6.13	31.46	10.20	101	31.33	24.74	1.47	0.62	0.61	0.00	0.00	0.34	5.32
W9307	N21	06-25-93	1414	33.62	W93070774	5.83	31.48	10.12	100	31.11	24.79	0.97	0.72	0.08	0.00	0.02	0.03	6.66
W9308	N01P	07-07-93	0731	1.53	W93080074	14.74	31.03	9.59	115	38.29	22.97	1.33	1.13	0.00	0.01	-0.01	0.07	2.12
W9308	N01P	07-07-93	0730	3.74	W93080073	14.42	30.99	9.79	116	37.97	23.01	1.80	1.17	0.00	0.01	-0.01	0.13	2.42
W9308	N01P	07-07-93	0729	12.56	W93080072	8.45	31.28	10.23	107	33.10	24.29	2.30	0.82	0.04	0.01	0.02	0.25	4.03
W9308	N01P	07-07-93	0728	18.72	W93080071	6.51	31.42	9.81	98	31.61	24.66	1.27	0.74	0.00	0.01	-0.01	0.27	5.91
W9308	N01P	07-07-93	0725	25.30	W93080069	5.85	31.50	9.46	93	31.13	24.80	0.76	0.70	0.21	0.03	1.28	0.38	8.05
W9308	N02	07-07-93	0803	1.58	W93080085	16.43	30.98	9.22	114	39.73	22.56	0.69	0.98	0.05	0.00	0.00	0.01	1.46
W9308	N02	07-07-93	0802	5.59	W93080084	13.48	30.88	10.16	118	37.02	23.11	0.60	0.78	0.02	0.00	0.00	0.06	2.06
W9308	N02	07-07-93	0801	12.94	W93080083	9.73	31.22	10.78	116	34.14	24.04	0.69	0.69	0.05	0.00	0.00	0.15	2.12
W9308	N02	07-07-93	0800	21.93	W93080082	5.93	31.44	10.51	104	31.15	24.75	1.94	0.84	0.16	0.00	0.14	0.25	4.69
W9308	N02	07-07-93	0758	34.17	W93080081	5.01	31.57	9.92	96	30.51	24.96	0.60	0.80	1.32	0.00	0.36	0.43	7.63
W9308	N03	07-07-93	0830	1.57	W93080096	16.88	30.93	8.98	112	40.09	22.42	0.42	0.83	0.36	0.00	0.00	0.09	1.51
W9308	N03	07-07-93	0829	3.45	W93080095	16.31	30.87	9.12	112	39.51	22.50	0.60	0.85	0.00	0.00	0.00	0.09	1.59
W9308	N03	07-07-93	0828	11.36	W93080094	8.35	31.28	10.97	114	33.03	24.31	0.70	0.67	0.12	0.00	0.00	0.20	2.17
W9308	N03	07-07-93	0826	23.97	W93080093	6.07	31.43	10.70	106	31.25	24.72	2.01	0.77	0.04	0.00	0.00	0.21	3.94
W9308	N03	07-07-93	0824	39.41	W93080092	4.78	31.59	10.20	98	30.34	25.00	0.61	0.65	0.77	0.21	0.29	0.40	6.47
W9308	N04P	07-07-93	0857	1.43	W93080107	16.35	30.97	9.08	112	39.65	22.57	0.43	0.86	0.02	0.00	0.00	0.05	1.59
W9308	N04P	07-07-93	0856	5.01	W93080106	15.46	30.90	9.29	112	38.79	22.72	0.63	0.84	0.00	0.00	0.00	0.12	1.65
W9308	N04P	07-07-93	0854	12.54	W93080105	7.41	31.30	10.68	109	32.24	24.45	2.76	1.07	0.00	0.03	-0.01	0.19	3.69
W9308	N04P	07-07-93	0852	24.44	W93080104	6.02	31.40	10.87	107	31.19	24.71	1.55	0.67	0.00	0.06	-0.06	0.21	3.83
W9308	N04P	07-07-93	0850	44.91	W93080103	4.60	31.61	10.46	100	30.20	25.03	0.57	0.59	0.13	0.01	1.08	0.24	5.54
W9308	N05	07-07-93	0929	1.49	W93080118	17.04	30.89	8.80	110	40.18	22.35	0.32	0.78	0.62	0.01	0.14	0.18	1.23
W9308	N05	07-07-93	0928	9.51	W93080117	10.61	31.15	10.42	114	34.83	23.85	0.50	0.72	0.79	0.01	0.03	0.23	0.93
W9308	N05	07-07-93	0927	20.47	W93080116	5.49	31.51	10.73	105	30.84	24.86	1.38	0.67	1.64	0.13	1.80	0.52	3.67
W9308	N05	07-07-93	0926	26.91	W93080115	5.11	31.54	10.59	102	30.56	24.92	1.03	0.65	0.00	0.83	0.70	0.39	4.36
W9308	N05	07-07-93	0924	49.38	W93080114	4.53	31.62	10.41	99	30.16	25.05	0.51	0.58	2.18	0.27	3.63	0.70	6.33
W9308	N06	07-07-93	0957	1.37	W93080129	17.69	30.85	8.61	109	40.72	22.17	0.25	0.71	0.28	0.00	0.05	0.12	1.64
W9308	N06	07-07-93	0956	10.58	W93080128	9.80	31.11	10.69	115	34.09	23.95	0.41	0.69	0.07	0.00	0.00	0.23	0.98

Table A1. Physical and Chemical Parameters at Discrete Bottle Measurement Depths.

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9308	N06	07-07-93	0955	22.00	W93080127	5.55	31.50	10.82	106	30.89	24.84	1.52	0.70	1.07	0.12	1.64	0.53	3.35
W9308	N06	07-07-93	0954	31.90	W93080126	4.84	31.56	10.55	101	30.35	24.96	0.94	0.62	0.49	0.03	0.00	0.29	4.84
W9308	N06	07-07-93	0952	44.55	W93080125	4.44	31.64	10.50	100	30.10	25.07	0.59	0.58	1.99	0.29	3.65	0.73	5.84
W9308	N07P	07-07-93	1030	1.61	W93080140	17.65	30.90	8.61	109	40.74	22.22	0.25	0.71	0.08	0.02	-0.01	0.02	1.65
W9308	N07P	07-07-93	1029	9.12	W93080139	11.07	31.10	10.25	113	35.17	23.73	0.56	0.81	0.51	0.01	0.03	0.22	1.63
W9308	N07P	07-07-93	1027	17.83	W93080138	5.99	31.46	10.78	106	31.21	24.76	1.45	0.78	1.08	0.12	1.34	0.45	3.47
W9308	N07P	07-07-93	1026	23.65	W93080137	4.79	31.56	10.55	101	30.31	24.98	0.99	0.64	2.11	0.25	3.03	0.69	4.85
W9308	N07P	07-07-93	1023	40.64	W93080136	4.39	31.64	10.51	100	30.06	25.08	0.64	0.63	2.02	0.29	3.58	0.73	5.47
W9308	N08	07-07-93	1109	1.39	W93080152	17.89	30.95	8.83	112	41.01	22.20	0.29	0.75	0.09	0.02	-0.01	0.09	1.75
W9308	N08	07-07-93	1107	8.61	W93080151	13.27	30.32	10.24	118	36.23	22.71	0.64	0.85	0.16	0.02	0.00	0.27	1.85
W9308	N08	07-07-93	1106	17.14	W93080150	6.67	31.36	10.33	104	31.69	24.60	1.94	0.95	0.84	0.14	1.62	0.57	5.33
W9308	N08	07-07-93	1105	21.86	W93080149	5.79	31.49	10.10	99	31.07	24.81	1.02	0.67	1.12	0.17	2.16	0.64	5.88
W9308	N08	07-07-93	1103	29.73	W93080148	5.39	31.52	10.13	99	30.77	24.87	0.90	0.78	1.36	0.18	2.36	0.64	6.00
W9308	N09	07-07-93	1154	1.51	W93080167	17.47	30.93	8.84	111	40.62	22.29	0.38	0.90	0.19	0.01	0.04	0.15	2.04
W9308	N09	07-07-93	1153	7.34	W93080166	9.87	30.94	10.52	113	33.98	23.80	0.86	0.87	0.00	0.02	0.01	0.30	3.41
W9308	N09	07-07-93	1152	14.96	W93080165	7.27	31.38	10.72	109	32.21	24.53	2.01	0.84	0.00	0.01	0.00	0.28	3.71
W9308	N09	07-07-93	1151	23.15	W93080164	5.81	31.48	10.19	100	31.08	24.79	1.30	0.79	0.94	0.15	1.99	0.63	5.61
W9308	N09	07-07-93	1149	31.32	W93080163	5.79	31.48	10.22	100	31.07	24.80	1.26	0.75	0.04	0.01	-0.01	0.29	5.66
W9308	N10P	07-07-93	0601	1.05	W93080034	15.84	30.89	9.51	116	39.11	22.63	3.74	1.64	0.25	0.00	0.07	0.19	2.54
W9308	N10P	07-07-93	0600	2.28	W93080033	15.12	30.90	9.29	112	38.48	22.79	4.29	1.64	0.44	0.00	0.03	0.23	4.05
W9308	N10P	07-07-93	0558	8.57	W93080032	13.86	31.00	8.92	105	37.49	23.13	3.46	1.63	0.00	0.00	0.05	0.29	4.08
W9308	N10P	07-07-93	0557	14.75	W93080031	10.59	31.13	10.05	110	34.79	23.84	2.96	1.14	0.00	0.01	0.01	0.16	3.35
W9308	N10P	07-07-93	0556	18.94	W93080030	7.58	31.28	10.27	105	32.38	24.42	1.47	0.78	0.00	0.02	0.02	0.25	3.56
W9308	N11	07-07-93	0634	1.63	W93080049	15.18	30.89	9.15	110	38.53	22.77	3.81	1.80	0.46	0.00	0.00	0.21	3.44
W9308	N11	07-07-93	0634	3.08	W93080048	14.79	30.83	9.34	112	38.12	22.81	3.64	1.66	0.00	0.00	0.00	0.14	2.94
W9308	N11	07-07-93	0633	7.51	W93080047	11.85	31.06	10.09	113	35.80	23.56	1.92	1.00	0.00	0.00	0.00	0.14	2.84
W9308	N11	07-07-93	0631	12.50	W93080046	8.51	31.19	10.24	107	33.07	24.21	1.64	0.85	0.00	0.00	0.00	0.27	4.56
W9308	N11	07-07-93	0630	24.92	W93080045	6.54	31.41	9.72	97	31.63	24.65	0.87	0.82	0.61	0.00	0.00	0.32	6.26
W9308	N12	07-07-93	0702	1.70	W93080060	16.53	30.93	9.21	114	39.78	22.50	2.21	1.37	0.00	0.00	0.02	0.11	2.44
W9308	N12	07-07-93	0702	2.74	W93080059	16.46	30.92	9.26	114	39.69	22.51	2.05	1.30	0.12	0.00	0.01	0.12	2.70
W9308	N12	07-07-93	0701	5.09	W93080058	14.34	30.83	9.23	109	37.72	22.90	3.16	1.72	0.05	0.02	0.13	0.26	2.98
W9308	N12	07-07-93	0659	11.49	W93080057	8.83	31.12	10.68	112	33.28	24.11	1.19	0.78	0.05	0.00	0.09	0.33	3.09
W9308	N12	07-07-93	0658	20.40	W93080056	6.35	31.42	10.01	100	31.48	24.68	0.98	0.92	0.48	0.08	1.32	0.55	5.36
W9308	N13	07-07-93	1302	1.45	W93080209	17.66	30.95	8.78	111	40.81	22.26	0.37	0.88	0.00	0.01	-0.01	0.17	1.71
W9308	N13	07-07-93	1301	8.39	W93080208	8.34	31.21	10.97	114	32.95	24.25	0.70	0.73	0.11	0.01	-0.01	0.32	2.76
W9308	N13	07-07-93	1300	14.19	W93080207	7.61	31.30	11.08	114	32.42	24.42	1.34	0.82	0.16	0.02	0.04	0.37	2.68
W9308	N13	07-07-93	1259	23.44	W93080206	5.88	31.44	10.33	102	31.11	24.76	1.82	0.98	0.91	0.14	1.79	0.62	5.26
W9308	N13	07-07-93	1258	27.29	W93080205	5.33	31.53	10.16	99	30.73	24.89	0.92	0.68	1.26	0.18	2.39	0.69	6.24
W9308	N14	07-07-93	1323	1.46	W93080222	18.54	31.02	8.56	110	41.68	22.10	0.32	0.75	0.76	0.13	1.45	0.52	4.64
W9308	N14	07-07-93	1322	9.57	W93080221	9.54	31.32	10.94	117	34.08	24.15	0.49	0.72	0.06	0.06	0.34	0.33	2.46
W9308	N14	07-07-93	1321	18.87	W93080220	5.99	31.45	10.60	105	31.20	24.75	1.87	0.79	0.00	0.02	-0.02	0.07	1.77

Table A1. Physical and Chemical Parameters at Discrete Bottle Measurement Depths.

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9308	N14	07-07-93	1321	24.18	W93080219	5.75	31.49	10.10	99	31.04	24.81	0.96	0.65	1.13	0.17	2.23	0.67	6.32
W9308	N14	07-07-93	1320	29.20	W93080218	5.59	31.51	10.22	100	30.92	24.84	0.96	0.65	1.16	0.18	2.28	0.63	6.34
W9308	N15	07-07-93	1345	1.50	W93080237	18.05	31.13	8.79	112	41.37	22.30	0.32	0.77	0.49	0.01	0.02	0.13	1.72
W9308	N15	07-07-93	1344	9.65	W93080236	12.71	30.99	10.19	117	36.48	23.34	0.67	0.82	0.00	0.00	0.03	0.23	1.13
W9308	N15	07-07-93	1343	22.07	W93080235	6.31	31.48	11.25	112	31.50	24.74	1.23	0.65	0.93	0.11	1.24	0.54	3.27
W9308	N15	07-07-93	1342	30.77	W93080234	5.10	31.53	10.61	103	30.54	24.92	1.07	0.66	1.73	0.23	2.63	0.70	4.91
W9308	N15	07-07-93	1341	39.90	W93080233	4.86	31.58	10.48	101	30.38	24.98	0.73	0.55	1.91	0.25	2.95	0.72	6.05
W9308	N16P	07-07-93	1407	1.44	W93080250	18.24	30.89	8.64	110	41.25	22.07	0.30	0.71	0.04	0.00	0.02	0.17	1.73
W9308	N16P	07-07-93	1406	9.51	W93080249	12.62	30.95	10.24	117	36.36	23.33	0.73	0.83	0.10	0.00	0.05	0.24	1.34
W9308	N16P	07-07-93	1405	20.30	W93080248	5.80	31.45	10.80	106	31.05	24.77	1.76	0.75	0.62	0.12	1.48	0.56	3.96
W9308	N16P	07-07-93	1405	29.09	W93080247	4.95	31.55	10.63	102	30.44	24.95	1.12	0.62	1.59	0.22	2.74	0.68	4.79
W9308	N16P	07-07-93	1404	39.81	W93080246	4.72	31.60	10.46	100	30.29	25.01	0.72	0.58	1.89	0.25	3.26	0.78	6.29
W9308	N17	07-07-93	1431	1.41	W93080265	18.08	30.93	8.56	109	41.16	22.14	0.28	0.67	0.06	0.00	0.02	0.15	1.63
W9308	N17	07-07-93	1430	9.59	W93080264	10.93	30.83	10.55	116	34.77	23.54	0.50	0.72	0.04	0.01	0.02	0.26	0.85
W9308	N17	07-07-93	1429	21.33	W93080263	5.58	31.46	10.78	105	30.87	24.80	1.69	0.73	1.47	0.18	2.10	0.63	3.97
W9308	N17	07-07-93	1428	28.97	W93080262	4.84	31.58	10.66	102	30.37	24.98	1.11	0.64	1.71	0.21	2.73	0.69	4.73
W9308	N17	07-07-93	1427	35.74	W93080261	4.80	31.59	10.58	102	30.35	24.99	0.81	0.55	1.69	0.22	2.85	0.72	5.11
W9308	N18	07-07-93	1453	1.39	W93080281	17.76	30.92	8.81	112	40.87	22.21	0.41	0.79	0.20	0.00	0.01	0.15	1.81
W9308	N18	07-07-93	1452	7.19	W93080280	12.83	31.01	10.07	116	36.60	23.34	0.72	0.80	0.11	0.00	0.00	0.23	1.51
W9308	N18	07-07-93	1451	14.42	W93080279	6.83	31.34	10.93	110	31.80	24.56	1.83	0.88	0.18	0.05	0.45	0.42	3.12
W9308	N18	07-07-93	1451	19.77	W93080278	6.09	31.45	10.23	101	31.29	24.74	1.22	0.73	1.06	0.14	1.85	0.65	5.91
W9308	N18	07-07-93	1450	25.15	W93080276	5.76	31.47	10.26	101	31.04	24.79	0.98	0.67	0.23	0.16	2.32	0.50	6.11
W9308	N19	07-07-93	1219	1.45	W93080182	17.31	30.98	9.59	121	40.52	22.36	1.34	1.71	0.18	0.01	0.00	0.16	1.90
W9308	N19	07-07-93	1218	3.99	W93080181	15.43	30.90	9.71	118	38.77	22.73	1.84	1.32	0.02	0.01	0.01	0.20	1.96
W9308	N19	07-07-93	1217	7.11	W93080180	10.92	31.01	10.60	117	34.95	23.69	0.79	0.82	0.00	0.01	-0.01	0.20	2.45
W9308	N19	07-07-93	1216	13.92	W93080179	6.93	31.34	10.37	105	31.89	24.55	2.56	0.92	0.00	0.03	-0.02	0.33	5.00
W9308	N19	07-07-93	1215	19.37	W93080178	6.11	31.46	10.21	101	31.31	24.74	0.99	0.70	0.70	0.11	1.44	0.56	5.38
W9308	N20P	07-07-93	1240	0.57	W93080196	19.01	30.87	9.11	118	41.93	21.87	1.31	1.59	0.24	0.02	0.00	0.14	1.74
W9308	N20P	07-07-93	1239	3.39	W93080194	17.04	30.89	9.38	117	40.18	22.35	1.00	1.09	0.00	0.01	0.00	0.15	1.90
W9308	N20P	07-07-93	1238	8.63	W93080193	9.01	31.16	10.81	114	33.47	24.11	0.75	0.77	0.16	0.02	0.00	0.31	2.72
W9308	N20P	07-07-93	1237	16.34	W93080192	7.76	31.25	10.80	111	32.50	24.36	1.52	0.85	0.00	0.02	-0.02	0.26	4.67
W9308	N20P	07-07-93	1236	26.43	W93080191	5.78	31.49	10.10	99	31.07	24.81	0.94	0.67	1.05	0.15	2.05	0.64	6.23
W9308	N21	07-07-93	1514	1.29	W93080296	19.05	30.91	8.55	111	42.02	21.89	0.46	0.75	0.18	0.02	0.01	0.14	1.72
W9308	N21	07-07-93	1513	9.62	W93080295	10.63	30.94	10.64	116	34.63	23.68	0.89	0.84	0.02	0.01	-0.01	0.28	1.91
W9308	N21	07-07-93	1512	19.71	W93080294	6.08	31.39	10.39	103	31.22	24.69	2.29	0.94	1.00	0.15	1.89	0.64	5.26
W9308	N21	07-07-93	1511	24.96	W93080293	5.45	31.52	10.26	100	30.82	24.87	1.17	0.66	1.35	0.17	2.33	0.69	5.98
W9308	N21	07-07-93	1510	31.70	W93080292	5.28	31.54	10.37	101	30.70	24.91	1.03	0.63	1.45	0.18	2.41	0.68	6.05
W9309	N01P	07-28-93	0744	1.17	W93090072	16.41	30.97	9.19	113	39.71	22.56	3.64	1.46	0.07	0.01	0.06	0.29	0.80
W9309	N01P	07-28-93	0743	5.68	W93090071	12.31	30.98	10.23	116	36.11	23.41	2.07	1.06	0.96	0.02	0.06	0.32	2.91
W9309	N01P	07-28-93	0741	13.21	W93090070	8.04	31.31	10.16	105	32.80	24.37	2.20	0.87	0.29	0.13	0.81	0.50	4.21
W9309	N01P	07-28-93	0740	19.10	W93090069	6.76	31.34	10.25	103	31.75	24.57	1.16	0.75	1.89	0.24	1.46	0.57	4.34

Table A1. Physical and Chemical Parameters at Discrete Bottle Measurement Depths.

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9309	N01P	07-28-93	0739	27.51	W93090068	5.65	31.49	10.09	99	30.96	24.82	0.65	0.68	1.20	0.31	2.32	0.65	6.10
W9309	N02	07-28-93	0809	0.88	W93090083	16.42	30.95	9.07	112	39.70	22.54	1.10	2.77	0.05	0.09	-0.09	0.14	1.03
W9309	N02	07-28-93	0807	5.16	W93090082	13.17	30.84	10.03	116	36.72	23.14	1.67	0.90	0.06	0.08	-0.08	0.30	3.15
W9309	N02	07-28-93	0806	12.58	W93090081	8.29	31.29	10.53	110	32.98	24.32	2.50	0.96	0.15	0.06	0.13	0.40	3.84
W9309	N02	07-28-93	0805	21.91	W93090080	6.43	31.42	10.27	102	31.55	24.67	1.11	0.66	0.93	0.25	1.77	0.56	4.73
W9309	N02	07-28-93	0804	36.12	W93090079	5.05	31.59	9.98	96	30.55	24.97	0.45	0.72	1.73	0.39	3.58	0.72	7.05
W9309	N03	07-28-93	0832	1.04	W93090094	16.46	30.94	8.88	110	39.71	22.52	0.92	0.84	0.05	0.09	-0.05	0.17	1.62
W9309	N03	07-28-93	0831	6.18	W93090093	15.43	30.92	9.17	111	38.78	22.74	1.26	0.81	0.00	0.08	-0.08	0.23	2.10
W9309	N03	07-28-93	0843	12.88	W93090097	8.27	31.29	10.54	110	32.97	24.32	3.10	1.06	0.11	0.10	-0.10	0.39	3.61
W9309	N03	07-28-93	0829	21.24	W93090091	6.55	31.41	10.23	102	31.64	24.65	1.19	0.69	0.96	0.37	1.60	0.55	4.72
W9309	N03	07-28-93	0827	41.12	W93090090	5.33	31.56	10.08	98	30.76	24.91	0.63	0.71	1.57	0.50	3.08	0.68	5.82
W9309	N04P	07-28-93	0907	0.90	W93090108	16.57	30.92	8.74	108	39.80	22.49	0.95	0.81	0.04	0.00	0.03	0.21	1.66
W9309	N04P	07-28-93	0906	9.37	W93090107	11.71	30.92	10.46	117	35.54	23.47	2.05	0.92	0.03	0.03	0.05	0.33	2.81
W9309	N04P	07-28-93	0905	14.93	W93090106	8.45	31.29	10.41	109	33.13	24.30	2.50	0.91	0.28	0.09	0.22	0.47	3.95
W9309	N04P	07-28-93	0904	23.23	W93090105	6.50	31.41	9.98	100	31.60	24.66	1.08	0.67	1.08	0.35	2.05	0.64	5.67
W9309	N04P	07-28-93	0903	45.73	W93090104	4.62	31.63	9.81	94	30.24	25.05	0.35	0.65	2.40	0.57	4.78	0.84	8.66
W9309	N05	07-28-93	0934	1.15	W93090119	16.81	30.94	8.70	108	40.03	22.44	0.72	0.78	0.00	0.00	0.00	0.21	1.67
W9309	N05	07-28-93	0933	8.47	W93090118	11.95	31.10	10.47	118	35.92	23.57	1.57	0.85	0.02	0.00	0.02	0.30	2.54
W9309	N05	07-28-93	0932	16.76	W93090117	7.89	31.31	10.80	111	32.67	24.39	2.25	0.88	0.11	0.02	0.18	0.43	2.98
W9309	N05	07-28-93	0930	22.01	W93090116	6.21	31.41	9.94	99	31.35	24.69	1.14	0.66	0.94	0.29	2.23	0.66	5.56
W9309	N05	07-28-93	0928	47.43	W93090115	4.58	31.65	9.87	94	30.22	25.06	0.41	0.63	2.13	0.46	4.88	0.83	7.75
W9309	N06	07-28-93	0959	1.09	W93090130	16.77	30.96	8.78	109	40.02	22.47	0.77	0.85	0.00	0.00	0.00	0.17	1.30
W9309	N06	07-28-93	0958	8.18	W93090129	13.36	31.25	10.21	119	37.32	23.42	1.19	0.76	0.00	0.00	0.02	0.22	1.03
W9309	N06	07-28-93	0956	16.01	W93090128	7.46	31.44	11.19	114	32.43	24.56	1.70	0.73	0.03	0.00	0.17	0.37	1.16
W9309	N06	07-28-93	0955	26.53	W93090127	5.20	31.58	9.98	97	30.66	24.94	0.71	0.59	1.75	0.40	3.93	0.78	6.08
W9309	N06	07-28-93	0953	46.38	W93090126	4.69	31.63	9.92	95	30.29	25.03	0.38	0.60	2.58	0.45	4.67	0.79	7.66
W9309	N07P	07-28-93	1022	1.18	W93090141	16.61	31.04	9.06	112	39.96	22.57	0.48	0.99	0.00	0.01	0.03	0.16	0.95
W9309	N07P	07-28-93	1021	10.70	W93090140	10.42	31.31	10.95	120	34.82	24.00	1.31	0.79	0.05	0.00	0.06	0.27	0.63
W9309	N07P	07-28-93	1020	20.93	W93090139	6.86	31.58	10.87	110	32.05	24.75	1.74	0.69	0.28	0.05	0.55	0.45	1.17
W9309	N07P	07-28-93	1019	29.45	W93090138	4.98	31.59	10.00	96	30.49	24.97	0.57	0.61	1.86	0.44	3.90	0.78	6.48
W9309	N07P	07-28-93	1017	45.19	W93090137	4.61	31.64	9.99	96	30.24	25.05	0.39	0.60	2.10	0.46	4.73	0.86	7.78
W9309	N08	07-28-93	1139	1.03	W93090160	16.62	30.89	9.45	117	39.81	22.45	1.23	1.30	0.00	0.02	-0.01	0.18	0.31
W9309	N08	07-28-93	1138	6.81	W93090159	15.36	30.97	9.67	117	38.77	22.79	3.18	1.31	0.00	0.01	-0.01	0.23	0.59
W9309	N08	07-28-93	1136	10.03	W93090158	10.14	31.08	10.62	115	34.35	23.87	2.05	0.92	0.11	0.02	0.13	0.35	2.46
W9309	N08	07-28-93	1134	17.59	W93090157	6.67	31.50	10.53	106	31.82	24.71	1.19	0.65	0.48	0.13	1.03	0.50	2.52
W9309	N08	07-28-93	1133	27.53	W93090156	5.85	31.56	10.25	101	31.19	24.86	0.90	0.64	0.86	0.23	1.94	0.59	4.00
W9309	N09	07-28-93	1201	1.19	W93090171	14.78	30.88	9.13	109	38.16	22.85	1.71	1.52	0.60	0.09	0.56	0.53	2.19
W9309	N09	07-28-93	1159	4.05	W93090170	13.23	31.09	9.22	107	37.03	23.32	2.57	1.30	0.38	0.07	0.42	0.49	2.63
W9309	N09	07-28-93	1158	10.71	W93090169	11.97	31.10	9.45	107	35.95	23.57	3.56	1.12	0.35	0.08	0.47	0.47	3.19
W9309	N09	07-28-93	1157	19.53	W93090168	6.61	31.41	10.04	101	31.69	24.64	0.89	0.71	0.90	0.22	1.73	0.62	5.76
W9309	N09	07-28-93	1155	30.49	W93090167	6.23	31.47	10.03	100	31.43	24.74	0.78	0.69	1.03	0.25	1.95	0.62	5.99

Table A1. Physical and Chemical Parameters at Discrete Bottle Measurement Depths.

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9309	N10P	07-28-93	0606	1.33	W93090029	14.46	31.08	8.78	104	38.11	23.07	3.11	1.27	2.52	0.08	0.47	0.51	1.96
W9309	N10P	07-28-93	0605	4.78	W93090028	13.25	31.09	8.83	102	37.05	23.31	2.51	1.23	1.28	0.09	0.63	0.58	3.06
W9309	N10P	07-28-93	0604	9.90	W93090027	10.12	31.23	9.29	101	34.49	23.99	1.45	1.05	6.02	0.12	1.05	0.61	4.90
W9309	N10P	07-28-93	0602	16.74	W93090026	7.47	31.35	9.69	99	32.35	24.48	0.94	0.92	1.34	0.17	1.44	0.63	6.31
W9309	N10P	07-28-93	0600	21.96	W93090025	6.91	31.38	9.71	98	31.91	24.58	0.92	0.93	1.36	0.19	1.63	0.69	6.78
W9309	N11	07-28-93	0656	1.07	W93090050	15.64	30.96	9.23	112	39.02	22.73	4.50	1.49	0.44	0.03	0.07	0.34	1.03
W9309	N11	07-28-93	0655	6.02	W93090049	12.95	31.04	9.64	111	36.73	23.34	2.76	1.17	0.66	0.04	0.23	0.42	2.38
W9309	N11	07-28-93	0654	10.07	W93090048	9.36	31.09	9.82	105	33.69	24.00	1.54	0.92	3.22	0.11	0.86	0.51	4.69
W9309	N11	07-28-93	0653	15.83	W93090047	7.68	31.35	9.91	102	32.52	24.45	1.16	0.88	0.99	0.15	1.10	0.58	5.70
W9309	N11	07-28-93	0652	28.43	W93090046	6.61	31.41	10.08	101	31.69	24.65	0.91	0.87	1.04	0.18	1.46	0.60	5.95
W9309	N12	07-28-93	0720	0.96	W93090061	16.09	30.96	9.27	114	39.42	22.63	3.86	5.57	0.00	0.02	-0.01	0.10	0.32
W9309	N12	07-28-93	0720	2.87	W93090060	15.68	30.96	9.32	113	39.05	22.71	3.56	1.33	0.04	0.02	0.01	0.18	0.53
W9309	N12	07-28-93	0719	5.55	W93090059	14.00	30.73	10.19	120	37.31	22.89	3.78	1.35	0.68	0.02	0.01	0.32	1.32
W9309	N12	07-28-93	0718	13.60	W93090058	8.16	31.28	10.59	110	32.87	24.33	1.73	0.84	0.46	0.06	0.40	0.42	3.93
W9309	N12	07-28-93	0716	23.04	W93090057	6.46	31.42	10.32	103	31.57	24.67	0.93	0.74	0.88	0.18	1.30	0.53	5.39
W9309	N13	07-28-93	1303	1.08	W93090204	17.88	30.87	9.54	121	40.91	22.14	1.34	1.35	0.03	0.02	0.00	0.28	0.24
W9309	N13	07-28-93	1302	3.54	W93090203	16.03	30.96	9.40	115	39.36	22.64	2.47	1.53	0.00	0.01	0.01	0.27	0.66
W9309	N13	07-28-93	1301	7.77	W93090202	12.91	30.85	10.06	116	36.50	23.20	1.85	1.07	0.00	0.01	0.01	0.32	2.96
W9309	N13	07-28-93	1300	14.59	W93090201	8.35	31.26	10.69	111	33.01	24.29	2.30	0.92	0.30	0.08	0.40	0.43	3.83
W9309	N13	07-28-93	1258	26.53	W93090200	5.93	31.49	10.11	100	31.19	24.79	0.76	0.67	0.98	0.27	1.76	0.64	5.69
W9309	N14	07-28-93	1324	1.13	W93090215	17.91	30.52	9.11	116	40.52	21.87	0.67	0.92	0.05	0.04	-0.02	0.16	0.91
W9309	N14	07-28-93	1323	7.53	W93090214	12.63	30.89	10.15	116	36.30	23.28	1.51	0.96	0.07	0.07	0.05	0.37	3.41
W9309	N14	07-28-93	1322	13.79	W93090213	7.58	31.32	10.41	107	32.41	24.45	2.41	0.92	0.57	0.12	0.31	0.50	4.44
W9309	N14	07-28-93	1321	19.37	W93090212	6.67	31.39	10.23	103	31.72	24.62	1.50	0.72	0.64	0.23	1.12	0.56	4.78
W9309	N14	07-28-93	1320	27.54	W93090211	5.87	31.50	10.20	100	31.15	24.80	0.88	0.60	1.08	0.32	1.92	0.62	5.12
W9309	N15	07-28-93	1345	1.00	W93090226	17.85	31.02	8.90	113	41.06	22.26	0.88	1.84	0.00	0.01	0.00	0.17	1.40
W9309	N15	07-28-93	1344	5.56	W93090225	14.43	31.19	9.53	113	38.20	23.16	0.91	0.85	0.10	0.03	0.02	0.30	2.66
W9309	N15	07-28-93	1343	12.42	W93090224	7.60	31.33	10.36	106	32.44	24.45	2.18	0.92	0.35	0.14	0.54	0.50	4.20
W9309	N15	07-28-93	1342	23.20	W93090223	5.97	31.46	10.00	99	31.20	24.76	0.91	0.62	1.26	0.39	2.15	0.65	5.16
W9309	N15	07-28-93	1340	38.14	W93090222	5.35	31.54	9.93	97	30.76	24.89	0.61	0.58	1.53	0.44	2.80	0.70	5.78
W9309	N16P	07-28-93	1404	1.06	W93090237	17.77	31.11	8.87	113	41.09	22.35	0.55	0.90	0.00	0.00	0.03	0.22	1.30
W9309	N16P	07-28-93	1404	6.35	W93090236	10.91	31.17	10.54	116	35.10	23.81	1.17	0.91	0.11	0.05	0.22	0.37	3.15
W9309	N16P	07-28-93	1403	14.75	W93090235	7.30	31.36	10.43	106	32.22	24.51	1.91	0.80	0.43	0.14	0.70	0.51	4.33
W9309	N16P	07-28-93	1402	24.63	W93090234	5.92	31.49	10.18	100	31.19	24.79	0.92	0.61	1.15	0.34	2.27	0.65	5.21
W9309	N16P	07-28-93	1400	36.51	W93090233	5.33	31.54	10.07	98	30.75	24.90	0.57	0.55	1.56	0.43	3.09	0.74	6.22
W9309	N17	07-28-93	1425	1.03	W93090248	17.44	31.03	8.98	113	40.70	22.37	0.79	0.90	0.01	0.02	0.01	0.16	0.99
W9309	N17	07-28-93	1424	5.51	W93090247	15.33	30.80	9.54	115	38.56	22.67	1.14	0.90	0.01	0.01	0.06	0.26	1.51
W9309	N17	07-28-93	1423	14.96	W93090246	7.32	31.37	10.79	110	32.24	24.52	2.45	0.87	0.15	0.07	0.46	0.45	3.24
W9309	N17	07-28-93	1422	24.92	W93090245	6.19	31.48	10.29	102	31.40	24.75	1.24	0.64	1.30	0.29	2.15	0.63	4.83
W9309	N17	07-28-93	1421	35.61	W93090244	5.10	31.58	10.10	98	30.58	24.95	0.48	0.55	1.62	0.42	3.36	0.73	6.25
W9309	N18	07-28-93	1442	1.00	W93090259	17.67	30.96	9.26	117	40.83	22.26	0.79	3.68	0.07	0.04	-0.01	0.16	0.28

Table A1. Physical and Chemical Parameters at Discrete Bottle Measurement Depths.

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9309	N18	07-28-93	1441	4.27	W93090258	15.86	30.87	9.67	118	39.11	22.61	1.68	1.31	0.05	0.03	0.00	0.23	0.83
W9309	N18	07-28-93	1441	8.33	W93090257	12.63	31.08	10.19	117	36.50	23.43	2.36	1.13	0.07	0.02	0.01	0.28	1.89
W9309	N18	07-28-93	1440	14.73	W93090256	8.00	31.22	10.08	104	32.67	24.31	1.65	0.81	0.74	0.17	1.08	0.55	5.09
W9309	N18	07-28-93	1438	25.67	W93090255	6.24	31.46	10.14	101	31.42	24.73	0.73	0.65	1.11	0.26	1.91	0.65	6.02
W9309	N19	07-28-93	1221	1.05	W93090182	16.97	30.82	9.61	120	40.03	22.32	1.57	10.50	0.33	0.05	-0.01	0.24	0.39
W9309	N19	07-28-93	1220	4.44	W93090181	15.66	30.95	9.54	116	39.03	22.71	2.93	1.46	0.19	0.06	-0.02	0.24	0.82
W9309	N19	07-28-93	1219	7.28	W93090180	11.95	30.62	10.41	117	35.43	23.20	2.32	1.02	0.15	0.08	-0.03	0.31	1.98
W9309	N19	07-28-93	1217	12.94	W93090179	7.64	31.34	9.94	102	32.48	24.45	1.44	0.82	0.87	0.21	0.90	0.55	5.26
W9309	N19	07-28-93	1216	19.47	W93090178	6.87	31.42	9.78	99	31.92	24.62	1.02	0.80	1.18	0.24	1.32	0.61	5.99
W9309	N20P	07-28-93	1240	1.08	W93090193	16.72	30.75	9.59	119	39.73	22.32	1.88	1.65	0.11	0.01	0.04	0.28	0.51
W9309	N20P	07-28-93	1239	3.13	W93090192	15.77	30.97	9.69	118	39.14	22.70	2.92	1.63	0.12	0.01	0.02	0.26	0.51
W9309	N20P	07-28-93	1238	7.23	W93090191	15.03	30.87	9.67	116	38.38	22.79	3.85	1.55	0.08	0.01	0.03	0.28	1.14
W9309	N20P	07-28-93	1237	12.91	W93090190	8.91	31.18	10.68	113	33.40	24.14	2.05	0.89	0.61	0.15	0.79	0.47	4.04
W9309	N20P	07-28-93	1236	27.78	W93090189	5.71	31.52	10.04	99	31.04	24.84	0.68	0.64	1.14	0.34	2.13	0.64	5.70
W9309	N21	07-28-93	1501	1.27	W93090270	17.74	30.94	9.74	123	40.87	22.23	0.89	1.02	0.00	0.00	0.03	0.15	0.60
W9309	N21	07-28-93	1500	6.14	W93090269	14.82	30.82	10.32	123	38.14	22.79	1.36	0.99	0.03	0.00	0.02	0.27	2.17
W9309	N21	07-28-93	1459	14.47	W93090268	8.18	31.29	10.70	111	32.89	24.34	2.72	0.99	0.09	0.05	0.15	0.42	3.67
W9309	N21	07-28-93	1458	22.12	W93090267	6.87	31.42	10.63	107	31.92	24.62	1.70	0.74	0.67	0.20	1.32	0.56	4.29
W9309	N21	07-28-93	1457	31.17	W93090266	5.56	31.51	10.12	99	30.91	24.85	0.64	0.56	1.22	0.35	2.52	0.66	5.67

e = Data not reported

Table A2. Chemical and Biological Parameters at Two Depths of Bioproductivity Stations and Special Station F25.

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Rep	Chl A (ug/L)	DOC (uM)		PHA (ug/L)	POC (uM)	PON (uM)	TDN (uM)	TDP (uM)	TSS (mg/L)	
W9307	F01P	06-24-93	0835	1.36	W93070443	1	0.57	151.67		0.59	5.83	0.93	7.63	0.32	0.27	
W9307	F01P	06-24-93	0835	1.36	W93070443	2	0.48		e	0.48	7.00	2.07	7.91	0.34	0.24	
W9307	F01P	06-24-93	0834	4.76	W93070441	1	0.54	124.17		0.42	6.08	1.07	6.62	0.33	1.06	
W9307	F01P	06-24-93	0834	4.76	W93070441	2	0.64		e	0.48	5.17	0.93	8.79	0.75		e
W9307	F02P	06-24-93	0715	0.84	W93070424	1	0.58	127.50		0.37	6.17	2.00	7.77	0.39	0.67	
W9307	F02P	06-24-93	0715	0.84	W93070424	2	0.66		e	0.35	4.08	0.57	7.98	0.38	0.54	
W9307	F02P	06-24-93	0713	19.76	W93070422	1	1.97	120.00		0.93	13.00	2.71	8.40	1.29	1.79	
W9307	F02P	06-24-93	0713	19.76	W93070422	2	1.95		e	0.81	13.50	3.07	7.31	0.64	1.22	
W9307	F13P	06-23-93	0912	2.22	W93070317	1	3.80	135.00		1.17	13.00	3.29	9.55	0.47	0.91	
W9307	F13P	06-23-93	0912	2.22	W93070317	2	3.95	133.33		1.31	13.42	3.43	11.24	0.56		e
W9307	F13P	06-23-93	0910	8.62	W93070315	1	3.84	130.00		1.17	10.25	2.00	8.48	3.73	0.35	
W9307	F13P	06-23-93	0910	8.62	W93070315	2	3.87	127.50		0.99	15.83	3.57	9.95	4.88		e
W9307	F23P	06-25-93	0536	1.84	W93070531	1	4.00	163.33		1.55	19.75	4.07	15.56	0.95	0.14	
W9307	F23P	06-25-93	0536	1.84	W93070531	2	4.00	170.00		1.47	18.17	4.00	15.60	0.91	0.45	
W9307	F23P	06-25-93	0534	7.58	W93070529	1	3.24	135.83		1.43	21.33	4.43	15.65	0.89	3.49	
W9307	F23P	06-25-93	0534	7.58	W93070529	2	3.08	145.00		1.20	21.08	4.57	17.23	1.02	0.15	
W9307	F25	06-24-93	1412	0.88	W93070516	1	3.71	145.83		0.76	19.17	3.57	9.56	0.45	1.16	
W9307	F25	06-24-93	1412	0.88	W93070516	2	3.16	151.67		1.03	14.00	3.21	9.81	0.45	2.40	
W9307	F25	06-24-93	1411	6.95	W93070514	1	4.42	158.33		0.91	12.50	3.14	11.43	0.86	1.18	
W9307	F25	06-24-93	1411	6.95	W93070514	2	4.02	160.83		1.22	14.08	3.36	10.28	0.64	1.40	
W9307	N01P	06-23-93	0549	1.74	W93070271	1	1.14	124.17		0.60	13.25	2.00	9.48	0.39	1.50	
W9307	N01P	06-23-93	0549	1.74	W93070271	2	1.26		e	0.55	8.42	1.93	9.23	0.38	1.63	
W9307	N01P	06-23-93	0548	11.05	W93070269	1	1.72	124.17		0.72	8.92	2.07	9.25	0.43	1.69	
W9307	N01P	06-23-93	0548	11.05	W93070269	2	1.97		e	0.88	5.92	0.79	11.96	0.45	1.53	
W9307	N04P	06-23-93	0702	2.12	W93070291	1	1.00	140.00		0.57	9.83	2.07	7.56	0.30	0.08	
W9307	N04P	06-23-93	0702	2.12	W93070291	2	1.04	131.67		0.61	7.92	1.29	7.44	0.31		e
W9307	N04P	06-23-93	0700	13.97	W93070289	1	1.58	128.33		1.03	9.25	2.21	9.59	0.41	1.08	
W9307	N04P	06-23-93	0700	13.97	W93070289	2	1.47	135.00		0.95	12.00	2.36	8.25	0.42	0.84	
W9307	N07P	06-23-93	0803	2.64	W93070303	1	0.79	135.83		0.60	9.08	2.00	9.78	0.33	0.84	
W9307	N07P	06-23-93	0803	2.64	W93070303	2	0.73	133.33		0.43	11.58	2.07	8.07	0.34	0.77	
W9307	N07P	06-23-93	0802	17.76	W93070301	1	1.33	116.67		0.93	9.08	1.93	7.49	0.34	0.94	
W9307	N07P	06-23-93	0802	17.76	W93070301	2	1.32	124.17		1.06	10.17	2.14	7.58	0.34	0.17	
W9307	N10P	06-22-93	0911	1.37	W93070097	1	5.43	133.33		1.51	23.00	4.29	8.76	0.35	1.64	
W9307	N10P	06-22-93	0911	1.37	W93070097	2	5.26	134.17		1.48	21.50	4.50	9.55	0.36	1.65	
W9307	N10P	06-22-93	0909	6.74	W93070095	1	2.84	130.83		1.37	8.75	1.93	9.21	0.54	1.48	
W9307	N10P	06-22-93	0909	6.74	W93070095	2	2.87	124.17		1.49	9.50	2.00	9.28	0.55	0.23	

Table A2. Chemical and Biological Parameters at Two Depths of Bioproductivity Stations and Special Station F25.

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Rep	Chl A (ug/L)	DOC (uM)	PHA (ug/L)	POC (uM)	PON (uM)	TDN (uM)	TDP (uM)	TSS (mg/L)
W9307	N16P	06-22-93	0754	1.33	W93070073	1	0.89	123.33	0.62	16.50	3.07	8.09	0.31	0.32
W9307	N16P	06-22-93	0754	1.33	W93070073	2	0.88	115.83	0.61	6.58	1.00	6.58	0.32	0.91
W9307	N16P	06-22-93	0751	12.09	W93070072	1	1.30	117.50	0.99	8.00	1.07	7.49	0.44	0.24
W9307	N16P	06-22-93	0751	12.09	W93070072	2	1.51	117.50	0.87	7.92	1.93	e	e	0.23
W9307	N20P	06-22-93	0643	0.62	W93070046	1	6.82	128.33	1.60	21.83	4.29	9.71	0.46	1.48
W9307	N20P	06-22-93	0643	0.62	W93070046	2	6.33	128.33	1.89	23.58	4.86	8.03	0.46	1.74
W9307	N20P	06-22-93	0643	4.85	W93070045	1	6.58	140.83	2.34	21.83	4.64	9.73	0.62	1.34
W9307	N20P	06-22-93	0643	4.85	W93070045	2	6.65	133.33	1.56	18.58	4.00	10.39	0.82	2.58

e = Data not reported

APPENDIX A

STATION DATA TABLES AND INSTRUMENT CALIBRATION DATA

Part 2

Instrument Calibration Data for Fluorescence and Dissolved Oxygen

The average value of individual analytical replicates from chlorophyll (n=2) and dissolved oxygen determinations (n=2 or 3) was used to post-calibrate *in situ* sensor readings, where the CTD value is regarded as dependent on the bottle value. All regressions were forced through zero (top regression of statistics block and ANOVA table accompanying each survey and parameter). Tests of intercept significance (regression statistics and ANOVA table) suggest whether the intercept model had intercepts not significantly different from zero. Note that, as described on the next page, setting the intercept to zero can produce negative r^2 values, but instrument blank readings are near zero. The established practice of forcing through zero was followed for all surveys.

For the survey series, to allow easy comparison of trends in calibration over time, all survey chlorophyll calibrations are given, followed by all survey dissolved oxygen calibrations. The sequence of surveys, coded as follows, is:

W9307 = June 1993 combined survey
W9308 = Early July 1993 nearfield survey
W9309 = Late July 1993 nearfield survey.

Survey W9307 Chlorophyll a Calibration

MARKER	STATION	DEPTH	BOTTLE_CHL	CTD_CHLA	Predic_Chla	Residual
45	N20P	4.85	6.62	6.18	3.94	2.67
46	N20P	0.62	6.58	7.62	4.87	1.71
72	N16P	12.09	1.41	4.72	3.01	-1.61
73	N16P	1.33	0.89	1.46	0.93	-0.05
95	N10P	6.74	2.86	7.29	4.65	-1.80
97	N10P	1.37	5.35	4.39	2.80	2.54
269	N01P	11.05	1.85	4.16	2.66	-0.81
271	N01P	1.74	1.20	2.48	1.57	-0.37
289	N04P	13.97	1.53	4.00	2.55	-1.03
291	N04P	2.12	1.02	1.68	1.07	-0.05
301	N07P	17.76	1.33	4.37	2.79	-1.46
303	N07P	2.64	0.76	1.41	0.90	-0.14
315	F13P	8.62	3.86	9.33	5.96	-2.10
317	F13P	2.22	3.88	4.34	2.77	1.10
422	F02P	19.76	1.96	3.55	2.26	-0.30
424	F02P	0.84	0.62	1.05	0.67	-0.05
441	F01P	4.76	0.59	1.81	1.16	-0.57
443	F01P	1.36	0.53	1.26	0.81	-0.28
514	F25	6.95	4.22	9.84	6.28	-2.06
516	F25	0.88	3.44	2.54	1.62	1.81
529	F23P	7.58	3.16	6.55	4.18	-1.02
531	F23P	1.84	4.00	8.51	5.43	-1.43
540	N10P	22.81	4.32	3.18	2.03	2.29
542	N10P	7.33	3.50	9.37	5.98	-2.49
544	N10P	1.82	1.61	8.35	5.33	-3.72
573	N01P	27.15	1.92	3.12	1.99	-0.07
575	N01P	19.27	2.77	6.48	4.14	-1.37
577	N01P	1.79	0.52	1.03	0.66	-0.14
607	N04P	44.75	0.12	0.97	0.62	-0.50
609	N04P	21.81	1.42	4.73	3.02	-1.61
611	N04P	1.75	0.33	0.77	0.49	-0.17
640	N07P	43.69	0.16	0.85	0.54	-0.38
642	N07P	14.28	1.29	4.00	2.55	-1.26
644	N07P	3.13	0.56	1.47	0.94	-0.38

Regression Statistics

Multiple R	0.546279881
R Square	0.298421708
Adjusted R Square	0.268118678
Standard Error	2.362440777
Observations	34

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	78.34117285	78.34117285	14.03680313	0.000709705
Residual	33	184.177172	5.581126424		
Total	34	262.5183448			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	1.566591488	0.142083735	11.02583265	9.03012E-13	1.277519726	1.85566325

Standard Deviation of Residual

1.439

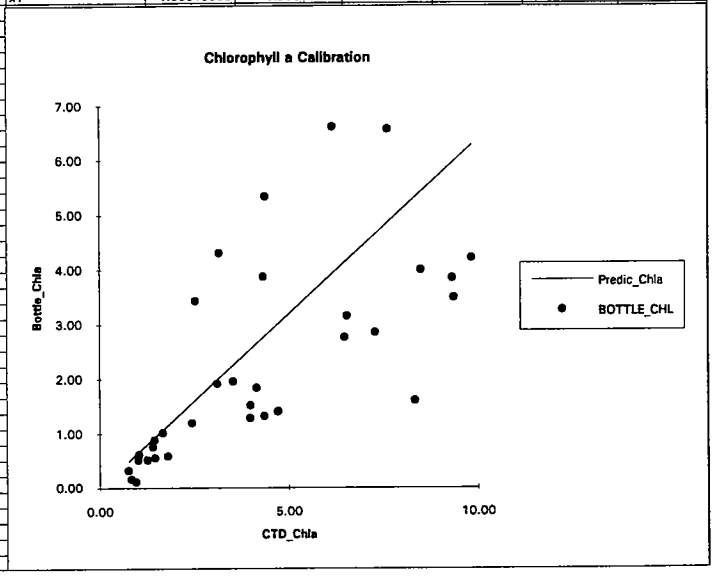
Regression Statistics

Multiple R	0.679510605
R Square	0.461734663
Adjusted R Square	0.444913871
Standard Error	2.101372508
Observations	34

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	121.2138194	121.2138194	27.45023353	9.90538E-06
Residual	32	141.3045254	4.415766419		
Total	33	262.5183448			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	1.81141382	0.581340496	3.11592575	0.00378211	0.627262985	2.99556466
x1	1.06813585	0.20387007	5.23929705	9.1068E-06	0.652866462	1.48340524



Survey W9308 Chlorophyll a Calibration

MARKER	STATION	DEPTH	BOTTLE_CHL	CTD_CHLA	PREDICT_CHLA	RESIDUAL
30	N10P	18.94	1.41	3.77	1.47	-0.06
33	N10P	2.28	4.30	11.04	4.29	0.00
34	N10P	1.05	4.41	9.62	3.74	0.66
69	N01P	25.30	0.66	1.95	0.76	-0.10
72	N01P	12.56	1.79	5.91	2.30	-0.51
74	N01P	1.53	1.27	3.43	1.33	-0.07
103	N04P	44.91	0.41	1.47	0.57	-0.16
105	N04P	12.54	2.13	7.10	2.76	-0.64
107	N04P	1.43	0.45	1.10	0.43	0.02
136	N07P	40.64	0.51	1.66	0.64	-0.14
138	N07P	17.83	1.18	3.73	1.45	-0.28
140	N07P	1.61	0.26	0.64	0.25	0.01

Regression Statistics

Multiple R	0.967631573
R Square	0.93631086
Adjusted R Square	0.845401769
Standard Error	0.866650391
Observations	12

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	121.4605487	121.4605487	161.713905	1.69E-07
Residual	11	8.261911908	0.751082901		
Total	12	129.7224606			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	2.572123896	0.120596743	21.32830321	6.5753E-11	2.306692121	2.837555672

Standard Deviation of Residual: 0.319

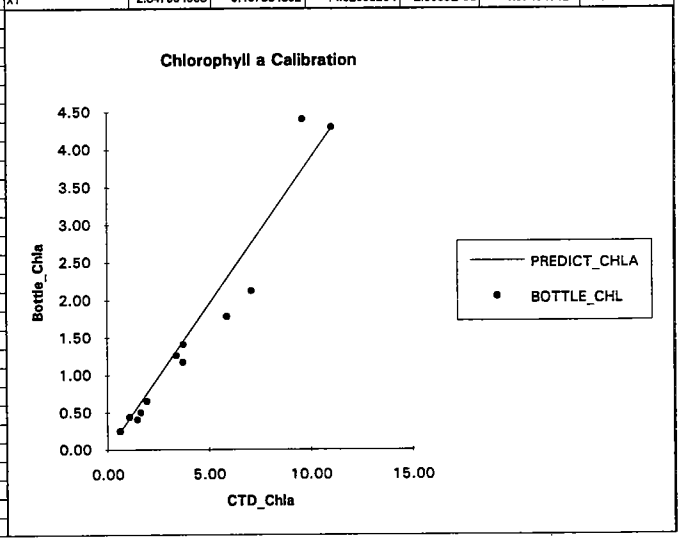
Regression Statistics

Multiple R	0.97551723
R Square	0.951633867
Adjusted R Square	0.946797253
Standard Error	0.792096828
Observations	12

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	123.4482867	123.4482867	196.756242	6.64889E-08
Residual	10	6.274173845	0.627417384		
Total	11	129.7224606			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0.618066628	0.347243393	1.779923361	0.1026941	-0.155640002	1.391773257
x1	2.347904968	0.167384892	14.02698264	2.3039E-08	1.974948123	2.720861812



Survey W9309 Chlorophyll a Calibration

MARKER	STATION	DEPTH	BOTTLE_CHL	CTD_CHLA	PREDICT_CHLA	RESIDUAL
25	N10P	21.96	0.88	2.02	0.92	-0.04
27	N10P	9.90	1.68	3.17	1.45	0.23
29	N10P	1.33	3.51	6.79	3.11	0.40
68	N01P	27.51	0.56	1.41	0.65	-0.09
70	N01P	13.21	2.32	4.81	2.20	0.12
72	N01P	1.17	2.30	7.94	3.64	-1.34
104	N04P	45.73	0.18	0.77	0.35	-0.18
106	N04P	14.93	0.81	5.47	2.50	-1.69
108	N04P	0.90	2.26	2.08	0.95	1.30
137	N07P	45.19	0.16	0.85	0.39	-0.23
139	N07P	20.93	1.03	3.80	1.74	-0.71
141	N07P	1.18	0.87	1.05	0.48	0.39

Regression Statistics

Multiple R	0.680510698
R Square	0.46309481
Adjusted R Square	0.372185719
Standard Error	1.782914243
Observations	12

Analysis of Variance

	df	*Sum of Squares*	*Mean Square*	*F*	*Significance F*
Regression	1	30.15962278	30.15962278	9.487788534	0.011636197
Residual	11	34.96661518	3.178783198		
Total	12	65.12623796			

	Coefficients	*Standard Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	2.184188125	0.303642949	7.193277933	1.0968E-05	1.515874162	2.852502087

Standard Deviation of Residual: 0.800

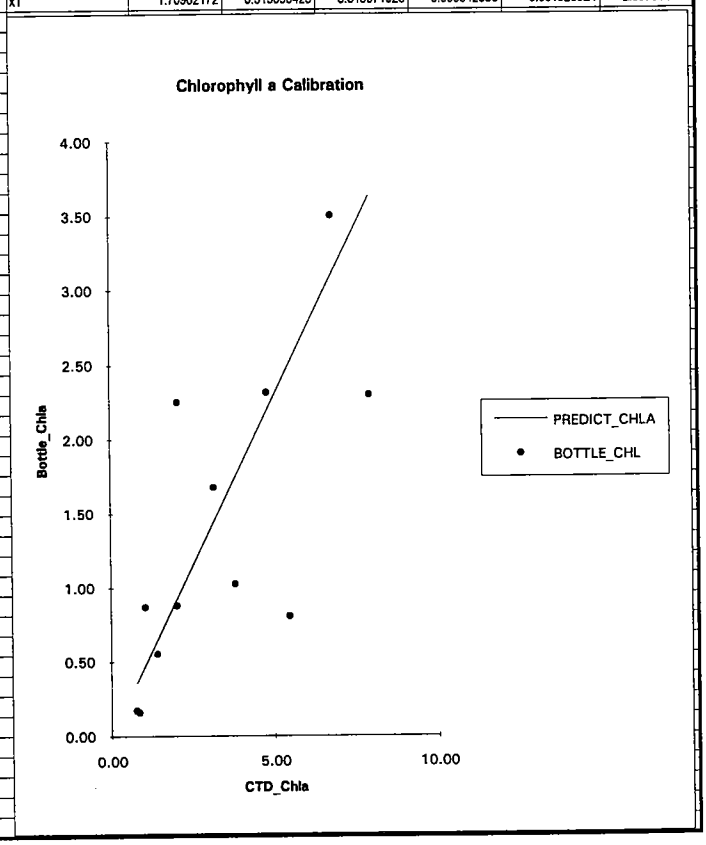
Regression Statistics

Multiple R	0.724000914
R Square	0.524177323
Adjusted R Square	0.476595055
Standard Error	1.760356239
Observations	12

Analysis of Variance

	df	*Sum of Squares*	*Mean Square*	*F*	*Significance F*
Regression	1	34.13769708	34.13769708	11.01623249	0.007759613
Residual	10	30.98854088	3.098854088		
Total	11	65.12623796			

	Coefficients	*Standard Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.98922707	0.873092206	1.133015578	0.281299359	-0.956143931	2.934598072
x1	1.70962172	0.515090429	3.319071028	0.006842556	0.561928524	2.857314917



Survey W9307 Dissolved Oxygen Calibration

MARKER	STATION	DEPTH	BOTTLE_DO	CTD_DO	PREDICT_DO	RESIDUAL
43	N20P	19.74	9.87	10.06	10.06	-0.19
45	N20P	4.85	10.07	9.91	9.91	0.16
46	N20P	0.62	10.45	10.35	10.35	0.10
71	N16P	21.59	10.37	10.39	10.40	-0.03
72	N16P	12.09	10.58	10.57	10.57	0.01
73	N16P	1.33	9.66	9.49	9.50	0.16
94	N10P	12.24	9.48	9.57	9.58	-0.09
95	N10P	6.74	9.58	9.42	9.42	0.16
97	N10P	1.37	10.34	10.25	10.25	0.09
179	F19	74.05	10.50	10.57	10.57	-0.07
181	F19	25.41	11.48	11.44	11.44	0.04
183	F19	1.22	10.37	9.77	9.77	0.59
192	F22	73.47	10.79	11.20	11.20	-0.42
194	F22	13.38	10.99	11.05	11.05	-0.06
196	F22	1.31	9.98	9.71	9.71	0.27
268	N01P	18.11	10.25	10.33	10.33	-0.08
269	N01P	11.05	10.24	10.19	10.19	0.05
271	N01P	1.74	10.18	9.96	9.96	0.22
288	N04P	23.11	10.14	10.19	10.19	-0.06
289	N04P	13.97	10.37	10.40	10.40	-0.03
291	N04P	2.12	9.93	9.79	9.79	0.15
300	N07P	27.39	10.47	10.73	10.73	-0.26
301	N07P	17.76	10.53	10.55	10.55	-0.02
303	N07P	2.64	9.95	9.88	9.88	0.07
314	F13P	13.76	9.70	7.82	7.82	1.88
315	F13P	8.62	9.77	9.59	9.59	0.18
317	F13P	2.22	9.68	9.68	9.69	-0.01
340	F06	26.83	10.42	10.93	10.93	-0.51
342	F06	16.21	10.33	10.58	10.58	-0.25
344	F06	3.50	9.74	9.70	9.70	0.03
376	F12	85.51	9.57	9.63	9.63	-0.05
378	F12	22.68	11.06	10.89	10.90	0.17
380	F12	2.03	9.55	9.38	9.38	0.17
404	F04	57.29	9.75	10.15	10.15	-0.41
406	F04	19.92	10.57	10.99	10.99	-0.42
408	F04	1.64	9.69	9.59	9.59	0.09
421	F02P	23.37	8.43	7.56	7.56	0.87
422	F02P	19.76	9.48	10.12	10.13	-0.64
424	F02P	0.84	8.85	8.70	8.71	0.14
440	F01P	13.28	9.42	9.38	9.38	0.04
441	F01P	4.76	9.49	9.40	9.40	0.09
443	F01P	1.36	9.45	9.38	9.38	0.07
528	F23P	12.13	9.11	9.17	9.17	-0.06
529	F23P	7.58	9.07	9.01	9.01	0.06
531	F23P	1.84	8.77	8.79	8.80	-0.02
540	N10P	22.81	9.62	10.03	10.03	-0.41
541	N10P	14.34	9.94	9.96	9.96	-0.02
542	N10P	7.33	9.72	9.63	9.63	0.09
543	N10P	4.96	9.79	9.79	9.79	0.00
544	N10P	1.82	9.72	9.72	9.72	0.00
573	N01P	27.15	9.80	9.88	9.88	-0.08
574	N01P	24.23	9.92	9.97	9.97	-0.05
575	N01P	19.27	10.14	10.14	10.15	-0.01
576	N01P	7.92	10.17	10.36	10.36	-0.19
577	N01P	1.78	9.72	9.48	9.48	0.24
607	N04P	44.75	10.13	10.28	10.28	-0.15
608	N04P	31.42	10.26	10.32	10.32	-0.06
609	N04P	21.81	10.30	10.36	10.36	-0.05
610	N04P	9.27	10.28	10.08	10.08	0.20
611	N04P	1.75	9.62	9.44	9.44	0.17
640	N07P	43.69	10.10	10.37	10.38	-0.27
641	N07P	28.27	9.96	10.13	10.13	-0.17
642	N07P	14.28	10.16	9.65	9.65	0.51
643	N07P	7.23	9.93	9.63	9.63	0.29
644	N07P	3.13	9.78	9.79	9.79	-0.02
688	N20P	28.37	9.78	9.91	9.91	-0.13
689	N20P	22.55	9.79	9.84	9.84	-0.05
690	N20P	16.49	10.19	10.43	10.43	-0.25
691	N20P	7.08	10.19	10.02	10.02	0.17
692	N20P	1.80	9.86	9.69	9.69	0.17
741	N16P	39.31	9.86	10.25	10.25	-0.59
742	N16P	27.82	9.59	10.11	10.11	-0.52
743	N16P	15.94	9.79	10.36	10.36	-0.57
744	N16P	7.77	9.55	9.77	9.78	-0.23
745	N16P	1.73	9.63	9.67	9.67	-0.03

Regression Statistics

Multiple R	0.852306278
R Square	0.726425991
Adjusted R Square	0.712912478
Standard Error	0.33645108
Observations	75

Analysis of Variance

	df	*Sum of Squares*	*Mean Square*	*F*	*Significance F*
Regression	1	22.24293604	22.24293604	196.49353	2.14553E-22
Residual	74	8.376750362	0.113199329		
Total	75	30.6198864			

	Coefficients	*Standard Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	0.999832384	0.003903255	256.1535124	4.19E-112	0.992054978	1.007609789

Standard Deviation of Residual: 0.336

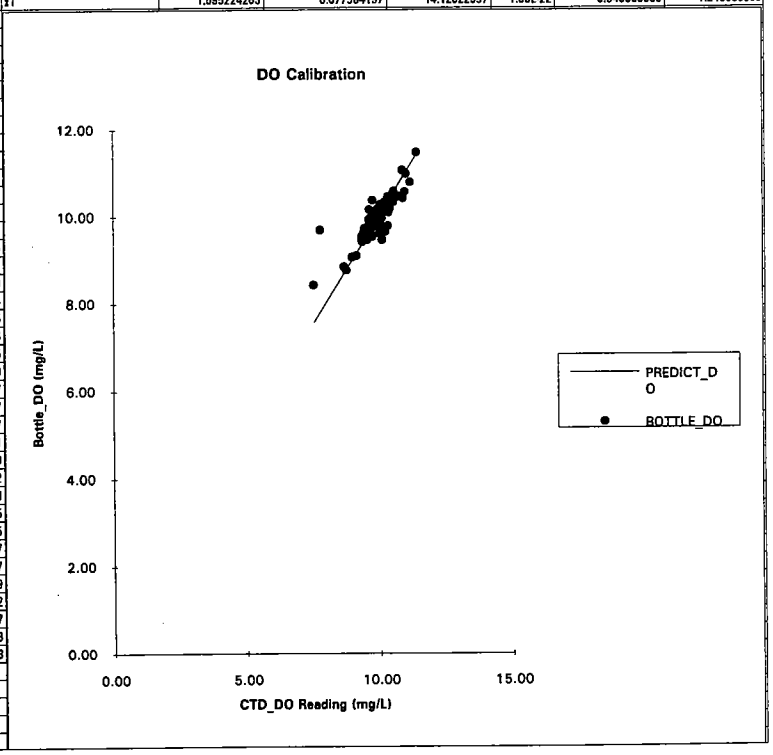
Regression Statistics

Multiple R	0.855565859
R Square	0.731992939
Adjusted R Square	0.728321609
Standard Error	0.335283404
Observations	75

Analysis of Variance

	df	*Sum of Squares*	*Mean Square*	*F*	*Significance F*
Regression	1	22.41339424	22.41339424	199.38088	1.45138E-22
Residual	73	8.205292166	0.112414961		
Total	74	30.6198864			

	Coefficients	*Standard Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	-0.950654256	0.772014949	-1.231393585	0.2220748	-2.489278874	0.587970363
x1	1.095224263	0.077564197	14.12022957	1.08E-22	0.940638938	1.249809589



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Survey W9308 Dissolved Oxygen Calibration

MARKER	STATION	DEPTH	BOTTLE_DO	CTD_DO	Predict_DO	Residual
30	N10P	18.94	10.24	11.38	10.27	-0.03
31	N10P	14.75	10.13	11.15	10.06	0.08
32	N10P	8.57	9.33	9.88	8.92	0.42
33	N10P	2.28	9.46	10.29	9.29	0.17
34	N10P	1.05	9.81	10.55	9.51	0.30
69	N01P	25.30	9.37	10.49	9.46	-0.09
71	N01P	18.72	9.73	10.87	9.81	-0.08
72	N01P	12.56	10.18	11.34	10.23	-0.05
73	N01P	3.74	10.00	10.85	9.79	0.21
74	N01P	1.53	9.80	10.63	9.59	0.21
103	N04P	44.91	10.16	11.59	10.46	-0.30
104	N04P	24.44	10.37	12.05	10.87	-0.50
105	N04P	12.54	10.47	11.84	10.68	-0.21
106	N04P	5.01	9.63	10.30	9.29	0.34
107	N04P	1.43	9.26	10.07	9.08	0.18
136	N07P	40.64	10.27	11.65	10.51	-0.24
137	N07P	23.65	10.31	11.69	10.55	-0.24
138	N07P	17.83	10.59	11.95	10.78	-0.18
139	N07P	9.12	10.53	11.36	10.25	0.28
140	N07P	1.61	8.81	9.54	8.61	0.20
191	N20P	26.43	9.81	11.19	10.10	-0.28
192	N20P	16.34	10.28	11.97	10.80	-0.52
193	N20P	8.63	10.80	11.98	10.81	-0.01
194	N20P	3.39	10.10	10.40	9.38	0.73
196	N20P	0.57	9.61	10.10	9.12	0.49
246	N16P	39.81	10.13	11.60	10.46	-0.33
247	N16P	29.09	10.28	11.79	10.63	-0.36
248	N16P	20.30	10.48	11.97	10.80	-0.33
249	N16P	9.51	10.48	11.35	10.24	0.23
250	N16P	1.44	8.75	9.58	8.64	0.10

Regression Statistics

Multiple R	0.898311193
R Square	0.806963
Adjusted R Square	0.772480241
Standard Error	0.339871875
Observations	30

Analysis of Variance

	df	*Sum of Squares*	*Mean Square*	*F*	*Significance F*
Regression	1	14.00365862	14.00365862	121.2302667	1.1029E-11
Residual	29	3.349873847	0.115512891		
Total	30	17.35353247			

	Coefficients	*Standard Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	1.108459516	0.006214137	178.3770772	5.89469E-47	1.095750173	1.121168859

Regression Statistics

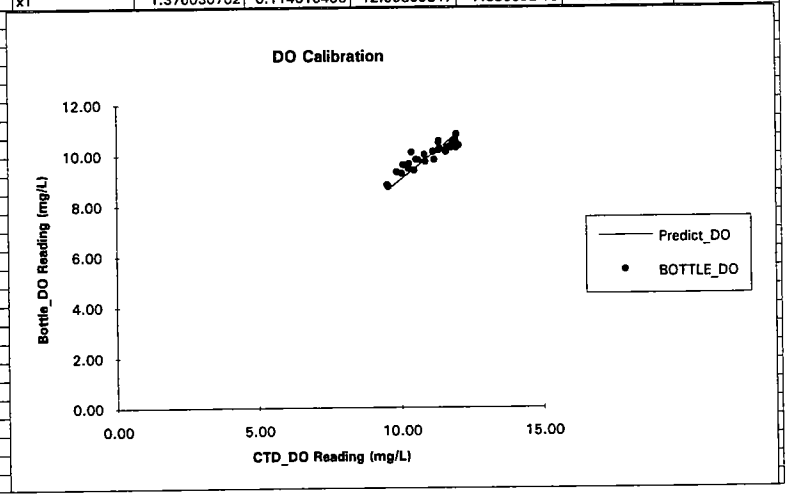
Multiple R	0.91583806
R Square	0.838759352
Adjusted R Square	0.833000758
Standard Error	0.316120163
Observations	30

Analysis of Variance

	df	*Sum of Squares*	*Mean Square*	*F*	*Significance F*
Regression	1	14.55543765	14.55543765	145.6534827	1.30187E-12
Residual	28	2.798094812	0.099931958		
Total	29	17.35353247			

	Coefficients	*Standard Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	-2.675296336	1.138522176	-2.3497973	0.025802099	-5.007455912	-0.34313676
x1	1.376030702	0.114016495	12.06869847	7.88639E-13	1.142478237	1.609583168

Standard Deviation of Residual: 0.307



Survey W9309 Dissolved Oxygen Calibration

MARKER	STATION	DEPTH	BOTTLE_DO	CTD_DO	PREDICT_DO	RESIDUAL
25	N10P	21.96	9.62	10.42	9.71	-0.09
26	N10P	16.74	9.65	10.40	9.69	-0.04
27	N10P	9.90	9.37	9.97	9.29	0.08
28	N10P	4.78	9.12	9.48	8.83	0.29
29	N10P	1.33	8.97	9.43	8.78	0.18
68	N01P	27.51	9.85	10.84	10.10	-0.25
69	N01P	19.10	10.23	11.01	10.25	-0.02
70	N01P	13.21	10.08	10.91	10.16	-0.09
71	N01P	5.68	10.28	10.98	10.23	0.05
72	N01P	1.17	9.48	9.87	9.19	0.28
104	N04P	45.73	9.58	10.54	9.82	-0.23
105	N04P	23.23	9.93	10.72	9.99	-0.05
106	N04P	14.93	10.42	11.17	10.41	0.01
107	N04P	9.37	10.29	11.23	10.46	-0.18
108	N04P	0.90	8.91	9.39	8.74	0.16
137	N07P	45.19	9.78	10.72	9.99	-0.21
138	N07P	29.45	9.89	10.73	10.00	-0.11
139	N07P	20.93	10.65	11.67	10.87	-0.22
140	N07P	10.70	10.95	11.76	10.96	0.00
141	N07P	1.18	9.40	9.72	9.06	0.34
189	N20P	27.78	9.93	10.78	10.04	-0.11
190	N20P	12.91	10.57	11.47	10.68	-0.11
191	N20P	7.23	10.14	10.39	9.68	0.46
192	N20P	3.13	9.75	10.40	9.69	0.07
193	N20P	1.08	9.77	10.29	9.59	0.18
233	N16P	36.51	9.83	10.81	10.07	-0.24
234	N16P	24.63	9.99	10.93	10.18	-0.19
235	N16P	14.75	10.23	11.20	10.43	-0.20
236	N16P	6.35	10.58	11.32	10.54	0.04
237	N16P	1.06	9.18	9.53	8.87	0.31

Standard Deviation of Residual: 0.198

Regression Statistics

Multiple R	0.947428899
R Square	0.897621518
Adjusted R Square	0.86313876
Standard Error	0.212195932
Observations	30

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	11.44871317	11.44871317	254.2626501	1.40169E-15
Residual	29	1.305786287	0.045027113		
Total	30	12.75449946			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	1.073553837	0.003916028	274.143541	1.49527E-52	1.065544655	1.081563018

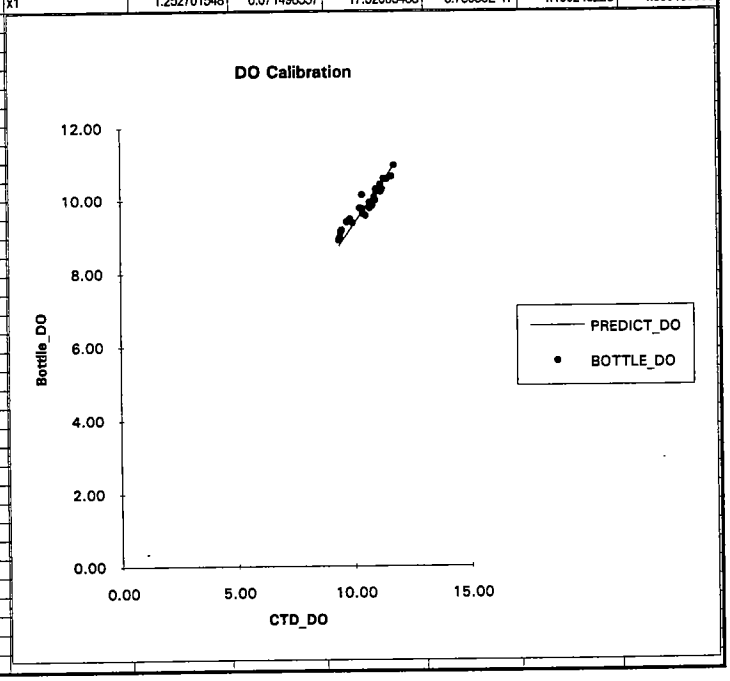
Regression Statistics

Multiple R	0.957293717
R Square	0.91641126
Adjusted R Square	0.913425948
Standard Error	0.195131141
Observations	30

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	11.68836692	11.68836692	306.9733475	1.26531E-16
Residual	28	1.066132537	0.038076162		
Total	29	12.75449946			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	-1.774571187	0.707339472	-2.508797057	0.017956319	-3.223492041	-0.325650333
x1	1.252701548	0.071498557	17.52065488	5.73636E-17	1.106243228	1.399159868



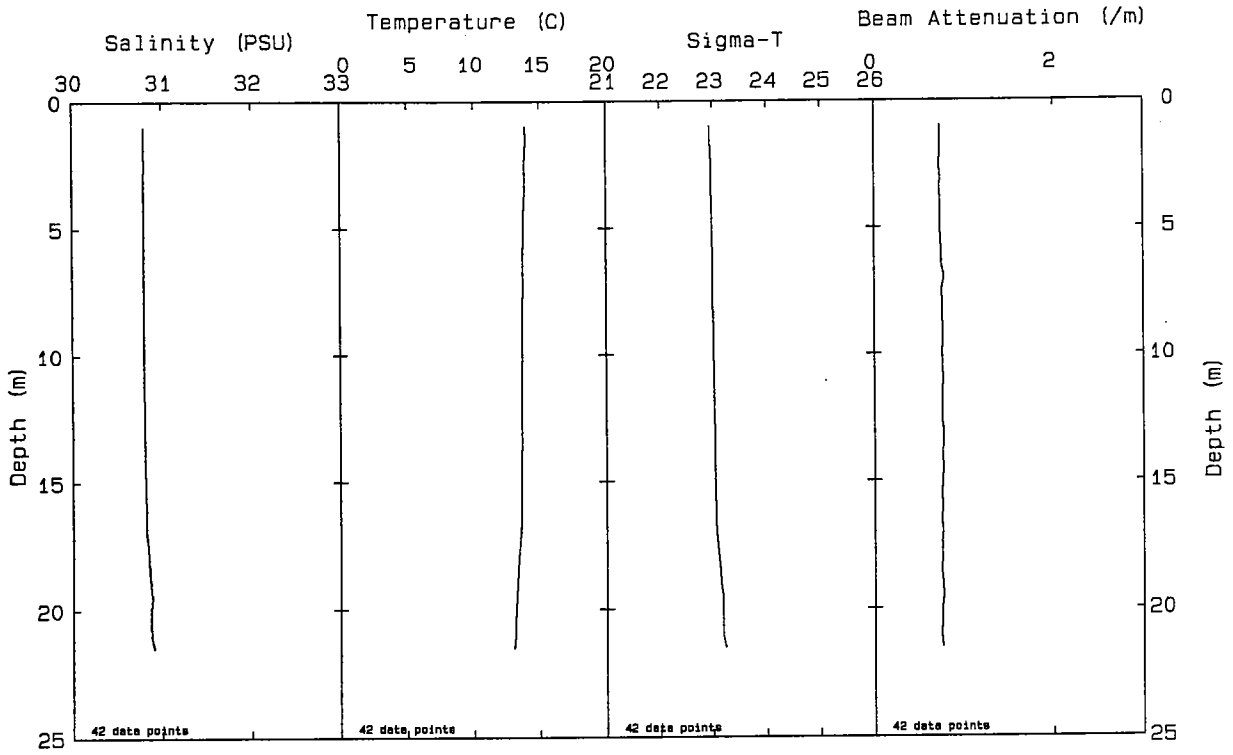
APPENDIX B

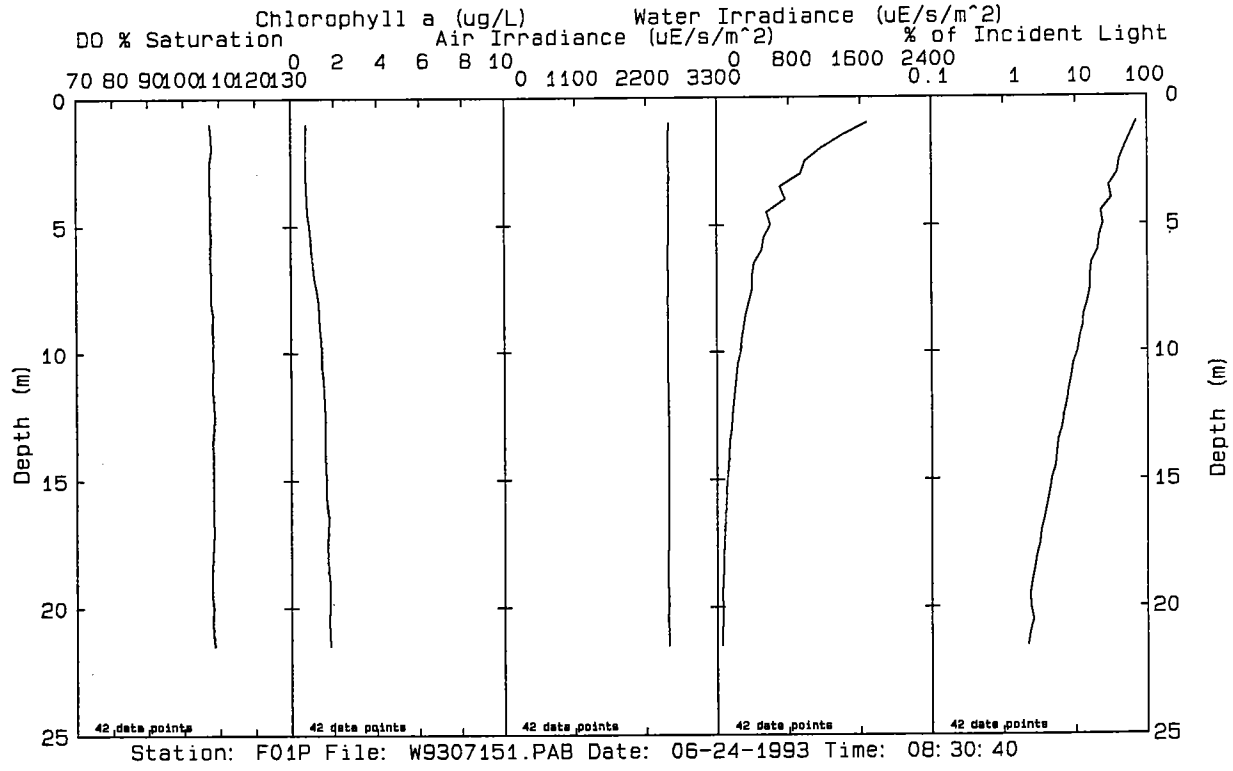
VERTICAL PROFILE DATA FROM FARFIELD AND NEARFIELD STATIONS

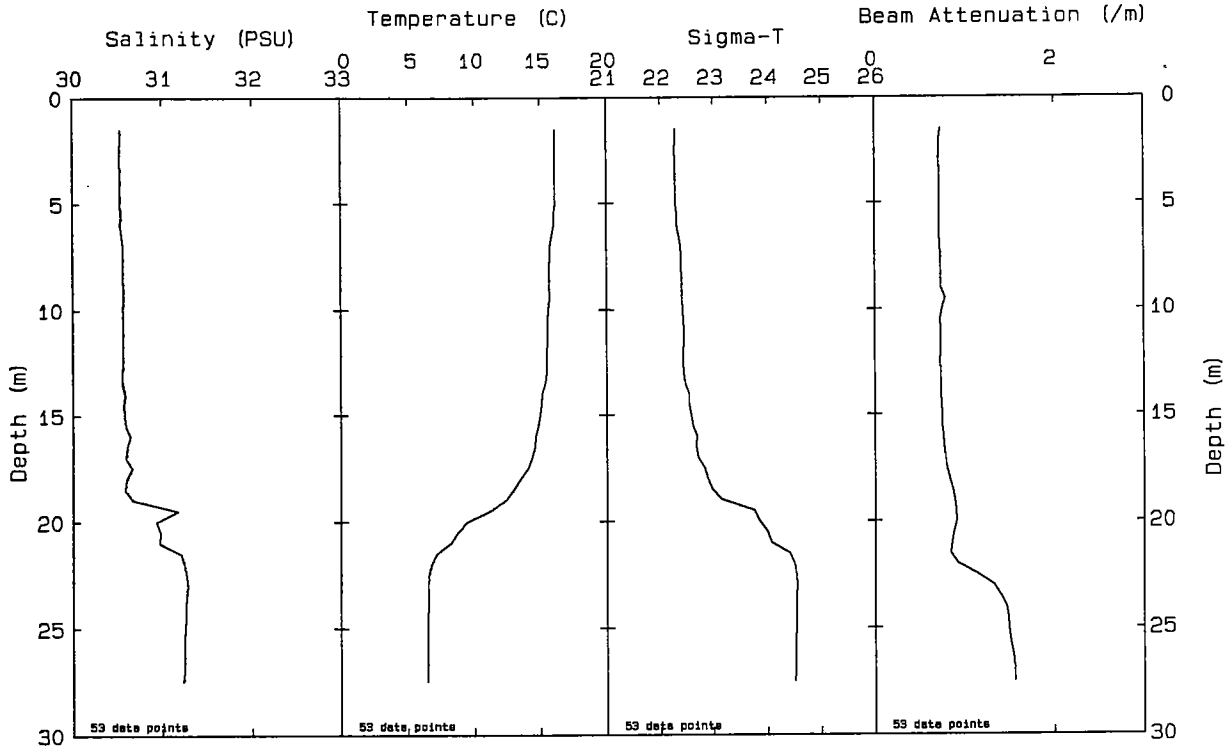
Only post-survey calibrated data are presented, where calibrations have been performed as given in Appendix A. The data are from the downcast at stations and, therefore, may not match precisely the data in Appendix A because bottles were closed on the upcast.

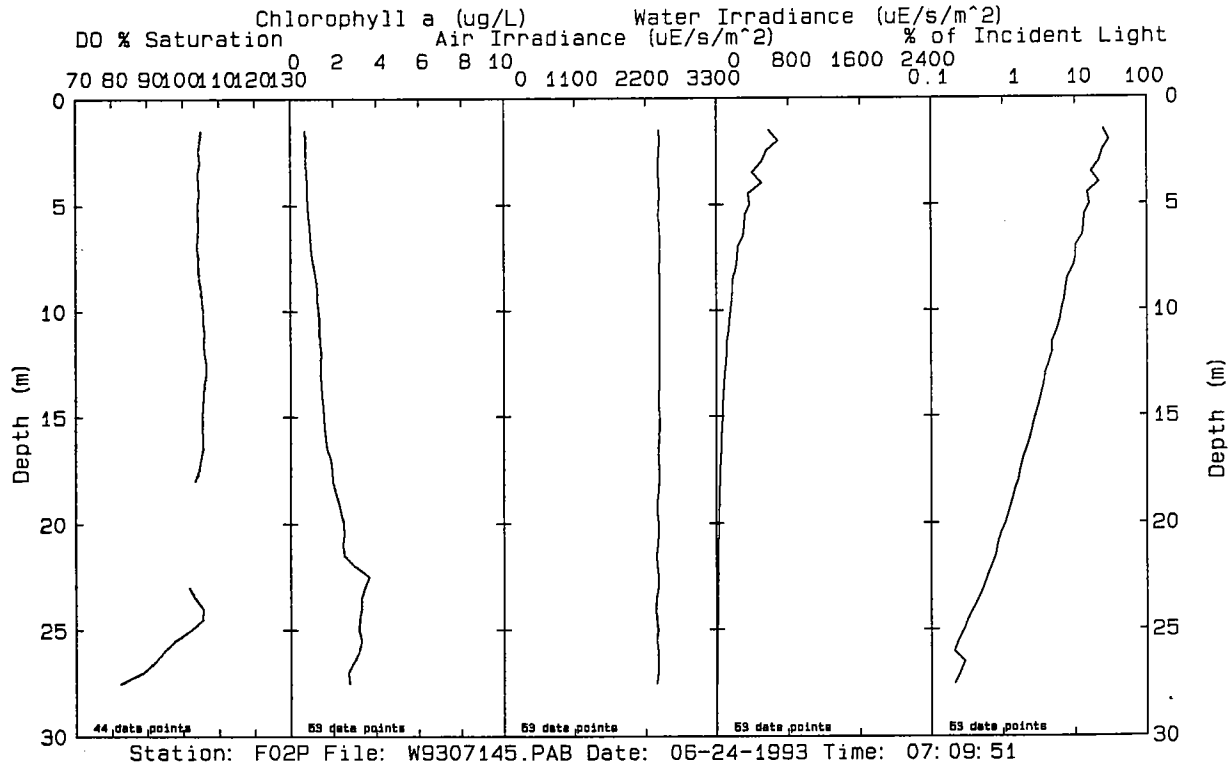
For each station there is a one-page set of profiles, with station, cruise code, date and time listed across the bottom.

June 1993 Profiles

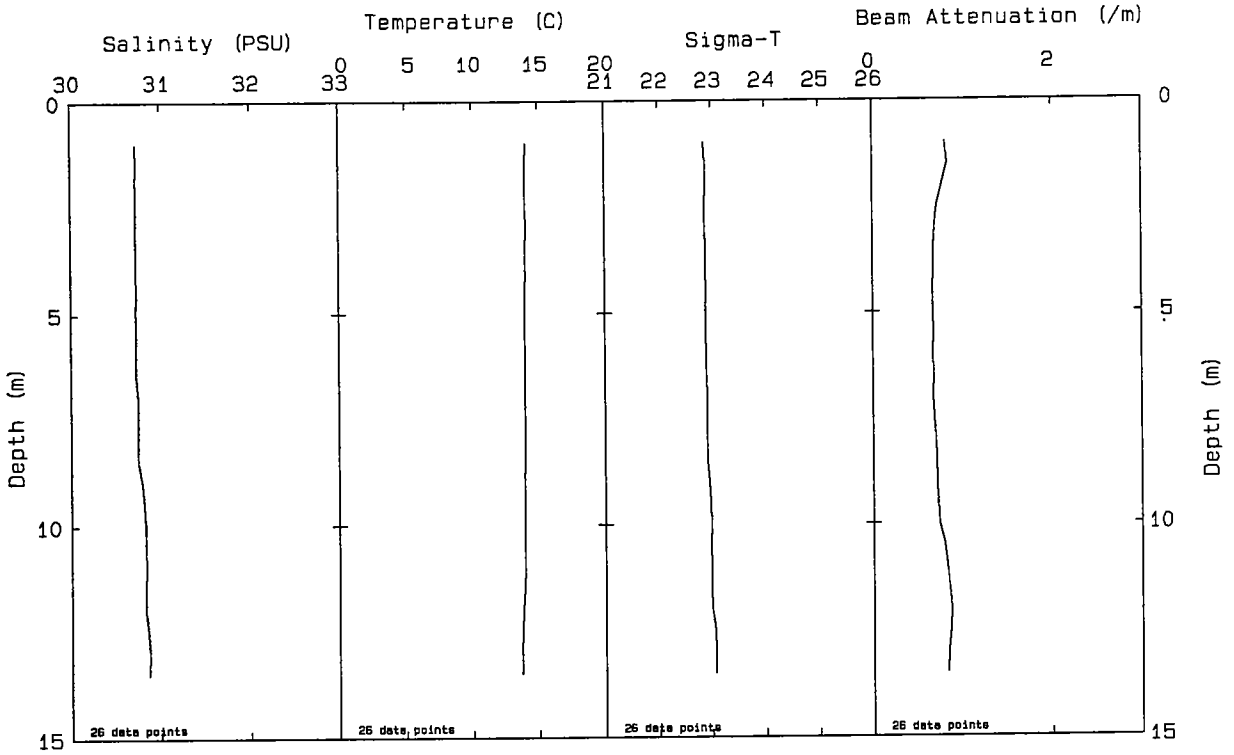

Salinity (PSU)
30 31 32
Temperature (C)
0 5 10 15 20
33 21
Sigma-T
22 23 24 25 26
Beam Attenuation (/m)
0 2
Depth (m)
0 5 10 15 20 25
42 data points
42 data points
42 data points
42 data points

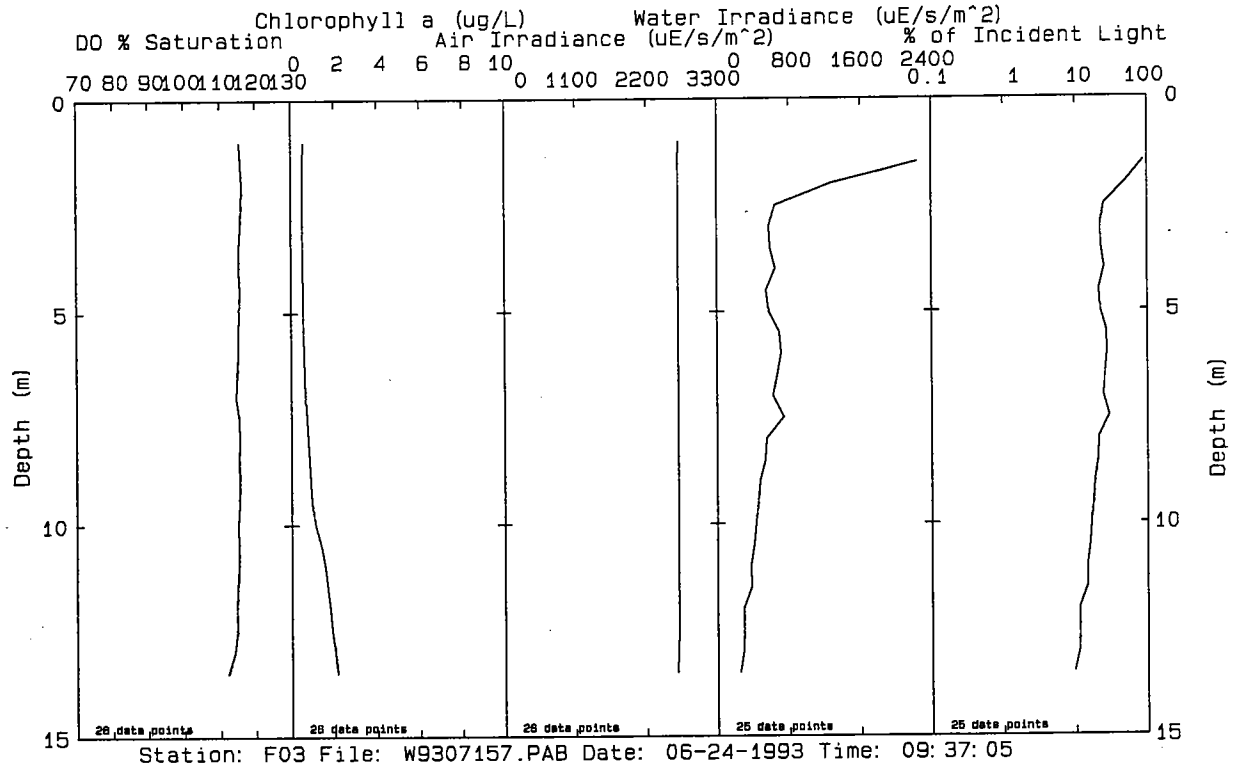

DO % Saturation
70 80 90 100 110 120 130
Chlorophyll a (ug/L)
0 2 4 6 8 10
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 800 1600 2400
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25
42 data points
42 data points
42 data points
42 data points
42 data points
Station: F01P File: W9307151.PAB Date: 06-24-1993 Time: 08:30:40



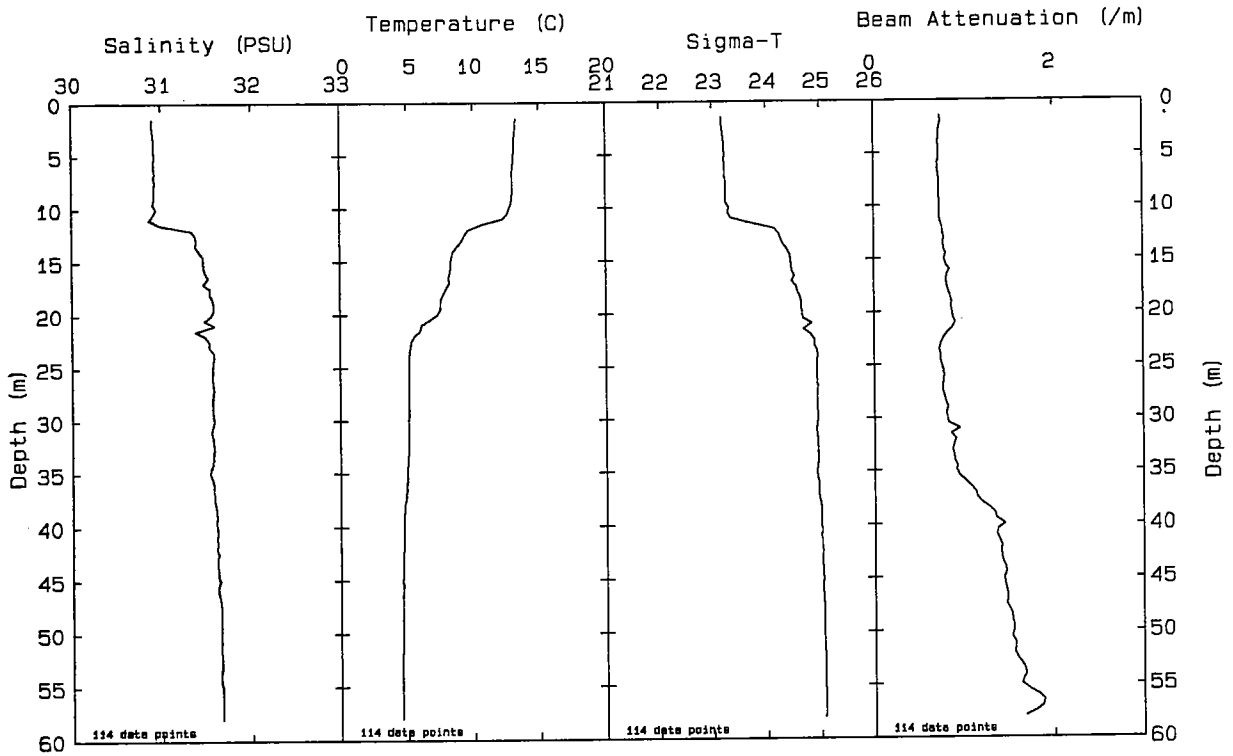


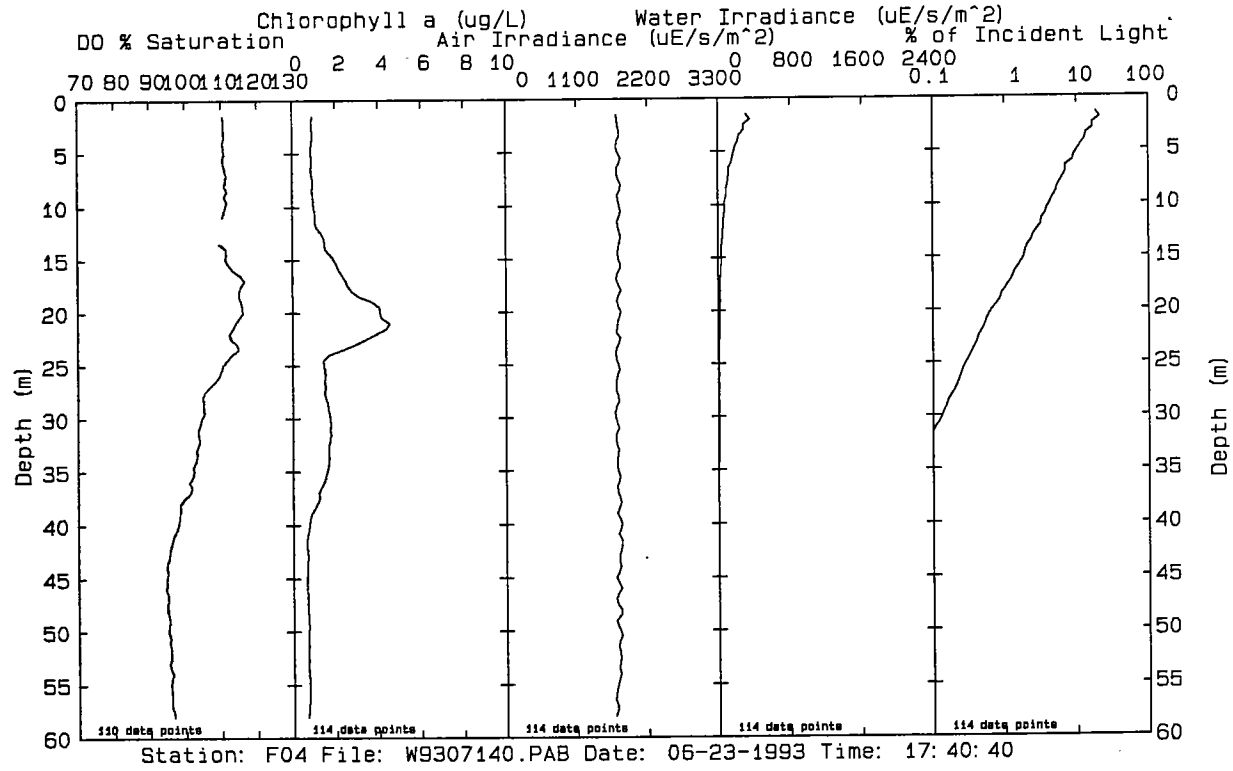
Station: F02P File: W9307145.PAB Date: 06-24-1993 Time: 07:09:51



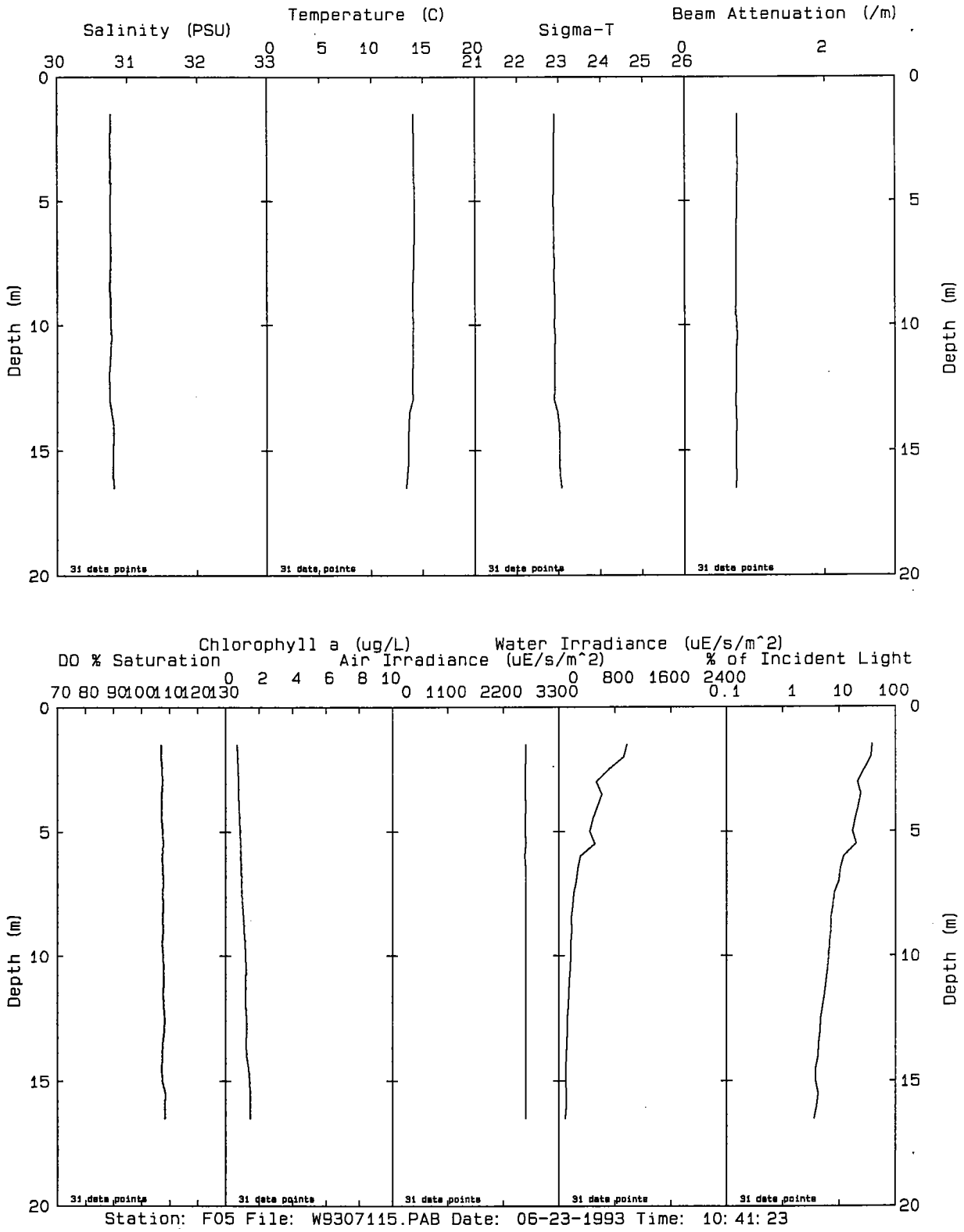


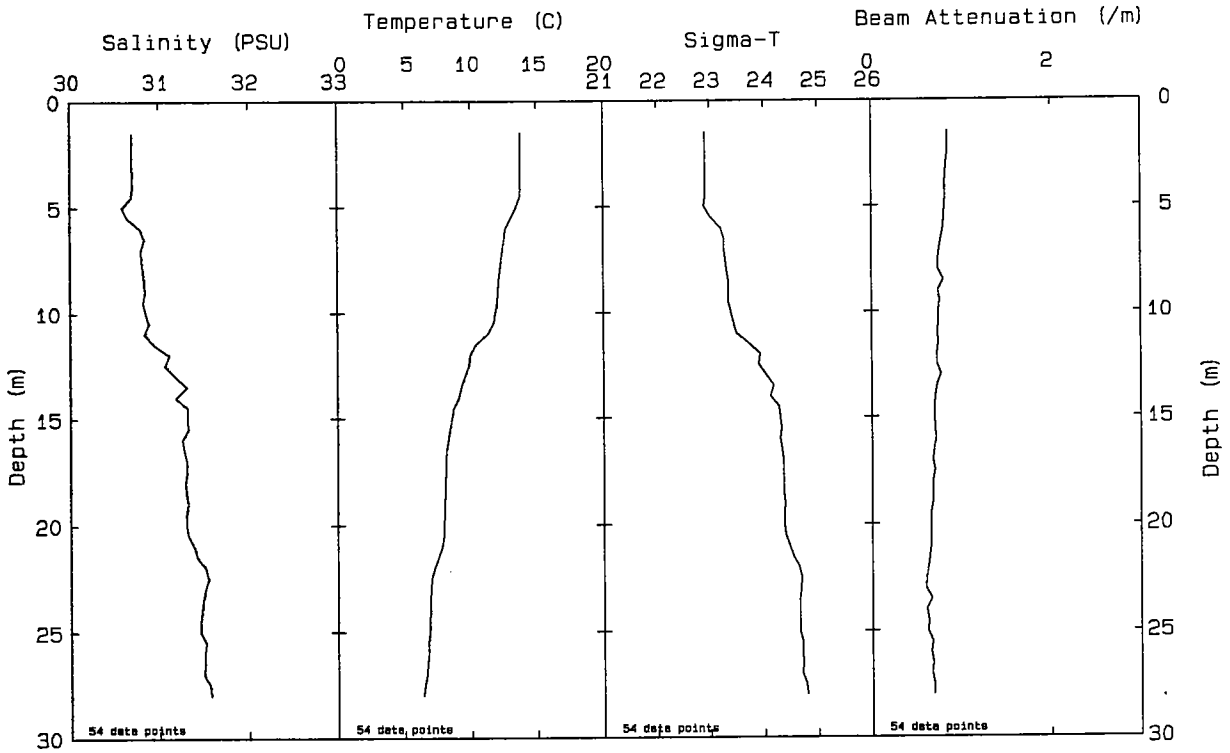
Station: F03 File: W9307157.PAB Date: 06-24-1993 Time: 09:37:05

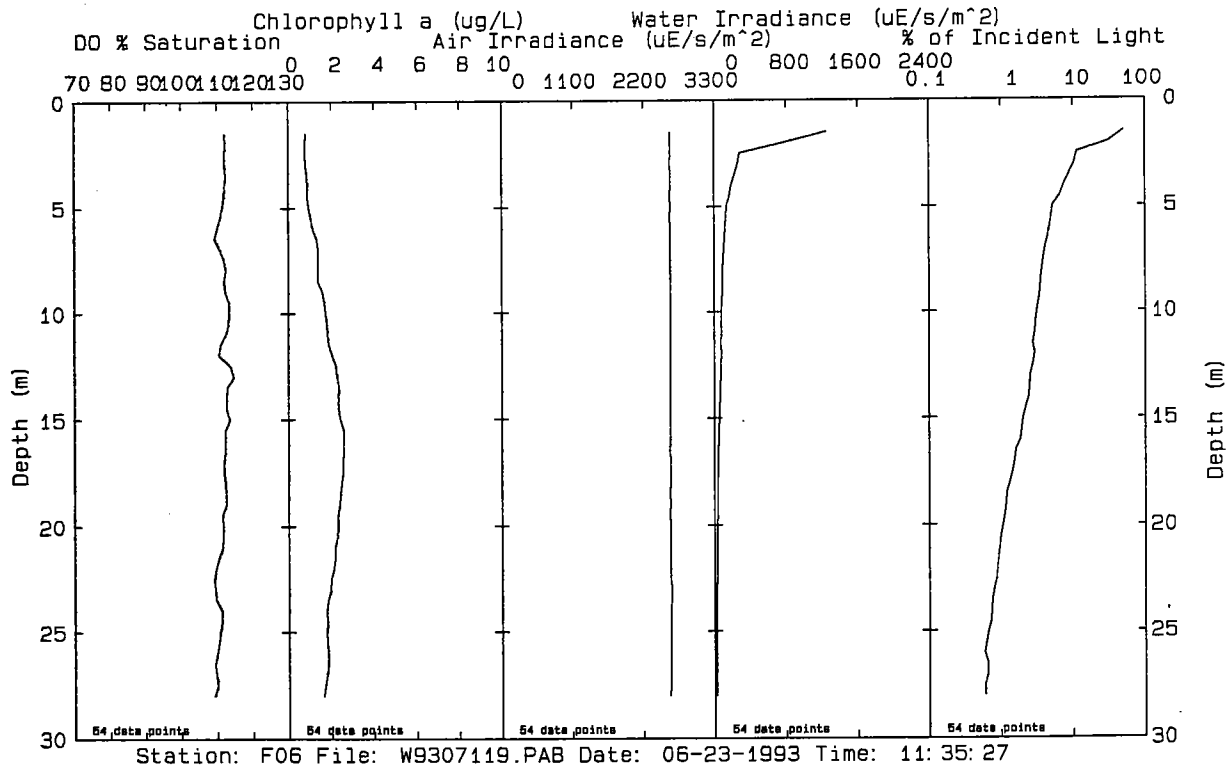




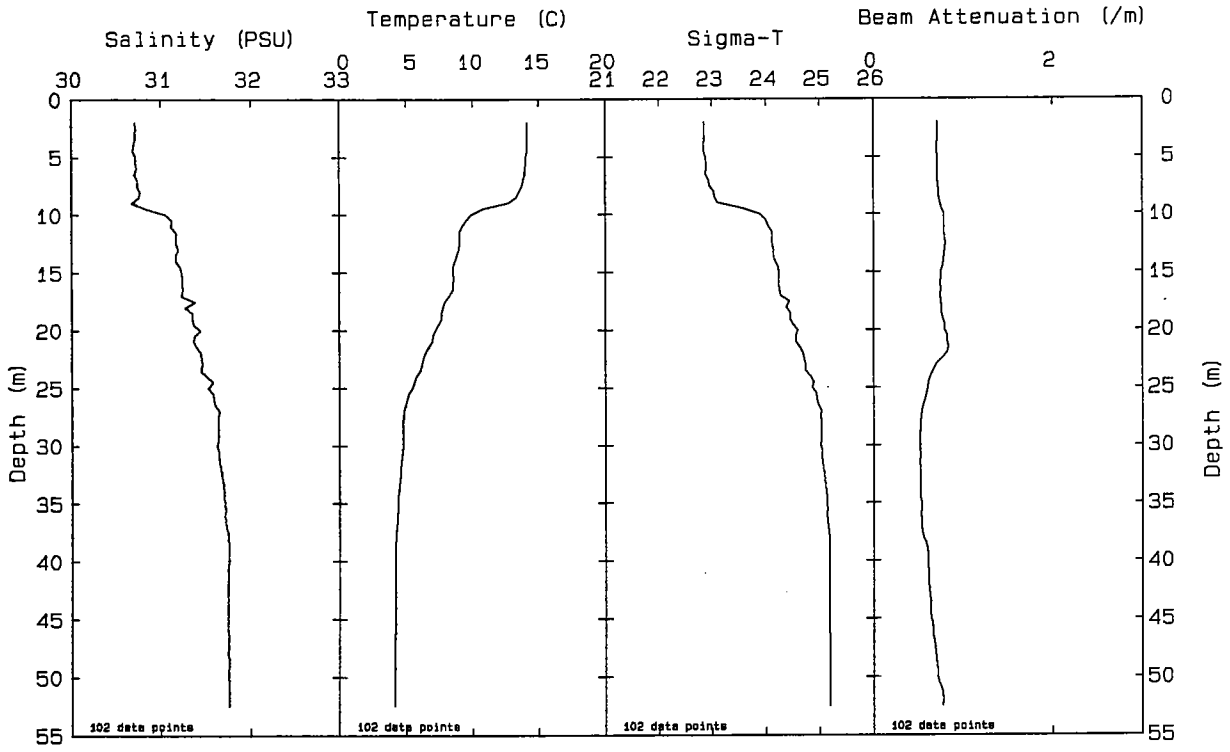
Station: F04 File: W9307140.PAB Date: 06-23-1993 Time: 17:40:40

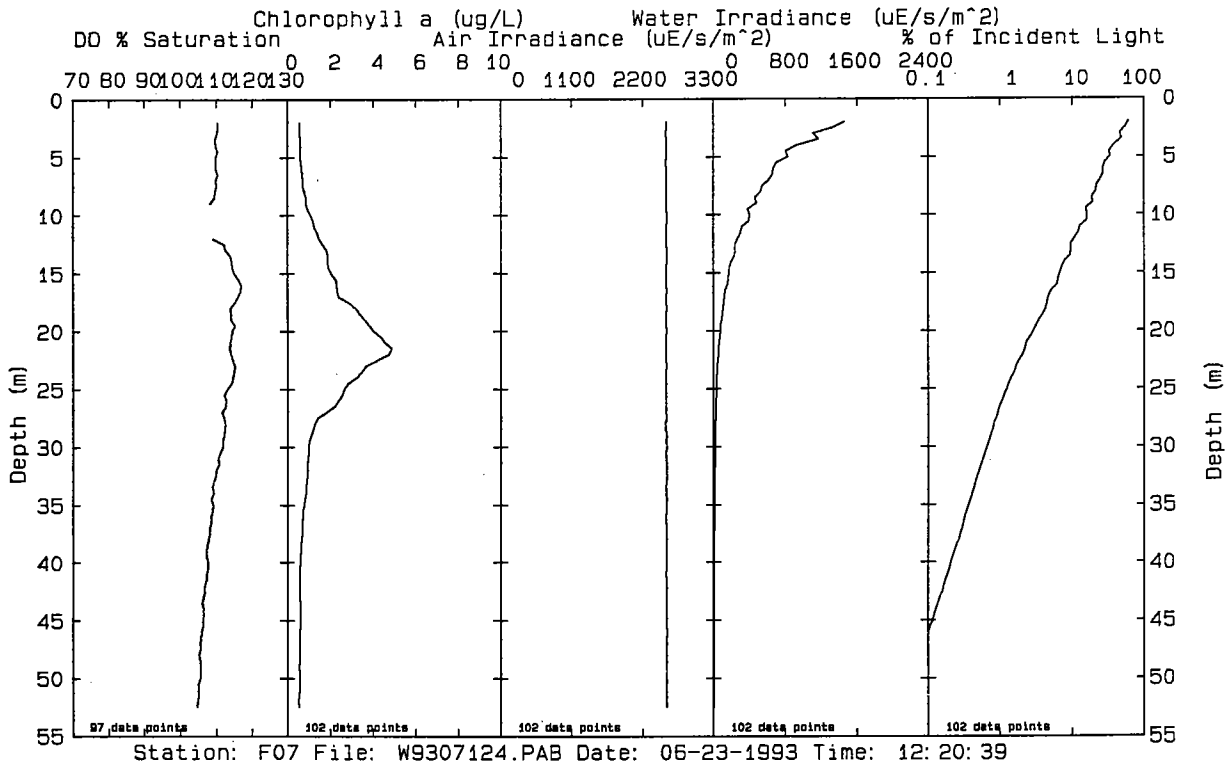

Salinity (PSU)
Temperature (C)
Sigma-T
Beam Attenuation (/m)
Depth (m)
31 data points
DO % Saturation
Chlorophyll a (ug/L)
Air Irradiance (uE/s/m^2)
Water Irradiance (uE/s/m^2)
% of Incident Light
Station: F05 File: W9307115.PAB Date: 06-23-1993 Time: 10:41:23



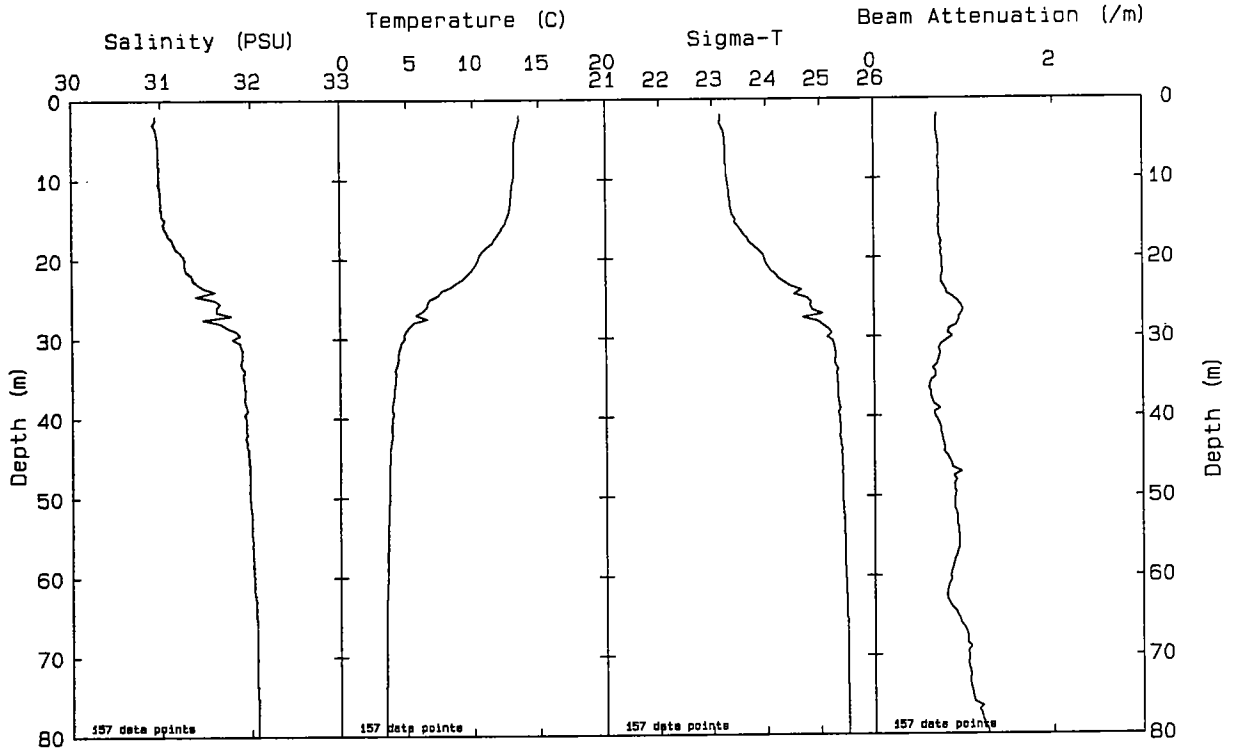


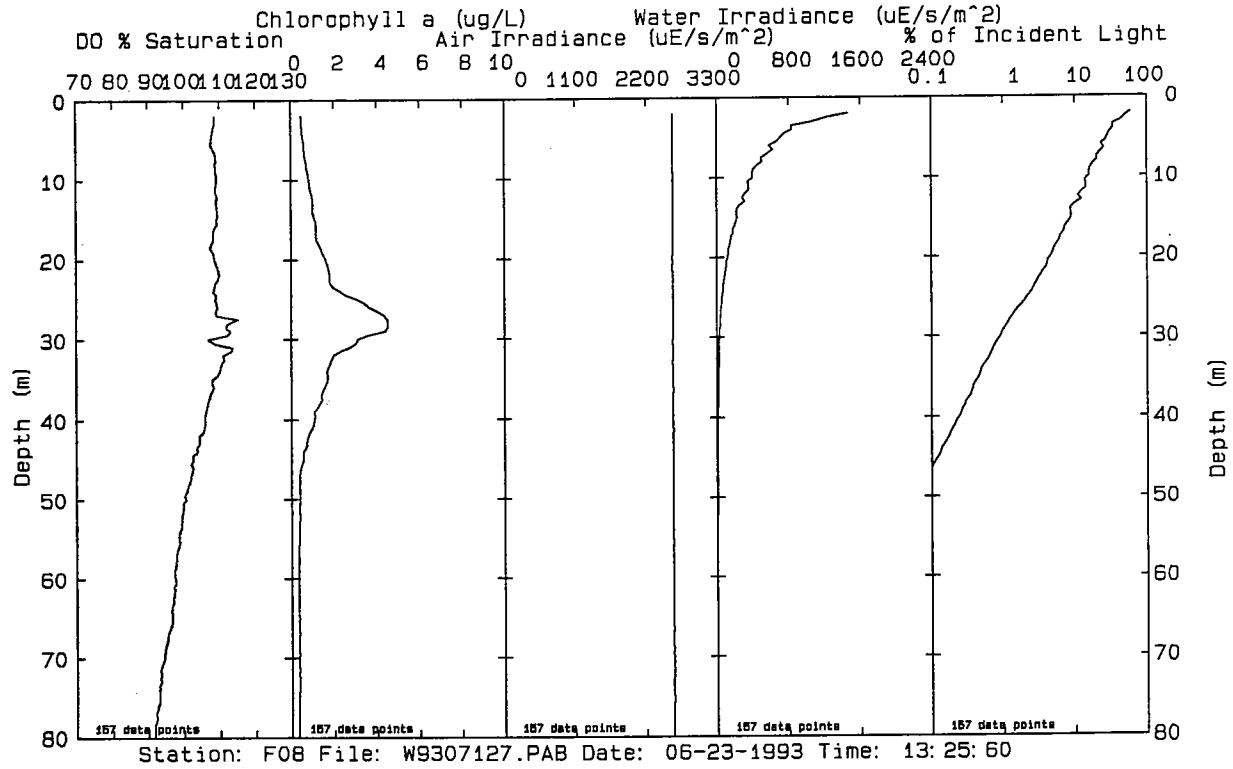
Station: F06 File: W9307119.PAB Date: 06-23-1993 Time: 11:35:27

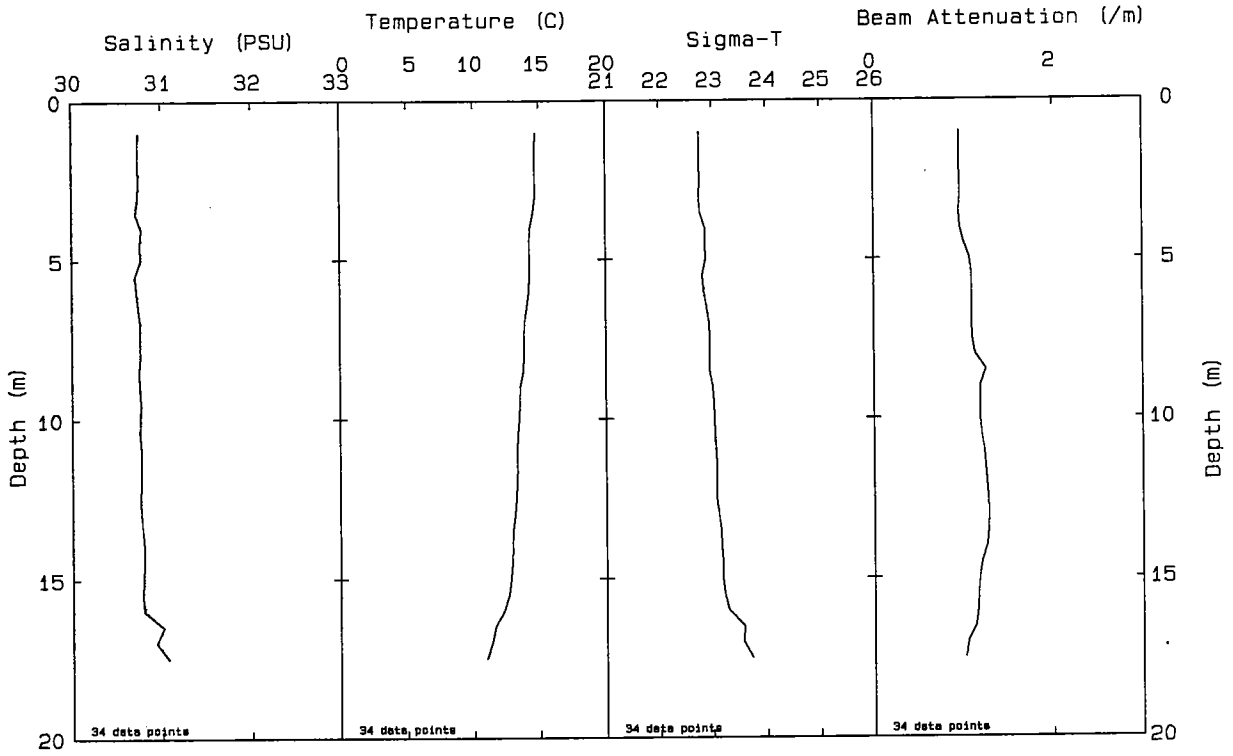


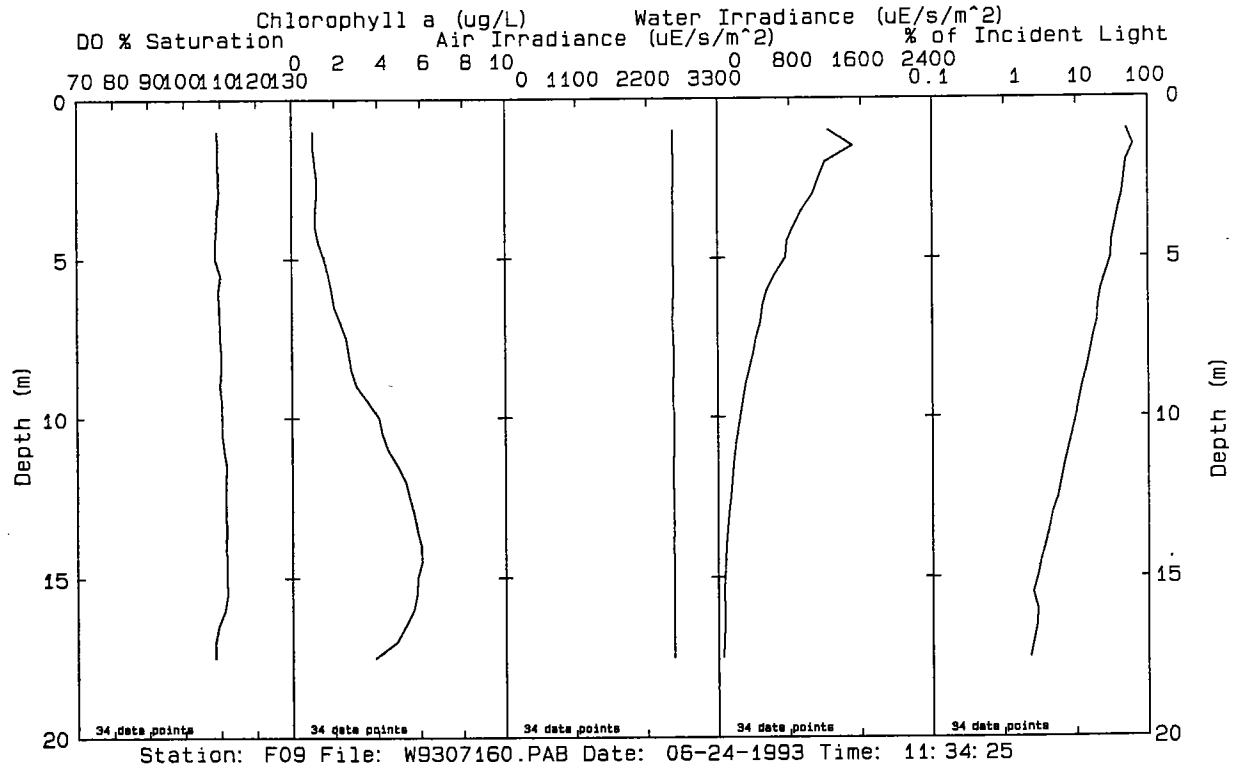


Station: F07 File: W9307124.PAB Date: 06-23-1993 Time: 12:20:39

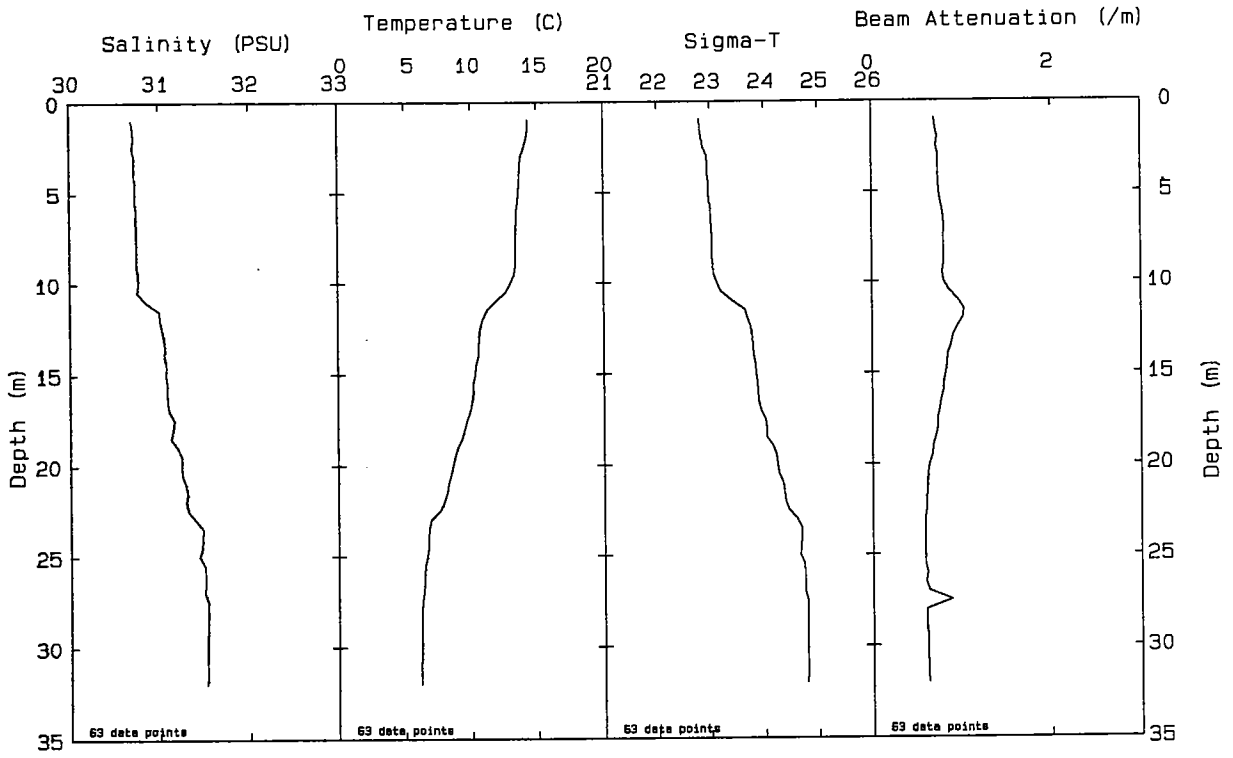

Salinity (PSU)
Temperature (C)
Sigma-T
Beam Attenuation (/m)
Depth (m)
157 data points

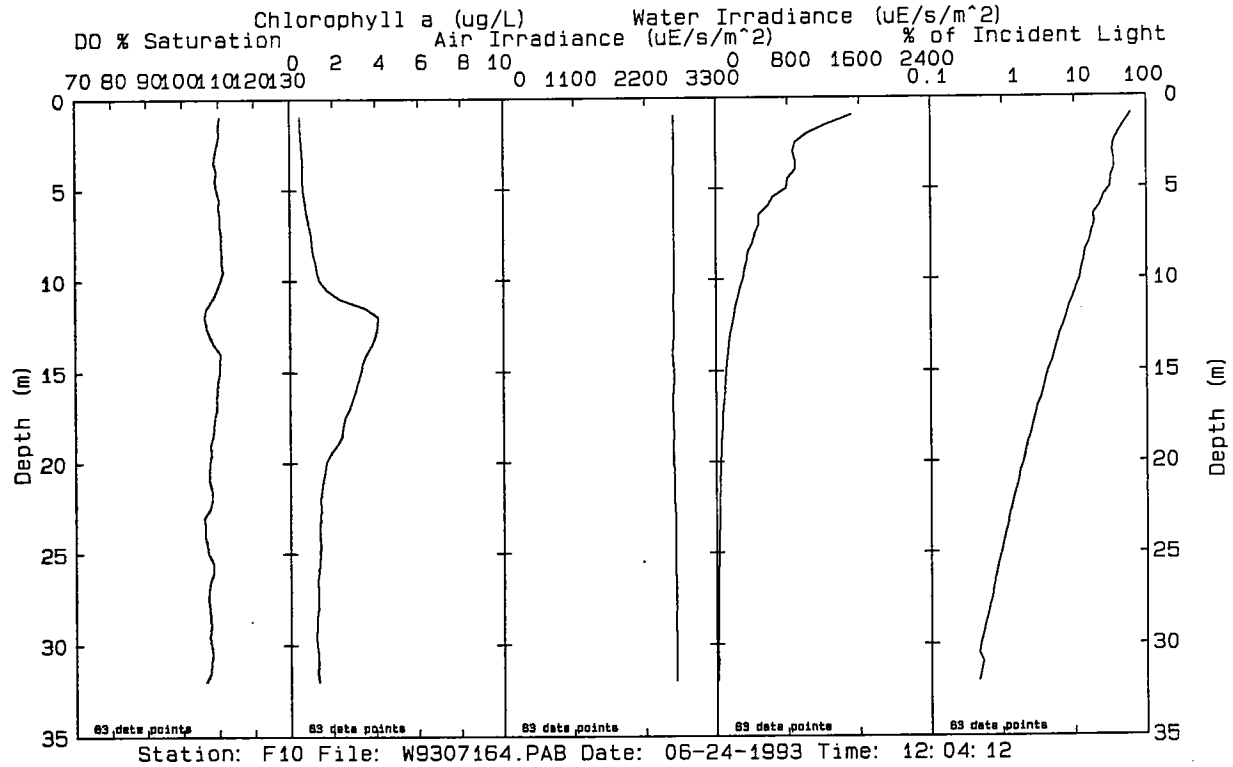

DO % Saturation
Chlorophyll a (ug/L)
Air Irradiance (uE/s/m^2)
Water Irradiance (uE/s/m^2)
% of Incident Light
Depth (m)
157 data points
Station: F08 File: W9307127.PAB Date: 06-23-1993 Time: 13:25:60



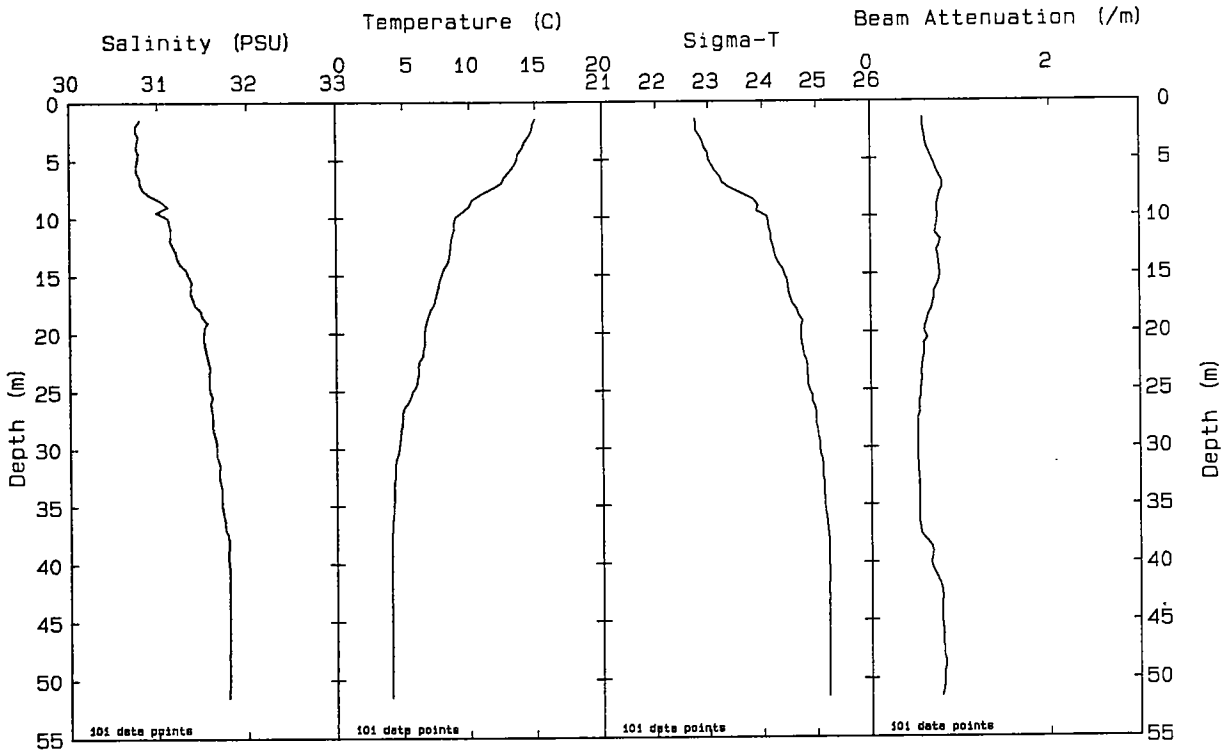


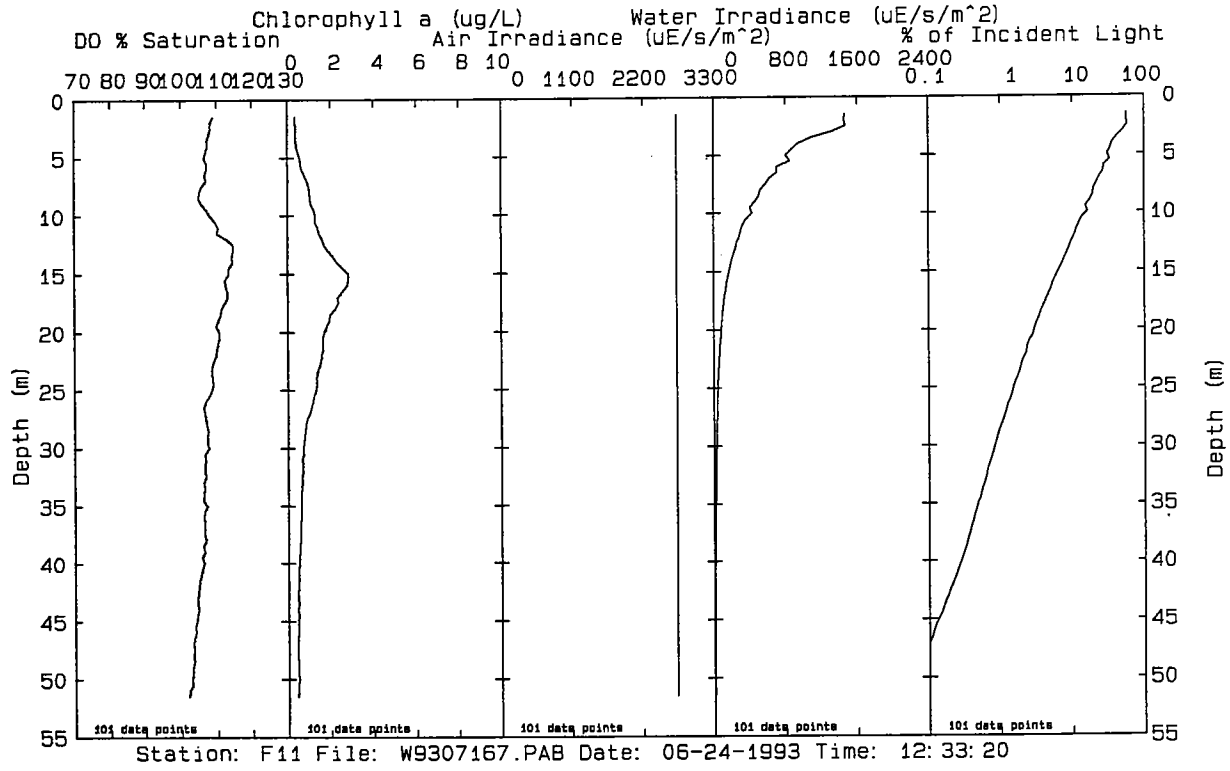
Station: F09 File: W9307160.PAB Date: 06-24-1993 Time: 11:34:25



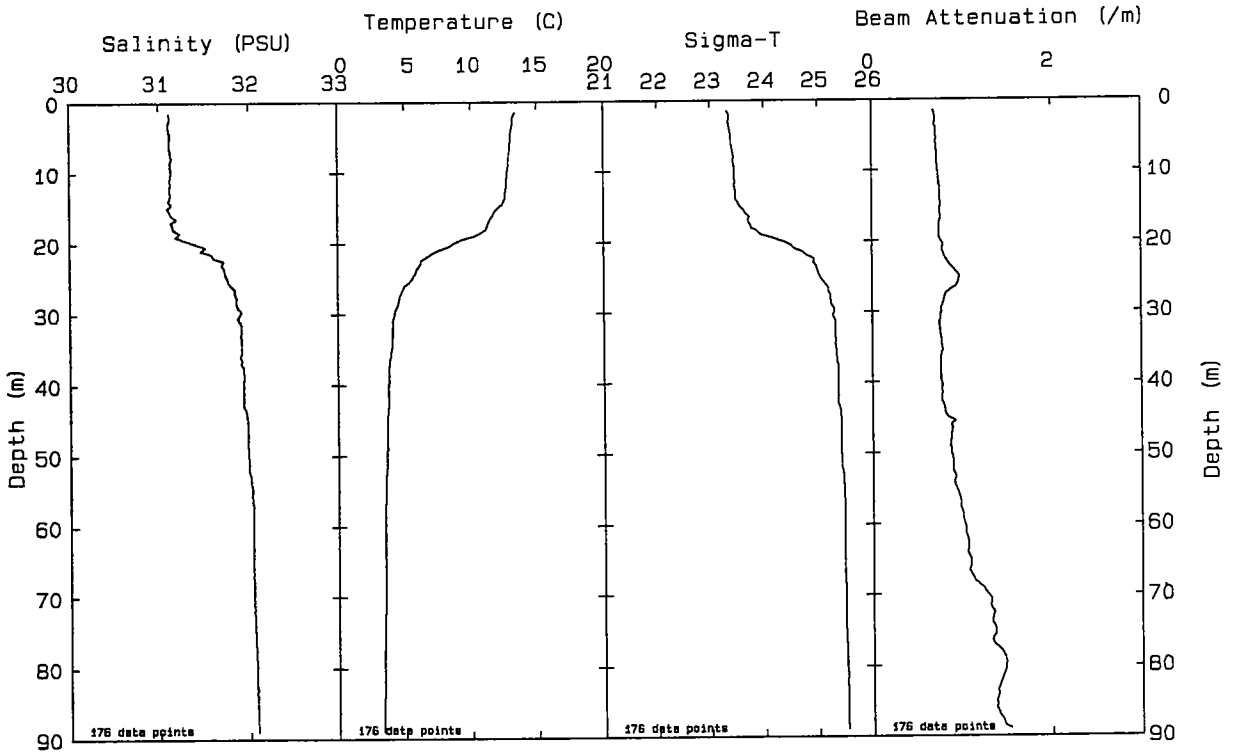


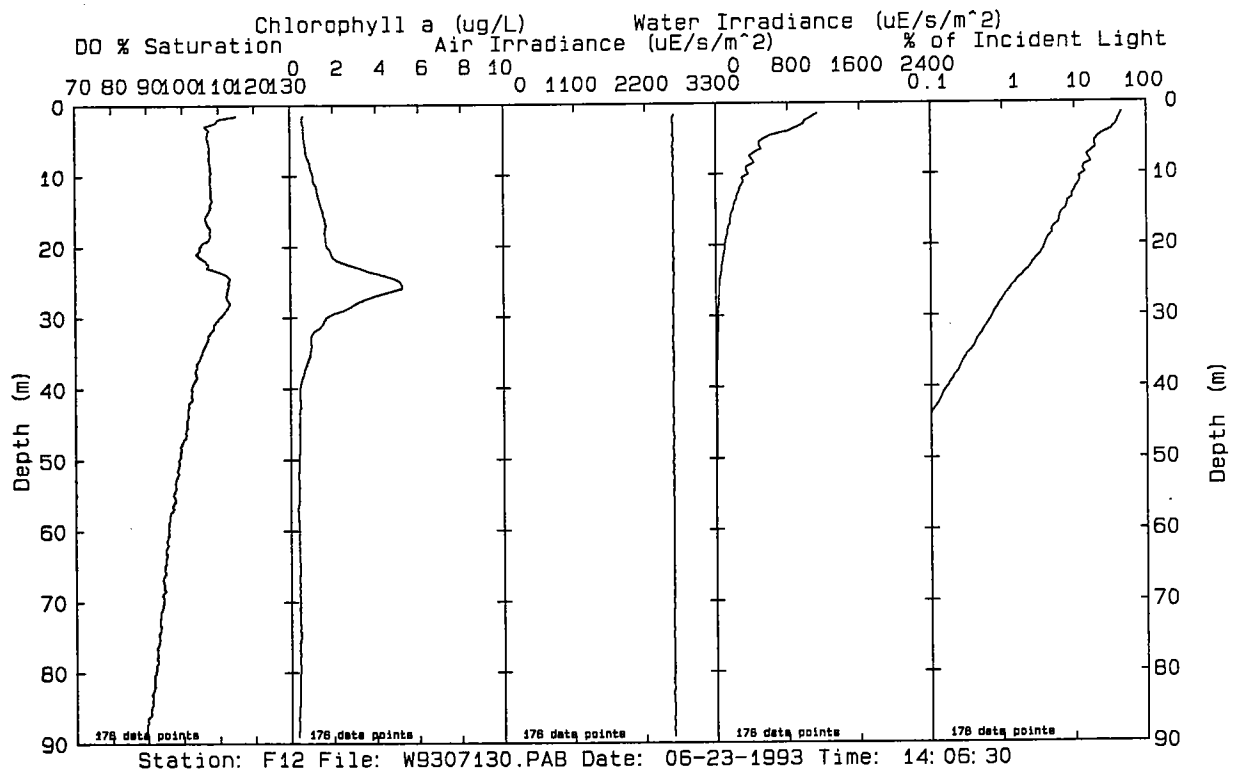
Station: F10 File: W9307164.PAB Date: 06-24-1993 Time: 12:04:12

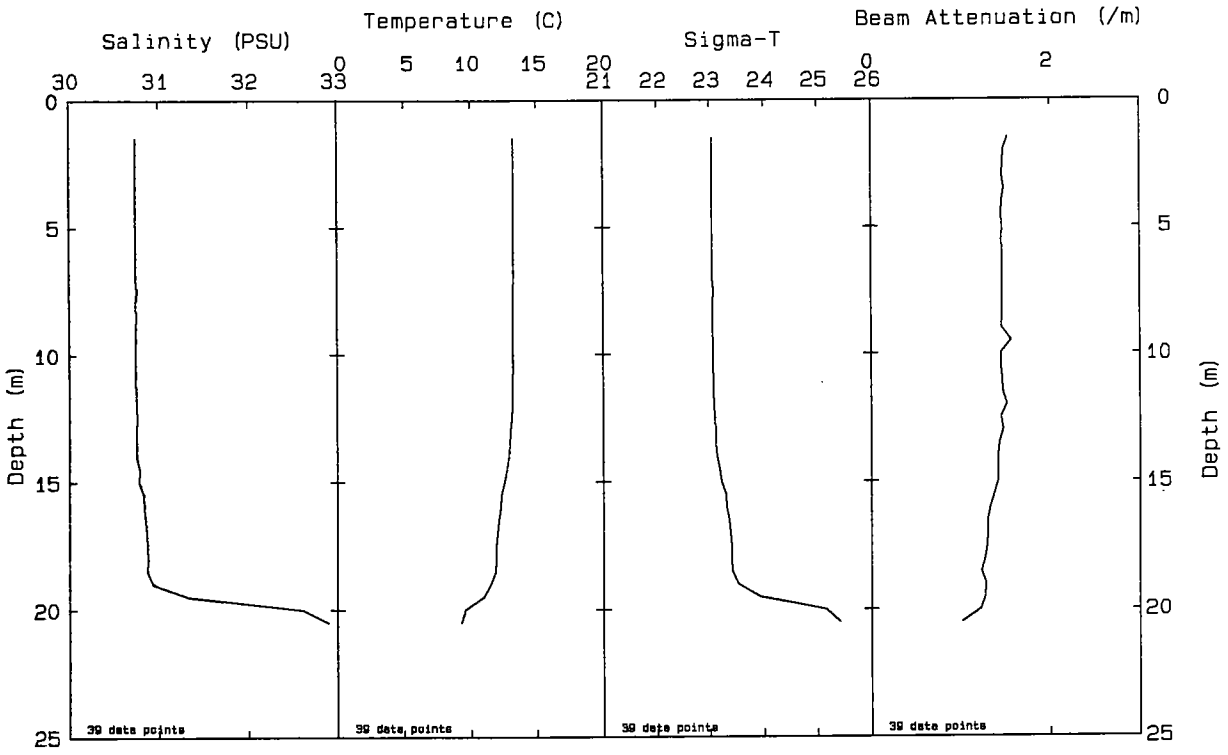


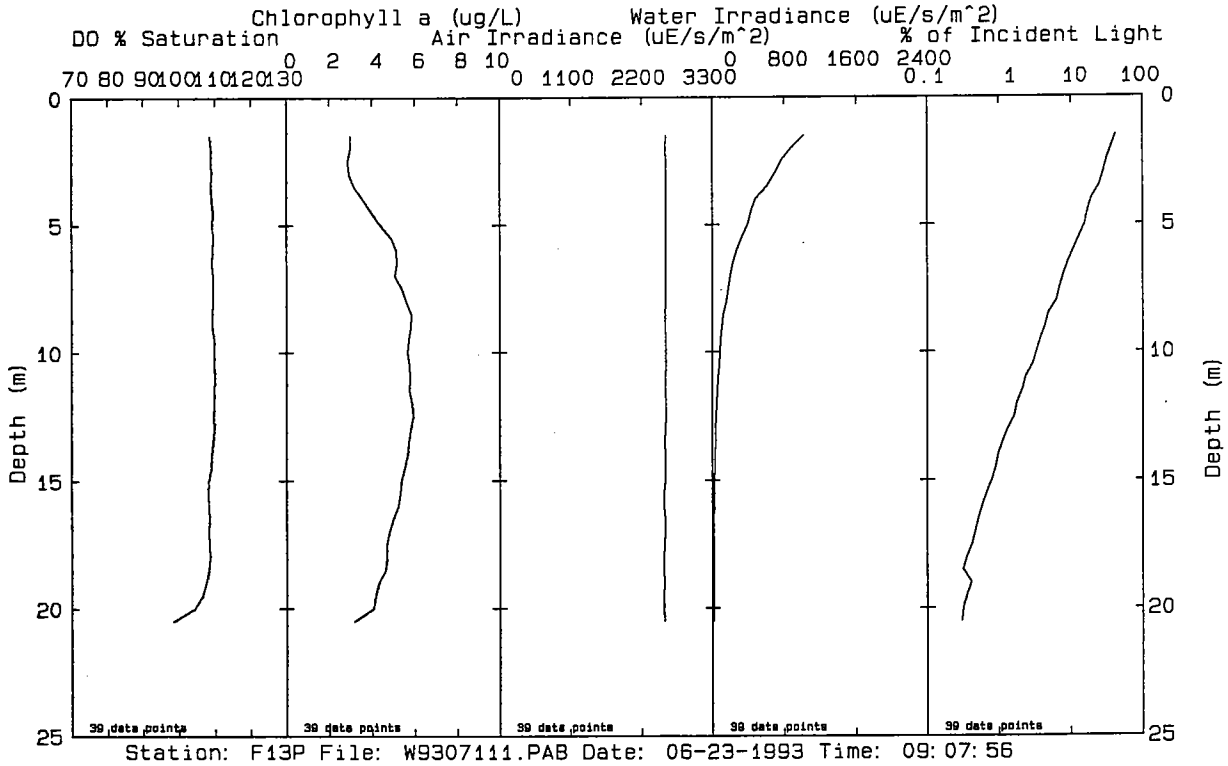


Station: F11 File: W9307167.PAB Date: 06-24-1993 Time: 12:33:20

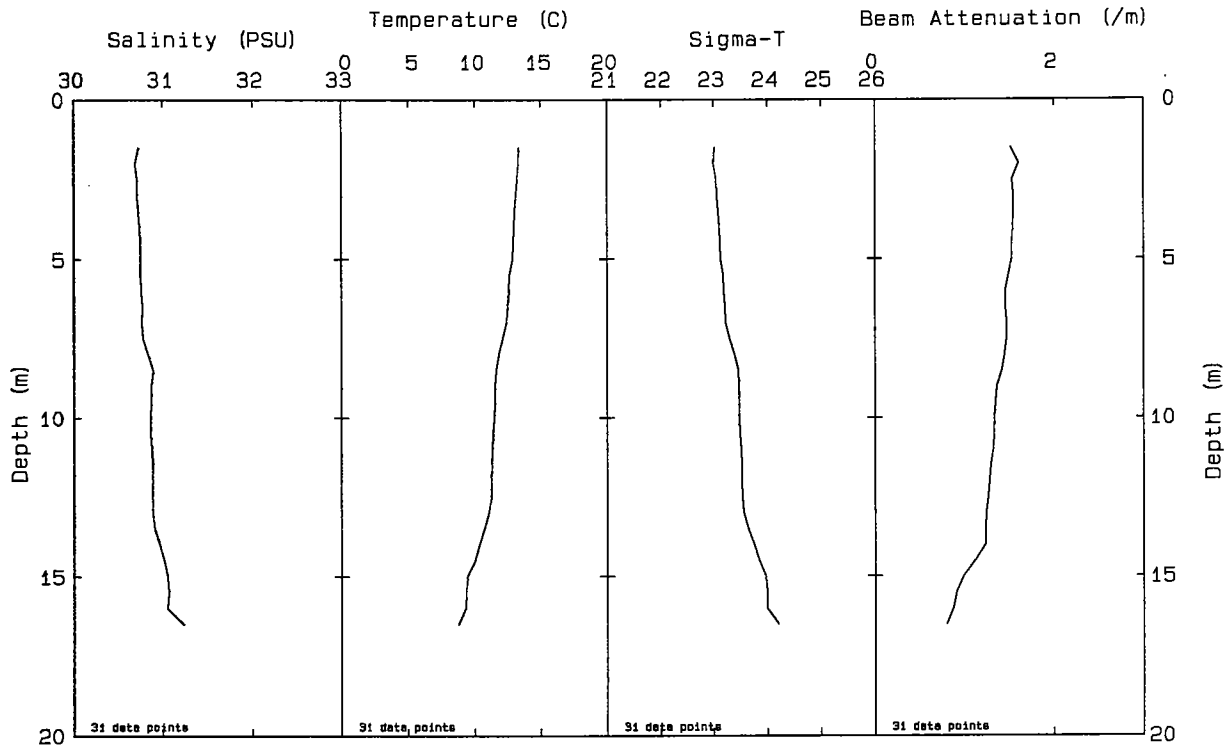

Salinity (PSU)
30 31 32
Temperature (C)
0 5 10 15 20
33
Sigma-T
21 22 23 24 25 26
Beam Attenuation (/m)
0 2
Depth (m)
0 10 20 30 40 50 60 70 80 90
176 data points
176 data points
176 data points
176 data points

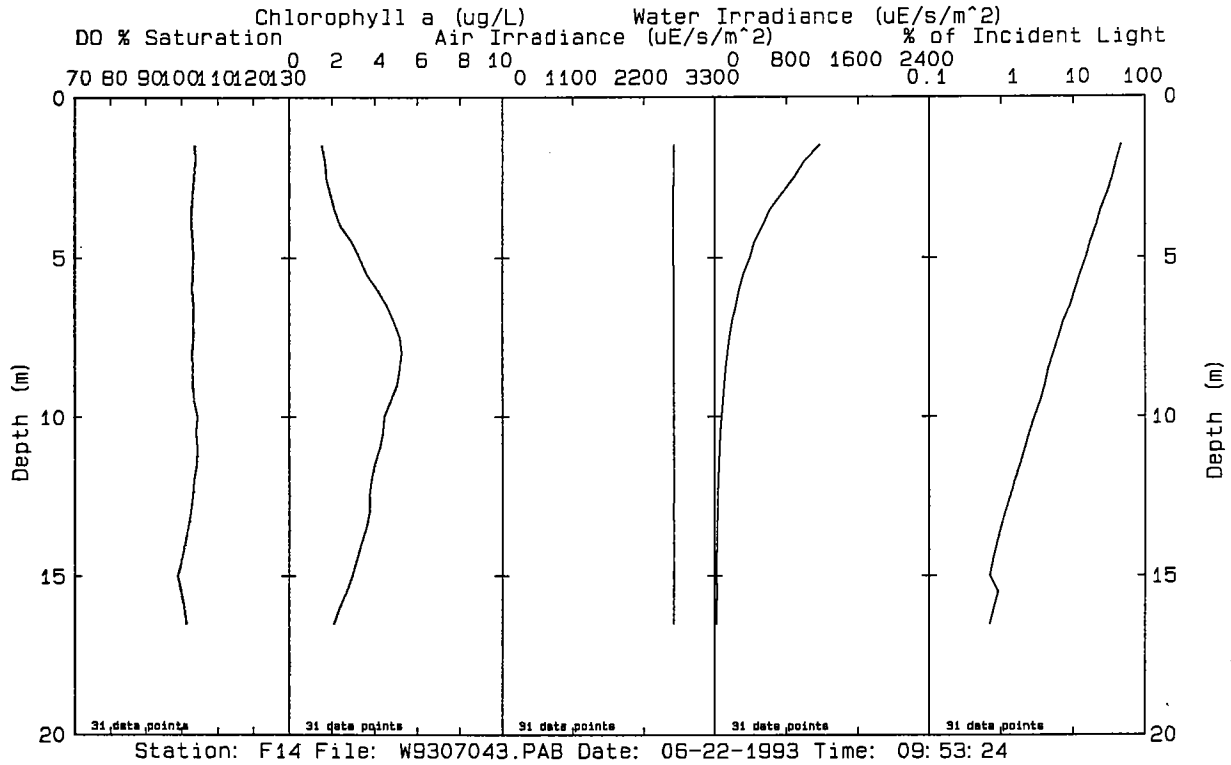

DO % Saturation
70 80 90 100 110 120 130
Chlorophyll a (ug/L)
0 2 4 6 8 10
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 800 1600 2400
% of Incident Light
0.1 1 10 100
Depth (m)
0 10 20 30 40 50 60 70 80 90
176 data points
176 data points
176 data points
176 data points
176 data points
Station: F12 File: W9307130.PAB Date: 06-23-1993 Time: 14:06:30



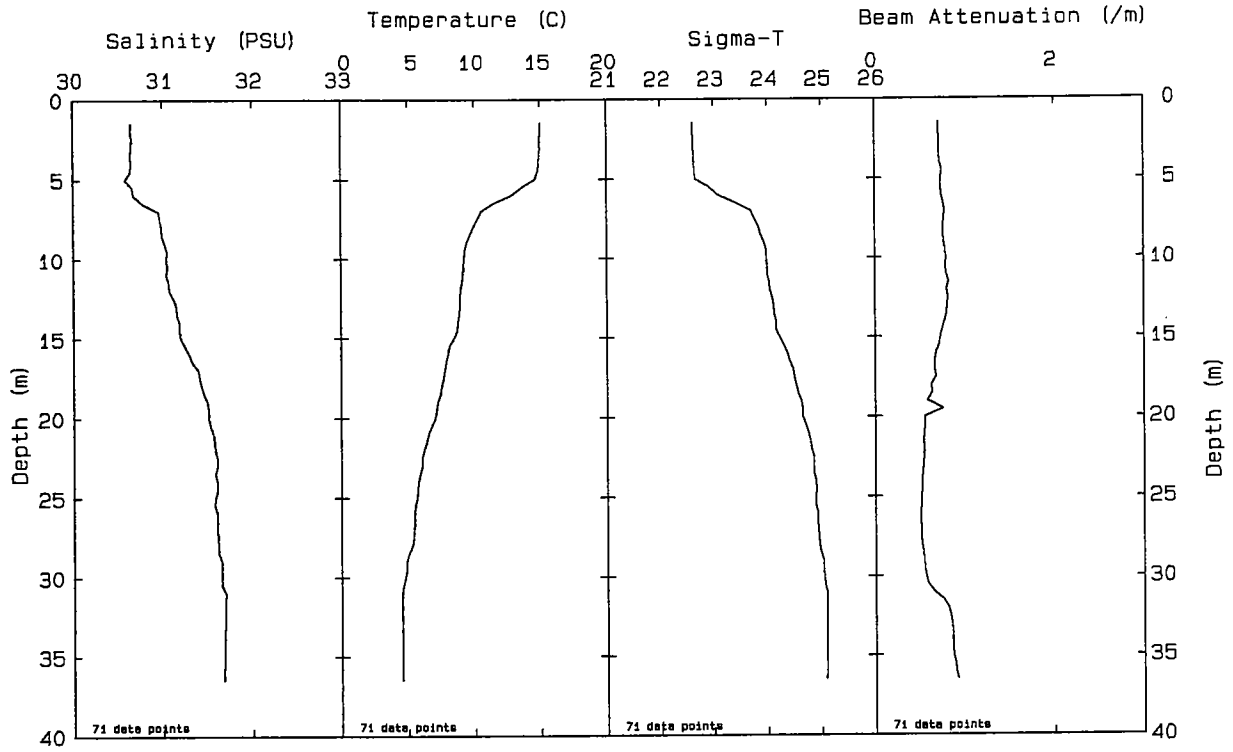


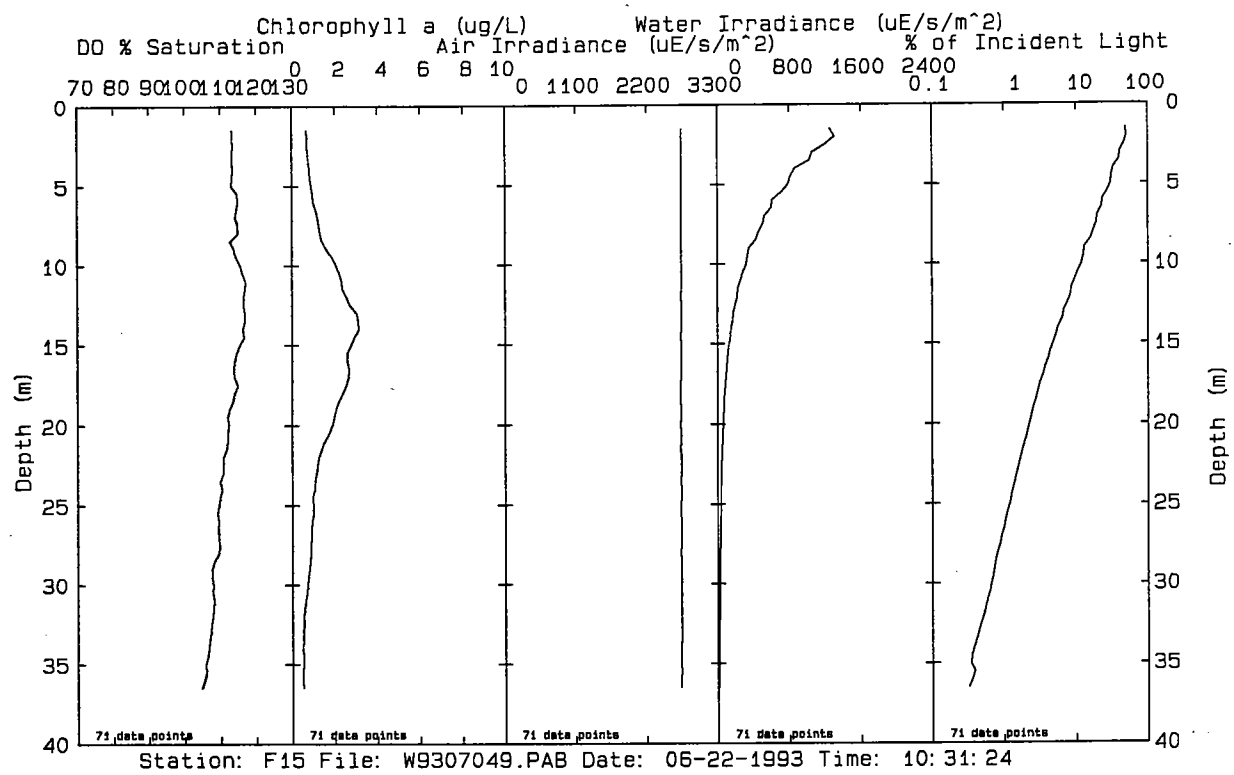
Station: F13P File: W9307111.PAB Date: 06-23-1993 Time: 09:07:56



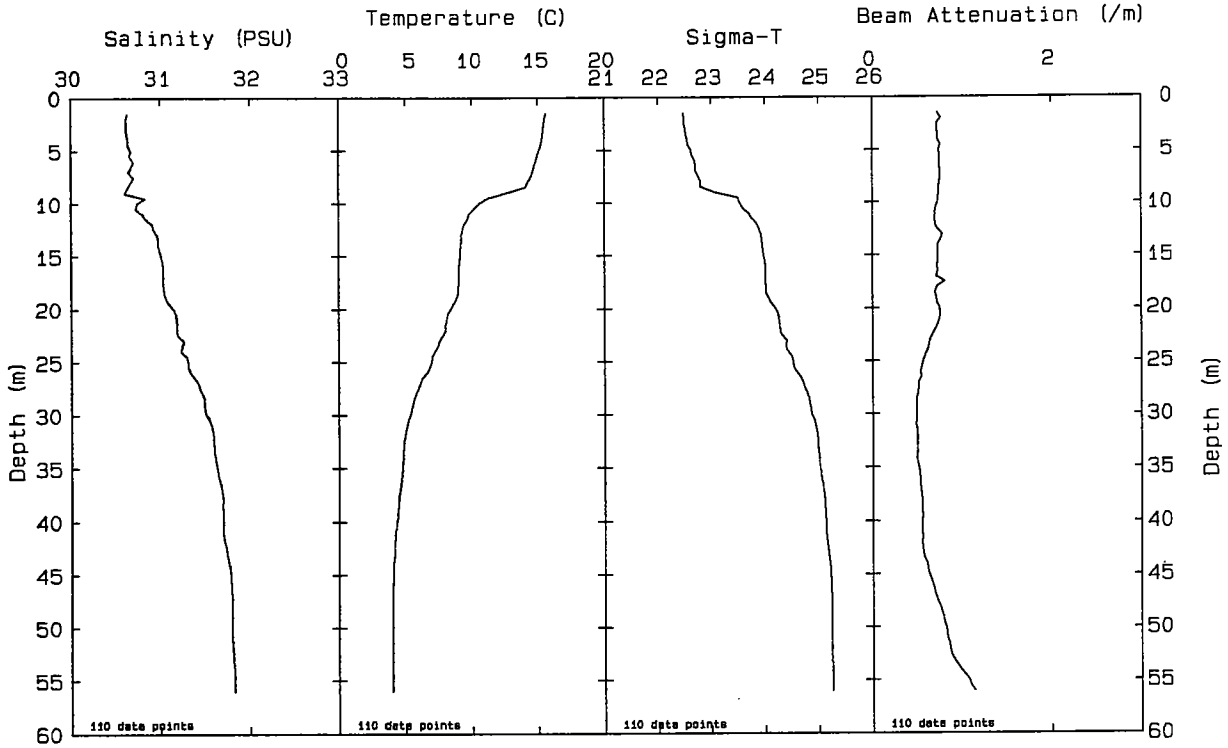


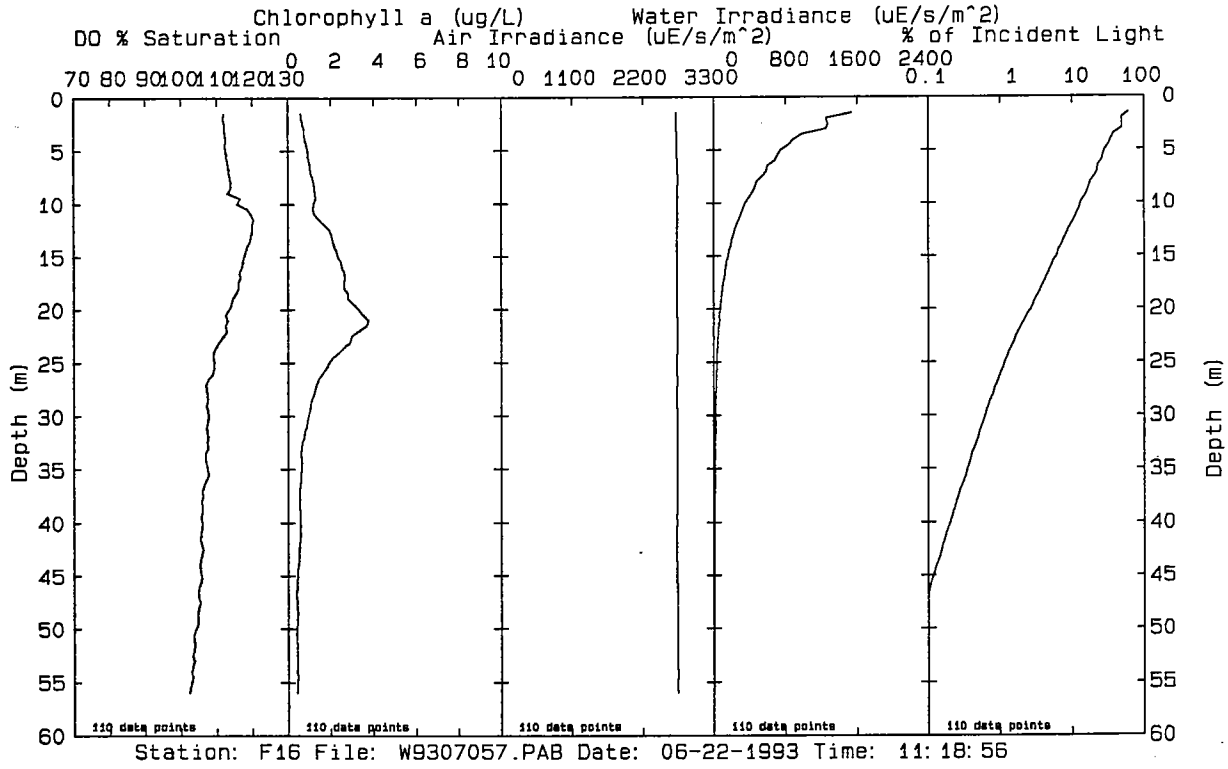
Station: F14 File: W9307043.PAB Date: 06-22-1993 Time: 09:53:24



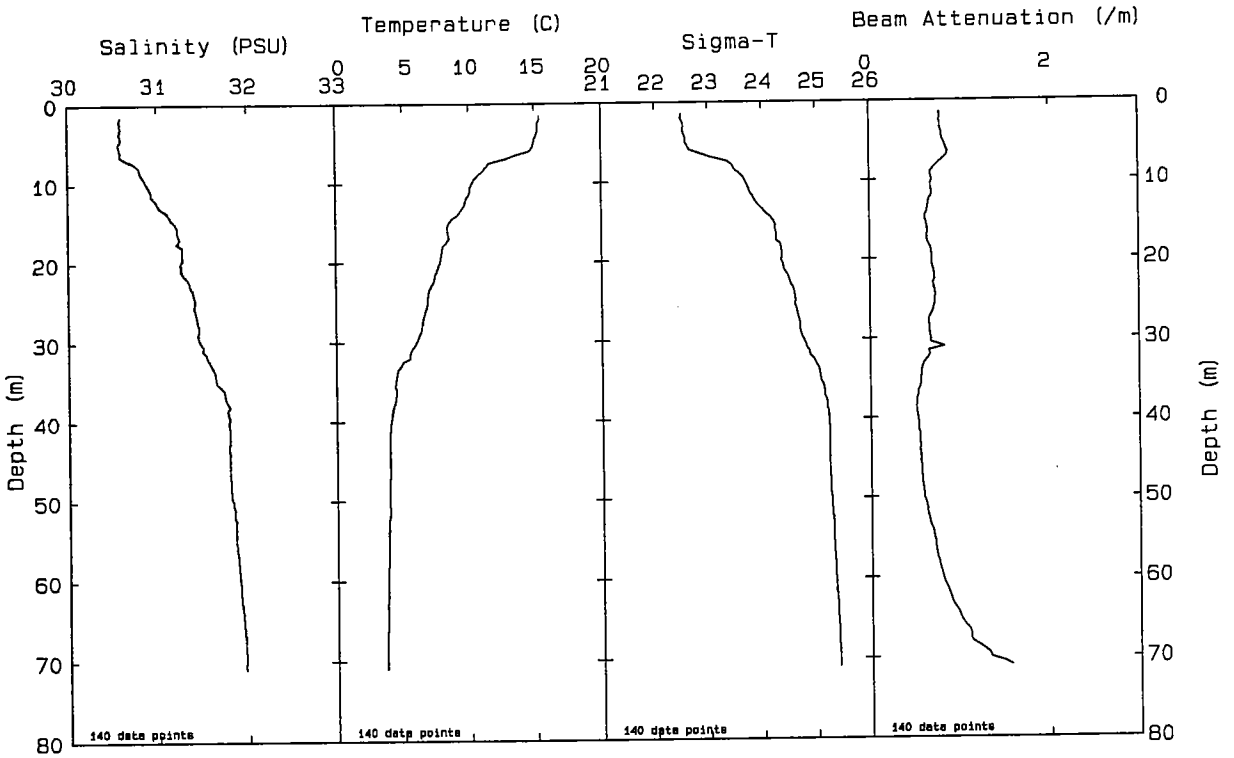


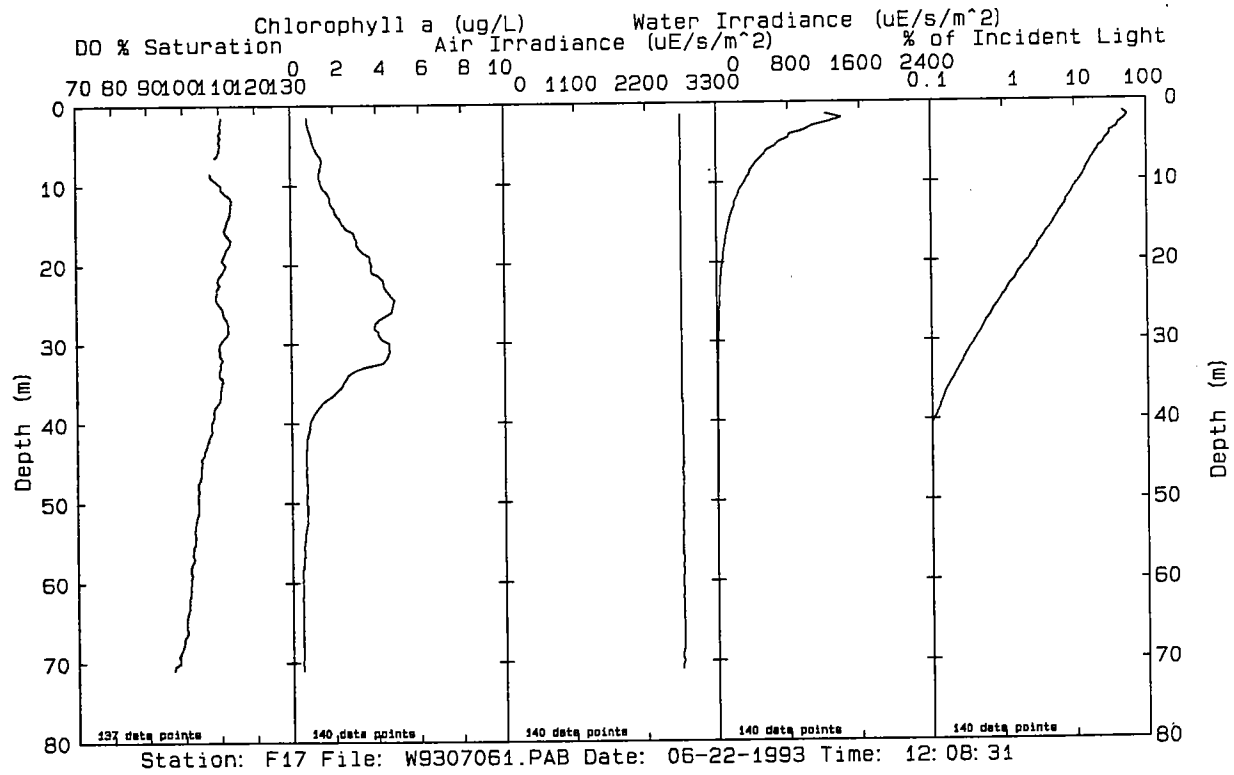
Station: F15 File: W9307049.PAB Date: 06-22-1993 Time: 10:31:24

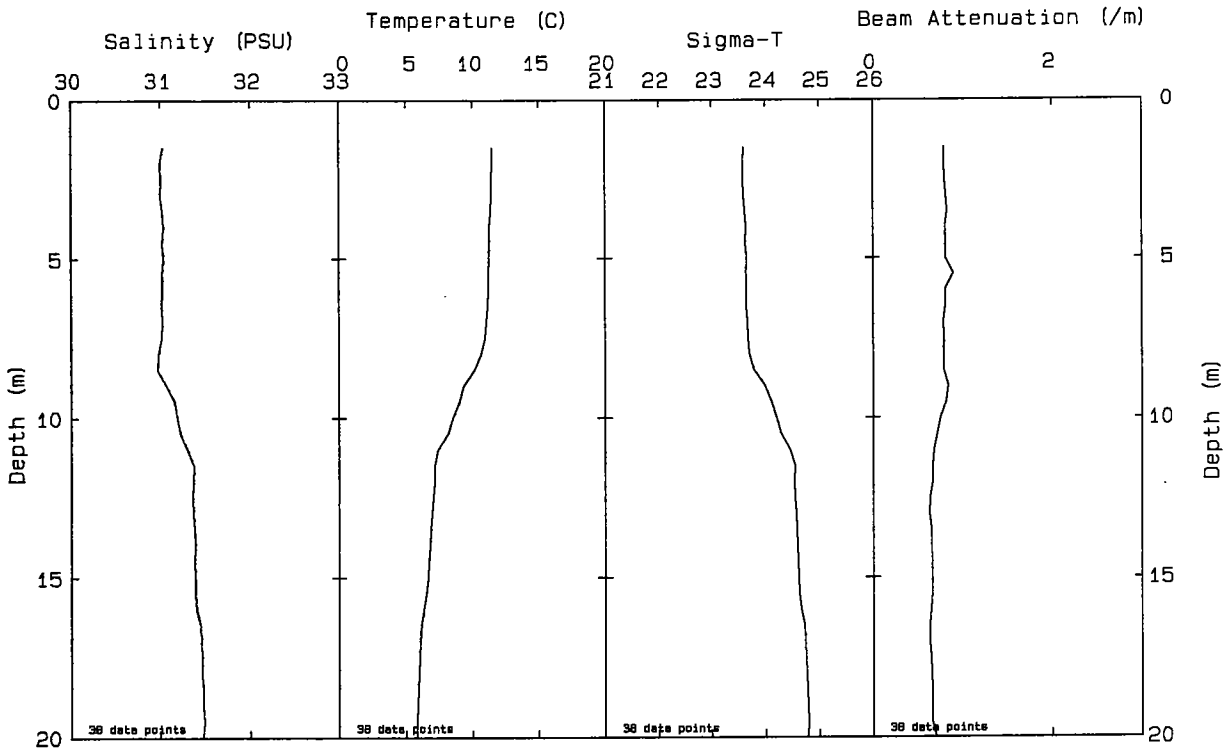


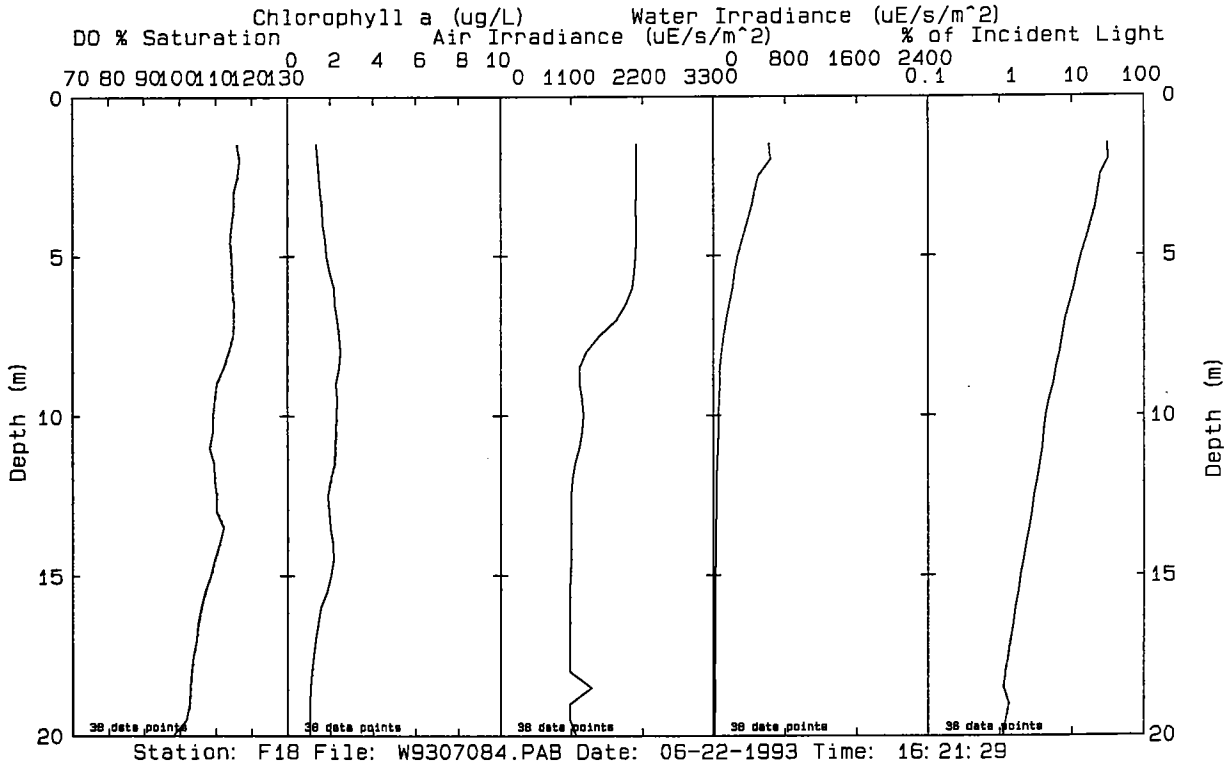


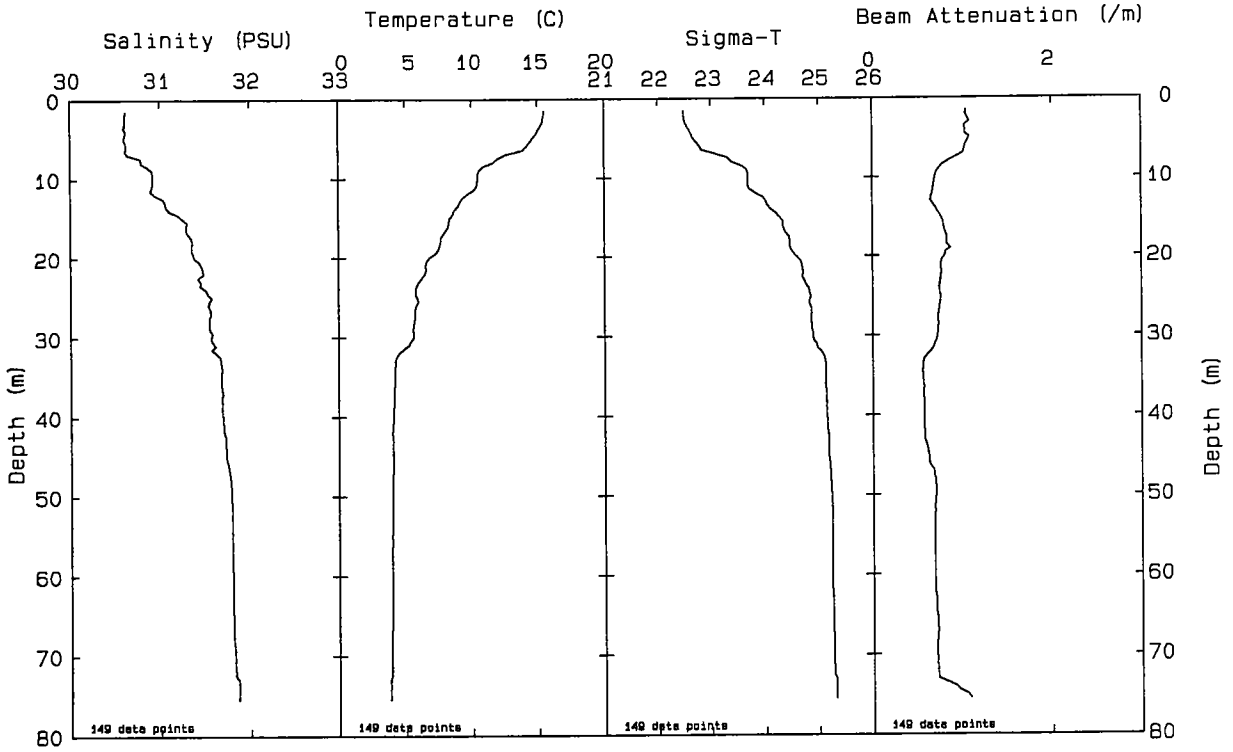
Station: F16 File: W9307057.PAB Date: 06-22-1993 Time: 11:18:56

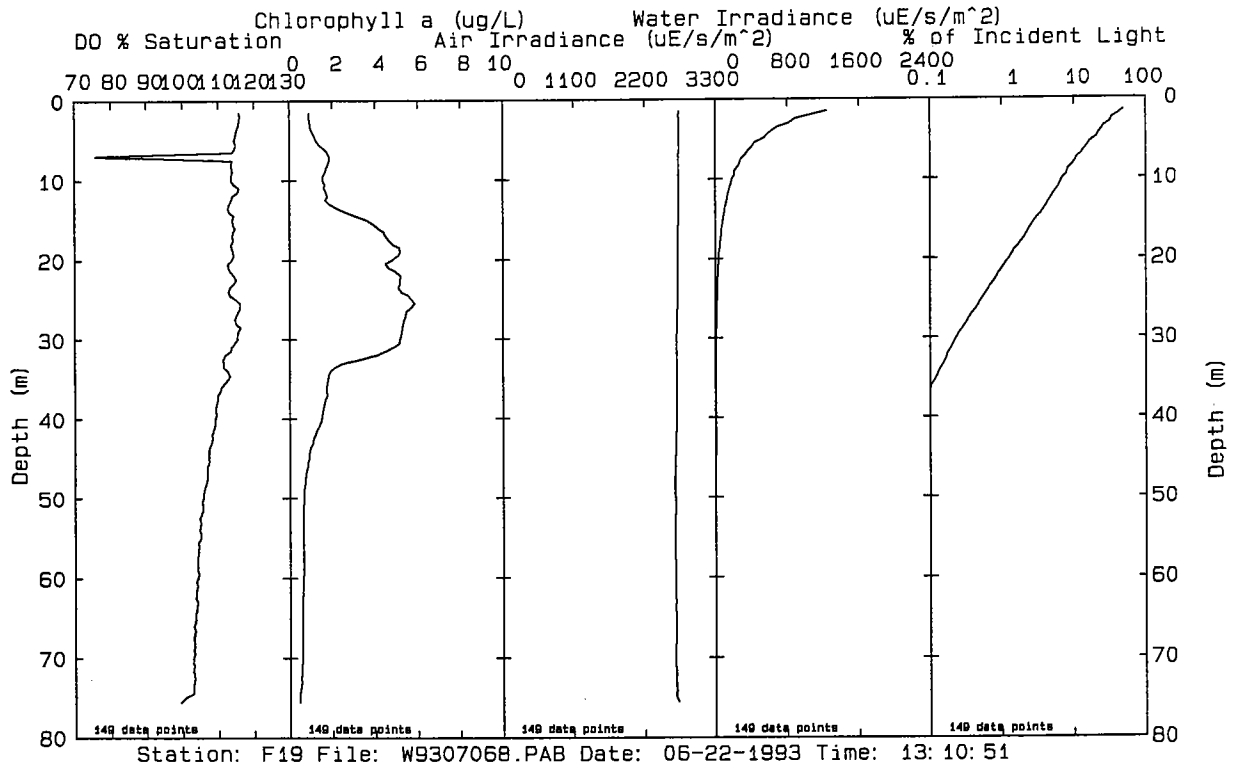

Salinity (PSU)
30 31 32
Temperature (C)
0 5 10 15 20
Sigma-T
21 22 23 24 25 26
Beam Attenuation (/m)
0 2
Depth (m)
0 10 20 30 40 50 60 70 80
140 data points
140 data points
140 data points
140 data points


Chlorophyll a (ug/L)
DO % Saturation
70 80 90 100 110 120 130
Air Irradiance (uE/s/m^2)
0 2 4 6 8 10
Water Irradiance (uE/s/m^2)
0 1100 2200 3300
% of Incident Light
0 800 1600 2400
0.1 1 10 100
Depth (m)
0 10 20 30 40 50 60 70 80
137 data points
140 data points
140 data points
140 data points
140 data points
Station: F17 File: W9307061.PAB Date: 06-22-1993 Time: 12:08:31

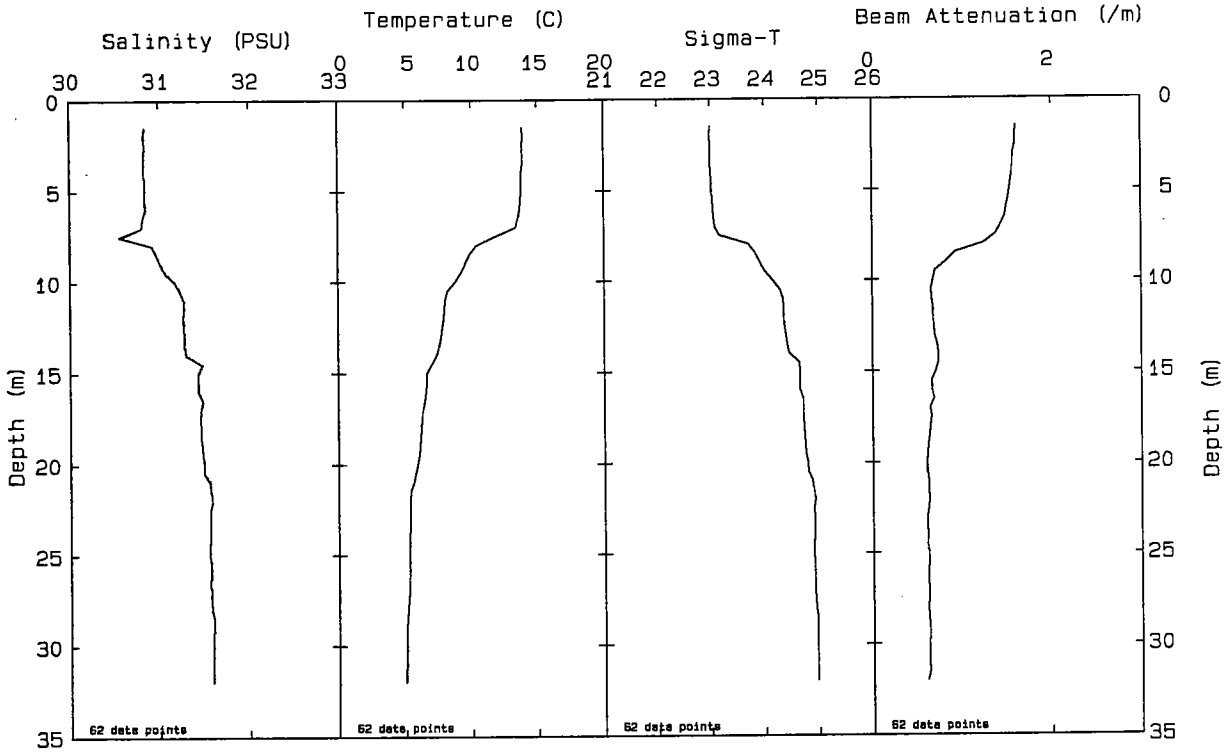

Salinity (PSU)
30 31 32
Temperature (C)
0 5 10 15 20
Sigma-T
21 22 23 24 25 26
Beam Attenuation (/m)
0 2
Depth (m)
0 5 10 15 20
38 data points

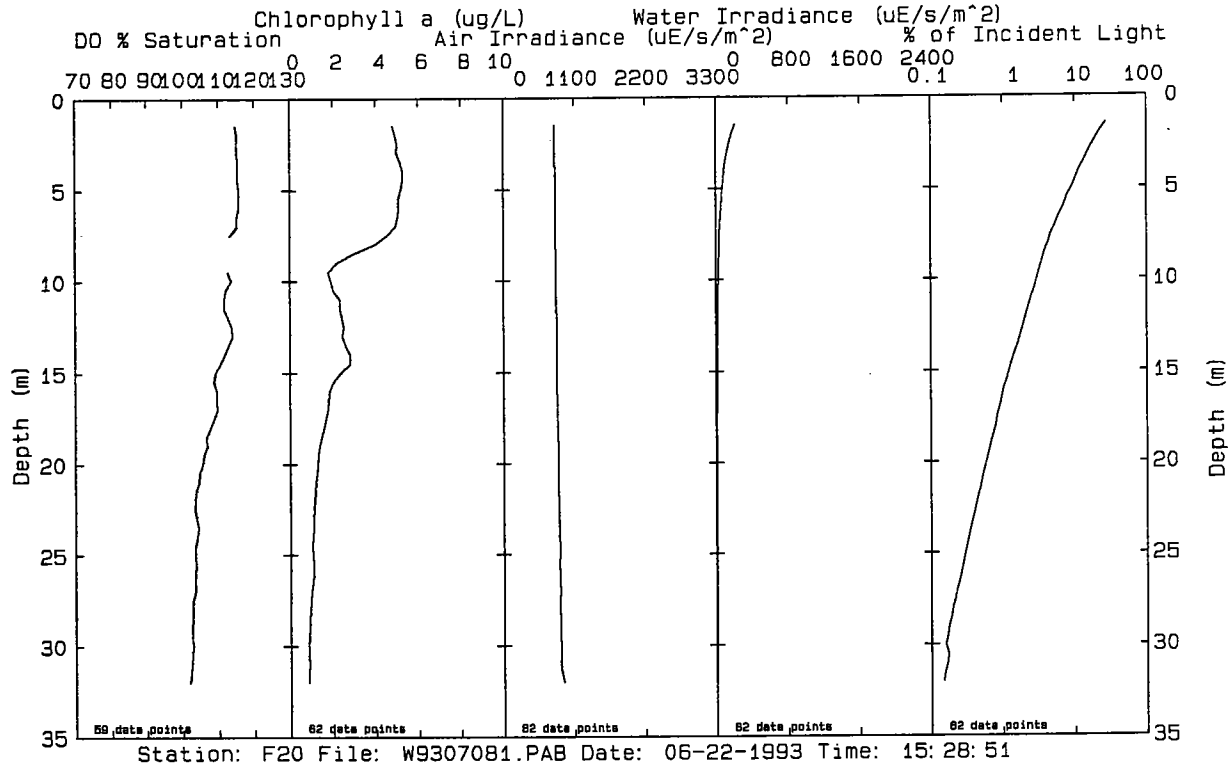

DO % Saturation
70 80 90 100 110 120 130
Chlorophyll a (ug/L)
0 2 4 6 8 10
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 800 1600 2400
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20
38 data points
Station: F18 File: W9307084.PAB Date: 06-22-1993 Time: 16:21:29

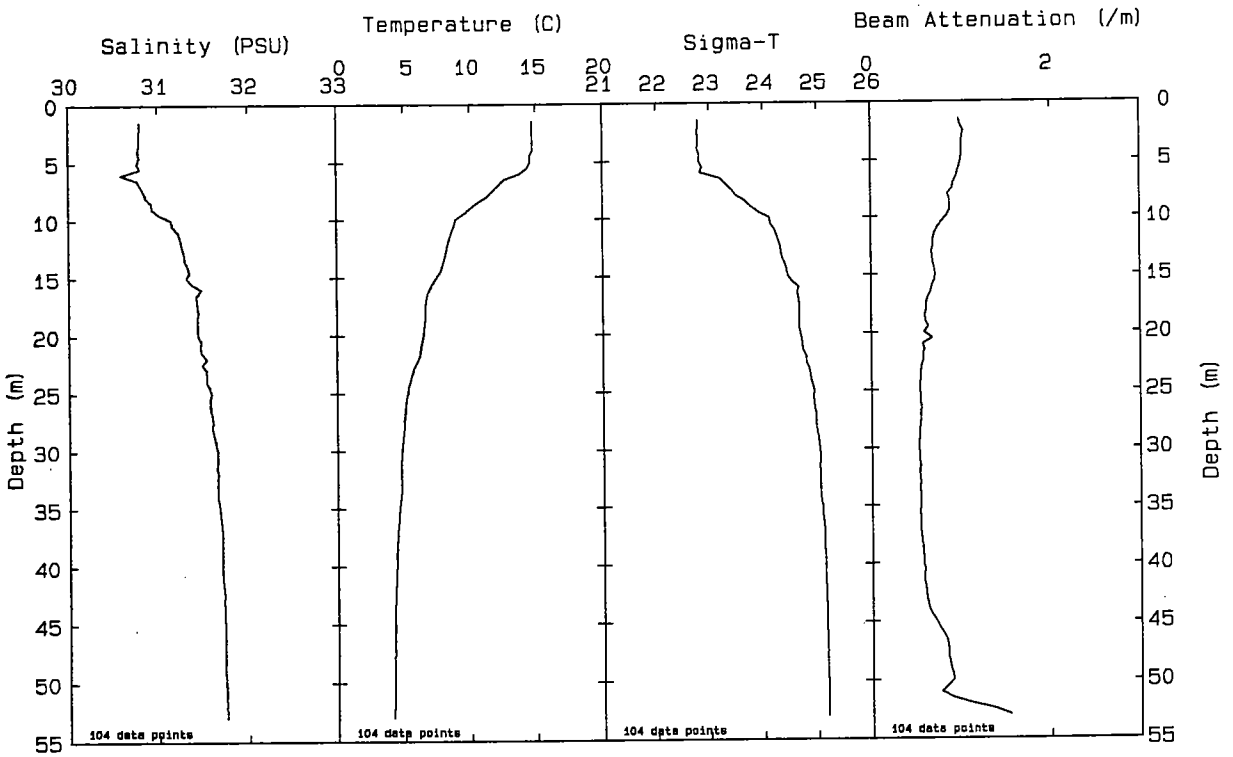


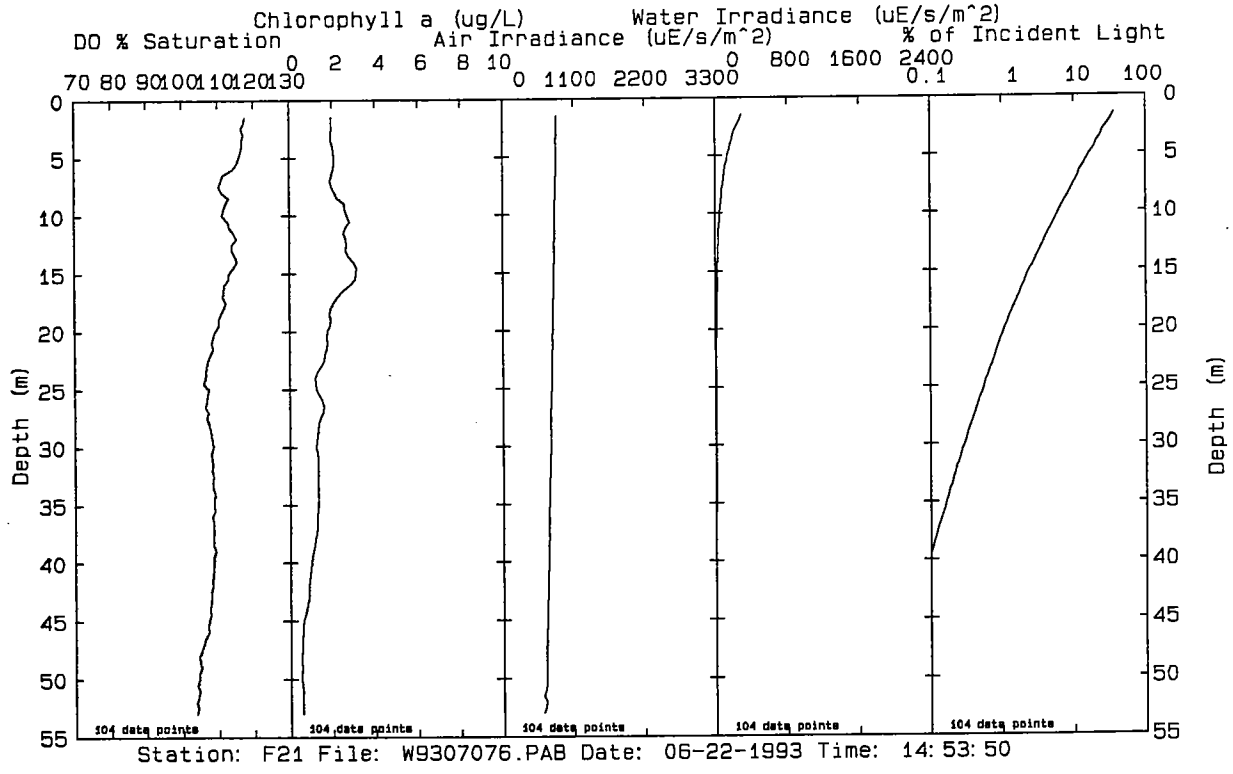


Station: F19 File: W9307068.PAB Date: 06-22-1993 Time: 13:10:51

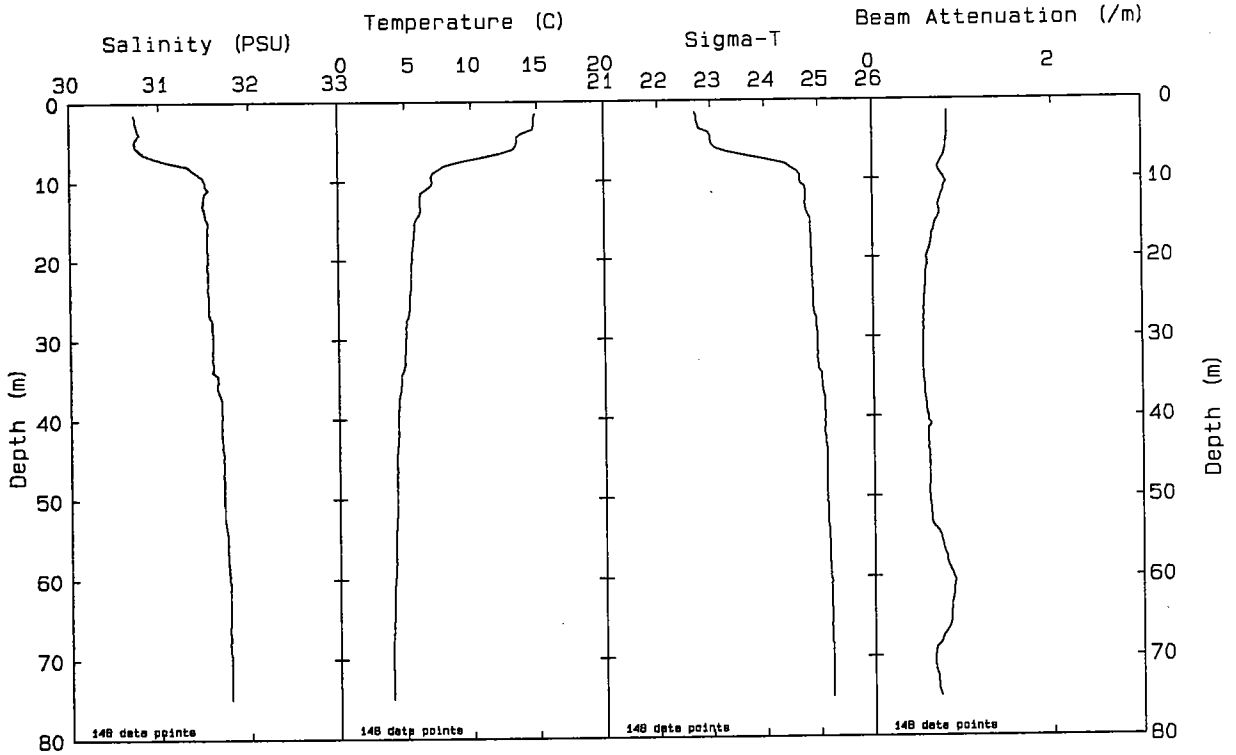

Salinity (PSU)
30 31 32
Temperature (C)
0 5 10 15 20
Sigma-T
21 22 23 24 25 26
Beam Attenuation (/m)
0 2
Depth (m)
0 5 10 15 20 25 30 35
62 data points
62 data points
62 data points
62 data points

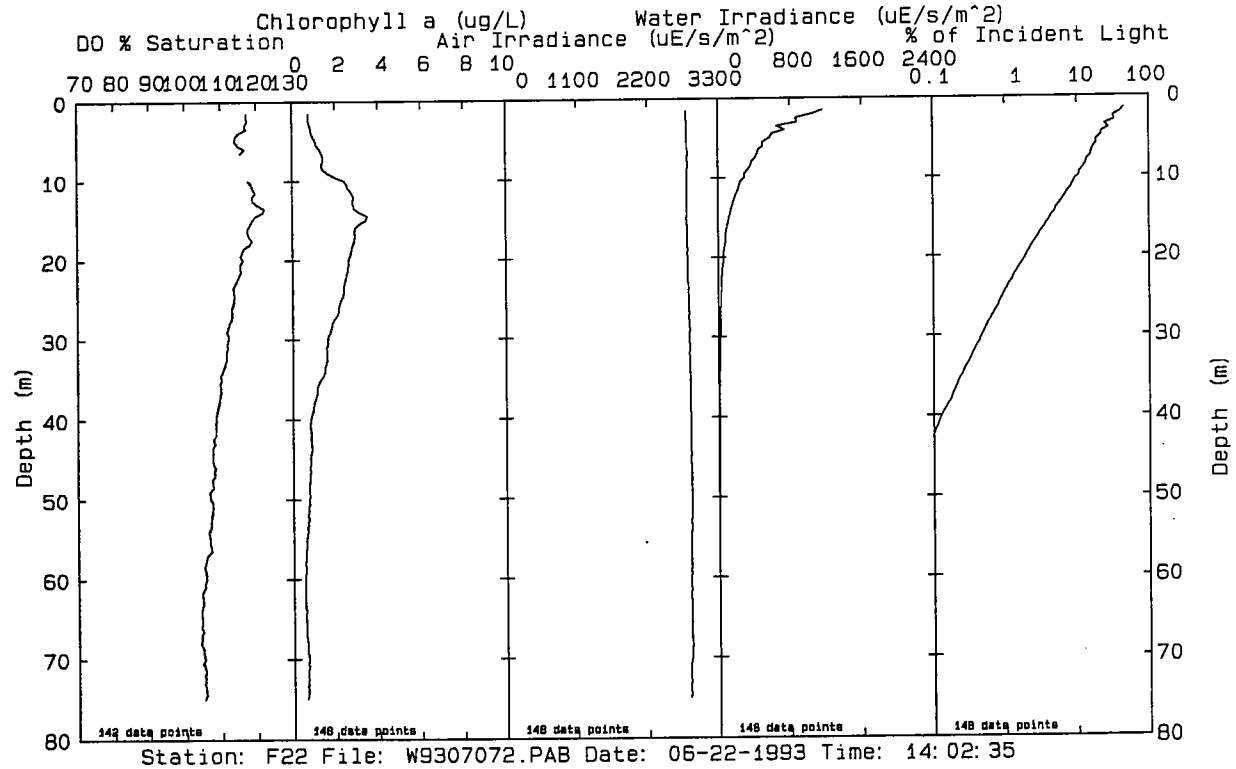

DO % Saturation
70 80 90 100 110 120 130
Chlorophyll a (ug/L)
0 2 4 6 8 10
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 800 1600 2400
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35
59 data points
62 data points
62 data points
62 data points
62 data points
Station: F20 File: W9307081.PAB Date: 06-22-1993 Time: 15:28:51



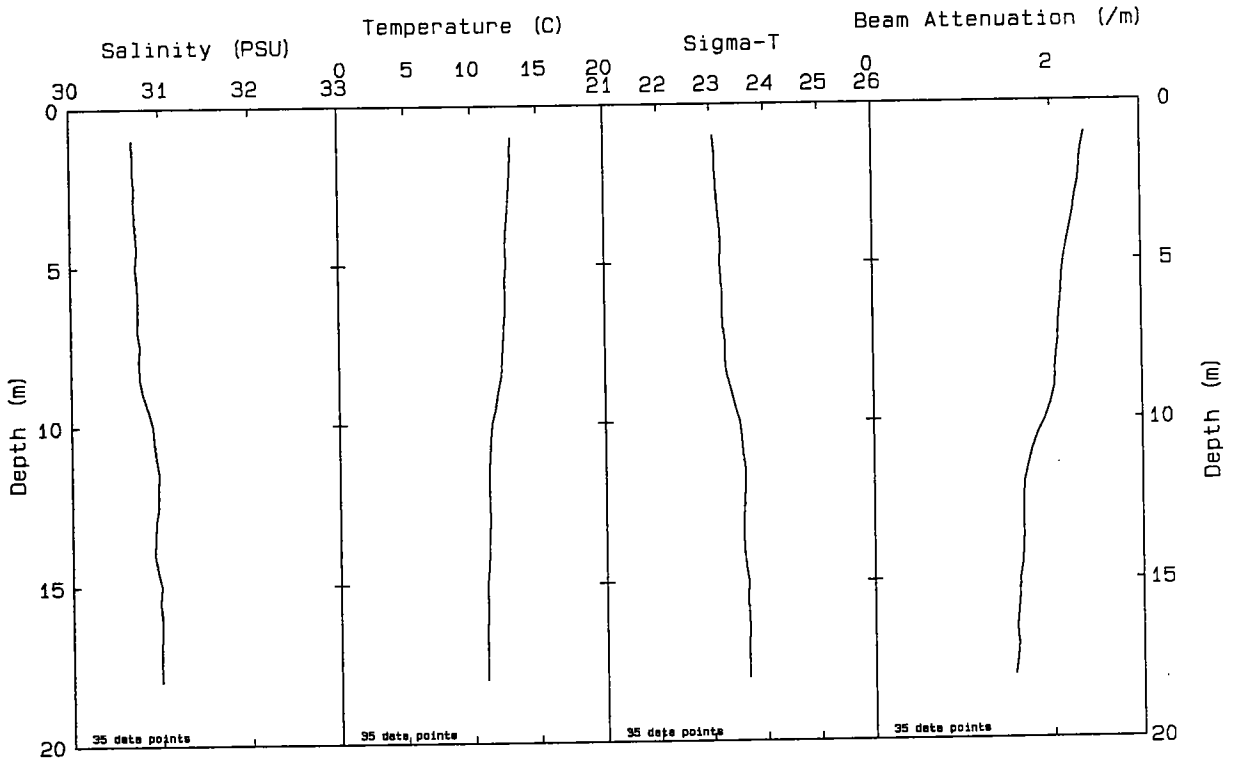


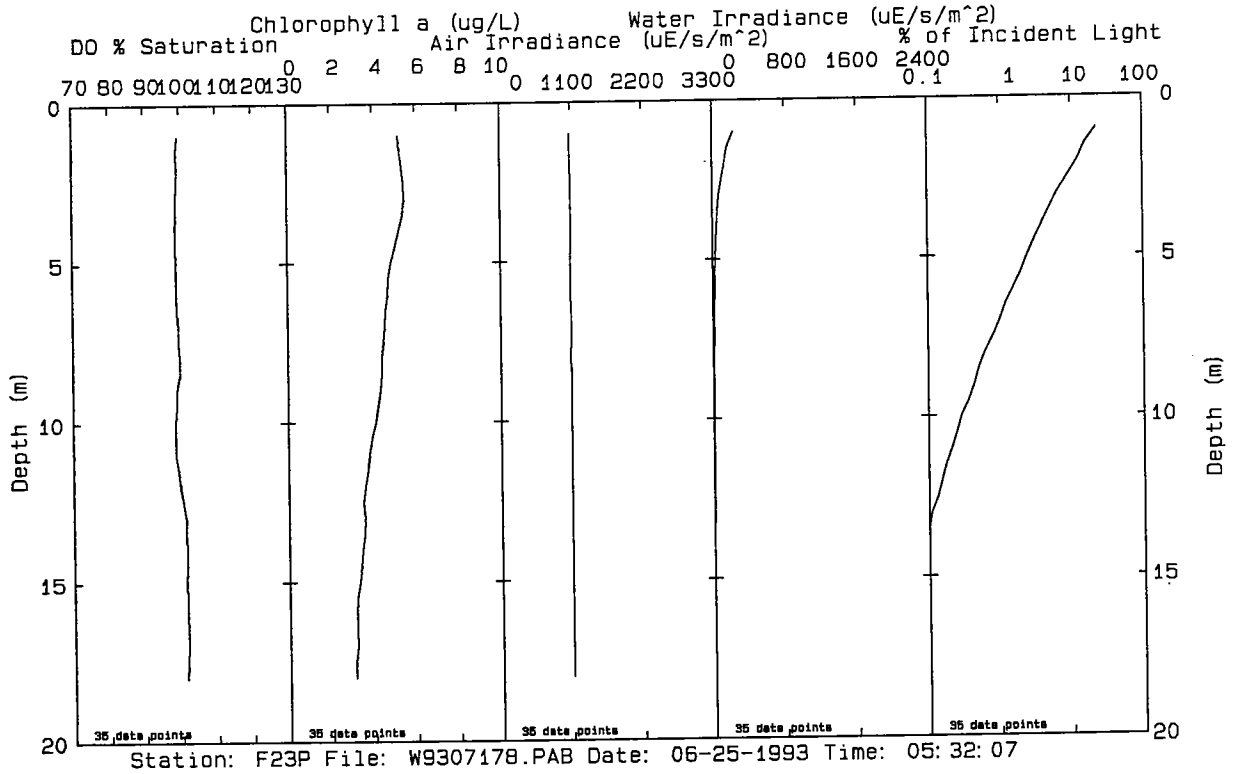
Station: F21 File: W9307076.PAB Date: 06-22-1993 Time: 14:53:50

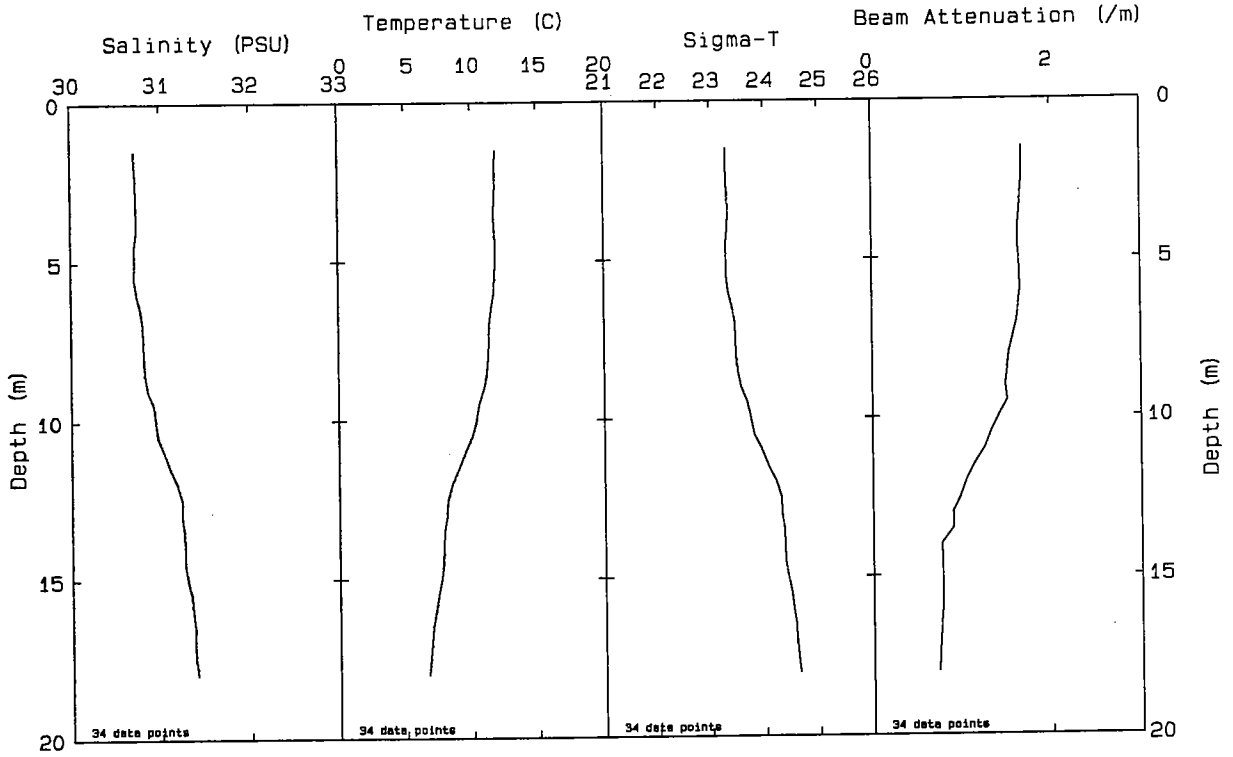


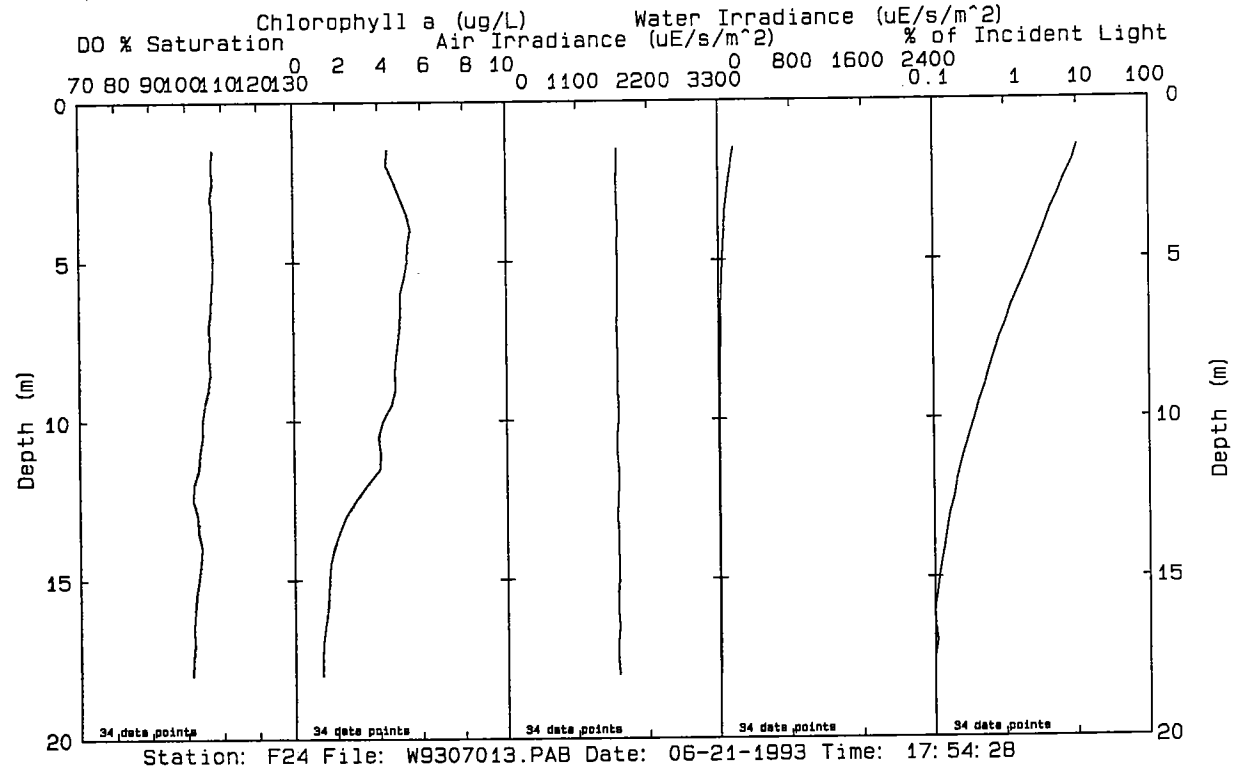


Station: F22 File: W9307072.PAB Date: 06-22-1993 Time: 14:02:35

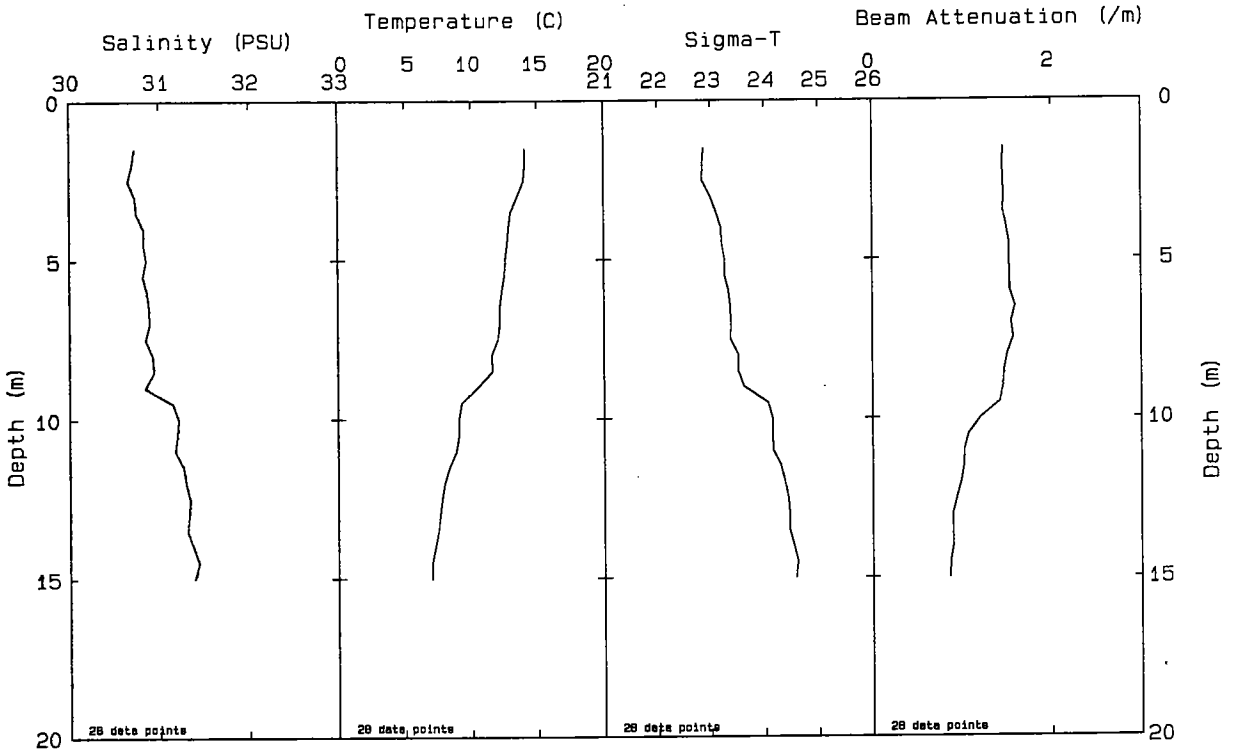

Salinity (PSU)
30 31 32
Temperature (C)
0 5 10 15 20
Sigma-T
21 22 23 24 25 26
Beam Attenuation (/m)
0 2
Depth (m)
0 5 10 15 20
35 data points
35 data points
35 data points
35 data points

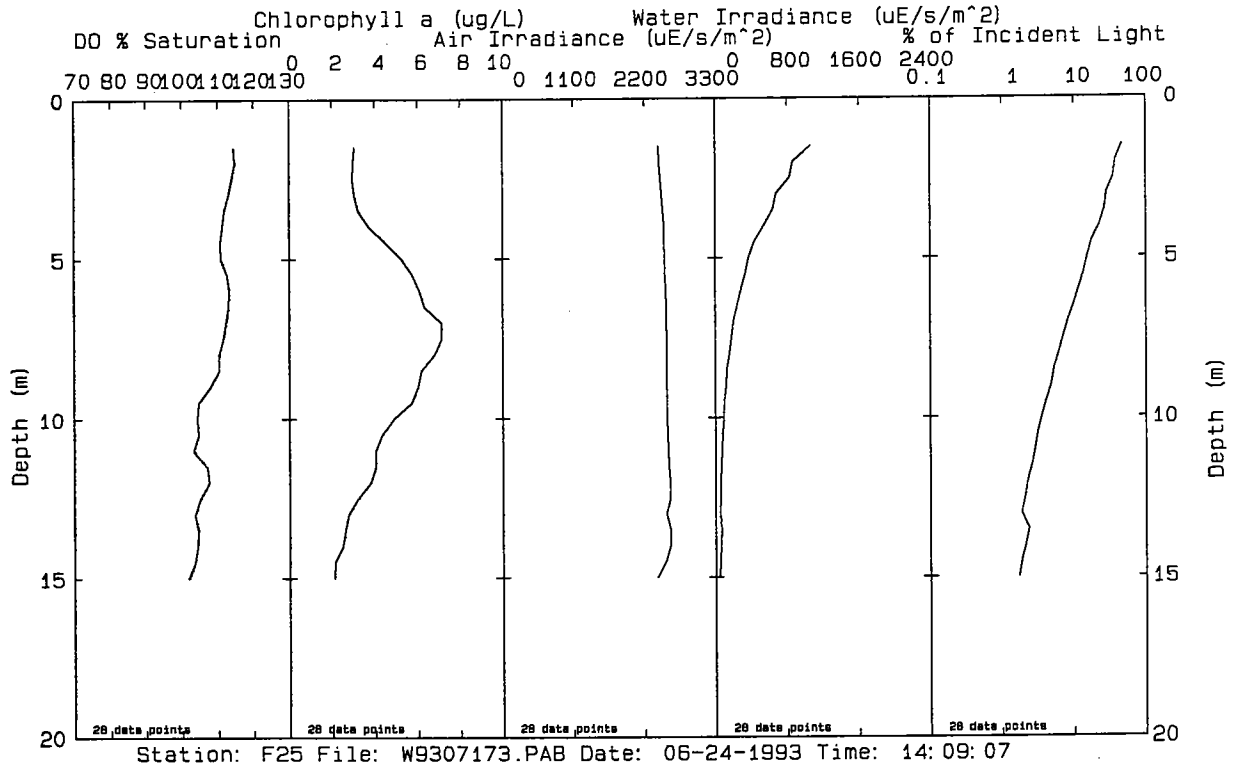

Chlorophyll a (ug/L)
DO % Saturation
70 80 90 100 110 120 130
Air Irradiance (uE/s/m^2)
0 2 4 6 8 10
Water Irradiance (uE/s/m^2)
0 1100 2200 3300
% of Incident Light
0 800 1600 2400
0.1 1 10 100
Depth (m)
0 5 10 15 20
35 data points
35 data points
35 data points
35 data points
35 data points
Station: F23P File: W9307178.PAB Date: 06-25-1993 Time: 05:32:07



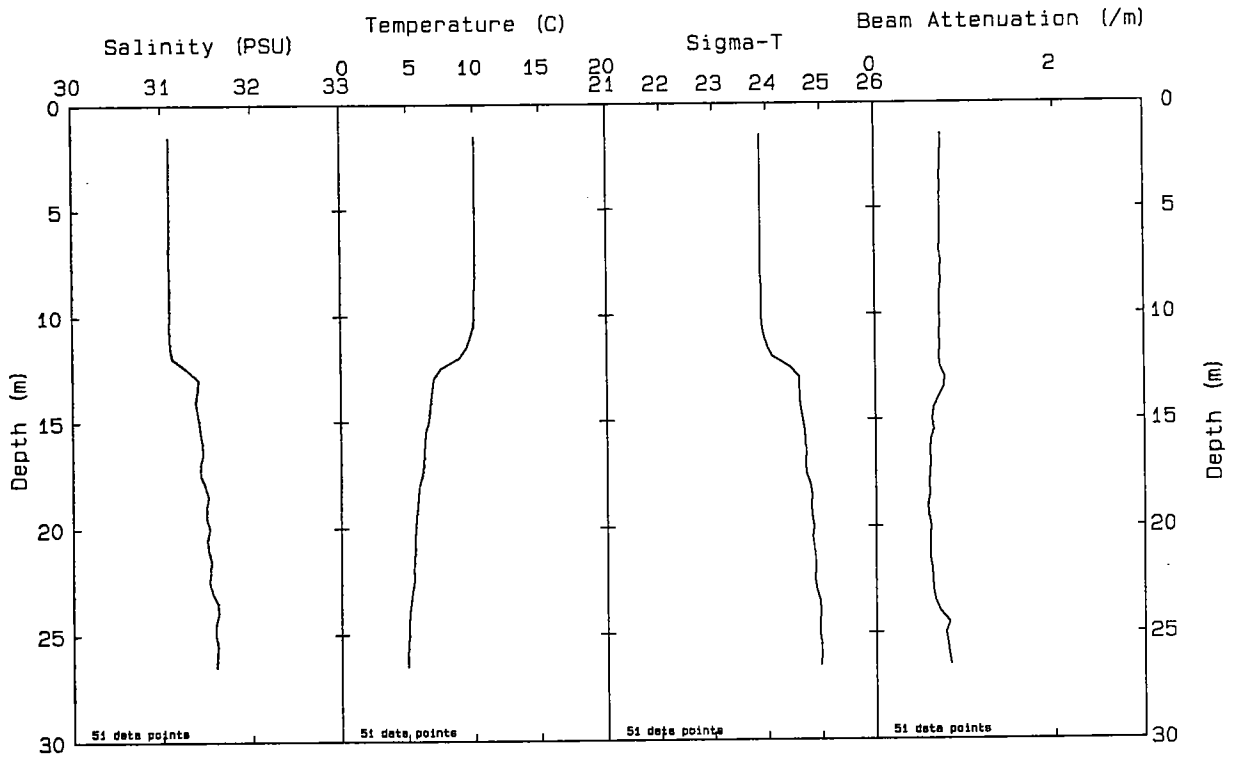


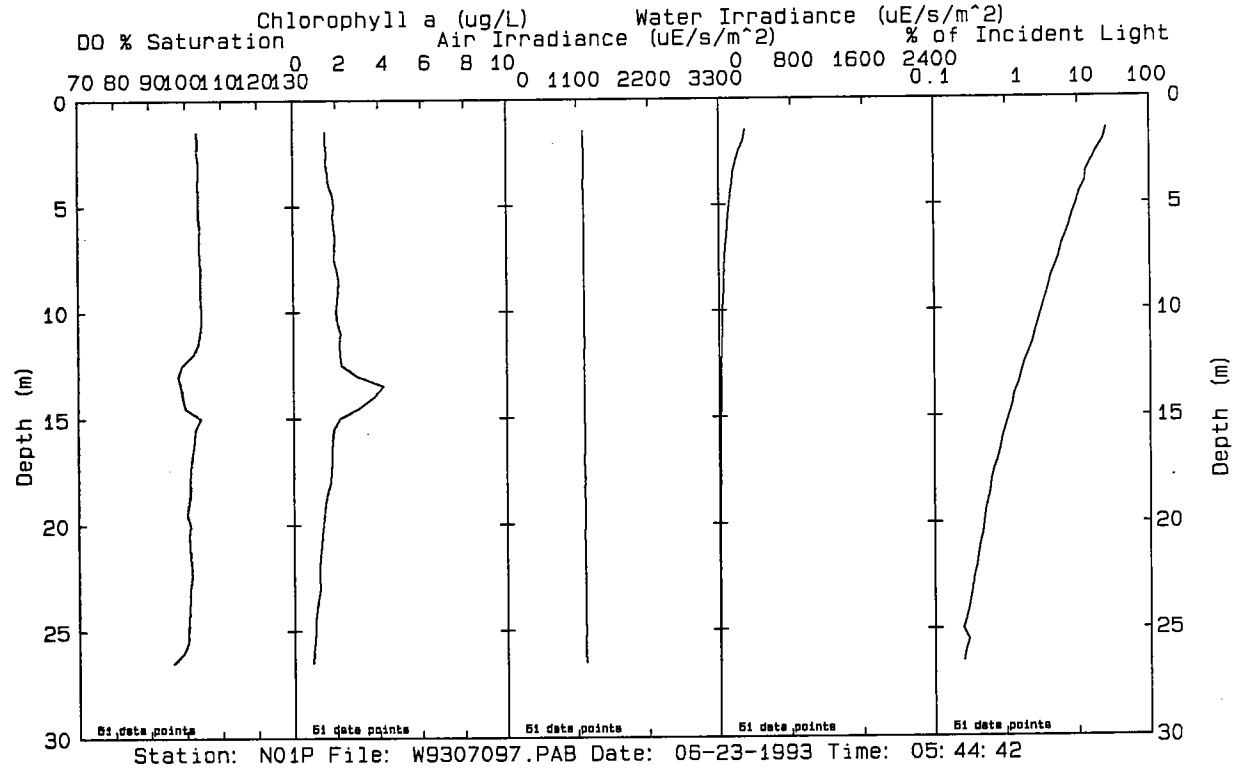
Station: F24 File: W9307013.PAB Date: 06-21-1993 Time: 17:54:28



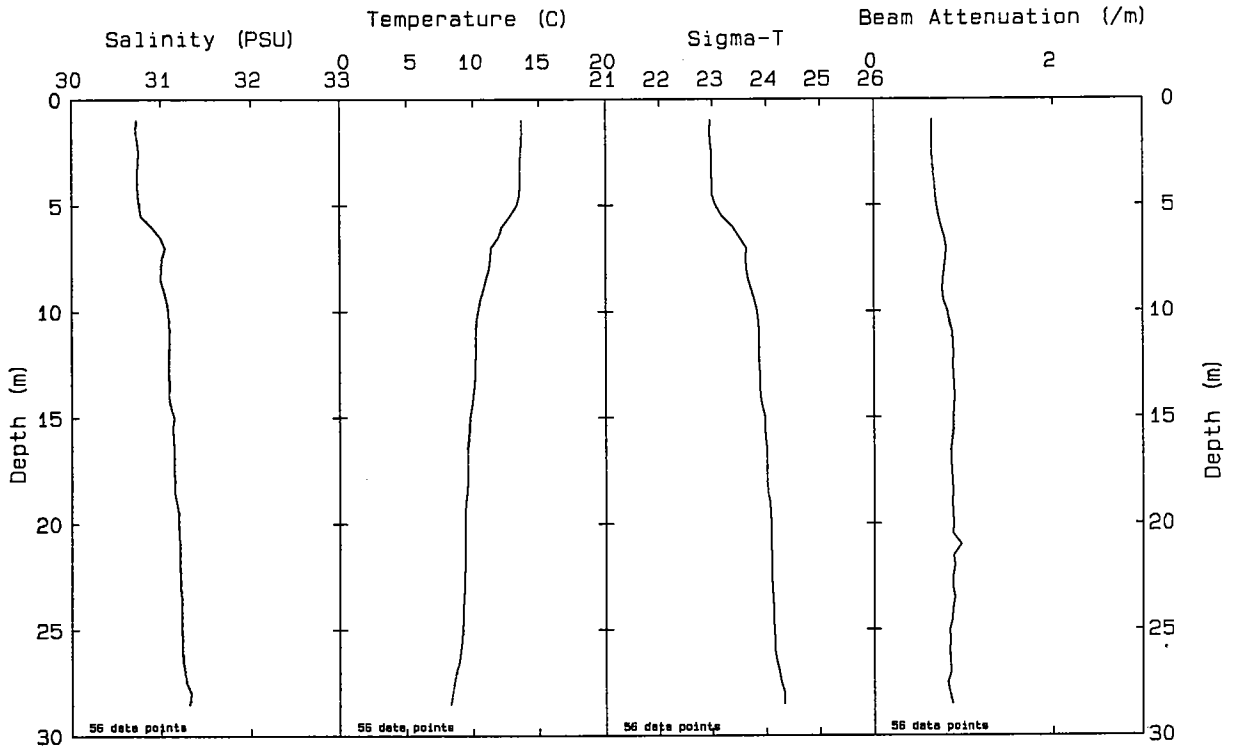


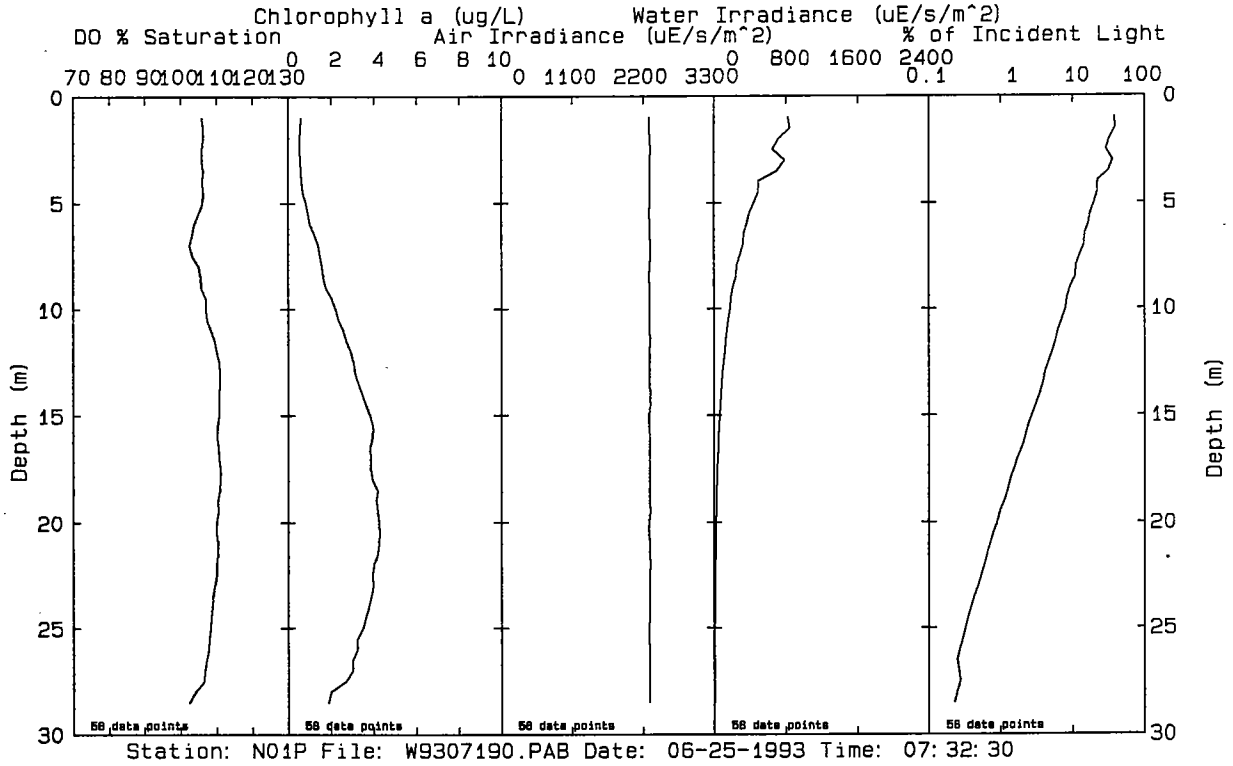
Station: F25 File: W9307173.PAB Date: 06-24-1993 Time: 14:09:07



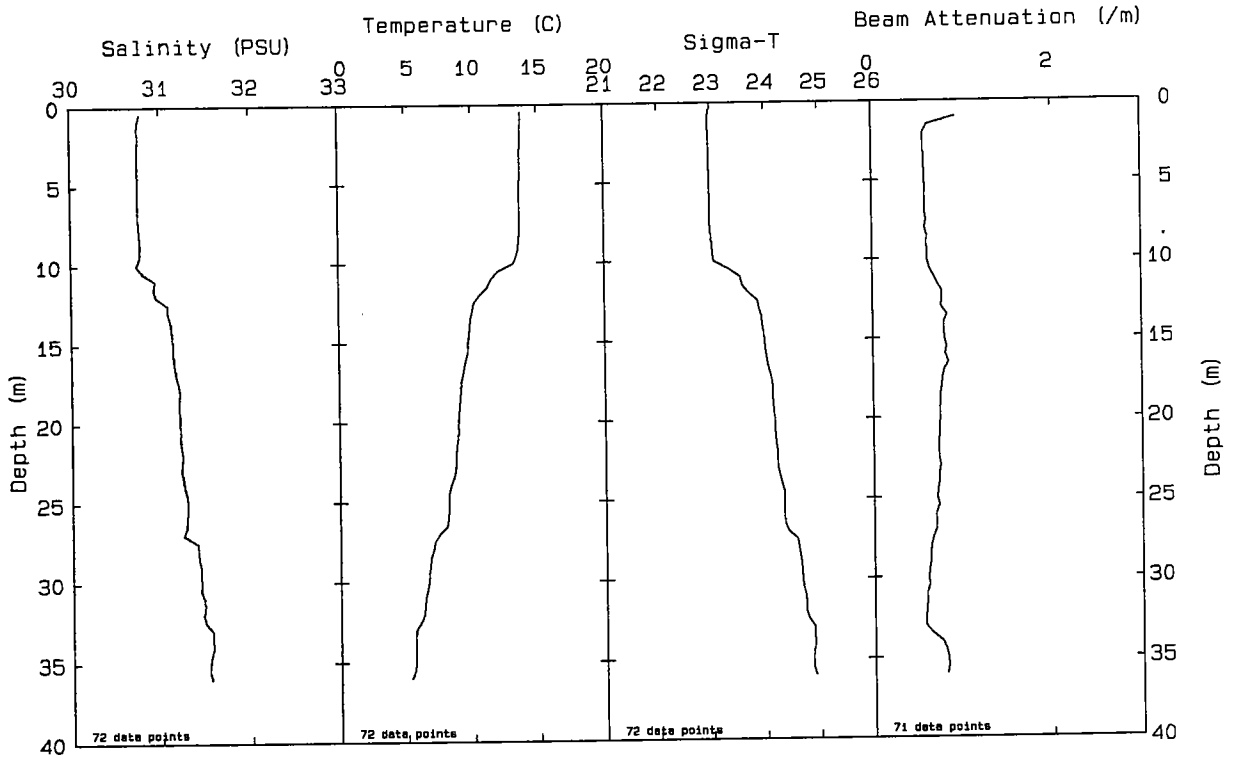


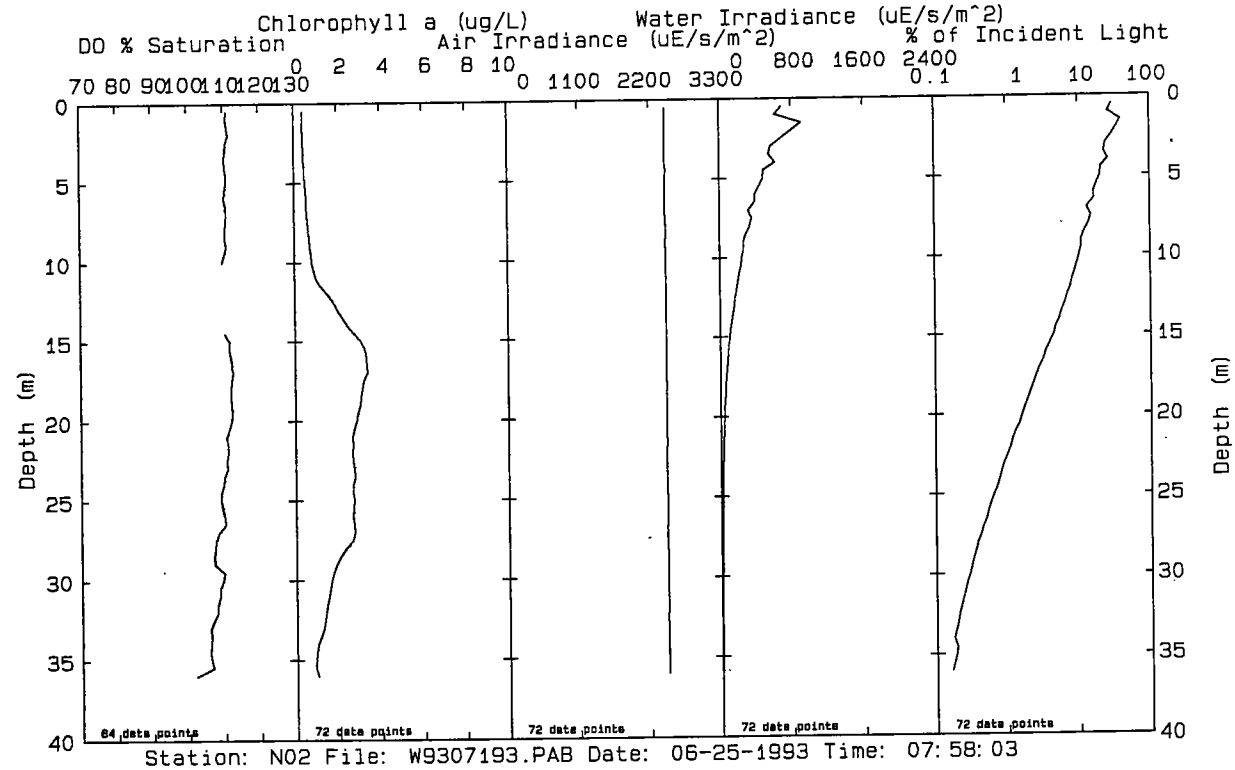
Station: N01P File: W9307097.PAB Date: 06-23-1993 Time: 05: 44: 42



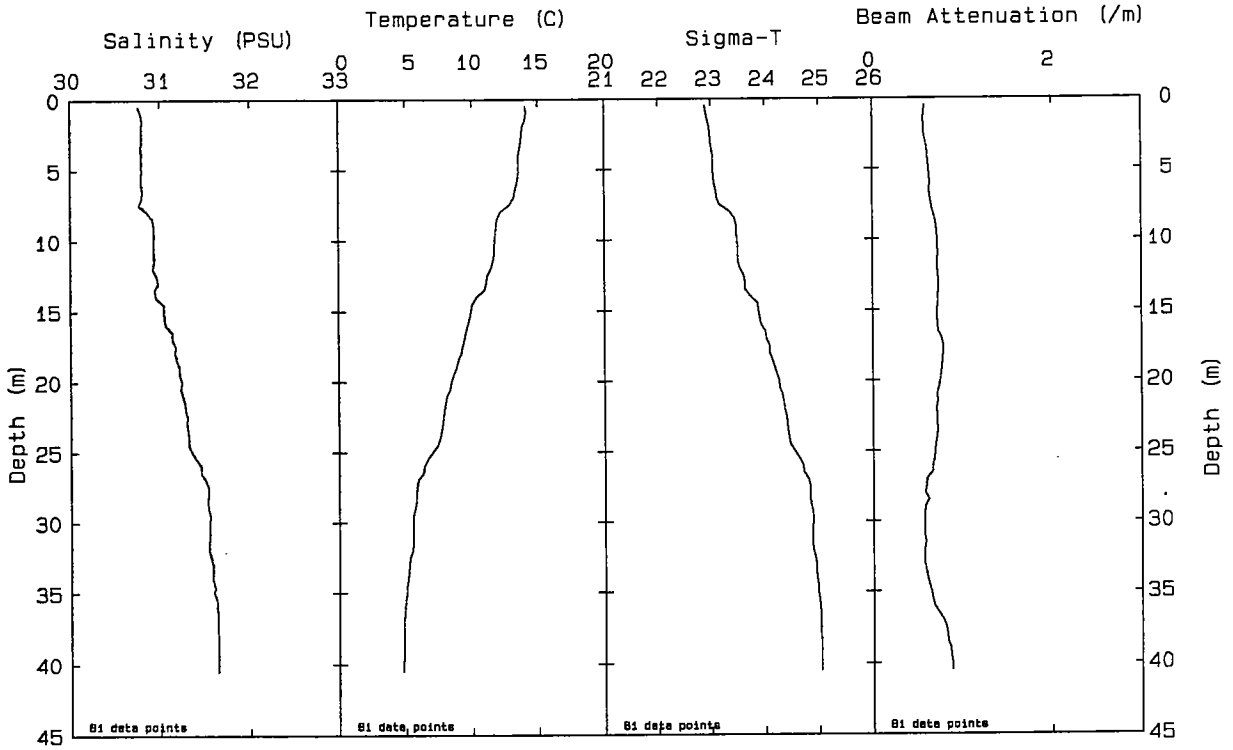


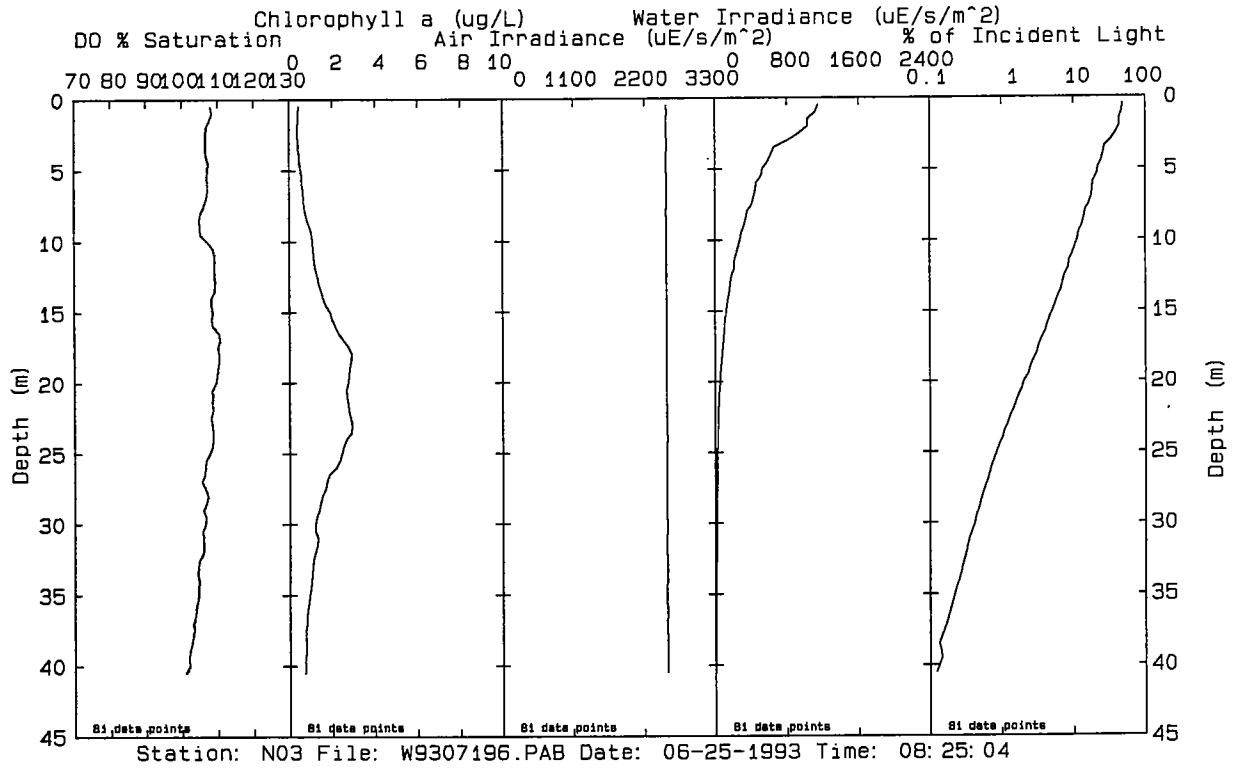
Station: N01P File: W9307190.PAB Date: 06-25-1993 Time: 07:32:30



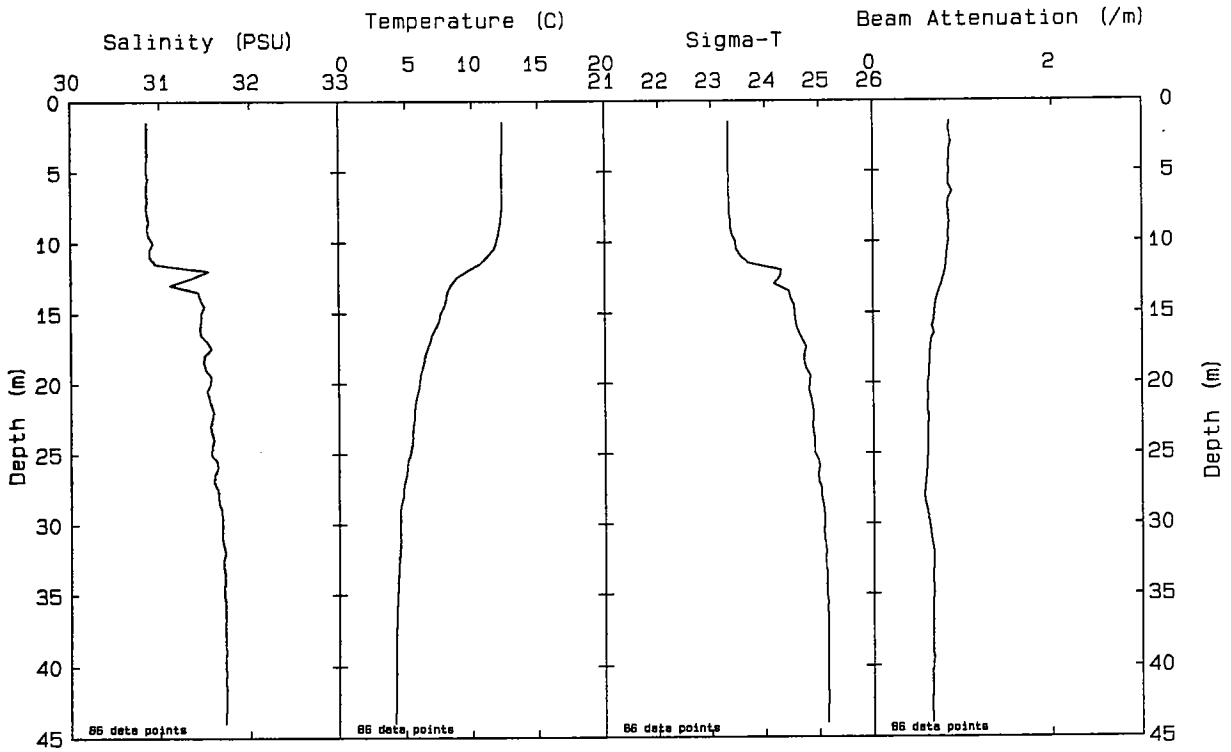


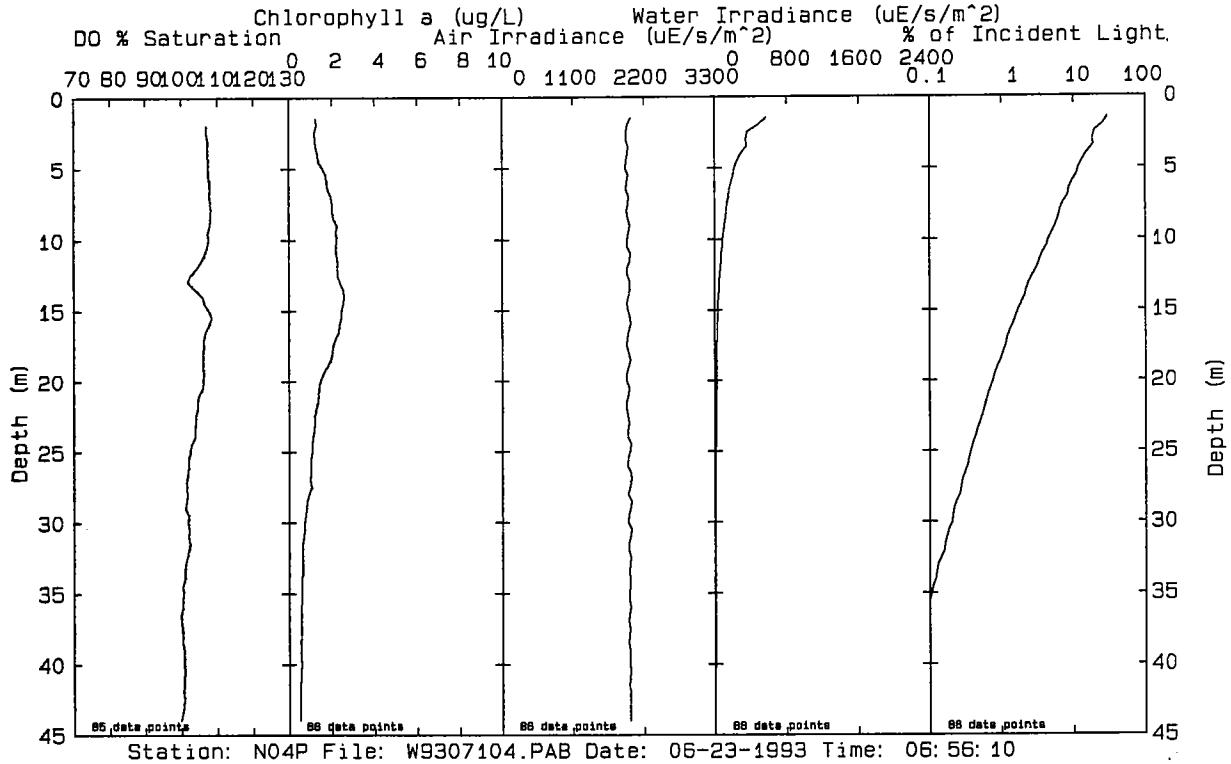
Station: N02 File: W9307193.PAB Date: 06-25-1993 Time: 07:58:03

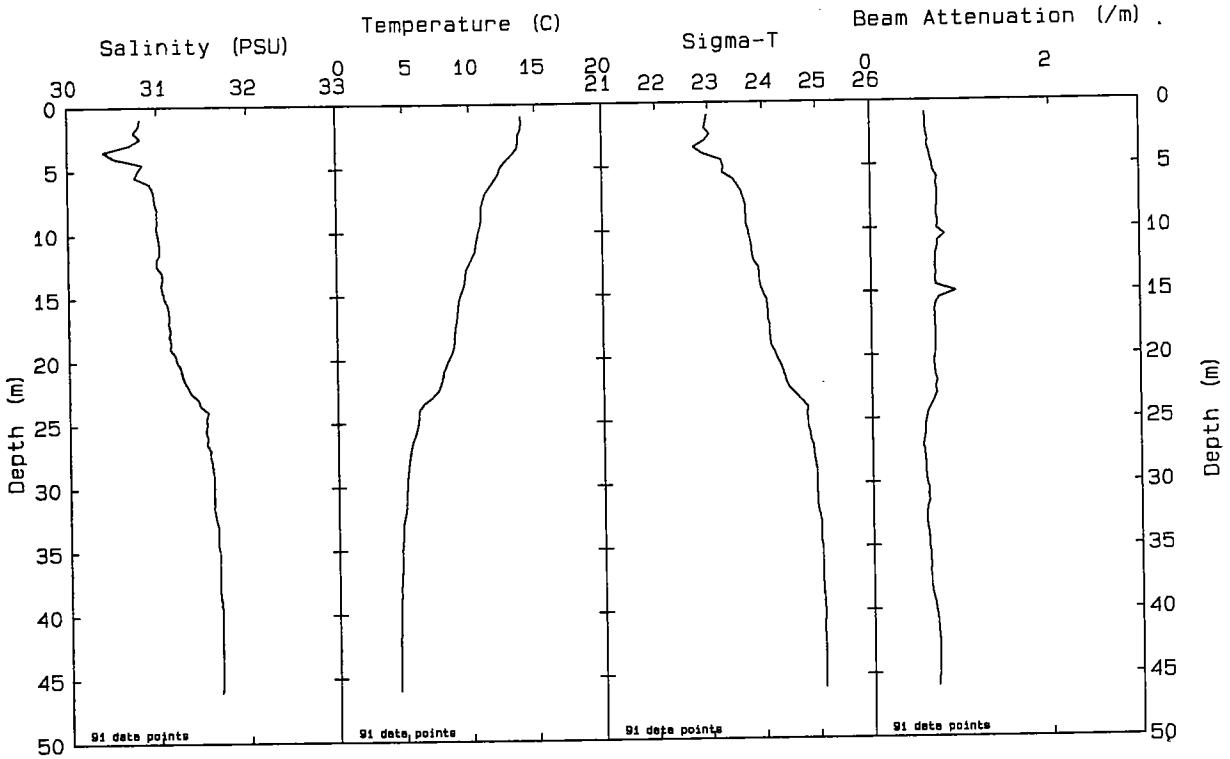


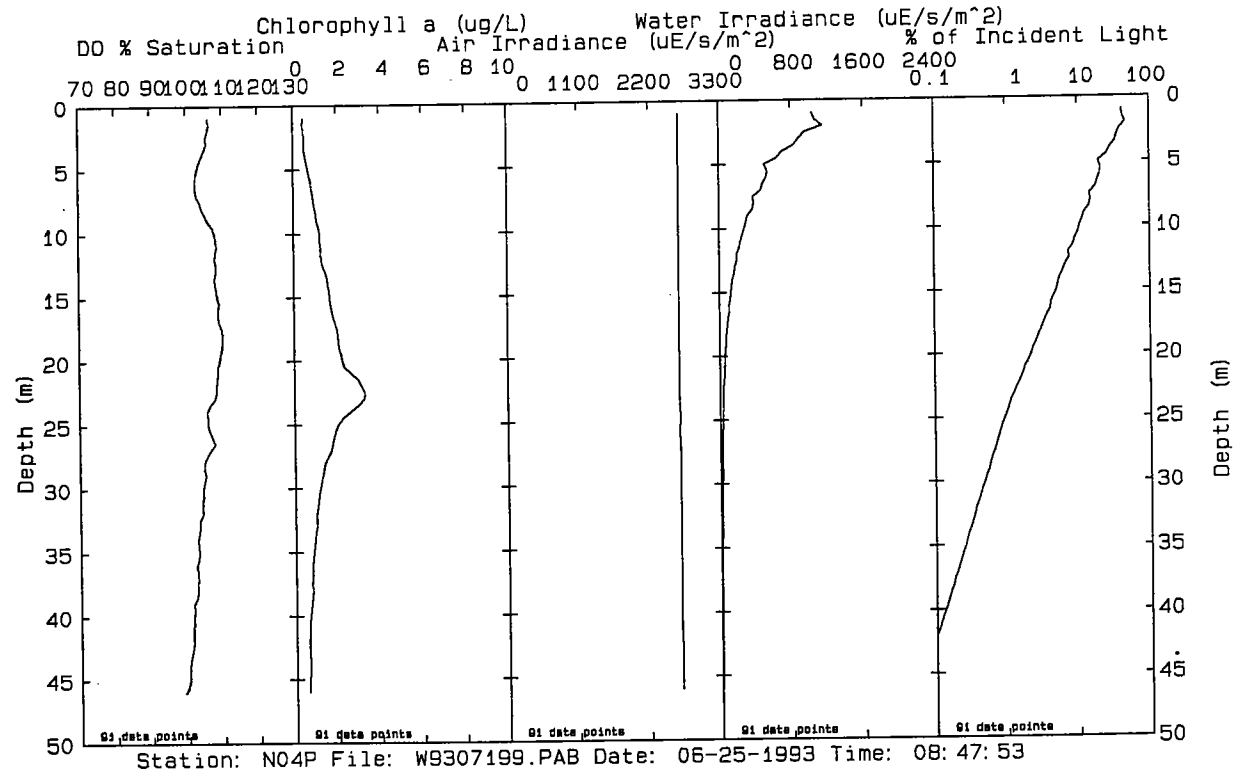


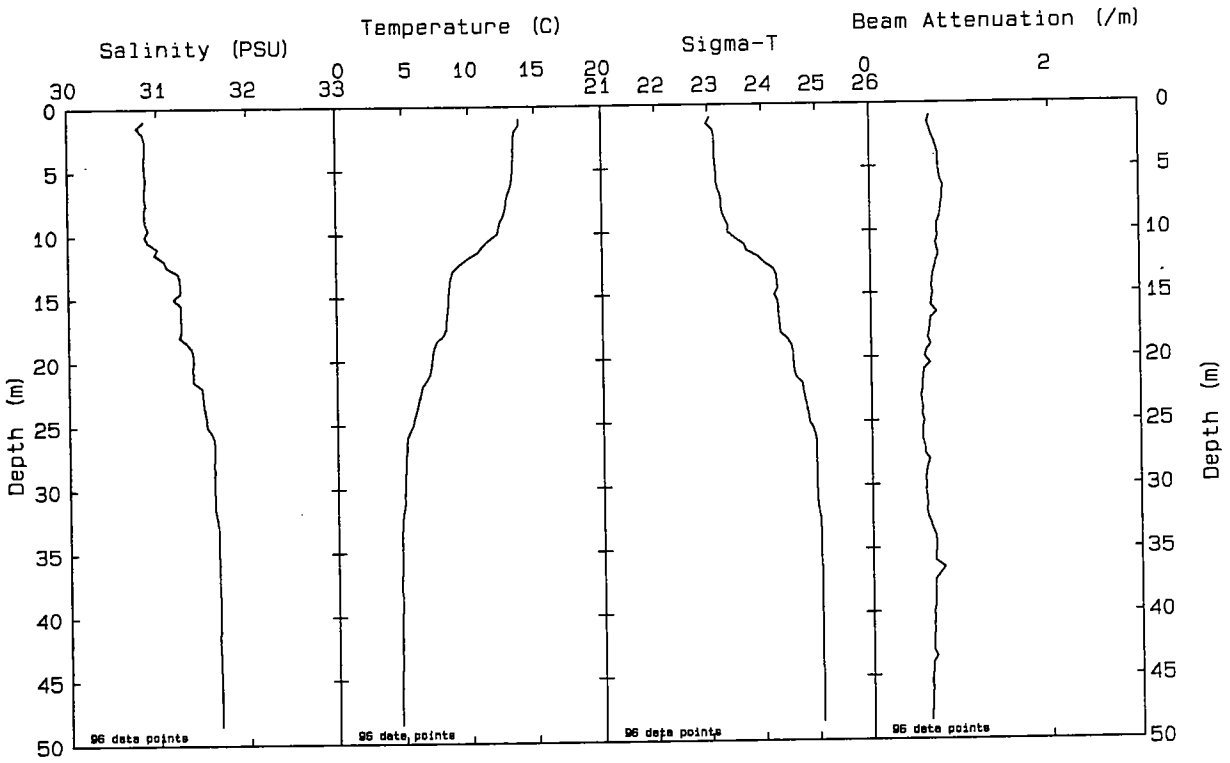
Station: N03 File: W9307196.PAB Date: 06-25-1993 Time: 08:25:04

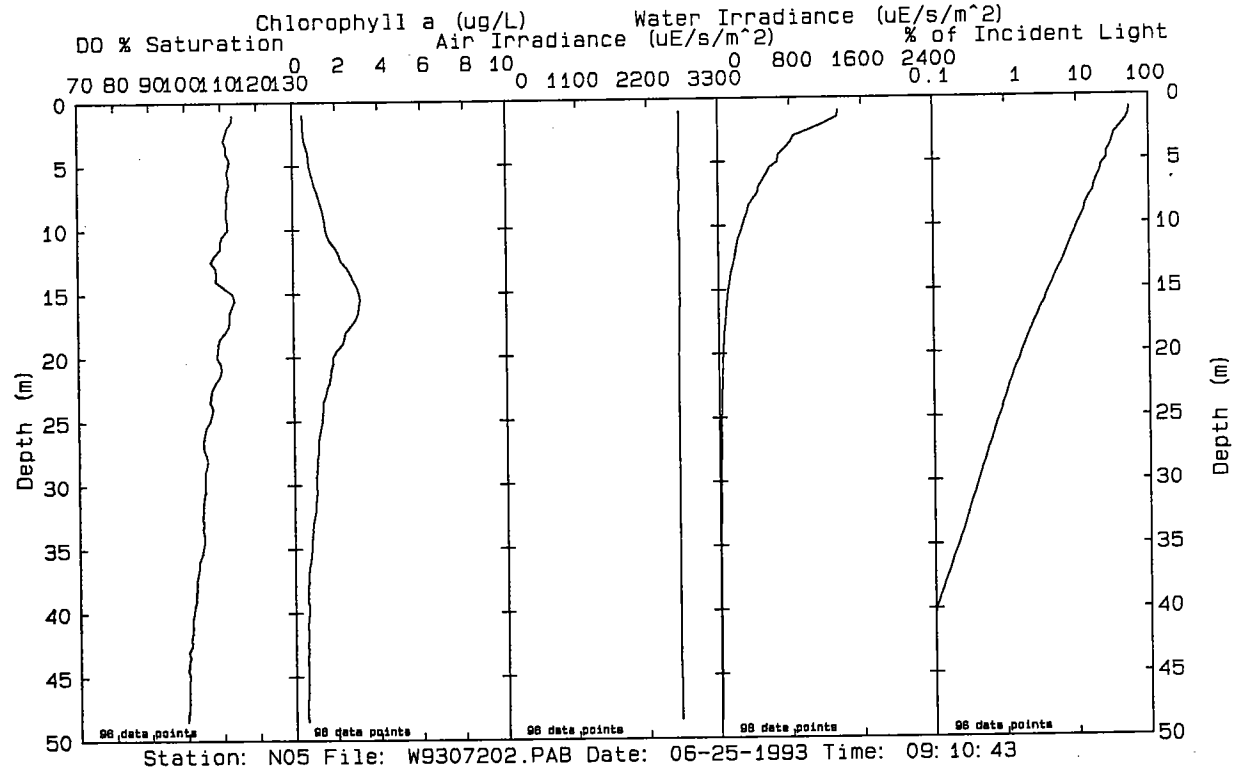

Salinity (PSU)
30 31 32
Temperature (C)
0 5 10 15 20
Sigma-T
21 22 23 24 25 26
Beam Attenuation (/m)
0 2
Depth (m)
0 5 10 15 20 25 30 35 40 45
86 data points
86 data points
86 data points
86 data points


DO % Saturation
70 80 90 100 110 120 130
Chlorophyll a (ug/L)
0 2 4 6 8 10
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 800 1600 2400
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35 40 45
85 data points
86 data points
86 data points
88 data points
88 data points
Station: N04P File: W9307104.PAB Date: 06-23-1993 Time: 06:56:10

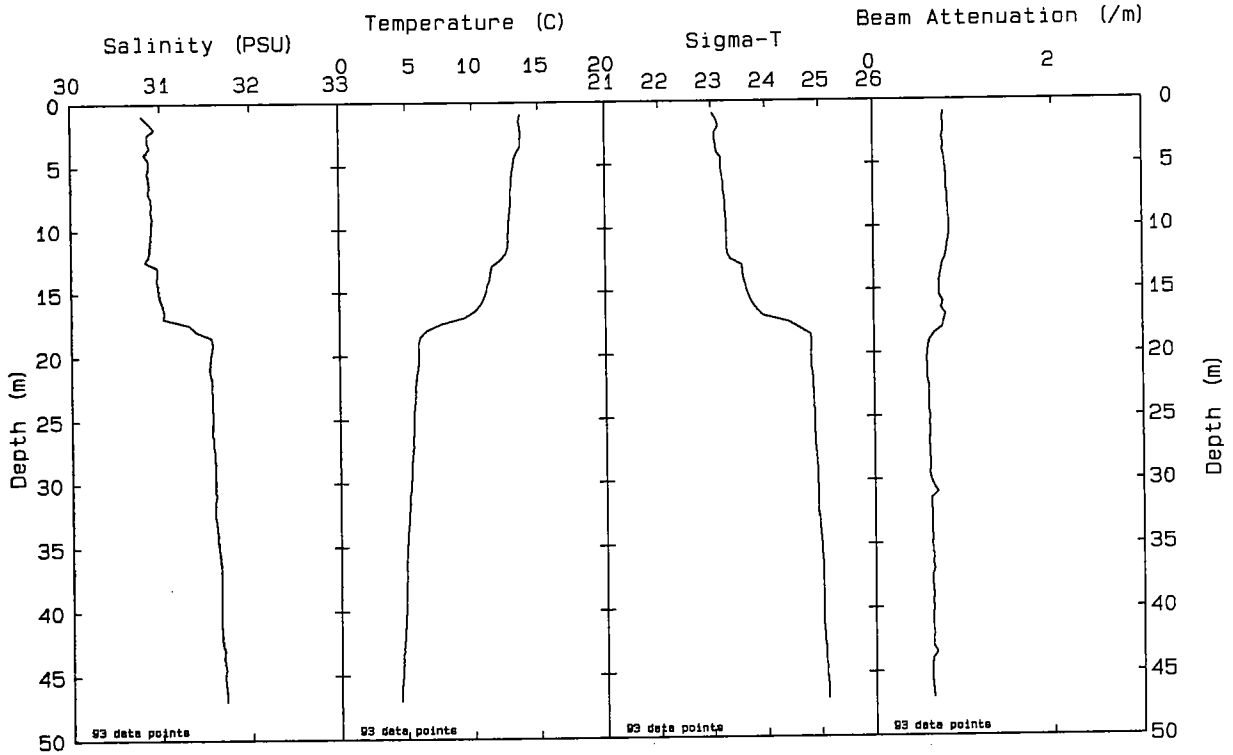

Salinity (PSU)
30 31 32
Temperature (C)
0 5 10 15 20
33 21
Sigma-T
22 23 24 25 26
Beam Attenuation (/m)
0 2
Depth (m)
0 5 10 15 20 25 30 35 40 45 50
91 data points
91 data points
91 data points
91 data points

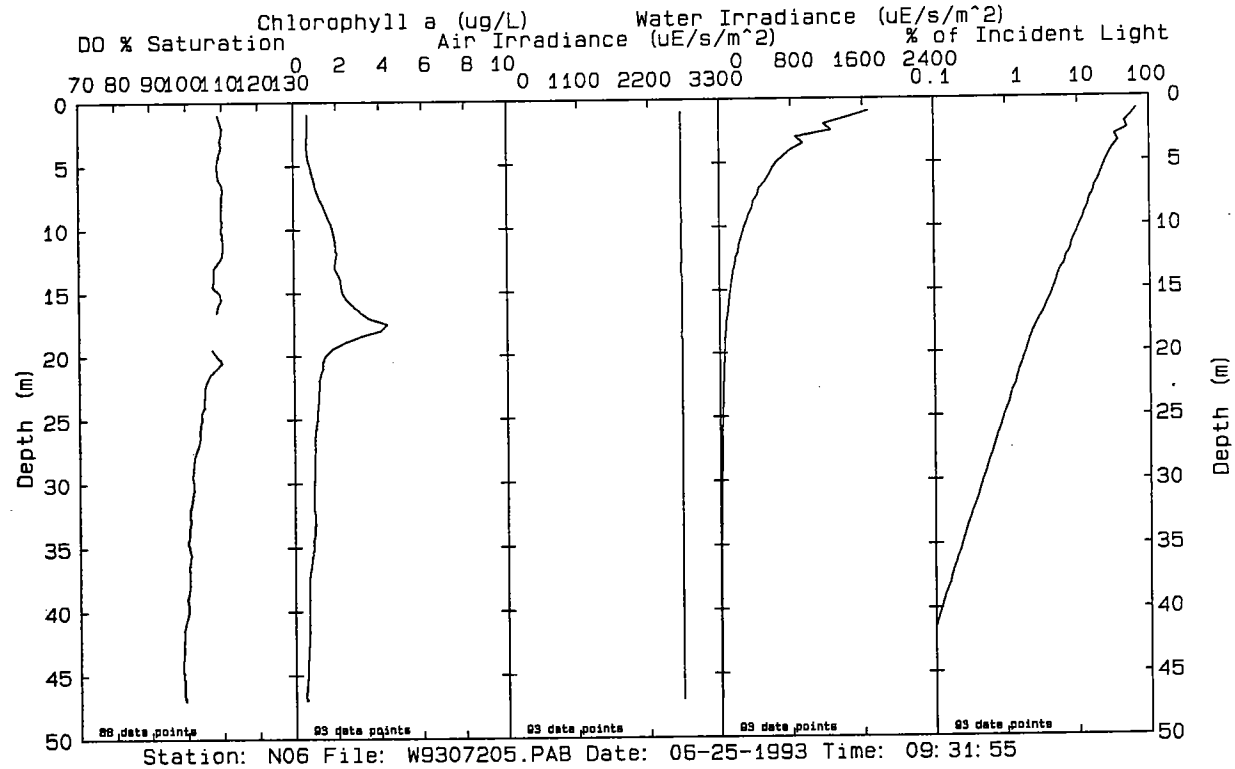

Chlorophyll a (ug/L)
DO % Saturation
70 80 90 100 110 120 130
Air Irradiance (uE/s/m^2)
0 2 4 6 8 10
Water Irradiance (uE/s/m^2)
0 1100 2200 3300
% of Incident Light
0 800 1600 2400
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35 40 45 50
91 data points
91 data points
91 data points
91 data points
91 data points
Station: N04P File: W9307199.PAB Date: 06-25-1993 Time: 08:47:53



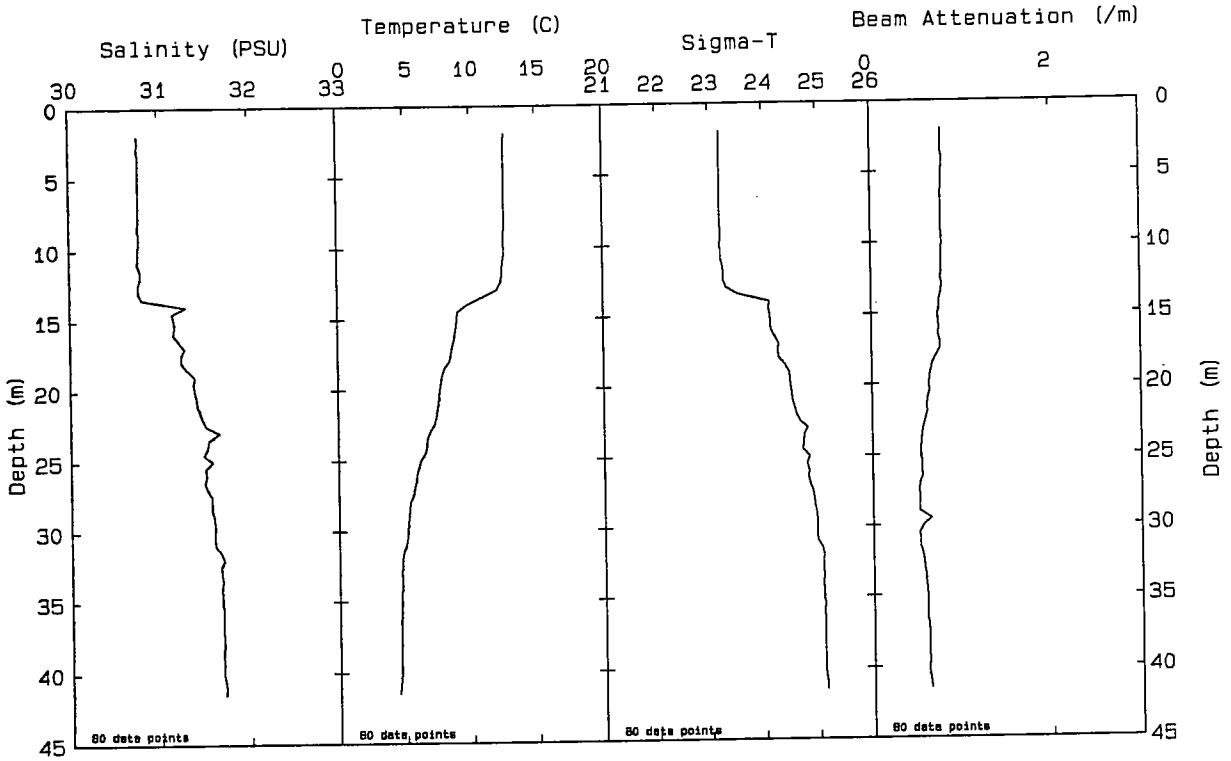


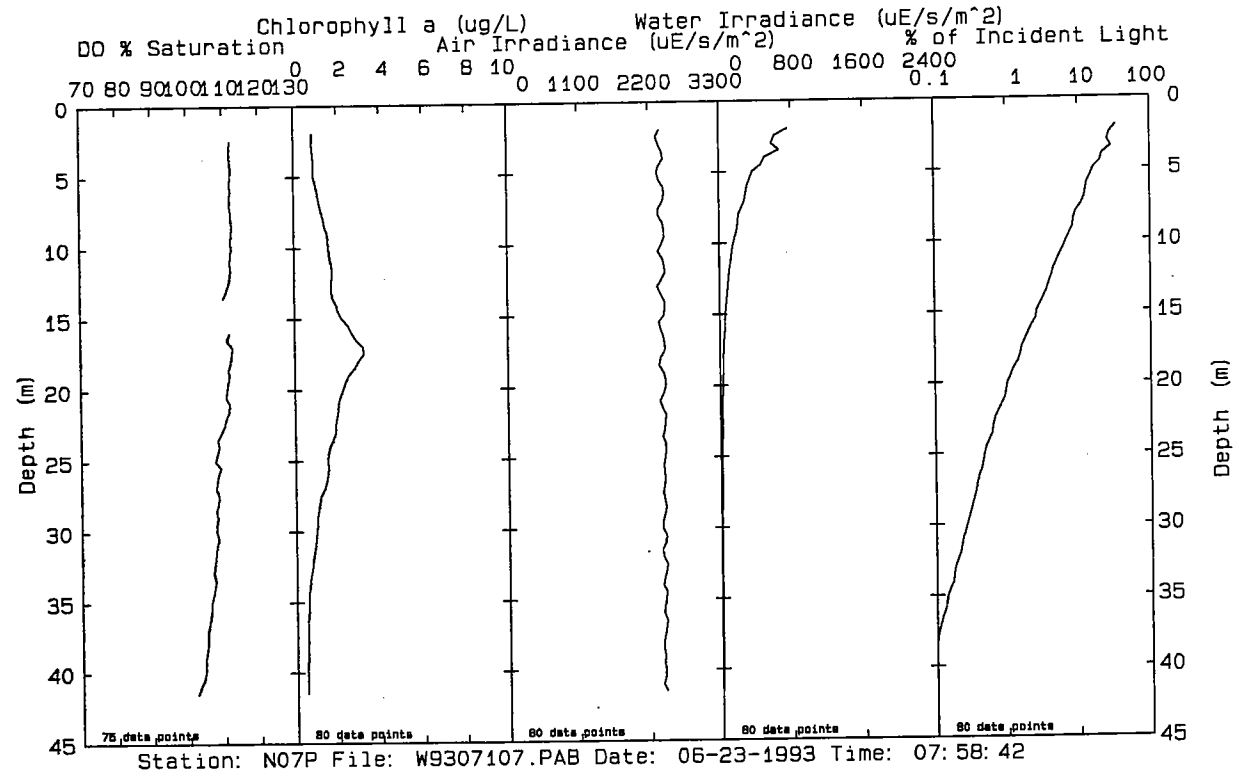
Station: N05 File: W9307202.PAB Date: 06-25-1993 Time: 09:10:43

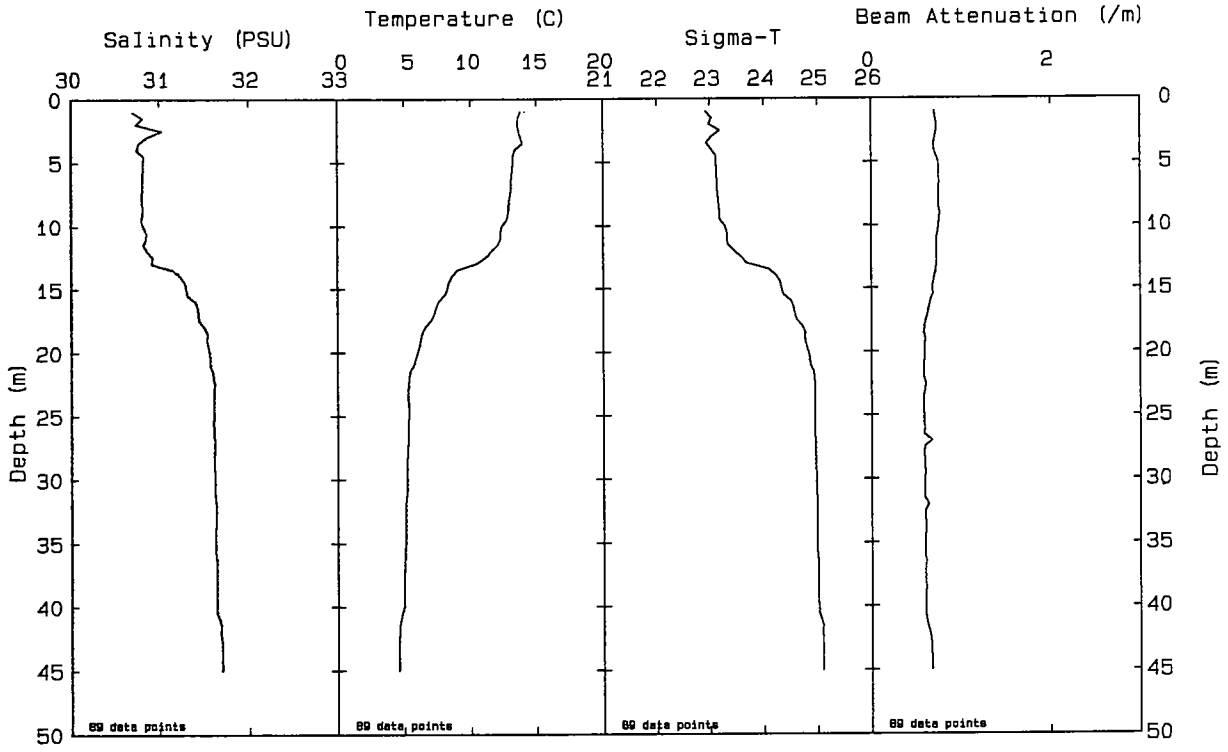


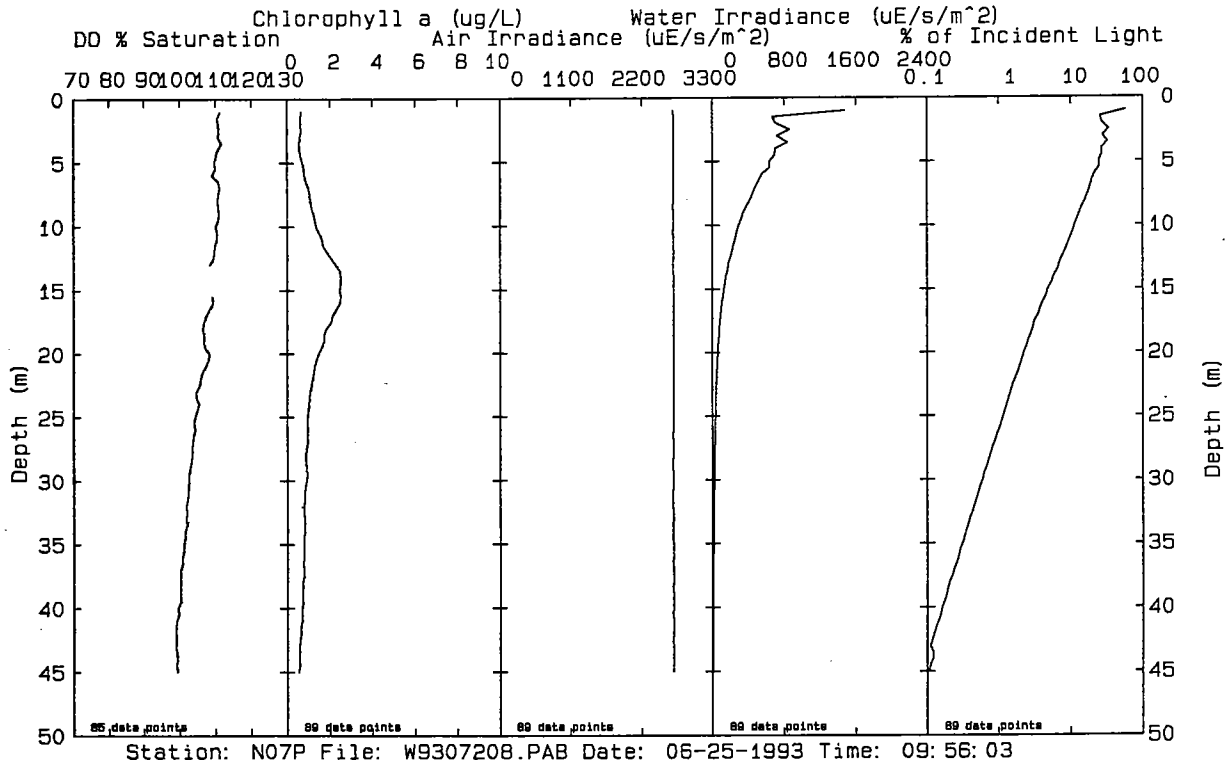


Station: N06 File: W9307205.PAB Date: 06-25-1993 Time: 09:31:55

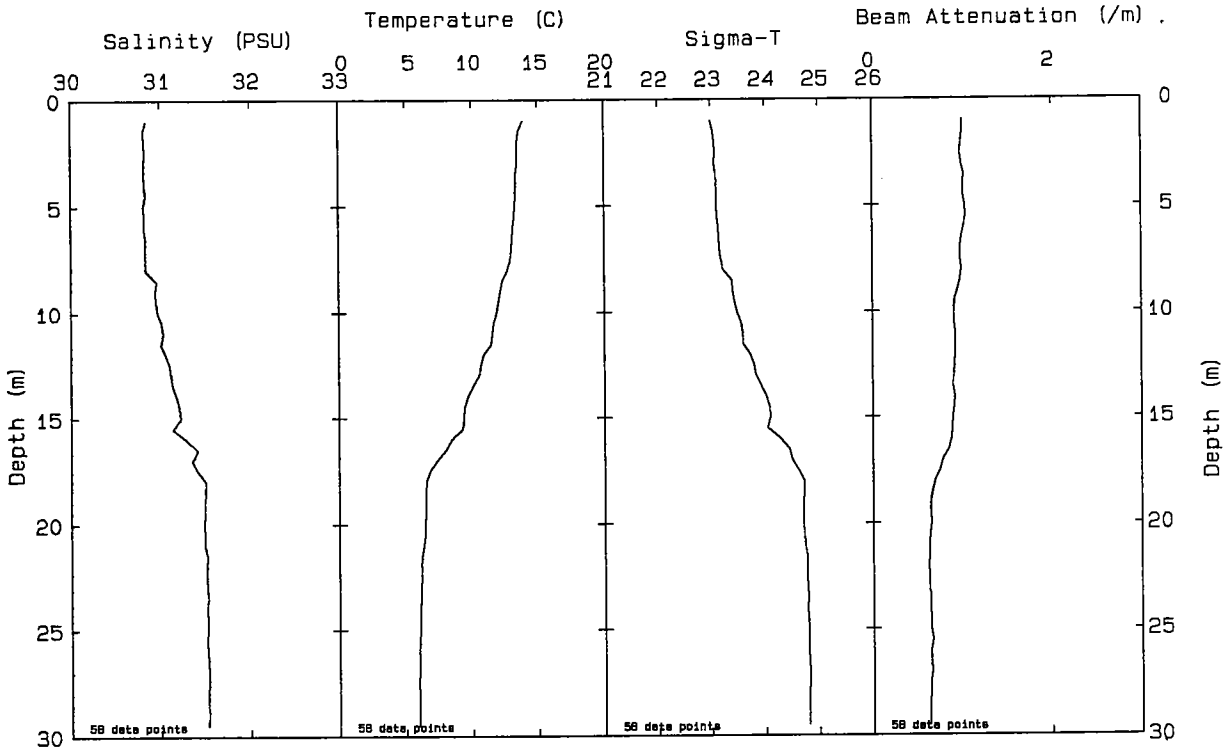

Salinity (PSU)
30 31 32
Temperature (C)
0 5 10 15 20
Sigma-T
21 22 23 24 25 26
Beam Attenuation (/m)
0 2
Depth (m)
0 5 10 15 20 25 30 35 40 45
80 data points
80 data points
80 data points
80 data points

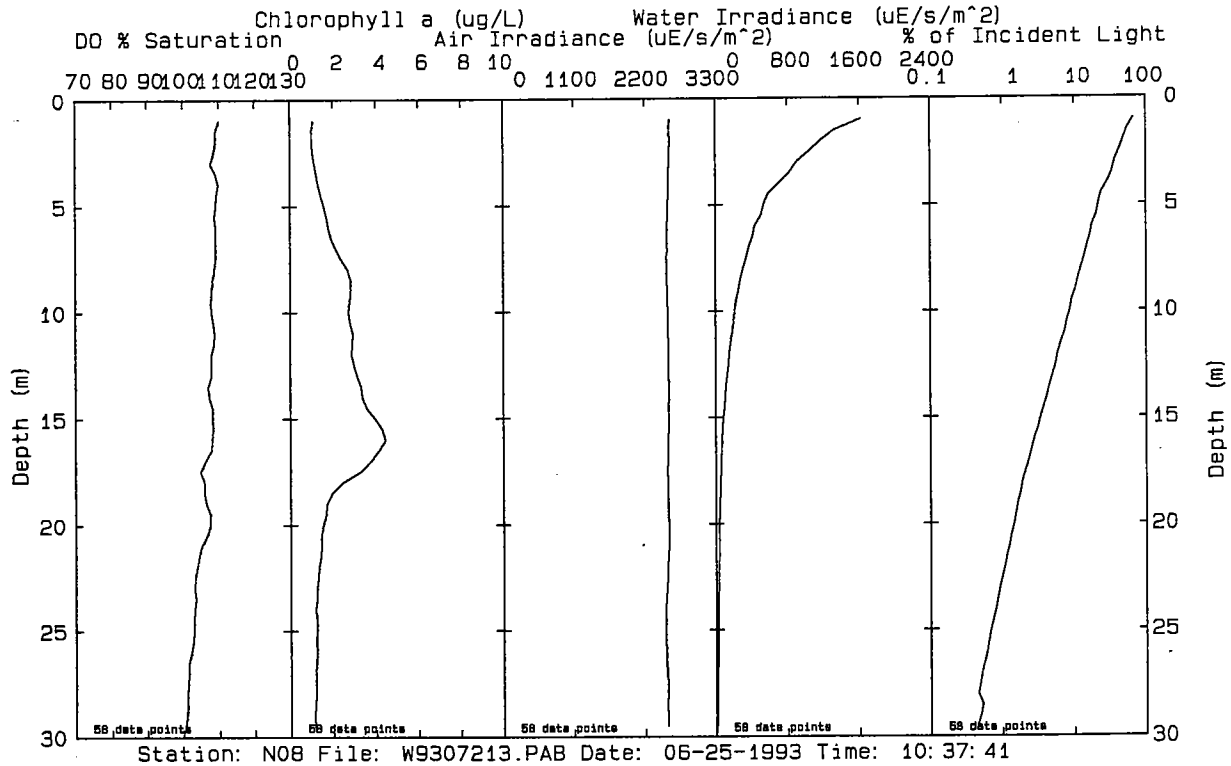

DO % Saturation
70 80 90 100 110 120 130
Chlorophyll a (ug/L)
0 2 4 6 8 10
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 800 1600 2400
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35 40 45
75 data points
80 data points
80 data points
80 data points
80 data points
Station: N07P File: W9307107.PAB Date: 06-23-1993 Time: 07:58:42



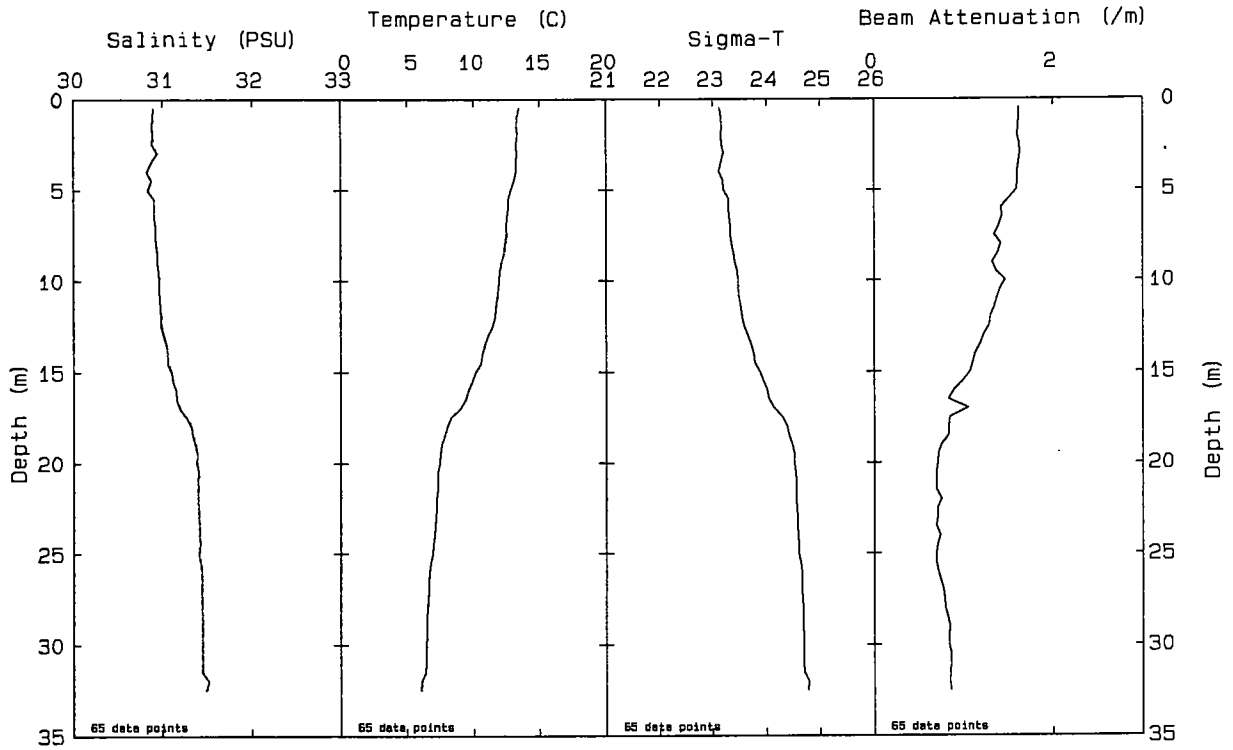


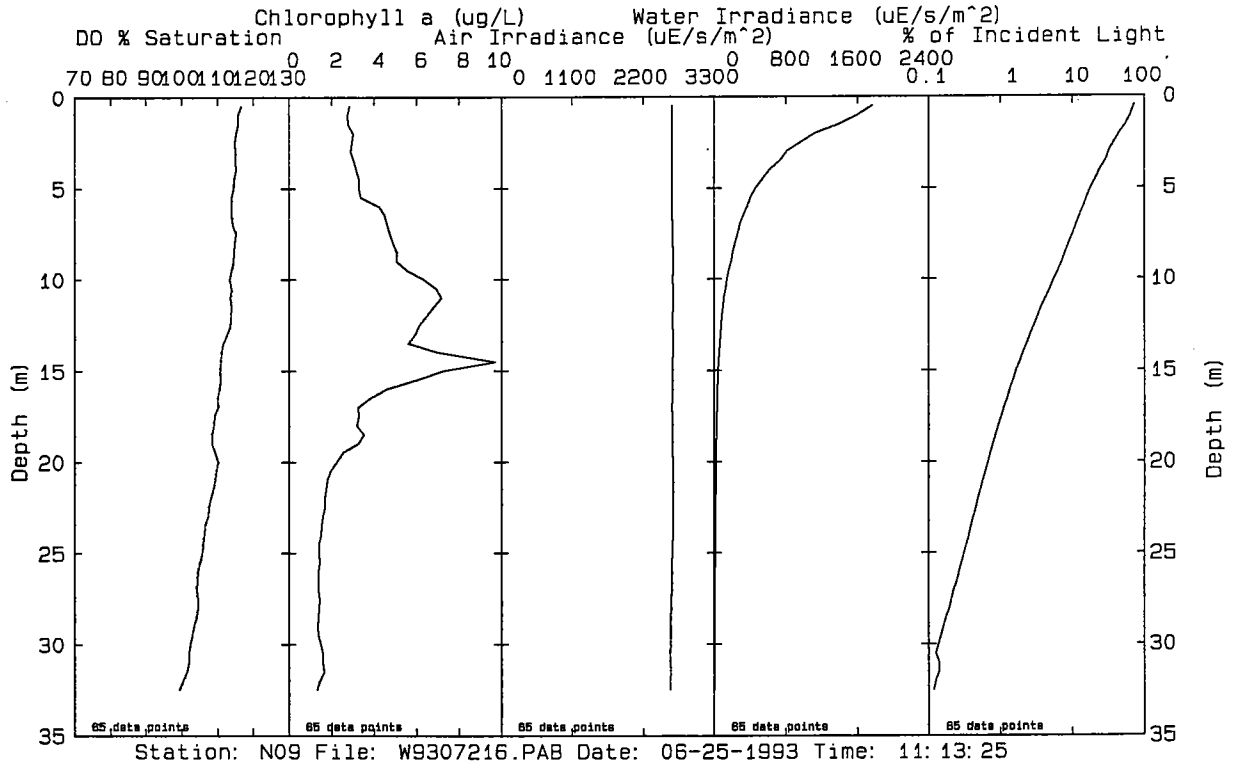
Station: N07P File: W9307208.PAB Date: 06-25-1993 Time: 09:56:03



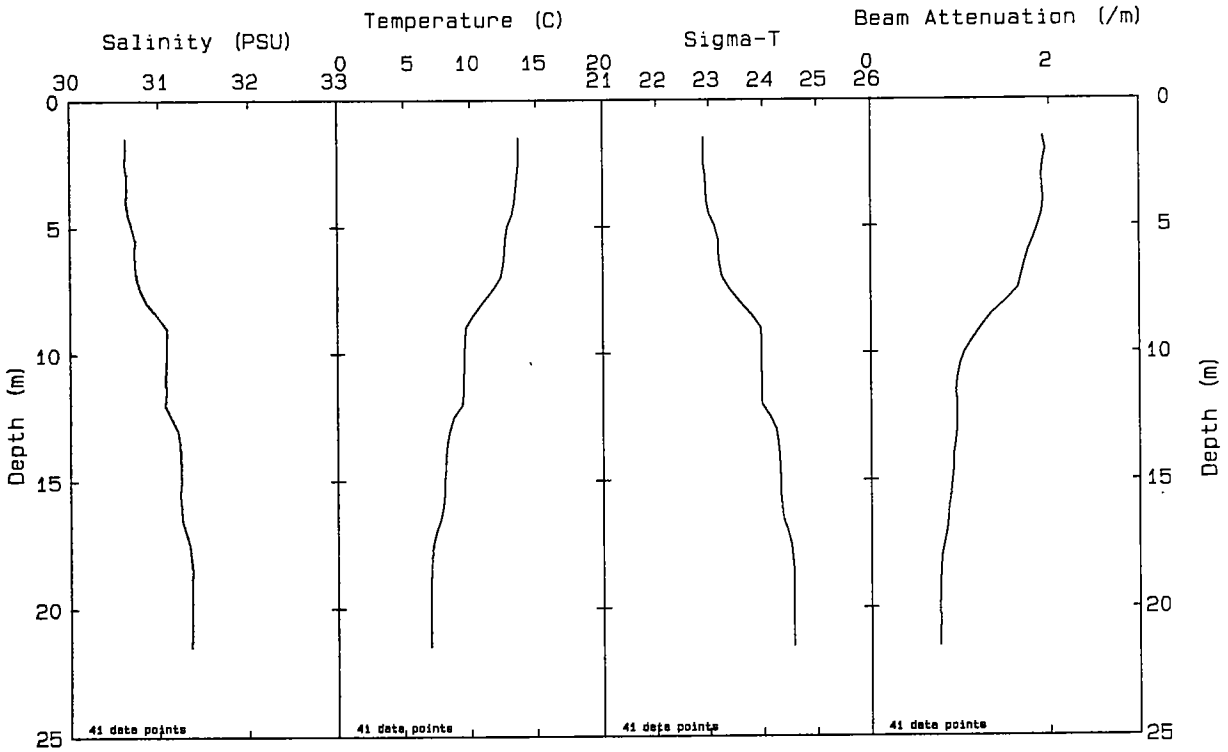


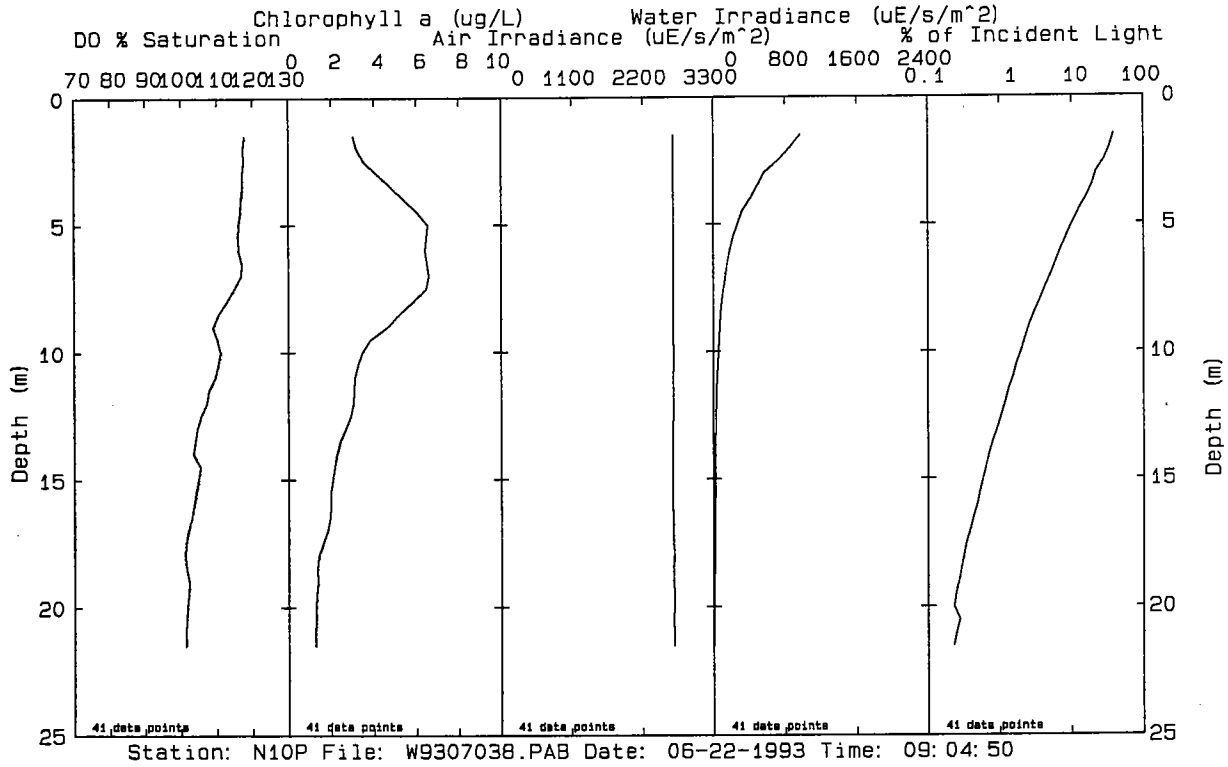
Station: N08 File: W9307213.PAB Date: 06-25-1993 Time: 10:37:41



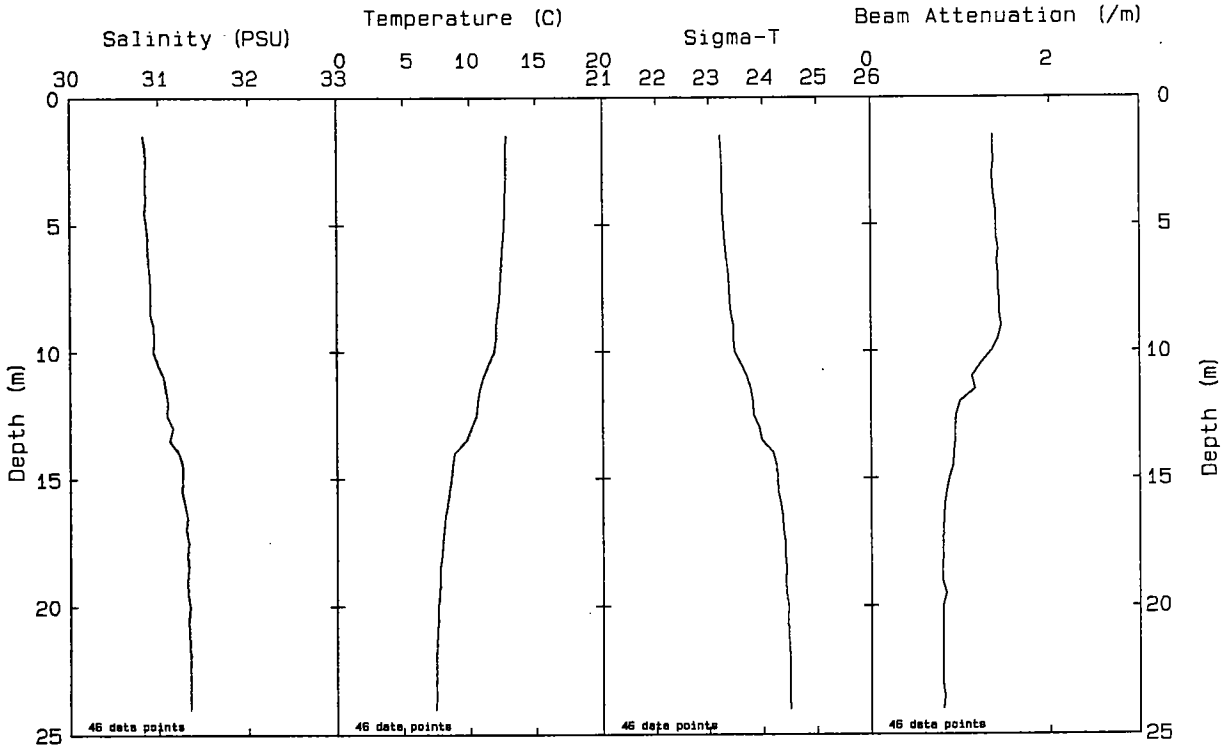


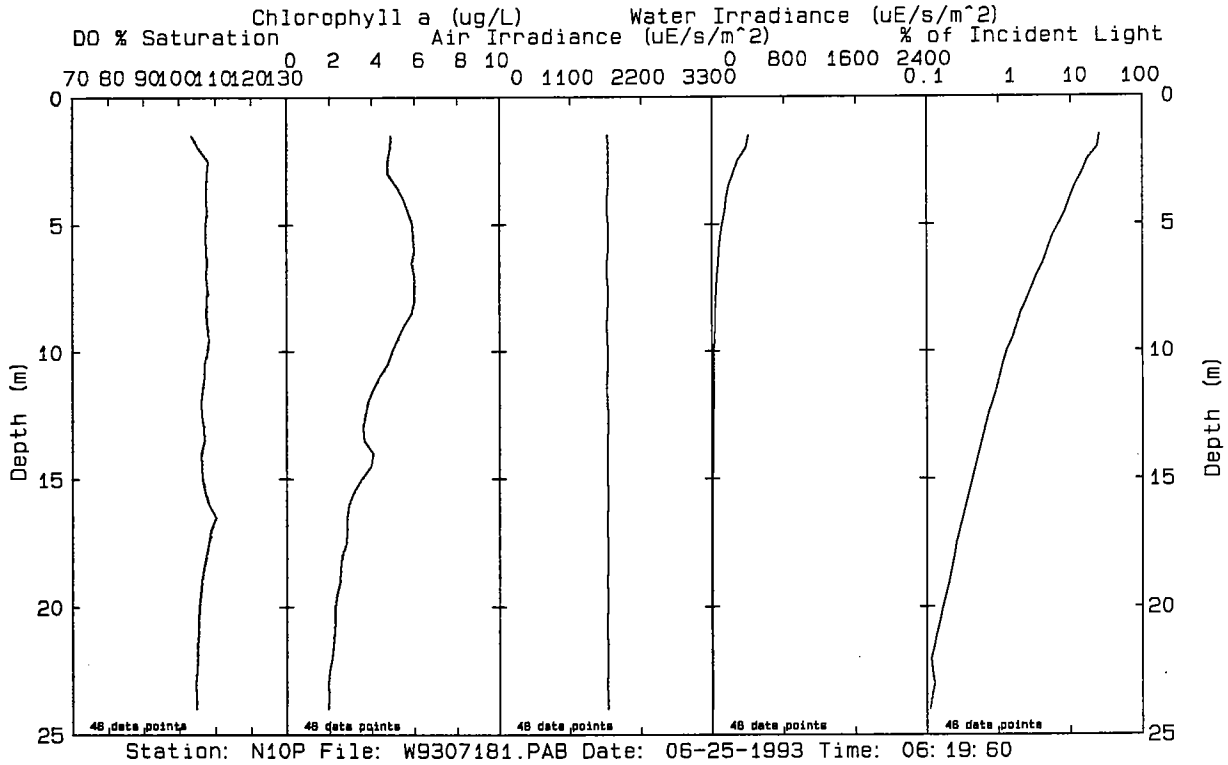
Station: N09 File: W9307216.PAB Date: 06-25-1993 Time: 11:13:25



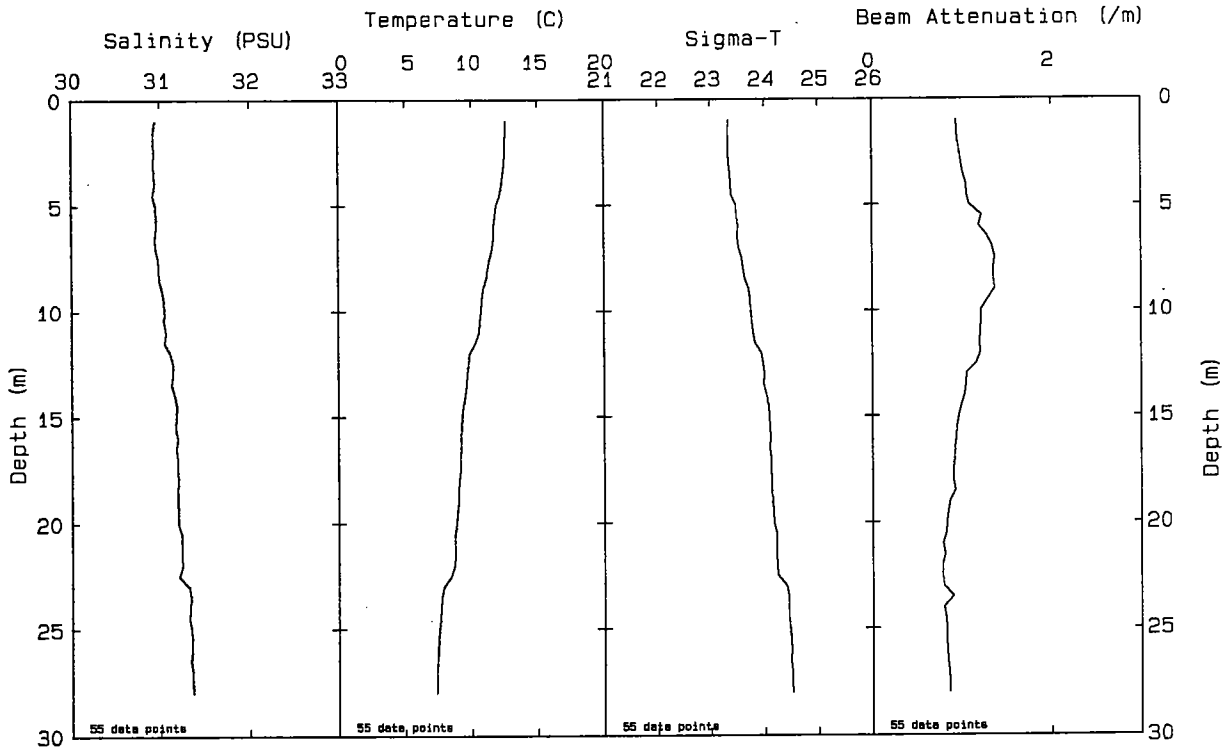


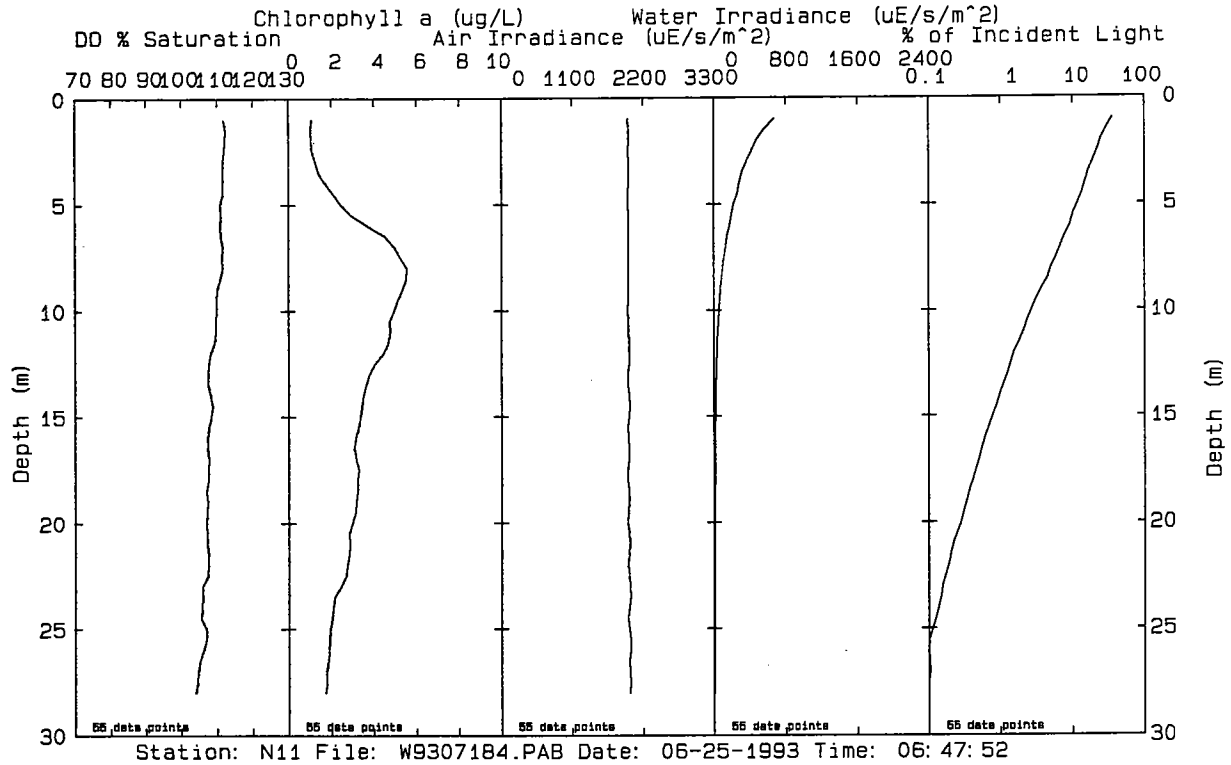
Station: N10P File: W9307038.PAB Date: 06-22-1993 Time: 09:04:50



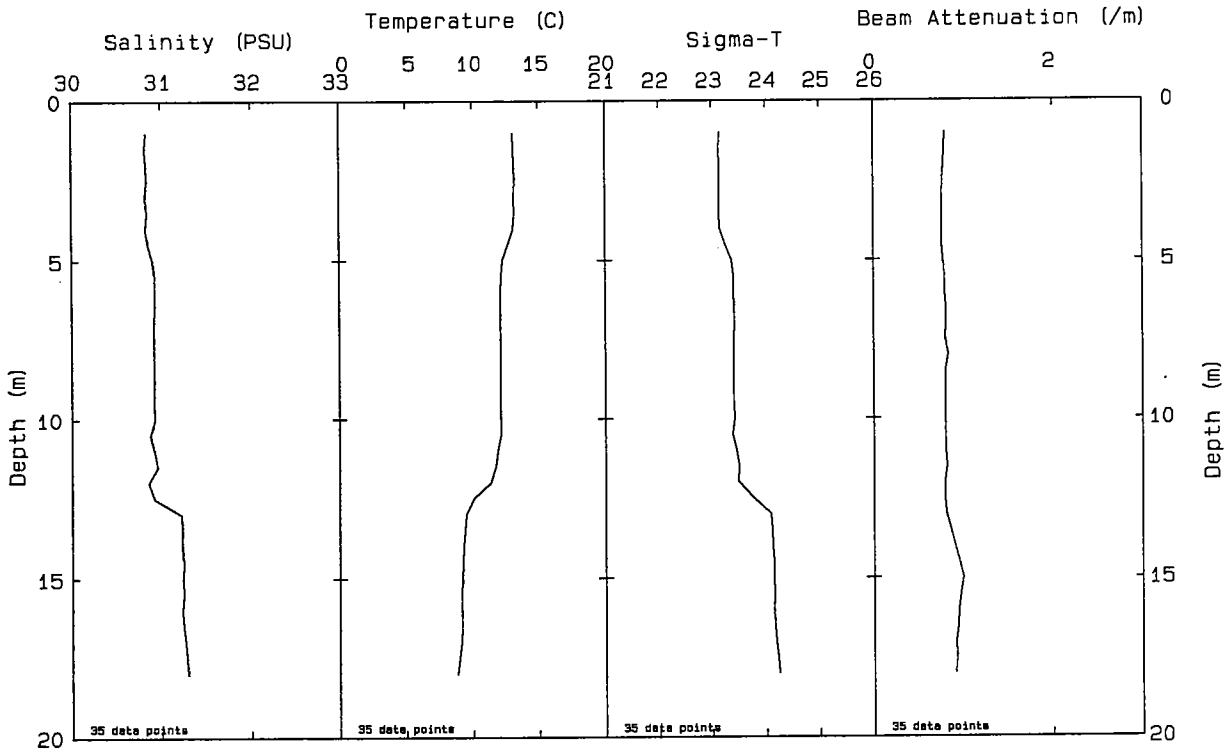


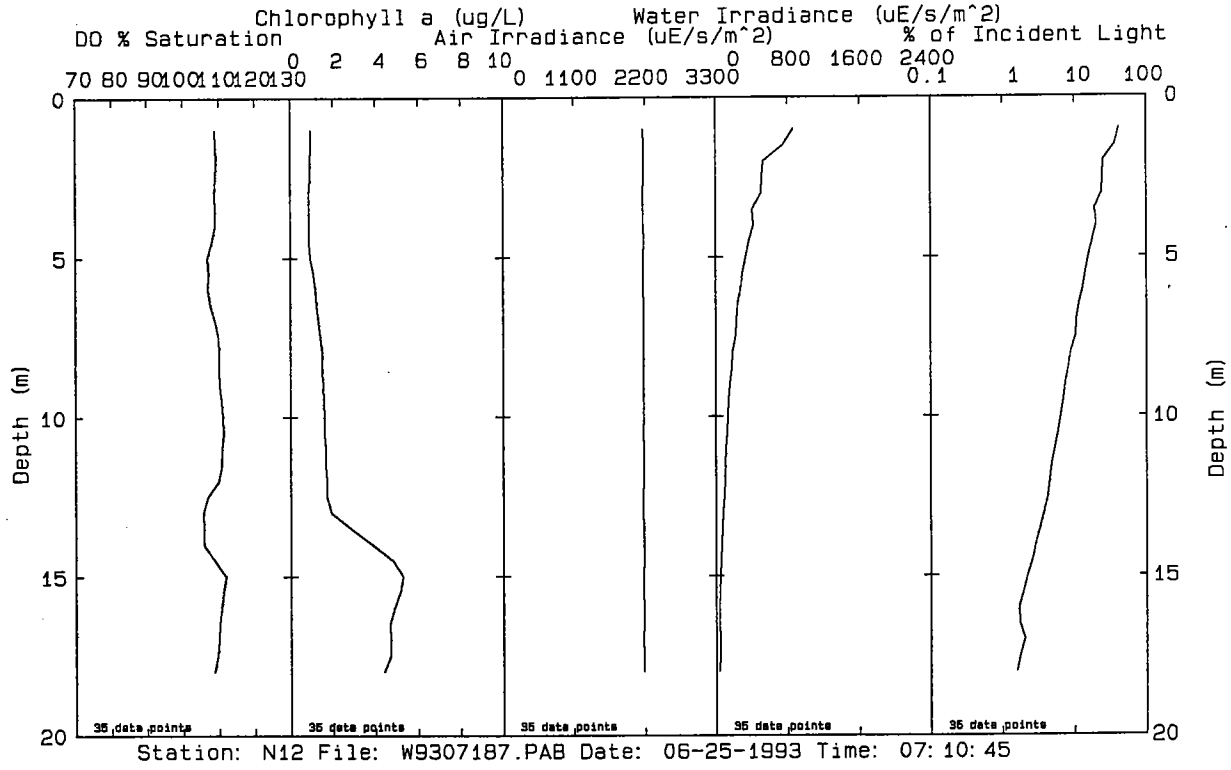
Station: N10P File: W9307181.PAB Date: 06-25-1993 Time: 06:19:60



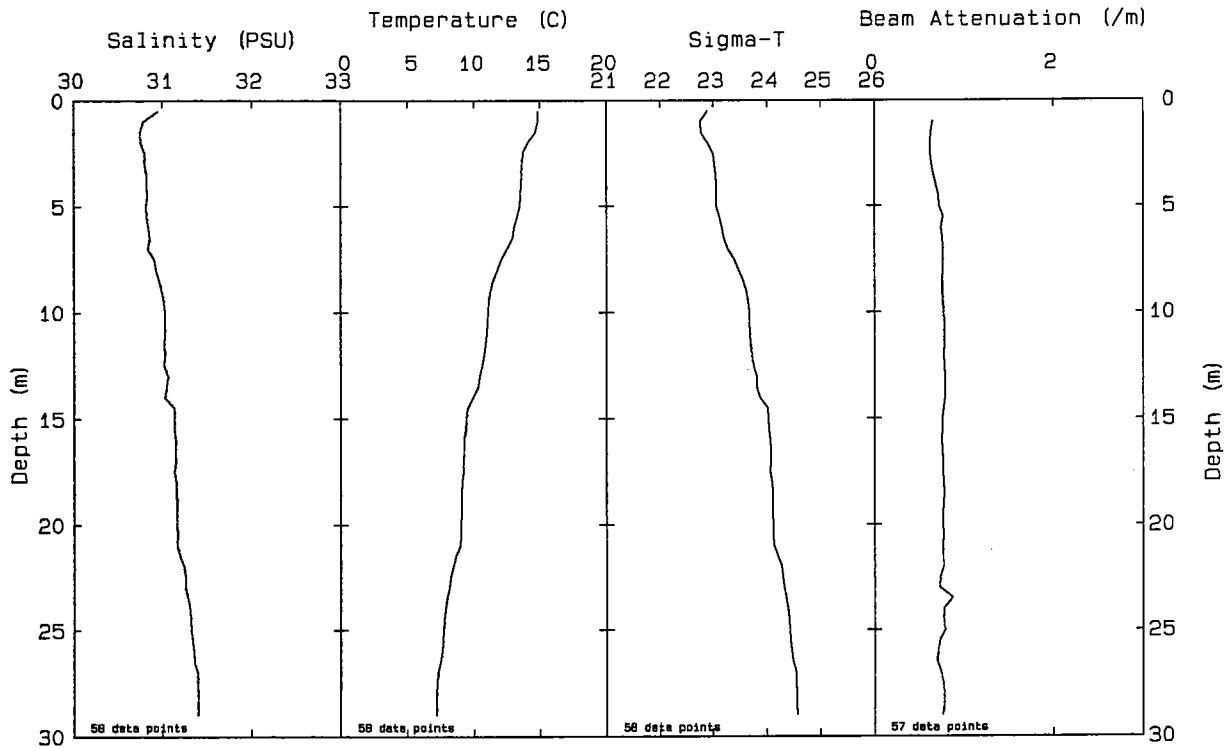


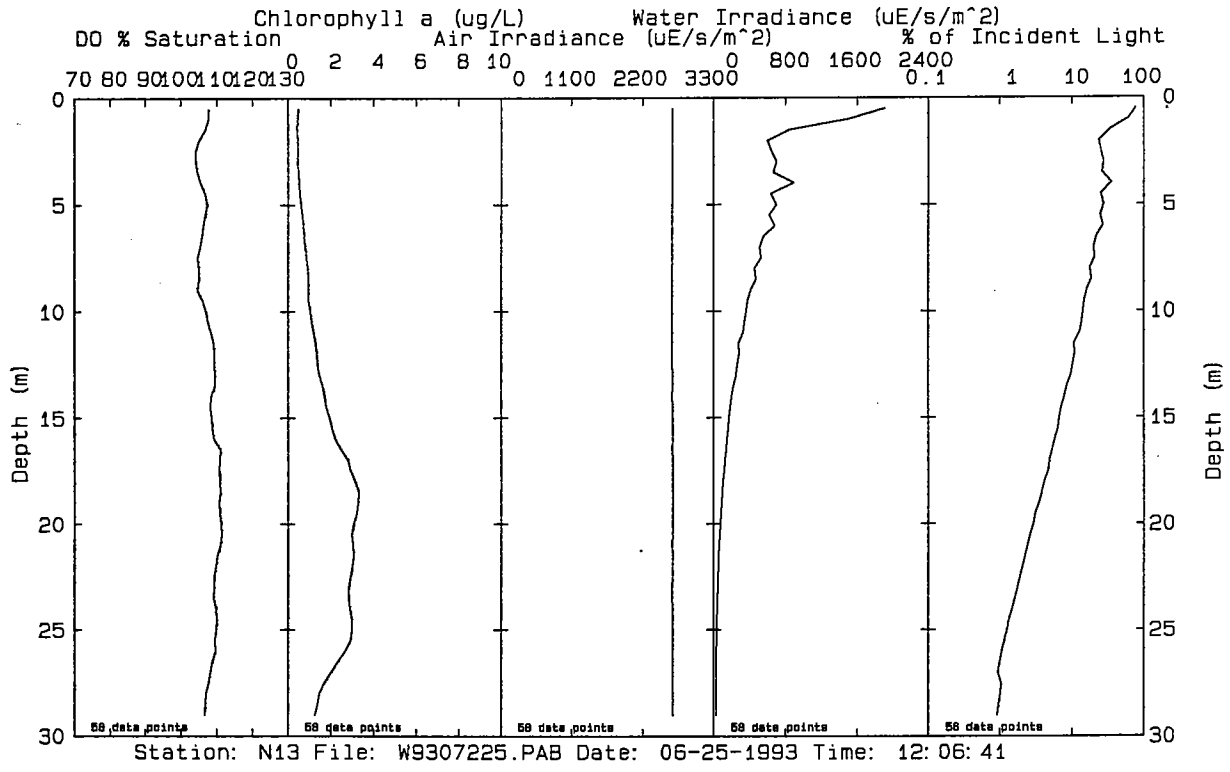
Station: N11 File: W9307184.PAB Date: 06-25-1993 Time: 06:47:52



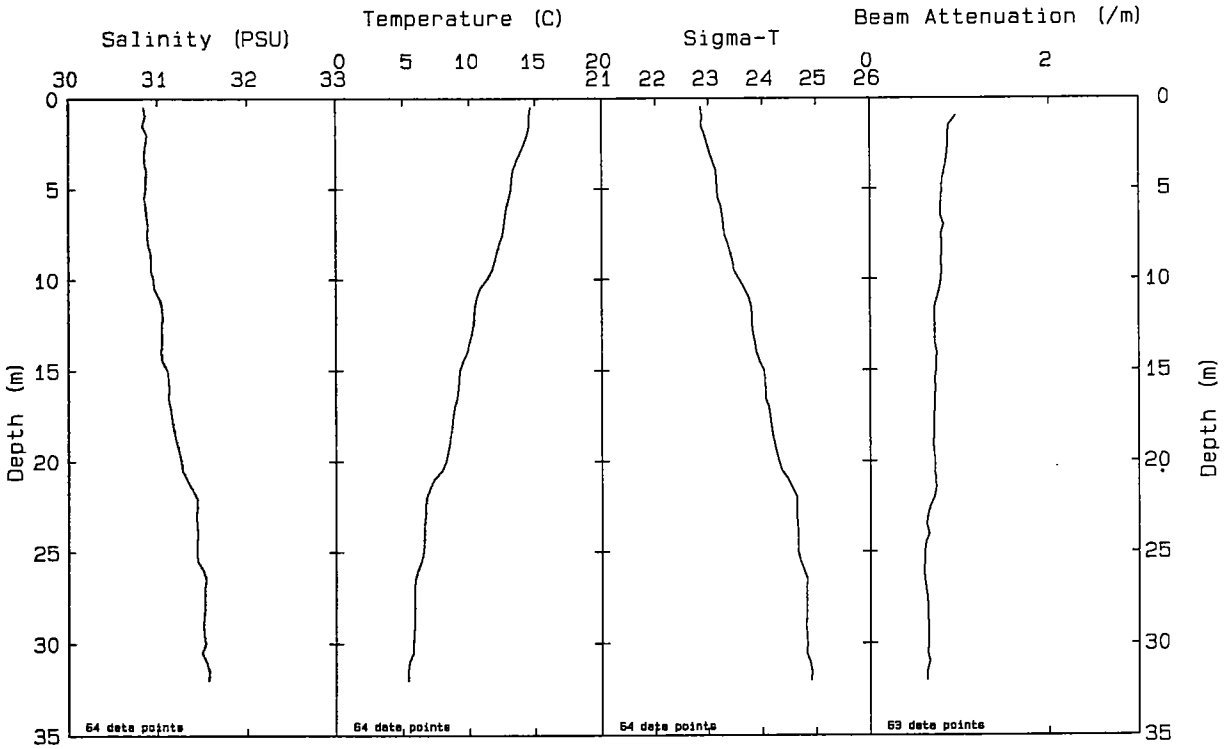


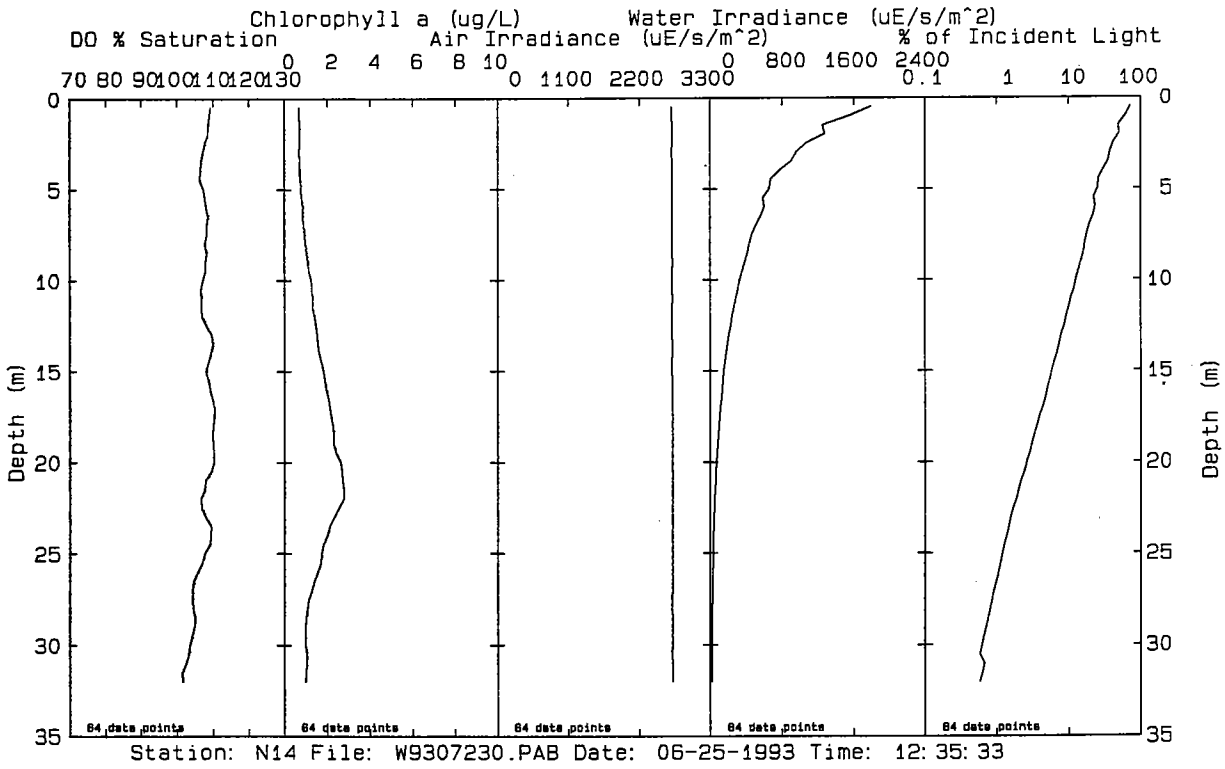
Station: N12 File: W9307187.PAB Date: 06-25-1993 Time: 07:10:45



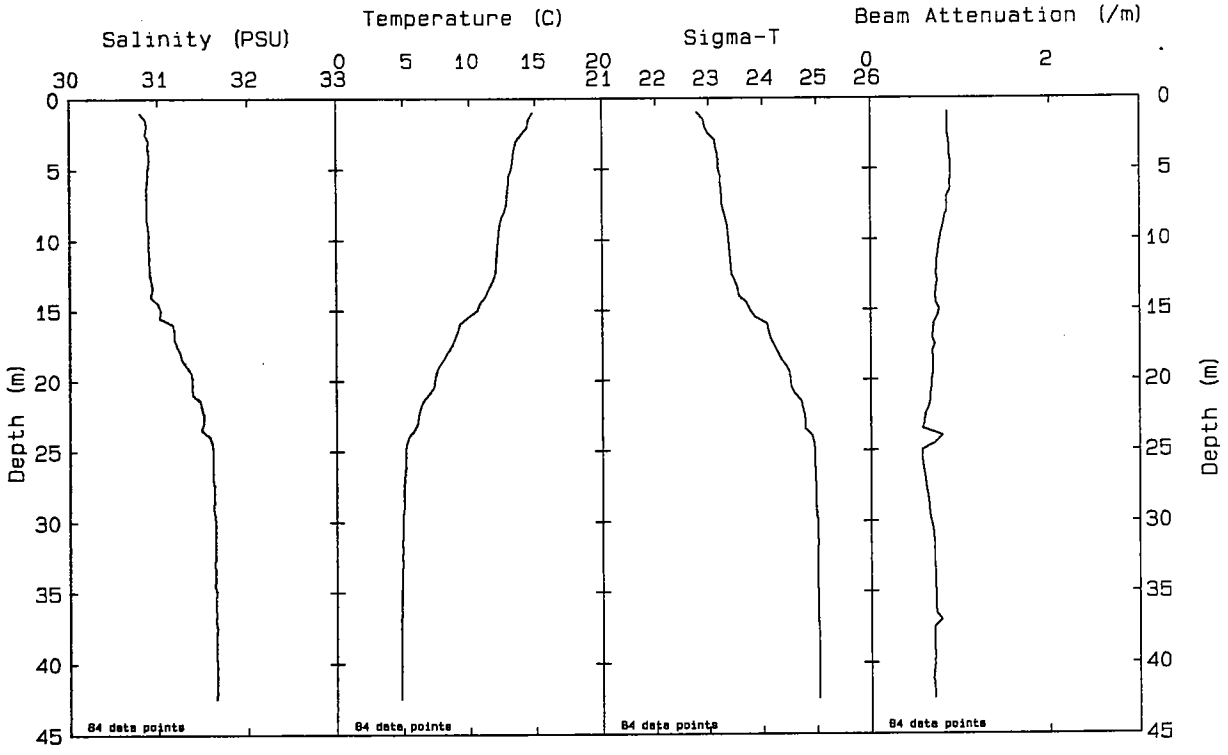


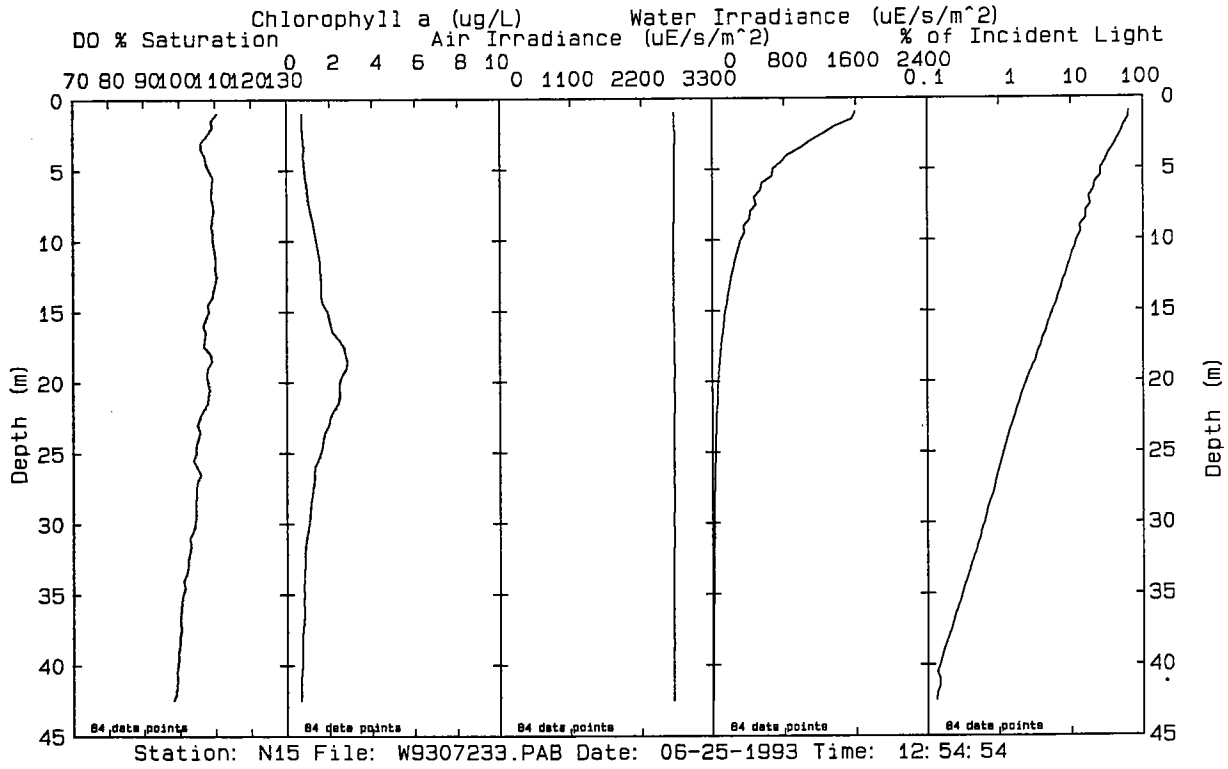
Station: N13 File: W9307225.PAB Date: 06-25-1993 Time: 12:06:41



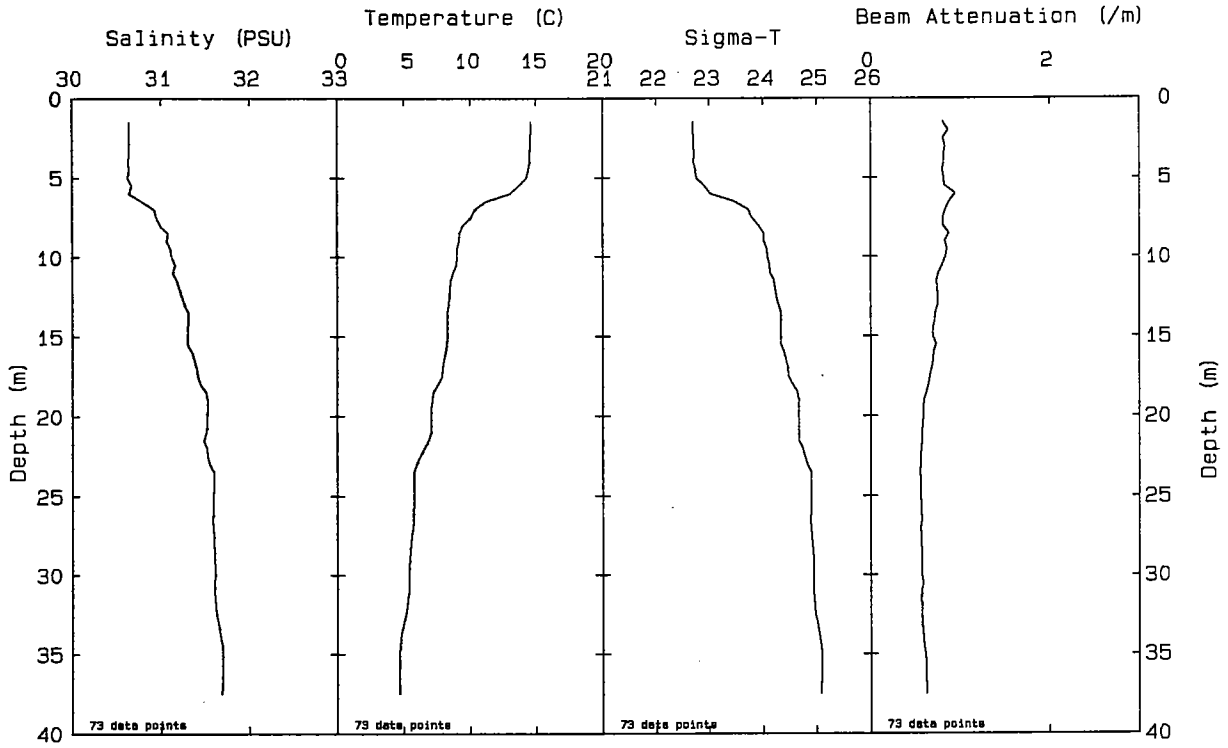


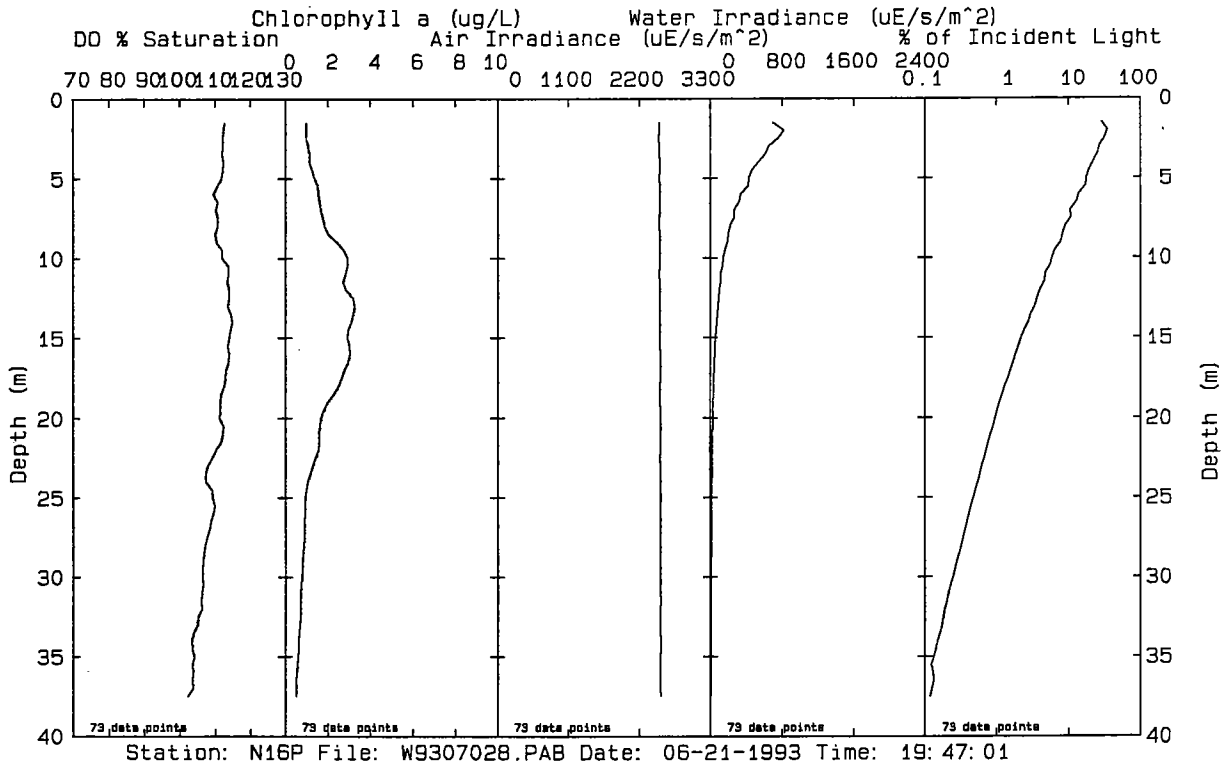
Station: N14 File: W9307230.PAB Date: 06-25-1993 Time: 12:35:33

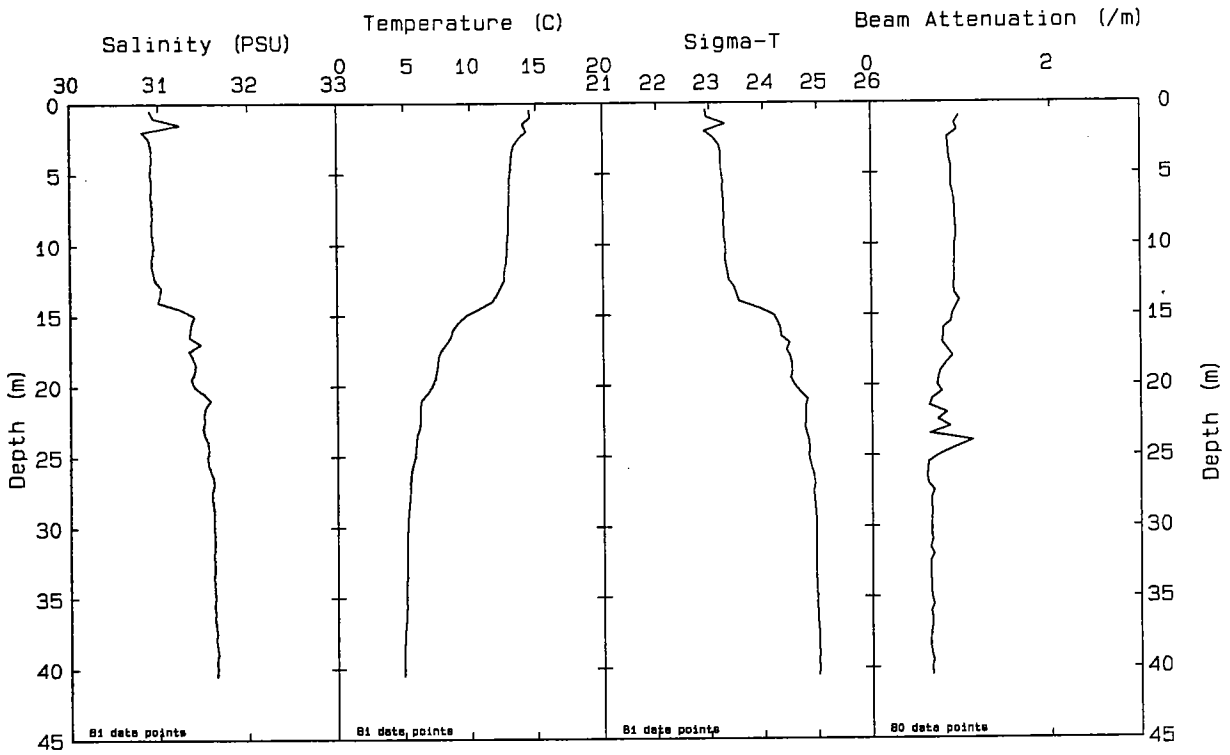


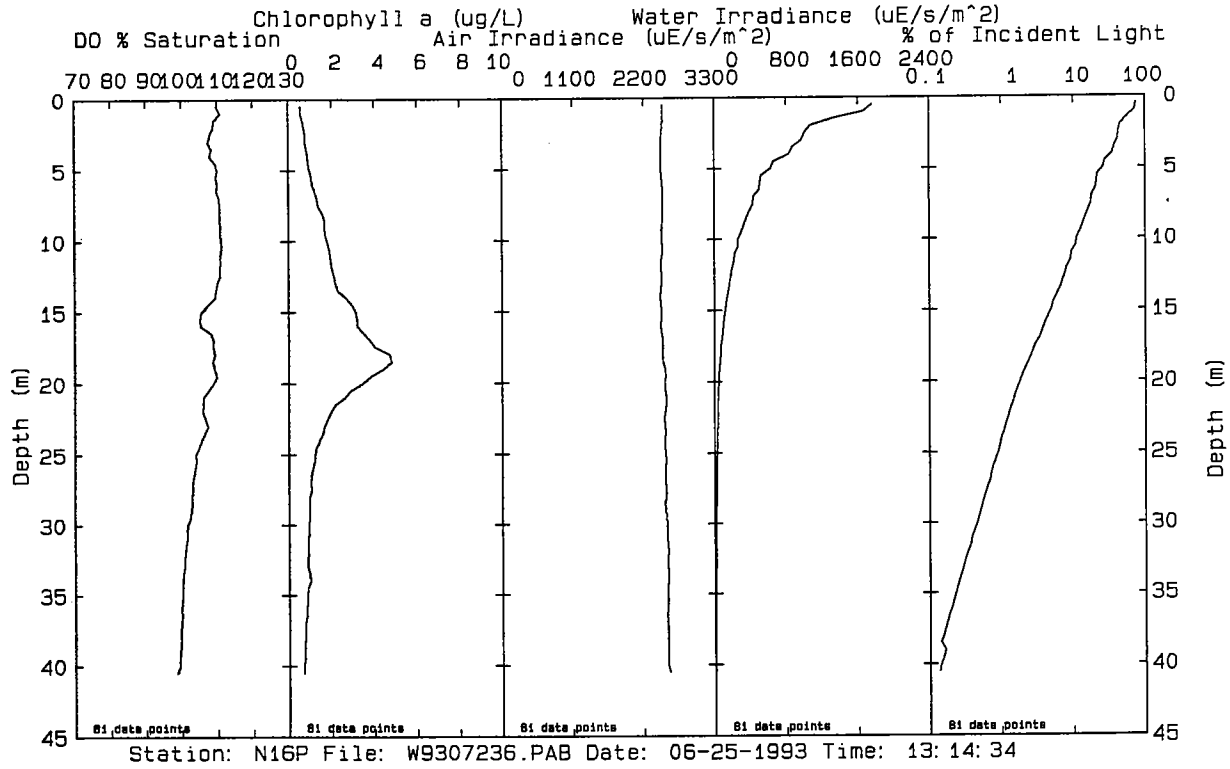


Station: N15 File: W9307233.PAB Date: 06-25-1993 Time: 12:54:54

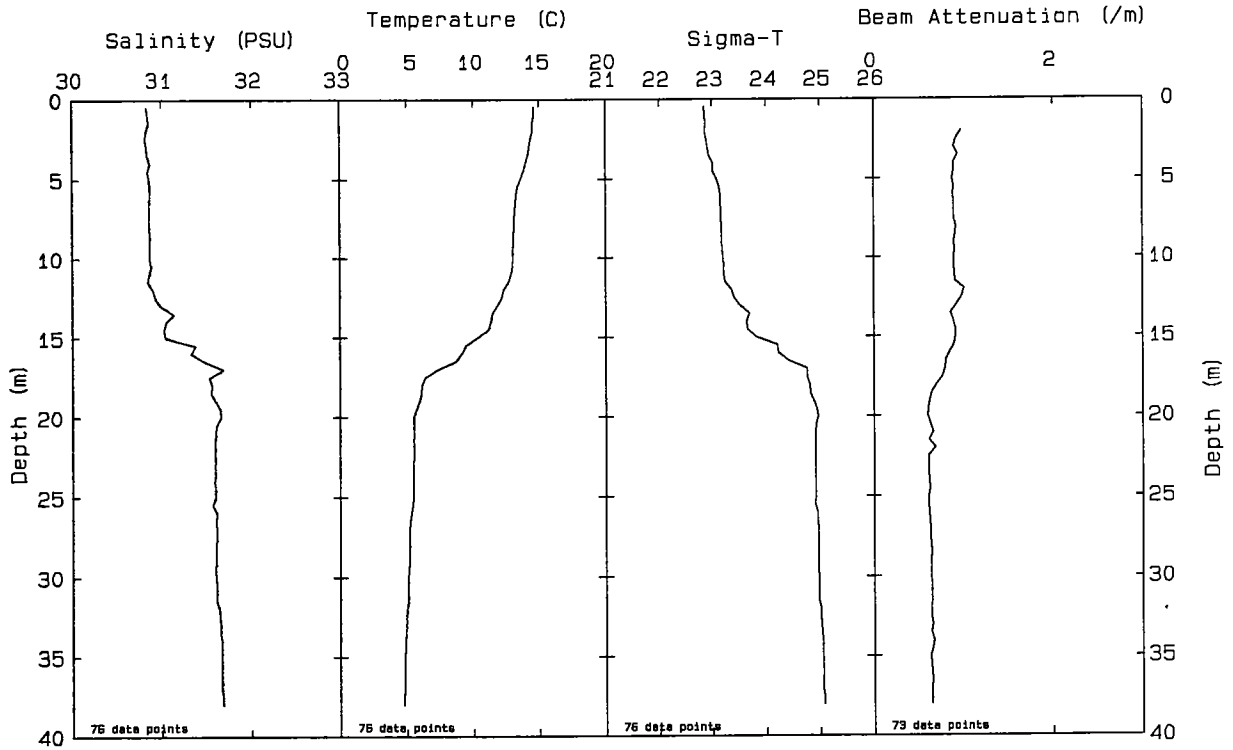

Salinity (PSU)
30 31 32
Temperature (C)
0 5 10 15 20
Sigma-T
21 22 23 24 25 26
Beam Attenuation (/m)
0 2
Depth (m)
0 5 10 15 20 25 30 35 40
73 data points
73 data points
73 data points
73 data points

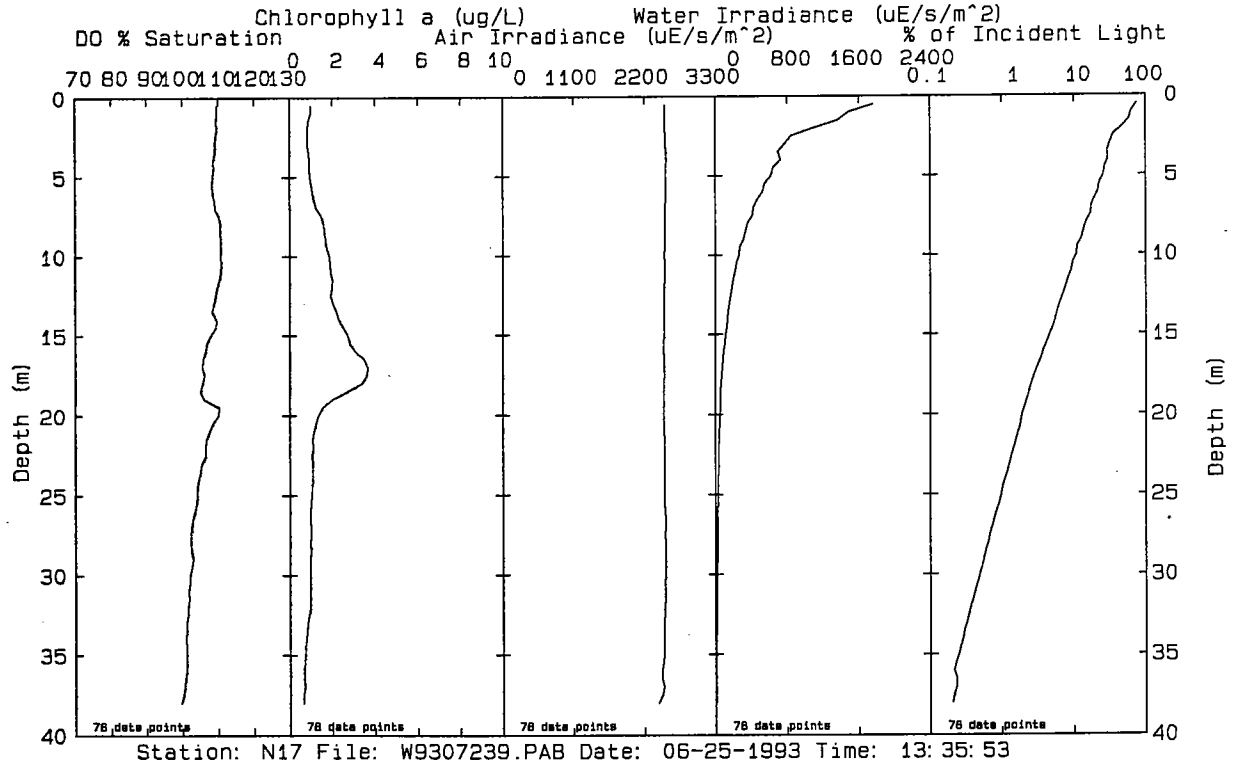

Chlorophyll a (ug/L)
DO % Saturation
70 80 90 100 110 120 130
Air Irradiance (uE/s/m^2)
0 2 4 6 8 10
Water Irradiance (uE/s/m^2)
0 1100 2200 3300
% of Incident Light
0 800 1600 2400
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35 40
73 data points
73 data points
73 data points
73 data points
73 data points
Station: N16P File: W9307028.PAB Date: 06-21-1993 Time: 19:47:01



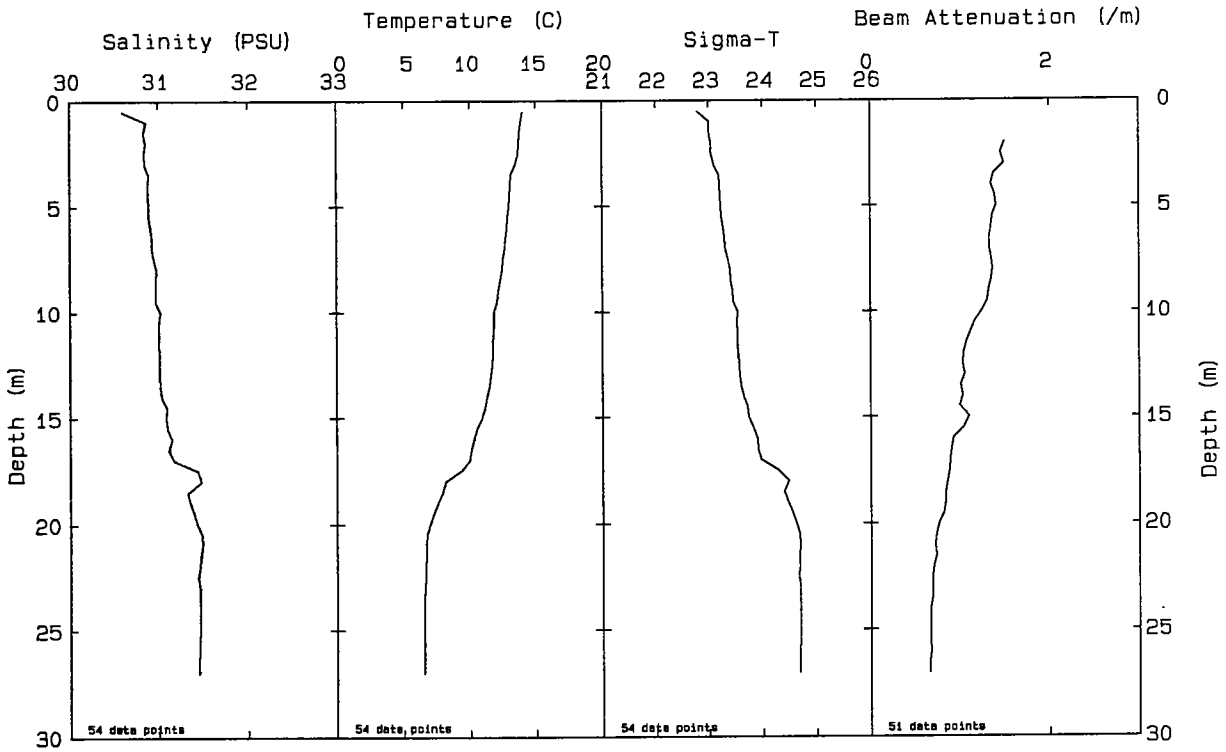


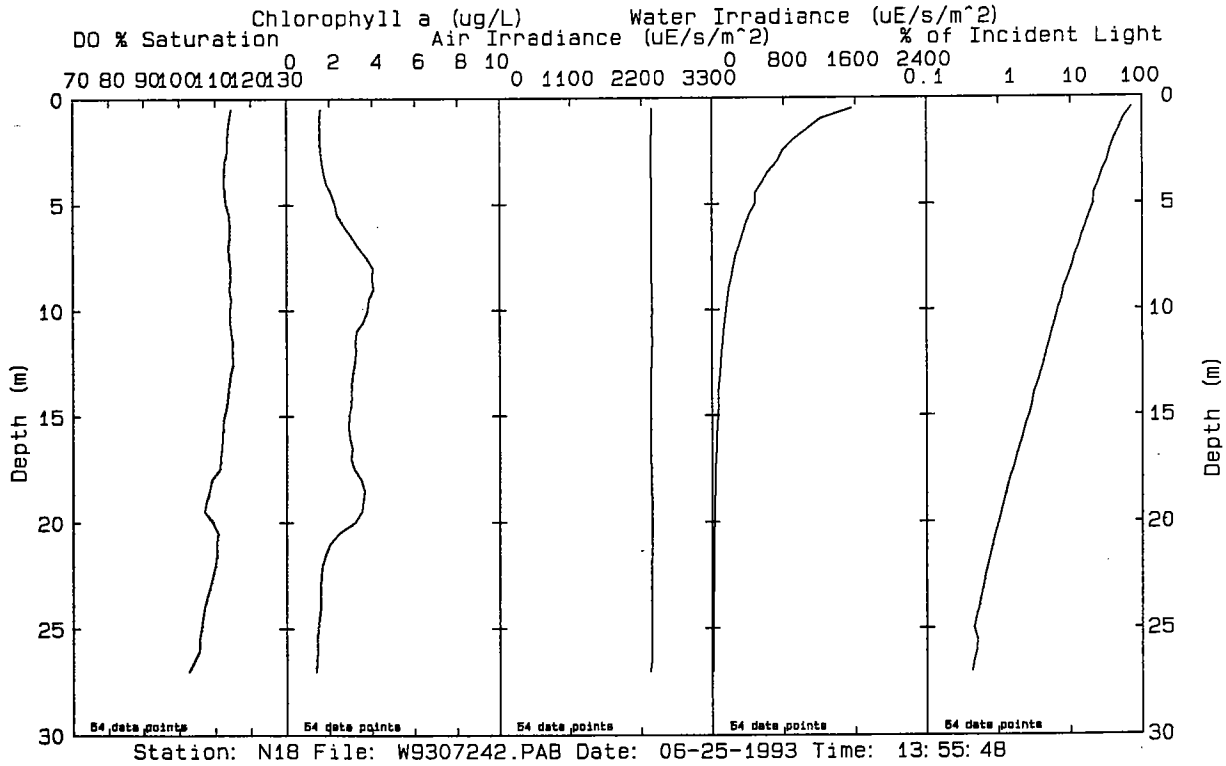
Station: N16P File: W9307236.PAB Date: 06-25-1993 Time: 13:14:34



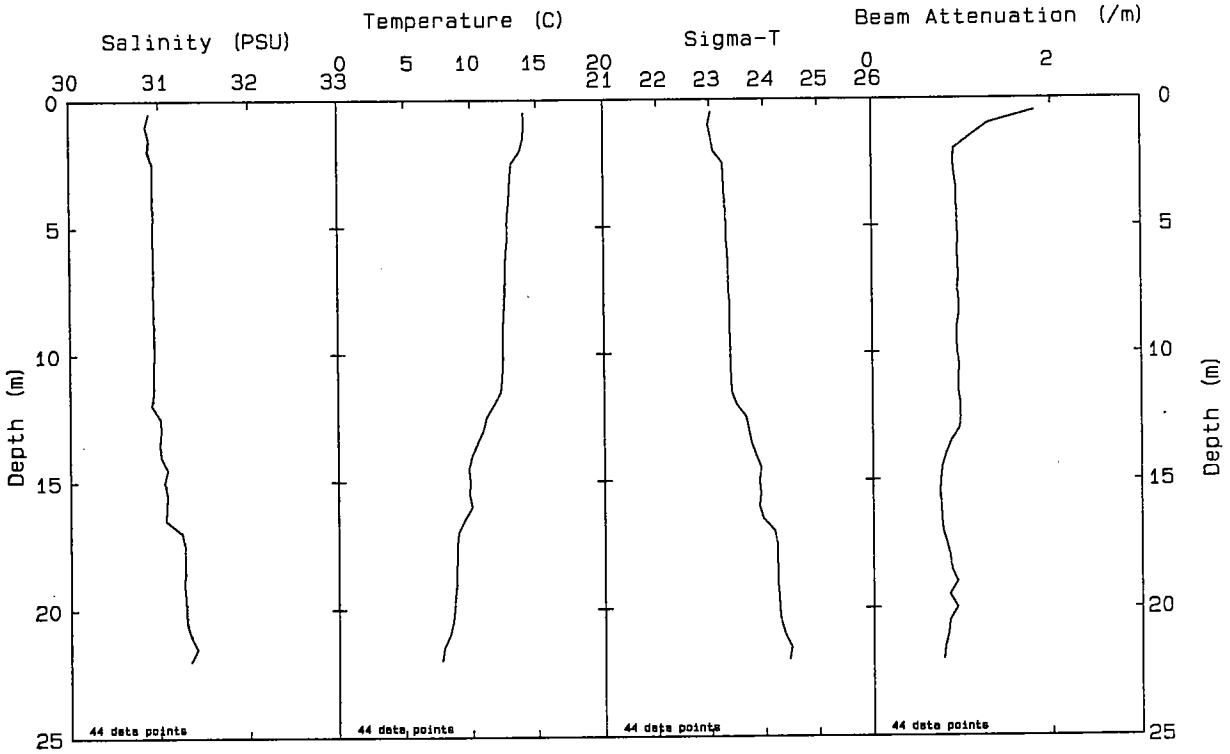


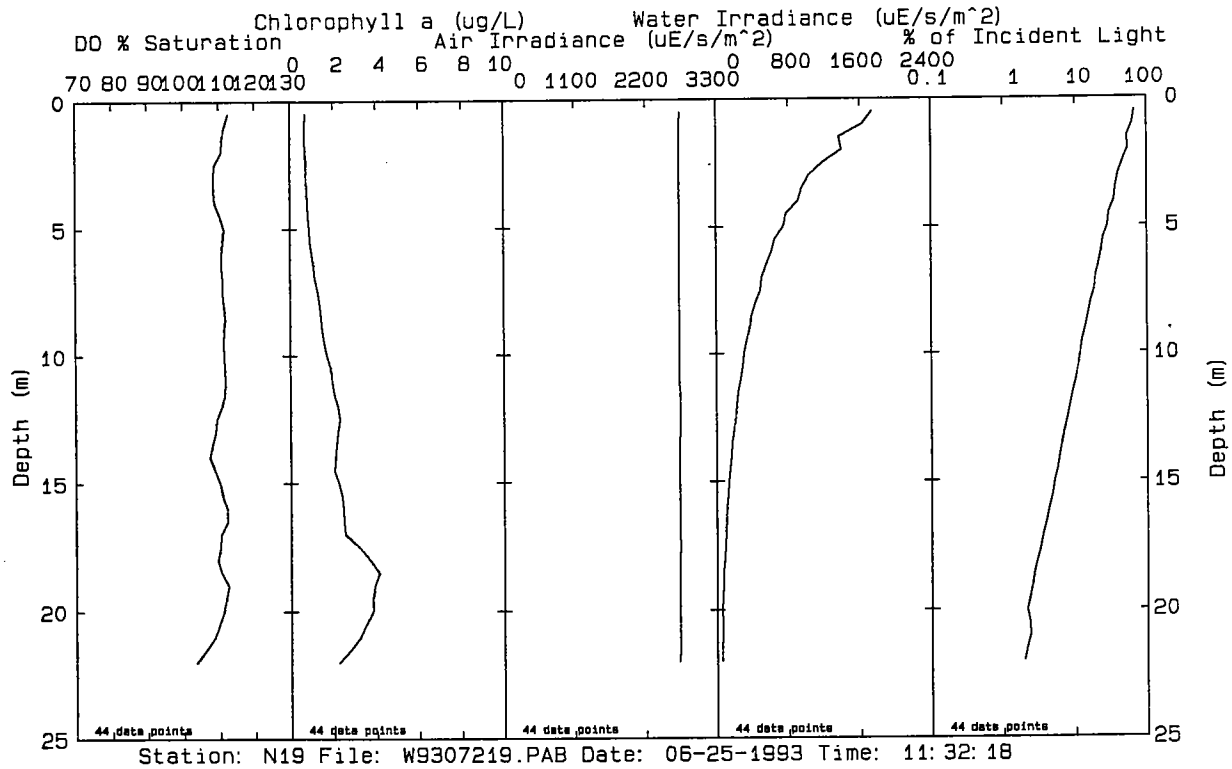
Station: N17 File: W9307239.PAB Date: 06-25-1993 Time: 13:35:53



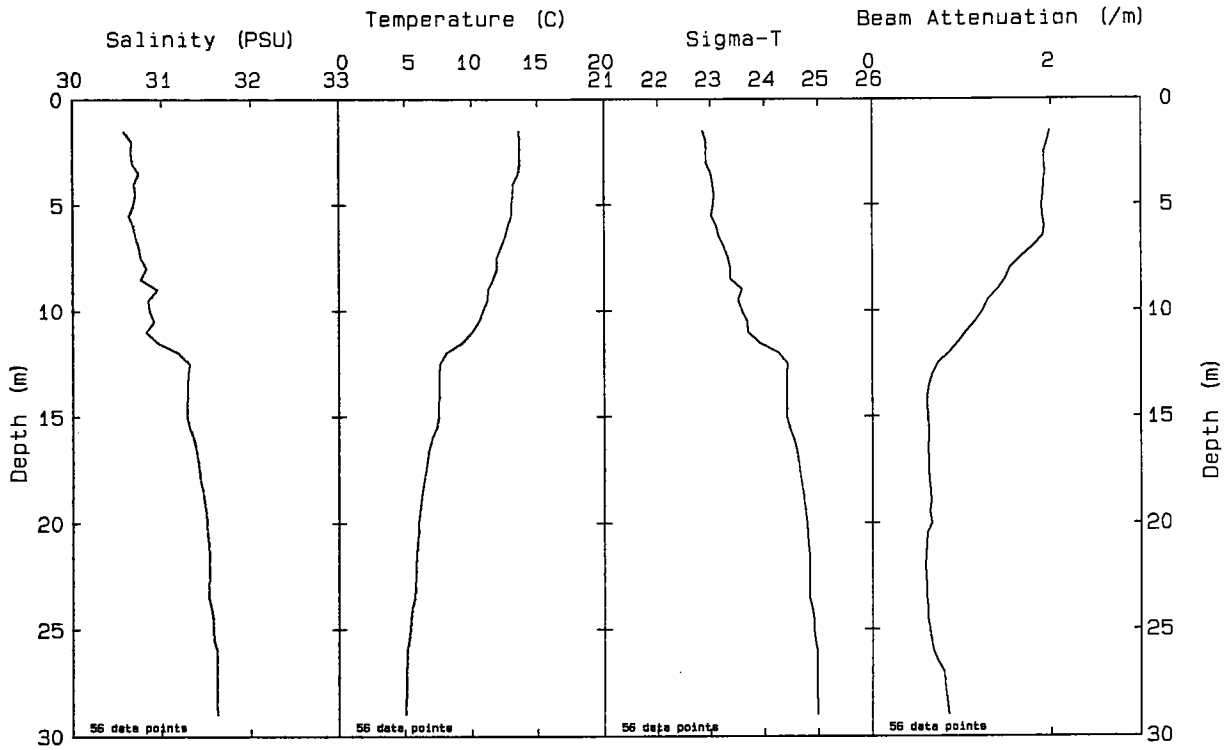


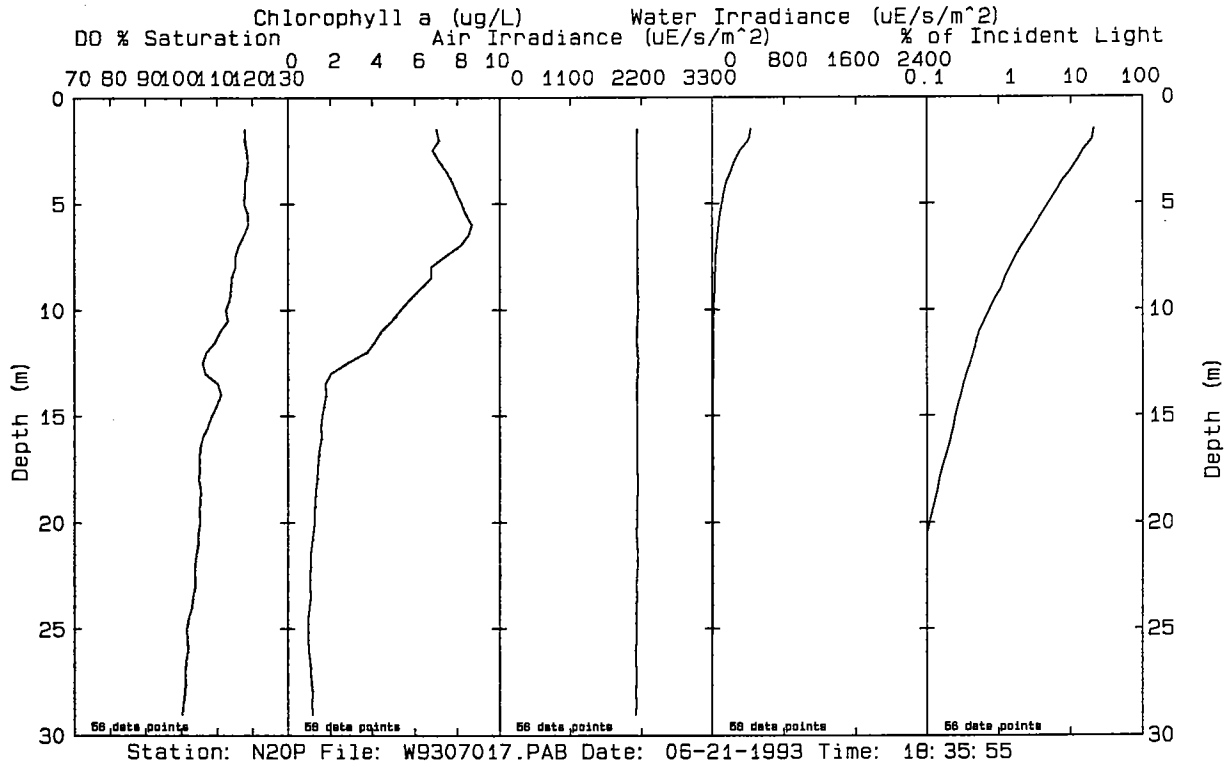
Station: N18 File: W9307242.PAB Date: 06-25-1993 Time: 13:55:48



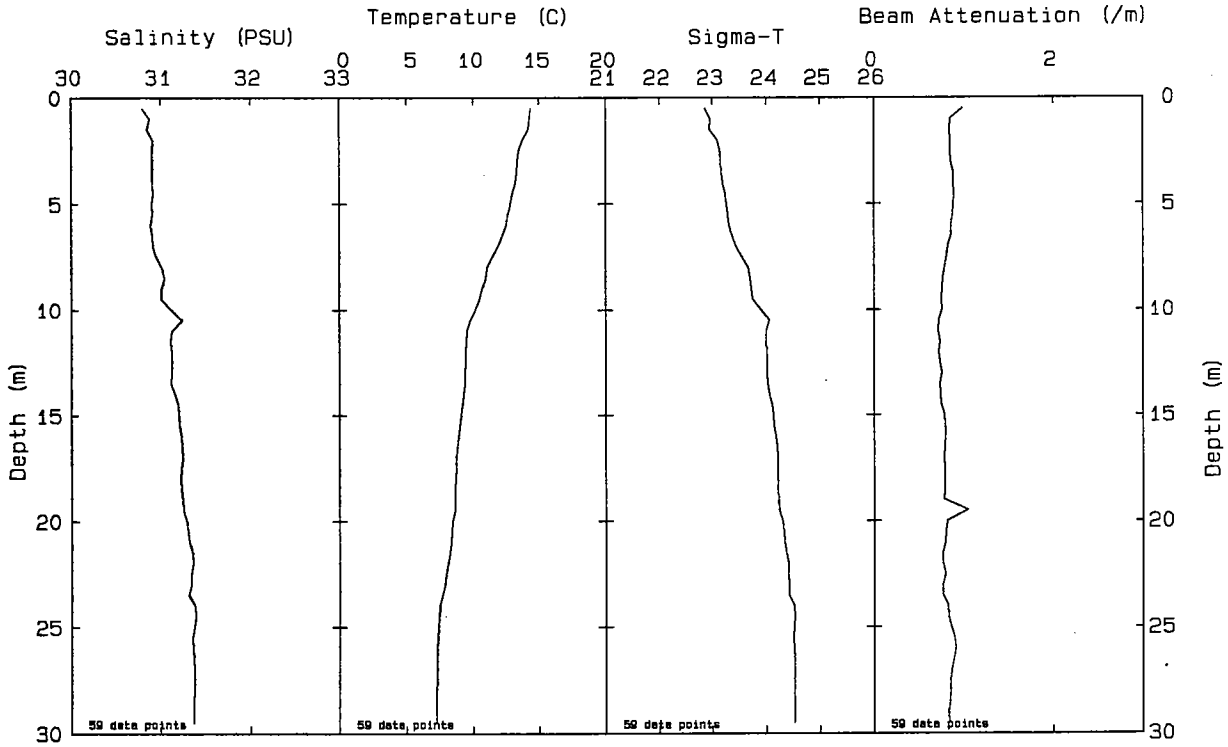


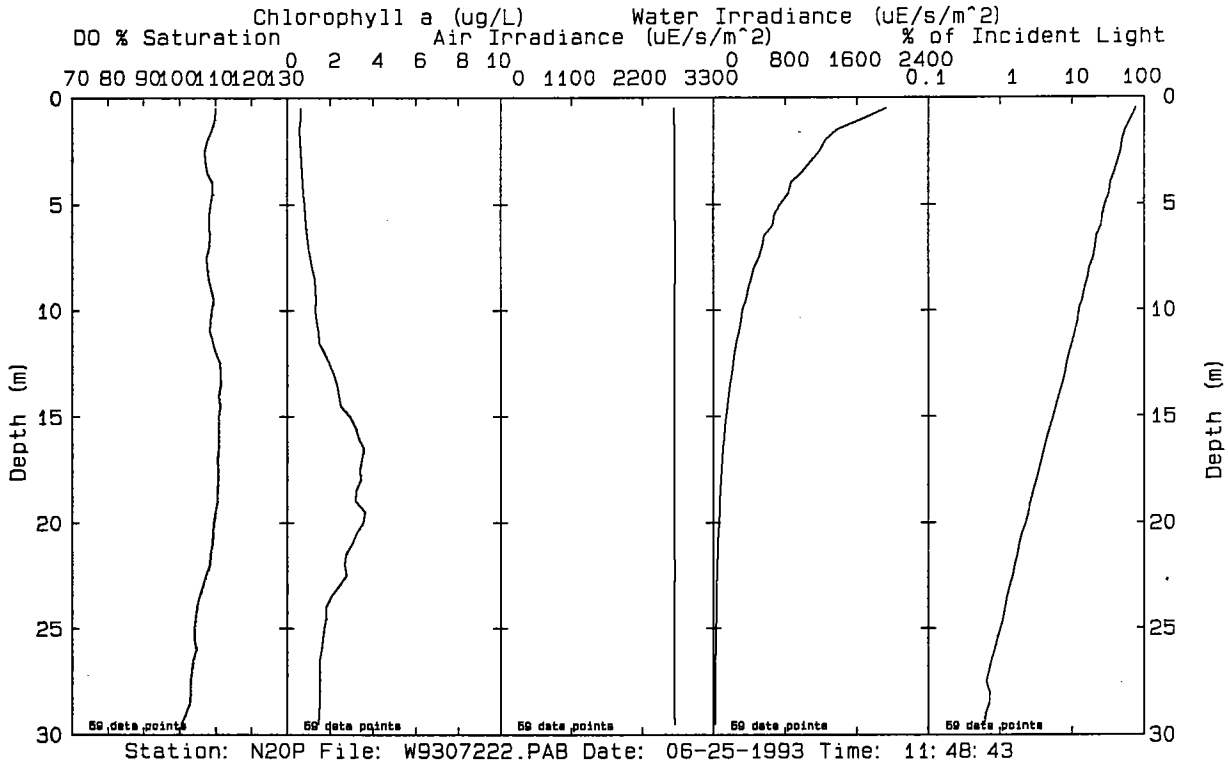
Station: N19 File: W9307219.PAB Date: 06-25-1993 Time: 11:32:18



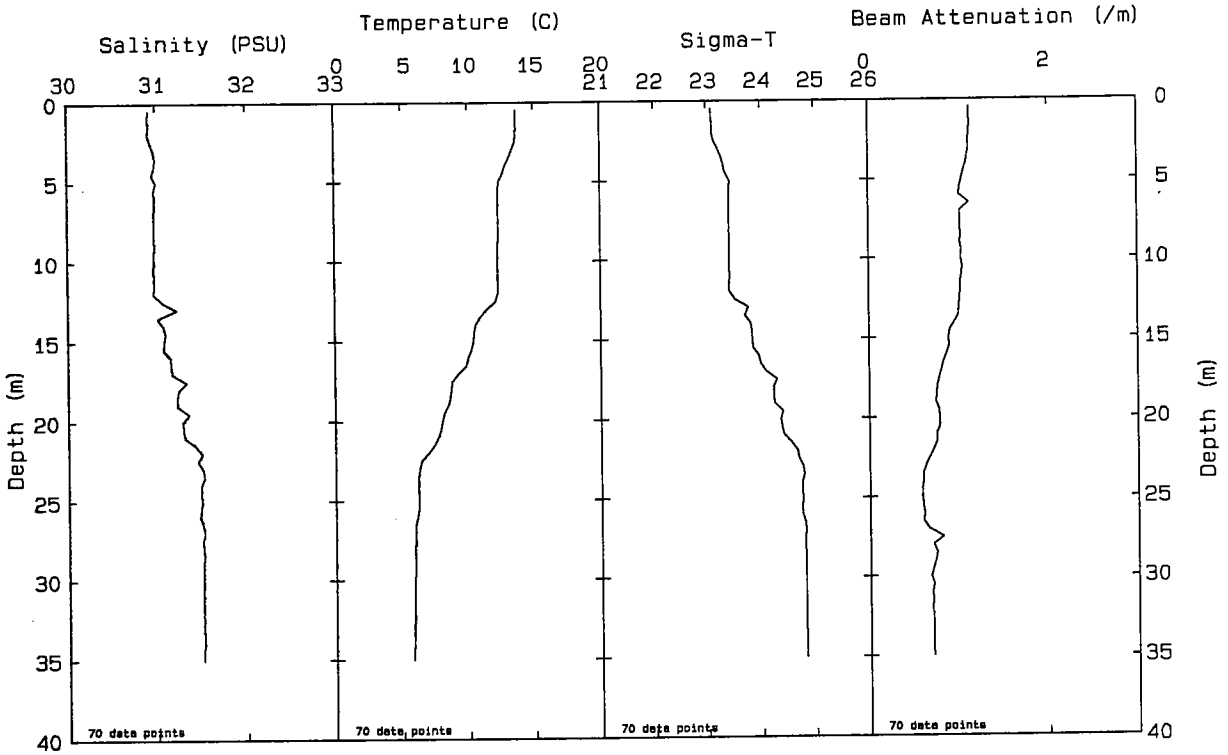


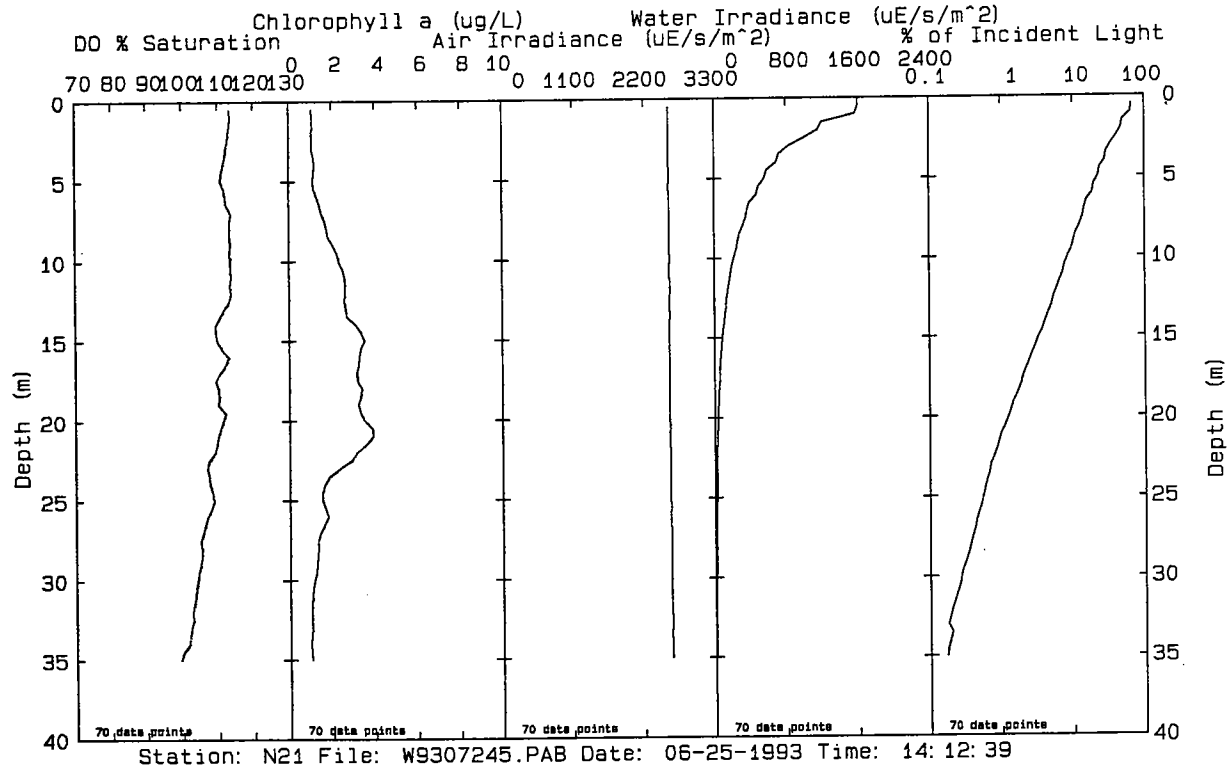
Station: N20P File: W9307017.PAB Date: 06-21-1993 Time: 18:35:55





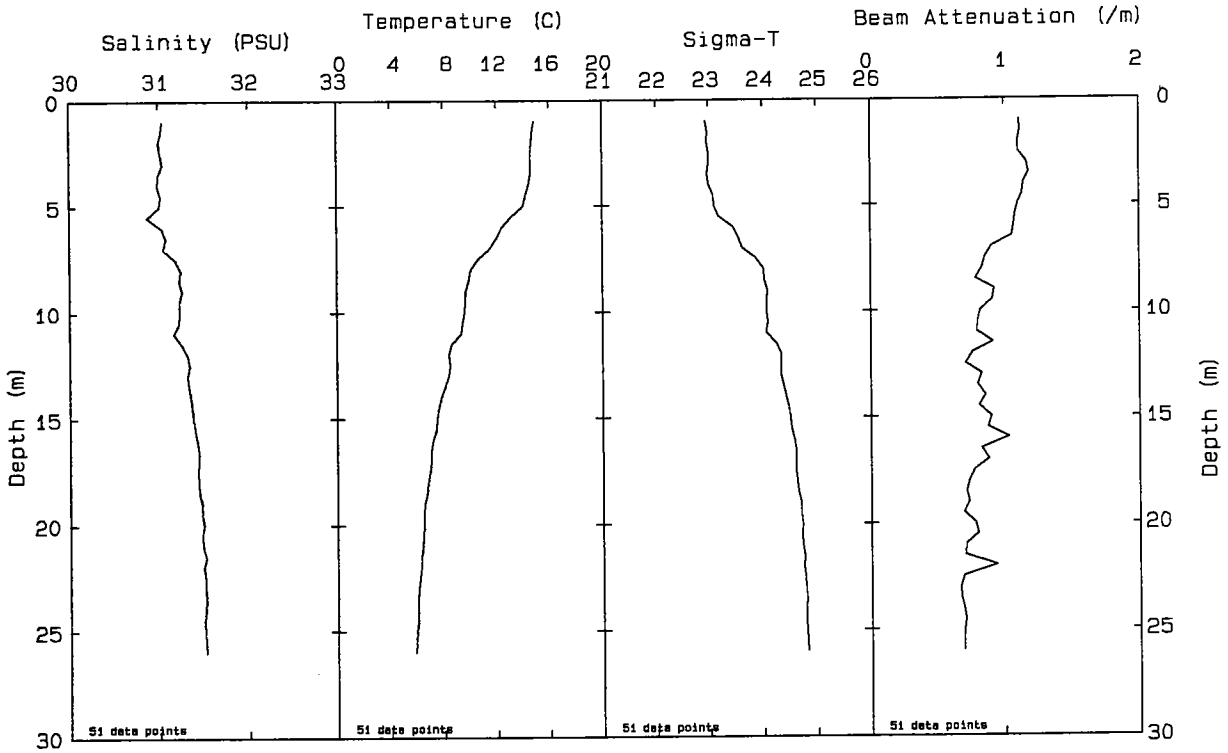
Station: N20P File: W9307222.PAB Date: 06-25-1993 Time: 11:48:43

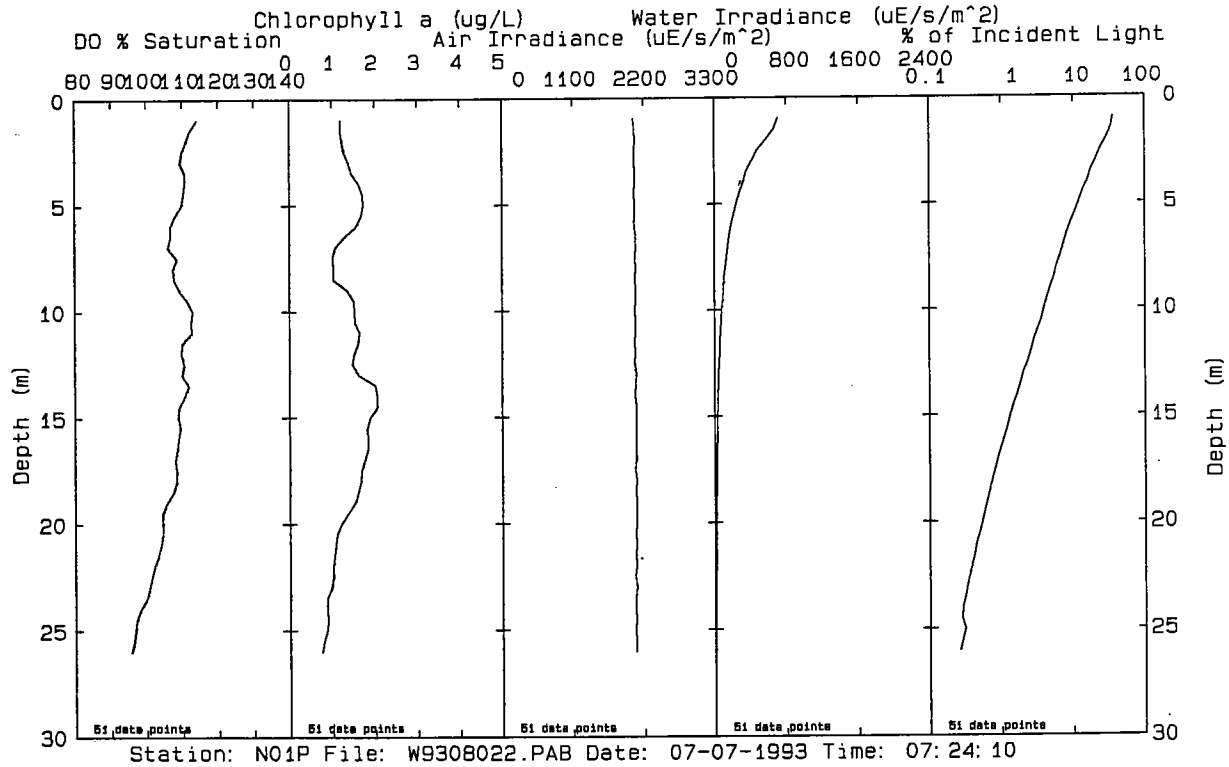




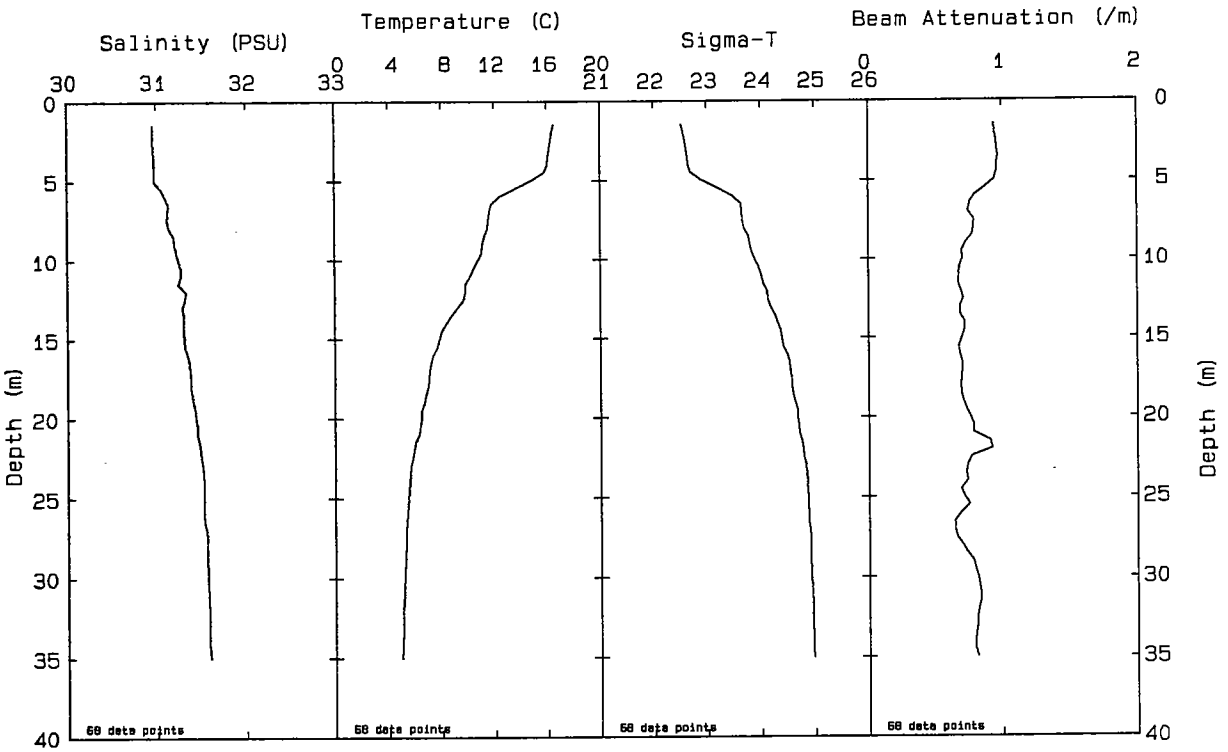
Station: N21 File: W9307245.PAB Date: 06-25-1993 Time: 14:12:39

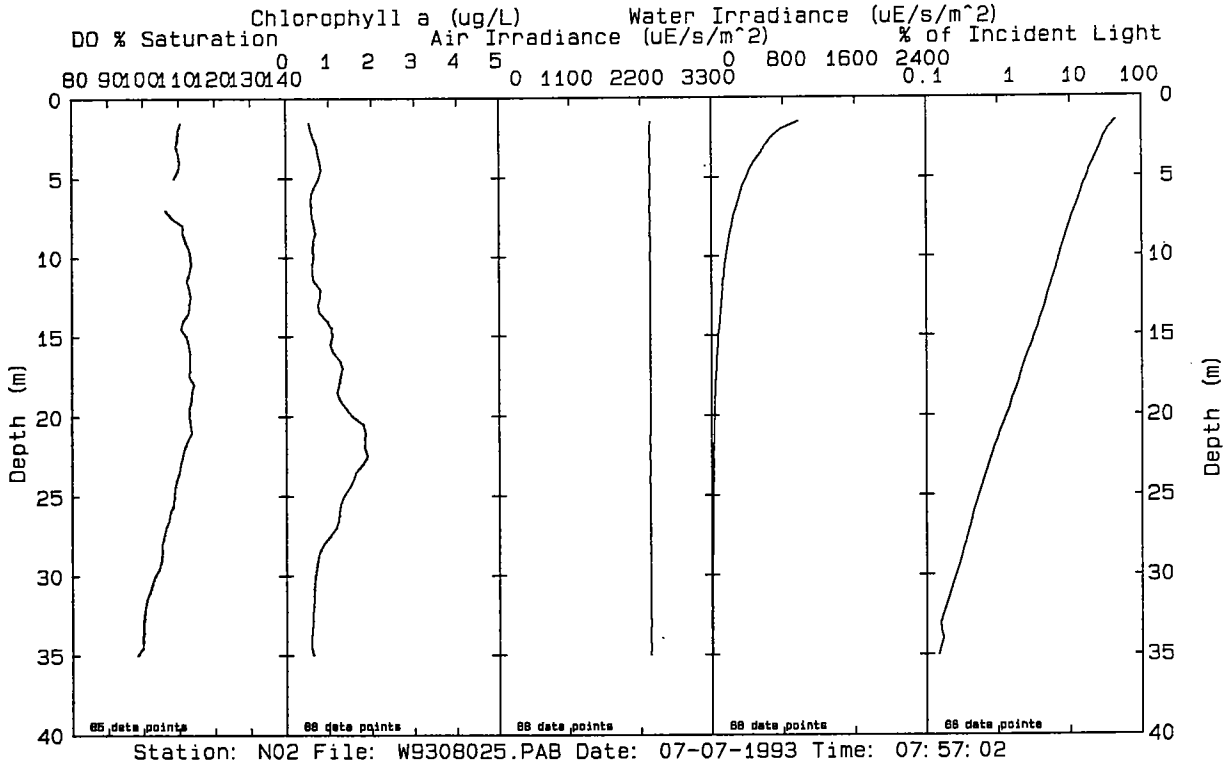
Early July 1993 Profiles

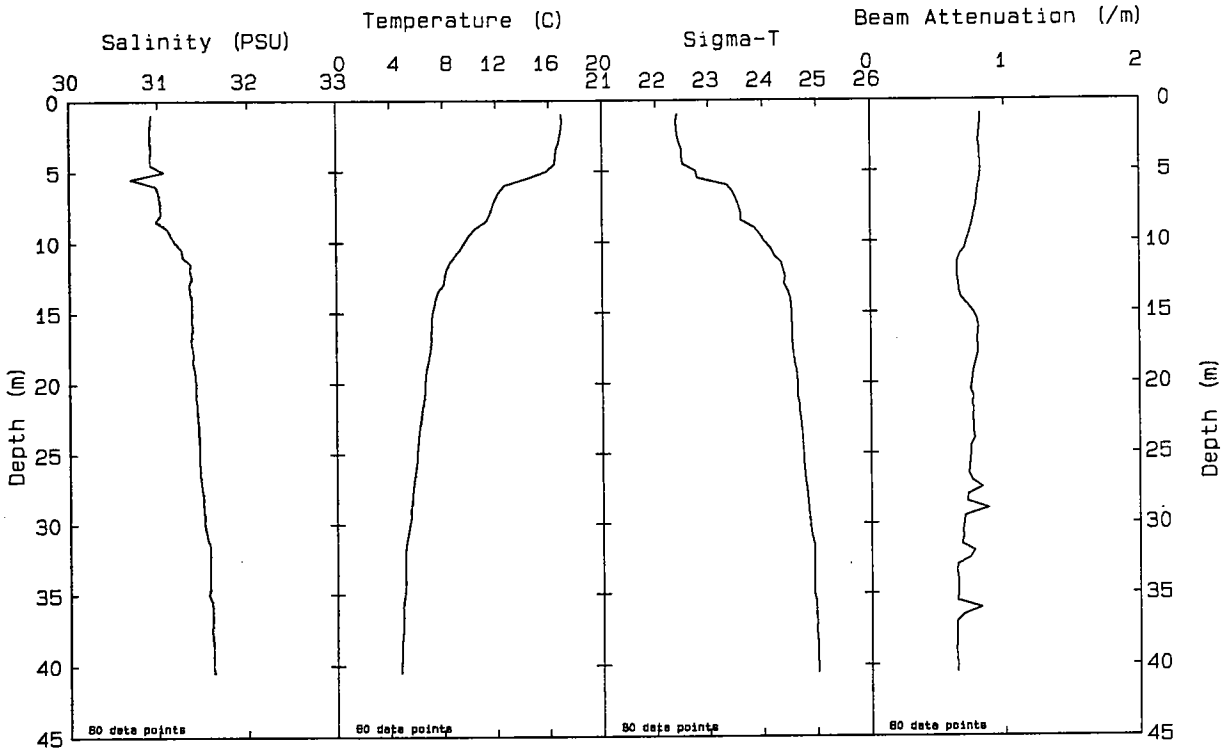


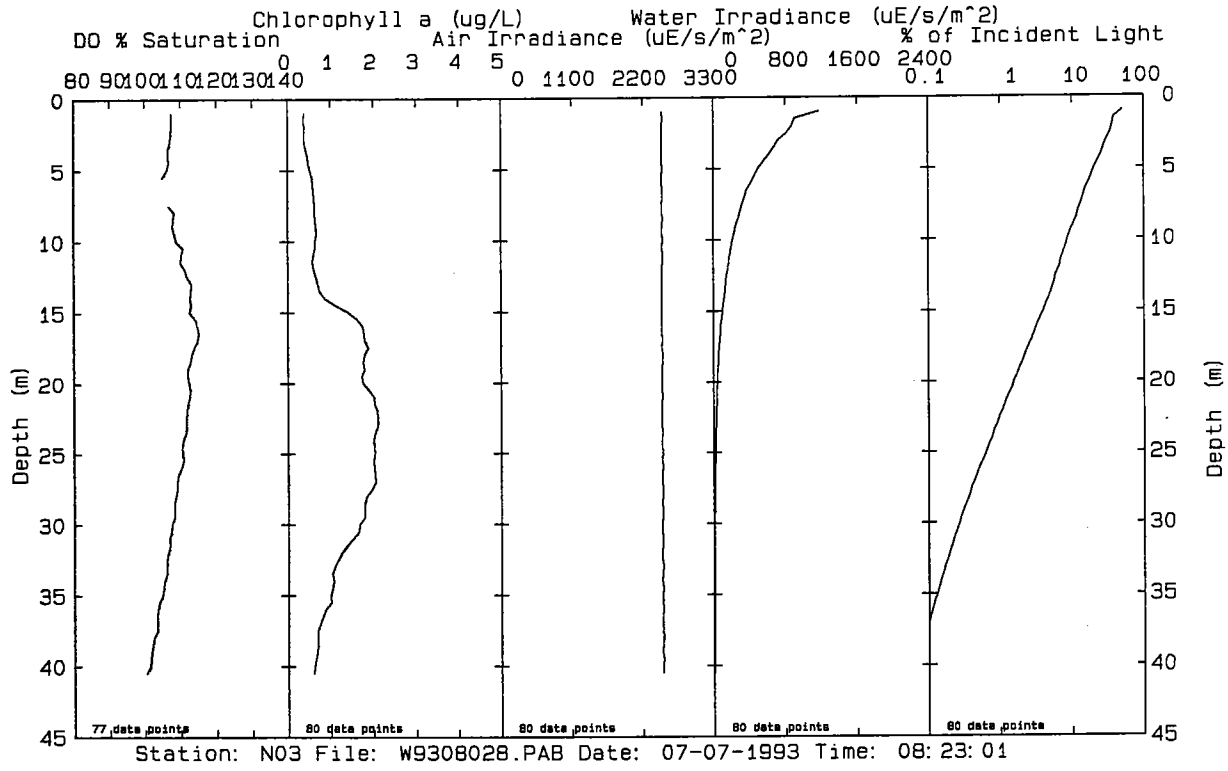


Station: N01P File: W9308022.PAB Date: 07-07-1993 Time: 07:24:10

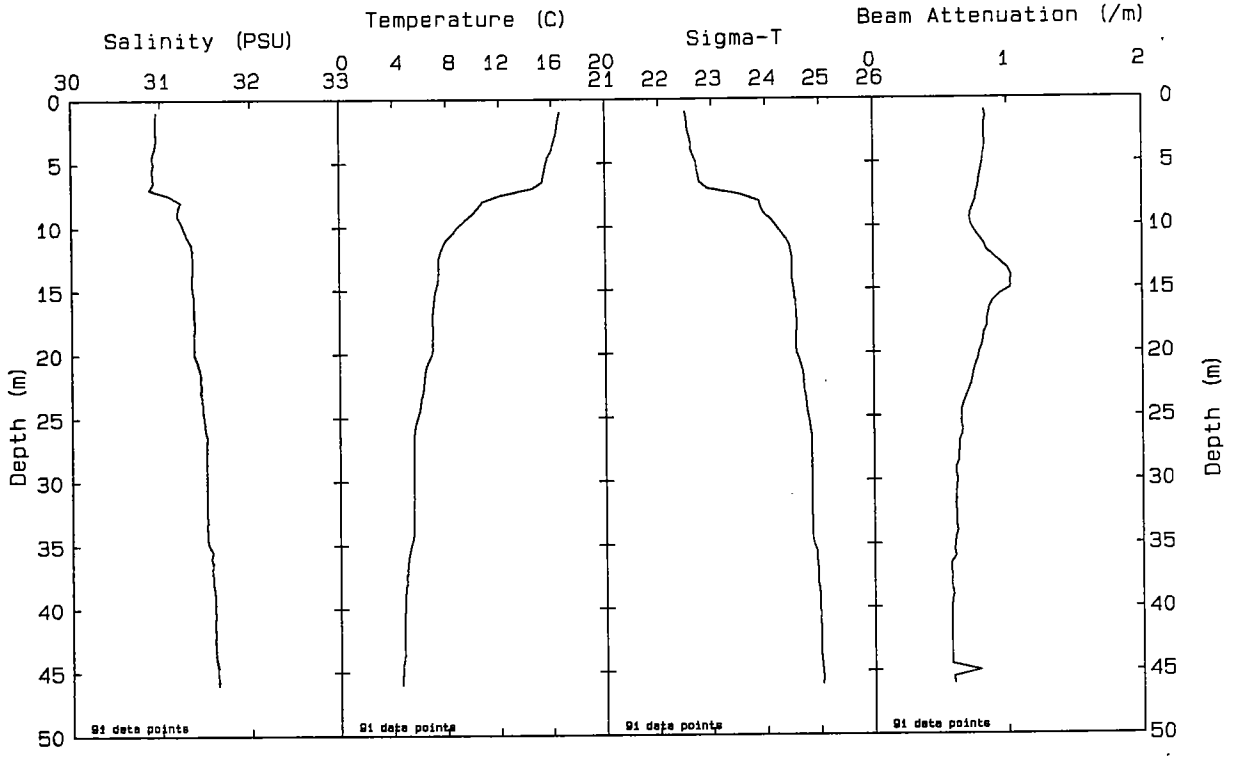

Salinity (PSU)
30 31 32
Temperature (C)
0 4 8 12 16 20
33 21
Sigma-T
22 23 24 25 26
Beam Attenuation (/m)
0 1 2
Depth (m)
0 5 10 15 20 25 30 35 40
68 data points
68 data points
68 data points
68 data points

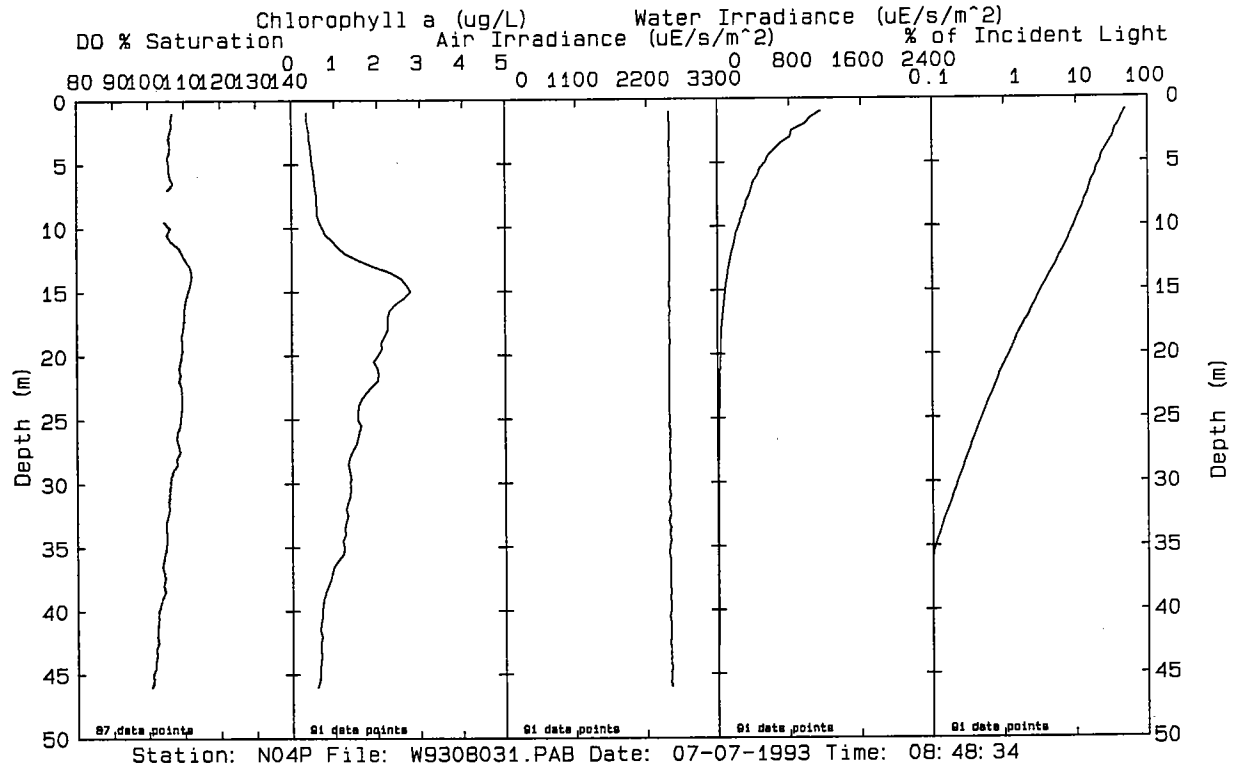

DO % Saturation
80 90 100 110 120 130 140
Chlorophyll a (ug/L)
0 1 2 3 4 5
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 800 1600 2400
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35 40
65 data points
68 data points
68 data points
68 data points
68 data points
Station: N02 File: W9308025.PAB Date: 07-07-1993 Time: 07:57:02



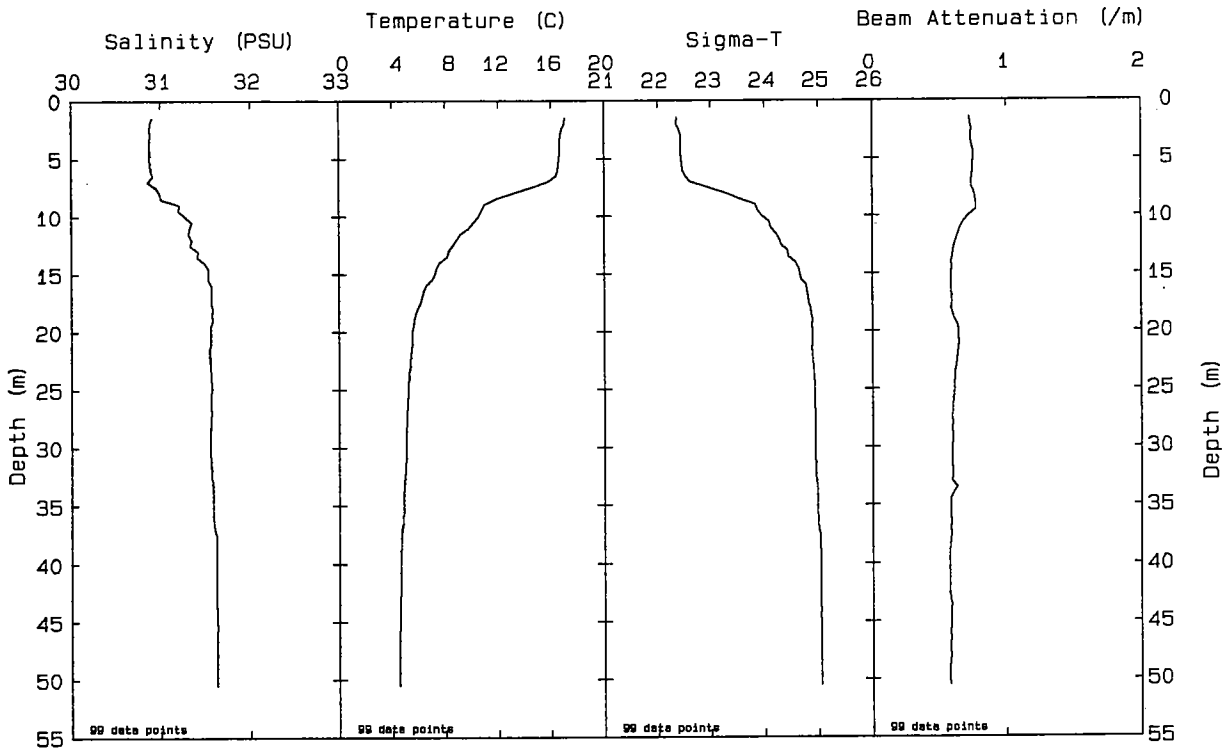


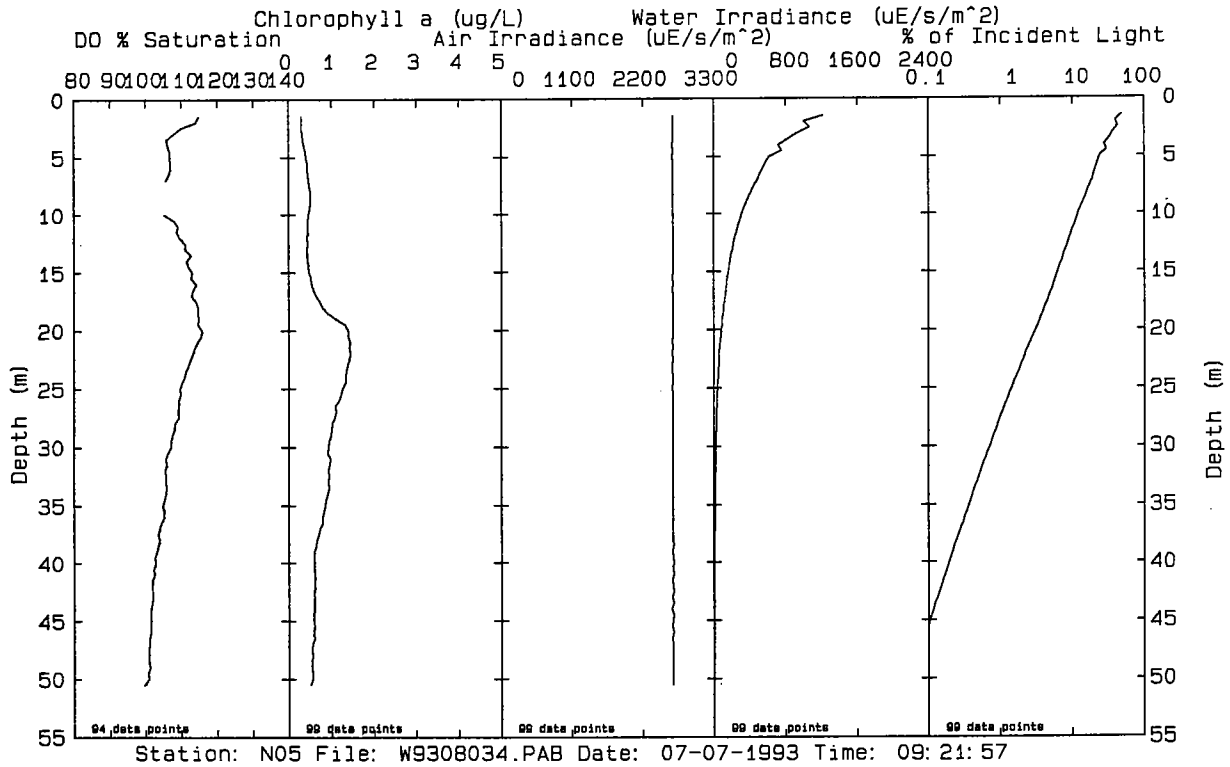
Station: N03 File: W9308028.PAB Date: 07-07-1993 Time: 08:23:01



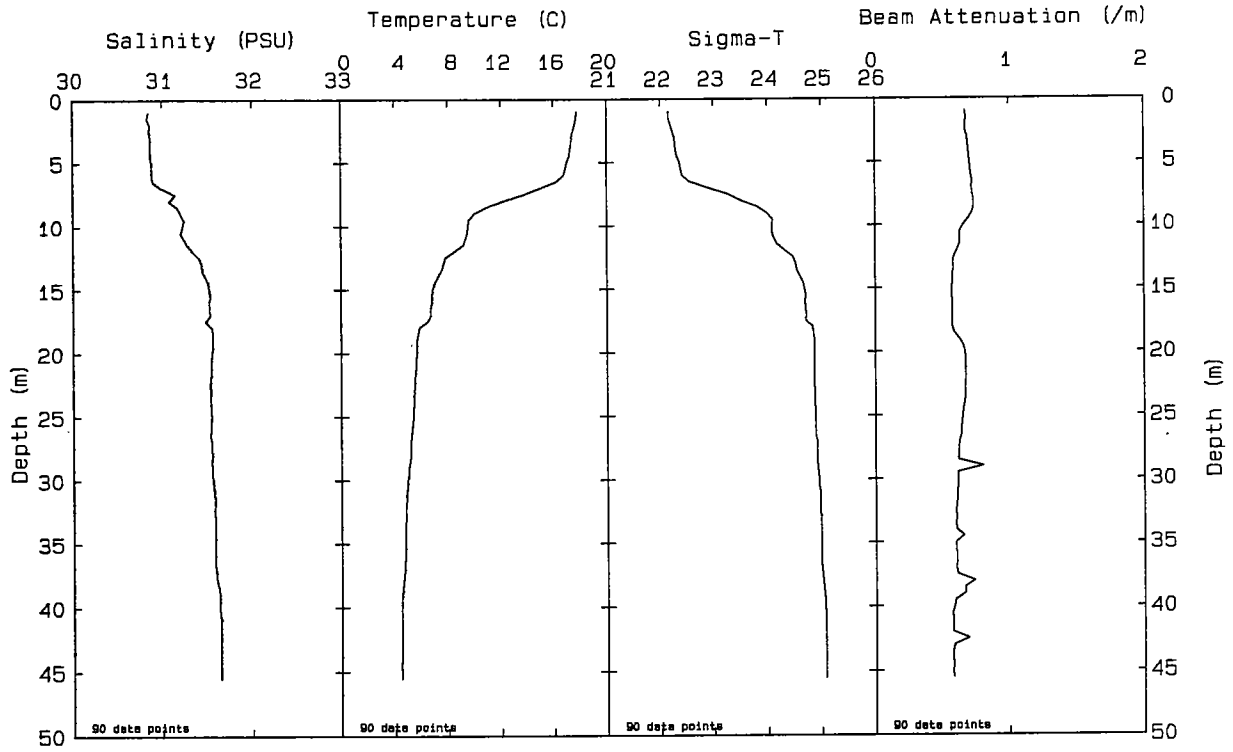


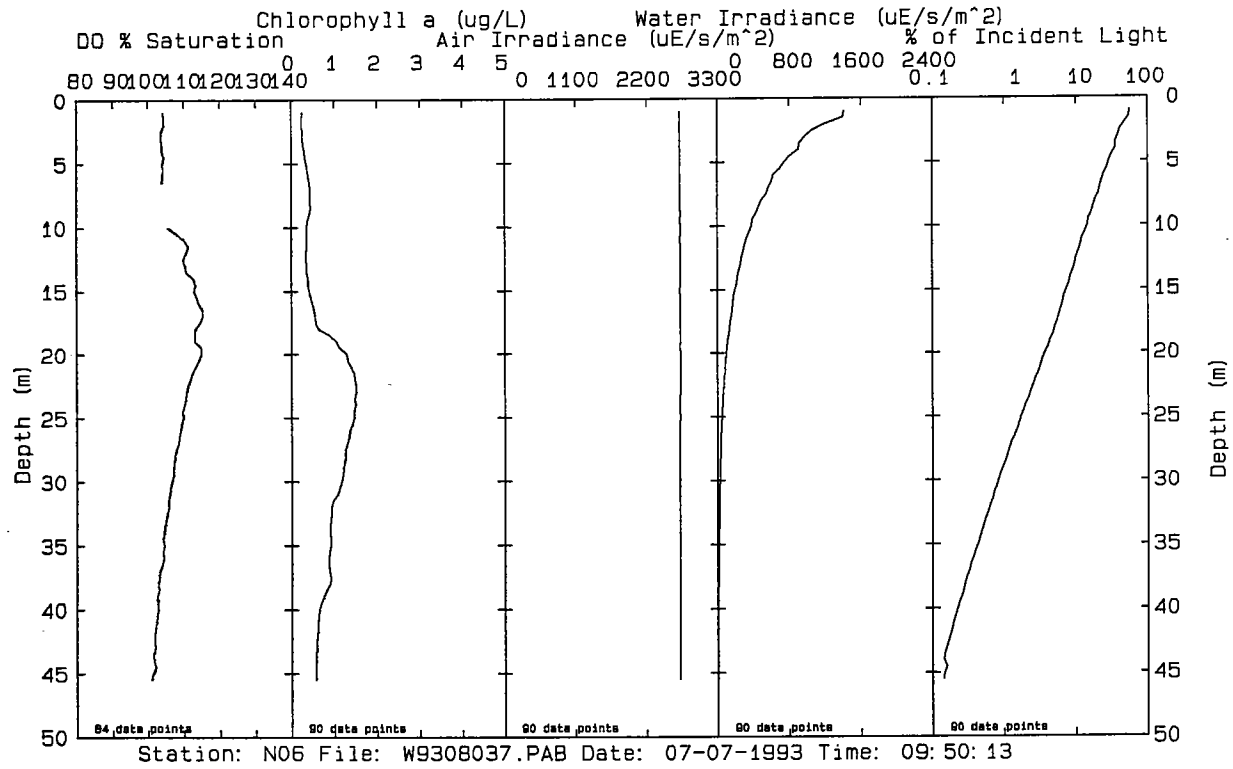
Station: N04P File: W9308031.PAB Date: 07-07-1993 Time: 08:48:34



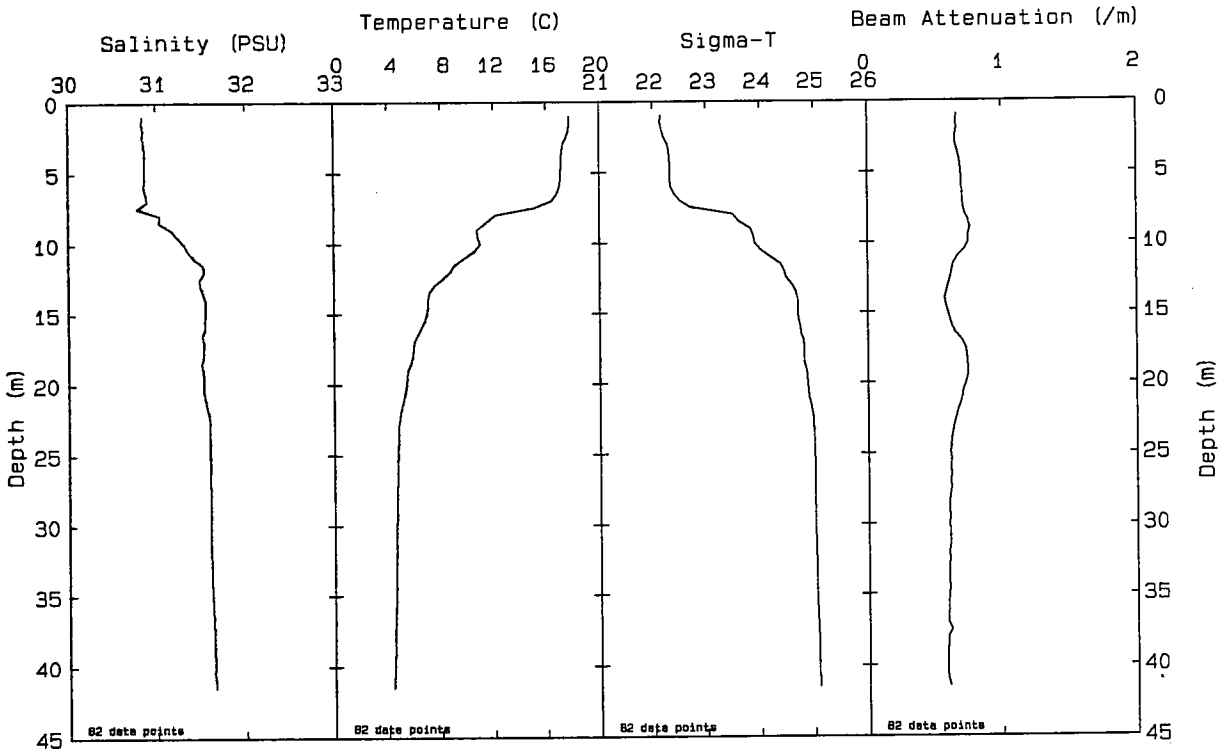


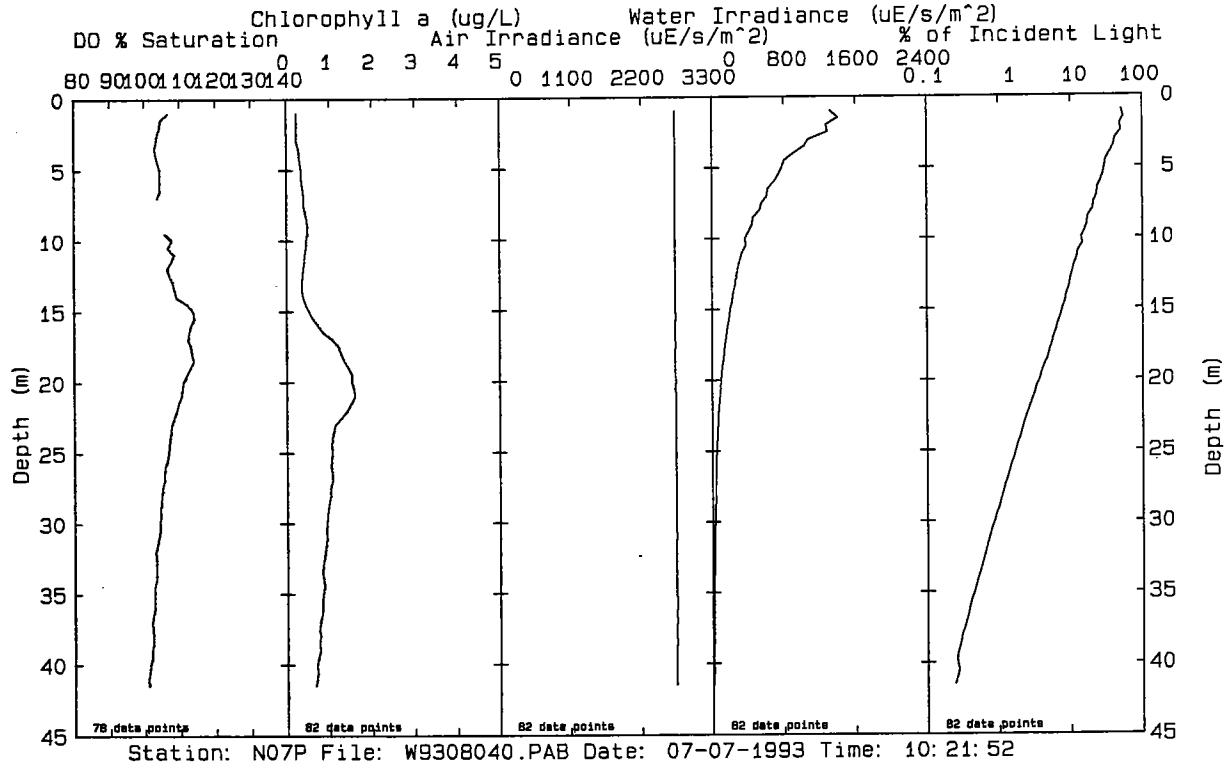
Station: N05 File: W9308034.PAB Date: 07-07-1993 Time: 09:21:57



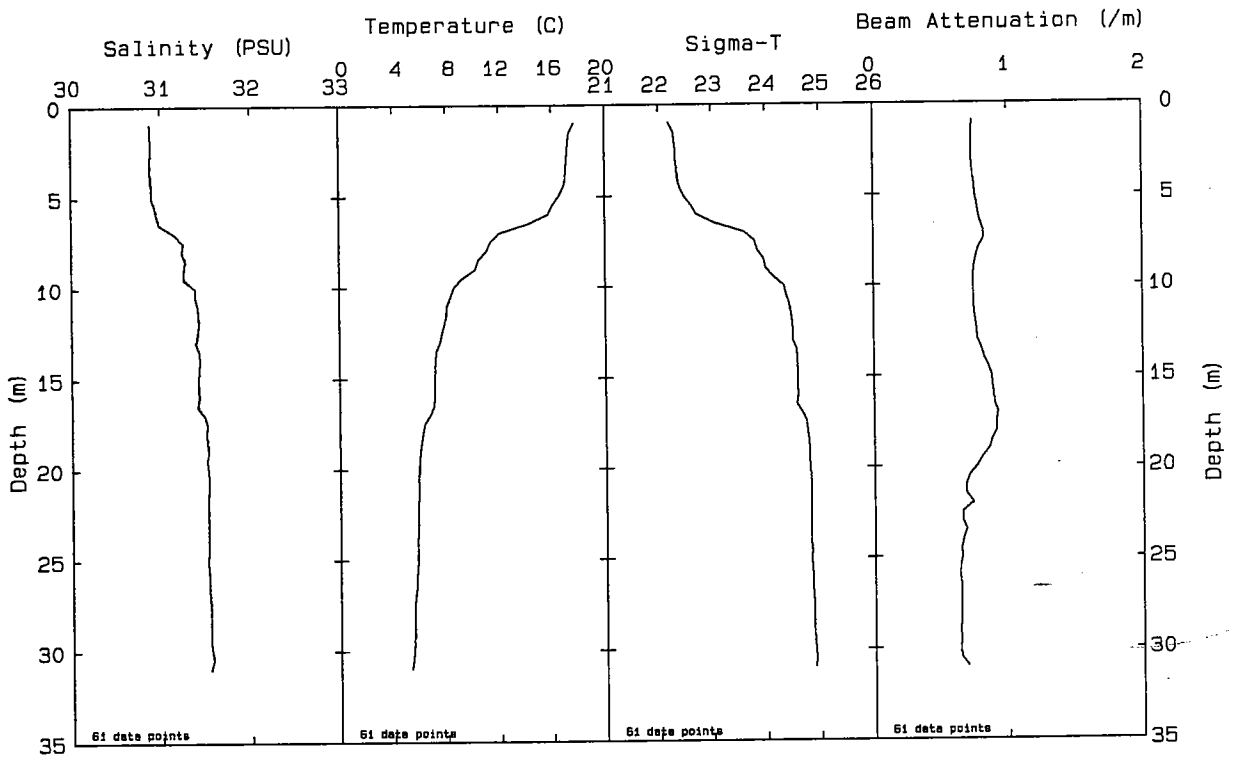


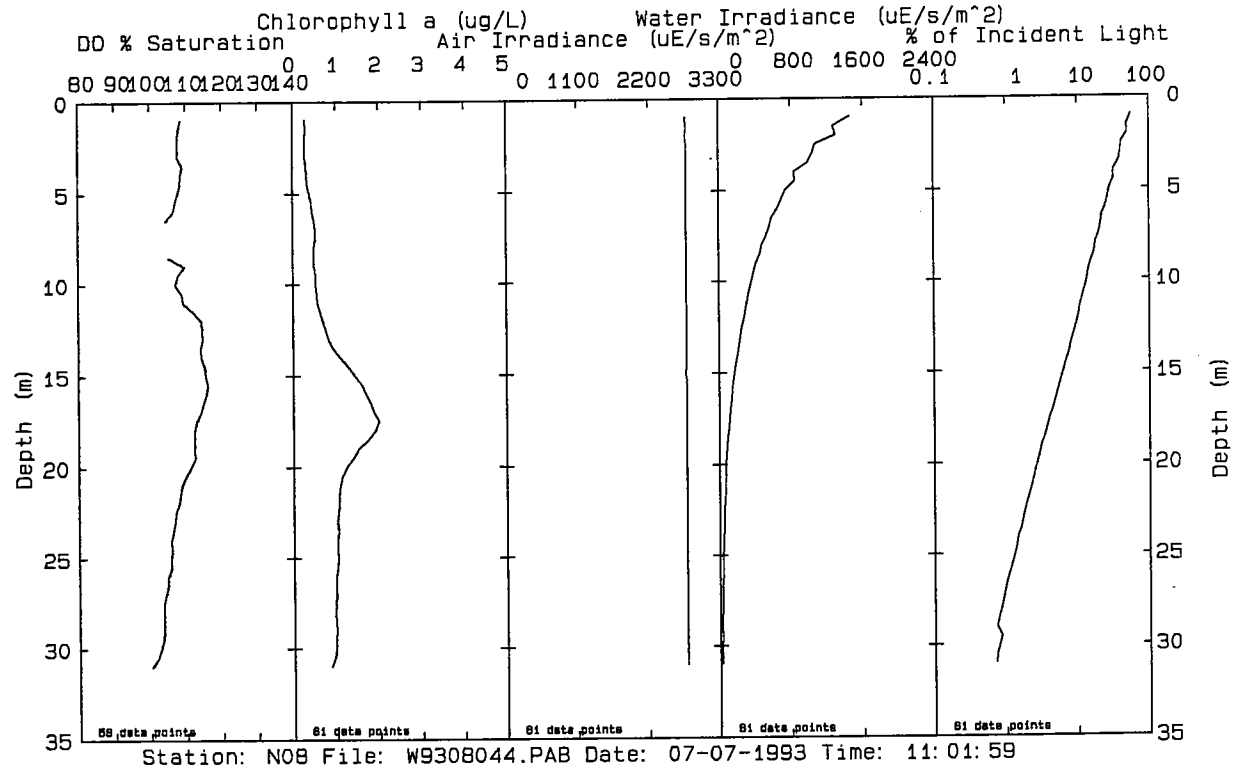
Station: N06 File: W9308037.PAB Date: 07-07-1993 Time: 09:50:13



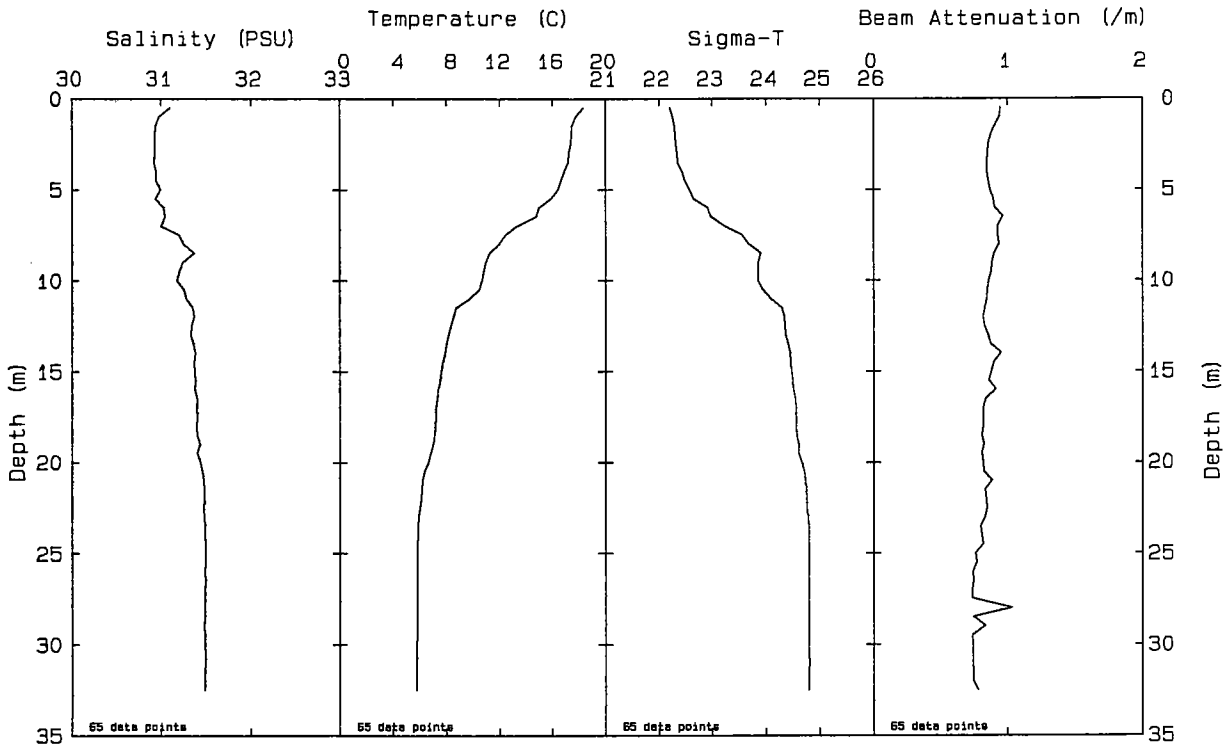


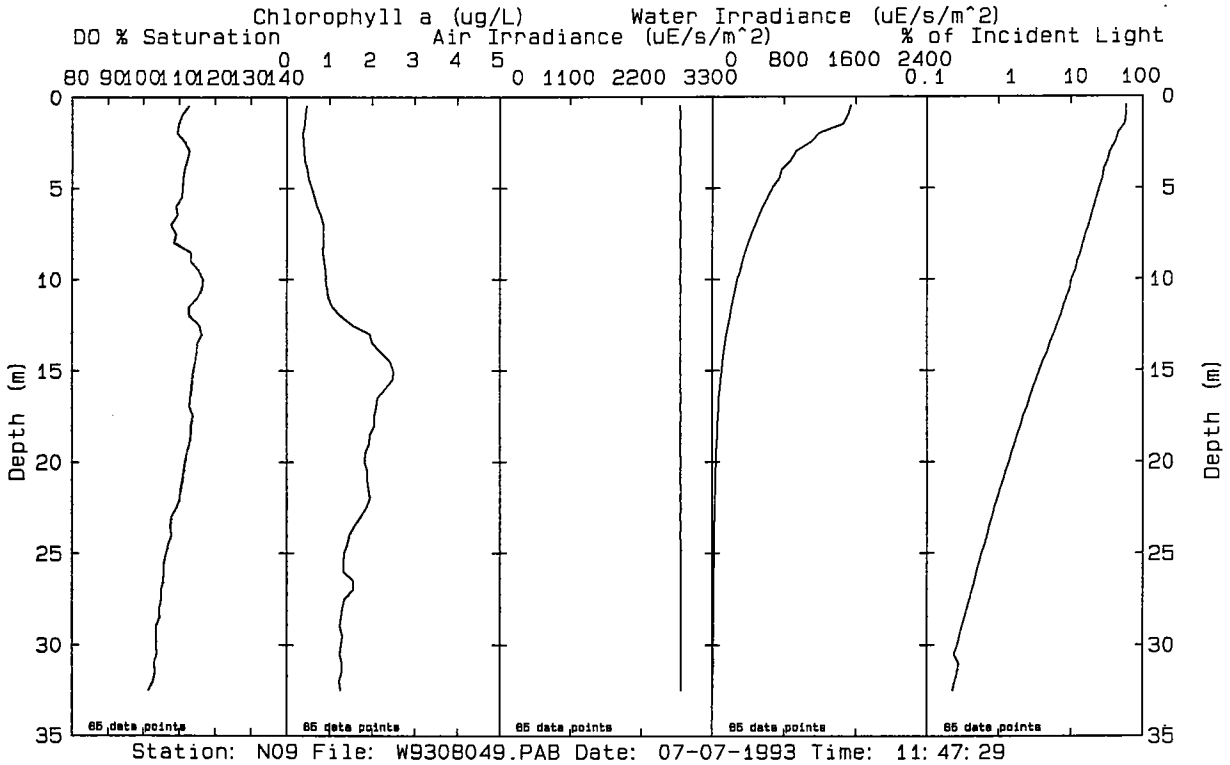
Station: N07P File: W9308040.PAB Date: 07-07-1993 Time: 10:21:52



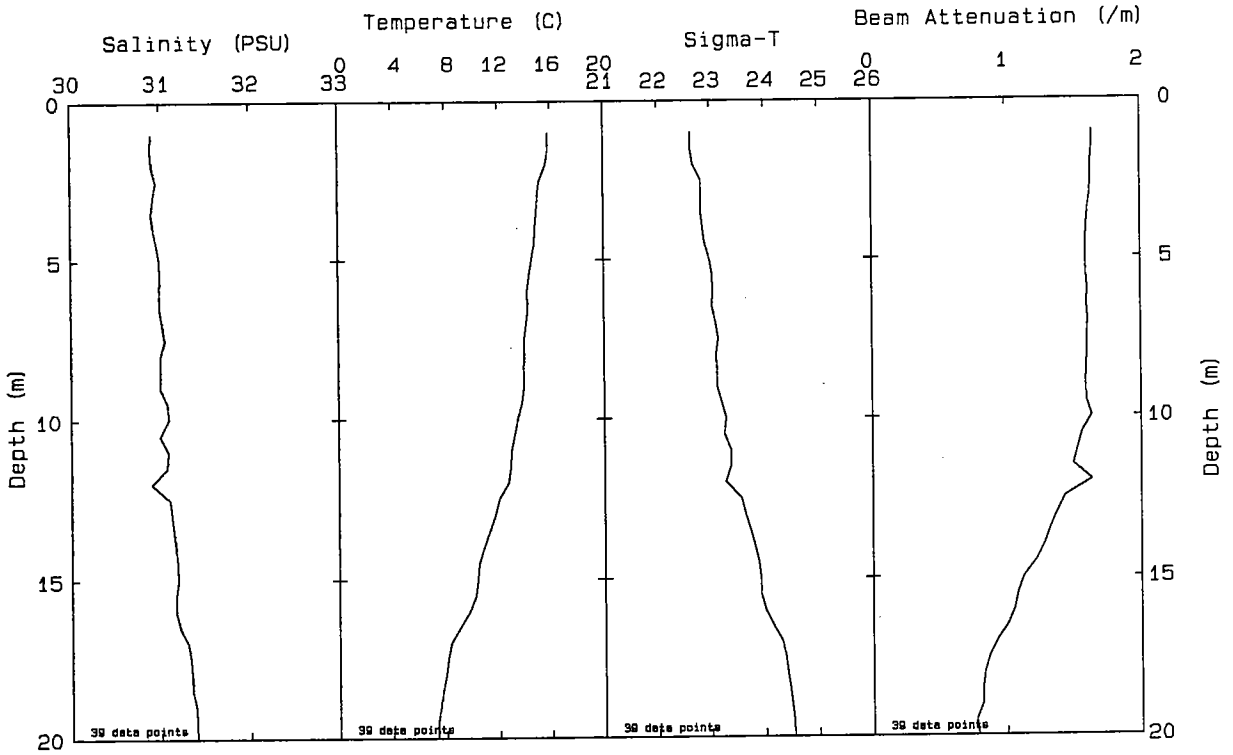


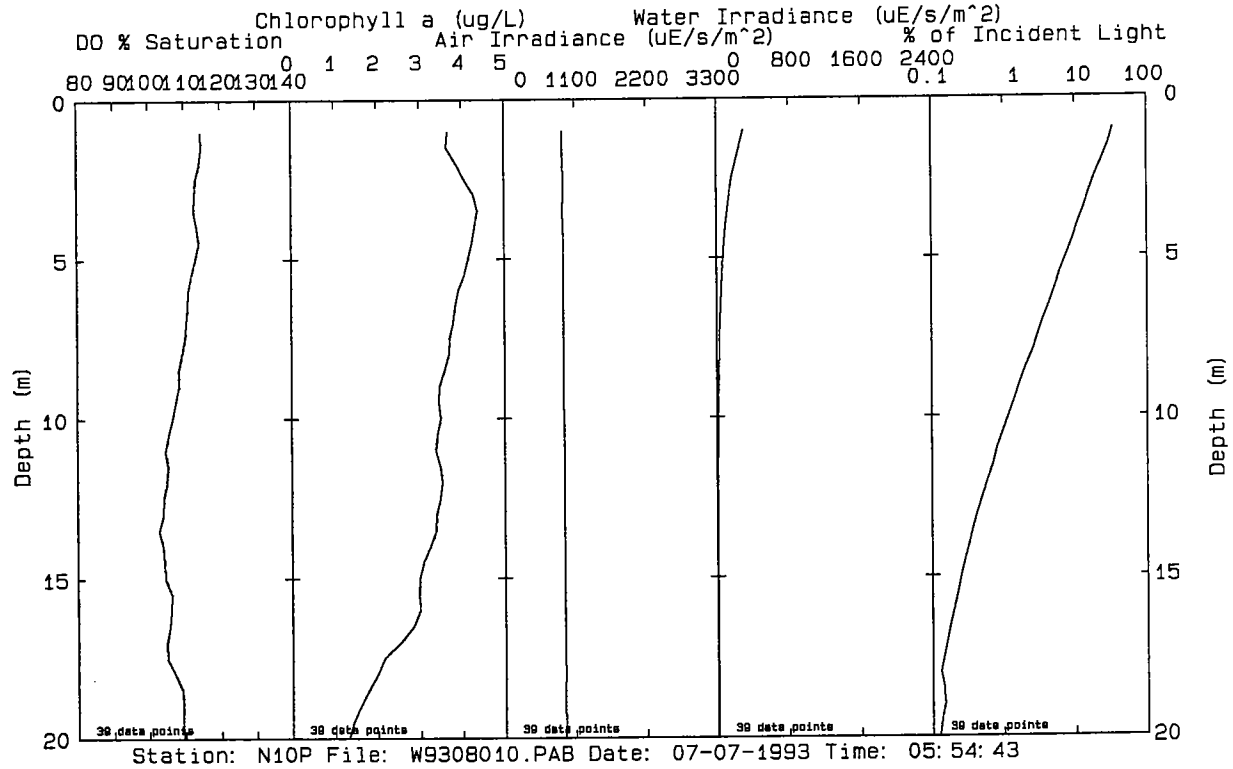
Station: N08 File: W9308044.PAB Date: 07-07-1993 Time: 11:01:59



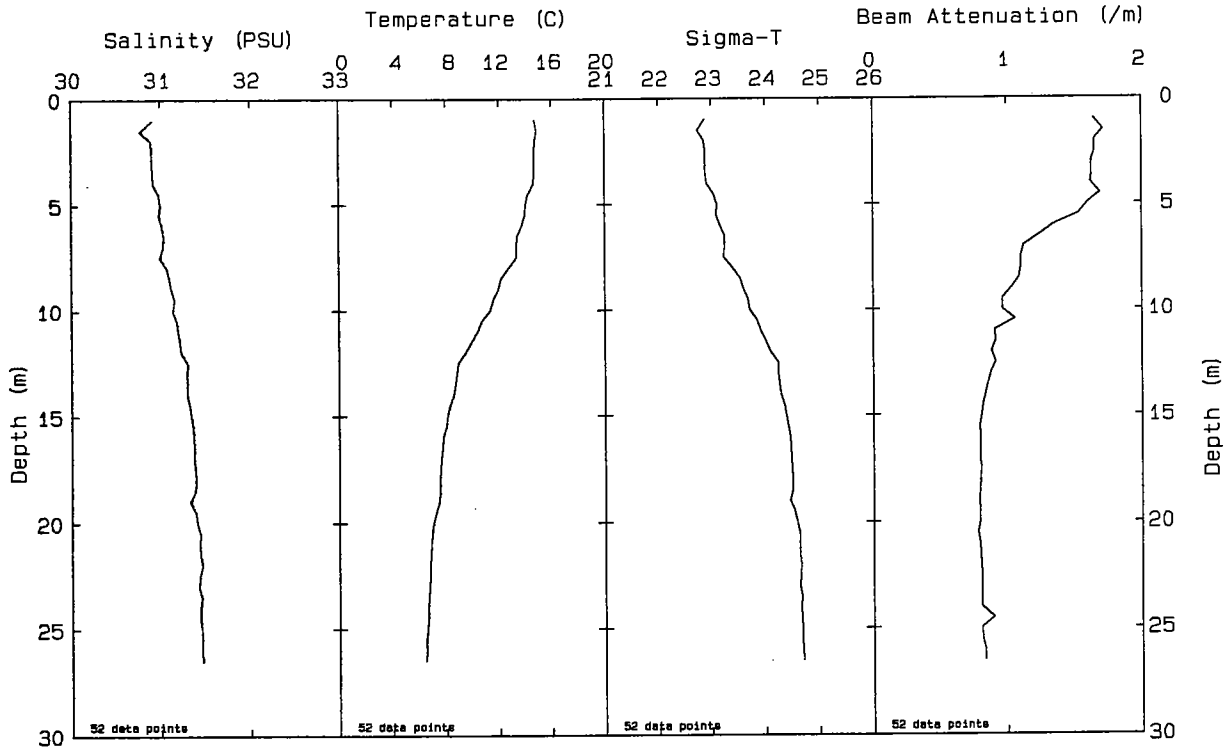


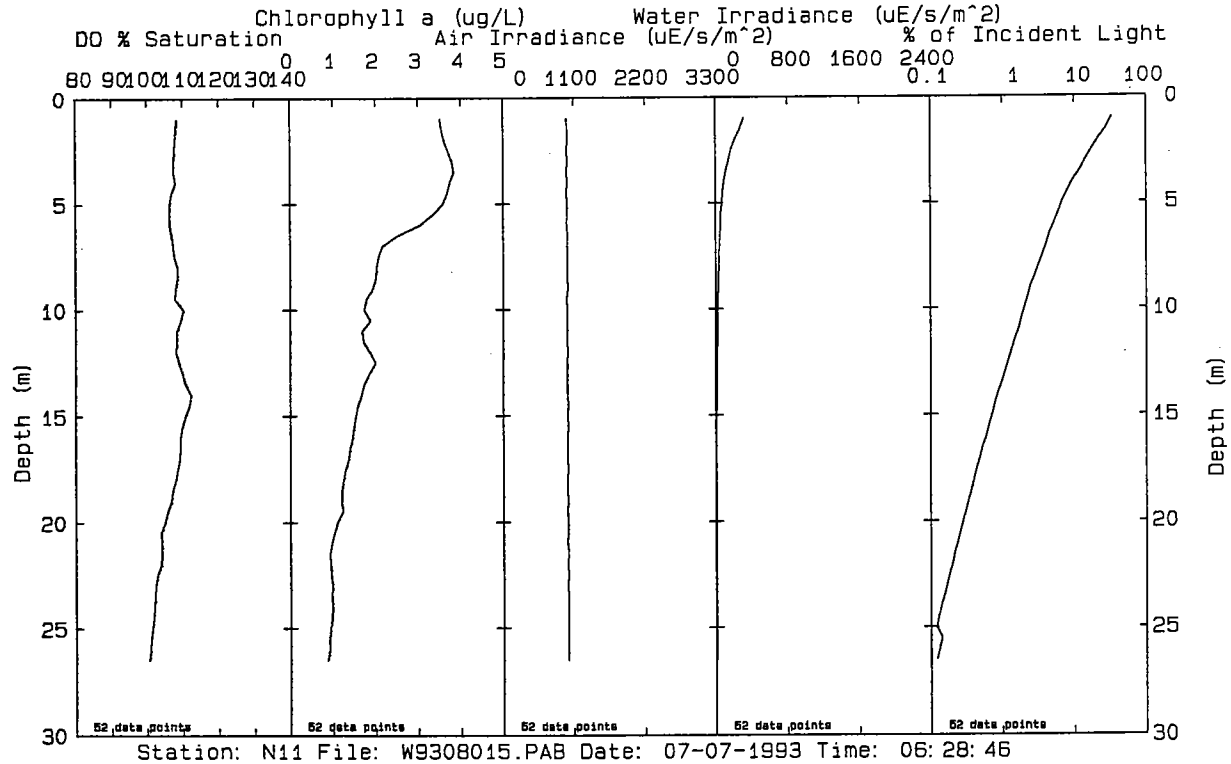
Station: N09 File: W9308049.PAB Date: 07-07-1993 Time: 11:47:29



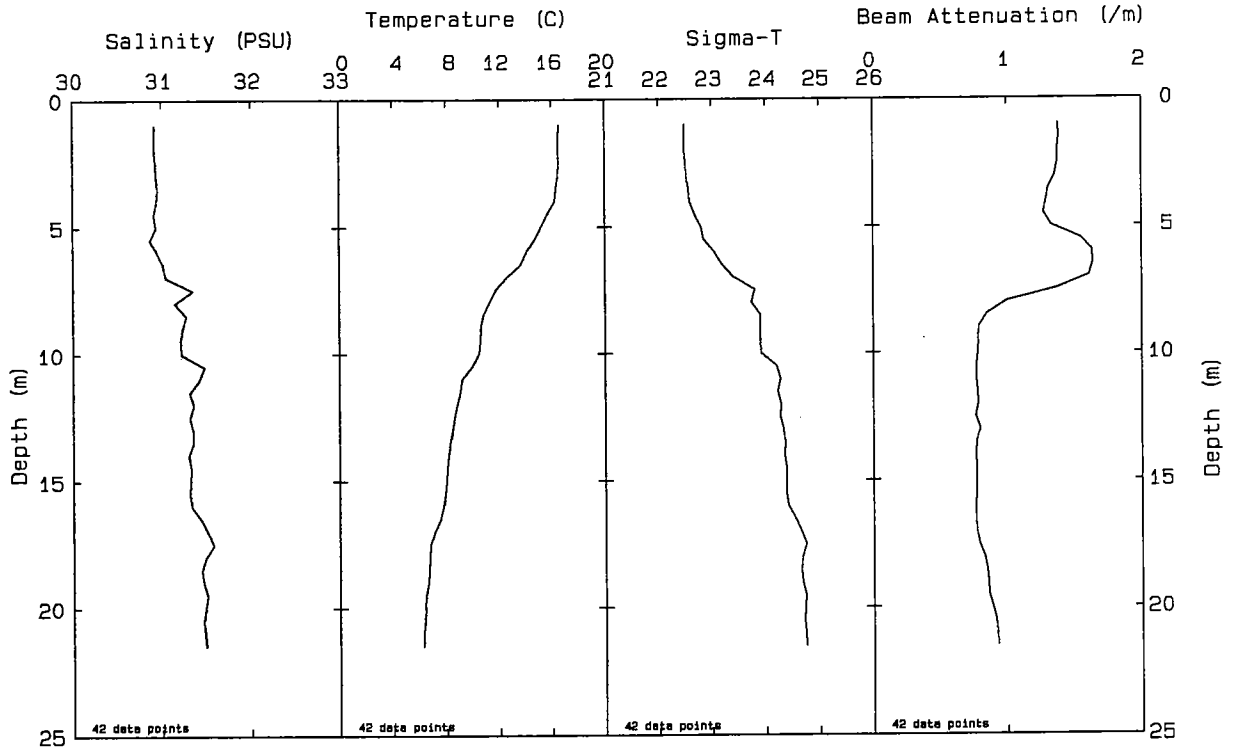


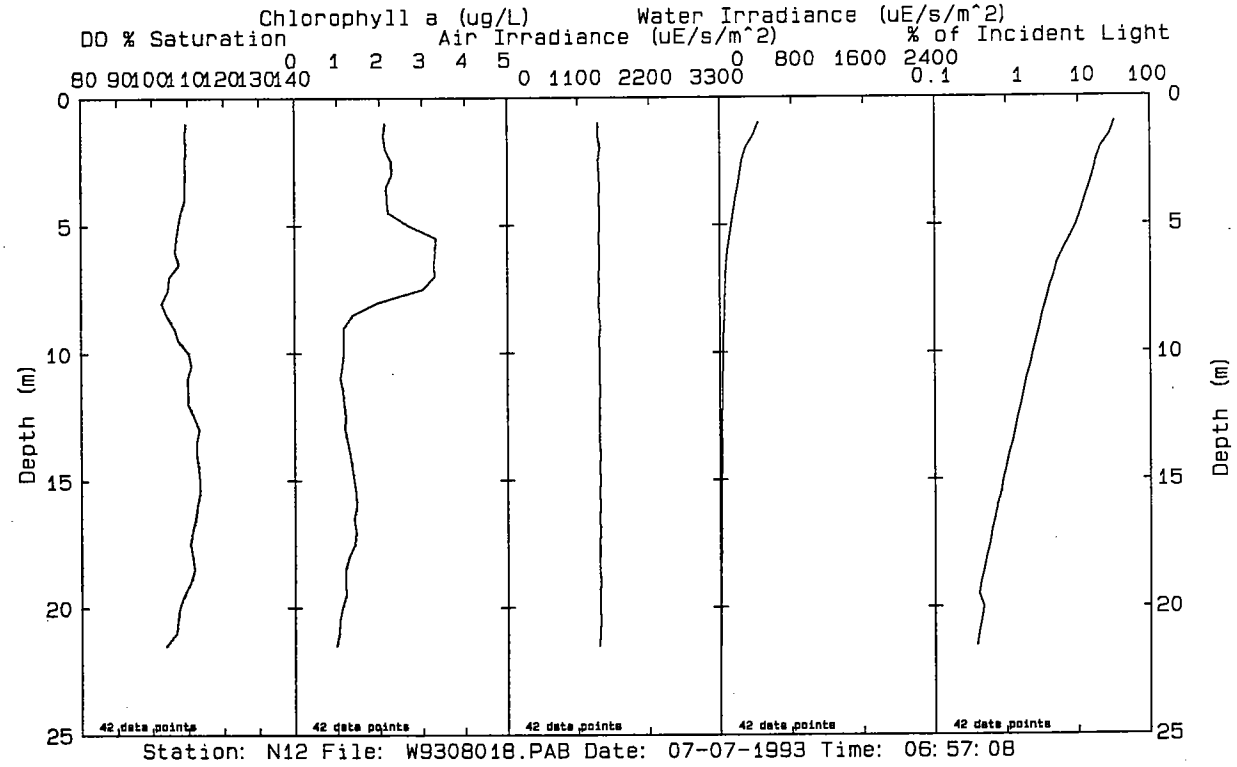
Station: N10P File: W9308010.PAB Date: 07-07-1993 Time: 05:54:43



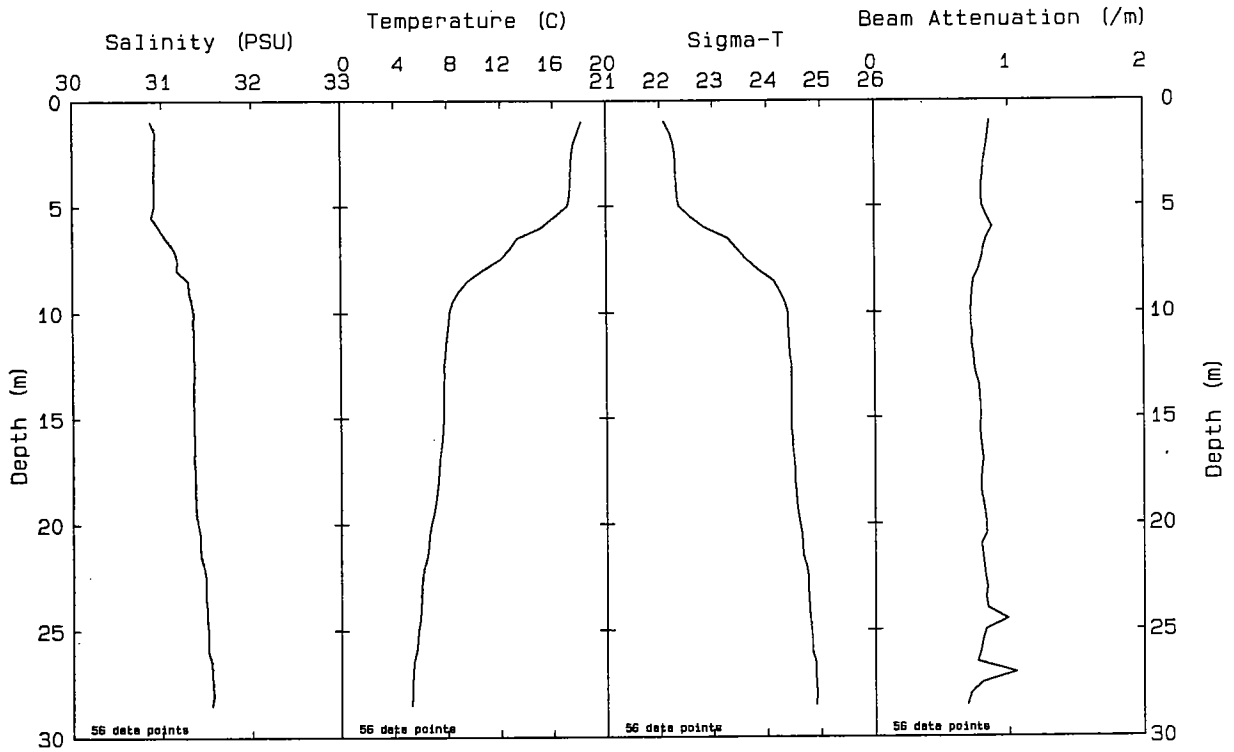


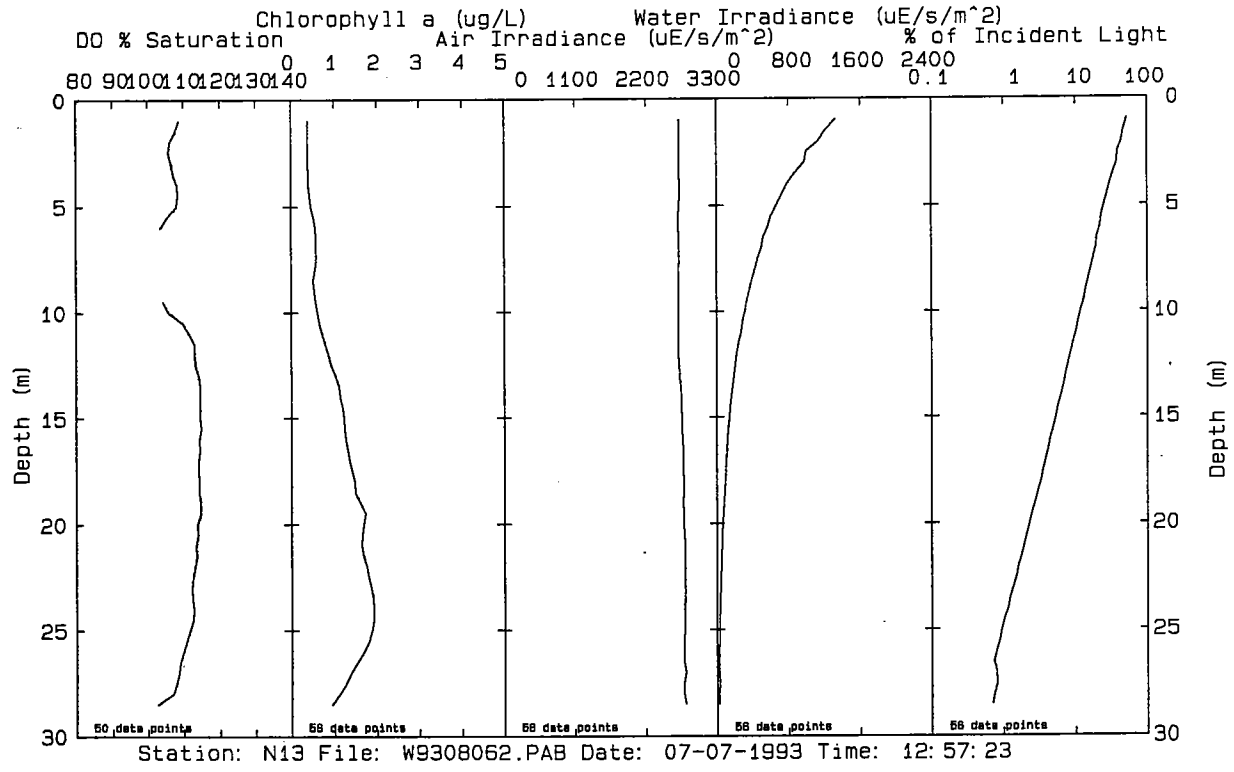
Station: N11 File: W9308015.PAB Date: 07-07-1993 Time: 06:28:46



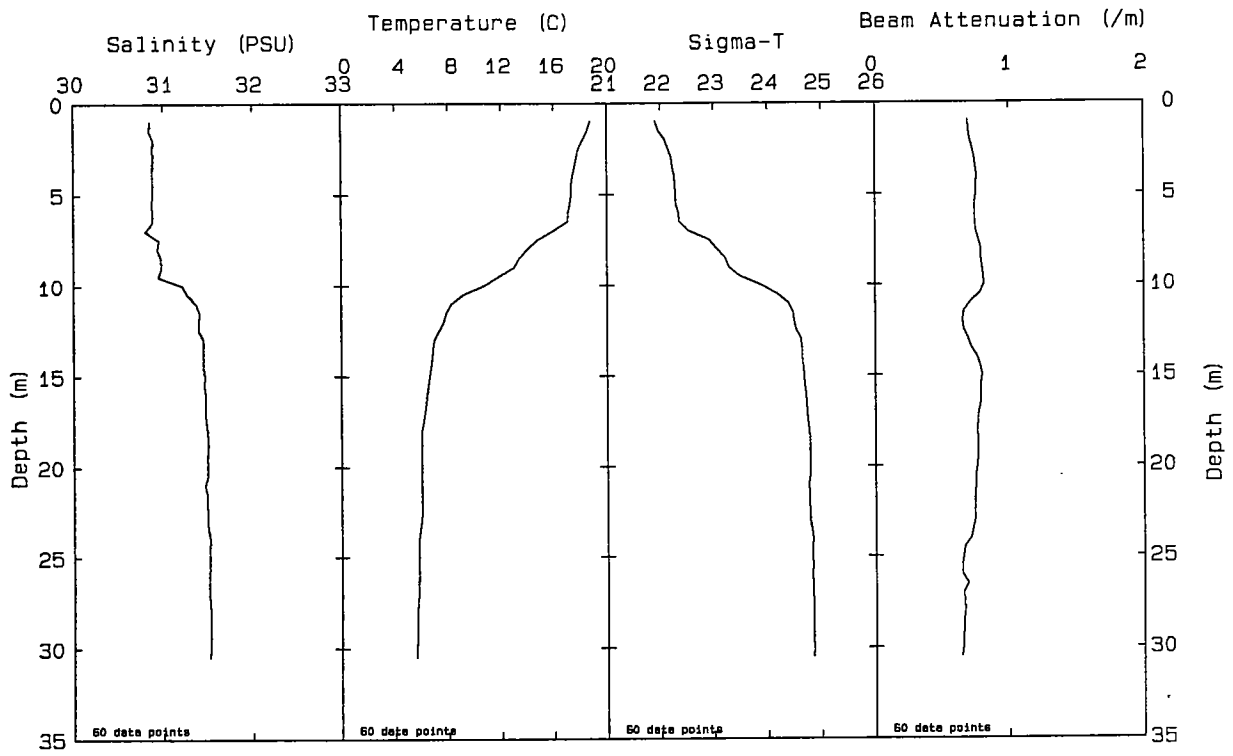


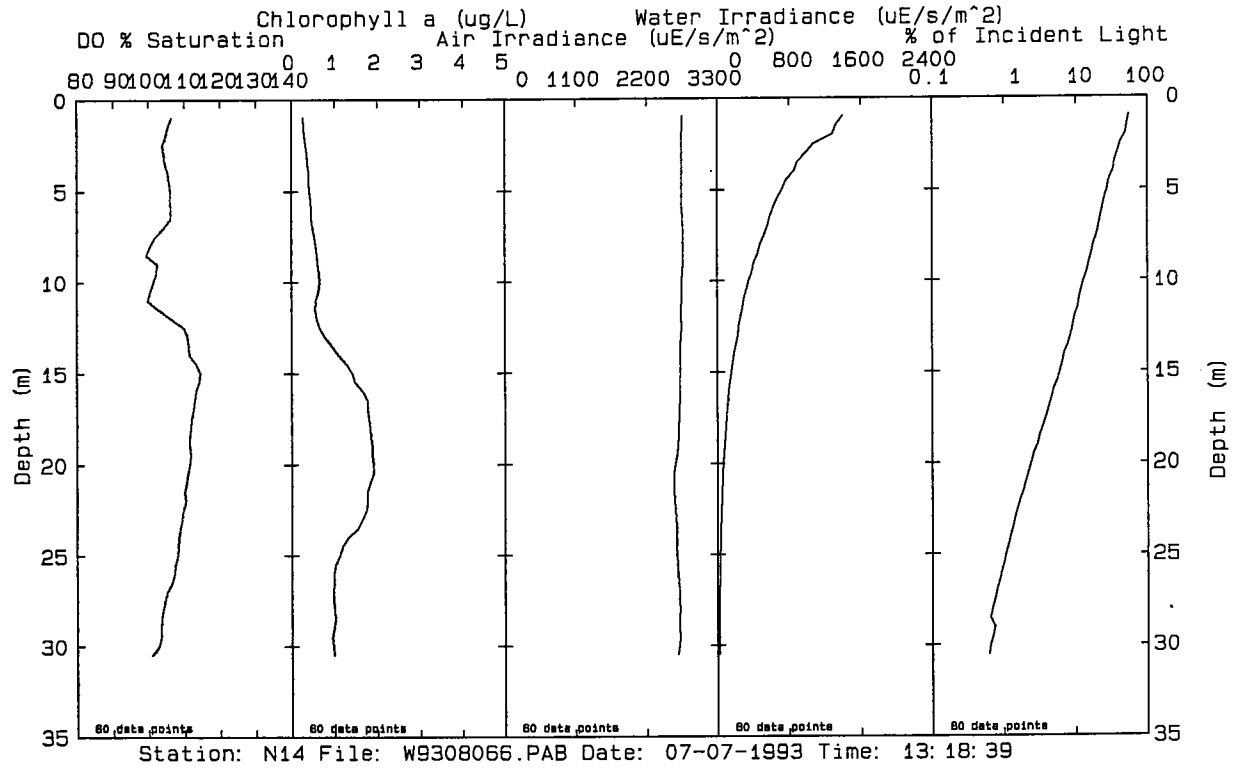
Station: N12 File: W9308018.PAB Date: 07-07-1993 Time: 06:57:08



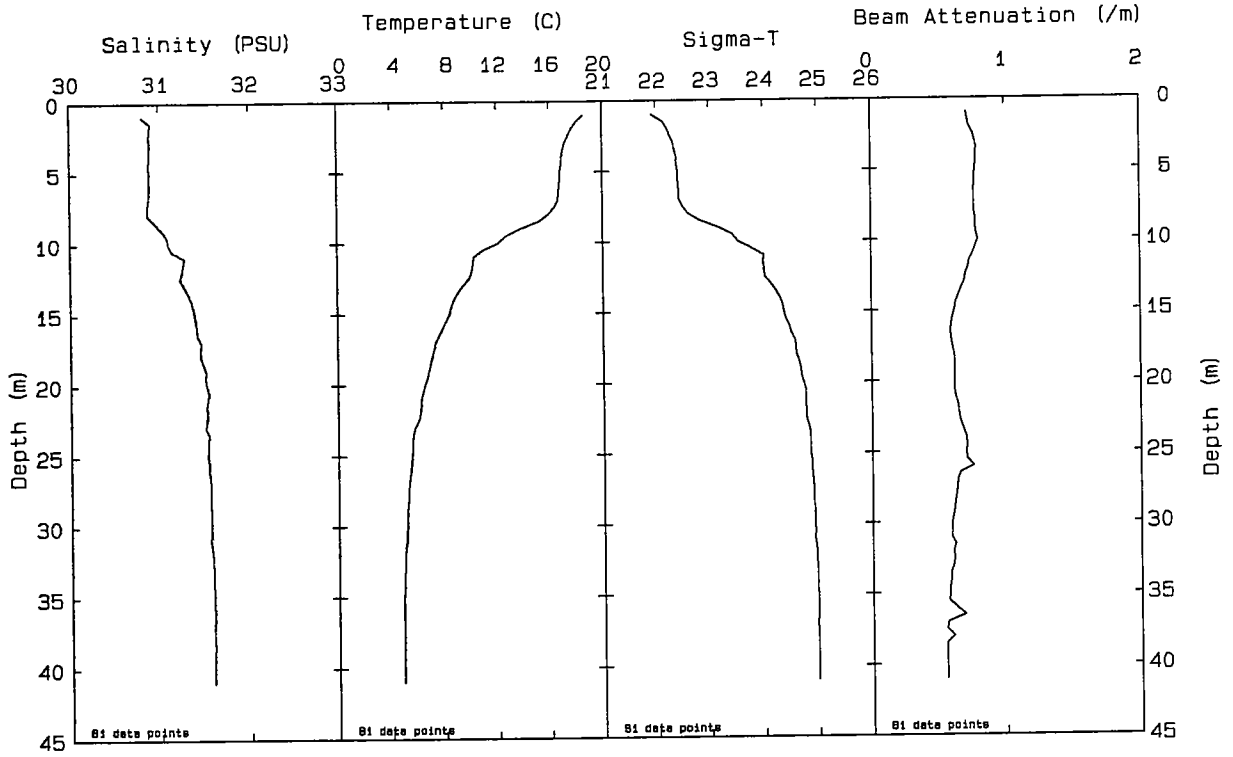


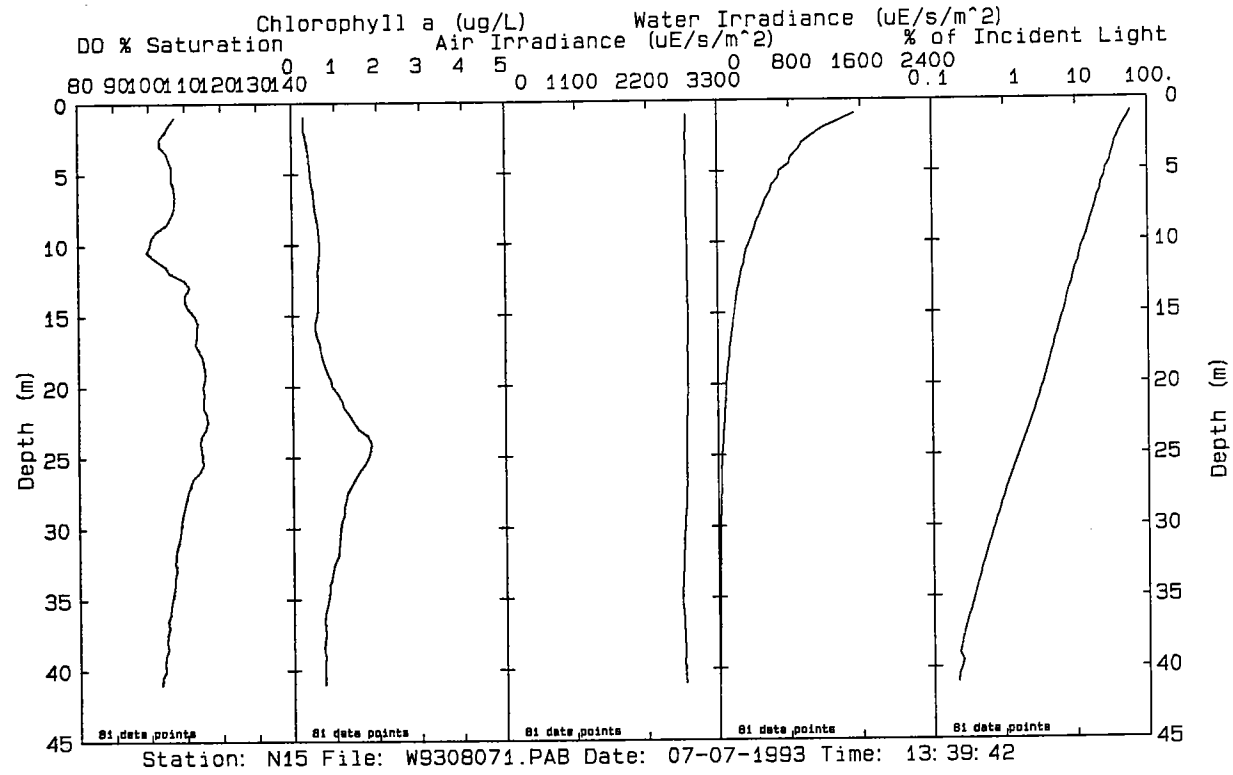
Station: N13 File: W9308062.PAB Date: 07-07-1993 Time: 12:57:23



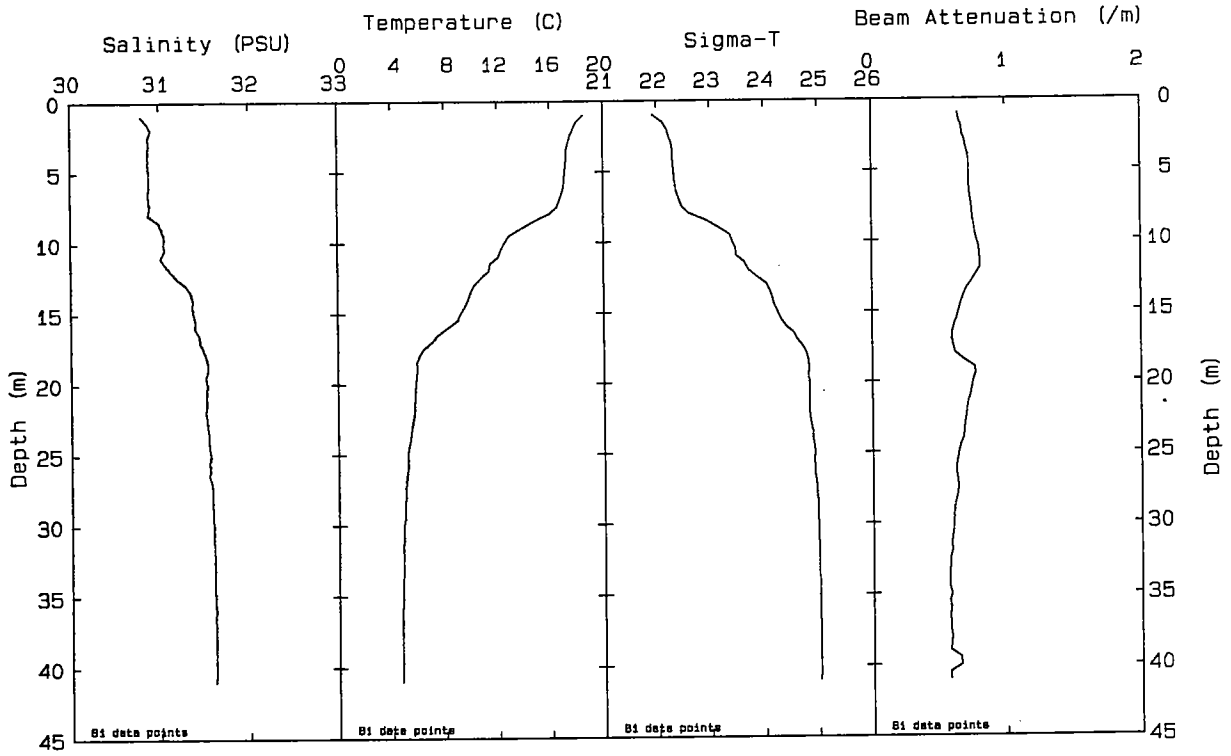


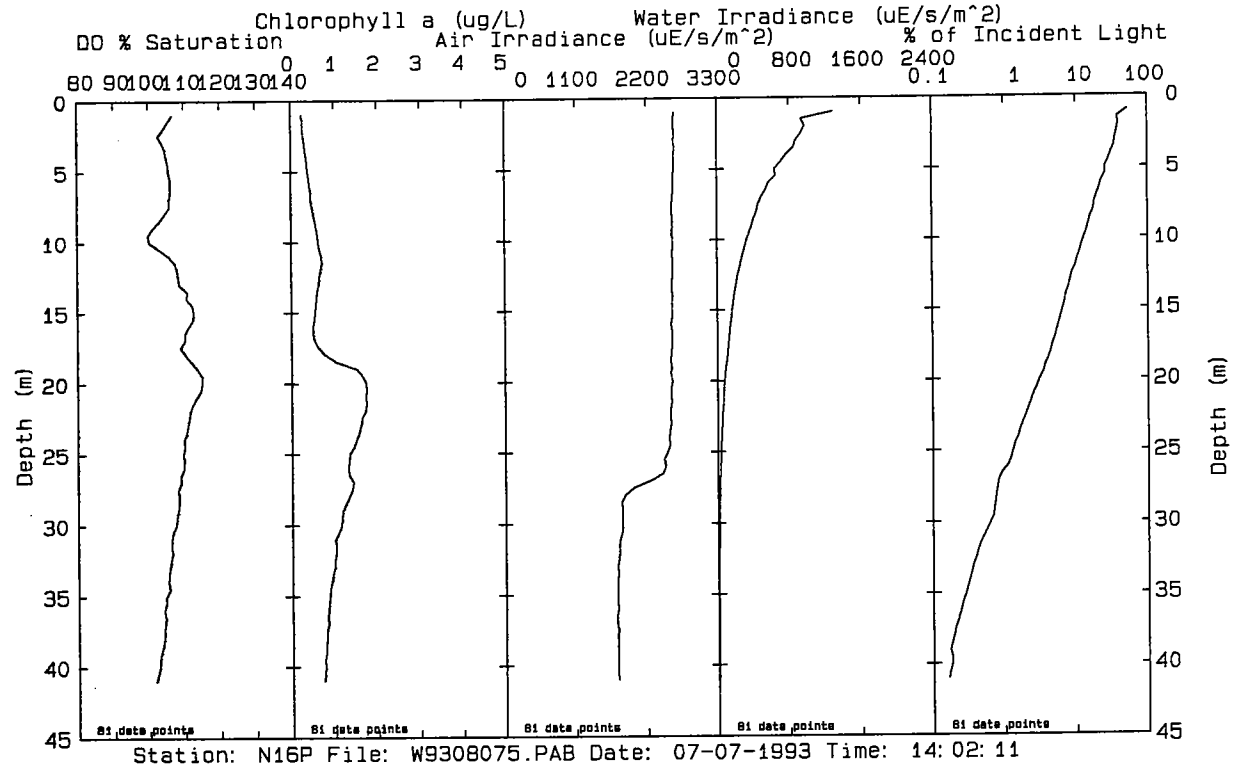
Station: N14 File: W9308066.PAB Date: 07-07-1993 Time: 13:18:39



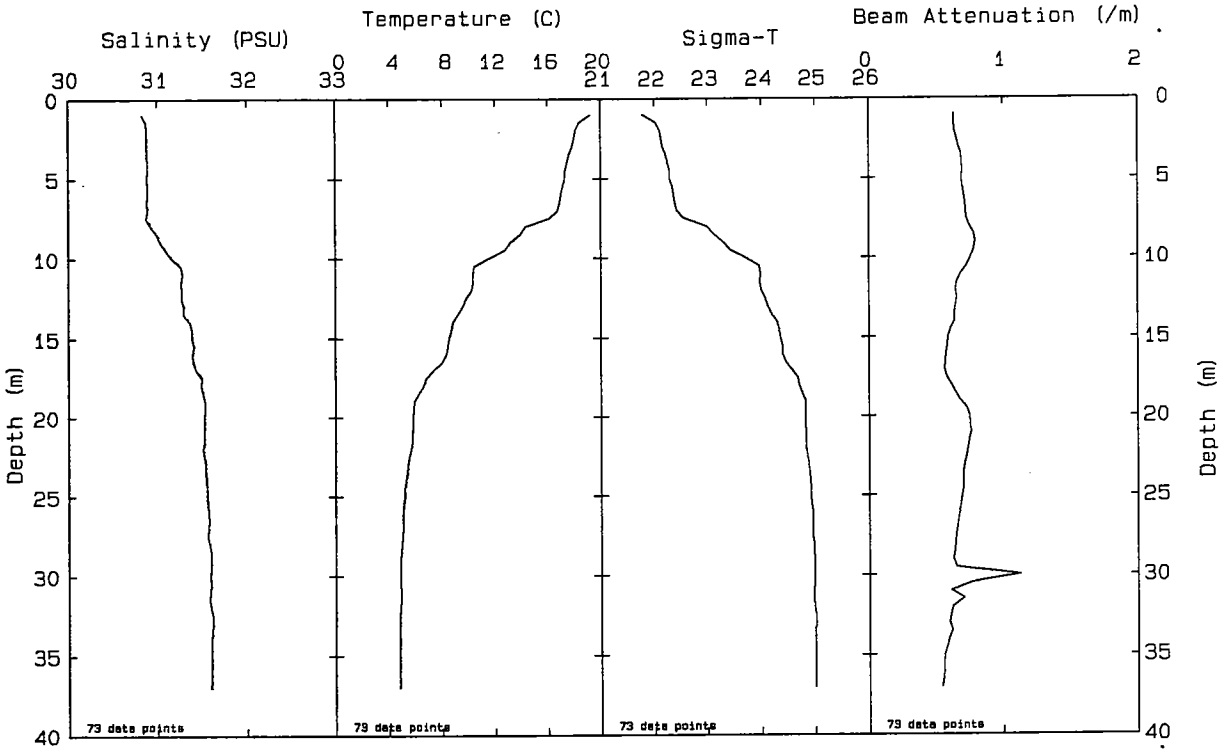


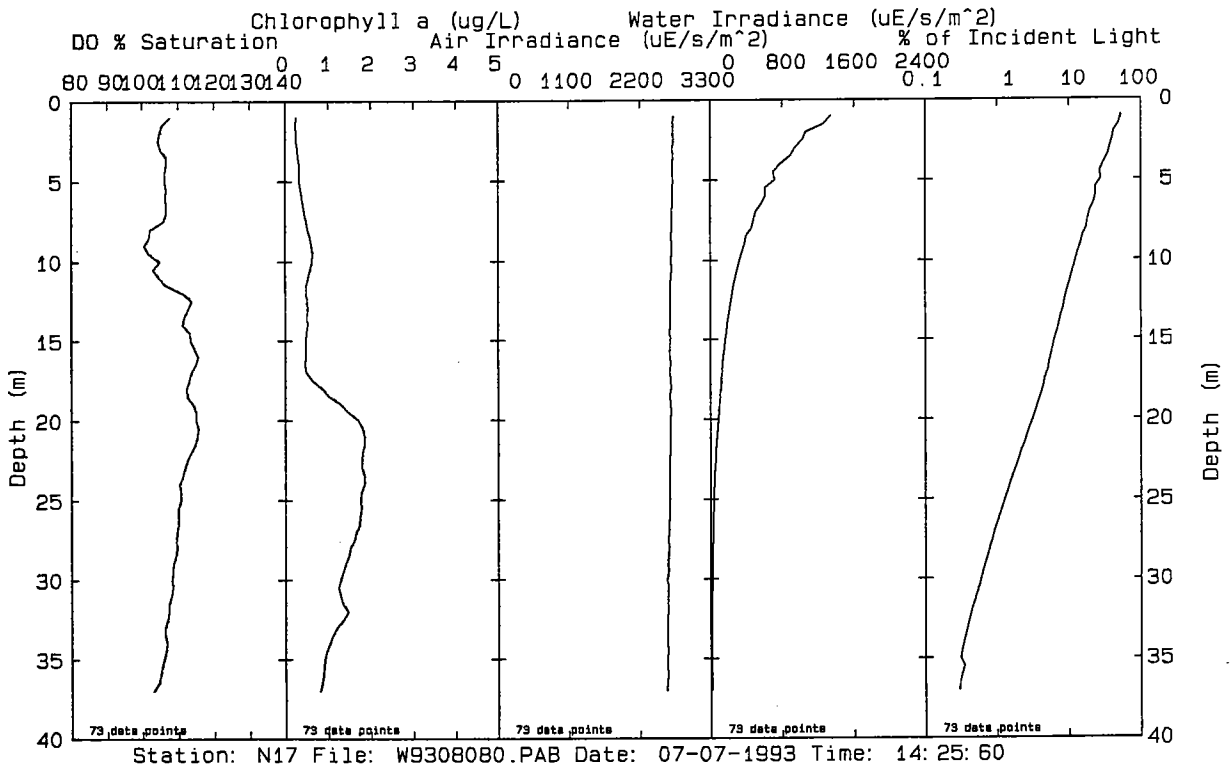
Station: N15 File: W9308071.PAB Date: 07-07-1993 Time: 13:39:42



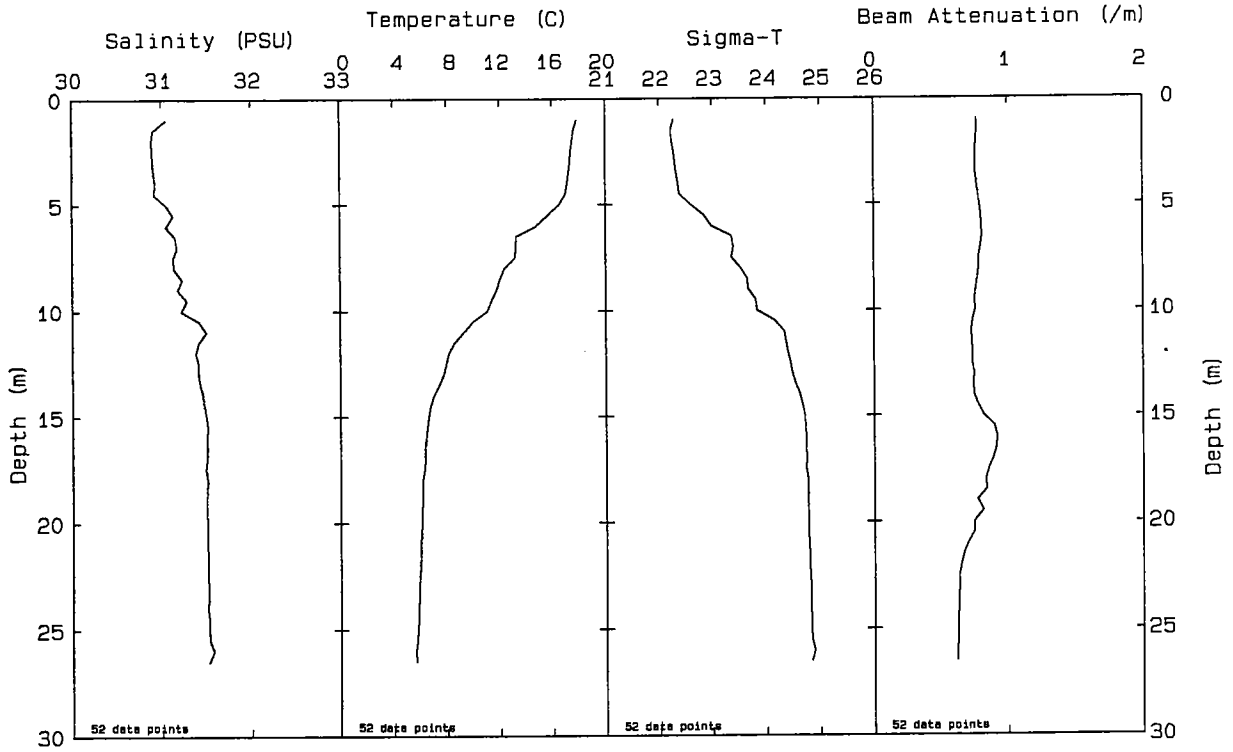


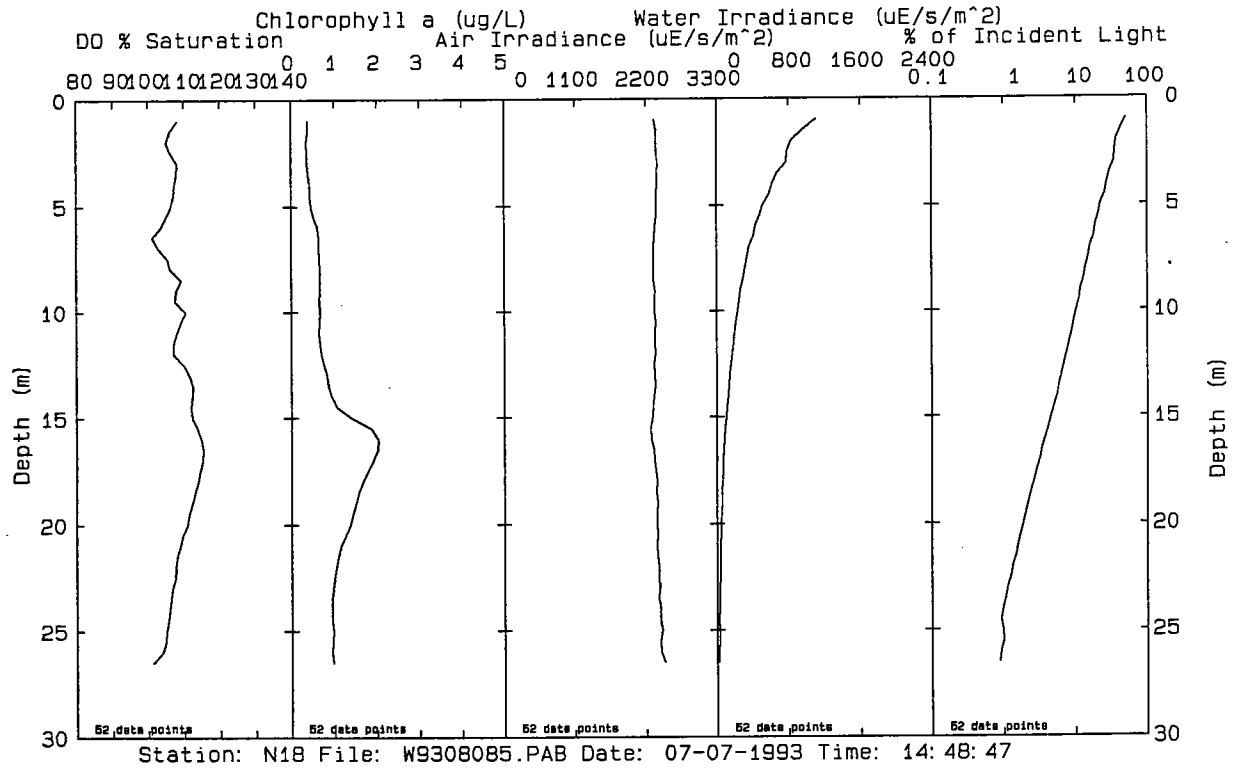
Station: N16P File: W9308075.PAB Date: 07-07-1993 Time: 14:02:11



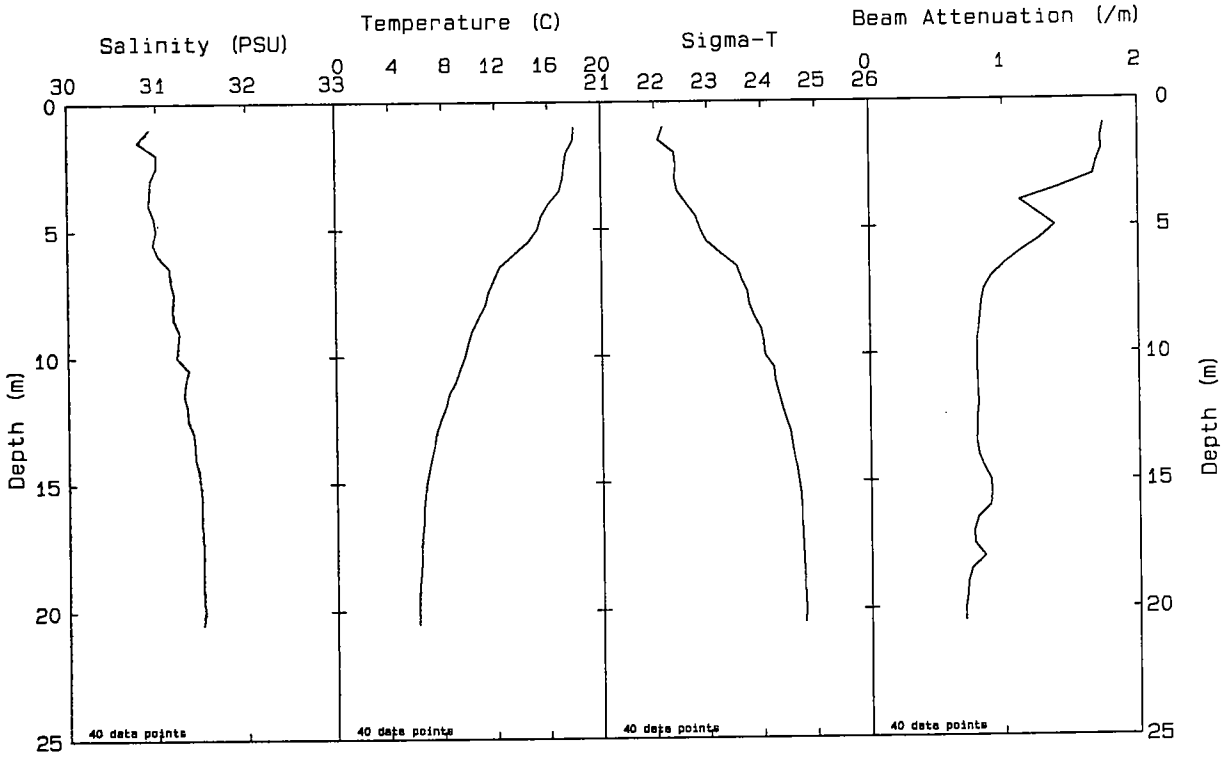


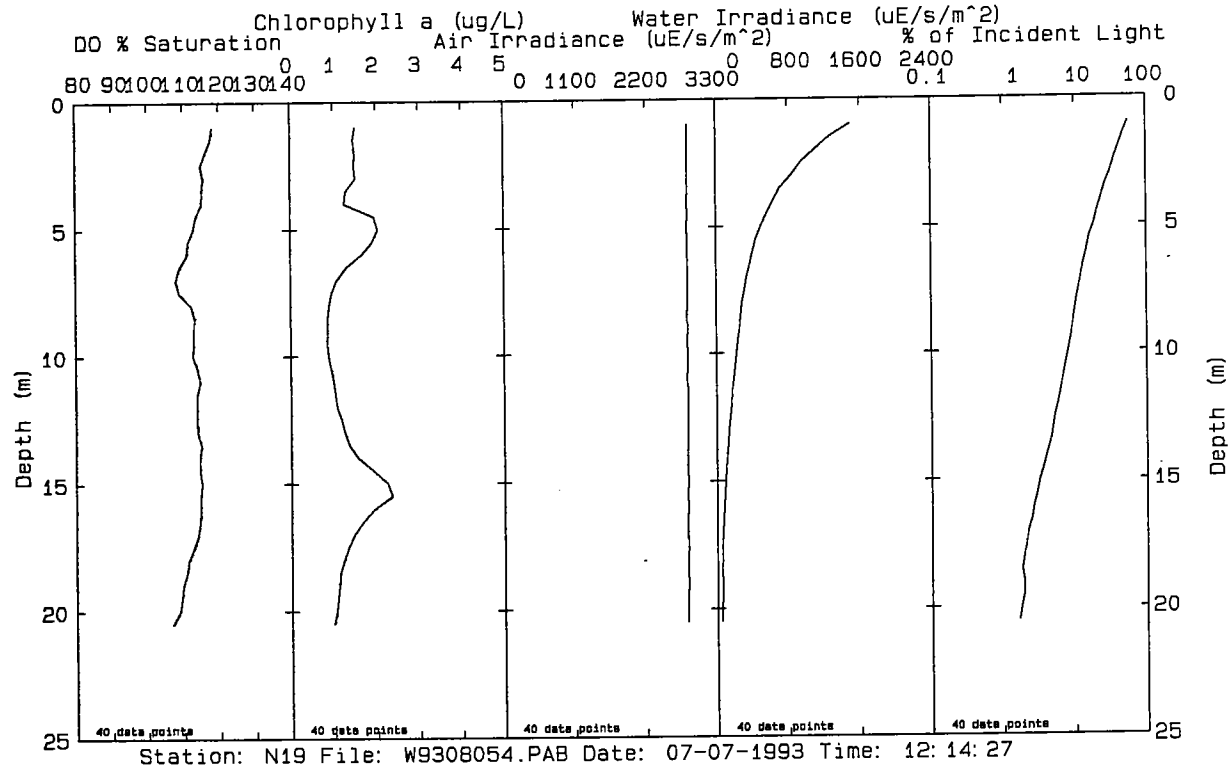
Station: N17 File: W9308080.PAB Date: 07-07-1993 Time: 14:25:60



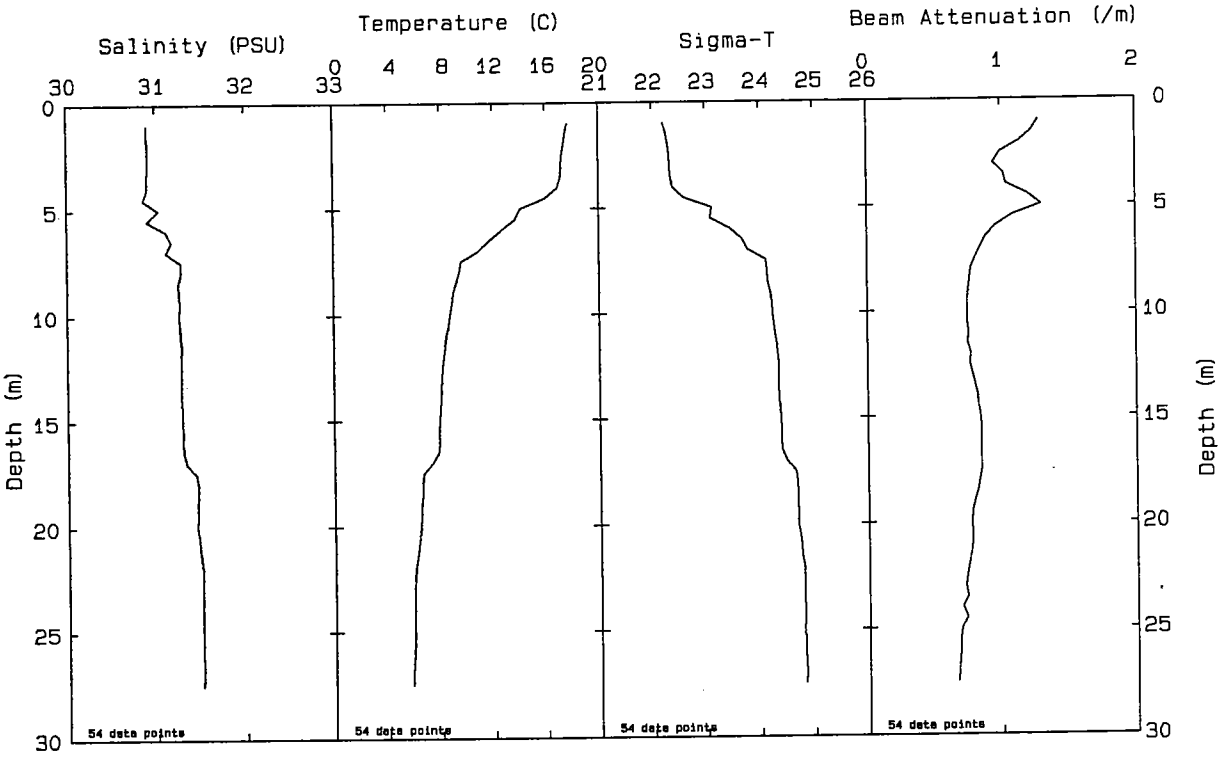


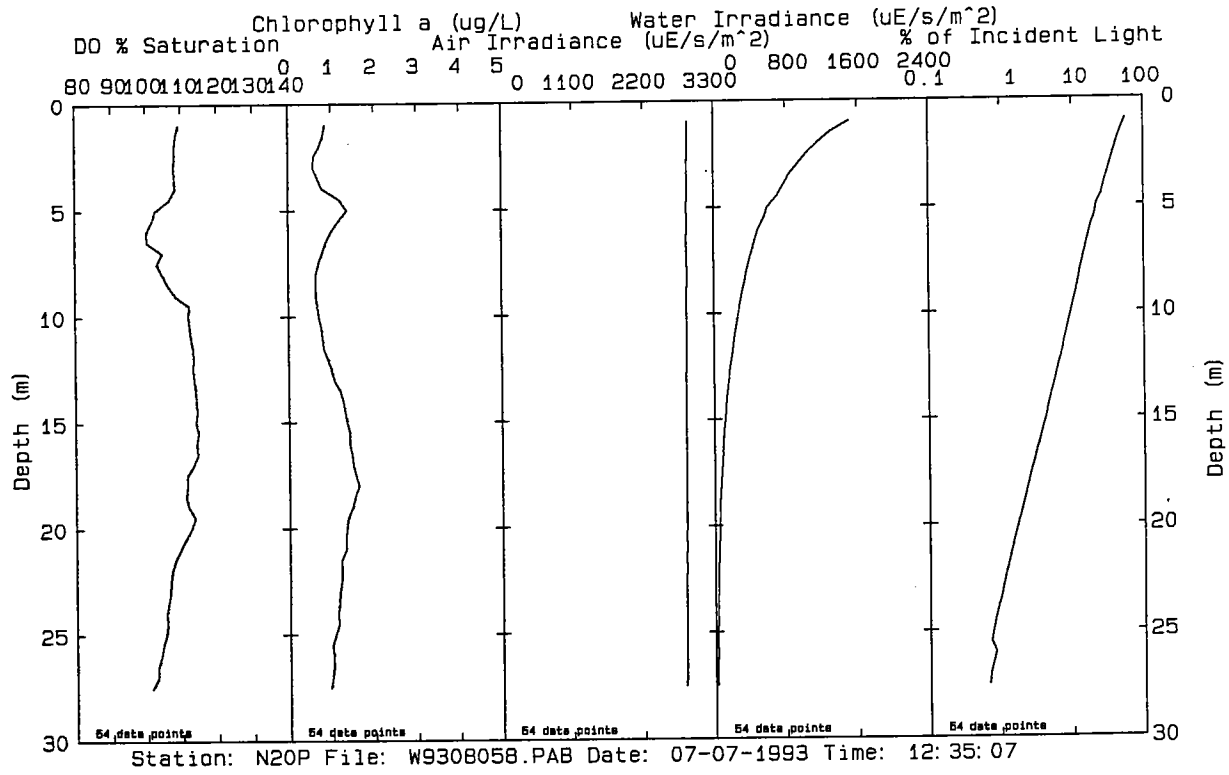
Station: N18 File: W9308085.PAB Date: 07-07-1993 Time: 14:48:47



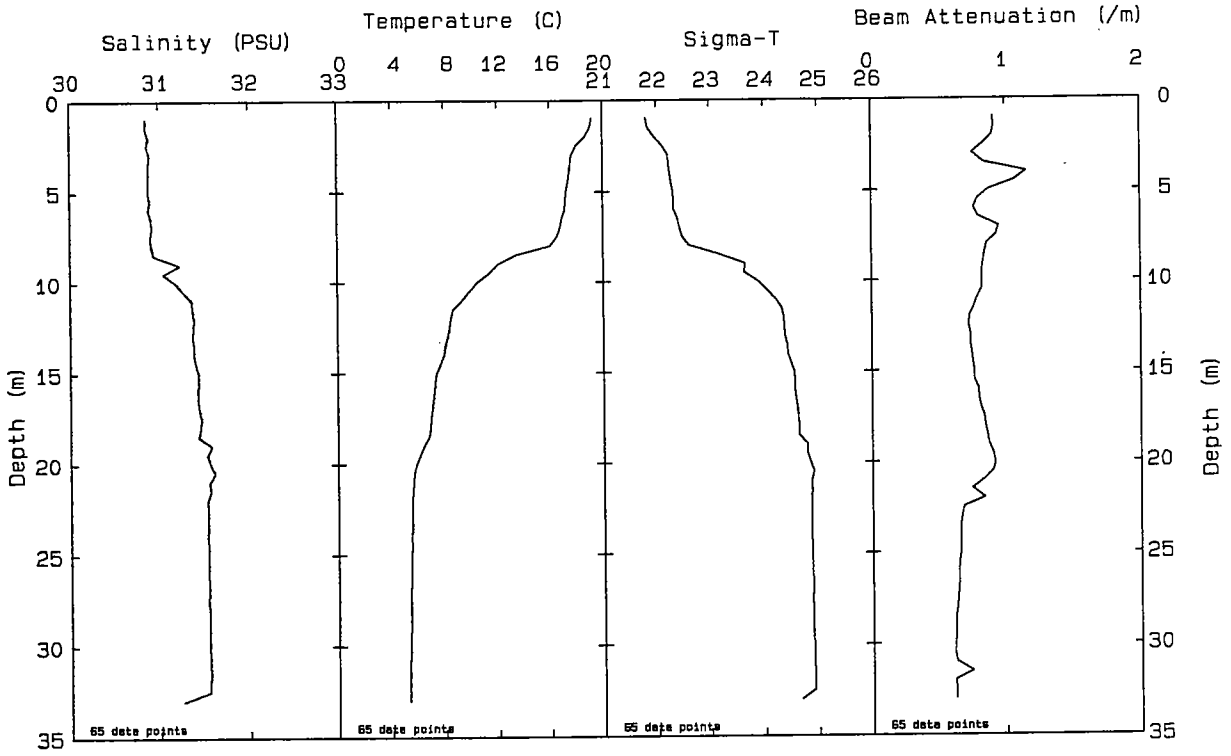


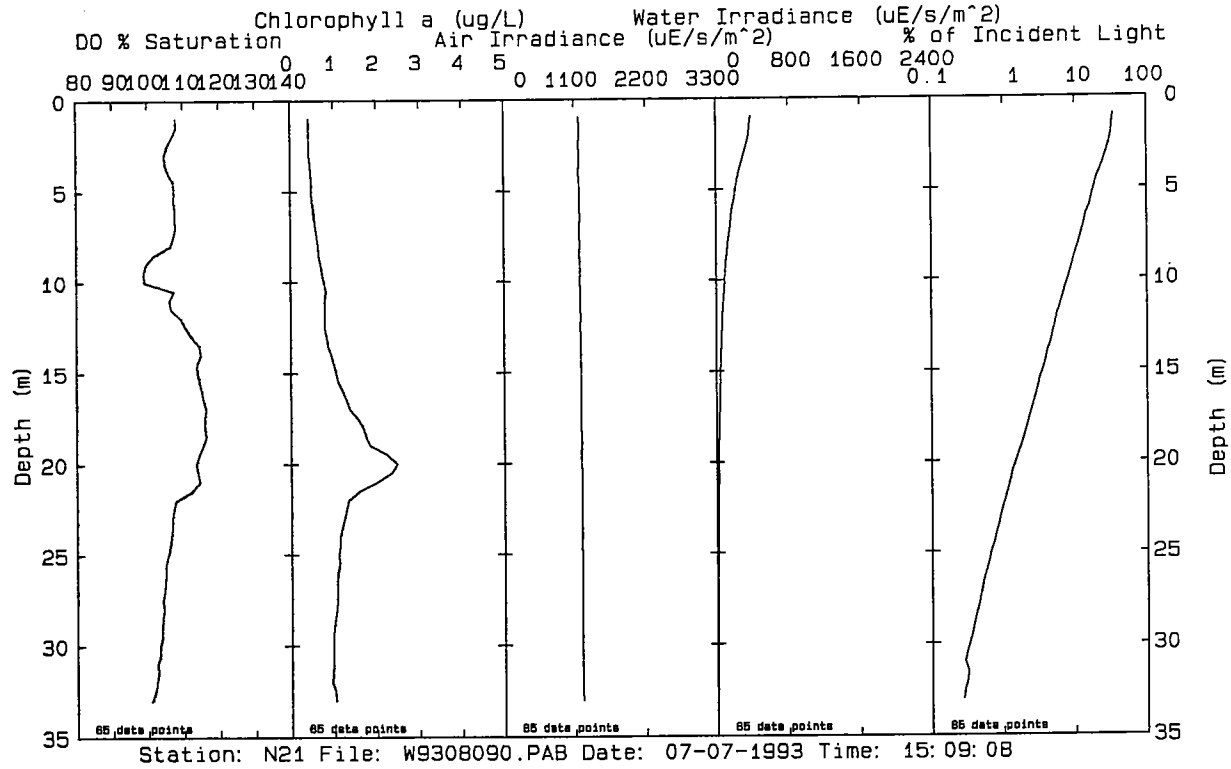
Station: N19 File: W9308054.PAB Date: 07-07-1993 Time: 12:14:27





Station: N20P File: W9308058.PAB Date: 07-07-1993 Time: 12:35:07





Station: N21 File: W9308090.PAB Date: 07-07-1993 Time: 15:09:08

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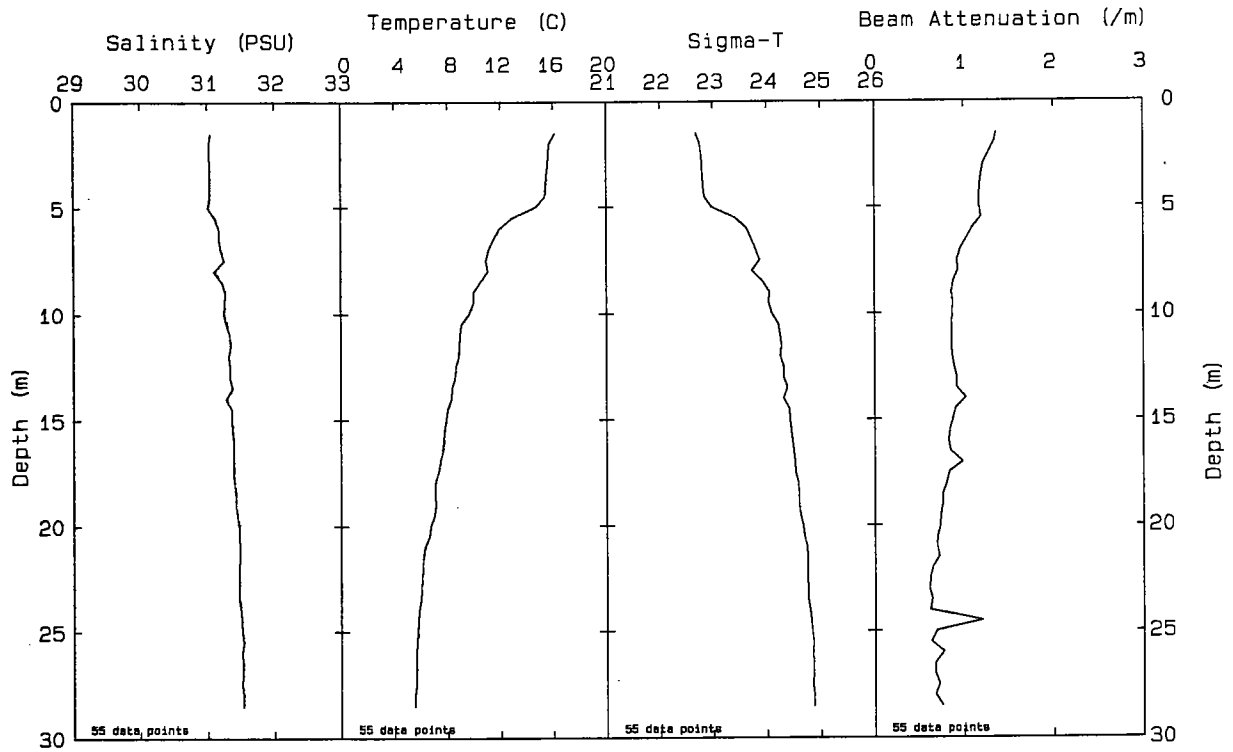
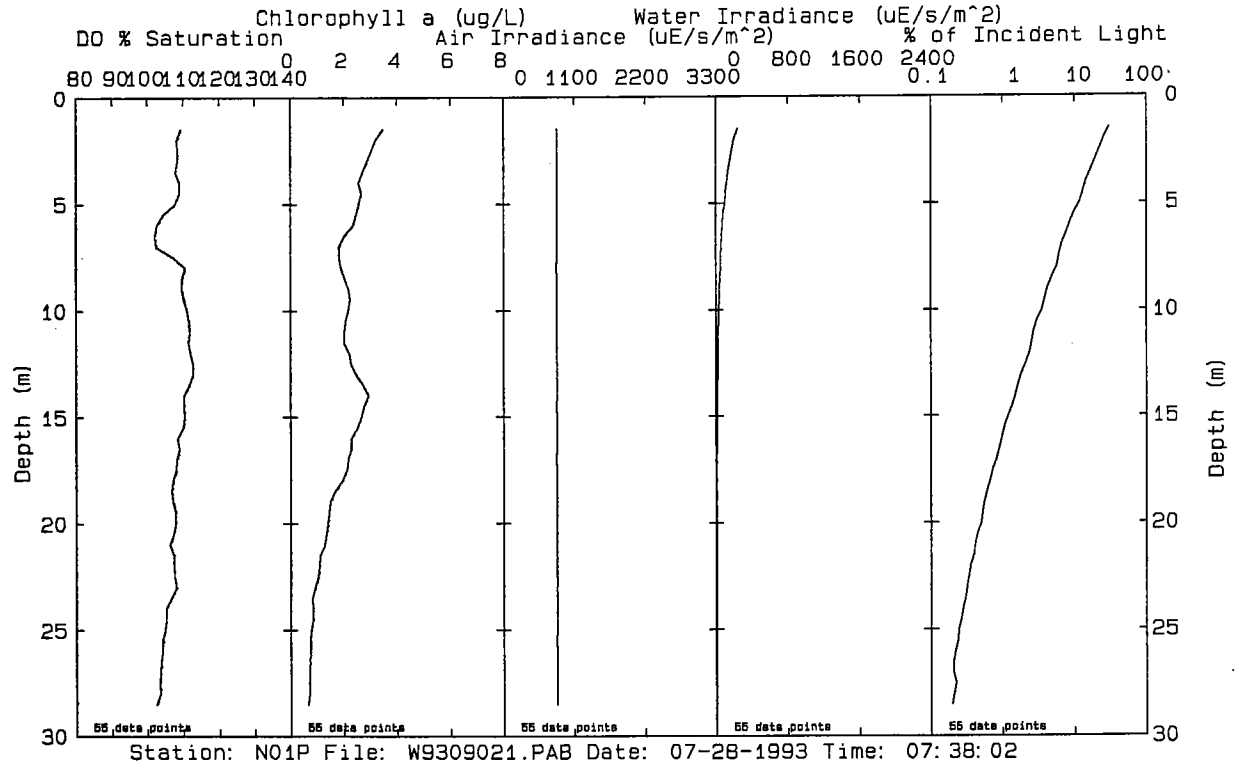
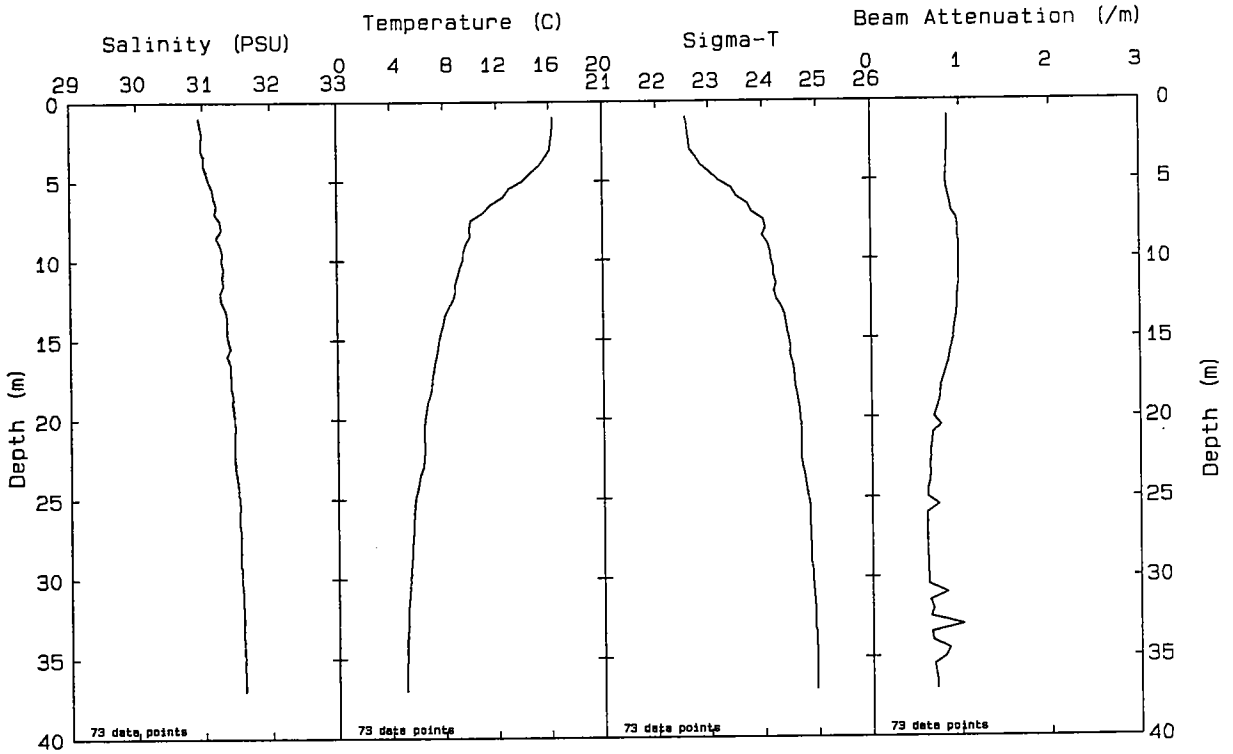
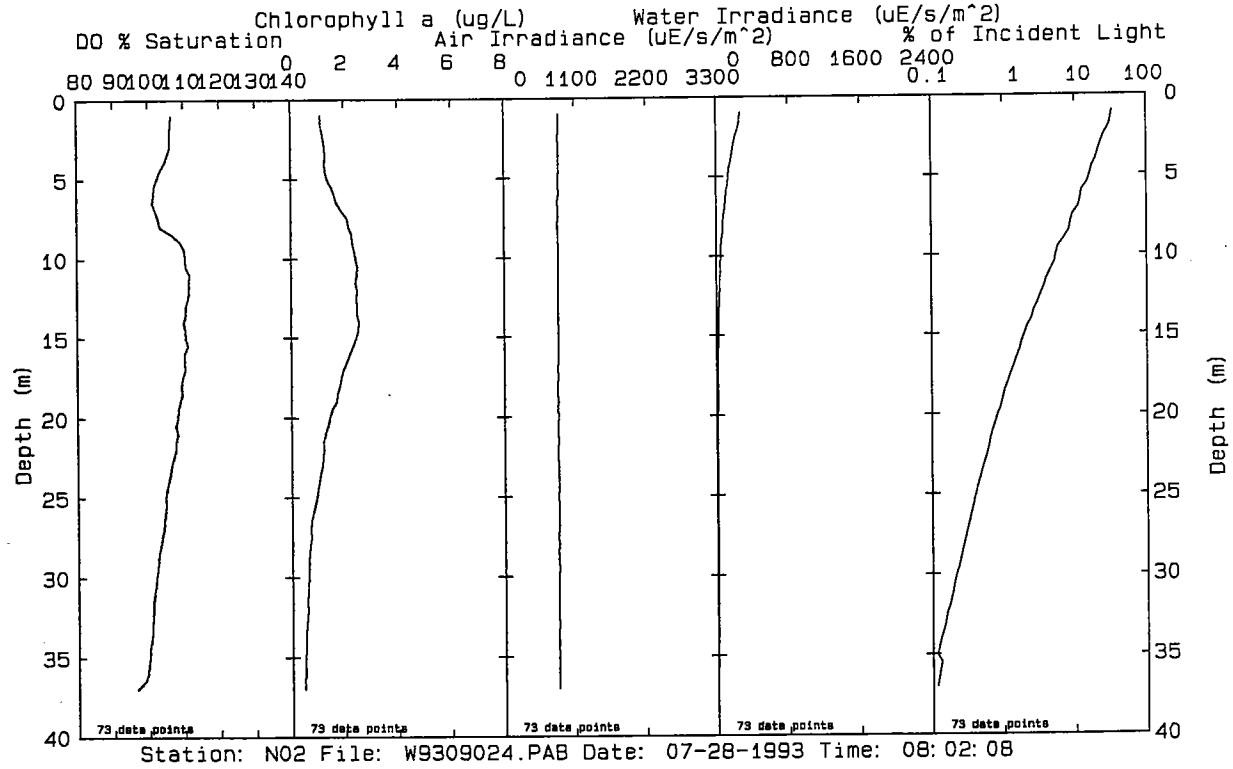




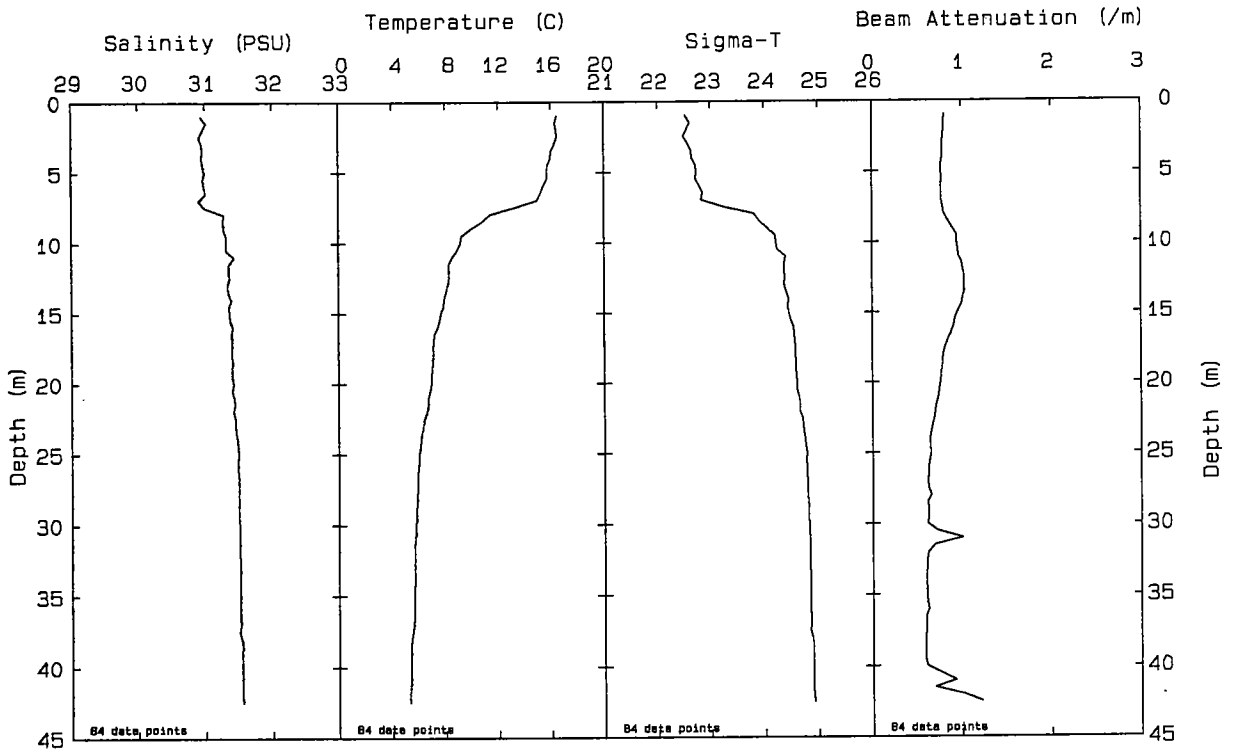
Station: N01P File: W9309021.PAB Date: 07-28-1993 Time: 07:38:02

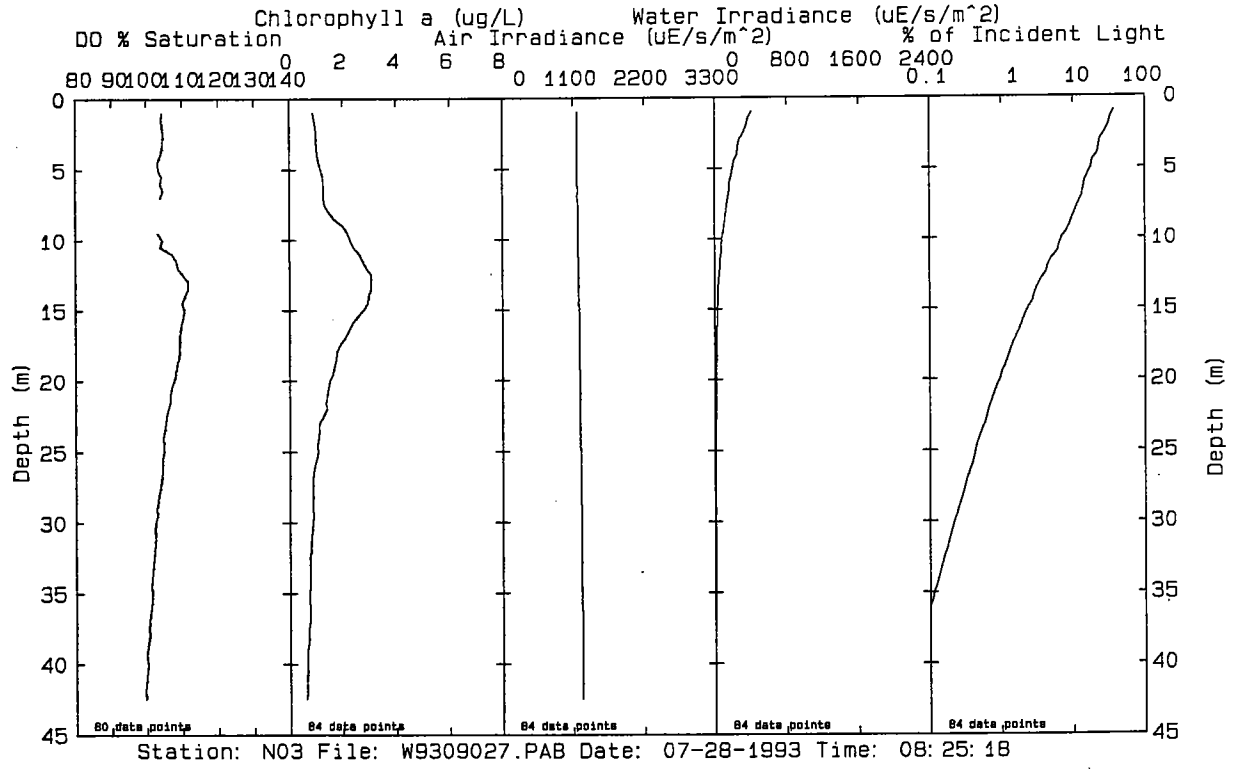




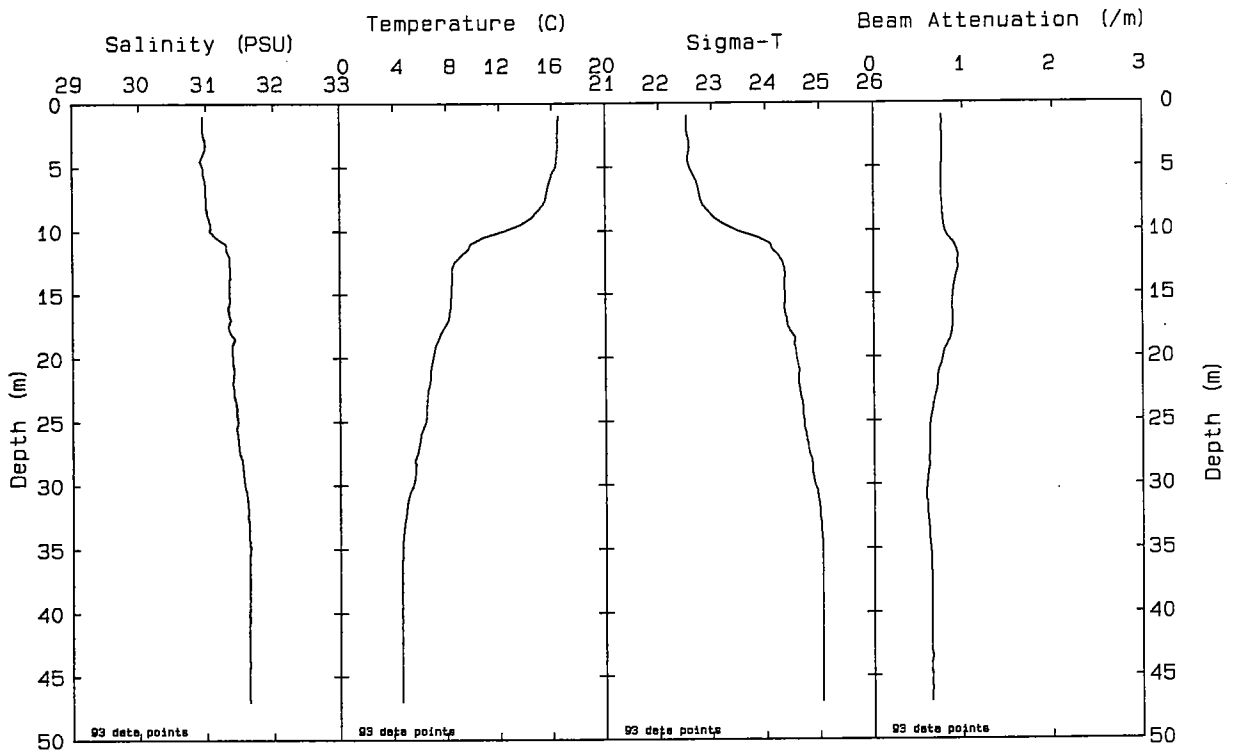
Station: N02 File: W9309024.PAB Date: 07-28-1993 Time: 08:02:08

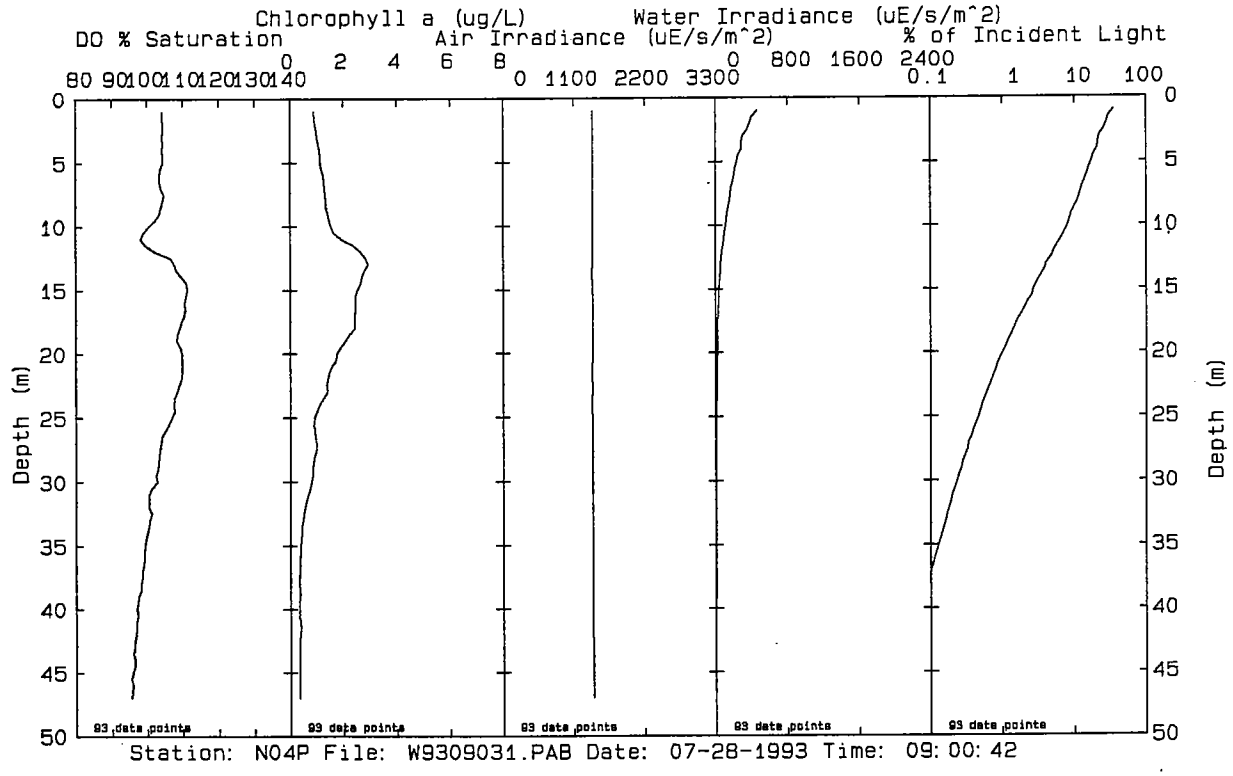
00103


Salinity (PSU)
29 30 31 32
Temperature (C)
0 4 8 12 16 20
Sigma-T
21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3
Depth (m)
0 5 10 15 20 25 30 35 40 45
84 data points
84 data points
84 data points
84 data points

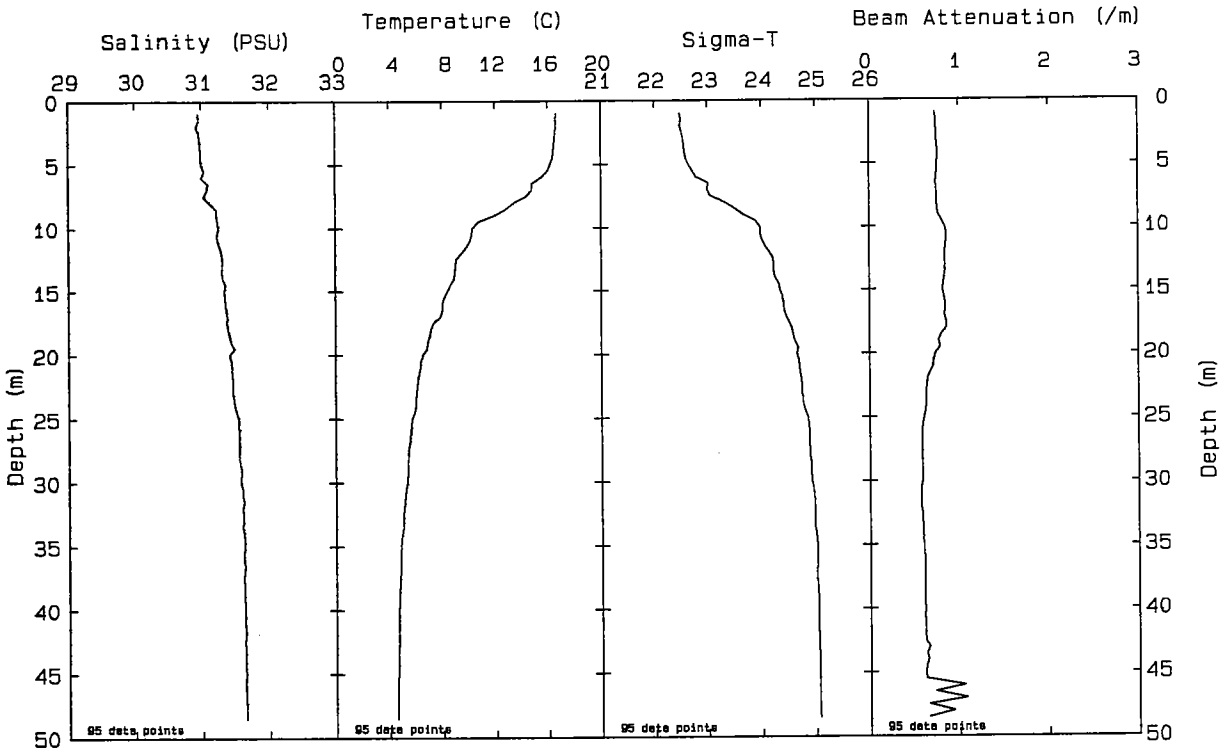

DO % Saturation
80 90 100 110 120 130 140
Chlorophyll a (ug/L)
0 2 4 6 8
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 800 1600 2400
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35 40 45
80 data points
84 data points
84 data points
84 data points
84 data points
Station: N03 File: W9309027.PAB Date: 07-28-1993 Time: 08:25:18

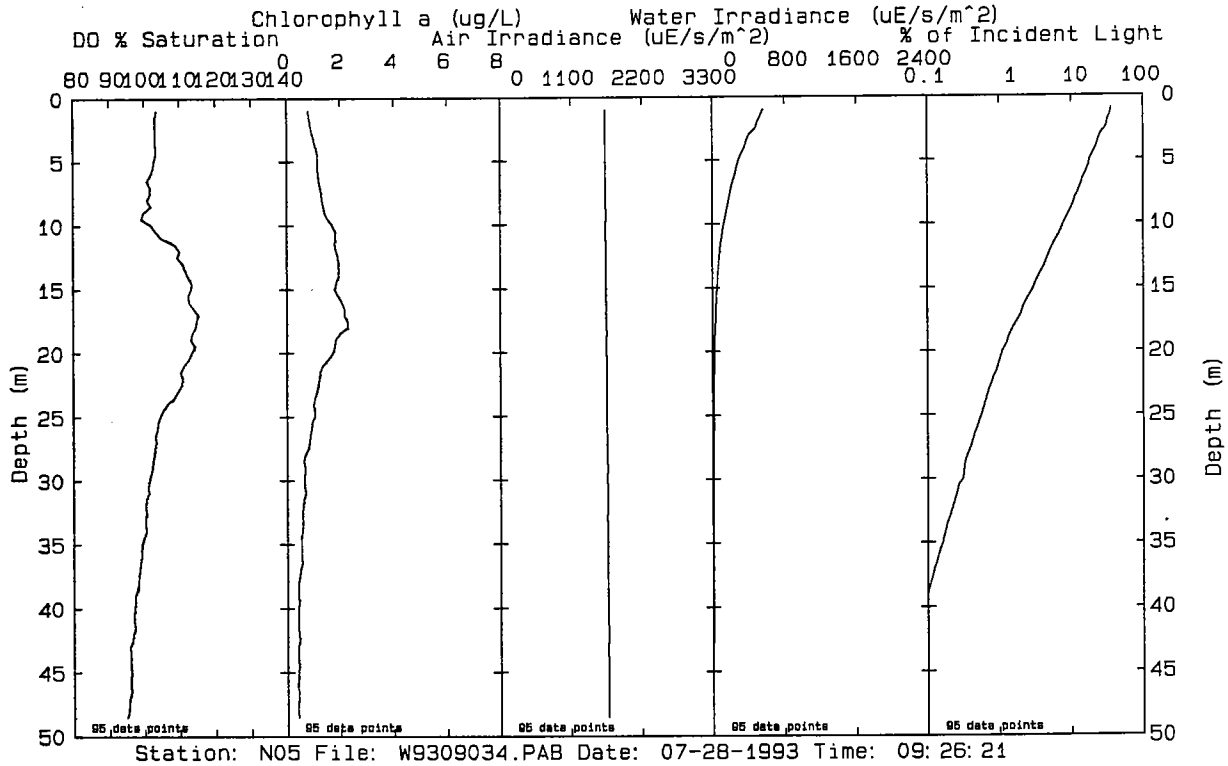
00104



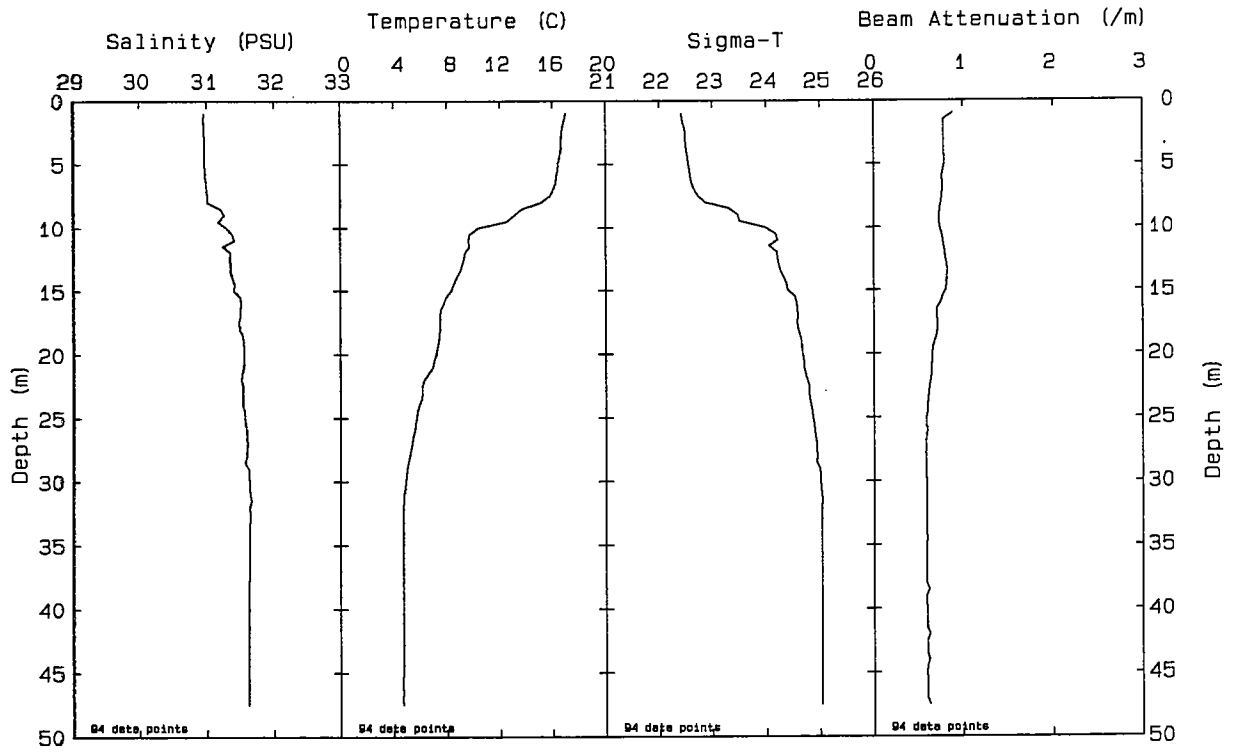


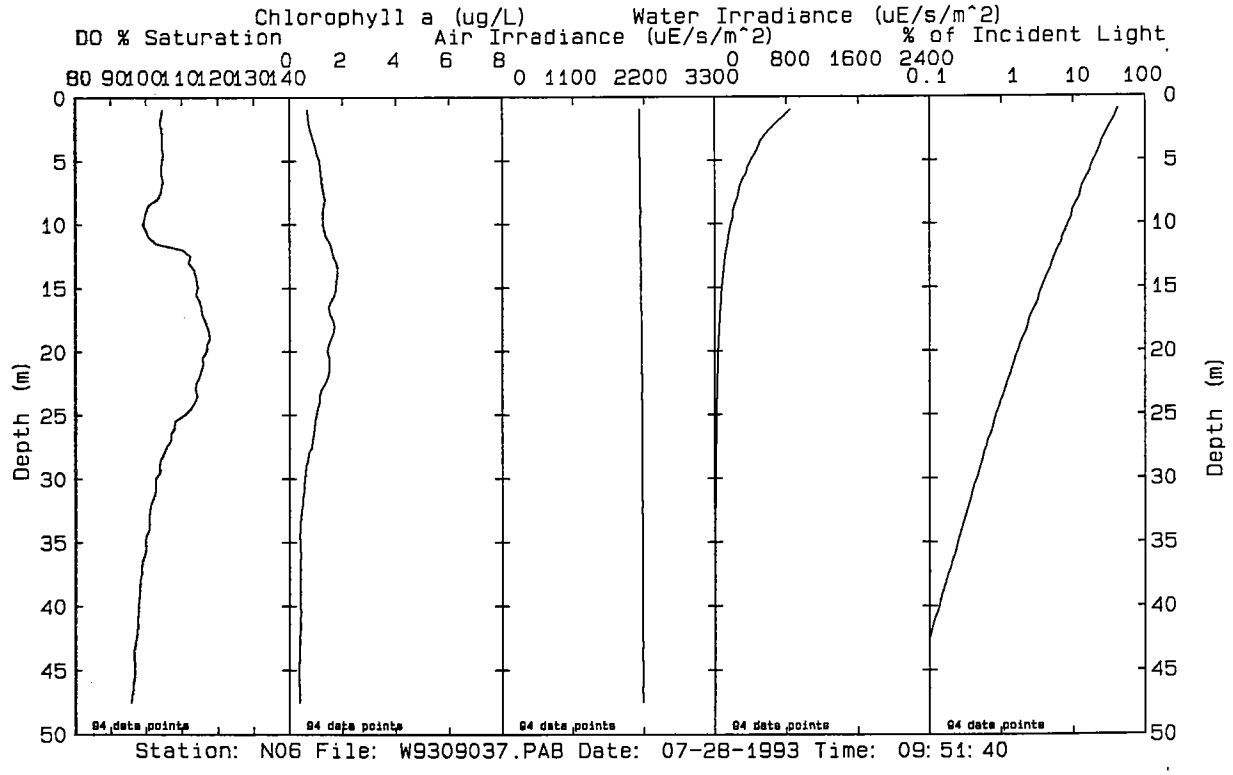
Station: N04P File: W9309031.PAB Date: 07-28-1993 Time: 09:00:42



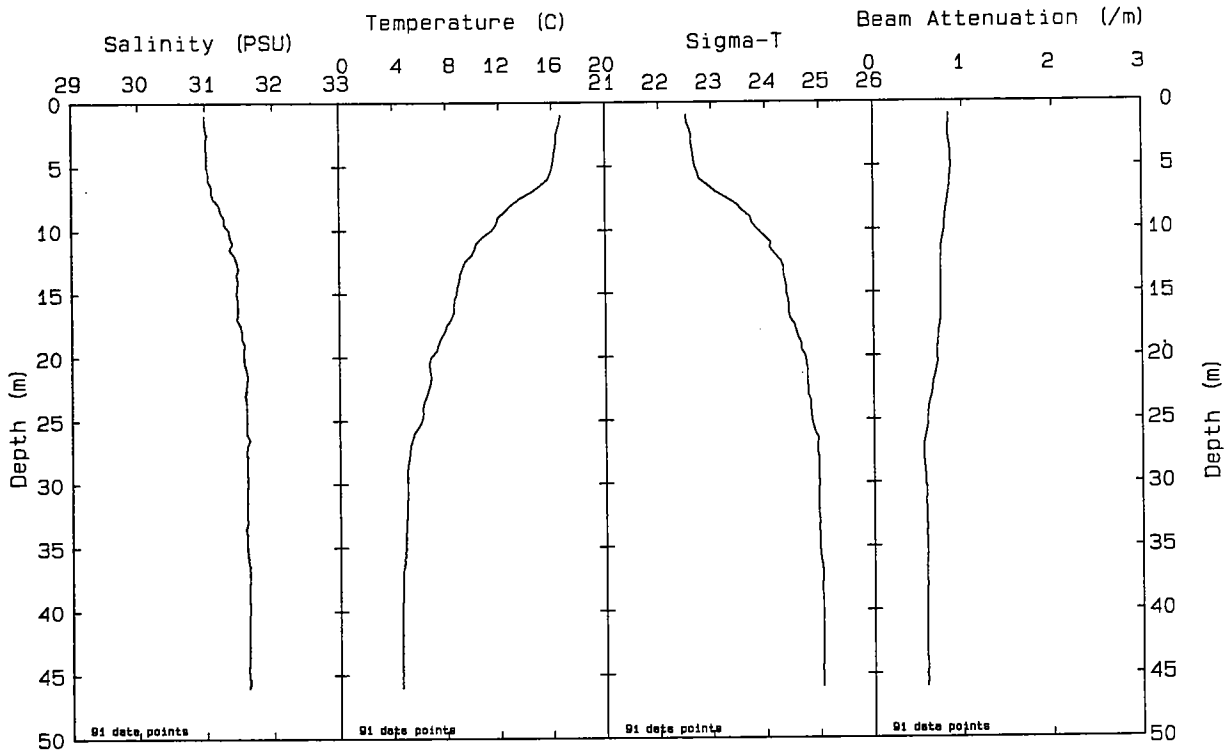


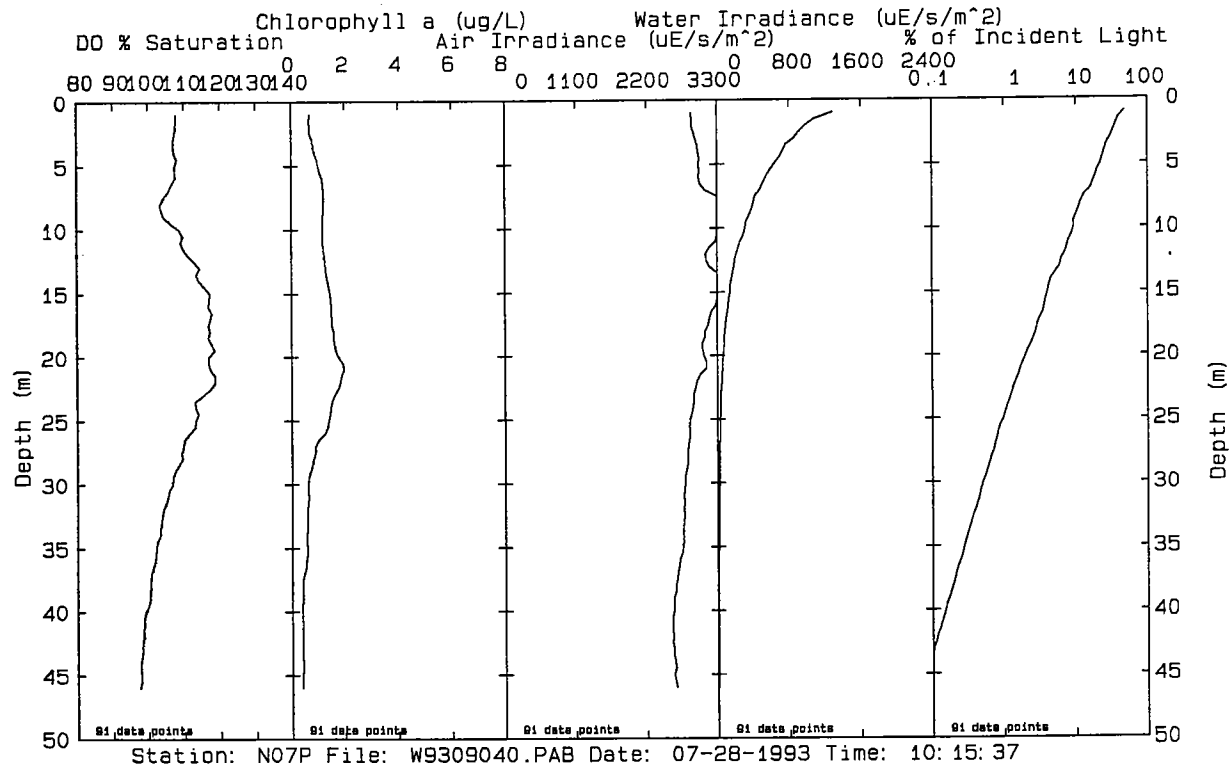
Station: N05 File: W9309034.PAB Date: 07-28-1993 Time: 09:26:21



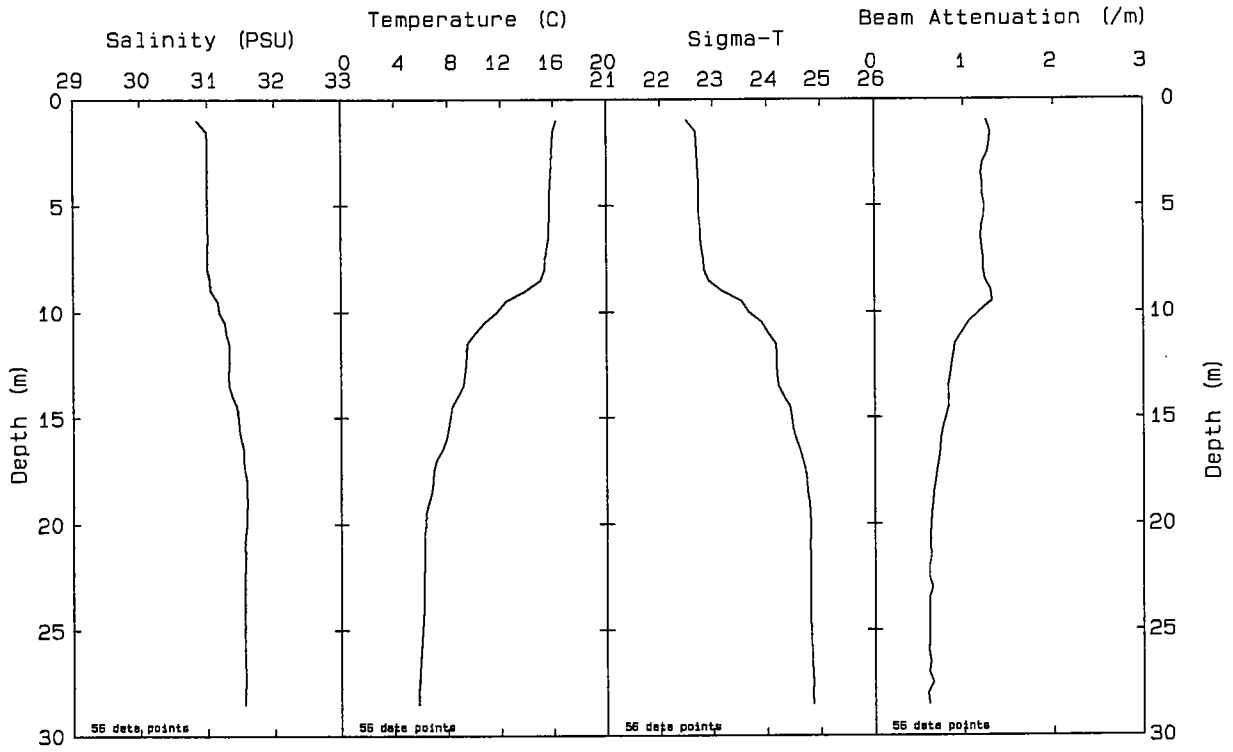


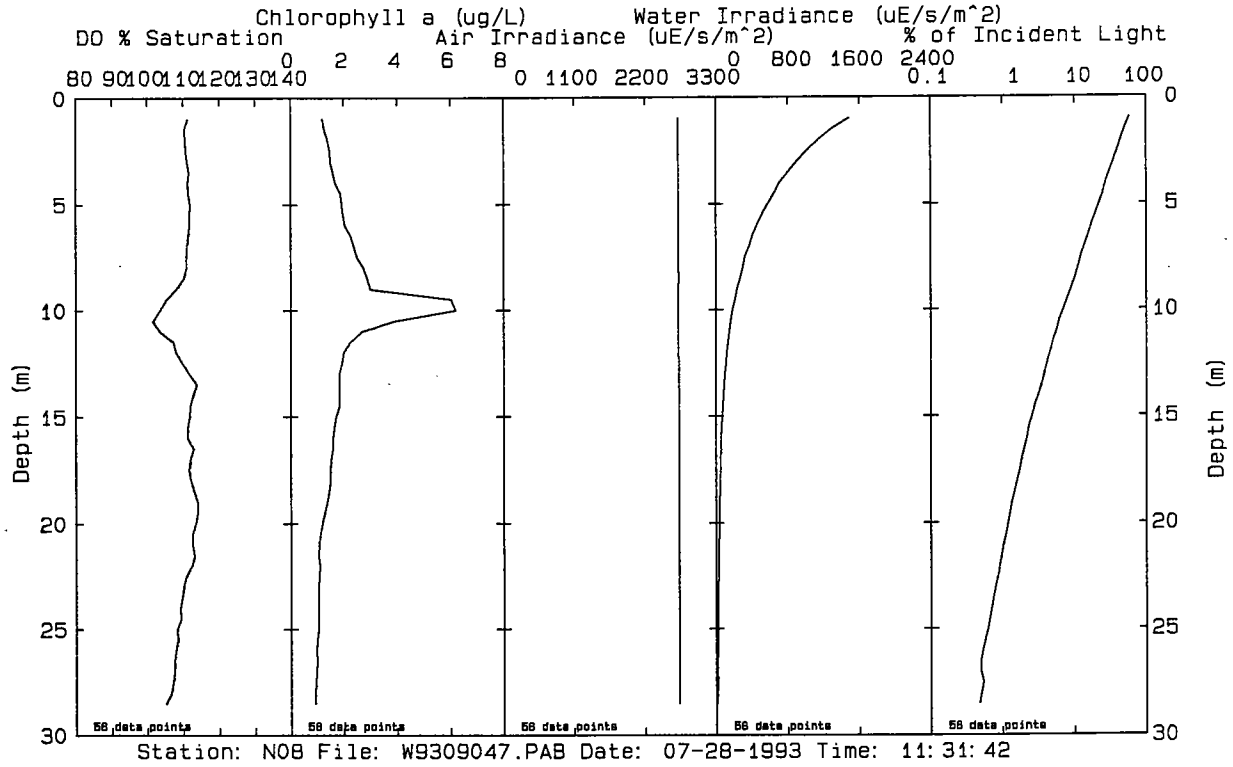
Station: N06 File: W9309037.PAB Date: 07-28-1993 Time: 09:51:40



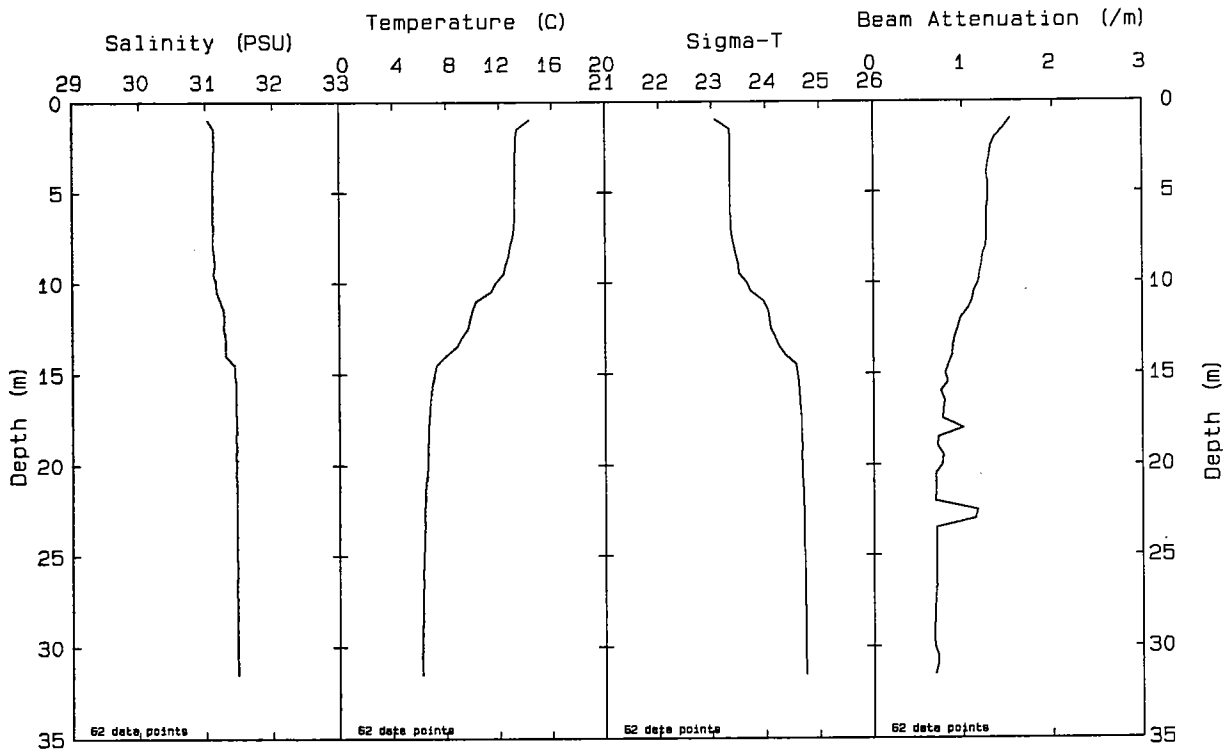


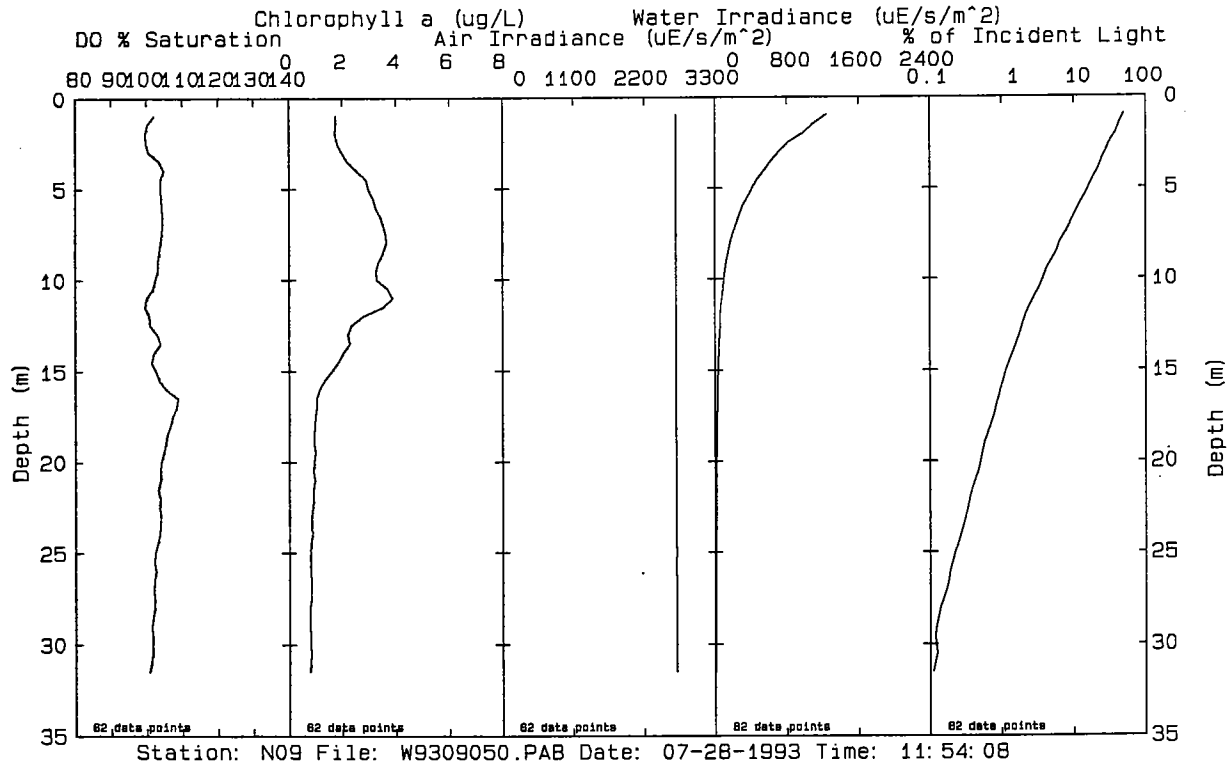
Station: N07P File: W9309040.PAB Date: 07-28-1993 Time: 10:15:37

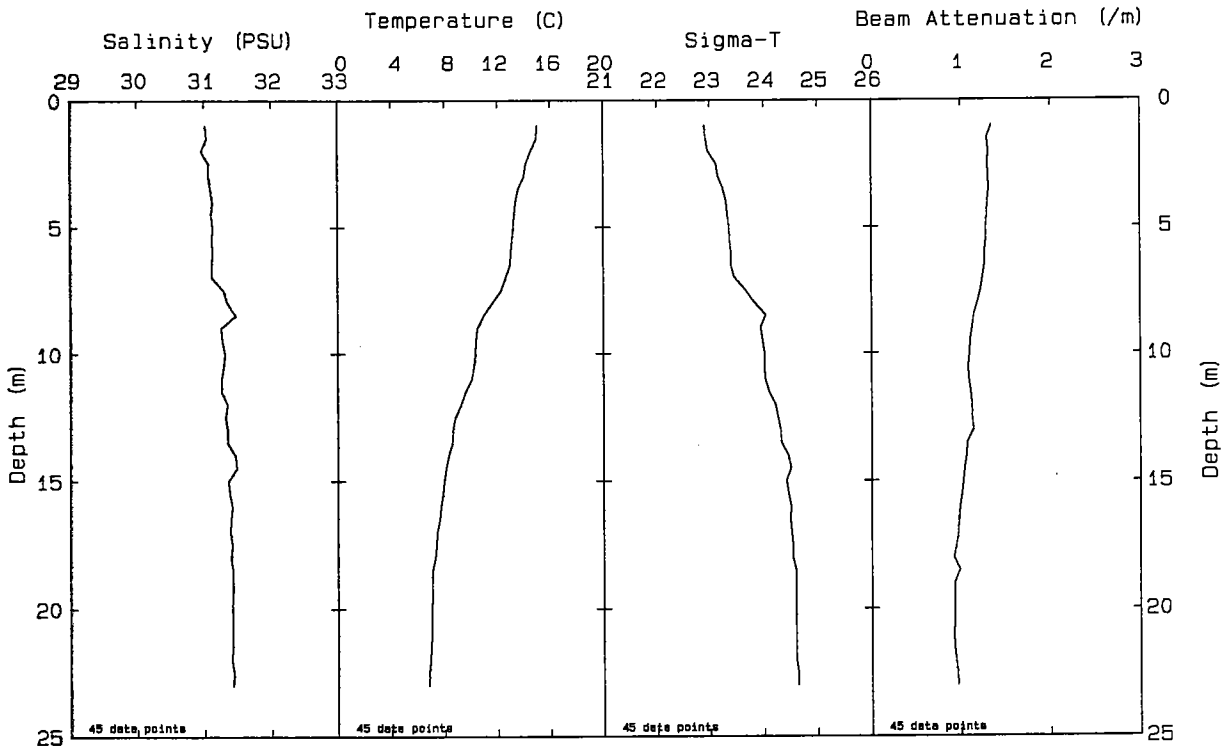


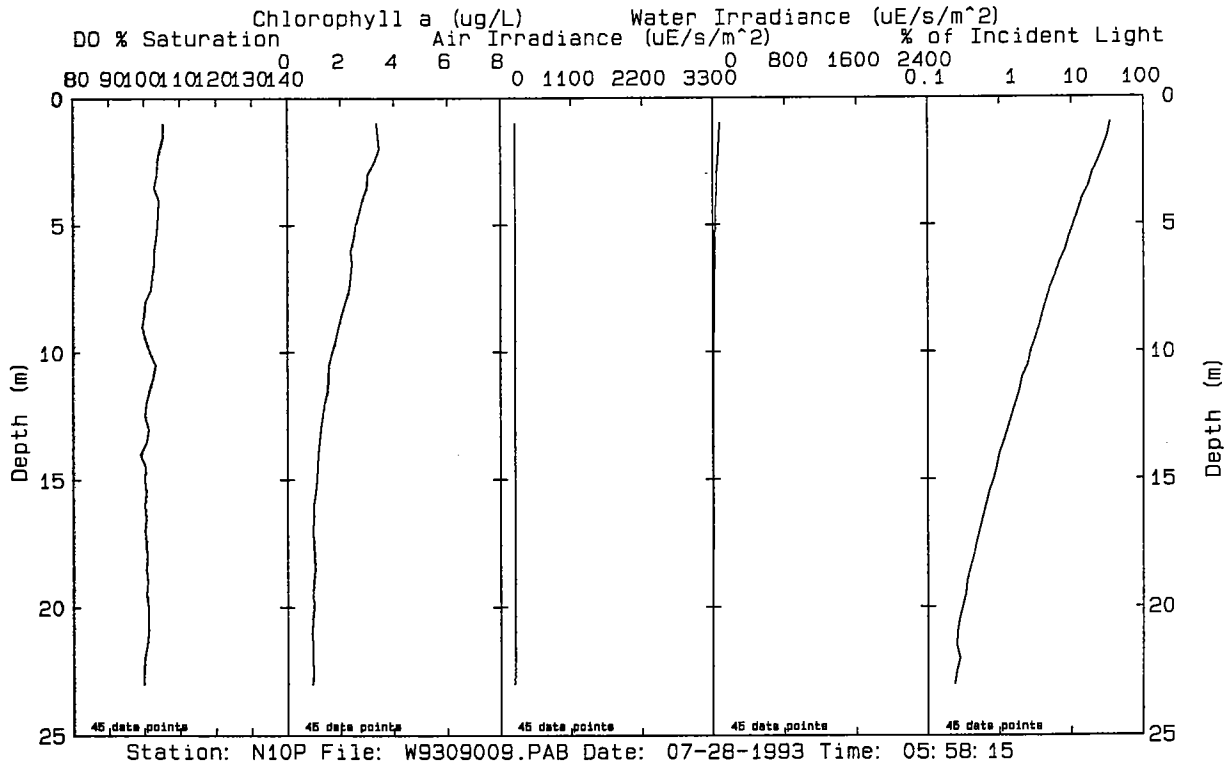


Station: N08 File: W9309047.PAB Date: 07-28-1993 Time: 11:31:42

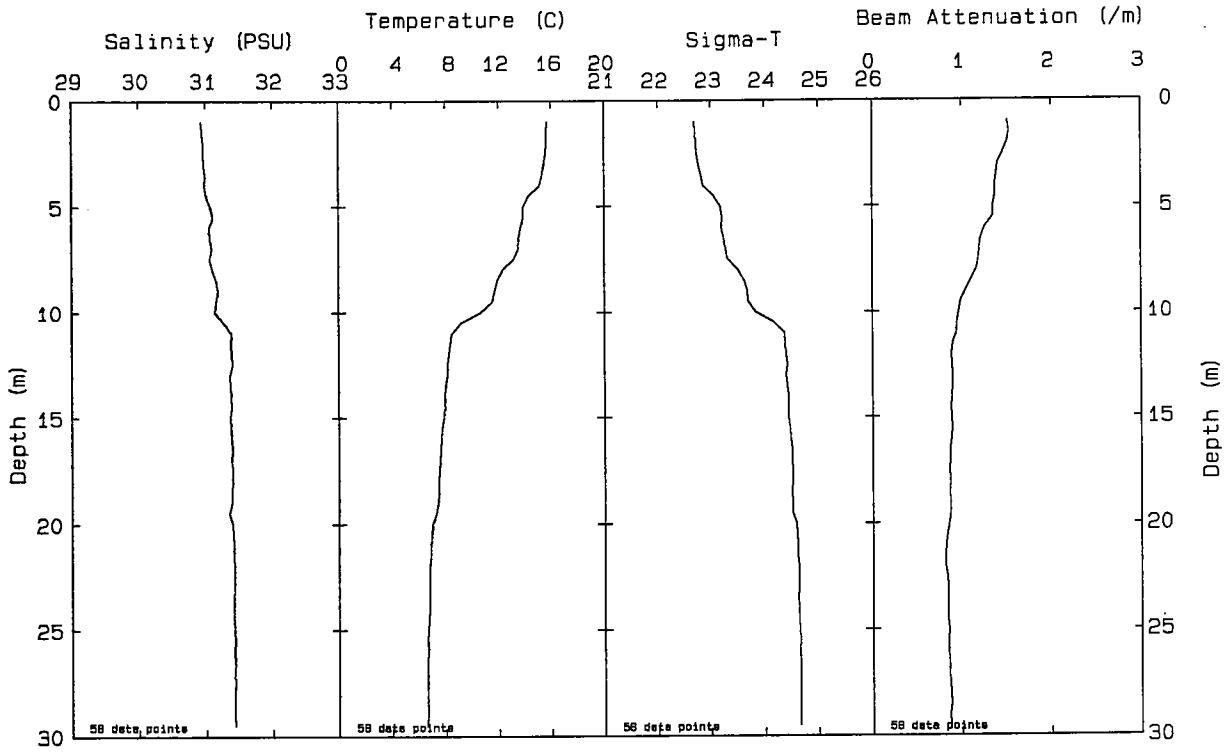

Salinity (PSU)
29 30 31 32
Temperature (C)
0 4 8 12 16 20
Sigma-T
21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3
Depth (m)
0 5 10 15 20 25 30 35
62 data points
62 data points
62 data points
62 data points

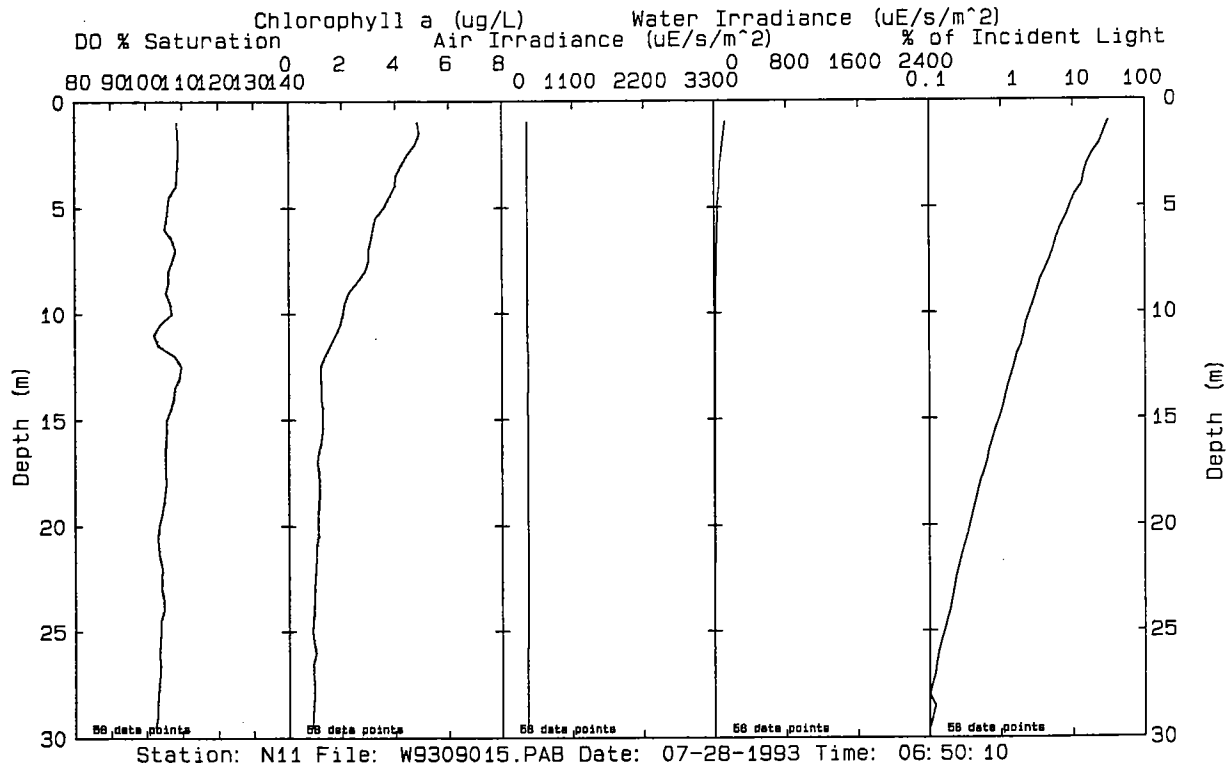

DO % Saturation
80 90 100 110 120 130 140
Chlorophyll a (ug/L)
0 2 4 6 8
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 800 1600 2400
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35
62 data points
62 data points
62 data points
82 data points
82 data points
Station: N09 File: W9309050.PAB Date: 07-28-1993 Time: 11:54:08



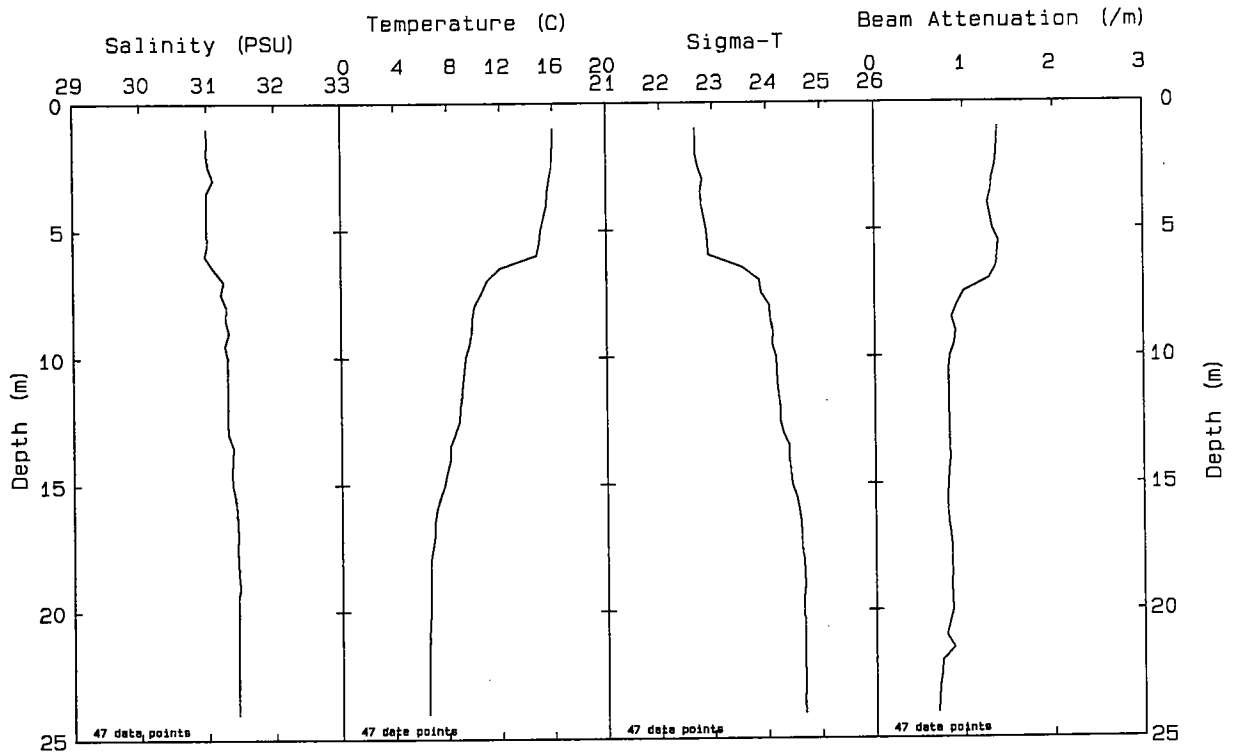


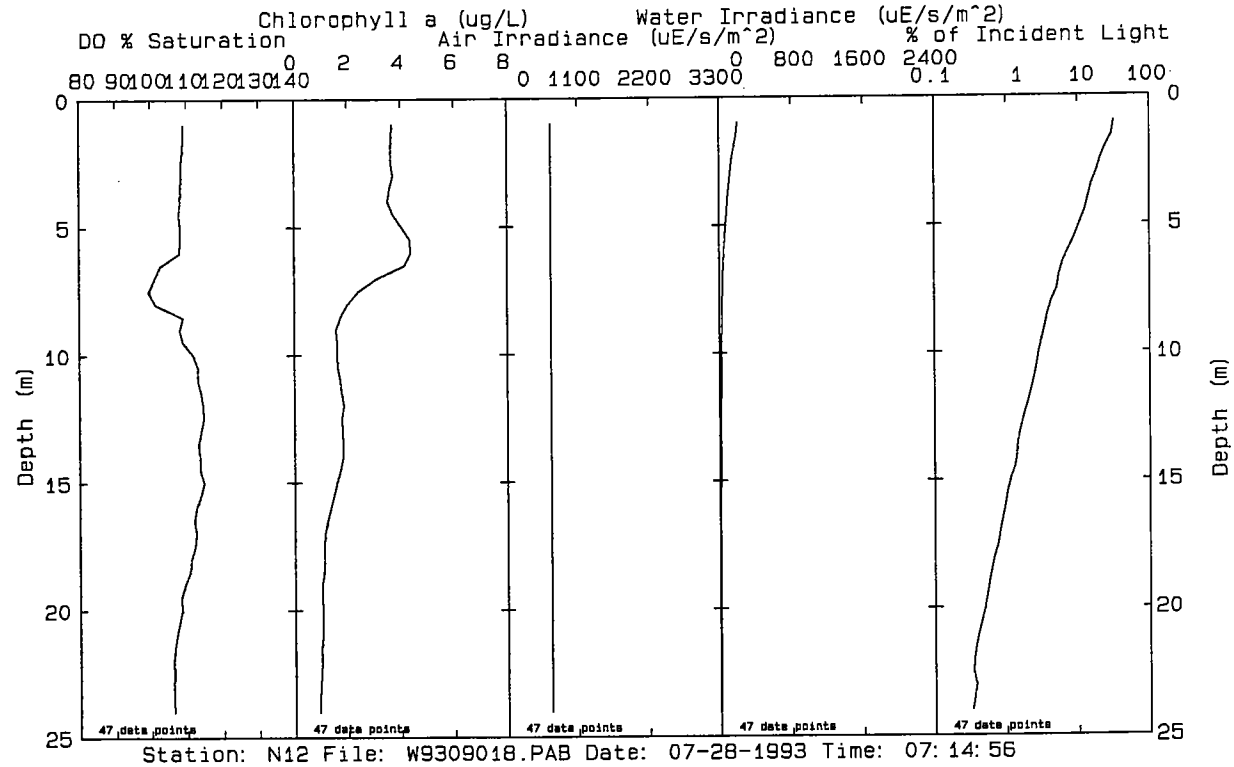
Station: N10P File: W9309009.PAB Date: 07-28-1993 Time: 05:58:15

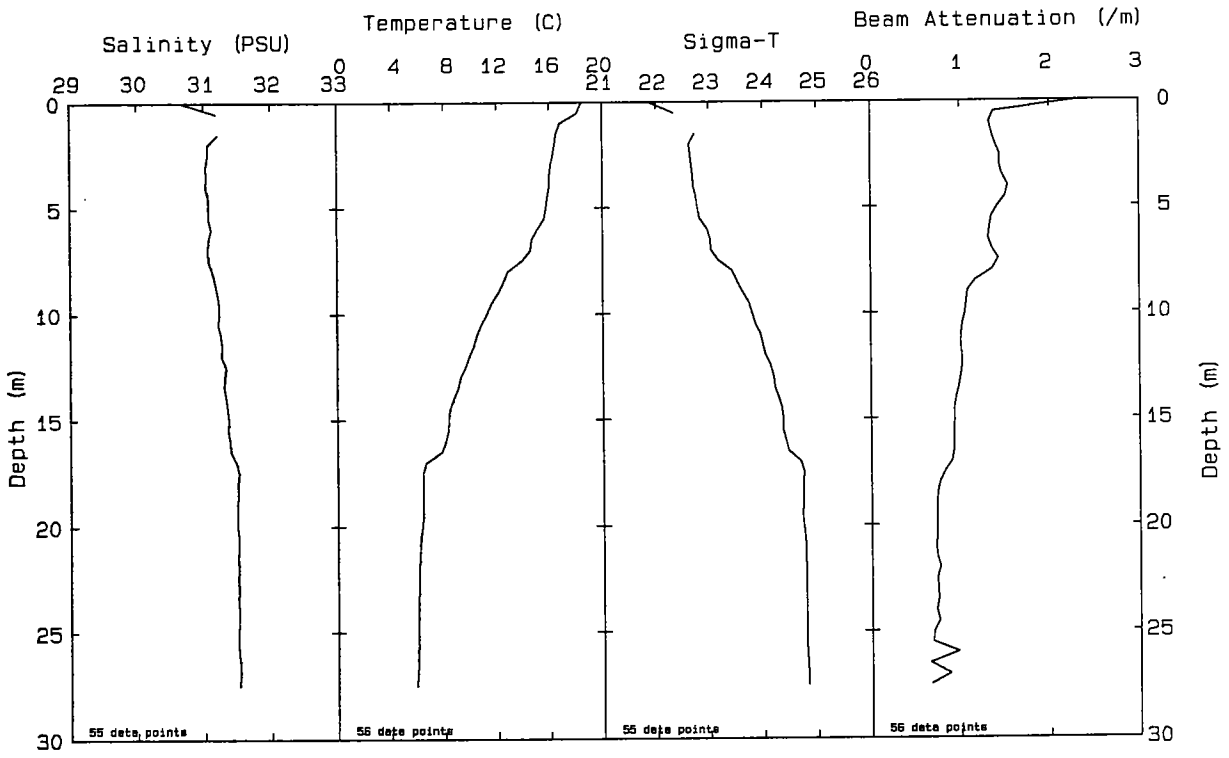


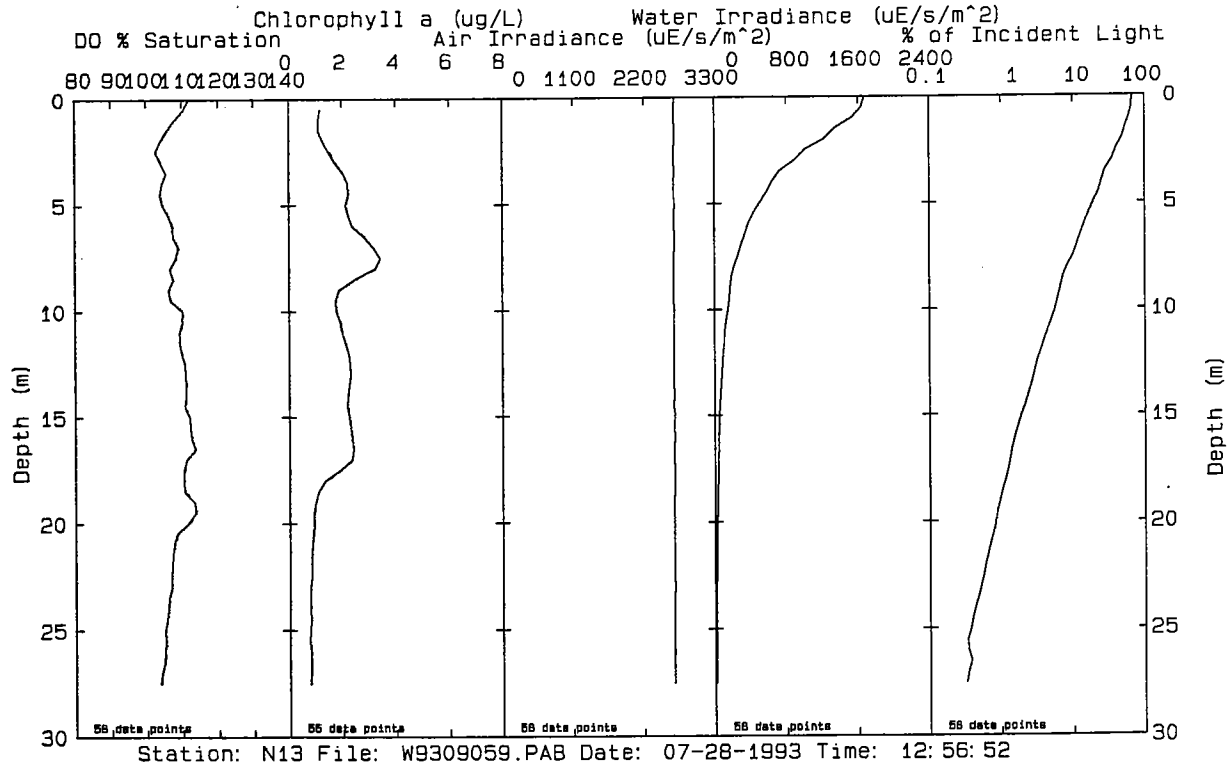


Station: N11 File: W9309015.PAB Date: 07-28-1993 Time: 06:50:10

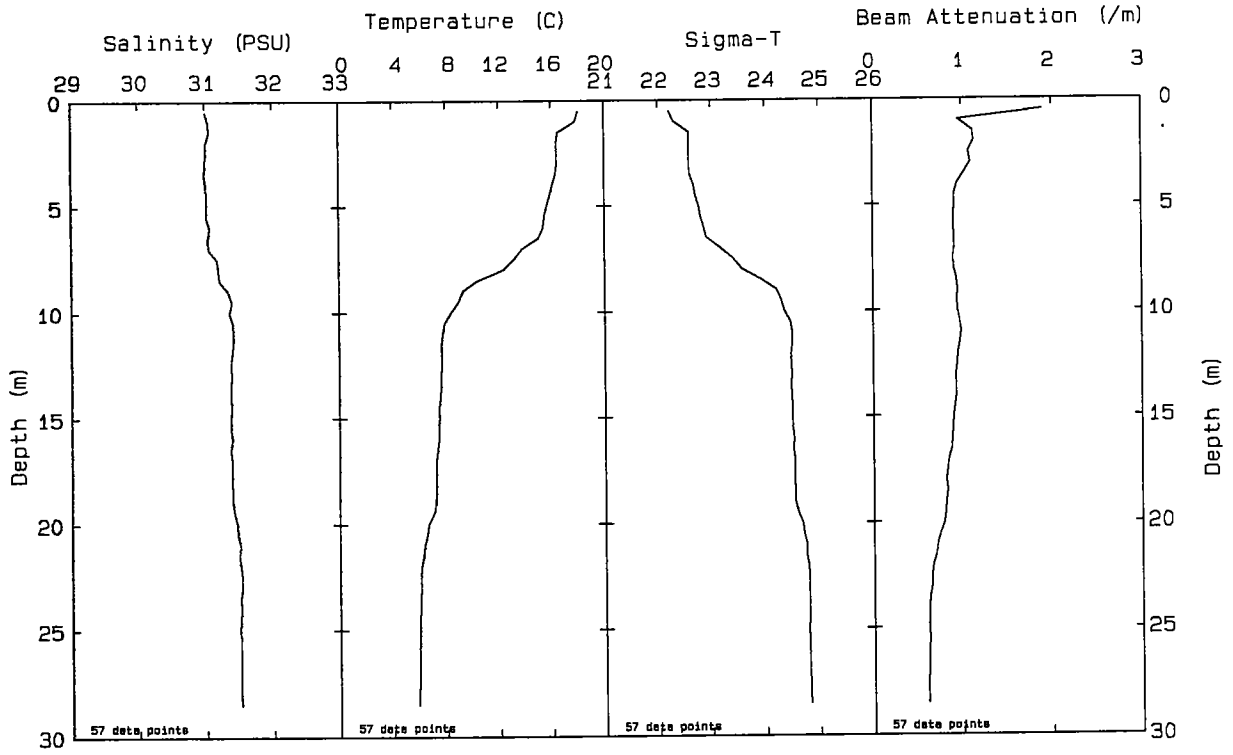

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 4 8 12 16 20
Sigma-T
21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3
Depth (m)
0 5 10 15 20 25
47 data points

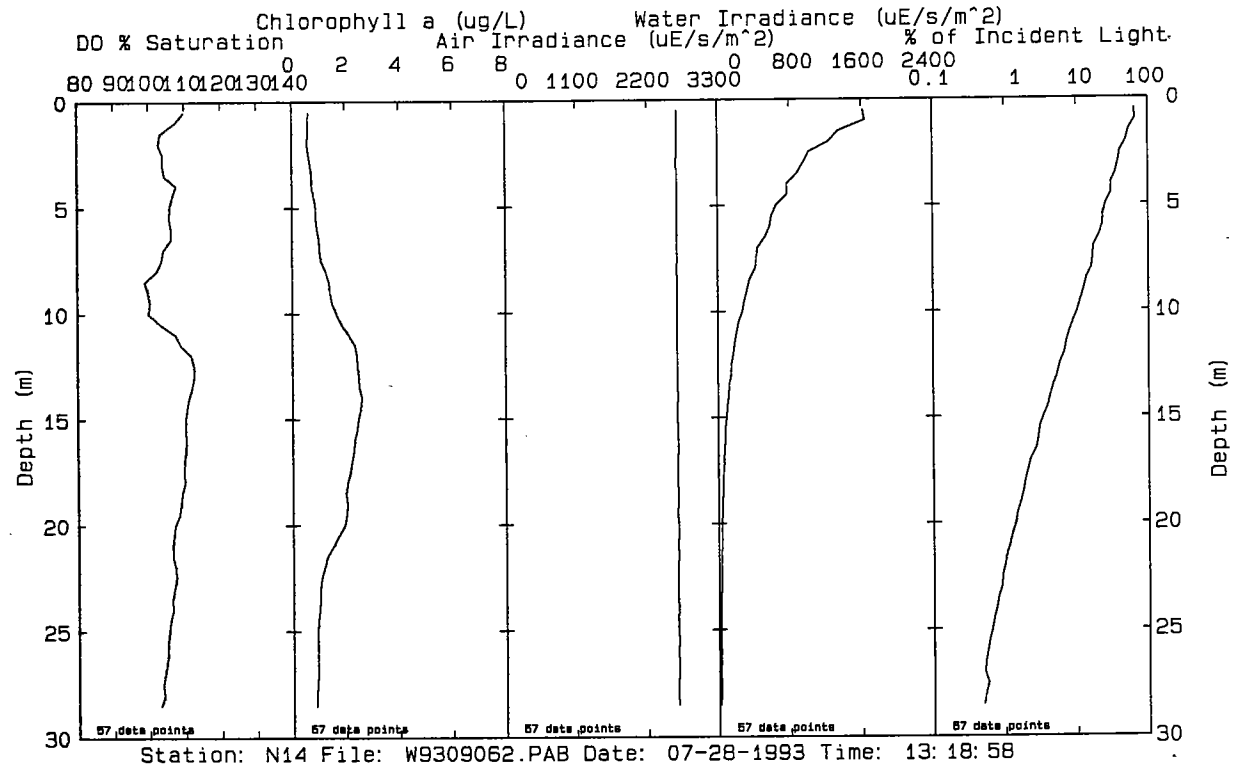

DO % Saturation
80 90 100 110 120 130 140
Chlorophyll a (ug/L)
0 2 4 6 8
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 800 1600 2400
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25
47 data points
Station: N12 File: W9309018.PAB Date: 07-28-1993 Time: 07:14:56



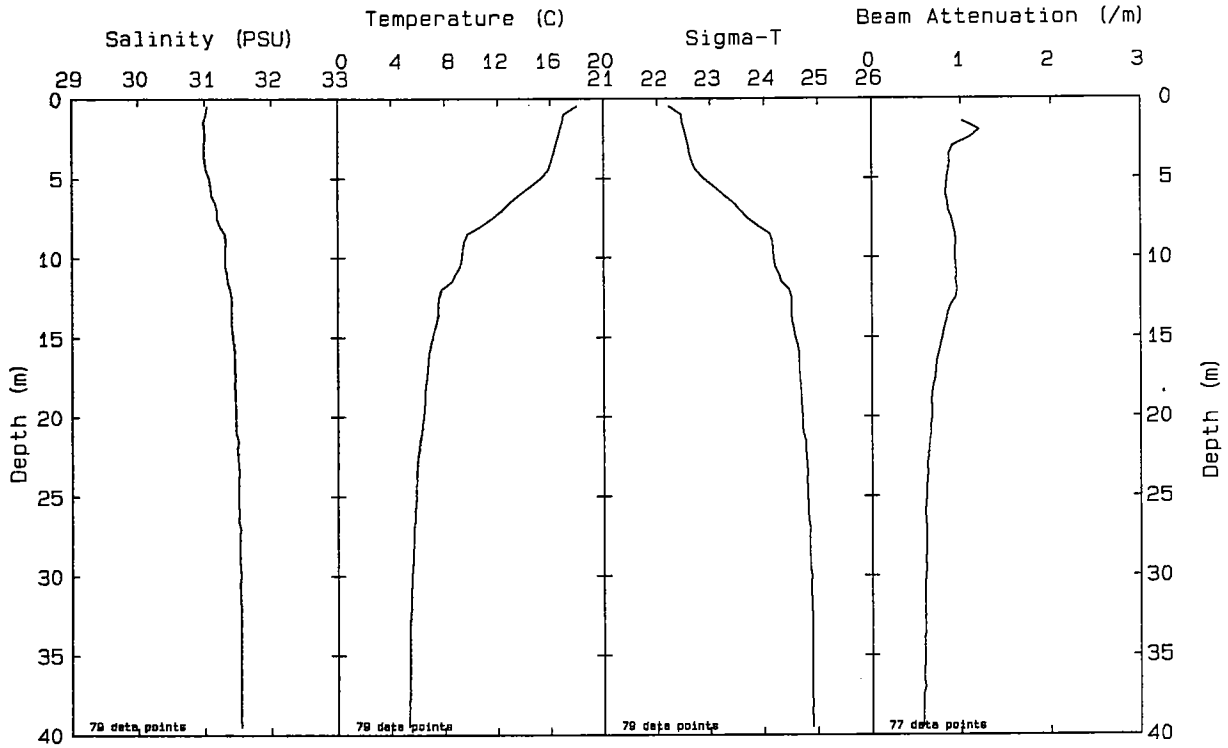


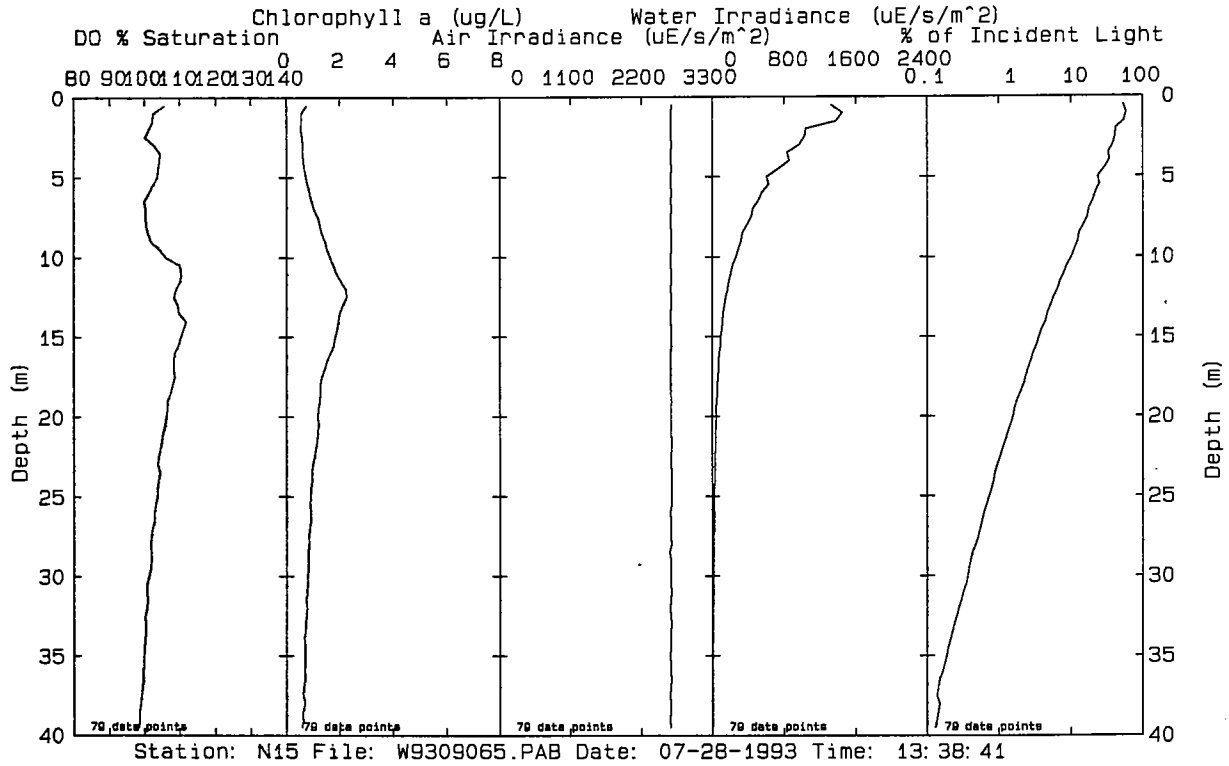
Station: N13 File: W9309059.PAB Date: 07-28-1993 Time: 12:56:52



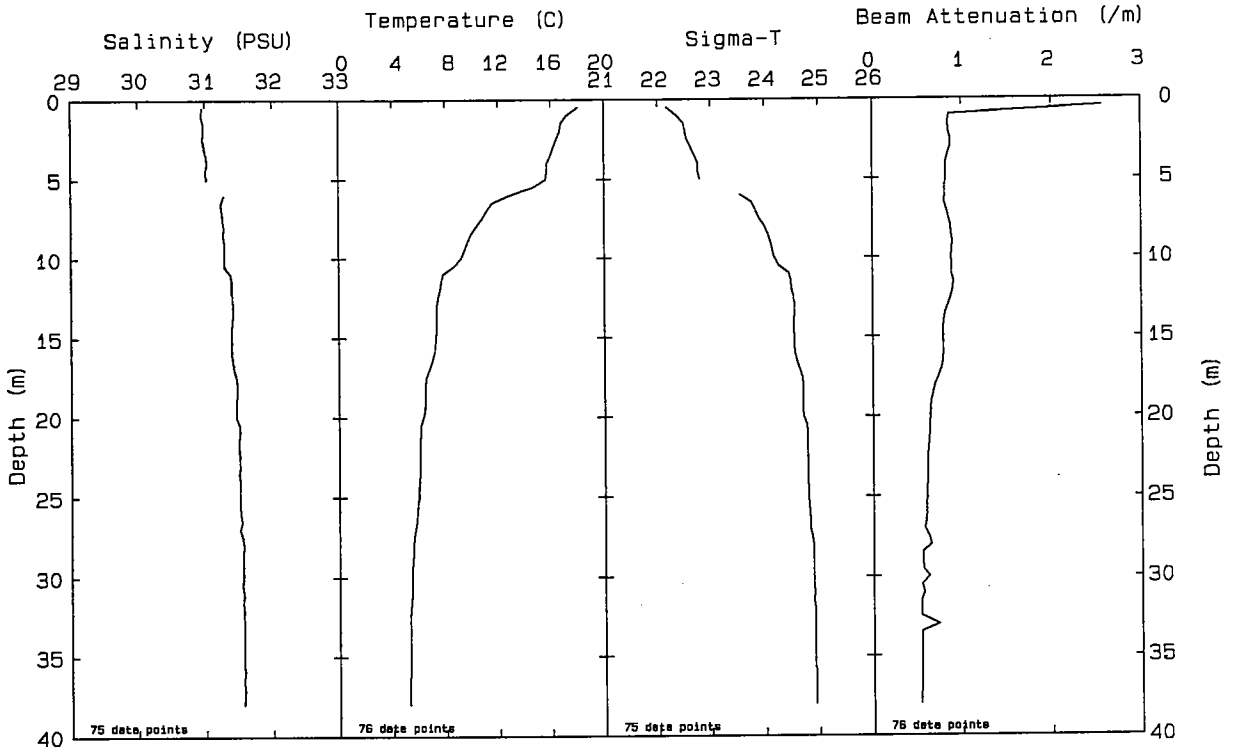


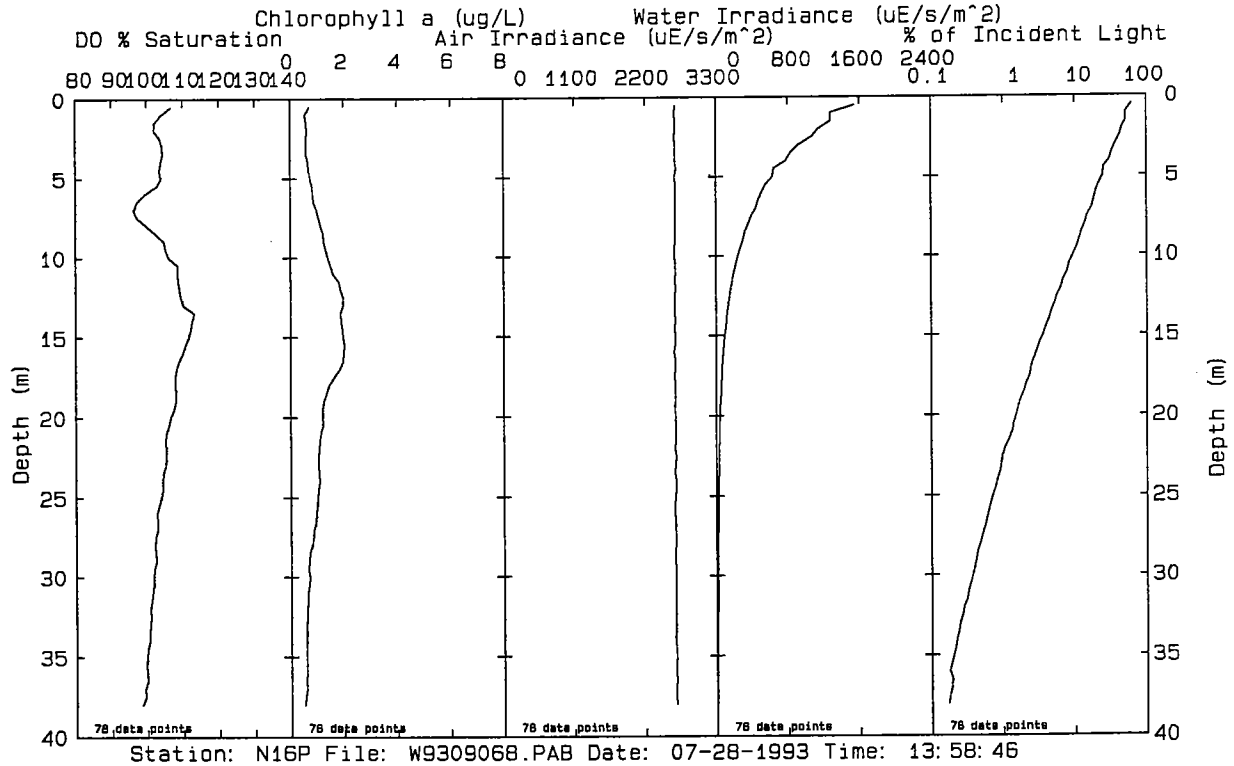
Station: N14 File: W9309062.PAB Date: 07-28-1993 Time: 13:18:58



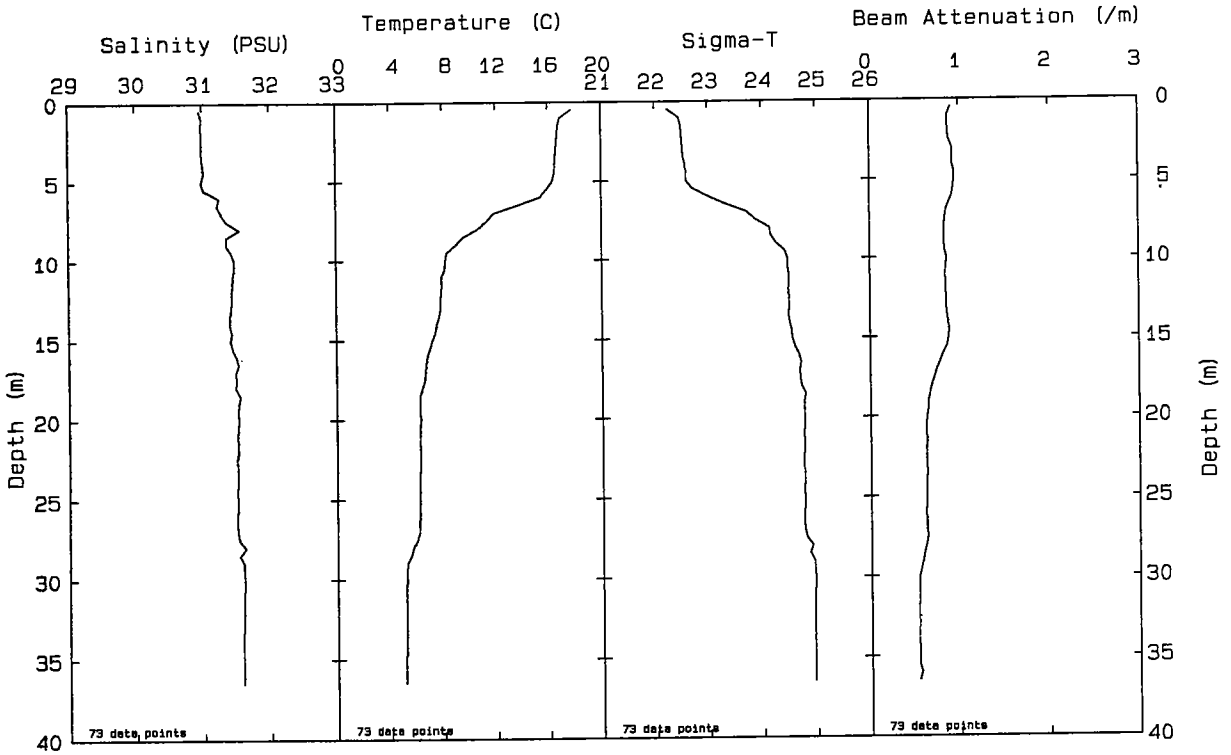


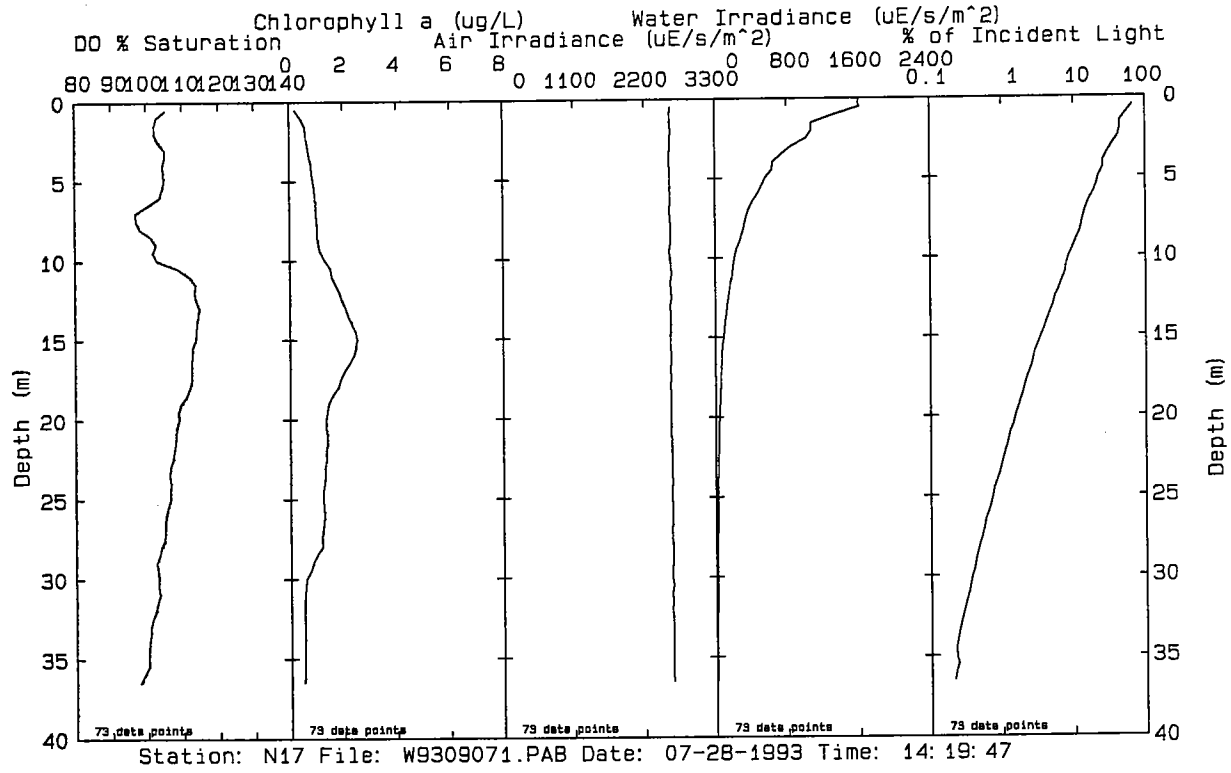
Station: N15 File: W9309065.PAB Date: 07-28-1993 Time: 13:38:41



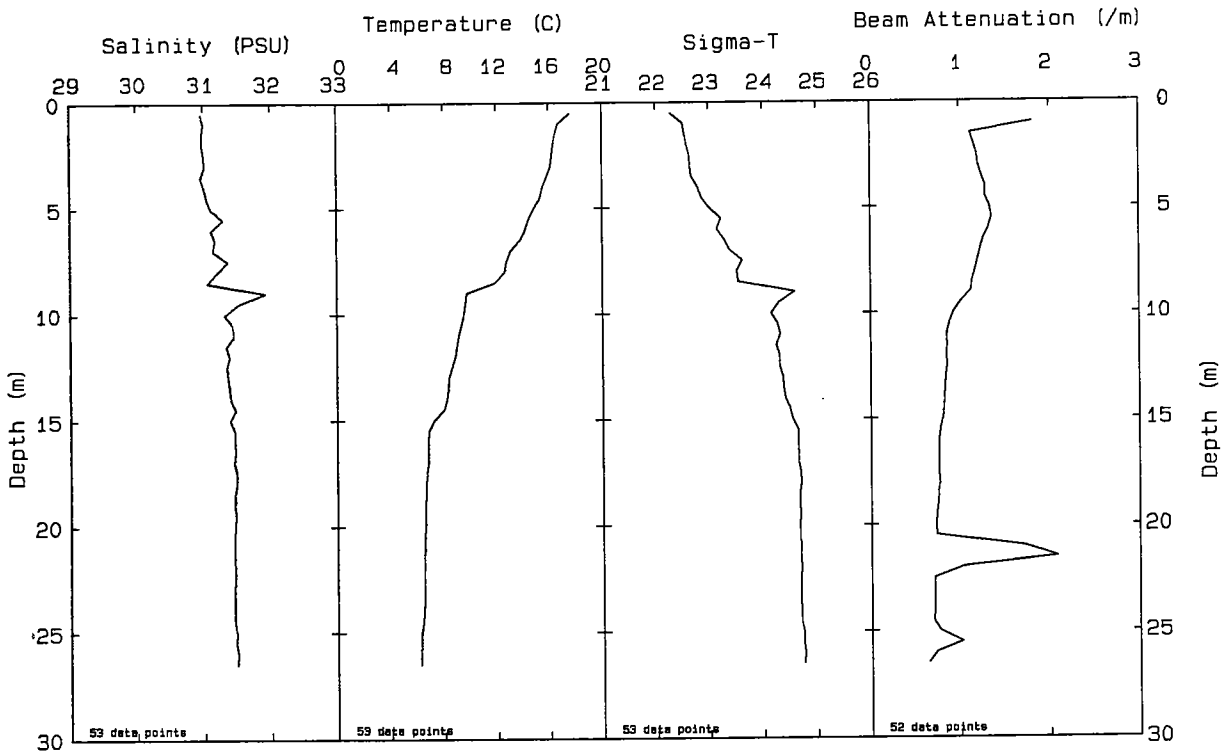


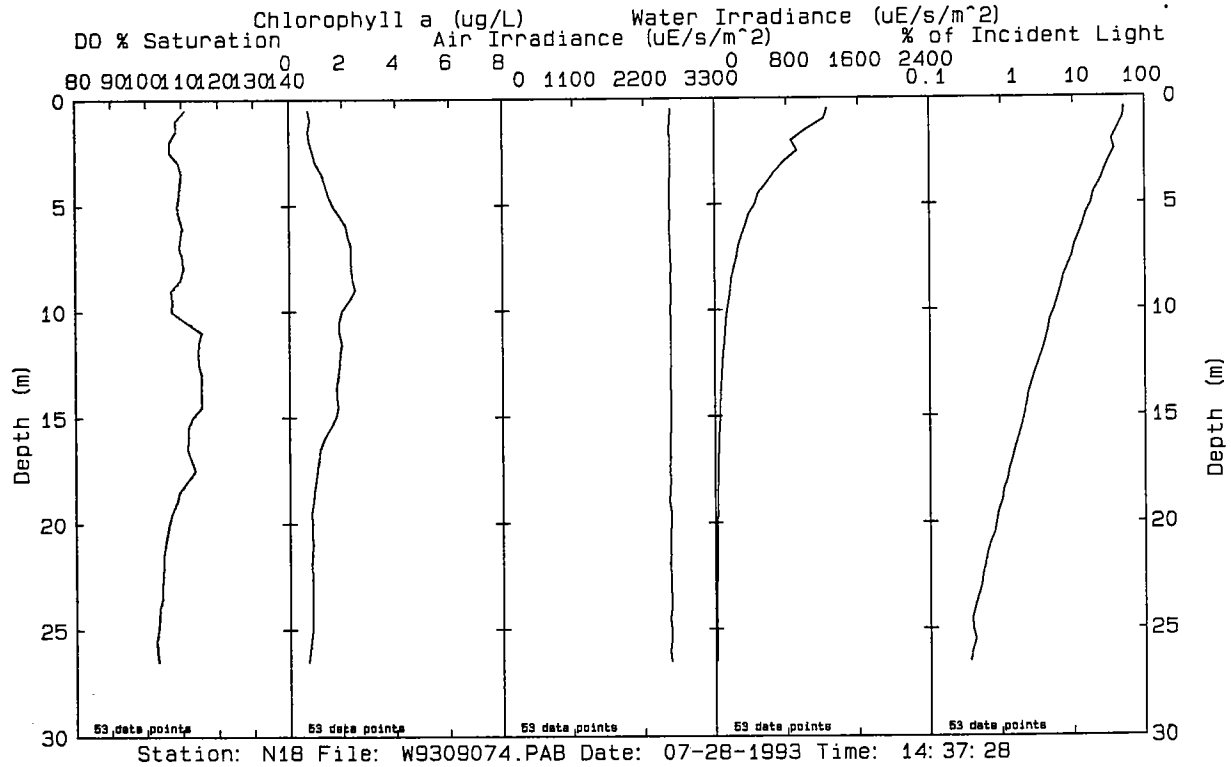
Station: N16P File: W9309068.PAB Date: 07-28-1993 Time: 13:58:46



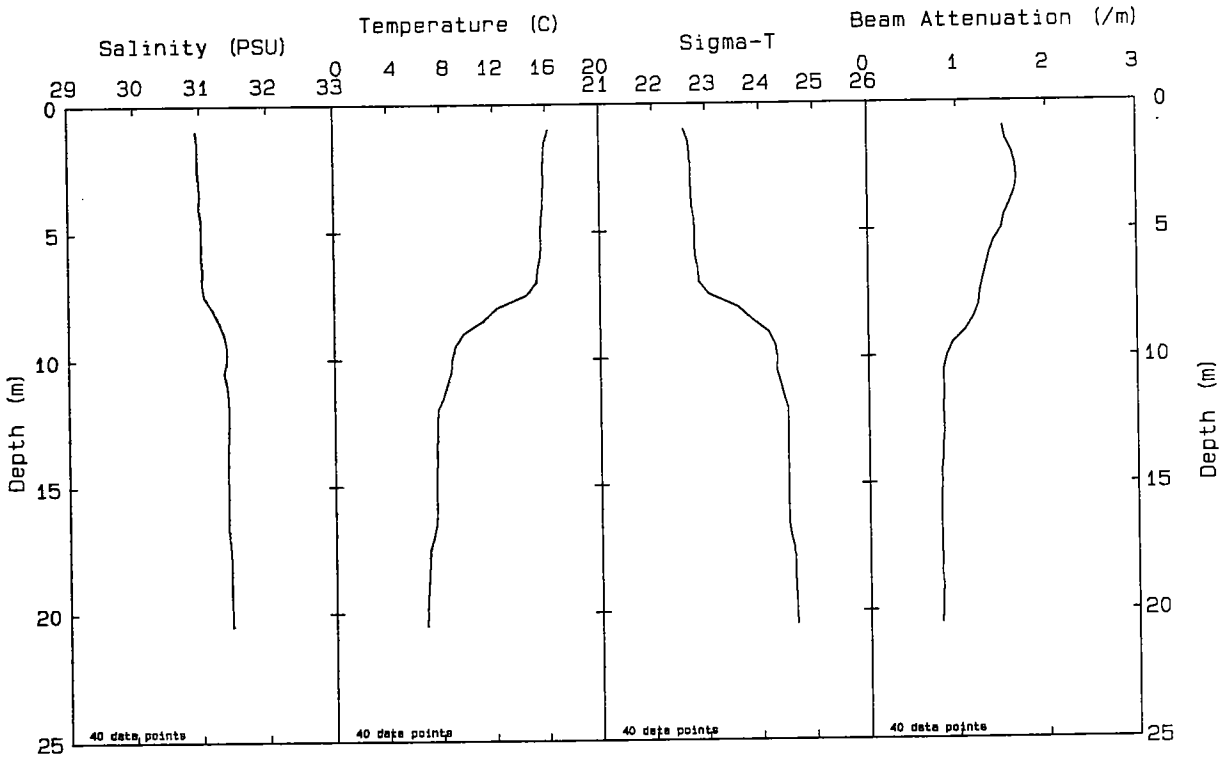


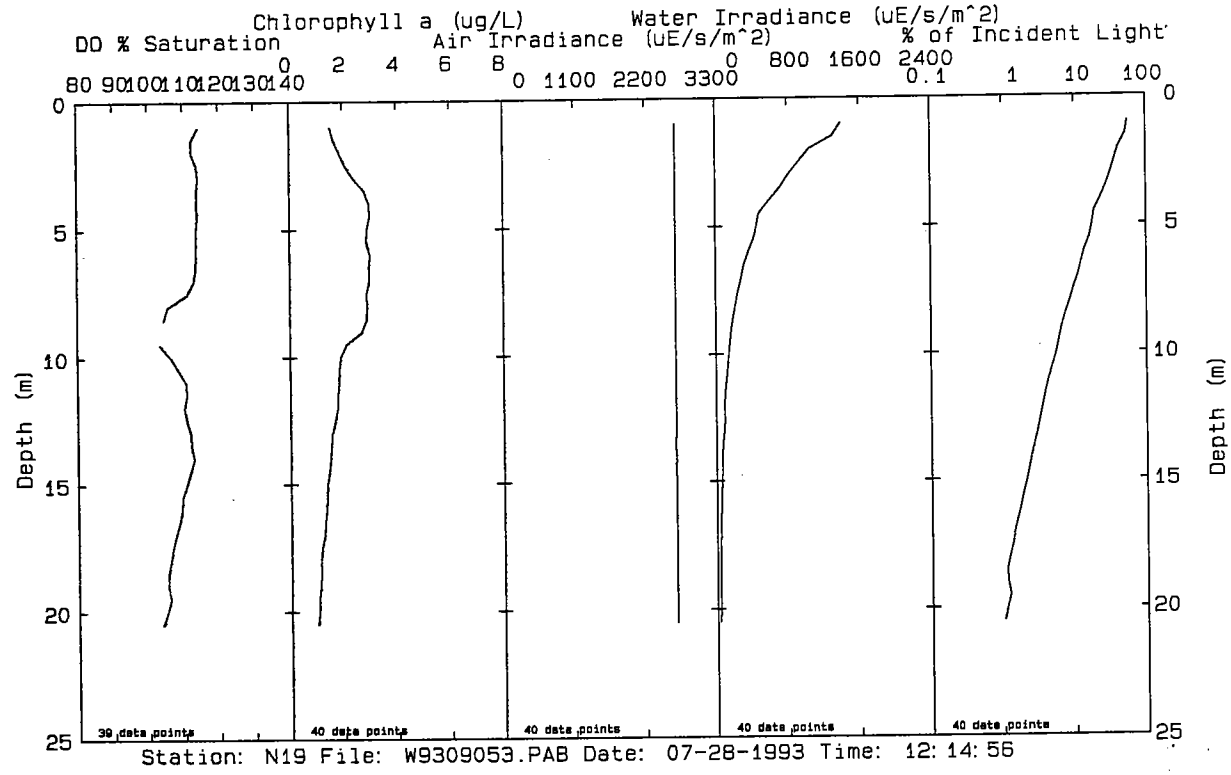
Station: N17 File: W9309071.PAB Date: 07-28-1993 Time: 14:19:47



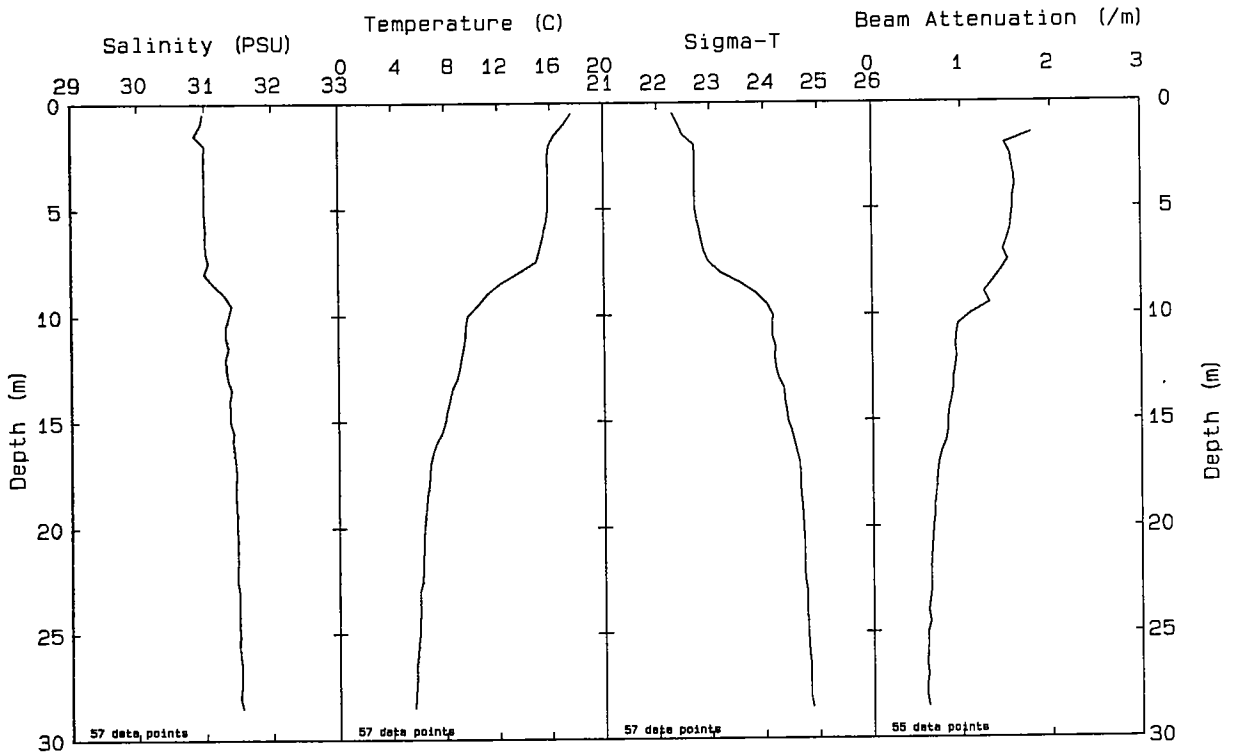


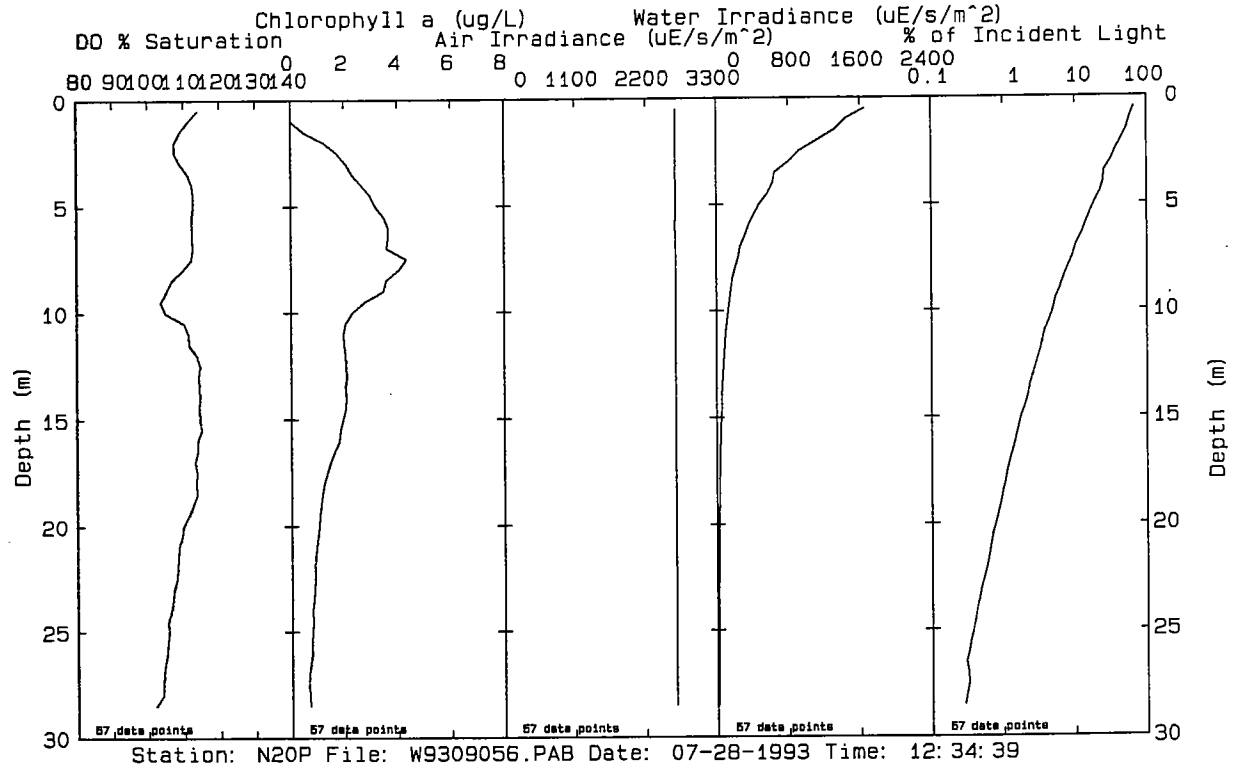
Station: N18 File: W9309074.PAB Date: 07-28-1993 Time: 14:37:28



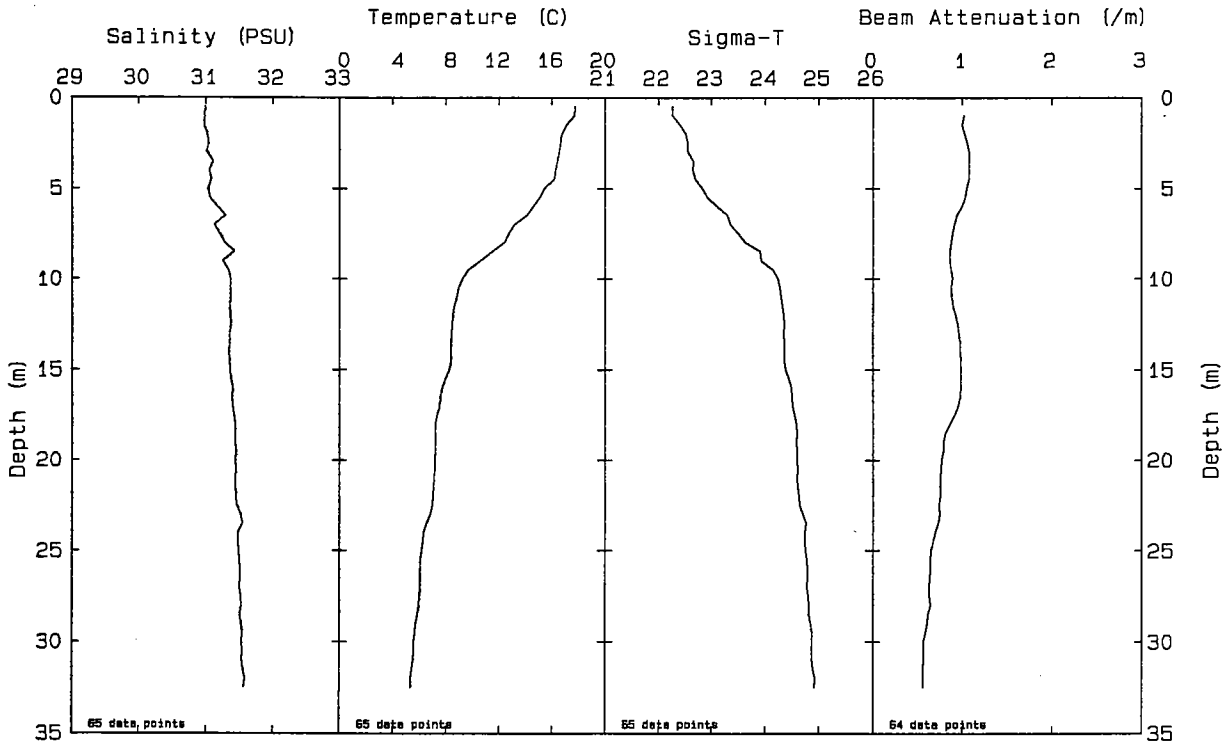


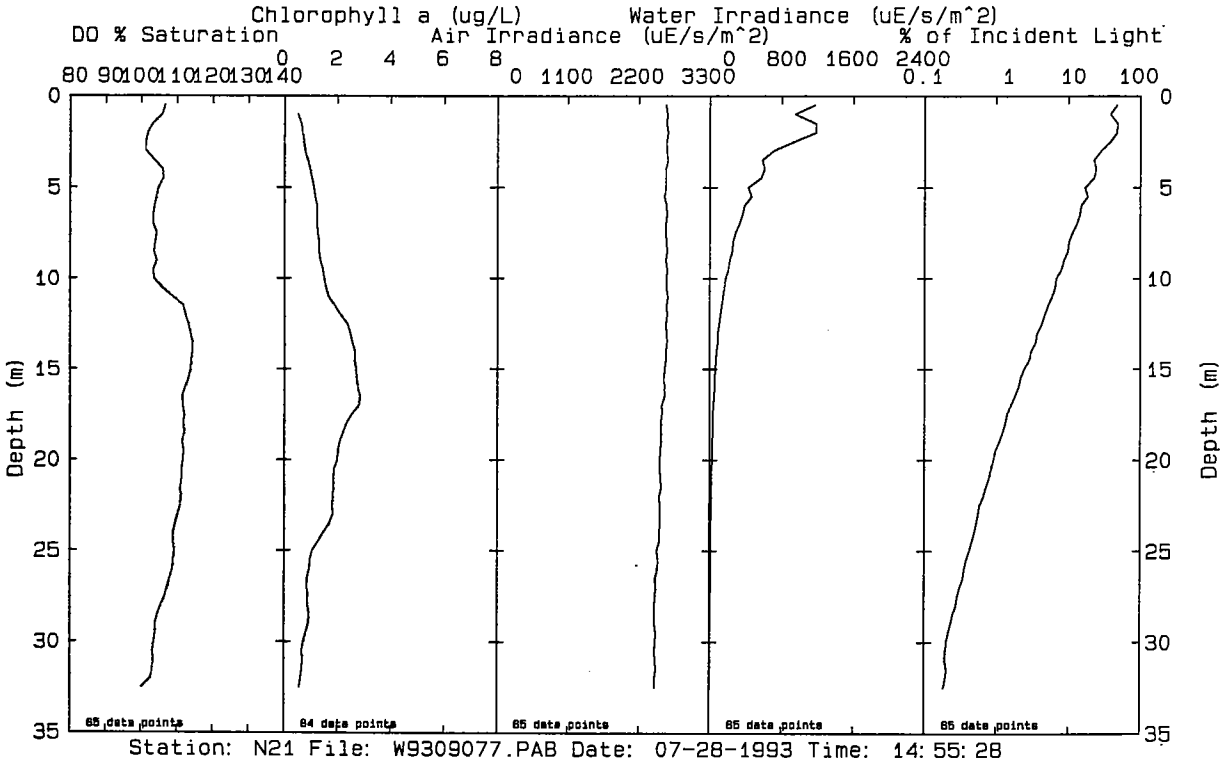
Station: N19 File: W9309053.PAB Date: 07-28-1993 Time: 12:14:56





Station: N20P File: W9309056.PAB Date: 07-28-1993 Time: 12:34:39





Station: N21 File: W9309077.PAB Date: 07-28-1993 Time: 14:55:28

APPENDIX C

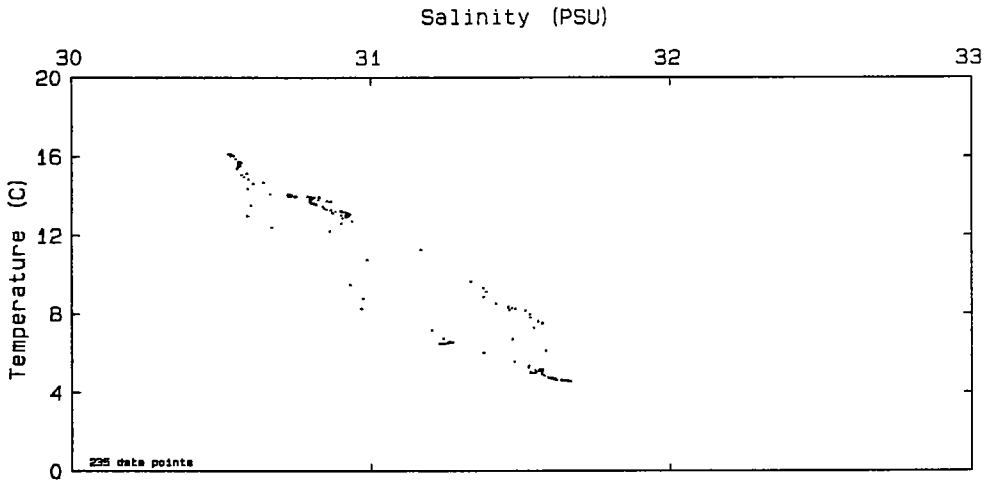
COMPARISON OF VERTICAL PROFILE DATA: SCATTER PLOTS

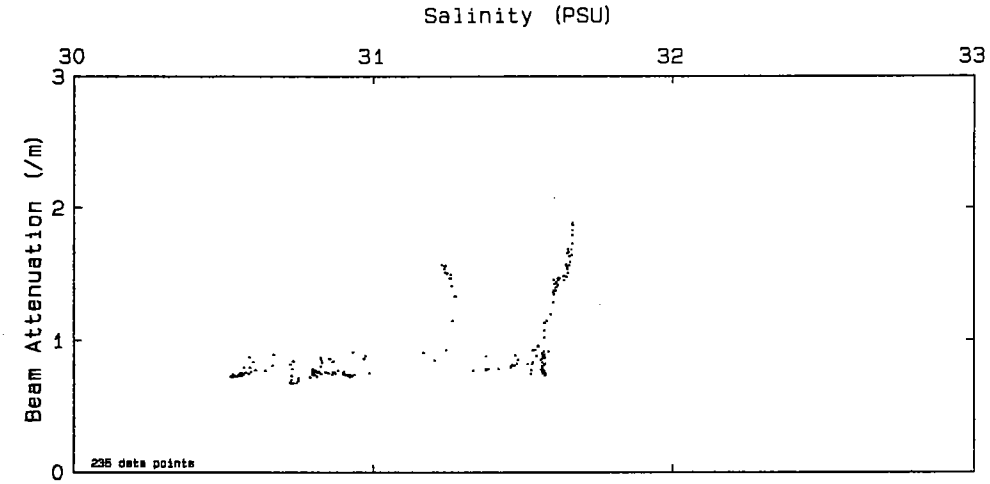
Parameter-Parameter Plots of Vertical Profile Data, Combined Surveys

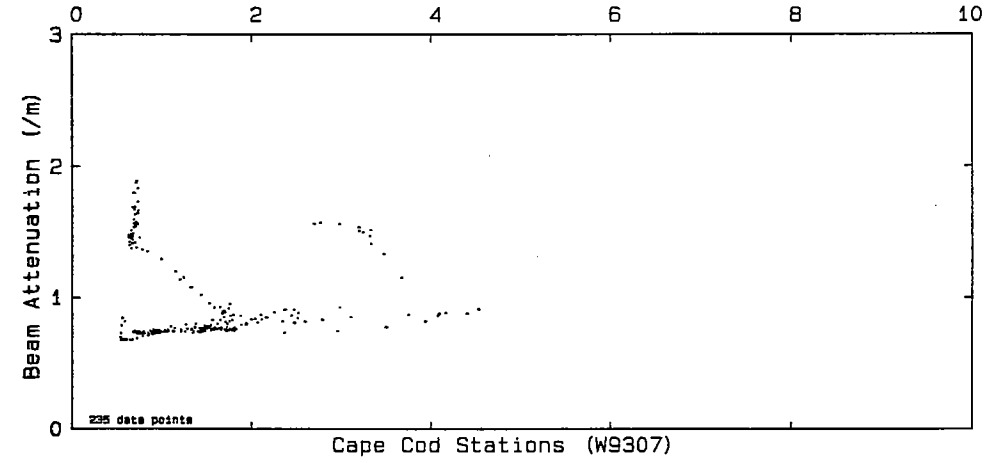
Note that for nearfield surveys, all plots are given as figures in the accompanying text report. For combined surveys, composite plots (all stations) are given as figures in the accompanying text report.

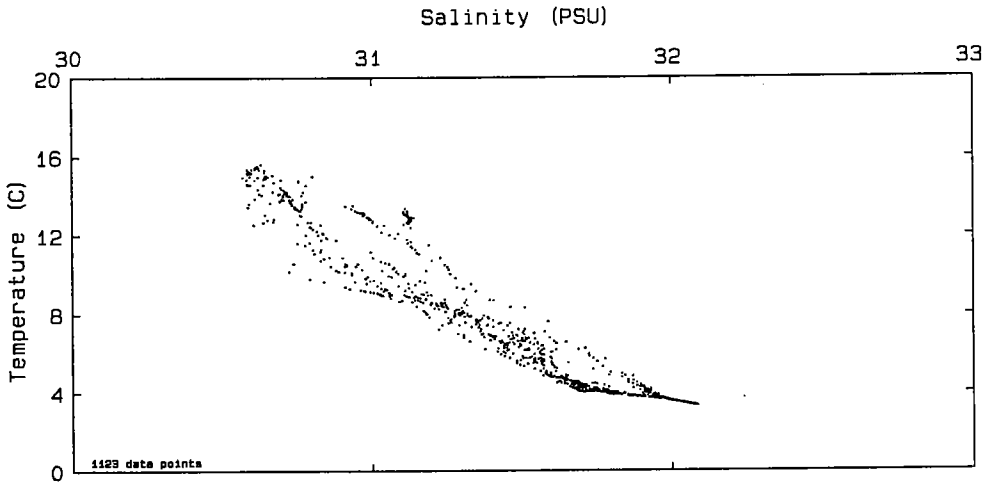
The plots for the June survey (W9307) given here separate stations by station groups as defined in the text report.

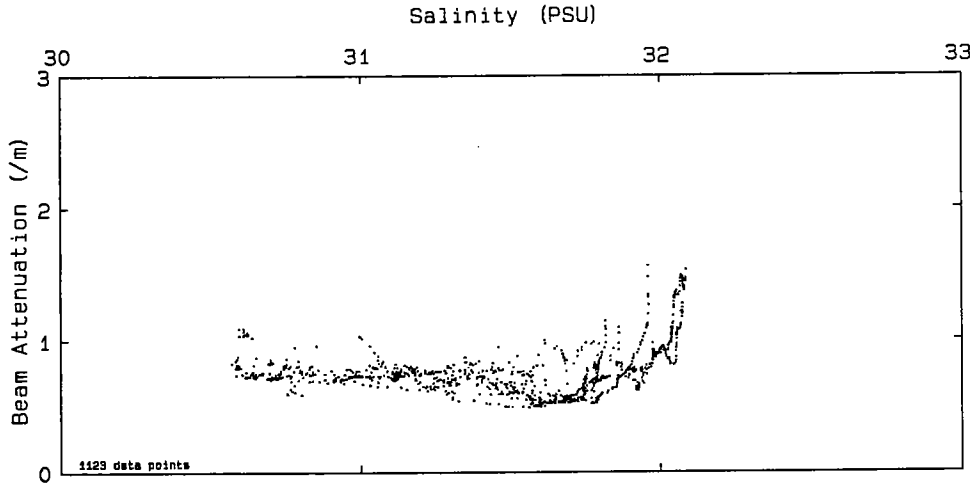
Data are as described in Appendix B and include the entire profile at each station.

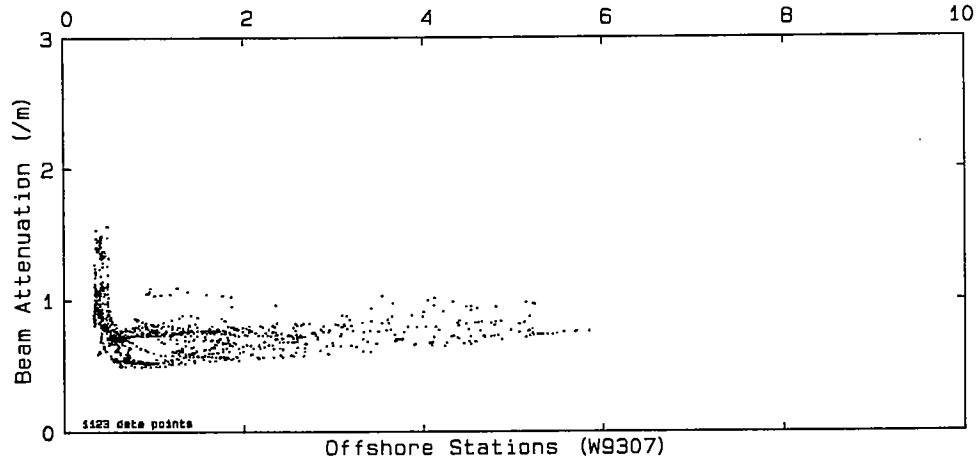

Salinity (PSU)
30
31
32
33
20
16
12
8
4
0
Temperature (C)
235 data points

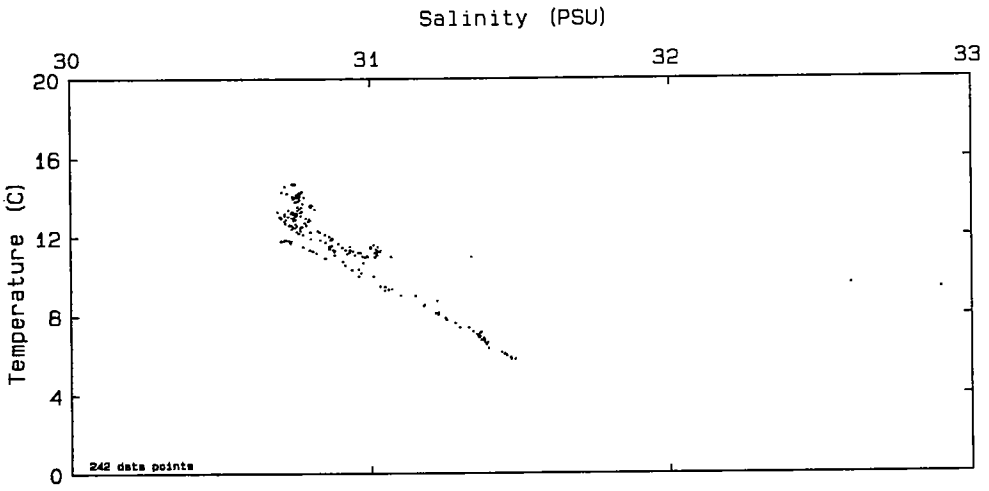

Salinity (PSU)
30
31
32
33
3
2
1
0
Beam Attenuation (/m)
235 data points

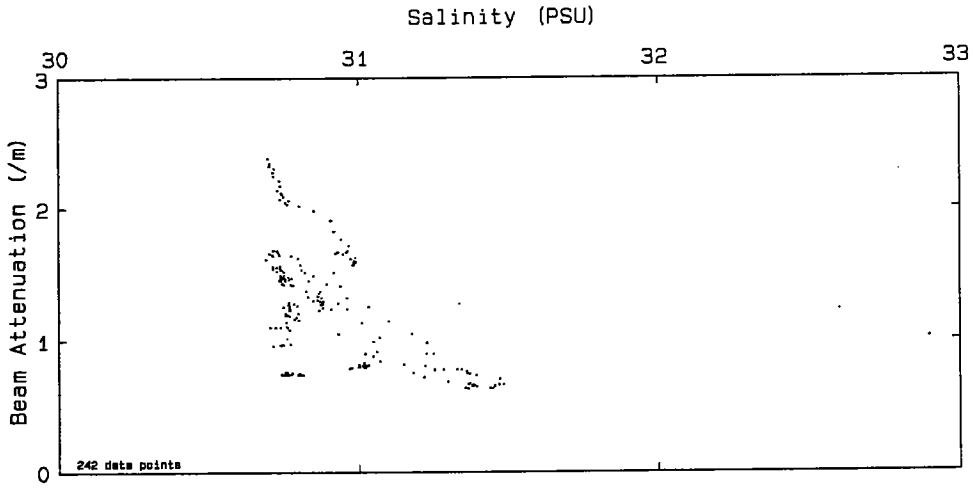

Chlorophyll a (ug/L)
0
2
4
6
8
10
3
2
1
0
Beam Attenuation (/m)
235 data points
Cape Cod Stations (W9307)

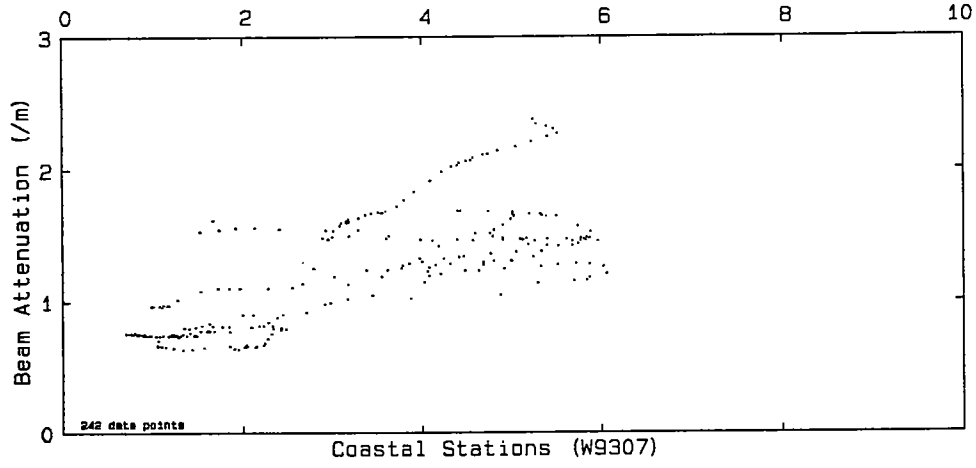

Salinity (PSU)
30
31
32
33
20
16
12
8
4
0
Temperature (C)
1123 data points

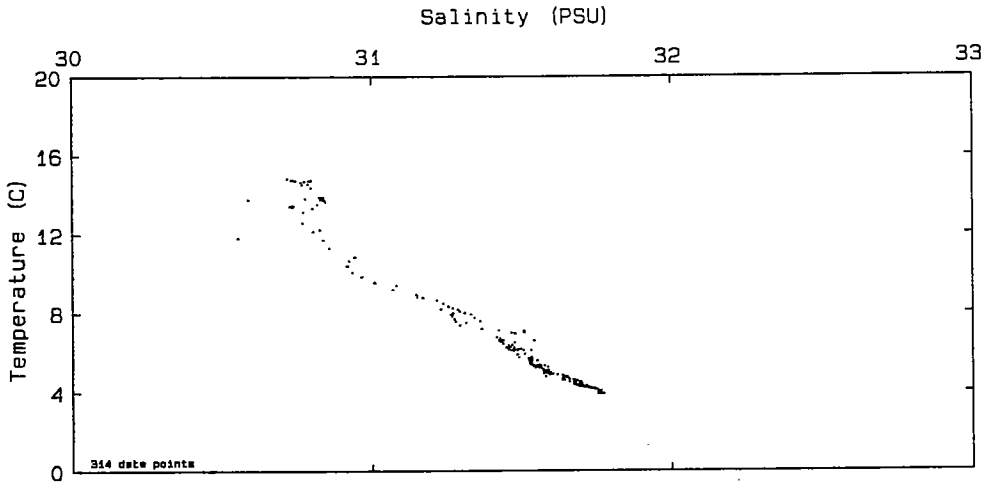

Salinity (PSU)
30
31
32
33
3
2
1
0
Beam Attenuation (/m)
1123 data points

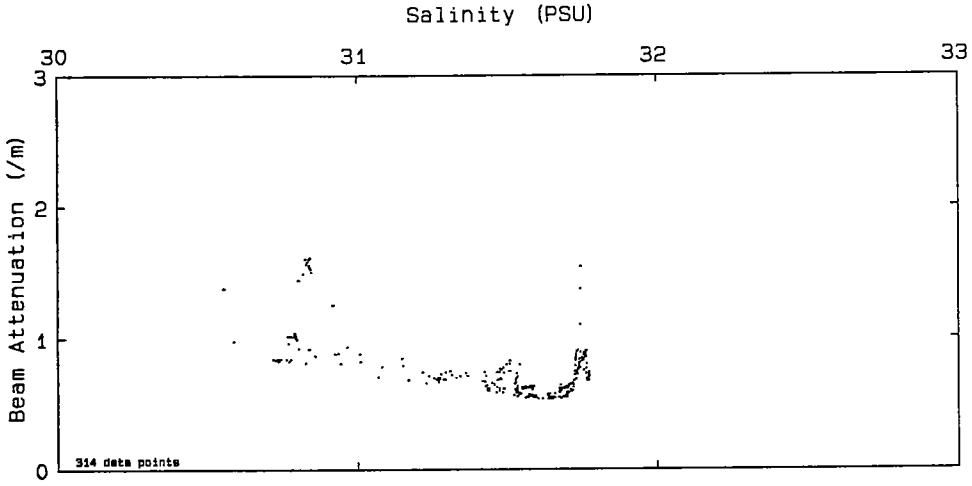

Chlorophyll a (ug/L)
0
2
4
6
8
10
3
2
1
0
Beam Attenuation (/m)
1123 data points
Offshore Stations (W9307)

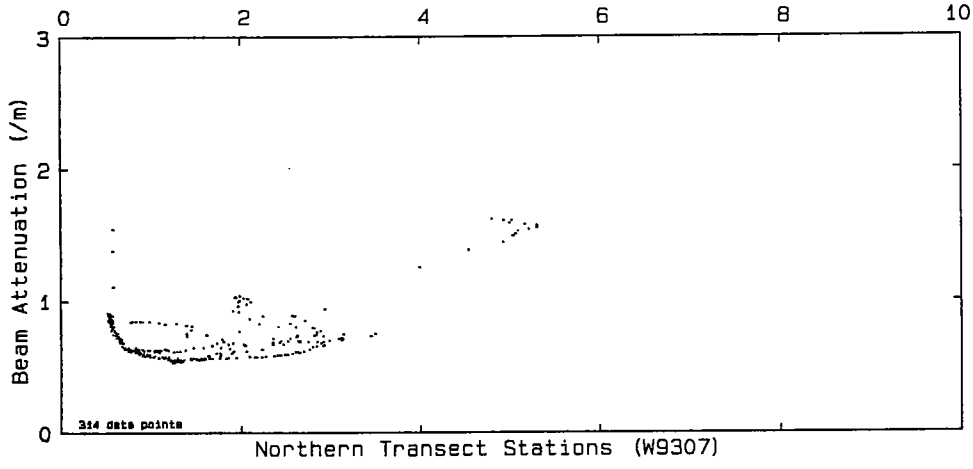

Salinity (PSU)
30
31
32
33
20
16
12
8
4
0
Temperature (C)
242 data points

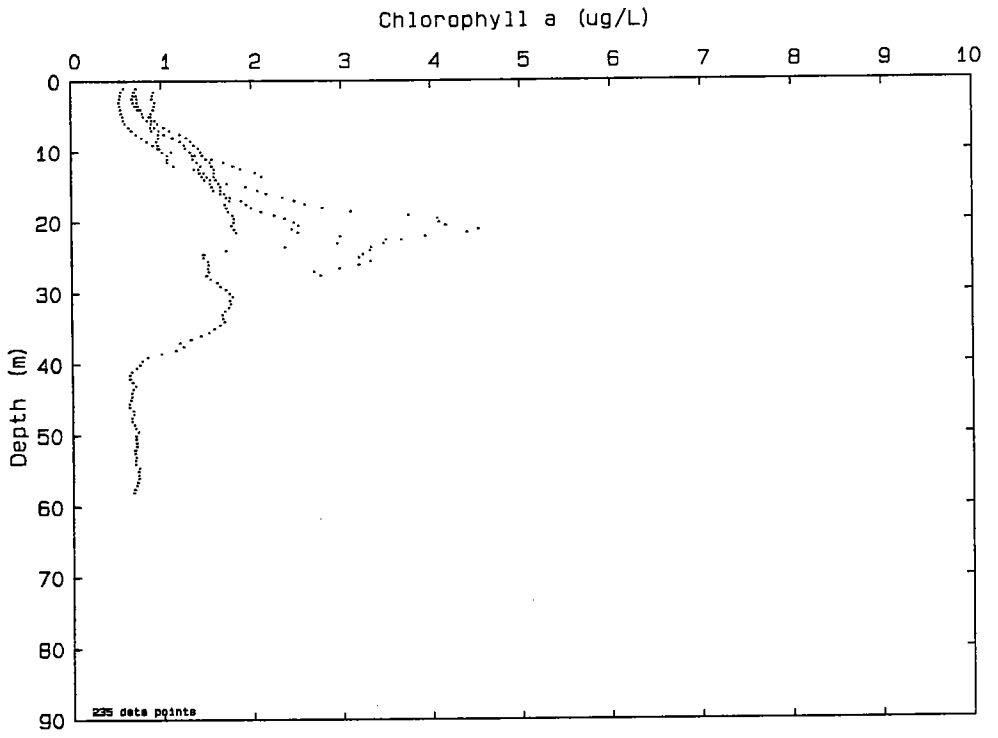

Salinity (PSU)
30
31
32
33
3
2
1
0
Beam Attenuation (/m)
242 data points

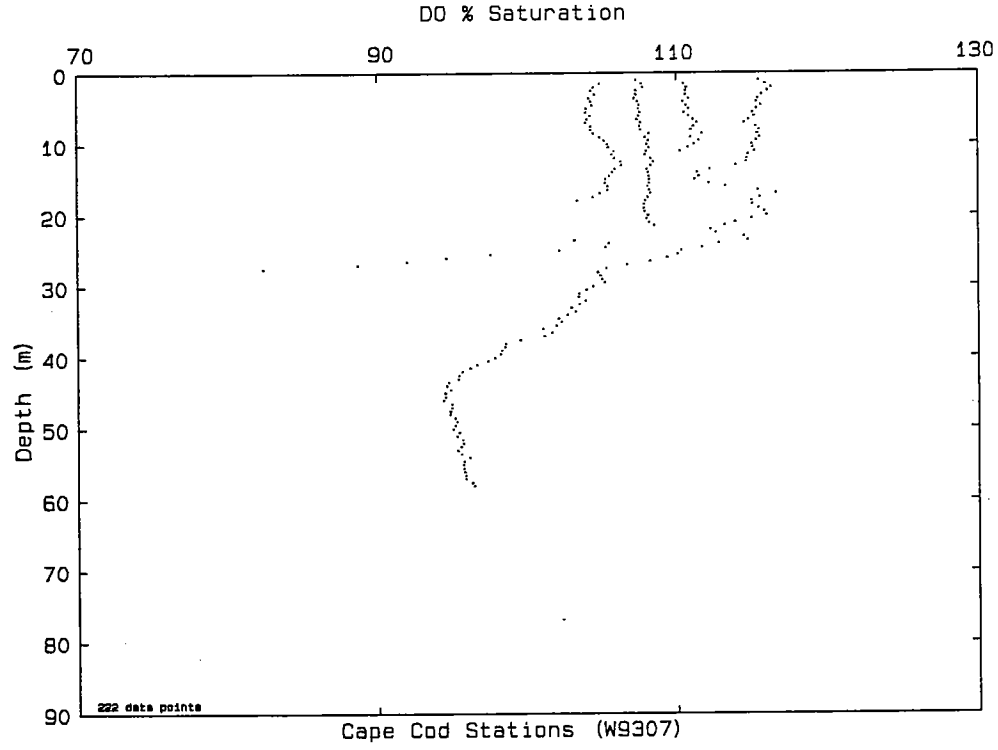

Chlorophyll a (ug/L)
0
2
4
6
8
10
3
2
1
0
Beam Attenuation (/m)
242 data points
Coastal Stations (W9307)

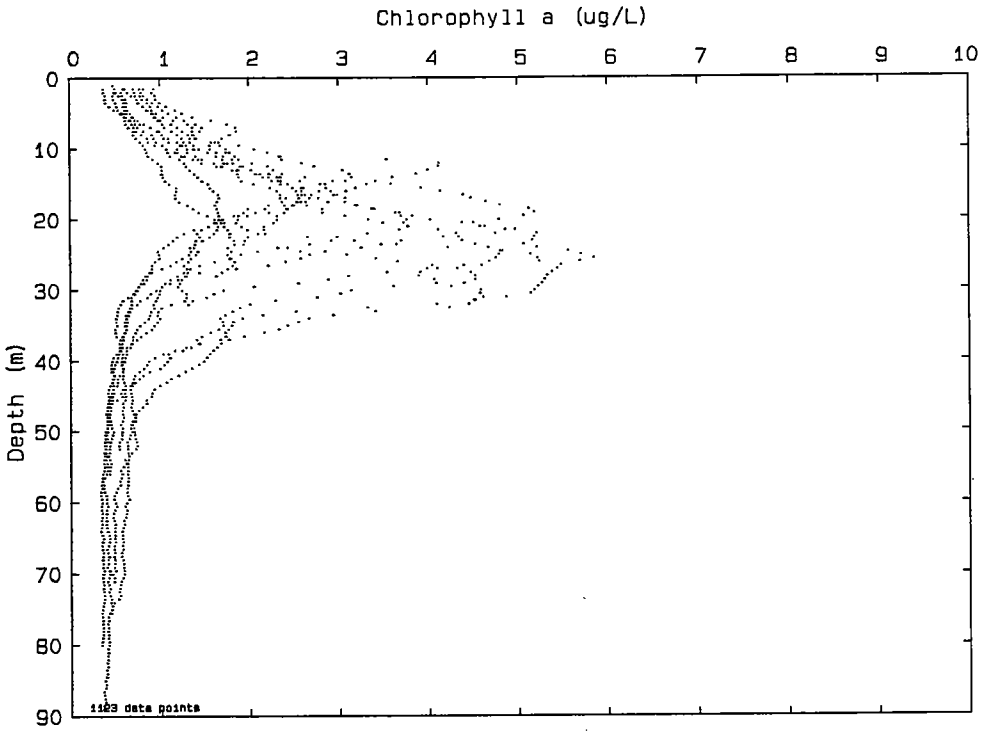

Salinity (PSU)
30
31
32
33
20
16
12
8
4
0
Temperature (C)
314 data points

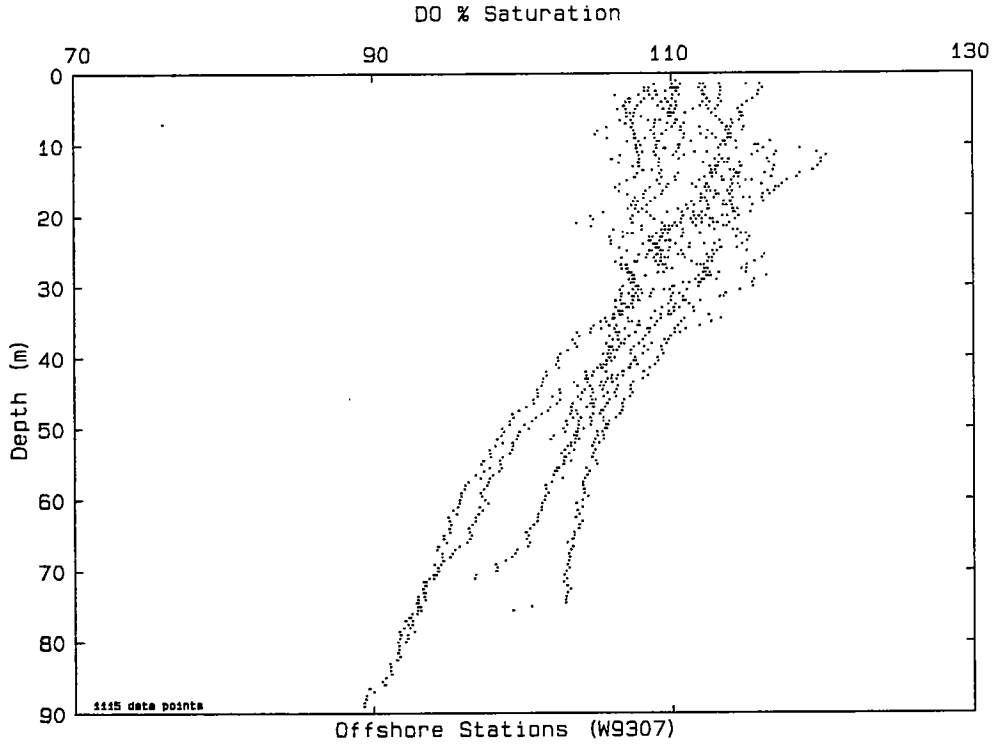

Salinity (PSU)
30
31
32
33
3
2
1
0
Beam Attenuation (/m)
314 data points

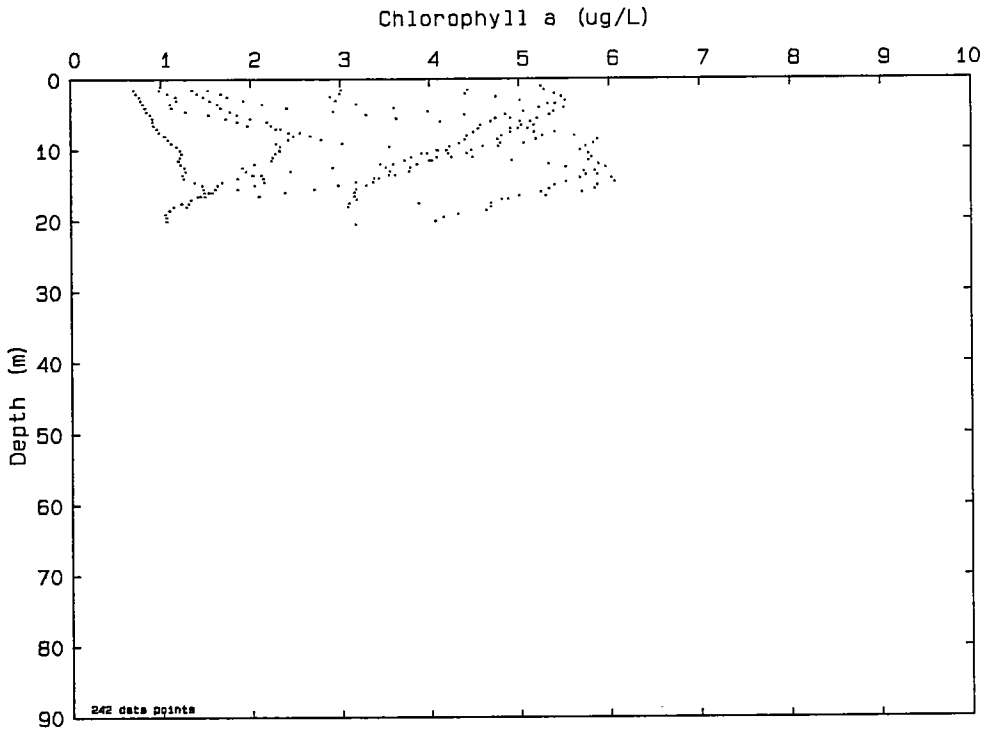

Chlorophyll a (ug/L)
0
2
4
6
8
10
3
2
1
0
Beam Attenuation (/m)
314 data points
Northern Transect Stations (W9307)

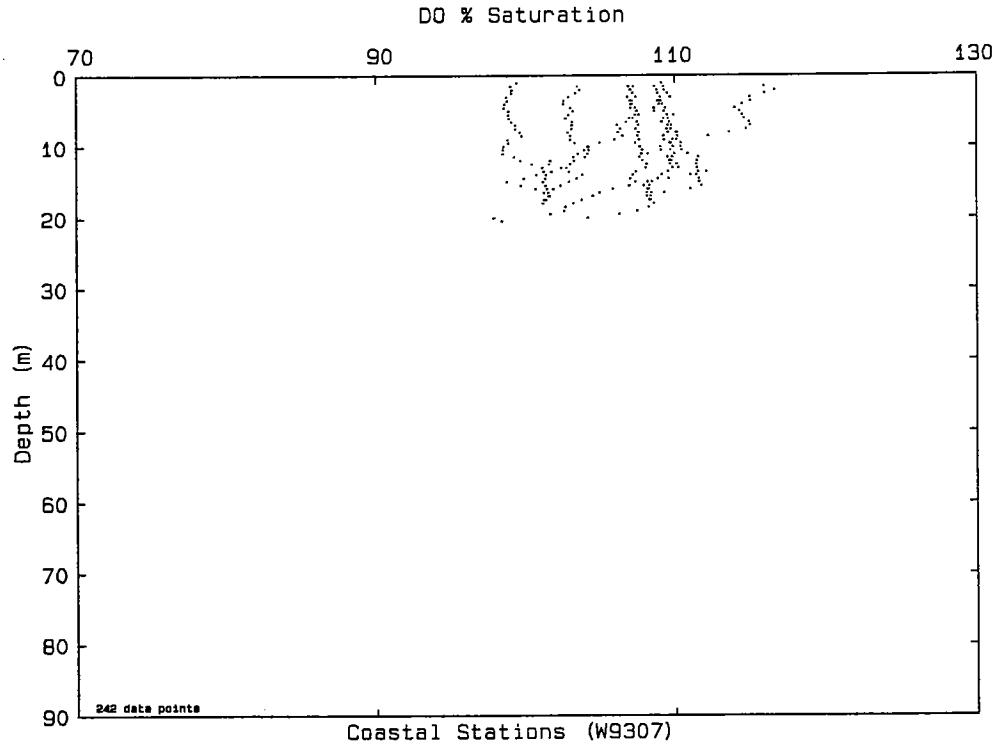

Chlorophyll a (ug/L)
0 1 2 3 4 5 6 7 8 9 10
Depth (m)
0 10 20 30 40 50 60 70 80 90
235 data points

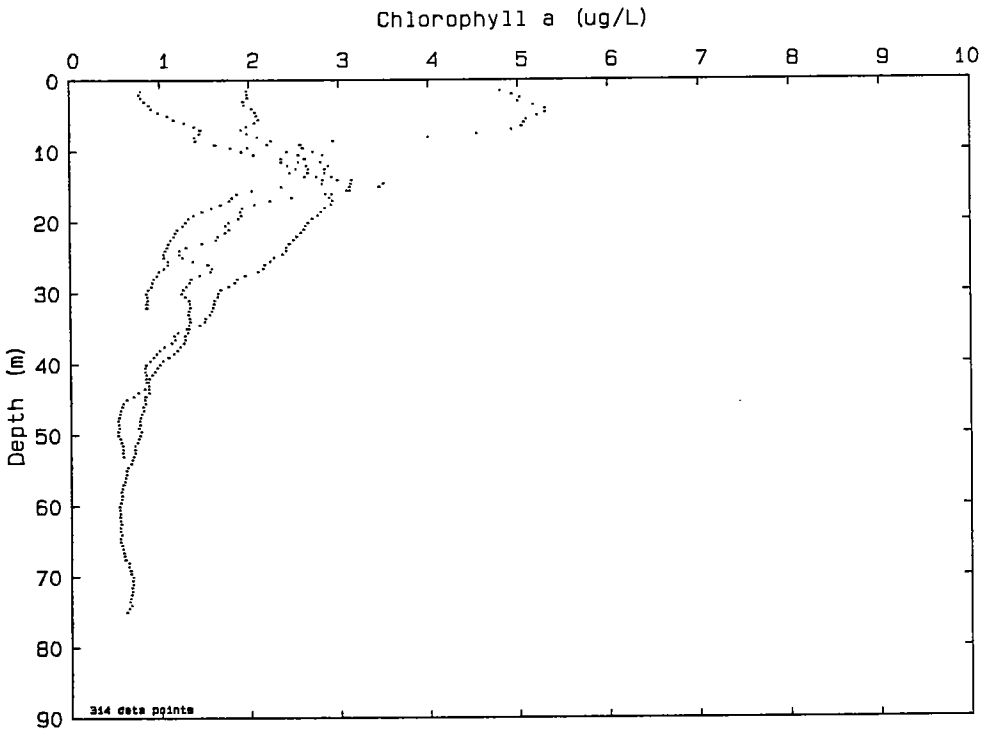

DO % Saturation
70 90 110 130
Depth (m)
0 10 20 30 40 50 60 70 80 90
222 data points
Cape Cod Stations (W9307)

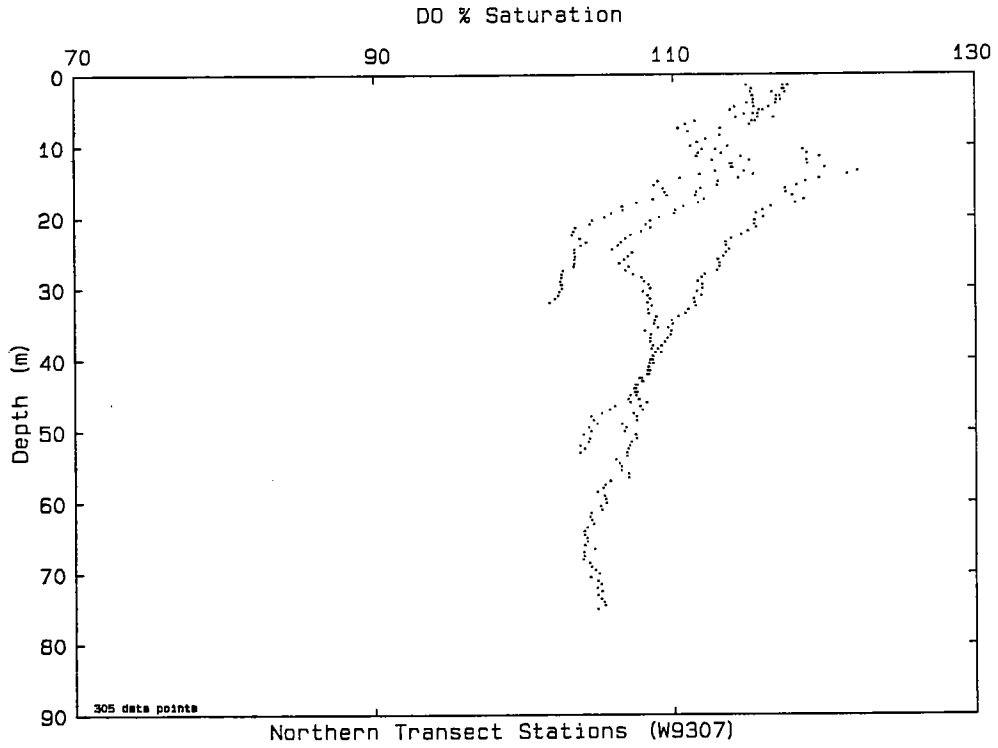

Chlorophyll a (ug/L)
0 1 2 3 4 5 6 7 8 9 10
Depth (m)
0 10 20 30 40 50 60 70 80 90
1103 data points


DO % Saturation
70 90 110 130
Depth (m)
0 10 20 30 40 50 60 70 80 90
1115 data points
Offshore Stations (W9307)


Chlorophyll a (ug/L)
0 1 2 3 4 5 6 7 8 9 10
0 10 20 30 40 50 60 70 80 90
Depth (m)
242 data points


DO % Saturation
70 90 110 130
0 10 20 30 40 50 60 70 80 90
Depth (m)
242 data points
Coastal Stations (W9307)


Chlorophyll a (ug/L)
0 1 2 3 4 5 6 7 8 9 10
Depth (m)
0 10 20 30 40 50 60 70 80 90
314 data points


DO % Saturation
70 90 110 130
Depth (m)
0 10 20 30 40 50 60 70 80 90
305 data points
Northern Transect Stations (W9307)

APPENDIX D

ADDITIONAL TOWING PROFILE DATA FROM NEARFIELD STATIONS

For this report, all plots are included directly in the text report and this appendix is intentionally left blank.

APPENDIX E

METABOLISM DATA AND PRODUCTIVITY—IRRADIANCE MODELING

Part 1

^{14}C Incubation Data

Table E1-1 includes data from the June (W9307) survey. The table includes data for samples from the BioProductivity stations that were incubated from surface and chlorophyll maximum depths (dark and light bottles). ^{14}C-Production was calculated using measured DIC and after subtraction of the mean (n=3) dark bottle uptake rates as described in the text report. Where ^{14}C (DPM) for a dark bottle are labeled with an "s" qualifier the data were suspect and were not used in calculating production. In Appendix E, Part 2, the criterion used for rejecting suspect data is given.

Table E1-1. C14 Production at Bioproductivity Stations in June of 1993.

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)	Stock (DPM)
W9307	F01P	24-JUN-93	0835	1.36	W93070443					24.6	6.0		4533457.0
W9307	F01P	24-JUN-93	0835	1.36	W93070443	-3	DARK	0	194.6				
W9307	F01P	24-JUN-93	0835	1.36	W93070443	-2	DARK	0	289.7				
W9307	F01P	24-JUN-93	0835	1.36	W93070443	-1	DARK	0	352.1				
W9307	F01P	24-JUN-93	0835	1.36	W93070443	1	LIGHT	830	7967.3			7.3	
W9307	F01P	24-JUN-93	0835	1.36	W93070443	2	LIGHT	1261	7745.8			7.1	
W9307	F01P	24-JUN-93	0835	1.36	W93070443	3	LIGHT	873	8126.9			7.5	
W9307	F01P	24-JUN-93	0835	1.36	W93070443	4	LIGHT	431	7460.4			6.8	
W9307	F01P	24-JUN-93	0835	1.36	W93070443	5	LIGHT	394	6880.1			6.3	
W9307	F01P	24-JUN-93	0835	1.36	W93070443	6	LIGHT	204	5284.7			4.8	
W9307	F01P	24-JUN-93	0835	1.36	W93070443	7	LIGHT	27	1067.1			0.7	
W9307	F01P	24-JUN-93	0835	1.36	W93070443	8	LIGHT	21	973.0			0.7	
W9307	F01P	24-JUN-93	0835	1.36	W93070443	9	LIGHT	177	4860.6			4.4	
W9307	F01P	24-JUN-93	0835	1.36	W93070443	10	LIGHT	126	4130.1			3.7	
W9307	F01P	24-JUN-93	0835	1.36	W93070443	11	LIGHT	2	247.4			-0.0	
W9307	F01P	24-JUN-93	0835	1.36	W93070443	12	LIGHT	3	480.7			0.2	
W9307	F01P	24-JUN-93	0834	4.76	W93070441					24.7	6.0		4533457.0
W9307	F01P	24-JUN-93	0834	4.76	W93070441	-3	DARK	0	241.1				
W9307	F01P	24-JUN-93	0834	4.76	W93070441	-2	DARK	0	210.7				
W9307	F01P	24-JUN-93	0834	4.76	W93070441	-1	DARK	0	216.9				
W9307	F01P	24-JUN-93	0834	4.76	W93070441	1	LIGHT	841	9113.4			8.5	
W9307	F01P	24-JUN-93	0834	4.76	W93070441	2	LIGHT	1385	7639.2			7.1	
W9307	F01P	24-JUN-93	0834	4.76	W93070441	3	LIGHT	592	8915.9			8.3	
W9307	F01P	24-JUN-93	0834	4.76	W93070441	4	LIGHT	284	7944.2			7.4	
W9307	F01P	24-JUN-93	0834	4.76	W93070441	5	LIGHT	350	7633.8			7.1	
W9307	F01P	24-JUN-93	0834	4.76	W93070441	6	LIGHT	179	6542.7			6.0	
W9307	F01P	24-JUN-93	0834	4.76	W93070441	7	LIGHT	255	7401.3			6.8	
W9307	F01P	24-JUN-93	0834	4.76	W93070441	8	LIGHT	79	2200.7			1.9	
W9307	F01P	24-JUN-93	0834	4.76	W93070441	9	LIGHT	20	1220.0			1.0	
W9307	F01P	24-JUN-93	0834	4.76	W93070441	10	LIGHT	22	562.1			0.3	
W9307	F01P	24-JUN-93	0834	4.76	W93070441	11	LIGHT	3	318.8			0.1	
W9307	F01P	24-JUN-93	0834	4.76	W93070441	12	LIGHT	3	263.8			0.0	
W9307	F02P	24-JUN-93	0715	0.84	W93070424					24.1	6.0		4533457.0
W9307	F02P	24-JUN-93	0715	0.84	W93070424	-3	DARK	0	854.4				
W9307	F02P	24-JUN-93	0715	0.84	W93070424	-2	DARK	0	789.1				
W9307	F02P	24-JUN-93	0715	0.84	W93070424	-1	DARK	0	1729.8				
W9307	F02P	24-JUN-93	0715	0.84	W93070424	1	LIGHT	648	7747.1			6.1	
W9307	F02P	24-JUN-93	0715	0.84	W93070424	2	LIGHT	808	8597.1			6.9	
W9307	F02P	24-JUN-93	0715	0.84	W93070424	3	LIGHT	958	8259.2			6.6	
W9307	F02P	24-JUN-93	0715	0.84	W93070424	4	LIGHT	1275	8172.2			6.5	
W9307	F02P	24-JUN-93	0715	0.84	W93070424	5	LIGHT	178	5613.6			4.1	

Table E1-1. C14 Production at Bioproductivity Stations in June of 1993.

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)	Stock (DPM)
W9307	F02P	24-JUN-93	0715	0.84	W93070424	6	LIGHT	180	4757.0			3.3	
W9307	F02P	24-JUN-93	0715	0.84	W93070424	7	LIGHT	21	1304.7			0.2	
W9307	F02P	24-JUN-93	0715	0.84	W93070424	8	LIGHT	21	1465.6			0.3	
W9307	F02P	24-JUN-93	0715	0.84	W93070424	9	LIGHT	138	3878.6			2.5	
W9307	F02P	24-JUN-93	0715	0.84	W93070424	10	LIGHT	47	2629.4			1.4	
W9307	F02P	24-JUN-93	0715	0.84	W93070424	11	LIGHT	3	1123.7			-0.0	
W9307	F02P	24-JUN-93	0715	0.84	W93070424	12	LIGHT	2	757.7			-0.3	
W9307	F02P	24-JUN-93	0713	19.76	W93070422					25.4	6.1		4533457.0
W9307	F02P	24-JUN-93	0713	19.76	W93070422	-3	DARK	0	2431.7				
W9307	F02P	24-JUN-93	0713	19.76	W93070422	-2	DARK	0	1363.1				
W9307	F02P	24-JUN-93	0713	19.76	W93070422	-1	DARK	0	1757.8				
W9307	F02P	24-JUN-93	0713	19.76	W93070422	1	LIGHT	204	8733.1			6.6	
W9307	F02P	24-JUN-93	0713	19.76	W93070422	2	LIGHT	539	8009.4			5.9	
W9307	F02P	24-JUN-93	0713	19.76	W93070422	3	LIGHT	1332	4937.5			3.0	
W9307	F02P	24-JUN-93	0713	19.76	W93070422	4	LIGHT	839	7768.1			5.7	
W9307	F02P	24-JUN-93	0713	19.76	W93070422	5	LIGHT	1203	5210.2			3.2	
W9307	F02P	24-JUN-93	0713	19.76	W93070422	6	LIGHT	182	7565.4			5.5	
W9307	F02P	24-JUN-93	0713	19.76	W93070422	7	LIGHT	38	4075.4			2.1	
W9307	F02P	24-JUN-93	0713	19.76	W93070422	8	LIGHT	226	8512.6			6.4	
W9307	F02P	24-JUN-93	0713	19.76	W93070422	9	LIGHT	22	2718.4			0.8	
W9307	F02P	24-JUN-93	0713	19.76	W93070422	10	LIGHT	24	2605.9			0.7	
W9307	F02P	24-JUN-93	0713	19.76	W93070422	11	LIGHT	3	1244.0			-0.6	
W9307	F02P	24-JUN-93	0713	19.76	W93070422	12	LIGHT	2	1855.0			0.0	
W9307	F13P	23-JUN-93	0912	2.22	W93070317					24.5	5.9		4699162.0
W9307	F13P	23-JUN-93	0912	2.22	W93070317	-3	DARK	0	796.1				
W9307	F13P	23-JUN-93	0912	2.22	W93070317	-2	DARK	0	1120.6				
W9307	F13P	23-JUN-93	0912	2.22	W93070317	-1	DARK	0	4718.6				
W9307	F13P	23-JUN-93	0912	2.22	W93070317	1	LIGHT	270	26585.5			22.5	
W9307	F13P	23-JUN-93	0912	2.22	W93070317	2	LIGHT	410	27865.0			23.7	
W9307	F13P	23-JUN-93	0912	2.22	W93070317	3	LIGHT	883	28451.2			24.2	
W9307	F13P	23-JUN-93	0912	2.22	W93070317	4	LIGHT	1237	32003.9			27.5	
W9307	F13P	23-JUN-93	0912	2.22	W93070317	5	LIGHT	855	27741.8			23.6	
W9307	F13P	23-JUN-93	0912	2.22	W93070317	6	LIGHT	190	21121.4			17.5	
W9307	F13P	23-JUN-93	0912	2.22	W93070317	7	LIGHT	25	4589.0			2.2	
W9307	F13P	23-JUN-93	0912	2.22	W93070317	8	LIGHT	20	4053.2			1.7	
W9307	F13P	23-JUN-93	0912	2.22	W93070317	9	LIGHT	165	19655.5			16.1	
W9307	F13P	23-JUN-93	0912	2.22	W93070317	10	LIGHT	117	18151.8			14.7	
W9307	F13P	23-JUN-93	0912	2.22	W93070317	11	LIGHT	2	913.1			-1.2	
W9307	F13P	23-JUN-93	0912	2.22	W93070317	12	LIGHT	3	820.7			-1.3	
W9307	F13P	23-JUN-93	0910	8.62	W93070315					24.6	6.0		4699162.0
W9307	F13P	23-JUN-93	0910	8.62	W93070315	-3	DARK	0	607.2				

Table E1-1. C14 Production at Bioproductivity Stations in June of 1993.

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)	Stock (DPM)
W9307	F13P	23-JUN-93	0910	8.62	W93070315	-2	DARK	0	833.0				
W9307	F13P	23-JUN-93	0910	8.62	W93070315	-1	DARK	0	659.9				
W9307	F13P	23-JUN-93	0910	8.62	W93070315	1	LIGHT	1137	32863.0			29.4	
W9307	F13P	23-JUN-93	0910	8.62	W93070315	2	LIGHT	1527	29307.9			26.2	
W9307	F13P	23-JUN-93	0910	8.62	W93070315	3	LIGHT	615	25347.6			22.5	
W9307	F13P	23-JUN-93	0910	8.62	W93070315	4	LIGHT	344	25937.2			23.1	
W9307	F13P	23-JUN-93	0910	8.62	W93070315	5	LIGHT	364	28983.5			25.9	
W9307	F13P	23-JUN-93	0910	8.62	W93070315	6	LIGHT	242	28730.2			25.6	
W9307	F13P	23-JUN-93	0910	8.62	W93070315	7	LIGHT	205	32633.6			29.2	
W9307	F13P	23-JUN-93	0910	8.62	W93070315	8	LIGHT	321	25198.7			22.4	
W9307	F13P	23-JUN-93	0910	8.62	W93070315	9	LIGHT	32	7527.5			6.2	
W9307	F13P	23-JUN-93	0910	8.62	W93070315	10	LIGHT	31	9090.6			7.7	
W9307	F13P	23-JUN-93	0910	8.62	W93070315	11	LIGHT	1	4462.1			3.4	
W9307	F13P	23-JUN-93	0910	8.62	W93070315	12	LIGHT	3	4197.7			3.2	
W9307	F23P	25-JUN-93	0536	1.84	W93070531					25.1	6.0		4714500.0
W9307	F23P	25-JUN-93	0536	1.84	W93070531	-3	DARK	0	1376.0				
W9307	F23P	25-JUN-93	0536	1.84	W93070531	-2	DARK	0	1261.0				
W9307	F23P	25-JUN-93	0536	1.84	W93070531	-1	DARK	0	1726.1				
W9307	F23P	25-JUN-93	0536	1.84	W93070531	1	LIGHT	625	52025.6			47.2	
W9307	F23P	25-JUN-93	0536	1.84	W93070531	2	LIGHT	901	51356.8			46.5	
W9307	F23P	25-JUN-93	0536	1.84	W93070531	3	LIGHT	805	51347.9			46.5	
W9307	F23P	25-JUN-93	0536	1.84	W93070531	4	LIGHT	1189	50924.9			46.1	
W9307	F23P	25-JUN-93	0536	1.84	W93070531	5	LIGHT	158	35731.8			32.0	
W9307	F23P	25-JUN-93	0536	1.84	W93070531	6	LIGHT	169	32623.8			29.1	
W9307	F23P	25-JUN-93	0536	1.84	W93070531	7	LIGHT	20	5053.9			3.4	
W9307	F23P	25-JUN-93	0536	1.84	W93070531	8	LIGHT	20	6928.9			5.1	
W9307	F23P	25-JUN-93	0536	1.84	W93070531	9	LIGHT	130	29398.5			26.1	
W9307	F23P	25-JUN-93	0536	1.84	W93070531	10	LIGHT	44	12932.7			10.7	
W9307	F23P	25-JUN-93	0536	1.84	W93070531	11	LIGHT	3	2781.6			1.2	
W9307	F23P	25-JUN-93	0536	1.84	W93070531	12	LIGHT	2	3227.6			1.7	
W9307	F23P	25-JUN-93	0534	7.58	W93070529					25.2	6.0		4714500.0
W9307	F23P	25-JUN-93	0534	7.58	W93070529	-3	DARK	0	2270.7				
W9307	F23P	25-JUN-93	0534	7.58	W93070529	-2	DARK	0	1617.9				
W9307	F23P	25-JUN-93	0534	7.58	W93070529	-1	DARK	0	1514.0				
W9307	F23P	25-JUN-93	0534	7.58	W93070529	1	LIGHT	933	37989.7			33.9	
W9307	F23P	25-JUN-93	0534	7.58	W93070529	2	LIGHT	1208	32909.4			29.1	
W9307	F23P	25-JUN-93	0534	7.58	W93070529	3	LIGHT	464	35670.2			31.7	
W9307	F23P	25-JUN-93	0534	7.58	W93070529	4	LIGHT	203	32246.3			28.5	
W9307	F23P	25-JUN-93	0534	7.58	W93070529	5	LIGHT	184	33759.9			29.9	
W9307	F23P	25-JUN-93	0534	7.58	W93070529	6	LIGHT	188	27599.9			24.2	
W9307	F23P	25-JUN-93	0534	7.58	W93070529	7	LIGHT	15	4731.6			2.7	

Table E1-1. C14 Production at Bioproductivity Stations in June of 1993.

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)	Stock (DPM)
W9307	F23P	25-JUN-93	0534	7.58	W93070529	8	LIGHT	11	3405.7			1.5	
W9307	F23P	25-JUN-93	0534	7.58	W93070529	9	LIGHT	162	26871.1			23.5	
W9307	F23P	25-JUN-93	0534	7.58	W93070529	10	LIGHT	215	25905.4			22.6	
W9307	F23P	25-JUN-93	0534	7.58	W93070529	11	LIGHT	1	1610.8			-0.2	
W9307	F23P	25-JUN-93	0534	7.58	W93070529	12	LIGHT	2	1418.2			-0.4	
W9307	N01P	23-JUN-93	0549	1.74	W93070271					24.9	6.0		4699163.0
W9307	N01P	23-JUN-93	0549	1.74	W93070271	-3	DARK	0	326.7				
W9307	N01P	23-JUN-93	0549	1.74	W93070271	-2	DARK	0	1570.8				
W9307	N01P	23-JUN-93	0549	1.74	W93070271	-1	DARK	0	449.9				
W9307	N01P	23-JUN-93	0549	1.74	W93070271	1	LIGHT	624	10511.8			9.0	
W9307	N01P	23-JUN-93	0549	1.74	W93070271	2	LIGHT	799	8391.6			7.0	
W9307	N01P	23-JUN-93	0549	1.74	W93070271	3	LIGHT	930	15672.1			13.7	
W9307	N01P	23-JUN-93	0549	1.74	W93070271	4	LIGHT	1216	10069.0			8.6	
W9307	N01P	23-JUN-93	0549	1.74	W93070271	5	LIGHT	188	7054.7			5.8	
W9307	N01P	23-JUN-93	0549	1.74	W93070271	6	LIGHT	171	7148.3			5.9	
W9307	N01P	23-JUN-93	0549	1.74	W93070271	7	LIGHT	20	3305.6			2.3	
W9307	N01P	23-JUN-93	0549	1.74	W93070271	8	LIGHT	20	3803.5			2.8	
W9307	N01P	23-JUN-93	0549	1.74	W93070271	9	LIGHT	131	4485.3			3.4	
W9307	N01P	23-JUN-93	0549	1.74	W93070271	10	LIGHT	44	3685.2			2.7	
W9307	N01P	23-JUN-93	0549	1.74	W93070271	11	LIGHT	3	806.9			0.0	
W9307	N01P	23-JUN-93	0549	1.74	W93070271	12	LIGHT	2	2130.2			1.2	
W9307	N01P	23-JUN-93	0548	11.05	W93070269					25.0	6.0		4699163.0
W9307	N01P	23-JUN-93	0548	11.05	W93070269	-3	DARK	0	339.6				
W9307	N01P	23-JUN-93	0548	11.05	W93070269	-2	DARK	0	692.3				
W9307	N01P	23-JUN-93	0548	11.05	W93070269	-1	DARK	0	4078.0				
W9307	N01P	23-JUN-93	0548	11.05	W93070269	1	LIGHT	831	14308.6			11.5	
W9307	N01P	23-JUN-93	0548	11.05	W93070269	2	LIGHT	565	9333.7			7.0	
W9307	N01P	23-JUN-93	0548	11.05	W93070269	3	LIGHT	1261	8807.0			6.5	
W9307	N01P	23-JUN-93	0548	11.05	W93070269	4	LIGHT	1282	11066.3			8.6	
W9307	N01P	23-JUN-93	0548	11.05	W93070269	5	LIGHT	169	8982.7			6.7	
W9307	N01P	23-JUN-93	0548	11.05	W93070269	6	LIGHT	186	10862.8			8.4	
W9307	N01P	23-JUN-93	0548	11.05	W93070269	7	LIGHT	230	10511.9			8.1	
W9307	N01P	23-JUN-93	0548	11.05	W93070269	8	LIGHT	39	3415.6			1.6	
W9307	N01P	23-JUN-93	0548	11.05	W93070269	9	LIGHT	25	2589.9			0.8	
W9307	N01P	23-JUN-93	0548	11.05	W93070269	10	LIGHT	23	2000.0			0.3	
W9307	N01P	23-JUN-93	0548	11.05	W93070269	11	LIGHT	3	717.2			-0.9	
W9307	N01P	23-JUN-93	0548	11.05	W93070269	12	LIGHT	2	795.6			-0.8	
W9307	N04P	23-JUN-93	0702	2.12	W93070291					24.7	6.1		4699163.0
W9307	N04P	23-JUN-93	0702	2.12	W93070291	-3	DARK	0	289.5				
W9307	N04P	23-JUN-93	0702	2.12	W93070291	-2	DARK	0	234.5				
W9307	N04P	23-JUN-93	0702	2.12	W93070291	-1	DARK	0	369.1				

Table E1-1. C14 Production at Bioproductivity Stations in June of 1993.

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)	Stock (DPM)
W9307	N04P	23-JUN-93	0702	2.12	W93070291	1	LIGHT	963	9311.4			8.2	
W9307	N04P	23-JUN-93	0702	2.12	W93070291	2	LIGHT	1216	8248.6			7.3	
W9307	N04P	23-JUN-93	0702	2.12	W93070291	3	LIGHT	450	7504.5			6.6	
W9307	N04P	23-JUN-93	0702	2.12	W93070291	4	LIGHT	193	6127.8			5.3	
W9307	N04P	23-JUN-93	0702	2.12	W93070291	5	LIGHT	188	5983.0			5.2	
W9307	N04P	23-JUN-93	0702	2.12	W93070291	6	LIGHT	190	5191.3			4.5	
W9307	N04P	23-JUN-93	0702	2.12	W93070291	7	LIGHT	163	5926.8			5.1	
W9307	N04P	23-JUN-93	0702	2.12	W93070291	8	LIGHT	217	6323.5			5.5	
W9307	N04P	23-JUN-93	0702	2.12	W93070291	9	LIGHT	15	1197.5			0.8	
W9307	N04P	23-JUN-93	0702	2.12	W93070291	10	LIGHT	11	545.2			0.2	
W9307	N04P	23-JUN-93	0702	2.12	W93070291	11	LIGHT	2	608.7			0.3	
W9307	N04P	23-JUN-93	0702	2.12	W93070291	12	LIGHT	1	632.4			0.3	
W9307	N04P	23-JUN-93	0700	13.97	W93070289					25.1	6.1		4699163.0
W9307	N04P	23-JUN-93	0700	13.97	W93070289	-3	DARK	0	321.7				
W9307	N04P	23-JUN-93	0700	13.97	W93070289	-2	DARK	0	598.7				
W9307	N04P	23-JUN-93	0700	13.97	W93070289	-1	DARK	0	561.0				
W9307	N04P	23-JUN-93	0700	13.97	W93070289	1	LIGHT	1267	4351.6			3.6	
W9307	N04P	23-JUN-93	0700	13.97	W93070289	2	LIGHT	1337	5181.4			4.3	
W9307	N04P	23-JUN-93	0700	13.97	W93070289	3	LIGHT	923	7064.2			6.1	
W9307	N04P	23-JUN-93	0700	13.97	W93070289	4	LIGHT	221	6275.3			5.3	
W9307	N04P	23-JUN-93	0700	13.97	W93070289	5	LIGHT	209	6263.1			5.3	
W9307	N04P	23-JUN-93	0700	13.97	W93070289	6	LIGHT	238	6308.6			5.4	
W9307	N04P	23-JUN-93	0700	13.97	W93070289	7	LIGHT	22	3034.7			2.3	
W9307	N04P	23-JUN-93	0700	13.97	W93070289	8	LIGHT	229	7272.5			6.3	
W9307	N04P	23-JUN-93	0700	13.97	W93070289	9	LIGHT	135	5525.0			4.6	
W9307	N04P	23-JUN-93	0700	13.97	W93070289	10	LIGHT	10	998.9			0.5	
W9307	N04P	23-JUN-93	0700	13.97	W93070289	11	LIGHT	1	490.3			-0.0	
W9307	N04P	23-JUN-93	0700	13.97	W93070289	12	LIGHT	2	368.7			-0.1	
W9307	N07P	23-JUN-93	0803	2.64	W93070303					24.6	6.1		4699163.0
W9307	N07P	23-JUN-93	0803	2.64	W93070303	-3	DARK	0	303.3				
W9307	N07P	23-JUN-93	0803	2.64	W93070303	-2	DARK	0	897.5				
W9307	N07P	23-JUN-93	0803	2.64	W93070303	-1	DARK	0	451.9				
W9307	N07P	23-JUN-93	0803	2.64	W93070303	1	LIGHT	614	9229.5			7.8	
W9307	N07P	23-JUN-93	0803	2.64	W93070303	2	LIGHT	836	7807.1			6.5	
W9307	N07P	23-JUN-93	0803	2.64	W93070303	3	LIGHT	1369	6928.5			5.7	
W9307	N07P	23-JUN-93	0803	2.64	W93070303	4	LIGHT	254	6644.2			5.5	
W9307	N07P	23-JUN-93	0803	2.64	W93070303	5	LIGHT	261	6439.9			5.3	
W9307	N07P	23-JUN-93	0803	2.64	W93070303	6	LIGHT	166	6874.1			5.7	
W9307	N07P	23-JUN-93	0803	2.64	W93070303	7	LIGHT	19	892.1			0.3	
W9307	N07P	23-JUN-93	0803	2.64	W93070303	8	LIGHT	20	1079.5			0.5	
W9307	N07P	23-JUN-93	0803	2.64	W93070303	9	LIGHT	237	5643.6			4.6	

Table E1-1. C14 Production at Bioproductivity Stations in June of 1993.

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m^2/sec	C14 (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m^3/hr)	Stock (DPM)
W9307	N07P	23-JUN-93	0803	2.64	W93070303	10	LIGHT	73	2745.6			2.0	
W9307	N07P	23-JUN-93	0803	2.64	W93070303	11	LIGHT	3	368.4			-0.2	
W9307	N07P	23-JUN-93	0803	2.64	W93070303	12	LIGHT	3	847.7			0.3	
W9307	N07P	23-JUN-93	0802	17.76	W93070301					24.9	6.1		4699163.0
W9307	N07P	23-JUN-93	0802	17.76	W93070301	-3	DARK	0	304.9				
W9307	N07P	23-JUN-93	0802	17.76	W93070301	-2	DARK	0	867.0				
W9307	N07P	23-JUN-93	0802	17.76	W93070301	-1	DARK	0	411.0				
W9307	N07P	23-JUN-93	0802	17.76	W93070301	1	LIGHT	813	5441.3			4.4	
W9307	N07P	23-JUN-93	0802	17.76	W93070301	2	LIGHT	1014	3962.9			3.1	
W9307	N07P	23-JUN-93	0802	17.76	W93070301	3	LIGHT	1147	9054.0			7.7	
W9307	N07P	23-JUN-93	0802	17.76	W93070301	4	LIGHT	1645	3526.5			2.7	
W9307	N07P	23-JUN-93	0802	17.76	W93070301	5	LIGHT	354	7104.0			5.9	
W9307	N07P	23-JUN-93	0802	17.76	W93070301	6	LIGHT	260	4243.1			3.3	
W9307	N07P	23-JUN-93	0802	17.76	W93070301	7	LIGHT	160	3359.2			2.6	
W9307	N07P	23-JUN-93	0802	17.76	W93070301	8	LIGHT	75	3350.9			2.5	
W9307	N07P	23-JUN-93	0802	17.76	W93070301	9	LIGHT	32	2175.7			1.5	
W9307	N07P	23-JUN-93	0802	17.76	W93070301	10	LIGHT	31	2245.4			1.5	
W9307	N07P	23-JUN-93	0802	17.76	W93070301	11	LIGHT	3	554.7			0.0	
W9307	N07P	23-JUN-93	0802	17.76	W93070301	12	LIGHT	3	439.9			-0.1	
W9307	N10P	22-JUN-93	0911	1.37	W93070097					24.5	6.0		4698429.0
W9307	N10P	22-JUN-93	0911	1.37	W93070097	-3	DARK	0	1178.6				
W9307	N10P	22-JUN-93	0911	1.37	W93070097	-2	DARK	0	1140.4				
W9307	N10P	22-JUN-93	0911	1.37	W93070097	-1	DARK	0	1302.0				
W9307	N10P	22-JUN-93	0911	1.37	W93070097	1	LIGHT	759	61468.6			55.4	
W9307	N10P	22-JUN-93	0911	1.37	W93070097	2	LIGHT	994	58907.9			53.0	
W9307	N10P	22-JUN-93	0911	1.37	W93070097	3	LIGHT	1131	63970.1			57.7	
W9307	N10P	22-JUN-93	0911	1.37	W93070097	4	LIGHT	1490	62561.0			56.4	
W9307	N10P	22-JUN-93	0911	1.37	W93070097	5	LIGHT	228	57244.4			51.5	
W9307	N10P	22-JUN-93	0911	1.37	W93070097	6	LIGHT	233	46517.3			41.6	
W9307	N10P	22-JUN-93	0911	1.37	W93070097	7	LIGHT	24	8675.9			6.9	
W9307	N10P	22-JUN-93	0911	1.37	W93070097	8	LIGHT	24	7248.7			5.6	
W9307	N10P	22-JUN-93	0911	1.37	W93070097	9	LIGHT	161	38025.5			33.8	
W9307	N10P	22-JUN-93	0911	1.37	W93070097	10	LIGHT	54	15044.0			12.7	
W9307	N10P	22-JUN-93	0911	1.37	W93070097	11	LIGHT	3	1294.4			0.1	
W9307	N10P	22-JUN-93	0911	1.37	W93070097	12	LIGHT	2	1301.5			0.1	
W9307	N10P	22-JUN-93	0909	6.74	W93070095					25.1	6.0		4698429.0
W9307	N10P	22-JUN-93	0909	6.74	W93070095	-3	DARK	0	1214.8				
W9307	N10P	22-JUN-93	0909	6.74	W93070095	-2	DARK	0	1379.7				
W9307	N10P	22-JUN-93	0909	6.74	W93070095	-1	DARK	0	391.9				
W9307	N10P	22-JUN-93	0909	6.74	W93070095	1	LIGHT	802	17528.7			15.5	
W9307	N10P	22-JUN-93	0909	6.74	W93070095	2	LIGHT	543	18655.9			16.5	

Table E1-1. C14 Production at Bioproductivity Stations in June of 1993.

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)		Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)	Stock (DPM)
W9307	N10P	22-JUN-93	0909	6.74	W93070095	3	LIGHT	1136	17688.9				15.6	
W9307	N10P	22-JUN-93	0909	6.74	W93070095	4	LIGHT	1312	15371.6				13.5	
W9307	N10P	22-JUN-93	0909	6.74	W93070095	5	LIGHT	205	19722.1				17.5	
W9307	N10P	22-JUN-93	0909	6.74	W93070095	6	LIGHT	176	15786.5				13.8	
W9307	N10P	22-JUN-93	0909	6.74	W93070095	7	LIGHT	24	4746.5				3.5	
W9307	N10P	22-JUN-93	0909	6.74	W93070095	8	LIGHT	22	5101.7				3.8	
W9307	N10P	22-JUN-93	0909	6.74	W93070095	9	LIGHT	218	17656.7				15.6	
W9307	N10P	22-JUN-93	0909	6.74	W93070095	10	LIGHT	37	10578.7				9.0	
W9307	N10P	22-JUN-93	0909	6.74	W93070095	11	LIGHT	2	753.4				-0.2	
W9307	N10P	22-JUN-93	0909	6.74	W93070095	12	LIGHT	3	939.2				-0.1	
W9307	N16P	22-JUN-93	0754	1.33	W93070073						24.5	6.0		4698429.0
W9307	N16P	22-JUN-93	0754	1.33	W93070073	-3	DARK	0	457.9					
W9307	N16P	22-JUN-93	0754	1.33	W93070073	-2	DARK	0	324.2					
W9307	N16P	22-JUN-93	0754	1.33	W93070073	-1	DARK	0	417.1					
W9307	N16P	22-JUN-93	0754	1.33	W93070073	1	LIGHT	914	11220.8				9.9	
W9307	N16P	22-JUN-93	0754	1.33	W93070073	2	LIGHT	917	10457.3				9.2	
W9307	N16P	22-JUN-93	0754	1.33	W93070073	3	LIGHT	1258	8874.5				7.7	
W9307	N16P	22-JUN-93	0754	1.33	W93070073	4	LIGHT	341	8481.8				7.4	
W9307	N16P	22-JUN-93	0754	1.33	W93070073	5	LIGHT	457	6668.3				5.7	
W9307	N16P	22-JUN-93	0754	1.33	W93070073	6	LIGHT	198	6658.0				5.7	
W9307	N16P	22-JUN-93	0754	1.33	W93070073	7	LIGHT	172	6619.5				5.7	
W9307	N16P	22-JUN-93	0754	1.33	W93070073	8	LIGHT	26	1328.7				0.8	
W9307	N16P	22-JUN-93	0754	1.33	W93070073	9	LIGHT	21	1470.5				1.0	
W9307	N16P	22-JUN-93	0754	1.33	W93070073	10	LIGHT	122	5036.9				4.2	
W9307	N16P	22-JUN-93	0754	1.33	W93070073	11	LIGHT	2	316.4				-0.1	
W9307	N16P	22-JUN-93	0754	1.33	W93070073	12	LIGHT	3	350.4				-0.0	
W9307	N16P	22-JUN-93	0751	12.09	W93070072						25.0	6.0		4698429.0
W9307	N16P	22-JUN-93	0751	12.09	W93070072	-3	DARK	0	163.4					
W9307	N16P	22-JUN-93	0751	12.09	W93070072	-2	DARK	0	160.3					
W9307	N16P	22-JUN-93	0751	12.09	W93070072	-1	DARK	0	290.8	s				
W9307	N16P	22-JUN-93	0751	12.09	W93070072	1	LIGHT	1064	990.4				0.8	
W9307	N16P	22-JUN-93	0751	12.09	W93070072	2	LIGHT	1482	825.9				0.6	
W9307	N16P	22-JUN-93	0751	12.09	W93070072	3	LIGHT	770	4600.4				4.1	
W9307	N16P	22-JUN-93	0751	12.09	W93070072	4	LIGHT	353	5764.6				5.2	
W9307	N16P	22-JUN-93	0751	12.09	W93070072	5	LIGHT	376	4806.4				4.3	
W9307	N16P	22-JUN-93	0751	12.09	W93070072	6	LIGHT	261	4028.3				3.6	
W9307	N16P	22-JUN-93	0751	12.09	W93070072	7	LIGHT	30	3068.5				2.7	
W9307	N16P	22-JUN-93	0751	12.09	W93070072	8	LIGHT	31	1963.1				1.7	
W9307	N16P	22-JUN-93	0751	12.09	W93070072	9	LIGHT	307	4127.4				3.7	
W9307	N16P	22-JUN-93	0751	12.09	W93070072	10	LIGHT	195	6160.8				5.6	
W9307	N16P	22-JUN-93	0751	12.09	W93070072	11	LIGHT	3	558.1				0.4	

Table E1-1. C14 Production at Bioproductivity Stations in June of 1993.

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)		Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)	Stock (DPM)
W9307	N16P	22-JUN-93	0751	12.09	W93070072	12	LIGHT	1	664.0				0.5	
W9307	N20P	22-JUN-93	0643	0.62	W93070046						24.4	6.0		4698429.0
W9307	N20P	22-JUN-93	0643	0.62	W93070046	-3	DARK	0	1219.6					
W9307	N20P	22-JUN-93	0643	0.62	W93070046	-2	DARK	0	767.3					
W9307	N20P	22-JUN-93	0643	0.62	W93070046	-1	DARK	0	1519.0					
W9307	N20P	22-JUN-93	0643	0.62	W93070046	1	LIGHT	658	85945.6				77.0	
W9307	N20P	22-JUN-93	0643	0.62	W93070046	2	LIGHT	918	96451.4				86.6	
W9307	N20P	22-JUN-93	0643	0.62	W93070046	3	LIGHT	1377	67823.7				60.6	
W9307	N20P	22-JUN-93	0643	0.62	W93070046	4	LIGHT	343	66722.6				59.6	
W9307	N20P	22-JUN-93	0643	0.62	W93070046	5	LIGHT	312	66688.3				59.5	
W9307	N20P	22-JUN-93	0643	0.62	W93070046	6	LIGHT	173	50486.1				44.8	
W9307	N20P	22-JUN-93	0643	0.62	W93070046	7	LIGHT	247	55202.8				49.1	
W9307	N20P	22-JUN-93	0643	0.62	W93070046	8	LIGHT	76	32358.7				28.3	
W9307	N20P	22-JUN-93	0643	0.62	W93070046	9	LIGHT	21	5786.9				4.2	
W9307	N20P	22-JUN-93	0643	0.62	W93070046	10	LIGHT	20	12845.9				10.6	
W9307	N20P	22-JUN-93	0643	0.62	W93070046	11	LIGHT	3	1584.8				0.4	
W9307	N20P	22-JUN-93	0643	0.62	W93070046	12	LIGHT	3	2780.9				1.5	
W9307	N20P	22-JUN-93	0643	4.85	W93070045						24.6	6.0		4698429.0
W9307	N20P	22-JUN-93	0643	4.85	W93070045	-3	DARK	0	722.1					
W9307	N20P	22-JUN-93	0643	4.85	W93070045	-2	DARK	0	2161.2	s				
W9307	N20P	22-JUN-93	0643	4.85	W93070045	-1	DARK	0	773.8					
W9307	N20P	22-JUN-93	0643	4.85	W93070045	1	LIGHT	786	42436.6				38.1	
W9307	N20P	22-JUN-93	0643	4.85	W93070045	2	LIGHT	984	42818.0				38.5	
W9307	N20P	22-JUN-93	0643	4.85	W93070045	3	LIGHT	1116	32314.6				28.9	
W9307	N20P	22-JUN-93	0643	4.85	W93070045	4	LIGHT	1552	34895.5				31.2	
W9307	N20P	22-JUN-93	0643	4.85	W93070045	5	LIGHT	353	38061.4				34.1	
W9307	N20P	22-JUN-93	0643	4.85	W93070045	6	LIGHT	249	37526.8				33.6	
W9307	N20P	22-JUN-93	0643	4.85	W93070045	7	LIGHT	31	11628.3				10.0	
W9307	N20P	22-JUN-93	0643	4.85	W93070045	8	LIGHT	29	11320.2				9.7	
W9307	N20P	22-JUN-93	0643	4.85	W93070045	9	LIGHT	153	36844.7				33.0	
W9307	N20P	22-JUN-93	0643	4.85	W93070045	10	LIGHT	71	26021.2				23.1	
W9307	N20P	22-JUN-93	0643	4.85	W93070045	11	LIGHT	3	1994.7				1.1	
W9307	N20P	22-JUN-93	0643	4.85	W93070045	12	LIGHT	3	3262.6				2.3	

s = Suspect data, value not used in calculating production

APPENDIX E

METABOLISM DATA AND PRODUCTIVITY—IRRADIANCE MODELING

Part 2

Summary of P-I Modeling

The modeling effort is described in Section 2 of the accompanying text report. All parameters were estimated using SAS (1985). P-I incubations were performed using water from two depths (surface and chlorophyll maximum) at ten BioProductivity stations. Volumetric net production rates for these are given in Table E1-1. The rates were normalized for each sample by dividing the volumetric rate by the average chlorophyll value for that sample (Appendix A), to yield an estimate of net production as μg C (μg Chl)$^{-1}$ hr^{-1} after correcting for dark uptake; rates thus expressed were used in the modeling and graphics that follow.

Table E2-1 summarizes the statistics used as a basis for rejecting certain outliers in the dark bottle replicates. This appendix provides the following sequence for June data: modeled parameters for a 3-parameter model of Platt *et al.* (1980) (Table E2-2), followed by graphs of situations which were fit by this model; modeled parameters for a 2-parameter model of Webb *et al.* (1974) (Table E2-3), followed by graphs of situations which were fit by this model, which assumes zero photoinhibition.

Table E2-1. Basis for excluding dark bottle outliers using the Dixon Criteria for high values (X_3) and low values (X_1) [Cruise 9307].

CRUISE 9307

OBS	STA	BOT	_NAME_	COL1	COL2	COL3	X_N	X_1
1	F13P	6	DARKDPM	607.18	659.90	833.03	0.76657	0.23343
2	F13P	10	DARKDPM	796.05	1120.63	4718.59	0.91725	0.08275
3	F1P	6	DARKDPM	210.71	216.90	241.11	0.79638	0.20362
4	F1P	10	DARKDPM	194.57	289.73	352.12	0.39600	0.60400
5	F23P	6	DARKDPM	1514.00	1617.94	2270.65	0.86263	0.13737
6	F23P	10	DARKDPM	1261.01	1376.04	1726.06	0.75265	0.24735
7	F2P	6	DARKDPM	1363.14	1757.77	2431.69	0.63069	0.36931
8	F2P	10	DARKDPM	789.14	854.36	1729.75	0.93066	0.06934
9	N10P	6	DARKDPM	391.85	1214.84	1379.74	0.16692	0.83308
10	N10P	10	DARKDPM	1140.37	1178.60	1301.96	0.76341	0.23659
11	N16P	6	DARKDPM	160.32	163.40	290.79*	0.97639	0.02361
12	N16P	10	DARKDPM	324.23	417.07	457.89	0.30540	0.69460
13	N1P	6	DARKDPM	339.61	692.33	4078.02	0.90565	0.09435
14	N1P	10	DARKDPM	326.65	449.91	1570.77	0.90093	0.09907
15	N20P	8	DARKDPM	722.13	773.79	2161.17*	0.96410	0.03590
16	N20P	10	DARKDPM	767.27	1219.55	1519.02	0.39836	0.60164
17	N4P	6	DARKDPM	321.65	560.95	598.65	0.13610	0.86390
18	N4P	10	DARKDPM	234.46	289.50	369.13	0.59130	0.40870
19	N7P	6	DARKDPM	304.85	411.02	867.01	0.81114	0.18886
20	N7P	10	DARKDPM	303.31	451.87	897.47	0.74997	0.25003

[1] 6/8 = Subsurface chlorophyll maximum sample
10 = Surface sample

[2] COL# = Replicate dark bottle value (dpm)

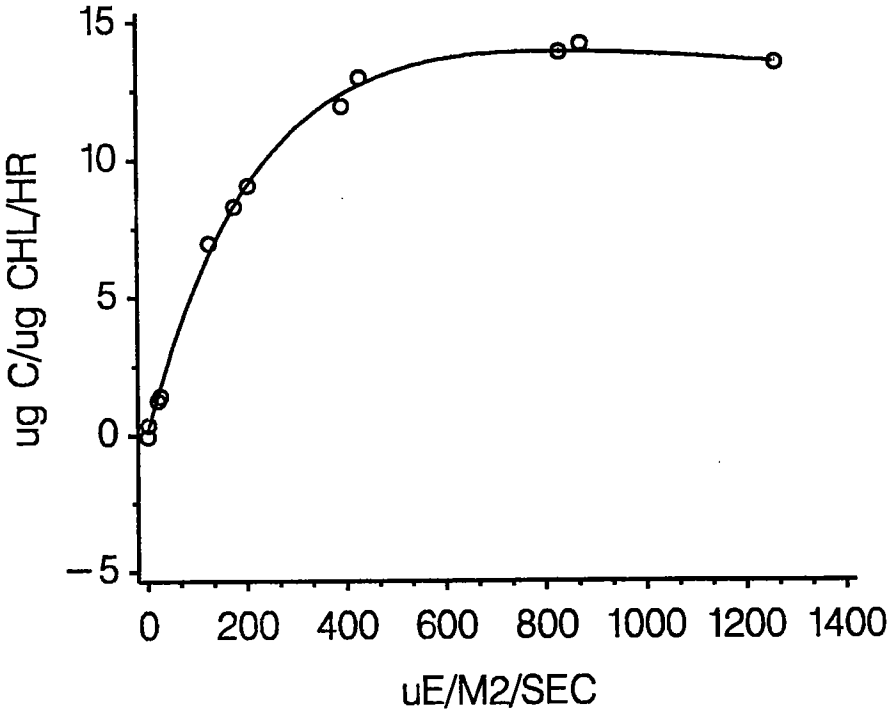
[3] Calculated values to be judged against the Dixon Criteria, see text report for full description.
If X_3 > 0.941, then the high replicate value exceeded the criteria and was not used in production calculations.
If X_1 > 0.941, then the low replicate value exceeded the criteria and was not used in production calculations.
*denotes high values excluded; no low values were rejected.

Table E2-2. P-I Modeling using Platt *et al.* (1980) Model: June 1993.
Numbers in parentheses are standard errors of the estimates.

P VS I CURVE PARAMETERS 9307 JUNE 1993
MODEL PLATT ET AL, 1980

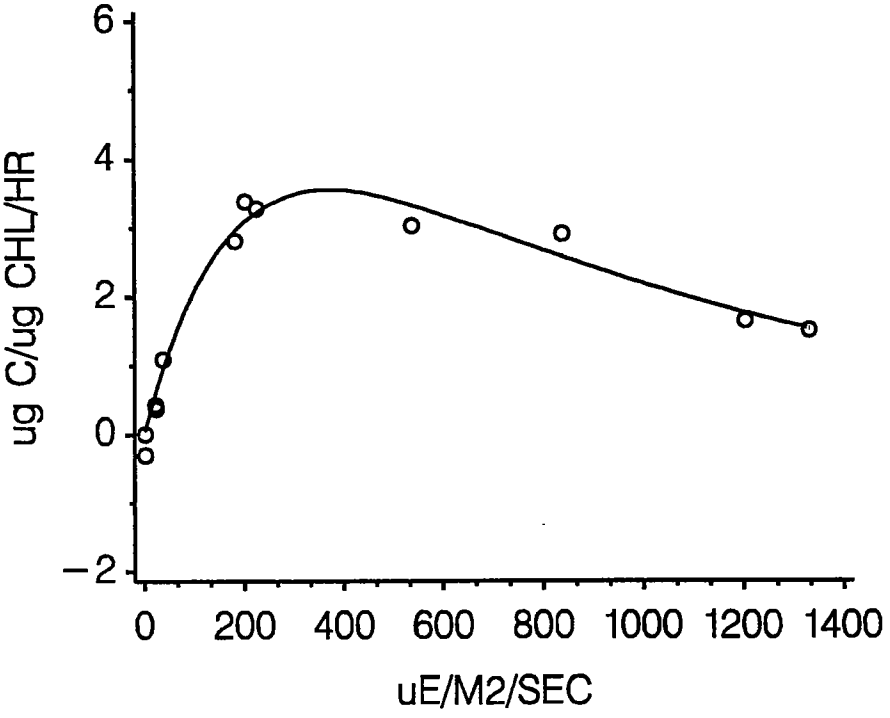
STA	DEPTH	P_SB	ALPHA	BETA	R_2
F13P	CHL	. .	. .	. .	.
F13P	SUR	. .	. .	. .	.
F1P	CHL	. .	. .	. .	.
F1P	SUR	15.89(0.44)	0.068(0.002)	0.002(0.000)	0.998
F23P	CHL	. .	. .	. .	.
F23P	SUR	12.79(0.34)	0.071(0.003)	0.001(0.000)	0.996
F2P	CHL	6.83(0.95)	0.028(0.003)	0.008(0.002)	0.977
F2P	SUR	. .	. .	. .	.
N10P	CHL	6.20(0.08)	0.082(0.012)	0.001(0.000)	0.973
N10P	SUR	. .	. .	. .	.
N16P	CHL	4.81(0.91)	0.066(0.022)	0.006(0.003)	0.813
N16P	SUR	. .	. .	. .	.
N1P	CHL	. .	. .	. .	.
N1P	SUR	. .	. .	. .	.
N20P	CHL	. .	. .	. .	.
N20P	SUR	. .	. .	. .	.
N4P	CHL	. .	. .	. .	.
N4P	SUR	. .	. .	. .	.
N7P	CHL	. .	. .	. .	.
N7P	SUR	. .	. .	. .	.

STATION F1P SURFACE



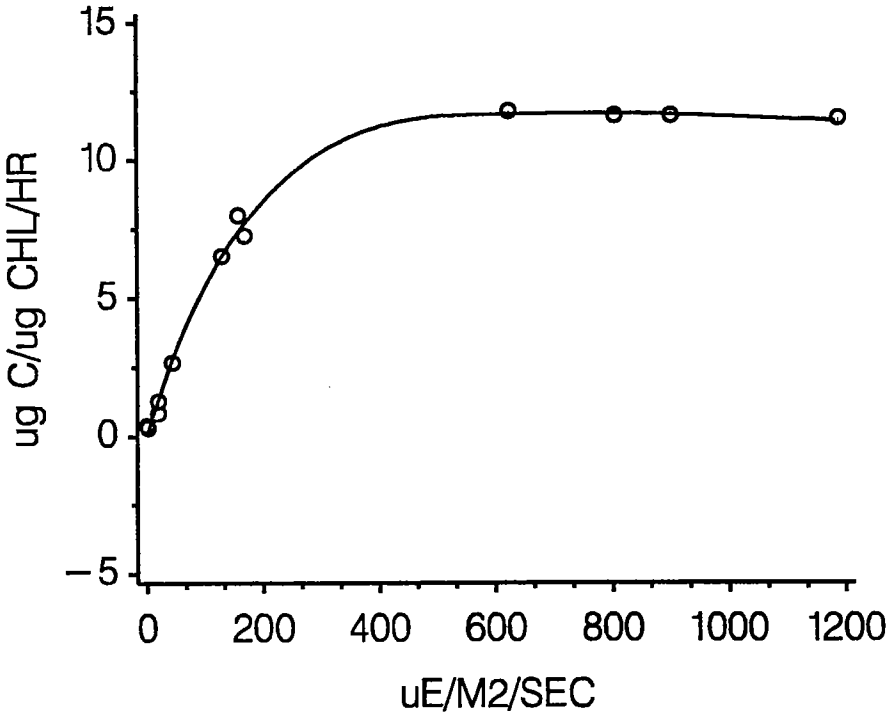
NEGATIVE EXPONENTIAL MODEL WITH INHIBITION PLATT ET AL, 1980
CRUISE NUMBER 9307 JUNE, 1993

STATION F2P CHLA MAXIMUM



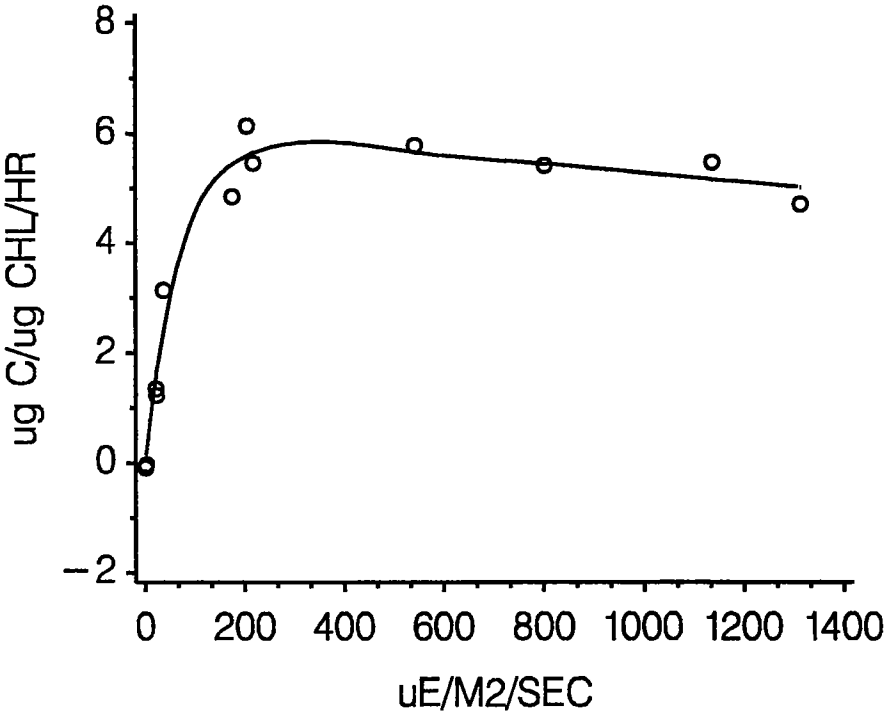
NEGATIVE EXPONENTIAL MODEL WITH INHIBITION PLATT ET AL, 1980
CRUISE NUMBER 9307 JUNE, 1993

STATION F23P SURFACE



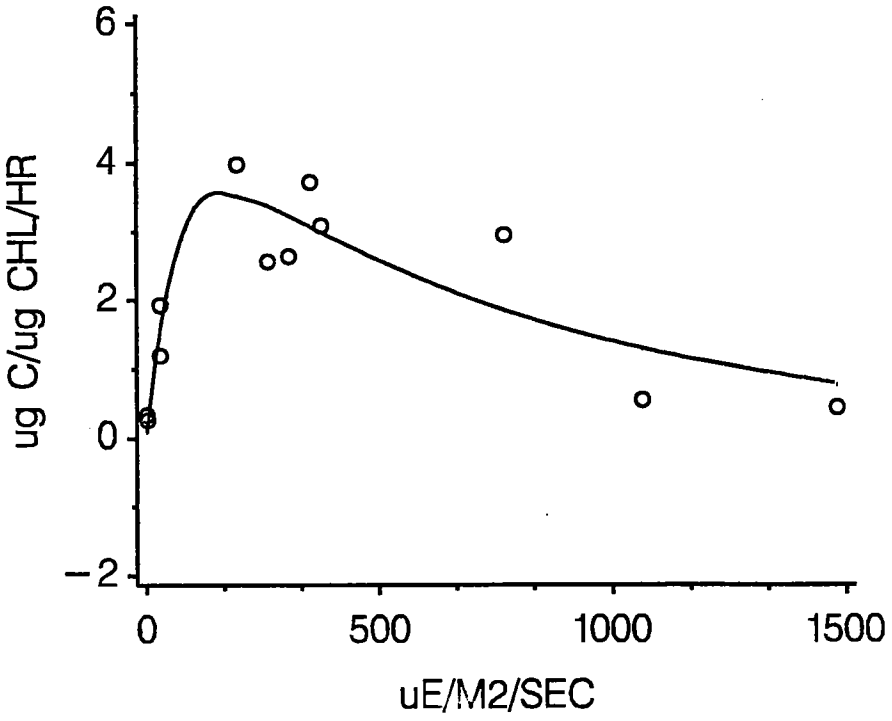
NEGATIVE EXPONENTIAL MODEL WITH INHIBITION PLATT ET AL, 1980
CRUISE NUMBER 9307 JUNE, 1993

STATION N10P CHLA MAXIMUM



NEGATIVE EXPONENTIAL MODEL WITH INHIBITION PLATT ET AL, 1980
CRUISE NUMBER 9307 JUNE, 1993

STATION N16P CHLA MAXIMUM



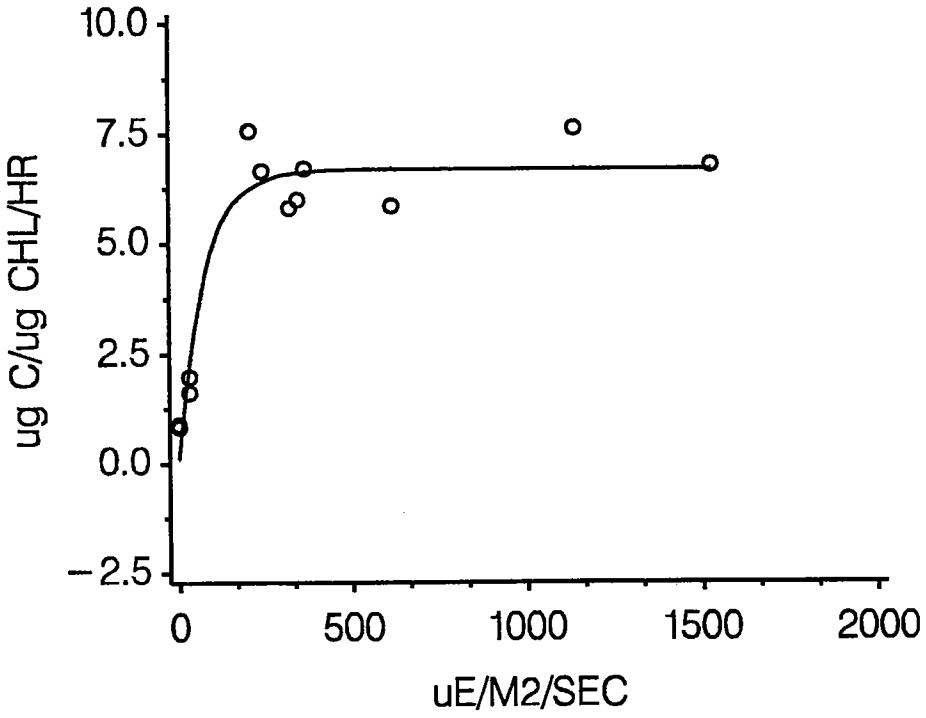
NEGATIVE EXPONENTIAL MODEL WITH INHIBITION PLATT ET AL, 1980
CRUISE NUMBER 9307 JUNE, 1993

Table E2-3. P-I Modeling using Webb *et al.* (1974) Model: June 1993.
Numbers in parentheses are standard errors of the estimates.

P VS I CURVE PARAMETERS 9307 JUNE 1993
MODEL WEBB ET AL 1974

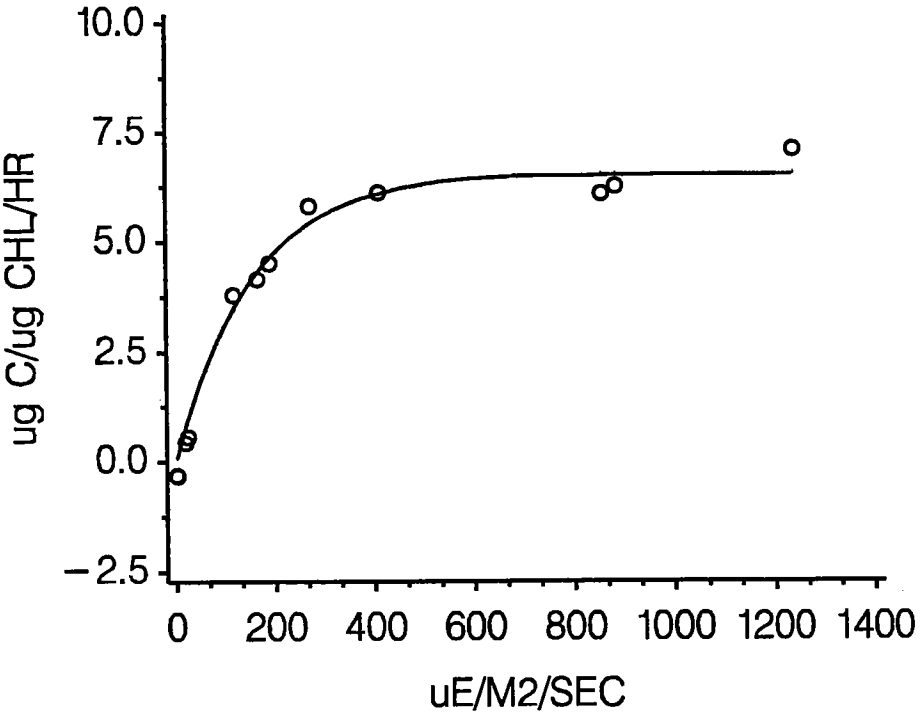
STATION	DEPTH	PMAX	ALPHA	R_2
F13P	CHL	6.71(0.26)	0.086(0.018)	0.929
	SUR	6.56(0.19)	0.043(0.000)	0.988
F1P	CHL	13.80(0.59)	0.087(0.010)	0.971
	SUR	. .	. .	.
F23P	CHL	10.04(0.48)	0.088(0.011)	0.971
	SUR	. .	. .	.
F2P	CHL	. .	. .	.
	SUR	10.83(0.02)	0.045(0.004)	0.988
N10P	CHL	. .	. .	.
	SUR	10.53(0.10)	0.066(0.005)	0.984
N16P	CHL	. .	. .	.
	SUR	9.69(0.50)	0.051(0.006)	0.944
N1P	CHL	4.70(0.40)	0.040(0.007)	0.907
	SUR	8.12(0.88)	0.040(0.012)	0.821
N20P	CHL	5.22(0.10)	0.073(0.010)	0.959
	SUR	11.33(0.65)	0.058(0.008)	0.956
N4P	CHL	3.39(0.20)	0.074(0.030)	0.903
	SUR	7.44(0.25)	0.043(0.001)	0.983
N7P	CHL	3.46(0.49)	0.030(0.005)	0.947
	SUR	8.77(0.23)	0.057(0.005)	0.944

STATION F13P CHLA MAXIMUM



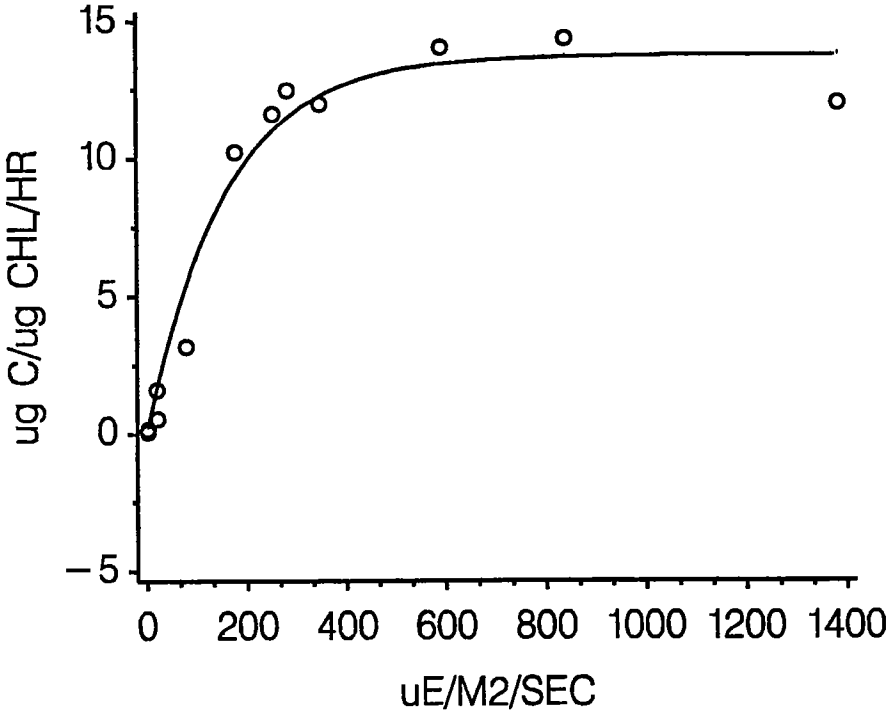
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9307 JUNE, 1993

STATION F13P SURFACE



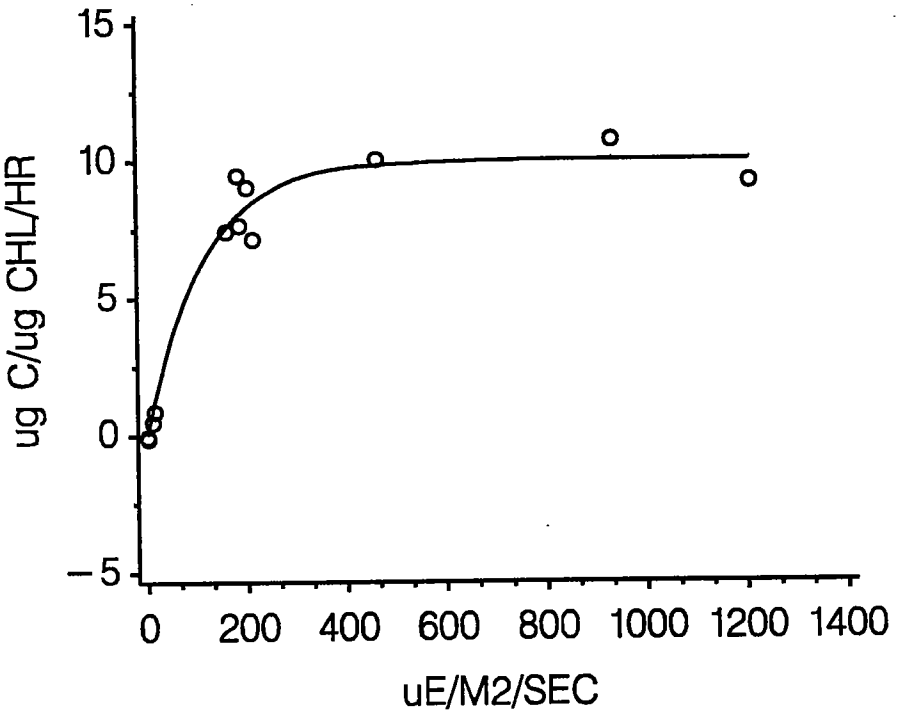
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9307 JUNE, 1993

STATION F1P CHLA MAXIMUM



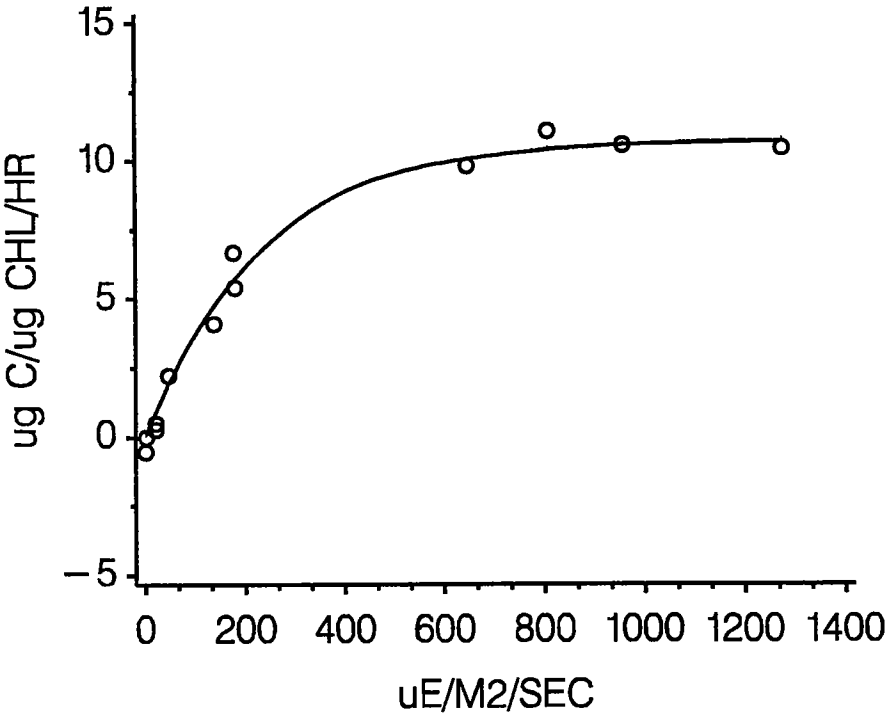
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9307 JUNE, 1993

STATION F23P CHLA MAXIMUM



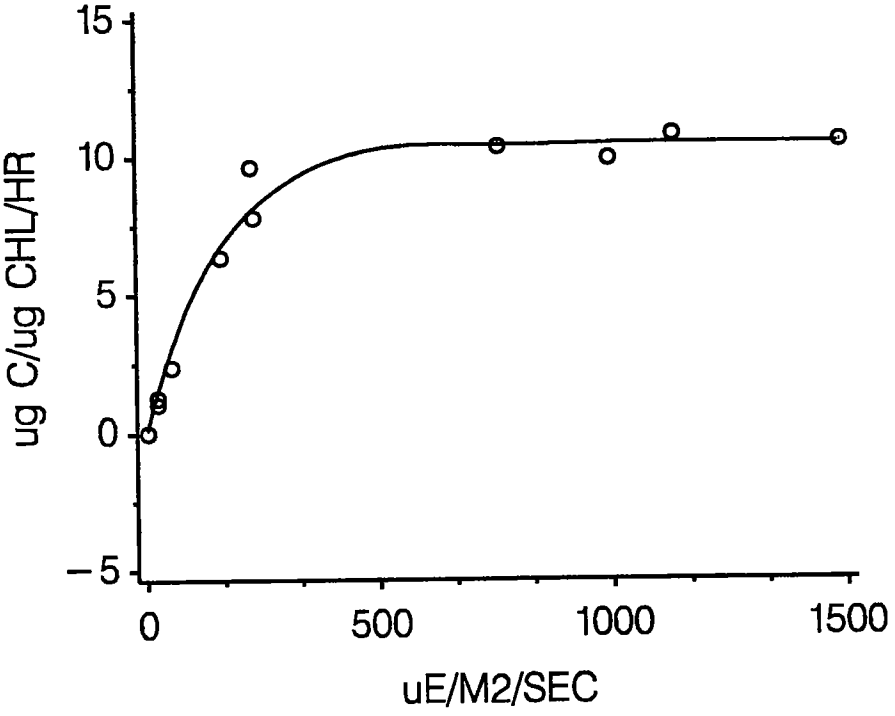
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9307 JUNE, 1993

STATION F2P SURFACE



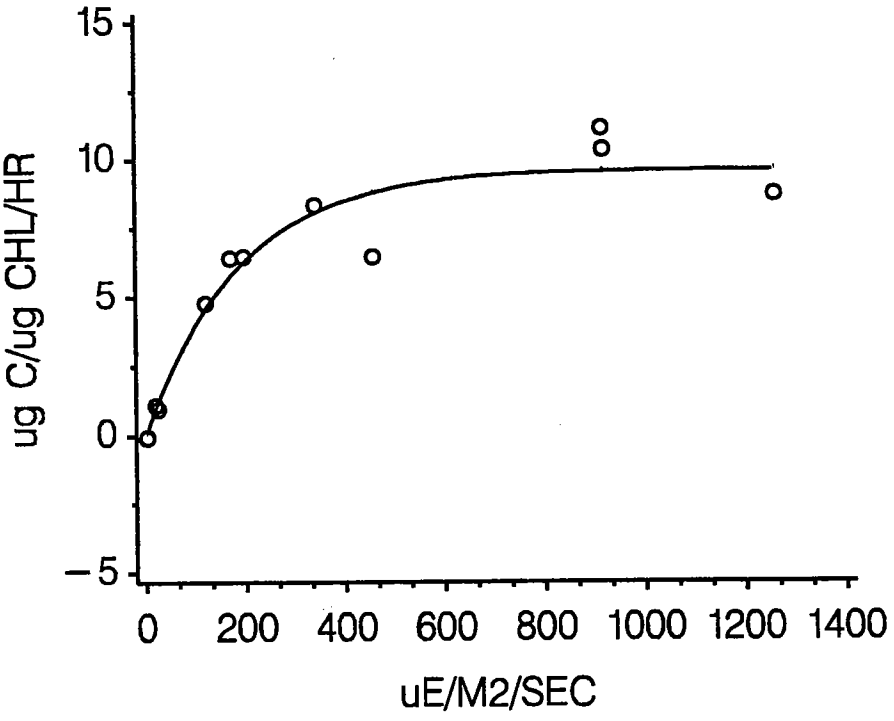
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9307 JUNE, 1993

STATION N10P SURFACE



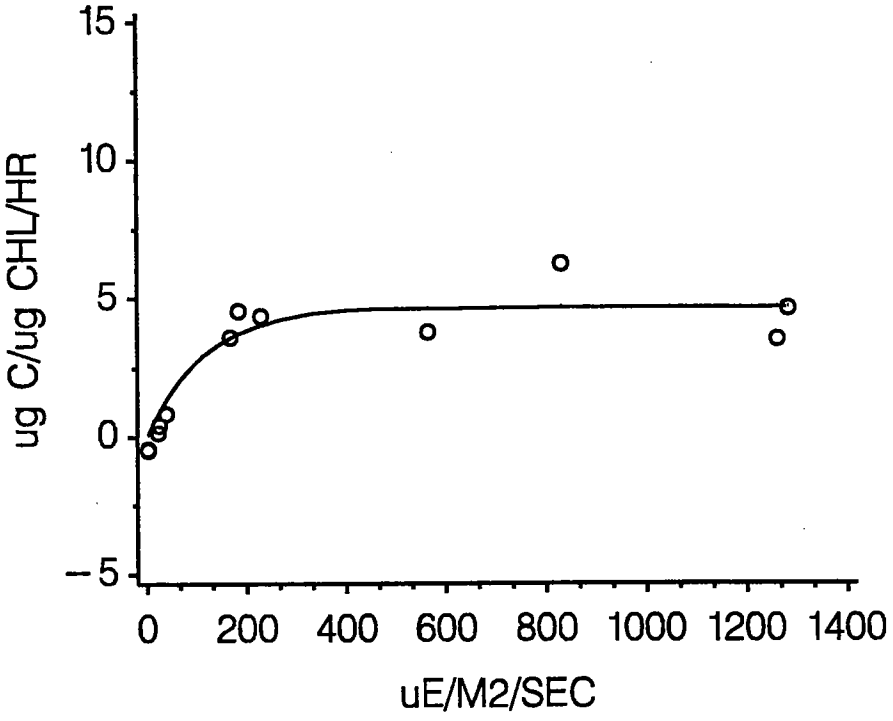
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9307 JUNE, 1993

STATION N16P SURFACE



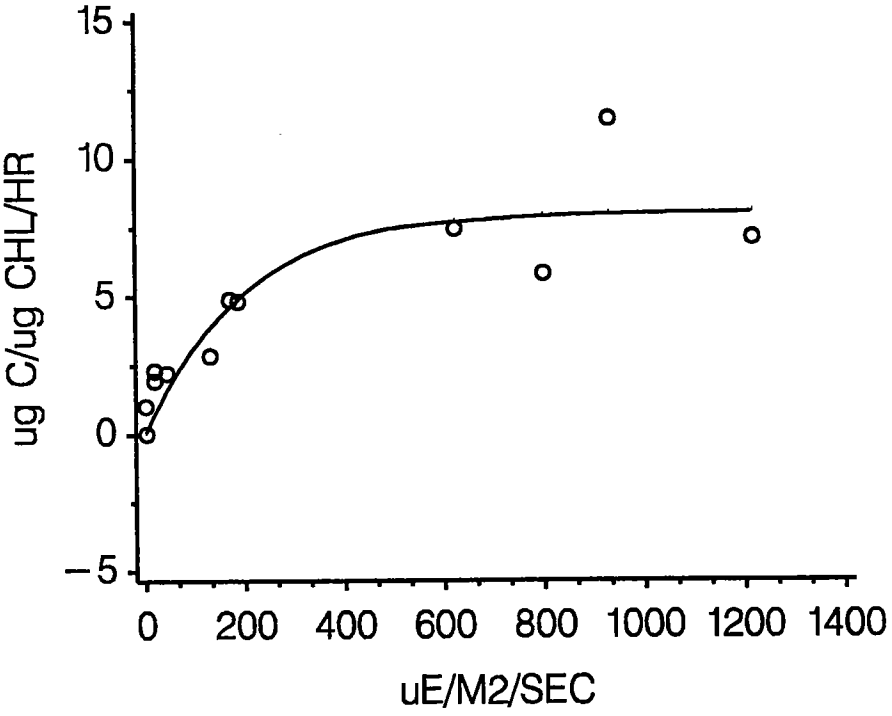
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9307 JUNE, 1993

STATION N1P CHLA MAXIMUM



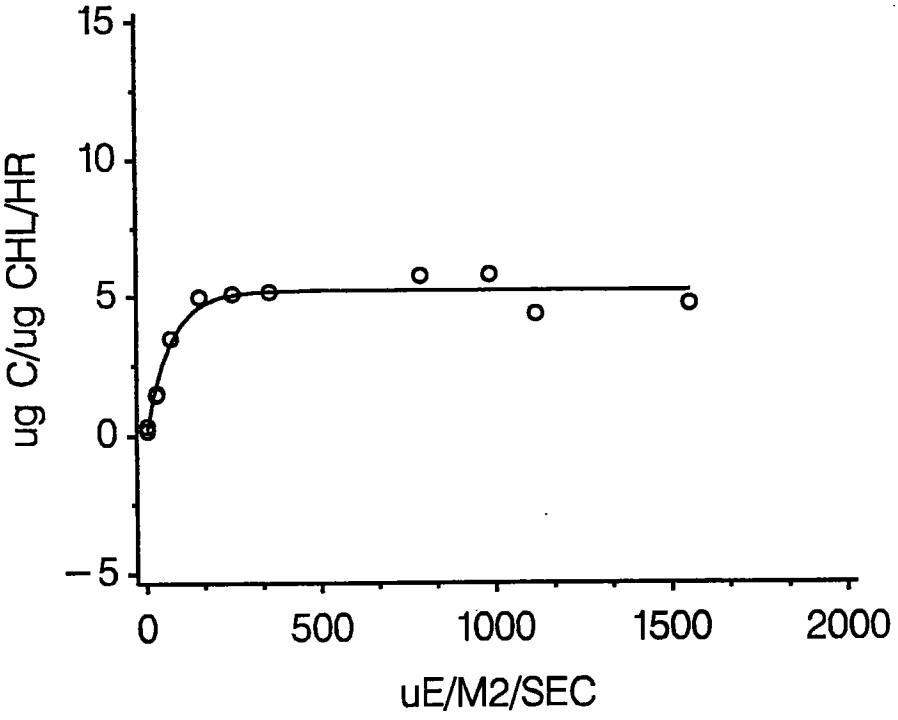
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9307 JUNE, 1993

STATION N1P SURFACE



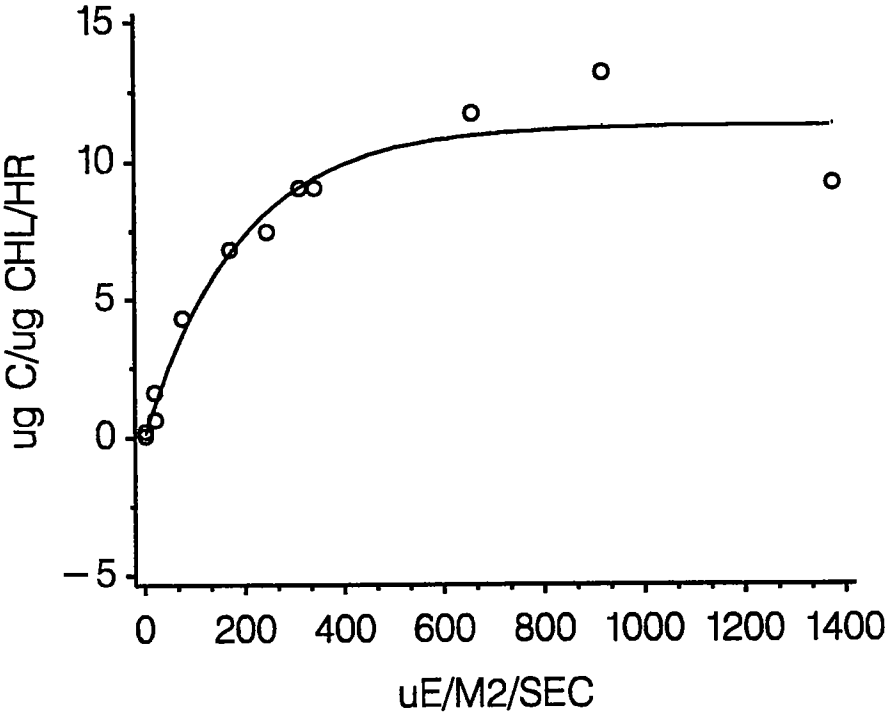
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9307 JUNE, 1993

STATION N20P CHLA MAXIMUM



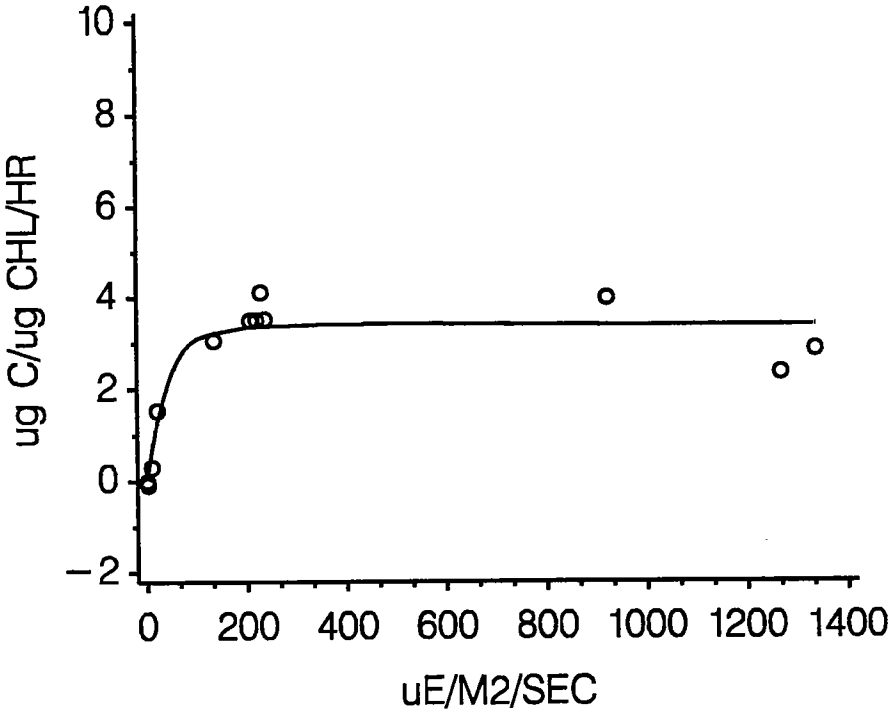
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9307 JUNE, 1993

STATION N20P SURFACE



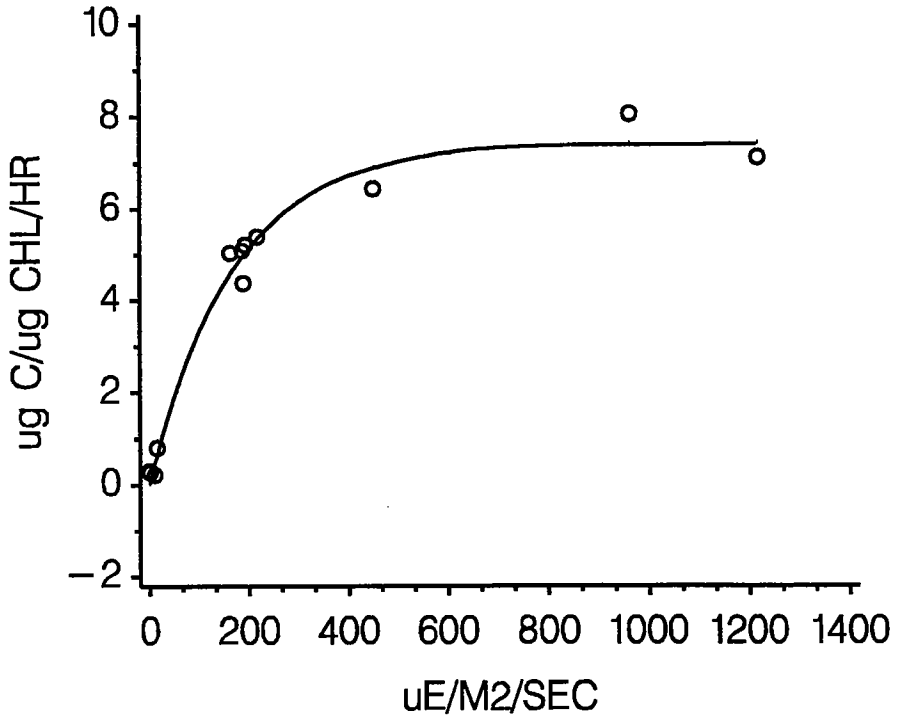
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9307 JUNE, 1993

STATION N4P CHLA MAXIMUM



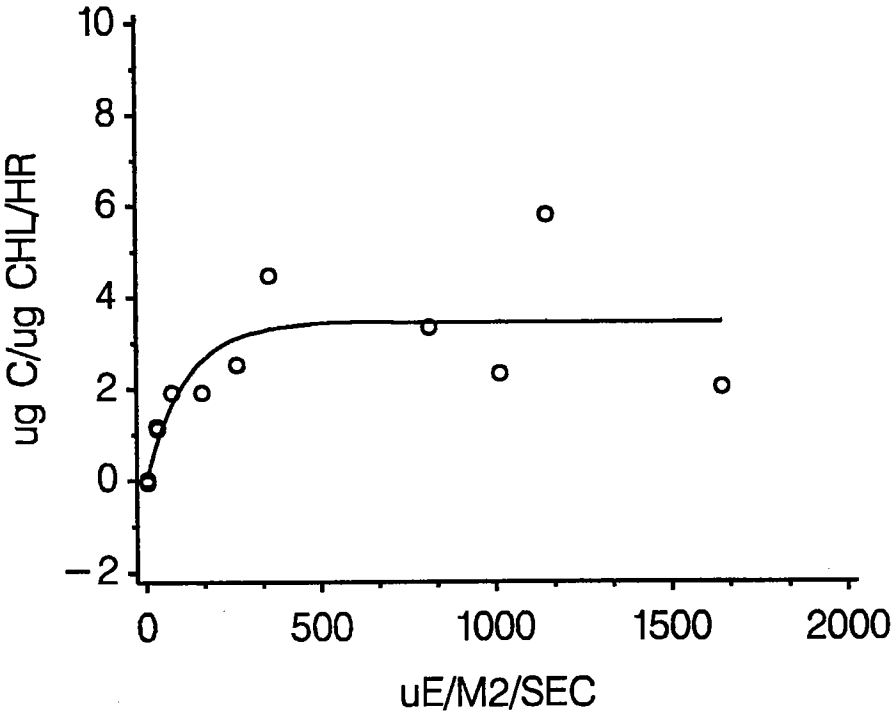
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9307 JUNE, 1993

STATION N4P SURFACE



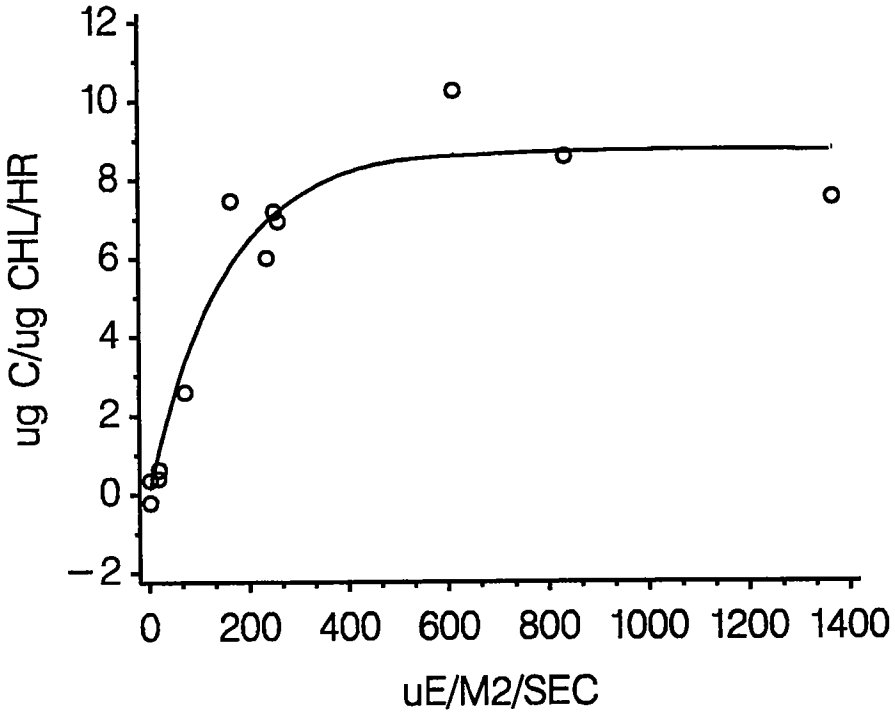
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9307 JUNE, 1993

STATION N7P CHLA MAXIMUM



NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9307 JUNE, 1993

STATION N7P SURFACE



NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9307 JUNE, 1993

APPENDIX E

METABOLISM DATA AND PRODUCTIVITY—IRRADIANCE MODELING

Part 3

Dark Respiration (Oxygen) Incubation Data

Table E3-1 provides details on incubations and includes a calculated respiration rate. Table E3-2 provides a summary of comparison of initial and final DO concentrations. Mean (stnd. dev. of n=3 generally) values were compared by t-test. If $p \leq 0.05$, then mean concentrations were different at 95% level.

Table E3-1. Dark Respiration at Bioproductivity Stations in June of 1993.

EVENT	STATION	DATE	TIME	DEPTH (M)	SAMPLE ID	LEVEL	DISSOLVED OXYGEN (mg/L)	NET RESPIRATION (mg O2/L/hr)	LENGTH OF INCUBATION (hours)	INCUBATION TEMPERATURE (C)
W9307	F01P	24-JUN-93	0835	1.36	W93070443			0.02542	8.0	AMBIENT
W9307	F01P	24-JUN-93	0835	1.36	W93070443	DARK	9.28			
W9307	F01P	24-JUN-93	0835	1.36	W93070443	DARK	9.29			
W9307	F01P	24-JUN-93	0835	1.36	W93070443	DARK	9.17			
W9307	F01P	24-JUN-93	0835	1.36	W93070443	INIT	9.46			
W9307	F01P	24-JUN-93	0835	1.36	W93070443	INIT	9.44			
W9307	F01P	24-JUN-93	0835	1.36	W93070443	INIT	9.45			
W9307	F01P	24-JUN-93	0834	4.76	W93070441			0.01117	8.0	8.0
W9307	F01P	24-JUN-93	0834	4.76	W93070441	DARK	9.44			
W9307	F01P	24-JUN-93	0834	4.76	W93070441	DARK	9.27			
W9307	F01P	24-JUN-93	0834	4.76	W93070441	DARK	9.50			
W9307	F01P	24-JUN-93	0834	4.76	W93070441	INIT	9.59			
W9307	F01P	24-JUN-93	0834	4.76	W93070441	INIT	9.32			
W9307	F01P	24-JUN-93	0834	4.76	W93070441	INIT	9.57			
W9307	F01P	24-JUN-93	0832	13.28	W93070440			0.01358	8.0	5.0
W9307	F01P	24-JUN-93	0832	13.28	W93070440	DARK	9.21			
W9307	F01P	24-JUN-93	0832	13.28	W93070440	DARK	9.42			
W9307	F01P	24-JUN-93	0832	13.28	W93070440	DARK	9.32			
W9307	F01P	24-JUN-93	0832	13.28	W93070440	INIT	9.07			
W9307	F01P	24-JUN-93	0832	13.28	W93070440	INIT	9.61			
W9307	F01P	24-JUN-93	0832	13.28	W93070440	INIT	9.60			
W9307	F02P	24-JUN-93	0715	0.84	W93070424			0.01692	8.0	AMBIENT
W9307	F02P	24-JUN-93	0715	0.84	W93070424	DARK	8.78			
W9307	F02P	24-JUN-93	0715	0.84	W93070424	DARK	8.74			
W9307	F02P	24-JUN-93	0715	0.84	W93070424	DARK	8.62			
W9307	F02P	24-JUN-93	0715	0.84	W93070424	INIT	8.78			
W9307	F02P	24-JUN-93	0715	0.84	W93070424	INIT	8.96			
W9307	F02P	24-JUN-93	0715	0.84	W93070424	INIT	8.80			
W9307	F02P	24-JUN-93	0713	19.76	W93070422			0.01842	8.0	9.0
W9307	F02P	24-JUN-93	0713	19.76	W93070422	DARK	9.55			
W9307	F02P	24-JUN-93	0713	19.76	W93070422	DARK	9.15			
W9307	F02P	24-JUN-93	0713	19.76	W93070422	DARK	9.30			
W9307	F02P	24-JUN-93	0713	19.76	W93070422	INIT	9.43			
W9307	F02P	24-JUN-93	0713	19.76	W93070422	INIT	9.51			
W9307	F02P	24-JUN-93	0713	19.76	W93070422	INIT	9.51			
W9307	F02P	24-JUN-93	0712	23.37	W93070421			0.07125	8.0	7.0
W9307	F02P	24-JUN-93	0712	23.37	W93070421	DARK	7.53			
W9307	F02P	24-JUN-93	0712	23.37	W93070421	DARK	8.32			
W9307	F02P	24-JUN-93	0712	23.37	W93070421	DARK	7.74			
W9307	F02P	24-JUN-93	0712	23.37	W93070421	INIT	8.43			
W9307	F02P	24-JUN-93	0712	23.37	W93070421	INIT	e			
W9307	F02P	24-JUN-93	0712	23.37	W93070421	INIT	e			

Table E3-1. Dark Respiration at Bioproductivity Stations in June of 1993.

EVENT	STATION	DATE	TIME	DEPTH (M)	SAMPLE ID	LEVEL	DISSOLVED OXYGEN (mg/L)	NET RESPIRATION (mg O2/L/hr)	LENGTH OF INCUBATION (hours)	INCUBATION TEMPERATURE (C)
W9307	F13P	23-JUN-93	0912	2.22	W93070317			0.00827	8.5	AMBIENT
W9307	F13P	23-JUN-93	0912	2.22	W93070317	DARK	9.63			
W9307	F13P	23-JUN-93	0912	2.22	W93070317	DARK	9.56			
W9307	F13P	23-JUN-93	0912	2.22	W93070317	DARK	9.64			
W9307	F13P	23-JUN-93	0912	2.22	W93070317	INIT	9.69			
W9307	F13P	23-JUN-93	0912	2.22	W93070317	INIT	9.75			
W9307	F13P	23-JUN-93	0912	2.22	W93070317	INIT	9.60			
W9307	F13P	23-JUN-93	0910	8.62	W93070315			0.01035	8.5	9.0
W9307	F13P	23-JUN-93	0910	8.62	W93070315	DARK	9.65			
W9307	F13P	23-JUN-93	0910	8.62	W93070315	DARK	9.69			
W9307	F13P	23-JUN-93	0910	8.62	W93070315	DARK	9.70			
W9307	F13P	23-JUN-93	0910	8.62	W93070315	INIT	9.80			
W9307	F13P	23-JUN-93	0910	8.62	W93070315	INIT	9.77			
W9307	F13P	23-JUN-93	0910	8.62	W93070315	INIT	9.74			
W9307	F13P	23-JUN-93	0909	13.76	W93070314			0.00618	8.5	6.0
W9307	F13P	23-JUN-93	0909	13.76	W93070314	DARK	e			
W9307	F13P	23-JUN-93	0909	13.76	W93070314	DARK	9.66			
W9307	F13P	23-JUN-93	0909	13.76	W93070314	DARK	9.64			
W9307	F13P	23-JUN-93	0909	13.76	W93070314	INIT	9.74			
W9307	F13P	23-JUN-93	0909	13.76	W93070314	INIT	9.74			
W9307	F13P	23-JUN-93	0909	13.76	W93070314	INIT	9.61			
W9307	F23P	25-JUN-93	0536	1.84	W93070531			0.02471	8.5	AMBIENT
W9307	F23P	25-JUN-93	0536	1.84	W93070531	DARK	8.52			
W9307	F23P	25-JUN-93	0536	1.84	W93070531	DARK	8.50			
W9307	F23P	25-JUN-93	0536	1.84	W93070531	DARK	8.66			
W9307	F23P	25-JUN-93	0536	1.84	W93070531	INIT	8.72			
W9307	F23P	25-JUN-93	0536	1.84	W93070531	INIT	8.79			
W9307	F23P	25-JUN-93	0536	1.84	W93070531	INIT	8.81			
W9307	F23P	25-JUN-93	0534	7.58	W93070529			0.02831	8.5	AMBIENT
W9307	F23P	25-JUN-93	0534	7.58	W93070529	DARK	8.83			
W9307	F23P	25-JUN-93	0534	7.58	W93070529	DARK	8.81			
W9307	F23P	25-JUN-93	0534	7.58	W93070529	DARK	8.85			
W9307	F23P	25-JUN-93	0534	7.58	W93070529	INIT	9.03			
W9307	F23P	25-JUN-93	0534	7.58	W93070529	INIT	9.12			
W9307	F23P	25-JUN-93	0534	7.58	W93070529	INIT	9.06			
W9307	F23P	25-JUN-93	0534	12.13	W93070528			0.02310	8.5	AMBIENT
W9307	F23P	25-JUN-93	0534	12.13	W93070528	DARK	8.95			
W9307	F23P	25-JUN-93	0534	12.13	W93070528	DARK	8.88			
W9307	F23P	25-JUN-93	0534	12.13	W93070528	DARK	8.91			
W9307	F23P	25-JUN-93	0534	12.13	W93070528	INIT	9.15			
W9307	F23P	25-JUN-93	0534	12.13	W93070528	INIT	9.17			
W9307	F23P	25-JUN-93	0534	12.13	W93070528	INIT	9.01			

Table E3-1. Dark Respiration at Bioproductivity Stations in June of 1993.

EVENT	STATION	DATE	TIME	DEPTH (M)	SAMPLE ID	LEVEL	DISSOLVED OXYGEN (mg/L)	NET RESPIRATION (mg O2/L/hr)	LENGTH OF INCUBATION (hours)	INCUBATION TEMPERATURE (C)
W9307	N01P	23-JUN-93	0549	1.74	W93070271			0.01693	9.0	AMBIENT
W9307	N01P	23-JUN-93	0549	1.74	W93070271	DARK	10.03			
W9307	N01P	23-JUN-93	0549	1.74	W93070271	DARK	10.02			
W9307	N01P	23-JUN-93	0549	1.74	W93070271	DARK	10.04			
W9307	N01P	23-JUN-93	0549	1.74	W93070271	INIT	10.17			
W9307	N01P	23-JUN-93	0549	1.74	W93070271	INIT	10.20			
W9307	N01P	23-JUN-93	0549	1.74	W93070271	INIT	10.17			
W9307	N01P	23-JUN-93	0548	11.05	W93070269			0.03304	9.0	9.0
W9307	N01P	23-JUN-93	0548	11.05	W93070269	DARK	10.03			
W9307	N01P	23-JUN-93	0548	11.05	W93070269	DARK	10.07			
W9307	N01P	23-JUN-93	0548	11.05	W93070269	DARK	9.73			
W9307	N01P	23-JUN-93	0548	11.05	W93070269	INIT	10.22			
W9307	N01P	23-JUN-93	0548	11.05	W93070269	INIT	10.23			
W9307	N01P	23-JUN-93	0548	11.05	W93070269	INIT	10.27			
W9307	N01P	23-JUN-93	0546	18.11	W93070268			0.01252	9.0	5.0
W9307	N01P	23-JUN-93	0546	18.11	W93070268	DARK	10.18			
W9307	N01P	23-JUN-93	0546	18.11	W93070268	DARK	10.13			
W9307	N01P	23-JUN-93	0546	18.11	W93070268	DARK	10.11			
W9307	N01P	23-JUN-93	0546	18.11	W93070268	INIT	10.26			
W9307	N01P	23-JUN-93	0546	18.11	W93070268	INIT	10.37			
W9307	N01P	23-JUN-93	0546	18.11	W93070268	INIT	10.12			
W9307	N04P	23-JUN-93	0702	2.12	W93070291			0.01204	9.5	AMBIENT
W9307	N04P	23-JUN-93	0702	2.12	W93070291	DARK	9.80			
W9307	N04P	23-JUN-93	0702	2.12	W93070291	DARK	9.83			
W9307	N04P	23-JUN-93	0702	2.12	W93070291	DARK	9.83			
W9307	N04P	23-JUN-93	0702	2.12	W93070291	INIT	9.88			
W9307	N04P	23-JUN-93	0702	2.12	W93070291	INIT	9.91			
W9307	N04P	23-JUN-93	0702	2.12	W93070291	INIT	10.01			
W9307	N04P	23-JUN-93	0700	13.97	W93070289			0.01867	9.5	9.0
W9307	N04P	23-JUN-93	0700	13.97	W93070289	DARK	10.21			
W9307	N04P	23-JUN-93	0700	13.97	W93070289	DARK	10.13			
W9307	N04P	23-JUN-93	0700	13.97	W93070289	DARK	10.25			
W9307	N04P	23-JUN-93	0700	13.97	W93070289	INIT	10.38			
W9307	N04P	23-JUN-93	0700	13.97	W93070289	INIT	10.38			
W9307	N04P	23-JUN-93	0700	13.97	W93070289	INIT	10.36			
W9307	N04P	23-JUN-93	0659	23.11	W93070288			-0.00060	9.5	6.0
W9307	N04P	23-JUN-93	0659	23.11	W93070288	DARK	10.14			
W9307	N04P	23-JUN-93	0659	23.11	W93070288	DARK	10.14			
W9307	N04P	23-JUN-93	0659	23.11	W93070288	DARK	10.14			
W9307	N04P	23-JUN-93	0659	23.11	W93070288	INIT	10.22			
W9307	N04P	23-JUN-93	0659	23.11	W93070288	INIT	10.24			
W9307	N04P	23-JUN-93	0659	23.11	W93070288	INIT	9.95			

Table E3-1. Dark Respiration at Bioproductivity Stations in June of 1993.

EVENT	STATION	DATE	TIME	DEPTH (M)	SAMPLE ID	LEVEL	DISSOLVED OXYGEN (mg/L)	NET RESPIRATION (mg O2/L/hr)	LENGTH OF INCUBATION (hours)	INCUBATION TEMPERATURE (C)
W9307	N07P	23-JUN-93	0803	2.64	W93070303			0.01756	9.0	AMBIENT
W9307	N07P	23-JUN-93	0803	2.64	W93070303	DARK	9.82			
W9307	N07P	23-JUN-93	0803	2.64	W93070303	DARK	9.75			
W9307	N07P	23-JUN-93	0803	2.64	W93070303	DARK	9.79			
W9307	N07P	23-JUN-93	0803	2.64	W93070303	INIT	9.95			
W9307	N07P	23-JUN-93	0803	2.64	W93070303	INIT	9.95			
W9307	N07P	23-JUN-93	0803	2.64	W93070303	INIT	9.94			
W9307	N07P	23-JUN-93	0802	17.76	W93070301			0.00674	9.0	9.0
W9307	N07P	23-JUN-93	0802	17.76	W93070301	DARK	10.49			
W9307	N07P	23-JUN-93	0802	17.76	W93070301	DARK	10.46			
W9307	N07P	23-JUN-93	0802	17.76	W93070301	DARK	10.46			
W9307	N07P	23-JUN-93	0802	17.76	W93070301	INIT	10.54			
W9307	N07P	23-JUN-93	0802	17.76	W93070301	INIT	10.49			
W9307	N07P	23-JUN-93	0802	17.76	W93070301	INIT	10.56			
W9307	N07P	23-JUN-93	0801	27.39	W93070300			0.00967	9.0	6.0
W9307	N07P	23-JUN-93	0801	27.39	W93070300	DARK	10.35			
W9307	N07P	23-JUN-93	0801	27.39	W93070300	DARK	10.38			
W9307	N07P	23-JUN-93	0801	27.39	W93070300	DARK	10.43			
W9307	N07P	23-JUN-93	0801	27.39	W93070300	INIT	10.49			
W9307	N07P	23-JUN-93	0801	27.39	W93070300	INIT	10.49			
W9307	N07P	23-JUN-93	0801	27.39	W93070300	INIT	10.44			
W9307	N10P	22-JUN-93	0911	1.37	W93070097			0.01885	9.0	AMBIENT
W9307	N10P	22-JUN-93	0911	1.37	W93070097	DARK	10.18			
W9307	N10P	22-JUN-93	0911	1.37	W93070097	DARK	10.21			
W9307	N10P	22-JUN-93	0911	1.37	W93070097	DARK	10.12			
W9307	N10P	22-JUN-93	0911	1.37	W93070097	INIT	10.43			
W9307	N10P	22-JUN-93	0911	1.37	W93070097	INIT	10.47			
W9307	N10P	22-JUN-93	0911	1.37	W93070097	INIT	10.13			
W9307	N10P	22-JUN-93	0909	6.74	W93070095			0.01526	9.0	9.0
W9307	N10P	22-JUN-93	0909	6.74	W93070095	DARK	9.55			
W9307	N10P	22-JUN-93	0909	6.74	W93070095	DARK	9.20			
W9307	N10P	22-JUN-93	0909	6.74	W93070095	DARK	9.57			
W9307	N10P	22-JUN-93	0909	6.74	W93070095	INIT	9.48			
W9307	N10P	22-JUN-93	0909	6.74	W93070095	INIT	9.66			
W9307	N10P	22-JUN-93	0909	6.74	W93070095	INIT	9.60			
W9307	N10P	22-JUN-93	0908	12.24	W93070094			-0.00933	9.0	6.0
W9307	N10P	22-JUN-93	0908	12.24	W93070094	DARK	9.63			
W9307	N10P	22-JUN-93	0908	12.24	W93070094	DARK	9.49			
W9307	N10P	22-JUN-93	0908	12.24	W93070094	DARK	9.58			
W9307	N10P	22-JUN-93	0908	12.24	W93070094	INIT	9.58			
W9307	N10P	22-JUN-93	0908	12.24	W93070094	INIT	9.59			
W9307	N10P	22-JUN-93	0908	12.24	W93070094	INIT	9.28			

Table E3-1. Dark Respiration at Bioproductivity Stations in June of 1993.

EVENT	STATION	DATE	TIME	DEPTH (M)	SAMPLE ID	LEVEL	DISSOLVED OXYGEN (mg/L)	NET RESPIRATION (mg O2/L/hr)	LENGTH OF INCUBATION (hours)	INCUBATION TEMPERATURE (C)
W9307	N16P	22-JUN-93	0754	1.33	W93070073			-0.01504	9.0	AMBIENT
W9307	N16P	22-JUN-93	0754	1.33	W93070073	DARK	9.75			
W9307	N16P	22-JUN-93	0754	1.33	W93070073	DARK	9.83			
W9307	N16P	22-JUN-93	0754	1.33	W93070073	DARK	9.80			
W9307	N16P	22-JUN-93	0754	1.33	W93070073	INIT	9.75			
W9307	N16P	22-JUN-93	0754	1.33	W93070073	INIT	9.56			
W9307	N16P	22-JUN-93	0754	1.33	W93070073	INIT	9.67			
W9307	N16P	22-JUN-93	0751	12.09	W93070072			0.00459	9.0	9.0
W9307	N16P	22-JUN-93	0751	12.09	W93070072	DARK	10.53			
W9307	N16P	22-JUN-93	0751	12.09	W93070072	DARK	10.53			
W9307	N16P	22-JUN-93	0751	12.09	W93070072	DARK	10.55			
W9307	N16P	22-JUN-93	0751	12.09	W93070072	INIT	10.63			
W9307	N16P	22-JUN-93	0751	12.09	W93070072	INIT	10.53			
W9307	N16P	22-JUN-93	0751	12.09	W93070072	INIT	10.58			
W9307	N16P	22-JUN-93	0750	21.59	W93070071			0.00222	9.0	6.0
W9307	N16P	22-JUN-93	0750	21.59	W93070071	DARK	10.38			
W9307	N16P	22-JUN-93	0750	21.59	W93070071	DARK	10.33			
W9307	N16P	22-JUN-93	0750	21.59	W93070071	DARK	10.33			
W9307	N16P	22-JUN-93	0750	21.59	W93070071	INIT	10.34			
W9307	N16P	22-JUN-93	0750	21.59	W93070071	INIT	10.37			
W9307	N16P	22-JUN-93	0750	21.59	W93070071	INIT	10.39			
W9307	N20P	22-JUN-93	0643	0.62	W93070046			0.03296	9.0	AMBIENT
W9307	N20P	22-JUN-93	0643	0.62	W93070046	DARK	10.04			
W9307	N20P	22-JUN-93	0643	0.62	W93070046	DARK	10.19			
W9307	N20P	22-JUN-93	0643	0.62	W93070046	DARK	10.24			
W9307	N20P	22-JUN-93	0643	0.62	W93070046	INIT	10.30			
W9307	N20P	22-JUN-93	0643	0.62	W93070046	INIT	10.54			
W9307	N20P	22-JUN-93	0643	0.62	W93070046	INIT	10.52			
W9307	N20P	22-JUN-93	0643	4.85	W93070045			0.02678	9.0	9.0
W9307	N20P	22-JUN-93	0643	4.85	W93070045	DARK	9.69			
W9307	N20P	22-JUN-93	0643	4.85	W93070045	DARK	9.85			
W9307	N20P	22-JUN-93	0643	4.85	W93070045	DARK	9.96			
W9307	N20P	22-JUN-93	0643	4.85	W93070045	INIT	10.12			
W9307	N20P	22-JUN-93	0643	4.85	W93070045	INIT	10.13			
W9307	N20P	22-JUN-93	0643	4.85	W93070045	INIT	9.97			

Table E3-1. Dark Respiration at Bioproductivity Stations in June of 1993.

EVENT	STATION	DATE	TIME	DEPTH (M)	SAMPLE ID	LEVEL	DISSOLVED OXYGEN (mg/L)	NET RESPIRATION (mg O2/L/hr)	LENGTH OF INCUBATION (hours)	INCUBATION TEMPERATURE (C)
W9307	N20P	22-JUN-93	0639	19.74	W93070043			-0.00378	9.0	6.0
W9307	N20P	22-JUN-93	0639	19.74	W93070043	DARK	9.92			
W9307	N20P	22-JUN-93	0639	19.74	W93070043	DARK	9.90			
W9307	N20P	22-JUN-93	0639	19.74	W93070043	DARK	9.89			
W9307	N20P	22-JUN-93	0639	19.74	W93070043	INIT	9.84			
W9307	N20P	22-JUN-93	0639	19.74	W93070043	INIT	9.90			
W9307	N20P	22-JUN-93	0639	19.74	W93070043	INIT	9.88			

e = Data not reported

Table E3-2. Respiration Incubations: Initial and Final DO

RESPIRATION CRUISE 9307

STATION	DEPTH	INITIAL	DARK	p
F13P	BOT	9.698(0.075)	9.645(0.014)	0.35
	CHL	9.770(0.026)	9.682(0.025)	0.01
	SUR	9.679(0.071)	9.608(0.041)	0.23
F1P	BOT	9.424(0.310)	9.315(0.105)	0.59
	CHL	9.492(0.148)	9.403(0.119)	0.46
	SUR	9.449(0.011)	9.246(0.068)	0.01
F23P	BOT	9.109(0.091)	8.912(0.038)	0.03
	CHL	9.068(0.045)	8.827(0.018)	0.01
	SUR	8.771(0.046)	8.561(0.087)	0.02
F2P	BOT	8.432(.)	7.862(0.411)	0.35
	CHL	9.481(0.048)	9.334(0.202)	0.28
	SUR	8.848(0.100)	8.713(0.085)	0.14
N10P	BOT	9.481(0.177)	9.565(0.071)	0.48
	CHL	9.577(0.091)	9.440(0.206)	0.35
	SUR	10.341(0.188)	10.172(0.044)	0.20
N16P	BOT	10.366(0.023)	10.346(0.029)	0.40
	CHL	10.577(0.050)	10.535(0.008)	0.23
	SUR	9.659(0.096)	9.794(0.042)	0.09
N1P	BOT	10.249(0.123)	10.137(0.038)	0.20
	CHL	10.240(0.024)	9.9[illegible]3(0.183)	0.10
	SUR	10.181(0.017)	10.029(0.011)	0.01
N20P	BOT	9.872(0.030)	9.906(0.015)	0.16
	CHL	10.074(0.094)	9.833(0.137)	0.07
	SUR	10.452(0.132)	10.155(0.100)	0.04
N4P	BOT	10.135(0.158)	10.141(0.003)	0.95
	CHL	10.372(0.011)	10.195(0.062)	0.01
	SUR	9.932(0.068)	9.818(0.016)	0.05
N7P	BOT	10.473(0.028)	10.386(0.038)	0.04
	CHL	10.530(0.034)	10.469(0.014)	0.05
	SUR	9.946(0.002)	9.788(0.036)	0.01

APPENDIX F

PHYTOPLANKTON SPECIES DATA TABLES

A complete listing, by survey, is given for taxonomic analyses of whole-water samples analyzed for W9307, W9308, and W9309 (Table F-1).

Table F1. Phytoplankton Species Data for June and July 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93070045	N20P	06-22-93	06:43	5.7	CERATIUM FUSUS	.006
W93070045	N20P	06-22-93	06:43	5.7	CERATIUM LONGIPES	.006
W93070045	N20P	06-22-93	06:43	5.7	CHAETOCEROS DECIPIENS	.08
W93070045	N20P	06-22-93	06:43	5.7	CHAETOCEROS SOCIALIS	.086
W93070045	N20P	06-22-93	06:43	5.7	CHAETOCEROS SPP. (10-20UM)	.062
W93070045	N20P	06-22-93	06:43	5.7	CHAETOCEROS SPP.(<10UM)	.123
W93070045	N20P	06-22-93	06:43	5.7	CRYPTOMONADS	.093
W93070045	N20P	06-22-93	06:43	5.7	CYLINDROTHECA CLOSTERIUM	.012
W93070045	N20P	06-22-93	06:43	5.7	EUTREPTIA/EUTREPTIELLA SPP.	.006
W93070045	N20P	06-22-93	06:43	5.7	GYRODINIUM SPIRALE	.012
W93070045	N20P	06-22-93	06:43	5.7	HETEROCAPSA TRIQUETRA	.006
W93070045	N20P	06-22-93	06:43	5.7	KATODINIUM SPP.	.006
W93070045	N20P	06-22-93	06:43	5.7	LEPTOCYLINDRUS DANICUS	.635
W93070045	N20P	06-22-93	06:43	5.7	LEPTOCYLINDRUS MINIMUS	.086
W93070045	N20P	06-22-93	06:43	5.7	MICROFLAGELLATES	.487
W93070045	N20P	06-22-93	06:43	5.7	PYRAMIMONAS/TETRASELMIS SPP.	.012
W93070045	N20P	06-22-93	06:43	5.7	RHIZOSOLENIA DELICATULA	.136
W93070045	N20P	06-22-93	06:43	5.7	SKELETONEMA COSTATUM	.82
W93070045	N20P	06-22-93	06:43	5.7	UNID. CENTRALES	.031
W93070045	N20P	06-22-93	06:43	5.7	UNID. DINOFLAGELLATES	.006
W93070045	N20P	06-22-93	06:43	5.7	UNID. NAKED DINOFLAGELLATE	.025
W93070046	N20P	06-22-93	06:43	1.6	CERATIUM FUSUS	.006
W93070046	N20P	06-22-93	06:43	1.6	CERATIUM LONGIPES	.006
W93070046	N20P	06-22-93	06:43	1.6	CHAETOCEROS DECIPIENS	.09
W93070046	N20P	06-22-93	06:43	1.6	CHAETOCEROS SOCIALIS	.123
W93070046	N20P	06-22-93	06:43	1.6	CHAETOCEROS SPP. (10-20UM)	.045
W93070046	N20P	06-22-93	06:43	1.6	CHAETOCEROS SPP.(<10UM)	.161
W93070046	N20P	06-22-93	06:43	1.6	CRYPTOMONADS	.032
W93070046	N20P	06-22-93	06:43	1.6	CYLINDROTHECA CLOSTERIUM	.026
W93070046	N20P	06-22-93	06:43	1.6	DINOPHYSIS NORVEGICA	.006
W93070046	N20P	06-22-93	06:43	1.6	EUTREPTIA/EUTREPTIELLA SPP.	.006
W93070046	N20P	06-22-93	06:43	1.6	GYMNODINIUM SPP.	.006
W93070046	N20P	06-22-93	06:43	1.6	GYRODINIUM SPIRALE	.019
W93070046	N20P	06-22-93	06:43	1.6	HETEROSIGMA AKASHIWO	.006
W93070046	N20P	06-22-93	06:43	1.6	LEPTOCYLINDRUS DANICUS	1.142
W93070046	N20P	06-22-93	06:43	1.6	LEPTOCYLINDRUS MINIMUS	.019
W93070046	N20P	06-22-93	06:43	1.6	LICMOPHORA SPP.	.006
W93070046	N20P	06-22-93	06:43	1.6	MICROFLAGELLATES	.284
W93070046	N20P	06-22-93	06:43	1.6	NAVICULOID DIATOMS	.013
W93070046	N20P	06-22-93	06:43	1.6	PYRAMIMONAS/TETRASELMIS SPP.	.006
W93070046	N20P	06-22-93	06:43	1.6	RHIZOSOLENIA DELICATULA	.129
W93070046	N20P	06-22-93	06:43	1.6	SKELETONEMA COSTATUM	.671
W93070046	N20P	06-22-93	06:43	1.6	THALASSIONEMA NITZSCHOIDES	.006
W93070046	N20P	06-22-93	06:43	1.6	UNID. DINOFLAGELLATES	.006
W93070046	N20P	06-22-93	06:43	1.6	UNID. NAKED DINOFLAGELLATE	.006
W93070072	N16P	06-22-93	07:51	13	CERATIUM FUSUS	.001
W93070072	N16P	06-22-93	07:51	13	CERATIUM LONGIPES	.027
W93070072	N16P	06-22-93	07:51	13	CERATIUM TRIPOS	.001
W93070072	N16P	06-22-93	07:51	13	CHAETOCEROS DECIPIENS	.003
W93070072	N16P	06-22-93	07:51	13	CHAETOCEROS SPP.(<10UM)	.007
W93070072	N16P	06-22-93	07:51	13	COSCINODISCUS SPP.	.001
W93070072	N16P	06-22-93	07:51	13	CRYPTOMONADS	.094
W93070072	N16P	06-22-93	07:51	13	EBRIA TRIPARTITIA	.003
W93070072	N16P	06-22-93	07:51	13	GYMNODINIUM SPP.	.001
W93070072	N16P	06-22-93	07:51	13	MESODINIUM RUBRUM	.004
W93070072	N16P	06-22-93	07:51	13	MICROFLAGELLATES	.269
W93070072	N16P	06-22-93	07:51	13	NAVICULOID DIATOMS	.002
W93070072	N16P	06-22-93	07:51	13	THALASSIONEMA NITZSCHOIDES	.005
W93070072	N16P	06-22-93	07:51	13	UNID. NAKED DINOFLAGELLATE	.004
W93070073	N16P	06-22-93	07:54	1.3	CERATIUM FUSUS	.002
W93070073	N16P	06-22-93	07:54	1.3	CERATIUM LONGIPES	.004
W93070073	N16P	06-22-93	07:54	1.3	CHAETOCEROS SPP.(<10UM)	.028

Table F1. Phytoplankton Species Data for June and July 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93070073	N16P	06-22-93	07:54	1.3	CRYPTOMONADS	.062
W93070073	N16P	06-22-93	07:54	1.3	CYLINDROTHECA CLOSTERIUM	.002
W93070073	N16P	06-22-93	07:54	1.3	HETEROCAPSA TRIQUETRA	.002
W93070073	N16P	06-22-93	07:54	1.3	LEPTOCYLINDRUS DANICUS	.218
W93070073	N16P	06-22-93	07:54	1.3	MICROFLAGELLATES	.382
W93070073	N16P	06-22-93	07:54	1.3	PYRAMIMONAS/TETRASELMIS SPP.	.004
W93070073	N16P	06-22-93	07:54	1.3	RHIZOSOLENIA DELICATULA	.021
W93070073	N16P	06-22-93	07:54	1.3	SKELETONEMA COSTATUM	.011
W93070073	N16P	06-22-93	07:54	1.3	UNID. CENTRALES	.005
W93070073	N16P	06-22-93	07:54	1.3	UNID. NAKED DINOFLAGELLATE	.004
W93070095	N10P	06-22-93	09:09	7.6	CHAETOCEROS DECIPIENS	.006
W93070095	N10P	06-22-93	09:09	7.6	CHAETOCEROS SOCIALIS	.025
W93070095	N10P	06-22-93	09:09	7.6	CHAETOCEROS SPP. (10-20UM)	.022
W93070095	N10P	06-22-93	09:09	7.6	CHAETOCEROS SPP.(<10UM)	.044
W93070095	N10P	06-22-93	09:09	7.6	CRYPTOMONADS	.158
W93070095	N10P	06-22-93	09:09	7.6	CYLINDROTHECA CLOSTERIUM	.003
W93070095	N10P	06-22-93	09:09	7.6	DINOPHYSIS OVUM	.003
W93070095	N10P	06-22-93	09:09	7.6	EBRIA TRIPARTITIA	.006
W93070095	N10P	06-22-93	09:09	7.6	GYRODINIUM SPIRALE	.003
W93070095	N10P	06-22-93	09:09	7.6	HETEROCAPSA TRIQUETRA	.006
W93070095	N10P	06-22-93	09:09	7.6	KATODINIUM ROTUNDATUM	.003
W93070095	N10P	06-22-93	09:09	7.6	LEPTOCYLINDRUS DANICUS	.397
W93070095	N10P	06-22-93	09:09	7.6	MICROFLAGELLATES	.536
W93070095	N10P	06-22-93	09:09	7.6	NAVICULOID DIATOMS	.003
W93070095	N10P	06-22-93	09:09	7.6	PROTOPERIDINIUM BREVE	.003
W93070095	N10P	06-22-93	09:09	7.6	RHIZOSOLENIA DELICATULA	.035
W93070095	N10P	06-22-93	09:09	7.6	SKELETONEMA COSTATUM	.236
W93070095	N10P	06-22-93	09:09	7.6	THALASSIOSIRA SPP.	.006
W93070095	N10P	06-22-93	09:09	7.6	UNID. NAKED DINOFLAGELLATE	.019
W93070097	N10P	06-22-93	09:11	1.4	CERATIUM LONGIPES	.011
W93070097	N10P	06-22-93	09:11	1.4	CHAETOCEROS DECIPIENS	.075
W93070097	N10P	06-22-93	09:11	1.4	CHAETOCEROS SOCIALIS	.07
W93070097	N10P	06-22-93	09:11	1.4	CHAETOCEROS SPP. (10-20UM)	.032
W93070097	N10P	06-22-93	09:11	1.4	CHAETOCEROS SPP.(<10UM)	.086
W93070097	N10P	06-22-93	09:11	1.4	CRYPTOMONADS	.037
W93070097	N10P	06-22-93	09:11	1.4	CYLINDROTHECA CLOSTERIUM	.016
W93070097	N10P	06-22-93	09:11	1.4	EUTREPTIA/EUTREPTIELLA SPP.	.037
W93070097	N10P	06-22-93	09:11	1.4	GYRODINIUM SPIRALE	.005
W93070097	N10P	06-22-93	09:11	1.4	HETEROCAPSA TRIQUETRA	.016
W93070097	N10P	06-22-93	09:11	1.4	KATODINIUM SPP.	.011
W93070097	N10P	06-22-93	09:11	1.4	LEPTOCYLINDRUS DANICUS	1.08
W93070097	N10P	06-22-93	09:11	1.4	MICROFLAGELLATES	.642
W93070097	N10P	06-22-93	09:11	1.4	RHIZOSOLENIA DELICATULA	.059
W93070097	N10P	06-22-93	09:11	1.4	SKELETONEMA COSTATUM	.273
W93070097	N10P	06-22-93	09:11	1.4	THALASSIOSIRA SPP.	.102
W93070097	N10P	06-22-93	09:11	1.4	UNID. CENTRALES	.005
W93070097	N10P	06-22-93	09:11	1.4	UNID. NAKED DINOFLAGELLATE	.021
W93070269	N01P	06-23-93	05:48	12	CERATAULINA PELAGICA	.002
W93070269	N01P	06-23-93	05:48	12	CERATIUM FUSUS	.002
W93070269	N01P	06-23-93	05:48	12	CERATIUM LINEATUM	.002
W93070269	N01P	06-23-93	05:48	12	CERATIUM LONGIPES	.022
W93070269	N01P	06-23-93	05:48	12	CHAETOCEROS DECIPIENS	.002
W93070269	N01P	06-23-93	05:48	12	CHAETOCEROS SPP. (10-20UM)	.004
W93070269	N01P	06-23-93	05:48	12	CHAETOCEROS SPP.(<10UM)	.003
W93070269	N01P	06-23-93	05:48	12	COCCONEIS SCUTELLUM	.001
W93070269	N01P	06-23-93	05:48	12	CRYPTOMONADS	.006
W93070269	N01P	06-23-93	05:48	12	CYLINDROTHECA CLOSTERIUM	.003
W93070269	N01P	06-23-93	05:48	12	DINOPHYSIS NORVEGICA	.001
W93070269	N01P	06-23-93	05:48	12	DINOPHYSIS OVUM	.001
W93070269	N01P	06-23-93	05:48	12	GYRODINIUM SPIRALE	.004
W93070269	N01P	06-23-93	05:48	12	GYRODINIUM SPP.	.004
W93070269	N01P	06-23-93	05:48	12	HETEROCAPSA TRIQUETRA	.001

Table F1. Phytoplankton Species Data for June and July 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93070269	N01P	06-23-93	05:48	12	LEPTOCYLINDRUS DANICUS	.212
W93070269	N01P	06-23-93	05:48	12	MESODINIUM RUBRUM	.017
W93070269	N01P	06-23-93	05:48	12	MICROFLAGELLATES	.114
W93070269	N01P	06-23-93	05:48	12	NAVICULOID DIATOMS	.001
W93070269	N01P	06-23-93	05:48	12	RHIZOSOLENIA DELICATULA	.043
W93070269	N01P	06-23-93	05:48	12	SKELETONEMA COSTATUM	.002
W93070269	N01P	06-23-93	05:48	12	THALASSIOSIRA (cf) GRAVIDA/ROTULA	.001
W93070269	N01P	06-23-93	05:48	12	THALASSIOSIRA SPP.	.002
W93070269	N01P	06-23-93	05:48	12	UNID. CENTRALES	.001
W93070269	N01P	06-23-93	05:48	12	UNID. DINOFLAGELLATES	.001
W93070269	N01P	06-23-93	05:48	12	UNID. NAKED DINOFLAGELLATE	.003
W93070271	N01P	06-23-93	05:49	1.7	CERATIUM FUSUS	.002
W93070271	N01P	06-23-93	05:49	1.7	CERATIUM LONGIPES	.011
W93070271	N01P	06-23-93	05:49	1.7	CHAETOCEROS SPP.(<10UM)	.002
W93070271	N01P	06-23-93	05:49	1.7	CRYPTOMONADS	.008
W93070271	N01P	06-23-93	05:49	1.7	DINOPHYSIS OVUM	.002
W93070271	N01P	06-23-93	05:49	1.7	GYRODINIUM SPIRALE	.003
W93070271	N01P	06-23-93	05:49	1.7	HETEROCAPSA TRIQUETRA	.002
W93070271	N01P	06-23-93	05:49	1.7	LEPTOCYLINDRUS DANICUS	.514
W93070271	N01P	06-23-93	05:49	1.7	MESODINIUM RUBRUM	.008
W93070271	N01P	06-23-93	05:49	1.7	MICROFLAGELLATES	.11
W93070271	N01P	06-23-93	05:49	1.7	PYRAMIMONAS/TETRASELMIS SPP.	.002
W93070271	N01P	06-23-93	05:49	1.7	RHIZOSOLENIA DELICATULA	.062
W93070271	N01P	06-23-93	05:49	1.7	THALASSIONEMA NITZSCHOIDES	.003
W93070271	N01P	06-23-93	05:49	1.7	THALASSIOSIRA SPP.	.006
W93070271	N01P	06-23-93	05:49	1.7	UNID. CENTRALES	.002
W93070271	N01P	06-23-93	05:49	1.7	UNID. NAKED DINOFLAGELLATE	.009
W93070289	N04P	06-23-93	07:00	14.7	CERATAULINA PELAGICA	.001
W93070289	N04P	06-23-93	07:00	14.7	CERATIUM LONGIPES	.011
W93070289	N04P	06-23-93	07:00	14.7	CHAETOCEROS DECIPIENS	.001
W93070289	N04P	06-23-93	07:00	14.7	CHAETOCEROS SPP. (10-20UM)	.003
W93070289	N04P	06-23-93	07:00	14.7	CHAETOCEROS SPP.(<10UM)	.003
W93070289	N04P	06-23-93	07:00	14.7	CRYPTOMONADS	.055
W93070289	N04P	06-23-93	07:00	14.7	CYLINDROTHECA CLOSTERIUM	.003
W93070289	N04P	06-23-93	07:00	14.7	DINOPHYSIS NORVEGICA	.001
W93070289	N04P	06-23-93	07:00	14.7	EBRIA TRIPARTITIA	.003
W93070289	N04P	06-23-93	07:00	14.7	GYMNODINIUM SPP.	.001
W93070289	N04P	06-23-93	07:00	14.7	GYRODINIUM SPIRALE	.001
W93070289	N04P	06-23-93	07:00	14.7	LEPTOCYLINDRUS DANICUS	.092
W93070289	N04P	06-23-93	07:00	14.7	MESODINIUM RUBRUM	.006
W93070289	N04P	06-23-93	07:00	14.7	MICROFLAGELLATES	.222
W93070289	N04P	06-23-93	07:00	14.7	NAVICULOID DIATOMS	.002
W93070289	N04P	06-23-93	07:00	14.7	PYRAMIMONAS/TETRASELMIS SPP.	.003
W93070289	N04P	06-23-93	07:00	14.7	RHIZOSOLENIA DELICATULA	.039
W93070289	N04P	06-23-93	07:00	14.7	THALASSIONEMA NITZSCHOIDES	.002
W93070289	N04P	06-23-93	07:00	14.7	THALASSIOSIRA SPP.	.001
W93070289	N04P	06-23-93	07:00	14.7	UNID. CENTRALES	.001
W93070289	N04P	06-23-93	07:00	14.7	UNID. NAKED DINOFLAGELLATE	.001
W93070291	N04P	06-23-93	07:02	1.9	CERATAULINA PELAGICA	.002
W93070291	N04P	06-23-93	07:02	1.9	CERATIUM LONGIPES	.004
W93070291	N04P	06-23-93	07:02	1.9	CHAETOCEROS DECIPIENS	.004
W93070291	N04P	06-23-93	07:02	1.9	CHAETOCEROS SPP. (10-20UM)	.002
W93070291	N04P	06-23-93	07:02	1.9	CHAETOCEROS SPP.(<10UM)	.006
W93070291	N04P	06-23-93	07:02	1.9	CRYPTOMONADS	.021
W93070291	N04P	06-23-93	07:02	1.9	EBRIA TRIPARTITIA	.002
W93070291	N04P	06-23-93	07:02	1.9	EUTREPTIA/EUTREPTIELLA SPP.	.002
W93070291	N04P	06-23-93	07:02	1.9	GYRODINIUM SPIRALE	.008
W93070291	N04P	06-23-93	07:02	1.9	LEPTOCYLINDRUS DANICUS	.429
W93070291	N04P	06-23-93	07:02	1.9	MICROFLAGELLATES	.265
W93070291	N04P	06-23-93	07:02	1.9	PROTOPERIDINIUM BIPES	.002
W93070291	N04P	06-23-93	07:02	1.9	PYRAMIMONAS/TETRASELMIS SPP.	.002
W93070291	N04P	06-23-93	07:02	1.9	RHIZOSOLENIA DELICATULA	.16

Table F1. Phytoplankton Species Data for June and July 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93070291	N04P	06-23-93	07:02	1.9	SKELETONEMA COSTATUM	.004
W93070291	N04P	06-23-93	07:02	1.9	UNID. DINOFLAGELLATES	.002
W93070291	N04P	06-23-93	07:02	1.9	UNID. NAKED DINOFLAGELLATE	.01
W93070301	N07P	06-23-93	08:02	18.1	CERATIUM FUSUS	.001
W93070301	N07P	06-23-93	08:02	18.1	CERATIUM LONGIPES	.018
W93070301	N07P	06-23-93	08:02	18.1	CRYPTOMONADS	.05
W93070301	N07P	06-23-93	08:02	18.1	DINOPHYSIS NORVEGICA	.001
W93070301	N07P	06-23-93	08:02	18.1	EBRIA TRIPARTITIA	.005
W93070301	N07P	06-23-93	08:02	18.1	LEPTOCYLINDRUS DANICUS	.001
W93070301	N07P	06-23-93	08:02	18.1	MICROFLAGELLATES	.173
W93070301	N07P	06-23-93	08:02	18.1	PYRAMIMONAS/TETRASELMIS SPP.	.001
W93070301	N07P	06-23-93	08:02	18.1	THALASSIONEMA NITZSCHOIDES	.001
W93070301	N07P	06-23-93	08:02	18.1	UNID. NAKED DINOFLAGELLATE	.001
W93070303	N07P	06-23-93	08:03	3.3	CERATIUM FUSUS	.002
W93070303	N07P	06-23-93	08:03	3.3	CERATIUM LONGIPES	.003
W93070303	N07P	06-23-93	08:03	3.3	CHAETOCEROS DECIPIENS	.011
W93070303	N07P	06-23-93	08:03	3.3	CHAETOCEROS SPP. (10-20UM)	.003
W93070303	N07P	06-23-93	08:03	3.3	CRYPTOMONADS	.022
W93070303	N07P	06-23-93	08:03	3.3	CYLINDROTHECA CLOSTERIUM	.002
W93070303	N07P	06-23-93	08:03	3.3	EUTREPTIA/EUTREPTIELLA SPP.	.002
W93070303	N07P	06-23-93	08:03	3.3	GYRODINIUM SPP.	.003
W93070303	N07P	06-23-93	08:03	3.3	LEPTOCYLINDRUS DANICUS	.297
W93070303	N07P	06-23-93	08:03	3.3	MICROFLAGELLATES	.241
W93070303	N07P	06-23-93	08:03	3.3	RHIZOSOLENIA DELICATULA	.05
W93070303	N07P	06-23-93	08:03	3.3	THALASSIONEMA NITZSCHOIDES	.003
W93070303	N07P	06-23-93	08:03	3.3	THALASSIOSIRA SPP.	.002
W93070303	N07P	06-23-93	08:03	3.3	UNID. CENTRALES	.002
W93070303	N07P	06-23-93	08:03	3.3	UNID. NAKED DINOFLAGELLATE	.006
W93070315	F13P	06-23-93	09:10	9.1	CERATIUM FUSUS	.006
W93070315	F13P	06-23-93	09:10	9.1	CERATIUM LONGIPES	.01
W93070315	F13P	06-23-93	09:10	9.1	CHAETOCEROS COMPRESSUS	.006
W93070315	F13P	06-23-93	09:10	9.1	CHAETOCEROS DECIPIENS	.032
W93070315	F13P	06-23-93	09:10	9.1	CHAETOCEROS SOCIALIS	.026
W93070315	F13P	06-23-93	09:10	9.1	CHAETOCEROS SPP. (10-20UM)	.026
W93070315	F13P	06-23-93	09:10	9.1	CHAETOCEROS SPP.(<10UM)	.026
W93070315	F13P	06-23-93	09:10	9.1	CRYPTOMONADS	.084
W93070315	F13P	06-23-93	09:10	9.1	CYLINDROTHECA CLOSTERIUM	.039
W93070315	F13P	06-23-93	09:10	9.1	DINOPHYSIS NORVEGICA	.003
W93070315	F13P	06-23-93	09:10	9.1	GYMNODINIUM SPP.	.006
W93070315	F13P	06-23-93	09:10	9.1	GYRODINIUM SPIRALE	.003
W93070315	F13P	06-23-93	09:10	9.1	LEPTOCYLINDRUS DANICUS	1.004
W93070315	F13P	06-23-93	09:10	9.1	MESODINIUM RUBRUM	.006
W93070315	F13P	06-23-93	09:10	9.1	MICROFLAGELLATES	.318
W93070315	F13P	06-23-93	09:10	9.1	PROTOPERIDINIUM SPP.	.003
W93070315	F13P	06-23-93	09:10	9.1	PYRAMIMONAS/TETRASELMIS SPP.	.006
W93070315	F13P	06-23-93	09:10	9.1	RHIZOSOLENIA DELICATULA	.107
W93070315	F13P	06-23-93	09:10	9.1	SKELETONEMA COSTATUM	.065
W93070315	F13P	06-23-93	09:10	9.1	THALASSIONEMA NITZSCHOIDES	.006
W93070315	F13P	06-23-93	09:10	9.1	THALASSIOSIRA SPP.	.016
W93070315	F13P	06-23-93	09:10	9.1	UNID. NAKED DINOFLAGELLATE	.019
W93070317	F13P	06-23-93	09:12	2.4	CERATIUM LONGIPES	.004
W93070317	F13P	06-23-93	09:12	2.4	CHAETOCEROS DECIPIENS	.023
W93070317	F13P	06-23-93	09:12	2.4	CHAETOCEROS SPP. (10-20UM)	.011
W93070317	F13P	06-23-93	09:12	2.4	CHAETOCEROS SPP.(<10UM)	.056
W93070317	F13P	06-23-93	09:12	2.4	CRYPTOMONADS	.075
W93070317	F13P	06-23-93	09:12	2.4	CYLINDROTHECA CLOSTERIUM	.041
W93070317	F13P	06-23-93	09:12	2.4	DINOPHYSIS NORVEGICA	.008
W93070317	F13P	06-23-93	09:12	2.4	EUTREPTIA/EUTREPTIELLA SPP.	.004
W93070317	F13P	06-23-93	09:12	2.4	GYRODINIUM SPIRALE	.008
W93070317	F13P	06-23-93	09:12	2.4	GYRODINIUM SPP.	.004
W93070317	F13P	06-23-93	09:12	2.4	HETEROCAPSA TRIQUETRA	.004
W93070317	F13P	06-23-93	09:12	2.4	LEPTOCYLINDRUS DANICUS	1.354

Table F1. Phytoplankton Species Data for June and July 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93070317	F13P	06-23-93	09:12	2.4	MESODINIUM RUBRUM	.004
W93070317	F13P	06-23-93	09:12	2.4	MICROFLAGELLATES	.335
W93070317	F13P	06-23-93	09:12	2.4	PYRAMIMONAS/TETRASELMIS SPP.	.011
W93070317	F13P	06-23-93	09:12	2.4	RHIZOSOLENIA DELICATULA	.128
W93070317	F13P	06-23-93	09:12	2.4	SKELETONEMA COSTATUM	.075
W93070317	F13P	06-23-93	09:12	2.4	THALASSIOSIRA SPP.	.011
W93070317	F13P	06-23-93	09:12	2.4	UNID. NAKED DINOFLAGELLATE	.011
W93070422	F02P	06-24-93	07:13	20.7	ALEXANDRIUM TAMARENSE	.002
W93070422	F02P	06-24-93	07:13	20.7	AMPHIDINIUM SPP.	.001
W93070422	F02P	06-24-93	07:13	20.7	CERATAULINA PELAGICA	.023
W93070422	F02P	06-24-93	07:13	20.7	CERATIUM FUSUS	.007
W93070422	F02P	06-24-93	07:13	20.7	CERATIUM LINEATUM	.007
W93070422	F02P	06-24-93	07:13	20.7	CERATIUM LONGIPES	.01
W93070422	F02P	06-24-93	07:13	20.7	CERATIUM TRIPOS	.002
W93070422	F02P	06-24-93	07:13	20.7	CHAETOCEROS SPP.(<10UM)	.004
W93070422	F02P	06-24-93	07:13	20.7	CRYPTOMONADS	.033
W93070422	F02P	06-24-93	07:13	20.7	CYLINDROTHECA CLOSTERIUM	.01
W93070422	F02P	06-24-93	07:13	20.7	DINOPHYSIS NORVEGICA	.008
W93070422	F02P	06-24-93	07:13	20.7	DINOPHYSIS OVUM	.001
W93070422	F02P	06-24-93	07:13	20.7	EBRIA TRIPARTITIA	.001
W93070422	F02P	06-24-93	07:13	20.7	GONYAULAX SPINIFERA	.001
W93070422	F02P	06-24-93	07:13	20.7	GYMNODINIUM SPP.	.004
W93070422	F02P	06-24-93	07:13	20.7	GYRODINIUM SPIRALE	.005
W93070422	F02P	06-24-93	07:13	20.7	GYRODINIUM SPP.	.001
W93070422	F02P	06-24-93	07:13	20.7	LEPTOCYLINDRUS DANICUS	.027
W93070422	F02P	06-24-93	07:13	20.7	MESODINIUM RUBRUM	.001
W93070422	F02P	06-24-93	07:13	20.7	MICROFLAGELLATES	.268
W93070422	F02P	06-24-93	07:13	20.7	NAVICULOID DIATOMS	.001
W93070422	F02P	06-24-93	07:13	20.7	NITZSCHIA SPP.	.002
W93070422	F02P	06-24-93	07:13	20.7	PROBOSCIA (=RHIZOSELENIA) ALATA	.002
W93070422	F02P	06-24-93	07:13	20.7	PROTOPERIDINIUM BREVE	.002
W93070422	F02P	06-24-93	07:13	20.7	PROTOPERIDINIUM SPP.	.009
W93070422	F02P	06-24-93	07:13	20.7	PYRAMIMONAS/TETRASELMIS SPP.	.001
W93070422	F02P	06-24-93	07:13	20.7	RHIZOSOLENIA DELICATULA	.004
W93070422	F02P	06-24-93	07:13	20.7	SCRIPPSIELLA TROCHOIDEA	.001
W93070422	F02P	06-24-93	07:13	20.7	SKELETONEMA COSTATUM	.002
W93070422	F02P	06-24-93	07:13	20.7	THALASSIONEMA NITZSCHOIDES	.002
W93070422	F02P	06-24-93	07:13	20.7	UNID. CENTRALES	.003
W93070422	F02P	06-24-93	07:13	20.7	UNID. DINOFLAGELLATES	.005
W93070422	F02P	06-24-93	07:13	20.7	UNID. NAKED DINOFLAGELLATE	.01
W93070424	F02P	06-24-93	07:15	1.8	ALEXANDRIUM TAMARENSE	.001
W93070424	F02P	06-24-93	07:15	1.8	CERATAULINA PELAGICA	.006
W93070424	F02P	06-24-93	07:15	1.8	CERATIUM FUSUS	.001
W93070424	F02P	06-24-93	07:15	1.8	CERATIUM LONGIPES	.001
W93070424	F02P	06-24-93	07:15	1.8	CHAETOCEROS SPP. (10-20UM)	.003
W93070424	F02P	06-24-93	07:15	1.8	CHAETOCEROS SPP.(<10UM)	.016
W93070424	F02P	06-24-93	07:15	1.8	COCCONEIS SCUTELLUM	.001
W93070424	F02P	06-24-93	07:15	1.8	CRYPTOMONADS	.093
W93070424	F02P	06-24-93	07:15	1.8	CYLINDROTHECA CLOSTERIUM	.003
W93070424	F02P	06-24-93	07:15	1.8	DICTYOCHA SPECULUM	.001
W93070424	F02P	06-24-93	07:15	1.8	DINOPHYSIS NORVEGICA	.001
W93070424	F02P	06-24-93	07:15	1.8	DINOPHYSIS OVUM	.001
W93070424	F02P	06-24-93	07:15	1.8	EBRIA TRIPARTITIA	.001
W93070424	F02P	06-24-93	07:15	1.8	GYMNODINIUM SPP.	.006
W93070424	F02P	06-24-93	07:15	1.8	GYRODINIUM SPIRALE	.009
W93070424	F02P	06-24-93	07:15	1.8	HETEROCAPSA TRIQUETRA	.001
W93070424	F02P	06-24-93	07:15	1.8	HETEROSIGMA AKASHIWO	.001
W93070424	F02P	06-24-93	07:15	1.8	LEPTOCYLINDRUS DANICUS	.011
W93070424	F02P	06-24-93	07:15	1.8	LICMOPHORA SPP.	.001
W93070424	F02P	06-24-93	07:15	1.8	MESODINIUM RUBRUM	.002
W93070424	F02P	06-24-93	07:15	1.8	MICROFLAGELLATES	.24
W93070424	F02P	06-24-93	07:15	1.8	NAVICULOID DIATOMS	.001

Table F1. Phytoplankton Species Data for June and July 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93070424	F02P	06-24-93	07:15	1.8	NITZSCHIA (CF) DELICATISSIMA	.005
W93070424	F02P	06-24-93	07:15	1.8	PROBOSCIA (=RHIZOSELENIA) ALATA	.001
W93070424	F02P	06-24-93	07:15	1.8	PYRAMIMONAS/TETRASELMIS SPP.	.005
W93070424	F02P	06-24-93	07:15	1.8	RHIZOSOLENIA DELICATULA	.012
W93070424	F02P	06-24-93	07:15	1.8	SCRIPPSIELLA TROCHOIDEA	.002
W93070424	F02P	06-24-93	07:15	1.8	THALASSIONEMA NITZSCHOIDES	.002
W93070424	F02P	06-24-93	07:15	1.8	THALASSIOSIRA SPP.	.001
W93070424	F02P	06-24-93	07:15	1.8	UNID. CENTRALES	.003
W93070424	F02P	06-24-93	07:15	1.8	UNID. DINOFLAGELLATES	.003
W93070424	F02P	06-24-93	07:15	1.8	UNID. NAKED DINOFLAGELLATE	.005
W93070441	F01P	06-24-93	08:34	9	CERATIUM FUSUS	.001
W93070441	F01P	06-24-93	08:34	9	CERATIUM LONGIPES	.004
W93070441	F01P	06-24-93	08:34	9	CERATIUM TRIPOS	.001
W93070441	F01P	06-24-93	08:34	9	CHAETOCEROS SPP. (10-20UM)	.001
W93070441	F01P	06-24-93	08:34	9	CHAETOCEROS SPP.(<10UM)	.022
W93070441	F01P	06-24-93	08:34	9	CRYPTOMONADS	.054
W93070441	F01P	06-24-93	08:34	9	CYLINDROTHECA CLOSTERIUM	.001
W93070441	F01P	06-24-93	08:34	9	LEPTOCYLINDRUS DANICUS	.105
W93070441	F01P	06-24-93	08:34	9	MICROFLAGELLATES	.405
W93070441	F01P	06-24-93	08:34	9	NAVICULOID DIATOMS	.001
W93070441	F01P	06-24-93	08:34	9	PROBOSCIA (=RHIZOSELENIA) ALATA	.001
W93070441	F01P	06-24-93	08:34	9	PROTOPERIDINIUM BIPES	.001
W93070441	F01P	06-24-93	08:34	9	PYRAMIMONAS/TETRASELMIS SPP.	.001
W93070441	F01P	06-24-93	08:34	9	RHIZOSOLENIA DELICATULA	.011
W93070441	F01P	06-24-93	08:34	9	SKELETONEMA COSTATUM	.008
W93070443	F01P	06-24-93	08:35	1.9	CERATIUM FUSUS	.001
W93070443	F01P	06-24-93	08:35	1.9	CERATIUM LONGIPES	.007
W93070443	F01P	06-24-93	08:35	1.9	CHAETOCEROS SPP. (10-20UM)	.004
W93070443	F01P	06-24-93	08:35	1.9	CHAETOCEROS SPP.(<10UM)	.015
W93070443	F01P	06-24-93	08:35	1.9	COCCONEIS SCUTELLUM	.001
W93070443	F01P	06-24-93	08:35	1.9	CRYPTOMONADS	.018
W93070443	F01P	06-24-93	08:35	1.9	CYLINDROTHECA CLOSTERIUM	.001
W93070443	F01P	06-24-93	08:35	1.9	EBRIA TRIPARTITIA	.003
W93070443	F01P	06-24-93	08:35	1.9	LEPTOCYLINDRUS DANICUS	.116
W93070443	F01P	06-24-93	08:35	1.9	MICROFLAGELLATES	.28
W93070443	F01P	06-24-93	08:35	1.9	NAVICULOID DIATOMS	.001
W93070443	F01P	06-24-93	08:35	1.9	PLEUROSIGMA SPP.	.001
W93070443	F01P	06-24-93	08:35	1.9	RHIZOSOLENIA DELICATULA	.005
W93070443	F01P	06-24-93	08:35	1.9	SKELETONEMA COSTATUM	.002
W93070443	F01P	06-24-93	08:35	1.9	THALASSIONEMA NITZSCHOIDES	.001
W93070443	F01P	06-24-93	08:35	1.9	UNID. NAKED DINOFLAGELLATE	.001
W93070529	F23P	06-25-93	05:34	8.5	CERATIUM LONGIPES	.004
W93070529	F23P	06-25-93	05:34	8.5	CHAETOCEROS DECIPIENS	.02
W93070529	F23P	06-25-93	05:34	8.5	CHAETOCEROS SPP. (10-20UM)	.016
W93070529	F23P	06-25-93	05:34	8.5	CHAETOCEROS SPP.(<10UM)	.028
W93070529	F23P	06-25-93	05:34	8.5	CRYPTOMONADS	.143
W93070529	F23P	06-25-93	05:34	8.5	CYLINDROTHECA CLOSTERIUM	.012
W93070529	F23P	06-25-93	05:34	8.5	EBRIA TRIPARTITIA	.004
W93070529	F23P	06-25-93	05:34	8.5	GYRODINIUM SPIRALE	.008
W93070529	F23P	06-25-93	05:34	8.5	LEPTOCYLINDRUS DANICUS	.79
W93070529	F23P	06-25-93	05:34	8.5	MESODINIUM RUBRUM	.004
W93070529	F23P	06-25-93	05:34	8.5	MICROFLAGELLATES	.373
W93070529	F23P	06-25-93	05:34	8.5	NITZSCHIA (CF) DELICATISSIMA	.004
W93070529	F23P	06-25-93	05:34	8.5	NITZSCHIA SPP.	.008
W93070529	F23P	06-25-93	05:34	8.5	RHIZOSOLENIA DELICATULA	.032
W93070529	F23P	06-25-93	05:34	8.5	SKELETONEMA COSTATUM	.854
W93070529	F23P	06-25-93	05:34	8.5	THALASSIONEMA NITZSCHOIDES	.008
W93070529	F23P	06-25-93	05:34	8.5	UNID. NAKED DINOFLAGELLATE	.004
W93070531	F23P	06-25-93	05:36	1.9	CHAETOCEROS DECIPIENS	.021
W93070531	F23P	06-25-93	05:36	1.9	CHAETOCEROS SOCIALIS	.012
W93070531	F23P	06-25-93	05:36	1.9	CHAETOCEROS SPP. (10-20UM)	.017
W93070531	F23P	06-25-93	05:36	1.9	CHAETOCEROS SPP.(<10UM)	.173

Table F1. Phytoplankton Species Data for June and July 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93070531	F23P	06-25-93	05:36	1.9	CRYPTOMONADS	.235
W93070531	F23P	06-25-93	05:36	1.9	CYLINDROTHECA CLOSTERIUM	.012
W93070531	F23P	06-25-93	05:36	1.9	DINOPHYSIS NORVEGICA	.004
W93070531	F23P	06-25-93	05:36	1.9	EUTREPTIA/EUTREPTIELLA SPP.	.004
W93070531	F23P	06-25-93	05:36	1.9	GYRODINIUM SPIRALE	.004
W93070531	F23P	06-25-93	05:36	1.9	LEPTOCYLINDRUS DANICUS	1.061
W93070531	F23P	06-25-93	05:36	1.9	LICMOPHORA SPP.	.004
W93070531	F23P	06-25-93	05:36	1.9	MICROFLAGELLATES	.301
W93070531	F23P	06-25-93	05:36	1.9	NAVICULOID DIATOMS	.004
W93070531	F23P	06-25-93	05:36	1.9	PROTOPERIDINIUM DEPRESSUM	.004
W93070531	F23P	06-25-93	05:36	1.9	RHIZOSOLENIA DELICATULA	.041
W93070531	F23P	06-25-93	05:36	1.9	SKELETONEMA COSTATUM	.747
W93070531	F23P	06-25-93	05:36	1.9	UNID. NAKED DINOFLAGELLATE	.012
W93070544	N10P	06-25-93	06:24	1.7	CERATIUM LONGIPES	.013
W93070544	N10P	06-25-93	06:24	1.7	CHAETOCEROS DECIPIENS	.013
W93070544	N10P	06-25-93	06:24	1.7	CHAETOCEROS SPP. (10-20UM)	.019
W93070544	N10P	06-25-93	06:24	1.7	CHAETOCEROS SPP.(<10UM)	.05
W93070544	N10P	06-25-93	06:24	1.7	CRYPTOMONADS	.131
W93070544	N10P	06-25-93	06:24	1.7	CYLINDROTHECA CLOSTERIUM	.013
W93070544	N10P	06-25-93	06:24	1.7	DINOPHYSIS NORVEGICA	.006
W93070544	N10P	06-25-93	06:24	1.7	EBRIA TRIPARTITIA	.013
W93070544	N10P	06-25-93	06:24	1.7	EUTREPTIA/EUTREPTIELLA SPP.	.006
W93070544	N10P	06-25-93	06:24	1.7	GYRODINIUM SPIRALE	.013
W93070544	N10P	06-25-93	06:24	1.7	GYRODINIUM SPP.	.006
W93070544	N10P	06-25-93	06:24	1.7	LEPTOCYLINDRUS DANICUS	3.647
W93070544	N10P	06-25-93	06:24	1.7	MESODINIUM RUBRUM	.006
W93070544	N10P	06-25-93	06:24	1.7	MICROFLAGELLATES	.225
W93070544	N10P	06-25-93	06:24	1.7	NAVICULOID DIATOMS	.006
W93070544	N10P	06-25-93	06:24	1.7	PROTOPERIDINIUM SPP.	.006
W93070544	N10P	06-25-93	06:24	1.7	RHIZOSOLENIA DELICATULA	.188
W93070544	N10P	06-25-93	06:24	1.7	SKELETONEMA COSTATUM	.526
W93070544	N10P	06-25-93	06:24	1.7	UNID. DINOFLAGELLATES	.006
W93070544	N10P	06-25-93	06:24	1.7	UNID. NAKED DINOFLAGELLATE	.025
W93080034	N10P	07-07-93	06:01	1.64	CERATIUM LONGIPES	.003
W93080034	N10P	07-07-93	06:01	1.64	CHAETOCEROS DECIPIENS	.006
W93080034	N10P	07-07-93	06:01	1.64	CHAETOCEROS SOCIALIS	.008
W93080034	N10P	07-07-93	06:01	1.64	CHAETOCEROS SPP. (10-20UM)	.003
W93080034	N10P	07-07-93	06:01	1.64	CHAETOCEROS SPP.(<10UM)	.011
W93080034	N10P	07-07-93	06:01	1.64	CRYPTOMONADS	.065
W93080034	N10P	07-07-93	06:01	1.64	CYLINDROTHECA CLOSTERIUM	.003
W93080034	N10P	07-07-93	06:01	1.64	DINOPHYSIS NORVEGICA	.003
W93080034	N10P	07-07-93	06:01	1.64	EBRIA TRIPARTITIA	.003
W93080034	N10P	07-07-93	06:01	1.64	EUTREPTIA/EUTREPTIELLA SPP.	.008
W93080034	N10P	07-07-93	06:01	1.64	GYRODINIUM SPP.	.008
W93080034	N10P	07-07-93	06:01	1.64	HETEROSIGMA AKASHIWO	.003
W93080034	N10P	07-07-93	06:01	1.64	LEPTOCYLINDRUS DANICUS	.663
W93080034	N10P	07-07-93	06:01	1.64	MICROFLAGELLATES	.514
W93080034	N10P	07-07-93	06:01	1.64	PROTOPERIDINIUM BIPES	.011
W93080034	N10P	07-07-93	06:01	1.64	RHIZOSOLENIA DELICATULA	.189
W93080034	N10P	07-07-93	06:01	1.64	SKELETONEMA COSTATUM	.006
W93080034	N10P	07-07-93	06:01	1.64	THALASSIOSIRA SPP.	.003
W93080034	N10P	07-07-93	06:01	1.64	UNID. CENTRALES	.006
W93080034	N10P	07-07-93	06:01	1.64	UNID. NAKED DINOFLAGELLATE	.023
W93090029	N10P	07-28-93	06:06	1.47	CHAETOCEROS COMPRESSUS	.082
W93090029	N10P	07-28-93	06:06	1.47	CHAETOCEROS SPP. (10-20UM)	.024
W93090029	N10P	07-28-93	06:06	1.47	CHAETOCEROS SPP.(<10UM)	.054
W93090029	N10P	07-28-93	06:06	1.47	COSCINODISCUS OCULUS-IRIDIS	.003
W93090029	N10P	07-28-93	06:06	1.47	CRYPTOMONADS	.041
W93090029	N10P	07-28-93	06:06	1.47	CYLINDROTHECA CLOSTERIUM	.027
W93090029	N10P	07-28-93	06:06	1.47	EBRIA TRIPARTITIA	.003
W93090029	N10P	07-28-93	06:06	1.47	GYMNODINIUM SPP.	.003
W93090029	N10P	07-28-93	06:06	1.47	GYRO/PLEUROSIGMA SPP.	.003

Table F1. Phytoplankton Species Data for June and July 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93090029	N10P	07-28-93	06:06	1.47	GYRODINIUM SPIRALE	.007
W93090029	N10P	07-28-93	06:06	1.47	HETEROCAPSA TRIQUETRA	.014
W93090029	N10P	07-28-93	06:06	1.47	LEPTOCYLINDRUS DANICUS	.037
W93090029	N10P	07-28-93	06:06	1.47	LITHODESMIUM SPP.	.007
W93090029	N10P	07-28-93	06:06	1.47	MESODINIUM RUBRUM	.003
W93090029	N10P	07-28-93	06:06	1.47	MICROFLAGELLATES	.286
W93090029	N10P	07-28-93	06:06	1.47	NAVICULOID DIATOMS	.007
W93090029	N10P	07-28-93	06:06	1.47	NITZSCHIA (CF) DELICATISSIMA	.027
W93090029	N10P	07-28-93	06:06	1.47	RHIZOSOLENIA DELICATULA	.017
W93090029	N10P	07-28-93	06:06	1.47	SKELETONEMA COSTATUM	1.576
W93090029	N10P	07-28-93	06:06	1.47	THALASSIOSIRA (cf) GRAVIDA/ROTULA	.007
W93090029	N10P	07-28-93	06:06	1.47	THALASSIOSIRA SPP.	.01
W93090029	N10P	07-28-93	06:06	1.47	UNID. CENTRALES	.007
W93090029	N10P	07-28-93	06:06	1.47	UNID. NAKED DINOFLAGELLATE	.014

APPENDIX G

ZOOPLANKTON SPECIES DATA TABLES

A complete listing for survey W9307 is given for taxonomic analyses of zooplankton net tow samples (Table G-1).

Table G1. Zooplankton Species Data for June 1993.

Event	Station	Date	Time	Taxon	Qual[1]	Individuals Per M3
W93070051	N20P	06-22-93	06:54	ACARTIA TONSA	M	53
W93070051	N20P	06-22-93	06:54	ACARTIA TONSA	C	695
W93070051	N20P	06-22-93	06:54	BARNACLE NAUPLII	N	160
W93070051	N20P	06-22-93	06:54	BIVALVE VELIGER		8498
W93070051	N20P	06-22-93	06:54	CALANUS FINMARCHICUS	C	107
W93070051	N20P	06-22-93	06:54	COPEPOD NAUPLII	N	11758
W93070051	N20P	06-22-93	06:54	CRAB ZOEA		53
W93070051	N20P	06-22-93	06:54	ECHINODERM PLUTEI		53
W93070051	N20P	06-22-93	06:54	EURYTEMORA HERDMANI	C	214
W93070051	N20P	06-22-93	06:54	EVADNE NORDMANI		1710
W93070051	N20P	06-22-93	06:54	FISH EGG		107
W93070051	N20P	06-22-93	06:54	GASTROPOD VELIGER		2245
W93070051	N20P	06-22-93	06:54	MEDUSA		160
W93070051	N20P	06-22-93	06:54	METRIDIA LUCENS	M	53
W93070051	N20P	06-22-93	06:54	METRIDIA LUCENS	C	588
W93070051	N20P	06-22-93	06:54	METRIDIA LUCENS	F	53
W93070051	N20P	06-22-93	06:54	MICROSETELLA NORVEGICA		53
W93070051	N20P	06-22-93	06:54	MYSIID LARVA		107
W93070051	N20P	06-22-93	06:54	OITHONA ATLANTICA	F	53
W93070051	N20P	06-22-93	06:54	OITHONA SIMILIS	F	1550
W93070051	N20P	06-22-93	06:54	OITHONA SIMILIS	C	6413
W93070051	N20P	06-22-93	06:54	OITHONA SIMILIS	M	160
W93070051	N20P	06-22-93	06:54	PARACALANUS PARVUS	M	160
W93070051	N20P	06-22-93	06:54	PARACALANUS PARVUS	C	2886
W93070051	N20P	06-22-93	06:54	PARACALANUS PARVUS	F	428
W93070051	N20P	06-22-93	06:54	PLEUROBRACHIA PILEUS		160
W93070051	N20P	06-22-93	06:54	PODON POLYPHEMOIDES		53
W93070051	N20P	06-22-93	06:54	POLYCHAETE LARVAE		107
W93070051	N20P	06-22-93	06:54	PSEUDOCALANUS NEWMANI	F	107
W93070051	N20P	06-22-93	06:54	PSEUDOCALANUS NEWMANI	C	107
W93070051	N20P	06-22-93	06:54	TEMORA LONGICORNIS	M	321
W93070051	N20P	06-22-93	06:54	TEMORA LONGICORNIS	C	1710
W93070051	N20P	06-22-93	06:54	TEMORA LONGICORNIS	F	107
W93070051	N20P	06-22-93	06:54	TORTANUS DISCAUDATUS	C	53
W93070051	N20P	06-22-93	06:54	UNIDENTIFIED LARVAE		160
W93070076	N16P	06-22-93	08:00	BIVALVE VELIGER		9318
W93070076	N16P	06-22-93	08:00	CALANUS FINMARCHICUS	C	1603
W93070076	N16P	06-22-93	08:00	CALANUS FINMARCHICUS	F	401
W93070076	N16P	06-22-93	08:00	CALANUS FINMARCHICUS	M	601
W93070076	N16P	06-22-93	08:00	COPEPOD NAUPLII	N	12224
W93070076	N16P	06-22-93	08:00	CRAB ZOEA		100
W93070076	N16P	06-22-93	08:00	DECAPOD LARVAE		200
W93070076	N16P	06-22-93	08:00	ECHINODERM PLUTEI		200
W93070076	N16P	06-22-93	08:00	EVADNE NORDMANI		100
W93070076	N16P	06-22-93	08:00	METRIDIA LUCENS	C	200
W93070076	N16P	06-22-93	08:00	MICROSETELLA NORVEGICA		100
W93070076	N16P	06-22-93	08:00	OITHONA ATLANTICA	F	100
W93070076	N16P	06-22-93	08:00	OITHONA SIMILIS	F	2705
W93070076	N16P	06-22-93	08:00	OITHONA SIMILIS	M	401
W93070076	N16P	06-22-93	08:00	OITHONA SIMILIS	C	21742
W93070076	N16P	06-22-93	08:00	PARACALANUS PARVUS	F	301
W93070076	N16P	06-22-93	08:00	PARACALANUS PARVUS	M	100
W93070076	N16P	06-22-93	08:00	PARACALANUS PARVUS	C	3306
W93070076	N16P	06-22-93	08:00	PLEUROBRACHIA PILEUS		401
W93070076	N16P	06-22-93	08:00	PSEUDOCALANUS NEWMANI	F	301
W93070076	N16P	06-22-93	08:00	PSEUDOCALANUS NEWMANI	C	301
W93070076	N16P	06-22-93	08:00	TEMORA LONGICORNIS	C	701
W93070100	N10P	06-22-93	09:15	ACARTIA TONSA	C	752
W93070100	N10P	06-22-93	09:15	BARNACLE NAUPLII	N	94
W93070100	N10P	06-22-93	09:15	BIVALVE VELIGER		18037
W93070100	N10P	06-22-93	09:15	CALANUS FINMARCHICUS	F	141

[1]C = COPEPIDITES, F = FEMALE, M = MALE, N = NAUPLII

Table G1. Zooplankton Species Data for June 1993.

Event	Station	Date	Time	Taxon	Qual[1]	Individuals Per M3
W93070100	N10P	06-22-93	09:15	CALANUS FINMARCHICUS	C	235
W93070100	N10P	06-22-93	09:15	CENTROPAGES SPP.	C	94
W93070100	N10P	06-22-93	09:15	COPEPOD NAUPLII	N	8784
W93070100	N10P	06-22-93	09:15	CRAB ZOEA		47
W93070100	N10P	06-22-93	09:15	DECAPOD LARVAE		47
W93070100	N10P	06-22-93	09:15	EVADNE NORDMANI		1644
W93070100	N10P	06-22-93	09:15	GASTROPOD VELIGER		2537
W93070100	N10P	06-22-93	09:15	MEDUSA		188
W93070100	N10P	06-22-93	09:15	METRIDIA LUCENS	F	94
W93070100	N10P	06-22-93	09:15	METRIDIA LUCENS	C	141
W93070100	N10P	06-22-93	09:15	MYSIID LARVA		47
W93070100	N10P	06-22-93	09:15	OITHONA SIMILIS	F	1785
W93070100	N10P	06-22-93	09:15	OITHONA SIMILIS	C	5825
W93070100	N10P	06-22-93	09:15	OITHONA SIMILIS	M	47
W93070100	N10P	06-22-93	09:15	PARACALANUS PARVUS	C	4228
W93070100	N10P	06-22-93	09:15	PARACALANUS PARVUS	F	1033
W93070100	N10P	06-22-93	09:15	PARACALANUS PARVUS	M	141
W93070100	N10P	06-22-93	09:15	PLEUROBRACHIA PILEUS		94
W93070100	N10P	06-22-93	09:15	PODON POLYPHEMOIDES		47
W93070100	N10P	06-22-93	09:15	POLYCHAETE LARVAE		611
W93070100	N10P	06-22-93	09:15	PSEUDOCALANUS NEWMANI	F	564
W93070100	N10P	06-22-93	09:15	PSEUDOCALANUS NEWMANI	C	470
W93070100	N10P	06-22-93	09:15	PSEUDOCALANUS NEWMANI	M	47
W93070100	N10P	06-22-93	09:15	SAGITTA ELEGANS		94
W93070100	N10P	06-22-93	09:15	TEMORA LONGICORNIS	F	94
W93070100	N10P	06-22-93	09:15	TEMORA LONGICORNIS	M	94
W93070100	N10P	06-22-93	09:15	TEMORA LONGICORNIS	C	2349
W93070100	N10P	06-22-93	09:15	TORTANUS DISCAUDATUS	C	94
W93070100	N10P	06-22-93	09:15	UNIDENTIFIED LARVAE		611
W93070274	N01P	06-23-93	05:56	ACARTIA TONSA	C	87
W93070274	N01P	06-23-93	05:56	BIVALVE VELIGER		2249
W93070274	N01P	06-23-93	05:56	CALANUS FINMARCHICUS	F	87
W93070274	N01P	06-23-93	05:56	CALANUS FINMARCHICUS	C	131
W93070274	N01P	06-23-93	05:56	CALANUS FINMARCHICUS	M	15
W93070274	N01P	06-23-93	05:56	COPEPOD NAUPLII	N	3294
W93070274	N01P	06-23-93	05:56	CRAB ZOEA		102
W93070274	N01P	06-23-93	05:56	DECAPOD LARVAE		15
W93070274	N01P	06-23-93	05:56	ECHINODERM PLUTEI		58
W93070274	N01P	06-23-93	05:56	EVADNE NORDMANI		885
W93070274	N01P	06-23-93	05:56	GASTROPOD VELIGER		522
W93070274	N01P	06-23-93	05:56	MEDUSA		73
W93070274	N01P	06-23-93	05:56	METRIDIA LUCENS	F	58
W93070274	N01P	06-23-93	05:56	METRIDIA LUCENS	C	73
W93070274	N01P	06-23-93	05:56	MICROSETELLA NORVEGICA		44
W93070274	N01P	06-23-93	05:56	MYSIID LARVA		261
W93070274	N01P	06-23-93	05:56	OITHONA SIMILIS	F	1930
W93070274	N01P	06-23-93	05:56	OITHONA SIMILIS	M	145
W93070274	N01P	06-23-93	05:56	OITHONA SIMILIS	C	5050
W93070274	N01P	06-23-93	05:56	PARACALANUS PARVUS	F	145
W93070274	N01P	06-23-93	05:56	PARACALANUS PARVUS	C	755
W93070274	N01P	06-23-93	05:56	PLEUROBRACHIA PILEUS		87
W93070274	N01P	06-23-93	05:56	PODON POLYPHEMOIDES		15
W93070274	N01P	06-23-93	05:56	POLYCHAETE LARVAE		73
W93070274	N01P	06-23-93	05:56	PSEUDOCALANUS NEWMANI	F	116
W93070274	N01P	06-23-93	05:56	PSEUDOCALANUS NEWMANI	C	58
W93070274	N01P	06-23-93	05:56	PSEUDOCALANUS NEWMANI	M	15
W93070274	N01P	06-23-93	05:56	TEMORA LONGICORNIS	F	203
W93070274	N01P	06-23-93	05:56	TEMORA LONGICORNIS	C	2264
W93070274	N01P	06-23-93	05:56	TEMORA LONGICORNIS	M	218
W93070274	N01P	06-23-93	05:56	TORTANUS DISCAUDATUS	C	29
W93070274	N01P	06-23-93	05:56	UNIDENTIFIED LARVAE		15

[1]C = COPEPIDITES, F = FEMALE, M = MALE, N = NAUPLII

Table G1. Zooplankton Species Data for June 1993.

Event	Station	Date	Time	Taxon	Qual[1]	Individuals Per M3
W93070294	N04P	06-23-93	07:07	ACARTIA TONSA	C	43
W93070294	N04P	06-23-93	07:07	BIVALVE VELIGER		213
W93070294	N04P	06-23-93	07:07	CALANUS FINMARCHICUS	F	128
W93070294	N04P	06-23-93	07:07	CALANUS FINMARCHICUS	C	682
W93070294	N04P	06-23-93	07:07	CENTROPAGES SPP.	C	213
W93070294	N04P	06-23-93	07:07	COPEPOD NAUPLII	N	10692
W93070294	N04P	06-23-93	07:07	EVADNE NORDMANI		170
W93070294	N04P	06-23-93	07:07	GASTROPOD VELIGER		128
W93070294	N04P	06-23-93	07:07	MEDUSA		43
W93070294	N04P	06-23-93	07:07	MICROSETELLA NORVEGICA		128
W93070294	N04P	06-23-93	07:07	OITHONA SIMILIS	F	1789
W93070294	N04P	06-23-93	07:07	OITHONA SIMILIS	M	128
W93070294	N04P	06-23-93	07:07	OITHONA SIMILIS	C	12523
W93070294	N04P	06-23-93	07:07	PARACALANUS PARVUS	C	767
W93070294	N04P	06-23-93	07:07	PARACALANUS PARVUS	F	170
W93070294	N04P	06-23-93	07:07	PLEUROBRACHIA PILEUS		85
W93070294	N04P	06-23-93	07:07	PSEUDOCALANUS NEWMANI	F	43
W93070294	N04P	06-23-93	07:07	PSEUDOCALANUS NEWMANI	C	128
W93070294	N04P	06-23-93	07:07	TEMORA LONGICORNIS	F	85
W93070294	N04P	06-23-93	07:07	TEMORA LONGICORNIS	C	1363
W93070294	N04P	06-23-93	07:07	TEMORA LONGICORNIS	M	85
W93070306	N07P	06-23-93	08:13	ACARTIA TONSA	C	44
W93070306	N07P	06-23-93	08:13	BIVALVE VELIGER		176
W93070306	N07P	06-23-93	08:13	CALANUS FINMARCHICUS	F	88
W93070306	N07P	06-23-93	08:13	CALANUS FINMARCHICUS	C	1366
W93070306	N07P	06-23-93	08:13	CENTROPAGES HAMATUS	F	44
W93070306	N07P	06-23-93	08:13	COPEPOD NAUPLII	N	6697
W93070306	N07P	06-23-93	08:13	DECAPOD LARVAE		44
W93070306	N07P	06-23-93	08:13	EVADNE NORDMANI		220
W93070306	N07P	06-23-93	08:13	FISH EGG		44
W93070306	N07P	06-23-93	08:13	MICROSETELLA NORVEGICA		88
W93070306	N07P	06-23-93	08:13	OITHONA SIMILIS	C	11676
W93070306	N07P	06-23-93	08:13	OITHONA SIMILIS	F	969
W93070306	N07P	06-23-93	08:13	OITHONA SIMILIS	M	132
W93070306	N07P	06-23-93	08:13	PARACALANUS PARVUS	C	573
W93070306	N07P	06-23-93	08:13	PLEUROBRACHIA PILEUS		88
W93070306	N07P	06-23-93	08:13	TEMORA LONGICORNIS	C	176
W93070320	F13P	06-23-93	09:19	ACARTIA TONSA	F	52
W93070320	F13P	06-23-93	09:19	ACARTIA TONSA	C	312
W93070320	F13P	06-23-93	09:19	BARNACLE NAUPLII	N	104
W93070320	F13P	06-23-93	09:19	BIVALVE VELIGER		1246
W93070320	F13P	06-23-93	09:19	CALANUS FINMARCHICUS	F	52
W93070320	F13P	06-23-93	09:19	CALANUS FINMARCHICUS	C	831
W93070320	F13P	06-23-93	09:19	CENTROPAGES SPP.	C	104
W93070320	F13P	06-23-93	09:19	CENTROPAGES TYPICUS	F	52
W93070320	F13P	06-23-93	09:19	CENTROPAGES TYPICUS	M	104
W93070320	F13P	06-23-93	09:19	COPEPOD NAUPLII	N	5245
W93070320	F13P	06-23-93	09:19	CRAB ZOEA		52
W93070320	F13P	06-23-93	09:19	DECAPOD LARVAE		52
W93070320	F13P	06-23-93	09:19	EVADNE NORDMANI		415
W93070320	F13P	06-23-93	09:19	GASTROPOD VELIGER		1246
W93070320	F13P	06-23-93	09:19	MICROSETELLA NORVEGICA		52
W93070320	F13P	06-23-93	09:19	MYSIID LARVA		52
W93070320	F13P	06-23-93	09:19	OITHONA SIMILIS	F	1350
W93070320	F13P	06-23-93	09:19	OITHONA SIMILIS	C	5193
W93070320	F13P	06-23-93	09:19	OITHONA SIMILIS	M	52
W93070320	F13P	06-23-93	09:19	PARACALANUS PARVUS	F	312
W93070320	F13P	06-23-93	09:19	PARACALANUS PARVUS	M	104
W93070320	F13P	06-23-93	09:19	PARACALANUS PARVUS	C	571
W93070320	F13P	06-23-93	09:19	PLEUROBRACHIA PILEUS		52
W93070320	F13P	06-23-93	09:19	POLYCHAETE LARVAE		467

[1]C = COPEPIDITES, F = FEMALE, M = MALE, N = NAUPLII

Table G1. Zooplankton Species Data for June 1993.

Event	Station	Date	Time	Taxon	Qual[1]	Individuals Per M3
W93070320	F13P	06-23-93	09:19	PSEUDOCALANUS NEWMANI	F	104
W93070320	F13P	06-23-93	09:19	PSEUDOCALANUS NEWMANI	C	52
W93070320	F13P	06-23-93	09:19	TEMORA LONGICORNIS	F	363
W93070320	F13P	06-23-93	09:19	TEMORA LONGICORNIS	M	415
W93070320	F13P	06-23-93	09:19	TEMORA LONGICORNIS	C	1506
W93070320	F13P	06-23-93	09:19	TORTANUS DISCAUDATUS	C	52
W93070427	F02P	06-24-93	07:20	BIVALVE VELIGER		1431
W93070427	F02P	06-24-93	07:20	CALANUS FINMARCHICUS	F	41
W93070427	F02P	06-24-93	07:20	CALANUS FINMARCHICUS	C	307
W93070427	F02P	06-24-93	07:20	CALANUS FINMARCHICUS	M	20
W93070427	F02P	06-24-93	07:20	CENTROPAGES SPP.	C	470
W93070427	F02P	06-24-93	07:20	CENTROPAGES TYPICUS	F	20
W93070427	F02P	06-24-93	07:20	CENTROPAGES TYPICUS	M	41
W93070427	F02P	06-24-93	07:20	COPEPOD NAUPLII	N	7054
W93070427	F02P	06-24-93	07:20	GASTROPOD VELIGER		20
W93070427	F02P	06-24-93	07:20	MEDUSA		20
W93070427	F02P	06-24-93	07:20	MICROSETELLA NORVEGICA		143
W93070427	F02P	06-24-93	07:20	OITHONA SIMILIS	M	204
W93070427	F02P	06-24-93	07:20	OITHONA SIMILIS	C	6727
W93070427	F02P	06-24-93	07:20	OITHONA SIMILIS	F	2617
W93070427	F02P	06-24-93	07:20	PARACALANUS PARVUS	F	307
W93070427	F02P	06-24-93	07:20	PARACALANUS PARVUS	M	41
W93070427	F02P	06-24-93	07:20	PARACALANUS PARVUS	C	736
W93070427	F02P	06-24-93	07:20	PLEUROBRACHIA PILEUS		41
W93070427	F02P	06-24-93	07:20	POLYCHAETE LARVAE		532
W93070427	F02P	06-24-93	07:20	PSEUDOCALANUS NEWMANI	F	368
W93070427	F02P	06-24-93	07:20	PSEUDOCALANUS NEWMANI	M	41
W93070427	F02P	06-24-93	07:20	PSEUDOCALANUS NEWMANI	C	41
W93070427	F02P	06-24-93	07:20	TEMORA LONGICORNIS	F	164
W93070427	F02P	06-24-93	07:20	TEMORA LONGICORNIS	M	245
W93070427	F02P	06-24-93	07:20	TEMORA LONGICORNIS	C	859
W93070446	F01P	06-24-93	08:43	ACARTIA TONSA	C	53
W93070446	F01P	06-24-93	08:43	BIVALVE VELIGER		318
W93070446	F01P	06-24-93	08:43	CALANUS FINMARCHICUS	F	477
W93070446	F01P	06-24-93	08:43	CALANUS FINMARCHICUS	C	1961
W93070446	F01P	06-24-93	08:43	CALANUS FINMARCHICUS	M	318
W93070446	F01P	06-24-93	08:43	CENTROPAGES SPP.	C	636
W93070446	F01P	06-24-93	08:43	COPEPOD NAUPLII	N	7208
W93070446	F01P	06-24-93	08:43	CTENOPHORE		212
W93070446	F01P	06-24-93	08:43	DECAPOD LARVAE		53
W93070446	F01P	06-24-93	08:43	EVADNE NORDMANI		106
W93070446	F01P	06-24-93	08:43	GASTROPOD VELIGER		159
W93070446	F01P	06-24-93	08:43	METRIDIA LUCENS	C	53
W93070446	F01P	06-24-93	08:43	MICROSETELLA NORVEGICA		53
W93070446	F01P	06-24-93	08:43	OITHONA SIMILIS	M	159
W93070446	F01P	06-24-93	08:43	OITHONA SIMILIS	C	12827
W93070446	F01P	06-24-93	08:43	OITHONA SIMILIS	F	1590
W93070446	F01P	06-24-93	08:43	PARACALANUS PARVUS	M	106
W93070446	F01P	06-24-93	08:43	PARACALANUS PARVUS	C	1484
W93070446	F01P	06-24-93	08:43	PARACALANUS PARVUS	F	583
W93070446	F01P	06-24-93	08:43	PSEUDOCALANUS NEWMANI	F	159
W93070446	F01P	06-24-93	08:43	PSEUDOCALANUS NEWMANI	C	424
W93070535	F23P	06-25-93	05:47	ACARTIA TONSA	F	1420
W93070535	F23P	06-25-93	05:47	ACARTIA TONSA	C	5755
W93070535	F23P	06-25-93	05:47	ACARTIA TONSA	M	1121
W93070535	F23P	06-25-93	05:47	BARNACLE NAUPLII	N	1121
W93070535	F23P	06-25-93	05:47	BIVALVE VELIGER		5008
W93070535	F23P	06-25-93	05:47	COPEPOD NAUPLII	N	9156
W93070535	F23P	06-25-93	05:47	CRAB ZOEA		37
W93070535	F23P	06-25-93	05:47	EURYTEMORA HERDMANI	F	75
W93070535	F23P	06-25-93	05:47	EURYTEMORA HERDMANI	M	37

[1]C = COPEPIDITES, F = FEMALE, M = MALE, N = NAUPLII

Table G1. Zooplankton Species Data for June 1993.

Event	Station	Date	Time	Taxon	Qual[1]	Individuals Per M3
W93070535	F23P	06-25-93	05:47	EURYTEMORA HERDMANI	C	897
W93070535	F23P	06-25-93	05:47	EVADNE NORDMANI		3812
W93070535	F23P	06-25-93	05:47	FISH EGG		37
W93070535	F23P	06-25-93	05:47	GASTROPOD VELIGER		2055
W93070535	F23P	06-25-93	05:47	MEDUSA		75
W93070535	F23P	06-25-93	05:47	METRIDIA LUCENS	C	262
W93070535	F23P	06-25-93	05:47	MYSIID LARVA		37
W93070535	F23P	06-25-93	05:47	OITHONA SIMILIS	F	3027
W93070535	F23P	06-25-93	05:47	OITHONA SIMILIS	C	9306
W93070535	F23P	06-25-93	05:47	OITHONA SIMILIS	M	411
W93070535	F23P	06-25-93	05:47	PARACALANUS PARVUS	F	374
W93070535	F23P	06-25-93	05:47	PARACALANUS PARVUS	C	2354
W93070535	F23P	06-25-93	05:47	PODON POLYPHEMOIDES		635
W93070535	F23P	06-25-93	05:47	POLYCHAETE LARVAE		1159
W93070535	F23P	06-25-93	05:47	PSEUDOCALANUS NEWMANI	F	75
W93070535	F23P	06-25-93	05:47	TEMORA LONGICORNIS	C	785
W93070535	F23P	06-25-93	05:47	TORTANUS DISCAUDATUS	M	37
W93070535	F23P	06-25-93	05:47	TORTANUS DISCAUDATUS	C	75
W93070535	F23P	06-25-93	05:47	UNIDENTIFIED HARPACTICOID		112

[1]C = COPEPIDITES, F = FEMALE, M = MALE, N = NAUPLII