APPENDICES TO WATER QUALITY MONITORING IN MASSACHUSETTS AND CAPE COD BAYS: JUNE - JULY 1994

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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. 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 June combined farfield/nearfield survey followed by the early and late July nearfield surveys. Table A-2 lists data for the combined survey, and the values for analytical replicates of a given bottle.

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

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

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

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

% Saturation =100*DO/OXsat

Reference:

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

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

Event	Station	Date	Time (EST)	Depth (M)	Sample Id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm) (%)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9407	F01P	06-23-94	0846	24.58	W94070384	5.70	32.03	9.14	89.94	31.48	25.24	1.32	1.29	0.99	0.08	0.98	0.62	4.11
W9407	F01P	06-23-94	0847	17.88	W94070385	5.79	32.02	9.15	90.30	31.54	25.23	2.33	1.15	2.16	0.16	2.04	0.72	5.97
W9407	F01P	06-23-94	0848	13.90	W94070386	6.68	31.85	10.33	104.01	32.14	24.98	2.58	1.03	0.48	0.05	0.60	0.52	3.06
W9407	F01P	06-23-94	0850	4.40	W94070387	13.37	31.37	8.85	102.92	37.45	23.51	0.82	1.02	0.00	0.01	0.03	0.28	2.76
W9407	F01P	06-23-94	0851	1.44	W94070388	13.90	31.34	8.68	102.11	37.89	23.38	0.57	0.96	0.22	0.01	0.04	0.37	2.78
W9407	F02P	06-23-94	0714	28.12	W94070370	5.60	32.09	8.25	81.02	31.45	25.30	1.02	2.11	3.81	0.27	3.21	0.90	10.16
W9407	F02P	06-23-94	0716	19.68	W94070371	5.64	32.08	8.32	81.84	31.47	25.29	1.15	1.93	3.69	0.26	3.13	0.90	9.78
W9407	F02P	06-23-94	0718	14.98	W94070372	6.66	31.84	9.36	94.12	32.11	24.97	4.68	1.24	1.56	0.17	1.72	0.71	7.33
W9407	F02P	06-23-94	0719	6.98	W94070373	18.18	30.63	7.43	94.81	40.89	21.89	1.35	0.99	0.06	0.01	0.06	0.20	1.03
W9407	F02P	06-23-94	0720	1.48	W94070374	18.28	30.63	7.51	95.99	40.99	21.86	0.84	0.98	0.07	0.01	0.04	0.18	0.70
W9407	F03	06-23-94	0948	15.75	W94070403	8.10	31.80	10.00	103.93	33.30	24.75	1.52	0.89	0.62	0.03	0.16	0.53	0.93
W9407	F03	06-23-94	0950	8.69	W94070405	8.91	31.80	9.72	102.89	34.00	24.63	1.87	0.98	0.62	0.04	0.26	0.53	1.08
W9407	F03	06-23-94	0950	11.54	W94070404	8.36	31.81	9.82	102.74	33.54	24.72	1.65	0.94	1.03	0.04	0.34	0.57	1.14
W9407	F03	06-23-94	0951	4.36	W94070406	9.96	31.86	9.52	103.27	34.96	24.51	1.44	0.97	1.03	0.03	0.11	0.53	0.93
W9407	F03	06-23-94	0952	1.46	W94070407	11.01	31.62	9.43	104.45	35.63	24.14	0.83	0.88	0.47	0.02	0.05	0.49	0.81
W9407	F05	06-23-94	1128	15.91	W94070417	8.90	31.45	9.39	99.16	33.66	24.36	3.81	1.32	0.22	0.03	0.02	0.37	0.22
W9407	F05	06-23-94	1130	12.84	W94070418	9.90	31.70	10.15	109.85	34.76	24.39	4.82	1.36	0.22	0.03	0.01	0.41	0.15
W9407	F05	06-23-94	1131	4.88	W94070420	13.81	31.54	10.11	118.87	38.04	23.56	1.69	1.44	0.18	0.01	0.02	0.35	0.01
W9407	F05	06-23-94	1131	9.17	W94070419	12.23	31.60	10.34	117.66	36.69	23.91	2.66	1.32	0.43	0.01	0.04	0.46	0.04
W9407	F05	06-23-94	1132	1.45	W94070421	14.88	31.56	9.75	117.21	39.00	23.35	1.00	1.36	0.16	0.02	0.03	0.26	0.04
W9407	F06B	06-23-94	1206	33.43	W94070435	5.93	32.13	9.27	91.83	31.77	25.30	1.13	0.69	2.03	0.15	2.59	0.70	3.36
W9407	F06B	06-23-94	1207	23.91	W94070436	6.36	32.16	9.48	94.92	32.16	25.26	1.86	0.73	2.02	0.16	2.56	0.70	3.04
W9407	F06B	06-23-94	1208	17.82	W94070437	7.89	32.20	10.19	105.72	33.51	25.09	1.33	0.73	0.93	0.07	1.00	0.50	1.63
W9407	F06B	06-23-94	1209	5.29	W94070438	10.03	31.96	9.75	106.03	35.13	24.57	0.69	0.69	0.59	0.01	0.09	0.36	0.70
W9407	F06B	06-23-94	1210	1.73	W94070439	12.91	31.50	9.22	106.35	37.18	23.70	0.42	0.65	0.27	0.00	0.08	0.34	0.60
W9407	F07	06-23-94	1250	51.00	W94070447	5.05	32.21	9.24	89.68	31.10	25.46	0.40	0.78	3.50	0.22	4.37	0.84	5.47
W9407	F07	06-23-94	1251	23.40	W94070448	5.44	32.14	9.23	90.37	31.35	25.36	0.63	0.62	3.47	0.21	3.98	0.84	4.80
W9407	F07	06-23-94	1252	14.05	W94070449	6.89	32.17	9.83	99.64	32.61	25.20	1.75	0.79	1.15	0.16	1.91	0.57	2.11
W9407	F07	06-23-94	1253	1.77	W94070451	15.20	31.52	8.57	103.69	39.25	23.25	0.43	0.66	0.33	0.01	0.10	0.32	0.34
W9407	F07	06-23-94	1253	6.92	W94070450	12.34	31.66	9.15	104.42	36.85	23.93	0.55	0.67	0.34	0.01	0.13	0.33	0.59
W9407	F10	06-23-94	1342	21.49	W94070459	6.23	32.09	9.23	92.08	31.99	25.23	1.82	0.78	1.75	0.14	2.26	0.67	2.15
W9407	F10	06-23-94	1342	29.10	W94070458	5.99	32.08	9.18	91.06	31.77	25.25	1.28	0.70	1.45	0.10	1.63	0.60	1.69
W9407	F10	06-23-94	1343	16.10	W94070460	7.17	32.10	10.10	103.02	32.80	25.11	2.28	0.89	0.69	0.07	0.61	0.51	1.07
W9407	F10	06-23-94	1344	1.82	W94070462	14.67	31.60	8.94	107.01	38.86	23.42	0.68	0.73	0.94	0.02	0.15	0.39	0.21
W9407	F10	06-23-94	1344	5.96	W94070461	11.92	31.71	9.43	106.58	36.54	24.05	0.71	0.71	0.54	0.02	0.12	0.39	0.40
W9407	F12	06-22-94	1420	84.36	W94070340	3.89	32.48	8.82	83.29	30.37	25.79	0.31	2.00	0.19	0.26	0.94	0.10	9.31
W9407	F12	06-22-94	1422	45.14	W94070341	4.41	32.41	9.12	87.19	30.73	25.68	0.47	0.68	4.27	0.35	5.35	0.88	7.10
W9407	F12	06-22-94	1424	18.94	W94070342	6.39	32.15	10.35	103.68	32.17	25.25	3.75	0.91	0.41	0.01	0.02	0.29	2.14
W9407	F12	06-22-94	1425	10.46	W94070343	8.86	31.96	9.98	105.64	34.10	24.76	1.98	0.81	0.36	0.02	0.05	0.23	1.56
W9407	F12	06-22-94	1426	1.45	W94070344	15.42	31.48	8.31	100.95	39.40	23.17	0.42	0.62	0.37	0.01	0.02	0.19	0.64
W9407	F13P	06-23-94	1433	21.06	W94070470	6.62	31.94	8.49	85.36	32.18	25.06	0.73	0.85	2.31	0.17	2.28	0.81	3.20
W9407	F13P	06-23-94	1434	14.33	W94070471	7.92	31.83	8.59	89.02	33.19	24.80	1.76	1.00	2.21	0.15	1.85	0.81	2.28
W9407	F13P	06-23-94	1435	7.28	W94070472	11.42	31.59	9.44	105.60	35.98	24.05	6.59	1.73	0.37	0.04	0.12	0.54	0.44
W9407	F13P	06-23-94	1436	1.93	W94070474	13.70	31.75	9.53	111.93	38.16	23.74	2.56	1.60	0.36	0.02	0.07	0.49	0.37
W9407	F13P	06-23-94	1436	4.53	W94070473	12.11	31.59	9.63	109.24	36.58	23.92	5.46	1.66	0.39	0.02	0.11	0.47	0.39
W9407	F14	06-21-94	1511	15.36	W94070164	7.23	31.89	8.12	82.81	32.65	24.94	1.43	0.89	2.17	0.03	1.01	0.58	2.72
W9407	F14	06-21-94	1512	11.56	W94070165	8.26	31.74	8.23	85.83	33.39	24.68	3.01	1.14	1.44	0.02	0.02	0.52	2.37
W9407	F14	06-21-94	1513	6.54	W94070166	11.27	31.54	9.17	102.20	35.79	24.04	6.75	1.75	0.78	0.02	0.02	0.39	0.47
W9407	F14	06-21-94	1514	1.48	W94070168	12.76	31.53	9.81	112.82	37.08	23.75	7.46	1.93	0.71	0.02	0.03	0.24	0.16
W9407	F14	06-21-94	1514	2.90	W94070167	12.67	31.54	9.74	111.83	37.01	23.78	7.69	1.95	0.23	0.01	0.05	0.34	0.19
W9407	F15	06-21-94	1435	30.52	W94070153	5.60	32.09	8.62	84.72	31.45	25.30	0.60	0.90	0.27	0.14	1.55	0.31	3.64
W9407	F15	06-21-94	1437	22.63	W94070154	5.76	32.09	9.53	94.01	31.58	25.28	1.77	0.70	1.17	0.04	0.01	0.23	1.00
W9407	F15	06-21-94	1438	11.21	W94070155	6.86	32.12	10.37	105.02	32.54	25.17	1.52	0.74	0.32	0.03	0.01	0.26	0.44
W9407	F15	06-21-94	1439	3.73	W94070156	12.25	31.58	10.02	114.06	36.69	23.89	4.55	1.49	0.58	0.04	0.05	0.23	0.29

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)
W9407	F15	06-21-94	1440	1.25	W94070157	12.89	31.53	10.24	118.04	37.20	23.73	6.15	1.75	0.25	0.04	-0.02	0.22	0.10
W9407	F16	06-21-94	1358	51.83	W94070142	5.28	32.20	9.28	90.55	31.29	25.43	0.38	0.75	4.47	0.24	4.20	0.74	5.41
W9407	F16	06-21-94	1359	26.70	W94070143	6.30	32.26	9.43	94.37	32.20	25.35	1.10	0.78	0.83	0.38	0.15	0.29	3.08
W9407	F16	06-21-94	1400	13.30	W94070144	7.54	32.11	10.26	105.49	33.12	25.07	2.21	0.87	0.30	0.02	0.00	0.21	0.89
W9407	F16	06-21-94	1401	4.70	W94070145	13.96	31.54	9.13	107.59	38.16	23.52	0.84	0.68	0.32	0.01	0.00	0.25	0.20
W9407	F16	06-21-94	1402	1.36	W94070146	15.44	31.44	8.85	107.53	39.37	23.13	0.81	0.70	0.23	0.01	0.00	0.21	0.13
W9407	F17	06-21-94	1309	70.03	W94070131	4.44	32.37	9.20	88.08	30.74	25.65	0.31	1.47	3.87	0.34	6.14	0.86	6.50
W9407	F17	06-21-94	1311	35.47	W94070132	5.08	32.33	9.39	91.23	31.23	25.55	0.74	0.98	0.28	0.37	6.07	0.56	5.00
W9407	F17	06-21-94	1313	21.00	W94070133	7.16	32.16	10.23	104.29	32.83	25.16	2.76	1.17	0.37	0.03	0.09	0.28	2.24
W9407	F17	06-21-94	1314	1.60	W94070135	15.82	31.48	8.44	103.30	39.77	23.08	0.74	0.67	0.27	0.02	0.08	0.30	0.19
W9407	F17	06-21-94	1314	7.94	W94070134	11.21	31.59	9.71	108.02	35.79	24.08	0.84	0.69	0.24	0.02	0.06	0.30	0.44
W9407	F18	06-21-94	0826	21.69	W94070059	6.64	31.93	10.42	104.84	32.18	25.04	2.12	0.80	0.46	0.03	0.20	0.44	0.23
W9407	F18	06-21-94	0827	15.42	W94070060	7.63	31.88	10.78	110.93	32.98	24.88	2.17	0.86	0.34	0.03	0.13	0.48	0.24
W9407	F18	06-21-94	0829	8.77	W94070061	9.45	31.80	10.79	115.66	34.47	24.55	1.36	0.75	0.23	0.02	0.07	0.39	0.18
W9407	F18	06-21-94	0830	3.69	W94070062	14.51	31.68	9.84	117.46	38.81	23.52	1.25	0.86	0.28	0.02	0.07	0.39	0.08
W9407	F18	06-21-94	0831	1.31	W94070063	15.53	31.66	9.56	116.48	39.71	23.28	1.22	0.90	0.32	0.02	0.08	0.38	0.09
W9407	F19	06-21-94	1217	70.82	W94070120	4.60	32.32	9.24	88.75	30.82	25.59	0.32	1.52	3.57	0.35	6.11	0.94	7.47
W9407	F19	06-21-94	1219	27.62	W94070121	6.05	32.24	9.66	95.99	31.96	25.37	1.10	0.97	2.41	0.24	3.59	0.71	2.62
W9407	F19	06-21-94	1221	20.10	W94070122	7.23	32.20	9.77	99.86	32.94	25.18	2.45	0.88	0.34	0.03	0.05	0.26	1.50
W9407	F19	06-21-94	1222	1.83	W94070124	15.37	31.39	8.29	100.56	39.26	23.12	0.52	0.57	0.16	0.03	0.09	0.19	0.42
W9407	F19	06-21-94	1222	9.42	W94070123	11.08	31.57	9.54	105.88	35.66	24.09	0.77	0.67	0.25	0.02	0.08	0.26	0.81
W9407	F22	06-22-94	1011	74.72	W94070280	4.36	32.38	8.99	85.88	30.68	25.67	0.33	1.45	0.66	0.24	3.90	0.55	5.82
W9407	F22	06-22-94	1014	40.18	W94070281	5.18	32.17	9.17	89.26	31.16	25.41	0.36	0.87	0.33	0.29	5.18	0.48	5.73
W9407	F22	06-22-94	1015	18.20	W94070282	8.03	32.16	9.73	101.18	33.58	25.04	2.24	0.81	1.25	0.07	0.30	0.33	1.25
W9407	F22	06-22-94	1016	7.85	W94070283	10.47	31.78	9.59	105.13	35.33	24.36	0.73	0.71	0.39	0.02	0.03	0.19	0.57
W9407	F22	06-22-94	1017	1.55	W94070284	13.17	31.22	8.85	102.39	37.11	23.43	0.51	0.63	0.38	0.03	0.03	0.20	0.28
W9407	F23P	06-21-94	0659	24.94	W94070032	8.83	31.82	8.69	91.88	33.95	24.65	1.50	1.19	1.93	0.12	0.65	0.67	1.57
W9407	F23P	06-21-94	0701	20.46	W94070033	9.70	31.73	9.10	98.02	34.62	24.45	1.91	1.35	2.40	0.14	0.90	0.74	2.01
W9407	F23P	06-21-94	0703	9.83	W94070034	11.61	31.50	9.05	101.50	36.04	23.94	3.62	1.81	1.85	0.15	0.80	0.74	1.99
W9407	F23P	06-21-94	0704	4.13	W94070035	11.87	31.46	8.53	96.17	36.24	23.87	3.41	1.71	3.07	0.13	0.73	0.68	1.85
W9407	F23P	06-21-94	0705	1.58	W94070036	12.24	31.30	9.05	102.76	36.39	23.67	3.28	1.67	0.20	0.10	0.04	0.55	1.78
W9407	F23P	06-22-94	0606	15.35	W94070218	11.90	31.42	8.85	99.80	36.22	23.83	2.80	1.97	3.51	0.11	0.46	0.64	1.76
W9407	F23P	06-22-94	0607	11.61	W94070219	12.30	31.37	8.59	97.76	36.52	23.72	3.05	1.96	2.27	0.08	0.32	0.56	1.82
W9407	F23P	06-22-94	0608	7.54	W94070220	12.45	31.38	8.53	97.31	36.66	23.70	3.25	1.96	5.07	0.11	0.54	0.92	1.82
W9407	F23P	06-22-94	0609	4.94	W94070221	12.53	31.38	8.43	96.37	36.72	23.68	3.23	1.95	5.92	0.12	0.54	0.89	1.82
W9407	F23P	06-22-94	0610	1.42	W94070222	12.53	31.37	8.33	95.25	36.72	23.68	2.75	1.96	4.37	0.13	0.59	0.86	1.93
W9407	F24	06-21-94	0745	20.74	W94070046	6.40	31.98	10.01	100.11	32.03	25.12	1.81	0.94	0.89	0.08	0.64	0.73	1.38
W9407	F24	06-21-94	0746	14.75	W94070047	6.59	31.94	10.46	105.10	32.15	25.07	3.14	1.07	1.35	0.06	0.53	0.59	1.40
W9407	F24	06-21-94	0747	7.23	W94070048	8.83	31.76	10.51	111.07	33.90	24.61	2.45	1.12	0.24	0.04	0.06	0.38	1.12
W9407	F24	06-21-94	0749	1.44	W94070050	12.95	31.53	10.09	116.51	37.25	23.71	5.30	1.85	0.94	0.04	0.10	0.42	0.40
W9407	F24	06-21-94	0749	3.42	W94070049	12.68	31.50	10.03	115.18	36.99	23.75	5.55	1.91	0.39	0.06	0.13	0.30	0.49
W9407	F25	06-21-94	1608	12.16	W94070189	8.47	31.81	9.16	96.09	33.62	24.70	2.11	1.09	1.84	0.13	1.10	0.73	1.86
W9407	F25	06-21-94	1609	9.33	W94070190	10.38	31.68	8.83	96.52	35.16	24.29	3.03	1.43	2.19	0.14	1.00	0.76	1.82
W9407	F25	06-21-94	1610	7.42	W94070191	10.78	31.64	8.94	98.62	35.47	24.20	3.21	1.39	1.67	0.13	0.90	0.72	1.68
W9407	F25	06-21-94	1611	1.44	W94070193	12.35	31.49	8.48	96.63	36.69	23.80	3.95	1.90	0.43	0.14	0.61	0.64	2.44
W9407	F25	06-21-94	1611	4.84	W94070192	11.49	31.59	8.94	100.11	36.03	24.03	3.81	1.63	0.50	0.16	0.90	0.65	2.06
W9407	F26	06-22-94	1122	47.11	W94070293	5.25	32.11	9.08	88.45	31.18	25.35	0.74	3.06	3.63	0.20	4.54	0.84	5.50
W9407	F26	06-22-94	1123	32.84	W94070294	5.46	32.10	9.24	90.51	31.35	25.33	1.28	1.34	0.62	0.23	1.54	0.38	4.30
W9407	F26	06-22-94	1124	18.68	W94070295	6.75	31.87	10.11	101.94	32.22	24.99	3.02	1.60	1.18	0.07	0.58	0.48	0.51
W9407	F26	06-22-94	1125	8.76	W94070296	9.97	31.50	9.85	106.64	34.63	24.23	1.25	1.31	0.24	0.02	0.03	0.28	0.31
W9407	F26	06-22-94	1126	1.33	W94070297	11.26	31.34	9.31	103.55	35.58	23.88	0.72	1.04	0.25	0.02	0.06	0.21	0.37
W9407	F27B	06-22-94	1221	89.96	W94070308	4.45	32.50	8.93	85.58	30.86	25.75	0.23	1.41	1.96	0.14	8.12	0.96	6.67
W9407	F27B	06-22-94	1225	20.44	W94070310	8.42	32.22	9.44	99.19	33.99	25.03	1.99	0.81	0.62	0.14	1.28	0.50	1.45
W9407	F27B	06-22-94	1225	31.04	W94070309	6.63	32.35	8.84	89.11	32.56	25.38	0.98	0.72	1.74	0.30	4.13	0.70	2.60

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)
W9407	F27B	06-22-94	1227	1.30	W94070312	14.57	31.17	8.69	103.54	38.31	23.11	0.65	0.90	0.34	0.01	0.06	0.28	0.08
W9407	F27B	06-22-94	1227	8.76	W94070311	13.26	31.19	8.85	102.68	37.17	23.40	1.30	0.88	0.32	0.01	0.12	0.28	0.15
W9407	F28	06-22-94	1334	26.13	W94070329	5.15	32.31	9.93	96.63	31.27	25.53	1.28	0.65	1.96	0.23	3.05	0.68	3.74
W9407	F28	06-22-94	1335	20.98	W94070330	5.67	32.25	10.05	99.06	31.66	25.42	2.03	0.78	2.01	0.25	3.34	0.73	4.14
W9407	F28	06-22-94	1336	17.16	W94070331	7.03	32.12	10.41	105.82	32.69	25.15	2.26	0.90	1.42	0.18	2.35	0.63	3.36
W9407	F28	06-22-94	1337	1.50	W94070333	15.86	31.32	8.27	101.26	39.61	22.95	0.40	0.58	0.44	0.00	0.01	0.22	0.49
W9407	F28	06-22-94	1337	7.34	W94070332	13.80	31.53	8.91	104.73	38.01	23.55	0.63	0.68	0.47	0.00	0.00	0.28	0.66
W9407	F29	06-22-94	1610	60.00	W94070353	4.74	32.19	9.85	94.86	30.83	25.47	0.34	1.35	0.11	0.22	4.00	0.46	6.66
W9407	F29	06-22-94	1611	31.15	W94070354	4.87	32.20	9.84	95.06	30.93	25.47	0.52	1.00	4.64	0.21	3.95	0.81	5.57
W9407	F29	06-22-94	1612	14.68	W94070355	6.33	32.04	10.42	104.14	32.01	25.17	2.23	0.92	0.95	0.04	0.57	0.37	1.38
W9407	F29	06-22-94	1613	6.23	W94070356	7.32	31.89	9.91	101.24	32.71	24.93	1.35	0.83	1.89	0.12	1.69	0.53	2.26
W9407	F29	06-22-94	1614	1.37	W94070357	14.51	30.97	8.60	102.23	38.02	22.97	1.46	1.10	0.13	0.04	0.10	0.14	2.10
W9407	F30B	06-21-94	0605	10.36	W94070017	13.59	31.26	8.48	99.02	37.54	23.39	5.52	3.41	1.63	0.04	0.18	0.50	1.72
W9407	F30B	06-21-94	0608	3.70	W94070019	14.78	31.03	8.43	100.76	38.33	22.96	9.27	3.23	2.27	0.03	0.05	0.45	1.49
W9407	F30B	06-21-94	0609	1.61	W94070020	15.04	30.94	8.34	100.20	38.46	22.83	10.82	3.31	0.26	0.02	0.05	0.25	0.67
W9407	F31B	06-21-94	1637	10.99	W94070200	12.83	31.45	8.31	95.69	37.07	23.68	4.00	2.19	2.80	0.20	1.19	0.94	3.00
W9407	F31B	06-21-94	1638	5.65	W94070201	12.96	31.45	8.44	97.39	37.17	23.65	4.69	2.12	2.37	0.18	1.08	0.87	2.77
W9407	F31B	06-21-94	1639	1.59	W94070202	13.77	31.39	8.33	97.78	37.83	23.44	6.59	2.45	2.86	0.18	1.06	0.92	2.86
W9407	N01P	06-22-94	0705	25.63	W94070230	6.03	31.99	9.41	93.30	31.73	25.18	1.90	0.90	0.71	0.05	0.51	0.48	0.36
W9407	N01P	06-22-94	0706	19.11	W94070231	6.59	31.92	11.31	113.65	32.14	25.05	1.11	0.73	0.38	0.02	0.09	0.40	0.23
W9407	N01P	06-22-94	0708	13.05	W94070232	7.90	31.88	10.93	113.23	33.21	24.84	0.78	0.61	0.48	0.02	0.08	0.41	0.20
W9407	N01P	06-22-94	0709	1.56	W94070234	13.35	31.69	9.32	108.61	37.78	23.76	0.66	0.67	0.53	0.02	0.08	0.45	0.13
W9407	N01P	06-22-94	0709	6.79	W94070233	13.18	31.68	9.46	109.90	37.62	23.79	0.92	0.69	0.52	0.02	0.08	0.41	0.13
W9407	N01P	06-24-94	0744	26.52	W94070526	6.30	32.00	9.15	91.40	31.96	25.15	0.69	0.73	0.94	0.07	0.65	0.55	1.01
W9407	N01P	06-24-94	0745	12.34	W94070527	9.90	31.77	9.61	104.03	34.83	24.44	0.86	0.64	0.84	0.04	0.35	0.51	0.67
W9407	N01P	06-24-94	0747	8.26	W94070528	11.76	31.73	9.31	104.94	36.43	24.10	1.06	0.70	0.47	0.02	0.06	0.47	0.39
W9407	N01P	06-24-94	0748	4.56	W94070529	13.55	31.59	8.79	102.76	37.85	23.65	0.90	0.70	0.33	0.01	0.03	0.35	0.26
W9407	N01P	06-24-94	0749	1.99	W94070530	14.60	31.62	8.56	102.38	38.82	23.45	1.18	0.77	0.32	0.01	0.04	0.40	0.28
W9407	N02	06-24-94	0815	34.17	W94070539	5.72	32.08	8.92	87.92	31.55	25.28	0.68	0.80	2.03	0.15	2.21	0.70	2.50
W9407	N02	06-24-94	0816	23.15	W94070540	6.12	32.06	9.51	94.61	31.87	25.22	1.18	0.71	1.57	0.14	1.80	0.67	1.40
W9407	N02	06-24-94	0817	18.95	W94070541	6.86	32.03	9.83	99.47	32.46	25.10	1.71	0.73	1.05	0.09	0.86	0.56	1.05
W9407	N02	06-24-94	0818	8.23	W94070542	11.83	31.52	9.29	104.73	36.26	23.92	1.27	0.71	0.32	0.02	0.05	0.37	0.42
W9407	N02	06-24-94	0819	1.85	W94070543	14.79	31.57	8.41	100.89	38.94	23.38	1.19	0.75	0.32	0.02	0.03	0.35	0.27
W9407	N03	06-24-94	0843	38.94	W94070550	5.58	32.10	8.74	85.82	31.45	25.32	0.53	0.80	2.45	0.18	2.38	0.70	2.81
W9407	N03	06-24-94	0844	27.41	W94070551	5.90	32.07	9.12	90.19	31.68	25.25	0.89	0.63	1.99	0.13	2.40	0.70	1.97
W9407	N03	06-24-94	0845	21.89	W94070552	6.93	32.09	9.72	98.49	32.57	25.14	2.24	0.87	0.71	0.10	0.97	0.55	1.23
W9407	N03	06-24-94	0846	8.87	W94070553	9.00	31.79	10.16	107.81	34.07	24.61	1.20	0.70	0.45	0.05	0.04	0.40	0.43
W9407	N03	06-24-94	0847	1.91	W94070554	14.97	31.50	8.25	99.24	39.03	23.28	1.22	0.70	0.33	0.04	0.05	0.33	0.30
W9407	N04P	06-22-94	0816	45.18	W94070249	5.36	32.12	8.98	87.73	31.28	25.35	1.51	1.16	2.86	0.14	3.16	0.79	2.34
W9407	N04P	06-22-94	0817	35.20	W94070250	5.66	32.05	9.43	92.71	31.47	25.27	1.69	0.62	2.83	0.12	2.69	0.77	0.37
W9407	N04P	06-22-94	0818	24.13	W94070251	6.27	32.01	10.02	100.01	31.94	25.16	1.31	0.60	0.80	0.07	0.87	0.54	0.23
W9407	N04P	06-22-94	0820	10.71	W94070252	6.87	31.92	10.17	102.84	32.37	25.01	1.06	0.67	0.51	0.04	0.24	0.45	0.58
W9407	N04P	06-22-94	0821	1.49	W94070253	12.94	31.59	8.86	102.37	37.32	23.77	0.54	0.64	0.36	0.02	0.11	0.35	0.31
W9407	N04P	06-24-94	0913	46.47	W94070561	5.50	32.11	8.80	86.23	31.39	25.33	0.72	0.93	2.92	0.19	3.01	0.80	2.98
W9407	N04P	06-24-94	0914	23.58	W94070562	6.31	31.97	9.31	92.96	31.95	25.12	0.81	0.59	1.66	0.13	1.15	0.59	0.99
W9407	N04P	06-24-94	0916	16.07	W94070563	7.20	31.93	9.75	99.43	32.67	24.98	1.34	0.67	0.98	0.10	0.62	0.55	0.68
W9407	N04P	06-24-94	0917	1.88	W94070565	15.07	31.15	8.35	100.50	38.72	22.99	1.71	0.79	0.45	0.05	-0.01	0.30	0.27
W9407	N04P	06-24-94	0917	7.24	W94070564	13.25	31.35	8.90	103.33	37.34	23.52	0.85	0.60	0.33	0.05	0.01	0.35	0.34
W9407	N05	06-24-94	0940	50.56	W94070572	5.56	32.11	8.77	86.07	31.44	25.32	0.72	0.94	3.01	0.14	3.59	0.79	3.49
W9407	N05	06-24-94	0942	33.05	W94070573	5.94	32.05	9.02	89.30	31.70	25.23	1.40	0.64	2.59	0.11	2.82	0.71	2.51
W9407	N05	06-24-94	0943	14.31	W94070574	7.57	32.02	9.77	100.54	33.07	25.00	1.16	0.64	0.74	0.02	0.62	0.47	0.72
W9407	N05	06-24-94	0944	1.92	W94070576	15.88	30.90	8.18	99.87	39.16	22.62	1.20	0.68	0.25	0.00	0.03	0.27	0.25
W9407	N05	06-24-94	0944	6.23	W94070575	13.50	31.35	8.80	102.63	37.55	23.47	0.87	0.61	0.15	0.00	0.01	0.28	0.26
W9407	N06	06-24-94	1007	48.72	W94070583	5.60	32.12	8.81	86.54	31.49	25.33	0.66	0.90	2.95	0.15	3.51	0.78	3.76

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)
W9407	N06	06-24-94	1009	19.19	W94070584	6.37	31.98	9.48	94.83	32.00	25.12	0.94	0.60	1.42	0.07	1.17	0.56	0.76
W9407	N06	06-24-94	1010	14.41	W94070585	7.13	31.97	9.87	100.45	32.63	25.01	1.34	0.67	0.67	0.04	0.60	0.46	0.65
W9407	N06	06-24-94	1011	1.81	W94070587	14.92	31.16	8.36	100.32	38.60	23.03	1.43	0.72	0.22	0.00	0.02	0.27	0.26
W9407	N06	06-24-94	1011	6.86	W94070586	12.44	31.46	9.14	104.30	36.73	23.76	0.83	0.61	0.22	0.00	0.03	0.29	0.38
W9407	N07P	06-21-94	1126	43.96	W94070104	5.38	32.16	9.08	88.75	31.33	25.38	0.46	0.74	2.88	0.17	3.17	0.79	4.51
W9407	N07P	06-21-94	1127	30.69	W94070105	5.45	32.16	9.02	88.33	31.39	25.37	0.50	0.80	3.49	0.19	3.88	0.86	5.23
W9407	N07P	06-21-94	1129	18.13	W94070106	7.68	32.18	9.96	102.79	33.31	25.11	3.21	1.06	0.54	0.04	0.40	0.47	1.10
W9407	N07P	06-21-94	1130	6.36	W94070107	10.96	31.88	9.93	110.08	35.87	24.36	0.72	0.64	0.33	0.02	0.12	0.38	0.54
W9407	N07P	06-21-94	1132	1.67	W94070109	15.67	31.45	9.11	111.10	39.59	23.09	0.94	0.71	0.43	0.02	0.20	0.38	0.20
W9407	N07P	06-24-94	1034	46.75	W94070597	5.54	32.12	8.77	86.05	31.44	25.33	0.83	0.86	3.14	0.17	3.70	0.81	3.94
W9407	N07P	06-24-94	1036	29.31	W94070598	5.88	32.13	8.93	88.38	31.73	25.30	0.73	0.62	3.03	0.19	3.94	0.81	3.96
W9407	N07P	06-24-94	1037	14.94	W94070599	8.11	32.17	9.79	102.09	33.67	25.04	1.71	0.70	0.49	0.04	0.45	0.44	1.09
W9407	N07P	06-24-94	1038	6.58	W94070600	13.84	31.27	8.65	101.58	37.76	23.34	0.89	0.60	1.57	0.01	0.02	0.42	0.29
W9407	N07P	06-24-94	1039	1.98	W94070601	15.04	31.11	8.33	100.18	38.65	22.97	1.24	0.68	0.22	0.01	0.01	0.26	0.27
W9407	N08	06-24-94	1103	31.89	W94070608	5.95	32.10	8.99	89.07	31.75	25.27	0.98	0.66	1.95	0.13	2.24	0.66	1.96
W9407	N08	06-24-94	1104	24.99	W94070609	5.95	32.09	9.00	89.16	31.74	25.26	0.78	0.62	1.84	0.12	1.99	0.62	1.50
W9407	N08	06-24-94	1105	17.10	W94070610	7.35	32.07	9.82	100.56	32.92	25.06	1.99	0.75	0.50	0.04	0.40	0.46	0.98
W9407	N08	06-24-94	1106	7.18	W94070611	10.41	31.62	9.86	107.84	35.11	24.24	0.99	0.69	0.29	0.02	0.04	0.37	0.50
W9407	N08	06-24-94	1107	1.94	W94070612	15.36	31.56	8.41	102.05	39.44	23.25	1.31	0.83	0.28	0.02	0.03	0.36	0.38
W9407	N09	06-24-94	1142	33.17	W94070619	5.86	32.06	8.52	84.17	31.64	25.25	0.62	0.76	1.63	0.15	2.47	0.74	3.41
W9407	N09	06-24-94	1143	24.16	W94070620	5.87	32.06	8.52	84.19	31.64	25.24	0.68	0.74	1.85	0.16	2.92	0.79	3.89
W9407	N09	06-24-94	1144	15.67	W94070621	6.60	32.00	9.36	94.09	32.21	25.11	1.16	0.67	1.04	0.09	1.48	0.65	2.00
W9407	N09	06-24-94	1146	1.74	W94070623	14.70	31.64	8.55	102.36	38.93	23.45	1.69	0.87	0.21	0.01	0.05	0.32	0.23
W9407	N09	06-24-94	1146	5.10	W94070622	12.46	31.69	9.25	105.81	36.99	23.93	1.20	0.75	0.21	0.01	0.05	0.36	0.23
W9407	N10P	06-21-94	1536	19.57	W94070177	8.81	31.77	9.49	100.28	33.88	24.62	3.17	1.17	1.29	0.11	0.80	0.67	1.40
W9407	N10P	06-21-94	1537	13.24	W94070178	9.84	31.71	9.15	98.95	34.72	24.41	3.36	1.35	1.42	0.13	0.88	0.69	1.52
W9407	N10P	06-21-94	1540	8.63	W94070179	11.29	31.59	8.76	97.64	35.86	24.07	3.85	1.64	1.74	0.15	0.97	0.71	2.01
W9407	N10P	06-21-94	1541	4.18	W94070180	11.87	31.53	8.67	97.85	36.31	23.92	4.41	1.84	2.39	0.17	0.96	0.78	2.22
W9407	N10P	06-21-94	1542	1.49	W94070181	12.09	31.49	8.66	98.16	36.45	23.85	4.57	1.90	0.83	0.16	0.90	0.70	2.36
W9407	N10P	06-24-94	0632	21.36	W94070489	9.08	31.78	8.97	95.36	34.13	24.58	1.32	1.11	2.60	0.14	0.17	0.69	1.69
W9407	N10P	06-24-94	0633	14.03	W94070490	10.57	31.71	8.79	96.50	35.35	24.29	2.07	1.33	2.17	0.14	1.11	0.72	1.61
W9407	N10P	06-24-94	0634	9.54	W94070491	11.08	31.66	8.66	96.17	35.75	24.16	2.29	1.53	2.52	0.15	1.11	0.79	1.75
W9407	N10P	06-24-94	0635	5.02	W94070492	11.74	31.61	8.40	94.57	36.27	24.01	2.44	1.71	3.72	0.15	1.10	0.77	1.97
W9407	N10P	06-24-94	0636	1.95	W94070493	12.26	31.59	8.32	94.74	36.71	23.89	2.61	1.83	3.38	0.15	1.11	0.86	1.97
W9407	N11	06-24-94	0656	25.51	W94070504	6.16	32.05	9.27	92.27	31.88	25.20	0.87	0.82	2.69	0.11	1.06	0.66	1.43
W9407	N11	06-24-94	0657	13.15	W94070505	7.45	31.88	9.45	96.89	32.83	24.90	1.13	0.89	1.60	0.09	0.92	0.58	1.05
W9407	N11	06-24-94	0658	8.79	W94070506	10.37	31.69	8.97	98.08	35.15	24.30	1.81	1.20	2.80	0.10	0.58	0.69	1.18
W9407	N11	06-24-94	0659	1.92	W94070508	11.77	31.57	8.57	96.56	36.26	23.97	2.04	1.56	4.37	0.12	0.62	0.86	1.63
W9407	N11	06-24-94	0659	4.41	W94070507	11.62	31.60	8.61	96.70	36.15	24.02	1.94	1.50	3.84	0.10	0.56	0.75	1.46
W9407	N12	06-24-94	0721	21.21	W94070515	6.75	31.99	9.95	100.37	32.33	25.08	0.92	0.73	2.10	0.06	0.32	0.54	0.87
W9407	N12	06-24-94	0722	15.84	W94070516	8.88	31.84	10.08	106.73	34.01	24.66	1.13	0.71	0.47	0.03	0.08	0.43	0.43
W9407	N12	06-24-94	0723	8.45	W94070517	12.05	31.58	8.52	96.50	36.52	23.93	2.05	1.61	3.96	0.11	0.50	0.75	1.44
W9407	N12	06-24-94	0724	2.01	W94070519	14.15	31.64	8.50	100.65	38.44	23.56	1.39	0.91	1.48	0.05	0.16	0.50	0.59
W9407	N12	06-24-94	0724	3.65	W94070518	13.35	31.59	8.28	96.49	37.67	23.68	1.71	1.24	2.46	0.08	0.29	0.58	0.96
W9407	N13	06-24-94	1250	20.68	W94070653	5.94	32.03	8.97	88.82	31.68	25.21	0.77	0.83	1.72	0.11	2.27	0.70	2.13
W9407	N13	06-24-94	1250	28.26	W94070652	5.91	32.03	8.99	88.95	31.66	25.22	0.63	0.83	1.38	0.09	1.68	0.60	1.64
W9407	N13	06-24-94	1251	14.53	W94070654	7.26	31.95	10.31	105.19	32.72	24.98	1.84	0.76	0.80	0.02	0.25	0.44	0.62
W9407	N13	06-24-94	1252	7.52	W94070655	11.00	31.66	9.61	106.50	35.68	24.18	1.07	0.68	0.25	0.01	0.06	0.35	0.38
W9407	N13	06-24-94	1253	1.94	W94070656	14.72	31.58	8.31	99.59	38.89	23.40	1.30	0.76	0.22	0.01	0.04	0.28	0.29
W9407	N14	06-24-94	1310	30.48	W94070663	5.90	32.05	9.03	89.32	31.67	25.24	0.70	0.68	1.76	0.12	2.43	0.71	2.22
W9407	N14	06-24-94	1311	22.64	W94070664	5.92	32.04	9.13	90.32	31.68	25.23	0.77	0.69	1.73	0.12	2.40	0.68	2.13
W9407	N14	06-24-94	1312	14.45	W94070665	7.32	31.97	10.27	104.96	32.79	24.99	1.84	0.77	0.97	0.05	0.61	0.53	0.88
W9407	N14	06-24-94	1313	1.98	W94070667	14.85	31.47	8.35	100.25	38.88	23.29	1.57	0.78	0.38	0.01	0.04	0.29	0.29
W9407	N14	06-24-94	1313	5.88	W94070666	14.33	31.53	8.55	101.52	38.48	23.44	1.11	0.69	0.30	0.01	0.03	0.29	0.28

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

Event	Station	Date	Time (EST)	Depth (M)	Sample Id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm) (%)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9407	N15	06-24-94	1330	40.85	W94070674	5.82	32.10	9.02	89.08	31.65	25.28	0.68	0.69	2.70	0.16	3.23	0.75	2.88
W9407	N15	06-24-94	1331	29.37	W94070675	5.94	32.07	9.13	90.38	31.72	25.25	1.02	0.66	2.68	0.14	2.89	0.71	2.20
W9407	N15	06-24-94	1332	16.06	W94070676	7.70	32.04	9.92	102.34	33.19	24.99	1.39	0.68	0.58	0.03	0.35	0.44	0.69
W9407	N15	06-24-94	1333	7.12	W94070677	14.35	31.44	8.53	101.29	38.40	23.37	1.08	0.62	0.36	0.01	0.10	0.37	0.39
W9407	N15	06-24-94	1334	1.92	W94070678	15.50	31.00	8.24	99.88	38.93	22.78	1.65	0.75	0.33	0.01	0.08	0.28	0.27
W9407	N16P	06-21-94	1007	40.31	W94070092	5.52	32.12	9.03	88.56	31.42	25.34	0.92	0.75	3.19	0.17	3.51	0.78	3.94
W9407	N16P	06-21-94	1008	28.34	W94070093	5.74	32.16	9.16	90.38	31.63	25.34	0.75	0.62	2.96	0.20	3.61	0.78	3.68
W9407	N16P	06-21-94	1010	16.92	W94070094	7.26	32.09	9.99	102.03	32.86	25.09	1.78	0.72	0.58	0.09	1.00	0.50	1.14
W9407	N16P	06-21-94	1011	7.76	W94070095	10.45	32.00	10.52	115.43	35.54	24.53	0.71	0.62	0.78	0.02	0.16	0.38	0.39
W9407	N16P	06-21-94	1012	1.49	W94070096	15.43	31.41	9.24	112.18	39.33	23.12	0.91	0.74	0.30	0.02	0.09	0.38	0.12
W9407	N16P	06-22-94	0850	40.07	W94070261	5.57	32.13	9.14	89.81	31.47	25.34	0.58	0.75	3.09	0.19	3.49	0.78	3.62
W9407	N16P	06-22-94	0851	28.34	W94070262	5.80	32.13	9.27	91.54	31.65	25.31	0.98	0.67	2.72	0.20	3.50	0.77	2.82
W9407	N16P	06-22-94	0852	21.02	W94070263	5.86	32.06	9.38	92.69	31.64	25.25	2.23	0.74	1.93	0.14	2.55	0.68	1.27
W9407	N16P	06-22-94	0854	7.42	W94070264	8.00	31.95	10.14	105.31	33.36	24.88	0.75	0.71	0.47	0.04	0.15	0.41	0.68
W9407	N16P	06-22-94	0855	1.41	W94070265	14.09	31.58	8.94	105.74	38.32	23.53	0.76	0.78	0.43	0.03	0.16	0.40	0.27
W9407	N16P	06-24-94	1351	39.77	W94070685	5.91	32.08	9.01	89.18	31.71	25.26	0.66	0.65	2.46	0.14	2.84	0.71	2.66
W9407	N16P	06-24-94	1352	29.96	W94070686	6.02	32.07	9.20	91.32	31.79	25.24	0.88	0.64	2.15	0.13	2.57	0.69	2.31
W9407	N16P	06-24-94	1353	20.04	W94070687	6.52	32.03	9.63	96.65	32.17	25.14	1.04	0.62	1.25	0.08	1.21	0.60	0.87
W9407	N16P	06-24-94	1354	9.20	W94070688	11.24	31.86	9.57	106.76	36.10	24.29	1.28	0.66	0.28	0.00	0.11	0.34	0.45
W9407	N16P	06-24-94	1355	1.90	W94070689	15.28	31.05	8.25	99.58	38.80	22.87	1.53	0.73	0.25	0.00	0.07	0.27	0.27
W9407	N17	06-24-94	1411	35.94	W94070696	5.89	32.08	9.01	89.14	31.69	25.26	0.78	0.66	2.65	0.15	2.94	0.74	2.50
W9407	N17	06-24-94	1412	24.78	W94070697	6.16	32.03	9.30	92.57	31.87	25.19	0.68	0.58	2.03	0.12	1.92	0.61	1.23
W9407	N17	06-24-94	1413	15.69	W94070698	7.04	32.04	9.72	98.72	32.62	25.08	1.23	0.65	1.04	0.08	0.91	0.56	0.89
W9407	N17	06-24-94	1414	1.89	W94070700	14.75	31.32	8.43	100.89	38.63	23.19	1.65	0.74	0.25	0.01	0.13	0.31	0.29
W9407	N17	06-24-94	1414	7.57	W94070699	14.55	31.51	8.59	102.54	38.66	23.38	1.18	0.67	0.26	0.02	0.16	0.32	0.29
W9407	N18	06-24-94	1435	15.96	W94070711	6.51	32.06	9.35	93.82	32.19	25.17	1.29	0.66	1.46	0.12	2.05	0.62	2.04
W9407	N18	06-24-94	1435	22.23	W94070710	6.17	32.08	9.27	92.33	31.93	25.23	0.77	0.61	1.79	0.14	2.65	0.68	2.77
W9407	N18	06-24-94	1436	10.85	W94070712	9.04	31.93	9.82	104.41	34.24	24.71	1.46	0.75	0.43	0.03	0.38	0.42	0.75
W9407	N18	06-24-94	1437	4.40	W94070713	14.62	31.60	8.47	101.25	38.82	23.43	1.52	0.80	0.28	0.01	0.20	0.34	0.35
W9407	N18	06-24-94	1438	1.94	W94070714	14.77	31.60	8.48	101.67	38.95	23.40	1.54	0.80	0.26	0.02	0.17	0.37	0.31
W9407	N19	06-24-94	1204	23.90	W94070630	6.12	32.07	9.16	91.16	31.87	25.22	0.82	0.64	0.96	0.08	1.70	0.52	2.11
W9407	N19	06-24-94	1205	18.87	W94070631	6.24	32.05	9.24	92.16	31.95	25.20	0.96	0.65	1.26	0.01	2.34	0.58	2.80
W9407	N19	06-24-94	1206	11.40	W94070632	8.18	31.92	10.06	104.91	33.49	24.83	1.63	0.78	0.58	0.02	0.61	0.42	0.94
W9407	N19	06-24-94	1207	5.15	W94070633	11.60	31.72	9.46	106.31	36.27	24.12	1.37	0.74	0.39	0.00	0.28	0.34	0.39
W9407	N19	06-24-94	1209	1.71	W94070634	13.82	31.66	8.73	102.71	38.16	23.64	1.27	0.78	0.40	0.00	0.29	0.36	0.27
W9407	N20P	06-21-94	0912	29.75	W94070070	5.69	32.10	9.31	91.67	31.54	25.30	0.89	0.89	1.86	0.13	2.53	0.72	2.76
W9407	N20P	06-21-94	0915	17.74	W94070071	6.13	31.99	10.52	104.58	31.80	25.16	3.27	1.07	0.49	0.05	0.59	0.49	0.47
W9407	N20P	06-21-94	0917	8.97	W94070072	7.43	31.87	10.94	112.09	32.79	24.89	1.99	0.82	0.30	0.02	0.11	0.41	0.28
W9407	N20P	06-21-94	0918	4.32	W94070073	9.57	31.80	10.77	115.76	34.57	24.52	1.52	0.86	0.32	0.02	0.09	0.37	0.16
W9407	N20P	06-21-94	0919	1.63	W94070074	13.57	31.54	10.67	124.83	37.82	23.60	4.16	1.90	0.34	0.02	0.11	0.50	0.10
W9407	N20P	06-24-94	1227	28.09	W94070641	5.97	32.09	9.02	89.40	31.76	25.25	0.74	0.66	1.89	0.01	3.31	0.69	3.48
W9407	N20P	06-24-94	1228	21.01	W94070642	6.04	32.08	9.03	89.65	31.81	25.24	0.83	0.65	1.92	0.14	2.81	0.69	3.36
W9407	N20P	06-24-94	1229	6.11	W94070644	12.76	31.66	9.01	103.70	37.23	23.86	1.15	0.72	0.26	0.01	0.38	0.29	0.28
W9407	N20P	06-24-94	1229	13.50	W94070643	7.83	31.98	10.10	104.51	33.24	24.93	1.80	0.79	0.31	0.02	0.57	0.40	0.81
W9407	N20P	06-24-94	1230	1.78	W94070645	14.37	31.61	8.57	102.00	38.61	23.50	1.31	0.76	0.28	0.01	0.37	0.29	0.28
W9407	N21	06-24-94	1455	32.08	W94070721	6.04	32.08	9.08	90.12	31.82	25.24	0.75	0.67	1.94	0.10	2.79	0.66	3.35
W9407	N21	06-24-94	1456	23.09	W94070722	6.10	32.08	9.19	91.40	31.86	25.23	0.88	0.66	1.90	0.15	2.70	0.69	3.22
W9407	N21	06-24-94	1457	14.64	W94070723	7.32	32.00	9.78	100.05	32.83	25.02	1.53	0.73	0.99	0.15	0.88	0.52	1.08
W9407	N21	06-24-94	1458	6.72	W94070724	13.96	31.56	8.69	102.48	38.18	23.54	1.28	0.73	0.30	0.07	-0.07	0.34	0.39
W9407	N21	06-24-94	1459	1.92	W94070725	14.69	31.53	8.51	101.82	38.81	23.37	1.47	0.76	0.32	0.01	-0.01	0.29	0.34
W9408	N01P	07-07-94	0803	22.12	W94080071	6.71	31.97	9.42	94.98	32.28	25.07	1.63	1.15	1.39	0.15	2.66	0.73	3.40
W9408	N01P	07-07-94	0803	27.72	W94080070	6.42	32.00	9.15	91.66	32.06	25.13	0.82	0.92	1.35	0.15	2.39	0.71	3.38
W9408	N01P	07-07-94	0804	16.95	W94080072	7.18	31.96	10.20	103.94	32.67	25.00	2.68	1.37	0.33	0.08	0.98	0.61	3.13
W9408	N01P	07-07-94	0806	8.19	W94080073	10.50	31.81	10.83	118.84	35.39	24.38	2.00	1.42	0.19	0.03	0.07	0.39	1.45

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)
W9408	N01P	07-07-94	0807	1.61	W94080074	16.20	31.72	9.31	114.99	40.38	23.19	0.83	1.11	0.14	0.02	0.07	0.35	0.78
W9408	N02	07-07-94	0836	35.82	W94080089	6.07	32.04	8.85	87.94	31.80	25.21	0.44	1.02	3.54	0.21	3.86	0.88	5.60
W9408	N02	07-07-94	0837	27.10	W94080090	6.32	32.02	9.19	91.76	31.99	25.16	0.58	0.94	3.33	0.19	3.68	0.88	5.21
W9408	N02	07-07-94	0839	17.64	W94080091	7.10	31.99	10.22	103.96	32.63	25.04	4.15	1.50	0.39	0.06	0.68	0.54	1.90
W9408	N02	07-07-94	0840	1.52	W94080093	16.42	31.64	9.13	113.25	40.49	23.07	0.77	1.11	0.28	0.03	0.08	0.36	0.83
W9408	N02	07-07-94	0840	8.53	W94080092	11.17	31.85	10.49	116.80	36.01	24.29	1.36	1.15	0.64	0.04	0.37	0.46	1.53
W9408	N03	07-07-94	0901	39.97	W94080102	5.74	32.09	8.96	88.30	31.58	25.29	0.33	0.85	3.51	0.27	5.40	0.94	6.52
W9408	N03	07-07-94	0902	28.58	W94080103	5.86	32.04	9.11	90.05	31.62	25.23	0.50	0.90	3.86	0.26	4.86	0.94	5.93
W9408	N03	07-07-94	0903	16.95	W94080104	7.81	31.90	10.70	110.54	33.15	24.87	1.56	1.22	0.54	0.10	1.56	0.58	2.13
W9408	N03	07-07-94	0904	8.59	W94080105	15.74	31.67	9.16	112.12	39.91	23.25	0.89	1.04	0.37	0.04	0.14	0.38	1.15
W9408	N03	07-07-94	0905	1.60	W94080106	16.56	31.65	9.11	113.32	40.63	23.05	0.71	1.10	0.64	0.06	0.05	0.35	0.81
W9408	N05	07-07-94	0954	52.39	W94080130	5.44	32.14	8.97	87.80	31.37	25.36	0.27	0.93	2.77	0.30	6.64	0.93	6.97
W9408	N05	07-07-94	0955	34.53	W94080131	5.71	32.14	9.11	89.81	31.60	25.33	0.44	0.92	2.52	0.31	7.16	0.95	6.22
W9408	N05	07-07-94	0957	16.23	W94080132	7.74	31.87	10.53	108.64	33.06	24.85	1.32	1.09	0.23	0.11	1.81	0.57	1.86
W9408	N05	07-07-94	0958	7.94	W94080133	12.91	31.72	9.82	113.37	37.42	23.87	0.77	0.96	0.23	0.05	0.54	0.39	1.16
W9408	N05	07-07-94	0959	1.76	W94080134	16.65	31.60	8.76	109.09	40.65	22.99	0.69	0.99	0.16	0.03	0.11	0.35	0.97
W9408	N06	07-07-94	1018	49.28	W94080143	5.56	32.11	8.90	87.33	31.45	25.33	0.29	0.90	3.55	0.32	6.41	0.99	7.61
W9408	N06	07-07-94	1019	34.19	W94080144	5.58	32.11	8.92	87.57	31.45	25.32	0.28	0.92	3.49	0.32	6.44	1.00	7.74
W9408	N06	07-07-94	1020	18.94	W94080145	7.47	32.06	10.05	103.22	33.02	25.04	2.68	1.19	0.62	0.11	1.80	0.61	1.55
W9408	N06	07-07-94	1021	8.68	W94080146	10.65	31.72	10.33	113.69	35.43	24.28	0.67	0.90	0.33	0.04	0.14	0.41	0.81
W9408	N06	07-07-94	1022	1.69	W94080147	16.56	31.59	8.54	106.21	40.57	23.00	0.41	0.92	0.40	0.06	0.07	0.35	1.29
W9408	N07P	07-07-94	1041	45.30	W94080156	5.60	32.12	8.96	88.02	31.49	25.33	0.37	0.88	3.22	0.34	5.79	0.95	6.86
W9408	N07P	07-07-94	1042	28.88	W94080157	5.66	32.11	9.07	89.27	31.52	25.31	0.52	0.87	3.31	0.34	5.96	0.97	6.94
W9408	N07P	07-07-94	1043	14.38	W94080158	8.04	31.97	10.31	107.20	33.41	24.89	0.91	0.94	0.64	0.14	2.04	0.60	1.89
W9408	N07P	07-07-94	1044	6.19	W94080159	12.22	31.75	9.98	113.64	36.84	24.02	0.88	0.97	0.29	0.05	0.33	0.42	0.86
W9408	N07P	07-07-94	1045	1.95	W94080160	16.06	31.71	8.93	109.94	40.24	23.21	0.52	0.96	0.18	0.04	0.19	0.40	0.75
W9408	N08	07-07-94	1114	31.16	W94080169	6.19	32.05	8.91	88.71	31.92	25.20	0.66	0.84	1.86	0.21	2.54	0.75	4.84
W9408	N08	07-07-94	1115	25.66	W94080170	6.26	32.04	8.97	89.49	31.97	25.19	0.75	0.94	2.24	0.24	3.01	0.81	5.41
W9408	N08	07-07-94	1116	13.93	W94080171	10.16	31.88	10.28	112.05	35.17	24.49	3.17	1.56	0.37	0.08	0.36	0.48	1.77
W9408	N08	07-07-94	1117	7.06	W94080172	13.63	31.74	10.09	118.24	38.08	23.74	2.47	1.70	0.59	0.11	0.56	0.48	1.57
W9408	N08	07-07-94	1118	1.91	W94080173	15.45	31.65	9.70	118.00	39.62	23.30	1.04	1.42	0.23	0.07	0.10	0.38	0.44
W9408	N09	07-07-94	1200	33.11	W94080186	6.28	32.03	8.97	89.51	31.97	25.17	0.40	1.27	2.36	0.19	2.07	0.72	4.59
W9408	N09	07-07-94	1201	22.26	W94080187	6.38	32.01	9.15	91.57	32.04	25.15	0.65	1.38	2.53	0.21	2.34	0.72	4.74
W9408	N09	07-07-94	1202	9.61	W94080188	7.73	31.95	9.51	98.11	33.13	24.92	3.21	1.77	0.36	0.11	0.53	0.48	2.76
W9408	N09	07-07-94	1203	5.41	W94080189	11.44	31.74	10.56	118.22	36.14	24.16	2.57	1.66	0.46	0.10	0.44	0.42	2.35
W9408	N09	07-07-94	1204	1.66	W94080190	14.26	31.63	10.61	125.99	38.53	23.53	2.66	2.41	0.27	0.07	0.11	0.28	0.67
W9408	N10P	07-07-94	0640	20.38	W94080031	6.77	32.01	9.29	93.78	32.37	25.09	0.85	1.17	2.41	0.22	1.40	0.55	4.16
W9408	N10P	07-07-94	0641	15.03	W94080032	7.46	31.96	9.52	97.61	32.91	24.96	2.00	1.49	1.75	0.21	1.45	0.59	4.26
W9408	N10P	07-07-94	0642	4.84	W94080034	10.93	31.76	9.52	105.38	35.71	24.26	3.77	1.83	1.28	0.12	0.73	0.49	2.85
W9408	N10P	07-07-94	0642	9.66	W94080033	8.02	31.93	9.59	99.61	33.36	24.86	2.22	1.52	1.08	0.16	1.05	0.53	3.62
W9408	N10P	07-07-94	0643	1.53	W94080035	12.68	31.64	9.43	108.37	37.13	23.85	3.93	1.95	0.52	0.11	0.40	0.56	2.25
W9408	N11	07-07-94	0708	26.22	W94080044	6.48	32.03	9.10	91.28	32.14	25.15	0.77	1.09	1.77	0.14	2.17	0.74	4.77
W9408	N11	07-07-94	0709	20.10	W94080045	6.73	32.02	9.16	92.44	32.34	25.11	0.98	1.23	1.51	0.13	2.07	0.70	4.63
W9408	N11	07-07-94	0710	5.64	W94080047	11.28	31.75	10.44	116.45	36.01	24.19	3.31	1.80	0.79	0.09	1.04	0.53	2.96
W9408	N11	07-07-94	0710	13.00	W94080046	7.32	31.99	9.56	97.73	32.81	25.00	1.36	1.13	1.14	0.12	1.49	0.61	3.82
W9408	N11	07-07-94	0711	1.69	W94080048	15.24	31.65	9.80	118.63	39.43	23.34	1.83	1.48	0.65	0.03	0.18	0.40	1.05
W9408	N12	07-07-94	0734	20.60	W94080057	6.92	31.99	9.52	96.41	32.48	25.06	2.12	1.22	0.91	0.09	0.90	0.48	2.49
W9408	N12	07-07-94	0735	9.57	W94080059	8.88	31.80	10.70	113.20	33.97	24.63	2.23	1.28	0.48	0.05	0.49	0.45	2.26
W9408	N12	07-07-94	0735	13.81	W94080058	7.36	31.89	10.32	105.59	32.76	24.92	3.07	1.37	1.14	0.12	1.44	0.59	3.20
W9408	N12	07-07-94	0736	3.82	W94080060	14.36	31.29	10.32	122.54	38.25	23.25	1.82	1.34	0.65	0.03	0.22	0.32	0.83
W9408	N12	07-07-94	0737	1.59	W94080061	16.05	31.69	9.29	114.36	40.21	23.19	1.13	1.12	0.25	0.03	0.20	0.32	0.74
W9408	N16P	07-07-94	1320	30.16	W94080225	5.91	32.07	8.88	87.83	31.70	25.25	0.62	0.88	3.41	0.29	5.46	0.90	6.78
W9408	N16P	07-07-94	1320	40.00	W94080224	5.79	32.09	8.99	88.71	31.61	25.28	0.43	0.80	3.27	0.30	5.42	0.87	6.53
W9408	N16P	07-07-94	1321	22.33	W94080226	6.55	31.99	9.49	95.26	32.17	25.11	2.71	1.17	1.46	0.27	5.00	0.75	4.34

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

Event	Station	Date	Time (EST)	Depth (M)	Sample Id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm) (%)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9408	N16P	07-07-94	1322	12.04	W94080227	9.13	31.91	10.57	112.61	34.30	24.68	0.76	0.95	0.34	0.04	0.25	0.37	0.93
W9408	N16P	07-07-94	1323	1.68	W94080228	16.76	31.64	8.84	110.40	40.80	22.99	0.71	1.00	0.30	0.03	0.16	0.30	1.04
W9408	N18	07-07-94	1403	19.48	W94080248	6.38	32.03	8.79	87.96	32.05	25.16	0.58	1.01	2.57	0.19	2.88	0.78	6.03
W9408	N18	07-07-94	1403	28.20	W94080247	6.27	32.04	8.72	87.03	31.98	25.18	0.41	0.84	2.43	0.18	2.84	0.76	6.02
W9408	N18	07-07-94	1404	9.38	W94080249	7.52	31.94	10.62	109.08	32.93	24.94	3.18	1.29	0.72	0.08	0.78	0.51	3.01
W9408	N18	07-07-94	1405	1.84	W94080251	15.23	31.63	9.90	119.86	39.41	23.33	2.27	1.77	0.26	0.01	0.11	0.34	0.57
W9408	N18	07-07-94	1405	5.12	W94080250	9.57	31.71	10.58	113.68	34.48	24.45	2.49	1.30	0.39	0.02	0.14	0.36	1.55
W9408	N19	07-07-94	1225	22.32	W94080197	6.43	32.03	8.82	88.37	32.09	25.15	0.55	0.89	2.48	0.15	2.38	0.77	5.66
W9408	N19	07-07-94	1226	17.12	W94080198	6.44	32.01	8.90	89.13	32.09	25.14	0.70	0.89	2.55	0.16	2.25	0.74	5.06
W9408	N19	07-07-94	1227	12.90	W94080199	7.50	31.96	10.16	104.27	32.94	24.96	3.92	1.41	0.52	0.03	0.25	0.50	2.29
W9408	N19	07-07-94	1228	1.73	W94080201	16.48	31.65	9.88	122.63	40.55	23.06	1.49	2.04	0.23	0.02	0.07	0.26	0.32
W9408	N19	07-07-94	1228	7.01	W94080200	13.41	31.94	10.13	118.34	38.11	23.94	1.95	1.77	0.29	0.02	0.19	0.38	1.40
W9408	N20P	07-07-94	1246	28.38	W94080209	6.12	32.05	8.83	87.84	31.85	25.21	0.56	1.00	3.02	0.18	3.37	0.81	6.25
W9408	N20P	07-07-94	1247	20.80	W94080210	6.26	32.04	9.04	90.21	31.96	25.18	1.36	1.08	2.13	0.18	3.34	0.77	5.08
W9408	N20P	07-07-94	1248	7.47	W94080212	10.50	31.84	10.42	114.33	35.43	24.40	1.65	1.24	0.33	0.02	0.20	0.40	1.56
W9408	N20P	07-07-94	1248	13.92	W94080211	7.45	32.02	10.24	105.05	32.95	25.01	3.81	1.47	0.50	0.09	1.22	0.58	3.08
W9408	N20P	07-07-94	1249	1.87	W94080213	15.76	31.66	9.55	116.84	39.91	23.23	0.76	1.21	0.28	0.01	0.07	0.38	0.52
W9408	N21	07-07-94	1341	32.60	W94080236	6.15	32.05	8.77	87.31	31.89	25.21	0.50	0.84	2.10	0.12	2.28	0.73	4.80
W9408	N21	07-07-94	1342	24.28	W94080237	6.18	32.05	8.72	86.84	31.90	25.20	0.61	0.98	2.78	0.16	3.09	0.86	6.27
W9408	N21	07-07-94	1343	15.04	W94080238	6.92	32.01	9.96	100.93	32.50	25.08	3.01	1.36	0.70	0.09	1.31	0.63	3.35
W9408	N21	07-07-94	1344	1.92	W94080240	16.31	31.66	9.41	116.48	40.42	23.11	1.58	1.43	0.54	0.03	0.07	0.42	0.45
W9408	N21	07-07-94	1344	7.40	W94080239	10.68	31.76	10.32	113.70	35.51	24.31	1.14	1.04	0.42	0.03	0.21	0.47	1.57
W9408	NO4P	07-07-94	0925	47.26	W94080117	5.46	32.11	8.99	88.03	31.36	25.34	0.25	0.98	3.37	0.30	6.08	0.98	7.66
W9408	NO4P	07-07-94	0927	32.83	W94080118	5.61	32.09	8.94	87.83	31.46	25.30	0.26	1.05	3.52	0.28	6.01	0.99	7.72
W9408	NO4P	07-07-94	0928	16.72	W94080119	7.06	31.93	10.03	101.94	32.54	25.00	3.10	1.35	0.51	0.13	2.23	0.64	2.80
W9408	NO4P	07-07-94	0929	9.08	W94080120	9.67	31.75	10.39	111.85	34.61	24.47	1.11	1.08	0.43	0.09	0.76	0.49	2.01
W9408	NO4P	07-07-94	0930	1.68	W94080121	16.26	31.65	9.24	114.19	40.36	23.12	0.88	1.10	0.36	0.03	0.12	0.37	1.06
W9409	N01P	07-27-94	0744	27.40	W94090062	7.16	31.95	8.63	87.88	32.64	24.99	0.43	1.02	2.54	0.02	2.41	0.72	6.56
W9409	N01P	07-27-94	0745	21.20	W94090063	7.52	31.92	8.93	91.68	32.92	24.93	0.76	0.81	3.10	0.25	0.79	0.51	3.75
W9409	N01P	07-27-94	0746	13.80	W94090064	9.14	31.82	9.50	101.15	34.22	24.61	2.53	1.30	0.53	0.13	0.08	0.38	2.59
W9409	N01P	07-27-94	0747	7.60	W94090065	10.83	31.76	9.91	109.50	35.63	24.28	2.20	1.33	0.86	0.05	0.16	0.38	2.47
W9409	N01P	07-27-94	0748	1.80	W94090066	15.65	31.52	9.27	113.11	39.66	23.15	2.16	1.67	2.55	0.05	0.46	0.52	2.67
W9409	N02	07-27-94	0816	34.40	W94090073	6.61	32.00	8.16	82.06	32.22	25.10	0.29	1.29	3.14	0.37	3.75	0.86	8.88
W9409	N02	07-27-94	0817	25.80	W94090074	6.79	31.98	8.44	85.23	32.36	25.07	0.33	1.08	3.61	0.41	4.12	0.89	9.74
W9409	N02	07-27-94	0818	11.70	W94090075	9.15	31.83	9.45	100.65	34.24	24.61	2.41	1.32	0.89	0.07	0.40	0.46	3.40
W9409	N02	07-27-94	0819	6.00	W94090076	12.75	31.58	9.80	112.71	37.14	23.80	2.32	1.39	0.68	0.03	0.21	0.40	2.56
W9409	N02	07-27-94	0820	1.70	W94090077	15.80	31.48	9.43	115.37	39.74	23.09	3.04	2.12	0.35	0.02	0.08	0.32	2.30
W9409	N03	07-27-94	0854	40.10	W94090090	6.47	32.02	8.41	84.30	32.12	25.14	0.31	0.73	2.86	0.41	4.35	0.86	8.32
W9409	N03	07-27-94	0856	30.30	W94090091	6.73	31.99	8.52	85.92	32.32	25.08	0.35	0.71	2.93	0.43	4.65	0.87	8.59
W9409	N03	07-27-94	0857	20.40	W94090092	7.34	31.95	8.86	90.60	32.79	24.97	0.64	0.69	1.86	0.17	1.36	0.62	4.98
W9409	N03	07-27-94	0859	8.50	W94090093	10.87	31.71	9.47	104.68	35.61	24.24	2.53	1.19	0.35	0.03	0.11	0.33	2.57
W9409	N03	07-27-94	0900	1.70	W94090094	15.95	31.43	9.37	114.95	39.82	23.02	3.19	2.57	0.65	0.03	0.21	0.31	2.33
W9409	N04P	07-27-94	0920	45.30	W94090101	6.27	32.04	8.24	82.23	31.98	25.18	0.28	0.75	2.87	0.46	5.69	0.91	9.03
W9409	N04P	07-27-94	0921	29.90	W94090102	6.50	32.01	8.35	83.78	32.15	25.13	0.35	0.69	3.07	0.48	5.51	0.88	8.90
W9409	N04P	07-27-94	0923	17.20	W94090103	8.77	31.89	9.12	96.35	33.97	24.72	1.57	0.90	2.69	0.39	3.35	0.72	6.39
W9409	N04P	07-27-94	0925	6.40	W94090104	14.13	31.45	9.47	112.00	38.22	23.42	3.25	1.51	0.59	0.07	0.40	0.39	3.43
W9409	N04P	07-27-94	0926	1.80	W94090105	16.43	31.41	9.64	119.39	40.23	22.89	2.29	1.98	0.66	0.04	0.15	0.25	2.31
W9409	N05	07-27-94	0952	49.80	W94090112	6.21	32.06	8.23	82.04	31.96	25.21	0.28	0.76	2.19	0.46	5.45	0.81	7.06
W9409	N05	07-27-94	0953	30.50	W94090113	7.00	31.94	8.92	90.49	32.50	25.01	0.43	0.56	2.26	0.47	5.22	0.81	6.87
W9409	N05	07-27-94	0955	12.40	W94090114	10.52	31.76	9.33	102.39	35.36	24.33	1.95	0.91	2.41	0.33	2.63	0.69	5.05
W9409	N05	07-27-94	0956	7.00	W94090115	13.43	31.52	9.49	110.66	37.67	23.61	2.49	1.17	0.91	0.12	0.83	0.54	4.23
W9409	N05	07-27-94	0957	1.90	W94090116	17.17	31.37	9.01	113.19	40.86	22.69	1.71	1.23	0.23	0.02	0.11	0.29	2.21
W9409	N06	07-27-94	1016	47.20	W94090123	6.35	32.07	8.51	85.09	32.07	25.19	0.32	0.70	1.76	0.46	4.39	0.76	5.72
W9409	N06	07-27-94	1017	29.10	W94090124	7.45	31.91	8.91	91.33	32.86	24.93	0.59	0.58	1.52	0.46	4.28	0.71	5.41

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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)
W9409	N06	07-27-94	1019	13.80	W94090125	9.22	31.85	8.95	95.49	34.32	24.62	2.26	1.05	0.83	0.28	2.23	0.63	5.54
W9409	N06	07-27-94	1020	6.80	W94090126	11.85	31.61	9.51	107.31	36.37	23.99	1.42	0.93	0.27	0.03	0.12	0.31	2.76
W9409	N06	07-27-94	1021	1.70	W94090127	17.82	31.29	8.83	112.28	41.35	22.48	1.32	1.19	0.31	0.03	0.15	0.25	1.96
W9409	N07P	07-27-94	1041	44.20	W94090134	6.44	32.05	8.37	83.86	32.13	25.17	0.30	0.75	2.25	0.45	4.87	0.82	6.51
W9409	N07P	07-27-94	1043	25.90	W94090135	7.90	31.90	8.96	92.80	33.23	24.85	0.64	0.60	2.12	0.47	4.15	0.76	5.87
W9409	N07P	07-27-94	1044	13.00	W94090136	9.78	31.79	8.99	97.08	34.74	24.48	2.43	1.08	0.51	0.12	0.87	0.53	4.62
W9409	N07P	07-27-94	1045	6.40	W94090137	11.77	31.54	9.66	108.77	36.23	23.95	1.35	1.00	0.38	0.02	0.08	0.29	2.16
W9409	N07P	07-27-94	1046	1.70	W94090138	19.67	31.18	8.06	106.09	42.91	21.94	0.70	0.98	0.39	0.03	0.13	0.25	1.90
W9409	N08	07-27-94	1128	29.00	W94090150	7.06	31.95	8.74	88.80	32.56	25.01	0.45	0.71	2.62	0.33	3.01	0.83	7.09
W9409	N08	07-27-94	1129	20.70	W94090151	7.57	31.91	8.98	92.30	32.96	24.91	0.66	0.65	2.79	0.31	2.91	0.82	7.24
W9409	N08	07-27-94	1131	11.20	W94090152	9.50	31.84	9.25	99.30	34.55	24.57	2.16	1.01	1.63	0.14	1.07	0.69	4.91
W9409	N08	07-27-94	1132	6.60	W94090153	14.67	31.48	9.56	114.32	38.73	23.33	1.23	1.02	0.35	0.02	0.10	0.48	2.07
W9409	N08	07-27-94	1133	1.80	W94090154	17.90	31.35	8.81	112.25	41.50	22.50	1.45	1.43	0.31	0.04	0.05	0.35	1.57
W9409	N09	07-27-94	1151	31.30	W94090161	6.90	31.98	8.58	86.86	32.45	25.05	0.43	0.83	3.24	0.28	2.48	0.88	7.27
W9409	N09	07-27-94	1152	20.30	W94090162	7.29	31.95	8.74	89.29	32.76	24.98	0.51	0.75	3.81	0.27	2.38	0.87	7.30
W9409	N09	07-27-94	1153	10.90	W94090163	12.09	31.62	8.88	100.72	36.59	23.95	2.70	1.40	3.47	0.17	1.24	0.78	5.38
W9409	N09	07-27-94	1154	6.50	W94090164	14.29	31.59	9.08	107.82	38.51	23.50	3.90	1.80	0.62	0.05	0.13	0.52	2.34
W9409	N09	07-27-94	1155	1.80	W94090165	16.49	31.49	9.13	113.26	40.38	22.94	2.32	1.88	0.36	0.03	0.09	0.50	1.80
W9409	N10P	07-27-94	0613	20.30	W94090021	7.82	31.91	8.72	90.16	33.18	24.87	0.49	1.18	4.99	0.21	1.34	0.91	5.69
W9409	N10P	07-27-94	0614	15.10	W94090022	8.24	31.88	8.83	92.16	33.50	24.79	0.66	1.26	4.34	0.21	1.26	0.95	4.39
W9409	N10P	07-27-94	0616	10.20	W94090023	11.49	31.71	8.85	99.16	36.16	24.13	1.75	1.29	4.59	0.23	1.34	1.02	4.50
W9409	N10P	07-27-94	0617	6.90	W94090024	14.84	31.51	8.56	102.74	38.92	23.32	2.90	1.63	5.98	0.25	1.52	1.00	4.61
W9409	N10P	07-27-94	0618	1.60	W94090025	14.89	31.51	8.70	104.54	38.97	23.31	3.00	1.61	5.02	0.27	1.60	1.05	4.80
W9409	N11	07-27-94	0700	19.20	W94090041	8.18	31.89	8.53	88.91	33.46	24.81	0.58	1.04	4.77	0.21	1.58	0.96	6.13
W9409	N11	07-27-94	0701	13.30	W94090042	9.55	31.79	8.66	93.03	34.54	24.52	1.08	1.04	2.69	0.16	0.91	0.71	4.46
W9409	N11	07-27-94	0702	6.70	W94090043	11.15	31.70	8.80	97.89	35.86	24.18	1.87	1.16	4.75	0.18	0.93	0.91	4.19
W9409	N11	07-27-94	0704	1.30	W94090044	15.65	31.44	8.87	108.17	39.56	23.09	4.89	2.24	5.59	0.21	0.95	0.99	4.31
W9409	N12	07-27-94	0723	19.10	W94090051	7.38	31.94	8.76	89.66	32.82	24.96	0.56	1.01	1.85	0.09	0.40	0.54	3.15
W9409	N12	07-27-94	0724	9.20	W94090053	11.70	31.58	9.08	102.11	36.21	23.99	2.67	1.59	1.11	0.04	0.16	0.40	2.55
W9409	N12	07-27-94	0724	14.60	W94090052	8.08	31.89	9.18	95.46	33.37	24.82	1.00	0.83	0.47	0.03	0.11	0.42	2.51
W9409	N12	07-27-94	0725	5.60	W94090054	13.84	31.46	8.58	100.87	37.97	23.49	4.43	2.33	3.77	0.14	0.65	0.77	3.52
W9409	N12	07-27-94	0726	1.80	W94090055	15.89	31.42	9.36	114.68	39.76	23.02	6.08	2.73	4.52	0.13	0.64	0.80	3.42
W9409	N13	07-27-94	1253	29.60	W94090196	6.85	31.98	8.42	85.15	32.41	25.06	0.35	0.84	2.86	0.28	2.50	0.85	7.44
W9409	N13	07-27-94	1255	21.70	W94090197	7.58	31.92	8.75	89.96	32.98	24.92	0.46	0.76	3.45	0.34	3.13	0.90	8.75
W9409	N13	07-27-94	1256	11.20	W94090199	11.02	31.69	9.62	106.69	35.73	24.20	1.89	1.11	1.94	0.17	1.24	0.70	5.18
W9409	N13	07-27-94	1257	5.60	W94090200	14.21	31.45	9.46	112.05	38.29	23.41	8.94	3.01	0.27	0.02	0.05	0.35	2.43
W9409	N13	07-27-94	1258	1.60	W94090201	15.42	31.38	10.45	126.82	39.30	23.10	6.65	3.69	0.29	0.03	0.08	0.33	1.78
W9409	N14	07-27-94	1316	30.90	W94090208	6.87	31.98	8.58	86.80	32.43	25.06	0.37	0.65	2.37	0.32	3.20	0.81	6.79
W9409	N14	07-27-94	1317	21.20	W94090209	7.48	31.94	8.78	90.08	32.91	24.94	0.64	0.66	2.50	0.32	3.01	0.84	6.99
W9409	N14	07-27-94	1318	11.30	W94090210	10.87	31.72	8.94	98.85	35.63	24.24	1.66	1.11	1.14	0.08	0.52	0.57	3.81
W9409	N14	07-27-94	1319	5.70	W94090211	14.31	31.43	8.83	104.80	38.36	23.36	5.24	2.05	0.45	0.02	0.10	0.32	2.19
W9409	N14	07-27-94	1320	1.80	W94090212	16.72	31.35	10.14	126.26	40.43	22.78	2.55	2.89	0.40	0.02	0.10	0.33	1.95
W9409	N15	07-27-94	1336	42.10	W94090219	6.52	32.02	8.42	84.51	32.17	25.14	0.31	0.67	1.69	0.27	2.54	0.69	5.39
W9409	N15	07-27-94	1338	20.00	W94090220	7.43	31.93	9.00	92.22	32.85	24.94	0.65	0.62	2.18	0.34	2.88	0.78	5.92
W9409	N15	07-27-94	1339	9.60	W94090221	9.73	31.82	9.27	100.02	34.73	24.52	1.63	0.85	1.44	0.17	1.29	0.66	4.88
W9409	N15	07-27-94	1340	5.90	W94090222	12.31	31.58	9.66	110.06	36.75	23.88	1.43	0.98	0.46	0.03	0.08	0.34	2.53
W9409	N15	07-27-94	1341	2.10	W94090223	16.52	31.40	9.69	120.22	40.30	22.86	2.39	2.06	0.53	0.04	0.10	0.30	2.11
W9409	N16P	07-27-94	1357	38.10	W94090230	6.49	32.02	8.41	84.35	32.15	25.14	0.32	0.71	1.95	0.44	5.35	0.89	7.63
W9409	N16P	07-27-94	1359	24.50	W94090231	7.18	31.95	8.62	87.82	32.66	25.00	0.51	0.63	2.45	0.43	3.61	0.78	5.76
W9409	N16P	07-27-94	1400	16.30	W94090232	8.82	31.82	9.09	96.10	33.95	24.66	2.30	0.99	0.98	0.28	2.15	0.66	5.20
W9409	N16P	07-27-94	1401	7.70	W94090233	11.68	31.65	9.66	108.65	36.27	24.05	1.64	1.10	0.30	0.02	0.11	0.32	2.40
W9409	N16P	07-27-94	1402	1.60	W94090234	17.85	31.31	9.12	116.06	41.41	22.49	1.29	1.29	0.37	0.03	0.08	0.32	1.96
W9409	N17	07-27-94	1420	35.80	W94090241	6.91	31.97	8.61	87.18	32.45	25.04	0.35	0.62	1.92	0.36	3.36	0.78	6.15
W9409	N17	07-27-94	1422	19.70	W94090242	8.00	31.87	9.05	93.92	33.28	24.82	0.90	0.64	2.45	0.45	4.29	0.83	6.64

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)
W9409	N17	07-27-94	1423	13.40	W94090243	9.27	31.83	9.17	97.92	34.34	24.59	2.57	1.12	1.13	0.23	1.75	0.65	5.08
W9409	N17	07-27-94	1424	7.40	W94090244	12.47	31.60	9.79	111.93	36.91	23.86	1.07	0.95	0.31	0.03	0.10	0.34	2.38
W9409	N17	07-27-94	1425	1.80	W94090245	19.60	31.10	8.72	114.58	42.75	21.89	1.02	1.31	0.32	0.03	0.13	0.31	2.00
W9409	N18	07-27-94	1441	26.30	W94090252	7.42	31.95	8.70	89.14	32.87	24.96	0.62	0.67	1.79	0.17	1.51	0.64	4.80
W9409	N18	07-27-94	1442	17.80	W94090253	7.60	31.94	8.75	90.02	33.01	24.93	0.76	0.71	2.01	0.23	2.11	0.75	5.88
W9409	N18	07-27-94	1443	13.20	W94090254	9.49	31.85	9.21	98.85	34.55	24.57	2.43	1.16	0.84	0.07	0.47	0.55	3.83
W9409	N18	07-27-94	1444	5.90	W94090255	13.82	31.55	9.65	113.46	38.05	23.56	1.44	1.11	0.49	0.04	0.14	0.45	1.95
W9409	N18	07-27-94	1445	1.90	W94090256	18.24	31.36	8.79	112.74	41.83	22.43	1.59	1.51	0.46	0.02	0.11	0.38	1.70
W9409	N19	07-27-94	1211	22.00	W94090172	7.57	31.95	8.65	88.94	32.99	24.94	0.50	0.85	2.42	0.19	1.67	0.75	6.41
W9409	N19	07-27-94	1212	13.30	W94090173	10.08	31.81	9.01	97.95	35.02	24.45	2.32	1.14	1.92	0.14	1.18	0.67	5.41
W9409	N19	07-27-94	1213	9.50	W94090174	11.04	31.75	9.39	104.22	35.81	24.24	2.87	1.18	0.52	0.04	0.18	0.53	2.87
W9409	N19	07-27-94	1214	6.60	W94090175	14.44	31.52	9.20	109.53	38.57	23.41	4.04	1.68	0.90	0.02	0.10	0.49	2.05
W9409	N19	07-27-94	1215	1.70	W94090176	16.98	31.39	9.36	117.16	40.71	22.76	2.31	2.09	4.30	0.02	0.05	0.44	2.00
W9409	N20P	07-27-94	1231	27.90	W94090183	7.25	31.97	8.53	87.06	32.74	25.00	0.47	0.64	2.47	0.29	2.66	0.78	6.81
W9409	N20P	07-27-94	1232	18.10	W94090184	8.96	31.80	9.07	96.17	34.05	24.62	1.26	0.84	2.73	0.33	3.04	0.86	7.50
W9409	N20P	07-27-94	1234	9.00	W94090185	12.25	31.67	9.04	102.92	36.79	23.96	2.53	1.20	0.85	0.08	0.39	0.56	3.46
W9409	N20P	07-27-94	1235	6.30	W94090186	14.42	31.47	9.12	108.51	38.50	23.37	3.64	1.49	0.98	0.04	0.08	0.57	2.01
W9409	N20P	07-27-94	1236	1.70	W94090187	16.96	31.38	9.92	124.12	40.68	22.75	2.25	2.46	0.42	0.03	0.04	0.39	2.08
W9409	N21	07-27-94	1459	33.00	W94090263	6.87	31.98	8.39	84.89	32.44	25.06	0.35	0.64	1.43	0.21	1.83	0.62	5.04
W9409	N21	07-27-94	1500	18.90	W94090264	7.84	31.91	8.80	91.03	33.19	24.87	0.78	0.68	2.23	0.37	3.70	0.81	6.71
W9409	N21	07-27-94	1501	11.50	W94090265	9.93	31.79	9.50	102.92	34.87	24.46	2.48	1.08	0.96	0.09	0.43	0.50	4.13
W9409	N21	07-27-94	1502	6.10	W94090266	13.17	31.61	9.62	111.63	37.53	23.73	2.00	1.14	0.42	0.04	0.05	0.38	2.74
W9409	N21	07-27-94	1503	2.00	W94090267	17.95	31.41	9.36	119.41	41.62	22.54	2.04	1.69	0.63	0.04	0.10	0.35	1.92

Table A2. Chemical and Biological Parameters at Two Depths of Bioproductivity Stations and Special Stations F24 and F25.

EVENT	STATION	DATE	TIME (EST)	DEPTH (M)	SAMPLE ID	REP	CHLA (ug/L)	DOC (uM)	PHA (ug/L)	PON (uM)	POC (uM)	TDN (uM)	TDP (uM)	TSS (mg/L)
W9407	F01P	06-23-94	0848	13.90	W94070386	1	2.54	125.83	1.08	2.51	12.90	7.85	0.32	1.58
W9407	F01P	06-23-94	0848	13.90	W94070386	2	2.16	113.33	1.11	2.33	8.78	7.89	0.31	1.11
W9407	F01P	06-23-94	0851	1.44	W94070388	1	0.38	130.83	0.67	3.27	13.17	6.44	0.29	0.47
W9407	F01P	06-23-94	0851	1.44	W94070388	2	0.54	129.17	1.09	3.10	11.45	9.79	0.29	1.30
W9407	F02P	06-23-94	0718	14.98	W94070372	1	1.89	112.50	1.40	2.41	7.70 e			2.32 e
W9407	F02P	06-23-94	0718	14.98	W94070372	2	1.91	112.50	1.34	1.79	6.43 e			1.58 e
W9407	F02P	06-23-94	0720	1.48	W94070374	1	0.56	124.17	0.62	2.21	10.56	6.62	0.08	0.09
W9407	F02P	06-23-94	0720	1.48	W94070374	2	0.63	138.33	0.68	1.57	6.78	11.26	0.06	1.49
W9407	F06B	06-23-94	1208	17.82	W94070437	1	1.15	107.50	0.87	3.26	14.98	6.30	0.34	1.75
W9407	F06B	06-23-94	1208	17.82	W94070437	2	1.06	95.00	0.97	1.77	6.23	8.01	0.34	0.73
W9407	F06B	06-23-94	1210	1.73	W94070439	1	0.34	115.00	0.53	1.63	7.41	6.06	0.24	0.25
W9407	F06B	06-23-94	1210	1.73	W94070439	2	0.41	114.17	0.58	2.79	14.24	6.85	0.26	0.83
W9407	F13P	06-23-94	1435	7.28	W94070472	1	6.12	115.00	2.17	2.87	15.78	8.48	0.45	1.92
W9407	F13P	06-23-94	1435	7.28	W94070472	2	5.94	116.67	2.58	3.44	18.54	9.14	0.43	1.77
W9407	F13P	06-23-94	1436	1.93	W94070474	1	3.00	154.17	1.66	3.14	14.33	8.32	0.41	1.21
W9407	F13P	06-23-94	1436	1.93	W94070474	2	3.06	155.83	1.78	2.64	11.98	8.31	0.40	2.06
W9407	F23P	06-21-94	0703	9.83	W94070034	1	4.43	112.50	1.88	6.78	34.55	11.33	0.53	1.91
W9407	F23P	06-21-94	0703	9.83	W94070034	2	3.82	111.67	1.67	3.34	20.60	11.32	0.55	2.01
W9407	F23P	06-21-94	0705	1.58	W94070036	1	3.22	109.17	1.73	3.39	19.48	11.02	0.61	2.00
W9407	F23P	06-21-94	0705	1.58	W94070036	2	3.01	107.50	1.64	2.95	16.96	11.46	0.66	1.82
W9407	F23P	06-22-94	0608	7.54	W94070220	1	3.62	129.17	1.99	2.46	13.14	e	e	2.95
W9407	F23P	06-22-94	0608	7.54	W94070220	2	3.65	126.67	2.27	2.34	11.70	e	e	2.42
W9407	F23P	06-22-94	0610	1.42	W94070222	1	3.79	120.00	2.41	8.52	39.71	10.74	0.66	2.50
W9407	F23P	06-22-94	0610	1.42	W94070222	2	3.60	125.00	2.16	2.89	16.94	10.89	0.61	3.42
W9407	F24	06-21-94	0749	1.44	W94070050	1	4.73	137.50	1.79	4.46	21.39	8.49	0.35	
W9407	F24	06-21-94	0749	1.44	W94070050	2	4.73	140.00	1.71	4.43	22.13	11.07	0.32	
W9407	F24	06-21-94	0749	3.42	W94070049	1	4.42	115.83	1.94	4.36	20.90	8.20	0.34	
W9407	F24	06-21-94	0749	3.42	W94070049	2	5.01	128.33	1.63	3.69	18.68	11.30	0.36	
W9407	F25	06-21-94	1610	7.42	W94070191	1	2.18	110.83	2.11	2.81	12.47	8.80	0.49	
W9407	F25	06-21-94	1610	7.42	W94070191	2	2.46	110.83	1.85	2.22	8.90	9.61	0.50	
W9407	F25	06-21-94	1611	1.44	W94070193	1	4.01	117.50	2.75	3.64	19.18	10.77	0.62	
W9407	F25	06-21-94	1611	1.44	W94070193	2	3.78	142.50	2.71	3.25	23.10	12.36	0.59	
W9407	F27B	06-22-94	1225	20.44	W94070310	1	1.15	101.67	1.00	e	e	7.21	0.33	1.02
W9407	F27B	06-22-94	1225	20.44	W94070310	2	1.17	98.33	1.36	2.60	9.51	9.12	0.36	0.39
W9407	F27B	06-22-94	1227	1.30	W94070312	1	0.63	104.17	0.61	2.37	12.42	6.55	0.19	0.68
W9407	F27B	06-22-94	1227	1.30	W94070312	2	0.49	115.83	0.67	2.10	10.05	11.81	0.24	0.65
W9407	F30B	06-21-94	0608	3.70	W94070019	1	10.00	212.50	2.55	6.56	37.04	11.61	0.69	4.68
W9407	F30B	06-21-94	0608	3.70	W94070019	2	10.33	216.67	3.60	10.41	62.13	11.75	0.90	4.68
W9407	F30B	06-21-94	0609	1.61	W94070020	1	10.94	149.17	3.99	9.92	55.95	9.06	0.37	4.11
W9407	F30B	06-21-94	0609	1.61	W94070020	2	11.82	146.67	2.31	8.94	47.75	9.70	0.36	4.21
W9407	F31B	06-21-94	1638	5.65	W94070201	1	5.16	115.83	3.33	3.81	19.97	10.09	0.69	2.81
W9407	F31B	06-21-94	1638	5.65	W94070201	2	4.79	110.00	3.23	3.61	20.03	11.63	0.64	2.52
W9407	F31B	06-21-94	1639	1.59	W94070202	1	5.83	118.33	3.96	3.43	18.54	10.68	0.64	2.60
W9407	F31B	06-21-94	1639	1.59	W94070202	2	5.64	117.50	3.21	3.04	15.86	13.95	0.69	2.93
W9407	N01P	06-22-94	0708	13.05	W94070232	1	0.41	145.83	0.74	1.69	7.15	4.62	0.28	0.55
W9407	N01P	06-22-94	0708	13.05	W94070232	2	0.55	151.67	0.71	1.76	7.08	6.08	0.27	0.68

Table A2. Chemical and Biological Parameters at Two Depths of Bioproductivity Stations and Special Stations F24 and F28.

EVENT	STATION	DATE	TIME (EST)	DEPTH (M)	SAMPLE ID	REP	CHLA (ug/L)	DOC (uM)	PHA (ug/L)	PON (uM)	POC (uM)	TDN (uM)	TDP (uM)	TSS (mg/L)	
W9407	N01P	06-22-94	0709	1.56	W94070234	1	0.42	116.67	0.61	3.50	14.29	3.74	0.26	0.58	
W9407	N01P	06-22-94	0709	1.56	W94070234	2	0.40	120.83	0.55	2.16	7.27	4.76	0.26	0.36	
W9407	N04P	06-22-94	0818	24.13	W94070251	1	1.27	105.00	2.57	3.33	12.00	10.09	0.36	0.88	
W9407	N04P	06-22-94	0818	24.13	W94070251	2	1.29	110.00	2.36	2.91	8.35	11.62	0.35	0.67	
W9407	N04P	06-22-94	0821	1.49	W94070253	1	0.44	110.00	0.63	4.65	18.05	9.40	0.23	0.16	
W9407	N04P	06-22-94	0821	1.49	W94070253	2	0.33	110.00	0.60	2.91	8.44	13.21	0.23	0.47	
W9407	N07P	06-21-94	1129	18.13	W94070106	1	1.36	103.33	1.07	2.86	6.88	4.79	0.32	0.96	
W9407	N07P	06-21-94	1129	18.13	W94070106	2	1.37	97.50	1.08	2.71	7.56	8.21	0.36	0.77	
W9407	N07P	06-21-94	1132	1.67	W94070109	1	0.37	106.67	0.48	3.93	12.58	6.77	0.32	0.30	
W9407	N07P	06-21-94	1132	1.67	W94070109	2	0.37	106.67	0.48	2.91	6.53	8.89	0.32	0.72	
W9407	N10P	06-21-94	1540	8.63	W94070179	1	4.19	187.50	2.34	3.39	15.74	8.56	0.53	2.53	
W9407	N10P	06-21-94	1540	8.63	W94070179	2	3.69	196.67	2.18	3.44	15.44	10.36	0.60	2.20	
W9407	N10P	06-21-94	1542	1.49	W94070181	1	4.68	115.00	2.35	3.96	17.99	11.26	0.56	2.60	
W9407	N10P	06-21-94	1542	1.49	W94070181	2	4.24	110.83	2.60	4.09	19.11	12.61	0.63	2.21	
W9407	N16P	06-21-94	1010	16.92	W94070094	1	0.91	92.50	0.95	2.81	7.10	8.72	0.44	0.86	
W9407	N16P	06-21-94	1010	16.92	W94070094	2	0.76	90.83	0.98	2.86	6.63	8.50	0.39	0.51	
W9407	N16P	06-21-94	1012	1.49	W94070096	1	0.50	121.67	0.49	3.23	9.54	7.26	0.31	0.13	
W9407	N16P	06-21-94	1012	1.49	W94070096	2	0.41	121.67	0.47	2.79	5.97	10.24	0.30	1.05	
W9407	N16P	06-22-94	0852	21.02	W94070263	1	2.59	107.50	2.61	2.86	10.18	10.60	0.49	0.80	
W9407	N16P	06-22-94	0852	21.02	W94070263	2	2.52	100.00	2.55	2.75	6.11	12.10	0.51	0.58	
W9407	N16P	06-22-94	0855	1.41	W94070265	1	0.49	106.67	0.60	3.07	9.00	7.54	0.30	0.19	
W9407	N16P	06-22-94	0855	1.41	W94070265	2	0.43	115.00	0.61	2.74	7.94	10.47	0.36	1.13	s
W9407	N20P	06-21-94	0915	17.74	W94070071	1	2.86	101.67	2.17	3.87	13.33	7.93	0.37	1.02	
W9407	N20P	06-21-94	0915	17.74	W94070071	2	3.40	100.00	1.87	3.38	13.70	6.97	0.35	0.88	
W9407	N20P	06-21-94	0919	1.63	W94070074	1	3.73	124.17	1.41	4.18	18.48	8.83	0.34	1.28	
W9407	N20P	06-21-94	0919	1.63	W94070074	2	3.08	131.67	1.74	4.09	17.96	11.59	0.30	2.08	

s = Suspect data
e = Data not reported

APPENDIX A

STATION DATA TABLES AND INSTRUMENT CALIBRATION DATA

Part 2

Instrument Calibration Data for Fluorescence and Dissolved Oxygen

The average value of individual analytical replicates from chlorophyll (n=2) and dissolved oxygen determinations (n=2) 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 and 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:

W9407 = June 1994 combined survey
W9408 = Early July 1994 nearfield survey
W9409 = Late July 1994 nearfield survey.

Survey W9407 Chlorophyll a Calibration

Marker	Station_ID	Depth	CTD_Chla	Bottle_Chla	Predict_Chla	Residual
19	F30	2.71	9.79	10.17	9.27	0.90
20	F30	1.62	11.43	11.38	10.82	0.56
32	F23P	24.10	1.58	1.84	1.50	0.34
33	F23P	19.57	2.02	2.60	1.91	0.68
34	F23P	8.95	3.82	4.13	3.62	0.51
35	F23P	3.25	3.61	3.81	3.41	0.39
36	F23P	1.57	3.47	3.12	3.28	-0.17
49	F24	2.50	5.86	4.72	5.55	-0.83
50	F24	1.45	5.60	4.73	5.30	-0.57
71	N20P	16.85	3.46	3.13	3.27	-0.14
74	N20P	0.70	4.40	3.41	4.16	-0.76
92	N16P	39.38	0.97	0.82	0.92	-0.10
93	N16P	27.46	0.79	0.47	0.75	-0.28
94	N16P	16.03	1.88	0.84	1.78	-0.95
95	N16P	6.78	0.75	0.38	0.71	-0.33
96	N16P	1.55	0.97	0.46	0.91	-0.46
106	N07P	17.17	3.39	1.37	3.21	-1.84
109	N07P	1.24	0.99	0.37	0.94	-0.57
179	N10P	7.69	4.07	3.94	3.85	0.09
181	N10P	0.40	4.82	4.46	4.57	-0.11
191	F25	6.52	3.39	2.32	3.21	-0.89
193	F25	0.51	4.18	3.90	3.95	-0.06
201	F31B	4.75	4.95	4.98	4.69	0.29
202	F31B	1.00	6.96	5.74	6.59	-0.86
218	F23P	14.48	2.96	3.42	2.80	0.61
219	F23P	10.75	3.22	3.51	3.05	0.46
220	F23P	6.59	3.43	3.64	3.25	0.39
221	F23P	4.09	3.41	3.45	3.23	0.21
222	F23P	0.52	2.91	3.70	2.75	0.94
232	N01P	12.17	0.82	0.48	0.78	-0.30
234	N01P	0.55	0.69	0.41	0.66	-0.25
251	N04P	23.18	1.39	1.26	1.31	-0.03
253	N04P	0.47	0.57	0.39	0.54	-0.16
261	N16P	39.04	0.61	0.88	0.58	0.30
262	N16P	27.43	1.03	1.22	0.98	0.24
263	N16P	20.23	2.35	2.56	2.23	0.33
264	N16P	6.49	0.80	0.69	0.75	-0.06
265	N16P	0.81	0.80	0.46	0.76	-0.30
310	F27	19.63	2.10	1.16	1.99	-0.83
312	F27	0.31	0.69	0.56	0.65	-0.09
372	F02P	14.08	4.94	1.90	4.68	-2.78
374	F02P	1.41	0.88	0.60	0.84	-0.24
386	F01P	12.99	2.73	2.35	2.58	-0.23
388	F01P	0.50	0.60	0.46	0.57	-0.11
437	F06	16.47	1.41	1.11	1.33	-0.23
439	F06	0.57	0.44	0.38	0.42	-0.05
472	F13P	5.91	6.96	6.03	6.59	-0.56
474	F13P	1.48	2.71	3.03	2.56	0.47
489	N10P	20.05	1.39	1.83	1.32	0.51
491	N10P	8.21	2.42	2.24	2.29	-0.05
493	N10P	0.63	2.76	2.44	2.61	-0.18
526	N01P	25.20	0.72	0.64	0.69	-0.05
528	N01P	6.92	1.12	0.61	1.06	-0.45
530	N01P	0.69	1.25	0.58	1.18	-0.60
561	N04P	45.09	0.77	0.82	0.72	0.10
563	N04P	14.72	1.41	1.19	1.34	-0.15
565	N04P	0.75	1.61	0.70	1.71	-1.01
597	N07P	45.46	0.88	0.43	0.83	-0.41
599	N07P	13.54	1.80	1.03	1.71	-0.68
601	N07P	1.54	1.31	0.47	1.24	-0.77

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.952086796
R Square	0.906469267
Adjusted R Square	0.889520114
Standard Error	0.685879965
Observations	60

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	268.9967229	268.9967229	571.8086858	1.00222E-31
Residual	59	27.75544823	0.470431326		
Total	60	296.7521712			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.000%*	*Upper 95.000%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	1.056540839	0.027551847	38.34736945	2.08296E-43	1.001409663	1.111672015	1.001409663	1.111672015

SUMMARY OUTPUT

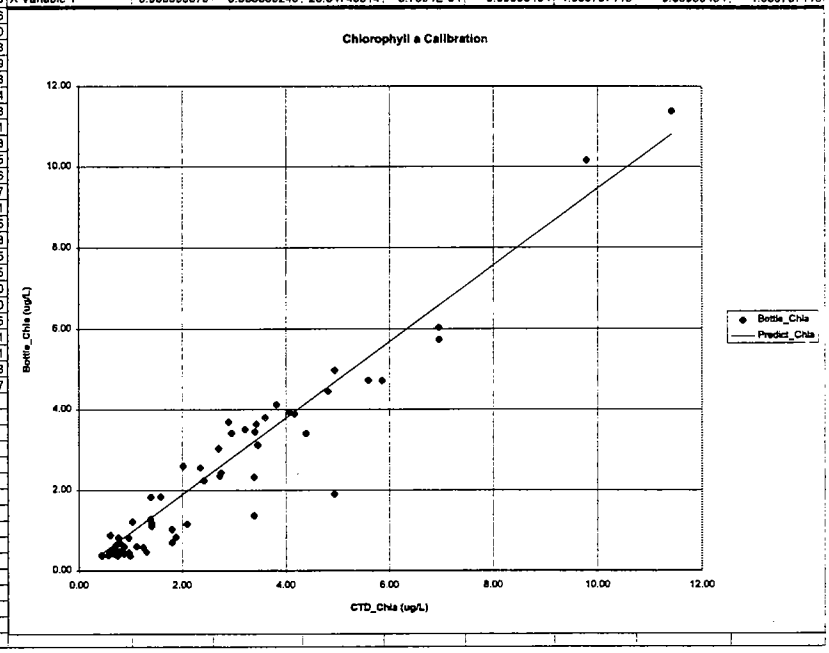
Regression Statistics

Multiple R	0.960672455
R Square	0.922891566
Adjusted R Square	0.92156211
Standard Error	0.628107382
Observations	60

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	273.8700759	273.8700759	694.1874967	5.7694E-34
Residual	58	22.88209523	0.394518883		
Total	59	296.7521712			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.000%*	*Upper 95.000%*
Intercept	0.413064425	0.117527029	3.514633448	0.000861453	0.177808694	0.648320157	0.177808694	0.648320157
X Variable 1	0.963505879	0.036569243	26.34743814	5.7694E-34	0.89030464	1.036707118	0.89030464	1.036707118



000015

Survey W9408 Chlorophyll a Calibration

Marker	Station_ID	Depth	CTD_Chla	Bottle_Chla	Predict_Chla	Residual
31	N10P	19.51	1.16	1.65	0.85	0.70
33	N10P	8.77	3.02	2.49	2.22	0.27
35	N10P	1.54	5.33	3.96	3.93	0.03
70	N01P	26.81	1.11	1.44	0.82	0.62
72	N01P	16.09	3.64	1.90	2.68	-0.78
74	N01P	1.59	1.13	1.15	0.83	0.32
117	N04P	46.44	0.33	0.12	0.25	-0.12
119	N04P	15.88	4.20	2.38	3.10	-0.72
121	N04P	1.68	1.19	0.51	0.88	-0.37
156	N07P	44.37	0.50	0.26	0.37	-0.12
158	N07P	13.44	1.24	1.16	0.91	0.25
160	N07P	1.52	0.71	0.53	0.52	0.01

Standard Deviation of Residual: 0.486

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.923391428
R Square	0.85265173
Adjusted R Square	0.761742639
Standard Error	0.631925887
Observations	12

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	25.41860727	25.41860727	63.653065	1.20585E-05
Residual	11	4.392634984	0.399330453		
Total	12	29.81124225			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.000%*	*Upper 95.000%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	1.356591232	0.101269433	13.39586089	3.7252E-08	1.133698601	1.579483863	1.133698601	1.579483863

SUMMARY OUTPUT

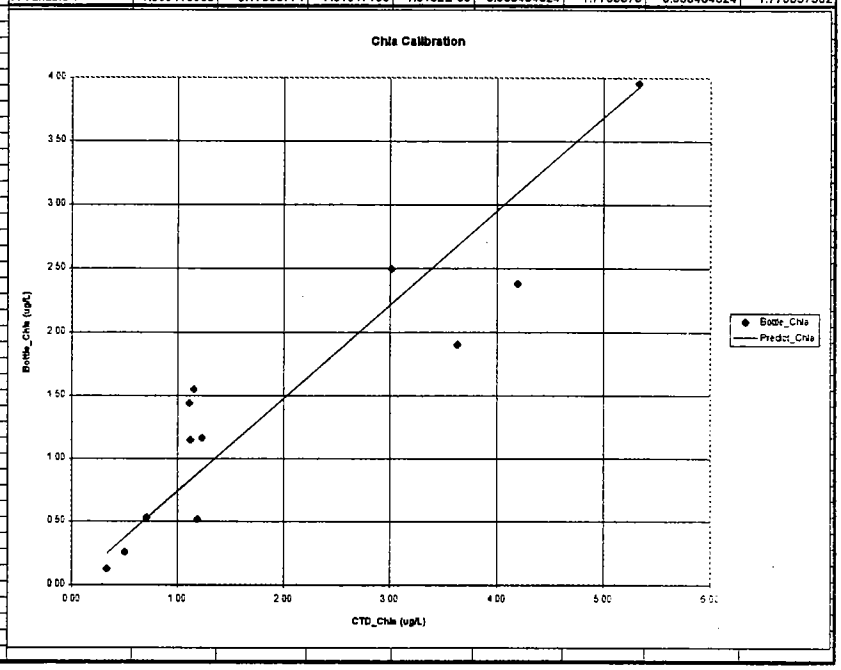
Regression Statistics

Multiple R	0.923453507
R Square	0.852766379
Adjusted R Square	0.838043017
Standard Error	0.66251167
Observations	12

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	25.42202512	25.42202512	57.9192698	1.81823E-05
Residual	10	4.389217134	0.438921713		
Total	11	29.81124225			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.000%*	*Upper 95.000%*
Intercept	-0.0286024	0.324130185	-0.08824355	0.93142528	-0.75080958	0.69360479	-0.75080958	0.693604786
X Variable 1	1.369410963	0.17993774	7.61047106	1.8182E-05	0.968484624	1.7703373	0.968484624	1.770337302



Survey W9409 Chlorophyll a Calibration

Marker	Station_ID	Depth	CTD_Chla	Bottle_Chla	Predict_Chla	Residual
21	N10P	19.64	0.72	0.43	0.49	-0.06
23	N10P	9.36	2.55	1.78	1.75	0.03
25	N10P	1.06	4.38	2.75	3.00	-0.26
62	N01P	26.55	0.63	0.48	0.43	0.05
64	N01P	12.88	3.68	2.60	2.53	0.07
66	N01P	1.16	3.15	2.24	2.16	0.08
101	N04P	45.03	0.40	0.11	0.27	-0.16
104	N04P	5.56	4.74	3.65	3.25	0.40
105	N04P	1.14	3.34	2.37	2.29	0.08
134	N07P	43.51	0.44	0.18	0.30	-0.12
136	N07P	12.10	3.54	1.38	2.43	-1.05
138	N07P	1.12	1.01	0.86	0.70	0.16

SUMMARY OUTPUT

Standard Deviation of Residual: 0.353

Regression Statistics

Multiple R	0.94750627
R Square	0.89776813
Adjusted R Square	0.90685904
Standard Error	0.52387487
Observations	12

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	26.51097534	26.5109753	96.5985417	1.86231E-06
Residual	11	3.018893699	0.27444488		
Total	12	29.52986904			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.000%*	*Upper 95.000%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	1.45743267	0.078502782	18.5653611	1.1859E-09	1.284649104	1.63021624	1.284649104	1.630216237

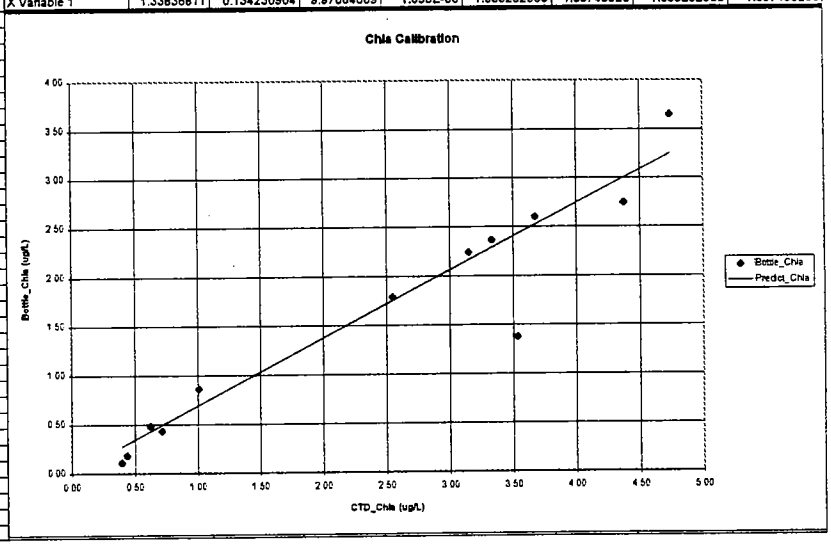
Regression Statistics

Multiple R	0.95320708
R Square	0.90860375
Adjusted R Square	0.89946412
Standard Error	0.51951125
Observations	12

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	26.83094965	26.8309497	99.4136757	1.63298E-06
Residual	10	2.698919386	0.26989194		
Total	11	29.52986904			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.000%*	*Upper 95.000%*
Intercept	0.28155741	0.259585613	1.08483632	0.30177008	-0.294607343	0.85772216	-0.294607343	0.85772216
X Variable 1	1.33836811	0.134230904	9.97064069	1.633E-06	1.039282968	1.63745326	1.039282968	1.637453256



000017

Survey W0407 Dissolved Oxygen Calibration

Marker	Station_ID	Depth	CTD_DO	Bottle_DO	Predict_DO	Residual
19	F30	2.7	8.70	9.46	8.43	1.03
20	F30	1.6	8.62	9.75	8.35	1.40
33	F23P	19.6	9.39	9.56	9.09	0.47
34	F23P	8.9	9.35	9.64	9.05	0.58
36	F23P	1.6	9.34	9.66	9.04	0.62
71	N20P	16.9	10.86	10.56	10.52	0.04
72	N20P	8.0	11.30	10.90	10.94	-0.04
74	N20P	0.7	11.02	11.21	10.67	0.54
93	N16P	27.5	9.47	9.50	9.17	0.33
94	N16P	16.0	10.31	10.31	9.98	0.33
96	N16P	1.5	9.54	9.92	9.24	0.68
105	N07P	29.7	9.31	9.53	9.02	0.51
106	N07P	17.2	10.26	10.48	9.95	0.53
109	N07P	1.2	9.40	9.84	9.10	0.74
121	F19	26.6	9.96	9.96	9.66	0.30
122	F19	19.1	10.09	10.15	9.77	0.37
124	F19	1.4	8.56	9.23	8.29	0.94
178	N10P	12.3	9.45	9.68	9.15	0.53
179	N10P	7.7	9.05	9.43	8.76	0.67
181	N10P	0.4	8.94	9.40	8.66	0.74
200	F31B	10.0	8.59	9.13	8.32	0.81
201	F31B	4.8	8.71	9.02	8.44	0.58
202	F31B	1.0	8.60	9.20	8.33	0.87
219	F23P	10.7	8.88	9.30	8.60	0.70
220	F23P	6.6	8.81	9.20	8.53	0.67
222	F23P	0.5	8.60	9.07	8.33	0.74
231	N01P	18.1	11.68	11.19	11.31	-0.12
232	N01P	12.2	11.29	11.14	10.94	0.20
234	N01P	0.6	9.62	10.09	9.32	0.77
250	N04P	34.3	9.74	9.63	9.43	0.20
251	N04P	23.2	10.35	10.19	10.03	0.16
253	N04P	0.5	9.15	9.76	8.86	0.89
262	N16P	27.4	9.58	9.54	9.27	0.26
263	N16P	20.2	9.69	9.63	9.38	0.25
265	N16P	0.8	9.24	9.84	8.95	0.89
309	F27	30.1	9.13	9.66	8.84	0.82
310	F27	19.6	9.76	10.10	9.45	0.66
312	F27	0.3	8.98	9.80	8.69	1.10
341	F12	44.2	9.42	9.17	9.12	0.05
342	F12	18.0	10.69	10.63	10.35	0.28
344	F12	0.6	8.59	9.75	8.32	1.43
354	F29	30.2	10.16	9.46	9.84	-0.39
355	F29	13.8	10.76	10.03	10.42	-0.39
357	F29	1.4	8.89	9.49	8.61	0.88
371	F02P	16.7	8.60	8.61	8.32	0.28
372	F02P	14.1	9.66	9.30	9.36	-0.06
374	F02P	1.4	7.75	8.42	7.51	0.91
385	F01P	16.9	9.46	9.12	9.16	-0.04
386	F01P	13.0	10.67	10.24	10.34	-0.09
388	F01P	0.5	8.96	9.50	8.68	0.82
436	F06	22.6	9.79	9.74	9.48	0.26
437	F06	16.5	10.52	10.44	10.19	0.25
439	F06	0.6	9.52	10.09	9.22	0.87
471	F13P	13.1	8.86	8.77	8.60	0.17
472	F13P	5.9	9.75	10.21	9.44	0.77
474	F13P	1.5	9.84	10.16	9.53	0.63
489	N10P	20.1	9.26	9.50	8.97	0.53
490	N10P	12.8	9.07	9.50	8.78	0.71
491	N10P	8.2	8.94	9.42	8.66	0.76
492	N10P	3.6	8.67	9.28	8.40	0.88
493	N10P	0.6	8.60	9.22	8.33	0.89
526	N01P	25.2	9.45	10.36	9.15	1.21
527	N01P	11.0	9.92	10.65	9.61	1.04
528	N01P	6.9	9.61	10.22	9.31	0.91
529	N01P	3.3	9.07	9.97	8.79	1.19
530	N01P	0.7	8.64	9.86	8.56	1.30
561	N04P	45.1	9.09	9.47	8.80	0.67
562	N04P	22.2	9.61	9.92	9.31	0.61
563	N04P	14.7	10.07	10.36	9.75	0.61
564	N04P	5.9	9.19	10.02	8.90	1.12
565	N04P	0.8	8.62	9.58	8.35	1.23
597	N07P	45.5	9.06	9.40	8.77	0.63
598	N07P	28.0	9.22	9.45	8.93	0.52
599	N07P	13.5	10.11	10.49	9.79	0.70
600	N07P	5.3	8.93	9.93	8.65	1.29
601	N07P	1.5	8.60	9.52	8.33	1.18
641	N20P	26.8	9.31	9.70	9.02	0.68
642	N20P	19.7	9.32	9.63	9.03	0.60
643	N20P	12.2	10.43	10.86	10.10	0.76
644	N20P	4.8	9.31	10.33	9.01	1.32
645	N20P	0.4	8.86	9.75	8.58	1.17
685	N16P	38.5	9.30	9.55	9.01	0.55
686	N16P	28.7	9.50	9.61	9.20	0.41
687	N16P	18.7	9.94	10.08	9.63	0.45
688	N16P	8.0	9.88	10.34	9.57	0.77
689	N16P	1.5	8.52	9.41	8.25	1.16

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.61749318
R Square	0.38129783
Adjusted R Square	0.36953312
Standard Error	0.43220273
Observations	86

ANOVA

	df	SS	MS	F	Significance F
Regression	1	9.785355994	9.785355994	52.3843563	1.98678E-10
Residual	85	15.87793222	0.186799203		
Total	86	25.66328822			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.000%	Upper 95.000%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	1.03262261	0.004911883	210.2294599	2.967E-117	1.02285646	1.04238875	1.02285646	1.042388752

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.83015163
R Square	0.68915172
Adjusted R Square	0.68545115
Standard Error	0.30617027
Observations	86

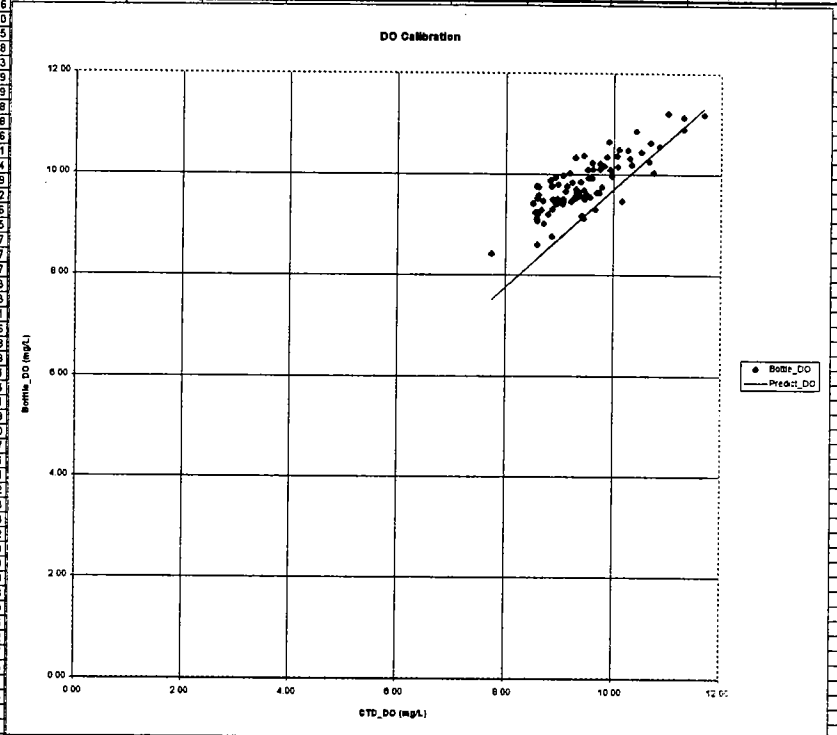
ANOVA

	df	SS	MS	F	Significance F
Regression	1	17.68589929	17.68589929	186.228295	5.05984E-23
Residual	84	7.97738893	0.094968916		
Total	85	25.66328822			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.000%	Upper 95.000%
Intercept	3.929830001	0.43085985	9.120900931	3.3878E-14	3.073017733	4.78664229	3.073017733	4.78664229
X Variable 1	0.61968164	0.045409403	13.64654884	6.0598E-23	0.529380041	0.70998324	0.529380041	0.709983243

Standard Deviation of Residual

0.400



000018

Survey W9408 Dissolved Oxygen Calibration

Marker	Station_ID	Depth	CTD_DO	Bottle_DO	Predict_DO	Residual
31	N10P	19.51	9.27	9.21	9.29	-0.08
32	N10P	14.18	9.50	9.20	9.52	-0.32
33	N10P	8.77	9.57	9.28	9.59	-0.31
34	N10P	3.89	9.50	9.50	9.52	-0.02
35	N10P	1.54	9.42	9.66	9.43	0.22
70	N01P	26.81	9.14	9.25	9.15	0.09
71	N01P	21.29	9.41	9.19	9.43	-0.24
72	N01P	16.09	10.18	9.75	10.20	-0.44
73	N01P	7.28	10.81	10.73	10.83	-0.10
74	N01P	1.59	9.29	10.46	9.31	1.15
117	N04P	46.44	8.98	8.68	8.99	-0.32
118	N04P	31.97	8.92	8.70	8.94	-0.24
119	N04P	15.88	10.02	9.72	10.03	-0.32
120	N04P	6.15	10.37	10.23	10.39	-0.16
121	N04P	1.68	9.22	10.07	9.24	0.83
156	N07P	44.37	8.94	8.72	8.96	-0.24
157	N07P	27.95	9.06	8.78	9.07	-0.29
158	N07P	13.44	10.30	9.75	10.32	-0.56
159	N07P	5.23	9.97	10.29	9.99	0.30
160	N07P	1.52	8.91	9.76	8.93	0.83
209	N20P	27.48	8.82	8.71	8.83	-0.12
210	N20P	19.92	9.03	8.89	9.04	-0.16
211	N20P	13.08	10.23	9.69	10.25	-0.55
212	N20P	6.55	10.40	10.52	10.42	0.10
213	N20P	1.68	9.53	10.24	9.54	0.69
224	N16P	39.16	8.98	8.71	8.99	-0.28
225	N16P	29.02	8.86	8.69	8.87	-0.18
226	N16P	21.50	9.47	9.18	9.49	-0.31
227	N16P	11.37	10.56	10.45	10.58	-0.13
228	N16P	1.53	8.83	9.59	8.85	0.74

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.663847951
R Square	0.440694102
Adjusted R Square	0.406211343
Standard Error	0.441763492
Observations	30

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	4.459287585	4.459287585	22.84998068	5.05855E-05
Residual	29	5.6594945	0.195154983		
Total	30	10.11878208			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.000%*	*Upper 95.000%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.998250243	0.008454214	118.0772338	1.84624E-40	0.980959424	1.015541062	0.980959424	1.015541062

SUMMARY OUTPUT

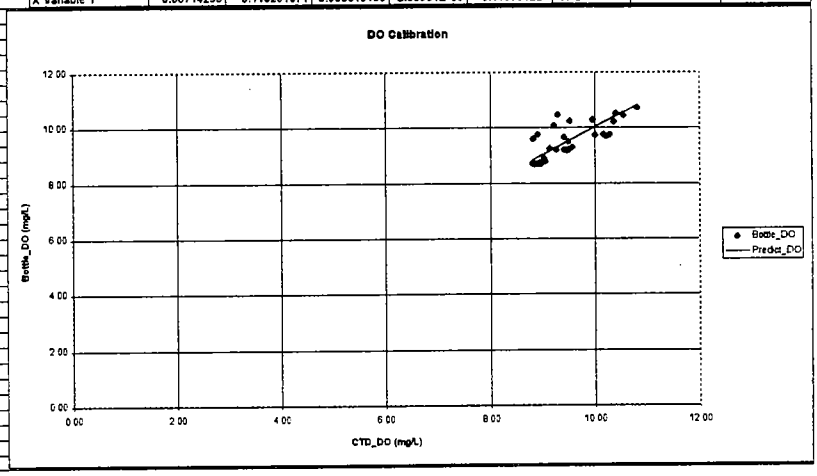
Regression Statistics

Multiple R	0.744949039
R Square	0.55494907
Adjusted R Square	0.539054394
Standard Error	0.401042097
Observations	30

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	5.61540871	5.61540871	34.91414787	2.33954E-06
Residual	28	4.503373374	0.160834763		
Total	29	10.11878208			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.000%*	*Upper 95.000%*
Intercept	2.97450031	1.109436148	2.681091936	0.012161471	0.701920829	5.247079791	0.701920829	5.247079791
X Variable 1	0.68714295	0.116291071	5.908819499	2.33954E-06	0.448931221	0.925354678	0.448931221	0.925354678



Survey W8409 Dissolved Oxygen Calibration

Marker	Station_ID	Depth	CTD_DO	Bottle_DO	Predict_DO	Residual
21	N10P	19.64	8.57	8.61	8.72	-0.11
22	N10P	14.13	8.67	8.63	8.83	-0.19
23	N10P	9.36	8.69	8.83	8.85	-0.01
24	N10P	6.00	8.42	8.90	8.56	0.33
25	N10P	1.06	8.55	8.83	8.70	0.23
62	N01P	26.55	8.49	8.54	8.63	-0.09
63	N01P	20.34	8.78	8.75	8.93	-0.18
64	N01P	12.88	9.34	9.29	9.50	-0.21
65	N01P	6.68	9.74	9.74	9.91	-0.17
66	N01P	1.16	9.11	9.50	9.27	0.24
101	N04P	45.03	8.10	8.05	8.24	-0.20
102	N04P	29.04	8.20	8.18	8.35	-0.17
103	N04P	16.30	8.96	9.10	9.12	-0.02
104	N04P	5.56	9.31	9.57	9.47	0.10
105	N04P	1.14	9.48	9.83	9.64	0.19
134	N07P	43.51	8.23	8.37	8.37	0.00
135	N07P	25.26	8.81	8.76	8.96	-0.21
136	N07P	12.10	8.83	8.75	8.98	-0.23
137	N07P	5.60	9.49	9.44	9.66	-0.21
138	N07P	1.12	7.93	8.89	8.06	0.83
183	N20P	27.13	8.39	8.70	8.53	0.17
184	N20P	17.29	8.91	8.72	9.07	-0.35
185	N20P	8.02	8.89	9.03	9.04	-0.01
186	N20P	5.43	8.97	9.13	9.12	0.01
187	N20P	1.73	9.75	9.84	9.92	-0.08
230	N16P	37.21	8.27	8.46	8.41	0.05
231	N16P	23.61	8.48	8.53	8.62	-0.10
232	N16P	15.27	8.94	9.01	9.09	-0.09
233	N16P	6.79	9.50	9.62	9.66	-0.05
234	N16P	1.74	8.96	9.56	9.12	0.45

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.871809664
R Square	0.760052091
Adjusted R Square	0.725569332
Standard Error	0.237896421
Observations	30

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	5.198765186	5.19877	91.85956519	2.43635E-10
Residual	29	1.641246507	0.05659		
Total	30	6.840011695			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.000%*	*Upper 95.000%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.982900601	0.00483216	203.408	2.65962E-47	0.973017718	0.992783484	0.973017718	0.992783484

SUMMARY OUTPUT

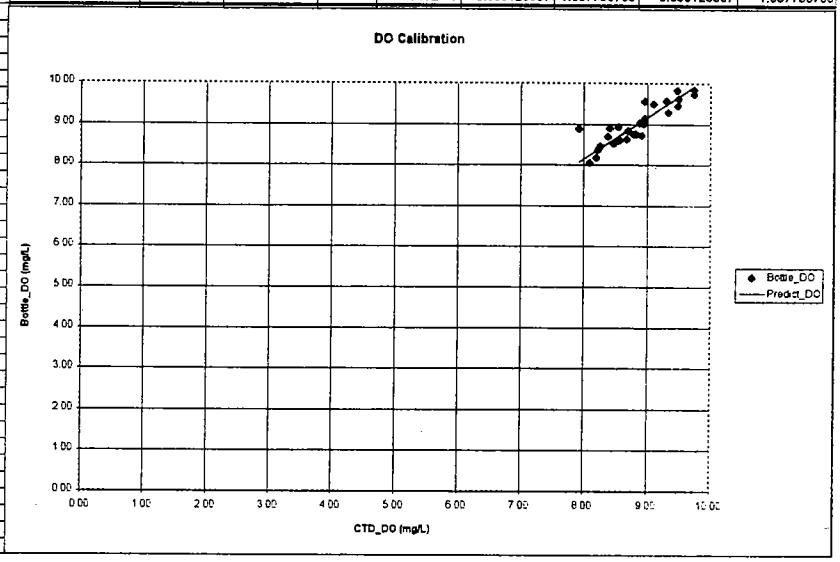
Regression Statistics

Multiple R	0.878686888
R Square	0.772090646
Adjusted R Square	0.763951027
Standard Error	0.235955704
Observations	30

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	5.281109051	5.28111	94.85586158	1.71846E-10
Residual	28	1.558902644	0.05568		
Total	29	6.840011695			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.000%*	*Upper 95.000%*
Intercept	0.980879468	0.806548537	1.21614	0.234083428	-0.671262171	2.633021107	-0.671262171	2.633021107
X Variable 1	0.873930005	0.089731425	9.7394	1.71846E-10	0.690123307	1.057736703	0.690123307	1.057736703



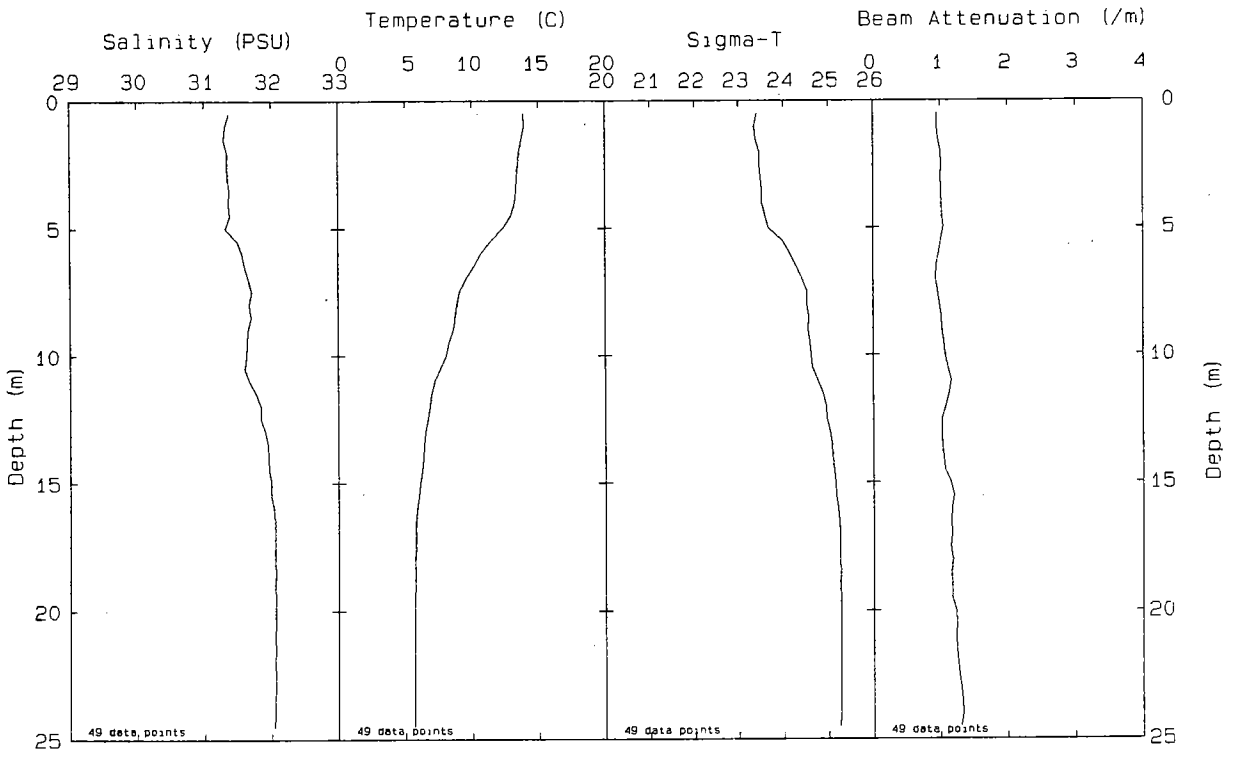
APPENDIX B

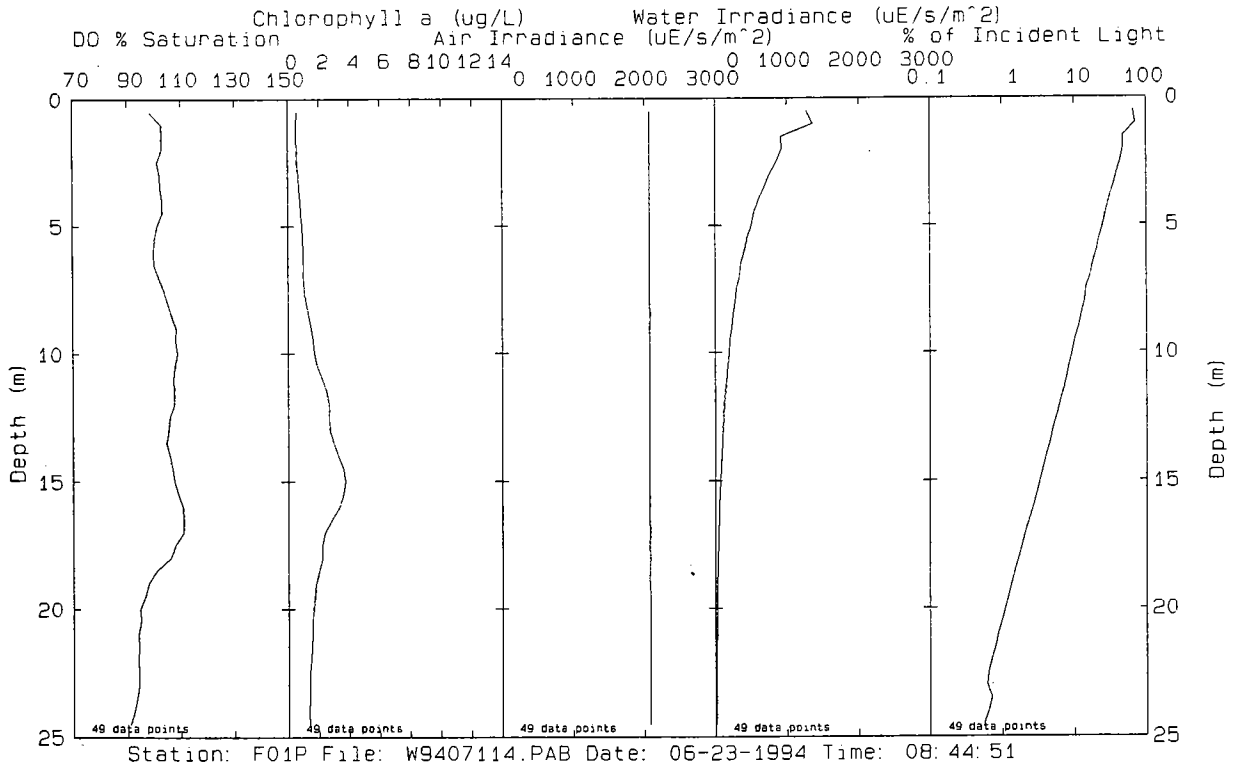
VERTICAL PROFILE DATA FROM FARFIELD AND NEARFIELD STATIONS

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.

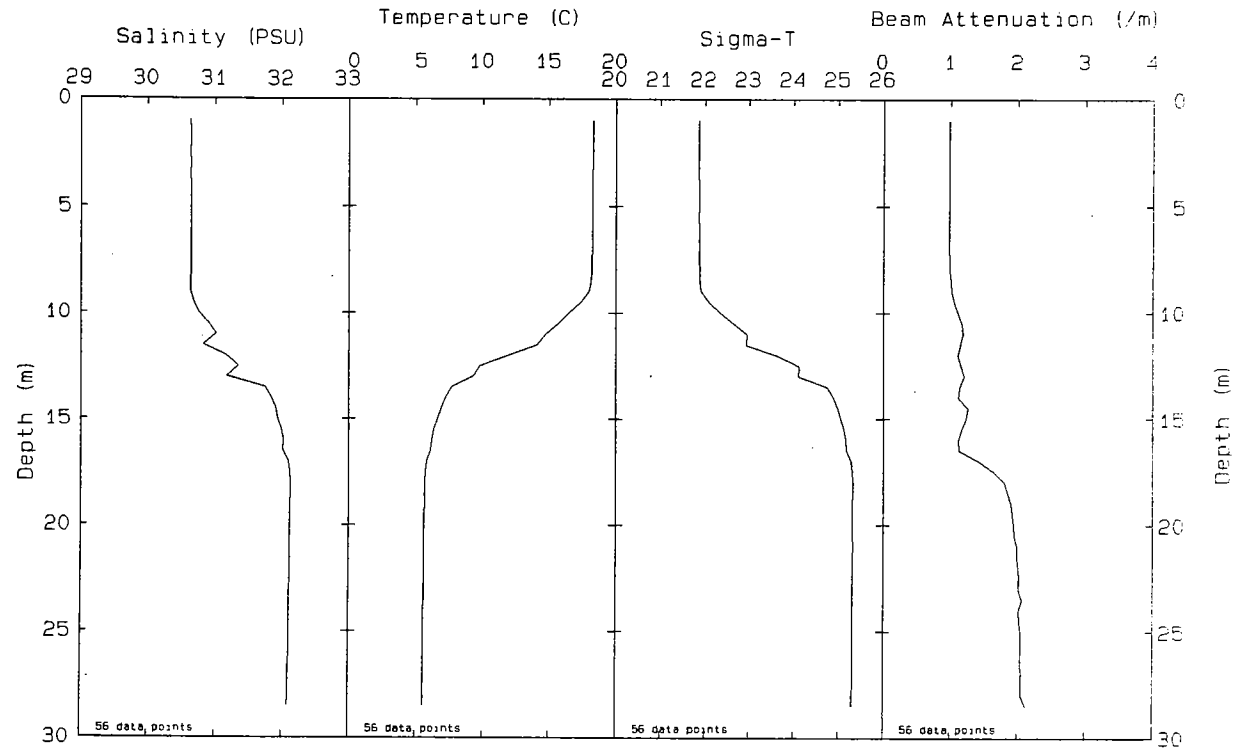
For each station occupation, there is a one-page set of profiles, with station, cruise code, date and time listed across the bottom.

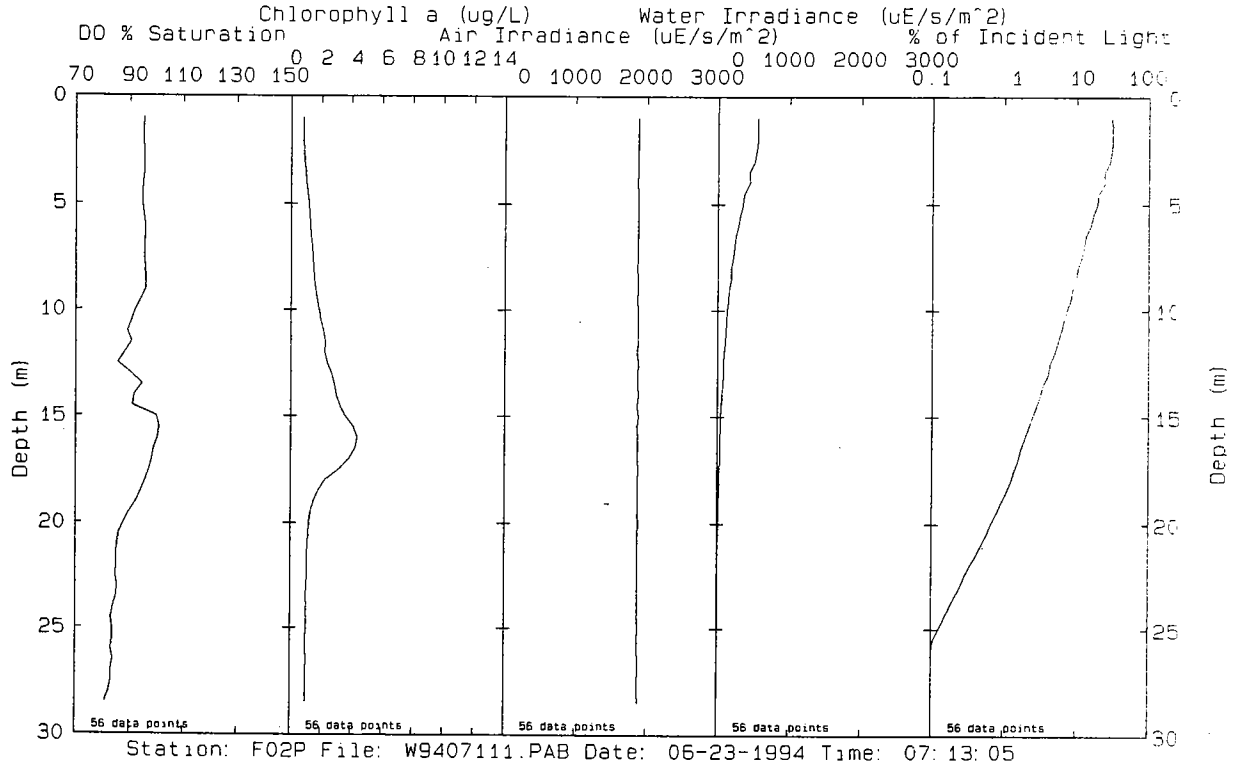
June 1994 Profiles



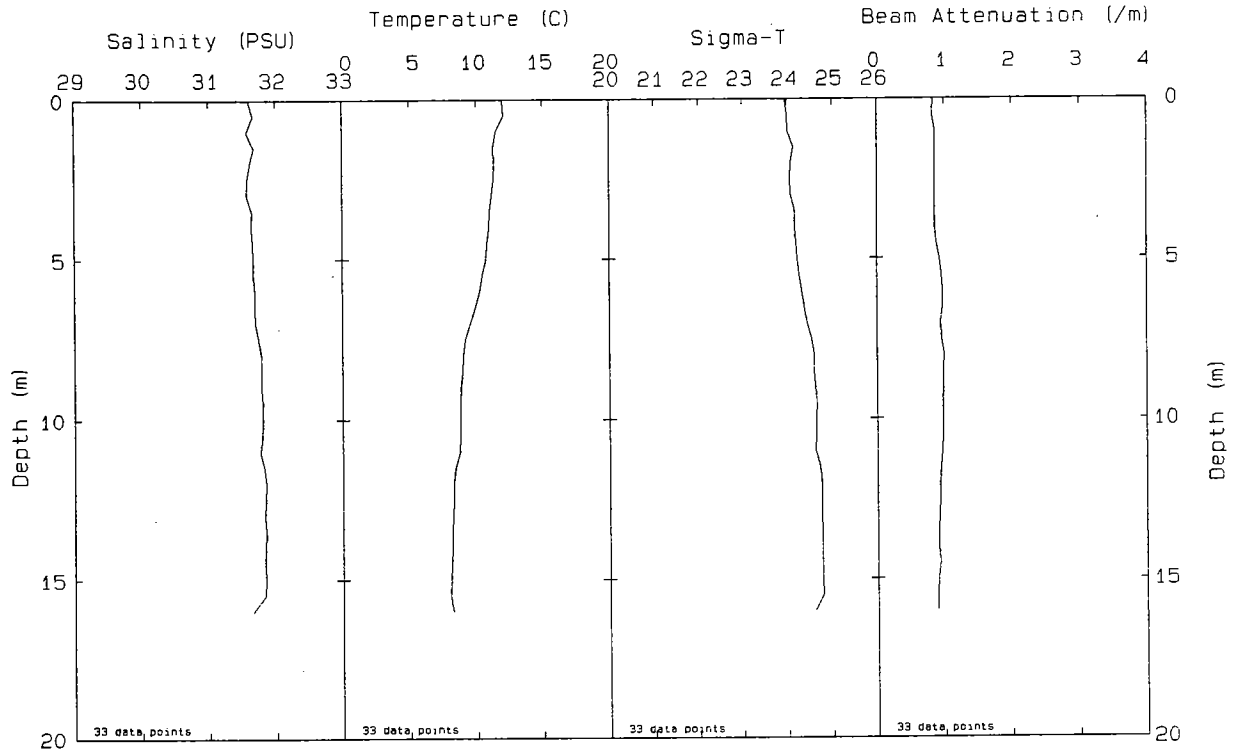


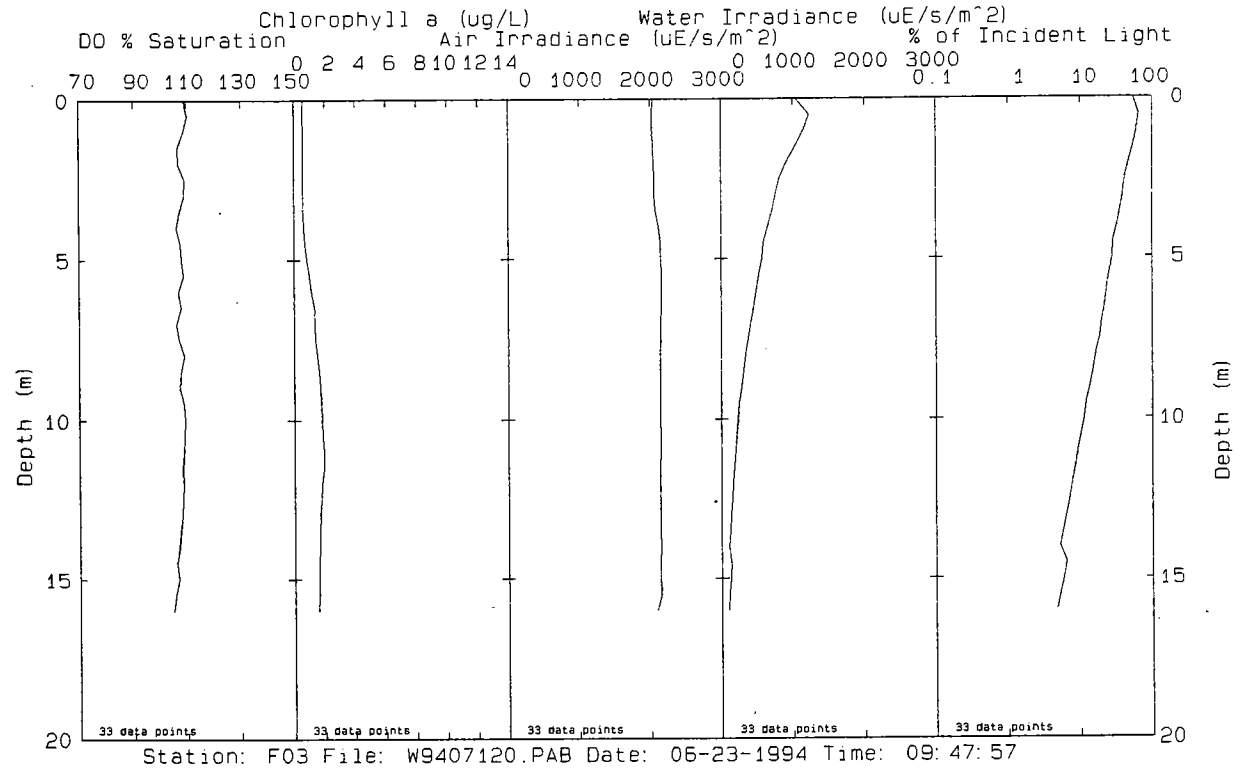
Station: F01P File: W9407114.PAB Date: 06-23-1994 Time: 08:44:51



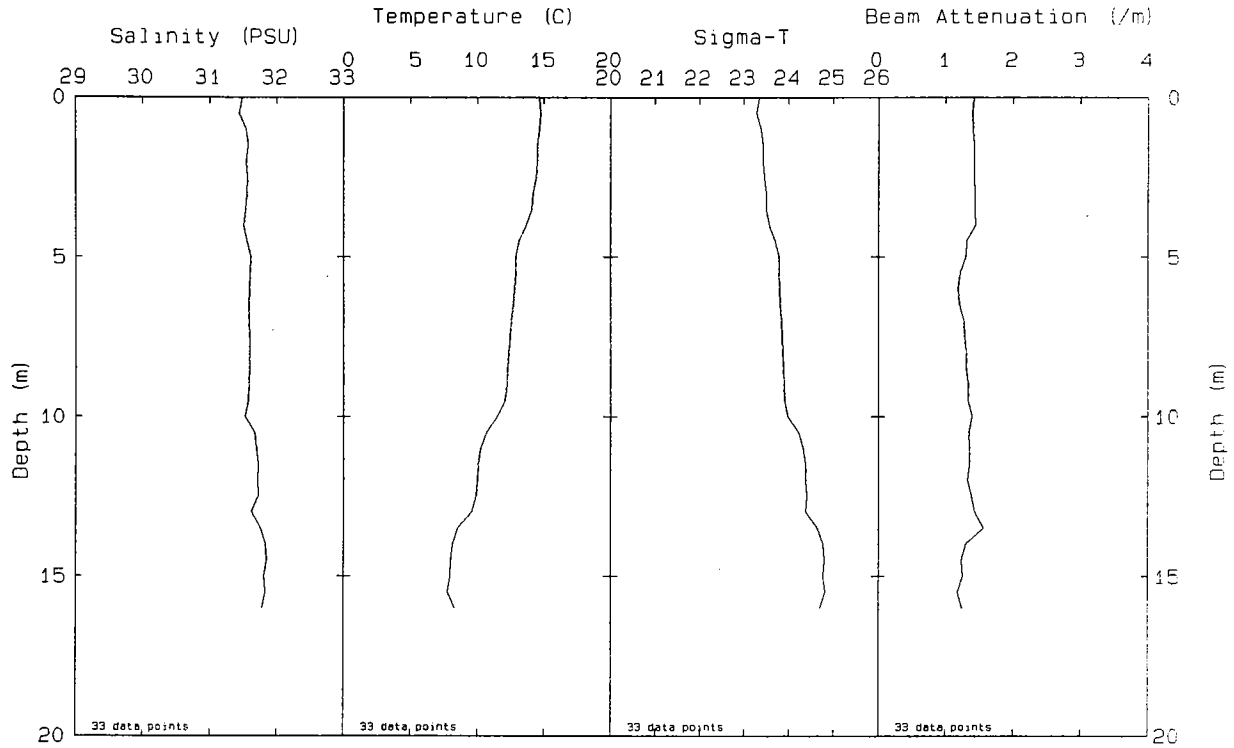


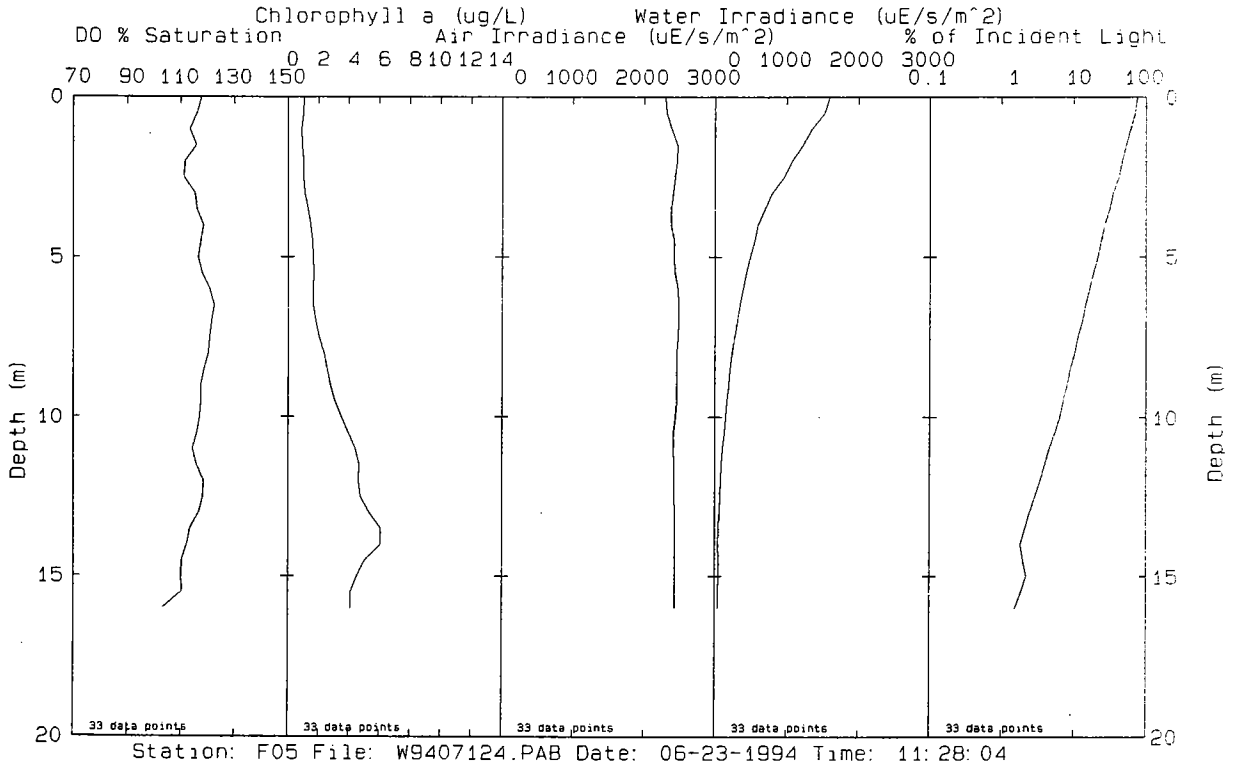
Station: F02P File: W9407111.PAB Date: 06-23-1994 Time: 07:13:05



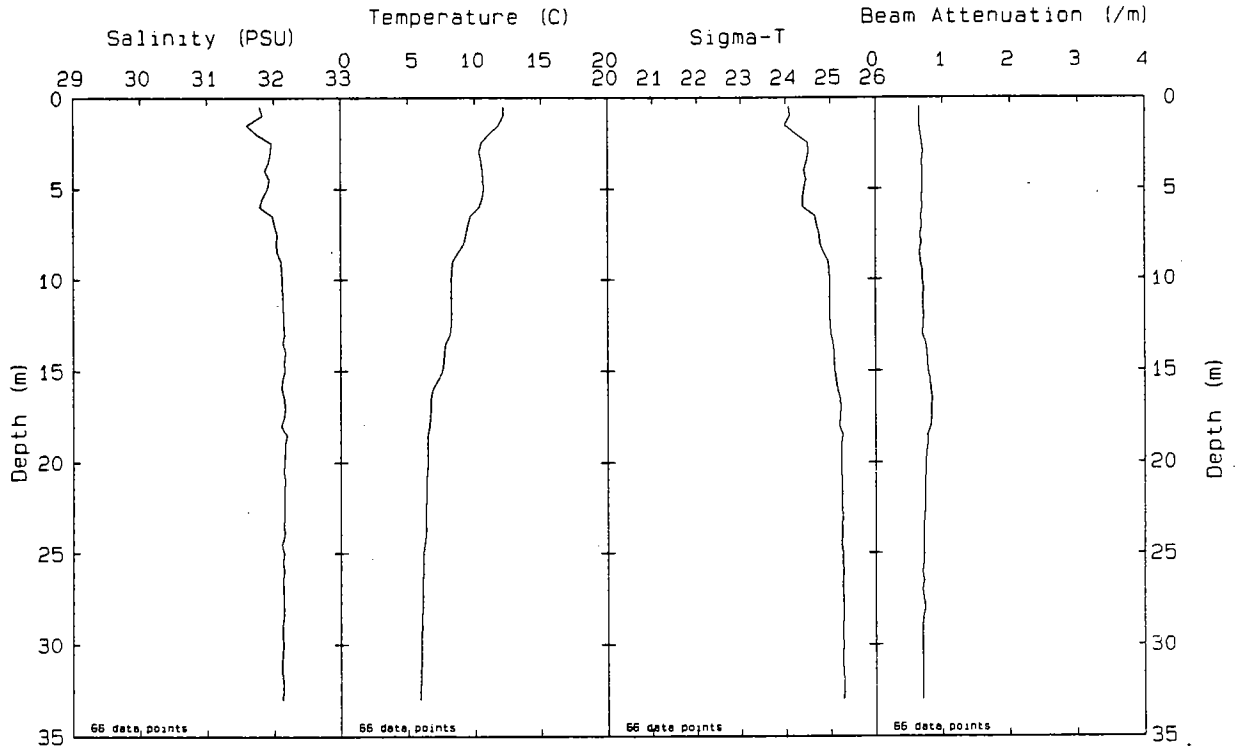


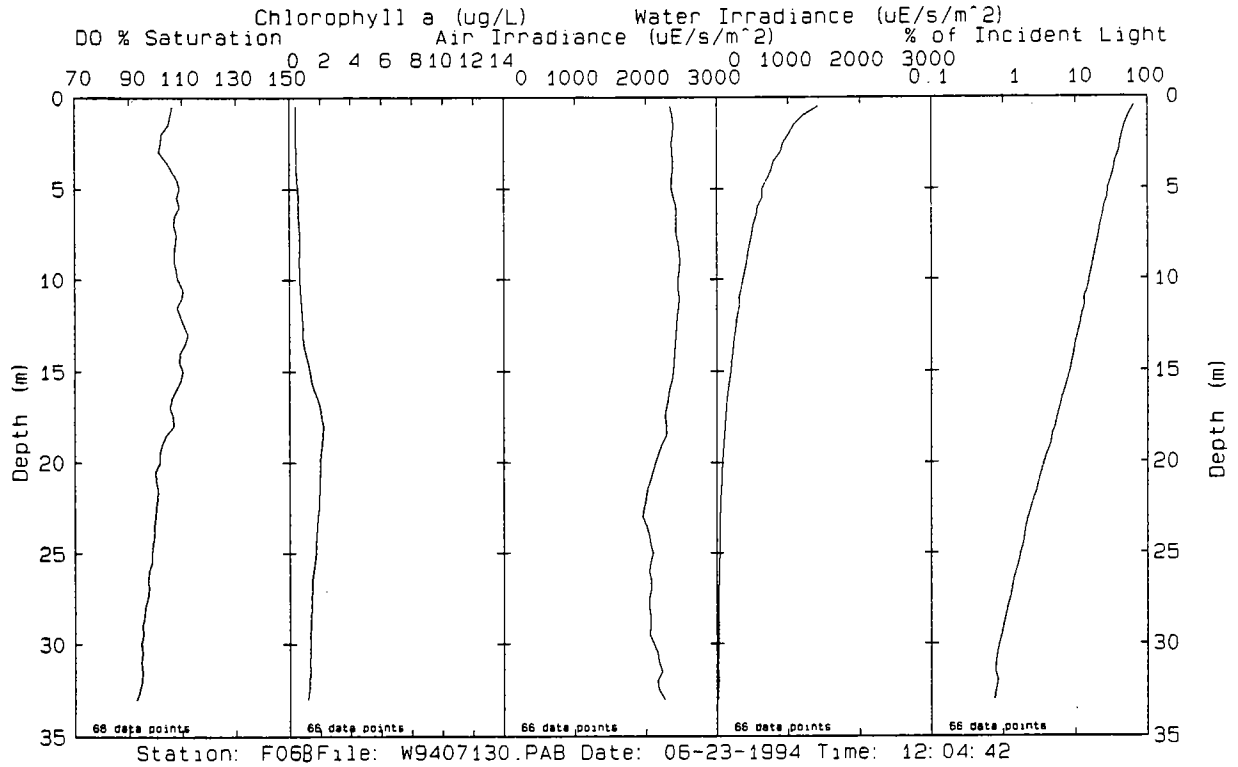
Station: F03 File: W9407120.PAB Date: 06-23-1994 Time: 09:47:57

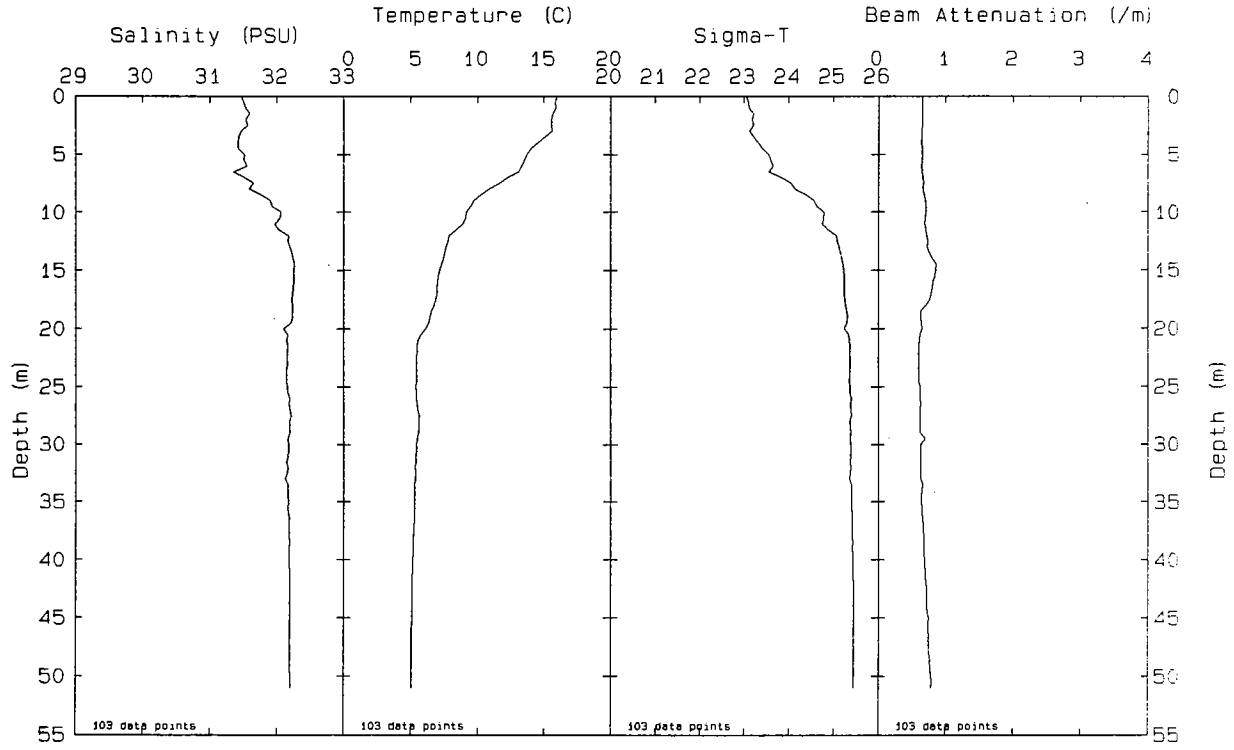


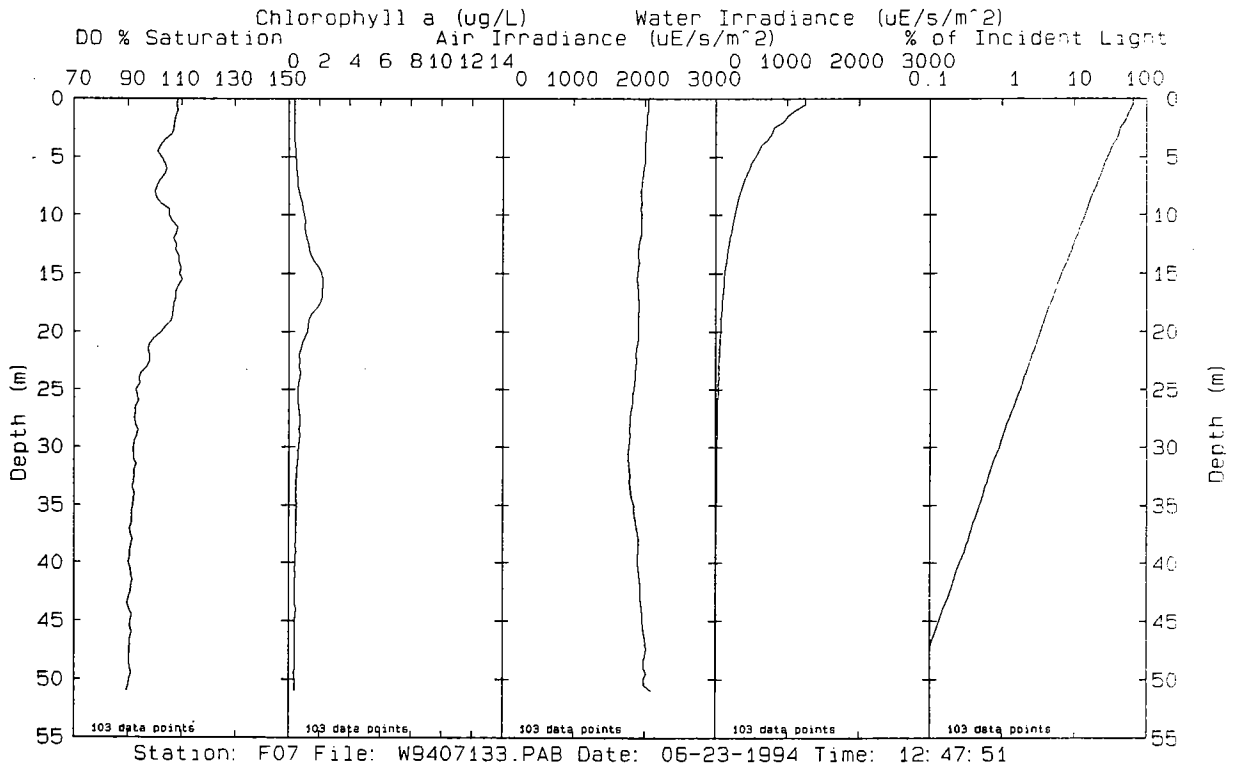


Station: F05 File: W9407124.PAB Date: 06-23-1994 Time: 11:28:04

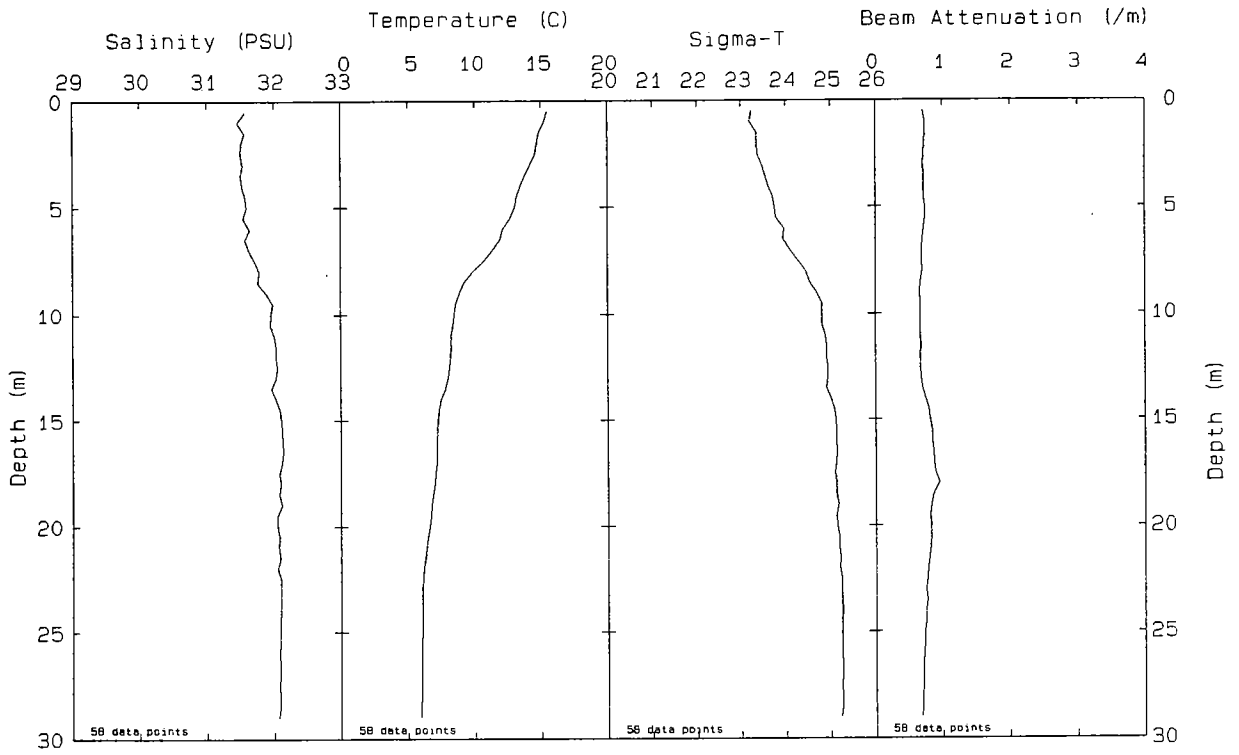

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25 30 35
66 data points
66 data points
66 data points
66 data points

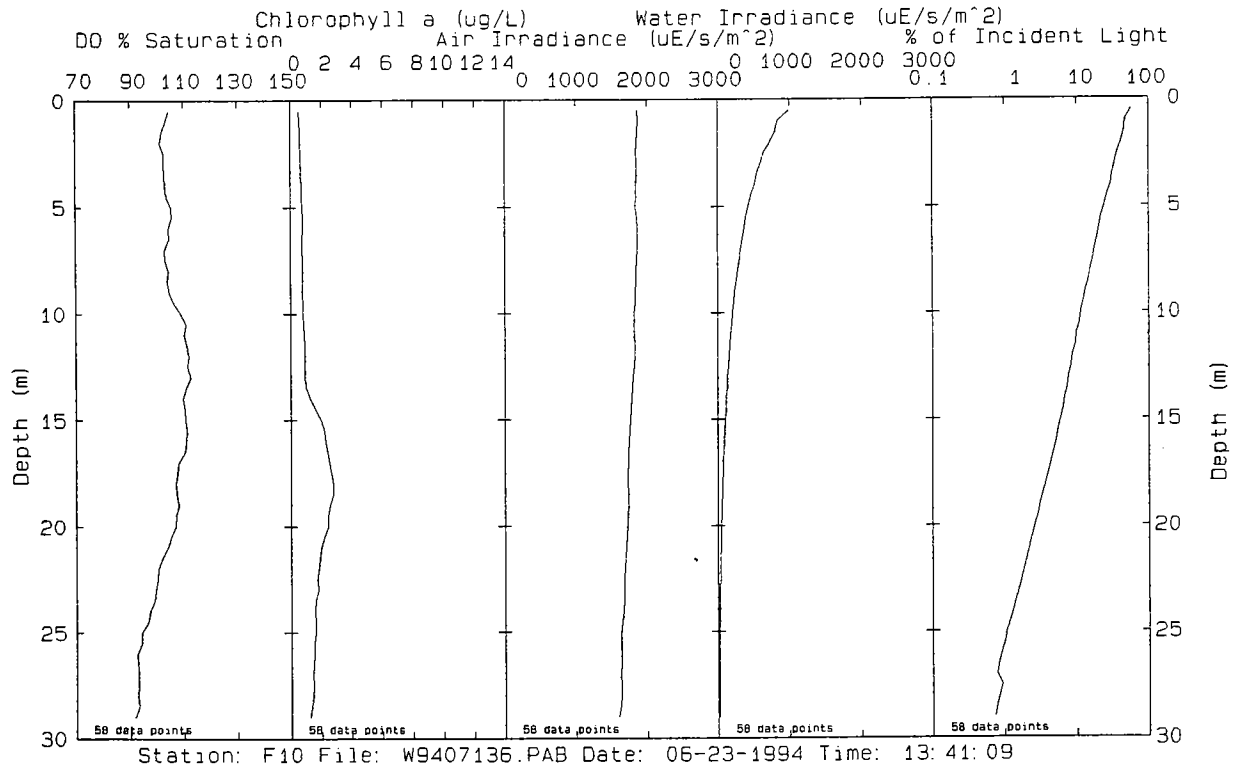

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35
68 data points
66 data points
66 data points
66 data points
66 data points
Station: F06B File: W9407130.PAB Date: 06-23-1994 Time: 12:04:42

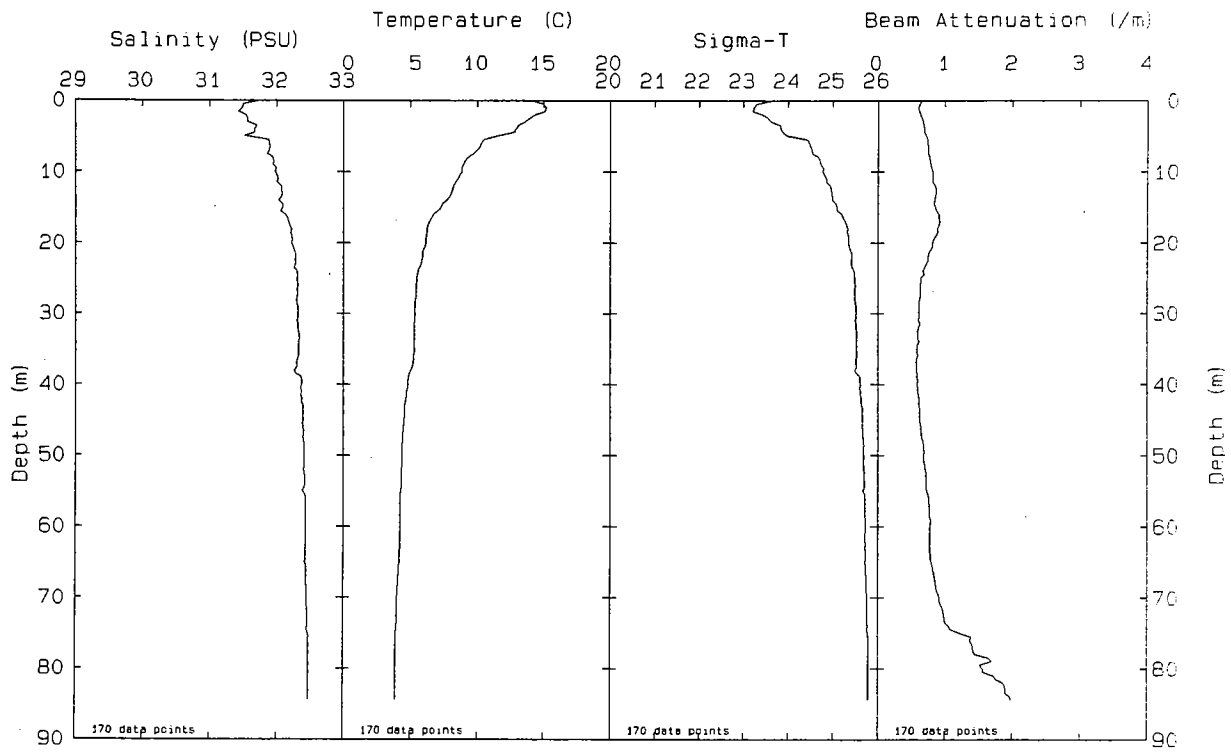


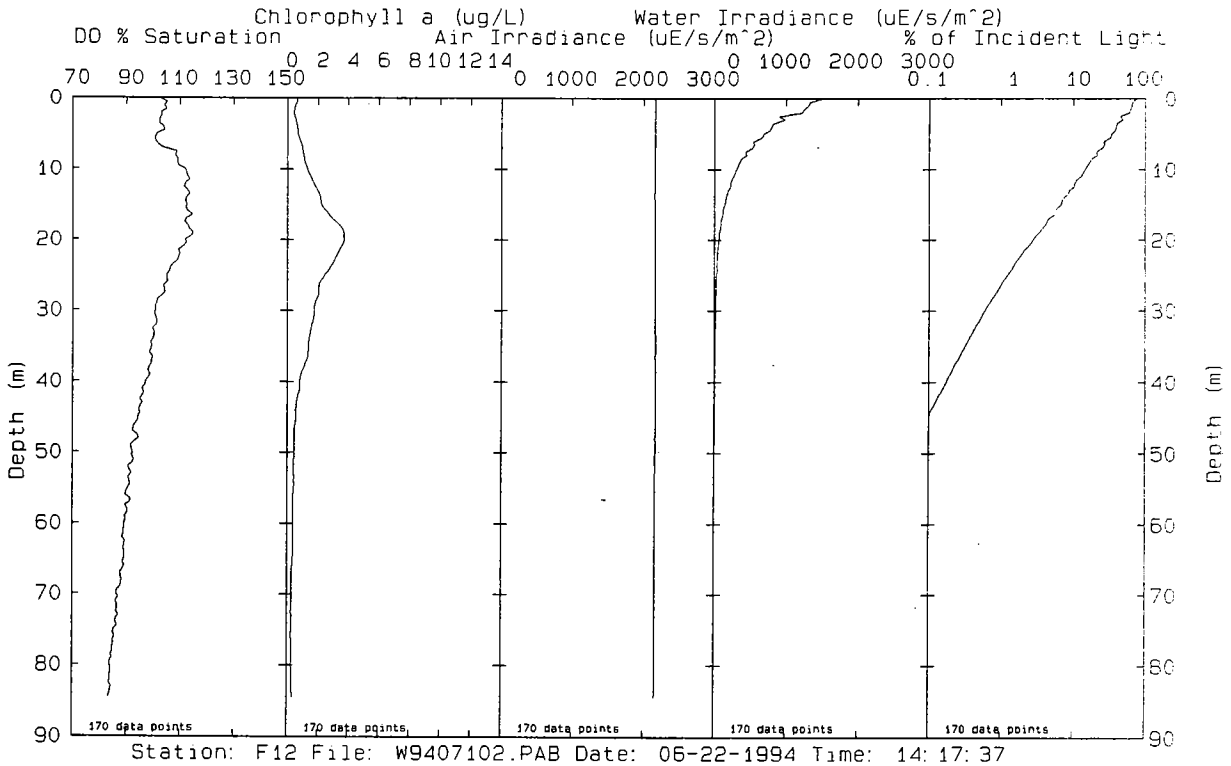


Station: F07 File: W9407133.PAB Date: 06-23-1994 Time: 12:47:51

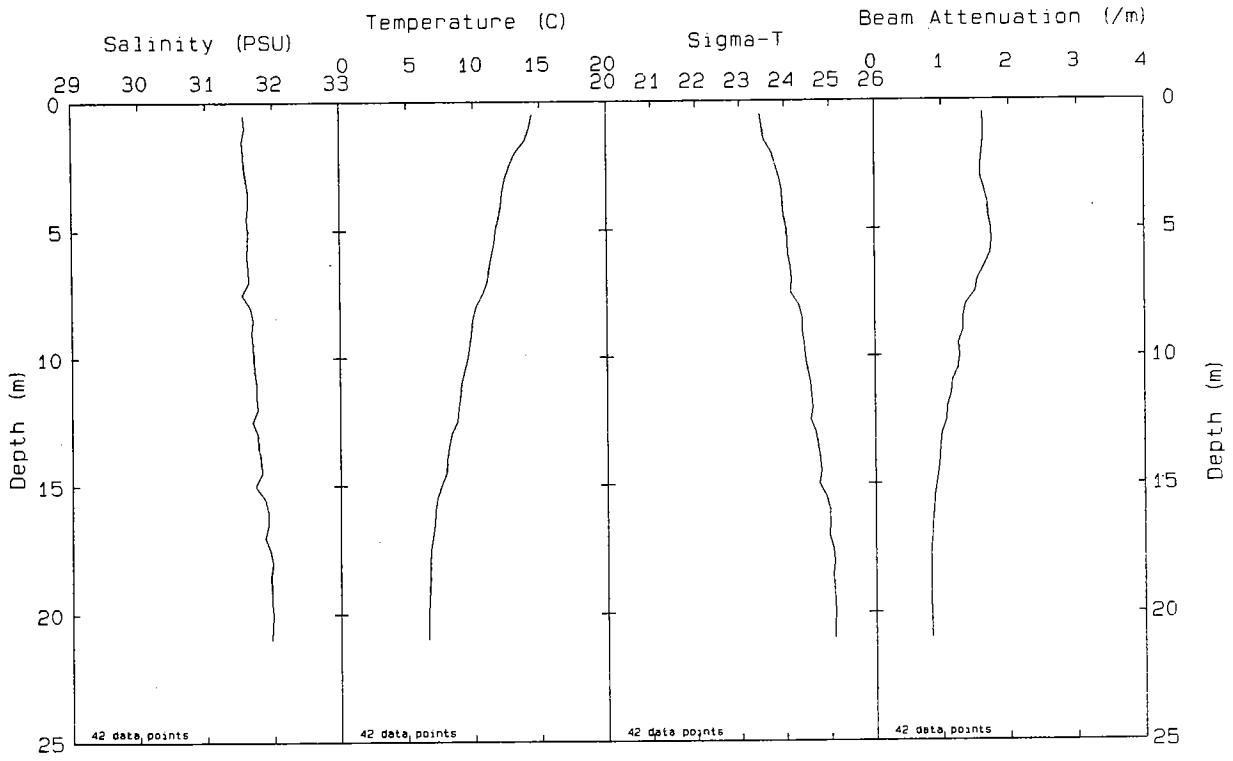

Salinity (PSU)
29 30 31 32
Temperature (C)
0 5 10 15
33
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25 30
58 data points
58 data points
58 data points
58 data points

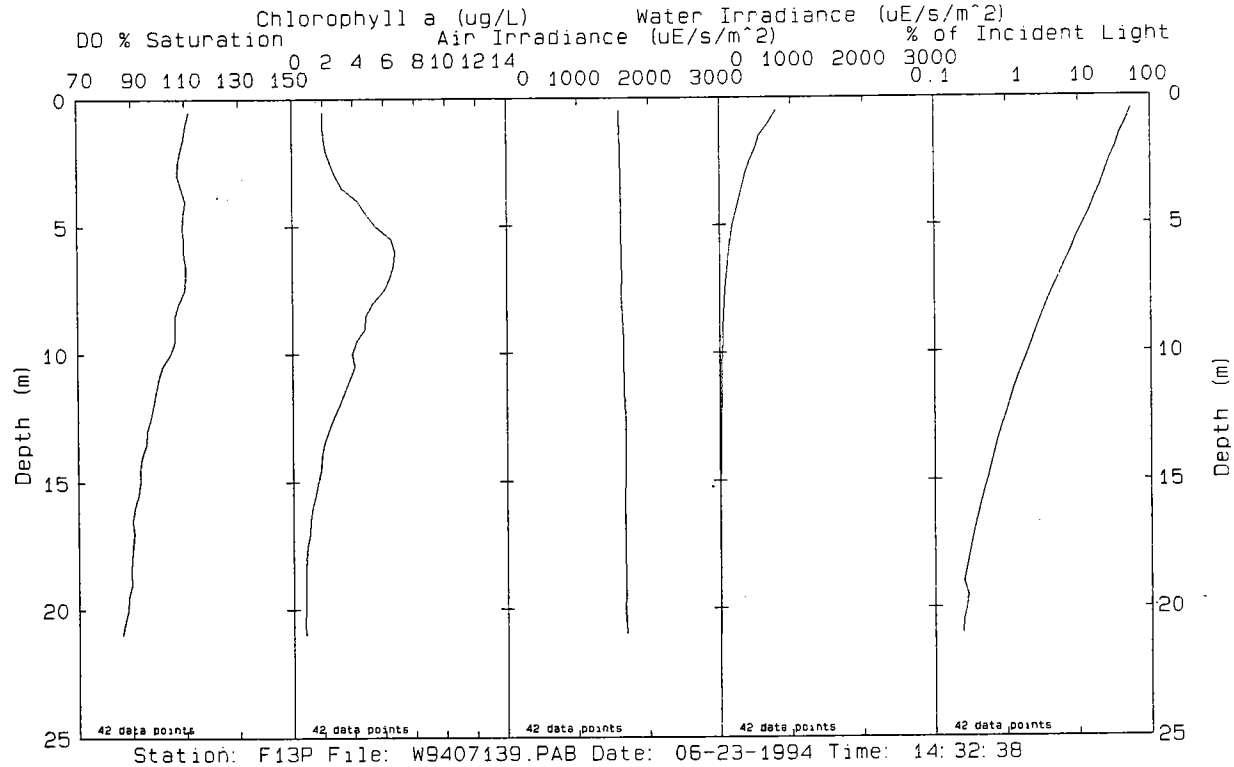

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30
58 data points
58 data points
58 data points
58 data points
58 data points
Station: F10 File: W9407136.PAB Date: 06-23-1994 Time: 13:41:09



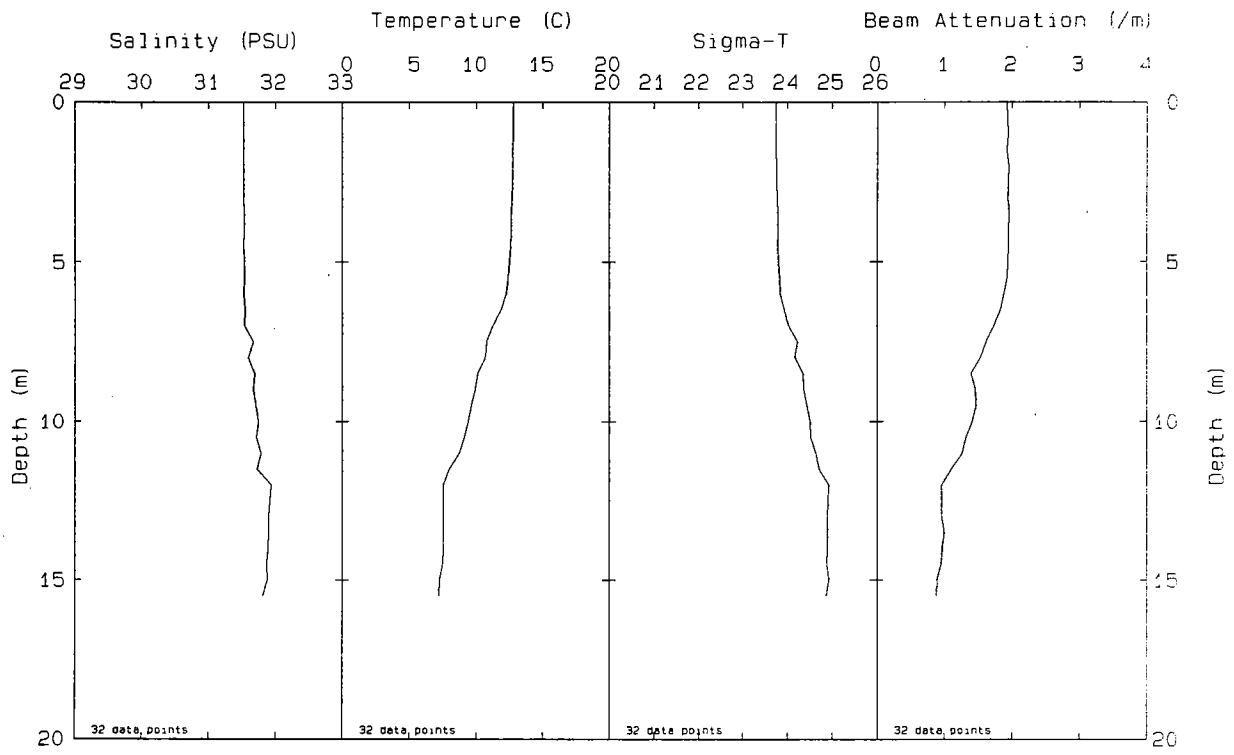


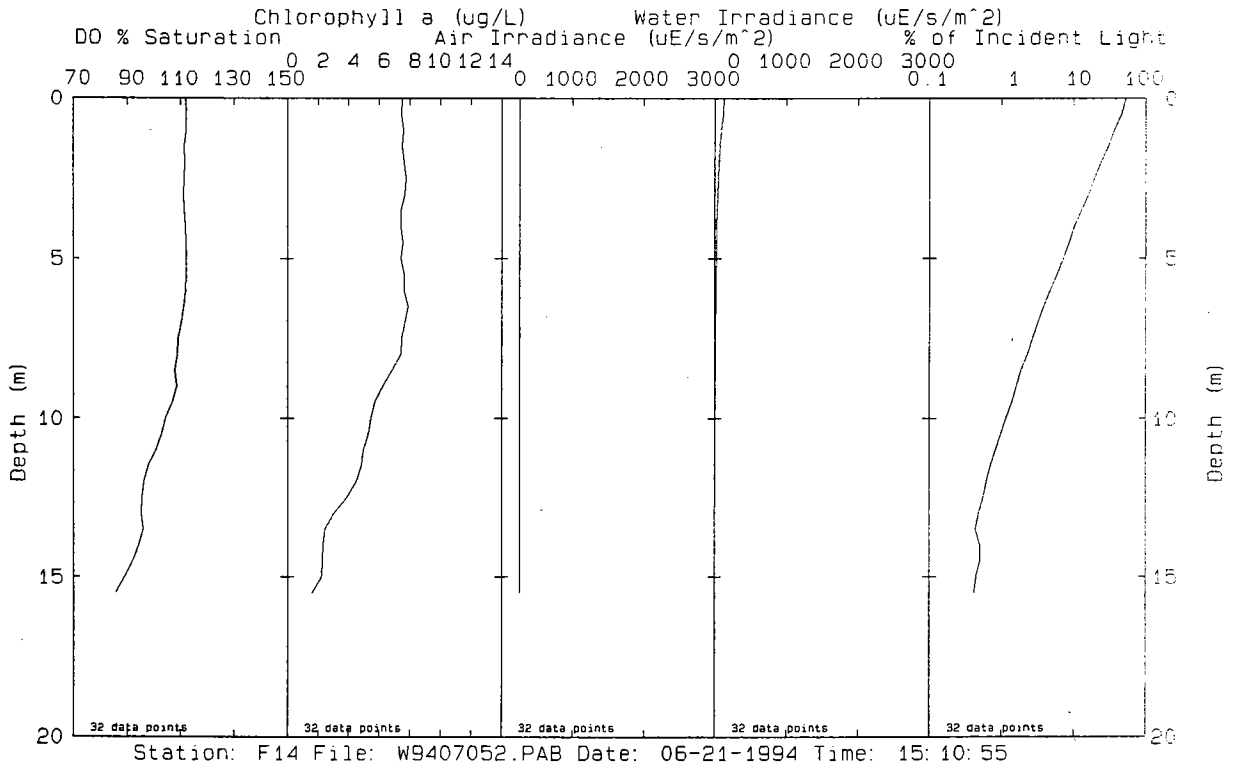
Station: F12 File: W9407102.PAB Date: 06-22-1994 Time: 14:17:37



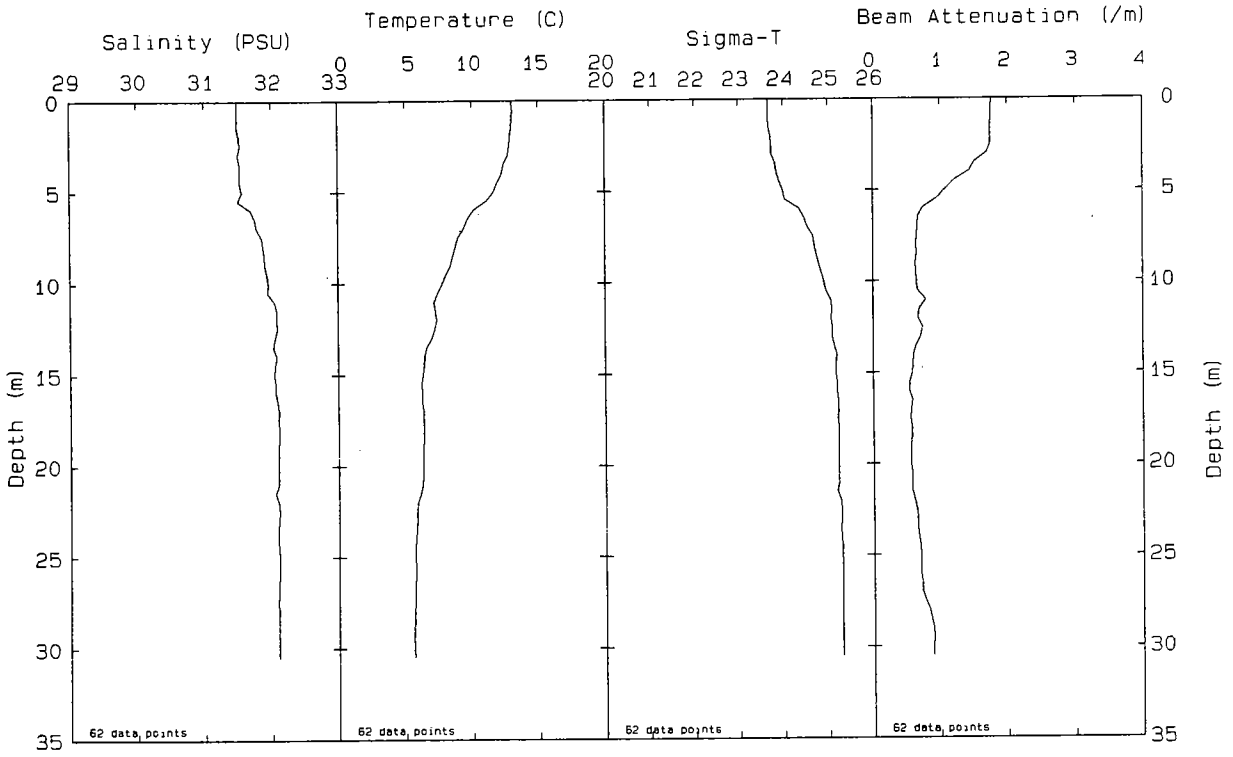


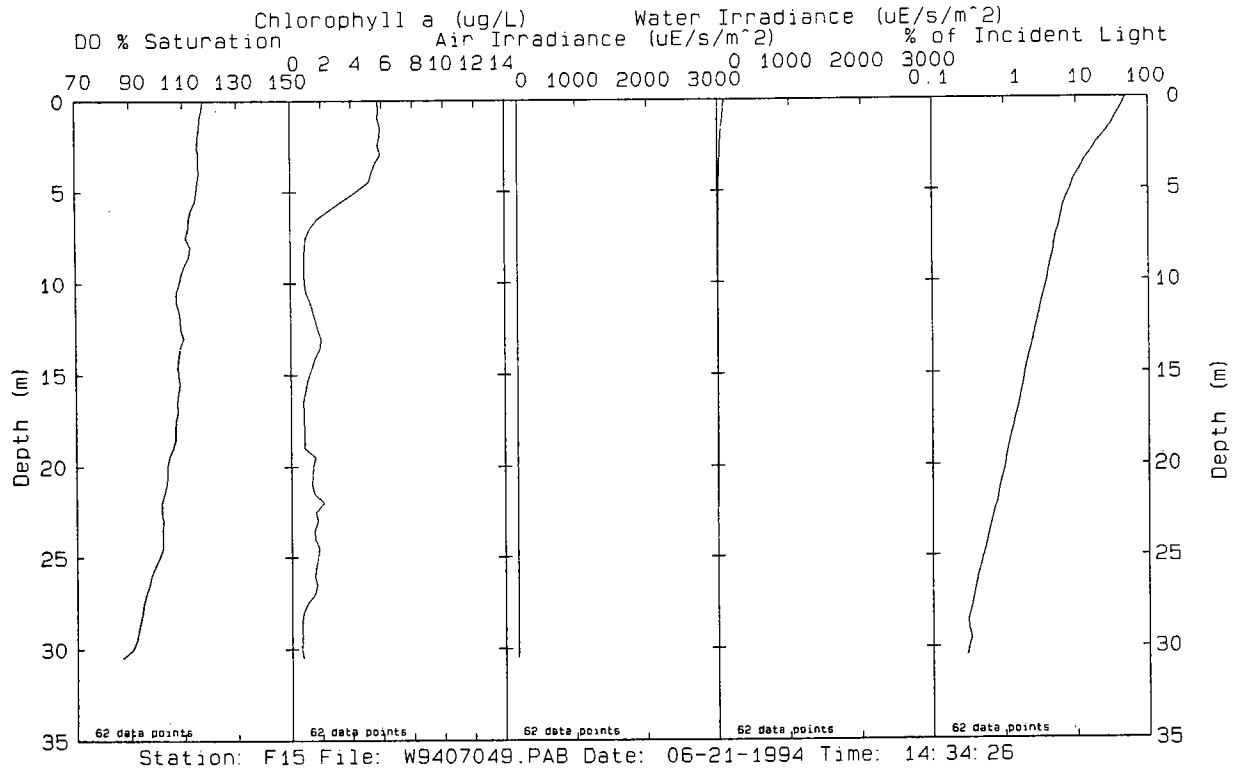
Station: F13P File: W9407139.PAB Date: 06-23-1994 Time: 14:32:38

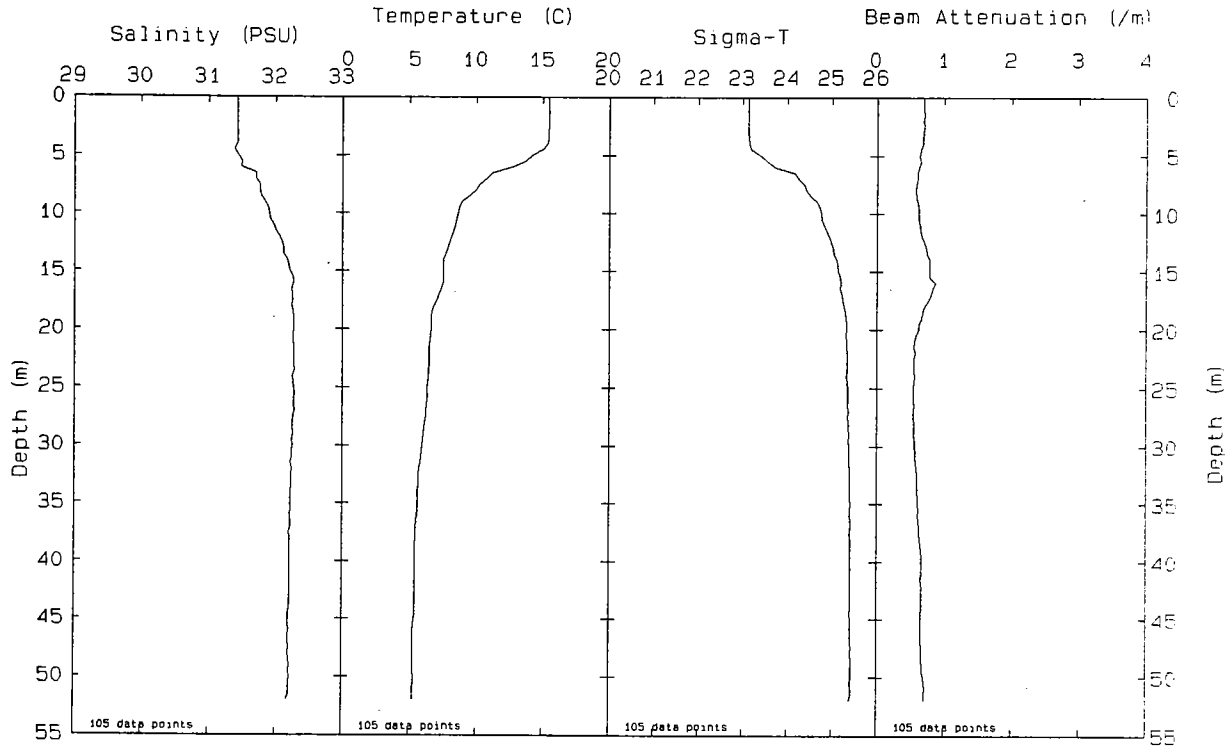


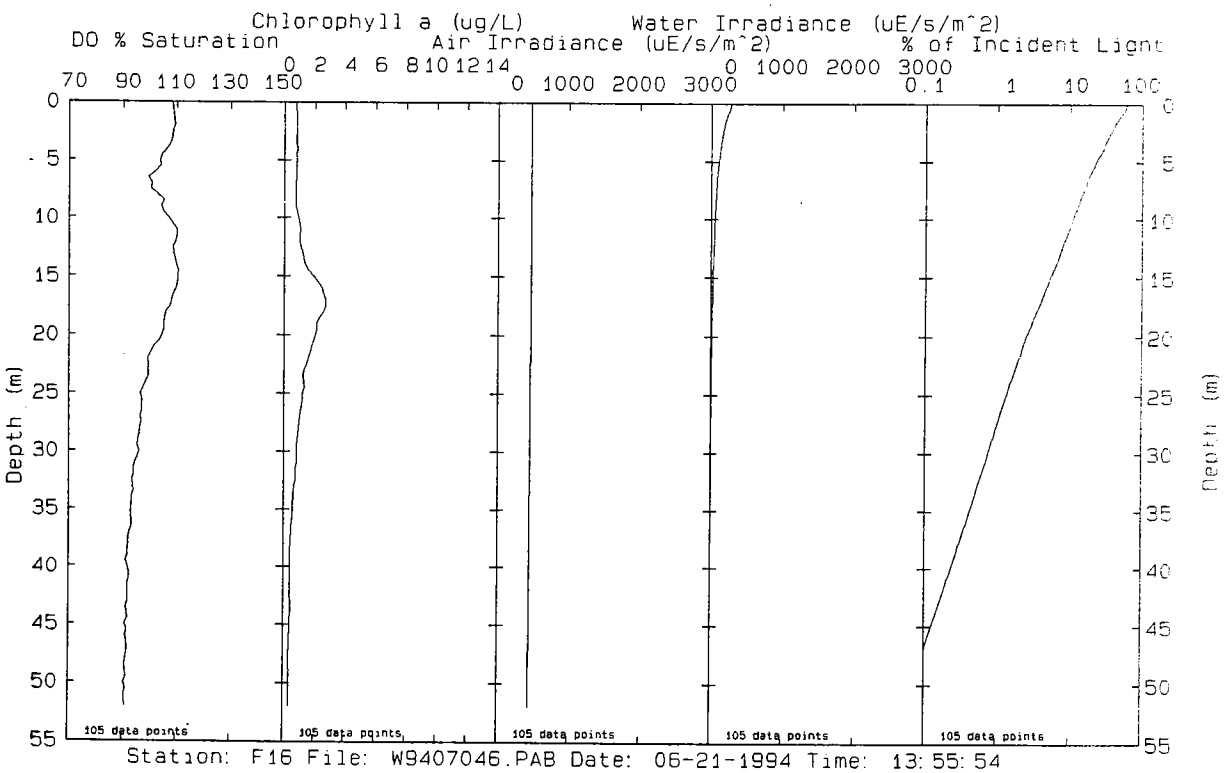


Station: F14 File: W9407052.PAB Date: 06-21-1994 Time: 15:10:55

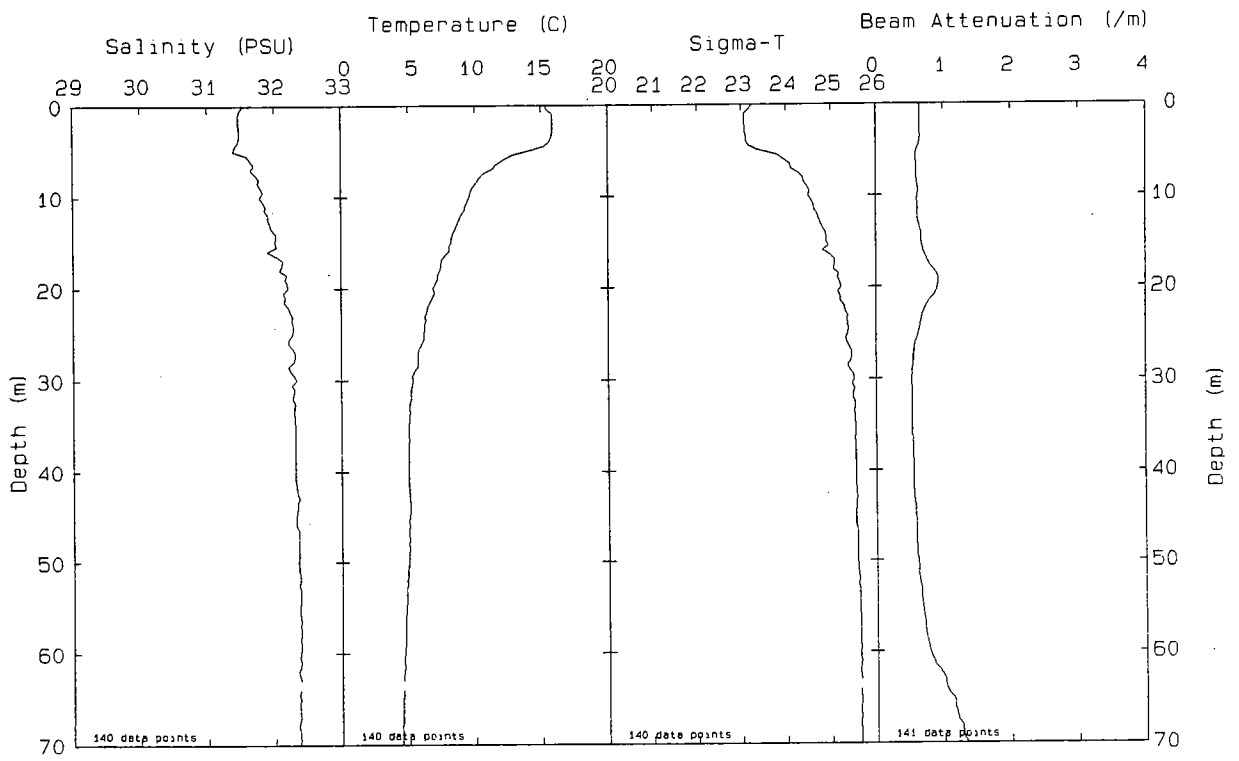

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25 30 35
62 data points
62 data points
62 data points
62 data points

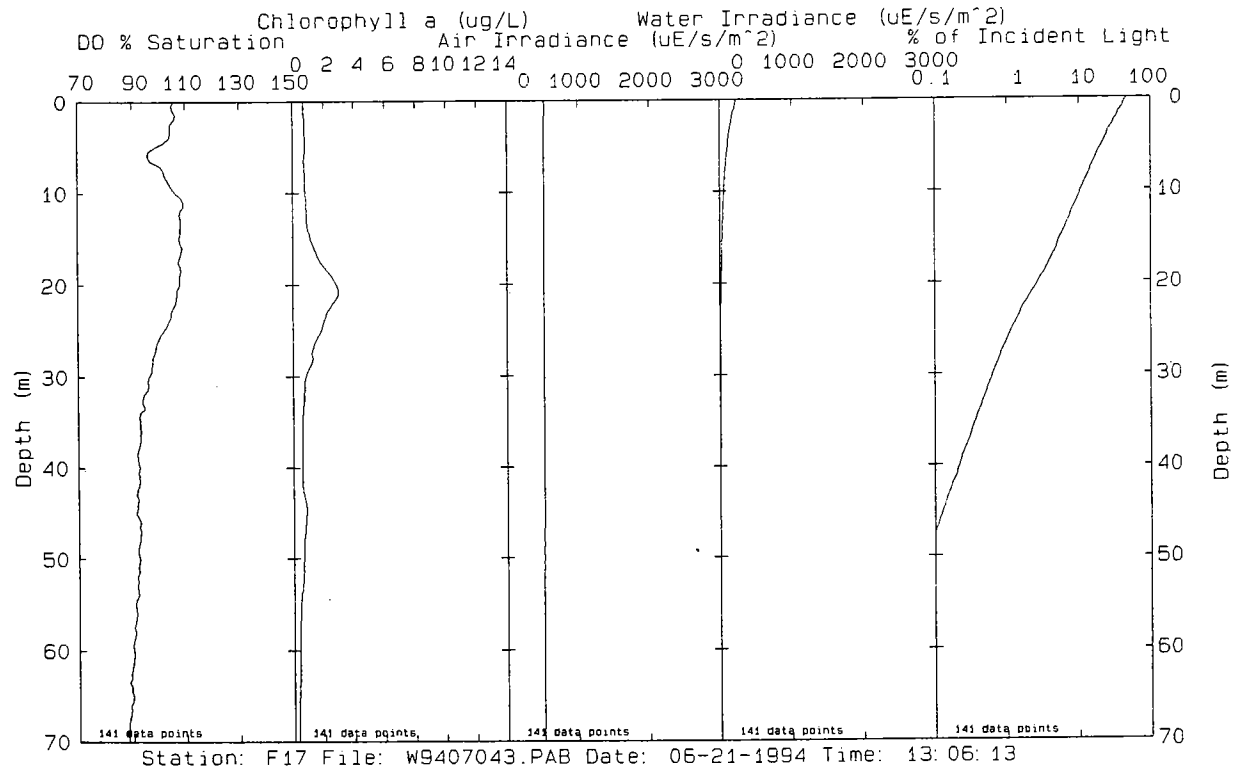

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35
62 data points
62 data points
62 data points
62 data points
62 data points
Station: F15 File: W9407049.PAB Date: 06-21-1994 Time: 14:34:26



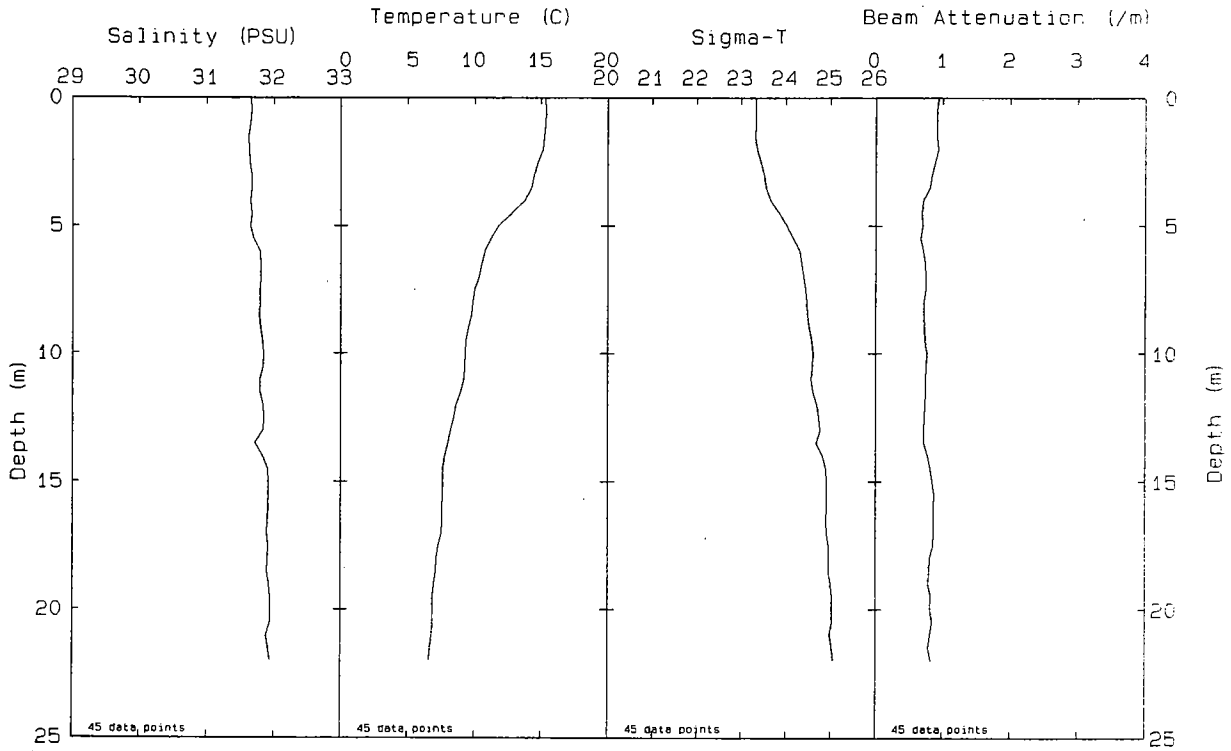


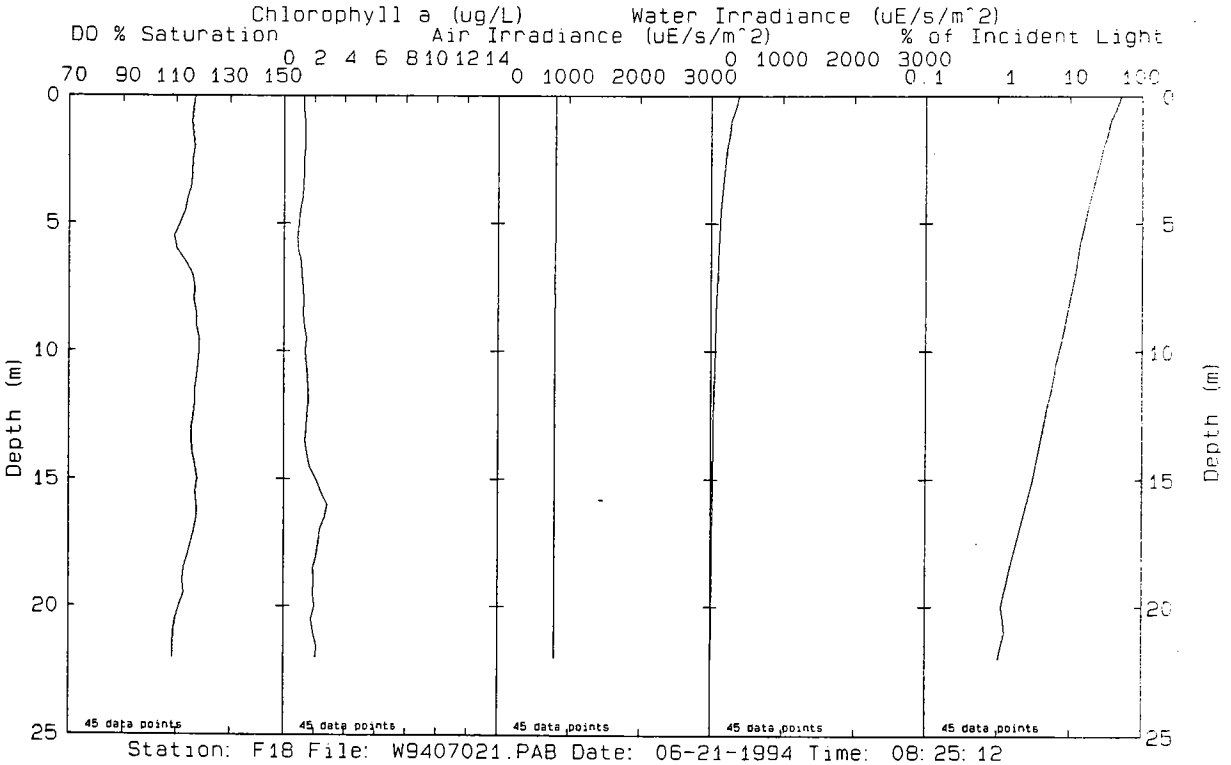
Station: F16 File: W9407046.PAB Date: 06-21-1994 Time: 13:55:54

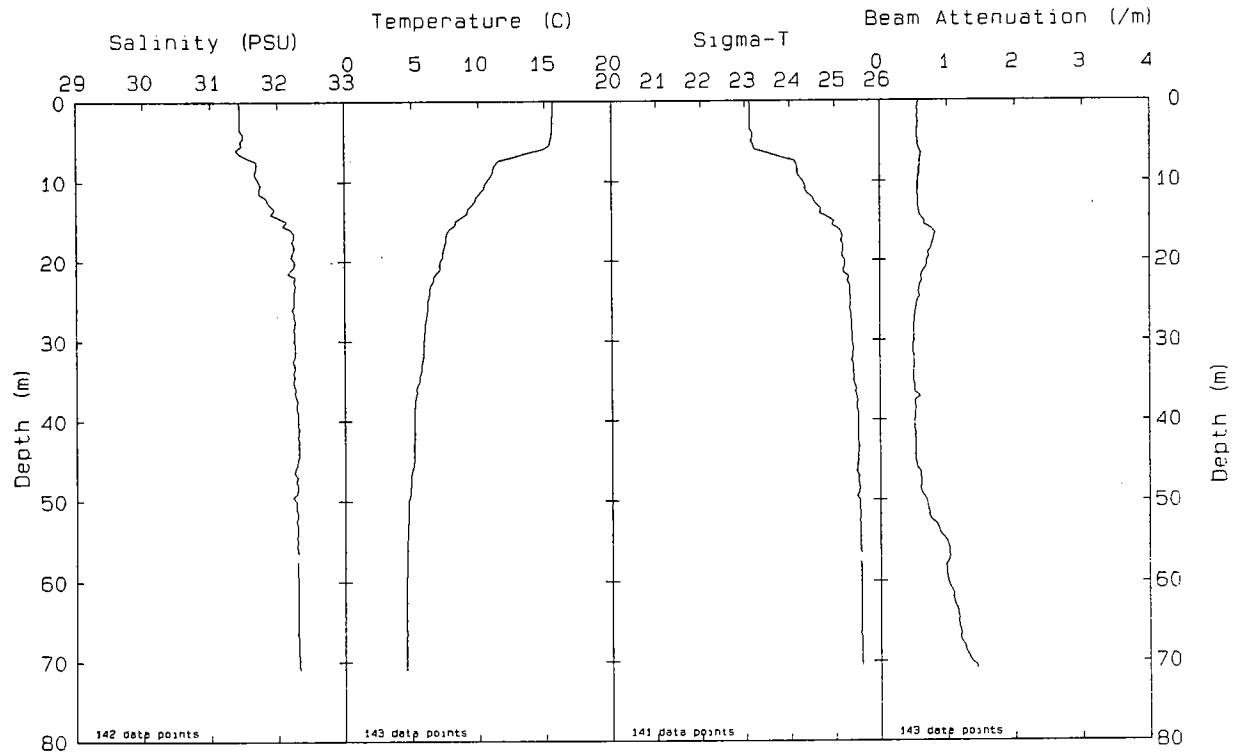


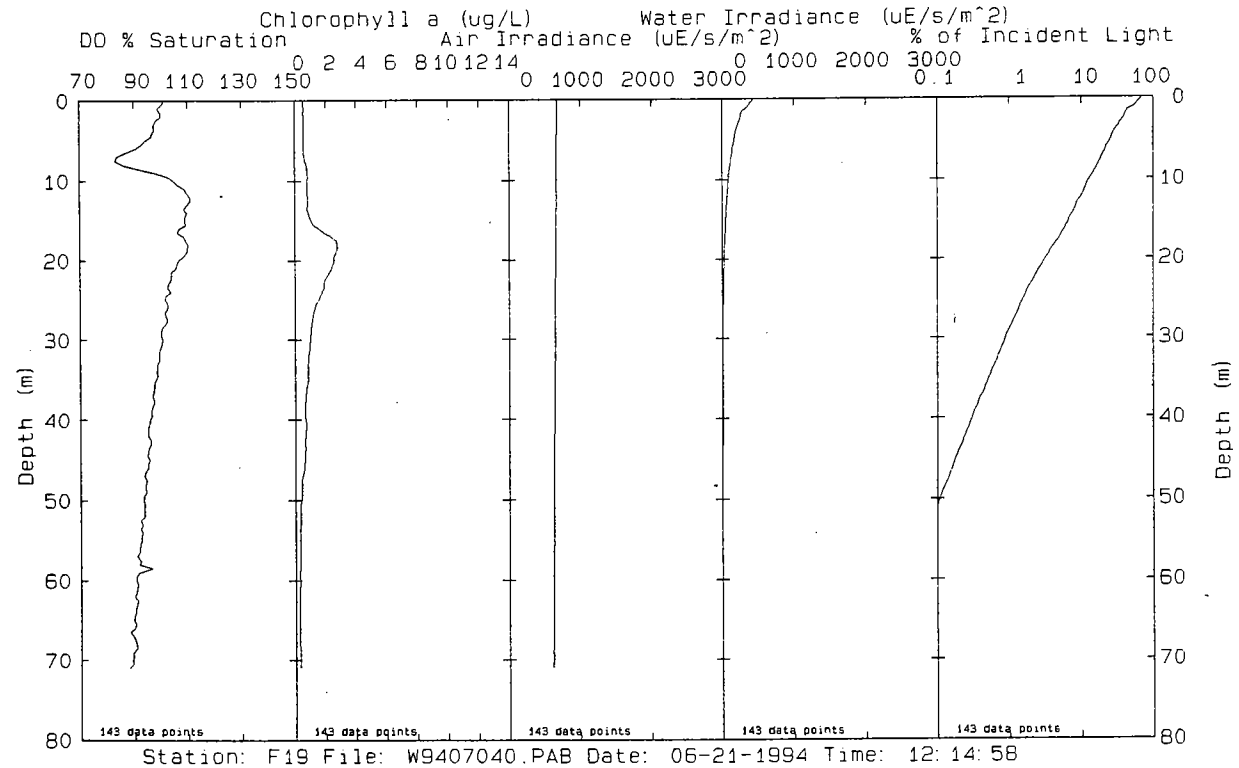


Station: F17 File: W9407043.PAB Date: 06-21-1994 Time: 13:06:13

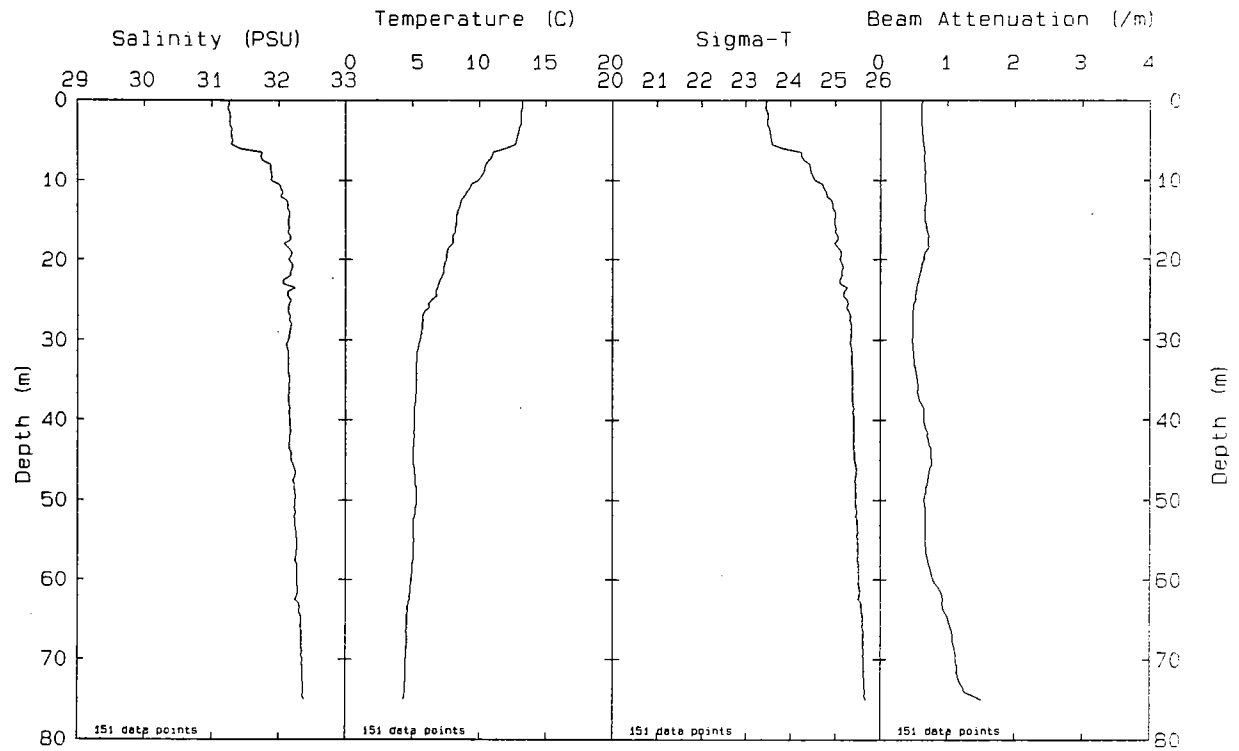

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25
45 data points
45 data points
45 data points
45 data points

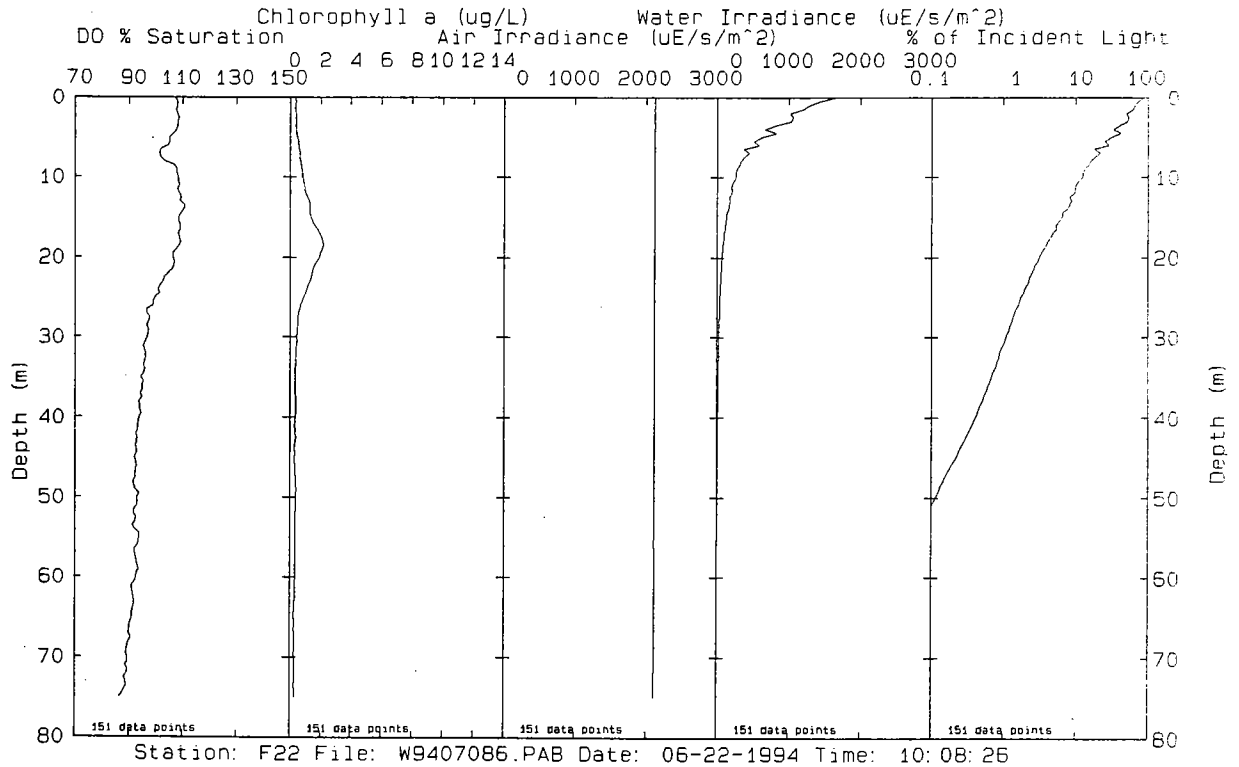

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25
45 data points
45 data points
45 data points
45 data points
45 data points
Station: F18 File: W9407021.PAB Date: 06-21-1994 Time: 08:25:12



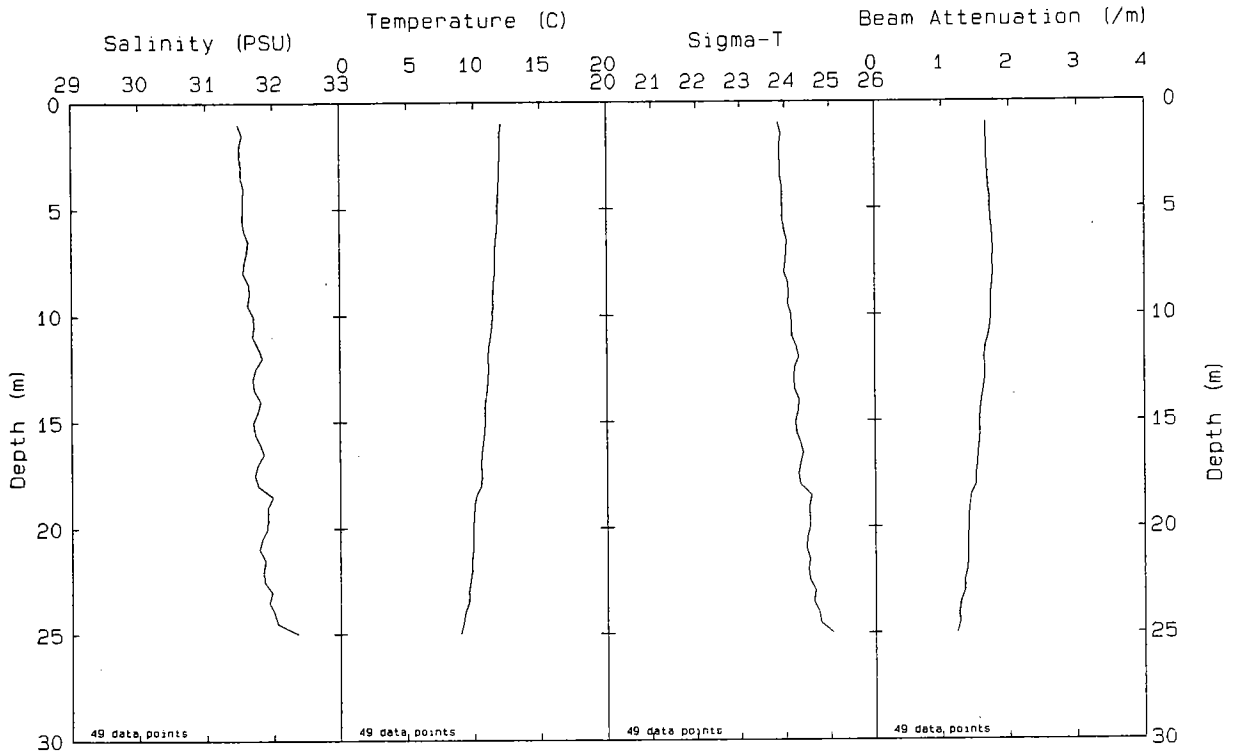


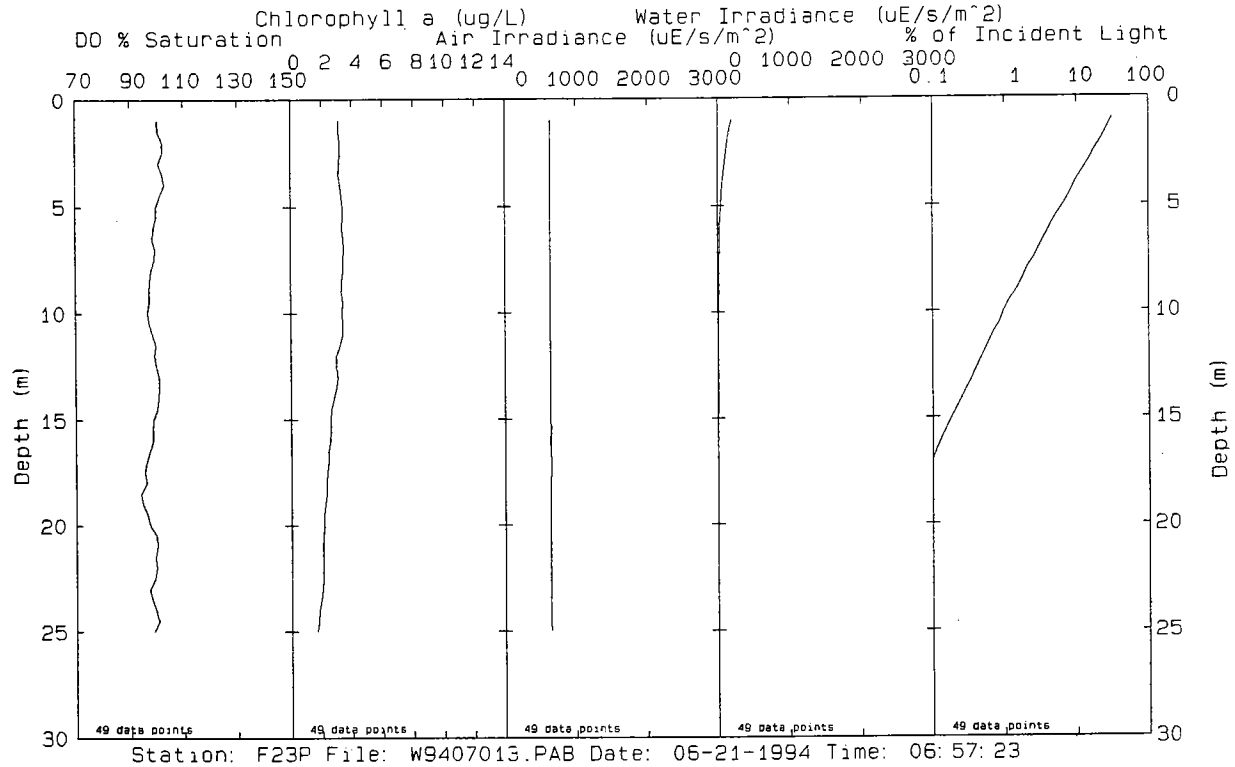
Station: F19 File: W9407040.PAB Date: 06-21-1994 Time: 12:14:58

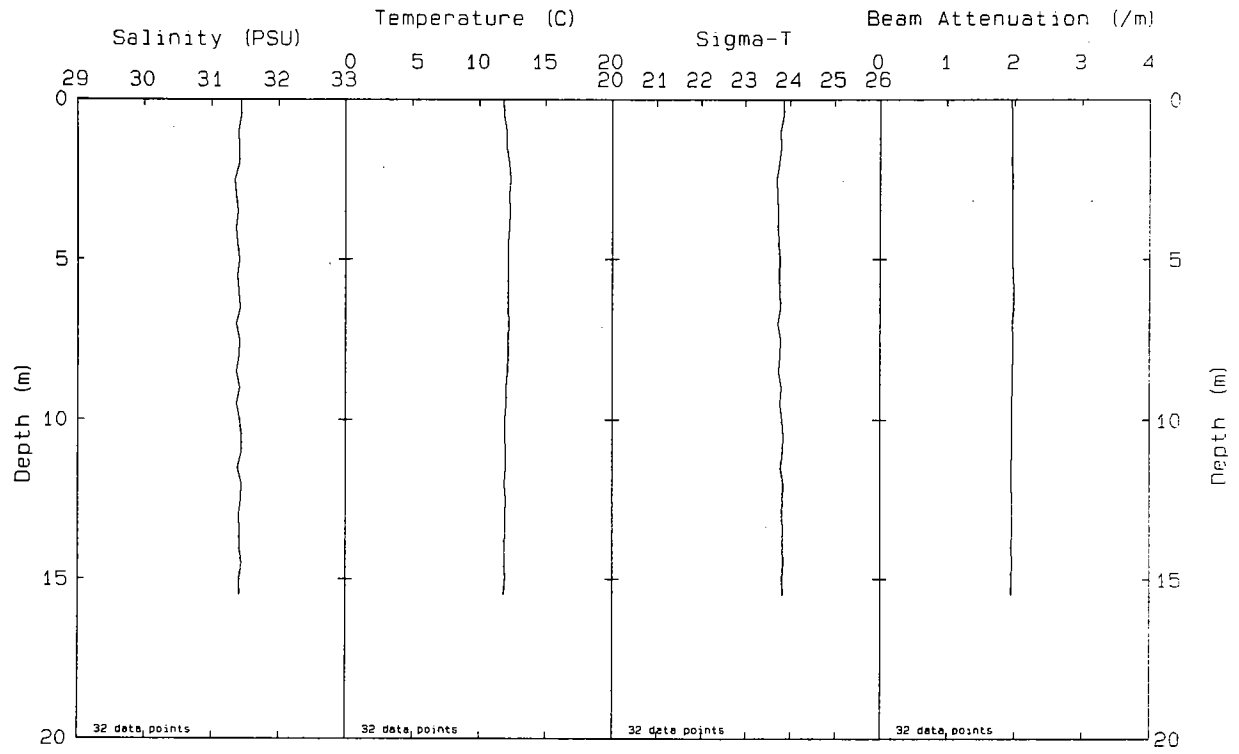


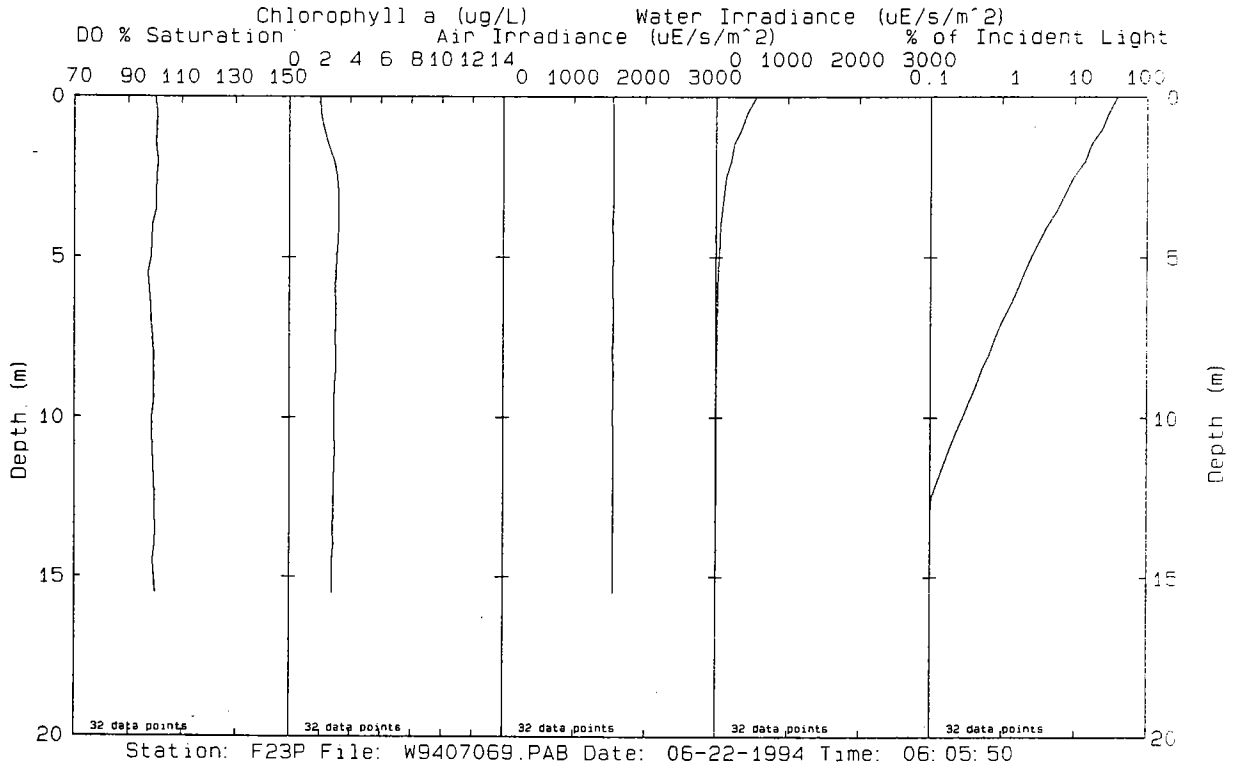


Station: F22 File: W9407086.PAB Date: 06-22-1994 Time: 10:08:26

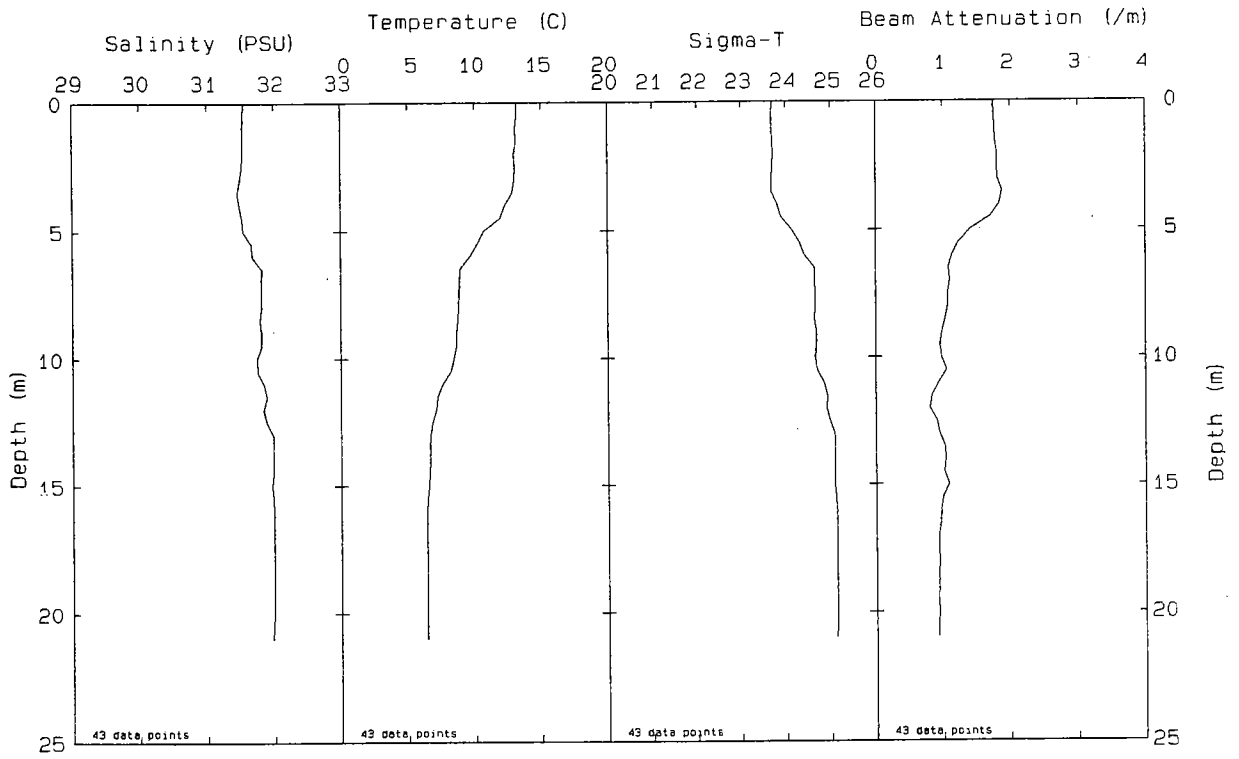

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25 30
49 data points
49 data points
49 data points
49 data points

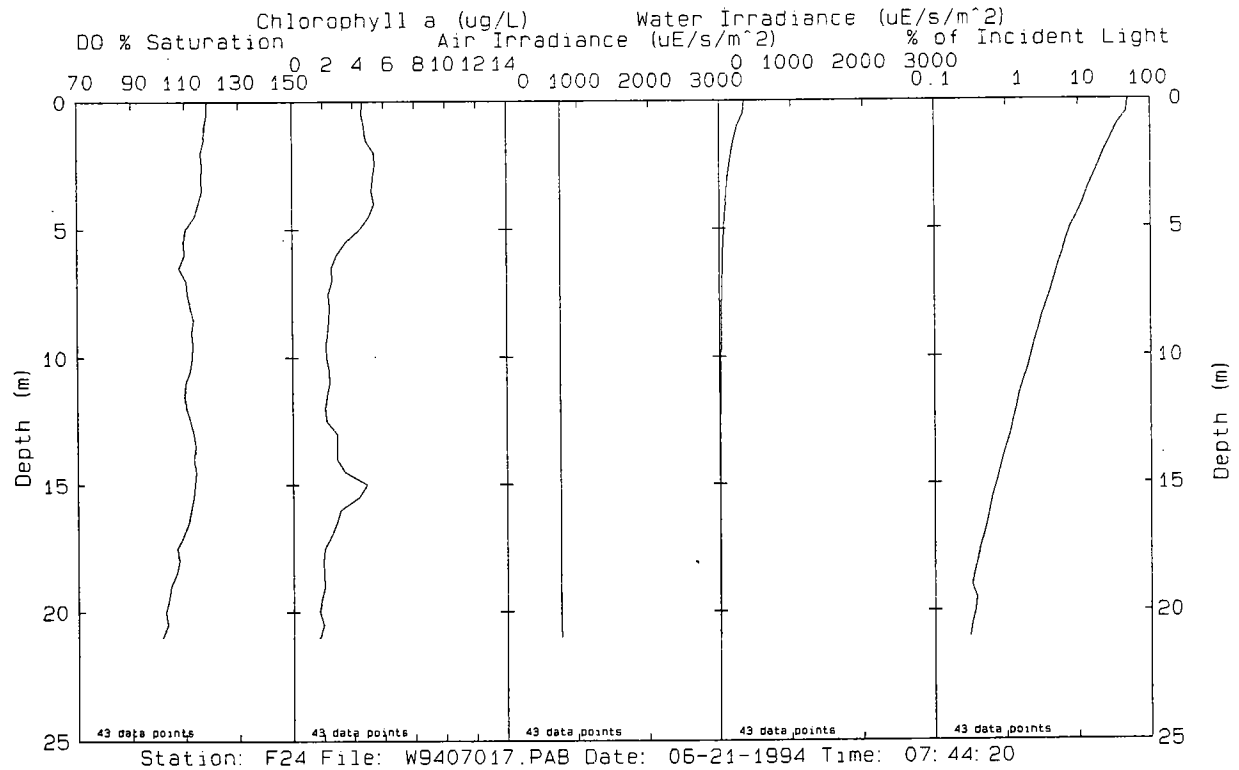

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30
49 data points
49 data points
49 data points
49 data points
49 data points
Station: F23P File: W9407013.PAB Date: 06-21-1994 Time: 06:57:23



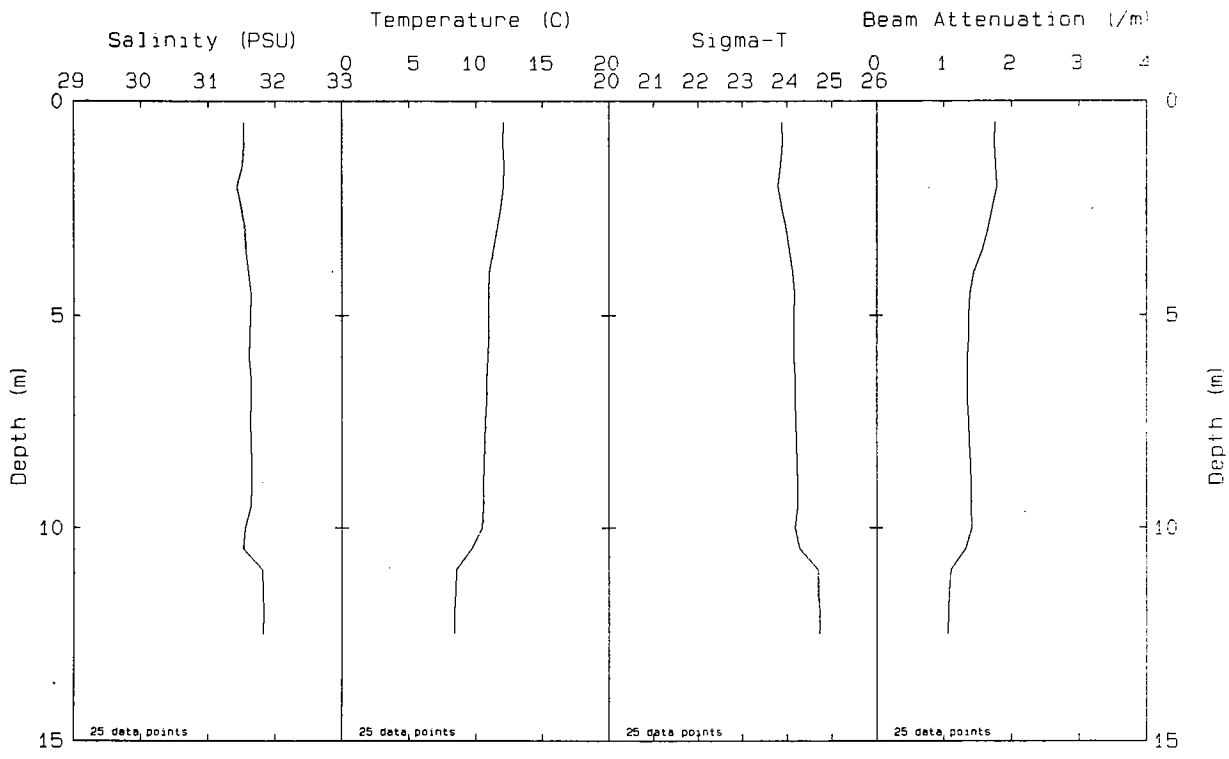


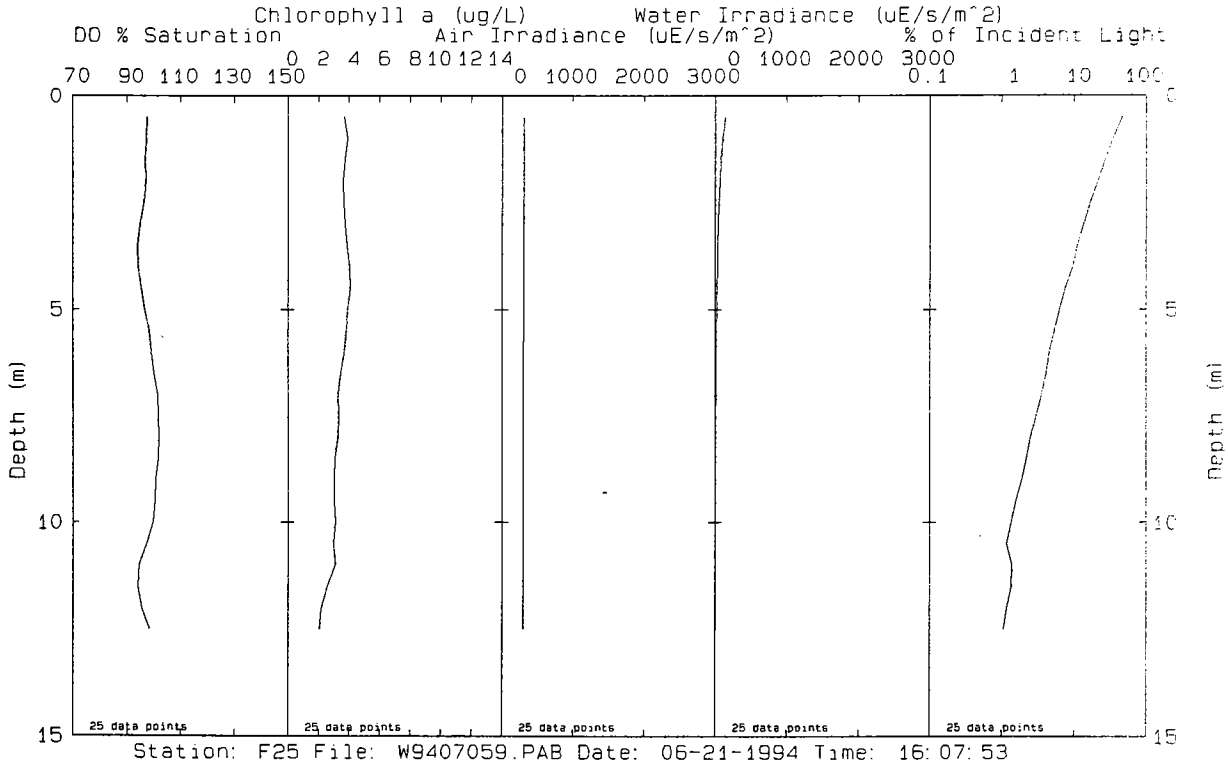
Station: F23P File: W9407069.PAB Date: 06-22-1994 Time: 06:05:50



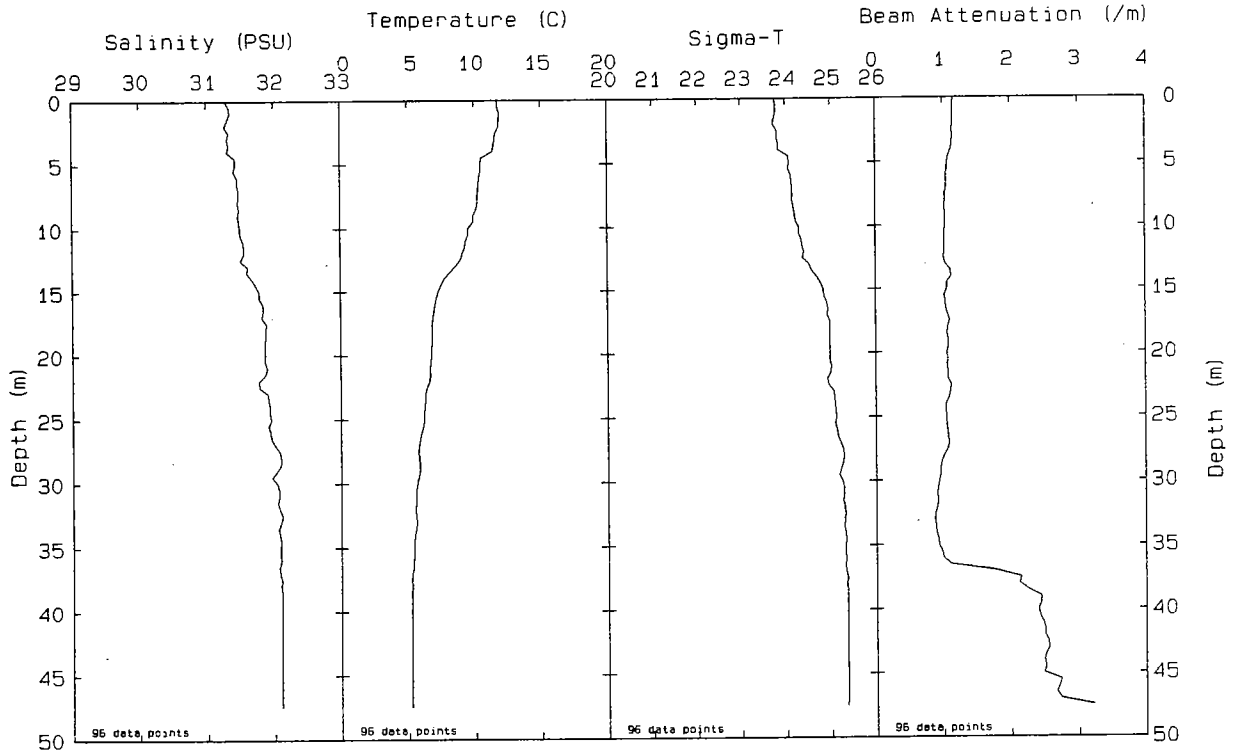


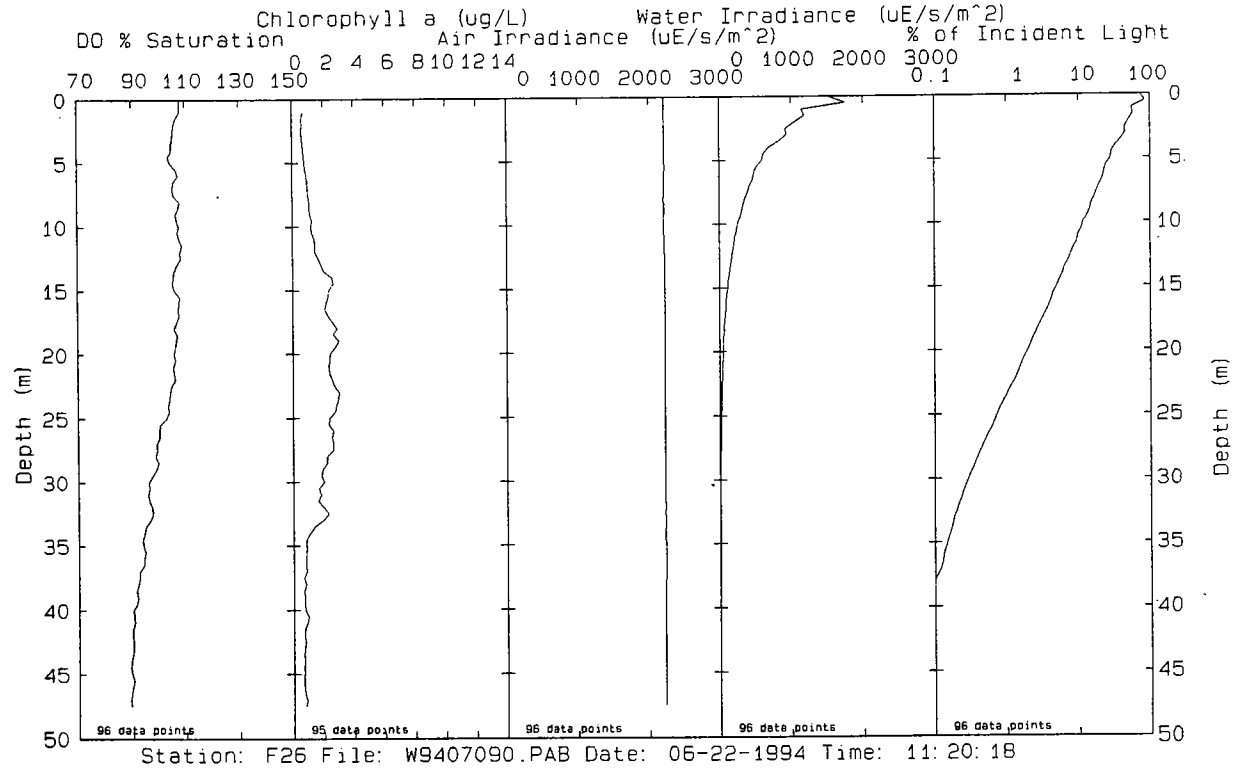
Station: F24 File: W9407017.PAB Date: 06-21-1994 Time: 07:44:20



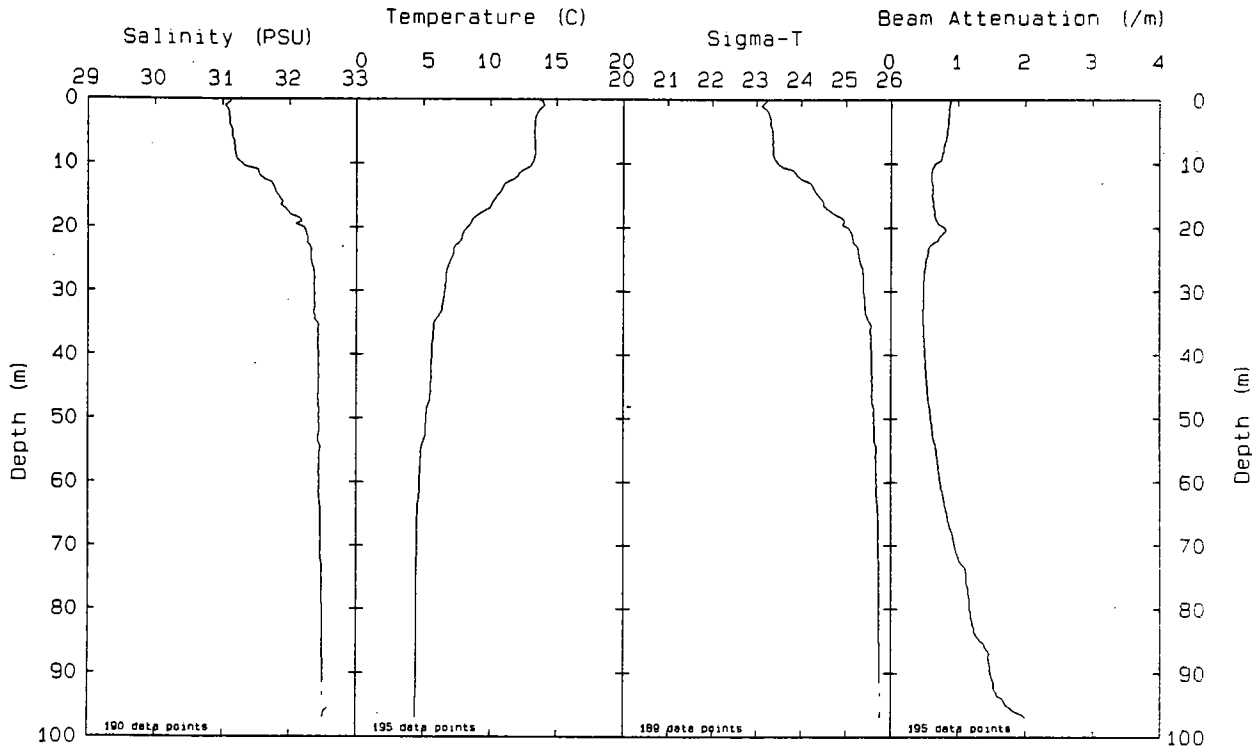


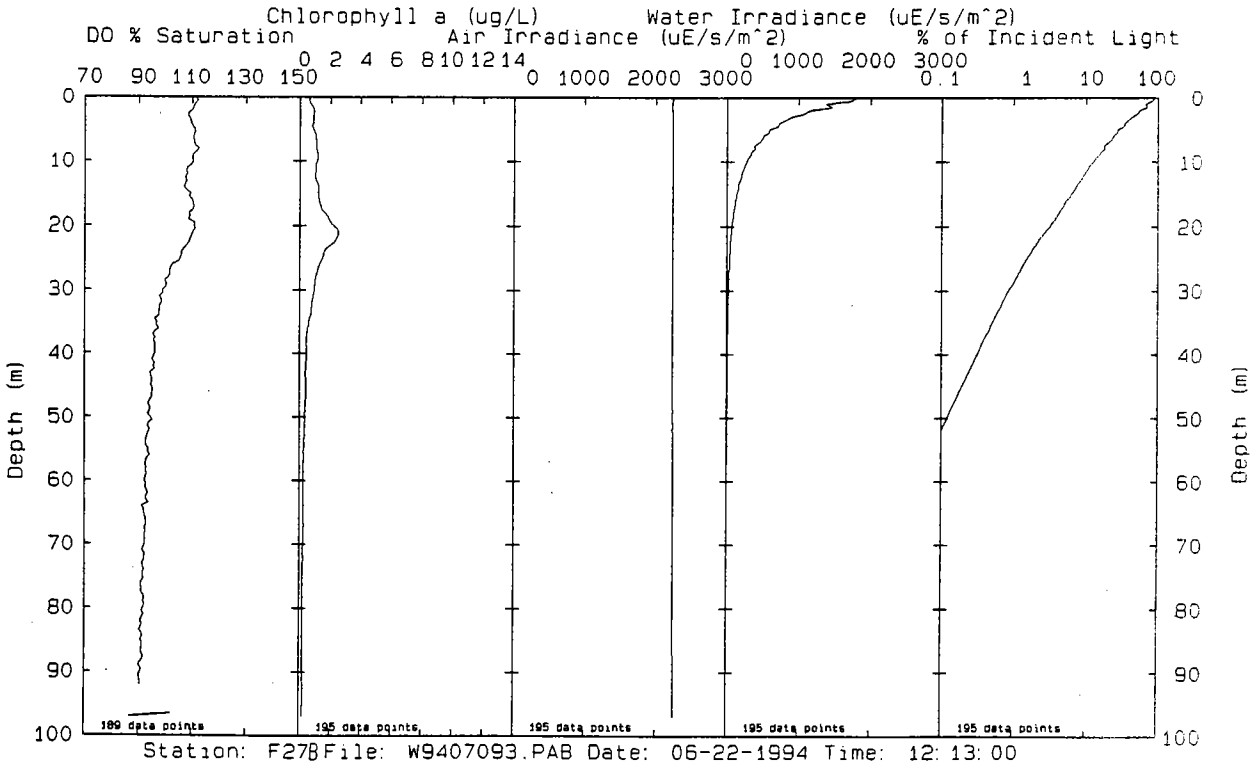
Station: F25 File: W9407059.PAB Date: 06-21-1994 Time: 16:07:53



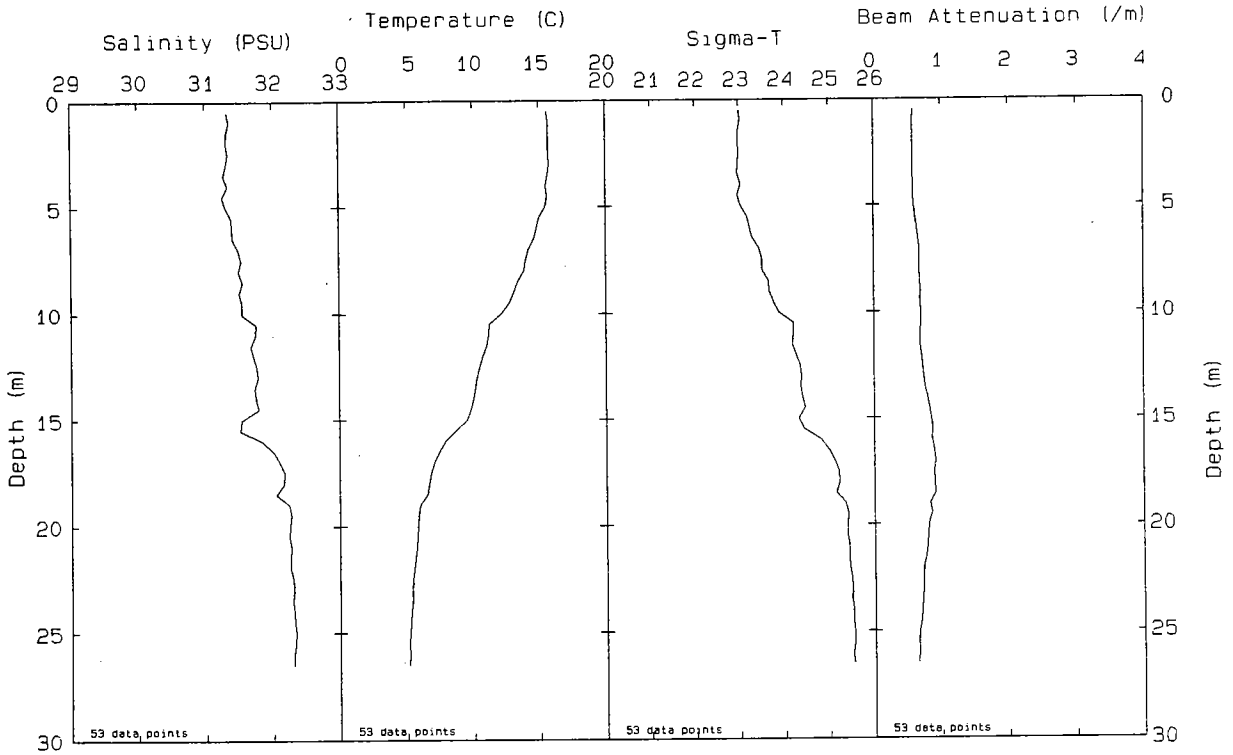


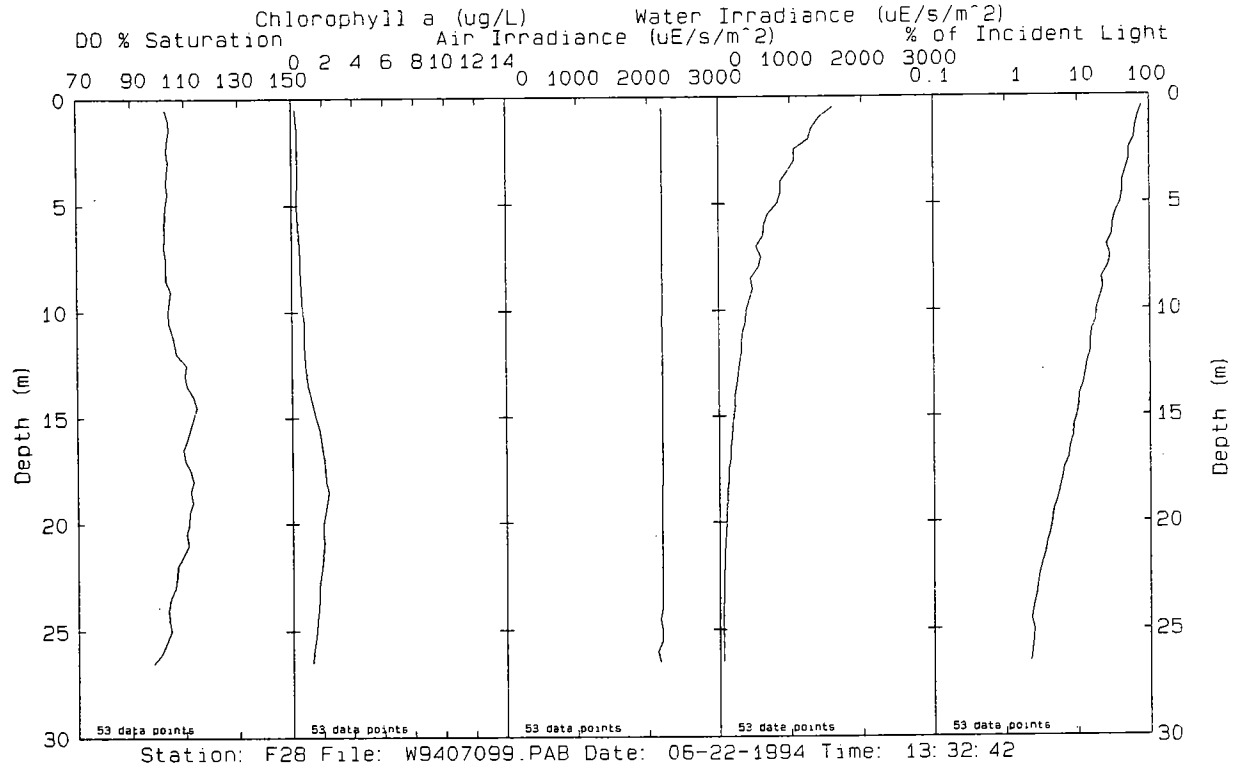
Station: F26 File: W9407090.PAB Date: 06-22-1994 Time: 11:20:18

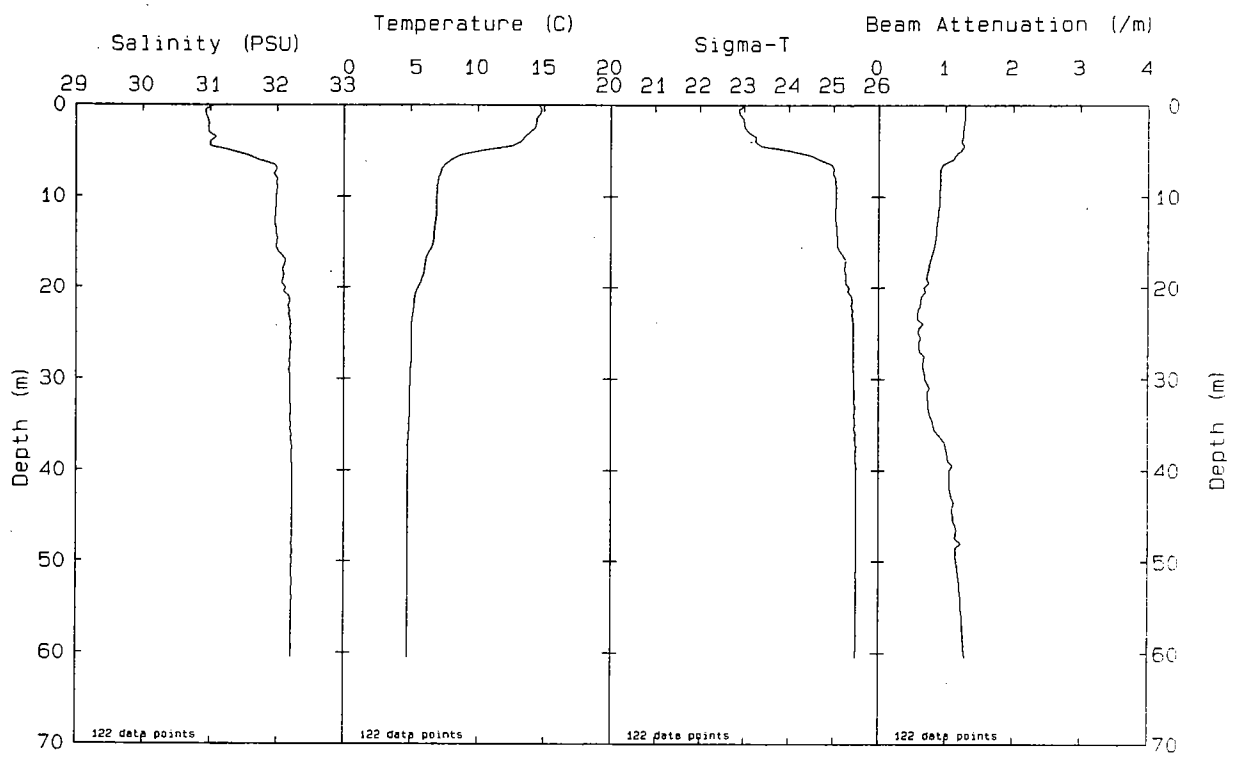


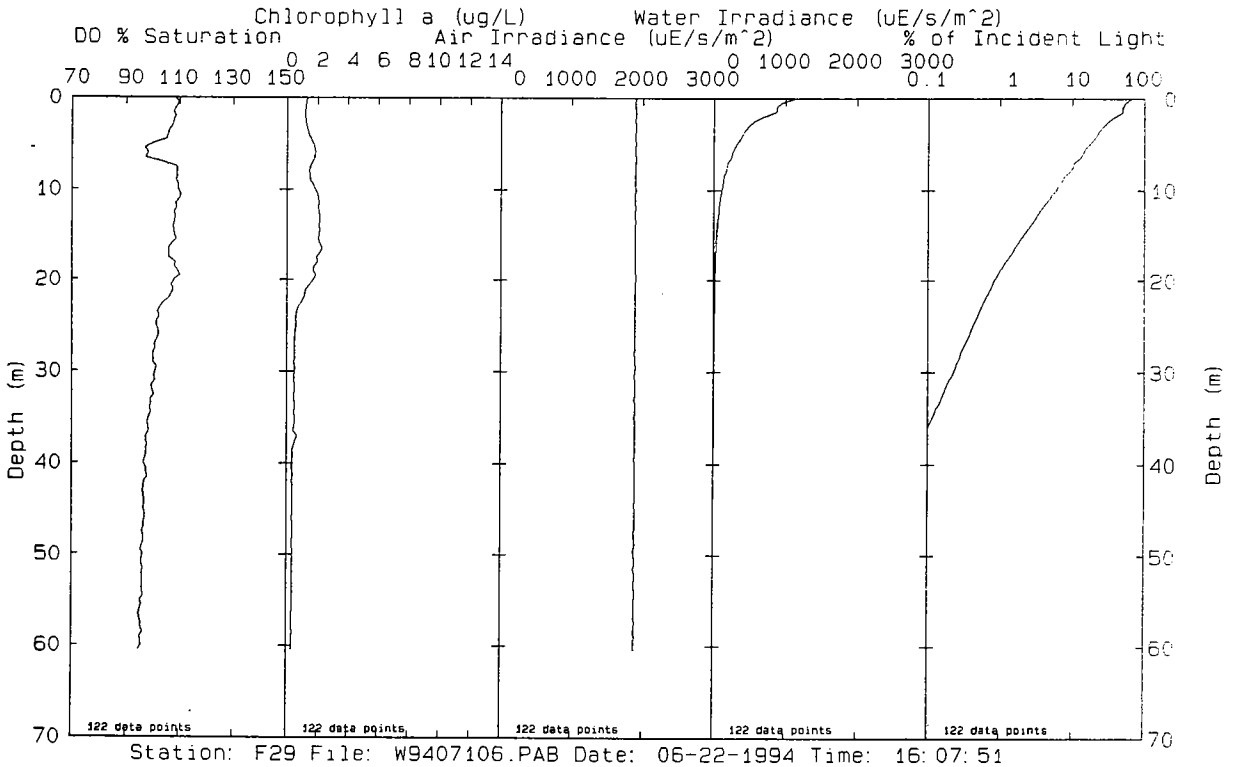


Station: F27B File: W9407093.PAB Date: 06-22-1994 Time: 12:13:00

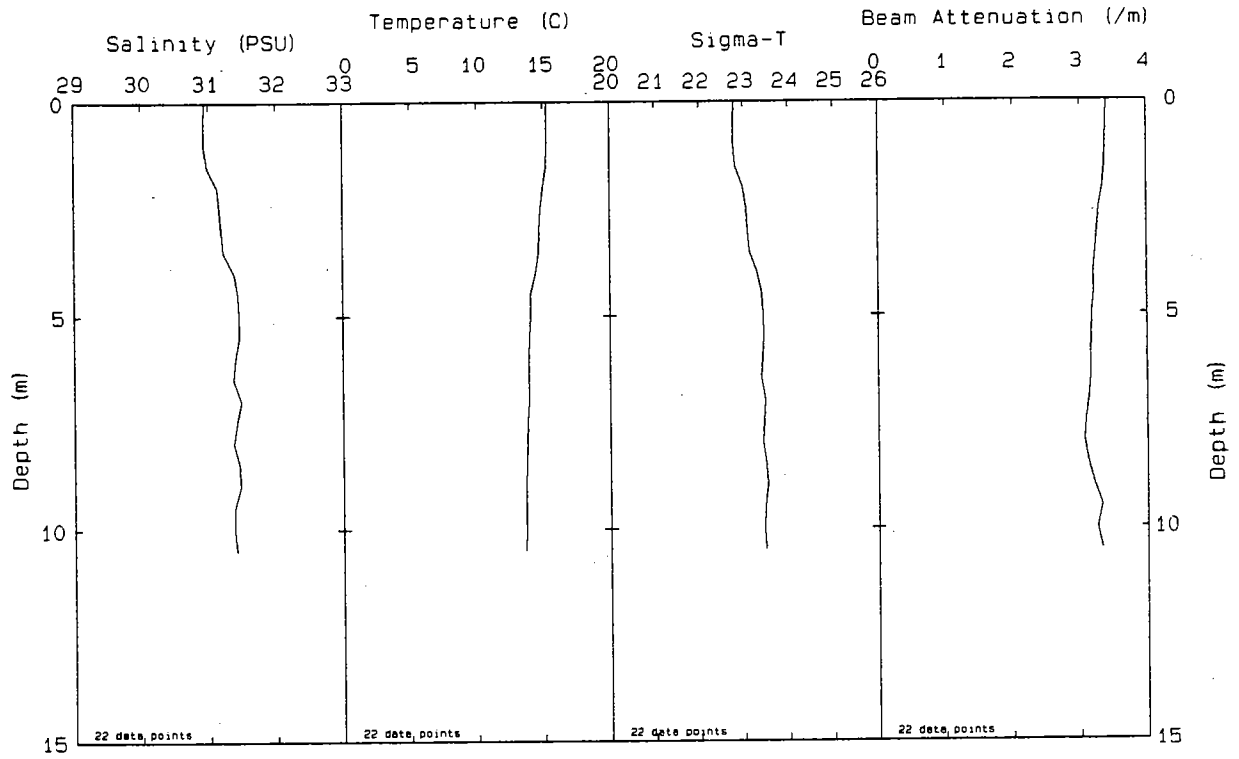

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25 30
53 data points
53 data points
53 data points
53 data points

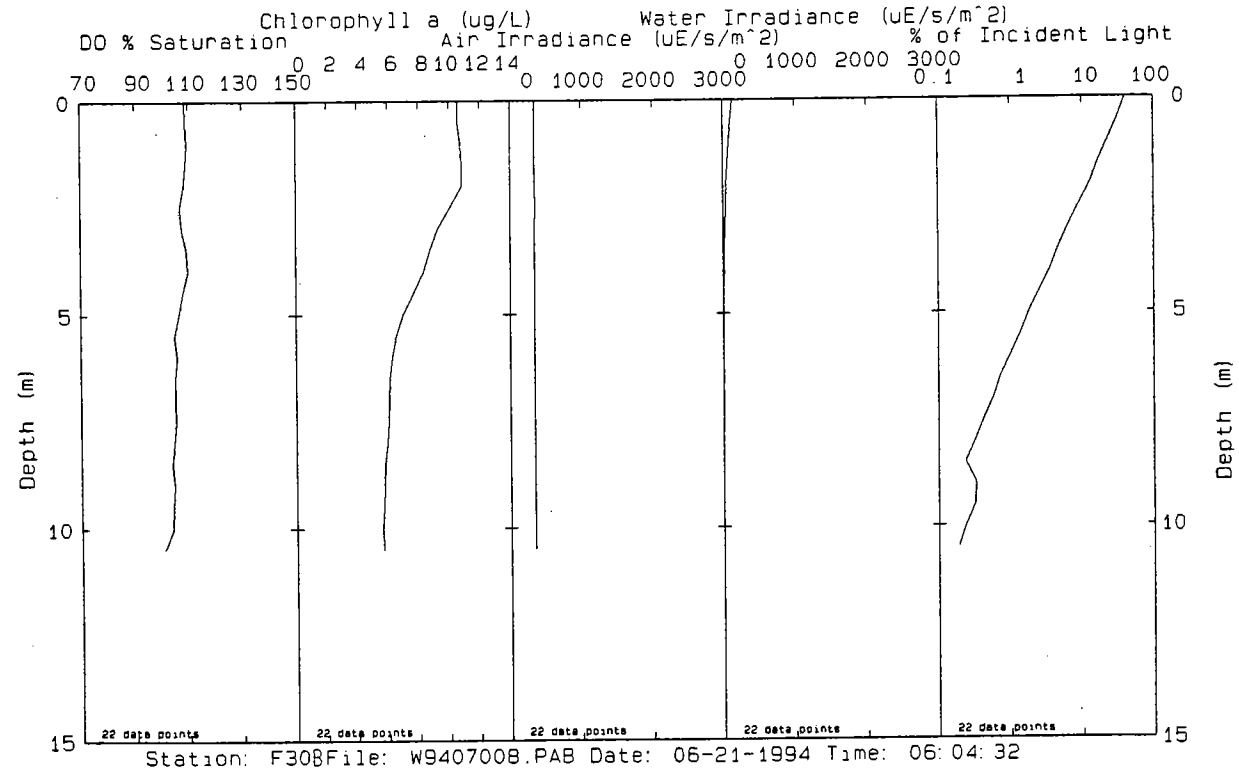

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30
53 data points
53 data points
53 data points
53 data points
53 data points
Station: F28 File: W9407099.PAB Date: 06-22-1994 Time: 13:32:42

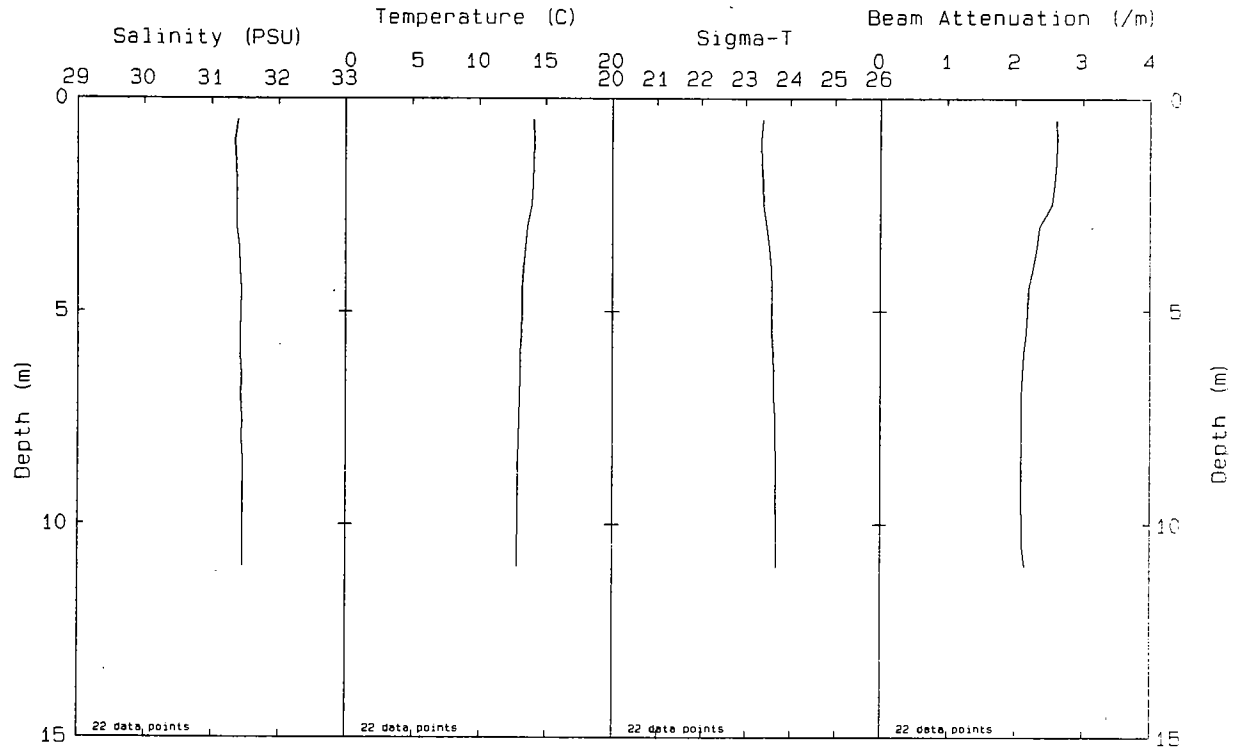


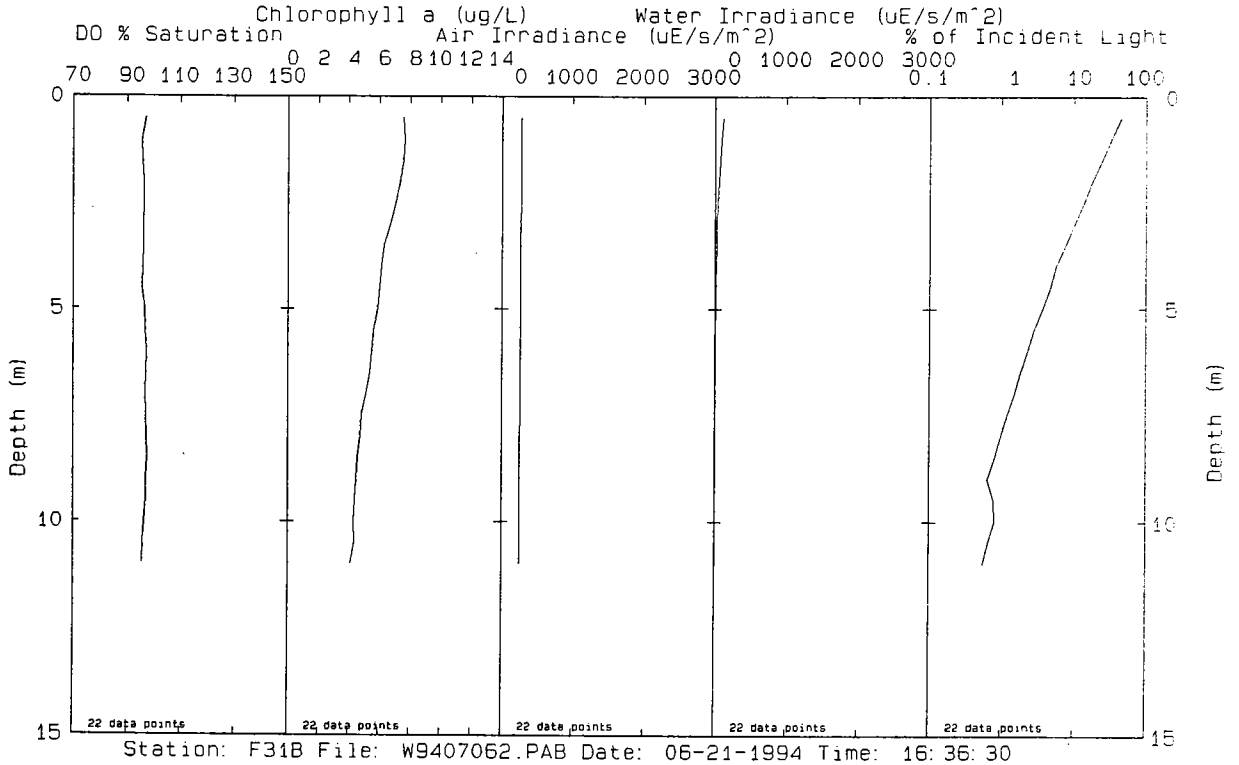


Station: F29 File: W9407106.PAB Date: 06-22-1994 Time: 16:07:51

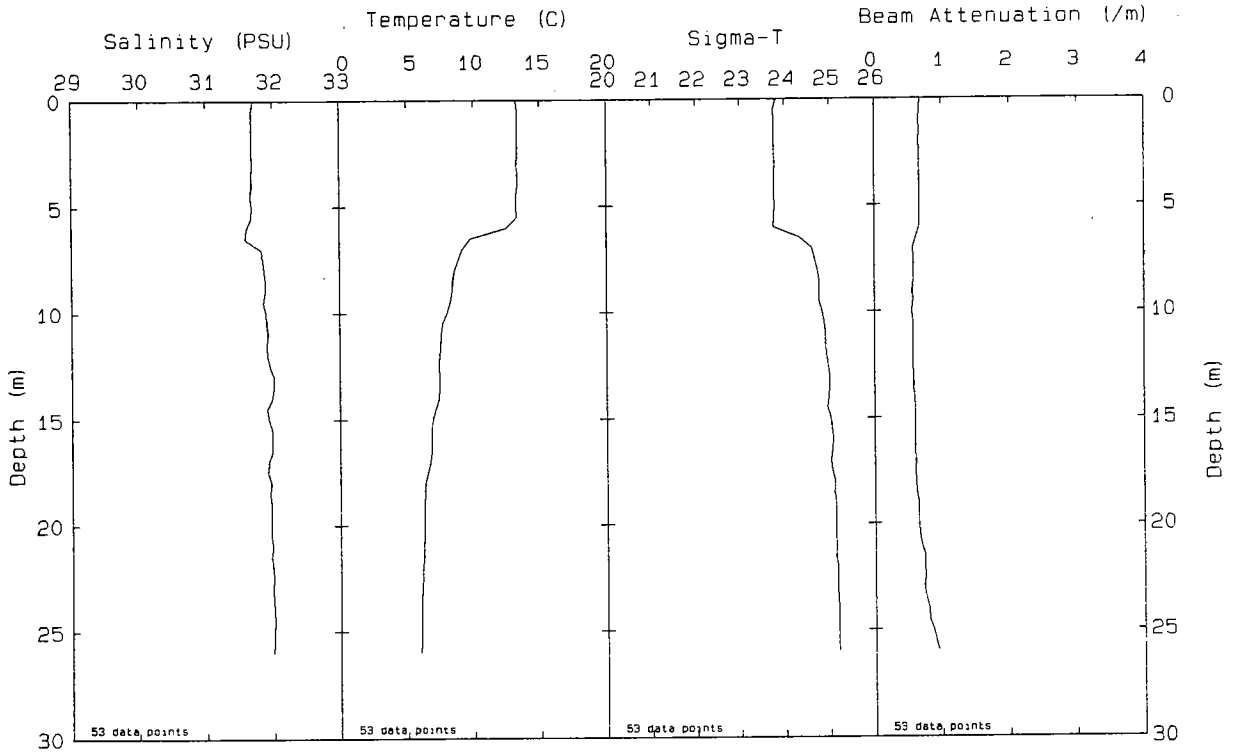

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15
22 data points
22 data points
22 data points
22 data points

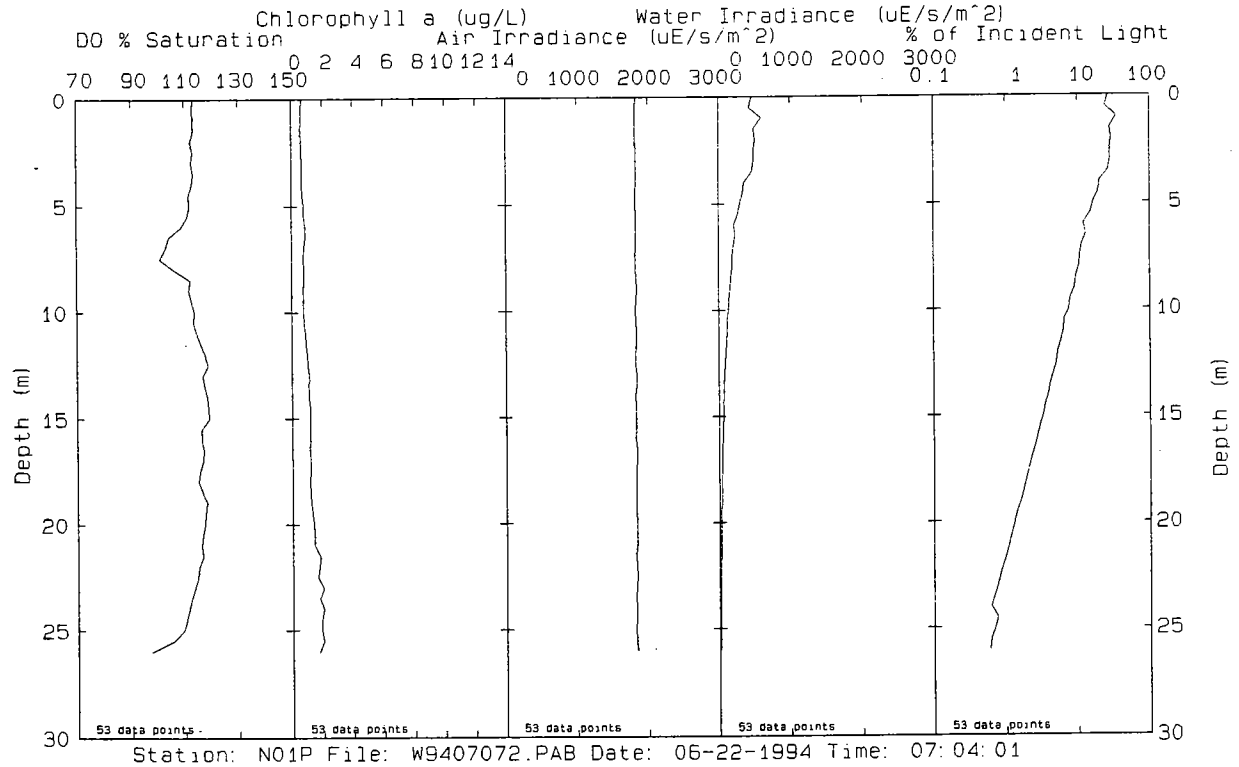

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15
22 data points
22 data points
22 data points
22 data points
22 data points
Station: F308File: W9407008.PAB Date: 06-21-1994 Time: 06:04:32



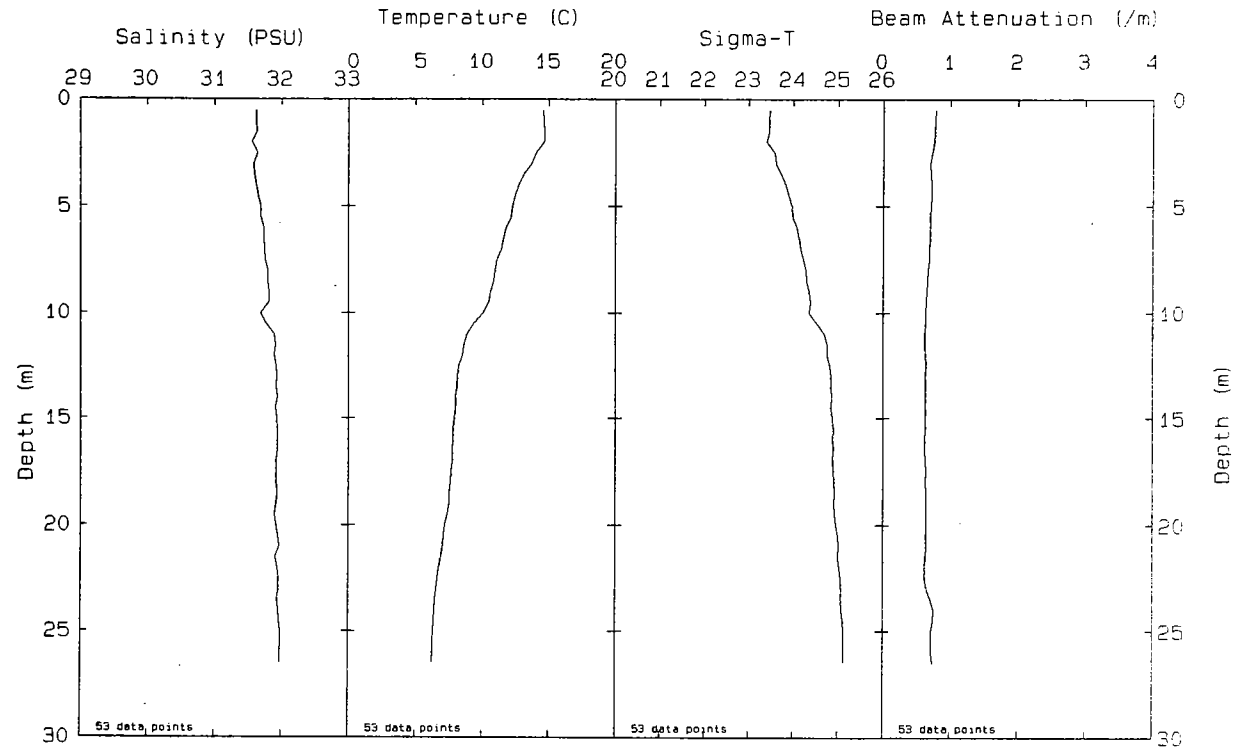


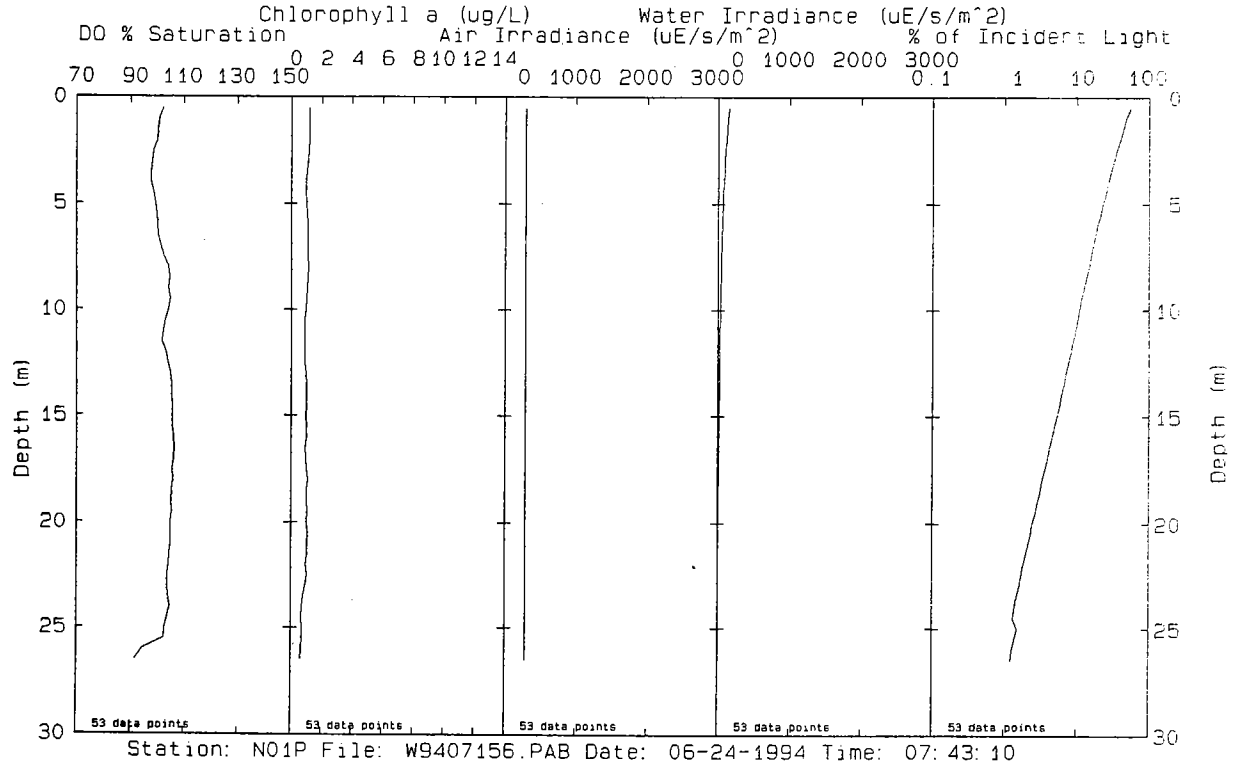
Station: F31B File: W9407062.PAB Date: 06-21-1994 Time: 16:36:30



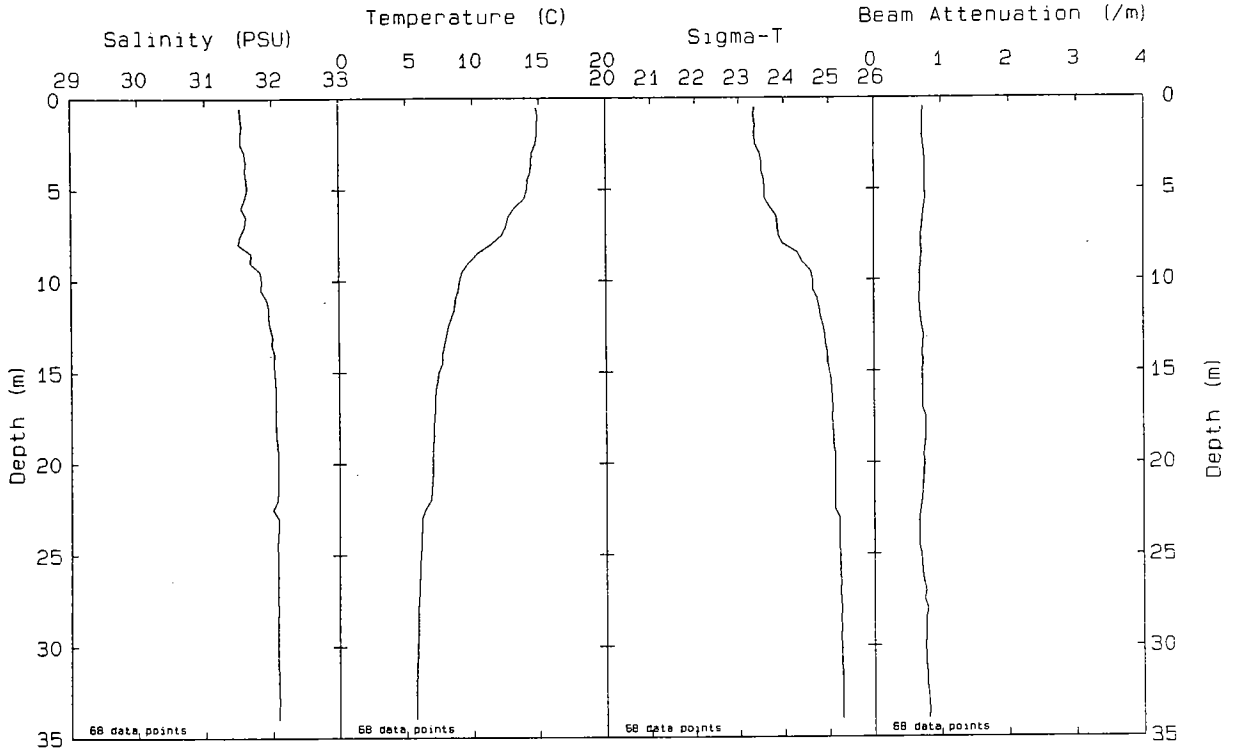


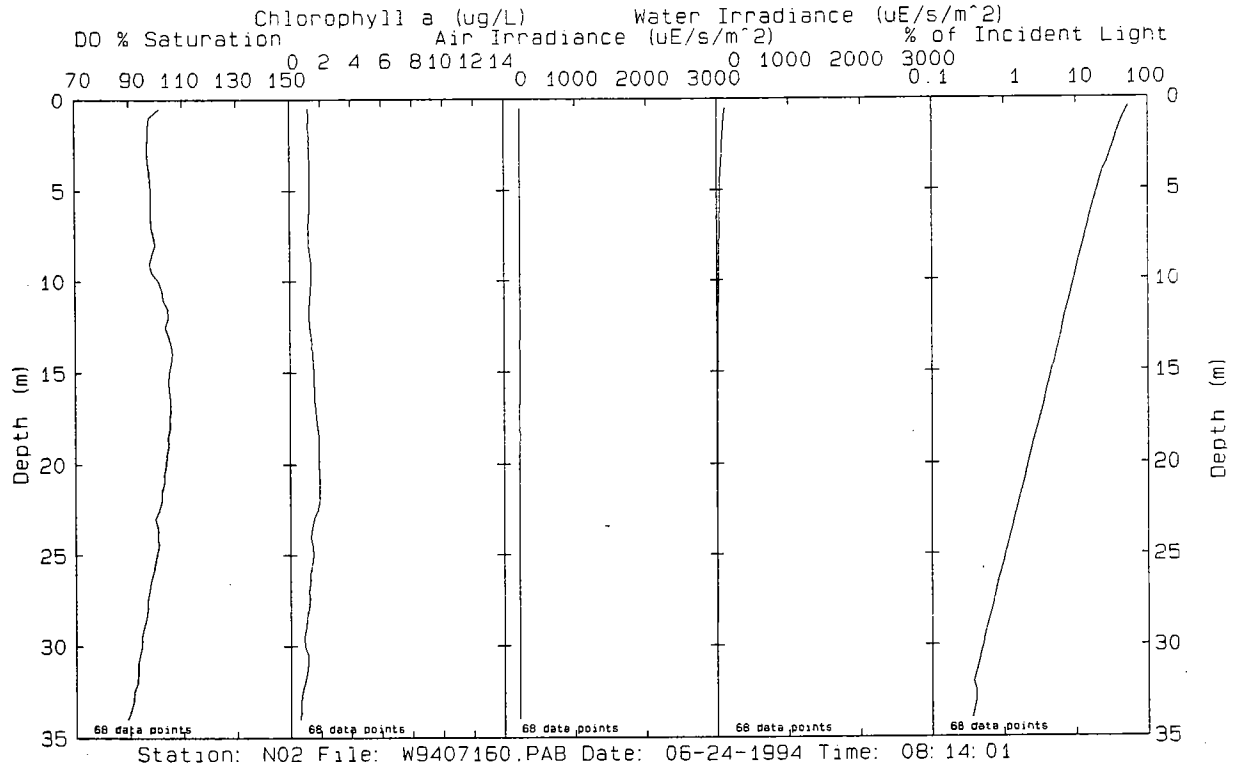
Station: N01P File: W9407072.PAB Date: 06-22-1994 Time: 07:04:01



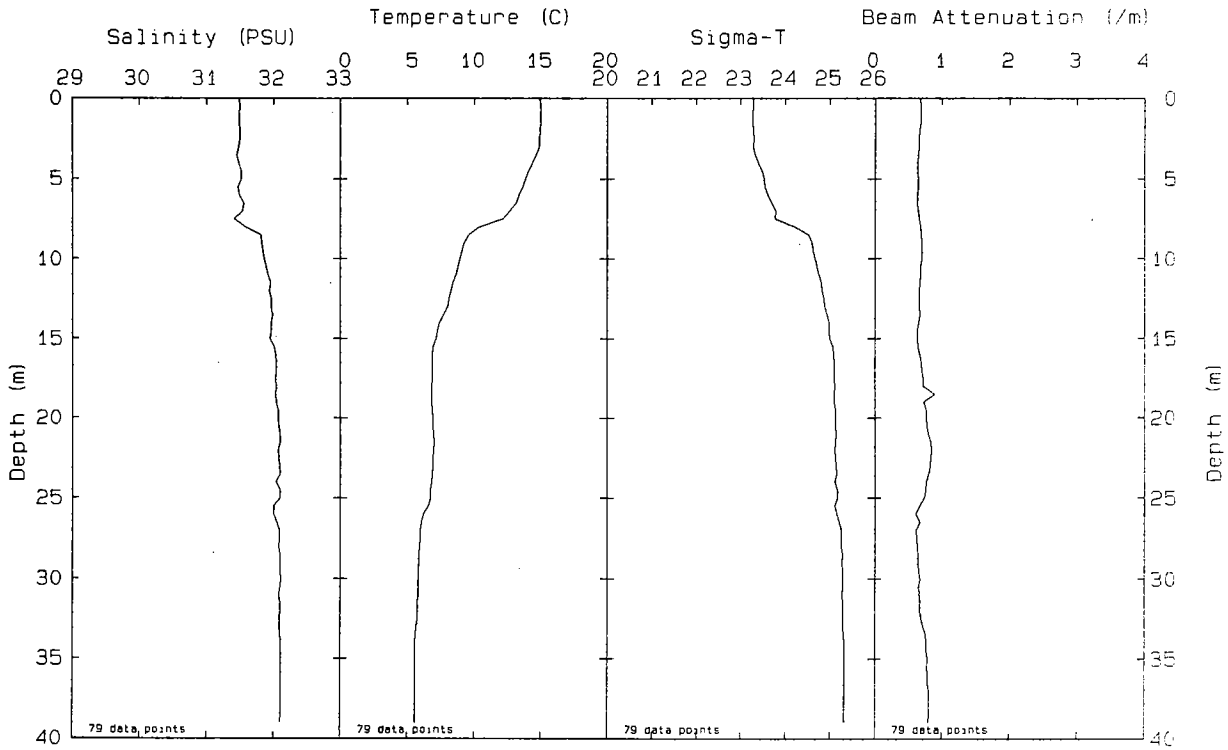


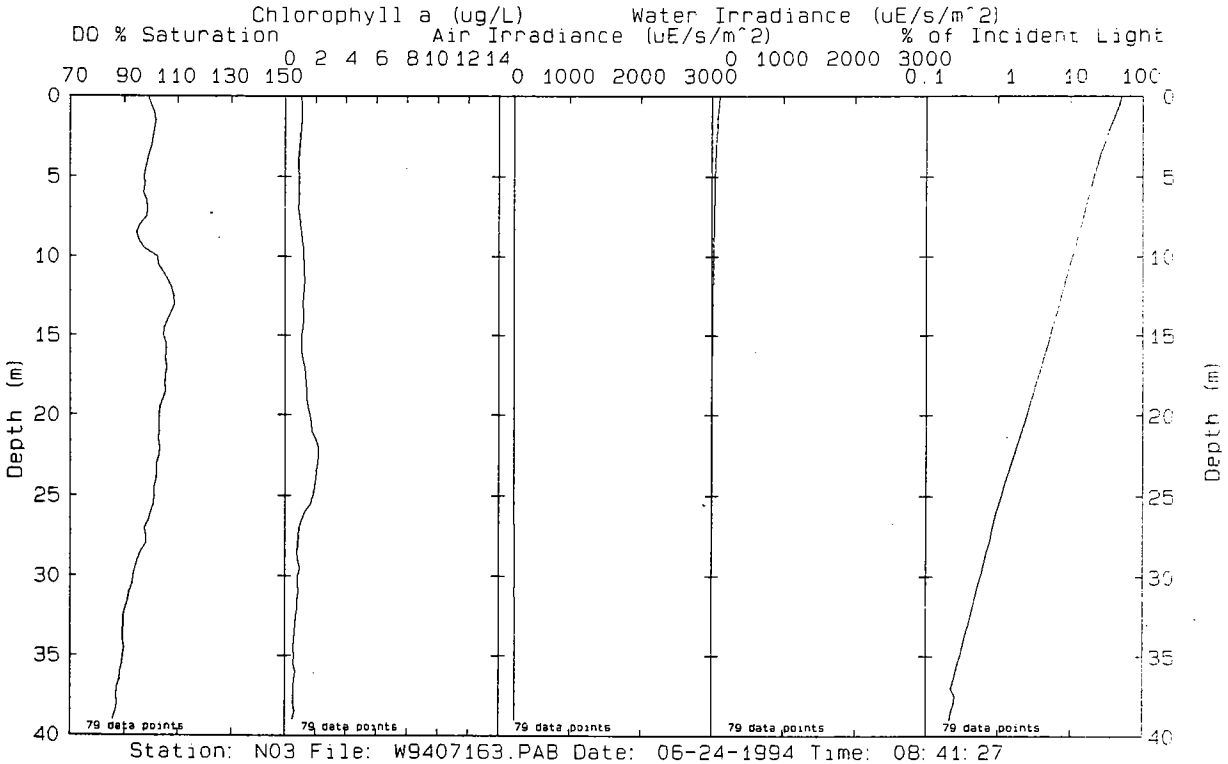
Station: N01P File: W9407156.PAB Date: 06-24-1994 Time: 07:43:10



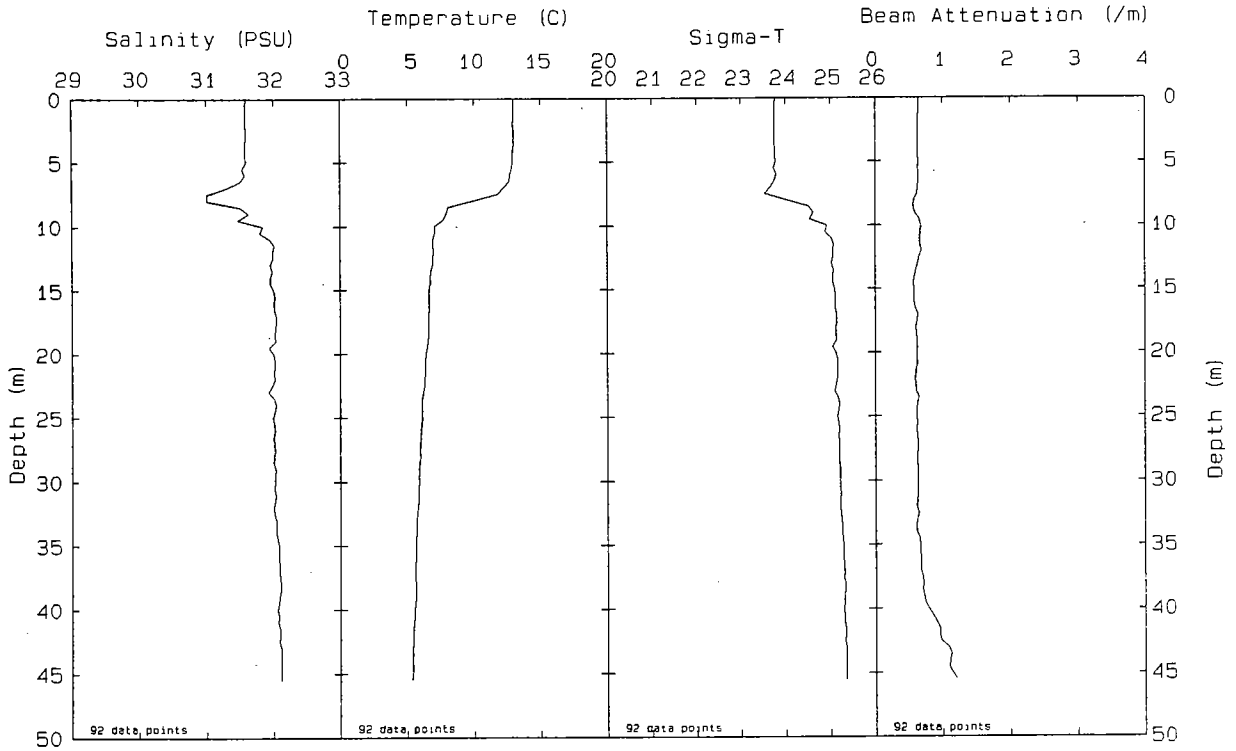


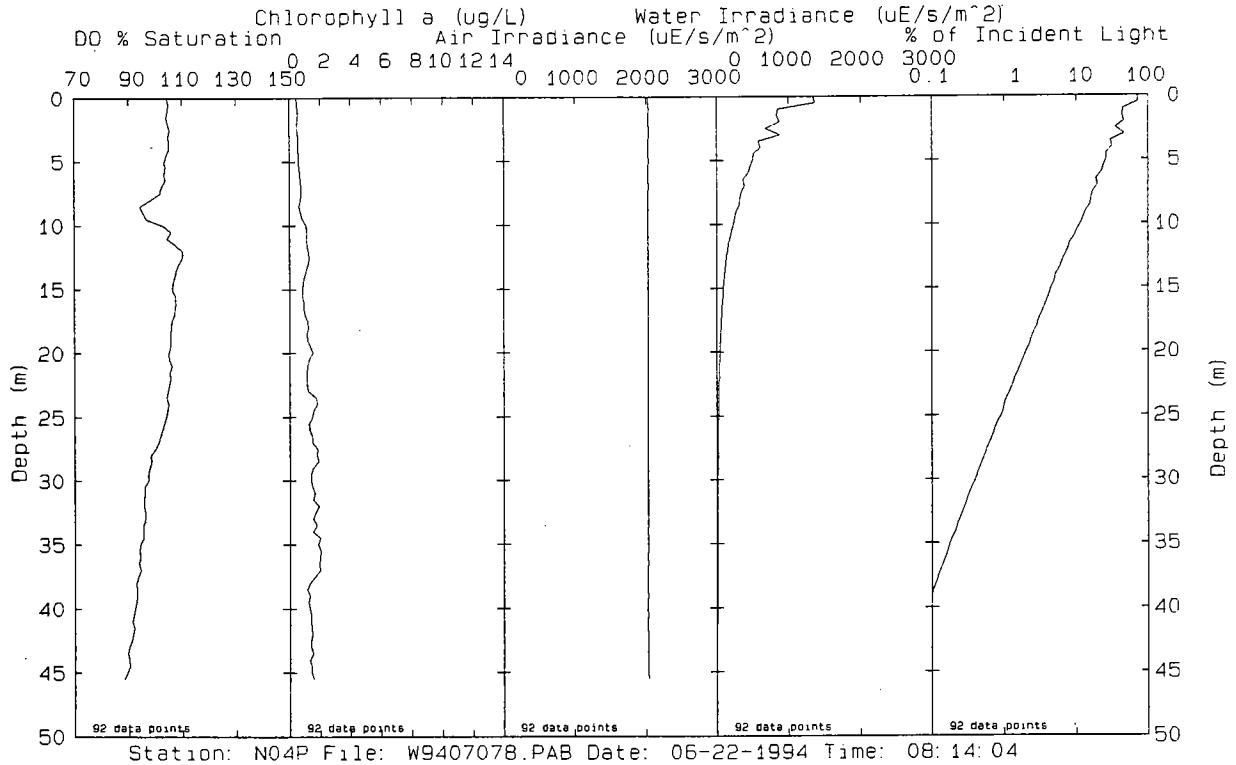
Station: N02 File: W9407160.PAB Date: 06-24-1994 Time: 08:14:01



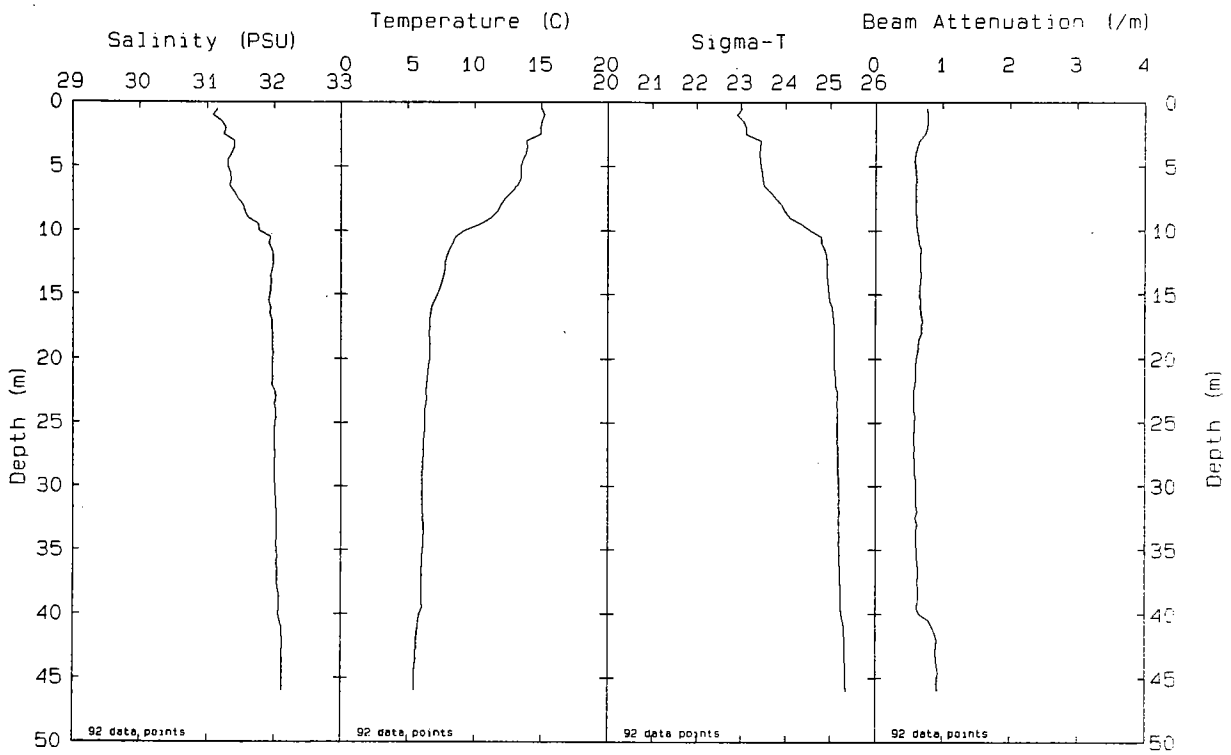


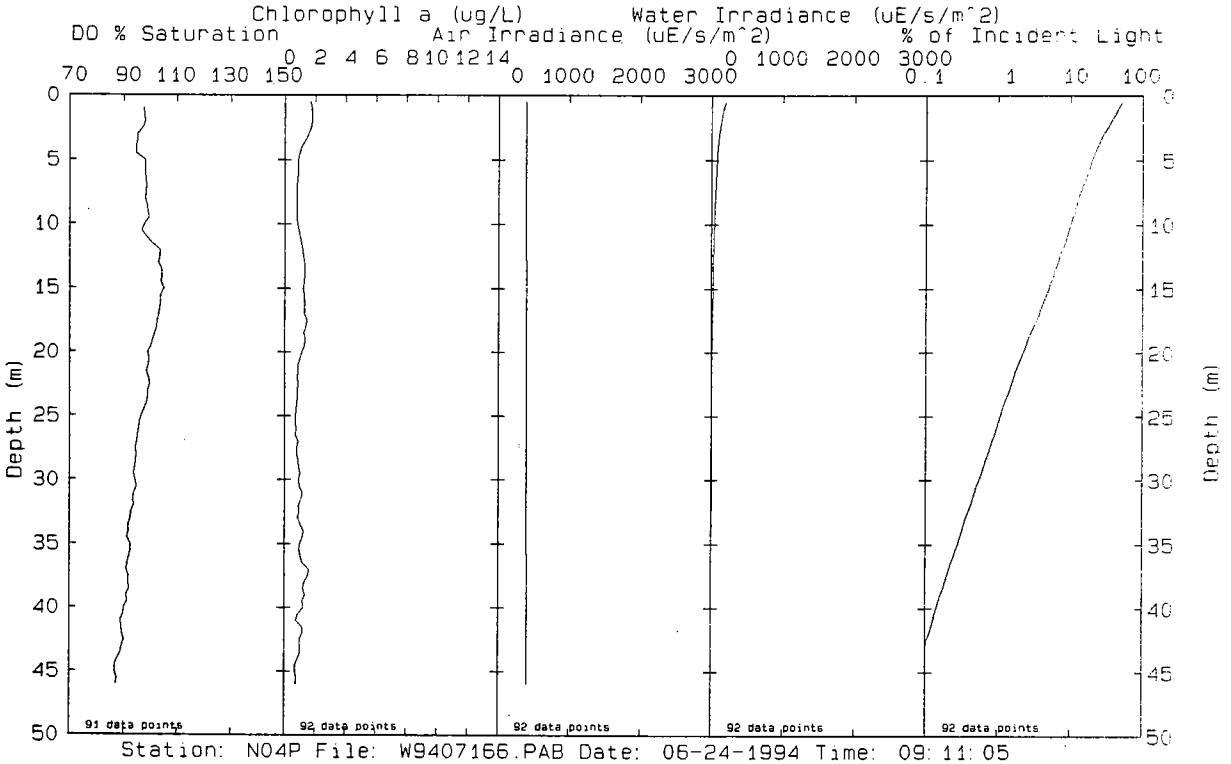
Station: N03 File: W9407163.PAB Date: 06-24-1994 Time: 08:41:27



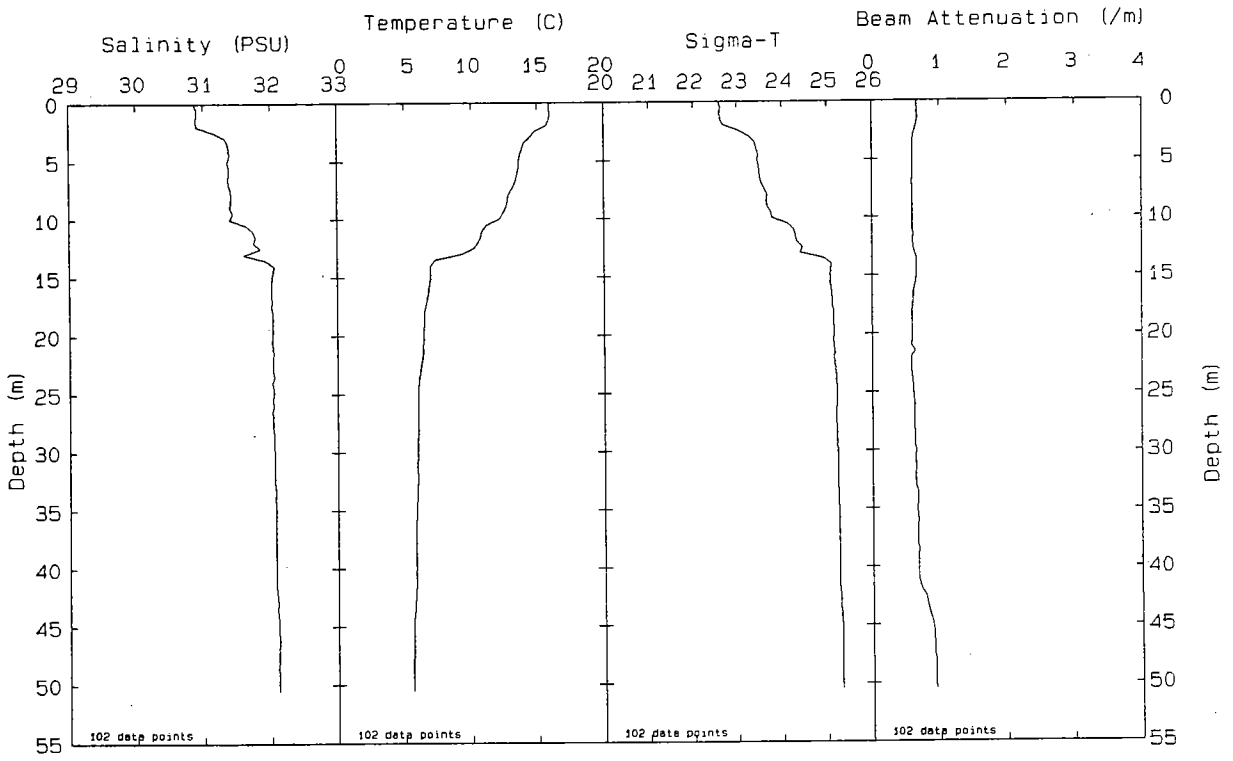


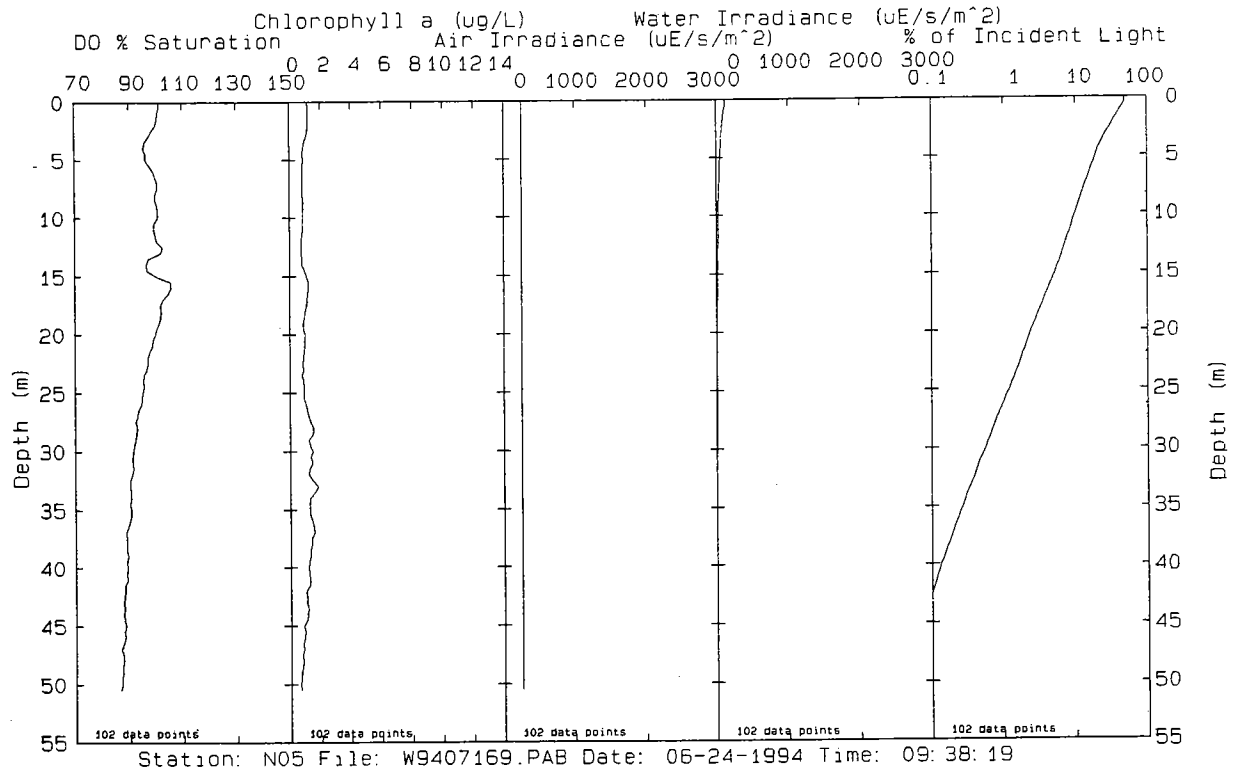
Station: N04P File: W9407078.PAB Date: 06-22-1994 Time: 08:14:04



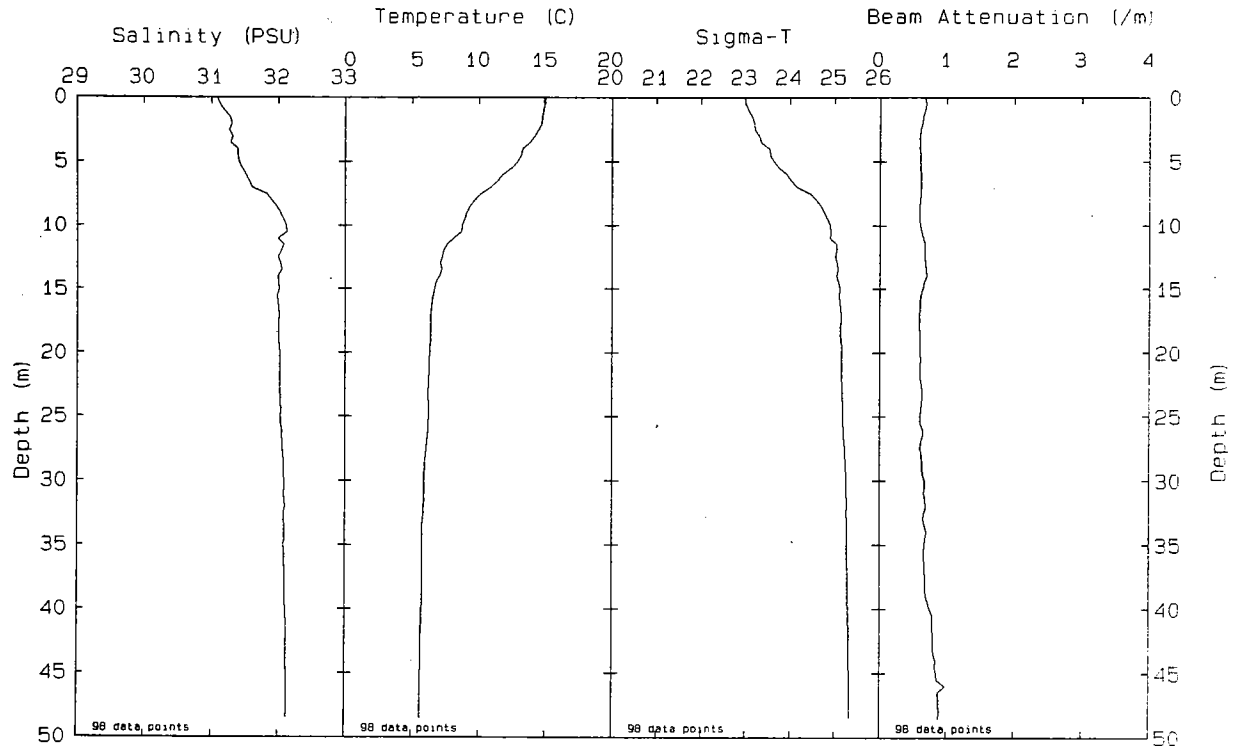


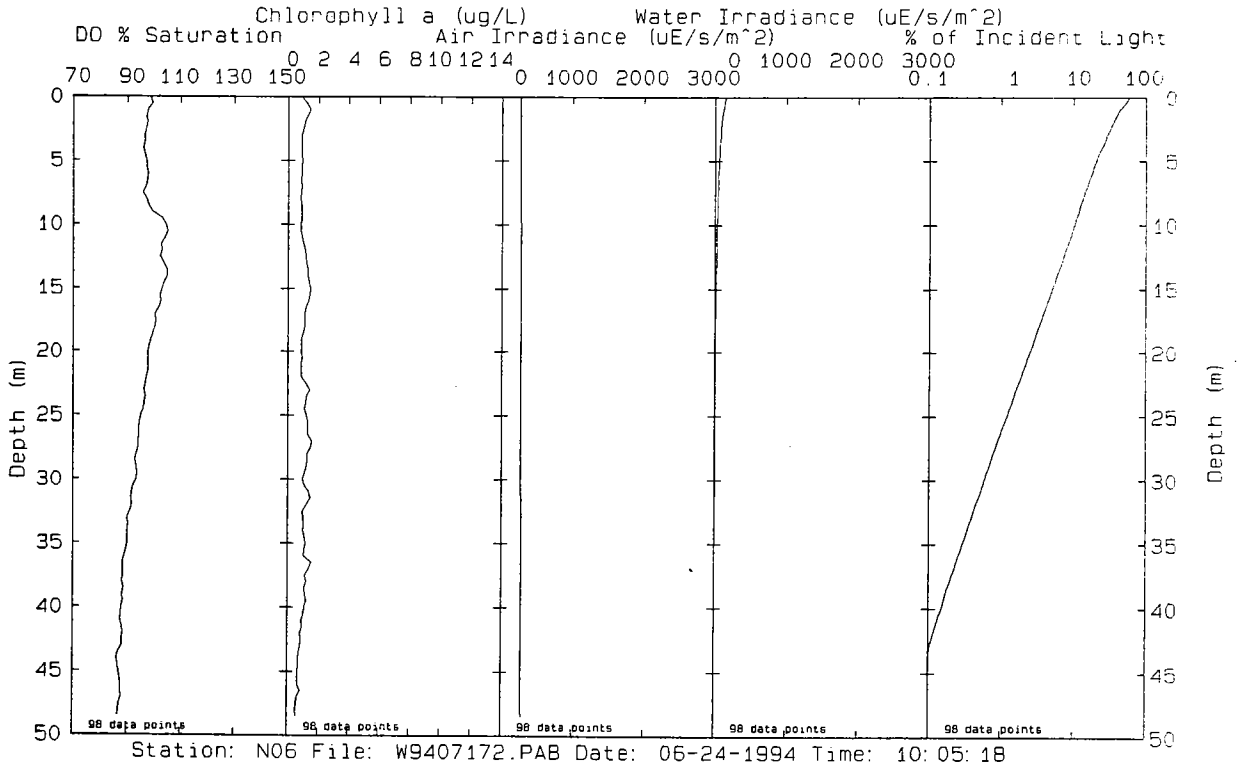
Station: N04P File: W9407166.PAB Date: 06-24-1994 Time: 09:11:05



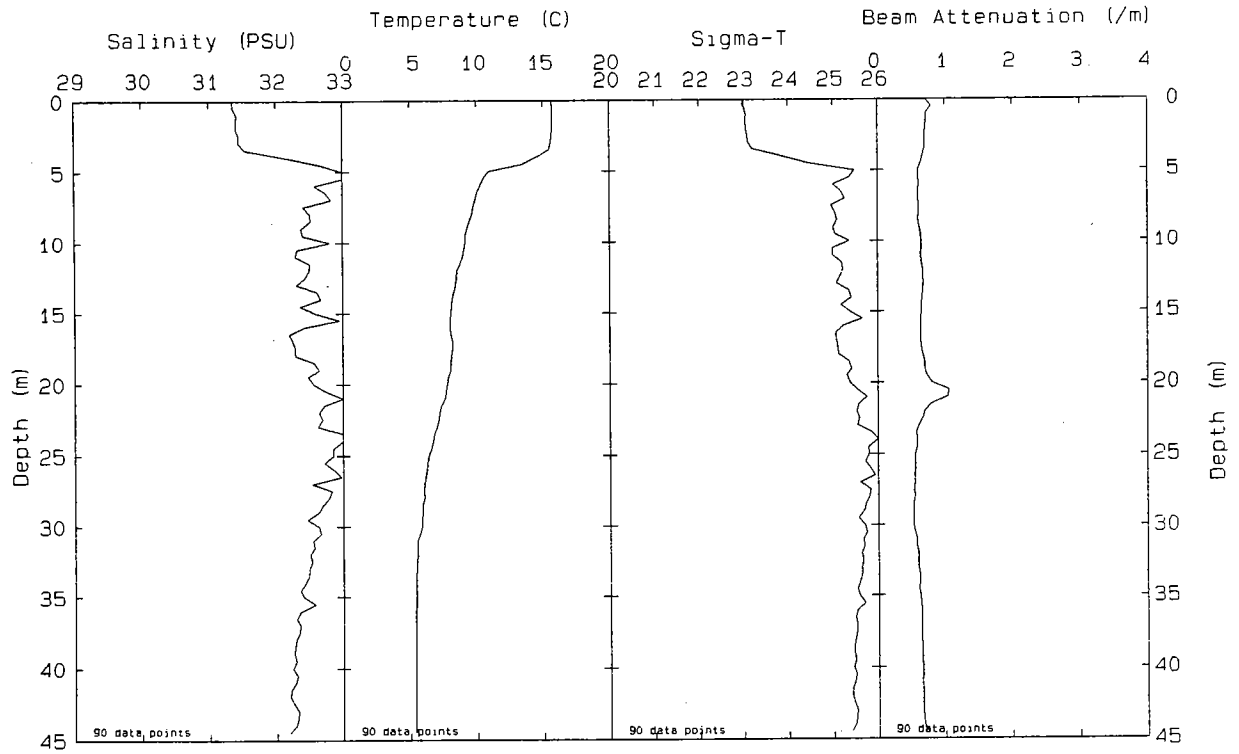


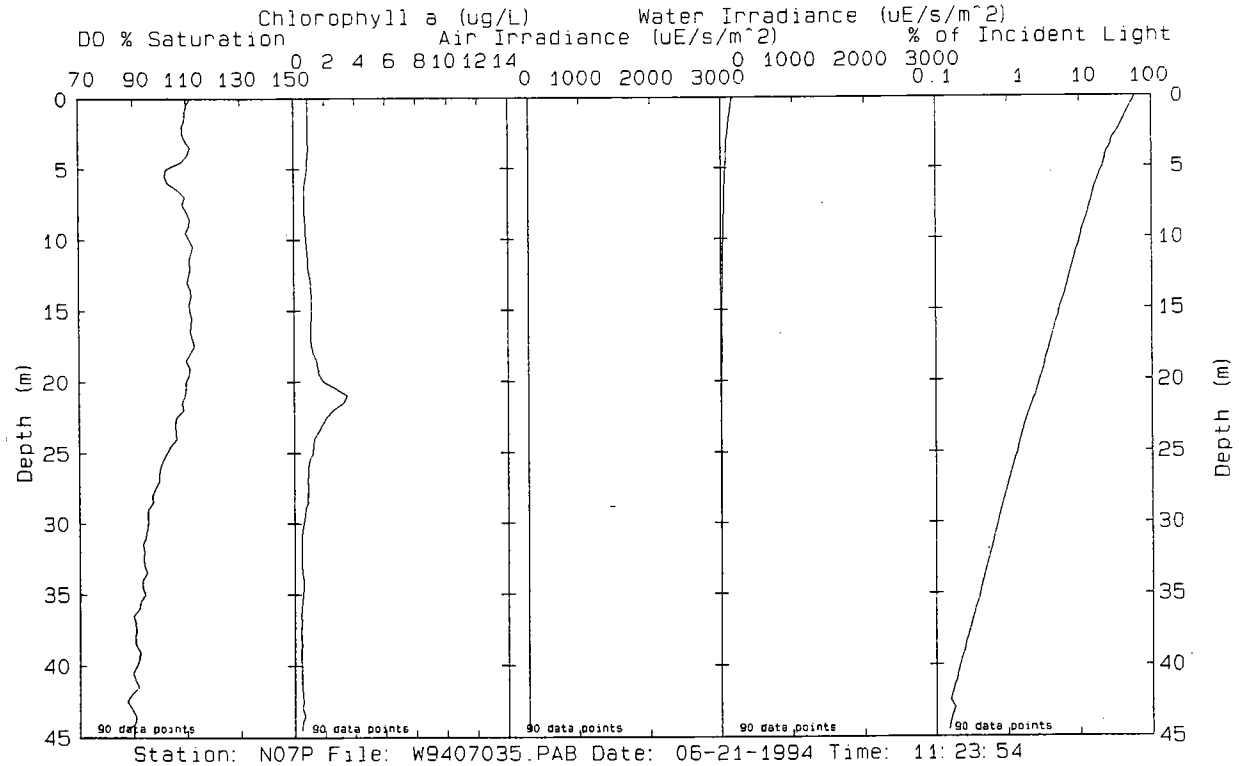
Station: N05 File: W9407169.PAB Date: 06-24-1994 Time: 09:38:19

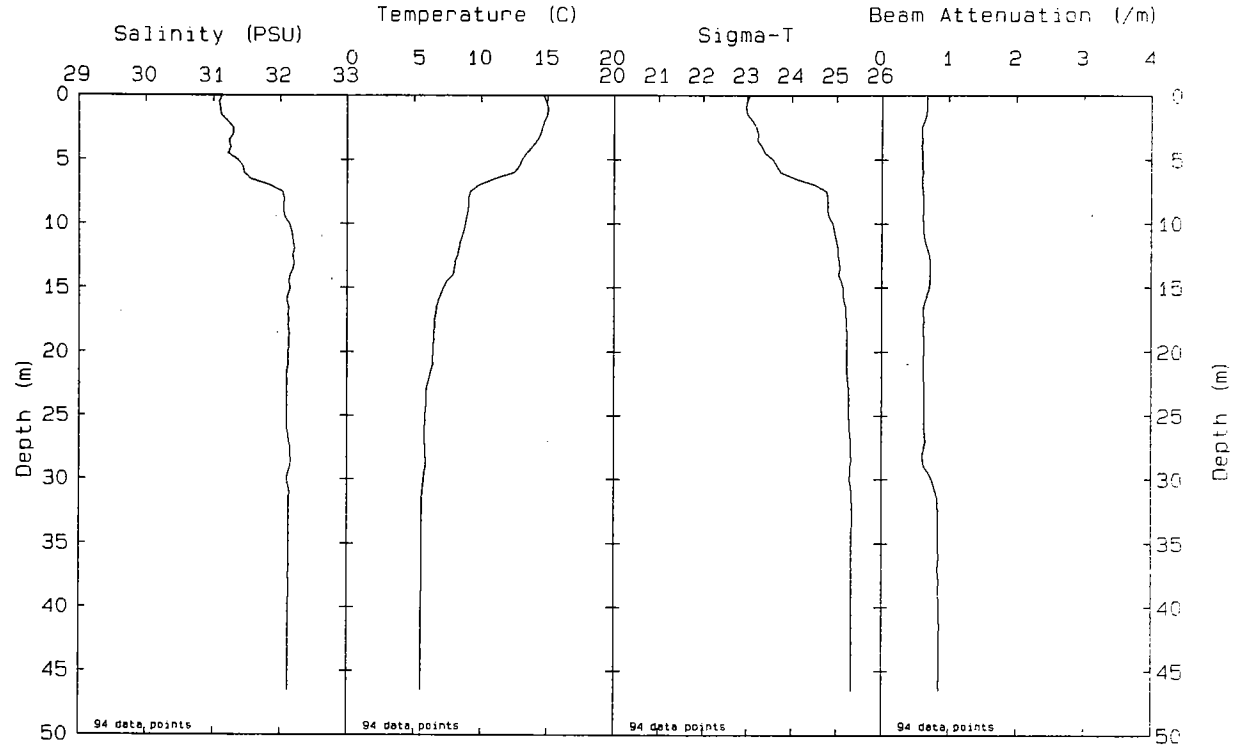


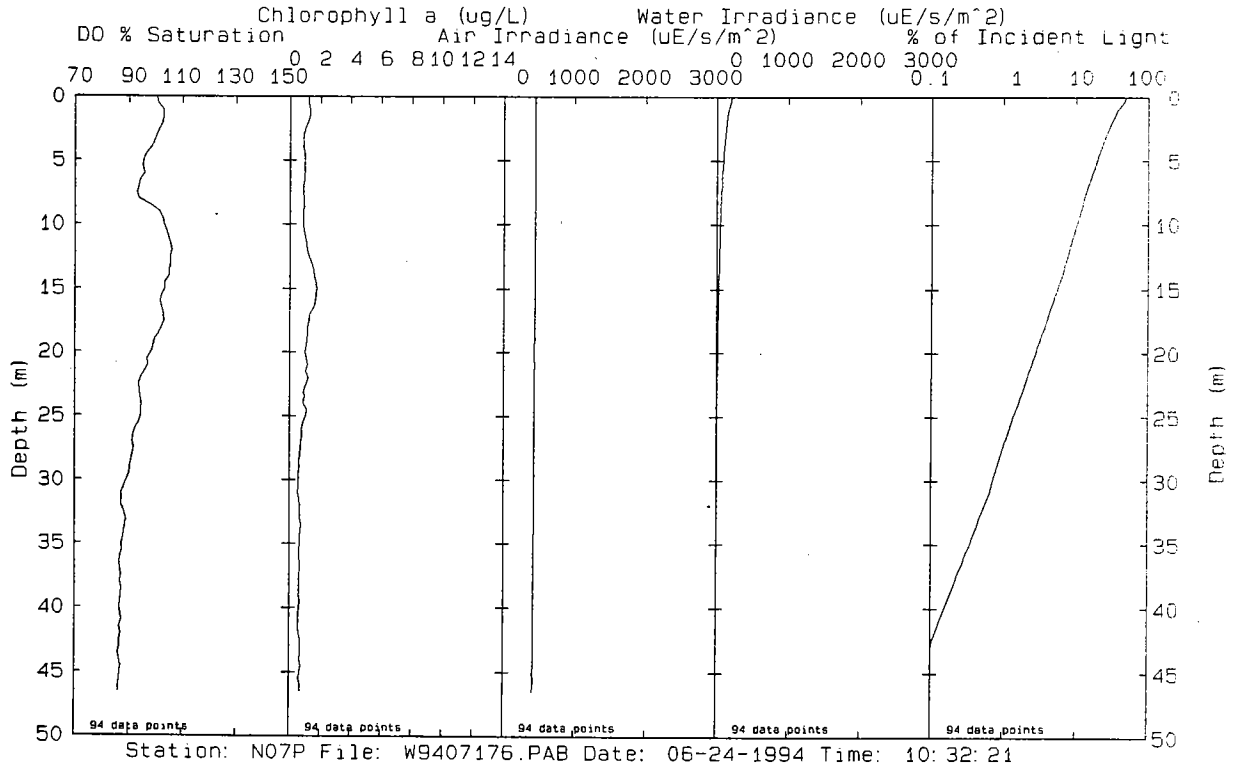


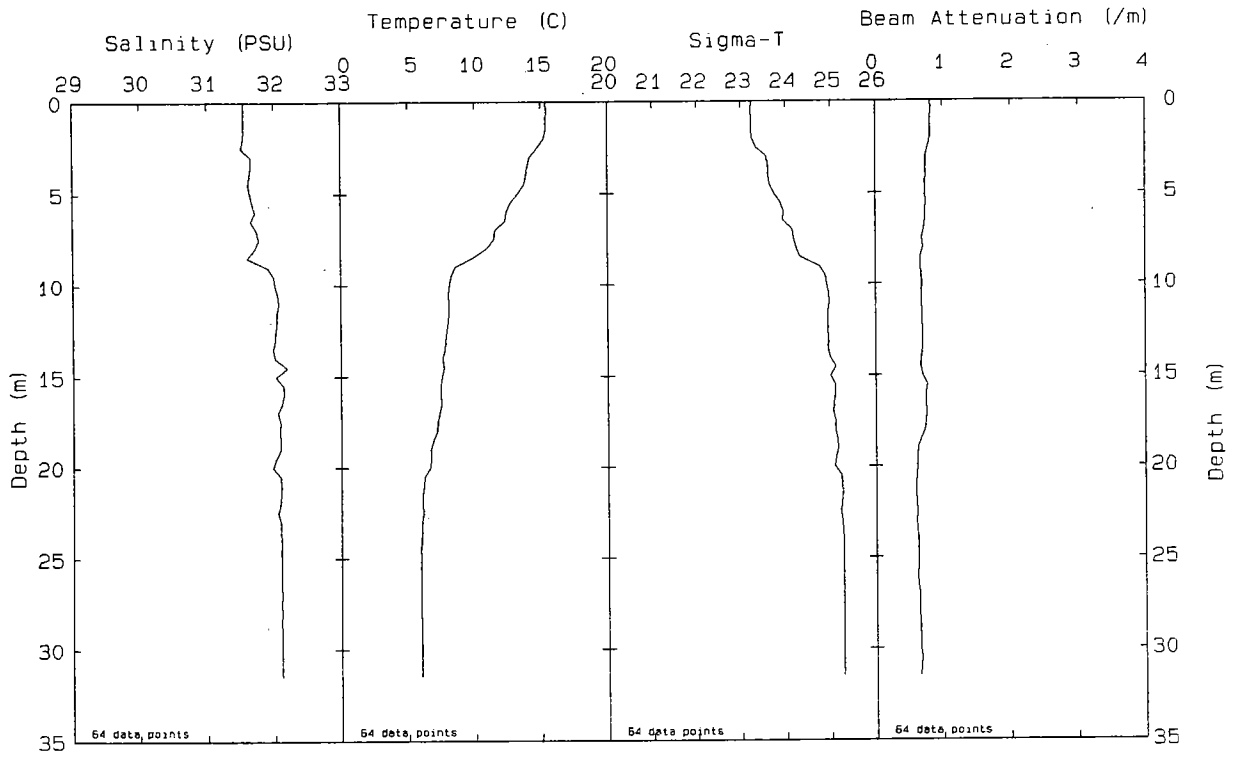
Station: N06 File: W9407172.PAB Date: 06-24-1994 Time: 10:05:18

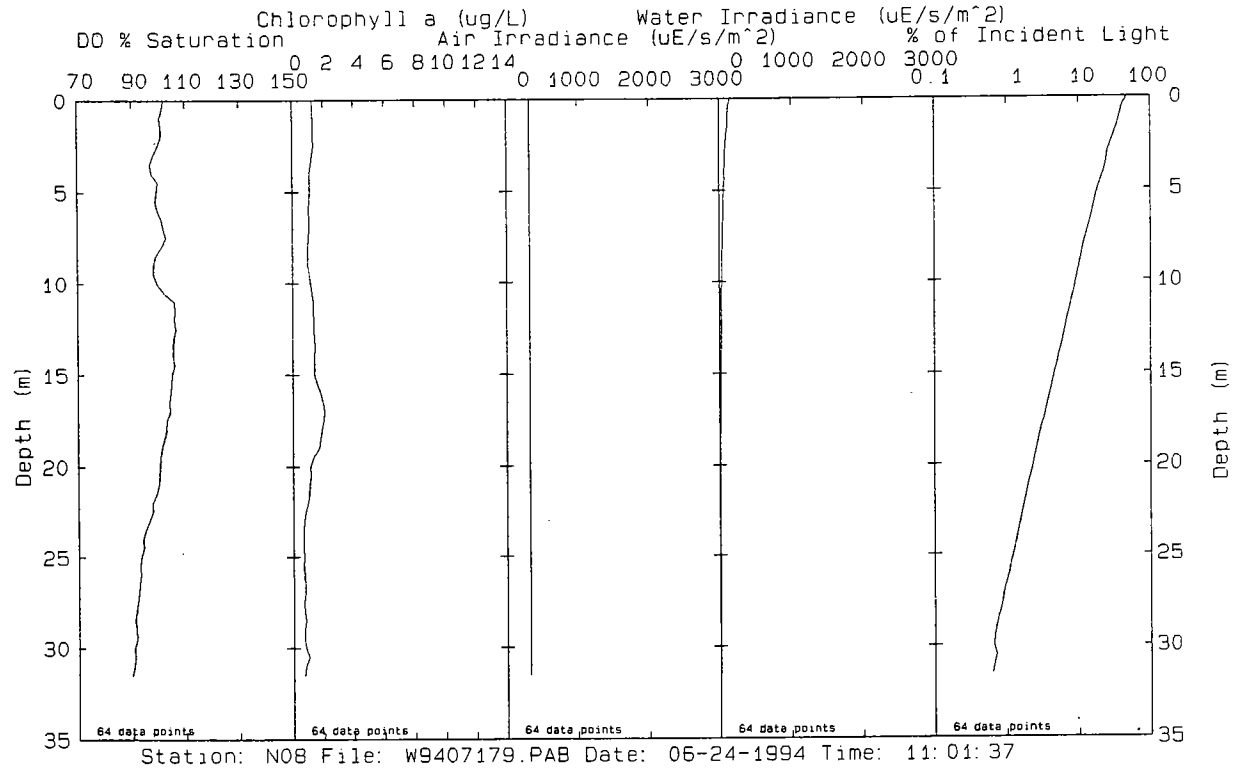

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25 30 35 40 45
90 data points
90 data points
90 data points
90 data points

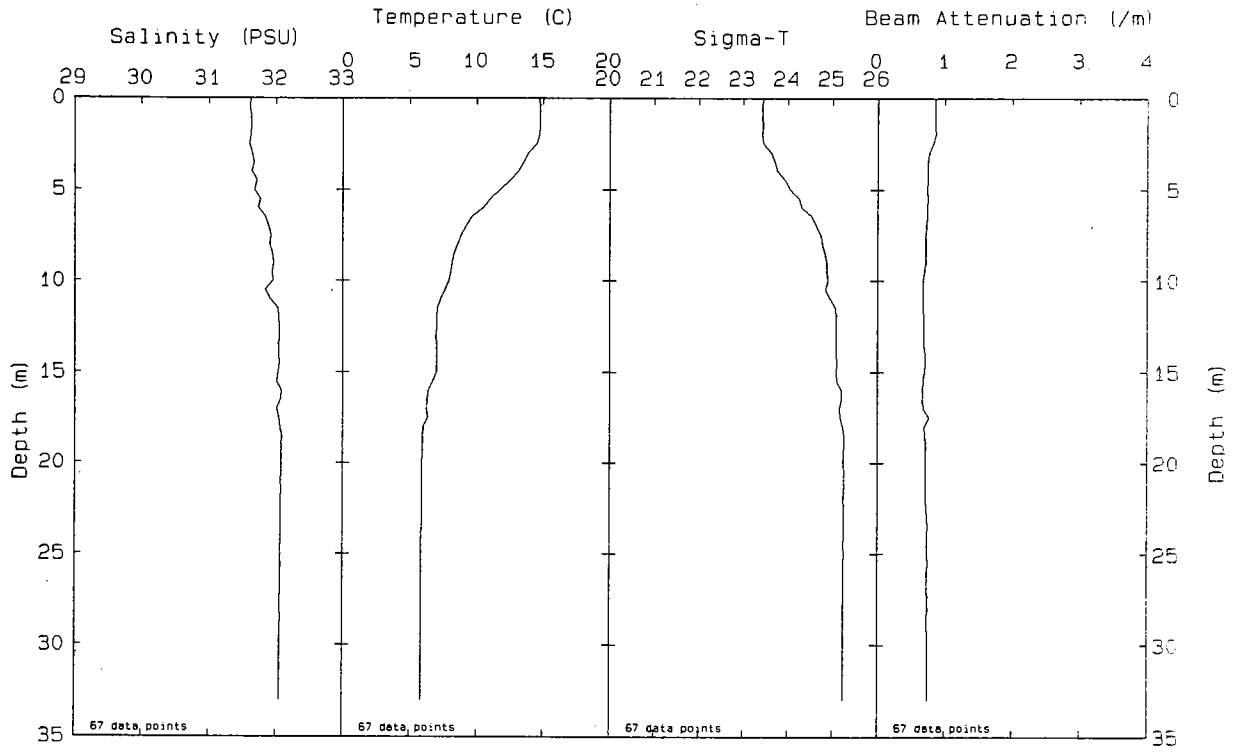

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35 40 45
90 data points
90 data points
90 data points
90 data points
90 data points
Station: N07P File: W9407035.PAB Date: 06-21-1994 Time: 11:23:54

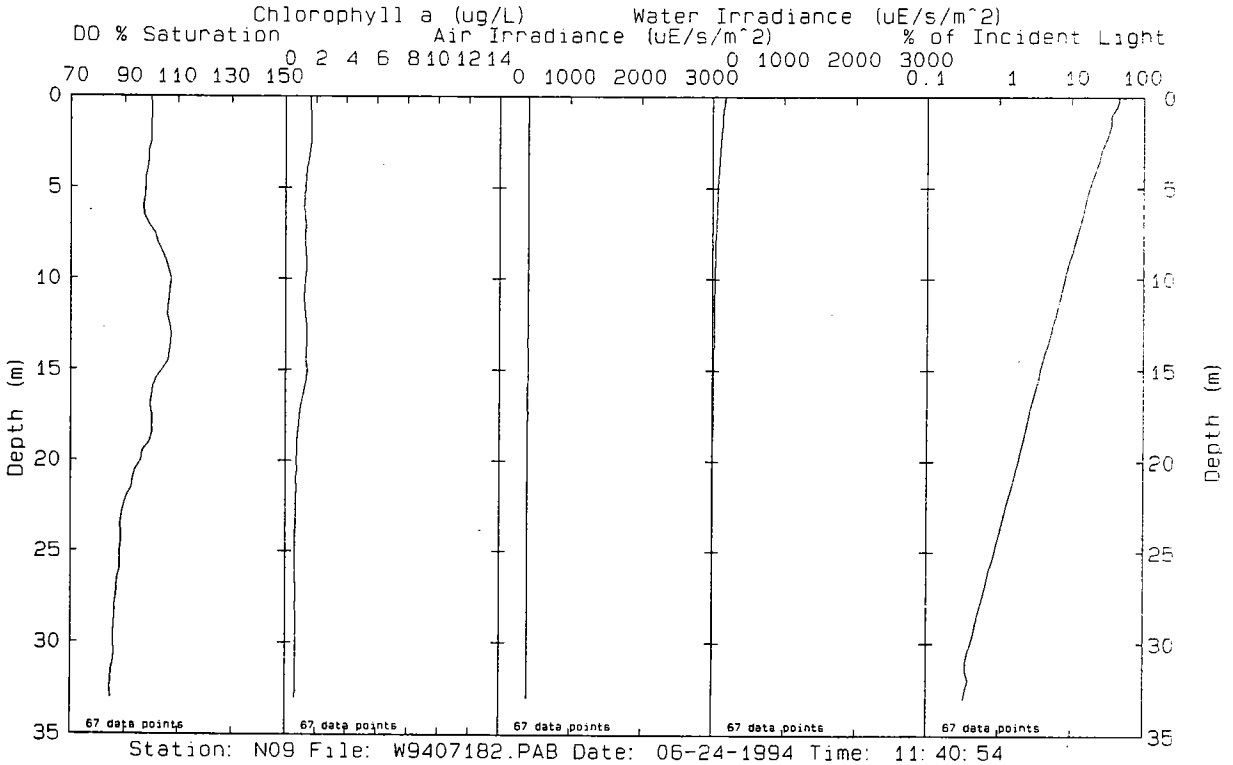

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25 30 35 40 45 50
94 data points
94 data points
94 data points
94 data points

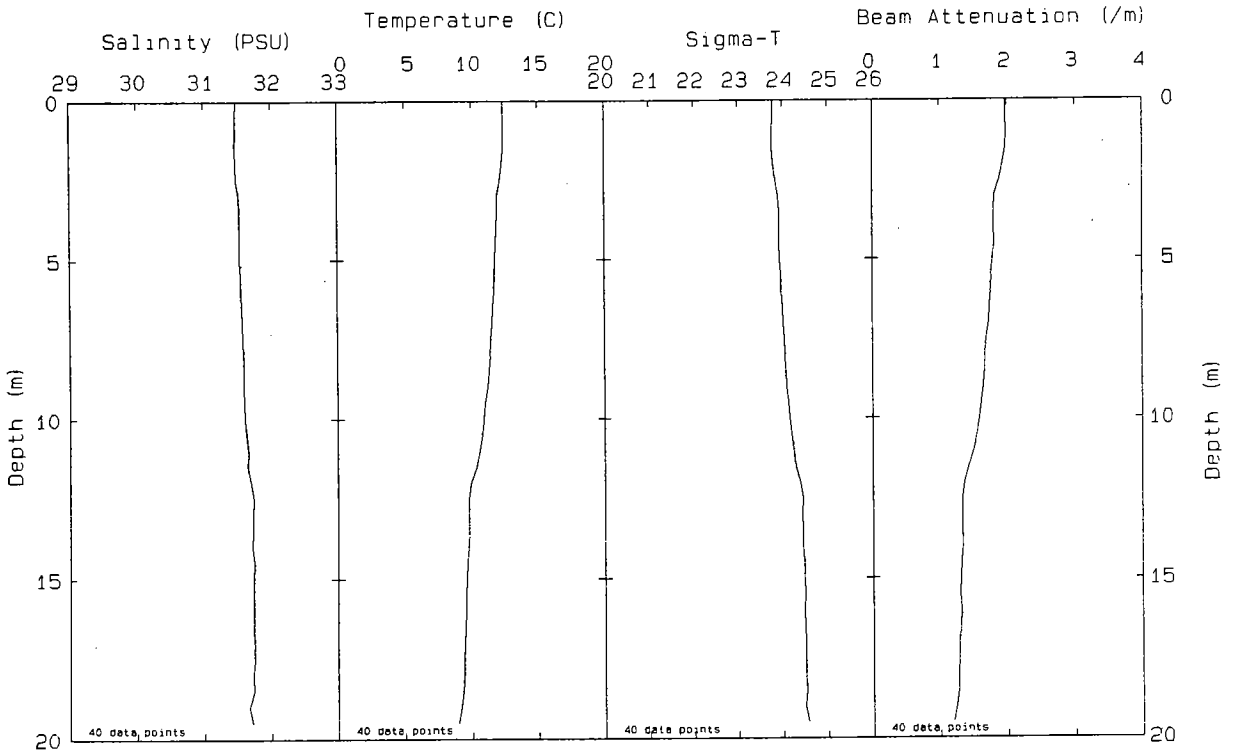

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35 40 45 50
94 data points
94 data points
94 data points
94 data points
94 data points
Station: N07P File: W9407176.PAB Date: 06-24-1994 Time: 10:32:21

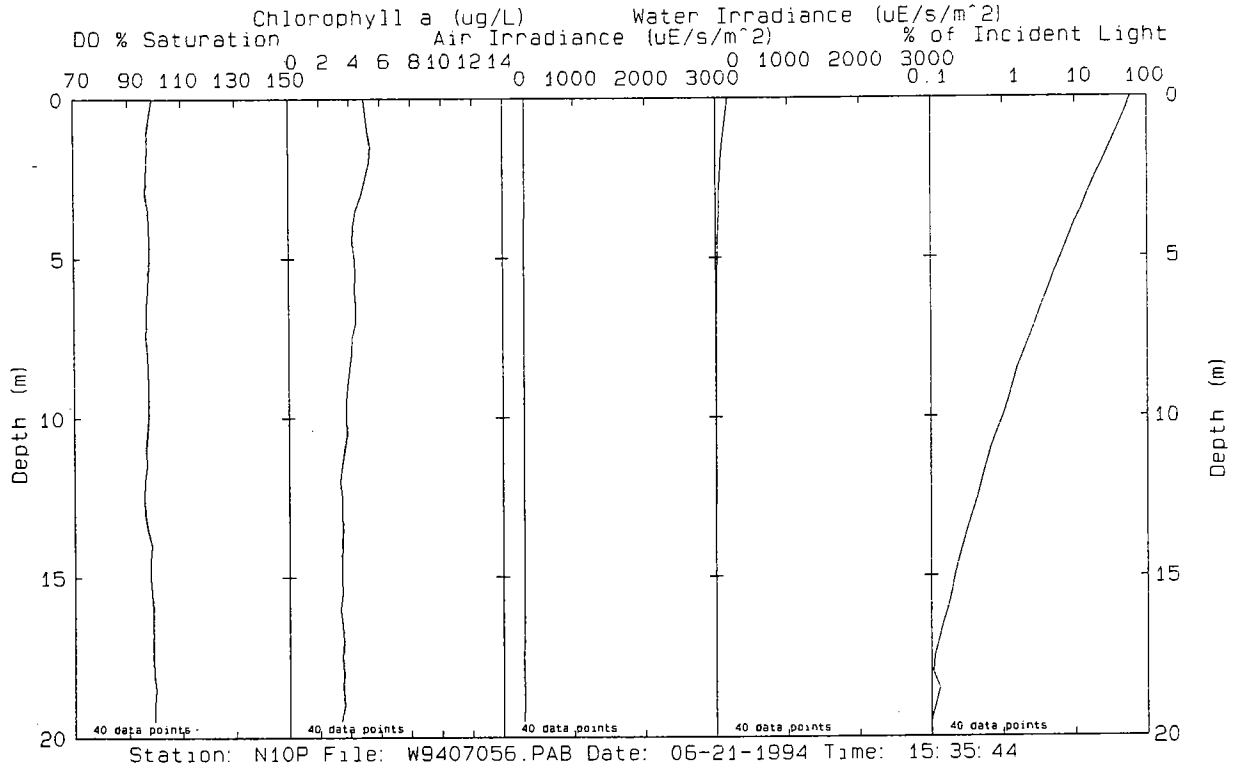

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25 30 35
64 data points
64 data points
64 data points
64 data points

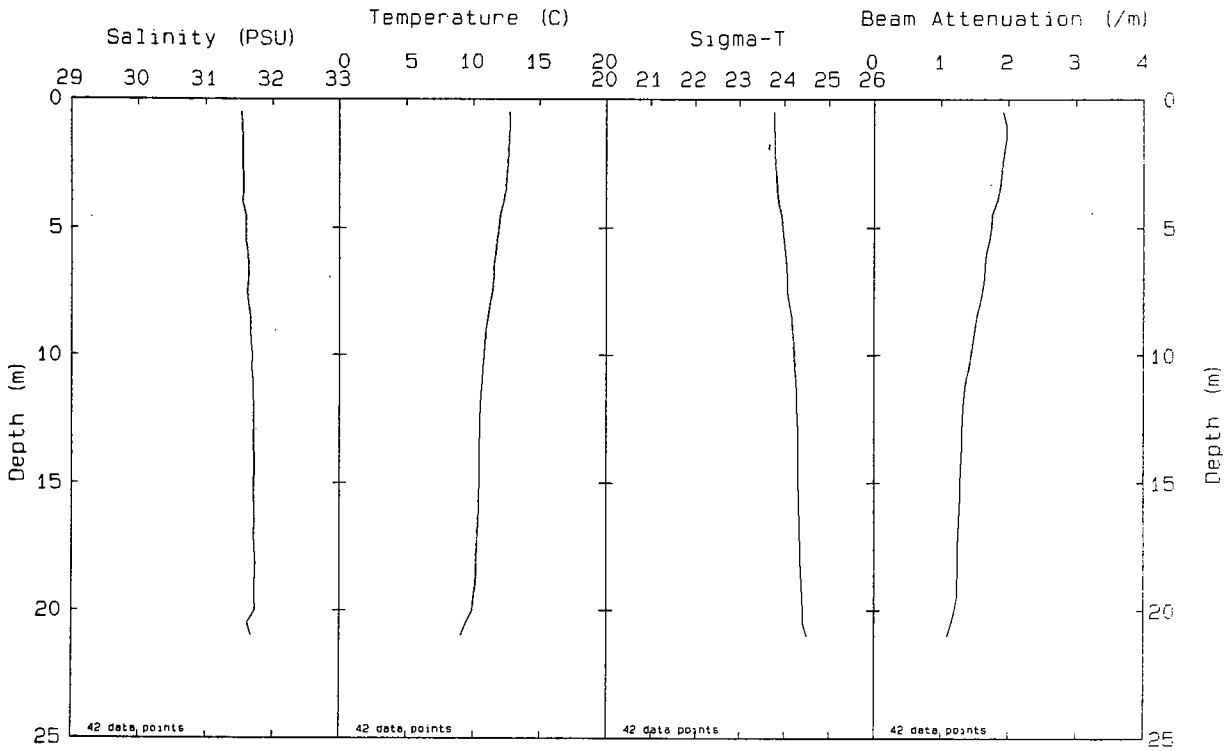

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35
64 data points
64 data points
64 data points
64 data points
64 data points
Station: N08 File: W9407179.PAB Date: 06-24-1994 Time: 11:01:37

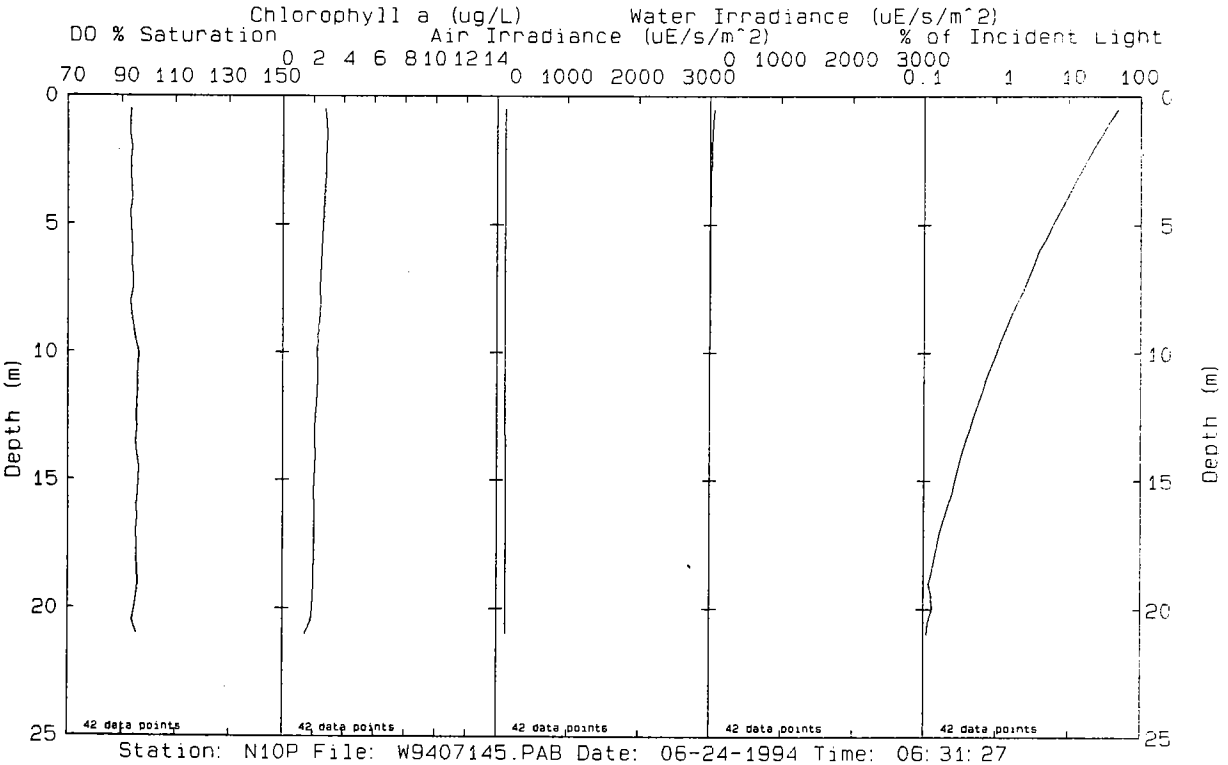

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25 30 35
67 data points
67 data points
67 data points
67 data points

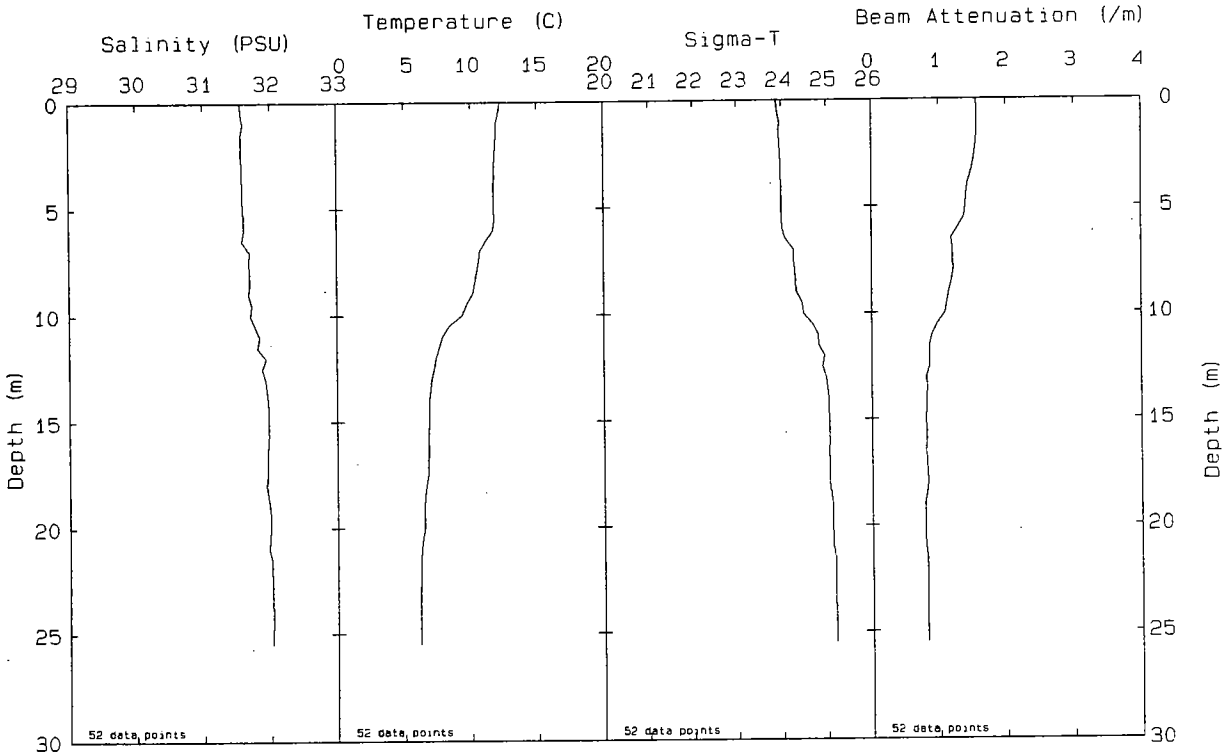

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35
67 data points
67 data points
67 data points
67 data points
67 data points
Station: N09 File: W9407182.PAB Date: 06-24-1994 Time: 11:40:54

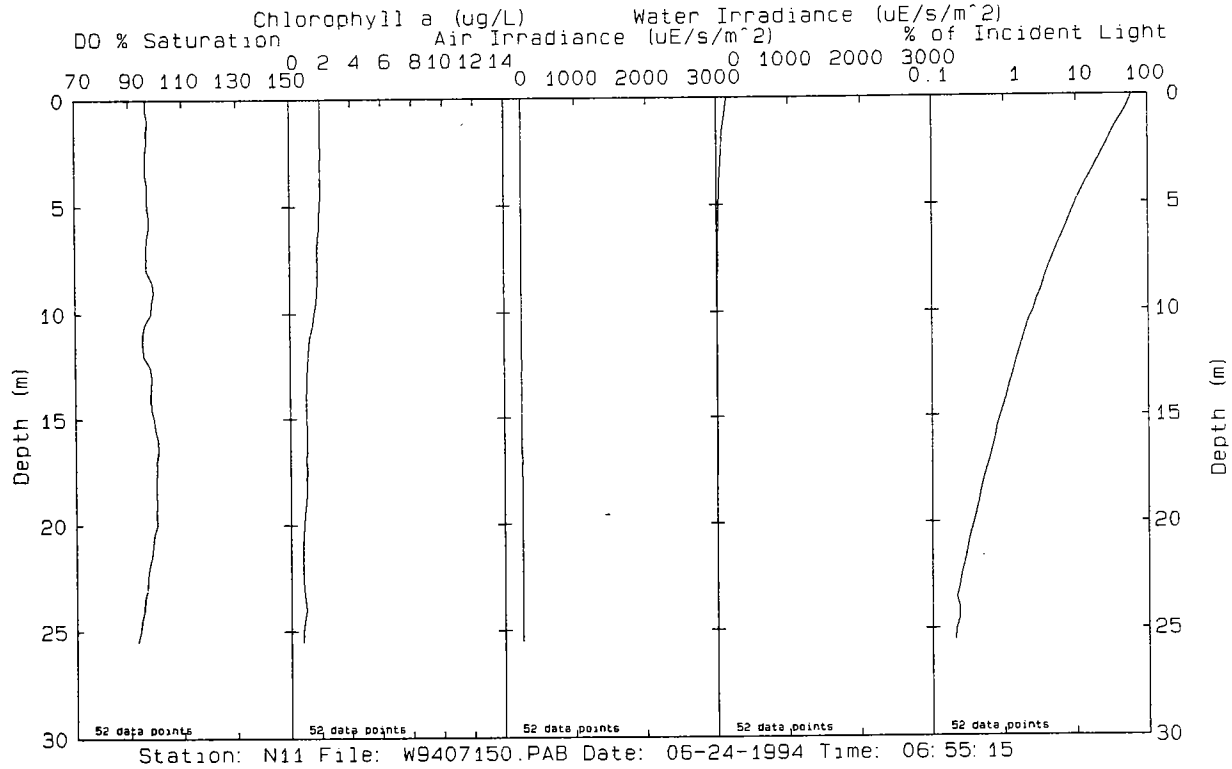

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20
40 data points
40 data points
40 data points
40 data points

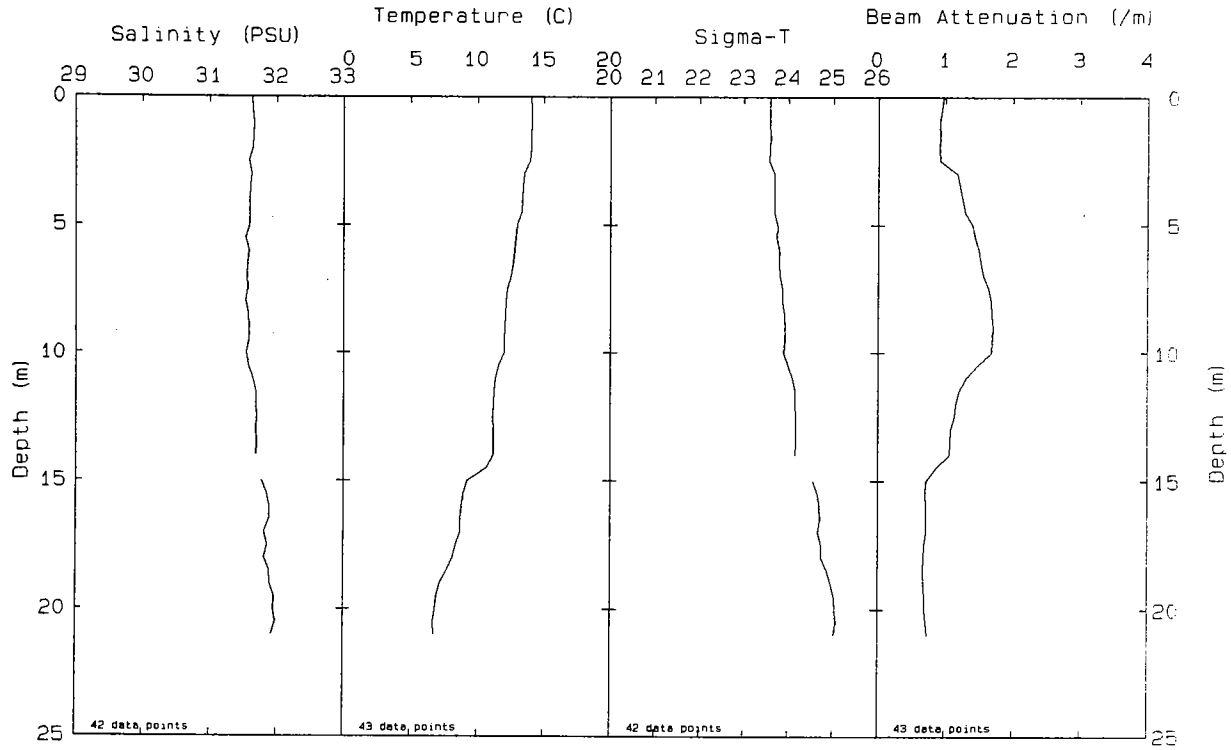

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20
40 data points
40 data points
40 data points
40 data points
40 data points
Station: N10P File: W9407056.PAB Date: 06-21-1994 Time: 15:35:44

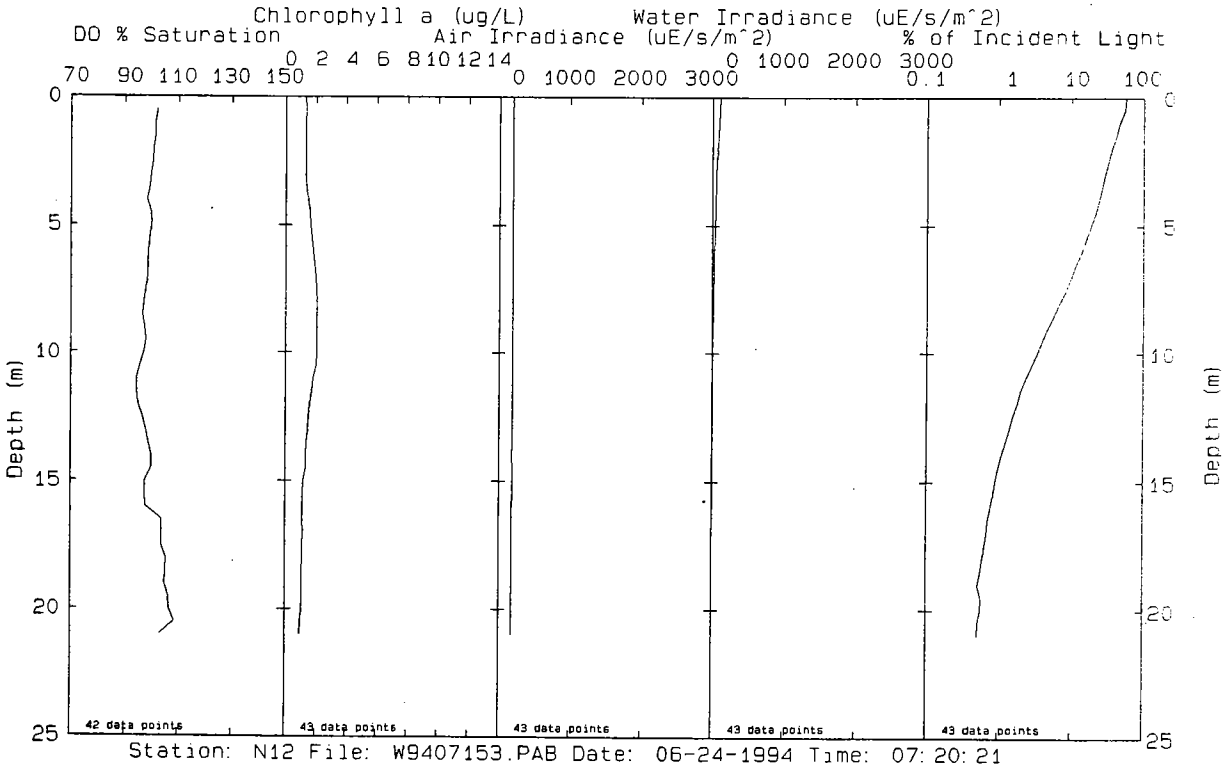

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25
42 data points
42 data points
42 data points
42 data points

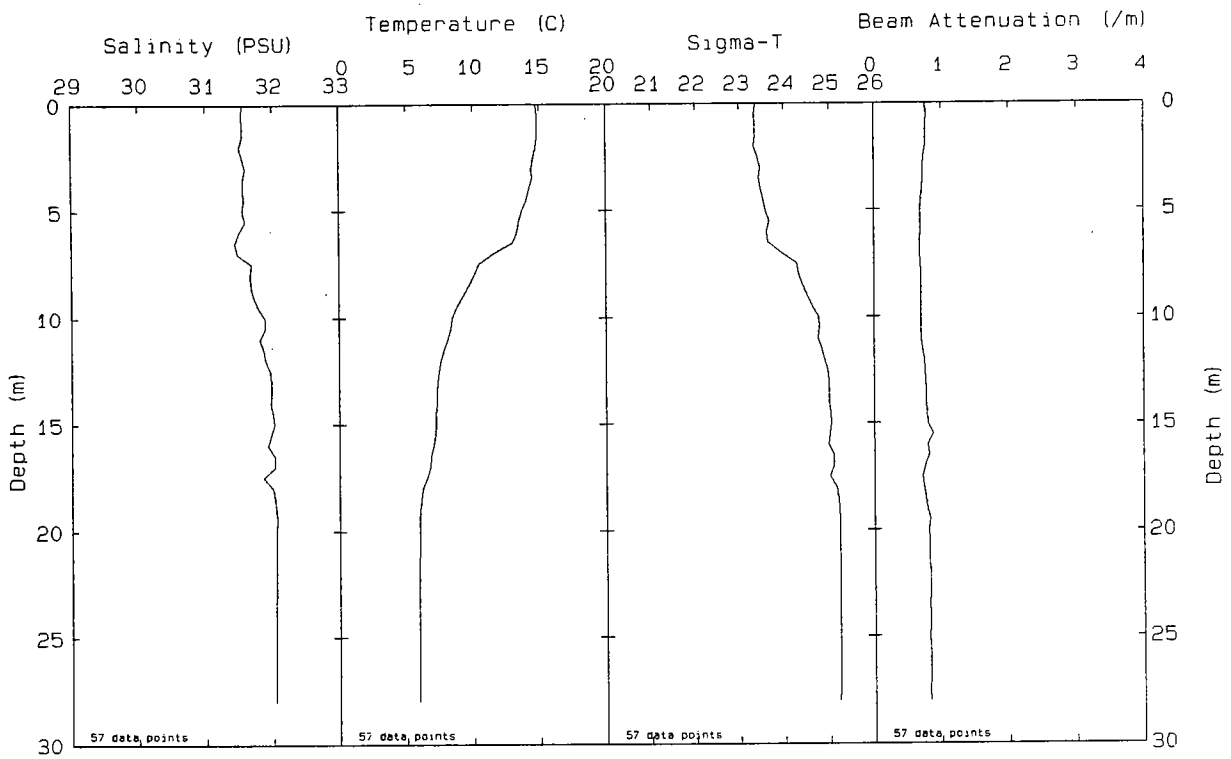

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25
42 data points
42 data points
42 data points
42 data points
42 data points
Station: N10P File: W9407145.PAB Date: 06-24-1994 Time: 06:31:27

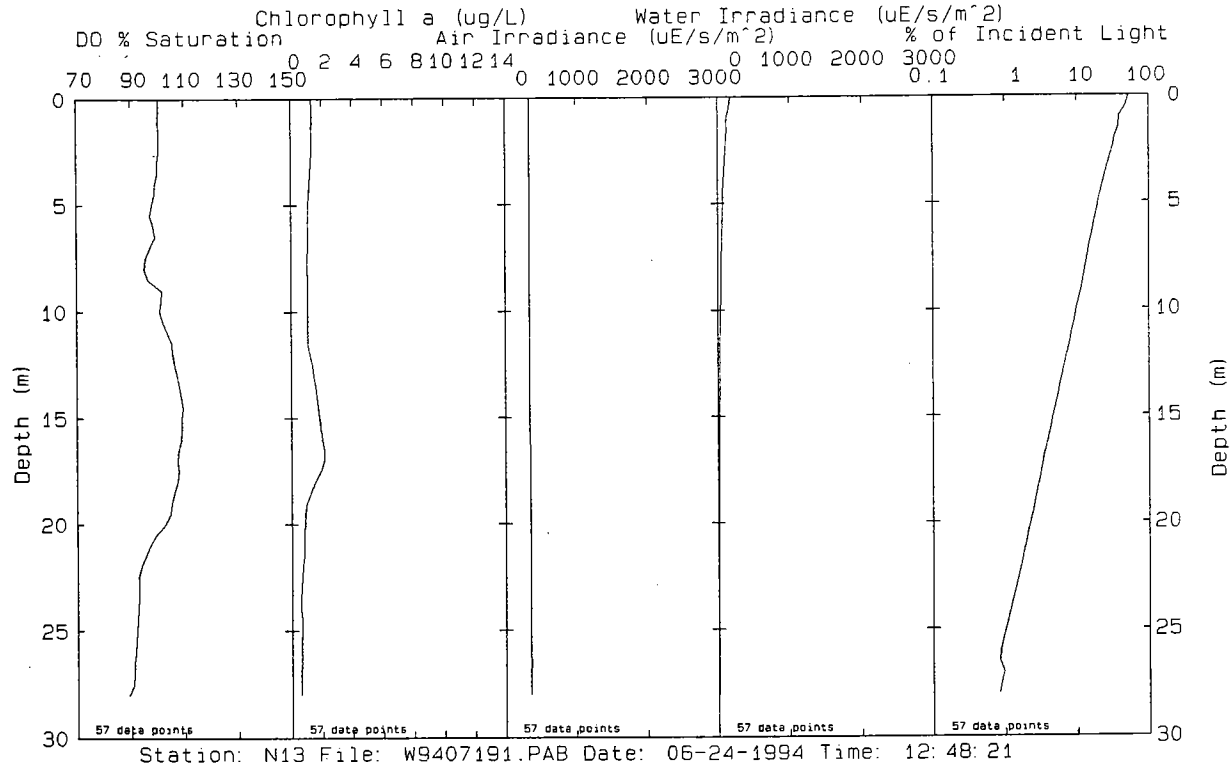

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25 30
52 data points
52 data points
52 data points
52 data points

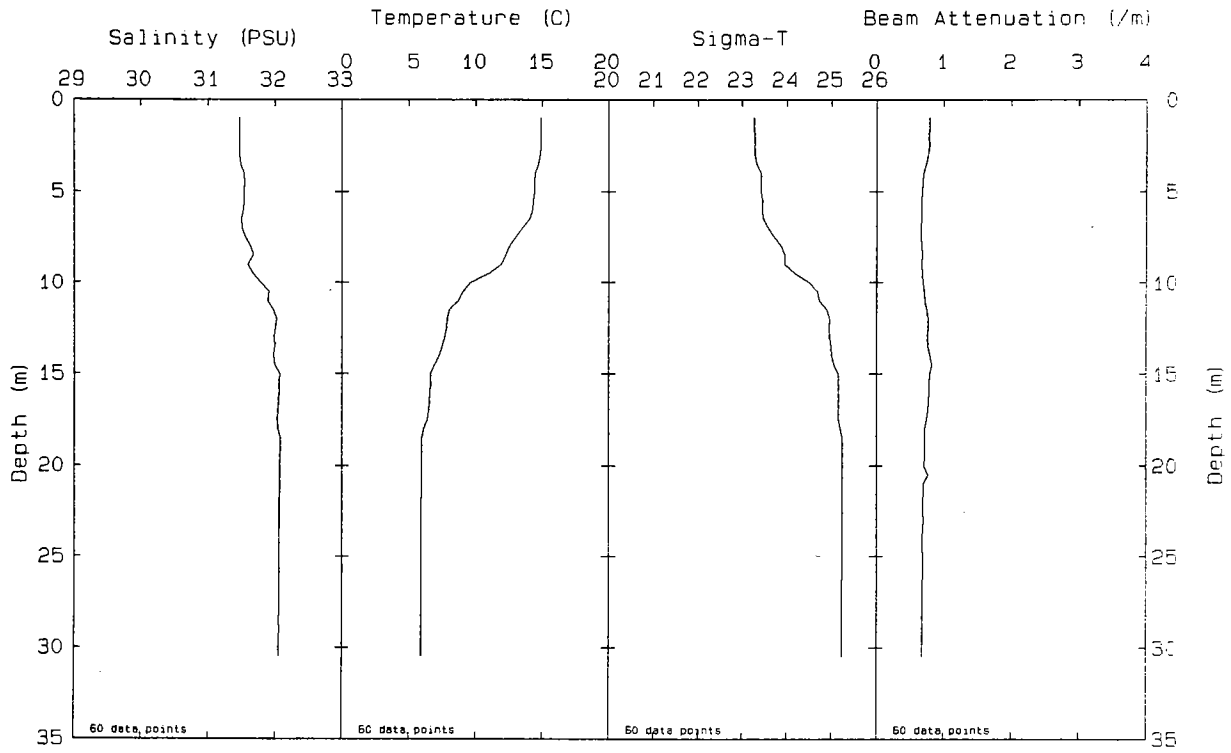

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30
52 data points
52 data points
52 data points
52 data points
52 data points
Station: N11 File: W9407150.PAB Date: 06-24-1994 Time: 06:55:15

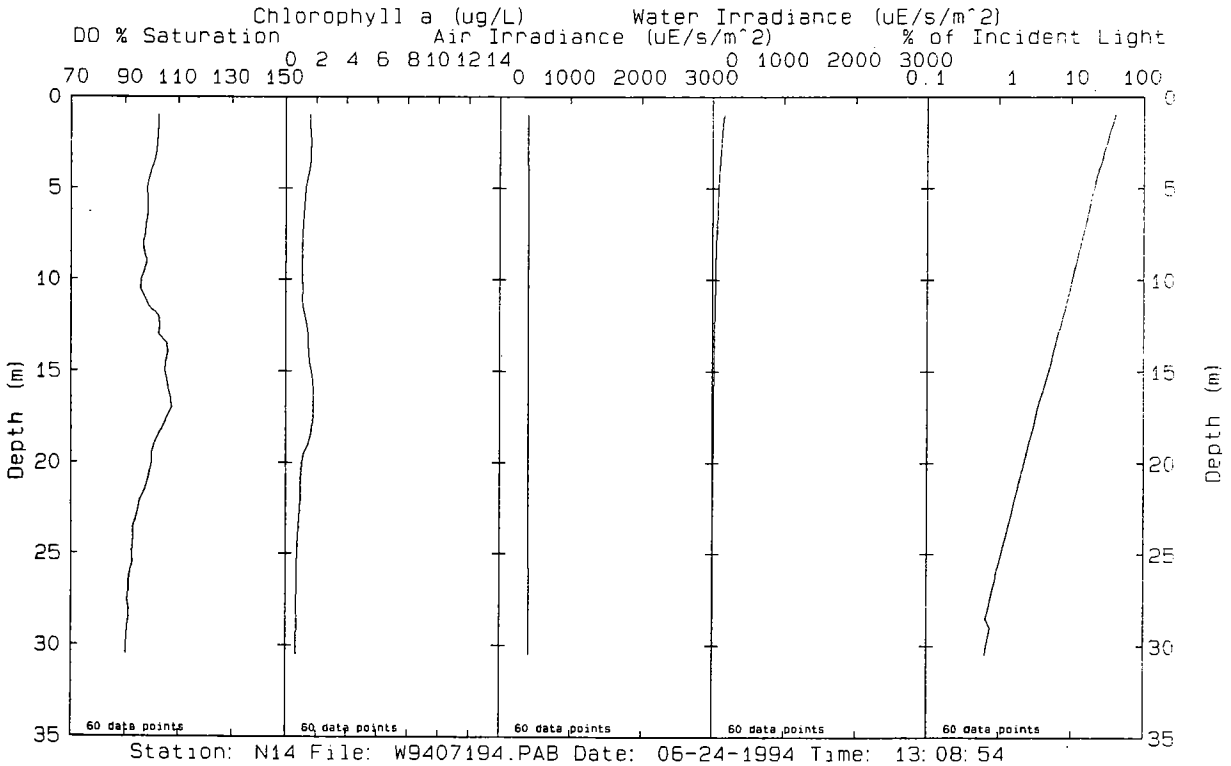

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25
42 data points
43 data points
42 data points
43 data points

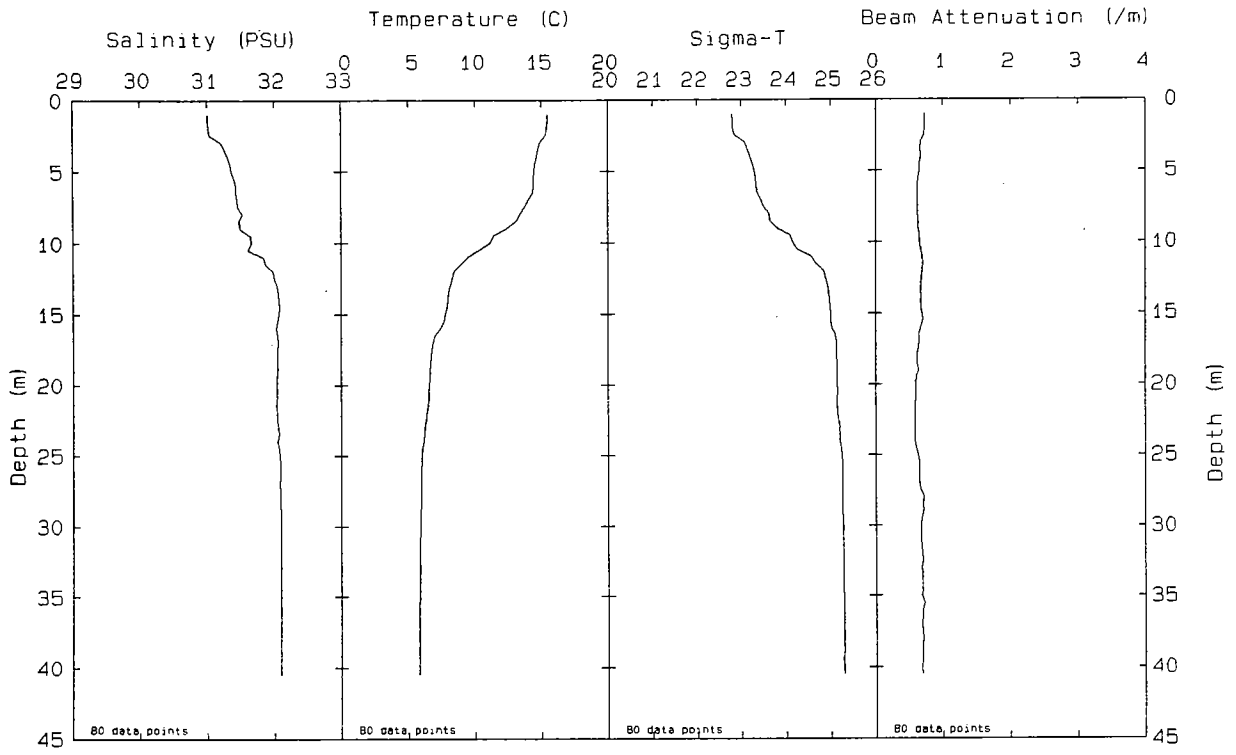

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25
42 data points
43 data points
43 data points
43 data points
43 data points
Station: N12 File: W9407153.PAB Date: 06-24-1994 Time: 07:20:21

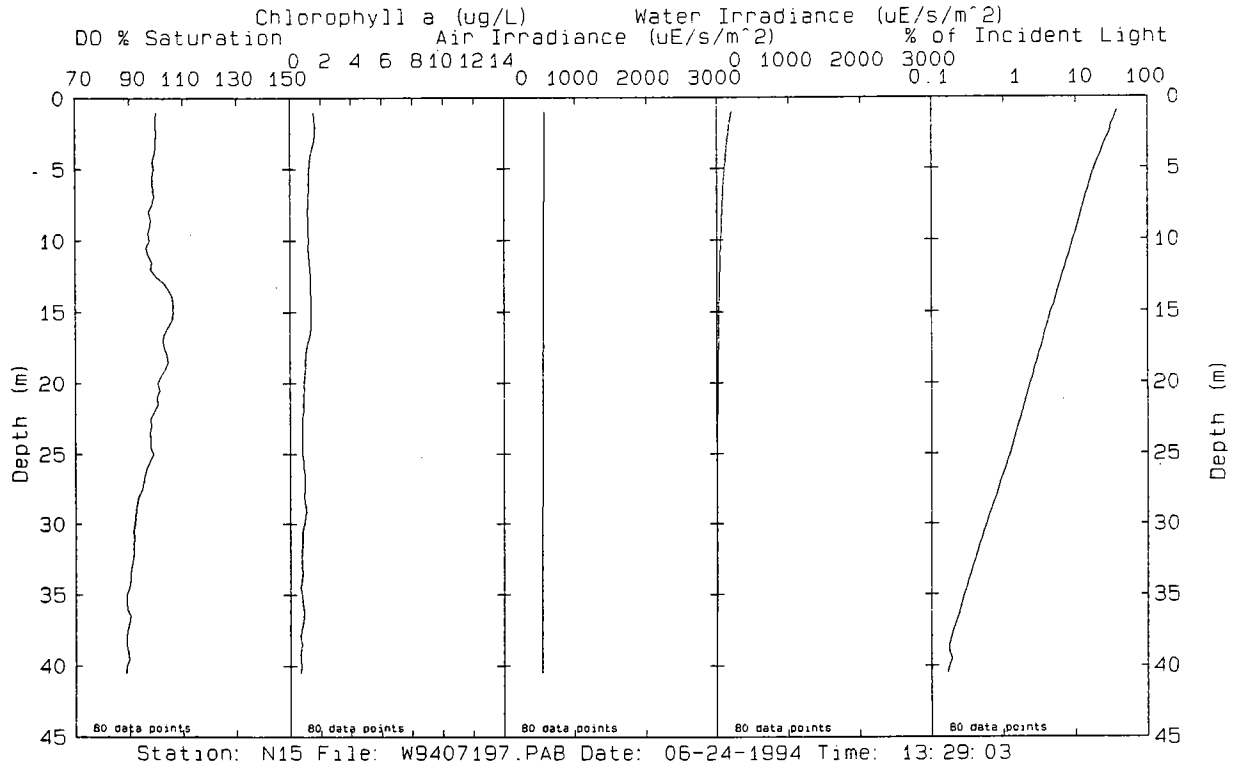

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25 30
57 data points
57 data points
57 data points
57 data points


DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
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
57 data points
57 data points
57 data points
57 data points
57 data points
Station: N13 File: W9407191.PAB Date: 06-24-1994 Time: 12:48:21

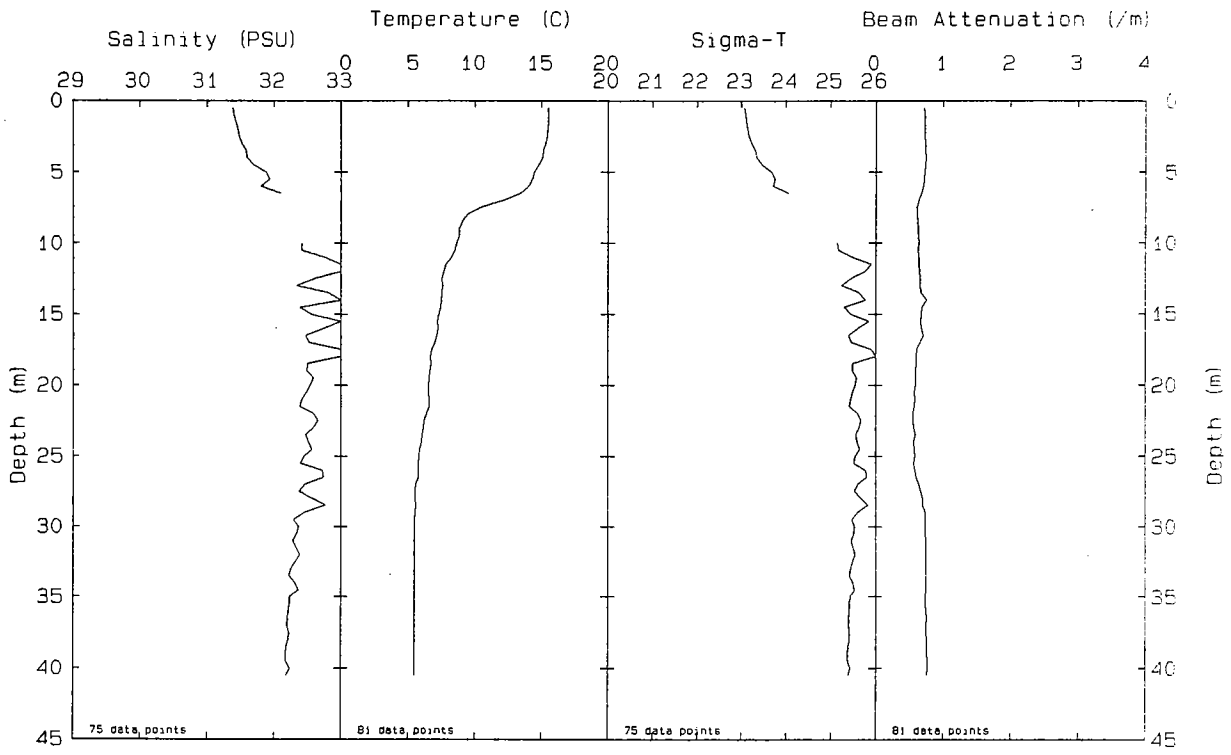

Salinity (PSU)
29 30 31 32
Temperature (C)
0 5 10 15
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25 30 35
60 data points

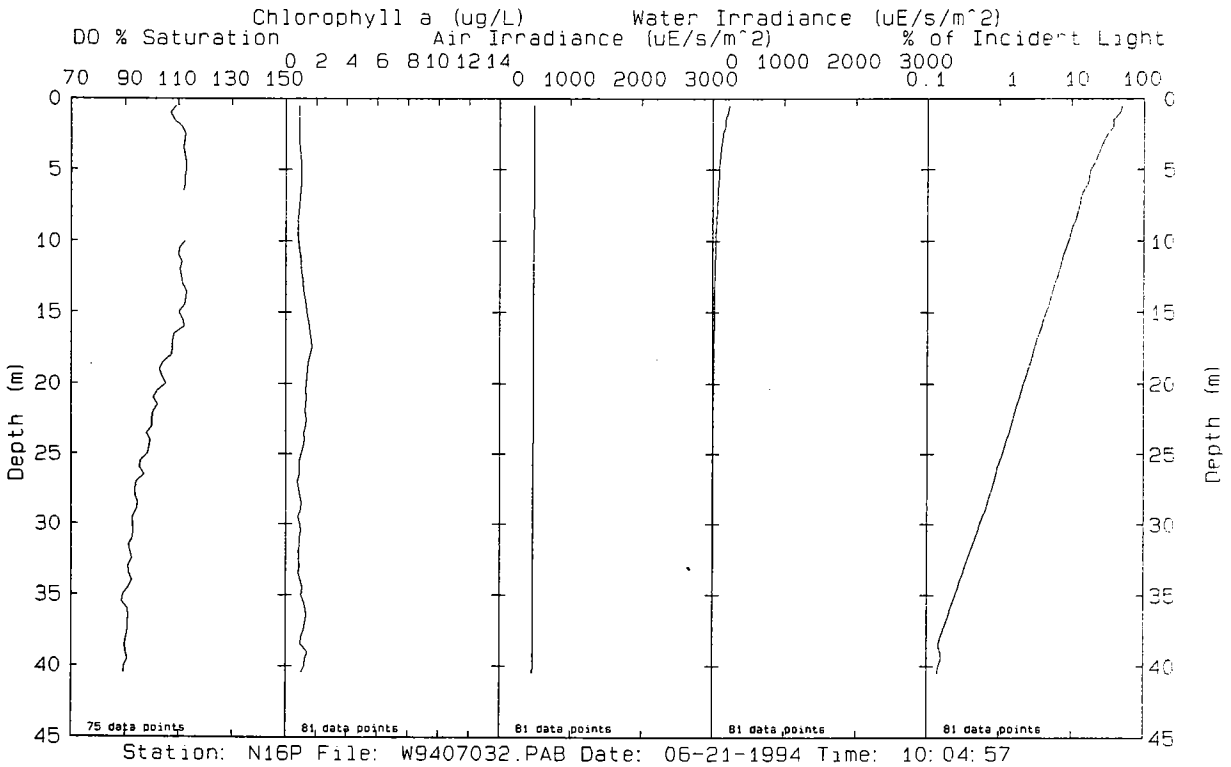

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35
60 data points
Station: N14 File: W9407194.PAB Date: 06-24-1994 Time: 13:08:54



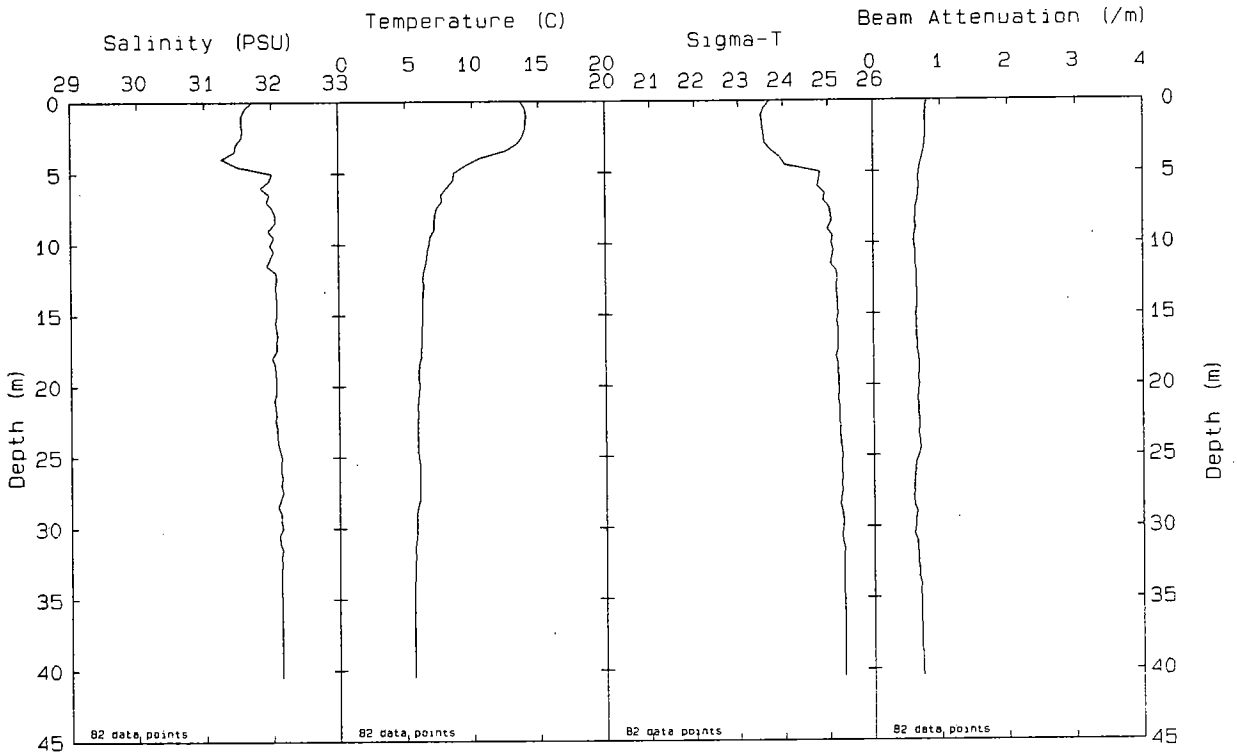


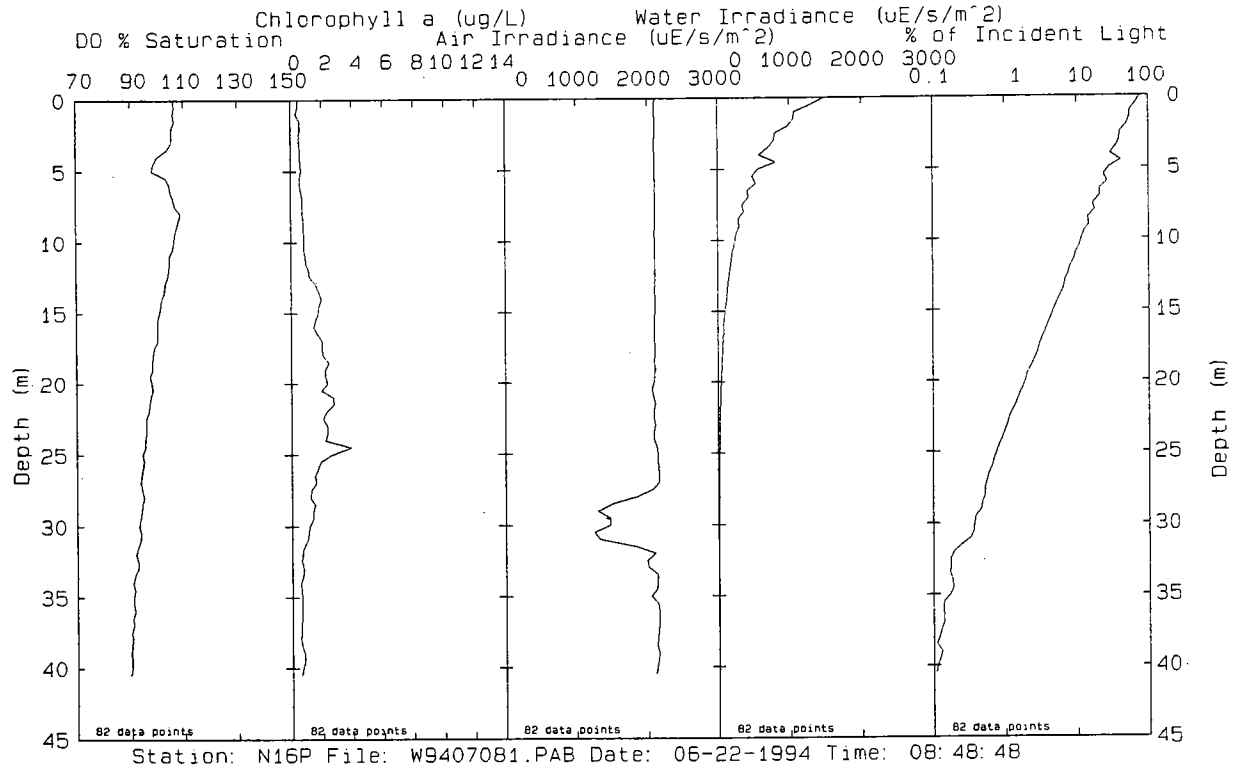
Station: N15 File: W9407197.PAB Date: 06-24-1994 Time: 13:29:03

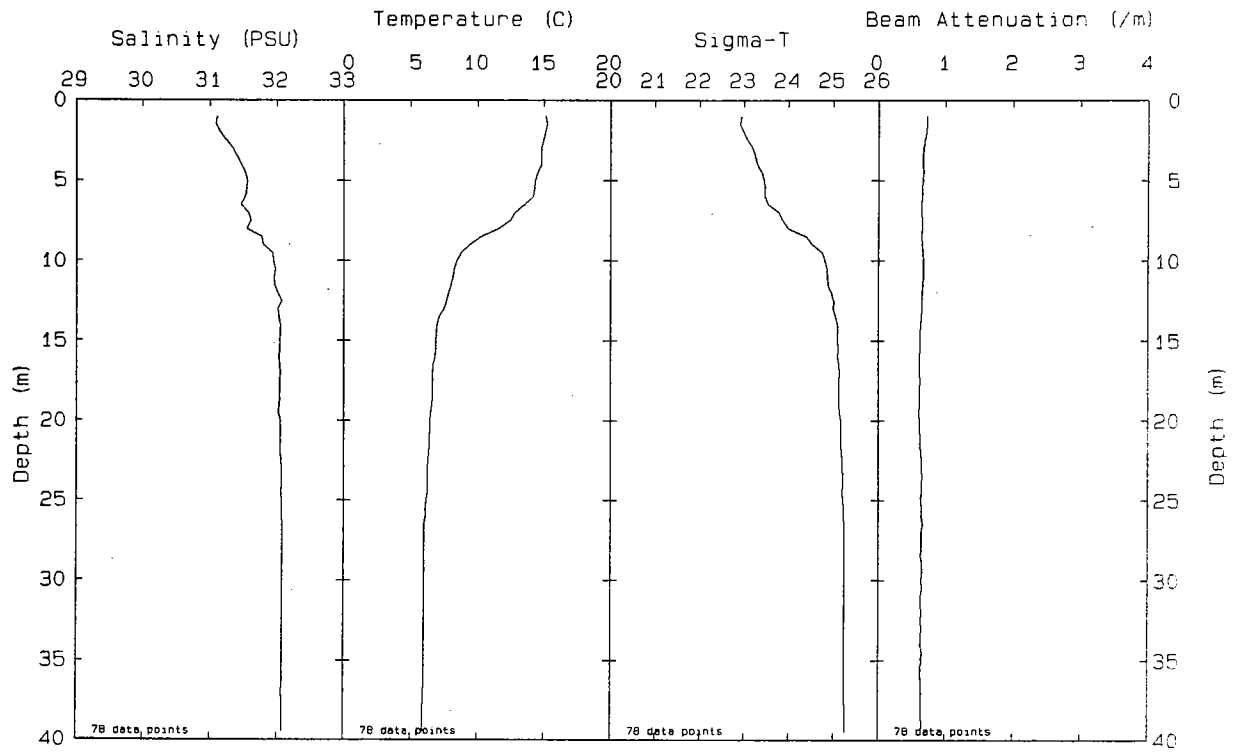


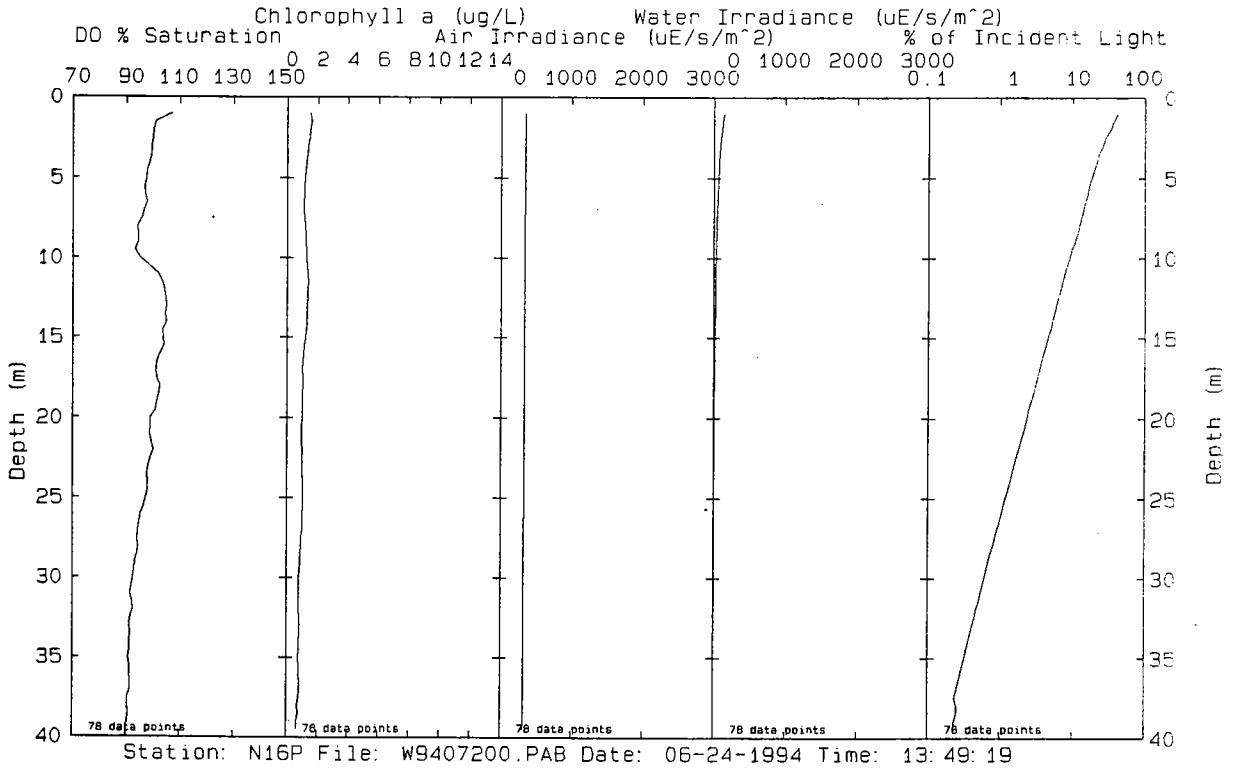


Station: N16P File: W9407032.PAB Date: 06-21-1994 Time: 10:04:57

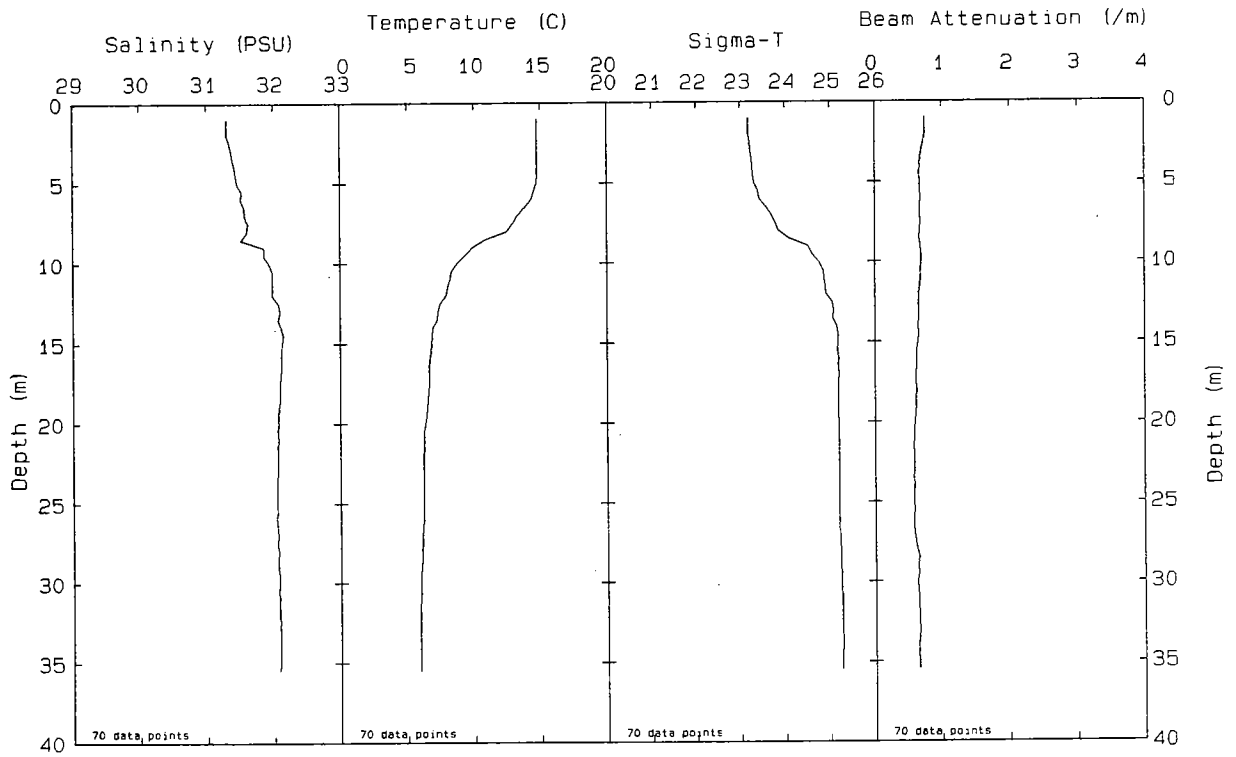

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25 30 35 40 45
82 data points
82 data points
82 data points
82 data points

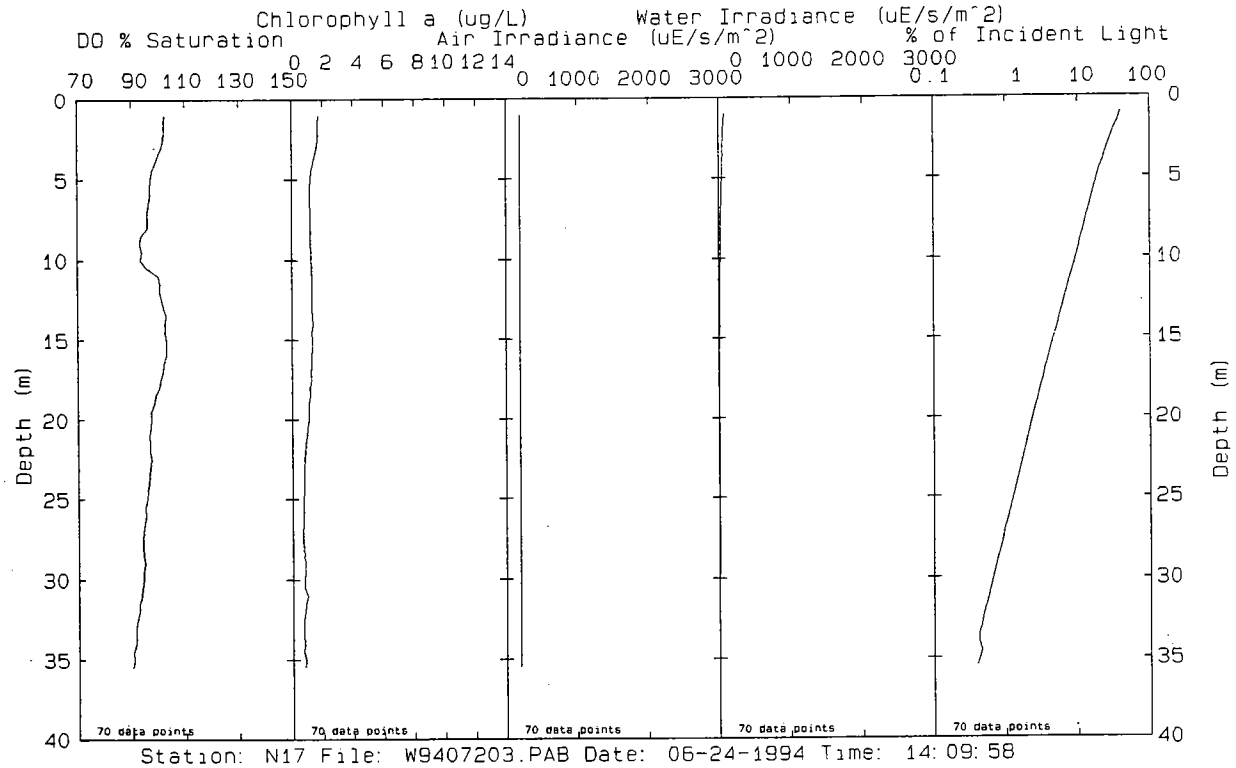

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35 40 45
82 data points
82 data points
82 data points
82 data points
82 data points
Station: N16P File: W9407081.PAB Date: 06-22-1994 Time: 08:48:48





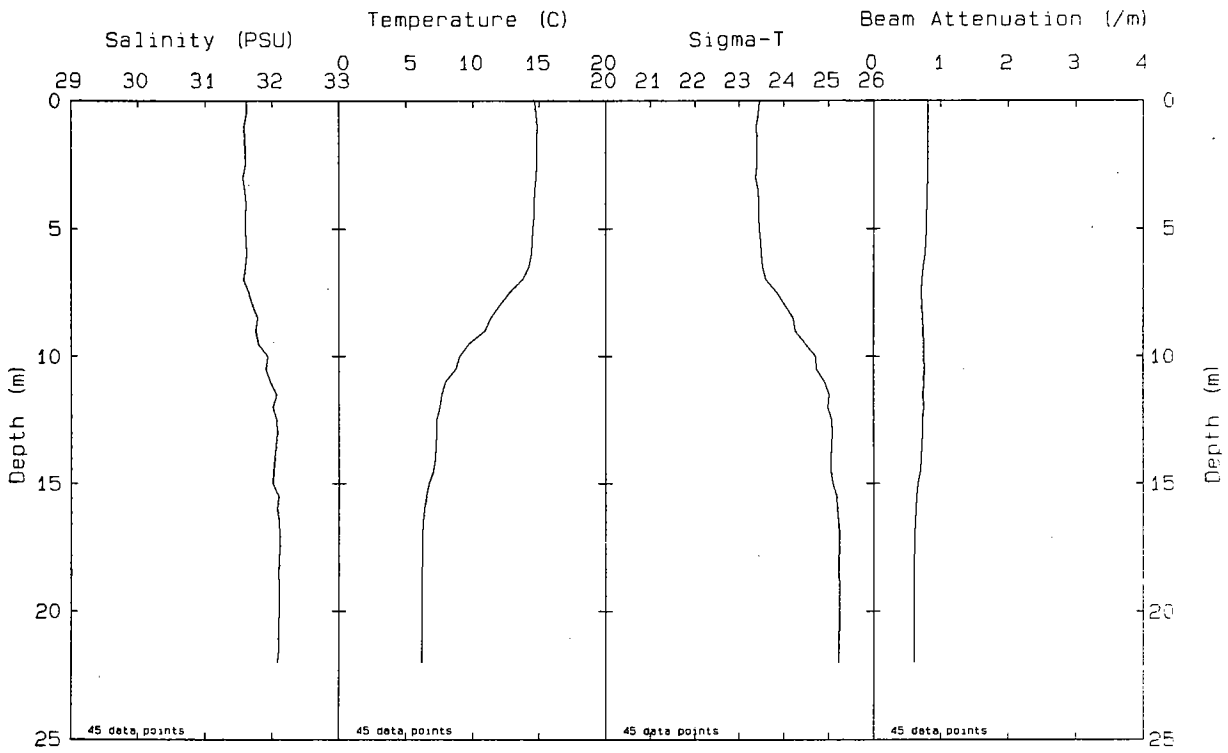
Station: N16P File: W9407200.PAB Date: 06-24-1994 Time: 13:49:19

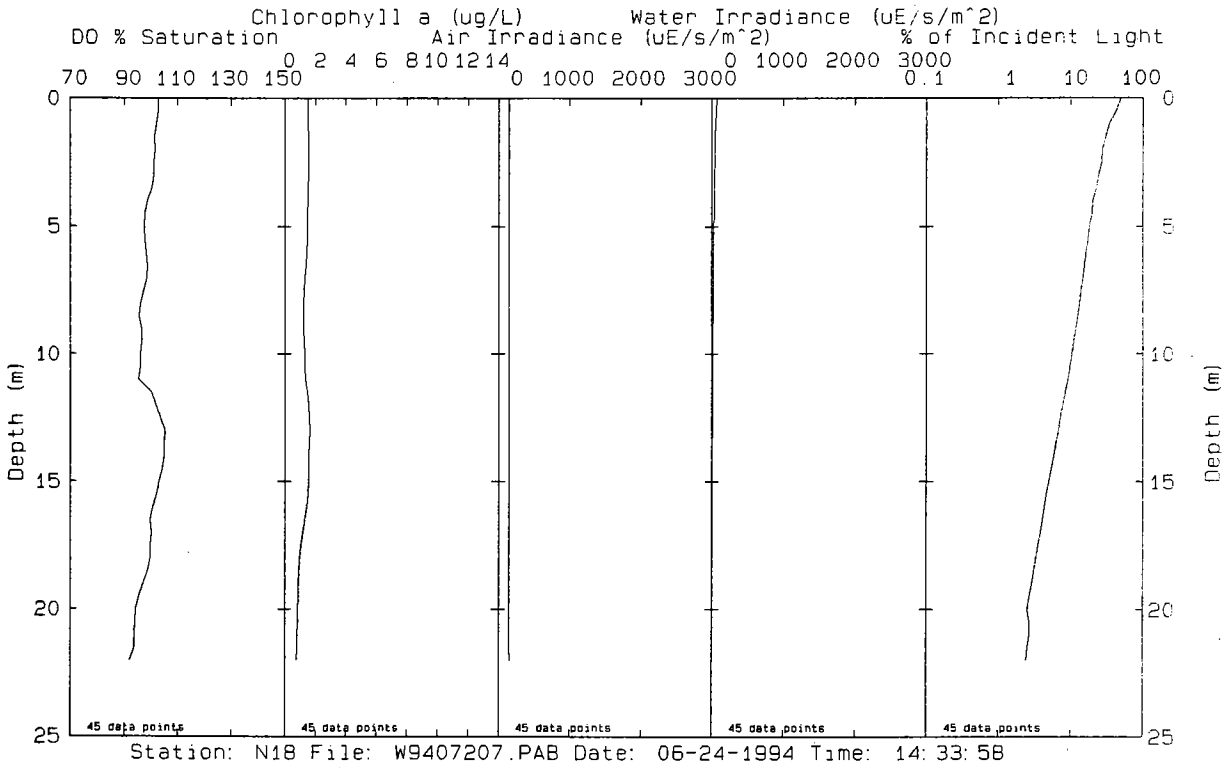




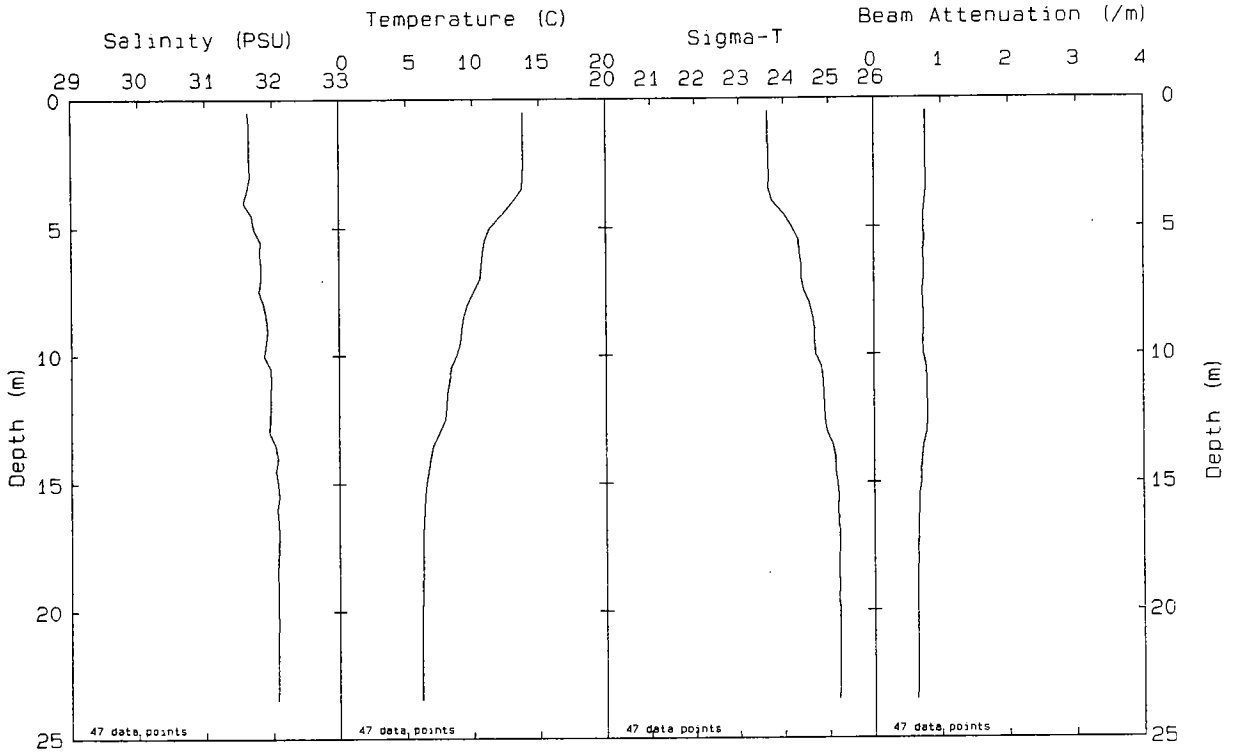
Station: N17 File: W9407203.PAB Date: 06-24-1994 Time: 14:09:58

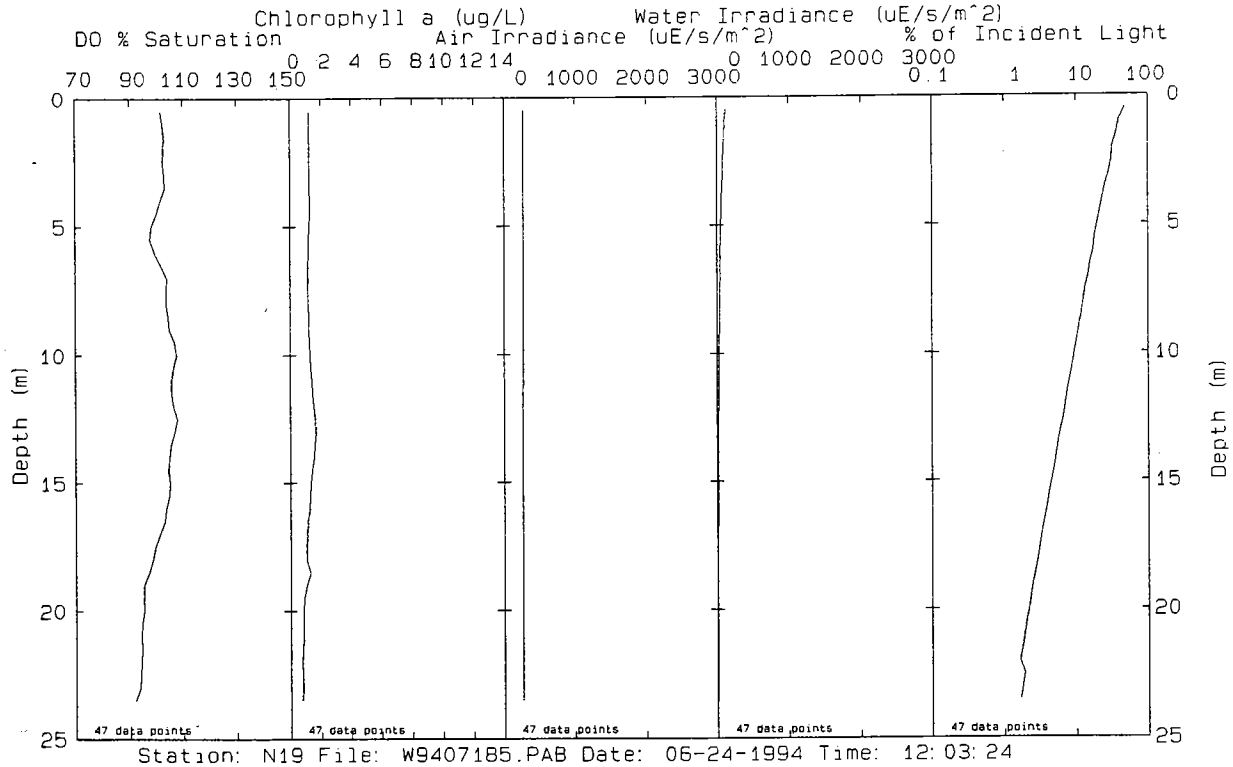
000071



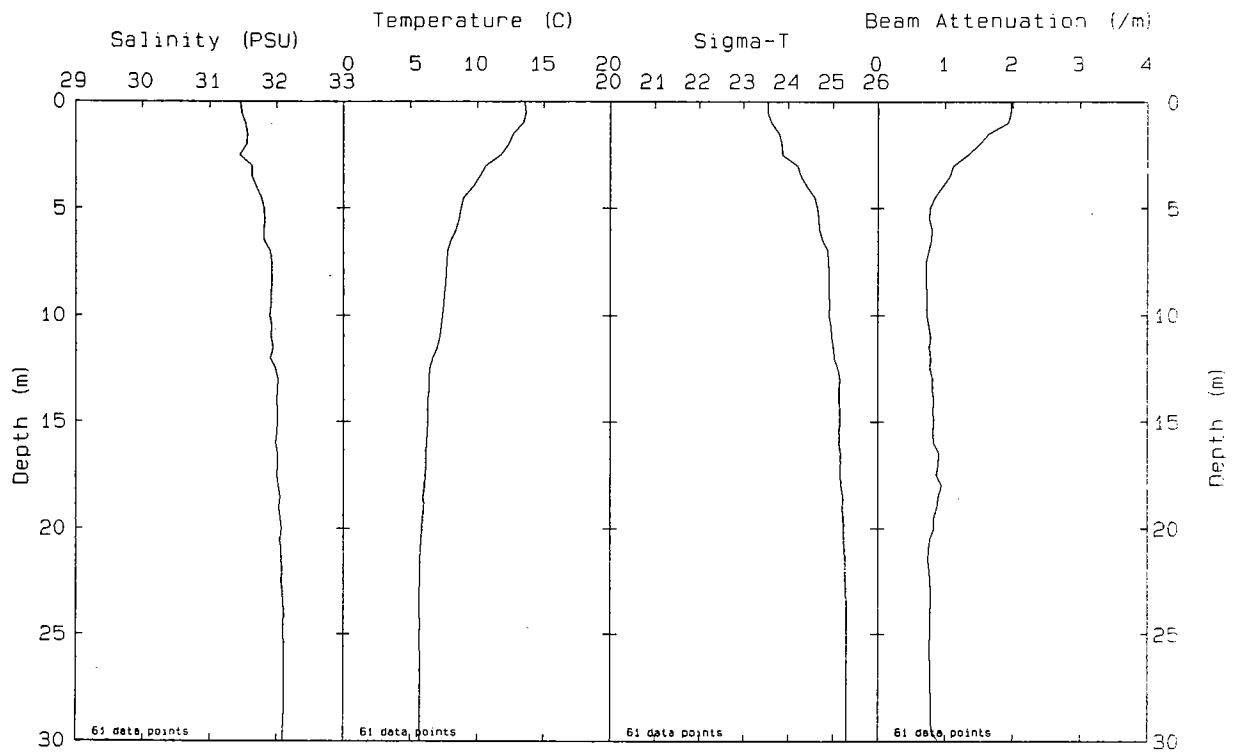


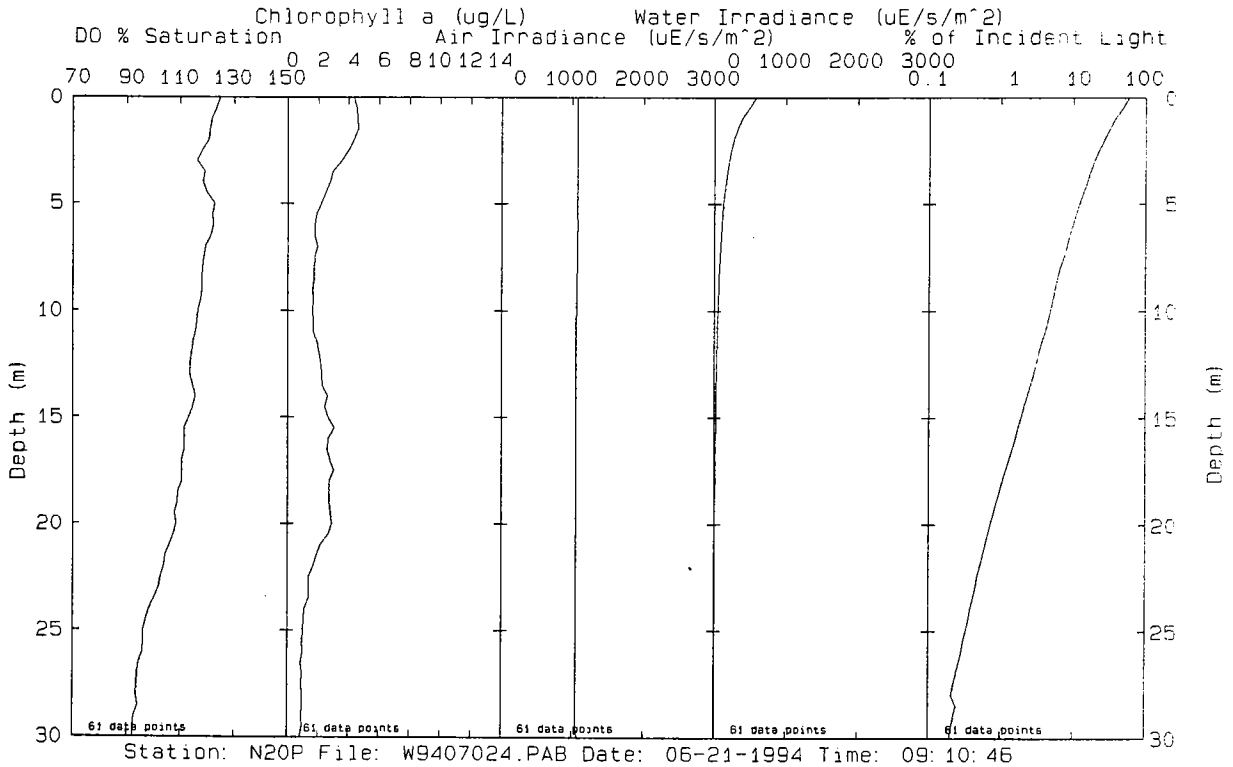
Station: N18 File: W9407207.PAB Date: 06-24-1994 Time: 14:33:58



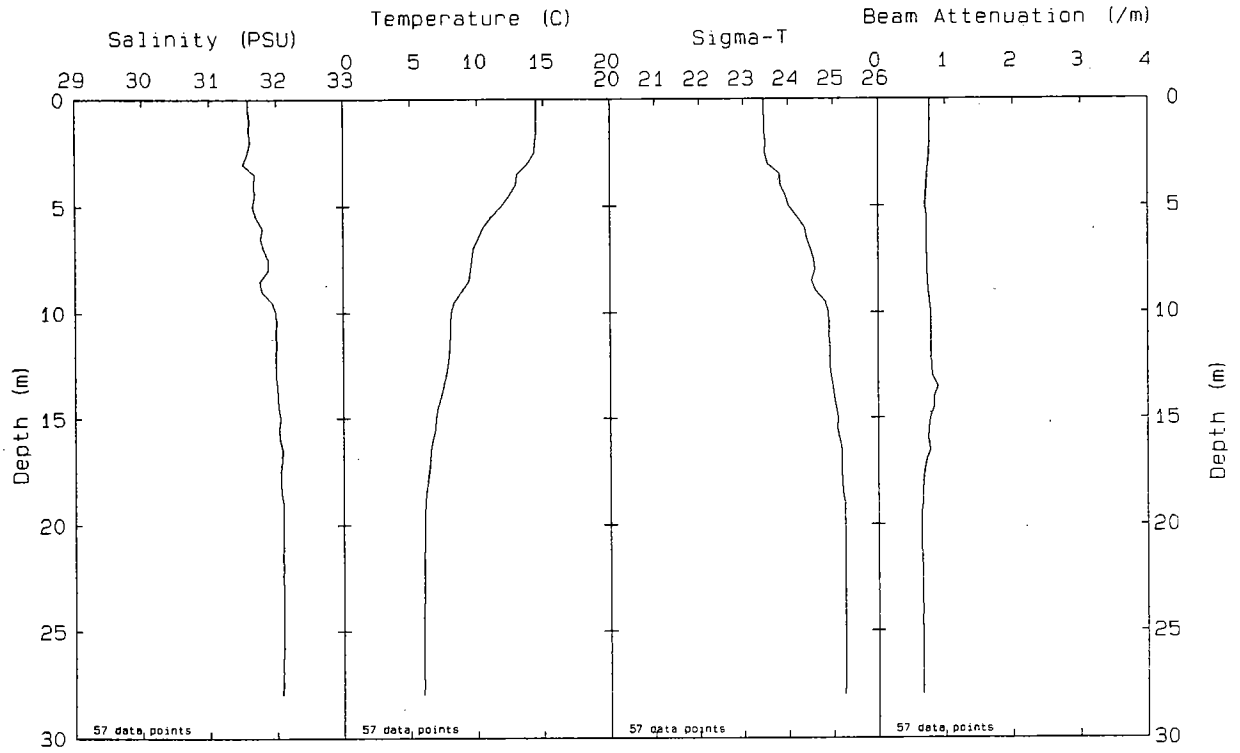


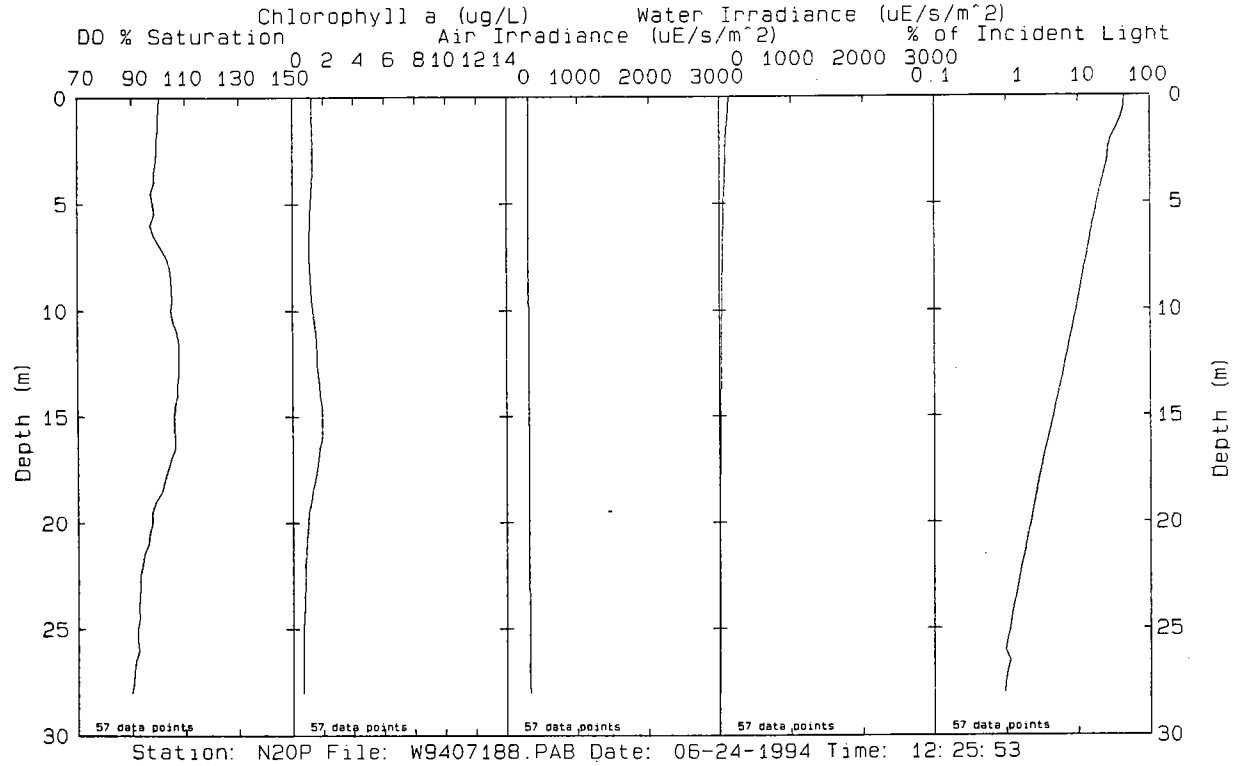
Station: N19 File: W9407185.PAB Date: 06-24-1994 Time: 12:03:24



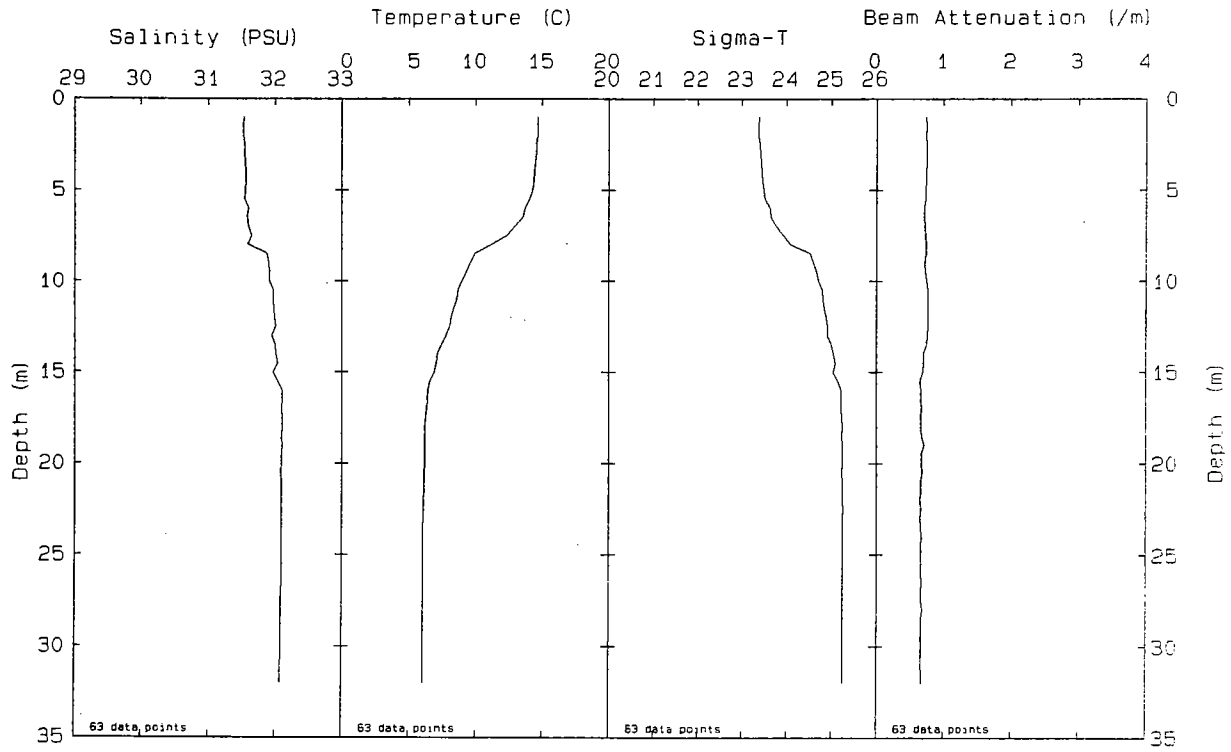


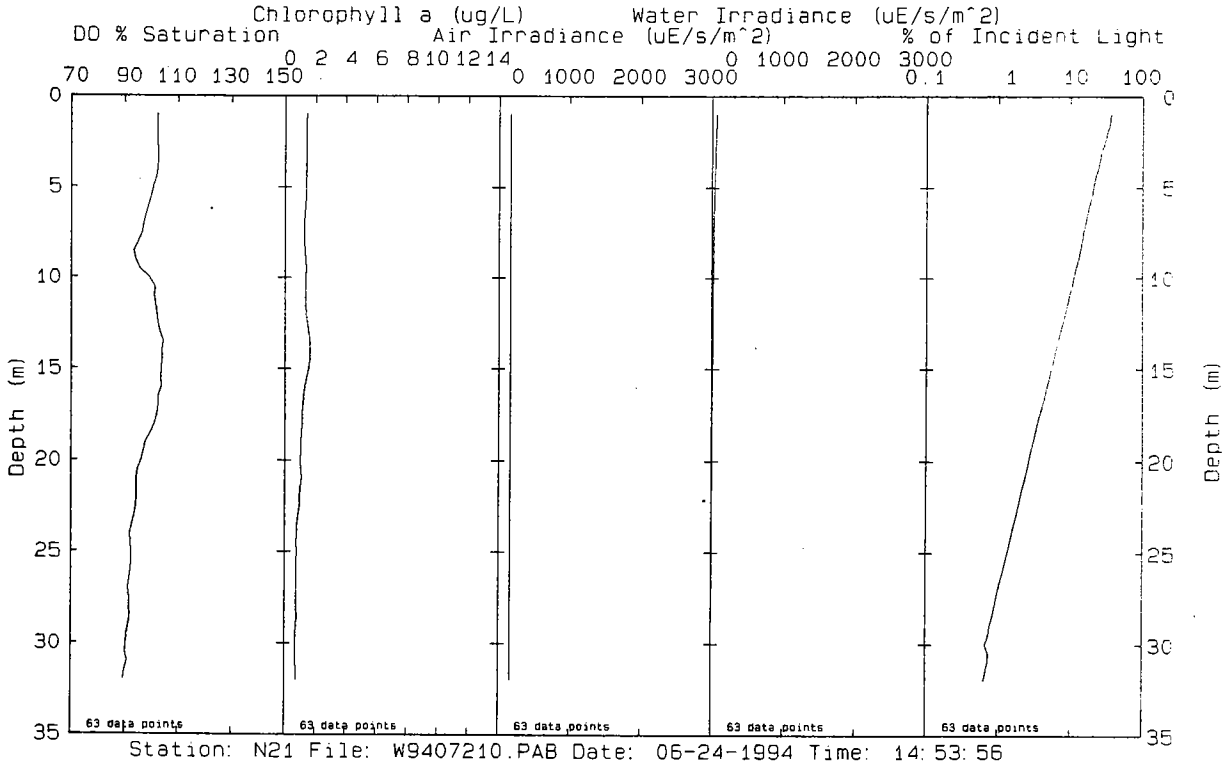
Station: N20P File: W9407024.PAB Date: 06-21-1994 Time: 09:10:46





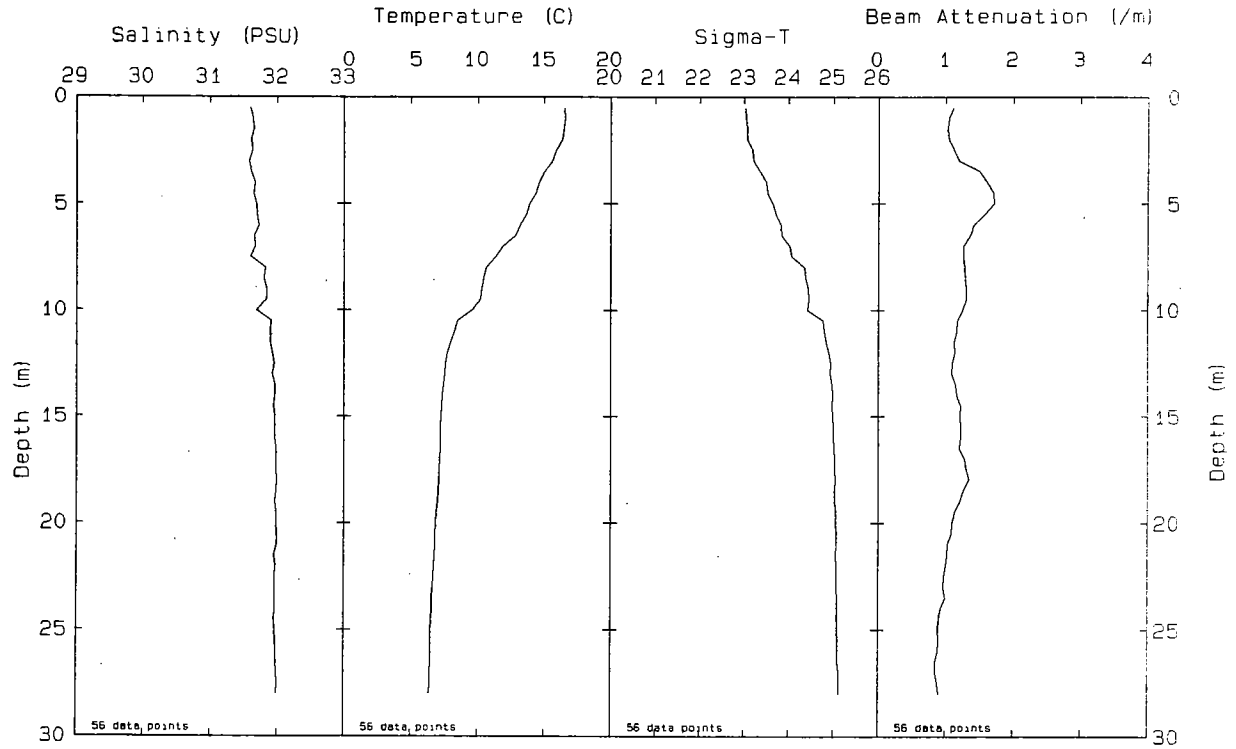
Station: N20P File: W9407188.PAB Date: 06-24-1994 Time: 12:25:53

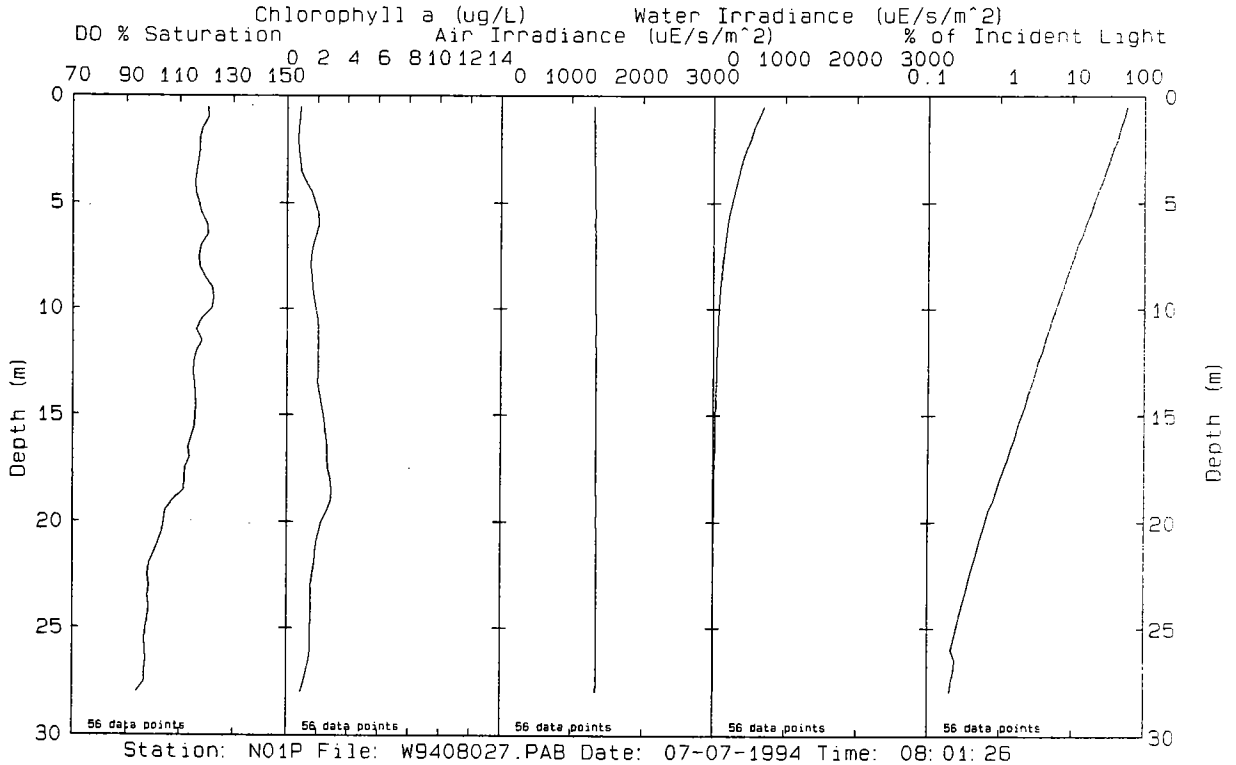


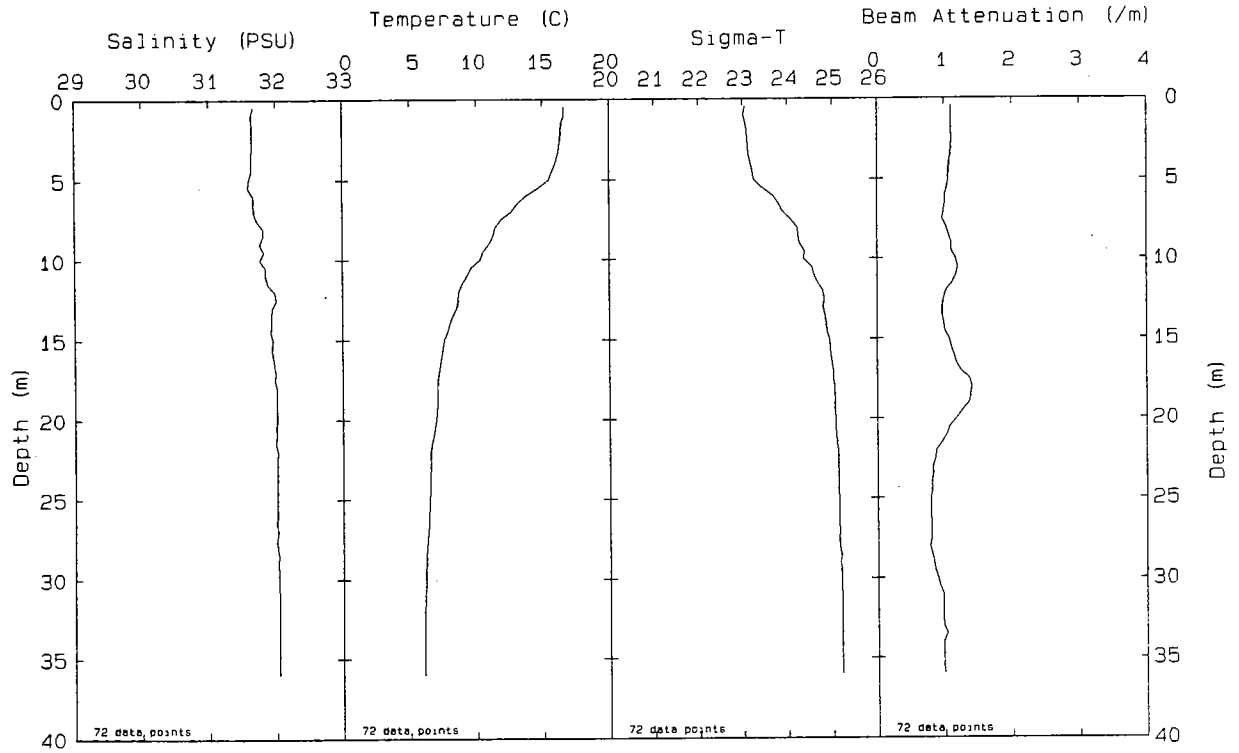


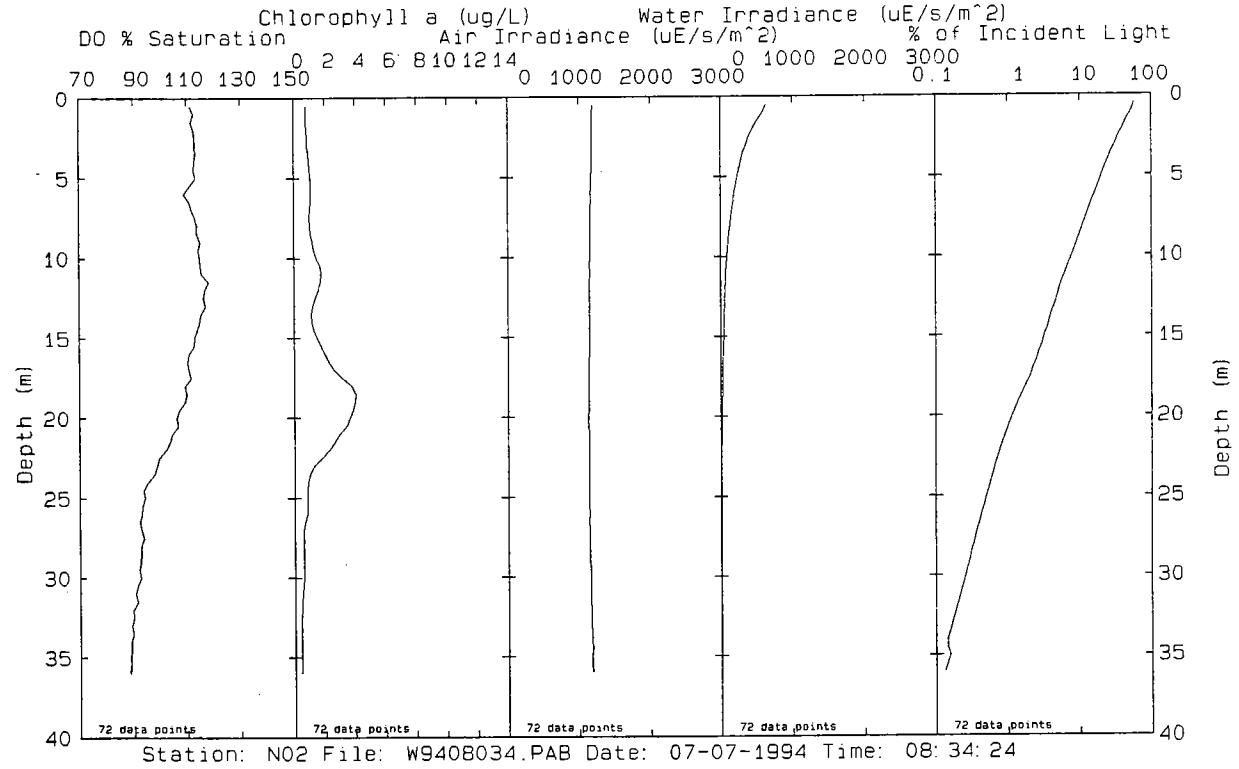
Station: N21 File: W9407210.PAB Date: 06-24-1994 Time: 14:53:56

Early July 1994 Profiles

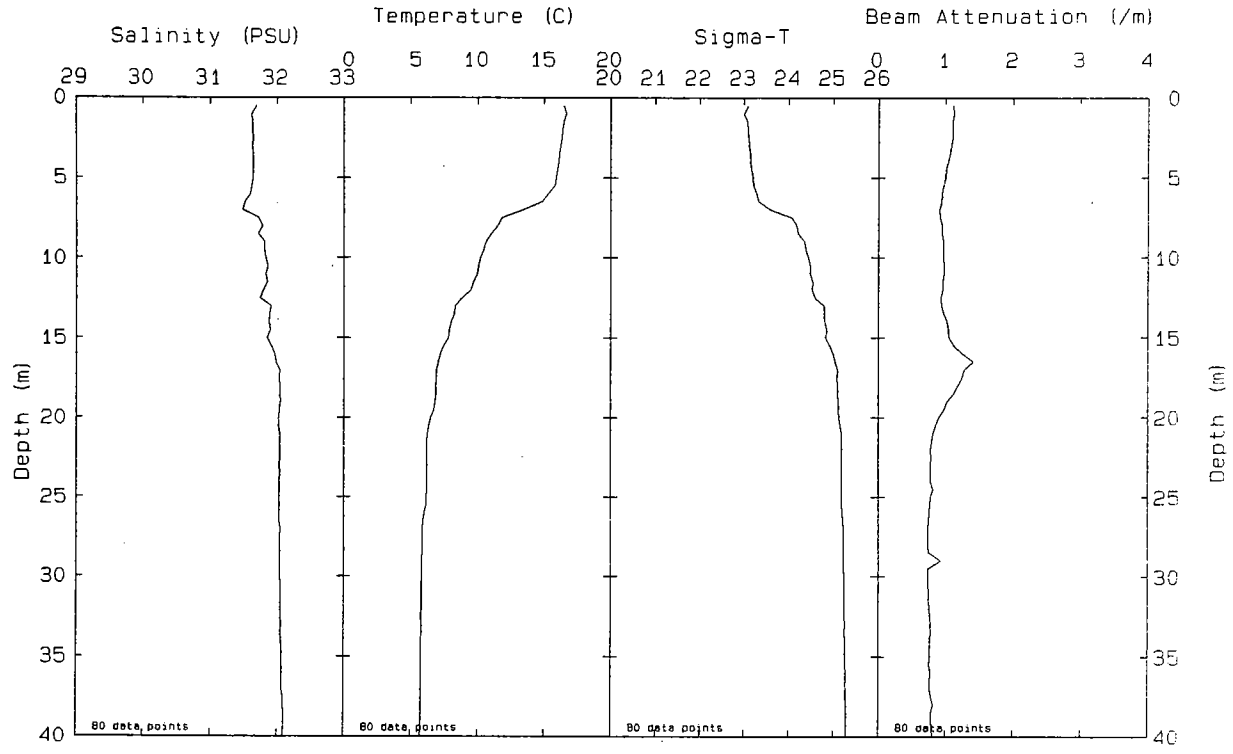

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25 30
56 data points
56 data points
56 data points
56 data points

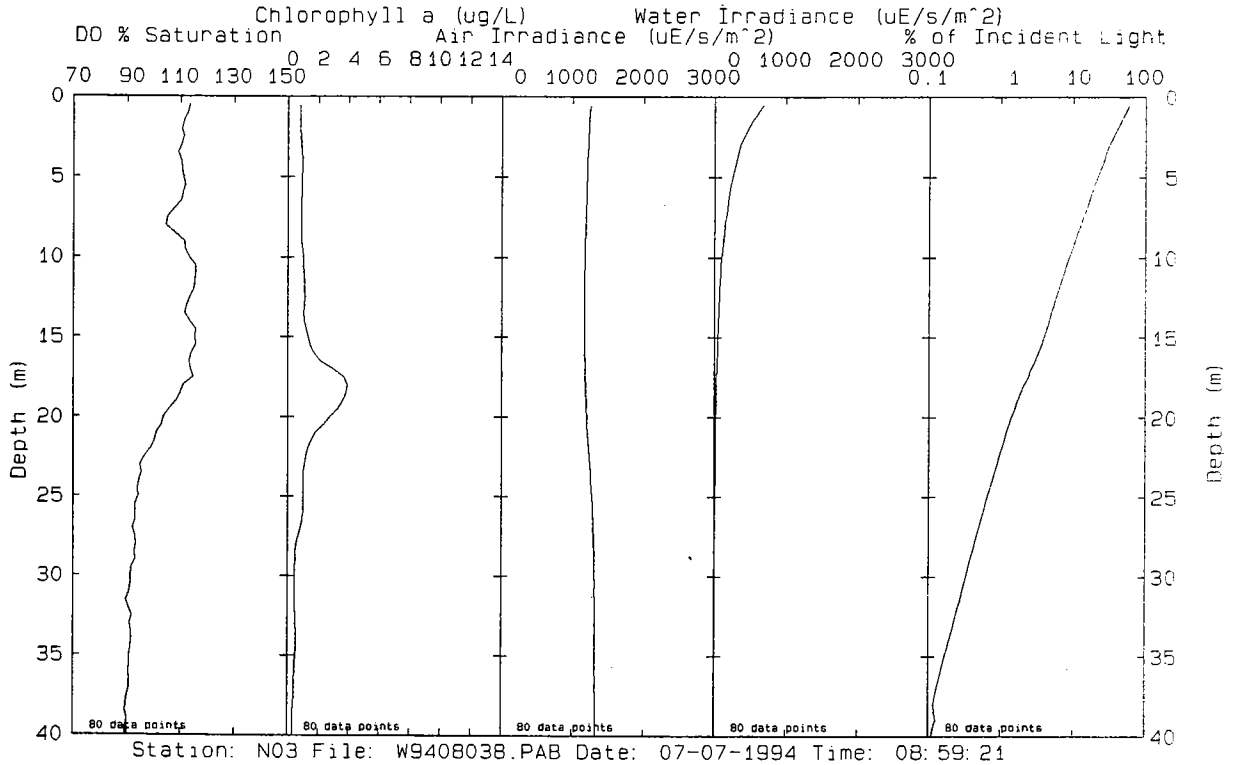

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30
56 data points
56 data points
56 data points
56 data points
56 data points
Station: N01P File: W9408027.PAB Date: 07-07-1994 Time: 08:01:26



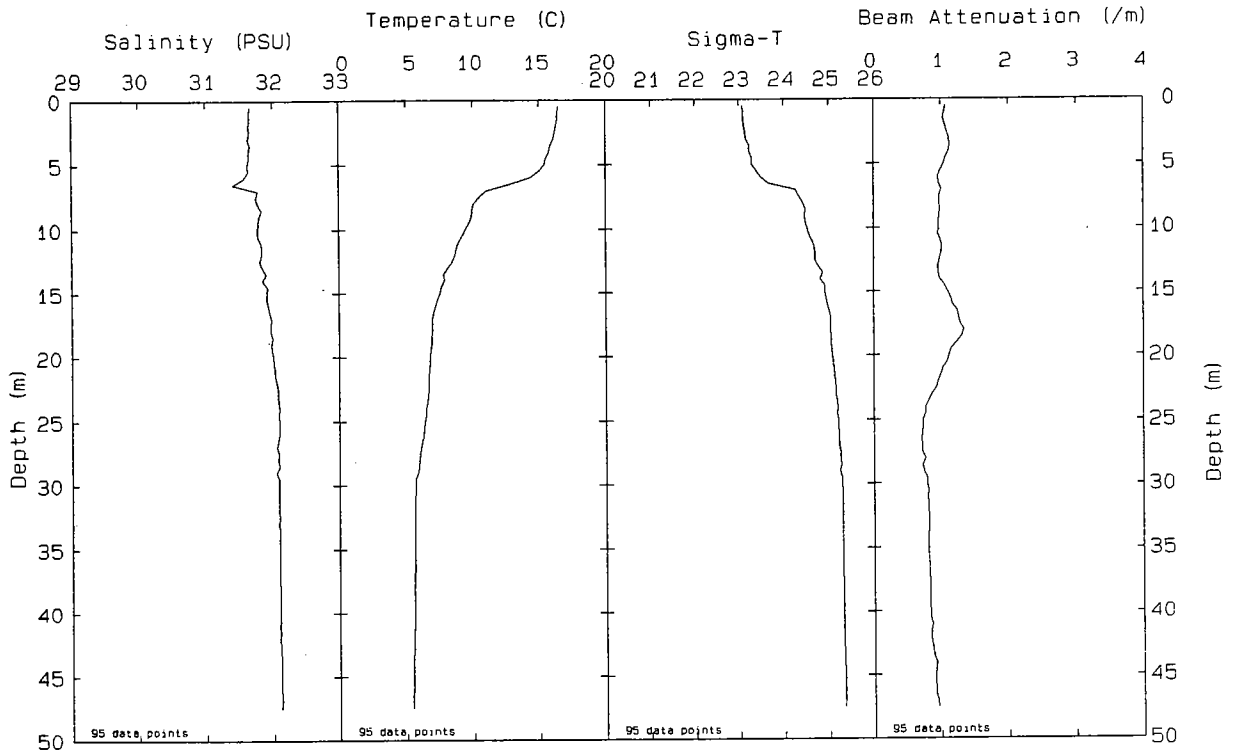


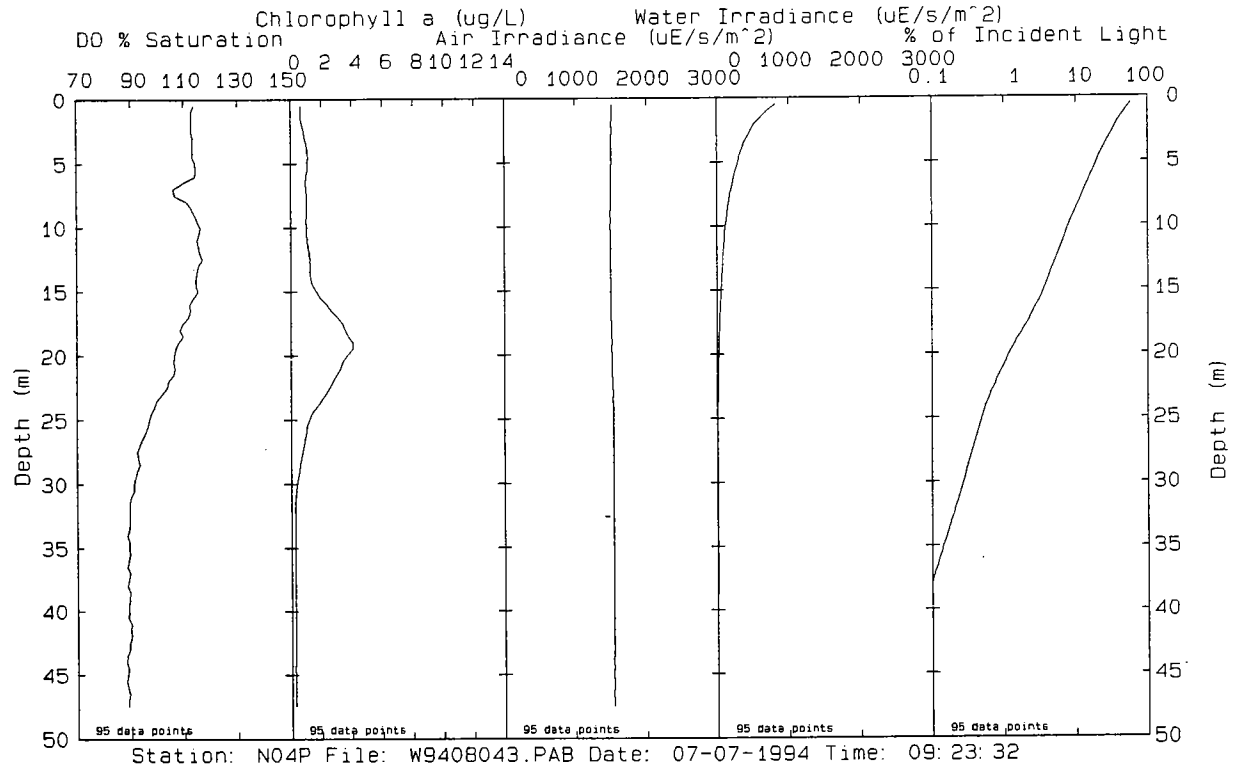
Station: N02 File: W9408034.PAB Date: 07-07-1994 Time: 08:34:24

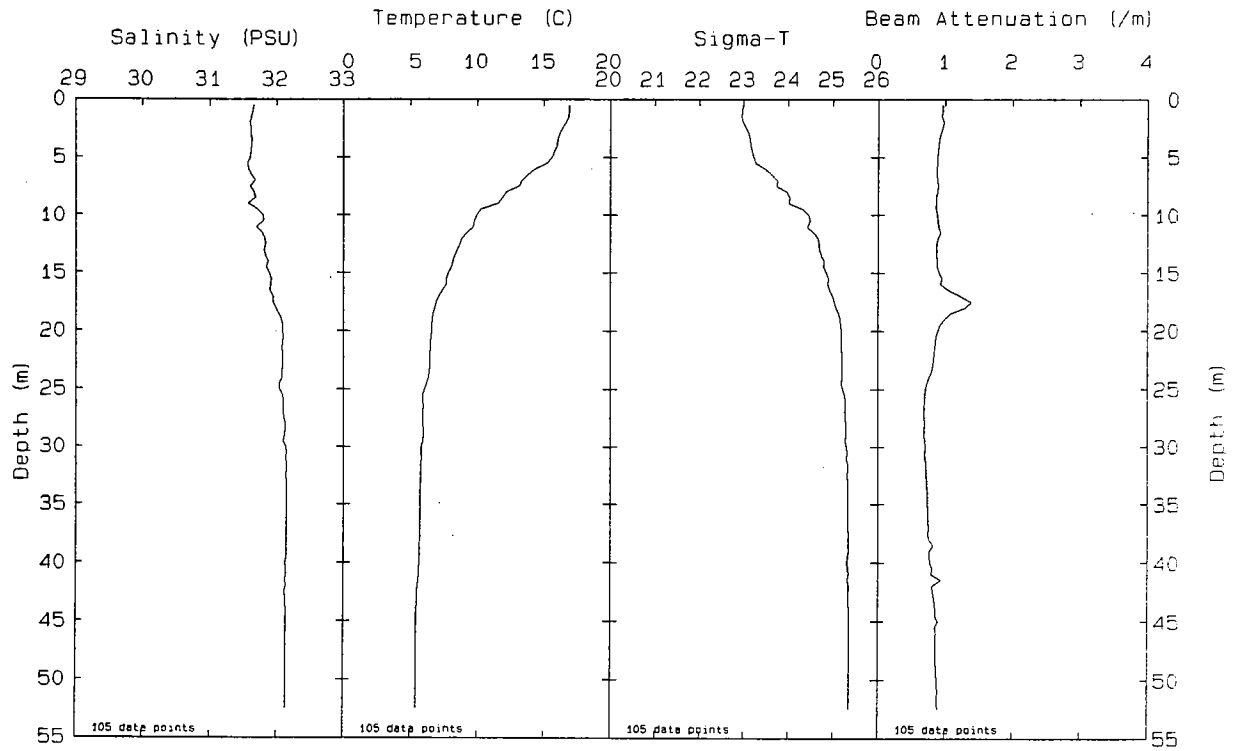


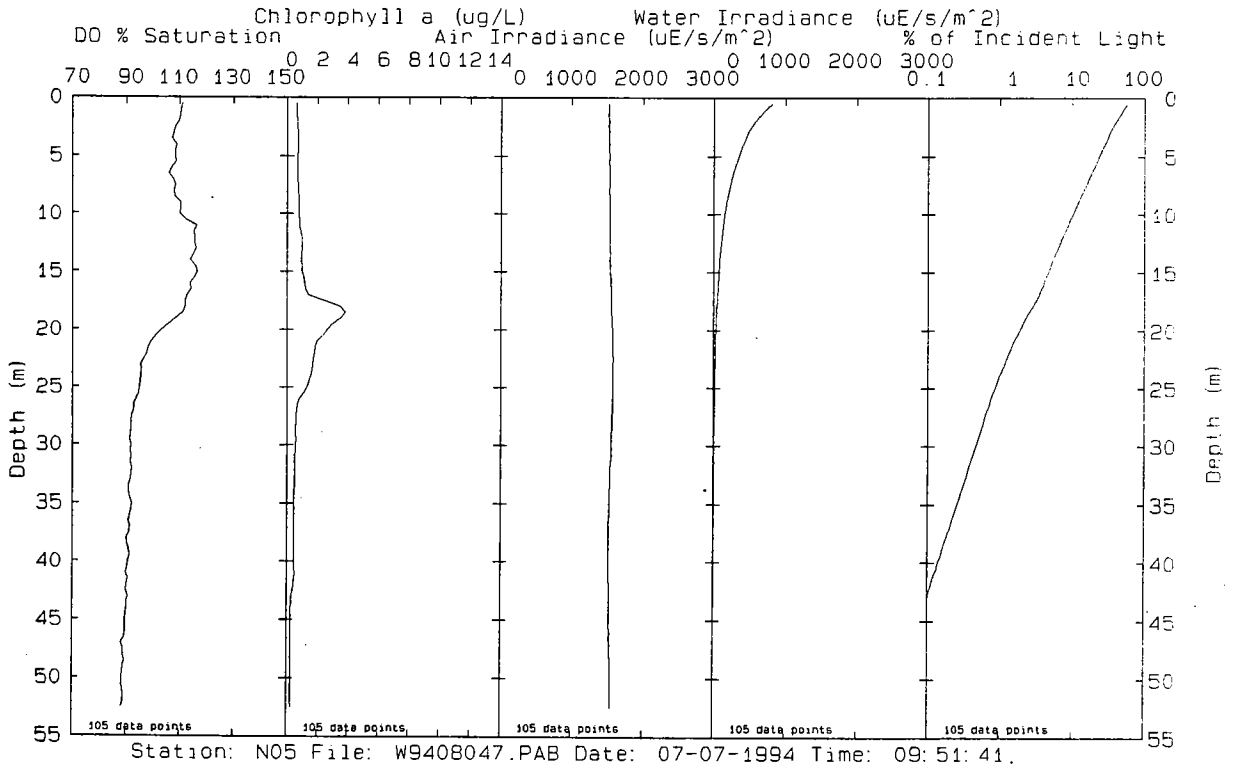


Station: N03 File: W9408038.PAB Date: 07-07-1994 Time: 08:59:21

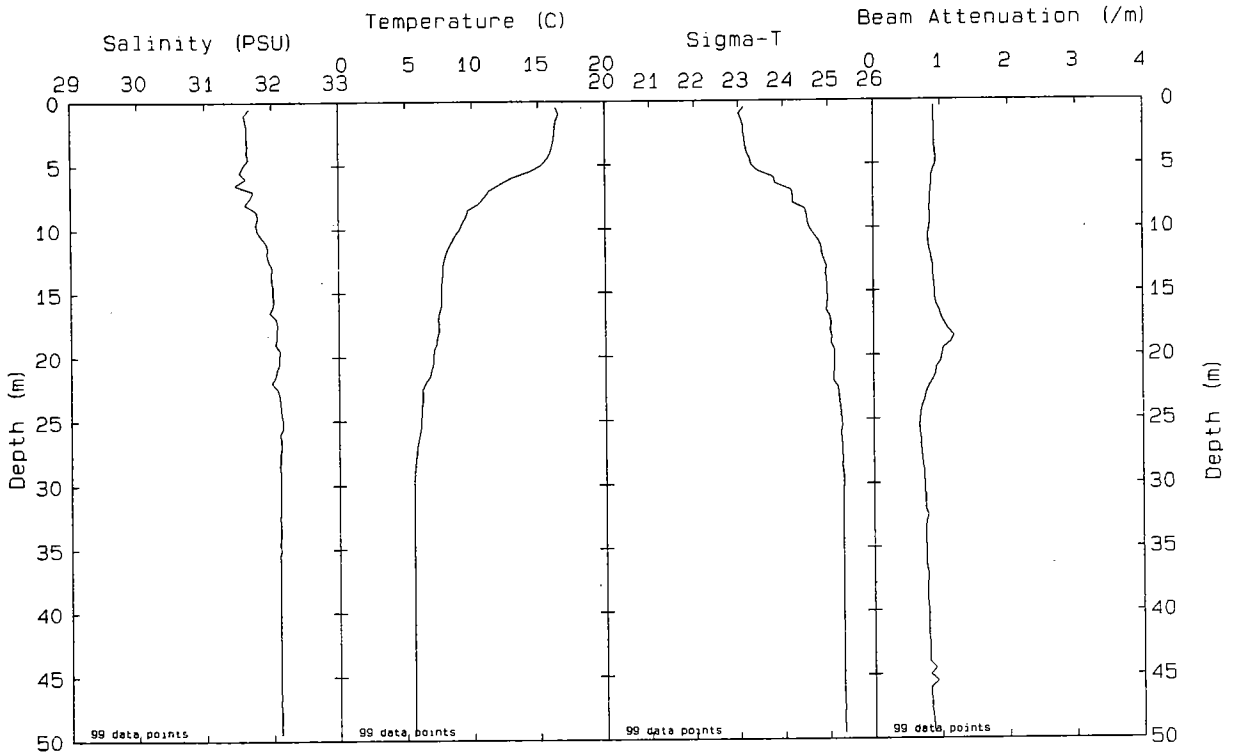

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25 30 35 40 45 50
95 data points
95 data points
95 data points
95 data points

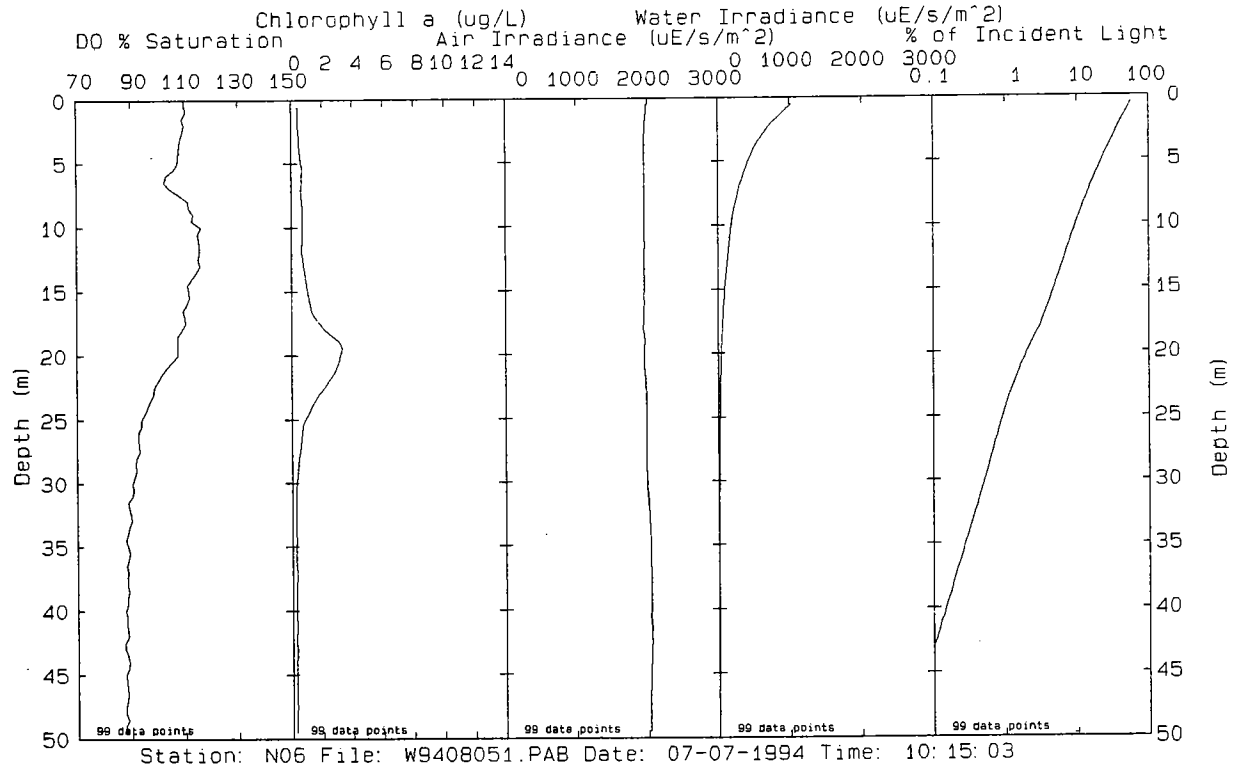

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35 40 45 50
95 data points
95 data points
95 data points
95 data points
95 data points
Station: N04P File: W9408043.PAB Date: 07-07-1994 Time: 09:23:32



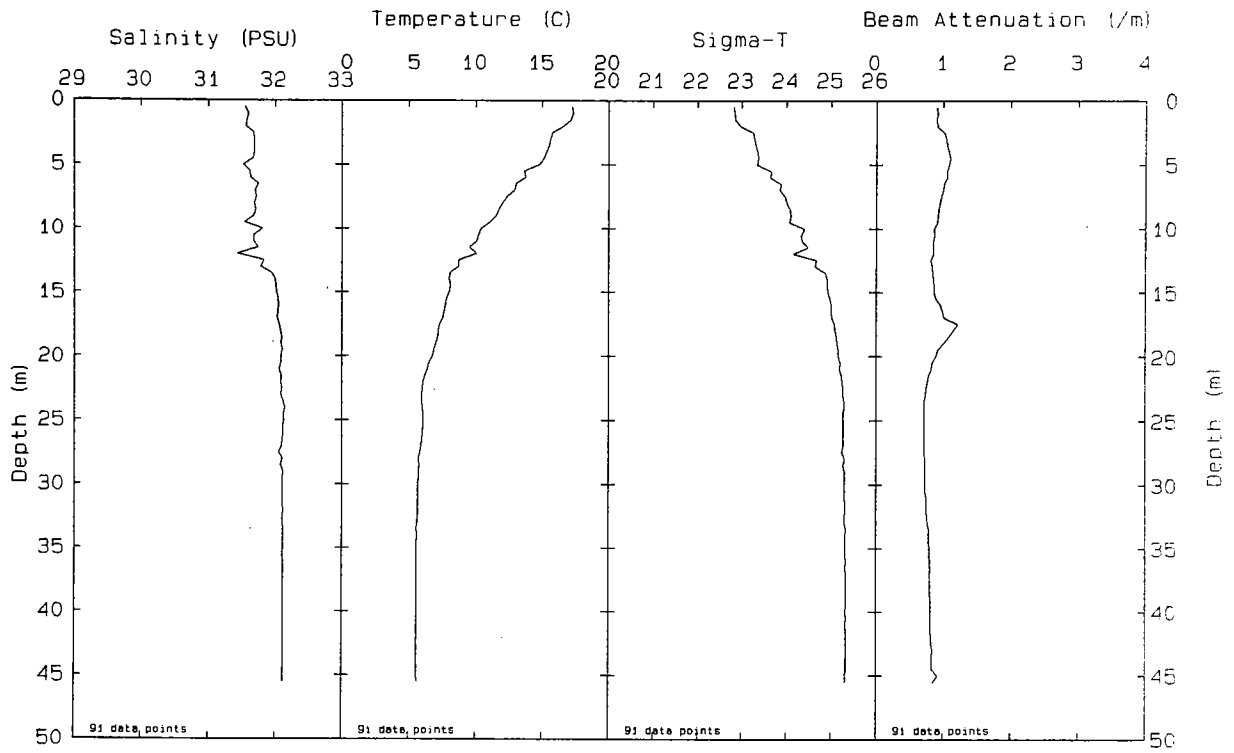


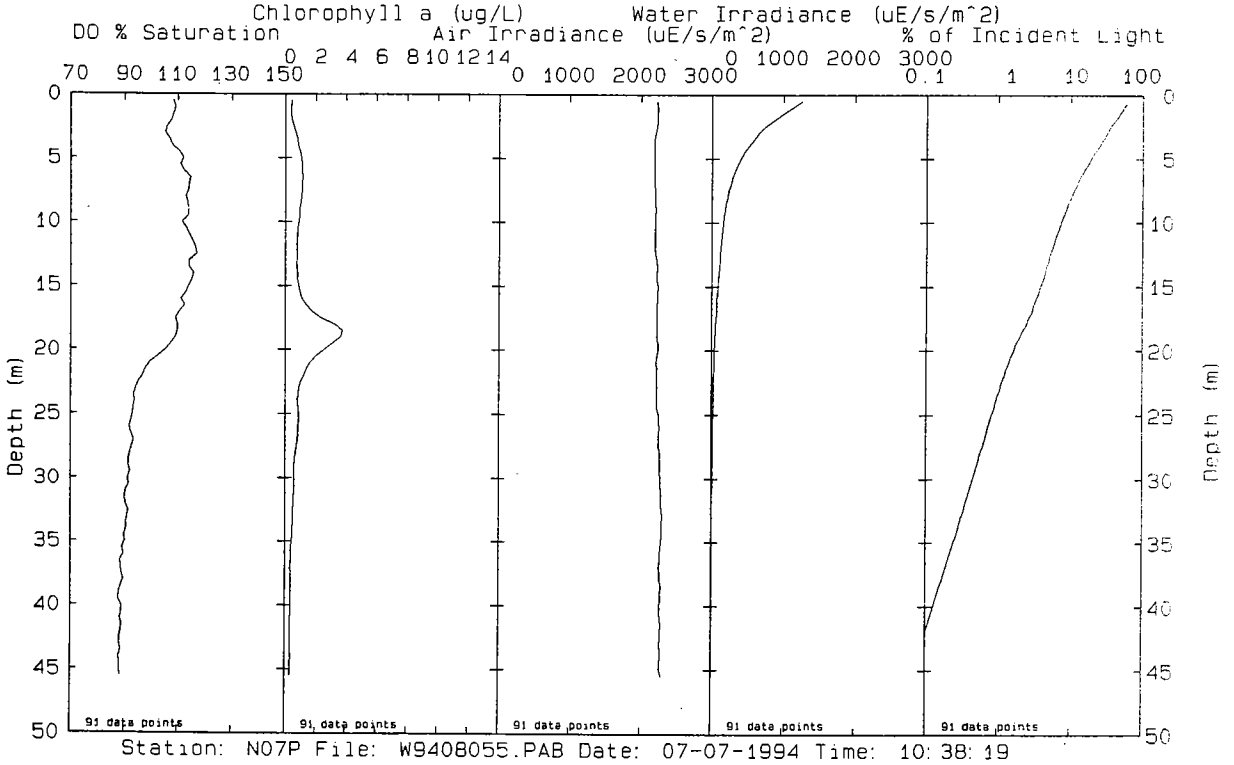
Station: N05 File: W9408047.PAB Date: 07-07-1994 Time: 09:51:41.


Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25 30 35 40 45 50
99 data points
99 data points
99 data points
99 data points

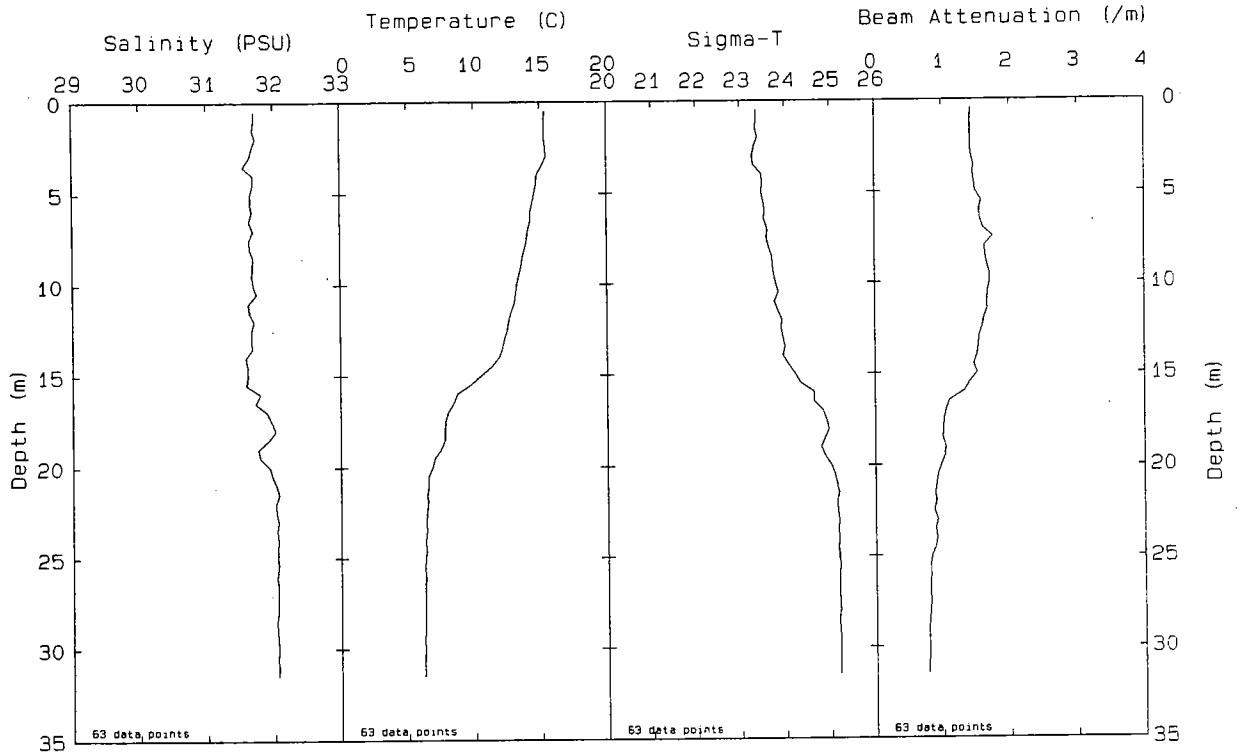

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35 40 45 50
99 data points
99 data points
99 data points
99 data points
99 data points
Station: N06 File: W9408051.PAB Date: 07-07-1994 Time: 10:15:03

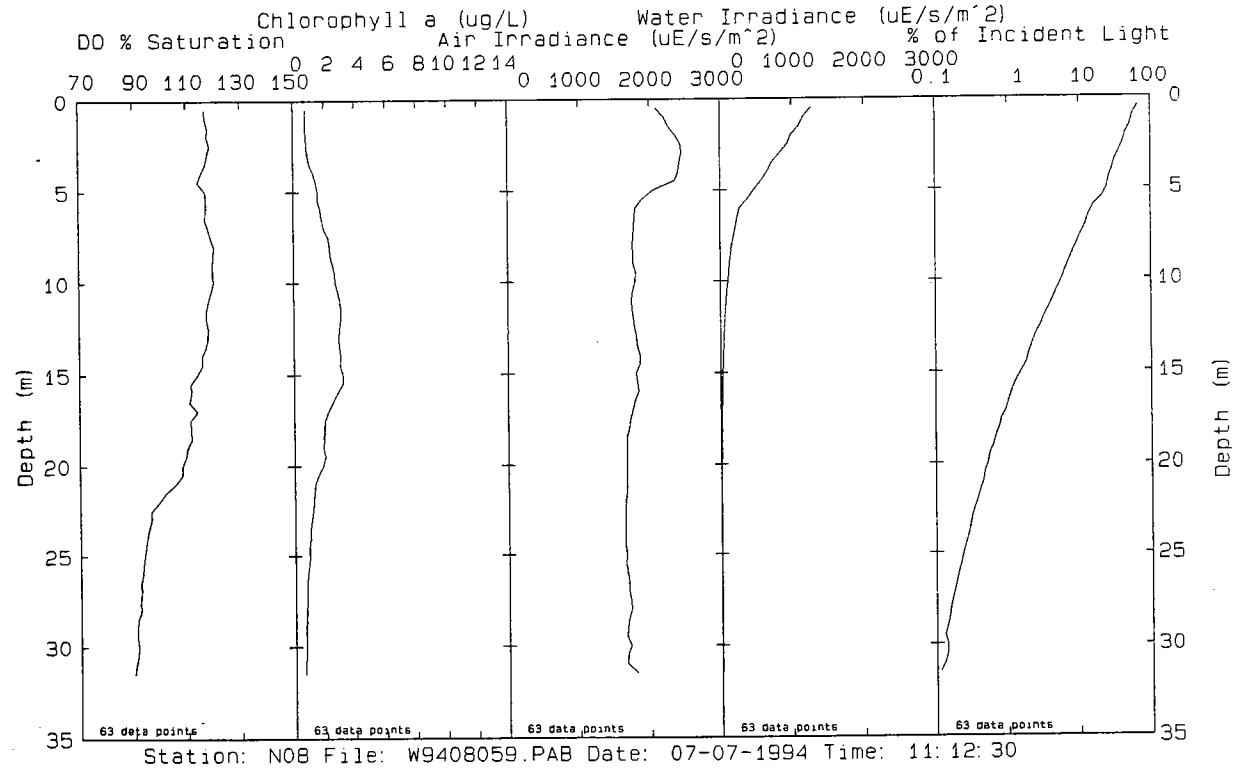
000083





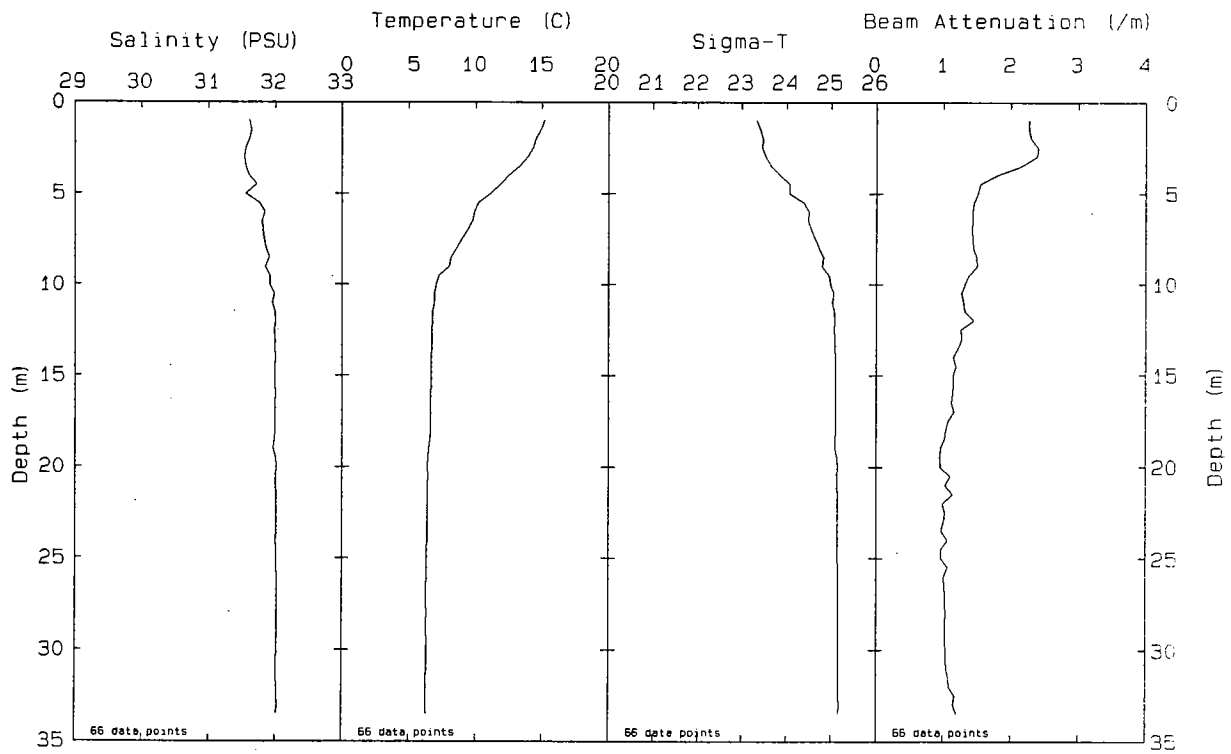
Station: N07P File: W9408055.PAB Date: 07-07-1994 Time: 10:38:19

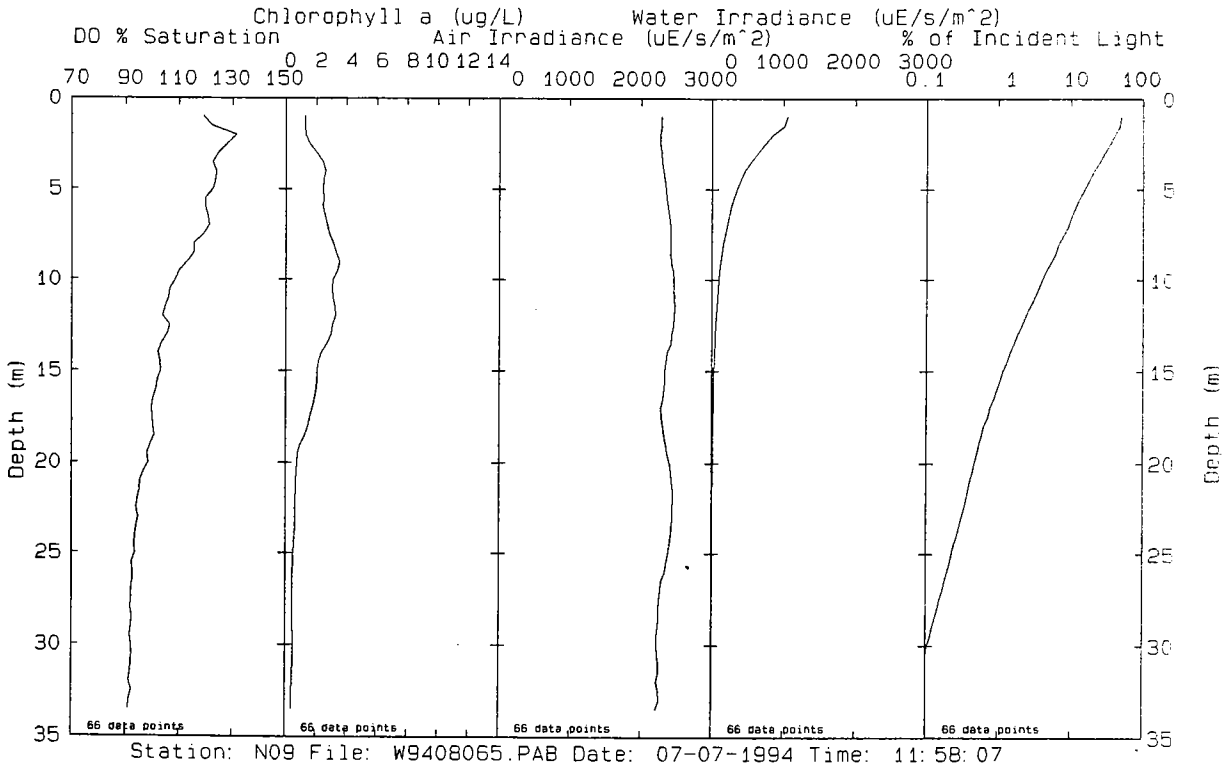




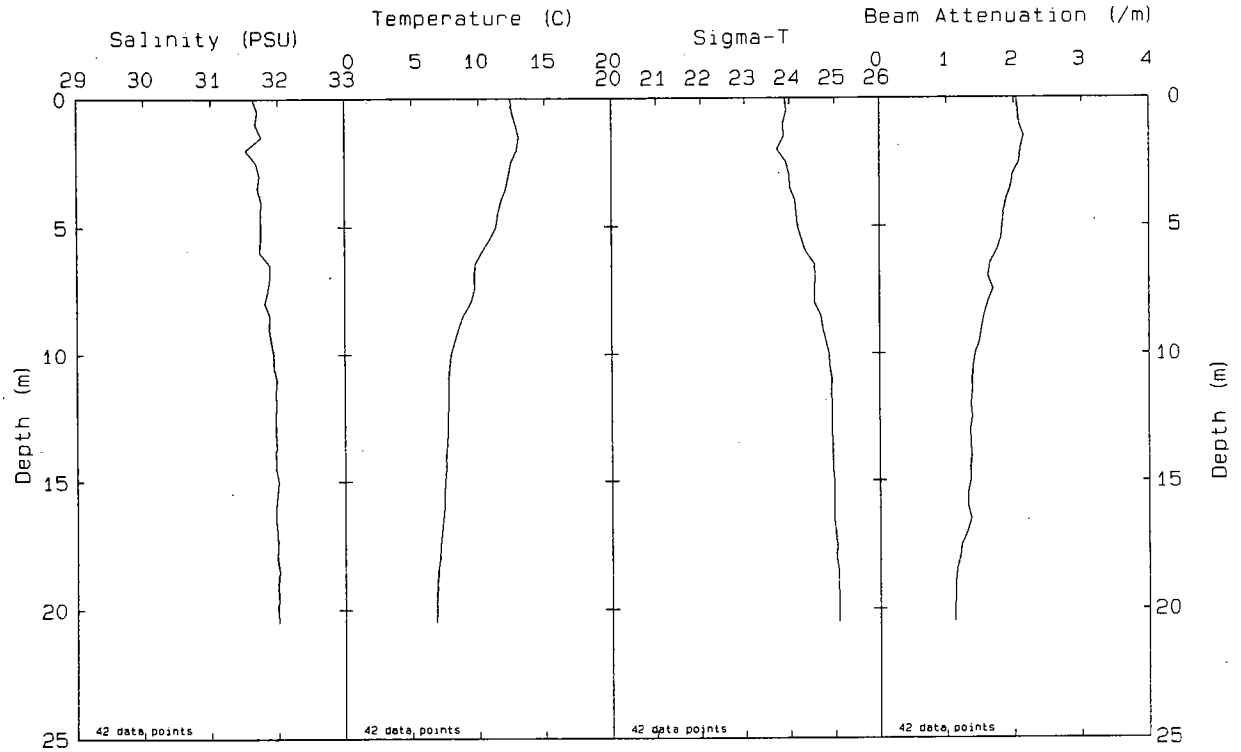
Station: N08 File: W9408059.PAB Date: 07-07-1994 Time: 11:12:30

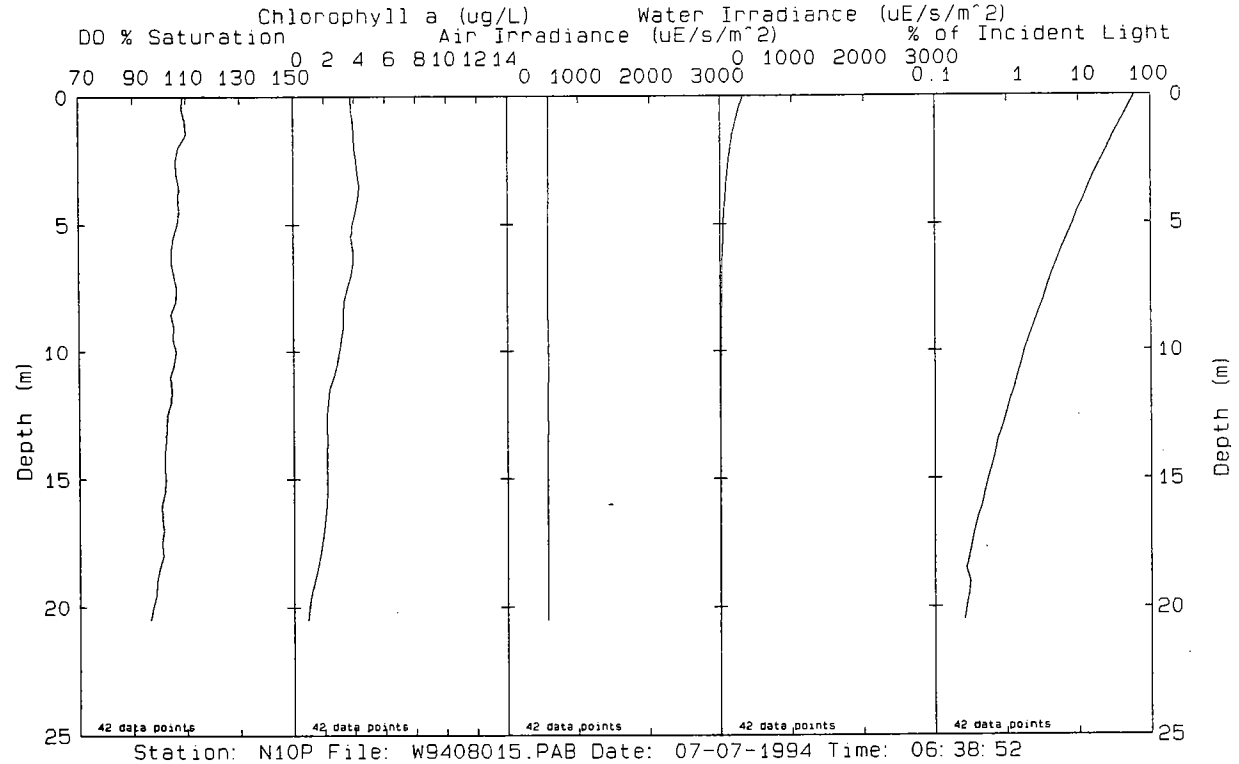
000085



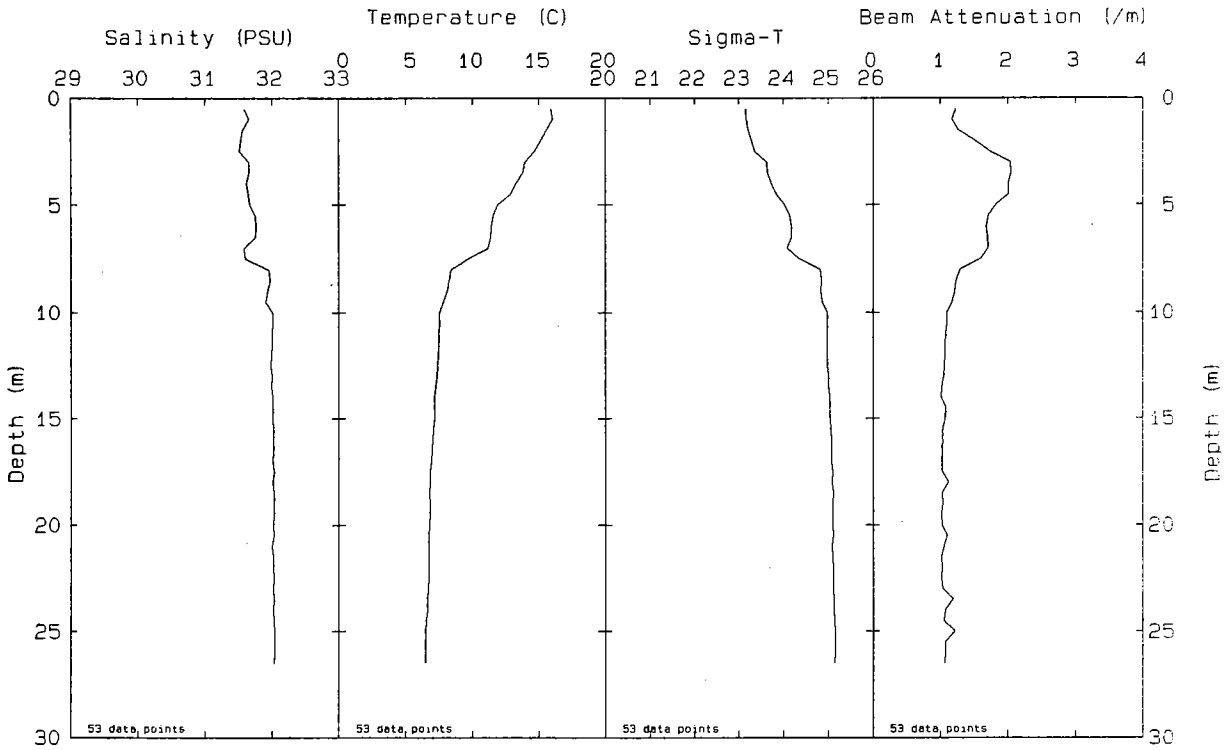


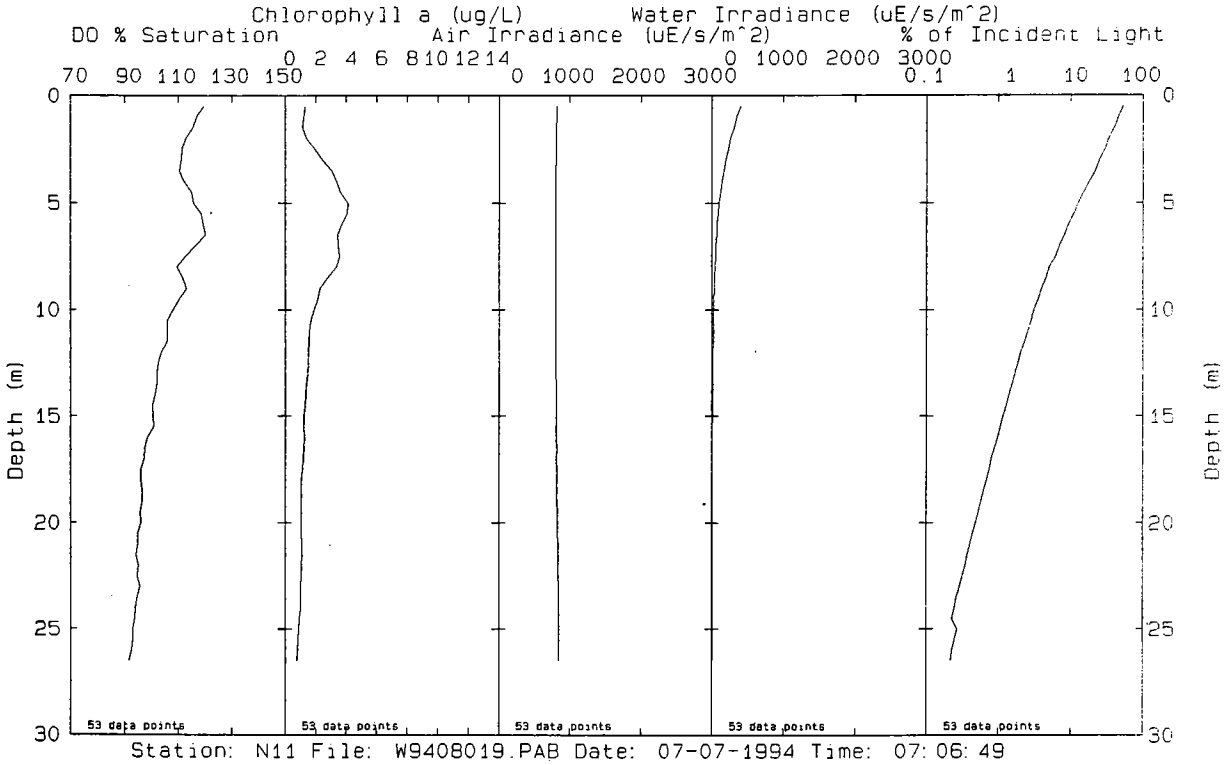
Station: N09 File: W9408065.PAB Date: 07-07-1994 Time: 11:58:07



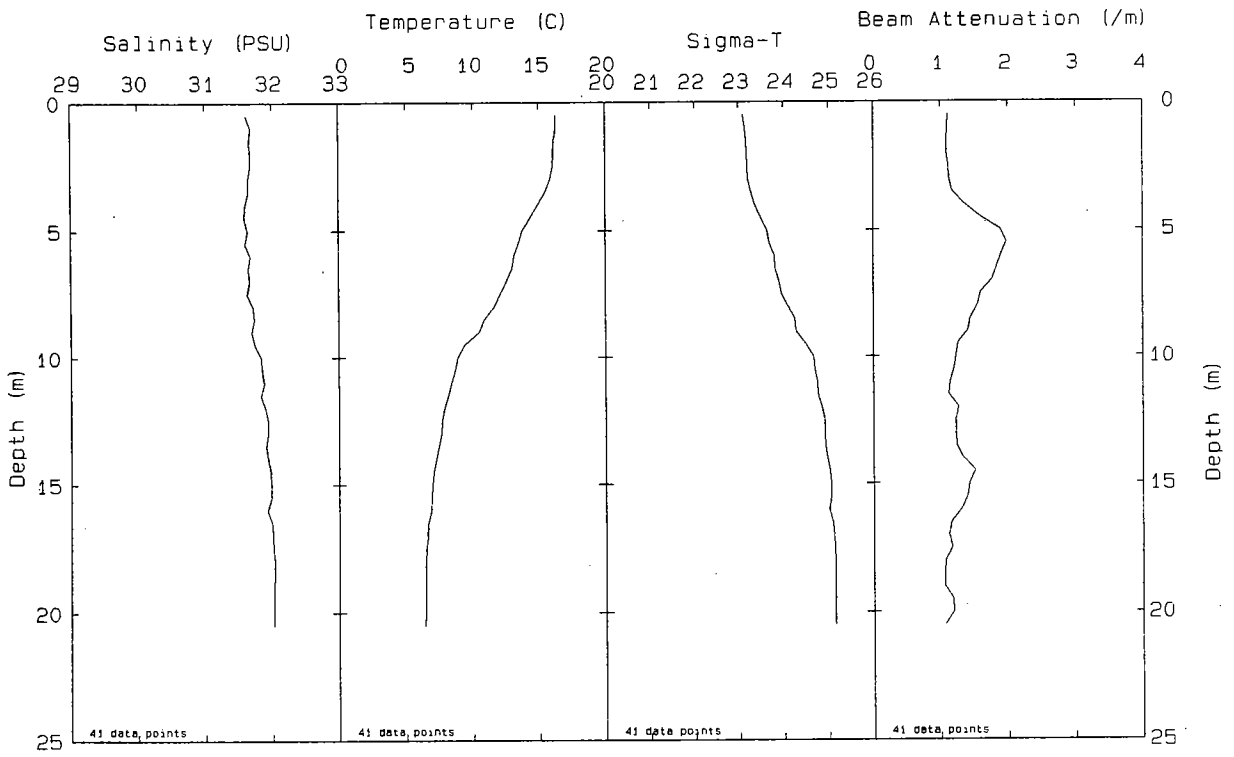


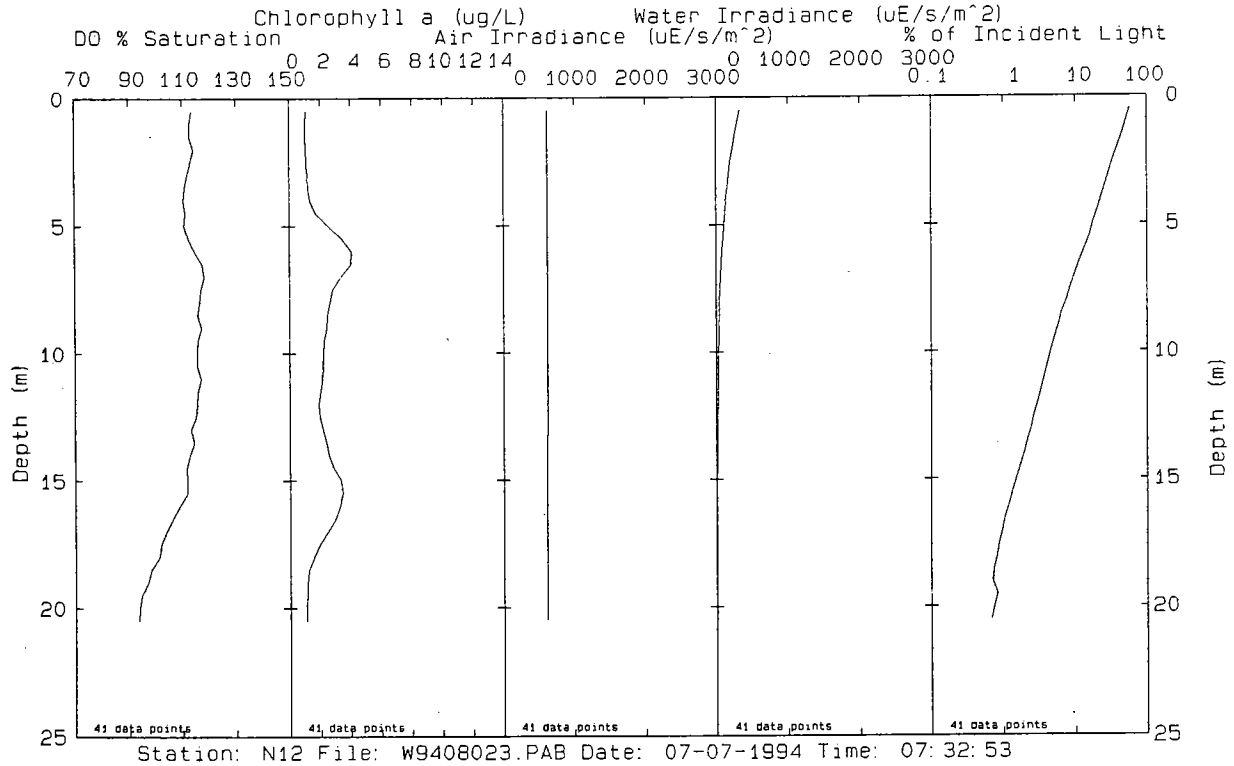
Station: N10P File: W9408015.PAB Date: 07-07-1994 Time: 06:38:52



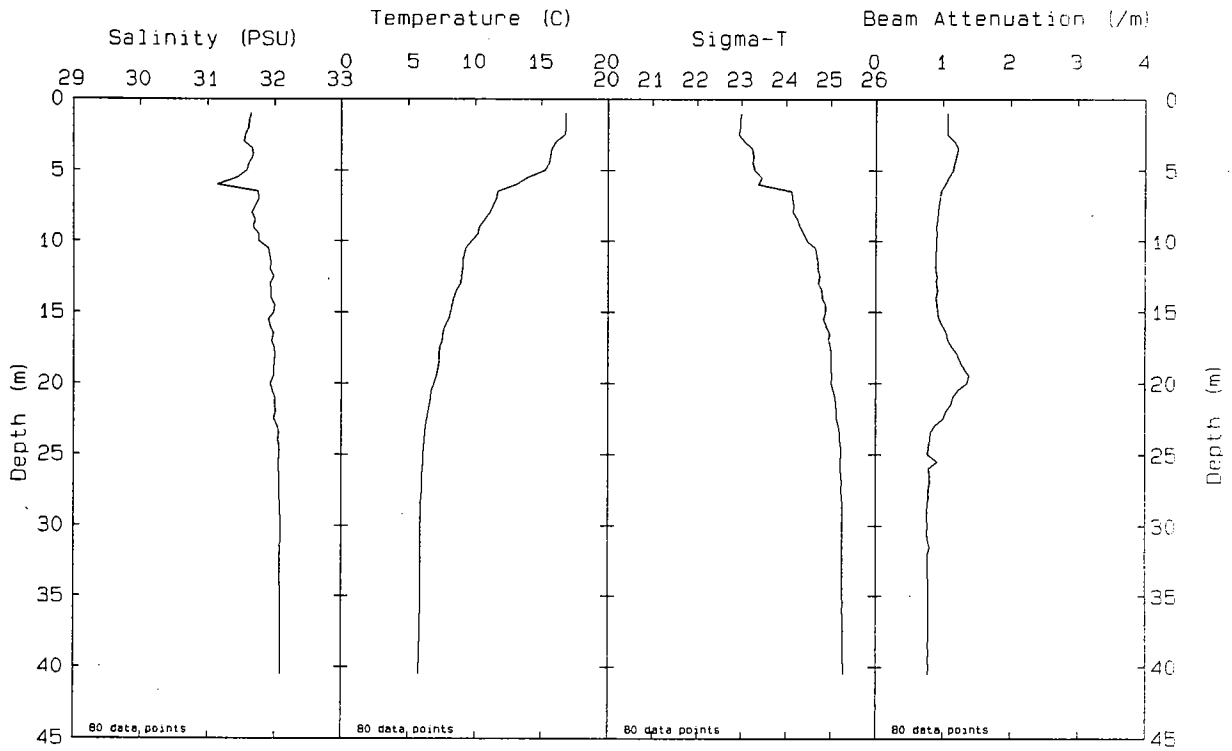


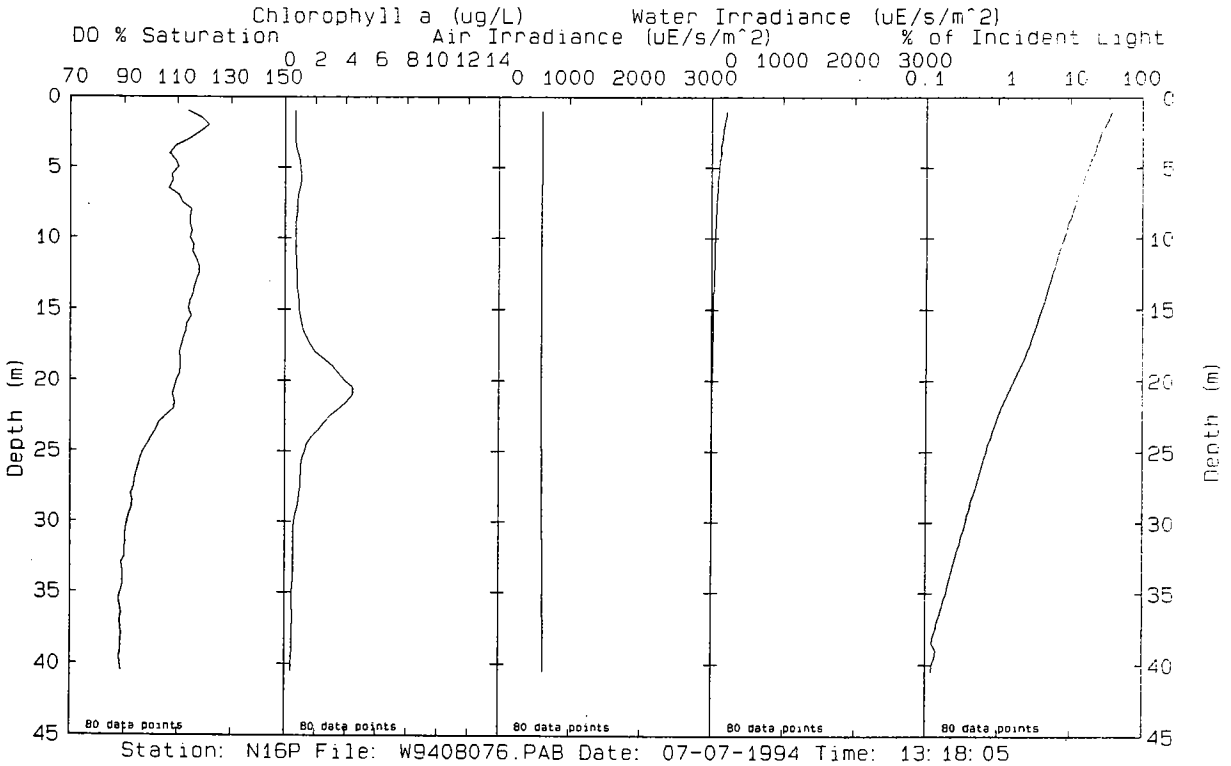
Station: N11 File: W9408019.PAB Date: 07-07-1994 Time: 07:06:49



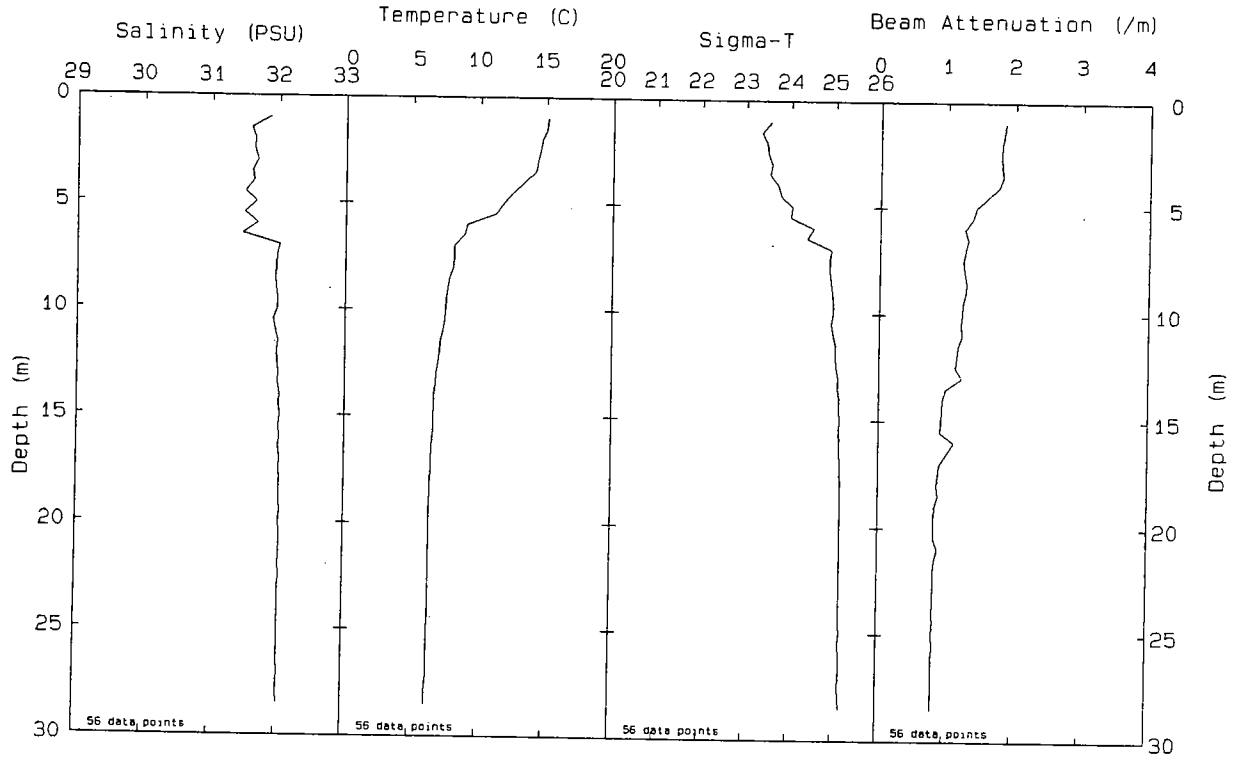


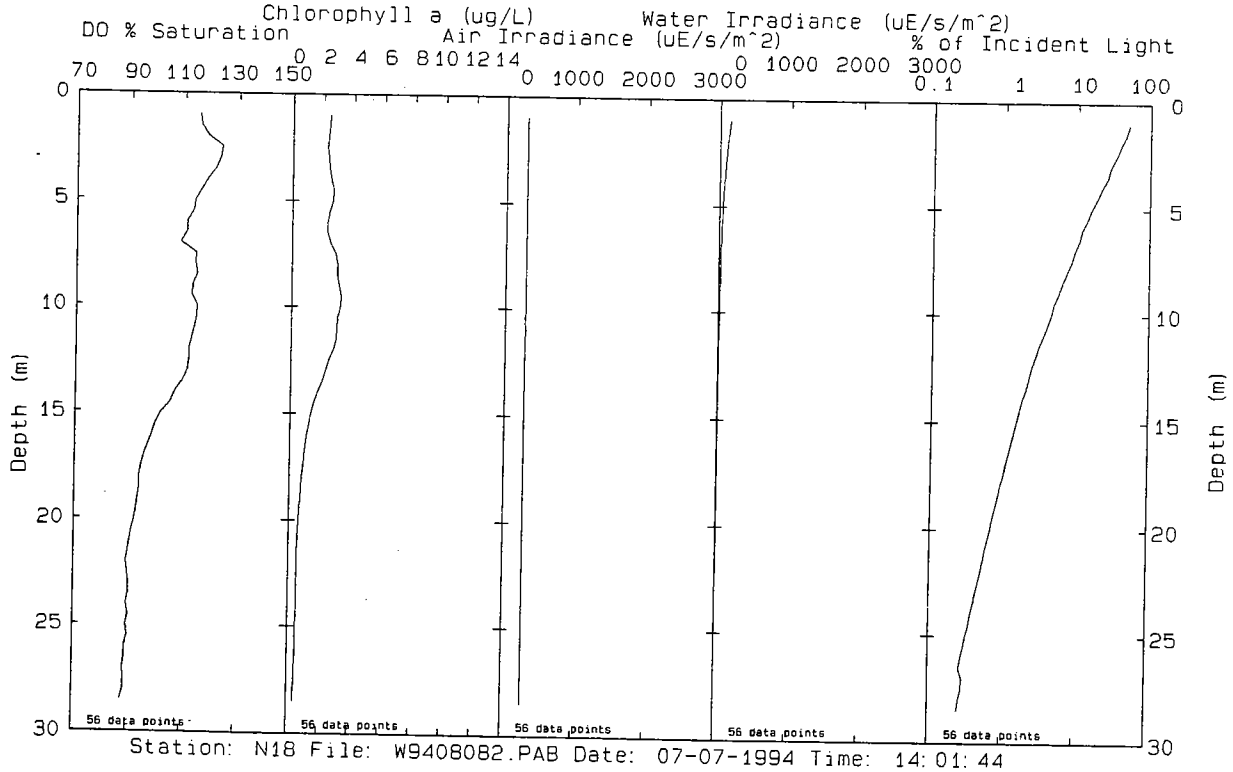
Station: N12 File: W9408023.PAB Date: 07-07-1994 Time: 07:32:53



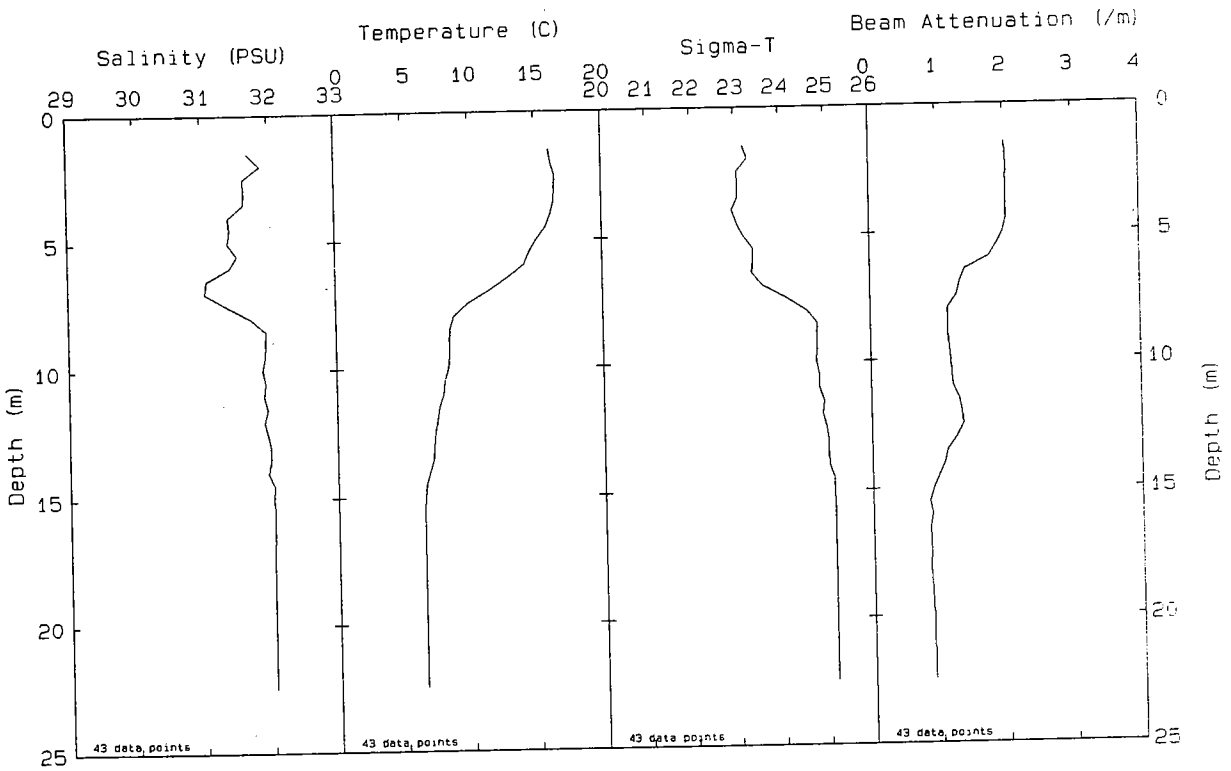


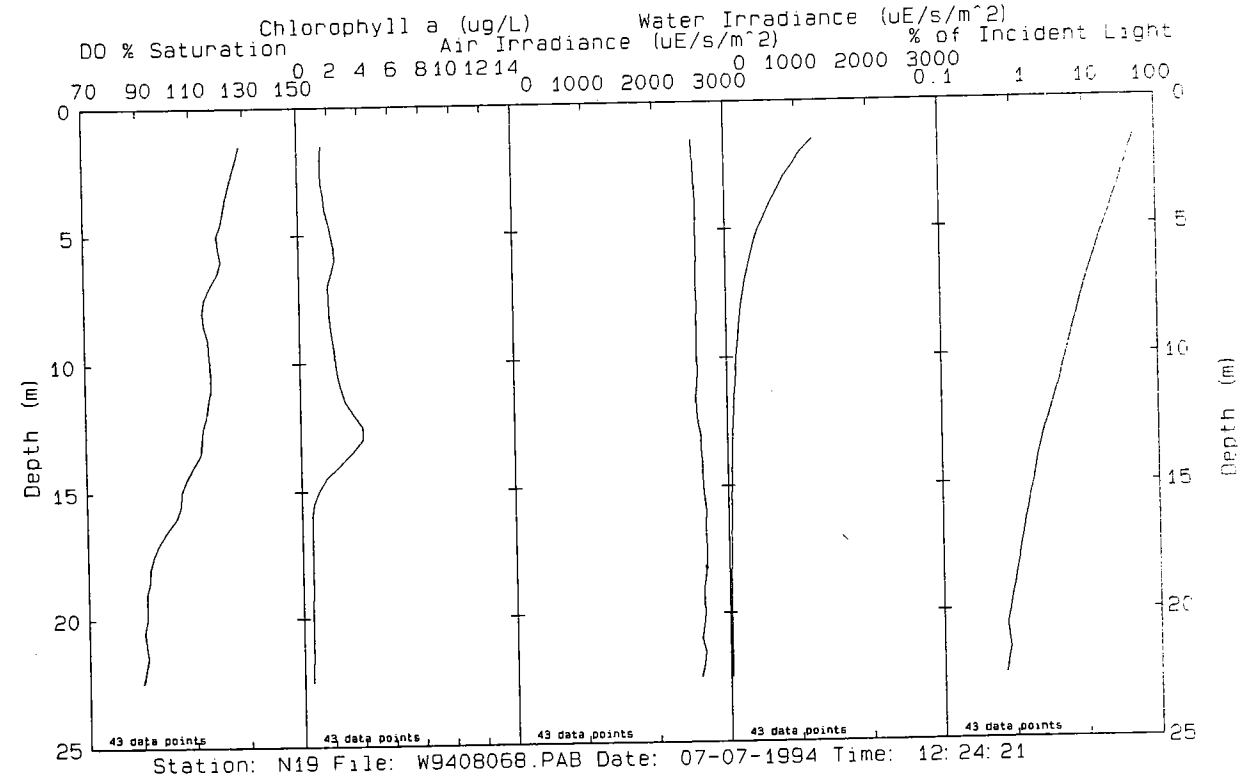
Station: N16P File: W9408076.PAB Date: 07-07-1994 Time: 13:18:05





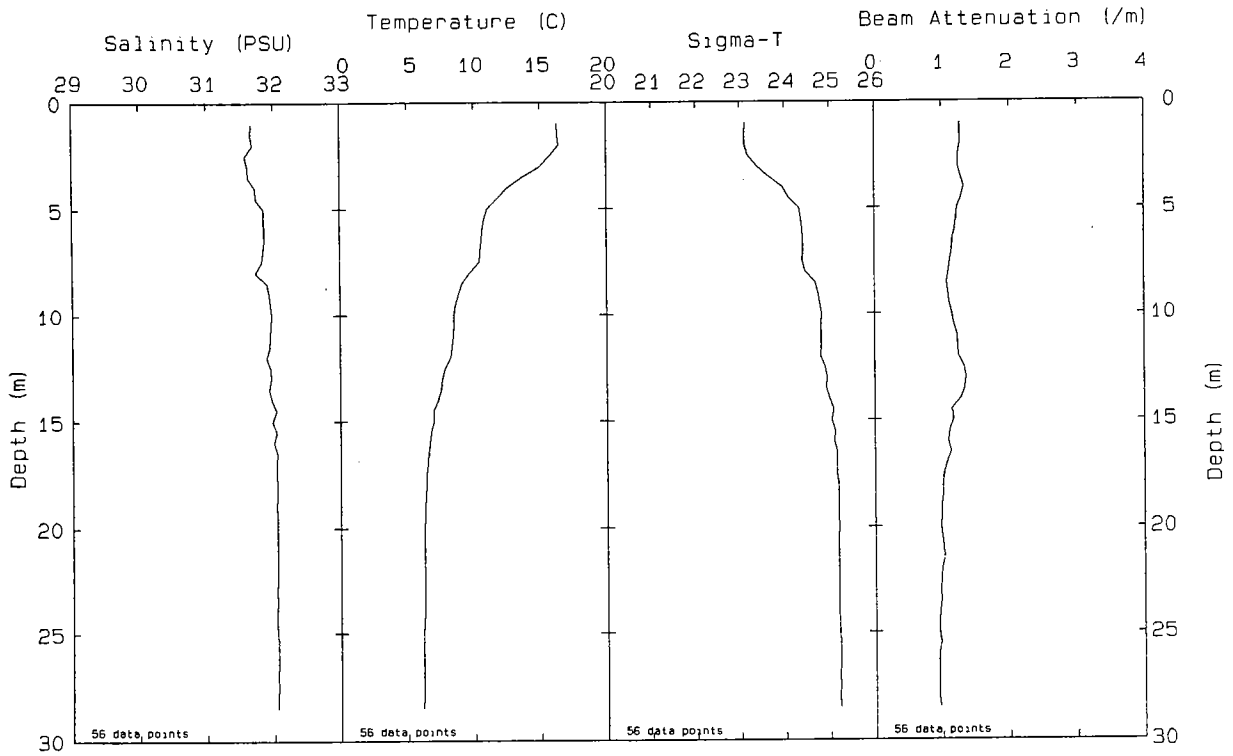
Station: N18 File: W9408082.PAB Date: 07-07-1994 Time: 14:01:44

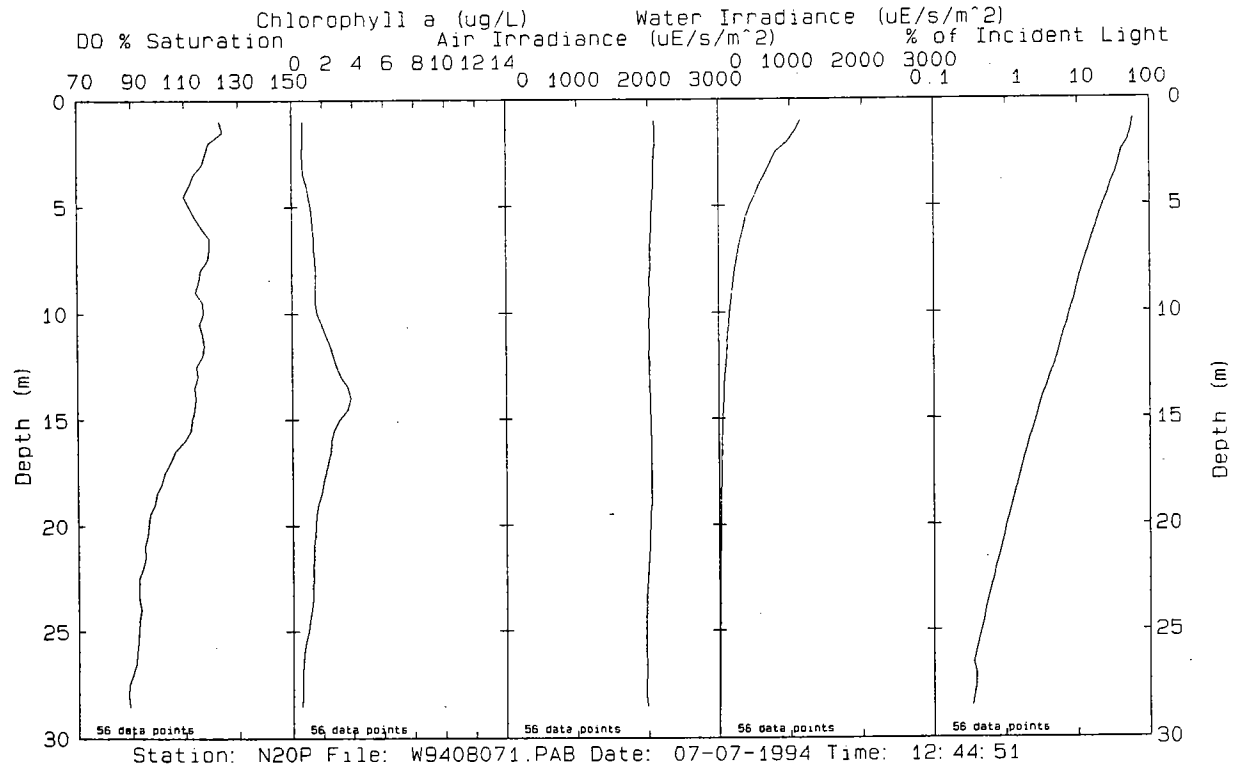


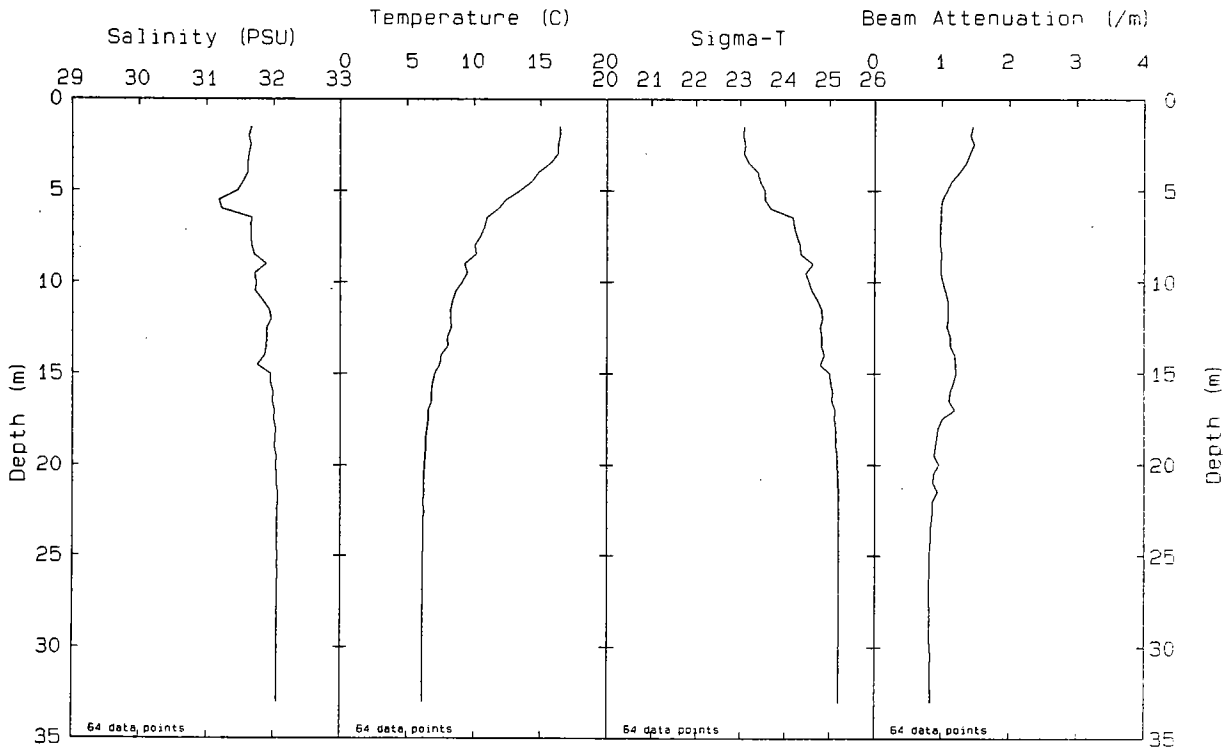


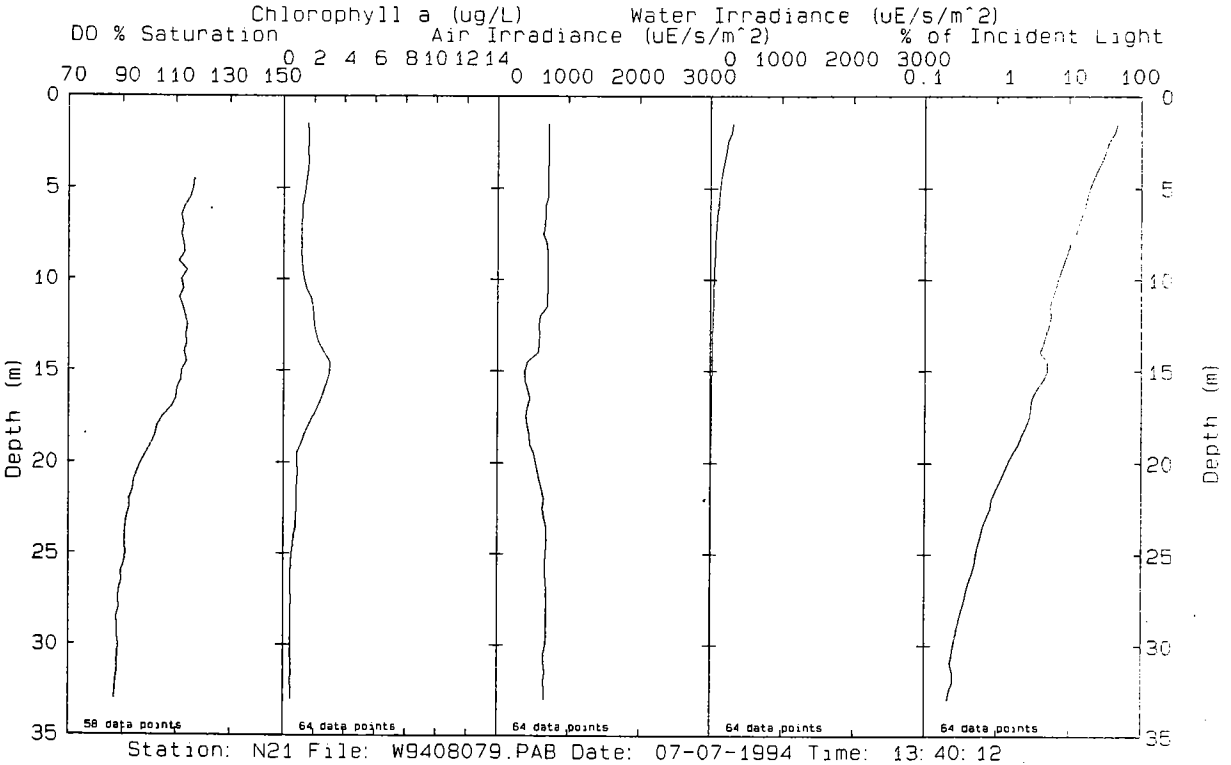
Station: N19 File: W9408068.PAB Date: 07-07-1994 Time: 12:24:21

000092


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

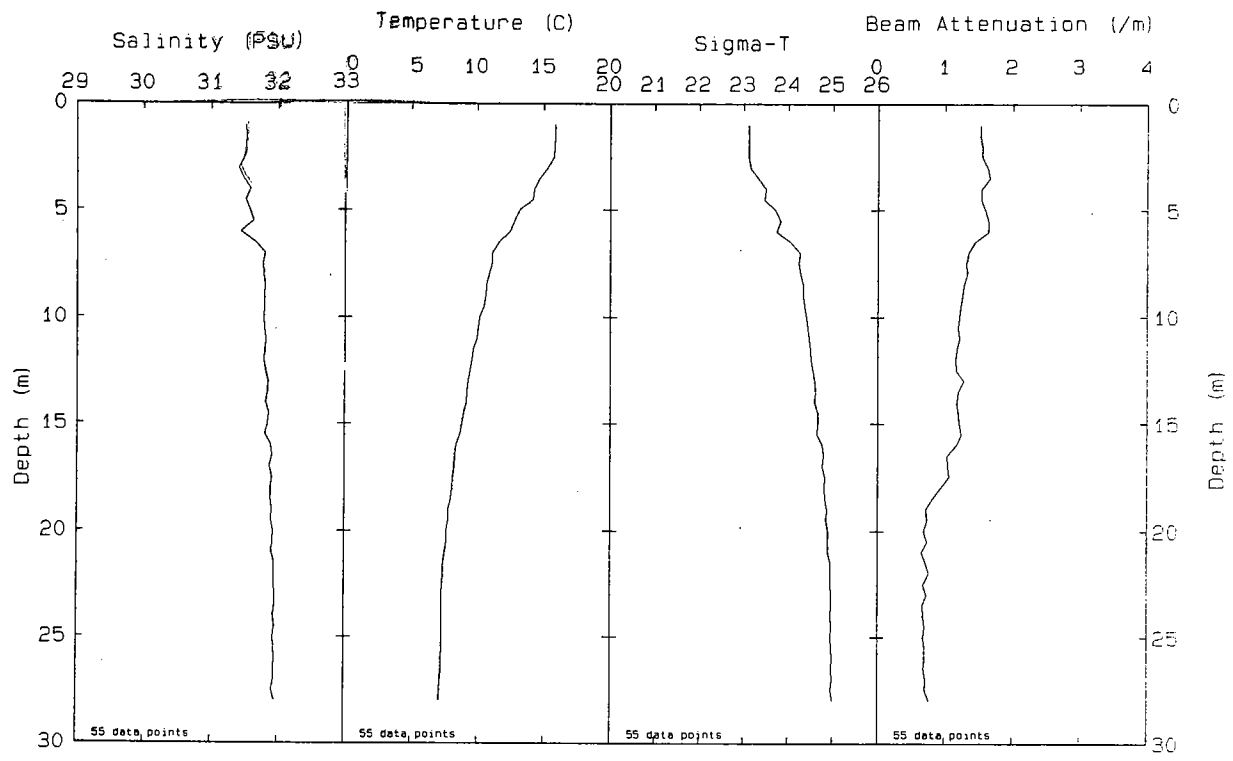

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30
56 data points
56 data points
56 data points
56 data points
56 data points
Station: N20P File: W9408071.PAB Date: 07-07-1994 Time: 12:44:51

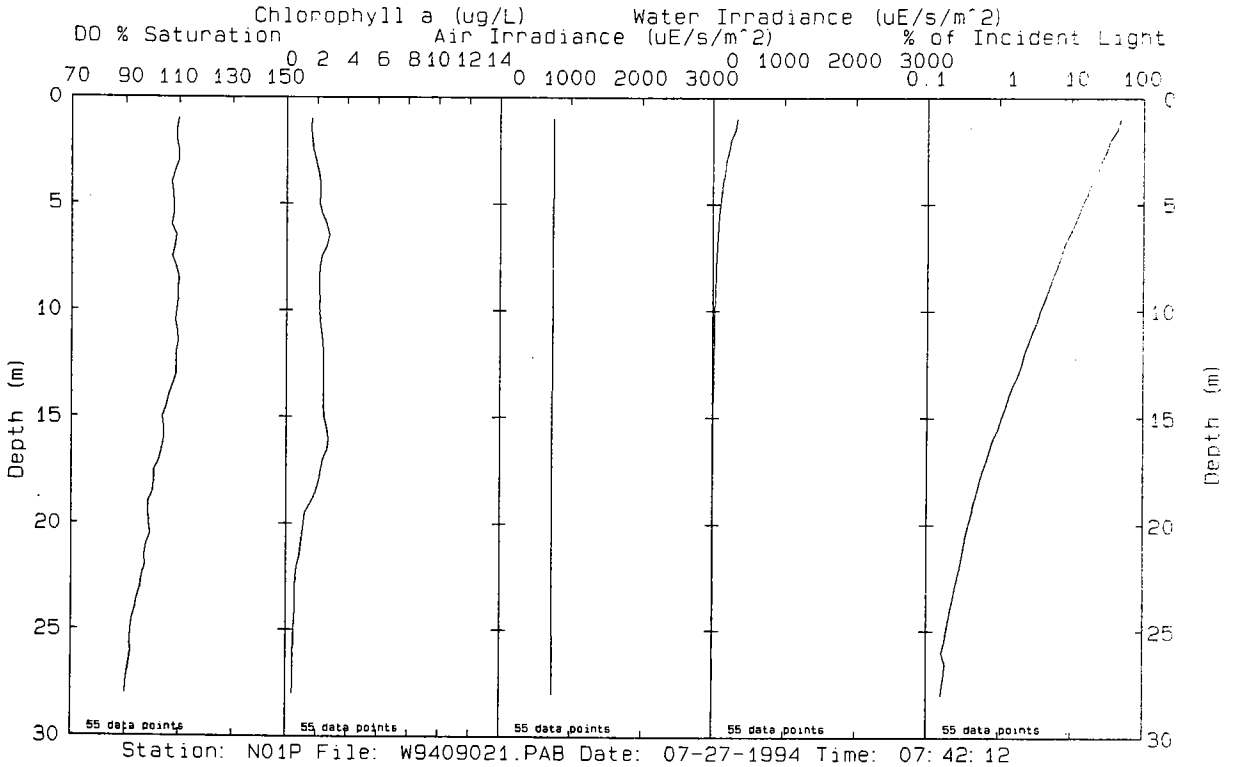




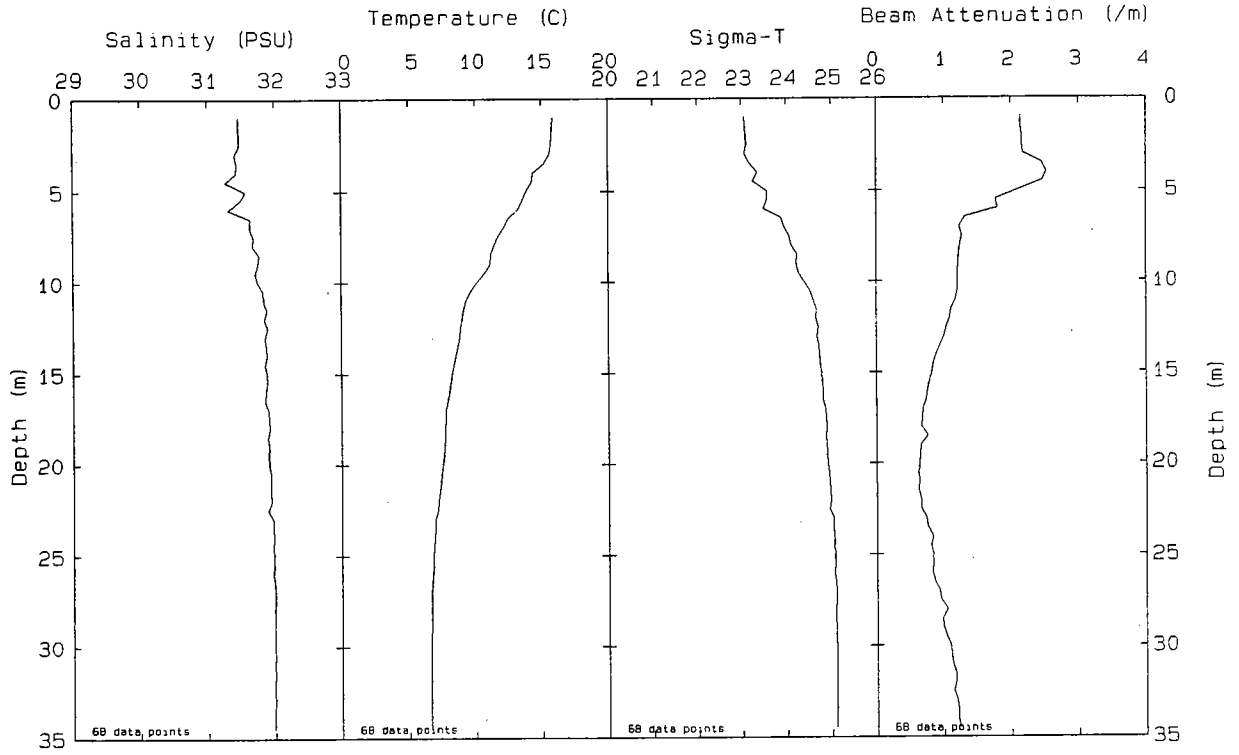
Station: N21 File: W9408079.PAB Date: 07-07-1994 Time: 13:40:12

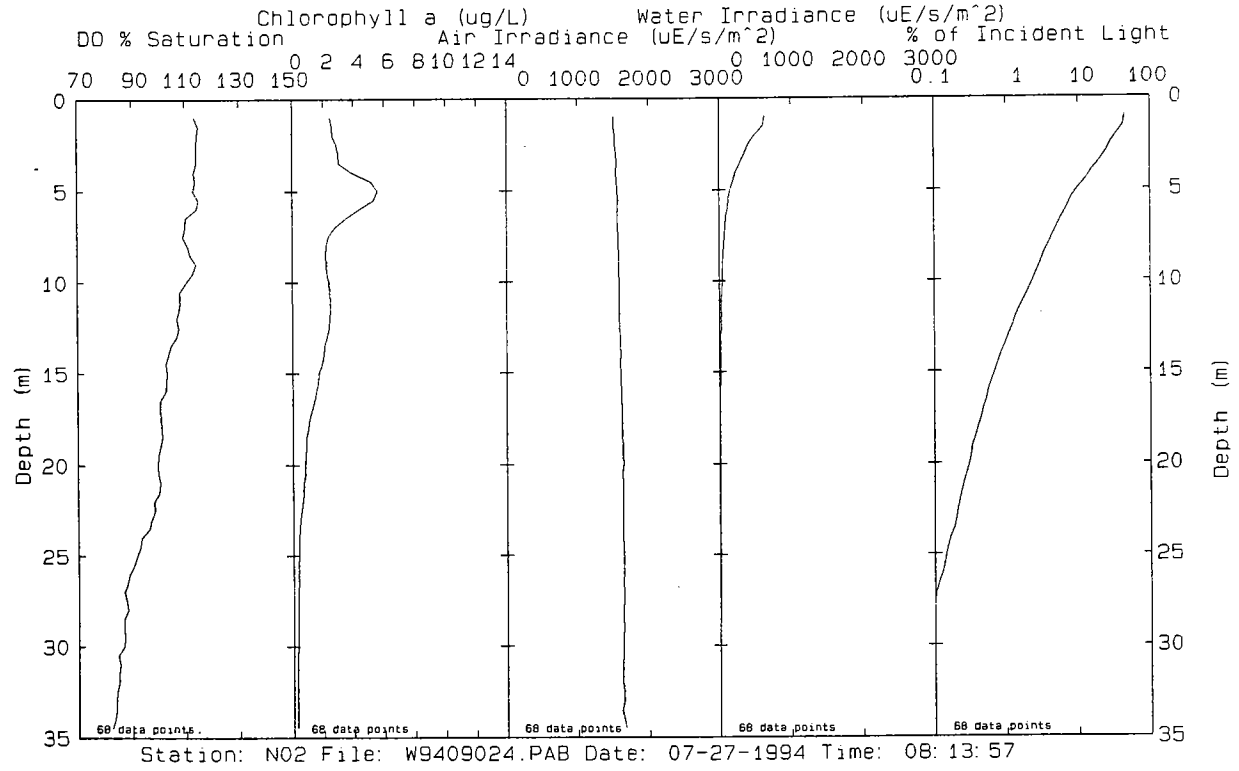
Late July 1994 Profiles



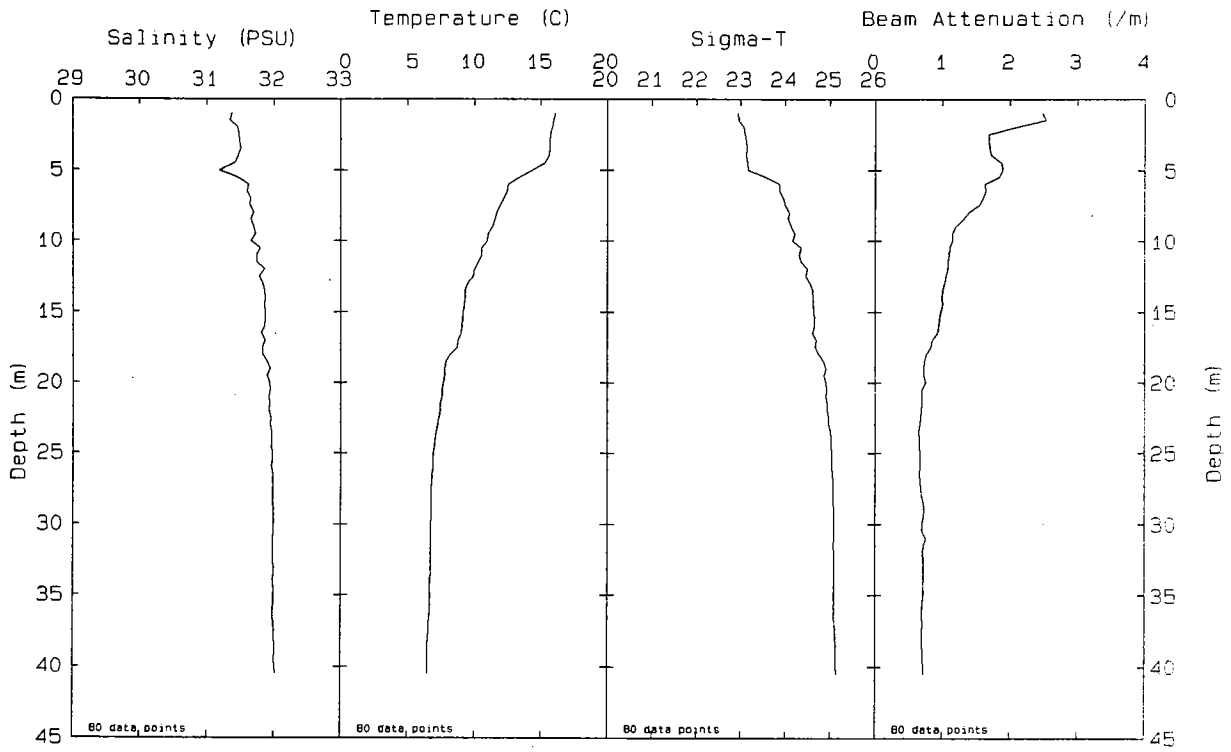


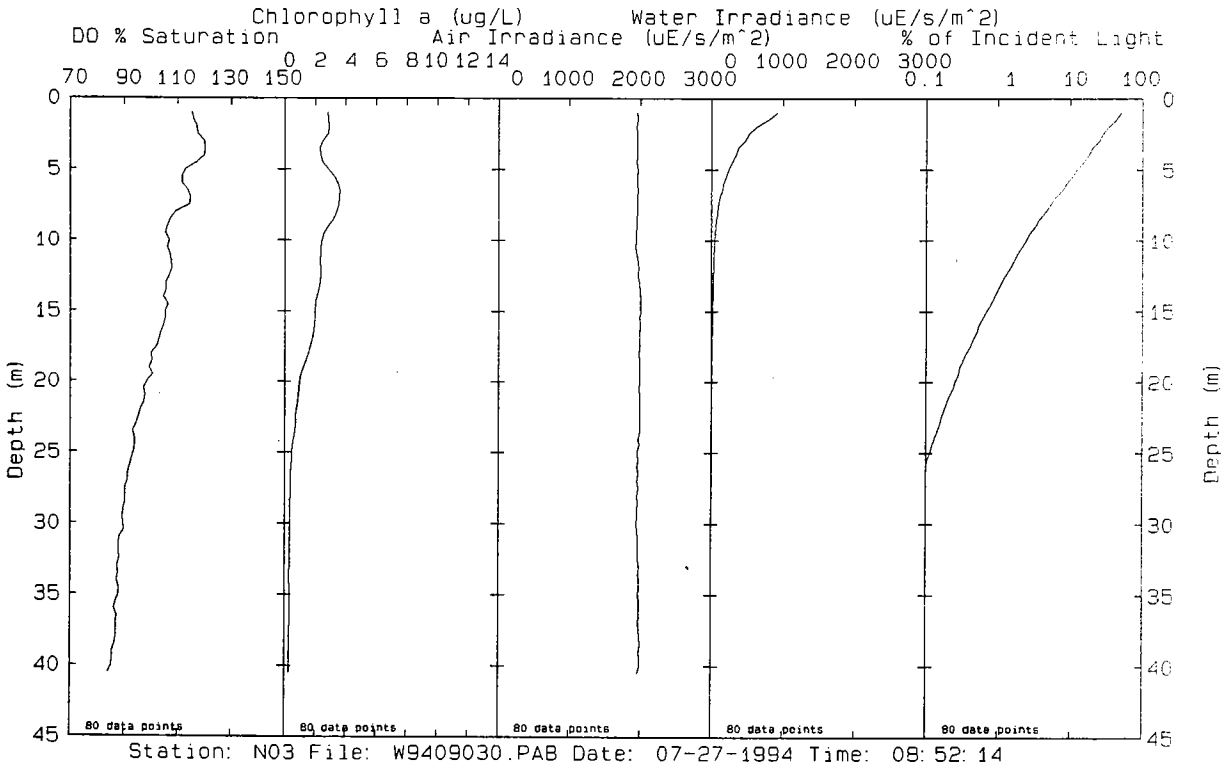
Station: N01P File: W9409021.PAB Date: 07-27-1994 Time: 07:42:12



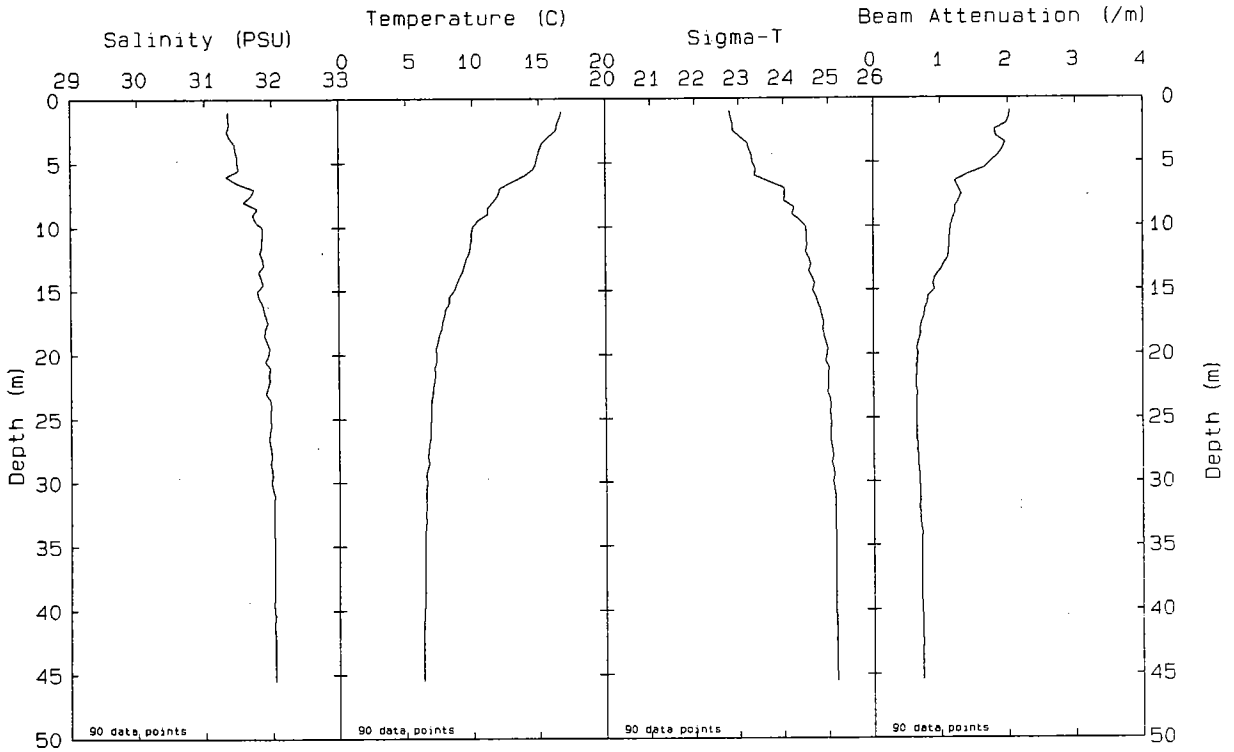


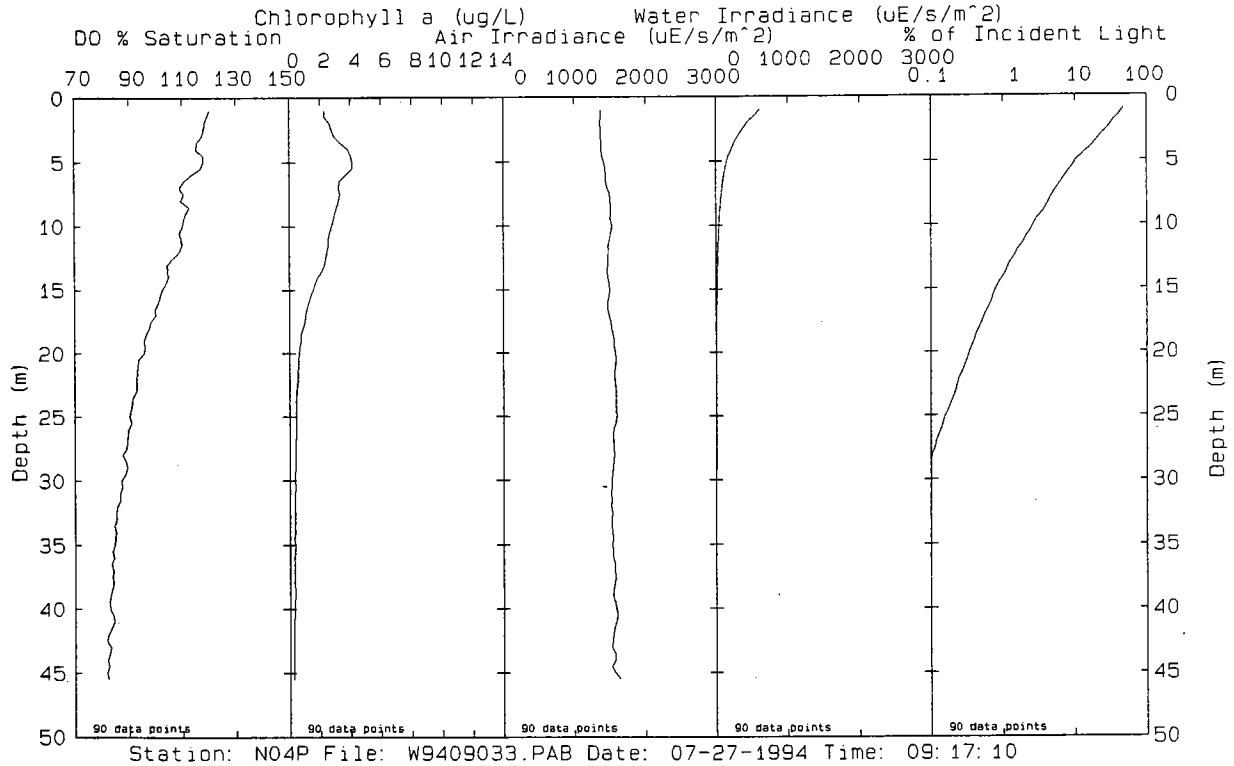
Station: N02 File: W9409024.PAB Date: 07-27-1994 Time: 08:13:57



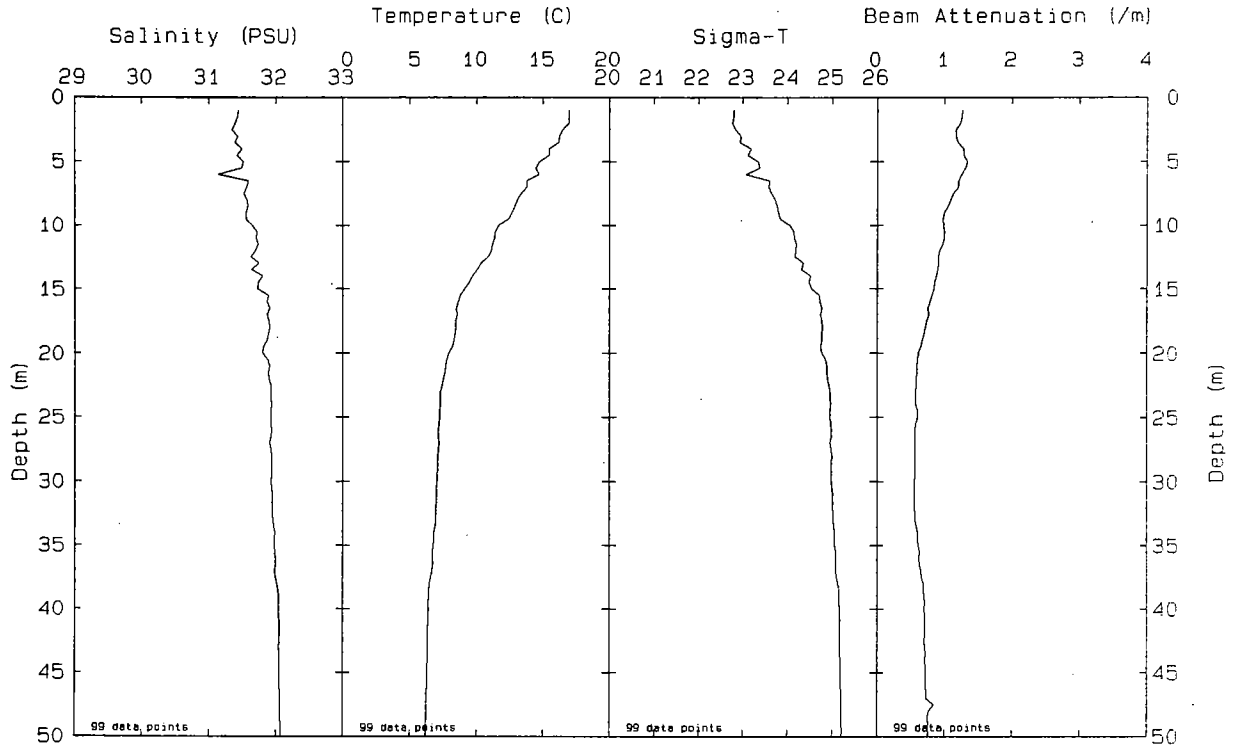


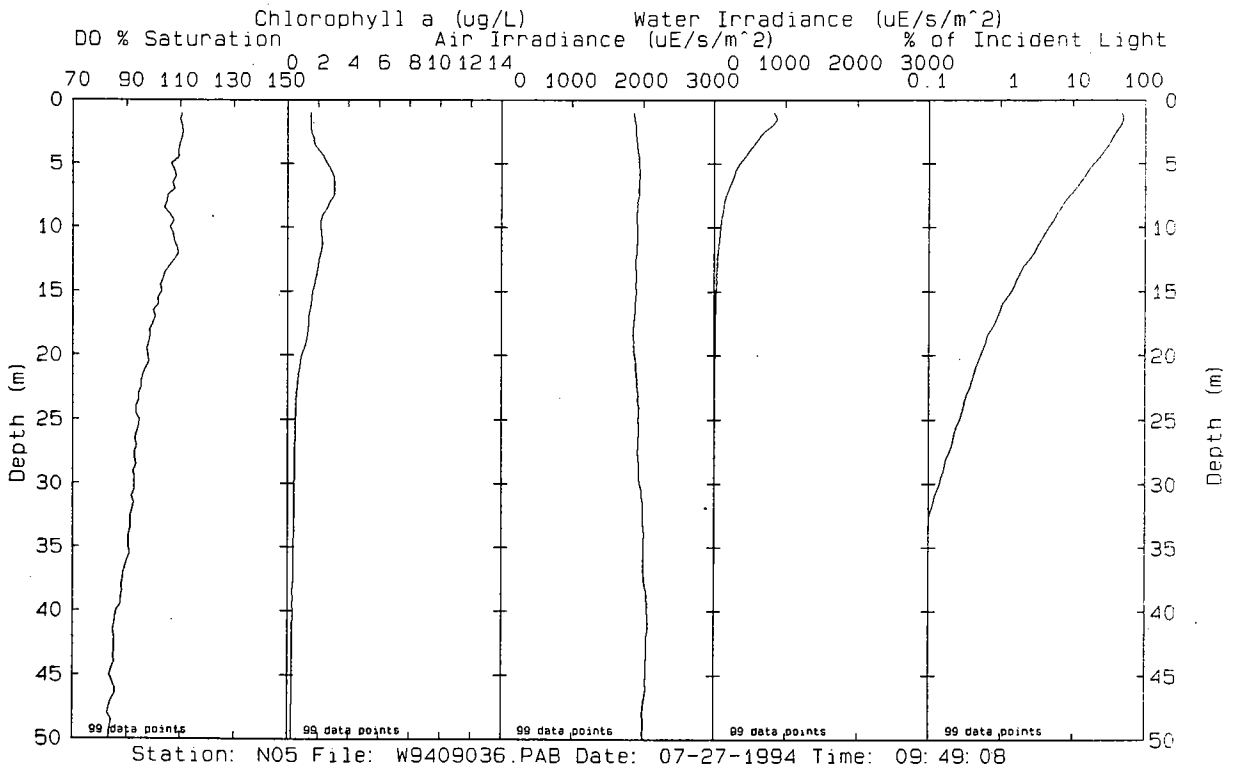
Station: N03 File: W9409030.PAB Date: 07-27-1994 Time: 08:52:14



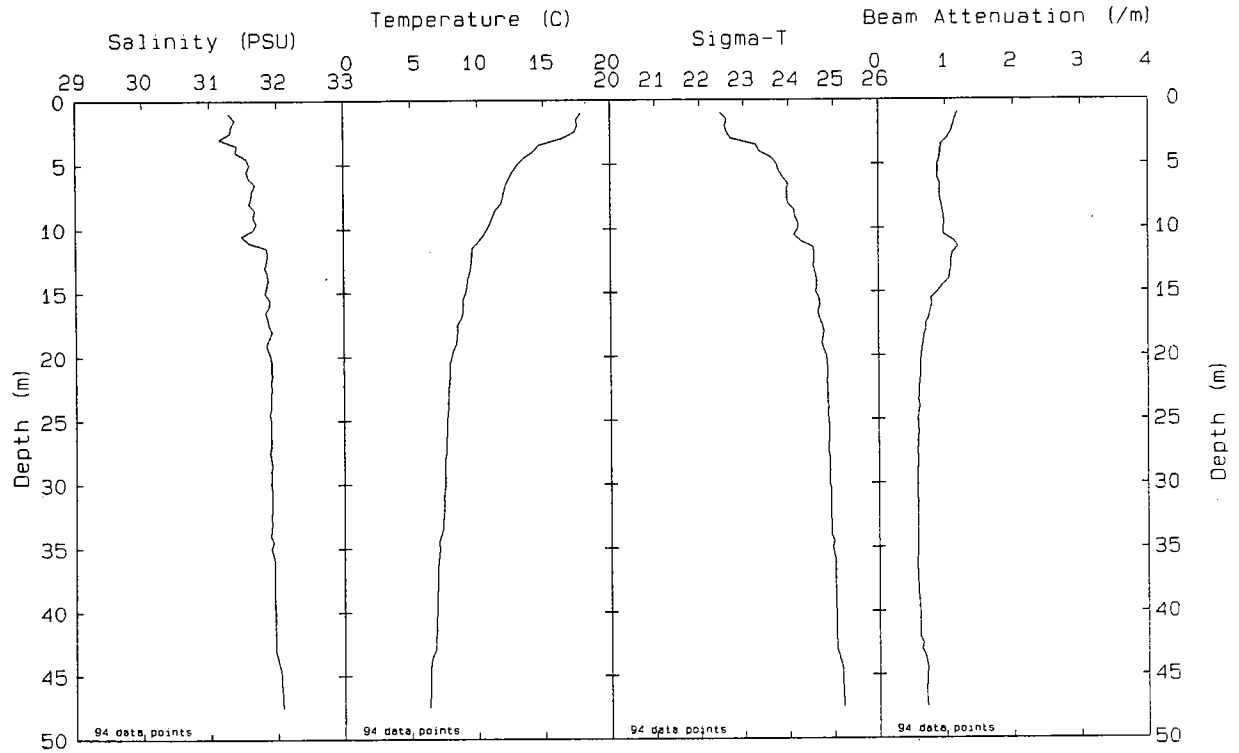


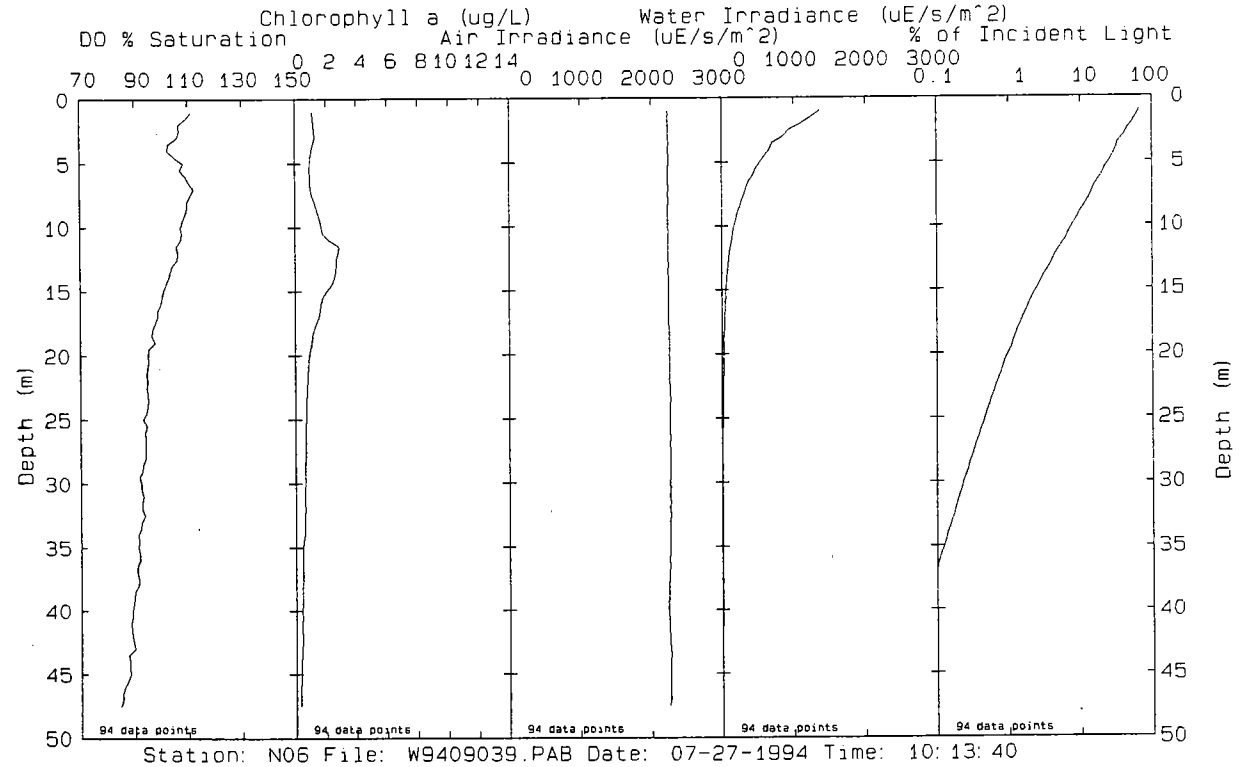
Station: N04P File: W9409033.PAB Date: 07-27-1994 Time: 09:17:10



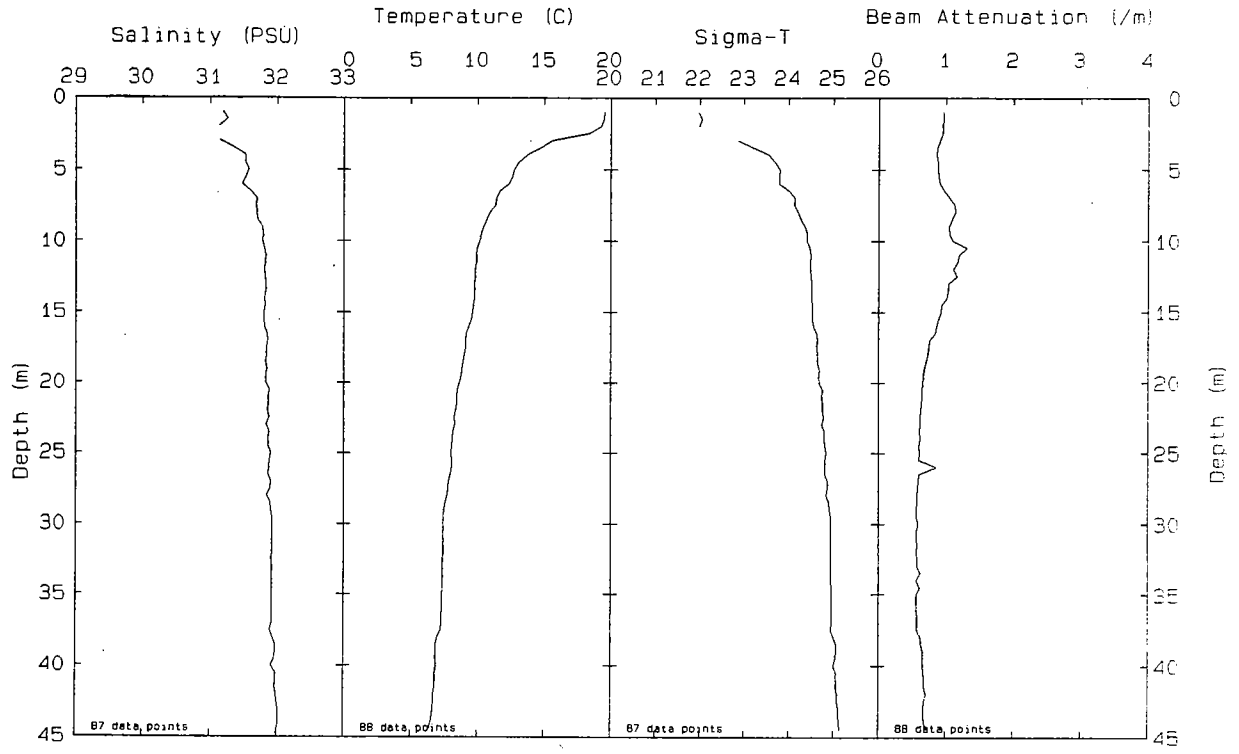


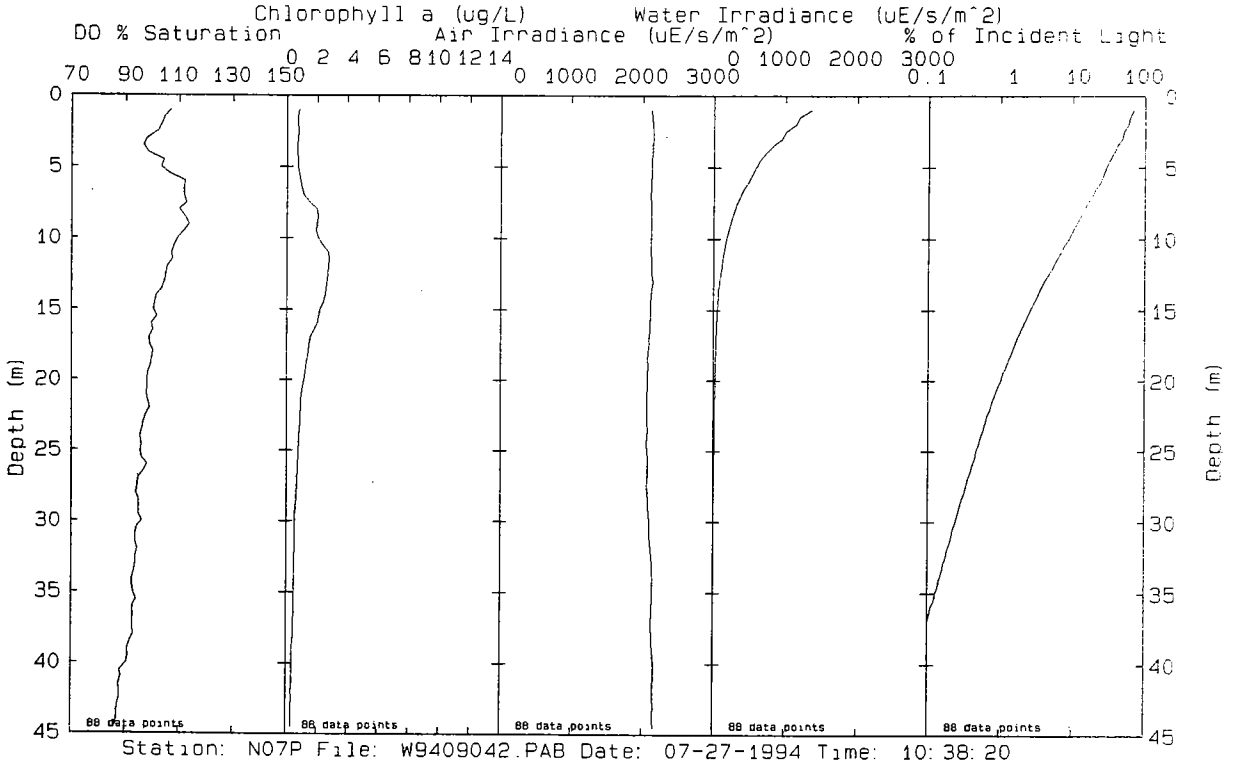
Station: N05 File: W9409036.PAB Date: 07-27-1994 Time: 09:49:08



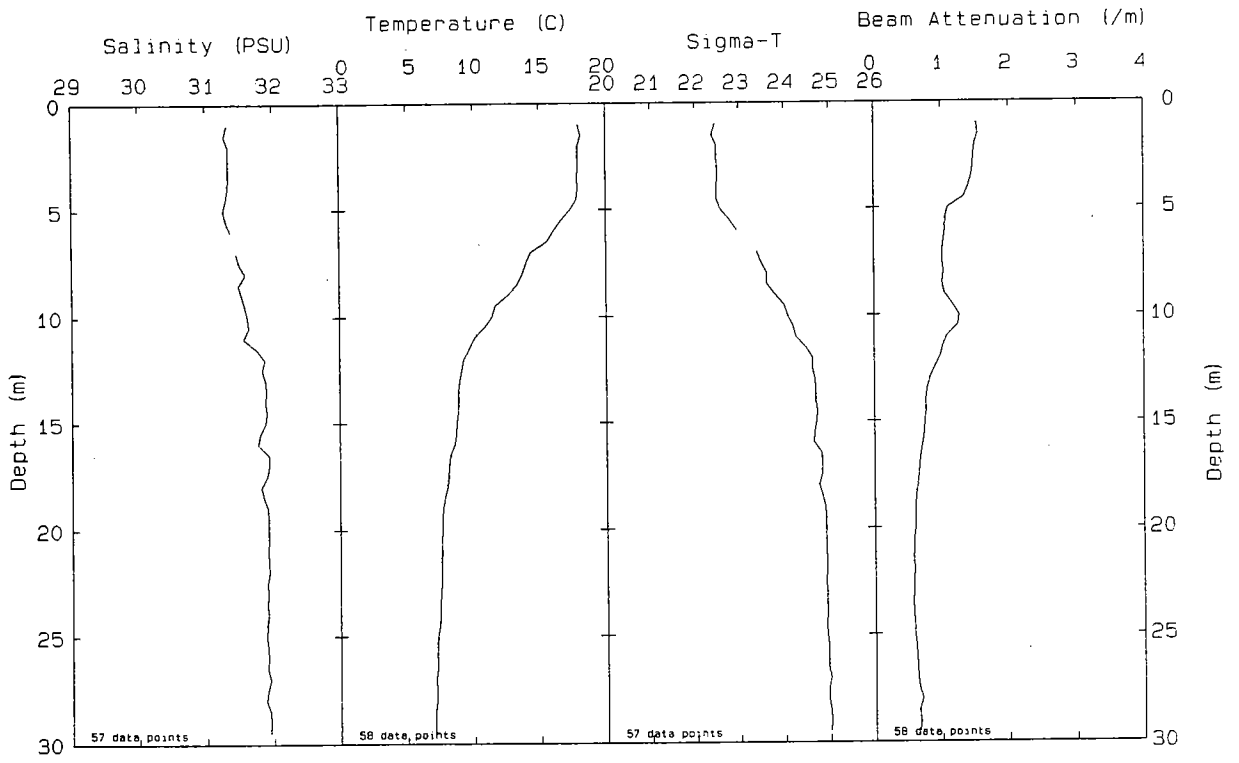


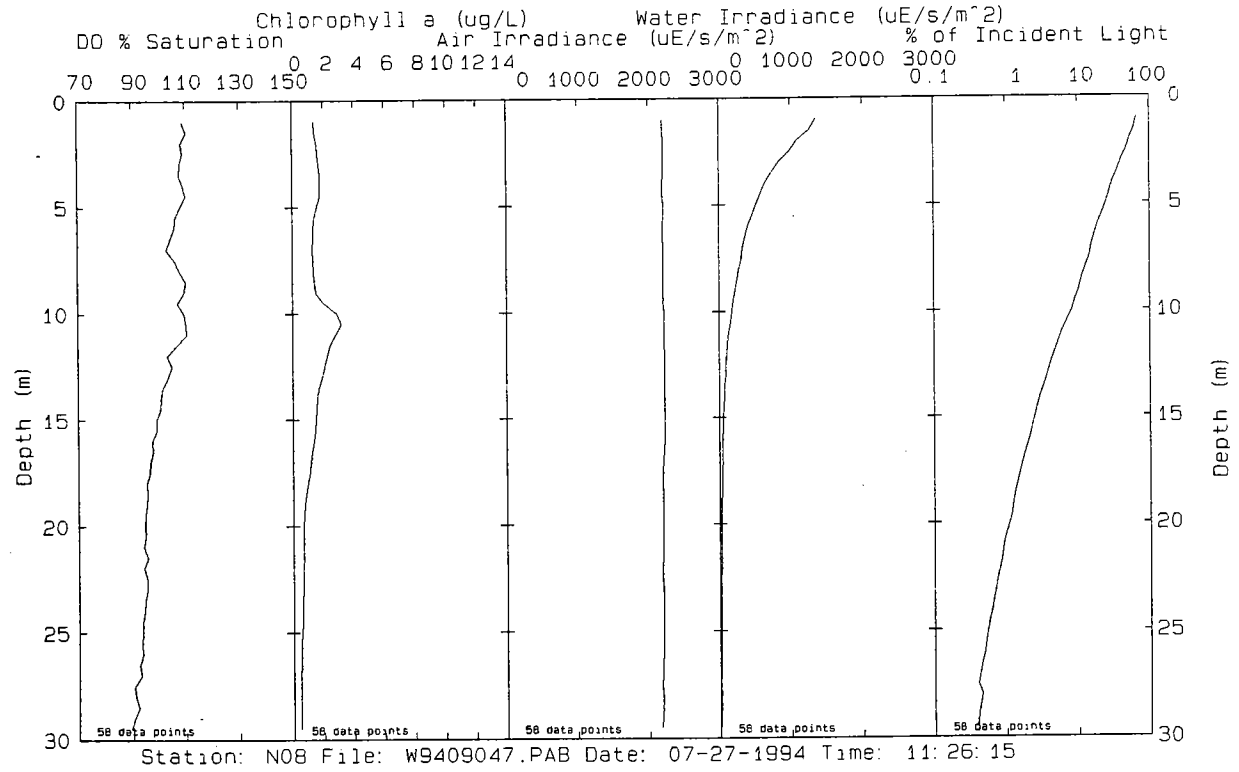
Station: N06 File: W9409039.PAB Date: 07-27-1994 Time: 10:13:40





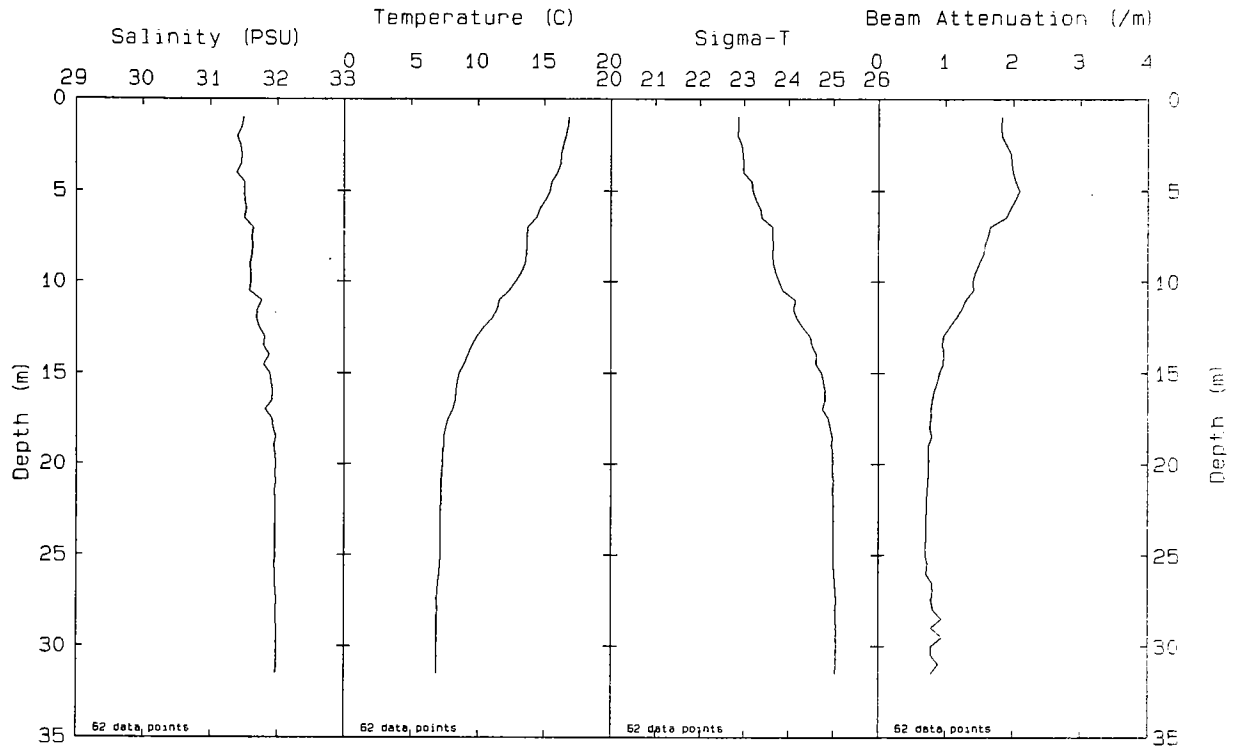
Station: N07P File: W9409042.PAB Date: 07-27-1994 Time: 10:38:20

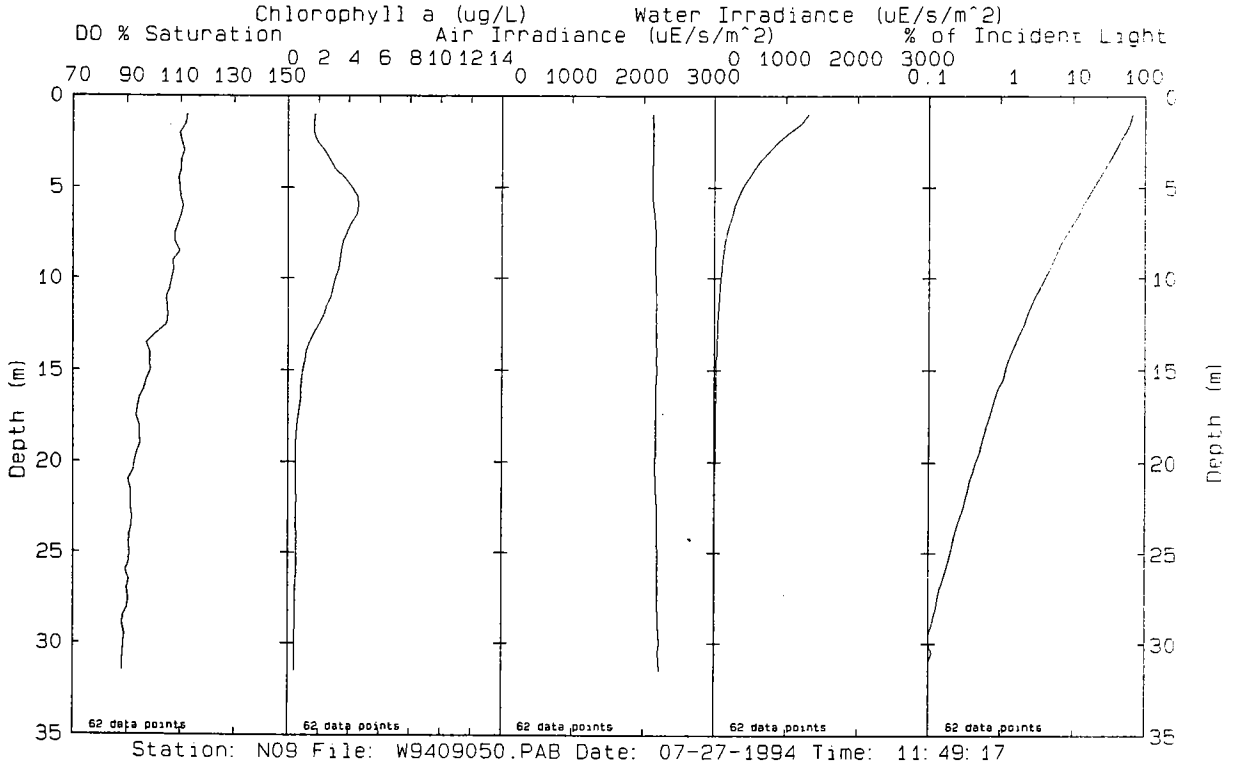




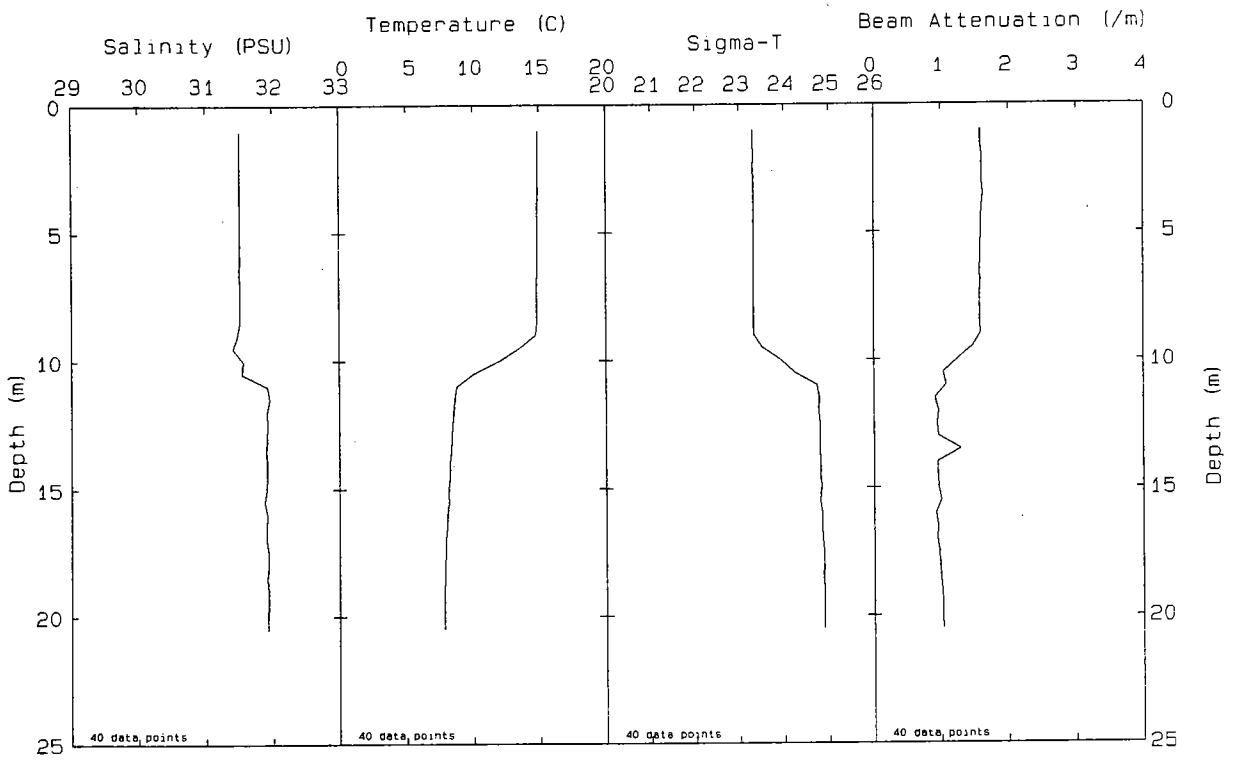
Station: N08 File: W9409047.PAB Date: 07-27-1994 Time: 11:26:15

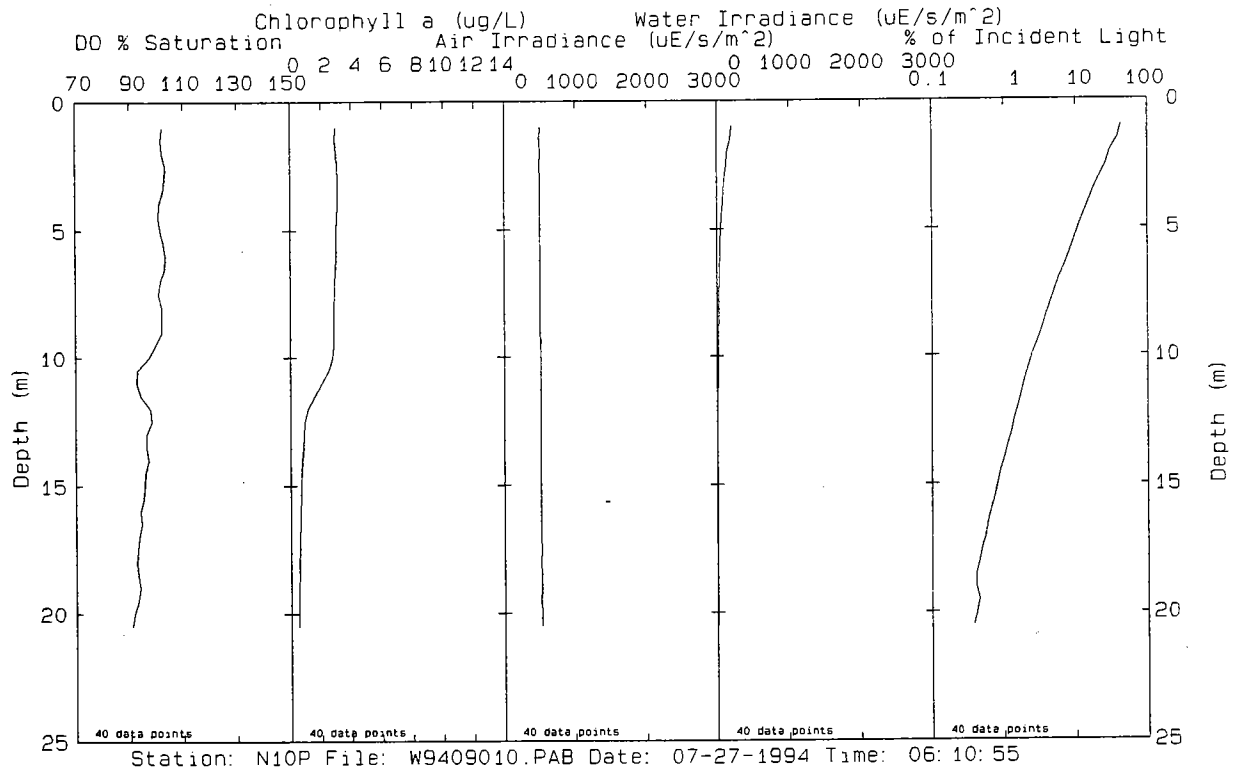
000103



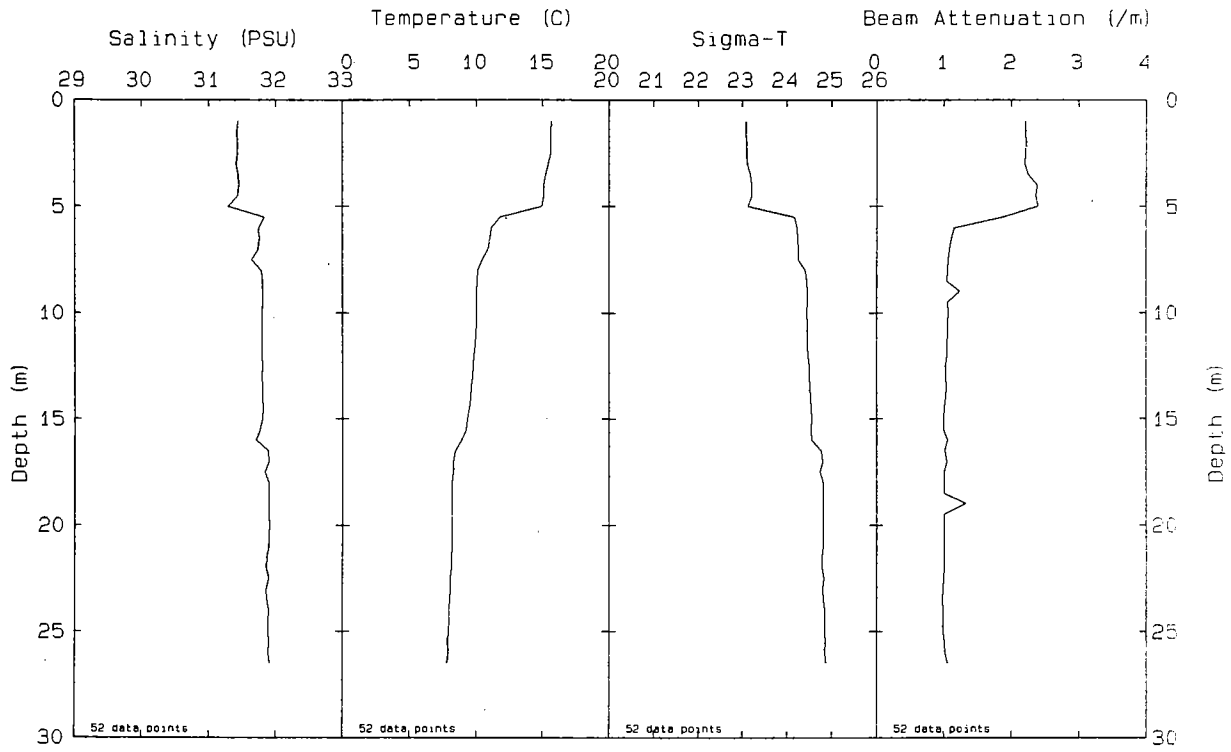


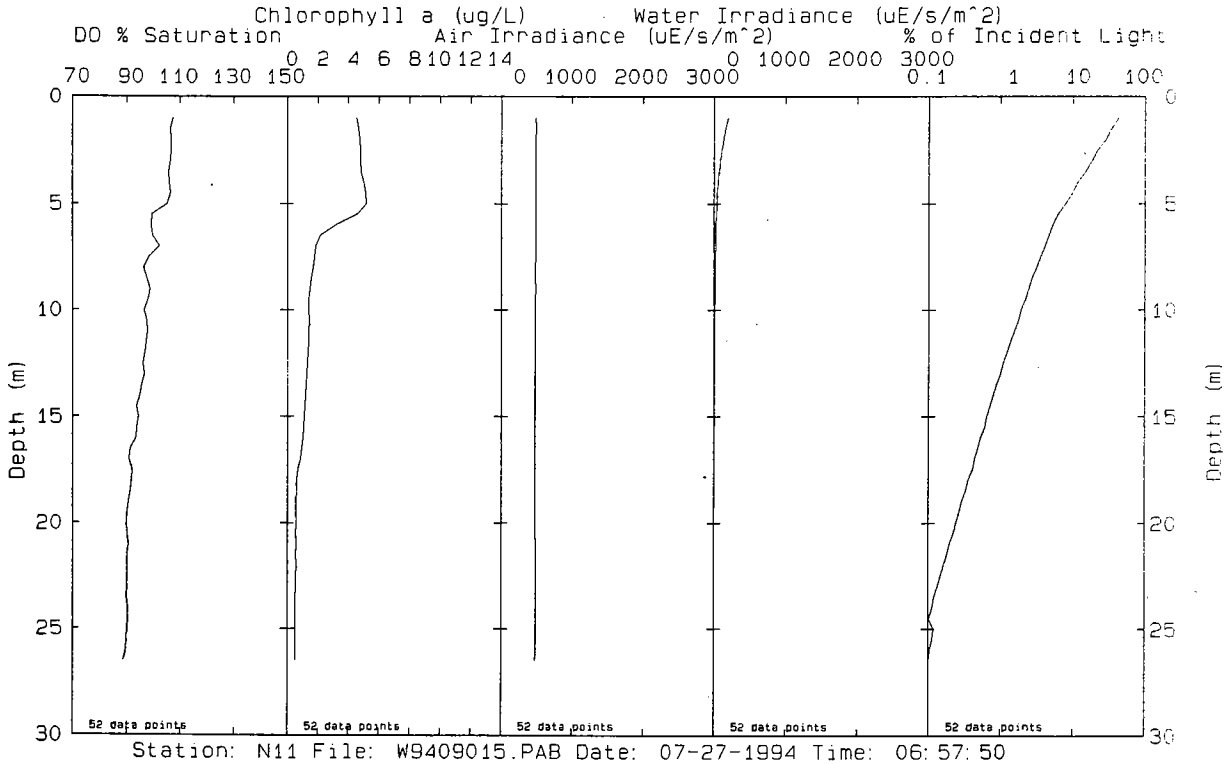
Station: N09 File: W9409050.PAB Date: 07-27-1994 Time: 11:49:17



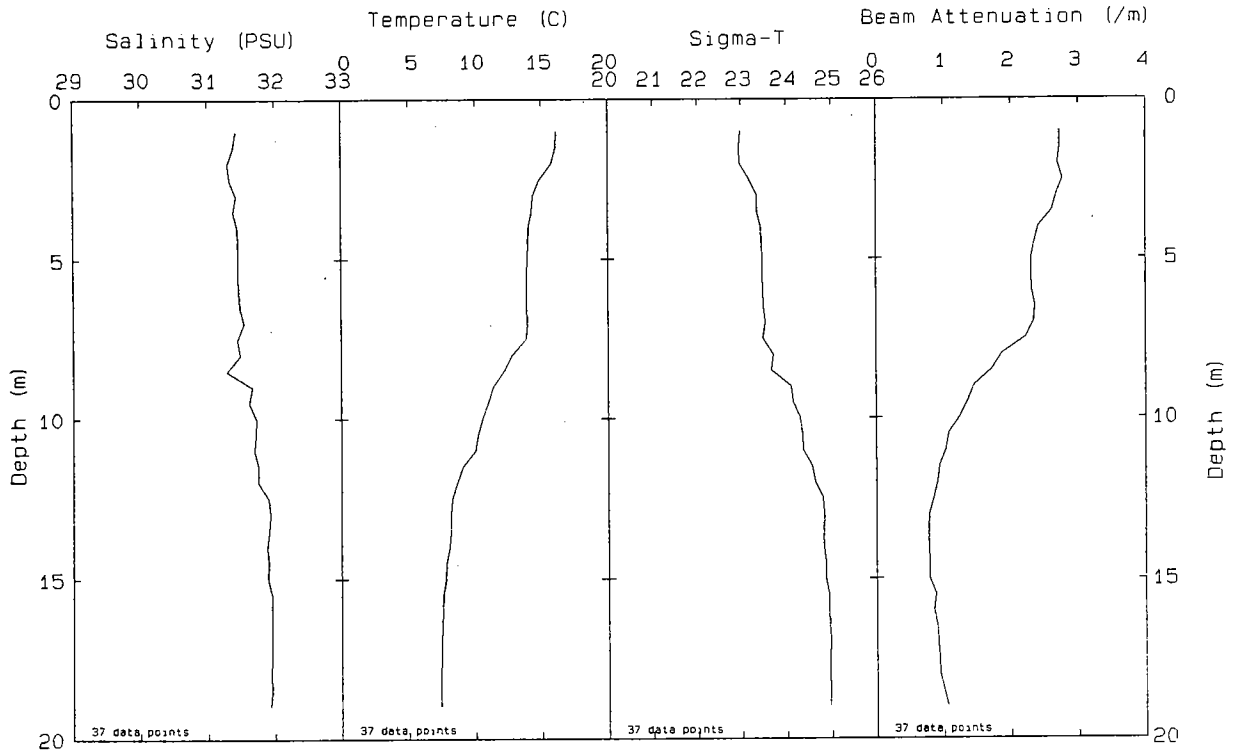


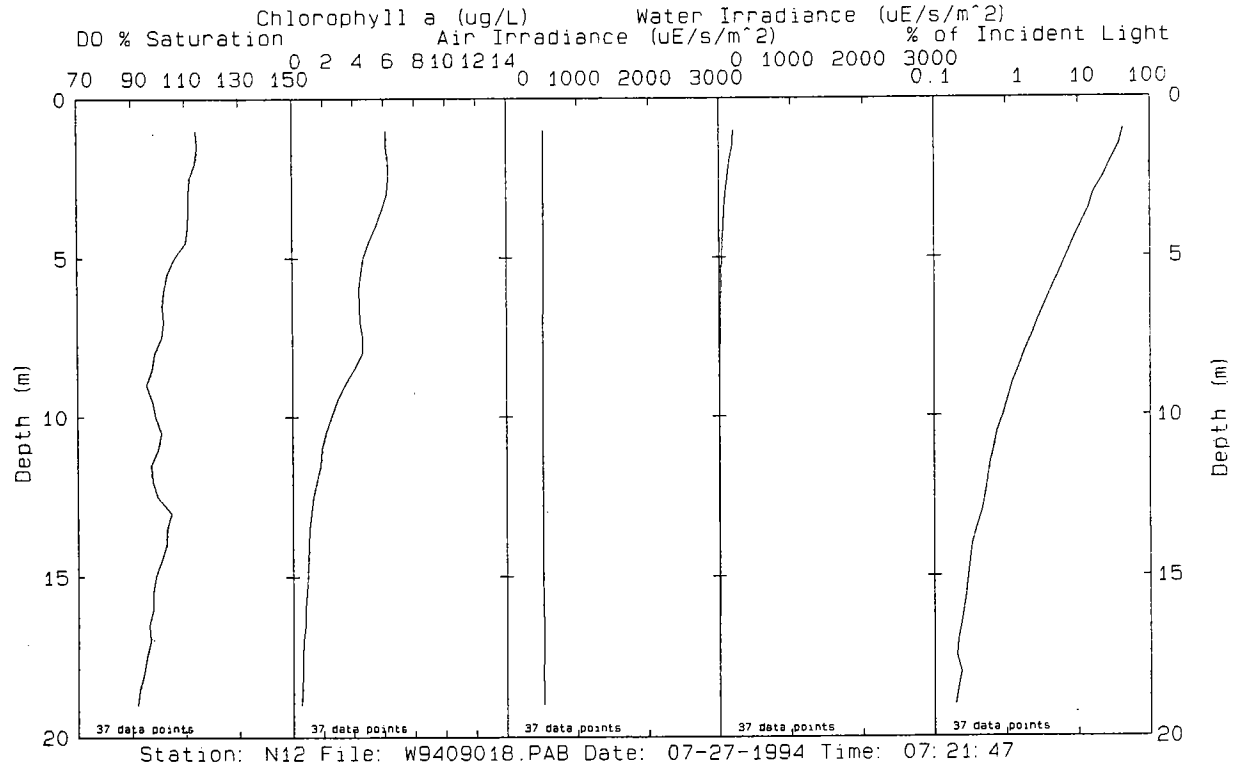
Station: N10P File: W9409010.PAB Date: 07-27-1994 Time: 06:10:55



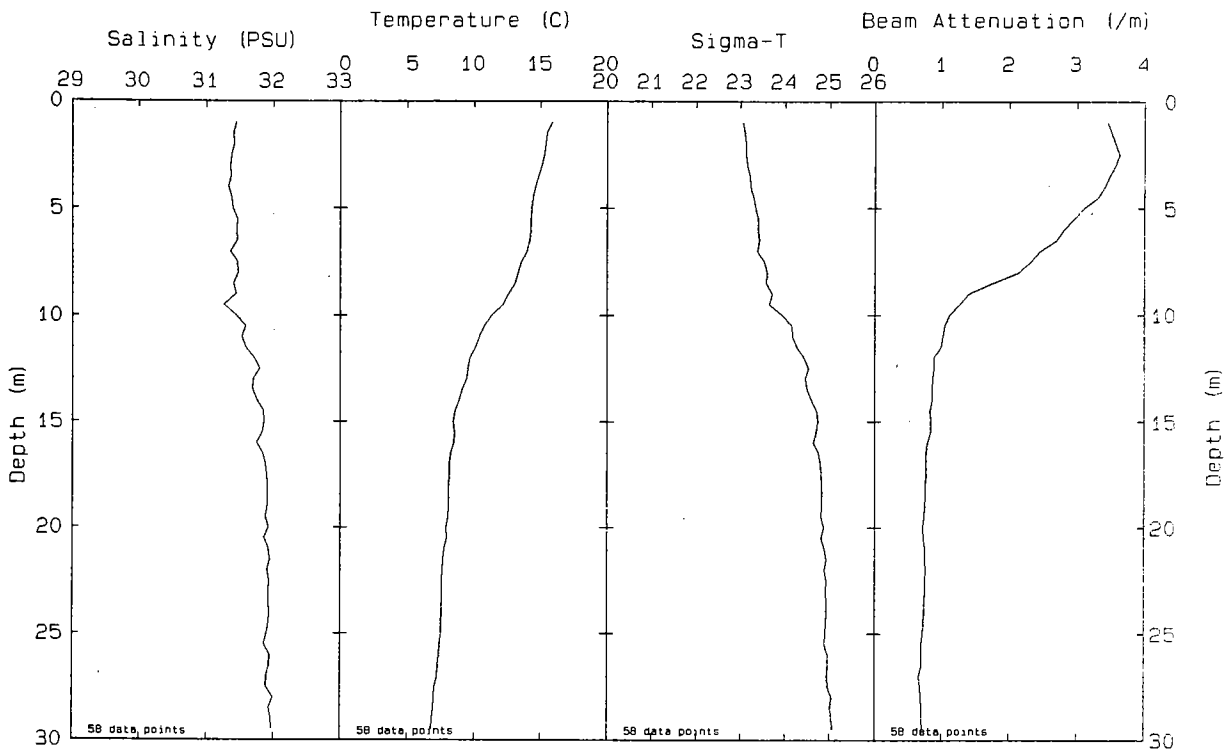


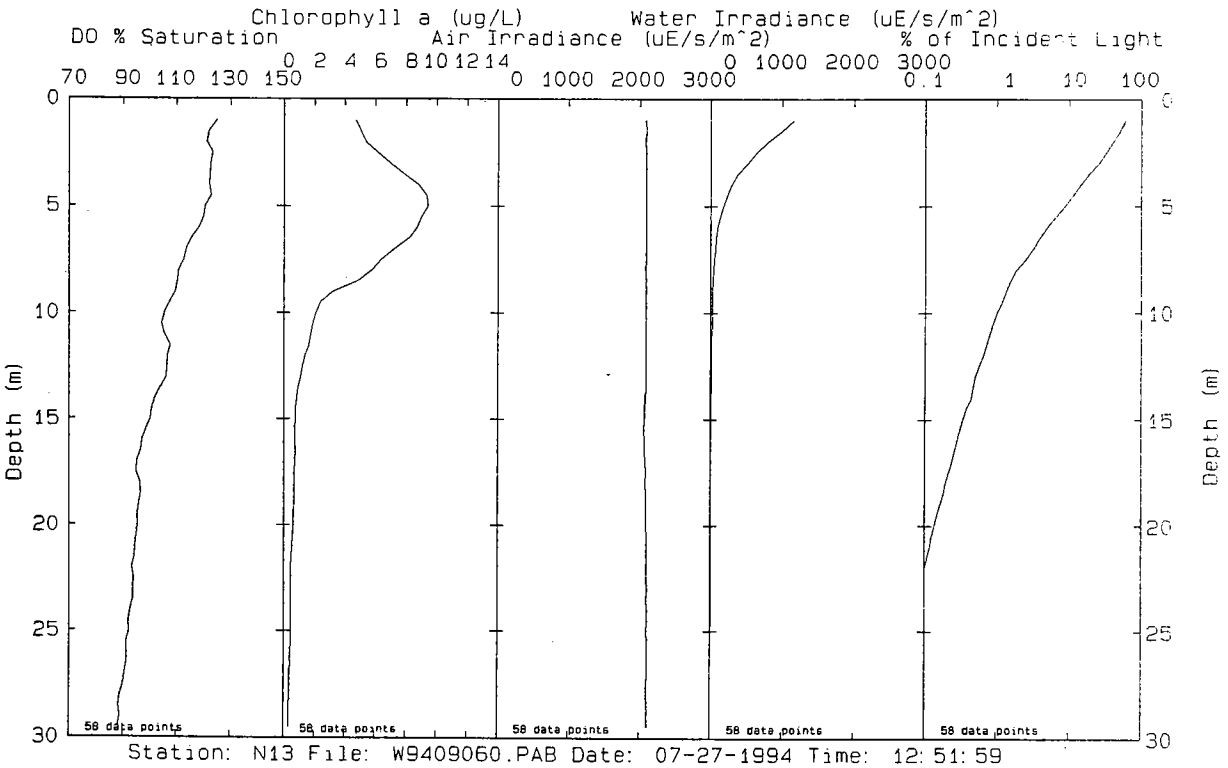
Station: N11 File: W9409015.PAB Date: 07-27-1994 Time: 06:57:50



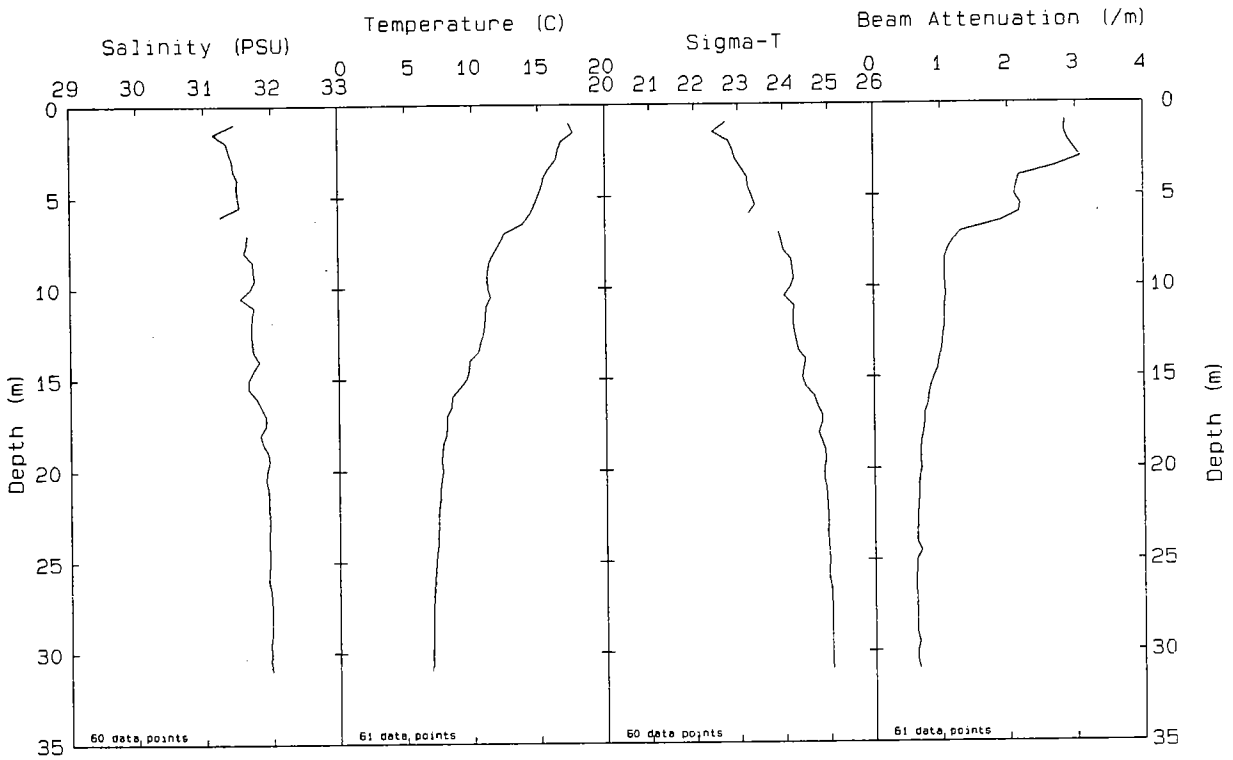


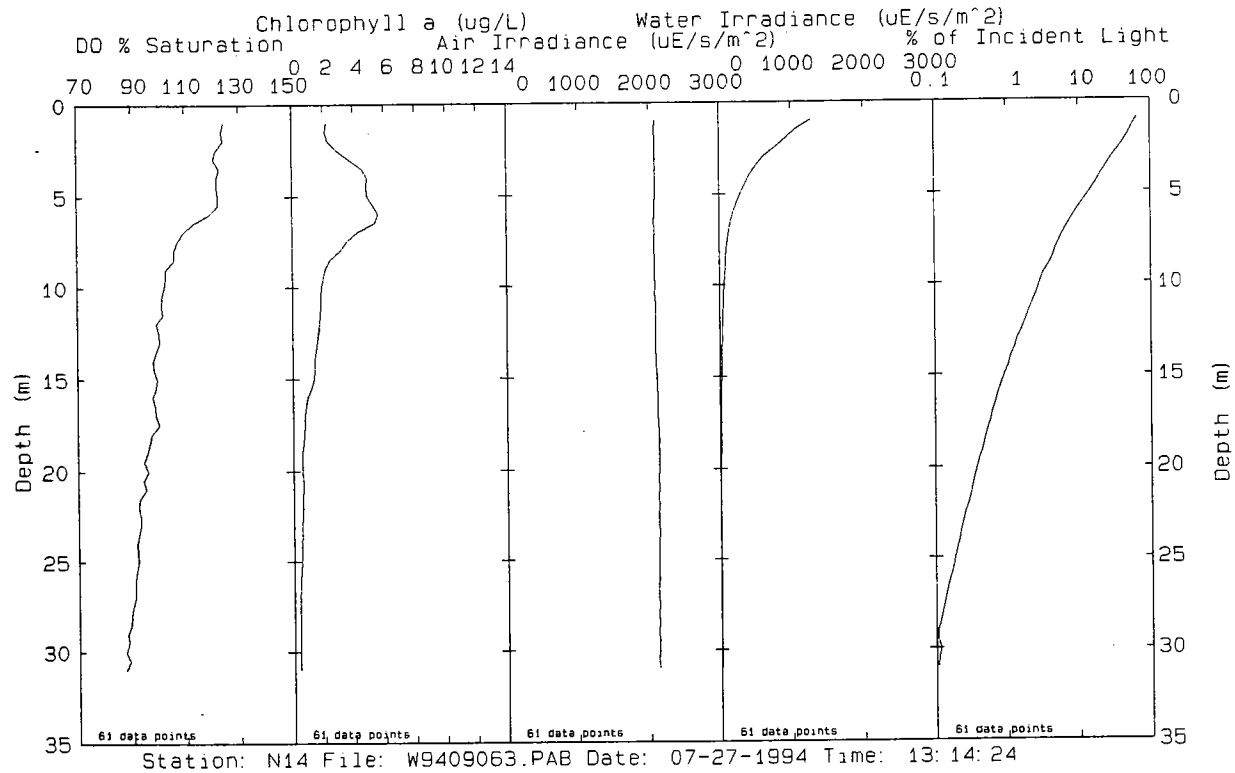
Station: N12 File: W9409018.PAB Date: 07-27-1994 Time: 07:21:47

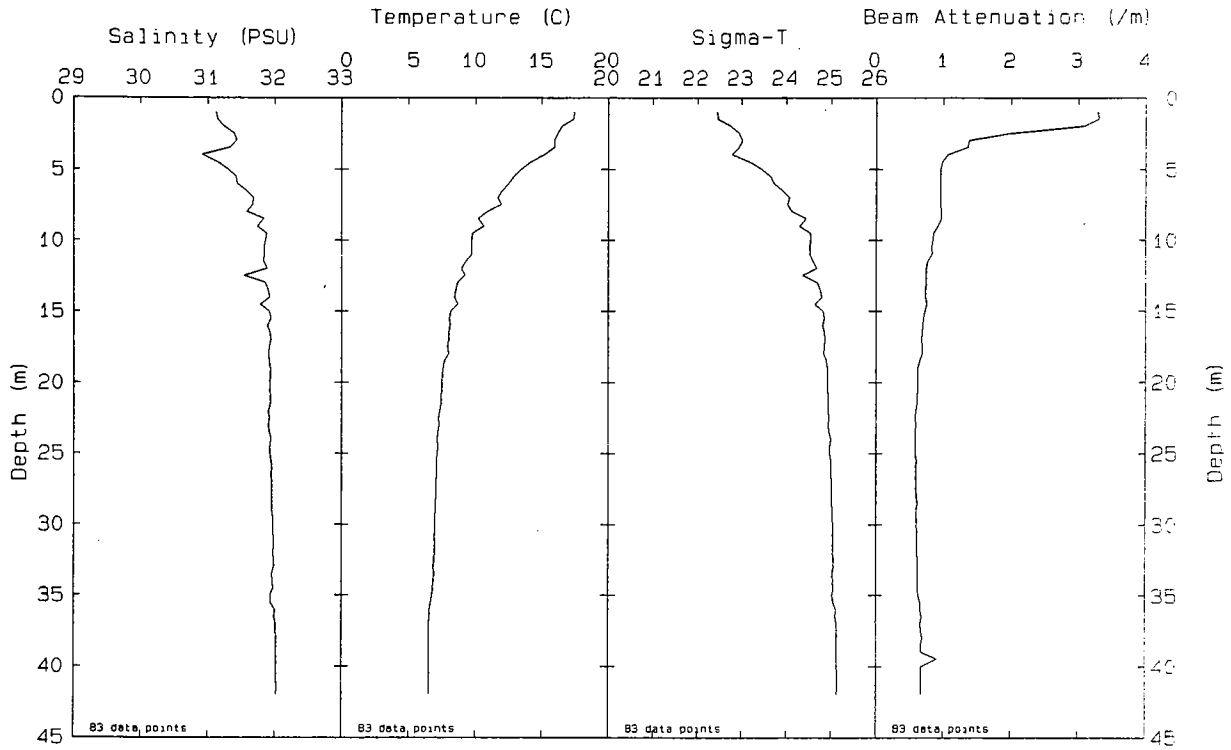


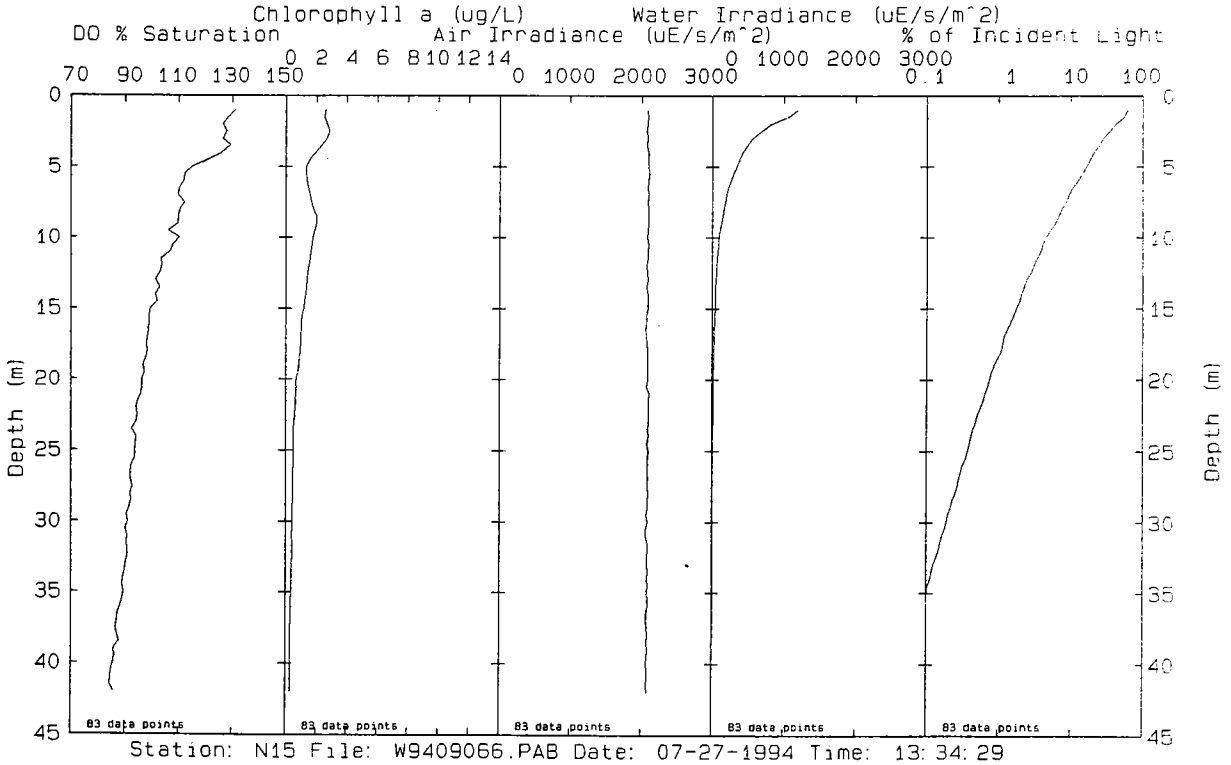


Station: N13 File: W9409060.PAB Date: 07-27-1994 Time: 12:51:59

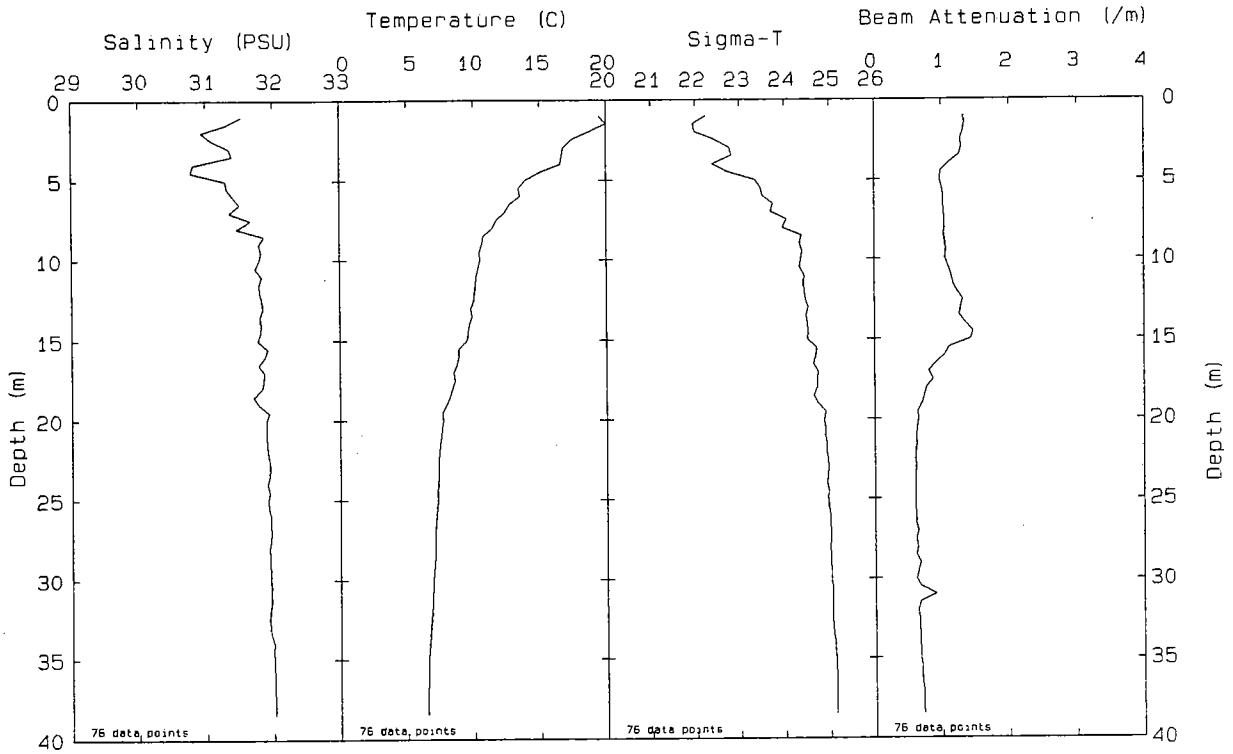

Salinity (PSU)
29 30 31 32 33
Temperature (C)
0 5 10 15 20
Sigma-T
20 21 22 23 24 25 26
Beam Attenuation (/m)
0 1 2 3 4
Depth (m)
0 5 10 15 20 25 30 35
60 data points
61 data points
60 data points
61 data points

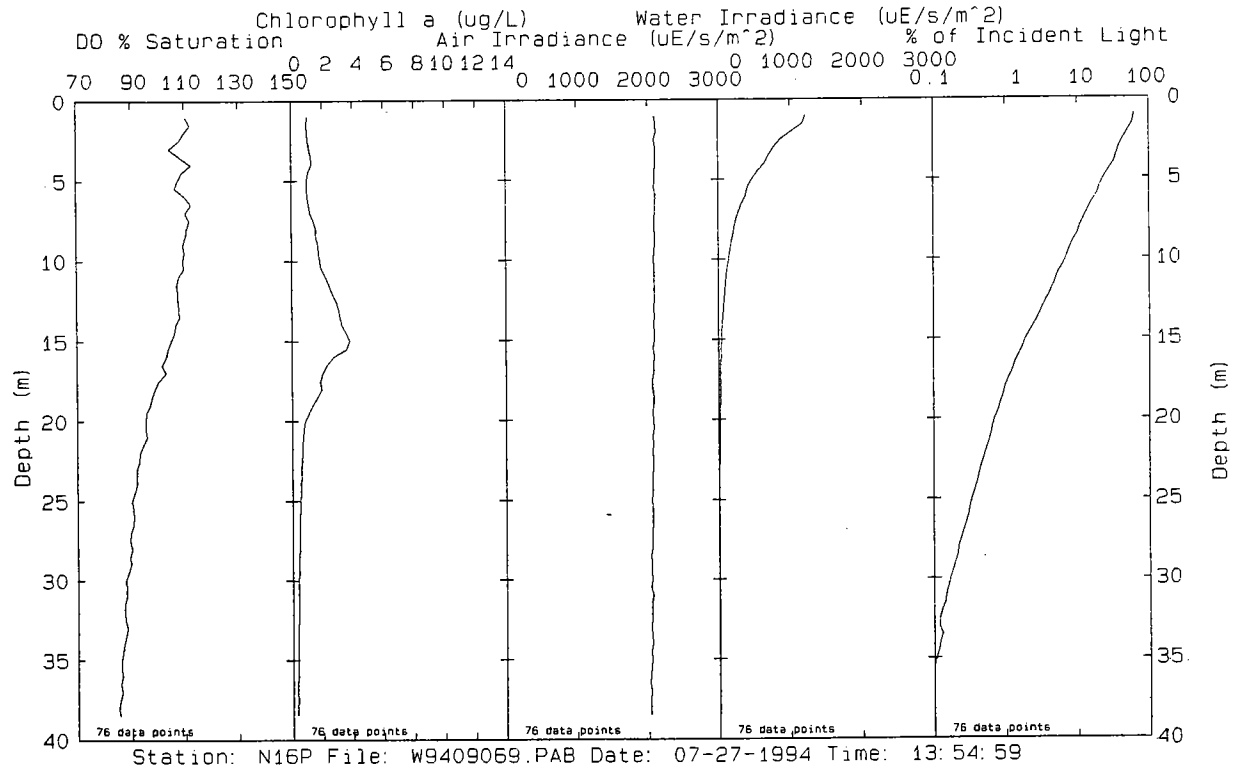

DO % Saturation
70 90 110 130 150
Chlorophyll a (ug/L)
0 2 4 6 8 10 12 14
Air Irradiance (uE/s/m^2)
0 1000 2000 3000
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35
61 data points
61 data points
61 data points
61 data points
61 data points
Station: N14 File: W9409063.PAB Date: 07-27-1994 Time: 13:14:24



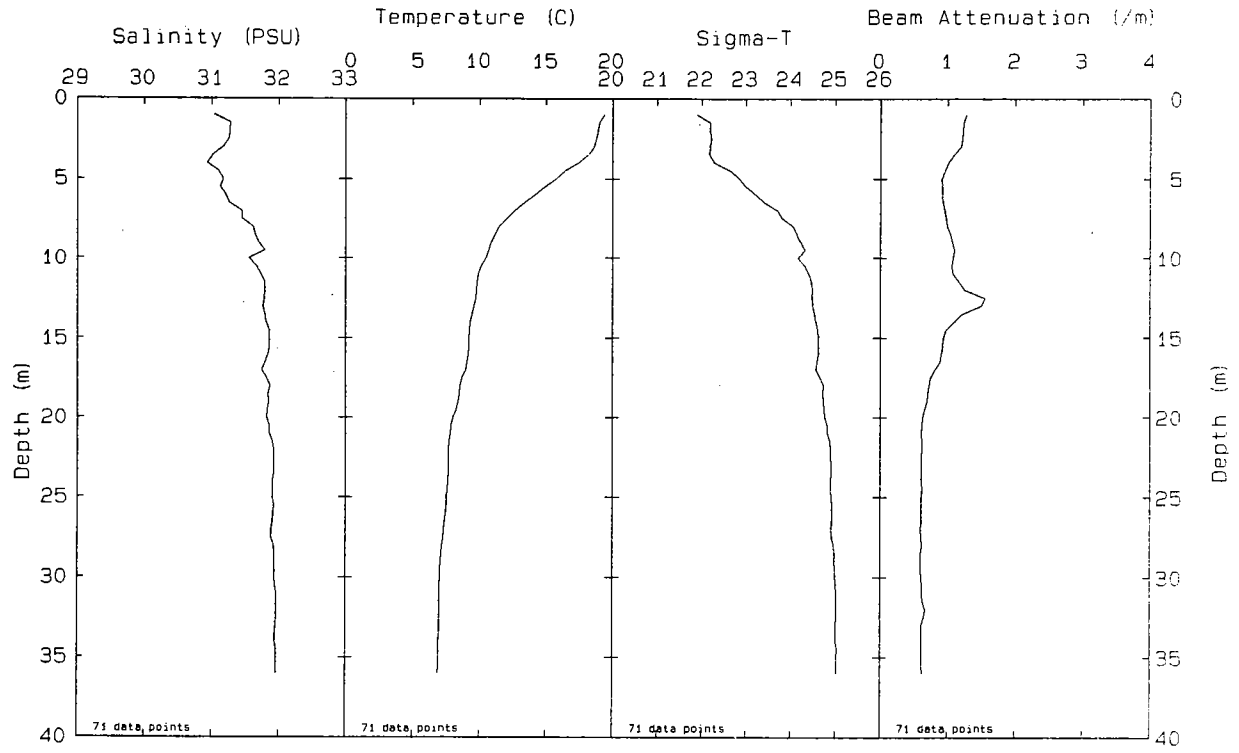


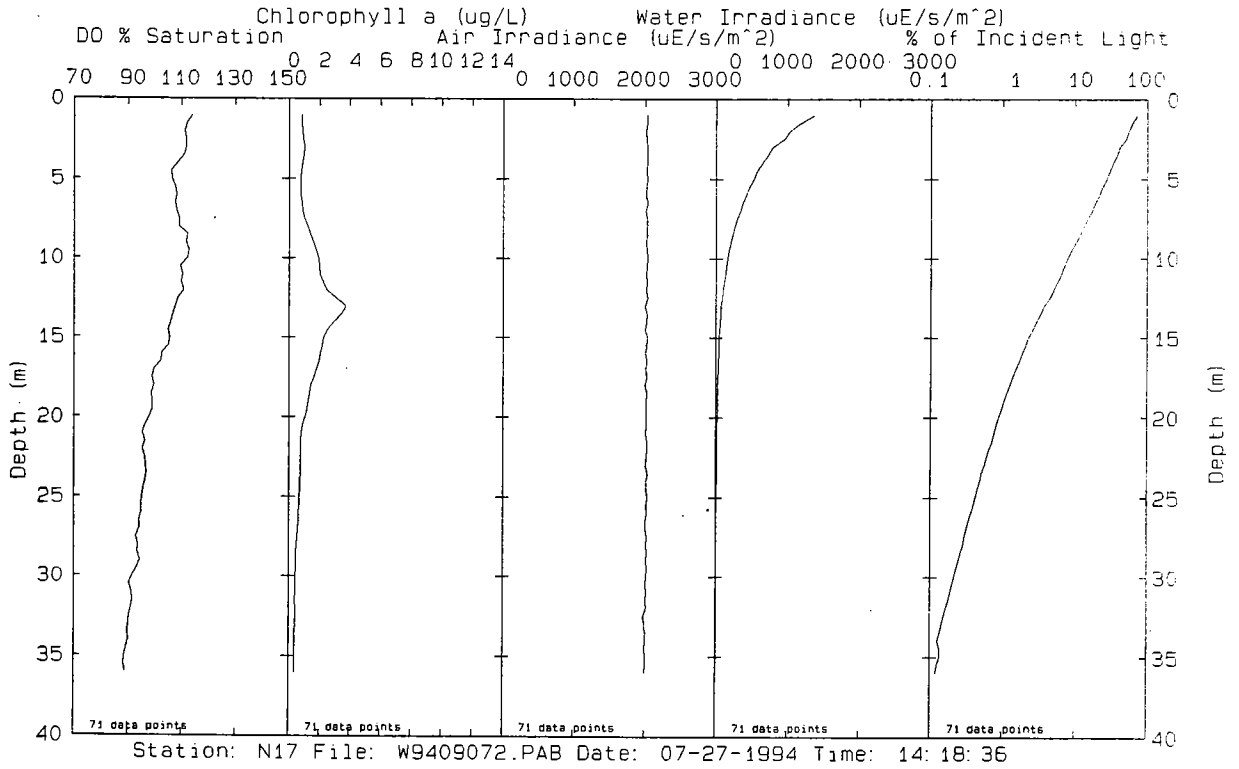
Station: N15 File: W9409066.PAB Date: 07-27-1994 Time: 13:34:29



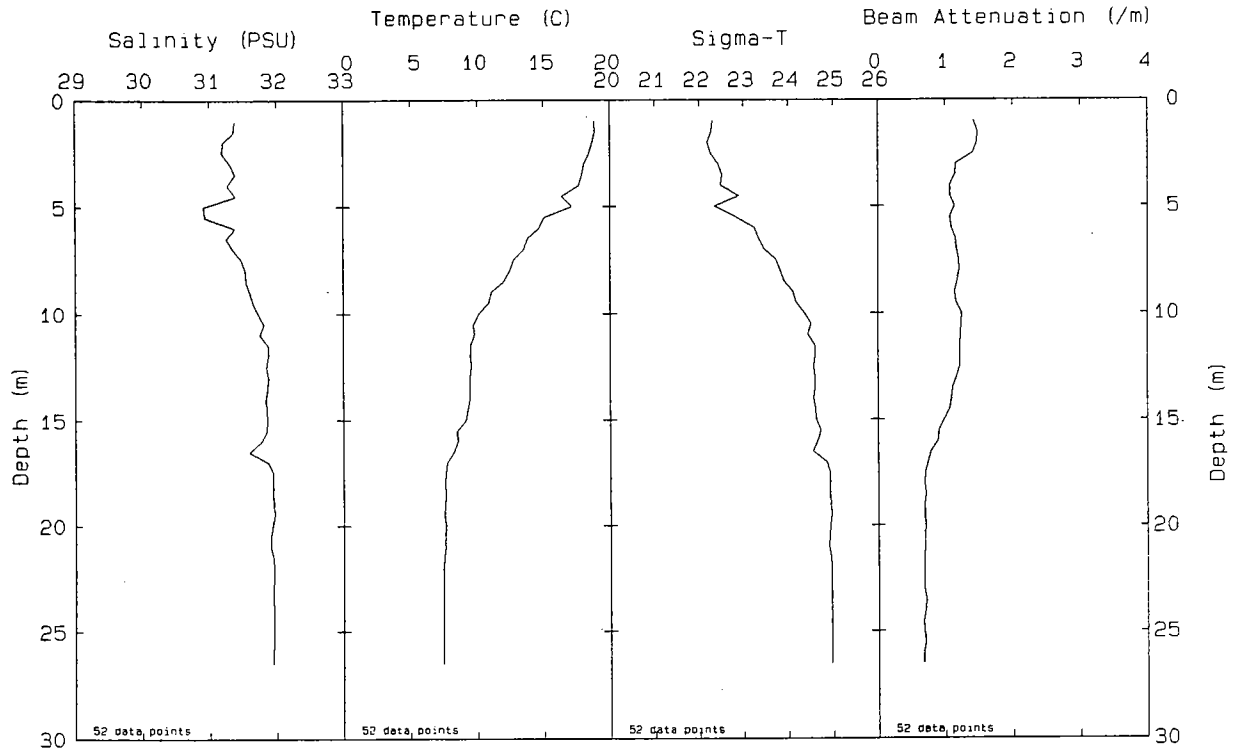


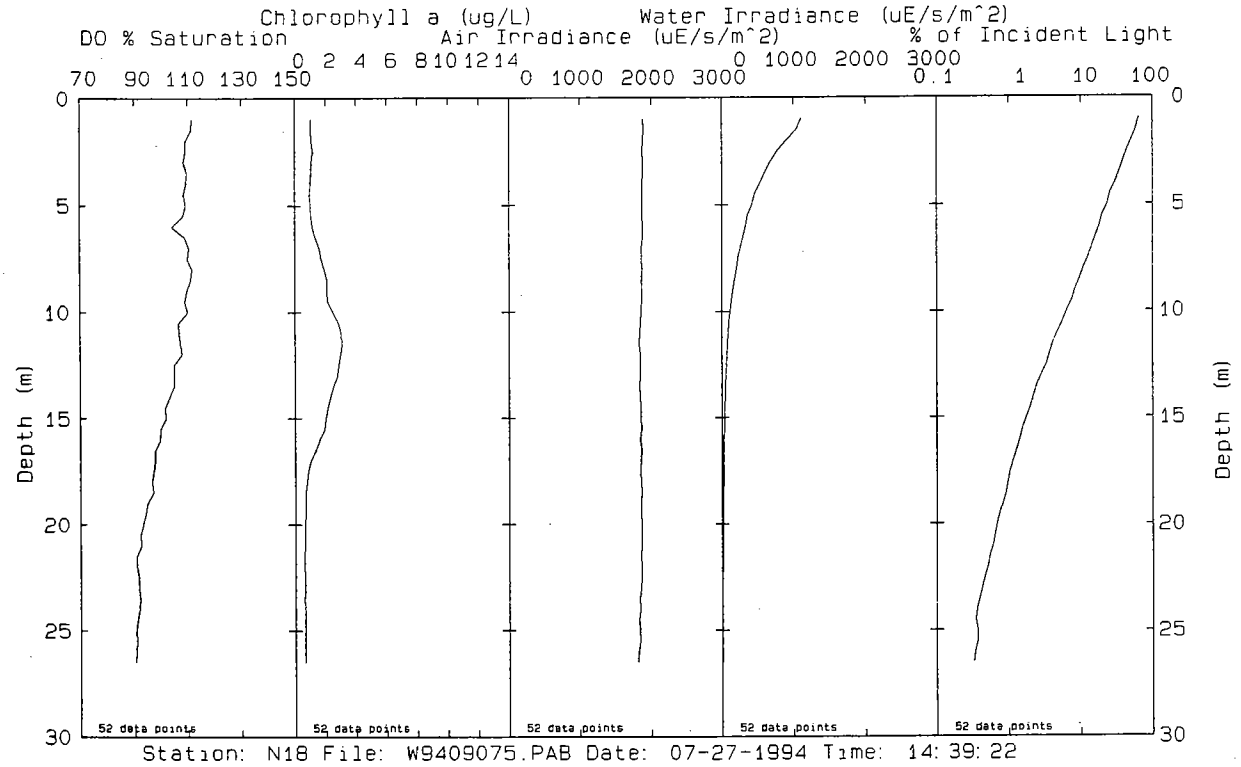
Station: N16P File: W9409069.PAB Date: 07-27-1994 Time: 13:54:59



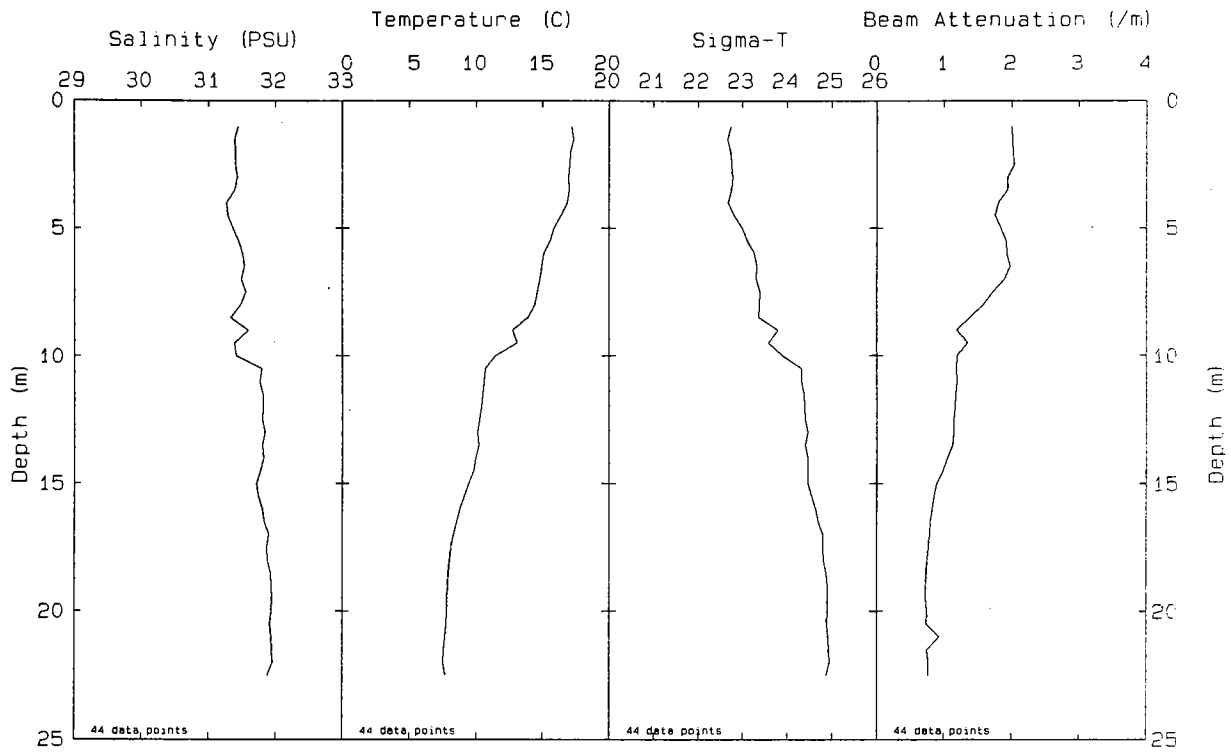


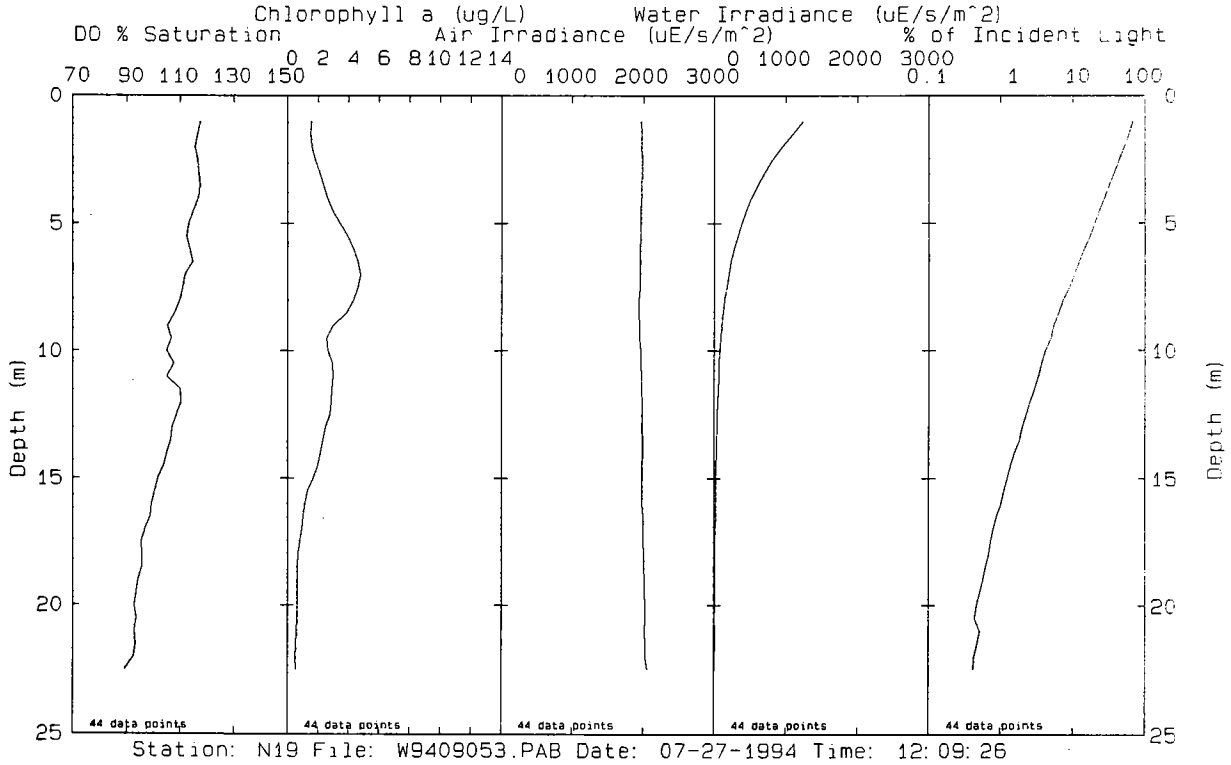
Station: N17 File: W9409072.PAB Date: 07-27-1994 Time: 14:18:36



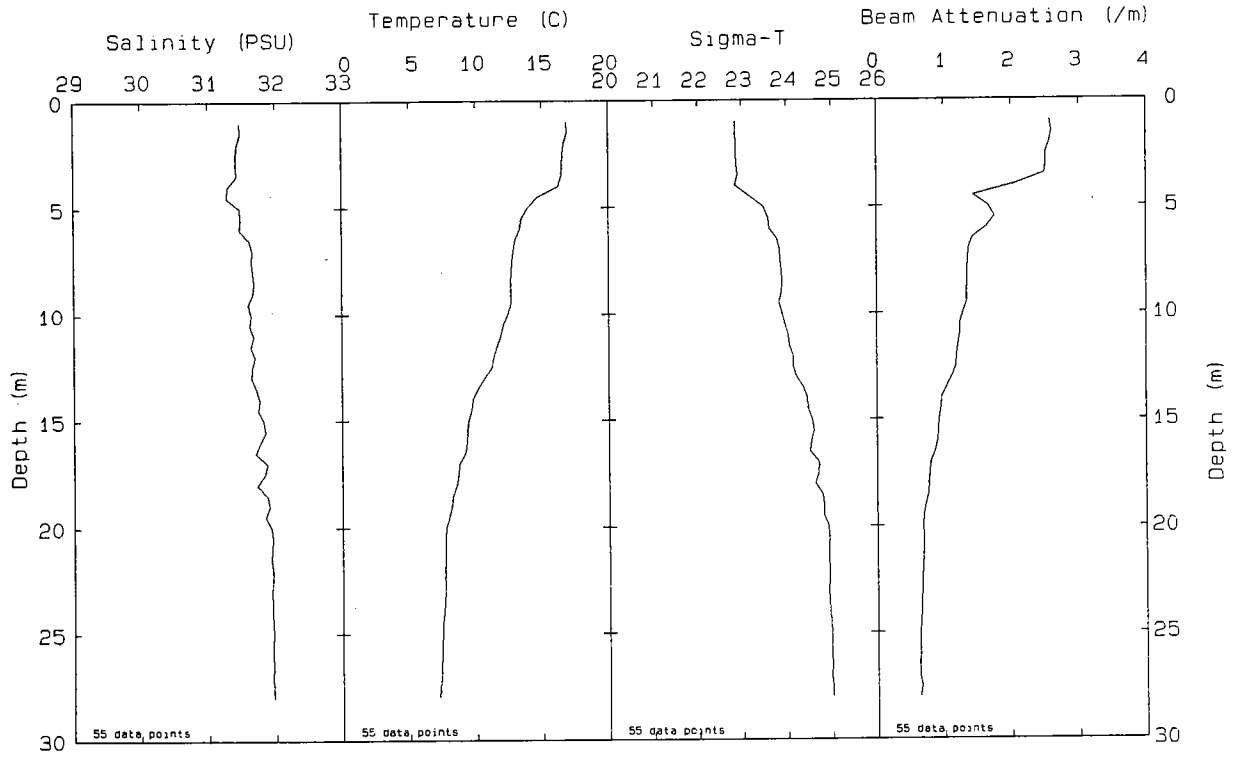


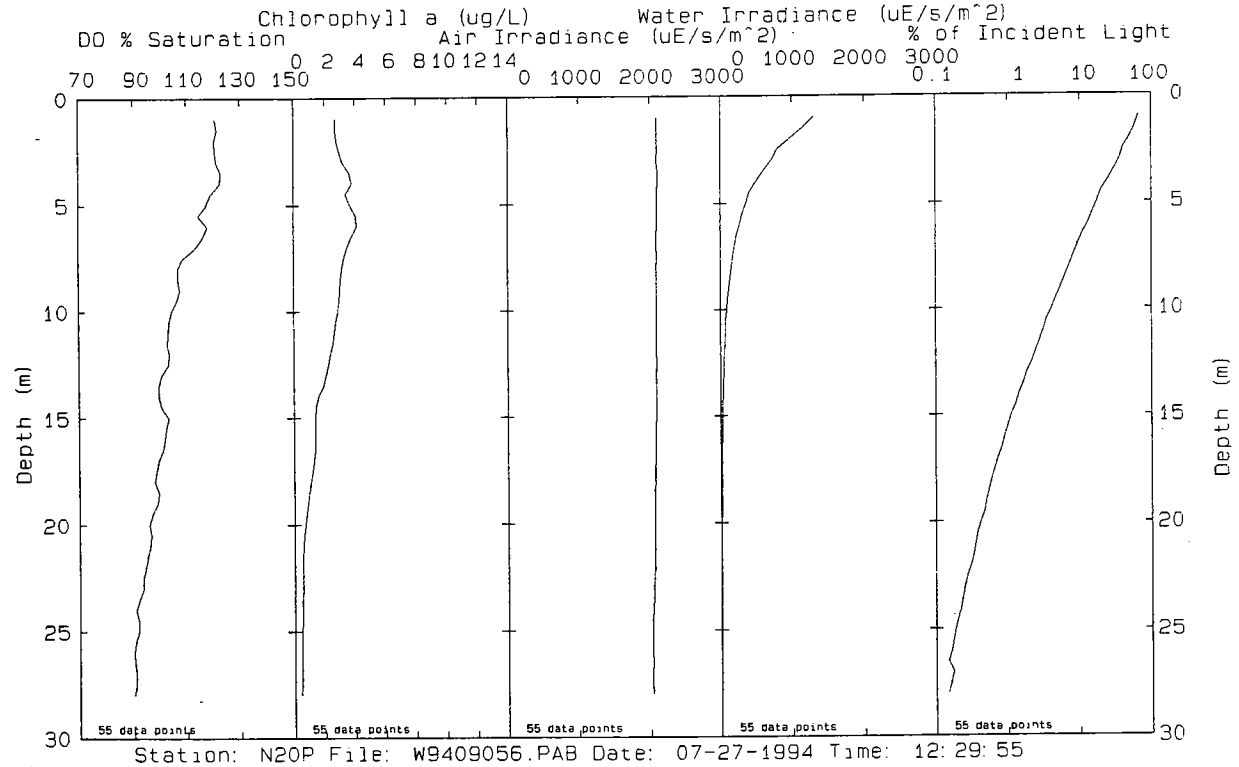
Station: N18 File: W9409075.PAB Date: 07-27-1994 Time: 14:39:22



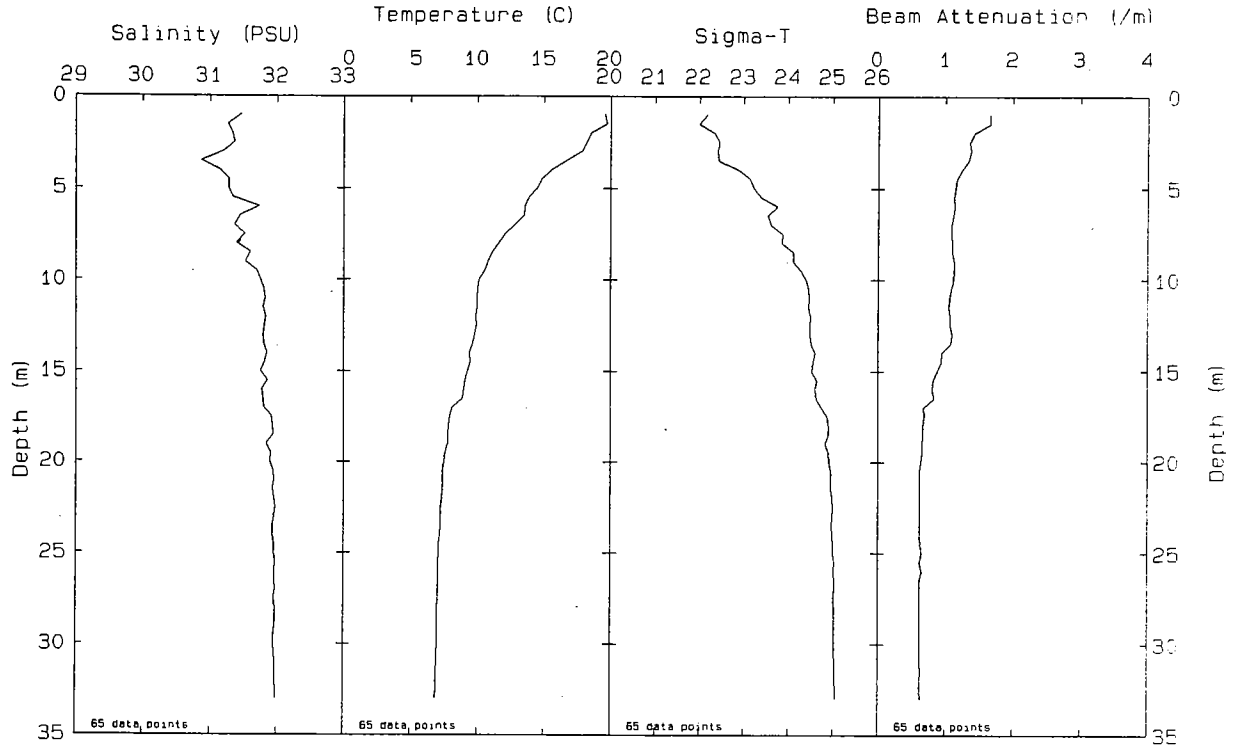


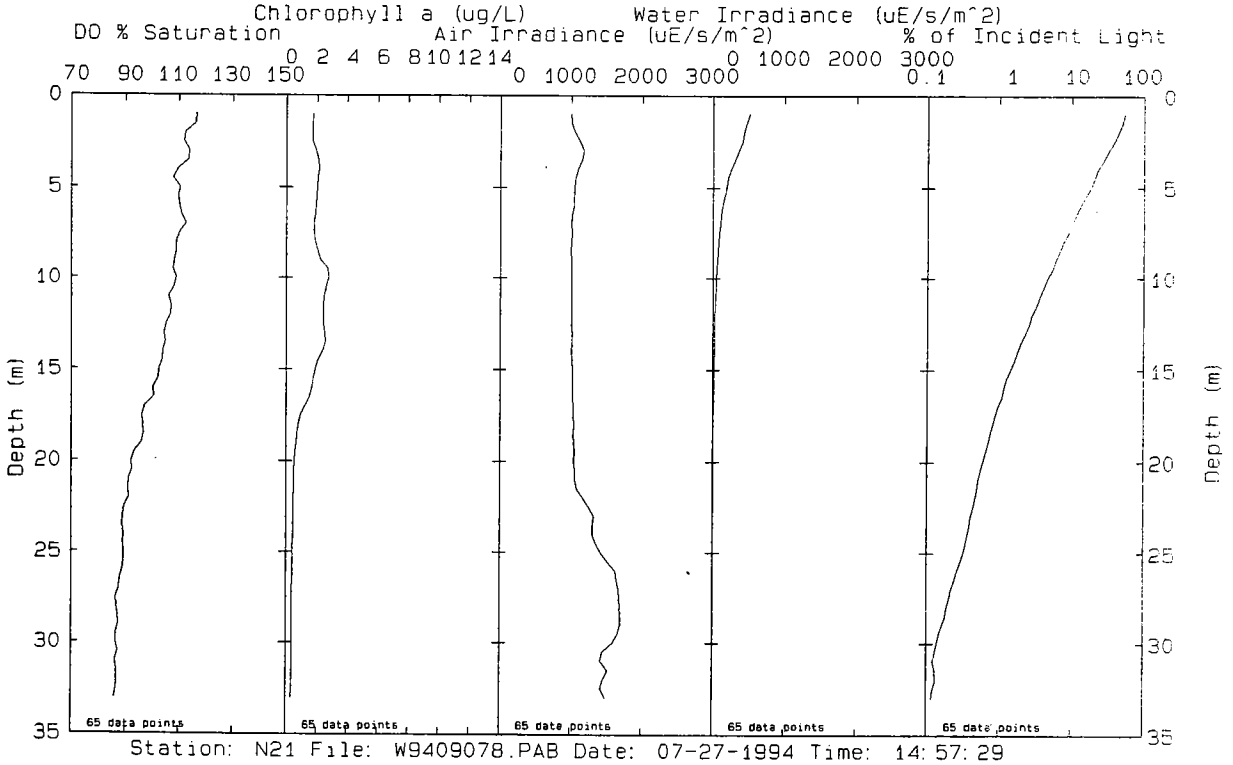
Station: N19 File: W9409053.PAB Date: 07-27-1994 Time: 12:09:26





Station: N20P File: W9409056.PAB Date: 07-27-1994 Time: 12:29:55





Station: N21 File: W9409078.PAB Date: 07-27-1994 Time: 14:57:29

APPENDIX C

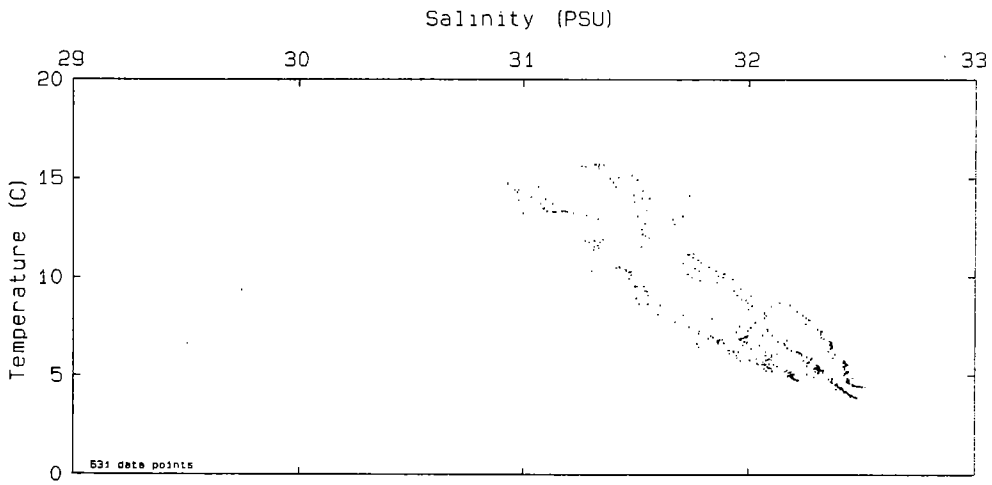
COMPARISON OF VERTICAL PROFILE DATA: SCATTER PLOTS

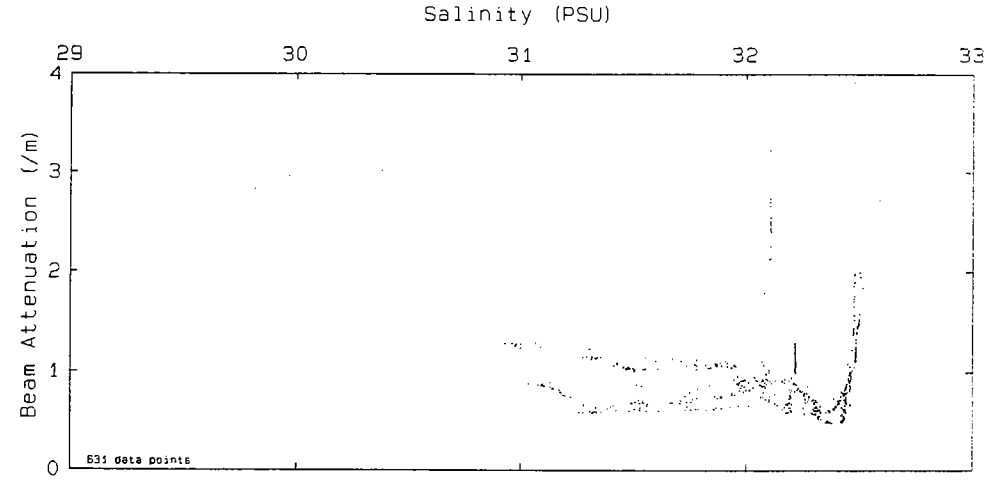
Parameter-Parameter Plots of Vertical Profile Data, Combined Surveys

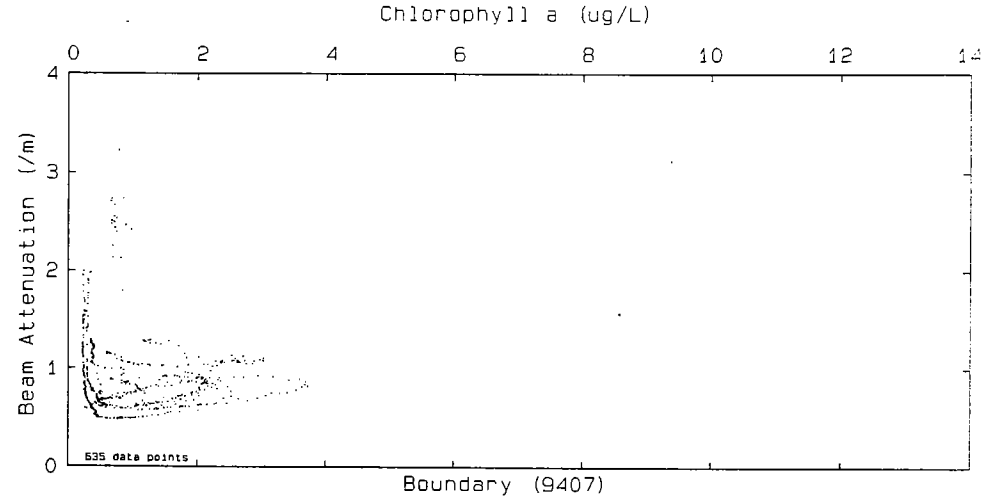
Note that for nearfield surveys, all plots are given as figures in the accompanying text report. For the combined survey, composite plots (all stations) are given as figures in the accompanying text report.

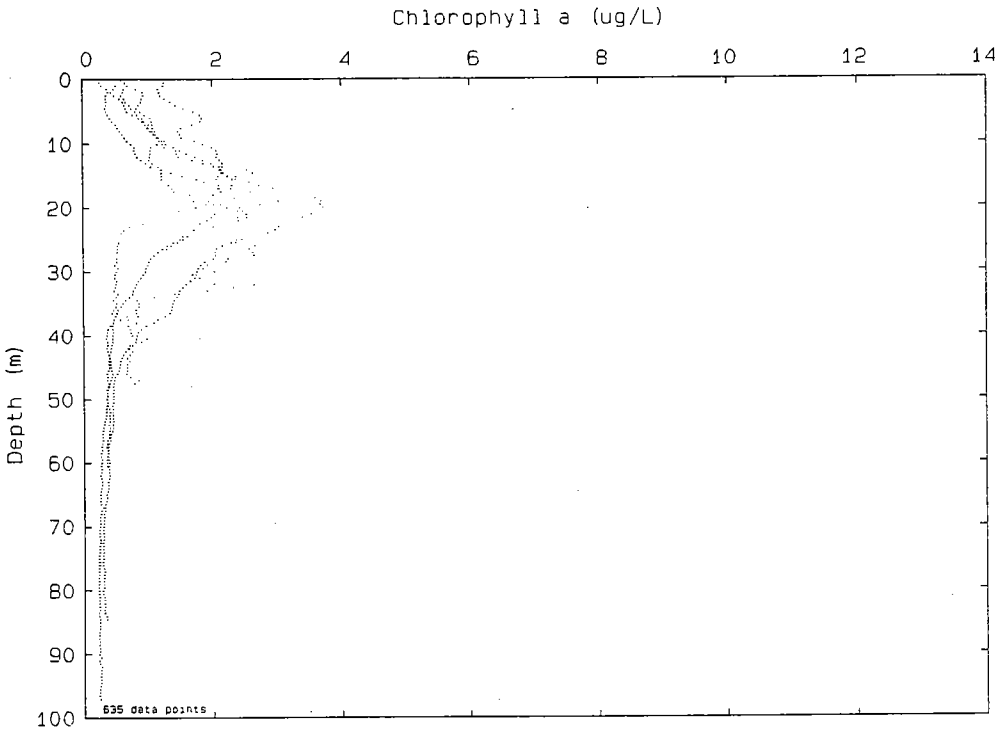
The plots for the June (W9407) survey given here separate stations by station groups as defined in the text report.

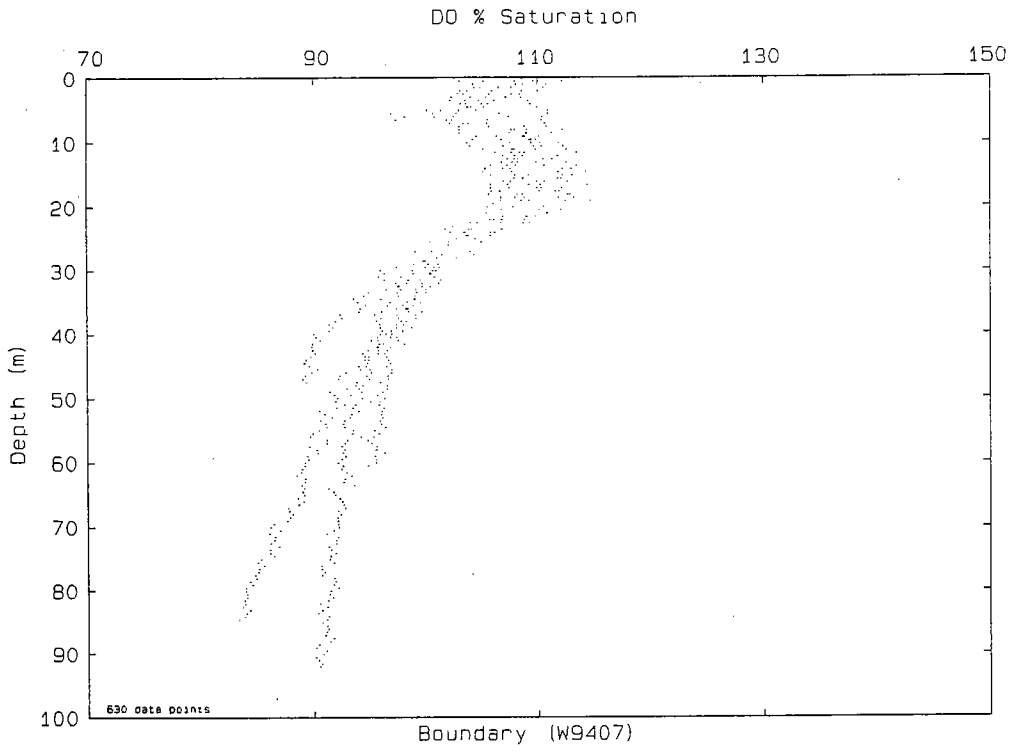
Data are as described in Appendix B and include the entire profile at each station.

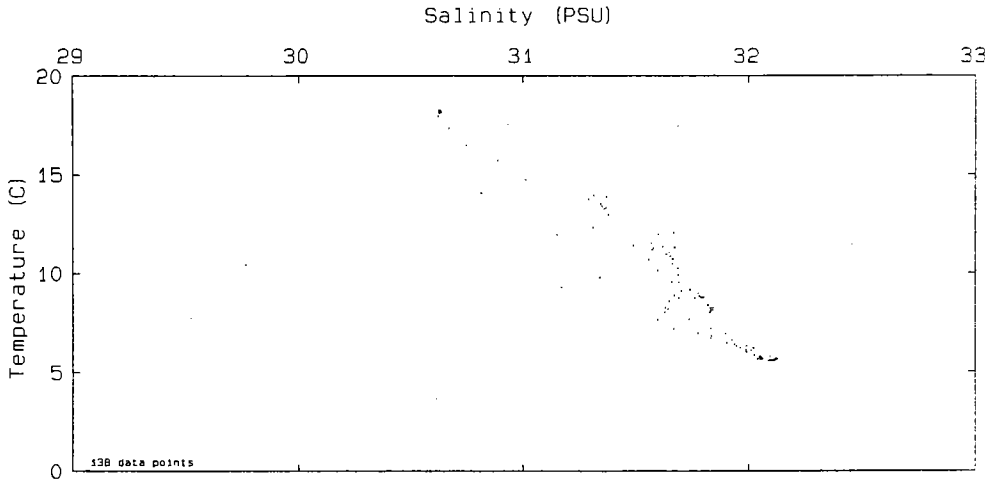

Salinity (PSU)
29
30
31
32
33
20
15
10
5
0
Temperature (C)
631 data points

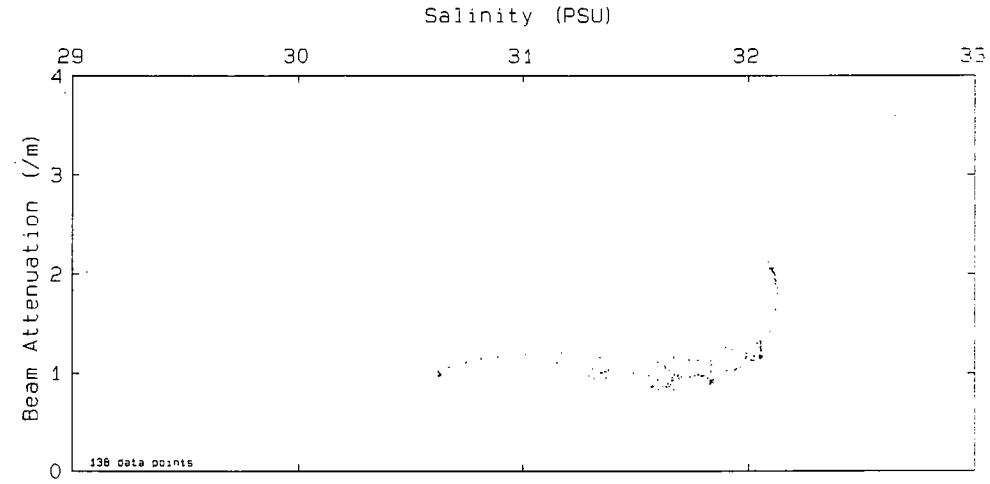

Salinity (PSU)
29
30
31
32
33
4
3
2
1
0
Beam Attenuation (/m)
631 data points

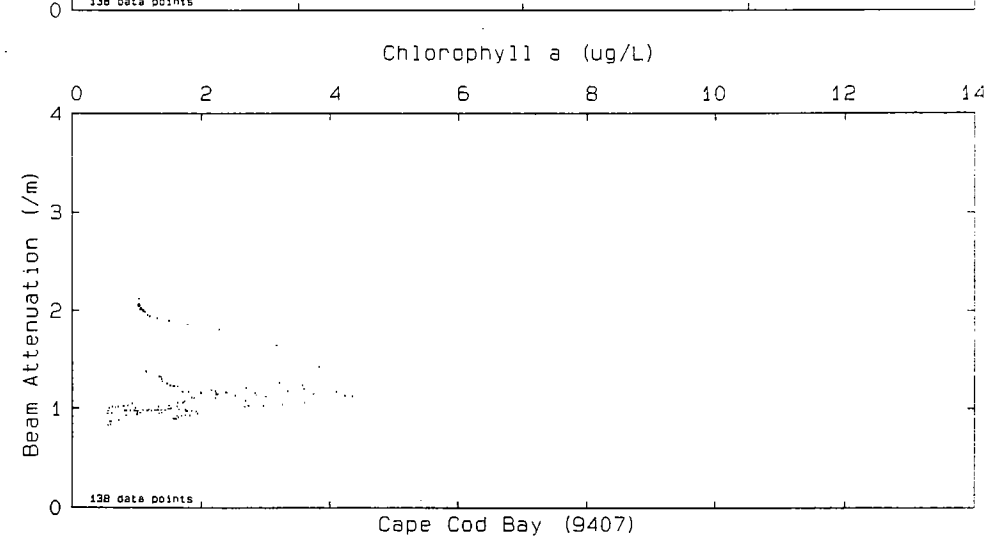

Chlorophyll a (ug/L)
0
2
4
6
8
10
12
14
4
3
2
1
0
Beam Attenuation (/m)
635 data points
Boundary (9407)

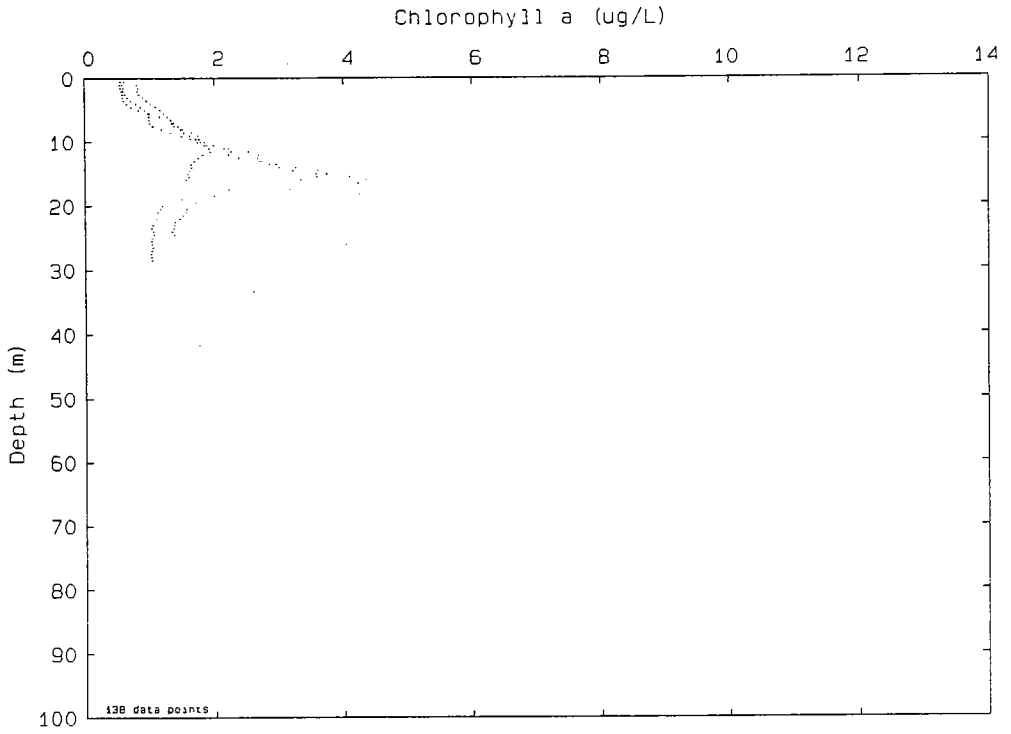

Chlorophyll a (ug/L)
0
2
4
6
8
10
12
14
Depth (m)
0
10
20
30
40
50
60
70
80
90
100
635 data points

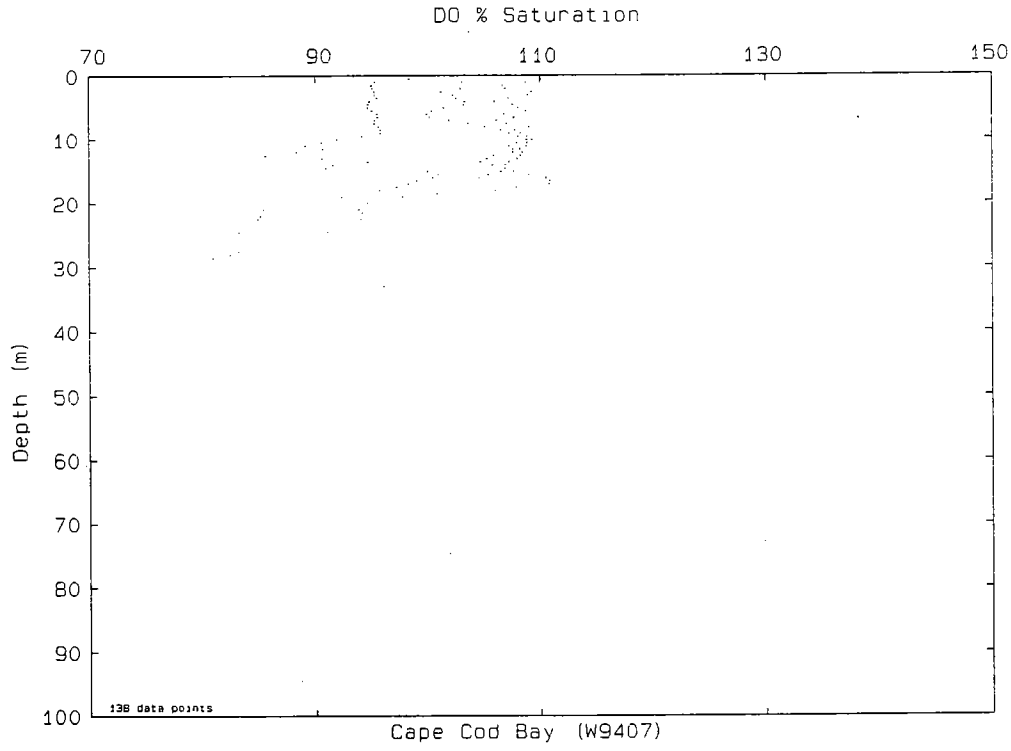

DO % Saturation
70
90
110
130
150
Depth (m)
0
10
20
30
40
50
60
70
80
90
100
630 data points
Boundary (W9407)

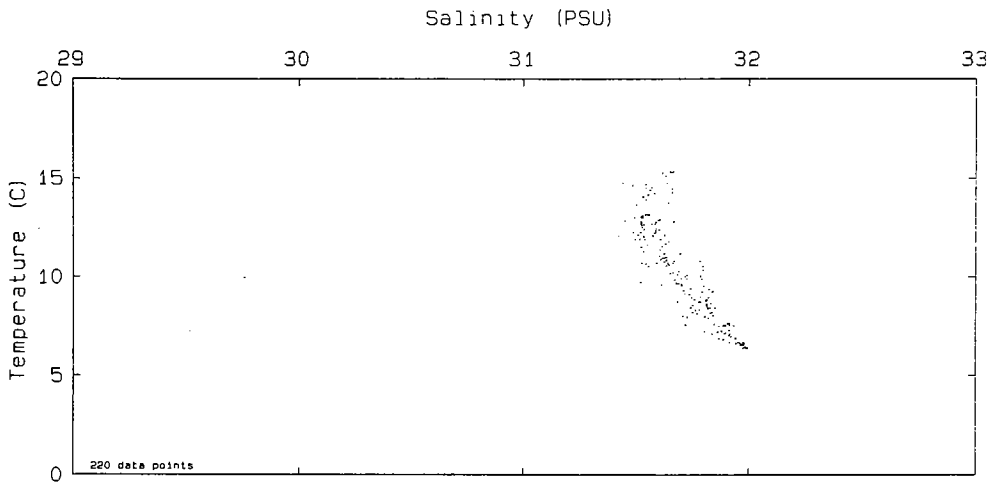

Salinity (PSU)
29
30
31
32
33
20
15
10
5
0
Temperature (C)
138 data points

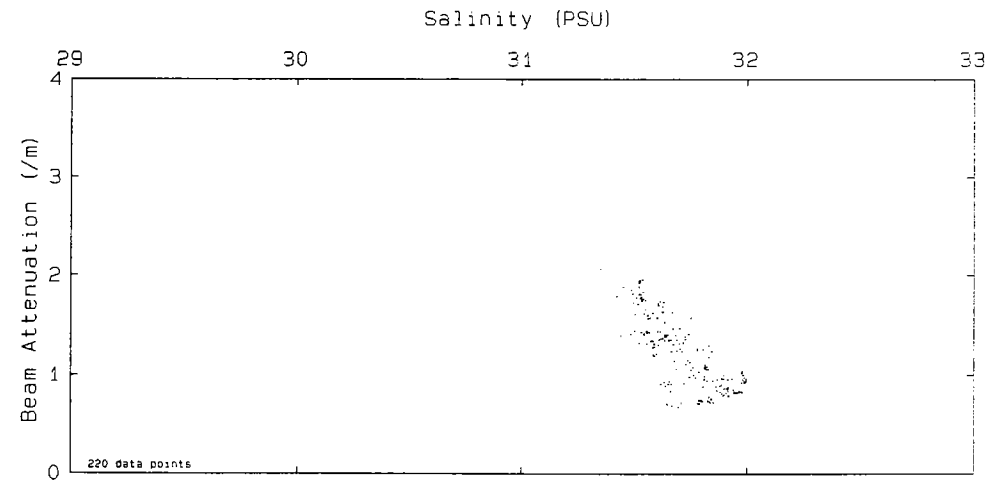

Salinity (PSU)
29
30
31
32
33
4
3
2
1
0
Beam Attenuation (/m)
138 data points

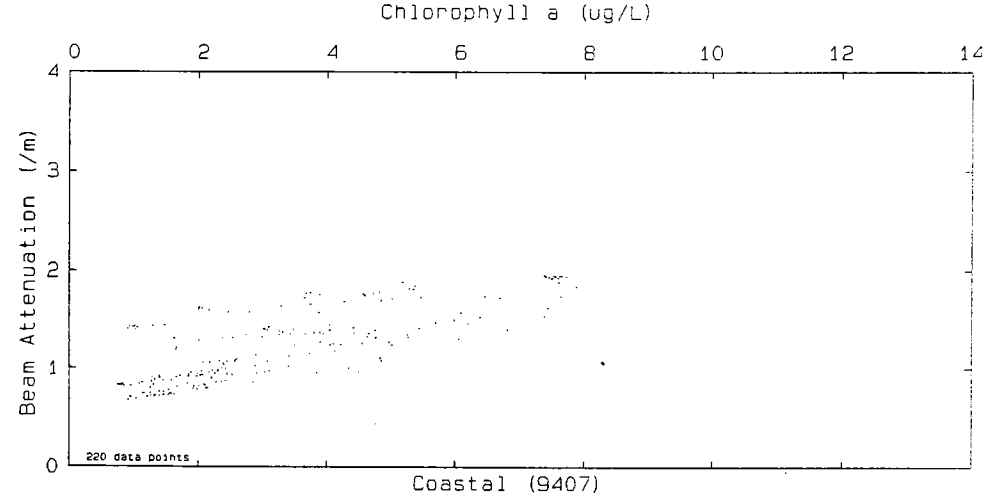

Chlorophyll a (ug/L)
0
2
4
6
8
10
12
14
4
3
2
1
0
Beam Attenuation (/m)
138 data points
Cape Cod Bay (9407)

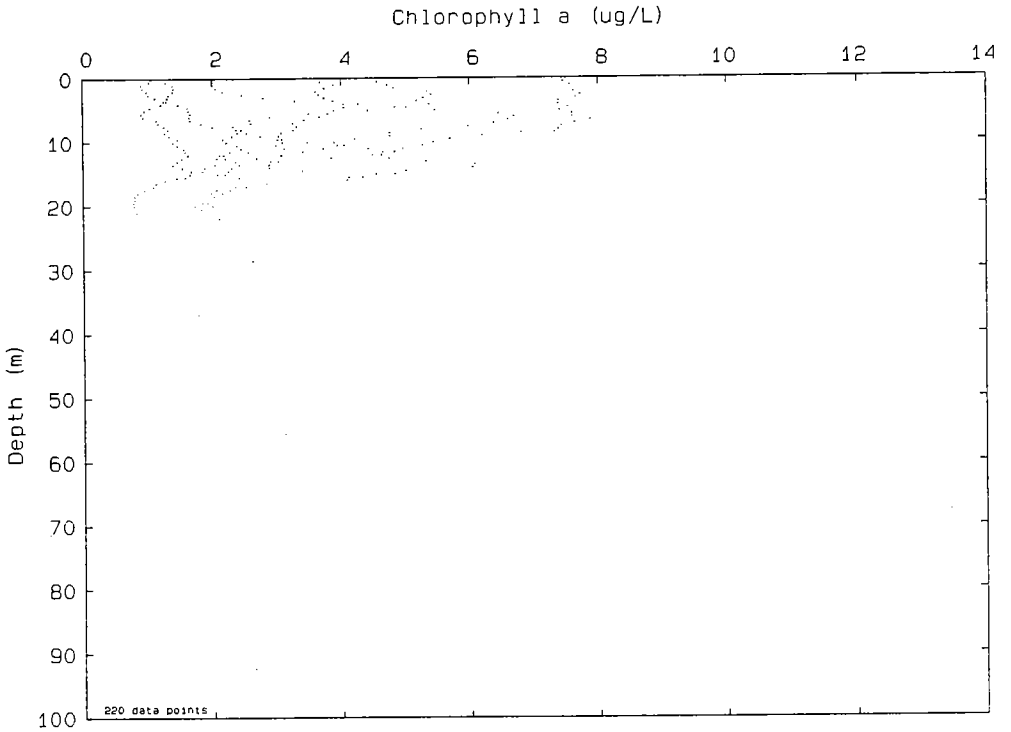

Chlorophyll a (ug/L)
0
2
4
6
8
10
12
14
Depth (m)
0
10
20
30
40
50
60
70
80
90
100
138 data points

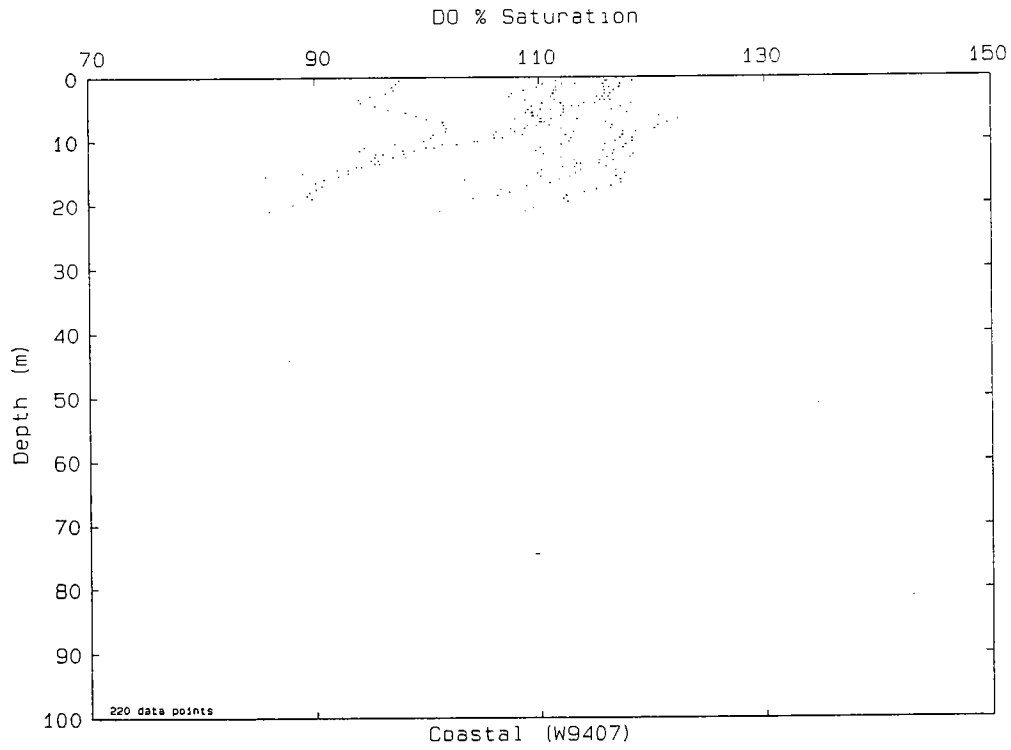

DO % Saturation
70
90
110
130
150
Depth (m)
0
10
20
30
40
50
60
70
80
90
100
138 data points
Cape Cod Bay (W9407)

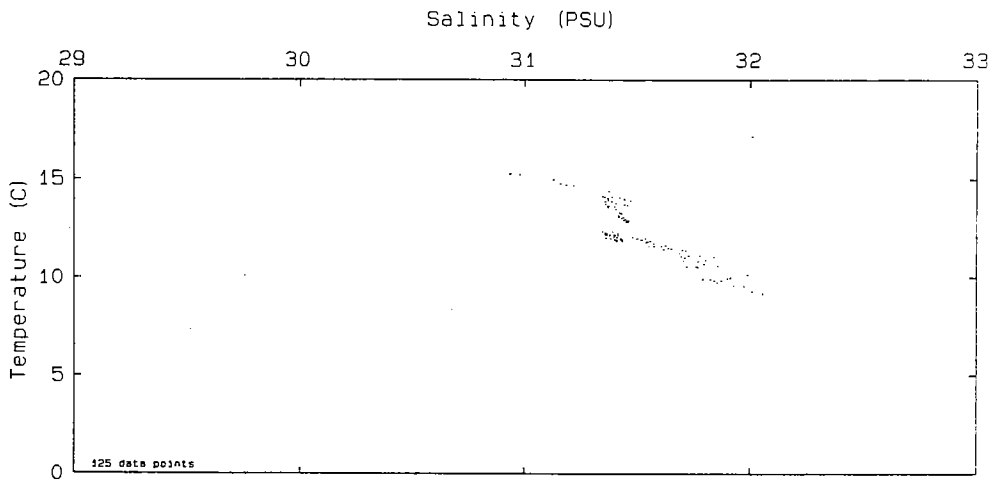

Salinity (PSU)
29
30
31
32
33
20
15
10
5
0
Temperature (C)
220 data points

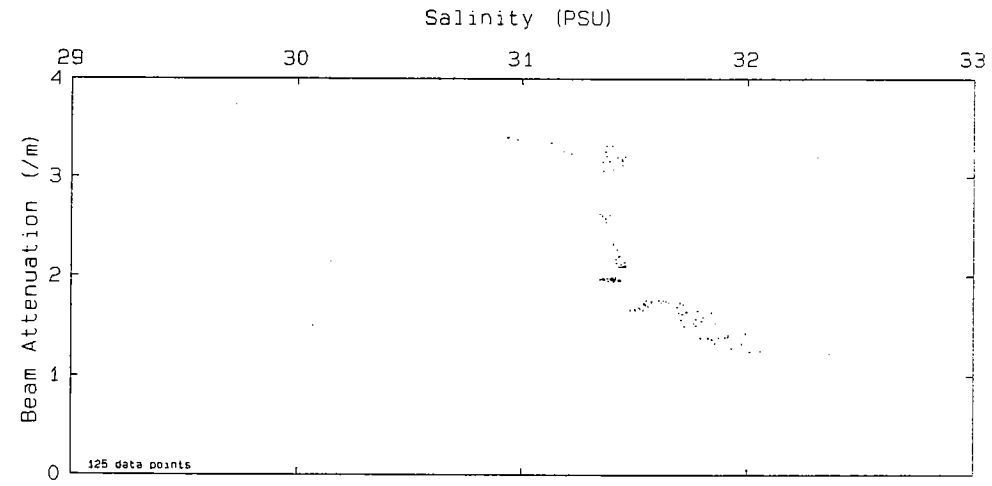

Salinity (PSU)
29
30
31
32
33
4
3
2
1
0
Beam Attenuation (/m)
220 data points

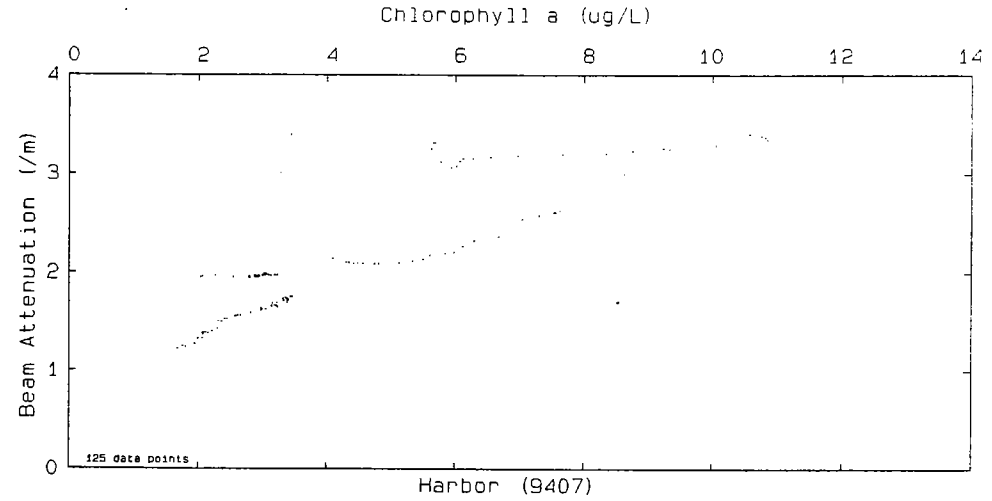

Chlorophyll a (ug/L)
0
2
4
6
8
10
12
14
4
3
2
1
0
Beam Attenuation (/m)
220 data points
Coastal (9407)

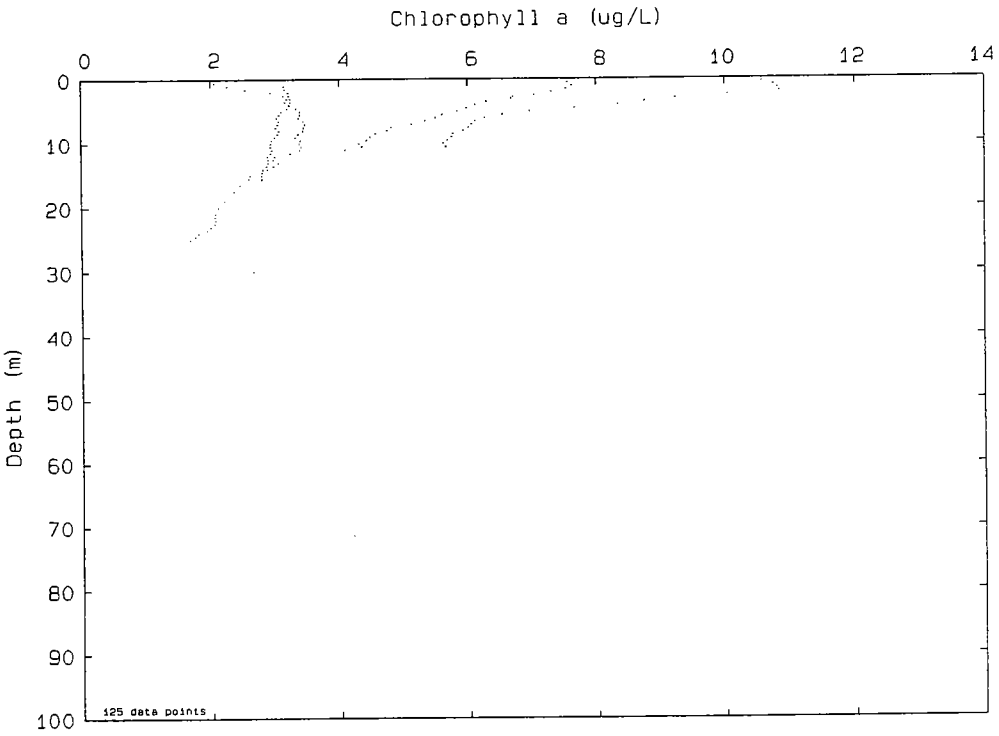

Chlorophyll a (ug/L)
0
2
4
6
8
10
12
14
Depth (m)
0
10
20
30
40
50
60
70
80
90
100
220 data points

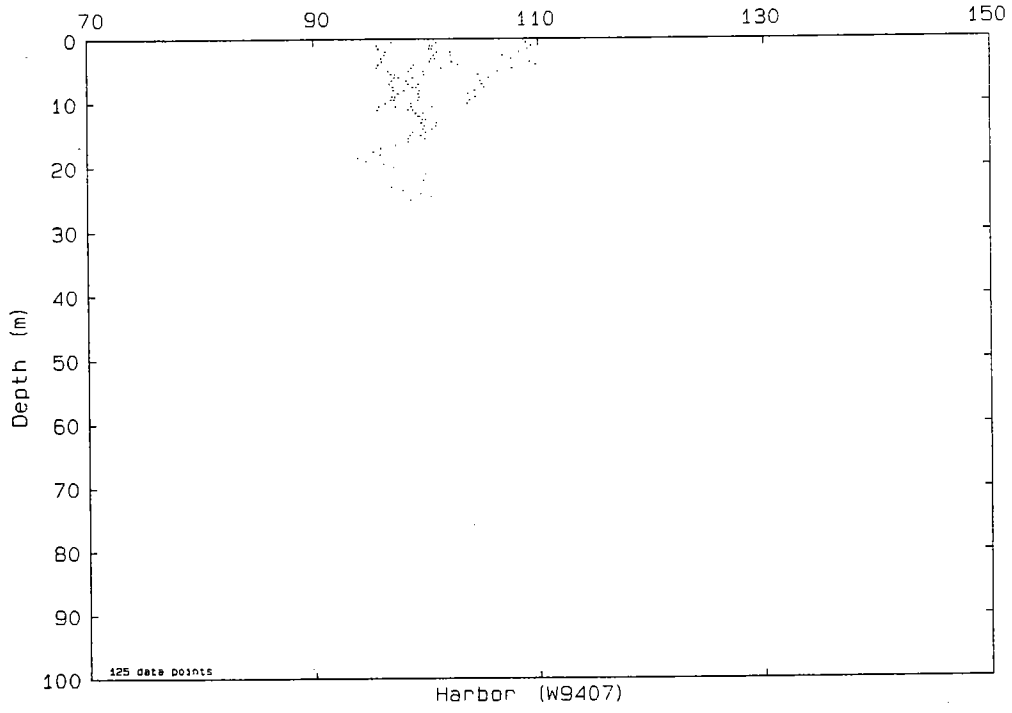

DO % Saturation
70
90
110
130
150
Depth (m)
0
10
20
30
40
50
60
70
80
90
100
220 data points
Coastal (W9407)

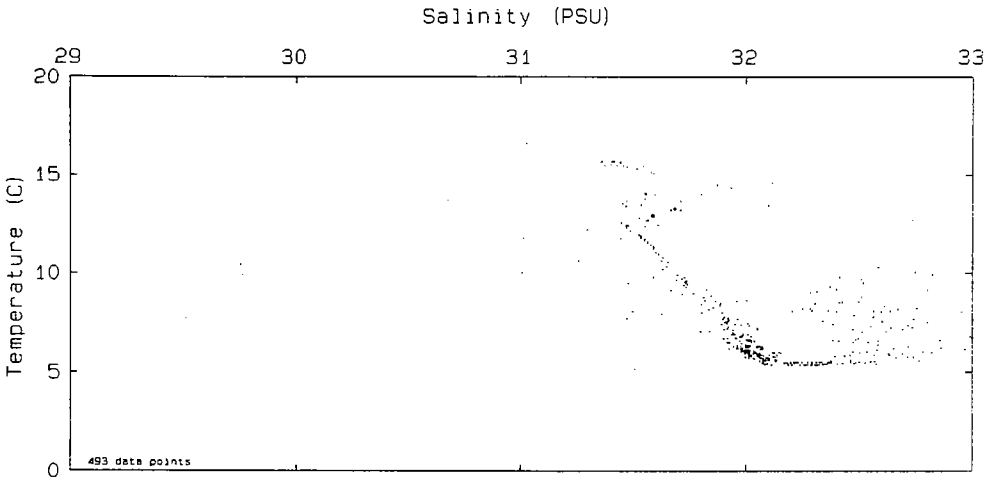

Salinity (PSU)
29
30
31
32
33
20
15
10
5
0
Temperature (C)
125 data points

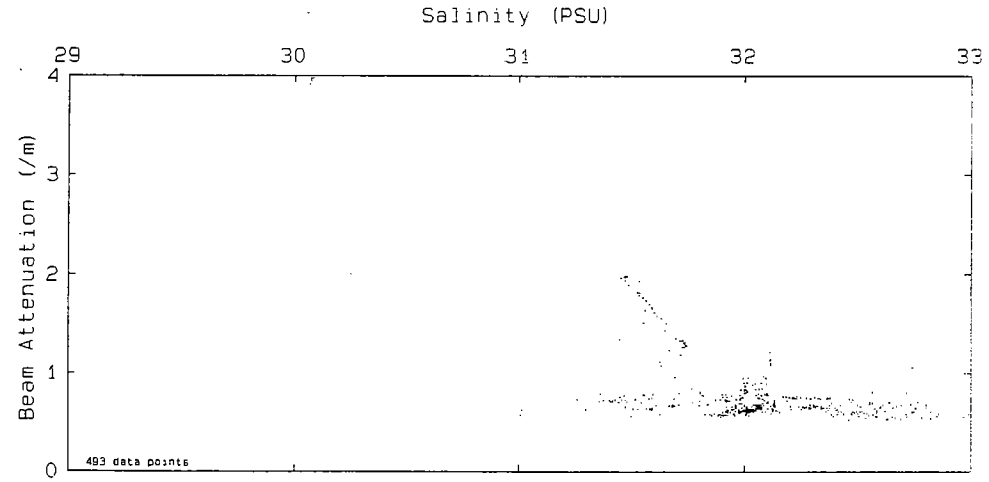

Salinity (PSU)
29
30
31
32
33
4
3
2
1
0
Beam Attenuation (/m)
125 data points

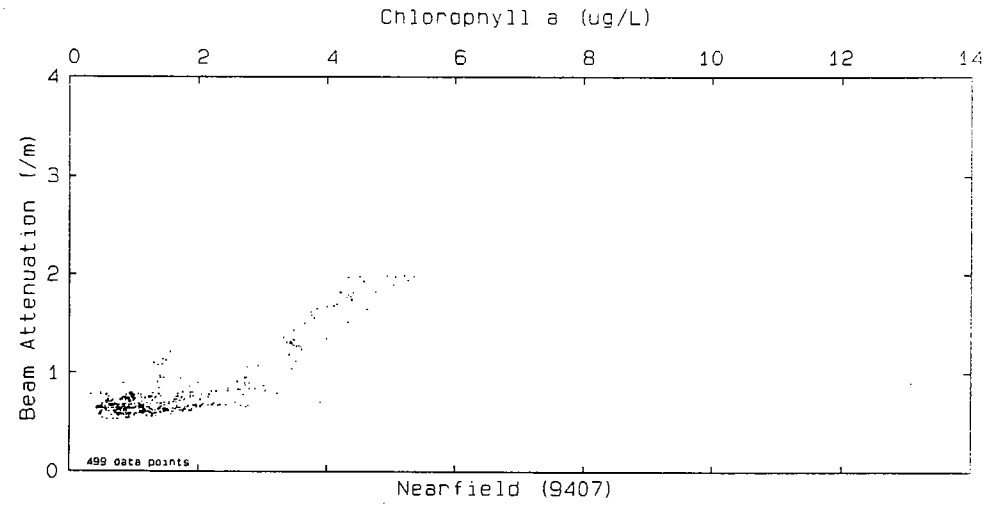

Chlorophyll a (ug/L)
0
2
4
6
8
10
12
14
4
3
2
1
0
Beam Attenuation (/m)
125 data points
Harbor (9407)

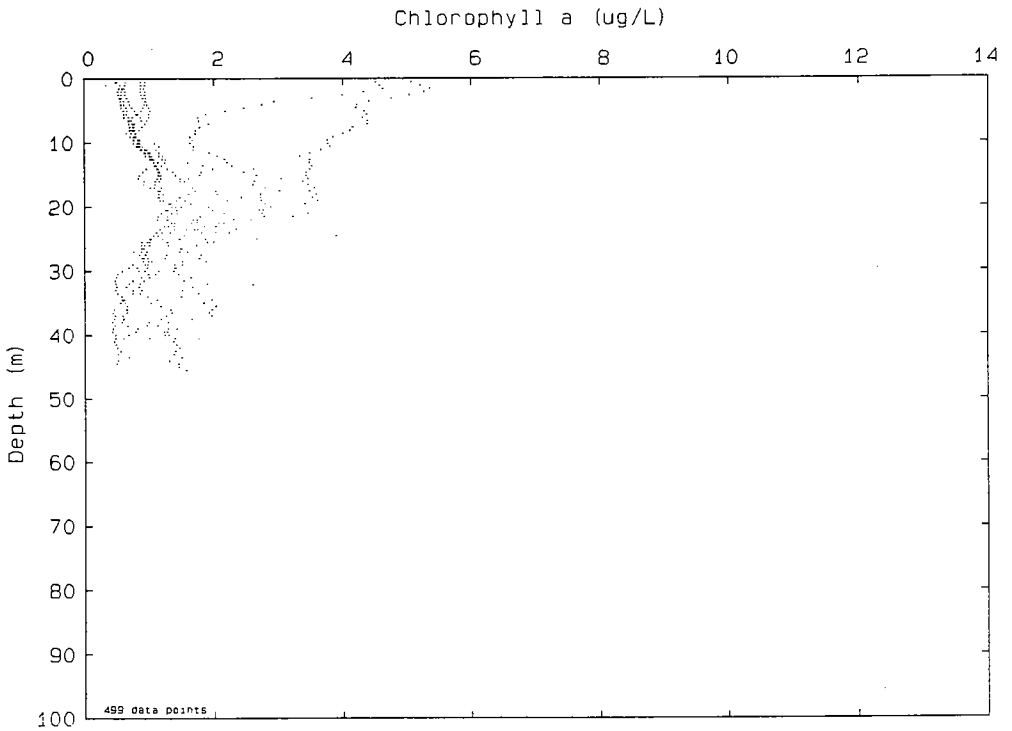

Chlorophyll a (ug/L)
0
2
4
6
8
10
12
14
Depth (m)
0
10
20
30
40
50
60
70
80
90
100
125 data points

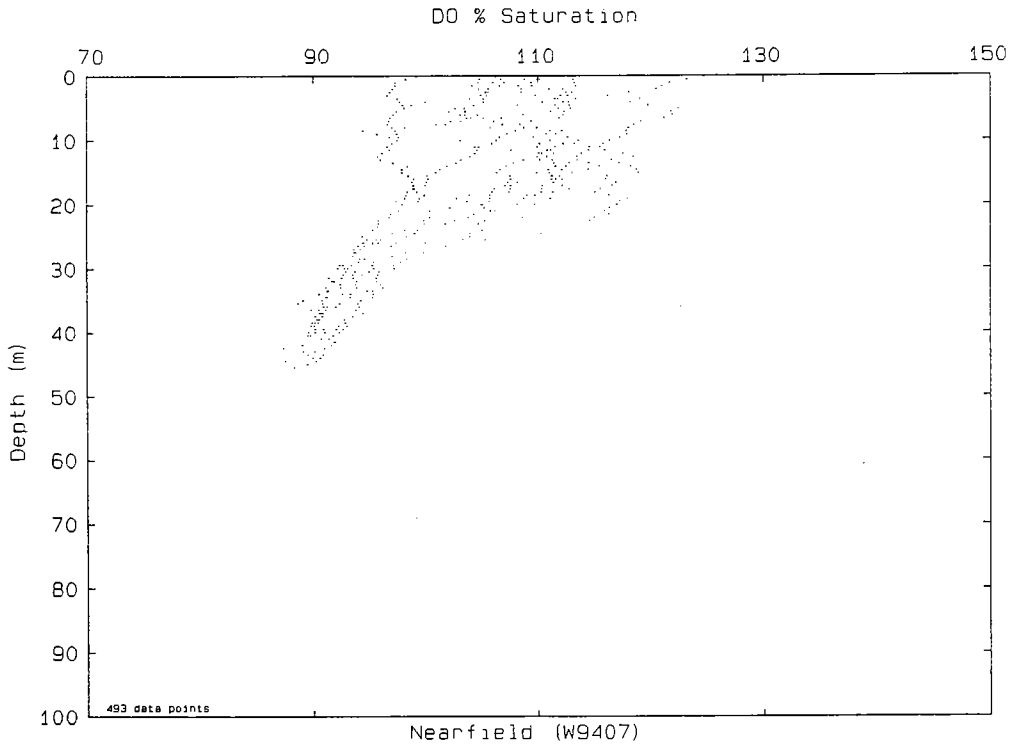

DO % Saturation
70
90
110
130
150
Depth (m)
0
10
20
30
40
50
60
70
80
90
100
125 data points
Harbor (W9407)

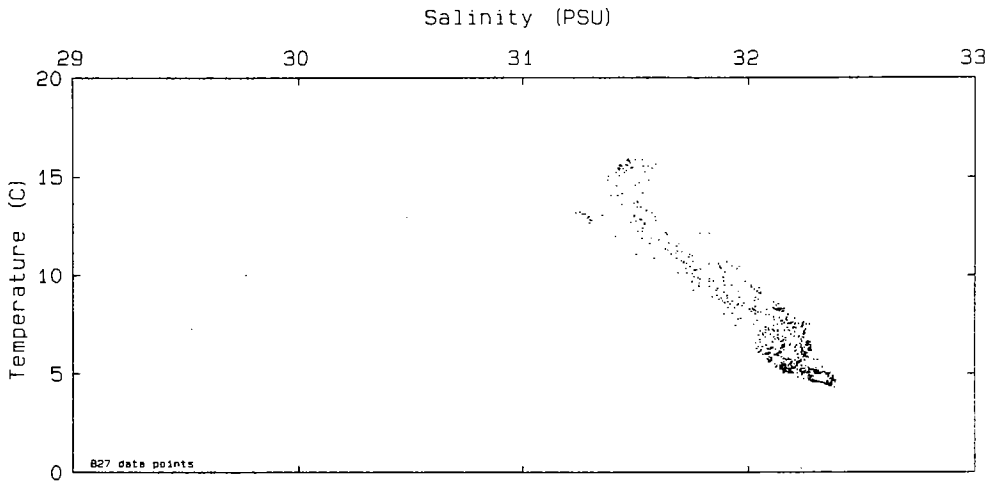

Salinity (PSU)
29
30
31
32
33
20
15
10
5
0
Temperature (C)
493 data points

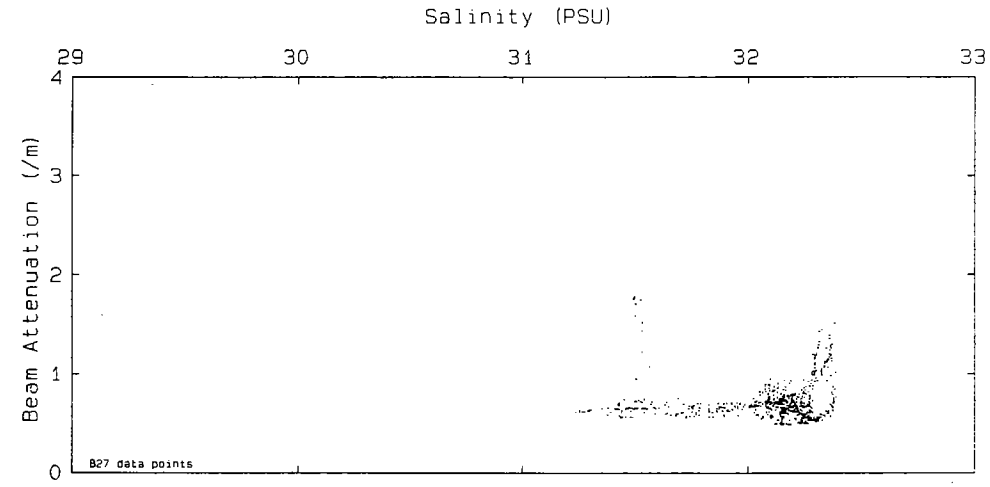

Salinity (PSU)
29
30
31
32
33
4
3
2
1
0
Beam Attenuation (/m)
493 data points

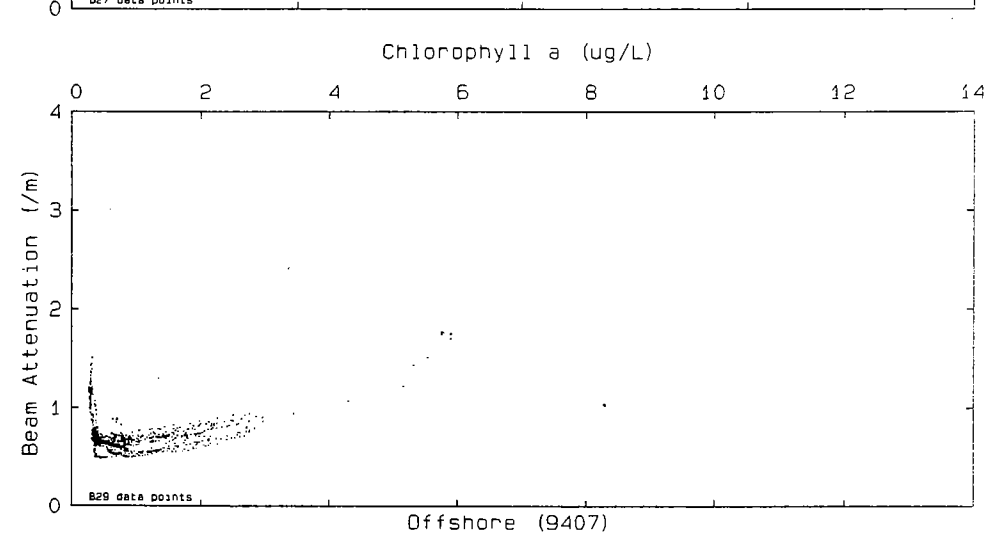

Chlorophyll a (ug/L)
0
2
4
6
8
10
12
14
4
3
2
1
0
Beam Attenuation (/m)
499 data points
Nearfield (9407)

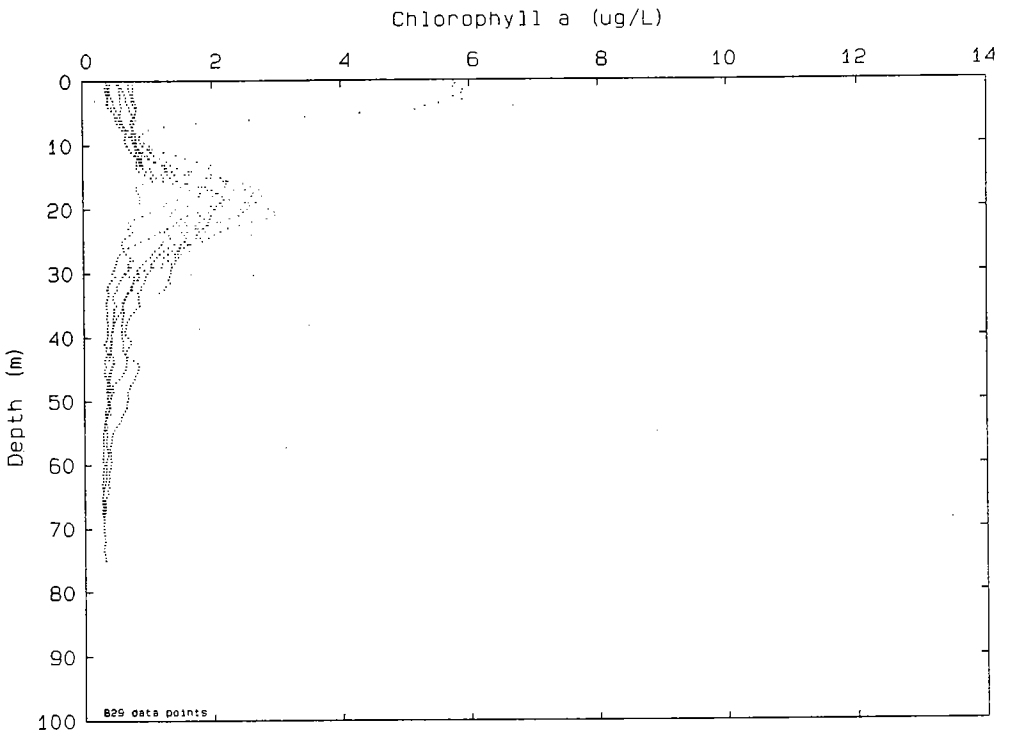

Chlorophyll a (ug/L)
0
2
4
6
8
10
12
14
Depth (m)
0
10
20
30
40
50
60
70
80
90
100
499 data points

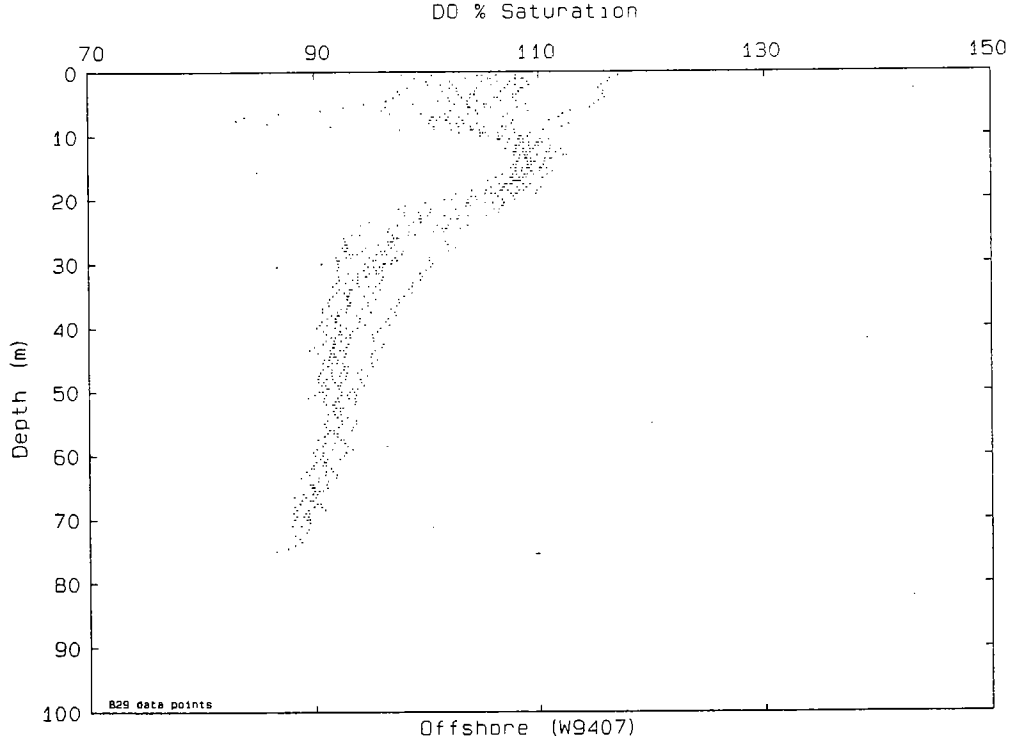

DO % Saturation
70
90
110
130
150
Depth (m)
0
10
20
30
40
50
60
70
80
90
100
493 data points
Nearfield (W9407)


Salinity (PSU)
29
30
31
32
33
20
15
10
5
0
Temperature (C)
827 data points


Salinity (PSU)
29
30
31
32
33
4
3
2
1
0
Beam Attenuation (/m)
827 data points


Chlorophyll a (ug/L)
0
2
4
6
8
10
12
14
4
3
2
1
0
Beam Attenuation (/m)
829 data points
Offshore (9407)


Chlorophyll a (ug/L)
0
2
4
6
8
10
12
14
Depth (m)
0
10
20
30
40
50
60
70
80
90
100
B29 data points


DO % Saturation
70
90
110
130
150
Depth (m)
0
10
20
30
40
50
60
70
80
90
100
B29 data points
Offshore (W9407)

APPENDIX D

METABOLISM DATA AND PRODUCTIVITY—IRRADIANCE MODELING

Part 1

^{14}C Incubation Data

Table D1-1 includes data from the June (W9407) survey. The table includes data for samples from BioProductivity stations F23P and N16P that were incubated from surface, mid-surface, mid-depth, and mid-bottom depths (dark and light bottles). ^{14}C-production was calculated using measured dissolved inorganic carbon and after subtraction of the mean (n=3) dark bottle uptake rates as described in the text report. Where ^{14}C (DPM) for a dark bottle are labeled with an "s" qualifier the data were suspect and were not used in calculating production. In Appendix D, Part 2, the criterion used for rejecting suspect data is given.

Table D1-1. C14 Production at Bioproductivity Stations in June of 1994.

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)
W9407	F23P	21-JUN-94	0705	1.58	W94070036					6000447.0	24.4	5.6	
W9407	F23P	21-JUN-94	0705	1.58	W94070036	-3	DARK	0	925.4				
W9407	F23P	21-JUN-94	0705	1.58	W94070036	-2	DARK	0	1136.2 s				
W9407	F23P	21-JUN-94	0705	1.58	W94070036	-1	DARK	0	915.8				
W9407	F23P	21-JUN-94	0705	1.58	W94070036	1	LIGHT	13	2817.0				1.4
W9407	F23P	21-JUN-94	0705	1.58	W94070036	2	LIGHT	9	2506.3				1.2
W9407	F23P	21-JUN-94	0705	1.58	W94070036	3	LIGHT	91	23568.1				17.4
W9407	F23P	21-JUN-94	0705	1.58	W94070036	4	LIGHT	43	8503.8				5.8
W9407	F23P	21-JUN-94	0705	1.58	W94070036	5	LIGHT	729	41441.4				31.1
W9407	F23P	21-JUN-94	0705	1.58	W94070036	6	LIGHT	1127	43616.9				32.8
W9407	F23P	21-JUN-94	0705	1.58	W94070036	7	LIGHT	120	22469.7				16.5
W9407	F23P	21-JUN-94	0705	1.58	W94070036	8	LIGHT	160	29175.4				21.7
W9407	F23P	21-JUN-94	0705	1.58	W94070036	9	LIGHT	1	712.9				-0.2
W9407	F23P	21-JUN-94	0705	1.58	W94070036	10	LIGHT	503	43018.4				32.3
W9407	F23P	21-JUN-94	0705	1.58	W94070036	11	LIGHT	362	39802.8				29.8
W9407	F23P	21-JUN-94	0705	1.58	W94070036	12	LIGHT	1	969.2				-0.0
W9407	F23P	21-JUN-94	0704	4.13	W94070035					6000447.0	24.3	5.5	
W9407	F23P	21-JUN-94	0704	4.13	W94070035	-3	DARK	0	1172.8				
W9407	F23P	21-JUN-94	0704	4.13	W94070035	-2	DARK	0	2086.9				
W9407	F23P	21-JUN-94	0704	4.13	W94070035	-1	DARK	0	155.9				
W9407	F23P	21-JUN-94	0704	4.13	W94070035	1	LIGHT	13	2542.1				1.2
W9407	F23P	21-JUN-94	0704	4.13	W94070035	2	LIGHT	6	1889.1				0.7
W9407	F23P	21-JUN-94	0704	4.13	W94070035	3	LIGHT	131	21461.4				15.7
W9407	F23P	21-JUN-94	0704	4.13	W94070035	4	LIGHT	91	16619.0				12.0
W9407	F23P	21-JUN-94	0704	4.13	W94070035	5	LIGHT	1	48615.5				36.6
W9407	F23P	21-JUN-94	0704	4.13	W94070035	6	LIGHT	751	47766.3				36.0
W9407	F23P	21-JUN-94	0704	4.13	W94070035	7	LIGHT	1185	46729.1				35.2
W9407	F23P	21-JUN-94	0704	4.13	W94070035	8	LIGHT	117	28561.4				21.2
W9407	F23P	21-JUN-94	0704	4.13	W94070035	9	LIGHT	190	33551.6				25.0
W9407	F23P	21-JUN-94	0704	4.13	W94070035	10	LIGHT	2	1011.9				0.0
W9407	F23P	21-JUN-94	0704	4.13	W94070035	11	LIGHT	362	1120.9				0.1
W9407	F23P	21-JUN-94	0704	4.13	W94070035	12	LIGHT	201	32045.2				23.9
W9407	F23P	21-JUN-94	0703	9.83	W94070034					6000447.0	24.4	5.3	
W9407	F23P	21-JUN-94	0703	9.83	W94070034	-3	DARK	0	1444.2				
W9407	F23P	21-JUN-94	0703	9.83	W94070034	-2	DARK	0	1148.3				
W9407	F23P	21-JUN-94	0703	9.83	W94070034	-1	DARK	0	1025.9				
W9407	F23P	21-JUN-94	0703	9.83	W94070034	1	LIGHT	872	41833.5				31.4
W9407	F23P	21-JUN-94	0703	9.83	W94070034	2	LIGHT	1126	46476.7				35.0
W9407	F23P	21-JUN-94	0703	9.83	W94070034	3	LIGHT	3	1597.5				0.5
W9407	F23P	21-JUN-94	0703	9.83	W94070034	4	LIGHT	1235	45595.6				34.3
W9407	F23P	21-JUN-94	0703	9.83	W94070034	5	LIGHT	1795	47147.1				35.5

Table D1-1. C14 Production at Bioproductivity Stations in June of 1994.

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)
W9407	F23P	21-JUN-94	0703	9.83	W94070034	6	LIGHT	291	41617.0					31.2
W9407	F23P	21-JUN-94	0703	9.83	W94070034	7	LIGHT	303	34314.0					25.6
W9407	F23P	21-JUN-94	0703	9.83	W94070034	8	LIGHT	2	1509.9					0.4
W9407	F23P	21-JUN-94	0703	9.83	W94070034	9	LIGHT	145	31197.9					23.2
W9407	F23P	21-JUN-94	0703	9.83	W94070034	10	LIGHT	35	13503.5					9.6
W9407	F23P	21-JUN-94	0703	9.83	W94070034	11	LIGHT	23	6153.9					4.0
W9407	F23P	21-JUN-94	0703	9.83	W94070034	12	LIGHT	24	5952.6					3.8
W9407	F23P	21-JUN-94	0701	20.46	W94070033						6000447.0	24.5	5.6	
W9407	F23P	21-JUN-94	0701	20.46	W94070033	-3	DARK	0	711.8					
W9407	F23P	21-JUN-94	0701	20.46	W94070033	-2	DARK	0	894.1					
W9407	F23P	21-JUN-94	0701	20.46	W94070033	-1	DARK	0	1090.4					
W9407	F23P	21-JUN-94	0701	20.46	W94070033	1	LIGHT	19	4157.5					2.4
W9407	F23P	21-JUN-94	0701	20.46	W94070033	2	LIGHT	21	3908.6					2.2
W9407	F23P	21-JUN-94	0701	20.46	W94070033	3	LIGHT	213	24113.2					17.8
W9407	F23P	21-JUN-94	0701	20.46	W94070033	4	LIGHT	97	17628.1					12.8
W9407	F23P	21-JUN-94	0701	20.46	W94070033	5	LIGHT	3	1531.3					0.4
W9407	F23P	21-JUN-94	0701	20.46	W94070033	6	LIGHT	712	31738.1					23.6
W9407	F23P	21-JUN-94	0701	20.46	W94070033	7	LIGHT	1031	32235.9					24.0
W9407	F23P	21-JUN-94	0701	20.46	W94070033	8	LIGHT	763	31109.1					23.2
W9407	F23P	21-JUN-94	0701	20.46	W94070033	9	LIGHT	391	32359.8					24.1
W9407	F23P	21-JUN-94	0701	20.46	W94070033	10	LIGHT	4	1964.2					0.7
W9407	F23P	21-JUN-94	0701	20.46	W94070033	11	LIGHT	154	20777.5					15.2
W9407	F23P	21-JUN-94	0701	20.46	W94070033	12	LIGHT	558	32393.4					24.1
W9407	F23P	22-JUN-94	0610	1.42	W94070222						5542648.0	24.1	5.8	
W9407	F23P	22-JUN-94	0610	1.42	W94070222	-3	DARK	0	7745.8	s				
W9407	F23P	22-JUN-94	0610	1.42	W94070222	-2	DARK	0	10325.1					
W9407	F23P	22-JUN-94	0610	1.42	W94070222	-1	DARK	0	10174.0					
W9407	F23P	22-JUN-94	0610	1.42	W94070222	1	LIGHT	890	35979.9					26.9
W9407	F23P	22-JUN-94	0610	1.42	W94070222	2	LIGHT	621	35282.7					26.4
W9407	F23P	22-JUN-94	0610	1.42	W94070222	3	LIGHT	417	34376.2					25.7
W9407	F23P	22-JUN-94	0610	1.42	W94070222	4	LIGHT	259	28799.8					21.4
W9407	F23P	22-JUN-94	0610	1.42	W94070222	5	LIGHT	1302	35797.5					26.8
W9407	F23P	22-JUN-94	0610	1.42	W94070222	6	LIGHT	140	23940.1					17.6
W9407	F23P	22-JUN-94	0610	1.42	W94070222	7	LIGHT	50	11338.5					8.0
W9407	F23P	22-JUN-94	0610	1.42	W94070222	8	LIGHT	209	26389.1					19.5
W9407	F23P	22-JUN-94	0610	1.42	W94070222	9	LIGHT	15	3891.2					2.2
W9407	F23P	22-JUN-94	0610	1.42	W94070222	10	LIGHT	10	4329.8					2.6
W9407	F23P	22-JUN-94	0610	1.42	W94070222	11	LIGHT	1	1045.9					0.0
W9407	F23P	22-JUN-94	0610	1.42	W94070222	12	LIGHT	2	1703.7					0.5
W9407	F23P	22-JUN-94	0609	4.94	W94070221						5542648.0	24.2	5.8	
W9407	F23P	22-JUN-94	0609	4.94	W94070221	-3	DARK	0	5857.5					

Table D1-1. C14 Production at Bioproductivity Stations in June of 1994.

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)
W9407	F23P	22-JUN-94	0609	4.94	W94070221	-2	DARK	0	11518.3				
W9407	F23P	22-JUN-94	0609	4.94	W94070221	-1	DARK	0	1050.5				
W9407	F23P	22-JUN-94	0609	4.94	W94070221	1	LIGHT	227	35017.4				26.2
W9407	F23P	22-JUN-94	0609	4.94	W94070221	2	LIGHT	221	30318.1				22.5
W9407	F23P	22-JUN-94	0609	4.94	W94070221	3	LIGHT	1324	32878.4				24.5
W9407	F23P	22-JUN-94	0609	4.94	W94070221	4	LIGHT	896	44761.9				33.6
W9407	F23P	22-JUN-94	0609	4.94	W94070221	5	LIGHT	902	39279.5				29.4
W9407	F23P	22-JUN-94	0609	4.94	W94070221	6	LIGHT	136	29182.9				21.7
W9407	F23P	22-JUN-94	0609	4.94	W94070221	7	LIGHT	152	29169.8				21.7
W9407	F23P	22-JUN-94	0609	4.94	W94070221	8	LIGHT	106	26991.1				20.0
W9407	F23P	22-JUN-94	0609	4.94	W94070221	9	LIGHT	7	14609.8				10.5
W9407	F23P	22-JUN-94	0609	4.94	W94070221	10	LIGHT	15	13092.1				9.3
W9407	F23P	22-JUN-94	0609	4.94	W94070221	11	LIGHT	2	15753.5				11.3
W9407	F23P	22-JUN-94	0609	4.94	W94070221	12	LIGHT	1	11095.0				7.8
W9407	F23P	22-JUN-94	0608	7.54	W94070220					5542648.0	24.2	5.9	
W9407	F23P	22-JUN-94	0608	7.54	W94070220	-3	DARK	0	9339.6				
W9407	F23P	22-JUN-94	0608	7.54	W94070220	-2	DARK	0	10465.7				
W9407	F23P	22-JUN-94	0608	7.54	W94070220	-1	DARK	0	9763.6				
W9407	F23P	22-JUN-94	0608	7.54	W94070220	1	LIGHT	343	39142.5				29.3
W9407	F23P	22-JUN-94	0608	7.54	W94070220	2	LIGHT	2194	53360.3				40.3
W9407	F23P	22-JUN-94	0608	7.54	W94070220	3	LIGHT	1331	36836.6				27.6
W9407	F23P	22-JUN-94	0608	7.54	W94070220	4	LIGHT	1057	41256.8				31.0
W9407	F23P	22-JUN-94	0608	7.54	W94070220	5	LIGHT	1517	37556.5				28.1
W9407	F23P	22-JUN-94	0608	7.54	W94070220	6	LIGHT	355	34837.5				26.0
W9407	F23P	22-JUN-94	0608	7.54	W94070220	7	LIGHT	28	15904.9				11.5
W9407	F23P	22-JUN-94	0608	7.54	W94070220	8	LIGHT	29	20890.5				15.3
W9407	F23P	22-JUN-94	0608	7.54	W94070220	9	LIGHT	177	34481.2				25.7
W9407	F23P	22-JUN-94	0608	7.54	W94070220	10	LIGHT	43	24189.5				17.8
W9407	F23P	22-JUN-94	0608	7.54	W94070220	11	LIGHT	2	10828.3				7.6
W9407	F23P	22-JUN-94	0608	7.54	W94070220	12	LIGHT	3	10876.1				7.6
W9407	F23P	22-JUN-94	0607	11.61	W94070219					5542648.0	24.4	5.7	
W9407	F23P	22-JUN-94	0607	11.61	W94070219	-3	DARK	0	3591.5				
W9407	F23P	22-JUN-94	0607	11.61	W94070219	-2	DARK	0	11772.0				
W9407	F23P	22-JUN-94	0607	11.61	W94070219	-1	DARK	0	10706.0				
W9407	F23P	22-JUN-94	0607	11.61	W94070219	1	LIGHT	482	35710.1				26.7
W9407	F23P	22-JUN-94	0607	11.61	W94070219	2	LIGHT	923	36946.9				27.6
W9407	F23P	22-JUN-94	0607	11.61	W94070219	3	LIGHT	628	36005.3				26.9
W9407	F23P	22-JUN-94	0607	11.61	W94070219	4	LIGHT	1236	35609.6				26.6
W9407	F23P	22-JUN-94	0607	11.61	W94070219	5	LIGHT	840	37357.7				28.0
W9407	F23P	22-JUN-94	0607	11.61	W94070219	6	LIGHT	184	26661.0				19.7
W9407	F23P	22-JUN-94	0607	11.61	W94070219	7	LIGHT	116	22600.0				16.6

Table D1-1. C14 Production at Bioproductivity Stations in June of 1994.

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)
W9407	F23P	22-JUN-94	0607	11.61	W94070219	8	LIGHT	254	28807.5					21.4
W9407	F23P	22-JUN-94	0607	11.61	W94070219	9	LIGHT	23	15308.7					11.0
W9407	F23P	22-JUN-94	0607	11.61	W94070219	10	LIGHT	25	14881.3					10.7
W9407	F23P	22-JUN-94	0607	11.61	W94070219	11	LIGHT	3	11591.6					8.1
W9407	F23P	22-JUN-94	0607	11.61	W94070219	12	LIGHT	492	7418.2					4.9
W9407	N16P	21-JUN-94	1012	1.49	W94070096						6000447.0	23.9	5.7	
W9407	N16P	21-JUN-94	1012	1.49	W94070096	-3	DARK	0	9162.3	s				
W9407	N16P	21-JUN-94	1012	1.49	W94070096	-2	DARK	0	1248.6					
W9407	N16P	21-JUN-94	1012	1.49	W94070096	-1	DARK	0	895.5					
W9407	N16P	21-JUN-94	1012	1.49	W94070096	1	LIGHT	1212	14702.0					10.5
W9407	N16P	21-JUN-94	1012	1.49	W94070096	2	LIGHT	1763	17049.5					12.3
W9407	N16P	21-JUN-94	1012	1.49	W94070096	3	LIGHT	703	12373.4					0.2
W9407	N16P	21-JUN-94	1012	1.49	W94070096	4	LIGHT	337	10973.5					7.7
W9407	N16P	21-JUN-94	1012	1.49	W94070096	5	LIGHT	315	10626.0					7.4
W9407	N16P	21-JUN-94	1012	1.49	W94070096	6	LIGHT	252	10273.1					7.1
W9407	N16P	21-JUN-94	1012	1.49	W94070096	7	LIGHT	225	12837.5					9.1
W9407	N16P	21-JUN-94	1012	1.49	W94070096	8	LIGHT	327	13515.4					9.6
W9407	N16P	21-JUN-94	1012	1.49	W94070096	9	LIGHT	27	2859.4					1.4
W9407	N16P	21-JUN-94	1012	1.49	W94070096	10	LIGHT	11	3460.0					1.9
W9407	N16P	21-JUN-94	1012	1.49	W94070096	11	LIGHT	3	3445.7					1.9
W9407	N16P	21-JUN-94	1012	1.49	W94070096	12	LIGHT	1	3841.0					2.2
W9407	N16P	21-JUN-94	1011	7.76	W94070095						6000447.0	24.2	5.6	
W9407	N16P	21-JUN-94	1011	7.76	W94070095	-3	DARK	0	1010.2	s				
W9407	N16P	21-JUN-94	1011	7.76	W94070095	-2	DARK	0	1161.5					
W9407	N16P	21-JUN-94	1011	7.76	W94070095	-1	DARK	0	1161.5					
W9407	N16P	21-JUN-94	1011	7.76	W94070095	1	LIGHT	339	16416.4					11.9
W9407	N16P	21-JUN-94	1011	7.76	W94070095	2	LIGHT	861	9474.1					6.5
W9407	N16P	21-JUN-94	1011	7.76	W94070095	3	LIGHT	1264	9373.9					6.4
W9407	N16P	21-JUN-94	1011	7.76	W94070095	4	LIGHT	875	9325.2					6.4
W9407	N16P	21-JUN-94	1011	7.76	W94070095	5	LIGHT	415	8893.8					6.1
W9407	N16P	21-JUN-94	1011	7.76	W94070095	6	LIGHT	200	8902.4					6.1
W9407	N16P	21-JUN-94	1011	7.76	W94070095	7	LIGHT	158	6136.6					4.0
W9407	N16P	21-JUN-94	1011	7.76	W94070095	8	LIGHT	168	7117.8					4.7
W9407	N16P	21-JUN-94	1011	7.76	W94070095	9	LIGHT	20	1737.1					0.6
W9407	N16P	21-JUN-94	1011	7.76	W94070095	10	LIGHT	263	3920.4					2.3
W9407	N16P	21-JUN-94	1011	7.76	W94070095	11	LIGHT	4	10091.8					7.0
W9407	N16P	21-JUN-94	1011	7.76	W94070095	12	LIGHT	5	692.5					-0.2
W9407	N16P	21-JUN-94	1010	16.92	W94070094						6000447.0	24.9	5.6	
W9407	N16P	21-JUN-94	1010	16.92	W94070094	-3	DARK	0	801.3					
W9407	N16P	21-JUN-94	1010	16.92	W94070094	-2	DARK	0	3619.9					
W9407	N16P	21-JUN-94	1010	16.92	W94070094	-1	DARK	0	7647.2					

Table D1-1. C14 Production at Bioproductivity Stations in June of 1994.

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)
W9407	N16P	21-JUN-94	1010	16.92	W94070094	1	LIGHT	1208	10926.6				7.6
W9407	N16P	21-JUN-94	1010	16.92	W94070094	2	LIGHT	801	14537.2				10.4
W9407	N16P	21-JUN-94	1010	16.92	W94070094	3	LIGHT	392	16638.6				12.0
W9407	N16P	21-JUN-94	1010	16.92	W94070094	4	LIGHT	739	15457.6				11.1
W9407	N16P	21-JUN-94	1010	16.92	W94070094	5	LIGHT	188	14328.5				10.3
W9407	N16P	21-JUN-94	1010	16.92	W94070094	6	LIGHT	178	12505.9				8.9
W9407	N16P	21-JUN-94	1010	16.92	W94070094	7	LIGHT	131	13543.4				9.6
W9407	N16P	21-JUN-94	1010	16.92	W94070094	8	LIGHT	168	12905.3				9.2
W9407	N16P	21-JUN-94	1010	16.92	W94070094	9	LIGHT	20	9869.1				6.8
W9407	N16P	21-JUN-94	1010	16.92	W94070094	10	LIGHT	17	10954.4				7.7
W9407	N16P	21-JUN-94	1010	16.92	W94070094	11	LIGHT	2	1189.3				0.2
W9407	N16P	21-JUN-94	1010	16.92	W94070094	12	LIGHT	1	5117.8				3.2
W9407	N16P	21-JUN-94	1008	28.34	W94070093					6000447.0	25.2	5.6	
W9407	N16P	21-JUN-94	1008	28.34	W94070093	-3	DARK	0	694.5				
W9407	N16P	21-JUN-94	1008	28.34	W94070093	-2	DARK	0	6672.9				
W9407	N16P	21-JUN-94	1008	28.34	W94070093	-1	DARK	0	9721.1				
W9407	N16P	21-JUN-94	1008	28.34	W94070093	1	LIGHT	273	2510.6				1.2
W9407	N16P	21-JUN-94	1008	28.34	W94070093	2	LIGHT	728	2143.4				0.9
W9407	N16P	21-JUN-94	1008	28.34	W94070093	3	LIGHT	849	2058.6				0.8
W9407	N16P	21-JUN-94	1008	28.34	W94070093	4	LIGHT	1177	1821.9				0.6
W9407	N16P	21-JUN-94	1008	28.34	W94070093	5	LIGHT	201	2503.5				1.2
W9407	N16P	21-JUN-94	1008	28.34	W94070093	6	LIGHT	199	2886.1				1.5
W9407	N16P	21-JUN-94	1008	28.34	W94070093	7	LIGHT	23	1067.5				0.1
W9407	N16P	21-JUN-94	1008	28.34	W94070093	8	LIGHT	15	1726.0				0.6
W9407	N16P	21-JUN-94	1008	28.34	W94070093	9	LIGHT	42	2215.6				0.9
W9407	N16P	21-JUN-94	1008	28.34	W94070093	10	LIGHT	199	1831.1				0.6
W9407	N16P	21-JUN-94	1008	28.34	W94070093	11	LIGHT	49	683.4				-0.2
W9407	N16P	21-JUN-94	1008	28.34	W94070093	12	LIGHT	5	728.7				-0.2
W9407	N16P	22-JUN-94	0855	1.41	W94070265					5542648.0	24.1	5.6	
W9407	N16P	22-JUN-94	0855	1.41	W94070265	-3	DARK	0	1147.9				
W9407	N16P	22-JUN-94	0855	1.41	W94070265	-2	DARK	0	769.4				
W9407	N16P	22-JUN-94	0855	1.41	W94070265	-1	DARK	0	681.3				
W9407	N16P	22-JUN-94	0855	1.41	W94070265	1	LIGHT	1497	8963.3				6.1
W9407	N16P	22-JUN-94	0855	1.41	W94070265	2	LIGHT	2127	9370.3				6.4
W9407	N16P	22-JUN-94	0855	1.41	W94070265	3	LIGHT	862	7821.0				5.2
W9407	N16P	22-JUN-94	0855	1.41	W94070265	4	LIGHT	378	8406.6				5.7
W9407	N16P	22-JUN-94	0855	1.41	W94070265	5	LIGHT	341	8289.4				5.6
W9407	N16P	22-JUN-94	0855	1.41	W94070265	6	LIGHT	308	7482.5				5.0
W9407	N16P	22-JUN-94	0855	1.41	W94070265	7	LIGHT	275	6854.0				4.5
W9407	N16P	22-JUN-94	0855	1.41	W94070265	8	LIGHT	399	7719.9				5.2
W9407	N16P	22-JUN-94	0855	1.41	W94070265	9	LIGHT	33	2276.4				1.0

Table D1-1. C14 Production at Bioproductivity Stations in June of 1994.

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)
W9407	N16P	22-JUN-94	0855	1.41	W94070265	10	LIGHT	13	2172.3				0.9
W9407	N16P	22-JUN-94	0855	1.41	W94070265	11	LIGHT	3	1044.6				0.0
W9407	N16P	22-JUN-94	0855	1.41	W94070265	12	LIGHT	1	866.5				-0.1
W9407	N16P	22-JUN-94	0854	7.42	W94070264					5542648.0	24.6	5.5	
W9407	N16P	22-JUN-94	0854	7.42	W94070264	-3	DARK	0	779.9				
W9407	N16P	22-JUN-94	0854	7.42	W94070264	-2	DARK	0	928.5				
W9407	N16P	22-JUN-94	0854	7.42	W94070264	-1	DARK	0	956.4				
W9407	N16P	22-JUN-94	0854	7.42	W94070264	1	LIGHT	408	8574.9				5.8
W9407	N16P	22-JUN-94	0854	7.42	W94070264	2	LIGHT	239	6834.7				4.5
W9407	N16P	22-JUN-94	0854	7.42	W94070264	3	LIGHT	1008	7777.3				5.2
W9407	N16P	22-JUN-94	0854	7.42	W94070264	4	LIGHT	1529	8004.8				5.4
W9407	N16P	22-JUN-94	0854	7.42	W94070264	5	LIGHT	523	8417.7				5.7
W9407	N16P	22-JUN-94	0854	7.42	W94070264	6	LIGHT	1040	8239.0				5.6
W9407	N16P	22-JUN-94	0854	7.42	W94070264	7	LIGHT	201	6766.8				4.4
W9407	N16P	22-JUN-94	0854	7.42	W94070264	8	LIGHT	189	6448.7				4.2
W9407	N16P	22-JUN-94	0854	7.42	W94070264	9	LIGHT	24	2649.3				1.3
W9407	N16P	22-JUN-94	0854	7.42	W94070264	10	LIGHT	28	2695.7				1.3
W9407	N16P	22-JUN-94	0854	7.42	W94070264	11	LIGHT	6	1329.0				0.3
W9407	N16P	22-JUN-94	0854	7.42	W94070264	12	LIGHT	5	571.9				-0.3
W9407	N16P	22-JUN-94	0852	21.02	W94070263					5542648.0	24.9	5.5	
W9407	N16P	22-JUN-94	0852	21.02	W94070263	-3	DARK	0	746.3				
W9407	N16P	22-JUN-94	0852	21.02	W94070263	-2	DARK	0	907.6				
W9407	N16P	22-JUN-94	0852	21.02	W94070263	-1	DARK	0	997.0				
W9407	N16P	22-JUN-94	0852	21.02	W94070263	1	LIGHT	985	7917.4				5.3
W9407	N16P	22-JUN-94	0852	21.02	W94070263	2	LIGHT	1438	8312.3				5.6
W9407	N16P	22-JUN-94	0852	21.02	W94070263	3	LIGHT	954	8012.0				5.4
W9407	N16P	22-JUN-94	0852	21.02	W94070263	4	LIGHT	223	10212.5				7.1
W9407	N16P	22-JUN-94	0852	21.02	W94070263	5	LIGHT	498	8095.3				5.5
W9407	N16P	22-JUN-94	0852	21.02	W94070263	6	LIGHT	218	8383.6				5.7
W9407	N16P	22-JUN-94	0852	21.02	W94070263	7	LIGHT	160	9263.7				6.4
W9407	N16P	22-JUN-94	0852	21.02	W94070263	8	LIGHT	206	8322.6				5.6
W9407	N16P	22-JUN-94	0852	21.02	W94070263	9	LIGHT	25	3884.5				2.2
W9407	N16P	22-JUN-94	0852	21.02	W94070263	10	LIGHT	21	3545.2				2.0
W9407	N16P	22-JUN-94	0852	21.02	W94070263	11	LIGHT	1	794.5				-0.2
W9407	N16P	22-JUN-94	0852	21.02	W94070263	12	LIGHT	2	1282.2				0.2
W9407	N16P	22-JUN-94	0851	28.34	W94070262					5542648.0	25.0	5.4	
W9407	N16P	22-JUN-94	0851	28.34	W94070262	-3	DARK	0	789.2				
W9407	N16P	22-JUN-94	0851	28.34	W94070262	-2	DARK	0	719.8				
W9407	N16P	22-JUN-94	0851	28.34	W94070262	-1	DARK	0	842.7				
W9407	N16P	22-JUN-94	0851	28.34	W94070262	1	LIGHT	1057	3034.2				1.6
W9407	N16P	22-JUN-94	0851	28.34	W94070262	2	LIGHT	1563	1288.6				0.2

Table D1-1. C14 Production at Bioproductivity Stations in June of 1994.

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)
W9407	N16P	22-JUN-94	0851	28.34	W94070262	3	LIGHT	898	2545.8				1.2
W9407	N16P	22-JUN-94	0851	28.34	W94070262	4	LIGHT	328	3829.6				2.2
W9407	N16P	22-JUN-94	0851	28.34	W94070262	5	LIGHT	628	3298.2				1.8
W9407	N16P	22-JUN-94	0851	28.34	W94070262	6	LIGHT	210	3639.1				2.0
W9407	N16P	22-JUN-94	0851	28.34	W94070262	7	LIGHT	219	3368.1				1.8
W9407	N16P	22-JUN-94	0851	28.34	W94070262	8	LIGHT	140	3964.1				2.3
W9407	N16P	22-JUN-94	0851	28.34	W94070262	9	LIGHT	30	2227.7				0.9
W9407	N16P	22-JUN-94	0851	28.34	W94070262	10	LIGHT	27	2246.7				1.0
W9407	N16P	22-JUN-94	0851	28.34	W94070262	11	LIGHT	3	1372.0				0.3
W9407	N16P	22-JUN-94	0851	28.34	W94070262	12	LIGHT	6	1168.6				0.1

s = Suspect data, value not used in calculating production

APPENDIX D

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 four depths (surface, mid-surface, mid-depth, and mid-bottom) at BioProductivity stations F23P and N16P twice per combined survey. Volumetric net production rates for these are given in Table D1-1. 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 D2-1 summarizes the statistics used as a basis for rejecting certain outliers in the dark bottle replicates for survey W9407. This appendix provides the modeled data in chronological order. For each sampling date, the following sequence is used: modeled parameters for a 3-parameter model of Platt *et al.* (1980), followed by graphs of situations which were fit by this model; modeled parameters for a 2-parameter model of Webb *et al.* (1974), followed by graphs of situations which were fit by this model, which assumes zero photoinhibition.

Note that no incubation samples were taken from the bottom sampling depth. The sample qualifiers used in Tables D2-1 to D2-5 are explained as follows:

D2-1 Qualifier (BOT)	D2-2 to D2-4 Qualifier	Relative Sample Bottle Depth
10	SUR	surface
8	MSUR	mid-surface
6	MDEP	mid-depth
4	MBOT	mid-bottom

Table D2-1. Basis for excluding dark bottle outliers using the Dixon Criteria for high values (X_N) and low values (X_1) [Survey W9407]. Note that COL1, COL2, and COL3 are replicate dark bottle values (dpm).

THE DIXON CRITERION CRUISE 9407 1

OBS	STA	DEPTH	DATE	NAME	COL1	COL2	COL3	X_N	X_1
1	F23P	4	6/21/94	DARKDPM	711.80	894.10	1090.40	0.51849	0.48151
2	F23P	4	6/22/94	DARKDPM	3591.53	10706.02	11772.00	0.13031	0.86969
3	F23P	6	6/21/94	DARKDPM	1025.90	1148.30	1444.20	0.70739	0.29261
4	F23P	6	6/22/94	DARKDPM	9339.56	9763.62	10465.74	0.62345	0.37655
5	F23P	8	6/21/94	DARKDPM	155.90	1172.83	2086.90	0.47337	0.52663
6	F23P	8	6/22/94	DARKDPM	1050.51	5857.51	11518.31	0.54078	0.45922
7	F23P	10	6/21/94	DARKDPM	915.80	925.40	1136.20	0.95644	0.04356
8	F23P	10	6/22/94	DARKDPM	7745.78	10173.99	10325.06	0.05857	0.94143
9	N16P	4	6/21/94	DARKDPM	694.52	6672.92	9721.07	0.33769	0.66231
10	N16P	4	6/22/94	DARKDPM	719.79	789.19	842.75	0.43560	0.56440
11	N16P	6	6/21/94	DARKDPM	801.26	3619.91	7647.15	0.58827	0.41173
12	N16P	6	6/22/94	DARKDPM	746.26	907.63	996.98	0.35636	0.64364
13	N16P	8	6/21/94	DARKDPM	1010.17	1161.53	1161.55	0.00012	0.99988
14	N16P	8	6/22/94	DARKDPM	779.94	928.50	956.44	0.15828	0.84172
15	N16P	10	6/21/94	DARKDPM	895.54	1248.57	9162.25	0.95730	0.04270
16	N16P	10	6/22/94	DARKDPM	681.33	769.38	1147.93	0.81129	0.18871

THE DIXON CRITERION CRUISE 9407 2
HIGH DARK VALUES TO BE REJECTED P<0.05

OBS	STA	DEPTH	DATE	NAME	COL1	COL2	COL3	X_N	X_1
1	F23P	10	6/21/94	DARKDPM	915.800	925.40	1136.20	0.95644	0.043557
2	N16P	10	6/21/94	DARKDPM	895.540	1248.57	9162.25	0.95730	0.042705

THE DIXON CRITERION CRUISE 9407 3
LOW DARK VALUES TO BE REJECTED P<0.05
15:58 Monday, December 19, 1994

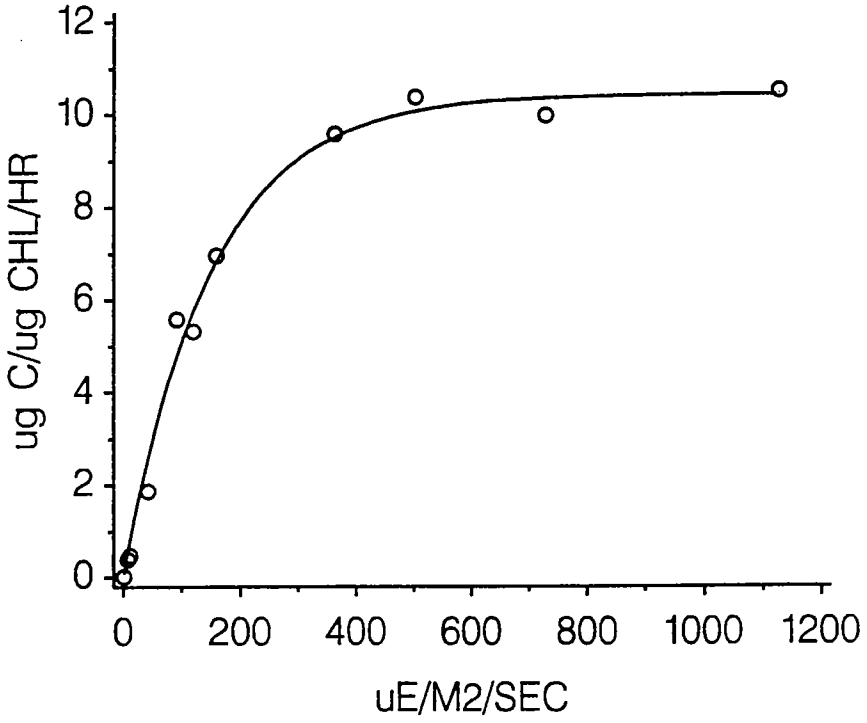
OBS	STA	DEPTH	DATE	NAME	COL1	COL2	COL3	X_N	X_1
1	F23P	10	6/22/94	DARKDPM	7745.78	10173.99	10325.06	0.058571	0.94143
2	N16P	8	6/21/94	DARKDPM	1010.17	1161.53	1161.55	0.000119	0.99988

Table D2-2. **P-I modeling using the Webb *et al.* (1974) model: June 21, 1994. Numbers in parentheses are standard errors of the estimates. [Note that no conditions were fit by the Platt *et al.* (1980) model for June 21, 1994.]**

P VS I CURVE PARAMETERS W9407 JUNE 21, 1994
MODEL WEBB ET AL. 1974

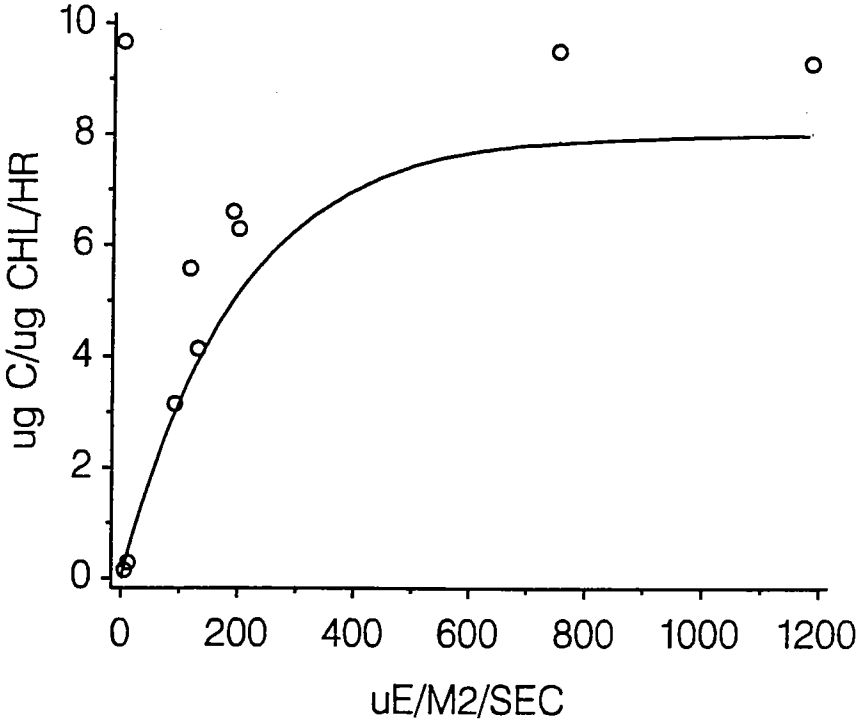
STATION	DEPTH	PMAX		ALPHA		R_2
F23P	SUR	10.50	(0.00)	0.070	(0.000)	0.99
F23P	MSUR	8.00	(2.90)	0.040	(0.010)	0.22
F23P	MDEP	8.50	(0.21)	0.060	(0.005)	0.98
F23P	MBOT	9.32	(0.08)	0.064	(0.004)	0.99
N16P	SUR	17.10	(2.10)	0.240	(0.090)	0.50
N16P	MSUR	17.70	(4.20)	0.130	(0.050)	0.30
N16P	MDEP	9.07	(0.06)	0.470	(0.180)	0.84
N16P	MBOT	2.60	(0.30)	0.050	(0.020)	0.49

STATION F23P SURFACE



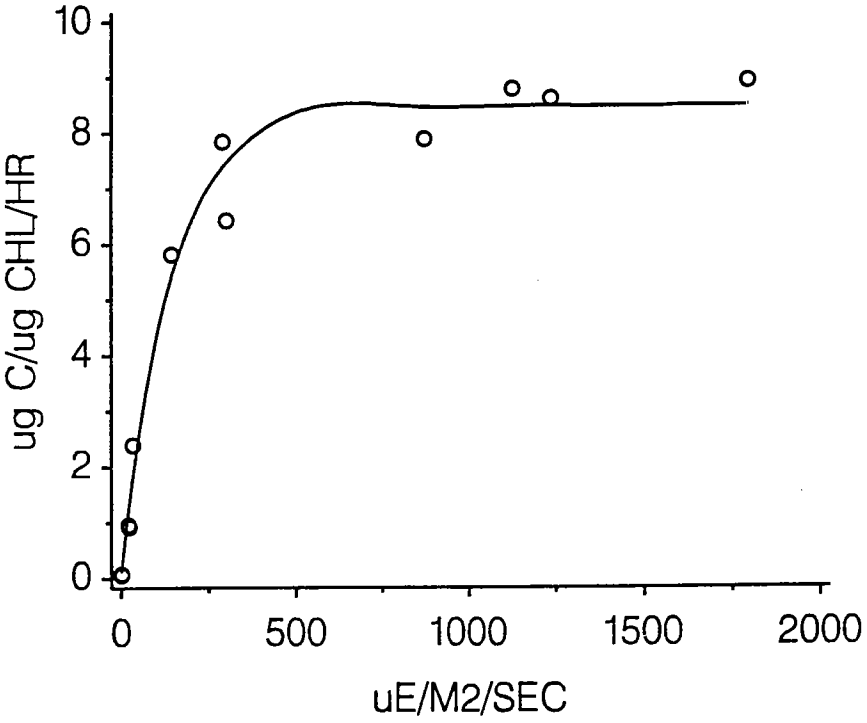
WEBB ET AL. 1974 MODEL
SURVEY W9407 JUNE 21, 1994

STATION F23P MID – SURFACE



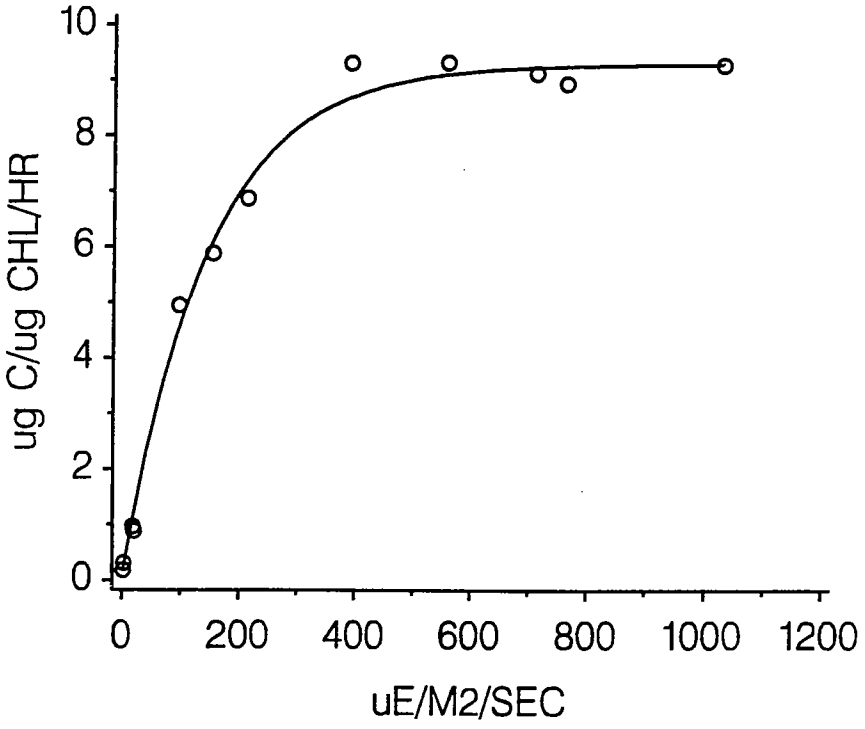
WEBB ET AL. 1974 MODEL
SURVEY W9407 JUNE 21, 1994

STATION F23P MID – DEPTH



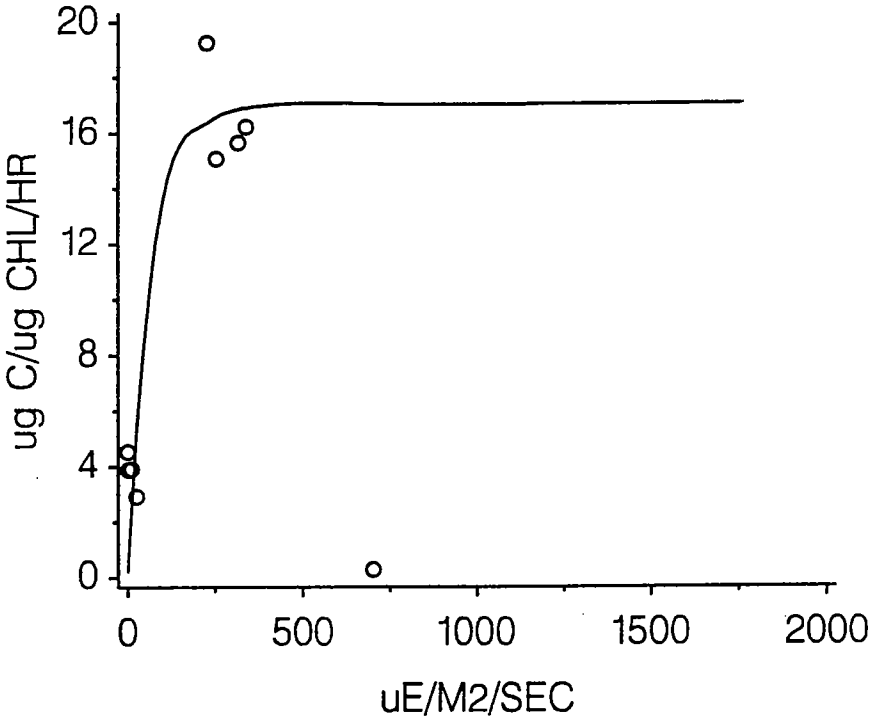
WEBB ET AL. 1974 MODEL
SURVEY W9407 JUNE 21, 1994

STATION F23P MID – BOTTOM



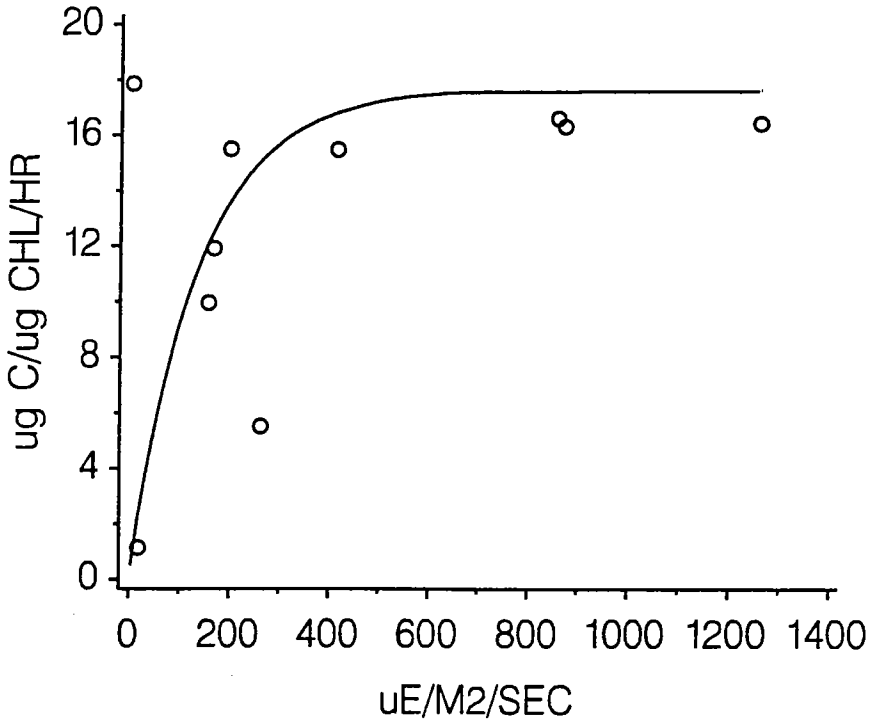
WEBB ET AL. 1974 MODEL
SURVEY W9407 JUNE 21, 1994

STATION N16P SURFACE



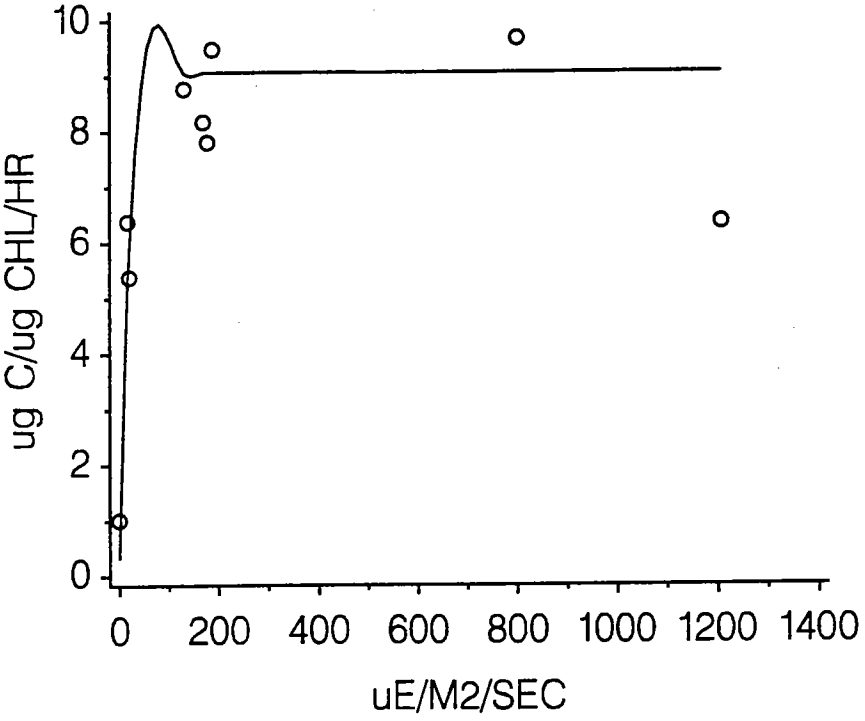
WEBB ET AL. 1974 MODEL
SURVEY W9407 JUNE 21, 1994

STATION N16P MID – SURFACE



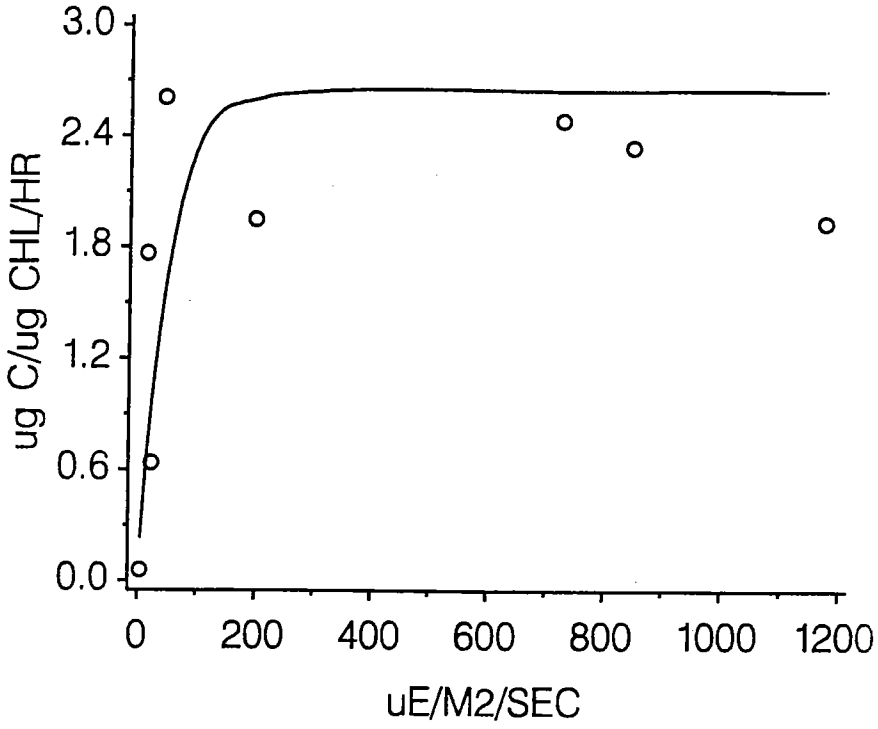
WEBB ET AL. 1974 MODEL
SURVEY W9407 JUNE 21, 1994

STATION N16P MID – DEPTH



WEBB ET AL. 1974 MODEL
SURVEY W9407 JUNE 21, 1994

STATION N16P MID – BOTTOM



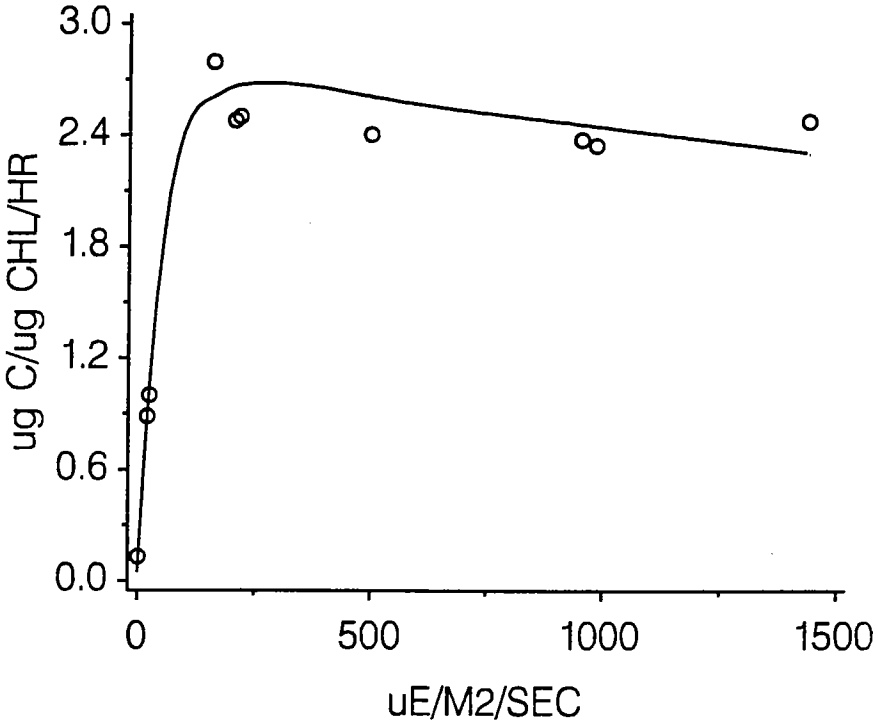
WEBB ET AL. 1974 MODEL
SURVEY W9407 JUNE 21, 1994

Table D2-3. P-I modeling using the Platt *et al.* (1980) model: June 22, 1994. Numbers in parentheses are standard errors of the estimates.

P VS I CURVE PARAMETERS W9407 JUNE 22, 1994
MODEL PLATT ET AL. 1980

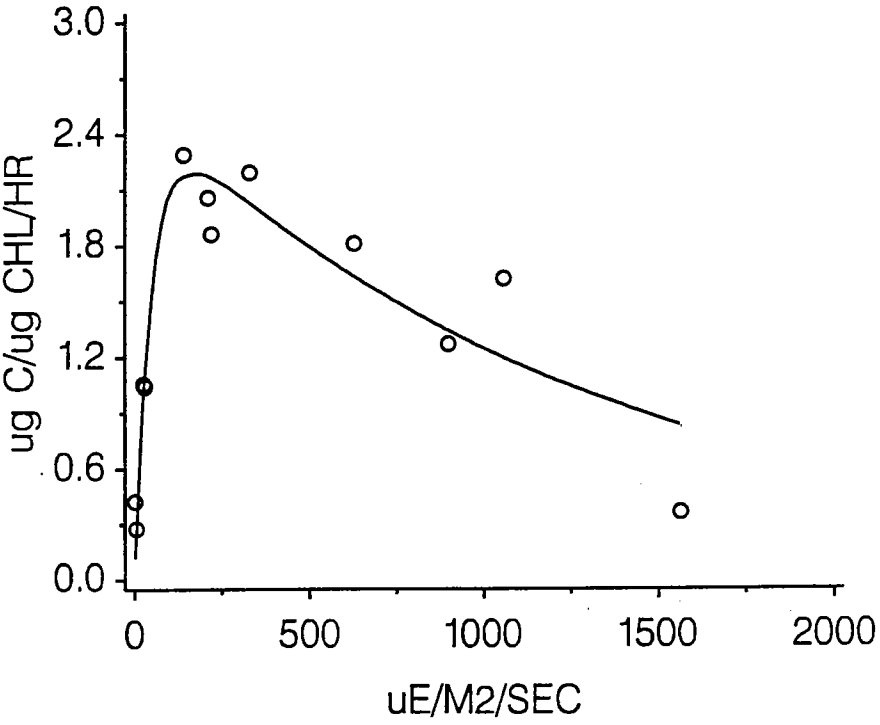
STA	DEPTH	P_SB	ALPHA	BETA	R_2
F23P	SUR	. .	. .	. .	.
F23P	MSUR	. .	. .	. .	.
F23P	MDEP	. .	. .	. .	.
F23P	MBOT	. .	. .	. .	.
N16P	SUR	. .	. .	. .	.
N16P	MSUR	. .	. .	. .	.
N16P	MDEP	2.79(0.04)	0.050(0.010)	0.001(0.0001)	0.97
N16P	MBOT	2.60(0.20)	0.049(0.008)	0.002(0.0003)	0.89

STATION N16P MID – DEPTH



PLATT ET AL, 1980 MODEL
SURVEY W9407 JUNE 22, 1994

STATION N16P MID – BOTTOM



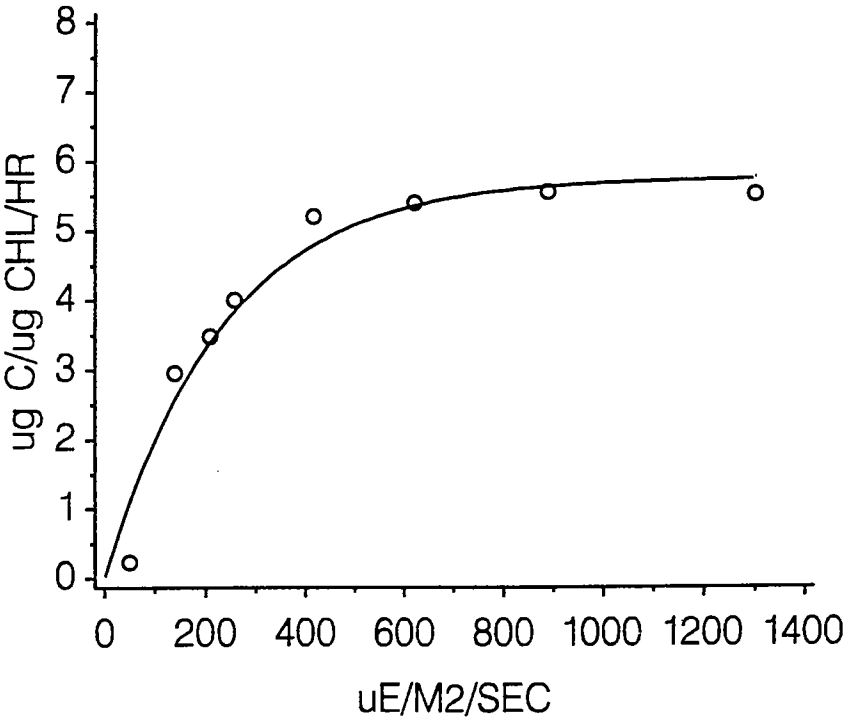
PLATT ET AL, 1980 MODEL
SURVEY W9407 JUNE 22, 1994

Table D2-4. **P-I modeling using the Webb *et al.* (1974) model: June 22, 1994. Numbers in parentheses are standard errors of the estimates.**

P VS I CURVE PARAMETERS W9407 JUNE 22, 1994
MODEL WEBB ET AL. 1974

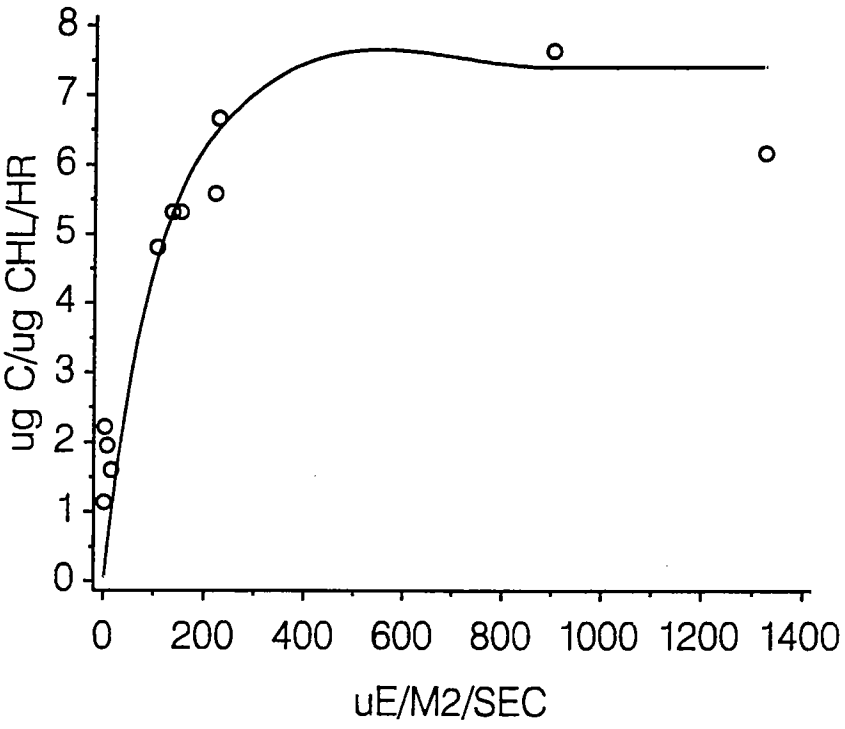
STATION	DEPTH	PMAX	ALPHA	R_2
F23P	SUR	5.80 (0.80)	0.024 (0.008)	0.97
F23P	MSUR	7.40 (0.20)	0.070 (0.020)	0.91
F23P	MDEP	6.60 (0.40)	0.070 (0.020)	0.88
F23P	MBOT	5.60 (0.90)	0.030 (0.020)	0.50
N16P	SUR	14.00 (0.20)	0.090 (0.010)	0.98
N16P	MSUR	8.85 (0.00)	0.075 (0.000)	0.99
N16P	MDEP	. .	. .	.
N16P	MBOT	. .	. .	.

STATION F23P SURFACE



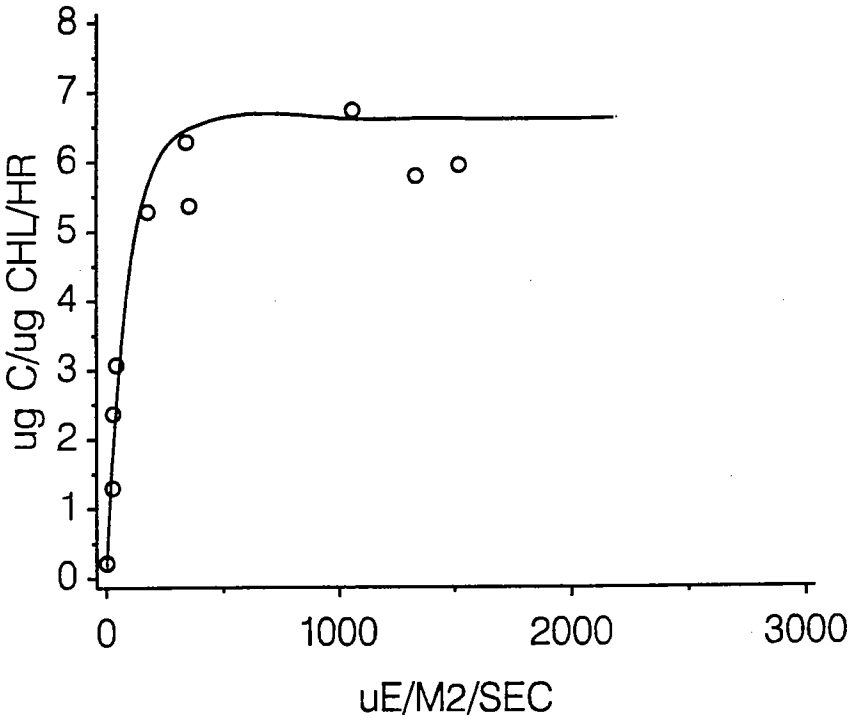
WEBB ET AL. 1974 MODEL
SURVEY W9407 JUNE 22, 1994

STATION F23P MID – SURFACE



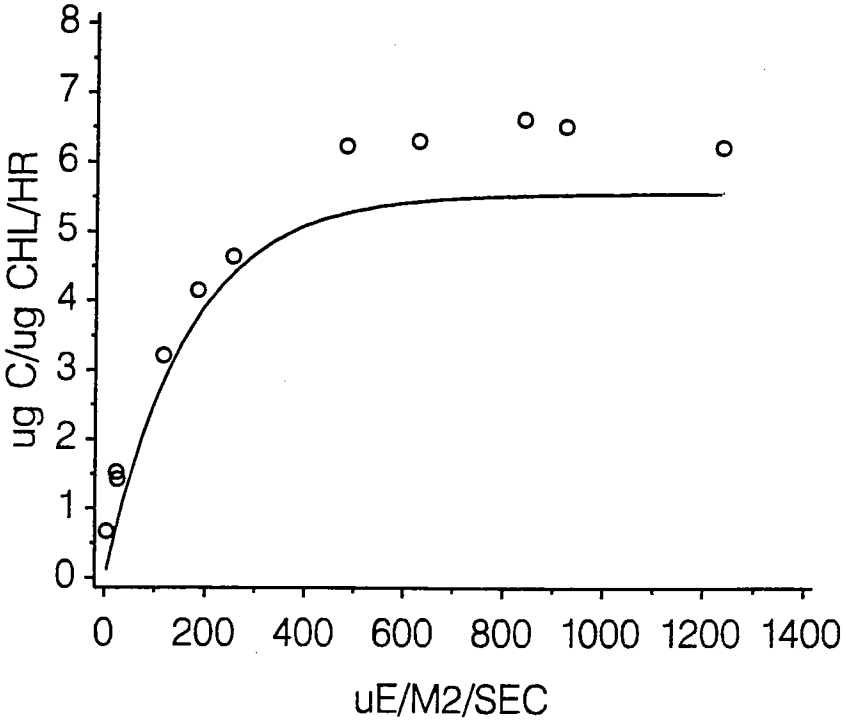
WEBB ET AL. 1974 MODEL
SURVEY W9407 JUNE 22, 1994

STATION F23P MID – DEPTH



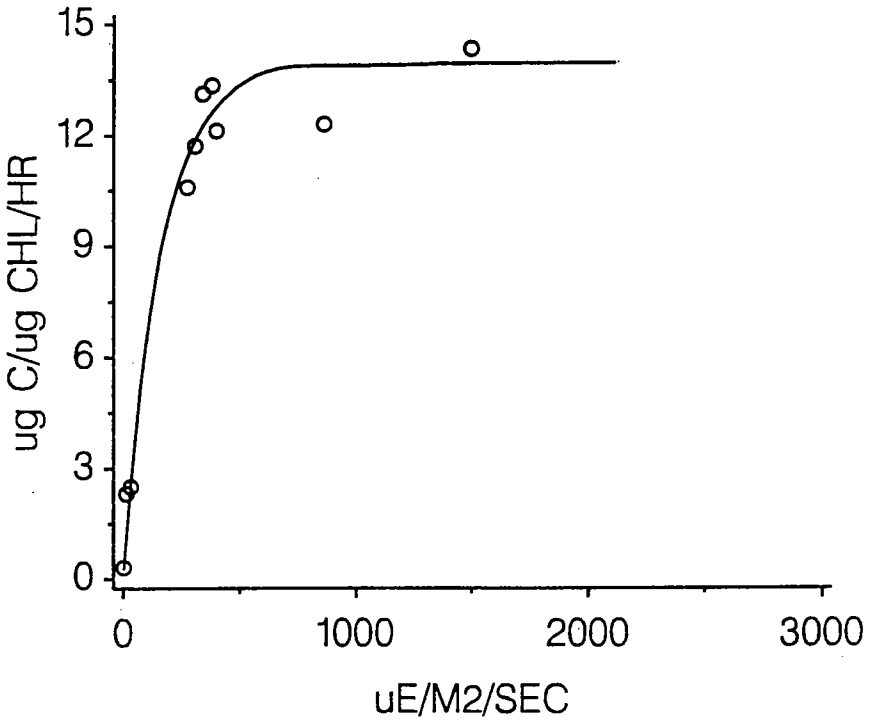
WEBB ET AL. 1974 MODEL
SURVEY W9407 JUNE 22, 1994

STATION F23P MID – BOTTOM



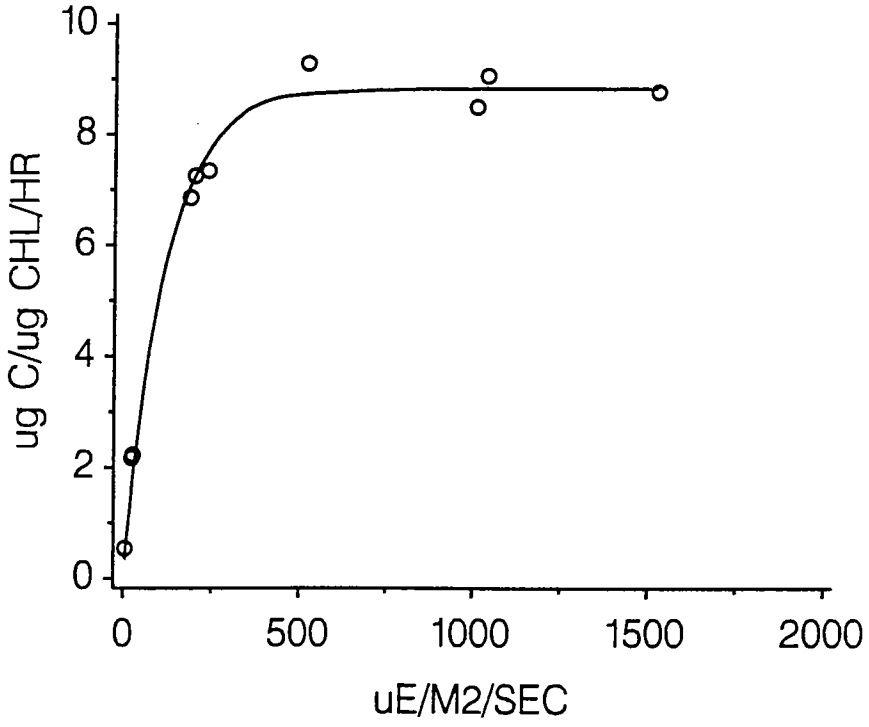
WEBB ET AL. 1974 MODEL
SURVEY W9407 JUNE 22, 1994

STATION N16P SURFACE



WEBB ET AL. 1974 MODEL
SURVEY W9407 JUNE 22, 1994

STATION N16P MID – SURFACE



WEBB ET AL. 1974 MODEL
SURVEY W9407 JUNE 22, 1994

APPENDIX D

METABOLISM DATA AND PRODUCTIVITY—IRRADIANCE MODELING

Part 3

Respiration Data

Table D3-1 includes data from the June survey (W9407). Water samples were taken at surface, mid-depth, and mid-bottom depths. Initial dissolved oxygen (DO) concentrations were determined in triplicate from samples fixed immediately after being taken from the hydrocast bottles. Final DO concentrations were determined by fixing samples after incubating bottles (time indicated) in the dark. Net respiration was calculated for each sampling depth, as the linear regression of oxygen concentration vs. incubation time. The table includes incubation data for samples from stations F19, F24, and N20P. Graphs of oxygen concentrations vs. incubation time and the associated regressions are presented following Table D3-1.

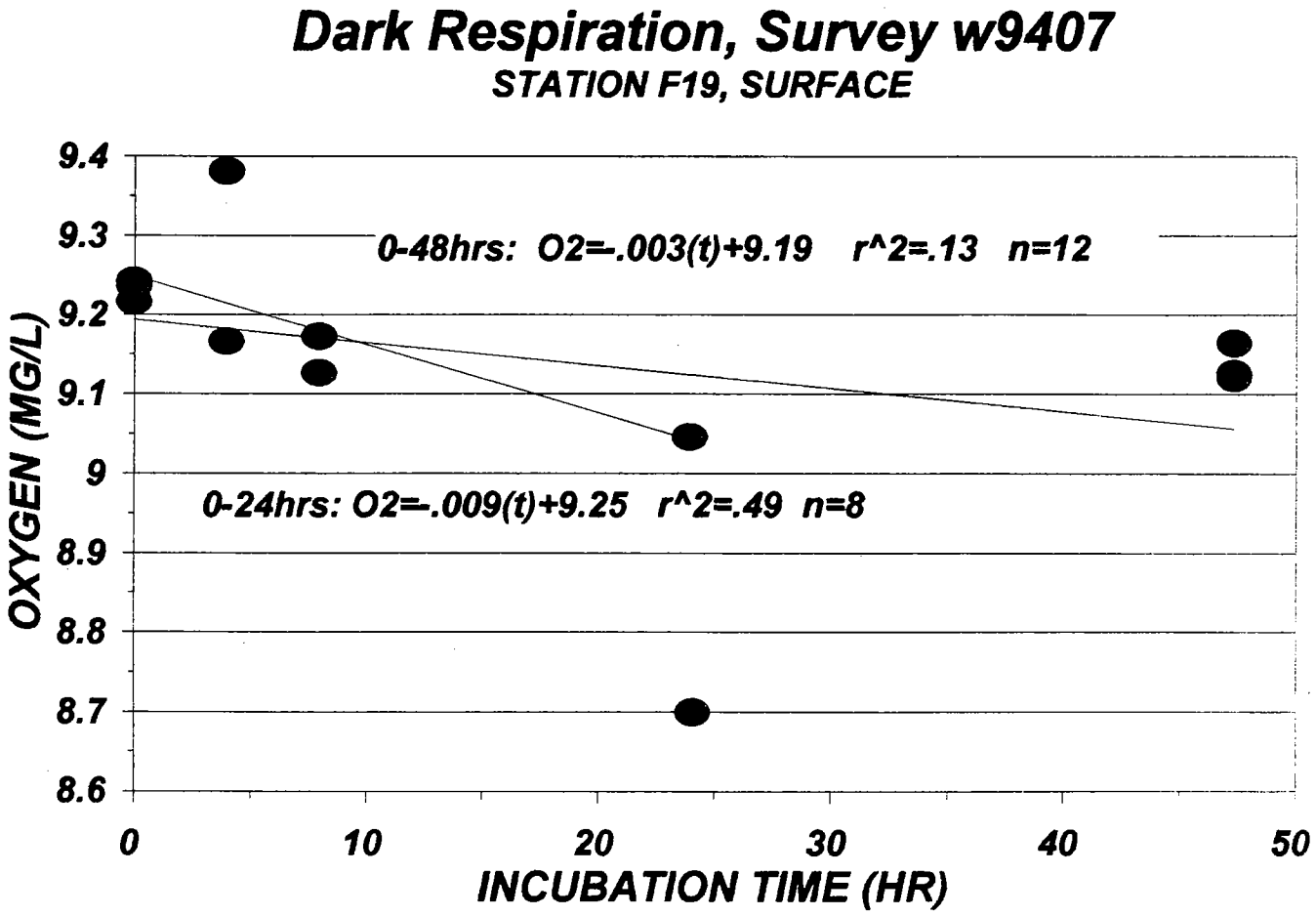
Table D3-1. Dark Respiration at Bioproductivity Stations in June of 1994.

EVENT	STATION	DATE	TIME	DEPTH	SAMPLE ID	LEVEL	DISSOLVED OXYGEN (mg/L)	LENGTH OF INCUBATION (hours)	INCUBATION TEMPERATURE (C)
W9407	F19	21-JUN-94	1222	1.83	W94070124	DARK	9.38	4.00	15.50
W9407	F19	21-JUN-94	1222	1.83	W94070124	DARK	9.17	4.00	15.50
W9407	F19	21-JUN-94	1222	1.83	W94070124	DARK	9.17	7.83	14.50
W9407	F19	21-JUN-94	1222	1.83	W94070124	DARK	9.13	7.83	14.50
W9407	F19	21-JUN-94	1222	1.83	W94070124	DARK	9.05	24.08	15.50
W9407	F19	21-JUN-94	1222	1.83	W94070124	DARK	8.70 s	24.08	15.50
W9407	F19	21-JUN-94	1222	1.83	W94070124	DARK	9.13	47.87	15.00
W9407	F19	21-JUN-94	1222	1.83	W94070124	DARK	9.12	47.87	15.00
W9407	F19	21-JUN-94	1222	1.83	W94070124	DARK	9.17	47.87	15.00
W9407	F19	21-JUN-94	1222	1.83	W94070124	INIT	9.24	0.00	
W9407	F19	21-JUN-94	1222	1.83	W94070124	INIT	9.24	0.00	
W9407	F19	21-JUN-94	1222	1.83	W94070124	INIT	9.22	0.00	
W9407	F19	21-JUN-94	1221	20.10	W94070122	DARK	10.01	4.00	7.50
W9407	F19	21-JUN-94	1221	20.10	W94070122	DARK	10.08	4.00	7.50
W9407	F19	21-JUN-94	1221	20.10	W94070122	DARK	10.08	7.83	6.00
W9407	F19	21-JUN-94	1221	20.10	W94070122	DARK	10.04	7.83	6.00
W9407	F19	21-JUN-94	1221	20.10	W94070122	DARK	10.00	24.08	7.50
W9407	F19	21-JUN-94	1221	20.10	W94070122	DARK	9.96	24.08	7.50
W9407	F19	21-JUN-94	1221	20.10	W94070122	DARK	9.77	47.87	7.00
W9407	F19	21-JUN-94	1221	20.10	W94070122	DARK	10.05	47.87	7.00
W9407	F19	21-JUN-94	1221	20.10	W94070122	DARK	10.10	47.87	7.00
W9407	F19	21-JUN-94	1221	20.10	W94070122	INIT	10.15	0.00	
W9407	F19	21-JUN-94	1221	20.10	W94070122	INIT	10.15	0.00	
W9407	F19	21-JUN-94	1221	20.10	W94070122	INIT	10.14	0.00	
W9407	F19	21-JUN-94	1219	27.62	W94070121	DARK	9.75	4.00	7.00
W9407	F19	21-JUN-94	1219	27.62	W94070121	DARK	9.88	4.00	7.00
W9407	F19	21-JUN-94	1219	27.62	W94070121	DARK	9.86	7.83	6.30
W9407	F19	21-JUN-94	1219	27.62	W94070121	DARK	9.89	7.83	6.30
W9407	F19	21-JUN-94	1219	27.62	W94070121	DARK	9.81	24.08	7.00
W9407	F19	21-JUN-94	1219	27.62	W94070121	DARK	9.80	24.08	7.00
W9407	F19	21-JUN-94	1219	27.62	W94070121	DARK	9.92	47.87	7.50
W9407	F19	21-JUN-94	1219	27.62	W94070121	DARK	9.83	47.87	7.50
W9407	F19	21-JUN-94	1219	27.62	W94070121	DARK	9.83	47.87	7.50
W9407	F19	21-JUN-94	1219	27.62	W94070121	DARK	9.22	169.00	7.00
W9407	F19	21-JUN-94	1219	27.62	W94070121	DARK	9.43	169.00	7.00
W9407	F19	21-JUN-94	1219	27.62	W94070121	DARK	9.02	169.00	7.00
W9407	F19	21-JUN-94	1219	27.62	W94070121	INIT	9.94	0.00	
W9407	F19	21-JUN-94	1219	27.62	W94070121	INIT	9.97	0.00	
W9407	F19	21-JUN-94	1219	27.62	W94070121	INIT	9.97	0.00	
W9407	F24	21-JUN-94	0749	1.44	W94070050	DARK	10.37	4.25	16.40
W9407	F24	21-JUN-94	0749	1.44	W94070050	DARK	10.20	4.25	16.40
W9407	F24	21-JUN-94	0749	1.44	W94070050	DARK	10.28	8.00	15.50
W9407	F24	21-JUN-94	0749	1.44	W94070050	DARK	10.07	8.00	15.50
W9407	F24	21-JUN-94	0749	1.44	W94070050	DARK	10.00	24.00	15.00
W9407	F24	21-JUN-94	0749	1.44	W94070050	DARK	9.88	24.00	15.00
W9407	F24	21-JUN-94	0749	1.44	W94070050	DARK	9.64	48.25	18.00
W9407	F24	21-JUN-94	0749	1.44	W94070050	DARK	9.62	48.25	18.00
W9407	F24	21-JUN-94	0749	1.44	W94070050	DARK	e	48.25	18.00
W9407	F24	21-JUN-94	0749	1.44	W94070050	INIT	10.53	0.00	
W9407	F24	21-JUN-94	0749	1.44	W94070050	INIT	10.56	0.00	
W9407	F24	21-JUN-94	0749	1.44	W94070050	INIT	10.57	0.00	
W9407	N20P	21-JUN-94	0919	1.63	W94070074	DARK	10.76	4.08	16.50
W9407	N20P	21-JUN-94	0919	1.63	W94070074	DARK	10.99	4.08	16.50
W9407	N20P	21-JUN-94	0919	1.63	W94070074	DARK	10.88	8.00	15.00
W9407	N20P	21-JUN-94	0919	1.63	W94070074	DARK	10.81	8.00	15.00
W9407	N20P	21-JUN-94	0919	1.63	W94070074	DARK	10.38	24.00	15.00
W9407	N20P	21-JUN-94	0919	1.63	W94070074	DARK	10.54	24.00	15.00
W9407	N20P	21-JUN-94	0919	1.63	W94070074	DARK	10.19	48.00	18.00
W9407	N20P	21-JUN-94	0919	1.63	W94070074	DARK	10.25	48.00	18.00
W9407	N20P	21-JUN-94	0919	1.63	W94070074	DARK	10.24	48.00	18.00
W9407	N20P	21-JUN-94	0919	1.63	W94070074	INIT	11.20	0.00	
W9407	N20P	21-JUN-94	0919	1.63	W94070074	INIT	11.23	0.00	

Table D3-1. Dark Respiration at Bioproductivity Stations in June of 1994.

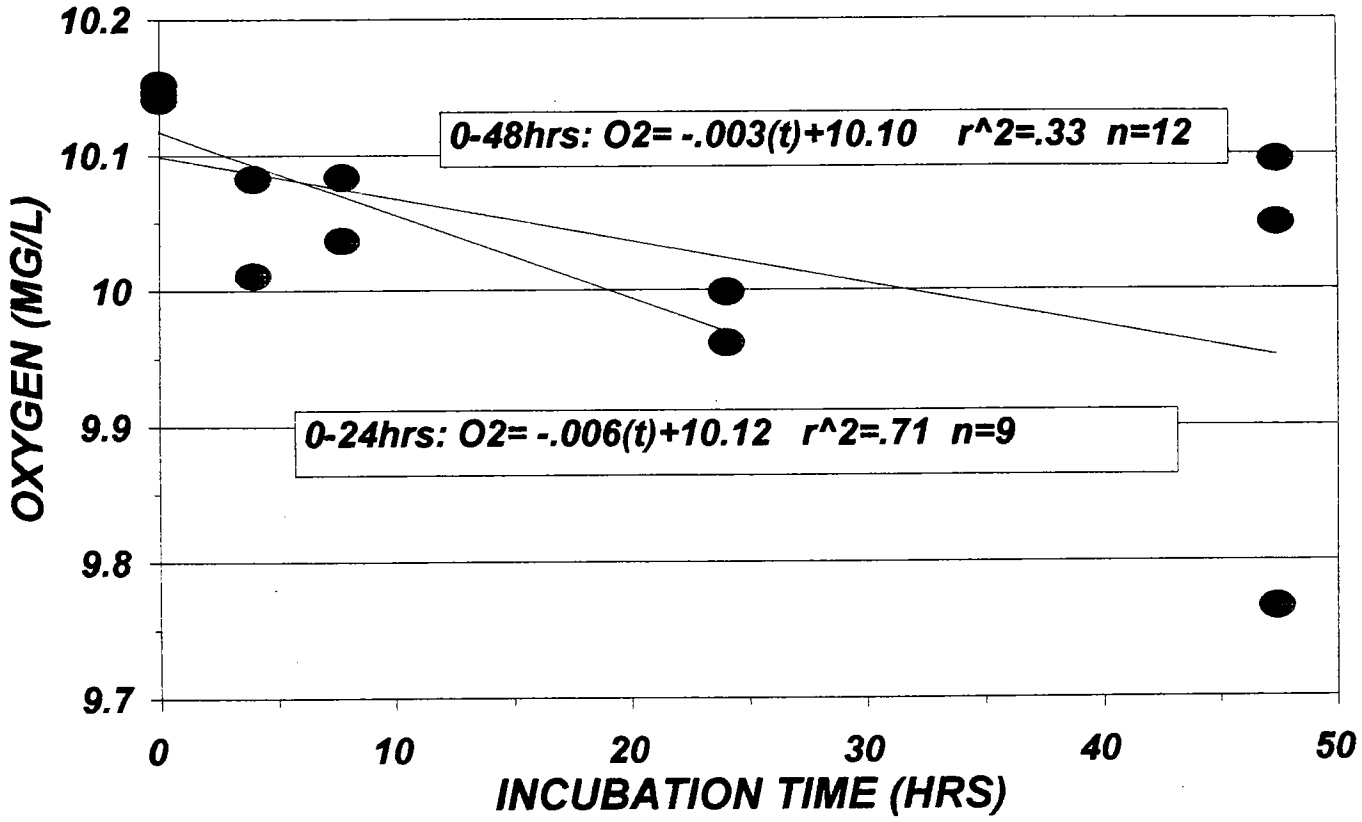
EVENT	STATION	DATE	TIME	DEPTH	SAMPLE ID	LEVEL	DISSOLVED OXYGEN (mg/L)	LENGTH OF INCUBATION (hours)	INCUBATION TEMPERATURE (C)
W9407	N20P	21-JUN-94	0919	1.63	W94070074	INIT	11.19	0.00	
W9407	N20P	21-JUN-94	0917	8.97	W94070072	DARK	10.67	4.08	7.50
W9407	N20P	21-JUN-94	0917	8.97	W94070072	DARK	10.80	4.08	7.50
W9407	N20P	21-JUN-94	0917	8.97	W94070072	DARK	10.87	8.00	7.50
W9407	N20P	21-JUN-94	0917	8.97	W94070072	DARK	10.79	8.00	7.50
W9407	N20P	21-JUN-94	0917	8.97	W94070072	DARK	10.66	24.00	7.00
W9407	N20P	21-JUN-94	0917	8.97	W94070072	DARK	10.73	24.00	7.00
W9407	N20P	21-JUN-94	0917	8.97	W94070072	DARK	10.62	48.00	7.00
W9407	N20P	21-JUN-94	0917	8.97	W94070072	DARK	10.69	48.00	7.00
W9407	N20P	21-JUN-94	0917	8.97	W94070072	DARK	10.55	48.00	7.00
W9407	N20P	21-JUN-94	0917	8.97	W94070072	INIT	10.98	0.00	
W9407	N20P	21-JUN-94	0917	8.97	W94070072	INIT	10.85 s	0.00	
W9407	N20P	21-JUN-94	0917	8.97	W94070072	INIT	10.86 s	0.00	
W9407	N20P	21-JUN-94	0915	17.74	W94070071	DARK	10.47	4.08	7.00
W9407	N20P	21-JUN-94	0915	17.74	W94070071	DARK	10.35	4.08	7.00
W9407	N20P	21-JUN-94	0915	17.74	W94070071	DARK	10.24	8.00	7.00
W9407	N20P	21-JUN-94	0915	17.74	W94070071	DARK	10.48	8.00	7.00
W9407	N20P	21-JUN-94	0915	17.74	W94070071	DARK	10.27	24.00	7.00
W9407	N20P	21-JUN-94	0915	17.74	W94070071	DARK	10.36	24.00	7.00
W9407	N20P	21-JUN-94	0915	17.74	W94070071	DARK	10.29	48.00	7.50
W9407	N20P	21-JUN-94	0915	17.74	W94070071	DARK	10.30	48.00	7.50
W9407	N20P	21-JUN-94	0915	17.74	W94070071	DARK	10.33	48.00	7.50
W9407	N20P	21-JUN-94	0915	17.74	W94070071	DARK	9.72	168.00	7.00
W9407	N20P	21-JUN-94	0915	17.74	W94070071	DARK	9.82	168.00	7.00
W9407	N20P	21-JUN-94	0915	17.74	W94070071	DARK	9.79	168.00	7.00
W9407	N20P	21-JUN-94	0915	17.74	W94070071	INIT	10.54	0.00	
W9407	N20P	21-JUN-94	0915	17.74	W94070071	INIT	10.55	0.00	
W9407	N20P	21-JUN-94	0915	17.74	W94070071	INIT	10.58	0.00	

s = Suspect data
e = Data not reported


Dark Respiration, Survey w9407
STATION F19, SURFACE
0-48hrs: O2=-.003(t)+9.19 r^2=.13 n=12
0-24hrs: O2=-.009(t)+9.25 r^2=.49 n=8
OXYGEN (MG/L)
9.4
9.3
9.2
9.1
9
8.9
8.8
8.7
8.6
0
10
20
30
40
50
INCUBATION TIME (HR)

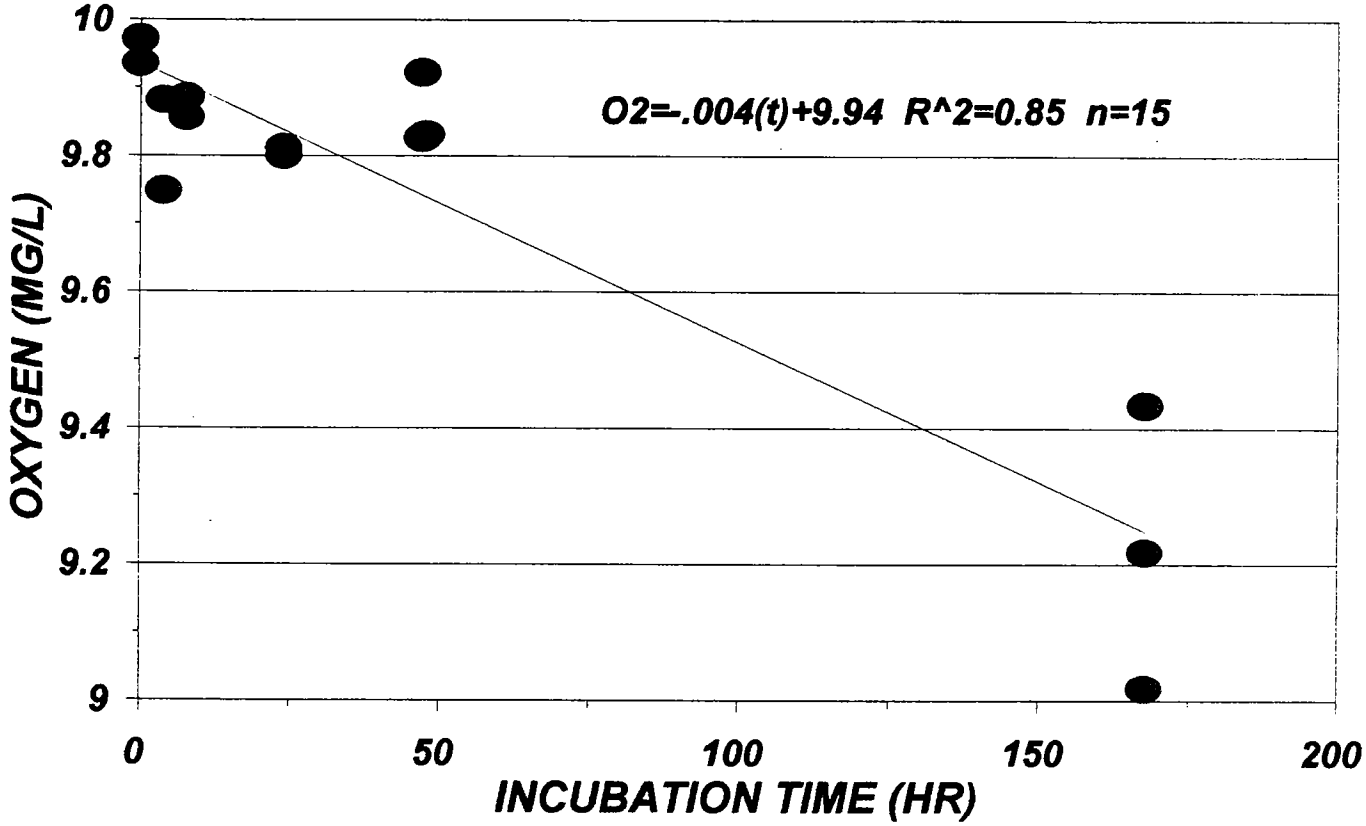
Dark Respiration, W9407

Station f19, mid-depth



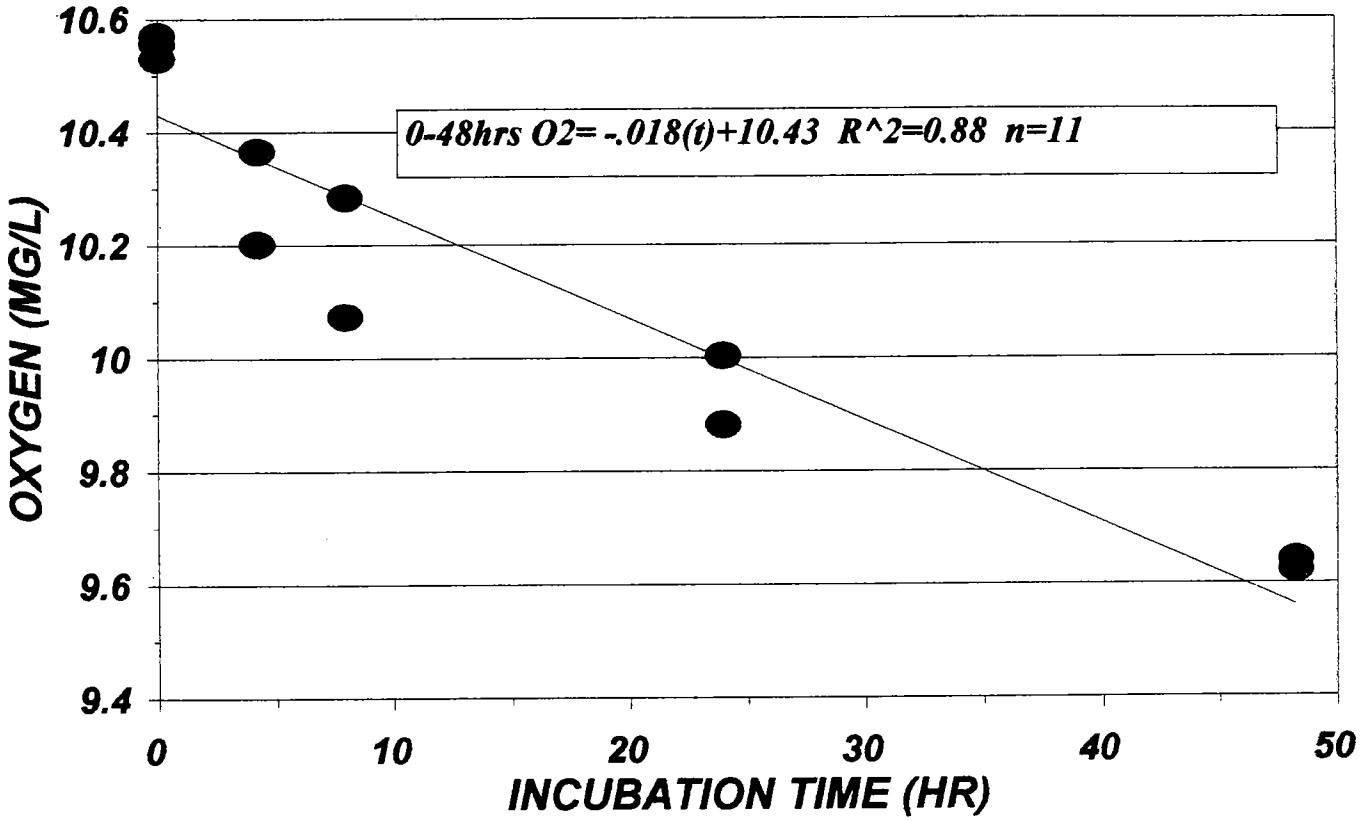
Dark Respiration, W9407

Station f19, mid-bottom



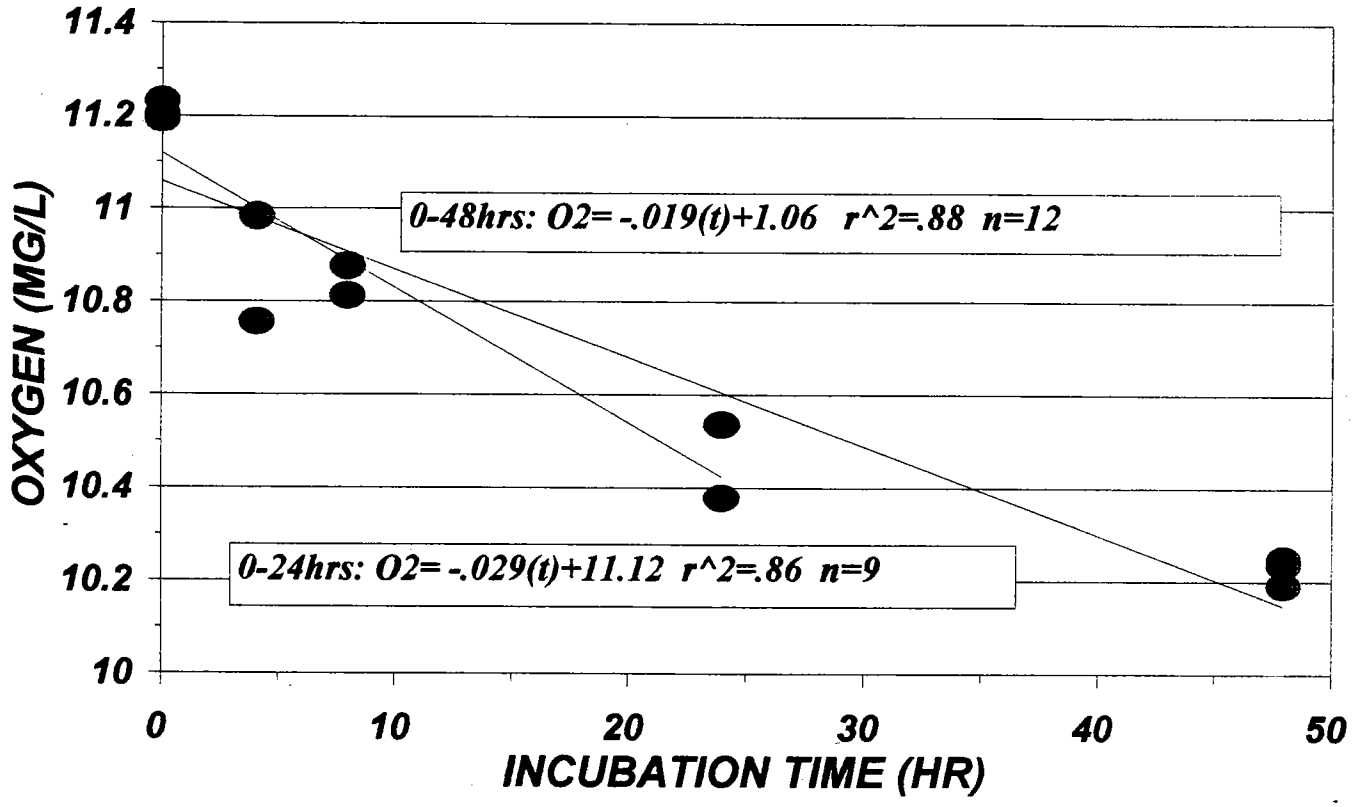
Dark Respiration, W9407

Station F24, Surface



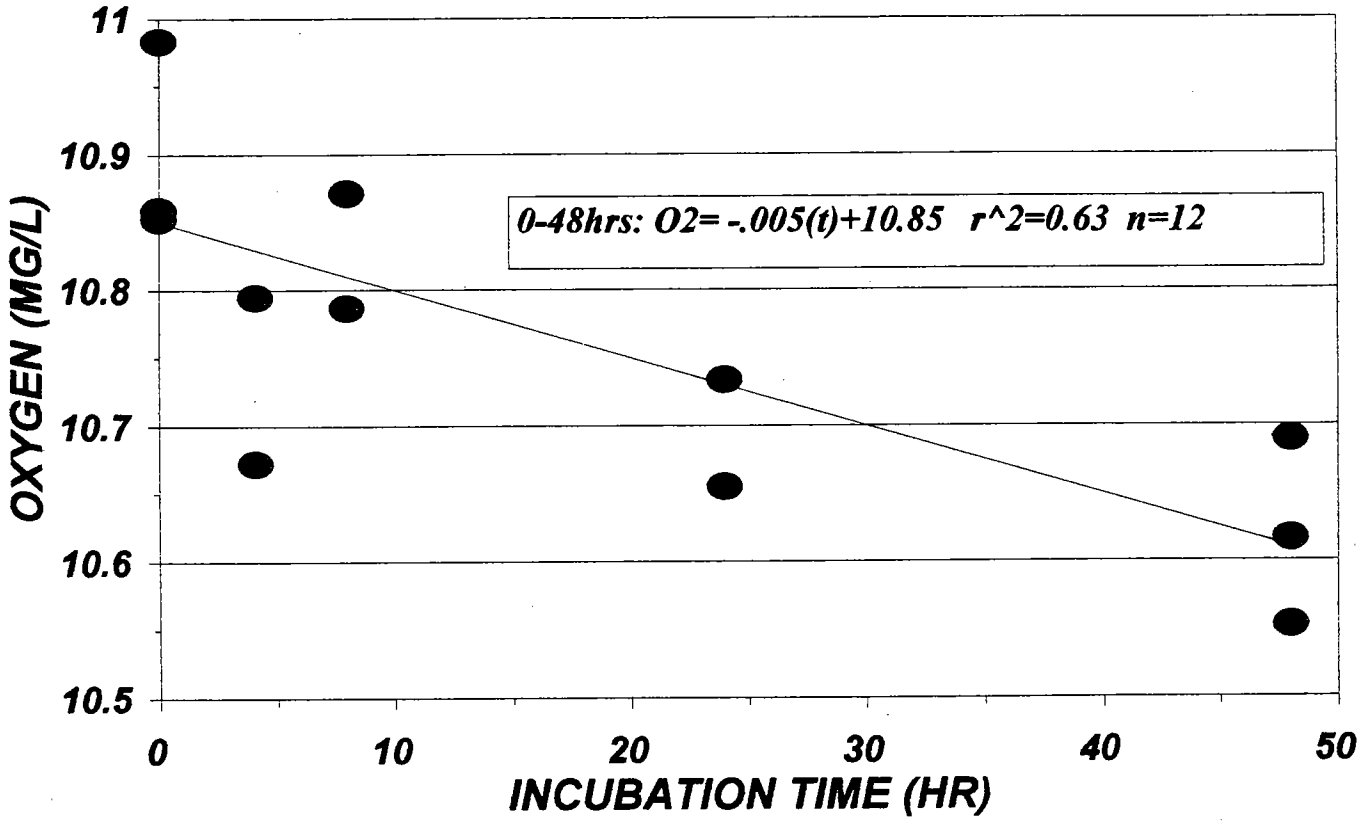
Dark Respiration, W9407

Station N20P, Surface



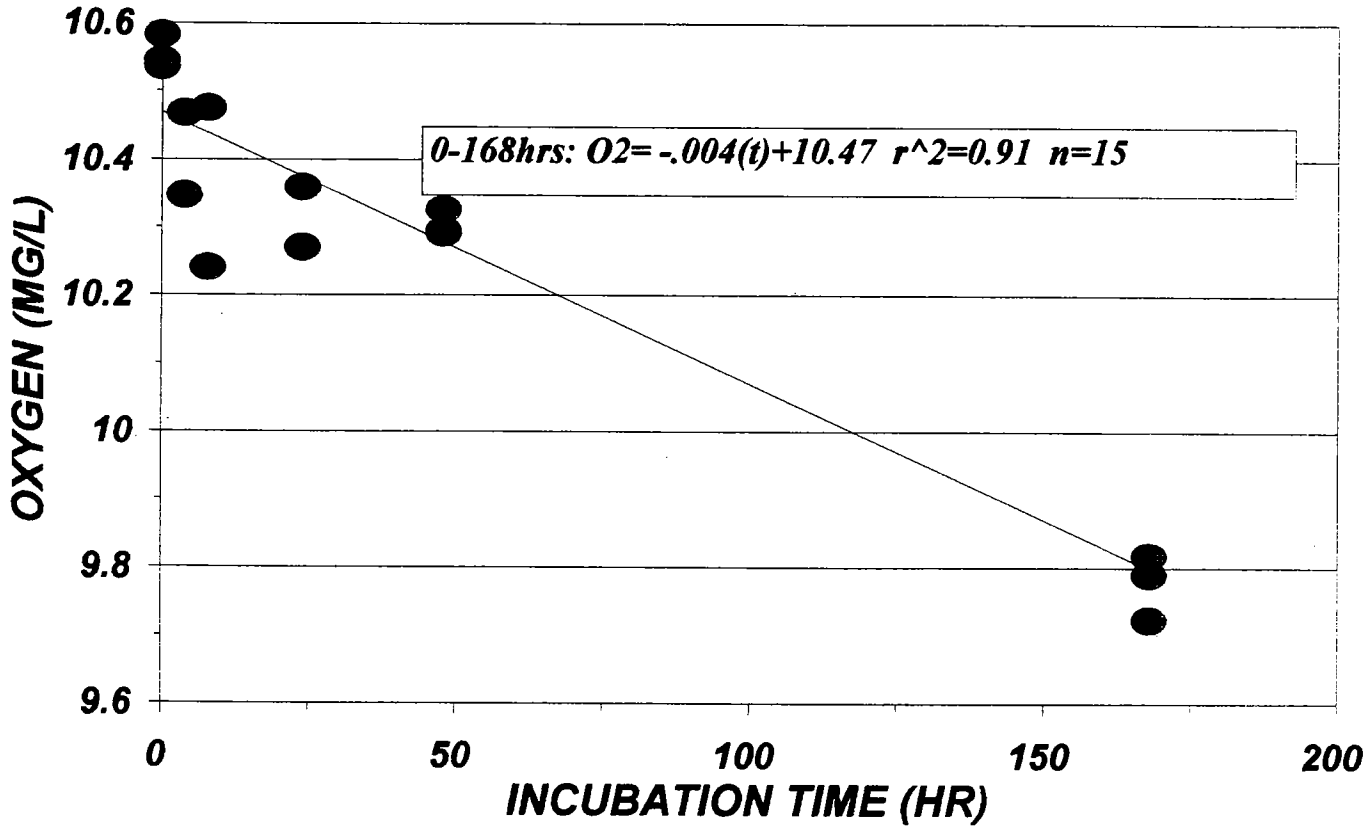
Dark Respiration, W9407

Station N20P, mid-depth



Dark Respiration, W9407

Station N20P, mid-bottom



APPENDIX E

PHYTOPLANKTON SPECIES DATA TABLE

A complete listing, by survey, is given for taxonomic analyses of whole-water samples analyzed for W9407, W9408, and W9409 (Table E-1). All counts for screened (20 μm) samples for W9407, W9408, and W9409 are given in the text report.

Table E1. Phytoplankton Species Data for June, July 1994.

Sample ID	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W94070034	F23P	06-21-94	07:03	9.83	ASTERIONELLOPSIS GLACIALIS	.005
W94070034	F23P	06-21-94	07:03	9.83	CHAETOCEROS BOREALIS	.003
W94070034	F23P	06-21-94	07:03	9.83	CHAETOCEROS COMPRESSUS	.057
W94070034	F23P	06-21-94	07:03	9.83	CHAETOCEROS DEBILIS	.01
W94070034	F23P	06-21-94	07:03	9.83	CHAETOCEROS SPP. (10-20UM)	.073
W94070034	F23P	06-21-94	07:03	9.83	CHAETOCEROS SPP.(<10UM)	.031
W94070034	F23P	06-21-94	07:03	9.83	CRYPTOMONADS	0.148
W94070034	F23P	06-21-94	07:03	9.83	CYLINDROTHECA CLOSTERIUM	.003
W94070034	F23P	06-21-94	07:03	9.83	DINOPHYSIS NORVEGICA	.008
W94070034	F23P	06-21-94	07:03	9.83	GYRODINIUM SPIRALE	.003
W94070034	F23P	06-21-94	07:03	9.83	MICROFLAGELLATES	0.385
W94070034	F23P	06-21-94	07:03	9.83	PYRAMIMONAS/TETRASELMIS SPP.	.008
W94070034	F23P	06-21-94	07:03	9.83	SKELETONEMA COSTATUM	0.448
W94070034	F23P	06-21-94	07:03	9.83	THALASSIOSIRA ROTULA	.008
W94070034	F23P	06-21-94	07:03	9.83	THALASSIOSIRA SPP.	.026
W94070034	F23P	06-21-94	07:03	9.83	UNID. ATHECATE DINOFLAGELLATE	.005
W94070034	F23P	06-21-94	07:03	9.83	UNID. CENTRALES	.023
W94070036	F23P	06-21-94	07:05	1.58	CHAETOCEROS COMPRESSUS	.077
W94070036	F23P	06-21-94	07:05	1.58	CHAETOCEROS SPP. (10-20UM)	.03
W94070036	F23P	06-21-94	07:05	1.58	CHAETOCEROS SPP.(<10UM)	.01
W94070036	F23P	06-21-94	07:05	1.58	COCCONEIS SCUTELLUM	.002
W94070036	F23P	06-21-94	07:05	1.58	CRYPTOMONADS	0.134
W94070036	F23P	06-21-94	07:05	1.58	EBRIA TRIPARTITIA	.002
W94070036	F23P	06-21-94	07:05	1.58	EUTREPTIA/EUTREPTIELLA SPP.	.002
W94070036	F23P	06-21-94	07:05	1.58	LITHODESMIUM (cf) UNDULATUM	.015
W94070036	F23P	06-21-94	07:05	1.58	MICROFLAGELLATES	0.487
W94070036	F23P	06-21-94	07:05	1.58	NAVICULOID DIATOMS	.002
W94070036	F23P	06-21-94	07:05	1.58	PYRAMIMONAS/TETRASELMIS SPP.	.002
W94070036	F23P	06-21-94	07:05	1.58	RHIZOSOLENIA DELICATULA	.01
W94070036	F23P	06-21-94	07:05	1.58	SKELETONEMA COSTATUM	0.649
W94070036	F23P	06-21-94	07:05	1.58	THALASSIOSIRA SPP.	.022
W94070036	F23P	06-21-94	07:05	1.58	UNID. CENTRALES	.017
W94070071	N20P	06-21-94	09:15	17.74	CHAETOCEROS BOREALIS	.004
W94070071	N20P	06-21-94	09:15	17.74	CHAETOCEROS COMPRESSUS	0.201
W94070071	N20P	06-21-94	09:15	17.74	CHAETOCEROS DEBILIS	.004
W94070071	N20P	06-21-94	09:15	17.74	CHAETOCEROS SPORE	.001
W94070071	N20P	06-21-94	09:15	17.74	CHAETOCEROS SPP. (10-20UM)	.049
W94070071	N20P	06-21-94	09:15	17.74	CHAETOCEROS SPP.(<10UM)	.004
W94070071	N20P	06-21-94	09:15	17.74	COSCINODISCUS SPP.	.001
W94070071	N20P	06-21-94	09:15	17.74	CRYPTOMONADS	.051
W94070071	N20P	06-21-94	09:15	17.74	CYLINDROTHECA CLOSTERIUM	.004
W94070071	N20P	06-21-94	09:15	17.74	DETONULA CONFERVACEA	.004
W94070071	N20P	06-21-94	09:15	17.74	DINOPHYSIS ACUMINATA	.001
W94070071	N20P	06-21-94	09:15	17.74	DINOPHYSIS NORVEGICA	.006
W94070071	N20P	06-21-94	09:15	17.74	LICMOPHORA SPP.	.001

Table E1. Phytoplankton Species Data for June, July 1994.

Sample ID	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W94070071	N20P	06-21-94	09:15	17.74	MICROFLAGELLATES	0.338
W94070071	N20P	06-21-94	09:15	17.74	PROTOPERIDINIUM SPP.	.001
W94070071	N20P	06-21-94	09:15	17.74	PYRAMIMONAS/TETRASELMIS SPP.	.013
W94070071	N20P	06-21-94	09:15	17.74	SKELETONEMA COSTATUM	.008
W94070071	N20P	06-21-94	09:15	17.74	THALASSIOSIRA ROTULA	.001
W94070071	N20P	06-21-94	09:15	17.74	UNID. ATHECATE DINOFLAGELLATE	.005
W94070074	N20P	06-21-94	09:19	1.63	CHAETOCEROS BOREALIS	.002
W94070074	N20P	06-21-94	09:19	1.63	CHAETOCEROS COMPRESSUS	0.564
W94070074	N20P	06-21-94	09:19	1.63	CHAETOCEROS SPP. (10-20UM)	.033
W94070074	N20P	06-21-94	09:19	1.63	CHAETOCEROS SPP.(<10UM)	.054
W94070074	N20P	06-21-94	09:19	1.63	CRYPTOMONADS	.048
W94070074	N20P	06-21-94	09:19	1.63	CYLINDROTHECA CLOSTERIUM	.004
W94070074	N20P	06-21-94	09:19	1.63	GYRODINIUM SPP.	.004
W94070074	N20P	06-21-94	09:19	1.63	KATODINIUM ROTUNDATUM	.002
W94070074	N20P	06-21-94	09:19	1.63	MICROFLAGELLATES	0.423
W94070074	N20P	06-21-94	09:19	1.63	NAVICULOID DIATOMS	.015
W94070074	N20P	06-21-94	09:19	1.63	PROTOPERIDINIUM DEPRESSUM	.002
W94070074	N20P	06-21-94	09:19	1.63	RHIZOSOLENIA DELICATULA	.014
W94070074	N20P	06-21-94	09:19	1.63	SKELETONEMA COSTATUM	.017
W94070074	N20P	06-21-94	09:19	1.63	THALASSIOSIRA ROTULA	.006
W94070074	N20P	06-21-94	09:19	1.63	THALASSIOSIRA SPP.	.004
W94070074	N20P	06-21-94	09:19	1.63	UNID. ATHECATE DINOFLAGELLATE	.002
W94070074	N20P	06-21-94	09:19	1.63	UNID. CENTRALES	.017
W94070074	N20P	06-21-94	09:19	1.63	UNID. DINOFLAGELLATES	.002
W94070094	N16P	06-21-94	10:10	16.92	CERATIUM LONGIPES	.004
W94070094	N16P	06-21-94	10:10	16.92	CHAETOCEROS SPP. (10-20UM)	.003
W94070094	N16P	06-21-94	10:10	16.92	CHAETOCEROS SPP.(<10UM)	.008
W94070094	N16P	06-21-94	10:10	16.92	CRYPTOMONADS	0.117
W94070094	N16P	06-21-94	10:10	16.92	CYLINDROTHECA CLOSTERIUM	.001
W94070094	N16P	06-21-94	10:10	16.92	MICROFLAGELLATES	0.319
W94070094	N16P	06-21-94	10:10	16.92	PROTOPERIDINIUM SPP.	.001
W94070094	N16P	06-21-94	10:10	16.92	UNID. ATHECATE DINOFLAGELLATE	.003
W94070094	N16P	06-21-94	10:10	16.92	UNID. CENTRALES	.001
W94070096	N16P	06-21-94	10:12	1.49	CERATIUM LONGIPES	.002
W94070096	N16P	06-21-94	10:12	1.49	CHAETOCEROS SPP.(<10UM)	.005
W94070096	N16P	06-21-94	10:12	1.49	CRYPTOMONADS	.012
W94070096	N16P	06-21-94	10:12	1.49	MICROFLAGELLATES	0.189
W94070096	N16P	06-21-94	10:12	1.49	THALASSIOSIRA SPP.	.002
W94070096	N16P	06-21-94	10:12	1.49	UNID. ATHECATE DINOFLAGELLATE	.003
W94070096	N16P	06-21-94	10:12	1.49	UNID. CENTRALES	.001
W94070106	N07P	06-21-94	11:29	18.13	CERATIUM LONGIPES	.003
W94070106	N07P	06-21-94	11:29	18.13	CHAETOCEROS SPP. (10-20UM)	.003
W94070106	N07P	06-21-94	11:29	18.13	CRYPTOMONADS	0.162
W94070106	N07P	06-21-94	11:29	18.13	DINOPHYSIS NORVEGICA	.001
W94070106	N07P	06-21-94	11:29	18.13	KATODINIUM ROTUNDATUM	.003

Table E1. Phytoplankton Species Data for June, July 1994.

Sample ID	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W94070106	N07P	06-21-94	11:29	18.13	MICROFLAGELLATES	0.325
W94070106	N07P	06-21-94	11:29	18.13	UNID. ATHECATE DINOFLAGELLATE	.001
W94070109	N07P	06-21-94	11:32	1.67	CHAETOCEROS SPP. (10-20UM)	.001
W94070109	N07P	06-21-94	11:32	1.67	CHAETOCEROS SPP.(<10UM)	.001
W94070109	N07P	06-21-94	11:32	1.67	CRYPTOMONADS	.008
W94070109	N07P	06-21-94	11:32	1.67	GYMNODINIUM SPP.	0
W94070109	N07P	06-21-94	11:32	1.67	MICROFLAGELLATES	0.132
W94070179	N10P	06-21-94	15:40	8.63	CERATIUM LONGIPES	.002
W94070179	N10P	06-21-94	15:40	8.63	CHAETOCEROS COMPRESSUS	0.304
W94070179	N10P	06-21-94	15:40	8.63	CHAETOCEROS SPP. (10-20UM)	.039
W94070179	N10P	06-21-94	15:40	8.63	CHAETOCEROS SPP.(<10UM)	.017
W94070179	N10P	06-21-94	15:40	8.63	COSCINODISCUS SPP.	.007
W94070179	N10P	06-21-94	15:40	8.63	CRYPTOMONADS	0.181
W94070179	N10P	06-21-94	15:40	8.63	CYLINDROTHECA CLOSTERIUM	.002
W94070179	N10P	06-21-94	15:40	8.63	DICTYOCHA SPECULUM	.002
W94070179	N10P	06-21-94	15:40	8.63	DINOPHYSIS NORVEGICA	.007
W94070179	N10P	06-21-94	15:40	8.63	EUTREPTIA/EUTREPTIELLA SPP.	.002
W94070179	N10P	06-21-94	15:40	8.63	KATODINIUM ROTUNDATUM	.002
W94070179	N10P	06-21-94	15:40	8.63	MICROFLAGELLATES	0.493
W94070179	N10P	06-21-94	15:40	8.63	NAVICULOID DIATOMS	.01
W94070179	N10P	06-21-94	15:40	8.63	PROTOPERIDINIUM SPP.	.002
W94070179	N10P	06-21-94	15:40	8.63	PYRAMIMONAS/TETRASELMIS SPP.	.005
W94070179	N10P	06-21-94	15:40	8.63	SKELETONEMA COSTATUM	0.12
W94070179	N10P	06-21-94	15:40	8.63	THALASSIOSIRA SPP.	.012
W94070179	N10P	06-21-94	15:40	8.63	UNID. ATHECATE DINOFLAGELLATE	.002
W94070179	N10P	06-21-94	15:40	8.63	UNID. CENTRALES	.007
W94070181	N10P	06-21-94	15:42	1.49	CHAETOCEROS COMPRESSUS	0.277
W94070181	N10P	06-21-94	15:42	1.49	CHAETOCEROS SEPTENTRIONALIS	.002
W94070181	N10P	06-21-94	15:42	1.49	CHAETOCEROS SPP. (10-20UM)	.035
W94070181	N10P	06-21-94	15:42	1.49	CHAETOCEROS SPP.(<10UM)	.08
W94070181	N10P	06-21-94	15:42	1.49	COSCINODISCUS SPP.	.009
W94070181	N10P	06-21-94	15:42	1.49	CRYPTOMONADS	0.259
W94070181	N10P	06-21-94	15:42	1.49	DINOPHYSIS NORVEGICA	.004
W94070181	N10P	06-21-94	15:42	1.49	GYRODINIUM SPIRALE	.004
W94070181	N10P	06-21-94	15:42	1.49	KATODINIUM ROTUNDATUM	.029
W94070181	N10P	06-21-94	15:42	1.49	MICROFLAGELLATES	0.634
W94070181	N10P	06-21-94	15:42	1.49	NAVICULOID DIATOMS	.002
W94070181	N10P	06-21-94	15:42	1.49	NITZSCHIA LONGISSIMA	.002
W94070181	N10P	06-21-94	15:42	1.49	PROTOPERIDINIUM SPP.	.002
W94070181	N10P	06-21-94	15:42	1.49	RHIZOSOLENIA DELICATULA	.002
W94070181	N10P	06-21-94	15:42	1.49	SKELETONEMA COSTATUM	0.175
W94070181	N10P	06-21-94	15:42	1.49	THALASSIONEMA NITZSCHOIDES	.004
W94070181	N10P	06-21-94	15:42	1.49	THALASSIOSIRA SPP.	.004
W94070181	N10P	06-21-94	15:42	1.49	UNID. ATHECATE DINOFLAGELLATE	.004
W94070181	N10P	06-21-94	15:42	1.49	UNID. CENTRALES	.009

Table E1. Phytoplankton Species Data for June, July 1994.

Sample ID	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W94070220	F23P	06-22-94	06:08	7.54	CHAETOCEROS COMPRESSUS	.062
W94070220	F23P	06-22-94	06:08	7.54	CHAETOCEROS SPP. (10-20UM)	.002
W94070220	F23P	06-22-94	06:08	7.54	CHAETOCEROS SPP.(<10UM)	.014
W94070220	F23P	06-22-94	06:08	7.54	CRYPTOMONADS	.064
W94070220	F23P	06-22-94	06:08	7.54	EBRIA TRIPARTITIA	.002
W94070220	F23P	06-22-94	06:08	7.54	GYRODINIUM SPIRALE	.002
W94070220	F23P	06-22-94	06:08	7.54	KATODINIUM ROTUNDATUM	.002
W94070220	F23P	06-22-94	06:08	7.54	MICROFLAGELLATES	0.373
W94070220	F23P	06-22-94	06:08	7.54	NAVICULOID DIATOMS	.002
W94070220	F23P	06-22-94	06:08	7.54	PLEUROSIGMA SPP.	.002
W94070220	F23P	06-22-94	06:08	7.54	PROTOPERIDINIUM DEPRESSUM	.002
W94070220	F23P	06-22-94	06:08	7.54	PYRAMIMONAS/TETRASELMIS SPP.	.005
W94070220	F23P	06-22-94	06:08	7.54	SKELETONEMA COSTATUM	0.835
W94070220	F23P	06-22-94	06:08	7.54	THALASSIOSIRA SPP.	.018
W94070220	F23P	06-22-94	06:08	7.54	UNID. ATHECATE DINOFLAGELLATE	.011
W94070222	F23P	06-22-94	06:10	1.42	CHAETOCEROS COMPRESSUS	.063
W94070222	F23P	06-22-94	06:10	1.42	CHAETOCEROS SPP.(<10UM)	.016
W94070222	F23P	06-22-94	06:10	1.42	COCCONEIS SCUTELLUM	.003
W94070222	F23P	06-22-94	06:10	1.42	CRYPTOMONADS	0.115
W94070222	F23P	06-22-94	06:10	1.42	DICTYOCHA FIBULA	.003
W94070222	F23P	06-22-94	06:10	1.42	EBRIA TRIPARTITIA	.003
W94070222	F23P	06-22-94	06:10	1.42	EUTREPTIA/EUTREPTIELLA SPP.	.003
W94070222	F23P	06-22-94	06:10	1.42	GYRODINIUM SPP.	.003
W94070222	F23P	06-22-94	06:10	1.42	KATODINIUM ROTUNDATUM	.003
W94070222	F23P	06-22-94	06:10	1.42	MICROFLAGELLATES	0.366
W94070222	F23P	06-22-94	06:10	1.42	NAVICULOID DIATOMS	.005
W94070222	F23P	06-22-94	06:10	1.42	SKELETONEMA COSTATUM	0.849
W94070222	F23P	06-22-94	06:10	1.42	THALASSIOSIRA SPP.	.049
W94070222	F23P	06-22-94	06:10	1.42	UNID. ATHECATE DINOFLAGELLATE	.011
W94070222	F23P	06-22-94	06:10	1.42	UNID. CENTRALES	.008
W94070232	N01P	06-22-94	07:08	13.05	CERATIUM LONGIPES	.004
W94070232	N01P	06-22-94	07:08	13.05	CRYPTOMONADS	.01
W94070232	N01P	06-22-94	07:08	13.05	DINOPHYSIS NORVEGICA	.006
W94070232	N01P	06-22-94	07:08	13.05	KATODINIUM ROTUNDATUM	.001
W94070232	N01P	06-22-94	07:08	13.05	MICROFLAGELLATES	0.136
W94070232	N01P	06-22-94	07:08	13.05	UNID. ATHECATE DINOFLAGELLATE	.001
W94070234	N01P	06-22-94	07:09	1.56	CERATIUM FUSUS	.001
W94070234	N01P	06-22-94	07:09	1.56	CHAETOCEROS SPP.(<10UM)	.003
W94070234	N01P	06-22-94	07:09	1.56	CRYPTOMONADS	.011
W94070234	N01P	06-22-94	07:09	1.56	KATODINIUM ROTUNDATUM	.001
W94070234	N01P	06-22-94	07:09	1.56	MICROFLAGELLATES	0.186
W94070234	N01P	06-22-94	07:09	1.56	NAVICULOID DIATOMS	.001
W94070234	N01P	06-22-94	07:09	1.56	PYRAMIMONAS/TETRASELMIS SPP.	.002
W94070234	N01P	06-22-94	07:09	1.56	UNID. ATHECATE DINOFLAGELLATE	.001
W94070251	N04P	06-22-94	08:18	24.13	AMPHIDINIUM SPP.	0

Table E1. Phytoplankton Species Data for June, July 1994.

Sample ID	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W94070251	N04P	06-22-94	08:18	24.13	CHAETOCEROS COMPRESSUS	.037
W94070251	N04P	06-22-94	08:18	24.13	CHAETOCEROS DECIPIENS	.003
W94070251	N04P	06-22-94	08:18	24.13	CHAETOCEROS SEPTENTRIONALIS	0
W94070251	N04P	06-22-94	08:18	24.13	CHAETOCEROS SPORE	0
W94070251	N04P	06-22-94	08:18	24.13	CHAETOCEROS SPP. (10-20UM)	.001
W94070251	N04P	06-22-94	08:18	24.13	CHAETOCEROS SPP.(<10UM)	.01
W94070251	N04P	06-22-94	08:18	24.13	CRYPTOMONADS	.006
W94070251	N04P	06-22-94	08:18	24.13	CYLINDROTHECA CLOSTERIUM	.001
W94070251	N04P	06-22-94	08:18	24.13	DICTYOCHA SPECULUM	0
W94070251	N04P	06-22-94	08:18	24.13	DINOPHYSIS NORVEGICA	.001
W94070251	N04P	06-22-94	08:18	24.13	LEPTOCYLINDRUS MINIMUS	.001
W94070251	N04P	06-22-94	08:18	24.13	MICROFLAGELLATES	0.128
W94070251	N04P	06-22-94	08:18	24.13	PROTOPERIDINIUM DEPRESSUM	.001
W94070251	N04P	06-22-94	08:18	24.13	PROTOPERIDINIUM SPP.	0
W94070251	N04P	06-22-94	08:18	24.13	PYRAMIMONAS/TETRASELMIS SPP.	.003
W94070251	N04P	06-22-94	08:18	24.13	UNID. ATHECATE DINOFLAGELLATE	.006
W94070251	N04P	06-22-94	08:18	24.13	UNID. CENTRALES	.001
W94070253	N04P	06-22-94	08:21	1.49	CRYPTOMONADS	.049
W94070253	N04P	06-22-94	08:21	1.49	DINOPHYSIS NORVEGICA	.001
W94070253	N04P	06-22-94	08:21	1.49	KATODINIUM ROTUNDATUM	.002
W94070253	N04P	06-22-94	08:21	1.49	MICROFLAGELLATES	0.242
W94070253	N04P	06-22-94	08:21	1.49	UNID. ATHECATE DINOFLAGELLATE	.003
W94070263	N16P	06-22-94	08:52	21.02	CHAETOCEROS BOREALIS	.002
W94070263	N16P	06-22-94	08:52	21.02	CHAETOCEROS COMPRESSUS	.009
W94070263	N16P	06-22-94	08:52	21.02	CHAETOCEROS DEBILIS	.035
W94070263	N16P	06-22-94	08:52	21.02	CHAETOCEROS DECIPIENS	.023
W94070263	N16P	06-22-94	08:52	21.02	CHAETOCEROS SEPTENTRIONALIS	.004
W94070263	N16P	06-22-94	08:52	21.02	CHAETOCEROS SPORE	.011
W94070263	N16P	06-22-94	08:52	21.02	CHAETOCEROS SPP. (10-20UM)	0.106
W94070263	N16P	06-22-94	08:52	21.02	CHAETOCEROS SPP.(<10UM)	.009
W94070263	N16P	06-22-94	08:52	21.02	CORETHRON CRIOPHILUM	.002
W94070263	N16P	06-22-94	08:52	21.02	CRYPTOMONADS	.006
W94070263	N16P	06-22-94	08:52	21.02	CYLINDROTHECA CLOSTERIUM	.007
W94070263	N16P	06-22-94	08:52	21.02	DINOPHYSIS NORVEGICA	.001
W94070263	N16P	06-22-94	08:52	21.02	KATODINIUM ROTUNDATUM	.002
W94070263	N16P	06-22-94	08:52	21.02	LEPTOCYLINDRUS MINIMUS	.012
W94070263	N16P	06-22-94	08:52	21.02	MICROFLAGELLATES	.097
W94070263	N16P	06-22-94	08:52	21.02	NAVICULOID DIATOMS	.002
W94070263	N16P	06-22-94	08:52	21.02	NITZSCHIA (CF) DELICATISSIMA	.002
W94070263	N16P	06-22-94	08:52	21.02	NITZSCHIA SPP.	.002
W94070263	N16P	06-22-94	08:52	21.02	PROBOSCIA ALATA	.001
W94070263	N16P	06-22-94	08:52	21.02	RHIZOSOLENIA DELICATULA	.005
W94070263	N16P	06-22-94	08:52	21.02	RHIZOSOLENIA SETIGERA	.001
W94070263	N16P	06-22-94	08:52	21.02	SKELETONEMA COSTATUM	.003
W94070263	N16P	06-22-94	08:52	21.02	STEPHANOPYXIS TURRIS	.004

Table E1. Phytoplankton Species Data for June, July 1994.

Sample ID	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W94070263	N16P	06-22-94	08:52	21.02	UNID. ATHECATE DINOFLAGELLATE	.011
W94070263	N16P	06-22-94	08:52	21.02	UNID. CENTRALES	.002
W94070265	N16P	06-22-94	08:55	1.41	CERATIUM LONGIPES	.001
W94070265	N16P	06-22-94	08:55	1.41	CHAETOCEROS COMPRESSUS	.005
W94070265	N16P	06-22-94	08:55	1.41	CHAETOCEROS SPP.(<10UM)	.003
W94070265	N16P	06-22-94	08:55	1.41	CRYPTOMONADS	.006
W94070265	N16P	06-22-94	08:55	1.41	DINOPHYSIS NORVEGICA	.001
W94070265	N16P	06-22-94	08:55	1.41	GYMNODINIUM SPP.	.001
W94070265	N16P	06-22-94	08:55	1.41	LEPTOCYLINDRUS MINIMUS	.001
W94070265	N16P	06-22-94	08:55	1.41	MICROFLAGELLATES	0.148
W94070265	N16P	06-22-94	08:55	1.41	THALASSIOSIRA SPP.	.001
W94070265	N16P	06-22-94	08:55	1.41	UNID. ATHECATE DINOFLAGELLATE	.003
W94070372	F02P	06-23-94	07:18	14.98	CERATIUM LONGIPES	.003
W94070372	F02P	06-23-94	07:18	14.98	CHAETOCEROS SPP.(<10UM)	.003
W94070372	F02P	06-23-94	07:18	14.98	CRYPTOMONADS	.05
W94070372	F02P	06-23-94	07:18	14.98	CYLINDROTHECA CLOSTERIUM	.001
W94070372	F02P	06-23-94	07:18	14.98	GYMNODINIUM SPP.	.001
W94070372	F02P	06-23-94	07:18	14.98	GYRODINIUM SPIRALE	.001
W94070372	F02P	06-23-94	07:18	14.98	KATODINIUM ROTUNDATUM	.002
W94070372	F02P	06-23-94	07:18	14.98	MICROFLAGELLATES	0.298
W94070372	F02P	06-23-94	07:18	14.98	NAVICULOID DIATOMS	.002
W94070372	F02P	06-23-94	07:18	14.98	NITZSCHIA SPP.	.001
W94070372	F02P	06-23-94	07:18	14.98	SCRIPPSIELLA TROCHOIDEA	.001
W94070372	F02P	06-23-94	07:18	14.98	THALASSIONEMA NITZSCHOIDES	.007
W94070372	F02P	06-23-94	07:18	14.98	UNID. ATHECATE DINOFLAGELLATE	.004
W94070374	F02P	06-23-94	07:20	1.48	AMPHIDINIUM SPP.	.002
W94070374	F02P	06-23-94	07:20	1.48	CERATIUM FUSUS	.001
W94070374	F02P	06-23-94	07:20	1.48	CERATIUM LONGIPES	.001
W94070374	F02P	06-23-94	07:20	1.48	CHAETOCEROS SPP.(<10UM)	.006
W94070374	F02P	06-23-94	07:20	1.48	CRYPTOMONADS	.063
W94070374	F02P	06-23-94	07:20	1.48	GYRODINIUM (CF) AUREOLUM	.013
W94070374	F02P	06-23-94	07:20	1.48	MICROFLAGELLATES	0.316
W94070374	F02P	06-23-94	07:20	1.48	NAVICULOID DIATOMS	.002
W94070374	F02P	06-23-94	07:20	1.48	UNID. ATHECATE DINOFLAGELLATE	.013
W94070374	F02P	06-23-94	07:20	1.48	UNID. CENTRALES	.001
W94070386	F01P	06-23-94	08:48	13.9	CERATIUM LONGIPES	.005
W94070386	F01P	06-23-94	08:48	13.9	CHAETOCEROS COMPRESSUS	.033
W94070386	F01P	06-23-94	08:48	13.9	CHAETOCEROS SPP. (10-20UM)	.008
W94070386	F01P	06-23-94	08:48	13.9	CHAETOCEROS SPP.(<10UM)	.01
W94070386	F01P	06-23-94	08:48	13.9	CRYPTOMONADS	0.313
W94070386	F01P	06-23-94	08:48	13.9	DICTYOCHA FIBULA	.003
W94070386	F01P	06-23-94	08:48	13.9	DICTYOCHA SPECULUM	.003
W94070386	F01P	06-23-94	08:48	13.9	DINOPHYSIS NORVEGICA	.003
W94070386	F01P	06-23-94	08:48	13.9	EBRIA TRIPARTITIA	.003
W94070386	F01P	06-23-94	08:48	13.9	KATODINIUM ROTUNDATUM	.043

Table E1. Phytoplankton Species Data for June, July 1994.

Sample ID	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W94070386	F01P	06-23-94	08:48	13.9	MICROFLAGELLATES	0.916
W94070386	F01P	06-23-94	08:48	13.9	NAVICULOID DIATOMS	.005
W94070386	F01P	06-23-94	08:48	13.9	PROTOPERIDINIUM BREVE	.005
W94070386	F01P	06-23-94	08:48	13.9	UNID. ATHECATE DINOFLAGELLATE	.008
W94070388	F01P	06-23-94	08:51	1.44	CERATIUM LONGIPES	.002
W94070388	F01P	06-23-94	08:51	1.44	CHAETOCEROS DECIPIENS	.004
W94070388	F01P	06-23-94	08:51	1.44	CHAETOCEROS SEPTENTRIONALIS	.002
W94070388	F01P	06-23-94	08:51	1.44	CHAETOCEROS SPP. (10-20UM)	.007
W94070388	F01P	06-23-94	08:51	1.44	CHAETOCEROS SPP.(<10UM)	.014
W94070388	F01P	06-23-94	08:51	1.44	CRYPTOMONADS	0.151
W94070388	F01P	06-23-94	08:51	1.44	CYLINDROTHECA CLOSTERIUM	.002
W94070388	F01P	06-23-94	08:51	1.44	EBRIA TRIPARTITIA	.002
W94070388	F01P	06-23-94	08:51	1.44	GYRODINIUM (CF) AUREOLUM	.002
W94070388	F01P	06-23-94	08:51	1.44	KATODINIUM ROTUNDATUM	.002
W94070388	F01P	06-23-94	08:51	1.44	MICROFLAGELLATES	0.69
W94070388	F01P	06-23-94	08:51	1.44	RHIZOSOLENIA DELICATULA	.016
W94070388	F01P	06-23-94	08:51	1.44	THALASSIONEMA NITZSCHOIDES	.013
W94070388	F01P	06-23-94	08:51	1.44	UNID. ATHECATE DINOFLAGELLATE	.014
W94070472	F13P	06-23-94	14:35	7.28	CHAETOCEROS COMPRESSUS	0.394
W94070472	F13P	06-23-94	14:35	7.28	CHAETOCEROS SPP. (10-20UM)	.025
W94070472	F13P	06-23-94	14:35	7.28	CHAETOCEROS SPP.(<10UM)	.07
W94070472	F13P	06-23-94	14:35	7.28	CRYPTOMONADS	0.11
W94070472	F13P	06-23-94	14:35	7.28	DINOPHYSIS NORVEGICA	.011
W94070472	F13P	06-23-94	14:35	7.28	GYRODINIUM (CF) AUREOLUM	.003
W94070472	F13P	06-23-94	14:35	7.28	GYRODINIUM SPIRALE	.006
W94070472	F13P	06-23-94	14:35	7.28	KATODINIUM ROTUNDATUM	.028
W94070472	F13P	06-23-94	14:35	7.28	MICROFLAGELLATES	0.706
W94070472	F13P	06-23-94	14:35	7.28	NAVICULOID DIATOMS	.011
W94070472	F13P	06-23-94	14:35	7.28	PROTOPERIDINIUM DEPRESSUM	.003
W94070472	F13P	06-23-94	14:35	7.28	SKELETONEMA COSTATUM	.028
W94070472	F13P	06-23-94	14:35	7.28	THALASSIOSIRA SPP.	.025
W94070472	F13P	06-23-94	14:35	7.28	UNID. ATHECATE DINOFLAGELLATE	.008
W94070472	F13P	06-23-94	14:35	7.28	UNID. CENTRALES	.014
W94070474	F13P	06-23-94	14:36	1.93	CHAETOCEROS COMPRESSUS	0.365
W94070474	F13P	06-23-94	14:36	1.93	CHAETOCEROS SPP.(<10UM)	.018
W94070474	F13P	06-23-94	14:36	1.93	CRYPTOMONADS	0.121
W94070474	F13P	06-23-94	14:36	1.93	DINOPHYSIS NORVEGICA	.003
W94070474	F13P	06-23-94	14:36	1.93	GYRODINIUM SPIRALE	.003
W94070474	F13P	06-23-94	14:36	1.93	KATODINIUM ROTUNDATUM	.008
W94070474	F13P	06-23-94	14:36	1.93	LEPTOCYLINDRUS MINIMUS	.008
W94070474	F13P	06-23-94	14:36	1.93	MICROFLAGELLATES	0.652
W94070474	F13P	06-23-94	14:36	1.93	NAVICULOID DIATOMS	.008
W94070474	F13P	06-23-94	14:36	1.93	RHIZOSOLENIA DELICATULA	.008
W94070474	F13P	06-23-94	14:36	1.93	SKELETONEMA COSTATUM	.026
W94070474	F13P	06-23-94	14:36	1.93	THALASSIOSIRA SPP.	.008

Table E1. Phytoplankton Species Data for June, July 1994.

Sample ID	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W94070474	F13P	06-23-94	14:36	1.93	UNID. ATHECATE DINOFLAGELLATE	.005
W94070474	F13P	06-23-94	14:36	1.93	UNID. CENTRALES	.008
W94070493	N10P	06-24-94	06:36	1.95	CHAETOCEROS COMPRESSUS	0.164
W94070493	N10P	06-24-94	06:36	1.95	CHAETOCEROS SPP.(<10UM)	.035
W94070493	N10P	06-24-94	06:36	1.95	CRYPTOMONADS	0.149
W94070493	N10P	06-24-94	06:36	1.95	EBRIA TRIPARTITIA	.003
W94070493	N10P	06-24-94	06:36	1.95	EUTREPTIA/EUTREPTIELLA SPP.	.003
W94070493	N10P	06-24-94	06:36	1.95	GYRODINIUM (CF) AUREOLUM	.003
W94070493	N10P	06-24-94	06:36	1.95	GYRODINIUM SPIRALE	.005
W94070493	N10P	06-24-94	06:36	1.95	KATODINIUM ROTUNDATUM	.013
W94070493	N10P	06-24-94	06:36	1.95	LEPTOCYLINDRUS MINIMUS	.005
W94070493	N10P	06-24-94	06:36	1.95	MICROFLAGELLATES	0.779
W94070493	N10P	06-24-94	06:36	1.95	NAVICULOID DIATOMS	.013
W94070493	N10P	06-24-94	06:36	1.95	NITZSCHIA SPP.	.003
W94070493	N10P	06-24-94	06:36	1.95	SKELETONEMA COSTATUM	0.26
W94070493	N10P	06-24-94	06:36	1.95	THALASSIOSIRA SPP.	.003
W94070493	N10P	06-24-94	06:36	1.95	UNID. ATHECATE DINOFLAGELLATE	.01
W94070493	N10P	06-24-94	06:36	1.95	UNID. CENTRALES	.003
W94080035	N10P	07-07-94	06:43	1.53	CHAETOCEROS COMPRESSUS	.002
W94080035	N10P	07-07-94	06:43	1.53	CHAETOCEROS SPP. (10-20UM)	.009
W94080035	N10P	07-07-94	06:43	1.53	CHAETOCEROS SPP.(<10UM)	.034
W94080035	N10P	07-07-94	06:43	1.53	CRYPTOMONADS	0.195
W94080035	N10P	07-07-94	06:43	1.53	CYLINDROTHECA CLOSTERIUM	.018
W94080035	N10P	07-07-94	06:43	1.53	DICTYOCHA FIBULA	.002
W94080035	N10P	07-07-94	06:43	1.53	DINOPHYSIS NORVEGICA	.004
W94080035	N10P	07-07-94	06:43	1.53	EBRIA TRIPARTITIA	.002
W94080035	N10P	07-07-94	06:43	1.53	EUTREPTIA/EUTREPTIELLA SPP.	.011
W94080035	N10P	07-07-94	06:43	1.53	KATODINIUM ROTUNDATUM	.018
W94080035	N10P	07-07-94	06:43	1.53	LEPTOCYLINDRUS MINIMUS	.016
W94080035	N10P	07-07-94	06:43	1.53	MICROFLAGELLATES	0.684
W94080035	N10P	07-07-94	06:43	1.53	PROTOPERIDINIUM SPP.	.002
W94080035	N10P	07-07-94	06:43	1.53	RHIZOSOLENIA DELICATULA	.038
W94080035	N10P	07-07-94	06:43	1.53	SKELETONEMA COSTATUM	0.157
W94080035	N10P	07-07-94	06:43	1.53	SURIRELLA SPP.	.002
W94080035	N10P	07-07-94	06:43	1.53	UNID. ATHECATE DINOFLAGELLATE	.009
W94080035	N10P	07-07-94	06:43	1.53	UNID. CENTRALES	.002
W94090025	N10P	07-27-94	06:18	1.6	ASTERIONELLOPSIS GLACIALIS	.002
W94090025	N10P	07-27-94	06:18	1.6	CERATIUM LONGIPES	.002
W94090025	N10P	07-27-94	06:18	1.6	CHAETOCEROS SPP.(<10UM)	.031
W94090025	N10P	07-27-94	06:18	1.6	CRYPTOMONADS	0.329
W94090025	N10P	07-27-94	06:18	1.6	CYLINDROTHECA CLOSTERIUM	.066
W94090025	N10P	07-27-94	06:18	1.6	EUTREPTIA/EUTREPTIELLA SPP.	.004
W94090025	N10P	07-27-94	06:18	1.6	GYRODINIUM (CF) AUREOLUM	.002
W94090025	N10P	07-27-94	06:18	1.6	LEPTOCYLINDRUS MINIMUS	.004
W94090025	N10P	07-27-94	06:18	1.6	LITHODESMIUM (cf) UNDULATUM	.007

Table E1. Phytoplankton Species Data for June, July 1994.

Sample ID	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W94090025	N10P	07-27-94	06:18	1.6	MICROFLAGELLATES	0.708
W94090025	N10P	07-27-94	06:18	1.6	NAVICULOID DIATOMS	.004
W94090025	N10P	07-27-94	06:18	1.6	RHIZOSOLENIA DELICATULA	.009
W94090025	N10P	07-27-94	06:18	1.6	SKELETONEMA COSTATUM	0.112
W94090025	N10P	07-27-94	06:18	1.6	THALASSIONEMA NITZSCHOIDES	.009
W94090025	N10P	07-27-94	06:18	1.6	UNID. ATHECATE DINOFLAGELLATE	.002
W94090025	N10P	07-27-94	06:18	1.6	UNID. CENTRALES	.011

APPENDIX F

ZOOPLANKTON SPECIES DATA TABLE

A complete listing for survey W9407 is given for taxonomic analyses of zooplankton net tow samples (Table F-1).

Table F1. Zooplankton Species Data for June, 1994.

Sample ID	Station	Date	Time	Taxon	Qual*	Individuals per M3
W94070039	F23P	06-21-94	07:12	ACARTIA TONSA	F	1829
W94070039	F23P	06-21-94	07:12	ACARTIA TONSA	M	758
W94070039	F23P	06-21-94	07:12	ACARTIA TONSA	C	3836
W94070039	F23P	06-21-94	07:12	BARNACLE NAUPLII	N	446
W94070039	F23P	06-21-94	07:12	BIVALVE VELIGER		1204
W94070039	F23P	06-21-94	07:12	CENTROPAGES HAMATUS	F	134
W94070039	F23P	06-21-94	07:12	CENTROPAGES HAMATUS	M	357
W94070039	F23P	06-21-94	07:12	CENTROPAGES TYPICUS	F	268
W94070039	F23P	06-21-94	07:12	COPEPOD NAUPLII	N	13246
W94070039	F23P	06-21-94	07:12	CRAB ZOEA		45
W94070039	F23P	06-21-94	07:12	ECHINODERM PLUTEI		89
W94070039	F23P	06-21-94	07:12	EURYTEMORA HERDMANI	F	223
W94070039	F23P	06-21-94	07:12	EURYTEMORA HERDMANI	C	1115
W94070039	F23P	06-21-94	07:12	EURYTEMORA HERDMANI	M	268
W94070039	F23P	06-21-94	07:12	EVADNE NORDMANI		3390
W94070039	F23P	06-21-94	07:12	FISH EGG		89
W94070039	F23P	06-21-94	07:12	GASTROPOD VELIGER		223
W94070039	F23P	06-21-94	07:12	MEDUSA		45
W94070039	F23P	06-21-94	07:12	OITHONA ATLANTICA	F	45
W94070039	F23P	06-21-94	07:12	OITHONA SIMILIS	M	89
W94070039	F23P	06-21-94	07:12	OITHONA SIMILIS	C	401
W94070039	F23P	06-21-94	07:12	OITHONA SIMILIS	F	178
W94070039	F23P	06-21-94	07:12	PARACALANUS PARVUS	F	357
W94070039	F23P	06-21-94	07:12	PARACALANUS PARVUS	C	1516
W94070039	F23P	06-21-94	07:12	PODON POLYPHEMOIDES		937
W94070039	F23P	06-21-94	07:12	POLYCHAETE LARVAE		134
W94070039	F23P	06-21-94	07:12	PSEUDOCALANUS NEWMANI	F	714
W94070039	F23P	06-21-94	07:12	PSEUDOCALANUS NEWMANI	M	178
W94070039	F23P	06-21-94	07:12	PSEUDOCALANUS NEWMANI	C	223
W94070039	F23P	06-21-94	07:12	SAGITTA ELEGANS		45
W94070039	F23P	06-21-94	07:12	TEMORA LONGICORNIS	F	268
W94070039	F23P	06-21-94	07:12	TEMORA LONGICORNIS	C	669
W94070039	F23P	06-21-94	07:12	TEMORA LONGICORNIS	M	45
W94070039	F23P	06-21-94	07:12	TORTANUS DISCAUDATUS	C	89
W94070039	F23P	06-21-94	07:12	TORTANUS DISCAUDATUS	F	45
W94070077	N20P	06-21-94	09:23	ACARTIA TONSA	M	47
W94070077	N20P	06-21-94	09:23	ACARTIA TONSA	C	93
W94070077	N20P	06-21-94	09:23	BARNACLE NAUPLII	N	47
W94070077	N20P	06-21-94	09:23	BIVALVE VELIGER		7554
W94070077	N20P	06-21-94	09:23	CALANUS FINMARCHICUS	C	1725
W94070077	N20P	06-21-94	09:23	COPEPOD NAUPLII	N	23268
W94070077	N20P	06-21-94	09:23	DECAPOD LARVAE		47
W94070077	N20P	06-21-94	09:23	ECHINODERM PLUTEI		6482
W94070077	N20P	06-21-94	09:23	EURYTEMORA HERDMANI	F	47
W94070077	N20P	06-21-94	09:23	EVADNE NORDMANI		1865
W94070077	N20P	06-21-94	09:23	FISH EGG		47

Table F1. Zooplankton Species Data for June, 1994.

Sample ID	Station	Date	Time	Taxon	Qual*	Individuals per M3
W94070077	N20P	06-21-94	09:23	MEDUSA		93
W94070077	N20P	06-21-94	09:23	METRIDIA LUCENS	F	47
W94070077	N20P	06-21-94	09:23	METRIDIA LUCENS	C	187
W94070077	N20P	06-21-94	09:23	MICROSETELLA NORVEGICA		233
W94070077	N20P	06-21-94	09:23	OIKIOPLEURA DIOICA		140
W94070077	N20P	06-21-94	09:23	OITHONA SIMILIS	F	1585
W94070077	N20P	06-21-94	09:23	OITHONA SIMILIS	M	886
W94070077	N20P	06-21-94	09:23	OITHONA SIMILIS	C	3217
W94070077	N20P	06-21-94	09:23	PARACALANUS PARVUS	F	606
W94070077	N20P	06-21-94	09:23	PARACALANUS PARVUS	C	6015
W94070077	N20P	06-21-94	09:23	PARACALANUS PARVUS	M	47
W94070077	N20P	06-21-94	09:23	PODON POLYPHEMOIDES		793
W94070077	N20P	06-21-94	09:23	POLYCHAETE LARVAE		93
W94070077	N20P	06-21-94	09:23	PSEUDOCALANUS NEWMANI	C	233
W94070077	N20P	06-21-94	09:23	PSEUDOCALANUS NEWMANI	F	280
W94070077	N20P	06-21-94	09:23	PSEUDOCALANUS NEWMANI	M	140
W94070077	N20P	06-21-94	09:23	SAGITTA ELEGANS		47
W94070077	N20P	06-21-94	09:23	TEMORA LONGICORNIS	F	886
W94070077	N20P	06-21-94	09:23	TEMORA LONGICORNIS	M	466
W94070077	N20P	06-21-94	09:23	TEMORA LONGICORNIS	C	5223
W94070077	N20P	06-21-94	09:23	TORTANUS DISCAUDATUS	C	47
W94070099	N16P	06-21-94	10:19	BIVALVE VELIGER		1086
W94070099	N16P	06-21-94	10:19	CALANUS FINMARCHICUS	F	317
W94070099	N16P	06-21-94	10:19	CALANUS FINMARCHICUS	M	45
W94070099	N16P	06-21-94	10:19	CALANUS FINMARCHICUS	C	3890
W94070099	N16P	06-21-94	10:19	COPEPOD NAUPLII	N	12529
W94070099	N16P	06-21-94	10:19	DECAPOD LARVAE		45
W94070099	N16P	06-21-94	10:19	ECHINODERM PLUTEI		317
W94070099	N16P	06-21-94	10:19	EVADNE NORDMANI		769
W94070099	N16P	06-21-94	10:19	FISH EGG		45
W94070099	N16P	06-21-94	10:19	FISH LARVA		45
W94070099	N16P	06-21-94	10:19	MEDUSA		45
W94070099	N16P	06-21-94	10:19	OIKIOPLEURA DIOICA		45
W94070099	N16P	06-21-94	10:19	OITHONA SIMILIS	M	633
W94070099	N16P	06-21-94	10:19	OITHONA SIMILIS	F	1266
W94070099	N16P	06-21-94	10:19	OITHONA SIMILIS	C	3347
W94070099	N16P	06-21-94	10:19	PARACALANUS PARVUS	F	633
W94070099	N16P	06-21-94	10:19	PARACALANUS PARVUS	M	45
W94070099	N16P	06-21-94	10:19	PARACALANUS PARVUS	C	2081
W94070099	N16P	06-21-94	10:19	PODON POLYPHEMOIDES		226
W94070099	N16P	06-21-94	10:19	PSEUDOCALANUS NEWMANI	F	362
W94070099	N16P	06-21-94	10:19	PSEUDOCALANUS NEWMANI	M	271
W94070099	N16P	06-21-94	10:19	PSEUDOCALANUS NEWMANI	C	226
W94070099	N16P	06-21-94	10:19	TEMORA LONGICORNIS	F	90
W94070099	N16P	06-21-94	10:19	TEMORA LONGICORNIS	M	90
W94070099	N16P	06-21-94	10:19	TEMORA LONGICORNIS	C	1809

Table F1. Zooplankton Species Data for June, 1994.

Sample ID	Station	Date	Time	Taxon	Qual*	Individuals per M3
W94070112	N07P	06-21-94	11:36	BIVALVE VELIGER		469
W94070112	N07P	06-21-94	11:36	CALANUS FINMARCHICUS	C	4813
W94070112	N07P	06-21-94	11:36	CALANUS FINMARCHICUS	F	85
W94070112	N07P	06-21-94	11:36	CENTROPAGES TYPICUS	M	43
W94070112	N07P	06-21-94	11:36	COPEPOD NAUPLII	N	15164
W94070112	N07P	06-21-94	11:36	ECHINODERM PLUTEI		213
W94070112	N07P	06-21-94	11:36	EVADNE NORDMANI		852
W94070112	N07P	06-21-94	11:36	MICROSETELLA NORVEGICA		43
W94070112	N07P	06-21-94	11:36	MYSIID LARVA		256
W94070112	N07P	06-21-94	11:36	OITHONA SIMILIS	F	1320
W94070112	N07P	06-21-94	11:36	OITHONA SIMILIS	M	554
W94070112	N07P	06-21-94	11:36	OITHONA SIMILIS	C	4515
W94070112	N07P	06-21-94	11:36	PARACALANUS PARVUS	F	383
W94070112	N07P	06-21-94	11:36	PARACALANUS PARVUS	M	43
W94070112	N07P	06-21-94	11:36	PARACALANUS PARVUS	C	3706
W94070112	N07P	06-21-94	11:36	PSEUDOCALANUS NEWMANI	F	213
W94070112	N07P	06-21-94	11:36	PSEUDOCALANUS NEWMANI	C	128
W94070112	N07P	06-21-94	11:36	PSEUDOCALANUS NEWMANI	M	85
W94070112	N07P	06-21-94	11:36	SAGITTA ELEGANS		43
W94070112	N07P	06-21-94	11:36	TEMORA LONGICORNIS	F	43
W94070112	N07P	06-21-94	11:36	TEMORA LONGICORNIS	M	85
W94070112	N07P	06-21-94	11:36	TEMORA LONGICORNIS	C	2982
W94070184	N10P	06-21-94	15:46	ACARTIA TONSA	F	251
W94070184	N10P	06-21-94	15:46	ACARTIA TONSA	M	251
W94070184	N10P	06-21-94	15:46	ACARTIA TONSA	C	837
W94070184	N10P	06-21-94	15:46	BARNACLE NAUPLII	N	1339
W94070184	N10P	06-21-94	15:46	BIVALVE VELIGER		12214
W94070184	N10P	06-21-94	15:46	CALANUS FINMARCHICUS	F	84
W94070184	N10P	06-21-94	15:46	CALANUS FINMARCHICUS	C	502
W94070184	N10P	06-21-94	15:46	CENTROPAGES SPP.	C	84
W94070184	N10P	06-21-94	15:46	COPEPOD NAUPLII	N	23007
W94070184	N10P	06-21-94	15:46	ECHINODERM PLUTEI		920
W94070184	N10P	06-21-94	15:46	EURYTEMORA HERDMANI	F	167
W94070184	N10P	06-21-94	15:46	EVADNE NORDMANI		3263
W94070184	N10P	06-21-94	15:46	GASTROPOD VELIGER		502
W94070184	N10P	06-21-94	15:46	MEDUSA		335
W94070184	N10P	06-21-94	15:46	MYSIID LARVA		84
W94070184	N10P	06-21-94	15:46	OITHONA ATLANTICA	F	84
W94070184	N10P	06-21-94	15:46	OITHONA SIMILIS	F	1004
W94070184	N10P	06-21-94	15:46	OITHONA SIMILIS	M	335
W94070184	N10P	06-21-94	15:46	OITHONA SIMILIS	C	669
W94070184	N10P	06-21-94	15:46	PARACALANUS PARVUS	F	1088
W94070184	N10P	06-21-94	15:46	PARACALANUS PARVUS	M	251
W94070184	N10P	06-21-94	15:46	PARACALANUS PARVUS	C	3932
W94070184	N10P	06-21-94	15:46	PODON POLYPHEMOIDES		1757
W94070184	N10P	06-21-94	15:46	POLYCHAETE LARVAE		84

Table F1. Zooplankton Species Data for June, 1994.

Sample ID	Station	Date	Time	Taxon	Qual*	Individuals per M3
W94070184	N10P	06-21-94	15:46	PSEUDOCALANUS NEWMANI	C	1004
W94070184	N10P	06-21-94	15:46	PSEUDOCALANUS NEWMANI	M	251
W94070184	N10P	06-21-94	15:46	PSEUDOCALANUS NEWMANI	F	586
W94070184	N10P	06-21-94	15:46	SAGITTA ELEGANS		84
W94070184	N10P	06-21-94	15:46	TEMORA LONGICORNIS	F	837
W94070184	N10P	06-21-94	15:46	TEMORA LONGICORNIS	C	3681
W94070184	N10P	06-21-94	15:46	TEMORA LONGICORNIS	M	1004
W94070184	N10P	06-21-94	15:46	TORTANUS DISCAUDATUS	C	586
W94070184	N10P	06-21-94	15:46	TORTANUS DISCAUDATUS	F	84
W94070237	N01P	06-22-94	07:14	ACARTIA TONSA	C	233
W94070237	N01P	06-22-94	07:14	ACARTIA TONSA	M	39
W94070237	N01P	06-22-94	07:14	BARNACLE NAUPLII	N	39
W94070237	N01P	06-22-94	07:14	BIVALVE VELIGER		1050
W94070237	N01P	06-22-94	07:14	CALANUS FINMARCHICUS	M	39
W94070237	N01P	06-22-94	07:14	CALANUS FINMARCHICUS	F	156
W94070237	N01P	06-22-94	07:14	CALANUS FINMARCHICUS	C	1829
W94070237	N01P	06-22-94	07:14	CENTROPAGES HAMATUS	M	39
W94070237	N01P	06-22-94	07:14	CENTROPAGES TYPICUS	F	78
W94070237	N01P	06-22-94	07:14	CENTROPAGES TYPICUS	M	39
W94070237	N01P	06-22-94	07:14	COPEPOD NAUPLII	N	12567
W94070237	N01P	06-22-94	07:14	CRAB ZOEA		195
W94070237	N01P	06-22-94	07:14	DECAPOD LARVAE		156
W94070237	N01P	06-22-94	07:14	ECHINODERM PLUTEI		584
W94070237	N01P	06-22-94	07:14	EVADNE NORDMANI		1634
W94070237	N01P	06-22-94	07:14	FISH LARVA		39
W94070237	N01P	06-22-94	07:14	GASTROPOD VELIGER		78
W94070237	N01P	06-22-94	07:14	MEDUSA		39
W94070237	N01P	06-22-94	07:14	MICROSETELLA NORVEGICA		156
W94070237	N01P	06-22-94	07:14	OITHONA SIMILIS	F	1595
W94070237	N01P	06-22-94	07:14	OITHONA SIMILIS	C	1829
W94070237	N01P	06-22-94	07:14	OITHONA SIMILIS	M	350
W94070237	N01P	06-22-94	07:14	PARACALANUS PARVUS	F	817
W94070237	N01P	06-22-94	07:14	PARACALANUS PARVUS	C	3229
W94070237	N01P	06-22-94	07:14	PARACALANUS PARVUS	M	272
W94070237	N01P	06-22-94	07:14	PODON POLYPHEMOIDES		156
W94070237	N01P	06-22-94	07:14	POLYCHAETE LARVAE		78
W94070237	N01P	06-22-94	07:14	PSEUDOCALANUS NEWMANI	F	1206
W94070237	N01P	06-22-94	07:14	PSEUDOCALANUS NEWMANI	C	778
W94070237	N01P	06-22-94	07:14	PSEUDOCALANUS NEWMANI	M	584
W94070237	N01P	06-22-94	07:14	TEMORA LONGICORNIS	F	272
W94070237	N01P	06-22-94	07:14	TEMORA LONGICORNIS	M	311
W94070237	N01P	06-22-94	07:14	TEMORA LONGICORNIS	C	3696
W94070237	N01P	06-22-94	07:14	TORTANUS DISCAUDATUS	F	39
W94070237	N01P	06-22-94	07:14	TORTANUS DISCAUDATUS	C	39
W94070237	N01P	06-22-94	07:14	UNIDENTIFIED LARVAE		39
W94070256	N04P	06-22-94	08:24	ACARTIA TONSA	F	40

Table F1. Zooplankton Species Data for June, 1994.

Sample ID	Station	Date	Time	Taxon	Qual*	Individuals per M3
W94070256	N04P	06-22-94	08:24	ACARTIA TONSA	C	318
W94070256	N04P	06-22-94	08:24	BIVALVE VELIGER		4564
W94070256	N04P	06-22-94	08:24	CALANUS FINMARCHICUS	F	119
W94070256	N04P	06-22-94	08:24	CALANUS FINMARCHICUS	C	8692
W94070256	N04P	06-22-94	08:24	CALANUS FINMARCHICUS	M	40
W94070256	N04P	06-22-94	08:24	CENTROPAGES SPP.	C	119
W94070256	N04P	06-22-94	08:24	COPEPOD NAUPLII	N	10915
W94070256	N04P	06-22-94	08:24	DECAPOD LARVAE		79
W94070256	N04P	06-22-94	08:24	ECHINODERM PLUTEI		4842
W94070256	N04P	06-22-94	08:24	EVADNE NORDMANI		992
W94070256	N04P	06-22-94	08:24	FISH EGG		278
W94070256	N04P	06-22-94	08:24	FISH LARVA		40
W94070256	N04P	06-22-94	08:24	GASTROPOD VELIGER		79
W94070256	N04P	06-22-94	08:24	MEDUSA		238
W94070256	N04P	06-22-94	08:24	MICROSETELLA NORVEGICA		40
W94070256	N04P	06-22-94	08:24	OIKIOPLEURA DIOICA		40
W94070256	N04P	06-22-94	08:24	OITHONA ATLANTICA	F	40
W94070256	N04P	06-22-94	08:24	OITHONA SIMILIS	F	913
W94070256	N04P	06-22-94	08:24	OITHONA SIMILIS	M	318
W94070256	N04P	06-22-94	08:24	OITHONA SIMILIS	C	2461
W94070256	N04P	06-22-94	08:24	PARACALANUS PARVUS	F	833
W94070256	N04P	06-22-94	08:24	PARACALANUS PARVUS	M	159
W94070256	N04P	06-22-94	08:24	PARACALANUS PARVUS	C	2778
W94070256	N04P	06-22-94	08:24	PODON POLYPHEMOIDES		198
W94070256	N04P	06-22-94	08:24	POLYCHAETE LARVAE		119
W94070256	N04P	06-22-94	08:24	POLYCHAETE TROCHOPHORES		40
W94070256	N04P	06-22-94	08:24	PSEUDOCALANUS NEWMANI	F	794
W94070256	N04P	06-22-94	08:24	PSEUDOCALANUS NEWMANI	C	437
W94070256	N04P	06-22-94	08:24	PSEUDOCALANUS NEWMANI	M	357
W94070256	N04P	06-22-94	08:24	TEMORA LONGICORNIS	M	159
W94070256	N04P	06-22-94	08:24	TEMORA LONGICORNIS	F	318
W94070256	N04P	06-22-94	08:24	TEMORA LONGICORNIS	C	833
W94070378	F02P	06-23-94	07:31	BIVALVE VELIGER		74
W94070378	F02P	06-23-94	07:31	CENTROPAGES SPP.	C	148
W94070378	F02P	06-23-94	07:31	CENTROPAGES TYPICUS	F	185
W94070378	F02P	06-23-94	07:31	CENTROPAGES TYPICUS	M	185
W94070378	F02P	06-23-94	07:31	COPEPOD NAUPLII	N	28042
W94070378	F02P	06-23-94	07:31	GASTROPOD VELIGER		37
W94070378	F02P	06-23-94	07:31	MICROSETELLA NORVEGICA		518
W94070378	F02P	06-23-94	07:31	OITHONA SIMILIS	M	111
W94070378	F02P	06-23-94	07:31	OITHONA SIMILIS	F	4069
W94070378	F02P	06-23-94	07:31	OITHONA SIMILIS	C	28227
W94070378	F02P	06-23-94	07:31	PARACALANUS PARVUS	F	74
W94070378	F02P	06-23-94	07:31	PARACALANUS PARVUS	C	444
W94070378	F02P	06-23-94	07:31	PARACALANUS PARVUS	M	185
W94070378	F02P	06-23-94	07:31	PSEUDOCALANUS NEWMANI	F	74

Table F1. Zooplankton Species Data for June, 1994.

Sample ID	Station	Date	Time	Taxon	Qual*	Individuals per M3
W94070378	F02P	06-23-94	07:31	PSEUDOCALANUS NEWMANI	C	74
W94070378	F02P	06-23-94	07:31	TEMORA LONGICORNIS	C	111
W94070391	F01P	06-23-94	08:54	ACARTIA TONSA	C	46
W94070391	F01P	06-23-94	08:54	BIVALVE VELIGER		2731
W94070391	F01P	06-23-94	08:54	CALANUS FINMARCHICUS	F	185
W94070391	F01P	06-23-94	08:54	CALANUS FINMARCHICUS	C	139
W94070391	F01P	06-23-94	08:54	CENTROPAGES SPP.	C	46
W94070391	F01P	06-23-94	08:54	COPEPOD NAUPLII	N	17638
W94070391	F01P	06-23-94	08:54	DECAPOD LARVAE		46
W94070391	F01P	06-23-94	08:54	ECHINODERM PLUTEI		93
W94070391	F01P	06-23-94	08:54	EUCONCHOEICA SP.		139
W94070391	F01P	06-23-94	08:54	EVADNE NORDMANI		139
W94070391	F01P	06-23-94	08:54	FISH EGG		46
W94070391	F01P	06-23-94	08:54	GASTROPOD VELIGER		139
W94070391	F01P	06-23-94	08:54	MEDUSA		93
W94070391	F01P	06-23-94	08:54	METRIDIA LUCENS	M	46
W94070391	F01P	06-23-94	08:54	MICROSETELLA NORVEGICA		93
W94070391	F01P	06-23-94	08:54	OITHONA SIMILIS	F	1250
W94070391	F01P	06-23-94	08:54	OITHONA SIMILIS	M	231
W94070391	F01P	06-23-94	08:54	OITHONA SIMILIS	C	9259
W94070391	F01P	06-23-94	08:54	PARACALANUS PARVUS	F	833
W94070391	F01P	06-23-94	08:54	PARACALANUS PARVUS	M	278
W94070391	F01P	06-23-94	08:54	PARACALANUS PARVUS	C	2639
W94070391	F01P	06-23-94	08:54	PSEUDOCALANUS NEWMANI	F	972
W94070391	F01P	06-23-94	08:54	PSEUDOCALANUS NEWMANI	C	926
W94070391	F01P	06-23-94	08:54	PSEUDOCALANUS NEWMANI	M	139
W94070391	F01P	06-23-94	08:54	PTEROPOD		46
W94070391	F01P	06-23-94	08:54	TEMORA LONGICORNIS	F	139
W94070391	F01P	06-23-94	08:54	TEMORA LONGICORNIS	M	324
W94070391	F01P	06-23-94	08:54	TEMORA LONGICORNIS	C	509
W94070478	F13P	06-23-94	14:44	ACARTIA TONSA	C	495
W94070478	F13P	06-23-94	14:44	BARNACLE NAUPLII	N	742
W94070478	F13P	06-23-94	14:44	BIVALVE VELIGER		6596
W94070478	F13P	06-23-94	14:44	COPEPOD NAUPLII	N	39863
W94070478	F13P	06-23-94	14:44	CRAB ZOEA		82
W94070478	F13P	06-23-94	14:44	ECHINODERM PLUTEI		1773
W94070478	F13P	06-23-94	14:44	EURYTEMORA HERDMANI	C	124
W94070478	F13P	06-23-94	14:44	EVADNE NORDMANI		5524
W94070478	F13P	06-23-94	14:44	FISH EGG		41
W94070478	F13P	06-23-94	14:44	FISH LARVA		82
W94070478	F13P	06-23-94	14:44	GASTROPOD VELIGER		495
W94070478	F13P	06-23-94	14:44	MEDUSA		165
W94070478	F13P	06-23-94	14:44	METRIDIA LUCENS	C	124
W94070478	F13P	06-23-94	14:44	MICROSETELLA NORVEGICA		247
W94070478	F13P	06-23-94	14:44	OIKIOPLEURA DIOICA		41
W94070478	F13P	06-23-94	14:44	OITHONA ATLANTICA	F	124

Table F1. Zooplankton Species Data for June, 1994.

Sample ID	Station	Date	Time	Taxon	Qual*	Individuals per M3
W94070478	F13P	06-23-94	14:44	OITHONA SIMILIS	M	412
W94070478	F13P	06-23-94	14:44	OITHONA SIMILIS	C	3628
W94070478	F13P	06-23-94	14:44	OITHONA SIMILIS	F	1484
W94070478	F13P	06-23-94	14:44	PARACALANUS PARVUS	F	1814
W94070478	F13P	06-23-94	14:44	PARACALANUS PARVUS	M	495
W94070478	F13P	06-23-94	14:44	PARACALANUS PARVUS	C	4782
W94070478	F13P	06-23-94	14:44	PODON POLYPHEMOIDES		1154
W94070478	F13P	06-23-94	14:44	PSEUDOCALANUS NEWMANI	F	2432
W94070478	F13P	06-23-94	14:44	PSEUDOCALANUS NEWMANI	M	866
W94070478	F13P	06-23-94	14:44	PSEUDOCALANUS NEWMANI	C	1154
W94070478	F13P	06-23-94	14:44	TEMORA LONGICORNIS	F	618
W94070478	F13P	06-23-94	14:44	TEMORA LONGICORNIS	M	907
W94070478	F13P	06-23-94	14:44	TEMORA LONGICORNIS	C	2226
W94070478	F13P	06-23-94	14:44	TORTANUS DISCAUDATUS	C	371

* C=COPEPIDITES, F=FEMALE, M=MALE, N=NAUPLII