APPENDICES TO WATER QUALITY MONITORING IN MASSACHUSETTS AND CAPE COD BAYS: AUGUST AND SEPTEMBER 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 as 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 is Sea Water (mg/L) based on Weiss (1970)

Temperature (°C)

Salinity PPT	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)
W9310	N01P	08-11-93	0754	0.98	W93100049	15.84	30.59	9.35	114	38.77	22.39	5.00	3.50	0.09	0.01	0.04	0.38	1.00
W9310	N01P	08-11-93	0753	2.66	W93100048	15.48	30.99	9.28	112	38.91	22.78	7.35	2.05	0.15	0.01	0.08	0.37	1.32
W9310	N01P	08-11-93	0751	9.83	W93100047	10.69	31.23	10.23	112	34.97	23.90	1.90	0.84	0.13	0.00	0.05	0.33	2.39
W9310	N01P	08-11-93	0749	18.03	W93100046	8.44	31.37	9.91	104	33.19	24.36	2.23	0.84	0.43	0.15	0.84	0.52	3.99
W9310	N01P	08-11-93	0748	26.61	W93100045	6.76	31.46	9.33	94	31.86	24.66	0.72	0.90	1.48	0.28	2.12	0.69	7.02
W9310	N02	08-11-93	0820	0.87	W93100060	16.84	31.01	9.39	117	40.14	22.50	1.63	1.28	0.07	0.00	0.03	0.22	0.45
W9310	N02	08-11-93	0819	5.18	W93100059	15.43	30.96	9.71	118	38.83	22.76	1.97	1.06	0.19	0.00	0.05	0.24	1.01
W9310	N02	08-11-93	0816	21.19	W93100057	9.33	31.69	10.83	116	34.26	24.47	1.31	0.69	0.39	0.07	0.55	0.40	1.54
W9310	N02	08-11-93	0815	34.92	W93100056	6.10	31.51	9.35	93	31.35	24.78	0.57	0.93	1.75	0.34	2.91	0.75	7.26
W9310	N03	08-11-93	0849	0.89	W93100071	18.37	30.93	8.37	107	41.42	22.07	0.66	0.86	0.04	0.16	-0.12	0.14	0.94
W9310	N03	08-11-93	0847	7.63	W93100070	18.02	30.93	8.56	109	41.12	22.16	1.24	0.87	0.20	0.15	-0.11	0.16	0.90
W9310	N03	08-11-93	0845	15.92	W93100069	11.90	31.35	10.58	119	36.15	23.77	1.25	0.81	0.02	0.13	-0.08	0.26	0.46
W9310	N03	08-11-93	0844	25.64	W93100068	7.83	31.61	10.35	107	32.90	24.64	2.20	0.79	0.48	0.14	1.15	0.51	2.31
W9310	N03	08-11-93	0842	36.21	W93100067	6.04	31.61	9.73	96	31.39	24.87	0.65	0.70	1.58	0.30	3.22	0.72	5.11
W9310	N04P	08-11-93	0916	0.86	W93100082	18.82	30.93	8.32	108	41.83	21.96	0.63	0.89	0.05	0.01	0.02	0.22	1.57
W9310	N04P	08-11-93	0915	11.92	W93100081	12.51	31.10	10.08	115	36.42	23.47	1.72	0.83	0.30	0.02	0.00	0.34	2.83
W9310	N04P	08-11-93	0914	19.15	W93100080	9.22	31.30	9.94	106	33.79	24.19	2.60	0.93	0.17	0.08	0.23	0.47	3.64
W9310	N04P	08-11-93	0913	25.17	W93100079	7.77	31.39	9.91	102	32.65	24.48	1.45	0.72	0.98	0.21	1.17	0.61	4.32
W9310	N04P	08-11-93	0911	44.86	W93100078	5.76	31.67	9.70	95	31.22	24.95	0.52	0.63	1.80	0.33	3.83	0.77	4.66
W9310	N05	08-11-93	0943	0.70	W93100093	18.71	30.92	8.34	108	41.72	21.98	0.58	0.78	0.26	0.03	0.00	0.17	1.14
W9310	N05	08-11-93	0942	7.73	W93100092	16.75	30.83	9.21	114	39.86	22.38	1.04	0.77	0.16	0.03	-0.01	0.25	1.91
W9310	N05	08-11-93	0940	16.53	W93100091	9.41	31.34	10.18	109	33.99	24.19	2.34	0.83	0.32	0.08	0.23	0.44	3.08
W9310	N05	08-11-93	0939	26.53	W93100090	7.38	31.43	9.90	101	32.35	24.56	1.19	0.66	1.39	0.26	1.54	0.63	3.89
W9310	N05	08-11-93	0938	48.60	W93100089	5.60	31.70	9.64	94	31.11	24.99	0.50	0.60	1.69	0.33	4.24	0.79	4.16
W9310	N06	08-11-93	1011	0.84	W93100104	18.63	30.96	8.33	107	41.69	22.03	0.58	0.79	0.05	0.02	-0.01	0.16	1.17
W9310	N06	08-11-93	1010	8.48	W93100103	15.63	30.76	9.55	116	38.78	22.57	1.25	0.78	0.16	0.02	0.01	0.22	1.57
W9310	N06	08-11-93	1008	18.44	W93100102	9.05	31.38	10.21	108	33.72	24.28	2.22	0.81	0.19	0.09	0.30	0.44	2.66
W9310	N06	08-11-93	1007	27.64	W93100101	7.74	31.67	10.23	105	32.88	24.69	1.72	0.72	0.55	0.15	1.04	0.52	1.27
W9310	N06	08-11-93	1005	44.64	W93100100	5.30	31.69	9.66	94	30.85	25.02	0.54	0.62	1.85	0.31	4.36	0.76	3.83
W9310	N07P	08-11-93	1038	0.95	W93100115	18.82	30.94	8.30	107	41.84	21.97	0.56	0.92	0.00	0.01	0.12	0.17	1.12
W9310	N07P	08-11-93	1037	9.45	W93100114	14.36	30.96	9.94	118	37.89	22.99	1.32	0.81	0.00	0.01	0.01	0.24	1.76
W9310	N07P	08-11-93	1035	14.62	W93100113	9.76	31.41	10.65	115	34.36	24.19	1.80	0.81	0.06	0.01	0.02	0.32	0.97
W9310	N07P	08-11-93	1033	24.19	W93100112	8.18	31.76	10.71	112	33.35	24.71	2.52	0.82	0.09	0.06	0.44	0.43	0.89
W9310	N07P	08-11-93	1031	44.23	W93100111	5.26	31.68	9.65	94	30.81	25.01	0.51	0.63	1.72	0.31	4.51	0.80	4.75
W9310	N08	08-11-93	1104	0.90	W93100126	19.41	30.87	8.29	108	42.29	21.77	0.57	0.84	0.03	0.00	0.00	0.12	1.02
W9310	N08	08-11-93	1103	8.95	W93100125	15.14	31.13	9.81	118	38.76	22.96	1.03	0.83	0.00	0.00	0.00	0.21	0.63
W9310	N08	08-11-93	1102	14.20	W93100124	11.62	31.39	10.60	119	35.95	23.85	1.36	0.77	0.00	0.01	0.06	0.29	1.02
W9310	N08	08-11-93	1100	17.79	W93100123	8.12	31.39	10.01	104	32.93	24.42	1.87	0.80	0.08	0.06	0.46	0.41	2.26
W9310	N08	08-11-93	1059	26.62	W93100122	7.10	31.52	9.96	101	32.20	24.67	1.10	0.69	0.66	0.21	1.64	0.63	4.79
W9310	N09	08-11-93	1129	0.89	W93100137	18.82	30.88	8.71	113	41.78	21.92	0.99	1.08	0.01	0.02	-0.01	0.21	0.62
W9310	N09	08-11-93	1128	2.96	W93100136	16.72	30.96	9.70	120	39.98	22.48	3.27	1.84	0.00	0.01	-0.01	0.33	0.40
W9310	N09	08-11-93	1127	8.06	W93100135	15.66	31.05	9.38	114	39.14	22.79	6.93	1.96	0.03	0.03	0.10	0.41	1.62
W9310	N09	08-11-93	1126	15.98	W93100134	9.07	31.43	10.23	108	33.79	24.31	2.46	0.89	0.33	0.13	0.75	0.53	3.89
W9310	N09	08-11-93	1125	31.65	W93100133	7.36	31.44	9.67	99	32.35	24.57	1.01	0.98	0.98	0.20	1.58	0.66	6.08
W9310	N10P	08-11-93	0630	0.97	W93100012	15.64	31.04	8.78	107	39.11	22.79	4.45	1.62	0.26	0.09	0.32	0.50	1.57

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)
W9310	N10P	08-11-93	0629	2.70	W93100011	15.47	31.04	8.79	107	38.96	22.83	5.07	1.69	0.91	0.09	0.36	0.52	1.65
W9310	N10P	08-11-93	0627	7.18	W93100010	12.88	31.12	9.31	107	36.75	23.41	2.99	1.22	0.59	0.11	0.46	0.54	3.26
W9310	N10P	08-11-93	0625	14.53	W93100009	8.18	31.34	9.35	97	32.95	24.38	1.24	0.93	0.94	0.19	1.10	0.66	5.98
W9310	N10P	08-11-93	0623	19.83	W93100008	7.85	31.37	9.15	94	32.69	24.44	1.01	0.99	1.21	0.20	1.19	0.66	6.38
W9310	N11	08-11-93	0700	0.87	W93100023	15.22	31.06	9.47	114	38.75	22.89	4.54	1.67	0.01	0.01	0.03	0.35	1.56
W9310	N11	08-11-93	0659	5.85	W93100022	12.35	31.12	9.92	113	36.30	23.52	2.21	0.96	0.00	0.01	0.05	0.36	2.58
W9310	N11	08-11-93	0658	12.63	W93100021	10.04	31.27	9.85	107	34.45	24.03	1.90	0.88	0.20	0.05	0.22	0.45	3.35
W9310	N11	08-11-93	0656	18.06	W93100020	9.40	31.30	9.61	103	33.94	24.16	1.37	0.86	0.76	0.11	0.59	0.56	4.41
W9310	N11	08-11-93	0654	24.94	W93100019	8.02	31.38	9.40	97	32.85	24.43	0.96	0.90	1.06	0.19	1.20	0.63	5.69
W9310	N12	08-11-93	0726	0.89	W93100034	15.73	30.99	9.22	112	39.13	22.73	5.55	1.80	0.64	0.02	0.04	0.37	1.15
W9310	N12	08-11-93	0725	3.59	W93100033	15.45	31.00	9.26	112	38.90	22.79	4.87	1.52	0.02	0.02	0.11	0.42	1.84
W9310	N12	08-11-93	0724	11.02	W93100032	9.61	31.29	9.91	106	34.11	24.12	1.80	0.86	0.31	0.06	0.34	0.49	3.40
W9310	N12	08-11-93	0723	15.52	W93100031	8.74	31.35	9.82	103	33.43	24.30	1.62	0.81	0.48	0.10	0.67	0.53	4.11
W9310	N12	08-11-93	0721	20.34	W93100030	7.60	31.41	9.56	98	32.51	24.51	1.10	0.86	0.86	0.19	1.30	0.64	5.43
W9310	N13	08-11-93	1251	0.80	W93100173	18.96	30.91	8.61	112	41.94	21.91	1.12	1.00	0.00	0.01	0.00	0.17	0.70
W9310	N13	08-11-93	1250	7.19	W93100172	16.67	30.99	9.59	119	39.97	22.51	2.44	1.26	0.00	0.01	0.02	0.26	1.00
W9310	N13	08-11-93	1249	12.47	W93100171	11.51	31.11	10.34	115	35.56	23.66	2.30	0.94	0.00	0.02	-0.01	0.34	2.86
W9310	N13	08-11-93	1248	17.62	W93100170	9.49	31.33	10.17	109	34.04	24.17	2.89	0.91	0.08	0.08	0.38	0.48	3.22
W9310	N13	08-11-93	1247	26.21	W93100169	7.06	31.43	9.79	99	32.09	24.60	0.99	0.70	0.96	0.25	1.48	0.69	5.07
W9310	N14	08-11-93	1318	0.81	W93100186	19.40	30.90	8.32	109	42.31	21.79	0.79	0.90	0.00	0.00	0.01	0.13	1.07
W9310	N14	08-11-93	1317	4.54	W93100185	18.30	30.92	8.63	111	41.35	22.08	1.06	0.88	0.00	0.00	0.02	0.19	0.84
W9310	N14	08-11-93	1316	12.95	W93100184	11.88	31.38	10.65	120	36.16	23.80	1.20	0.78	0.00	0.01	0.02	0.28	0.53
W9310	N14	08-11-93	1314	21.98	W93100183	8.27	31.53	10.35	108	33.20	24.51	1.77	0.75	0.55	0.15	1.47	0.52	3.18
W9310	N14	08-11-93	1313	30.09	W93100182	6.39	31.53	9.82	98	31.61	24.77	0.80	0.77	1.46	0.31	2.45	0.72	6.01
W9310	N15	08-11-93	1341	0.94	W93100197	19.35	30.94	8.26	108	42.32	21.83	0.92	0.89	0.01	0.01	0.00	0.14	1.05
W9310	N15	08-11-93	1340	6.37	W93100196	16.73	30.94	9.87	123	39.96	22.46	1.24	0.83	0.00	0.01	-0.01	0.28	2.05
W9310	N15	08-11-93	1340	15.07	W93100195	9.30	31.32	10.30	110	33.87	24.19	2.78	0.93	0.00	0.02	0.07	0.39	1.84
W9310	N15	08-11-93	1339	26.45	W93100194	7.95	31.61	10.36	107	33.01	24.62	1.46	0.69	0.52	0.14	1.20	0.54	2.50
W9310	N15	08-11-93	1337	39.11	W93100193	5.73	31.66	9.75	96	31.18	24.94	0.69	0.61	1.43	0.30	3.48	0.75	3.86
W9310	N16P	08-11-93	1405	0.86	W93100208	19.35	30.95	8.27	108	42.34	21.84	0.81	0.90	0.01	0.02	-0.02	0.17	1.16
W9310	N16P	08-11-93	1405	8.97	W93100207	14.37	31.05	9.81	116	38.00	23.06	1.40	0.82	0.00	0.04	-0.03	0.32	2.05
W9310	N16P	08-11-93	1403	17.16	W93100206	8.96	31.35	10.24	108	33.61	24.26	3.04	0.93	0.00	0.04	0.04	0.43	2.61
W9310	N16P	08-11-93	1402	26.23	W93100205	8.17	31.65	10.54	110	33.23	24.62	2.13	0.77	0.28	0.12	0.99	0.49	1.85
W9310	N16P	08-11-93	1401	36.98	W93100204	5.74	31.68	9.73	96	31.21	24.96	0.60	0.60	1.46	0.30	3.57	0.75	3.88
W9310	N17	08-11-93	1433	0.93	W93100219	19.23	30.96	8.32	108	42.23	21.88	0.89	0.92	0.02	0.03	-0.03	0.14	1.02
W9310	N17	08-11-93	1432	8.46	W93100218	15.00	31.02	9.78	117	38.52	22.91	1.32	0.83	0.05	0.05	-0.04	0.28	1.72
W9310	N17	08-11-93	1431	16.90	W93100217	8.25	31.38	10.17	106	33.04	24.40	2.61	0.83	0.06	0.13	0.38	0.46	2.53
W9310	N17	08-11-93	1430	26.28	W93100216	7.28	31.72	10.18	104	32.54	24.80	1.72	0.69	0.54	0.26	1.82	0.58	1.87
W9310	N17	08-11-93	1429	34.40	W93100215	6.18	31.69	9.97	99	31.59	24.92	0.90	0.60	1.13	0.33	2.96	0.68	3.06
W9310	N18	08-11-93	1453	0.90	W93100232	19.18	30.92	8.54	111	42.14	21.86	1.18	0.99	0.07	0.02	-0.02	0.14	0.82
W9310	N18	08-11-93	1452	5.89	W93100231	16.11	31.02	9.82	121	39.50	22.66	4.66	1.79	0.00	0.01	-0.01	0.25	0.44
W9310	N18	08-11-93	1451	10.80	W93100230	12.21	31.34	10.67	121	36.41	23.71	1.37	0.79	0.00	0.01	-0.01	0.26	0.64
W9310	N18	08-11-93	1450	17.79	W93100229	9.70	31.48	10.76	116	34.37	24.25	1.92	0.75	0.10	0.08	0.31	0.40	1.77
W9310	N18	08-11-93	1449	23.25	W93100228	7.54	31.54	10.36	106	32.59	24.62	1.45	0.69	0.48	0.18	1.08	0.52	3.25
W9310	N19	08-11-93	1152	1.22	W93100148	17.18	31.04	9.67	121	40.48	22.44	1.84	1.87	0.06	0.03	-0.03	0.24	0.22

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)
W9310	N19	08-11-93	1151	2.36	W93100147	16.94	31.00	9.85	123	40.22	22.46	2.21	1.86	0.06	0.03	-0.03	0.26	0.21
W9310	N19	08-11-93	1150	6.92	W93100146	15.60	31.02	9.72	118	39.06	22.78	5.59	1.88	0.01	0.03	-0.03	0.31	0.63
W9310	N19	08-11-93	1149	12.95	W93100145	10.66	31.21	10.25	112	34.93	23.88	2.28	0.92	0.19	0.05	0.07	0.37	3.15
W9310	N19	08-11-93	1147	21.46	W93100144	7.50	31.44	9.73	100	32.47	24.55	1.05	0.80	0.84	0.20	1.37	0.61	5.54
W9310	N20P	08-11-93	1213	0.79	W93100159	17.52	31.01	9.38	118	40.75	22.34	2.16	1.65	0.19	0.08	-0.07	0.23	0.42
W9310	N20P	08-11-93	1213	1.95	W93100158	17.03	31.01	9.59	120	40.32	22.45	2.47	1.68	0.00	0.06	-0.06	0.30	0.52
W9310	N20P	08-11-93	1212	5.88	W93100157	15.73	31.03	9.72	118	39.17	22.76	4.47	1.72	0.00	0.04	-0.04	0.29	0.68
W9310	N20P	08-11-93	1210	14.02	W93100156	12.52	30.99	9.55	109	36.31	23.38	2.70	1.14	0.31	0.04	0.26	0.42	3.02
W9310	N20P	08-11-93	1208	29.17	W93100155	7.23	31.48	9.83	100	32.27	24.62	0.98	0.74	0.88	0.20	1.50	0.63	5.03
W9310	N21	08-11-93	1512	0.83	W93100243	19.31	30.90	8.39	110	42.24	21.82	1.20	1.00	0.00	0.06	-0.06	0.20	0.61
W9310	N21	08-11-93	1511	7.23	W93100242	16.15	31.04	9.79	120	39.56	22.67	3.27	1.62	0.06	0.08	-0.06	0.26	0.58
W9310	N21	08-11-93	1510	9.62	W93100241	13.49	31.21	10.51	122	37.39	23.36	1.29	0.88	0.03	0.09	-0.07	0.27	0.73
W9310	N21	08-11-93	1509	20.25	W93100240	8.40	31.52	10.28	107	33.30	24.49	1.92	0.76	0.58	0.25	1.10	0.54	3.44
W9310	N21	08-11-93	1508	31.31	W93100239	6.76	31.61	10.04	101	32.00	24.78	1.09	0.65	1.04	0.30	1.79	0.63	3.93
W9311	F01P	08-26-93	0901	0.64	W93110425	19.32	31.23	8.16	107	42.65	22.07	0.56	0.73	0.18	0.00	0.07	0.36	2.53
W9311	F01P	08-26-93	0900	4.93	W93110424	17.26	31.24	8.30	104	40.79	22.57	1.28	0.76	0.71	0.00	0.19	0.39	2.96
W9311	F01P	08-26-93	0859	13.09	W93110423	10.99	31.39	9.55	106	35.40	23.97	2.18	0.80	0.58	0.03	0.39	0.42	3.07
W9311	F01P	08-26-93	0858	17.78	W93110422	8.89	31.53	9.42	100	33.73	24.42	1.80	0.98	1.69	0.14	1.22	0.59	5.69
W9311	F01P	08-26-93	0857	23.53	W93110421	8.75	31.65	9.47	100	33.72	24.53	2.00	1.15	1.36	0.14	1.06	0.56	5.40
W9311	F02P	08-26-93	0717	1.50	W93110401	18.55	31.22	8.52	110	41.93	22.24	0.77	0.67	0.18	0.02	0.00	0.28	2.01
W9311	F02P	08-26-93	0716	5.01	W93110400	15.84	30.98	9.09	111	39.22	22.69	1.16	0.64	0.83	0.03	0.26	0.51	4.65
W9311	F02P	08-26-93	0715	12.61	W93110399	9.78	31.34	9.38	101	34.31	24.14	2.01	0.81	0.97	0.05	0.56	0.61	6.02
W9311	F02P	08-26-93	0714	19.60	W93110398	8.24	31.42	8.98	93	33.06	24.43	1.23	0.97	1.72	0.38	1.58	0.69	10.56
W9311	F02P	08-26-93	0713	29.40	W93110397	6.81	31.48	8.87	89	31.93	24.67	0.78	1.75	2.50	0.58	2.40	0.81	12.07
W9311	F03	08-26-93	1029	1.69	W93110450	15.57	31.26	8.95	109	39.29	22.97	0.99	0.86	0.13	0.02	-0.02	0.40	3.04
W9311	F03	08-26-93	1028	1.73	W93110449	15.57	31.25	8.92	108	39.28	22.96	1.06	0.87	0.35	0.02	-0.02	0.39	3.10
W9311	F03	08-26-93	1027	5.39	W93110448	13.00	31.23	9.35	108	36.98	23.48	3.29	1.10	0.40	0.06	0.30	0.46	3.53
W9311	F03	08-26-93	1027	10.01	W93110447	11.41	31.41	9.26	103	35.78	23.91	2.54	0.97	0.00	0.02	-0.02	0.33	3.70
W9311	F03	08-26-93	1026	13.67	W93110446	11.10	31.42	9.27	103	35.52	23.97	2.06	0.89	0.55	0.10	0.49	0.49	3.71
W9311	F04	08-25-93	1528	0.51	W93110377	18.95	31.24	8.36	109	42.33	22.17	0.84	0.70	0.30	0.04	0.13	0.36	3.01
W9311	F04	08-25-93	1527	12.86	W93110376	16.59	31.28	8.50	106	40.23	22.76	1.23	0.73	0.76	0.06	0.32	0.45	4.19
W9311	F04	08-25-93	1526	30.69	W93110375	9.42	31.31	9.16	98	33.97	24.16	1.64	0.85	0.85	0.25	1.19	0.58	8.72
W9311	F04	08-25-93	1525	43.51	W93110374	6.57	31.50	8.87	89	31.75	24.72	0.73	1.02	2.80	0.45	2.79	0.87	12.85
W9311	F04	08-25-93	1523	58.36	W93110373	5.33	31.66	9.31	91	30.86	24.99	0.51	0.99	1.83	0.19	4.85	0.80	10.36
W9311	F05	08-25-93	1024	0.87	W93110314	16.37	31.11	8.88	110	39.84	22.68	0.90	0.87	0.10	0.02	-0.02	0.29	2.09
W9311	F05	08-25-93	1023	1.54	W93110313	16.19	31.15	8.86	109	39.72	22.75	0.91	0.89	0.19	0.01	-0.01	0.33	2.12
W9311	F05	08-25-93	1023	5.63	W93110312	15.06	31.17	8.89	107	38.73	23.01	3.18	1.14	0.33	0.06	0.20	0.42	2.92
W9311	F05	08-25-93	1022	10.65	W93110311	11.66	31.31	9.01	101	35.89	23.79	1.54	0.83	1.19	0.15	0.90	0.57	3.93
W9311	F05	08-25-93	1021	14.98	W93110310	11.11	31.36	9.19	102	35.47	23.92	1.31	0.76	0.77	0.14	0.85	0.47	3.80
W9311	F06	08-25-93	1125	1.62	W93110325	17.63	31.09	9.02	114	40.95	22.37	0.64	0.77	0.00	0.00	0.00	0.16	1.21
W9311	F06	08-25-93	1125	6.28	W93110324	17.18	31.07	9.01	113	40.52	22.46	1.10	0.86	0.00	0.01	-0.01	0.19	1.21
W9311	F06	08-25-93	1124	15.14	W93110323	12.45	31.33	9.91	113	36.61	23.66	2.72	0.95	0.57	0.04	0.13	0.34	2.09
W9311	F06	08-25-93	1123	18.49	W93110322	10.86	31.41	9.82	108	35.31	24.01	1.93	0.81	0.67	0.14	0.83	0.50	3.16
W9311	F06	08-25-93	1122	23.75	W93110321	9.34	31.51	9.83	105	34.10	24.34	1.12	0.64	1.35	0.19	1.13	0.51	3.63
W9311	F07	08-25-93	1200	1.58	W93110336	18.39	31.10	8.72	112	41.65	22.20	0.60	0.69	0.00	0.02	-0.02	0.10	1.02

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)
W9311	F07	08-25-93	1159	7.58	W93110335	16.30	31.15	9.19	113	39.82	22.73	1.54	0.78	0.18	0.01	-0.01	0.24	1.67
W9311	F07	08-25-93	1159	13.53	W93110334	10.75	31.42	10.00	110	35.22	24.03	3.17	0.92	0.71	0.04	0.05	0.38	2.55
W9311	F07	08-25-93	1158	28.43	W93110333	7.50	31.63	9.49	97	32.64	24.70	0.67	0.57	1.57	0.25	2.35	0.67	4.11
W9311	F07	08-25-93	1157	47.43	W93110332	6.11	31.79	9.35	93	31.62	25.00	0.44	0.80	1.26	0.19	4.87	0.78	5.33
W9311	F08	08-25-93	1252	1.38	W93110347	18.40	31.14	8.65	111	41.70	22.22	0.48	0.68	0.20	0.02	-0.02	0.16	0.88
W9311	F08	08-25-93	1252	13.02	W93110346	10.92	31.61	10.44	115	35.56	24.15	3.48	1.16	0.48	0.02	0.02	0.23	1.53
W9311	F08	08-25-93	1250	39.32	W93110345	5.06	31.77	9.72	94	30.72	25.11	0.43	0.70	0.00	0.11	7.03	0.83	9.69
W9311	F08	08-25-93	1248	57.61	W93110344	4.15	31.85	9.39	89	30.04	25.27	0.28	0.96	0.38	0.12	8.24	0.90	15.16
W9311	F08	08-25-93	1247	77.31	W93110343	4.01	31.88	9.08	86	29.96	25.30	0.28	1.82	1.07	0.11	8.20	0.89	18.69
W9311	F09	08-26-93	1227	1.74	W93110464	17.36	31.14	8.79	111	40.76	22.47	0.78	0.85	0.15	0.14	-0.01	0.30	2.43
W9311	F09	08-26-93	1227	2.24	W93110463	17.04	31.11	8.83	110	40.43	22.52	0.94	0.88	0.38	0.04	0.04	0.36	2.46
W9311	F09	08-26-93	1226	5.99	W93110462	14.44	31.09	9.27	110	38.10	23.08	2.88	1.22	0.29	0.08	0.24	0.44	3.27
W9311	F09	08-26-93	1225	11.78	W93110461	12.01	31.32	9.61	109	36.21	23.73	2.55	1.01	0.57	0.10	0.47	0.45	3.18
W9311	F09	08-26-93	1224	17.09	W93110460	11.02	31.43	9.53	106	35.46	23.99	1.61	0.78	0.63	0.12	0.59	0.42	3.28
W9311	F10	08-26-93	1255	0.90	W93110476	18.97	31.02	8.54	111	42.08	21.99	0.76	0.84	0.21	0.02	-0.02	0.22	1.03
W9311	F10	08-26-93	1254	7.36	W93110475	17.41	31.03	8.66	109	40.68	22.37	1.08	0.82	0.45	0.03	0.01	0.27	1.56
W9311	F10	08-26-93	1254	14.47	W93110474	13.94	31.17	9.22	108	37.75	23.24	2.24	1.01	0.42	0.09	0.18	0.40	2.78
W9311	F10	08-26-93	1253	19.86	W93110473	10.38	31.42	9.34	102	34.90	24.09	1.65	0.77	1.39	0.21	0.92	0.52	3.42
W9311	F10	08-26-93	1252	30.08	W93110472	8.66	31.55	9.40	99	33.55	24.47	0.82	0.61	0.00	0.24	1.21	0.41	4.00
W9311	F11	08-26-93	1329	0.99	W93110488	18.96	31.05	8.61	112	42.10	22.02	0.53	0.90	0.27	0.02	-0.02	0.15	1.15
W9311	F11	08-26-93	1328	7.22	W93110487	16.46	31.28	9.30	115	40.11	22.78	1.25	0.78	0.28	0.03	0.00	0.19	0.85
W9311	F11	08-26-93	1326	15.92	W93110486	9.79	31.55	10.00	108	34.53	24.30	2.84	0.87	0.96	0.11	0.31	0.44	2.25
W9311	F11	08-26-93	1326	28.33	W93110485	8.94	31.63	9.53	101	33.87	24.49	1.40	0.63	1.07	0.19	0.81	0.50	2.37
W9311	F11	08-26-93	1324	47.26	W93110484	6.32	31.73	9.15	91	31.74	24.93	0.44	0.66	1.43	0.22	4.06	0.73	4.79
W9311	F12	08-25-93	1327	0.51	W93110359	18.34	31.20	8.47	109	41.72	22.28	0.49	0.70	0.36	0.01	0.03	0.12	0.87
W9311	F12	08-25-93	1327	14.64	W93110358	10.07	31.36	10.21	111	34.58	24.10	2.24	1.00	0.19	0.09	1.08	0.40	3.02
W9311	F12	08-25-93	1326	40.67	W93110357	4.37	31.82	9.38	89	30.19	25.22	0.32	0.87	0.48	0.06	8.67	0.86	11.38
W9311	F12	08-25-93	1324	62.65	W93110356	4.04	31.87	8.94	84	29.97	25.30	0.24	0.97	0.96	0.10	9.33	0.90	18.18
W9311	F12	08-25-93	1323	84.78	W93110355	3.99	31.88	8.85	83	29.95	25.31	0.27	1.40	1.09	0.10	9.29	0.92	19.65
W9311	F13P	08-25-93	0857	1.72	W93110289	18.10	31.01	8.80	112	41.28	22.20	1.18	1.18	0.13	0.03	0.00	0.13	0.42
W9311	F13P	08-25-93	0856	4.38	W93110288	17.98	31.01	8.74	111	41.17	22.22	1.79	1.16	0.15	0.02	-0.02	0.16	0.66
W9311	F13P	08-25-93	0855	10.51	W93110287	13.88	30.96	8.87	104	37.47	23.10	4.21	1.15	0.11	0.04	0.04	0.35	2.37
W9311	F13P	08-25-93	0854	14.62	W93110286	10.83	31.34	8.57	94	35.21	23.96	1.41	0.84	1.85	0.23	1.79	0.73	5.75
W9311	F13P	08-25-93	0853	22.09	W93110285	9.54	31.42	8.85	95	34.18	24.23	0.87	0.84	1.96	0.26	2.02	0.70	6.23
W9311	F14	08-24-93	1002	0.90	W93110109	17.91	31.00	9.25	118	41.09	22.23	2.02	1.91	0.07	0.03	-0.01	0.08	0.07
W9311	F14	08-24-93	1001	1.67	W93110108	17.87	30.99	9.25	118	41.05	22.24	2.13	1.91	0.08	0.01	0.01	0.13	0.06
W9311	F14	08-24-93	1000	6.63	W93110107	17.50	30.99	9.11	115	40.71	22.33	5.77	1.97	0.06	0.03	0.00	0.18	0.70
W9311	F14	08-24-93	0959	11.12	W93110106	13.76	31.10	8.12	95	37.51	23.23	3.98	1.27	0.19	0.10	-0.02	0.32	4.10
W9311	F14	08-24-93	0958	15.51	W93110105	11.68	31.15	7.98	89	35.76	23.66	1.40	1.01	0.65	0.02	1.36	0.46	6.61
W9311	F15	08-24-93	1041	1.56	W93110122	18.00	30.97	10.01	127	41.14	22.19	3.13	2.61	0.05	0.02	-0.01	0.10	0.05
W9311	F15	08-24-93	1040	2.16	W93110121	17.81	30.98	10.02	127	40.97	22.24	4.78	2.65	0.18	0.01	0.02	0.16	0.10
W9311	F15	08-24-93	1039	7.78	W93110120	17.40	30.97	9.71	122	40.59	22.33	9.13	2.60	0.09	0.02	-0.02	0.11	0.11
W9311	F15	08-24-93	1038	20.75	W93110119	9.93	31.35	8.92	96	34.44	24.12	0.95	0.78	2.21	0.23	1.74	0.68	5.52
W9311	F15	08-24-93	1037	32.76	W93110118	7.53	31.61	9.27	95	32.65	24.68	0.58	1.01	1.93	0.25	2.41	0.70	6.72
W9311	F16	08-24-93	1121	1.50	W93110135	18.90	31.00	8.75	113	41.99	22.00	0.68	0.98	0.06	0.01	-0.01	0.09	0.90

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)
W9311	F16	08-24-93	1120	5.90	W93110134	17.48	31.06	8.92	113	40.78	22.38	1.07	0.89	0.10	0.01	-0.01	0.17	1.31
W9311	F16	08-24-93	1119	14.48	W93110133	12.01	31.33	10.19	115	36.22	23.74	2.84	1.08	0.33	0.02	-0.02	0.30	2.21
W9311	F16	08-24-93	1118	31.19	W93110132	8.83	31.45	9.51	100	33.61	24.37	0.91	0.67	1.44	0.23	1.11	0.53	3.74
W9311	F16	08-24-93	1117	48.32	W93110131	5.87	31.64	9.39	93	31.29	24.92	0.35	0.63	1.78	0.20	5.01	0.74	6.35
W9311	F17	08-24-93	1201	1.47	W93110150	18.19	31.05	8.79	112	41.40	22.20	0.55	0.77	0.23	0.00	0.00	0.16	1.17
W9311	F17	08-24-93	1201	9.17	W93110149	16.91	31.16	9.12	114	40.38	22.59	1.43	0.78	0.45	0.02	0.05	0.16	0.95
W9311	F17	08-24-93	1200	19.50	W93110148	10.10	31.83	10.46	114	35.06	24.46	2.40	0.81	0.27	0.00	0.01	0.29	1.30
W9311	F17	08-24-93	1158	38.29	W93110147	6.22	31.81	9.10	91	31.72	25.00	0.40	0.69	1.42	0.20	6.17	0.81	5.24
W9311	F17	08-24-93	1156	73.36	W93110146	4.42	31.86	9.08	87	30.28	25.25	0.29	1.00	1.06	0.11	8.24	0.85	15.35
W9311	F18	08-24-93	1544	1.68	W93110208	18.88	31.10	9.56	124	42.09	22.07	4.22	1.53	0.13	0.01	-0.01	0.16	0.55
W9311	F18	08-24-93	1542	3.71	W93110205	17.93	31.02	9.29	118	41.14	22.25	3.69	1.77	0.18	0.00	0.01	0.16	0.64
W9311	F18	08-24-93	1541	9.96	W93110204	14.05	31.16	9.33	110	37.83	23.22	4.59	1.49	0.14	0.01	0.01	0.29	2.59
W9311	F18	08-24-93	1540	16.50	W93110203	10.65	31.31	9.25	102	35.02	23.97	1.54	0.90	0.09	0.02	1.42	0.35	6.17
W9311	F18	08-24-93	1540	22.54	W93110202	8.87	31.44	9.33	99	33.62	24.35	0.85	0.80	0.08	0.01	-0.01	0.32	4.80
W9311	F19	08-24-93	1249	0.71	W93110161	19.40	31.04	8.60	113	42.48	21.90	0.57	0.85	0.20	0.01	0.01	0.11	1.03
W9311	F19	08-24-93	1247	16.94	W93110160	13.08	31.11	10.05	116	36.93	23.37	2.60	1.05	0.40	0.02	0.01	0.30	2.26
W9311	F19	08-24-93	1245	38.45	W93110159	7.65	31.47	9.58	98	32.63	24.55	0.71	0.58	1.90	0.34	1.68	0.62	4.28
W9311	F19	08-24-93	1244	57.11	W93110158	5.63	31.68	9.24	91	31.13	24.98	0.34	0.70	2.15	0.17	5.71	0.86	7.82
W9311	F19	08-24-93	1242	77.12	W93110157	4.79	31.77	8.74	84	30.51	25.14	0.32	1.62	2.00	0.12	7.71	0.94	15.74
W9311	F20	08-24-93	1446	1.58	W93110195	18.94	31.00	8.97	116	42.03	21.99	1.21	1.36	0.07	0.01	0.01	0.07	0.26
W9311	F20	08-24-93	1445	3.92	W93110194	18.47	30.98	9.38	121	41.58	22.09	2.09	1.45	0.09	0.01	0.01	0.07	0.29
W9311	F20	08-24-93	1444	8.56	W93110193	13.94	31.13	9.54	112	37.70	23.21	4.15	1.28	0.08	0.01	0.01	0.30	2.22
W9311	F20	08-24-93	1443	18.29	W93110192	9.74	31.35	9.27	100	34.29	24.15	1.32	0.75	1.47	0.20	1.83	0.61	5.10
W9311	F20	08-24-93	1442	33.02	W93110191	6.91	31.53	9.44	95	32.06	24.70	0.58	0.65	3.33	0.29	3.38	0.70	6.93
W9311	F21	08-24-93	1410	0.43	W93110184	19.12	30.98	9.18	119	42.16	21.92	1.24	2.00	0.20	0.00	0.00	0.05	0.42
W9311	F21	08-24-93	1410	5.00	W93110183	18.34	31.00	9.07	116	41.48	22.13	1.83	1.19	0.22	0.02	-0.02	0.09	0.69
W9311	F21	08-24-93	1408	12.09	W93110182	15.08	31.13	9.70	117	38.71	22.98	3.14	1.20	0.22	0.01	0.01	0.20	1.49
W9311	F21	08-24-93	1407	30.80	W93110181	7.09	31.57	9.78	99	32.24	24.71	0.56	0.64	1.97	0.25	2.43	0.63	4.55
W9311	F21	08-24-93	1406	54.71	W93110180	5.70	31.67	9.24	91	31.18	24.96	0.35	0.87	2.48	0.17	5.62	0.84	9.08
W9311	F22	08-24-93	1328	0.61	W93110173	19.41	31.00	8.59	112	42.45	21.86	0.57	0.88	0.45	0.02	-0.01	0.12	1.05
W9311	F22	08-24-93	1327	14.57	W93110172	14.31	31.17	9.86	117	38.08	23.17	2.69	1.00	0.17	0.04	0.03	0.22	2.15
W9311	F22	08-24-93	1325	36.82	W93110171	7.48	31.50	9.64	99	32.51	24.60	0.69	0.58	1.92	0.32	1.97	0.61	4.38
W9311	F22	08-24-93	1324	55.51	W93110170	6.38	31.79	9.22	92	31.86	24.97	0.47	0.60	1.35	0.20	5.54	0.81	4.97
W9311	F22	08-24-93	1323	73.98	W93110169	5.09	31.79	8.88	86	30.78	25.12	0.33	1.14	2.01	0.14	7.09	0.87	12.93
W9311	F23P	08-27-93	0550	0.73	W93110523	17.59	30.97	9.23	117	40.76	22.29	8.14	2.52	0.02	0.01	0.02	0.31	1.41
W9311	F23P	08-27-93	0549	3.07	W93110522	16.87	31.08	8.64	108	40.25	22.54	7.61	2.36	0.01	0.02	0.00	0.32	2.26
W9311	F23P	08-27-93	0548	7.60	W93110521	15.16	31.01	8.39	101	38.64	22.86	7.06	2.26	0.03	0.02	0.17	0.36	2.80
W9311	F23P	08-27-93	0547	14.72	W93110520	14.92	31.03	8.34	100	38.45	22.93	6.85	2.22	0.01	0.04	0.40	0.36	2.71
W9311	F23P	08-27-93	0546	22.04	W93110519	13.09	31.15	8.63	100	36.98	23.40	5.90	1.93	0.00	0.04	0.36	0.34	2.99
W9311	F24	08-24-93	0648	1.88	W93110043	16.71	30.89	8.56	106	39.88	22.43	10.05	2.46	0.10	0.02	0.02	0.20	1.32
W9311	F24	08-24-93	0647	2.02	W93110042	16.71	30.89	8.60	107	39.88	22.43	9.71	2.44	0.11	0.03	-0.01	0.26	1.42
W9311	F24	08-24-93	0645	4.85	W93110041	16.69	30.89	8.65	107	39.87	22.44	9.52	2.42	0.13	0.03	-0.01	0.27	1.46
W9311	F24	08-24-93	0644	11.90	W93110040	13.04	31.18	8.91	103	36.97	23.43	2.80	1.05	0.07	0.04	-0.02	0.33	4.78
W9311	F24	08-24-93	0642	19.17	W93110039	9.69	31.37	8.93	96	34.26	24.17	0.93	1.02	2.19	0.19	1.46	0.59	6.19
W9311	F25	08-26-93	1520	1.61	W93110502	20.11	31.00	8.63	114	43.09	21.69	1.58	1.12	0.04	0.02	0.13	0.33	0.52

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)
W9311	F25	08-26-93	1519	2.99	W93110501	17.83	31.01	9.23	117	41.03	22.26	5.48	1.90	0.28	0.06	0.28	0.48	2.23
W9311	F25	08-26-93	1519	5.65	W93110500	15.40	31.07	9.03	109	38.93	22.86	7.44	1.93	0.00	0.03	0.39	0.45	2.87
W9311	F25	08-26-93	1518	8.82	W93110499	13.08	31.21	8.62	100	37.03	23.44	4.31	1.32	0.50	0.13	0.96	0.53	4.00
W9311	F25	08-26-93	1517	11.92	W93110498	11.69	31.10	8.93	100	35.70	23.62	2.50	1.14	1.67	0.16	1.24	0.61	4.78
W9311	N01P	08-25-93	0548	1.66	W93110242	17.62	31.01	9.36	118	40.84	22.31	5.71	2.02	0.04	0.02	-0.02	0.16	0.20
W9311	N01P	08-25-93	0547	3.30	W93110241	17.58	31.01	9.33	118	40.81	22.32	5.72	2.01	0.04	0.02	0.00	0.16	0.32
W9311	N01P	08-25-93	0546	9.54	W93110240	12.11	31.23	9.89	112	36.21	23.64	3.31	1.08	0.05	0.00	0.03	0.24	1.92
W9311	N01P	08-25-93	0544	20.02	W93110239	8.50	31.43	9.38	98	33.30	24.40	1.01	0.64	1.61	0.23	1.77	0.61	4.98
W9311	N01P	08-25-93	0543	29.07	W93110238	7.43	31.56	9.15	94	32.52	24.65	0.51	0.81	1.79	0.27	2.67	0.67	6.70
W9311	N01P	08-27-93	0748	1.61	W93110583	17.73	30.99	10.11	128	40.92	22.27	6.12	2.88	0.03	0.04	0.01	0.32	0.92
W9311	N01P	08-27-93	0747	3.16	W93110582	15.51	30.95	8.96	109	38.89	22.74	15.85	3.35	0.01	0.07	0.06	0.38	1.60
W9311	N01P	08-27-93	0746	10.65	W93110581	10.72	31.33	9.10	100	35.11	23.97	1.66	0.87	1.02	0.23	1.13	0.61	4.85
W9311	N01P	08-27-93	0745	19.56	W93110580	8.25	31.44	9.23	96	33.10	24.45	0.77	0.64	1.63	0.34	2.24	0.73	6.01
W9311	N01P	08-27-93	0744	28.69	W93110579	7.48	31.54	9.12	93	32.54	24.63	0.53	0.86	2.08	0.34	2.74	0.78	8.04
W9311	N02	08-27-93	0812	1.60	W93110594	18.55	30.99	10.59	136	41.66	22.07	4.65	2.83	0.00	0.00	0.00	0.13	0.16
W9311	N02	08-27-93	0810	6.08	W93110593	15.57	31.03	9.36	114	39.03	22.79	11.22	2.43	0.00	0.00	0.00	0.32	1.36
W9311	N02	08-27-93	0809	12.33	W93110592	10.96	31.22	9.34	103	35.20	23.84	2.00	0.89	0.60	0.14	0.88	0.52	4.03
W9311	N02	08-27-93	0809	24.13	W93110591	7.70	31.48	9.35	96	32.67	24.55	0.67	0.60	1.90	0.30	2.75	0.74	6.34
W9311	N02	08-27-93	0808	36.02	W93110590	6.95	31.58	9.20	93	32.13	24.73	0.44	0.81	1.96	0.30	3.32	0.80	7.87
W9311	N03	08-27-93	0853	1.57	W93110614	18.72	30.99	9.82	127	41.82	22.03	1.86	1.99	0.00	0.02	-0.02	0.15	0.06
W9311	N03	08-27-93	0852	8.28	W93110613	16.03	30.98	9.78	120	39.39	22.65	10.36	3.08	0.00	0.02	-0.02	0.16	0.03
W9311	N03	08-27-93	0851	16.77	W93110612	11.28	31.30	9.57	106	35.56	23.85	2.69	0.97	0.31	0.09	0.38	0.46	3.01
W9311	N03	08-27-93	0850	29.73	W93110611	7.29	31.52	9.43	96	32.37	24.64	0.60	0.54	1.85	0.28	2.67	0.70	5.01
W9311	N03	08-27-93	0849	42.48	W93110610	6.33	31.60	9.17	91	31.64	24.83	0.38	0.62	1.97	0.25	4.17	0.87	7.51
W9311	N04P	08-25-93	0658	1.99	W93110257	18.05	30.99	9.60	122	41.21	22.19	4.17	2.06	0.09	0.01	0.02	0.06	0.14
W9311	N04P	08-25-93	0657	6.30	W93110256	18.02	30.99	9.55	122	41.18	22.20	4.47	2.05	0.10	0.02	0.09	0.10	0.79
W9311	N04P	08-25-93	0656	12.53	W93110255	14.03	31.15	9.47	112	37.80	23.21	3.52	1.17	0.14	0.04	0.03	0.27	1.74
W9311	N04P	08-25-93	0654	27.06	W93110254	7.28	31.56	9.76	99	32.39	24.68	0.65	0.54	1.69	0.24	2.00	0.63	3.80
W9311	N04P	08-25-93	0653	46.91	W93110253	6.07	31.64	9.26	92	31.45	24.89	0.35	0.64	2.15	0.26	4.75	0.80	7.76
W9311	N04P	08-27-93	0918	1.60	W93110627	19.81	31.02	9.04	119	42.84	21.77	0.96	1.42	0.03	0.02	-0.01	0.16	0.11
W9311	N04P	08-27-93	0917	9.12	W93110626	15.53	30.97	9.58	116	38.93	22.75	5.83	2.25	0.02	0.02	-0.01	0.32	0.60
W9311	N04P	08-27-93	0917	20.10	W93110625	9.95	31.32	9.57	103	34.43	24.09	1.50	0.79	0.82	0.16	0.73	0.55	3.26
W9311	N04P	08-27-93	0916	32.23	W93110624	6.84	31.65	9.48	96	32.11	24.81	0.48	0.54	1.51	0.27	3.43	0.75	4.50
W9311	N04P	08-27-93	0915	46.89	W93110623	5.98	31.64	9.27	92	31.38	24.90	0.36	0.62	1.96	0.20	4.96	0.93	8.18
W9311	N05	08-27-93	0943	1.67	W93110638	19.79	31.02	8.76	115	42.83	21.79	0.92	1.23	0.08	0.01	0.00	0.18	0.27
W9311	N05	08-27-93	0942	10.24	W93110637	15.79	31.06	9.39	115	39.26	22.77	2.74	1.14	0.28	0.03	0.03	0.33	1.89
W9311	N05	08-27-93	0941	22.82	W93110636	7.61	31.51	9.37	96	32.62	24.59	0.69	0.65	1.66	0.29	2.44	0.71	6.01
W9311	N05	08-27-93	0941	36.02	W93110635	6.69	31.60	9.23	93	31.94	24.78	0.39	0.59	1.92	0.30	3.85	0.82	7.04
W9311	N05	08-27-93	0940	48.48	W93110634	6.29	31.63	9.17	91	31.63	24.85	0.36	0.61	1.97	0.26	4.63	0.98	8.00
W9311	N06	08-27-93	1007	1.61	W93110649	19.50	31.02	9.34	122	42.56	21.86	1.12	1.48	0.07	0.03	-0.01	0.14	0.22
W9311	N06	08-27-93	1006	6.38	W93110648	18.16	30.94	10.30	132	41.25	22.13	4.67	2.04	0.29	0.04	0.06	0.27	0.78
W9311	N06	08-27-93	1005	19.34	W93110647	9.95	31.37	9.05	98	34.48	24.13	1.01	0.72	1.63	0.24	1.41	0.65	4.73
W9311	N06	08-27-93	1004	34.05	W93110646	6.90	31.58	9.36	95	32.09	24.74	0.47	0.55	1.75	0.31	3.26	0.76	5.71
W9311	N06	08-27-93	1003	47.58	W93110645	6.36	31.63	9.20	92	31.69	24.85	0.39	0.60	1.77	0.27	4.33	0.82	7.32
W9311	N07P	08-25-93	0800	0.77	W93110273	18.30	31.02	9.10	117	41.47	22.16	1.70	1.49	0.10	0.01	0.02	0.07	0.25

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)
W9311	N07P	08-25-93	0759	8.05	W93110272	18.02	30.99	9.34	119	41.19	22.20	4.03	1.67	0.07	0.00	0.01	0.11	0.46
W9311	N07P	08-25-93	0758	16.77	W93110271	10.74	31.42	9.93	109	35.21	24.04	2.11	0.81	0.37	0.05	0.15	0.37	2.31
W9311	N07P	08-25-93	0756	27.66	W93110270	7.80	31.50	9.42	97	32.77	24.55	0.78	0.61	1.67	0.32	1.82	0.59	4.31
W9311	N07P	08-25-93	0755	41.93	W93110269	6.39	31.63	9.27	93	31.71	24.84	0.45	0.65	1.16	0.28	3.59	0.67	6.01
W9311	N07P	08-27-93	1031	1.56	W93110660	19.44	31.00	10.08	132	42.48	21.86	2.17	2.13	0.11	0.00	0.03	0.16	0.07
W9311	N07P	08-27-93	1030	4.95	W93110659	18.50	30.99	10.08	130	41.61	22.08	4.58	2.36	0.05	0.00	0.02	0.21	0.39
W9311	N07P	08-27-93	1029	12.26	W93110658	14.35	31.09	9.76	116	38.02	23.10	4.25	1.35	0.10	0.00	0.06	0.35	1.61
W9311	N07P	08-27-93	1028	27.18	W93110657	8.27	31.46	9.54	99	33.13	24.46	0.82	0.57	1.79	0.33	1.71	0.67	4.29
W9311	N07P	08-27-93	1027	45.32	W93110656	6.43	31.63	9.43	94	31.75	24.84	0.39	0.65	1.83	0.24	4.41	0.82	6.99
W9311	N08	08-27-93	1053	1.59	W93110671	19.09	31.00	9.86	128	42.17	21.95	2.15	2.14	0.02	0.01	0.01	0.09	0.07
W9311	N08	08-27-93	1052	4.35	W93110670	18.68	30.99	9.66	125	41.78	22.04	4.10	2.19	0.10	0.00	0.03	0.15	0.27
W9311	N08	08-27-93	1051	9.51	W93110669	14.61	31.08	9.66	115	38.24	23.04	3.77	1.14	0.26	0.02	0.16	0.36	2.27
W9311	N08	08-27-93	1051	18.12	W93110668	8.92	31.47	9.22	97	33.70	24.37	0.83	0.73	1.62	0.20	1.37	0.63	4.53
W9311	N08	08-27-93	1050	27.13	W93110667	7.92	31.55	9.46	98	32.93	24.58	0.59	0.63	2.16	0.27	2.45	0.75	5.47
W9311	N09	08-27-93	1124	1.64	W93110682	19.20	30.97	9.70	126	42.22	21.89	2.04	2.22	0.29	0.01	0.00	0.16	0.21
W9311	N09	08-27-93	1123	5.05	W93110681	18.06	30.90	9.38	120	41.11	22.12	2.89	1.88	0.14	0.01	0.03	0.16	0.43
W9311	N09	08-27-93	1123	8.85	W93110680	14.85	31.13	9.15	110	38.51	23.02	2.96	1.05	0.58	0.06	0.51	0.44	2.86
W9311	N09	08-27-93	1122	18.06	W93110679	8.67	31.47	9.00	95	33.48	24.40	0.78	0.69	0.36	0.25	1.96	0.52	5.50
W9311	N09	08-27-93	1121	30.34	W93110678	7.99	31.56	9.12	94	32.99	24.58	0.57	0.75	2.00	0.26	2.22	0.71	5.98
W9311	N10P	08-24-93	0920	0.76	W93110091	16.75	30.98	9.04	112	40.02	22.49	4.71	2.29	0.00	0.01	-0.01	0.36	1.08
W9311	N10P	08-24-93	0920	2.03	W93110090	16.72	30.98	9.10	113	40.00	22.50	6.39	2.26	0.00	0.01	-0.01	0.35	1.05
W9311	N10P	08-24-93	0919	7.42	W93110089	16.70	30.99	9.12	113	40.00	22.51	8.55	2.27	0.04	0.03	-0.02	0.39	0.71
W9311	N10P	08-24-93	0917	16.17	W93110088	12.02	31.20	8.73	99	36.10	23.63	2.58	1.21	0.00	0.06	0.52	0.46	2.80
W9311	N10P	08-24-93	0915	22.48	W93110087	9.93	31.36	9.04	98	34.45	24.13	0.95	0.88	1.18	0.16	1.13	0.59	5.02
W9311	N10P	08-27-93	0640	1.63	W93110542	18.49	31.01	9.45	122	41.63	22.10	2.57	1.70	0.02	0.00	0.02	0.14	0.18
W9311	N10P	08-27-93	0639	1.67	W93110541	18.49	31.01	9.42	121	41.62	22.10	2.64	1.70	0.06	0.00	0.01	0.17	0.19
W9311	N10P	08-27-93	0638	4.53	W93110540	17.63	30.99	9.22	117	40.83	22.30	5.07	2.07	0.04	0.04	0.17	0.39	2.00
W9311	N10P	08-27-93	0637	13.30	W93110539	10.04	31.31	8.73	95	34.50	24.07	1.33	1.02	1.95	0.23	1.70	0.65	5.76
W9311	N10P	08-27-93	0636	22.88	W93110538	8.51	31.50	8.96	94	33.37	24.45	0.62	0.89	0.01	0.01	1.25	0.39	6.34
W9311	N11	08-27-93	0702	1.56	W93110557	17.77	31.01	9.78	124	40.97	22.27	3.99	2.09	0.01	0.01	0.00	0.15	0.09
W9311	N11	08-27-93	0702	2.15	W93110556	17.65	30.98	9.83	124	40.83	22.28	4.53	2.12	0.18	0.01	0.01	0.19	0.13
W9311	N11	08-27-93	0701	5.92	W93110555	16.55	31.03	9.28	115	39.90	22.57	6.67	2.31	0.66	0.01	0.04	0.16	0.25
W9311	N11	08-27-93	0659	15.78	W93110554	9.19	31.40	8.91	95	33.85	24.27	0.82	0.81	1.60	0.24	1.91	0.62	6.28
W9311	N11	08-27-93	0658	27.30	W93110553	8.43	31.49	9.05	95	33.30	24.46	0.60	0.86	1.92	0.25	2.24	0.65	6.44
W9311	N12	08-27-93	0725	0.35	W93110570	17.55	30.92	10.42	132	40.68	22.26	9.46	17.34	0.01	0.01	0.01	0.17	0.73
W9311	N12	08-27-93	0724	3.05	W93110569	17.33	31.00	9.62	121	40.57	22.37	9.80	2.85	0.05	0.02	0.03	0.23	0.77
W9311	N12	08-27-93	0723	8.85	W93110568	13.87	31.05	8.78	103	37.56	23.16	8.78	1.85	0.02	0.10	0.57	0.43	3.21
W9311	N12	08-27-93	0722	14.88	W93110567	10.10	31.35	9.02	98	34.59	24.09	1.24	0.84	1.52	0.17	1.30	0.67	5.10
W9311	N12	08-27-93	0721	20.82	W93110566	8.21	31.49	9.06	94	33.12	24.49	0.59	0.90	2.00	0.26	2.29	0.75	6.70
W9311	N13	08-27-93	1217	1.03	W93110722	18.42	30.88	10.40	133	41.41	22.02	4.55	2.82	0.03	0.01	-0.01	0.14	0.10
W9311	N13	08-27-93	1216	5.96	W93110721	15.79	30.99	9.88	121	39.19	22.71	15.50	3.34	0.00	0.01	0.02	0.30	1.44
W9311	N13	08-27-93	1215	11.81	W93110720	11.68	31.24	8.89	100	35.85	23.73	2.95	1.06	1.48	0.17	1.11	0.65	4.59
W9311	N13	08-27-93	1215	18.15	W93110719	9.10	31.42	9.39	100	33.80	24.30	0.93	0.72	1.62	0.22	1.69	0.64	5.53
W9311	N13	08-27-93	1214	26.56	W93110718	7.65	31.54	9.41	97	32.69	24.61	0.49	0.74	1.91	0.28	2.57	0.65	6.54
W9311	N14	08-27-93	1234	0.65	W93110736	18.24	31.01	9.86	126	41.40	22.16	2.28	2.20	0.18	0.01	0.02	0.15	0.16

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)
W9311	N14	08-27-93	1234	4.41	W93110735	17.92	31.01	9.64	123	41.11	22.24	4.79	2.16	0.05	0.01	0.01	0.16	0.13
W9311	N14	08-27-93	1233	10.23	W93110734	14.92	31.06	9.14	110	38.49	22.96	13.14	2.38	0.02	0.04	0.11	0.27	1.32
W9311	N14	08-27-93	1232	17.47	W93110733	10.54	31.23	9.03	99	34.85	23.92	1.44	0.83	1.27	0.15	0.99	0.59	4.16
W9311	N14	08-27-93	1232	26.70	W93110732	8.11	31.51	9.32	97	33.04	24.52	0.58	0.65	1.64	0.27	2.14	0.63	5.58
W9311	N15	08-27-93	1253	1.62	W93110748	18.52	31.01	10.07	130	41.66	22.09	2.94	2.48	0.10	0.00	0.02	0.20	0.08
W9311	N15	08-27-93	1252	7.98	W93110747	16.30	30.93	9.14	113	39.57	22.56	7.03	2.03	0.08	0.00	0.05	0.39	1.10
W9311	N15	08-27-93	1251	16.41	W93110746	9.58	31.36	9.64	103	34.15	24.18	1.86	0.81	0.38	0.09	0.74	0.52	3.50
W9311	N15	08-27-93	1251	24.54	W93110745	7.80	31.53	9.30	96	32.80	24.58	0.55	0.62	1.63	0.27	2.69	0.72	5.79
W9311	N15	08-27-93	1250	39.62	W93110744	6.96	31.59	9.31	94	32.16	24.74	0.42	0.63	1.87	0.29	3.57	0.79	6.58
W9311	N16P	08-24-93	0814	1.59	W93110072	18.10	31.00	9.53	122	41.26	22.19	2.63	2.16	0.02	0.00	0.00	0.17	0.03
W9311	N16P	08-24-93	0813	5.24	W93110071	17.24	30.97	9.74	122	40.45	22.37	8.75	2.65	0.00	0.02	-0.02	0.19	0.25
W9311	N16P	08-24-93	0812	9.63	W93110070	14.49	31.08	8.85	105	38.14	23.06	5.52	1.55	0.00	0.02	-0.02	0.38	1.91
W9311	N16P	08-24-93	0810	27.23	W93110069	7.90	31.52	9.43	97	32.88	24.56	0.61	0.78	0.34	0.27	1.99	0.55	5.03
W9311	N16P	08-24-93	0808	39.49	W93110068	7.30	31.56	9.42	96	32.41	24.67	0.53	0.63	0.00	0.29	2.23	0.50	5.05
W9311	N16P	08-27-93	1313	0.68	W93110762	19.27	31.00	9.95	130	42.33	21.90	2.80	2.23	0.33	0.01	0.05	0.16	0.05
W9311	N16P	08-27-93	1313	3.19	W93110761	18.65	31.02	9.63	124	41.79	22.07	3.39	2.03	0.11	0.00	0.05	0.19	0.08
W9311	N16P	08-27-93	1312	6.64	W93110760	16.88	30.96	9.93	124	40.12	22.45	9.23	2.78	0.16	0.01	0.08	0.26	0.38
W9311	N16P	08-27-93	1312	16.21	W93110759	10.17	31.31	9.36	102	34.61	24.04	1.36	0.77	0.87	0.14	1.14	0.57	4.11
W9311	N16P	08-27-93	1310	37.13	W93110758	7.25	31.56	9.33	95	32.37	24.68	0.50	0.60	1.90	0.29	3.14	0.75	5.67
W9311	N17	08-27-93	1335	1.61	W93110774	19.36	31.00	9.71	127	42.41	21.88	1.62	2.07	0.08	0.00	0.01	0.19	0.02
W9311	N17	08-27-93	1334	3.72	W93110773	18.90	30.99	9.64	125	41.98	21.98	3.38	2.15	0.22	0.03	0.12	0.26	0.60
W9311	N17	08-27-93	1333	15.49	W93110772	10.04	31.38	8.99	97	34.57	24.12	1.09	0.72	1.51	0.20	1.27	0.65	4.26
W9311	N17	08-27-93	1332	25.75	W93110771	7.77	31.52	9.14	94	32.77	24.58	0.57	0.59	1.81	0.30	2.64	0.72	5.43
W9311	N17	08-27-93	1332	35.27	W93110770	7.39	31.56	9.22	94	32.49	24.66	0.51	0.57	1.90	0.30	2.92	0.77	5.63
W9311	N18	08-27-93	1354	1.64	W93110786	20.72	31.12	9.69	130	43.81	21.62	1.61	2.01	0.17	0.02	-0.02	0.17	0.00
W9311	N18	08-27-93	1354	3.95	W93110785	18.93	30.91	9.91	128	41.90	21.92	3.25	2.20	0.12	0.02	-0.02	0.17	0.02
W9311	N18	08-27-93	1353	8.48	W93110784	16.27	30.98	9.50	117	39.61	22.60	7.37	2.40	0.09	0.01	0.00	0.31	0.71
W9311	N18	08-27-93	1352	14.29	W93110783	10.41	31.34	8.90	97	34.84	24.03	1.29	0.85	1.84	0.24	1.60	0.69	4.95
W9311	N18	08-27-93	1352	23.11	W93110782	8.42	31.49	9.37	98	33.29	24.46	0.65	0.64	1.91	0.28	2.05	0.70	3.52
W9311	N19	08-27-93	1141	1.65	W93110694	19.23	31.01	9.78	128	42.29	21.92	1.72	1.98	0.07	0.02	-0.02	0.11	0.00
W9311	N19	08-27-93	1141	3.41	W93110693	18.52	30.96	9.90	127	41.60	22.06	3.15	2.27	0.18	0.02	-0.02	0.12	0.05
W9311	N19	08-27-93	1140	7.55	W93110692	16.22	31.00	9.27	114	39.58	22.63	7.60	2.17	0.25	0.07	0.24	0.30	1.70
W9311	N19	08-27-93	1139	13.67	W93110691	10.00	31.39	8.87	96	34.54	24.14	1.12	0.75	1.99	0.24	1.54	0.66	5.08
W9311	N19	08-27-93	1139	20.27	W93110690	8.50	31.50	9.13	96	33.36	24.45	0.64	0.75	1.99	0.27	2.17	0.70	6.23
W9311	N20P	08-24-93	0729	0.94	W93110056	18.13	31.04	8.78	112	41.33	22.21	1.22	1.15	0.82	0.02	0.14	0.15	0.57
W9311	N20P	08-24-93	0728	4.03	W93110055	18.10	31.04	8.73	111	41.31	22.22	1.61	1.15	0.00	0.02	-0.02	0.14	0.93
W9311	N20P	08-24-93	0727	9.76	W93110054	13.36	31.14	9.26	108	37.20	23.33	3.79	1.24	0.00	0.02	-0.02	0.31	2.48
W9311	N20P	08-24-93	0725	18.28	W93110053	9.03	31.40	9.17	97	33.72	24.30	0.74	0.85	0.00	0.18	1.29	0.47	5.63
W9311	N20P	08-24-93	0722	26.96	W93110052	8.56	31.47	9.23	97	33.39	24.42	0.68	0.78	0.01	0.01	0.95	0.33	5.70
W9311	N20P	08-27-93	1158	1.63	W93110708	18.42	31.05	9.80	126	41.61	22.15	1.74	1.97	0.09	0.01	-0.01	0.14	0.00
W9311	N20P	08-27-93	1157	4.71	W93110707	16.59	31.03	9.98	124	39.95	22.57	6.30	2.59	0.10	0.01	-0.01	0.21	0.04
W9311	N20P	08-27-93	1156	9.04	W93110706	15.26	31.02	9.17	111	38.74	22.85	9.90	1.92	0.20	0.04	0.07	0.39	1.32
W9311	N20P	08-27-93	1156	17.78	W93110705	9.59	31.36	9.26	99	34.16	24.18	0.93	0.71	1.38	0.20	1.24	0.61	4.74
W9311	N20P	08-27-93	1155	25.95	W93110704	8.00	31.53	9.39	97	32.97	24.55	0.56	0.65	2.03	0.29	2.30	0.68	5.65
W9311	N21	08-27-93	1414	0.83	W93110797	20.40	30.92	9.90	132	43.25	21.55	1.86	1.95	0.04	0.00	0.01	0.14	0.00

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)
W9311	N21	08-27-93	1413	4.17	W93110796	18.49	30.97	10.07	129	41.58	22.07	4.51	2.36	0.02	0.00	0.01	0.19	0.00
W9311	N21	08-27-93	1412	8.21	W93110795	16.89	31.01	9.94	124	40.19	22.48	7.57	2.88	0.37	0.03	0.11	0.25	0.69
W9311	N21	08-27-93	1412	14.81	W93110794	10.54	31.28	9.15	100	34.90	23.96	1.50	0.81	1.35	0.20	1.25	0.52	4.40
W9311	N21	08-27-93	1411	30.45	W93110793	7.77	31.52	9.40	97	32.78	24.58	0.55	0.59	1.91	0.29	2.39	0.65	5.39
W9312	N01P	09-09-93	0815	1.60	W93120239	16.39	31.11	8.97	111	39.85	22.67	3.03	0.98	0.04	0.00	0.01	0.26	0.14
W9312	N01P	09-09-93	0813	5.65	W93120238	16.14	31.16	8.99	111	39.69	22.77	3.18	0.94	0.18	0.00	0.02	0.29	0.57
W9312	N01P	09-09-93	0812	11.22	W93120237	11.49	31.54	9.07	102	35.98	24.00	3.22	0.95	0.35	0.05	0.33	0.45	3.11
W9312	N01P	09-09-93	0811	15.68	W93120236	9.87	31.60	8.85	96	34.64	24.32	2.62	0.86	0.77	0.18	1.62	0.60	4.37
W9312	N01P	09-09-93	0809	27.35	W93120235	7.74	31.61	8.28	85	32.83	24.65	1.51	1.02	2.09	0.29	4.13	0.87	8.34
W9312	N02	09-09-93	0844	1.71	W93120250	16.72	31.01	9.23	115	40.03	22.52	2.54	0.96	0.10	0.00	0.00	0.23	0.05
W9312	N02	09-09-93	0843	4.71	W93120249	16.20	31.03	9.10	112	39.59	22.65	3.28	0.97	0.16	0.00	0.02	0.28	0.81
W9312	N02	09-09-93	0843	9.08	W93120248	12.07	31.54	9.54	108	36.49	23.89	5.35	1.06	0.28	0.02	0.28	0.40	2.57
W9312	N02	09-09-93	0841	19.43	W93120247	9.03	31.78	9.13	97	34.09	24.59	2.30	0.77	0.74	0.22	2.61	0.62	3.85
W9312	N02	09-09-93	0839	33.79	W93120246	7.40	31.71	8.31	85	32.63	24.78	0.80	0.86	1.34	0.25	4.63	0.79	6.30
W9312	N03	09-09-93	0913	1.74	W93120261	17.38	31.19	8.42	106	40.84	22.50	2.81	1.06	0.08	0.00	0.00	0.21	0.76
W9312	N03	09-09-93	0912	5.67	W93120260	16.92	31.17	8.78	110	40.41	22.60	3.06	0.93	0.06	0.00	0.00	0.24	1.41
W9312	N03	09-09-93	0911	11.24	W93120259	12.33	31.57	9.74	111	36.75	23.86	3.44	0.91	0.11	0.01	0.06	0.33	1.59
W9312	N03	09-09-93	0910	19.89	W93120258	9.34	31.90	9.42	101	34.48	24.64	3.80	0.89	0.32	0.11	1.30	0.52	1.92
W9312	N03	09-09-93	0908	38.74	W93120257	7.11	31.78	8.39	85	32.45	24.87	0.63	0.81	0.91	0.21	6.05	0.80	6.38
W9312	N04P	09-09-93	0944	1.81	W93120273	17.43	31.14	8.39	106	40.83	22.46	2.40	1.00	0.07	0.00	0.02	0.25	0.80
W9312	N04P	09-09-93	0943	4.58	W93120271	15.96	30.90	9.31	114	39.23	22.61	2.72	0.86	0.04	0.00	0.01	0.28	1.00
W9312	N04P	09-09-93	0941	12.92	W93120270	10.21	31.74	9.59	105	35.07	24.37	4.23	0.99	0.21	0.05	0.44	0.46	2.49
W9312	N04P	09-09-93	0940	20.18	W93120269	9.11	31.81	9.09	97	34.19	24.60	2.10	0.70	0.67	0.21	2.36	0.63	2.98
W9312	N04P	09-09-93	0938	44.39	W93120268	7.51	31.86	8.40	86	32.87	24.88	0.73	0.61	0.94	0.23	5.82	0.81	5.13
W9312	N05	09-09-93	1017	1.50	W93120284	17.35	31.16	8.51	107	40.77	22.49	1.73	0.91	0.04	0.00	0.01	0.27	0.81
W9312	N05	09-09-93	1016	4.34	W93120283	16.79	31.29	8.49	106	40.42	22.72	2.74	0.92	0.05	0.00	0.04	0.28	1.76
W9312	N05	09-09-93	1015	9.83	W93120282	11.38	31.65	9.54	107	36.00	24.10	2.79	0.82	0.31	0.10	0.77	0.46	2.82
W9312	N05	09-09-93	1014	14.24	W93120281	9.05	31.68	8.78	93	34.01	24.51	1.79	0.67	1.01	0.31	2.76	0.68	4.39
W9312	N05	09-09-93	1010	48.60	W93120280	7.45	31.87	8.28	85	32.83	24.89	0.56	0.61	0.87	0.24	6.56	0.86	5.27
W9312	N06	09-09-93	1111	1.60	W93120300	17.32	31.19	8.54	107	40.78	22.52	1.80	1.05	0.08	0.10	0.03	0.24	0.71
W9312	N06	09-09-93	1110	3.56	W93120299	17.10	31.22	8.65	108	40.62	22.59	2.54	1.02	0.14	0.00	0.07	0.27	1.12
W9312	N06	09-09-93	1109	8.10	W93120298	13.09	31.71	9.68	112	37.57	23.83	2.30	0.78	0.14	0.05	0.36	0.40	2.28
W9312	N06	09-09-93	1107	14.15	W93120297	9.26	31.80	9.23	99	34.30	24.58	2.19	0.70	0.53	0.22	2.28	0.62	2.66
W9312	N06	09-09-93	1105	43.83	W93120296	7.80	31.92	8.42	87	33.17	24.89	0.61	0.58	0.87	0.25	6.00	0.83	3.93
W9312	N07P	09-09-93	1138	1.67	W93120311	17.17	31.06	8.94	112	40.49	22.45	3.04	1.12	0.05	0.02	0.02	0.29	0.11
W9312	N07P	09-09-93	1137	4.61	W93120310	16.34	31.16	9.19	113	39.87	22.73	4.49	1.11	0.14	0.01	0.01	0.30	0.49
W9312	N07P	09-09-93	1135	10.31	W93120309	11.62	31.75	9.83	110	36.32	24.14	2.47	0.76	0.15	0.02	0.07	0.38	1.32
W9312	N07P	09-09-93	1134	17.24	W93120308	9.33	31.86	9.10	97	34.43	24.61	3.62	0.85	0.43	0.19	1.89	0.61	1.77
W9312	N07P	09-09-93	1130	43.29	W93120307	7.03	31.83	8.23	84	32.43	24.92	0.71	0.82	0.89	0.24	6.95	0.90	6.77
W9312	N08	09-09-93	1231	1.53	W93120322	16.66	31.05	9.16	114	40.03	22.56	1.93	1.16	0.15	0.00	0.02	0.32	0.08
W9312	N08	09-09-93	1230	2.24	W93120321	16.35	31.04	9.21	114	39.75	22.63	3.10	1.25	0.17	0.00	0.03	0.32	0.10
W9312	N08	09-09-93	1229	5.58	W93120320	15.45	31.07	9.26	112	38.97	22.85	8.71	1.33	0.15	0.01	0.15	0.42	0.78
W9312	N08	09-09-93	1228	14.50	W93120319	8.19	31.56	8.68	90	33.16	24.55	3.12	0.91	1.37	0.27	3.92	0.81	6.63
W9312	N08	09-09-93	1226	30.08	W93120318	7.11	31.61	8.52	86	32.30	24.74	1.48	0.88	1.72	0.27	5.42	0.90	8.33
W9312	N09	09-09-93	1256	1.74	W93120335	15.89	30.98	9.74	119	39.26	22.69	2.65	1.33	0.12	0.00	0.07	0.28	0.07

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)
W9312	N09	09-09-93	1255	4.27	W93120334	14.92	31.05	9.39	113	38.48	22.95	5.53	1.30	0.13	0.00	0.03	0.28	0.26
W9312	N09	09-09-93	1255	9.96	W93120333	13.42	31.27	9.08	106	37.39	23.42	5.02	0.90	0.13	0.00	0.10	0.35	1.03
W9312	N09	09-09-93	1253	19.17	W93120332	8.71	31.56	8.69	91	33.61	24.47	3.43	0.96	1.46	0.29	2.65	0.74	6.52
W9312	N09	09-09-93	1252	30.79	W93120331	7.26	31.59	8.25	84	32.40	24.70	1.07	1.02	2.18	0.30	5.18	0.93	9.95
W9312	N10P	09-09-93	0646	1.51	W93120200	14.85	31.08	8.77	105	38.45	22.99	6.98	1.22	1.18	0.08	0.44	0.45	0.89
W9312	N10P	09-09-93	0644	5.99	W93120199	14.00	31.07	8.03	94	37.68	23.15	8.10	1.40	2.99	0.20	1.51	0.68	2.72
W9312	N10P	09-09-93	0643	9.43	W93120198	11.53	31.29	7.86	88	35.76	23.79	4.09	1.20	3.41	0.30	2.37	0.83	4.89
W9312	N10P	09-09-93	0641	16.33	W93120197	8.29	31.51	8.21	86	33.20	24.50	1.67	0.99	2.31	0.35	3.92	0.84	7.59
W9312	N10P	09-09-93	0639	22.22	W93120196	7.96	31.52	8.19	85	32.93	24.55	1.43	1.12	2.87	0.32	3.88	0.82	7.59
W9312	N11	09-09-93	0723	1.59	W93120213	15.76	31.08	9.07	111	39.25	22.79	3.96	1.02	0.16	0.03	0.02	0.30	0.11
W9312	N11	09-09-93	0723	3.63	W93120212	15.53	31.08	9.09	110	39.05	22.84	4.40	1.04	0.20	0.01	0.03	0.31	0.31
W9312	N11	09-09-93	0721	8.37	W93120211	11.88	31.40	8.93	101	36.18	23.82	4.52	1.10	0.74	0.05	0.43	0.48	2.65
W9312	N11	09-09-93	0720	16.87	W93120210	9.34	31.47	8.24	88	34.05	24.30	3.29	1.15	2.15	0.32	3.42	0.82	7.21
W9312	N11	09-09-93	0719	25.93	W93120209	7.94	31.52	7.96	82	32.91	24.55	1.18	1.18	2.33	0.32	3.98	0.84	8.08
W9312	N12	09-09-93	0749	1.52	W93120226	16.64	31.03	9.11	113	39.98	22.55	2.81	0.92	0.31	0.01	0.02	0.32	0.09
W9312	N12	09-09-93	0748	4.66	W93120225	16.43	31.05	9.04	112	39.82	22.61	2.98	0.91	0.26	0.00	0.03	0.31	0.45
W9312	N12	09-09-93	0748	8.05	W93120224	14.29	31.16	9.23	109	38.04	23.16	3.01	0.88	0.27	0.00	0.05	0.36	1.33
W9312	N12	09-09-93	0746	12.65	W93120223	11.03	31.57	9.08	101	35.61	24.10	3.67	1.02	0.52	0.06	0.45	0.47	3.20
W9312	N12	09-09-93	0745	22.20	W93120222	9.06	31.52	8.48	90	33.86	24.38	2.49	0.98	0.91	0.16	1.55	0.57	4.22
W9312	N13	09-09-93	1357	1.81	W93120368	17.01	31.04	9.25	116	40.32	22.48	1.68	1.00	0.02	0.04	-0.04	0.27	0.00
W9312	N13	09-09-93	1356	6.38	W93120367	15.98	31.15	9.24	113	39.53	22.79	3.87	1.01	0.07	0.02	-0.02	0.28	0.31
W9312	N13	09-09-93	1355	11.39	W93120366	11.74	31.57	9.74	110	36.23	23.98	5.23	1.15	0.05	0.00	0.00	0.40	2.48
W9312	N13	09-09-93	1354	17.88	W93120365	10.38	31.69	9.73	106	35.17	24.30	2.96	0.89	0.20	0.06	0.25	0.45	2.57
W9312	N13	09-09-93	1353	27.31	W93120364	8.07	31.67	8.80	91	33.16	24.65	1.41	0.71	0.82	0.22	2.88	0.65	4.63
W9312	N14	09-09-93	1417	1.82	W93120379	17.85	31.21	8.58	109	41.28	22.41	2.01	1.12	0.04	0.04	-0.04	0.23	0.49
W9312	N14	09-09-93	1416	3.53	W93120378	17.59	31.17	8.66	110	41.00	22.44	2.64	1.13	0.02	0.03	-0.03	0.23	0.60
W9312	N14	09-09-93	1415	7.07	W93120377	16.79	31.15	9.13	114	40.25	22.61	3.61	1.11	0.06	0.02	-0.02	0.24	0.21
W9312	N14	09-09-93	1414	15.17	W93120376	10.58	31.69	9.88	109	35.35	24.27	3.96	0.97	0.06	0.05	0.01	0.41	2.10
W9312	N14	09-09-93	1413	27.76	W93120375	7.64	31.68	8.61	89	32.81	24.72	1.17	0.71	0.94	0.27	3.94	0.72	5.32
W9312	N15	09-09-93	1437	1.77	W93120390	18.05	31.17	8.48	108	41.42	22.33	2.44	1.07	0.06	0.03	-0.01	0.24	0.66
W9312	N15	09-09-93	1436	5.80	W93120389	17.27	31.16	8.62	108	40.70	22.51	2.71	0.99	0.08	0.01	-0.01	0.25	0.93
W9312	N15	09-09-93	1435	11.08	W93120388	11.51	31.65	9.81	110	36.11	24.08	4.19	1.09	0.04	0.03	0.00	0.36	2.38
W9312	N15	09-09-93	1434	15.75	W93120387	9.30	31.67	8.95	96	34.22	24.47	2.60	0.81	0.62	0.27	2.20	0.60	3.62
W9312	N15	09-09-93	1433	40.69	W93120386	7.67	31.85	8.52	88	32.99	24.85	0.82	0.60	0.97	0.28	6.12	0.84	5.35
W9312	N16P	09-09-93	1459	1.91	W93120401	17.66	31.17	8.59	109	41.07	22.43	2.41	1.02	0.08	0.02	0.02	0.24	0.61
W9312	N16P	09-09-93	1457	3.19	W93120400	17.51	31.16	8.66	109	40.92	22.45	2.60	1.02	0.16	0.05	0.43	0.34	1.73
W9312	N16P	09-09-93	1456	11.85	W93120399	11.27	31.68	9.93	111	35.93	24.14	3.96	1.02	0.08	0.03	0.15	0.38	2.45
W9312	N16P	09-09-93	1455	16.50	W93120398	9.09	31.76	9.21	98	34.12	24.57	2.10	0.71	0.53	0.23	2.11	0.60	3.12
W9312	N16P	09-09-93	1454	37.69	W93120397	7.02	31.79	8.51	86	32.38	24.89	0.81	0.85	0.80	0.24	6.04	0.84	6.24
W9312	N17	09-09-93	1527	1.74	W93120412	17.48	31.07	9.07	114	40.79	22.39	3.09	1.15	0.06	0.00	0.01	0.23	0.07
W9312	N17	09-09-93	1526	7.17	W93120411	16.28	31.10	9.52	117	39.75	22.69	3.82	1.15	0.00	0.00	0.00	0.20	0.14
W9312	N17	09-09-93	1525	14.13	W93120410	10.59	31.79	9.98	110	35.45	24.35	3.48	0.90	0.15	0.02	0.11	0.37	1.55
W9312	N17	09-09-93	1524	21.19	W93120409	8.28	31.75	9.02	94	33.41	24.68	2.77	0.82	0.75	0.20	3.46	0.70	4.71
W9312	N17	09-09-93	1522	35.41	W93120408	7.37	31.81	8.60	88	32.71	24.86	0.92	0.68	0.95	0.22	6.33	0.85	5.85
W9312	N18	09-09-93	1547	1.57	W93120423	16.96	31.05	9.30	116	40.30	22.49	4.71	1.26	0.07	0.02	0.02	0.31	0.00

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)
W9312	N18	09-09-93	1547	2.86	W93120422	16.82	31.00	9.39	117	40.12	22.49	4.60	1.28	0.05	0.00	0.08	0.31	0.15
W9312	N18	09-09-93	1546	8.05	W93120421	15.19	31.09	9.37	113	38.76	22.92	6.52	1.30	0.07	0.00	0.00	0.35	0.30
W9312	N18	09-09-93	1544	15.32	W93120420	9.50	31.61	9.13	98	34.32	24.38	2.99	0.91	0.51	0.14	1.12	0.53	3.44
W9312	N18	09-09-93	1543	22.39	W93120419	7.62	31.60	8.57	88	32.72	24.66	1.82	0.96	1.45	0.27	4.60	0.82	7.42
W9312	N19	09-09-93	1315	1.89	W93120346	16.46	31.10	9.31	115	39.90	22.65	2.66	1.27	0.03	0.02	0.03	0.32	0.04
W9312	N19	09-09-93	1314	3.56	W93120345	15.66	31.06	9.43	115	39.15	22.79	4.54	1.28	0.00	0.01	0.00	0.31	0.06
W9312	N19	09-09-93	1313	6.29	W93120344	15.02	31.13	9.28	112	38.66	22.99	5.40	1.14	0.07	0.00	0.05	0.34	0.29
W9312	N19	09-09-93	1312	14.27	W93120343	11.35	31.60	9.41	105	35.93	24.07	2.79	0.84	0.77	0.10	1.03	0.52	3.51
W9312	N19	09-09-93	1311	20.40	W93120342	7.82	31.57	8.38	86	32.85	24.60	1.63	1.13	1.04	0.19	2.45	0.64	5.15
W9312	N20P	09-09-93	1332	1.76	W93120357	16.83	31.08	9.21	115	40.22	22.55	3.07	1.19	0.04	0.01	0.01	0.30	0.07
W9312	N20P	09-09-93	1332	6.37	W93120356	15.76	31.14	9.23	113	39.32	22.83	4.72	1.12	0.25	0.04	0.53	0.40	1.43
W9312	N20P	09-09-93	1331	10.72	W93120355	13.44	31.36	9.44	110	37.51	23.49	3.31	0.83	0.22	0.01	0.10	0.38	1.72
W9312	N20P	09-09-93	1330	17.00	W93120354	9.18	31.63	8.94	95	34.07	24.45	2.40	0.81	0.74	0.24	2.19	0.62	4.22
W9312	N20P	09-09-93	1329	28.31	W93120353	7.29	31.66	8.38	85	32.49	24.75	1.20	1.02	1.41	0.26	4.81	0.84	7.71
W9312	N21	09-09-93	1607	2.05	W93120434	17.61	31.07	9.03	114	40.91	22.36	3.71	1.21	0.29	0.02	0.06	0.27	0.00
W9312	N21	09-09-93	1606	3.22	W93120433	17.40	31.05	9.03	114	40.70	22.39	3.59	1.16	0.10	0.01	0.02	0.27	0.05
W9312	N21	09-09-93	1606	9.18	W93120432	14.78	31.19	9.32	112	38.52	23.08	4.29	1.01	0.06	0.01	0.01	0.32	0.24
W9312	N21	09-09-93	1605	17.77	W93120431	9.48	31.74	9.45	101	34.44	24.49	3.35	0.89	0.32	0.13	0.84	0.49	1.39
W9312	N21	09-09-93	1604	32.51	W93120430	7.30	31.74	8.60	88	32.57	24.81	1.09	0.77	0.96	0.23	4.93	0.80	6.08
W9313	N01P	09-29-93	0824	1.73	W93130236	12.49	31.37	8.61	98	36.68	23.68	9.95	1.87	1.28	0.35	2.71	0.61	1.38
W9313	N01P	09-29-93	0824	5.73	W93130235	12.34	31.38	8.39	96	36.56	23.72	9.49	1.81	0.84	0.32	2.58	0.61	1.75
W9313	N01P	09-29-93	0823	9.82	W93130234	12.00	31.51	8.05	91	36.40	23.88	7.65	1.48	0.83	0.29	2.91	0.65	3.05
W9313	N01P	09-29-93	0821	18.06	W93130233	9.98	31.82	7.86	85	34.95	24.47	1.08	0.59	0.76	0.35	5.88	0.81	5.34
W9313	N01P	09-29-93	0820	29.32	W93130232	8.75	31.93	7.66	81	34.00	24.76	0.87	0.94	0.37	0.36	7.62	0.91	6.64
W9313	N02	09-29-93	0909	1.24	W93130252	12.72	31.44	9.33	107	36.95	23.69	8.19	1.75	0.22	0.14	0.24	0.39	0.51
W9313	N02	09-29-93	0909	4.91	W93130251	12.51	31.42	9.10	104	36.76	23.72	12.47	1.81	0.12	0.14	0.28	0.42	0.55
W9313	N02	09-29-93	0908	10.71	W93130250	12.48	31.42	8.78	100	36.73	23.72	12.04	1.74	0.49	0.19	1.34	0.50	1.64
W9313	N02	09-29-93	0907	24.24	W93130249	9.36	31.86	7.85	84	34.46	24.61	0.98	0.59	0.25	0.37	7.15	0.87	5.71
W9313	N02	09-29-93	0906	36.41	W93130248	8.38	31.99	7.72	81	33.74	24.86	0.83	1.22	0.21	0.26	8.46	0.94	6.96
W9313	N03	09-29-93	0930	2.13	W93130263	13.32	31.40	9.65	112	37.44	23.55	11.80	1.82	0.11	0.09	0.19	0.27	0.21
W9313	N03	09-29-93	0930	7.00	W93130262	13.22	31.41	9.11	106	37.37	23.57	13.70	1.77	0.23	0.09	0.26	0.34	0.38
W9313	N03	09-29-93	0929	16.07	W93130261	10.87	31.73	8.11	90	35.64	24.25	1.26	0.56	0.99	0.29	3.47	0.66	3.78
W9313	N03	09-29-93	0928	28.40	W93130260	8.75	31.94	7.80	82	34.00	24.76	0.88	0.65	0.12	0.33	7.96	0.90	6.06
W9313	N03	09-29-93	0927	43.02	W93130259	8.11	32.05	7.91	82	33.56	24.94	0.75	0.75	0.24	0.20	8.76	0.93	6.68
W9313	N04P	09-29-93	0954	1.63	W93130276	13.35	31.47	9.73	113	37.55	23.59	7.73	1.66	0.00	0.00	0.06	0.24	0.09
W9313	N04P	09-29-93	0954	4.65	W93130275	13.27	31.47	9.70	113	37.48	23.61	13.24	1.68	0.00	0.00	0.09	0.18	0.10
W9313	N04P	09-29-93	0952	8.19	W93130274	13.21	31.48	9.35	109	37.43	23.62	13.33	1.63	0.01	0.00	0.15	0.20	0.22
W9313	N04P	09-29-93	0951	18.85	W93130273	10.69	31.79	8.23	91	35.54	24.33	1.34	0.55	0.56	0.29	3.58	0.68	3.92
W9313	N04P	09-29-93	0950	23.96	W93130272	9.08	31.90	7.92	84	34.25	24.68	1.03	0.62	0.07	0.23	6.35	0.76	5.56
W9313	N05	09-29-93	1027	1.90	W93130287	13.87	31.46	9.84	116	37.99	23.48	6.47	1.65	0.02	0.00	0.05	0.18	0.00
W9313	N05	09-29-93	1026	5.77	W93130286	13.75	31.44	9.75	114	37.87	23.49	13.67	1.67	0.09	0.00	0.05	0.12	0.03
W9313	N05	09-29-93	1025	10.97	W93130285	13.69	31.45	9.28	109	37.83	23.51	12.25	1.56	0.05	0.00	0.15	0.15	0.18
W9313	N05	09-29-93	1024	17.81	W93130284	11.62	31.71	8.25	93	36.27	24.11	1.90	0.61	0.66	0.23	2.49	0.58	3.21
W9313	N05	09-29-93	1022	49.25	W93130283	7.88	32.09	7.96	83	33.40	25.01	0.74	0.75	0.00	0.10	8.49	0.94	6.80
W9313	N06	09-29-93	1054	1.88	W93130298	13.93	31.43	9.66	114	38.01	23.44	8.94	1.65	0.02	0.01	0.06	0.24	0.09

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)
W9313	N06	09-29-93	1053	9.93	W93130297	13.72	31.42	9.16	107	37.83	23.48	12.17	1.59	0.21	0.04	0.35	0.28	0.78
W9313	N06	09-29-93	1051	19.25	W93130296	12.17	31.73	8.52	97	36.79	24.02	1.94	0.58	0.53	0.18	2.11	0.55	2.98
W9313	N06	09-29-93	1050	27.56	W93130295	8.90	31.92	7.90	84	34.12	24.72	0.92	0.60	0.07	0.23	6.87	0.86	5.14
W9313	N06	09-29-93	1049	49.20	W93130294	7.82	32.10	7.96	82	33.36	25.02	0.68	0.80	0.10	0.09	8.40	0.94	6.53
W9313	N07P	09-29-93	1119	1.87	W93130310	14.15	31.45	9.27	110	38.24	23.42	4.25	1.48	0.03	0.03	0.05	0.19	0.10
W9313	N07P	09-29-93	1119	6.58	W93130309	13.91	31.46	9.18	108	38.04	23.47	10.21	1.46	0.00	0.02	0.06	0.13	0.20
W9313	N07P	09-29-93	1117	14.36	W93130308	13.66	31.52	8.65	101	37.88	23.57	6.13	1.03	0.08	0.02	0.19	0.23	0.98
W9313	N07P	09-29-93	1116	25.65	W93130307	10.23	31.89	8.08	88	35.24	24.49	1.35	0.57	0.30	0.29	4.55	0.72	4.06
W9313	N07P	09-29-93	1115	47.93	W93130306	7.69	32.13	7.92	82	33.27	25.06	0.70	0.85	0.05	0.12	8.54	0.93	6.78
W9313	N08	09-29-93	1213	1.44	W93130328	14.55	31.48	9.12	109	38.63	23.35	1.89	1.23	0.00	0.02	0.01	0.07	0.13
W9313	N08	09-29-93	1212	5.26	W93130327	14.07	31.48	9.16	108	38.20	23.46	4.86	1.31	0.00	0.02	0.05	0.07	0.24
W9313	N08	09-29-93	1211	10.71	W93130326	13.98	31.49	8.88	105	38.12	23.48	6.06	1.21	0.11	0.03	0.25	0.21	0.85
W9313	N08	09-29-93	1210	18.96	W93130325	10.29	31.78	7.83	86	35.19	24.39	1.30	0.67	0.90	0.31	4.76	0.80	5.06
W9313	N08	09-29-93	1210	28.94	W93130324	9.10	31.93	8.04	86	34.30	24.70	0.96	0.61	0.28	0.26	5.23	0.74	4.53
W9313	N09	09-29-93	1239	1.80	W93130344	13.85	31.42	8.90	105	37.94	23.46	5.77	1.69	0.72	0.14	0.91	0.36	0.81
W9313	N09	09-29-93	1238	5.85	W93130343	13.92	31.48	8.89	105	38.06	23.49	9.17	1.44	0.14	0.04	0.27	0.13	0.36
W9313	N09	09-29-93	1237	13.14	W93130342	13.41	31.43	8.22	96	37.56	23.55	7.91	1.52	1.01	0.21	2.26	0.52	2.70
W9313	N09	09-29-93	1236	17.60	W93130341	9.43	31.77	7.59	81	34.43	24.53	1.07	0.86	0.95	0.32	5.90	0.85	6.24
W9313	N09	09-29-93	1235	33.13	W93130340	8.68	31.96	7.64	81	33.97	24.79	0.94	0.96	0.52	0.28	6.20	0.82	5.72
W9313	N10P	09-29-93	0701	1.97	W93130198	13.27	31.31	7.69	89	37.30	23.48	4.11	1.65	5.10	0.40	3.13	0.95	2.63
W9313	N10P	09-29-93	0700	7.28	W93130197	13.51	31.46	8.54	100	37.68	23.55	6.79	1.51	2.12	0.13	0.95	0.39	0.97
W9313	N10P	09-29-93	0659	9.35	W93130196	13.47	31.48	8.45	99	37.66	23.57	7.41	1.41	1.05	0.11	0.85	0.37	1.05
W9313	N10P	09-29-93	0658	13.22	W93130195	13.36	31.45	8.19	95	37.53	23.57	6.45	1.43	2.45	0.31	3.76	0.83	5.05
W9313	N10P	09-29-93	0656	21.70	W93130194	10.09	31.75	7.63	83	34.98	24.40	1.46	1.17	2.85	0.31	4.22	0.80	5.41
W9313	N11	09-29-93	0729	1.90	W93130212	12.97	31.36	8.68	100	37.10	23.58	9.30	1.82	0.77	0.33	2.27	0.56	0.64
W9313	N11	09-29-93	0728	4.87	W93130211	12.95	31.37	8.57	99	37.09	23.59	9.00	1.78	1.24	0.32	2.33	0.62	0.97
W9313	N11	09-29-93	0727	12.57	W93130210	12.49	31.46	8.08	92	36.78	23.75	3.83	1.09	1.02	0.28	3.85	0.77	3.95
W9313	N11	09-29-93	0726	17.01	W93130209	9.82	31.78	7.83	85	34.78	24.47	1.10	0.70	0.75	0.32	5.06	0.79	4.89
W9313	N11	09-29-93	0725	22.39	W93130208	9.59	31.86	7.80	84	34.66	24.57	1.07	0.79	0.73	0.33	5.51	0.83	5.38
W9313	N12	09-29-93	0800	1.31	W93130223	13.00	31.21	9.01	104	36.95	23.46	13.66	2.16	0.47	0.32	1.53	0.49	0.22
W9313	N12	09-29-93	0800	6.91	W93130222	12.91	31.31	8.62	99	36.98	23.55	12.19	2.01	2.00	0.36	2.49	0.65	1.45
W9313	N12	09-29-93	0759	10.69	W93130221	12.44	31.40	7.69	88	36.67	23.71	5.51	1.49	3.01	0.37	3.95	0.86	4.43
W9313	N12	09-29-93	0758	19.43	W93130220	9.84	31.78	7.74	84	34.80	24.47	1.08	0.76	0.94	0.35	5.63	0.87	5.77
W9313	N12	09-29-93	0757	24.08	W93130219	9.46	31.87	7.70	83	34.55	24.60	1.02	0.99	1.10	0.35	5.61	0.88	5.78
W9313	N13	09-29-93	1353	1.33	W93130388	13.52	31.34	10.69	125	37.55	23.45	15.83	2.38	0.14	0.09	0.15	0.34	0.11
W9313	N13	09-29-93	1352	5.63	W93130387	13.41	31.42	9.11	106	37.55	23.54	15.12	1.84	0.30	0.09	0.43	0.31	0.45
W9313	N13	09-29-93	1352	14.64	W93130386	10.92	31.62	7.89	87	35.57	24.16	1.65	0.68	1.05	0.34	4.73	0.81	4.72
W9313	N13	09-29-93	1351	22.53	W93130385	9.21	31.88	7.83	84	34.34	24.64	0.97	0.61	0.49	0.36	6.84	0.89	5.42
W9313	N13	09-29-93	1350	30.32	W93130384	8.84	31.94	7.80	83	34.08	24.75	0.87	0.84	0.22	0.34	7.20	0.89	5.77
W9313	N14	09-29-93	1411	2.07	W93130399	13.60	31.38	10.31	121	37.68	23.48	14.17	2.02	0.06	0.05	0.06	0.27	0.10
W9313	N14	09-29-93	1410	4.10	W93130398	13.51	31.40	9.61	112	37.62	23.51	17.13	1.96	0.09	0.05	0.13	0.31	0.20
W9313	N14	09-29-93	1409	10.15	W93130397	13.41	31.45	8.43	98	37.58	23.57	7.39	1.35	0.33	0.11	0.82	0.33	0.81
W9313	N14	09-29-93	1408	17.19	W93130396	11.03	31.70	8.04	89	35.75	24.20	1.73	0.62	0.86	0.27	3.58	0.68	4.10
W9313	N14	09-29-93	1407	30.44	W93130395	8.61	31.97	7.82	82	33.91	24.81	0.89	0.68	0.16	0.25	7.30	0.92	6.13
W9313	N15	09-29-93	1429	0.97	W93130412	13.64	31.35	10.70	125	37.67	23.45	13.46	2.21	0.07	0.06	0.06	0.24	0.06

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)
W9313	N15	09-29-93	1429	3.68	W93130411	13.46	31.36	9.45	110	37.53	23.49	20.04	2.13	0.06	0.03	0.09	0.24	0.08
W9313	N15	09-29-93	1428	12.58	W93130410	13.42	31.44	8.60	100	37.58	23.56	9.09	1.43	0.18	0.08	0.43	0.29	0.50
W9313	N15	09-29-93	1428	24.54	W93130409	9.54	31.87	7.83	84	34.62	24.59	1.03	0.59	0.57	0.32	5.89	0.81	5.40
W9313	N15	09-29-93	1427	41.01	W93130408	8.28	32.01	7.85	82	33.67	24.89	0.83	0.77	0.06	0.19	8.28	0.92	6.62
W9313	N16P	09-29-93	1449	1.01	W93130427	14.15	31.45	9.89	117	38.24	23.42	7.11	1.82	0.00	0.01	0.04	0.11	0.06
W9313	N16P	09-29-93	1448	8.39	W93130426	13.61	31.43	9.36	109	37.74	23.51	15.03	1.76	0.03	0.01	0.06	0.20	0.13
W9313	N16P	09-29-93	1447	14.76	W93130425	13.65	31.46	8.81	103	37.81	23.53	9.80	1.33	0.07	0.02	0.21	0.18	0.54
W9313	N16P	09-29-93	1446	22.24	W93130424	10.77	31.74	8.05	89	35.57	24.28	1.36	0.58	0.83	0.29	4.03	0.69	4.37
W9313	N16P	09-29-93	1445	39.91	W93130423	8.22	32.03	7.91	83	33.63	24.91	0.78	0.72	0.16	0.19	7.67	0.86	6.19
W9313	N17	09-29-93	1511	1.95	W93130442	14.39	31.48	9.34	111	38.48	23.39	4.32	1.45	0.04	0.00	0.06	0.01	0.05
W9313	N17	09-29-93	1510	5.62	W93130441	14.21	31.46	9.38	111	38.30	23.41	7.42	1.49	0.06	0.00	0.05	0.05	0.11
W9313	N17	09-29-93	1510	13.37	W93130440	13.99	31.48	8.91	105	38.13	23.47	7.59	1.34	0.00	0.00	0.12	0.06	0.26
W9313	N17	09-29-93	1509	21.40	W93130439	12.21	31.58	8.06	92	36.66	23.89	2.78	0.77	1.02	0.21	3.15	0.62	4.32
W9313	N17	09-29-93	1508	37.36	W93130438	8.19	32.04	7.90	82	33.62	24.92	0.82	0.75	0.21	0.19	7.46	0.85	6.36
W9313	N18	09-29-93	1532	0.95	W93130458	14.12	31.48	9.37	111	38.24	23.45	6.63	1.63	0.08	0.01	0.06	0.07	0.12
W9313	N18	09-29-93	1531	4.72	W93130456	13.91	31.49	9.25	109	38.06	23.49	9.25	1.59	0.18	0.04	0.24	0.20	0.29
W9313	N18	09-29-93	1530	9.82	W93130455	13.22	31.42	8.50	99	37.38	23.58	9.62	1.56	0.81	0.25	1.74	0.50	1.17
W9313	N18	09-29-93	1530	16.91	W93130454	11.94	31.60	8.13	92	36.44	23.96	2.45	0.84	1.34	0.22	2.54	0.62	4.00
W9313	N18	09-29-93	1529	21.11	W93130453	10.18	31.79	8.10	88	35.10	24.42	1.28	0.59	0.97	0.26	3.46	0.63	3.79
W9313	N19	09-29-93	1303	1.76	W93130356	13.91	31.43	9.63	113	38.00	23.45	7.39	1.94	0.17	0.09	0.28	0.33	0.36
W9313	N19	09-29-93	1302	4.13	W93130355	13.18	31.42	8.71	101	37.34	23.59	11.21	1.75	0.77	0.25	1.62	0.50	1.23
W9313	N19	09-29-93	1301	10.26	W93130353	13.11	31.44	8.13	94	37.31	23.62	6.40	1.36	1.62	0.23	1.97	0.57	1.98
W9313	N19	09-29-93	1300	17.02	W93130352	10.47	31.77	7.79	85	35.33	24.35	1.49	0.92	1.29	0.33	4.91	0.86	6.21
W9313	N19	09-29-93	1259	23.37	W93130351	9.33	31.89	7.91	85	34.46	24.64	1.00	0.81	0.74	0.33	5.50	0.83	5.66
W9313	N20P	09-29-93	1328	1.85	W93130371	14.05	31.43	9.41	111	38.13	23.42	6.85	1.76	0.16	0.10	0.45	0.33	0.50
W9313	N20P	09-29-93	1327	8.34	W93130370	13.32	31.43	8.54	99	37.48	23.56	12.33	1.68	0.58	0.19	1.54	0.49	1.45
W9313	N20P	09-29-93	1326	17.45	W93130369	10.50	31.76	7.92	87	35.35	24.34	1.51	0.72	0.80	0.31	5.03	0.83	5.20
W9313	N20P	09-29-93	1326	24.03	W93130368	9.47	31.88	7.79	84	34.57	24.60	0.96	0.72	0.68	0.33	6.25	0.91	6.24
W9313	N20P	09-29-93	1325	30.34	W93130367	9.23	31.91	7.75	83	34.39	24.66	0.98	0.76	0.60	0.32	6.40	0.91	6.26
W9313	N21	09-29-93	1555	1.82	W93130473	14.12	31.46	9.44	112	38.22	23.43	10.66	1.72	0.07	0.03	0.07	0.14	0.26
W9313	N21	09-29-93	1555	9.07	W93130472	13.80	31.46	9.01	106	37.94	23.49	11.14	1.59	0.07	0.01	0.11	0.16	0.27
W9313	N21	09-29-93	1554	14.80	W93130471	13.26	31.51	8.33	97	37.52	23.64	5.77	1.11	0.27	0.07	0.68	0.30	1.18
W9313	N21	09-29-93	1553	20.42	W93130470	10.07	31.82	7.97	87	35.03	24.46	1.45	0.60	0.62	0.29	4.96	0.78	4.81
W9313	N21	09-29-93	1552	30.74	W93130469	8.76	31.96	7.85	83	34.03	24.78	0.90	0.66	0.26	0.26	7.05	0.94	5.96

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)	PON (uM)	POC (uM)	TDP (uM)	TDN (uM)	TSS (mg/L)
W9311	F01P	08-26-93	901	0.64	W93110425	1	0.65	100.83	0.37	1.55	6.58	0.54	8.04	0.56
W9311	F01P	08-26-93	901	0.64	W93110425	2	0.62	96.67	0.47	1.47	6.7	0.54	7.54	0.42
W9311	F01P	08-26-93	859	13.09	W93110423	1	1.32	101.67	0.97	2.04	12.63	0.51	7.56	0.51
W9311	F01P	08-26-93	859	13.09	W93110423	2	1.34	98.33	0.79	1.73	9.04	0.47	8.01	0.49
W9311	F02P	08-26-93	717	1.5	W93110401	1	0.91	83.33	0.85	1.56	5.87	0.36	6.88	0.15
W9311	F02P	08-26-93	717	1.5	W93110401	2	1.64	80.83	1.03	0.02	5.89	0.47	9.03	0.32
W9311	F02P	08-26-93	715	12.61	W93110399	1	0.5	90	0.4	2.05	9.64	0.7	8.47	1.37
W9311	F02P	08-26-93	715	12.61	W93110399	2	0.42	75.83	0.38	3.06	15.8	0.69	9.89	0.71
W9311	F13P	08-25-93	857	1.72	W93110289	1	1.01	105	0.49	2.75	15.39	0.28	7.07	0.74
W9311	F13P	08-25-93	857	1.72	W93110289	2	0.95	107.5	0.53	2.65	17.13	0.27	7.73	0.89
W9311	F13P	08-25-93	855	10.51	W93110287	1	2.12	81.67	1.55	2.78	14.89	0.48	8.04	0.98
W9311	F13P	08-25-93	855	10.51	W93110287	2	2.2	84.17	1.59	2.78	17.26	0.33	8.41	0.79
W9311	F23P	08-27-93	550	0.73	W93110523	1	7.53	105	1.55	3.28	19.4	0.6	9.98	2.12
W9311	F23P	08-27-93	550	0.73	W93110523	2	7.41	106.67	2.39	4.7	28.55	0.59	10.74	2.26
W9311	F23P	08-27-93	548	7.6	W93110521	1	6.84	91.67	1.98	3.78	23.49	0.69	12.79	2.93
W9311	F23P	08-27-93	548	7.6	W93110521	2	7.04	95	2.25	3.38	19.46	0.74	11.26	2.85
W9311	F25	08-26-93	1520	1.61	W93110502	1	2.94	119.17	0.73	2.15	12.83	0.58	10.55	0.92
W9311	F25	08-26-93	1520	1.61	W93110502	2	2.93	136.67	0.6	2.25	14.52	0.61	9.52	0.94
W9311	F25	08-26-93	1519	5.65	W93110500	1	4.72	109.17	1.54	2.69	15.19	0.76	9	1.33
W9311	F25	08-26-93	1519	5.65	W93110500	2	4.22	101.67	1.61	2.86	16.83	0.85	10.36	2.39
W9311	N01P	08-25-93	548	1.66	W93110242	1	4.44	100.83	1.3	4.59	29.24	0.17	8.92	1.39
W9311	N01P	08-25-93	548	1.66	W93110242	2	3.74	96.67	1.14	3.65	22.71	0.26	11.6	1.47
W9311	N01P	08-25-93	547	3.3	W93110241	1	4.13	118.33	1.17	3.93	28.03	0.25	10.02	1.64
W9311	N01P	08-25-93	547	3.3	W93110241	2	4.26	116.67	1.14	3.28	21.79	0.32	8.39	1.74
W9311	N04P	08-25-93	658	1.99	W93110257	1	2.45	122.5	0.99	2.18	15.61	0.33	8.97	1.16
W9311	N04P	08-25-93	658	1.99	W93110257	2	2.65	127.5	0.92	3.3	23.67	0.35	9.42	1.03
W9311	N04P	08-25-93	656	12.53	W93110255	1	2.35	87.5	1.22	1.8	11.84	0.3	7.87	0.91
W9311	N04P	08-25-93	656	12.53	W93110255	2	2.57	100.83	1.2	2.42	16.66	0.31	8.03	0.89
W9311	N07P	08-25-93	800	0.77	W93110273	1	1.95	87.5	0.78	2.75	17.46	0.21	8.39	0.75
W9311	N07P	08-25-93	800	0.77	W93110273	2	2	83.33	0.6	2.12	15	0.16	8.39	0.63
W9311	N07P	08-25-93	759	8.05	W93110272	1	2.23	90	1.03	3.21	20.07	0.14	7.53	0.83

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)	PON (uM)	POC (uM)	TDP (uM)	TDN (uM)	TSS (mg/L)
W9311	N07P	08-25-93	759	8.05	W93110272	2	2.58	92.5	0.9	3.13	20.5	0.35	9.42	0.78
W9311	N10P	08-24-93	920	0.76	W93110091	1	6.86	114.17	2.16	4.6	29.37	0.52	10.55	1.28
W9311	N10P	08-24-93	920	0.76	W93110091	2	6.23	110.83	2.03	4.02	24.28	0.59	12.41	0.65
W9311	N10P	08-24-93	917	16.17	W93110088	1	4.99	94.17	1.78	2.66	15.15	0.65	9.63	1.31
W9311	N10P	08-24-93	917	16.17	W93110088	2	5.92	85.83	1.59	2.45	13.84	0.68	11.76	1.24
W9311	N16P	08-24-93	814	1.59	W93110072	1	3.11	107.5	0.83	3.32	23.33	0.38	11.26	1.78
W9311	N16P	08-24-93	814	1.59	W93110072	2	3.04	102.5	0.81	3.53	24.53	0.36	11.05	1.12
W9311	N16P	08-24-93	812	9.63	W93110070	1	5.45	111.67	1.92	2.26	14.12	0.62	11.65	1.09
W9311	N16P	08-24-93	812	9.63	W93110070	2	5.3	98.33	2.59	3.32	18.83	0.66	13.67	1.07
W9311	N20P	08-24-93	729	0.94	W93110056	1	0.78	100.83	0.54	3.02	18.52	0.27	9.25	1.12
W9311	N20P	08-24-93	729	0.94	W93110056	2	0.94	90.83	0.51	2.62	15.77	0.3	9.61	1.03
W9311	N20P	08-24-93	727	9.76	W93110054	1	1.99	85	1.46	2.21	12.89	0.37	7.01	0.85
W9311	N20P	08-24-93	727	9.76	W93110054	2	2.03	87.5	1.54	2.59	26.02	0.39	14.5	1.01

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:

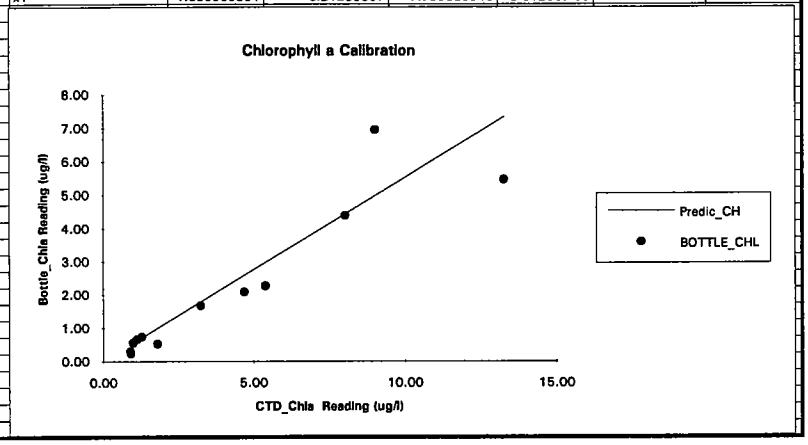
W9310 = Early August 1993 nearfield survey
W9311 = Late August 1993 combined survey
W9312 = Early September 1993 nearfield survey
W9313 = Late September 1993 nearfield survey.

Survey W9310 Chlorophyll a Calibration

MARKER	STATION_ID	DEPTH	BOTTLE_CHL	CTD_CHLA	Predic_CH	Residule
8	N10P	19.83	0.54	1.83	1.01	-0.48
10	N10P	7.18	2.28	5.40	2.99	-0.71
12	N10P	0.97	4.40	8.04	4.45	-0.05
45	N01P	26.61	0.74	1.31	0.72	0.02
48	N01P	2.66	5.48	13.29	7.35	-1.87
49	N01P	0.98	6.96	9.03	5.00	1.96
78	N04P	44.86	0.25	0.93	0.52	-0.27
80	N04P	19.15	2.10	4.71	2.60	-0.50
82	N04P	0.86	0.67	1.13	0.63	0.04
111	N07P	44.23	0.30	0.92	0.51	-0.21
113	N07P	14.62	1.69	3.25	1.80	-0.11
115	N07P	0.95	0.57	1.01	0.56	0.01

Regression Statistics				Standard Deviation of Residual		
				0.858		
Multiple R	0.918870985					
R Square	0.844323887					
Adjusted R Square	0.753414796					
Standard Error	1.58847741					
Observations	12					
Analysis of Variance						
	df	Sum of Squares	Mean Square	F	Significance F	
Regression	1	150.5365191	150.5365191	59.65952389	1.59937E-05	
Residual	11	27.75586532	2.523260483			
Total	12	178.2923844				
	Coefficients	*Standard Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	1.808220831	0.150127806	12.04454308	4.6403E-08	1.47779159	2.138650072

Regression Statistics						
Multiple R	0.926718319					
R Square	0.858806842					
Adjusted R Square	0.844687526					
Standard Error	1.586621089					
Observations	12					
Analysis of Variance						
	df	*Sum of Squares*	*Mean Square*	*F*	*Significance F*	
Regression	1	153.1187196	153.1187196	60.82496164	1.47039E-05	
Residual	10	25.1736648	2.51736648			
Total	11	178.2923844				
	Coefficients	*Standard Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.656844465	0.648546	1.012795491	0.332917364	-0.788206326	2.101895255
x1	1.655969851	0.21233007	7.799035943	8.31295E-06	1.18286889	2.129070812



Survey W9311 Chlorophyll a Calibration

Marker	STATION_ID	DEPTH	BOTTLE_CHL	CTD_CHLA	Predic_CH	Residual
54	N20P	9.76	2.01	7.06	3.79	-1.78
56	N20P	0.94	0.86	2.27	1.22	-0.36
70	N16P	9.63	5.38	10.27	5.52	-0.15
72	N16P	1.59	3.08	4.90	2.63	0.44
88	N10P	16.17	5.46	4.80	2.58	2.87
91	N10P	0.76	6.55	8.76	4.71	1.84
241	N01P	3.30	4.20	10.65	5.72	-1.53
242	N01P	1.66	4.09	10.62	5.71	-1.62
255	N04P	12.53	2.46	6.56	3.52	-1.06
257	N04P	1.99	2.55	7.77	4.17	-1.62
272	N07P	8.05	2.41	7.51	4.03	-1.63
273	N07P	0.77	1.98	3.16	1.70	0.28
287	F13P	10.51	2.16	7.84	4.21	-2.05
289	F13P	1.72	0.98	2.19	1.18	-0.20
399	F02P	12.61	0.46	3.74	2.01	-1.55
401	F02P	1.50	1.28	1.43	0.77	0.51
423	F01P	13.09	1.33	4.05	2.18	-0.85
425	F01P	0.64	0.64	1.05	0.56	0.07
500	F25	5.65	4.47	13.84	7.44	-2.97
502	F25	1.61	2.94	2.94	1.58	1.35
521	F23P	7.60	6.94	13.13	7.06	-0.12
523	F23P	0.73	7.47	15.16	8.14	-0.67
538	N10P	22.88	0.25	1.15	0.62	-0.37
540	N10P	4.53	6.83	9.43	5.07	1.76
542	N10P	1.63	2.34	4.79	2.57	-0.24
579	N01P	28.69	0.21	0.98	0.53	-0.32
582	N01P	3.16	10.61	29.49	15.85	-5.24
583	N01P	1.61	11.91	11.38	6.12	5.79
623	N04P	46.89	0.06	0.68	0.36	-0.31
625	N04P	20.10	0.88	2.78	1.50	-0.62
627	N04P	1.60	1.03	1.79	0.96	0.06
656	N07P	45.32	0.13	0.73	0.39	-0.26
658	N07P	12.26	2.57	7.90	4.25	-1.68
660	N07P	1.56	2.14	4.04	2.17	-0.03

Regression Statistics

Multiple R	0.802510375
R Square	0.644022902
Adjusted R Square	0.613719871
Standard Error	3.443988214
Observations	34

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	708.1357263	708.1357263	59.70259282	8.25753E-09
Residual	33	391.414809	11.86105482		
Total	34	1099.550535			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	1.860702266	0.136786905	13.60292686	2.5924E-15	1.582406995	2.138997538

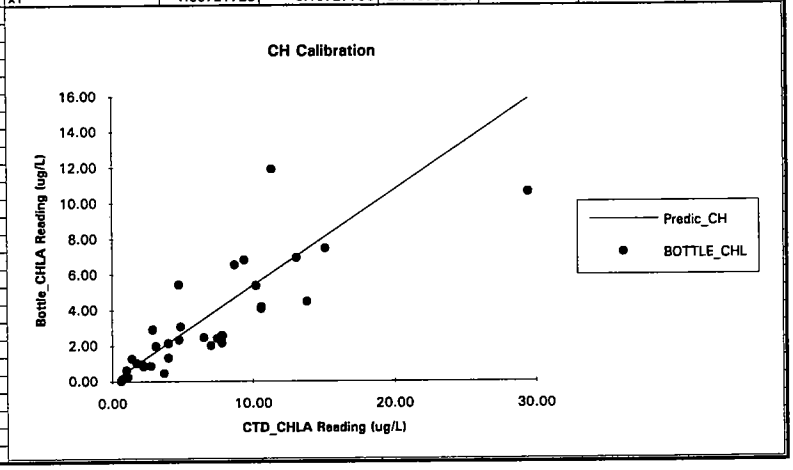
Regression Statistics

Multiple R	0.821405992
R Square	0.674707803
Adjusted R Square	0.664542422
Standard Error	3.343254445
Observations	34

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	741.8753263	741.8753263	66.37309448	2.64138E-09
Residual	32	357.675209	11.17735028		
Total	33	1099.550535			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	1.479983095	0.851836452	1.737402868	0.091642374	-0.255149509	3.21151157
x1	1.60721723	0.19727795	8.146968423	2.09701E-09	1.205375536	2.009058924



Survey W9312 Chlorophyll a Calibration

Marker	STATION_ID	DEPTH	BOTTLE_CHL	CTD_CHLA	Predic_CH	Residual
196	N10P	22.22	2.26	2.30	1.43	0.83
199	N10P	5.99	8.06	13.07	8.10	-0.05
200	N10P	1.51	8.84	11.25	6.98	1.86
235	N01P	27.35	1.27	2.43	1.51	-0.24
237	N01P	11.22	2.19	5.19	3.22	-1.03
239	N01P	1.60	1.67	4.89	3.03	-1.36
268	N04P	44.39	0.38	1.17	0.73	-0.35
270	N04P	12.92	2.23	6.82	4.23	-2.00
273	N04P	1.81	1.55	3.87	2.40	-0.85
307	N07P	43.29	0.35	1.15	0.71	-0.36
310	N07P	4.61	1.99	7.24	4.49	-2.51
311	N07P	1.67	2.08	4.90	3.04	-0.97

Regression Statistics

Multiple R	0.823210886
R Square	0.677676163
Adjusted R Square	0.586767072
Standard Error	2.135672224
Observations	12

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	105.4852338	105.4852338	23.12716886	0.000713838
Residual	11	50.17205431	4.561095846		
Total	12	155.6572881			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	1.61203393	0.162321704	9.931105244	3.8589E-07	1.254766087	1.96930177

Standard Deviation of Residual: 1.175

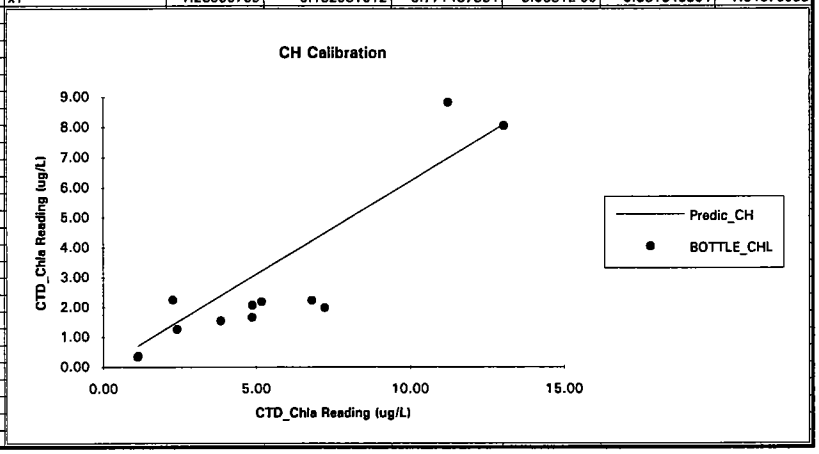
Regression Statistics

Multiple R	0.90606774
R Square	0.82095874
Adjusted R Square	0.80305462
Standard Error	1.66940339
Observations	12

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	127.7882115	127.7882115	45.8530482	4.91012E-05
Residual	10	27.86907667	2.786907667		
Total	11	155.6572881			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	1.96605077	0.694983659	2.828916537	0.01640392	0.417530405	3.51457112
x1	1.23905709	0.182981512	6.771487884	3.0681E-05	0.831348804	1.64676538



Survey W9313 Chlorophyll a Calibration

Marker	STATION_ID	DEPTH	BOTTLE_CHL	CTD_CHLA	Predic_CH	Residual
194	N10P	21.70	1.69	0.70	1.46	0.23
197	N10P	7.28	5.44	3.26	6.79	-1.35
198	N10P	1.97	4.31	1.97	4.11	0.20
232	N01P	29.32	0.27	0.42	0.87	-0.60
235	N01P	5.73	10.09	4.55	9.49	0.60
236	N01P	1.73	10.32	4.78	9.95	0.36
272	N04P	23.96	0.51	0.49	1.03	-0.52
274	N04P	8.19	12.74	6.40	13.33	-0.59
276	N04P	1.63	10.09	3.71	7.73	2.36
306	N07P	47.93	0.16	0.33	0.70	-0.54
309	N07P	6.58	5.37	4.90	10.21	-4.84
310	N07P	1.67	5.45	2.04	4.25	1.20

Regression Statistics

Multiple R	0.914675898
R Square	0.836631999
Adjusted R Square	0.745722908
Standard Error	0.845130227
Observations	12

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	40.23531735	40.23531735	56.33264725	2.04979E-05
Residual	11	7.856696115	0.714245101		
Total	12	48.09201346			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	0.479774319	0.035026116	13.69761689	1.09298E-08	0.402682318	0.556866321

Standard Deviation of Residual: 1.735

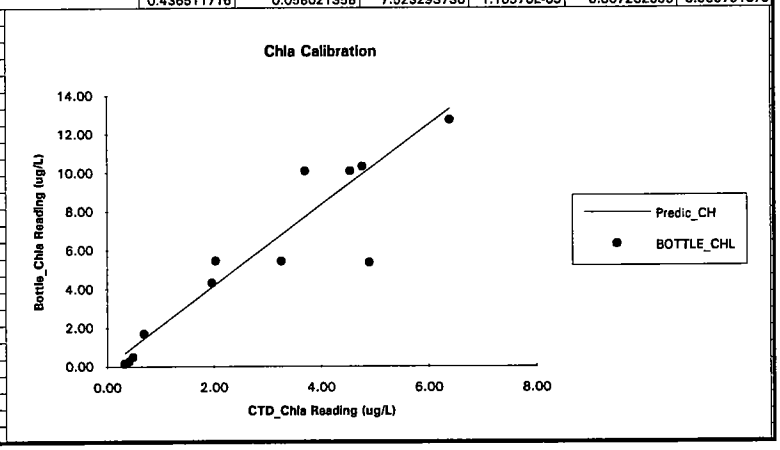
Regression Statistics

Multiple R	0.921872949
R Square	0.849849734
Adjusted R Square	0.834834707
Standard Error	0.849766357
Observations	12

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	40.87098485	40.87098485	56.59994864	2.0084E-05
Residual	10	7.221028611	0.722102861		
Total	11	48.09201346			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0.379179097	0.404137282	0.938243301	0.368263884	-0.521295037	1.279653232
x1	0.436511716	0.058021358	7.523293736	1.16576E-05	0.307232053	0.565791379



Survey W9310 Dissolved Oxygen Calibration

MARKER	STATION_ID	DEPTH	BOTTLE_DO	CTD_DO	Predic_DO	Residual
8	N10P	19.83	9.25	9.95	9.15	0.10
9	N10P	14.53	9.28	10.17	9.35	-0.07
10	N10P	7.18	9.40	10.13	9.31	0.09
11	N10P	2.70	8.84	9.55	8.79	0.06
12	N10P	0.97	8.90	9.55	8.78	0.11
45	N01P	26.61	9.30	10.14	9.33	-0.03
46	N01P	18.03	9.76	10.77	9.91	-0.15
47	N01P	9.83	10.18	11.12	10.23	-0.05
48	N01P	2.66	9.61	10.09	9.28	0.33
49	N01P	0.98	9.52	10.16	9.35	0.17
78	N04P	44.86	9.36	10.54	9.70	-0.34
79	N04P	25.17	9.62	10.78	9.91	-0.30
80	N04P	19.15	9.81	10.81	9.94	-0.14
81	N04P	11.92	10.12	10.96	10.08	0.04
82	N04P	0.86	8.95	9.04	8.32	0.63
111	N07P	44.23	8.62	10.49	9.65	-1.04
112	N07P	24.19	9.64	11.65	10.71	-1.07
113	N07P	14.62	10.56	11.58	10.65	-0.09
114	N07P	9.45	10.46	10.80	9.94	0.52
115	N07P	0.95	9.09	9.03	8.30	0.79
155	N20P	29.17	9.47	10.69	9.83	-0.35
156	N20P	14.02	9.79	10.39	9.55	0.24
157	N20P	5.88	9.82	10.57	9.72	0.10
158	N20P	1.95	9.81	10.43	9.59	0.22
159	N20P	0.79	9.53	10.20	9.38	0.15
204	N16P	36.98	9.40	10.58	9.73	-0.33
205	N16P	26.23	10.25	11.46	10.54	-0.29
206	N16P	17.16	10.12	11.14	10.24	-0.12
207	N16P	8.97	9.99	10.66	9.81	0.18
208	N16P	0.86	8.92	8.99	8.27	0.64

Regression Statistics

Multiple R	0.767634566
R Square	0.589262827
Adjusted R Square	0.554780068
Standard Error	0.445992313
Observations	30

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	8.275567391	8.275567391	41.80476108	5.49818E-07
Residual	29	5.768365162	0.198909144		
Total	30	14.04393255			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	1.087261938	0.008490102	128.0622944	1.20895E-42	1.069897721	1.104626156

Standard Deviation of Residual

0.410

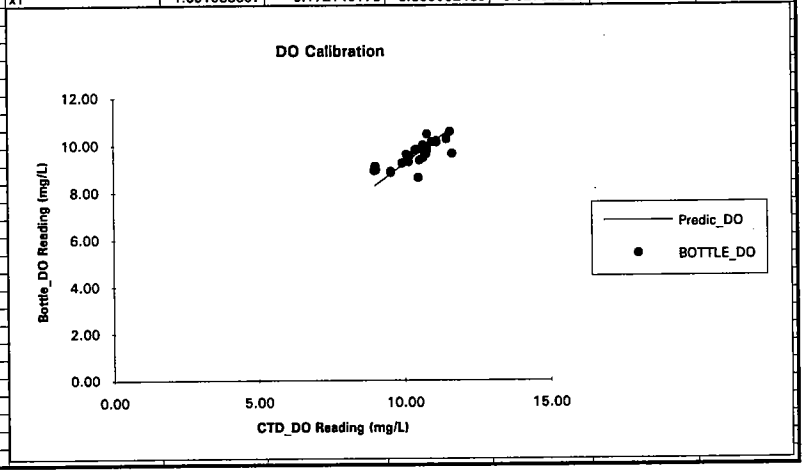
Regression Statistics

Multiple R	0.767639176
R Square	0.589269905
Adjusted R Square	0.574600973
Standard Error	0.453882684
Observations	30

Analysis of Variance

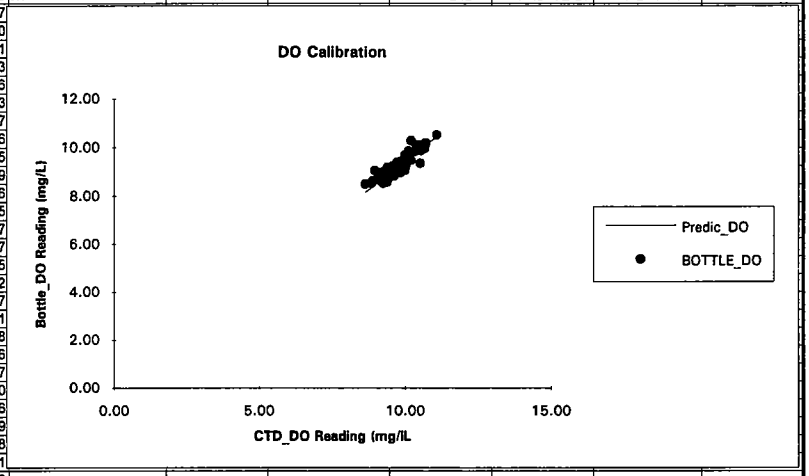
	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	8.275666803	8.275666803	40.171289	7.40496E-07
Residual	28	5.76826575	0.206009491		
Total	29	14.04393255			

	Coefficients	*Standard Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	-0.036266905	1.650958189	-0.021967186	0.982624585	-3.418105248	3.345571437
x1	1.091038607	0.172140173	6.338082439	6.32751E-07	0.738425052	1.443652163



Survey W9311 Dissolved Oxygen Calibration

Marker	STATION_ID	DEPTH	BOTTLE_DO	CTD_DO	Predic_DO	Residual	Regression Statistics				Standard Deviation of Residual		
52	N20P	26.96	9.17	9.78	9.23	-0.06					0.210		
54	N20P	9.76	9.22	9.81	9.26	-0.04	Multiple R	0.883074961					
56	N20P	0.94	8.86	9.30	8.78	0.08	R Square	0.779821387					
68	N16P	39.49	9.24	9.99	9.42	-0.19	Adjusted R Square	0.766307873					
70	N16P	9.63	8.85	9.38	8.85	0.00	Standard Error	0.22207133					
72	N16P	1.59	9.71	10.10	9.53	0.18	Observations	75					
87	N10P	22.48	8.95	9.58	9.04	-0.08							
88	N10P	16.17	8.53	9.25	8.73	-0.20	Analysis of Variance						
91	N10P	0.76	9.15	9.58	9.04	0.12		df	Sum of Squares	Mean Square	F	Significance F	
146	F17	73.36	8.82	9.62	9.08	-0.26	Regression	1	12.92518347	12.92518347	262.0907712	7.30134E-26	
148	F17	19.50	10.53	11.08	10.46	0.07	Residual	74	3.649360001	0.049315676			
150	F17	1.47	8.92	9.32	8.79	0.12	Total	75	16.57454347				
169	F22	73.98	8.68	9.41	8.88	-0.20							
171	F22	36.82	9.49	10.21	9.64	-0.15		Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
173	F22	0.61	8.66	9.11	8.59	0.07							
238	N01P	29.07	9.11	9.70	9.15	-0.04	Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
241	N01P	3.30	9.46	9.89	9.33	0.12	x1	1.059774361	0.002772998	382.1763248	3.9785E-125	1.05424904	1.065299682
242	N01P	1.66	9.25	9.92	9.36	-0.11							
253	N04P	46.91	8.96	9.81	9.26	-0.30							
255	N04P	12.53	9.45	10.03	9.47	-0.02							
257	N04P	1.99	9.48	10.17	9.60	-0.11	Regression Statistics						
269	N07P	41.93	9.20	9.83	9.27	-0.08							
271	N07P	16.77	9.36	10.53	9.93	-0.58	Multiple R	0.891537935					
273	N07P	0.77	9.05	9.65	9.10	-0.05	R Square	0.79483989					
285	F13P	22.09	8.72	9.38	8.85	-0.14	Adjusted R Square	0.792029478					
287	F13P	10.51	9.18	9.40	8.87	0.31	Standard Error	0.215827022					
289	F13P	1.72	8.95	9.33	8.80	0.15	Observations	75					
310	F05	14.98	9.14	9.74	9.19	-0.06							
312	F05	5.63	9.06	9.42	8.89	0.17	Analysis of Variance						
314	F05	0.87	8.98	9.41	8.88	0.11		df	Sum of Squares	Mean Square	F	Significance F	
355	F12	84.78	8.58	9.38	8.85	-0.27	Regression	1	13.17410831	13.17410831	282.8196573	8.10141E-27	
357	F12	40.67	9.32	9.94	9.38	-0.06	Residual	73	3.400435161	0.046581304			
359	F12	0.51	9.05	8.97	8.47	0.58	Total	74	16.57454347				
373	F04	58.36	8.99	9.86	9.31	-0.32							
375	F04	30.69	8.96	9.70	9.16	-0.19		Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
377	F04	0.51	8.54	8.86	8.36	0.18							
397	F02P	29.40	8.67	9.40	8.87	-0.19	Intercept	1.184473847	0.512385907	2.31168311	0.023580887	0.163289514	2.20565818
399	F02P	12.61	9.10	9.94	9.38	-0.28	x1	0.931836545	0.055409591	16.81724286	5.44268E-27	0.821405315	1.042267775
401	F02P	1.50	8.69	9.03	8.52	0.17							
421	F01P	23.53	9.37	10.04	9.47	-0.10							
423	F01P	13.09	9.86	10.12	9.55	0.31							
425	F01P	0.64	8.49	8.65	8.16	0.33							
519	F23P	22.04	8.69	9.15	8.63	0.06							
521	F23P	7.60	8.62	8.90	8.39	0.23							
523	F23P	0.73	9.06	9.78	9.23	-0.17							
538	N10P	22.88	9.02	9.50	8.96	0.06							
539	N10P	13.30	8.99	9.26	8.73	0.25							
540	N10P	4.53	9.14	9.77	9.22	-0.09							
541	N10P	1.67	9.69	9.99	9.42	0.26							
542	N10P	1.63	9.60	10.02	9.45	0.15							
579	N01P	28.69	8.95	9.67	9.12	-0.17							
580	N01P	19.56	9.16	9.78	9.23	-0.07							
581	N01P	10.65	9.15	9.64	9.10	0.05							
582	N01P	3.16	9.08	9.49	8.96	0.12							
583	N01P	1.61	10.18	10.72	10.11	0.07							
623	N04P	46.89	8.95	9.82	9.27	-0.31							
624	N04P	32.23	9.30	10.04	9.48	-0.18							
625	N04P	20.10	9.51	10.14	9.57	-0.06							
626	N04P	9.12	9.65	10.15	9.58	0.07							
627	N04P	1.60	9.24	9.58	9.04	0.20							
656	N07P	45.32	9.07	10.00	9.43	-0.36							
657	N07P	27.18	9.45	10.11	9.54	-0.09							
658	N07P	12.26	9.84	10.34	9.76	0.08							
659	N07P	4.95	9.98	10.68	10.08	-0.11							
660	N07P	1.56	10.18	10.68	10.08	0.10							
704	N20P	25.95	9.19	9.95	9.39	-0.19							
705	N20P	17.78	9.17	9.82	9.26	-0.09							
706	N20P	9.04	9.38	9.72	9.17	0.21							
707	N20P	4.71	9.98	10.58	9.98	0.00							
708	N20P	1.63	10.11	10.38	9.80	0.31							
758	N16P	37.13	9.07	9.89	9.33	-0.26							
759	N16P	16.21	9.33	9.92	9.36	-0.04							
760	N16P	6.64	10.10	10.52	9.92	0.17							
761	N16P	3.19	10.28	10.21	9.63	0.65							
762	N16P	0.68	9.88	10.55	9.95	-0.08							



Survey W9312 Dissolved Oxygen Calibration

Marker	STATION_ID	DEPTH	BOTTLE_DO	CTD_DO	Predic_DO	Residual
196	N10P	22.22	8.10	8.81	8.19	-0.09
197	N10P	16.33	8.10	8.84	8.21	-0.11
198	N10P	9.43	7.96	8.46	7.86	0.09
199	N10P	5.99	8.18	8.64	8.03	0.15
200	N10P	1.51	8.76	9.43	8.77	-0.01
235	N01P	27.35	8.18	8.91	8.28	-0.10
236	N01P	15.68	8.84	9.52	8.85	-0.01
237	N01P	11.22	9.11	9.76	9.07	0.04
238	N01P	5.65	9.07	9.67	8.99	0.08
239	N01P	1.60	8.90	9.65	8.97	-0.07
268	N04P	44.39	8.37	9.04	8.40	-0.03
269	N04P	20.18	9.10	9.78	9.09	0.01
270	N04P	12.92	9.56	10.31	9.59	-0.02
271	N04P	4.58	8.89	10.01	9.31	-0.42
273	N04P	1.81	8.65	9.03	8.39	0.26
307	N07P	43.29	8.13	8.86	8.23	-0.10
308	N07P	17.24	9.15	9.79	9.10	0.05
309	N07P	10.31	9.75	10.58	9.83	-0.08
310	N07P	4.61	9.51	9.89	9.19	0.32
311	N07P	1.67	9.02	9.62	8.94	0.08
353	N20P	28.31	8.33	9.02	8.38	-0.05
354	N20P	17.00	8.84	9.62	8.94	-0.10
355	N20P	10.72	9.51	10.16	9.44	0.07
356	N20P	6.37	9.10	9.93	9.23	-0.13
357	N20P	1.76	9.32	9.91	9.21	0.12
397	N16P	37.69	8.32	9.16	8.51	-0.19
398	N16P	16.50	8.96	9.91	9.21	-0.24
399	N16P	11.85	9.63	10.68	9.93	-0.30
400	N16P	3.19	9.28	9.32	8.66	0.62
401	N16P	1.91	8.71	9.24	8.59	0.13

Regression Statistics

Multiple R	0.930159362
R Square	0.865196438
Adjusted R Square	0.83071368
Standard Error	0.207418362
Observations	30

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	8.007662385	8.007662385	186.1278469	6.81633E-14
Residual	29	1.247648931	0.043022377		
Total	30	9.255311316			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	1.076031039	0.004274635	251.7246656	1.93117E-51	1.067288424	1.084773653

Standard Deviation of Residual

0.193

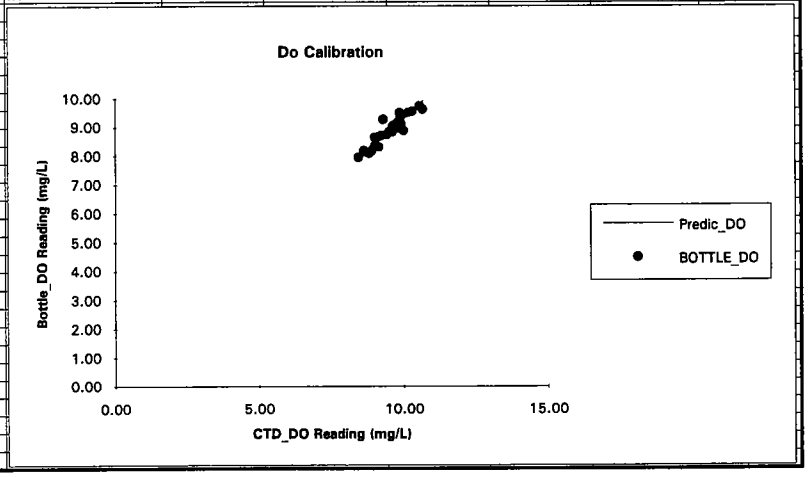
Regression Statistics

Multiple R	0.931685903
R Square	0.868038622
Adjusted R Square	0.863325715
Standard Error	0.208852617
Observations	30

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	8.033967678	8.033967678	184.1832946	7.74988E-14
Residual	28	1.221343638	0.043619416		
Total	29	9.255311316			

	Coefficients	*Standard Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.51599059	0.664446667	0.77657187	0.44369967	-0.845068238	1.87704941
x1	1.01788262	0.075001954	13.5714146	4.3094E-14	0.864247908	1.17151733



Survey W9313 Dissolved Oxygen Calibration

Marker	STATION_ID	DEPTH	BOTTLE_DO	CTD_DO	Predic_DO	Residual
194	N10P	21.70	7.72	8.07	7.63	0.10
195	N10P	13.22	7.66	8.67	8.19	-0.53
196	N10P	9.35	8.45	8.94	8.45	0.01
197	N10P	7.28	8.45	9.04	8.54	-0.09
198	N10P	1.97	7.73	8.14	7.69	0.05
232	N01P	29.32	7.64	8.10	7.66	-0.02
233	N01P	18.06	7.82	8.32	7.86	-0.04
234	N01P	9.82	8.25	8.52	8.05	0.20
235	N01P	5.73	8.41	8.88	8.39	0.02
236	N01P	1.73	8.62	9.11	8.61	0.01
272	N04P	23.96	7.84	8.38	7.92	-0.08
273	N04P	18.85	8.16	8.71	8.23	-0.07
274	N04P	8.19	9.37	9.90	9.35	0.02
275	N04P	4.65	9.62	10.27	9.70	-0.08
276	N04P	1.63	9.71	10.30	9.73	-0.02
306	N07P	47.93	7.93	8.39	7.92	0.01
307	N07P	25.65	8.14	8.55	8.08	0.06
308	N07P	14.36	8.89	9.16	8.65	0.24
309	N07P	6.58	9.23	9.71	9.18	0.05
310	N07P	1.87	9.35	9.81	9.27	0.08
367	N20P	30.34	7.68	8.20	7.75	-0.07
368	N20P	24.03	7.74	8.24	7.79	-0.04
369	N20P	17.45	7.91	8.38	7.92	0.00
370	N20P	8.34	8.60	9.04	8.54	0.05
371	N20P	1.85	9.47	9.96	9.41	0.05
423	N16P	39.91	7.79	8.37	7.91	-0.12
424	N16P	22.24	8.07	8.52	8.05	0.02
425	N16P	14.76	8.89	9.32	8.81	0.08
426	N16P	8.39	9.33	9.91	9.36	-0.04
427	N16P	1.01	9.96	10.47	9.89	0.07

Standard Devition of Residual: 0.127

Regression Statistics

Multiple R	0.983425374
R Square	0.967125466
Adjusted R Square	0.932642707
Standard Error	0.133994623
Observations	30

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	15.31778421	15.31778421	853.1417702	1.62403E-22
Residual	29	0.52068221	0.017954559		
Total	30	15.83846642			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	1.058289124	0.002874243	368.1975198	2.15158E-56	1.052410634	1.064167614

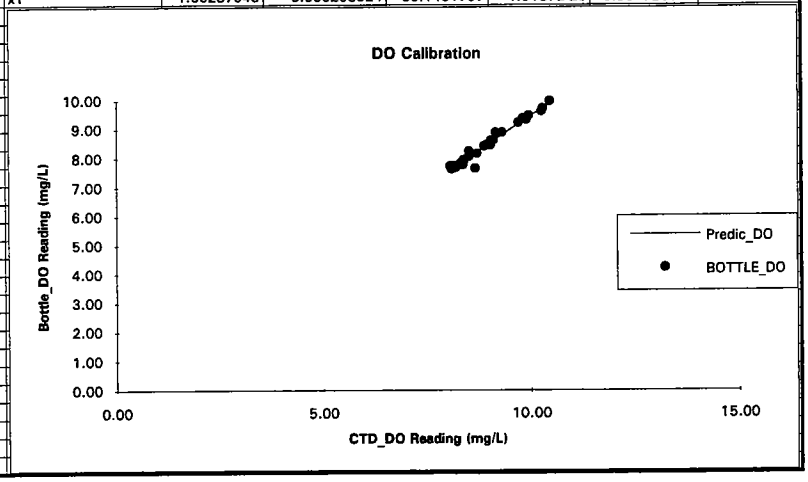
Regression Statistics

Multiple R	0.984941031
R Square	0.970108834
Adjusted R Square	0.969041293
Standard Error	0.130031621
Observations	30

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	15.3650362	15.3650362	908.7316155	6.89015E-23
Residual	28	0.473430225	0.016908222		
Total	29	15.83846642			

	Coefficients	*Standard Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.47335975	0.28315894	1.67171043	0.10533922	-0.106665694	1.0533852
x1	1.00287043	0.033268024	30.1451757	1.9187E-23	0.934723899	1.07101697



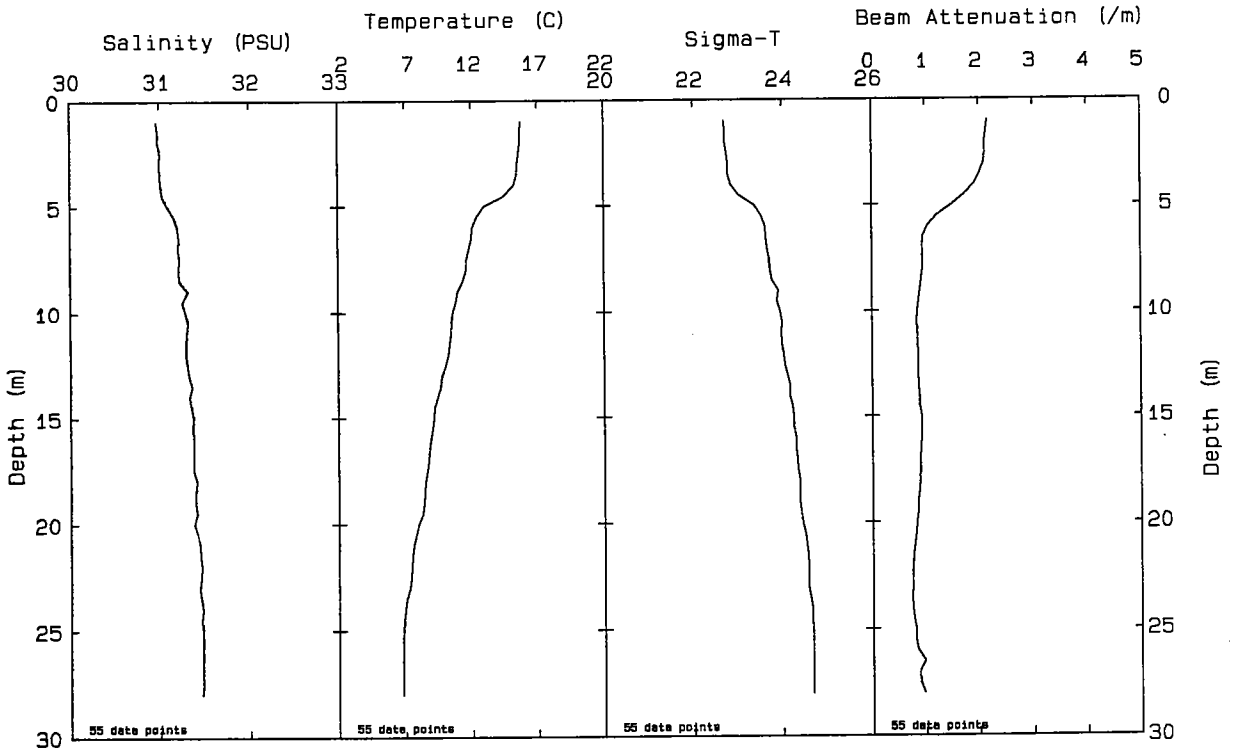
APPENDIX B

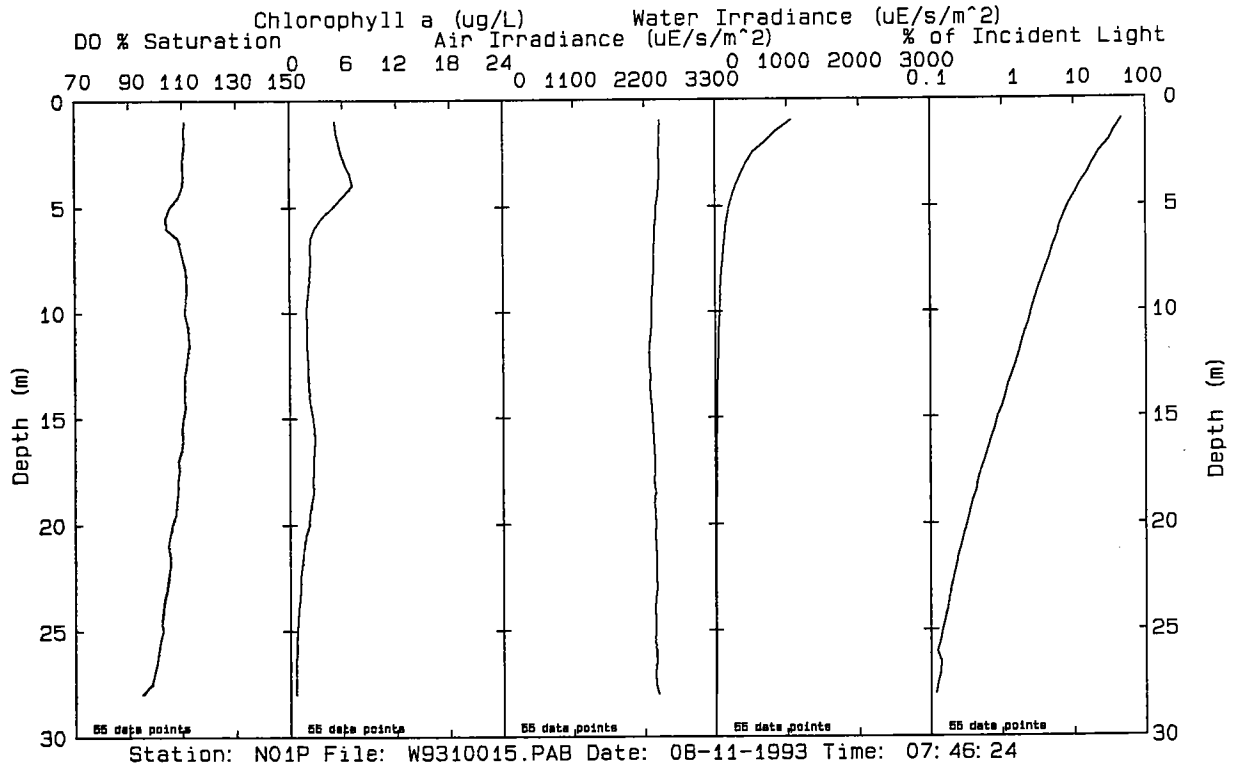
VERTICAL PROFILE DATA FROM FARFIELD AND NEARFIELD STATIONS

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.

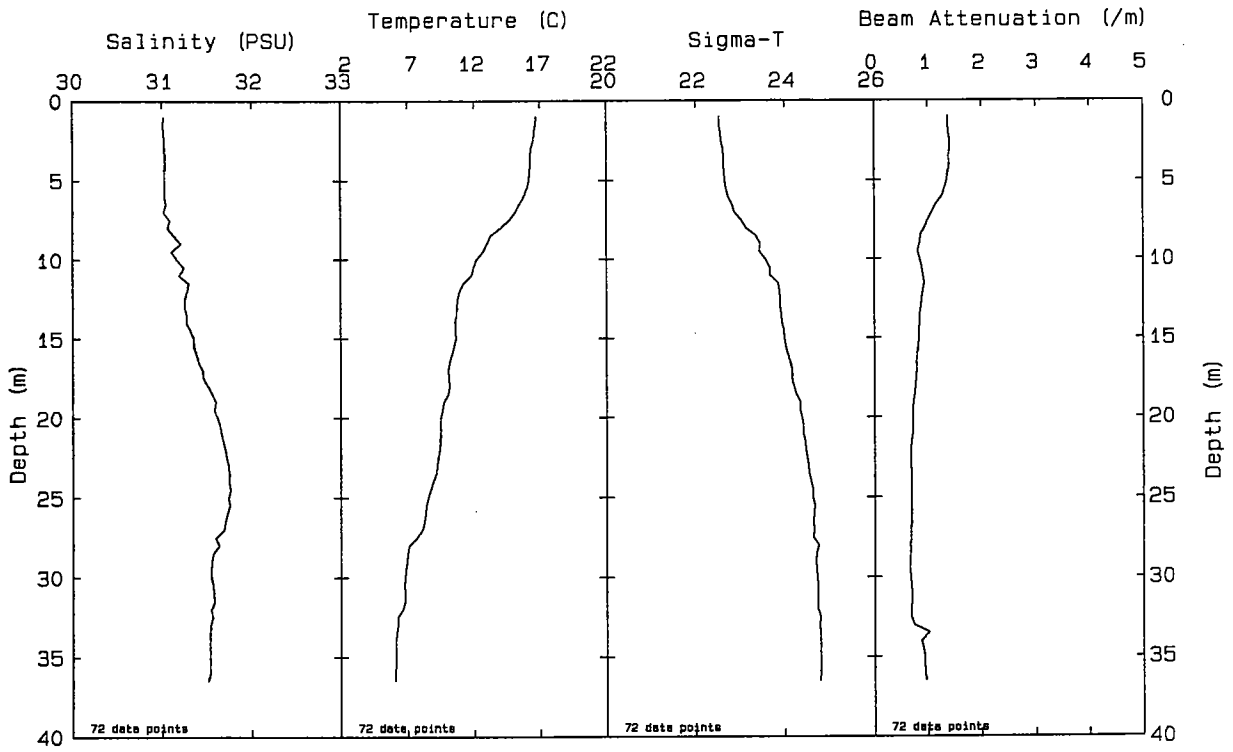
For each station there is a one-page set of profiles, with station, cruise code, date and time listed across the bottom.

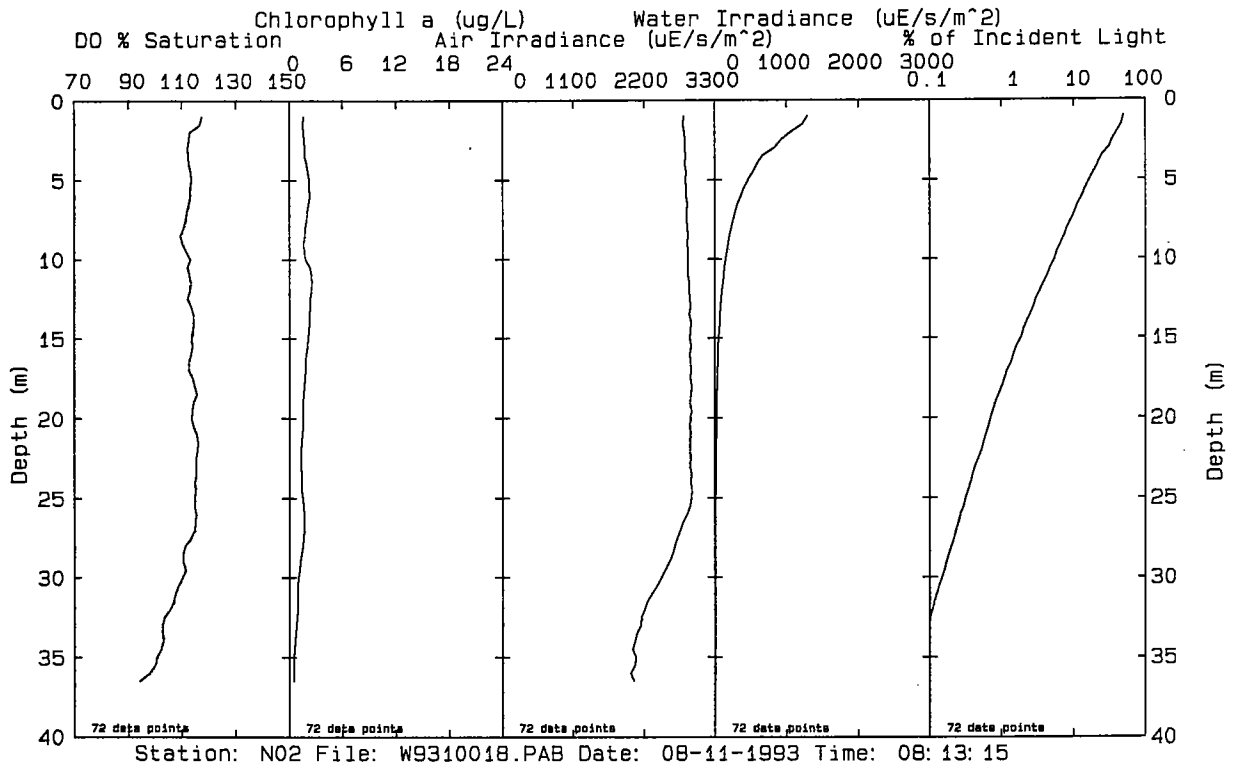
Early August 1993 Profiles



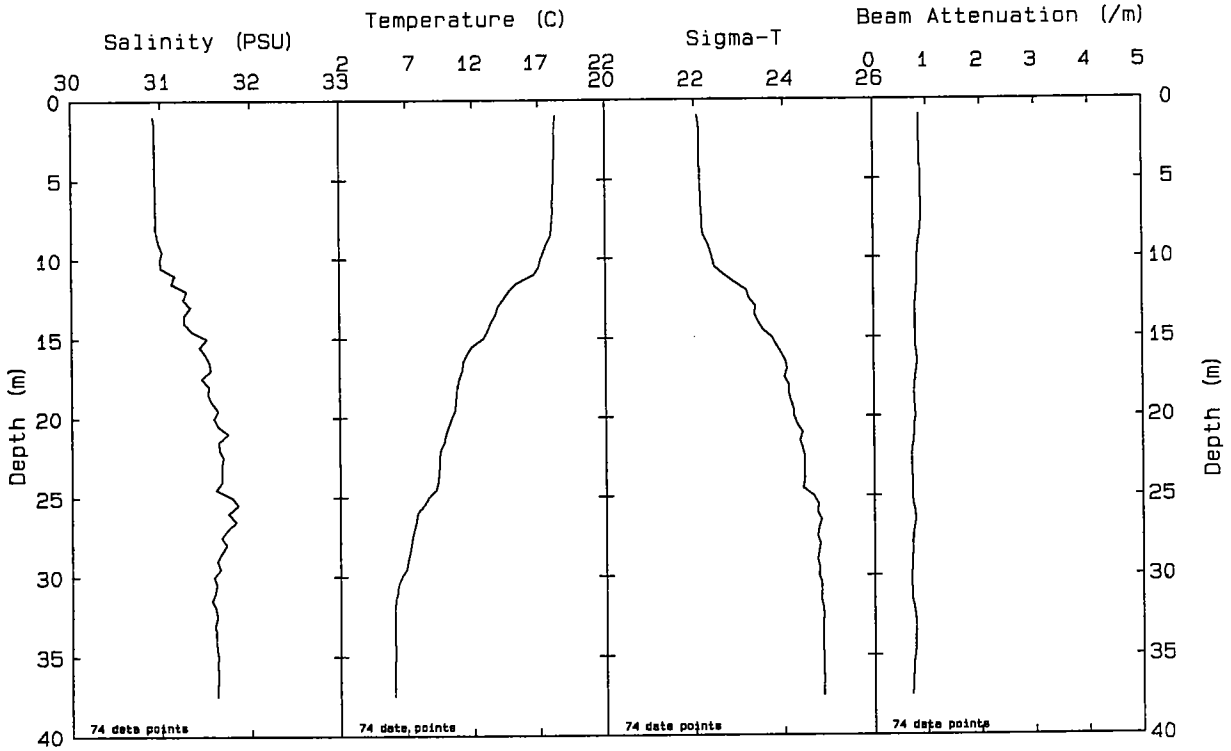


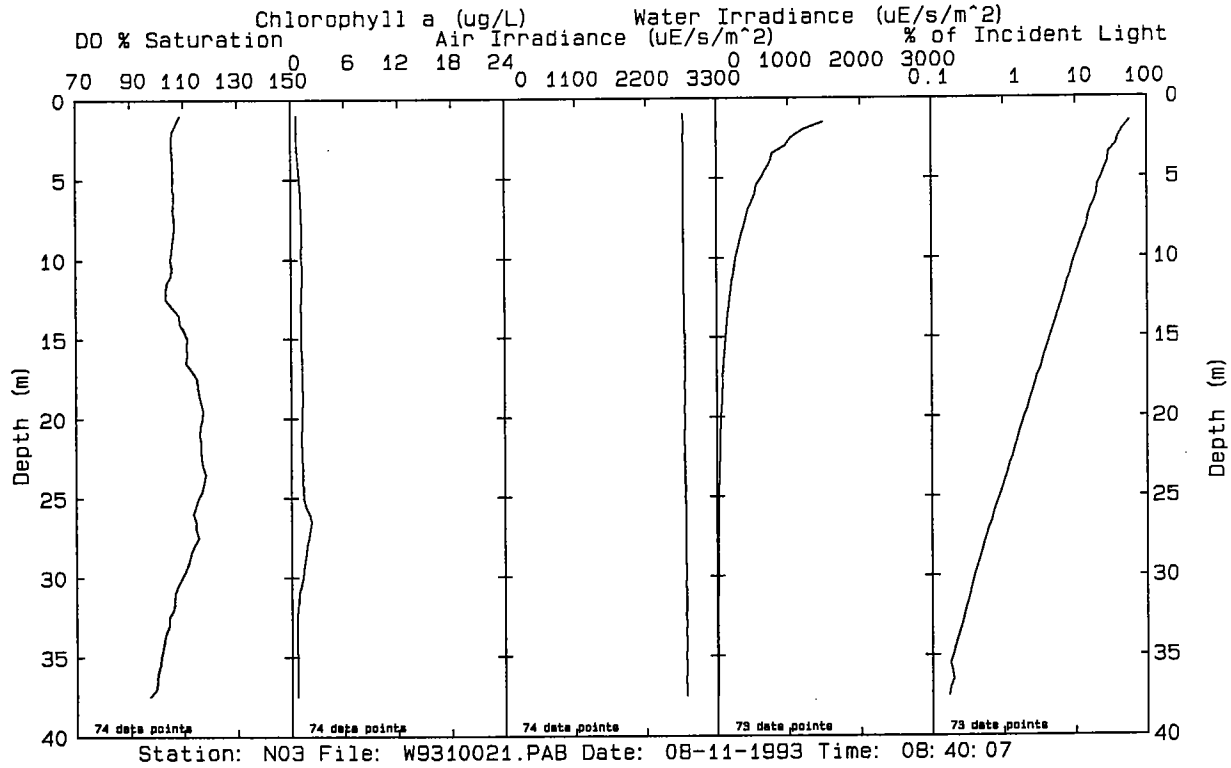
Station: N01P File: W9310015.PAB Date: 08-11-1993 Time: 07:46:24



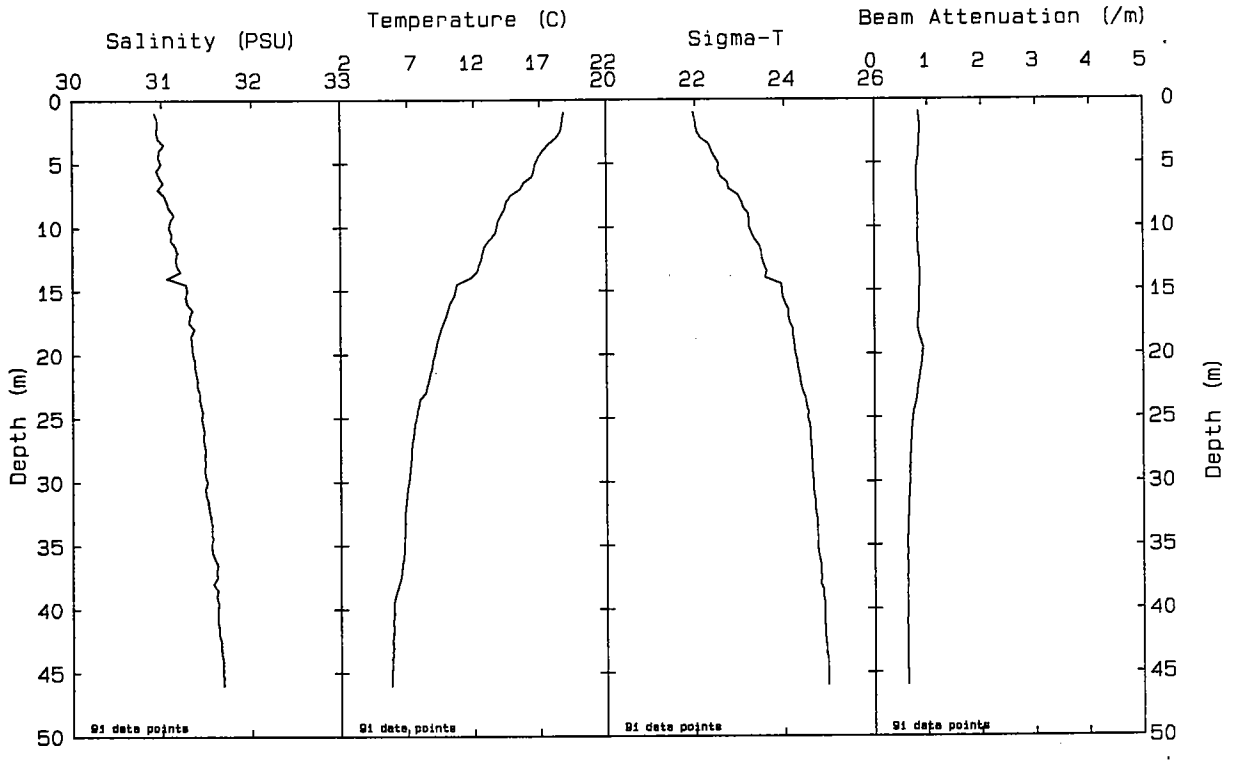


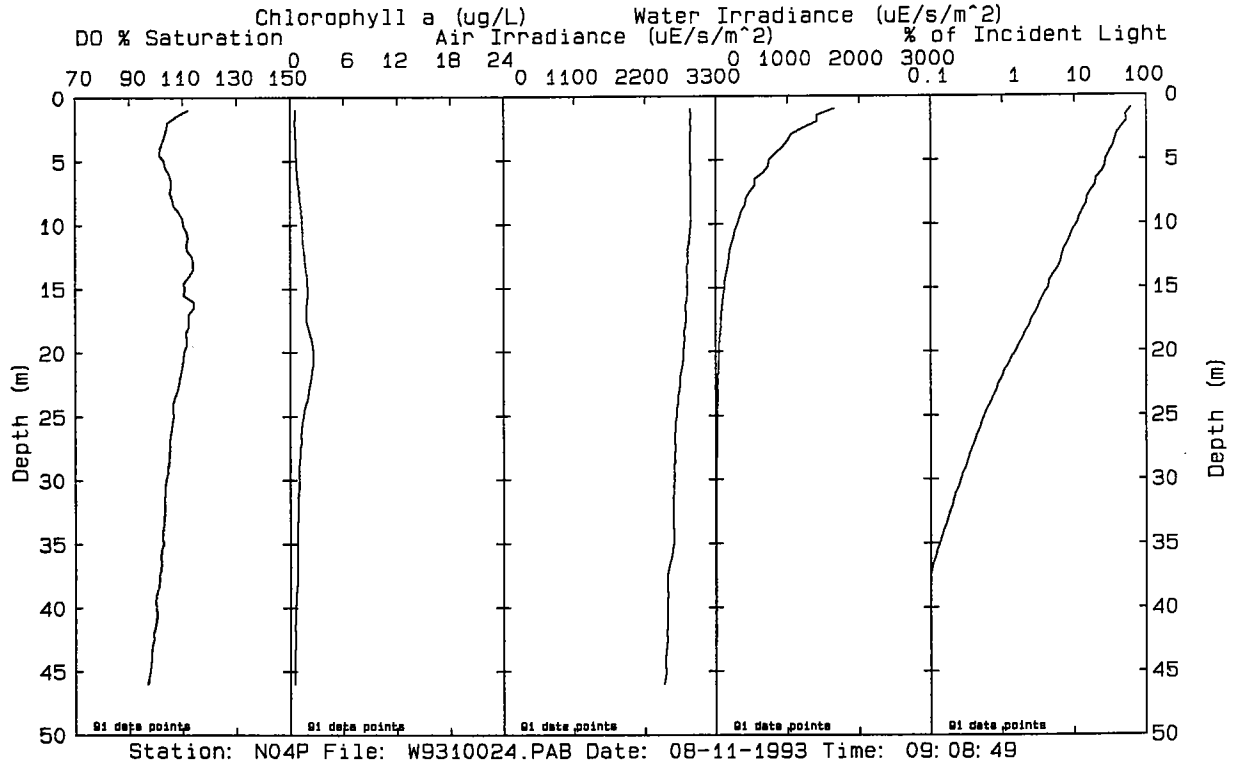
Station: N02 File: W9310018.PAB Date: 08-11-1993 Time: 08:13:15



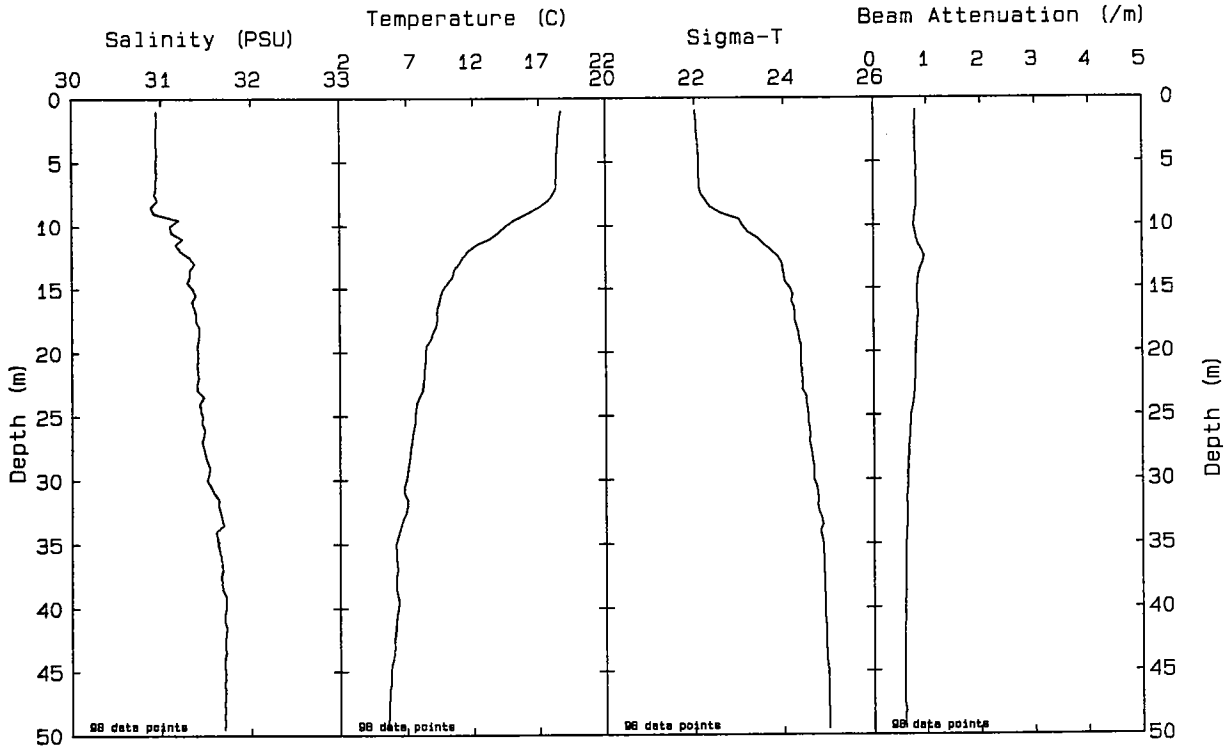


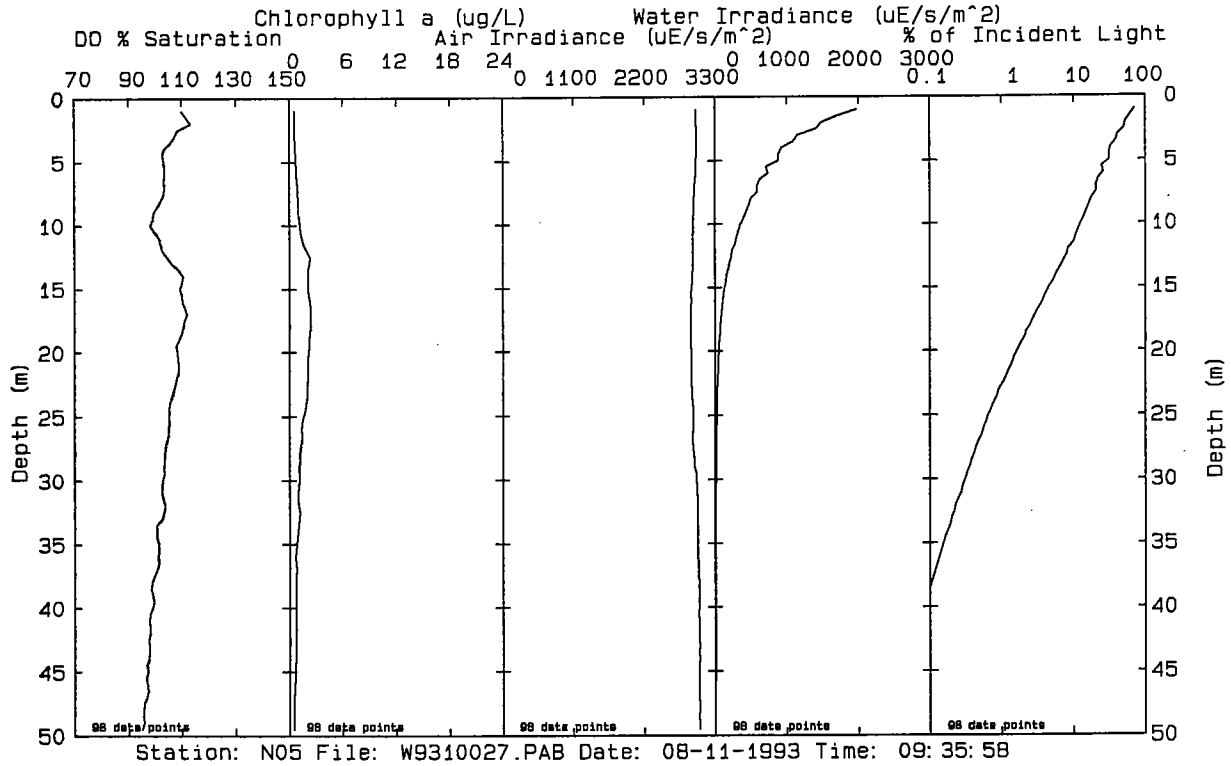
Station: N03 File: W9310021.PAB Date: 08-11-1993 Time: 08:40:07





Station: N04P File: W9310024.PAB Date: 08-11-1993 Time: 09:08:49





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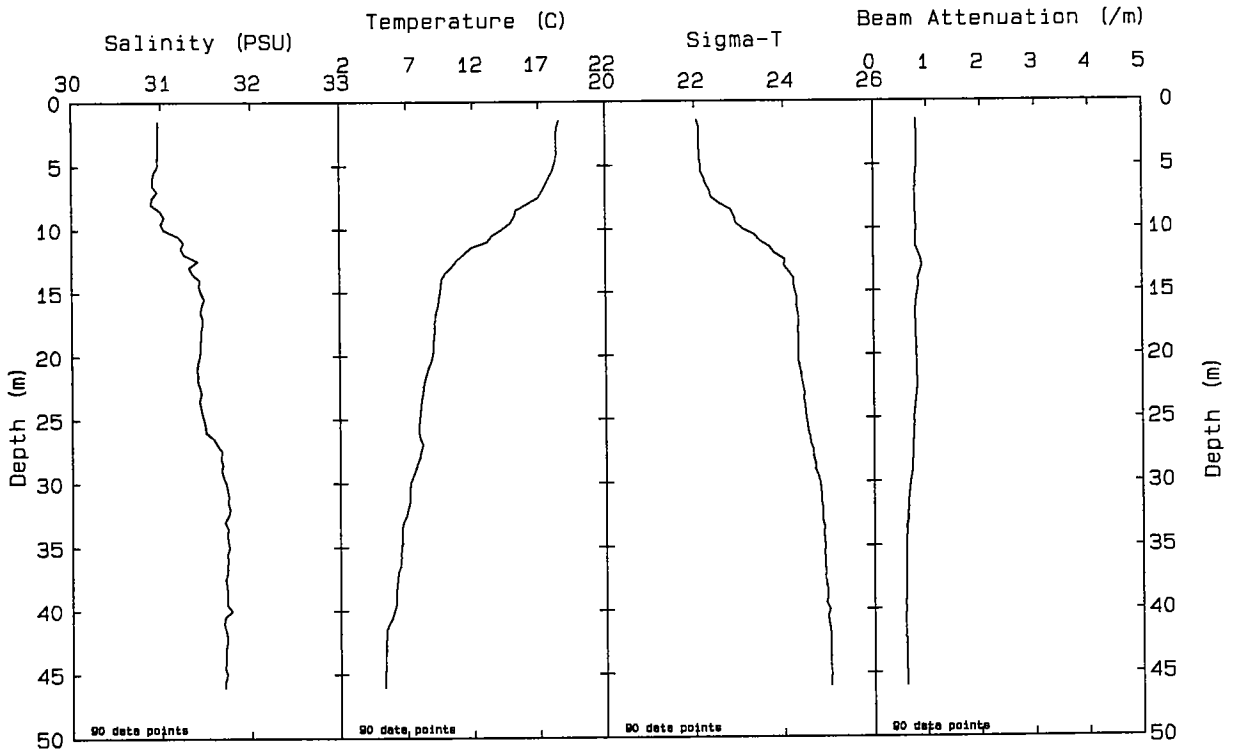
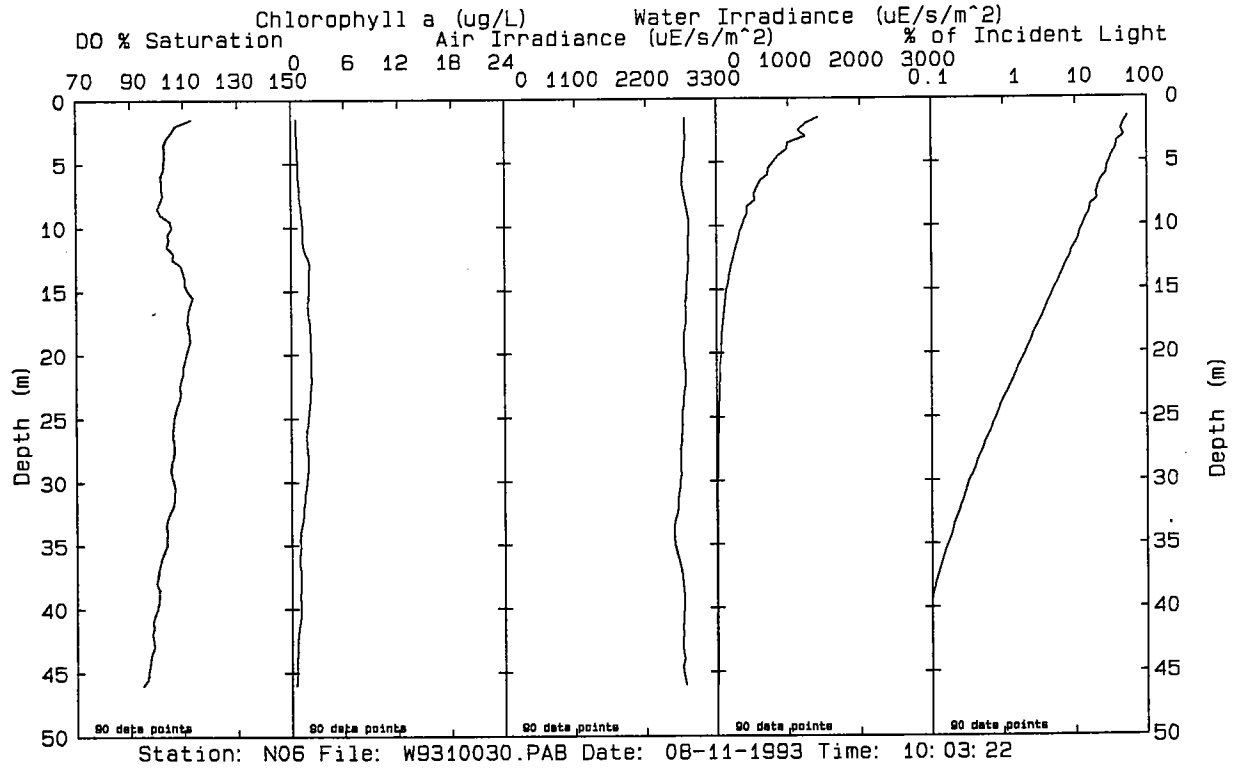
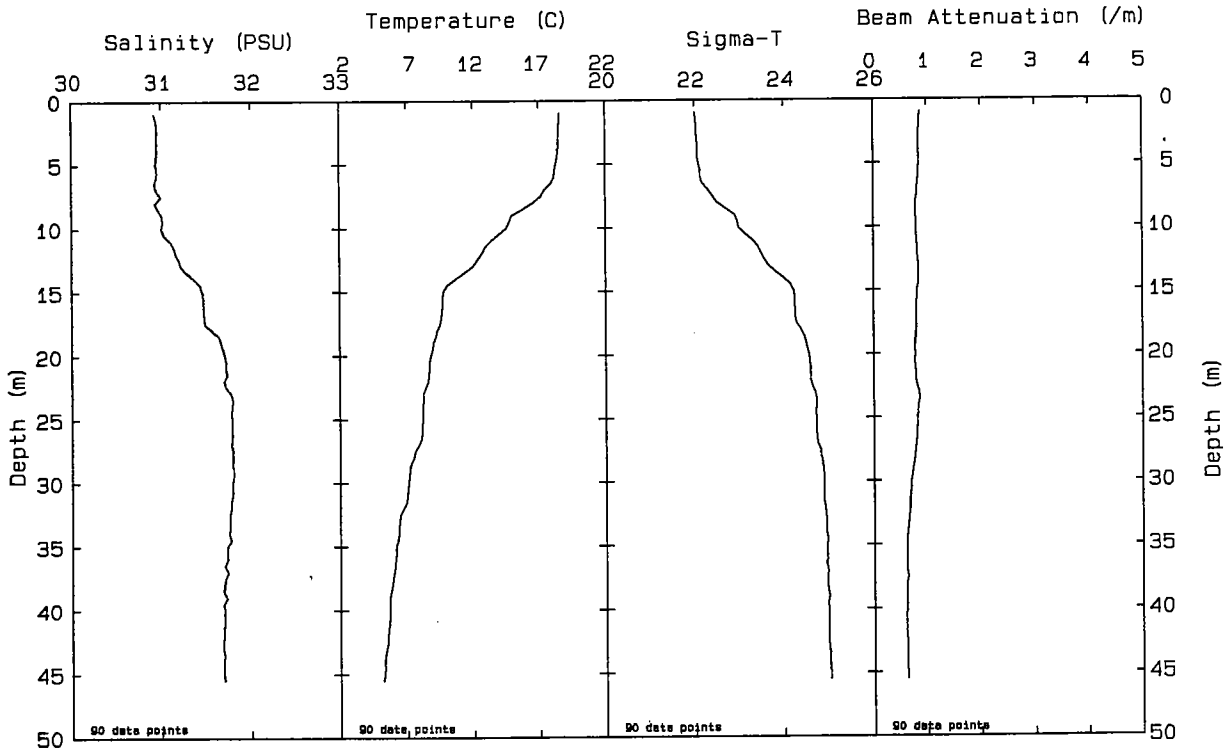
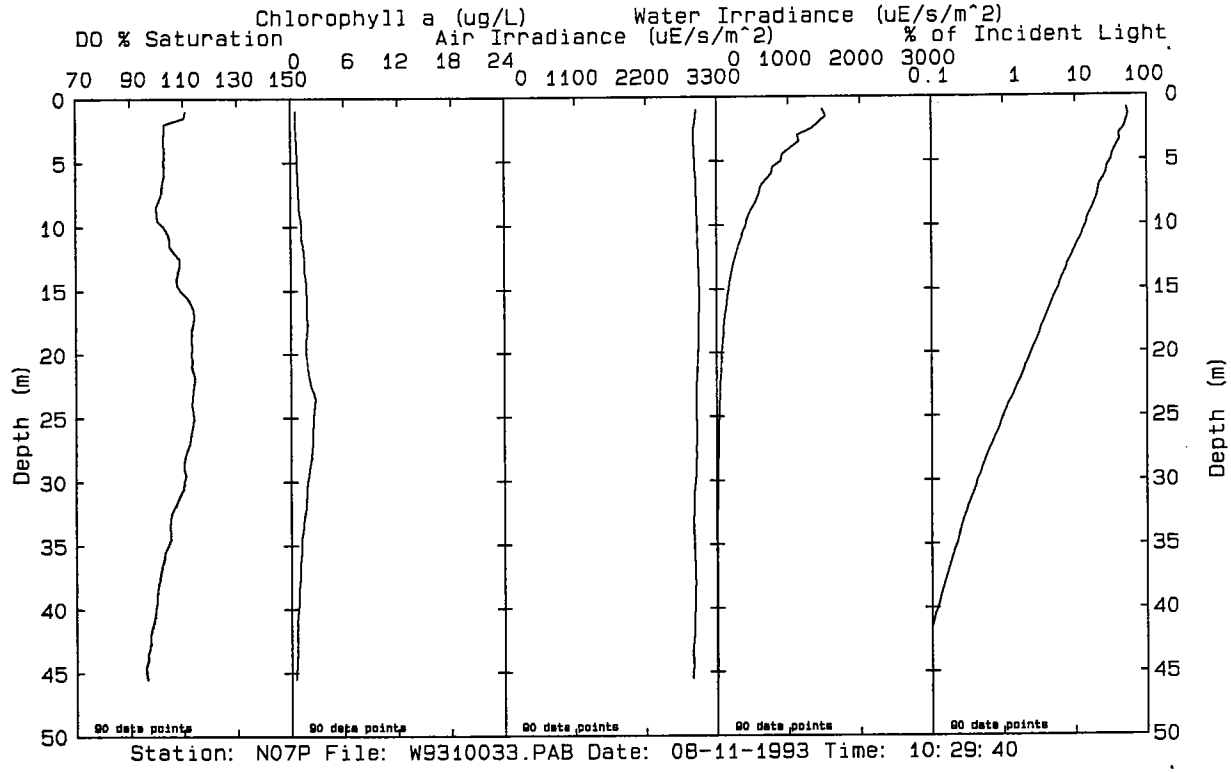




Station: N06 File: W9310030.PAB Date: 08-11-1993 Time: 10:03:22





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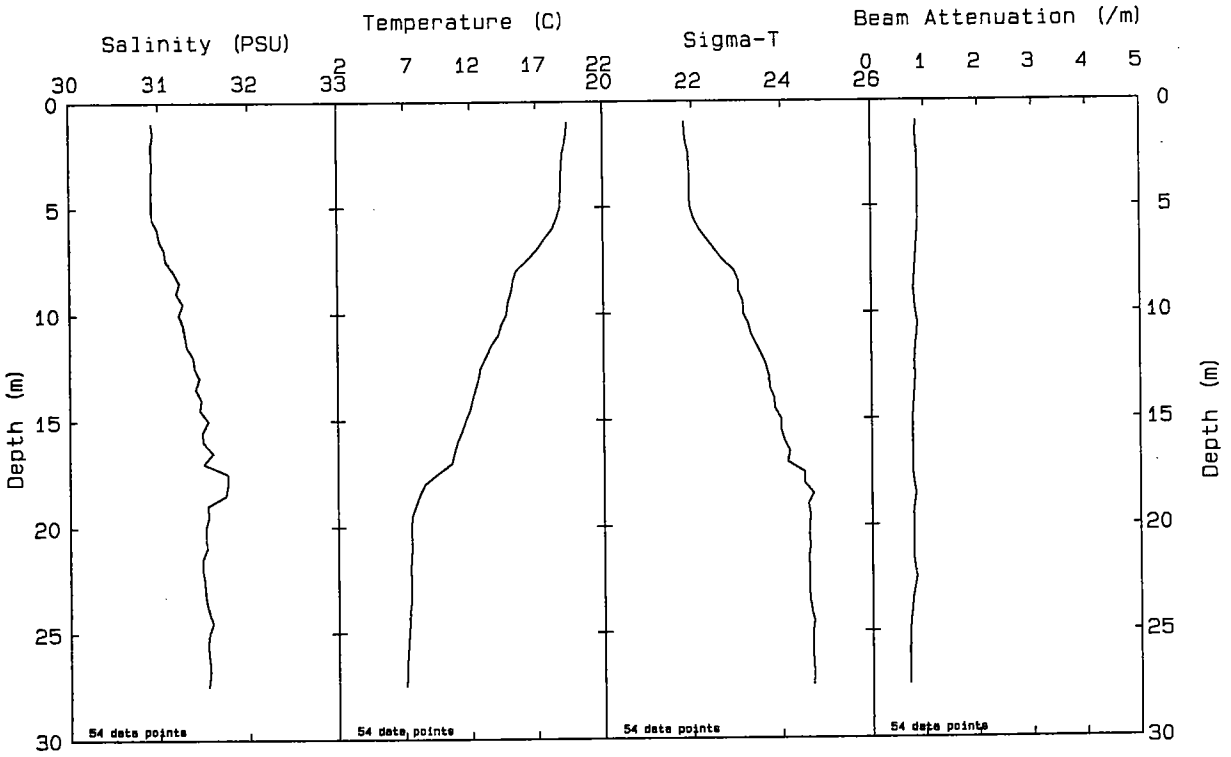

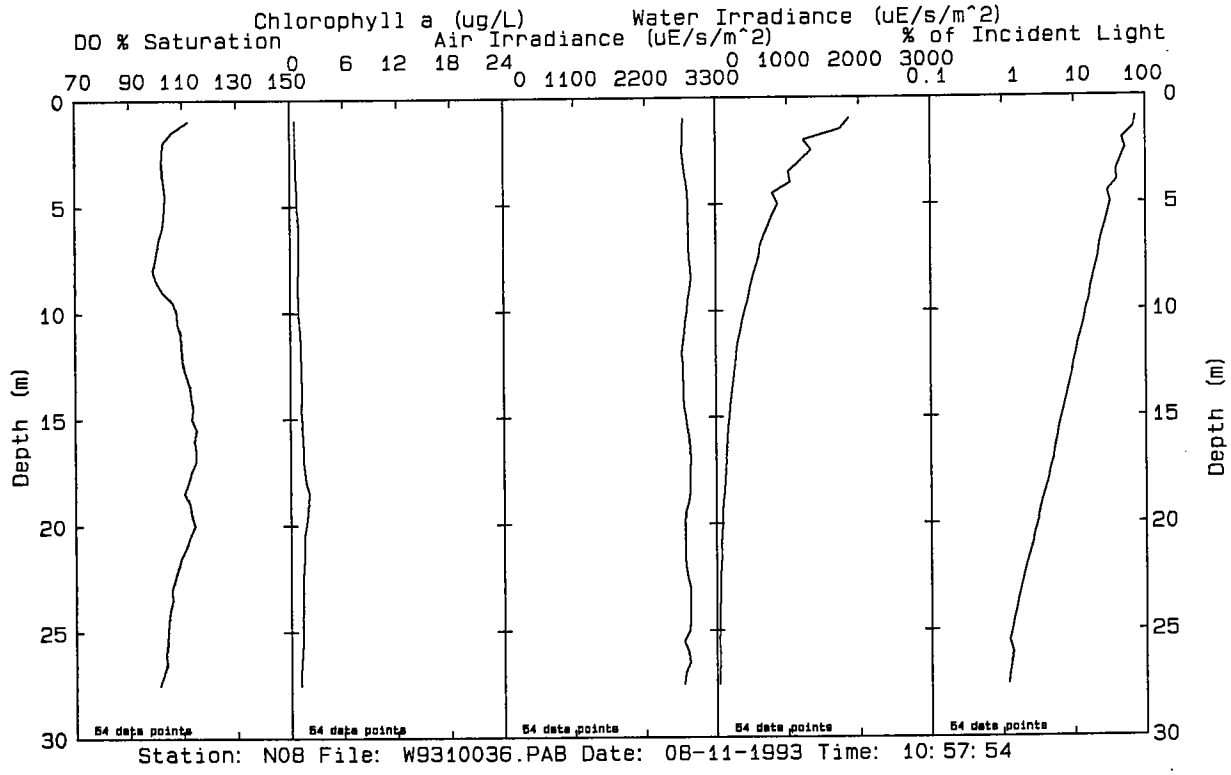

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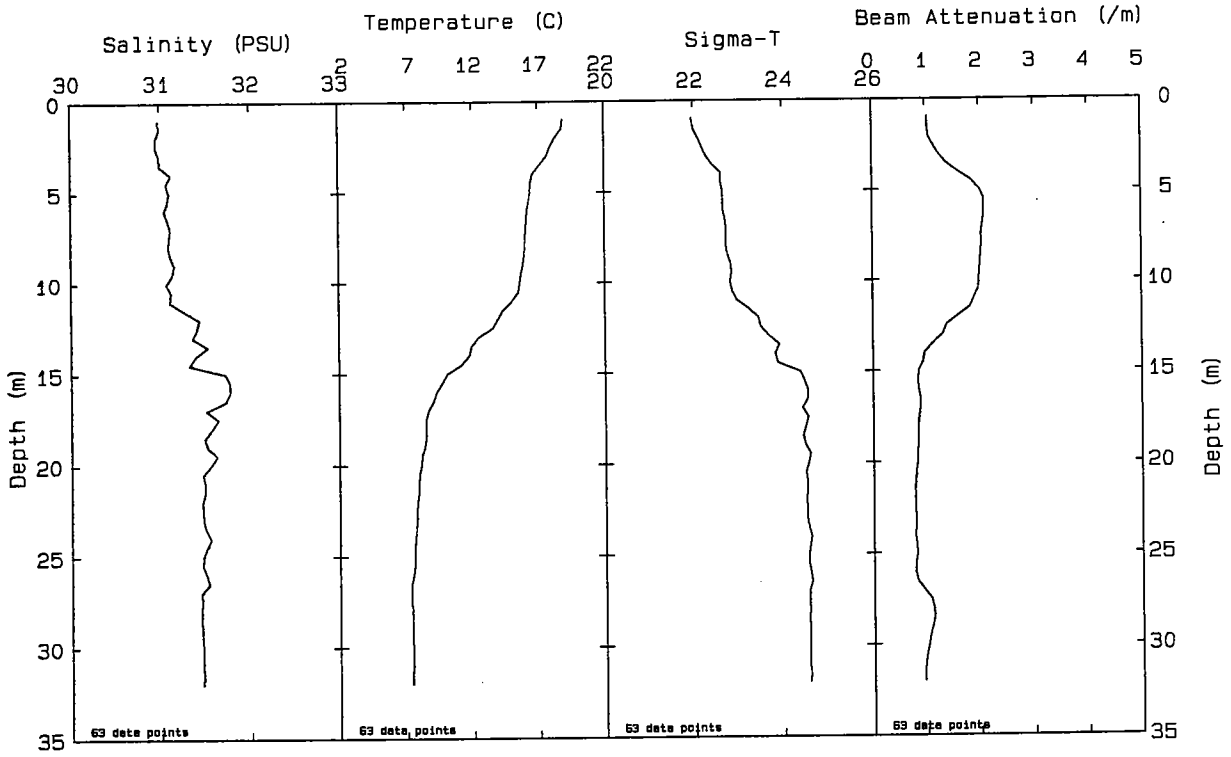

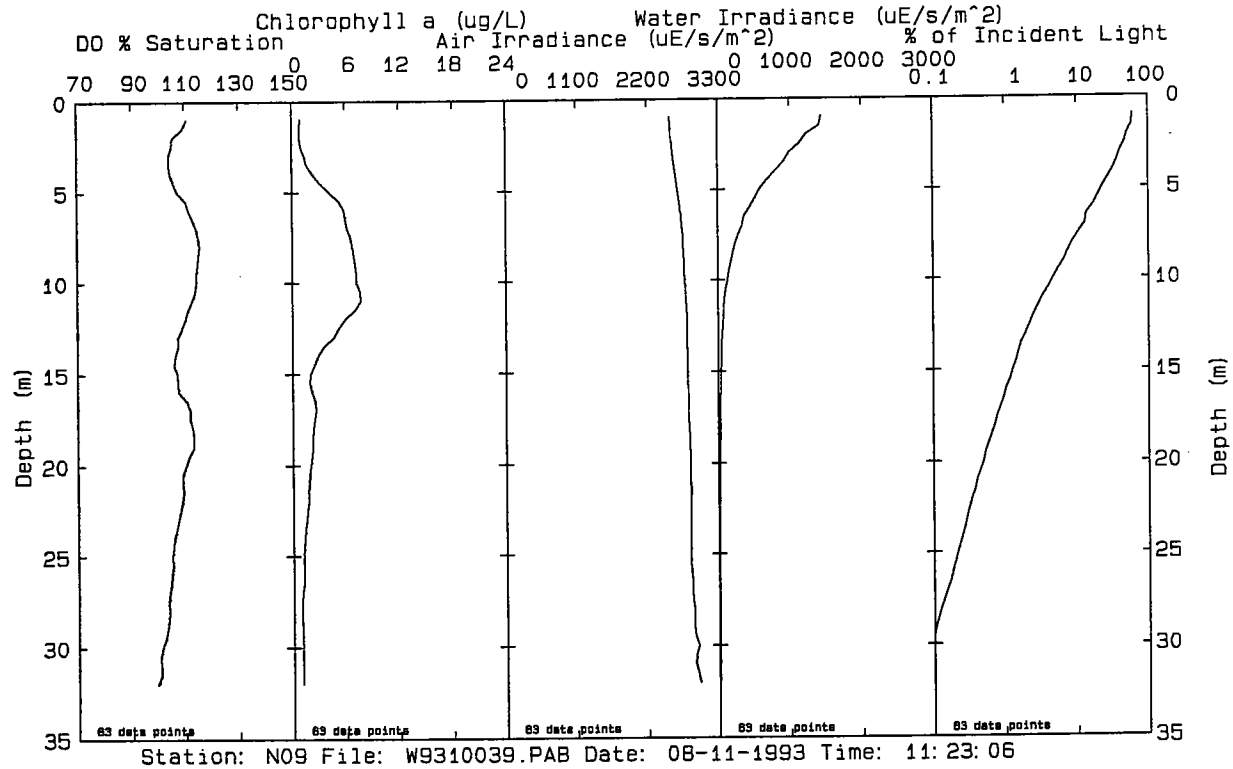

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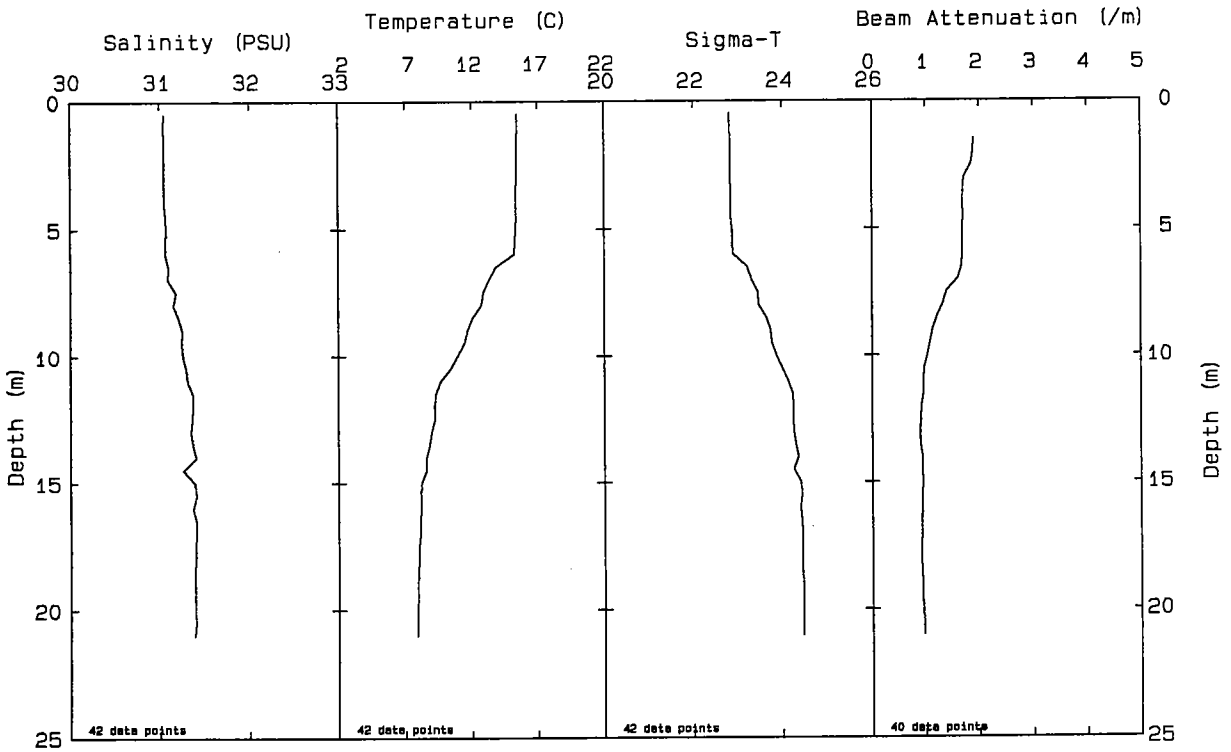

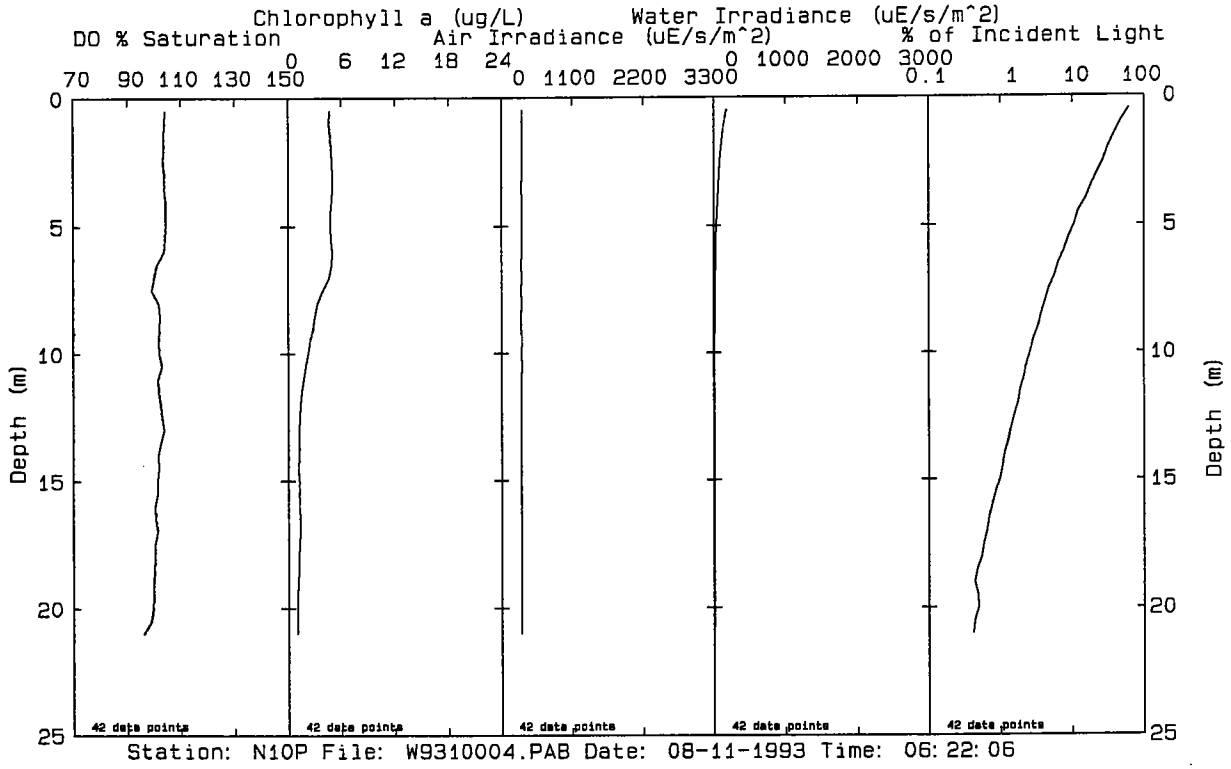

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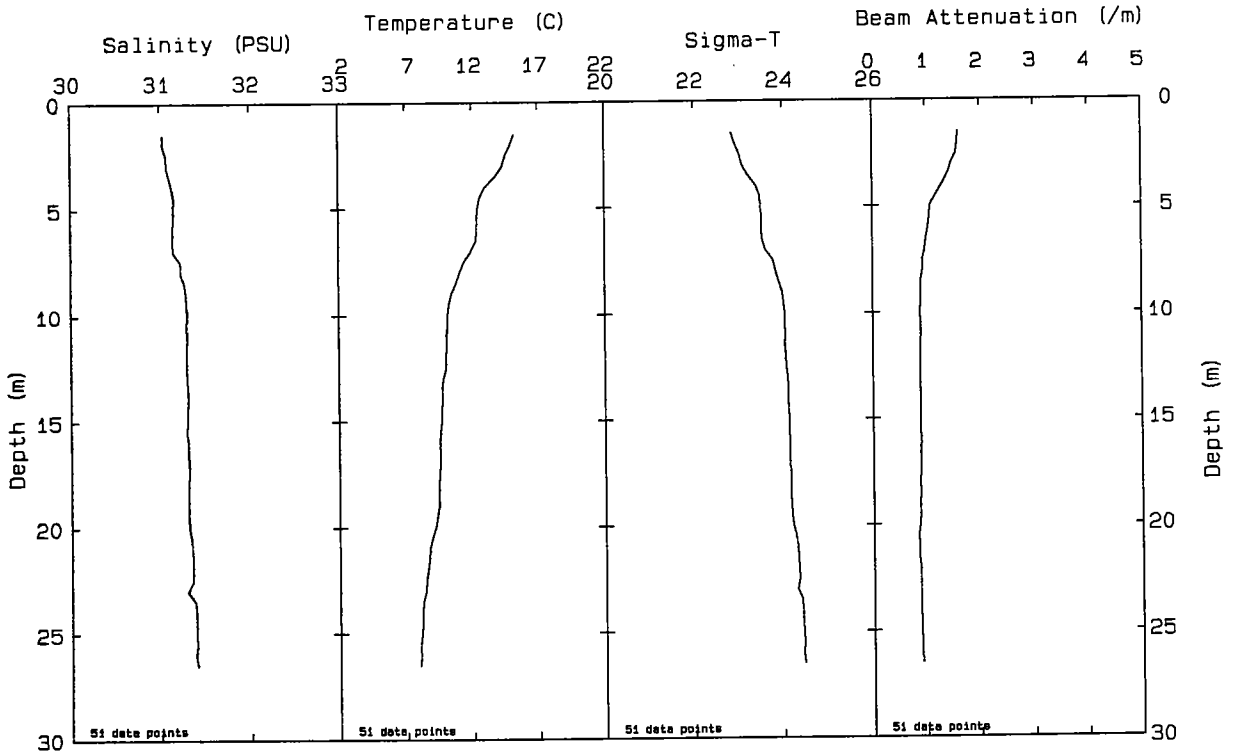

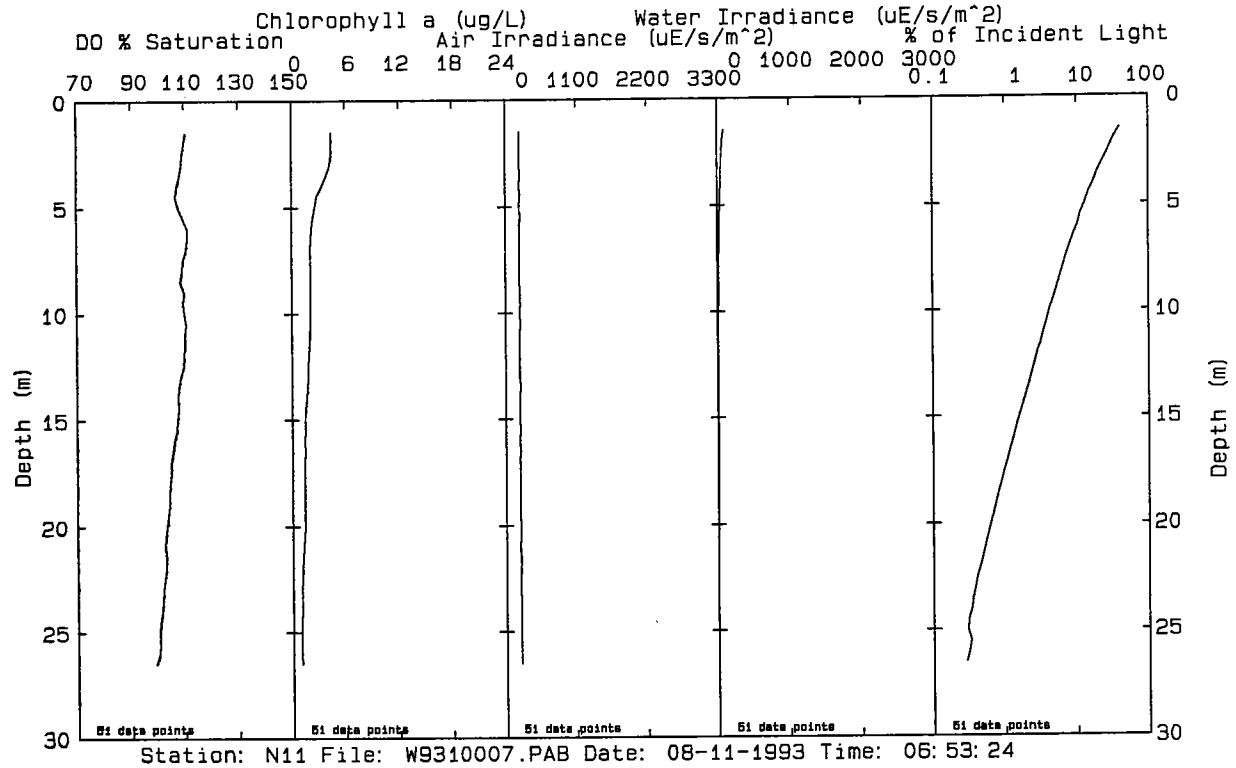

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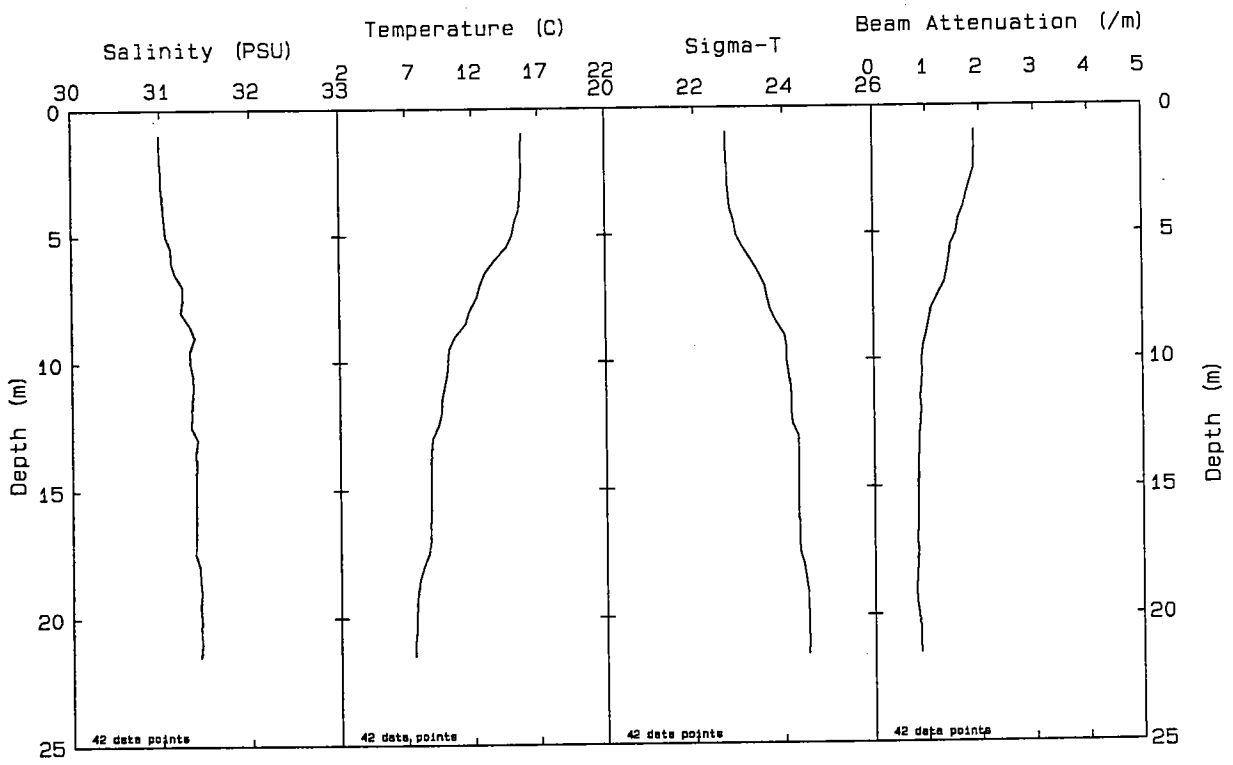

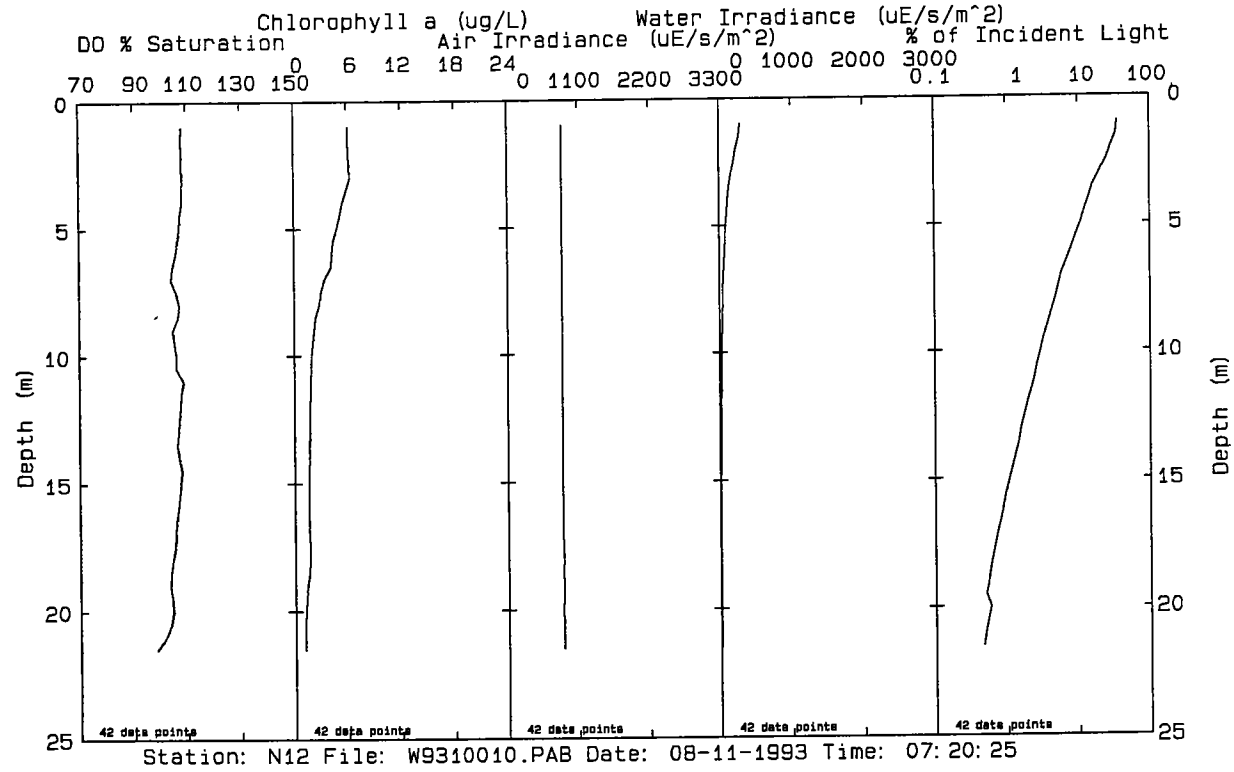

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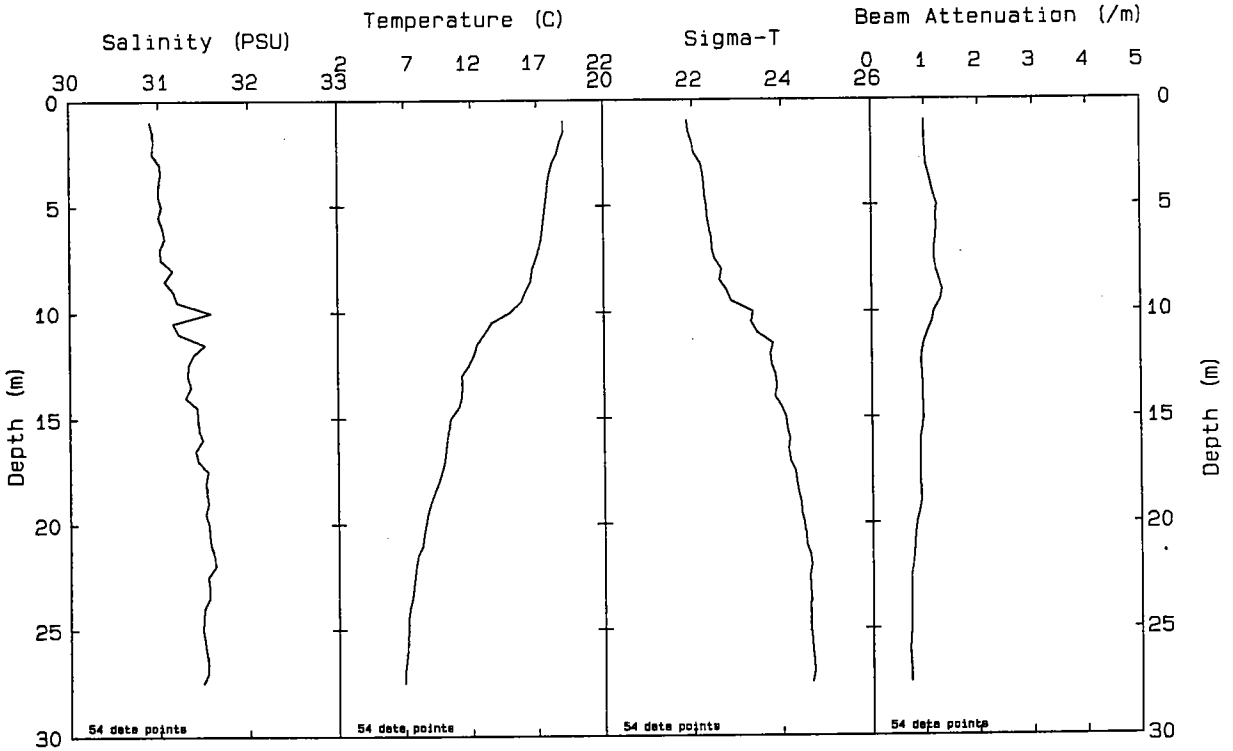
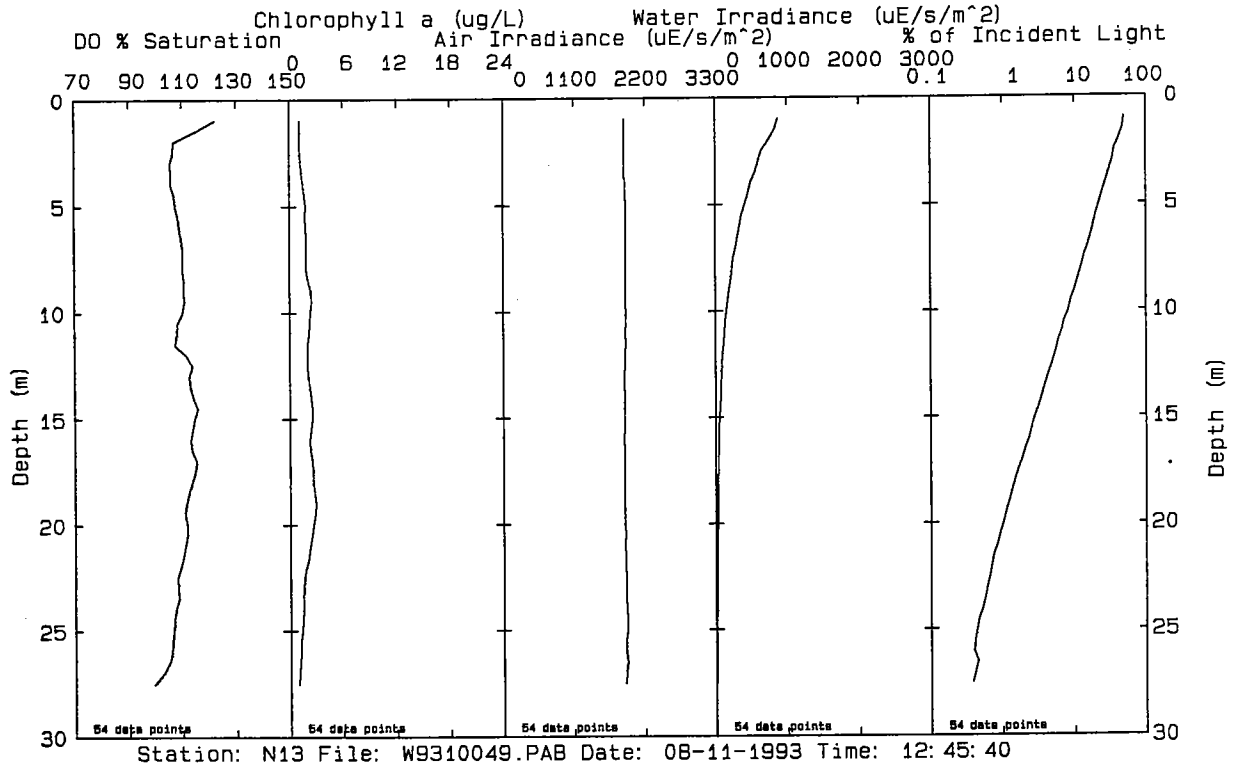
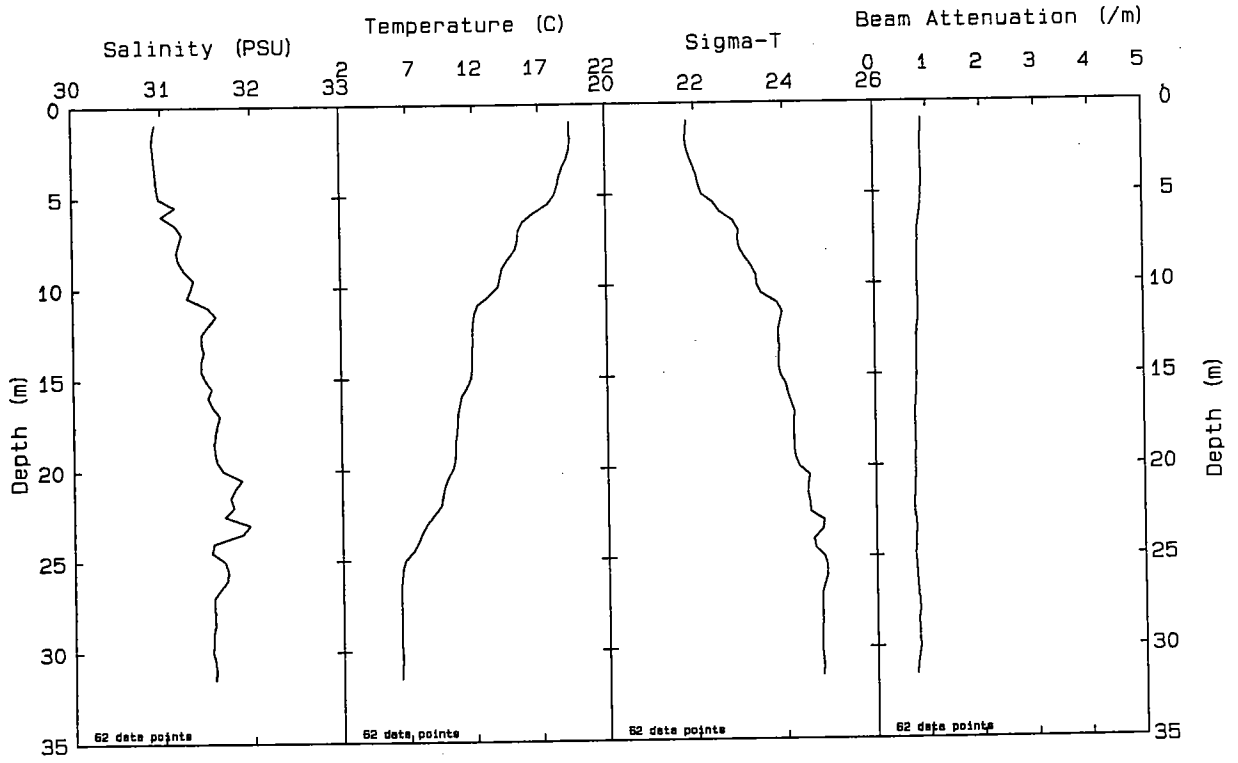
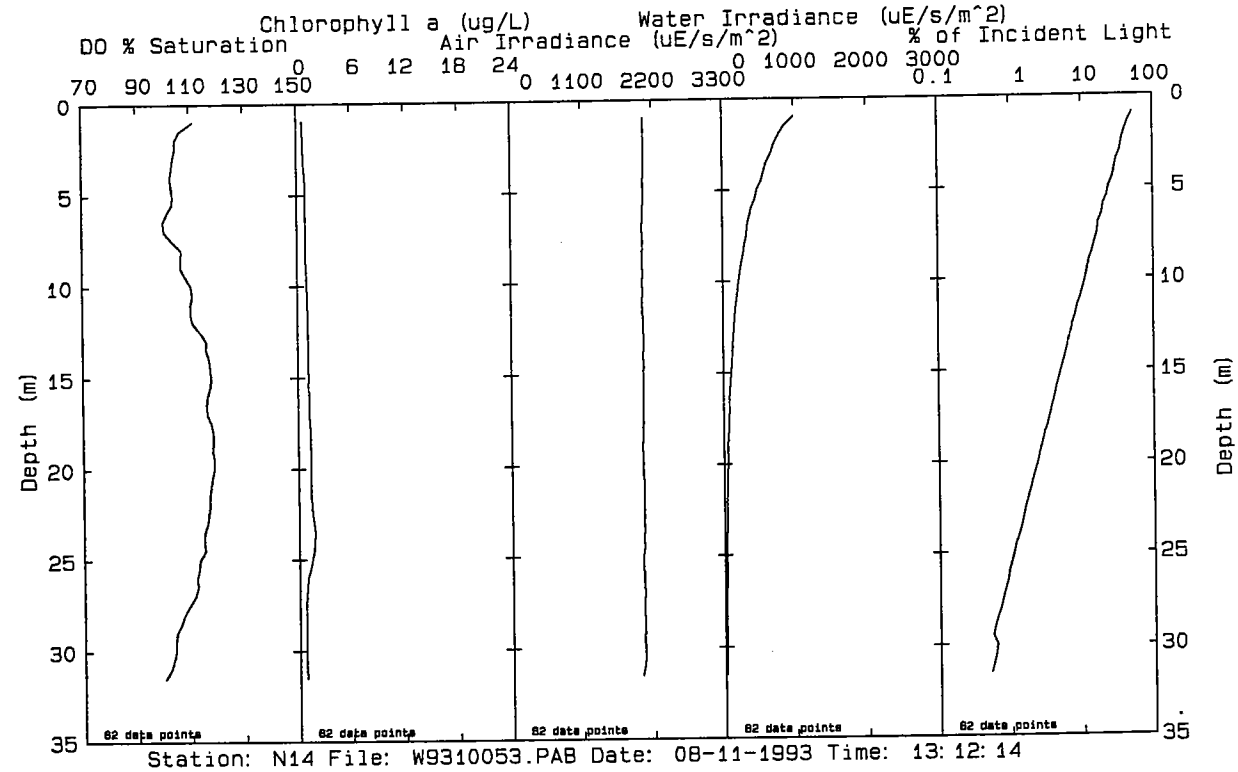




Station: N13 File: W9310049.PAB Date: 08-11-1993 Time: 12:45:40

00041





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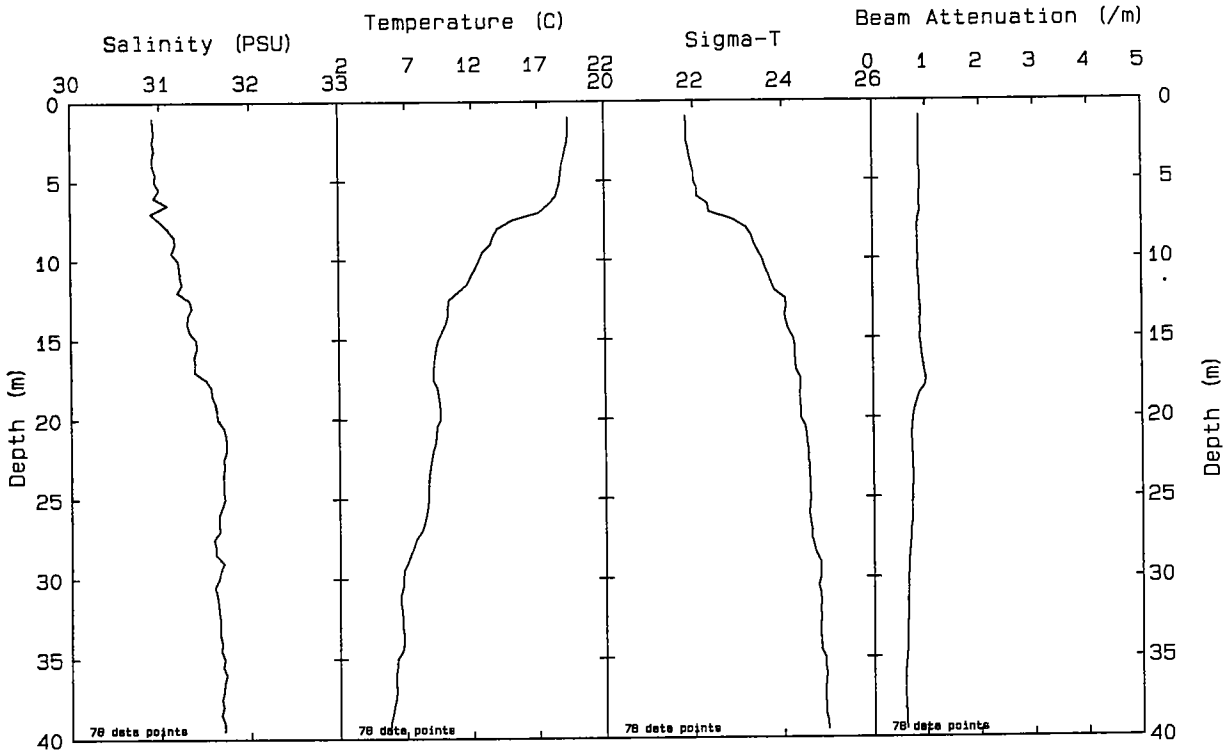

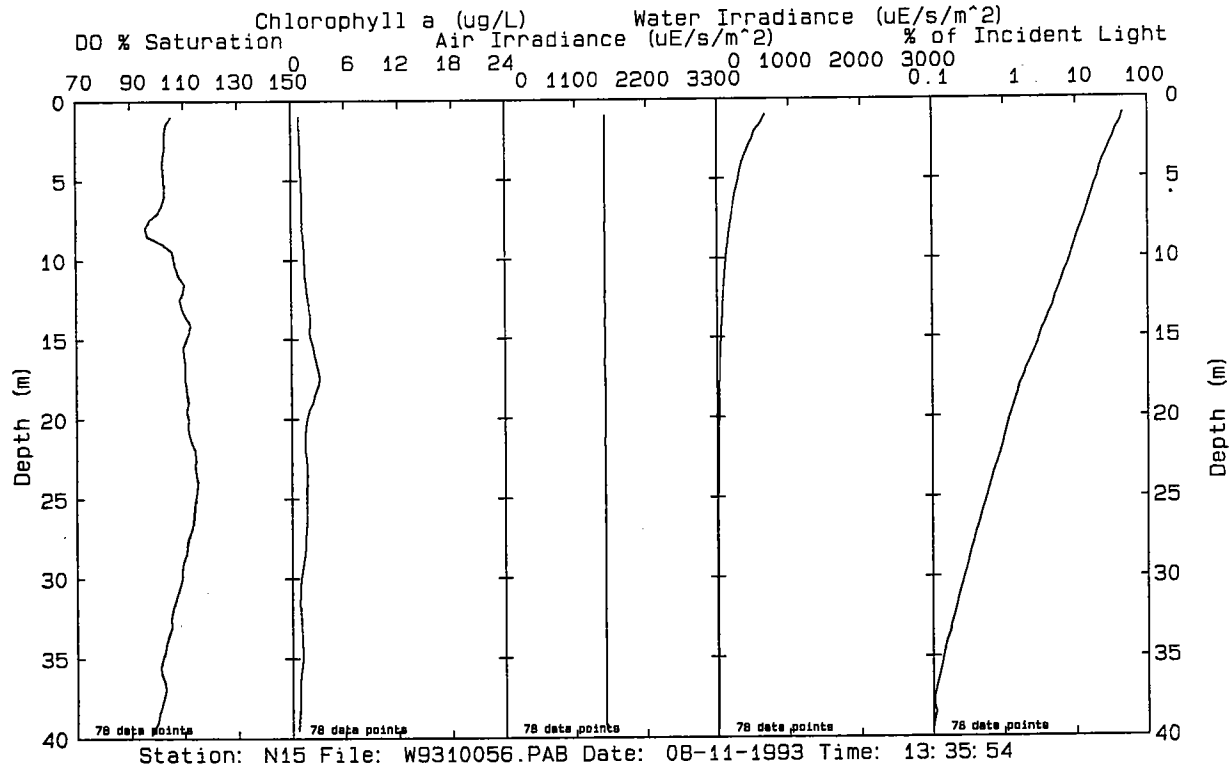

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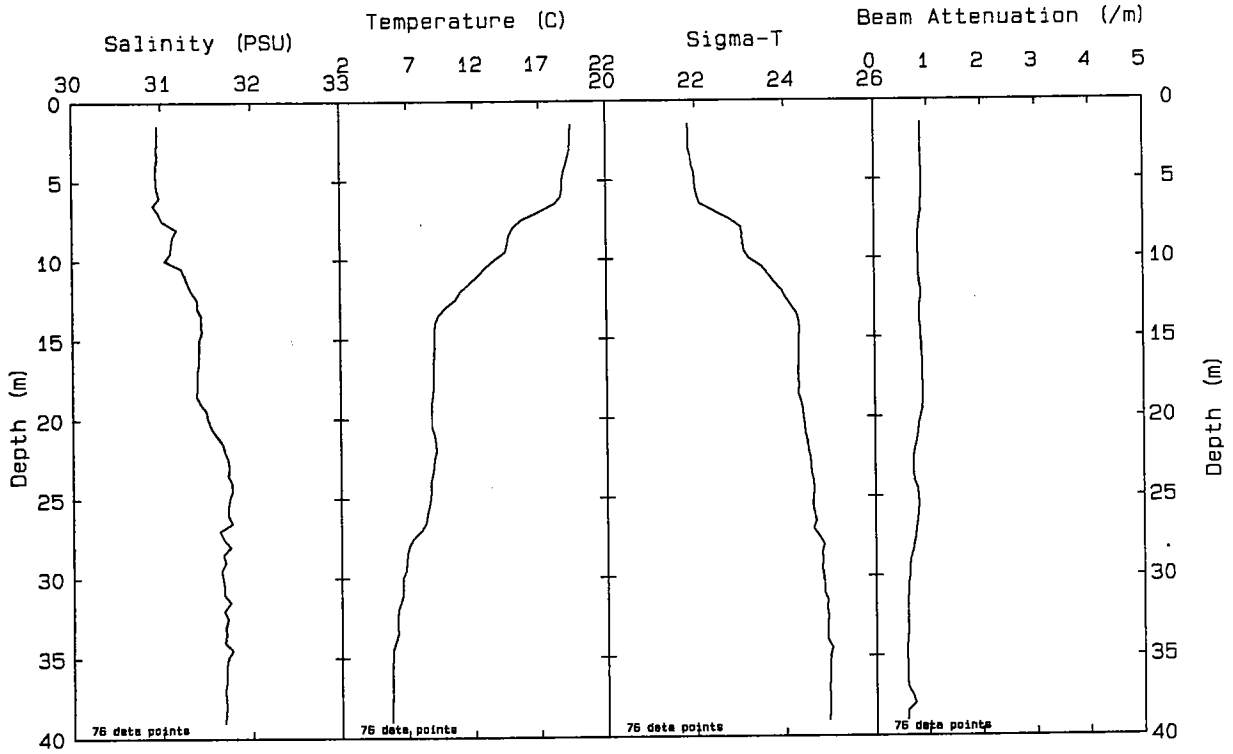

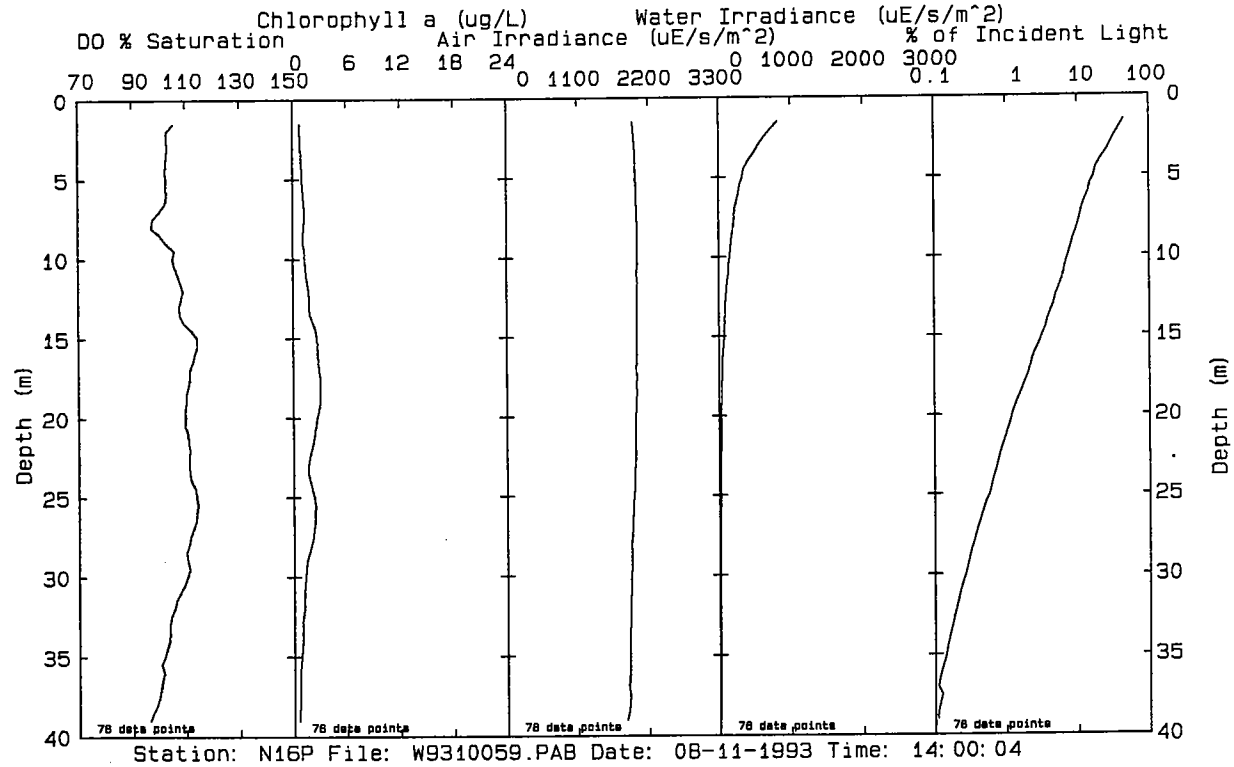

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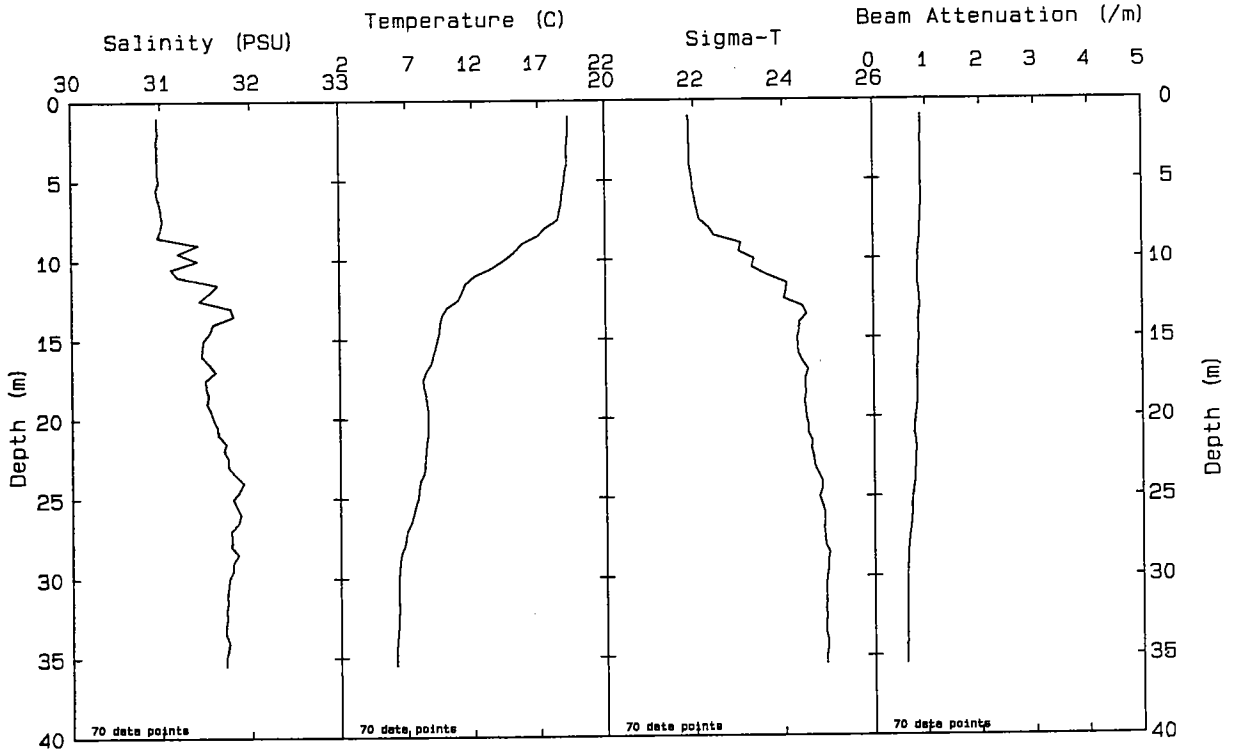

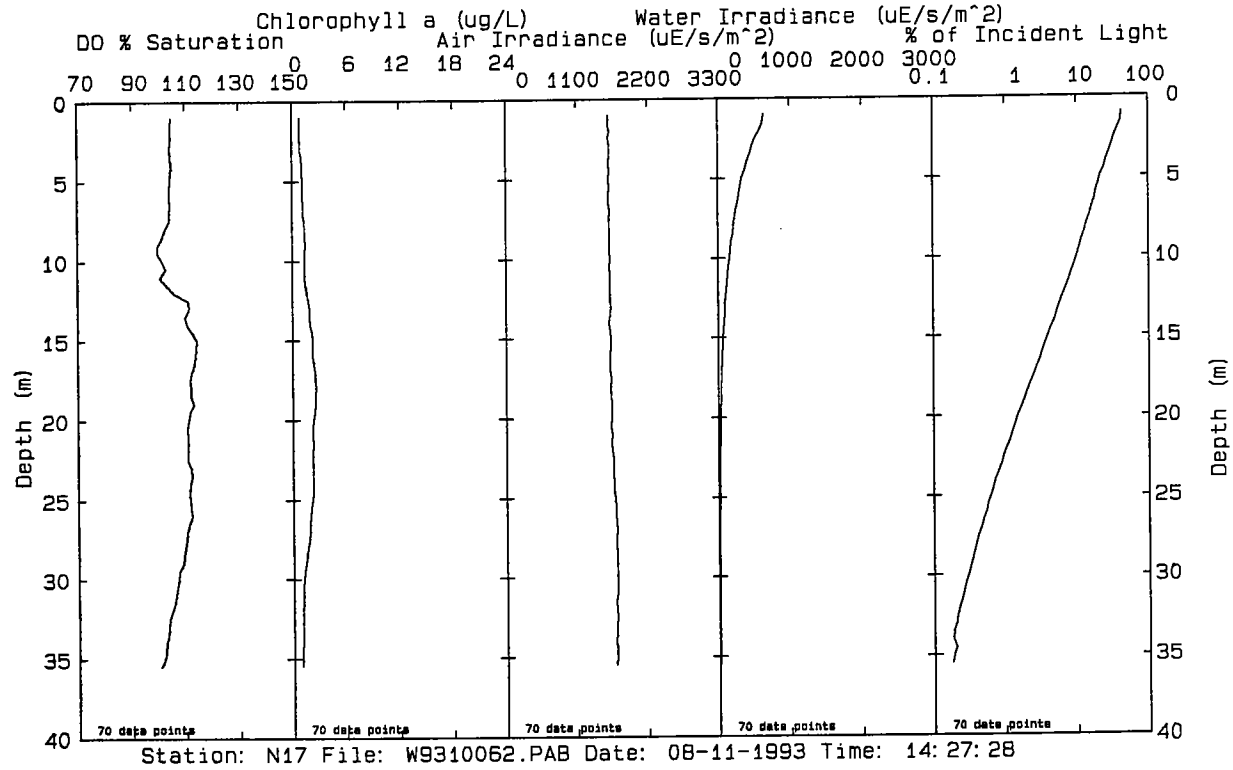

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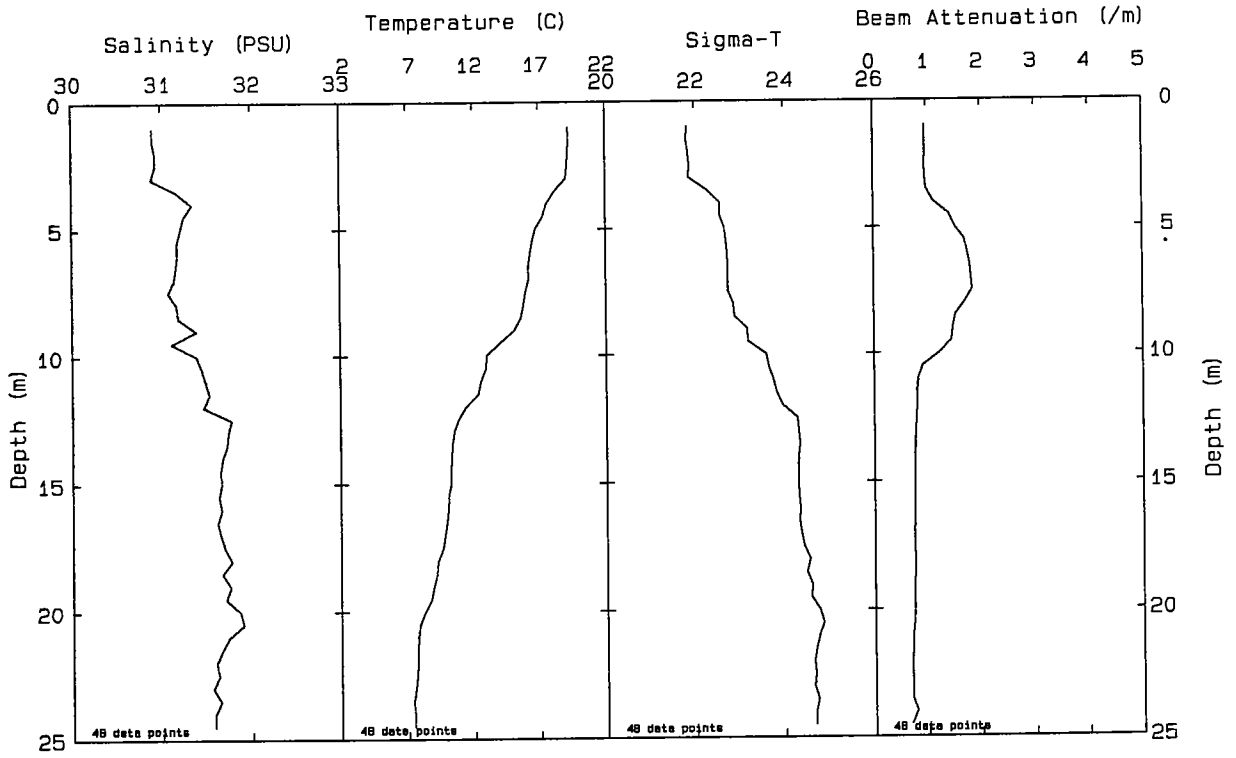

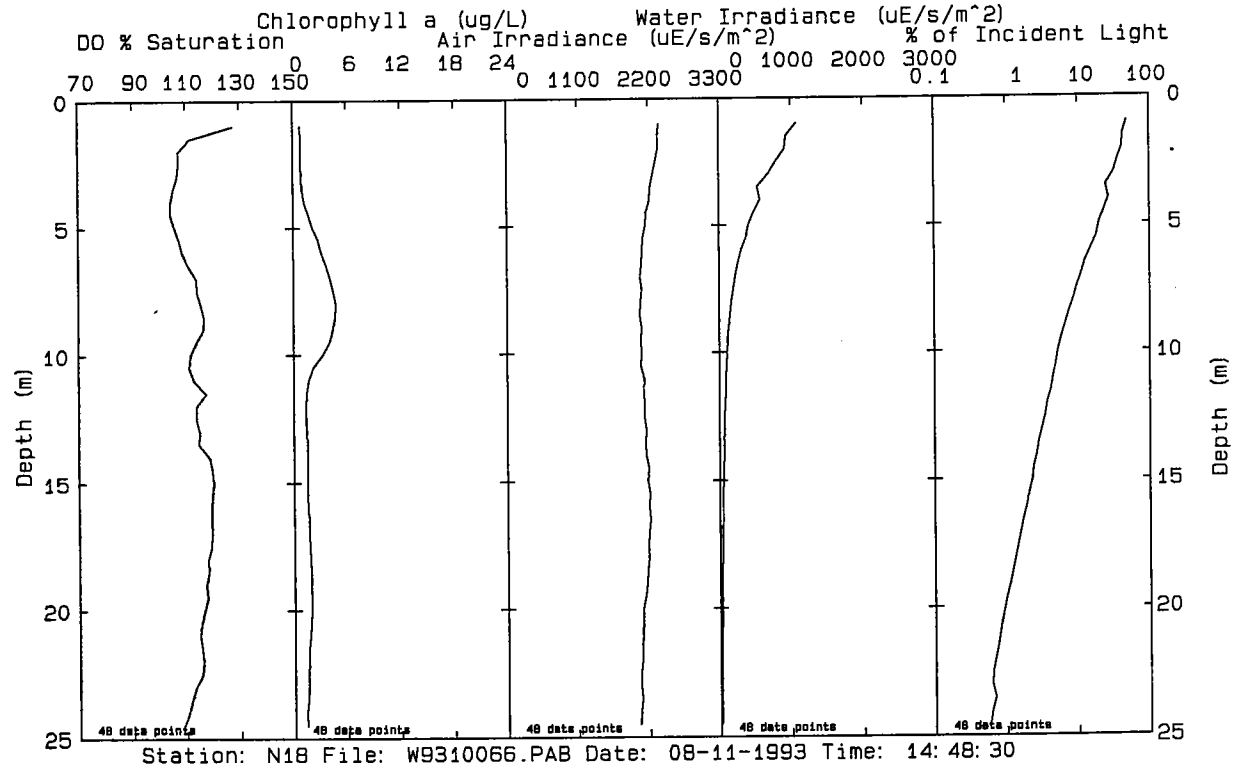

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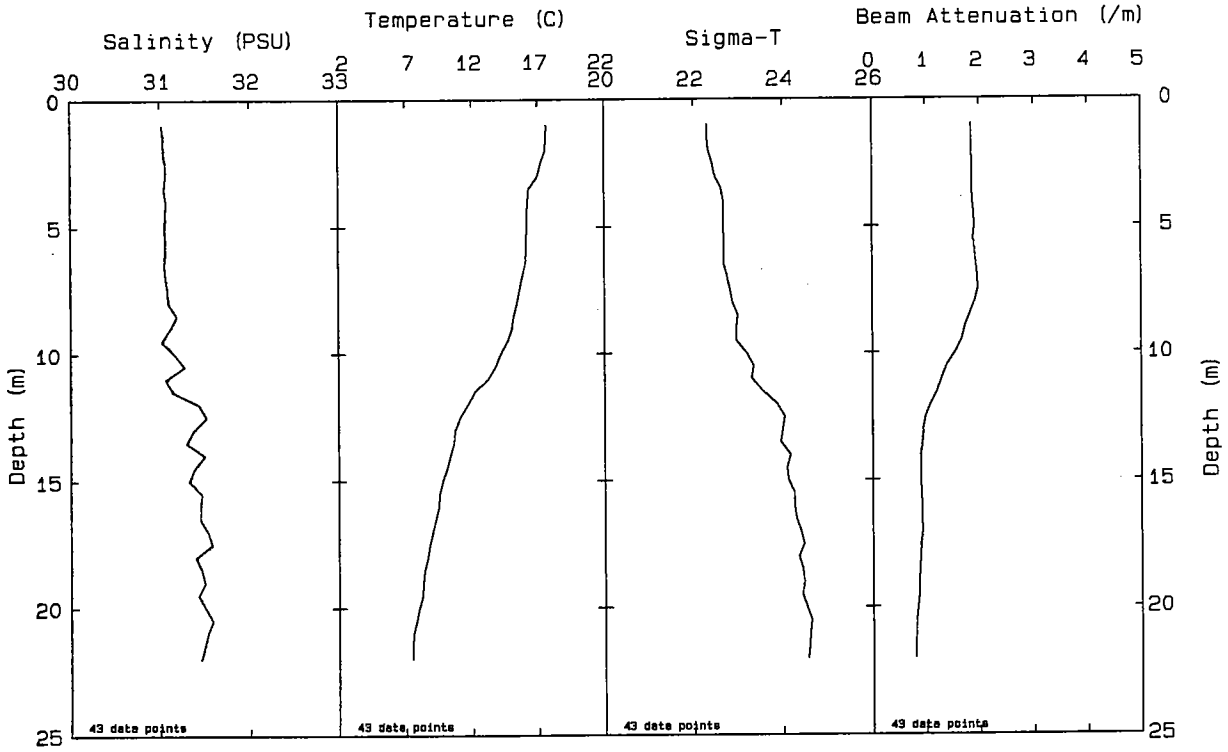
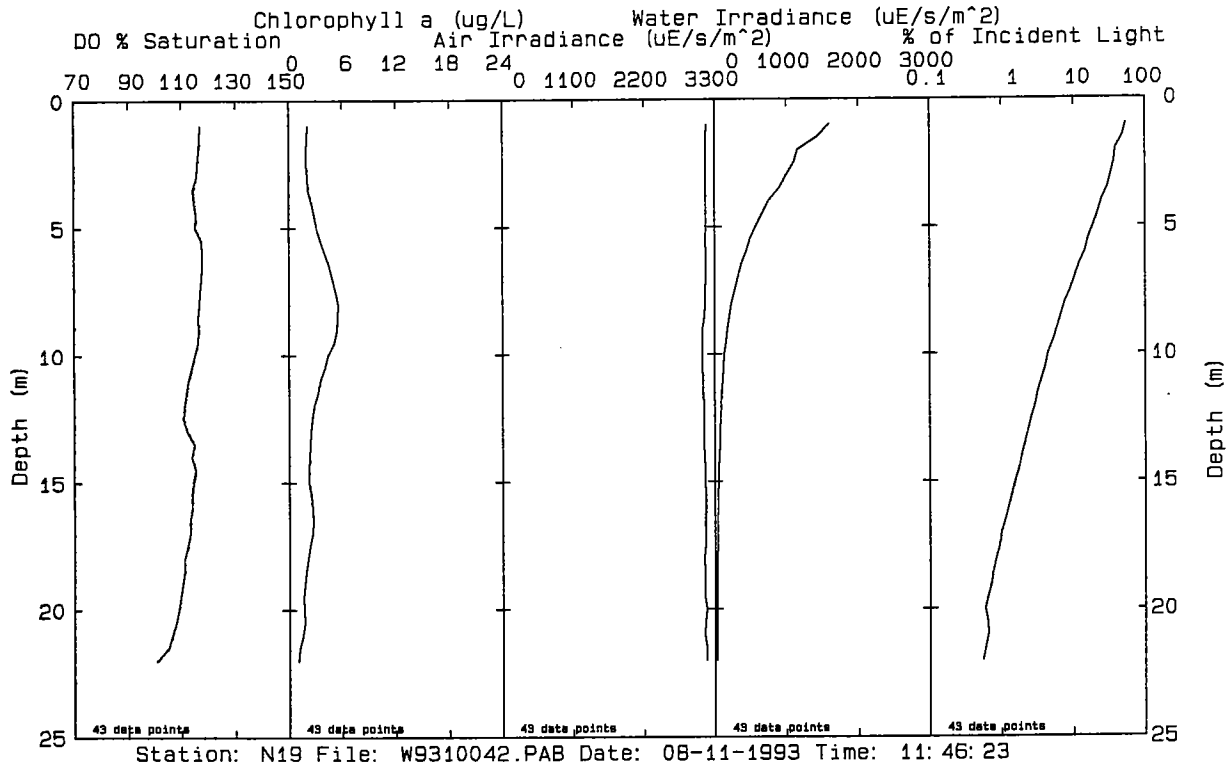
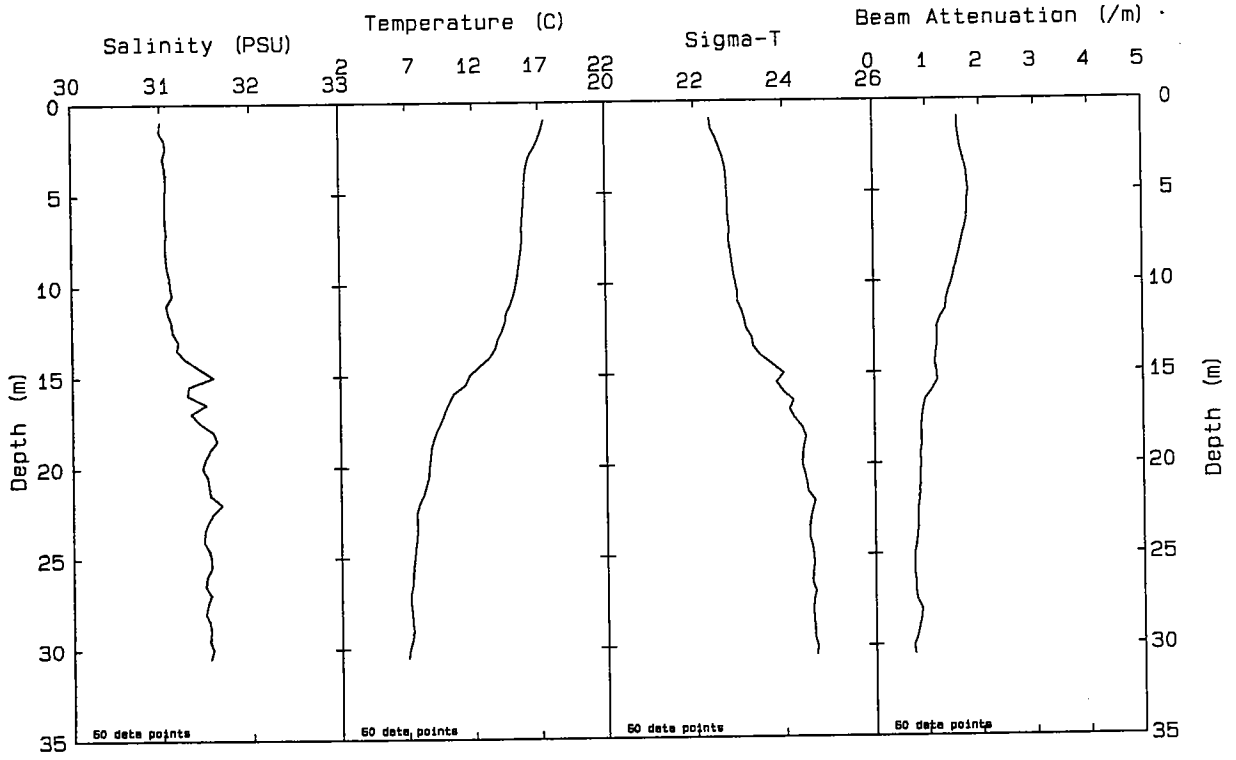
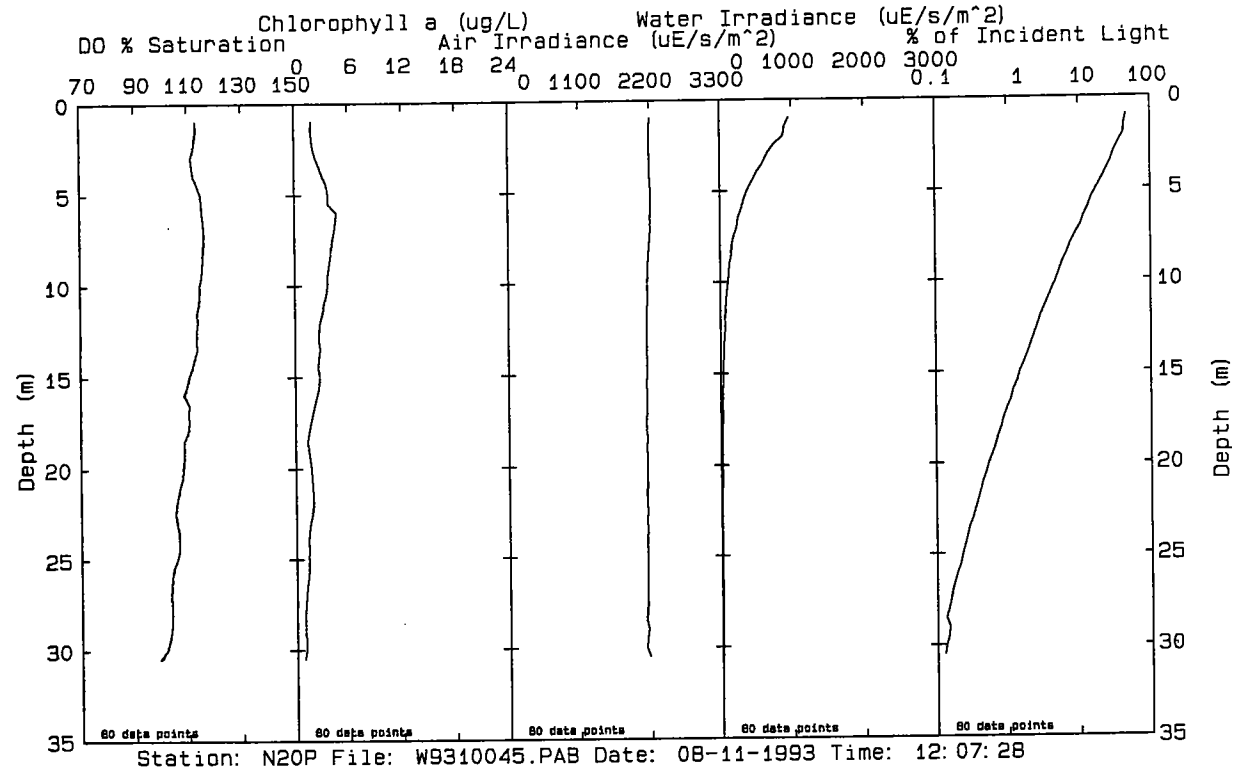




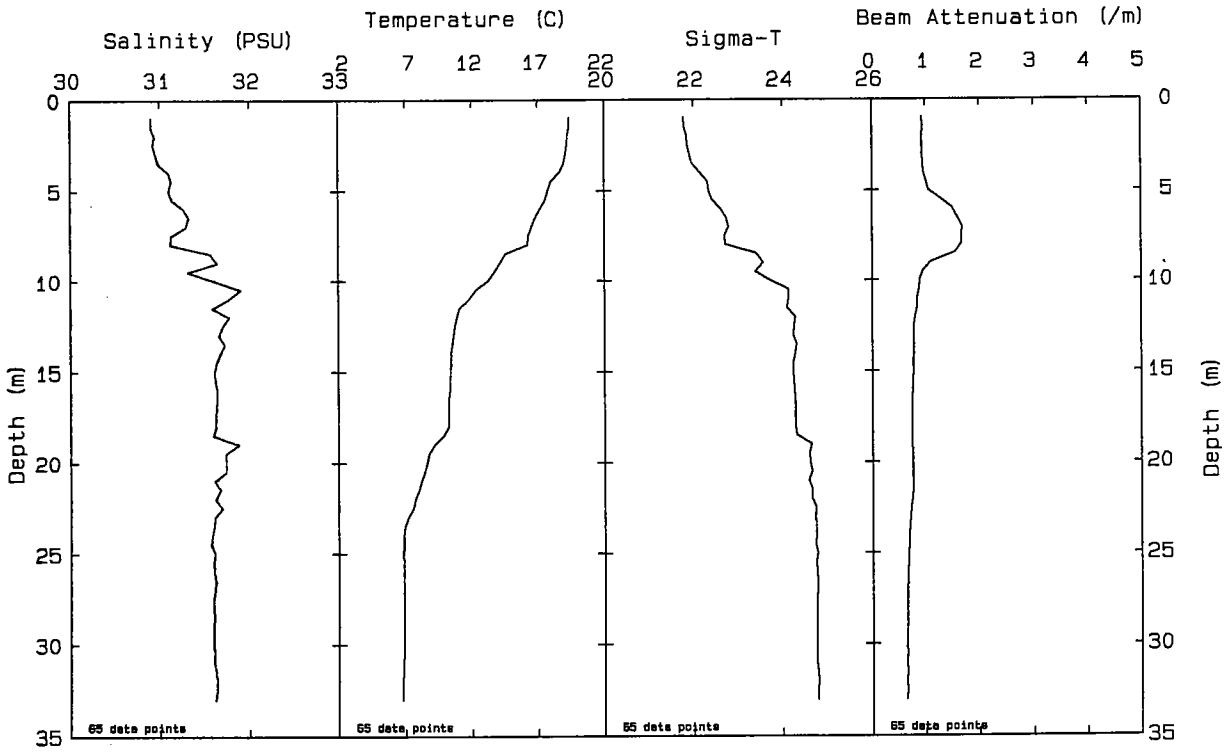
Station: N19 File: W9310042.PAB Date: 08-11-1993 Time: 11:46:23

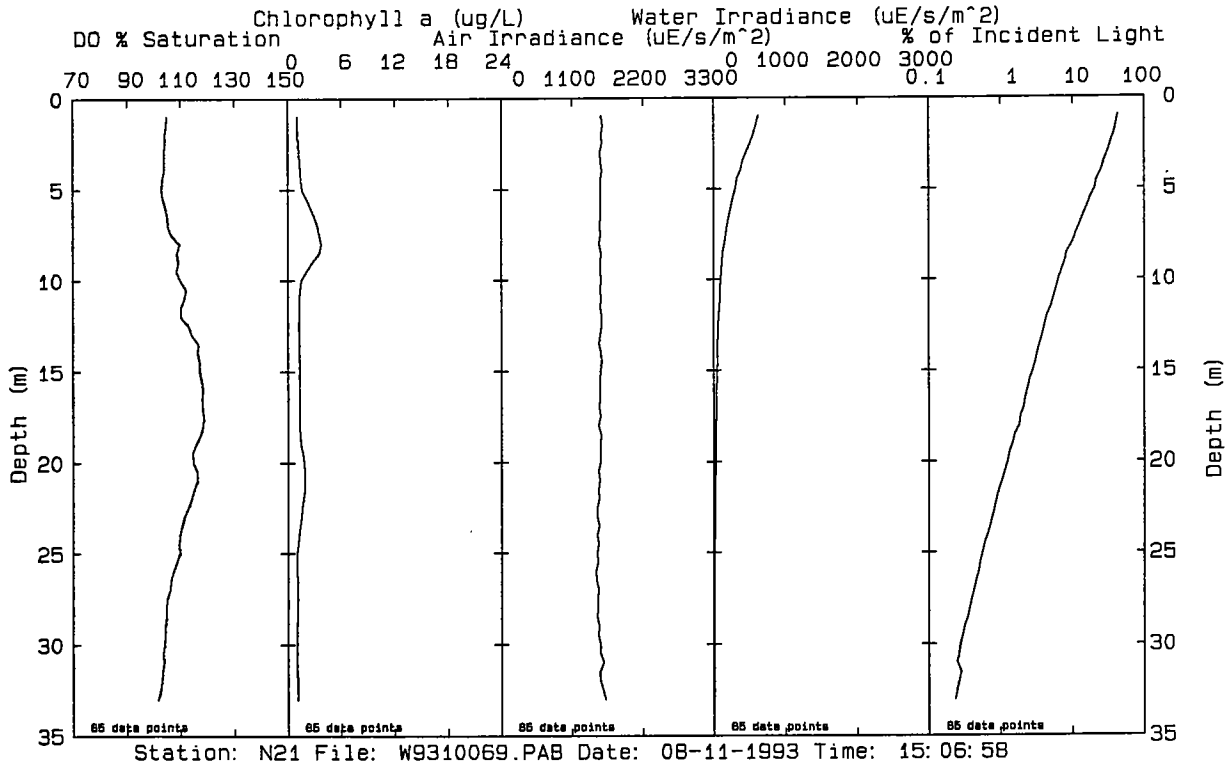




Station: N20P File: W9310045.PAB Date: 08-11-1993 Time: 12:07:28

00048

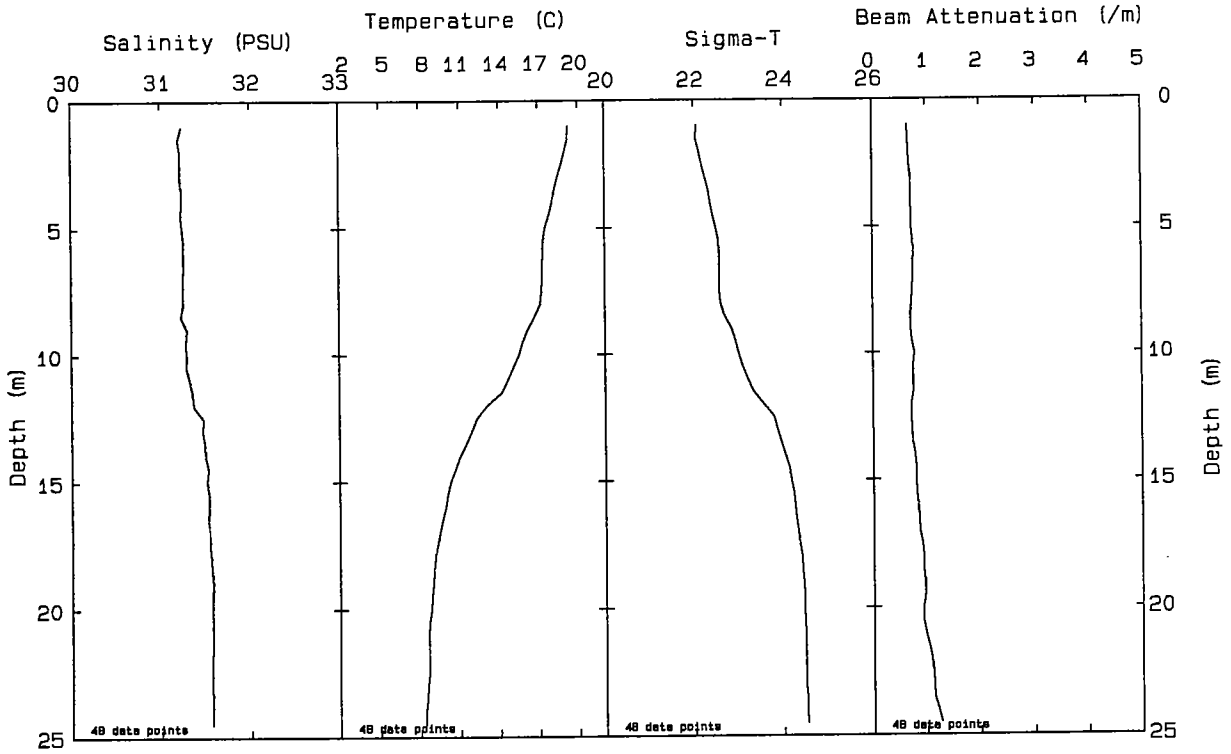


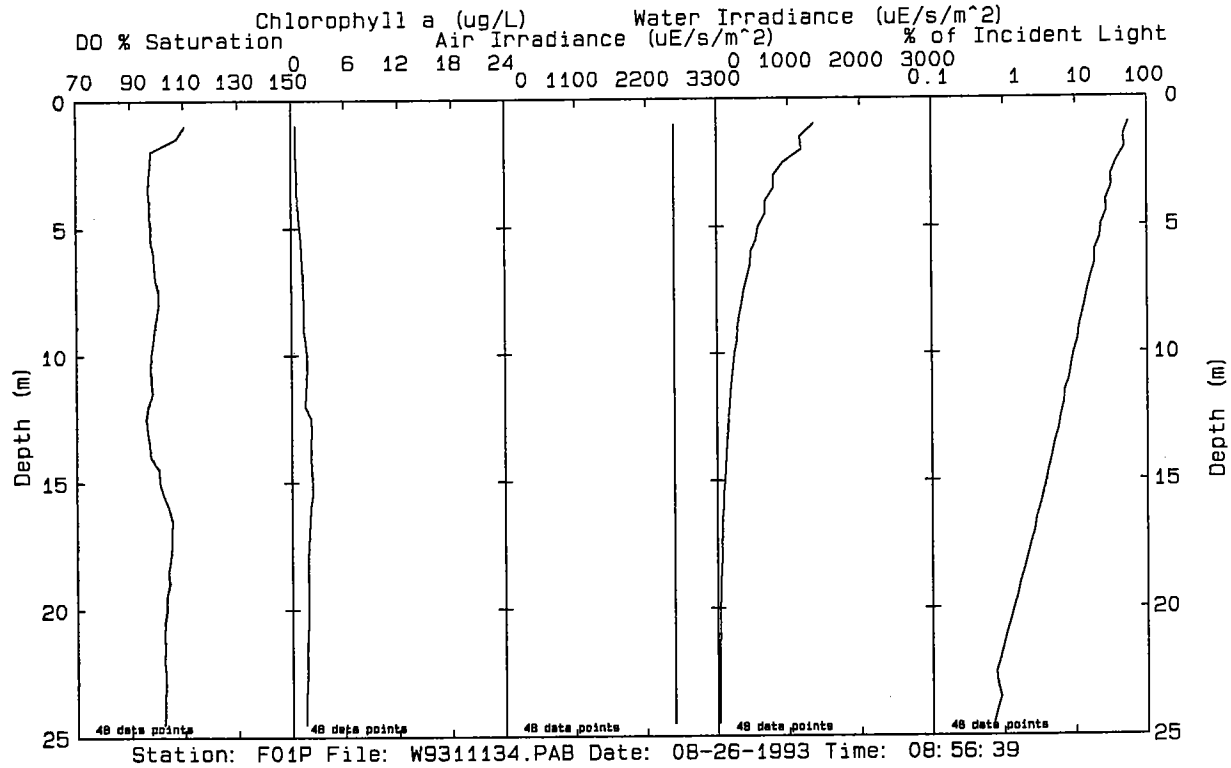


Station: N21 File: W9310069.PAB Date: 08-11-1993 Time: 15:06:58

00049

Late August 1993 Profiles





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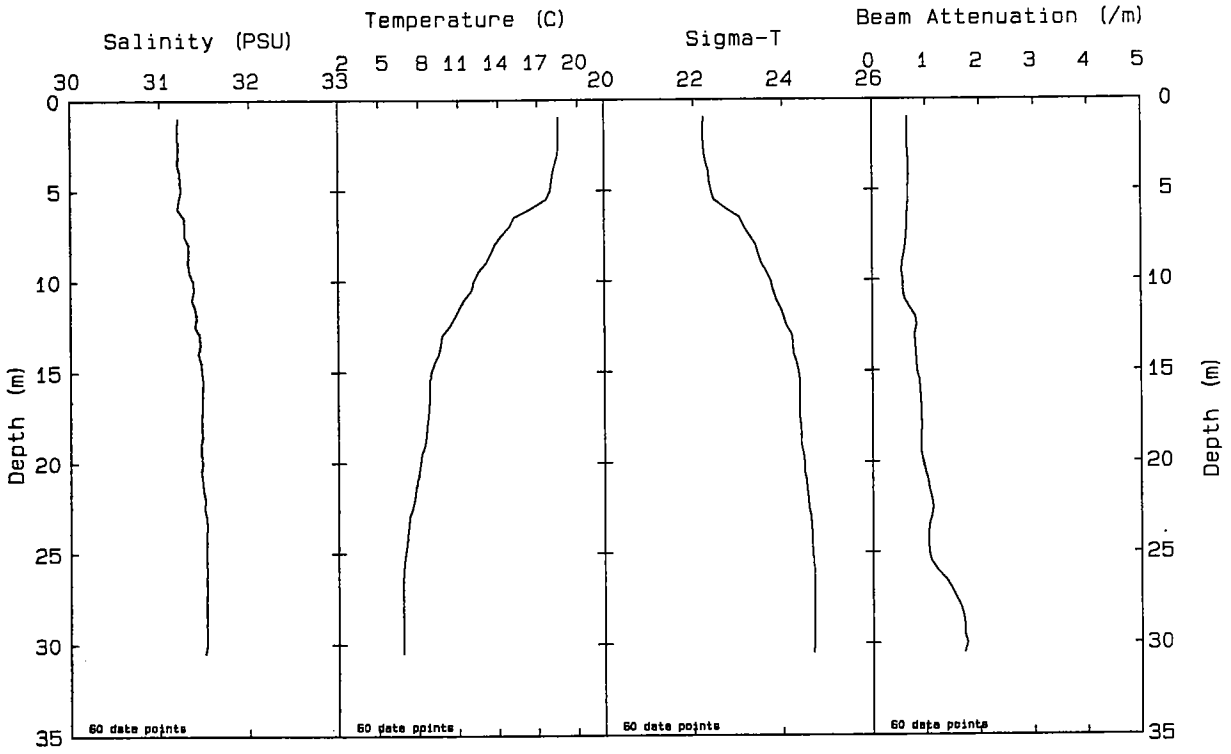

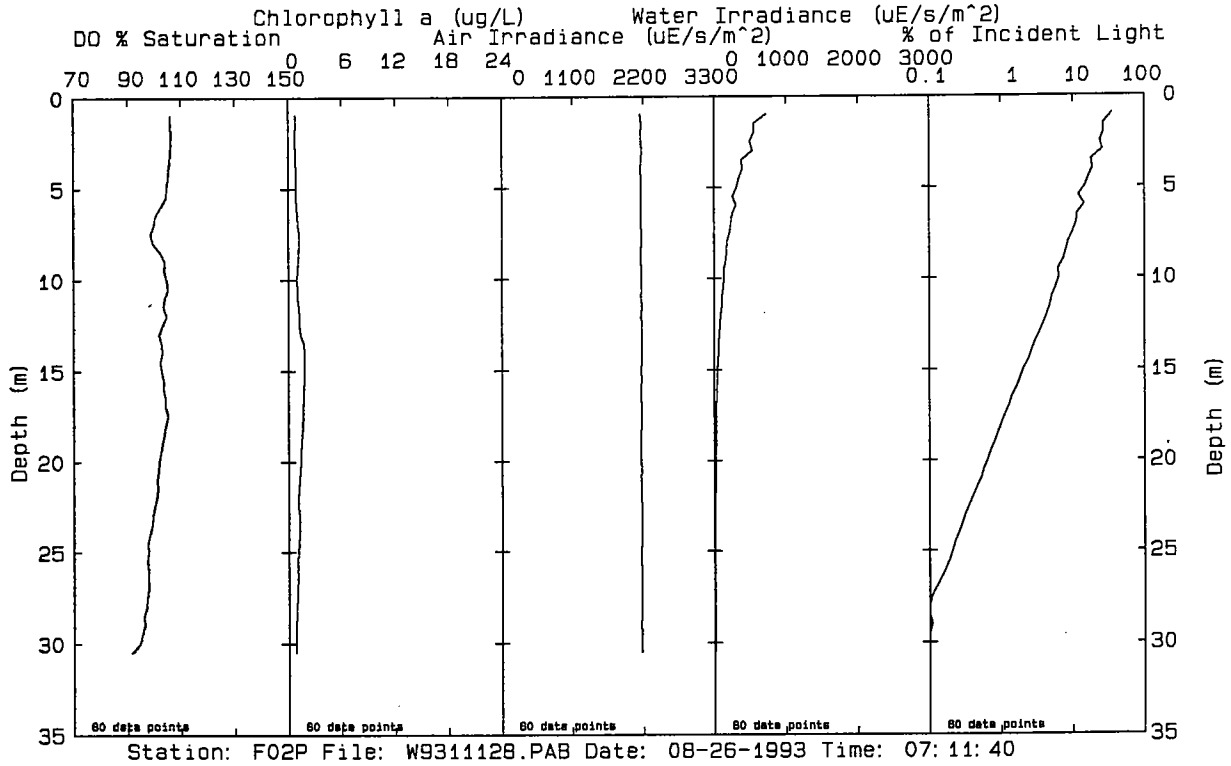

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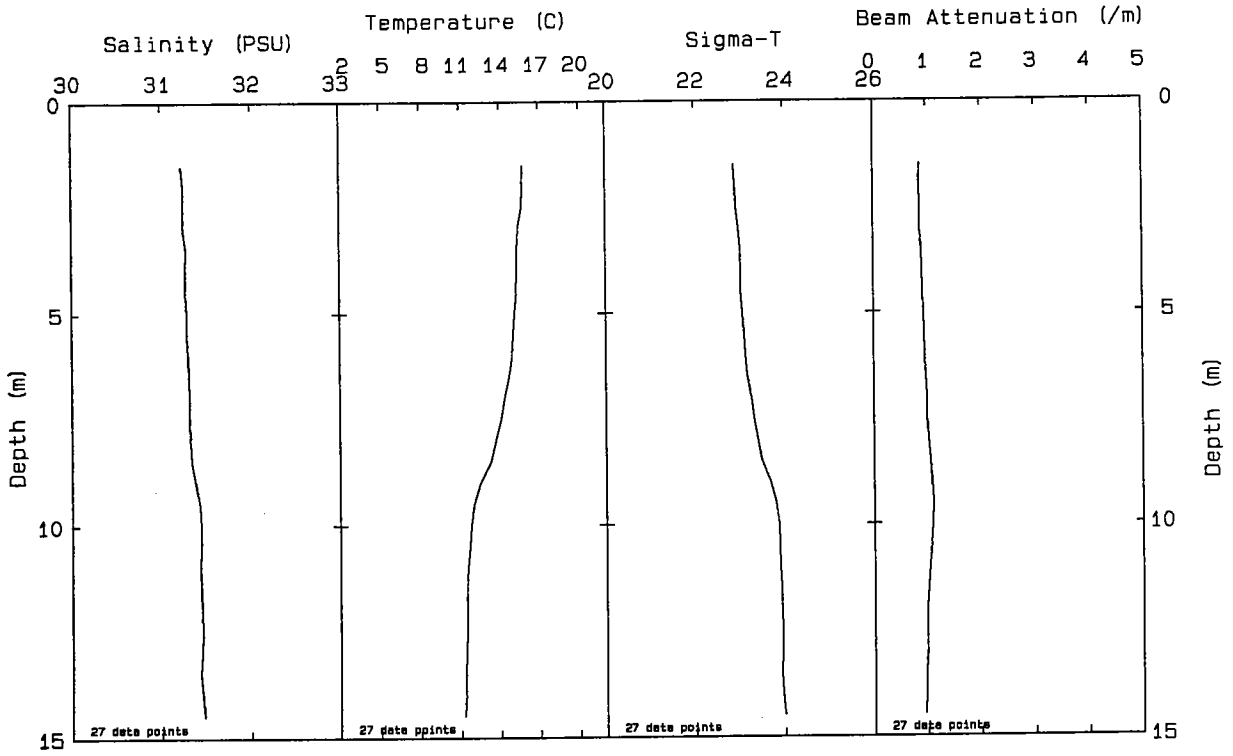
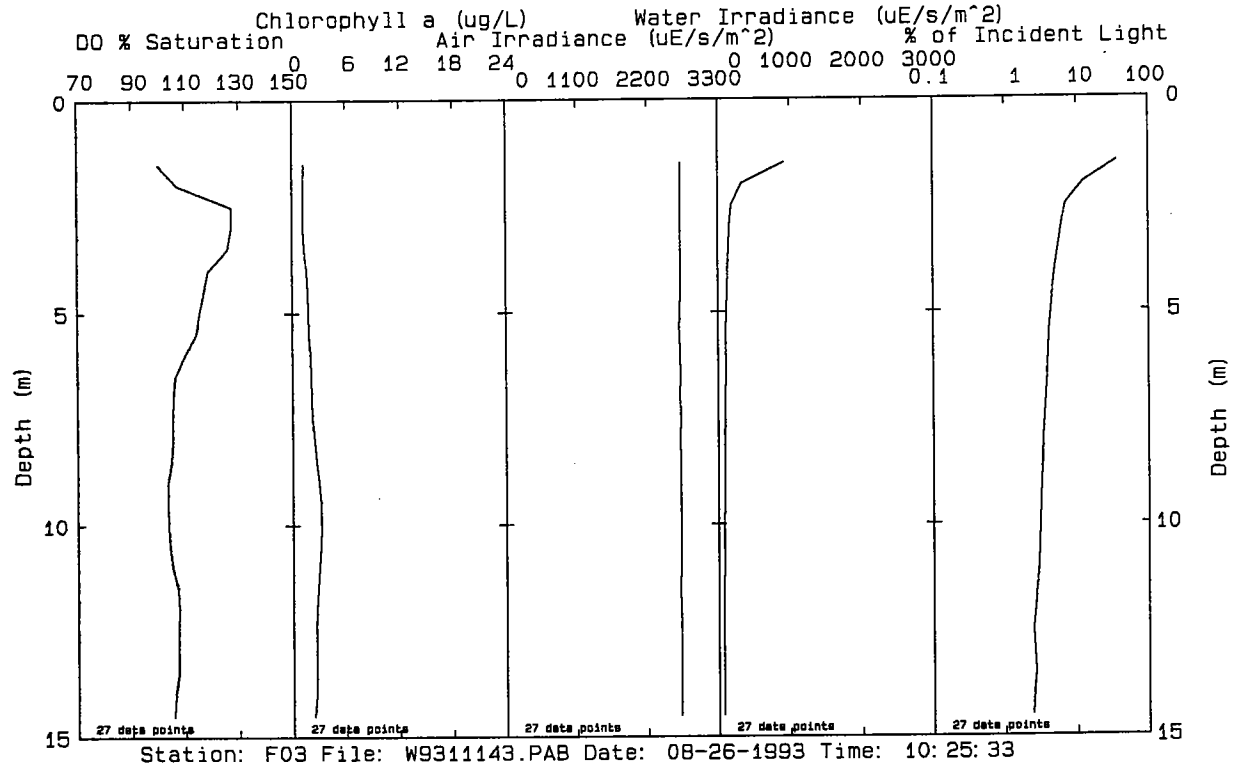
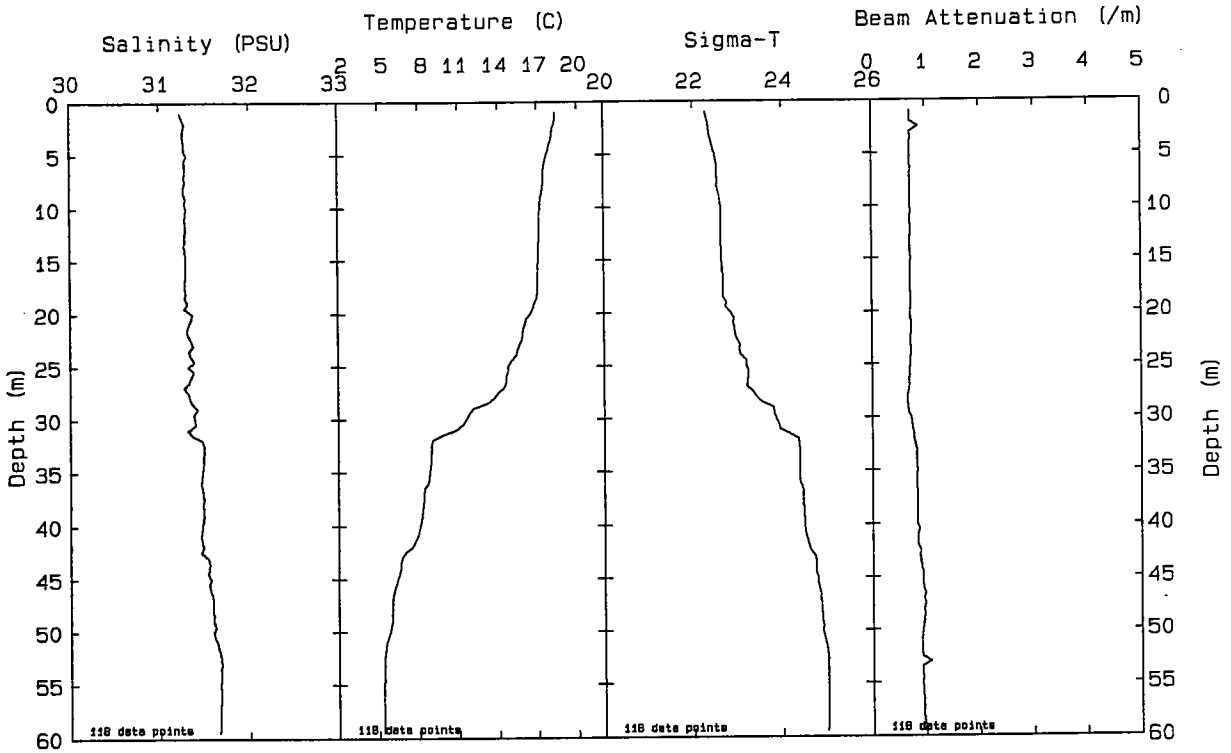
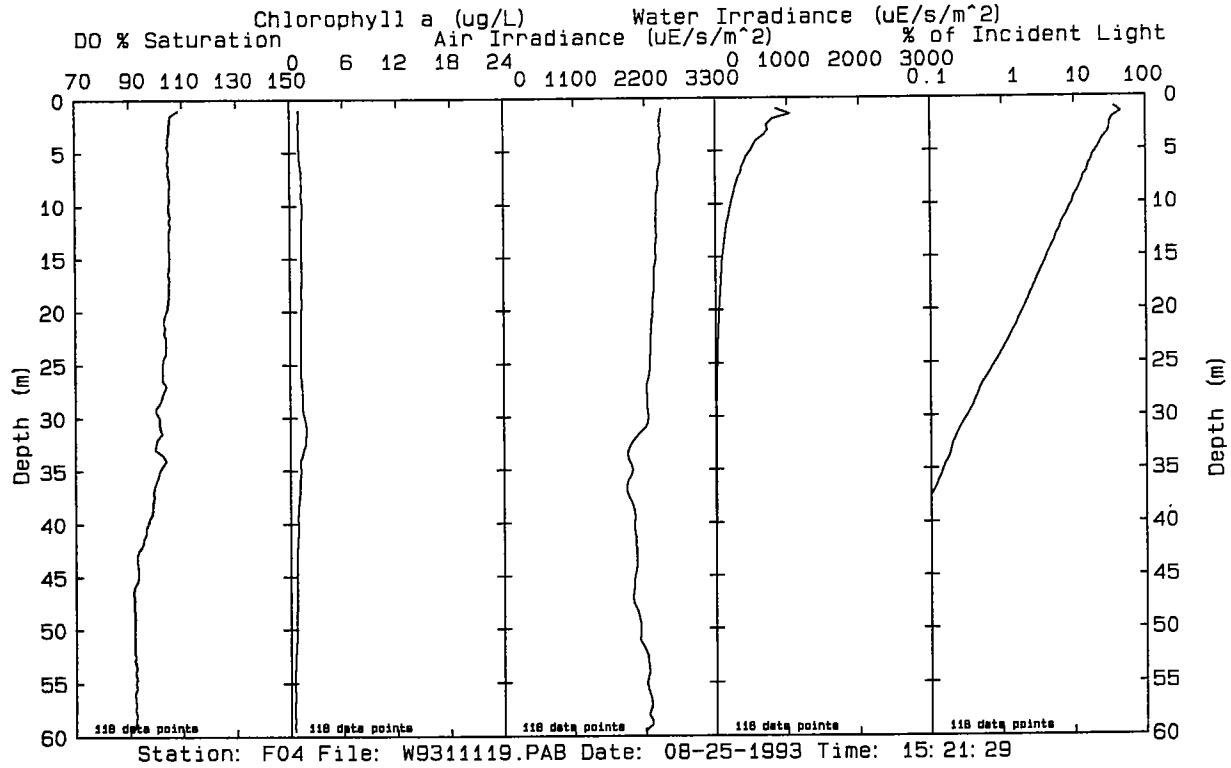




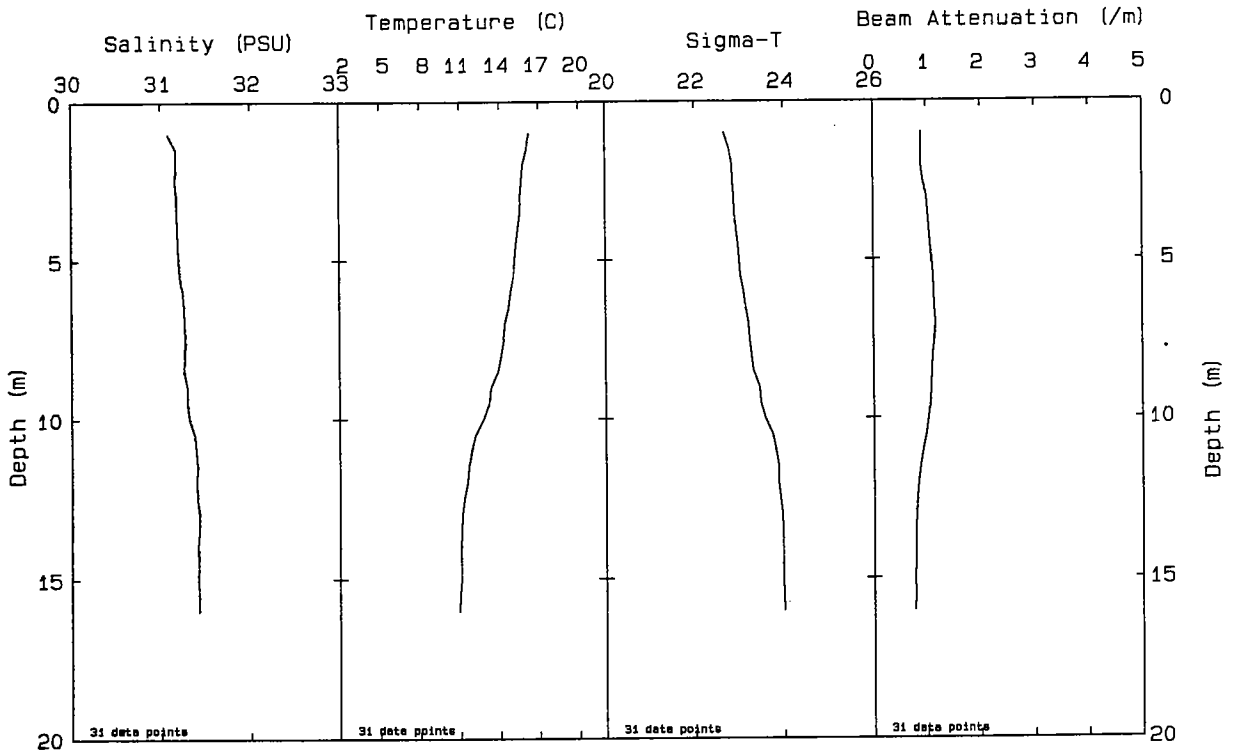
Station: F03 File: W9311143.PAB Date: 08-26-1993 Time: 10:25:33

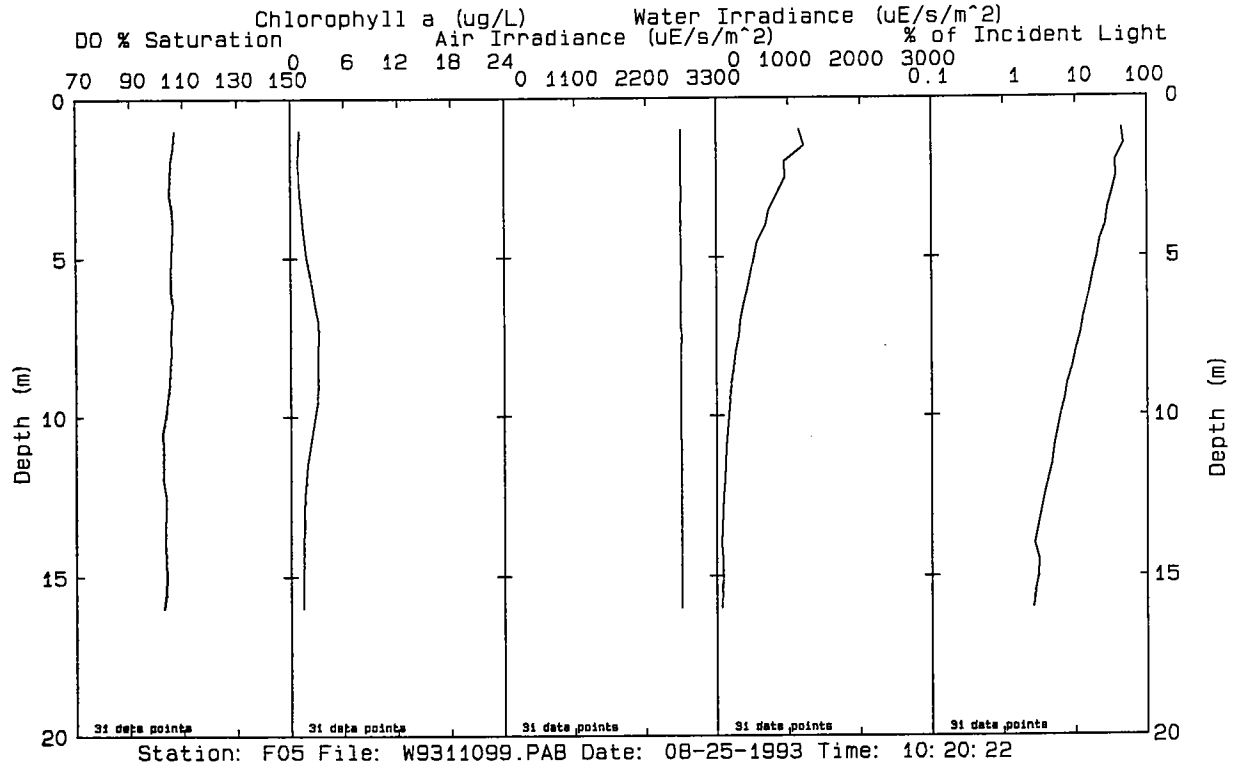
00053



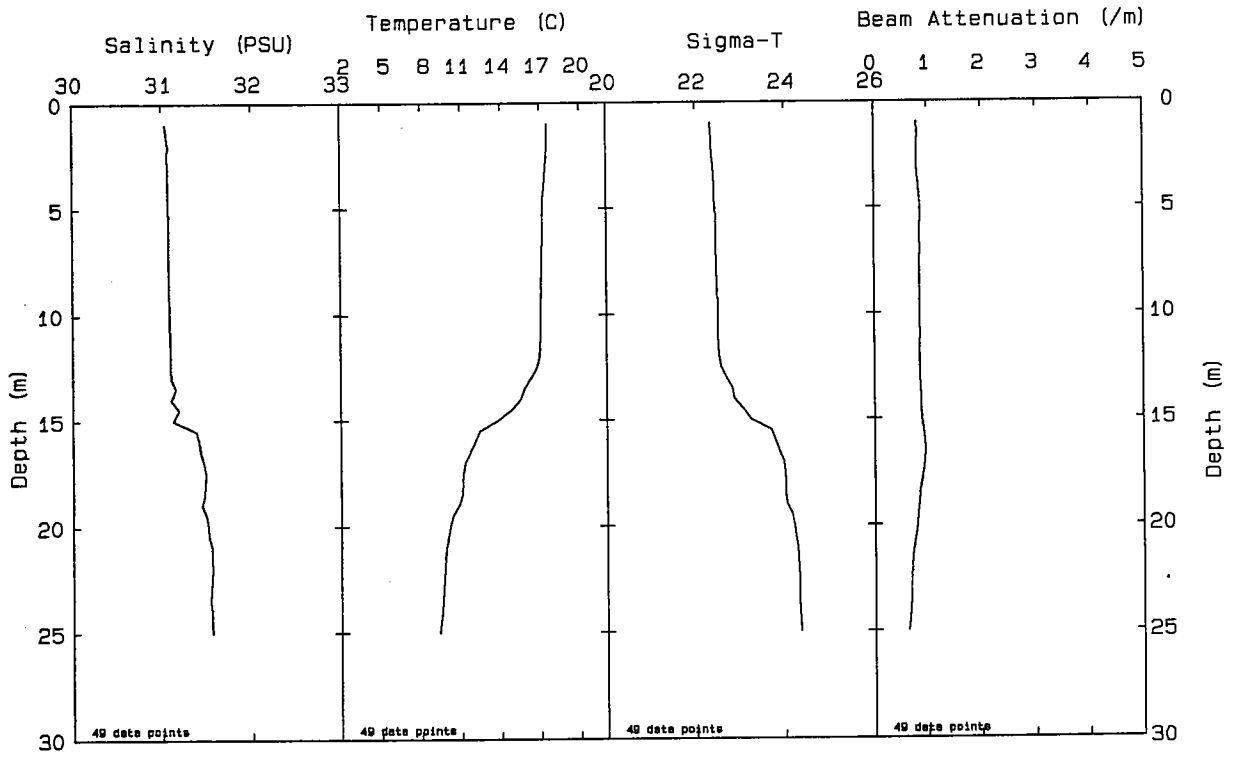


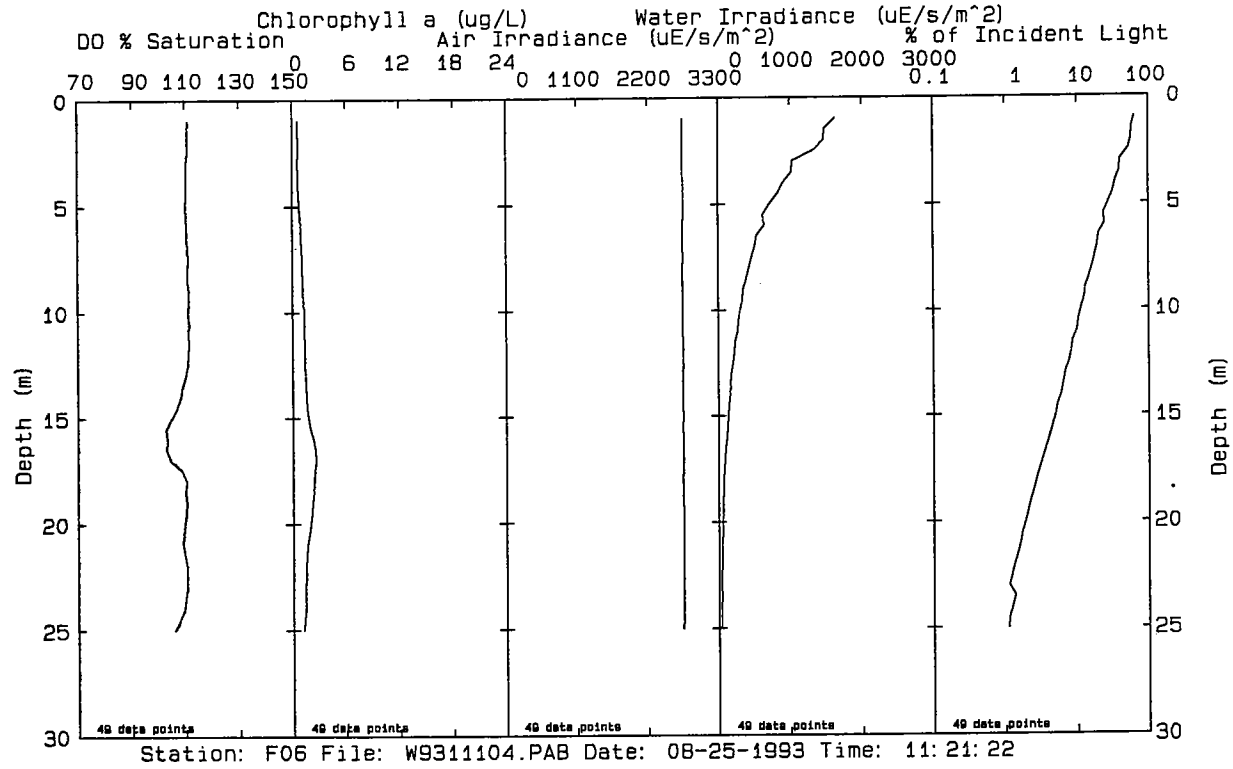
Station: F04 File: W9311119.PAB Date: 08-25-1993 Time: 15:21:29



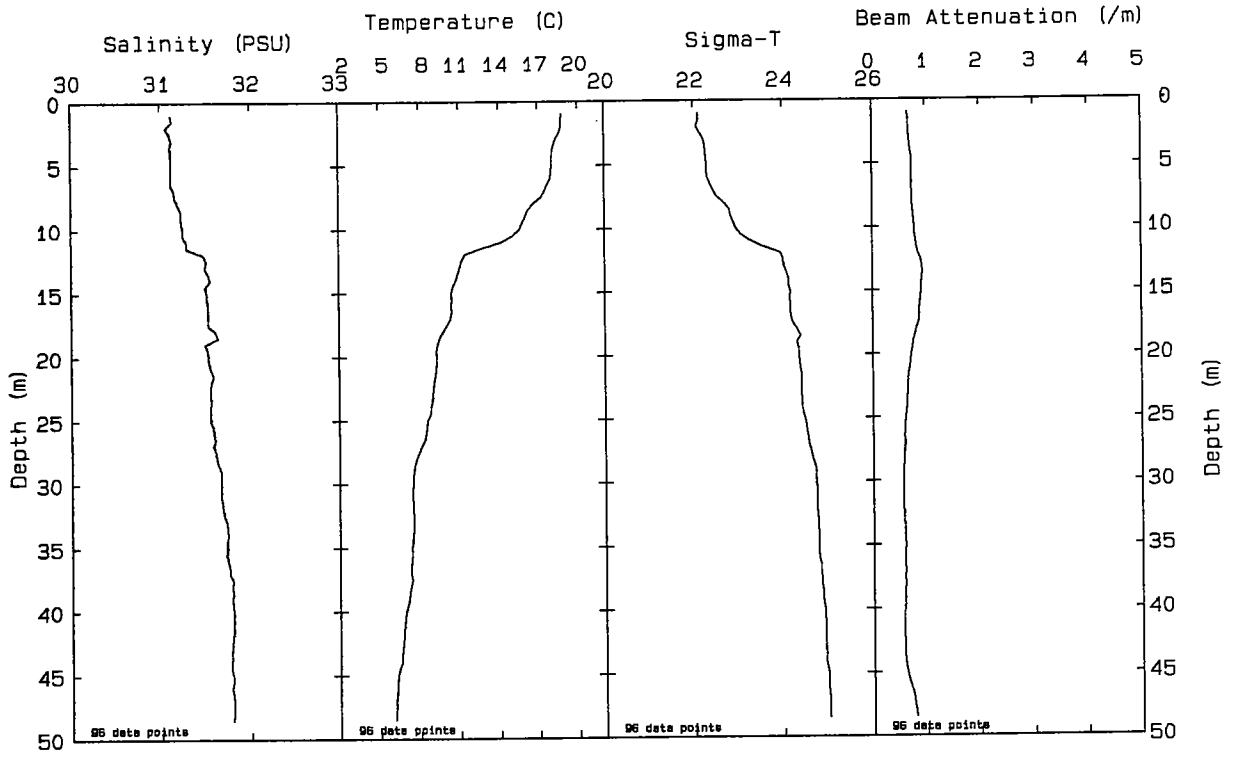


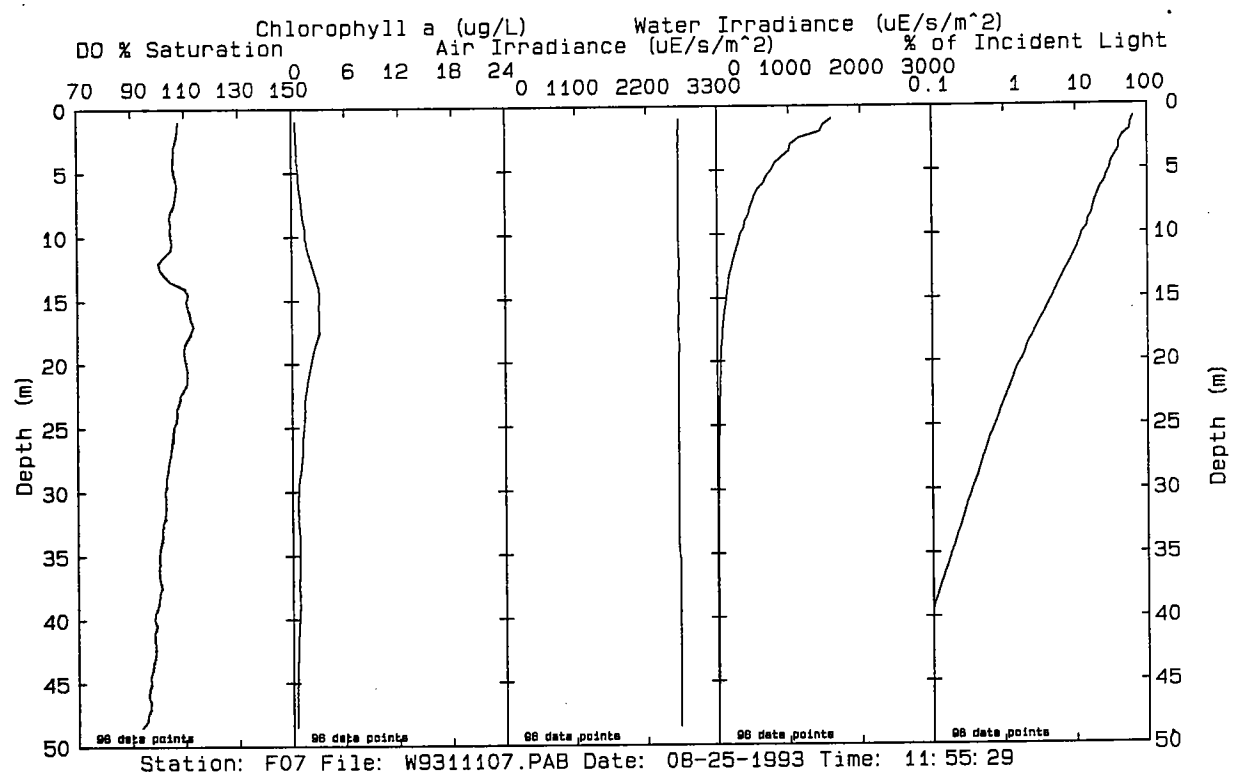
Station: F05 File: W9311099.PAB Date: 08-25-1993 Time: 10:20:22





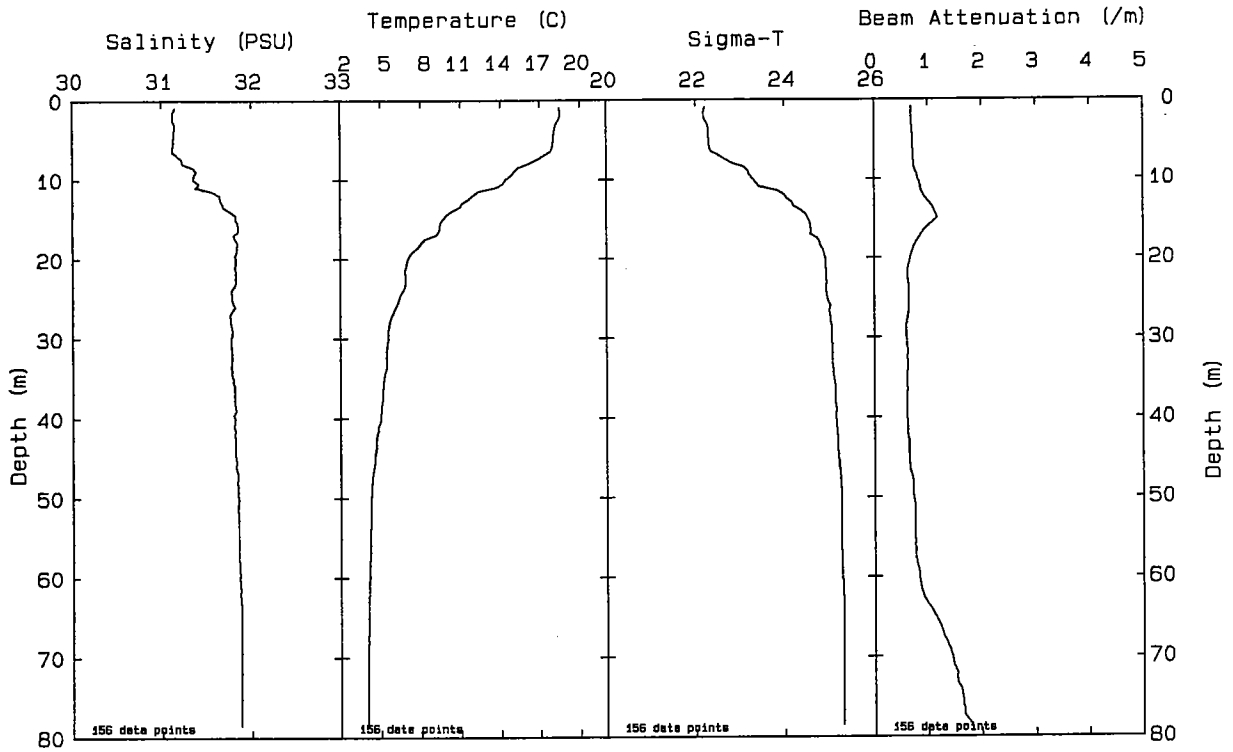
Station: F06 File: W9311104.PAB Date: 08-25-1993 Time: 11:21:22

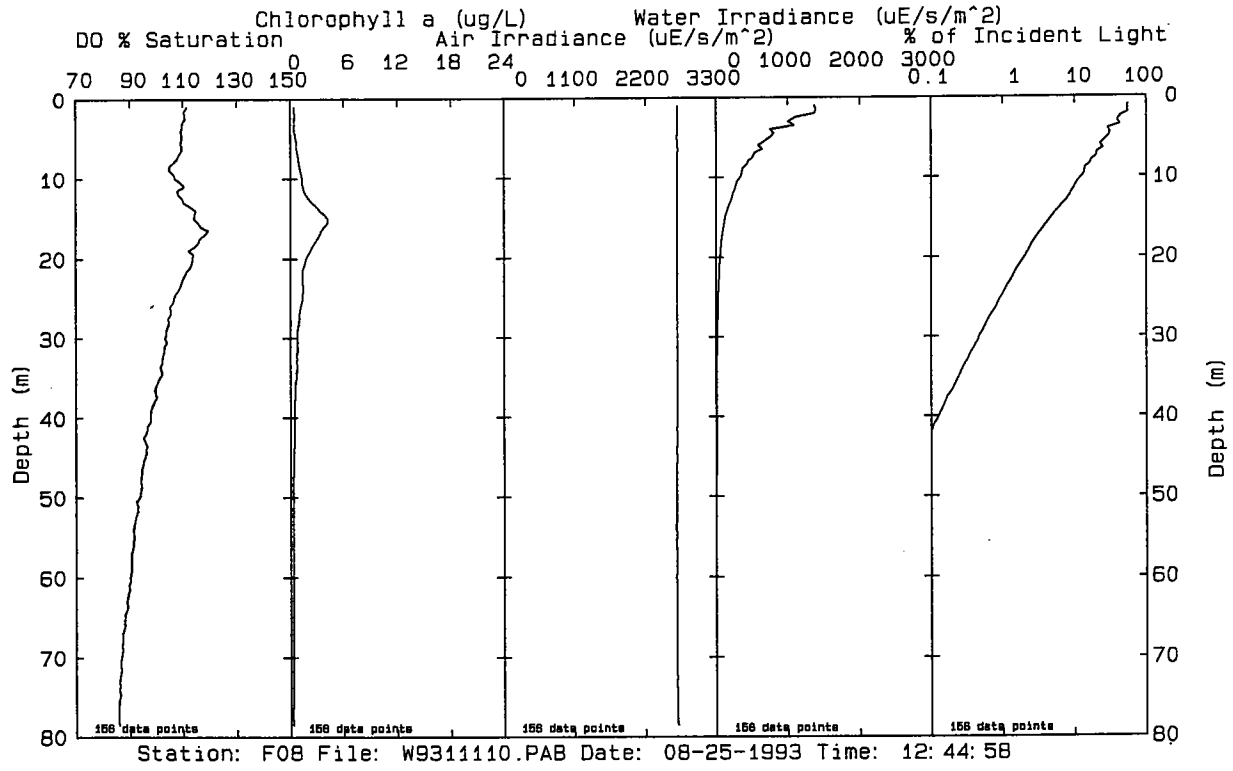




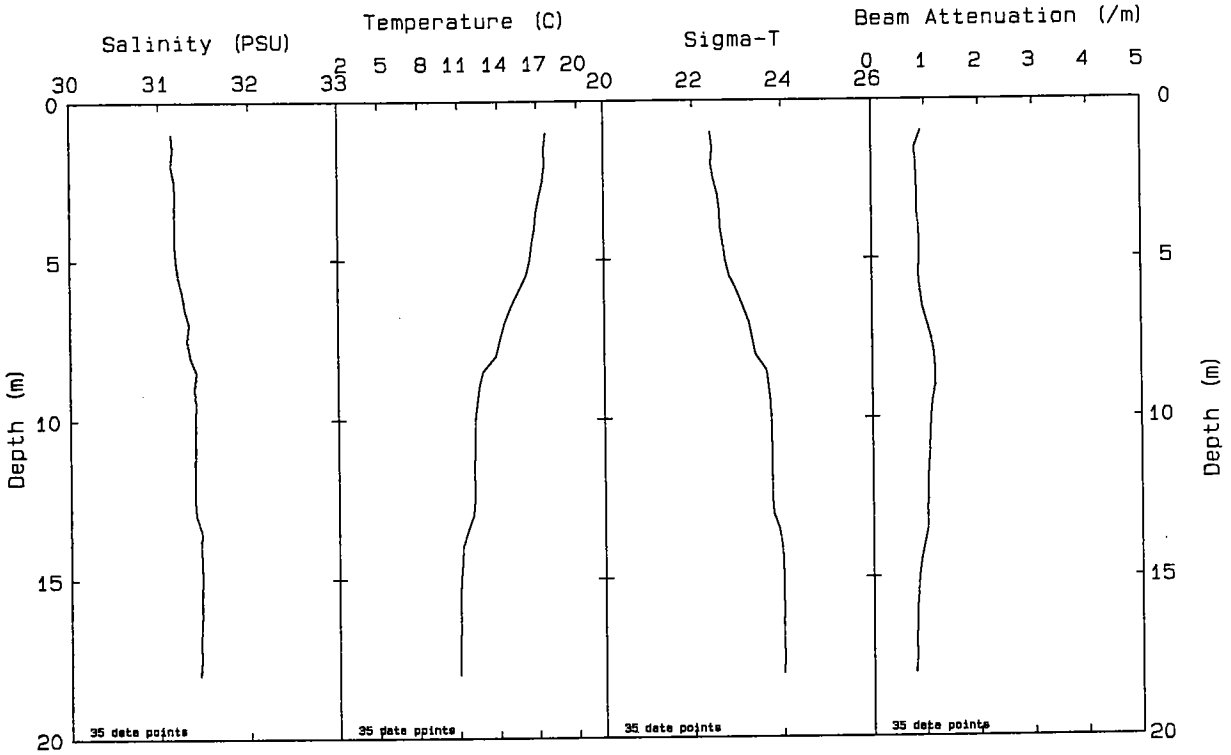
Station: F07 File: W9311107.PAB Date: 08-25-1993 Time: 11:55:29

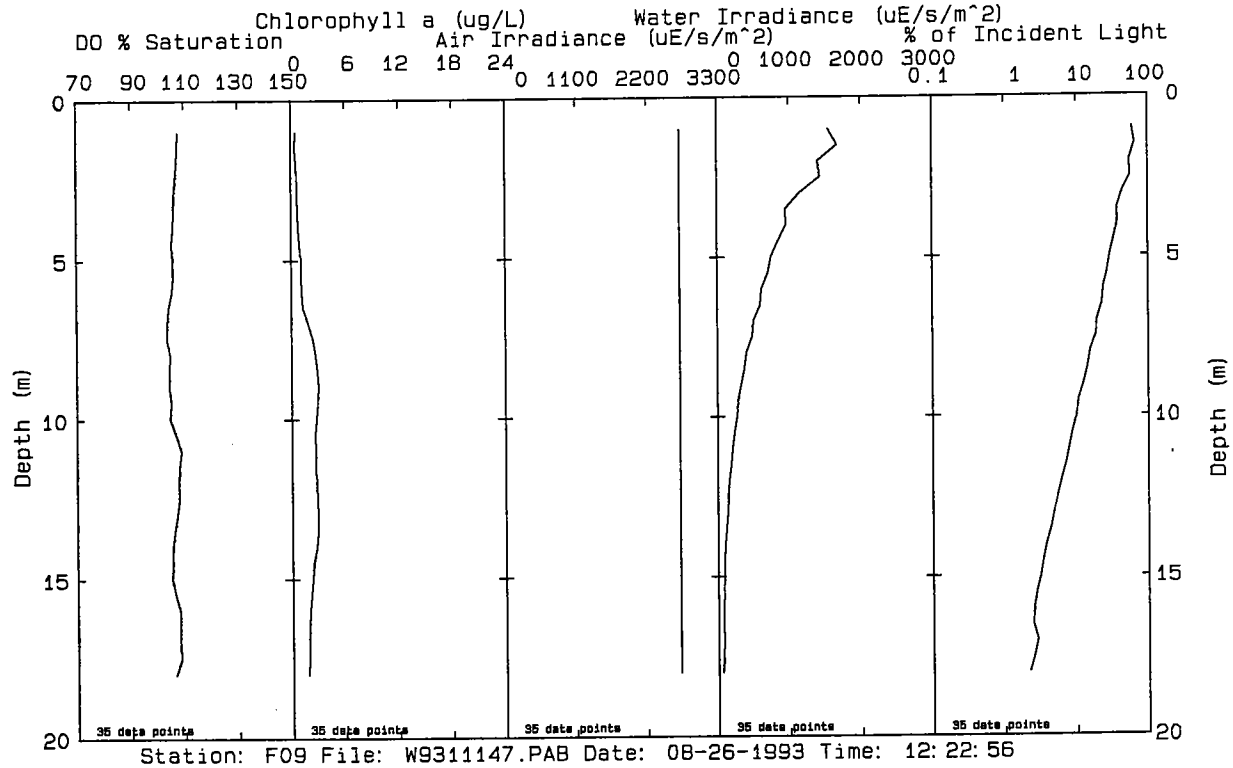
00057





Station: F08 File: W9311110.PAB Date: 08-25-1993 Time: 12:44:58





Station: F09 File: W9311147.PAB Date: 08-26-1993 Time: 12:22:56

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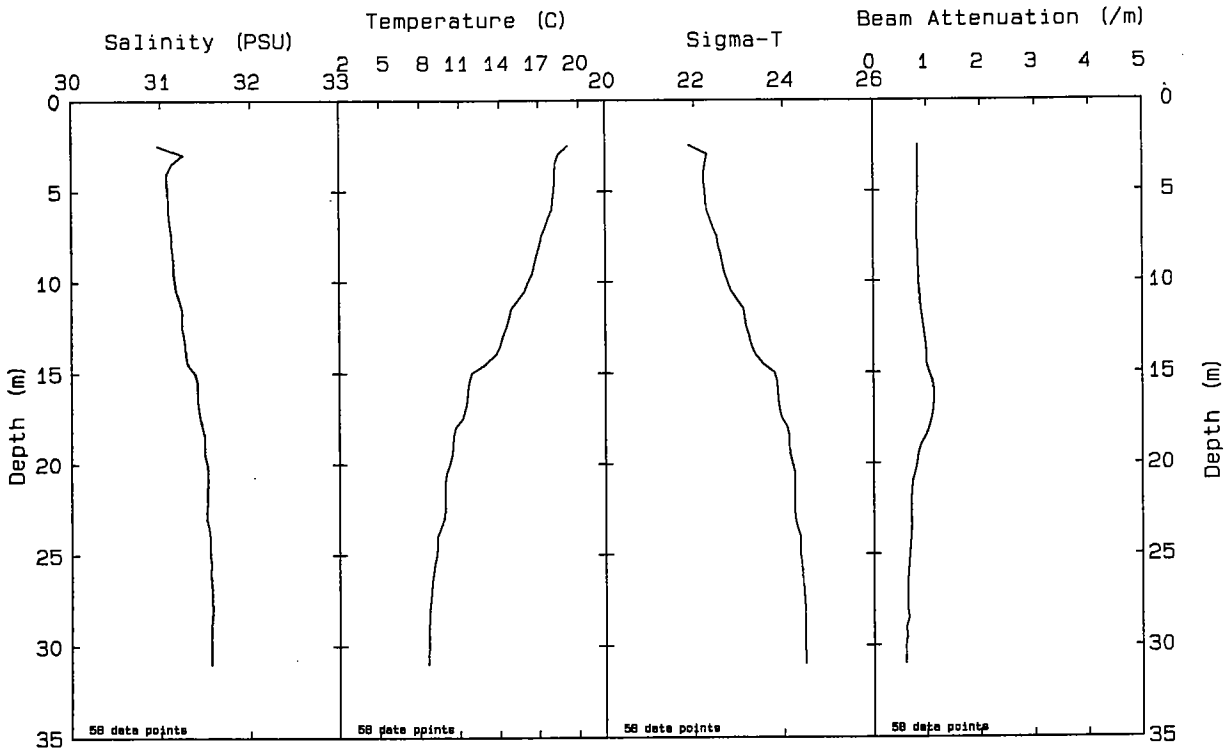
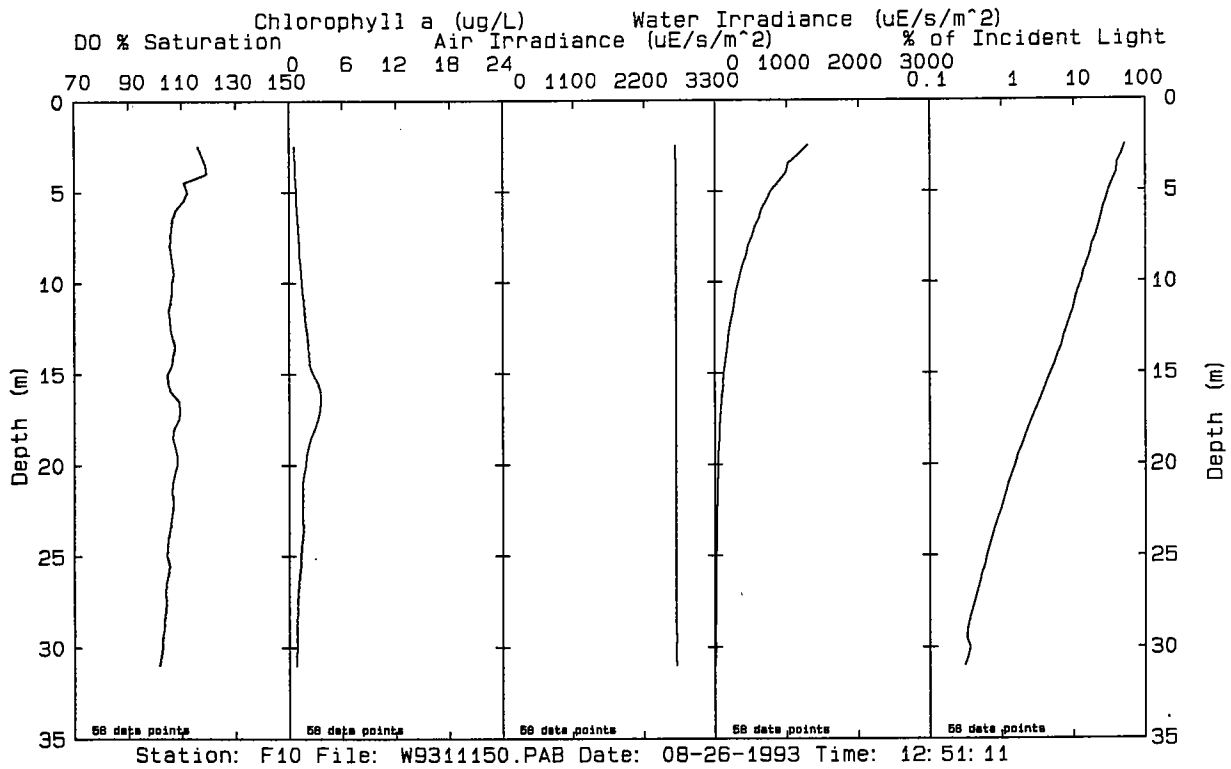
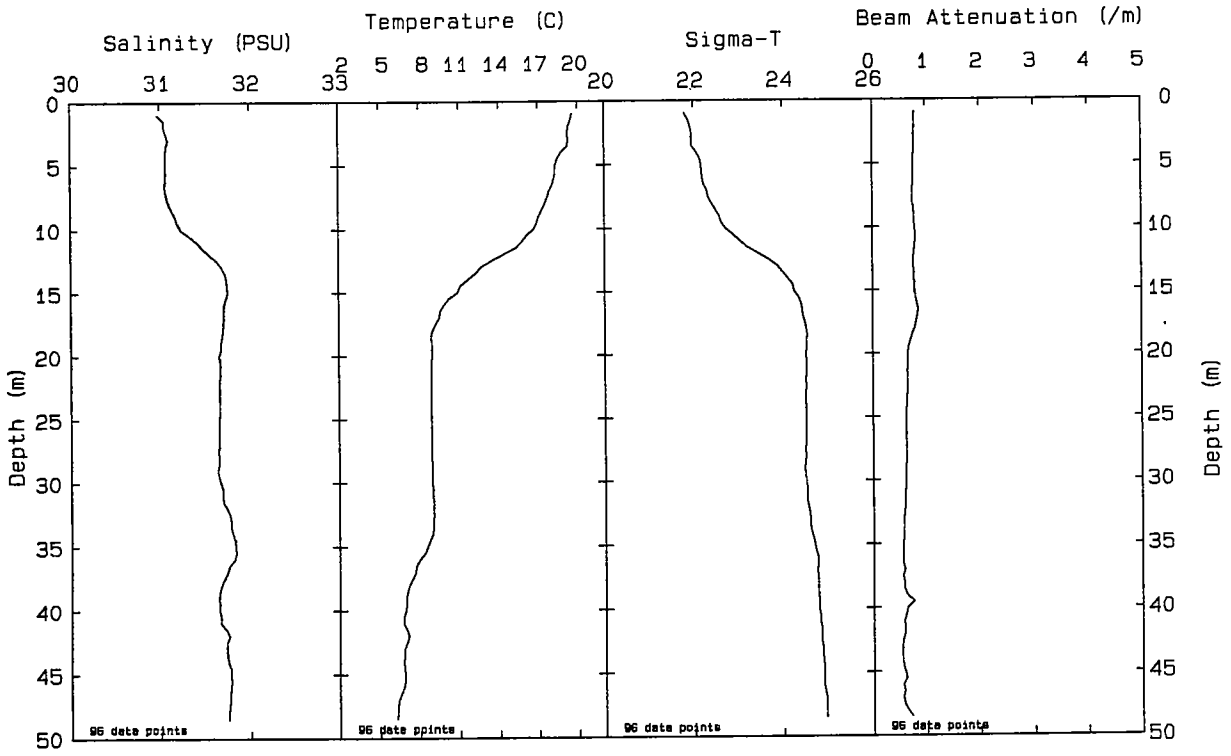
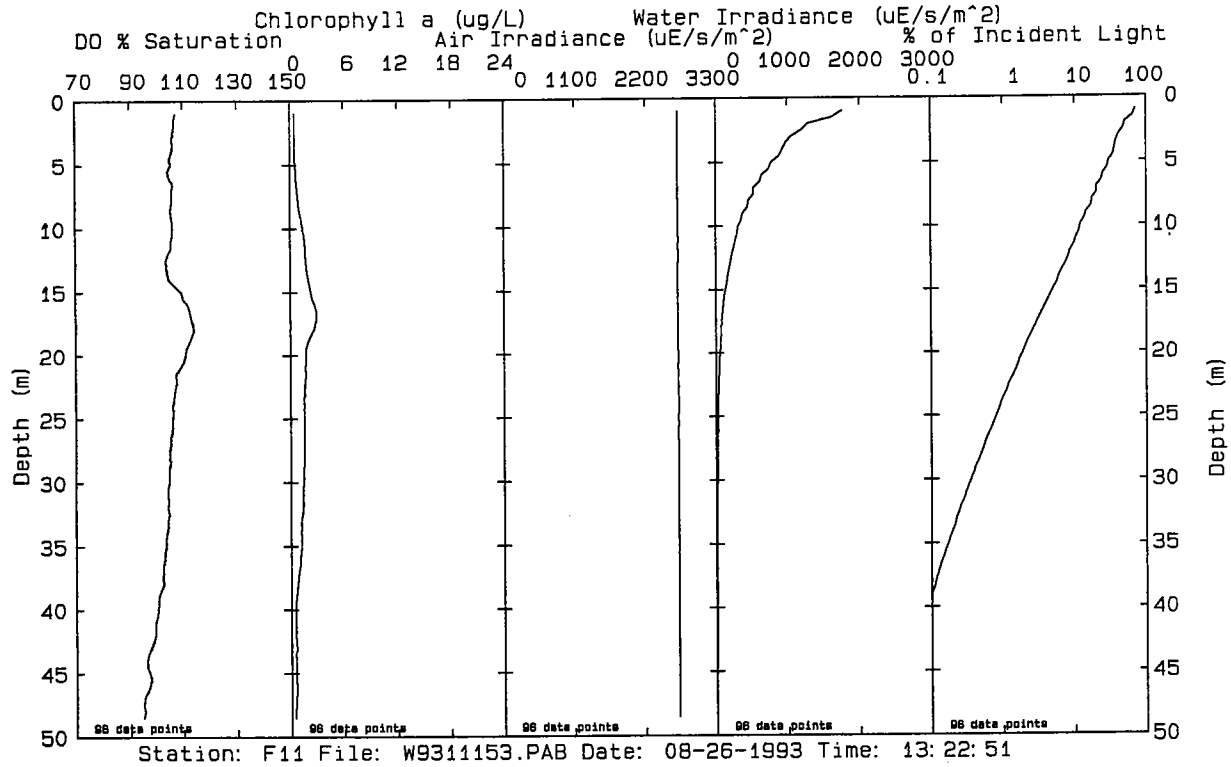


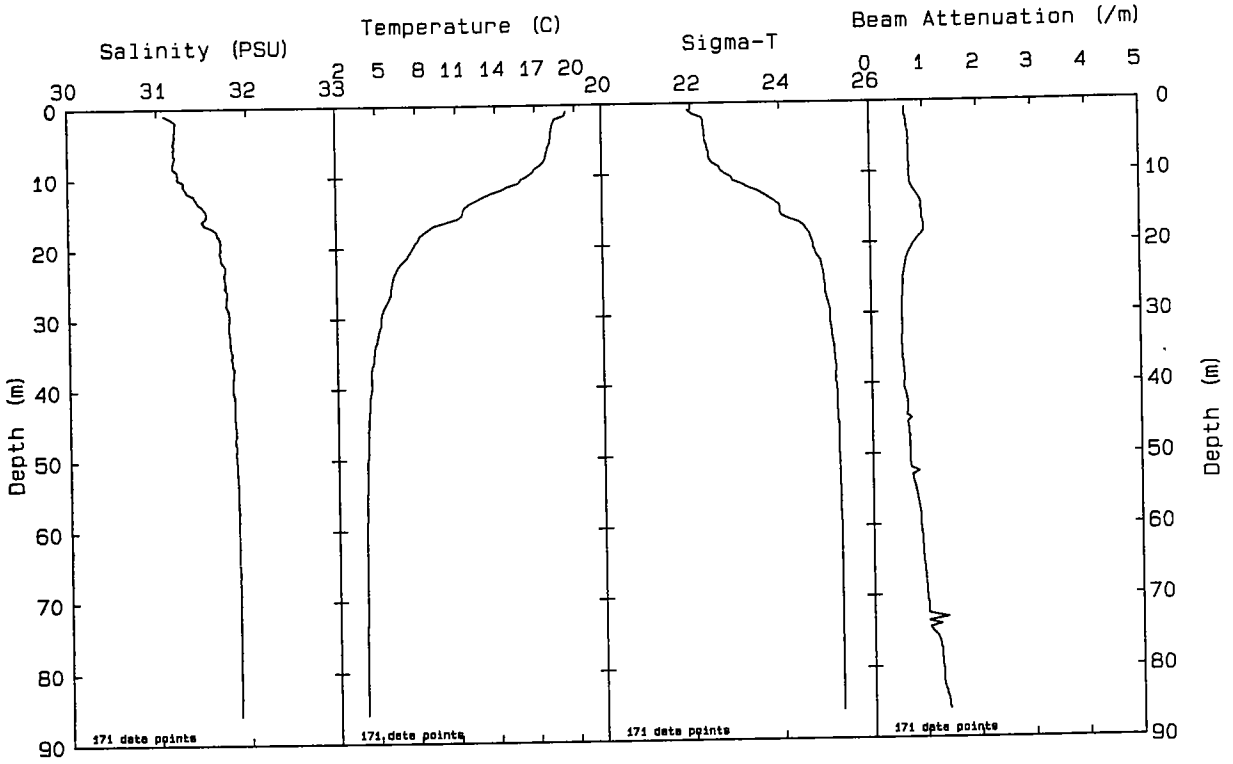


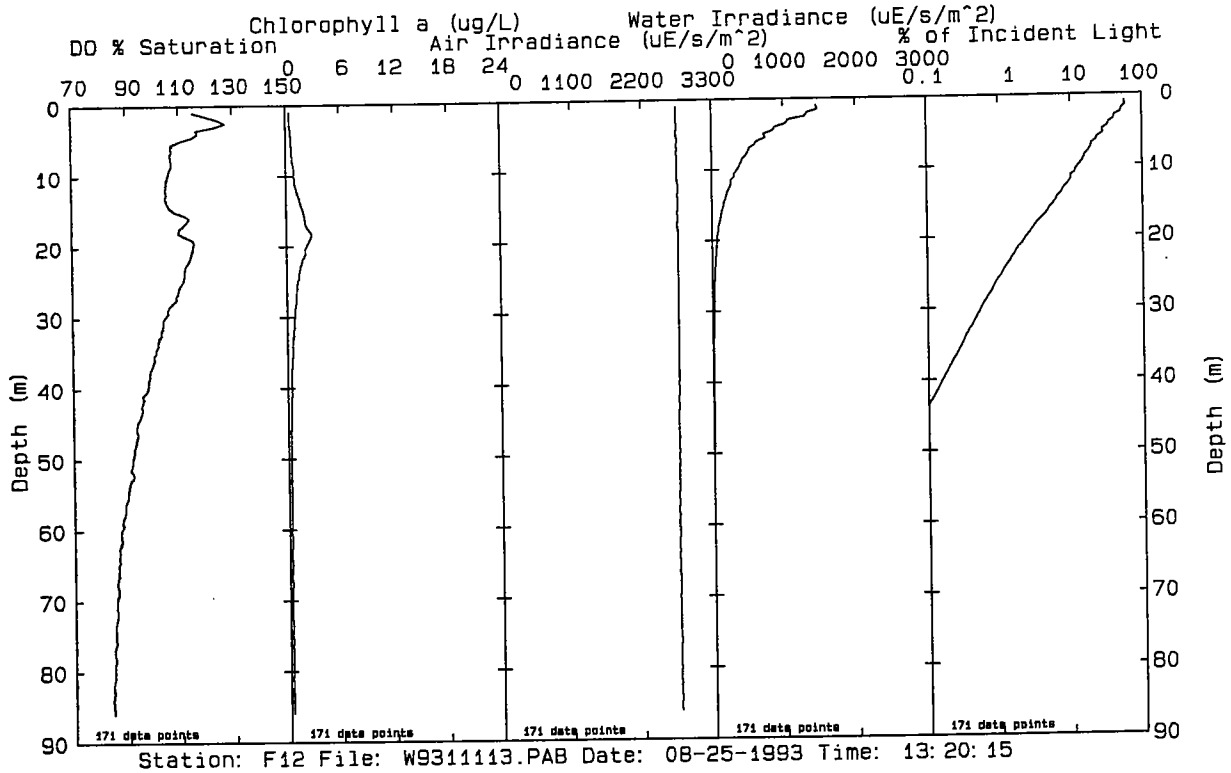
Station: F10 File: W9311150.PAB Date: 08-26-1993 Time: 12:51:11





Station: F11 File: W9311153.PAB Date: 08-26-1993 Time: 13:22:51

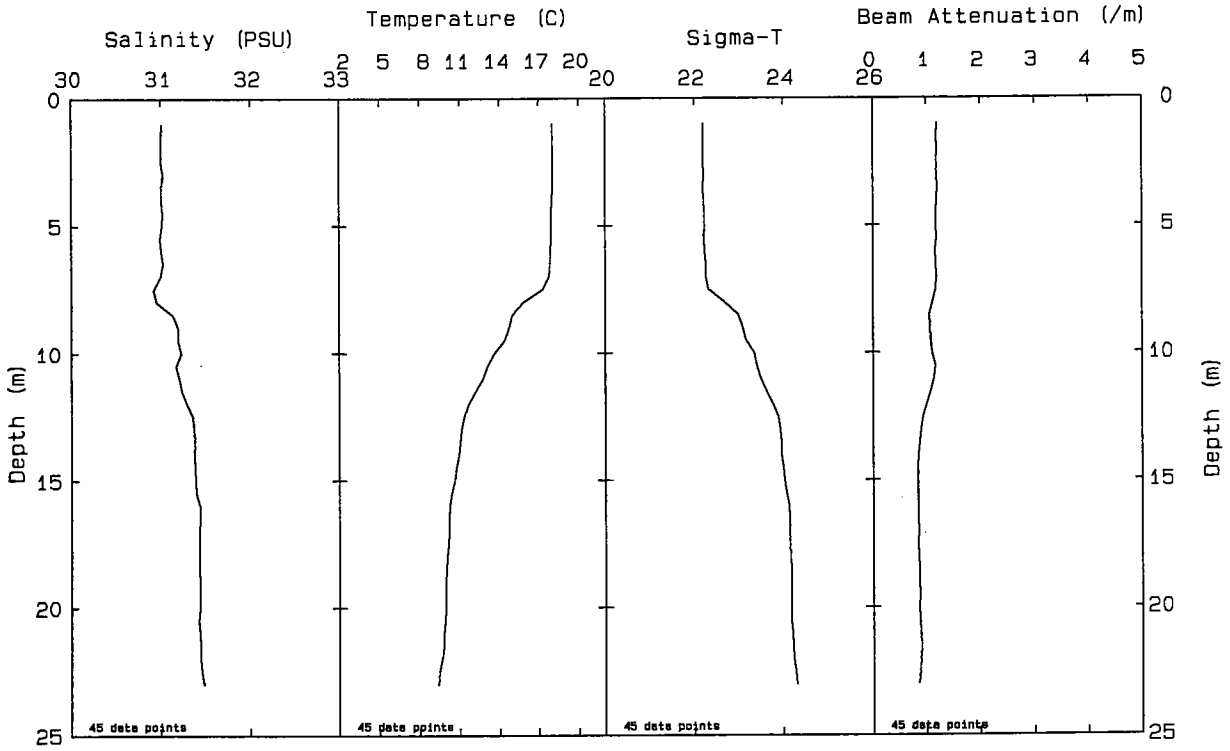


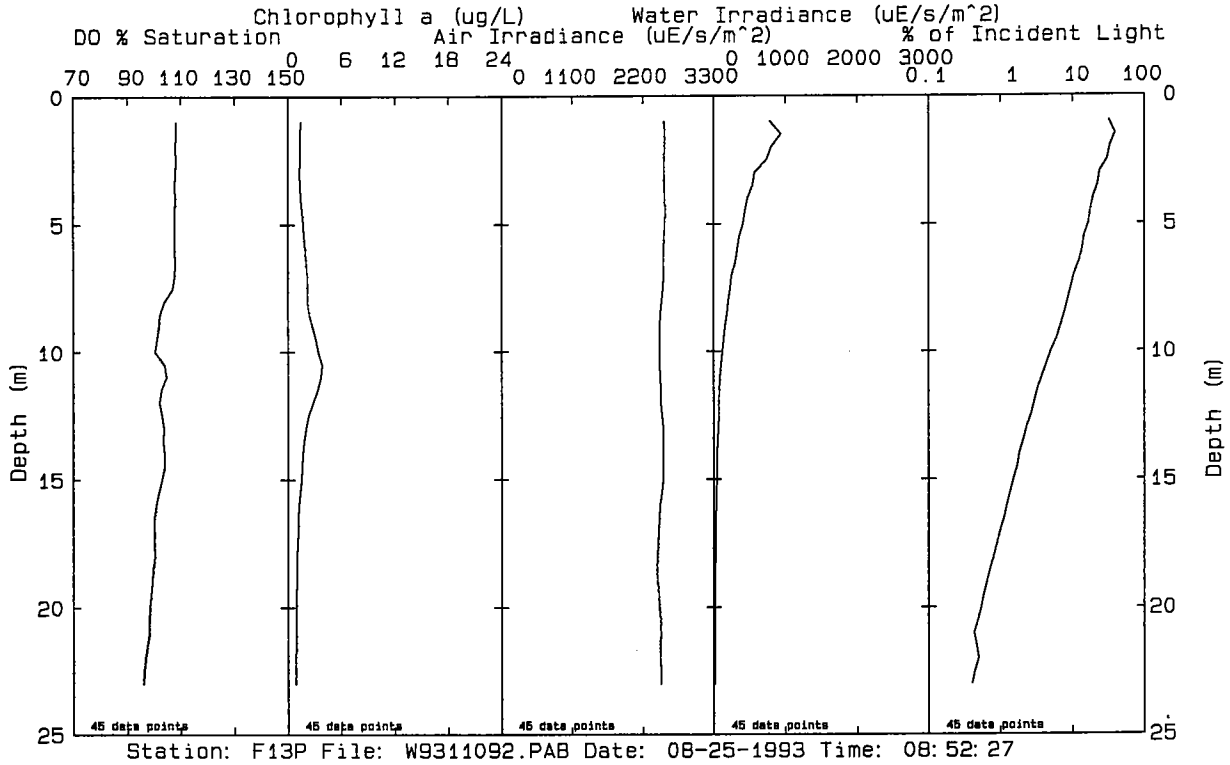


Station: F12 File: W9311113.PAB Date: 08-25-1993 Time: 13:20:15

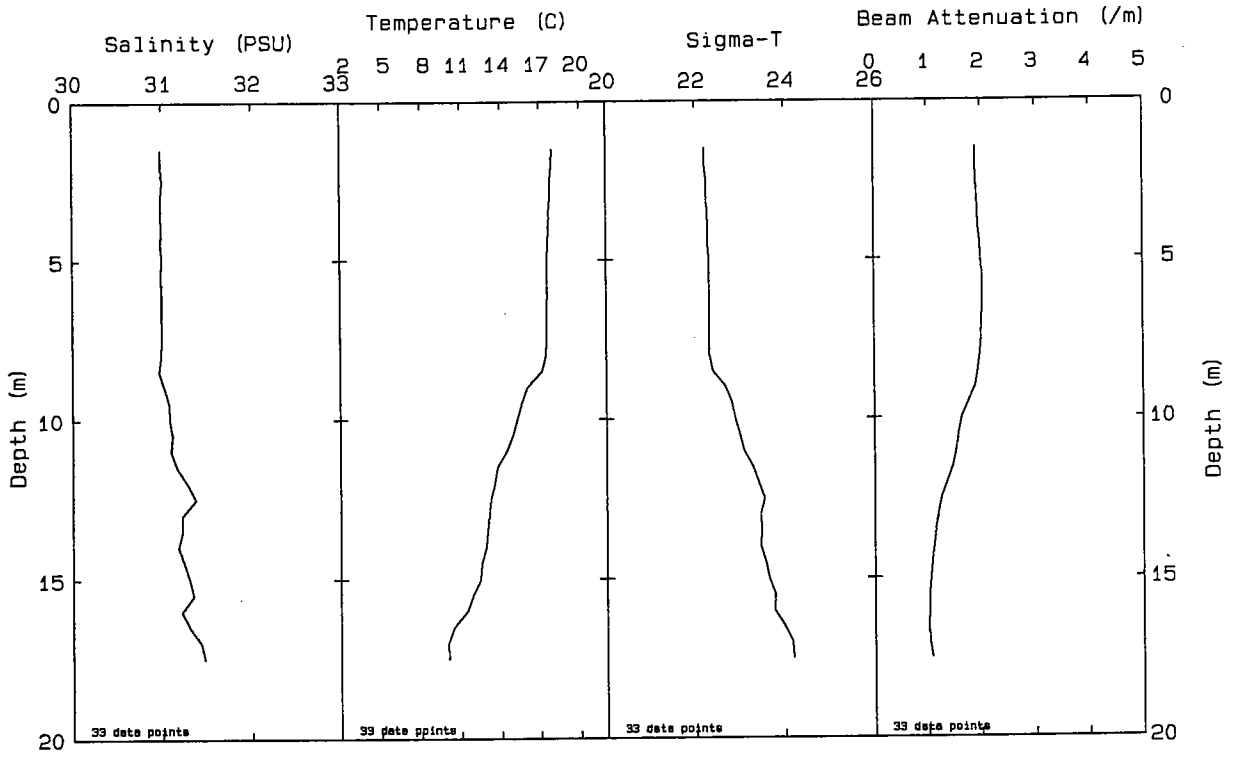
00062

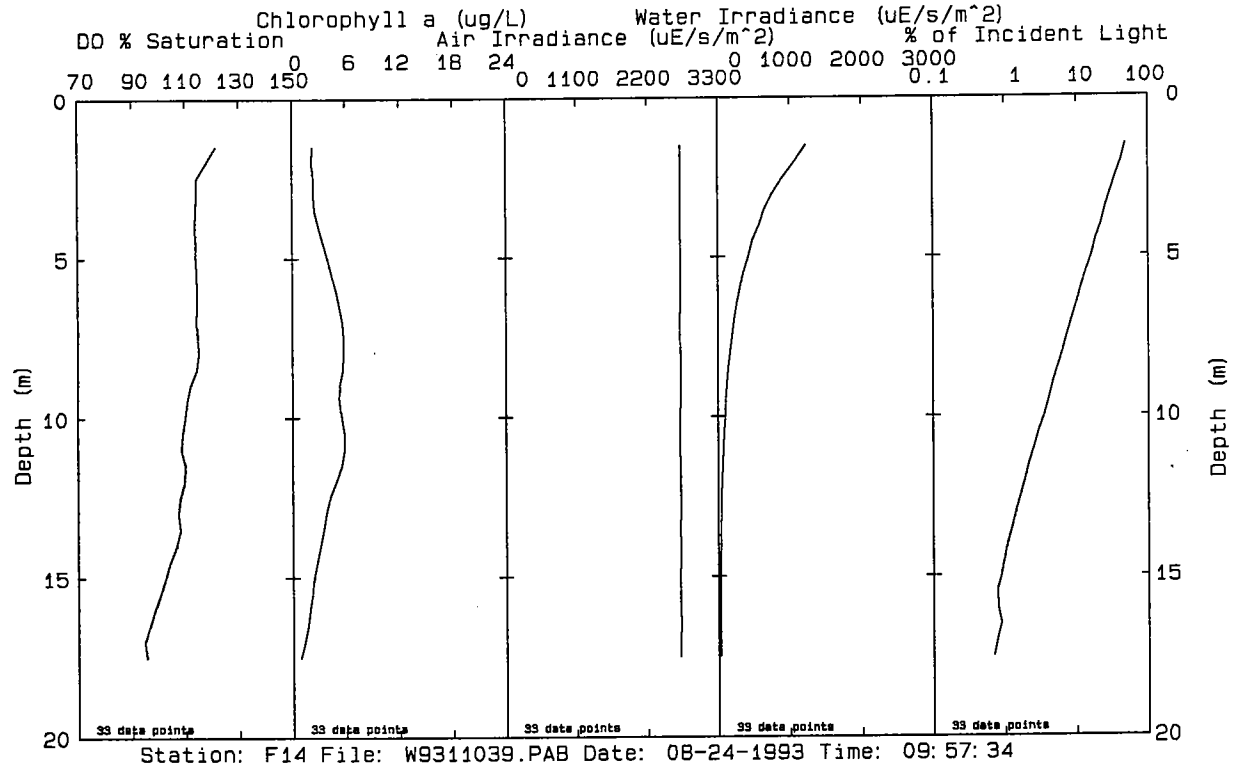
05-13-1994 14:05:21 Battelle



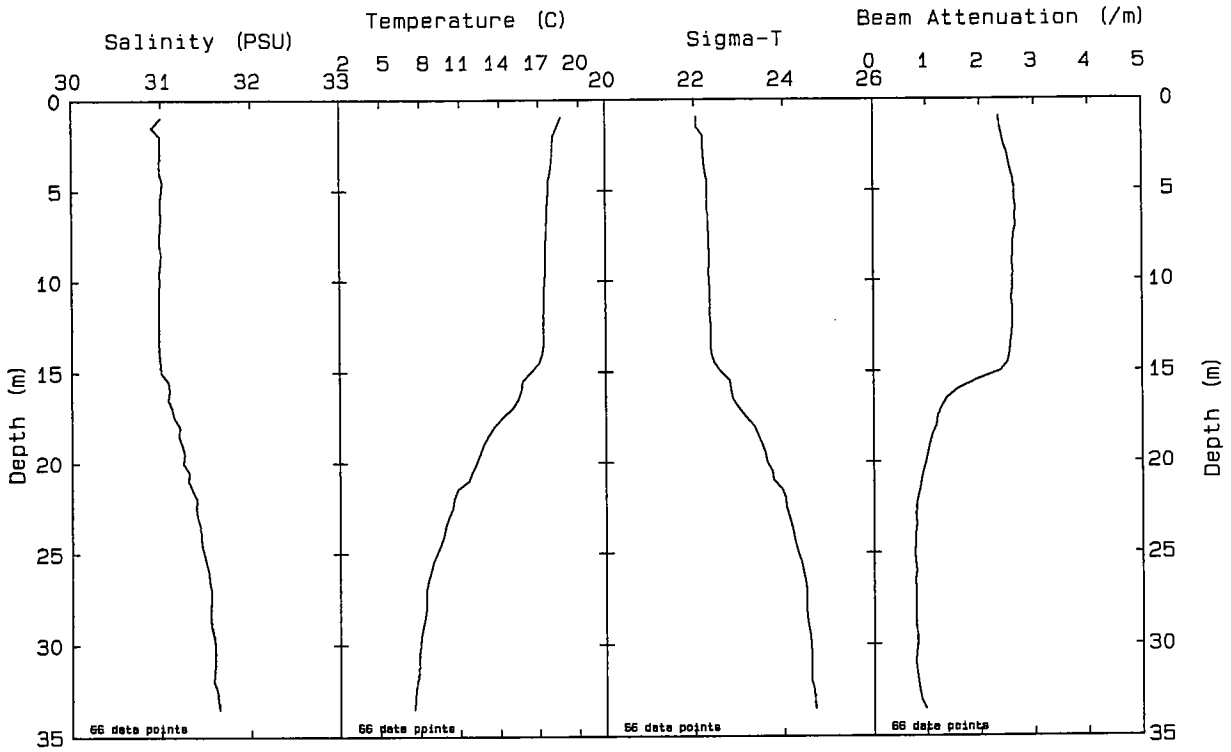


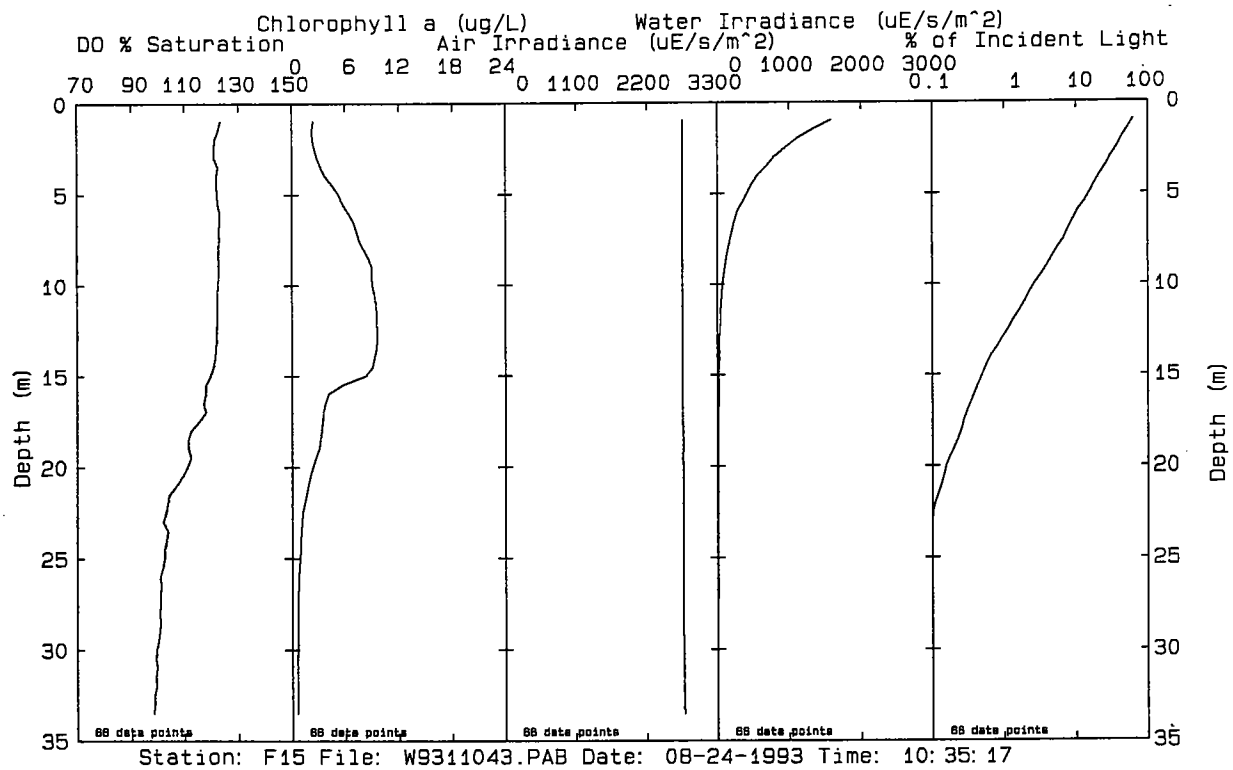
Station: F13P File: W9311092.PAB Date: 08-25-1993 Time: 08:52:27



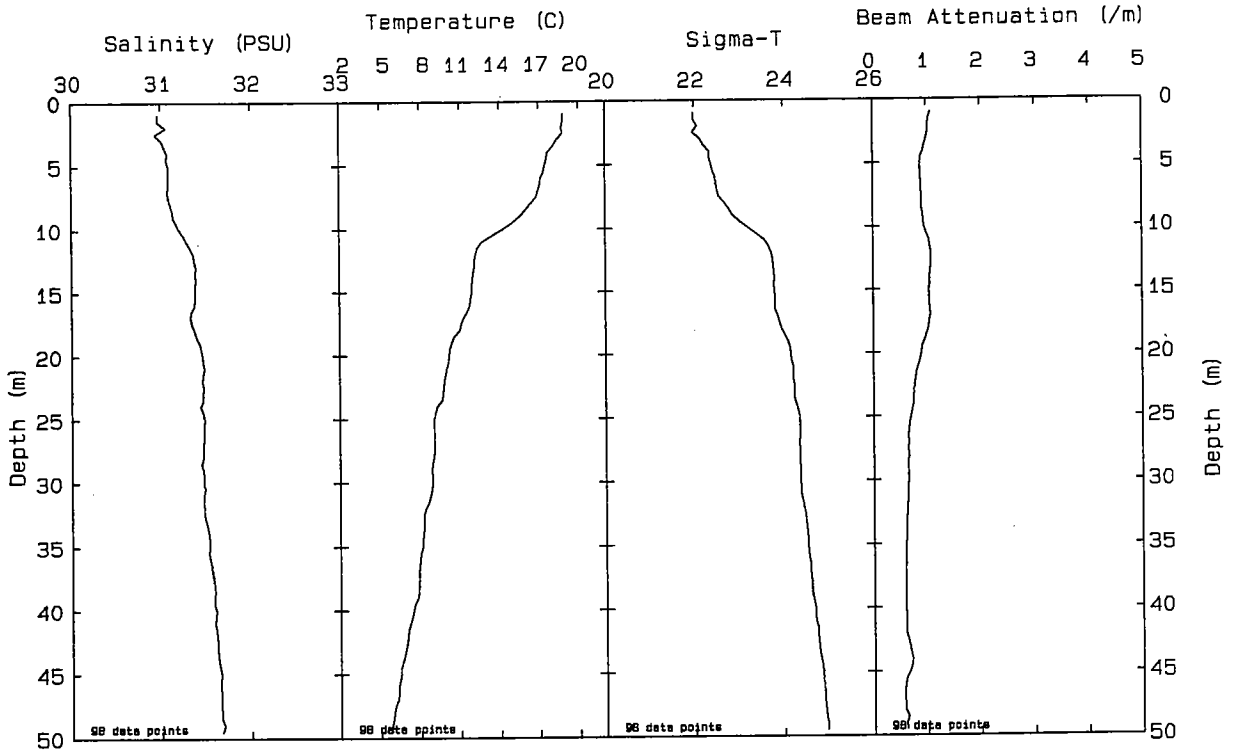


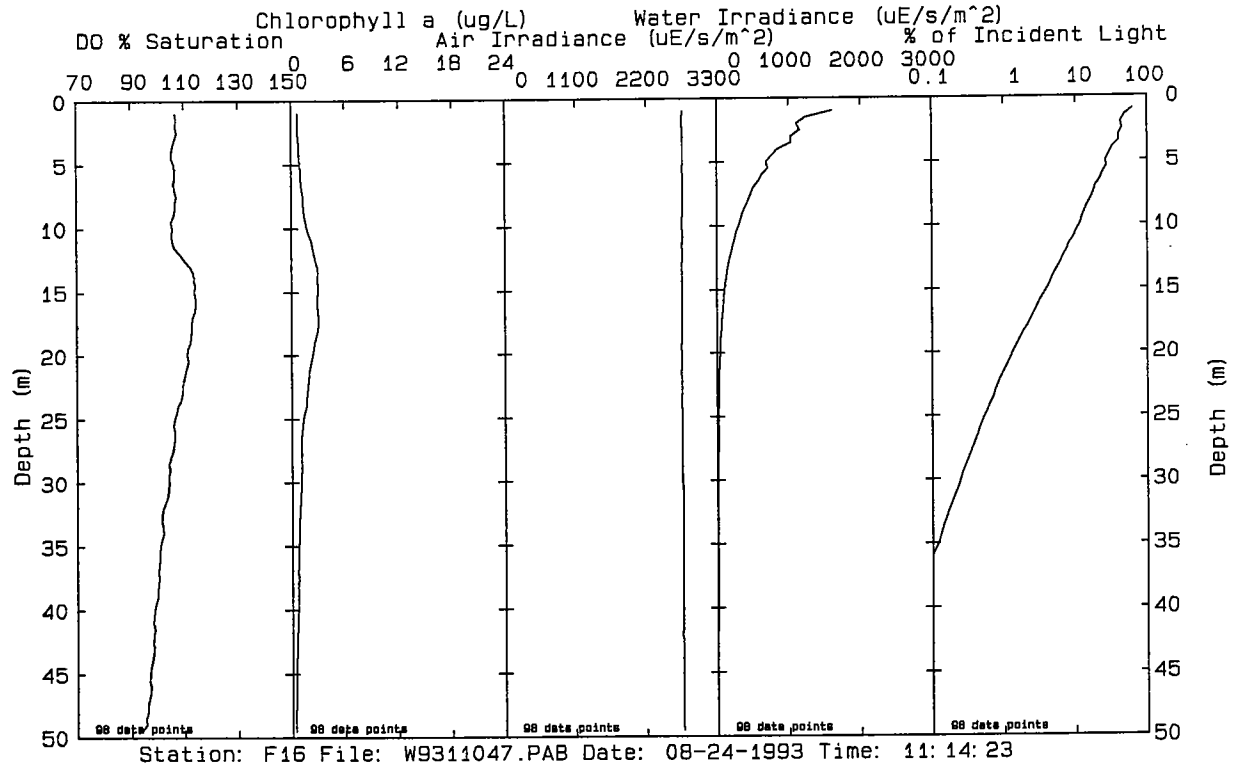
Station: F14 File: W9311039.PAB Date: 08-24-1993 Time: 09:57:34



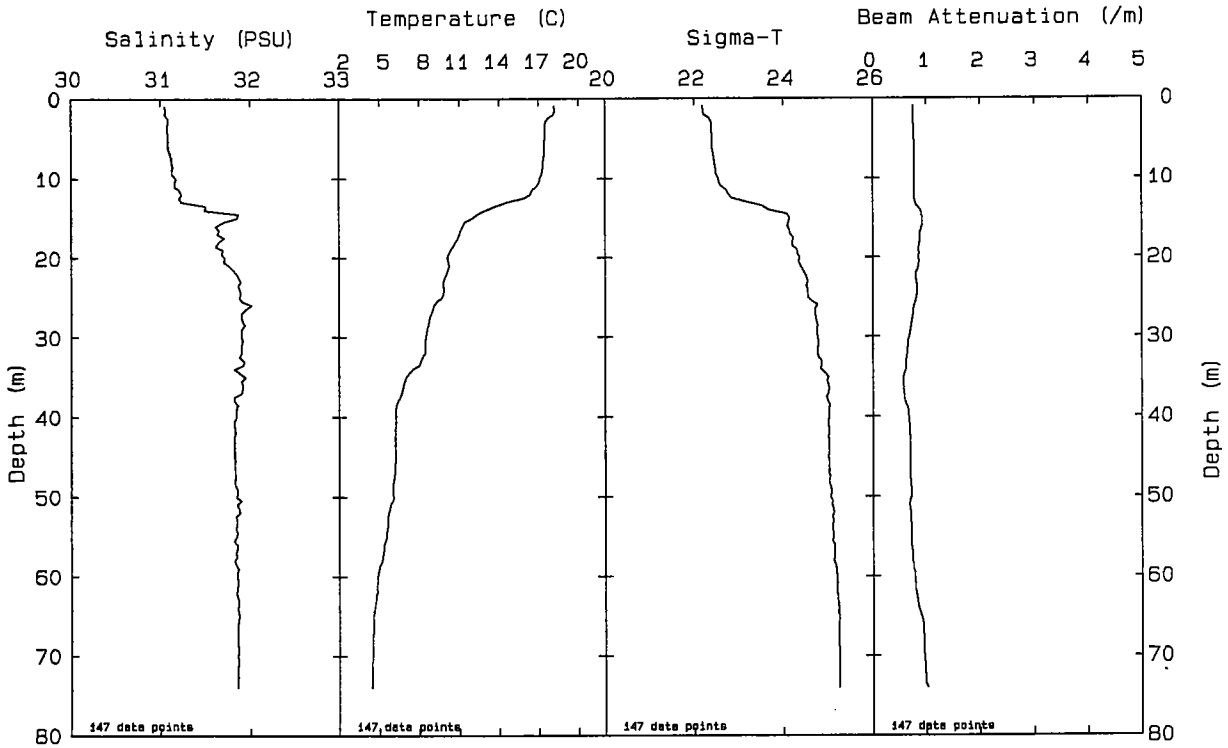


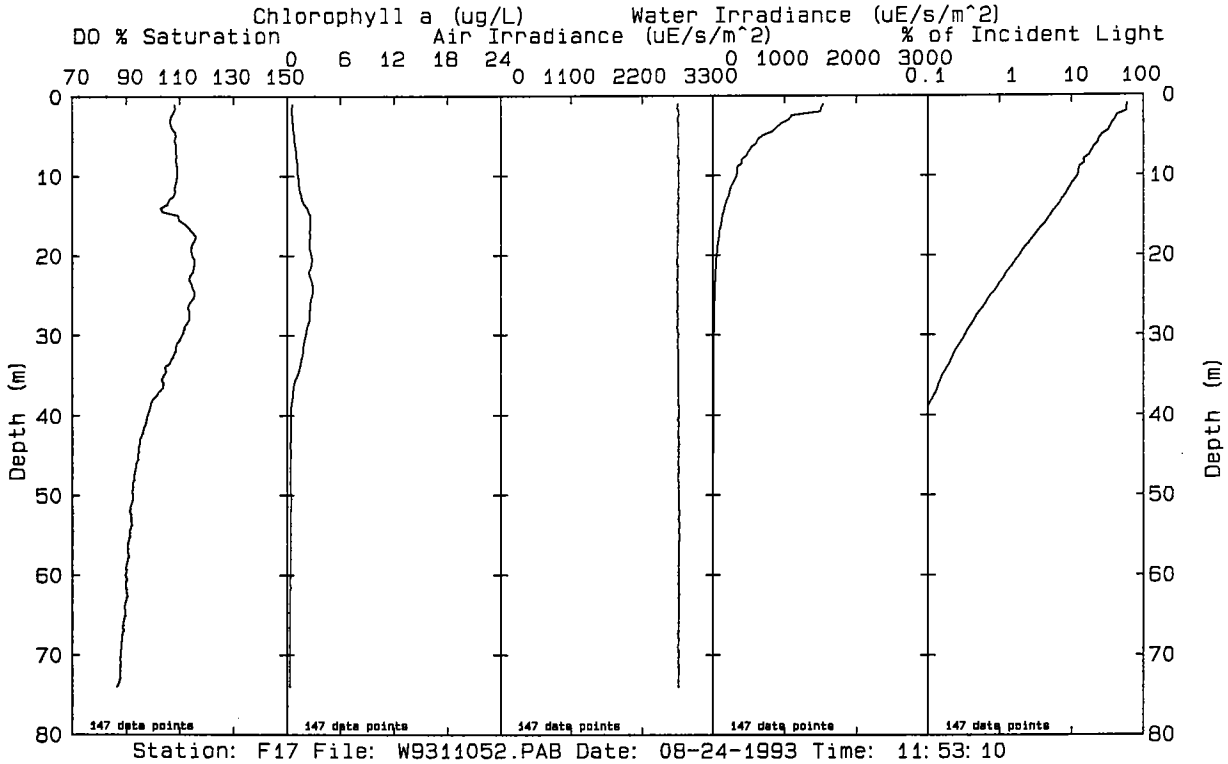
Station: F15 File: W9311043.PAB Date: 08-24-1993 Time: 10:35:17



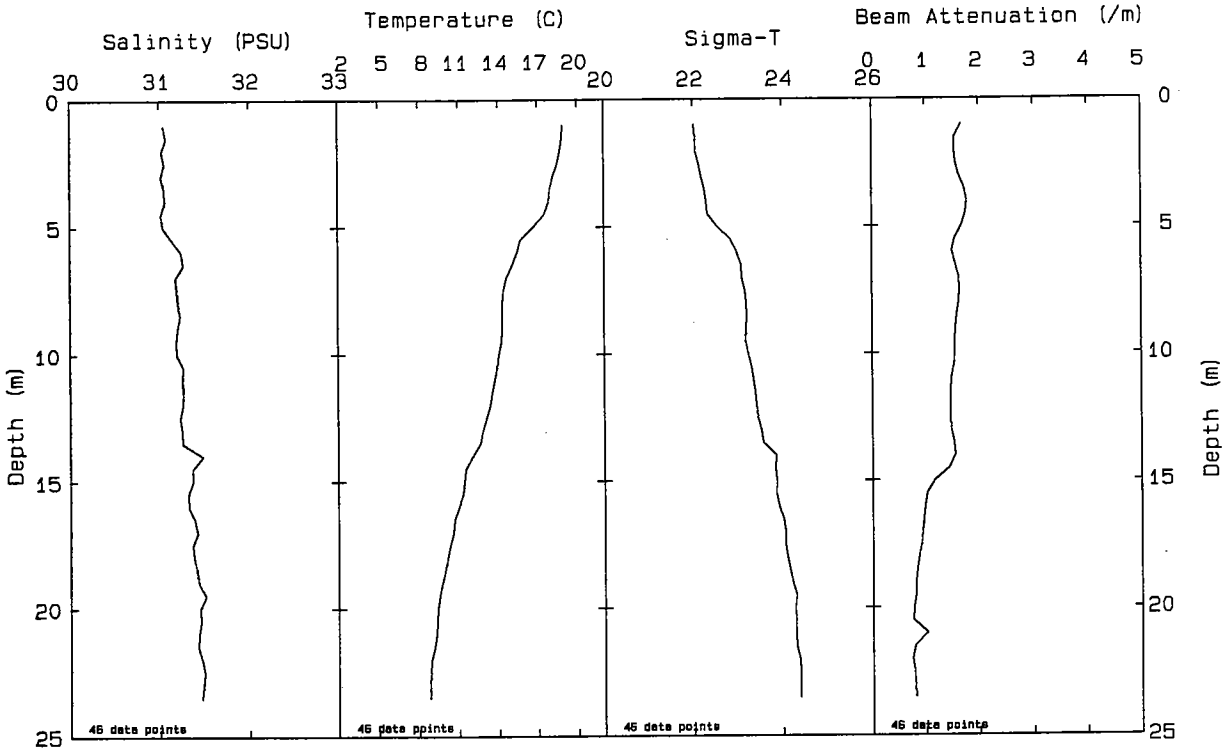


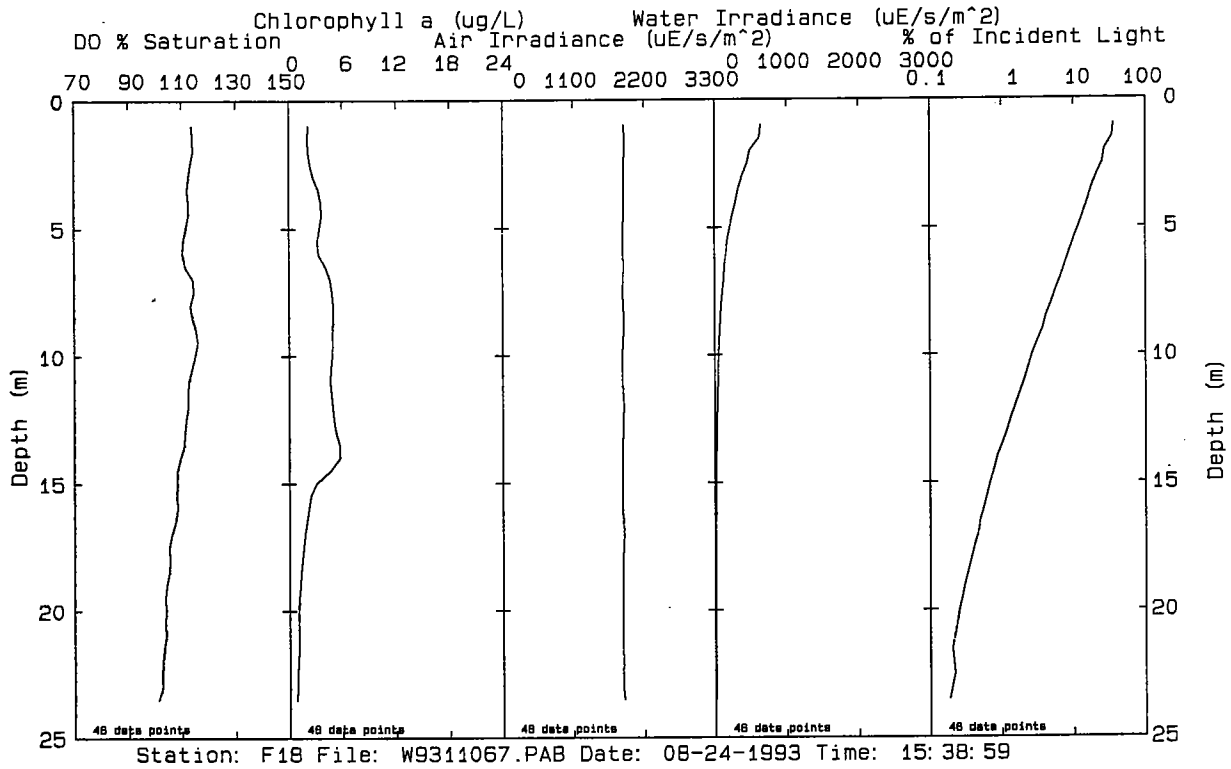
Station: F16 File: W9311047.PAB Date: 08-24-1993 Time: 11:14:23



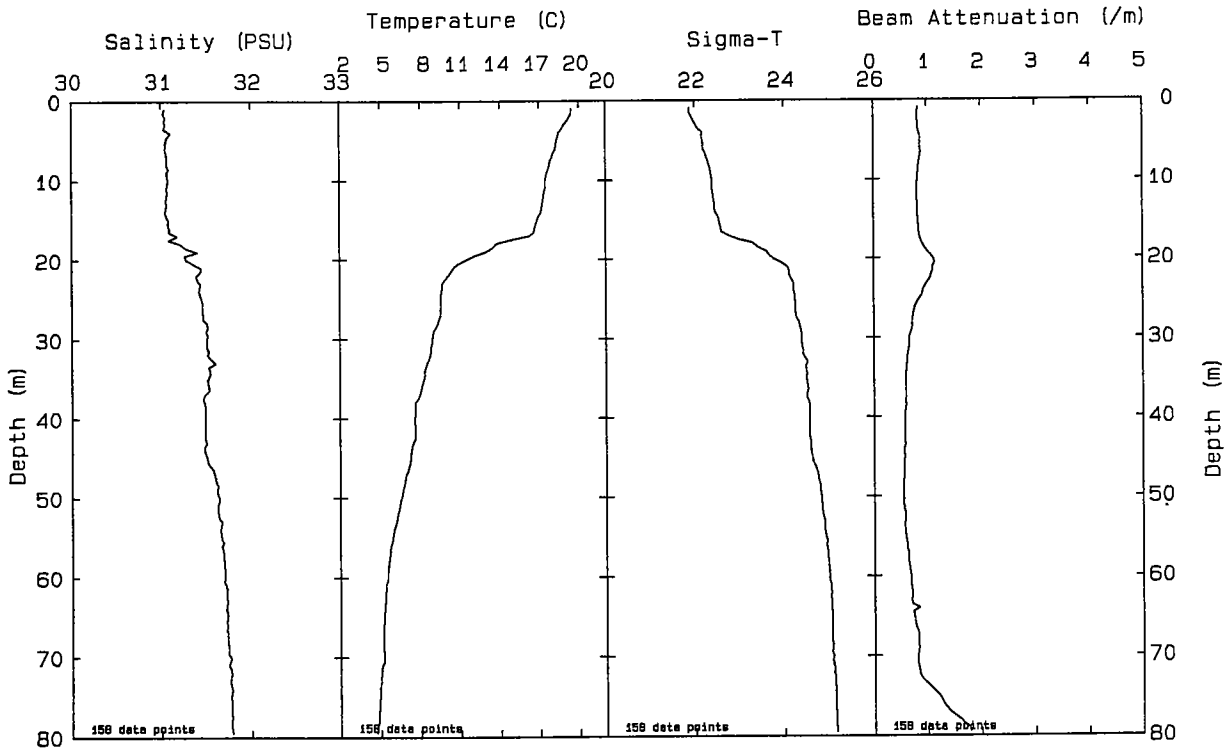


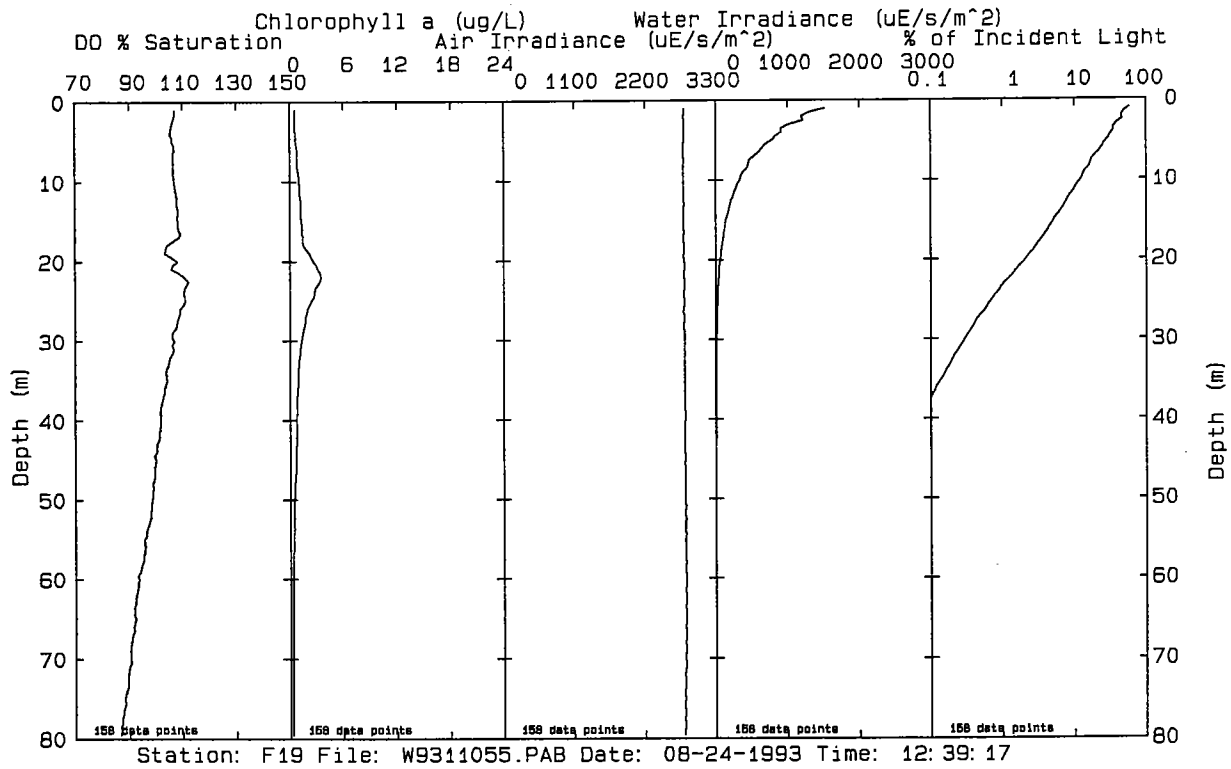
Station: F17 File: W9311052.PAB Date: 08-24-1993 Time: 11:53:10



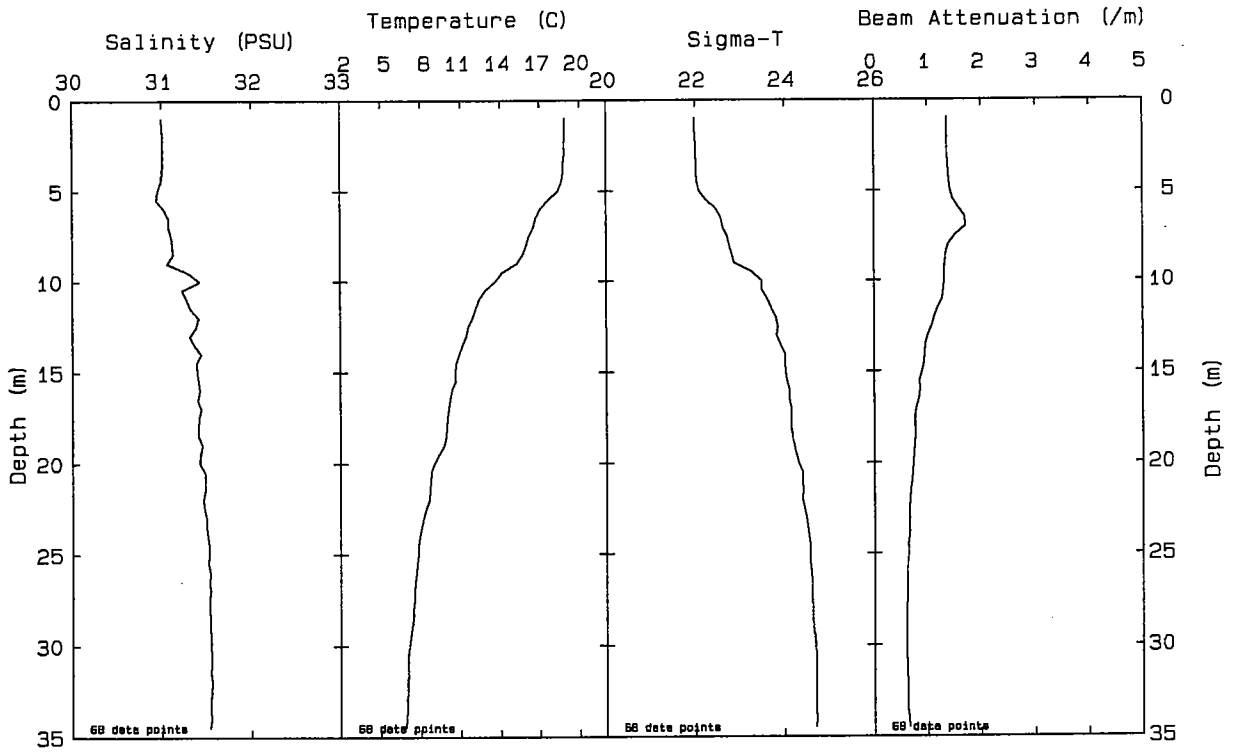


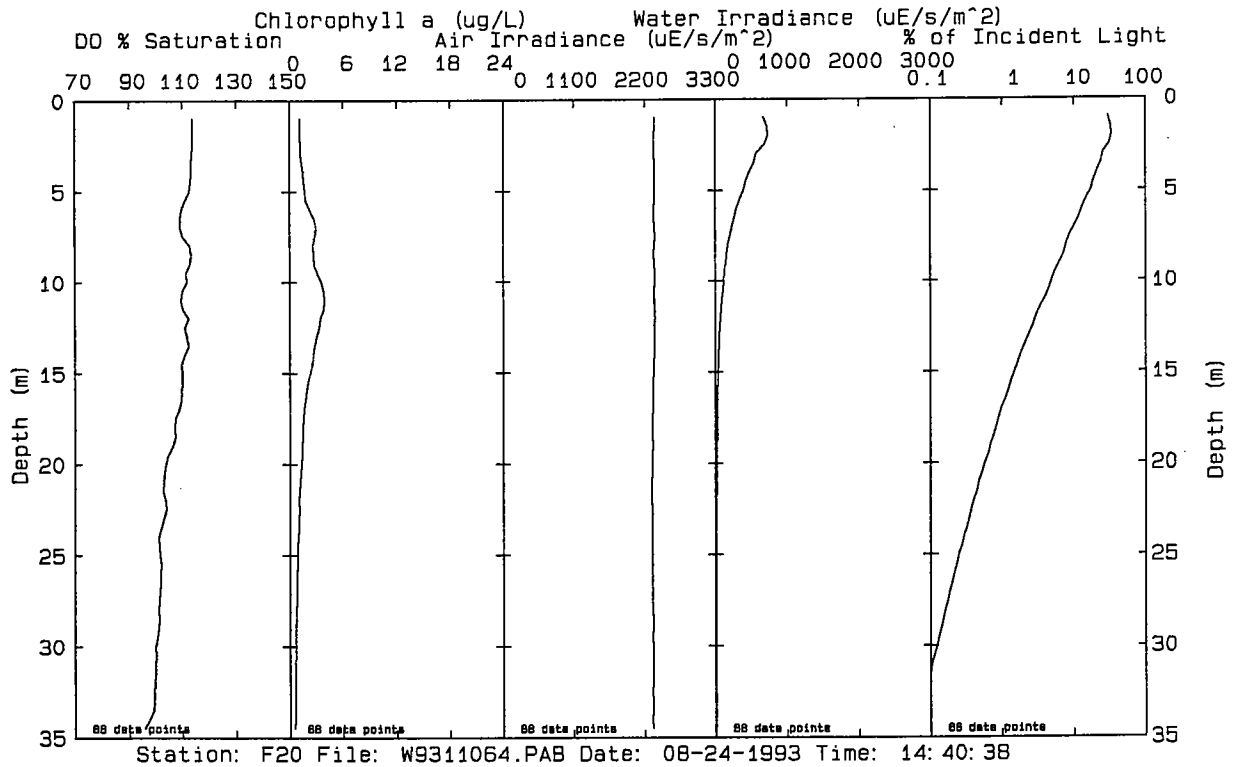
Station: F18 File: W9311067.PAB Date: 08-24-1993 Time: 15:38:59



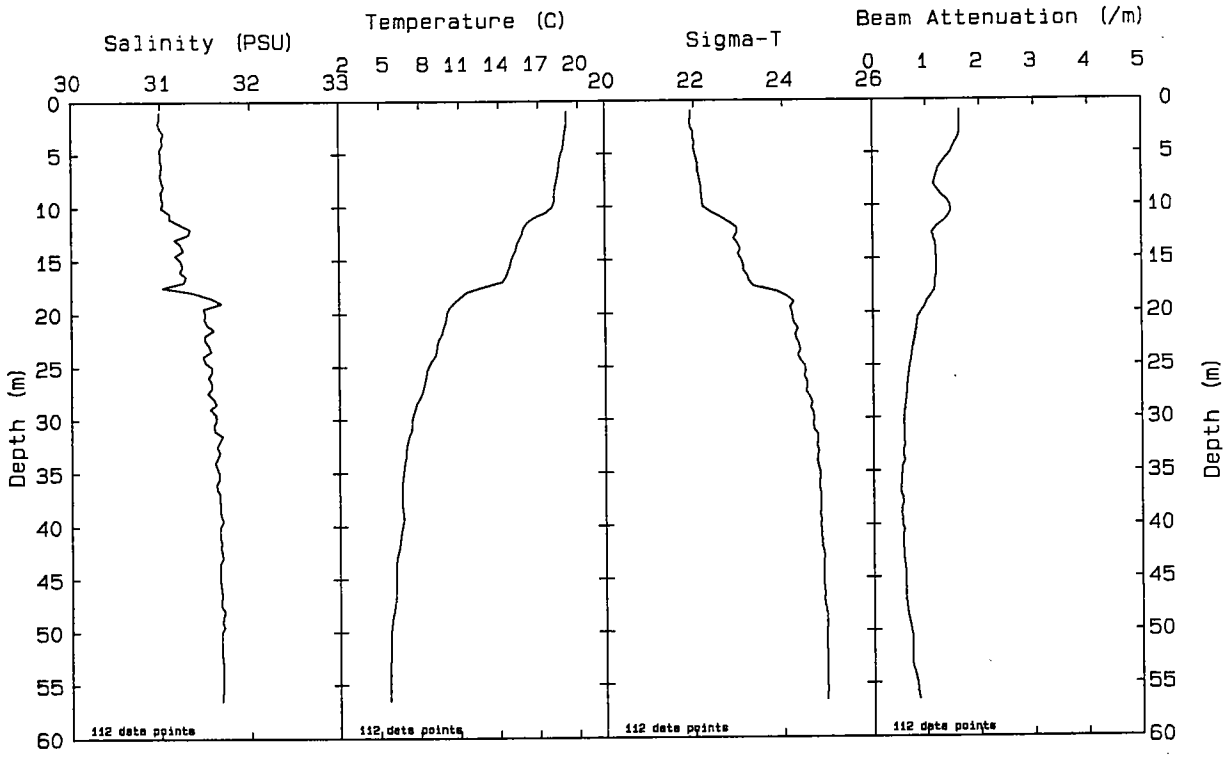


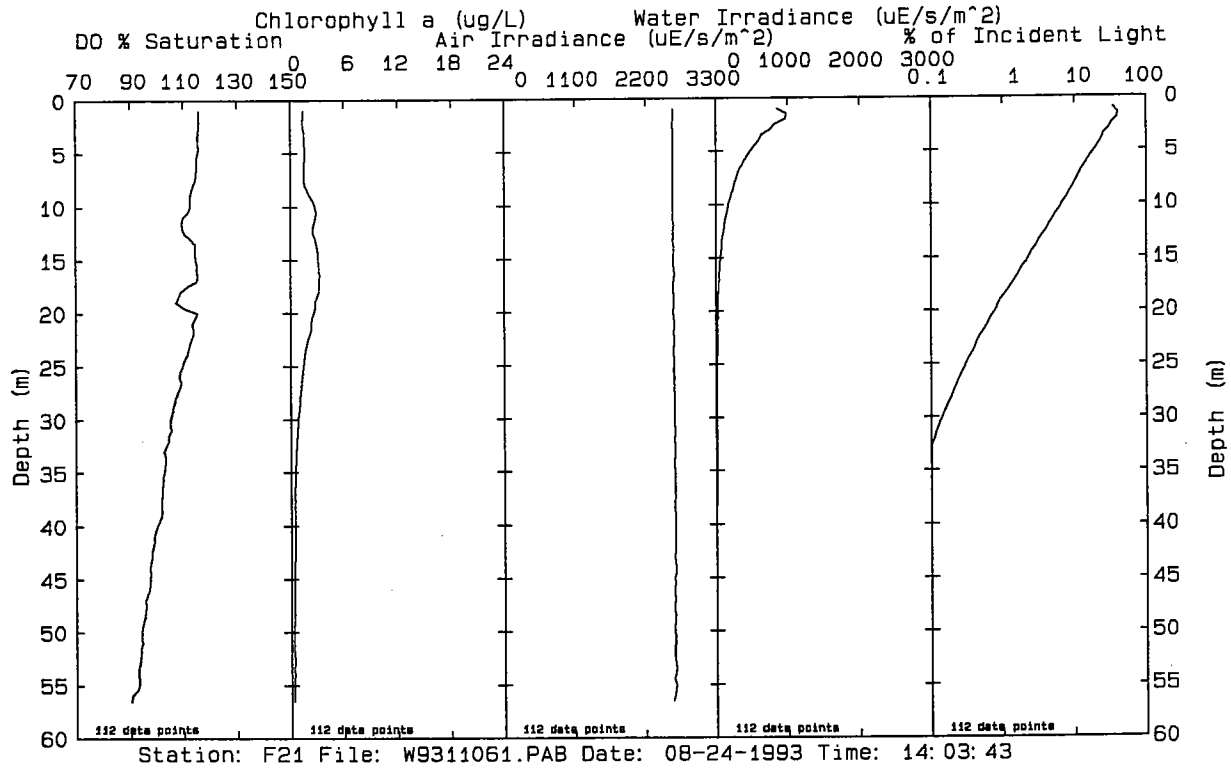
Station: F19 File: W9311055.PAB Date: 08-24-1993 Time: 12:39:17



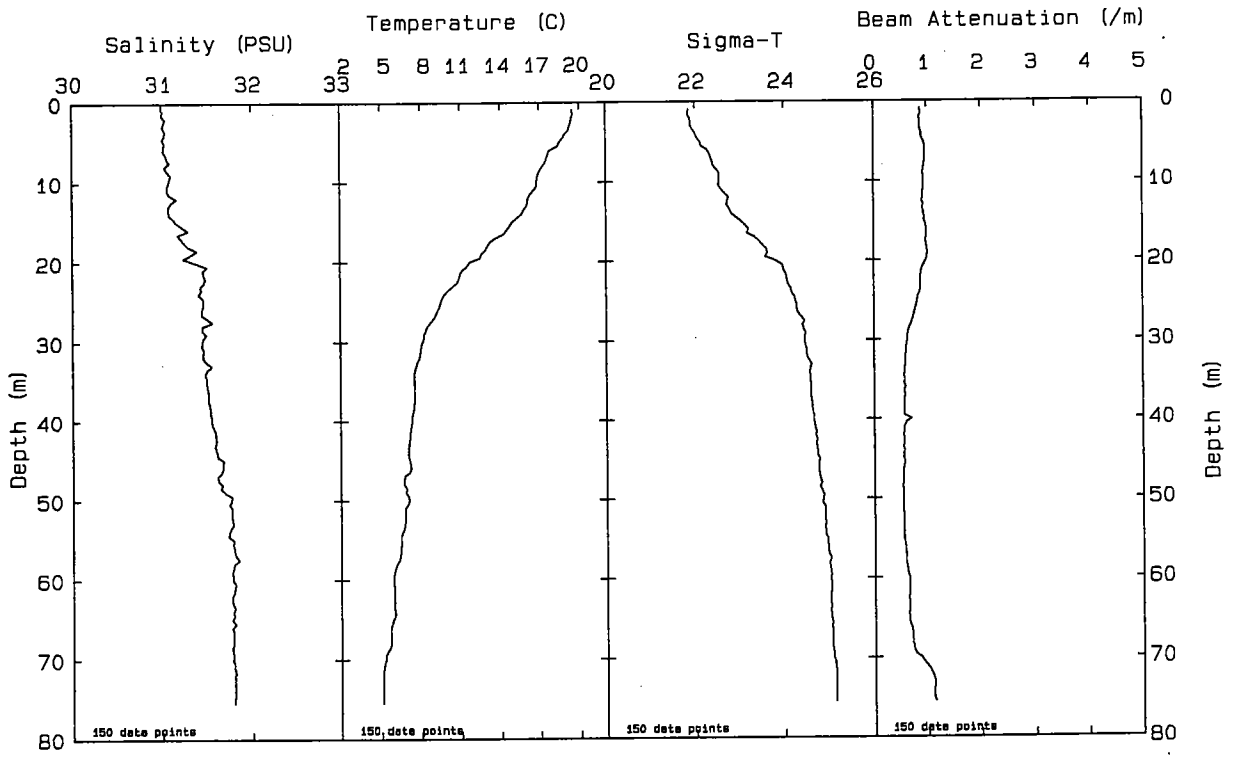


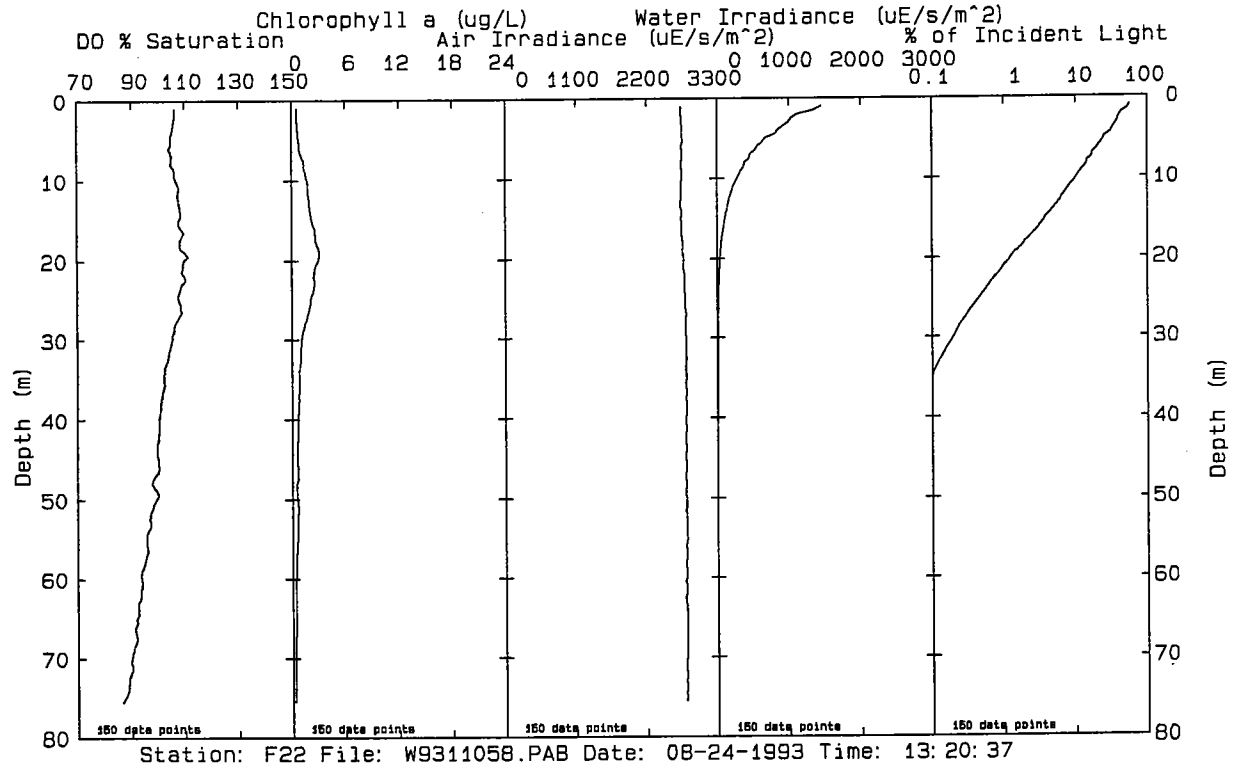
Station: F20 File: W9311064.PAB Date: 08-24-1993 Time: 14: 40: 38





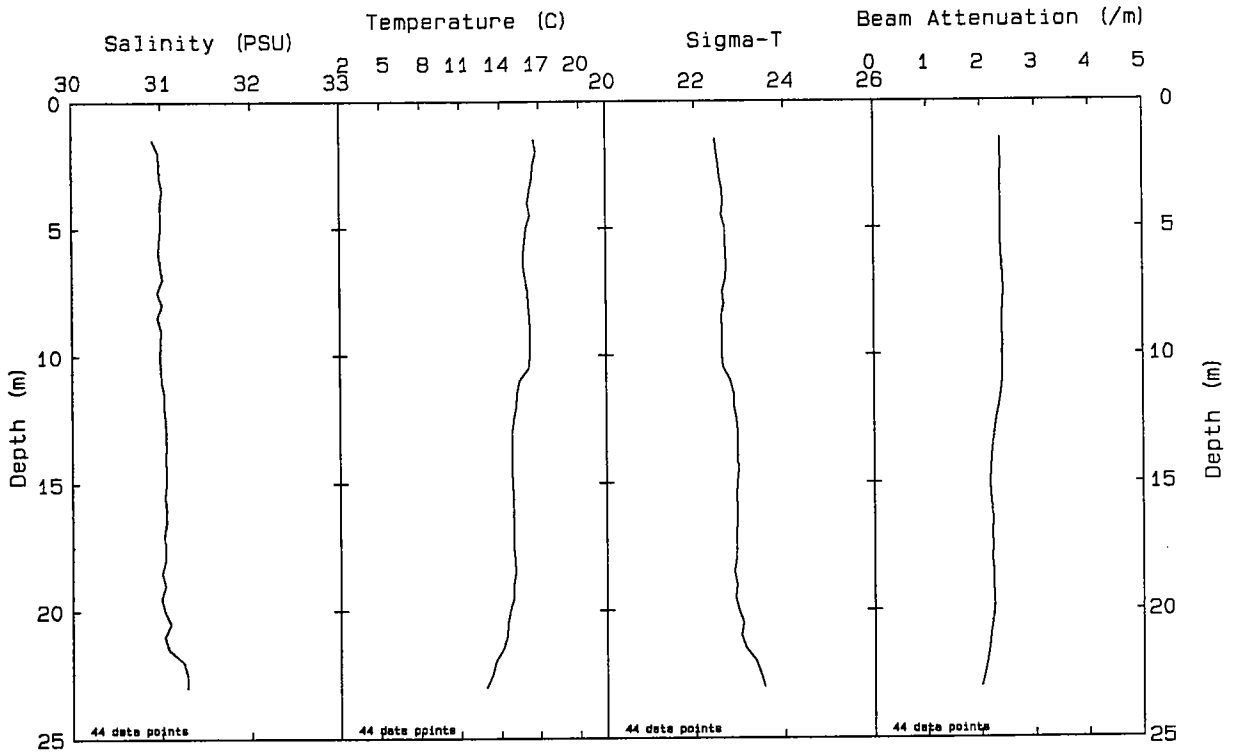
Station: F21 File: W9311061.PAB Date: 08-24-1993 Time: 14:03:43

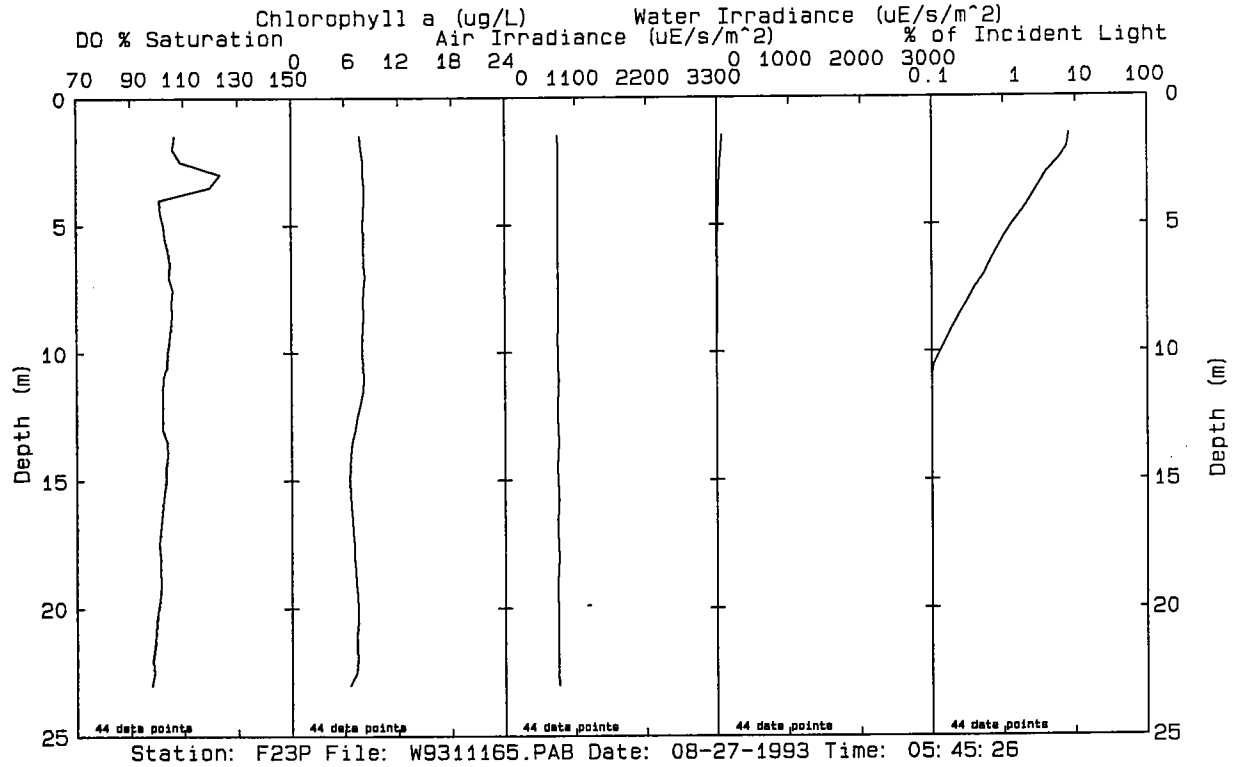




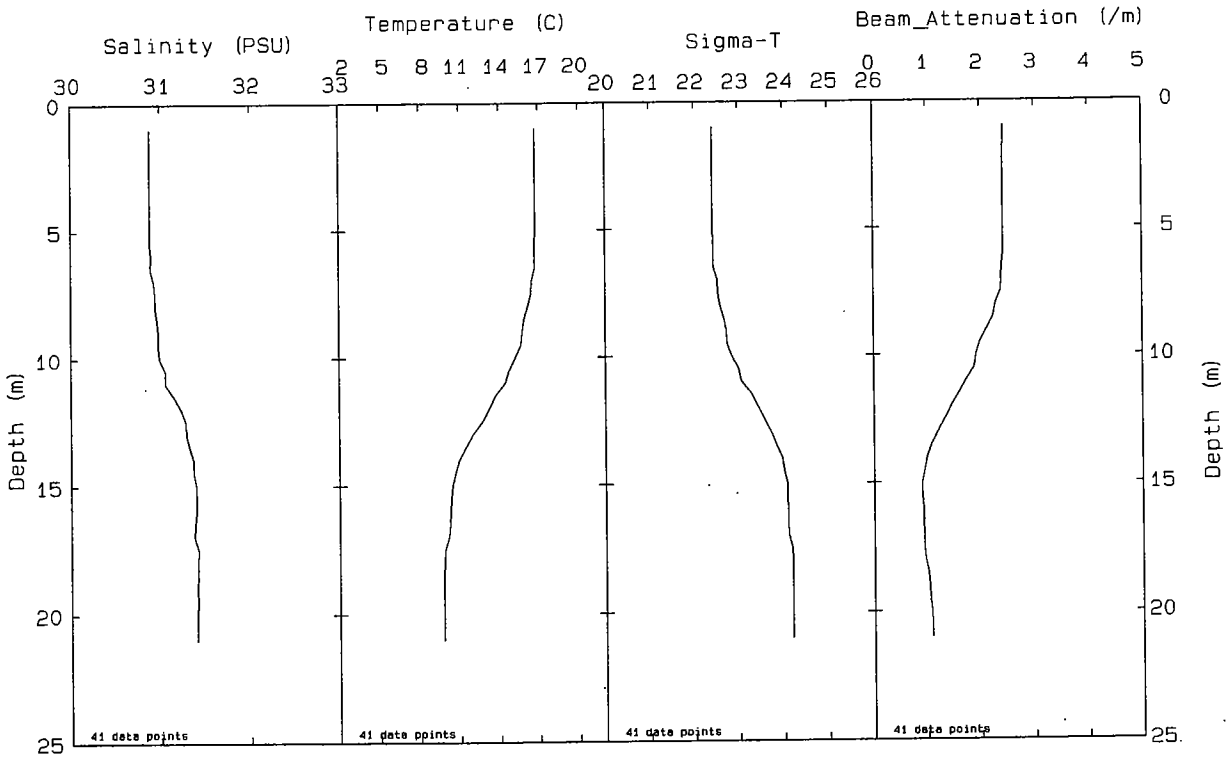
Station: F22 File: W9311058.PAB Date: 08-24-1993 Time: 13:20:37

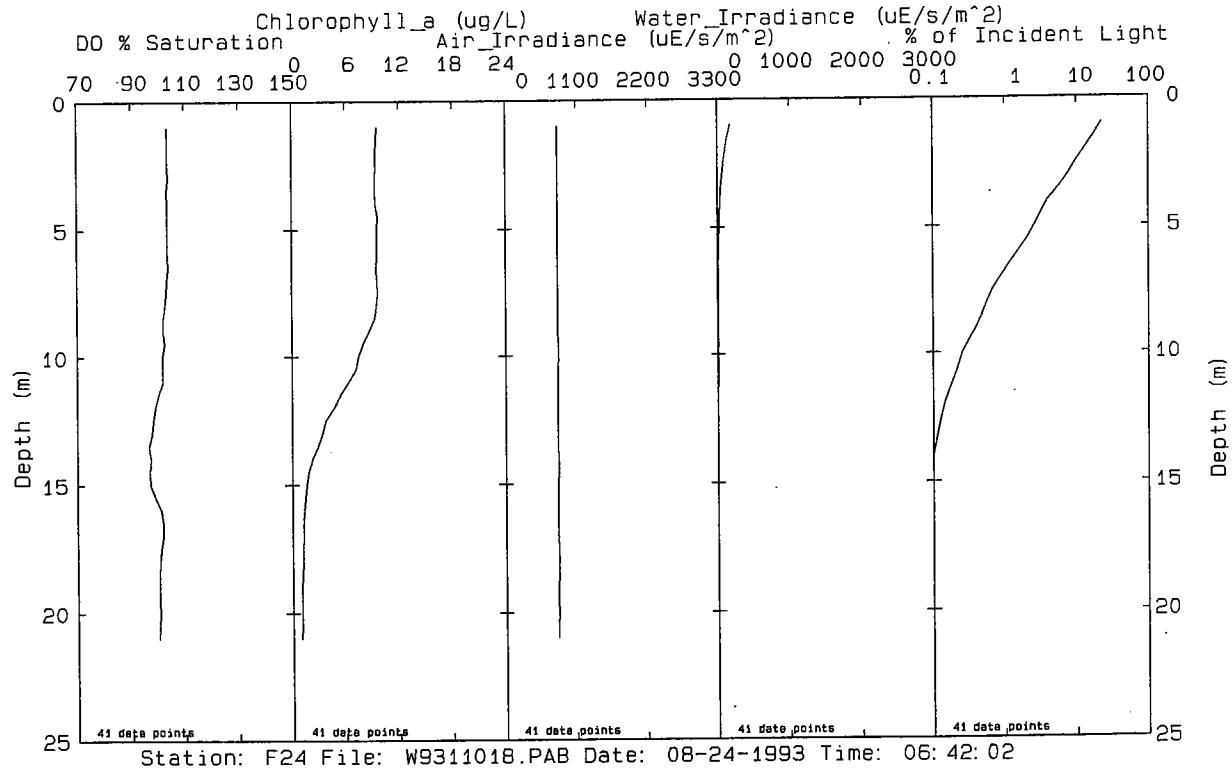
00072



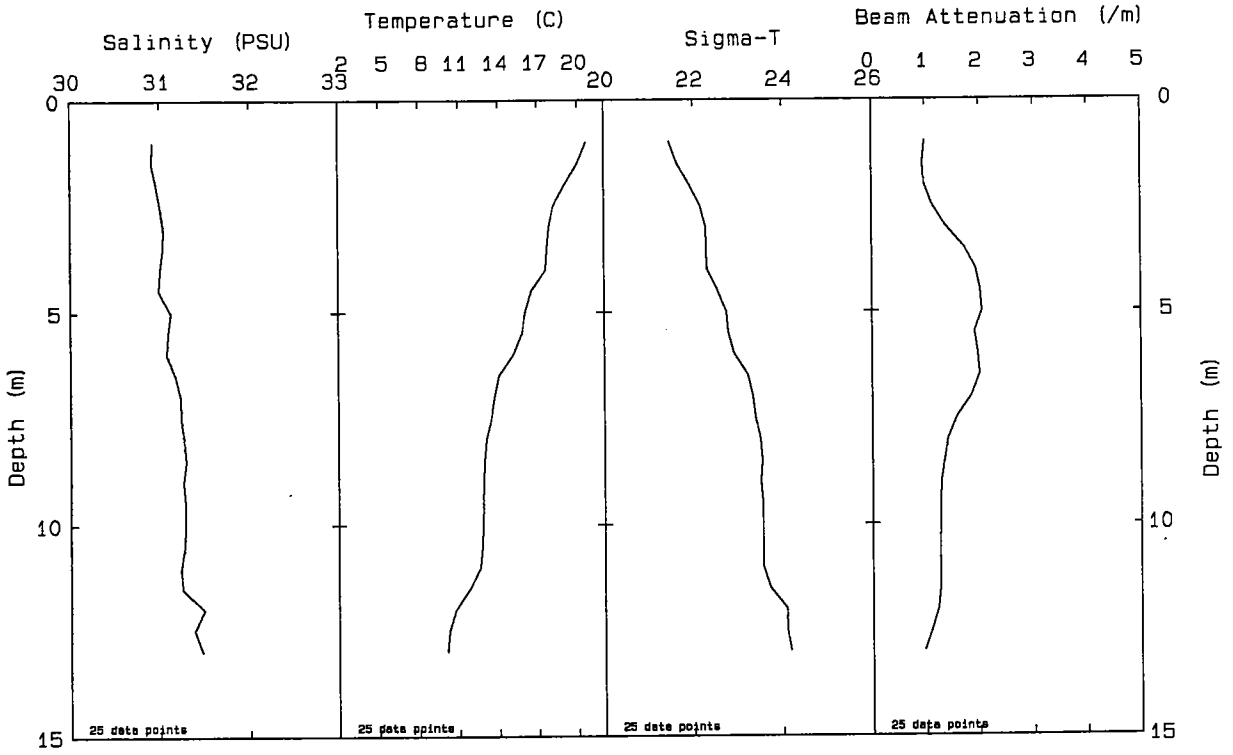


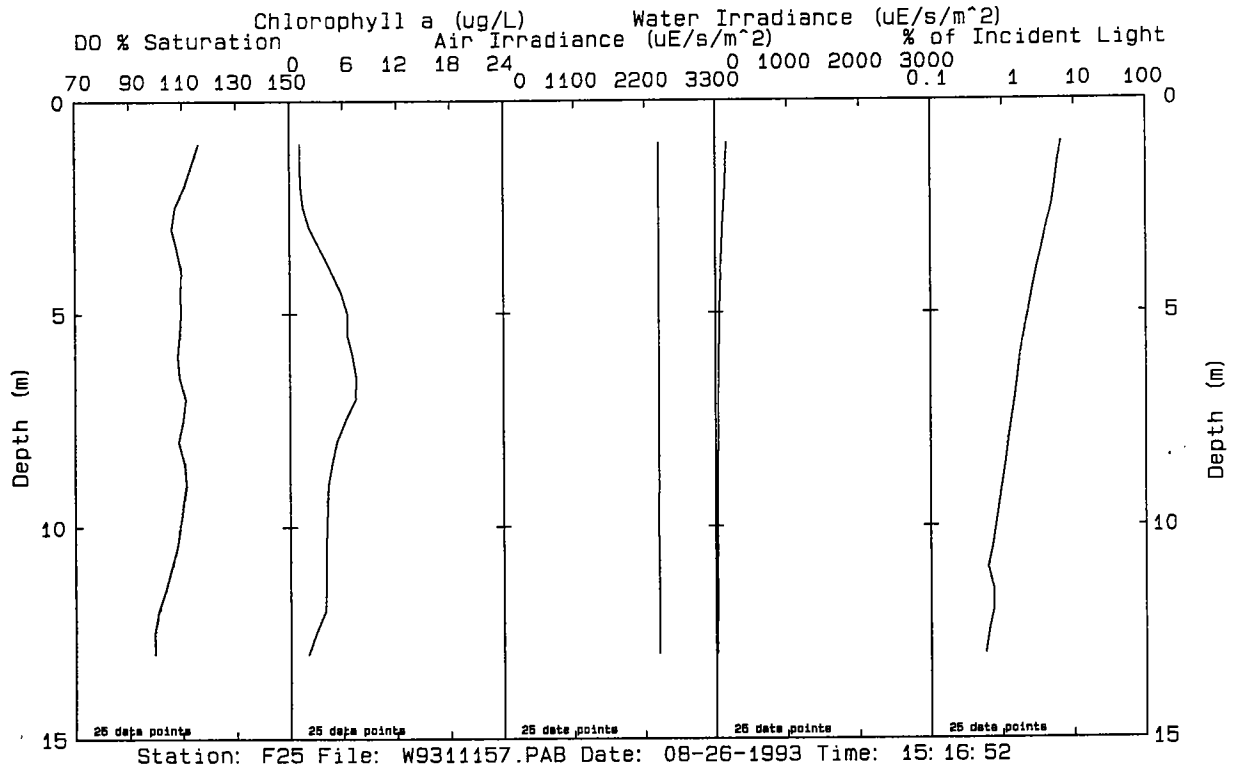
Station: F23P File: W9311165.PAB Date: 08-27-1993 Time: 05:45:26



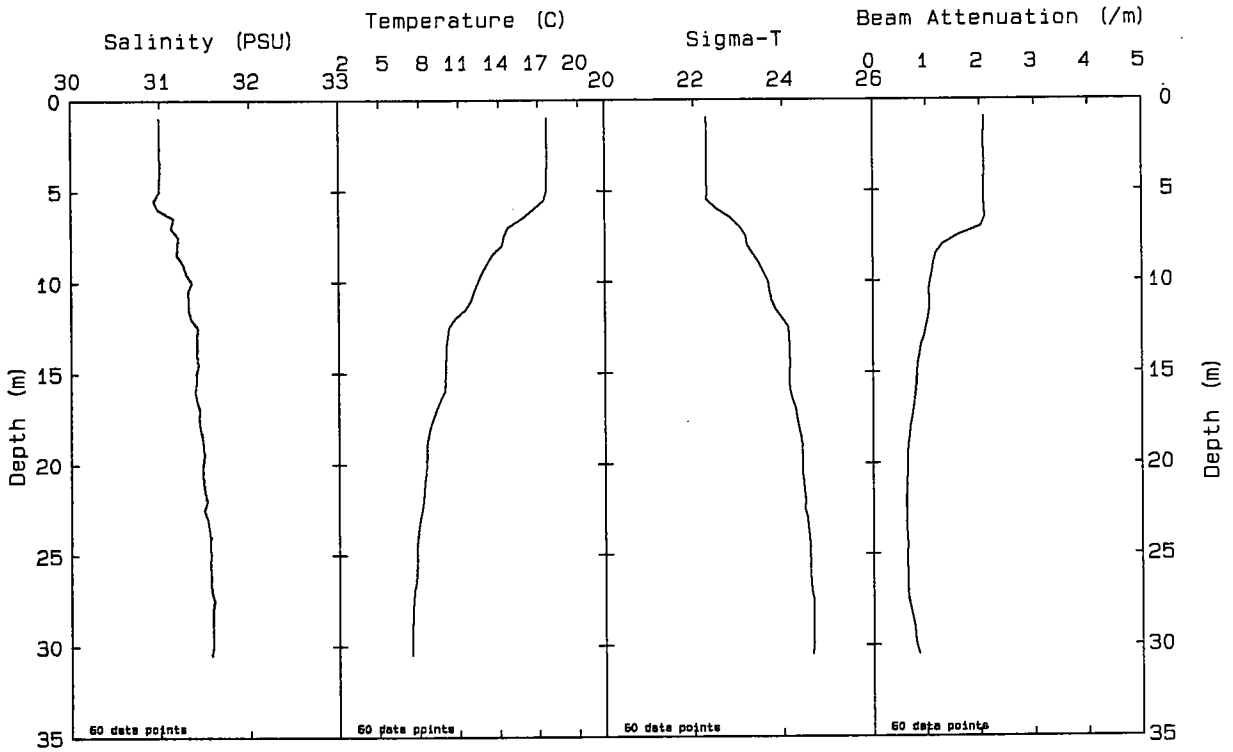


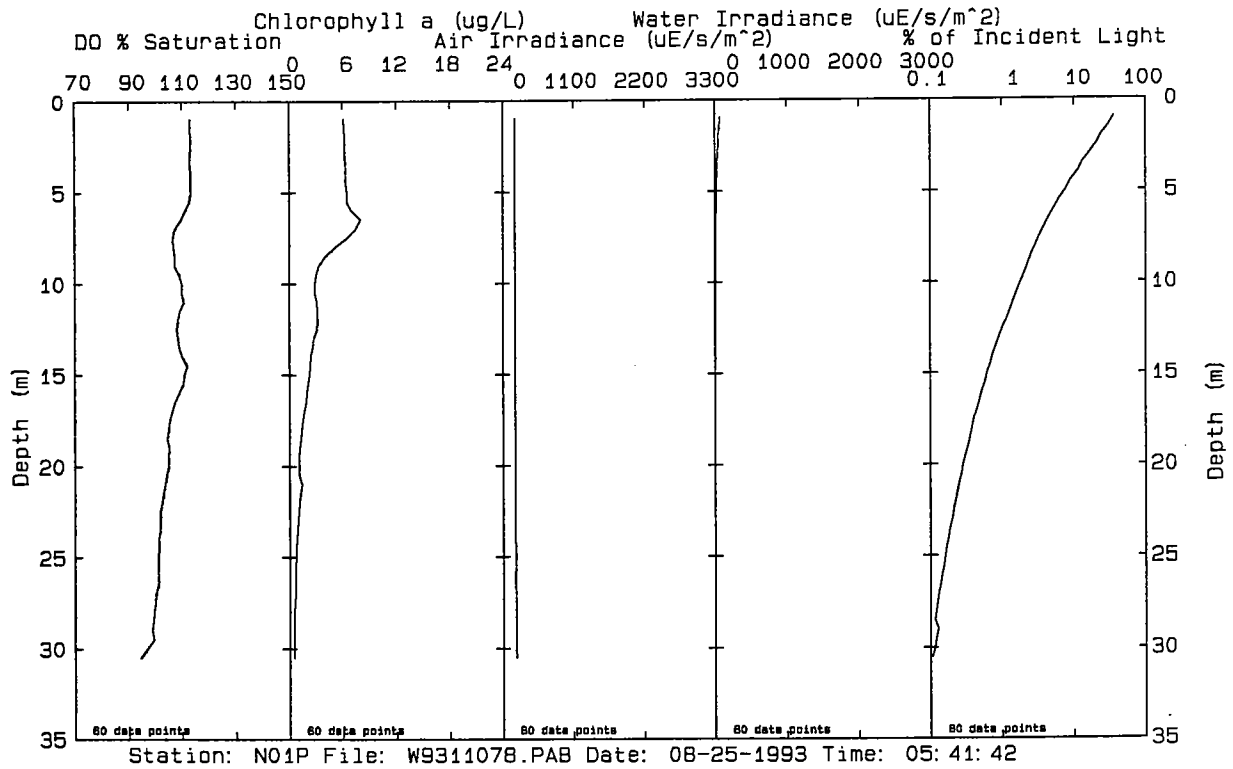
Station: F24 File: W9311018.PAB Date: 08-24-1993 Time: 06:42:02



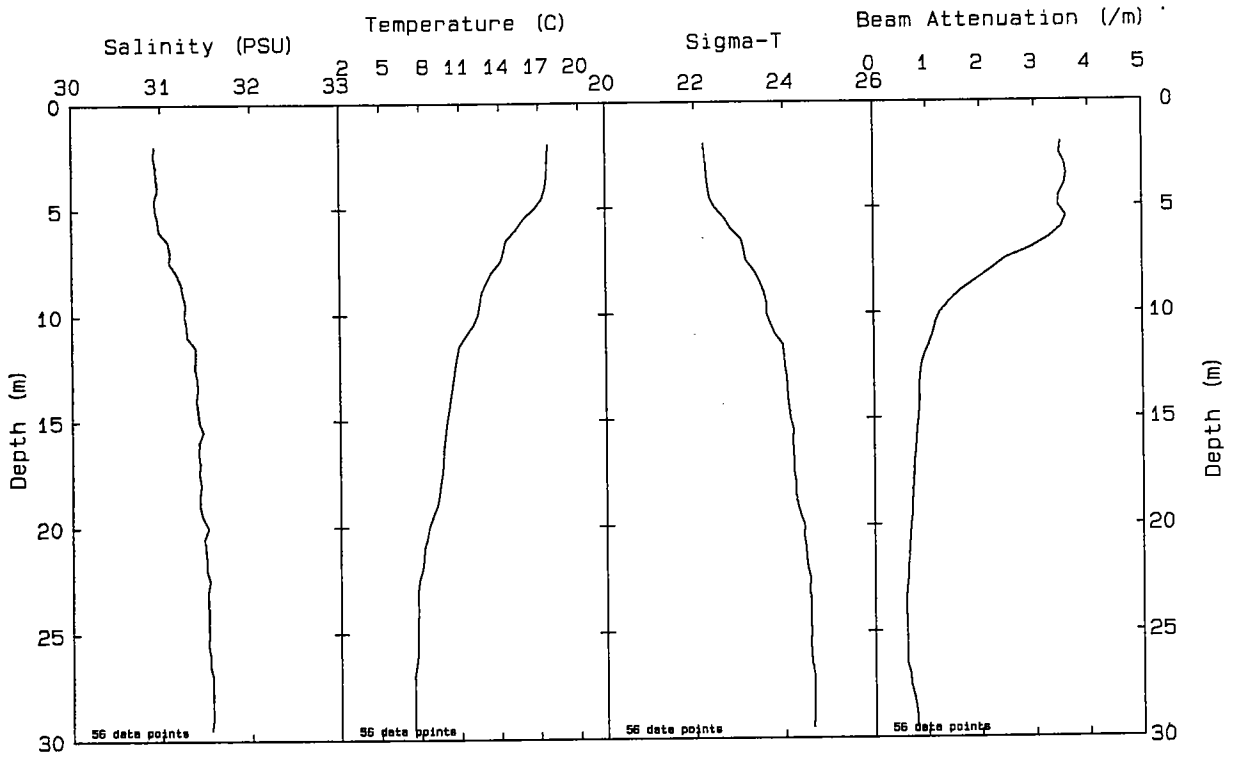


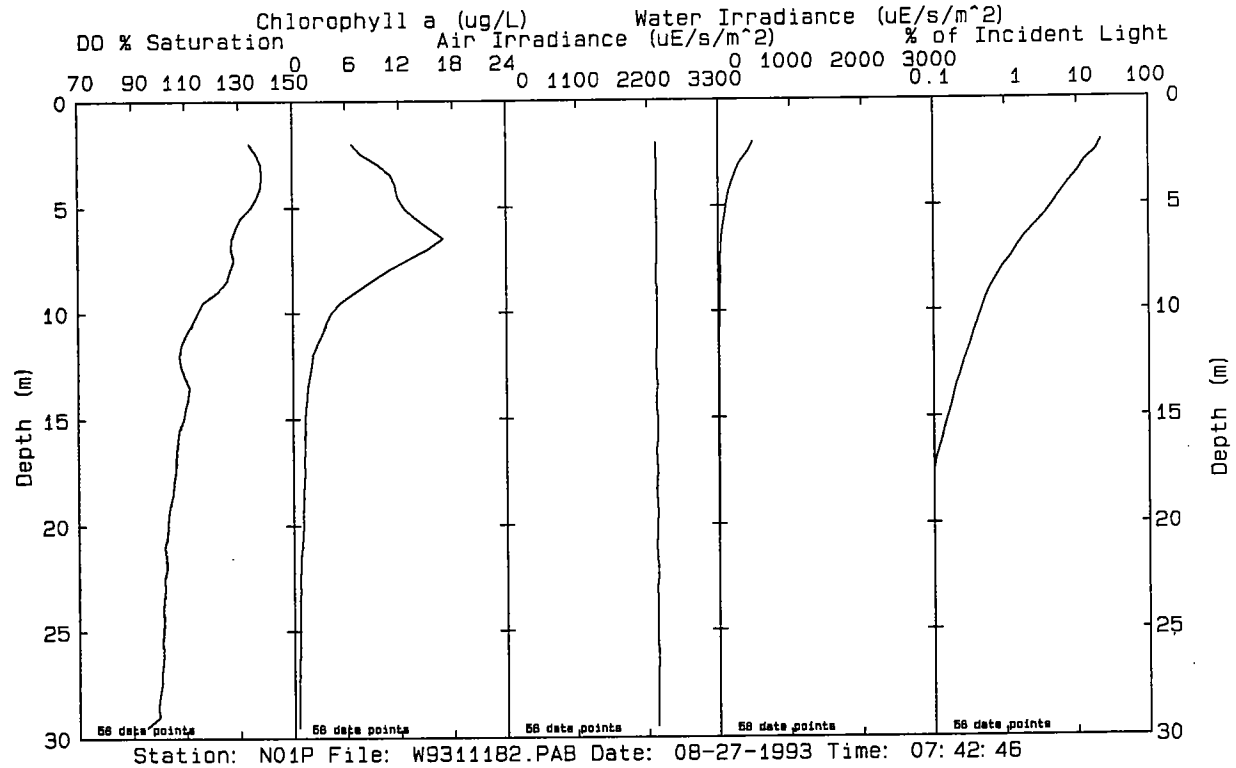
Station: F25 File: W9311157.PAB Date: 08-26-1993 Time: 15:16:52



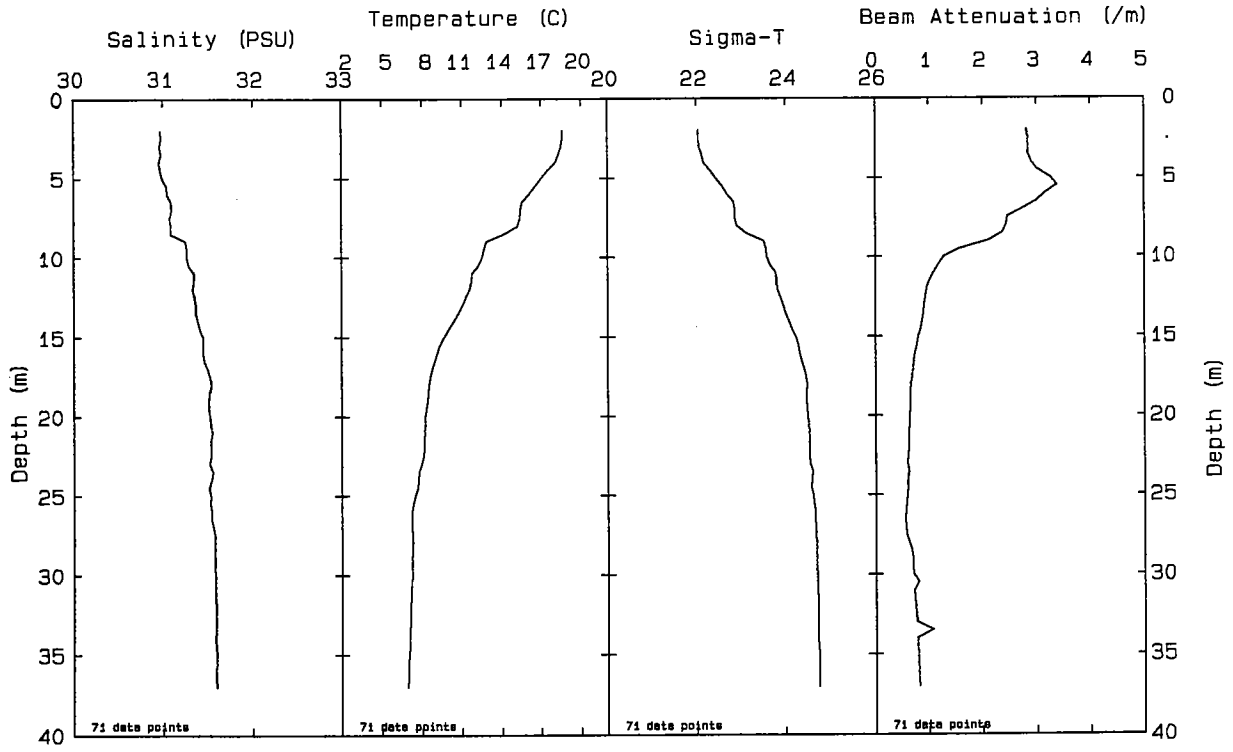


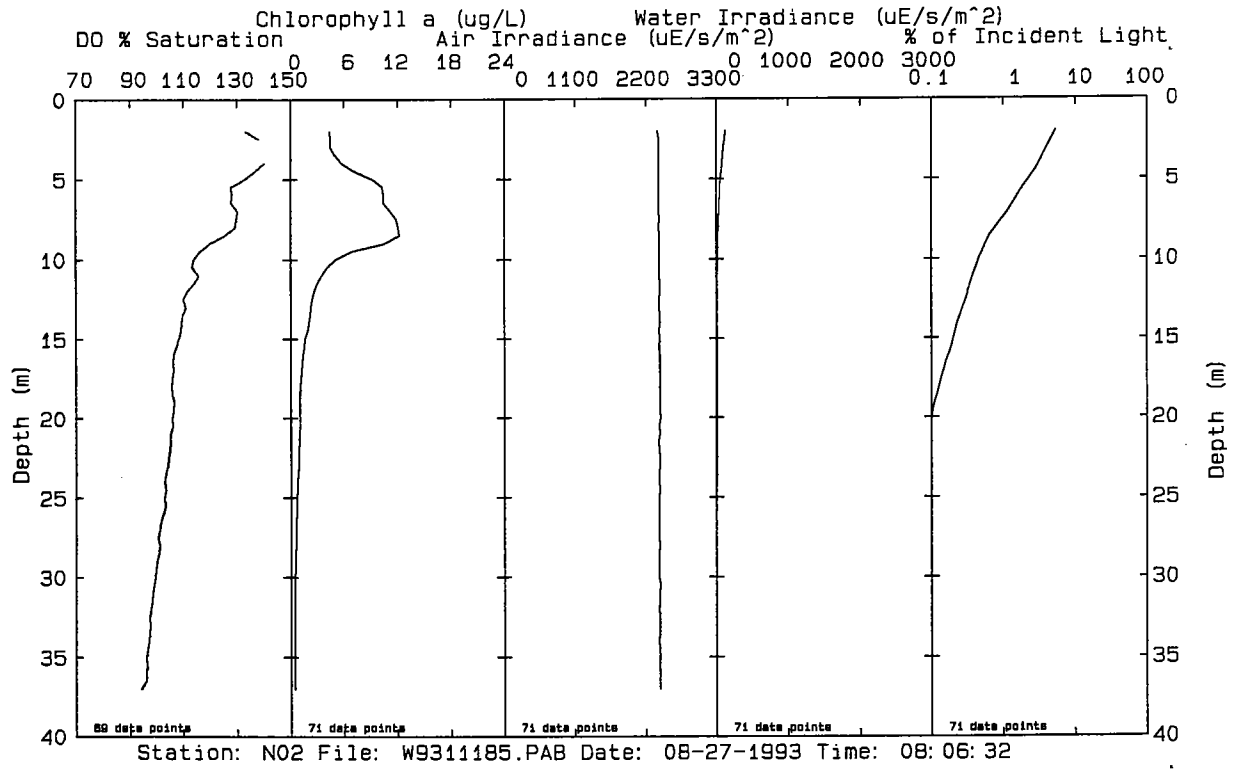
Station: N01P File: W9311078.PAB Date: 08-25-1993 Time: 05:41:42



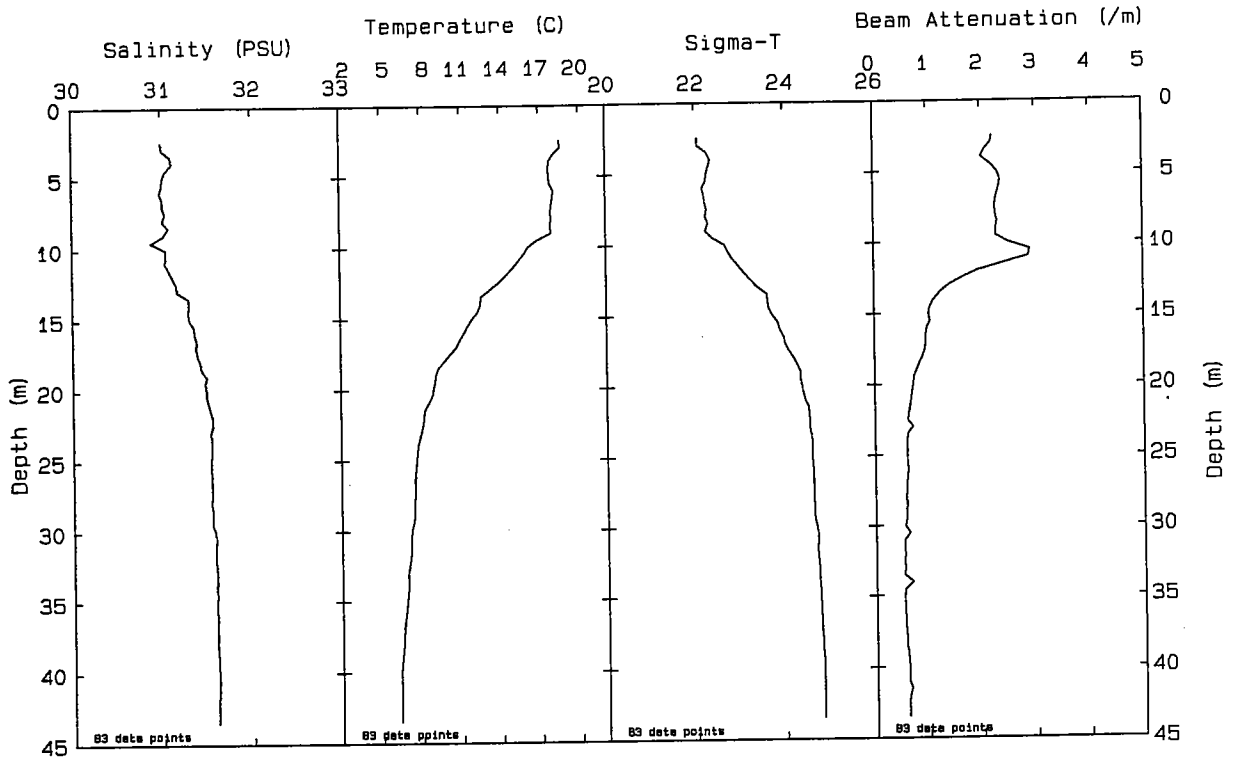


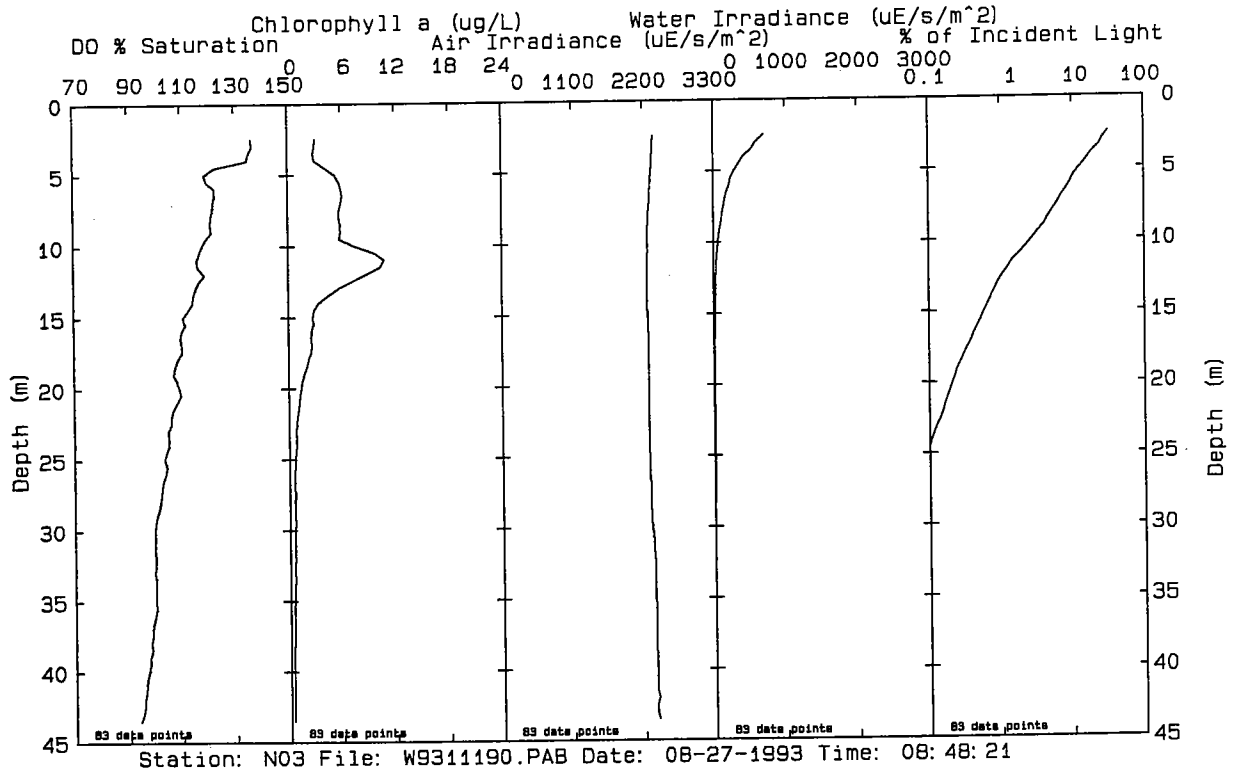
Station: N01P File: W9311182.PAB Date: 08-27-1993 Time: 07:42:46

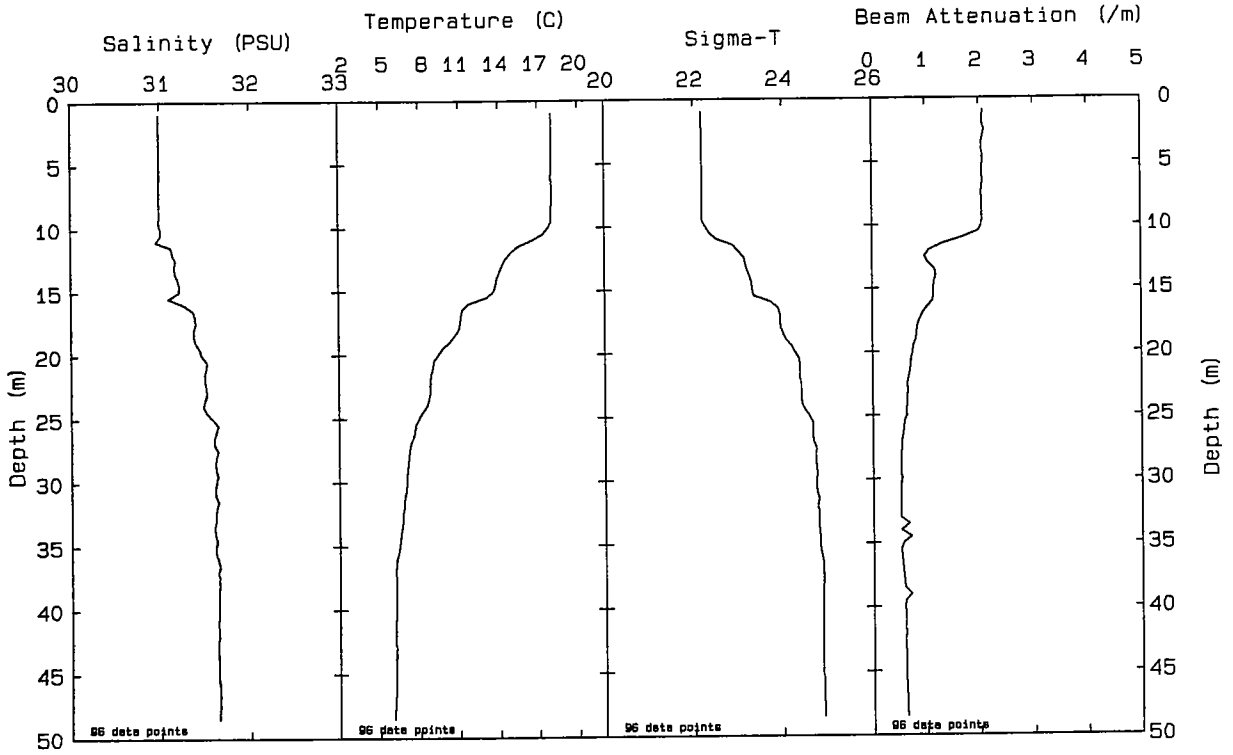


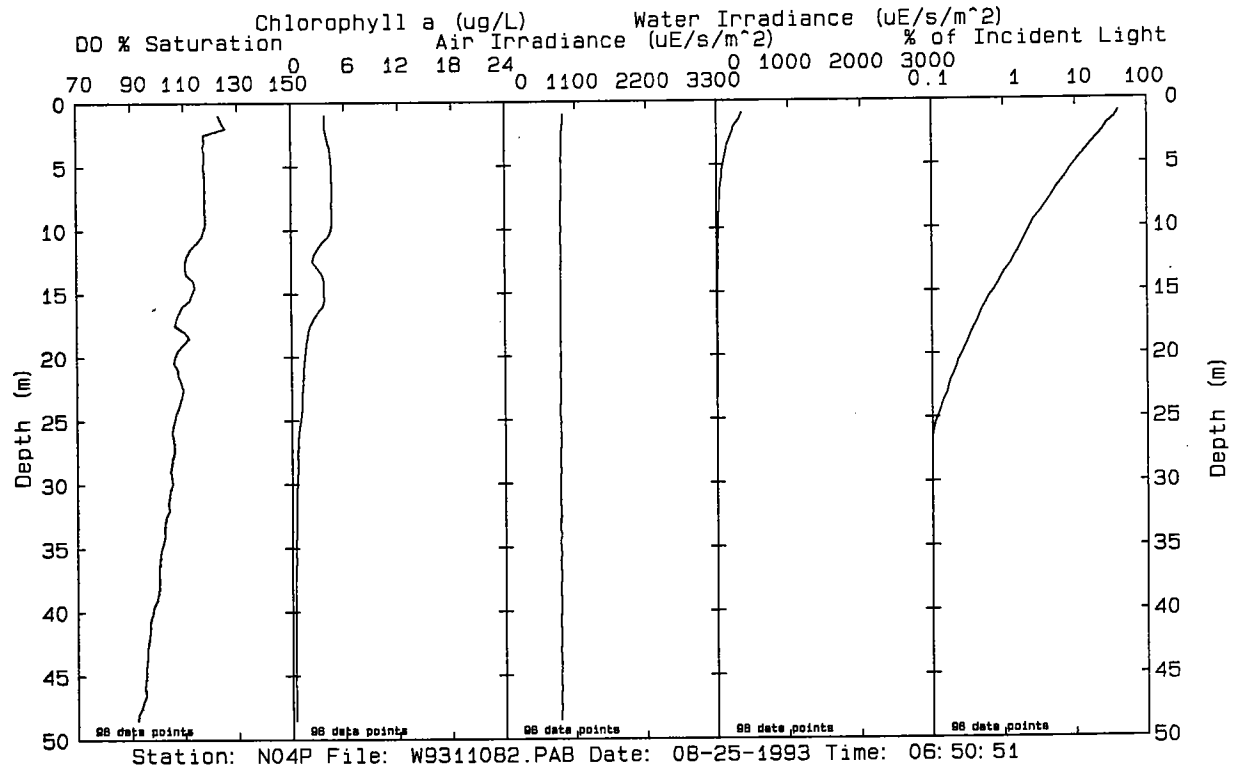


Station: N02 File: W9311185.PAB Date: 08-27-1993 Time: 08:06:32

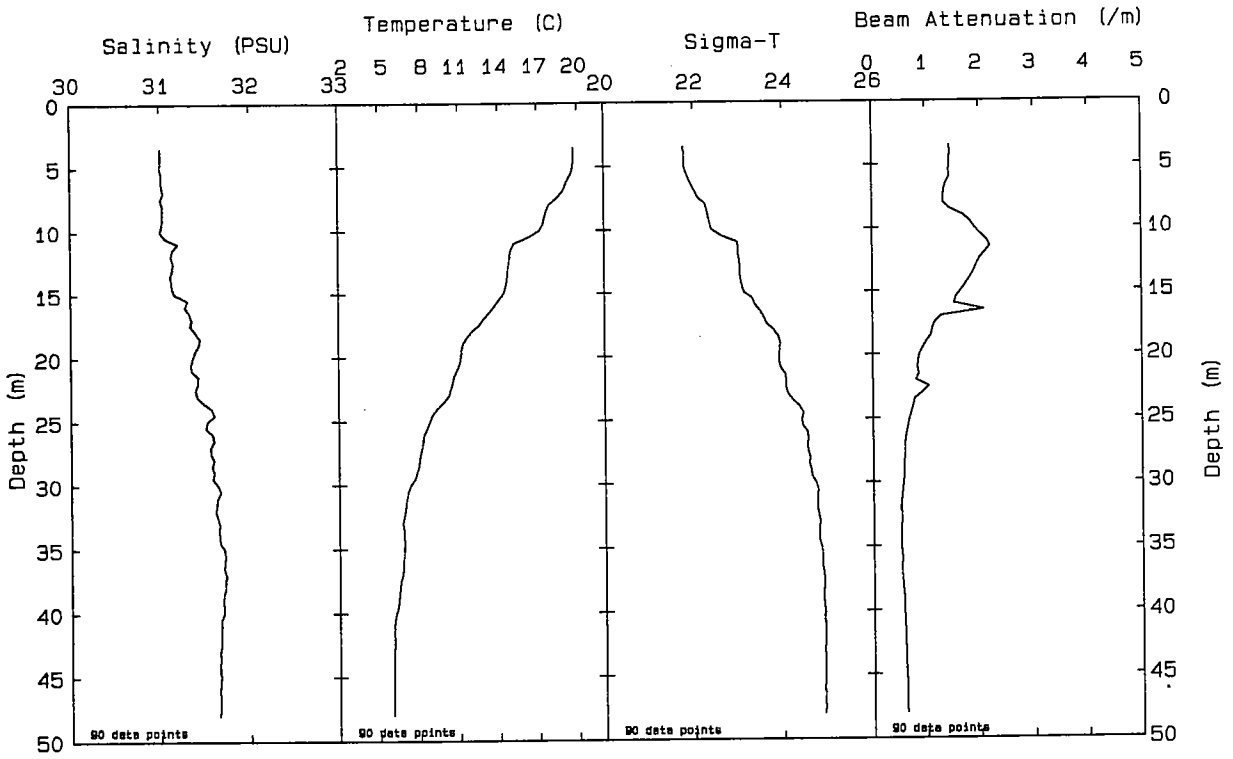

Salinity (PSU)
30 31 32 33
Temperature (C)
2 5 8 11 14 17 20
Sigma-T
20 22 24 26
Beam Attenuation (/m)
0 1 2 3 4 5
Depth (m)
0 5 10 15 20 25 30 35 40 45
83 data points

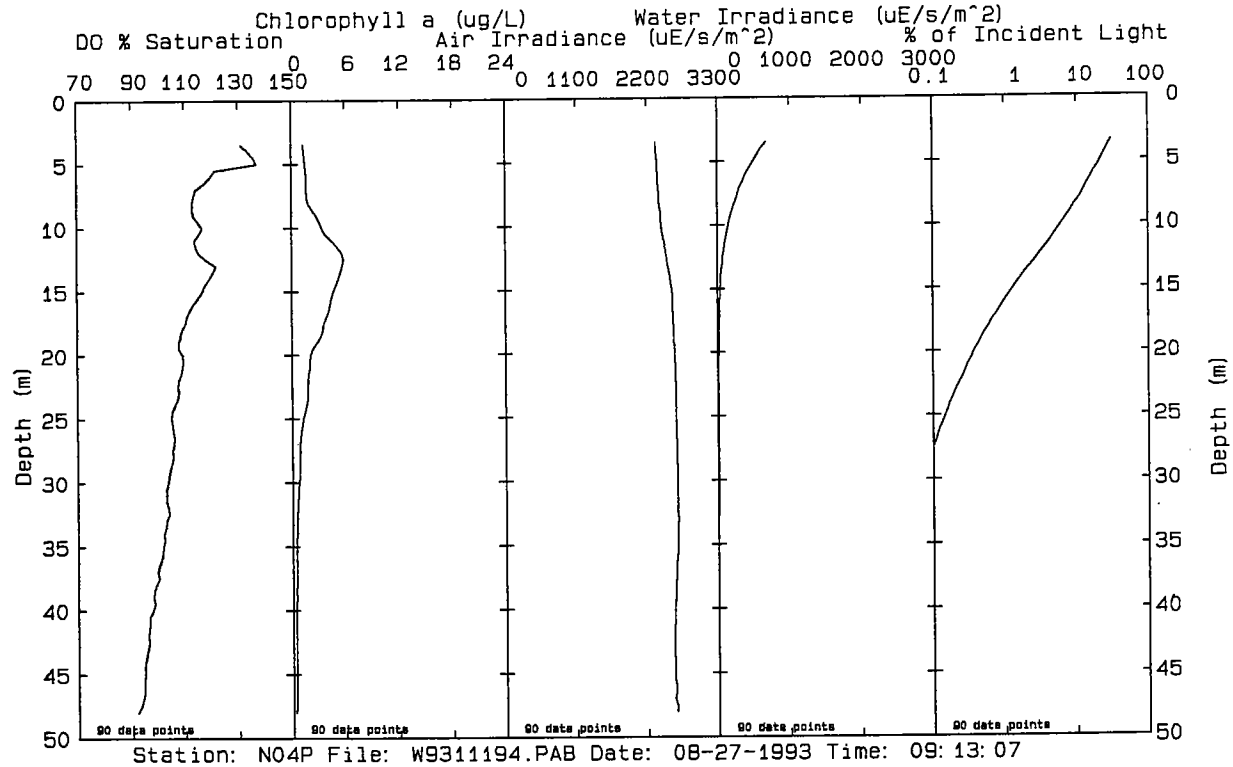

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 6 12 18 24
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35 40 45
83 data points
Station: N03 File: W9311190.PAB Date: 08-27-1993 Time: 08:48:21



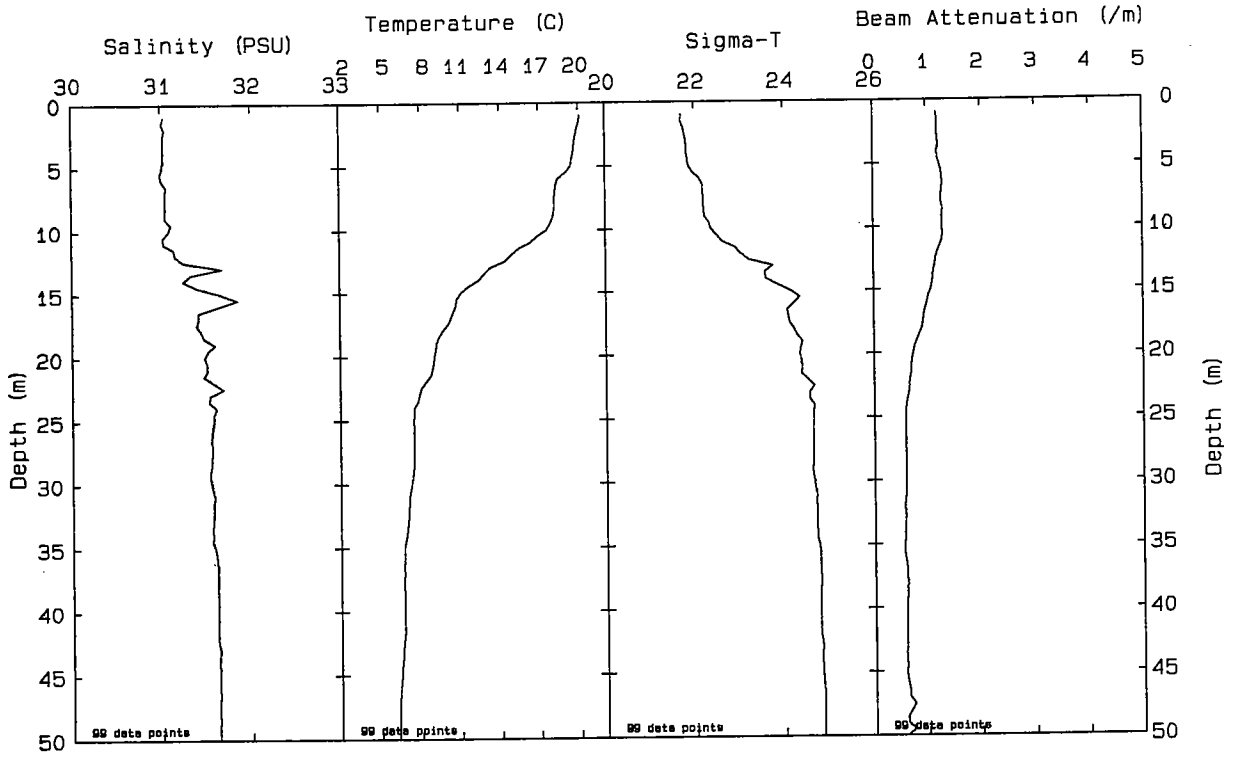


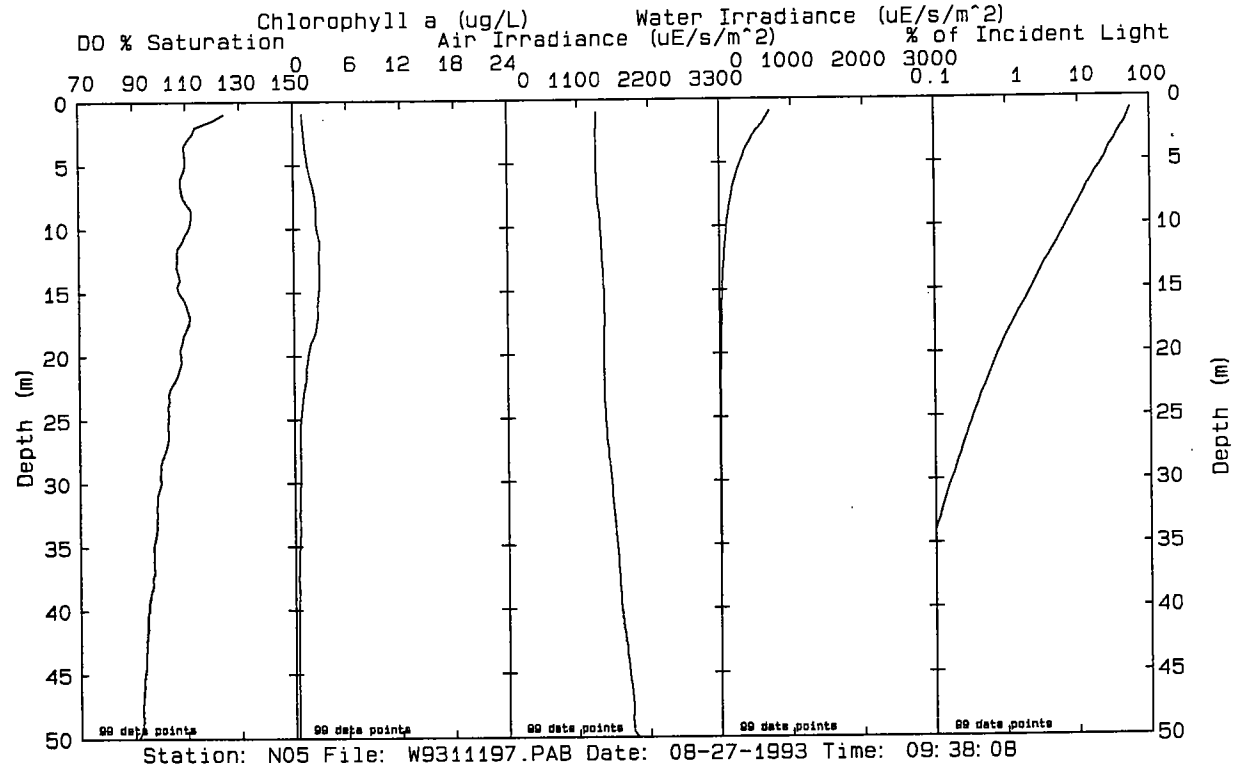
Station: N04P File: W9311082.PAB Date: 08-25-1993 Time: 06:50:51



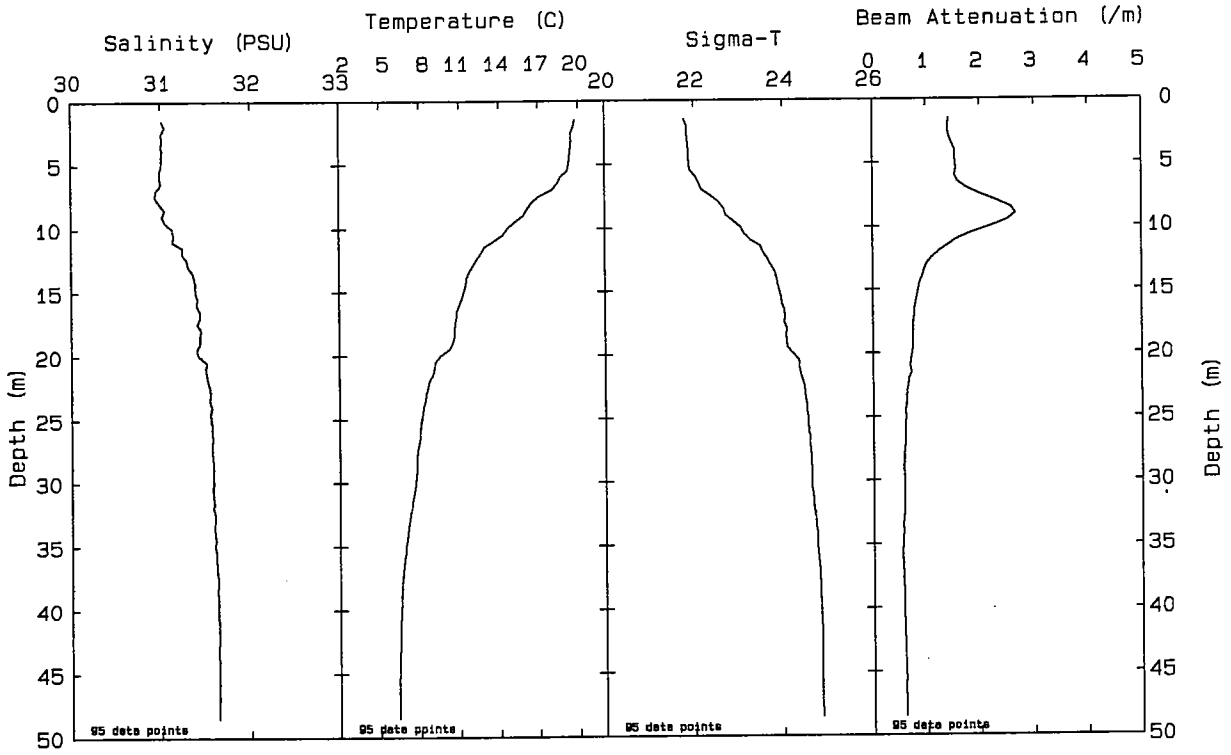


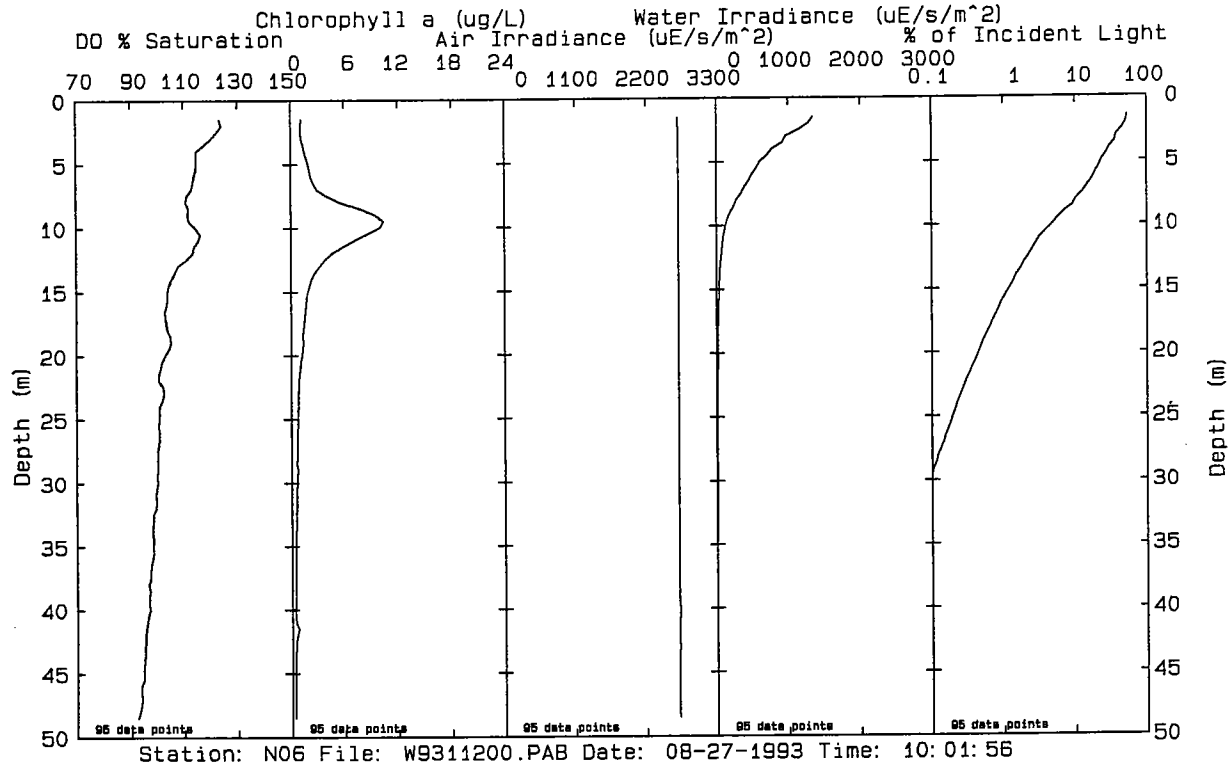
Station: N04P File: W9311194.PAB Date: 08-27-1993 Time: 09:13:07



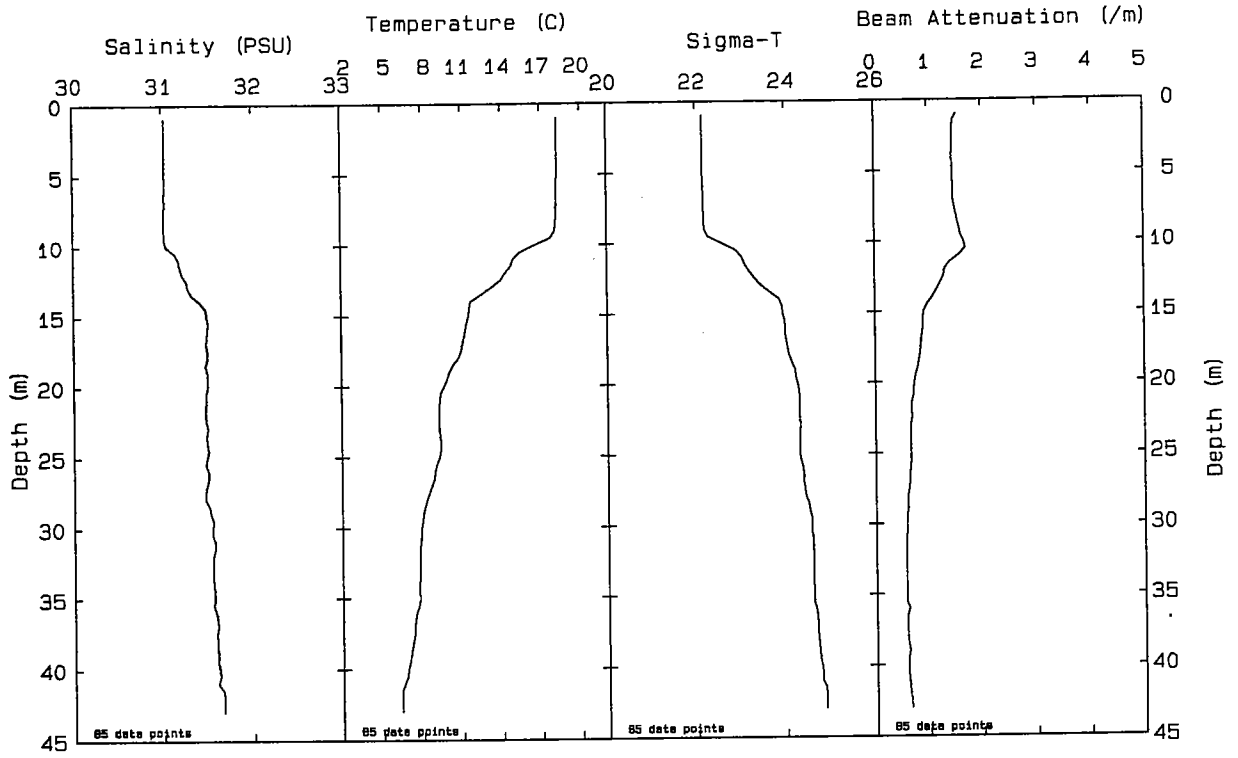


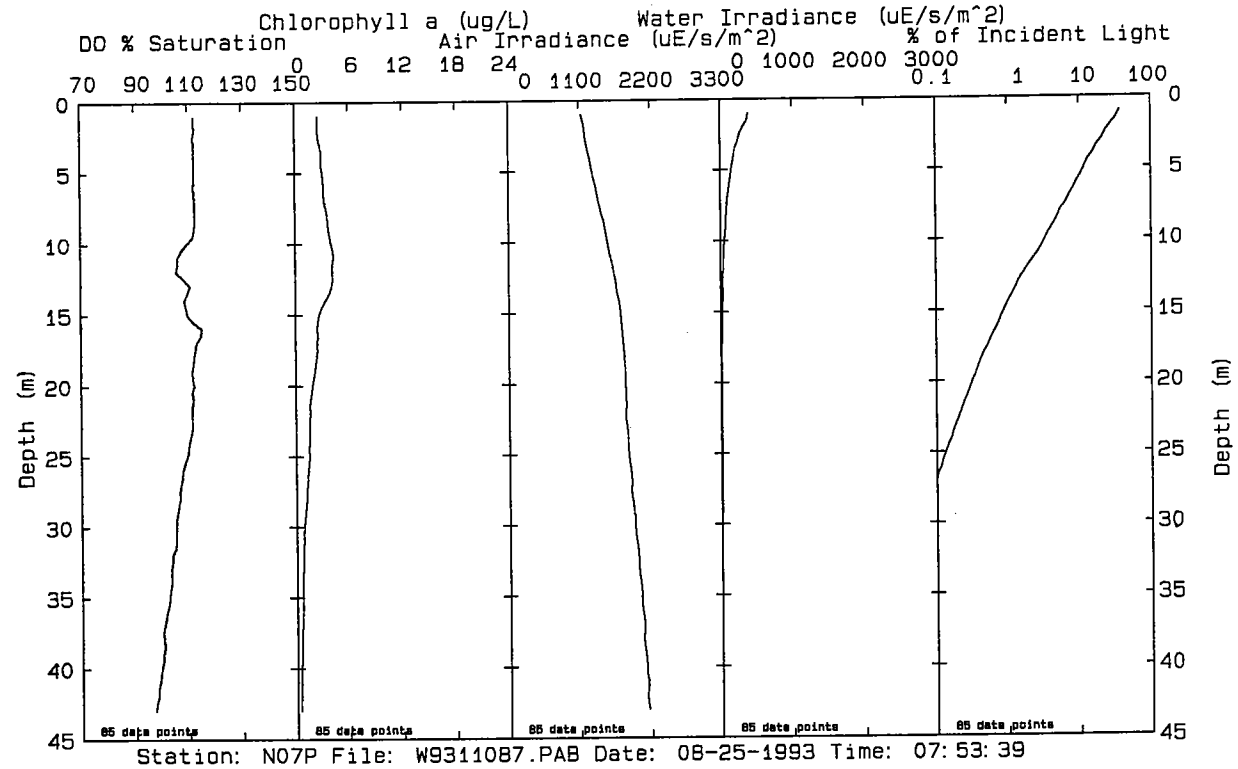
Station: N05 File: W9311197.PAB Date: 08-27-1993 Time: 09:38:08



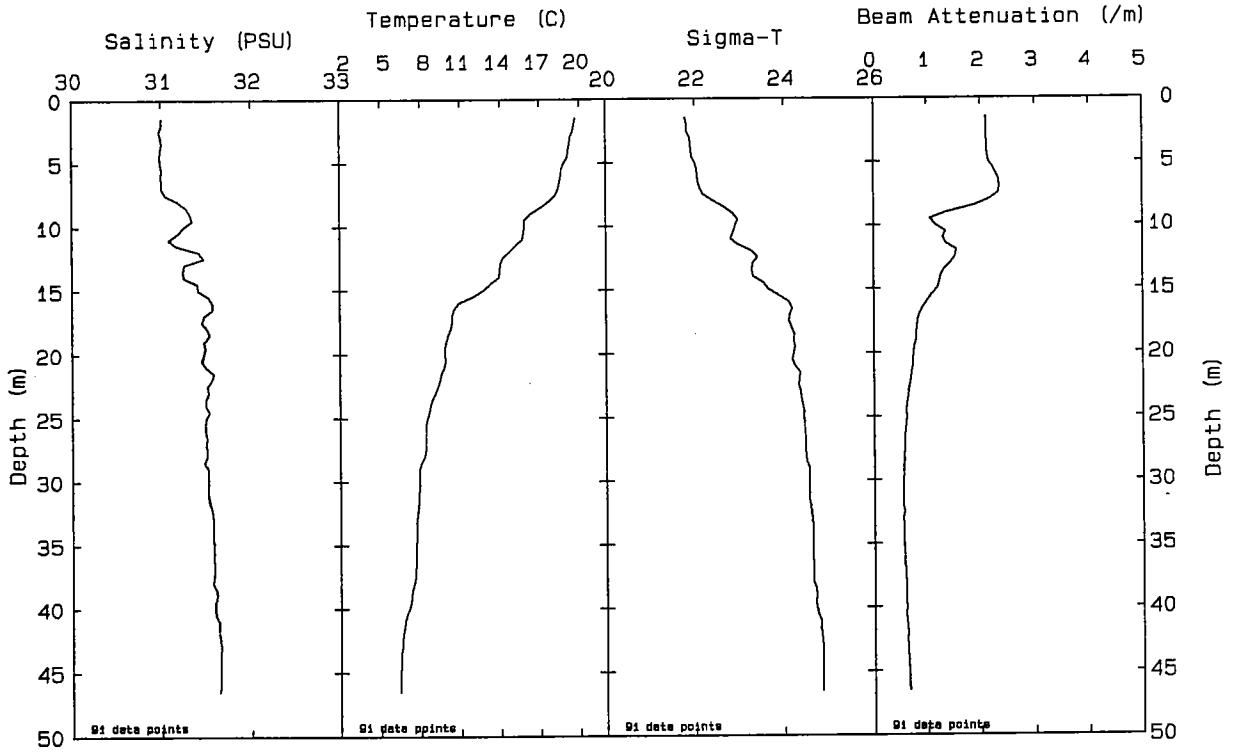


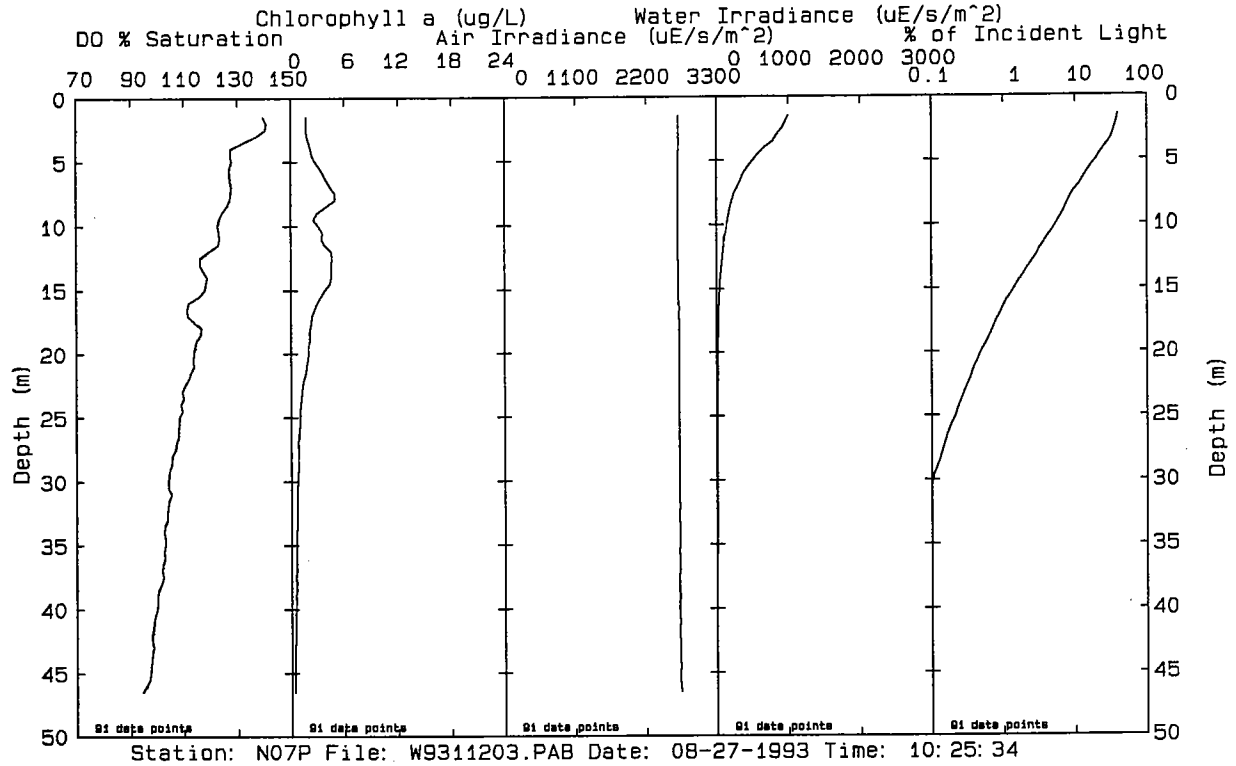
Station: N06 File: W9311200.PAB Date: 08-27-1993 Time: 10:01:56



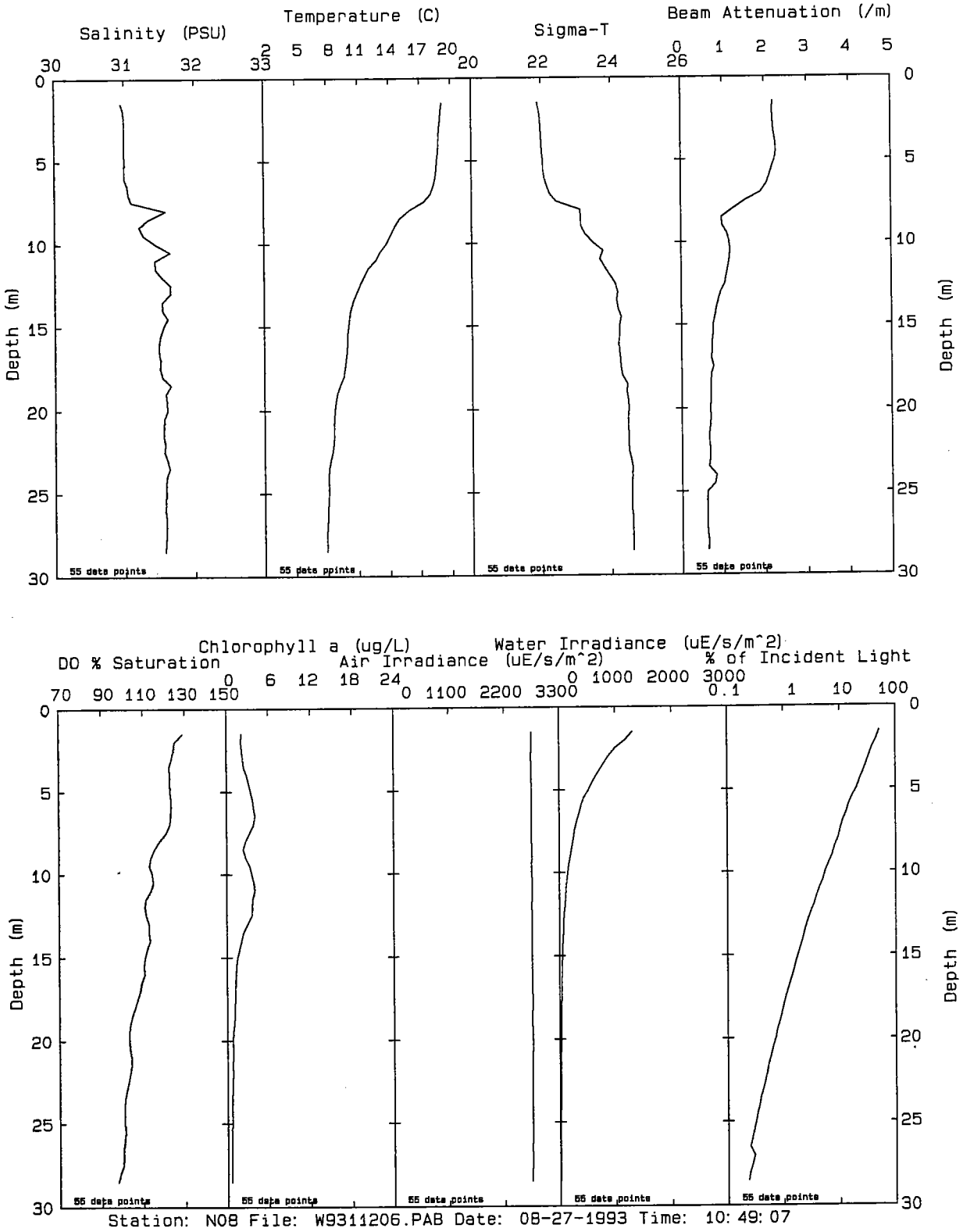


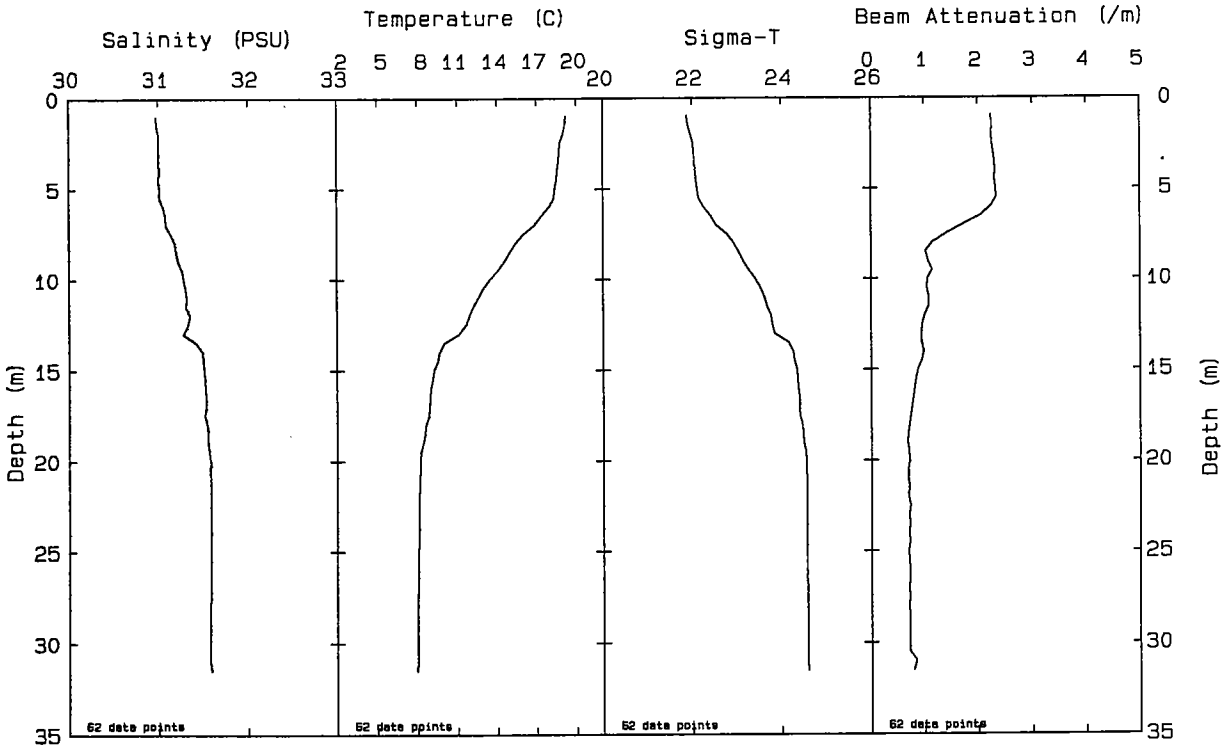
Station: N07P File: W9311087.PAB Date: 08-25-1993 Time: 07:53:39

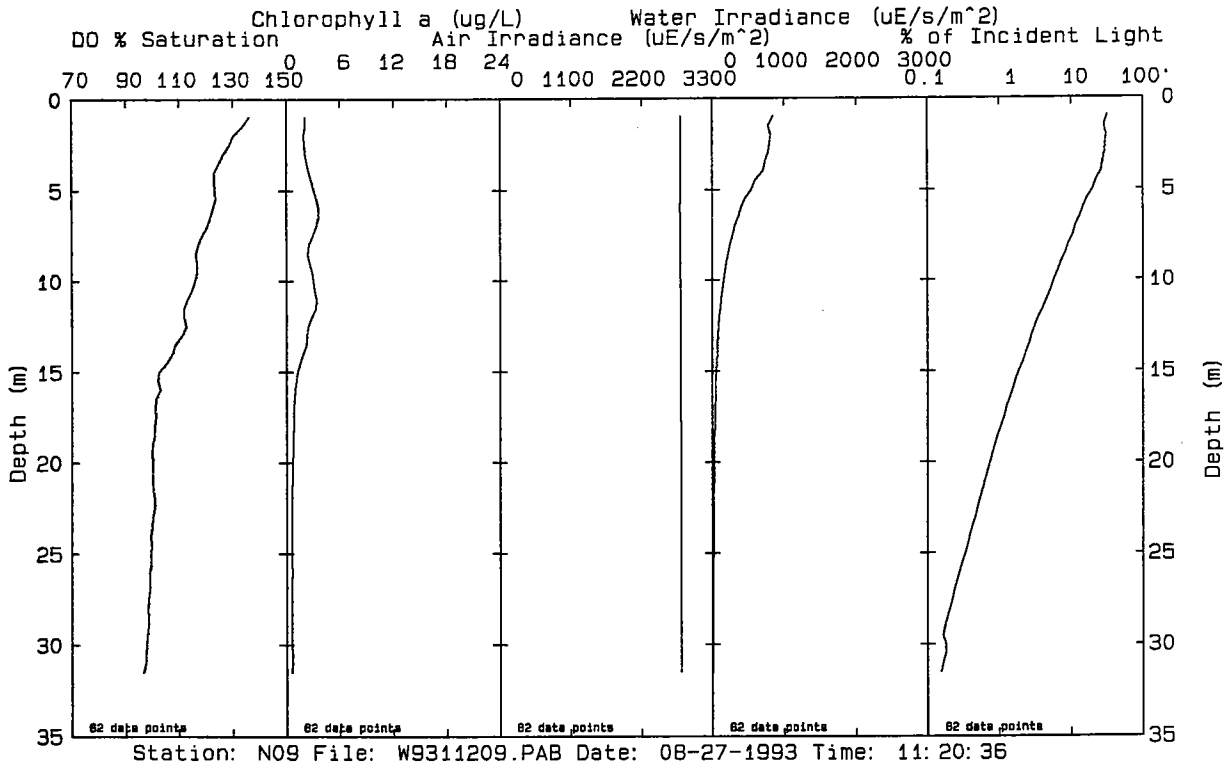


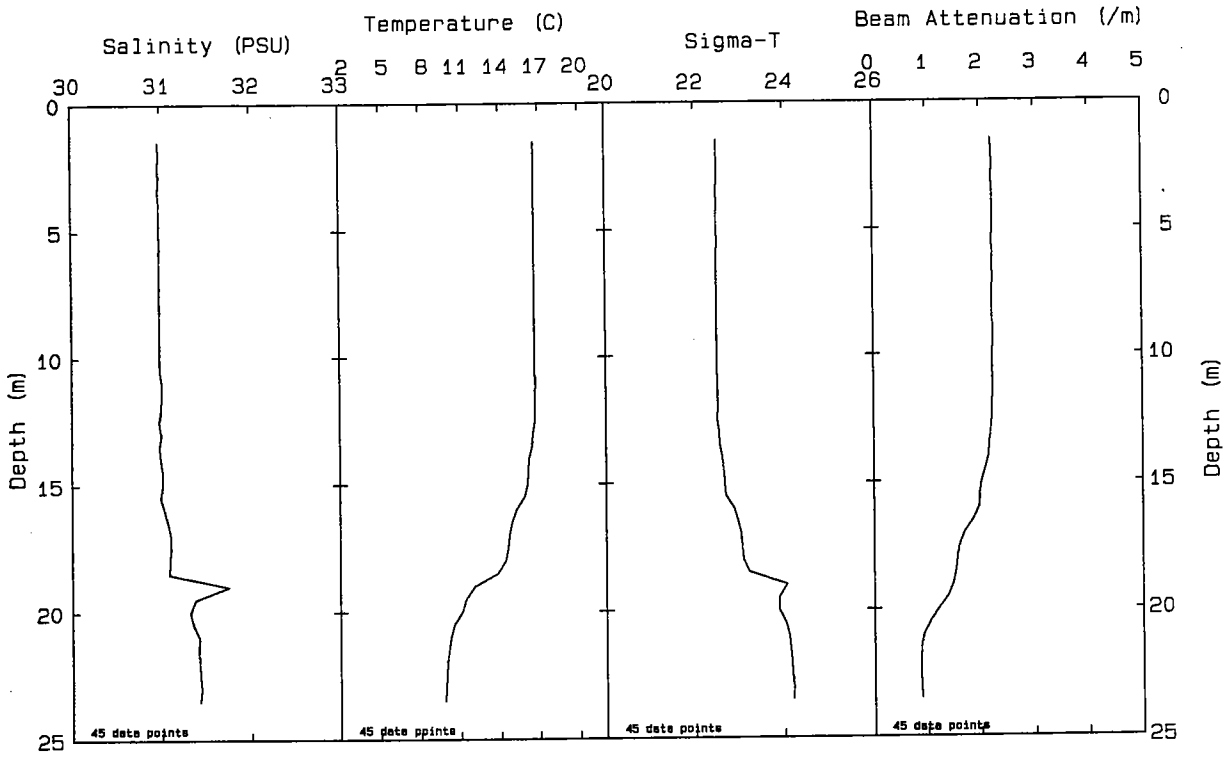


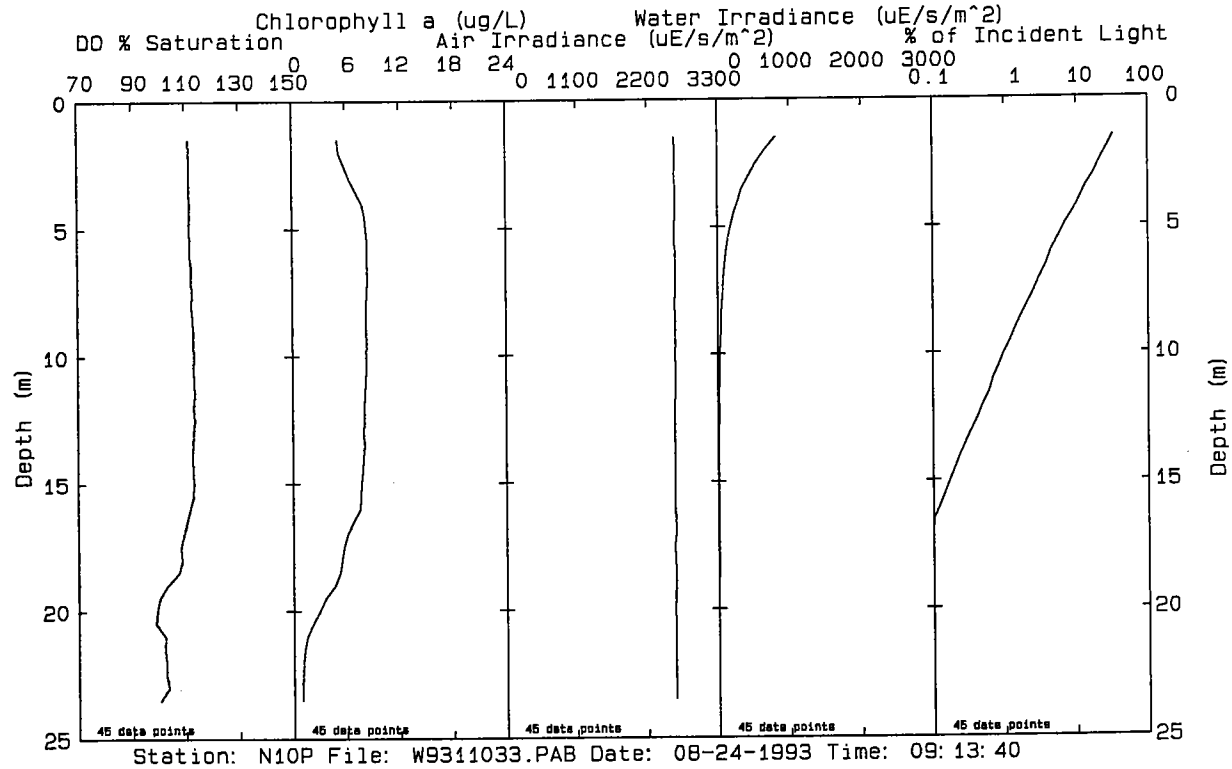
Station: N07P File: W9311203.PAB Date: 08-27-1993 Time: 10:25:34


Salinity (PSU)
30 31 32
Temperature (C)
2 5 8 11 14 17 20
33 20
Sigma-T
22 24
26
Beam Attenuation (/m)
0 1 2 3 4 5
Depth (m)
0 5 10 15 20 25 30
55 data points
Chlorophyll a (ug/L)
DO % Saturation
70 90 110 130 150
Air Irradiance (uE/s/m^2)
0 6 12 18 24
Water Irradiance (uE/s/m^2)
0 1100 2200 3300
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Station: N08 File: W9311206.PAB Date: 08-27-1993 Time: 10:49:07

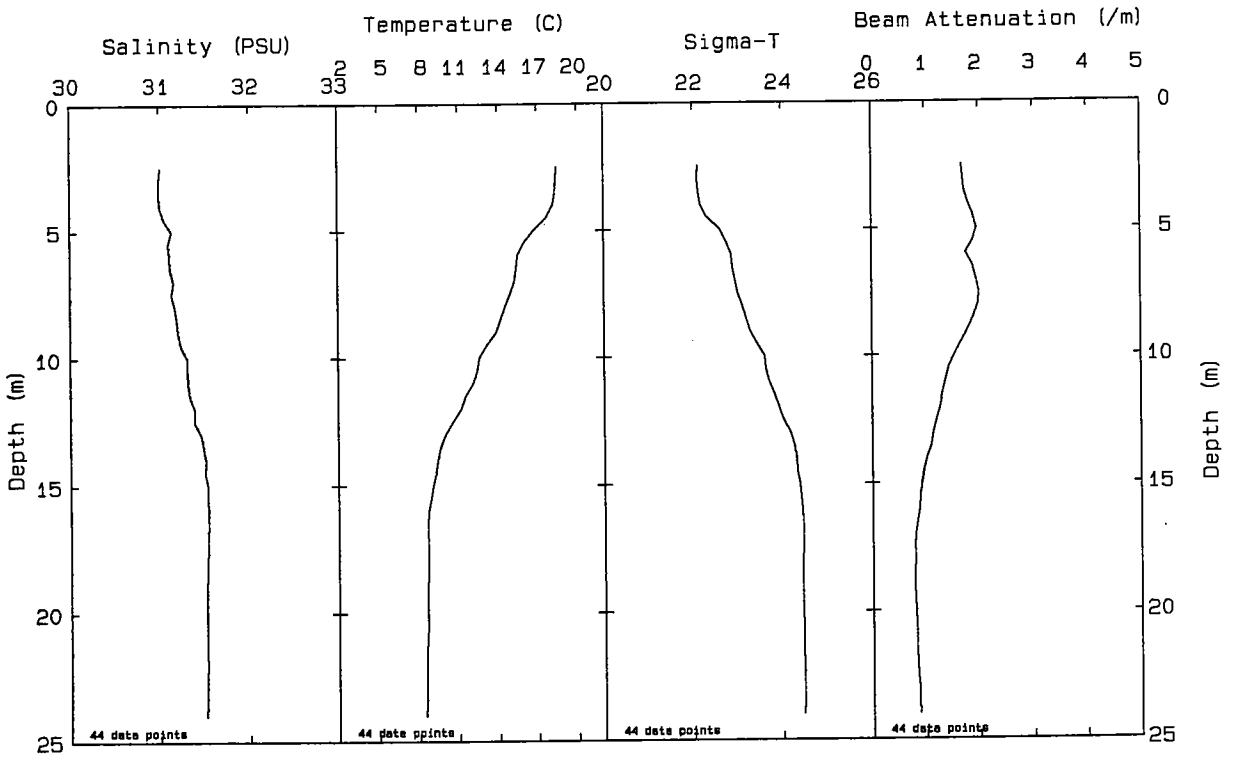

Salinity (PSU)
30 31 32
Temperature (C)
2 5 8 11 14 17 20
33 20
Sigma-T
22 24 26
Beam Attenuation (/m)
0 1 2 3 4 5
Depth (m)
0 5 10 15 20 25 30 35
62 data points
62 data points
62 data points
62 data points

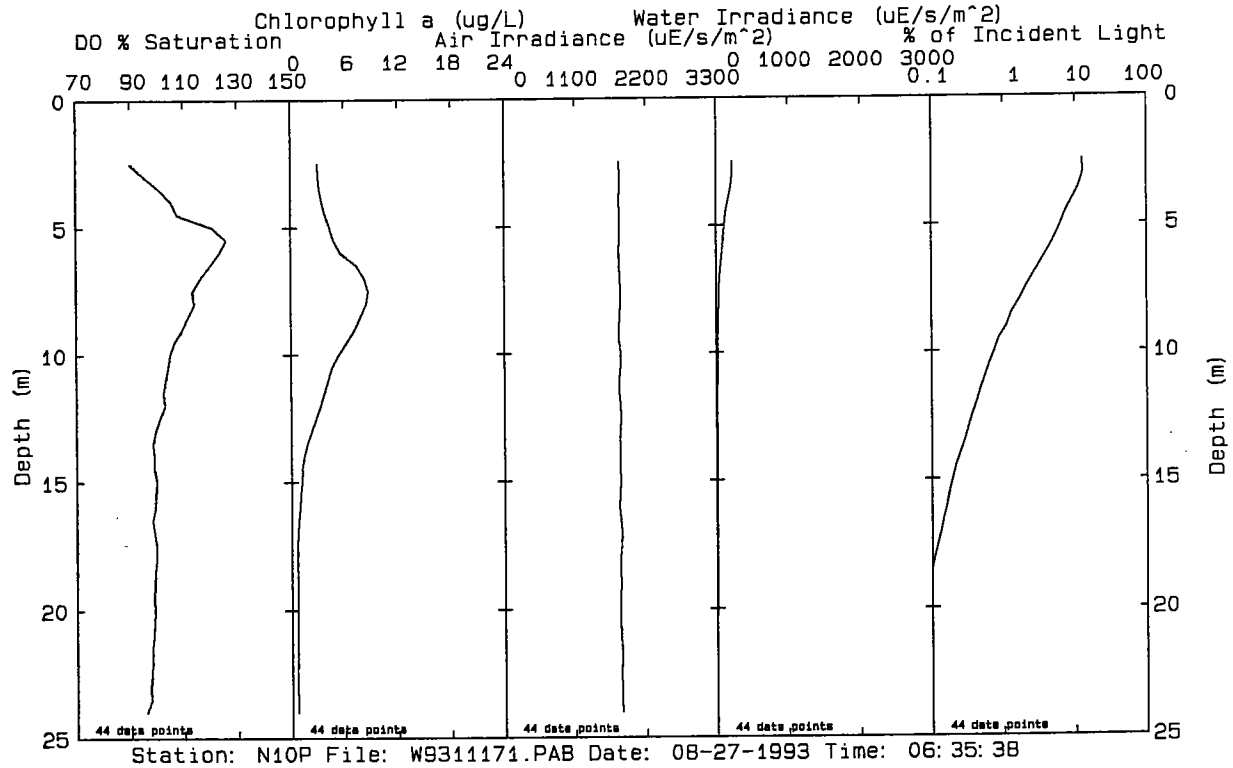

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 6 12 18 24
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35
62 data points
62 data points
62 data points
62 data points
62 data points
Station: N09 File: W9311209.PAB Date: 08-27-1993 Time: 11:20:36



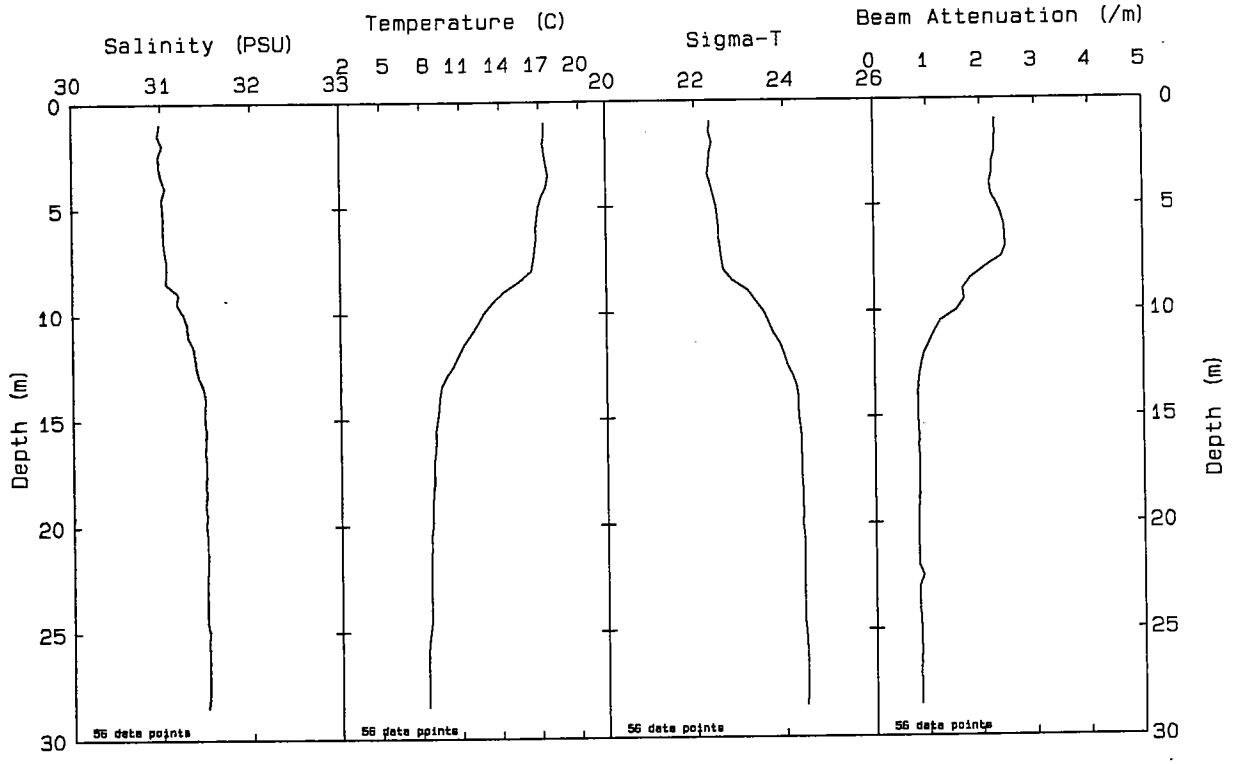


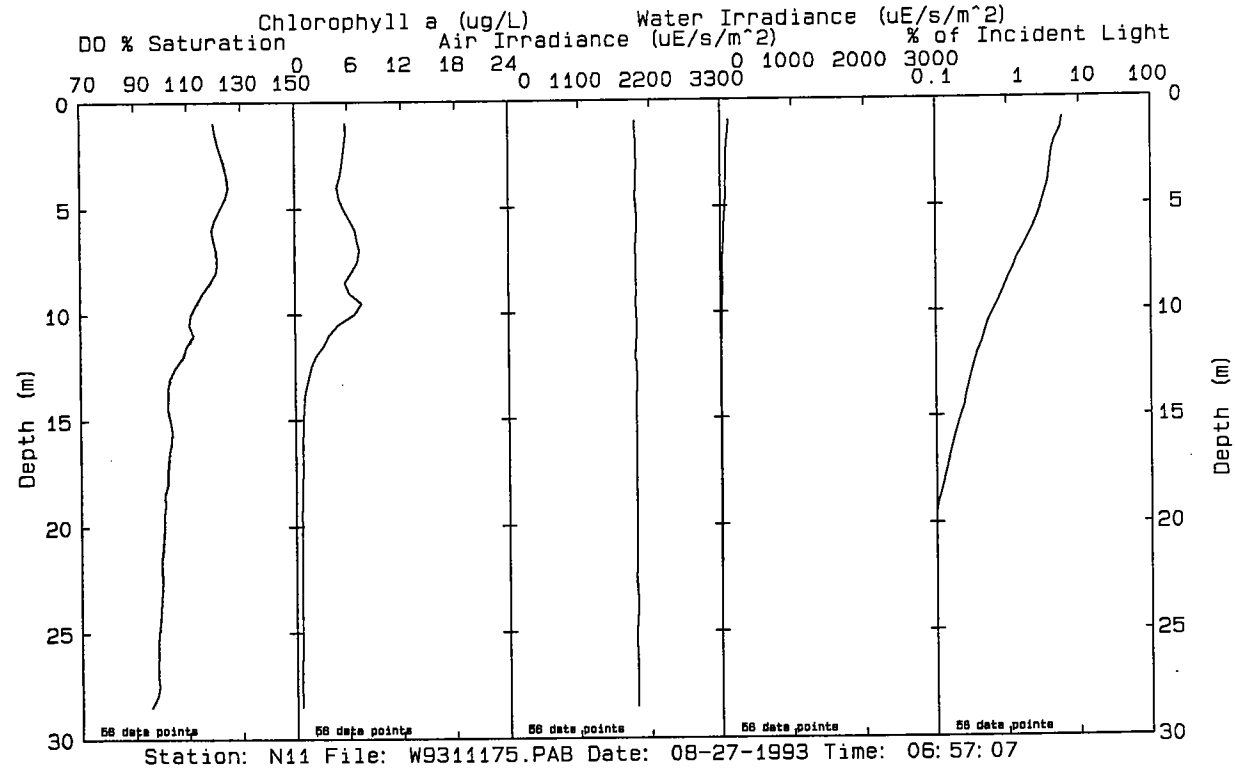
Station: N10P File: W9311033.PAB Date: 08-24-1993 Time: 09:13:40





Station: N10P File: W9311171.PAB Date: 08-27-1993 Time: 06:35:38





Station: N11 File: W9311175.PAB Date: 08-27-1993 Time: 06:57:07

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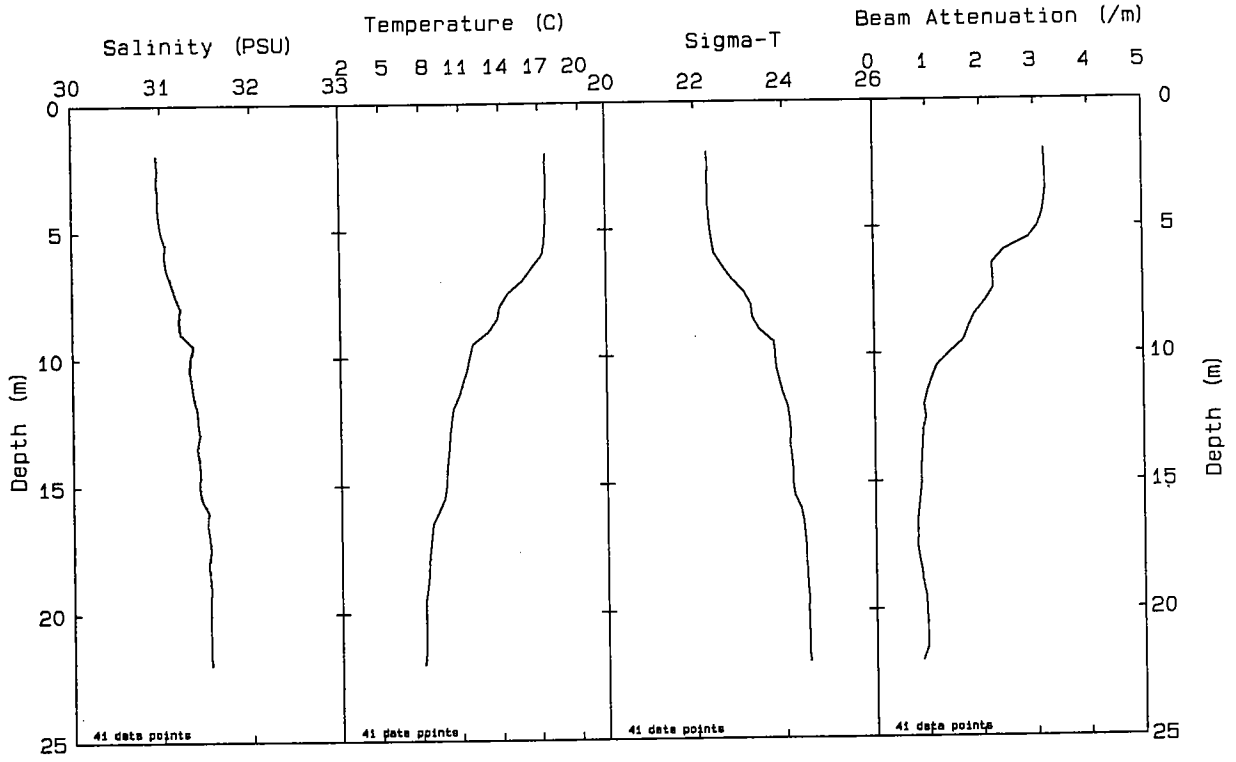

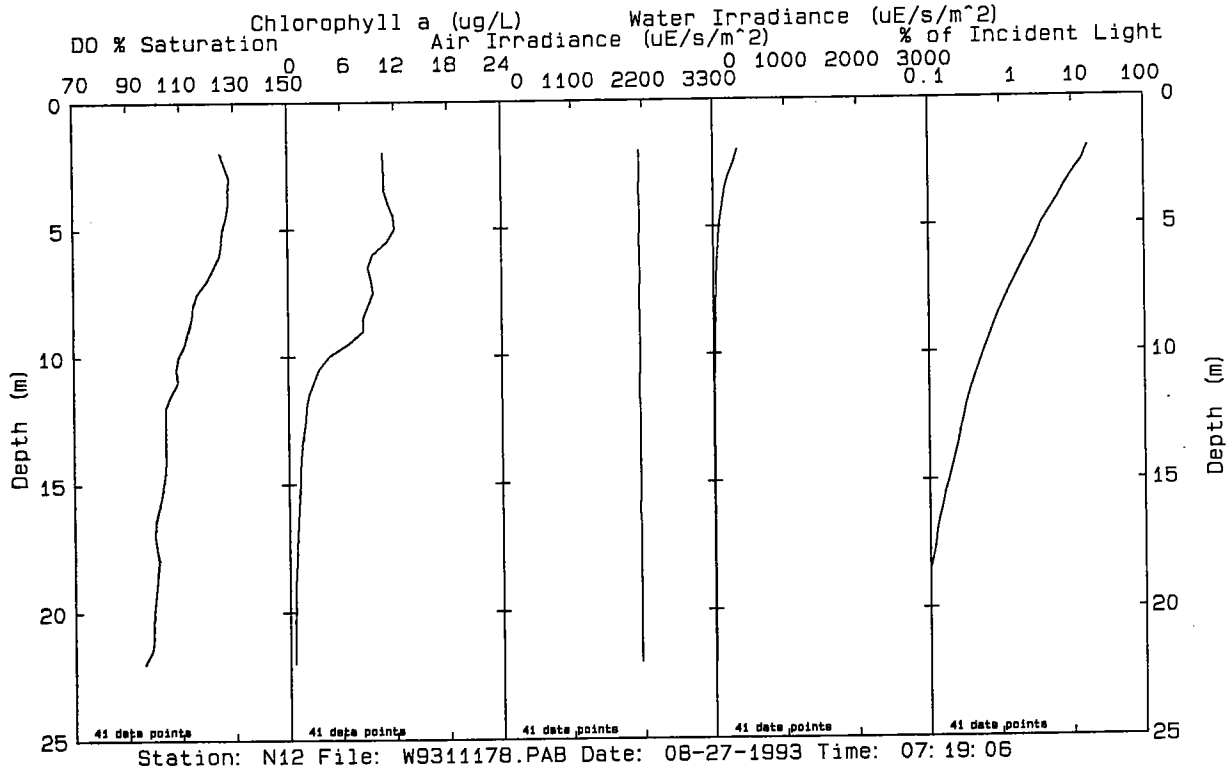

Station: N12 File: W9311178.PAB Date: 08-27-1993 Time: 07:19:06

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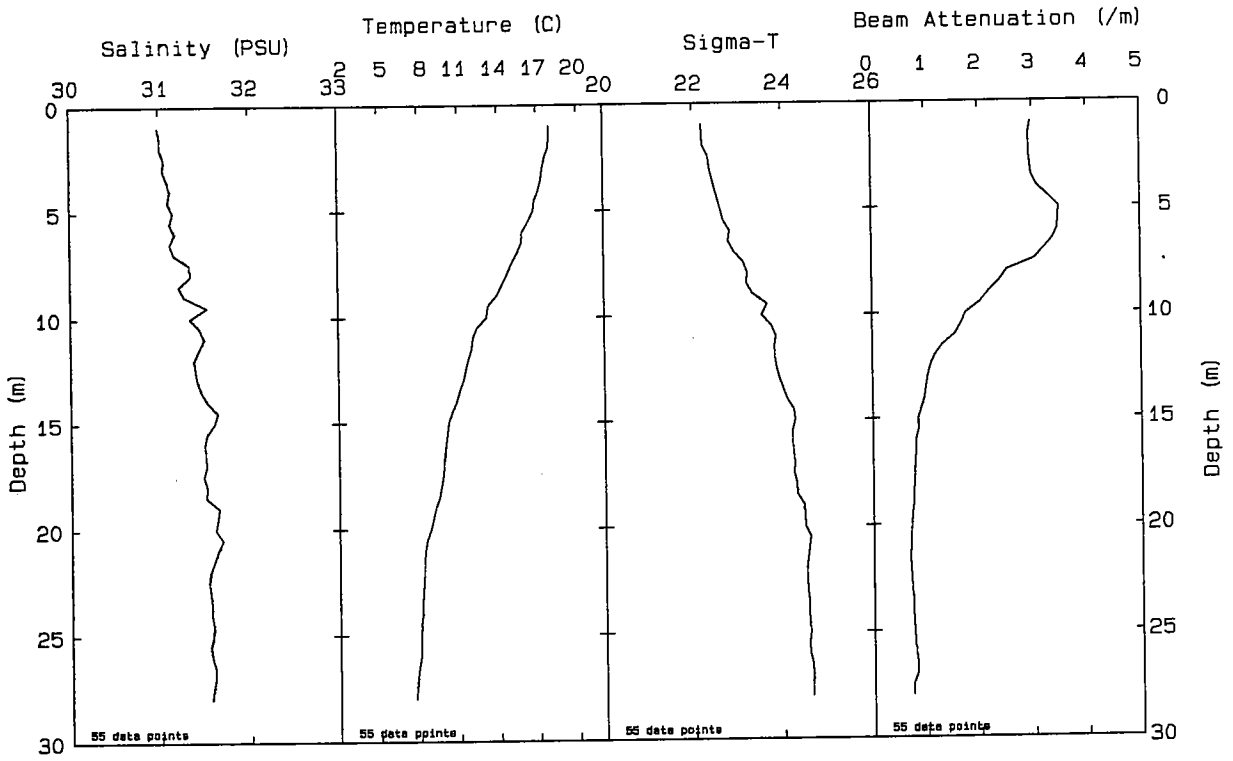
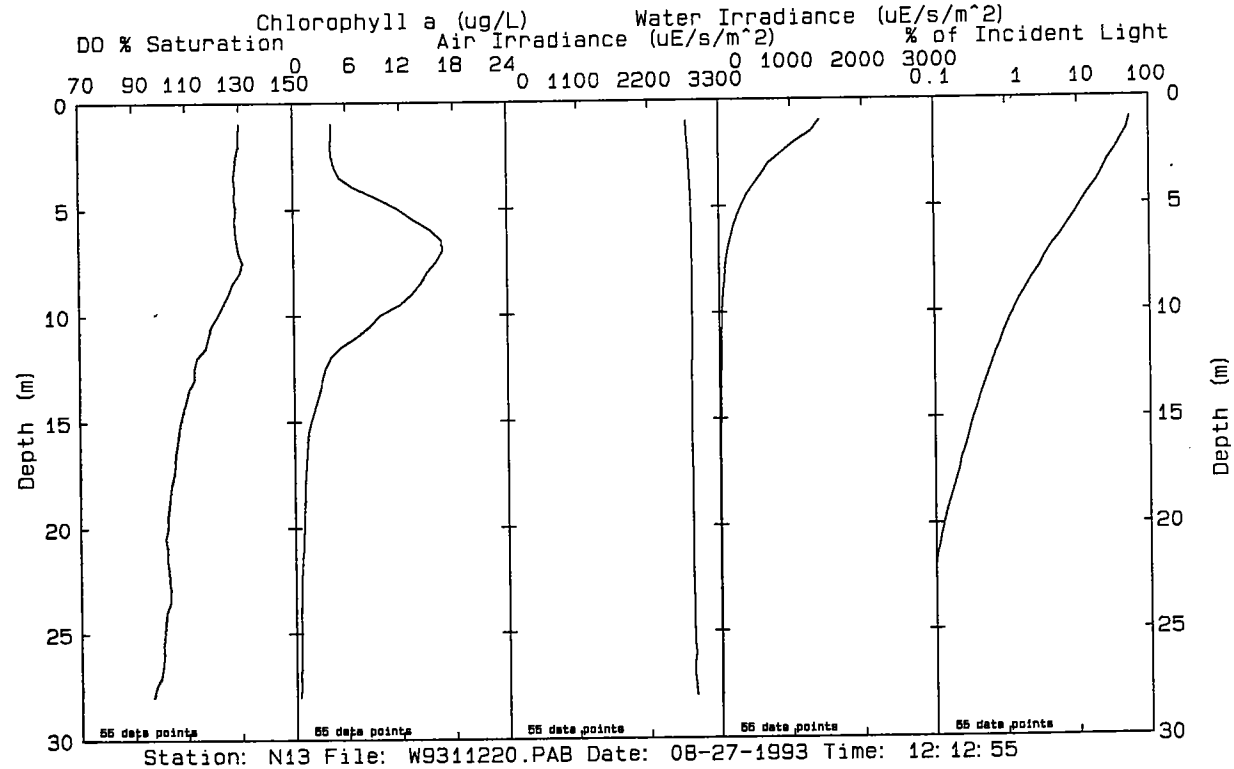
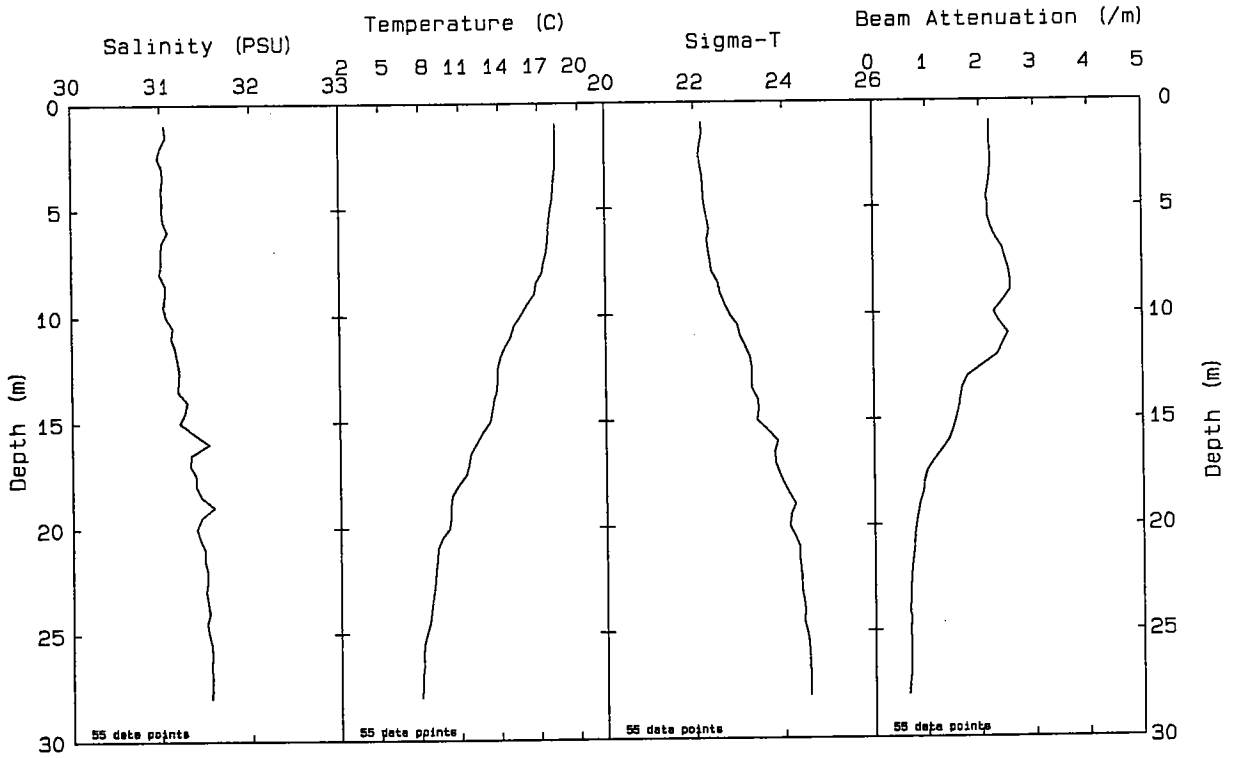
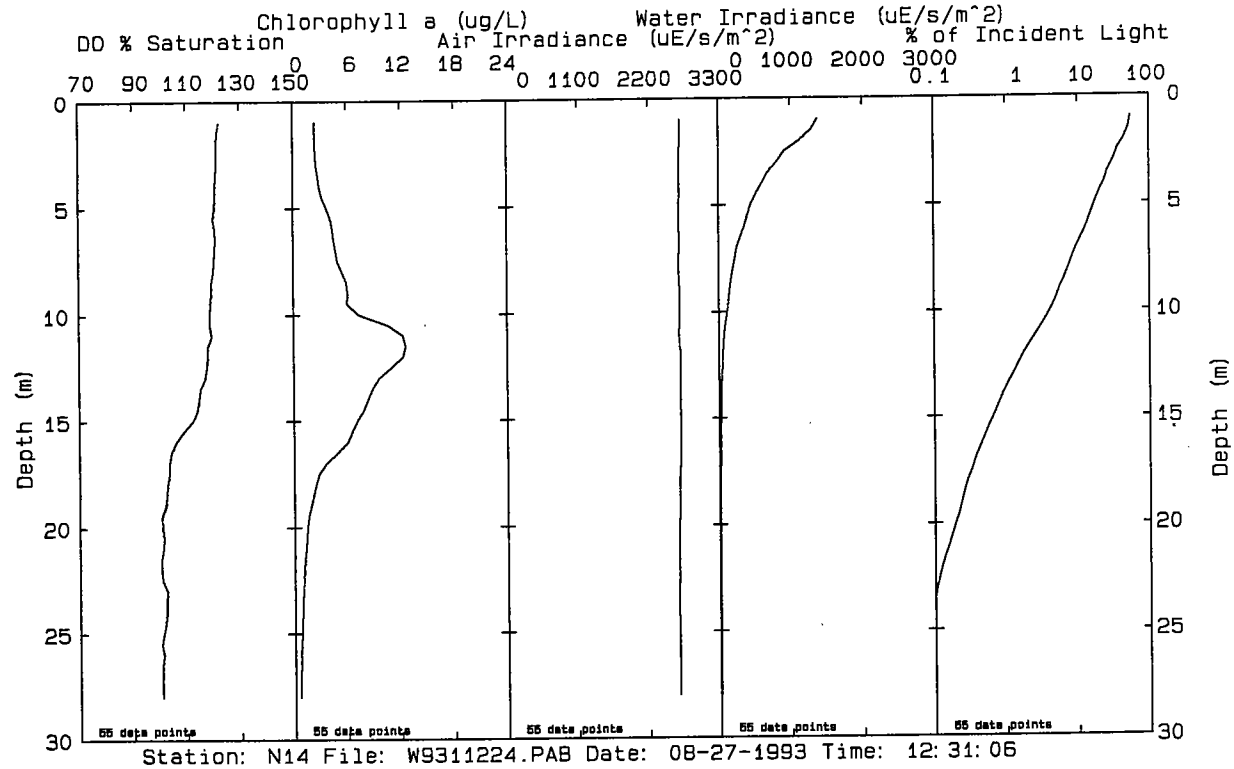


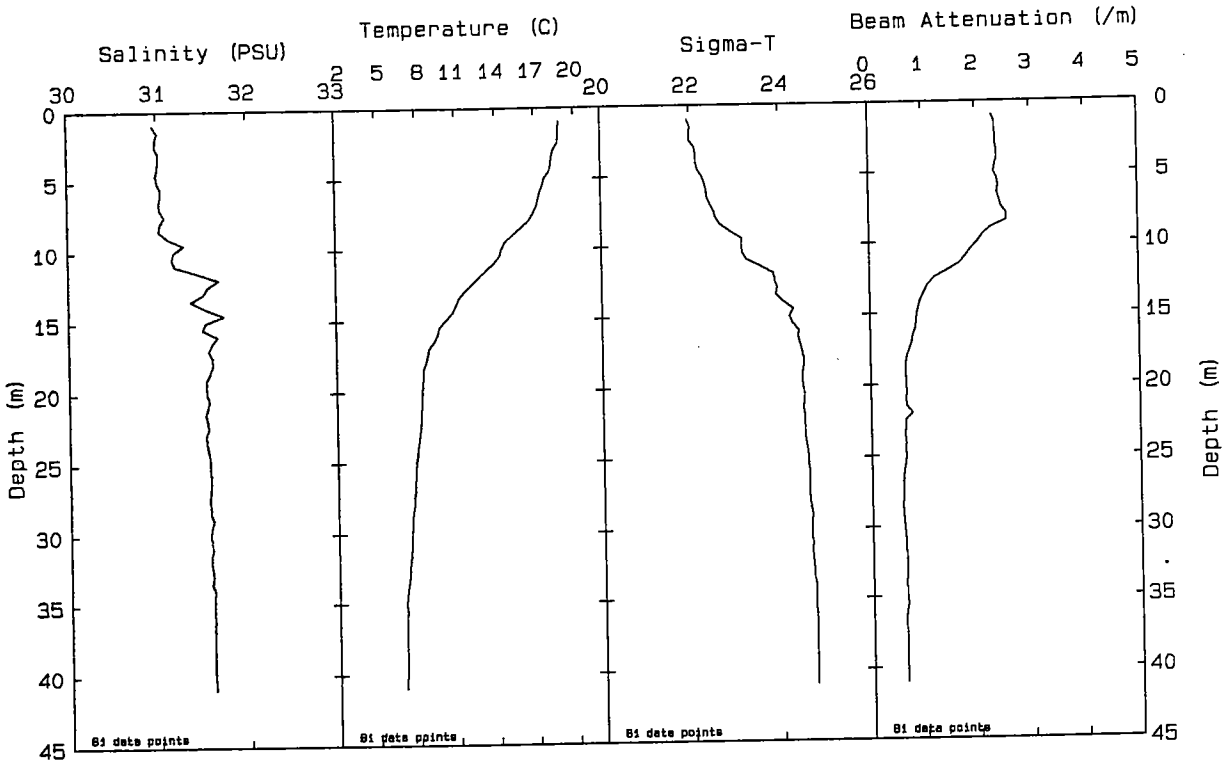


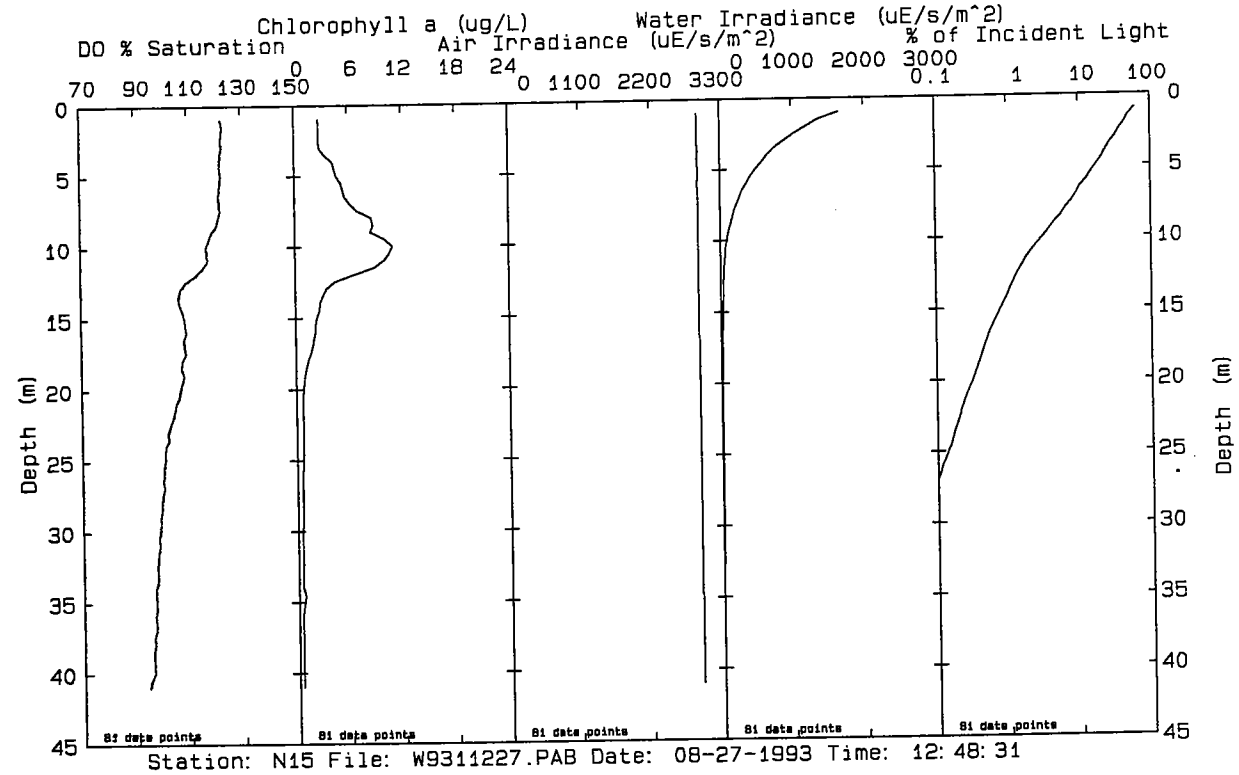
Station: N13 File: W9311220.PAB Date: 08-27-1993 Time: 12: 12: 55





Station: N14 File: W9311224.PAB Date: 08-27-1993 Time: 12:31:06





Station: N15 File: W9311227.PAB Date: 08-27-1993 Time: 12:48:31

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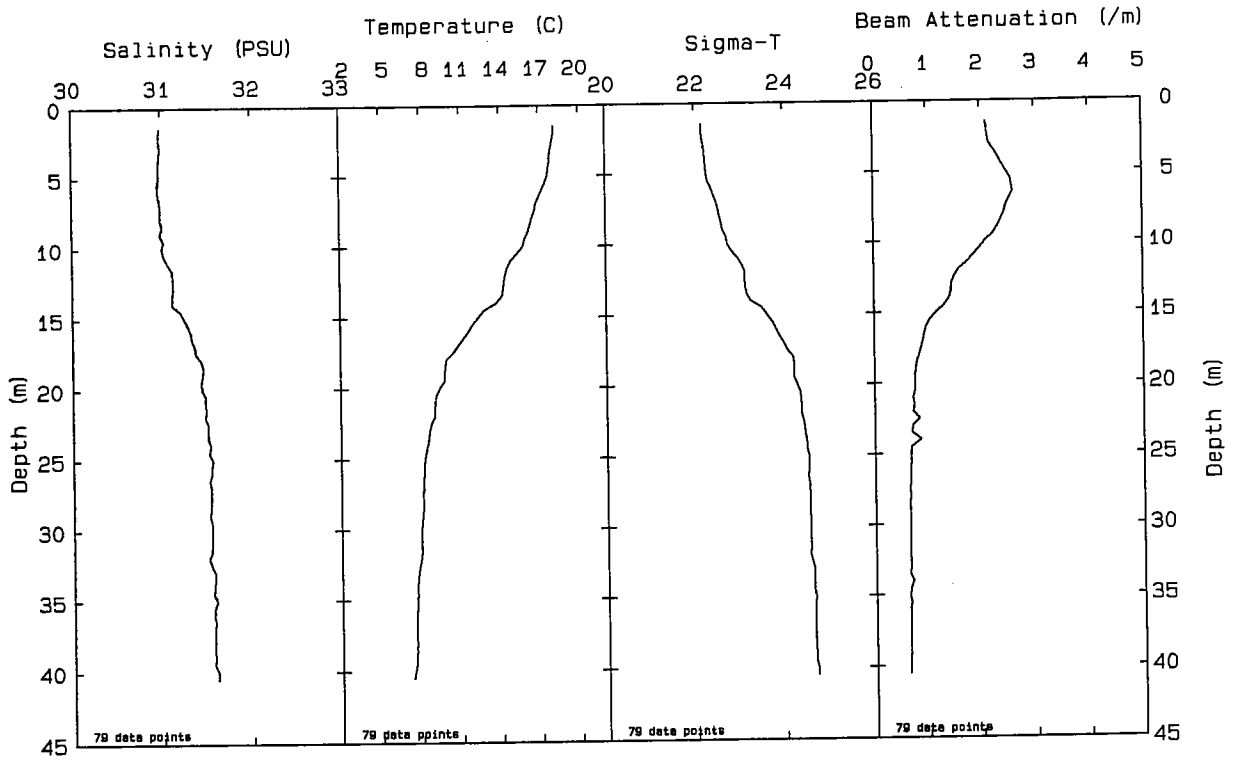

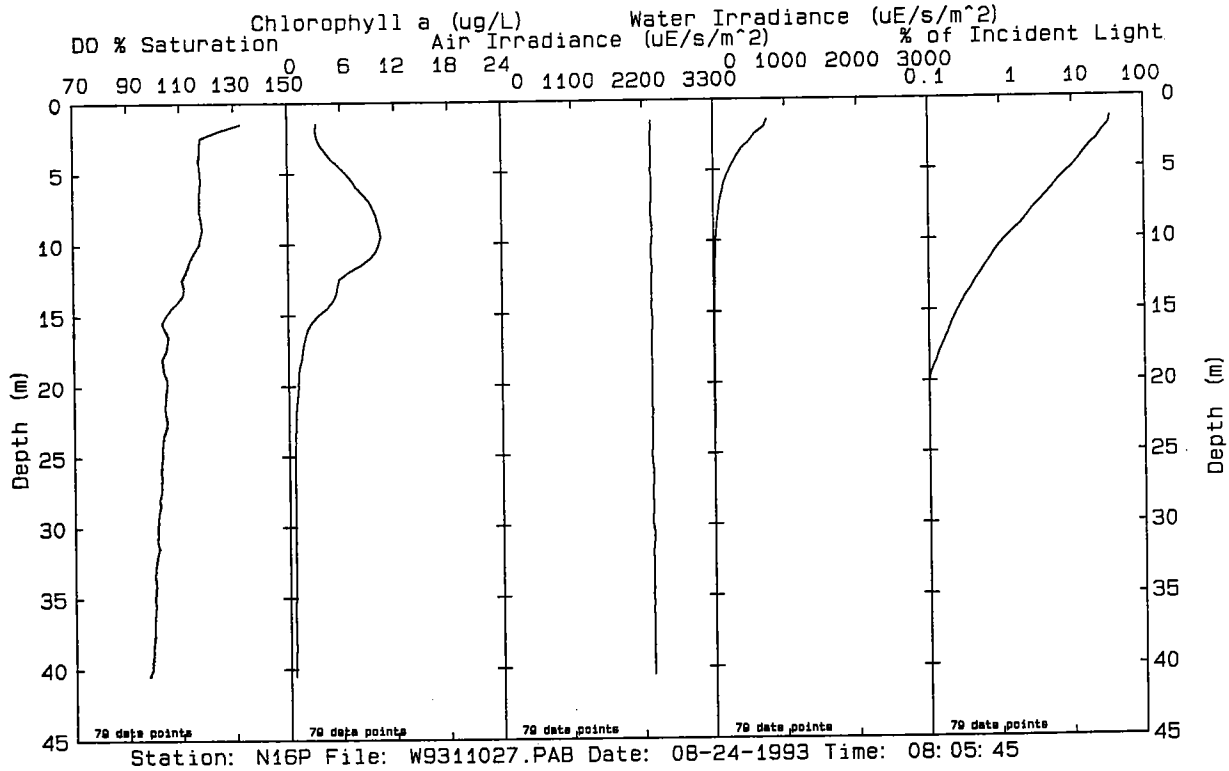

Station: N16P File: W9311027.PAB Date: 08-24-1993 Time: 08:05:45

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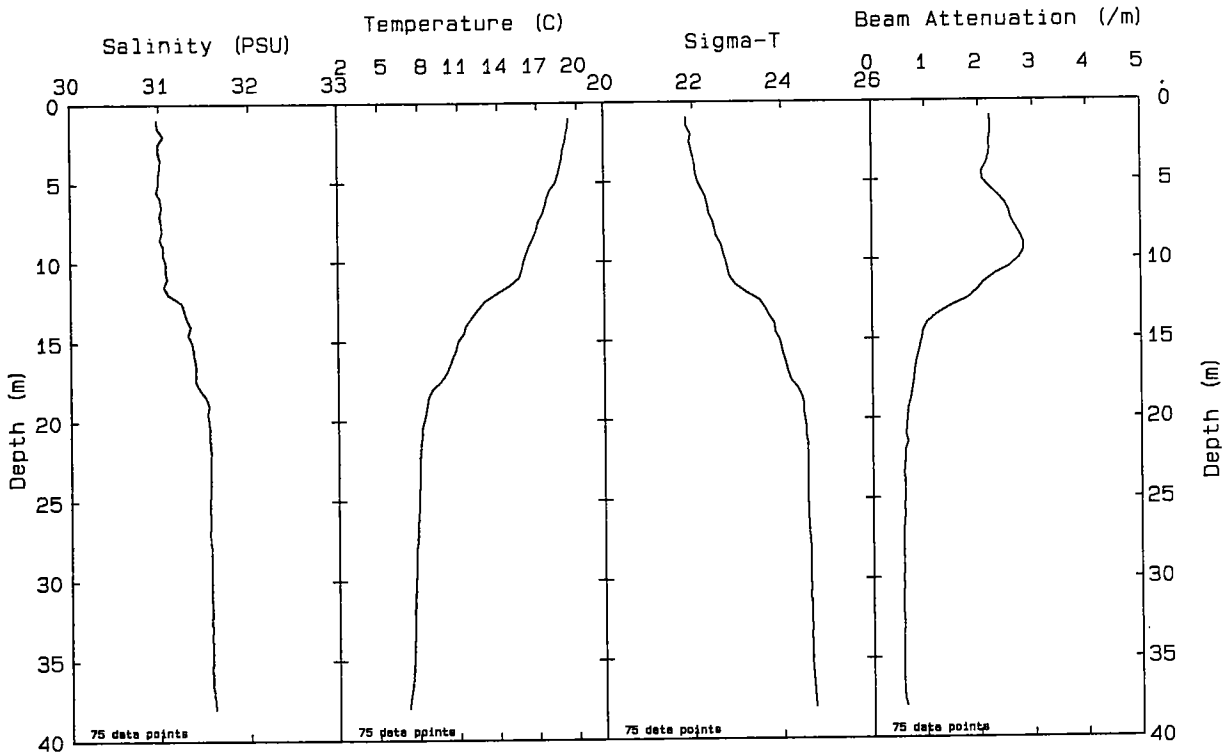

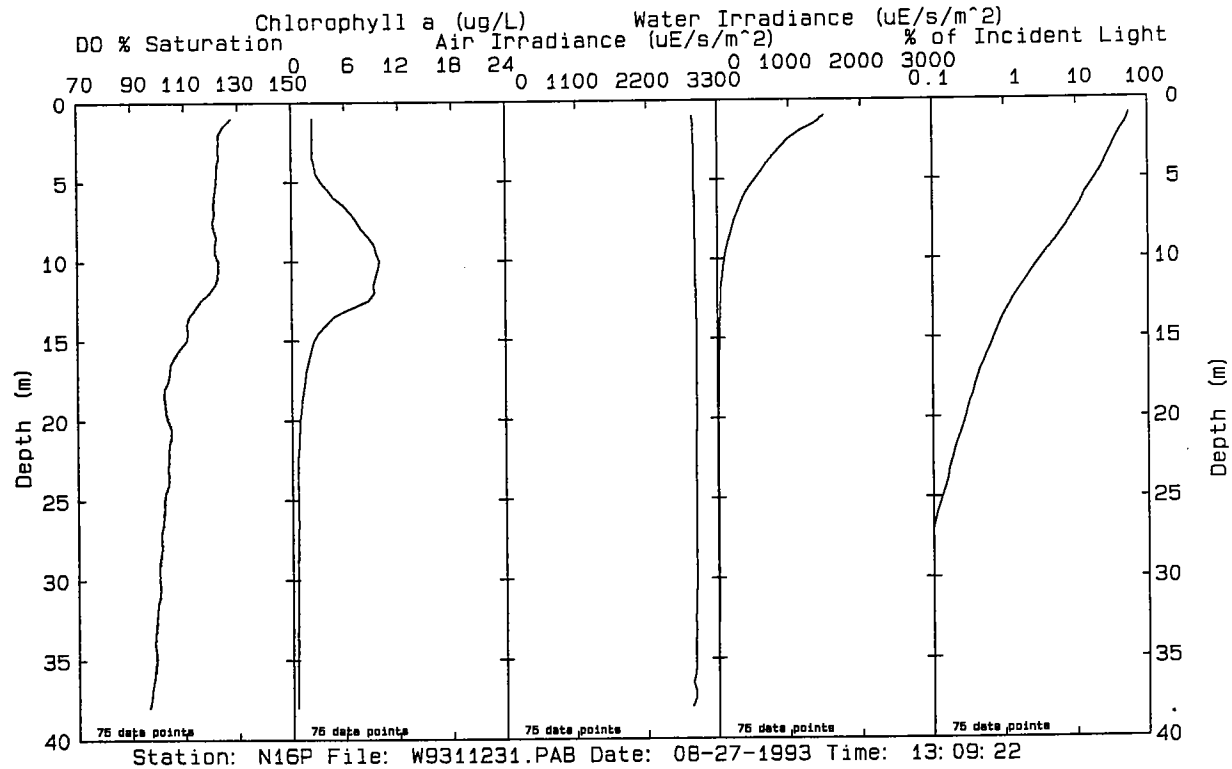

Station: N16P File: W9311231.PAB Date: 08-27-1993 Time: 13:09:22

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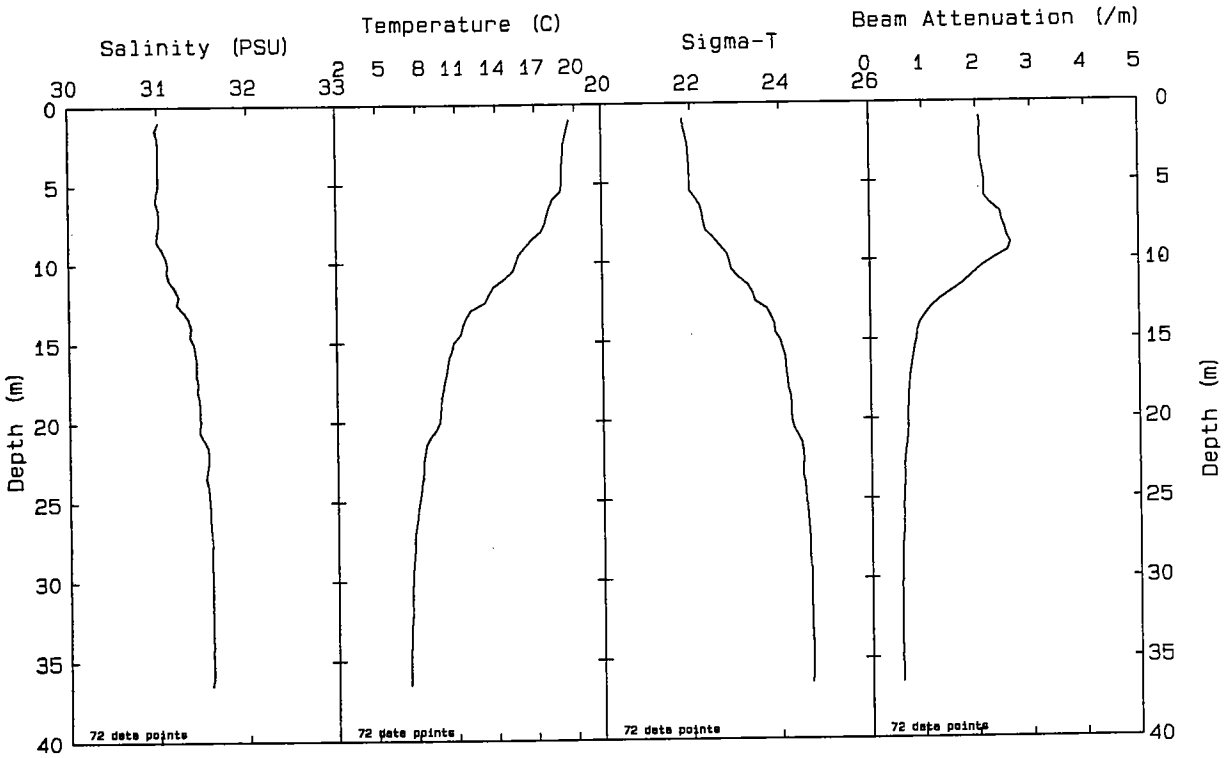
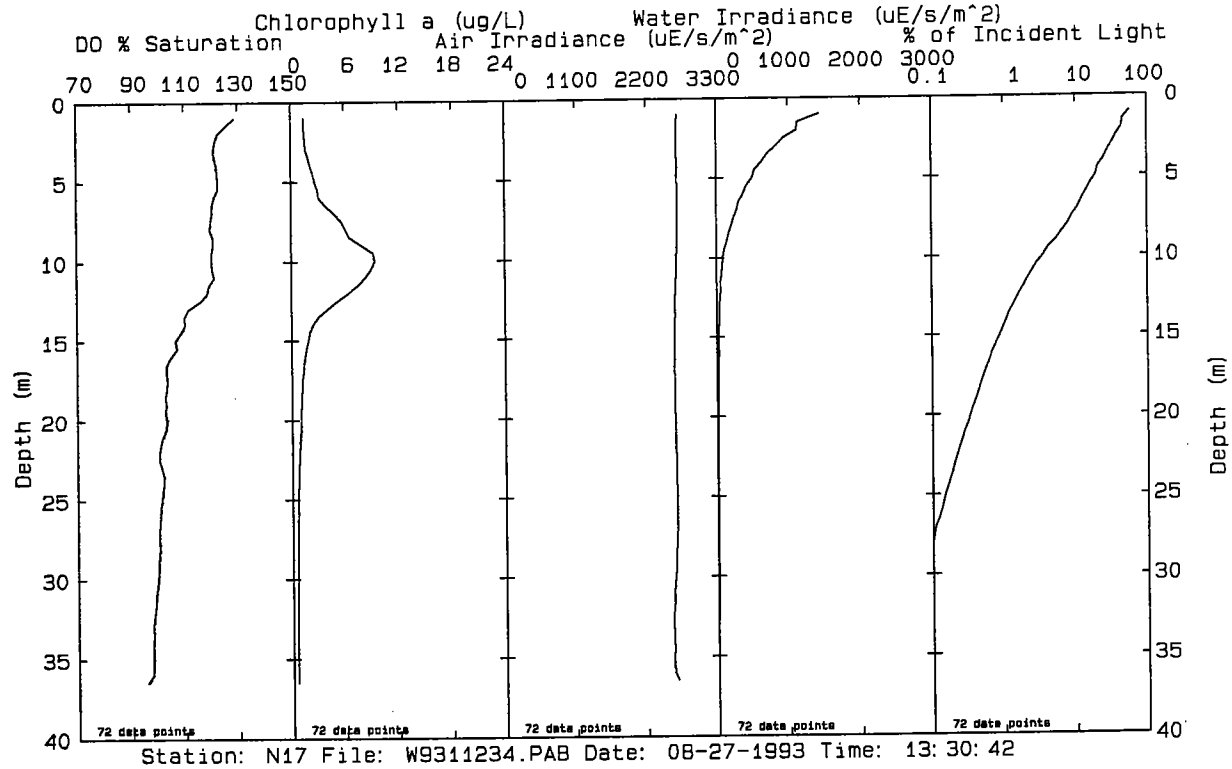
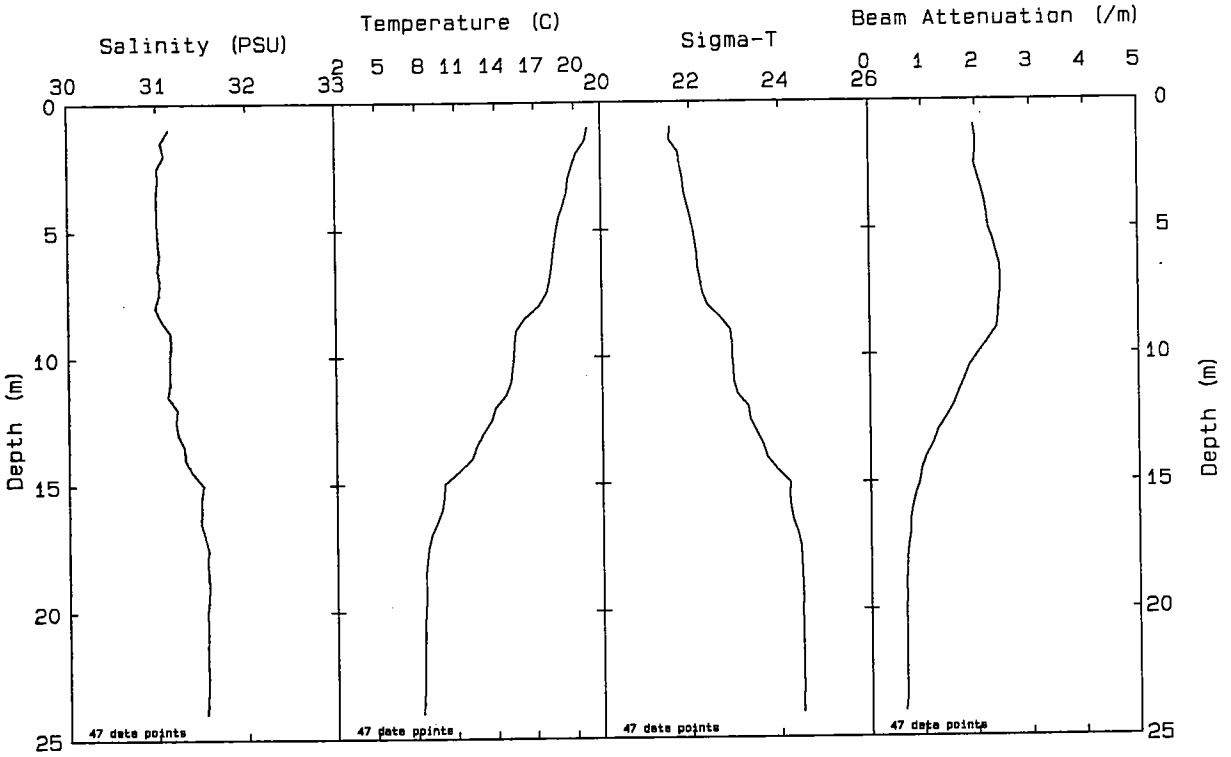
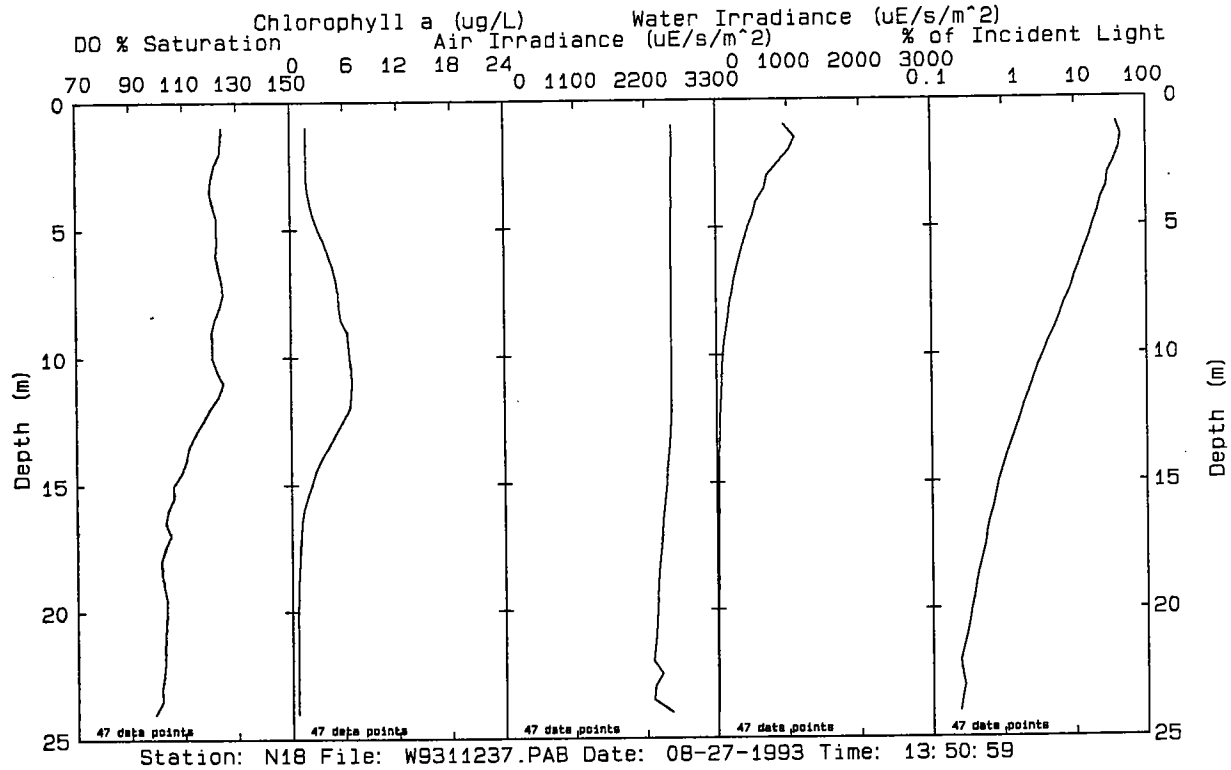


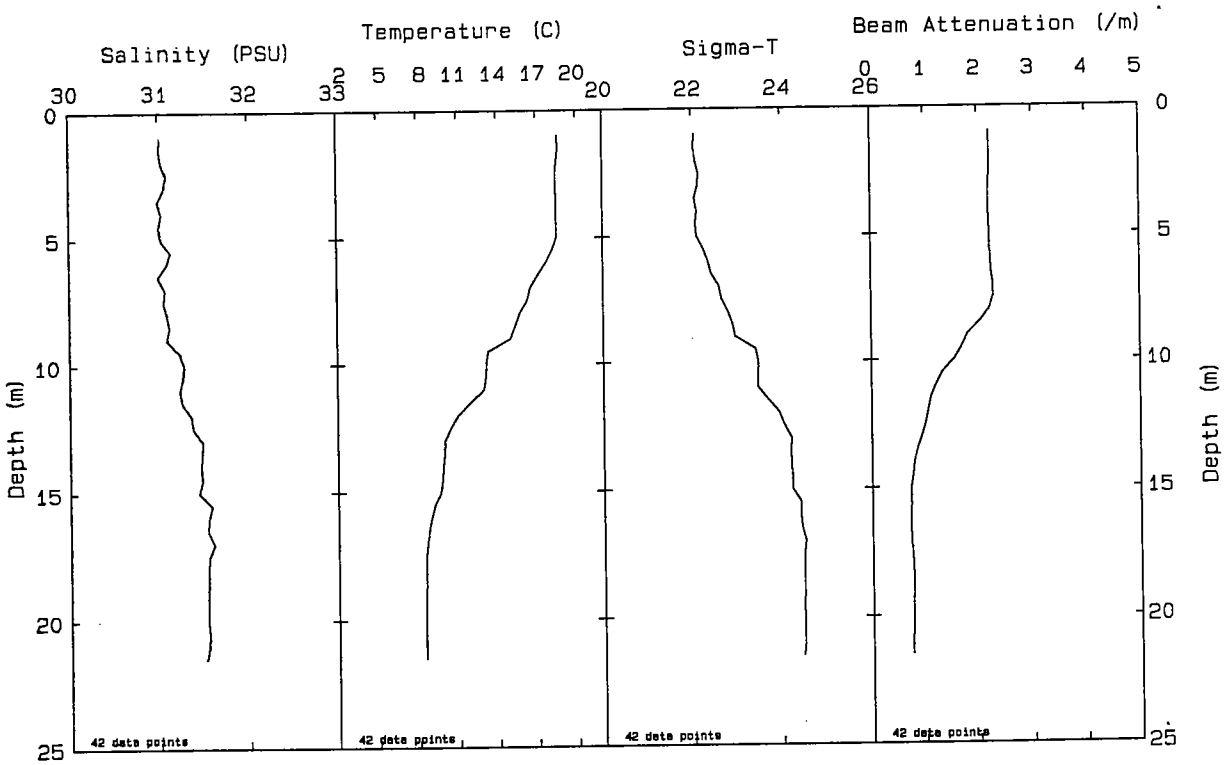


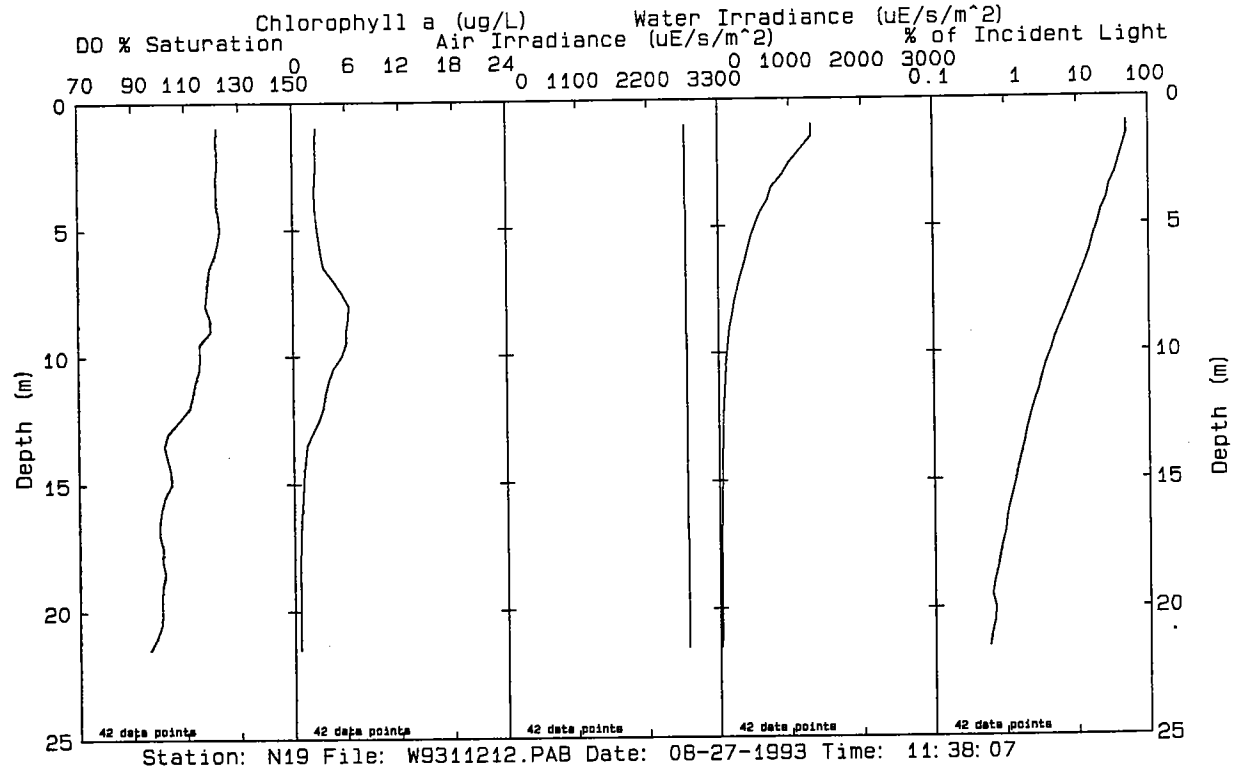
Station: N17 File: W9311234.PAB Date: 08-27-1993 Time: 13:30:42



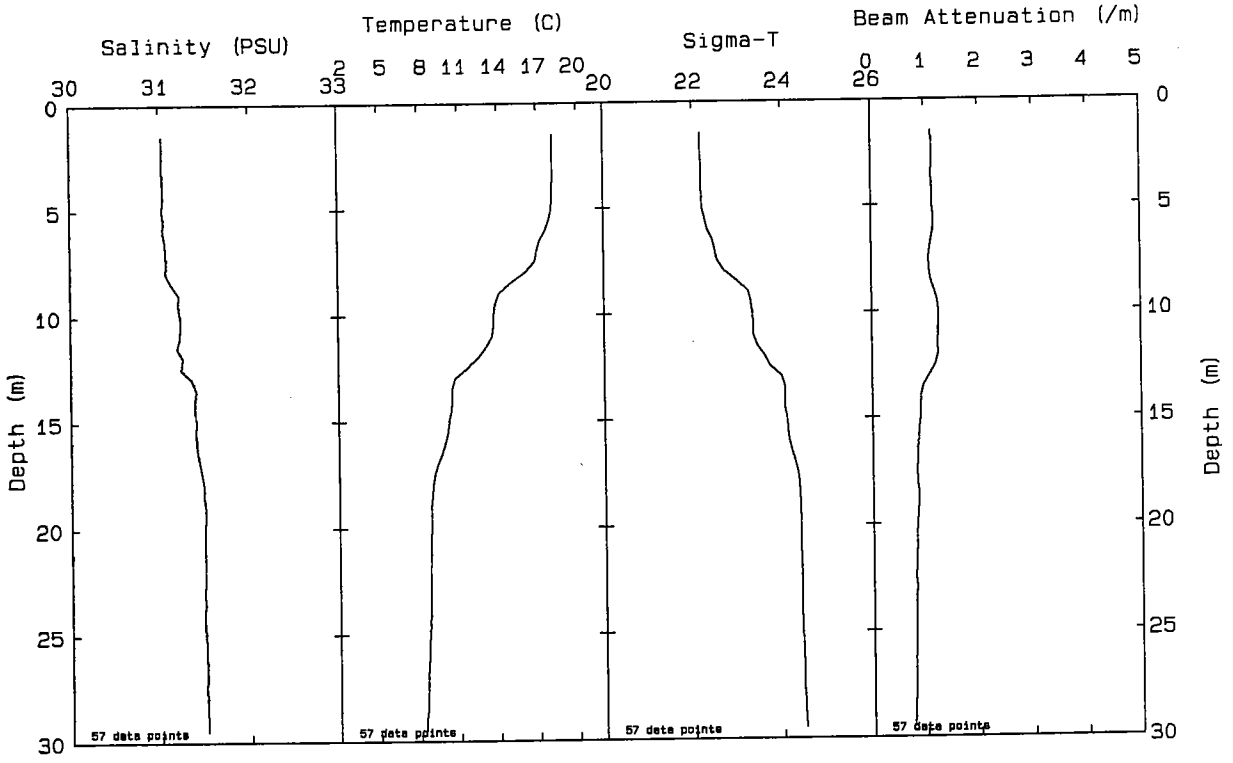


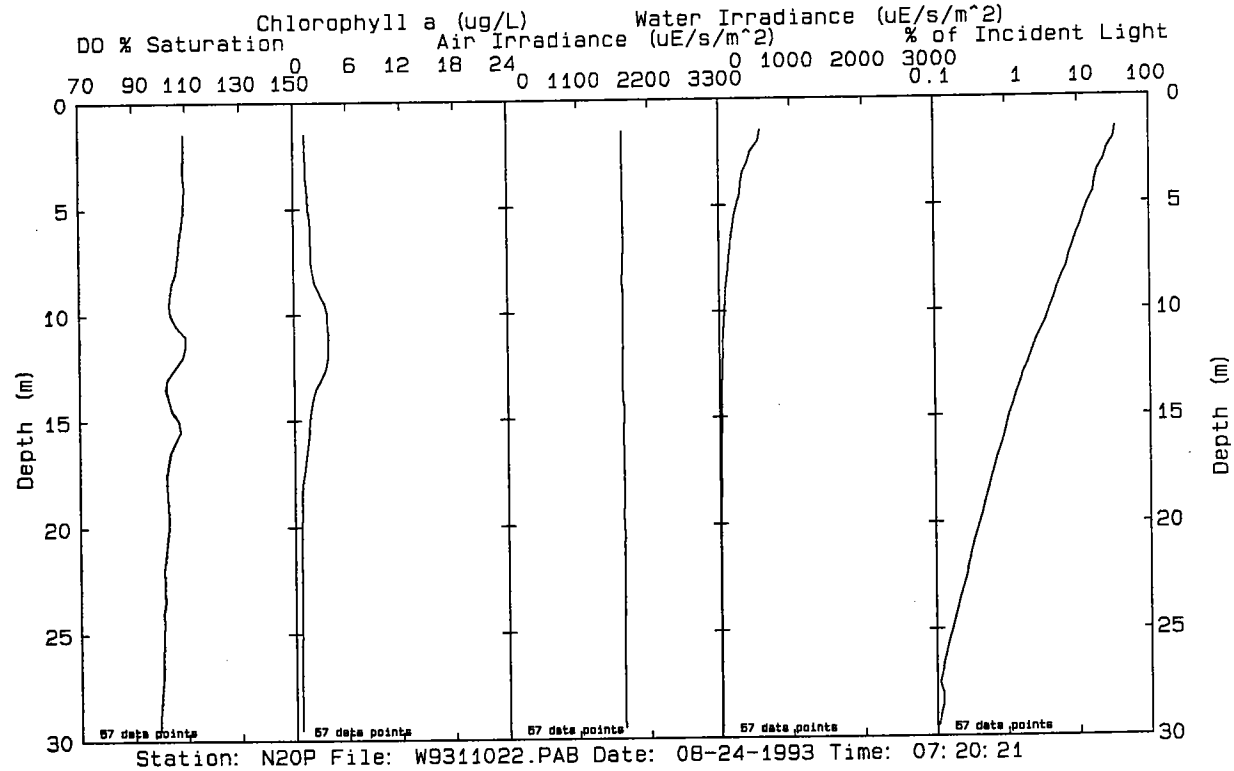
Station: N18 File: W9311237.PAB Date: 08-27-1993 Time: 13:50:59



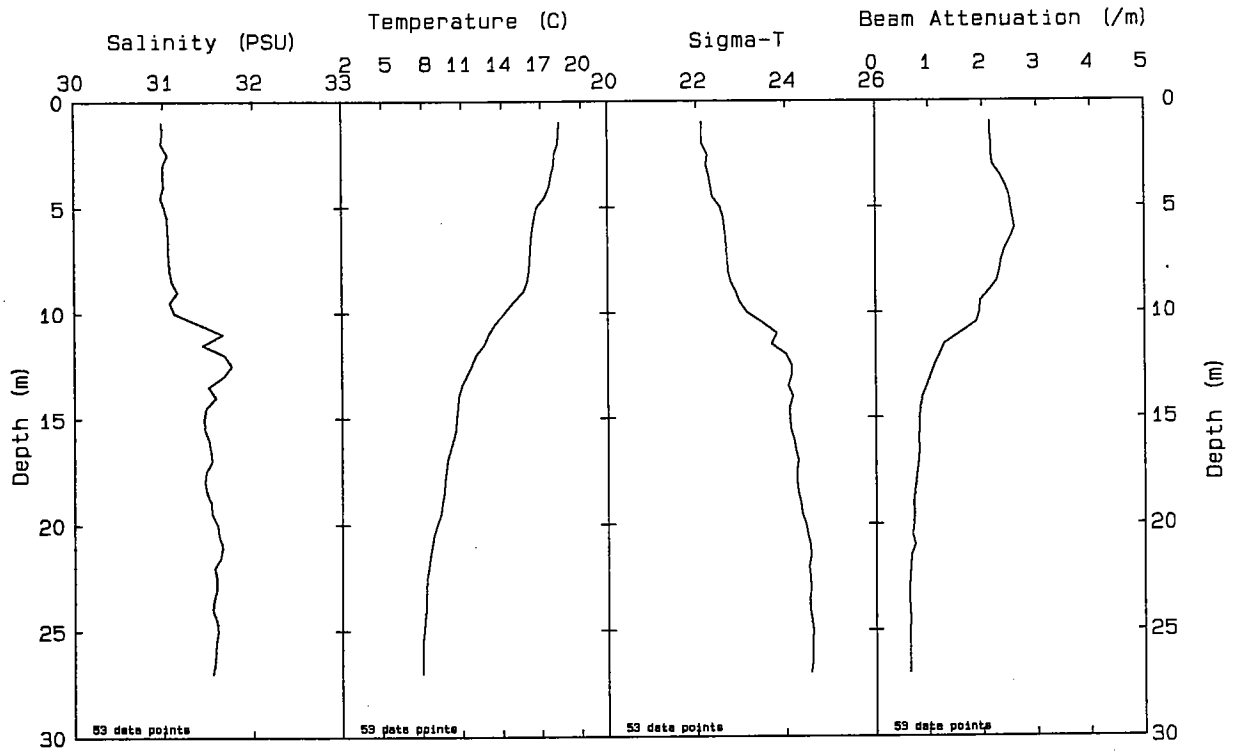


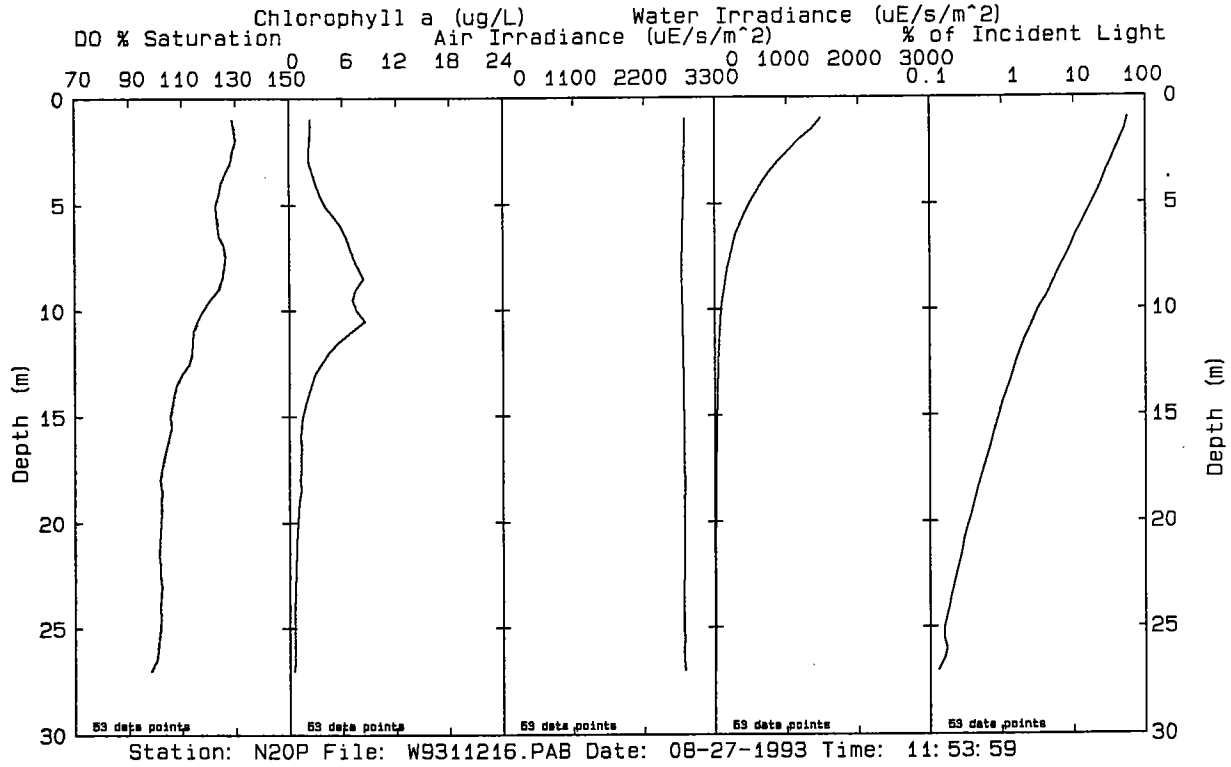
Station: N19 File: W9311212.PAB Date: 08-27-1993 Time: 11:38:07





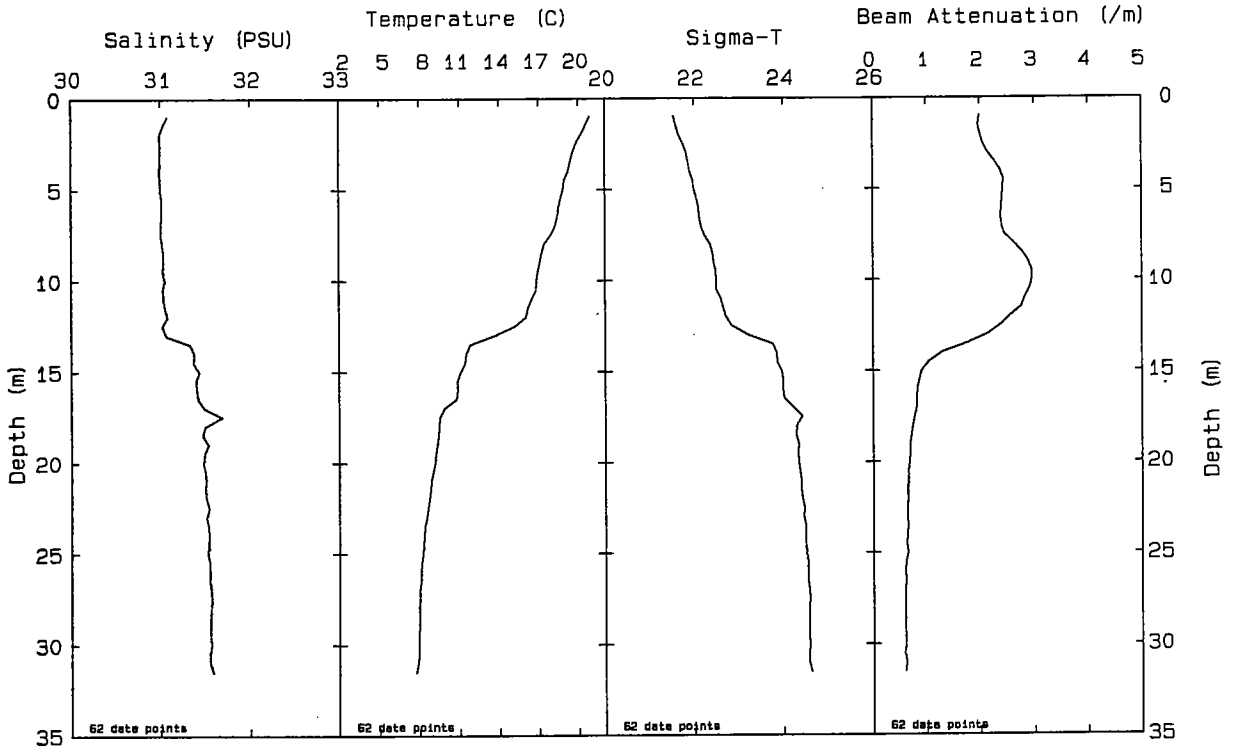
Station: N20P File: W9311022.PAB Date: 08-24-1993 Time: 07:20:21

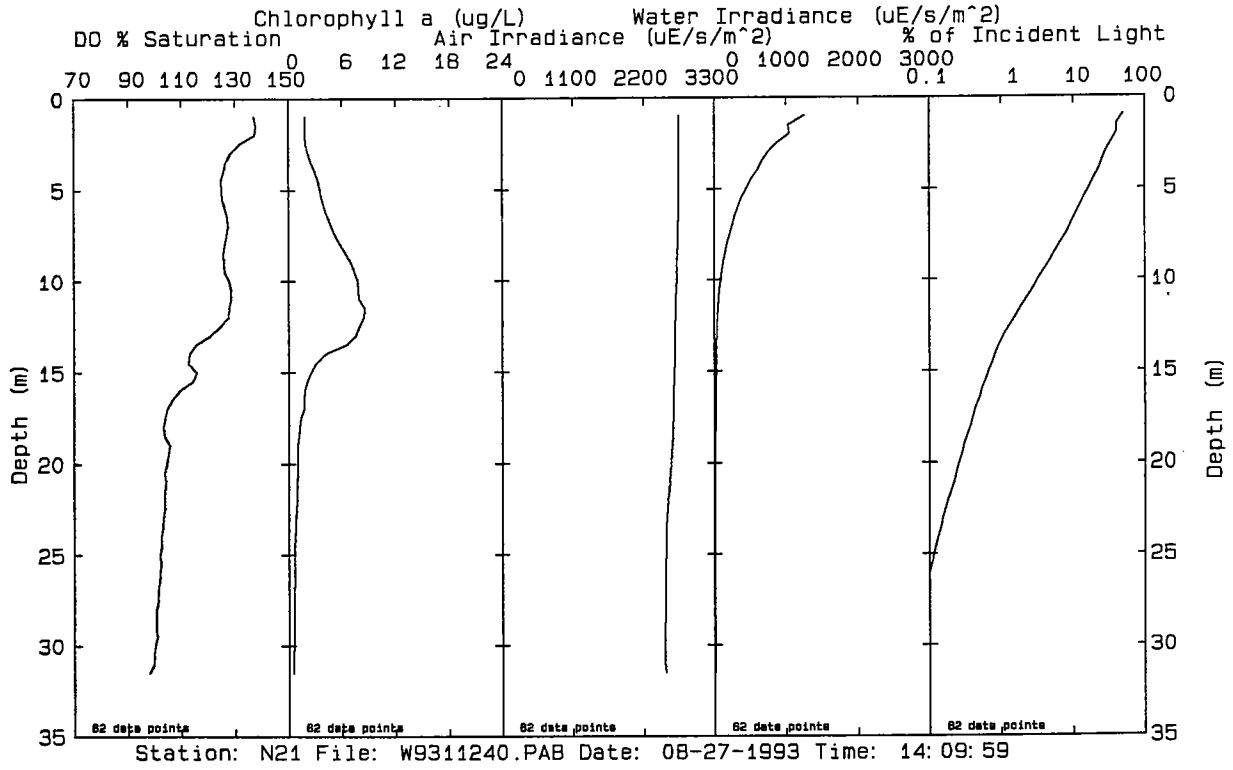




Station: N20P File: W9311216.PAB Date: 08-27-1993 Time: 11:53:59

00101





Station: N21 File: W9311240.PAB Date: 08-27-1993 Time: 14:09:59

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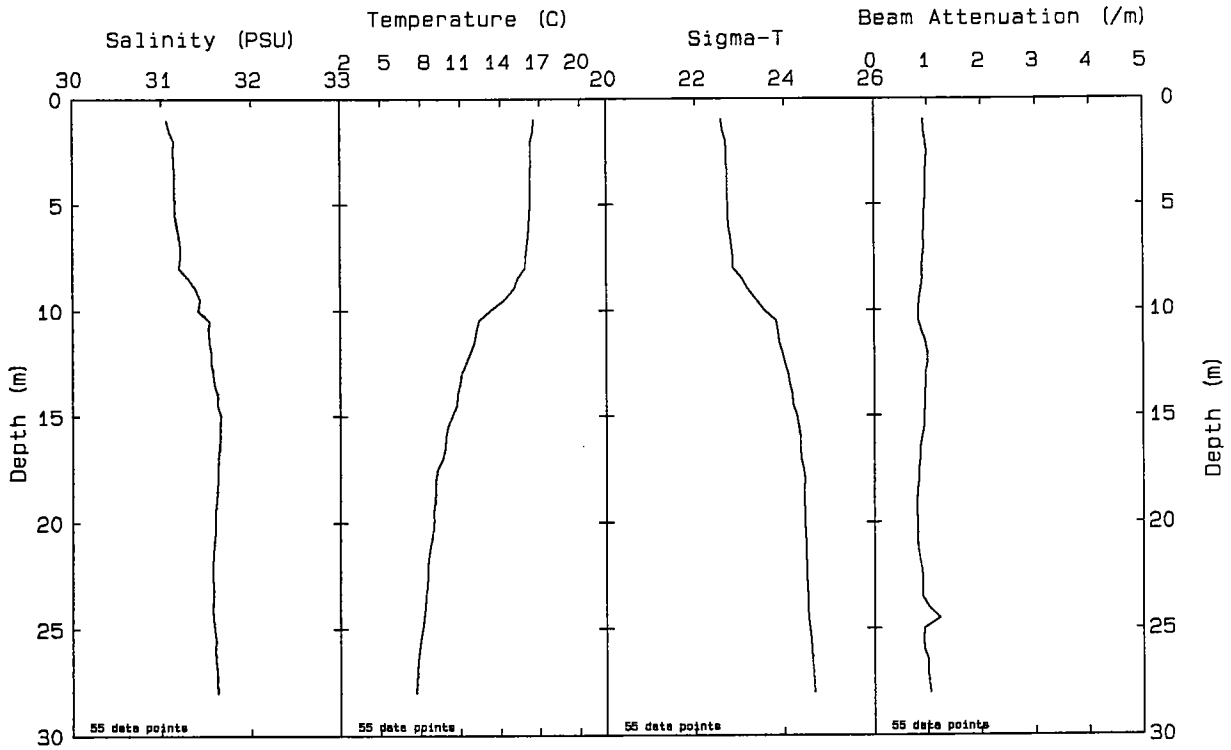
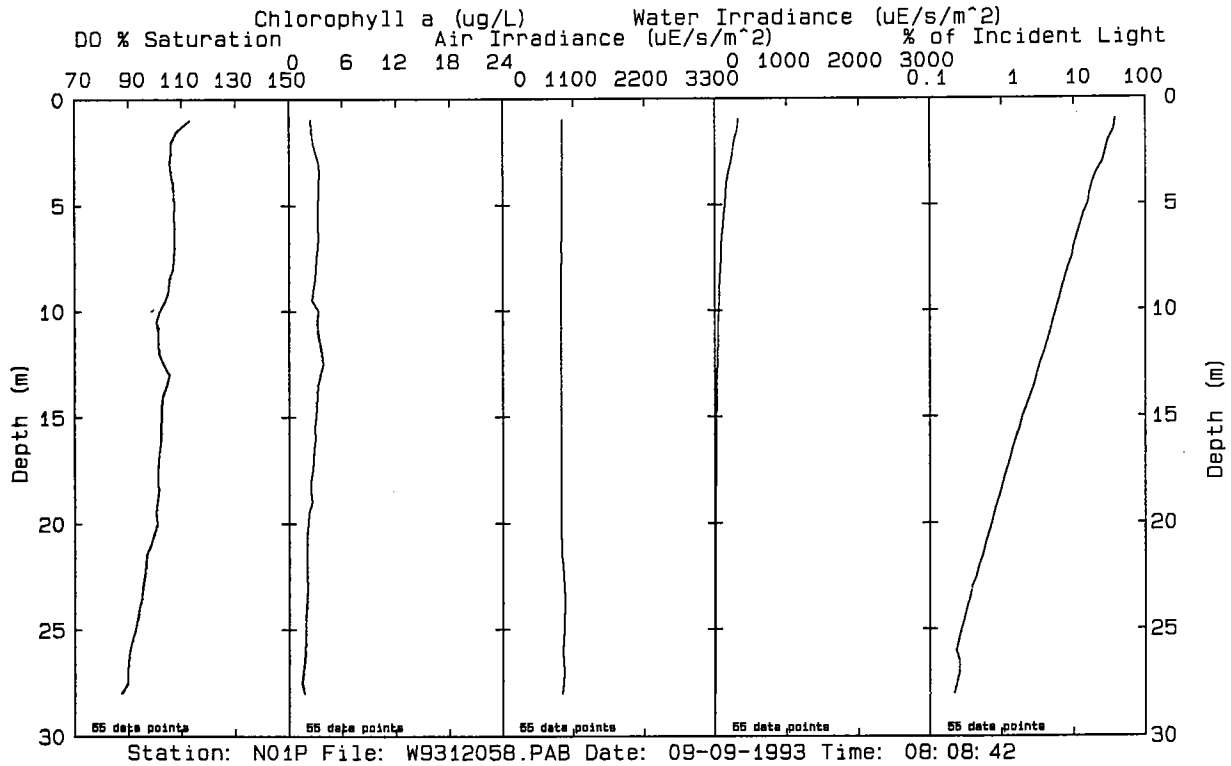
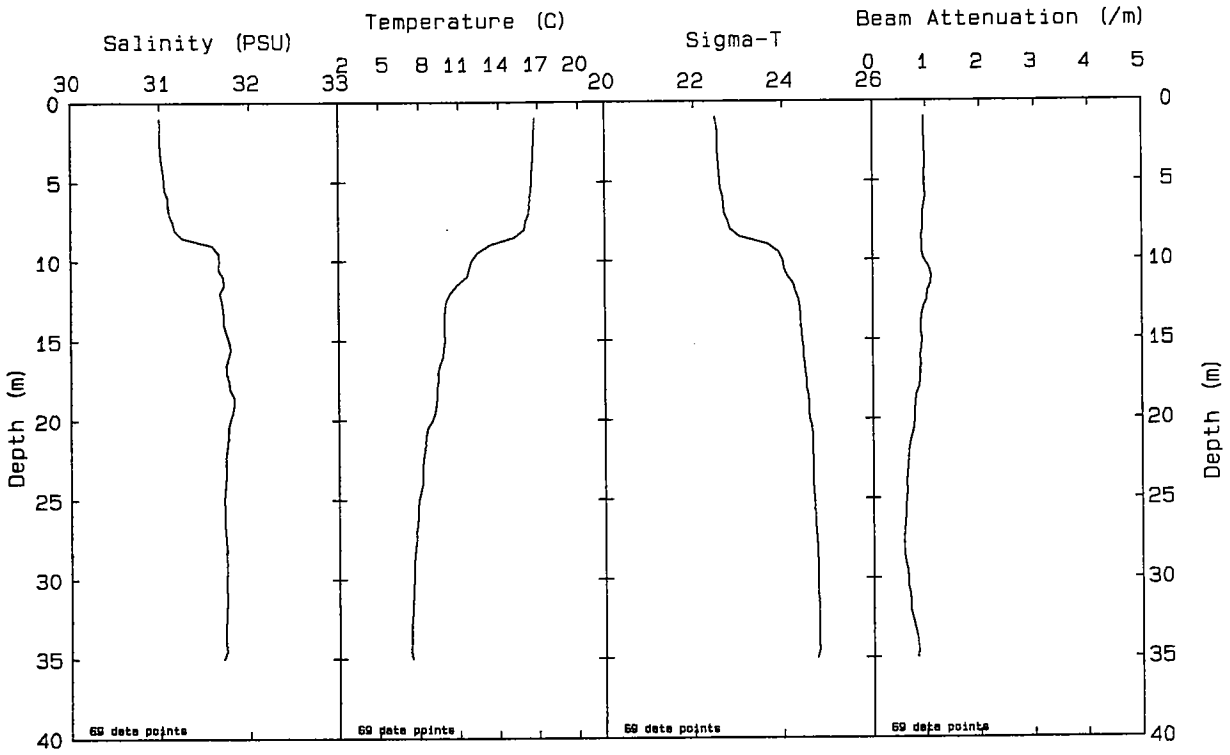
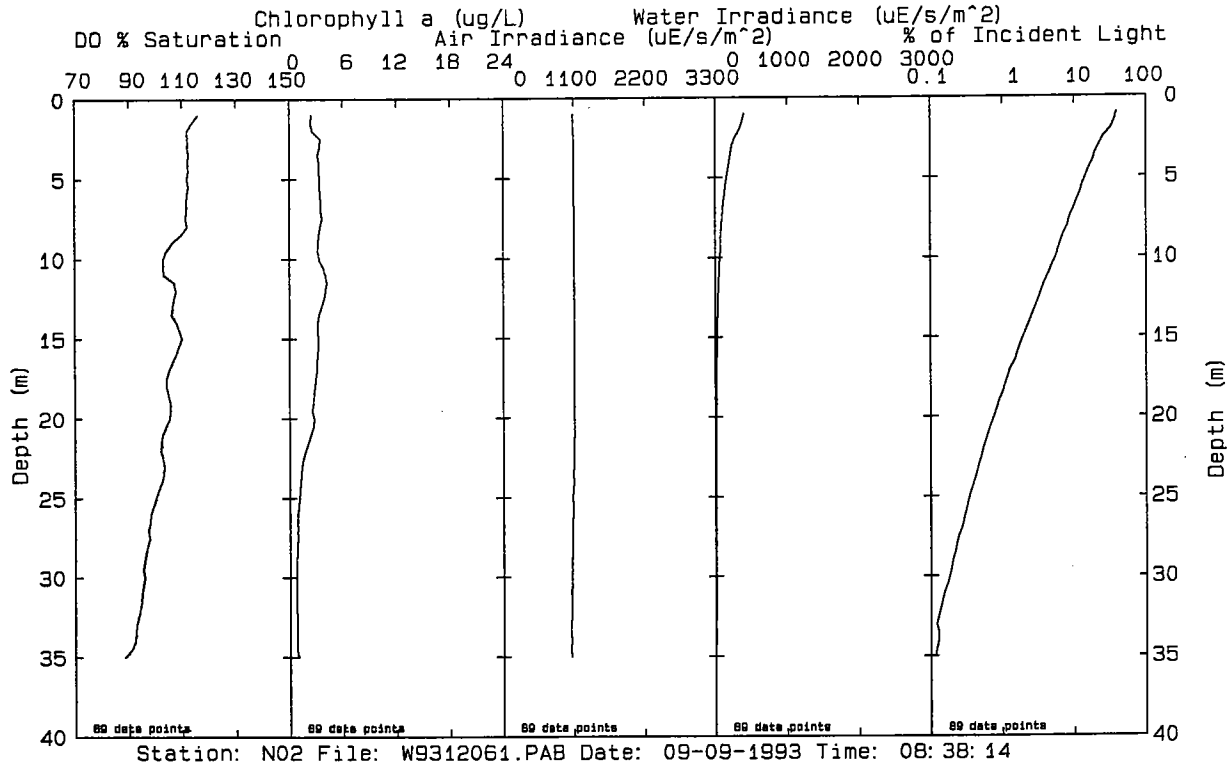


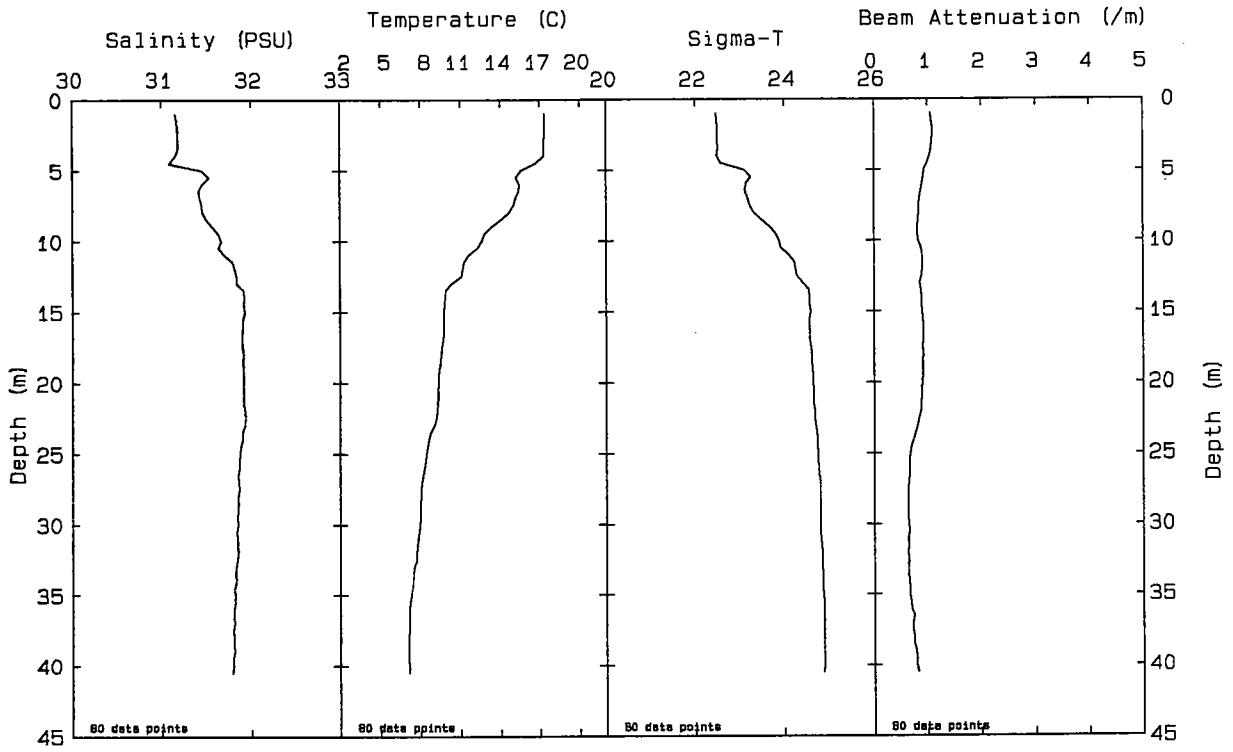


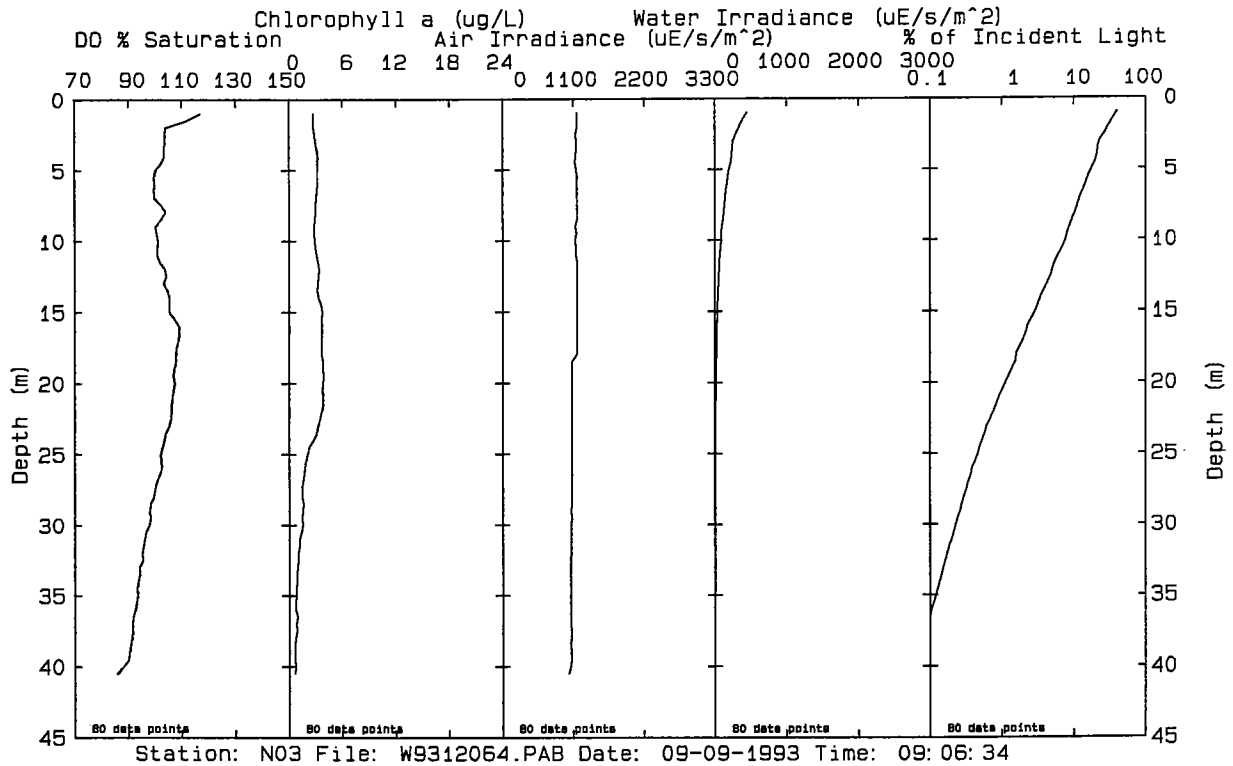
Station: N01P File: W9312058.PAB Date: 09-09-1993 Time: 08:08:42



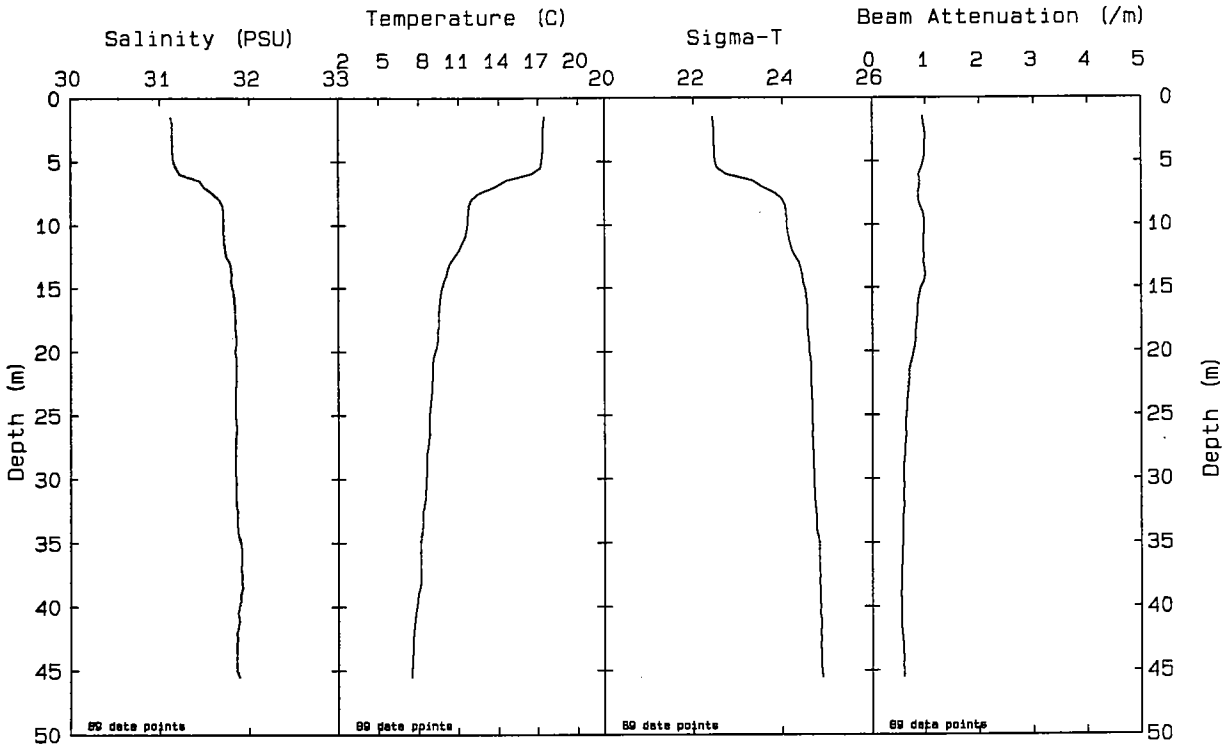


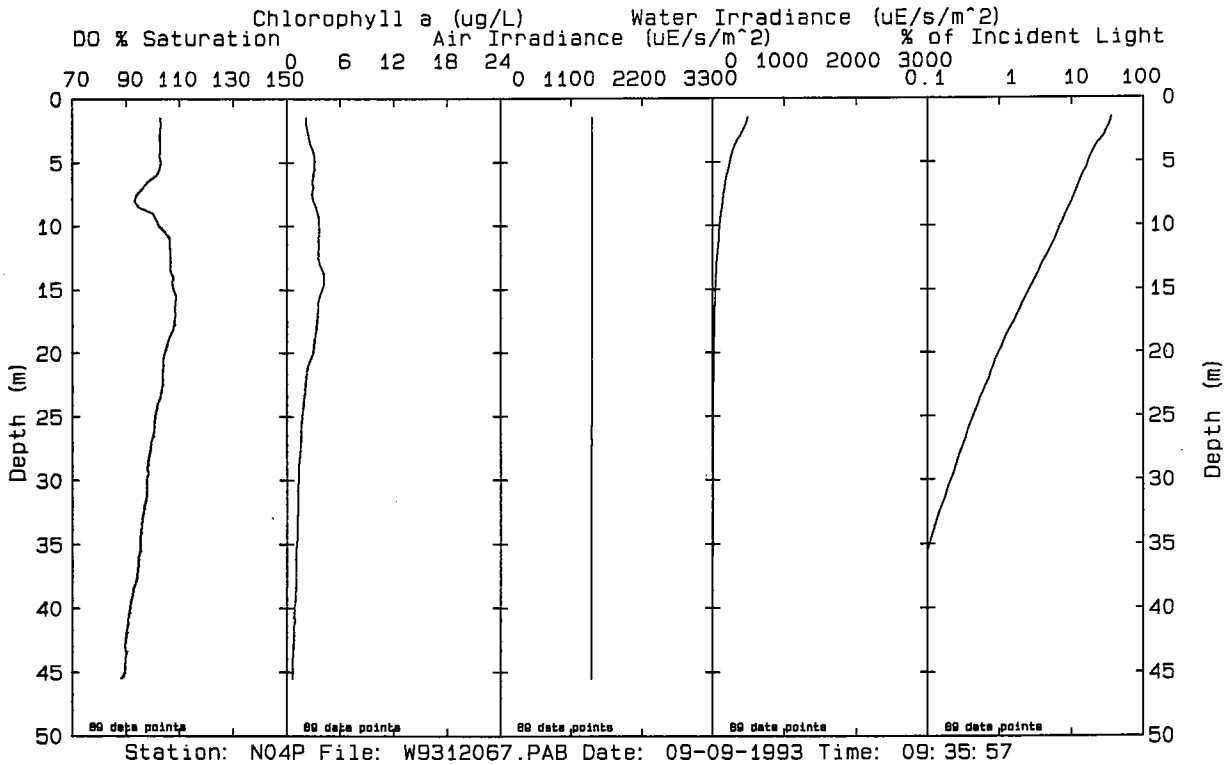
Station: N02 File: W9312061.PAB Date: 09-09-1993 Time: 08:38:14



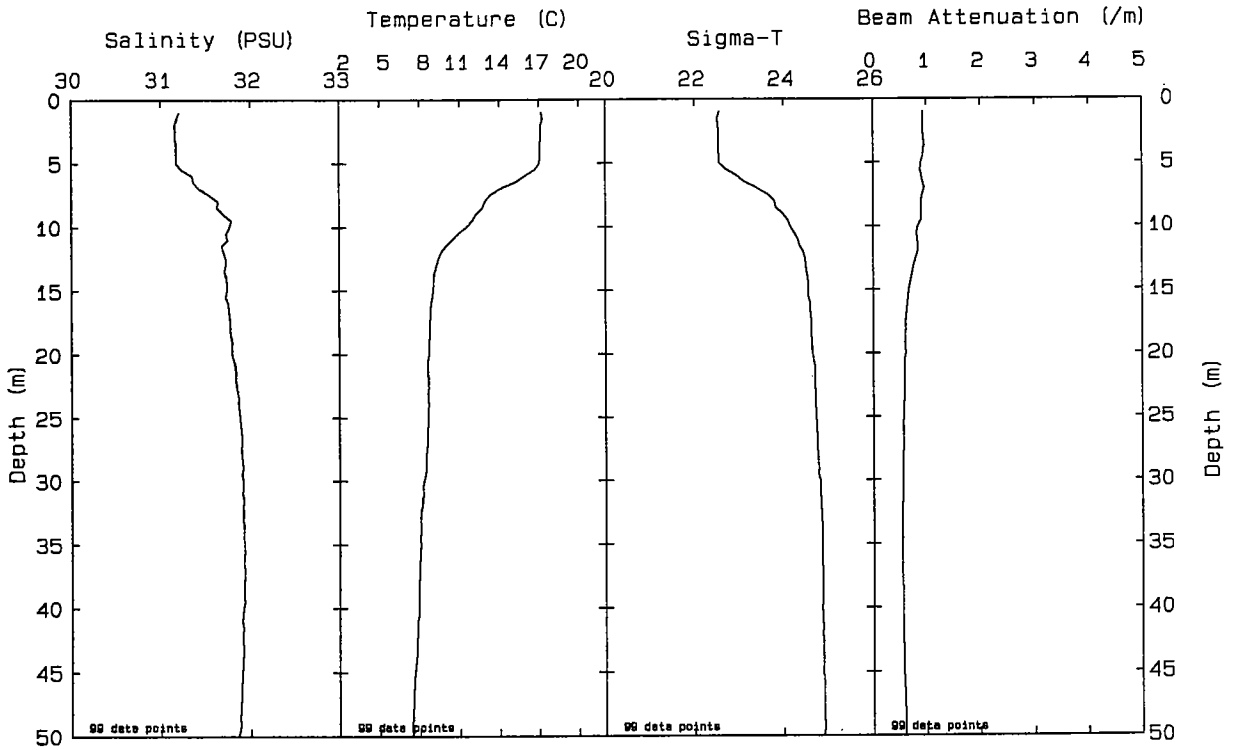


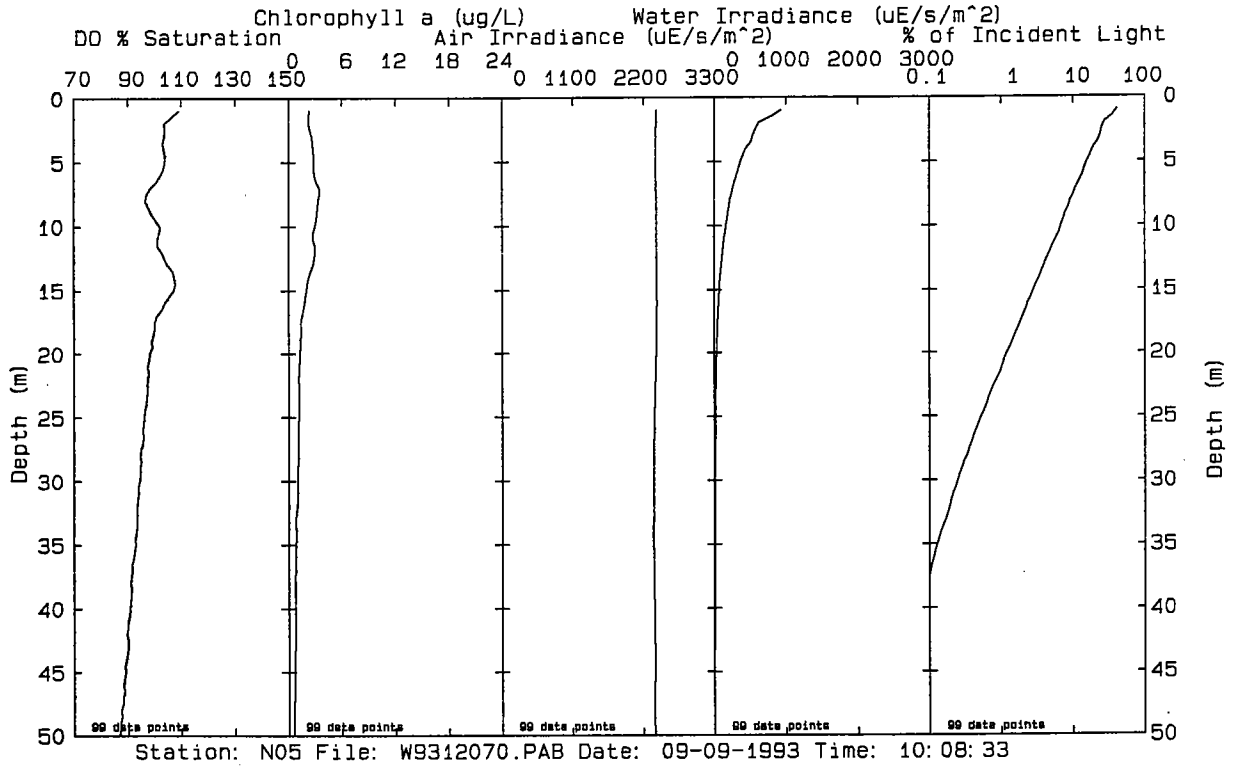
Station: N03 File: W9312064.PAB Date: 09-09-1993 Time: 09:06:34



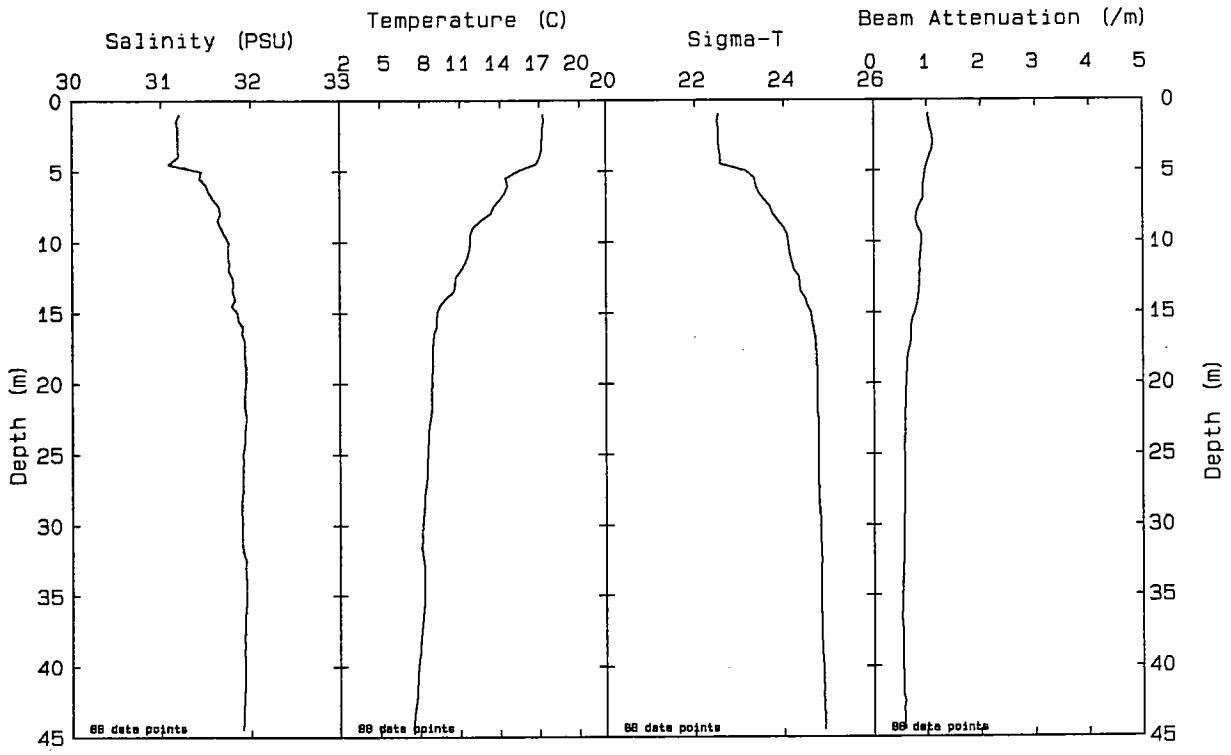


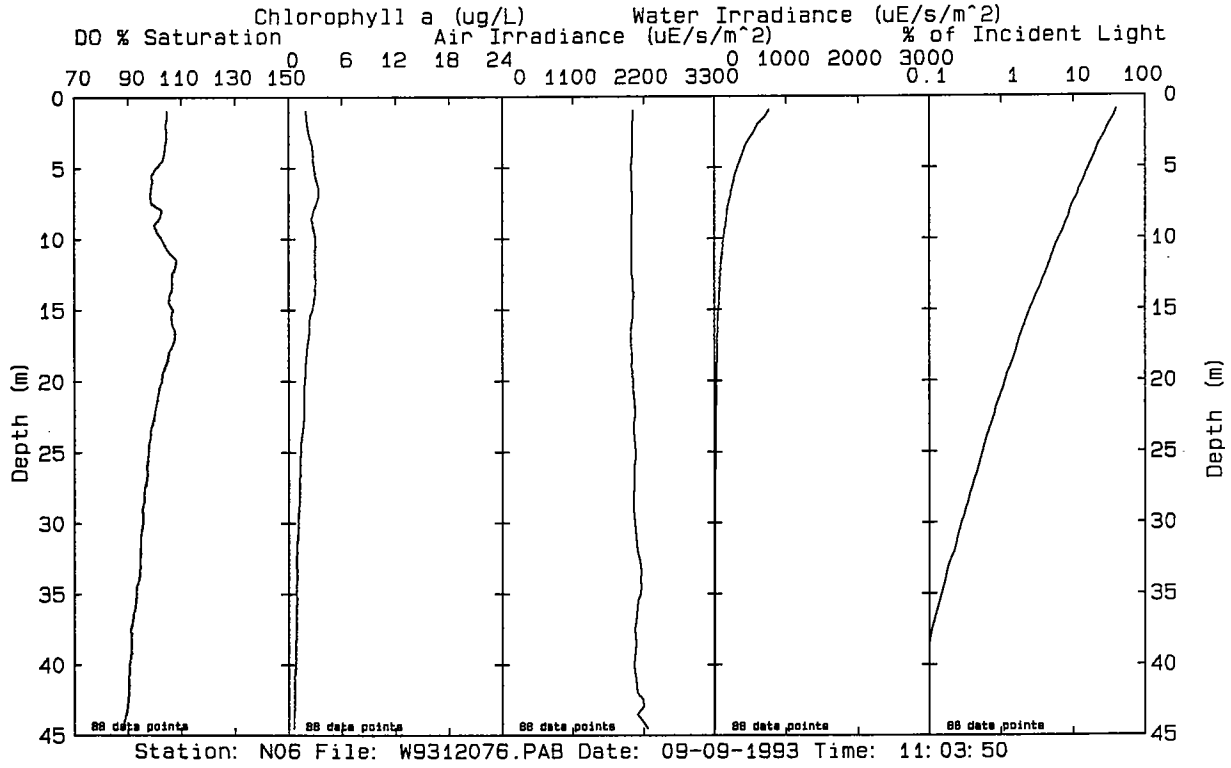
Station: N04P File: W9312067.PAB Date: 09-09-1993 Time: 09:35:57



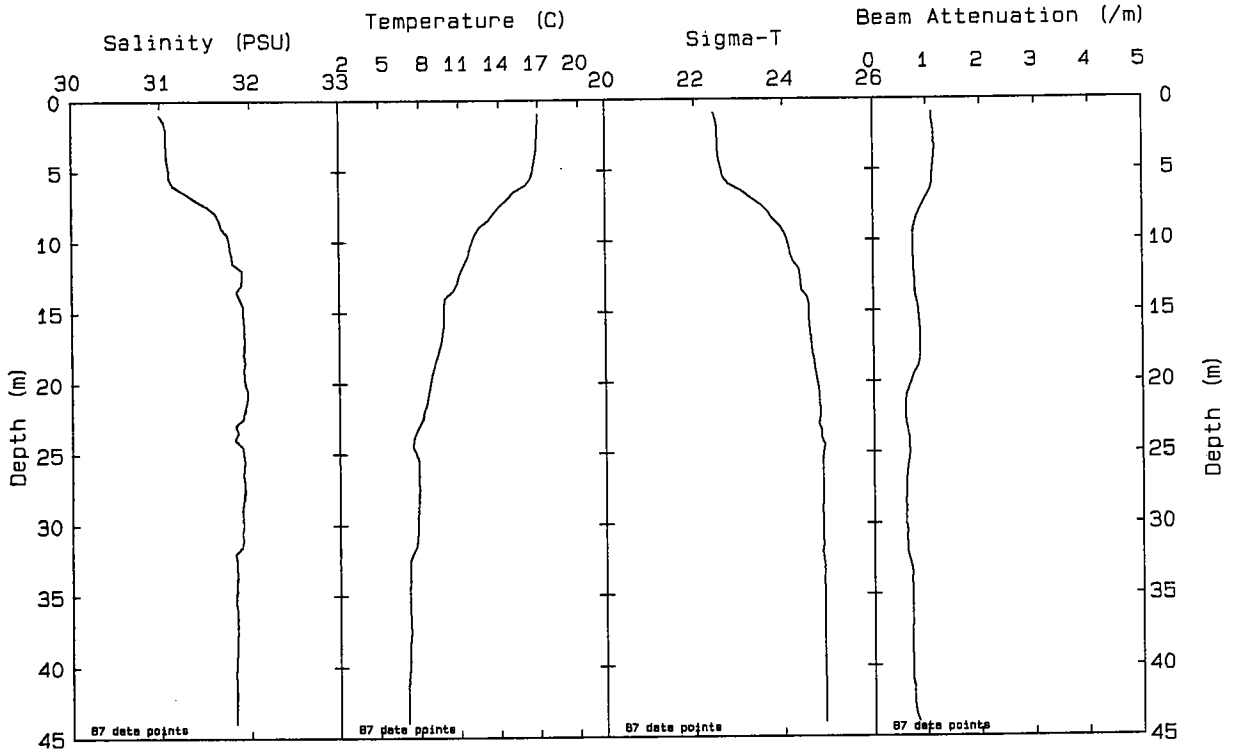


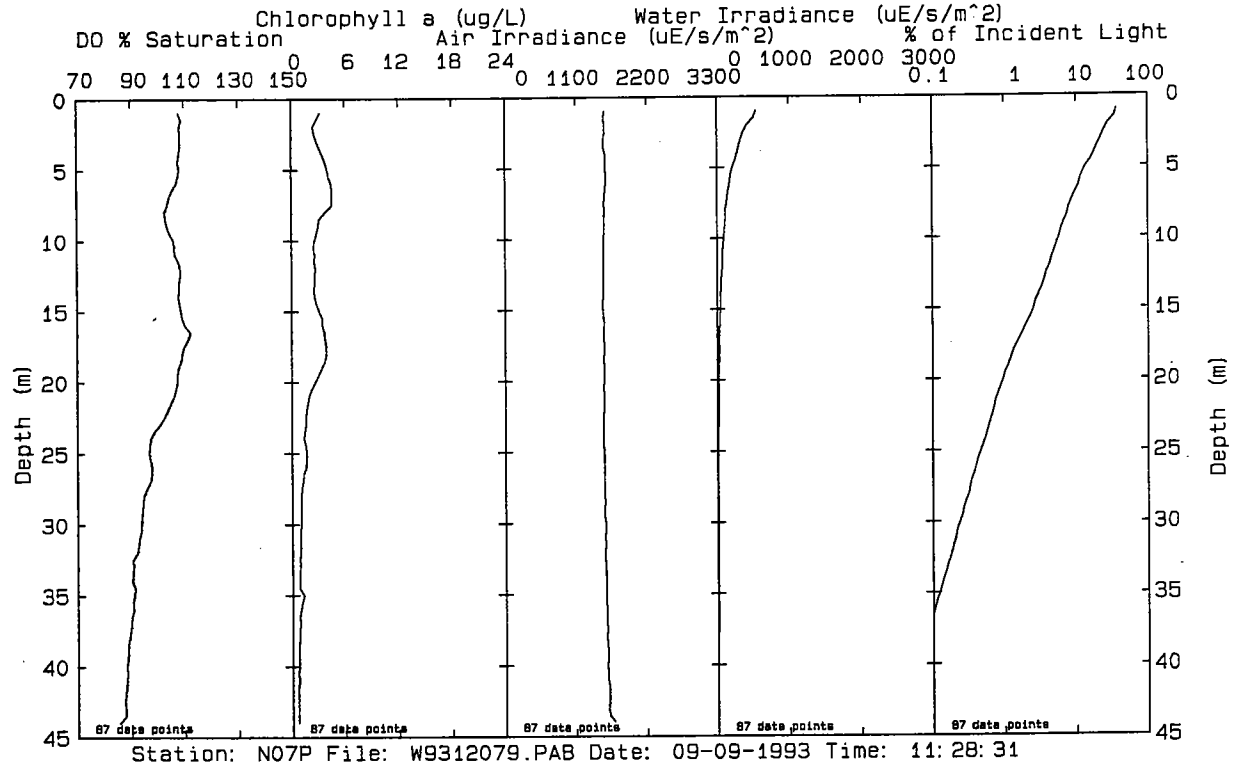
Station: N05 File: W9312070.PAB Date: 09-09-1993 Time: 10:08:33



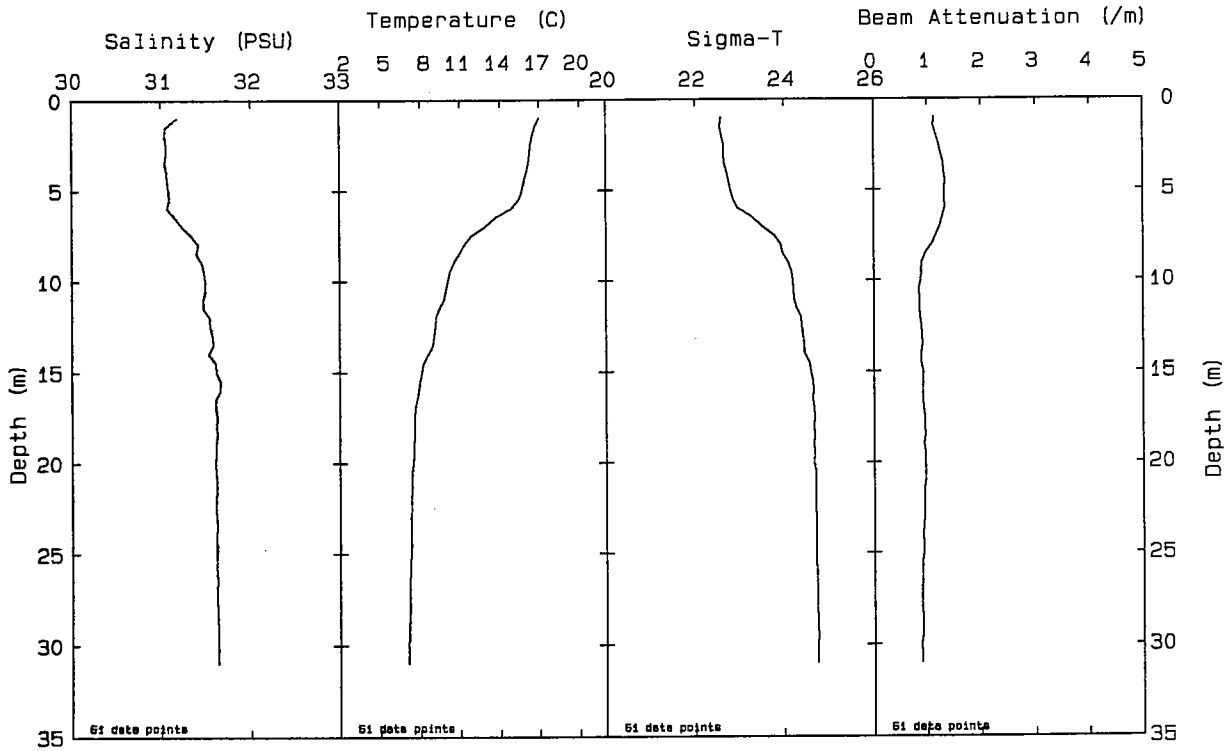


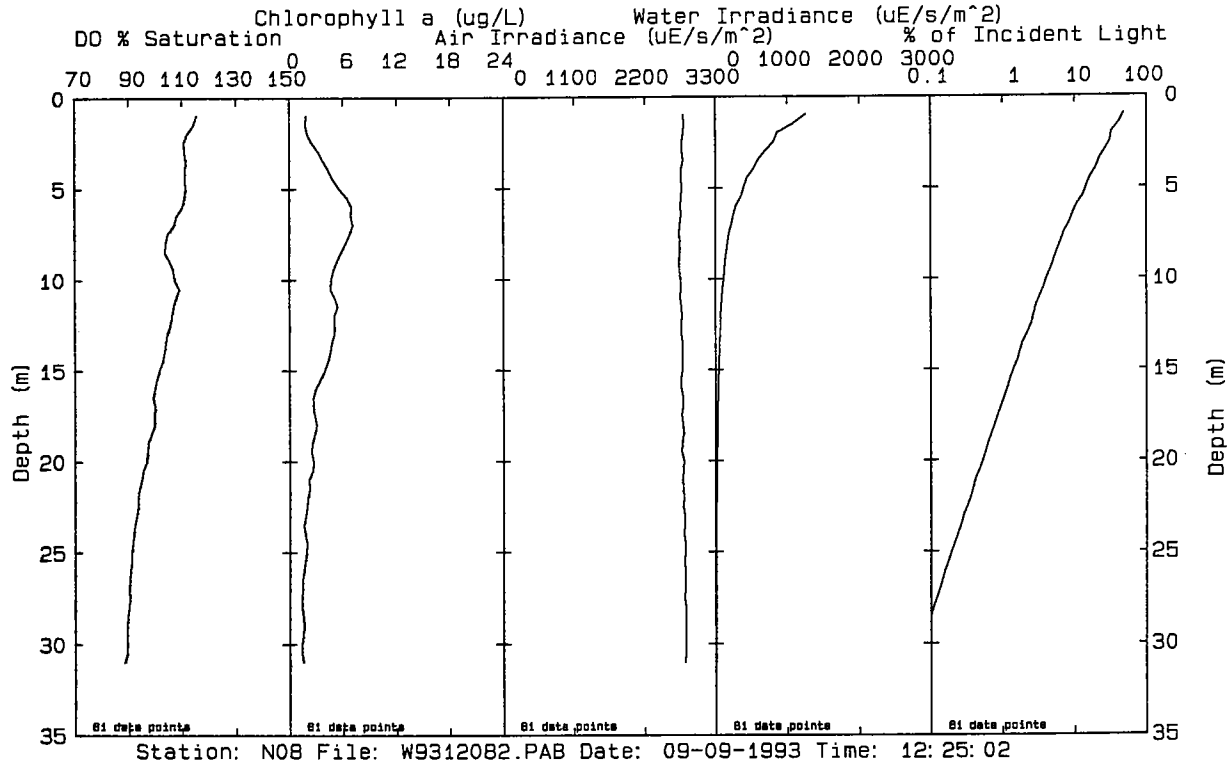
Station: N06 File: W9312076.PAB Date: 09-09-1993 Time: 11:03:50



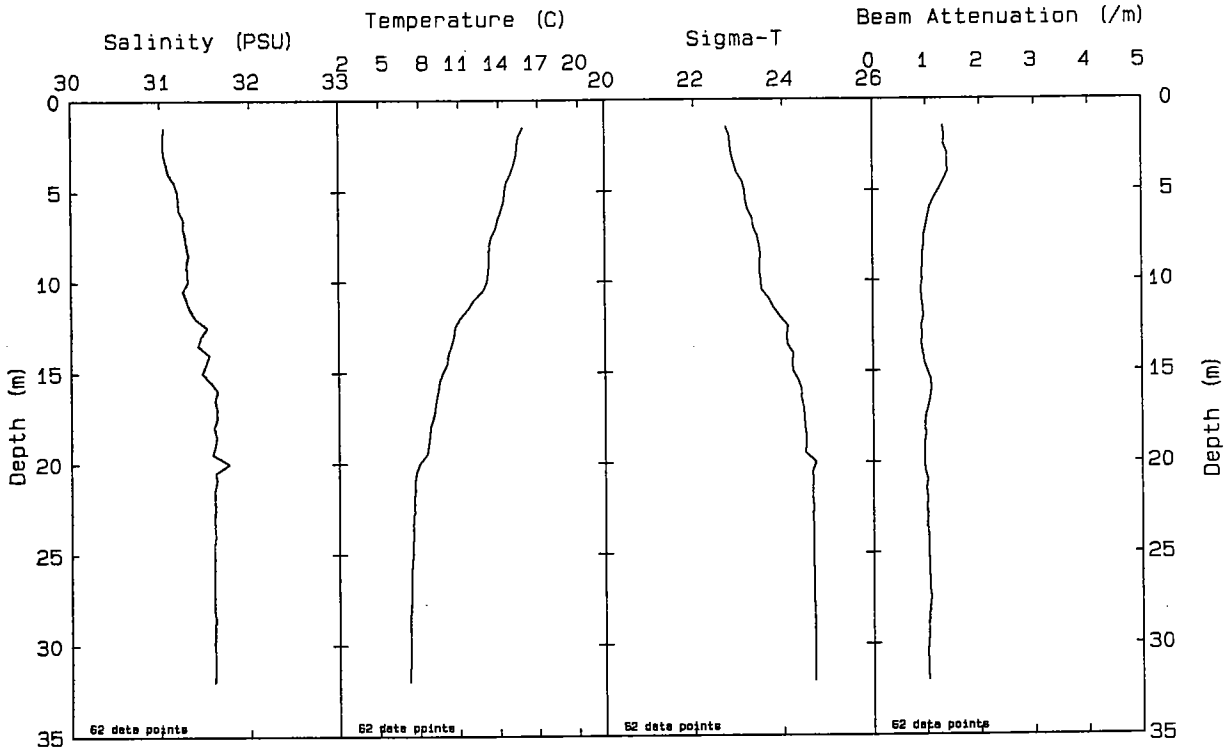


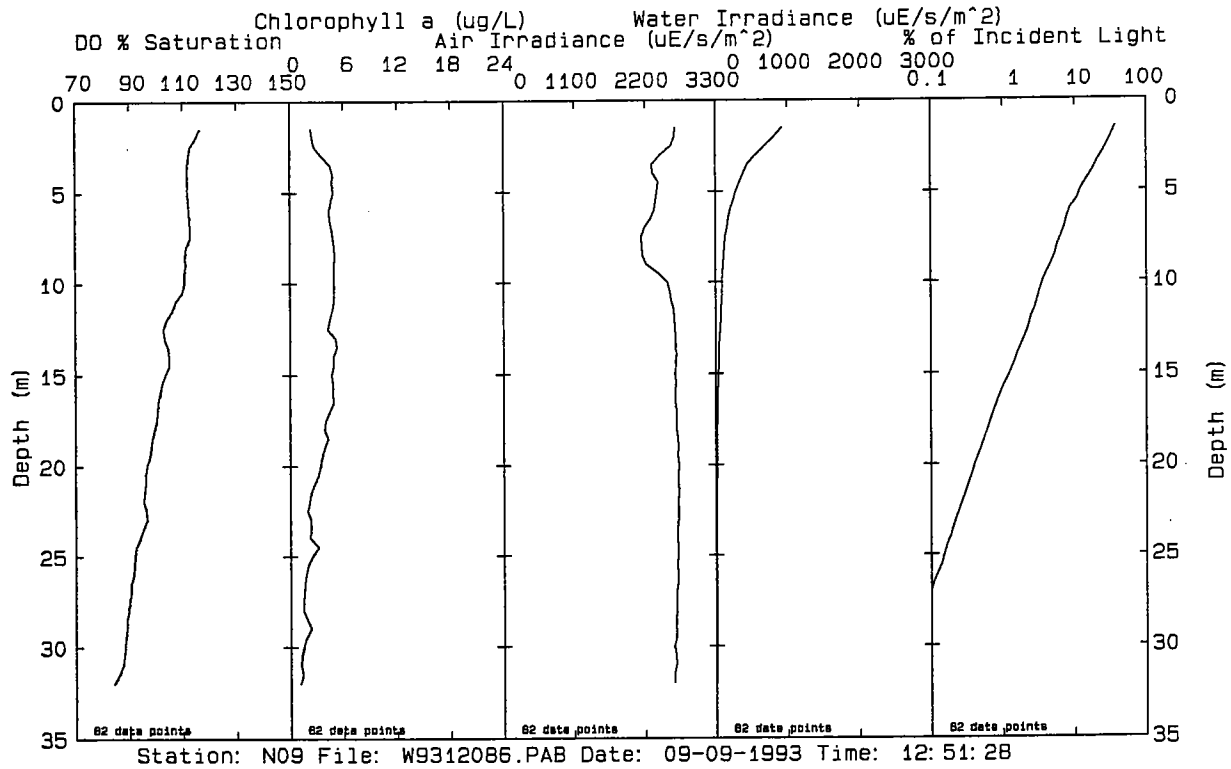
Station: N07P File: W9312079.PAB Date: 09-09-1993 Time: 11:28:31



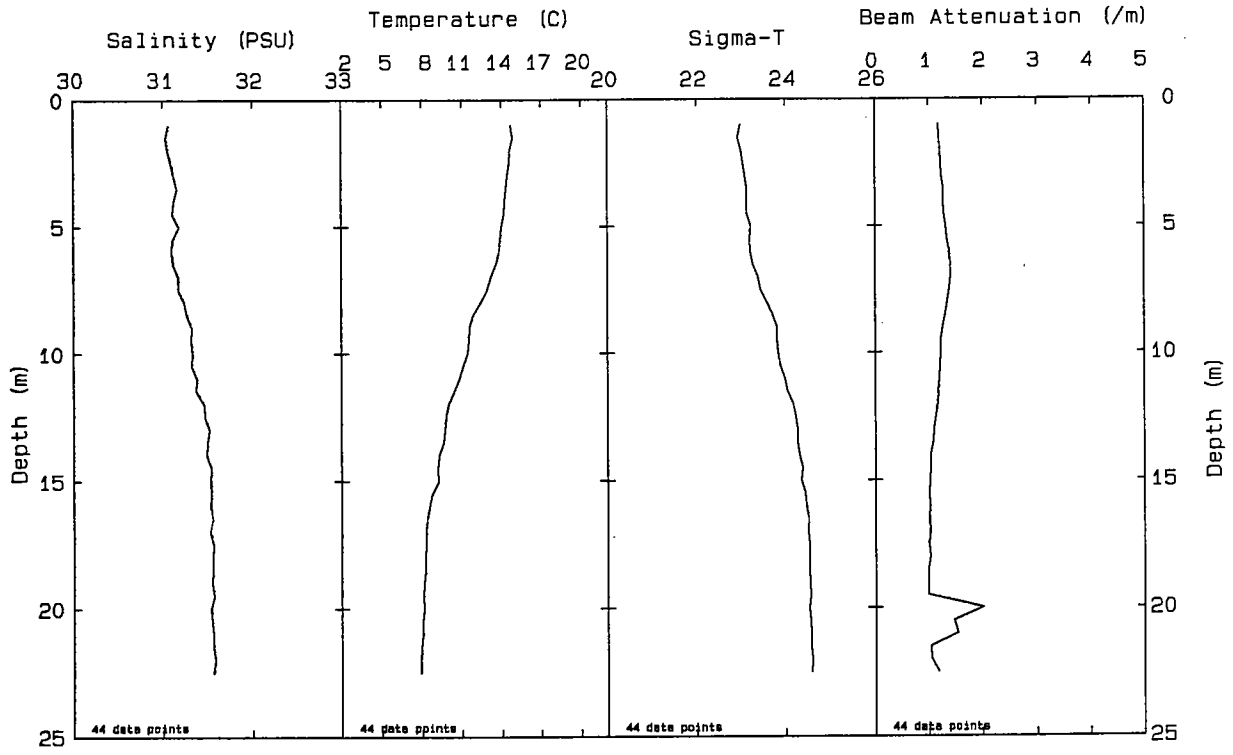


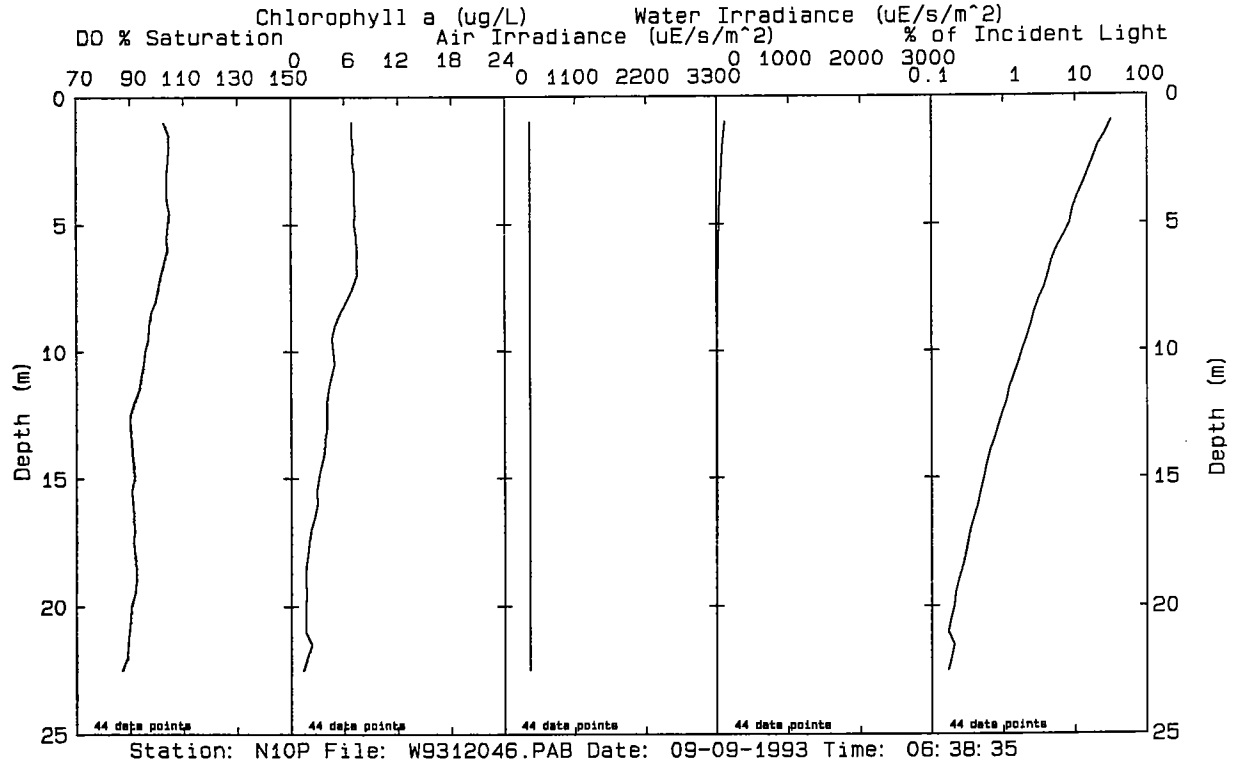
Station: N08 File: W9312082.PAB Date: 09-09-1993 Time: 12:25:02





Station: N09 File: W9312086.PAB Date: 09-09-1993 Time: 12:51:28





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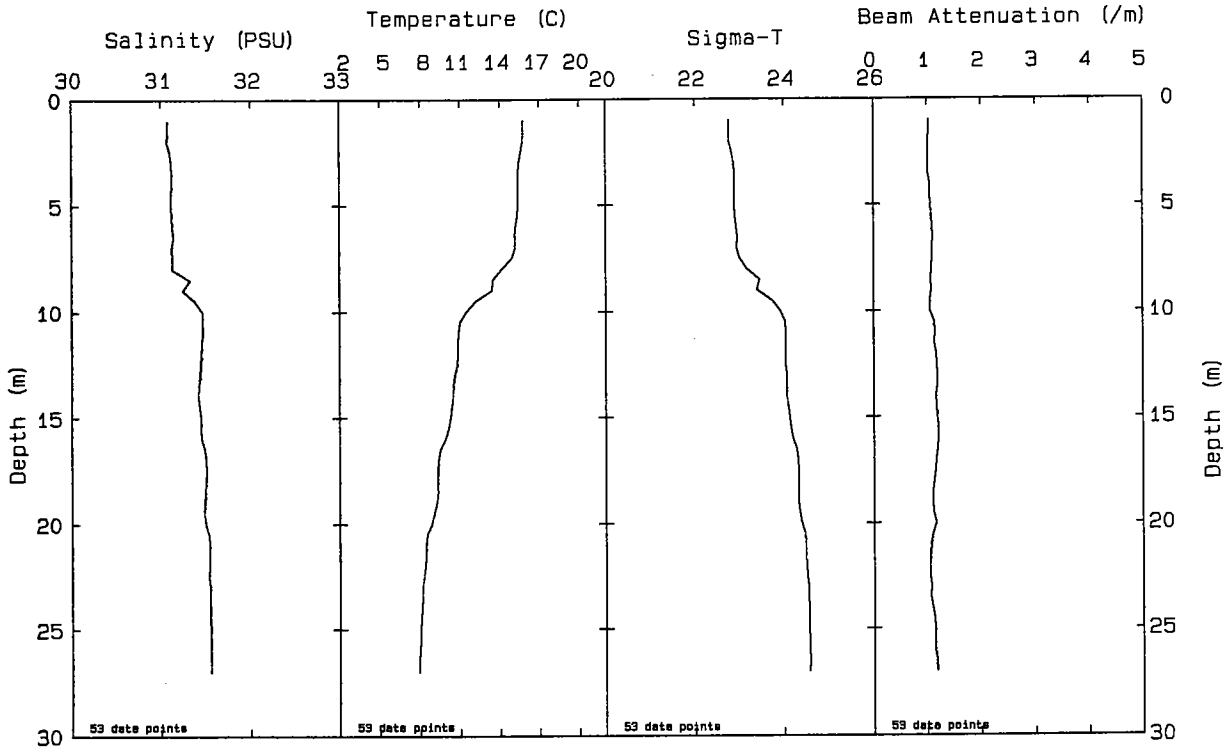
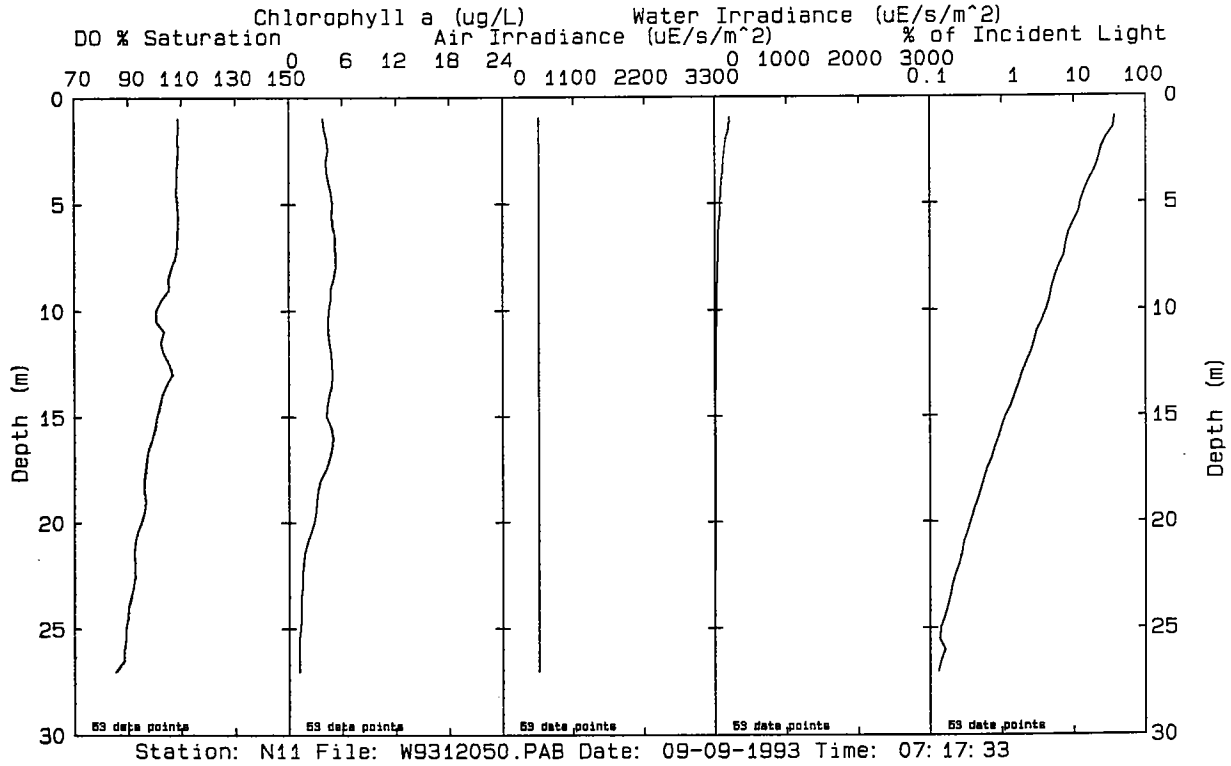
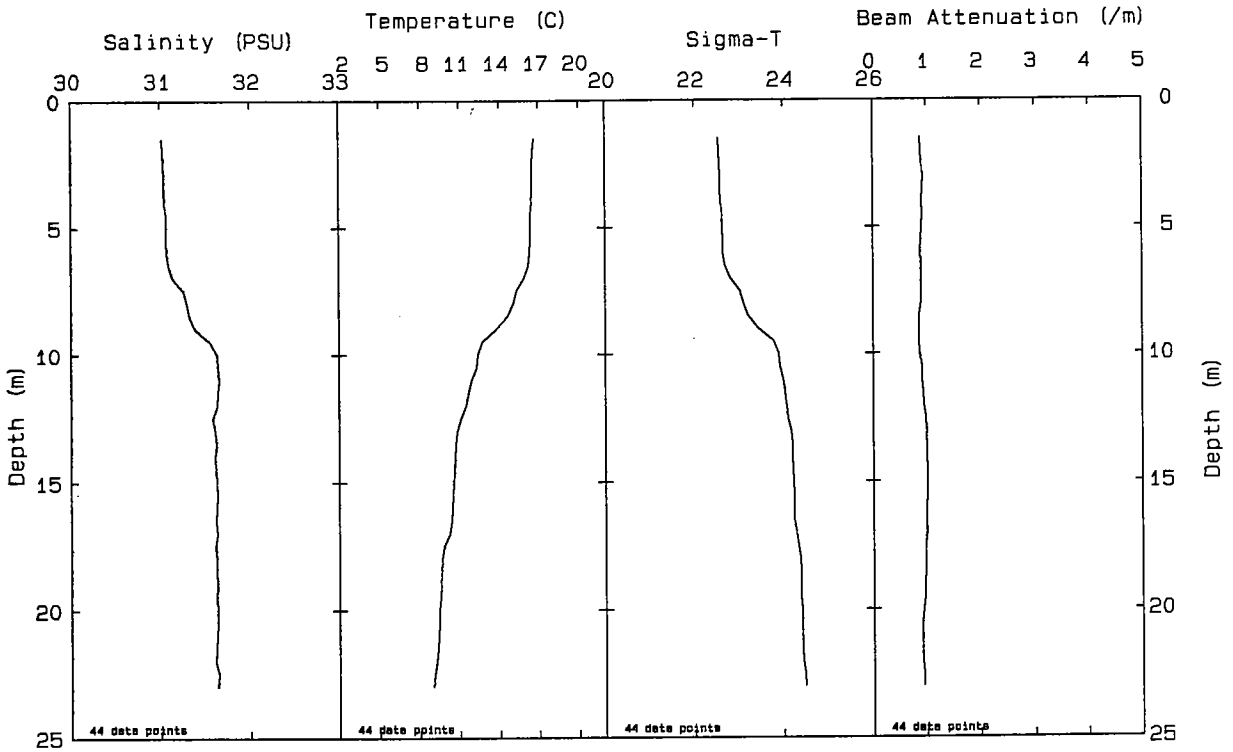
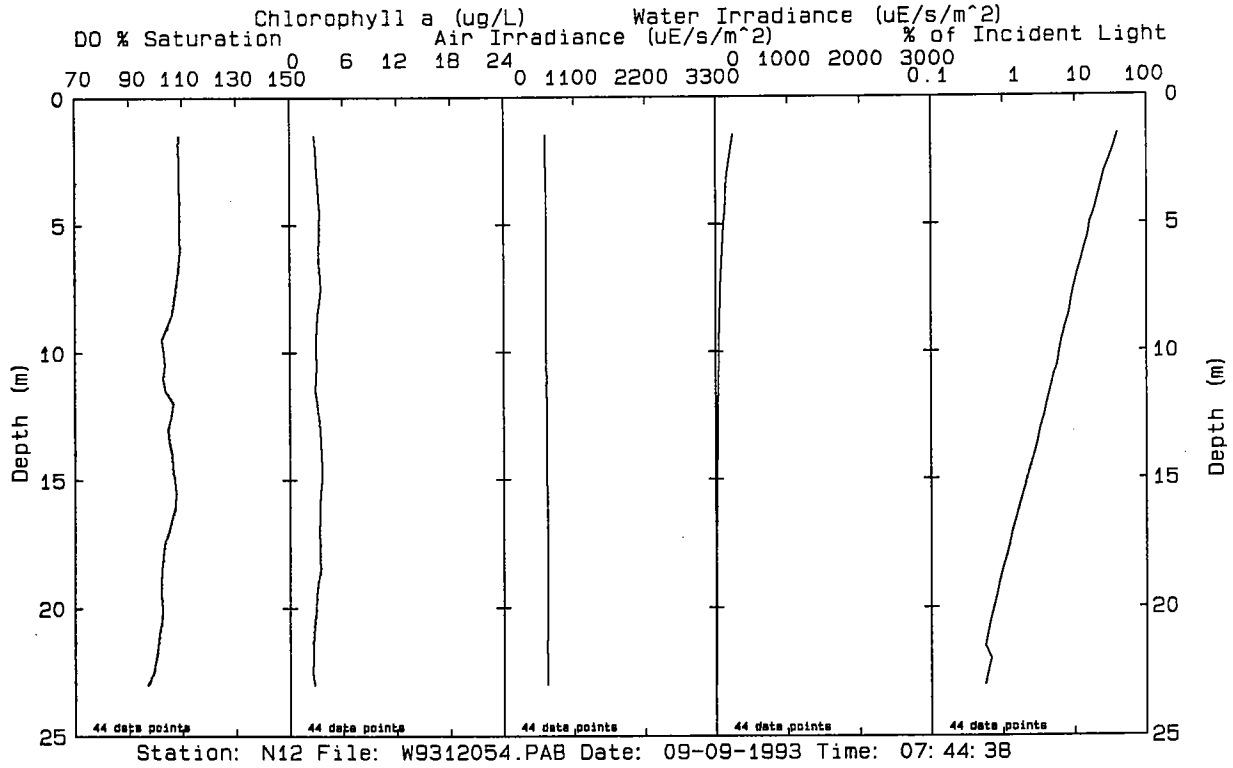


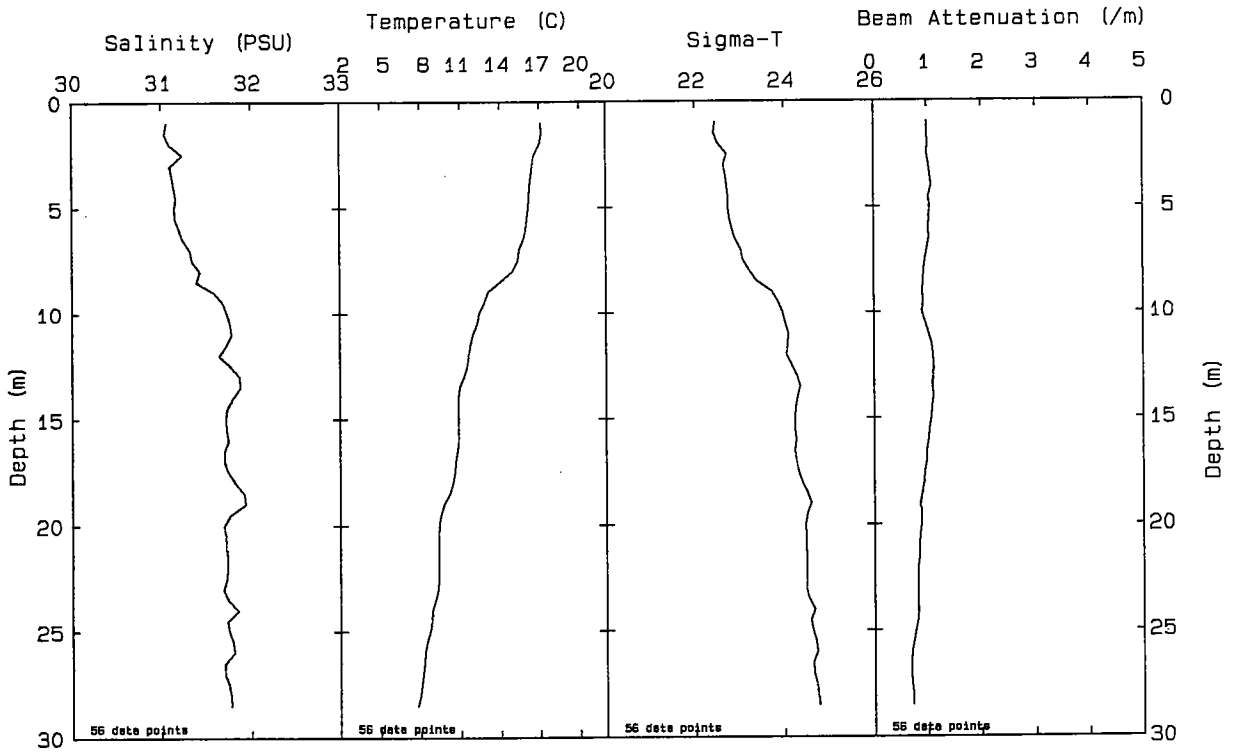


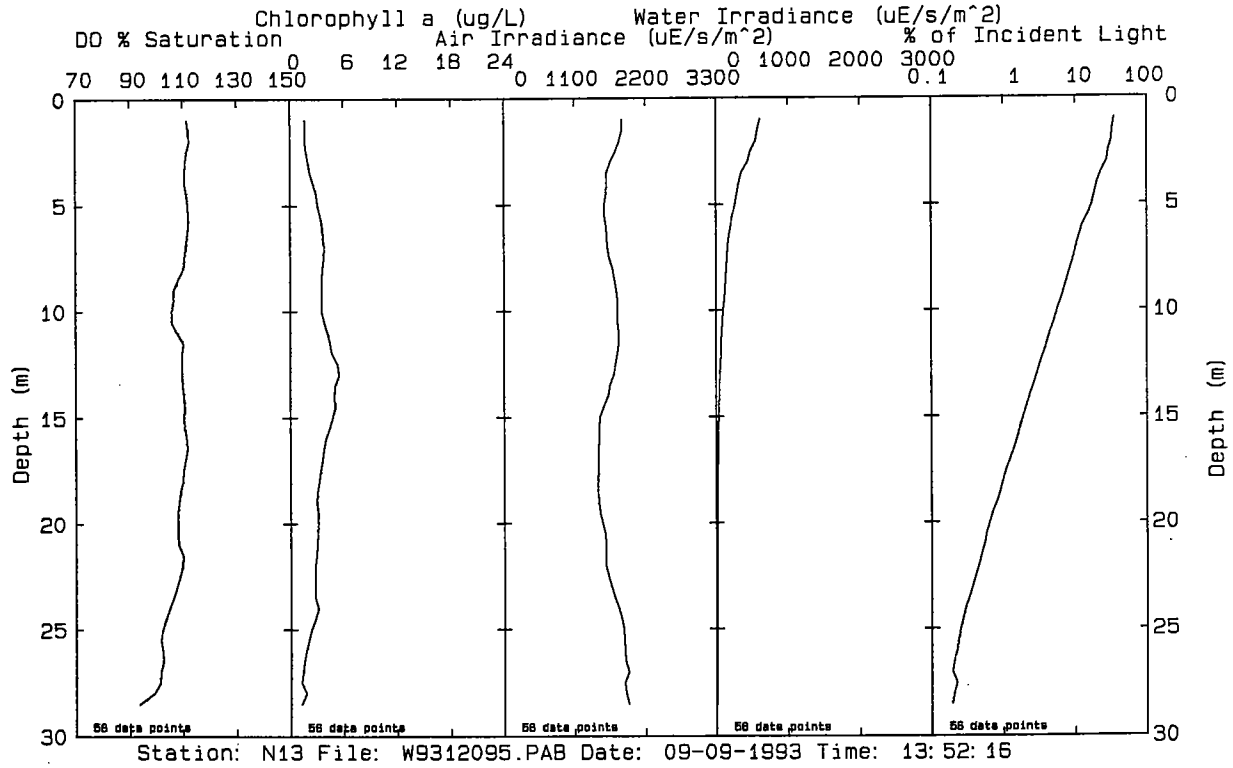
Station: N11 File: W9312050.PAB Date: 09-09-1993 Time: 07:17:33



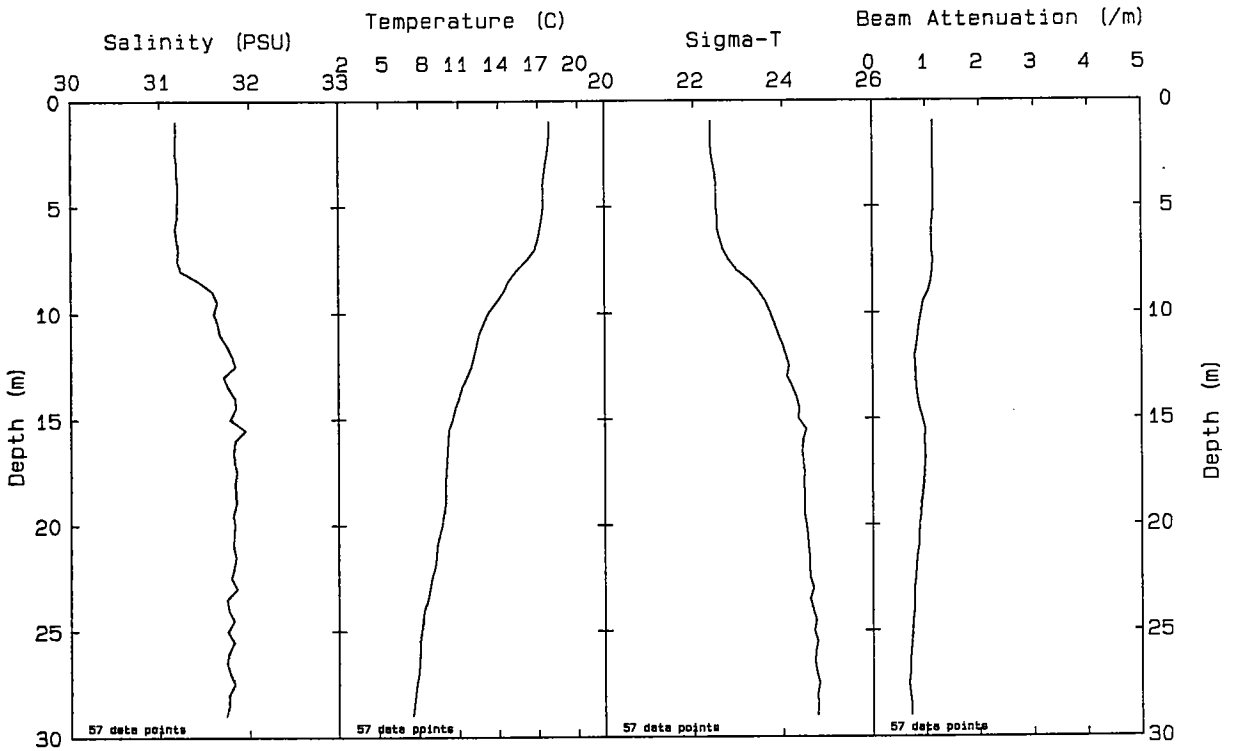


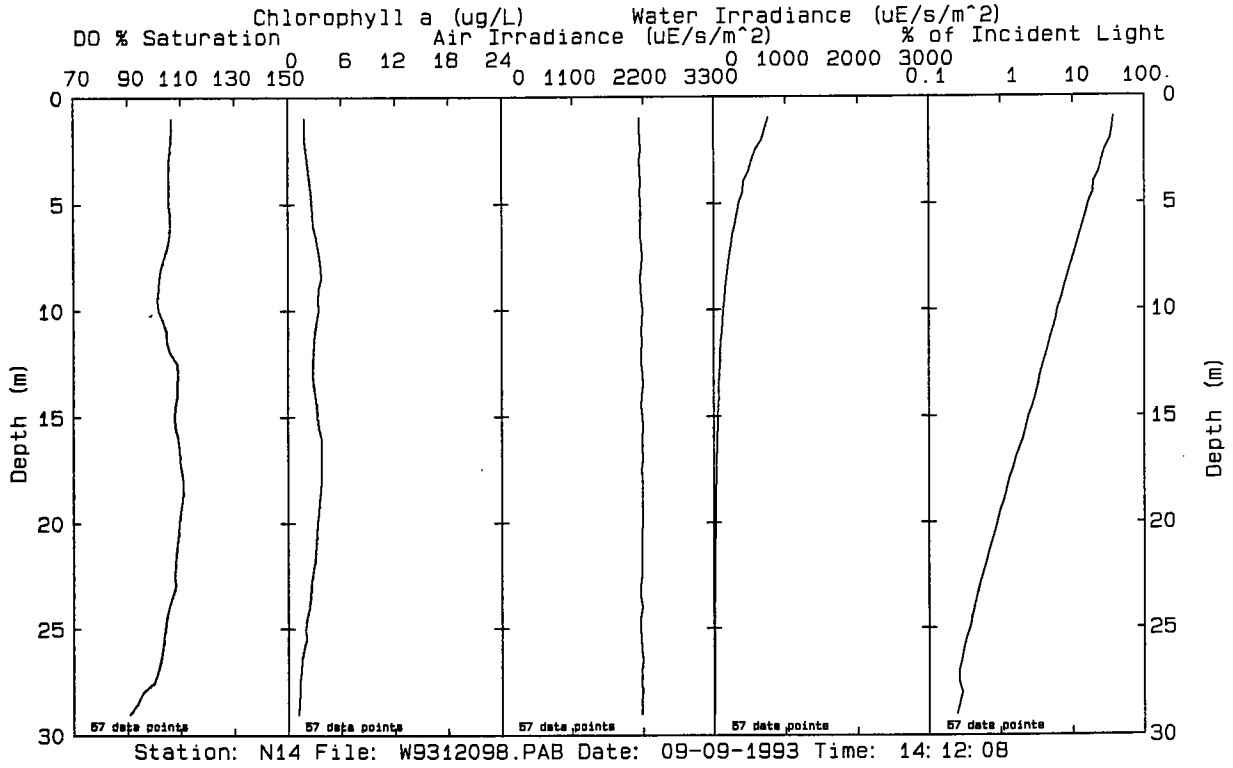
Station: N12 File: W9312054.PAB Date: 09-09-1993 Time: 07:44:38





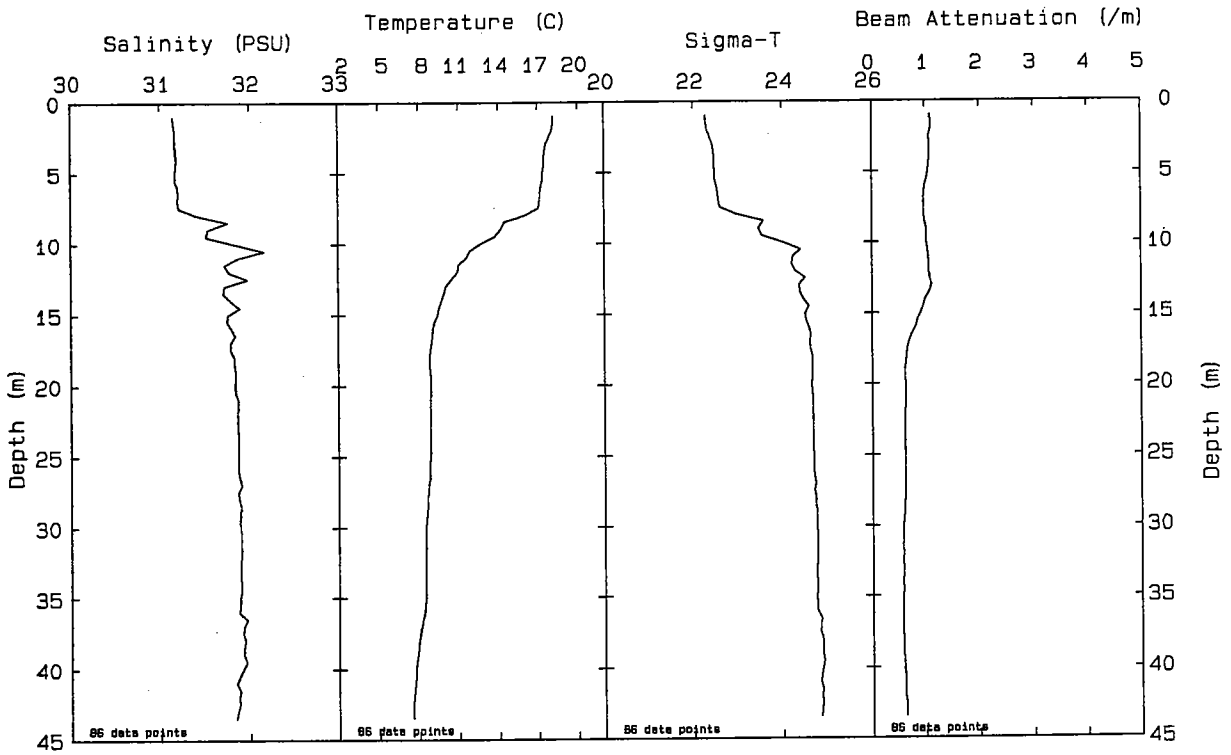
Station: N13 File: W9312095.PAB Date: 09-09-1993 Time: 13:52:16

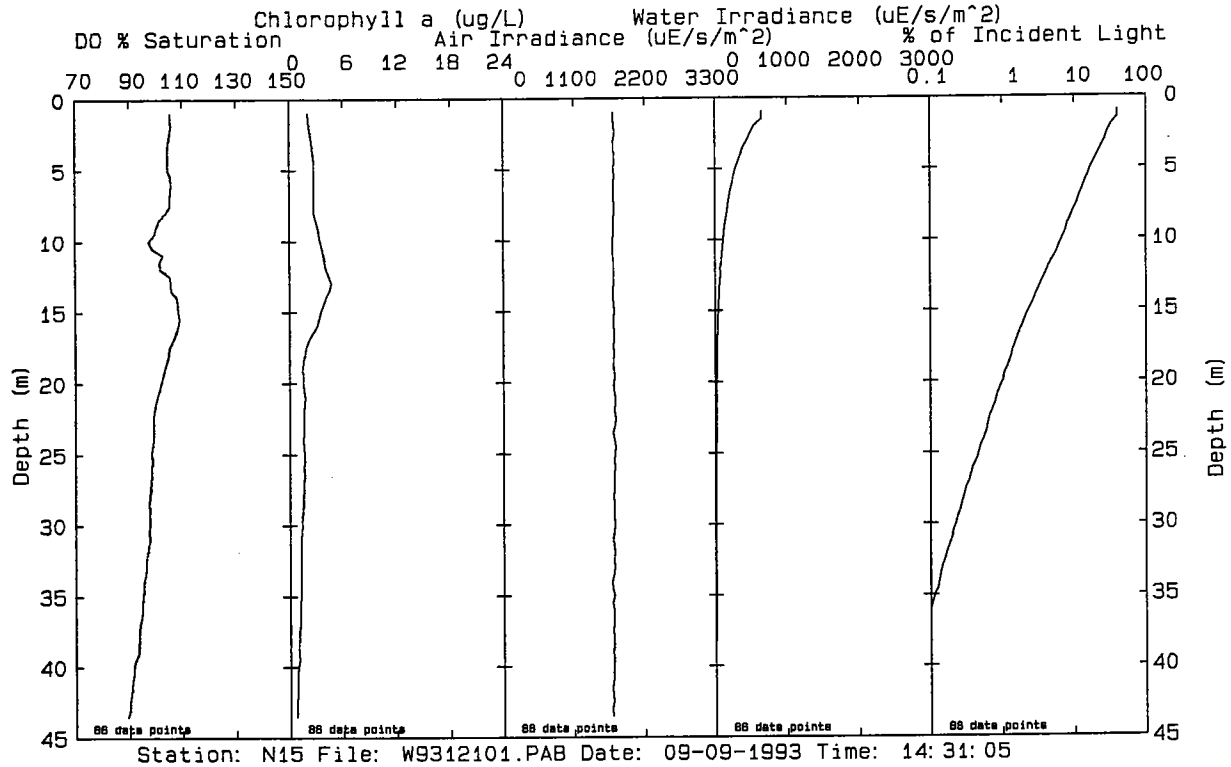




Station: N14 File: W9312098.PAB Date: 09-09-1993 Time: 14:12:08

00117





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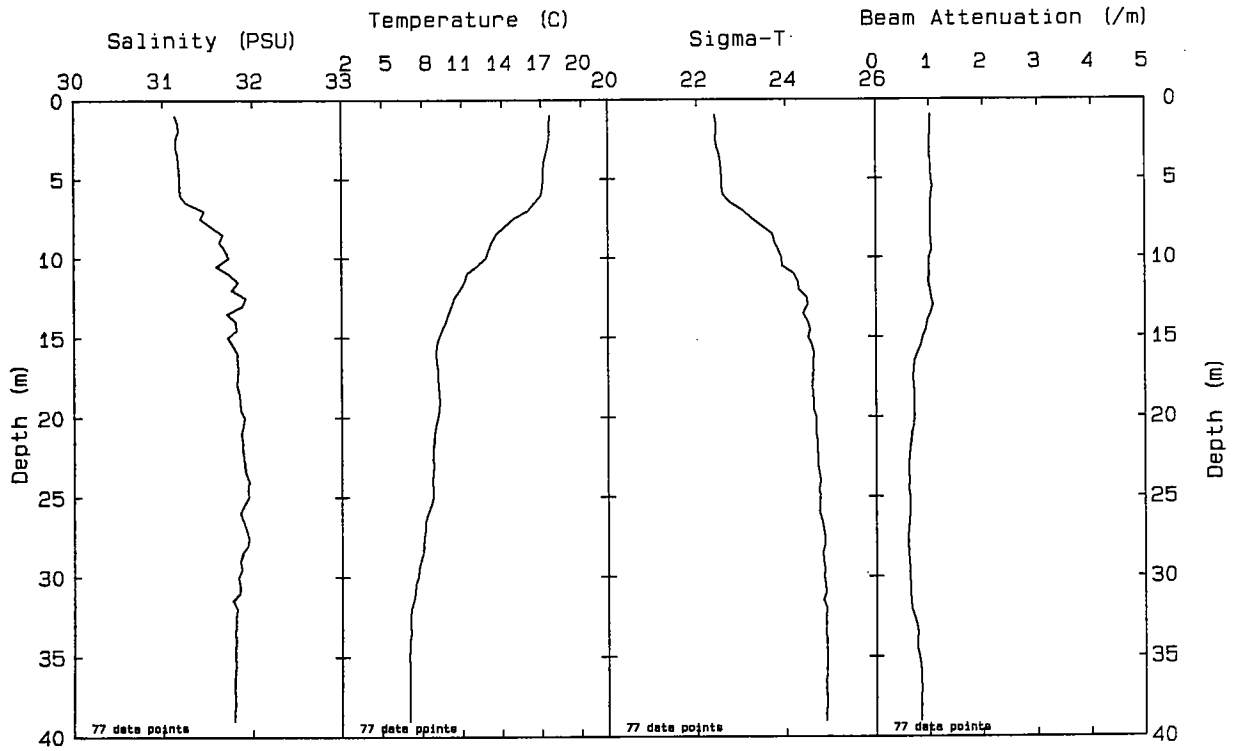

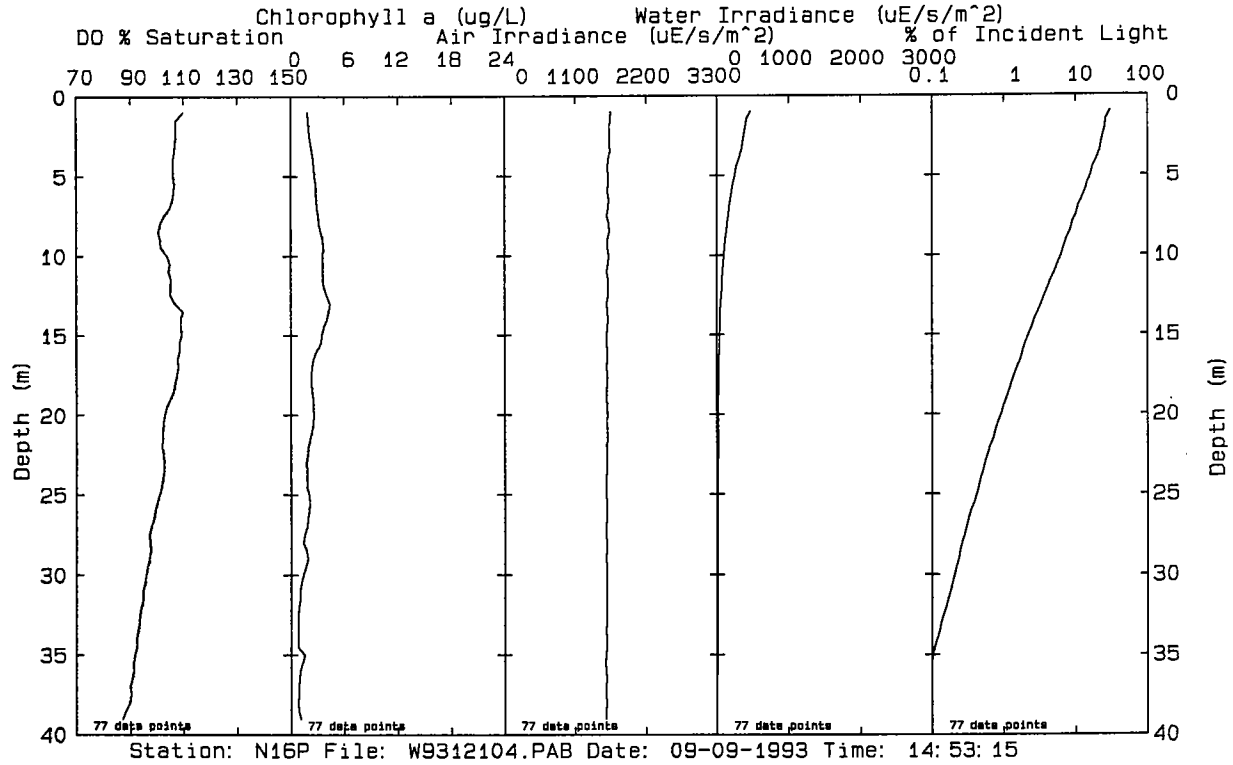

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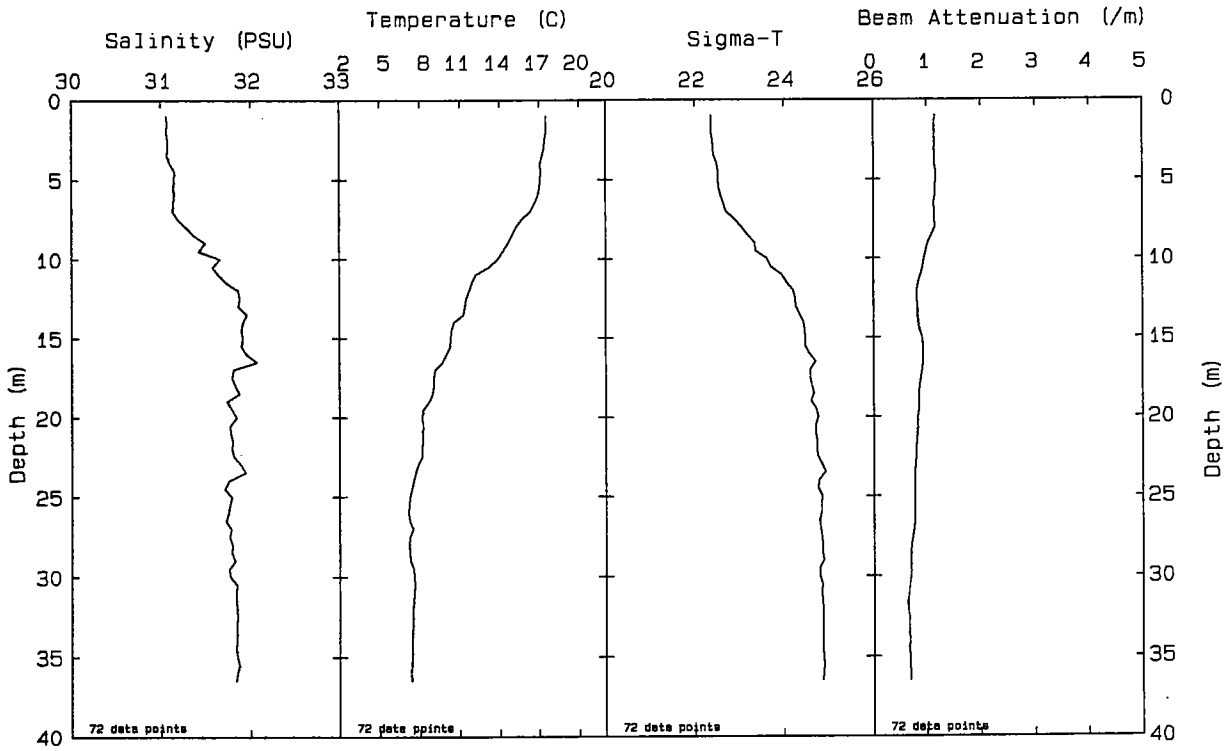
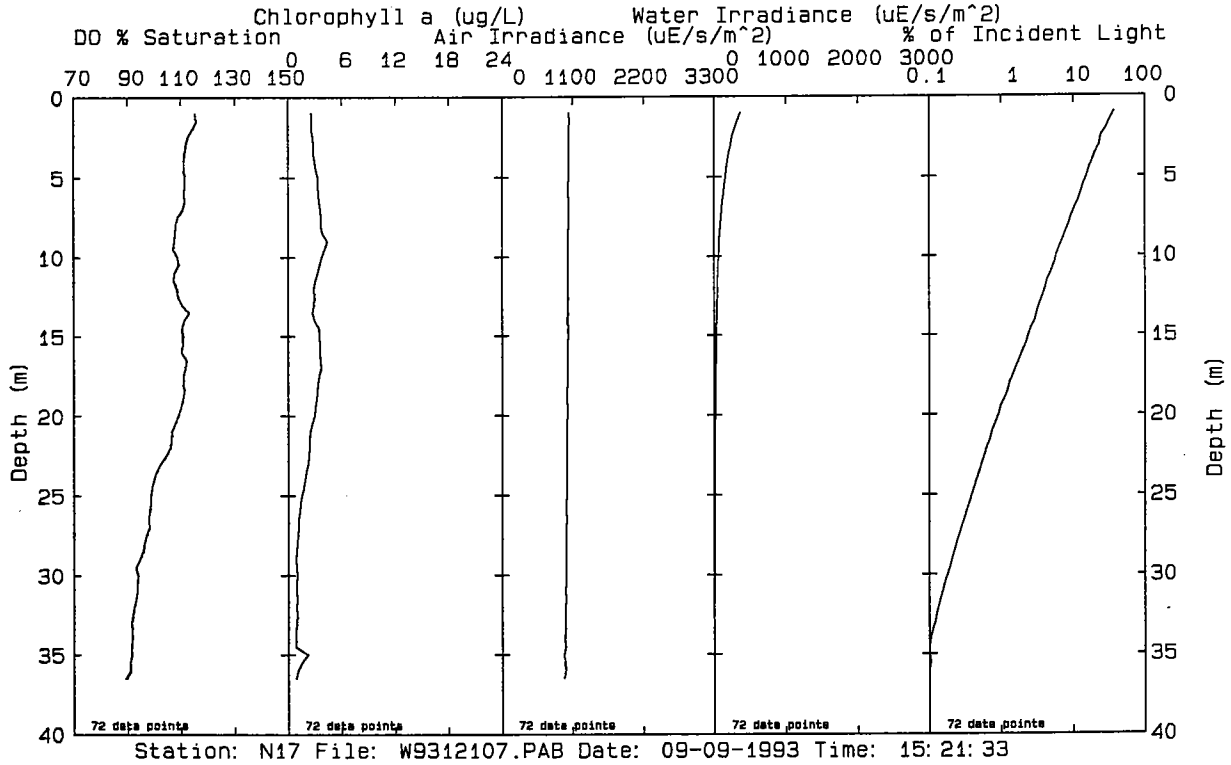
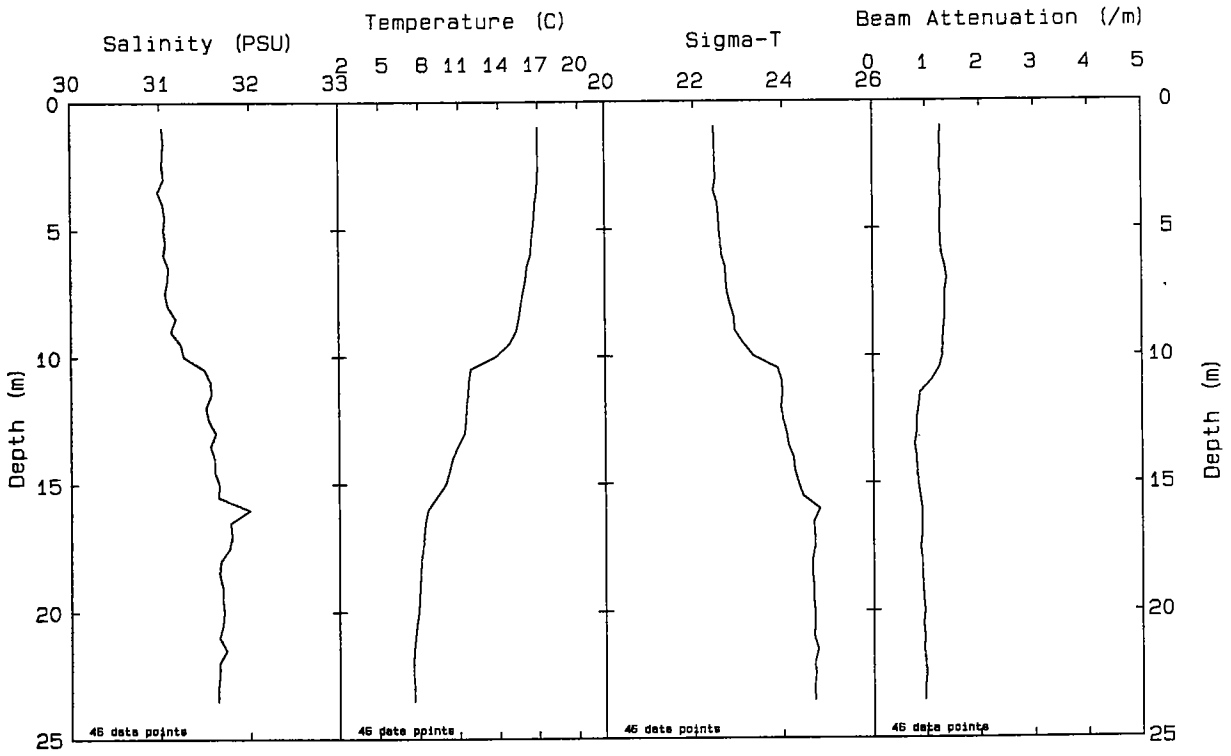
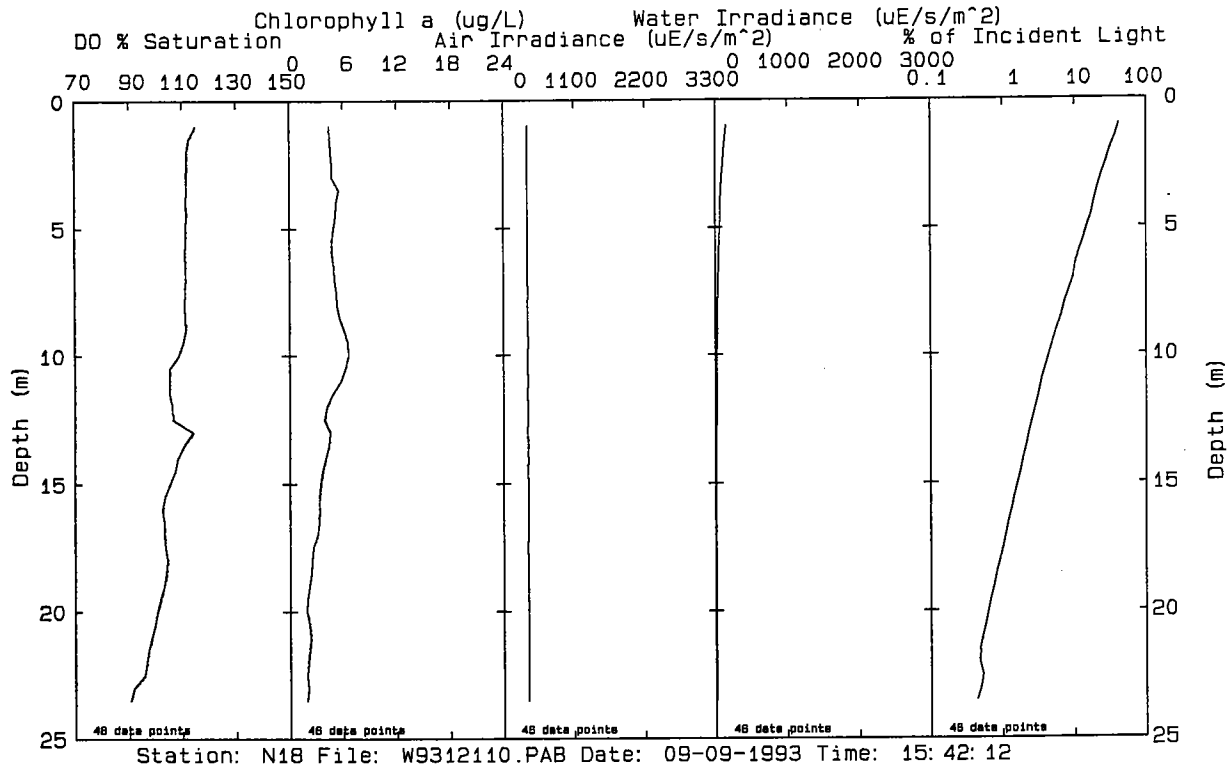




Station: N17 File: W9312107.PAB Date: 09-09-1993 Time: 15:21:33





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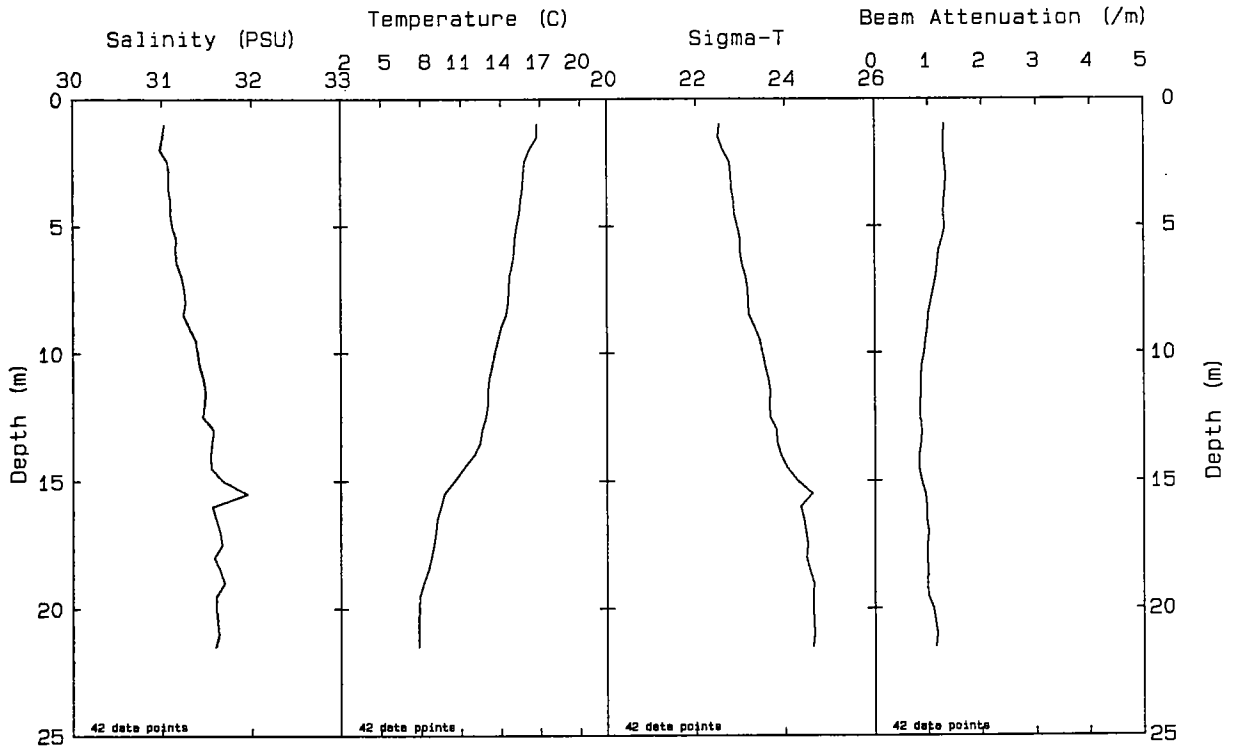

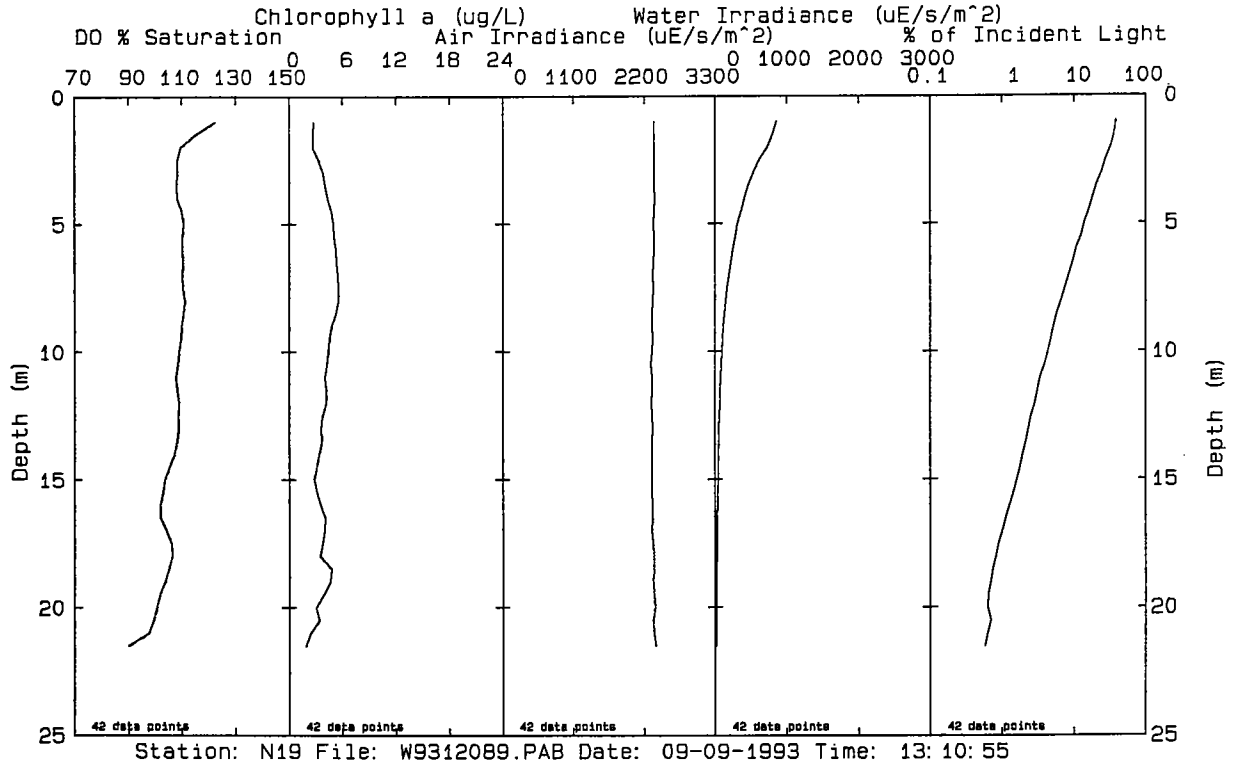

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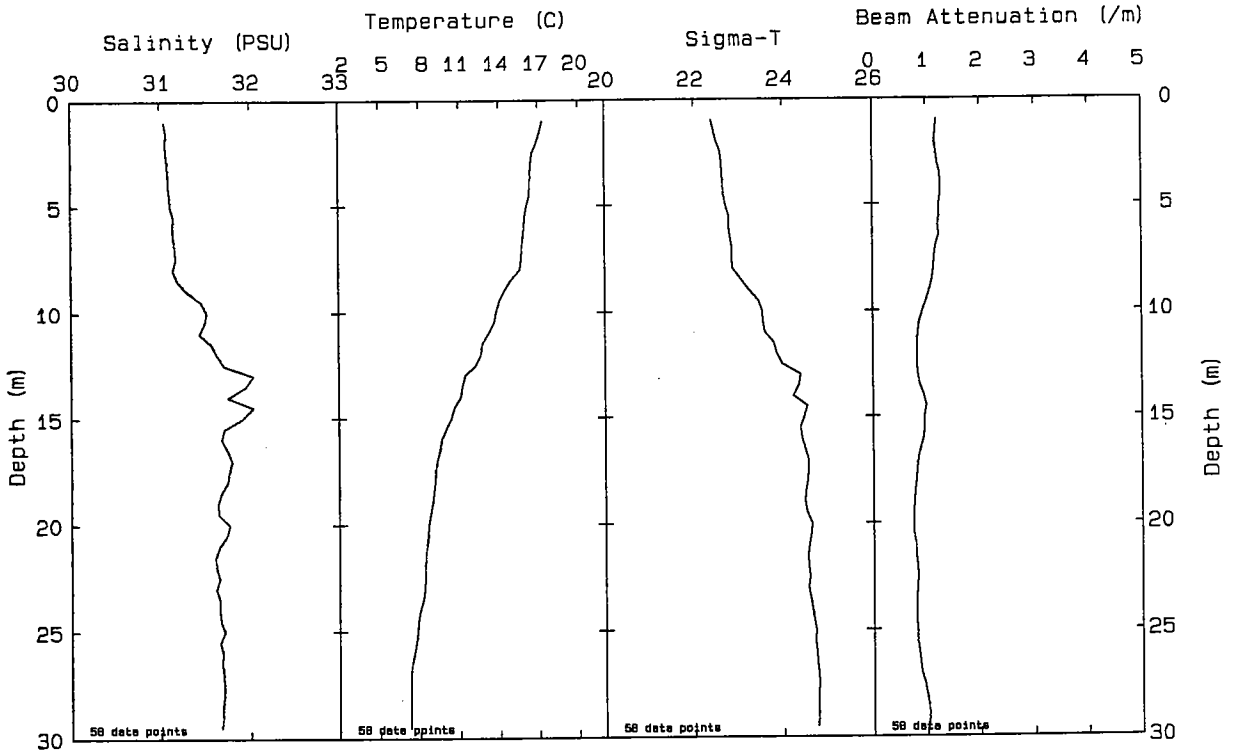

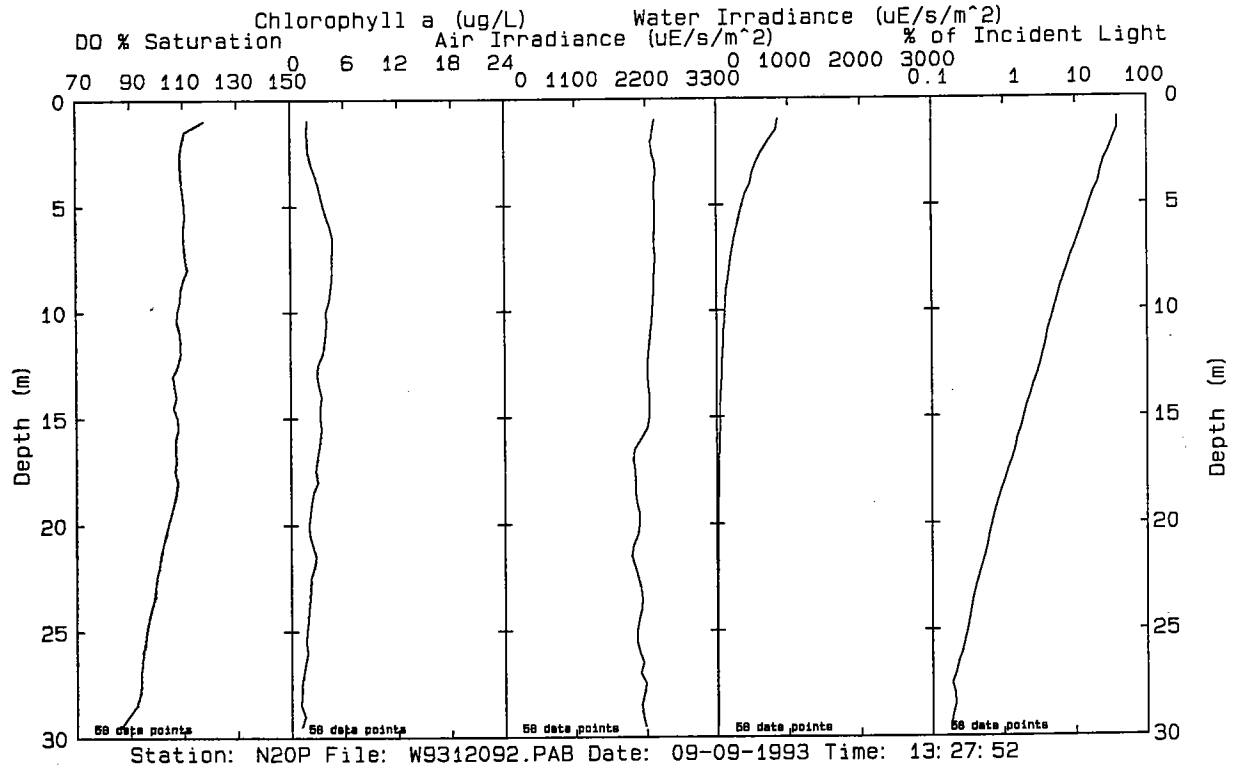

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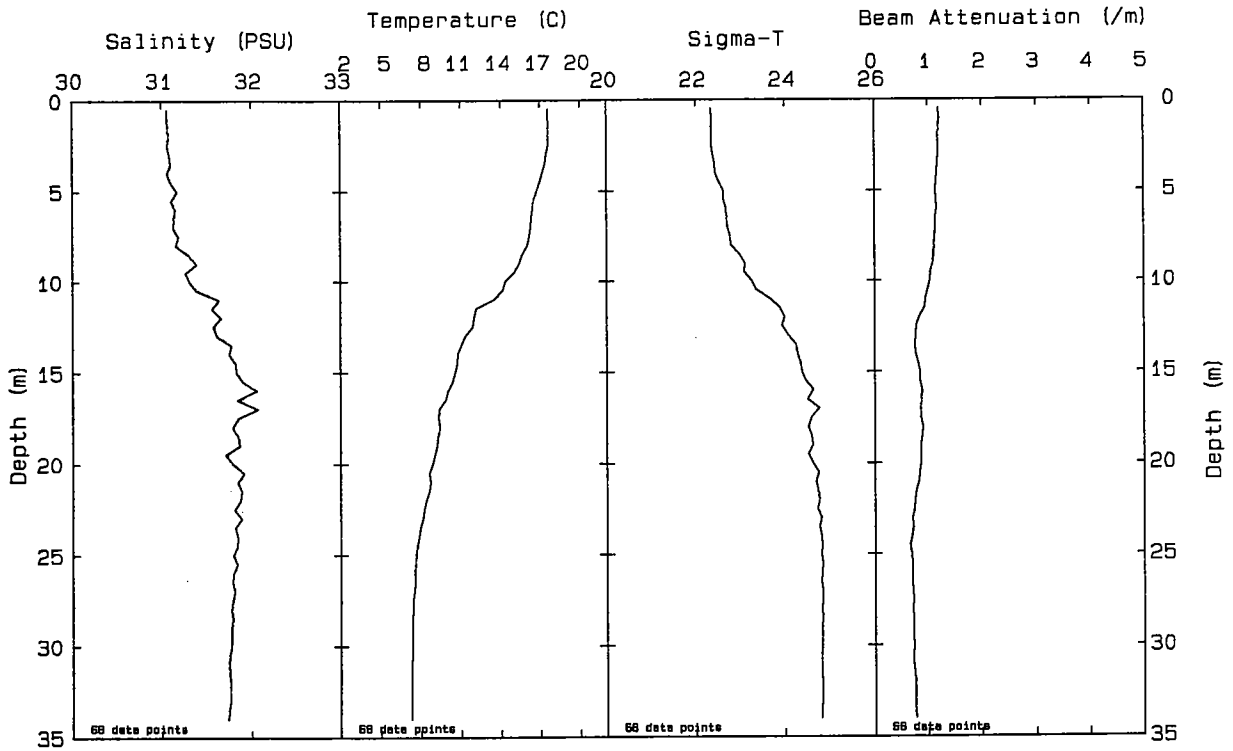

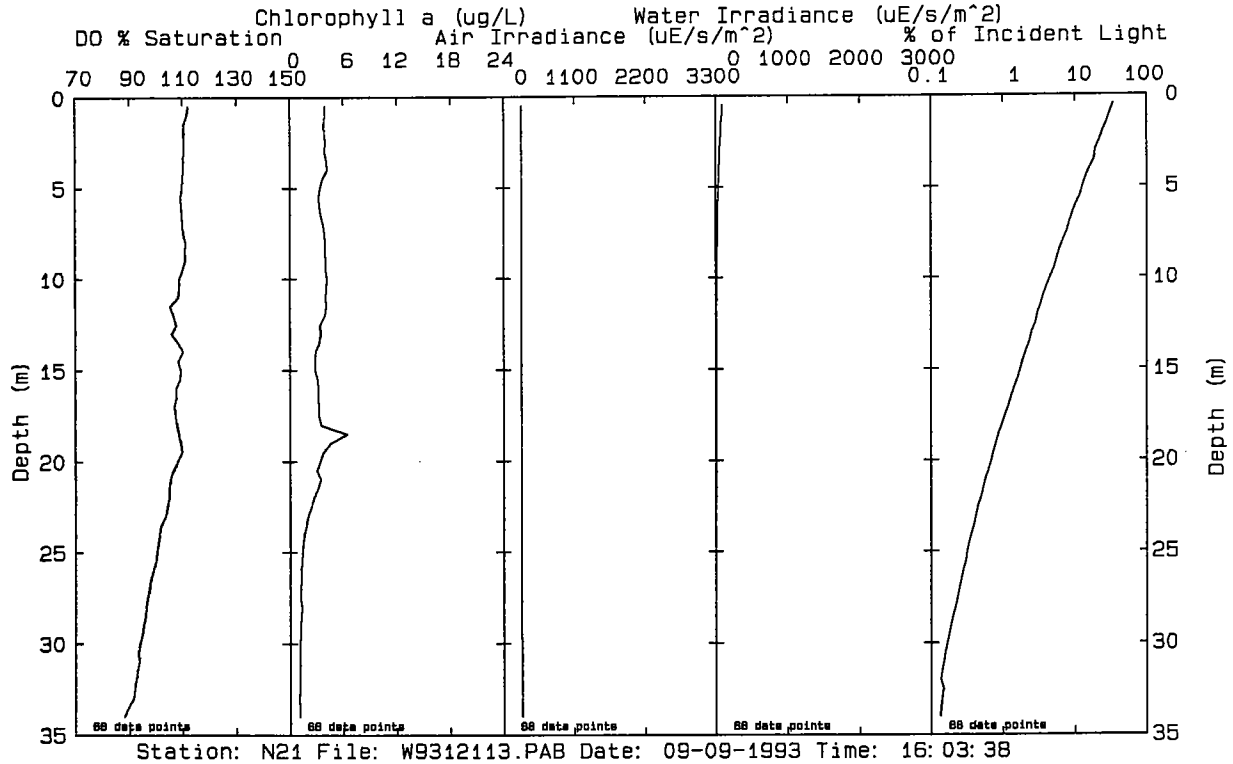

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00124

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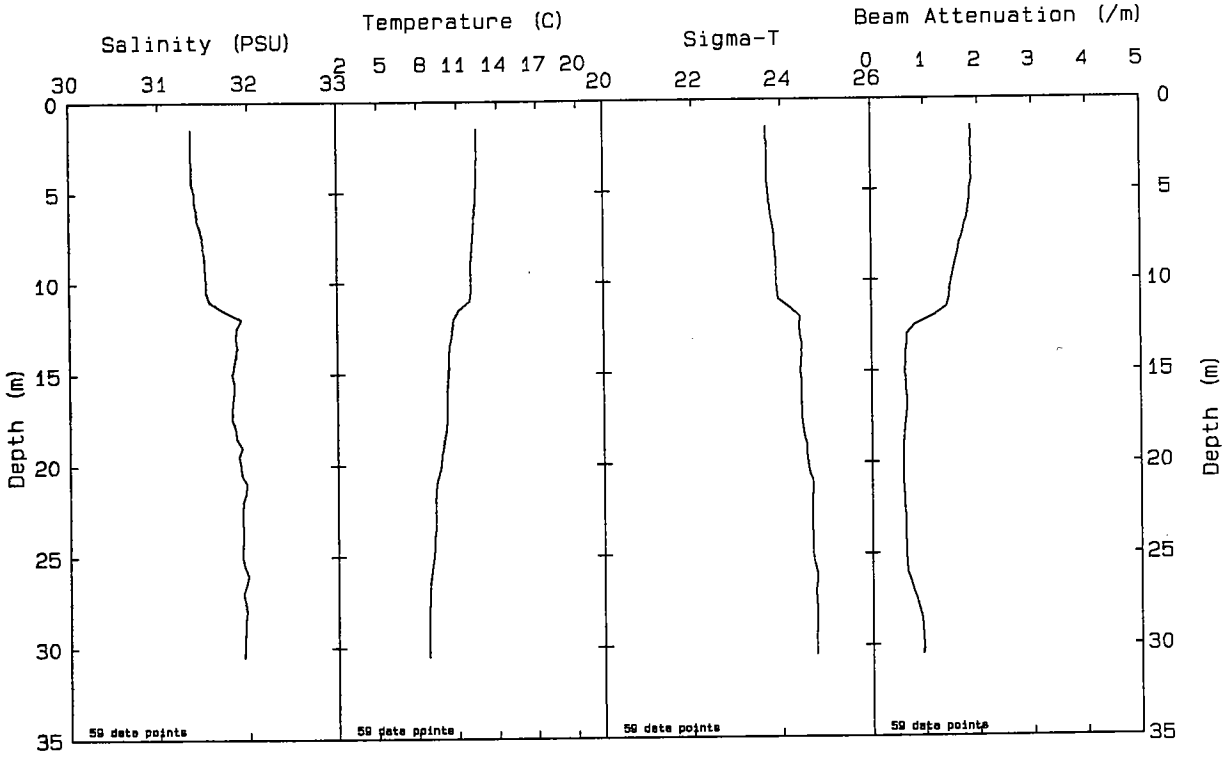

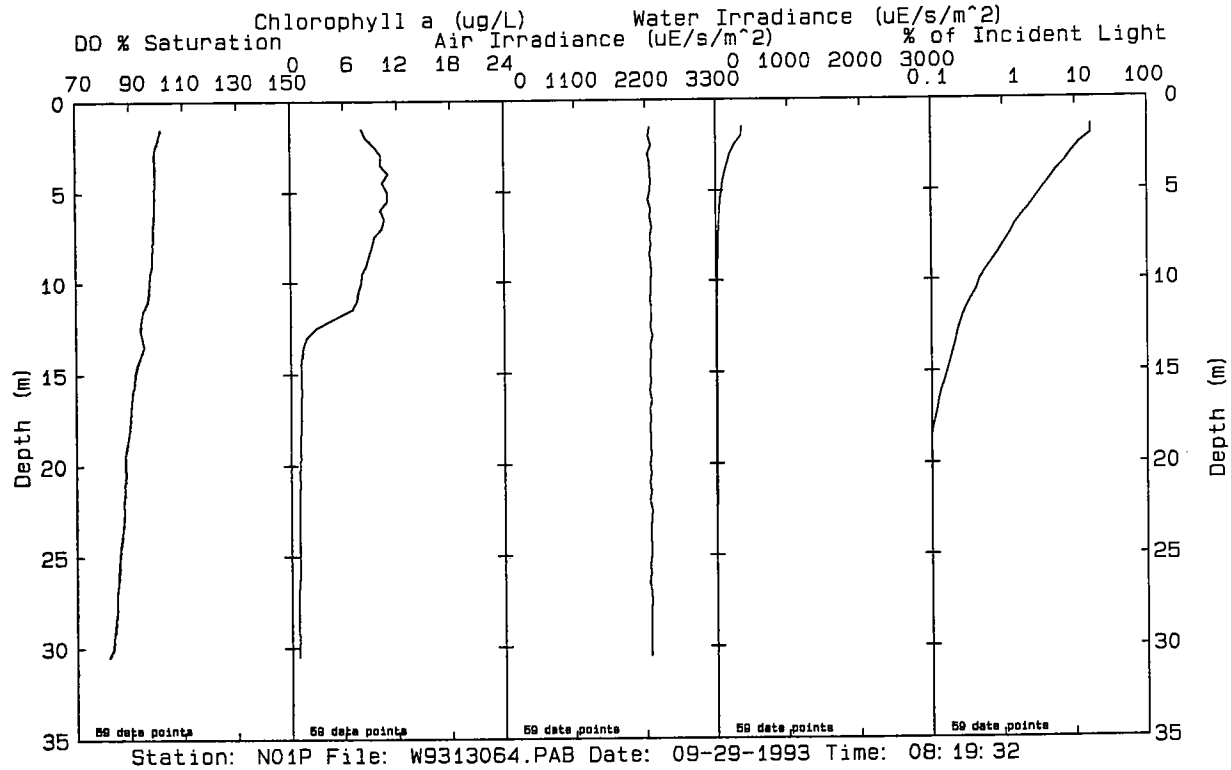

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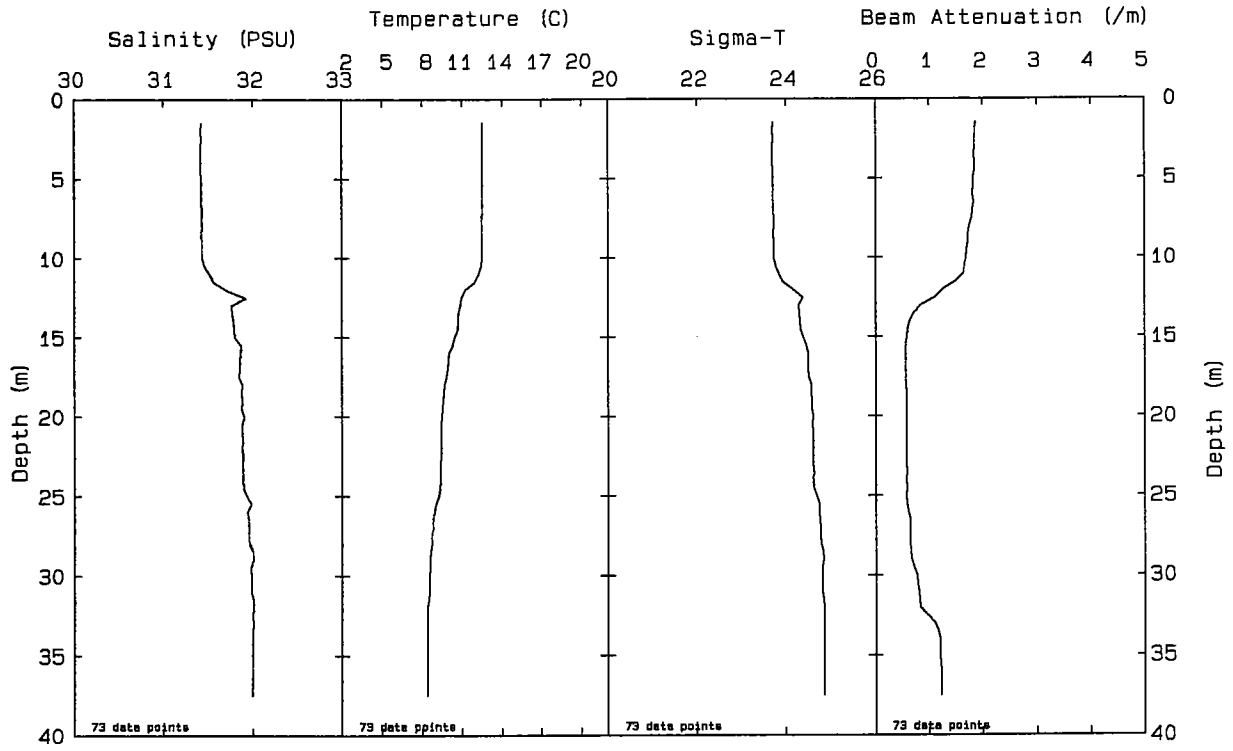
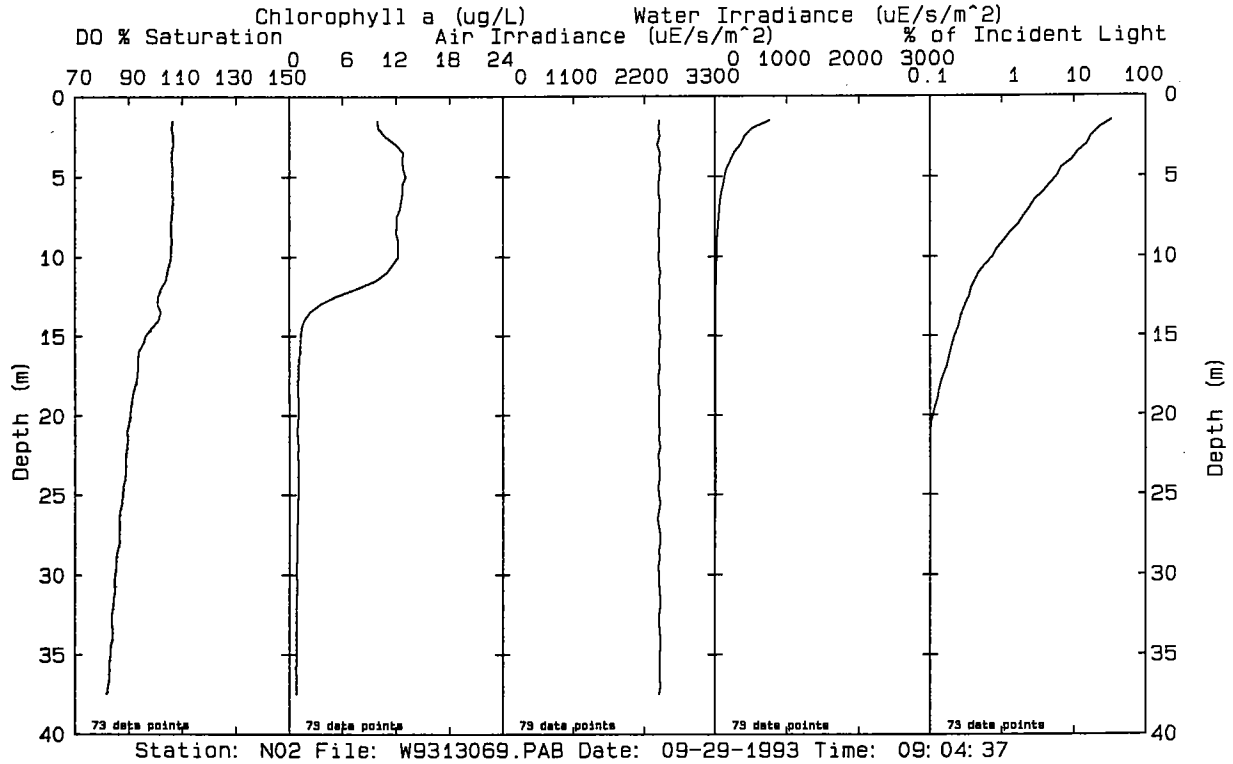
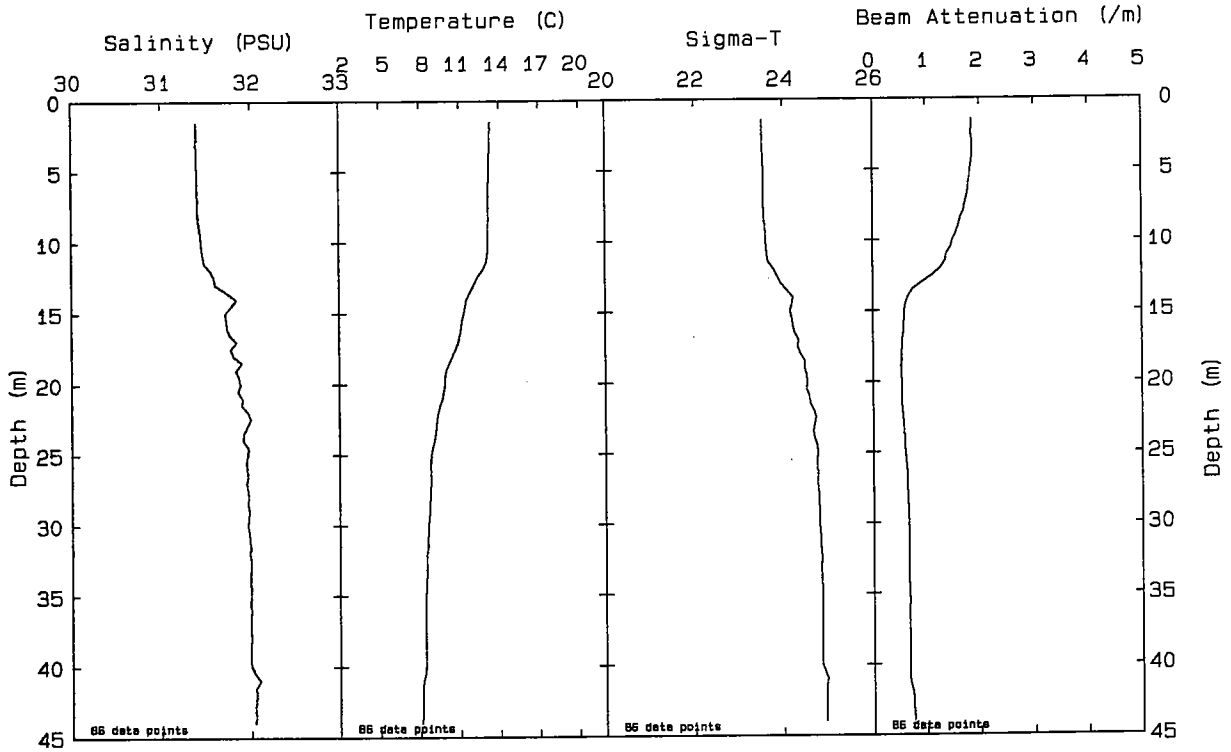
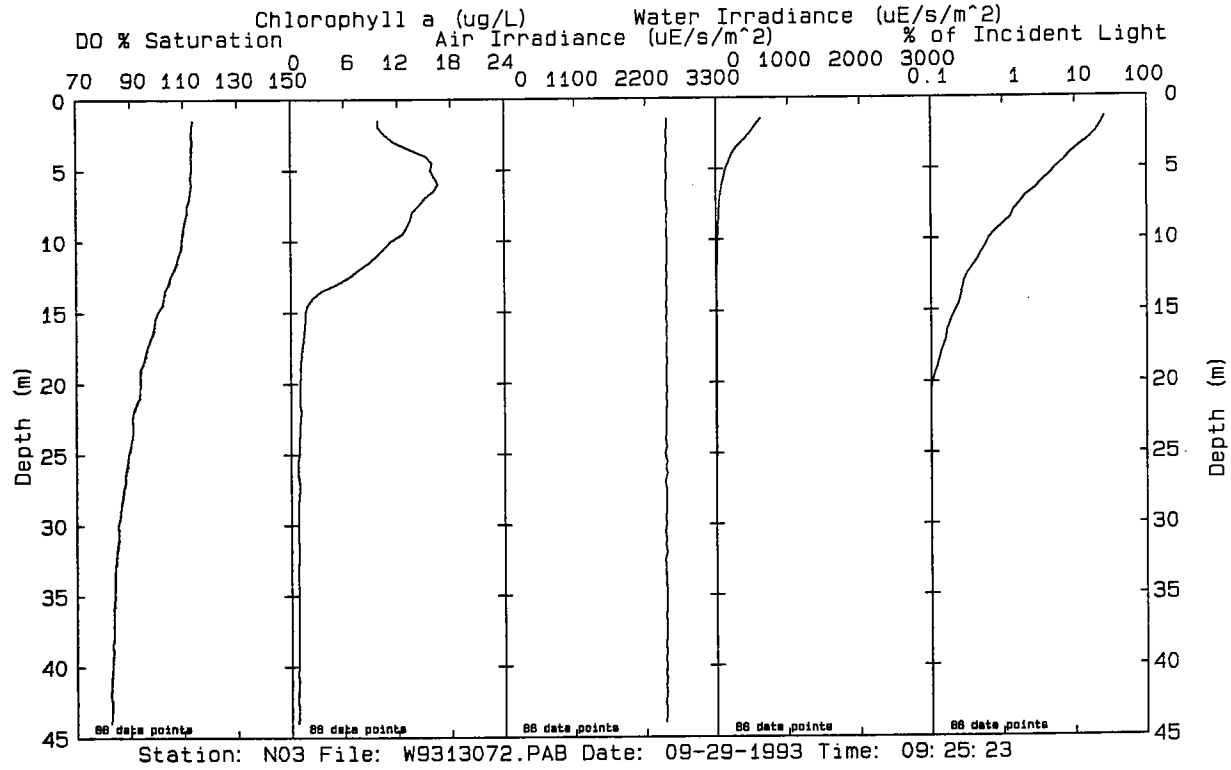
00126





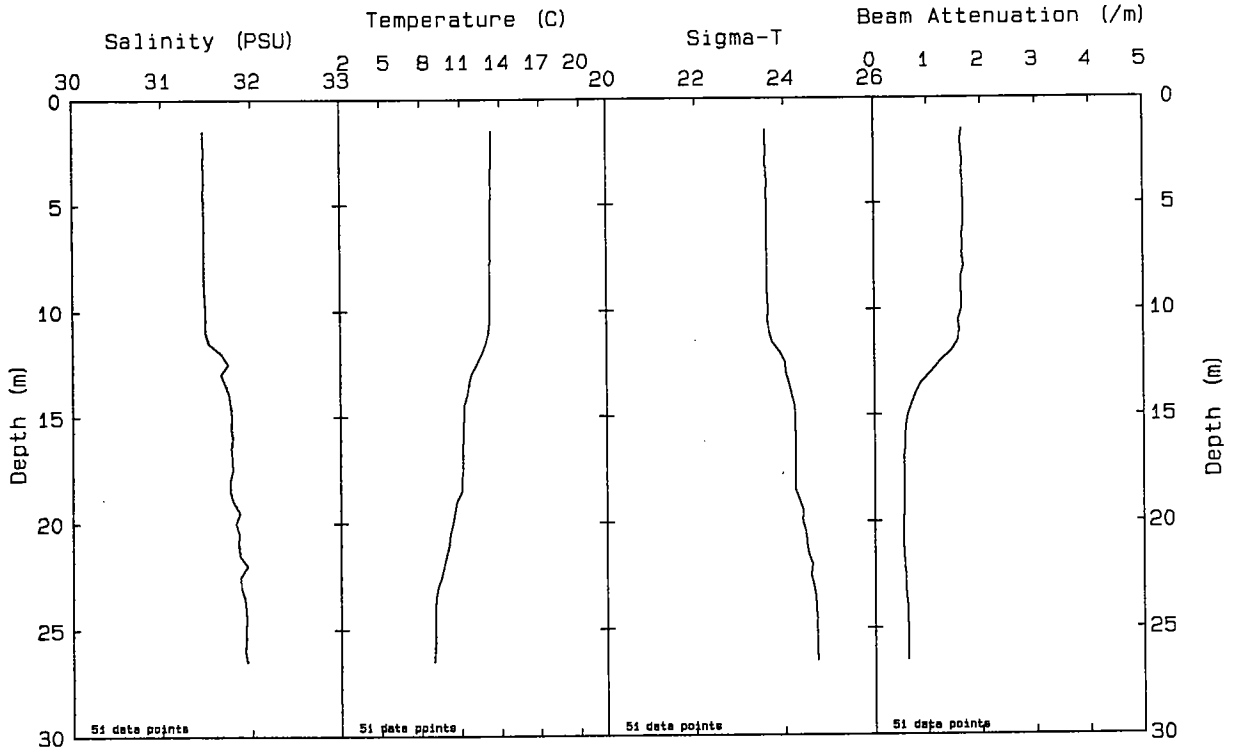
Station: N02 File: W9313069.PAB Date: 09-29-1993 Time: 09:04:37

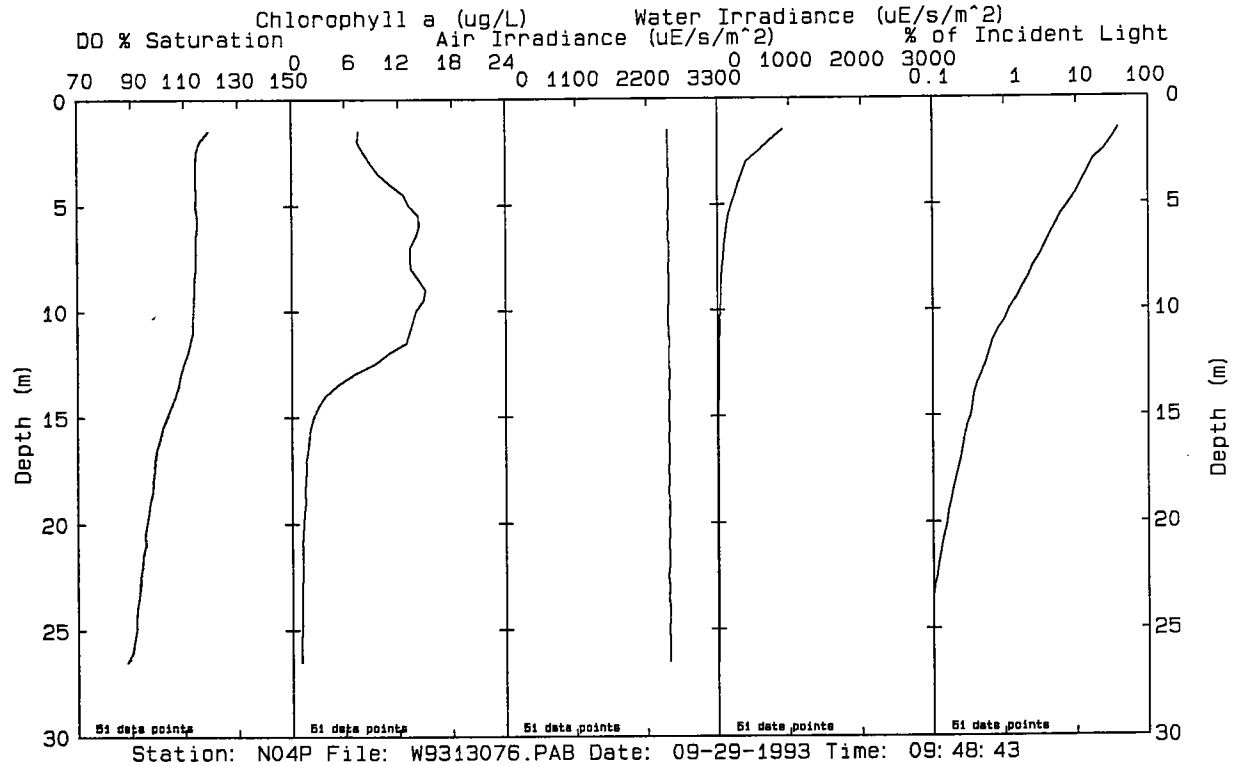




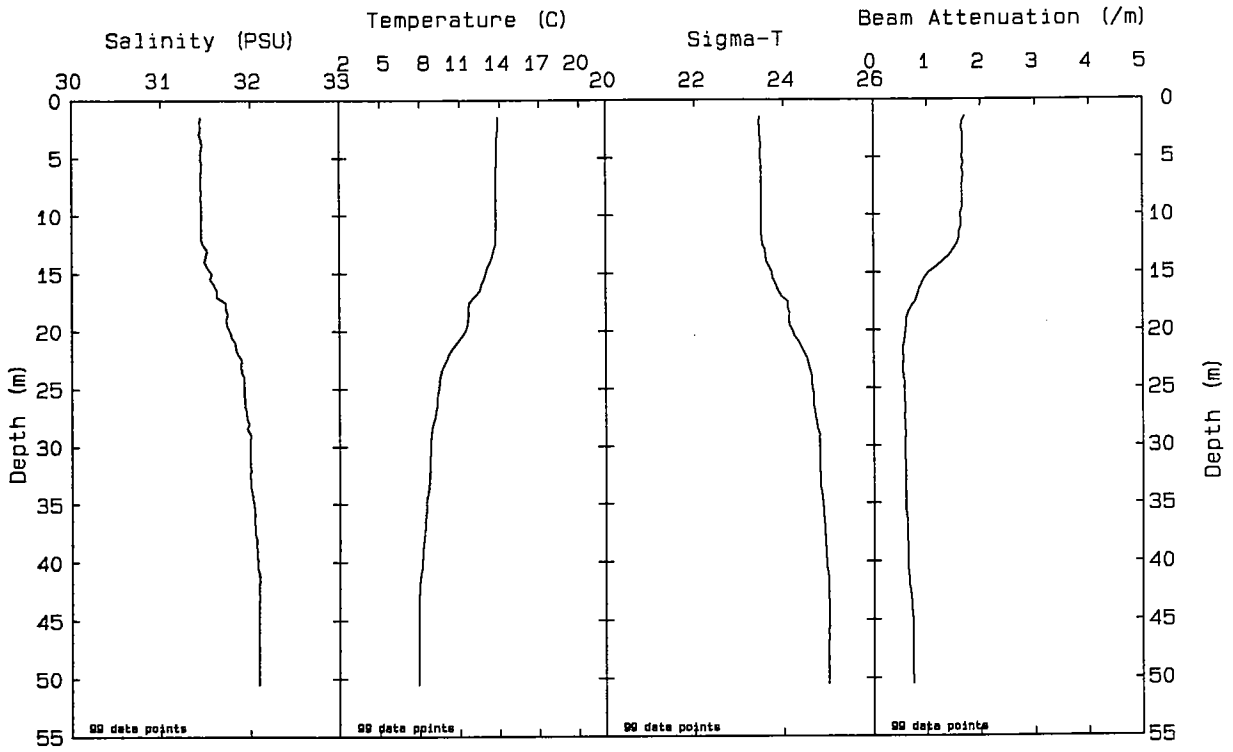
Station: N03 File: W9313072.PAB Date: 09-29-1993 Time: 09: 25: 23

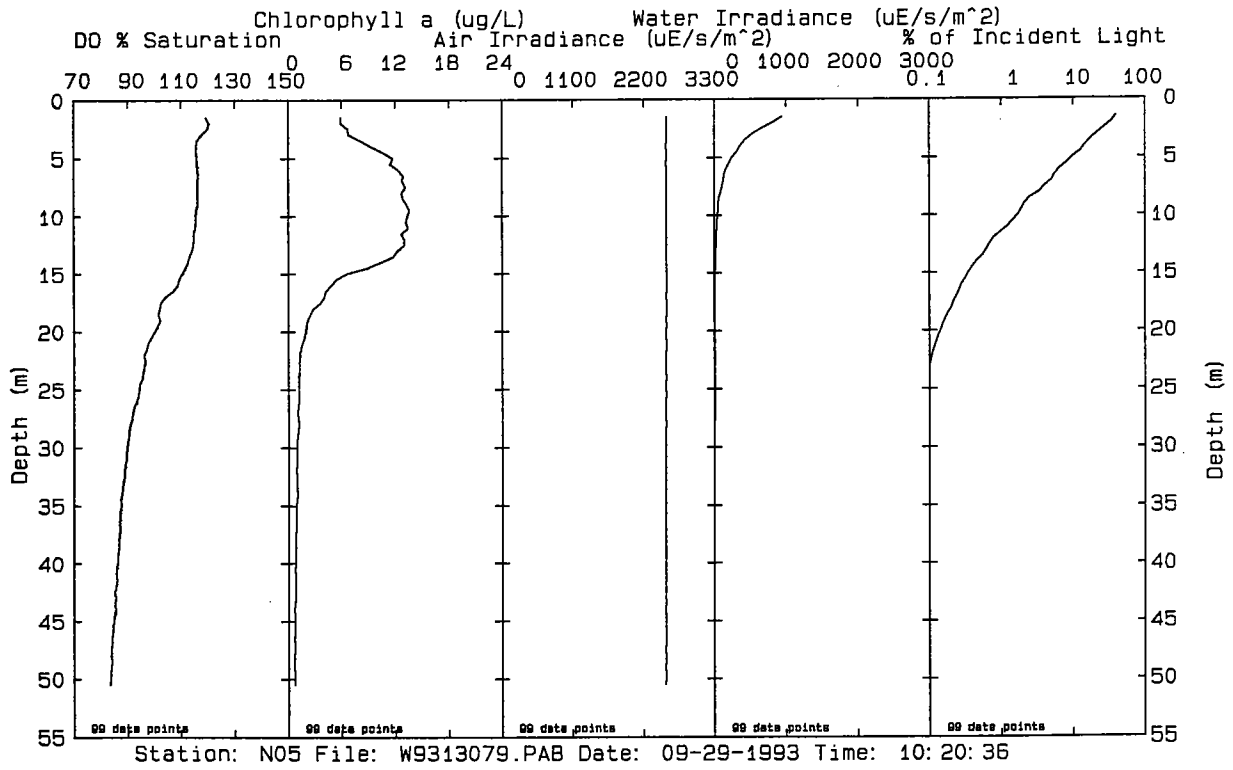
00128





Station: N04P File: W9313076.PAB Date: 09-29-1993 Time: 09:48:43





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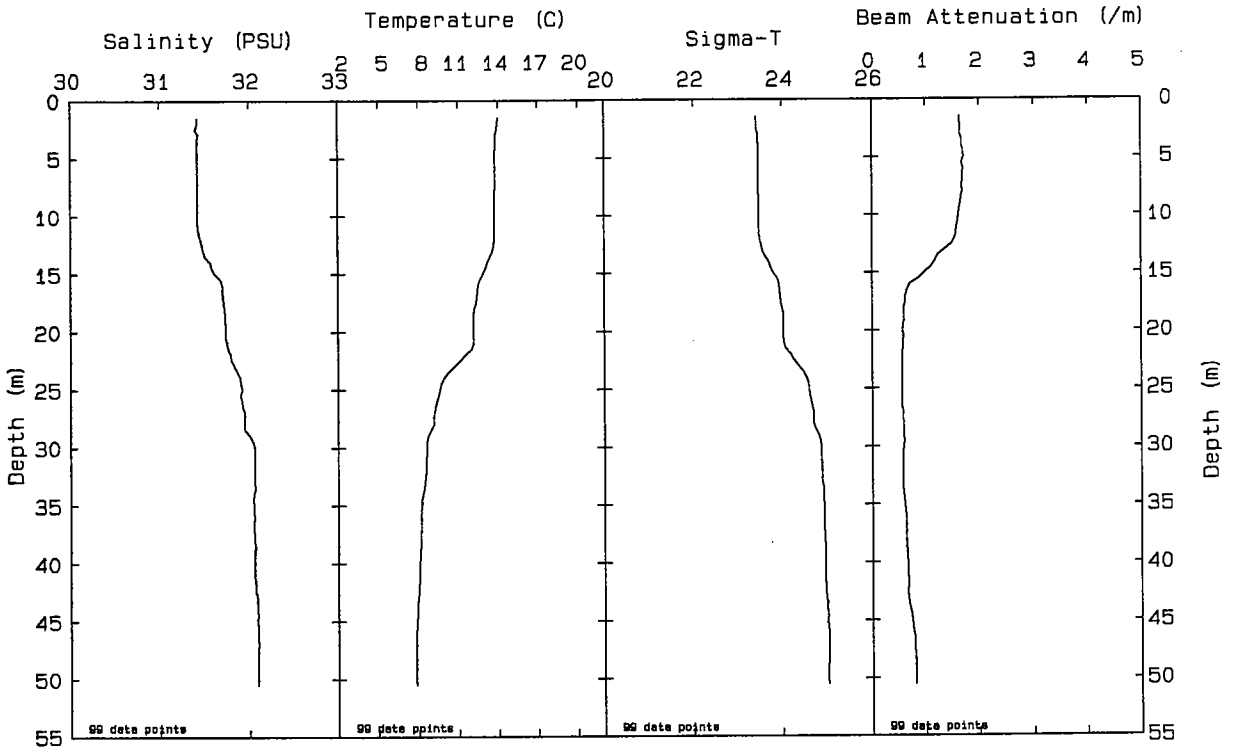
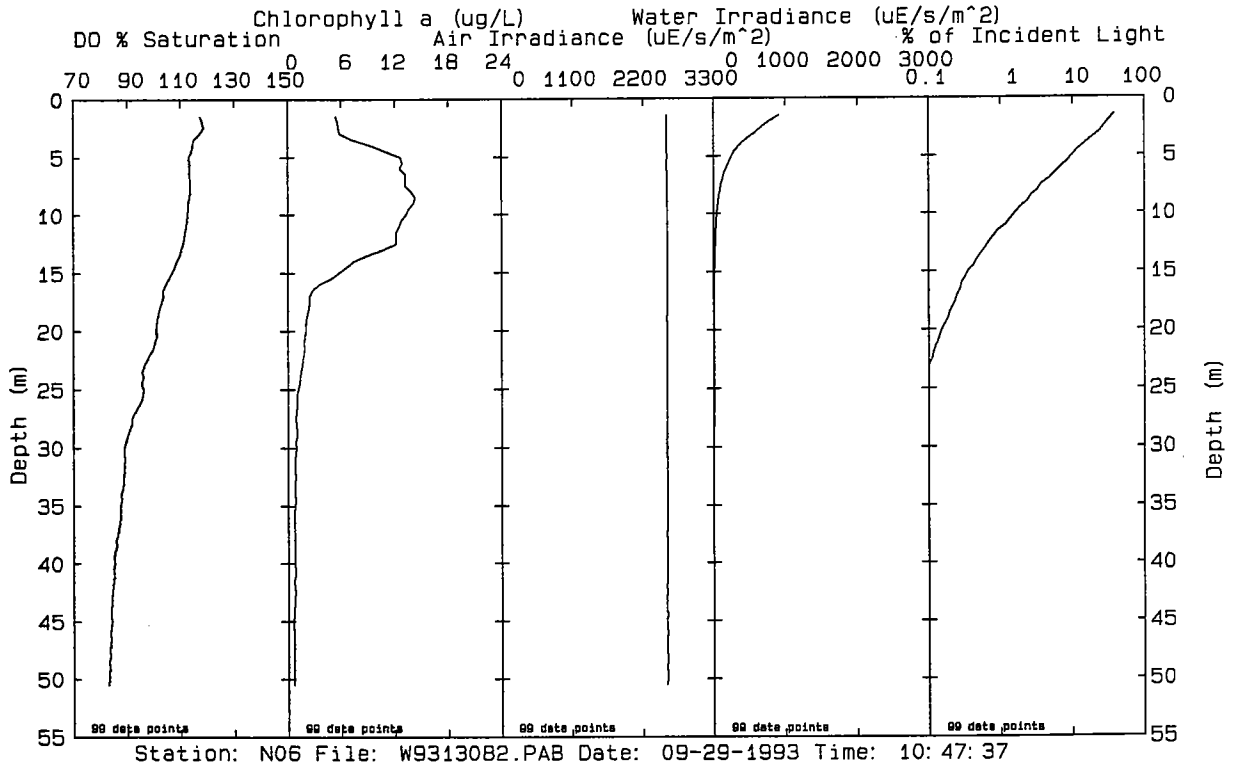
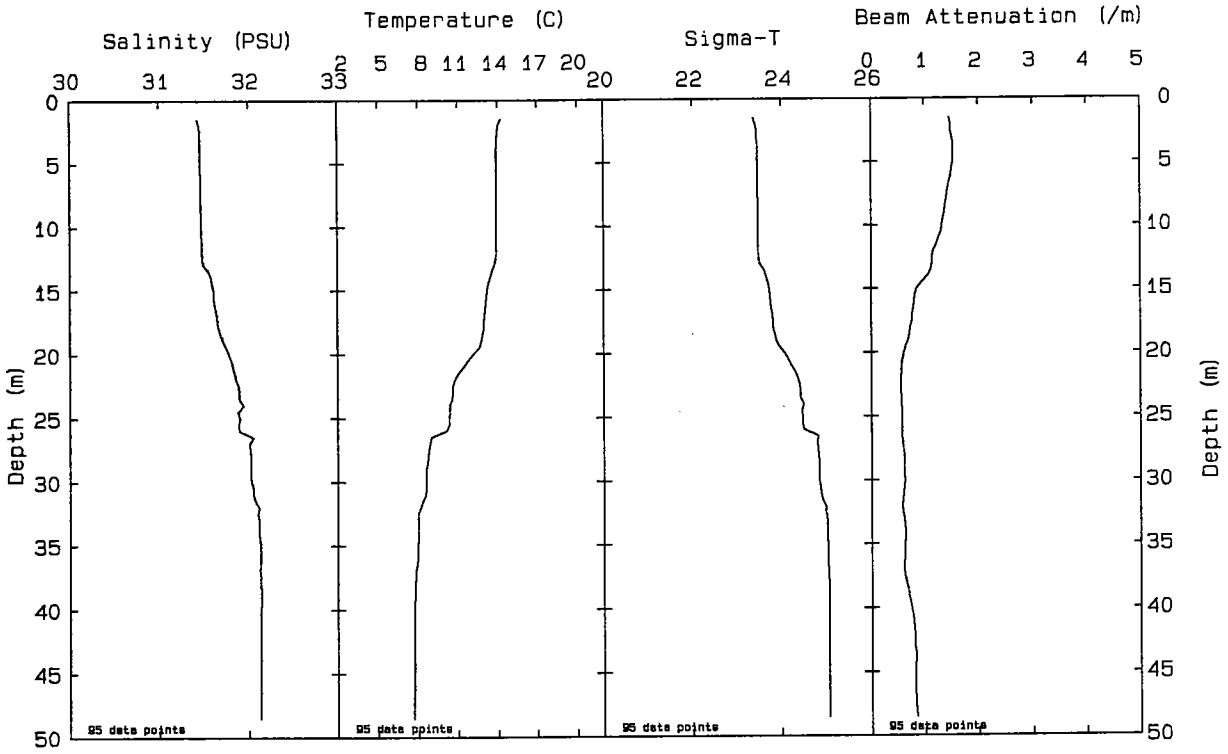
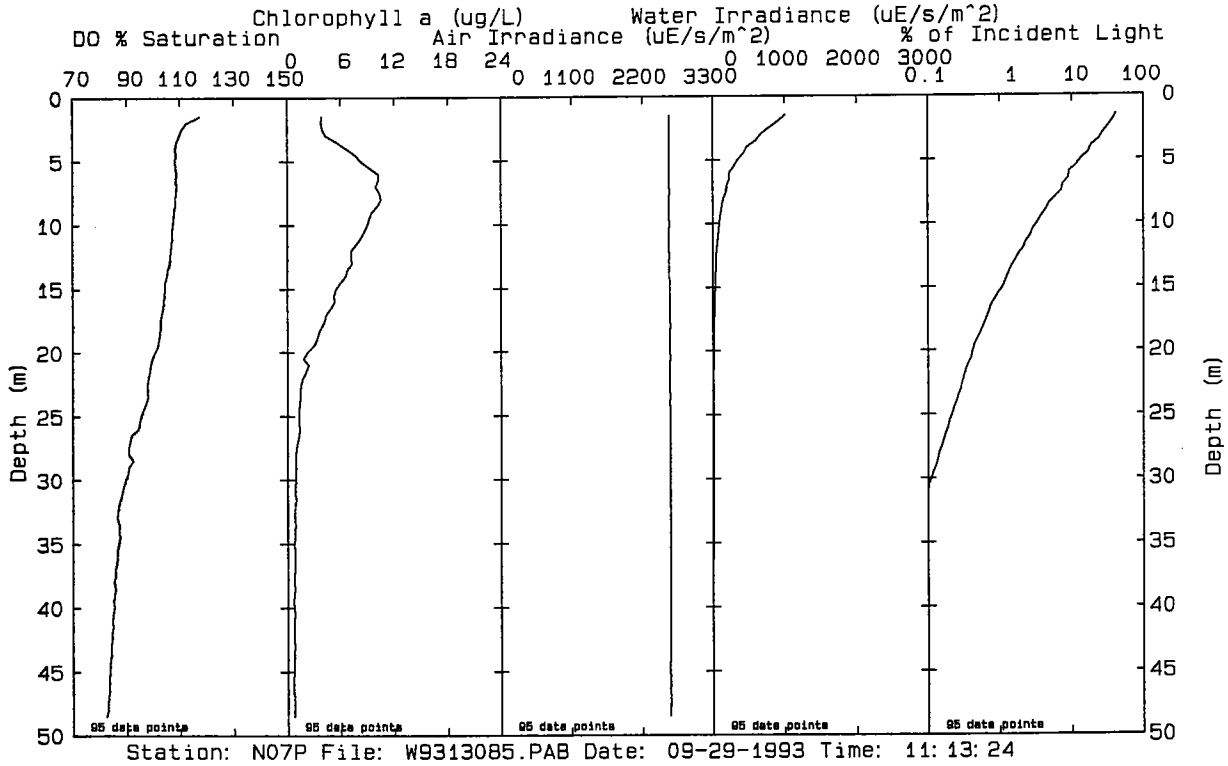




Station: N06 File: W9313082.PAB Date: 09-29-1993 Time: 10:47:37





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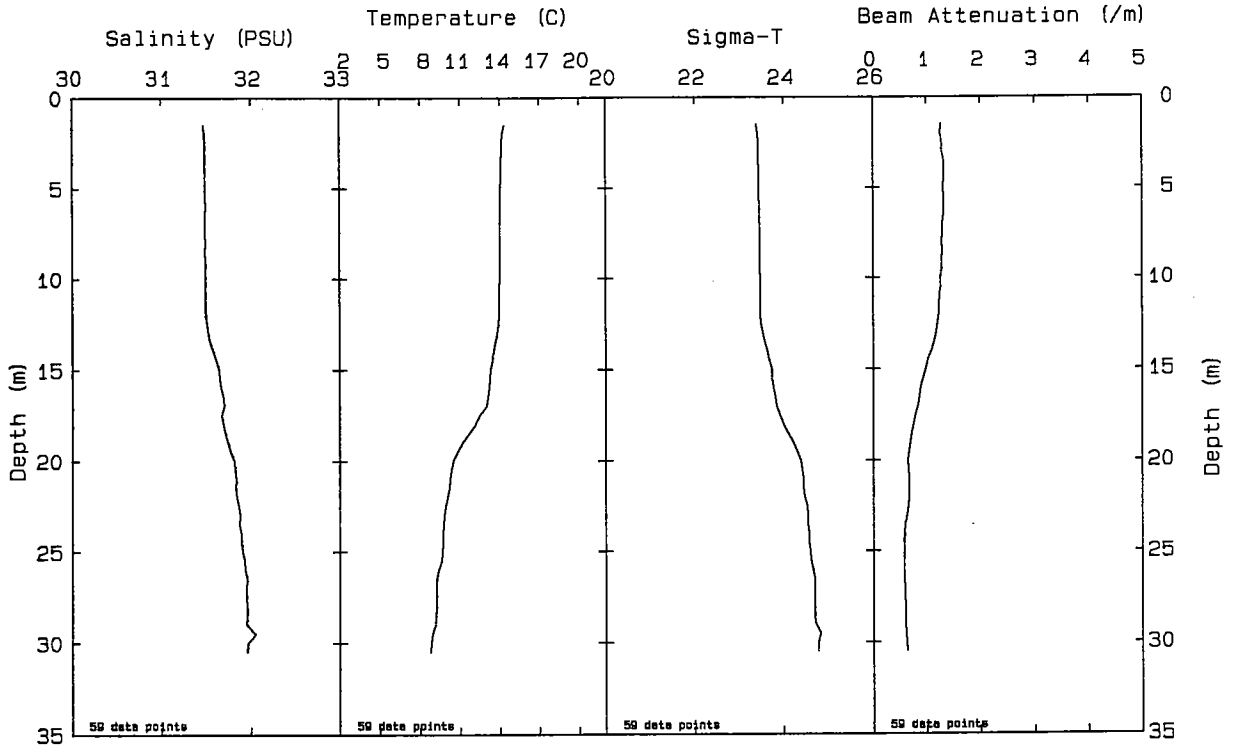
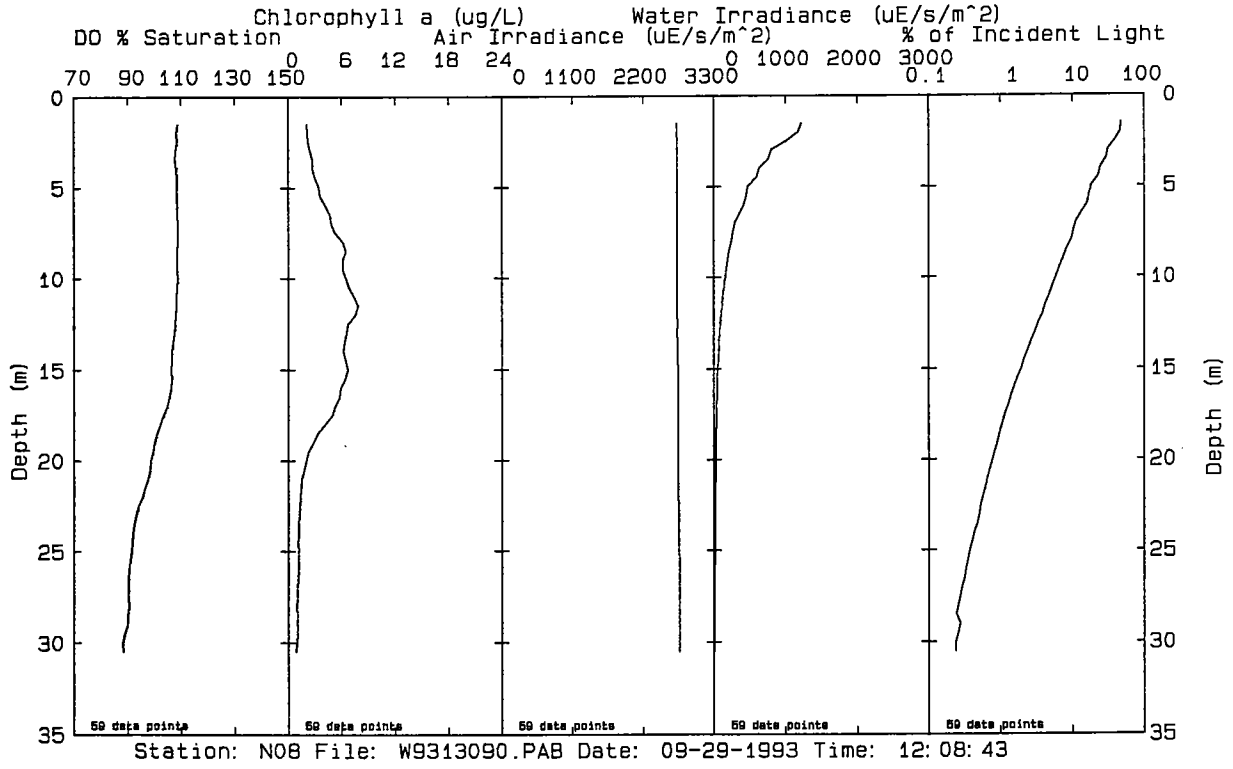
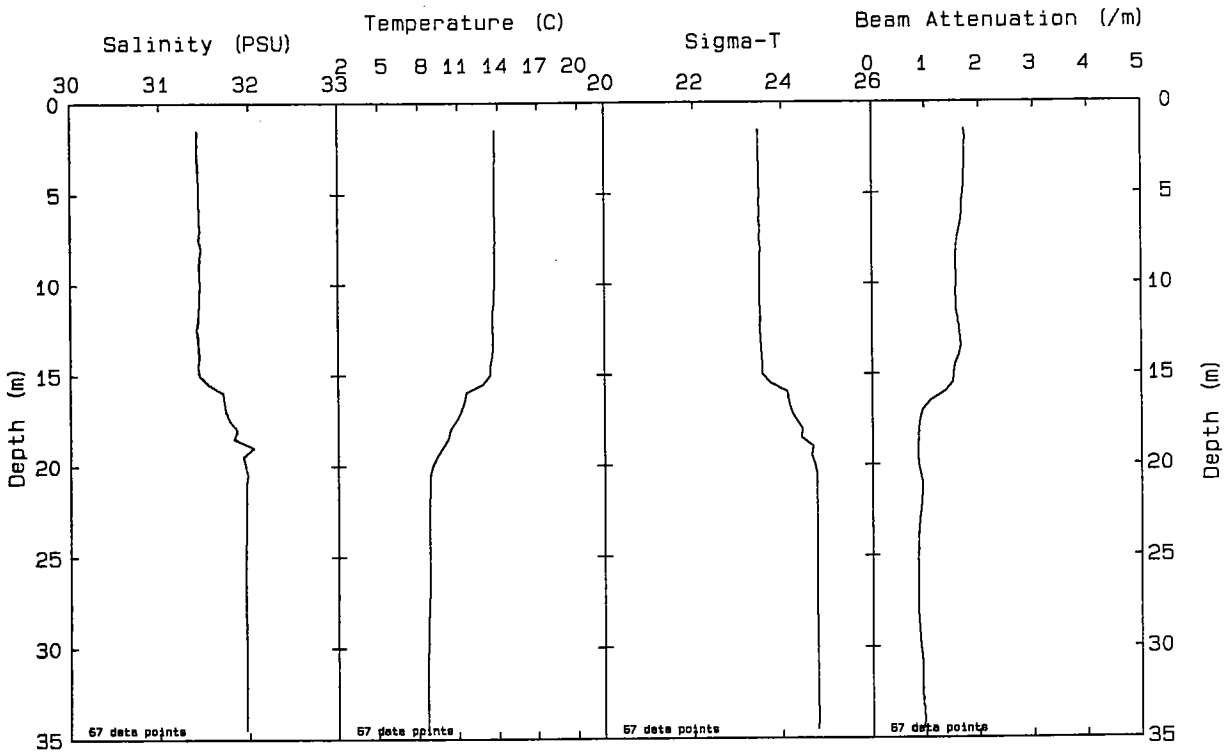
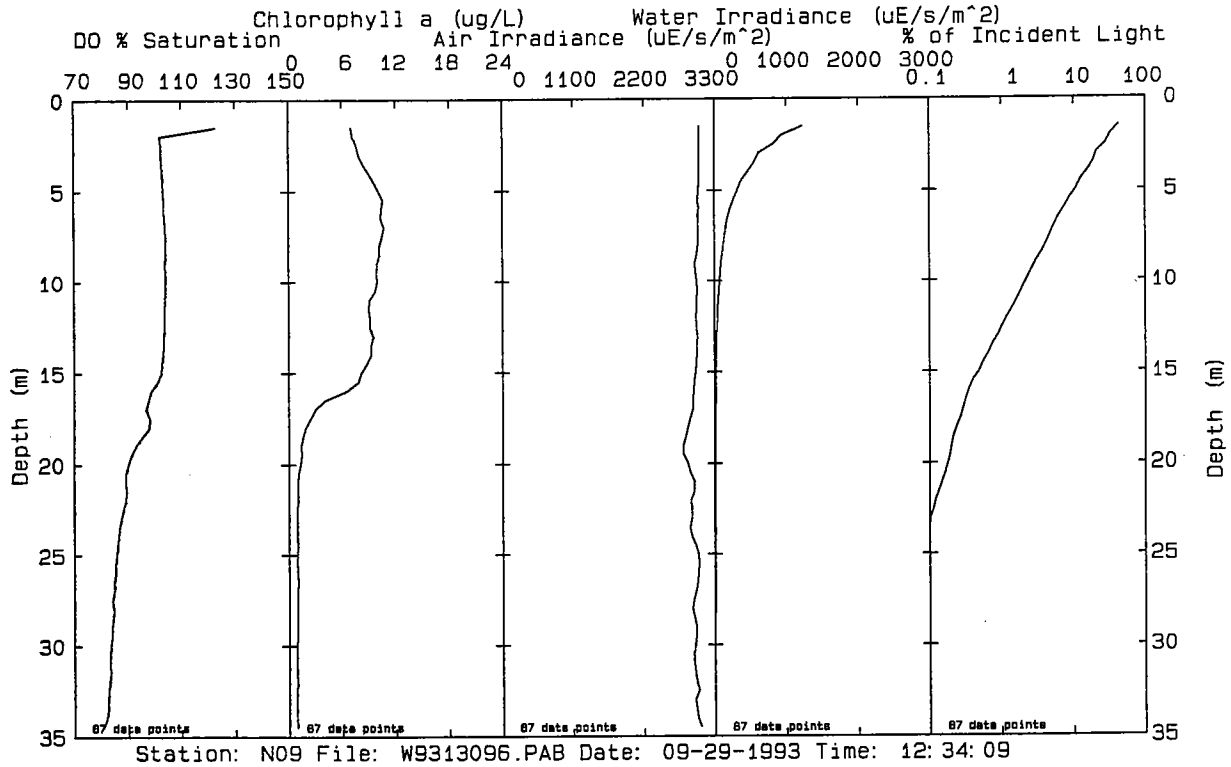


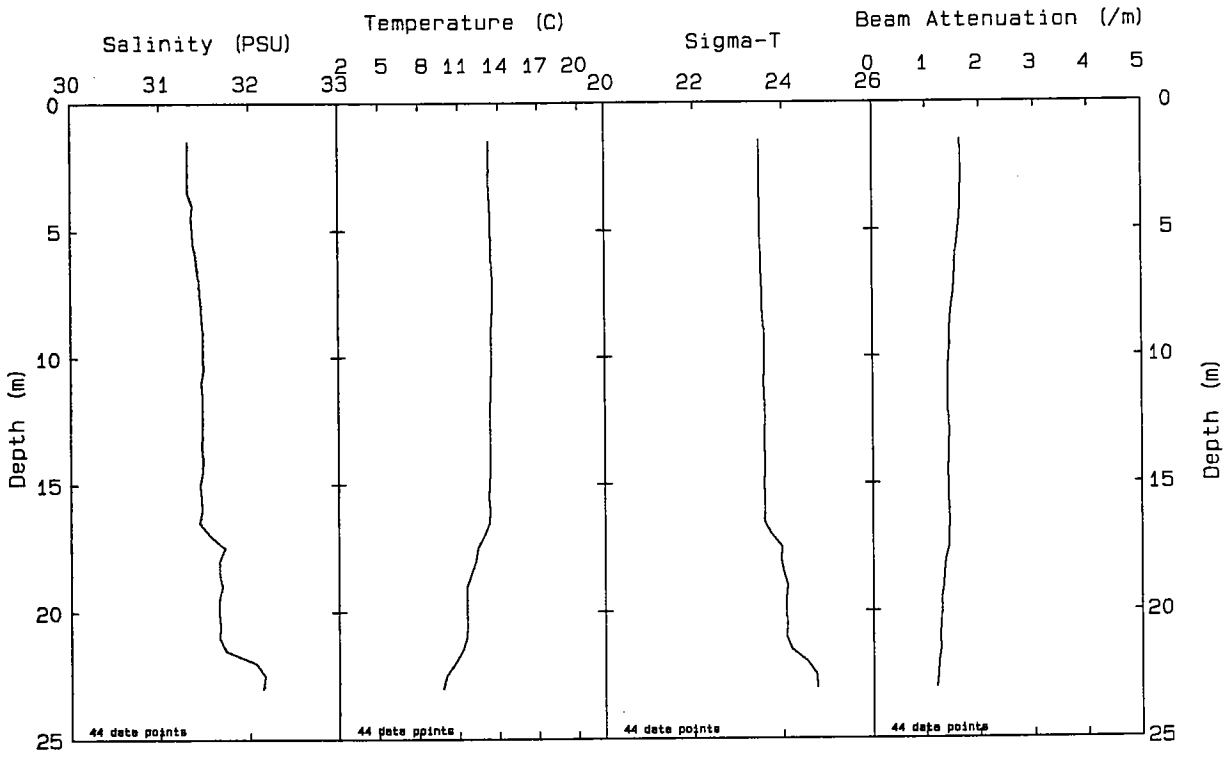


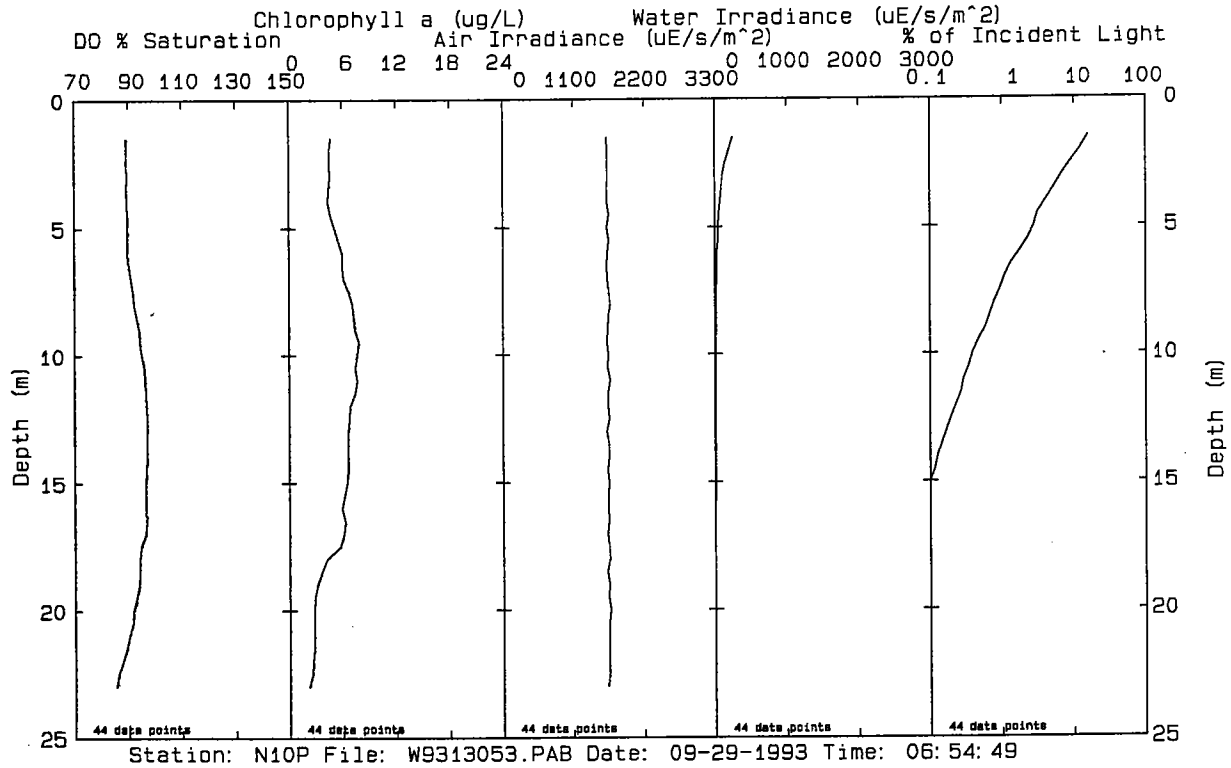
Station: N08 File: W9313090.PAB Date: 09-29-1993 Time: 12:08:43



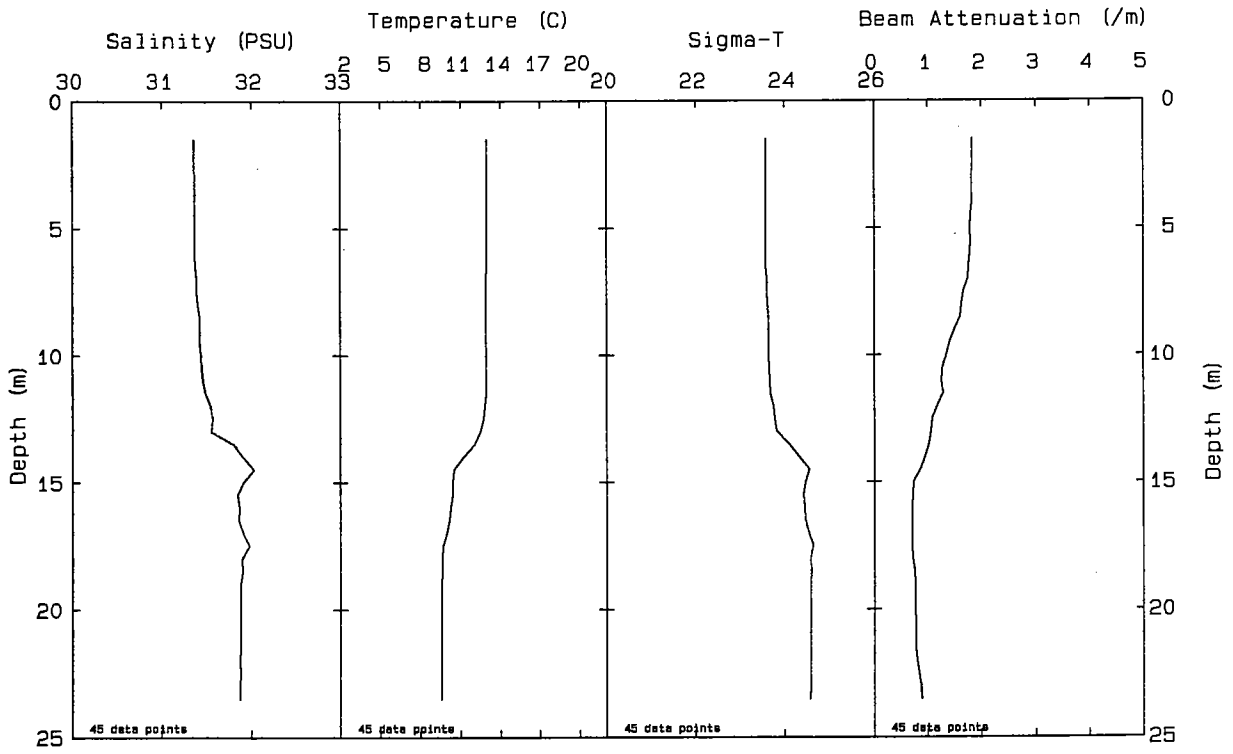


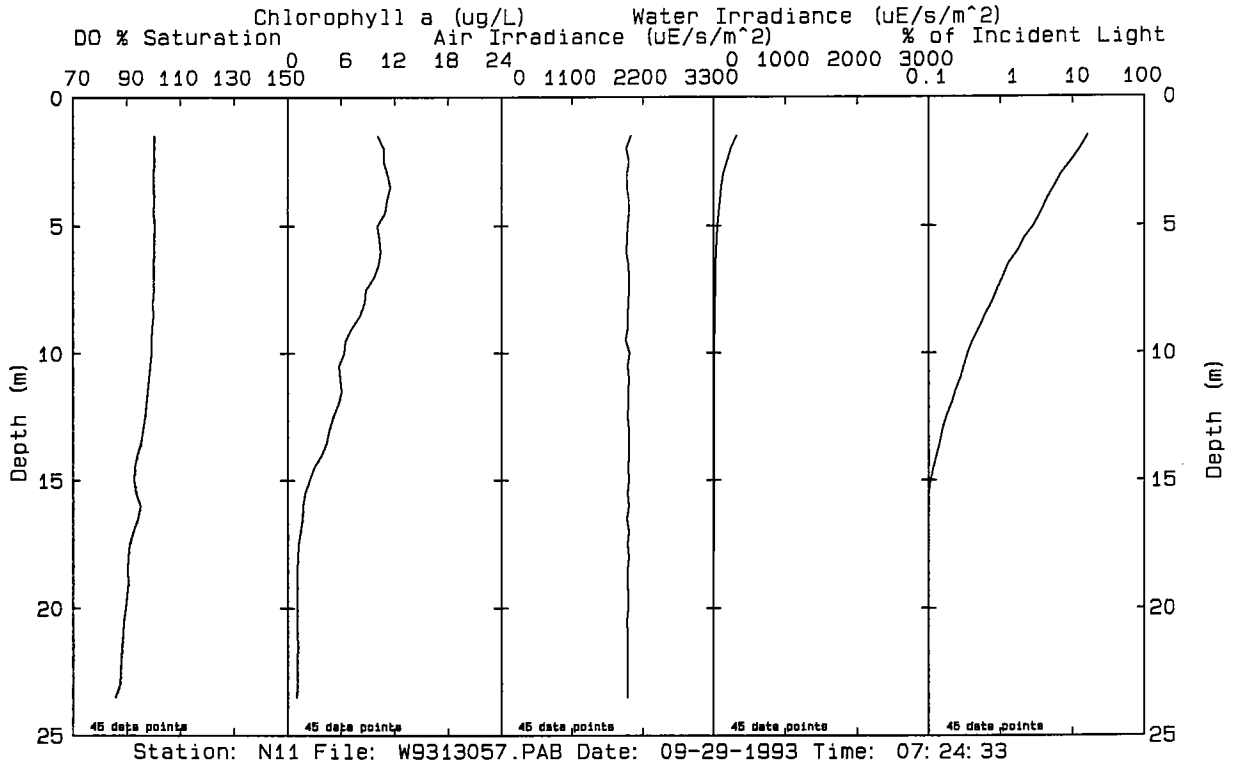
Station: N09 File: W9313096.PAB Date: 09-29-1993 Time: 12:34:09



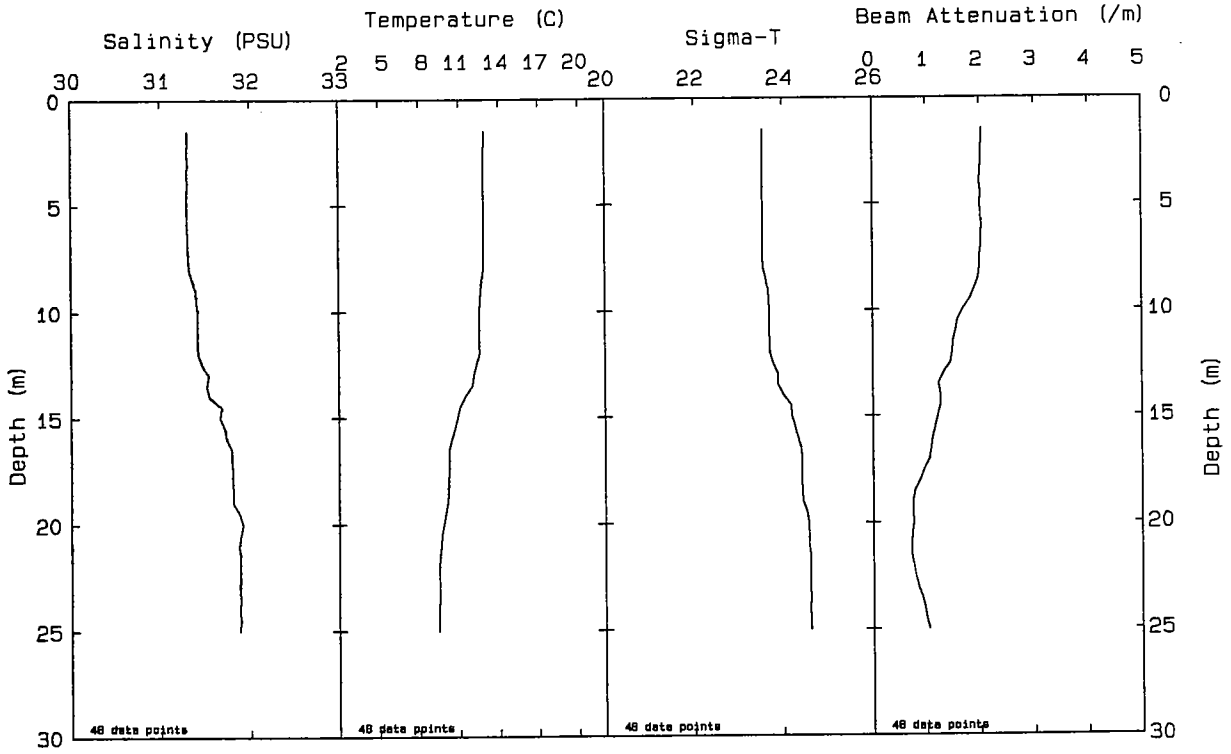


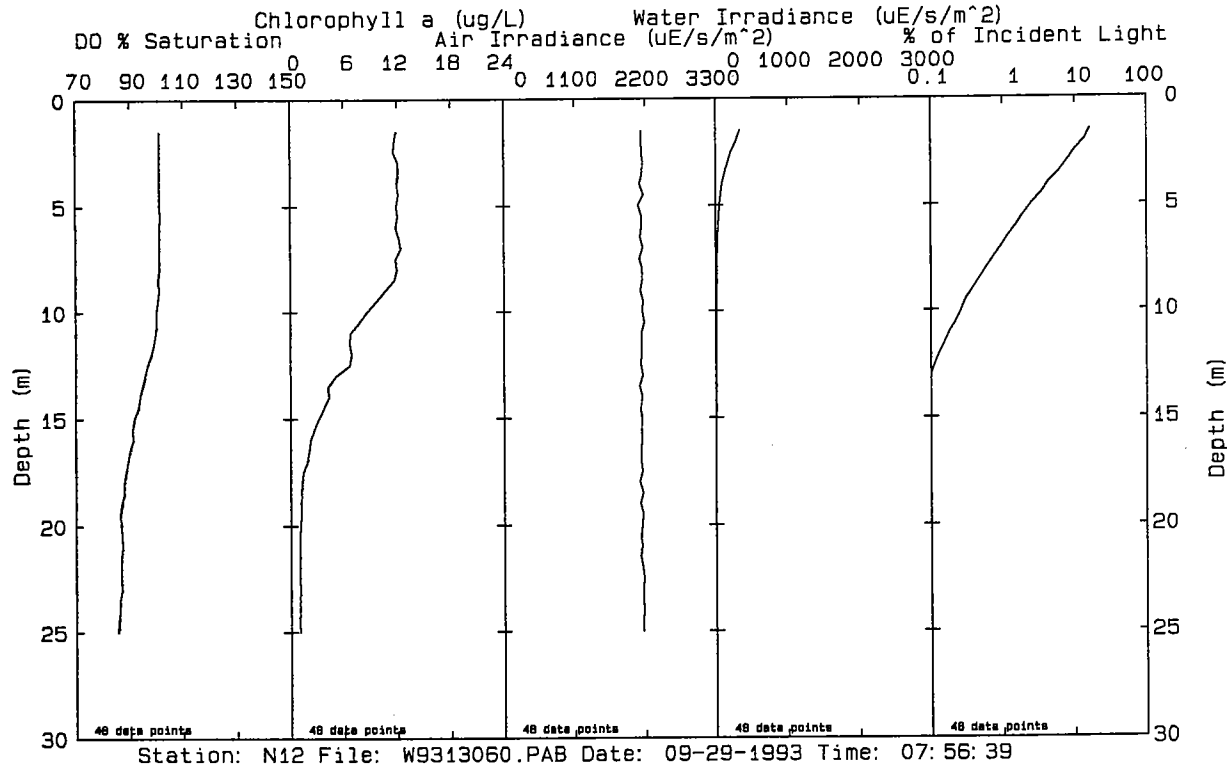
Station: N10P File: W9313053.PAB Date: 09-29-1993 Time: 06:54:49



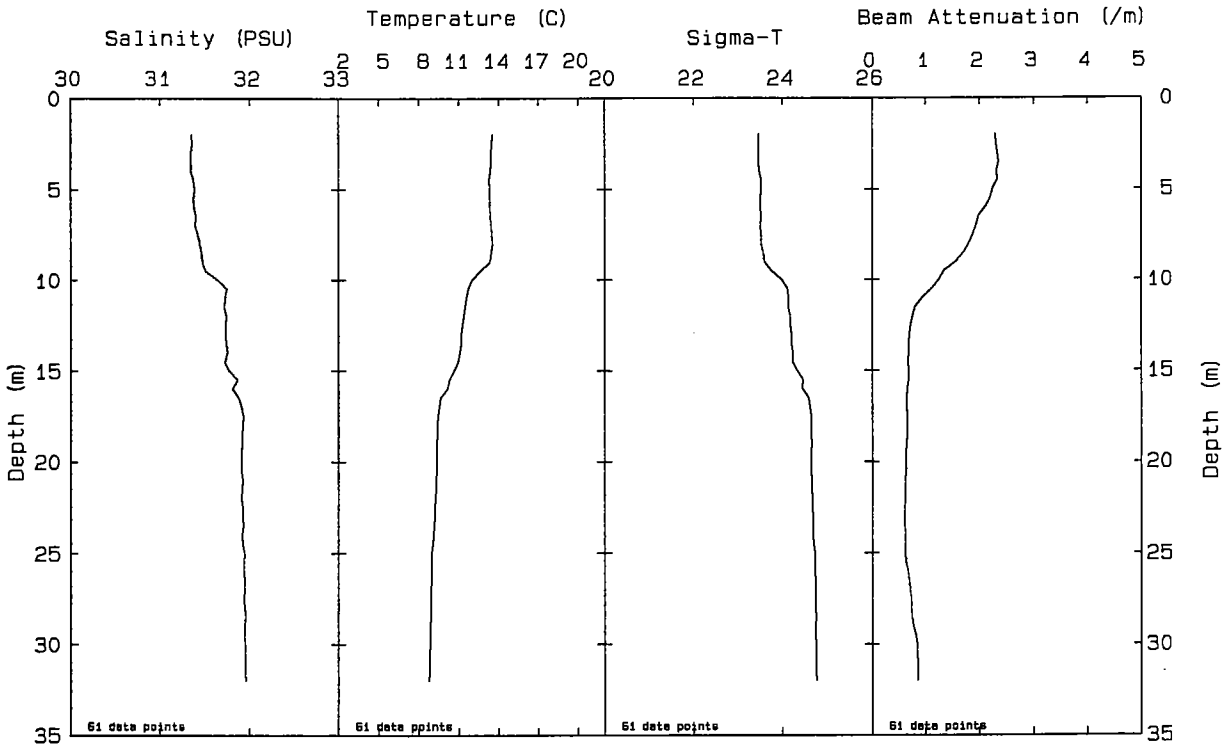


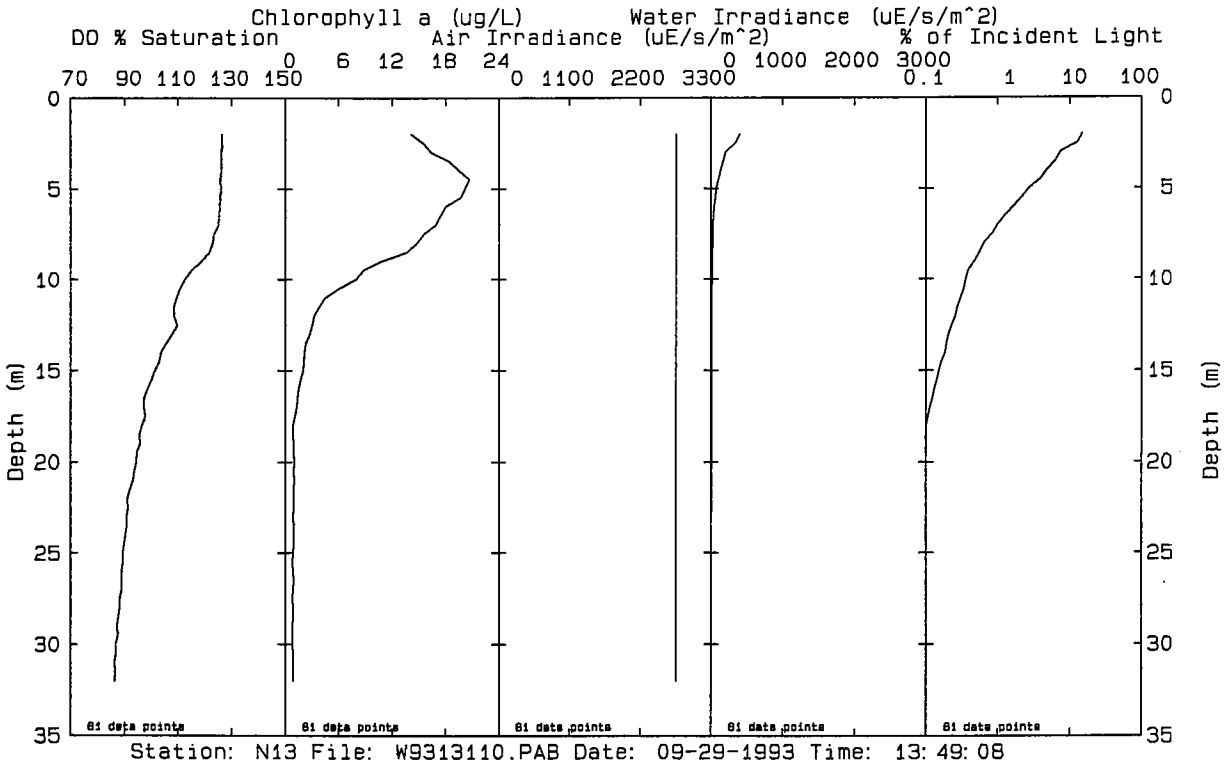
Station: N11 File: W9313057.PAB Date: 09-29-1993 Time: 07:24:33





Station: N12 File: W9313060.PAB Date: 09-29-1993 Time: 07:56:39





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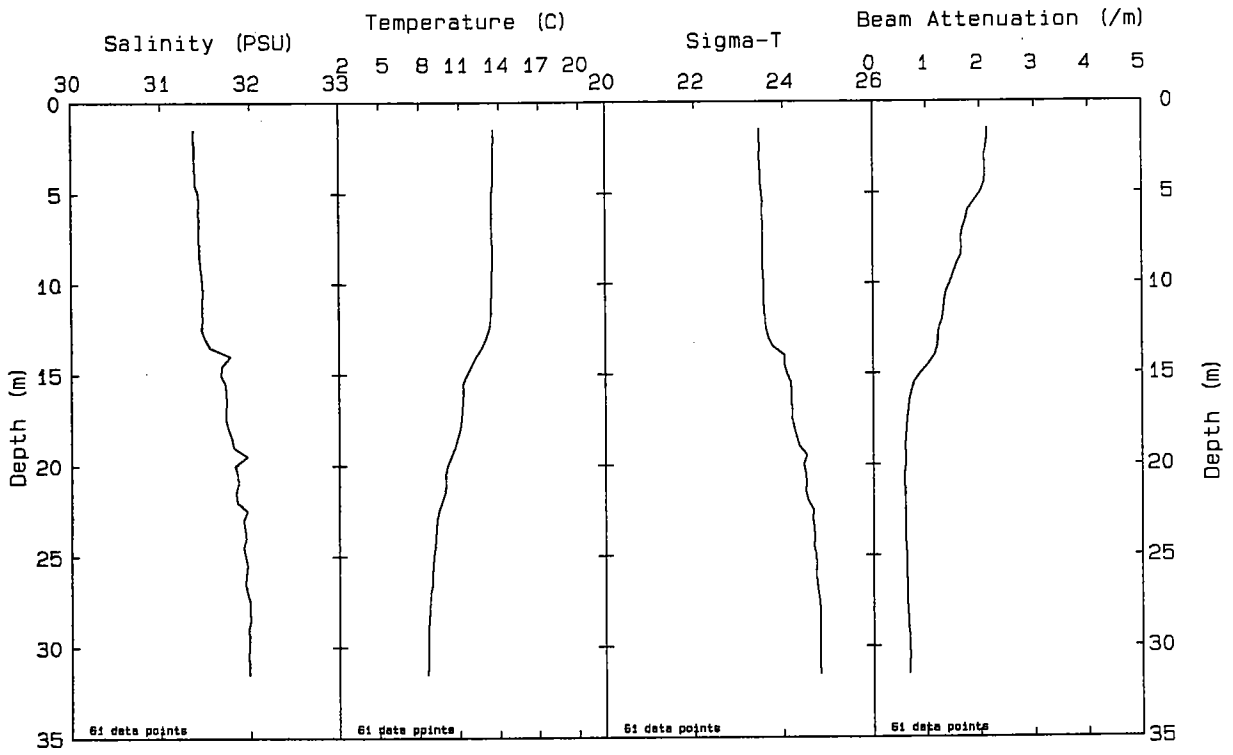

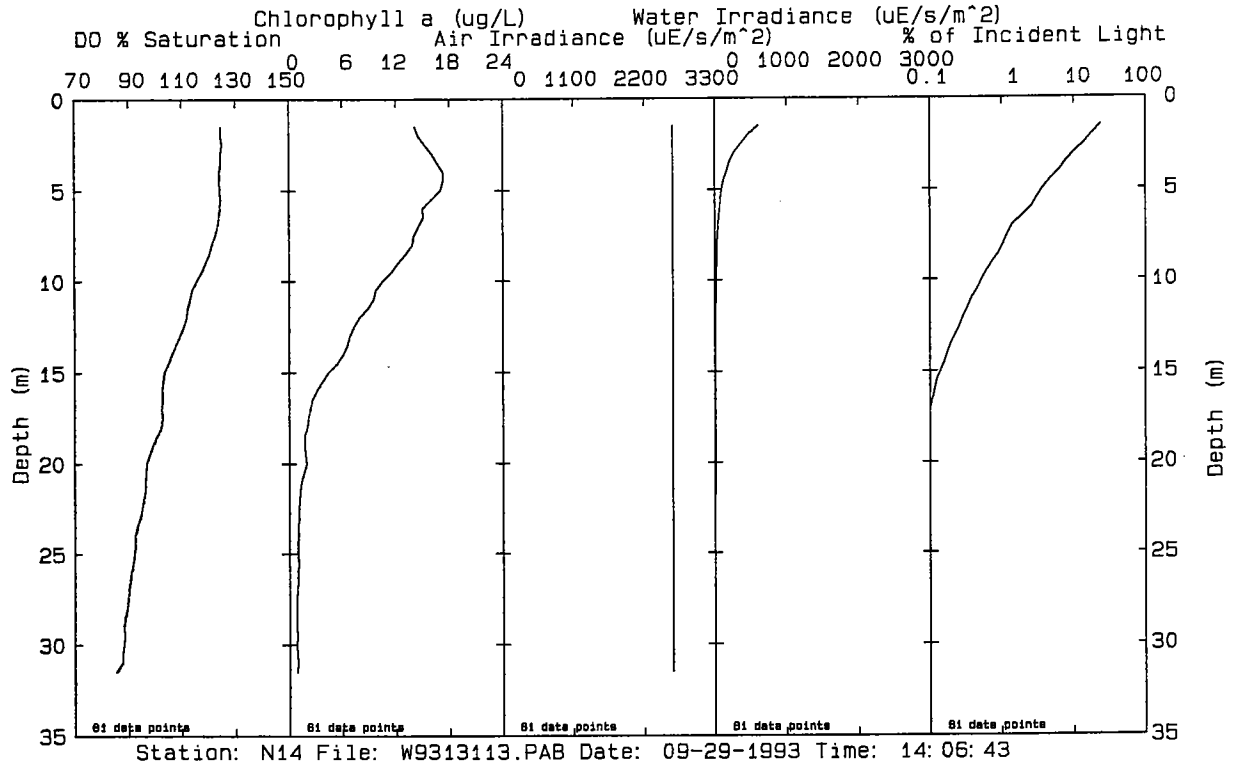

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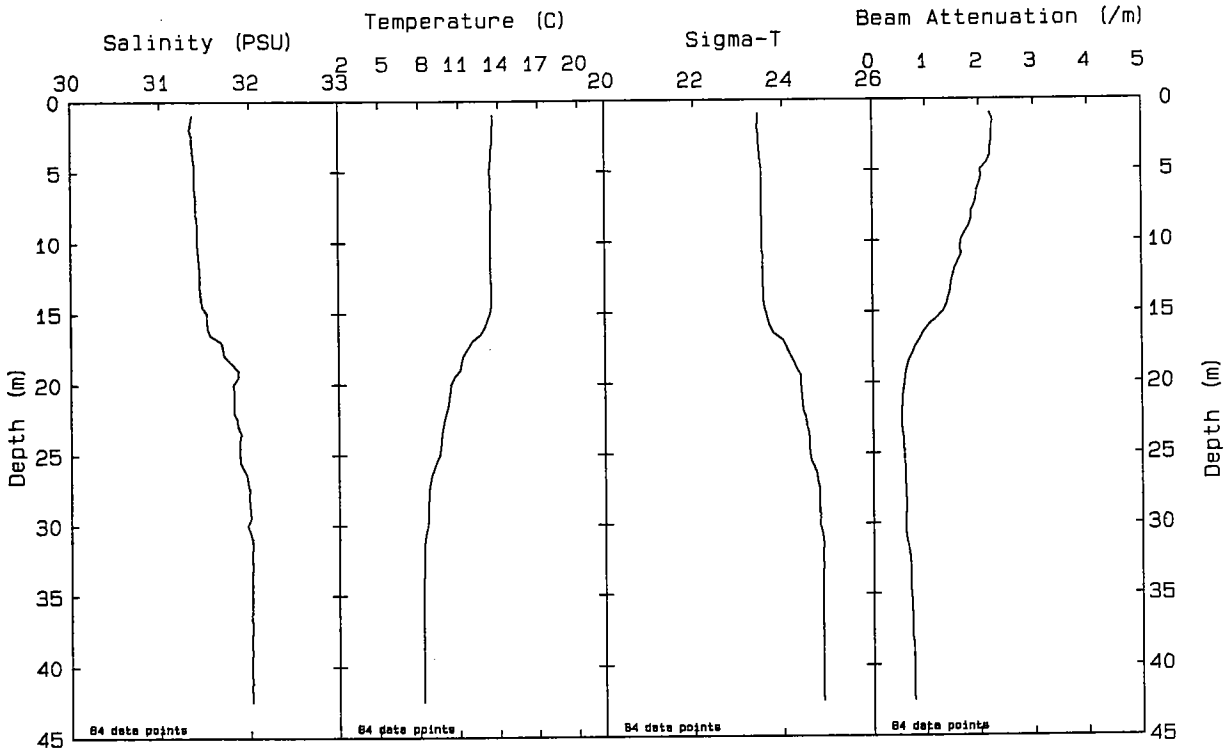

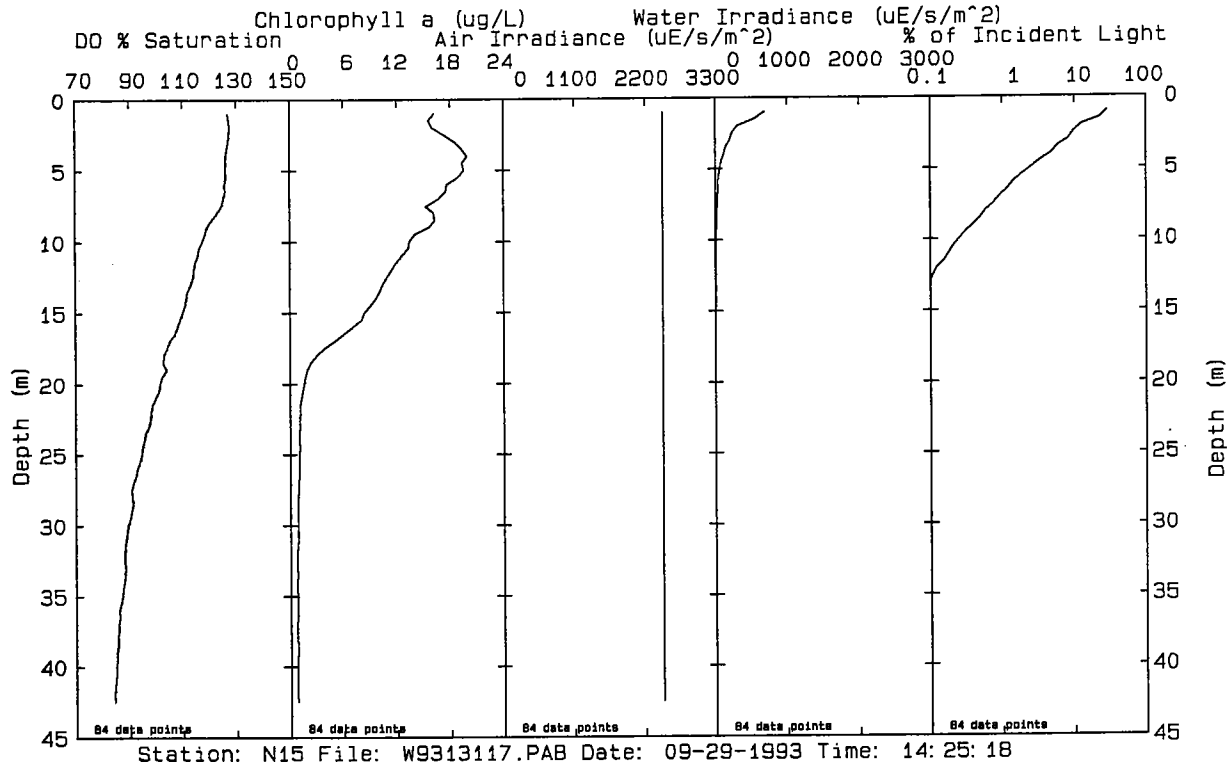

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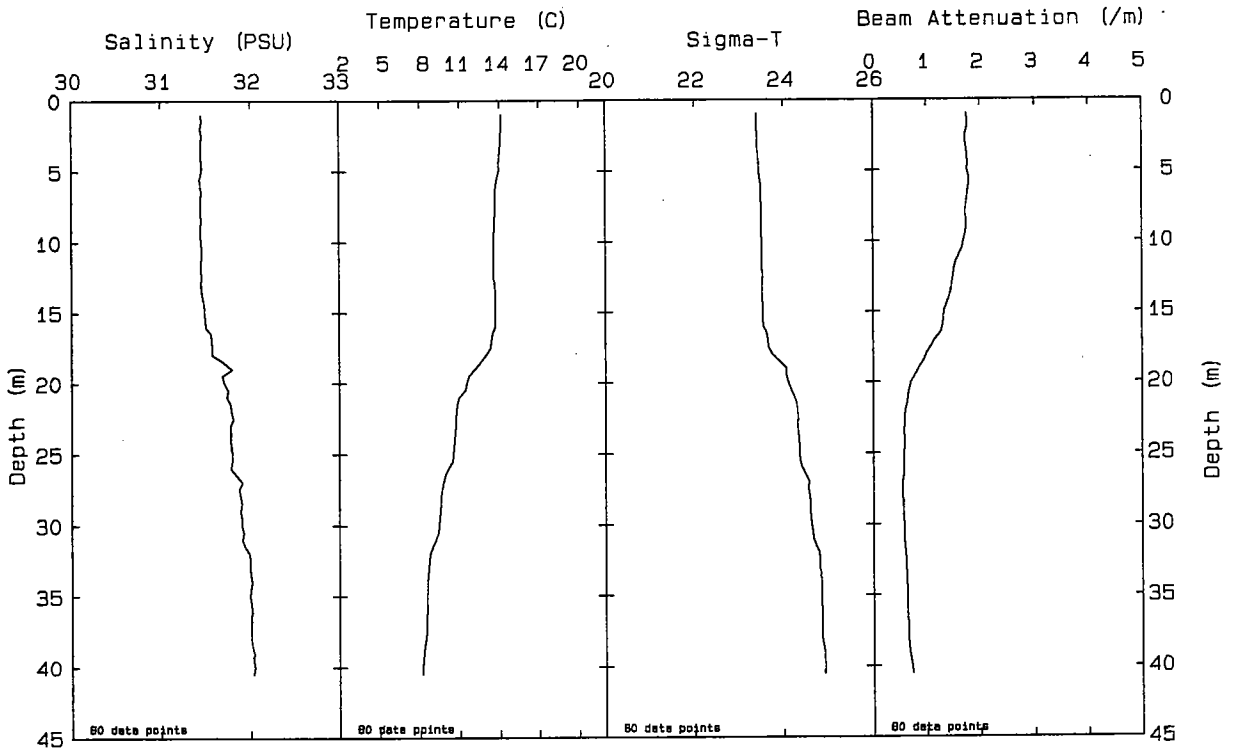

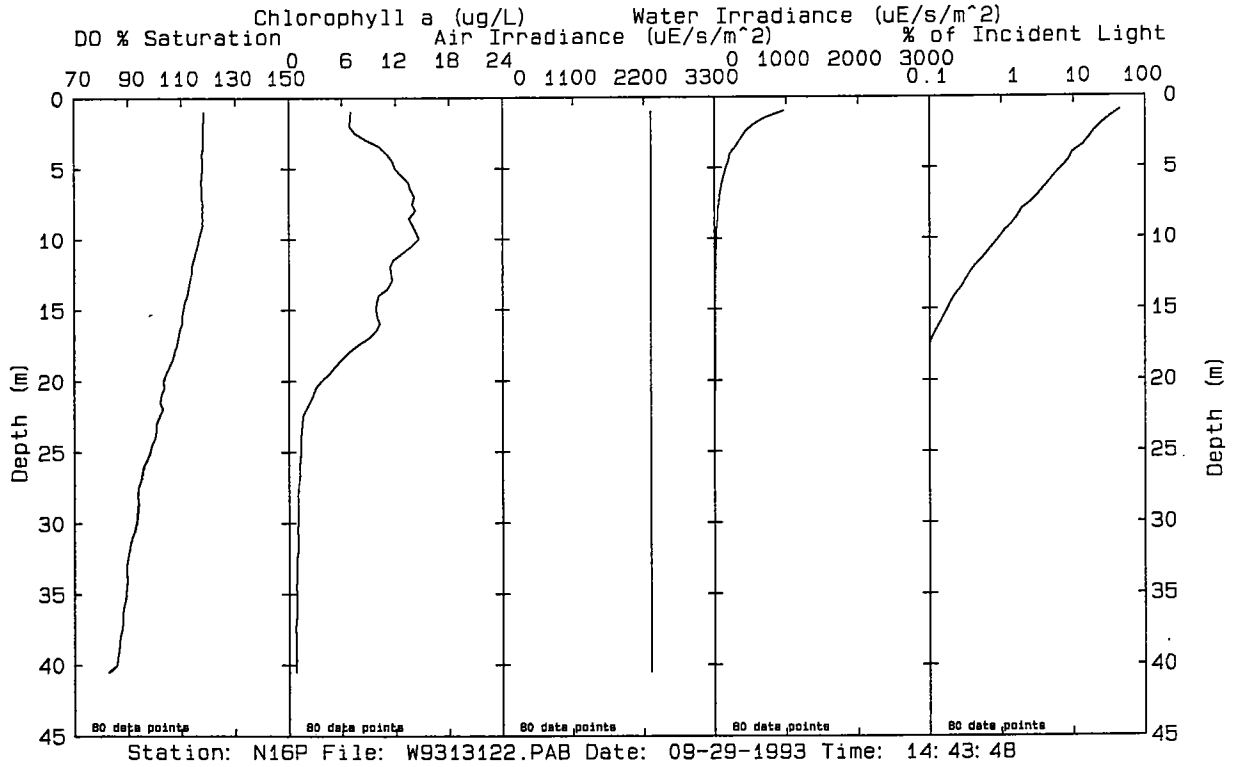

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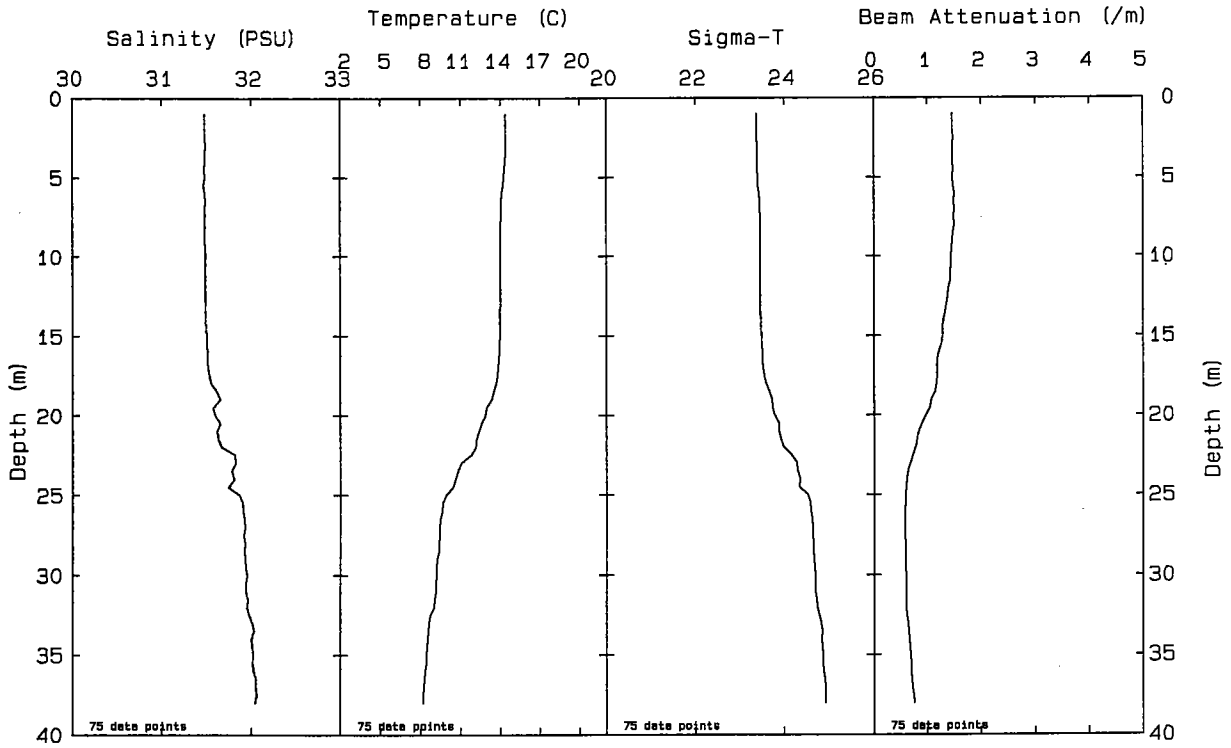

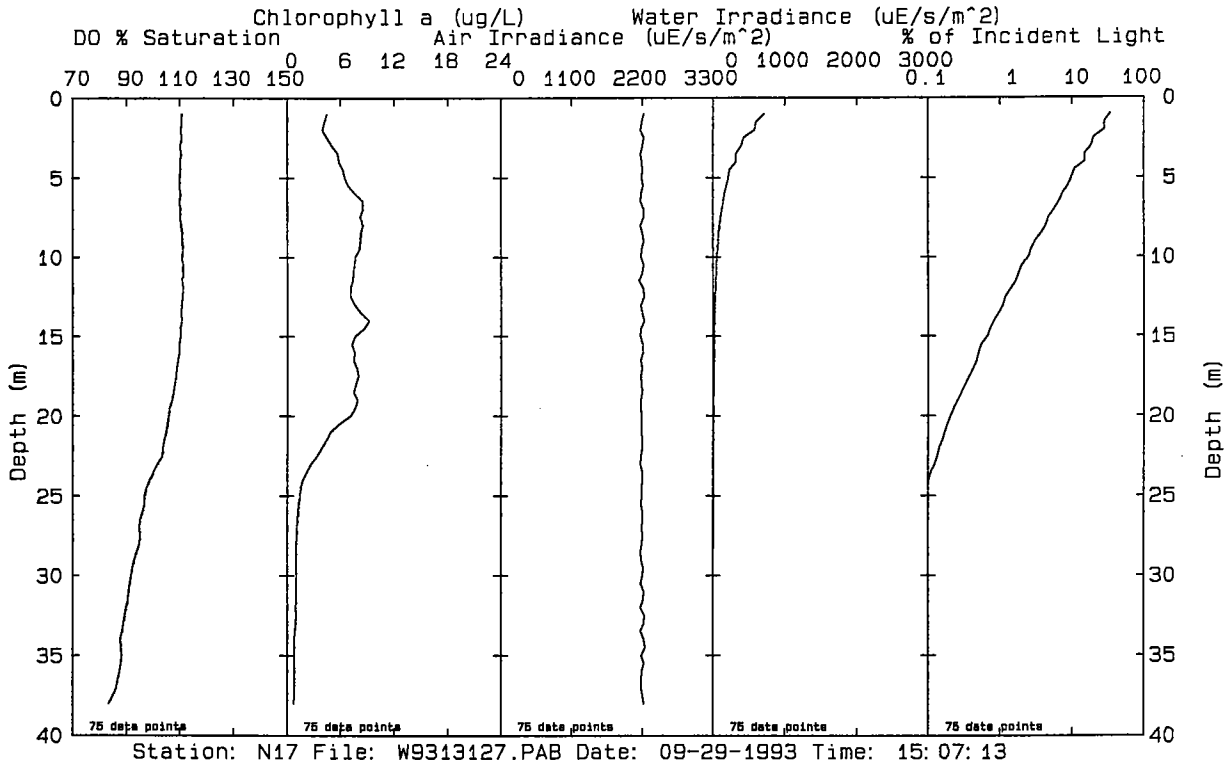

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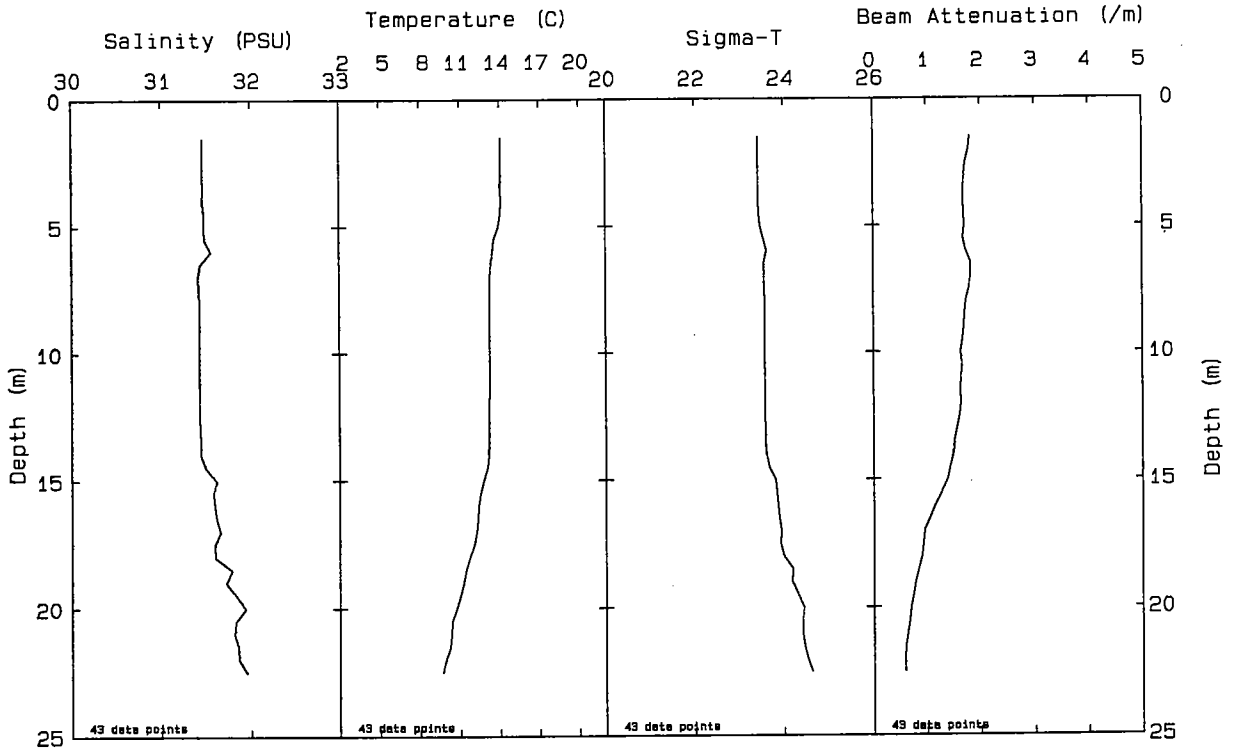

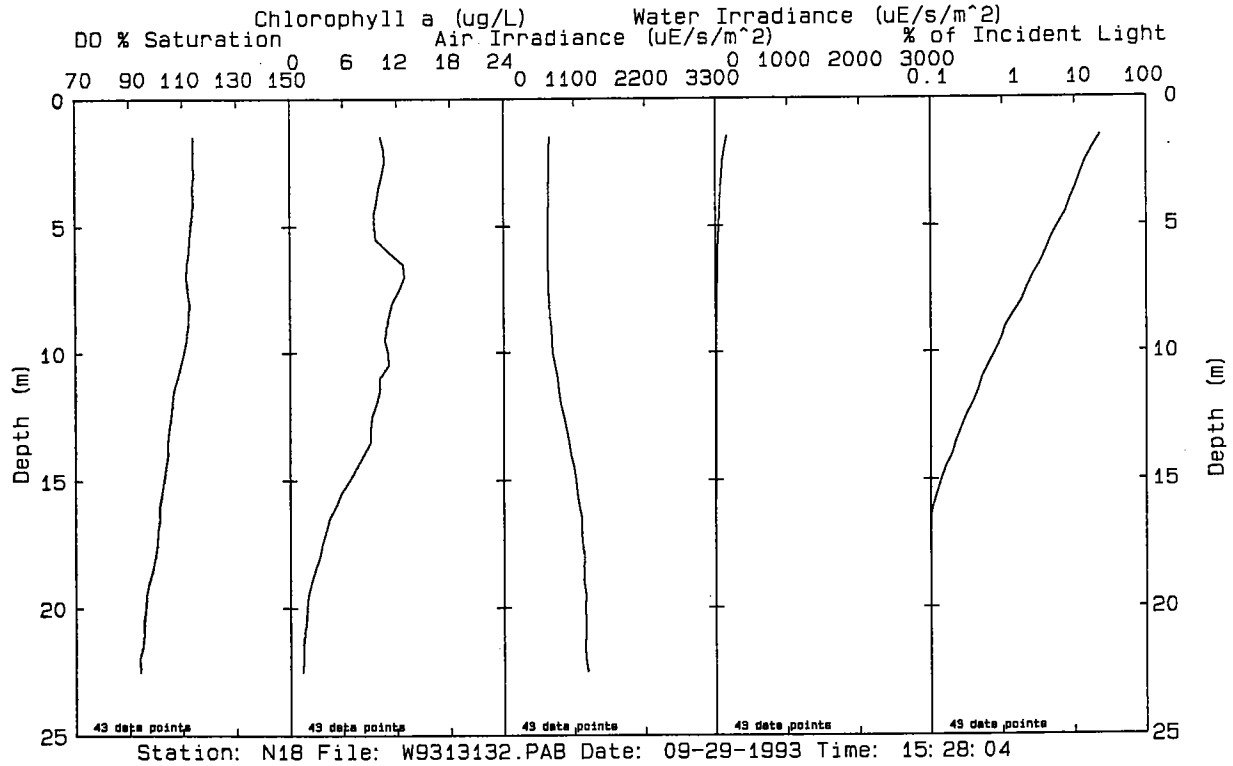

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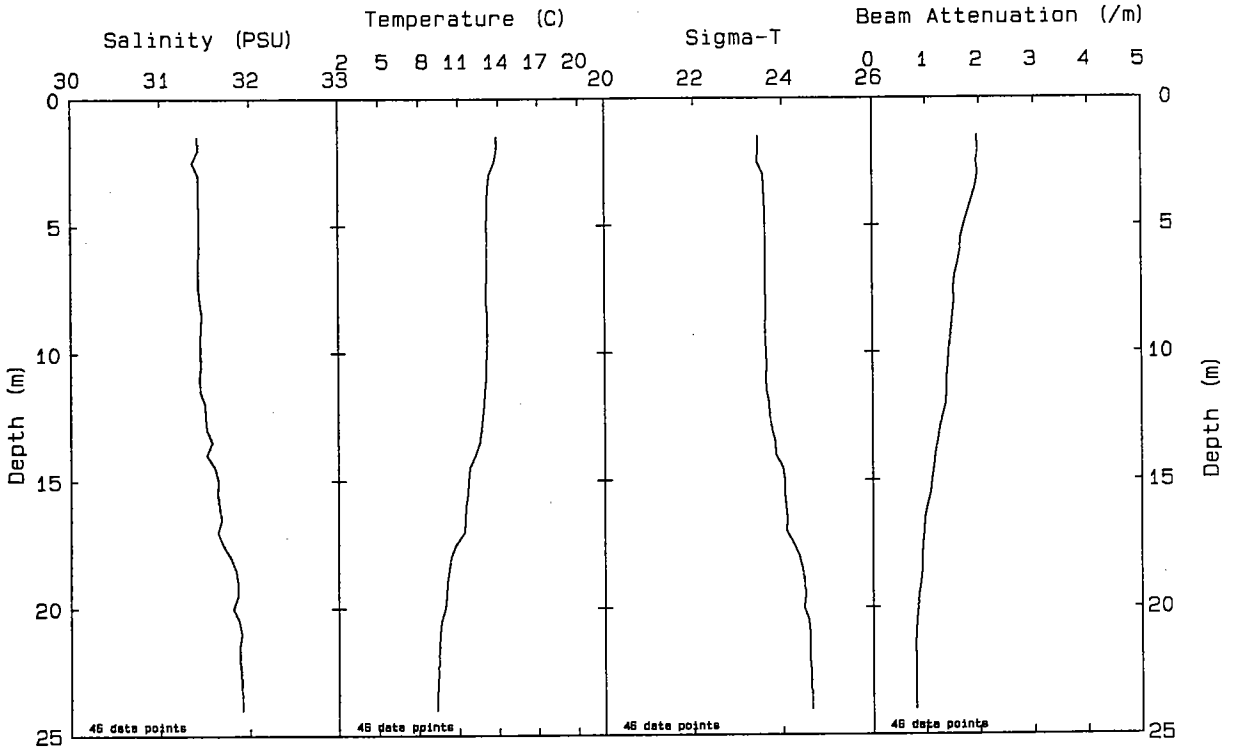

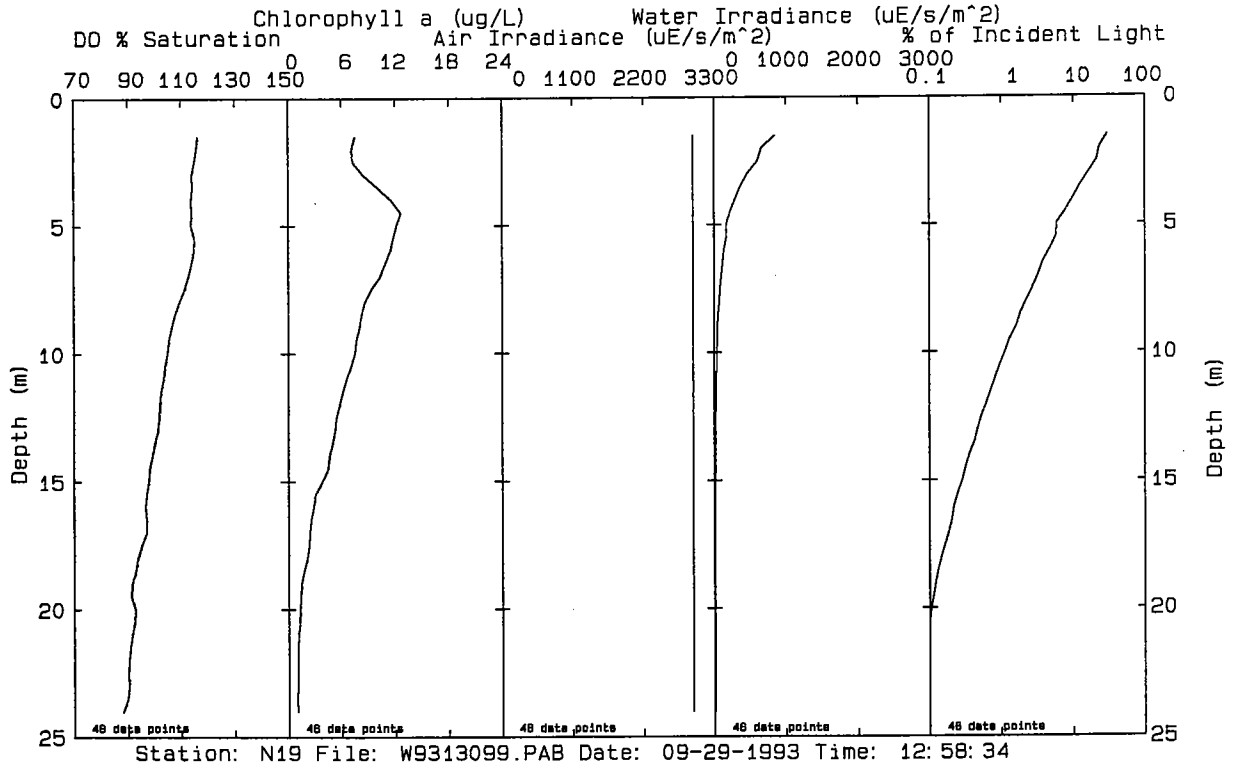

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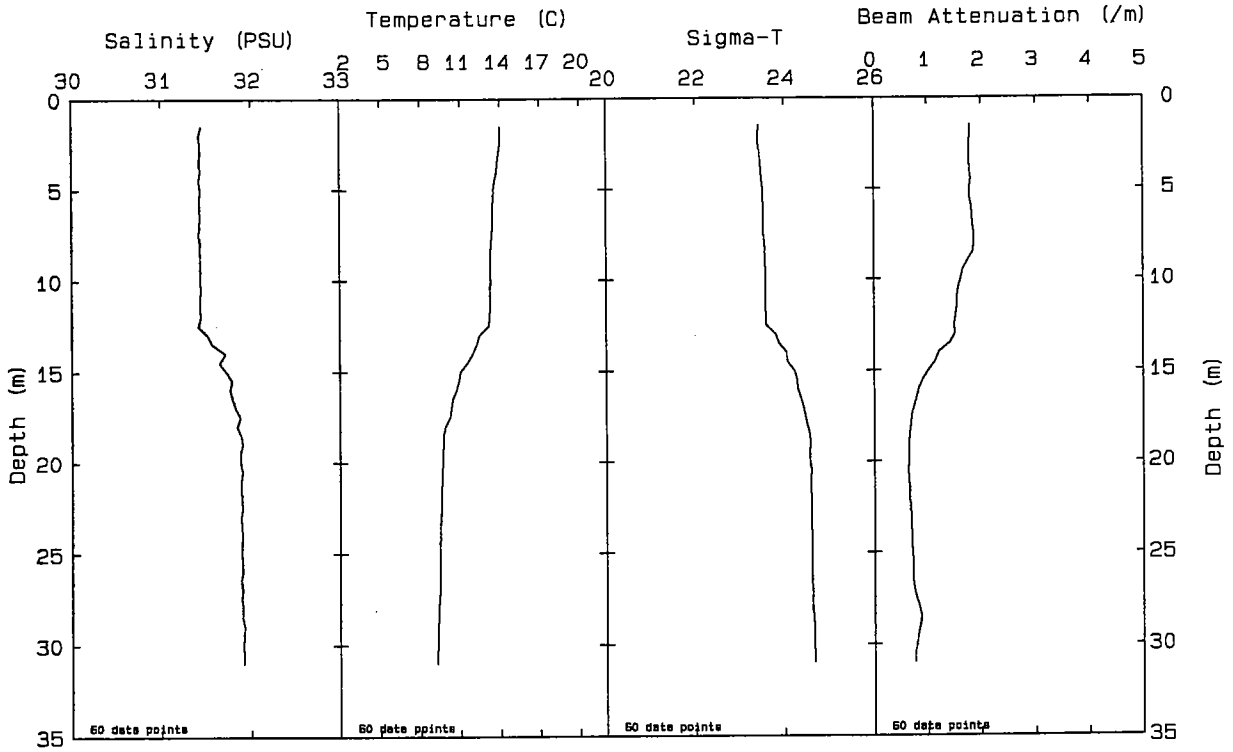
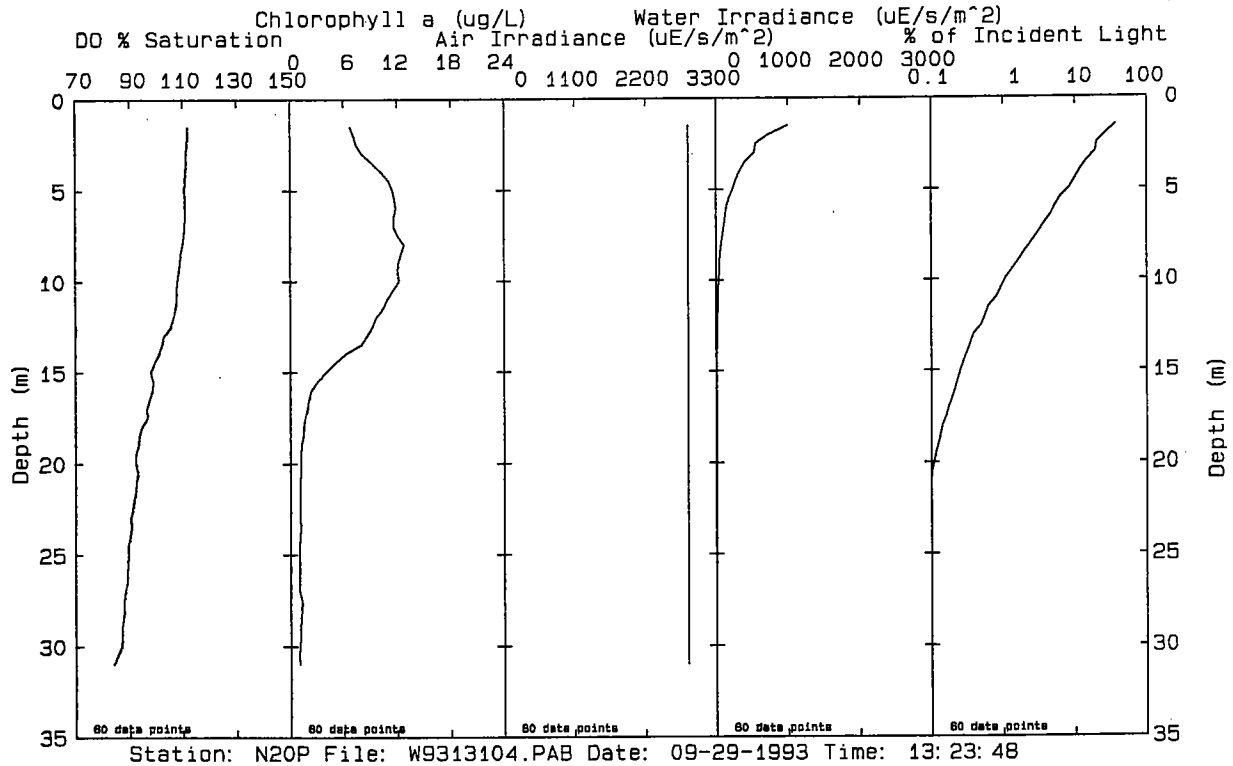
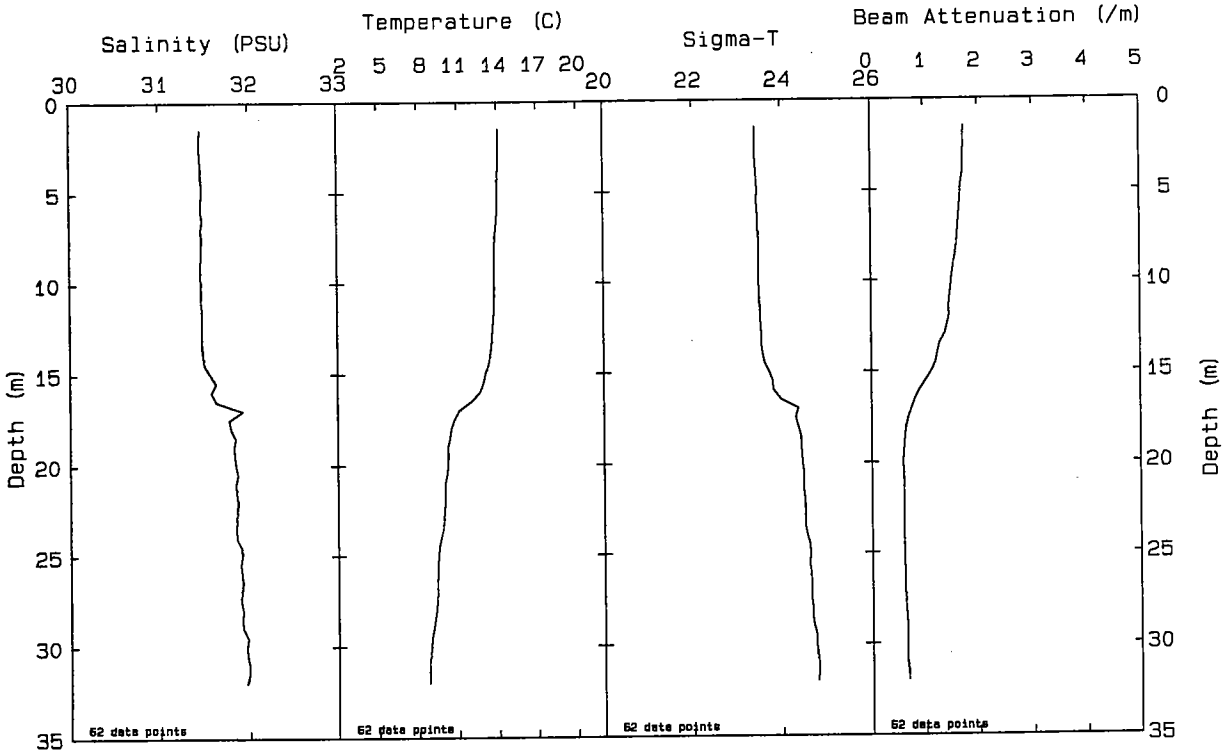
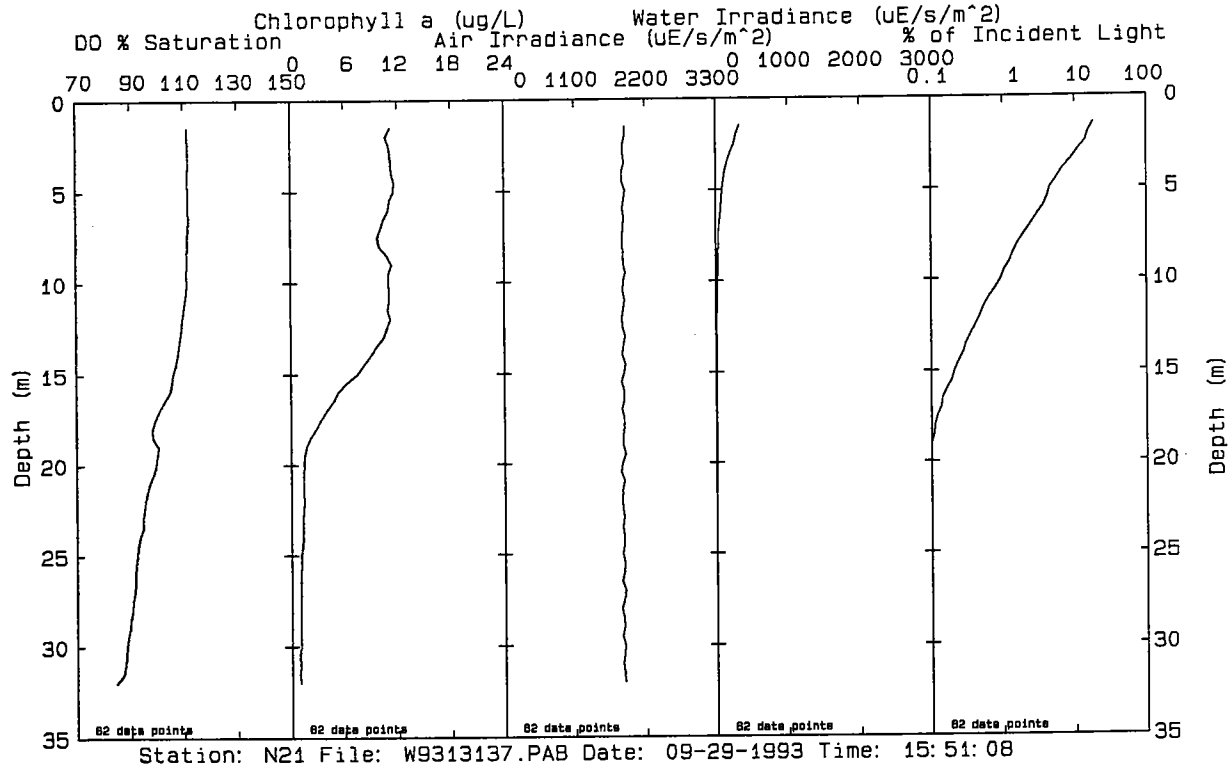




Station: N20P File: W9313104.PAB Date: 09-29-1993 Time: 13:23:48





Station: N21 File: W9313137.PAB Date: 09-29-1993 Time: 15:51:08

APPENDIX C

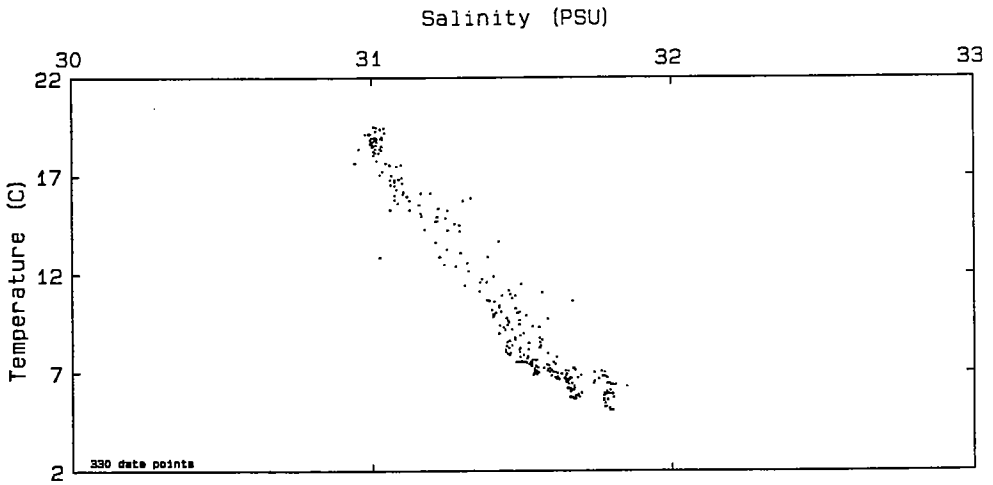
COMPARISON OF VERTICAL PROFILE DATA: SCATTER PLOTS

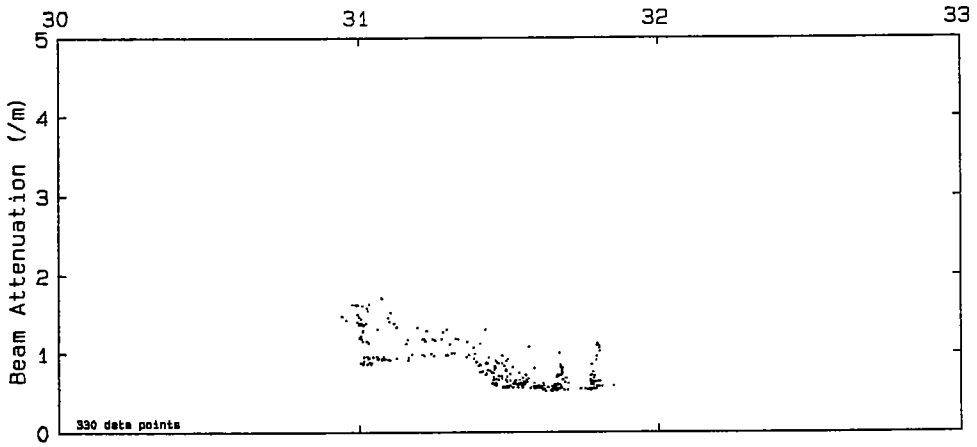
Parameter-Parameter Plots of Vertical Profile Data, Combined Surveys

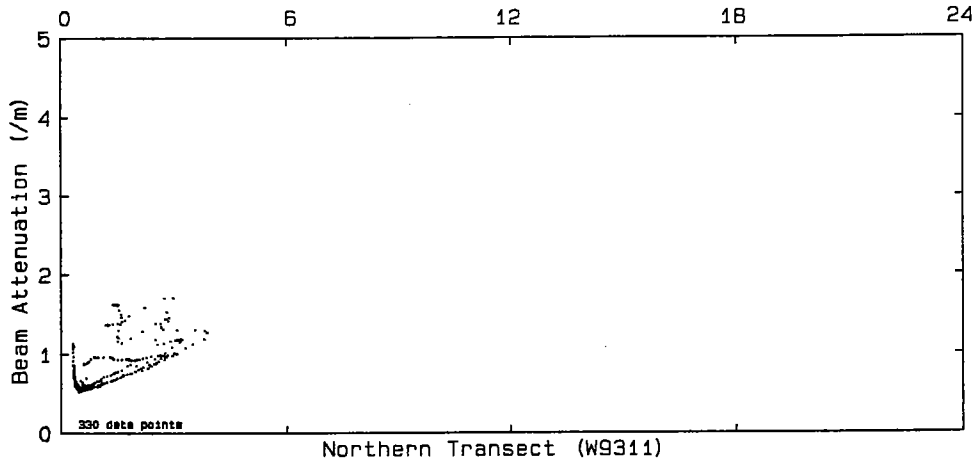
Note that for nearfield surveys, all plots are given as figures in the accompanying text report. For combined surveys, composite plots (all stations) are given as figures in the accompanying text report.

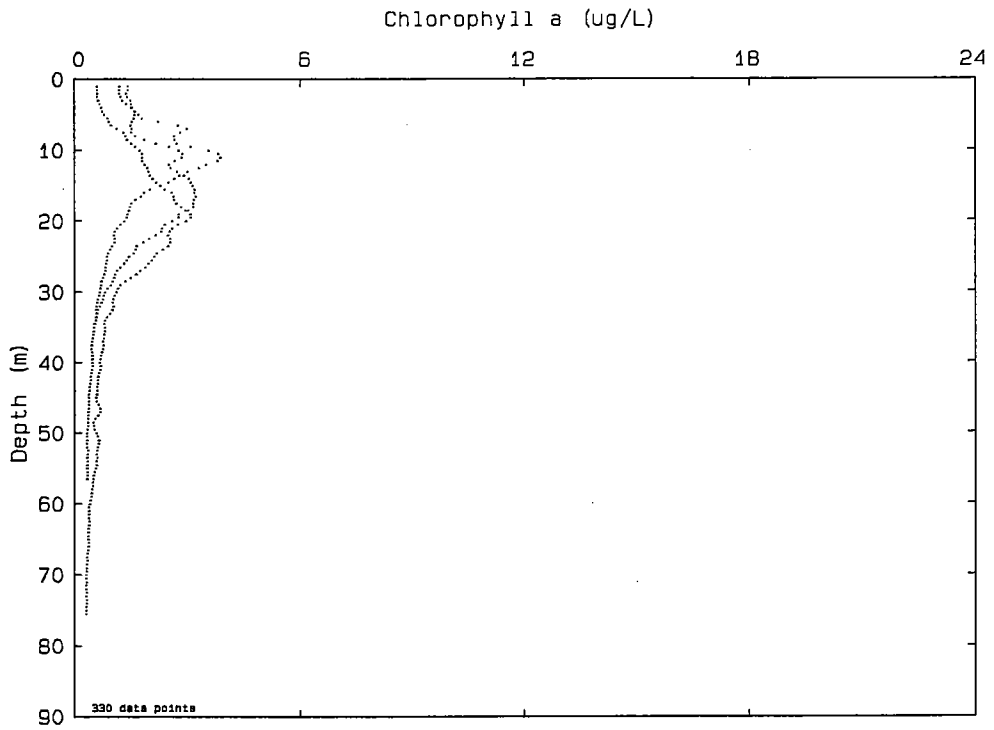
The plots for the June survey (W9311) given here separate stations by station groups as defined in the text report.

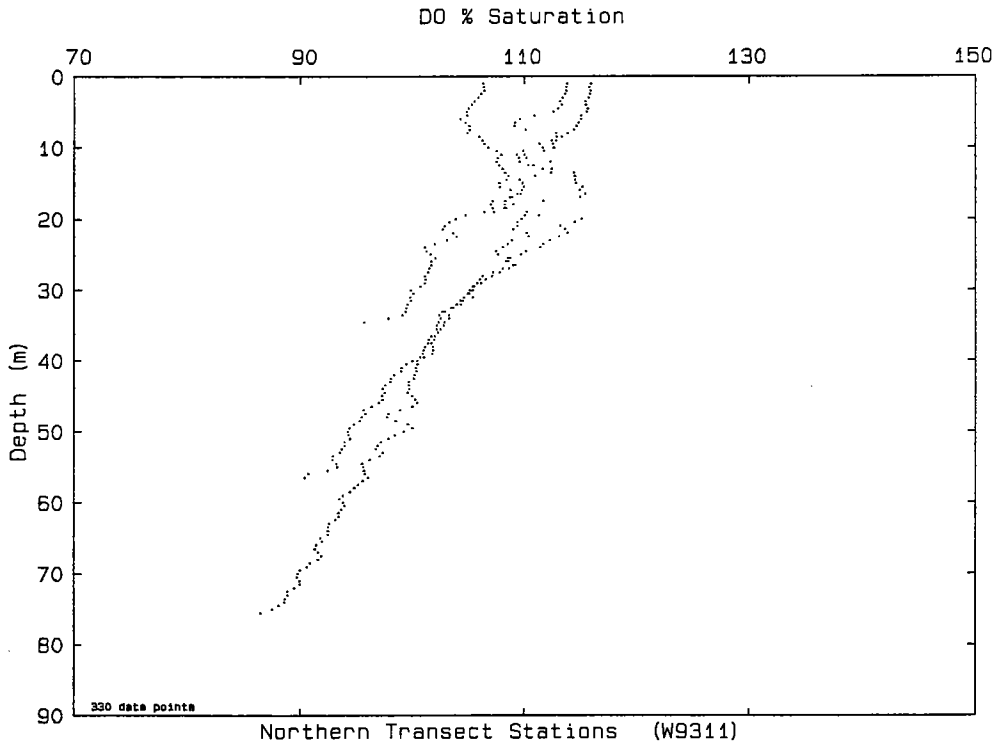
Data are as described in Appendix B and include the entire profile at each station.

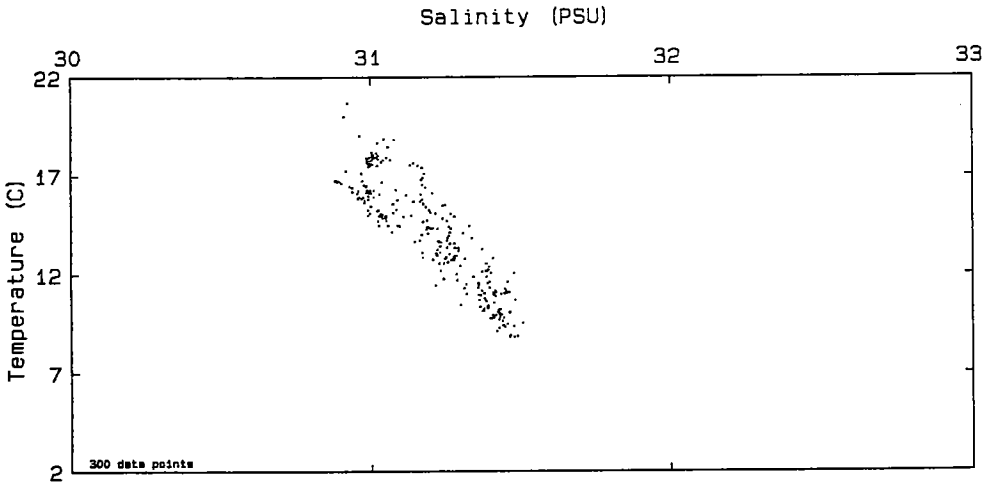

Salinity (PSU)
30
31
32
33
22
17
12
7
2
Temperature (C)
330 data points

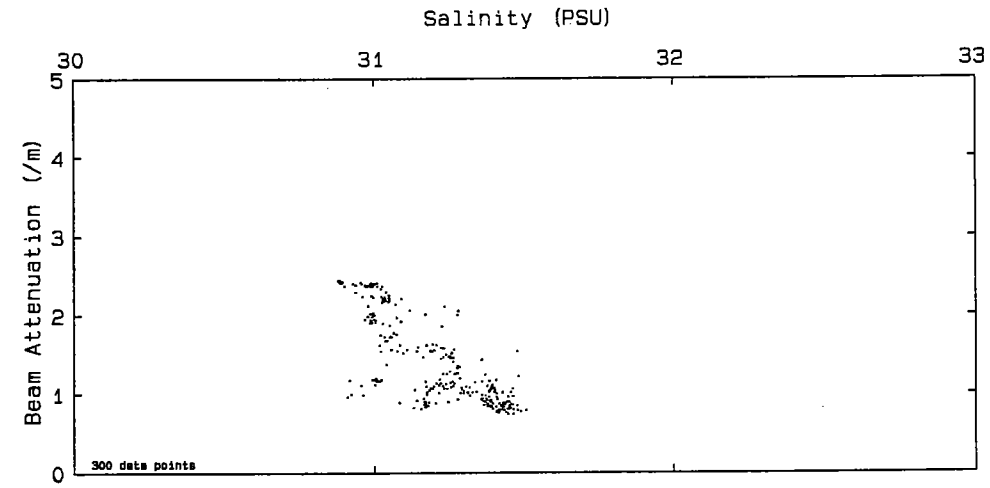

Salinity (PSU)
30
31
32
33
5
4
3
2
1
0
Beam Attenuation (/m)
330 data points

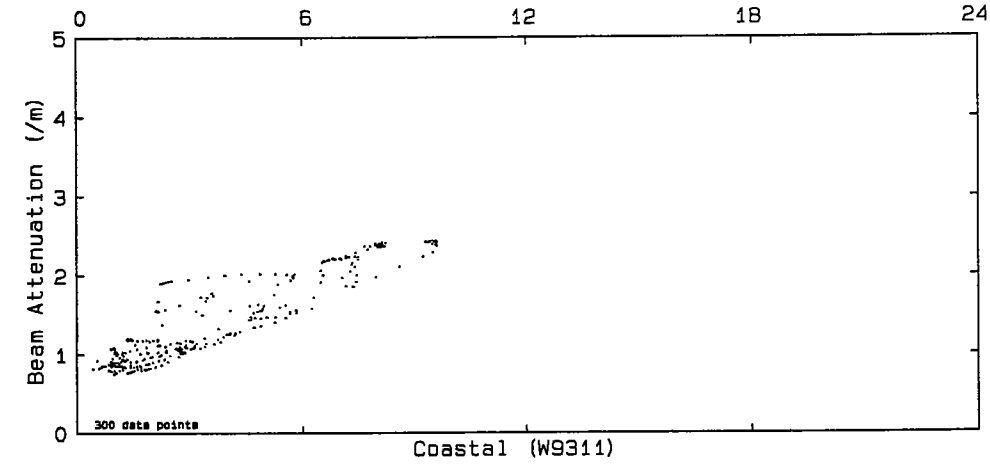

Chlorophyll a (ug/L)
0
6
12
18
24
5
4
3
2
1
0
Beam Attenuation (/m)
330 data points
Northern Transect (W9311)

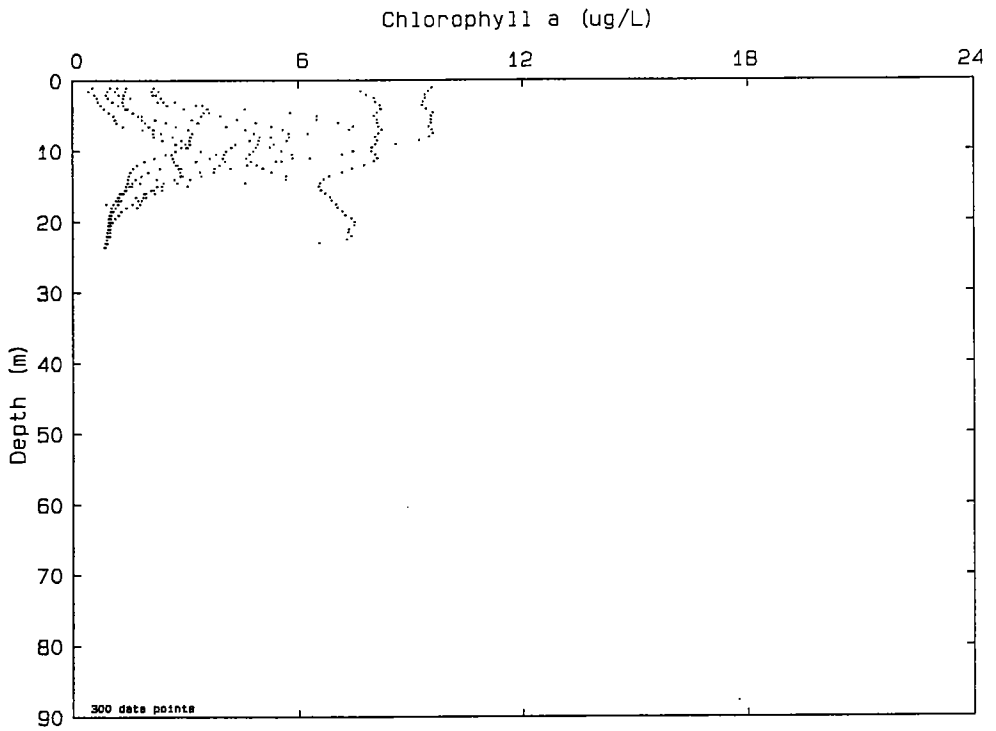

Chlorophyll a (ug/L)
0
6
12
18
24
Depth (m)
0
10
20
30
40
50
60
70
80
90
330 data points

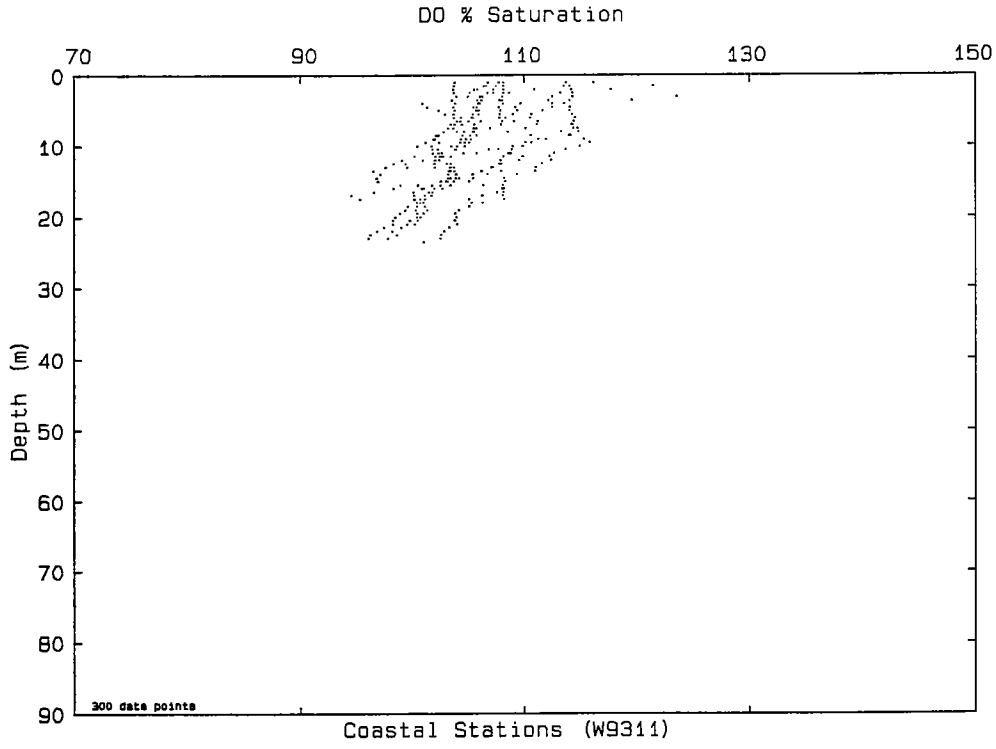

DO % Saturation
70
90
110
130
150
Depth (m)
0
10
20
30
40
50
60
70
80
90
330 data points
Northern Transect Stations (W9311)

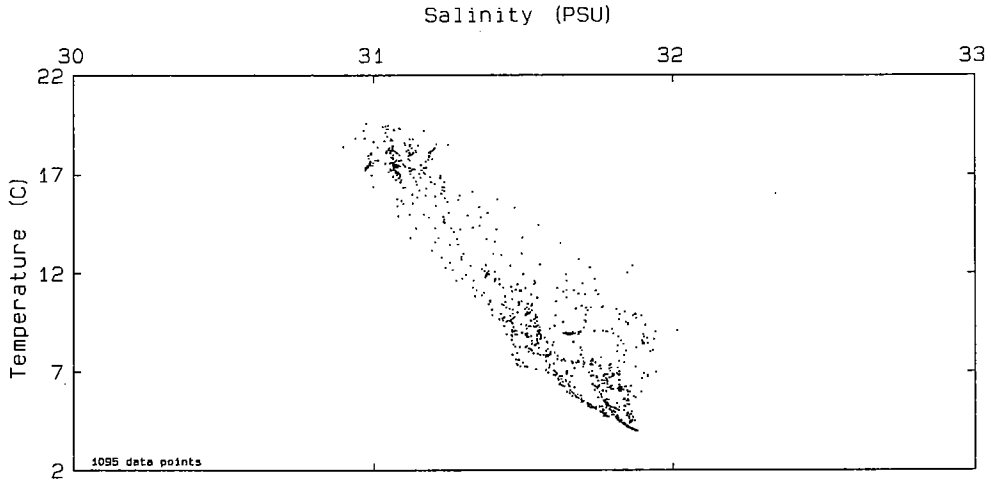

Salinity (PSU)
30
31
32
33
22
17
12
7
2
Temperature (C)
300 data points

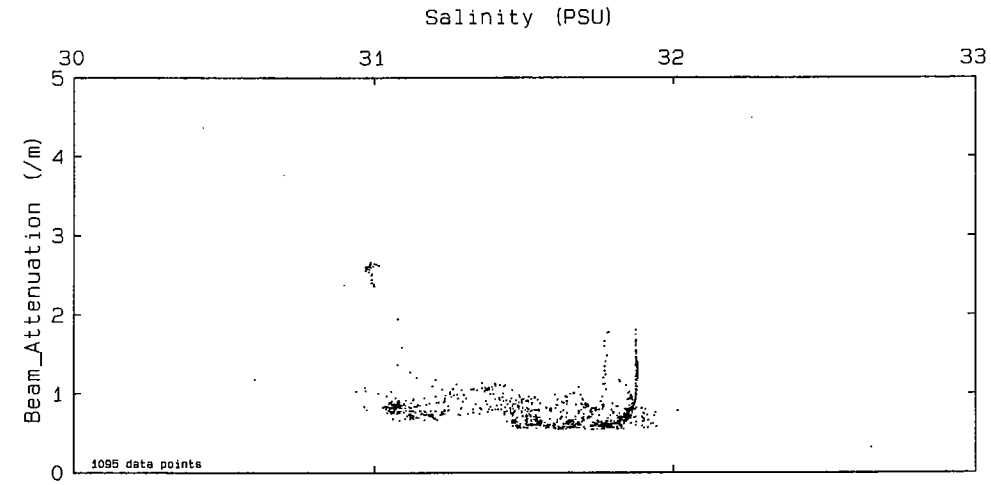

Salinity (PSU)
30
31
32
33
5
4
3
2
1
0
Beam Attenuation (/m)
300 data points

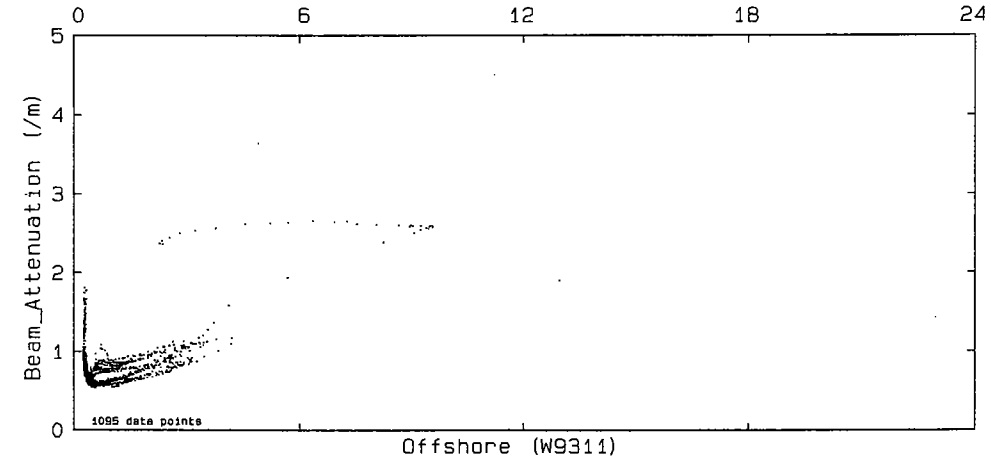

Chlorophyll a (ug/L)
0
6
12
18
24
5
4
3
2
1
0
Beam Attenuation (/m)
300 data points
Coastal (W9311)

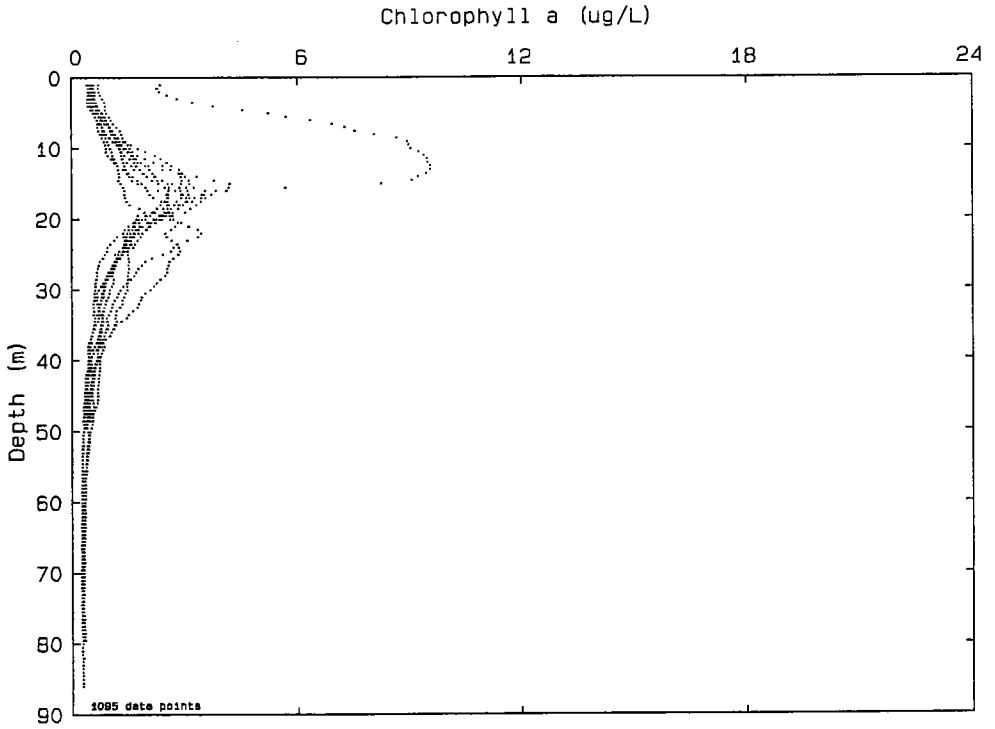

Chlorophyll a (ug/L)
0
6
12
18
24
Depth (m)
0
10
20
30
40
50
60
70
80
90
300 data points

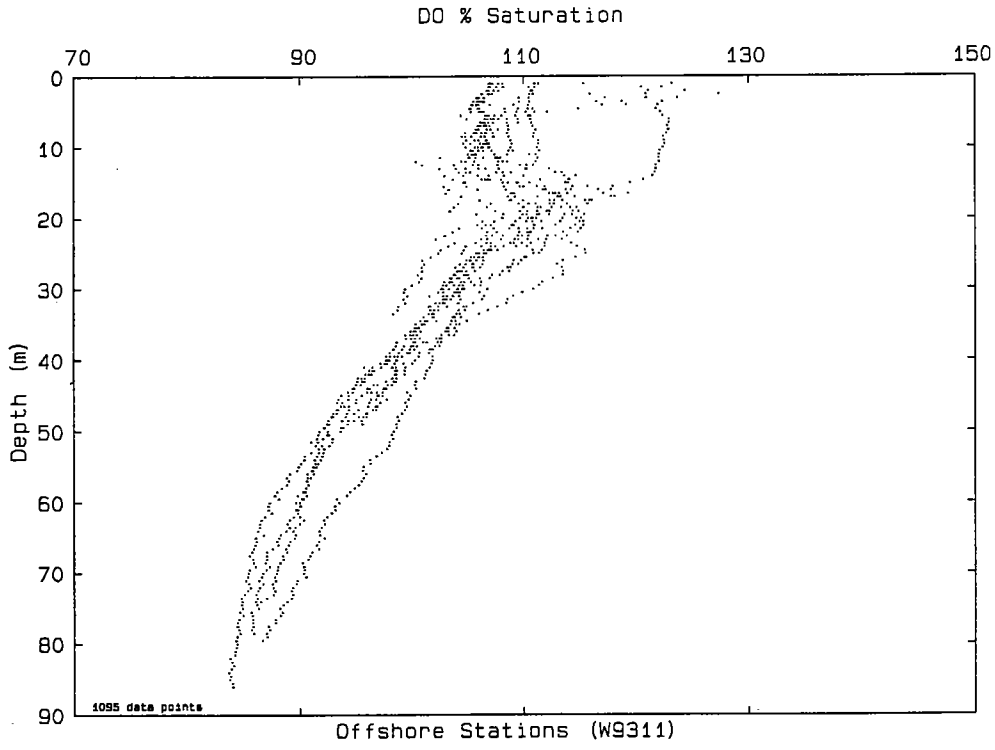

DO % Saturation
70
90
110
130
150
Depth (m)
0
10
20
30
40
50
60
70
80
90
300 data points
Coastal Stations (W9311)

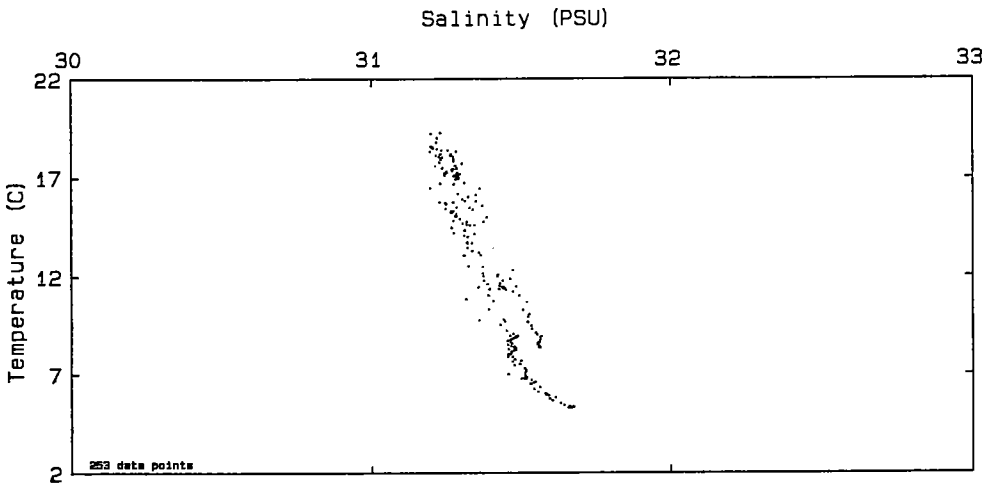

Salinity (PSU)
30
31
32
33
22
17
12
7
2
Temperature (C)
1095 data points

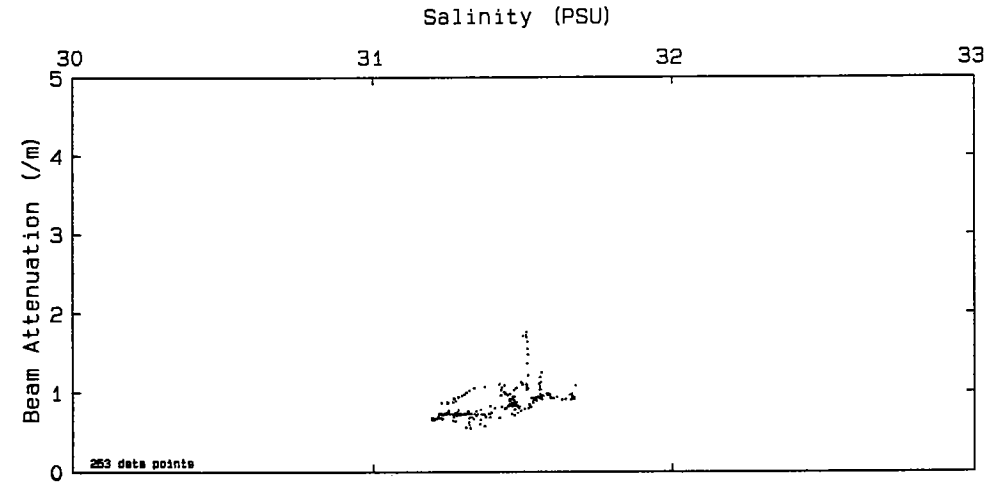

Salinity (PSU)
30
31
32
33
5
4
3
2
1
0
Beam_Attenuation (/m)
1095 data points

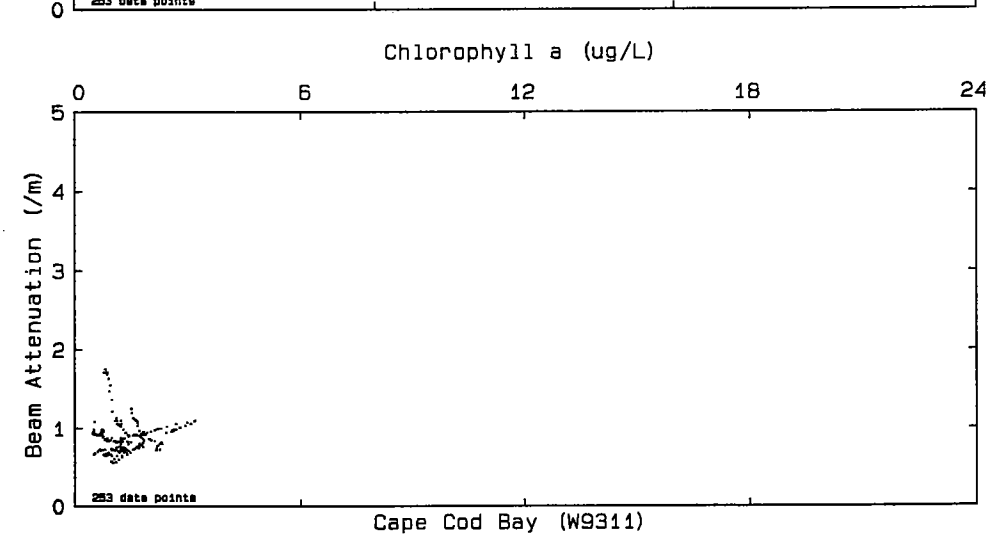

Chlorophyll_a (ug/L)
0
6
12
18
24
5
4
3
2
1
0
Beam_Attenuation (/m)
1095 data points
Offshore (W9311)

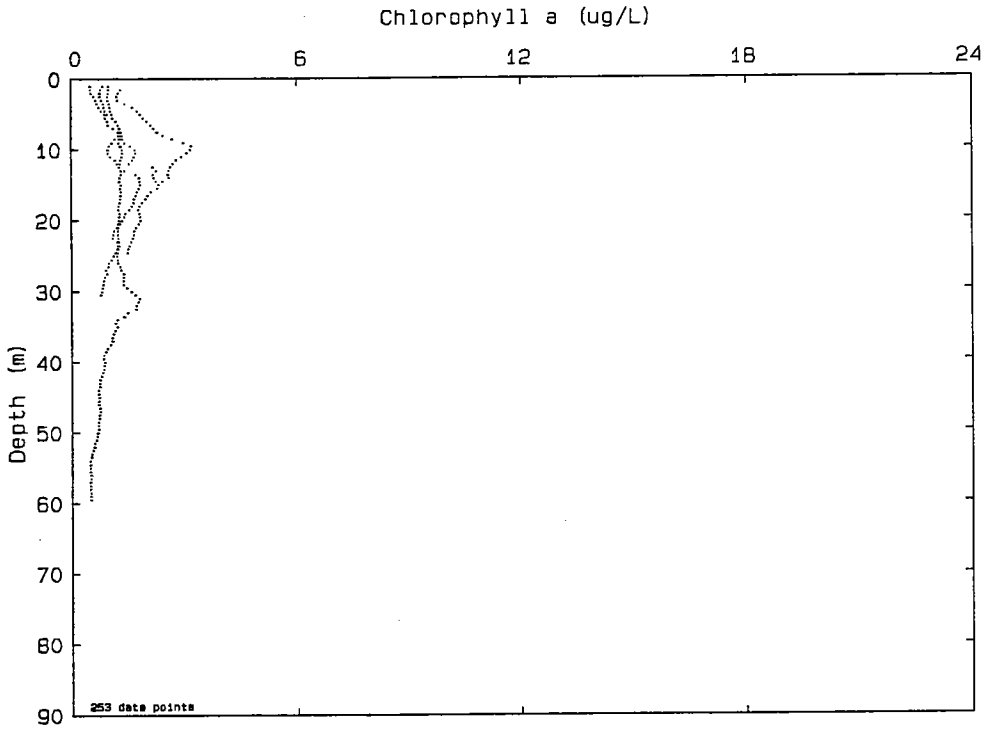

Chlorophyll a (ug/L)
0
6
12
18
24
Depth (m)
0
10
20
30
40
50
60
70
80
90
1085 data points

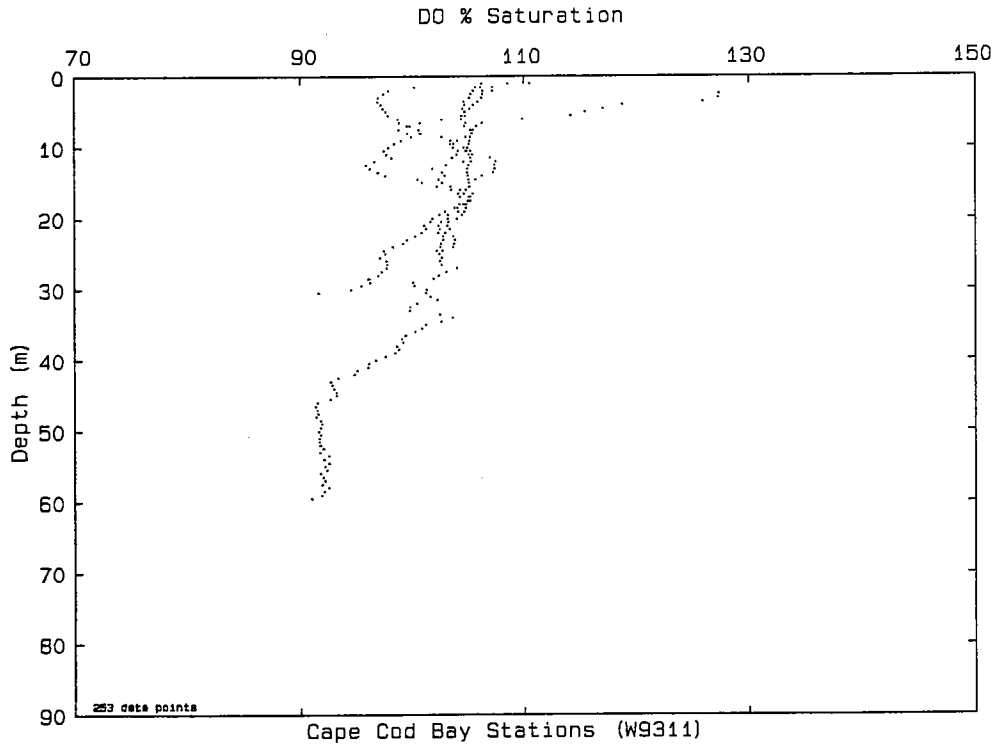

DO % Saturation
70
90
110
130
150
Depth (m)
0
10
20
30
40
50
60
70
80
90
1085 data points
Offshore Stations (W9311)


Salinity (PSU)
30
31
32
33
22
17
12
7
2
Temperature (C)
253 data points


Salinity (PSU)
30
31
32
33
5
4
3
2
1
0
Beam Attenuation (/m)
253 data points


Chlorophyll a (ug/L)
0
6
12
18
24
5
4
3
2
1
0
Beam Attenuation (/m)
253 data points
Cape Cod Bay (W9311)


Chlorophyll a (ug/L)
0
6
12
18
24
Depth (m)
0
10
20
30
40
50
60
70
80
90
253 data points


DO % Saturation
70
90
110
130
150
Depth (m)
0
10
20
30
40
50
60
70
80
90
253 data points
Cape Cod Bay Stations (W9311)

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 late August (W9311) 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. For this survey, no dark bottle data were excluded. In Appendix E, Part 2, the criterion used for rejecting suspect data is given.

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

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)	Stock (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)
W9311	F01P	26-AUG-93	0901	0.64	W93110425					5160888.0	25.3	6.0	
W9311	F01P	26-AUG-93	0901	0.64	W93110425	-3	DARK	0	1327.6				
W9311	F01P	26-AUG-93	0901	0.64	W93110425	-2	DARK	0	1229.8				
W9311	F01P	26-AUG-93	0901	0.64	W93110425	-1	DARK	0	903.7				
W9311	F01P	26-AUG-93	0901	0.64	W93110425	1	LIGHT	431	11057.5				8.5
W9311	F01P	26-AUG-93	0901	0.64	W93110425	2	LIGHT	683	12729.4				9.9
W9311	F01P	26-AUG-93	0901	0.64	W93110425	3	LIGHT	370	12635.6				9.8
W9311	F01P	26-AUG-93	0901	0.64	W93110425	4	LIGHT	1183	11618.5				8.9
W9311	F01P	26-AUG-93	0901	0.64	W93110425	5	LIGHT	1704	12979.1				10.1
W9311	F01P	26-AUG-93	0901	0.64	W93110425	6	LIGHT	3	1345.3				0.2
W9311	F01P	26-AUG-93	0901	0.64	W93110425	7	LIGHT	3	489.4				-0.6
W9311	F01P	26-AUG-93	0901	0.64	W93110425	8	LIGHT	345	10283.8				7.8
W9311	F01P	26-AUG-93	0901	0.64	W93110425	9	LIGHT	220	8661.5				6.4
W9311	F01P	26-AUG-93	0901	0.64	W93110425	10	LIGHT	34	1737.6				0.5
W9311	F01P	26-AUG-93	0901	0.64	W93110425	11	LIGHT	33	1553.3				0.3
W9311	F01P	26-AUG-93	0901	0.64	W93110425	12	LIGHT	261	10624.7				8.1
W9311	F01P	26-AUG-93	0859	13.09	W93110423					5160888.0	25.9	6.0	
W9311	F01P	26-AUG-93	0859	13.09	W93110423	-3	DARK	0	308.9				
W9311	F01P	26-AUG-93	0859	13.09	W93110423	-2	DARK	0	1025.3				
W9311	F01P	26-AUG-93	0859	13.09	W93110423	-1	DARK	0	670.6				
W9311	F01P	26-AUG-93	0859	13.09	W93110423	1	LIGHT	882	10132.9				8.3
W9311	F01P	26-AUG-93	0859	13.09	W93110423	2	LIGHT	402	11194.1				9.3
W9311	F01P	26-AUG-93	0859	13.09	W93110423	3	LIGHT	818	10475.7				8.6
W9311	F01P	26-AUG-93	0859	13.09	W93110423	4	LIGHT	1250	521.3				-0.1
W9311	F01P	26-AUG-93	0859	13.09	W93110423	5	LIGHT	307	10351.4				8.5
W9311	F01P	26-AUG-93	0859	13.09	W93110423	6	LIGHT	3	7962.1				6.4
W9311	F01P	26-AUG-93	0859	13.09	W93110423	7	LIGHT	2	334.3				-0.3
W9311	F01P	26-AUG-93	0859	13.09	W93110423	8	LIGHT	117	7919.3				6.4
W9311	F01P	26-AUG-93	0859	13.09	W93110423	9	LIGHT	164	9423.1				7.7
W9311	F01P	26-AUG-93	0859	13.09	W93110423	10	LIGHT	25	3312.2				2.3
W9311	F01P	26-AUG-93	0859	13.09	W93110423	11	LIGHT	20	2667.5				1.8
W9311	F01P	26-AUG-93	0859	13.09	W93110423	12	LIGHT	189	9787.7				8.0
W9311	F02P	26-AUG-93	0717	1.50	W93110401					5160888.0	24.7	6.1	
W9311	F02P	26-AUG-93	0717	1.50	W93110401	-3	DARK	0	229.0				
W9311	F02P	26-AUG-93	0717	1.50	W93110401	-2	DARK	0	524.3				
W9311	F02P	26-AUG-93	0717	1.50	W93110401	-1	DARK	0	201.5				
W9311	F02P	26-AUG-93	0717	1.50	W93110401	1	LIGHT	1093	9282.2				7.4
W9311	F02P	26-AUG-93	0717	1.50	W93110401	2	LIGHT	821	9387.6				7.5
W9311	F02P	26-AUG-93	0717	1.50	W93110401	3	LIGHT	1751	9089.3				7.3
W9311	F02P	26-AUG-93	0717	1.50	W93110401	4	LIGHT	433	8639.8				6.9
W9311	F02P	26-AUG-93	0717	1.50	W93110401	5	LIGHT	1229	9763.2				7.8
W9311	F02P	26-AUG-93	0717	1.50	W93110401	6	LIGHT	3	266.8				-0.0

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

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)		Stock (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)
W9311	F02P	26-AUG-93	0717	1.50	W93110401	7	LIGHT	3	507.0					0.2
W9311	F02P	26-AUG-93	0717	1.50	W93110401	8	LIGHT	80	3220.6					2.4
W9311	F02P	26-AUG-93	0717	1.50	W93110401	9	LIGHT	172	5973.0					4.7
W9311	F02P	26-AUG-93	0717	1.50	W93110401	10	LIGHT	34	1293.4					0.8
W9311	F02P	26-AUG-93	0717	1.50	W93110401	11	LIGHT	33	1353.8					0.9
W9311	F02P	26-AUG-93	0717	1.50	W93110401	12	LIGHT	280	7787.0					6.2
W9311	F02P	26-AUG-93	0715	12.61	W93110399						5160888.0	25.4	6.0	
W9311	F02P	26-AUG-93	0715	12.61	W93110399	-3	DARK	0	1639.0					
W9311	F02P	26-AUG-93	0715	12.61	W93110399	-2	DARK	0	949.8					
W9311	F02P	26-AUG-93	0715	12.61	W93110399	-1	DARK	0	280.6					
W9311	F02P	26-AUG-93	0715	12.61	W93110399	1	LIGHT	815	8243.9					6.3
W9311	F02P	26-AUG-93	0715	12.61	W93110399	2	LIGHT	1326	6910.3					5.1
W9311	F02P	26-AUG-93	0715	12.61	W93110399	3	LIGHT	765	8625.2					6.6
W9311	F02P	26-AUG-93	0715	12.61	W93110399	4	LIGHT	256	7593.2					5.7
W9311	F02P	26-AUG-93	0715	12.61	W93110399	5	LIGHT	301	8495.0					6.5
W9311	F02P	26-AUG-93	0715	12.61	W93110399	6	LIGHT	3	1167.6					0.2
W9311	F02P	26-AUG-93	0715	12.61	W93110399	7	LIGHT	3	1386.4					0.4
W9311	F02P	26-AUG-93	0715	12.61	W93110399	8	LIGHT	19	2940.9					1.7
W9311	F02P	26-AUG-93	0715	12.61	W93110399	9	LIGHT	20	1738.7					0.7
W9311	F02P	26-AUG-93	0715	12.61	W93110399	10	LIGHT	236	7893.3					6.0
W9311	F02P	26-AUG-93	0715	12.61	W93110399	11	LIGHT	73	5150.8					3.6
W9311	F02P	26-AUG-93	0715	12.61	W93110399	12	LIGHT	166	6746.5					5.0
W9311	F13P	25-AUG-93	0857	1.72	W93110289						5461000.0	24.1	6.1	
W9311	F13P	25-AUG-93	0857	1.72	W93110289	-3	DARK	0	514.1					
W9311	F13P	25-AUG-93	0857	1.72	W93110289	-2	DARK	0	579.7					
W9311	F13P	25-AUG-93	0857	1.72	W93110289	-1	DARK	0		e				
W9311	F13P	25-AUG-93	0857	1.72	W93110289	1	LIGHT	1323	14782.0					10.8
W9311	F13P	25-AUG-93	0857	1.72	W93110289	2	LIGHT	1376	13429.0					9.8
W9311	F13P	25-AUG-93	0857	1.72	W93110289	3	LIGHT	896	12098.2					8.8
W9311	F13P	25-AUG-93	0857	1.72	W93110289	4	LIGHT	186	7189.4					5.0
W9311	F13P	25-AUG-93	0857	1.72	W93110289	5	LIGHT	167	7458.1					5.2
W9311	F13P	25-AUG-93	0857	1.72	W93110289	6	LIGHT	1	388.9					-0.1
W9311	F13P	25-AUG-93	0857	1.72	W93110289	7	LIGHT	2	323.3					-0.2
W9311	F13P	25-AUG-93	0857	1.72	W93110289	8	LIGHT	138	6805.3					4.7
W9311	F13P	25-AUG-93	0857	1.72	W93110289	9	LIGHT	234	7592.9					5.3
W9311	F13P	25-AUG-93	0857	1.72	W93110289	10	LIGHT	19	174.1					-0.3
W9311	F13P	25-AUG-93	0857	1.72	W93110289	11	LIGHT	10	865.3					0.2
W9311	F13P	25-AUG-93	0857	1.72	W93110289	12	LIGHT	242	6304.1					4.4
W9311	F13P	25-AUG-93	0855	10.51	W93110287						5461000.0	24.7	6.1	
W9311	F13P	25-AUG-93	0855	10.51	W93110287	-3	DARK	0	788.8					
W9311	F13P	25-AUG-93	0855	10.51	W93110287	-2	DARK	0	333.7					
W9311	F13P	25-AUG-93	0855	10.51	W93110287	-1	DARK	0	2621.5					

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

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)	Stock (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)
W9311	F13P	25-AUG-93	0855	10.51	W93110287	1	LIGHT	156	16034.1				11.6
W9311	F13P	25-AUG-93	0855	10.51	W93110287	2	LIGHT	163	17805.9				13.0
W9311	F13P	25-AUG-93	0855	10.51	W93110287	3	LIGHT	459	19375.5				14.2
W9311	F13P	25-AUG-93	0855	10.51	W93110287	4	LIGHT	1259	17115.3				12.4
W9311	F13P	25-AUG-93	0855	10.51	W93110287	5	LIGHT	1028	16041.8				11.6
W9311	F13P	25-AUG-93	0855	10.51	W93110287	6	LIGHT	1	719.5				-0.4
W9311	F13P	25-AUG-93	0855	10.51	W93110287	7	LIGHT	2	473.4				-0.6
W9311	F13P	25-AUG-93	0855	10.51	W93110287	8	LIGHT	175	17710.8				12.9
W9311	F13P	25-AUG-93	0855	10.51	W93110287	9	LIGHT	233	18365.2				13.4
W9311	F13P	25-AUG-93	0855	10.51	W93110287	10	LIGHT	17	2844.9				1.3
W9311	F13P	25-AUG-93	0855	10.51	W93110287	11	LIGHT	12	1329.9				0.1
W9311	F13P	25-AUG-93	0855	10.51	W93110287	12	LIGHT	203	20941.8				15.4
W9311	F23P	27-AUG-93	0550	0.73	W93110523					5332558.0	24.3	6.0	
W9311	F23P	27-AUG-93	0550	0.73	W93110523	-3	DARK	0	1409.1				
W9311	F23P	27-AUG-93	0550	0.73	W93110523	-2	DARK	0	884.9				
W9311	F23P	27-AUG-93	0550	0.73	W93110523	-1	DARK	0	1016.3				
W9311	F23P	27-AUG-93	0550	0.73	W93110523	1	LIGHT	1185	56619.9				44.2
W9311	F23P	27-AUG-93	0550	0.73	W93110523	2	LIGHT	848	57523.3				45.0
W9311	F23P	27-AUG-93	0550	0.73	W93110523	3	LIGHT	1019	57323.9				44.8
W9311	F23P	27-AUG-93	0550	0.73	W93110523	4	LIGHT	1786	59483.8				46.5
W9311	F23P	27-AUG-93	0550	0.73	W93110523	5	LIGHT	400	52496.0				41.0
W9311	F23P	27-AUG-93	0550	0.73	W93110523	6	LIGHT	3	2205.0				0.9
W9311	F23P	27-AUG-93	0550	0.73	W93110523	7	LIGHT	3	3164.4				1.6
W9311	F23P	27-AUG-93	0550	0.73	W93110523	8	LIGHT	79	28572.1				21.9
W9311	F23P	27-AUG-93	0550	0.73	W93110523	9	LIGHT	169	48649.1				37.9
W9311	F23P	27-AUG-93	0550	0.73	W93110523	10	LIGHT	34	10787.1				7.7
W9311	F23P	27-AUG-93	0550	0.73	W93110523	11	LIGHT	32	9774.6				6.9
W9311	F23P	27-AUG-93	0550	0.73	W93110523	12	LIGHT	275	46032.3				35.8
W9311	F23P	27-AUG-93	0548	7.60	W93110521					5332558.0	24.7	6.0	
W9311	F23P	27-AUG-93	0548	7.60	W93110521	-3	DARK	0	1968.6				
W9311	F23P	27-AUG-93	0548	7.60	W93110521	-2	DARK	0	1416.5				
W9311	F23P	27-AUG-93	0548	7.60	W93110521	-1	DARK	0	852.5				
W9311	F23P	27-AUG-93	0548	7.60	W93110521	1	LIGHT	1162	84237.1				67.0
W9311	F23P	27-AUG-93	0548	7.60	W93110521	2	LIGHT	1638	78867.0				62.7
W9311	F23P	27-AUG-93	0548	7.60	W93110521	3	LIGHT	631	79901.5				63.5
W9311	F23P	27-AUG-93	0548	7.60	W93110521	4	LIGHT	357	80510.9				64.0
W9311	F23P	27-AUG-93	0548	7.60	W93110521	5	LIGHT	410	79399.3				63.1
W9311	F23P	27-AUG-93	0548	7.60	W93110521	6	LIGHT	3	1677.0				0.2
W9311	F23P	27-AUG-93	0548	7.60	W93110521	7	LIGHT	2	1472.7				0.1
W9311	F23P	27-AUG-93	0548	7.60	W93110521	8	LIGHT	216	64125.6				50.8
W9311	F23P	27-AUG-93	0548	7.60	W93110521	9	LIGHT	340	76399.4				60.7
W9311	F23P	27-AUG-93	0548	7.60	W93110521	10	LIGHT	33	12513.2				9.0

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

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m^2/sec	C14 (DPM)	Stock (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m^3/hr)
W9311	F23P	27-AUG-93	0548	7.60	W93110521	11	LIGHT	34	11028.6				7.8
W9311	F23P	27-AUG-93	0548	7.60	W93110521	12	LIGHT	256	67508.6				53.5
W9311	N01P	25-AUG-93	0548	1.66	W93110242					5461000.0	24.7	6.0	
W9311	N01P	25-AUG-93	0548	1.66	W93110242	-3	DARK	0	547.4				
W9311	N01P	25-AUG-93	0548	1.66	W93110242	-2	DARK	0	887.2				
W9311	N01P	25-AUG-93	0548	1.66	W93110242	-1	DARK	0	1164.2				
W9311	N01P	25-AUG-93	0548	1.66	W93110242	1	LIGHT	1152	27460.1				21.1
W9311	N01P	25-AUG-93	0548	1.66	W93110242	2	LIGHT	878	32907.1				25.4
W9311	N01P	25-AUG-93	0548	1.66	W93110242	3	LIGHT	1233	29488.4				22.7
W9311	N01P	25-AUG-93	0548	1.66	W93110242	4	LIGHT	1779	29907.6				23.0
W9311	N01P	25-AUG-93	0548	1.66	W93110242	5	LIGHT	447	25409.8				19.5
W9311	N01P	25-AUG-93	0548	1.66	W93110242	6	LIGHT	3	1212.3				0.3
W9311	N01P	25-AUG-93	0548	1.66	W93110242	7	LIGHT	3	1386.9				0.4
W9311	N01P	25-AUG-93	0548	1.66	W93110242	8	LIGHT	34	4957.1				3.2
W9311	N01P	25-AUG-93	0548	1.66	W93110242	9	LIGHT	35	5545.5				3.7
W9311	N01P	25-AUG-93	0548	1.66	W93110242	10	LIGHT	176	22793.5				17.4
W9311	N01P	25-AUG-93	0548	1.66	W93110242	11	LIGHT	82	11458.4				8.4
W9311	N01P	25-AUG-93	0548	1.66	W93110242	12	LIGHT	286	23182.6				17.7
W9311	N01P	25-AUG-93	0547	3.30	W93110241					5461000.0	24.8	6.0	
W9311	N01P	25-AUG-93	0547	3.30	W93110241	-3	DARK	0	978.8				
W9311	N01P	25-AUG-93	0547	3.30	W93110241	-2	DARK	0	697.0				
W9311	N01P	25-AUG-93	0547	3.30	W93110241	-1	DARK	0	571.4				
W9311	N01P	25-AUG-93	0547	3.30	W93110241	1	LIGHT	598	19520.5				15.0
W9311	N01P	25-AUG-93	0547	3.30	W93110241	2	LIGHT	857	17215.7				13.2
W9311	N01P	25-AUG-93	0547	3.30	W93110241	3	LIGHT	1387	16335.7				12.5
W9311	N01P	25-AUG-93	0547	3.30	W93110241	4	LIGHT	262	17287.0				13.3
W9311	N01P	25-AUG-93	0547	3.30	W93110241	5	LIGHT	304	16927.7				13.0
W9311	N01P	25-AUG-93	0547	3.30	W93110241	6	LIGHT	3	965.1				0.2
W9311	N01P	25-AUG-93	0547	3.30	W93110241	7	LIGHT	3	1513.3				0.6
W9311	N01P	25-AUG-93	0547	3.30	W93110241	8	LIGHT	19	6491.7				4.6
W9311	N01P	25-AUG-93	0547	3.30	W93110241	9	LIGHT	21	3735.3				2.4
W9311	N01P	25-AUG-93	0547	3.30	W93110241	10	LIGHT	251	16569.7				12.7
W9311	N01P	25-AUG-93	0547	3.30	W93110241	11	LIGHT	74	8010.8				5.8
W9311	N01P	25-AUG-93	0547	3.30	W93110241	12	LIGHT	169	14579.6				11.1
W9311	N04P	25-AUG-93	0658	1.99	W93110257					5461000.0	24.2	6.0	
W9311	N04P	25-AUG-93	0658	1.99	W93110257	-3	DARK	0	996.0				
W9311	N04P	25-AUG-93	0658	1.99	W93110257	-2	DARK	0	1521.8				
W9311	N04P	25-AUG-93	0658	1.99	W93110257	-1	DARK	0	1045.0				
W9311	N04P	25-AUG-93	0658	1.99	W93110257	1	LIGHT	1207	20158.4				14.7
W9311	N04P	25-AUG-93	0658	1.99	W93110257	2	LIGHT	1783	24939.5				18.4
W9311	N04P	25-AUG-93	0658	1.99	W93110257	3	LIGHT	705	24384.7				18.0
W9311	N04P	25-AUG-93	0658	1.99	W93110257	4	LIGHT	402	21575.7				15.8

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

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)	Stock (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)
W9311	N04P	25-AUG-93	0658	1.99	W93110257	5	LIGHT	462	22062.7				16.2
W9311	N04P	25-AUG-93	0658	1.99	W93110257	6	LIGHT	3	947.5				-0.2
W9311	N04P	25-AUG-93	0658	1.99	W93110257	7	LIGHT	2	1962.7				0.6
W9311	N04P	25-AUG-93	0658	1.99	W93110257	8	LIGHT	225	17008.2				12.3
W9311	N04P	25-AUG-93	0658	1.99	W93110257	9	LIGHT	353	18445.2				13.4
W9311	N04P	25-AUG-93	0658	1.99	W93110257	10	LIGHT	35	4231.2				2.4
W9311	N04P	25-AUG-93	0658	1.99	W93110257	11	LIGHT	34	4369.8				2.5
W9311	N04P	25-AUG-93	0658	1.99	W93110257	12	LIGHT	267	19275.5				14.0
W9311	N04P	25-AUG-93	0656	12.53	W93110255					5461000.0	24.8	6.0	
W9311	N04P	25-AUG-93	0656	12.53	W93110255	-3	DARK	0	371.8				
W9311	N04P	25-AUG-93	0656	12.53	W93110255	-2	DARK	0	1392.1				
W9311	N04P	25-AUG-93	0656	12.53	W93110255	-1	DARK	0	448.7				
W9311	N04P	25-AUG-93	0656	12.53	W93110255	1	LIGHT	852	18527.1				14.2
W9311	N04P	25-AUG-93	0656	12.53	W93110255	2	LIGHT	1263	12305.2				9.2
W9311	N04P	25-AUG-93	0656	12.53	W93110255	3	LIGHT	848	17883.1				13.7
W9311	N04P	25-AUG-93	0656	12.53	W93110255	4	LIGHT	408	18914.7				14.5
W9311	N04P	25-AUG-93	0656	12.53	W93110255	5	LIGHT	319	20160.3				15.5
W9311	N04P	25-AUG-93	0656	12.53	W93110255	6	LIGHT	2	1036.4				0.2
W9311	N04P	25-AUG-93	0656	12.53	W93110255	7	LIGHT	3	925.6				0.2
W9311	N04P	25-AUG-93	0656	12.53	W93110255	8	LIGHT	119	18959.0				14.6
W9311	N04P	25-AUG-93	0656	12.53	W93110255	9	LIGHT	167	17178.9				13.1
W9311	N04P	25-AUG-93	0656	12.53	W93110255	10	LIGHT	25	3729.1				2.4
W9311	N04P	25-AUG-93	0656	12.53	W93110255	11	LIGHT	20	5085.0				3.5
W9311	N04P	25-AUG-93	0656	12.53	W93110255	12	LIGHT	193	16889.6				12.9
W9311	N07P	25-AUG-93	0800	0.77	W93110273					5461000.0	24.3	6.2	
W9311	N07P	25-AUG-93	0800	0.77	W93110273	-3	DARK	0	791.9				
W9311	N07P	25-AUG-93	0800	0.77	W93110273	-2	DARK	0	905.2				
W9311	N07P	25-AUG-93	0800	0.77	W93110273	-1	DARK	0	418.9				
W9311	N07P	25-AUG-93	0800	0.77	W93110273	1	LIGHT	1294	15923.2				11.5
W9311	N07P	25-AUG-93	0800	0.77	W93110273	2	LIGHT	572	16887.6				12.3
W9311	N07P	25-AUG-93	0800	0.77	W93110273	3	LIGHT	1252	16939.4				12.3
W9311	N07P	25-AUG-93	0800	0.77	W93110273	4	LIGHT	160	12056.5				8.6
W9311	N07P	25-AUG-93	0800	0.77	W93110273	5	LIGHT	848	18326.7				13.4
W9311	N07P	25-AUG-93	0800	0.77	W93110273	6	LIGHT	2	921.1				0.2
W9311	N07P	25-AUG-93	0800	0.77	W93110273	7	LIGHT	3	1146.1				0.3
W9311	N07P	25-AUG-93	0800	0.77	W93110273	8	LIGHT	40	5701.9				3.8
W9311	N07P	25-AUG-93	0800	0.77	W93110273	9	LIGHT	234	14718.0				10.6
W9311	N07P	25-AUG-93	0800	0.77	W93110273	10	LIGHT	25	1610.6				0.7
W9311	N07P	25-AUG-93	0800	0.77	W93110273	11	LIGHT	23	2107.1				1.1
W9311	N07P	25-AUG-93	0800	0.77	W93110273	12	LIGHT	189	9887.7				7.0
W9311	N07P	25-AUG-93	0759	8.05	W93110272					5461000.0	24.3	6.1	
W9311	N07P	25-AUG-93	0759	8.05	W93110272	-3	DARK	0	911.9				

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

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m^2/sec	C14 (DPM)	Stock (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m^3/hr)
W9311	N07P	25-AUG-93	0759	8.05	W93110272	-2	DARK	0	327.2				
W9311	N07P	25-AUG-93	0759	8.05	W93110272	-1	DARK	0	1000.6				
W9311	N07P	25-AUG-93	0759	8.05	W93110272	1	LIGHT	672	12654.5				9.1
W9311	N07P	25-AUG-93	0759	8.05	W93110272	2	LIGHT	1010	12902.1				9.3
W9311	N07P	25-AUG-93	0759	8.05	W93110272	3	LIGHT	1285	12660.3				9.1
W9311	N07P	25-AUG-93	0759	8.05	W93110272	4	LIGHT	844	11829.0				8.5
W9311	N07P	25-AUG-93	0759	8.05	W93110272	5	LIGHT	138	9774.3				6.9
W9311	N07P	25-AUG-93	0759	8.05	W93110272	6	LIGHT	3	479.2				-0.2
W9311	N07P	25-AUG-93	0759	8.05	W93110272	7	LIGHT	2	441.0				-0.2
W9311	N07P	25-AUG-93	0759	8.05	W93110272	8	LIGHT	141	9310.1				6.6
W9311	N07P	25-AUG-93	0759	8.05	W93110272	9	LIGHT	47	4187.7				2.6
W9311	N07P	25-AUG-93	0759	8.05	W93110272	10	LIGHT	21	2696.7				1.5
W9311	N07P	25-AUG-93	0759	8.05	W93110272	11	LIGHT	21	3158.5				1.9
W9311	N07P	25-AUG-93	0759	8.05	W93110272	12	LIGHT	183	9833.9				7.0
W9311	N10P	24-AUG-93	0920	0.76	W93110091					5440604.0	24.8	6.0	
W9311	N10P	24-AUG-93	0920	0.76	W93110091	-3	DARK	0	438.2				
W9311	N10P	24-AUG-93	0920	0.76	W93110091	-2	DARK	0	321.6				
W9311	N10P	24-AUG-93	0920	0.76	W93110091	-1	DARK	0	481.1				
W9311	N10P	24-AUG-93	0920	0.76	W93110091	1	LIGHT	993	21250.7				16.6
W9311	N10P	24-AUG-93	0920	0.76	W93110091	2	LIGHT	1214	18786.9				14.7
W9311	N10P	24-AUG-93	0920	0.76	W93110091	3	LIGHT	121	17592.4				13.7
W9311	N10P	24-AUG-93	0920	0.76	W93110091	4	LIGHT	664	20597.7				16.1
W9311	N10P	24-AUG-93	0920	0.76	W93110091	5	LIGHT	790	21101.1				16.5
W9311	N10P	24-AUG-93	0920	0.76	W93110091	6	LIGHT	3	1320.5				0.7
W9311	N10P	24-AUG-93	0920	0.76	W93110091	7	LIGHT	2	854.1				0.4
W9311	N10P	24-AUG-93	0920	0.76	W93110091	8	LIGHT	133	18744.1				14.6
W9311	N10P	24-AUG-93	0920	0.76	W93110091	9	LIGHT	45	9280.4				7.1
W9311	N10P	24-AUG-93	0920	0.76	W93110091	10	LIGHT	20	5992.1				4.5
W9311	N10P	24-AUG-93	0920	0.76	W93110091	11	LIGHT	20	5462.0				4.0
W9311	N10P	24-AUG-93	0920	0.76	W93110091	12	LIGHT	174	17595.1				13.7
W9311	N10P	24-AUG-93	0917	16.17	W93110088					5440604.0	24.4	6.0	
W9311	N10P	24-AUG-93	0917	16.17	W93110088	-3	DARK	0	675.2				
W9311	N10P	24-AUG-93	0917	16.17	W93110088	-2	DARK	0	670.3				
W9311	N10P	24-AUG-93	0917	16.17	W93110088	-1	DARK	0	712.8				
W9311	N10P	24-AUG-93	0917	16.17	W93110088	1	LIGHT	154	52604.1				40.8
W9311	N10P	24-AUG-93	0917	16.17	W93110088	2	LIGHT	573	62771.2				48.7
W9311	N10P	24-AUG-93	0917	16.17	W93110088	3	LIGHT	854	65776.9				51.1
W9311	N10P	24-AUG-93	0917	16.17	W93110088	4	LIGHT	1209	68401.4				53.2
W9311	N10P	24-AUG-93	0917	16.17	W93110088	5	LIGHT	1279	69115.9				53.7
W9311	N10P	24-AUG-93	0917	16.17	W93110088	6	LIGHT	3	1926.9				1.0
W9311	N10P	24-AUG-93	0917	16.17	W93110088	7	LIGHT	2	1037.1				0.3
W9311	N10P	24-AUG-93	0917	16.17	W93110088	8	LIGHT	39	20870.9				15.8

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

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)	Stock (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)
W9311	N10P	24-AUG-93	0917	16.17	W93110088	9	LIGHT	228	48348.0				37.4
W9311	N10P	24-AUG-93	0917	16.17	W93110088	10	LIGHT	25	11969.2				8.9
W9311	N10P	24-AUG-93	0917	16.17	W93110088	11	LIGHT	23	7385.8				5.3
W9311	N10P	24-AUG-93	0917	16.17	W93110088	12	LIGHT	185	45587.2				35.2
W9311	N16P	24-AUG-93	0814	1.59	W93110072					5440604.0	23.8	6.1	
W9311	N16P	24-AUG-93	0814	1.59	W93110072	-3	DARK	0	965.2				
W9311	N16P	24-AUG-93	0814	1.59	W93110072	-2	DARK	0	776.2				
W9311	N16P	24-AUG-93	0814	1.59	W93110072	-1	DARK	0	752.7				
W9311	N16P	24-AUG-93	0814	1.59	W93110072	1	LIGHT	1152	30935.1				22.7
W9311	N16P	24-AUG-93	0814	1.59	W93110072	2	LIGHT	1733	30941.4				22.8
W9311	N16P	24-AUG-93	0814	1.59	W93110072	3	LIGHT	694	30194.1				22.2
W9311	N16P	24-AUG-93	0814	1.59	W93110072	4	LIGHT	369	27554.5				20.2
W9311	N16P	24-AUG-93	0814	1.59	W93110072	5	LIGHT	419	25818.0				18.9
W9311	N16P	24-AUG-93	0814	1.59	W93110072	6	LIGHT	3	858.0				0.0
W9311	N16P	24-AUG-93	0814	1.59	W93110072	7	LIGHT	2	550.1				-0.2
W9311	N16P	24-AUG-93	0814	1.59	W93110072	8	LIGHT	219	18585.6				13.4
W9311	N16P	24-AUG-93	0814	1.59	W93110072	9	LIGHT	344	24151.8				17.6
W9311	N16P	24-AUG-93	0814	1.59	W93110072	10	LIGHT	34	4974.8				3.1
W9311	N16P	24-AUG-93	0814	1.59	W93110072	11	LIGHT	33	6425.1				4.2
W9311	N16P	24-AUG-93	0814	1.59	W93110072	12	LIGHT	260	25517.7				18.7
W9311	N16P	24-AUG-93	0812	9.63	W93110070					5440604.0	24.6	6.1	
W9311	N16P	24-AUG-93	0812	9.63	W93110070	-3	DARK	0	434.9				
W9311	N16P	24-AUG-93	0812	9.63	W93110070	-2	DARK	0	755.4				
W9311	N16P	24-AUG-93	0812	9.63	W93110070	-1	DARK	0	410.6				
W9311	N16P	24-AUG-93	0812	9.63	W93110070	1	LIGHT	1339	17545.4				13.4
W9311	N16P	24-AUG-93	0812	9.63	W93110070	2	LIGHT	894	20871.0				16.0
W9311	N16P	24-AUG-93	0812	9.63	W93110070	3	LIGHT	844	23312.1				17.9
W9311	N16P	24-AUG-93	0812	9.63	W93110070	4	LIGHT	328	23190.5				17.8
W9311	N16P	24-AUG-93	0812	9.63	W93110070	5	LIGHT	418	23232.1				17.8
W9311	N16P	24-AUG-93	0812	9.63	W93110070	6	LIGHT	2	1208.9				0.5
W9311	N16P	24-AUG-93	0812	9.63	W93110070	7	LIGHT	3	2025.8				1.2
W9311	N16P	24-AUG-93	0812	9.63	W93110070	8	LIGHT	26	7793.2				5.7
W9311	N16P	24-AUG-93	0812	9.63	W93110070	9	LIGHT	21	6825.3				4.9
W9311	N16P	24-AUG-93	0812	9.63	W93110070	10	LIGHT	124	18289.4				13.9
W9311	N16P	24-AUG-93	0812	9.63	W93110070	11	LIGHT	174	22931.4				17.6
W9311	N16P	24-AUG-93	0812	9.63	W93110070	12	LIGHT	201	23026.4				17.7
W9311	N20P	24-AUG-93	0729	0.94	W93110056					5440604.0	24.0	6.0	
W9311	N20P	24-AUG-93	0729	0.94	W93110056	-3	DARK	0	661.8				
W9311	N20P	24-AUG-93	0729	0.94	W93110056	-2	DARK	0	487.2				
W9311	N20P	24-AUG-93	0729	0.94	W93110056	-1	DARK	0	637.0				
W9311	N20P	24-AUG-93	0729	0.94	W93110056	1	LIGHT	833	12310.4				9.1
W9311	N20P	24-AUG-93	0729	0.94	W93110056	2	LIGHT	1145	12668.4				9.3

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

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)	Stock (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)
W9311	N20P	24-AUG-93	0729	0.94	W93110056	3	LIGHT	1190	12849.4				9.5
W9311	N20P	24-AUG-93	0729	0.94	W93110056	4	LIGHT	1773	12369.8				9.1
W9311	N20P	24-AUG-93	0729	0.94	W93110056	5	LIGHT	417	10748.6				7.9
W9311	N20P	24-AUG-93	0729	0.94	W93110056	6	LIGHT	3	1025.2				0.3
W9311	N20P	24-AUG-93	0729	0.94	W93110056	7	LIGHT	3	1311.0				0.6
W9311	N20P	24-AUG-93	0729	0.94	W93110056	8	LIGHT	171	7535.3				5.4
W9311	N20P	24-AUG-93	0729	0.94	W93110056	9	LIGHT	80	6334.2				4.4
W9311	N20P	24-AUG-93	0729	0.94	W93110056	10	LIGHT	34	2407.6				1.4
W9311	N20P	24-AUG-93	0729	0.94	W93110056	11	LIGHT	33	2570.6				1.5
W9311	N20P	24-AUG-93	0729	0.94	W93110056	12	LIGHT	279	10871.7				8.0
W9311	N20P	24-AUG-93	0727	9.76	W93110054					5440604.0	24.6	6.0	
W9311	N20P	24-AUG-93	0727	9.76	W93110054	-3	DARK	0	741.8				
W9311	N20P	24-AUG-93	0727	9.76	W93110054	-2	DARK	0	500.4				
W9311	N20P	24-AUG-93	0727	9.76	W93110054	-1	DARK	0	785.6				
W9311	N20P	24-AUG-93	0727	9.76	W93110054	1	LIGHT	303	14293.4				10.8
W9311	N20P	24-AUG-93	0727	9.76	W93110054	2	LIGHT	267	16446.1				12.5
W9311	N20P	24-AUG-93	0727	9.76	W93110054	3	LIGHT	1451	10817.0				8.0
W9311	N20P	24-AUG-93	0727	9.76	W93110054	4	LIGHT	854	14854.6				11.2
W9311	N20P	24-AUG-93	0727	9.76	W93110054	5	LIGHT	600	18383.0				14.0
W9311	N20P	24-AUG-93	0727	9.76	W93110054	6	LIGHT	3	706.1				0.0
W9311	N20P	24-AUG-93	0727	9.76	W93110054	7	LIGHT	3	1313.1				0.5
W9311	N20P	24-AUG-93	0727	9.76	W93110054	8	LIGHT	250	13325.9				10.0
W9311	N20P	24-AUG-93	0727	9.76	W93110054	9	LIGHT	77	8512.2				6.2
W9311	N20P	24-AUG-93	0727	9.76	W93110054	10	LIGHT	22	2861.9				1.7
W9311	N20P	24-AUG-93	0727	9.76	W93110054	11	LIGHT	20	4037.6				2.7
W9311	N20P	24-AUG-93	0727	9.76	W93110054	12	LIGHT	176	12330.9				9.2

e = Data not reported

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; no data were rejected. This appendix provides the following sequence for early April 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 9311
ANALYSIS OF DARK BOTTLES USING THE DIXON CRITERION

OBS	STA	BOT	_NAME_	COL1	COL2	COL3	X_N	X_1
1	F13P	6	DARKDPM	333.70	788.80	2621.45	0.80107	0.19893
2	F13P	10	DARKDPM	.	514.13	579.66	.	.
3	F1P	6	DARKDPM	308.85	670.58	1025.33	0.49513	0.50487
4	F1P	10	DARKDPM	903.74	1229.75	1327.56	0.23078	0.76922
5	F23P	6	DARKDPM	852.48	1416.50	1968.57	0.49465	0.50535
6	F23P	10	DARKDPM	384.94	1016.27	1409.09	0.74944	0.25056
7	F2P	6	DARKDPM	280.62	949.77	1638.96	0.50738	0.49262
8	F2P	10	DARKDPM	201.50	229.03	524.32	0.91472	0.08528
9	N10P	4	DARKDPM	321.60	438.24	481.07	0.26858	0.73142
10	N10P	10	DARKDPM	670.30	675.18	712.76	0.88507	0.11493
11	N16P	6	DARKDPM	410.61	434.88	755.42	0.92961	0.07039
12	N16P	10	DARKDPM	752.71	776.15	965.23	0.88970	0.11030
13	N1P	8	DARKDPM	571.43	696.98	978.84	0.69183	0.30817
14	N1P	10	DARKDPM	547.39	887.19	1164.15	0.44906	0.55094
15	N20P	6	DARKDPM	500.38	741.80	785.60	0.15357	0.84643
16	N20P	10	DARKDPM	487.16	636.96	661.84	0.14243	0.85757
17	N4P	6	DARKDPM	371.84	448.65	1392.13	0.92472	0.07528
18	N4P	10	DARKDPM	996.03	1045.03	1521.84	0.90681	0.09319
19	N7P	6	DARKDPM	327.17	911.86	1000.60	0.13177	0.86823
20	N7P	10	DARKDPM	418.92	791.86	905.20	0.23308	0.76692

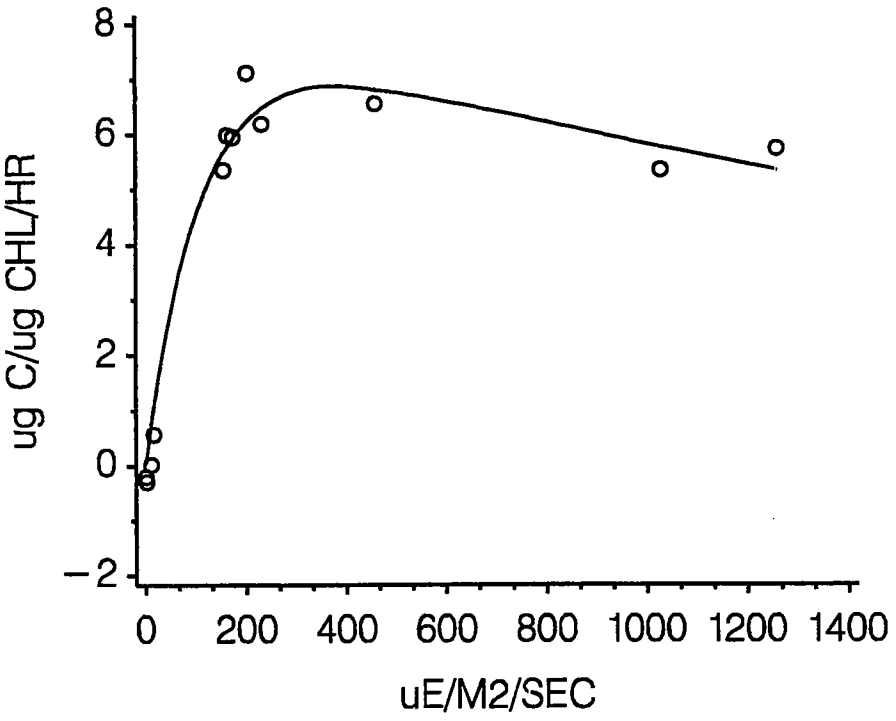
[1] 6 = Subsurface chlorophyll maximum sample
10 = Surface sample
[2] COL# = Replicate dark bottle value (dpm)
[3] Calculated values to be judged against the Dixon Criteria, see text report for full description.
If X_3 > 0.941, then the high replicate value exceeded the criteria and was not used in production 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: August 1993.
Numbers in parentheses are standard errors of the estimates.

P VS I CURVE PARAMETERS 9311 AUGUST 1993
MODEL PLATT ET AL, 1980

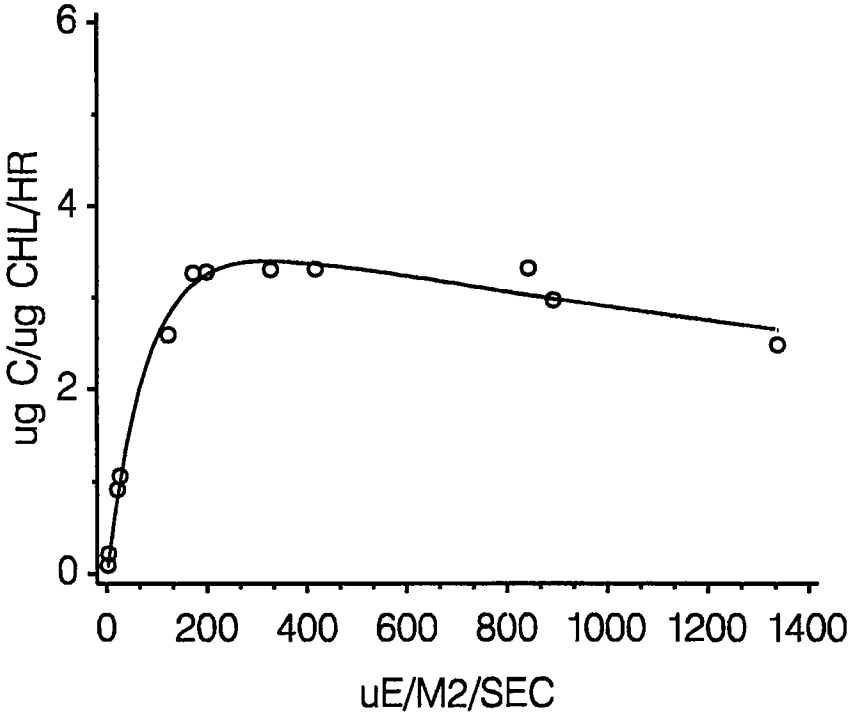
STA	DEPTH	P_SB	ALPHA	BETA	R_2
F13P	CHL	8.12(0.77)	0.069(0.011)	0.003(0.0008)	0.983
F13P	SUR	. .	. .	. .	.
F1P	CHL	. .	. .	. .	.
F1P	SUR	. .	. .	. .	.
F23P	CHL	. .	. .	. .	.
F23P	SUR	. .	. .	. .	.
F2P	CHL	. .	. .	. .	.
F2P	SUR	. .	. .	. .	.
N10P	CHL	. .	. .	. .	.
N10P	SUR	. .	. .	. .	.
N16P	CHL	3.82(0.01)	0.043(0.001)	0.001(0.0001)	0.989
N16P	SUR	. .	. .	. .	.
N1P	CHL	. .	. .	. .	.
N1P	SUR	. .	. .	. .	.
N20P	CHL	. .	. .	. .	.
N20P	SUR	. .	. .	. .	.
N4P	CHL	. .	. .	. .	.
N4P	SUR	. .	. .	. .	.
N7P	CHL	. .	. .	. .	.
N7P	SUR	. .	. .	. .	.

STATION F13P CHLA MAXIMUM



NEGATIVE EXPONENTIAL MODEL WITH INHIBITION PLATT ET AL, 1980
CRUISE NUMBER 9311 AUGUST, 1993

STATION N16P CHLA MAXIMUM



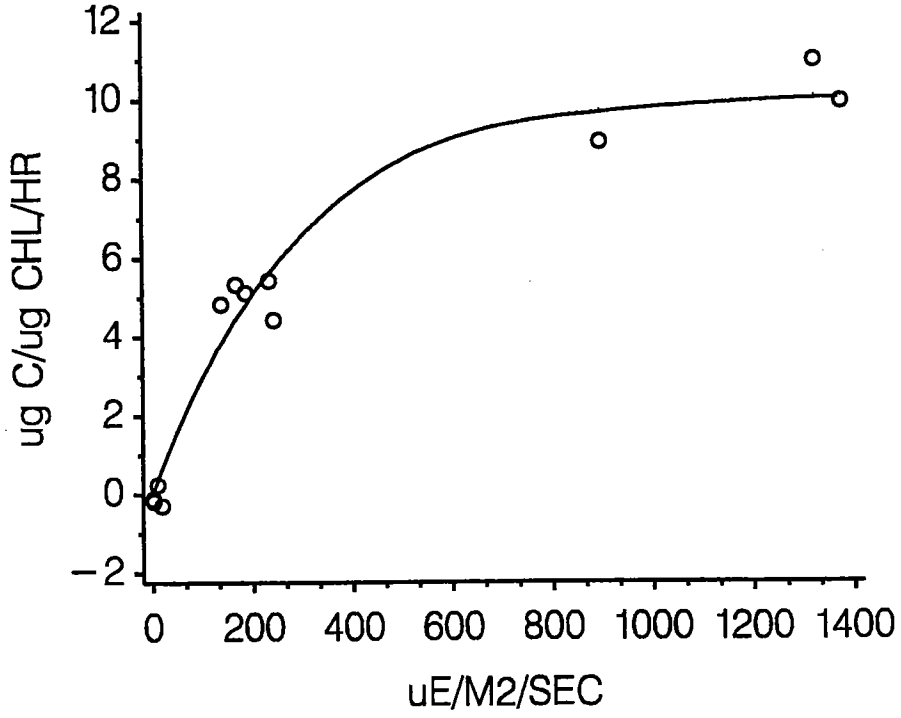
NEGATIVE EXPONENTIAL MODEL WITH INHIBITION PLATT ET AL, 1980
CRUISE NUMBER 9311 AUGUST, 1993

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

P VS I CURVE PARAMETERS 9311 AUGUST 1993
MODEL WEBB ET AL 1974

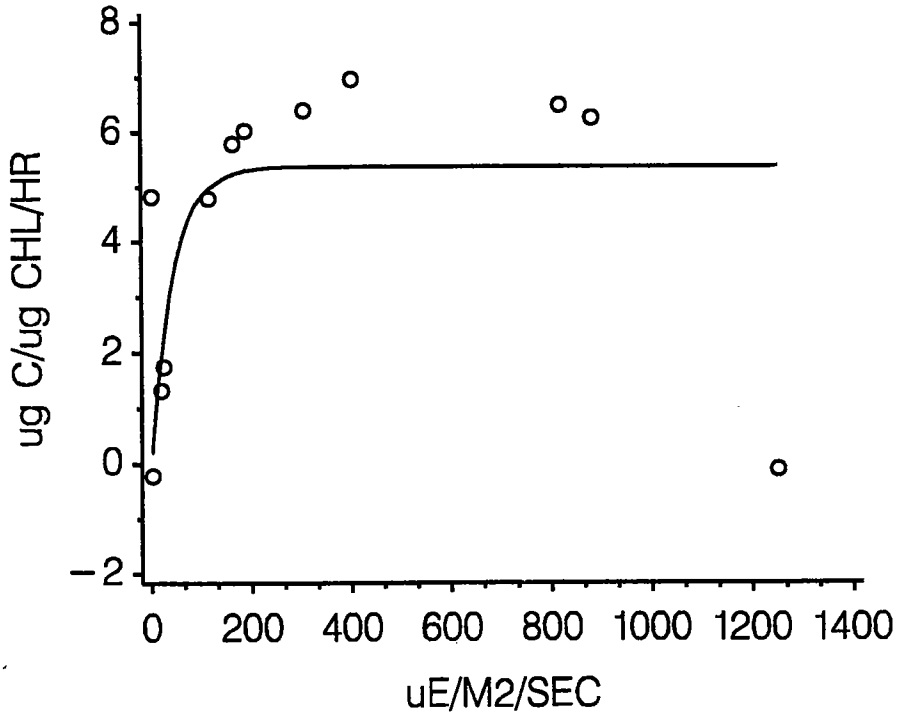
STATION	DEPTH	PMAX	ALPHA	R_2
F13P	CHL	. .	. .	.
	SUR	10.18(0.35)	0.035(0.003)	0.966
F1P	CHL	5.39(0.93)	0.118(0.112)	0.338
	SUR	15.58(0.52)	0.080(0.011)	0.974
F23P	CHL	9.57(0.01)	0.062(0.005)	0.992
	SUR	5.98(0.14)	0.046(0.001)	0.983
F2P	CHL	13.31(0.01)	0.156(0.021)	0.967
	SUR	5.95(0.06)	0.031(0.002)	0.995
N10P	CHL	2.93(0.05)	0.043(0.003)	0.988
	SUR	7.88(0.18)	0.057(0.005)	0.981
N16P	CHL	. .	. .	.
	SUR	7.40(0.22)	0.036(0.002)	0.987
N1P	CHL	3.26(0.12)	0.032(0.001)	0.969
	SUR	5.57(0.00)	0.033(0.000)	0.978
N20P	CHL	5.63(0.18)	0.061(0.015)	0.914
	SUR	10.68(0.13)	0.065(0.003)	0.986
N4P	CHL	5.58(0.06)	0.093(0.027)	0.912
	SUR	6.75(0.26)	0.037(0.004)	0.977
N7P	CHL	3.75(0.04)	0.034(0.002)	0.992
	SUR	6.32(0.04)	0.039(0.005)	0.971

STATION F13P SURFACE



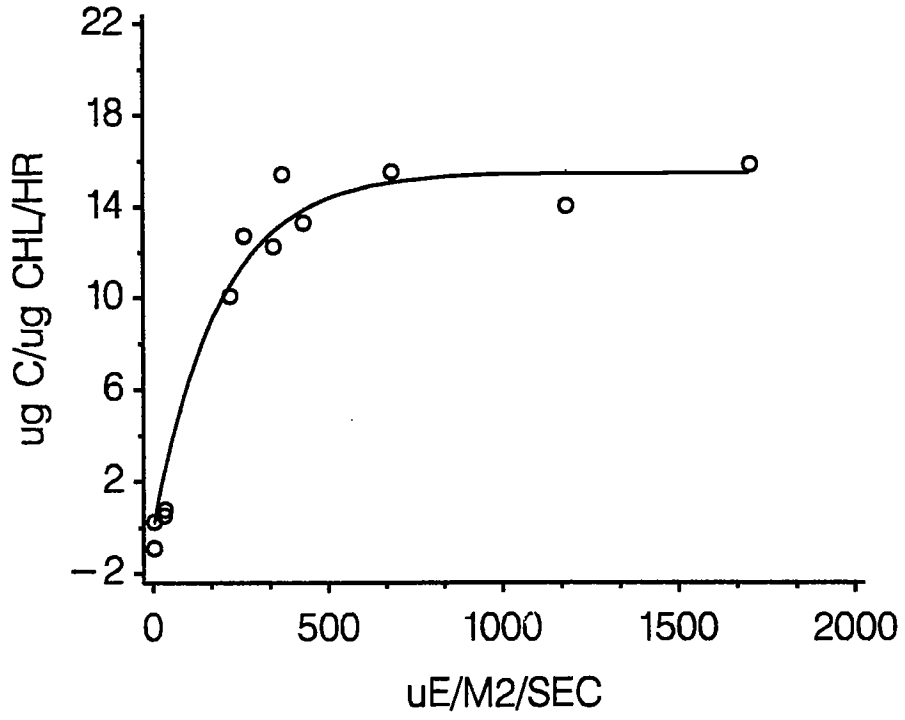
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 1993

STATION F1P CHLA MAXIMUM



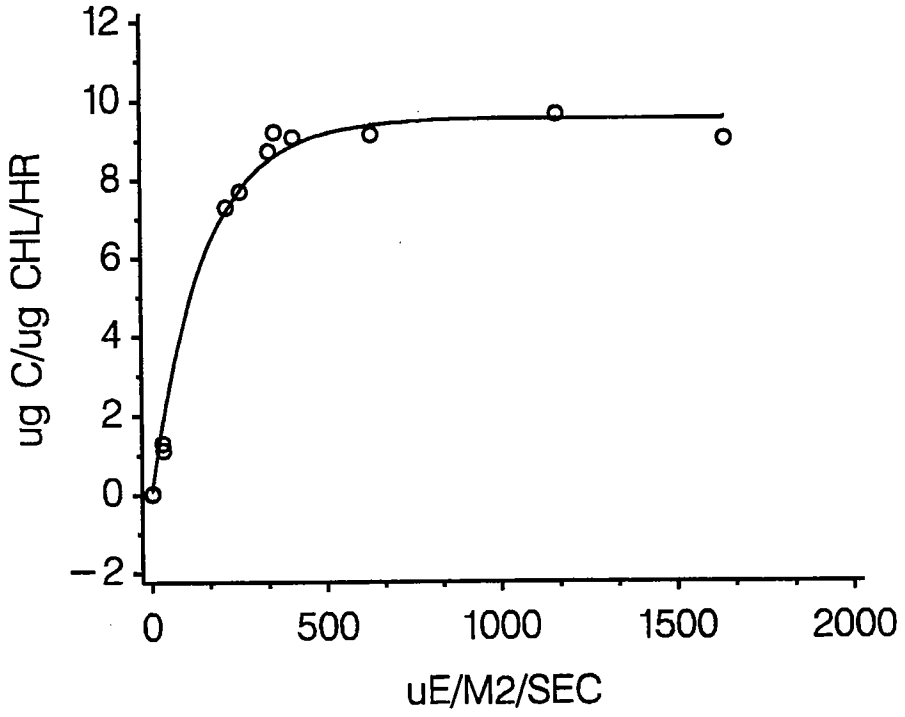
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 1993

STATION F1P SURFACE



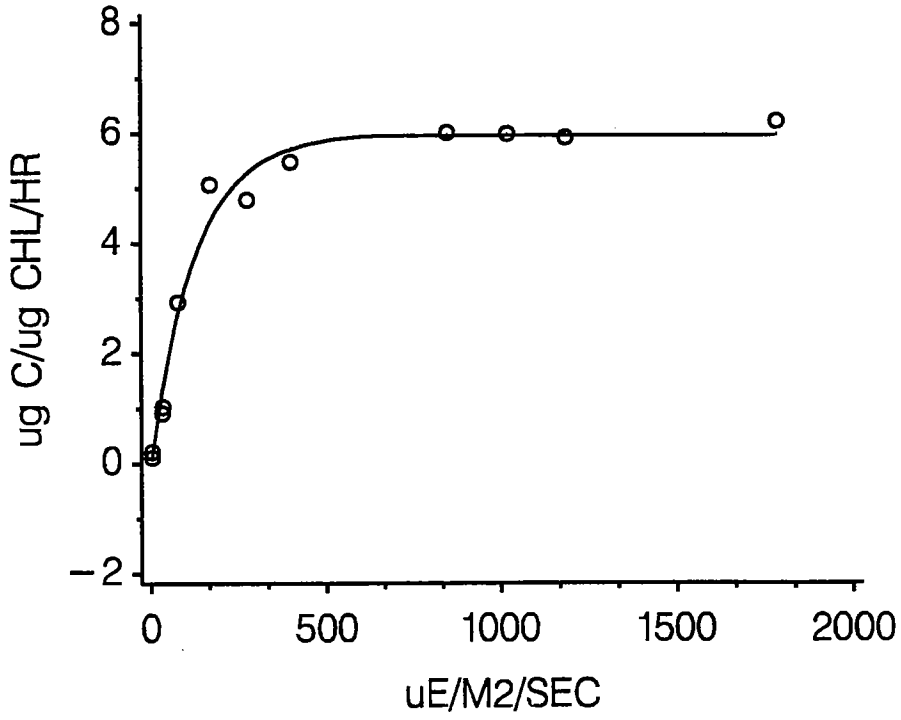
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 1993

STATION F23P CHLA MAXIMUM



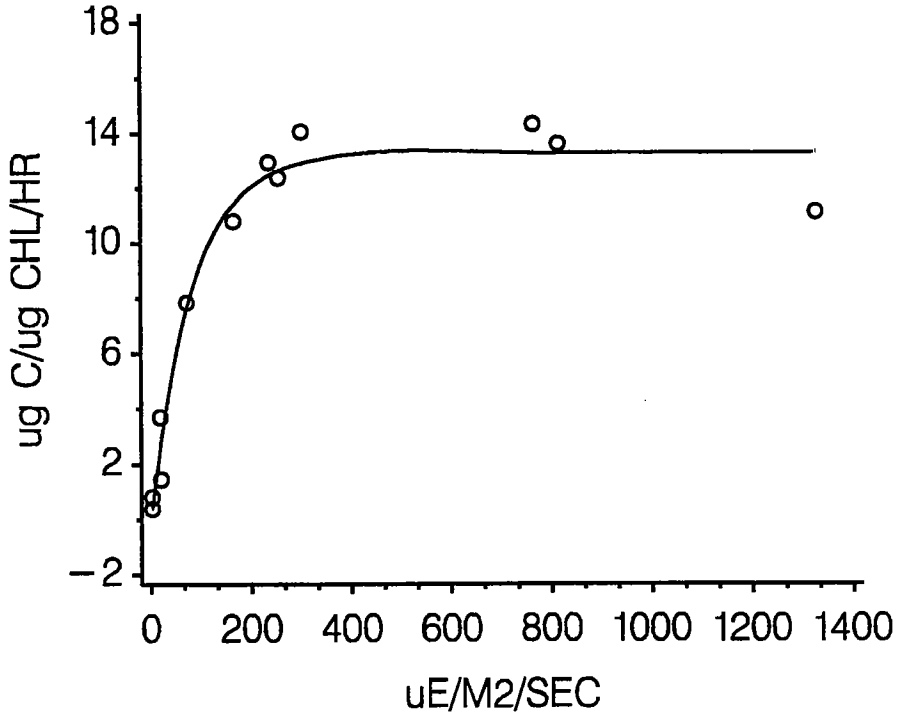
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 1993

STATION F23P SURFACE



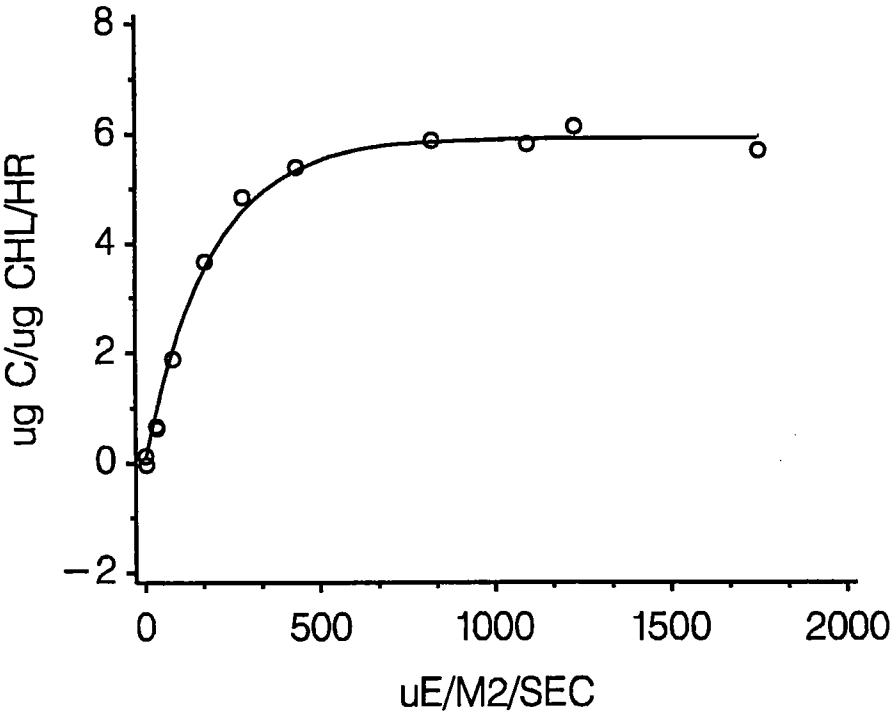
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 1993

STATION F2P CHLA MAXIMUM



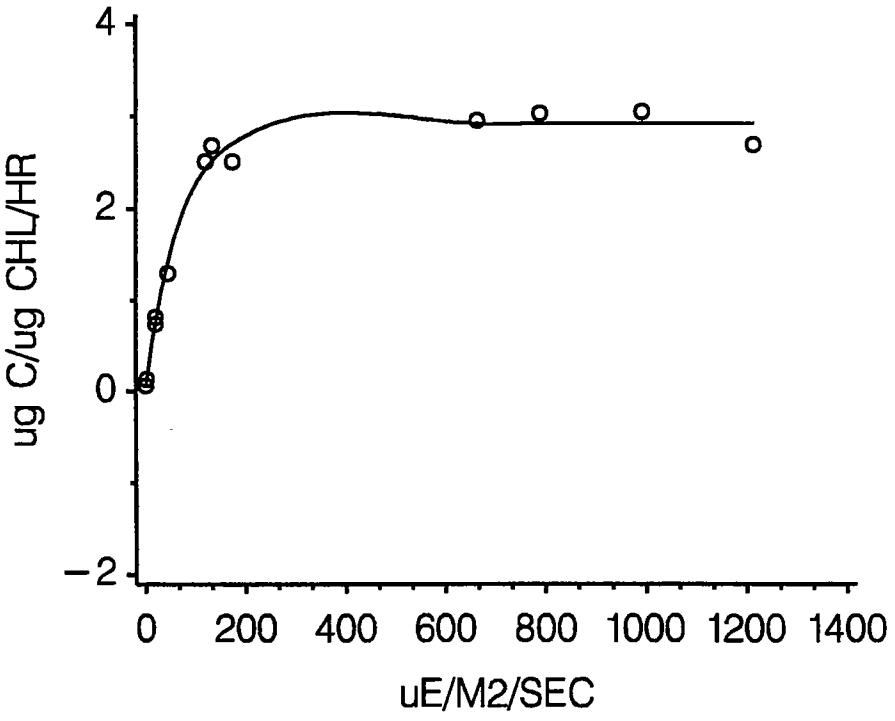
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 1993

STATION F2P SURFACE



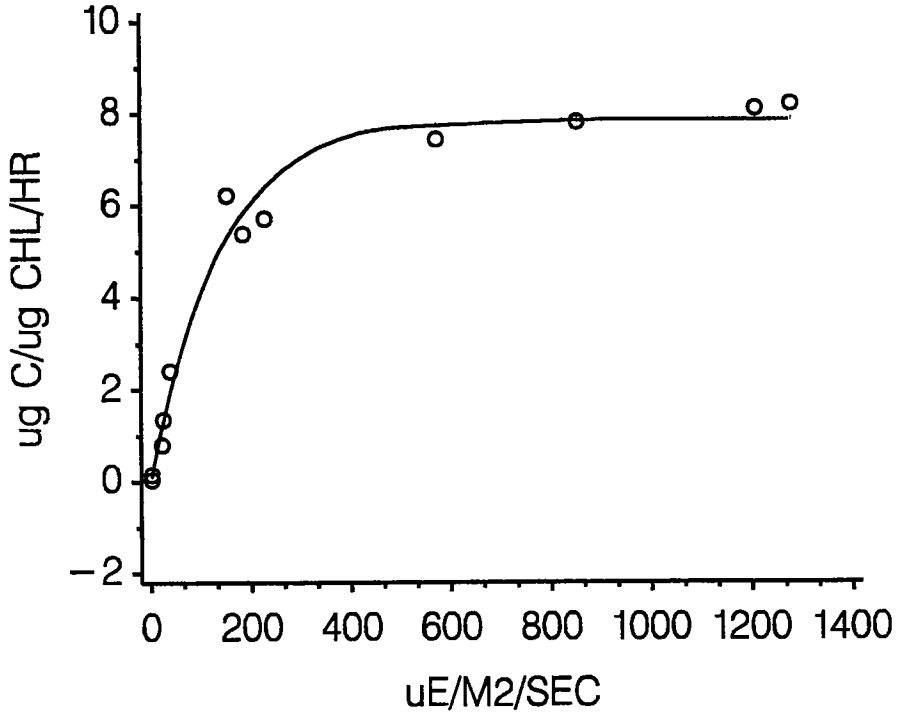
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 1993

STATION N10P CHLA MAXIMUM



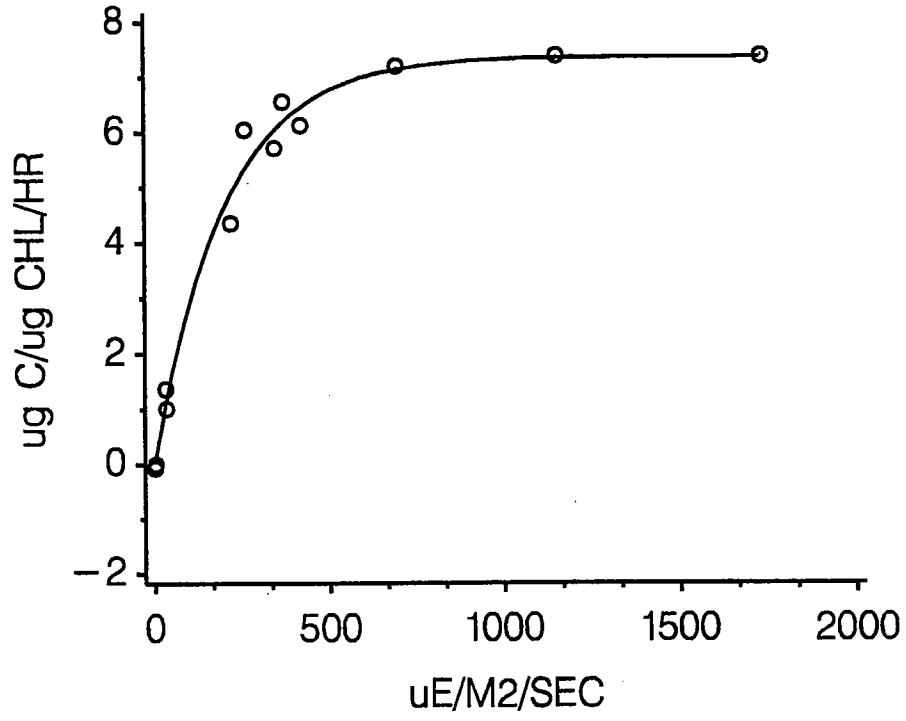
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 1993

STATION N10P SURFACE



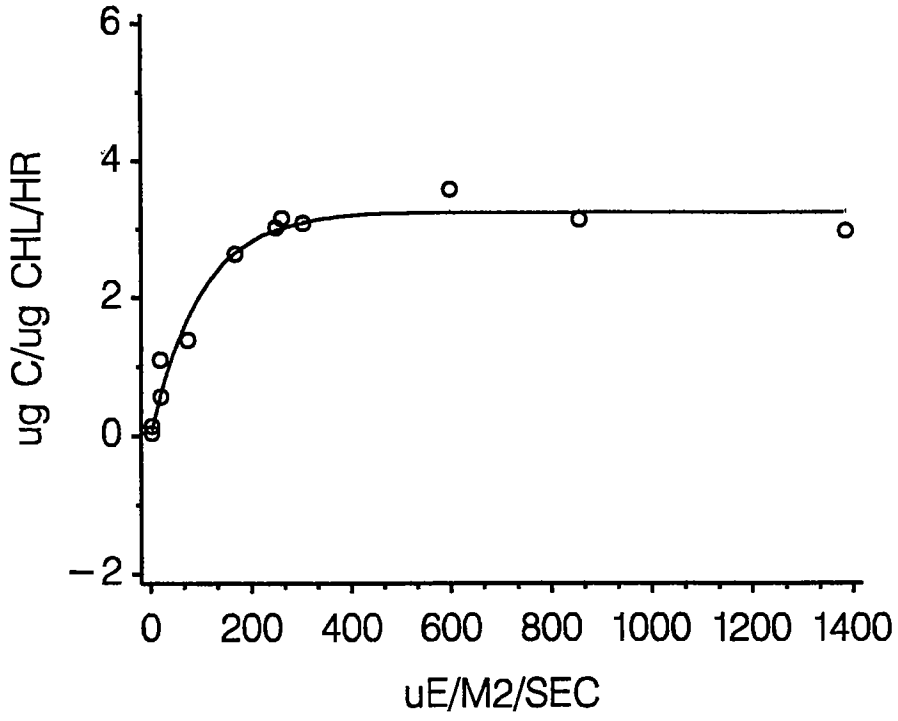
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 1993

STATION N16P SURFACE



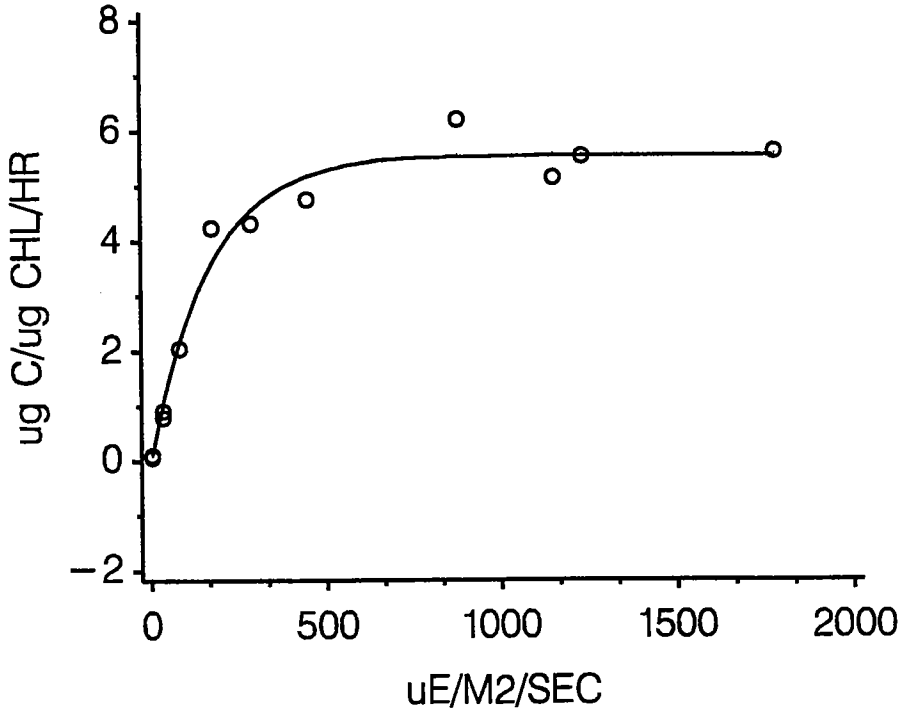
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 1993

STATION N1P CHLA MAXIMUM



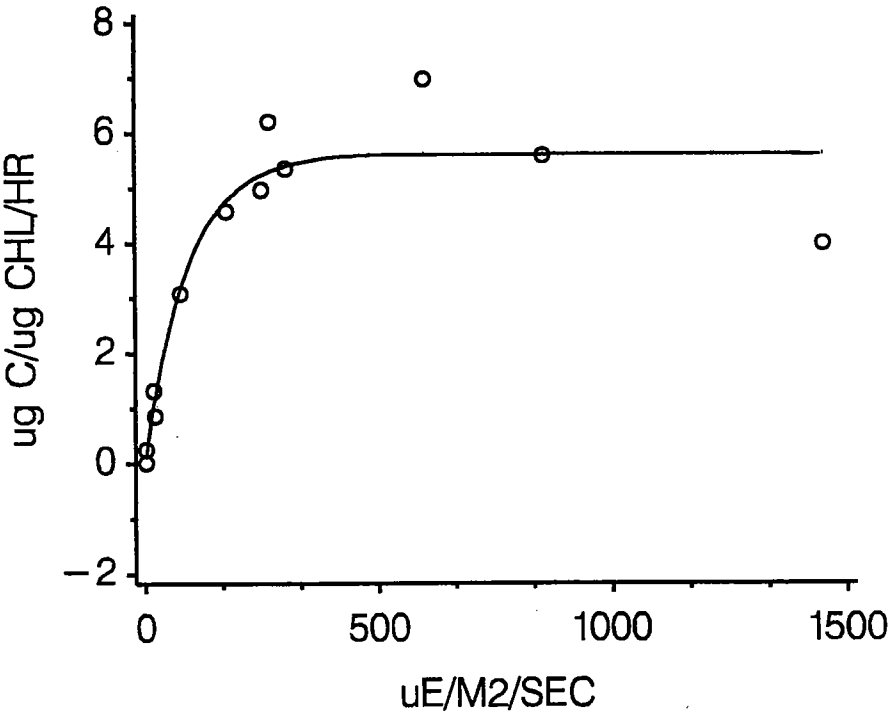
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 1993

STATION N1P SURFACE



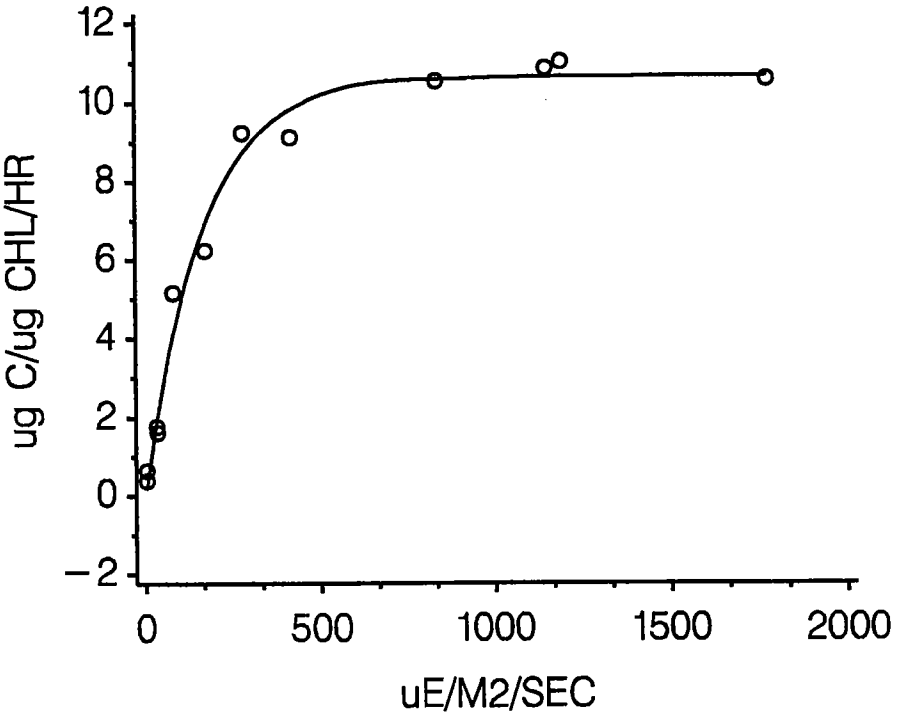
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 1993

STATION N20P CHLA MAXIMUM



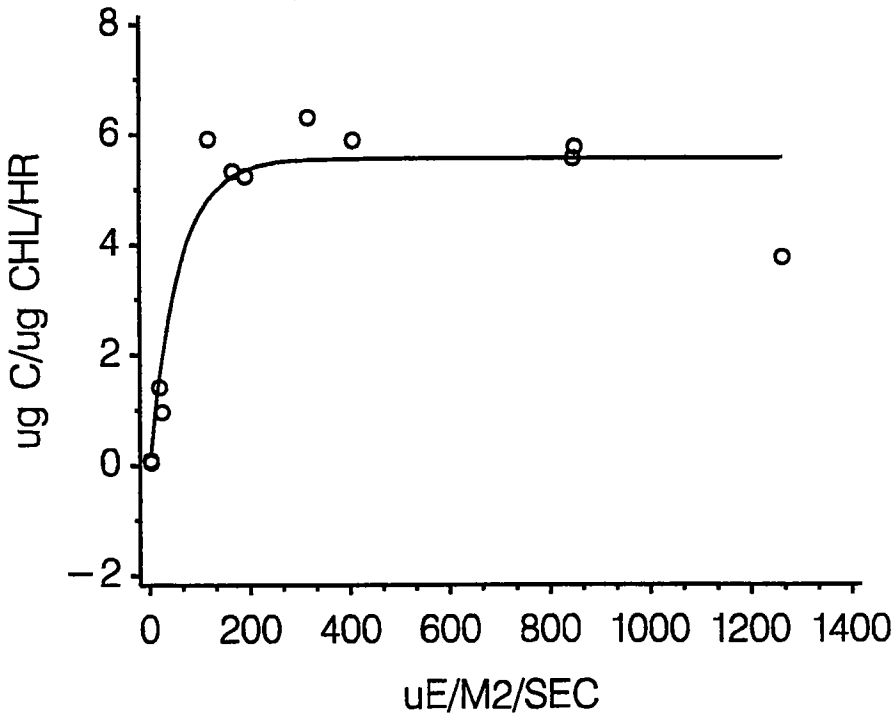
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 1993

STATION N20P SURFACE



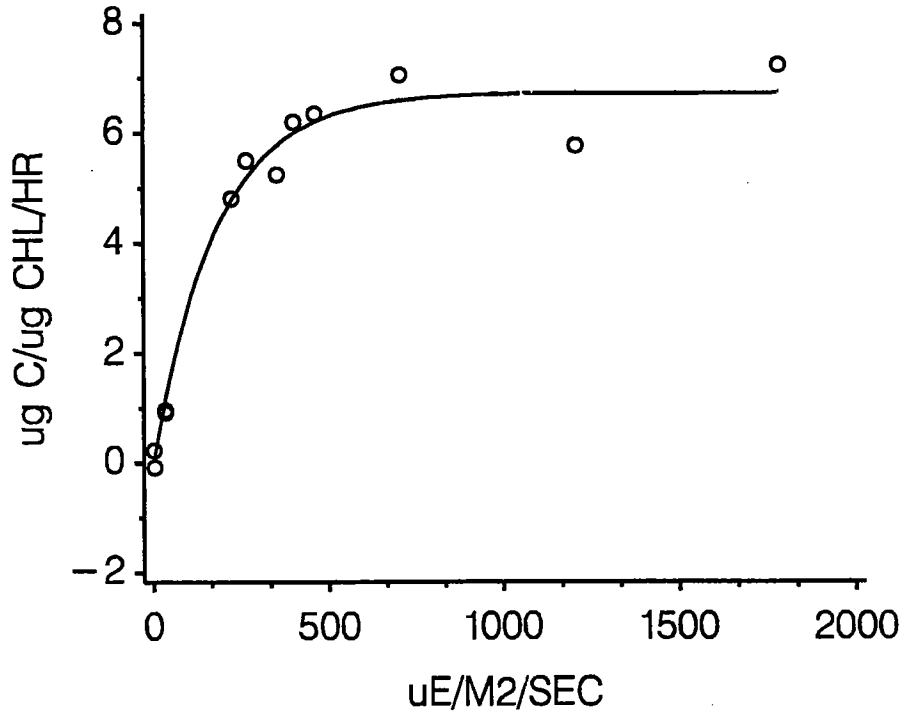
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 1993

STATION N4P CHLA MAXIMUM



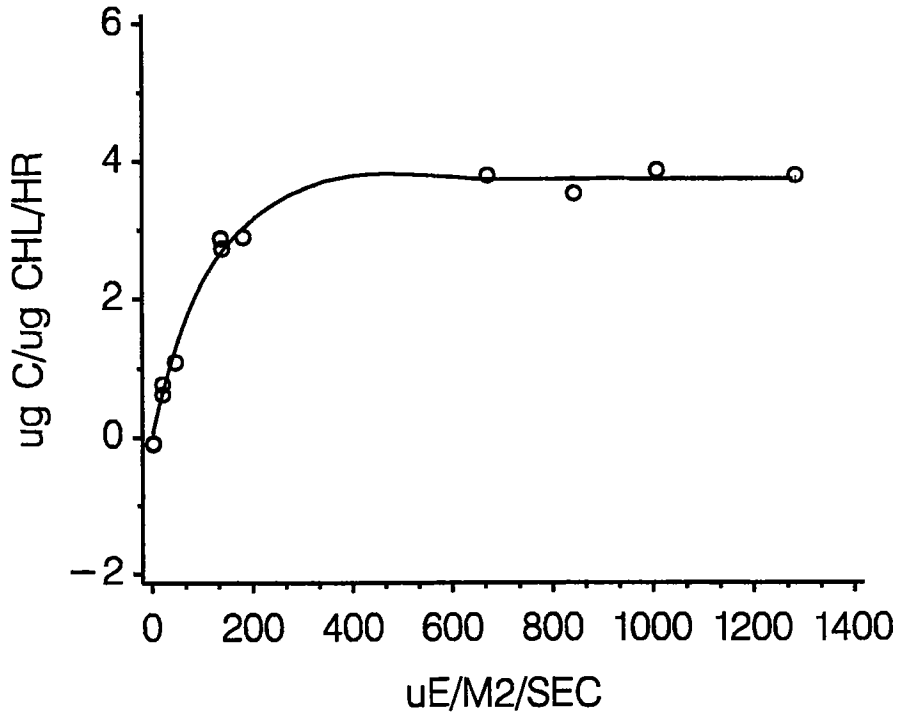
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 1993

STATION N4P SURFACE



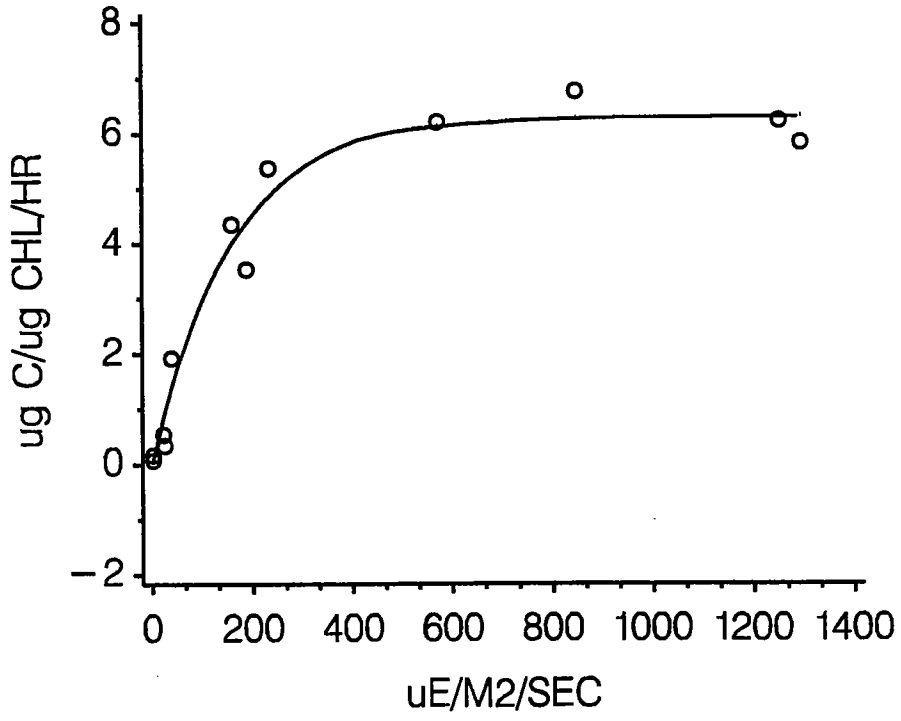
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 1993

STATION N7P CHLA MAXIMUM



NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 1993

STATION N7P SURFACE



NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9311 AUGUST, 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 the 95% level; if $p \leq 0.10$, then mean concentrations were different at the 90% level.

Table E3-1. Dark Respiration at Bioproductivity Stations in August 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)
W9311	F01P	26-AUG-93	0901	0.64	W93110425			-0.01313	8.1	AMBIENT
W9311	F01P	26-AUG-93	0901	0.64	W93110425	DARK	8.44			
W9311	F01P	26-AUG-93	0901	0.64	W93110425	DARK	8.39			
W9311	F01P	26-AUG-93	0901	0.64	W93110425	DARK	8.33			
W9311	F01P	26-AUG-93	0901	0.64	W93110425	INIT	8.52			
W9311	F01P	26-AUG-93	0901	0.64	W93110425	INIT	8.49			
W9311	F01P	26-AUG-93	0901	0.64	W93110425	INIT	8.46			
W9311	F01P	26-AUG-93	0859	13.09	W93110423			-0.01531	8.1	14.0
W9311	F01P	26-AUG-93	0859	13.09	W93110423	DARK	9.85			
W9311	F01P	26-AUG-93	0859	13.09	W93110423	DARK	9.62			
W9311	F01P	26-AUG-93	0859	13.09	W93110423	DARK	9.74			
W9311	F01P	26-AUG-93	0859	13.09	W93110423	INIT	9.89			
W9311	F01P	26-AUG-93	0859	13.09	W93110423	INIT	9.86			
W9311	F01P	26-AUG-93	0859	13.09	W93110423	INIT	9.84			
W9311	F01P	26-AUG-93	0857	23.53	W93110421			-0.00350	8.1	9.0
W9311	F01P	26-AUG-93	0857	23.53	W93110421	DARK	9.34			
W9311	F01P	26-AUG-93	0857	23.53	W93110421	DARK	9.33			
W9311	F01P	26-AUG-93	0857	23.53	W93110421	DARK	9.36			
W9311	F01P	26-AUG-93	0857	23.53	W93110421	INIT	9.51			
W9311	F01P	26-AUG-93	0857	23.53	W93110421	INIT	9.12			
W9311	F01P	26-AUG-93	0857	23.53	W93110421	INIT	9.48			
W9311	F02P	26-AUG-93	0717	1.50	W93110401			-0.01126	8.2	AMBIENT
W9311	F02P	26-AUG-93	0717	1.50	W93110401	DARK	8.63			
W9311	F02P	26-AUG-93	0717	1.50	W93110401	DARK	8.57			
W9311	F02P	26-AUG-93	0717	1.50	W93110401	DARK	8.59			
W9311	F02P	26-AUG-93	0717	1.50	W93110401	INIT	8.74			
W9311	F02P	26-AUG-93	0717	1.50	W93110401	INIT	8.62			
W9311	F02P	26-AUG-93	0717	1.50	W93110401	INIT	8.71			
W9311	F02P	26-AUG-93	0715	12.61	W93110399			-0.00776	8.2	14.0
W9311	F02P	26-AUG-93	0715	12.61	W93110399	DARK	9.05			
W9311	F02P	26-AUG-93	0715	12.61	W93110399	DARK	8.99			
W9311	F02P	26-AUG-93	0715	12.61	W93110399	DARK	9.08			
W9311	F02P	26-AUG-93	0715	12.61	W93110399	INIT	9.09			
W9311	F02P	26-AUG-93	0715	12.61	W93110399	INIT	9.11			
W9311	F02P	26-AUG-93	0715	12.61	W93110399	INIT	9.11			
W9311	F02P	26-AUG-93	0713	29.40	W93110397			-0.02130	8.2	9.0
W9311	F02P	26-AUG-93	0713	29.40	W93110397	DARK	8.48			
W9311	F02P	26-AUG-93	0713	29.40	W93110397	DARK	8.51			
W9311	F02P	26-AUG-93	0713	29.40	W93110397	DARK	8.51			
W9311	F02P	26-AUG-93	0713	29.40	W93110397	INIT	8.65			
W9311	F02P	26-AUG-93	0713	29.40	W93110397	INIT	8.66			
W9311	F02P	26-AUG-93	0713	29.40	W93110397	INIT	8.71			
W9311	F13P	25-AUG-93	0857	1.72	W93110289			-0.01674	8.8	AMBIENT
W9311	F13P	25-AUG-93	0857	1.72	W93110289	DARK	8.85			
W9311	F13P	25-AUG-93	0857	1.72	W93110289	DARK	8.76			

Table E3-1. Dark Respiration at Bioproductivity Stations in August 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)
W9311	F13P	25-AUG-93	0857	1.72	W93110289	DARK	8.81			
W9311	F13P	25-AUG-93	0857	1.72	W93110289	INIT	8.94			
W9311	F13P	25-AUG-93	0857	1.72	W93110289	INIT	8.98			
W9311	F13P	25-AUG-93	0857	1.72	W93110289	INIT	8.95			
W9311	F13P	25-AUG-93	0855	10.51	W93110287			-0.00545	8.8	15.0
W9311	F13P	25-AUG-93	0855	10.51	W93110287	DARK	9.23			
W9311	F13P	25-AUG-93	0855	10.51	W93110287	DARK	9.10			
W9311	F13P	25-AUG-93	0855	10.51	W93110287	DARK	9.08			
W9311	F13P	25-AUG-93	0855	10.51	W93110287	INIT	9.15			
W9311	F13P	25-AUG-93	0855	10.51	W93110287	INIT	9.22			
W9311	F13P	25-AUG-93	0855	10.51	W93110287	INIT	9.19			
W9311	F13P	25-AUG-93	0853	22.09	W93110285			-0.00511	8.8	9.0
W9311	F13P	25-AUG-93	0853	22.09	W93110285	DARK	8.68			
W9311	F13P	25-AUG-93	0853	22.09	W93110285	DARK	8.72			
W9311	F13P	25-AUG-93	0853	22.09	W93110285	DARK	8.62			
W9311	F13P	25-AUG-93	0853	22.09	W93110285	INIT	8.71			
W9311	F13P	25-AUG-93	0853	22.09	W93110285	INIT	8.72			
W9311	F13P	25-AUG-93	0853	22.09	W93110285	INIT	8.73			
W9311	F23P	27-AUG-93	0550	0.73	W93110523			-0.03508	8.0	21.0
W9311	F23P	27-AUG-93	0550	0.73	W93110523	DARK	8.78			
W9311	F23P	27-AUG-93	0550	0.73	W93110523	DARK	8.74			
W9311	F23P	27-AUG-93	0550	0.73	W93110523	DARK	8.82			
W9311	F23P	27-AUG-93	0550	0.73	W93110523	INIT	9.06			
W9311	F23P	27-AUG-93	0550	0.73	W93110523	INIT	9.05			
W9311	F23P	27-AUG-93	0550	0.73	W93110523	INIT	9.06			
W9311	F23P	27-AUG-93	0548	7.60	W93110521			-0.03746	8.0	21.0
W9311	F23P	27-AUG-93	0548	7.60	W93110521	DARK	8.28			
W9311	F23P	27-AUG-93	0548	7.60	W93110521	DARK	8.34			
W9311	F23P	27-AUG-93	0548	7.60	W93110521	DARK	8.34			
W9311	F23P	27-AUG-93	0548	7.60	W93110521	INIT	8.60			
W9311	F23P	27-AUG-93	0548	7.60	W93110521	INIT	8.63			
W9311	F23P	27-AUG-93	0548	7.60	W93110521	INIT	8.64			
W9311	F23P	27-AUG-93	0546	22.04	W93110519			-0.03750	8.0	10.0
W9311	F23P	27-AUG-93	0546	22.04	W93110519	DARK	8.41			
W9311	F23P	27-AUG-93	0546	22.04	W93110519	DARK	8.46			
W9311	F23P	27-AUG-93	0546	22.04	W93110519	DARK	8.31			
W9311	F23P	27-AUG-93	0546	22.04	W93110519	INIT	8.64			
W9311	F23P	27-AUG-93	0546	22.04	W93110519	INIT	8.73			
W9311	F23P	27-AUG-93	0546	22.04	W93110519	INIT	8.70			
W9311	N01P	25-AUG-93	0548	1.66	W93110242			-0.01438	8.0	AMBIENT
W9311	N01P	25-AUG-93	0548	1.66	W93110242	DARK	9.17			
W9311	N01P	25-AUG-93	0548	1.66	W93110242	DARK	9.07			
W9311	N01P	25-AUG-93	0548	1.66	W93110242	DARK	9.16			
W9311	N01P	25-AUG-93	0548	1.66	W93110242	INIT	9.10			
W9311	N01P	25-AUG-93	0548	1.66	W93110242	INIT	9.36			

Table E3-1. Dark Respiration at Bioproductivity Stations in August 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)
W9311	N01P	25-AUG-93	0548	1.66	W93110242	INIT	9.30			
W9311	N01P	25-AUG-93	0547	3.30	W93110241			-0.01537	8.0	13.0
W9311	N01P	25-AUG-93	0547	3.30	W93110241	DARK	9.35			
W9311	N01P	25-AUG-93	0547	3.30	W93110241	DARK	9.34			
W9311	N01P	25-AUG-93	0547	3.30	W93110241	DARK	9.30			
W9311	N01P	25-AUG-93	0547	3.30	W93110241	INIT	9.49			
W9311	N01P	25-AUG-93	0547	3.30	W93110241	INIT	9.43			
W9311	N01P	25-AUG-93	0547	3.30	W93110241	INIT	9.45			
W9311	N01P	25-AUG-93	0543	29.07	W93110238			-0.00987	8.0	8.0
W9311	N01P	25-AUG-93	0543	29.07	W93110238	DARK	9.00			
W9311	N01P	25-AUG-93	0543	29.07	W93110238	DARK	9.02			
W9311	N01P	25-AUG-93	0543	29.07	W93110238	DARK	9.07			
W9311	N01P	25-AUG-93	0543	29.07	W93110238	INIT	9.14			
W9311	N01P	25-AUG-93	0543	29.07	W93110238	INIT	9.08			
W9311	N01P	25-AUG-93	0543	29.07	W93110238	INIT	9.12			
W9311	N04P	25-AUG-93	0658	1.99	W93110257			-0.02821	8.0	AMBIENT
W9311	N04P	25-AUG-93	0658	1.99	W93110257	DARK	9.25			
W9311	N04P	25-AUG-93	0658	1.99	W93110257	DARK	9.21			
W9311	N04P	25-AUG-93	0658	1.99	W93110257	DARK	9.32			
W9311	N04P	25-AUG-93	0658	1.99	W93110257	INIT	9.44			
W9311	N04P	25-AUG-93	0658	1.99	W93110257	INIT	9.55			
W9311	N04P	25-AUG-93	0658	1.99	W93110257	INIT	9.47			
W9311	N04P	25-AUG-93	0656	12.53	W93110255			-0.03108	8.0	14.0
W9311	N04P	25-AUG-93	0656	12.53	W93110255	DARK	9.23			
W9311	N04P	25-AUG-93	0656	12.53	W93110255	DARK	9.28			
W9311	N04P	25-AUG-93	0656	12.53	W93110255	DARK	9.10			
W9311	N04P	25-AUG-93	0656	12.53	W93110255	INIT	9.40			
W9311	N04P	25-AUG-93	0656	12.53	W93110255	INIT	9.50			
W9311	N04P	25-AUG-93	0656	12.53	W93110255	INIT	9.45			
W9311	N04P	25-AUG-93	0653	46.91	W93110253			-0.00287	8.0	9.0
W9311	N04P	25-AUG-93	0653	46.91	W93110253	DARK	8.97			
W9311	N04P	25-AUG-93	0653	46.91	W93110253	DARK	8.95			
W9311	N04P	25-AUG-93	0653	46.91	W93110253	DARK	8.90			
W9311	N04P	25-AUG-93	0653	46.91	W93110253	INIT	8.97			
W9311	N04P	25-AUG-93	0653	46.91	W93110253	INIT	8.95			
W9311	N04P	25-AUG-93	0653	46.91	W93110253	INIT	8.96			
W9311	N07P	25-AUG-93	0800	0.77	W93110273			-0.02675	8.0	AMBIENT
W9311	N07P	25-AUG-93	0800	0.77	W93110273	DARK	9.00			
W9311	N07P	25-AUG-93	0800	0.77	W93110273	DARK	8.73			
W9311	N07P	25-AUG-93	0800	0.77	W93110273	DARK	8.79			
W9311	N07P	25-AUG-93	0800	0.77	W93110273	INIT	9.08			
W9311	N07P	25-AUG-93	0800	0.77	W93110273	INIT	9.09			
W9311	N07P	25-AUG-93	0800	0.77	W93110273	INIT	8.99			
W9311	N07P	25-AUG-93	0758	16.77	W93110271			-0.00779	8.0	14.0
W9311	N07P	25-AUG-93	0758	16.77	W93110271	DARK	9.28			

Table E3-1. Dark Respiration at Bioproductivity Stations in August 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)
W9311	N07P	25-AUG-93	0758	16.77	W93110271	DARK	9.31			
W9311	N07P	25-AUG-93	0758	16.77	W93110271	DARK	9.29			
W9311	N07P	25-AUG-93	0758	16.77	W93110271	INIT	9.36			
W9311	N07P	25-AUG-93	0758	16.77	W93110271	INIT	9.32			
W9311	N07P	25-AUG-93	0758	16.77	W93110271	INIT	9.39			
W9311	N07P	25-AUG-93	0755	41.93	W93110269			-0.00454	8.0	9.0
W9311	N07P	25-AUG-93	0755	41.93	W93110269	DARK	9.20			
W9311	N07P	25-AUG-93	0755	41.93	W93110269	DARK	9.25			
W9311	N07P	25-AUG-93	0755	41.93	W93110269	DARK	9.03			
W9311	N07P	25-AUG-93	0755	41.93	W93110269	INIT	9.22			
W9311	N07P	25-AUG-93	0755	41.93	W93110269	INIT	9.15			
W9311	N07P	25-AUG-93	0755	41.93	W93110269	INIT	9.22			
W9311	N10P	24-AUG-93	0920	0.76	W93110091			-0.03417	8.0	AMBIENT
W9311	N10P	24-AUG-93	0920	0.76	W93110091	DARK	8.82			
W9311	N10P	24-AUG-93	0920	0.76	W93110091	DARK	8.88			
W9311	N10P	24-AUG-93	0920	0.76	W93110091	DARK	8.93			
W9311	N10P	24-AUG-93	0920	0.76	W93110091	INIT	9.17			
W9311	N10P	24-AUG-93	0920	0.76	W93110091	INIT	9.09			
W9311	N10P	24-AUG-93	0920	0.76	W93110091	INIT	9.19			
W9311	N10P	24-AUG-93	0917	16.17	W93110088			-0.00896	8.0	13.0
W9311	N10P	24-AUG-93	0917	16.17	W93110088	DARK	8.42			
W9311	N10P	24-AUG-93	0917	16.17	W93110088	DARK	8.48			
W9311	N10P	24-AUG-93	0917	16.17	W93110088	DARK	8.48			
W9311	N10P	24-AUG-93	0917	16.17	W93110088	INIT	8.58			
W9311	N10P	24-AUG-93	0917	16.17	W93110088	INIT	8.56			
W9311	N10P	24-AUG-93	0917	16.17	W93110088	INIT	8.46			
W9311	N10P	24-AUG-93	0915	22.48	W93110087			0.00333	8.0	9.0
W9311	N10P	24-AUG-93	0915	22.48	W93110087	DARK	8.96			
W9311	N10P	24-AUG-93	0915	22.48	W93110087	DARK	9.04			
W9311	N10P	24-AUG-93	0915	22.48	W93110087	DARK	8.94			
W9311	N10P	24-AUG-93	0915	22.48	W93110087	INIT	8.95			
W9311	N10P	24-AUG-93	0915	22.48	W93110087	INIT	8.96			
W9311	N10P	24-AUG-93	0915	22.48	W93110087	INIT	8.95			
W9311	N16P	24-AUG-93	0814	1.59	W93110072			-0.01783	8.0	AMBIENT
W9311	N16P	24-AUG-93	0814	1.59	W93110072	DARK	9.57			
W9311	N16P	24-AUG-93	0814	1.59	W93110072	DARK	9.58			
W9311	N16P	24-AUG-93	0814	1.59	W93110072	DARK	9.56			
W9311	N16P	24-AUG-93	0814	1.59	W93110072	INIT	9.76			
W9311	N16P	24-AUG-93	0814	1.59	W93110072	INIT	9.66			
W9311	N16P	24-AUG-93	0814	1.59	W93110072	INIT	9.71			
W9311	N16P	24-AUG-93	0812	9.63	W93110070			-0.02700	8.0	13.0
W9311	N16P	24-AUG-93	0812	9.63	W93110070	DARK	8.41			
W9311	N16P	24-AUG-93	0812	9.63	W93110070	DARK	8.77			
W9311	N16P	24-AUG-93	0812	9.63	W93110070	DARK	8.73			
W9311	N16P	24-AUG-93	0812	9.63	W93110070	INIT	8.84			

Table E3-1. Dark Respiration at Bioproductivity Stations in August 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)
W9311	N16P	24-AUG-93	0812	9.63	W93110070	INIT	8.84			
W9311	N16P	24-AUG-93	0812	9.63	W93110070	INIT	8.87			
W9311	N16P	24-AUG-93	0808	39.49	W93110068			-0.00375	8.0	9.0
W9311	N16P	24-AUG-93	0808	39.49	W93110068	DARK	9.15			
W9311	N16P	24-AUG-93	0808	39.49	W93110068	DARK	9.24			
W9311	N16P	24-AUG-93	0808	39.49	W93110068	DARK	9.23			
W9311	N16P	24-AUG-93	0808	39.49	W93110068	INIT	9.20			
W9311	N16P	24-AUG-93	0808	39.49	W93110068	INIT	9.28			
W9311	N16P	24-AUG-93	0808	39.49	W93110068	INIT	9.24			
W9311	N20P	24-AUG-93	0729	0.94	W93110056			-0.01654	8.0	AMBIENT
W9311	N20P	24-AUG-93	0729	0.94	W93110056	DARK	8.67			
W9311	N20P	24-AUG-93	0729	0.94	W93110056	DARK	8.76			
W9311	N20P	24-AUG-93	0729	0.94	W93110056	DARK	8.76			
W9311	N20P	24-AUG-93	0729	0.94	W93110056	INIT	8.86			
W9311	N20P	24-AUG-93	0729	0.94	W93110056	INIT	8.85			
W9311	N20P	24-AUG-93	0729	0.94	W93110056	INIT	8.87			
W9311	N20P	24-AUG-93	0727	9.76	W93110054			-0.01308	8.0	12.0
W9311	N20P	24-AUG-93	0727	9.76	W93110054	DARK	9.15			
W9311	N20P	24-AUG-93	0727	9.76	W93110054	DARK	9.12			
W9311	N20P	24-AUG-93	0727	9.76	W93110054	DARK	9.08			
W9311	N20P	24-AUG-93	0727	9.76	W93110054	INIT	9.27			
W9311	N20P	24-AUG-93	0727	9.76	W93110054	INIT	9.25			
W9311	N20P	24-AUG-93	0727	9.76	W93110054	INIT	9.15			
W9311	N20P	24-AUG-93	0722	26.96	W93110052			-0.01129	8.0	9.5
W9311	N20P	24-AUG-93	0722	26.96	W93110052	DARK	9.05			
W9311	N20P	24-AUG-93	0722	26.96	W93110052	DARK	9.10			
W9311	N20P	24-AUG-93	0722	26.96	W93110052	DARK	9.10			
W9311	N20P	24-AUG-93	0722	26.96	W93110052	INIT	9.16			
W9311	N20P	24-AUG-93	0722	26.96	W93110052	INIT	9.13			
W9311	N20P	24-AUG-93	0722	26.96	W93110052	INIT	9.22			

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

RESPIRATION CRUISE 9311

STATION	DEPTH	INITIAL	DARK	p
F13P	BOT	8.718(0.011)	8.673(0.050)	0.20
	CHL	9.183(0.035)	9.135(0.079)	0.39
	SUR	8.953(0.023)	8.806(0.045)	0.01
F1P	BOT	9.370(0.213)	9.341(0.016)	0.83
	CHL	9.861(0.026)	9.737(0.115)	0.14
	SUR	8.490(0.030)	8.384(0.054)	0.04
F23P	BOT	8.691(0.044)	8.391(0.074)	0.01
	CHL	8.623(0.019)	8.323(0.034)	0.01
	SUR	9.057(0.006)	8.776(0.041)	0.01
F2P	BOT	8.673(0.033)	8.498(0.015)	0.01
	CHL	9.103(0.015)	9.039(0.044)	0.08
	SUR	8.690(0.061)	8.598(0.030)	0.08
N10P	BOT	8.953(0.002)	8.980(0.054)	0.44
	CHL	8.531(0.067)	8.460(0.031)	0.17
	SUR	9.151(0.053)	8.877(0.055)	0.01
N16P	BOT	9.238(0.038)	9.230(0.047)	0.44
	CHL	8.851(0.016)	8.635(0.197)	0.19
	SUR	9.710(0.048)	9.567(0.009)	0.01
N1P	BOT	9.110(0.028)	9.031(0.037)	0.05
	CHL	9.455(0.032)	9.332(0.026)	0.01
	SUR	9.250(0.136)	9.135(0.056)	0.25
N20P	BOT	9.171(0.046)	9.081(0.030)	0.05
	CHL	9.221(0.059)	9.116(0.034)	0.06
	SUR	8.859(0.011)	8.726(0.049)	0.01
N4P	BOT	8.962(0.009)	8.939(0.035)	0.33
	CHL	9.449(0.049)	9.200(0.090)	0.01
	SUR	9.484(0.054)	9.258(0.054)	0.01
N7P	BOT	9.196(0.038)	9.159(0.112)	0.64
	CHL	9.355(0.034)	9.292(0.017)	0.05
	SUR	9.053(0.054)	8.839(0.141)	0.07

APPENDIX F

PHYTOPLANKTON SPECIES DATA TABLES

A complete listing, by survey, is given for taxonomic analyses of whole-water samples analyzed for W9310, W9311, W9312, and W9313 (Table F-1).

Table F1. Phytoplankton Species Data for August and September 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93100012	N10P	08-11-93	06:30	1.84	AMPHIDINIUM SPP.	.002
W93100012	N10P	08-11-93	06:30	1.84	CERATAULINA PELAGICA	.02
W93100012	N10P	08-11-93	06:30	1.84	CHAETOCEROS AFFINIS	.004
W93100012	N10P	08-11-93	06:30	1.84	CHAETOCEROS COMPRESSUS	.035
W93100012	N10P	08-11-93	06:30	1.84	CHAETOCEROS CORONATUS	.002
W93100012	N10P	08-11-93	06:30	1.84	CHAETOCEROS DIDYMUS	.028
W93100012	N10P	08-11-93	06:30	1.84	CHAETOCEROS SPP. (10-20UM)	.043
W93100012	N10P	08-11-93	06:30	1.84	CHAETOCEROS SPP.(<10UM)	.013
W93100012	N10P	08-11-93	06:30	1.84	COCCONEIS SCUTELLUM	.002
W93100012	N10P	08-11-93	06:30	1.84	CRYPTOMONADS	.052
W93100012	N10P	08-11-93	06:30	1.84	CYLINDROTHECA CLOSTERIUM	.011
W93100012	N10P	08-11-93	06:30	1.84	EUTREPTIA/EUTREPTIELLA SPP.	.037
W93100012	N10P	08-11-93	06:30	1.84	GYRODINIUM SPIRALE	.002
W93100012	N10P	08-11-93	06:30	1.84	HETEROCAPSA TRIQUETRA	.006
W93100012	N10P	08-11-93	06:30	1.84	LEPTOCYLINDRUS DANICUS	.017
W93100012	N10P	08-11-93	06:30	1.84	LICMOPHORA SPP.	.006
W93100012	N10P	08-11-93	06:30	1.84	MICROFLAGELLATES	.661
W93100012	N10P	08-11-93	06:30	1.84	NAVICULOID DIATOMS	.004
W93100012	N10P	08-11-93	06:30	1.84	NITZSCHIA SPP.	.041
W93100012	N10P	08-11-93	06:30	1.84	PROROCENTRUM MICANS	.004
W93100012	N10P	08-11-93	06:30	1.84	PROROCENTRUM MINIMUM	.004
W93100012	N10P	08-11-93	06:30	1.84	RHIZOSOLENIA DELICATULA	.078
W93100012	N10P	08-11-93	06:30	1.84	SKELETONEMA COSTATUM	.007
W93100012	N10P	08-11-93	06:30	1.84	UNID. CENTRALES	.002
W93100012	N10P	08-11-93	06:30	1.84	UNID. DINOFLAGELLATES	.004
W93110054	N20P	08-24-93	07:27	10.68	ALEXANDRIUM TAMARENSE	.002
W93110054	N20P	08-24-93	07:27	10.68	AMPHIDINIUM SPP.	.003
W93110054	N20P	08-24-93	07:27	10.68	ASTERIONELLOPSIS GLACIALIS	.002
W93110054	N20P	08-24-93	07:27	10.68	CERATAULINA PELAGICA	.125
W93110054	N20P	08-24-93	07:27	10.68	CERATIUM FUSUS	.002
W93110054	N20P	08-24-93	07:27	10.68	CHAETOCEROS DIDYMUS	.003
W93110054	N20P	08-24-93	07:27	10.68	CHAETOCEROS SPP. (10-20UM)	.005
W93110054	N20P	08-24-93	07:27	10.68	CHAETOCEROS SPP.(<10UM)	.011
W93110054	N20P	08-24-93	07:27	10.68	CRYPTOMONADS	.066
W93110054	N20P	08-24-93	07:27	10.68	DICTYOCHA SPECULUM	.013
W93110054	N20P	08-24-93	07:27	10.68	EBRIA TRIPARTITIA	.015
W93110054	N20P	08-24-93	07:27	10.68	EUCAMPIA ZODIACUS	.002
W93110054	N20P	08-24-93	07:27	10.68	EUTREPTIA/EUTREPTIELLA SPP.	.002
W93110054	N20P	08-24-93	07:27	10.68	GYMNODINIUM SPP.	.003
W93110054	N20P	08-24-93	07:27	10.68	HETEROSIGMA AKASHIWO	.005
W93110054	N20P	08-24-93	07:27	10.68	LEPTOCYLINDRUS DANICUS	.011
W93110054	N20P	08-24-93	07:27	10.68	MESODINIUM RUBRUM	.003
W93110054	N20P	08-24-93	07:27	10.68	MICROFLAGELLATES	.505
W93110054	N20P	08-24-93	07:27	10.68	NITZSCHIA SPP.	.006
W93110054	N20P	08-24-93	07:27	10.68	PROROCENTRUM MICANS	.01
W93110054	N20P	08-24-93	07:27	10.68	PROROCENTRUM MINIMUM	.006
W93110054	N20P	08-24-93	07:27	10.68	PYRAMIMONAS/TETRASELMIS SPP.	.029
W93110054	N20P	08-24-93	07:27	10.68	RHIZOSOLENIA DELICATULA	.055
W93110054	N20P	08-24-93	07:27	10.68	UNID. ATHECATE DINOFLAGELLATE	.01
W93110054	N20P	08-24-93	07:27	10.68	UNID. CENTRALES	.003
W93110056	N20P	08-24-93	07:29	1.78	CERATAULINA PELAGICA	.383
W93110056	N20P	08-24-93	07:29	1.78	CHAETOCEROS SPP. (10-20UM)	.007
W93110056	N20P	08-24-93	07:29	1.78	CRYPTOMONADS	.057
W93110056	N20P	08-24-93	07:29	1.78	CYLINDROTHECA CLOSTERIUM	.002
W93110056	N20P	08-24-93	07:29	1.78	EBRIA TRIPARTITIA	.005
W93110056	N20P	08-24-93	07:29	1.78	EUTREPTIA/EUTREPTIELLA SPP.	.005
W93110056	N20P	08-24-93	07:29	1.78	GYMNODINIUM SPP.	.037
W93110056	N20P	08-24-93	07:29	1.78	LEPTOCYLINDRUS DANICUS	.032
W93110056	N20P	08-24-93	07:29	1.78	MICROFLAGELLATES	.401
W93110056	N20P	08-24-93	07:29	1.78	NITZSCHIA SPP.	.002
W93110056	N20P	08-24-93	07:29	1.78	PROROCENTRUM MINIMUM	.002
W93110056	N20P	08-24-93	07:29	1.78	PYRAMIMONAS/TETRASELMIS SPP.	.005

Table F1. Phytoplankton Species Data for August and September 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93110056	N20P	08-24-93	07:29	1.78	RHIZOSOLENIA DELICATULA	.016
W93110056	N20P	08-24-93	07:29	1.78	UNID. ATHECATE DINOFLAGELLATE	.025
W93110070	N16P	08-24-93	08:12	10.59	CERATAULINA PELAGICA	.407
W93110070	N16P	08-24-93	08:12	10.59	CERATIUM LONGIPES	.002
W93110070	N16P	08-24-93	08:12	10.59	CHAETOCEROS DIDYMUS	.027
W93110070	N16P	08-24-93	08:12	10.59	CHAETOCEROS SPP. (10-20UM)	.017
W93110070	N16P	08-24-93	08:12	10.59	CHAETOCEROS SPP.(<10UM)	.01
W93110070	N16P	08-24-93	08:12	10.59	CRYPTOMONADS	.079
W93110070	N16P	08-24-93	08:12	10.59	CYLINDROTHECA CLOSTERIUM	.02
W93110070	N16P	08-24-93	08:12	10.59	DICTYOCHA SPECULUM	.002
W93110070	N16P	08-24-93	08:12	10.59	EBRIA TRIPARTITIA	.005
W93110070	N16P	08-24-93	08:12	10.59	EUTREPTIA/EUTREPTIELLA SPP.	.002
W93110070	N16P	08-24-93	08:12	10.59	LEPTOCYLINDRUS DANICUS	.127
W93110070	N16P	08-24-93	08:12	10.59	MICROFLAGELLATES	.509
W93110070	N16P	08-24-93	08:12	10.59	NAVICULOID DIATOMS	.005
W93110070	N16P	08-24-93	08:12	10.59	NITZSCHIA SPP.	.01
W93110070	N16P	08-24-93	08:12	10.59	PROROCENTRUM MICANS	.022
W93110070	N16P	08-24-93	08:12	10.59	PROROCENTRUM MINIMUM	.01
W93110070	N16P	08-24-93	08:12	10.59	PROTOPERIDINIUM DEPRESSUM	.002
W93110070	N16P	08-24-93	08:12	10.59	PYRAMIMONAS/TETRASELMIS SPP.	.01
W93110070	N16P	08-24-93	08:12	10.59	RHIZOSOLENIA DELICATULA	.132
W93110070	N16P	08-24-93	08:12	10.59	SCRIPPSIELLA TROCHOIDEA	.002
W93110070	N16P	08-24-93	08:12	10.59	SKELETONEMA COSTATUM	.01
W93110070	N16P	08-24-93	08:12	10.59	UNID. ATHECATE DINOFLAGELLATE	.025
W93110070	N16P	08-24-93	08:12	10.59	UNID. CENTRALES	.017
W93110072	N16P	08-24-93	08:14	1.6	CERATAULINA PELAGICA	.317
W93110072	N16P	08-24-93	08:14	1.6	CHAETOCEROS DIDYMUS	.014
W93110072	N16P	08-24-93	08:14	1.6	CHAETOCEROS SPP. (10-20UM)	.007
W93110072	N16P	08-24-93	08:14	1.6	CHAETOCEROS SPP.(<10UM)	.014
W93110072	N16P	08-24-93	08:14	1.6	CRYPTOMONADS	.079
W93110072	N16P	08-24-93	08:14	1.6	CYLINDROTHECA CLOSTERIUM	.003
W93110072	N16P	08-24-93	08:14	1.6	EUTREPTIA/EUTREPTIELLA SPP.	.014
W93110072	N16P	08-24-93	08:14	1.6	GYMNODINIUM SPP.	.014
W93110072	N16P	08-24-93	08:14	1.6	GYRODINIUM SPP.	.003
W93110072	N16P	08-24-93	08:14	1.6	LEPTOCYLINDRUS DANICUS	.241
W93110072	N16P	08-24-93	08:14	1.6	MICROFLAGELLATES	.72
W93110072	N16P	08-24-93	08:14	1.6	NITZSCHIA SPP.	.01
W93110072	N16P	08-24-93	08:14	1.6	PROROCENTRUM MICANS	.014
W93110072	N16P	08-24-93	08:14	1.6	PYRAMIMONAS/TETRASELMIS SPP.	.003
W93110072	N16P	08-24-93	08:14	1.6	RHIZOSOLENIA DELICATULA	.582
W93110072	N16P	08-24-93	08:14	1.6	THALASSIOSIRA SPP.	.003
W93110072	N16P	08-24-93	08:14	1.6	UNID. ATHECATE DINOFLAGELLATE	.003
W93110088	N10P	08-24-93	09:17	17.03	AMPHIDINIUM SPP.	.009
W93110088	N10P	08-24-93	09:17	17.03	CERATAULINA PELAGICA	.581
W93110088	N10P	08-24-93	09:17	17.03	CHAETOCEROS DIDYMUS	.057
W93110088	N10P	08-24-93	09:17	17.03	CHAETOCEROS SPP. (10-20UM)	.009
W93110088	N10P	08-24-93	09:17	17.03	CHAETOCEROS SPP.(<10UM)	.009
W93110088	N10P	08-24-93	09:17	17.03	CRYPTOMONADS	.044
W93110088	N10P	08-24-93	09:17	17.03	CYLINDROTHECA CLOSTERIUM	.057
W93110088	N10P	08-24-93	09:17	17.03	GYRODINIUM SPP.	.004
W93110088	N10P	08-24-93	09:17	17.03	HETEROSIGMA AKASHIWO	.031
W93110088	N10P	08-24-93	09:17	17.03	LEPTOCYLINDRUS DANICUS	.062
W93110088	N10P	08-24-93	09:17	17.03	LICMOPHORA SPP.	.004
W93110088	N10P	08-24-93	09:17	17.03	MICROFLAGELLATES	.673
W93110088	N10P	08-24-93	09:17	17.03	NAVICULOID DIATOMS	.009
W93110088	N10P	08-24-93	09:17	17.03	NITZSCHIA SPP.	.004
W93110088	N10P	08-24-93	09:17	17.03	PROROCENTRUM MINIMUM	.004
W93110088	N10P	08-24-93	09:17	17.03	RHIZOSOLENIA DELICATULA	.664
W93110088	N10P	08-24-93	09:17	17.03	SKELETONEMA COSTATUM	.009
W93110088	N10P	08-24-93	09:17	17.03	UNID. ATHECATE DINOFLAGELLATE	.013
W93110088	N10P	08-24-93	09:17	17.03	UNID. CENTRALES	.013
W93110091	N10P	08-24-93	09:20	1.58	AMPHIDINIUM SPP.	.004

Table F1. Phytoplankton Species Data for August and September 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93110091	N10P	08-24-93	09:20	1.58	CERATAULINA PELAGICA	.387
W93110091	N10P	08-24-93	09:20	1.58	CHAETOCEROS DIDYMUS	.029
W93110091	N10P	08-24-93	09:20	1.58	CHAETOCEROS SPP. (10-20UM)	.008
W93110091	N10P	08-24-93	09:20	1.58	CHAETOCEROS SPP.(<10UM)	.012
W93110091	N10P	08-24-93	09:20	1.58	COCCONEIS SCUTELLUM	.004
W93110091	N10P	08-24-93	09:20	1.58	CRYPTOMONADS	.074
W93110091	N10P	08-24-93	09:20	1.58	CYLINDROTHECA CLOSTERIUM	.037
W93110091	N10P	08-24-93	09:20	1.58	EUCAMPIA ZODIACUS	.004
W93110091	N10P	08-24-93	09:20	1.58	EUTREPTIA/EUTREPTIELLA SPP.	.012
W93110091	N10P	08-24-93	09:20	1.58	HETEROSIGMA AKASHIWO	.004
W93110091	N10P	08-24-93	09:20	1.58	LEPTOCYLINDRUS DANICUS	.128
W93110091	N10P	08-24-93	09:20	1.58	LITHODESMIUM (cf) UNDULATUM	.004
W93110091	N10P	08-24-93	09:20	1.58	MESODINIUM RUBRUM	.012
W93110091	N10P	08-24-93	09:20	1.58	MICROFLAGELLATES	.766
W93110091	N10P	08-24-93	09:20	1.58	NITZSCHIA SPP.	.012
W93110091	N10P	08-24-93	09:20	1.58	PROROCENTRUM MICANS	.016
W93110091	N10P	08-24-93	09:20	1.58	PROROCENTRUM MINIMUM	.004
W93110091	N10P	08-24-93	09:20	1.58	PYRAMIMONAS/TETRASELMIS SPP.	.012
W93110091	N10P	08-24-93	09:20	1.58	RHIZOSOLENIA DELICATULA	.642
W93110091	N10P	08-24-93	09:20	1.58	SKELETONEMA COSTATUM	.008
W93110091	N10P	08-24-93	09:20	1.58	UNID. ATHECATE DINOFLAGELLATE	.008
W93110091	N10P	08-24-93	09:20	1.58	UNID. CENTRALES	.008
W93110241	N01P	08-25-93	05:47	4.18	AMPHIDINIUM SPP.	.003
W93110241	N01P	08-25-93	05:47	4.18	CERATAULINA PELAGICA	.472
W93110241	N01P	08-25-93	05:47	4.18	CHAETOCEROS SPP. (10-20UM)	.006
W93110241	N01P	08-25-93	05:47	4.18	CRYPTOMONADS	.074
W93110241	N01P	08-25-93	05:47	4.18	CYLINDROTHECA CLOSTERIUM	.01
W93110241	N01P	08-25-93	05:47	4.18	EBRIA TRIPARTITIA	.01
W93110241	N01P	08-25-93	05:47	4.18	EUCAMPIA ZODIACUS	.003
W93110241	N01P	08-25-93	05:47	4.18	EUTREPTIA/EUTREPTIELLA SPP.	.003
W93110241	N01P	08-25-93	05:47	4.18	HETEROSIGMA AKASHIWO	.01
W93110241	N01P	08-25-93	05:47	4.18	LEPTOCYLINDRUS DANICUS	.107
W93110241	N01P	08-25-93	05:47	4.18	MICROFLAGELLATES	.653
W93110241	N01P	08-25-93	05:47	4.18	NAVICULOID DIATOMS	.006
W93110241	N01P	08-25-93	05:47	4.18	NITZSCHIA SPP.	.013
W93110241	N01P	08-25-93	05:47	4.18	PROROCENTRUM MICANS	.01
W93110241	N01P	08-25-93	05:47	4.18	PROROCENTRUM MINIMUM	.006
W93110241	N01P	08-25-93	05:47	4.18	PROTOPERIDINIUM SPP.	.003
W93110241	N01P	08-25-93	05:47	4.18	PYRAMIMONAS/TETRASELMIS SPP.	.006
W93110241	N01P	08-25-93	05:47	4.18	RHIZOSOLENIA DELICATULA	.327
W93110241	N01P	08-25-93	05:47	4.18	SCRIPPSIELLA TROCHOIDEA	.003
W93110241	N01P	08-25-93	05:47	4.18	UNID. CENTRALES	.003
W93110241	N01P	08-25-93	05:47	4.18	UNID. NAKED DINOFLAGELLATE	.016
W93110242	N01P	08-25-93	05:48	1.58	AMPHIDINIUM SPP.	.004
W93110242	N01P	08-25-93	05:48	1.58	CERATAULINA PELAGICA	.413
W93110242	N01P	08-25-93	05:48	1.58	CHAETOCEROS DIDYMUS	.004
W93110242	N01P	08-25-93	05:48	1.58	CHAETOCEROS SPP. (10-20UM)	.008
W93110242	N01P	08-25-93	05:48	1.58	CRYPTOMONADS	.051
W93110242	N01P	08-25-93	05:48	1.58	CYLINDROTHECA CLOSTERIUM	.031
W93110242	N01P	08-25-93	05:48	1.58	GYMNODINIUM SPP.	.008
W93110242	N01P	08-25-93	05:48	1.58	GYRODINIUM SPP.	.012
W93110242	N01P	08-25-93	05:48	1.58	LEPTOCYLINDRUS DANICUS	.236
W93110242	N01P	08-25-93	05:48	1.58	MICROFLAGELLATES	1.027
W93110242	N01P	08-25-93	05:48	1.58	NITZSCHIA SPP.	.016
W93110242	N01P	08-25-93	05:48	1.58	PROROCENTRUM MINIMUM	.008
W93110242	N01P	08-25-93	05:48	1.58	PYRAMIMONAS/TETRASELMIS SPP.	.008
W93110242	N01P	08-25-93	05:48	1.58	RHIZOSOLENIA DELICATULA	.173
W93110242	N01P	08-25-93	05:48	1.58	UNID. CENTRALES	.008
W93110255	N04P	08-25-93	06:56	13.47	CERATAULINA PELAGICA	.236
W93110255	N04P	08-25-93	06:56	13.47	CERATIUM FUSUS	.003
W93110255	N04P	08-25-93	06:56	13.47	CERATIUM LONGIPES	.009
W93110255	N04P	08-25-93	06:56	13.47	CHAETOCEROS DIDYMUS	.009

Table F1. Phytoplankton Species Data for August and September 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93110255	N04P	08-25-93	06:56	13.47	CHAETOCEROS SPP. (10-20UM)	.009
W93110255	N04P	08-25-93	06:56	13.47	CRYPTOMONADS	.093
W93110255	N04P	08-25-93	06:56	13.47	CYLINDROTHECA CLOSTERIUM	.012
W93110255	N04P	08-25-93	06:56	13.47	DINOPHYSIS NORVEGICA	.003
W93110255	N04P	08-25-93	06:56	13.47	EBRIA TRIPARTITIA	.006
W93110255	N04P	08-25-93	06:56	13.47	EUTREPTIA/EUTREPTIELLA SPP.	.006
W93110255	N04P	08-25-93	06:56	13.47	GYMNODINIUM SPP.	.006
W93110255	N04P	08-25-93	06:56	13.47	LEPTOCYLINDRUS DANICUS	.023
W93110255	N04P	08-25-93	06:56	13.47	MICROFLAGELLATES	1.004
W93110255	N04P	08-25-93	06:56	13.47	PROROCENTRUM MICANS	.003
W93110255	N04P	08-25-93	06:56	13.47	PROROCENTRUM MINIMUM	.006
W93110255	N04P	08-25-93	06:56	13.47	PROROCENTRUM TRIESTINUM	.003
W93110255	N04P	08-25-93	06:56	13.47	RHIZOSOLENIA DELICATULA	.105
W93110255	N04P	08-25-93	06:56	13.47	UNID. ATHECATE DINOFLAGELLATE	.009
W93110255	N04P	08-25-93	06:56	13.47	UNID. CENTRALES	.023
W93110257	N04P	08-25-93	06:58	2.01	AMPHIDINIUM SPP.	.004
W93110257	N04P	08-25-93	06:58	2.01	CERATAULINA PELAGICA	.911
W93110257	N04P	08-25-93	06:58	2.01	CERATIUM FUSUS	.004
W93110257	N04P	08-25-93	06:58	2.01	CHAETOCEROS DIDYMUS	.009
W93110257	N04P	08-25-93	06:58	2.01	CRYPTOMONADS	.039
W93110257	N04P	08-25-93	06:58	2.01	CYLINDROTHECA CLOSTERIUM	.017
W93110257	N04P	08-25-93	06:58	2.01	EBRIA TRIPARTITIA	.009
W93110257	N04P	08-25-93	06:58	2.01	EUTREPTIA/EUTREPTIELLA SPP.	.004
W93110257	N04P	08-25-93	06:58	2.01	GRAMMATOPHORA MARINA	.004
W93110257	N04P	08-25-93	06:58	2.01	GYMNODINIUM SPP.	.03
W93110257	N04P	08-25-93	06:58	2.01	LEPTOCYLINDRUS DANICUS	.18
W93110257	N04P	08-25-93	06:58	2.01	MICROFLAGELLATES	.834
W93110257	N04P	08-25-93	06:58	2.01	NITZSCHIA SPP.	.013
W93110257	N04P	08-25-93	06:58	2.01	PROROCENTRUM MICANS	.004
W93110257	N04P	08-25-93	06:58	2.01	PROROCENTRUM MINIMUM	.009
W93110257	N04P	08-25-93	06:58	2.01	RHIZOSOLENIA DELICATULA	.107
W93110257	N04P	08-25-93	06:58	2.01	SCRIPPSIELLA TROCHOIDEA	.009
W93110257	N04P	08-25-93	06:58	2.01	UNID. ATHECATE DINOFLAGELLATE	.009
W93110272	N07P	08-25-93	07:59	8.9	CERATAULINA PELAGICA	.188
W93110272	N07P	08-25-93	07:59	8.9	CRYPTOMONADS	.026
W93110272	N07P	08-25-93	07:59	8.9	CYLINDROTHECA CLOSTERIUM	.006
W93110272	N07P	08-25-93	07:59	8.9	LEPTOCYLINDRUS DANICUS	.014
W93110272	N07P	08-25-93	07:59	8.9	MICROFLAGELLATES	.619
W93110272	N07P	08-25-93	07:59	8.9	NAVICULOID DIATOMS	.002
W93110272	N07P	08-25-93	07:59	8.9	PROROCENTRUM MICANS	.004
W93110272	N07P	08-25-93	07:59	8.9	PROROCENTRUM MINIMUM	.002
W93110272	N07P	08-25-93	07:59	8.9	RHIZOSOLENIA DELICATULA	.024
W93110273	N07P	08-25-93	08:00	1.67	AMPHIDINIUM SPP.	.002
W93110273	N07P	08-25-93	08:00	1.67	CERATAULINA PELAGICA	.12
W93110273	N07P	08-25-93	08:00	1.67	CHAETOCEROS DIDYMUS	.002
W93110273	N07P	08-25-93	08:00	1.67	CRYPTOMONADS	.067
W93110273	N07P	08-25-93	08:00	1.67	CYLINDROTHECA CLOSTERIUM	.003
W93110273	N07P	08-25-93	08:00	1.67	EUTREPTIA/EUTREPTIELLA SPP.	.002
W93110273	N07P	08-25-93	08:00	1.67	LEPTOCYLINDRUS DANICUS	.02
W93110273	N07P	08-25-93	08:00	1.67	LITHODESMIUM (cf) UNDULATUM	.003
W93110273	N07P	08-25-93	08:00	1.67	MICROFLAGELLATES	.495
W93110273	N07P	08-25-93	08:00	1.67	NAVICULOID DIATOMS	.008
W93110273	N07P	08-25-93	08:00	1.67	NITZSCHIA SPP.	.002
W93110273	N07P	08-25-93	08:00	1.67	PROROCENTRUM MICANS	.003
W93110273	N07P	08-25-93	08:00	1.67	PROROCENTRUM MINIMUM	.002
W93110273	N07P	08-25-93	08:00	1.67	RHIZOSOLENIA DELICATULA	.023
W93110273	N07P	08-25-93	08:00	1.67	UNID. ATHECATE DINOFLAGELLATE	.002
W93110273	N07P	08-25-93	08:00	1.67	UNID. CENTRALES	.01
W93110287	F13P	08-25-93	08:55	11.4	AMPHIDINIUM SPP.	.002
W93110287	F13P	08-25-93	08:55	11.4	CERATAULINA PELAGICA	.052
W93110287	F13P	08-25-93	08:55	11.4	COSCINODISCUS OCULUS-IRIDIS	.002
W93110287	F13P	08-25-93	08:55	11.4	CRYPTOMONADS	.059

Table F1. Phytoplankton Species Data for August and September 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93110287	F13P	08-25-93	08:55	11.4	CYANOPHYCEAE	.009
W93110287	F13P	08-25-93	08:55	11.4	CYLINDROTHECA CLOSTERIUM	.002
W93110287	F13P	08-25-93	08:55	11.4	DICTYOCHA SPECULUM	.005
W93110287	F13P	08-25-93	08:55	11.4	DIPLONEIS CRABRO	.002
W93110287	F13P	08-25-93	08:55	11.4	EBRIA TRIPARTITIA	.012
W93110287	F13P	08-25-93	08:55	11.4	GYMNODINIUM SPP.	.005
W93110287	F13P	08-25-93	08:55	11.4	LEPTOCYLINDRUS DANICUS	.033
W93110287	F13P	08-25-93	08:55	11.4	LITHODESMIUM (cf) UNDULATUM	.005
W93110287	F13P	08-25-93	08:55	11.4	MICROFLAGELLATES	.774
W93110287	F13P	08-25-93	08:55	11.4	PROROCENTRUM MICANS	.002
W93110287	F13P	08-25-93	08:55	11.4	PROROCENTRUM MINIMUM	.002
W93110287	F13P	08-25-93	08:55	11.4	RHIZOSOLENIA DELICATULA	.074
W93110287	F13P	08-25-93	08:55	11.4	UNID. ATHECATE DINOFLAGELLATE	.002
W93110287	F13P	08-25-93	08:55	11.4	UNID. CENTRALES	.002
W93110289	F13P	08-25-93	08:57	1.78	AMPHIDINIUM SPP.	.007
W93110289	F13P	08-25-93	08:57	1.78	CERATAULINA PELAGICA	.196
W93110289	F13P	08-25-93	08:57	1.78	CERATIUM FUSUS	.002
W93110289	F13P	08-25-93	08:57	1.78	CRYPTOMONADS	.051
W93110289	F13P	08-25-93	08:57	1.78	EBRIA TRIPARTITIA	.002
W93110289	F13P	08-25-93	08:57	1.78	GYMNODINIUM SPP.	.002
W93110289	F13P	08-25-93	08:57	1.78	LEPTOCYLINDRUS DANICUS	.031
W93110289	F13P	08-25-93	08:57	1.78	LITHODESMIUM (cf) UNDULATUM	.007
W93110289	F13P	08-25-93	08:57	1.78	MICROFLAGELLATES	.641
W93110289	F13P	08-25-93	08:57	1.78	RHIZOSOLENIA DELICATULA	.073
W93110289	F13P	08-25-93	08:57	1.78	UNID. ATHECATE DINOFLAGELLATE	.004
W93110289	F13P	08-25-93	08:57	1.78	UNID. CENTRALES	.002
W93110399	F02P	08-26-93	07:15	13.6	CERATAULINA PELAGICA	.011
W93110399	F02P	08-26-93	07:15	13.6	CERATIUM LONGIPES	.001
W93110399	F02P	08-26-93	07:15	13.6	CHAETOCEROS SPP. (10-20UM)	.001
W93110399	F02P	08-26-93	07:15	13.6	CRYPTOMONADS	.062
W93110399	F02P	08-26-93	07:15	13.6	CYLINDROTHECA CLOSTERIUM	.008
W93110399	F02P	08-26-93	07:15	13.6	DINOPHYSIS ACUMINATA	.001
W93110399	F02P	08-26-93	07:15	13.6	LEPTOCYLINDRUS DANICUS	.01
W93110399	F02P	08-26-93	07:15	13.6	LICMOPHORA SPP.	.003
W93110399	F02P	08-26-93	07:15	13.6	MICROFLAGELLATES	.524
W93110399	F02P	08-26-93	07:15	13.6	NAVICULOID DIATOMS	.003
W93110399	F02P	08-26-93	07:15	13.6	RHIZOSOLENIA DELICATULA	.003
W93110399	F02P	08-26-93	07:15	13.6	THALASSIONEMA NITZSCHOIDES	.012
W93110399	F02P	08-26-93	07:15	13.6	THALASSIOSIRA SPP.	.003
W93110399	F02P	08-26-93	07:15	13.6	UNID. ATHECATE DINOFLAGELLATE	.003
W93110401	F02P	08-26-93	07:17	1.48	AMPHIDINIUM SPP.	.002
W93110401	F02P	08-26-93	07:17	1.48	CERATAULINA PELAGICA	.01
W93110401	F02P	08-26-93	07:17	1.48	CERATIUM FUSUS	.022
W93110401	F02P	08-26-93	07:17	1.48	CHAETOCEROS SPP. (10-20UM)	.001
W93110401	F02P	08-26-93	07:17	1.48	CRYPTOMONADS	.006
W93110401	F02P	08-26-93	07:17	1.48	CYANOPHYCEAE	.005
W93110401	F02P	08-26-93	07:17	1.48	CYLINDROTHECA CLOSTERIUM	.022
W93110401	F02P	08-26-93	07:17	1.48	EBRIA TRIPARTITIA	.002
W93110401	F02P	08-26-93	07:17	1.48	EUTREPTIA/EUTREPTIELLA SPP.	.002
W93110401	F02P	08-26-93	07:17	1.48	GYMNODINIUM SPP.	.004
W93110401	F02P	08-26-93	07:17	1.48	LEPTOCYLINDRUS DANICUS	.039
W93110401	F02P	08-26-93	07:17	1.48	LICMOPHORA SPP.	.002
W93110401	F02P	08-26-93	07:17	1.48	MICROFLAGELLATES	.493
W93110401	F02P	08-26-93	07:17	1.48	PROBOSCIA (=RHIZOSELENIA) ALATA	.002
W93110401	F02P	08-26-93	07:17	1.48	RHIZOSOLENIA DELICATULA	.018
W93110401	F02P	08-26-93	07:17	1.48	THALASSIONEMA NITZSCHOIDES	.015
W93110401	F02P	08-26-93	07:17	1.48	UNID. ATHECATE DINOFLAGELLATE	.001
W93110401	F02P	08-26-93	07:17	1.48	UNID. CENTRALES	.002
W93110401	F02P	08-26-93	07:17	1.48	UNID. PENNALES	.001
W93110423	F01P	08-26-93	08:59	14.06	AMPHIDINIUM SPP.	.002
W93110423	F01P	08-26-93	08:59	14.06	CERATAULINA PELAGICA	.012
W93110423	F01P	08-26-93	08:59	14.06	CERATIUM FUSUS	.002

Table F1. Phytoplankton Species Data for August and September 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93110423	F01P	08-26-93	08:59	14.06	CERATIUM LONGIPES	.002
W93110423	F01P	08-26-93	08:59	14.06	CRYPTOMONADS	.063
W93110423	F01P	08-26-93	08:59	14.06	CYLINDROTHECA CLOSTERIUM	.01
W93110423	F01P	08-26-93	08:59	14.06	DICTYOCHA SPECULUM	.002
W93110423	F01P	08-26-93	08:59	14.06	GYMNODINIUM SPP.	.002
W93110423	F01P	08-26-93	08:59	14.06	LEPTOCYLINDRUS DANICUS	.002
W93110423	F01P	08-26-93	08:59	14.06	LICMOPHORA SPP.	.014
W93110423	F01P	08-26-93	08:59	14.06	MICROFLAGELLATES	.637
W93110423	F01P	08-26-93	08:59	14.06	THALASSIONEMA NITZSCHOIDES	.005
W93110423	F01P	08-26-93	08:59	14.06	UNID. ATHECATE DINOFLAGELLATE	.002
W93110423	F01P	08-26-93	08:59	14.06	UNID. CENTRALES	.014
W93110425	F01P	08-26-93	09:01	1.6	AMPHIDINIUM SPP.	.001
W93110425	F01P	08-26-93	09:01	1.6	CRYPTOMONADS	.052
W93110425	F01P	08-26-93	09:01	1.6	CYLINDROTHECA CLOSTERIUM	.012
W93110425	F01P	08-26-93	09:01	1.6	GYMNODINIUM SPP.	.001
W93110425	F01P	08-26-93	09:01	1.6	GYRODINIUM SPP.	.001
W93110425	F01P	08-26-93	09:01	1.6	LEPTOCYLINDRUS DANICUS	.021
W93110425	F01P	08-26-93	09:01	1.6	MICROFLAGELLATES	.504
W93110425	F01P	08-26-93	09:01	1.6	NAVICULOID DIATOMS	.005
W93110425	F01P	08-26-93	09:01	1.6	PROBOSCIA (=RHIZOSELENIA) ALATA	.001
W93110425	F01P	08-26-93	09:01	1.6	RHIZOSOLENIA DELICATULA	.005
W93110425	F01P	08-26-93	09:01	1.6	STEPHANOPYXIS PALMERIANA	.009
W93110425	F01P	08-26-93	09:01	1.6	THALASSIONEMA NITZSCHOIDES	.008
W93110425	F01P	08-26-93	09:01	1.6	UNID. ATHECATE DINOFLAGELLATE	.001
W93110425	F01P	08-26-93	09:01	1.6	UNID. CENTRALES	.001
W93110521	F23P	08-27-93	05:48	8.49	ASTERIONELLOPSIS GLACIALIS	.005
W93110521	F23P	08-27-93	05:48	8.49	CERATAULINA PELAGICA	.078
W93110521	F23P	08-27-93	05:48	8.49	CHAETOCEROS DIDYMUS	.005
W93110521	F23P	08-27-93	05:48	8.49	CHAETOCEROS SOCIALIS	.014
W93110521	F23P	08-27-93	05:48	8.49	CHAETOCEROS SPP. (10-20UM)	.014
W93110521	F23P	08-27-93	05:48	8.49	CRYPTOMONADS	.037
W93110521	F23P	08-27-93	05:48	8.49	CYLINDROTHECA CLOSTERIUM	.05
W93110521	F23P	08-27-93	05:48	8.49	DITYLUM BRIGHTWELLII	.005
W93110521	F23P	08-27-93	05:48	8.49	EBRIA TRIPARTITIA	.005
W93110521	F23P	08-27-93	05:48	8.49	LEPTOCYLINDRUS DANICUS	1.228
W93110521	F23P	08-27-93	05:48	8.49	LITHODESMIUM (cf) UNDULATUM	.005
W93110521	F23P	08-27-93	05:48	8.49	MICROFLAGELLATES	1.018
W93110521	F23P	08-27-93	05:48	8.49	NAVICULOID DIATOMS	.018
W93110521	F23P	08-27-93	05:48	8.49	NITZSCHIA SPP.	.005
W93110521	F23P	08-27-93	05:48	8.49	PROROCENTRUM MICANS	.023
W93110521	F23P	08-27-93	05:48	8.49	PROTOPERIDINIUM BIPES	.005
W93110521	F23P	08-27-93	05:48	8.49	RHIZOSOLENIA DELICATULA	.05
W93110521	F23P	08-27-93	05:48	8.49	SKELETONEMA COSTATUM	.105
W93110521	F23P	08-27-93	05:48	8.49	THALASSIOSIRA (cf) GRAVIDA/ROTULA	.018
W93110521	F23P	08-27-93	05:48	8.49	UNID. CENTRALES	.014
W93110521	F23P	08-27-93	05:48	8.49	UNID. DINOFLAGELLATES	.005
W93110523	F23P	08-27-93	05:50	1.65	ASTERIONELLOPSIS GLACIALIS	.007
W93110523	F23P	08-27-93	05:50	1.65	CERATAULINA PELAGICA	.129
W93110523	F23P	08-27-93	05:50	1.65	CHAETOCEROS SPP. (10-20UM)	.007
W93110523	F23P	08-27-93	05:50	1.65	COCCONEIS SCUTELLUM	.007
W93110523	F23P	08-27-93	05:50	1.65	CRYPTOMONADS	.153
W93110523	F23P	08-27-93	05:50	1.65	CYLINDROTHECA CLOSTERIUM	.044
W93110523	F23P	08-27-93	05:50	1.65	EUCAMPIA ZODIACUS	.003
W93110523	F23P	08-27-93	05:50	1.65	EUTREPTIA/EUTREPTIELLA SPP.	.003
W93110523	F23P	08-27-93	05:50	1.65	GRAMMATOPHORA MARINA	.003
W93110523	F23P	08-27-93	05:50	1.65	GYMNODINIUM SPP.	.007
W93110523	F23P	08-27-93	05:50	1.65	LEPTOCYLINDRUS DANICUS	.658
W93110523	F23P	08-27-93	05:50	1.65	MICROFLAGELLATES	.974
W93110523	F23P	08-27-93	05:50	1.65	NAVICULOID DIATOMS	.007
W93110523	F23P	08-27-93	05:50	1.65	NITZSCHIA SPP.	.01
W93110523	F23P	08-27-93	05:50	1.65	PROROCENTRUM MICANS	.003
W93110523	F23P	08-27-93	05:50	1.65	PROROCENTRUM MINIMUM	.007

Table F1. Phytoplankton Species Data for August and September 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93110523	F23P	08-27-93	05:50	1.65	PYRAMIMONAS/TETRASELMIS SPP.	.014
W93110523	F23P	08-27-93	05:50	1.65	RHIZOSOLENIA DELICATULA	.285
W93110523	F23P	08-27-93	05:50	1.65	SKELETONEMA COSTATUM	.007
W93110523	F23P	08-27-93	05:50	1.65	THALASSIOSIRA SPP.	.007
W93110523	F23P	08-27-93	05:50	1.65	UNID. ATHECATE DINOFLAGELLATE	.014
W93110523	F23P	08-27-93	05:50	1.65	UNID. CENTRALES	.003
W93110542	N10P	08-27-93	06:40	1.63	CERATAULINA PELAGICA	.046
W93110542	N10P	08-27-93	06:40	1.63	CERATIUM TRIPOS	.004
W93110542	N10P	08-27-93	06:40	1.63	CHAETOCEROS DIDYMUS	.008
W93110542	N10P	08-27-93	06:40	1.63	CHAETOCEROS SOCIALIS	.011
W93110542	N10P	08-27-93	06:40	1.63	CHAETOCEROS SPP. (10-20UM)	.008
W93110542	N10P	08-27-93	06:40	1.63	CRYPTOMONADS	.072
W93110542	N10P	08-27-93	06:40	1.63	CYLINDROTHECA CLOSTERIUM	.008
W93110542	N10P	08-27-93	06:40	1.63	GLENODINIUM ROTUNDUM	.004
W93110542	N10P	08-27-93	06:40	1.63	GYMNODINIUM SPP.	.011
W93110542	N10P	08-27-93	06:40	1.63	LEPTOCYLINDRUS DANICUS	.482
W93110542	N10P	08-27-93	06:40	1.63	MICROFLAGELLATES	.945
W93110542	N10P	08-27-93	06:40	1.63	NAVICULOID DIATOMS	.004
W93110542	N10P	08-27-93	06:40	1.63	NITZSCHIA SPP.	.004
W93110542	N10P	08-27-93	06:40	1.63	PROBOSCIA (=RHIZOSOLENIA) ALATA	.004
W93110542	N10P	08-27-93	06:40	1.63	PROROCENTRUM MICANS	.004
W93110542	N10P	08-27-93	06:40	1.63	PROROCENTRUM MINIMUM	.015
W93110542	N10P	08-27-93	06:40	1.63	RHIZOSOLENIA DELICATULA	.099
W93110542	N10P	08-27-93	06:40	1.63	UNID. DINOFLAGELLATES	.004
W93120200	N10P	09-09-93	06:46	1.45	ASTERIONELLOPSIS GLACIALIS	.105
W93120200	N10P	09-09-93	06:46	1.45	CERATAULINA PELAGICA	.049
W93120200	N10P	09-09-93	06:46	1.45	CHAETOCEROS DEBILIS	.012
W93120200	N10P	09-09-93	06:46	1.45	CHAETOCEROS DIDYMUS	.252
W93120200	N10P	09-09-93	06:46	1.45	CHAETOCEROS SPP. (10-20UM)	.055
W93120200	N10P	09-09-93	06:46	1.45	CHAETOCEROS SPP.(<10UM)	.049
W93120200	N10P	09-09-93	06:46	1.45	CRYPTOMONADS	.031
W93120200	N10P	09-09-93	06:46	1.45	CYLINDROTHECA CLOSTERIUM	.074
W93120200	N10P	09-09-93	06:46	1.45	DIPLOPSALIS SPP.	.025
W93120200	N10P	09-09-93	06:46	1.45	EUCAMPIA ZODIACUS	.006
W93120200	N10P	09-09-93	06:46	1.45	GONYAULAX SPINIFERA	.049
W93120200	N10P	09-09-93	06:46	1.45	GYMNODINIUM SPP.	.018
W93120200	N10P	09-09-93	06:46	1.45	LEPTOCYLINDRUS DANICUS	1.139
W93120200	N10P	09-09-93	06:46	1.45	MICROFLAGELLATES	.85
W93120200	N10P	09-09-93	06:46	1.45	NITZSCHIA (CF) DELICATISSIMA	.012
W93120200	N10P	09-09-93	06:46	1.45	NITZSCHIA SPP.	.191
W93120200	N10P	09-09-93	06:46	1.45	PROROCENTRUM MINIMUM	.006
W93120200	N10P	09-09-93	06:46	1.45	RHIZOSOLENIA DELICATULA	.043
W93120200	N10P	09-09-93	06:46	1.45	SKELETONEMA COSTATUM	.739
W93120200	N10P	09-09-93	06:46	1.45	THALASSIOSIRA SPP.	.037
W93120200	N10P	09-09-93	06:46	1.45	UNID. CENTRALES	.012
W93130198	N10P	09-29-93	07:01	1.94	ASTERIONELLOPSIS GLACIALIS	2.005
W93130198	N10P	09-29-93	07:01	1.94	CERATIUM TRIPOS	.005
W93130198	N10P	09-29-93	07:01	1.94	CHAETOCEROS COMPRESSUS	.019
W93130198	N10P	09-29-93	07:01	1.94	CHAETOCEROS DEBILIS	.014
W93130198	N10P	09-29-93	07:01	1.94	CHAETOCEROS DIDYMUS	.005
W93130198	N10P	09-29-93	07:01	1.94	CHAETOCEROS SPP. (10-20UM)	.048
W93130198	N10P	09-29-93	07:01	1.94	CHAETOCEROS SPP.(<10UM)	.033
W93130198	N10P	09-29-93	07:01	1.94	CRYPTOMONADS	.076
W93130198	N10P	09-29-93	07:01	1.94	CYLINDROTHECA CLOSTERIUM	.038
W93130198	N10P	09-29-93	07:01	1.94	DICTYOCHA SPECULUM	.005
W93130198	N10P	09-29-93	07:01	1.94	EUTREPTIA/EUTREPTIELLA SPP.	.005
W93130198	N10P	09-29-93	07:01	1.94	GYRODINIUM SPIRALE	.005
W93130198	N10P	09-29-93	07:01	1.94	LEPTOCYLINDRUS DANICUS	.153
W93130198	N10P	09-29-93	07:01	1.94	LITHODESMIUM (cf) UNDULATUM	.005
W93130198	N10P	09-29-93	07:01	1.94	MICROFLAGELLATES	.778
W93130198	N10P	09-29-93	07:01	1.94	NITZSCHIA SPP.	.033
W93130198	N10P	09-29-93	07:01	1.94	PROTOPERIDINIUM BIPES	.005

Table F1. Phytoplankton Species Data for August and September 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93130198	N10P	09-29-93	07:01	1.94	RHIZOSOLENIA DELICATULA	.033
W93130198	N10P	09-29-93	07:01	1.94	SKELETONEMA COSTATUM	.477

APPENDIX G

ZOOPLANKTON SPECIES DATA TABLES

A complete listing for survey W9311 is given for taxonomic analyses of zooplankton net tow samples (Table G-1).

Table G1. Zooplankton Species Data for August 1993.

Event	Station	Date	Time	Taxon	Qual[1]	Individuals Per M3
W93110059	N20P	08-24-93	07:34	ACARTIA TONSA	M	174
W93110059	N20P	08-24-93	07:34	ACARTIA TONSA	C	349
W93110059	N20P	08-24-93	07:34	ACARTIA TONSA	F	262
W93110059	N20P	08-24-93	07:34	BIVALVE VELIGER		1047
W93110059	N20P	08-24-93	07:34	CALANUS FINMARCHICUS	C	87
W93110059	N20P	08-24-93	07:34	CALANUS FINMARCHICUS	F	87
W93110059	N20P	08-24-93	07:34	CENTROPAGES HAMATUS	F	349
W93110059	N20P	08-24-93	07:34	CENTROPAGES HAMATUS	M	349
W93110059	N20P	08-24-93	07:34	CENTROPAGES SPP.	C	959
W93110059	N20P	08-24-93	07:34	CENTROPAGES TYPICUS	M	1047
W93110059	N20P	08-24-93	07:34	CENTROPAGES TYPICUS	F	436
W93110059	N20P	08-24-93	07:34	COPEPOD NAUPLII	N	15613
W93110059	N20P	08-24-93	07:34	EVADNE NORDMANI		1570
W93110059	N20P	08-24-93	07:34	GASTROPOD VELIGER		174
W93110059	N20P	08-24-93	07:34	METRIDIA LUCENS	F	87
W93110059	N20P	08-24-93	07:34	MICROSETELLA NORVEGICA		523
W93110059	N20P	08-24-93	07:34	OIKIOPLEURA DIOICA		262
W93110059	N20P	08-24-93	07:34	OITHONA ATLANTICA	F	174
W93110059	N20P	08-24-93	07:34	OITHONA SIMILIS	F	8810
W93110059	N20P	08-24-93	07:34	OITHONA SIMILIS	C	15613
W93110059	N20P	08-24-93	07:34	OITHONA SIMILIS	M	872
W93110059	N20P	08-24-93	07:34	PARACALANUS CRASSIROSTRIS	C	174
W93110059	N20P	08-24-93	07:34	PARACALANUS PARVUS	M	436
W93110059	N20P	08-24-93	07:34	PARACALANUS PARVUS	C	9246
W93110059	N20P	08-24-93	07:34	PARACALANUS PARVUS	F	2355
W93110059	N20P	08-24-93	07:34	PODON POLYPHEMOIDES		87
W93110059	N20P	08-24-93	07:34	PSEUDOCALANUS NEWMANI	F	3227
W93110059	N20P	08-24-93	07:34	PSEUDOCALANUS NEWMANI	M	349
W93110059	N20P	08-24-93	07:34	PSEUDOCALANUS NEWMANI	C	1919
W93110059	N20P	08-24-93	07:34	TEMORA LONGICORNIS	F	2268
W93110059	N20P	08-24-93	07:34	TEMORA LONGICORNIS	C	4448
W93110059	N20P	08-24-93	07:34	TEMORA LONGICORNIS	M	1919
W93110075	N16P	08-24-93	08:21	ACARTIA TONSA	C	514
W93110075	N16P	08-24-93	08:21	ACARTIA TONSA	M	86
W93110075	N16P	08-24-93	08:21	BARNACLE NAUPLII	N	86
W93110075	N16P	08-24-93	08:21	BIVALVE VELIGER		3510
W93110075	N16P	08-24-93	08:21	CALANUS FINMARCHICUS	C	171
W93110075	N16P	08-24-93	08:21	CENTROPAGES HAMATUS	F	86
W93110075	N16P	08-24-93	08:21	CENTROPAGES SPP.	C	1712
W93110075	N16P	08-24-93	08:21	CENTROPAGES TYPICUS	F	428
W93110075	N16P	08-24-93	08:21	CENTROPAGES TYPICUS	M	685
W93110075	N16P	08-24-93	08:21	COPEPOD NAUPLII	N	11130
W93110075	N16P	08-24-93	08:21	CRAB ZOEA		86
W93110075	N16P	08-24-93	08:21	DECAPOD LARVAE		86
W93110075	N16P	08-24-93	08:21	ECHINODERM PLUTEI		86
W93110075	N16P	08-24-93	08:21	EVADNE NORDMANI		1627
W93110075	N16P	08-24-93	08:21	GASTROPOD VELIGER		428
W93110075	N16P	08-24-93	08:21	MEDUSA		342
W93110075	N16P	08-24-93	08:21	METRIDIA LUCENS	F	86
W93110075	N16P	08-24-93	08:21	METRIDIA LUCENS	C	86
W93110075	N16P	08-24-93	08:21	MICROSETELLA NORVEGICA		856
W93110075	N16P	08-24-93	08:21	OIKIOPLEURA DIOICA		257
W93110075	N16P	08-24-93	08:21	OITHONA ATLANTICA	F	86
W93110075	N16P	08-24-93	08:21	OITHONA SIMILIS	F	7278
W93110075	N16P	08-24-93	08:21	OITHONA SIMILIS	C	8819
W93110075	N16P	08-24-93	08:21	OITHONA SIMILIS	M	599
W93110075	N16P	08-24-93	08:21	PARACALANUS CRASSIROSTRIS	F	171
W93110075	N16P	08-24-93	08:21	PARACALANUS PARVUS	F	2997
W93110075	N16P	08-24-93	08:21	PARACALANUS PARVUS	M	1199
W93110075	N16P	08-24-93	08:21	PARACALANUS PARVUS	C	9332
W93110075	N16P	08-24-93	08:21	PODON POLYPHEMOIDES		428

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

Table G1. Zooplankton Species Data for August 1993.

Event	Station	Date	Time	Taxon	Qual[1]	Individuals Per M3
W93110075	N16P	08-24-93	08:21	PSEUDOCALANUS NEWMANI	F	2911
W93110075	N16P	08-24-93	08:21	PSEUDOCALANUS NEWMANI	C	2483
W93110075	N16P	08-24-93	08:21	PSEUDOCALANUS NEWMANI	M	514
W93110075	N16P	08-24-93	08:21	TEMORA LONGICORNIS	F	856
W93110075	N16P	08-24-93	08:21	TEMORA LONGICORNIS	C	3682
W93110075	N16P	08-24-93	08:21	TEMORA LONGICORNIS	M	1370
W93110094	N10P	08-24-93	09:26	ACARTIA TONSA	F	247
W93110094	N10P	08-24-93	09:26	ACARTIA TONSA	C	740
W93110094	N10P	08-24-93	09:26	ACARTIA TONSA	M	247
W93110094	N10P	08-24-93	09:26	BARNACLE NAUPLII	N	82
W93110094	N10P	08-24-93	09:26	BIVALVE VELIGER		10026
W93110094	N10P	08-24-93	09:26	CALANUS FINMARCHICUS	C	82
W93110094	N10P	08-24-93	09:26	CENTROPAGES HAMATUS	M	4191
W93110094	N10P	08-24-93	09:26	CENTROPAGES HAMATUS	F	2219
W93110094	N10P	08-24-93	09:26	CENTROPAGES SPP.	C	2301
W93110094	N10P	08-24-93	09:26	CENTROPAGES TYPICUS	F	247
W93110094	N10P	08-24-93	09:26	COPEPOD NAUPLII	N	10026
W93110094	N10P	08-24-93	09:26	CRAB ZOEA		82
W93110094	N10P	08-24-93	09:26	DECAPOD LARVAE		82
W93110094	N10P	08-24-93	09:26	EUCONCHOEICA SP.		82
W93110094	N10P	08-24-93	09:26	EURYTEMORA HERDMANI	F	82
W93110094	N10P	08-24-93	09:26	EVADNE NORDMANI		2301
W93110094	N10P	08-24-93	09:26	GASTROPOD VELIGER		1890
W93110094	N10P	08-24-93	09:26	MEDUSA		82
W93110094	N10P	08-24-93	09:26	MICROSETELLA NORVEGICA		82
W93110094	N10P	08-24-93	09:26	OITHONA ATLANTICA	F	82
W93110094	N10P	08-24-93	09:26	OITHONA SIMILIS	M	1561
W93110094	N10P	08-24-93	09:26	OITHONA SIMILIS	F	8136
W93110094	N10P	08-24-93	09:26	OITHONA SIMILIS	C	12738
W93110094	N10P	08-24-93	09:26	PARACALANUS CRASSIROSTRIS	F	247
W93110094	N10P	08-24-93	09:26	PARACALANUS PARVUS	F	3945
W93110094	N10P	08-24-93	09:26	PARACALANUS PARVUS	M	740
W93110094	N10P	08-24-93	09:26	PARACALANUS PARVUS	C	6821
W93110094	N10P	08-24-93	09:26	PODON POLYPHEMOIDES		493
W93110094	N10P	08-24-93	09:26	POLYCHAETE LARVAE		82
W93110094	N10P	08-24-93	09:26	PSEUDOCALANUS NEWMANI	M	247
W93110094	N10P	08-24-93	09:26	PSEUDOCALANUS NEWMANI	C	1479
W93110094	N10P	08-24-93	09:26	PSEUDOCALANUS NEWMANI	F	3698
W93110094	N10P	08-24-93	09:26	TEMORA LONGICORNIS	F	493
W93110094	N10P	08-24-93	09:26	TEMORA LONGICORNIS	C	3616
W93110094	N10P	08-24-93	09:26	TEMORA LONGICORNIS	M	657
W93110246	N01P	08-25-93	05:54	ACARTIA TONSA	F	81
W93110246	N01P	08-25-93	05:54	ACARTIA TONSA	M	243
W93110246	N01P	08-25-93	05:54	BIVALVE VELIGER		243
W93110246	N01P	08-25-93	05:54	CALANUS FINMARCHICUS	C	243
W93110246	N01P	08-25-93	05:54	CALANUS FINMARCHICUS	F	81
W93110246	N01P	08-25-93	05:54	CENTROPAGES HAMATUS	F	243
W93110246	N01P	08-25-93	05:54	CENTROPAGES HAMATUS	M	243
W93110246	N01P	08-25-93	05:54	CENTROPAGES SPP.	C	1377
W93110246	N01P	08-25-93	05:54	CENTROPAGES TYPICUS	F	567
W93110246	N01P	08-25-93	05:54	CENTROPAGES TYPICUS	M	405
W93110246	N01P	08-25-93	05:54	COPEPOD NAUPLII	N	11261
W93110246	N01P	08-25-93	05:54	DECAPOD LARVAE		81
W93110246	N01P	08-25-93	05:54	EUCONCHOEICA SP.		81
W93110246	N01P	08-25-93	05:54	EVADNE NORDMANI		1620
W93110246	N01P	08-25-93	05:54	METRIDIA LUCENS	F	81
W93110246	N01P	08-25-93	05:54	MICROSETELLA NORVEGICA		1215
W93110246	N01P	08-25-93	05:54	OITHONA SIMILIS	F	5995
W93110246	N01P	08-25-93	05:54	OITHONA SIMILIS	M	648
W93110246	N01P	08-25-93	05:54	OITHONA SIMILIS	C	12719
W93110246	N01P	08-25-93	05:54	PARACALANUS PARVUS	C	5428

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

Table G1. Zooplankton Species Data for August 1993.

Event	Station	Date	Time	Taxon	Qual[1]	Individuals Per M3
W93110246	N01P	08-25-93	05:54	PARACALANUS PARVUS	F	1296
W93110246	N01P	08-25-93	05:54	PARACALANUS PARVUS	M	486
W93110246	N01P	08-25-93	05:54	PODON POLYPHEMOIDES		162
W93110246	N01P	08-25-93	05:54	PSEUDOCALANUS NEWMANI	F	2430
W93110246	N01P	08-25-93	05:54	PSEUDOCALANUS NEWMANI	M	243
W93110246	N01P	08-25-93	05:54	PSEUDOCALANUS NEWMANI	C	891
W93110246	N01P	08-25-93	05:54	SAGITTA ELEGANS		81
W93110246	N01P	08-25-93	05:54	TEMORA LONGICORNIS	F	1620
W93110246	N01P	08-25-93	05:54	TEMORA LONGICORNIS	C	3727
W93110246	N01P	08-25-93	05:54	TEMORA LONGICORNIS	M	1215
W93110246	N01P	08-25-93	05:54	UNIDENTIFIED LARVAE		324
W93110260	N04P	08-25-93	07:03	ACARTIA TONSA	F	69
W93110260	N04P	08-25-93	07:03	ACARTIA TONSA	C	69
W93110260	N04P	08-25-93	07:03	ACARTIA TONSA	M	277
W93110260	N04P	08-25-93	07:03	BARNACLE NAUPLII	N	69
W93110260	N04P	08-25-93	07:03	BIVALVE VELIGER		21270
W93110260	N04P	08-25-93	07:03	CALANUS FINMARCHICUS	C	208
W93110260	N04P	08-25-93	07:03	CENTROPAGES SPP.	C	1455
W93110260	N04P	08-25-93	07:03	CENTROPAGES TYPICUS	F	693
W93110260	N04P	08-25-93	07:03	CENTROPAGES TYPICUS	M	693
W93110260	N04P	08-25-93	07:03	COPEPOD NAUPLII	N	11432
W93110260	N04P	08-25-93	07:03	EUCONCHOEICA SP.		139
W93110260	N04P	08-25-93	07:03	EVADNE NORDMANI		1109
W93110260	N04P	08-25-93	07:03	GASTROPOD VELIGER		693
W93110260	N04P	08-25-93	07:03	MEDUSA		208
W93110260	N04P	08-25-93	07:03	METRIDIA LUCENS	F	69
W93110260	N04P	08-25-93	07:03	METRIDIA LUCENS	C	139
W93110260	N04P	08-25-93	07:03	MICROSETELLA NORVEGICA		485
W93110260	N04P	08-25-93	07:03	OIKIOPLEURA DIOICA		346
W93110260	N04P	08-25-93	07:03	OITHONA ATLANTICA	F	69
W93110260	N04P	08-25-93	07:03	OITHONA SIMILIS	F	6305
W93110260	N04P	08-25-93	07:03	OITHONA SIMILIS	M	693
W93110260	N04P	08-25-93	07:03	OITHONA SIMILIS	C	13649
W93110260	N04P	08-25-93	07:03	PARACALANUS CRASSIROSTRIS	F	208
W93110260	N04P	08-25-93	07:03	PARACALANUS PARVUS	F	2078
W93110260	N04P	08-25-93	07:03	PARACALANUS PARVUS	C	4988
W93110260	N04P	08-25-93	07:03	PARACALANUS PARVUS	M	277
W93110260	N04P	08-25-93	07:03	PODON POLYPHEMOIDES		69
W93110260	N04P	08-25-93	07:03	PSEUDOCALANUS NEWMANI	F	2771
W93110260	N04P	08-25-93	07:03	PSEUDOCALANUS NEWMANI	M	485
W93110260	N04P	08-25-93	07:03	PSEUDOCALANUS NEWMANI	C	762
W93110260	N04P	08-25-93	07:03	TEMORA LONGICORNIS	F	1455
W93110260	N04P	08-25-93	07:03	TEMORA LONGICORNIS	M	2771
W93110260	N04P	08-25-93	07:03	TEMORA LONGICORNIS	C	1940
W93110260	N04P	08-25-93	07:03	UNIDENTIFIED LARVAE		139
W93110276	N07P	08-25-93	08:04	ACARTIA TONSA	F	160
W93110276	N07P	08-25-93	08:04	ACARTIA TONSA	M	640
W93110276	N07P	08-25-93	08:04	ACARTIA TONSA	C	160
W93110276	N07P	08-25-93	08:04	BIVALVE VELIGER		7280
W93110276	N07P	08-25-93	08:04	CALANUS FINMARCHICUS	F	80
W93110276	N07P	08-25-93	08:04	CALANUS FINMARCHICUS	C	560
W93110276	N07P	08-25-93	08:04	CENTROPAGES HAMATUS	F	240
W93110276	N07P	08-25-93	08:04	CENTROPAGES HAMATUS	M	800
W93110276	N07P	08-25-93	08:04	CENTROPAGES SPP.	C	1920
W93110276	N07P	08-25-93	08:04	CENTROPAGES TYPICUS	F	640
W93110276	N07P	08-25-93	08:04	CENTROPAGES TYPICUS	M	800
W93110276	N07P	08-25-93	08:04	COPEPOD NAUPLII	N	8240
W93110276	N07P	08-25-93	08:04	EURYTEMORA HERDMANI	F	80
W93110276	N07P	08-25-93	08:04	EVADNE NORDMANI		880
W93110276	N07P	08-25-93	08:04	GASTROPOD VELIGER		320
W93110276	N07P	08-25-93	08:04	HYPERIID AMPHIPOD		80

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

Table G1. Zooplankton Species Data for August 1993.

Event	Station	Date	Time	Taxon	Qual[1]	Individuals Per M3
W93110276	N07P	08-25-93	08:04	MEDUSA		480
W93110276	N07P	08-25-93	08:04	METRIDIA LUCENS	F	160
W93110276	N07P	08-25-93	08:04	MICROSETELLA NORVEGICA		1280
W93110276	N07P	08-25-93	08:04	OIKIOPLEURA DIOICA		240
W93110276	N07P	08-25-93	08:04	OITHONA ATLANTICA	F	160
W93110276	N07P	08-25-93	08:04	OITHONA SIMILIS	F	5520
W93110276	N07P	08-25-93	08:04	OITHONA SIMILIS	M	800
W93110276	N07P	08-25-93	08:04	OITHONA SIMILIS	C	8880
W93110276	N07P	08-25-93	08:04	PARACALANUS PARVUS	F	7680
W93110276	N07P	08-25-93	08:04	PARACALANUS PARVUS	C	11360
W93110276	N07P	08-25-93	08:04	PARACALANUS PARVUS	M	800
W93110276	N07P	08-25-93	08:04	PSEUDOCALANUS NEWMANI	F	10800
W93110276	N07P	08-25-93	08:04	PSEUDOCALANUS NEWMANI	M	1760
W93110276	N07P	08-25-93	08:04	PSEUDOCALANUS NEWMANI	C	4640
W93110276	N07P	08-25-93	08:04	TEMORA LONGICORNIS	F	1200
W93110276	N07P	08-25-93	08:04	TEMORA LONGICORNIS	M	720
W93110276	N07P	08-25-93	08:04	TEMORA LONGICORNIS	C	960
W93110276	N07P	08-25-93	08:04	UNIDENTIFIED LARVAE		80
W93110296	F13P	08-25-93	09:11	BIVALVE VELIGER		4772
W93110296	F13P	08-25-93	09:11	CALANUS FINMARCHICUS	C	199
W93110296	F13P	08-25-93	09:11	CENTROPAGES SPP.	C	795
W93110296	F13P	08-25-93	09:11	CENTROPAGES TYPICUS	F	298
W93110296	F13P	08-25-93	09:11	CENTROPAGES TYPICUS	M	795
W93110296	F13P	08-25-93	09:11	COPEPOD NAUPLII	N	6462
W93110296	F13P	08-25-93	09:11	EVADNE NORDMANI		298
W93110296	F13P	08-25-93	09:11	GASTROPOD VELIGER		99
W93110296	F13P	08-25-93	09:11	MEDUSA		99
W93110296	F13P	08-25-93	09:11	MICROSETELLA NORVEGICA		795
W93110296	F13P	08-25-93	09:11	OIKIOPLEURA DIOICA		1591
W93110296	F13P	08-25-93	09:11	OITHONA SIMILIS	C	9643
W93110296	F13P	08-25-93	09:11	OITHONA SIMILIS	M	795
W93110296	F13P	08-25-93	09:11	OITHONA SIMILIS	F	3181
W93110296	F13P	08-25-93	09:11	PARACALANUS CRASSIROSTRIS	C	298
W93110296	F13P	08-25-93	09:11	PARACALANUS CRASSIROSTRIS	F	398
W93110296	F13P	08-25-93	09:11	PARACALANUS PARVUS	M	1491
W93110296	F13P	08-25-93	09:11	PARACALANUS PARVUS	C	4871
W93110296	F13P	08-25-93	09:11	PARACALANUS PARVUS	F	1292
W93110296	F13P	08-25-93	09:11	PSEUDOCALANUS NEWMANI	F	2287
W93110296	F13P	08-25-93	09:11	PSEUDOCALANUS NEWMANI	M	298
W93110296	F13P	08-25-93	09:11	PSEUDOCALANUS NEWMANI	C	994
W93110296	F13P	08-25-93	09:11	TEMORA LONGICORNIS	M	895
W93110296	F13P	08-25-93	09:11	TEMORA LONGICORNIS	C	5766
W93110296	F13P	08-25-93	09:11	TEMORA LONGICORNIS	F	1790
W93110405	F02P	08-26-93	07:23	BIVALVE VELIGER		406
W93110405	F02P	08-26-93	07:23	CALANUS FINMARCHICUS	C	101
W93110405	F02P	08-26-93	07:23	CENTROPAGES SPP.	C	304
W93110405	F02P	08-26-93	07:23	CENTROPAGES TYPICUS	F	304
W93110405	F02P	08-26-93	07:23	COPEPOD NAUPLII	N	8922
W93110405	F02P	08-26-93	07:23	EVADNE NORDMANI		101
W93110405	F02P	08-26-93	07:23	FISH EGG		101
W93110405	F02P	08-26-93	07:23	GASTROPOD VELIGER		101
W93110405	F02P	08-26-93	07:23	MEDUSA		203
W93110405	F02P	08-26-93	07:23	MICROSETELLA NORVEGICA		406
W93110405	F02P	08-26-93	07:23	OIKIOPLEURA DIOICA		406
W93110405	F02P	08-26-93	07:23	OITHONA SIMILIS	F	6286
W93110405	F02P	08-26-93	07:23	OITHONA SIMILIS	C	10037
W93110405	F02P	08-26-93	07:23	OITHONA SIMILIS	M	608
W93110405	F02P	08-26-93	07:23	PARACALANUS PARVUS	M	608
W93110405	F02P	08-26-93	07:23	PARACALANUS PARVUS	F	2129
W93110405	F02P	08-26-93	07:23	PARACALANUS PARVUS	C	4765
W93110405	F02P	08-26-93	07:23	PENILIA AVIROSTRIS		101

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

Table G1. Zooplankton Species Data for August 1993.

Event	Station	Date	Time	Taxon	Qual[1]	Individuals Per M3
W93110405	F02P	08-26-93	07:23	PSEUDOCALANUS NEWMANI	F	1217
W93110405	F02P	08-26-93	07:23	PSEUDOCALANUS NEWMANI	C	2433
W93110405	F02P	08-26-93	07:23	PSEUDOCALANUS NEWMANI	M	710
W93110405	F02P	08-26-93	07:23	TEMORA LONGICORNIS	F	811
W93110405	F02P	08-26-93	07:23	TEMORA LONGICORNIS	C	1622
W93110405	F02P	08-26-93	07:23	TEMORA LONGICORNIS	M	608
W93110405	F02P	08-26-93	07:23	UNIDENTIFIED LARVAE		203
W93110429	F01P	08-26-93	09:07	ACARTIA TONSA	M	317
W93110429	F01P	08-26-93	09:07	ACARTIA TONSA	C	317
W93110429	F01P	08-26-93	09:07	BIVALVE VELIGER		633
W93110429	F01P	08-26-93	09:07	CENTROPAGES HAMATUS	F	106
W93110429	F01P	08-26-93	09:07	CENTROPAGES HAMATUS	M	211
W93110429	F01P	08-26-93	09:07	CENTROPAGES SPP.	C	739
W93110429	F01P	08-26-93	09:07	CENTROPAGES TYPICUS	F	106
W93110429	F01P	08-26-93	09:07	CENTROPAGES TYPICUS	M	106
W93110429	F01P	08-26-93	09:07	COPEPOD NAUPLII	N	4962
W93110429	F01P	08-26-93	09:07	EVADNE NORDMANI		422
W93110429	F01P	08-26-93	09:07	FISH EGG		106
W93110429	F01P	08-26-93	09:07	GASTROPOD VELIGER		211
W93110429	F01P	08-26-93	09:07	MEDUSA		317
W93110429	F01P	08-26-93	09:07	MICROSETELLA NORVEGICA		211
W93110429	F01P	08-26-93	09:07	OIKIOPLEURA DIOICA		1372
W93110429	F01P	08-26-93	09:07	OITHONA ATLANTICA	F	106
W93110429	F01P	08-26-93	09:07	OITHONA ATLANTICA	C	106
W93110429	F01P	08-26-93	09:07	OITHONA SIMILIS	F	5278
W93110429	F01P	08-26-93	09:07	OITHONA SIMILIS	C	15202
W93110429	F01P	08-26-93	09:07	OITHONA SIMILIS	M	317
W93110429	F01P	08-26-93	09:07	PARACALANUS CRASSIROSTRIS	F	950
W93110429	F01P	08-26-93	09:07	PARACALANUS PARVUS	F	1372
W93110429	F01P	08-26-93	09:07	PARACALANUS PARVUS	M	739
W93110429	F01P	08-26-93	09:07	PARACALANUS PARVUS	C	5912
W93110429	F01P	08-26-93	09:07	PODON POLYPHEMOIDES		633
W93110429	F01P	08-26-93	09:07	PSEUDOCALANUS NEWMANI	M	106
W93110429	F01P	08-26-93	09:07	PSEUDOCALANUS NEWMANI	F	950
W93110429	F01P	08-26-93	09:07	PSEUDOCALANUS NEWMANI	C	845
W93110429	F01P	08-26-93	09:07	TEMORA LONGICORNIS	F	1795
W93110429	F01P	08-26-93	09:07	TEMORA LONGICORNIS	M	2111
W93110429	F01P	08-26-93	09:07	TEMORA LONGICORNIS	C	4117
W93110429	F01P	08-26-93	09:07	UNIDENTIFIED HARPACTICOID		106
W93110429	F01P	08-26-93	09:07	UNIDENTIFIED LARVAE		106
W93110526	F23P	08-27-93	05:53	ACARTIA TONSA	F	816
W93110526	F23P	08-27-93	05:53	ACARTIA TONSA	M	1224
W93110526	F23P	08-27-93	05:53	ACARTIA TONSA	C	5406
W93110526	F23P	08-27-93	05:53	BARNACLE NAUPLII	N	102
W93110526	F23P	08-27-93	05:53	BIVALVE VELIGER		3774
W93110526	F23P	08-27-93	05:53	CALANUS FINMARCHICUS	C	102
W93110526	F23P	08-27-93	05:53	CENTROPAGES HAMATUS	F	102
W93110526	F23P	08-27-93	05:53	CENTROPAGES HAMATUS	M	204
W93110526	F23P	08-27-93	05:53	CENTROPAGES SPP.	C	1122
W93110526	F23P	08-27-93	05:53	COPEPOD NAUPLII	N	10607
W93110526	F23P	08-27-93	05:53	CRAB ZOEA		102
W93110526	F23P	08-27-93	05:53	EURYTEMORA HERDMANI	C	1530
W93110526	F23P	08-27-93	05:53	EVADNE NORDMANI		1122
W93110526	F23P	08-27-93	05:53	GASTROPOD VELIGER		2652
W93110526	F23P	08-27-93	05:53	METRIDIA LUCENS	M	102
W93110526	F23P	08-27-93	05:53	OITHONA SIMILIS	M	204
W93110526	F23P	08-27-93	05:53	OITHONA SIMILIS	C	3060
W93110526	F23P	08-27-93	05:53	OITHONA SIMILIS	F	2040
W93110526	F23P	08-27-93	05:53	PARACALANUS PARVUS	M	306
W93110526	F23P	08-27-93	05:53	PARACALANUS PARVUS	F	204
W93110526	F23P	08-27-93	05:53	PARACALANUS PARVUS	C	1020

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

Table G1. Zooplankton Species Data for August 1993.

Event	Station	Date	Time	Taxon	Qual[1]	Individuals Per M3
W93110526	F23P	08-27-93	05:53	PODON POLYPHEMOIDES		2448
W93110526	F23P	08-27-93	05:53	POLYCHAETE LARVAE		14177
W93110526	F23P	08-27-93	05:53	PSEUDOCALANUS NEWMANI	F	408
W93110526	F23P	08-27-93	05:53	PSEUDOCALANUS NEWMANI	M	204
W93110526	F23P	08-27-93	05:53	PSEUDOCALANUS NEWMANI	C	204
W93110526	F23P	08-27-93	05:53	TEMORA LONGICORNIS	C	612

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