APPENDICES TO WATER QUALITY MONITORING IN MASSACHUSETTS AND CAPE COD BAYS: OCTOBER - DECEMBER 1993

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APPENDIX A

STATION DATA TABLES AND INSTRUMENT CALIBRATION DATA

Part 1

Physical and Chemical Parameters at Discrete Bottle Measurement Depths

Depth, temperature (Temp), dissolved oxygen (DO), conductivity (Cond), sigma-T, fluorescence (Flu), salinity (Sal), and beam attenuation (Beam) were all obtained electronically from *in situ* readings made during the upcast of vertical profiling, during which water samples were taken by closing bottles. The table values represent a depth-averaged value bracketing the depth interval encompassed by the hydrocast bottle at closing. Dissolved oxygen and fluorescence data represent post-survey calibrated values based on wet chemistry determinations made on a subset of the bottles (Appendix A, Part 2). The other parameters rely on factory calibrations of sensors to calculate values. The dissolved inorganic nutrient data (Table A-1) and additional measurements made at a subset of stations (Table A-2) represent direct analyses of water samples from bottles.

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

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

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)
W9314	F01P	10-14-93	903	2.35	W93140392	12.18	31.54	8.94	102	36.58	23.87	3.44	1.36	0.56	0.01	-0.01	0.13	0.81
W9314	F01P	10-14-93	902	6.83	W93140391	12.14	31.54	8.93	101	36.56	23.88	8.25	1.39	0.46	0.02	0.00	0.40	0.61
W9314	F01P	10-14-93	901	13.23	W93140390	12.14	31.54	8.93	101	36.56	23.88	7.56	1.35	0.52	0.01	0.04	0.13	0.63
W9314	F01P	10-14-93	900	20.63	W93140389	12.07	31.54	8.95	101	36.50	23.89	7.69	1.36	0.03	0.02	-0.02	0.08	1.23
W9314	F01P	10-14-93	859	25.91	W93140388	10.95	31.64	8.16	90	35.62	24.17	5.33	3.01	0.06	0.04	-0.01	0.18	3.76
W9314	F02P	10-14-93	740	2.29	W93140376	11.85	31.62	9.21	104	36.38	23.99	6.48	1.33	0.26	0.03	0.03	0.07	0.32
W9314	F02P	10-14-93	740	6.47	W93140375	11.85	31.62	9.19	104	36.39	24.00	9.12	1.34	0.08	0.02	0.00	0.05	0.26
W9314	F02P	10-14-93	739	13.54	W93140374	11.85	31.62	9.18	104	36.39	24.00	8.74	1.34	0.17	0.01	0.02	0.08	0.31
W9314	F02P	10-14-93	738	22.04	W93140373	11.81	31.62	9.02	102	36.36	24.00	8.56	1.34	0.55	0.04	0.33	0.10	1.02
W9314	F02P	10-14-93	737	30.15	W93140372	9.62	31.82	6.68	72	34.65	24.54	2.67	2.37	1.69	0.45	6.21	1.00	13.39
W9314	F03	10-14-93	1008	0.85	W93140410	11.34	31.54	9.47	106	35.84	24.02	3.24	2.17	0.37	0.02	0.05	0.31	0.42
W9314	F03	10-14-93	1007	3.98	W93140409	10.83	31.66	9.56	106	35.53	24.20	9.24	1.99	0.31	0.02	0.03	0.23	0.40
W9314	F03	10-14-93	1007	7.64	W93140408	10.64	31.69	9.36	103	35.39	24.26	13.14	1.92	0.42	0.02	0.05	0.28	0.49
W9314	F03	10-14-93	1006	11.2	W93140407	10.46	31.70	9.19	101	35.25	24.30	11.89	1.89	0.10	0.04	0.01	0.25	0.83
W9314	F03	10-14-93	1006	15.63	W93140406	10.42	31.70	9.18	100	35.22	24.31	10.69	1.91	0.05	0.02	0.02	0.17	0.92
W9314	F04	10-13-93	1737	1.99	W93140353	10.52	31.94	9.28	102	35.54	24.48	10.35	1.35	0.23	0.10	0.28	0.30	1.35
W9314	F04	10-13-93	1737	9.74	W93140352	10.51	31.93	9.15	101	35.52	24.47	10.44	1.36	0.00	0.04	-0.04	0.22	1.47
W9314	F04	10-13-93	1736	19.42	W93140351	10.28	31.93	8.79	96	35.32	24.51	8.53	1.30	0.18	0.16	1.40	0.40	2.34
W9314	F04	10-13-93	1735	33.26	W93140350	9.25	31.94	7.84	84	34.44	24.68	4.75	1.37	0.38	0.31	0.28	0.36	7.32
W9314	F04	10-13-93	1734	55.79	W93140349	8.39	32.05	7.67	80	33.81	24.90	2.39	1.65	0.13	0.40	7.84	0.85	9.67
W9314	F05	10-13-93	1047	1.18	W93140292	10.90	31.72	9.40	104	35.65	24.24	3.44	2.43	0.00	0.03	-0.03	0.25	0.51
W9314	F05	10-13-93	1038	6.42	W93140286	10.90	31.72	9.49	105	35.65	24.24	11.53	2.37	0.01	0.04	-0.04	0.22	0.39
W9314	F05	10-13-93	1037	9.74	W93140285	10.89	31.72	9.53	105	35.65	24.25	12.04	2.39	0.00	0.06	-0.06	0.15	0.39
W9314	F05	10-13-93	1037	12.59	W93140284	10.89	31.73	9.60	106	35.65	24.25	11.92	2.42	0.02	0.06	-0.03	0.27	0.37
W9314	F05	10-13-93	1036	17.19	W93140283	10.89	31.73	9.72	108	35.65	24.25	11.96	2.40	2.03	0.07	0.07	0.19	0.30
W9314	F06	10-13-93	1159	1.12	W93140303	10.80	31.80	9.48	105	35.65	24.32	7.65	1.58	0.25	0.05	-0.02	0.20	0.49
W9314	F06	10-13-93	1158	5.65	W93140302	10.78	31.80	9.46	104	35.63	24.33	12.28	1.39	0.01	0.04	-0.04	0.15	0.49
W9314	F06	10-13-93	1157	12.06	W93140301	10.77	31.81	9.46	104	35.63	24.33	12.00	1.39	0.73	0.12	0.01	0.10	0.53
W9314	F06	10-13-93	1157	18.95	W93140300	10.75	31.80	9.39	104	35.61	24.33	11.73	1.37	0.01	0.04	-0.03	0.15	0.58
W9314	F06	10-13-93	1156	26.46	W93140299	10.40	31.84	9.15	100	35.34	24.42	9.04	1.23	0.75	0.10	0.49	0.21	1.20
W9314	F07	10-13-93	1301	1.53	W93140316	10.55	31.86	9.40	103	35.48	24.41	7.47	1.51	0.26	0.06	0.13	0.25	0.88
W9314	F07	10-13-93	1300	11.34	W93140315	10.53	31.86	9.31	102	35.47	24.41	12.14	1.41	0.54	0.06	0.15	0.25	0.90
W9314	F07	10-13-93	1259	22.13	W93140314	10.41	31.87	8.99	98	35.37	24.44	10.48	1.33	0.10	0.08	0.61	0.31	1.29
W9314	F07	10-13-93	1258	39.2	W93140313	9.40	31.83	8.24	88	34.47	24.58	5.51	1.00	0.26	0.25	6.56	0.75	7.36
W9314	F07	10-13-93	1257	50.75	W93140312	6.90	32.06	7.51	76	32.54	25.12	1.13	1.27	0.00	0.79	6.93	0.76	13.45
W9314	F08	10-13-93	1436	1.79	W93140327	11.08	31.77	9.59	107	35.86	24.24	10.13	1.59	0.08	0.03	-0.01	0.11	0.20
W9314	F08	10-13-93	1435	18.5	W93140326	10.75	31.79	8.99	99	35.59	24.32	10.08	1.46	0.15	0.26	0.35	0.22	0.87
W9314	F08	10-13-93	1434	37.71	W93140325	7.88	32.17	7.88	82	33.47	25.07	1.04	0.65	0.00	0.13	8.80	0.89	7.81
W9314	F08	10-13-93	1433	59.16	W93140324	7.12	32.15	7.58	77	32.82	25.16	0.94	0.91	0.00	0.14	10.27	0.98	12.51
W9314	F08	10-13-93	1432	74.45	W93140323	6.88	32.14	7.58	77	32.60	25.18	0.97	1.47	0.00	0.17	10.29	0.96	13.64
W9314	F09	10-14-93	1209	1.25	W93140423	11.04	31.77	10.08	112	35.82	24.25	5.81	1.96	0.04	0.03	-0.03	0.08	0.23
W9314	F09	10-14-93	1208	3.52	W93140422	10.70	31.77	10.18	112	35.52	24.31	12.61	2.20	0.00	0.03	-0.03	0.14	0.22
W9314	F09	10-14-93	1207	6.84	W93140421	10.62	31.77	9.85	108	35.46	24.33	15.12	2.05	0.40	0.03	-0.03	0.20	0.21
W9314	F09	10-14-93	1207	12.7	W93140420	10.58	31.78	9.56	105	35.44	24.34	12.42	1.99	0.05	0.03	0.01	0.22	0.21
W9314	F09	10-14-93	1206	18.43	W93140419	10.53	31.78	9.50	104	35.40	24.35	12.49	2.16	0.29	0.04	0.01	0.27	0.47
W9314	F10	10-14-93	1237	1.36	W93140434	11.13	31.75	9.73	108	35.88	24.22	4.43	1.55	0.03	0.02	-0.02	0.04	0.25
W9314	F10	10-14-93	1237	5.26	W93140433	10.73	31.74	9.90	109	35.53	24.29	10.06	1.82	0.26	0.02	-0.02	0.10	0.26
W9314	F10	10-14-93	1235	14.87	W93140432	10.65	31.77	9.40	103	35.49	24.32	13.27	1.56	0.05	0.03	-0.03	0.10	0.27

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)
W9314	F10	10-14-93	1235	21.21	W93140431	10.64	31.77	9.21	101	35.48	24.32	11.24	1.49	0.00	0.06	0.21	0.17	0.80
W9314	F10	10-14-93	1234	28.61	W93140430	9.71	31.81	8.26	89	34.71	24.51	5.13	1.17	0.19	0.20	1.35	0.34	4.32
W9314	F11	10-14-93	1308	1.27	W93140445	10.96	31.84	9.90	110	35.82	24.32	6.40	1.52	0.04	0.03	0.00	0.15	0.28
W9314	F11	10-14-93	1307	8.95	W93140444	10.45	31.89	9.56	105	35.43	24.45	12.24	1.50	0.08	0.06	0.28	0.23	0.82
W9314	F11	10-14-93	1306	18.12	W93140443	9.70	31.92	8.46	91	34.81	24.60	6.52	1.09	0.45	0.22	2.85	0.46	3.47
W9314	F11	10-14-93	1305	33.3	W93140442	7.96	32.06	7.64	79	33.44	24.98	1.66	1.06	0.16	0.32	8.59	0.88	9.62
W9314	F11	10-14-93	1304	46.25	W93140441	7.38	32.11	7.69	79	32.99	25.09	1.17	1.20	0.13	0.28	9.39	0.88	10.99
W9314	F12	10-13-93	1541	2.63	W93140342	11.16	31.77	9.84	110	35.92	24.23		1.76	0.07	0.02	-0.01	0.11	0.26
W9314	F12	10-13-93	1540	8.18	W93140341	10.99	31.80	9.65	107	35.81	24.28	11.71	1.53	0.01	0.02	-0.02	0.11	0.41
W9314	F12	10-13-93	1539	24.75	W93140340	8.62	31.97	8.13	86	33.92	24.80	3.29	0.85	0.25	0.25	6.44	0.73	6.72
W9314	F12	10-13-93	1537	57.67	W93140339	7.06	32.21	7.82	80	32.82	25.22	0.94	1.19	0.00	0.27	10.43	0.98	12.72
W9314	F12	10-13-93	1536	85.37	W93140338	7.03	32.22	7.87	80	32.81	25.22	0.83	1.28	0.02	0.27	10.45	0.94	13.01
W9314	F13P	10-13-93	925	1.59	W93140273	10.66	31.78	9.21	101	35.49	24.33	11.26	2.41	0.11	0.05	0.11	0.34	0.63
W9314	F13P	10-13-93	924	5.82	W93140272	10.65	31.78	9.21	101	35.49	24.33	12.60	2.24	0.13	0.04	0.16	0.35	0.57
W9314	F13P	10-13-93	923	11.09	W93140271	10.64	31.78	9.14	101	35.48	24.33	13.12	2.20	0.06	0.01	-0.01	0.27	0.71
W9314	F13P	10-13-93	922	18.45	W93140270	10.60	31.78	8.97	99	35.45	24.34	12.01	2.19	0.50	0.08	0.66	0.39	1.21
W9314	F13P	10-13-93	921	23.35	W93140269	10.38	31.82	8.71	95	35.30	24.41	9.93	2.23	0.06	0.02	-0.02	0.16	1.53
W9314	F14	10-12-93	944	1.95	W93140081	10.66	31.75	9.77	108	35.46	24.30	16.89	2.11	0.02	0.03	0.02	0.26	0.19
W9314	F14	10-12-93	943	3.38	W93140080	10.66	31.74	9.70	107	35.47	24.30	16.29	2.12	0.06	0.04	0.06	0.29	0.20
W9314	F14	10-12-93	943	7.33	W93140079	10.67	31.74	9.70	107	35.47	24.30	16.60	2.09	0.29	0.04	0.04	0.33	0.21
W9314	F14	10-12-93	942	13.16	W93140078	10.66	31.74	9.62	106	35.47	24.30	15.61	2.09	0.00	0.01	-0.01	0.15	0.29
W9314	F14	10-12-93	941	15.67	W93140077	10.46	31.75	8.67	95	35.30	24.34	11.53	1.99	1.26	0.18	1.59	0.56	2.05
W9314	F15	10-12-93	1025	1.24	W93140092	11.10	31.75	9.83	109	35.85	24.23	14.14	1.88	0.04	0.00	0.00	0.03	0.13
W9314	F15	10-12-93	1024	6.81	W93140091	11.10	31.75	9.80	109	35.86	24.23	14.16	1.90	0.22	0.00	0.00	0.08	0.14
W9314	F15	10-12-93	1023	15.16	W93140090	11.10	31.74	9.60	107	35.85	24.22	14.39	1.89	0.05	0.00	0.02	0.08	0.20
W9314	F15	10-12-93	1022	28.12	W93140089	8.23	32.08	7.72	81	33.69	24.94	2.06	0.81	0.14	0.28	8.74	0.89	8.01
W9314	F15	10-12-93	1021	38.57	W93140088	7.91	32.12	7.58	79	33.46	25.03	1.50	1.38	0.16	0.33	9.56	1.33	10.05
W9314	F16	10-12-93	1105	1.95	W93140107	11.39	31.71	9.52	106	36.06	24.14	10.44	1.41	0.35	0.00	0.02	0.09	0.22
W9314	F16	10-12-93	1104	18.15	W93140106	11.23	31.73	9.09	101	35.96	24.19	10.02	1.40	0.14	0.00	0.13	0.12	0.51
W9314	F16	10-12-93	1102	18.85	W93140105	11.16	31.73	8.85	98	35.89	24.20	10.14	1.38	0.33	0.17	2.28	0.42	2.66
W9314	F16	10-12-93	1101	40.85	W93140104	7.68	32.17	7.83	81	33.31	25.10	1.02	0.67	0.24	0.13	9.62	0.97	8.41
W9314	F16	10-12-93	1100	54.98	W93140103	7.23	32.16	7.54	77	32.91	25.15	1.61	1.59	0.31	0.28	10.44	1.94	12.86
W9314	F17	10-12-93	1159	4.21	W93140120	11.12	31.91	9.67	108	36.04	24.35	10.75	1.40	0.29	0.02	-0.02	0.17	0.19
W9314	F17	10-12-93	1158	14.96	W93140119	11.06	31.91	9.54	106	35.99	24.36	10.44	1.39	0.29	0.02	-0.01	0.18	0.21
W9314	F17	10-12-93	1157	25.97	W93140118	10.31	31.95	8.52	93	35.37	24.52	5.11	0.95	0.15	0.21	3.01	0.51	2.79
W9314	F17	10-12-93	1156	37.78	W93140117	7.98	32.11	7.90	82	33.50	25.00	1.17	0.66	0.10	0.23	8.37	0.88	7.66
W9314	F17	10-12-93	1154	72.54	W93140116	7.44	32.20	7.78	80	33.14	25.16	1.37	1.13	0.03	0.20	9.31	0.89	10.37
W9314	F18	10-12-93	1625	0.72	W93140215	10.04	31.85	11.05	120	35.03	24.49	20.83	3.17	0.72	0.04	0.04	0.16	0.05
W9314	F18	10-12-93	1624	5.28	W93140214	10.03	31.86	11.07	120	35.03	24.50	21.06	2.23	0.09	0.03	0.00	0.24	0.03
W9314	F18	10-12-93	1624	9.7	W93140213	10.03	31.86	11.06	120	35.03	24.49	21.11	2.23	0.12	0.03	-0.01	0.22	0.03
W9314	F18	10-12-93	1623	14.99	W93140212	10.03	31.86	10.86	118	35.03	24.49	20.82	2.16	0.05	0.03	0.00	0.25	0.01
W9314	F18	10-12-93	1623	20.91	W93140211	9.75	31.90	9.70	105	34.83	24.58	15.46	2.02	0.12	0.06	0.17	0.31	0.25
W9314	F19	10-12-93	1257	1.95	W93140140	11.47	31.72	9.75	109	36.15	24.14	9.29	2.03	0.15	0.02	-0.01	0.13	0.09
W9314	F19	10-12-93	1256	15.8	W93140139	11.47	31.72	9.64	108	36.16	24.14	9.56	1.31	0.15	0.02	-0.02	0.15	0.09
W9314	F19	10-12-93	1255	29.52	W93140137	8.74	32.08	7.97	84	34.13	24.87	1.97	0.74	0.12	0.32	6.97	0.85	5.53
W9314	F19	10-12-93	1253	46.76	W93140136	7.78	32.28	8.06	83	33.49	25.17	0.92	0.66	0.25	0.22	9.21	0.91	8.40
W9314	F19	10-12-93	1252	72.38	W93140135	7.17	32.30	7.87	80	33.00	25.27	1.97	1.98	0.09	0.39	9.65	1.00	11.60
W9314	F20	10-12-93	1518	4.55	W93140192	10.58	31.85	10.74	118	35.50	24.40	15.38	1.77	0.19	0.04	-0.02	0.27	0.09

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

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9314	F20	10-12-93	1517	8.43	W93140191	10.58	31.85	10.76	118	35.51	24.40	15.97	1.78	0.24	0.03	-0.02	0.28	0.05
W9314	F20	10-12-93	1516	16.72	W93140190	10.57	31.86	10.79	119	35.50	24.40	15.39	1.82	0.05	0.03	0.00	0.28	0.10
W9314	F20	10-12-93	1514	21.36	W93140189	10.50	31.87	10.68	117	35.45	24.43	15.46	1.82	0.17	0.03	-0.02	0.30	0.14
W9314	F20	10-12-93	1513	29.95	W93140188	10.01	31.96	9.49	103	35.11	24.58	9.75	1.82	0.03	0.03	-0.03	0.20	1.40
W9314	F21	10-12-93	1437	2.84	W93140167	10.51	31.81	11.08	122	35.40	24.38	18.16	1.97	0.06	0.02	-0.02	0.11	0.01
W9314	F21	10-12-93	1436	15.44	W93140166	10.50	31.81	10.81	119	35.40	24.38	17.98	1.94	0.05	0.03	-0.01	0.11	0.05
W9314	F21	10-12-93	1435	29.18	W93140165	9.44	32.04	8.59	92	34.70	24.73	8.92	1.38	0.13	0.36	3.39	0.54	2.16
W9314	F21	10-12-93	1434	36.44	W93140164	8.47	32.16	7.88	83	33.98	24.97	2.61	0.87	0.04	0.54	7.62	0.83	6.99
W9314	F21	10-12-93	1433	48.19	W93140163	7.78	32.27	7.94	82	33.48	25.16	1.05	0.92	0.04	0.38	9.38	0.94	9.29
W9314	F22	10-12-93	1344	2.61	W93140153	11.32	31.86	9.67	108	36.16	24.27	8.84	1.26	0.11	0.03	0.06	0.17	0.44
W9314	F22	10-12-93	1343	15.3	W93140152	11.32	31.89	9.35	104	36.19	24.30	7.96	1.20	0.04	0.03	-0.03	0.22	0.36
W9314	F22	10-12-93	1342	27.44	W93140151	9.12	31.95	7.93	84	34.34	24.71	2.84	0.80	0.03	0.32	5.56	0.72	4.81
W9314	F22	10-12-93	1341	49.39	W93140150	6.86	32.23	8.06	82	32.66	25.25	0.84	0.84	0.02	0.18	10.11	0.96	10.08
W9314	F22	10-12-93	1339	69.8	W93140149	6.81	32.28	8.08	82	32.68	25.31	1.69	1.40	0.12	0.30	10.04	0.98	11.03
W9314	F23P	10-15-93	543	2.34	W93140475	10.44	31.34	8.62	94	34.87	24.02	4.27	2.40	3.40	0.39	2.26	0.84	0.96
W9314	F23P	10-15-93	543	5.3	W93140474	10.38	31.36	8.66	95	34.84	24.05	4.51	2.51	4.86	0.37	2.19	0.93	0.92
W9314	F23P	10-15-93	542	10.93	W93140473	10.33	31.40	8.69	95	34.83	24.09	4.67	2.51	3.45	0.36	2.17	0.91	1.04
W9314	F23P	10-15-93	541	16.92	W93140472	10.34	31.40	8.73	95	34.85	24.09	4.37	2.46	4.98	0.36	2.25	0.94	0.92
W9314	F23P	10-15-93	540	23.47	W93140471	10.22	31.49	8.85	96	34.83	24.18	4.75	2.29	4.24	0.51	2.15	0.76	0.98
W9314	F24	10-12-93	602	3.37	W93140016	10.15	31.63	9.47	103	34.91	24.30	11.42	2.20	3.50	0.25	1.31	0.67	0.49
W9314	F24	10-12-93	559	4.06	W93140015	10.17	31.63	9.51	103	34.92	24.30	11.12	2.38	0.50	0.21	0.90	0.41	0.35
W9314	F24	10-12-93	558	7.6	W93140014	10.20	31.66	9.79	107	34.97	24.31	13.28	2.39	0.43	0.15	0.57	0.38	0.20
W9314	F24	10-12-93	558	14.62	W93140013	10.26	31.75	9.77	107	35.13	24.38	18.26	2.25	0.16	0.09	0.30	0.32	0.29
W9314	F24	10-12-93	555	19.28	W93140012	9.21	31.95	8.07	86	34.41	24.70	7.46	1.43	0.28	0.36	4.66	0.63	4.17
W9314	F25	10-14-93	1444	1.15	W93140460	10.25	31.54	8.93	97	34.91	24.21	7.13	2.59	2.77	0.31	2.23	0.86	1.02
W9314	F25	10-14-93	1444	2.87	W93140459	10.26	31.54	8.95	98	34.91	24.21	7.46	2.59	1.37	0.03	0.93	0.54	1.03
W9314	F25	10-14-93	1443	5.53	W93140458	10.25	31.54	8.94	97	34.91	24.21	7.21	2.59	5.17	0.32	2.24	0.96	1.09
W9314	F25	10-14-93	1442	8.23	W93140457	10.24	31.54	8.90	97	34.90	24.22	7.50	2.58	3.02	0.31	2.24	0.76	1.03
W9314	F25	10-14-93	1441	10.96	W93140456	10.24	31.55	8.88	97	34.90	24.22	6.97	2.58	1.05	0.03	0.32	0.46	1.05
W9314	N01P	10-13-93	528	0.88	W93140229	10.24	31.86	10.40	114	35.21	24.46	13.84	1.86	0.06	0.01	0.00	0.14	0.03
W9314	N01P	10-13-93	527	6.34	W93140228	10.25	31.86	10.40	114	35.22	24.46	15.18	1.69	0.24	0.02	0.02	0.20	0.10
W9314	N01P	10-13-93	526	13.32	W93140227	10.20	31.86	10.41	114	35.18	24.47	17.65	1.78	0.42	0.04	0.07	0.21	0.03
W9314	N01P	10-13-93	525	19.63	W93140225	9.98	31.84	9.98	108	34.97	24.49	20.26	2.01	0.08	0.02	0.06	0.24	0.30
W9314	N01P	10-13-93	524	27.53	W93140224	9.58	31.92	9.10	98	34.70	24.61	12.99	2.38	0.08	0.11	1.02	0.42	1.42
W9314	N01P	10-15-93	812	2.12	W93140550	10.36	31.82	10.37	113	35.28	24.41	6.36	0.99	0.05	0.04	-0.04	0.13	0.03
W9314	N01P	10-15-93	812	5.04	W93140549	10.38	31.83	10.30	113	35.31	24.42	7.96	1.12	0.04	0.05	-0.04	0.13	0.04
W9314	N01P	10-15-93	810	13.85	W93140548	10.38	31.83	10.05	110	35.31	24.42	7.78	1.11	0.04	0.06	0.05	0.20	0.09
W9314	N01P	10-15-93	810	20.47	W93140547	9.92	31.92	8.84	96	35.00	24.56	7.88	1.29	0.27	0.04	-0.03	0.37	1.96
W9314	N01P	10-15-93	809	29.38	W93140546	9.11	31.97	7.75	83	34.34	24.73	19.96	3.99	1.02	0.04	0.92	0.57	7.18
W9314	N02	10-15-93	836	2.18	W93140567	10.38	31.83	10.29	113	35.31	24.42	6.86	1.04	0.15	0.05	0.02	0.20	0.06
W9314	N02	10-15-93	836	7.18	W93140566	10.37	31.84	10.11	111	35.31	24.42	7.15	1.10	0.05	0.04	0.01	0.26	0.04
W9314	N02	10-15-93	835	16.08	W93140565	10.27	31.88	9.51	104	35.26	24.47	6.09	1.06	0.19	0.04	-0.01	0.32	0.34
W9314	N02	10-15-93	834	27.27	W93140564	9.53	31.99	8.08	87	34.73	24.68	9.91	1.60	0.06	0.39	4.71	0.64	4.29
W9314	N02	10-15-93	834	36.97	W93140563	8.51	32.07	7.44	78	33.92	24.90	13.17	2.79	0.43	0.34	4.48	0.56	8.77
W9314	N03	10-15-93	859	2.14	W93140580	10.61	31.80	10.22	112	35.48	24.35	5.43	0.97	0.04	0.03	-0.03	0.13	0.11
W9314	N03	10-15-93	859	7.71	W93140579	10.58	31.81	10.13	111	35.46	24.37	6.10	1.01	0.04	0.02	-0.01	0.15	0.00
W9314	N03	10-15-93	858	15.38	W93140578	10.44	31.84	10.21	112	35.37	24.41	6.82	1.08	0.13	0.03	0.00	0.19	0.00
W9314	N03	10-15-93	857	29.34	W93140577	9.57	32.07	8.26	89	34.84	24.73	7.33	1.26	0.10	0.36	3.91	0.63	3.20

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)
W9314	N03	10-15-93	856	42.71	W93140576	8.23	32.13	7.49	78	33.74	24.99	10.57	2.39	0.00	0.44	8.40	1.33	8.20
W9314	N04P	10-13-93	644	2.5	W93140241	10.73	31.77	9.91	109	35.55	24.31	13.70	1.61	0.17	0.01	0.02	0.08	0.04
W9314	N04P	10-13-93	643	11.92	W93140240	10.72	31.77	9.84	108	35.55	24.31	12.65	1.58	0.37	0.01	0.03	0.09	0.05
W9314	N04P	10-13-93	641	23.95	W93140239	9.88	31.92	9.01	98	34.96	24.57	12.52	1.64	0.33	0.10	0.76	0.38	0.58
W9314	N04P	10-13-93	640	34	W93140238	8.11	32.13	7.62	79	33.64	25.00	3.10	0.95	0.18	0.19	9.90	0.98	7.86
W9314	N04P	10-13-93	639	45.37	W93140237	7.93	32.24	7.72	80	33.59	25.12	1.33	0.89	0.75	0.36	9.72	1.01	8.31
W9314	N04P	10-15-93	922	2.32	W93140591	10.82	31.76	9.97	110	35.63	24.29	5.64	1.04	0.05	0.03	-0.03	0.05	0.02
W9314	N04P	10-15-93	921	9.47	W93140590	10.80	31.77	9.83	109	35.61	24.29	5.80	1.06	0.04	0.03	0.02	0.10	0.23
W9314	N04P	10-15-93	920	19.91	W93140589	10.15	31.87	9.04	98	35.15	24.48	8.95	1.24	0.43	0.16	1.25	0.40	1.10
W9314	N04P	10-15-93	920	33.27	W93140588	8.48	32.12	7.68	81	33.94	24.94	7.04	1.30	0.03	0.14	4.27	0.44	6.96
W9314	N04P	10-15-93	919	46.17	W93140587	7.92	32.22	7.55	78	33.56	25.10	9.26	1.99	0.04	0.44	6.69	0.62	9.01
W9314	N05	10-15-93	944	2.07	W93140604	10.95	31.74	9.75	108	35.72	24.25	5.71	1.05	0.04	0.03	0.00	0.04	0.01
W9314	N05	10-15-93	943	8.56	W93140603	10.93	31.75	9.58	106	35.70	24.26	5.85	1.06	0.15	0.04	0.08	0.09	0.19
W9314	N05	10-15-93	943	19.49	W93140602	9.00	32.02	8.06	86	34.29	24.78	7.19	1.12	0.07	0.27	6.61	0.76	5.22
W9314	N05	10-15-93	942	29.75	W93140601	8.20	32.17	7.68	80	33.75	25.03	4.40	1.14	0.15	0.26	9.29	0.91	8.04
W9314	N05	10-15-93	941	52.71	W93140600	7.88	32.23	7.54	78	33.54	25.11	5.18	1.66	0.05	0.28	9.34	0.83	9.59
W9314	N06	10-15-93	1006	2.16	W93140619	10.99	31.73	9.55	106	35.74	24.23	5.11	1.20	0.17	0.04	0.11	0.08	0.16
W9314	N06	10-15-93	1006	10.59	W93140618	10.96	31.73	9.38	104	35.72	24.24	7.31	1.25	0.05	0.03	0.03	0.07	0.09
W9314	N06	10-15-93	1005	18.89	W93140617	10.44	31.77	8.46	93	35.30	24.36	9.37	1.25	0.15	0.27	4.02	0.58	2.99
W9314	N06	10-15-93	1004	31.32	W93140616	8.07	32.12	7.44	77	33.59	25.01	2.98	0.95	0.19	0.28	9.73	0.96	8.50
W9314	N06	10-15-93	1003	48.88	W93140615	7.64	32.22	7.39	76	33.32	25.14	5.20	1.73	0.16	0.25	10.04	0.99	10.99
W9314	N07P	10-13-93	804	2.14	W93140257	11.10	31.70	9.31	103	35.80	24.19	7.22	1.79	0.15	0.02	0.04	0.10	0.13
W9314	N07P	10-13-93	803	8.7	W93140256	11.09	31.71	9.19	102	35.81	24.20	11.27	1.55	0.20	0.02	0.04	0.11	0.15
W9314	N07P	10-13-93	802	24.06	W93140255	9.46	31.95	7.99	86	34.63	24.66	6.92	1.25	0.17	0.21	4.13	0.56	3.32
W9314	N07P	10-13-93	801	37.55	W93140254	8.12	32.11	7.51	78	33.63	24.99	1.17	0.80	0.06	0.25	9.56	1.01	8.30
W9314	N07P	10-13-93	800	42.25	W93140253	8.07	32.12	7.58	79	33.60	25.01	1.13	0.78	0.09	0.21	9.58	0.98	8.13
W9314	N07P	10-15-93	1027	2.16	W93140632	11.08	31.74	9.47	105	35.82	24.22	5.84	1.06	0.20	0.03	-0.03	0.06	0.11
W9314	N07P	10-15-93	1026	9.21	W93140631	11.03	31.74	9.34	104	35.78	24.23	8.41	1.12	0.63	0.04	0.10	0.05	0.17
W9314	N07P	10-15-93	1026	20.07	W93140630	10.27	31.84	8.55	93	35.22	24.44	7.86	1.14	0.11	0.27	3.50	0.49	2.94
W9314	N07P	10-15-93	1025	32.51	W93140629	8.11	32.12	7.39	77	33.62	24.99	2.64	1.03	0.14	0.35	9.68	0.95	9.43
W9314	N07P	10-15-93	1024	44.31	W93140628	7.66	32.19	7.26	75	33.30	25.11	4.49	1.91	0.28	0.35	8.64	0.81	12.61
W9314	N08	10-15-93	1128	1.15	W93140648	10.92	31.74	9.80	108	35.68	24.25	7.05	1.35	1.11	0.03	0.01	0.04	0.14
W9314	N08	10-15-93	1127	7.62	W93140647	10.84	31.75	9.69	107	35.63	24.27	9.41	1.37	0.03	0.02	-0.02	0.11	0.13
W9314	N08	10-15-93	1127	16.55	W93140646	10.27	31.84	9.53	104	35.22	24.44	10.82	1.42	0.07	0.06	0.21	0.30	0.44
W9314	N08	10-15-93	1126	23.88	W93140645	9.42	31.94	8.39	90	34.58	24.65	11.78	1.75	0.01	0.28	3.23	0.53	3.52
W9314	N08	10-15-93	1125	32.71	W93140644	8.88	32.00	7.72	82	34.17	24.79	8.43	1.99	0.23	0.41	5.99	0.75	6.41
W9314	N09	10-15-93	1151	1.36	W93140659	10.09	31.64	9.67	105	34.86	24.32	8.38	1.63	1.07	0.17	0.86	0.51	0.30
W9314	N09	10-15-93	1150	10	W93140658	10.03	31.74	10.04	109	34.91	24.40	10.37	1.62	0.00	0.03	-0.02	0.29	0.15
W9314	N09	10-15-93	1150	14.71	W93140657	9.98	31.82	10.10	110	34.95	24.48	9.22	1.37	0.00	0.02	-0.02	0.21	0.26
W9314	N09	10-15-93	1149	20.85	W93140656	9.66	31.88	8.77	95	34.74	24.57	12.82	1.98	0.34	0.26	2.30	0.53	2.40
W9314	N09	10-15-93	1148	34.15	W93140655	9.13	31.96	7.68	82	34.35	24.72	11.90	2.58	0.04	0.17	5.30	0.63	6.43
W9314	N10P	10-12-93	902	1.05	W93140061	10.56	31.65	9.62	106	35.28	24.24	14.45	2.42	0.10	0.03	0.01	0.29	0.13
W9314	N10P	10-12-93	901	3.45	W93140060	10.58	31.65	9.62	106	35.30	24.24	15.05	2.23	0.09	0.23	1.24	0.46	0.14
W9314	N10P	10-12-93	900	8.96	W93140059	10.63	31.66	9.61	106	35.36	24.24	15.24	2.20	0.46	0.22	1.18	0.52	0.20
W9314	N10P	10-12-93	859	14.28	W93140058	10.19	31.69	7.87	86	35.01	24.34	9.17	1.74	0.06	0.27	5.24	0.69	4.70
W9314	N10P	10-12-93	858	21.43	W93140057	8.85	32.00	7.57	80	34.15	24.79	3.05	1.56	0.65	0.44	8.34	0.96	8.30
W9314	N10P	10-15-93	632	1.47	W93140494	10.21	31.58	8.80	96	34.91	24.25	5.89	2.07	3.33	0.26	2.06	0.84	0.83
W9314	N10P	10-15-93	631	4.2	W93140493	10.20	31.59	8.85	96	34.91	24.25	6.29	2.11	0.61	0.02	0.30	0.42	0.82

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)
W9314	N10P	10-15-93	631	8.95	W93140492	10.16	31.63	8.93	97	34.92	24.30	7.62	2.32	0.92	0.02	2.13	0.64	0.72
W9314	N10P	10-15-93	630	13.98	W93140491	10.16	31.64	8.93	97	34.93	24.30	7.80	2.29	2.37	0.24	1.96	0.77	0.71
W9314	N10P	10-15-93	629	20.46	W93140490	10.16	31.65	8.91	97	34.94	24.31	8.25	2.27	0.65	0.01	0.01	0.41	0.89
W9314	N11	10-15-93	731	2.24	W93140524	10.04	31.68	10.03	109	34.85	24.35	7.67	1.64	0.84	0.09	0.33	0.42	0.18
W9314	N11	10-15-93	731	8.42	W93140523	10.03	31.77	10.15	110	34.95	24.43	10.06	1.77	0.00	0.01	0.01	0.26	0.18
W9314	N11	10-15-93	730	16.44	W93140522	10.02	31.83	10.04	109	35.00	24.48	11.39	1.93	0.00	0.01	0.01	0.20	0.45
W9314	N11	10-15-93	729	24.71	W93140521	9.72	31.88	9.35	101	34.79	24.56	15.39	3.08	0.02	0.02	0.00	0.29	1.99
W9314	N11	10-15-93	728	28.57	W93140520	9.68	31.88	9.22	99	34.76	24.57	15.11	3.34	0.09	0.11	1.22	0.41	2.19
W9314	N12	10-15-93	751	2.12	W93140537	10.18	31.84	10.53	115	35.14	24.45	7.10	1.03	0.08	0.03	-0.02	0.11	0.02
W9314	N12	10-15-93	751	4.68	W93140536	10.18	31.84	10.51	115	35.14	24.45	7.12	1.09	0.08	0.01	0.02	0.11	0.03
W9314	N12	10-15-93	750	13.3	W93140535	10.19	31.85	10.19	111	35.16	24.46	8.84	1.24	0.48	0.03	0.21	0.20	0.37
W9314	N12	10-15-93	750	19.06	W93140534	9.56	31.90	8.63	93	34.67	24.61	13.25	2.35	0.09	0.03	2.45	0.43	3.80
W9314	N12	10-15-93	749	23.46	W93140533	9.29	31.94	8.31	89	34.48	24.68	13.99	3.26	0.06	0.02	2.20	0.46	4.55
W9314	N13	10-15-93	1250	2.18	W93140692	10.50	31.80	10.63	117	35.38	24.37	4.91	1.05	0.21	0.01	0.00	0.09	0.02
W9314	N13	10-15-93	1250	6.65	W93140691	10.22	31.81	10.71	117	35.15	24.43	12.74	1.33	0.17	0.01	0.02	0.16	0.02
W9314	N13	10-15-93	1249	16.56	W93140690	10.05	31.84	10.07	109	35.04	24.48	11.97	1.25	0.19	0.06	0.23	0.29	0.62
W9314	N13	10-15-93	1248	22.19	W93140689	9.58	31.87	8.51	92	34.66	24.58	14.93	2.00	0.01	0.05	1.45	0.44	2.81
W9314	N13	10-15-93	1247	29.36	W93140688	9.24	31.96	8.22	88	34.45	24.70	13.84	2.87	0.34	0.26	4.39	0.70	5.01
W9314	N14	10-15-93	1311	2.18	W93140705	10.55	31.80	10.54	116	35.42	24.36	4.27	0.96	0.02	0.03	-0.03	0.03	0.03
W9314	N14	10-15-93	1311	7.87	W93140704	10.45	31.81	10.44	114	35.34	24.38	8.40	1.11	0.02	0.03	-0.03	0.08	0.03
W9314	N14	10-15-93	1310	14.46	W93140703	10.45	31.81	10.31	113	35.35	24.39	7.29	1.14	0.12	0.03	0.04	0.13	0.07
W9314	N14	10-15-93	1309	24.56	W93140702	10.18	31.85	9.62	105	35.16	24.47	10.33	1.36	0.04	0.14	1.22	0.38	1.34
W9314	N14	10-15-93	1308	30.03	W93140701	9.14	31.96	8.08	86	34.36	24.71	15.83	2.28	0.16	0.28	3.96	0.62	4.05
W9314	N15	10-15-93	1331	2.14	W93140716	10.63	31.82	10.55	116	35.52	24.36	3.21	0.88	0.25	0.03	0.17	0.16	0.20
W9314	N15	10-15-93	1330	6.54	W93140715	10.51	31.83	10.35	114	35.42	24.40	6.12	0.98	0.07	0.03	0.21	0.21	0.39
W9314	N15	10-15-93	1329	15.56	W93140714	9.63	31.98	8.57	92	34.80	24.65	10.03	1.53	0.10	0.27	3.05	0.52	2.60
W9314	N15	10-15-93	1328	32.99	W93140713	8.64	32.07	7.73	82	34.04	24.88	9.58	1.53	0.05	0.11	4.64	0.53	6.48
W9314	N15	10-15-93	1327	40.03	W93140712	8.17	32.13	7.52	78	33.69	25.00	7.56	1.66	0.09	0.05	6.92	0.62	8.28
W9314	N16P	10-12-93	803	1.16	W93140045	11.13	31.75	9.85	110	35.87	24.22	11.16	1.55	0.14	0.02	0.04	0.09	0.05
W9314	N16P	10-12-93	802	7.98	W93140044	11.13	31.74	9.72	108	35.87	24.22	11.68	1.55	0.26	0.03	0.21	0.11	0.25
W9314	N16P	10-12-93	802	19.21	W93140043	10.49	31.79	8.91	98	35.37	24.37	12.00	1.55	0.16	0.18	2.36	0.46	1.38
W9314	N16P	10-12-93	800	24.77	W93140042	8.82	31.98	7.89	83	34.10	24.78	2.79	0.81	0.73	0.24	8.34	0.85	5.82
W9314	N16P	10-12-93	759	38.81	W93140041	8.21	32.09	7.54	79	33.69	24.96	1.32	0.81	0.14	0.36	9.84	1.01	8.31
W9314	N16P	10-15-93	1349	2.2	W93140731	11.02	31.75	9.94	110	35.78	24.24	4.82	1.06	0.15	0.02	-0.01	0.06	0.11
W9314	N16P	10-15-93	1348	7.3	W93140730	10.76	31.77	10.11	112	35.58	24.30	6.38	1.16	0.09	0.02	0.17	0.14	0.23
W9314	N16P	10-15-93	1347	17.08	W93140729	10.16	31.89	9.04	99	35.17	24.50	10.35	1.26	0.22	0.18	1.88	0.43	1.75
W9314	N16P	10-15-93	1347	26.82	W93140728	8.79	32.03	7.71	82	34.13	24.83	12.71	1.74	0.40	0.37	7.12	0.81	6.50
W9314	N16P	10-15-93	1346	36.56	W93140727	8.55	32.05	7.57	80	33.95	24.88	16.23	2.55	0.24	0.36	7.66	0.81	7.21
W9314	N17	10-15-93	1408	2.14	W93140746	10.87	31.75	10.14	112	35.66	24.27	6.26	1.30	0.09	0.00	0.00	0.08	0.07
W9314	N17	10-15-93	1407	6.65	W93140745	10.80	31.78	10.08	111	35.62	24.30	7.53	1.34	0.00	0.00	0.01	0.12	0.06
W9314	N17	10-15-93	1406	16.37	W93140744	10.25	31.86	9.19	100	35.22	24.46	10.91	1.36	0.54	0.31	0.01	0.38	2.30
W9314	N17	10-15-93	1405	27.8	W93140743	8.91	32.00	7.75	82	34.20	24.79	10.27	2.02	0.13	0.07	5.67	0.85	5.98
W9314	N17	10-15-93	1404	35.56	W93140742	8.74	32.03	7.69	81	34.09	24.84	8.06	1.68	0.00	0.36	3.50	0.75	6.71
W9314	N18	10-15-93	1429	1.34	W93140765	10.72	31.78	10.56	116	35.55	24.32	5.13	1.18	0.00	0.00	0.00	0.13	0.08
W9314	N18	10-15-93	1428	7.35	W93140764	10.13	31.75	10.48	114	35.01	24.40	13.83	1.65	0.00	0.01	-0.01	0.33	0.03
W9314	N18	10-15-93	1428	12.94	W93140763	10.04	31.78	10.35	112	34.97	24.43	11.63	1.57	0.42	0.00	0.00	0.29	0.29
W9314	N18	10-15-93	1427	15.95	W93140762	9.88	31.79	9.01	98	34.83	24.46	17.40	2.01	0.00	0.01	0.11	0.37	2.53
W9314	N18	10-15-93	1426	24.09	W93140761	9.40	31.92	8.41	90	34.55	24.64	14.04	2.39	0.01	0.00	1.19	0.46	3.75

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

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9314	N19	10-15-93	1210	1.18	W93140670	10.09	31.76	10.71	116	34.98	24.41	9.64	1.44	0.05	0.04	0.09	0.33	0.09
W9314	N19	10-15-93	1209	3.63	W93140669	10.05	31.78	10.75	117	34.97	24.43	12.36	1.59	0.13	0.02	0.06	0.35	0.06
W9314	N19	10-15-93	1209	8.17	W93140668	10.06	31.81	10.77	117	35.00	24.45	12.24	1.49	0.26	0.02	0.03	0.31	0.08
W9314	N19	10-15-93	1208	15.08	W93140667	10.03	31.82	10.59	115	34.99	24.46	11.02	1.53	0.33	0.02	0.07	0.31	0.12
W9314	N19	10-15-93	1207	22.19	W93140666	10.02	31.84	10.57	115	35.01	24.48	12.38	1.59	0.23	0.01	0.04	0.30	0.08
W9314	N20P	10-12-93	712	1.45	W93140031	10.53	31.77	10.75	118	35.37	24.34	20.04	2.18	0.38	0.03	0.05	0.18	0.07
W9314	N20P	10-12-93	711	7.63	W93140030	10.53	31.77	10.64	117	35.38	24.34	19.75	2.08	0.33	0.03	0.06	0.19	0.02
W9314	N20P	10-12-93	710	16.66	W93140029	10.41	31.79	10.23	112	35.30	24.38	20.52	2.39	0.11	0.04	0.42	0.20	0.27
W9314	N20P	10-12-93	709	20.12	W93140028	9.72	31.92	8.74	94	34.82	24.59	14.19	2.03	0.25	0.18	2.89	0.53	2.09
W9314	N20P	10-12-93	708	28.58	W93140027	8.31	32.07	7.52	79	33.74	24.93	1.58	0.97	0.18	0.37	9.06	0.95	7.77
W9314	N20P	10-15-93	1233	2.06	W93140681	10.43	31.80	10.78	118	35.31	24.38	5.64	1.13	0.00	0.00	0.00	0.12	0.05
W9314	N20P	10-15-93	1232	7.31	W93140680	10.38	31.80	10.63	116	35.28	24.39	8.48	1.20	0.00	0.00	0.00	0.16	0.04
W9314	N20P	10-15-93	1231	15.53	W93140679	10.28	31.81	10.37	113	35.21	24.42	10.76	1.26	0.01	0.01	0.04	0.22	0.08
W9314	N20P	10-15-93	1230	21.53	W93140678	9.67	31.91	9.06	98	34.77	24.60	16.33	1.66	0.00	0.00	0.00	0.41	2.16
W9314	N20P	10-15-93	1230	28.45	W93140677	9.20	31.95	8.39	90	34.41	24.70	16.29	2.98	0.00	0.16	0.76	0.41	3.89
W9314	N21	10-15-93	1449	1	W93140780	10.93	31.76	10.30	114	35.71	24.27	5.63	1.11	0.01	0.00	0.00	0.09	0.04
W9314	N21	10-15-93	1448	3.04	W93140779	10.86	31.77	10.37	115	35.66	24.29	6.39	1.14	0.00	0.00	0.00	0.07	0.05
W9314	N21	10-15-93	1447	10.04	W93140778	10.56	31.79	10.31	113	35.42	24.35	7.72	1.21	0.00	0.00	0.00	0.14	0.14
W9314	N21	10-15-93	1446	22.6	W93140777	9.30	31.94	8.35	89	34.48	24.68	15.10	2.49	1.99	0.04	0.02	0.50	4.28
W9314	N21	10-15-93	1444	30.67	W93140776	9.26	31.95	8.33	89	34.46	24.69	13.93	2.50	0.15	0.02	-0.01	0.40	4.26
W9315	N01P	11-03-93	838	1.49	W93150070	9.56	31.87	8.83	95	34.63	24.58	1.10	0.79	0.81	0.19	1.98	0.69	3.51
W9315	N01P	11-03-93	837	3.22	W93150069	9.56	31.87	8.81	95	34.63	24.58	1.31	0.80	0.81	0.18	1.96	0.68	3.49
W9315	N01P	11-03-93	836	8.3	W93150068	9.56	31.87	8.80	95	34.63	24.58	1.30	0.79	0.78	0.18	1.99	0.70	3.49
W9315	N01P	11-03-93	835	16.9	W93150067	9.54	31.87	8.79	94	34.62	24.58	1.18	0.78	0.79	0.19	1.99	0.69	3.50
W9315	N01P	11-03-93	834	27.21	W93150066	9.54	31.87	8.80	95	34.63	24.58	1.15	0.77	0.80	0.19	1.96	0.73	3.49
W9315	N02	11-03-93	904	2.19	W93150085	9.59	31.88	8.78	94	34.66	24.58	1.13	0.75	0.79	0.19	2.07	0.69	3.41
W9315	N02	11-03-93	903	3.31	W93150084	9.59	31.88	8.79	95	34.66	24.58	1.19	0.75	0.76	0.19	2.01	0.68	3.40
W9315	N02	11-03-93	902	6.63	W93150083	9.59	31.88	8.77	94	34.66	24.59	1.35	0.75	0.79	0.19	2.06	0.69	3.41
W9315	N02	11-03-93	901	18.19	W93150082	9.58	31.88	8.76	94	34.67	24.59	1.24	0.74	0.80	0.19	2.06	0.72	3.44
W9315	N02	11-03-93	900	35.67	W93150081	9.58	31.88	8.76	94	34.67	24.59	1.10	0.78	0.81	0.19	2.05	0.67	3.40
W9315	N03	11-03-93	929	1.73	W93150096	9.52	31.87	8.83	95	34.60	24.59	1.12	0.77	0.78	0.21	2.15	0.71	3.44
W9315	N03	11-03-93	929	4.9	W93150095	9.51	31.88	8.79	94	34.60	24.59	1.36	0.71	0.80	0.19	2.14	0.70	3.41
W9315	N03	11-03-93	928	11.66	W93150094	9.51	31.88	8.78	94	34.60	24.60	1.33	0.70	0.75	0.19	2.18	0.71	3.45
W9315	N03	11-03-93	927	25.81	W93150093	9.52	31.88	8.75	94	34.62	24.60	1.10	0.67	0.76	0.19	2.24	0.71	3.45
W9315	N03	11-03-93	926	40.72	W93150092	9.45	31.91	8.25	88	34.59	24.63	0.84	0.70	1.00	0.21	2.60	0.76	4.10
W9315	N04P	11-03-93	959	1.42	W93150107	9.59	31.78	8.93	96	34.57	24.51	1.02	1.36	2.05	0.16	1.85	0.57	2.80
W9315	N04P	11-03-93	958	3.25	W93150106	9.58	31.87	8.94	96	34.65	24.58	1.21	0.73	0.36	0.15	1.84	0.57	2.84
W9315	N04P	11-03-93	957	11.2	W93150105	9.58	31.87	8.93	96	34.65	24.58	1.38	0.74	0.43	0.14	1.85	0.56	2.85
W9315	N04P	11-03-93	955	39.03	W93150104	9.57	31.88	8.75	94	34.66	24.59	1.08	0.69	0.44	0.16	2.13	0.60	3.22
W9315	N04P	11-03-93	954	47.35	W93150103	8.59	32.16	7.25	76	34.09	24.96	0.61	0.99	0.86	0.25	6.48	1.02	9.13
W9315	N05	11-03-93	1027	1.69	W93150118	9.61	31.86	8.85	95	34.66	24.56	1.16	0.73	0.66	0.20	2.07	0.68	3.24
W9315	N05	11-03-93	1026	4.13	W93150117	9.60	31.86	8.82	95	34.65	24.56	1.34	0.70	0.73	0.19	2.02	0.67	3.22
W9315	N05	11-03-93	1026	13.25	W93150116	9.59	31.86	8.78	94	34.65	24.57	1.31	0.69	0.64	0.19	2.09	0.67	3.24
W9315	N05	11-03-93	1025	35.59	W93150115	9.58	31.90	8.57	92	34.69	24.60	0.99	0.65	0.60	0.18	2.43	0.66	3.59
W9315	N05	11-03-93	1023	48.34	W93150114	8.69	32.13	7.26	77	34.15	24.92	0.61	0.90	1.00	0.28	6.80	1.07	9.11
W9315	N06	11-03-93	1058	1.25	W93150129	9.71	31.84	8.87	96	34.73	24.53	1.23	0.71	1.09	0.31	2.00	0.67	3.17
W9315	N06	11-03-93	1057	8.3	W93150128	9.71	31.84	8.84	95	34.73	24.53	1.43	0.70	0.73	0.18	1.84	0.64	3.11
W9315	N06	11-03-93	1055	39.91	W93150127	9.54	31.89	8.63	93	34.65	24.60	0.89	0.62	0.86	0.23	2.65	0.72	3.87

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)
W9315	N06	11-03-93	1054	44.51	W93150126	9.37	31.95	8.04	86	34.56	24.67	0.75	0.67	1.09	0.26	4.14	0.86	5.70
W9315	N06	11-03-93	1053	48.01	W93150125	8.93	32.06	7.11	75	34.28	24.83	0.65	0.81	1.13	0.28	5.39	0.96	7.33
W9315	N07P	11-03-93	1131	1.28	W93150142	9.73	31.84	8.89	96	34.74	24.53	1.27	0.72	0.49	0.21	1.77	0.63	2.98
W9315	N07P	11-03-93	1131	11.28	W93150141	9.72	31.84	8.87	96	34.74	24.54	1.45	0.70	0.51	0.20	1.78	0.62	2.95
W9315	N07P	11-03-93	1130	25.52	W93150140	9.71	31.85	8.78	95	34.74	24.54	1.30	0.67	0.54	0.21	1.95	0.66	3.18
W9315	N07P	11-03-93	1128	40.88	W93150139	8.66	32.12	6.70	71	34.10	24.92	0.62	1.03	1.24	0.34	7.62	1.17	10.32
W9315	N07P	11-03-93	1127	47.05	W93150138	8.37	32.20	6.75	71	33.93	25.02	0.61	1.35	0.89	0.32	8.19	1.15	10.86
W9315	N08	11-03-93	1202	1.78	W93150155	9.69	31.82	8.91	96	34.59	24.52	1.39	0.86	0.62	0.21	1.89	0.65	3.39
W9315	N08	11-03-93	1201	4.96	W93150154	9.68	31.83	8.88	96	34.69	24.53	1.56	0.76	0.66	0.22	1.89	0.66	3.45
W9315	N08	11-03-93	1200	10.75	W93150153	9.67	31.83	8.84	95	34.69	24.53	1.44	0.74	0.64	0.22	1.93	0.67	3.47
W9315	N08	11-03-93	1200	20.85	W93150152	9.64	31.83	8.72	94	34.67	24.54	1.05	0.68	0.84	0.23	2.12	0.70	3.68
W9315	N08	11-03-93	1159	27.23	W93150151	9.50	31.85	8.54	92	34.57	24.58	0.86	0.73	1.08	0.25	2.49	0.75	4.36
W9315	N09	11-03-93	1232	1.31	W93150166	9.25	31.73	8.81	94	34.23	24.52	1.48	1.20	3.40	0.34	3.02	0.97	5.47
W9315	N09	11-03-93	1232	4.88	W93150165	9.33	31.76	8.77	94	34.32	24.53	1.49	1.09	2.68	0.31	2.83	0.90	5.26
W9315	N09	11-03-93	1231	13.21	W93150164	9.44	31.79	8.72	93	34.45	24.54	1.23	0.93	1.37	0.28	2.61	0.82	5.07
W9315	N09	11-03-93	1230	19.44	W93150163	9.44	31.80	8.72	93	34.46	24.54	1.20	0.92	1.23	0.27	2.59	0.81	5.03
W9315	N09	11-03-93	1229	32.9	W93150162	9.42	31.80	8.72	93	34.45	24.55	1.16	0.90	1.18	0.26	2.55	0.80	4.89
W9315	N10P	11-03-93	724	2.38	W93150026	8.98	31.46	8.39	89	33.72	24.35	1.03	1.51	11.42	0.64	4.45	1.44	7.37
W9315	N10P	11-03-93	724	3.39	W93150025	9.00	31.46	8.40	89	33.75	24.35	1.04	1.50	10.51	0.58	4.26	1.38	7.12
W9315	N10P	11-03-93	723	8.18	W93150024	9.21	31.62	8.48	90	34.08	24.44	1.07	1.49	6.87	0.46	3.71	1.25	6.62
W9315	N10P	11-03-93	721	10.82	W93150023	9.23	31.69	8.54	91	34.17	24.49	1.06	1.39	5.49	0.41	3.48	1.15	6.40
W9315	N10P	11-03-93	720	20.95	W93150022	9.28	31.74	8.48	91	34.27	24.53	0.97	1.33	5.21	0.38	3.35	1.12	6.30
W9315	N11	11-03-93	751	2.25	W93150038	8.90	31.45	8.42	89	33.65	24.36	1.15	1.65	8.87	0.51	3.77	1.31	6.88
W9315	N11	11-03-93	752	2.3	W93150039	8.88	31.44	8.40	89	33.62	24.35	1.12	1.65	11.42	0.56	4.01	1.40	7.25
W9315	N11	11-03-93	750	4.01	W93150037	9.05	31.57	8.51	90	33.90	24.43	1.18	1.56	6.78	0.44	3.61	1.22	6.58
W9315	N11	11-03-93	750	6.94	W93150036	9.16	31.66	8.53	91	34.08	24.48	1.07	1.40	5.96	0.43	3.52	1.18	6.47
W9315	N11	11-03-93	748	26.68	W93150035	9.31	31.81	8.55	91	34.37	24.58	1.09	1.11	2.91	0.33	3.02	0.97	5.73
W9315	N12	11-03-93	813	1.53	W93150054	9.36	31.84	8.76	94	34.42	24.59	1.13	0.92	1.68	0.28	2.54	0.84	4.51
W9315	N12	11-03-93	812	4.11	W93150053	9.35	31.84	8.75	94	34.41	24.59	1.29	0.91	1.72	0.29	2.54	0.85	4.50
W9315	N12	11-03-93	812	7.94	W93150052	9.35	31.84	8.76	94	34.41	24.59	1.26	0.92	1.70	0.28	2.55	0.84	4.49
W9315	N12	11-03-93	811	14.32	W93150051	9.34	31.84	8.75	94	34.41	24.59	1.14	0.91	1.68	0.29	2.50	0.82	4.61
W9315	N12	11-03-93	810	20.6	W93150050	9.34	31.84	8.75	94	34.41	24.59	1.21	0.91	1.67	0.28	2.49	0.82	4.63
W9315	N13	11-03-93	1343	1.45	W93150204	9.54	31.86	8.92	96	34.60	24.58	1.60	0.79	0.81	0.20	2.06	0.73	3.59
W9315	N13	11-03-93	1343	5.72	W93150203	9.53	31.86	8.92	96	34.60	24.58	1.57	0.78	0.76	0.21	2.00	0.69	3.54
W9315	N13	11-03-93	1342	11.44	W93150202	9.51	31.86	8.91	96	34.58	24.58	1.48	0.77	0.88	0.21	2.08	0.71	3.64
W9315	N13	11-03-93	1341	19.83	W93150201	9.49	31.86	8.82	95	34.57	24.58	1.21	0.73	0.92	0.21	2.12	0.72	3.66
W9315	N13	11-03-93	1340	29.56	W93150200	9.49	31.86	8.82	95	34.57	24.59	1.18	0.73	0.92	0.22	2.07	0.71	3.65
W9315	N14	11-03-93	1407	1.15	W93150215	9.54	31.85	8.84	95	34.60	24.57	1.43	0.78	0.84	0.24	2.10	0.71	3.75
W9315	N14	11-03-93	1406	6.26	W93150214	9.54	31.85	8.81	95	34.60	24.57	1.34	0.75	1.02	0.23	2.12	0.72	3.76
W9315	N14	11-03-93	1406	13.88	W93150213	9.54	31.85	8.81	95	34.60	24.57	1.27	0.74	0.86	0.23	2.10	0.71	3.67
W9315	N14	11-03-93	1405	23.13	W93150212	9.53	31.86	8.78	94	34.60	24.58	1.21	0.72	0.91	0.23	2.14	0.72	3.71
W9315	N14	11-03-93	1404	29.7	W93150211	9.53	31.86	8.76	94	34.60	24.58	1.13	0.70	0.92	0.22	2.17	0.72	3.76
W9315	N15	11-03-93	1433	2.07	W93150226	9.57	31.86	8.88	95	34.63	24.57	1.50	0.81	0.66	0.20	2.13	0.74	3.21
W9315	N15	11-03-93	1432	9.84	W93150225	9.57	31.86	8.86	95	34.63	24.57	1.45	0.74	0.65	0.19	2.14	0.74	3.17
W9315	N15	11-03-93	1431	19.18	W93150224	9.56	31.86	8.83	95	34.62	24.57	1.28	0.72	0.72	0.20	2.26	0.79	3.33
W9315	N15	11-03-93	1430	29.26	W93150223	9.55	31.88	8.66	93	34.65	24.59	0.99	0.64	0.79	0.20	2.56	0.76	3.54
W9315	N15	11-03-93	1429	39.4	W93150222	9.27	31.96	7.72	83	34.49	24.70	0.71	0.76	1.26	0.25	4.53	0.95	6.46
W9315	N16P	11-03-93	1502	1.37	W93150237	9.61	31.84	8.93	96	34.65	24.55	1.48	0.76	0.71	0.20	2.06	0.73	3.18

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)
W9315	N16P	11-03-93	1501	8.67	W93150236	9.60	31.84	8.88	96	34.64	24.55	1.45	0.75	0.68	0.20	2.06	0.73	3.17
W9315	N16P	11-03-93	1459	19.06	W93150235	9.59	31.84	8.87	95	34.64	24.55	1.41	0.74	0.75	0.20	2.13	0.74	3.21
W9315	N16P	11-03-93	1458	28.9	W93150234	9.57	31.85	8.76	94	34.63	24.56	1.22	0.71	0.87	0.20	2.21	0.75	3.26
W9315	N16P	11-03-93	1458	37.06	W93150233	9.56	31.86	8.44	91	34.64	24.58	0.98	0.69	0.92	0.20	2.54	0.78	3.77
W9315	N17	11-03-93	1531	1.47	W93150248	9.69	31.83	8.86	96	34.70	24.53	1.36	0.74	0.76	0.19	1.97	0.71	3.11
W9315	N17	11-03-93	1529	10.12	W93150247	9.69	31.83	8.85	95	34.71	24.53	1.31	0.70	0.79	0.18	2.00	0.70	3.10
W9315	N17	11-03-93	1528	20.1	W93150246	9.69	31.83	8.75	94	34.71	24.53	1.19	0.68	0.95	0.19	2.15	0.74	3.28
W9315	N17	11-03-93	1527	30.14	W93150245	9.59	31.87	8.45	91	34.66	24.58	0.81	0.68	1.25	0.21	2.69	0.80	3.94
W9315	N17	11-03-93	1526	36.79	W93150244	9.55	31.88	8.38	90	34.64	24.59	0.79	0.69	1.23	0.22	2.79	0.80	4.20
W9315	N18	11-03-93	1558	1.96	W93150259	9.41	31.82	8.83	95	34.44	24.56	1.41	0.87	1.27	0.25	2.68	0.87	4.30
W9315	N18	11-03-93	1557	6.98	W93150258	9.40	31.82	8.83	95	34.45	24.56	1.38	0.83	1.24	0.25	2.68	0.88	4.29
W9315	N18	11-03-93	1556	13.91	W93150257	9.40	31.82	8.81	94	34.45	24.57	1.34	0.83	1.24	0.24	2.69	0.87	4.32
W9315	N18	11-03-93	1555	18.98	W93150256	9.40	31.82	8.77	94	34.45	24.57	1.30	0.83	1.36	0.25	2.70	0.86	4.22
W9315	N18	11-03-93	1555	24.28	W93150255	9.37	31.83	8.71	93	34.43	24.58	1.22	0.81	1.49	0.26	2.76	0.88	4.27
W9315	N19	11-03-93	1254	1.23	W93150181	9.40	31.82	8.83	95	34.44	24.57	1.36	0.96	1.37	0.26	2.60	0.88	4.17
W9315	N19	11-03-93	1253	6.11	W93150180	9.40	31.82	8.81	94	34.44	24.57	1.38	0.88	1.34	0.25	2.62	0.88	4.22
W9315	N19	11-03-93	1252	11.82	W93150179	9.40	31.82	8.81	94	34.45	24.57	1.54	0.88	1.34	0.25	2.62	0.88	4.21
W9315	N19	11-03-93	1251	19.31	W93150178	9.39	31.82	8.76	94	34.44	24.57	1.33	0.86	1.37	0.25	2.61	0.87	4.12
W9315	N19	11-03-93	1250	24.51	W93150177	9.37	31.82	8.70	93	34.42	24.57	1.16	0.84	1.45	0.25	2.63	0.87	4.16
W9315	N20P	11-03-93	1319	1.98	W93150193	9.42	31.84	8.83	95	34.47	24.58	1.51	1.02	1.66	0.26	2.59	0.90	4.04
W9315	N20P	11-03-93	1318	7.66	W93150192	9.42	31.84	8.83	95	34.48	24.58	1.41	0.87	1.63	0.26	2.52	0.87	3.91
W9315	N20P	11-03-93	1317	14.62	W93150191	9.42	31.84	8.82	95	34.48	24.58	1.39	0.85	1.59	0.26	2.57	0.89	3.95
W9315	N20P	11-03-93	1316	22.17	W93150190	9.42	31.84	8.81	94	34.49	24.58	1.28	0.83	1.44	0.25	2.45	0.86	3.79
W9315	N20P	11-03-93	1315	30.63	W93150189	9.45	31.85	8.77	94	34.53	24.59	1.15	0.80	1.22	0.23	2.30	0.81	3.62
W9315	N21	11-03-93	1621	1.23	W93150270	9.41	31.84	8.82	94	34.47	24.58	1.29	0.79	1.50	0.25	2.57	0.88	3.92
W9315	N21	11-03-93	1620	7.2	W93150269	9.42	31.84	8.82	95	34.47	24.58	1.24	0.80	1.56	0.26	2.54	0.86	3.91
W9315	N21	11-03-93	1619	15.63	W93150268	9.42	31.84	8.81	94	34.48	24.58	1.28	0.80	1.53	0.26	2.56	0.87	3.97
W9315	N21	11-03-93	1618	23.6	W93150267	9.41	31.84	8.80	94	34.48	24.58	1.23	0.81	1.54	0.26	2.57	0.88	3.97
W9315	N21	11-03-93	1617	31.32	W93150266	9.41	31.84	8.78	94	34.48	24.58	1.28	0.80	1.57	0.26	2.56	0.87	3.91
W9316	N01P	12-01-93	920	2.7	W93160064	7.48	31.87	8.88	91	32.84	24.89	0.91	1.02	2.81	0.62	7.81	1.24	11.63
W9316	N01P	12-01-93	919	5.91	W93160063	7.49	31.87	8.87	91	32.84	24.89	1.11	0.97	2.74	0.61	7.96	1.25	11.93
W9316	N01P	12-01-93	918	10.28	W93160062	7.48	31.87	8.87	91	32.84	24.89	1.12	0.97	2.82	0.62	7.96	1.25	11.95
W9316	N01P	12-01-93	917	19.27	W93160061	7.49	31.87	8.85	91	32.85	24.89	1.00	0.98	2.82	0.61	7.97	1.26	11.82
W9316	N01P	12-01-93	915	26.89	W93160060	7.48	31.87	8.81	90	32.85	24.89	1.02	0.96	2.80	0.61	7.97	1.25	11.86
W9316	N02	12-01-93	1001	2.28	W93160075	7.61	31.87	8.84	91	32.96	24.87	0.83	0.95	2.67	0.63	7.92	1.24	11.95
W9316	N02	12-01-93	1001	7.38	W93160074	7.61	31.88	8.81	91	32.95	24.88	1.09	0.93	2.70	0.64	7.93	1.26	11.75
W9316	N02	12-01-93	959	15.15	W93160073	7.62	31.88	8.80	91	32.97	24.88	0.99	0.95	2.68	0.63	7.88	1.24	11.68
W9316	N02	12-01-93	959	24.12	W93160072	7.63	31.88	8.76	90	32.99	24.88	0.95	0.92	2.53	0.63	7.82	1.23	11.65
W9316	N02	12-01-93	957	36.94	W93160071	8.03	32.05	7.76	81	33.49	24.95	0.62	1.09	1.16	0.46	8.56	1.19	13.09
W9316	N03	12-01-93	1035	1.72	W93160090	7.99	31.95	9.03	94	33.35	24.88	0.73	0.77	0.73	0.63	5.85	0.97	8.08
W9316	N03	12-01-93	1034	5.54	W93160089	7.99	31.95	9.02	94	33.34	24.88	0.92	0.76	0.69	0.63	6.04	0.99	8.30
W9316	N03	12-01-93	1033	8.89	W93160088	7.98	31.94	9.02	94	33.34	24.88	1.12	0.77	0.68	0.64	6.02	0.99	8.29
W9316	N03	12-01-93	1032	32.45	W93160087	8.01	31.96	8.68	90	33.39	24.89	0.91	0.75	0.75	0.62	6.51	1.04	9.02
W9316	N03	12-01-93	1030	42.35	W93160086	8.11	32.11	7.66	80	33.62	24.99	0.58	0.92	0.52	0.40	8.72	1.18	13.05
W9316	N04P	12-01-93	1123	2.56	W93160103	7.97	31.94	9.01	93	33.32	24.87	0.87	0.86	0.71	0.57	5.92	1.01	8.38
W9316	N04P	12-01-93	1120	6.84	W93160102	8.01	31.94	9.03	94	33.36	24.87	1.18	0.82	0.54	0.54	5.51	0.96	7.75
W9316	N04P	12-01-93	1119	9.66	W93160101	8.04	31.95	9.01	94	33.40	24.87	1.33	0.82	0.56	0.53	5.49	0.96	7.67
W9316	N04P	12-01-93	1117	43.25	W93160100	8.01	32.18	7.34	76	33.60	25.06	0.54	0.90	0.37	0.32	9.03	1.17	13.24

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)
W9316	N04P	12-01-93	1115	50.21	W93160099	7.75	32.29	7.57	78	33.48	25.18	0.47	1.08	0.20	0.22	9.69	1.18	13.87
W9316	N05	12-01-93	1203	2.65	W93160114	8.22	31.99	9.13	95	33.58	24.88	0.95	0.79	0.11	0.47	4.59	0.86	7.09
W9316	N05	12-01-93	1203	7.49	W93160113	8.21	31.99	9.12	95	33.58	24.88	1.36	0.78	0.06	0.47	4.68	0.89	7.19
W9316	N05	12-01-93	1202	15.01	W93160112	8.21	31.99	9.05	94	33.58	24.88	1.16	0.77	0.08	0.48	4.72	0.90	7.33
W9316	N05	12-01-93	1200	43.79	W93160111	8.03	32.17	7.36	77	33.61	25.05	0.67	1.10	0.00	0.26	8.64	1.18	14.15
W9316	N05	12-01-93	1158	47.58	W93160110	7.92	32.25	7.32	76	33.59	25.13	0.50	1.19	0.00	0.23	9.35	1.21	14.81
W9316	N06	12-01-93	1233	2.34	W93160127	8.29	31.99	9.25	97	33.64	24.87	1.03	0.81	0.09	0.45	4.22	0.81	6.44
W9316	N06	12-01-93	1232	10.77	W93160126	8.27	31.99	9.26	97	33.63	24.87	1.48	0.78	0.02	0.43	4.20	0.81	6.41
W9316	N06	12-01-93	1231	20.62	W93160125	8.25	31.99	9.26	97	33.62	24.88	1.35	0.77	0.04	0.45	4.25	0.82	6.42
W9316	N06	12-01-93	1230	42.97	W93160124	8.24	32.00	9.01	94	33.63	24.89	1.13	0.75	0.02	0.46	4.58	0.85	6.79
W9316	N06	12-01-93	1228	48.05	W93160123	7.88	32.27	7.33	76	33.57	25.15	0.54	2.25	0.00	0.18	9.72	1.21	16.04
W9316	N07P	12-01-93	1305	2.51	W93160138	8.33	32.00	9.15	96	33.69	24.87	1.05	0.83	0.01	0.49	4.43	0.79	6.71
W9316	N07P	12-01-93	1304	9.67	W93160137	8.32	32.01	9.16	96	33.69	24.88	1.21	0.76	0.00	0.48	4.50	0.80	6.75
W9316	N07P	12-01-93	1302	19.91	W93160136	8.31	32.01	9.10	95	33.68	24.88	1.12	0.75	0.00	0.49	4.42	0.81	6.87
W9316	N07P	12-01-93	1300	44.8	W93160135	8.16	32.10	7.55	79	33.66	24.98	0.84	1.00	0.10	0.36	6.63	0.99	11.64
W9316	N07P	12-01-93	1259	46.64	W93160134	8.06	32.18	6.94	72	33.64	25.05	0.64	1.63	0.14	0.24	9.35	1.20	17.74
W9316	N08	12-01-93	1346	2.09	W93160149	8.28	31.98	9.22	96	33.62	24.86	1.49	0.89	0.11	0.39	3.95	0.81	6.49
W9316	N08	12-01-93	1346	7.14	W93160148	8.27	31.97	9.19	96	33.61	24.86	1.76	0.86	0.07	0.37	3.95	0.80	6.52
W9316	N08	12-01-93	1345	14.95	W93160147	8.25	31.97	9.12	95	33.60	24.86	1.62	0.85	0.17	0.38	4.01	0.80	6.50
W9316	N08	12-01-93	1344	20.75	W93160146	8.23	31.98	9.11	95	33.59	24.87	1.55	0.83	0.07	0.38	3.99	0.79	6.30
W9316	N08	12-01-93	1343	27.47	W93160145	8.22	31.99	8.97	94	33.59	24.88	1.44	0.84	0.09	0.38	4.07	0.79	6.46
W9316	N09	12-01-93	1416	2.96	W93160160	7.70	31.89	8.90	92	33.05	24.87	1.14	0.94	1.43	0.62	7.22	1.16	12.19
W9316	N09	12-01-93	1415	7.63	W93160159	7.70	31.89	8.87	91	33.05	24.88	1.01	0.93	1.39	0.62	7.29	1.16	12.28
W9316	N09	12-01-93	1414	17.55	W93160158	7.71	31.90	8.84	91	33.07	24.88	0.98	1.08	1.37	0.61	7.29	1.16	12.44
W9316	N09	12-01-93	1413	27.95	W93160157	7.72	31.90	8.79	91	33.08	24.88	0.97	1.02	1.38	0.60	7.32	1.17	12.57
W9316	N09	12-01-93	1412	32.47	W93160156	7.74	31.90	8.73	90	33.11	24.88	0.94	1.28	1.47	0.58	7.23	1.13	12.46
W9316	N10P	12-01-93	742	2.68	W93160027	6.89	31.31	9.00	91	31.83	24.53	0.94	1.58	12.44	0.92	9.06	1.75	13.94
W9316	N10P	12-01-93	740	5.67	W93160026	6.88	31.31	8.95	90	31.81	24.53	0.89	1.42	12.25	0.90	9.08	1.76	13.86
W9316	N10P	12-01-93	739	9.68	W93160025	7.04	31.41	8.93	90	32.04	24.59	0.88	1.35	8.16	0.78	8.57	1.56	13.35
W9316	N10P	12-01-93	738	14.19	W93160024	7.35	31.68	8.94	91	32.55	24.76	0.97	1.10	5.34	0.71	7.86	1.41	12.69
W9316	N10P	12-01-93	737	20.63	W93160023	7.49	31.74	8.83	90	32.73	24.79	0.98	1.06	3.91	0.67	7.46	1.33	12.31
W9316	N11	12-01-93	822	3	W93160042	7.52	31.77	8.88	91	32.78	24.81	0.86	1.10	3.74	0.65	7.42	1.28	12.44
W9316	N11	12-01-93	821	7.59	W93160041	7.50	31.77	8.86	91	32.76	24.81	1.02	1.03	3.72	0.66	7.53	1.29	12.52
W9316	N11	12-01-93	820	12.71	W93160040	7.49	31.78	8.84	91	32.77	24.81	0.94	1.03	3.51	0.66	7.47	1.29	12.53
W9316	N11	12-01-93	819	17.92	W93160039	7.55	31.79	8.81	90	32.83	24.82	0.97	1.02	3.21	0.65	7.35	1.26	12.35
W9316	N11	12-01-93	818	23.54	W93160038	7.57	31.80	8.80	90	32.86	24.83	0.95	1.00	3.04	0.64	7.40	1.27	12.29
W9316	N12	12-01-93	850	1.71	W93160053	7.48	31.79	8.95	92	32.76	24.83	0.77	1.07	3.75	0.66	7.31	1.26	12.22
W9316	N12	12-01-93	850	5.4	W93160052	7.48	31.79	8.93	92	32.77	24.83	1.01	1.04	3.68	0.64	7.22	1.25	12.02
W9316	N12	12-01-93	849	9.38	W93160051	7.48	31.79	8.86	91	32.77	24.83	0.95	1.06	3.69	0.65	7.33	1.27	12.24
W9316	N12	12-01-93	848	14.71	W93160050	7.48	31.79	8.88	91	32.77	24.83	0.90	1.06	3.67	0.65	7.34	1.27	12.25
W9316	N12	12-01-93	847	18.97	W93160049	7.49	31.79	8.84	91	32.78	24.83	0.81	1.06	3.70	0.64	7.29	1.26	12.16
W9316	N13	12-01-93	1537	1.53	W93160193	7.53	31.82	8.96	92	32.83	24.84	1.03	0.96	3.44	0.63	7.40	1.29	12.46
W9316	N13	12-01-93	1536	4.74	W93160192	7.54	31.82	8.92	92	32.84	24.84	1.03	0.93	3.49	0.63	7.54	1.30	12.57
W9316	N13	12-01-93	1536	11.1	W93160191	7.52	31.82	8.88	91	32.83	24.84	1.02	0.93	3.36	0.63	7.56	1.30	12.57
W9316	N13	12-01-93	1535	16.19	W93160190	7.52	31.82	8.85	91	32.83	24.85	0.92	0.90	3.27	0.63	7.55	1.30	12.56
W9316	N13	12-01-93	1534	26.89	W93160189	7.52	31.84	8.78	90	32.85	24.86	0.90	1.18	3.21	0.62	7.50	1.28	12.57
W9316	N14	12-01-93	1601	1.45	W93160204	7.75	31.90	8.86	91	33.10	24.88	1.03	0.86	1.61	0.61	7.97	1.10	11.77
W9316	N14	12-01-93	1600	6.69	W93160203	7.76	31.90	8.81	91	33.11	24.88	1.00	0.83	1.52	0.62	7.94	1.10	11.77

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

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Temp (C)	Sal (PSU)	DO (mg/L)	Oxy Sat (%)	Cond (mmhos/cm)	Sigma t	Flu (ug/L)	Beam (1/M)	NH4 (uM)	NO2 (uM)	NO3 (uM)	PO4 (uM)	SIO4 (uM)
W9316	N14	12-01-93	1559	13.7	W93160202	7.77	31.90	8.84	91	33.12	24.88	1.05	0.83	1.51	0.61	7.94	1.11	11.60
W9316	N14	12-01-93	1558	21.83	W93160201	7.87	31.93	8.85	92	33.24	24.88	1.04	0.79	0.92	0.62	6.49	1.05	10.90
W9316	N14	12-01-93	1557	29.43	W93160200	7.88	31.94	8.78	91	33.26	24.89	0.99	0.78	0.95	0.63	6.51	1.06	10.90
W9316	N15	12-01-93	1627	1.96	W93160215	7.95	31.93	9.03	94	33.29	24.87	1.21	0.86	0.70	0.67	6.11	0.93	9.08
W9316	N15	12-01-93	1626	8.77	W93160214	7.94	31.93	8.98	93	33.29	24.87	1.16	0.80	0.69	0.67	6.19	0.92	9.24
W9316	N15	12-01-93	1625	19.81	W93160213	7.95	31.93	8.82	91	33.30	24.87	1.07	0.78	0.64	0.66	6.16	0.92	9.15
W9316	N15	12-01-93	1625	29.14	W93160212	8.06	32.06	7.67	80	33.52	24.96	0.67	0.80	0.32	0.46	8.16	1.02	12.19
W9316	N15	12-01-93	1622	39.32	W93160211	8.05	32.19	6.99	73	33.64	25.06	0.54	0.96	0.02	0.26	9.46	1.06	14.04
W9316	N16P	12-01-93	1652	1.43	W93160226	7.74	31.90	8.93	92	33.09	24.88	1.08	0.95	1.41	0.70	7.18	1.05	10.87
W9316	N16P	12-01-93	1651	9.28	W93160225	7.75	31.90	8.87	92	33.10	24.88	1.13	0.83	1.52	0.66	7.20	1.07	10.89
W9316	N16P	12-01-93	1651	19.08	W93160224	7.76	31.90	8.81	91	33.11	24.88	1.09	0.82	1.45	0.66	7.11	1.06	10.77
W9316	N16P	12-01-93	1650	34.02	W93160223	7.84	31.93	8.63	89	33.21	24.88	1.01	0.79	1.17	0.66	7.09	1.03	10.68
W9316	N16P	12-01-93	1649	39.2	W93160222	7.96	32.09	7.61	79	33.47	24.99	0.70	0.90	0.71	0.47	8.31	1.08	12.71
W9316	N17	12-01-93	1723	1.67	W93160237	8.04	31.95	9.13	95	33.39	24.87	1.61	0.89	0.47	0.45	4.77	0.82	7.18
W9316	N17	12-01-93	1722	6.35	W93160236	8.05	31.95	9.07	94	33.40	24.87	1.65	0.88	0.54	0.46	4.99	0.84	7.57
W9316	N17	12-01-93	1721	13.96	W93160235	7.98	31.93	8.97	93	33.33	24.87	1.51	0.87	0.78	0.49	5.36	0.89	8.17
W9316	N17	12-01-93	1720	24.53	W93160234	7.87	31.91	8.85	92	33.22	24.87	1.31	0.85	1.14	0.56	6.17	0.97	9.37
W9316	N17	12-01-93	1719	34.78	W93160233	7.89	31.91	8.62	89	33.24	24.87	1.24	0.84	1.04	0.54	6.16	0.97	9.37
W9316	N18	12-01-93	1748	1.52	W93160248	7.61	31.86	8.89	91	32.94	24.87	1.06	0.86	2.30	0.65	7.32	1.11	11.09
W9316	N18	12-01-93	1747	4.1	W93160247	7.62	31.86	8.87	91	32.95	24.87	1.12	0.86	2.23	0.65	7.39	1.12	11.18
W9316	N18	12-01-93	1747	9.04	W93160246	7.62	31.86	8.86	91	32.95	24.87	1.12	0.86	2.19	0.65	7.35	1.12	11.13
W9316	N18	12-01-93	1746	14.18	W93160245	7.62	31.86	8.84	91	32.96	24.87	1.10	0.85	2.22	0.65	7.41	1.12	11.15
W9316	N18	12-01-93	1745	20.19	W93160244	7.64	31.87	8.78	90	32.98	24.87	1.09	0.85	2.12	0.65	7.41	1.12	11.15
W9316	N19	12-01-93	1446	1.71	W93160171	7.66	31.85	8.96	92	32.97	24.85	1.06	1.03	2.51	0.68	7.37	1.09	11.04
W9316	N19	12-01-93	1445	5.12	W93160170	7.65	31.85	8.94	92	32.97	24.85	1.09	0.87	2.50	0.67	7.43	1.09	11.17
W9316	N19	12-01-93	1445	10.9	W93160169	7.65	31.86	8.85	91	32.98	24.86	1.03	0.88	2.35	0.66	7.45	1.10	11.20
W9316	N19	12-01-93	1444	17.77	W93160168	7.67	31.87	8.77	90	33.01	24.86	0.93	0.89	2.12	0.65	7.53	1.09	11.43
W9316	N19	12-01-93	1443	24.23	W93160167	7.69	31.88	8.74	90	33.03	24.87	0.90	0.88	2.01	0.67	7.40	1.01	11.26
W9316	N20P	12-01-93	1509	1.66	W93160182	7.66	31.84	8.99	93	32.96	24.84	0.95	1.01	2.87	0.69	7.37	1.08	11.01
W9316	N20P	12-01-93	1508	6.82	W93160181	7.65	31.84	8.96	92	32.95	24.84	0.98	0.89	2.86	0.68	7.42	1.10	11.06
W9316	N20P	12-01-93	1507	15.53	W93160180	7.65	31.84	8.94	92	32.95	24.84	0.93	0.89	2.85	0.68	7.44	1.11	11.06
W9316	N20P	12-01-93	1507	22.4	W93160179	7.64	31.84	8.94	92	32.96	24.84	0.92	0.93	2.80	0.68	7.44	1.11	11.12
W9316	N20P	12-01-93	1506	28.73	W93160178	7.64	31.84	8.90	92	32.96	24.84	0.87	0.91	2.80	0.67	7.46	1.11	11.19
W9316	N21	12-01-93	1812	1.49	W93160259	7.66	31.85	8.96	92	32.97	24.85	1.05	0.86	2.63	0.67	7.47	1.05	11.04
W9316	N21	12-01-93	1811	6.2	W93160258	7.65	31.86	8.95	92	32.97	24.85	1.06	0.85	2.63	0.68	7.49	1.07	11.07
W9316	N21	12-01-93	1810	13.49	W93160257	7.66	31.86	8.90	92	32.98	24.85	1.07	0.85	2.63	0.68	7.49	1.07	11.11
W9316	N21	12-01-93	1809	23.77	W93160256	7.67	31.86	8.88	91	33.00	24.86	1.06	0.84	2.57	0.68	7.47	1.08	11.07
W9316	N21	12-01-93	1808	31.18	W93160255	7.71	31.88	8.80	91	33.05	24.87	0.97	0.81	2.31	0.68	7.40	1.06	11.02

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

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Rep	Chl A (ug/L)	DOC (uM)	PHA (ug/L)	PON (uM)	POC (uM)	TDN (uM)	TDP (uM)	TSS (mg/L)
W9314	F01P	10-14-93	902	6.83	W93140391	1	4.84	90.83	1.21	1.71	7.04	7.03	0.44	2.36
W9314	F01P	10-14-93	902	6.83	W93140391	2	4.08	90.83	1.42	2.16	9.97	7.37	0.82	1.83
W9314	F01P	10-14-93	903	2.35	W93140392	1	4.58	97.50	1.54	2.20	9.88	7.89	0.42	1.25
W9314	F01P	10-14-93	903	2.35	W93140392	2	4.64	92.50	1.15	2.24	9.95	7.60	0.53	0.06
W9314	F02P	10-14-93	739	13.54	W93140374	1	5.38	105.00	1.51	2.58	14.89	7.33	0.27	1.72
W9314	F02P	10-14-93	739	13.54	W93140374	2	5.01	107.50	1.81	2.22	13.13	7.38	0.31	1.52
W9314	F02P	10-14-93	740	2.29	W93140376	1	5.41	95.00	1.57	2.67	14.39	6.32	0.29	2.25
W9314	F02P	10-14-93	740	2.29	W93140376	2	5.05	90.83	1.80	2.53	16.20	7.03	0.27	2.88
W9314	F13P	10-13-93	923	11.09	W93140271	1	11.50	88.33	2.36	3.59	20.78	6.97	0.53	3.83
W9314	F13P	10-13-93	923	11.09	W93140271	2	11.06	80.00	2.27	4.27	24.44	8.36	0.87	3.80
W9314	F13P	10-13-93	925	1.59	W93140273	1	11.20	170.83	3.96	4.40	25.83	6.15	0.55	4.30
W9314	F13P	10-13-93	925	1.59	W93140273	2	11.81	175.00	2.98	3.60	20.15	8.04	0.74	3.49
W9314	F23P	10-15-93	542	10.93	W93140473	1	4.82	96.67	2.86	4.92	26.02	15.44	1.13	5.85
W9314	F23P	10-15-93	542	10.93	W93140473	2	4.98	84.17	3.30	4.50	28.45	15.08	1.17	5.27
W9314	F23P	10-15-93	543	2.34	W93140475	1	4.60	97.50	2.98	3.55	23.91	15.25	1.28	4.98
W9314	F23P	10-15-93	543	2.34	W93140475	2	5.04	90.83	2.56	3.74	24.31	15.52	1.26	5.57
W9314	F25	10-14-93	1443	5.53	W93140458	1	7.06	84.17	3.23	5.71	32.71	15.31	1.57	5.56
W9314	F25	10-14-93	1443	5.53	W93140458	2	7.66	87.50	3.63	4.47	32.19	14.96	1.23	6.08
W9314	F25	10-14-93	1444	1.15	W93140460	1	7.82	100.83	3.46	5.15	29.62	14.40	1.15	5.77
W9314	F25	10-14-93	1444	1.15	W93140460	2	6.88	110.00	4.05	4.96	28.52	14.50	1.30	5.54
W9314	N01P	10-13-93	526	13.32	W93140227	1	13.65	94.17	2.25	3.71	20.83	6.39	0.34	2.84
W9314	N01P	10-13-93	526	13.32	W93140227	2	13.17	91.67	1.96	3.80	28.94	6.57	0.39	2.17
W9314	N01P	10-13-93	528	0.88	W93140229	1	12.42	99.17	2.00	4.15	25.90	5.63	0.32	2.34
W9314	N01P	10-13-93	528	0.88	W93140229	2	11.82	85.00	2.24	4.08	30.07	6.47	0.31	2.69
W9314	N04P	10-13-93	643	11.92	W93140240	1	6.83	80.83	6.49	4.35	31.02	6.27	0.21	1.50
W9314	N04P	10-13-93	643	11.92	W93140240	2	9.16	82.50	2.07	4.34	30.84	7.03	0.29	1.56
W9314	N04P	10-13-93	644	2.5	W93140241	1	9.20	97.50	1.52	4.56	30.84	6.75	0.23	1.72
W9314	N04P	10-13-93	644	2.5	W93140241	2	9.07	95.83	2.67	3.00	19.19	6.56	0.26	2.29
W9314	N07P	10-13-93	803	8.7	W93140256	1	5.15	93.33	2.22	2.49	15.92	7.18	0.20	1.99
W9314	N07P	10-13-93	803	8.7	W93140256	2	3.53	91.67	5.16	2.66	17.82	7.07	0.20	3.91

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

Event	Station	Date	Time (EST)	Depth (M)	Sample id	Rep	Chl A (ug/L)	DOC (uM)	PHA (ug/L)	PON (uM)	POC (uM)	TDN (uM)	TDP (uM)	TSS (mg/L)
W9314	N07P	10-13-93	804	2.14	W93140257	1	6.14	95.83	1.26	e	e	7.10	0.21	2.62
W9314	N07P	10-13-93	804	2.14	W93140257	2	5.91	96.67	1.21	2.65	13.79	6.16	0.18	2.26
W9314	N10P	10-12-93	900	8.96	W93140059	1	16.01	89.17	0.66	4.17	25.26	7.89	0.66	2.55
W9314	N10P	10-12-93	900	8.96	W93140059	2	16.01	92.50	1.53	4.11	28.31	7.76	0.70	2.83
W9314	N10P	10-12-93	902	1.05	W93140061	1	e	101.67	e	3.96	23.02	8.85	0.66	2.78
W9314	N10P	10-12-93	902	1.05	W93140061	2	16.95	97.50	0.38	4.08	24.22	8.19	0.68	8.49
W9314	N16P	10-12-93	802	19.21	W93140043	1	12.37	82.50	2.19	3.19	18.95	7.56	0.52	2.10
W9314	N16P	10-12-93	802	19.21	W93140043	2	12.53	85.83	1.51	3.29	19.13	7.83	0.51	1.84
W9314	N16P	10-12-93	803	1.16	W93140045	1	7.79	84.17	1.41	2.87	21.05	5.09	0.20	1.19
W9314	N16P	10-12-93	803	1.16	W93140045	2	5.85	82.50	1.38	2.85	19.29	5.99	0.20	1.59
W9314	N20P	10-12-93	710	16.66	W93140029	1	20.37	81.67	2.43	6.22	39.54	6.60	0.35	2.95
W9314	N20P	10-12-93	710	16.66	W93140029	2	20.37	80.83	1.55	5.28	34.93	7.05	0.35	2.74
W9314	N20P	10-12-93	712	1.45	W93140031	1	17.18	87.50	1.73	4.60	28.70	5.73	0.26	2.76
W9314	N20P	10-12-93	712	1.45	W93140031	2	18.34	82.50	1.66	5.30	32.59	5.95	0.26	3.24

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:

W9314 = October 1993 combined survey
W9315 = November 1993 nearfield survey
W9316 = December 1993 nearfield survey.

Survey W9314 Chlorophyll Calibration

MARKER	STATION	DEPTH	BOTTLE_Chla	CTD_Chla	Predic_Chla	Residual
29	N20P	16.66	20.37	8.94	20.52	-0.15
31	N20P	1.45	17.76	8.73	20.04	-2.28
43	N16P	19.21	12.45	5.23	12.00	0.45
45	N16P	1.16	6.82	4.86	11.16	-4.34
59	N10P	8.96	16.01	6.64	15.24	0.77
61	N10P	1.05	17.67	6.29	14.44	3.22
227	N01P	13.32	13.41	7.69	17.65	-4.24
229	N01P	0.88	12.12	6.03	13.84	-1.72
240	N04P	11.92	8.00	5.51	12.65	-4.66
241	N04P	2.50	9.14	5.97	13.70	-4.57
256	N07P	8.70	4.34	4.91	11.27	-6.93
257	N07P	2.14	6.03	3.15	7.22	-1.20
271	F13P	11.09	11.28	5.72	13.12	-1.84
273	F13P	1.59	11.51	4.91	11.26	0.25
374	F02P	13.54	5.20	3.81	8.74	-3.54
376	F02P	2.29	5.23	2.82	6.48	-1.25
391	F01P	6.83	4.46	3.59	8.25	-3.79
392	F01P	2.35	4.61	1.50	3.44	1.17
458	F25	5.53	7.36	3.14	7.21	0.15
460	F25	1.15	7.35	3.11	7.13	0.22
473	F23P	10.93	4.90	2.04	4.67	0.23
475	F23P	2.34	4.82	1.86	4.27	0.55
490	N10P	20.46	10.69	3.59	8.25	2.44
492	N10P	8.95	9.10	3.32	7.62	1.47
494	N10P	1.47	6.36	2.57	5.89	0.47
* 546	N01P	29.38	29.21	8.69	19.96	9.25
548	N01P	13.85	5.65	3.39	7.78	-2.13
550	N01P	2.12	5.61	2.77	6.36	-0.75
587	N04P	46.17	7.42	4.04	9.26	-1.84
589	N04P	19.91	7.54	3.90	8.95	-1.41
591	N04P	2.32	3.35	2.46	5.64	-2.29
628	N07P	44.31	3.13	1.96	4.49	-1.37
630	N07P	20.07	5.68	3.43	7.86	-2.18
632	N07P	2.16	3.83	2.54	5.84	-2.01

Regression Statistics

Multiple R	0.76616633
R Square	0.587010845
Adjusted R Square	0.556707815
Standard Error	1.318335798
Observations	34

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	81.52175269	81.52175269	46.90524602	9.53416E-08
Residual	33	57.35430612	1.738009276		
Total	34	138.8760588			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	0.435704821	0.021182402	20.56918839	9.20271E-21	0.392608865	0.478800776

Standard Deviation of Residual

2.852

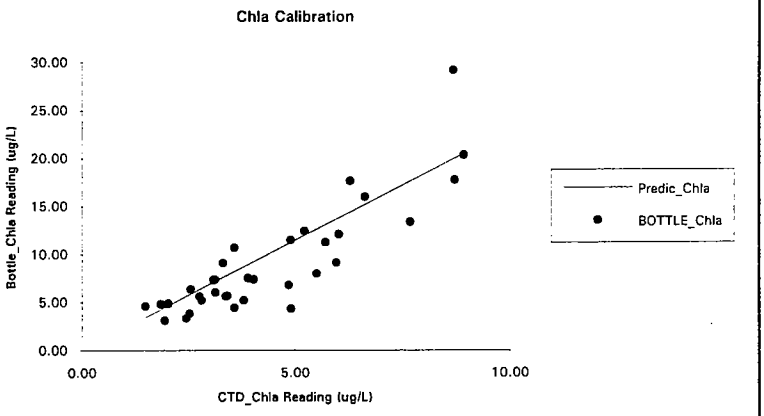
Regression Statistics

Multiple R	0.867513965
R Square	0.752580479
Adjusted R Square	0.744848619
Standard Error	1.036228859
Observations	34

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	104.5154109	104.5154109	97.33498498	3.1516E-11
Residual	32	34.36064791	1.073770247		
Total	33	138.8760588			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	1.559695993	0.337047883	4.627520514	5.50434E-05	0.873152503	2.246239483
x1	0.311540642	0.031577681	9.86584943	2.26802E-11	0.247219066	0.375862217



* Replicate values at station N01P for the deep bottle sample were 26.79 and 31.62 $\mu g\ L^{-1}$. The higher concentration was noted by the URI laboratory to be suspect. However, the value has been included and provides a more conservative 95% confidence interval.

Survey W9315 Chlorophyll a Calibration

MARKER	STATION	DEPTH	BOTTLE_Chla	CTD_CHLA	Predic_Chla	Residual
22	N10P	20.95	0.80	0.76	0.97	-0.17
24	N10P	8.18	0.98	0.84	1.07	-0.09
26	N10P	2.38	0.85	0.81	1.03	-0.17
66	N01P	27.21	1.14	0.90	1.15	-0.01
68	N01P	8.30	1.10	1.02	1.30	-0.20
70	N01P	1.49	1.33	0.86	1.10	0.23
103	N04P	47.35	0.27	0.48	0.61	-0.34
105	N04P	11.20	1.27	1.08	1.38	-0.11
107	N04P	1.42	1.30	0.80	1.02	0.29
138	N07P	47.05	0.21	0.48	0.61	-0.40
140	N07P	25.52	1.28	1.02	1.30	-0.02
142	N07P	1.28	1.46	1.00	1.27	0.19

Regression Statistics	
Multiple R	0.420563177
R Square	0.176873386
Adjusted R Square	0.085964295
Standard Error	0.177890418
Observations	12

Standard Deviation of Residual: 0.215

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	0.07479863	0.07479863	2.36367918	0.155205455
Residual	11	0.34809501	0.031645001		
Total	12	0.42289364			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	0.786261073	0.047925375	16.40594517	1.38938E-09	0.680777981	0.891744165

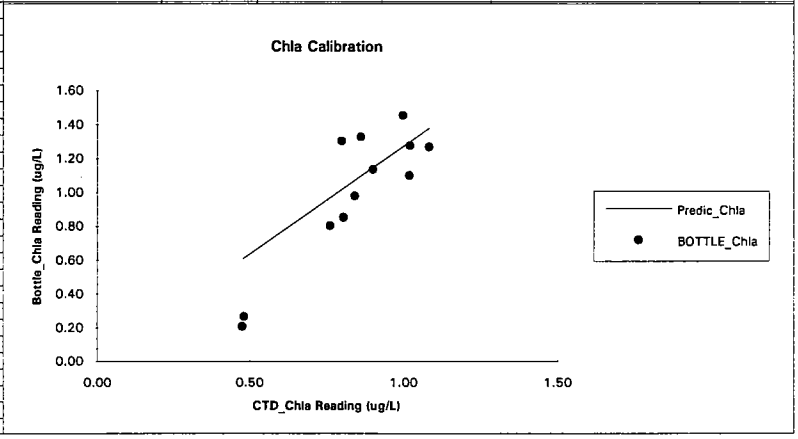
Regression Statistics

Multiple R	0.89149104
R Square	0.794756275
Adjusted R Square	0.774231902
Standard Error	0.093164514
Observations	12

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	0.336097374	0.336097374	38.7225614	9.84859E-05
Residual	10	0.086796266	0.008679627		
Total	11	0.42289364			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0.407719314	0.074309296	5.486787495	0.000189982	0.242147857	0.573290772
x1	0.431547663	0.069350042	6.222745487	6.50446E-05	0.277026113	0.586069213



Survey W9316 Chlorophyll a Calibration

MARKER	STATION	DEPTH	BOTTLE_Chla	CTD_CHLA	Predic_Chla	Residual
23	N10P	20.63	0.62	0.76	0.98	-0.36
25	N10P	9.68	0.68	0.68	0.88	-0.20
27	N10P	2.68	0.64	0.72	0.94	-0.30
60	N01P	26.89	0.99	0.79	1.02	-0.03
62	N01P	10.28	1.03	0.87	1.12	-0.09
64	N01P	2.70	1.18	0.70	0.91	0.27
99	N04P	50.21	0.16	0.36	0.47	-0.32
101	N04P	9.66	1.32	1.02	1.33	-0.01
103	N04P	2.56	1.15	0.67	0.87	0.28
134	N07P	46.64	0.51	0.50	0.64	-0.14
136	N07P	19.91	1.08	0.86	1.12	-0.03
138	N07P	2.51	1.22	0.81	1.05	0.17

Regression Statistics	
Multiple R	#NUM!
R Square	-0.021532874
Adjusted R Square	-0.112441965
Standard Error	0.174680109
Observations	12

Standard Deviation of Residual: 0.217

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	-0.007075046	-0.007075046	-0.231868811	#NUM!
Residual	11	0.335644546	0.030513141		
Total	12	0.3285695			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	0.771353098	0.053400104	14.4447864	5.97761E-09	0.653820201	0.888885994

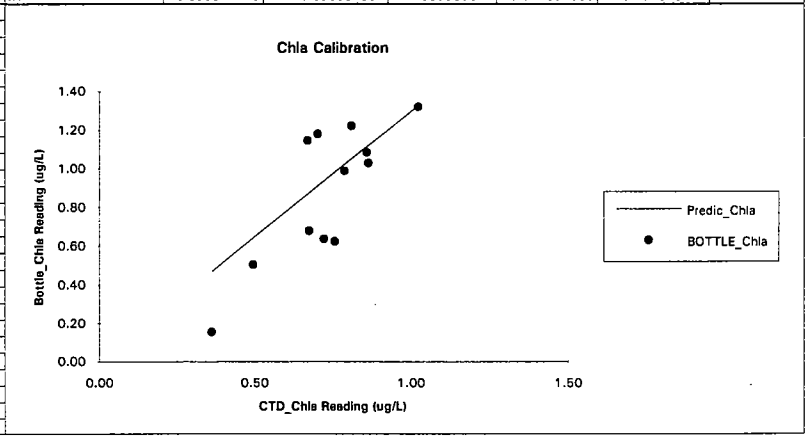
Regression Statistics

Multiple R	0.811017176
R Square	0.657748859
Adjusted R Square	0.623523745
Standard Error	0.106043994
Observations	12

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	0.216116214	0.216116214	19.21831019	0.001369101
Residual	10	0.112453286	0.011245329		
Total	11	0.3285695			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0.379891695	0.085272164	4.455049313	0.000970563	0.189893441	0.569889949
x1	0.395871426	0.090301831	4.383869317	0.001092065	0.194666373	0.597076478



Survey W9314 Dissolved Oxygen Calibration

MARKER	STATION	DEPTH	BOTTLE_DO	CTD_DO	Predic_DO	Residual
27	N20P	28.58	7.63	7.74	7.52	0.11
29	N20P	16.66	9.92	10.53	10.23	-0.31
31	N20P	1.45	10.43	11.07	10.75	-0.32
41	N16P	38.81	7.49	7.76	7.54	-0.06
43	N16P	19.21	8.79	9.17	8.91	-0.11
45	N16P	1.16	9.75	10.14	9.85	-0.10
57	N10P	21.43	7.53	7.79	7.57	-0.04
59	N10P	8.96	9.51	9.89	9.61	-0.10
61	N10P	1.05	9.55	9.90	9.62	-0.07
135	F19	72.38	7.66	8.10	7.87	-0.21
139	F19	15.80	7.91	9.92	9.64	-1.73
140	F19	1.95	9.62	10.03	9.75	-0.13
149	F22	69.80	7.85	8.32	8.08	-0.23
152	F22	15.30	9.44	9.62	9.35	0.09
153	F22	2.61	9.67	9.95	9.67	-0.01
224	N01P	27.53	9.85	9.36	9.10	0.75
227	N01P	13.32	10.37	10.71	10.41	-0.04
229	N01P	0.88	10.18	10.70	10.40	-0.22
237	N04P	45.37	7.75	7.94	7.72	0.03
240	N04P	11.92	10.04	10.13	9.84	0.20
241	N04P	2.50	10.01	10.20	9.91	0.10
253	N07P	42.25	7.67	7.80	7.58	0.09
256	N07P	8.70	9.35	9.46	9.19	0.16
257	N07P	2.14	9.39	9.58	9.31	0.08
269	F13P	23.35	9.02	8.96	8.71	0.31
271	F13P	11.09	9.14	9.40	9.14	0.00
273	F13P	1.59	9.24	9.47	9.21	0.04
283	F05	17.19	9.14	10.00	9.72	-0.58
286	F05	6.42	9.17	9.76	9.49	-0.32
292	F05	1.18	9.15	9.67	9.40	-0.25
338	F12	85.37	7.59	8.10	7.87	-0.29
341	F12	8.18	9.67	9.94	9.65	0.02
342	F12	2.63	9.77	10.12	9.84	-0.06
349	F04	55.79	7.66	7.89	7.67	-0.01
351	F04	19.42	8.96	9.04	8.79	0.17
353	F04	1.99	9.35	9.55	9.28	0.07
372	F02P	30.15	7.52	6.88	6.68	0.84
374	F02P	13.54	9.09	9.45	9.18	-0.09
376	F02P	2.29	9.09	9.47	9.21	-0.11
388	F01P	25.91	8.32	8.40	8.16	0.17
390	F01P	13.23	8.79	9.19	8.93	-0.14
392	F01P	2.35	8.92	9.20	8.94	-0.02
471	F23P	23.47	8.78	9.11	8.85	-0.08
473	F23P	10.93	8.74	8.95	8.69	0.05
475	F23P	2.34	8.69	8.87	8.62	0.08
490	N10P	20.46	9.10	9.17	8.91	0.19
491	N10P	13.98	9.09	9.19	8.93	0.16
492	N10P	8.95	9.06	9.19	8.93	0.13
493	N10P	4.20	9.02	9.11	8.85	0.17
494	N10P	1.47	8.92	9.05	8.80	0.12
546	N01P	29.38	7.80	7.97	7.75	0.05
547	N01P	20.47	8.94	9.10	8.84	0.09
548	N01P	13.85	10.21	10.35	10.05	0.15
549	N01P	5.04	10.39	10.60	10.30	0.09
550	N01P	2.12	10.39	10.67	10.37	0.02
587	N04P	46.17	7.59	7.77	7.55	0.04
588	N04P	33.27	7.75	7.90	7.68	0.08
589	N04P	19.91	9.22	9.30	9.04	0.18
590	N04P	9.47	9.97	10.11	9.83	0.14
591	N04P	2.32	10.06	10.26	9.97	0.10
628	N07P	44.31	7.22	7.47	7.26	-0.04
629	N07P	32.51	7.46	7.61	7.39	0.07
630	N07P	20.07	8.67	8.80	8.55	0.12
631	N07P	9.21	9.55	9.61	9.34	0.21
632	N07P	2.16	9.56	9.74	9.47	0.10
677	N20P	28.45	8.34	8.64	8.39	-0.05
678	N20P	21.53	8.93	9.33	9.06	-0.13
679	N20P	15.53	10.43	10.67	10.37	0.07
680	N20P	7.31	10.63	10.94	10.63	0.00
681	N20P	2.06	10.65	11.09	10.78	-0.13
727	N16P	36.56	7.63	7.79	7.57	0.06
728	N16P	26.82	7.73	7.94	7.71	0.02
729	N16P	17.08	8.96	9.31	9.04	-0.08
730	N16P	7.30	10.29	10.41	10.11	0.18
731	N16P	2.20	9.98	10.23	9.94	0.04

Regression Statistics

Multiple R	0.955640728
R Square	0.913249201
Adjusted R Square	0.899735687
Standard Error	0.292784105
Observations	75

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	66.77940236	66.77940236	779.018077	1.09045E-40
Residual	74	6.343467399	0.085722532		
Total	75	73.12286976			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	1.02911219	0.003726929	276.128704	1.5087E-114	1.02168612	1.03653826

Regression Statistics

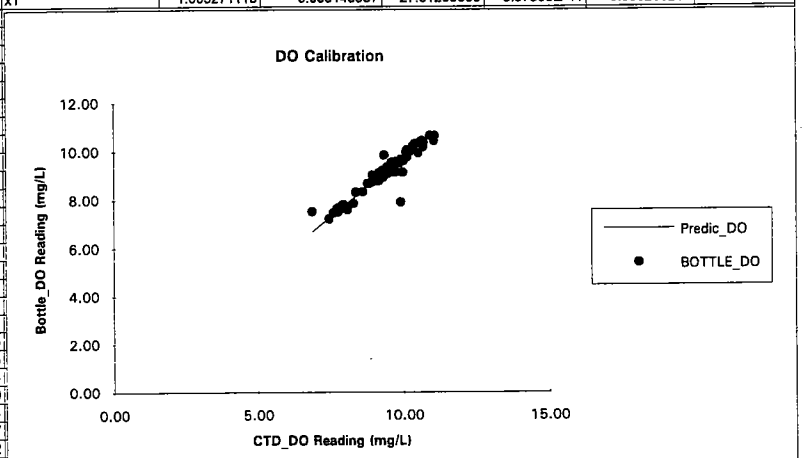
Multiple R	0.955912505
R Square	0.913768717
Adjusted R Square	0.912587467
Standard Error	0.29389866
Observations	75

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	66.81739091	66.81739091	773.5605264	1.3791E-40
Residual	73	6.305478848	0.086376423		
Total	74	73.12286976			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0.21743553	0.327870052	0.663175941	0.509278503	-0.436008984	0.870880045
x1	1.005271113	0.036143987	27.81295609	6.37393E-41	0.933236203	1.077306024

Standard Deviation of Residual: 0.284



Survey W9315 Dissolved Oxygen Calibration

MARKER	STATION	DEPTH	BOTTLE_DO	CTD_DO	Predic_DO	Residual
22	N10P	20.95	8.55	9.02	8.48	0.08
23	N10P	10.82	8.53	9.09	8.54	-0.01
24	N10P	8.18	8.48	9.03	8.48	0.00
25	N10P	3.39	8.46	8.94	8.40	0.07
26	N10P	2.38	8.38	8.93	8.39	-0.01
66	N01P	27.21	8.80	9.37	8.80	0.00
67	N01P	16.90	8.71	9.36	8.79	-0.09
68	N01P	8.30	8.71	9.37	8.80	-0.09
69	N01P	3.22	8.78	9.38	8.81	-0.03
70	N01P	1.49	8.75	9.40	8.83	-0.08
103	N04P	47.35	7.43	7.71	7.25	0.18
104	N04P	39.03	8.70	9.32	8.75	-0.06
105	N04P	11.20	8.84	9.50	8.93	-0.09
106	N04P	3.25	8.85	9.51	8.94	-0.09
107	N04P	1.42	8.82	9.51	8.93	-0.12
138	N07P	47.05	6.77	7.18	6.75	0.02
139	N07P	40.88	6.76	7.13	6.70	0.06
140	N07P	25.52	8.69	9.34	8.78	-0.09
141	N07P	11.28	8.88	9.45	8.87	0.00
142	N07P	1.28	8.89	9.47	8.89	0.00
189	N20P	30.63	8.83	9.34	8.77	0.06
190	N20P	22.17	8.87	9.37	8.81	0.06
191	N20P	14.62	8.82	9.39	8.82	0.00
192	N20P	7.66	8.87	9.40	8.83	0.04
193	N20P	1.98	8.86	9.40	8.83	0.03
233	N16P	37.06	8.62	8.99	8.44	0.18
234	N16P	28.90	8.79	9.33	8.76	0.03
235	N16P	19.06	8.91	9.45	8.87	0.04
236	N16P	8.67	8.88	9.46	8.88	0.00
237	N16P	1.37	8.89	9.51	8.93	-0.05

Regression Statistics

Multiple R	0.992360298
R Square	0.984778961
Adjusted R Square	0.950296202
Standard Error	0.078196139
Observations	30

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	11.47263226	11.47263226	1876.257576	3.32306E-27
Residual	29	0.177324446	0.006114636		
Total	30	11.64995671			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	1.064629134	0.001662443	640.4002139	1.32609E-63	1.061229054	1.068029215

Standard Deviation of Residual

0.073

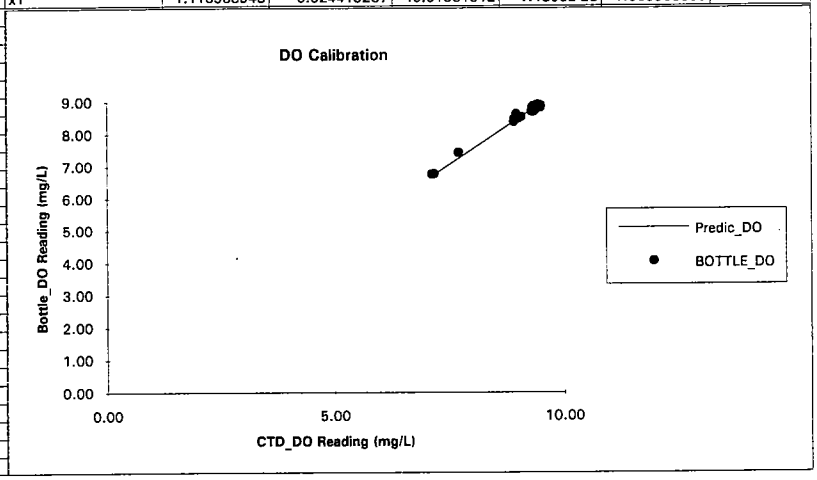
Regression Statistics

Multiple R	0.99333999
R Square	0.986724335
Adjusted R Square	0.986250204
Standard Error	0.074320954
Observations	30

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	11.49529579	11.49529579	2081.122277	7.94291E-28
Residual	28	0.154660918	0.005523604		
Total	29	11.64995671			

	Coefficients	*Standard Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	-0.424778344	0.209705531	-2.025594378	0.05209587	-0.854341133	0.00478445
x1	1.113988948	0.024419237	45.61931912	1.4863E-28	1.063968353	1.16400954



Survey W9316 Dissolved Oxygen Calibration

MARKER	STATION	DEPTH	BOTTLE_DO	CTD_DO	Predic_DO	Residual
23	N10P	20.63	8.89	9.31	8.83	0.07
24	N10P	14.19	9.01	9.43	8.94	0.06
25	N10P	9.68	8.88	9.41	8.93	-0.05
26	N10P	5.67	8.96	9.43	8.95	0.02
27	N10P	2.68	9.01	9.49	9.00	0.01
60	N01P	26.89	8.87	9.29	8.81	0.06
61	N01P	19.27	8.83	9.33	8.85	-0.02
62	N01P	10.28	8.86	9.36	8.87	-0.01
63	N01P	5.91	8.86	9.35	8.87	-0.01
64	N01P	2.70	8.89	9.36	8.88	0.00
99	N04P	50.21	7.27	7.99	7.57	-0.30
100	N04P	43.25	7.46	7.74	7.34	0.12
101	N04P	9.66	8.98	9.50	9.01	-0.02
102	N04P	6.84	8.97	9.52	9.03	-0.06
103	N04P	2.56	8.96	9.50	9.01	-0.05
134	N07P	46.64	6.96	7.32	6.94	0.01
135	N07P	44.80	8.03	7.96	7.55	0.48
136	N07P	19.91	9.00	9.60	9.10	-0.10
137	N07P	9.67	9.06	9.66	9.16	-0.10
138	N07P	2.51	9.01	9.65	9.15	-0.15
178	N20P	28.73	8.84	9.39	8.90	-0.07
179	N20P	22.40	8.95	9.43	8.94	0.01
180	N20P	15.53	8.94	9.42	8.94	0.00
181	N20P	6.82	8.92	9.45	8.96	-0.04
182	N20P	1.66	8.89	9.48	8.99	-0.10
222	N16P	39.20	7.93	8.02	7.61	0.33
223	N16P	34.02	8.74	9.10	8.63	0.11
224	N16P	19.08	8.86	9.29	8.81	0.05
225	N16P	9.28	8.82	9.35	8.87	-0.05
226	N16P	1.43	8.77	9.41	8.93	-0.15

Standard Deviation of Residual: 0.139

Regression Statistics	
Multiple R	0.972547951
R Square	0.945849517
Adjusted R Square	0.911366758
Standard Error	0.146957022
Observations	30

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F
Regression	1	10.93952313	10.93952313	506.5446209	1.79394E-19
Residual	29	0.62629462	0.021596366		
Total	30	11.56581775			

	Coefficients	Standard Error	t Statistic	P-value	Lower 95%	Upper 95%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
x1	1.054392953	0.003084915	341.7899577	2.0053E-55	1.04808359	1.060702316

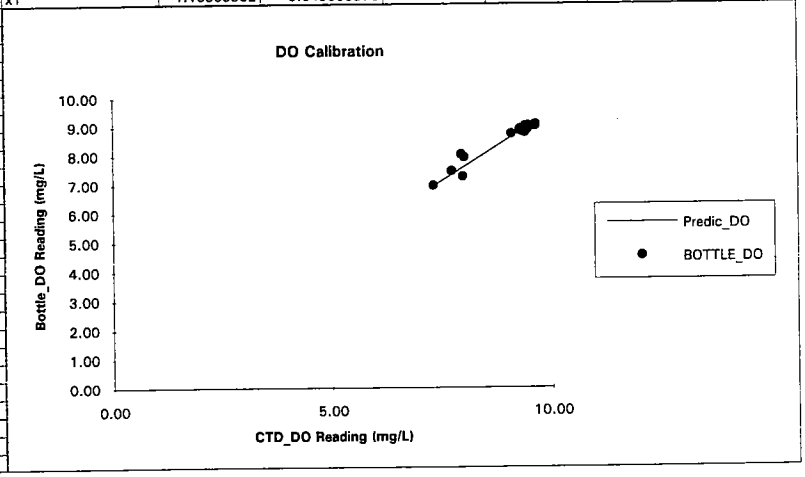
Regression Statistics

Multiple R	0.97373663
R Square	0.94816302
Adjusted R Square	0.9463117
Standard Error	0.14632853
Observations	30

Analysis of Variance

	df	*Sum of Squares*	*Mean Square*	*F*	*Significance F*
Regression	1	10.96628068	10.9662807	512.154918	1.54957E-19
Residual	28	0.59953707	0.02141204		
Total	29	11.56581775			

	Coefficients	*Standard Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	-0.47647332	0.426230397	-1.11787738	0.27279482	-1.34956769	0.39662105
x1	1.10906902	0.049006976	22.63084	5.6205E-20	1.00868267	1.20945537



APPENDIX B

VERTICAL PROFILE DATA FROM FARFIELD AND NEARFIELD STATIONS

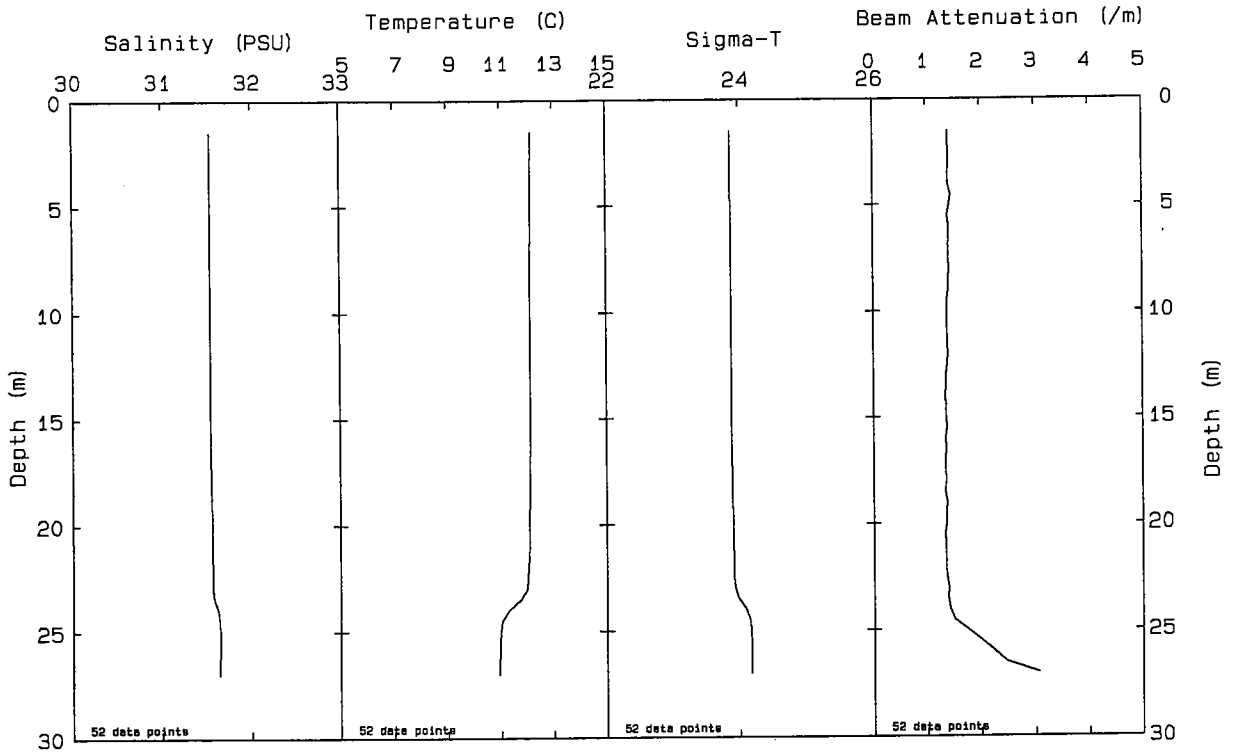
Only post-survey calibrated data are presented, where calibrations have been performed as given in Appendix A. The data are from the downcast at stations and, therefore, may not match precisely the data in Appendix A because bottles were closed on the upcast.

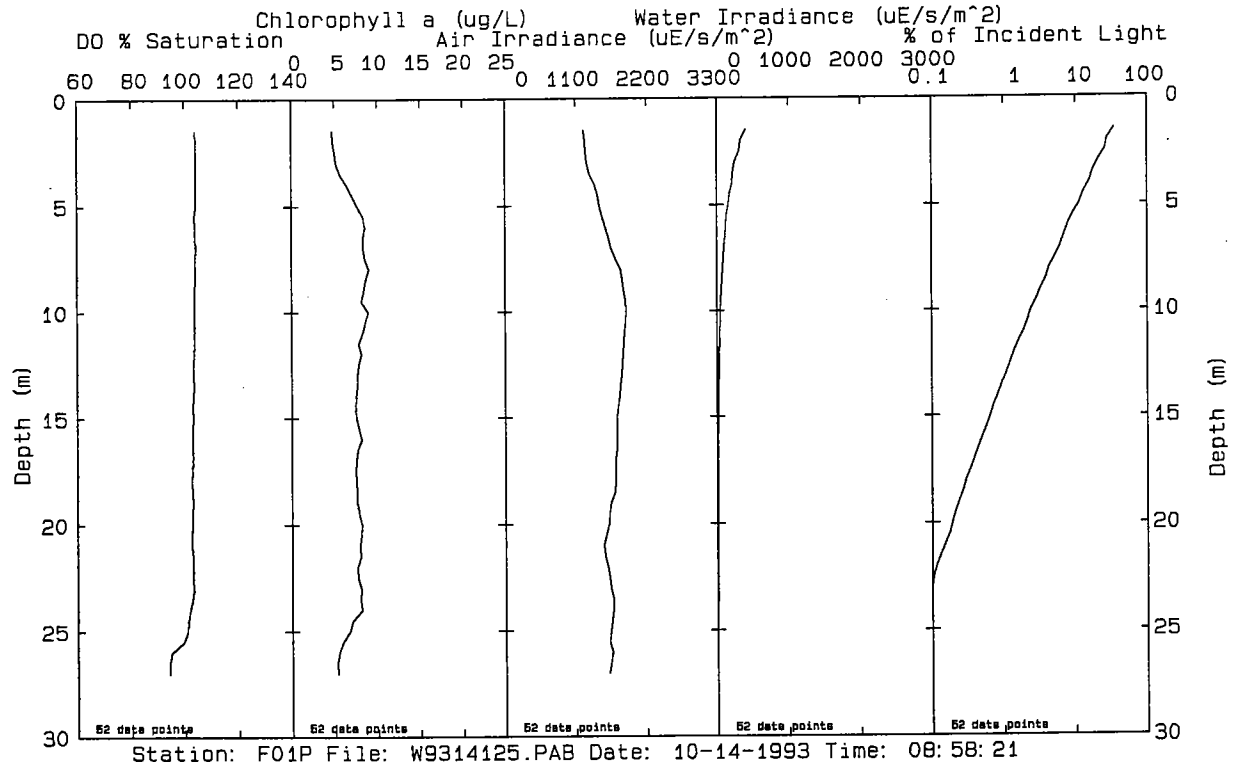
For each station there is a one-page set of profiles, with station, cruise code, date and time listed across the bottom. Nearfield BioProductivity stations were sampled twice during the October farfield/nearfield surveys and two sets of profiles are presented.

Where a panel is blank, no data were collected due to darkness. This occurred for irradiance readings at the following stations:

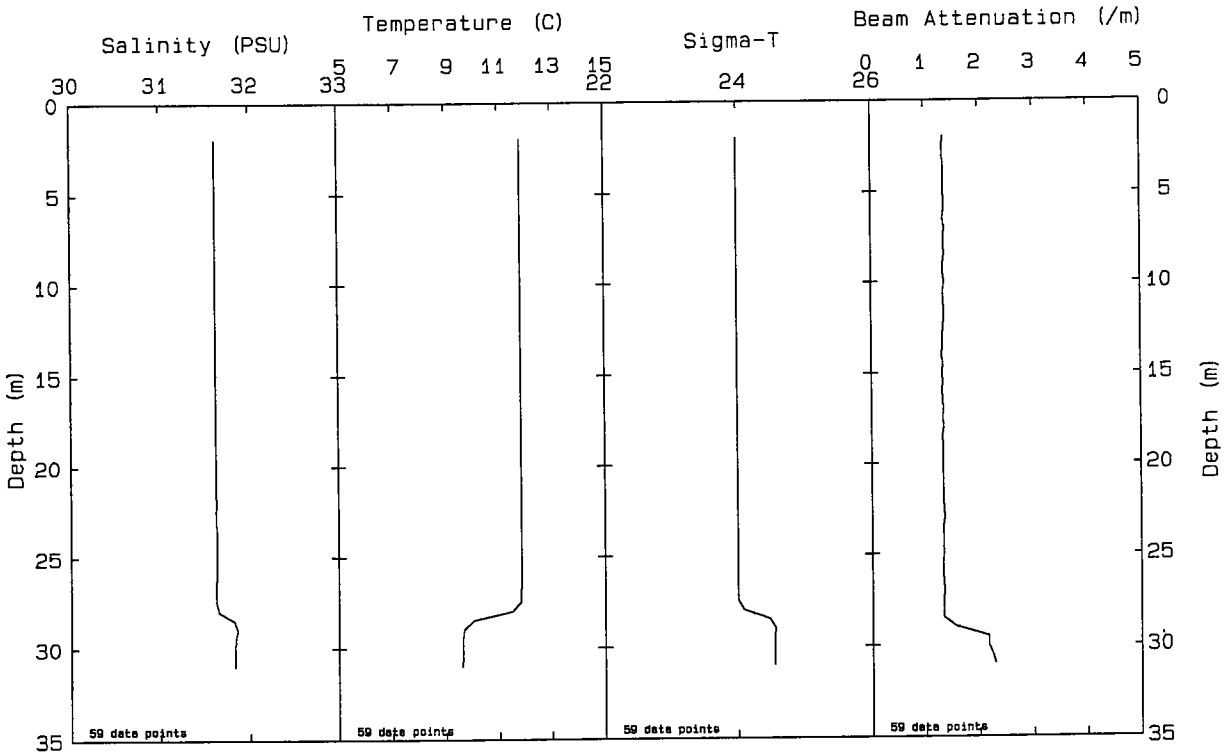
Station	File Name
F24	W9314006
N01P	W9314072
F04	W9314110
F23P	W9314151
N21	W9315080
N15	W9316062
N16P	W9316065
N17	W9316068
N18	W9316071
N21	W9316074

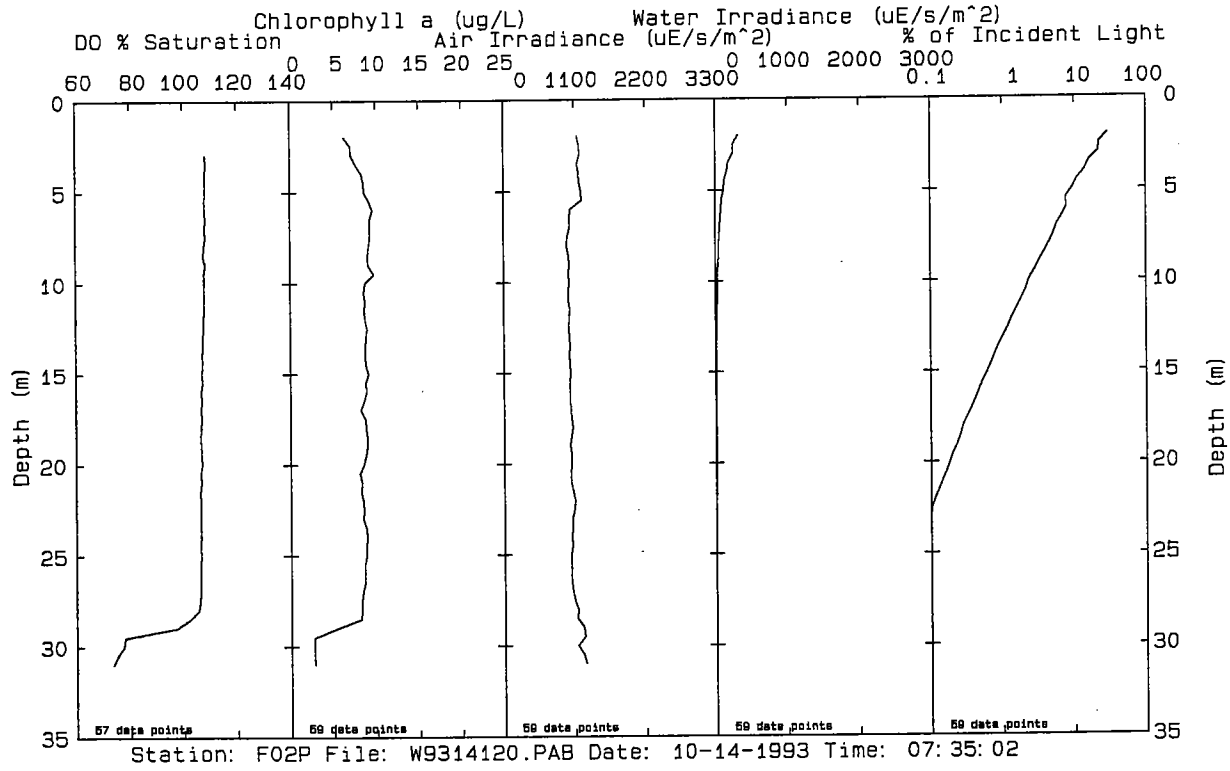
October 1993 Profiles



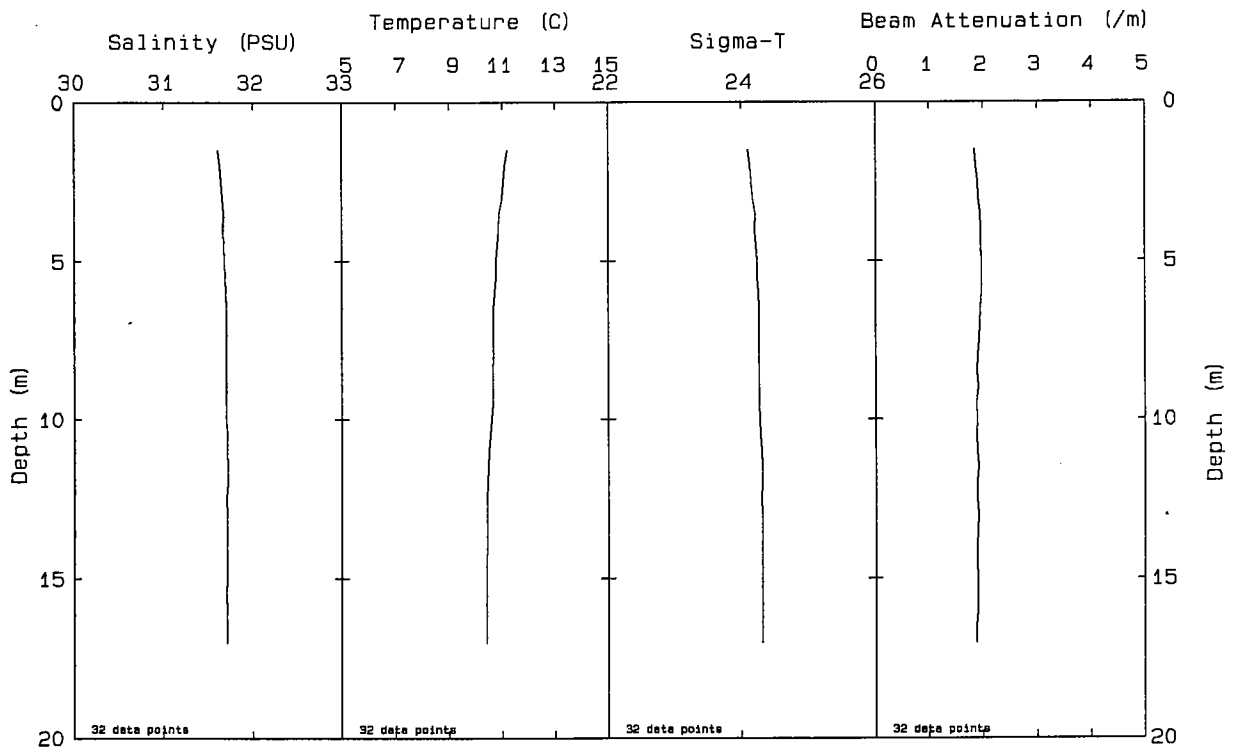


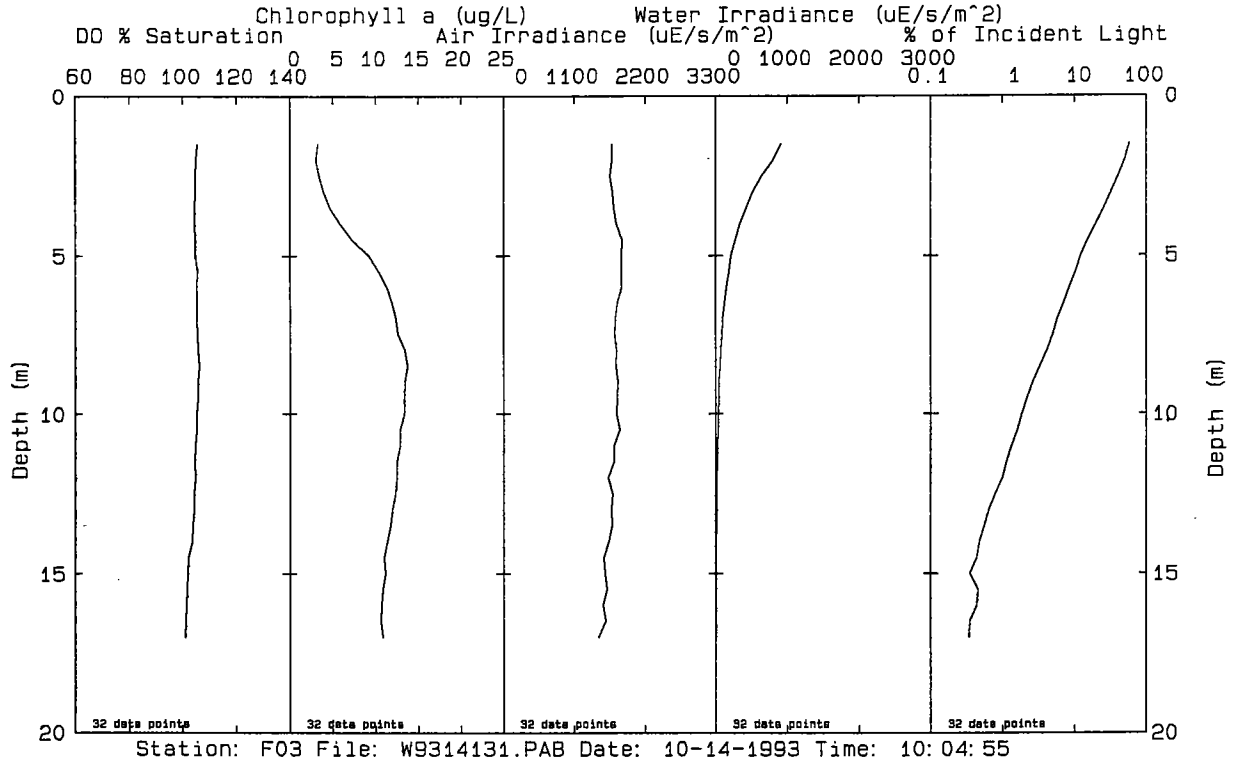
Station: F01P File: W9314125.PAB Date: 10-14-1993 Time: 08:58:21



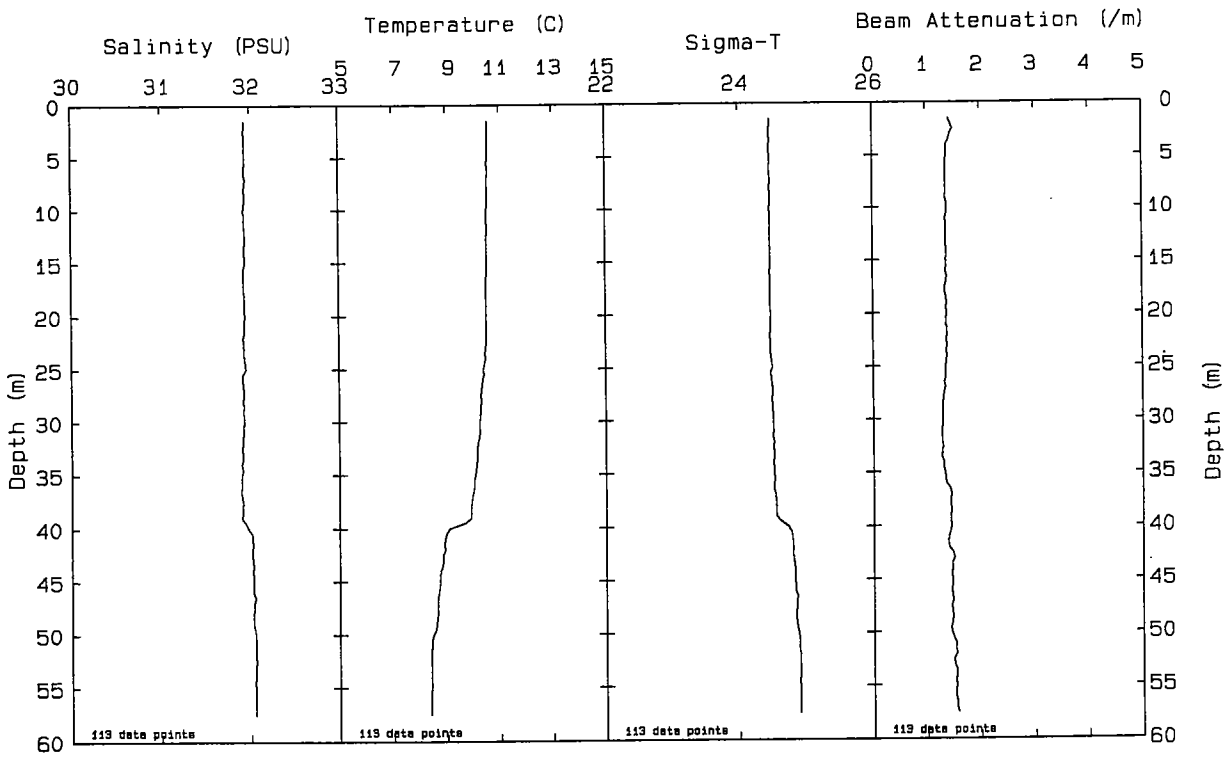


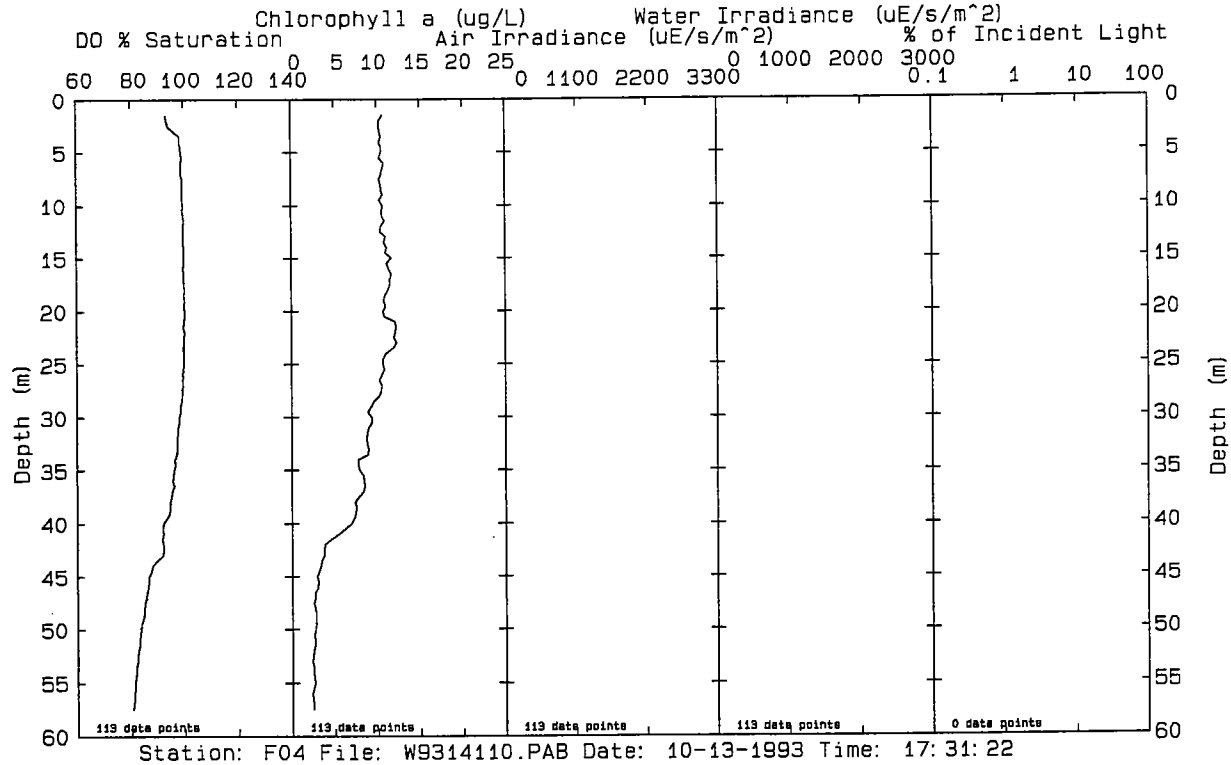
Station: F02P File: W9314120.PAB Date: 10-14-1993 Time: 07:35:02



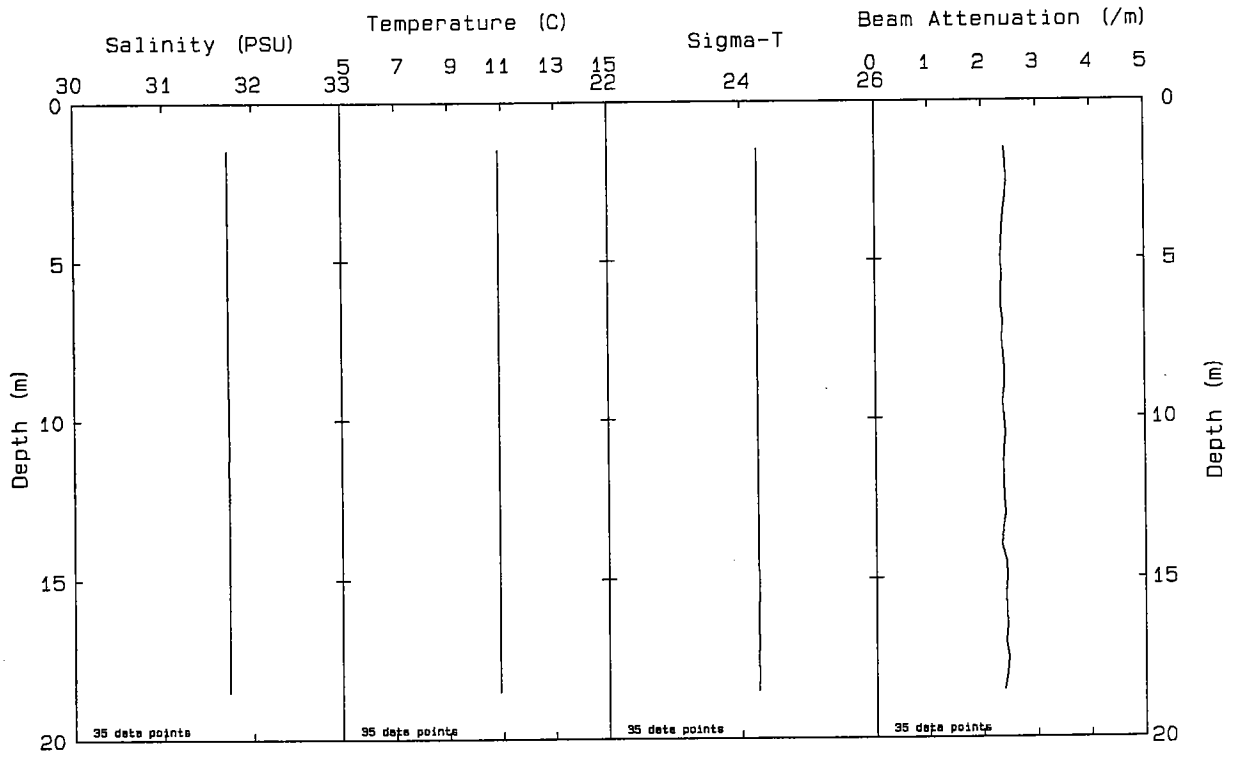


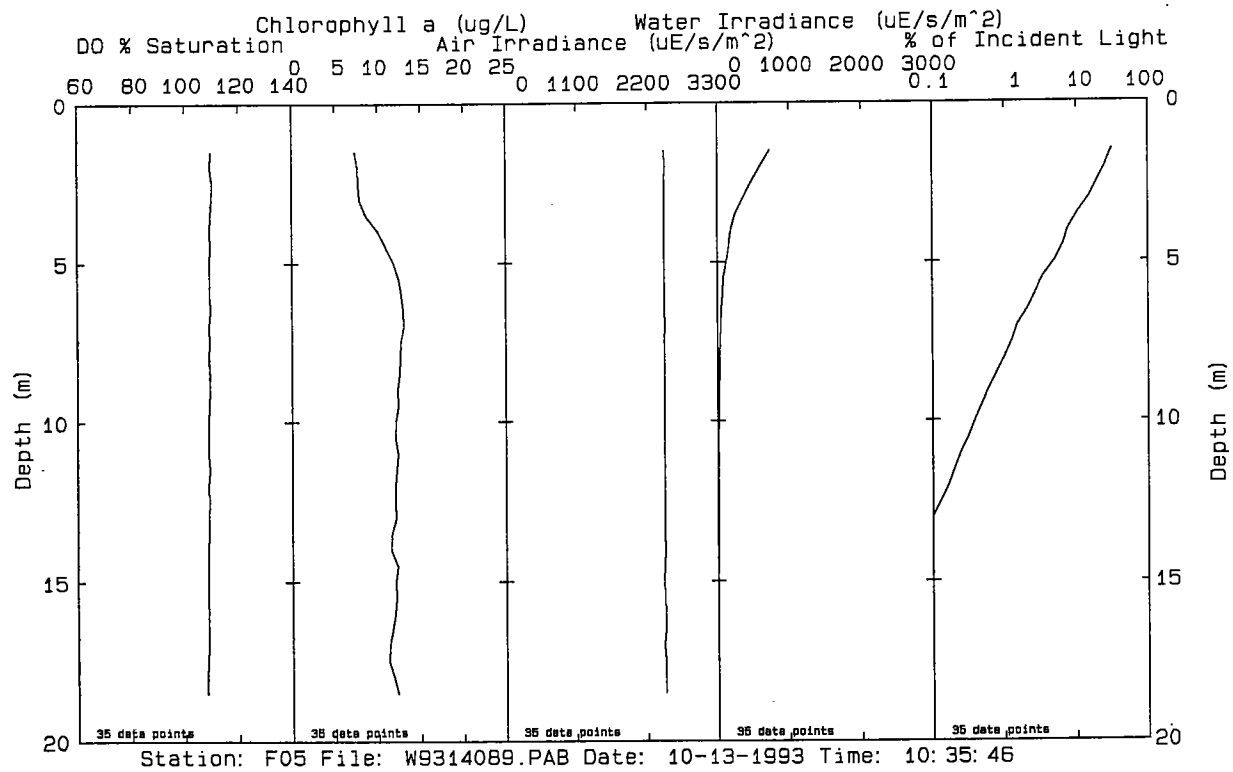
Station: F03 File: W9314131.PAB Date: 10-14-1993 Time: 10:04:55



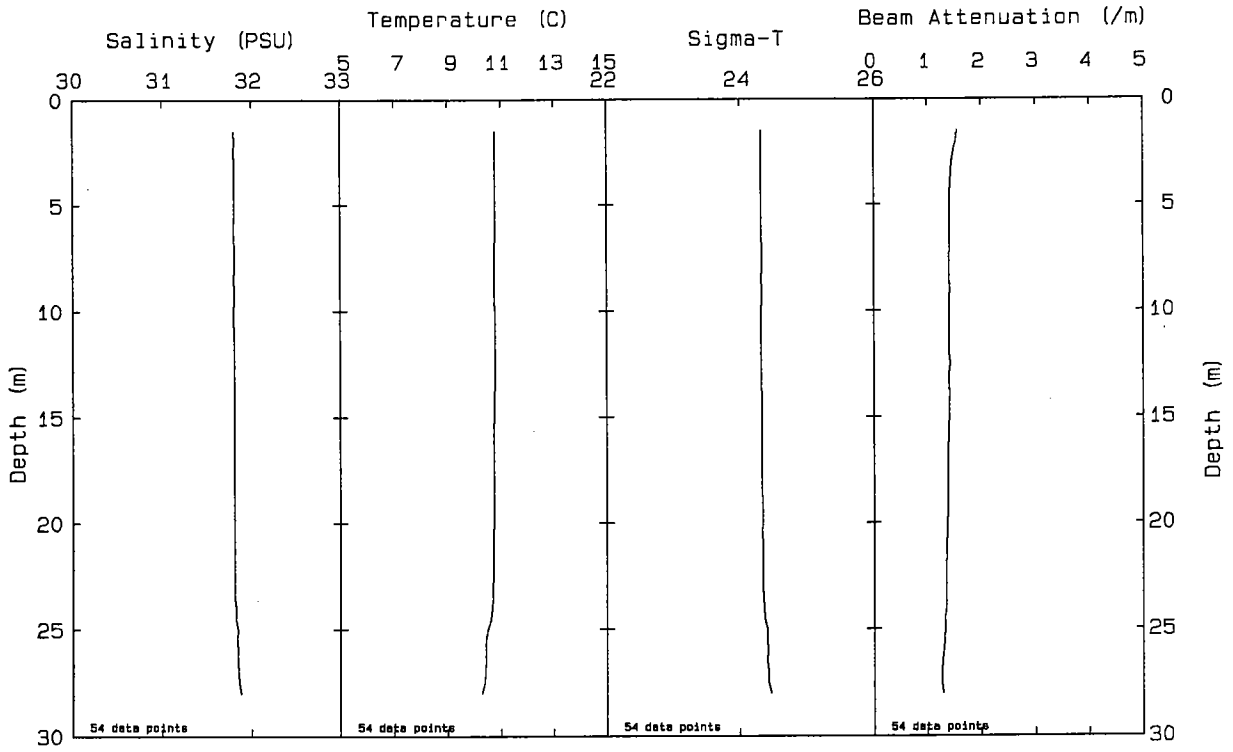


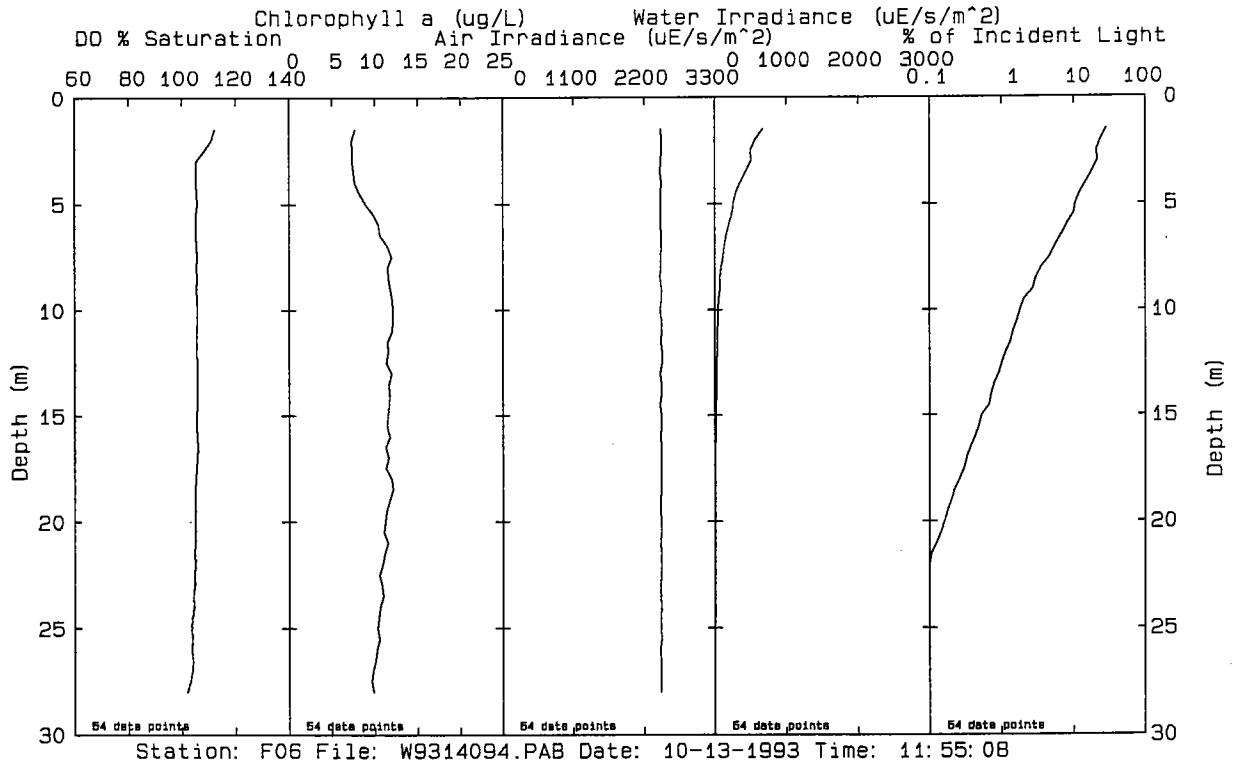
Station: F04 File: W9314110.PAB Date: 10-13-1993 Time: 17:31:22



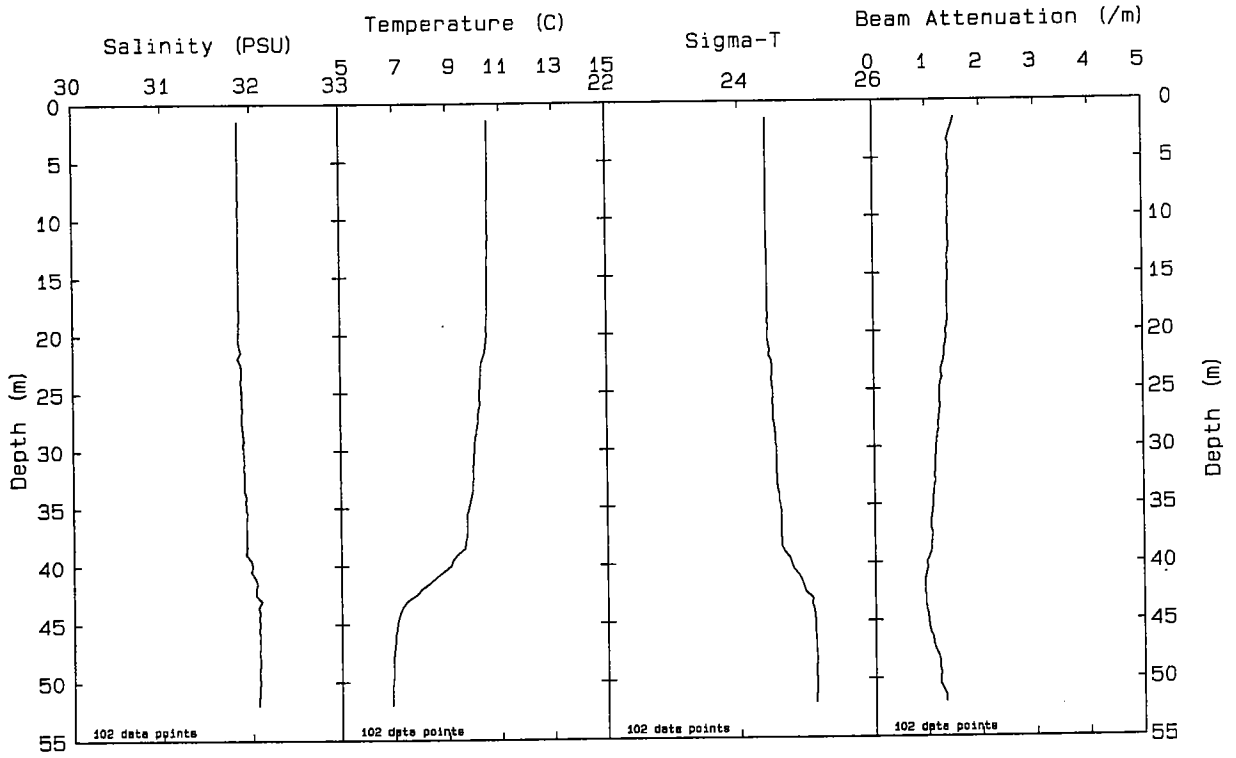


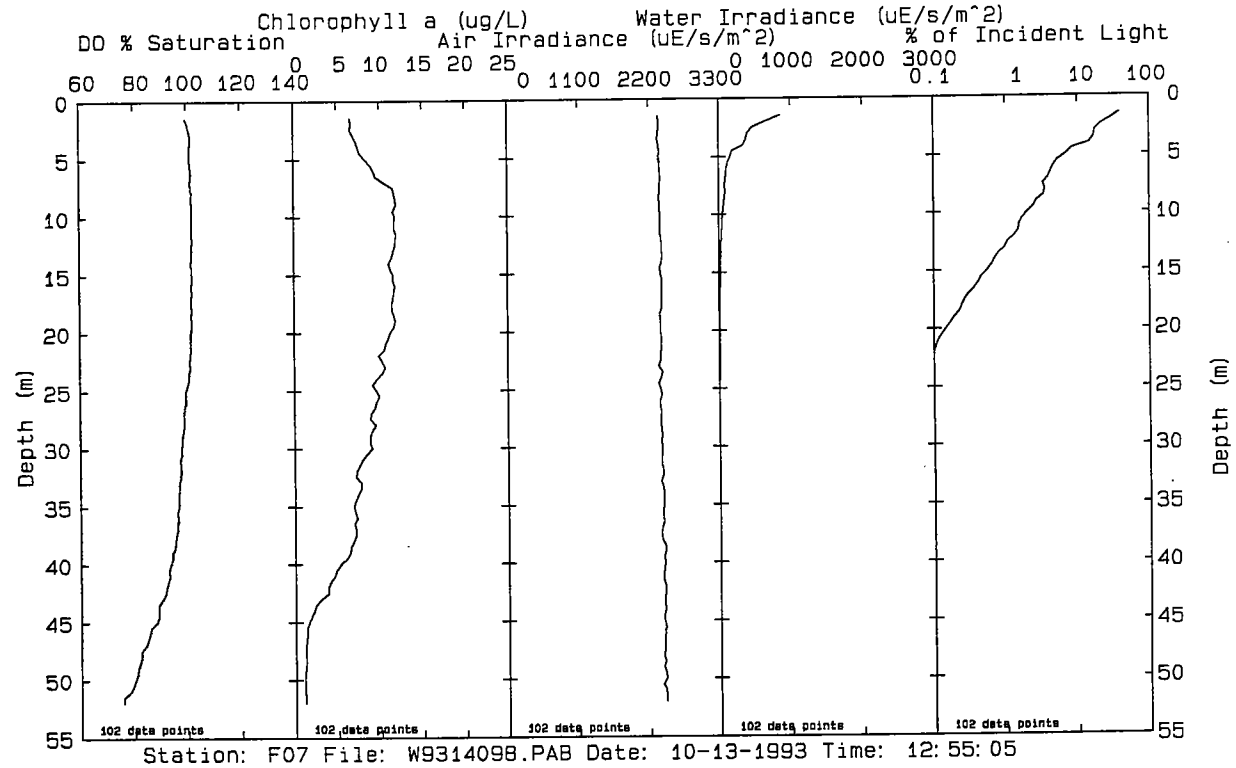
Station: F05 File: W9314089.PAB Date: 10-13-1993 Time: 10:35:46



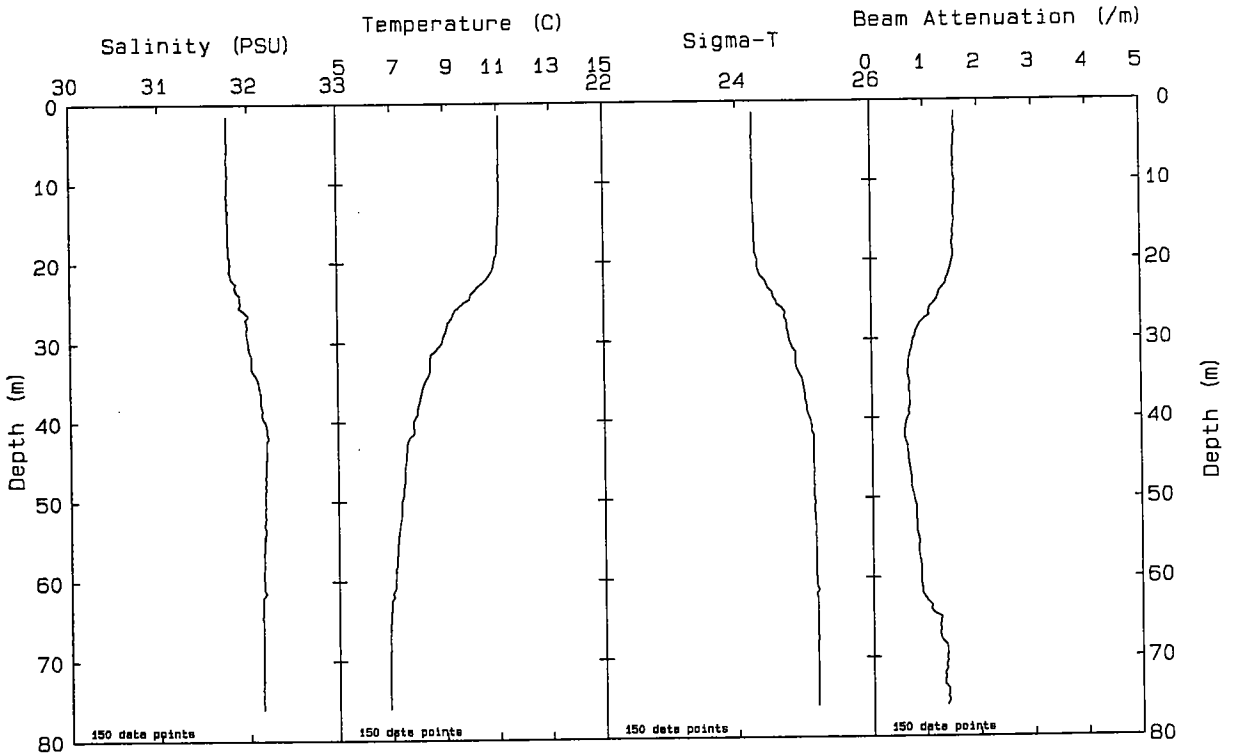


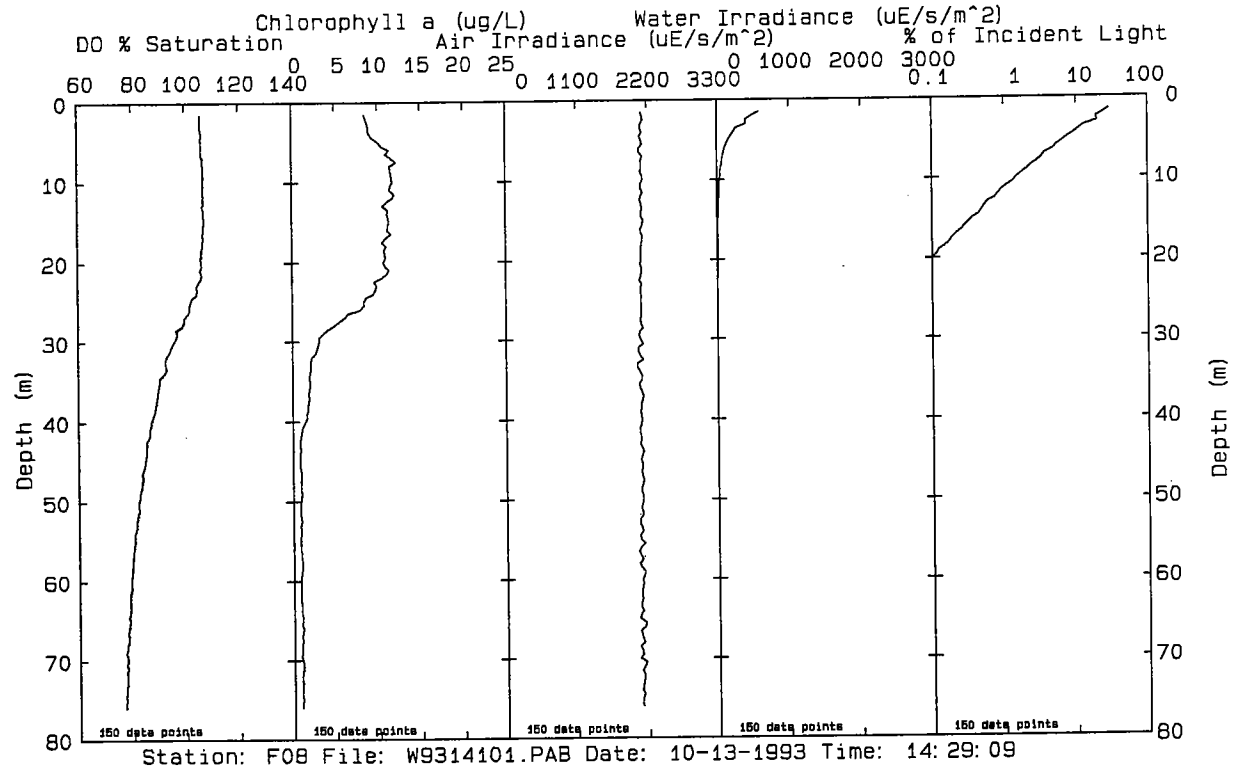
Station: F06 File: W9314094.PAB Date: 10-13-1993 Time: 11:55:08

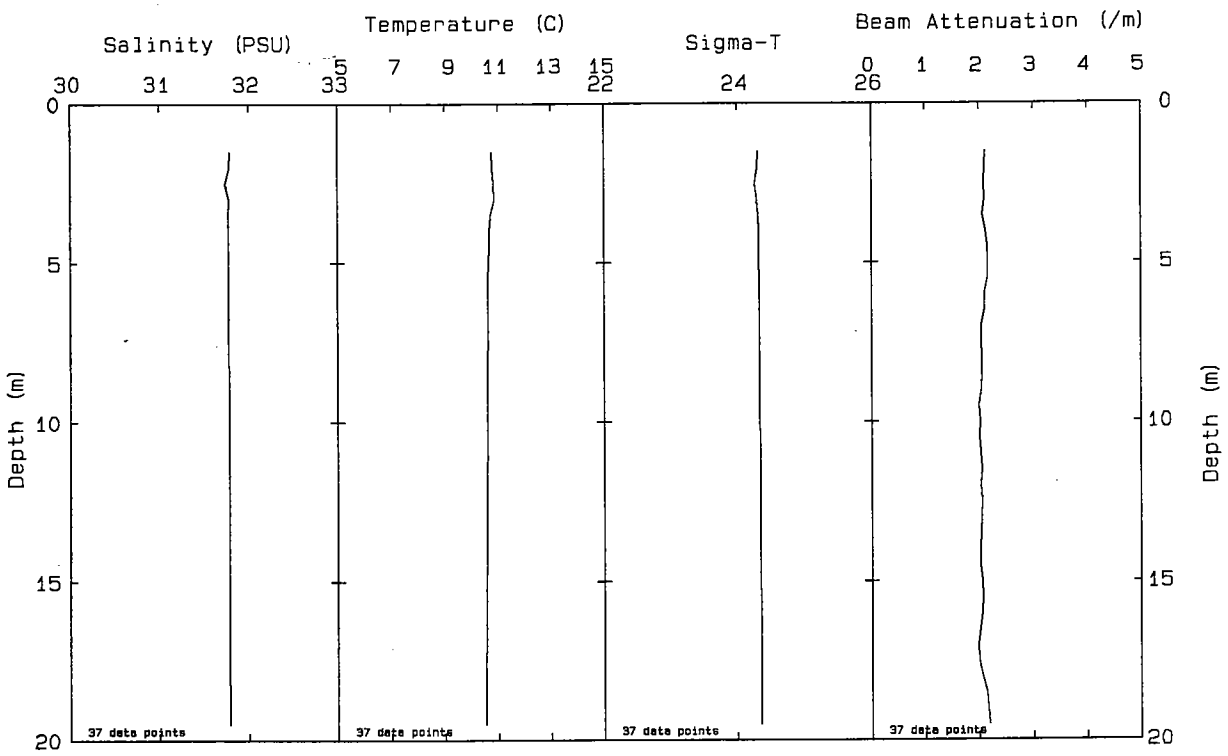


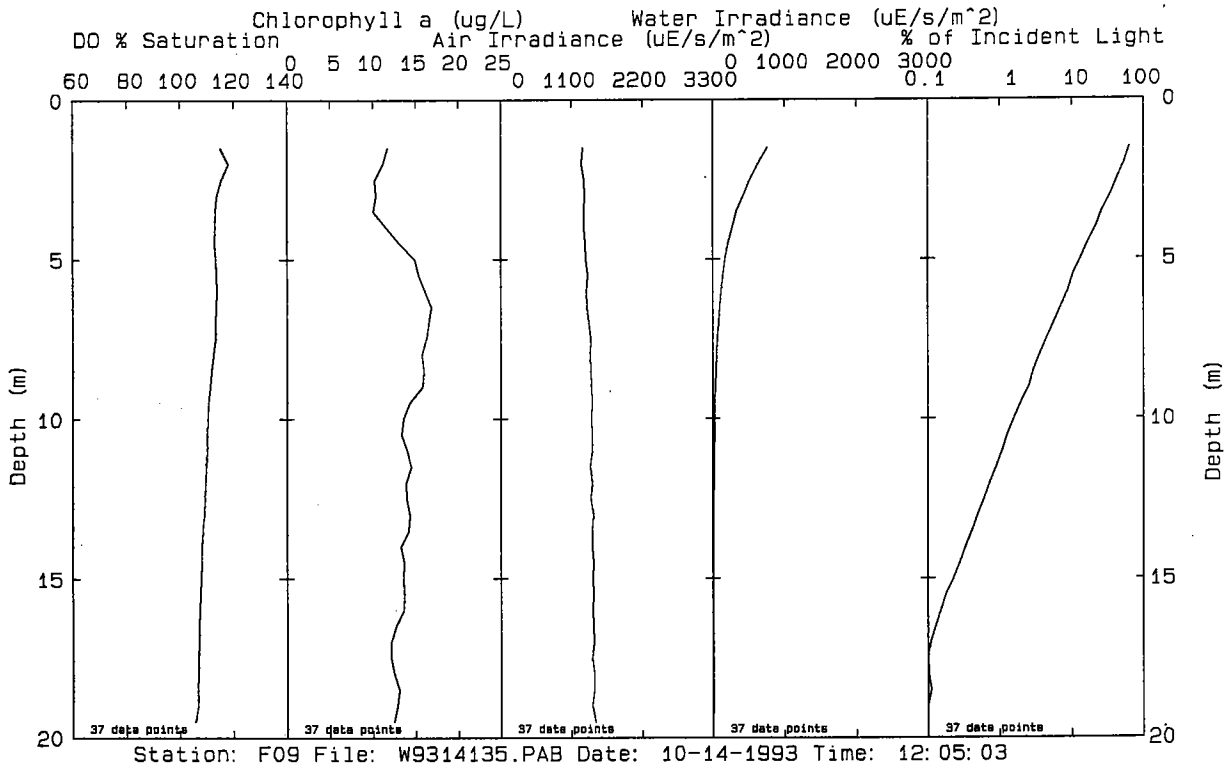


Station: F07 File: W9314098.PAB Date: 10-13-1993 Time: 12:55:05

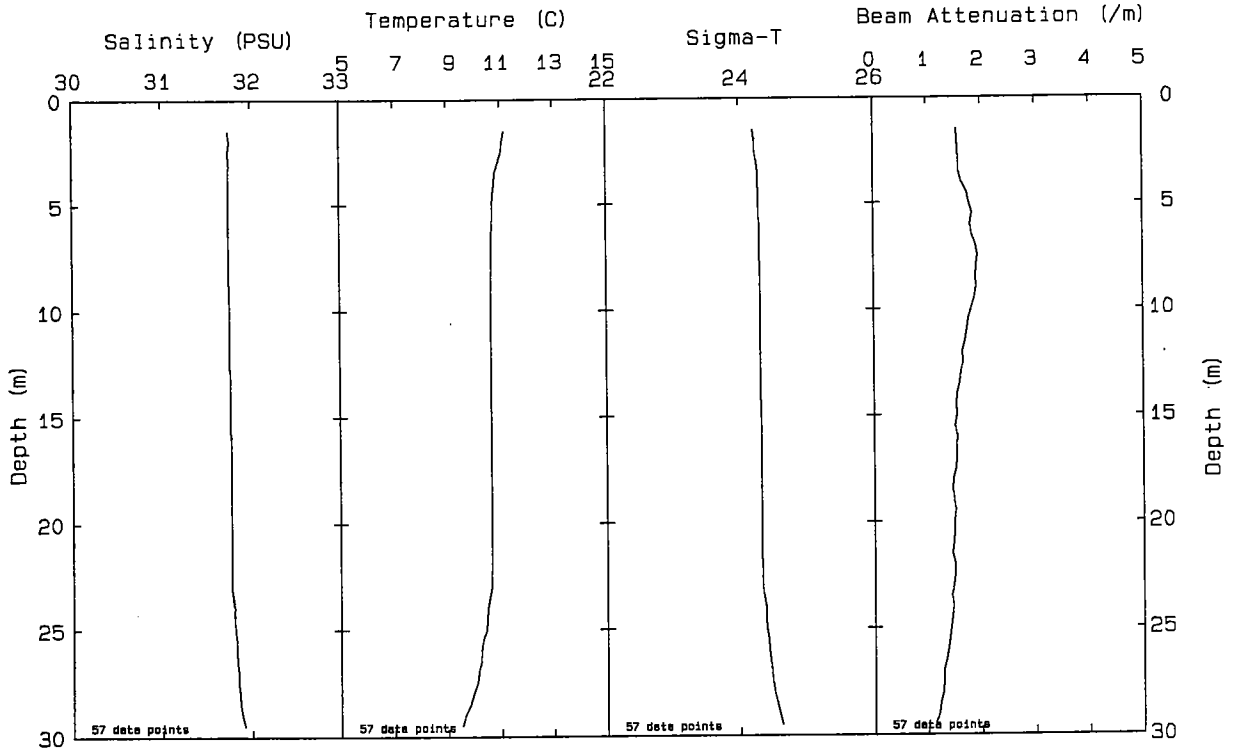

Salinity (PSU)
30 31 32 33
Temperature (C)
5 7 9 11 13 15
Sigma-T
22 24 26
Beam Attenuation (/m)
0 1 2 3 4 5
Depth (m)
0 10 20 30 40 50 60 70 80
150 data points
150 data points
150 data points
150 data points

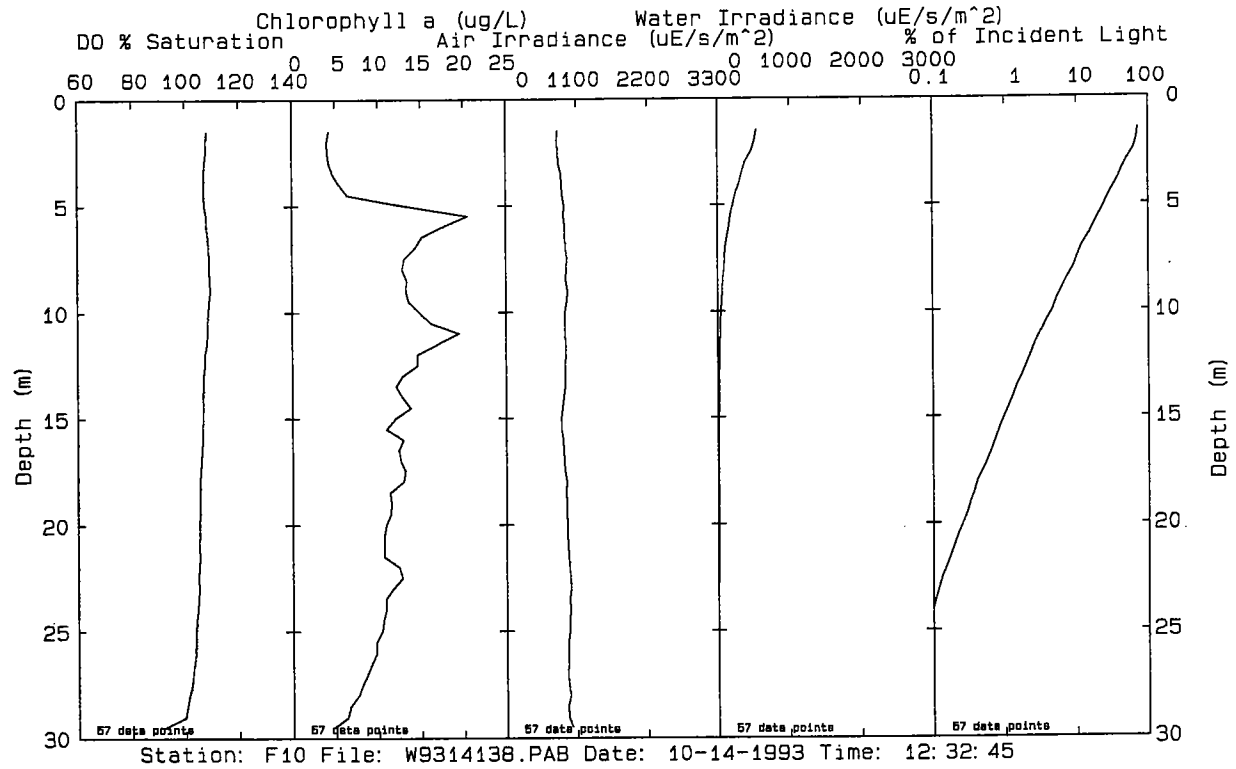

DO % Saturation
60 80 100 120 140
Chlorophyll a (ug/L)
0 5 10 15 20 25
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 10 20 30 40 50 60 70 80
150 data points
150 data points
150 data points
150 data points
150 data points
Station: F08 File: W9314101.PAB Date: 10-13-1993 Time: 14:29:09



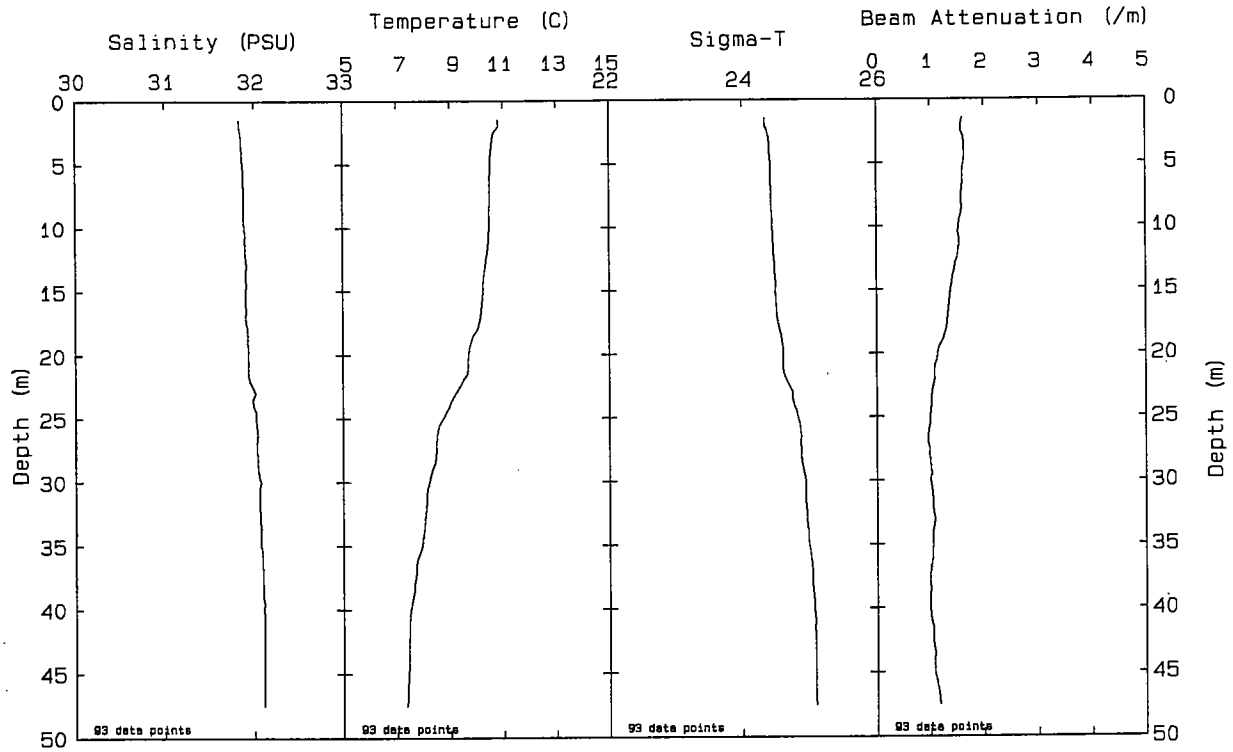


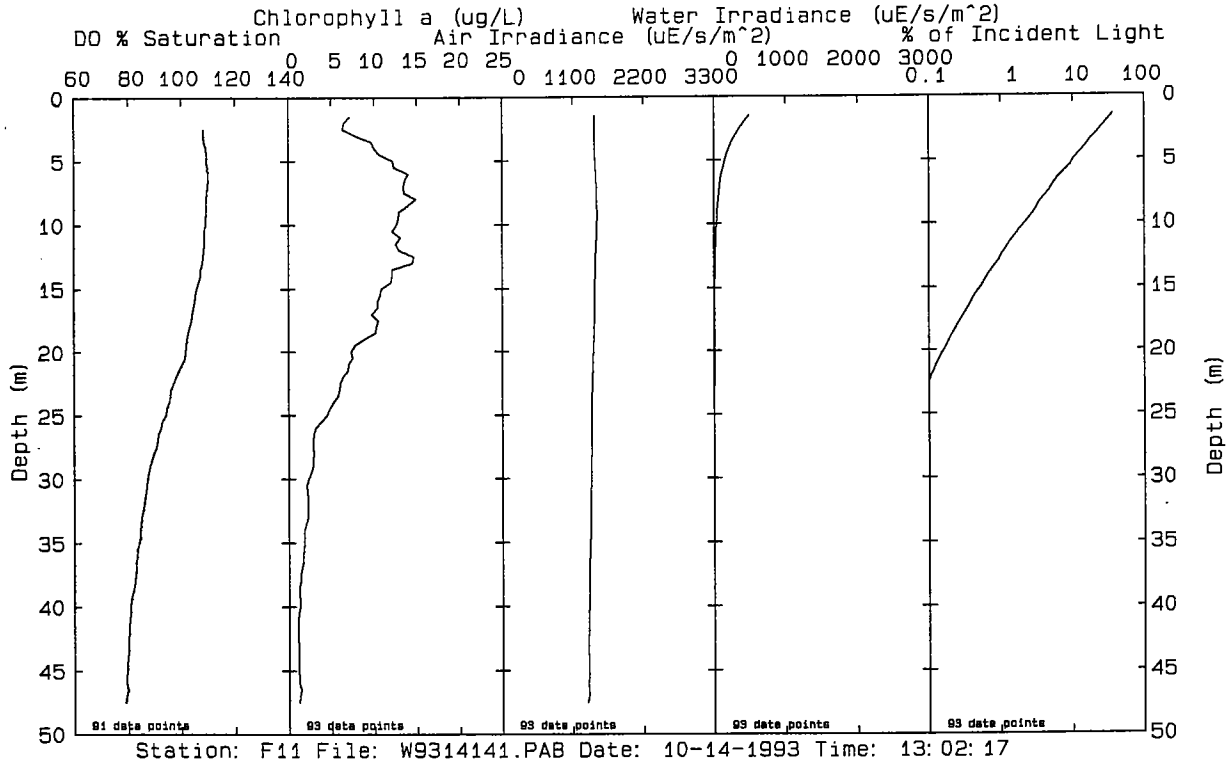
Station: F09 File: W9314135.PAB Date: 10-14-1993 Time: 12:05:03



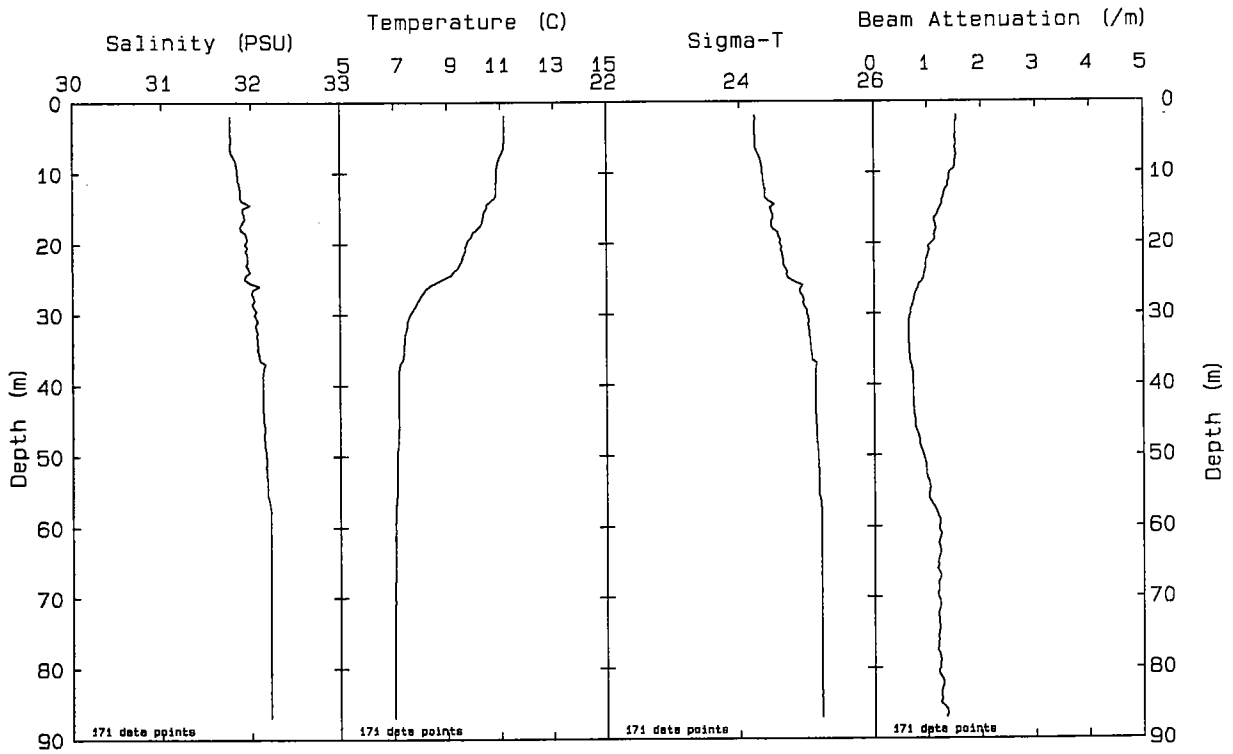


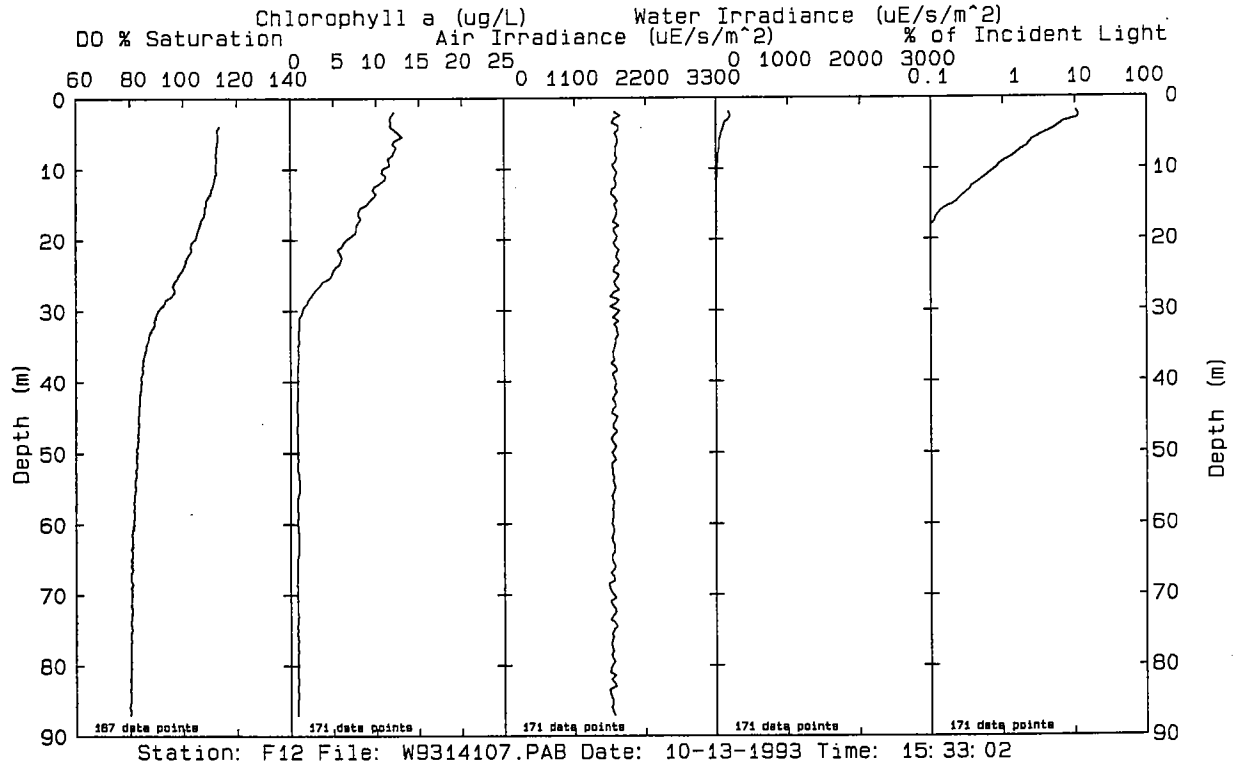
Station: F10 File: W9314138.PAB Date: 10-14-1993 Time: 12:32:45



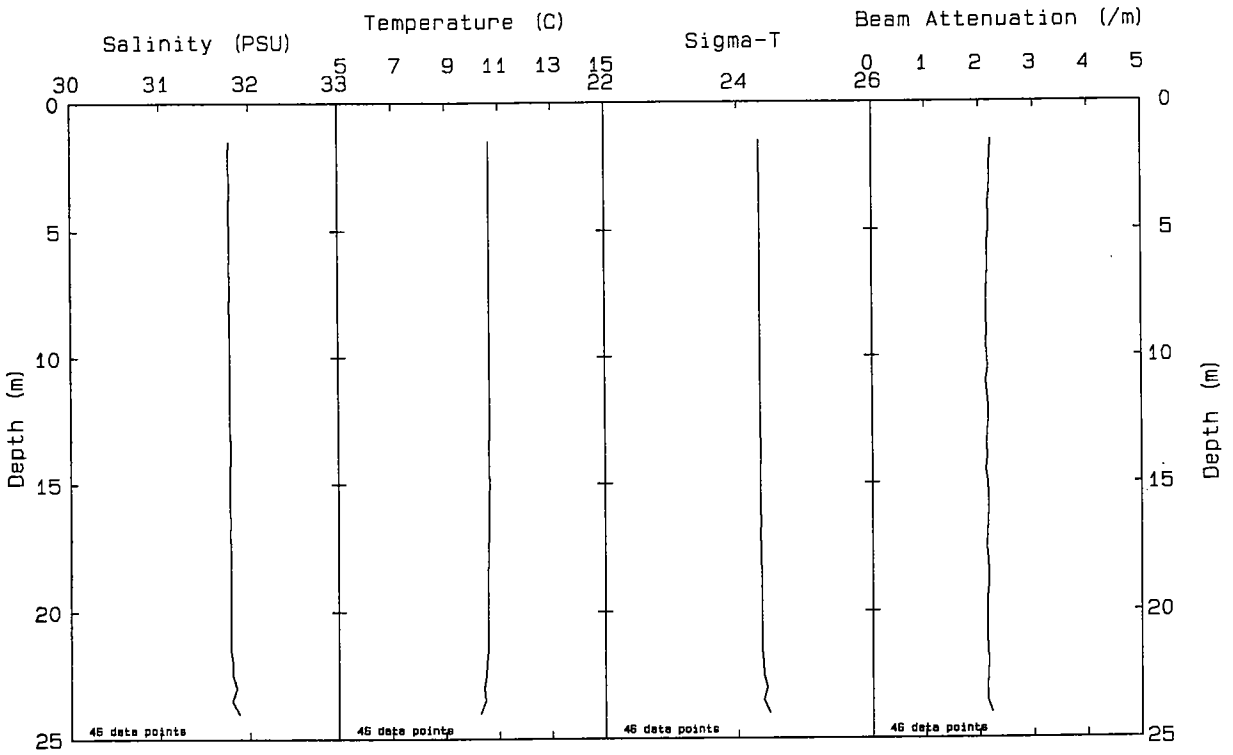


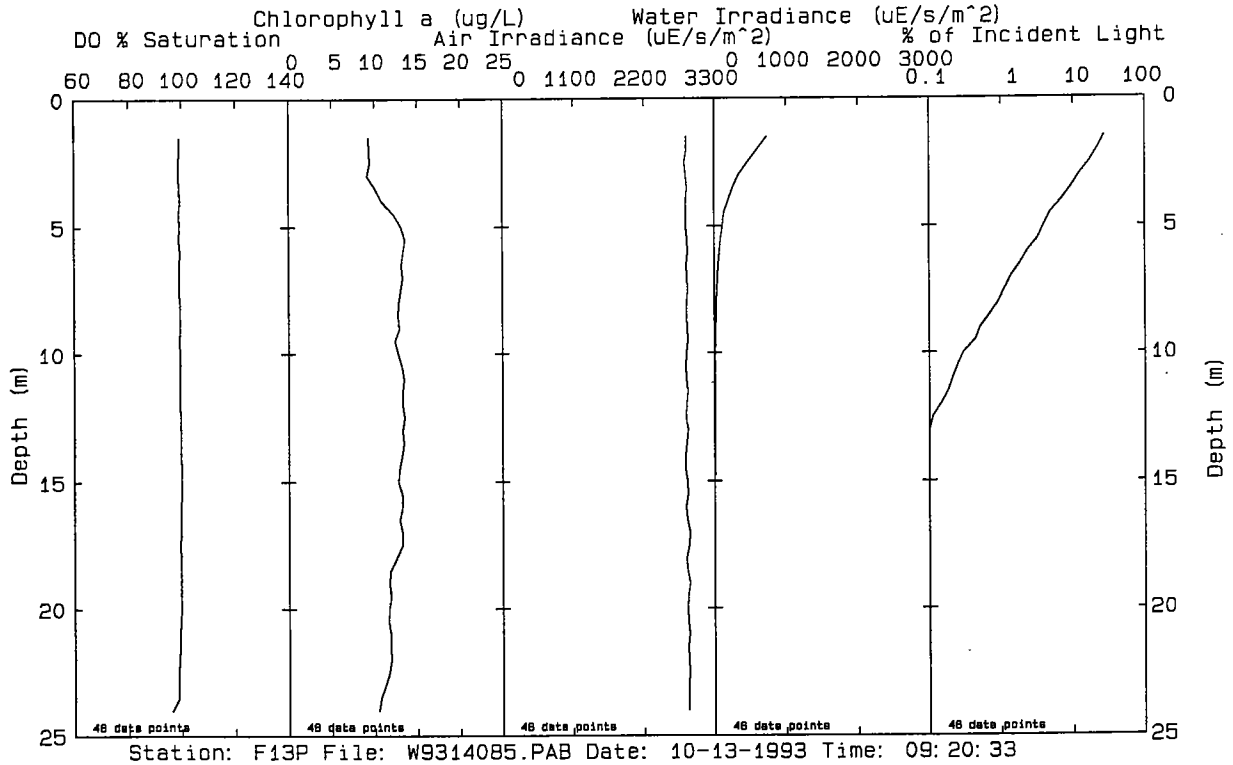
Station: F11 File: W9314141.PAB Date: 10-14-1993 Time: 13:02:17



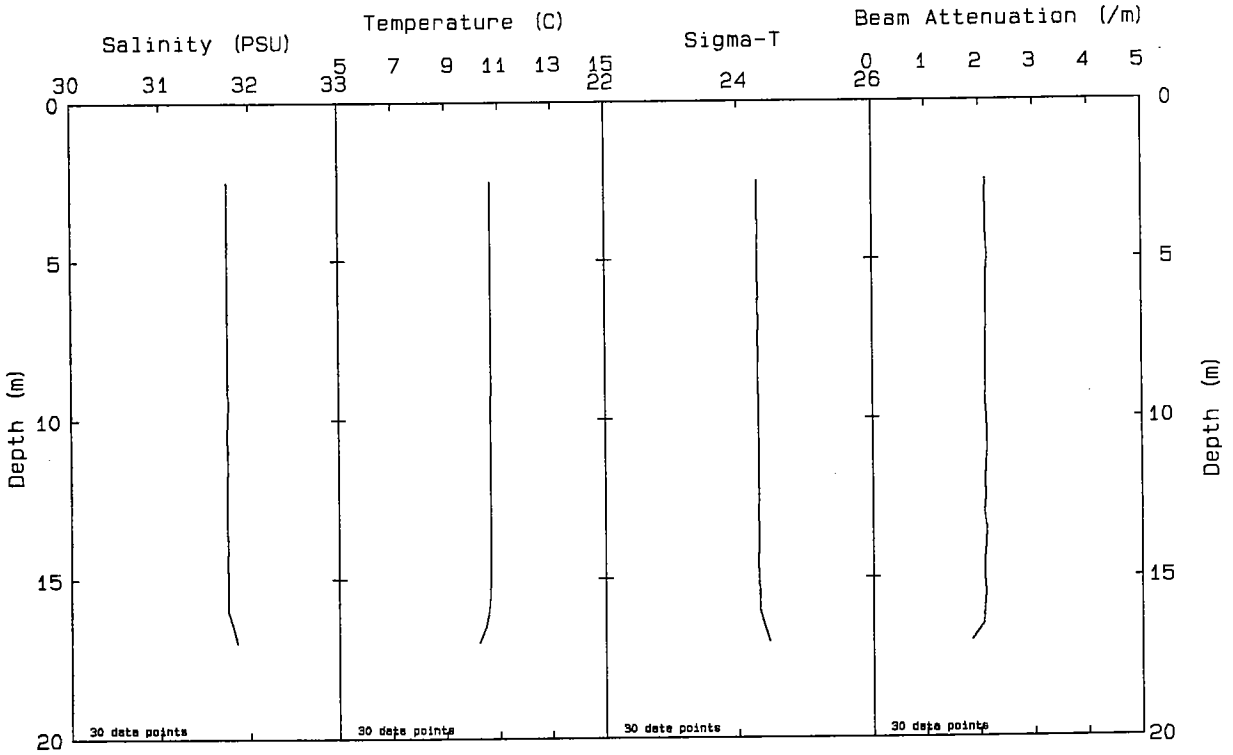


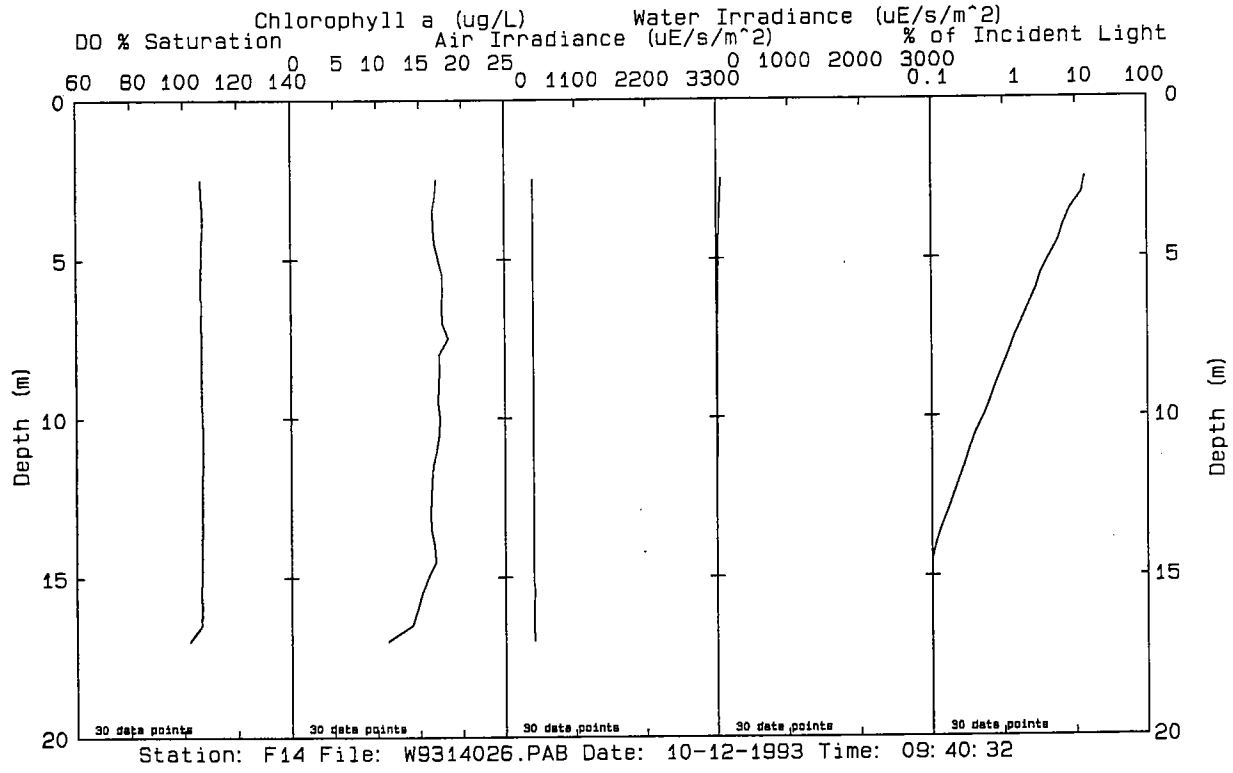
Station: F12 File: W9314107.PAB Date: 10-13-1993 Time: 15:33:02



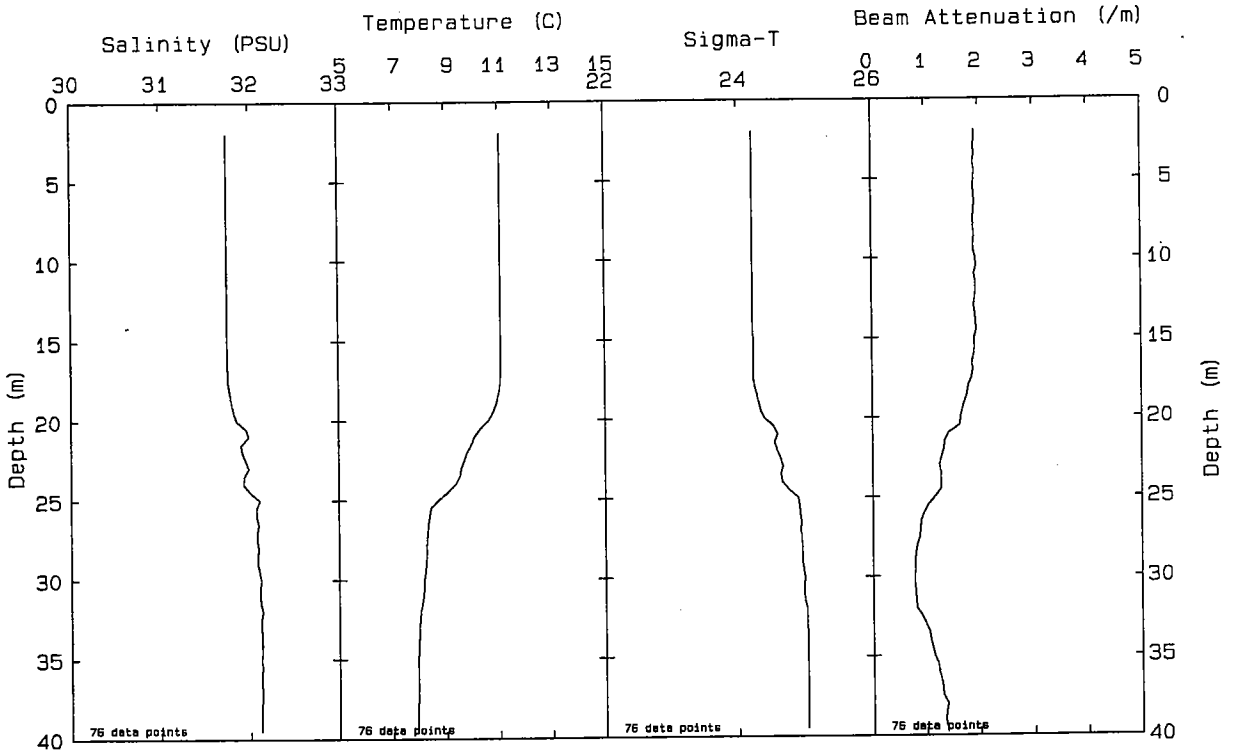


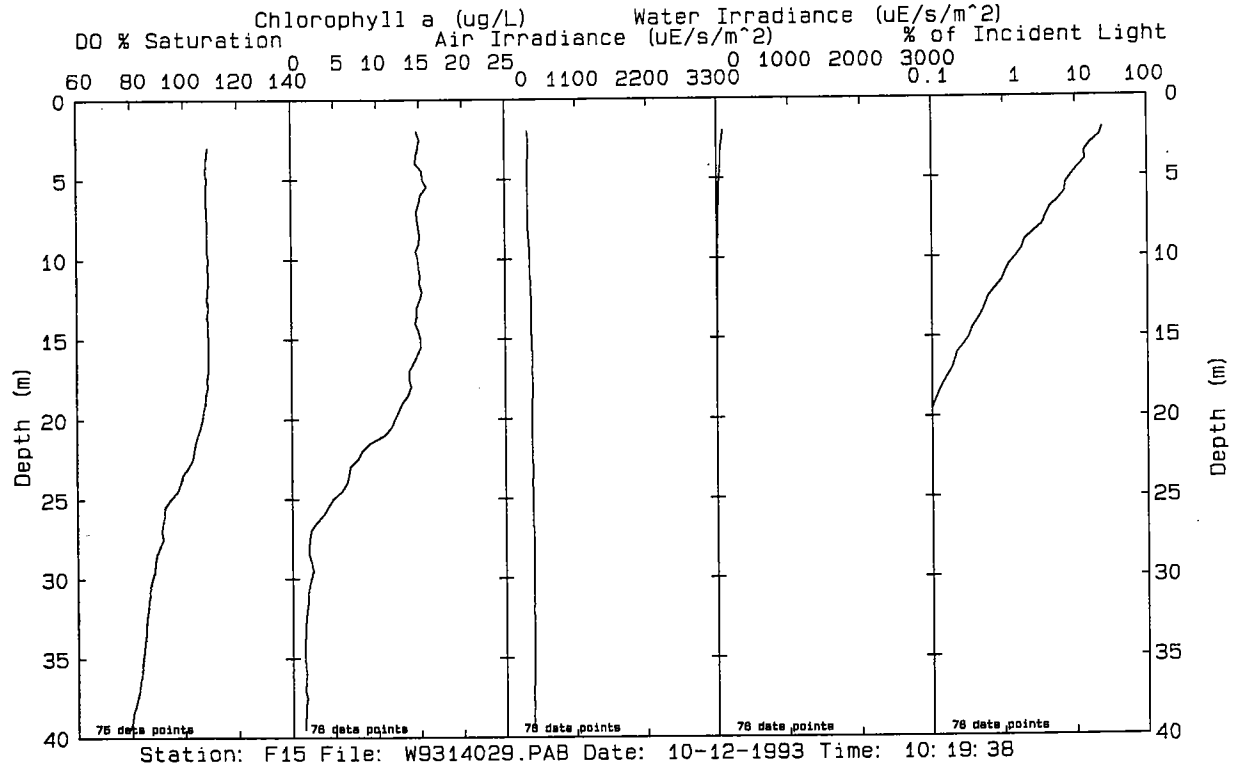
Station: F13P File: W9314085.PAB Date: 10-13-1993 Time: 09:20:33

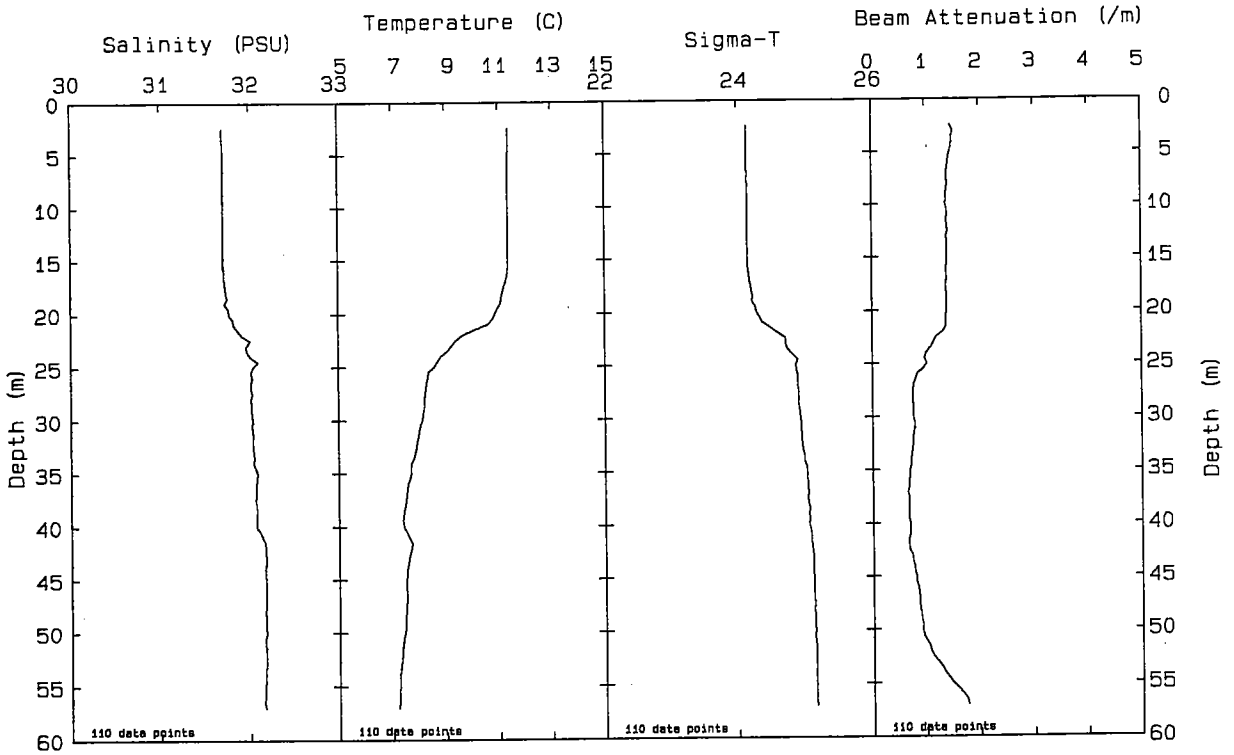


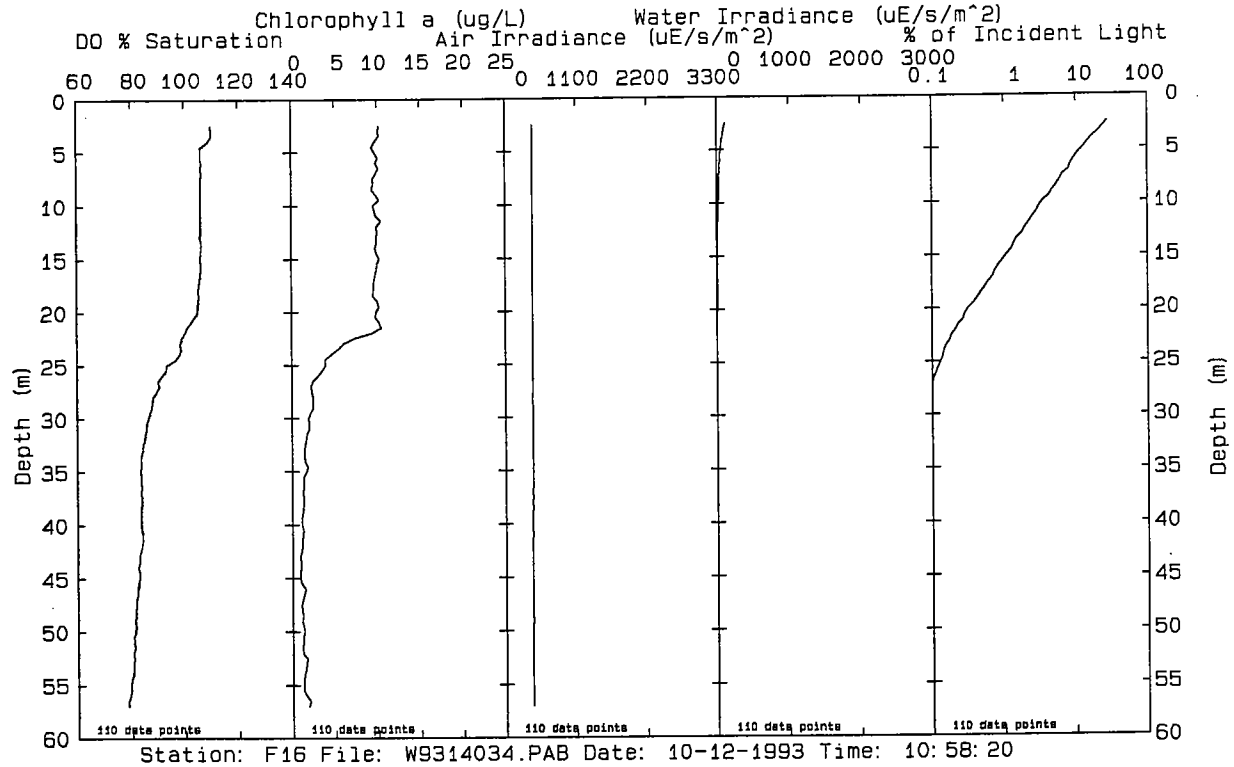


Station: F14 File: W9314026.PAB Date: 10-12-1993 Time: 09:40:32


Salinity (PSU)
30 31 32
Temperature (C)
5 7 9 11 13 15
33 22
Sigma-T
24
Beam Attenuation (/m)
0 1 2 3 4 5
26
Depth (m)
0 5 10 15 20 25 30 35 40
76 data points
76 data points
76 data points
76 data points


DO % Saturation
60 80 100 120 140
Chlorophyll a (ug/L)
0 5 10 15 20 25
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35 40
76 data points
76 data points
76 data points
76 data points
76 data points
Station: F15 File: W9314029.PAB Date: 10-12-1993 Time: 10:19:38





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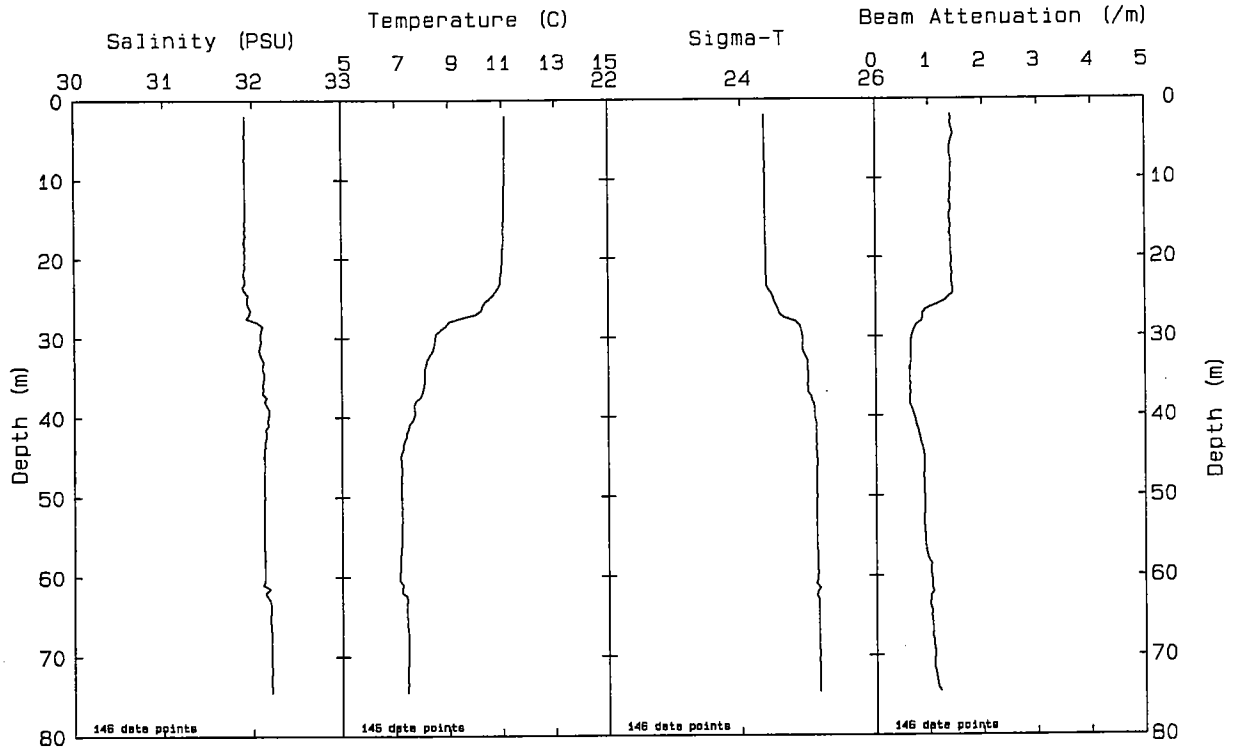
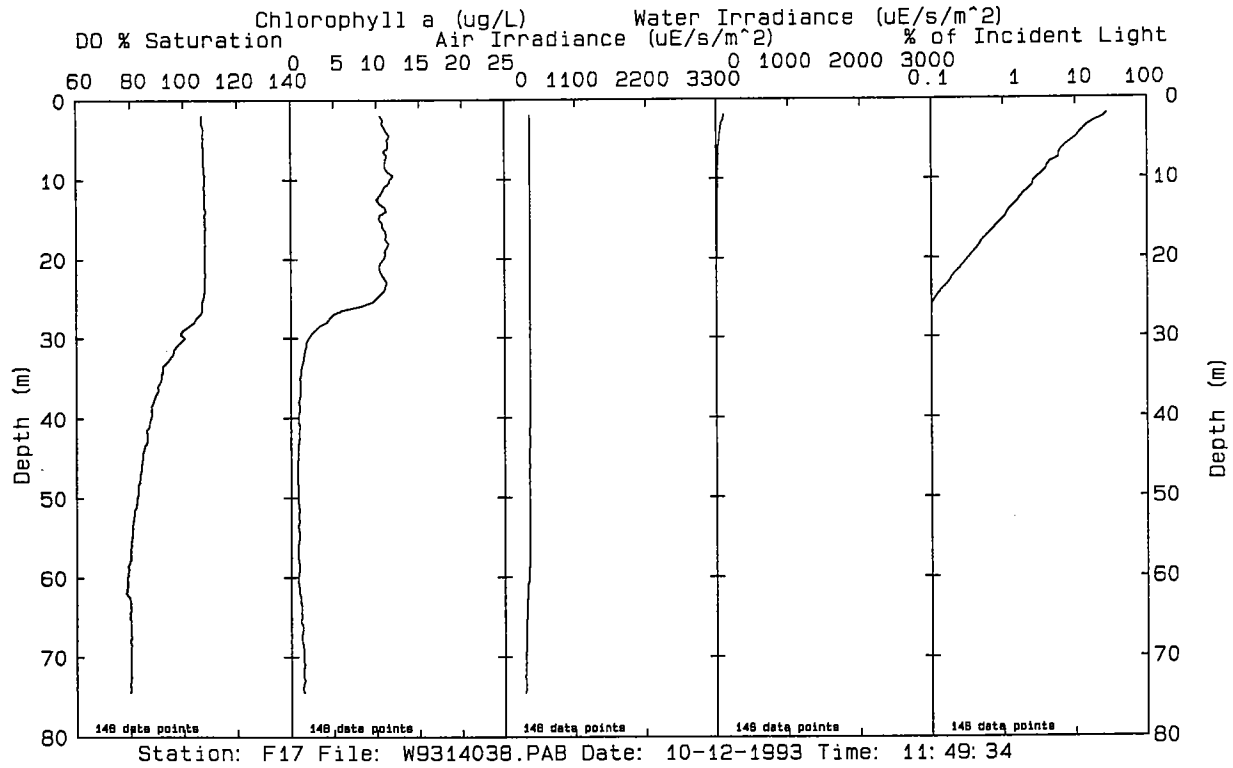
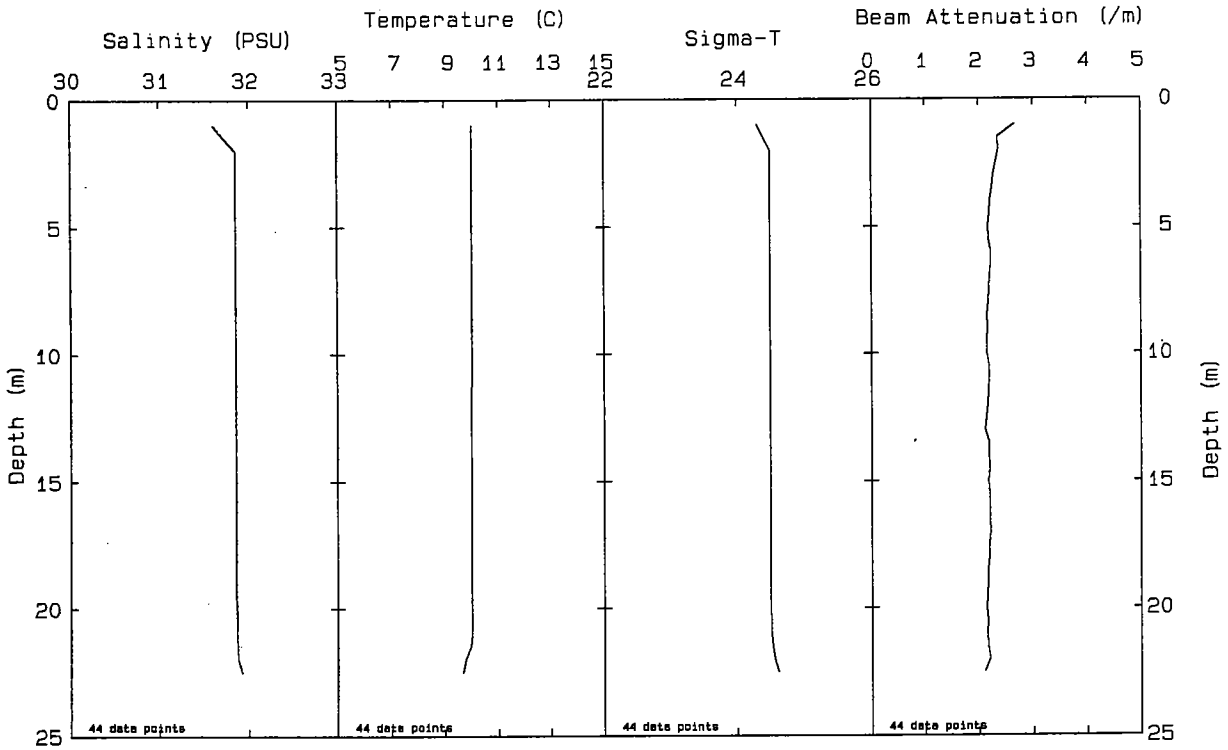
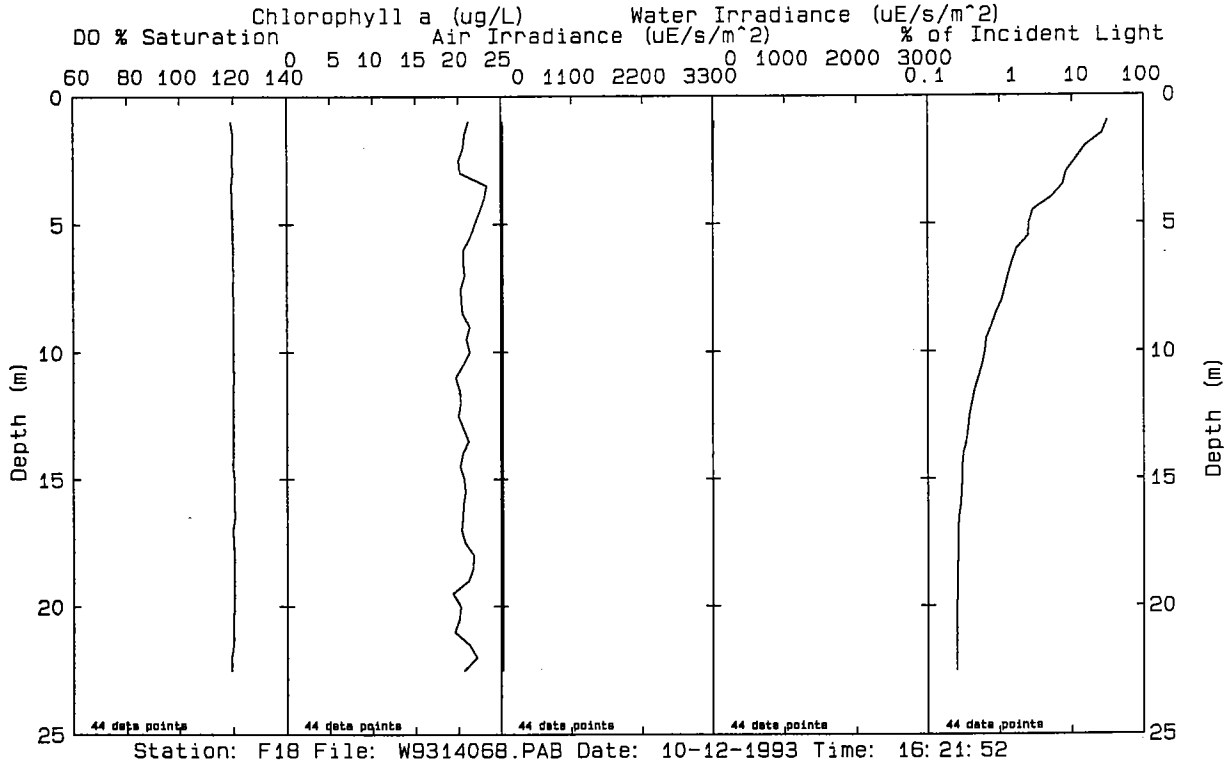


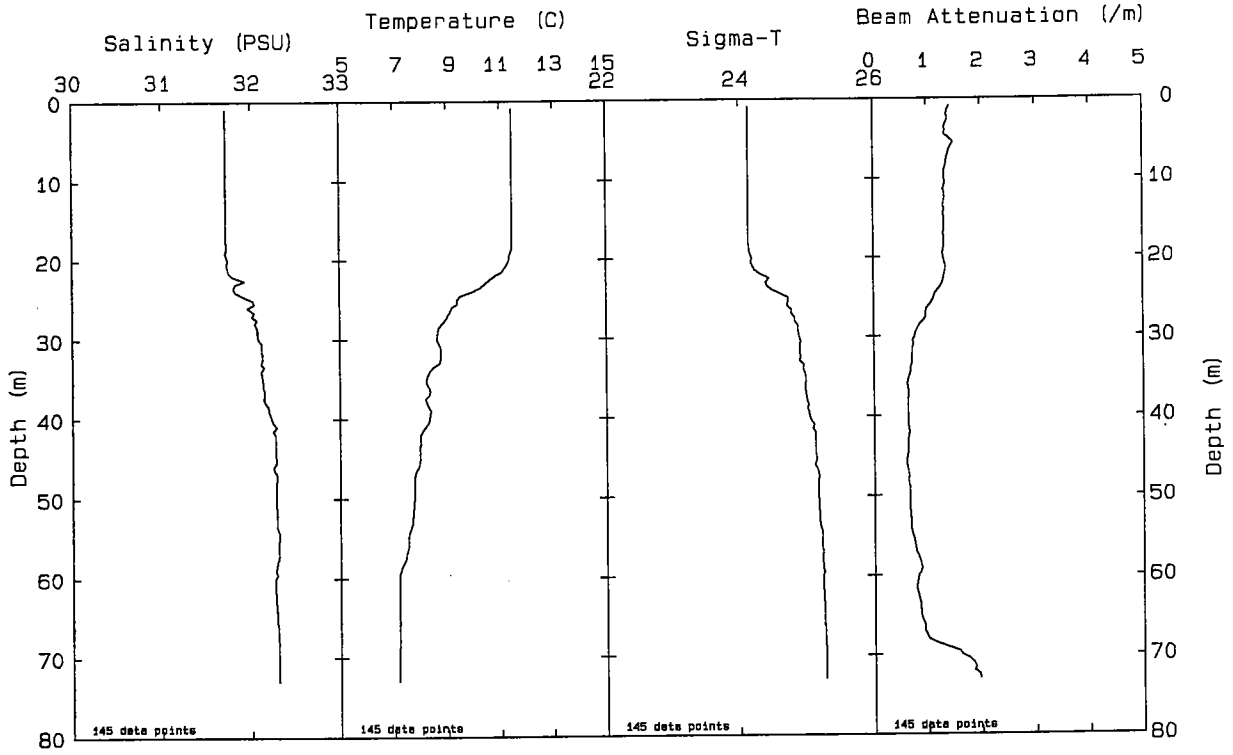


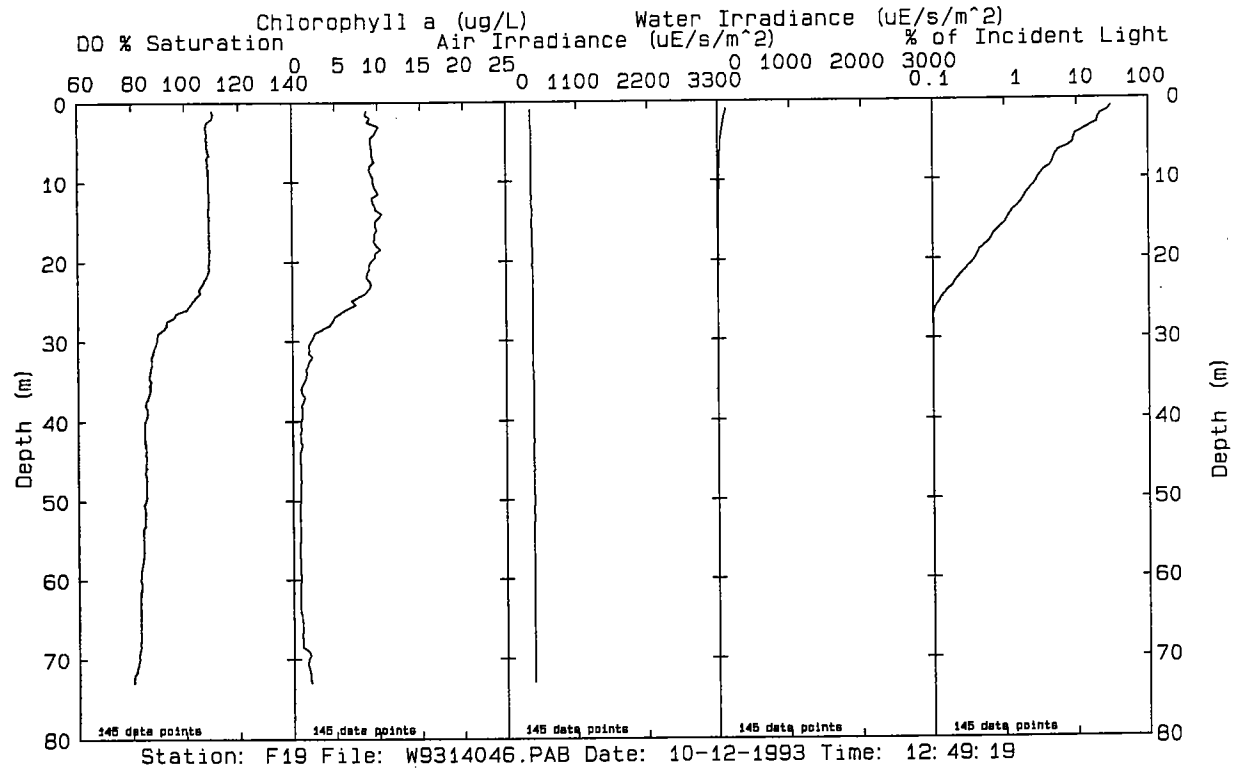
Station: F17 File: W9314038.PAB Date: 10-12-1993 Time: 11:49:34



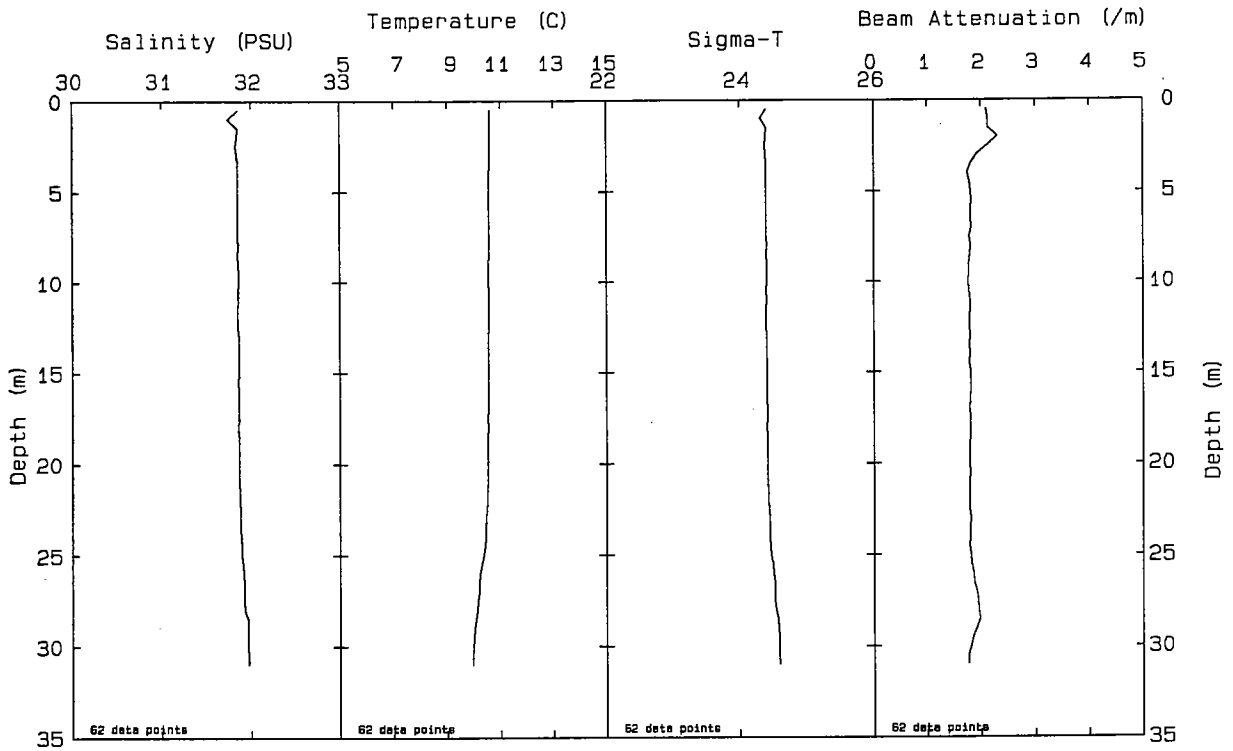


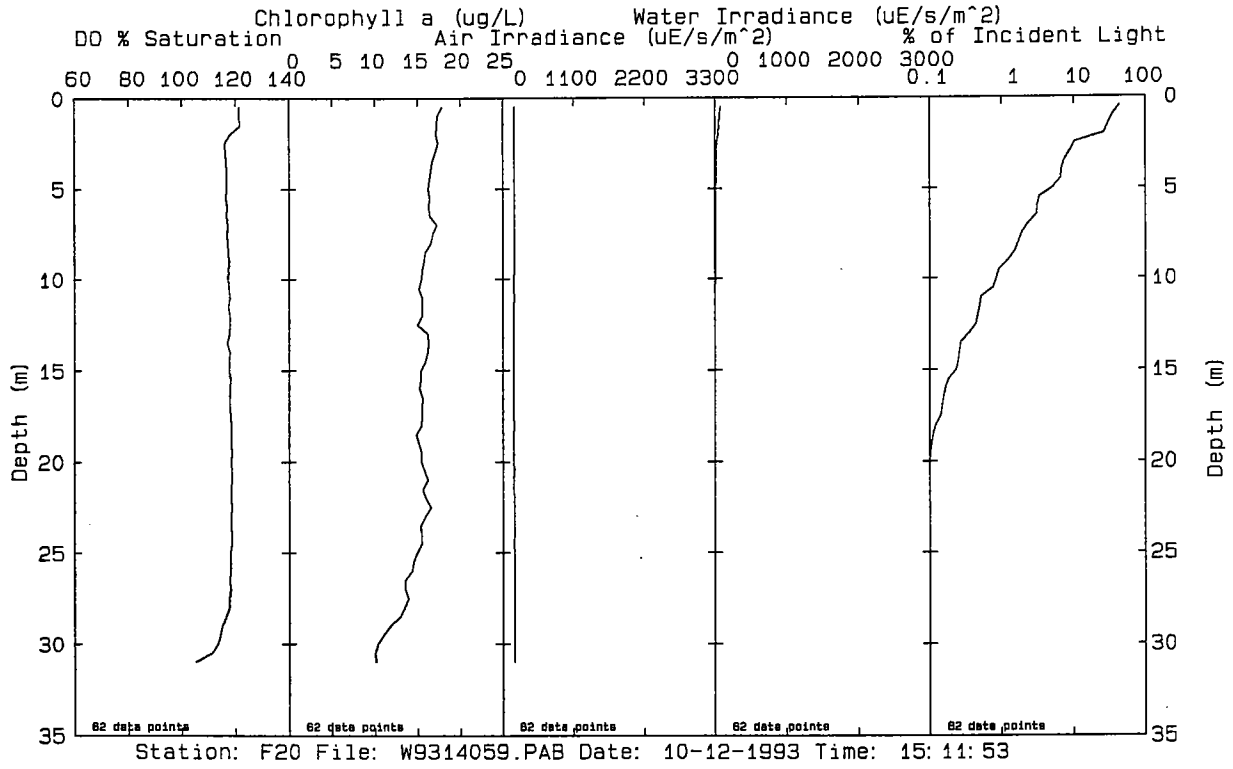
Station: F18 File: W9314068.PAB Date: 10-12-1993 Time: 16:21:52



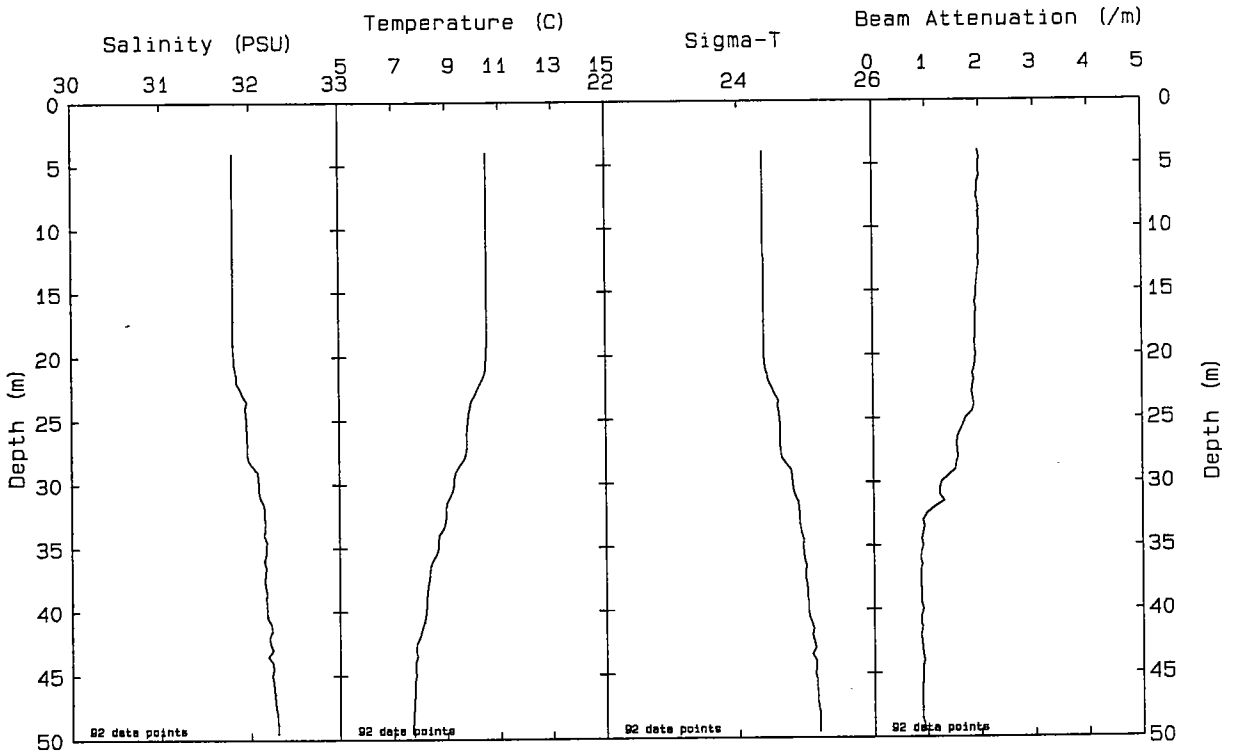


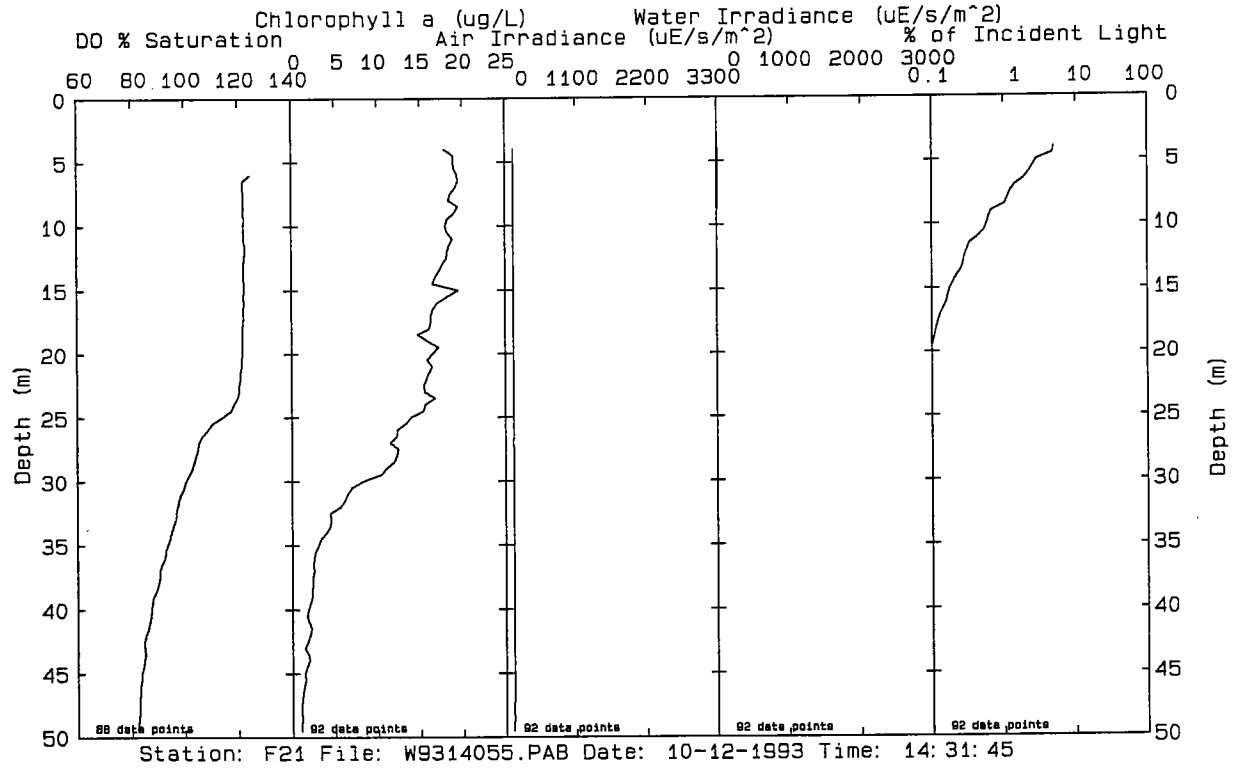
Station: F19 File: W9314046.PAB Date: 10-12-1993 Time: 12:49:19

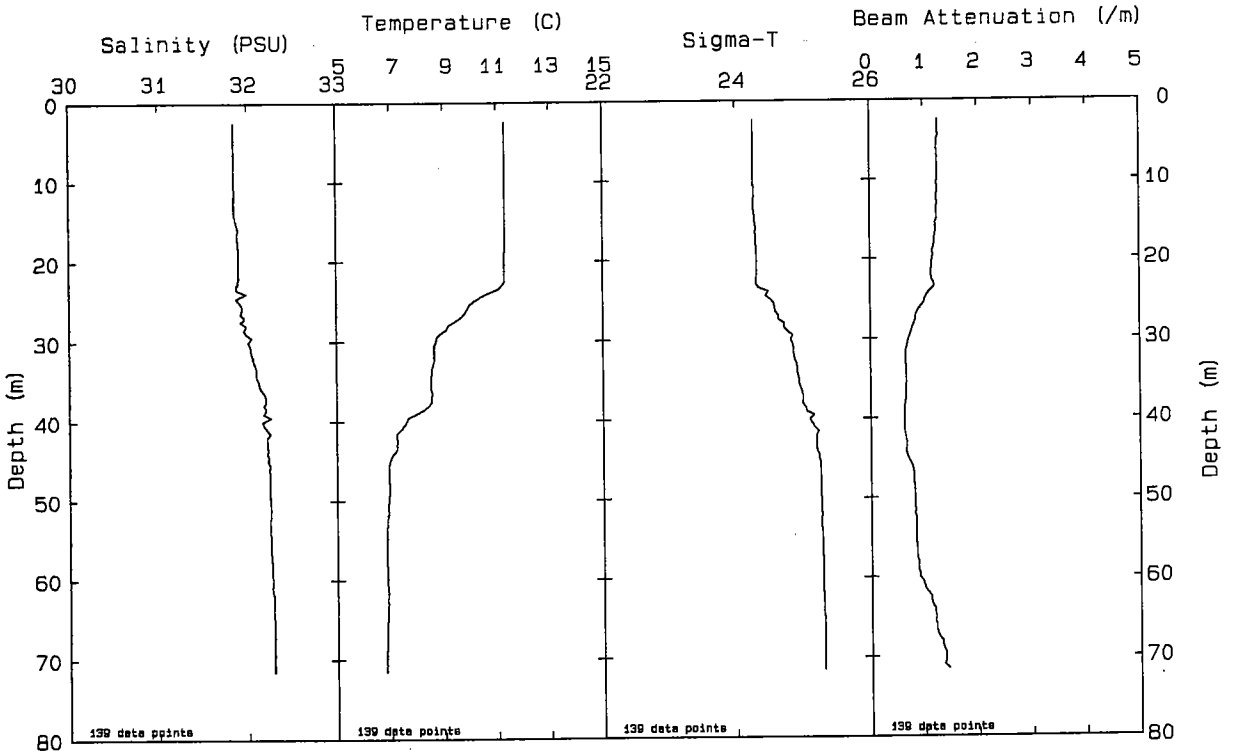


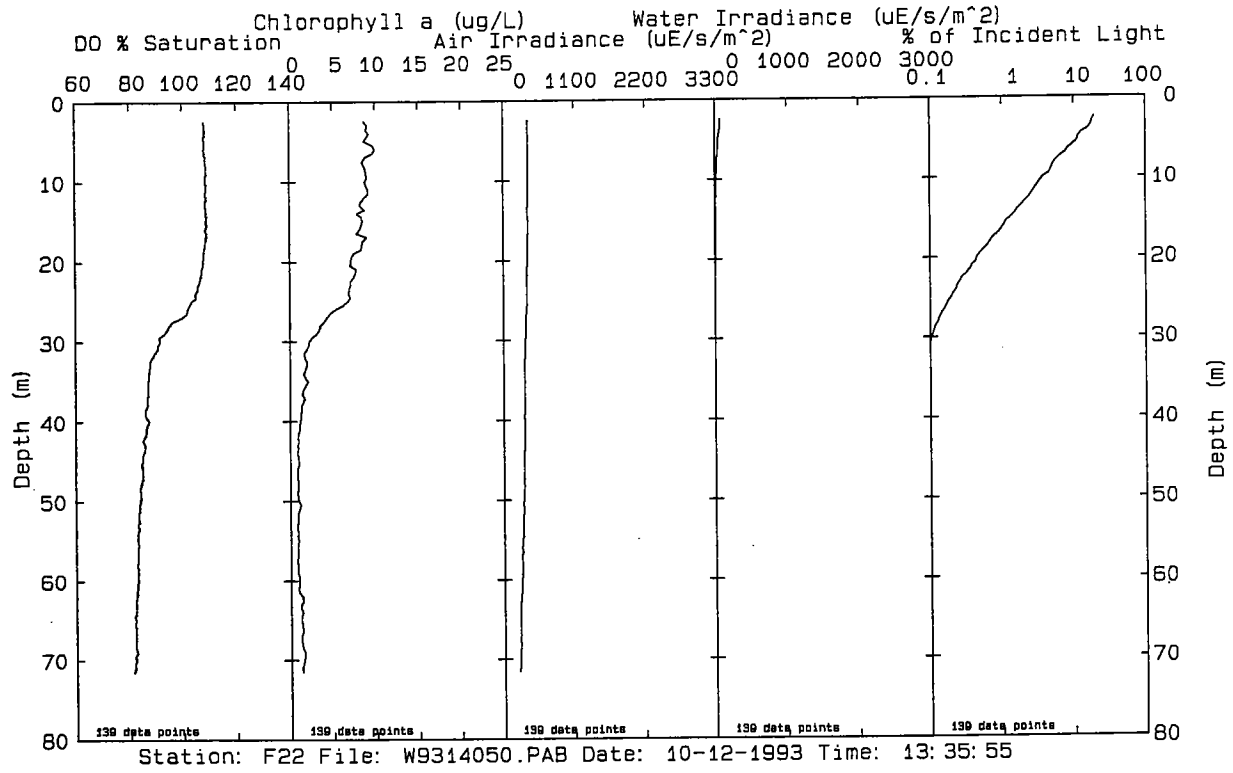


Station: F20 File: W9314059.PAB Date: 10-12-1993 Time: 15:11:53

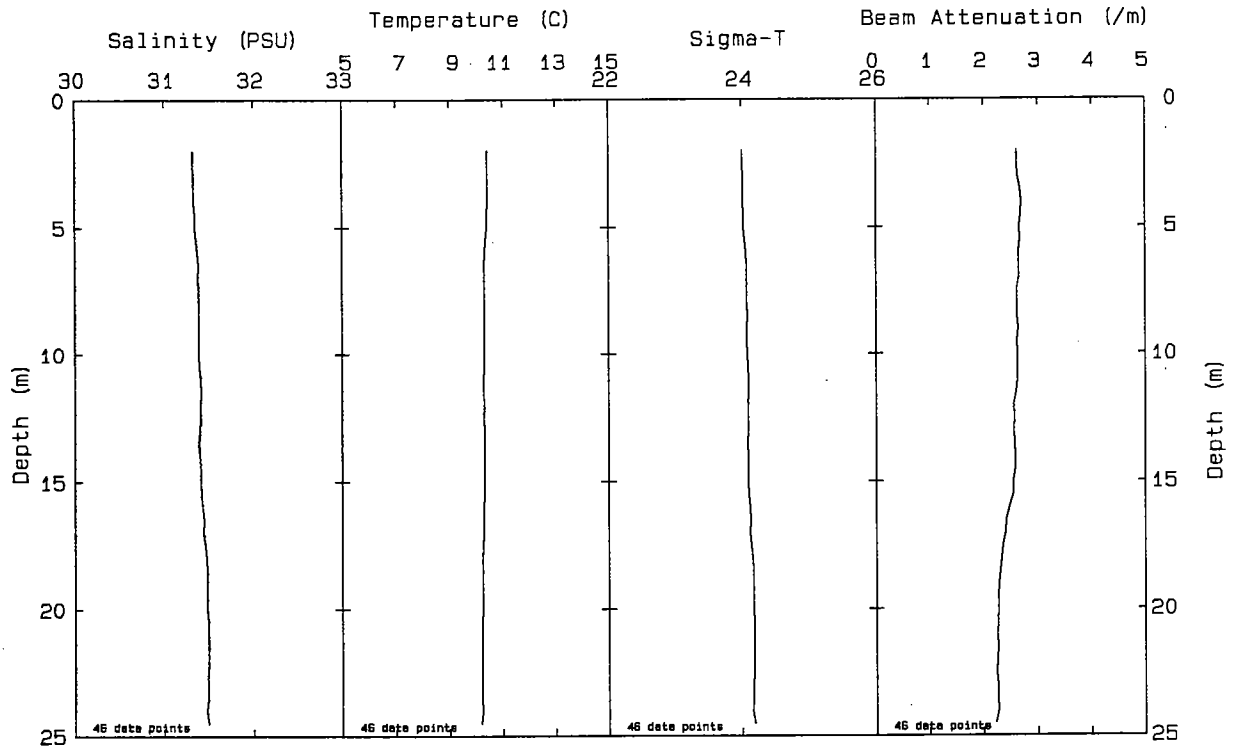

Salinity (PSU)
30 31 32
Temperature (C)
5 7 9 11 13 15
33 22
Sigma-T
24
Beam Attenuation (/m)
0 1 2 3 4 5
26
Depth (m)
0 5 10 15 20 25 30 35 40 45 50
92 data points
92 data points
92 data points
92 data points

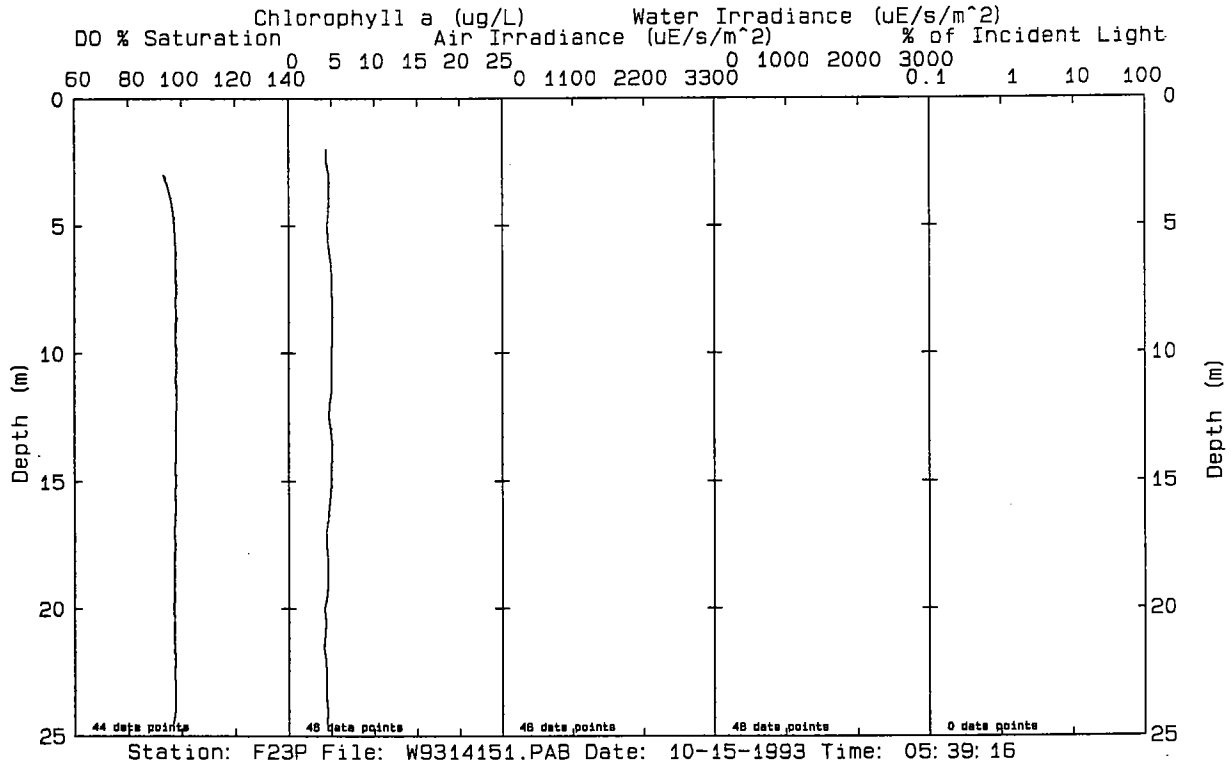

Chlorophyll a (ug/L)
DO % Saturation
60 80 100 120 140
0 5 10 15 20 25
Water Irradiance (uE/s/m^2)
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
% of Incident Light
0 1000 2000 3000
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35 40 45 50
88 data points
92 data points
92 data points
92 data points
92 data points
Station: F21 File: W9314055.PAB Date: 10-12-1993 Time: 14:31:45

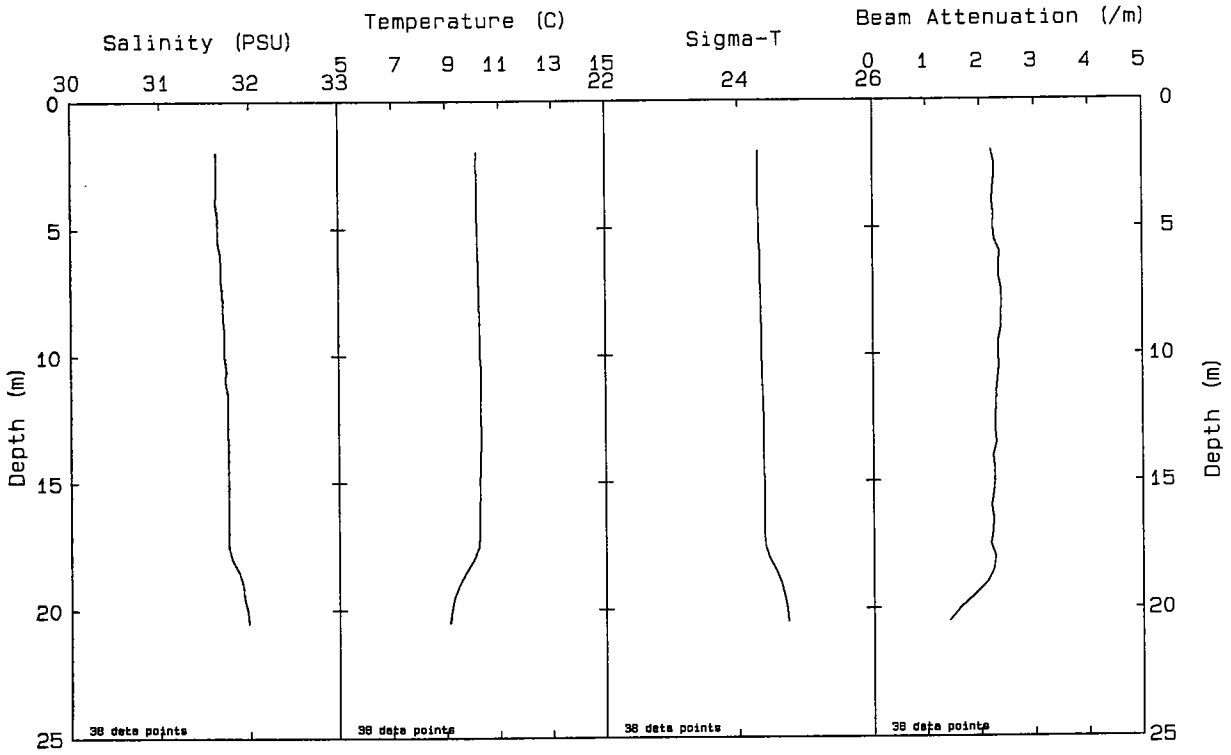


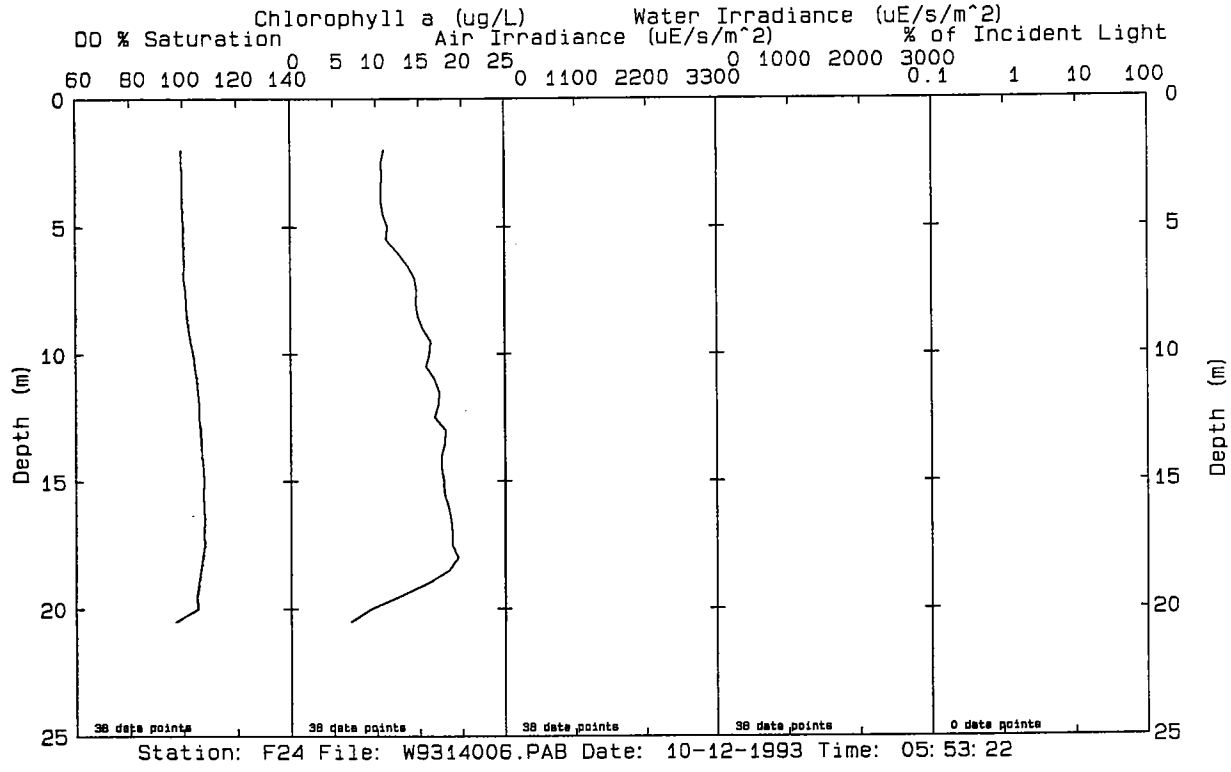


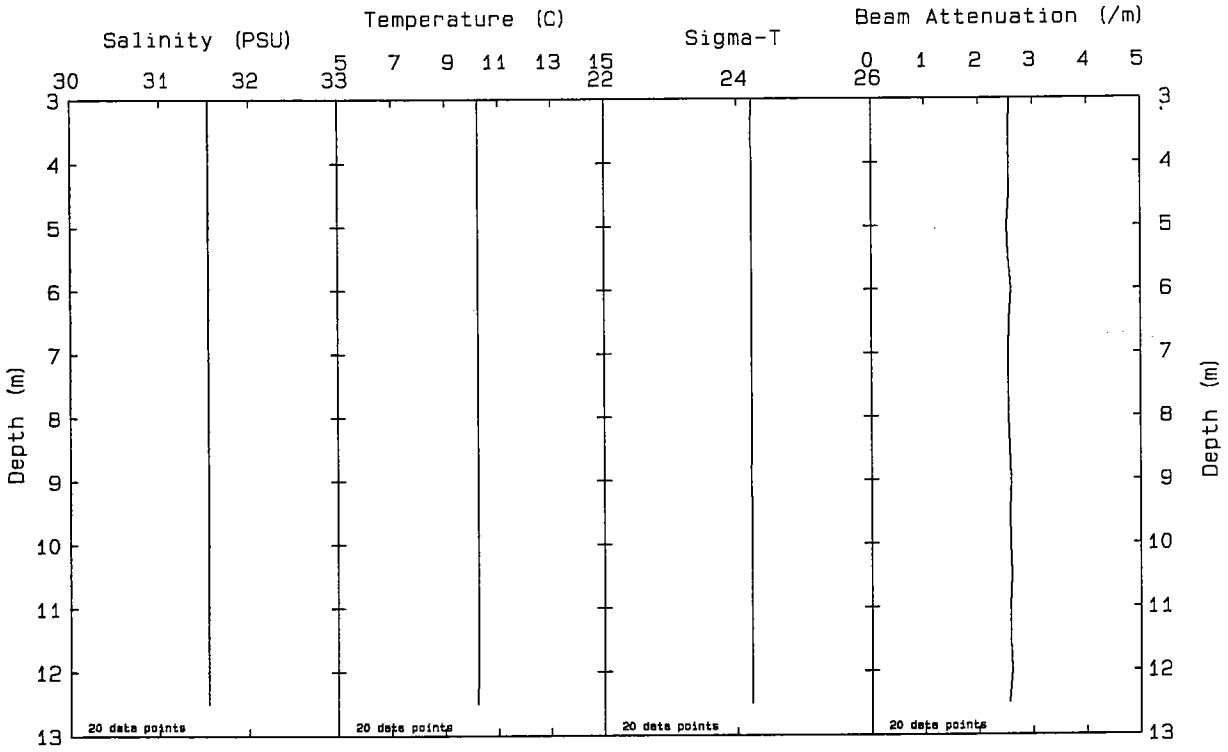
Station: F22 File: W9314050.PAB Date: 10-12-1993 Time: 13:35:55

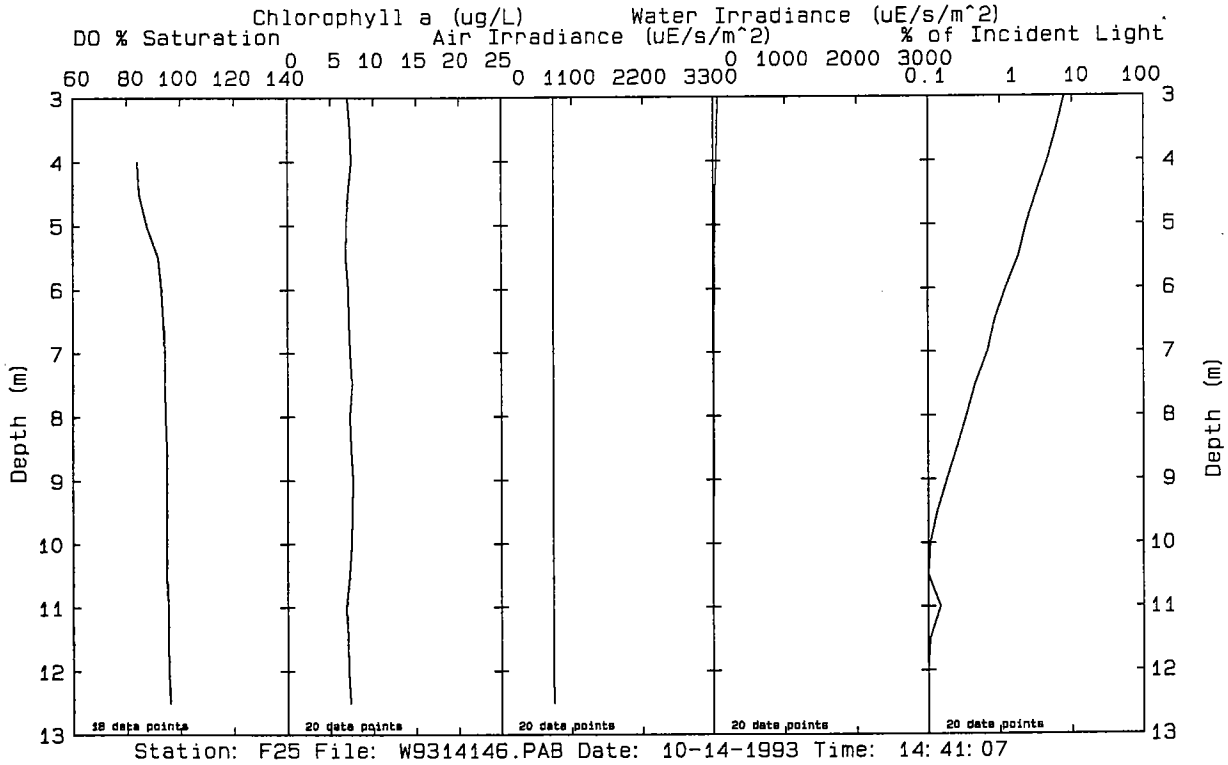

Salinity (PSU)
30 31 32
Temperature (C)
5 7 9 11 13 15
33 22
Sigma-T
24 26
Beam Attenuation (/m)
0 1 2 3 4 5
Depth (m)
0 5 10 15 20 25
46 data points
46 data points
46 data points
46 data points


DO % Saturation
60 80 100 120 140
Chlorophyll a (ug/L)
0 5 10 15 20 25
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25
44 data points
48 data points
48 data points
48 data points
0 data points
Station: F23P File: W9314151.PAB Date: 10-15-1993 Time: 05:39:16

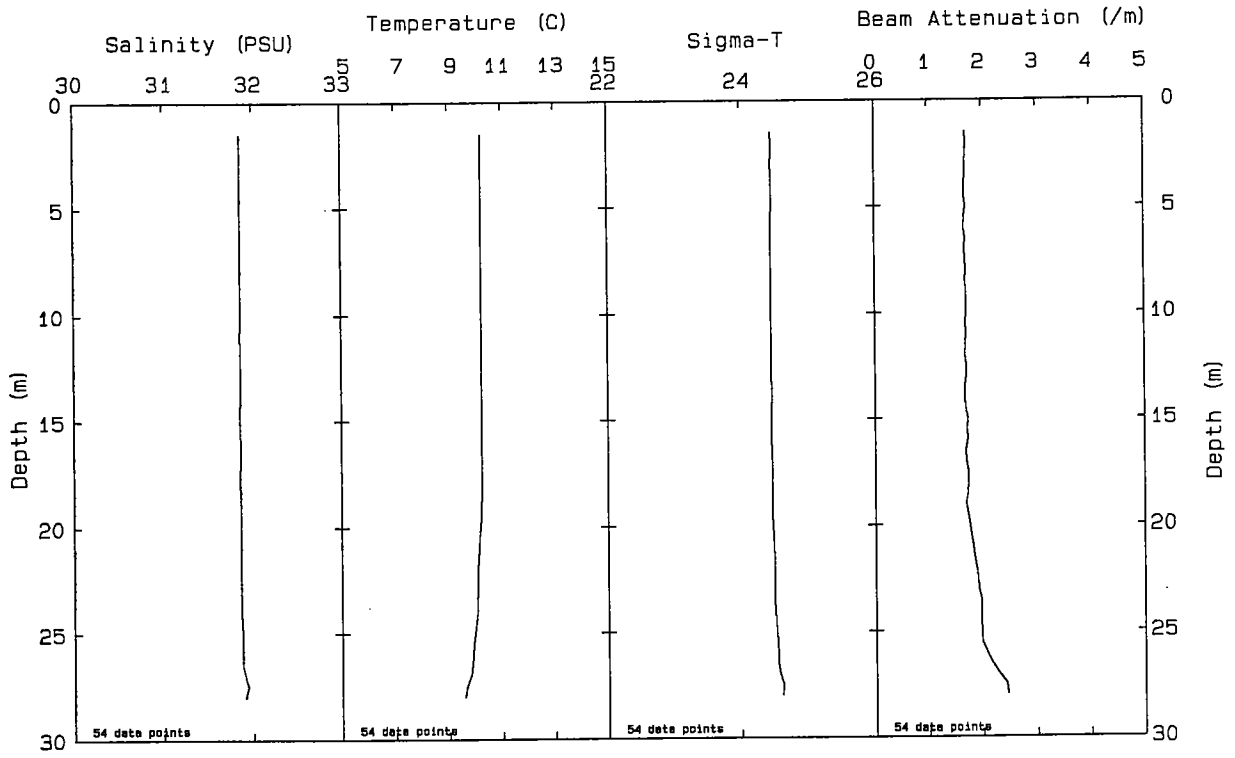

Salinity (PSU)
30 31 32
Temperature (C)
5 7 9 11 13 15
33 22
Sigma-T
24
Beam Attenuation (/m)
0 1 2 3 4 5
26
Depth (m)
0 5 10 15 20 25
38 data points
38 data points
38 data points
38 data points

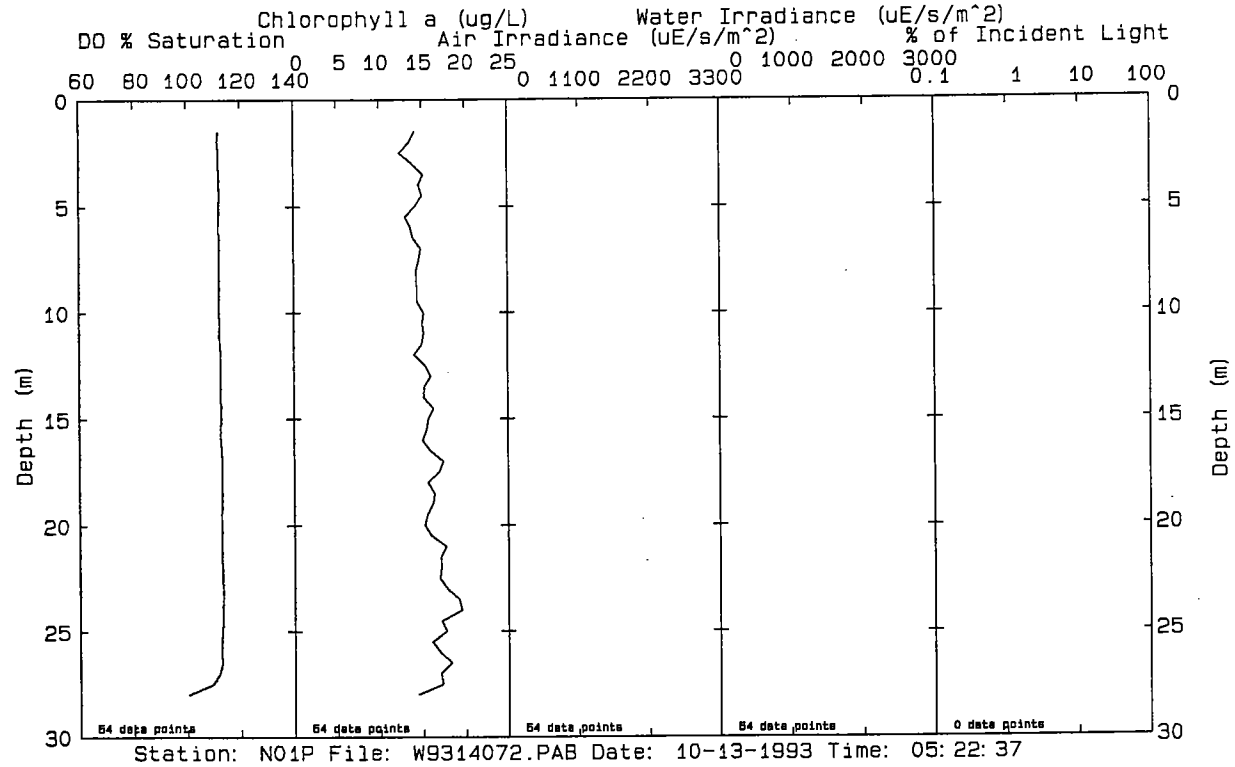

DO % Saturation
60 80 100 120 140
Chlorophyll a (ug/L)
0 5 10 15 20 25
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25
38 data points
38 data points
38 data points
38 data points
0 data points
Station: F24 File: W9314006.PAB Date: 10-12-1993 Time: 05:53:22



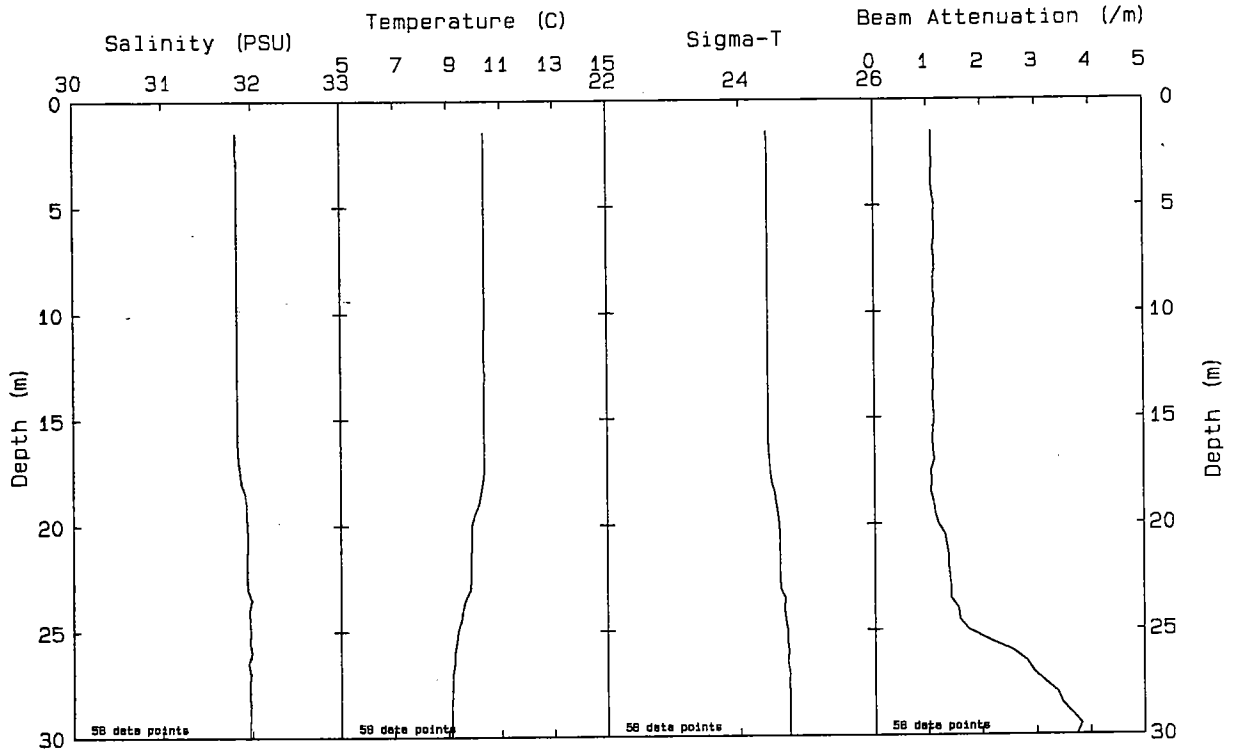


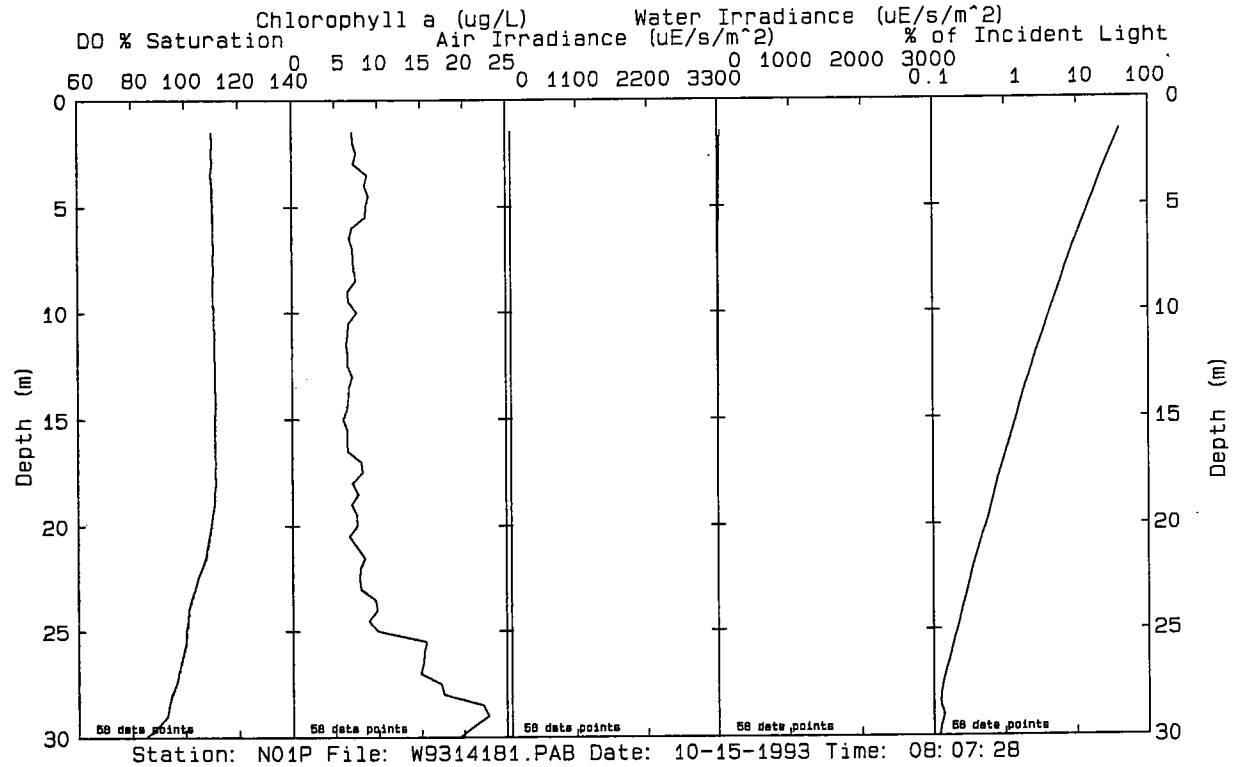
Station: F25 File: W9314146.PAB Date: 10-14-1993 Time: 14:41:07

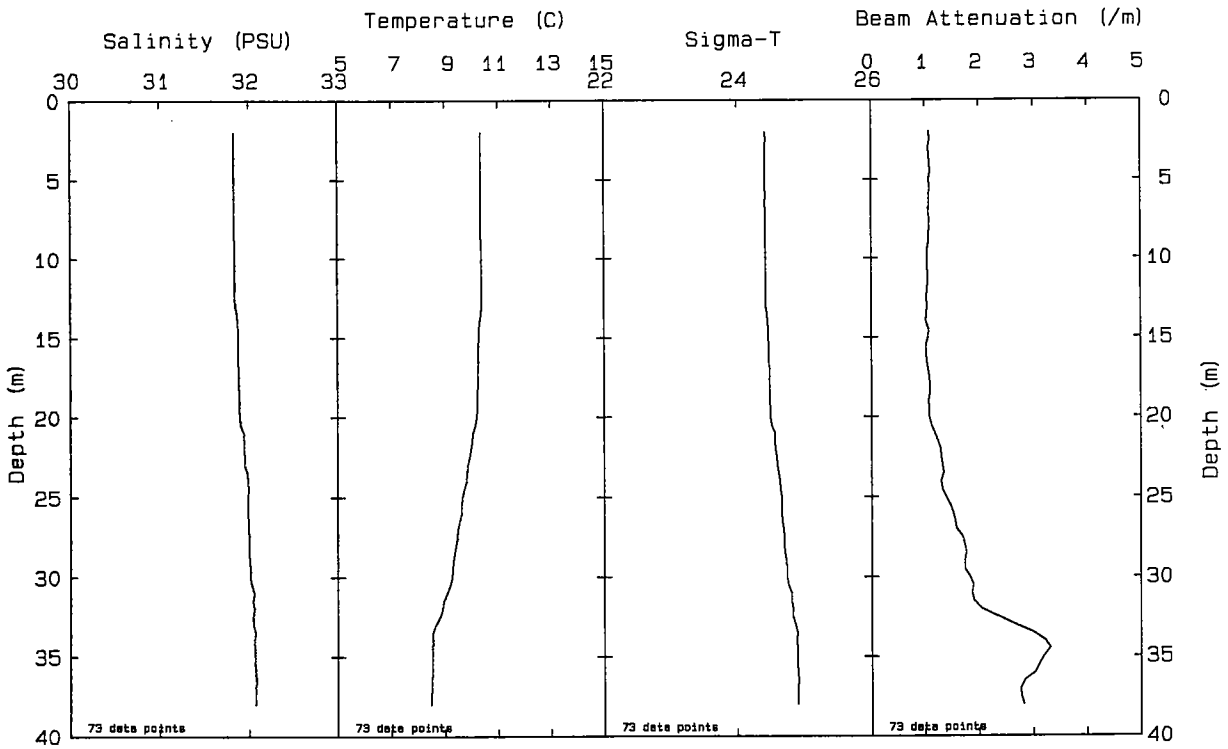


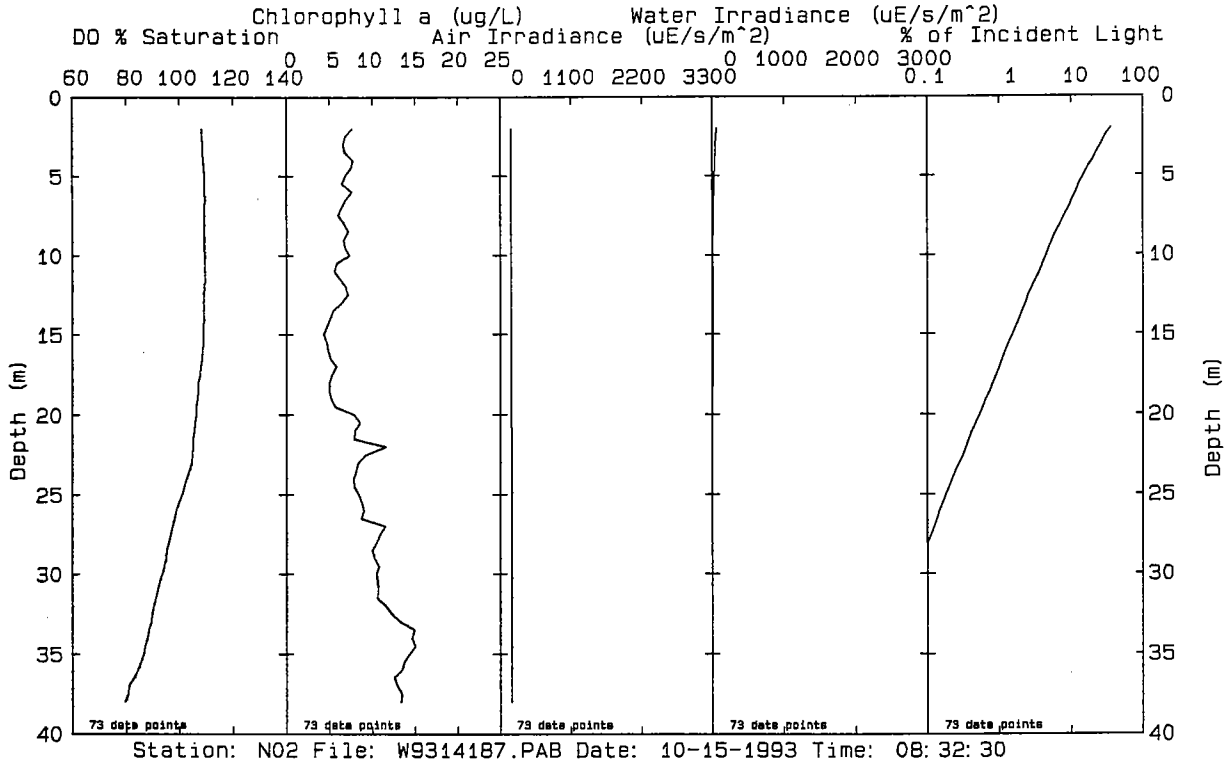


Station: N01P File: W9314072.PAB Date: 10-13-1993 Time: 05:22:37

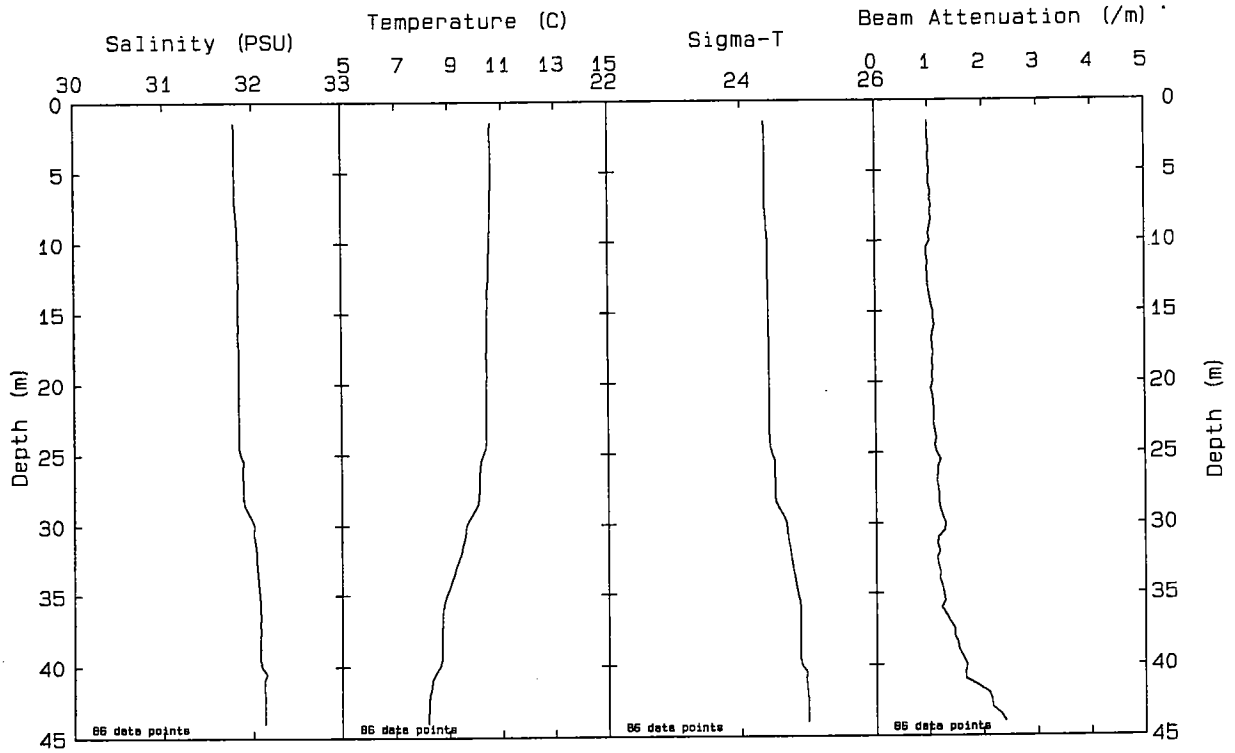

Salinity (PSU)
30 31 32
Temperature (C)
5 7 9 11 13 15
33 22
Sigma-T
24
Beam Attenuation (/m)
0 1 2 3 4 5
26
Depth (m)
0 5 10 15 20 25 30
58 data points
58 data points
58 data points
58 data points
Depth (m)

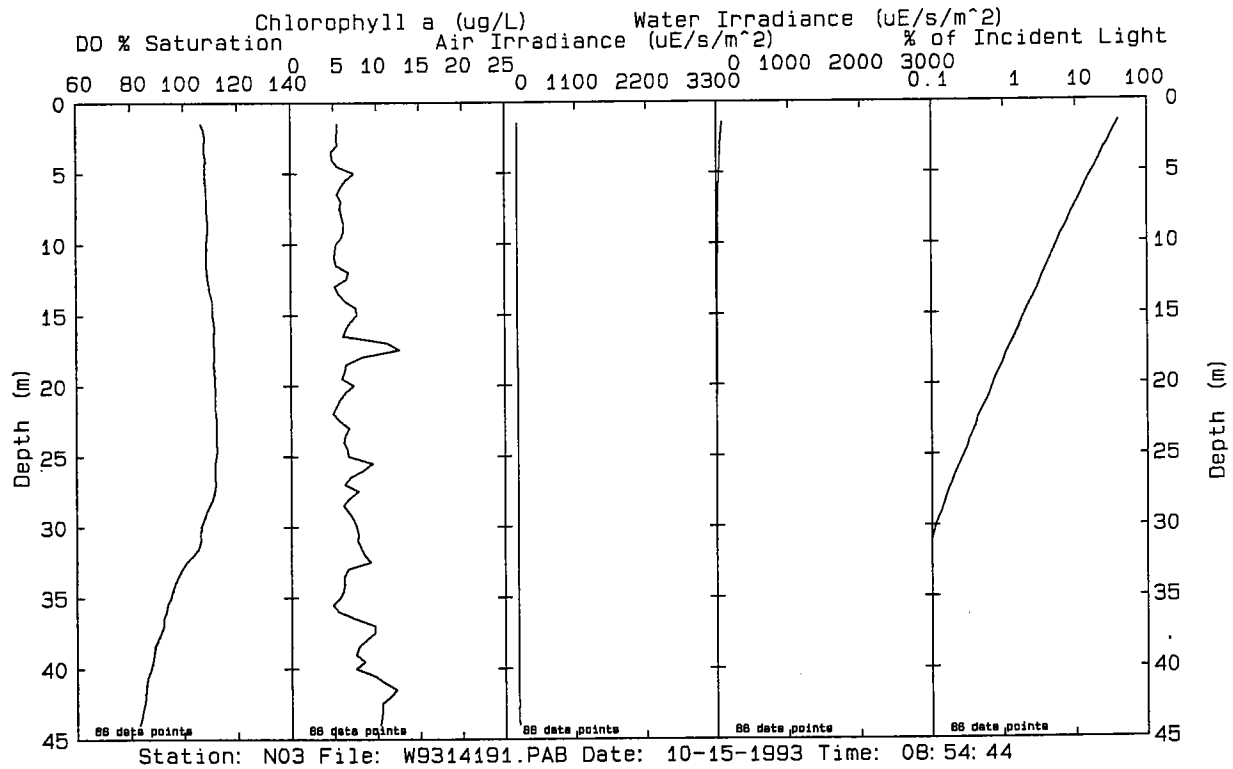

DO % Saturation
60 80 100 120 140
Chlorophyll a (ug/L)
0 5 10 15 20 25
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30
58 data points
58 data points
58 data points
58 data points
58 data points
Depth (m)
Station: N01P File: W9314181.PAB Date: 10-15-1993 Time: 08:07:28



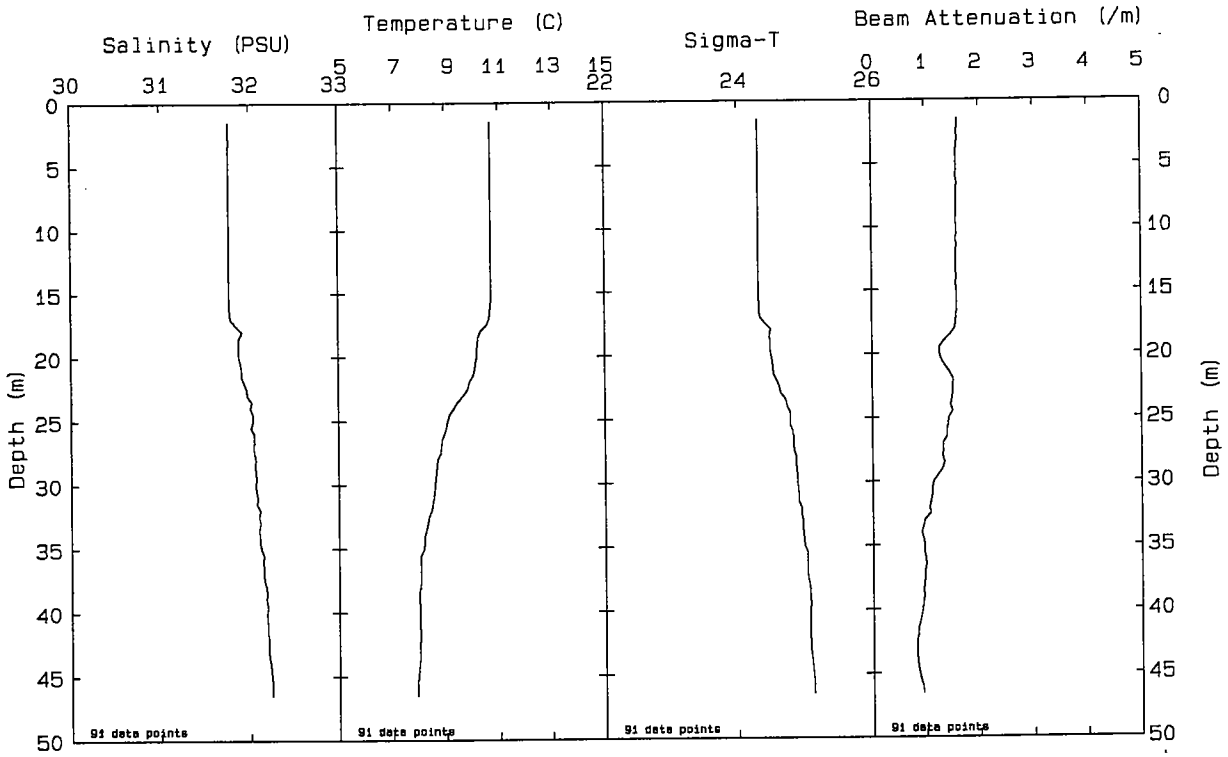


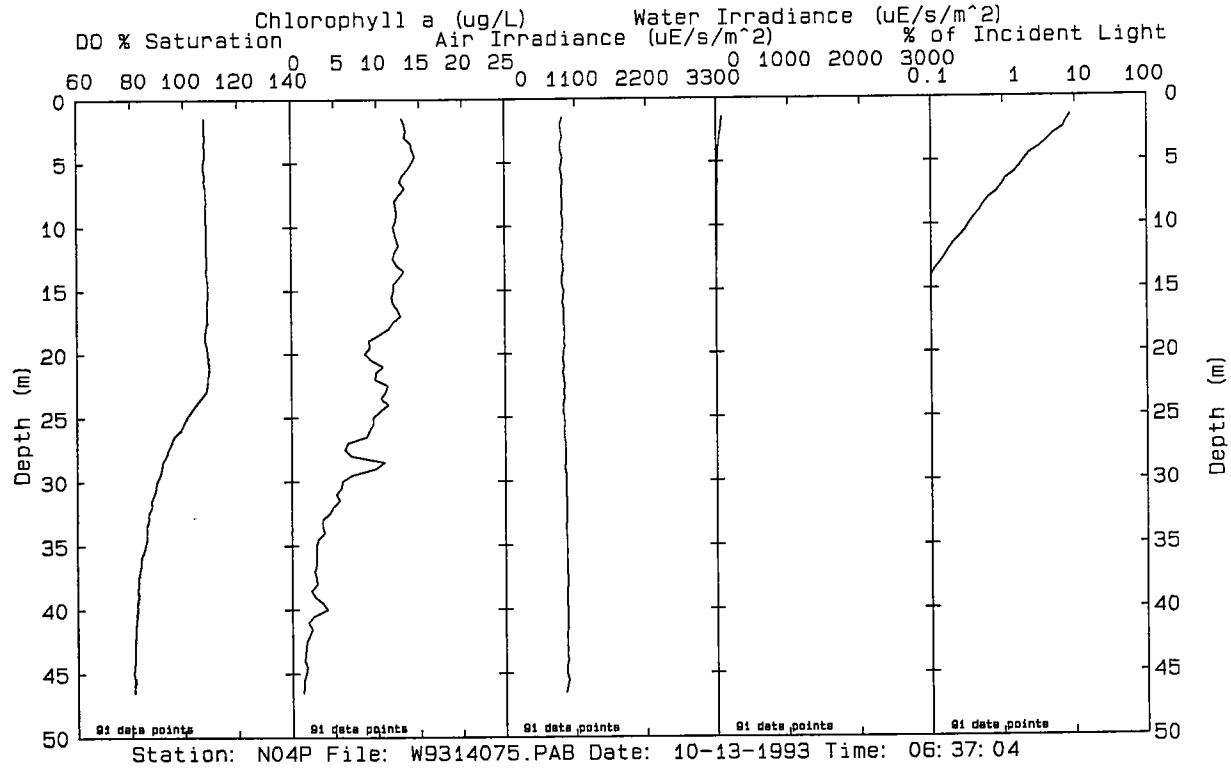
Station: N02 File: W9314187.PAB Date: 10-15-1993 Time: 08:32:30



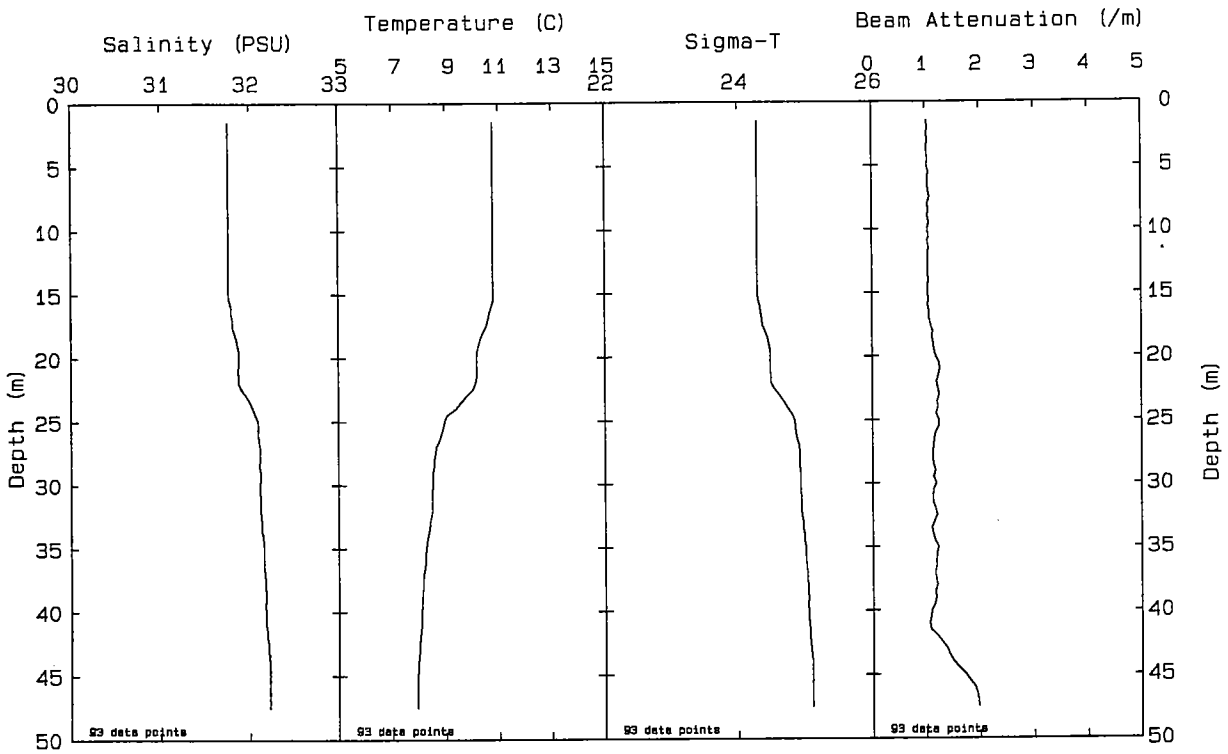


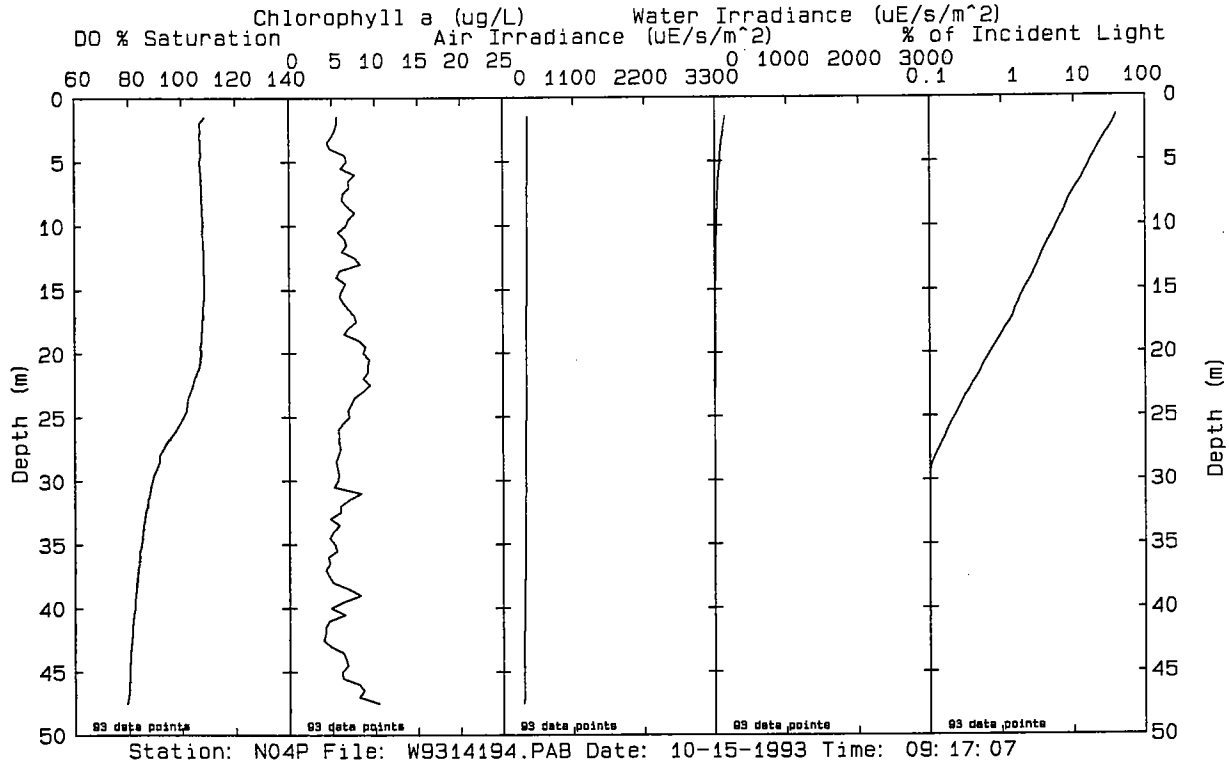
Station: N03 File: W9314191.PAB Date: 10-15-1993 Time: 08:54:44



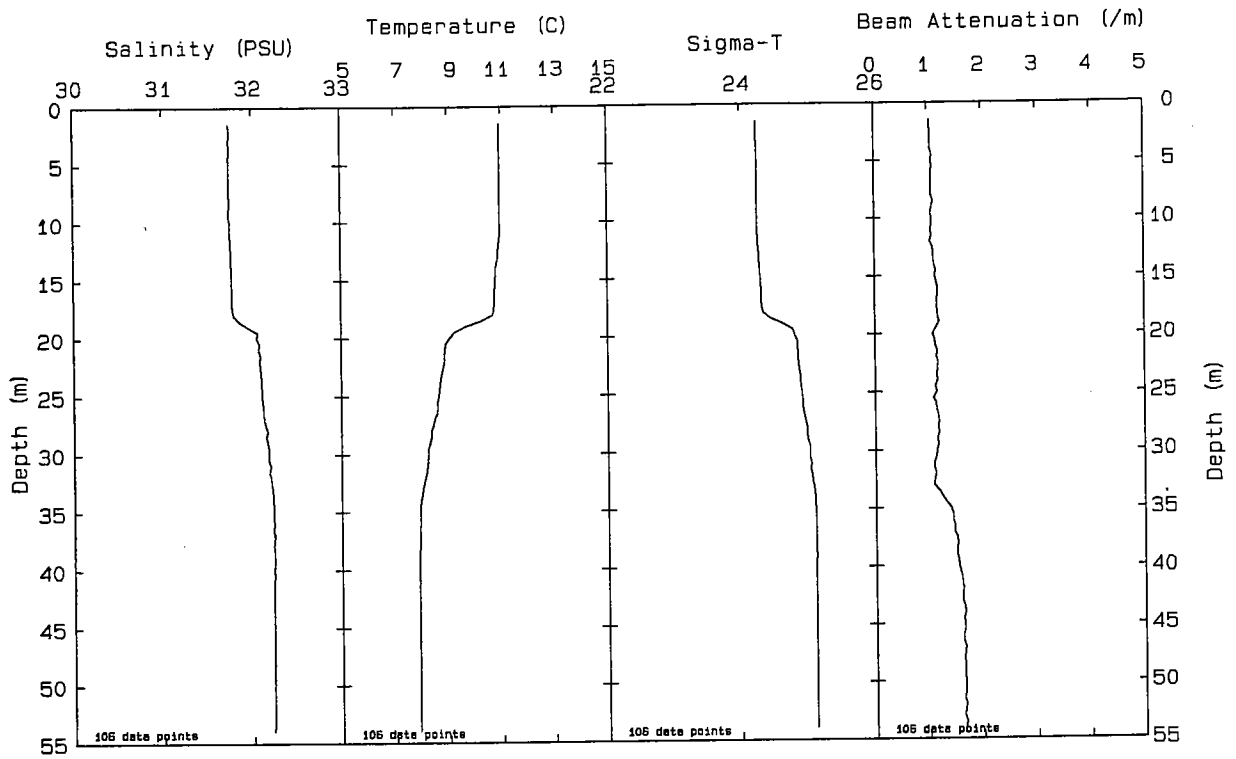


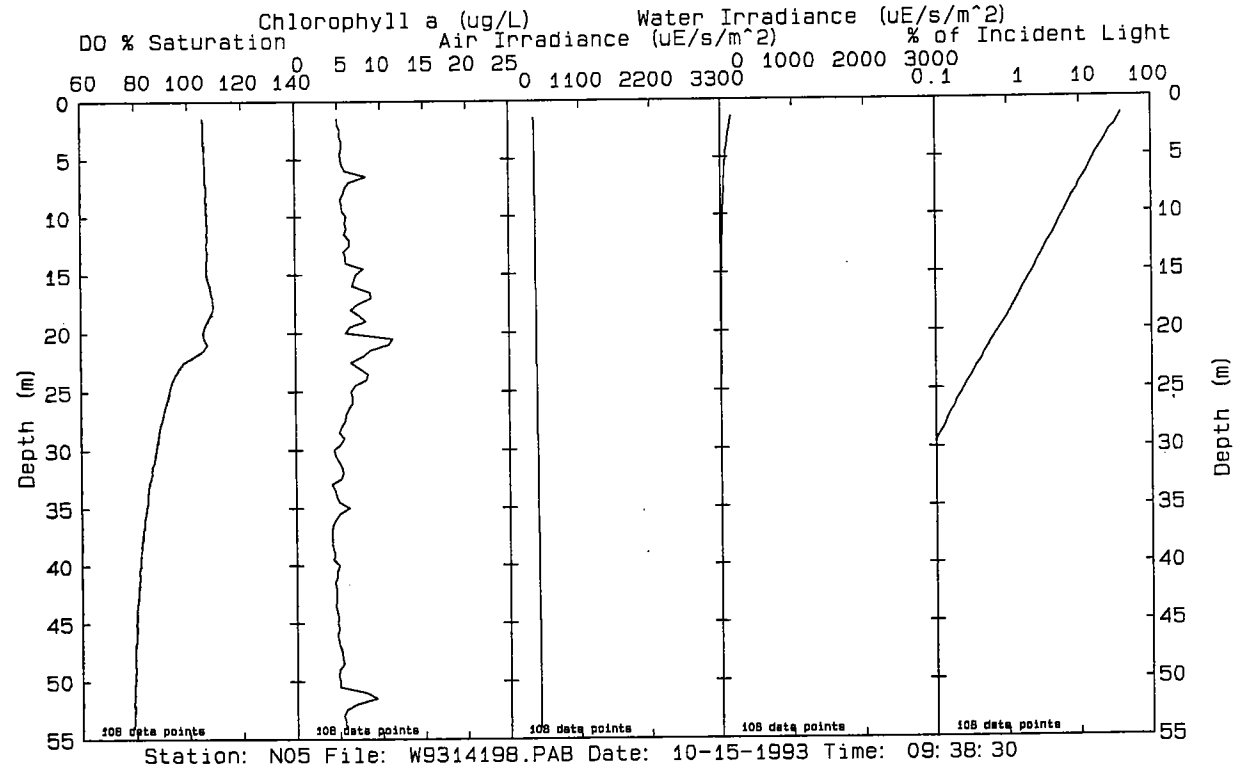
Station: N04P File: W9314075.PAB Date: 10-13-1993 Time: 06:37:04



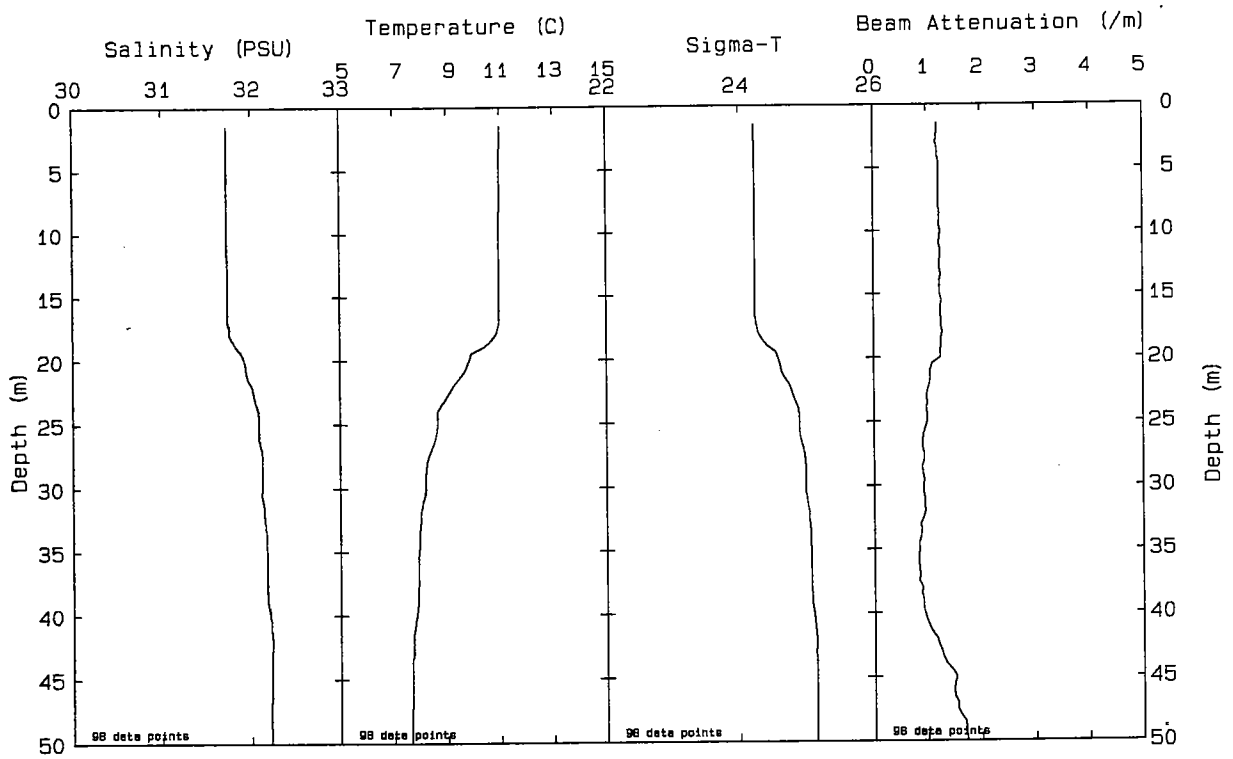


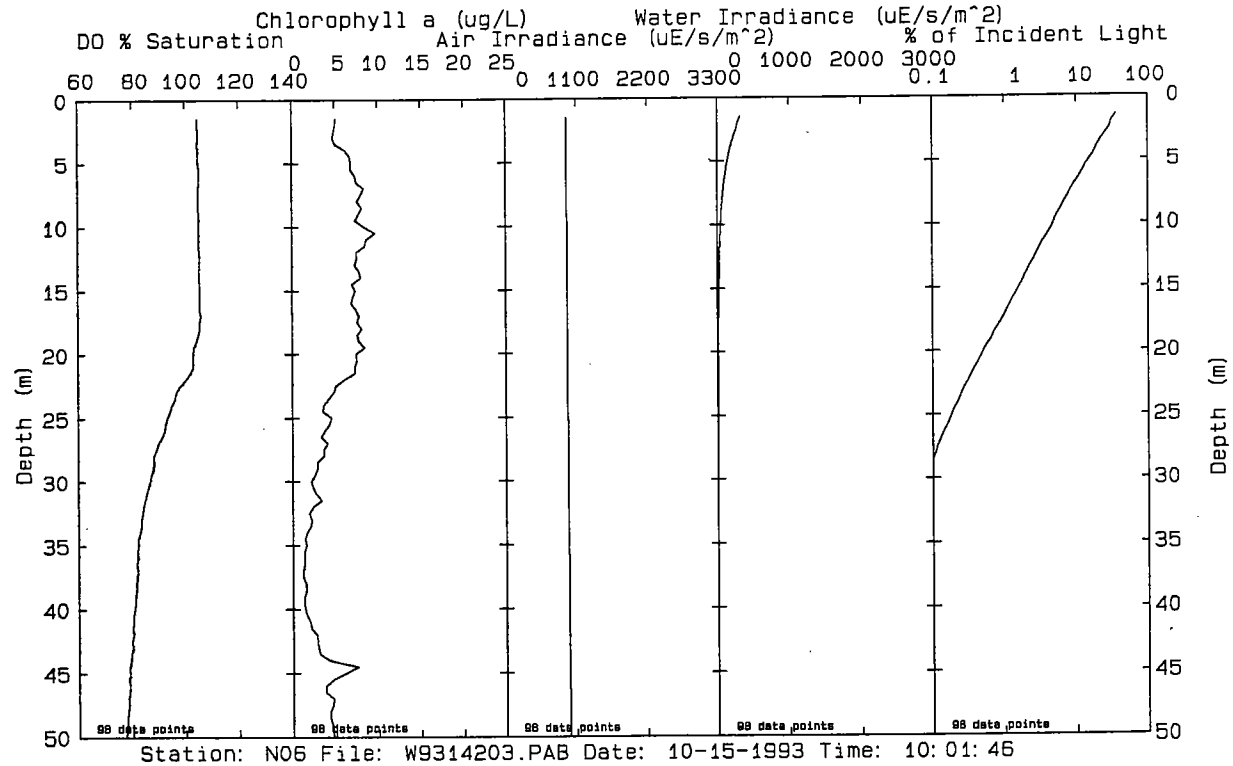
Station: N04P File: W9314194.PAB Date: 10-15-1993 Time: 09:17:07



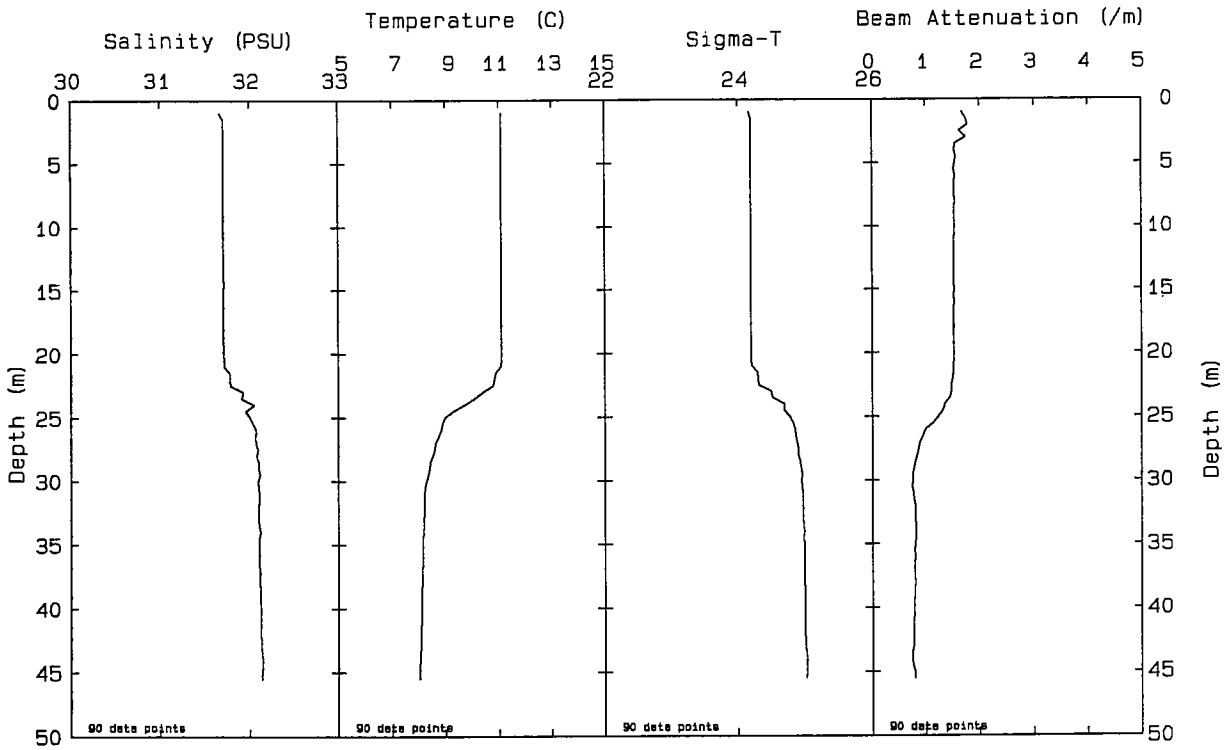


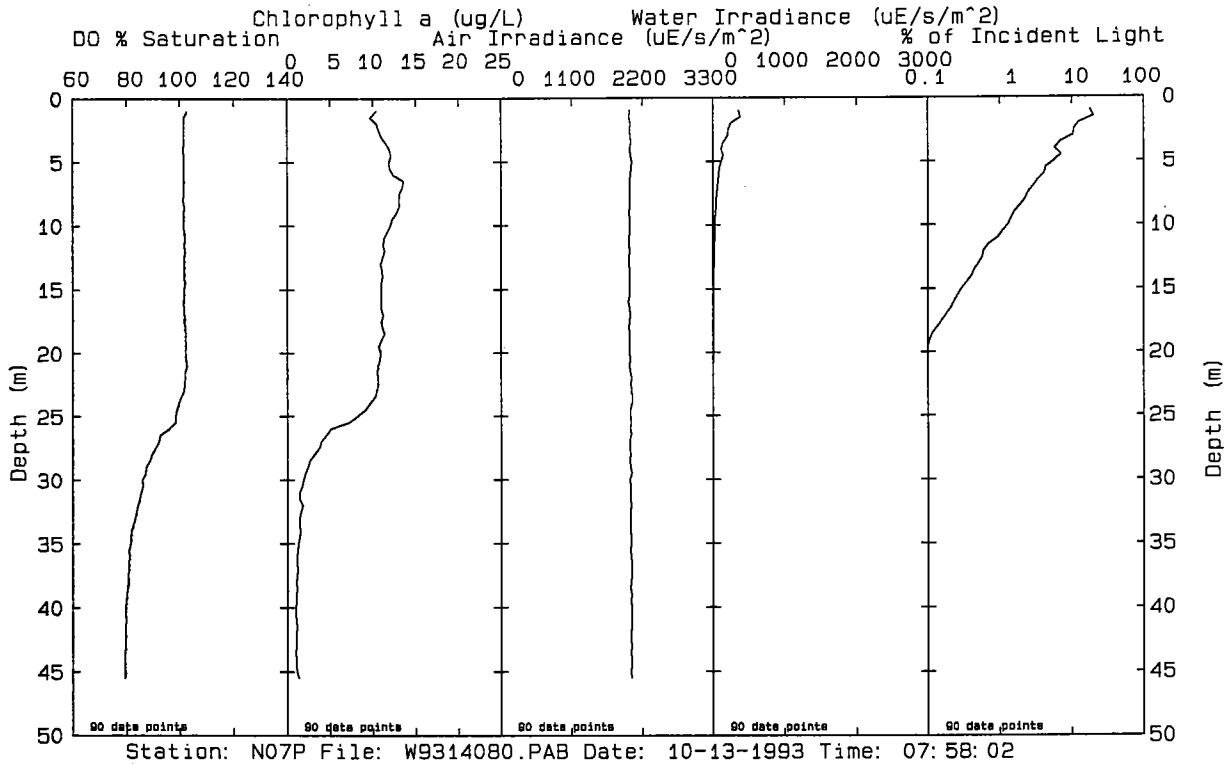
Station: N05 File: W9314198.PAB Date: 10-15-1993 Time: 09:38:30



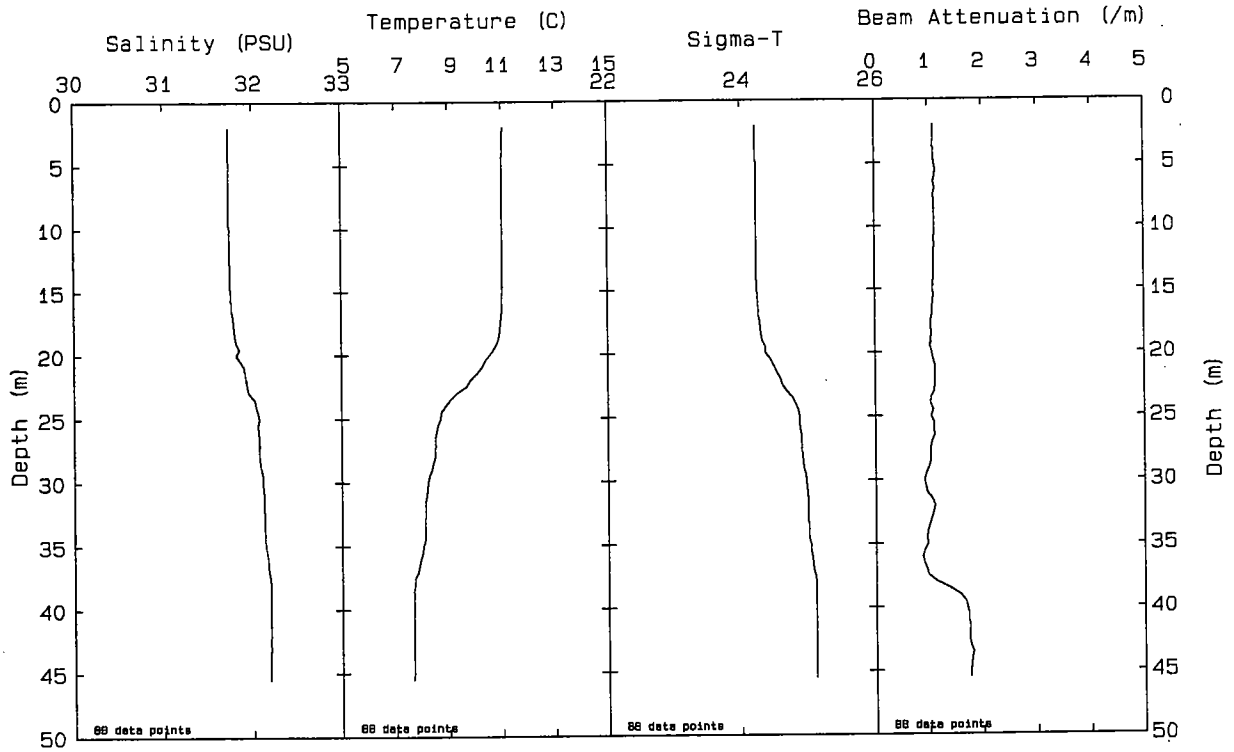


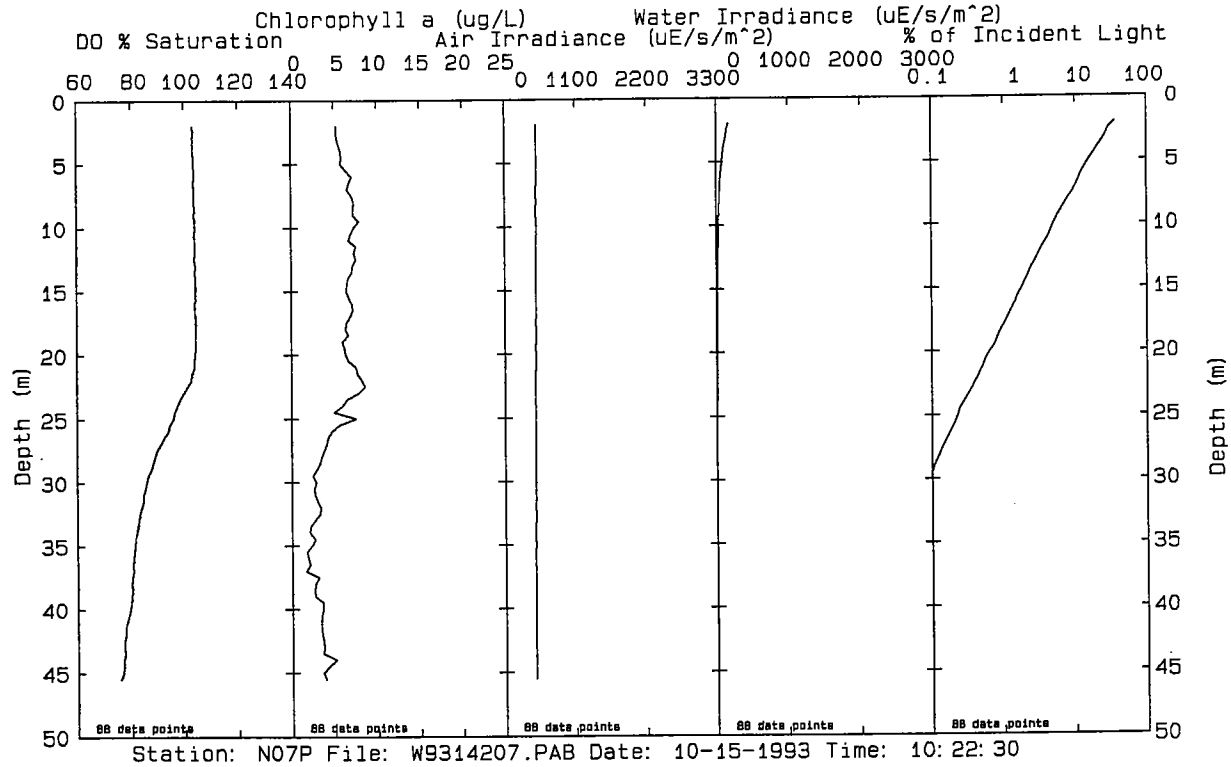
Station: N06 File: W9314203.PAB Date: 10-15-1993 Time: 10:01:46



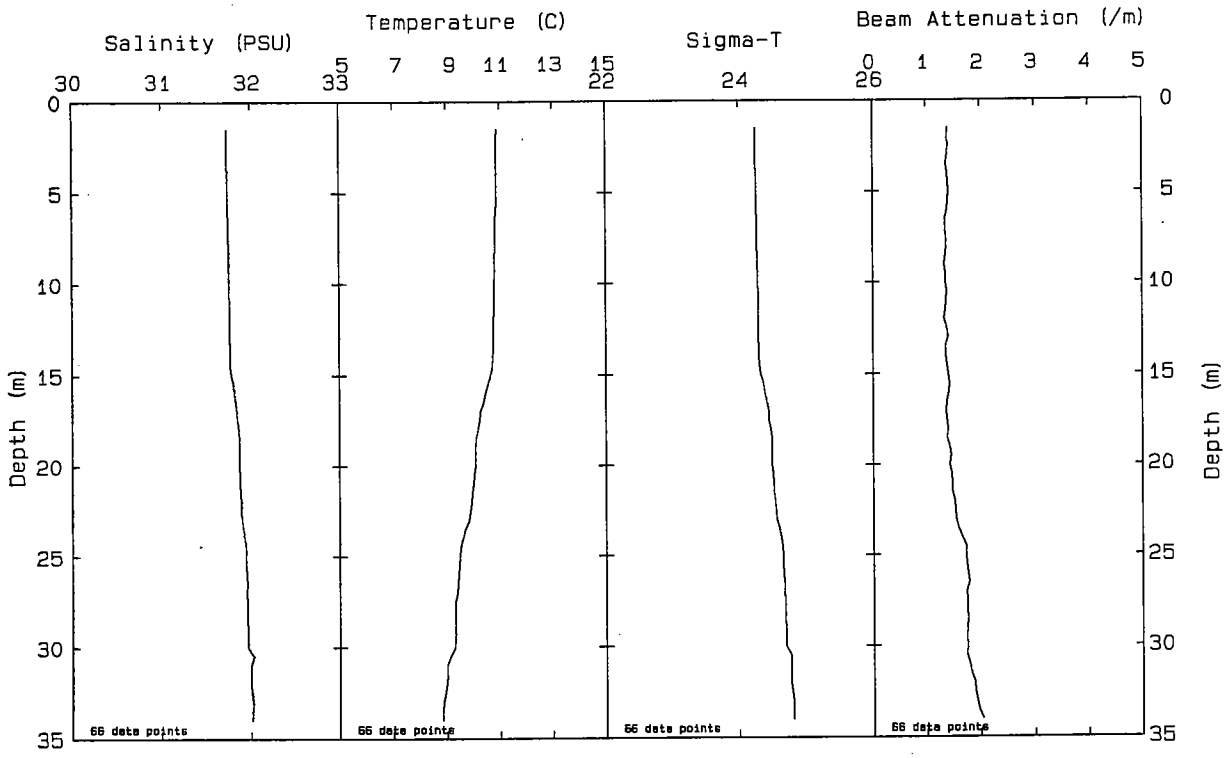


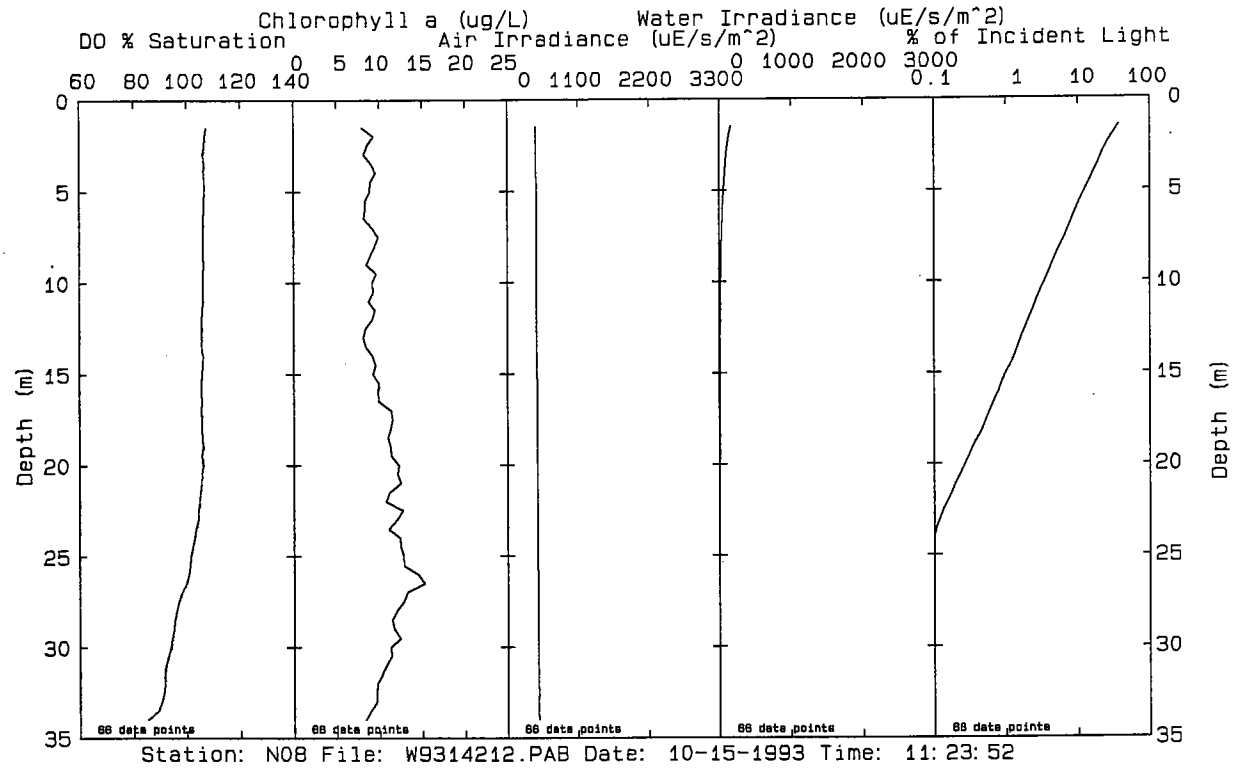
Station: N07P File: W9314080.PAB Date: 10-13-1993 Time: 07:58:02



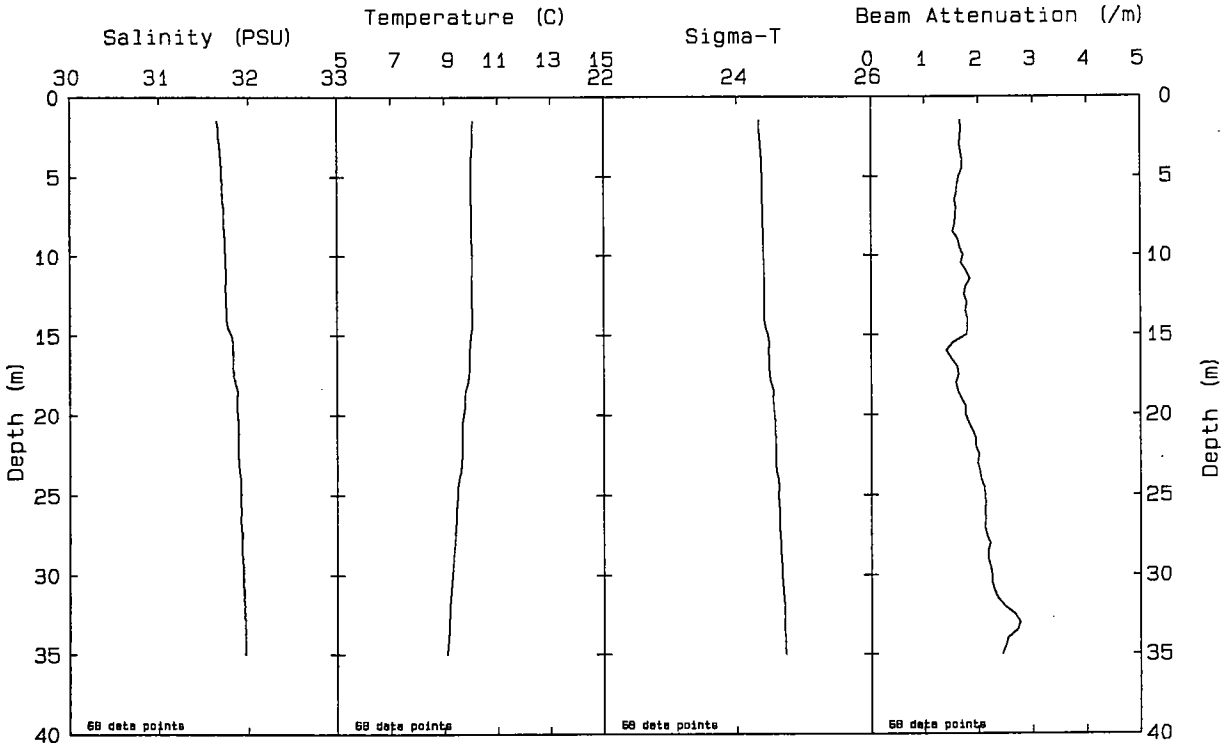


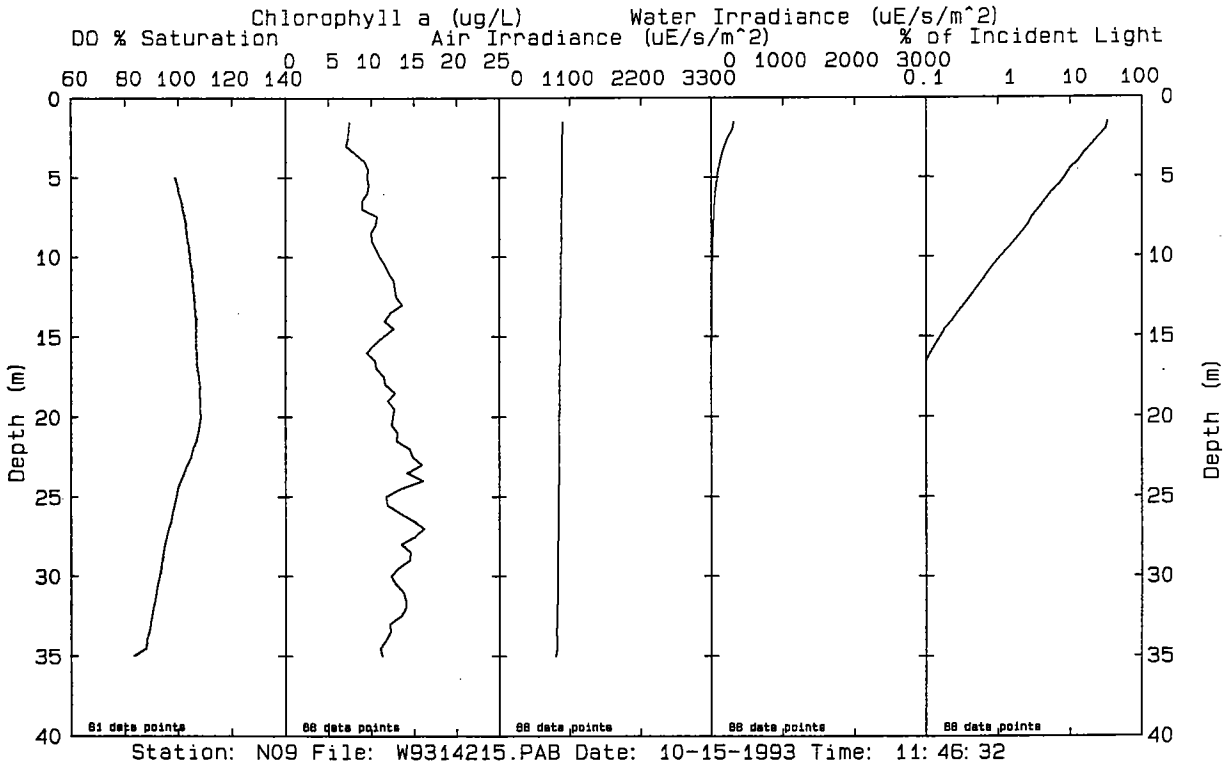
Station: N07P File: W9314207.PAB Date: 10-15-1993 Time: 10:22:30



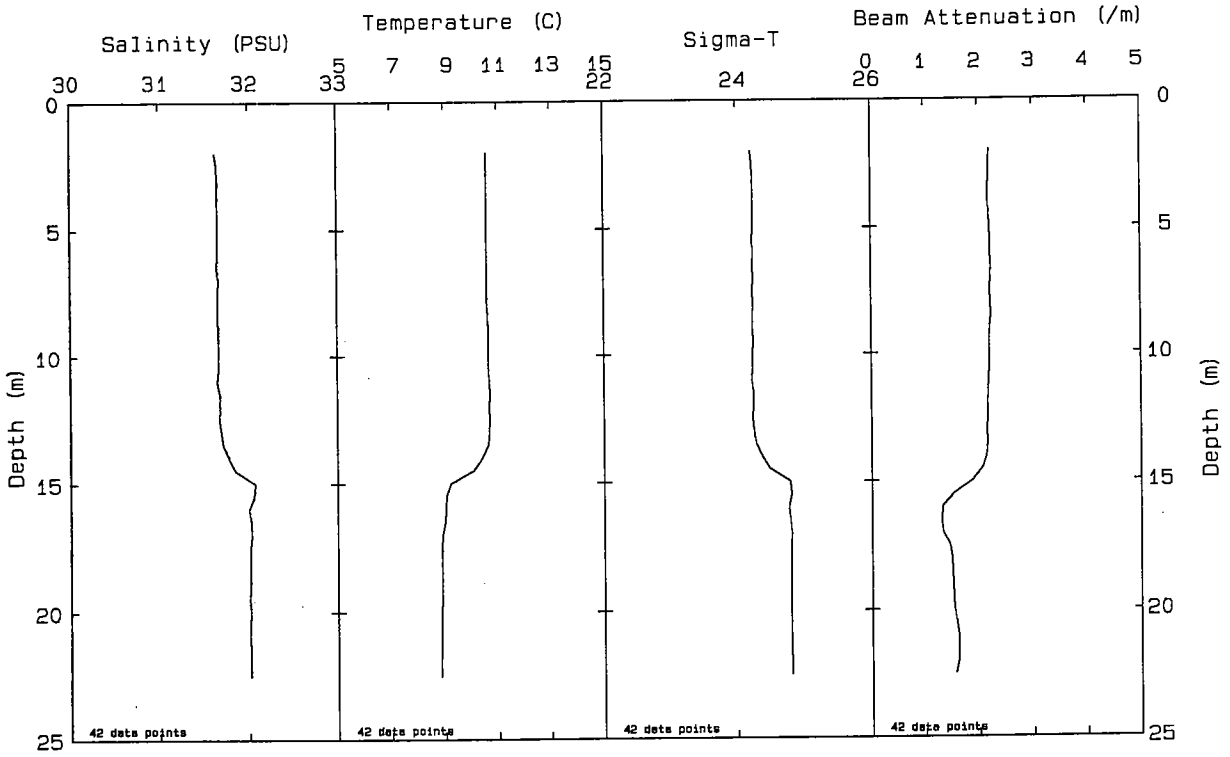


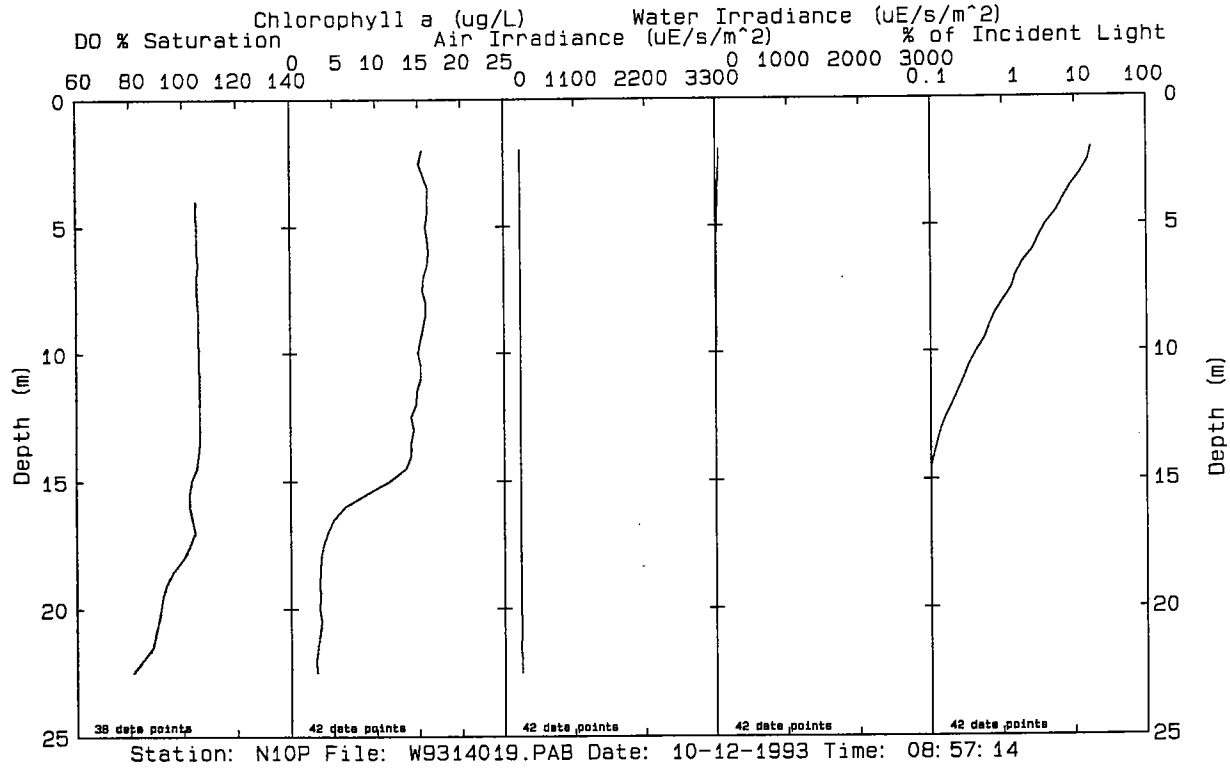
Station: N08 File: W9314212.PAB Date: 10-15-1993 Time: 11:23:52



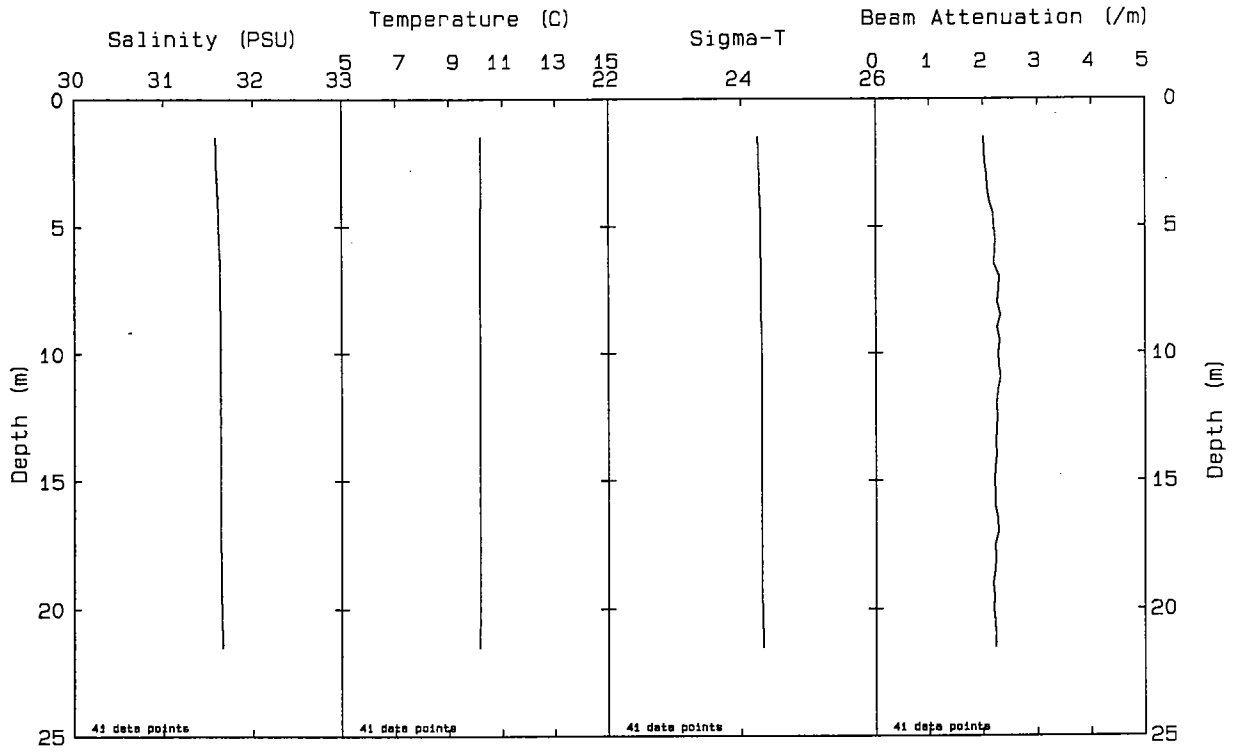


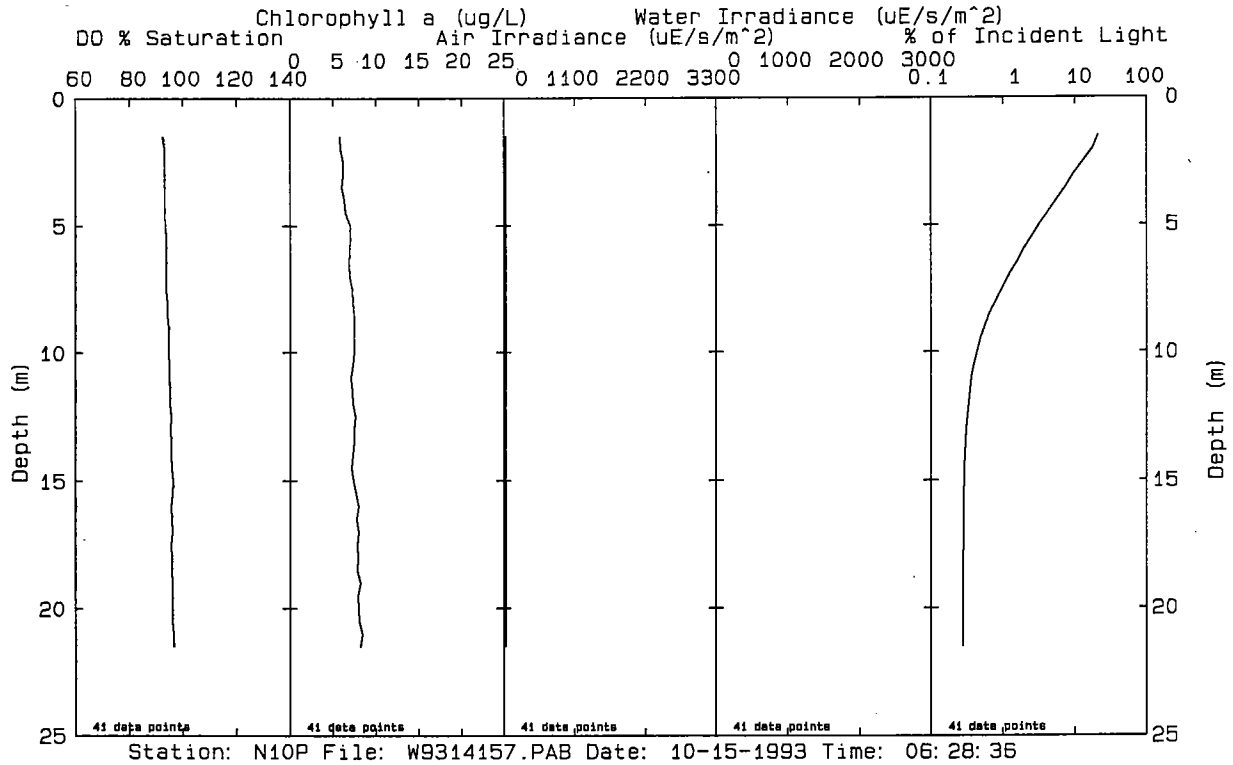
Station: N09 File: W9314215.PAB Date: 10-15-1993 Time: 11:46:32



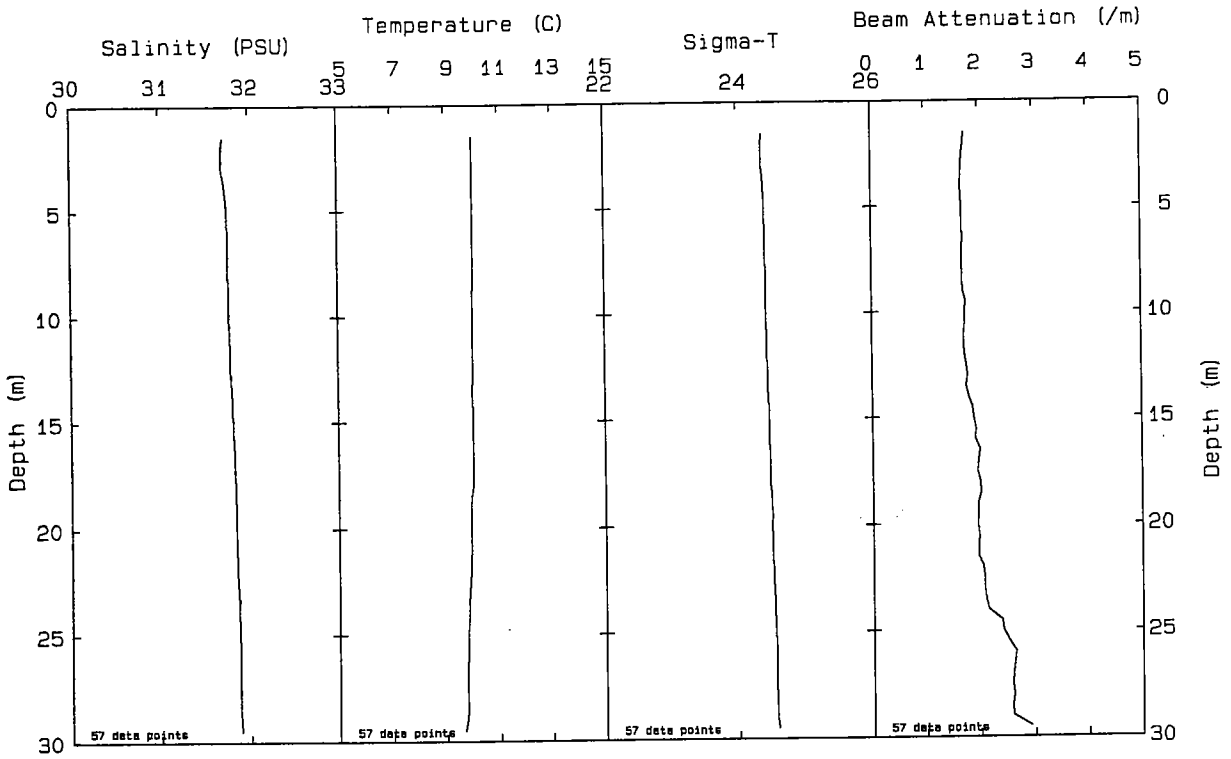


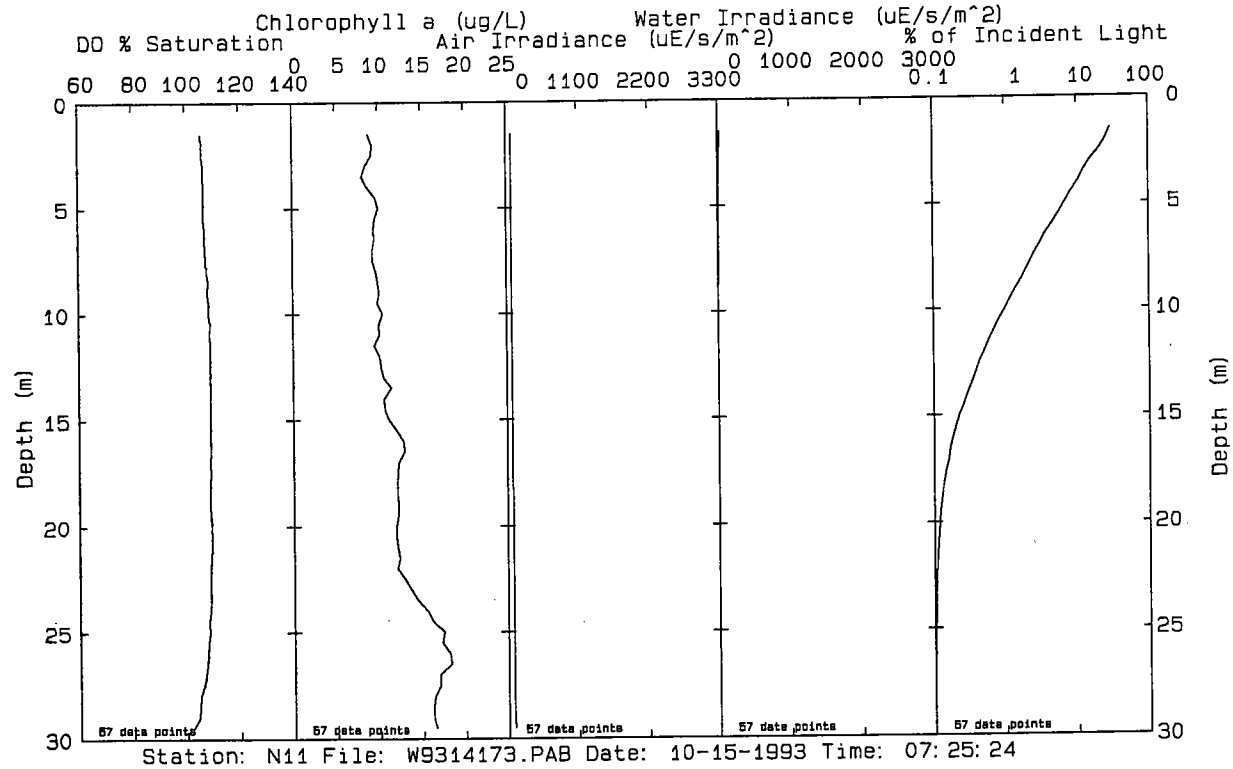
Station: N10P File: W9314019.PAB Date: 10-12-1993 Time: 08:57:14



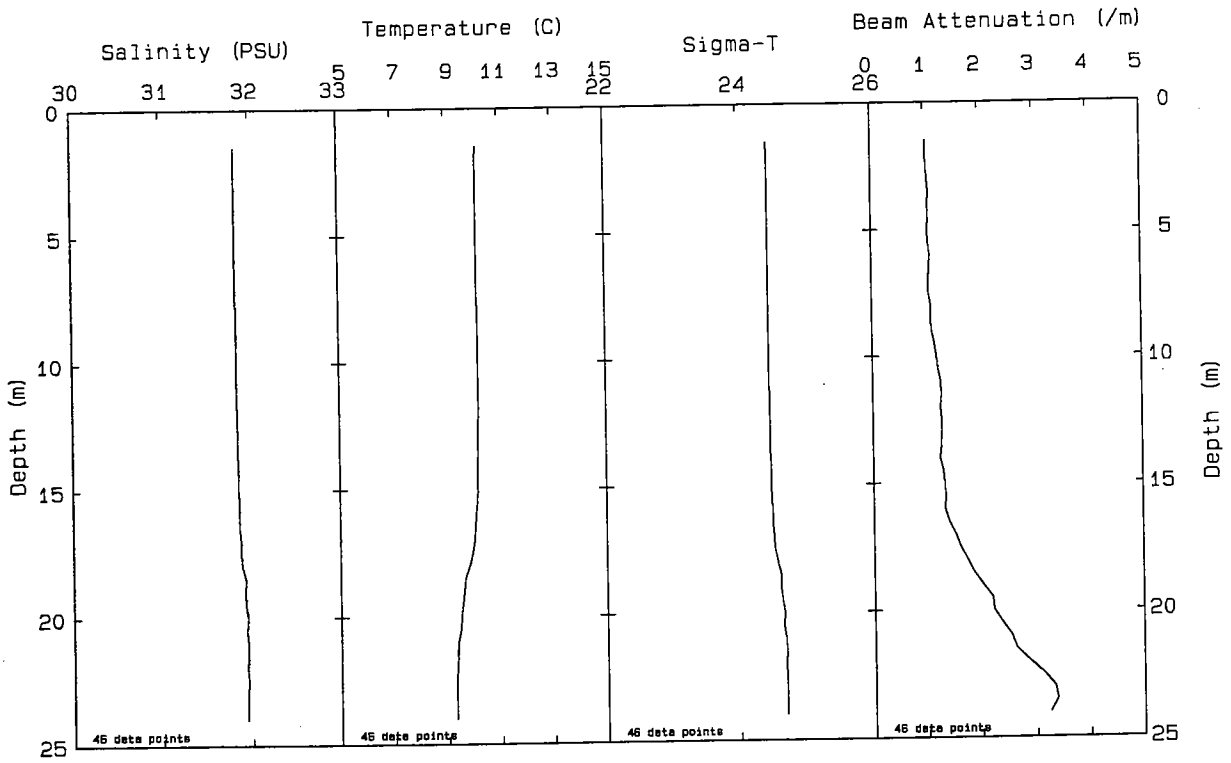


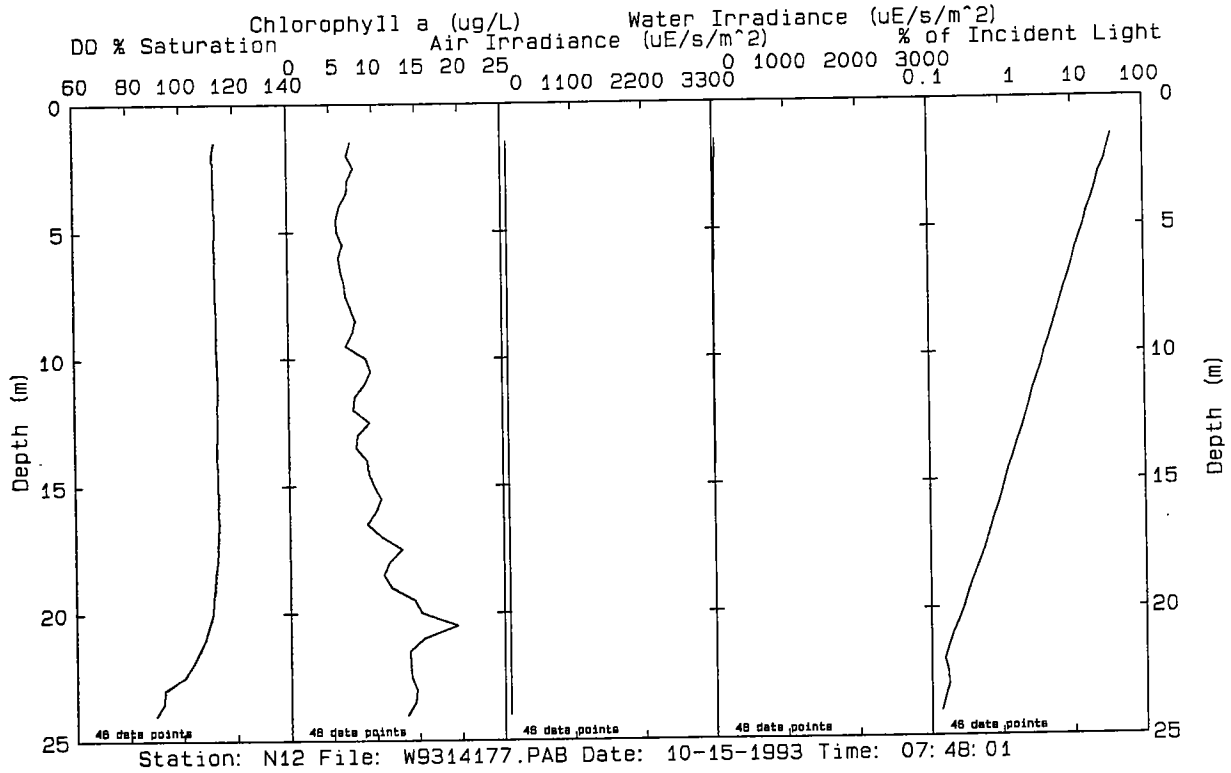
Station: N10P File: W9314157.PAB Date: 10-15-1993 Time: 06:28:36

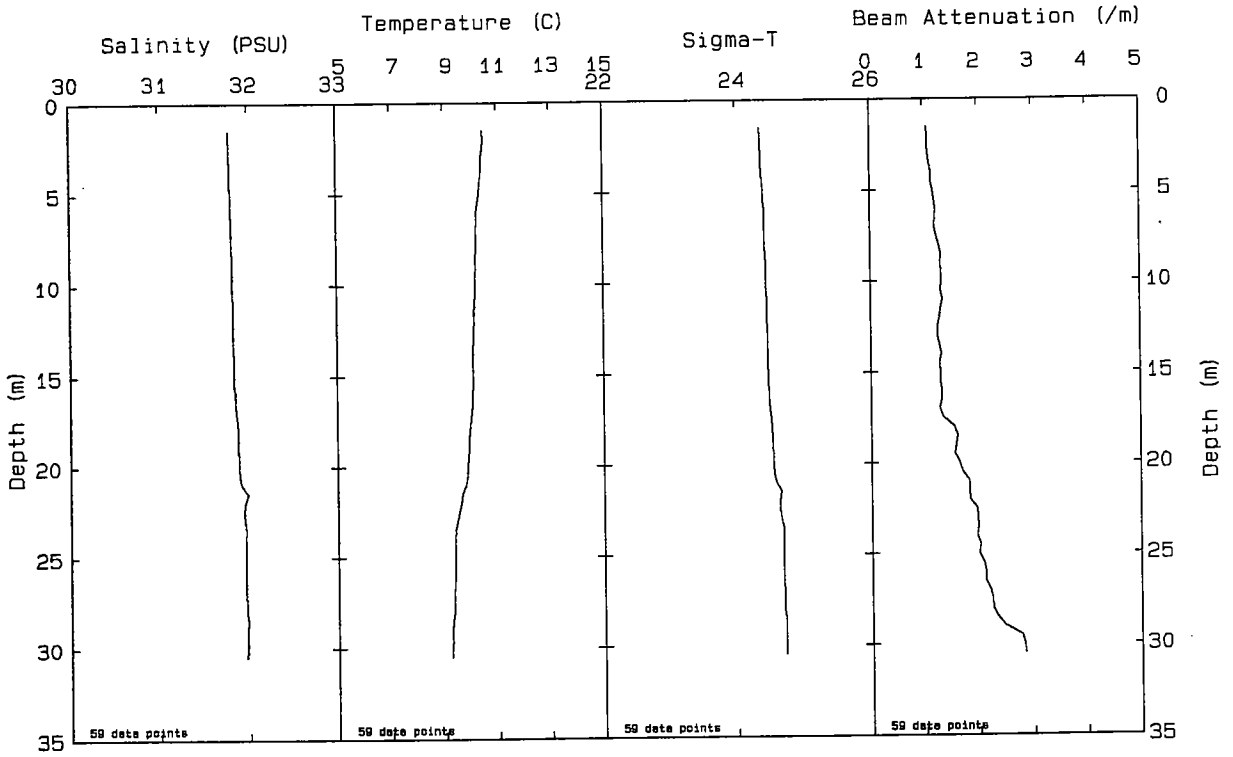


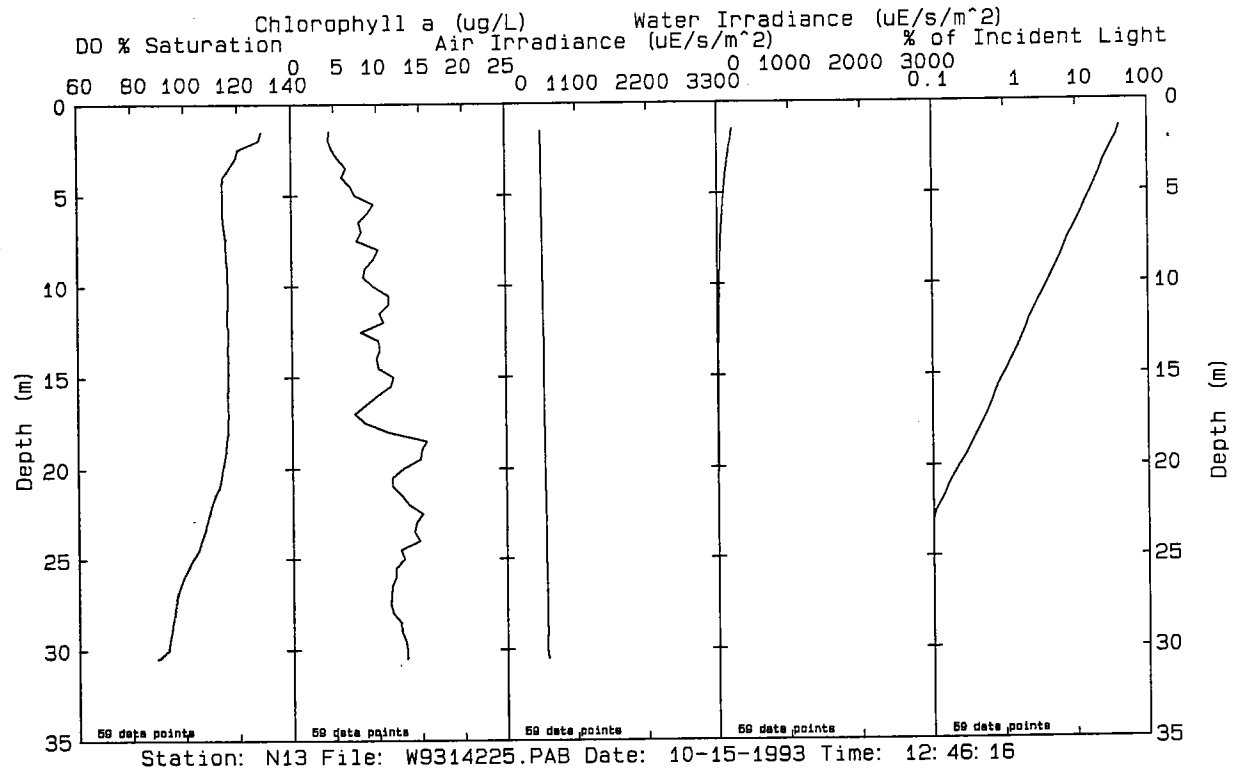


Station: N11 File: W9314173.PAB Date: 10-15-1993 Time: 07:25:24

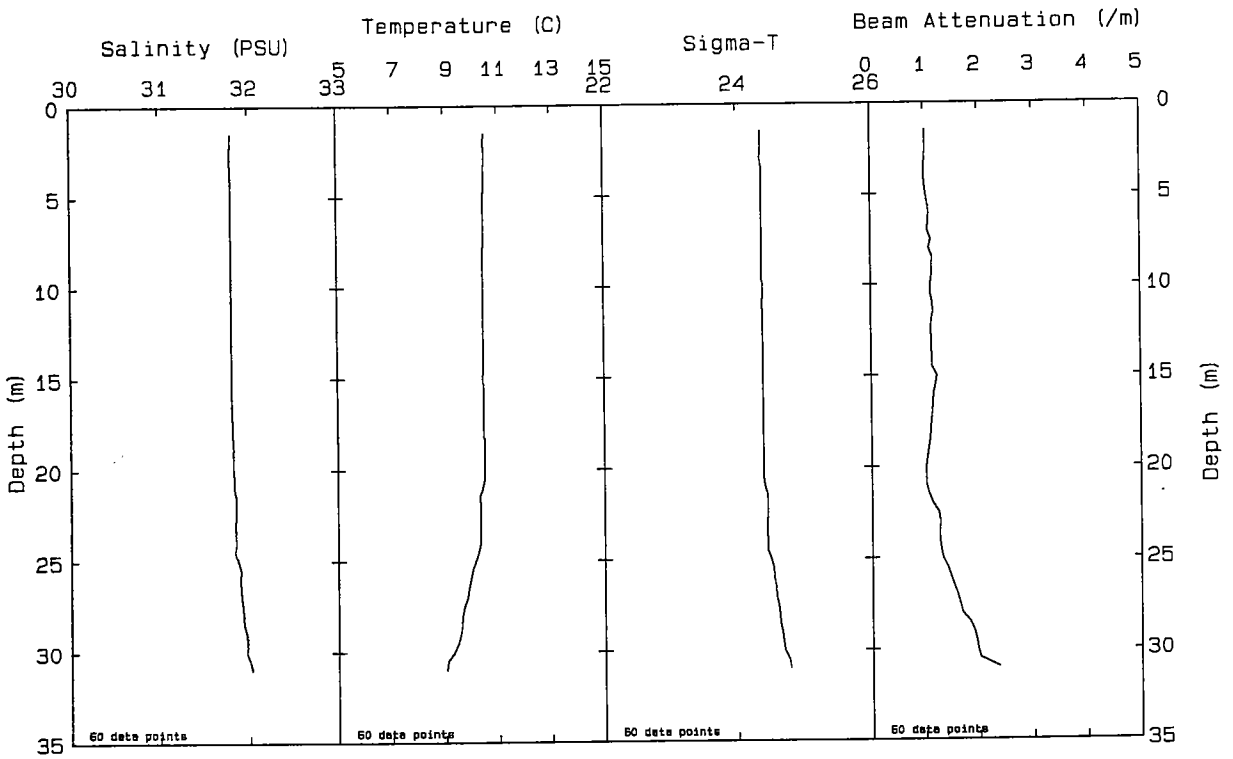

Salinity (PSU)
30 31 32
Temperature (C)
5 7 9 11 13 15
33 22
Sigma-T
24
Beam Attenuation (/m)
0 1 2 3 4 5
26
Depth (m)
0 5 10 15 20 25
45 data points
46 data points
46 data points
46 data points

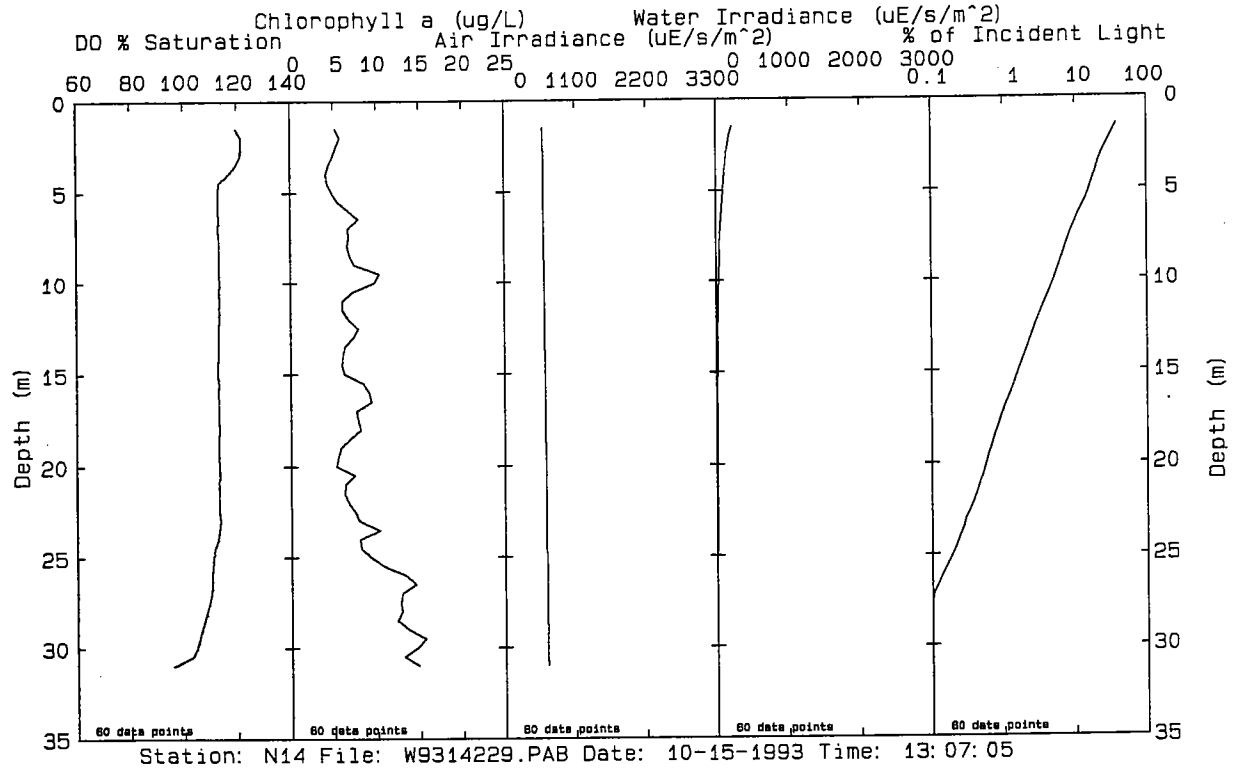

DO % Saturation
60 80 100 120 140
Chlorophyll a (ug/L)
0 5 10 15 20 25
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25
48 data points
48 data points
48 data points
48 data points
48 data points
Station: N12 File: W9314177.PAB Date: 10-15-1993 Time: 07:48:01



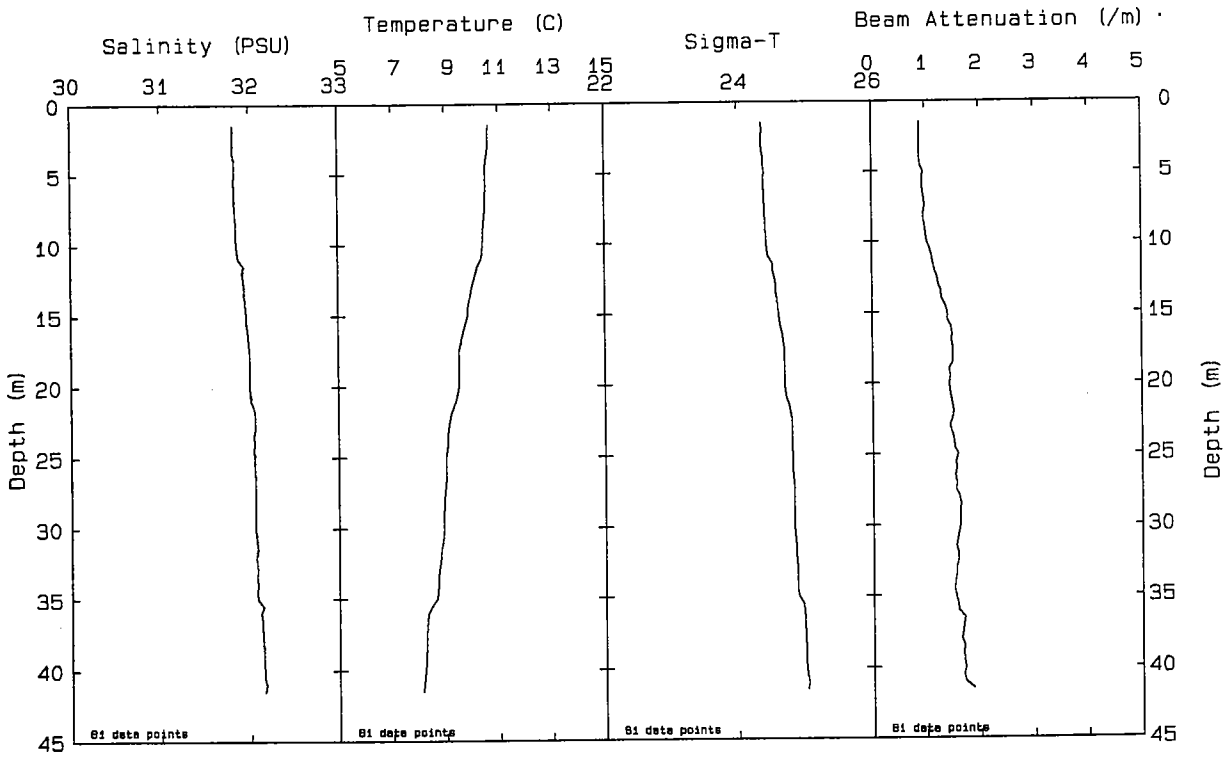


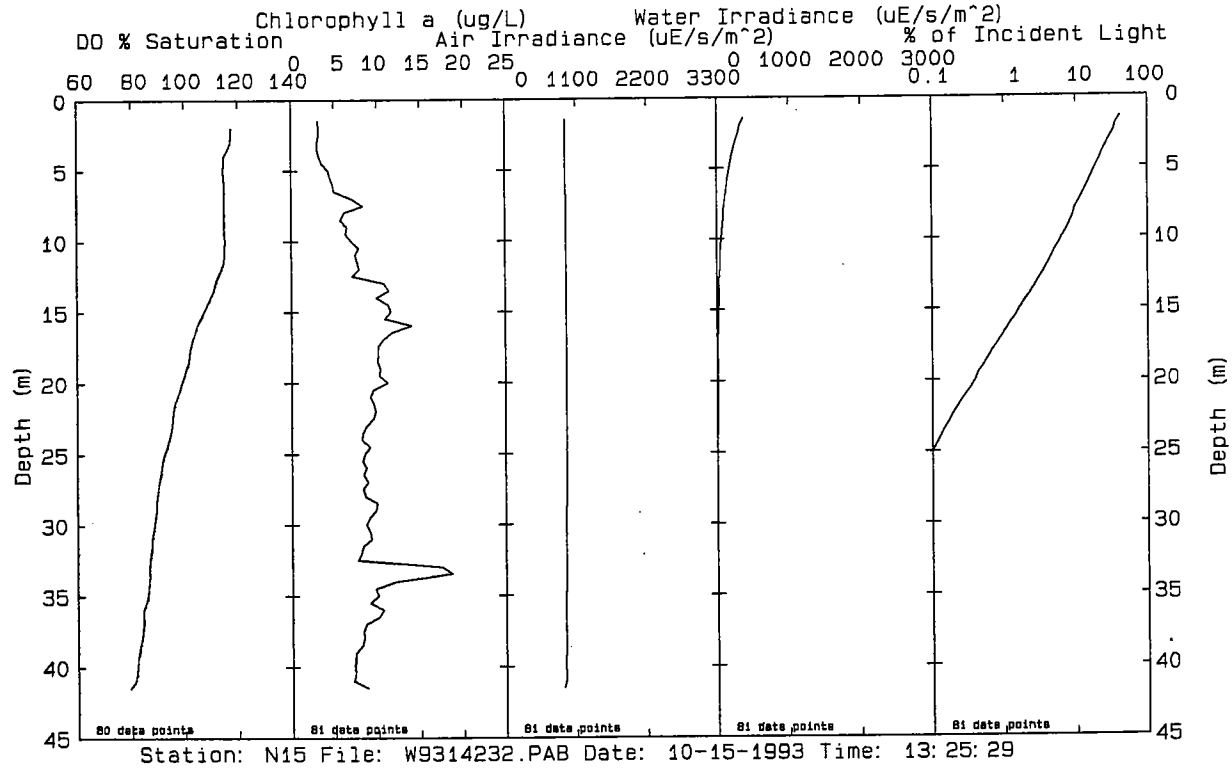
Station: N13 File: W9314225.PAB Date: 10-15-1993 Time: 12:46:16



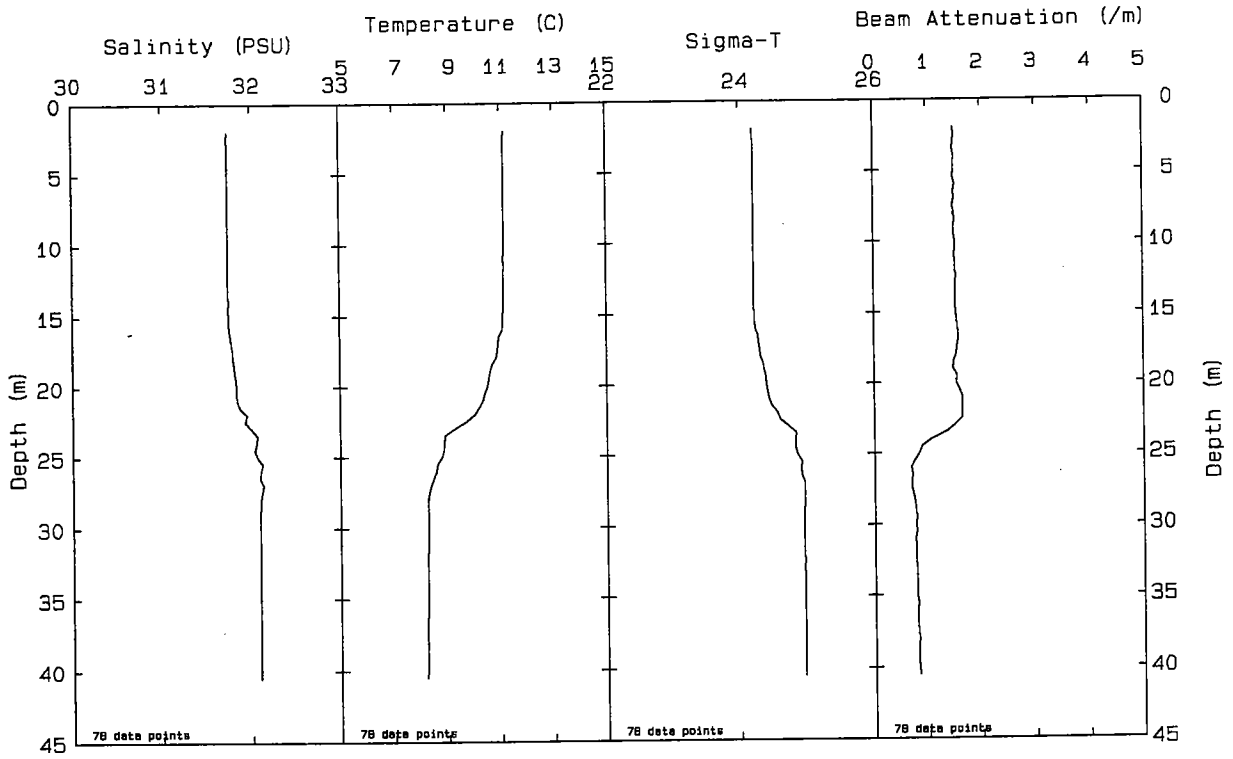


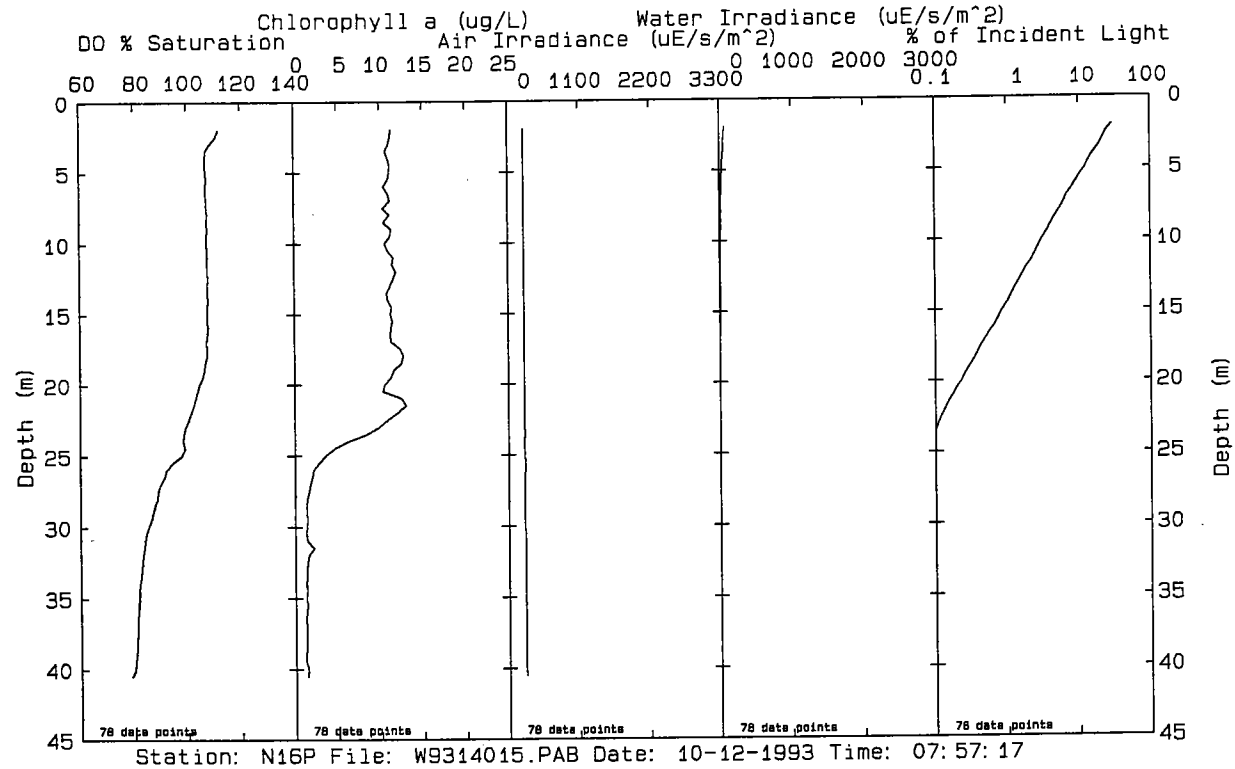
Station: N14 File: W9314229.PAB Date: 10-15-1993 Time: 13:07:05



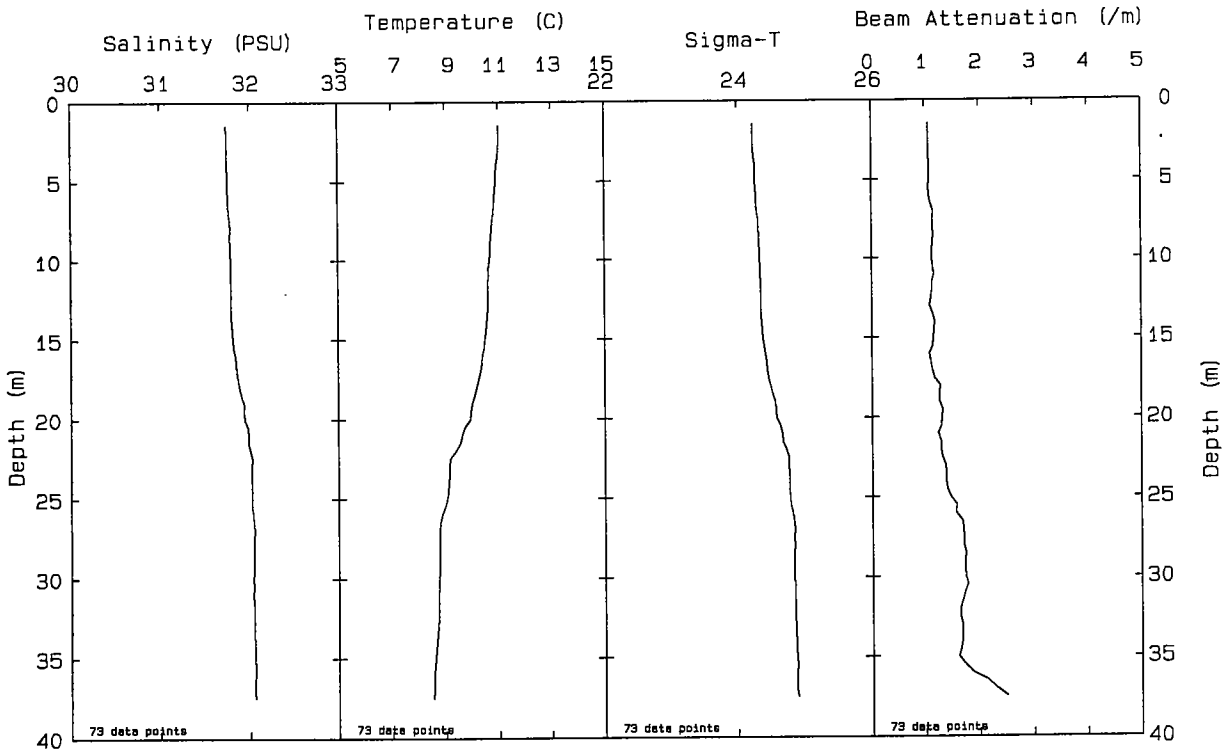


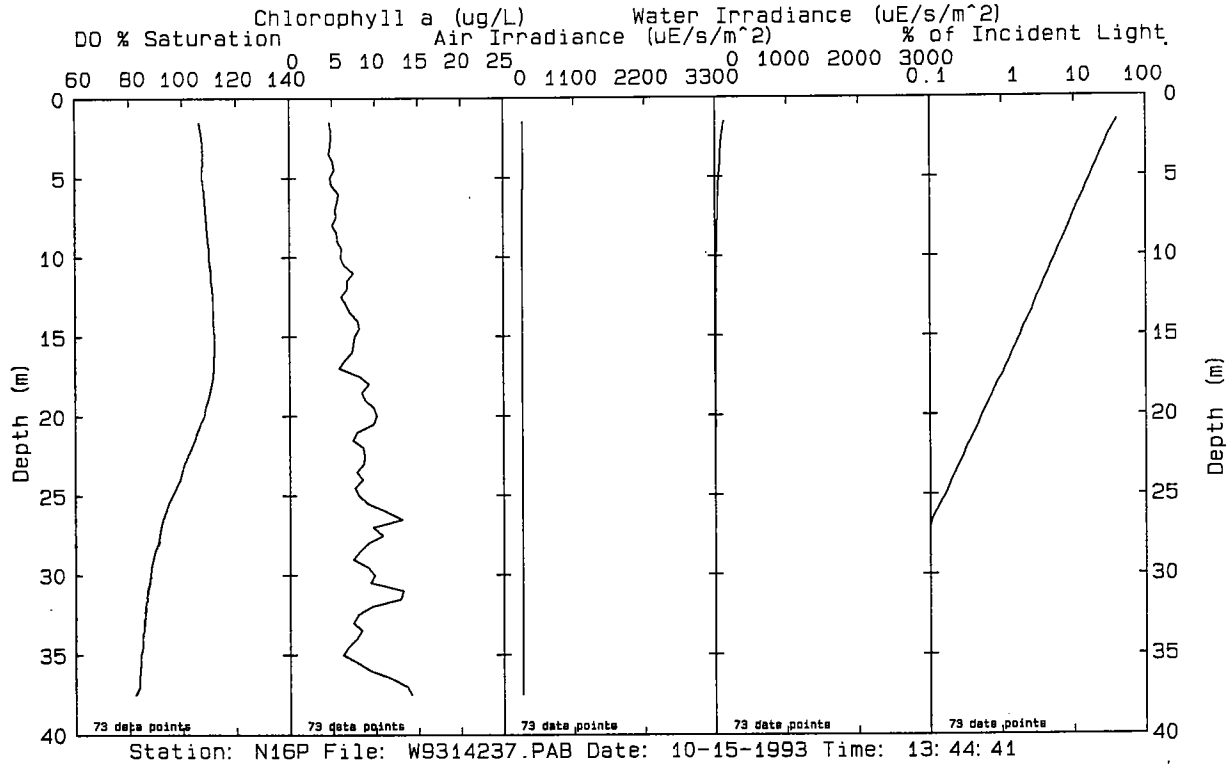
Station: N15 File: W9314232.PAB Date: 10-15-1993 Time: 13:25:29

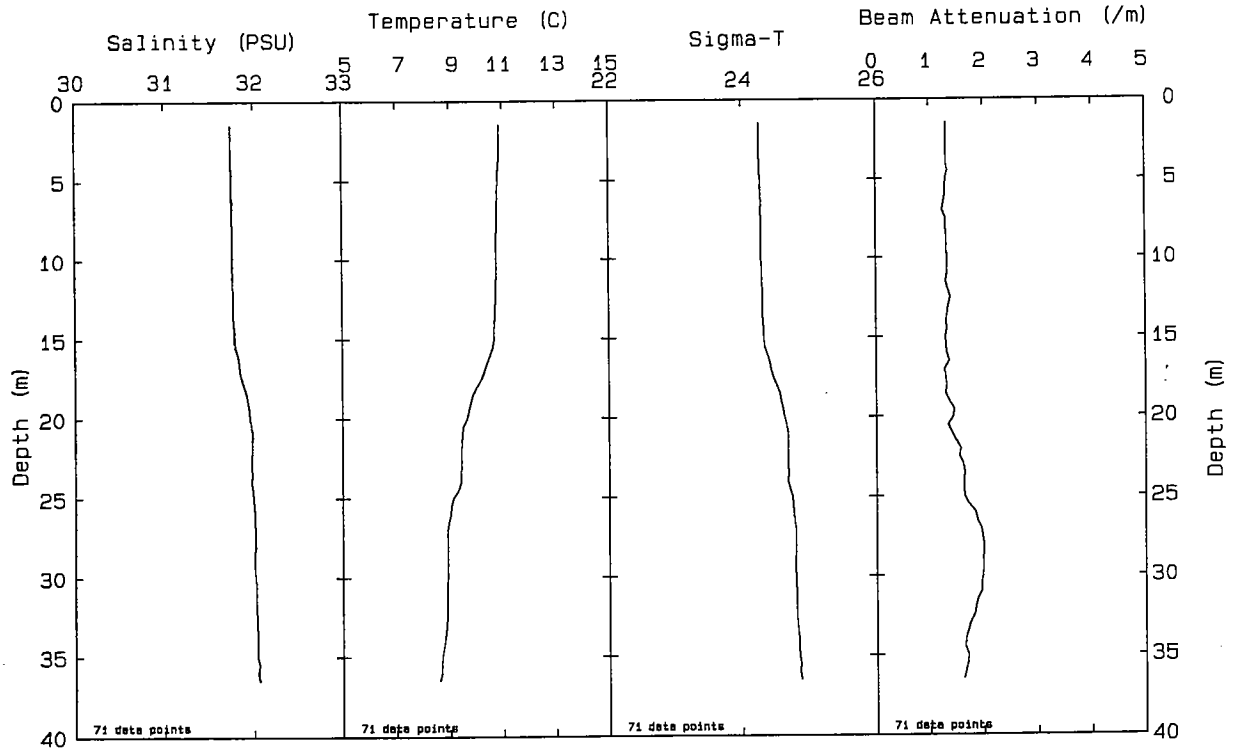


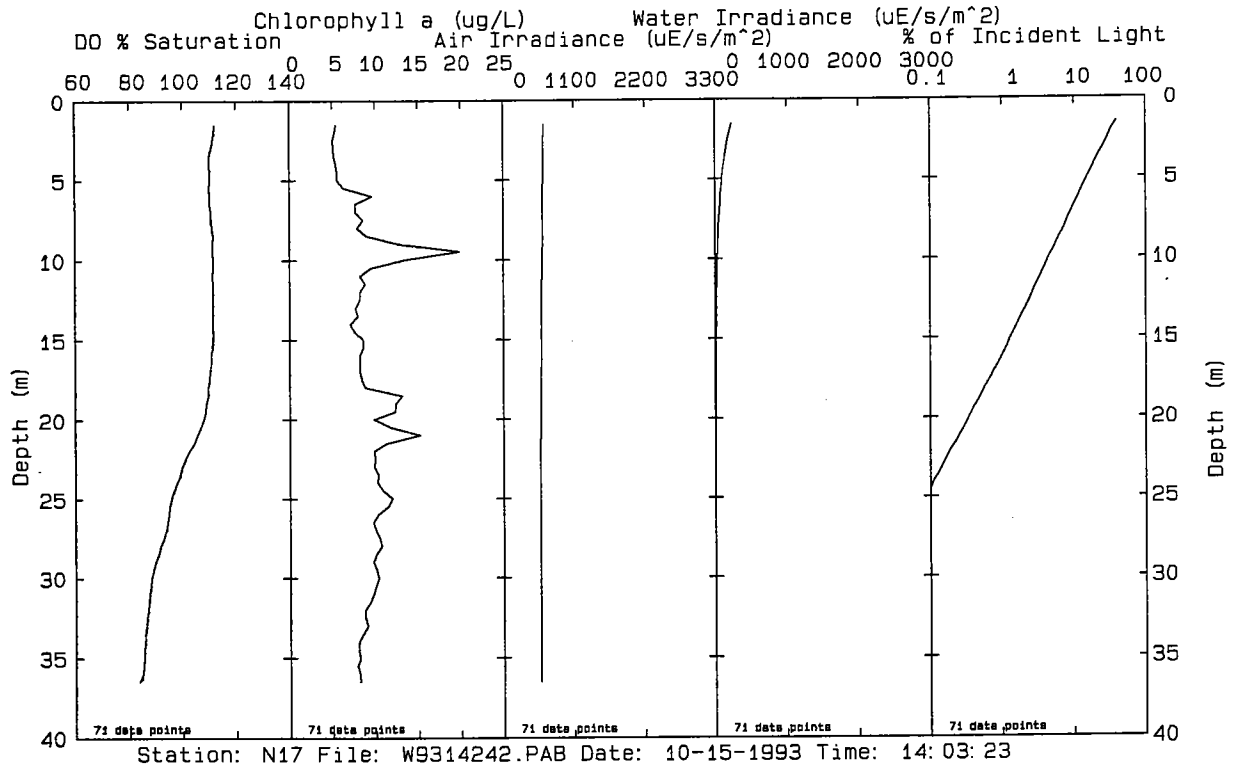


Station: N16P File: W9314015.PAB Date: 10-12-1993 Time: 07:57:17

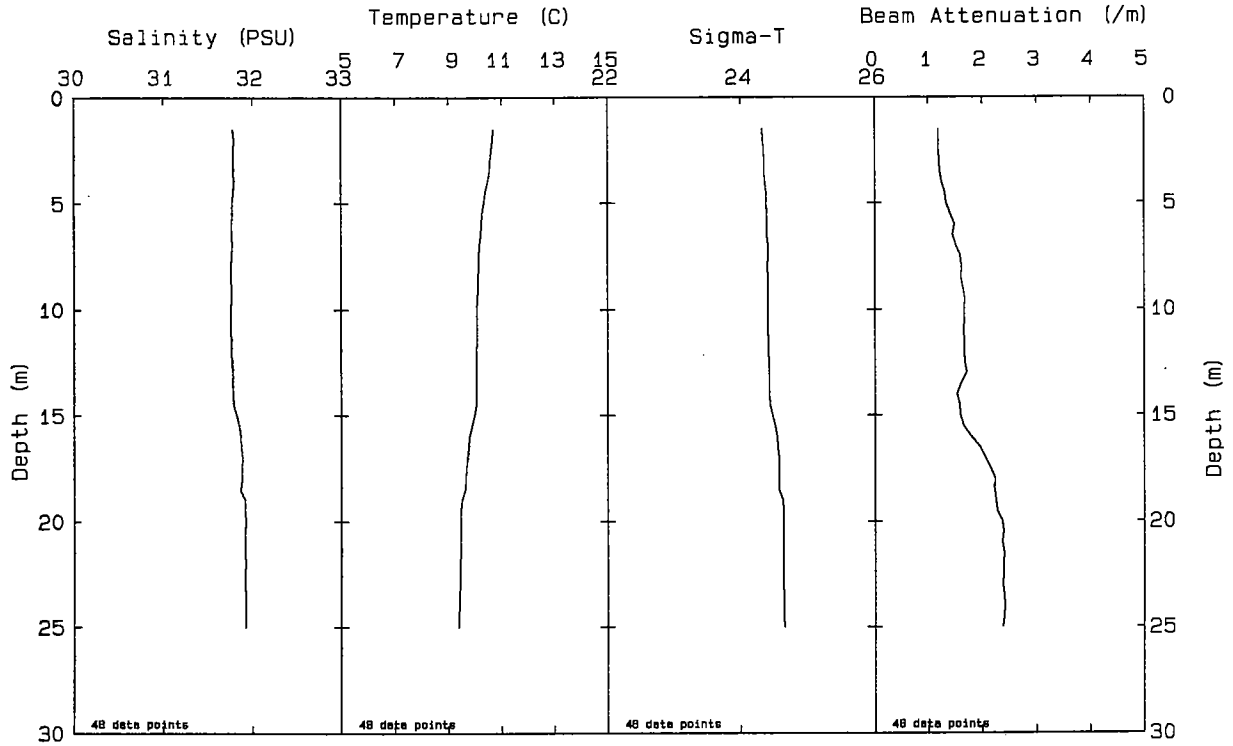

Salinity (PSU)
30 31 32
Temperature (C)
5 7 9 11 13 15
33 22
Sigma-T
24
Beam Attenuation (/m)
0 1 2 3 4 5
26
Depth (m)
0 5 10 15 20 25 30 35 40
73 data points
73 data points
73 data points
73 data points

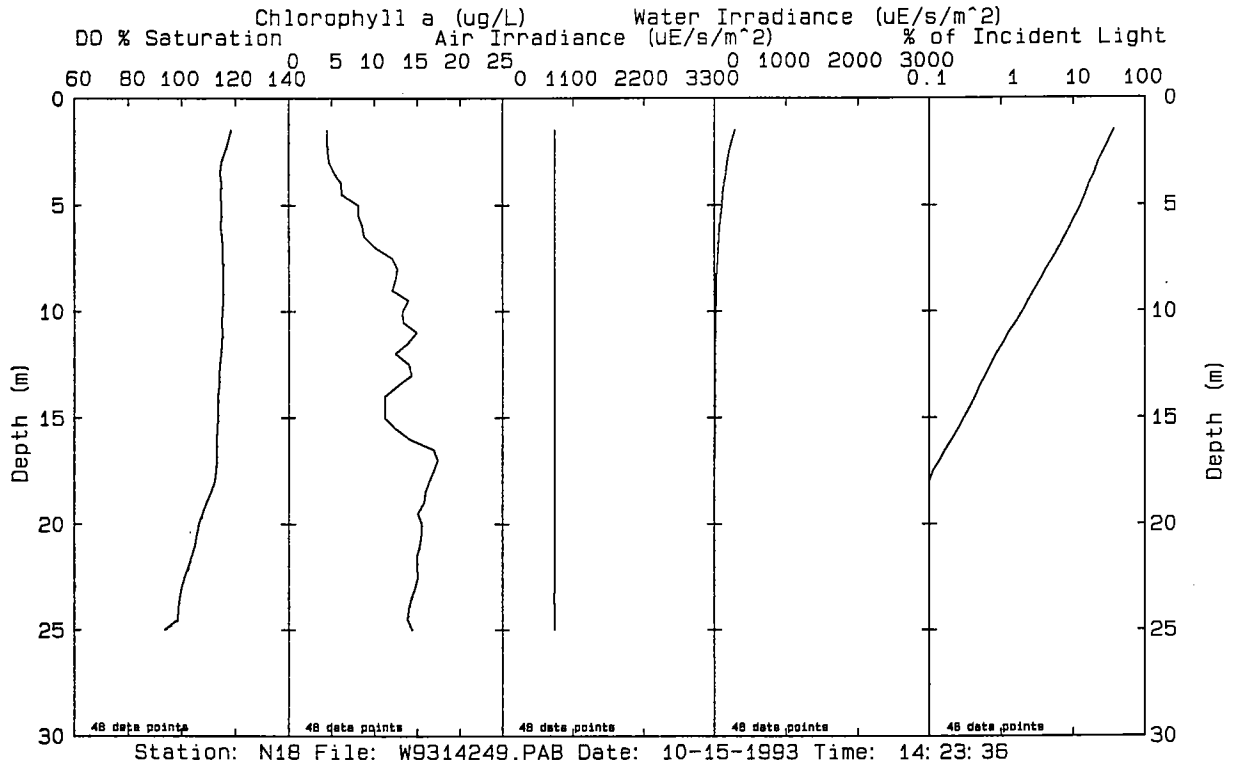

DO % Saturation
60 80 100 120 140
Chlorophyll a (ug/L)
0 5 10 15 20 25
Air Irradiance (uE/s/m^2)
0 1100 2200 3300
Water Irradiance (uE/s/m^2)
0 1000 2000 3000
% of Incident Light
0.1 1 10 100
Depth (m)
0 5 10 15 20 25 30 35 40
73 data points
73 data points
73 data points
73 data points
73 data points
Station: N16P File: W9314237.PAB Date: 10-15-1993 Time: 13:44:41



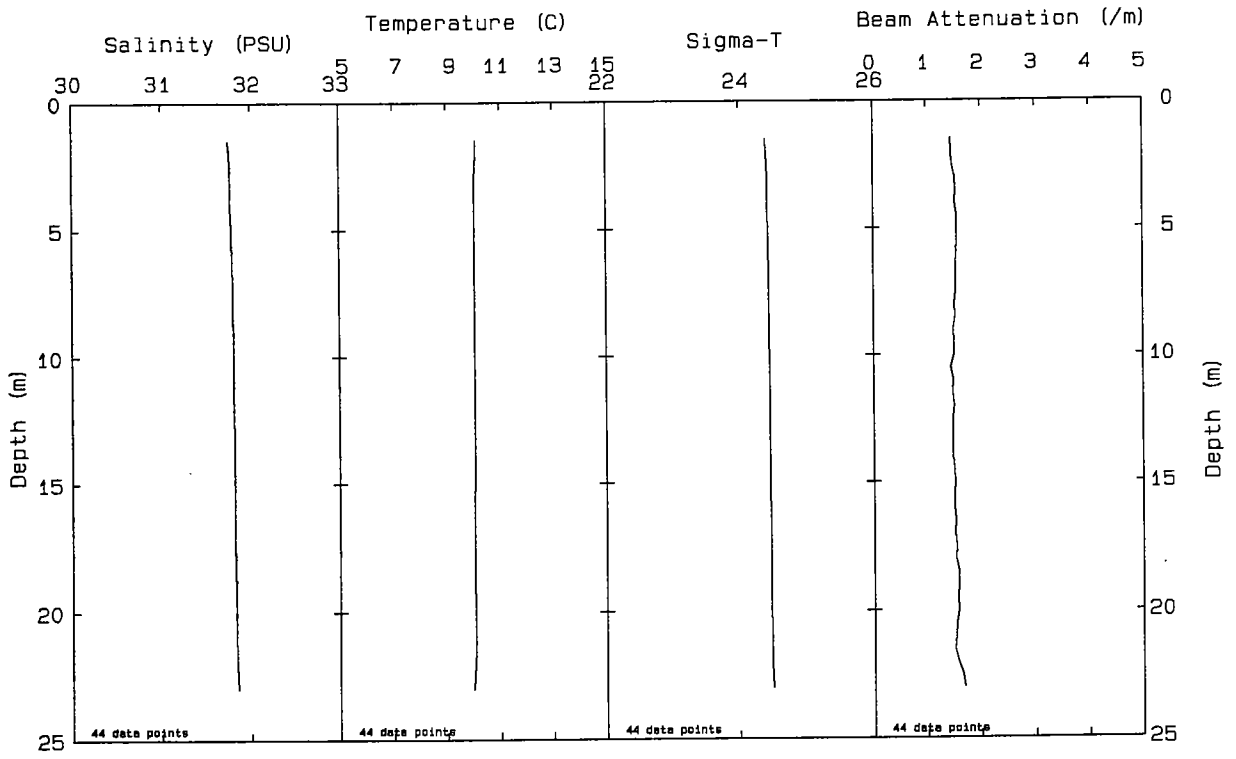


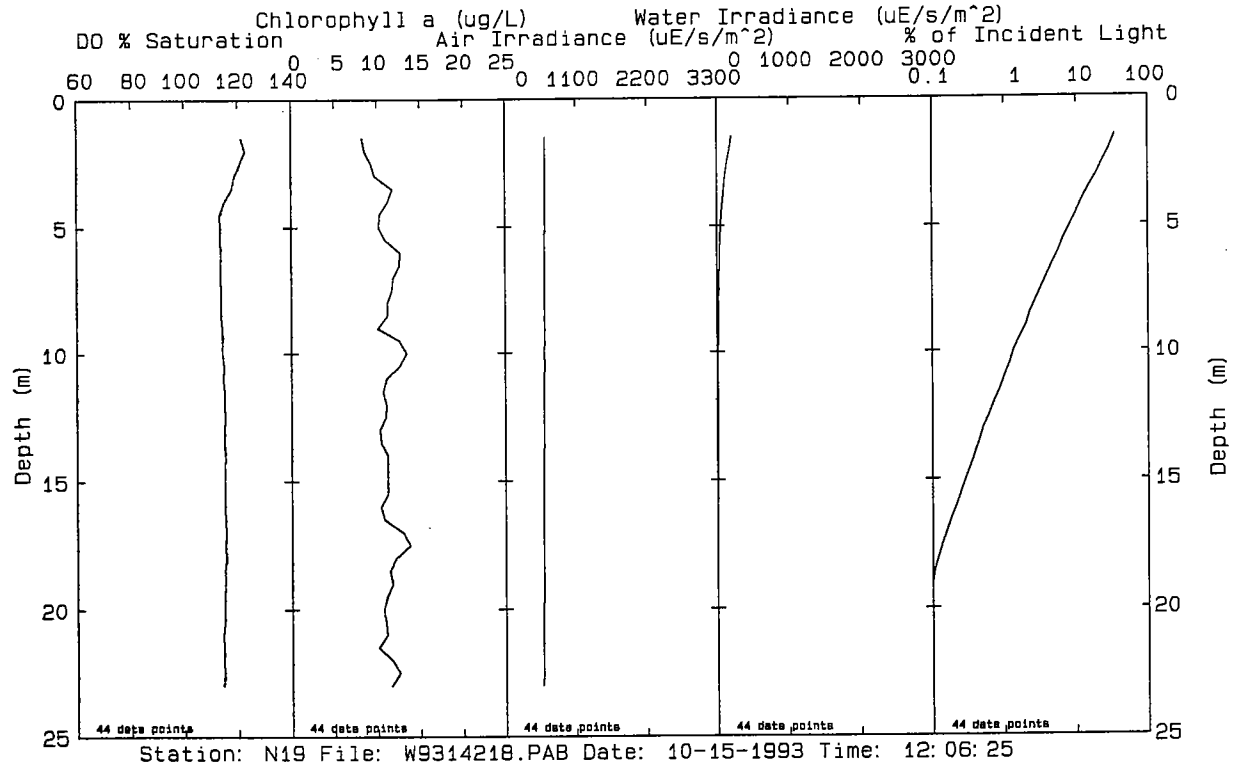
Station: N17 File: W9314242.PAB Date: 10-15-1993 Time: 14:03:23



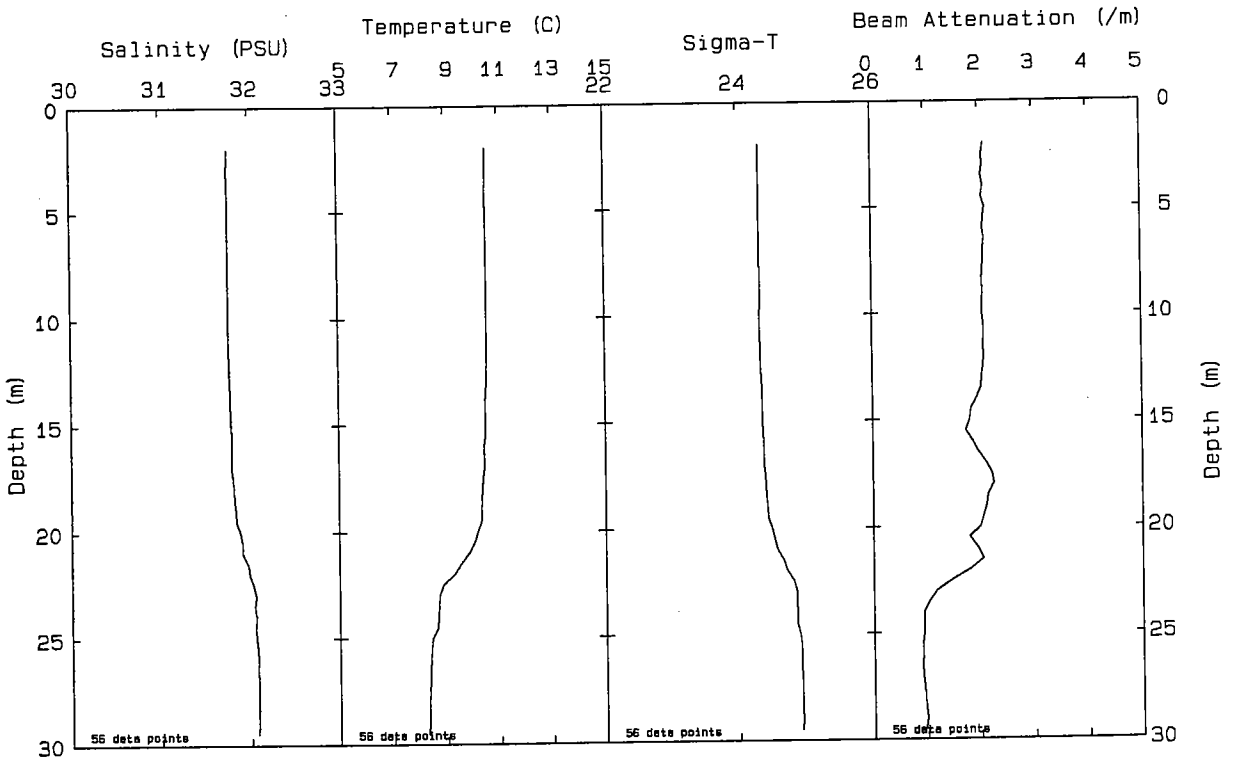


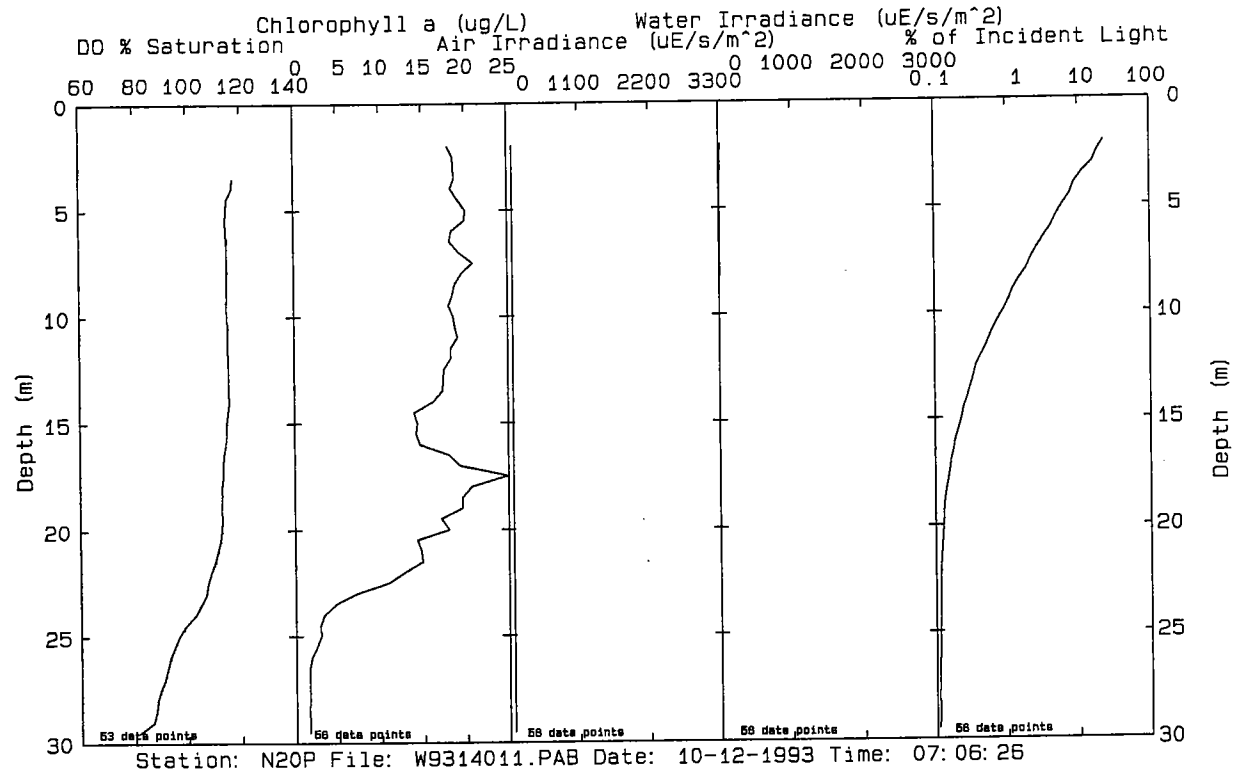
Station: N18 File: W9314249.PAB Date: 10-15-1993 Time: 14:23:36



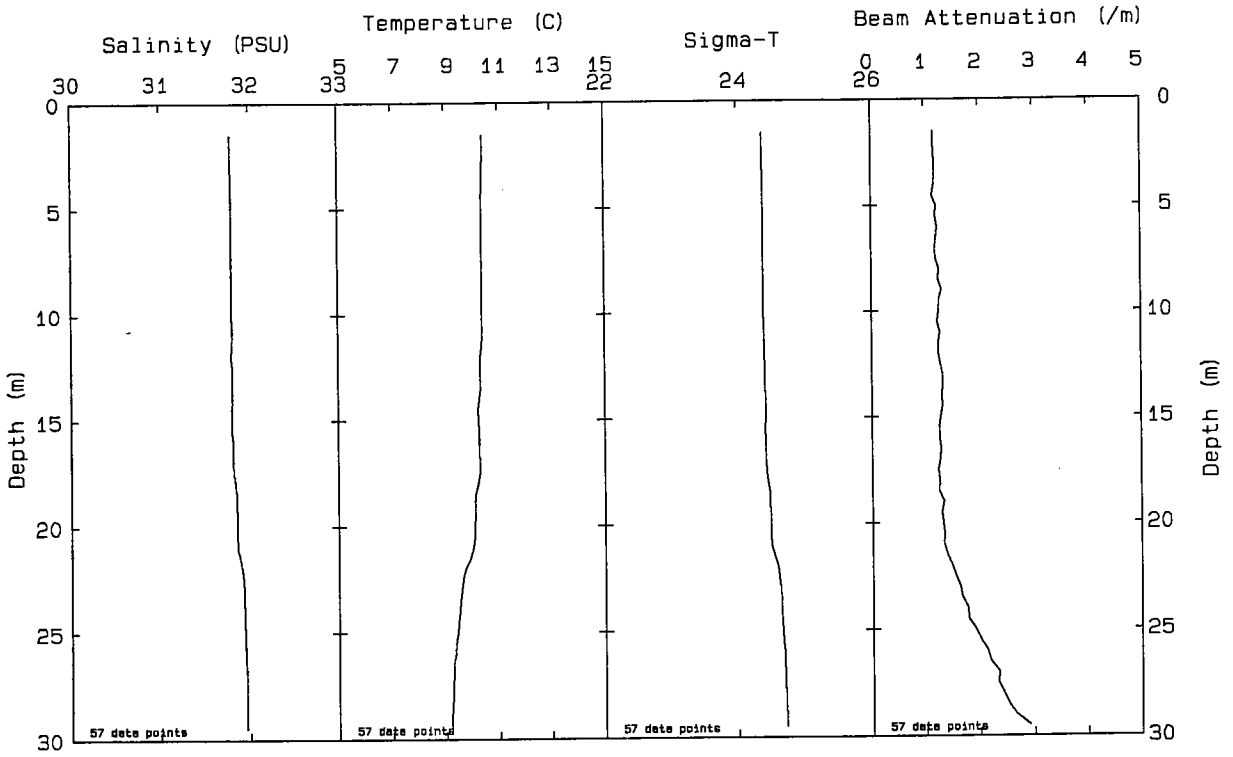


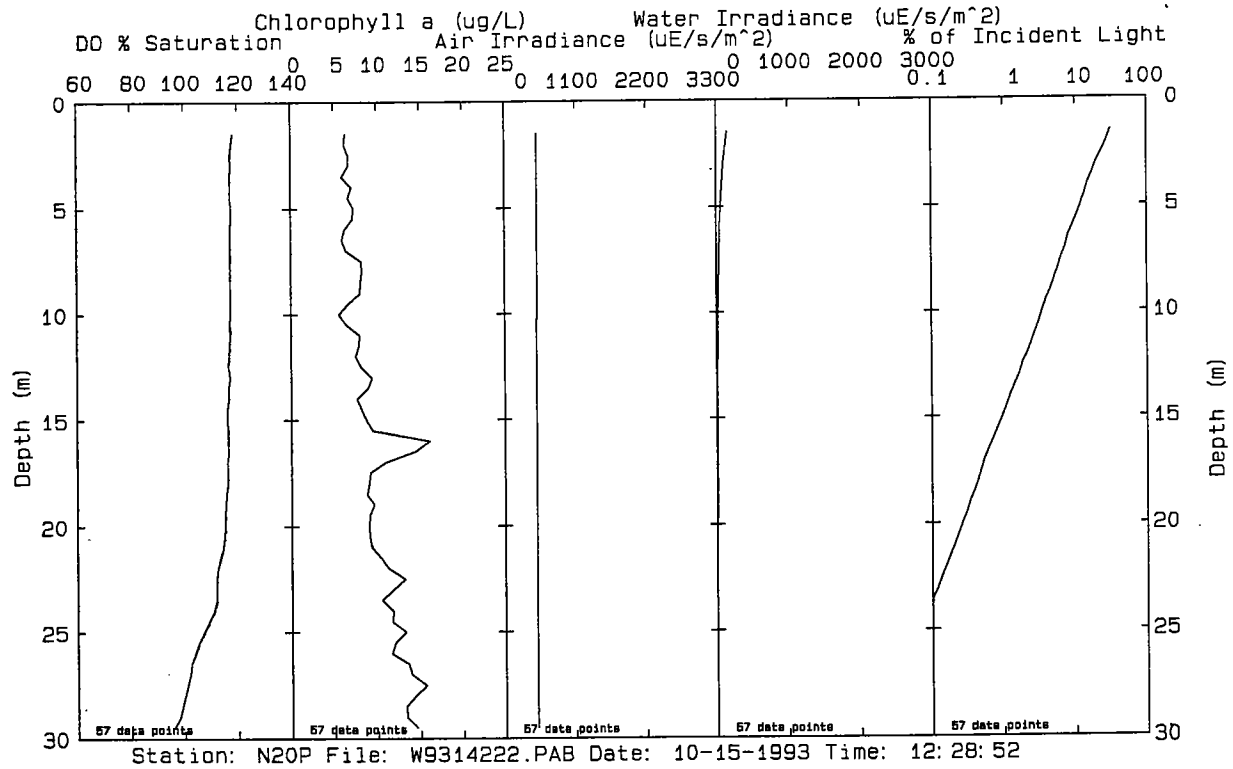
Station: N19 File: W9314218.PAB Date: 10-15-1993 Time: 12:06:25



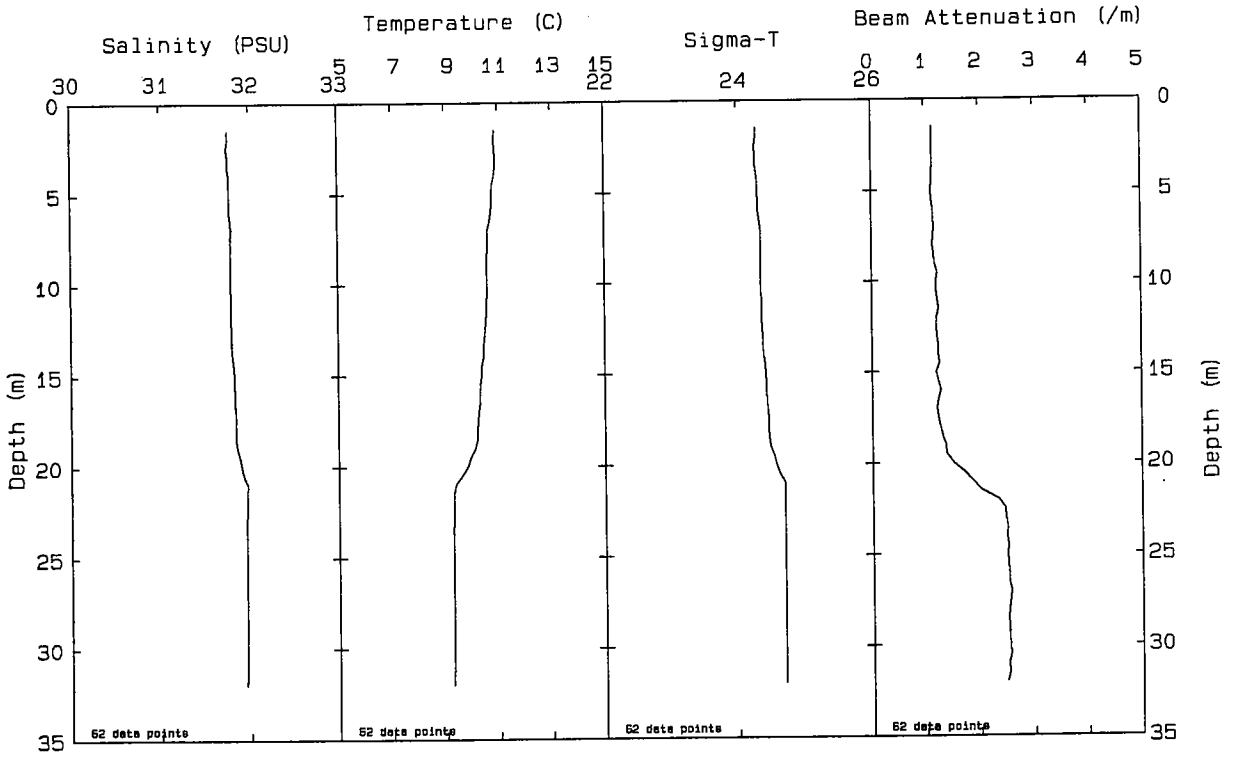


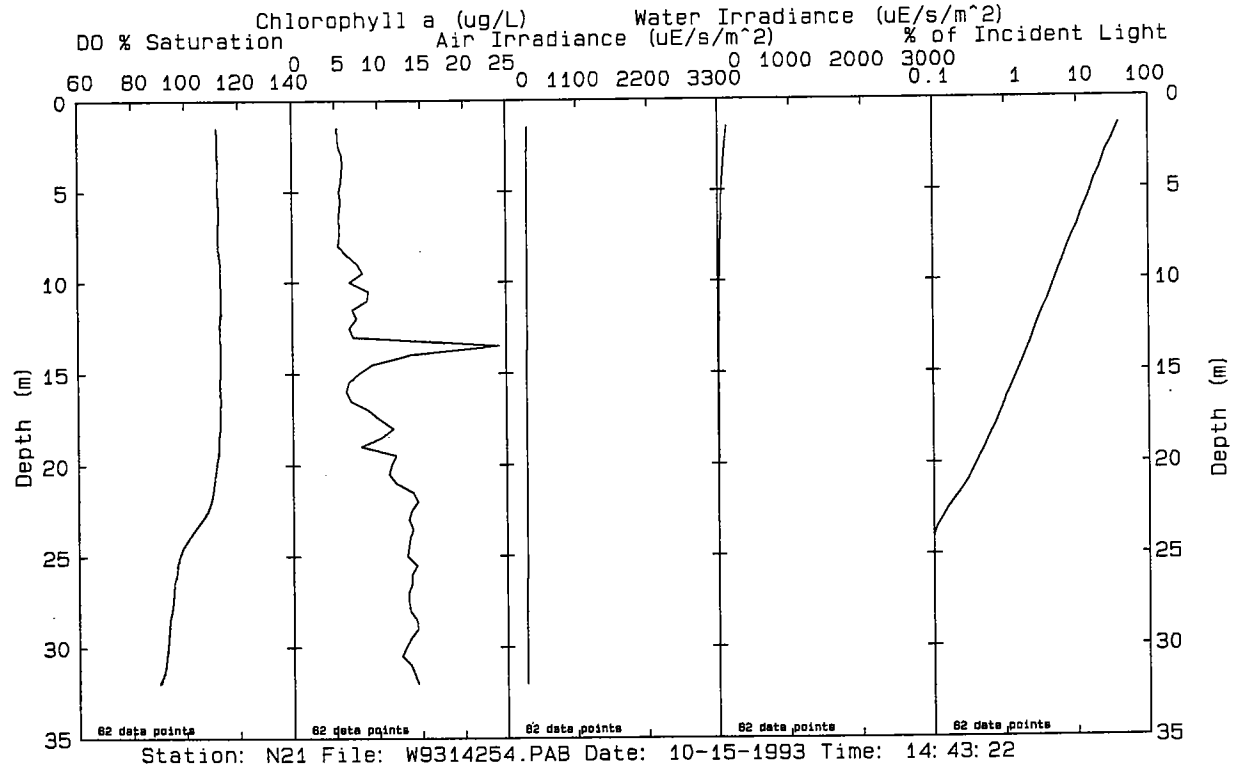
Station: N20P File: W9314011.PAB Date: 10-12-1993 Time: 07:06:26





Station: N20P File: W9314222.PAB Date: 10-15-1993 Time: 12:28:52





Station: N21 File: W9314254.PAB Date: 10-15-1993 Time: 14:43:22

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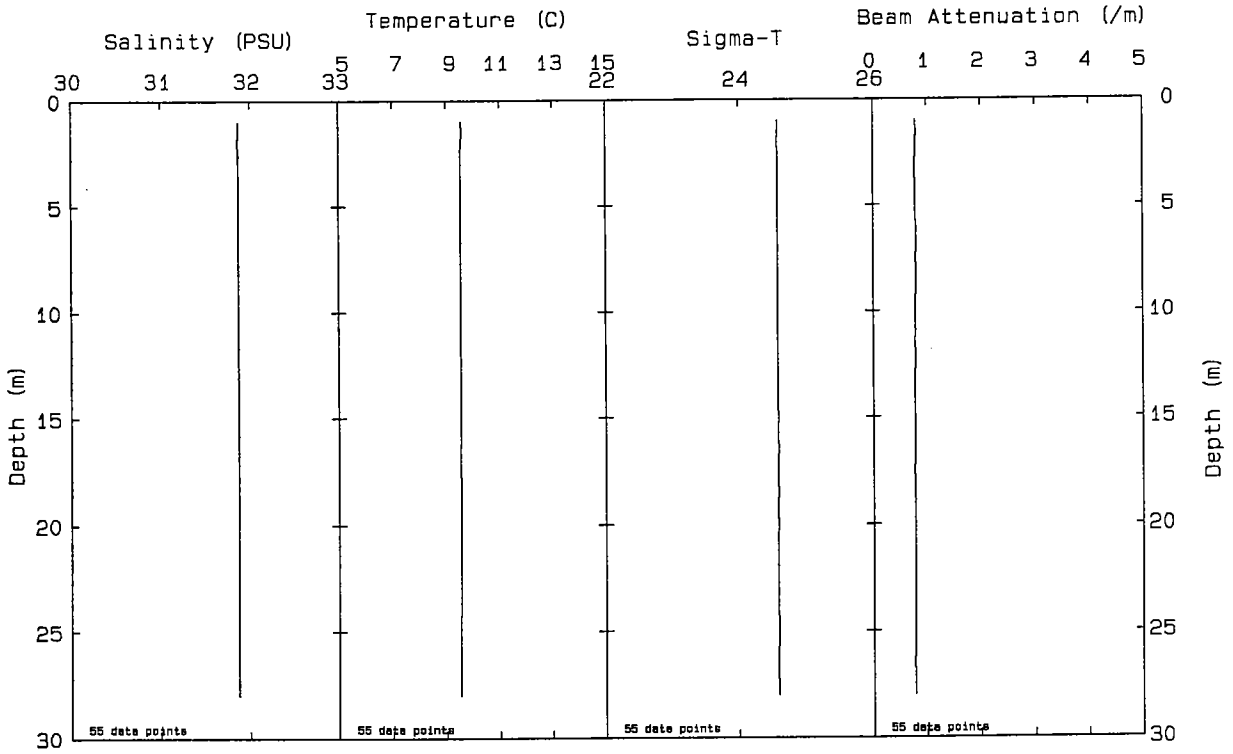
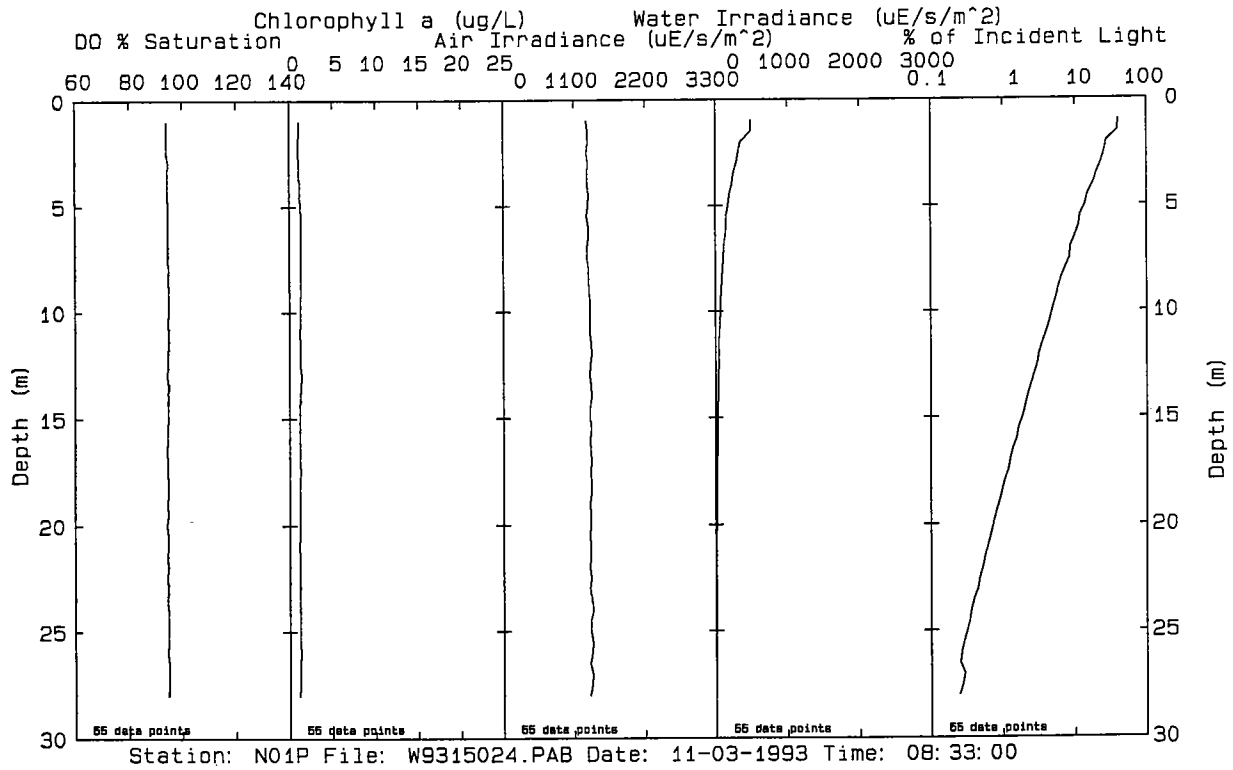
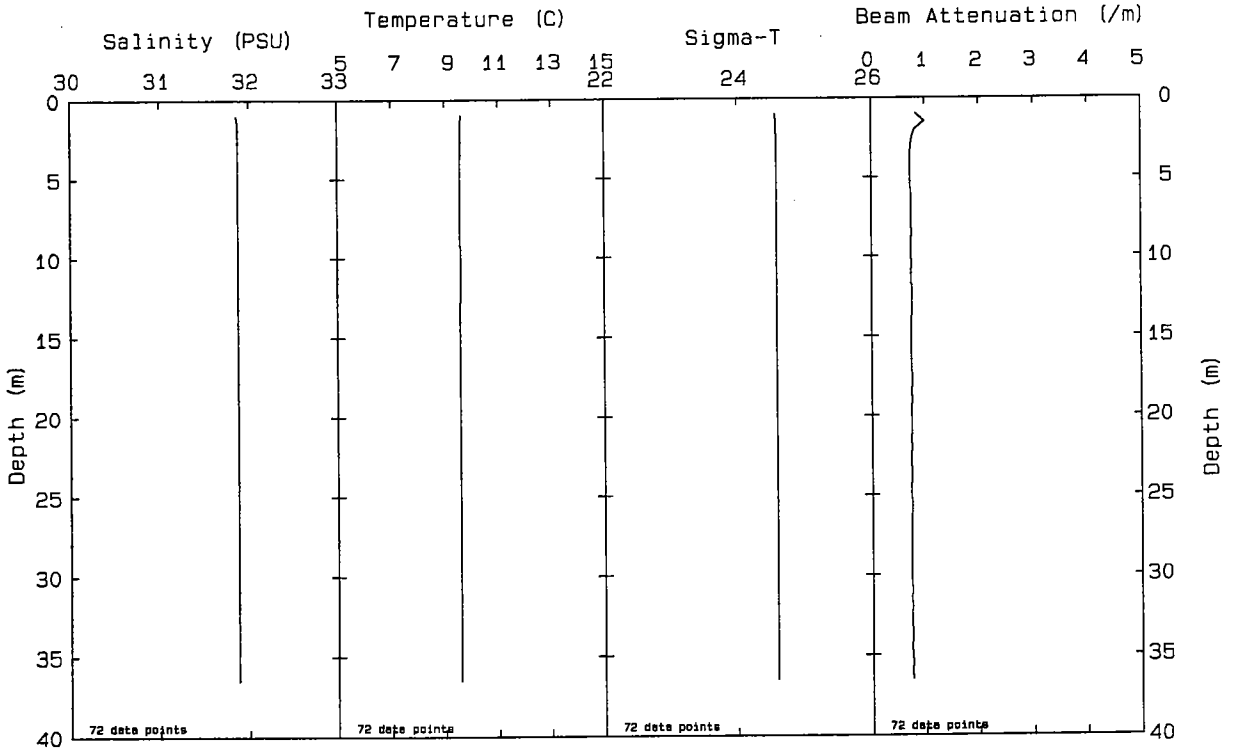
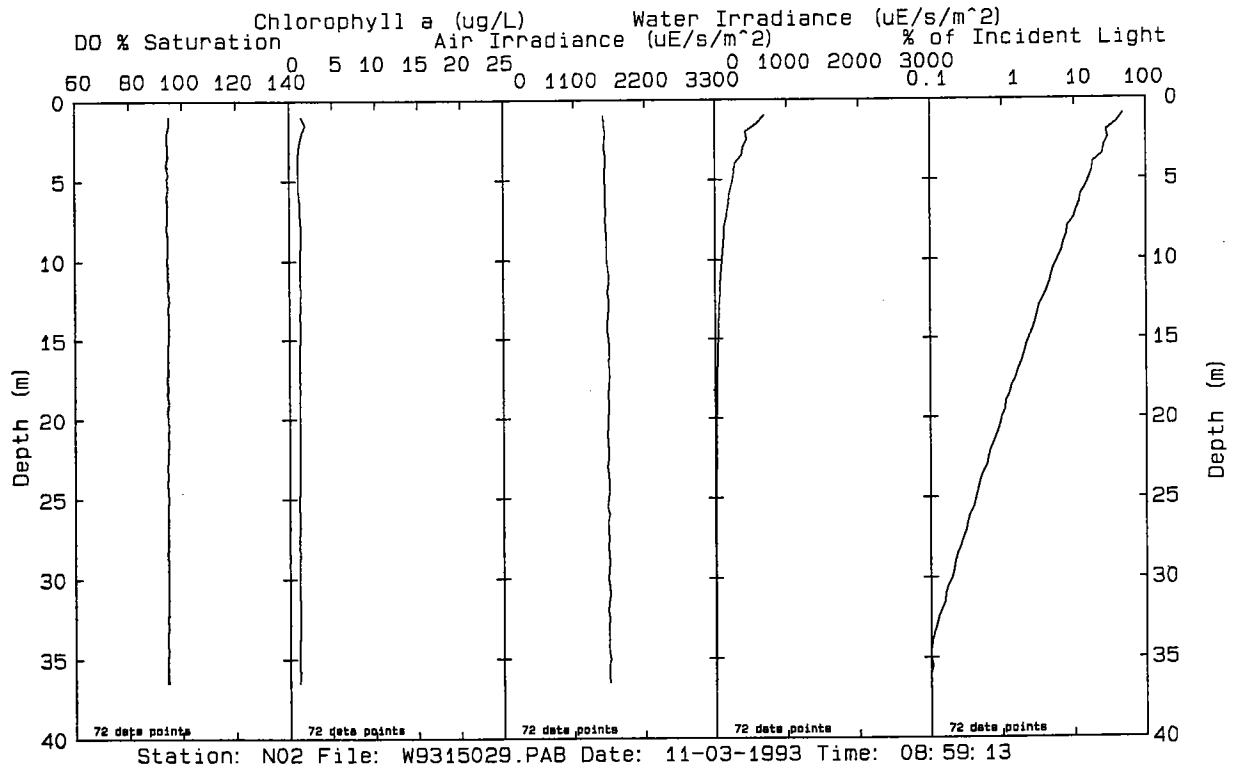


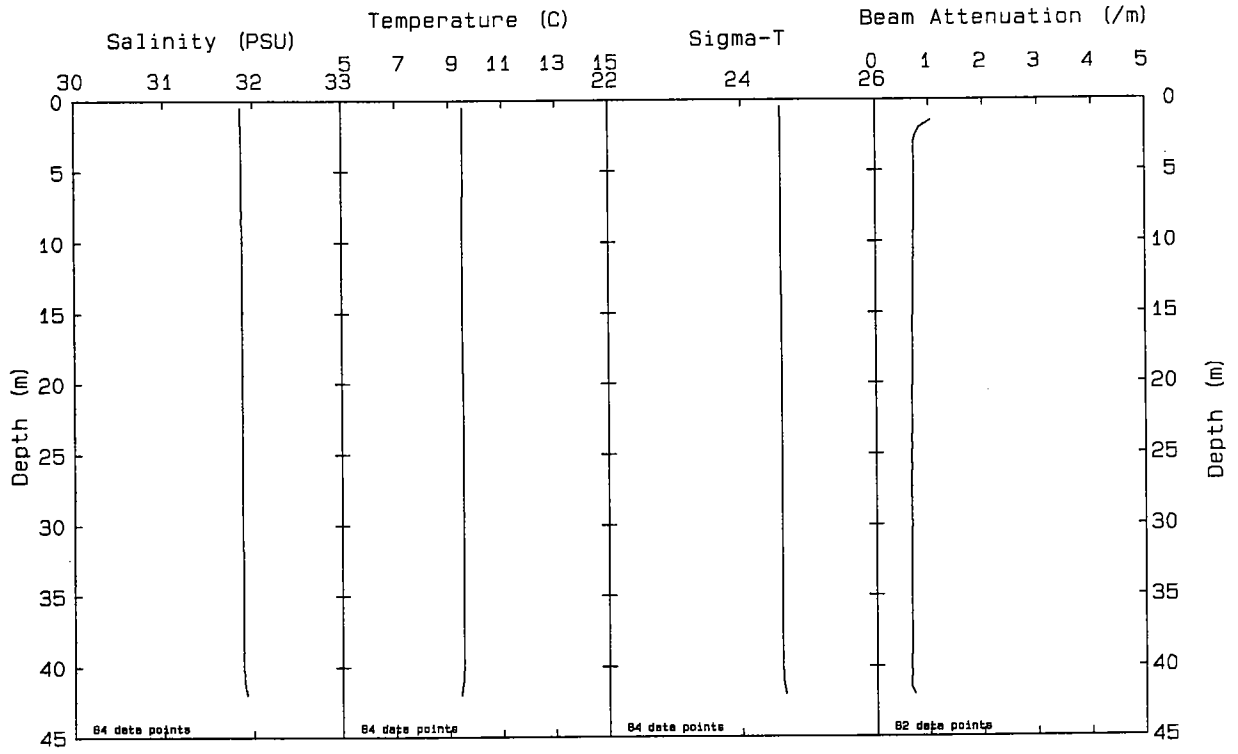


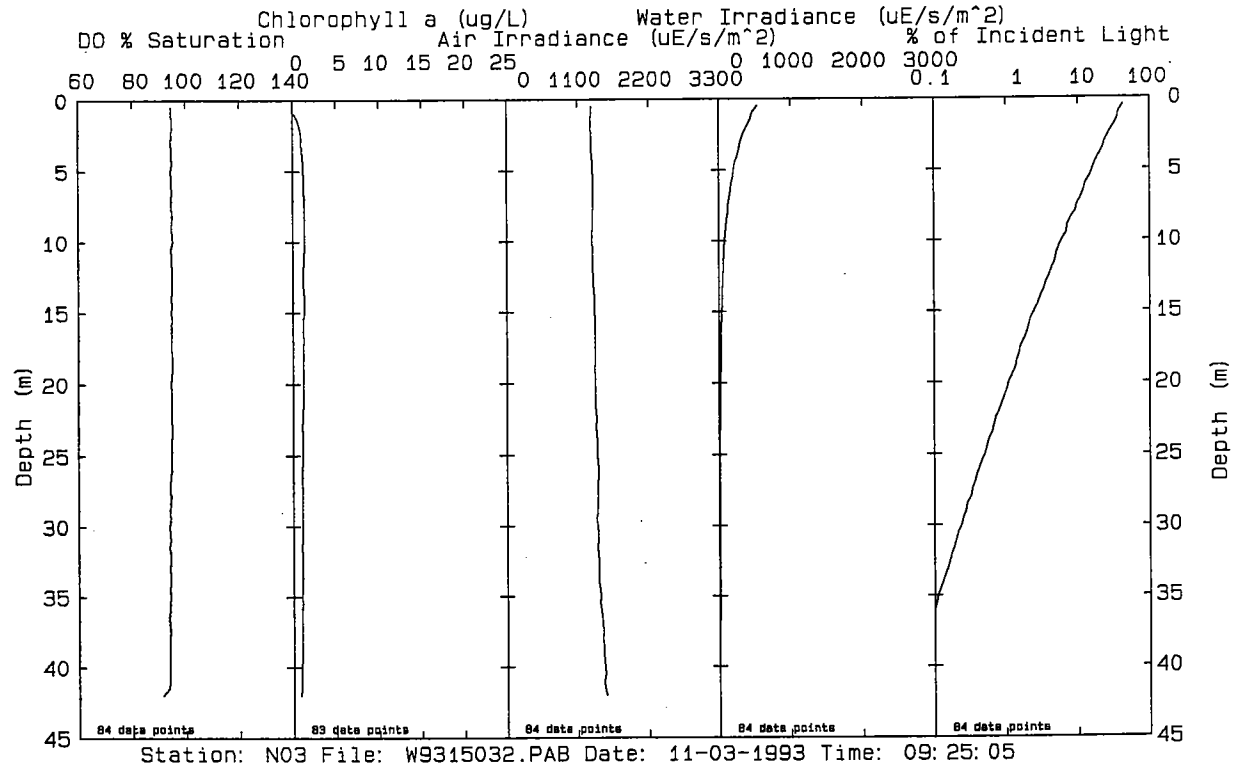
Station: N01P File: W9315024.PAB Date: 11-03-1993 Time: 08:33:00



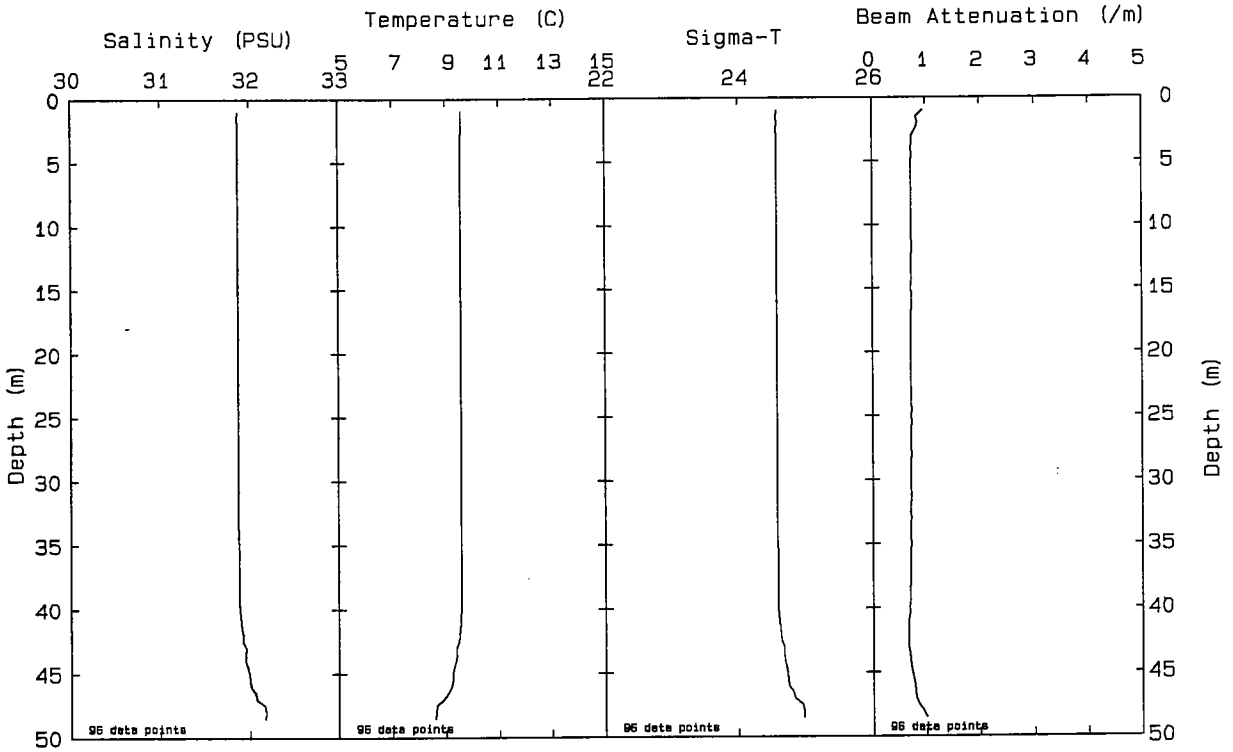


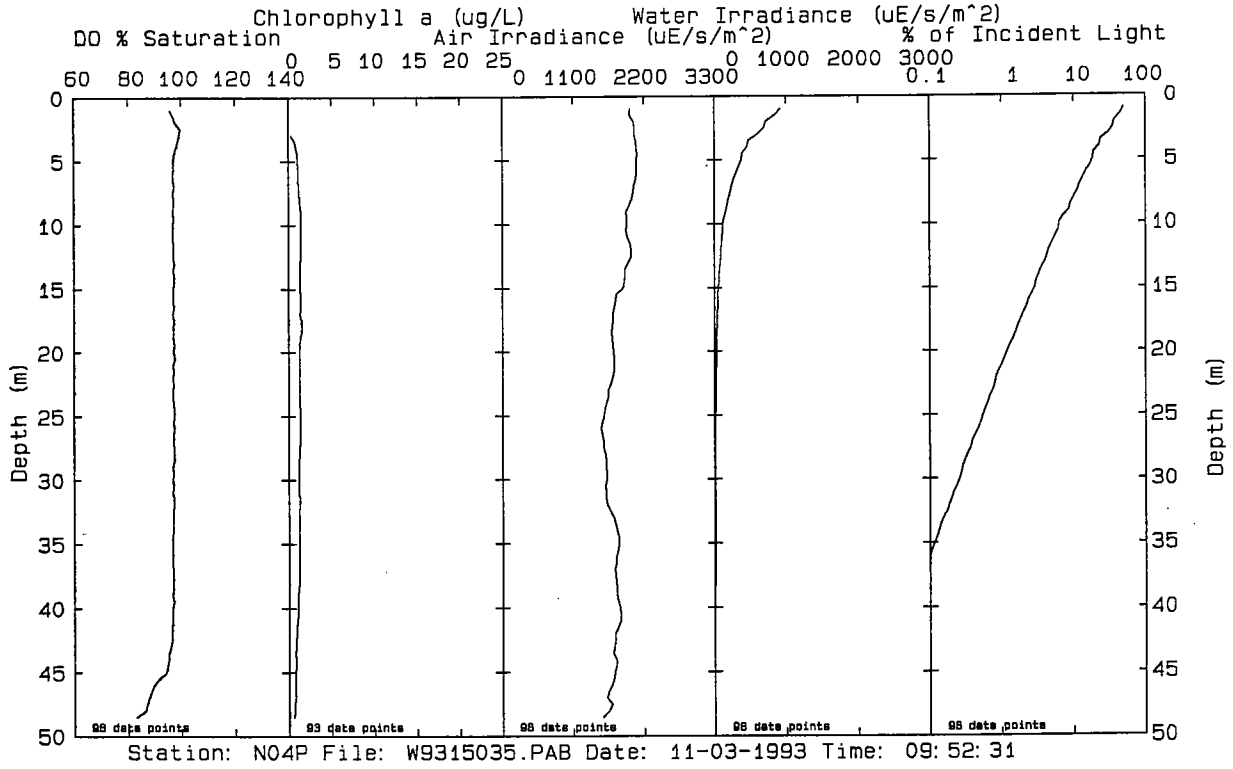
Station: N02 File: W9315029.PAB Date: 11-03-1993 Time: 08:59:13



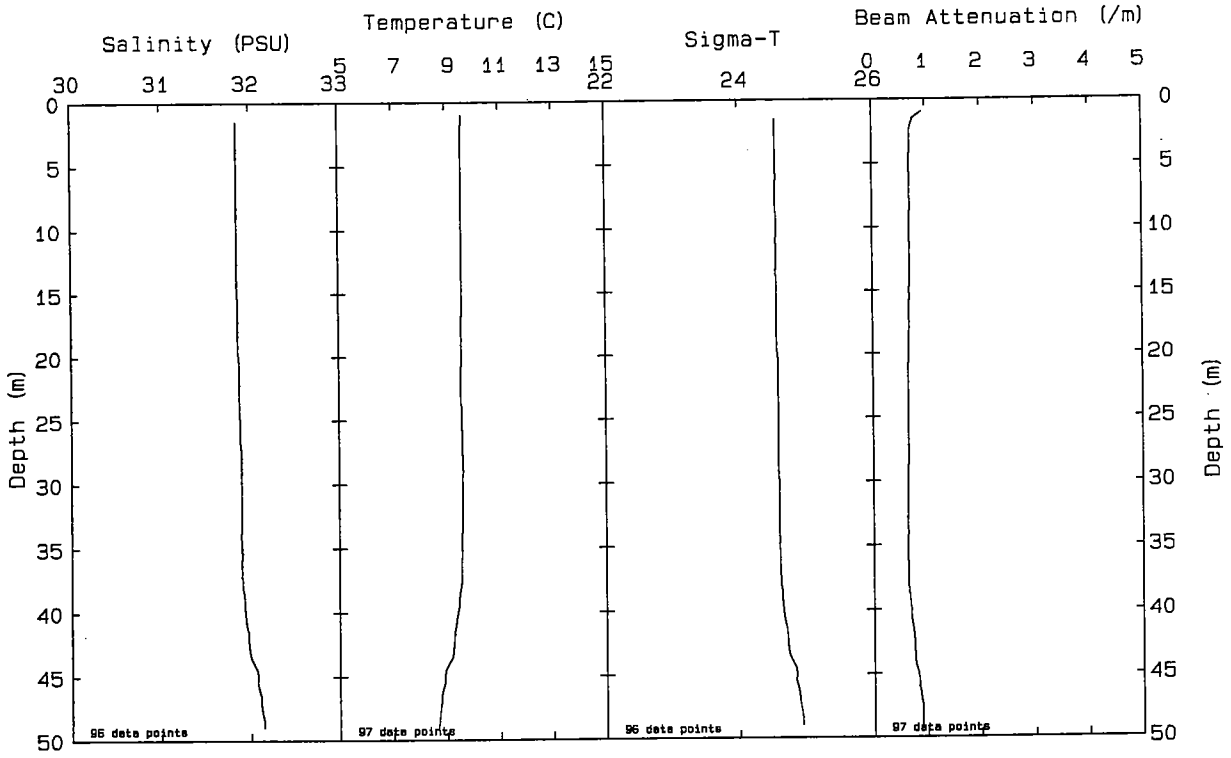


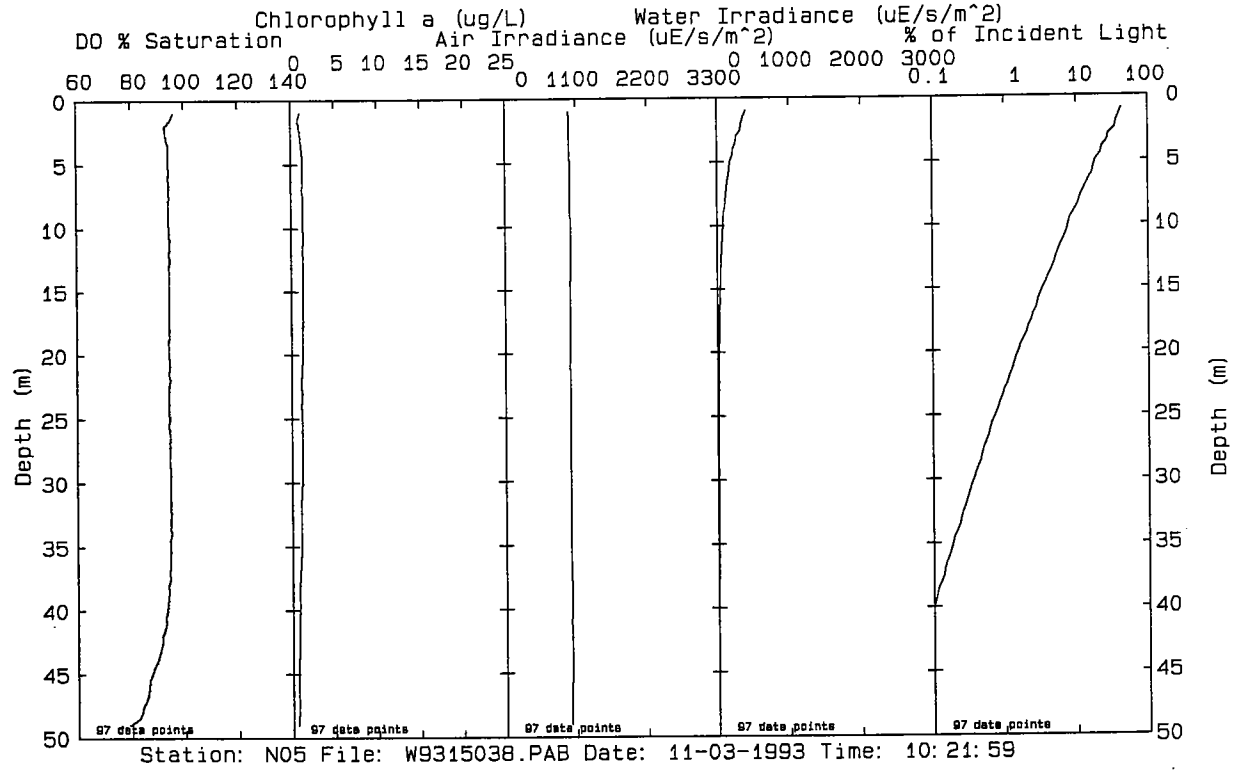
Station: N03 File: W9315032.PAB Date: 11-03-1993 Time: 09:25:05



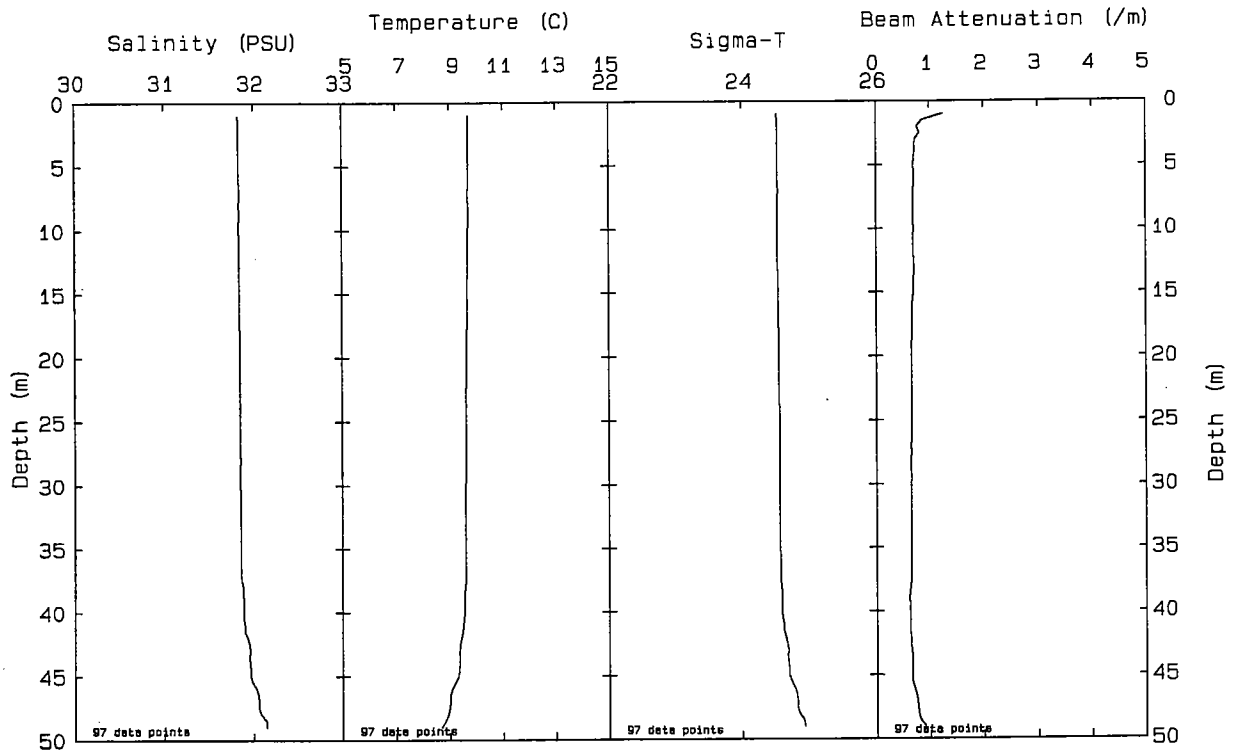


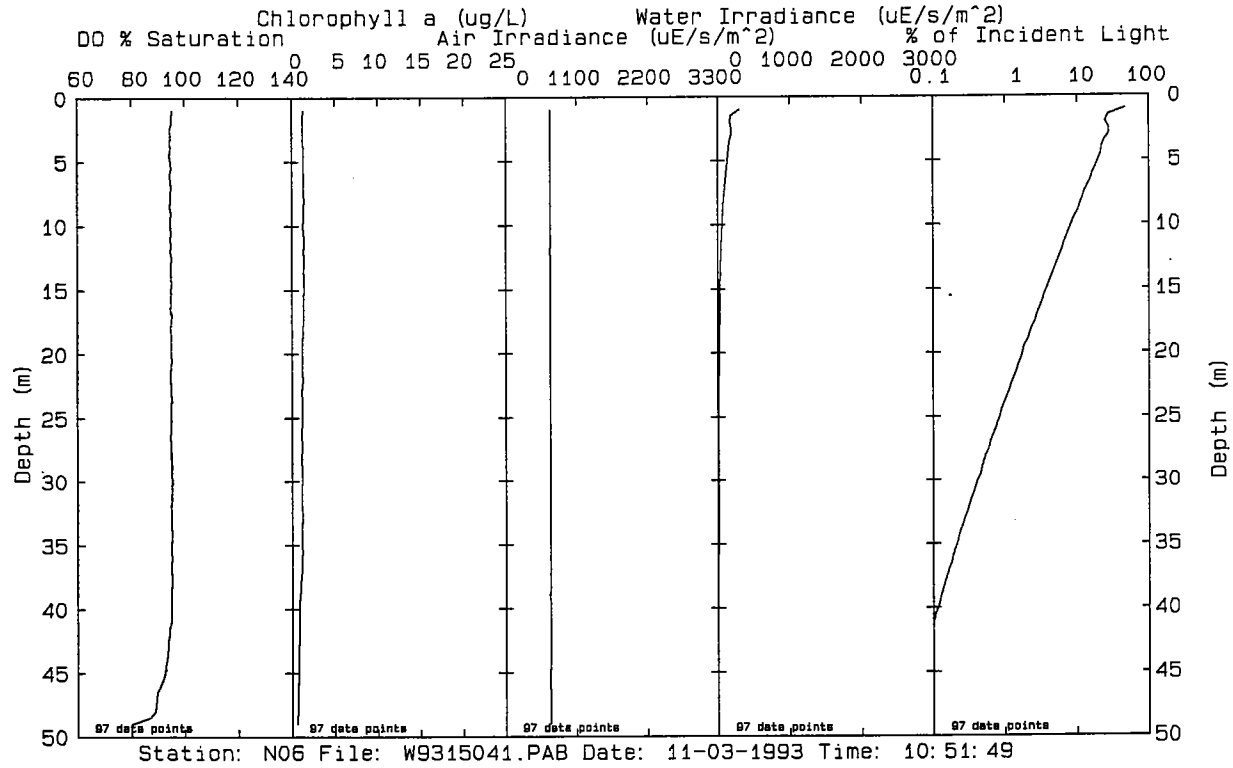
Station: N04P File: W9315035.PAB Date: 11-03-1993 Time: 09:52:31



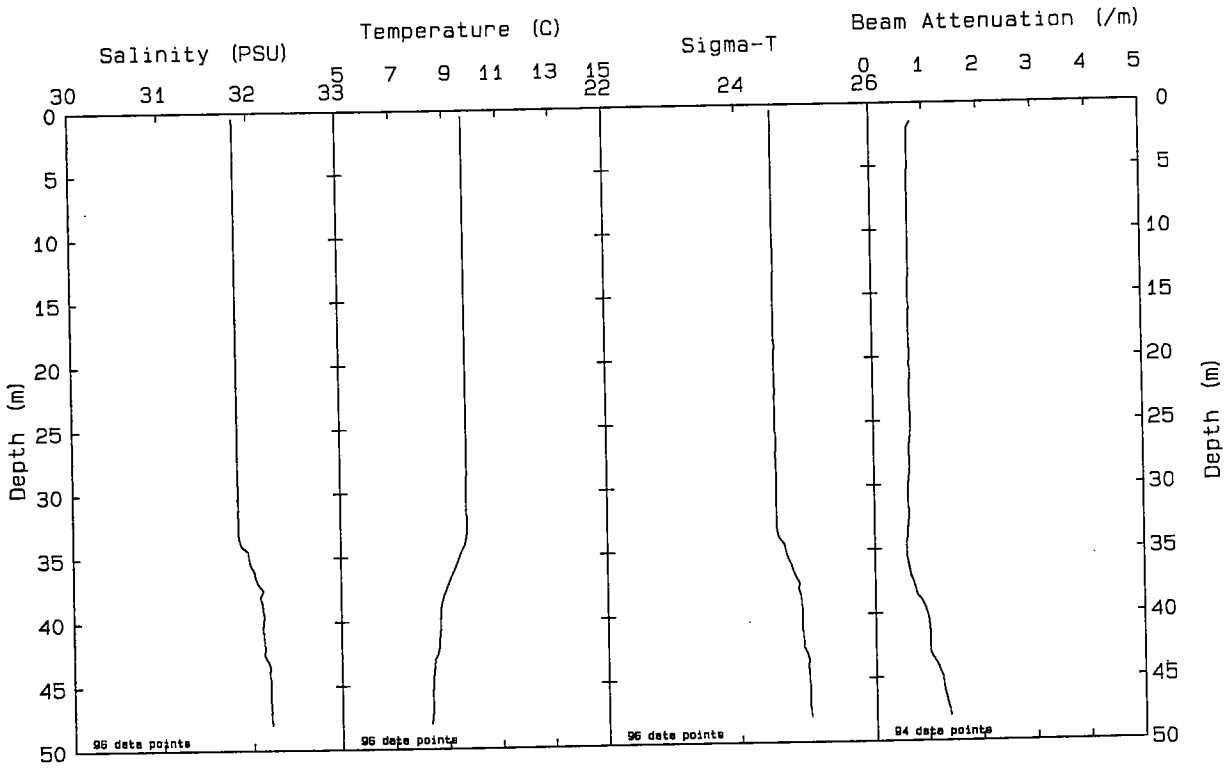


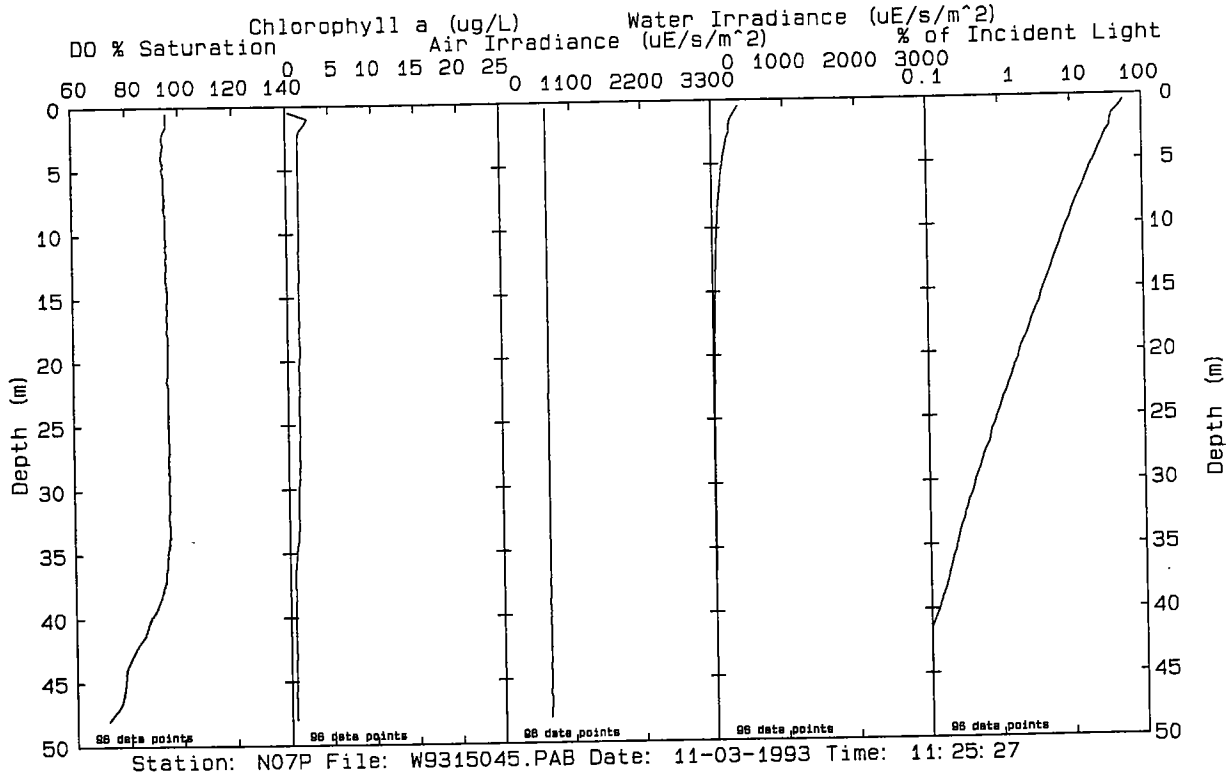
Station: N05 File: W9315038.PAB Date: 11-03-1993 Time: 10:21:59



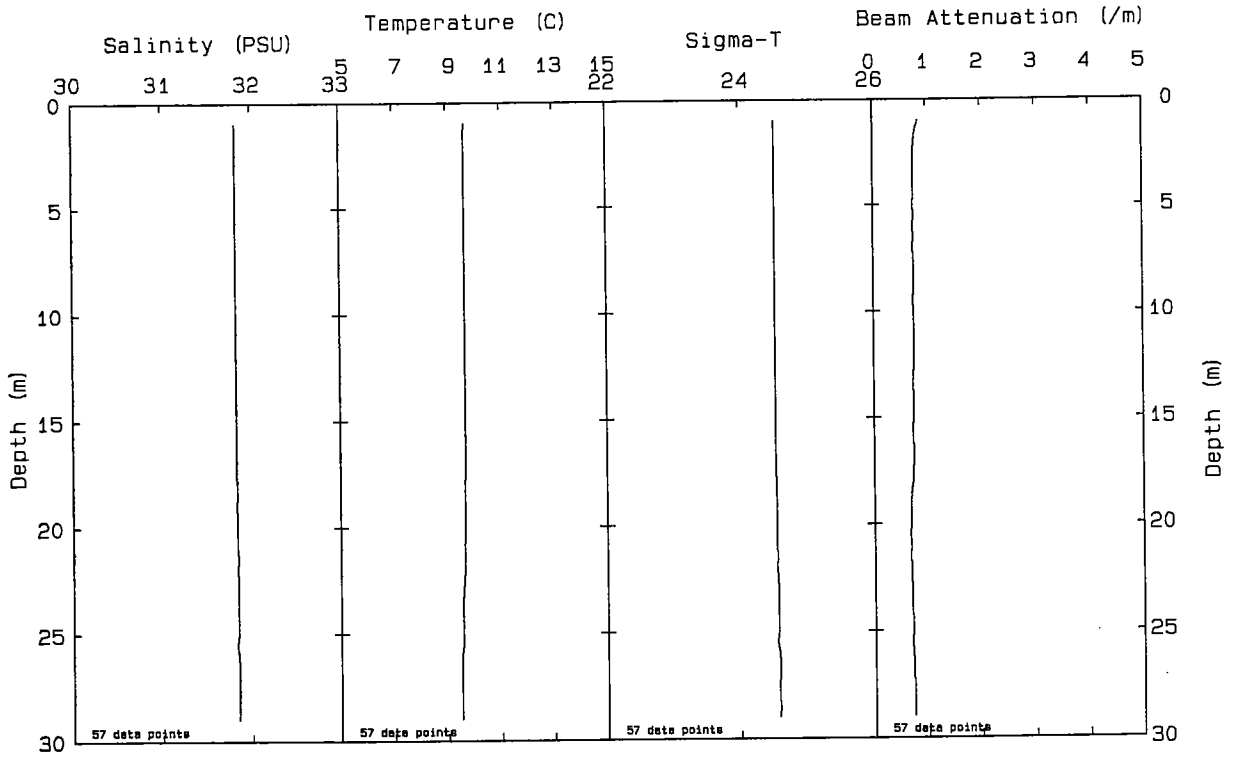


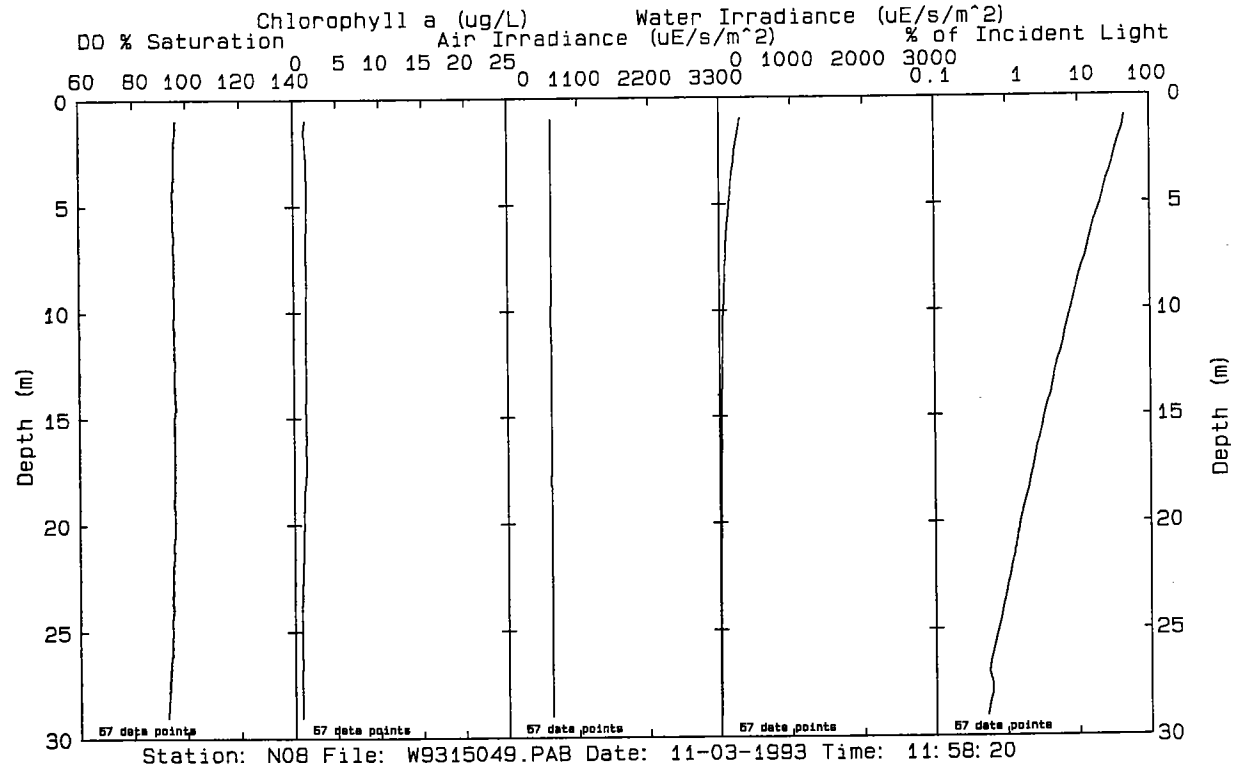
Station: N06 File: W9315041.PAB Date: 11-03-1993 Time: 10:51:49



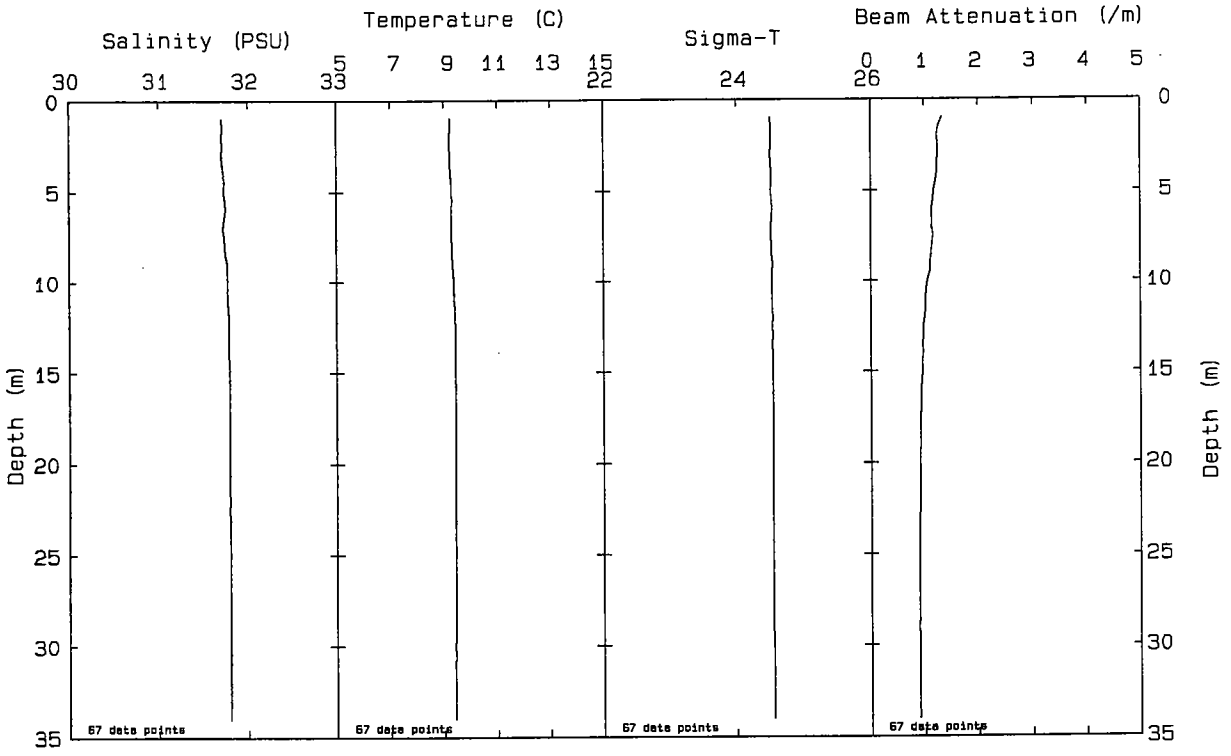


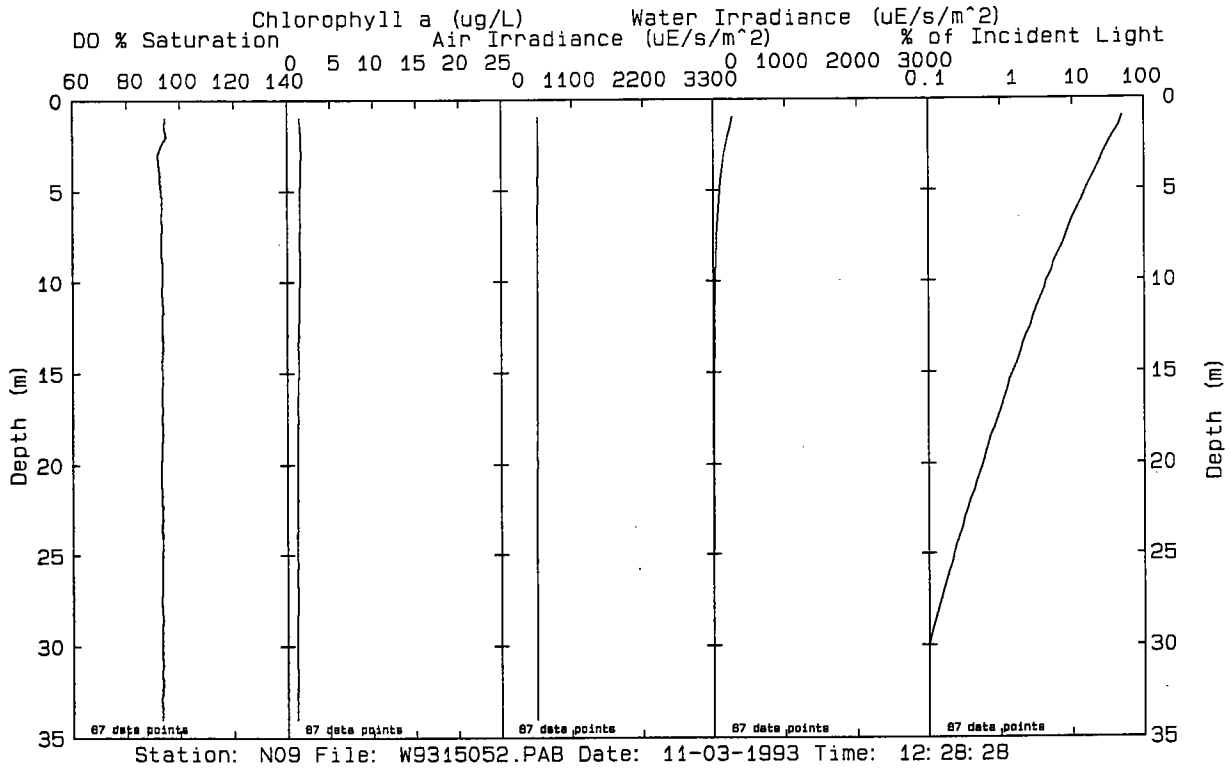
Station: N07P File: W9315045.PAB Date: 11-03-1993 Time: 11:25:27



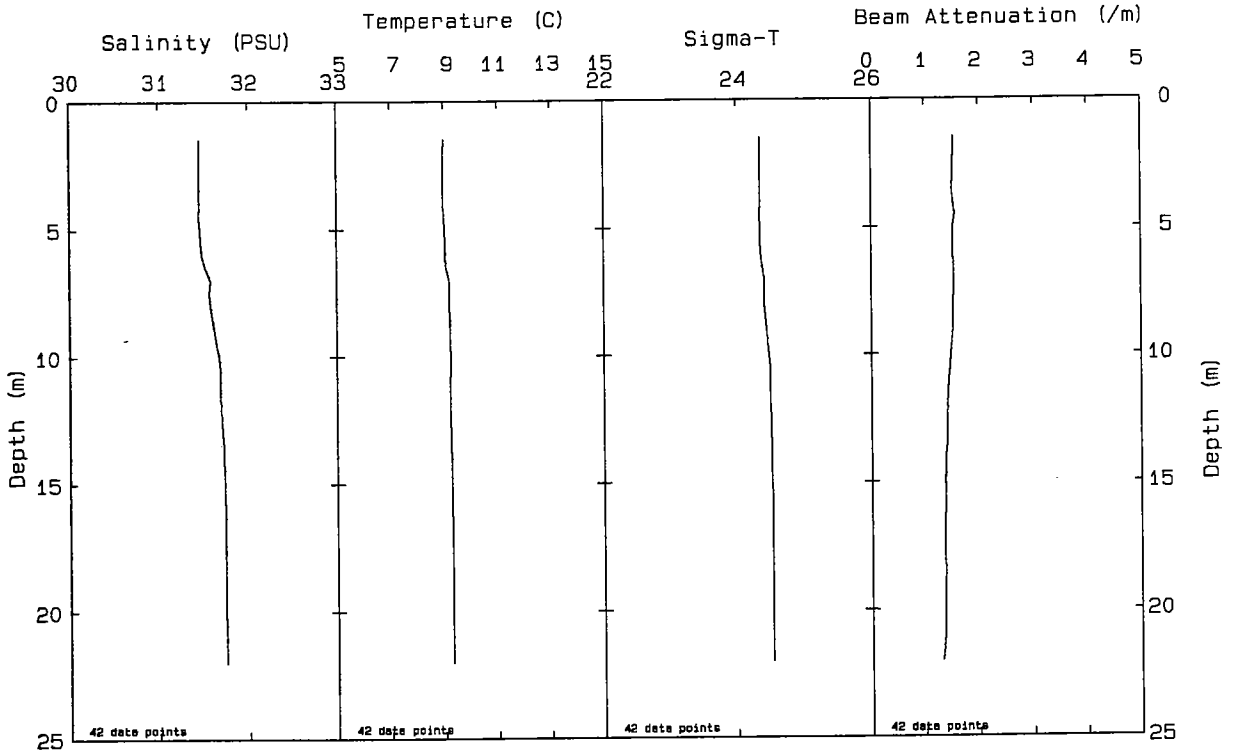


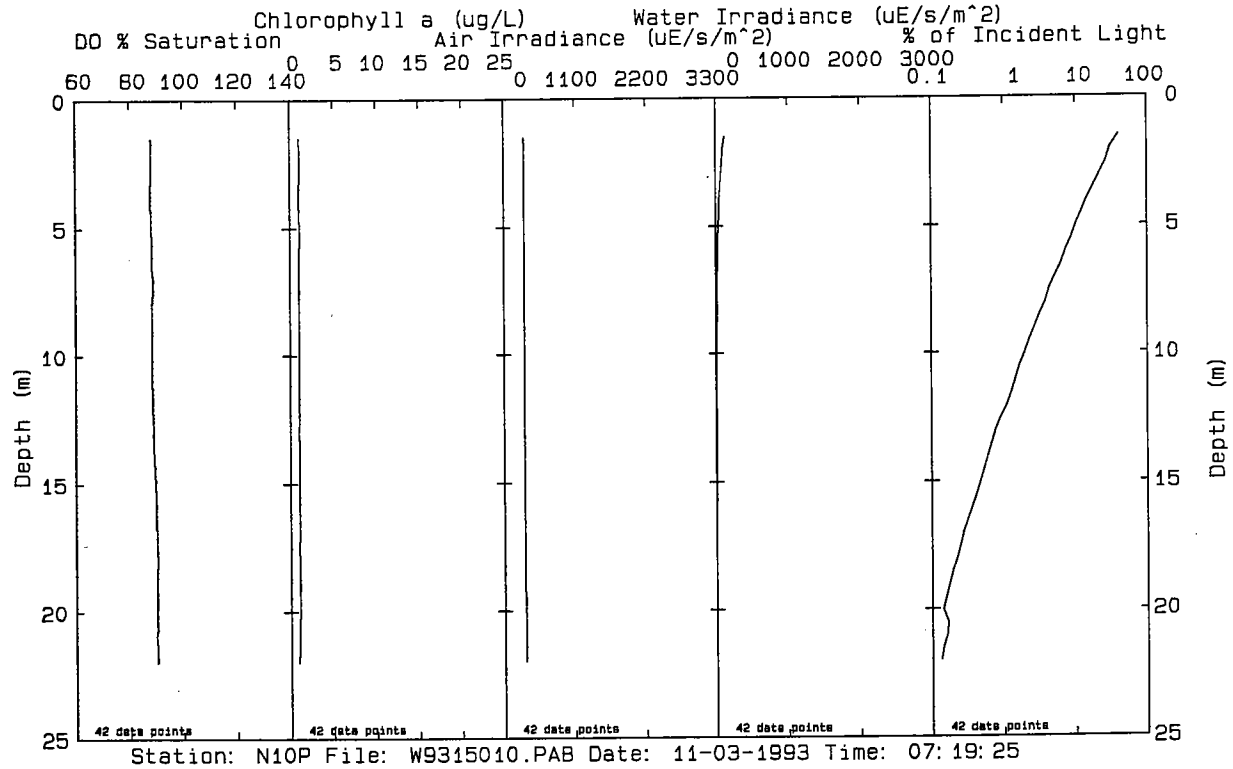
Station: N08 File: W9315049.PAB Date: 11-03-1993 Time: 11:58:20



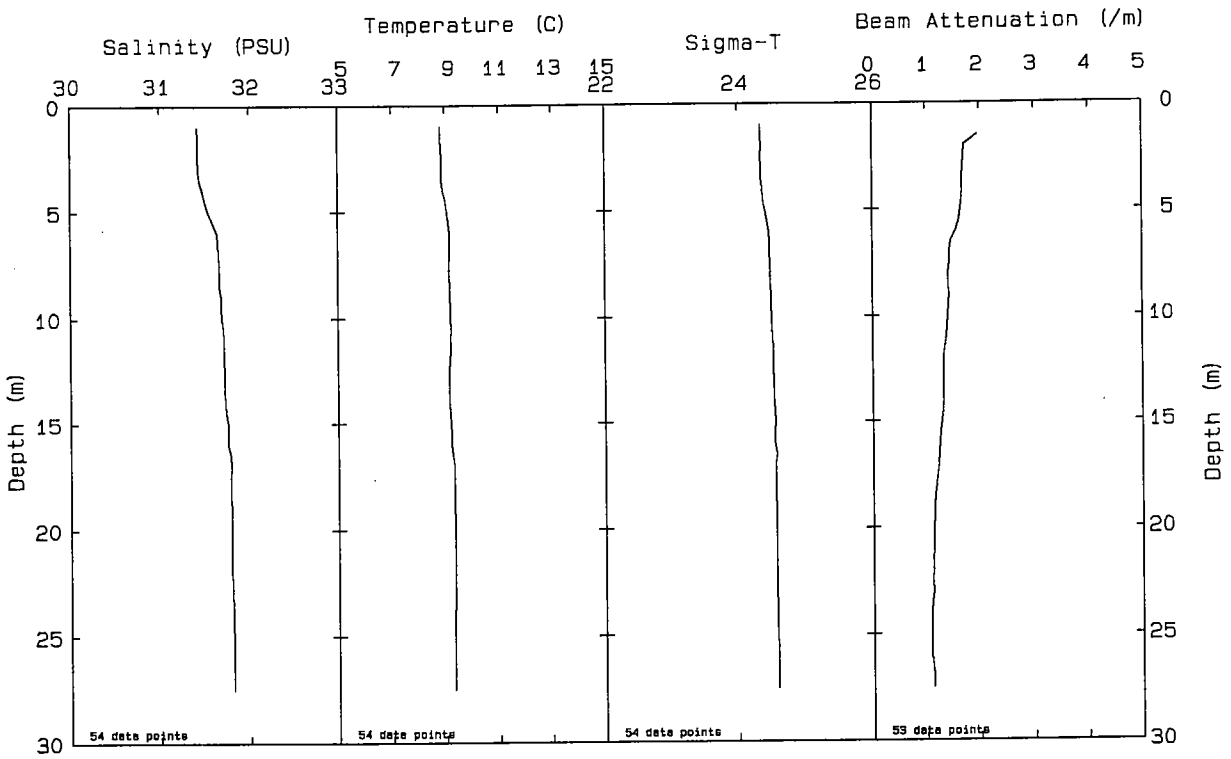


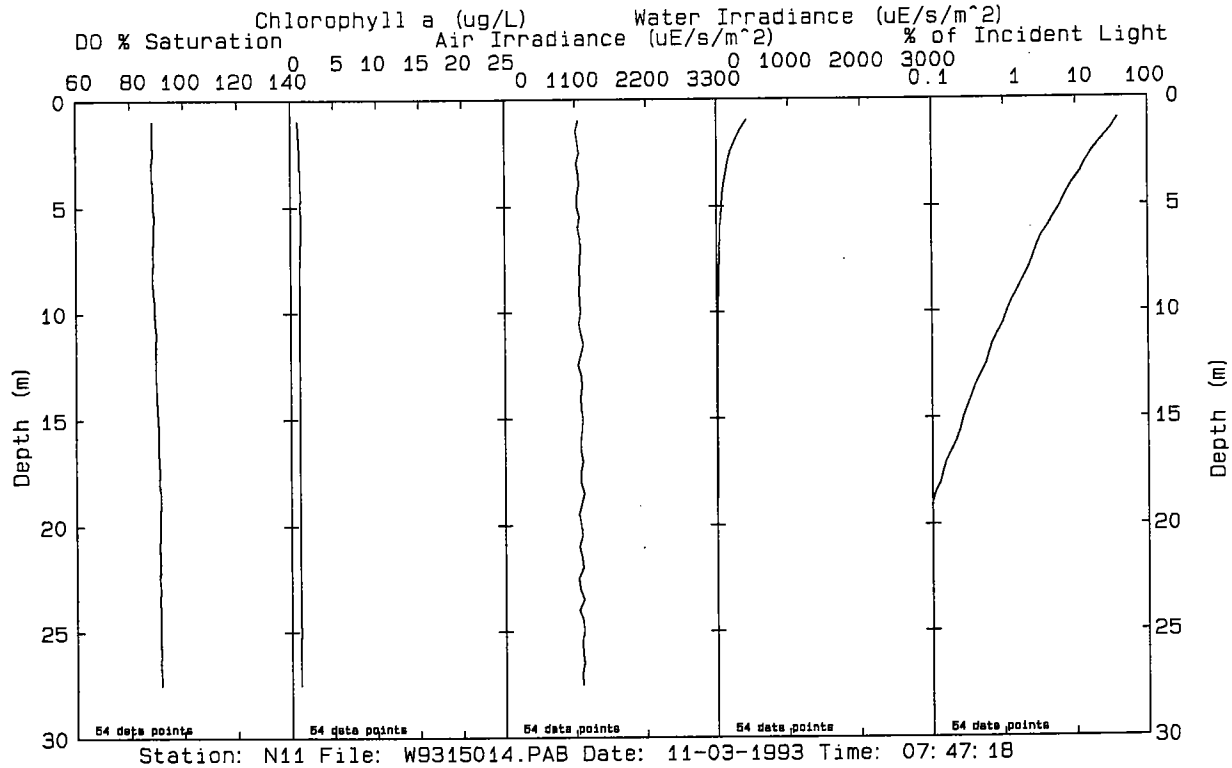
Station: N09 File: W9315052.PAB Date: 11-03-1993 Time: 12:28:28



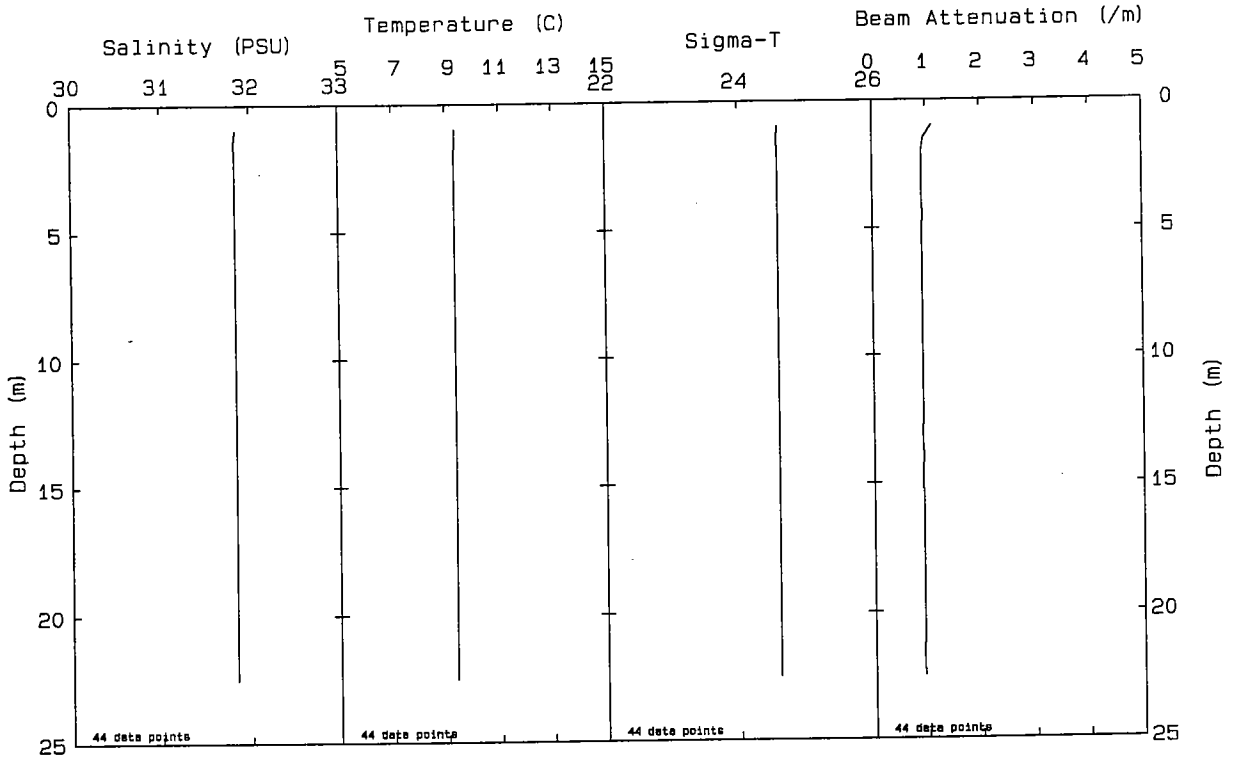


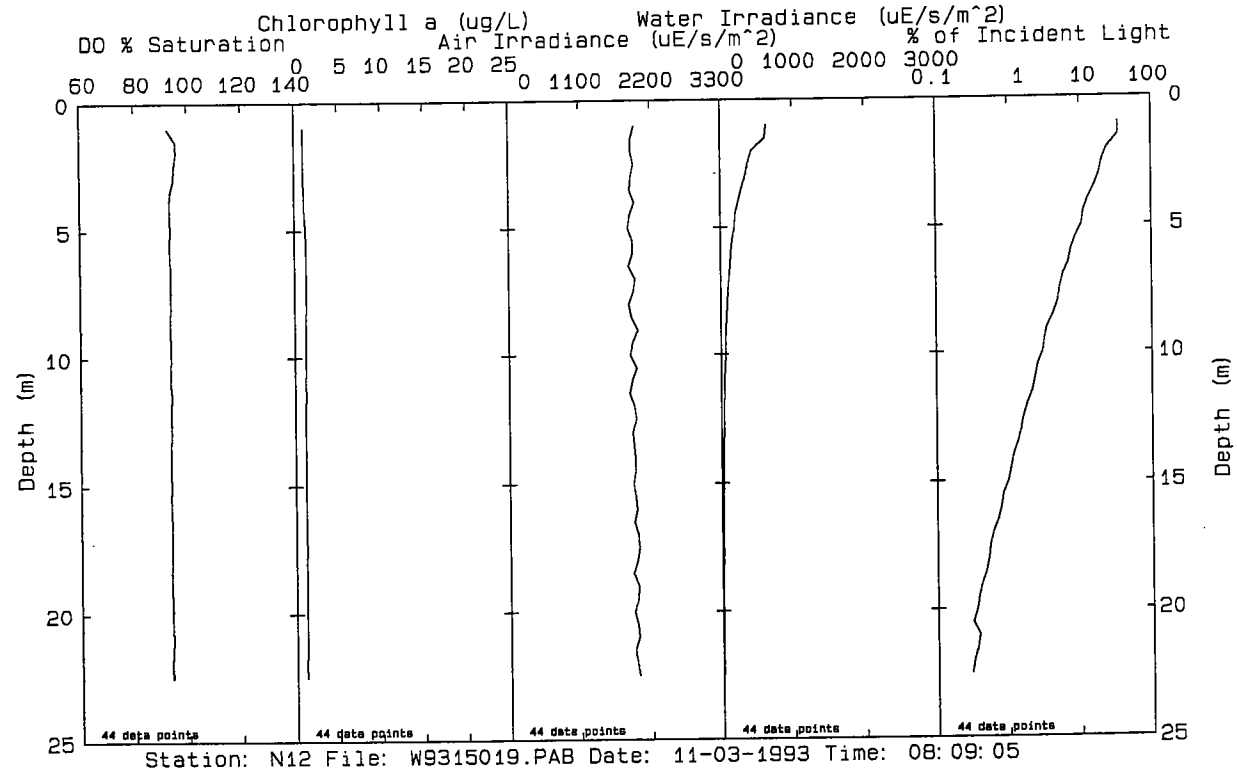
Station: N10P File: W9315010.PAB Date: 11-03-1993 Time: 07:19:25



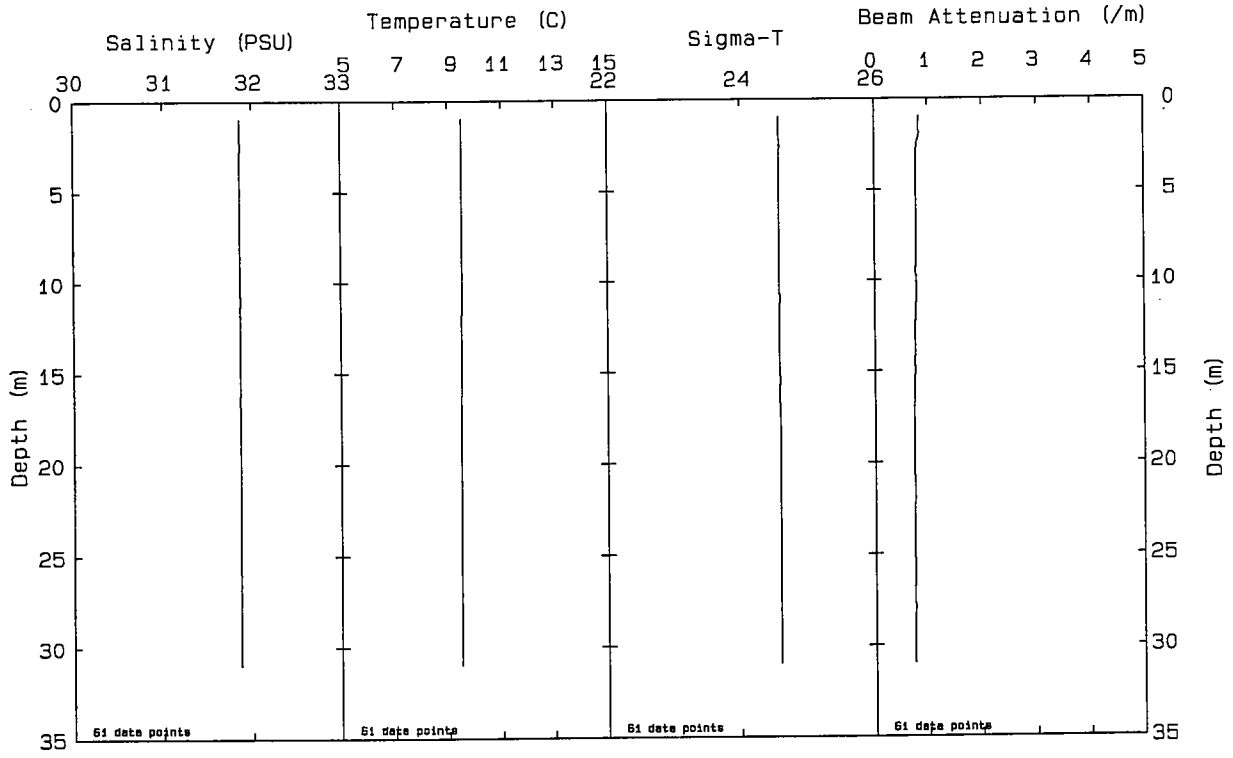


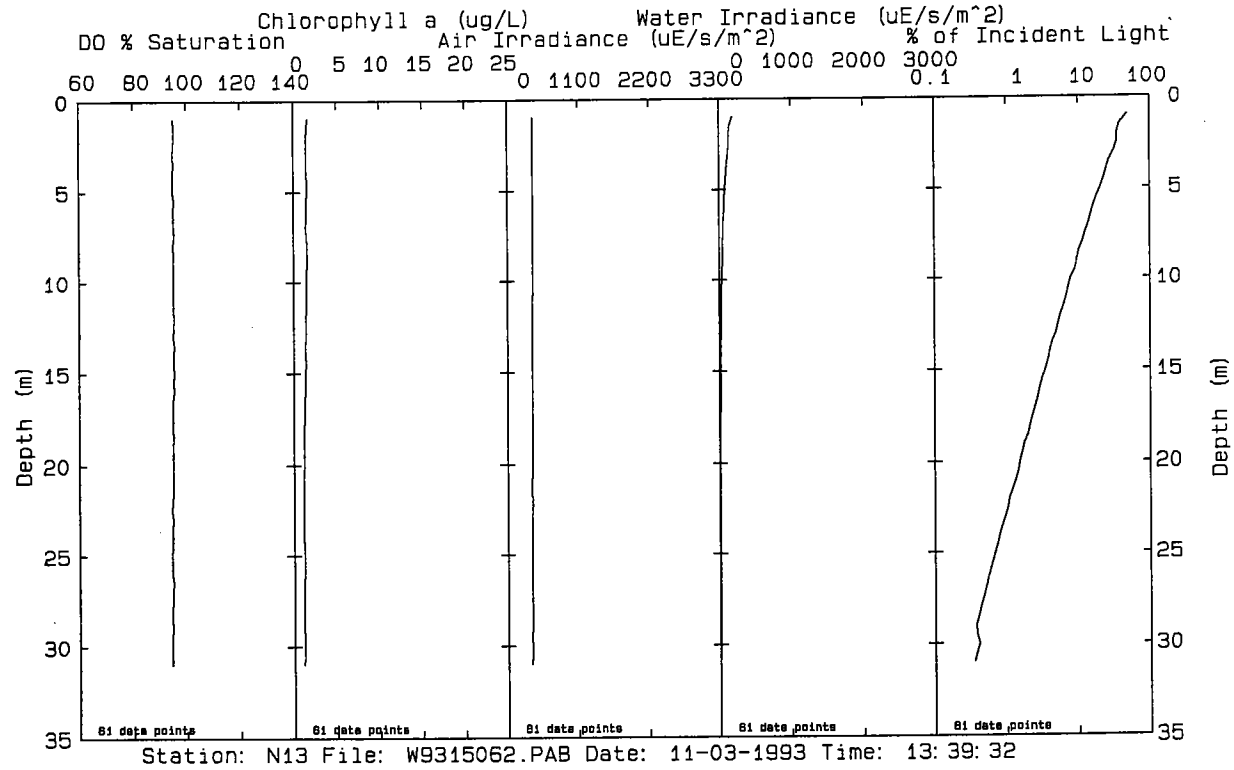
Station: N11 File: W9315014.PAB Date: 11-03-1993 Time: 07:47:18



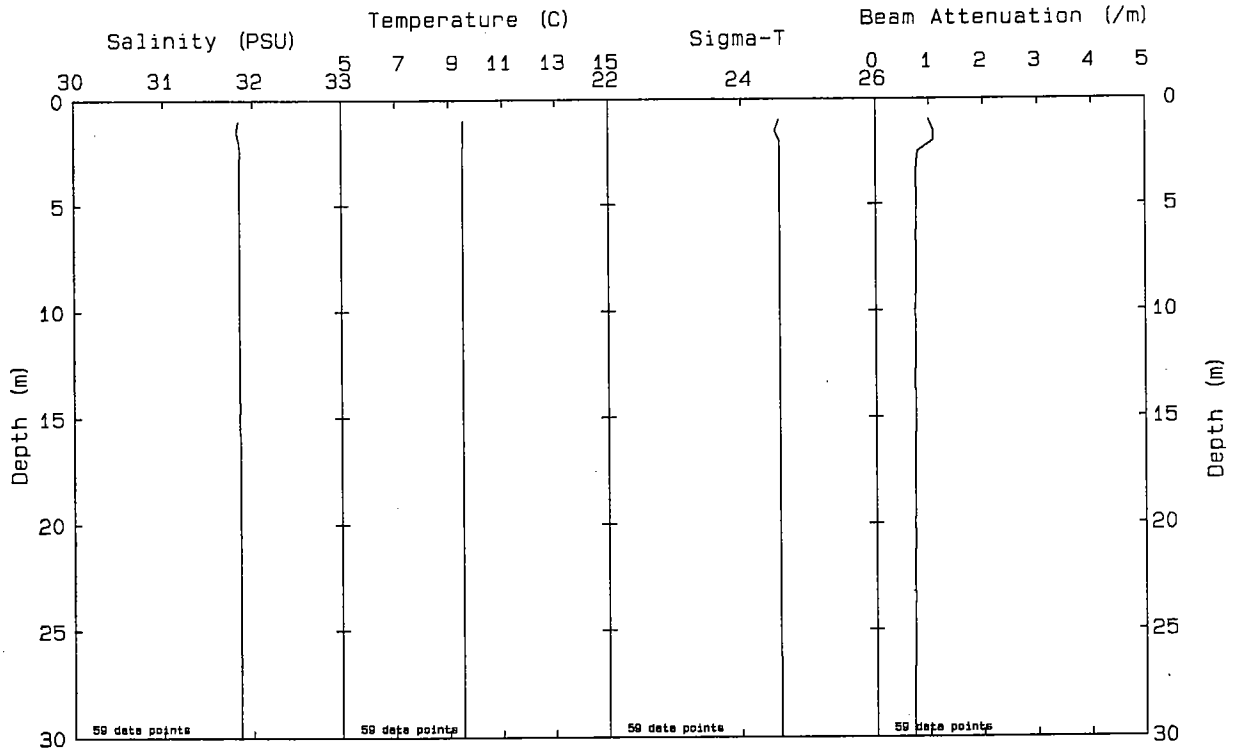


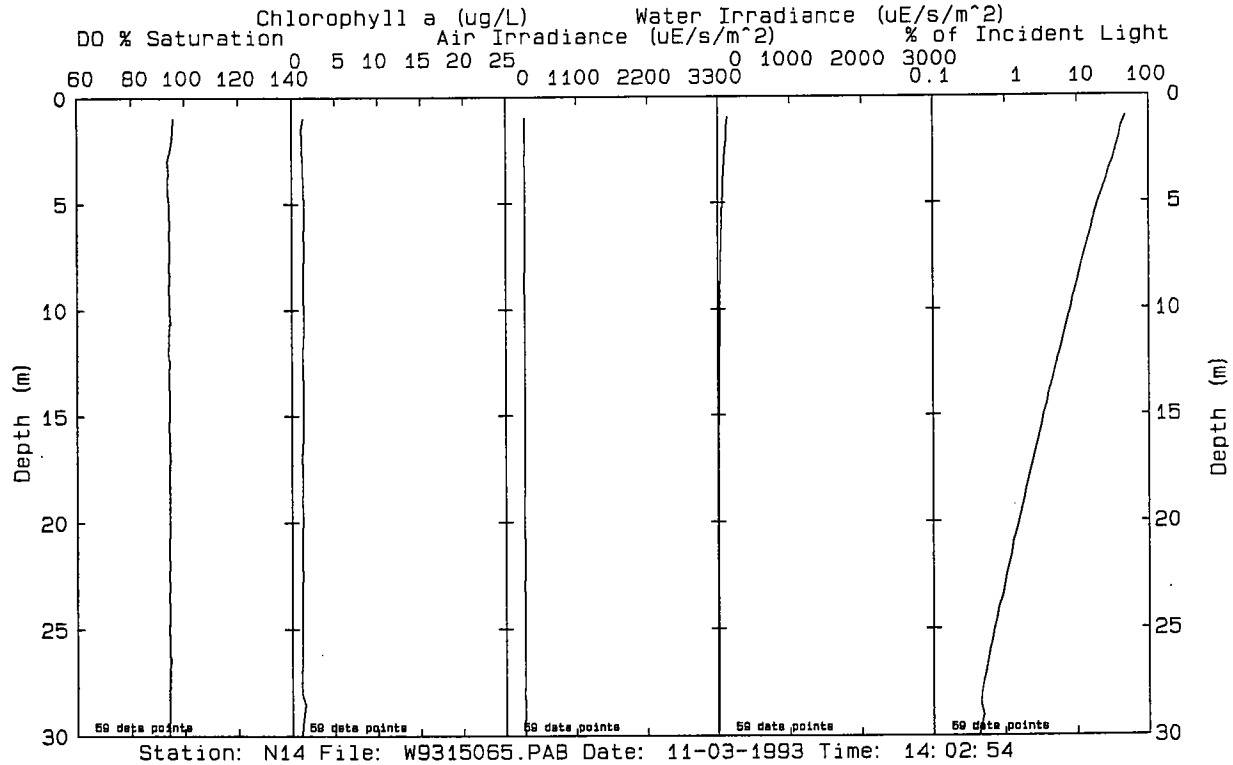
Station: N12 File: W9315019.PAB Date: 11-03-1993 Time: 08:09:05



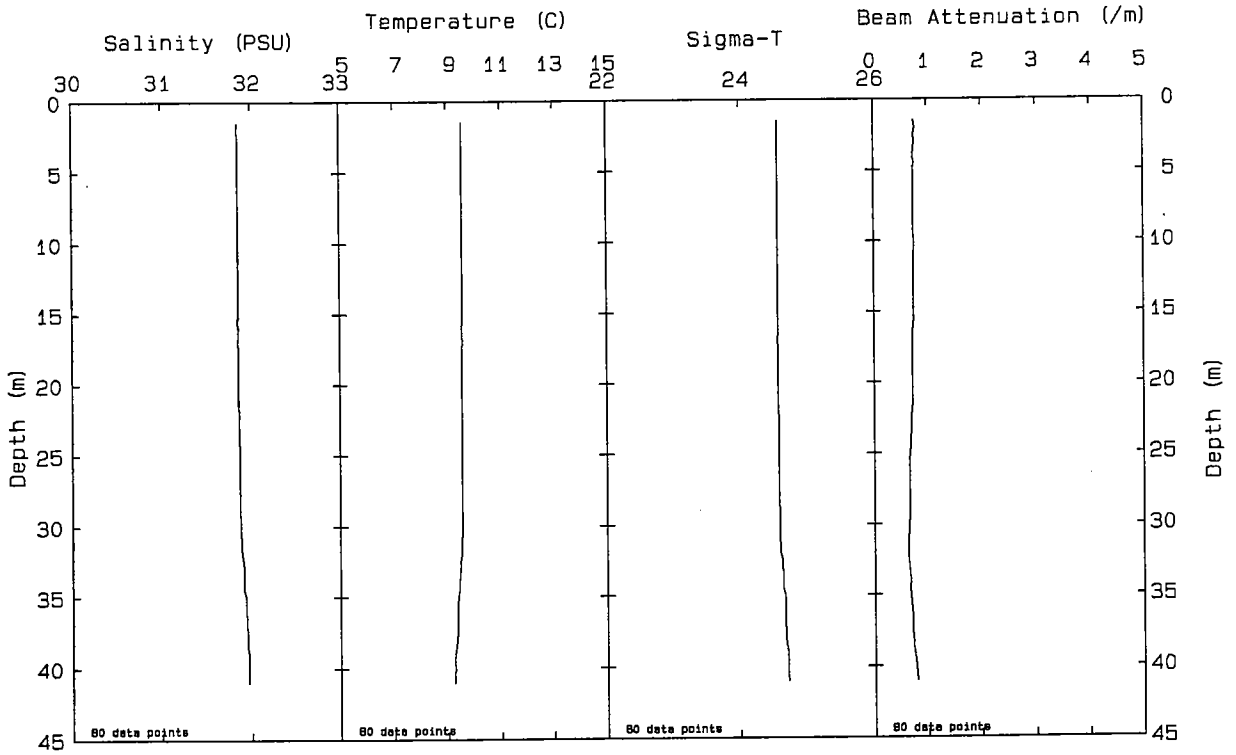


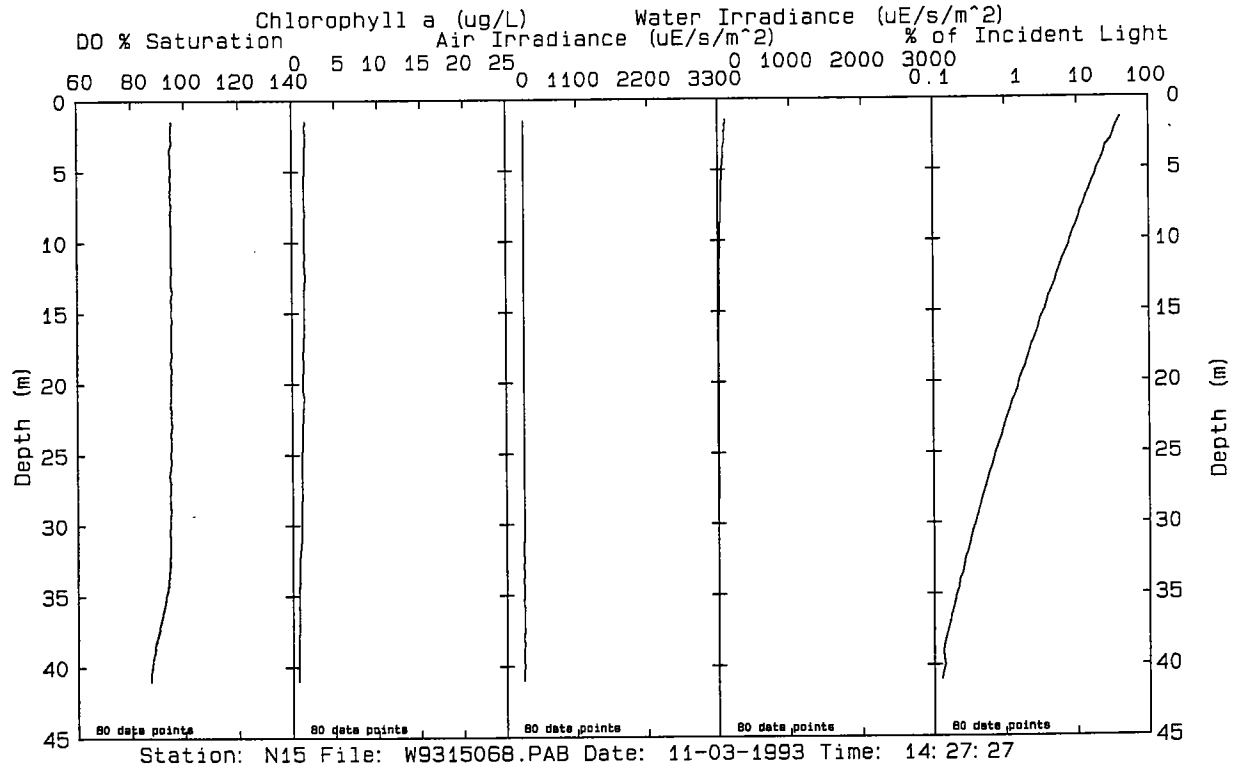
Station: N13 File: W9315062.PAB Date: 11-03-1993 Time: 13:39:32



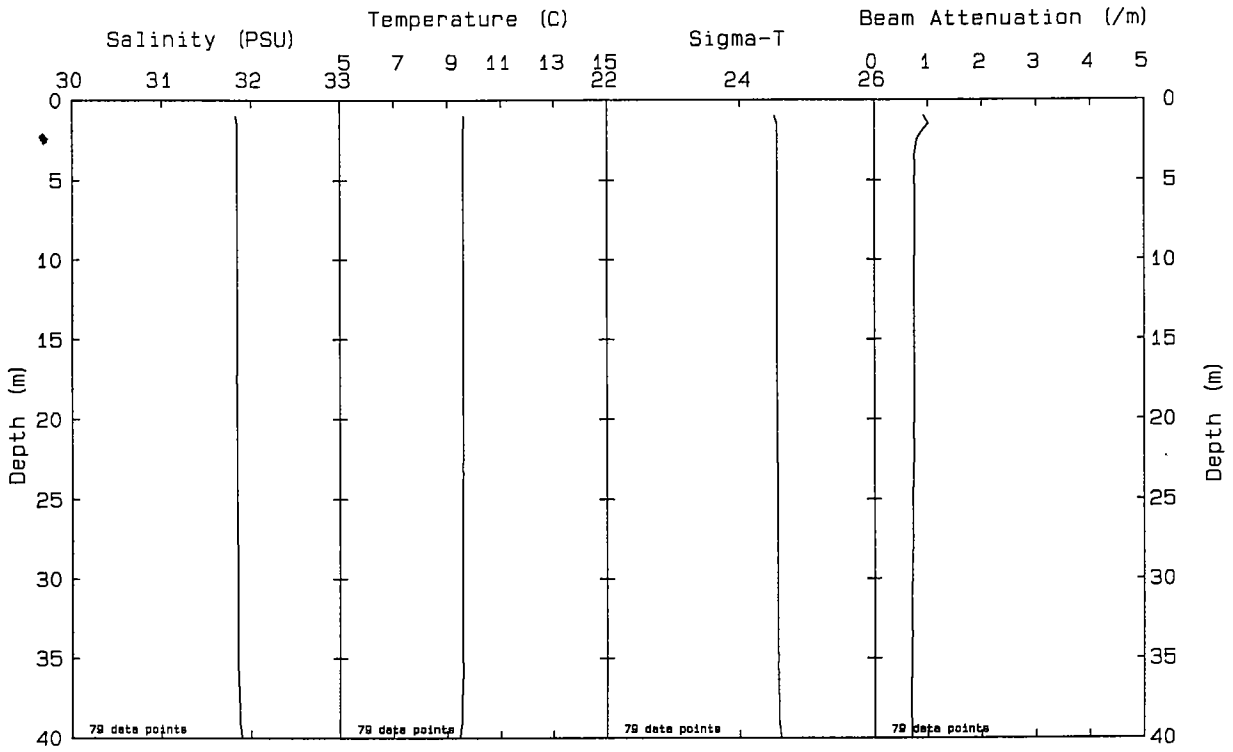


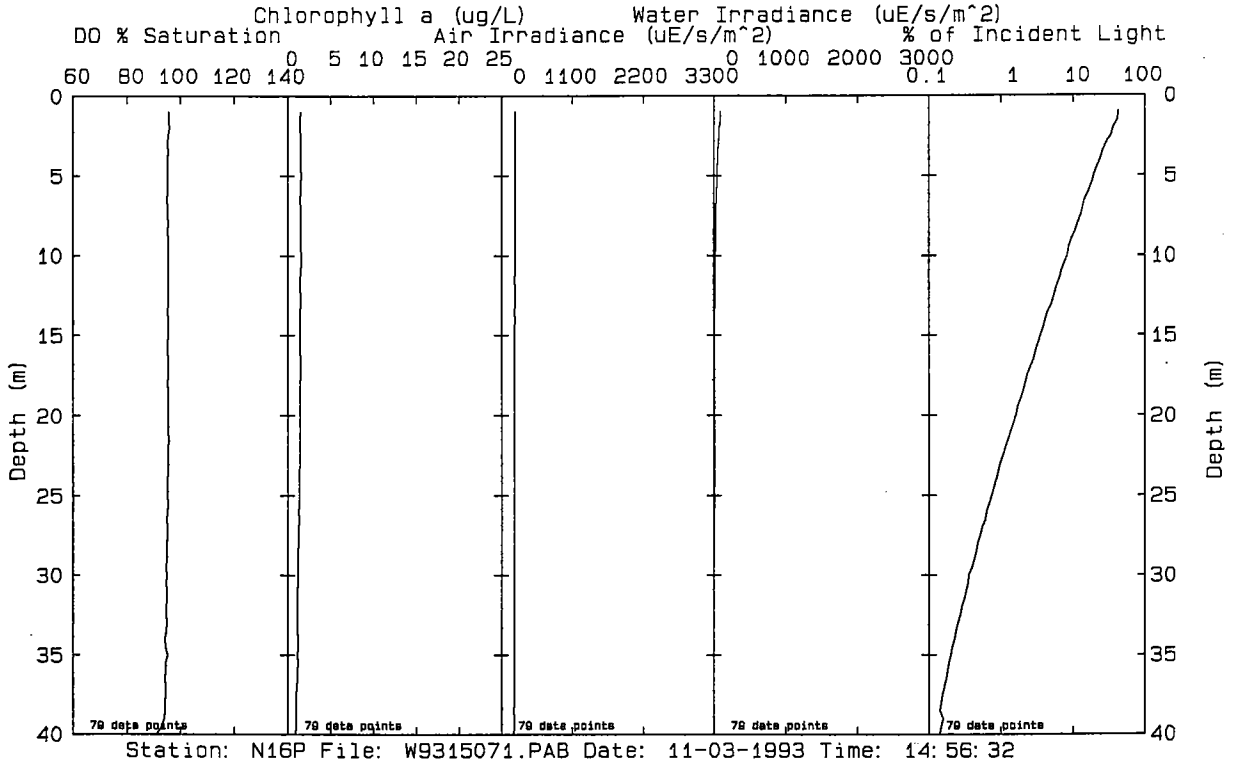
Station: N14 File: W9315065.PAB Date: 11-03-1993 Time: 14:02:54



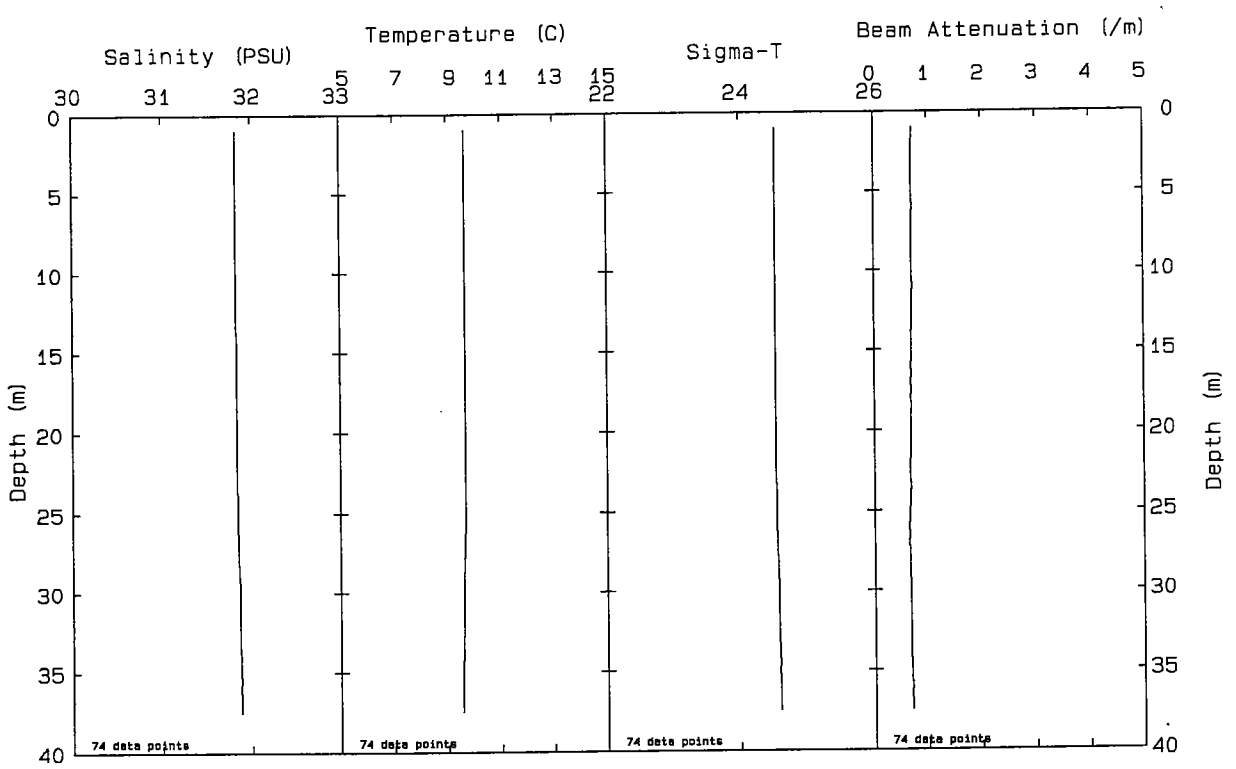


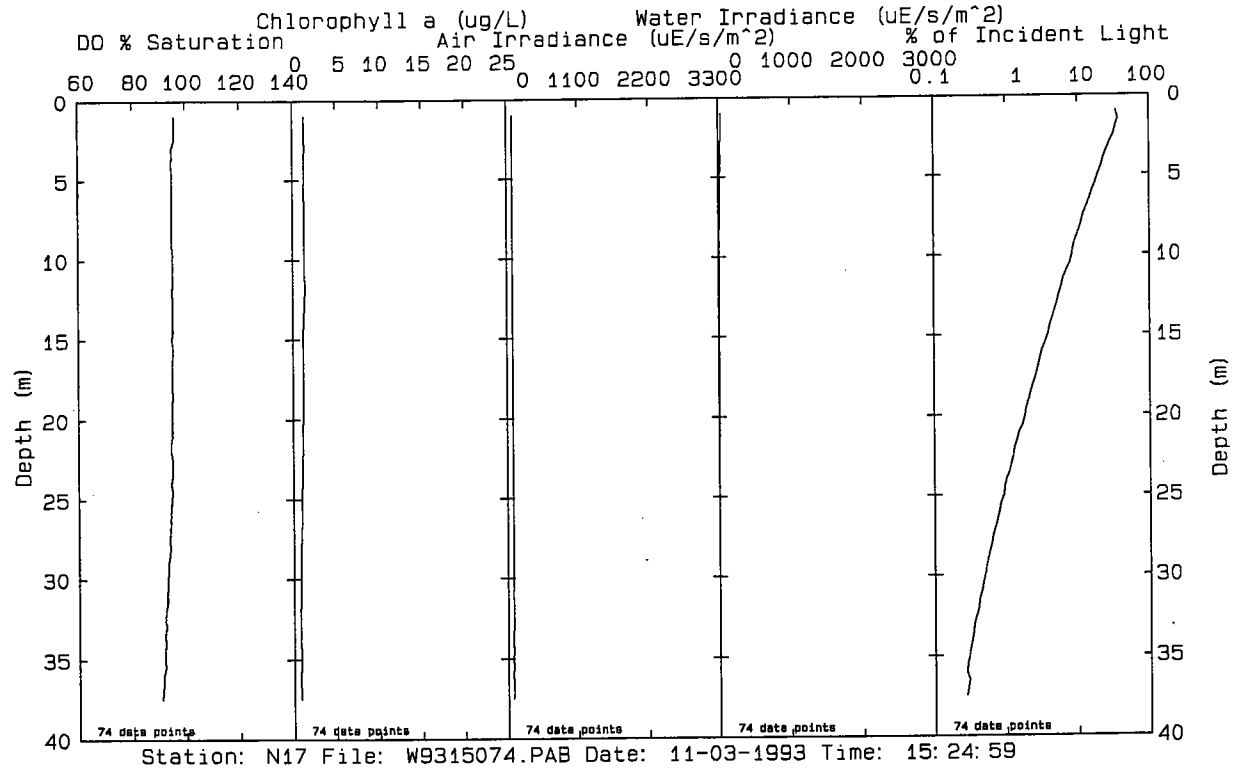
Station: N15 File: W9315068.PAB Date: 11-03-1993 Time: 14:27:27





Station: N16P File: W9315071.PAB Date: 11-03-1993 Time: 14:56:32





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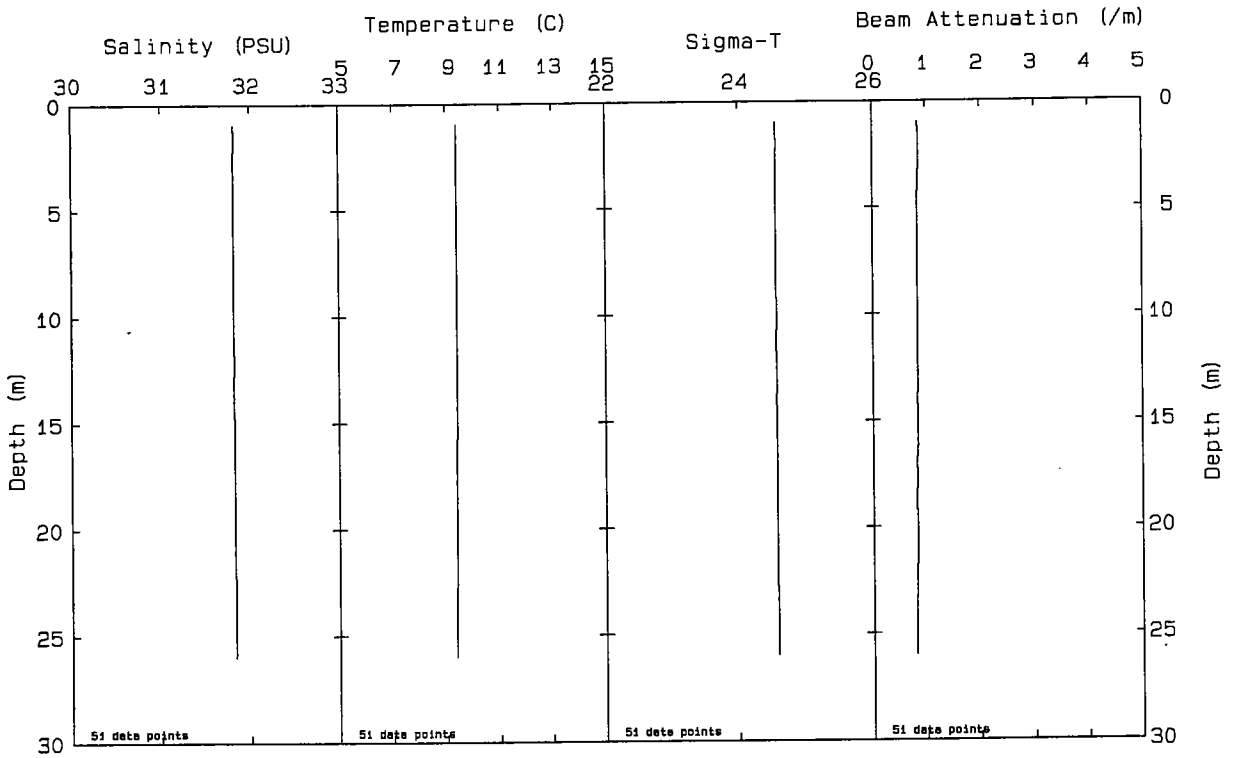

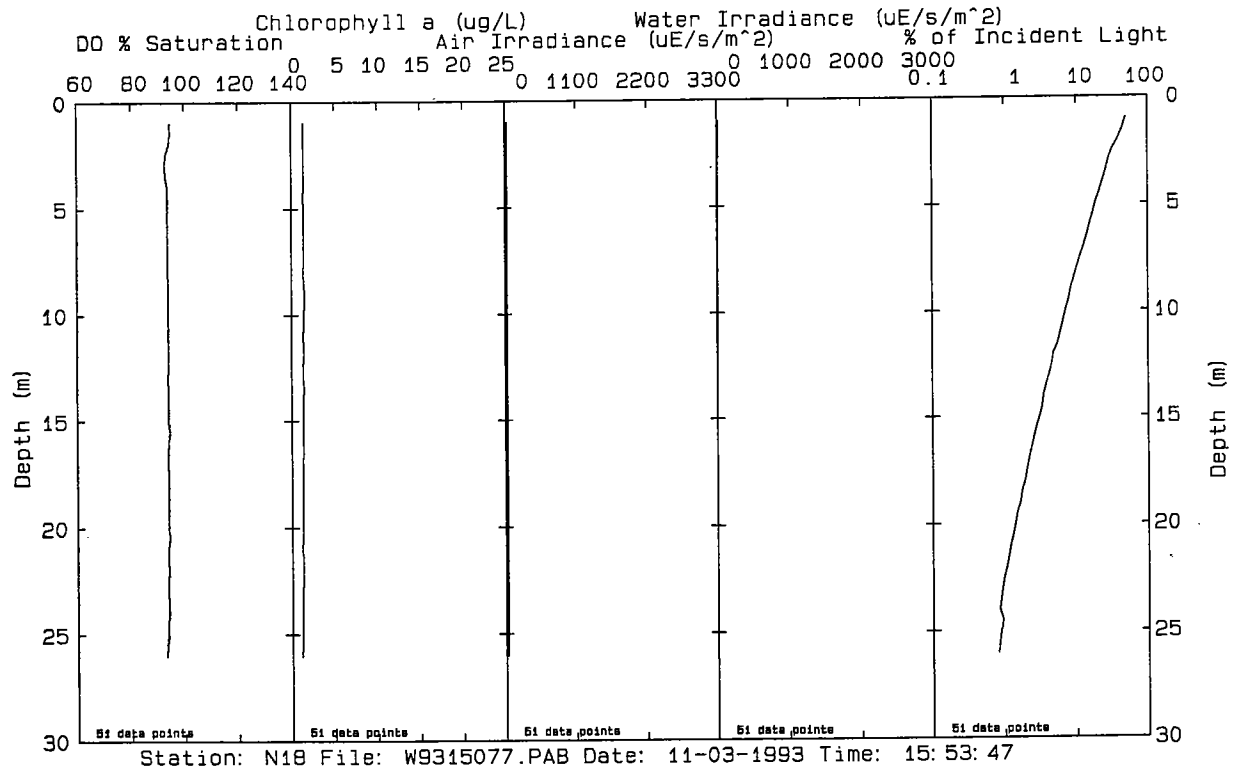

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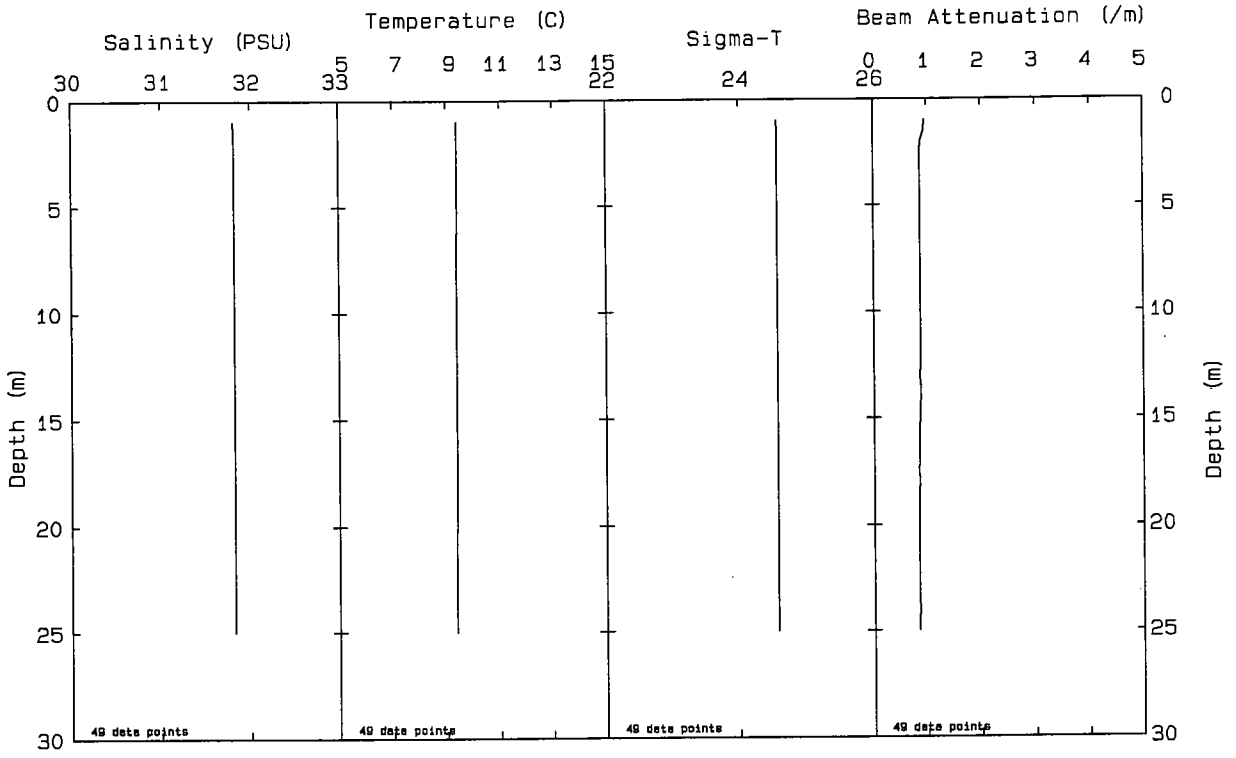

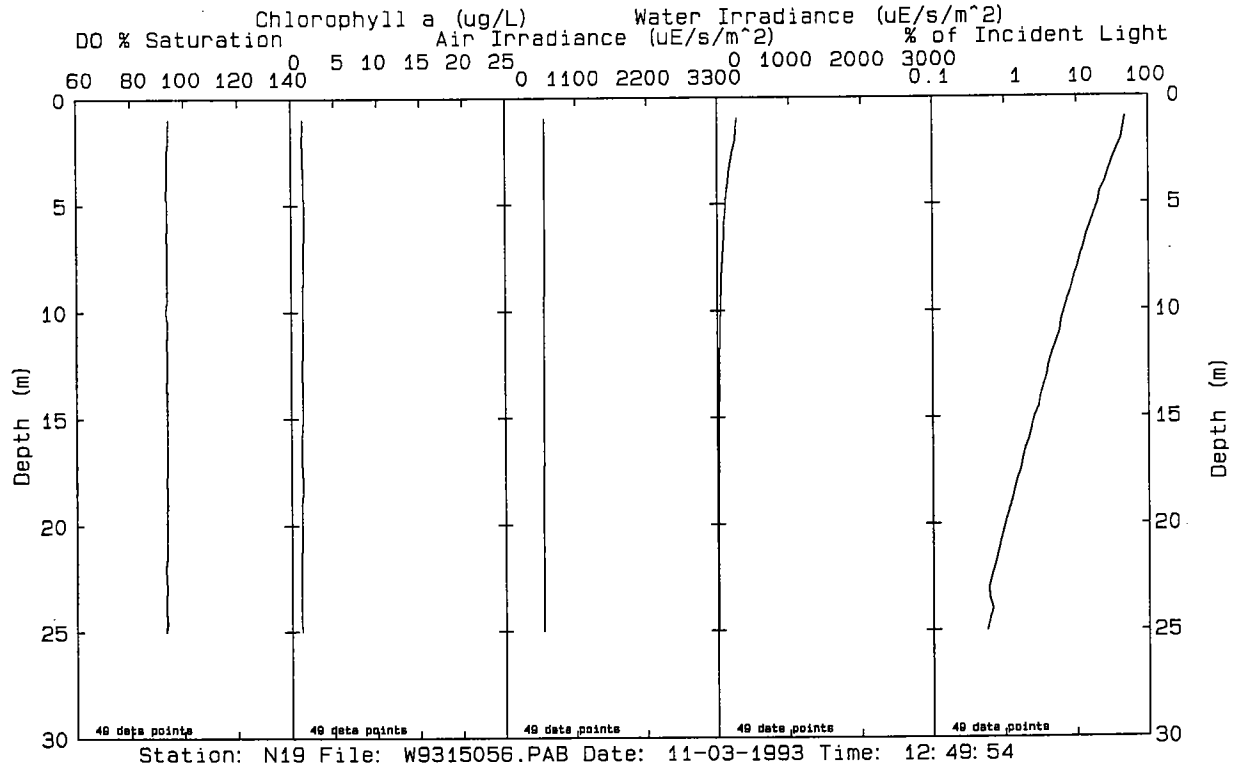

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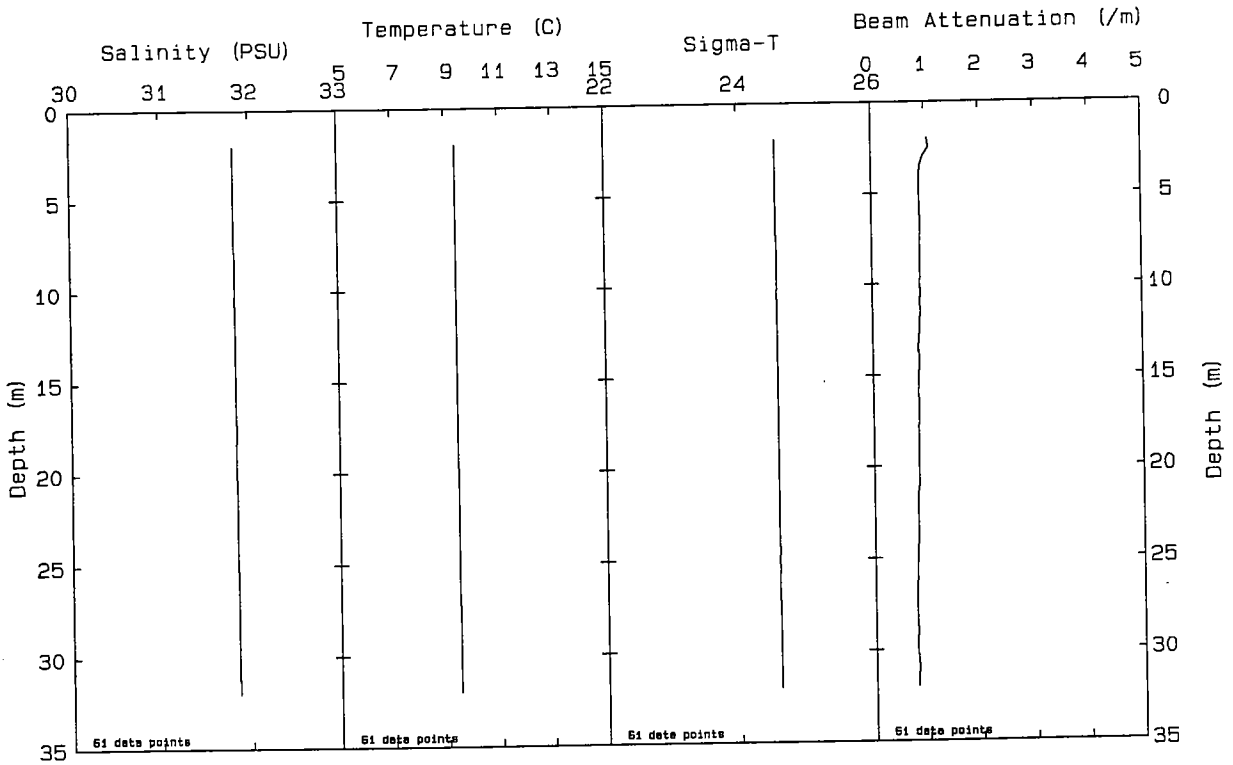

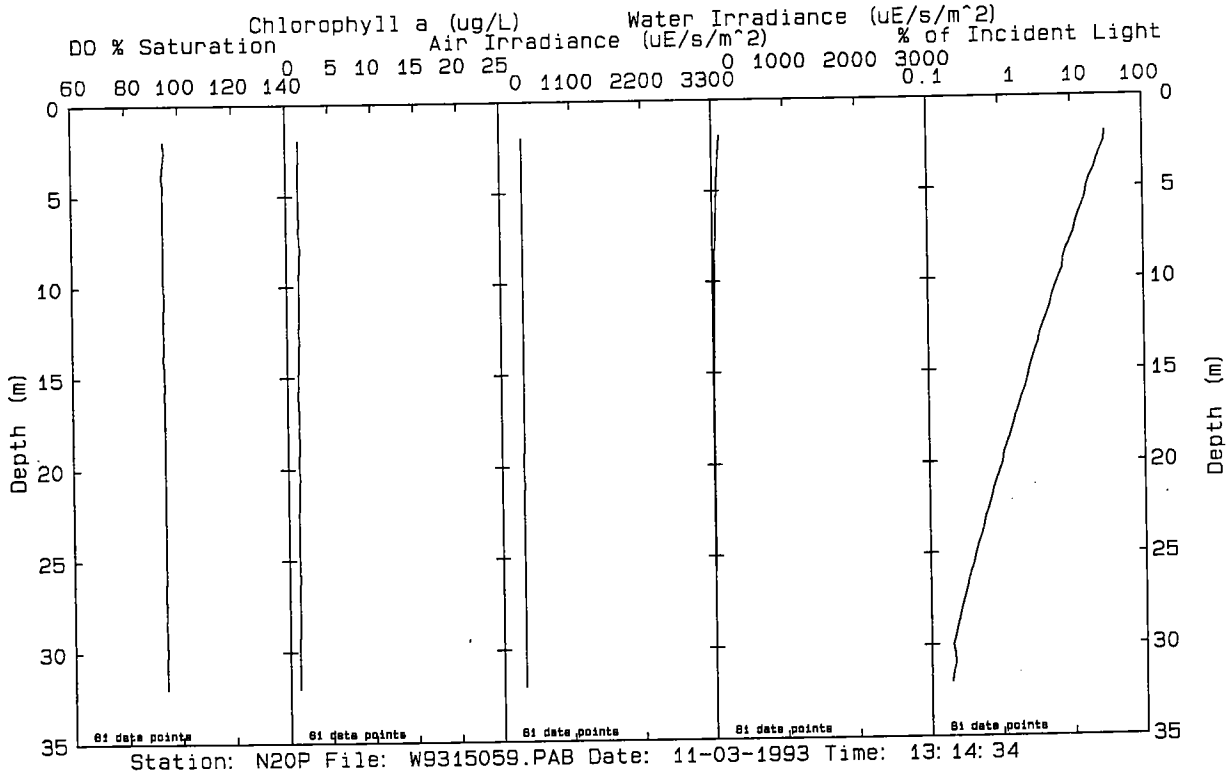

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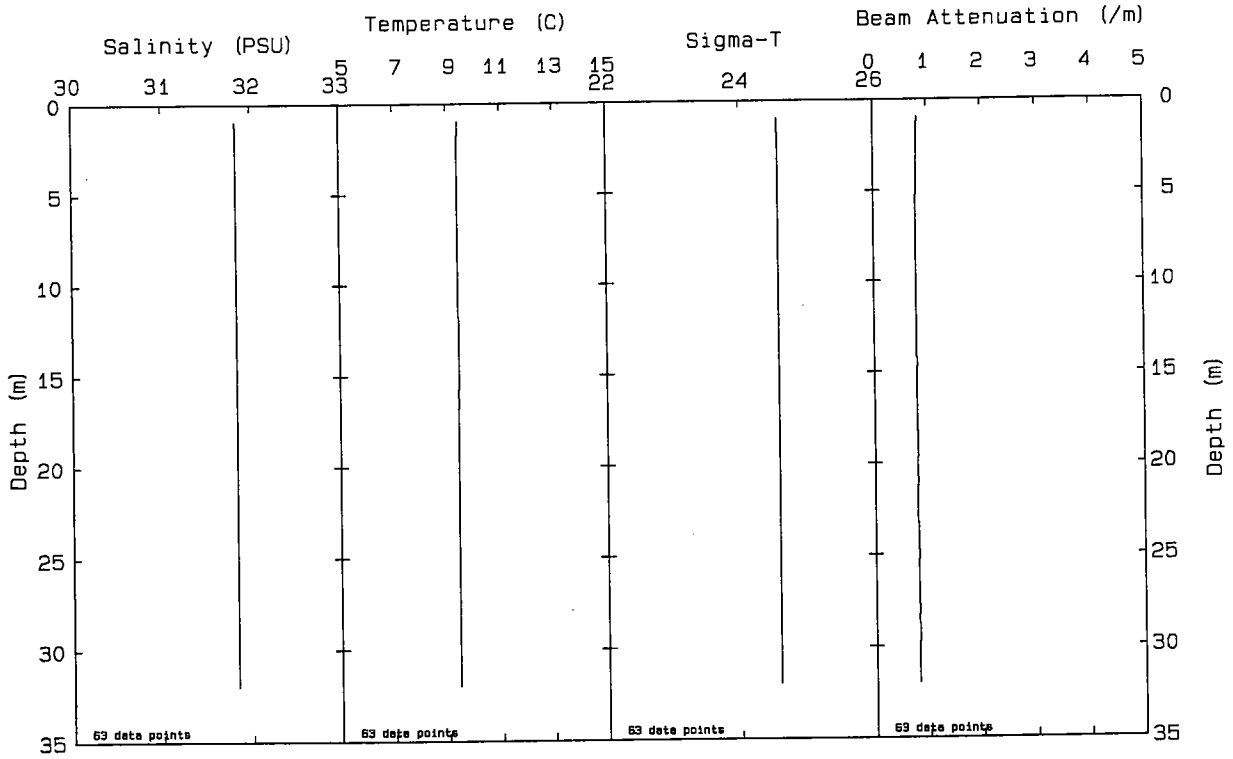

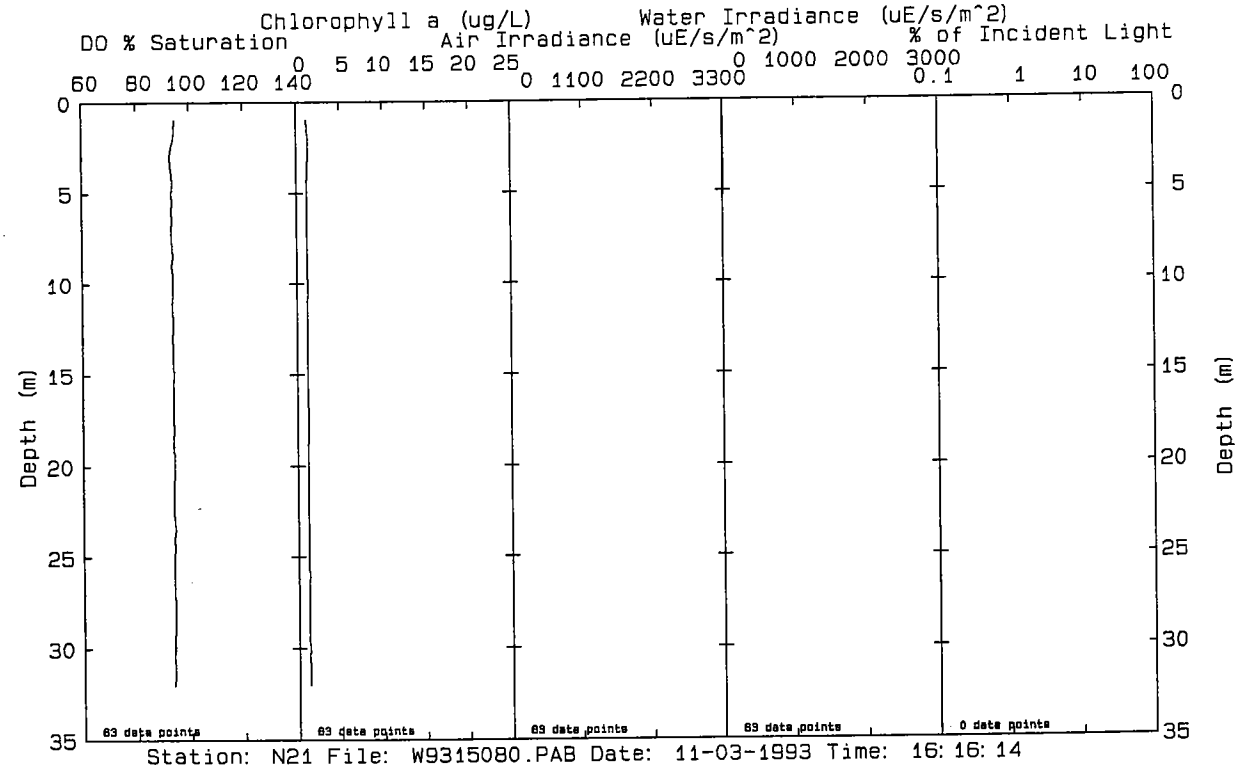

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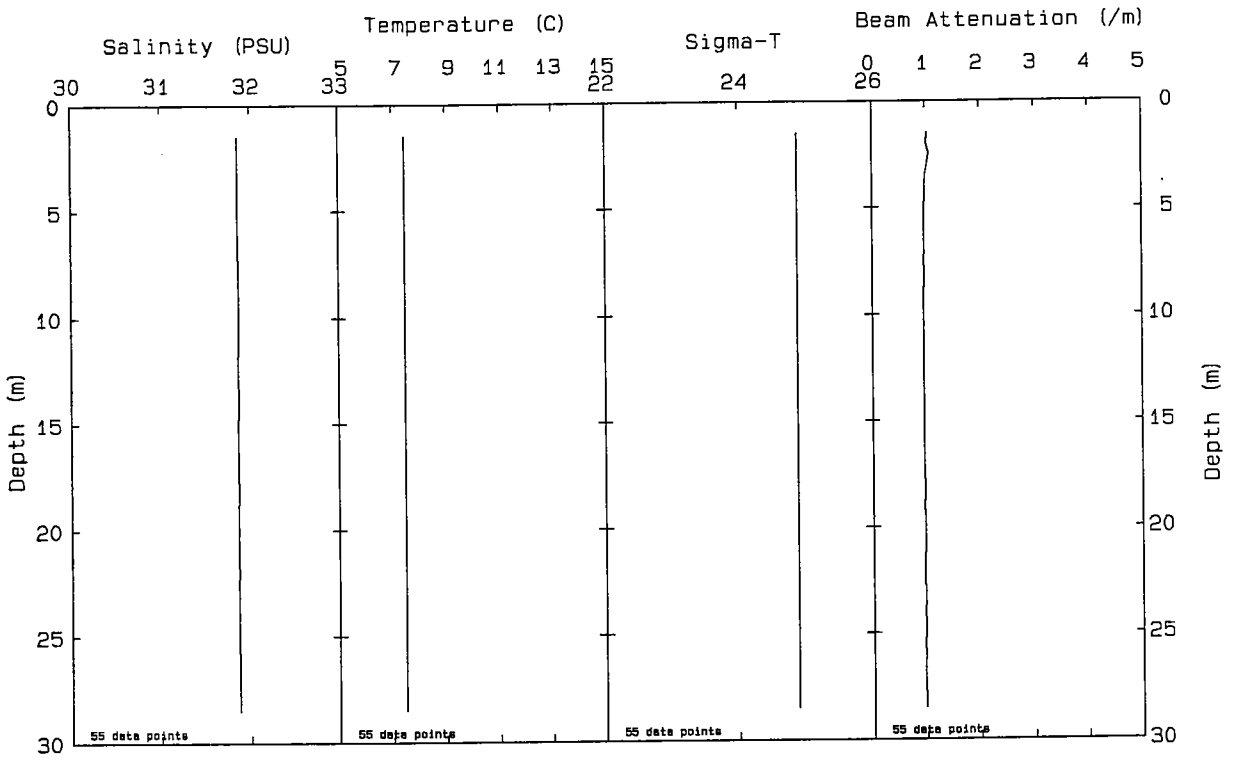
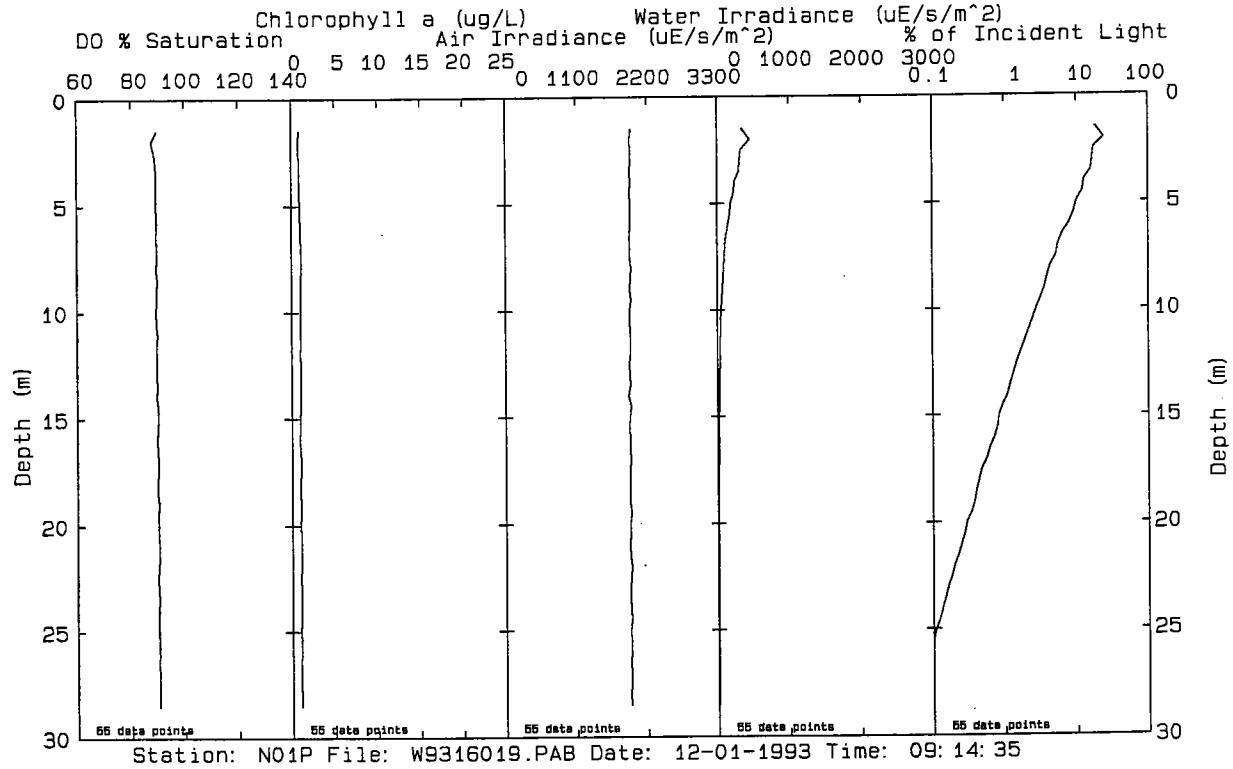
December 1993 Profiles





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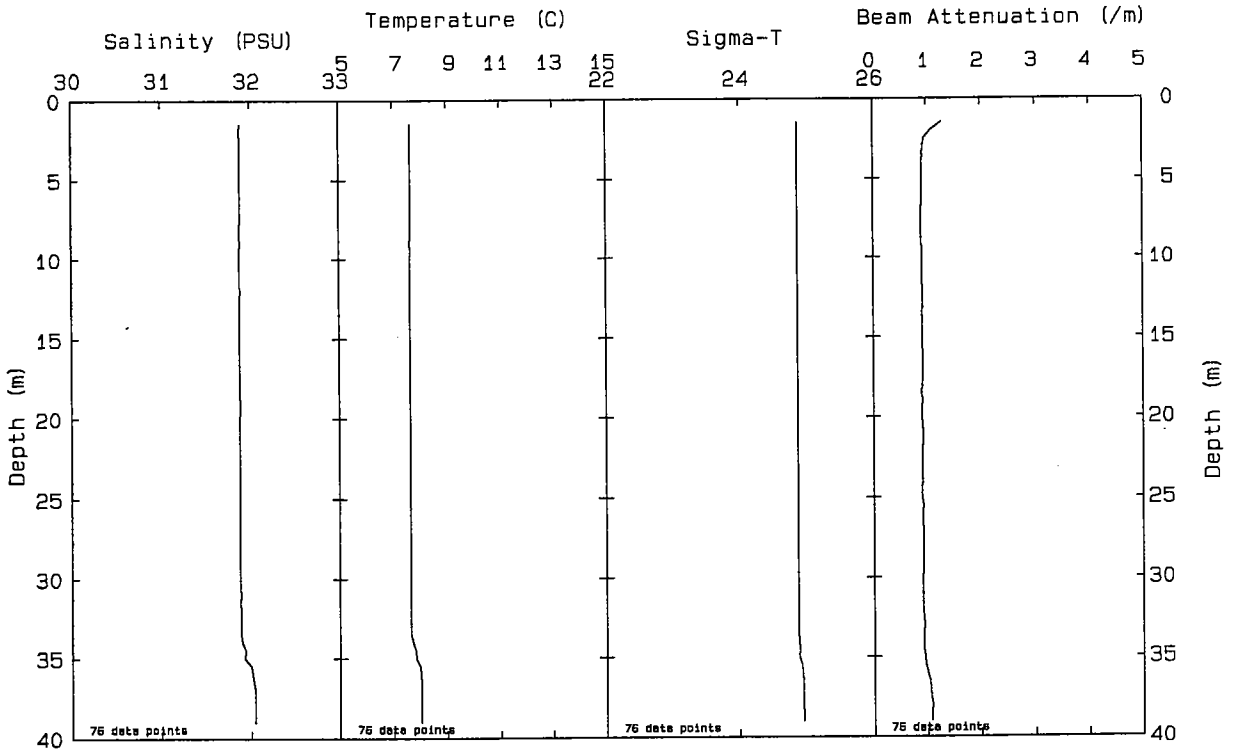

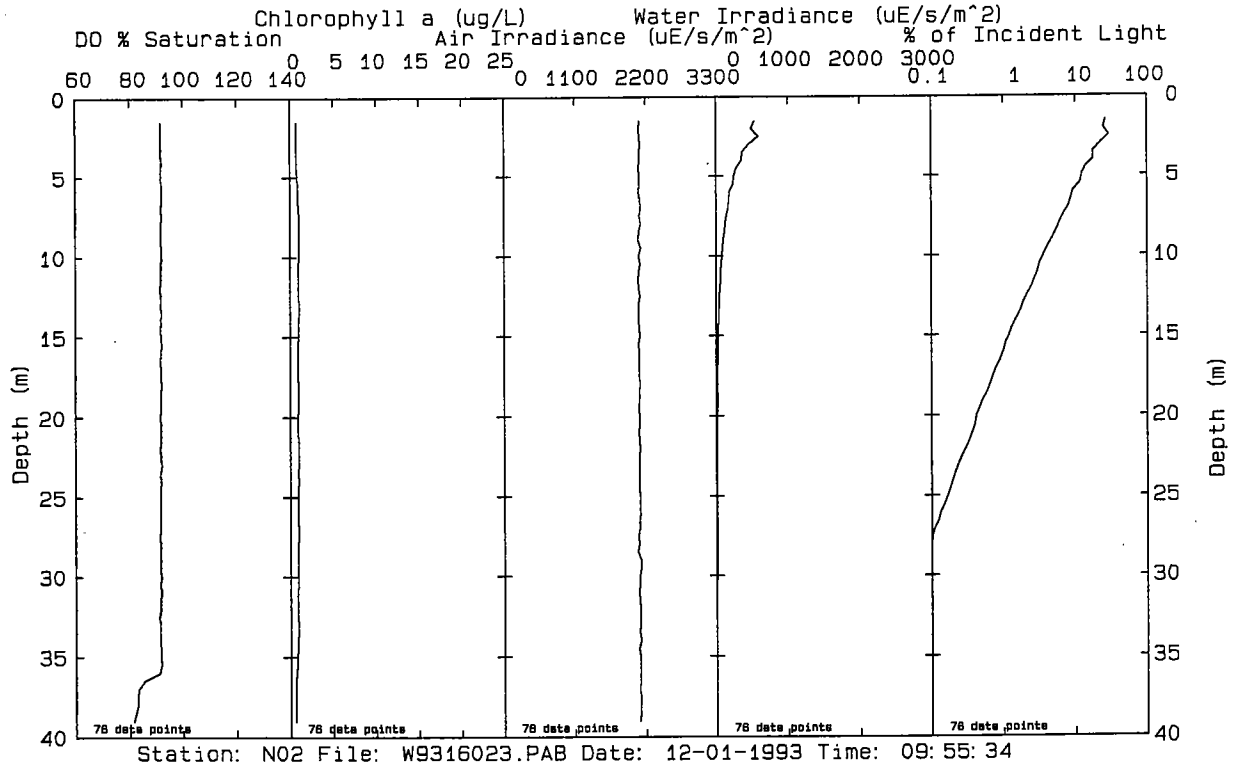

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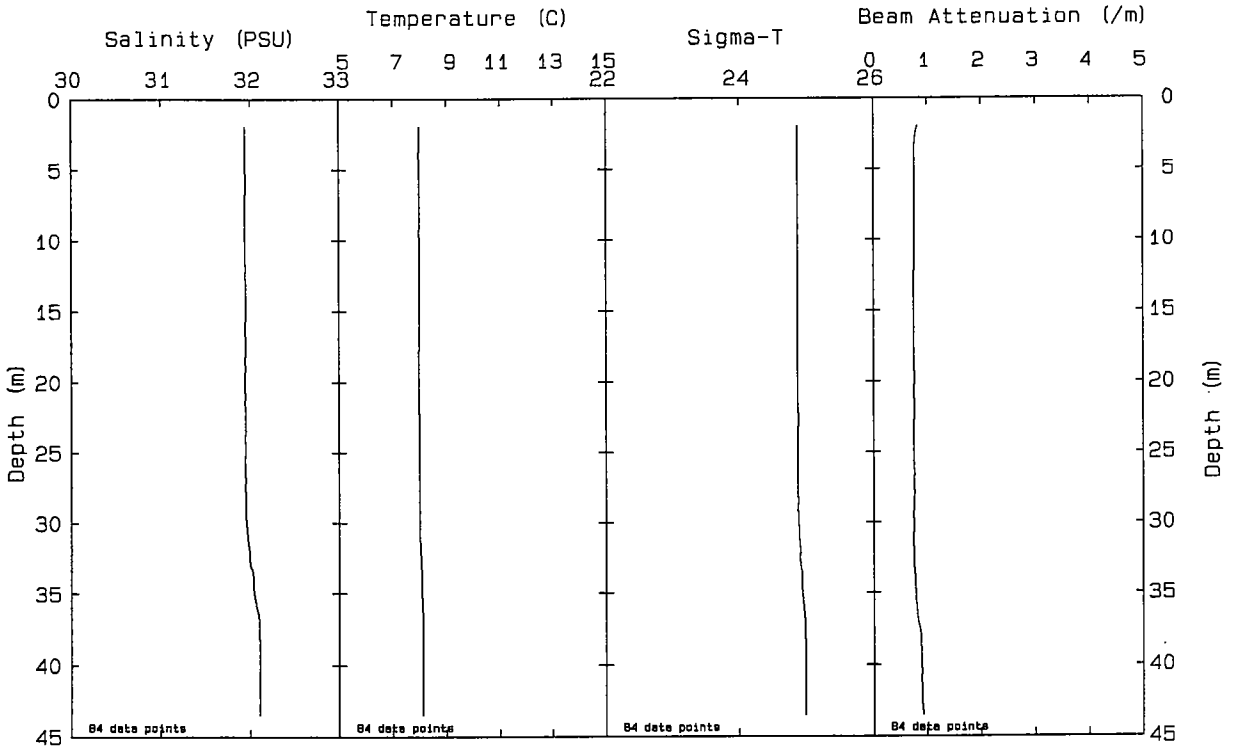

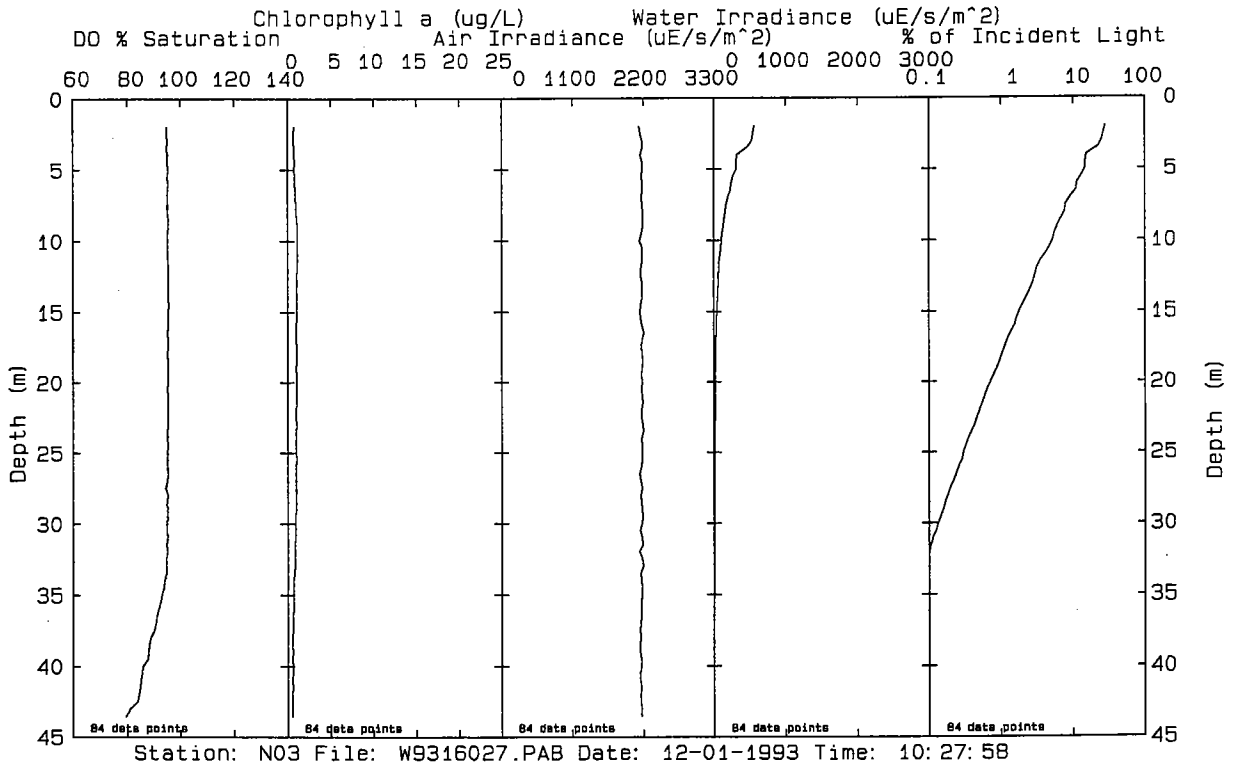

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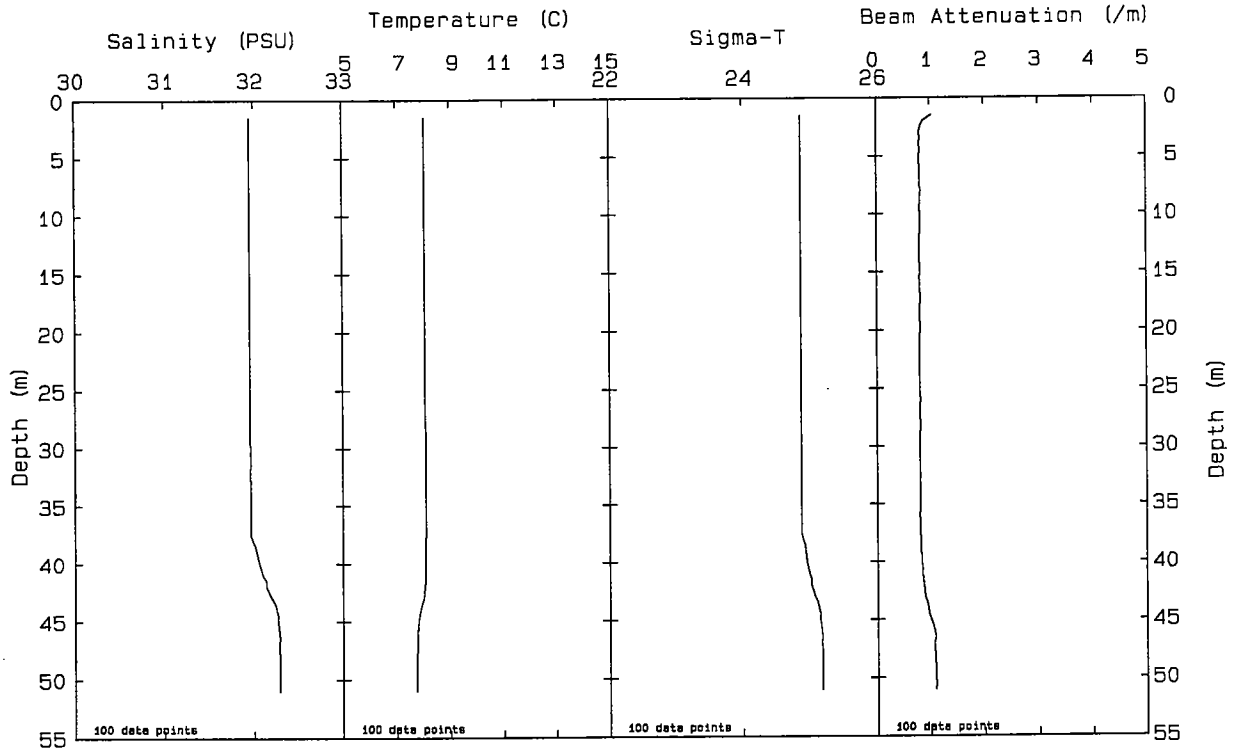

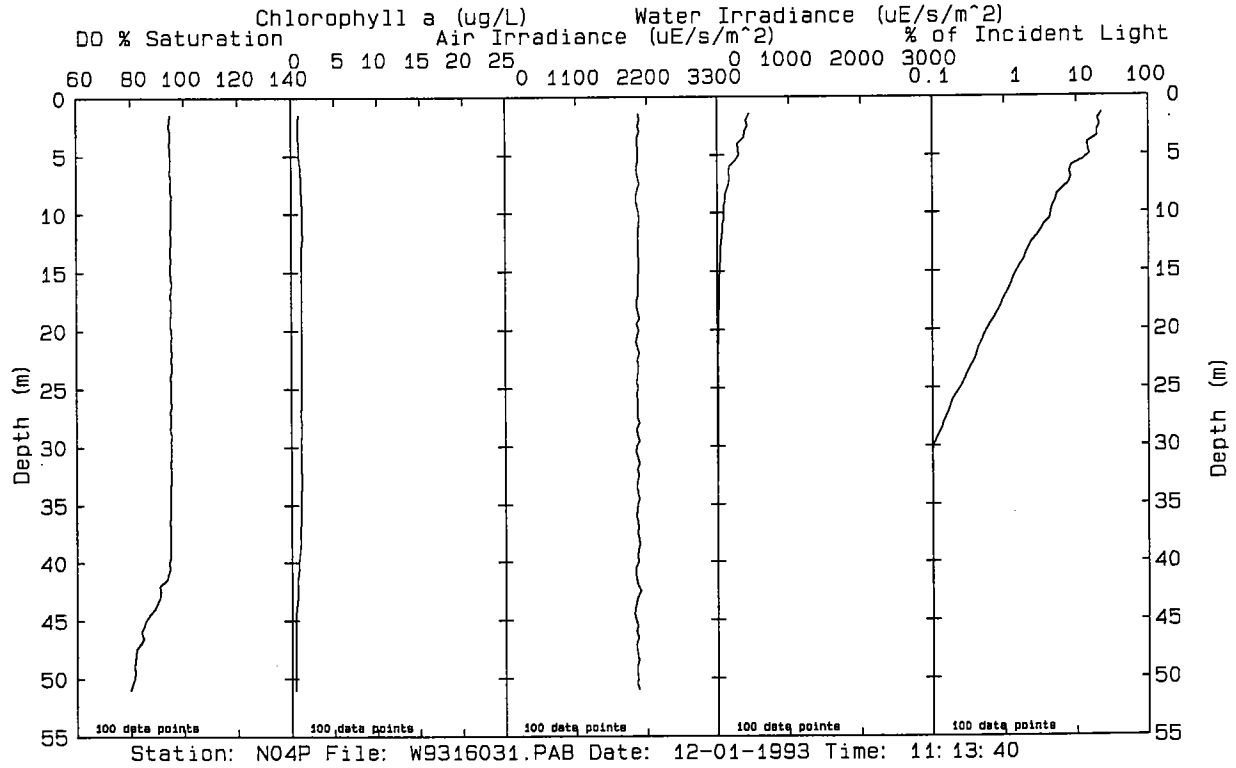

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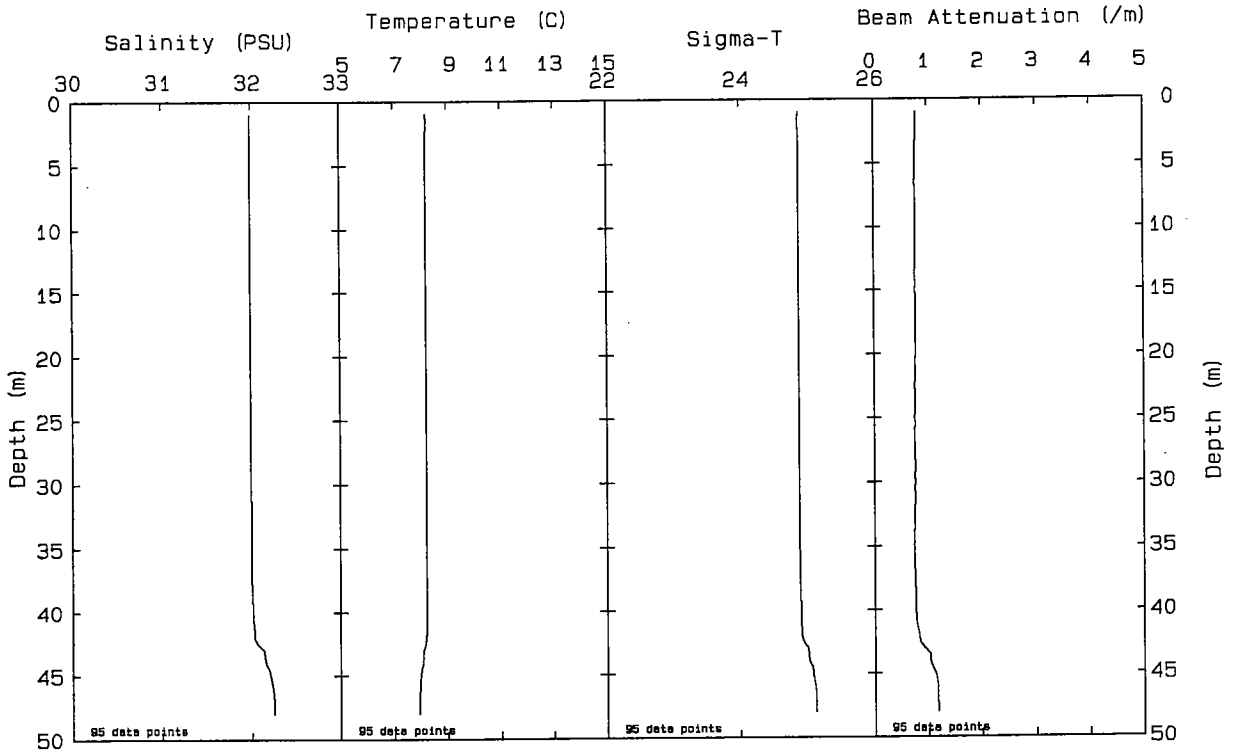

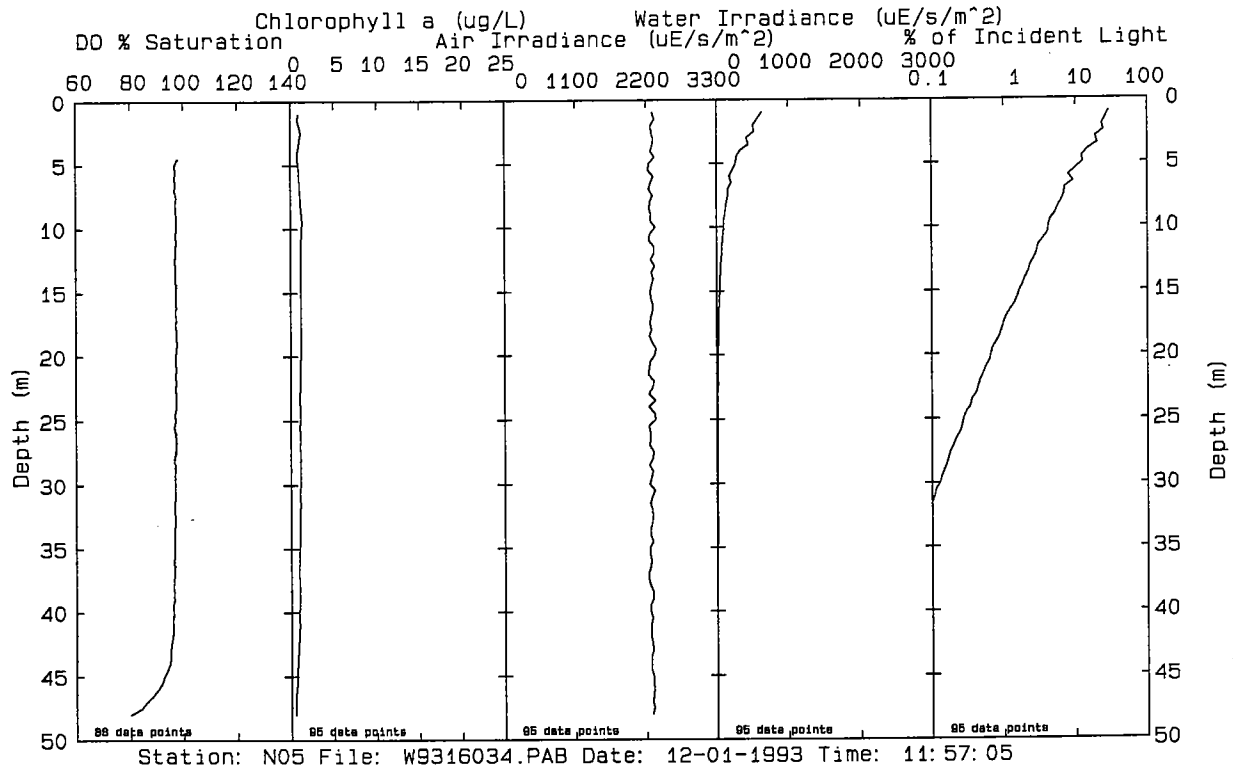

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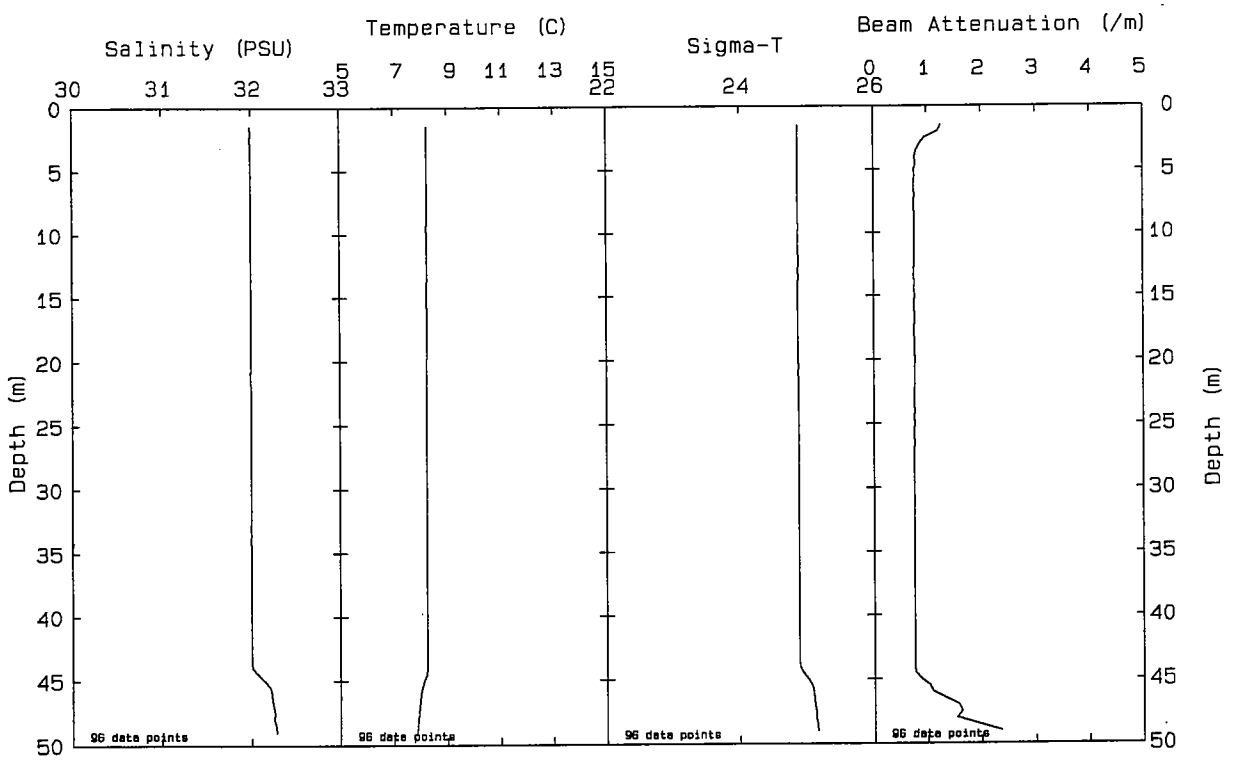

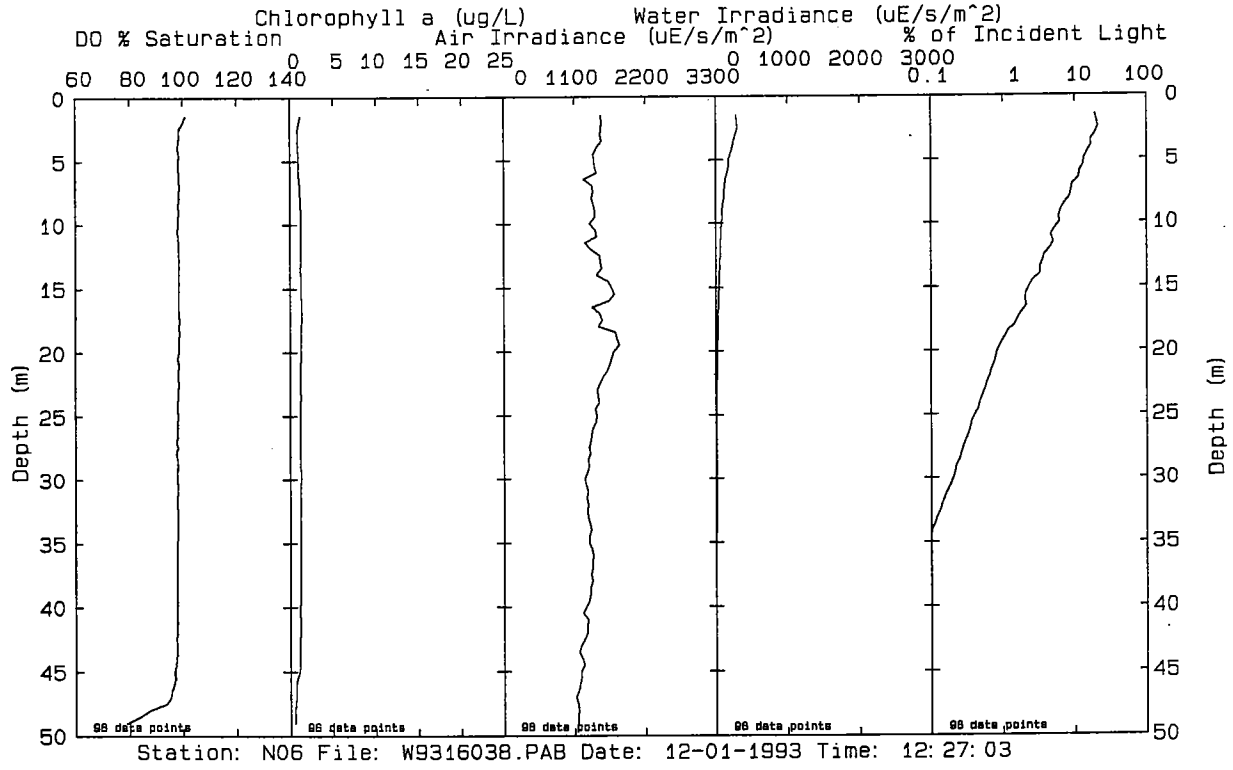

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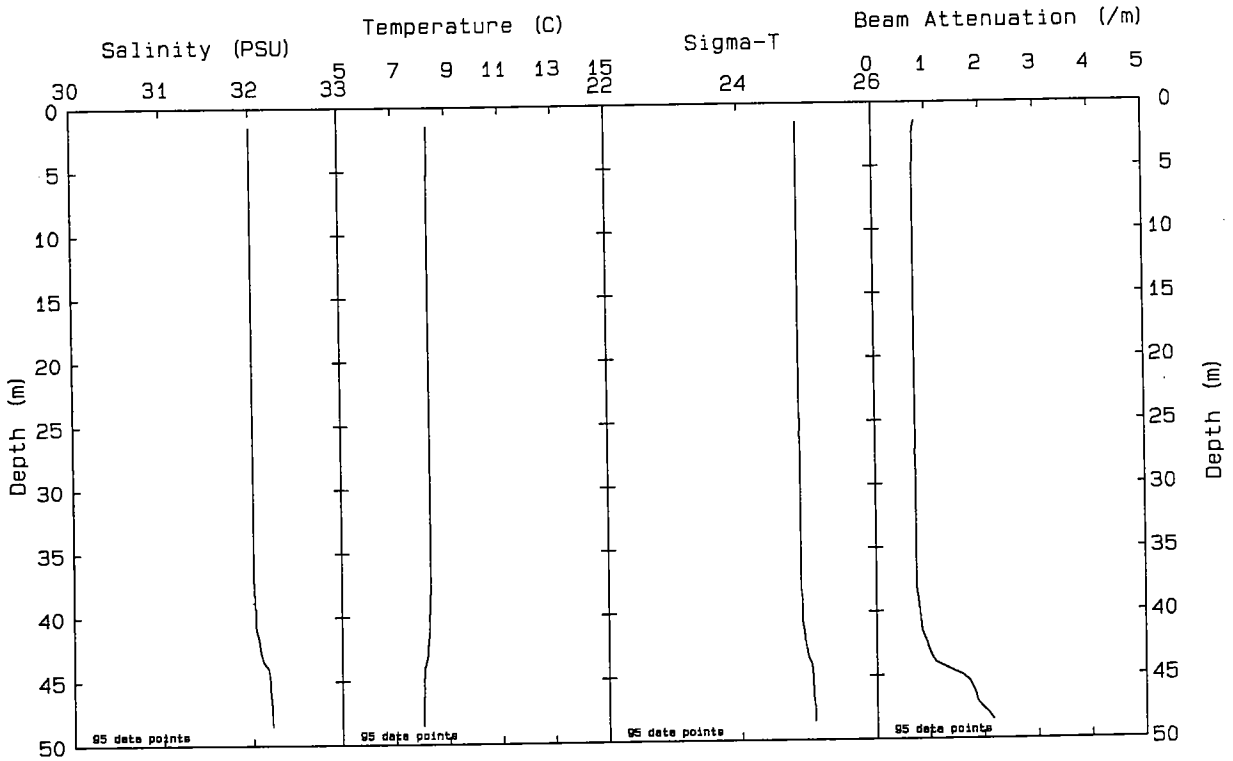

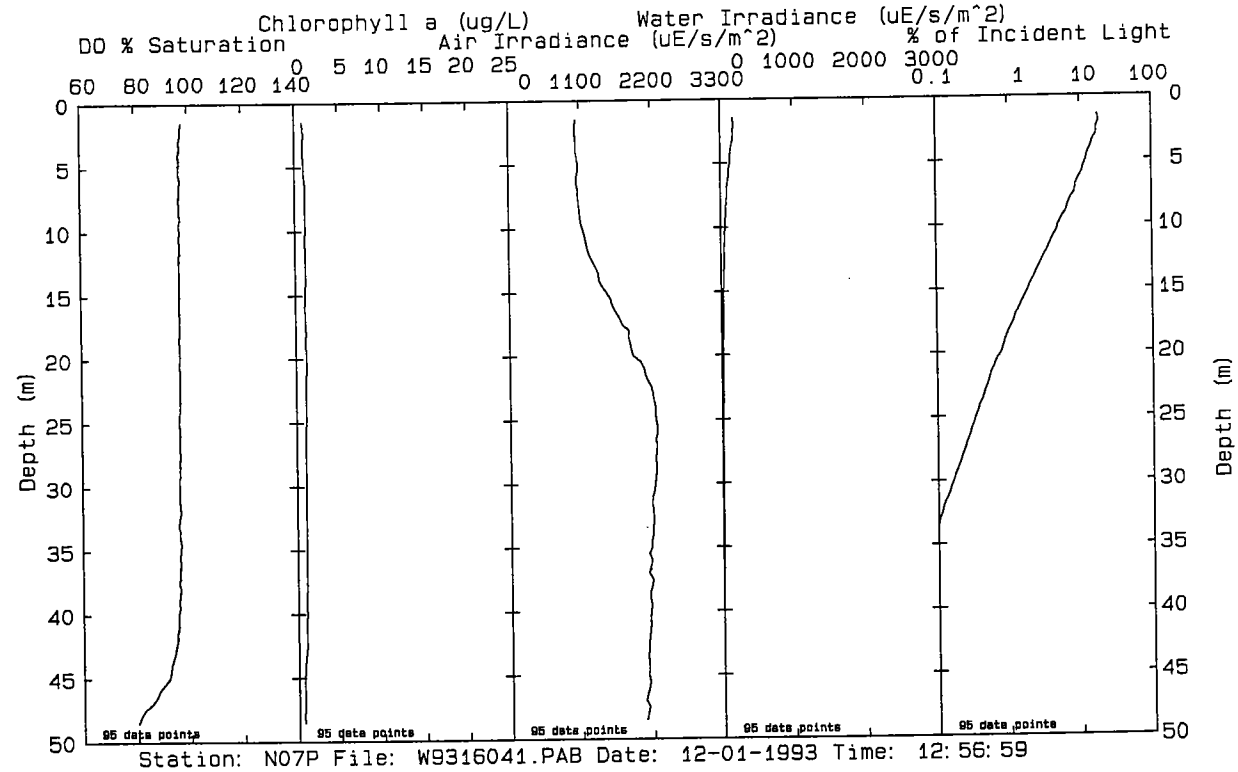

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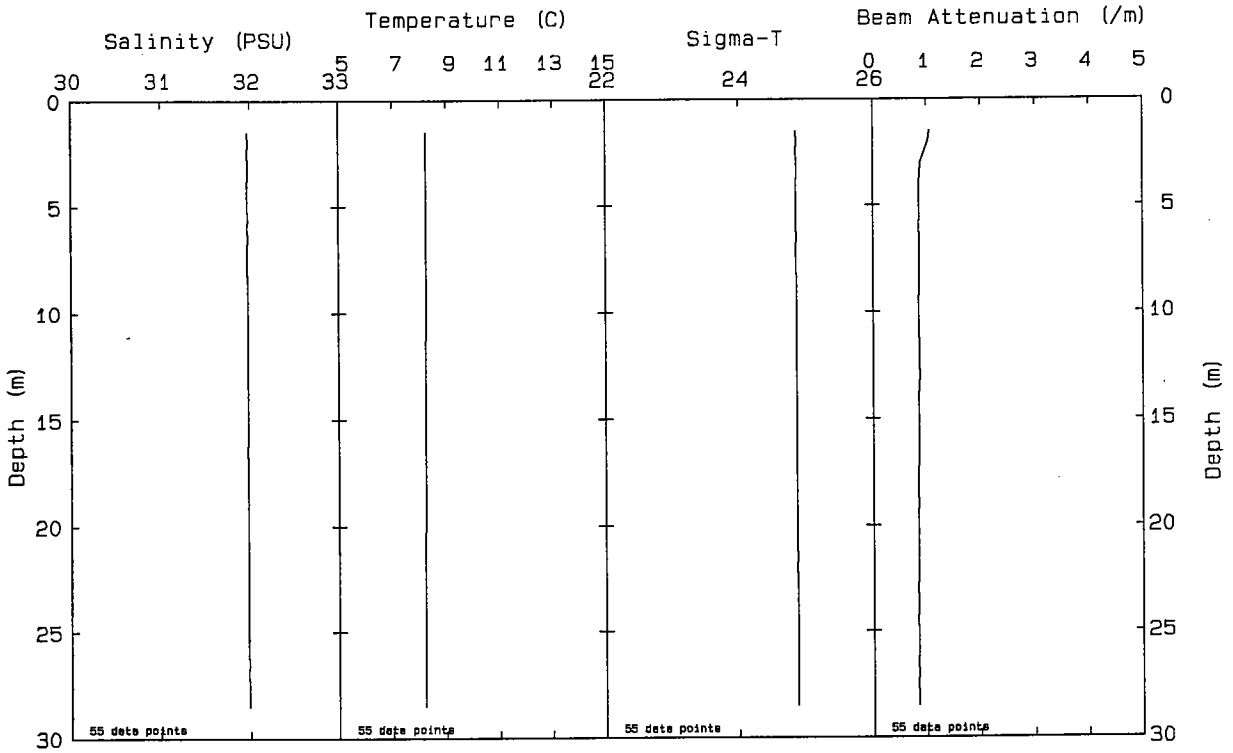

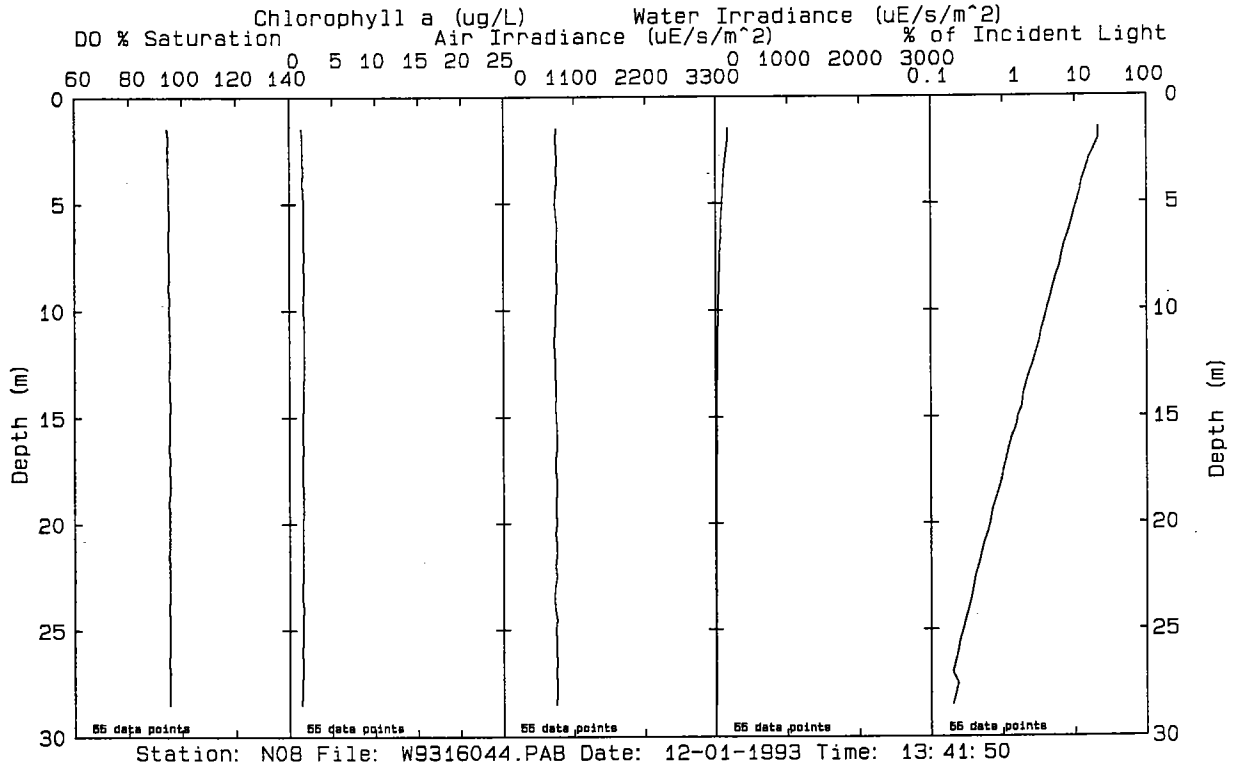

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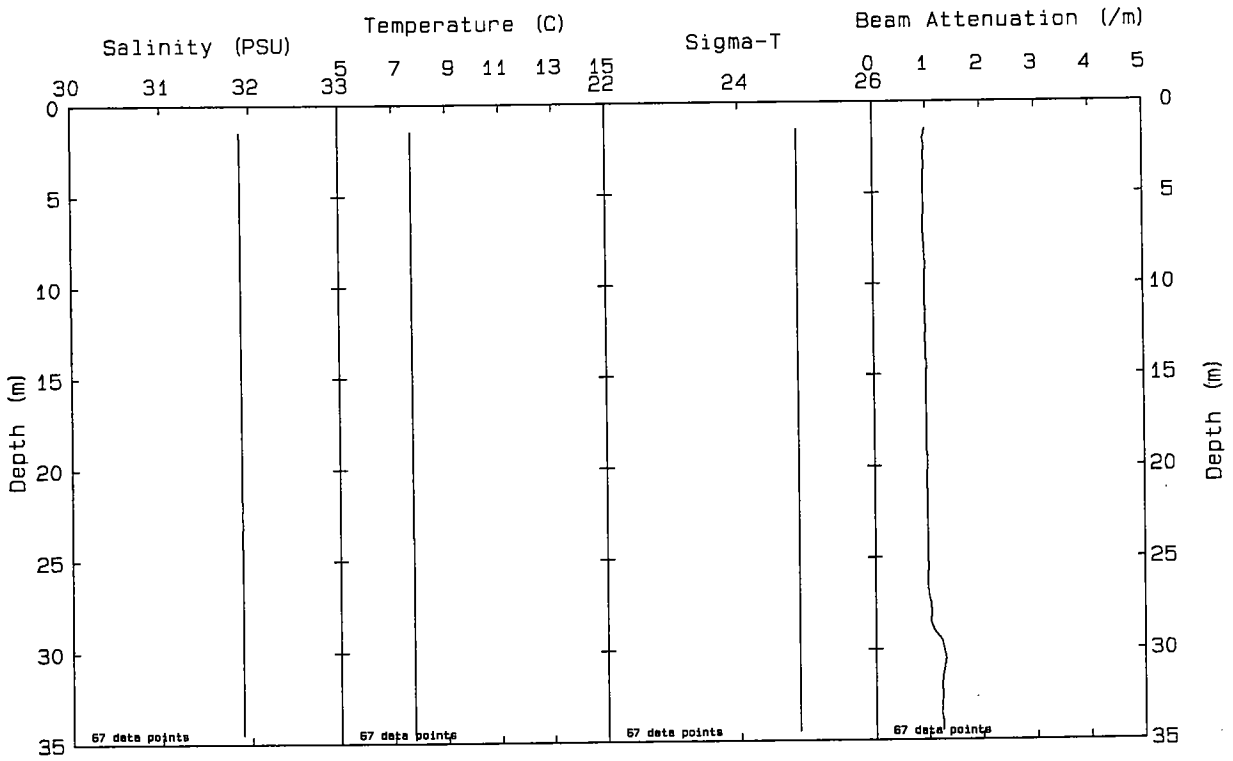

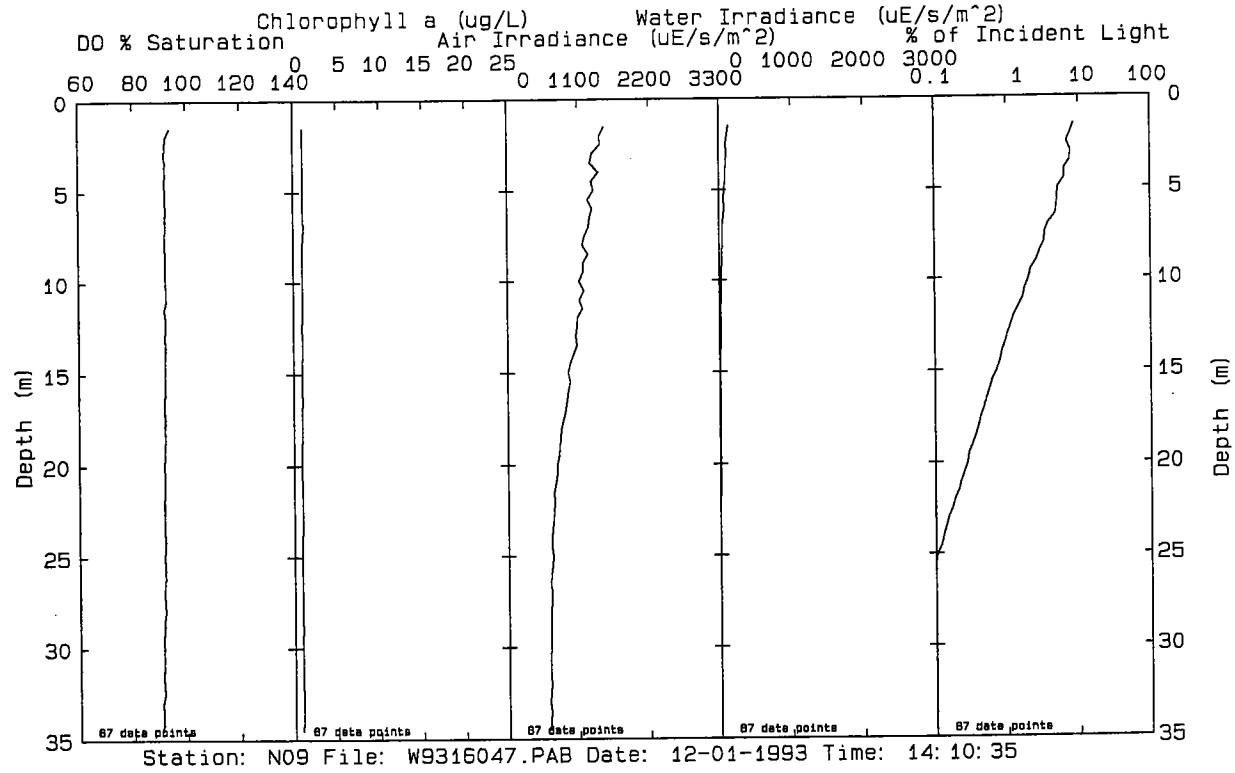

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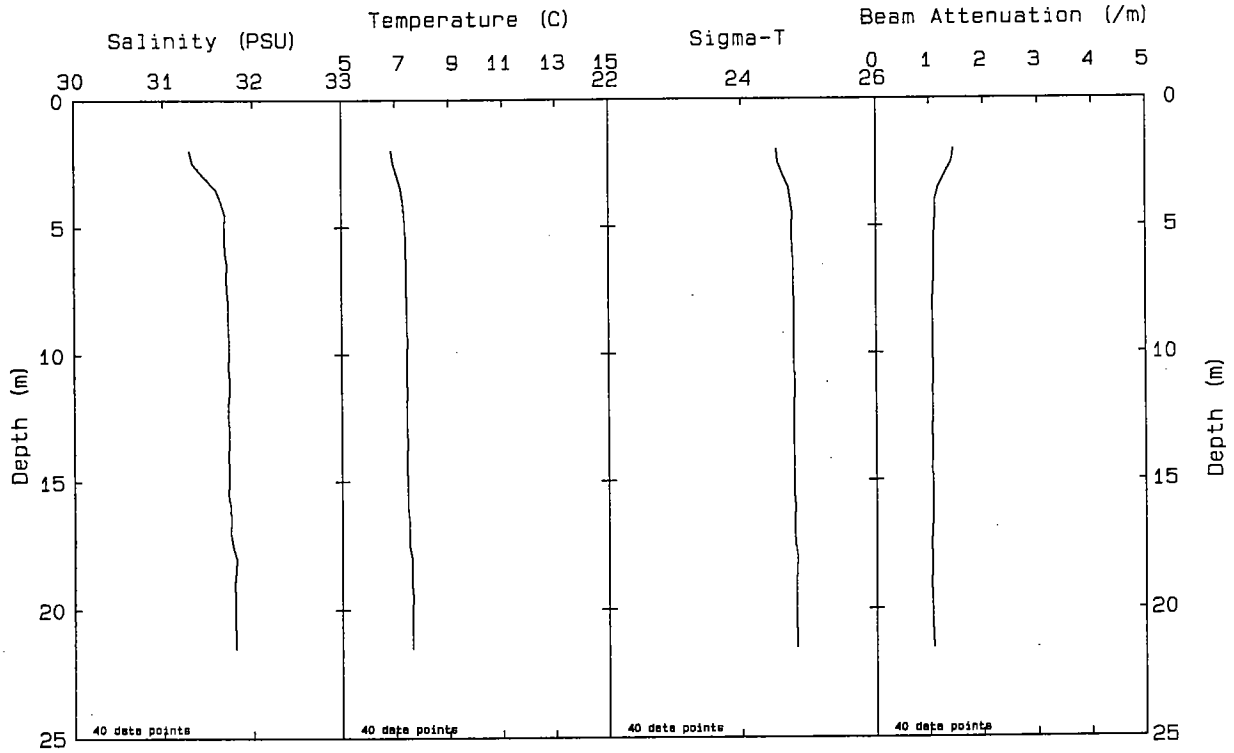

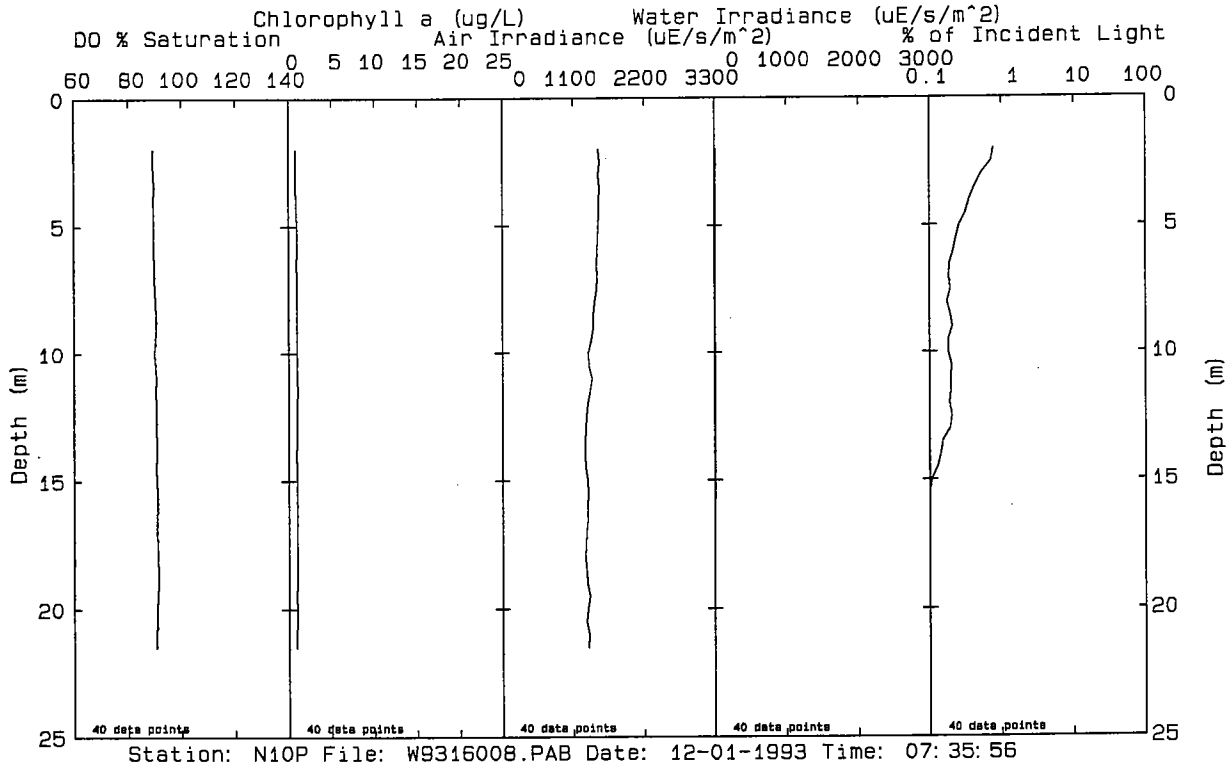

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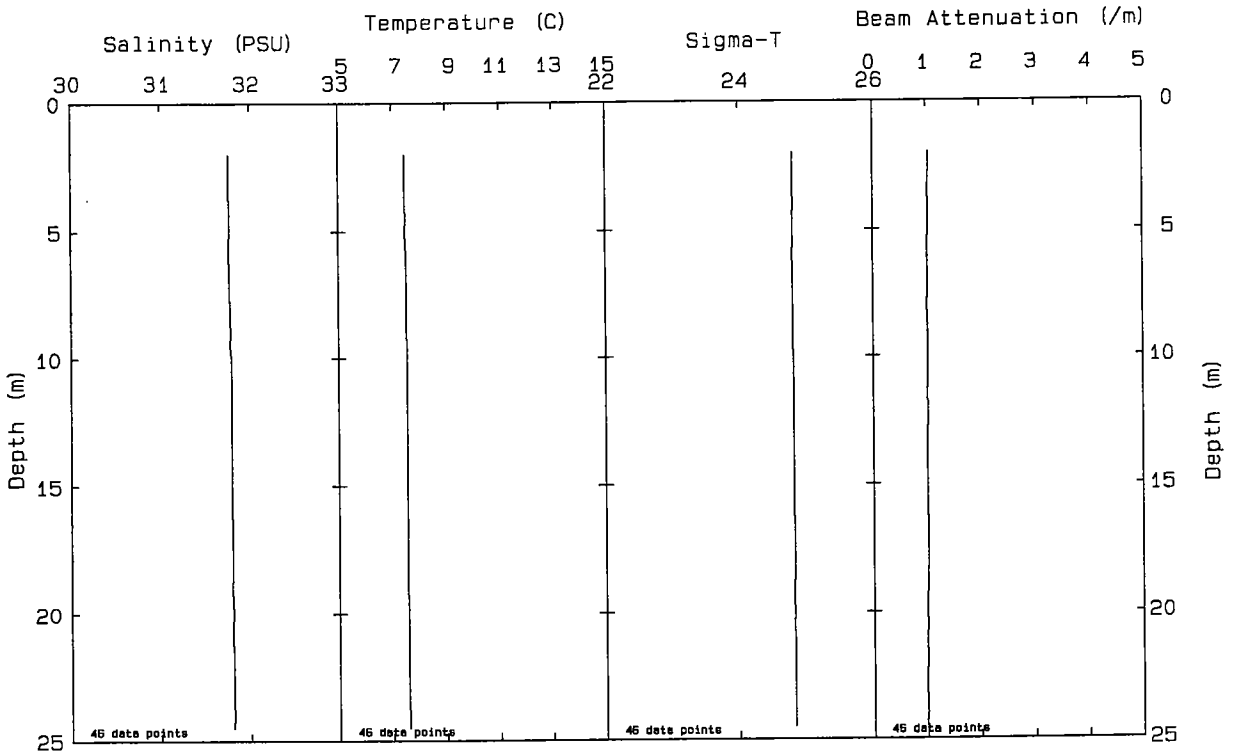

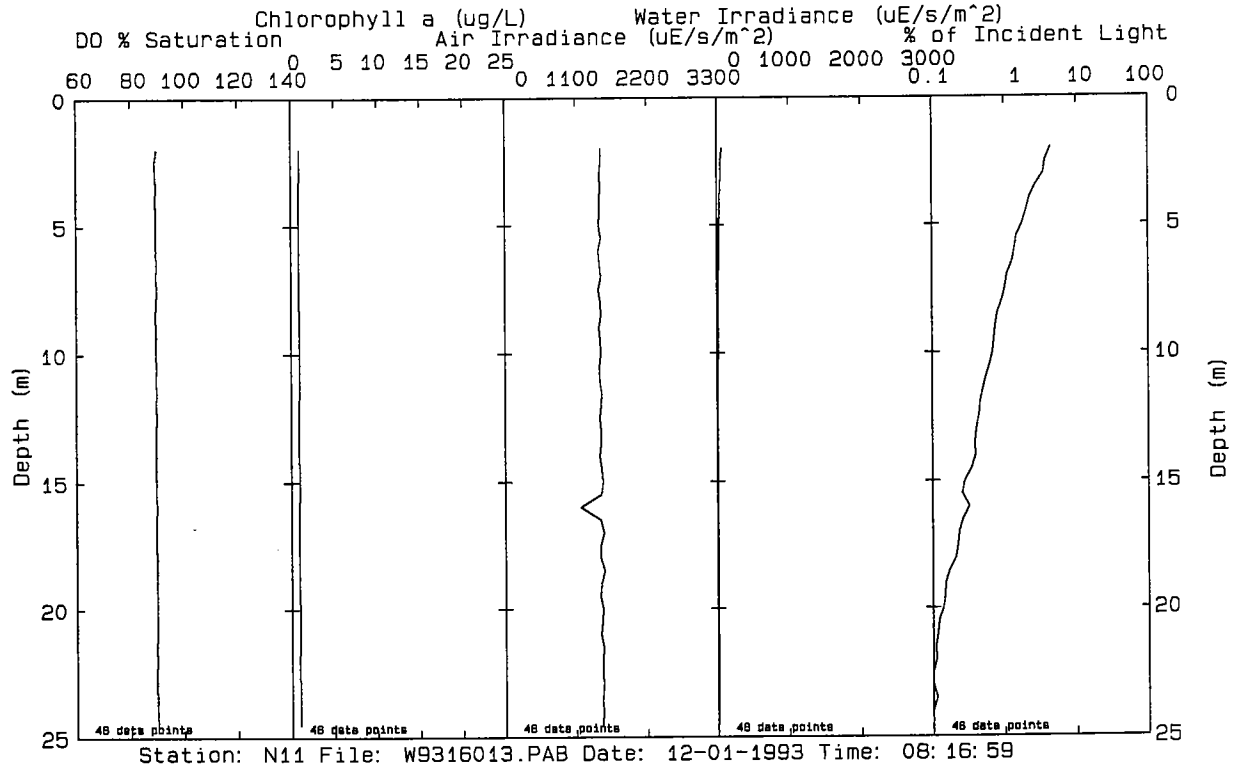

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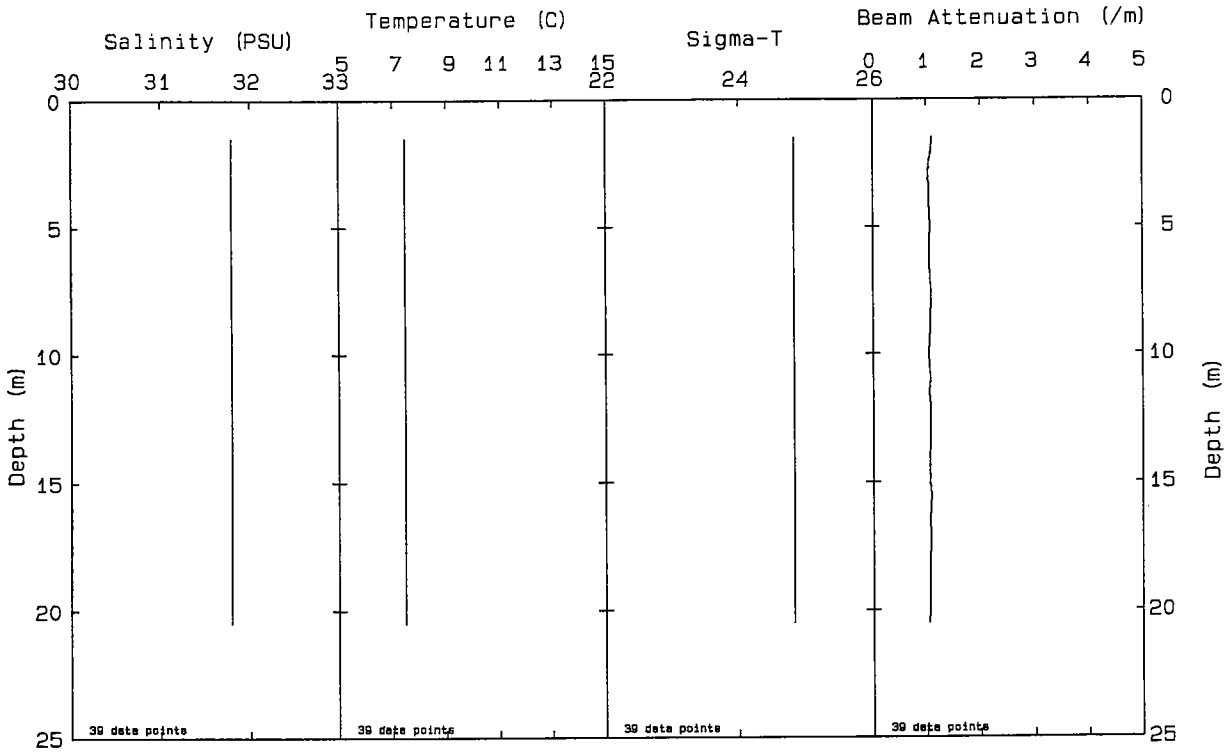

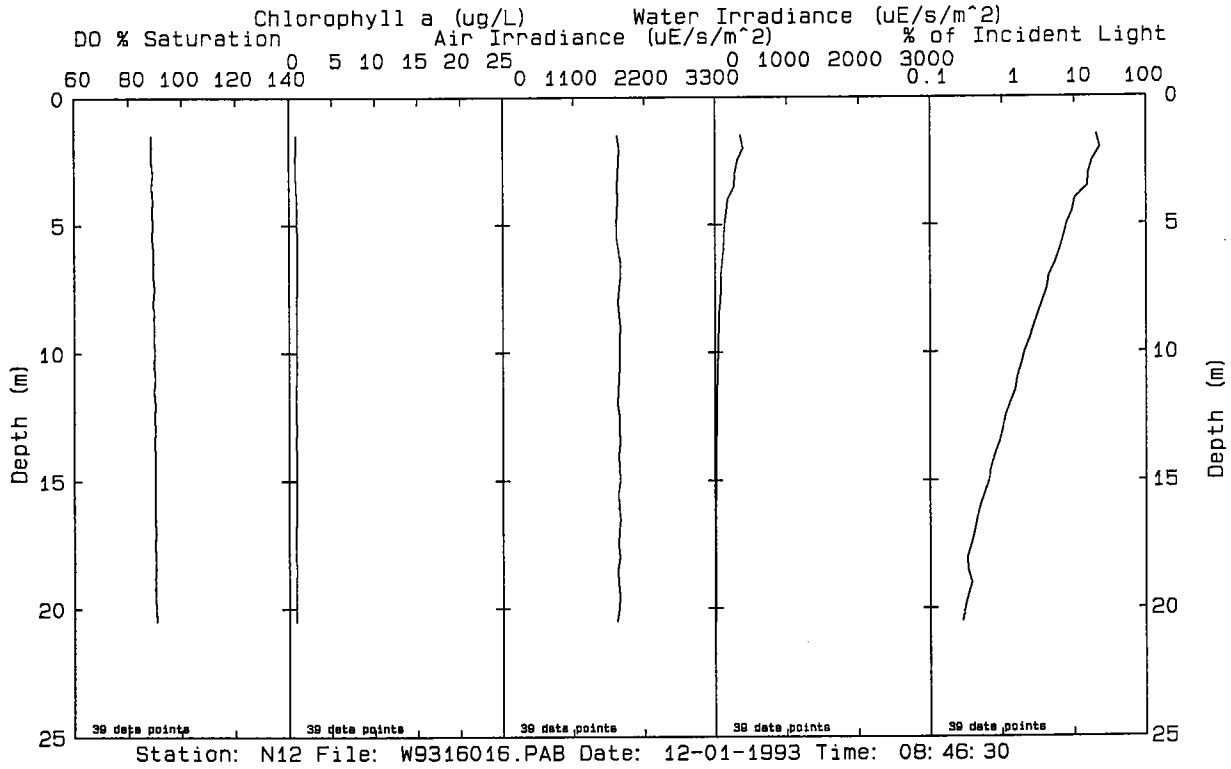

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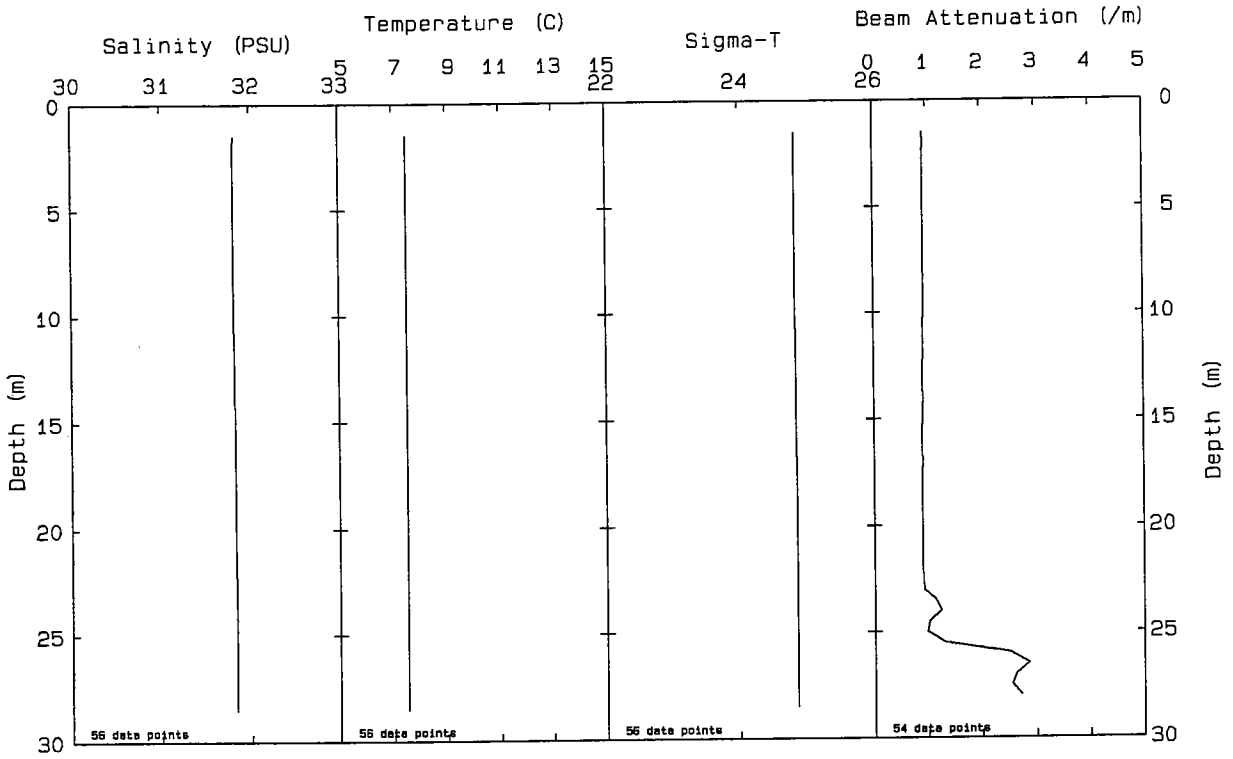

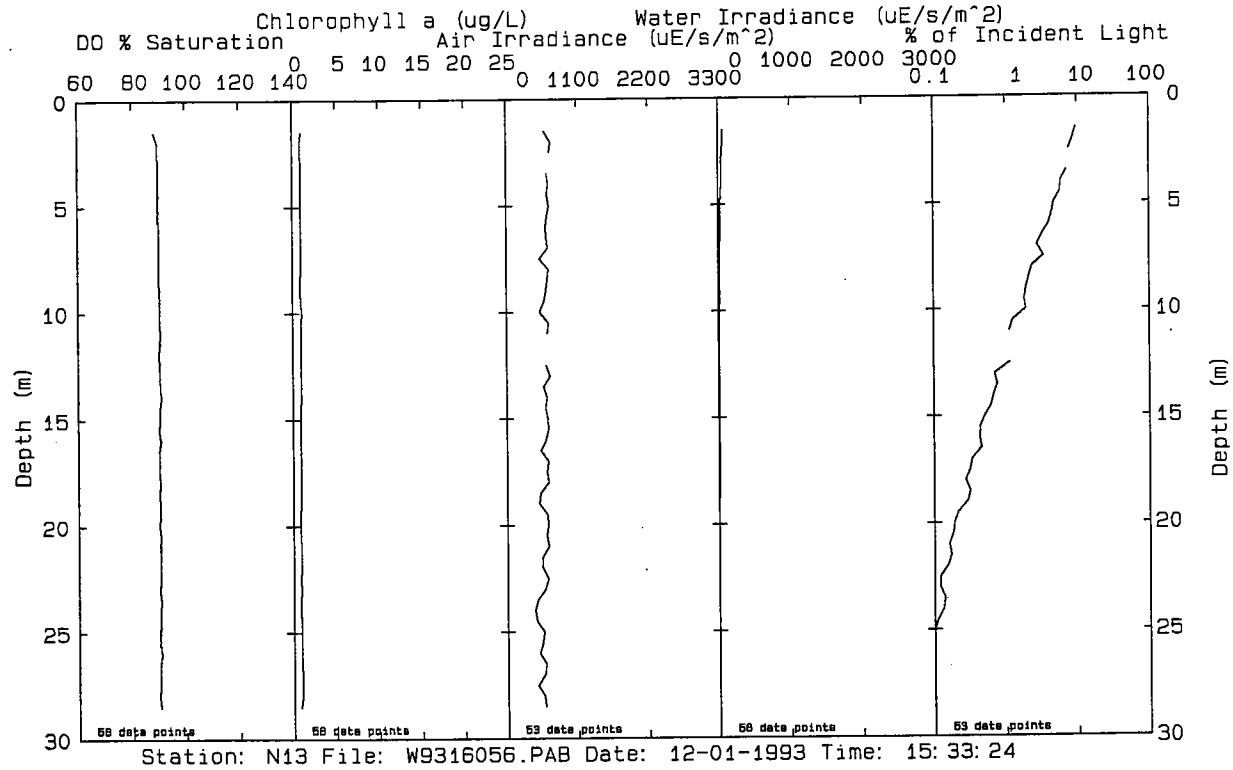

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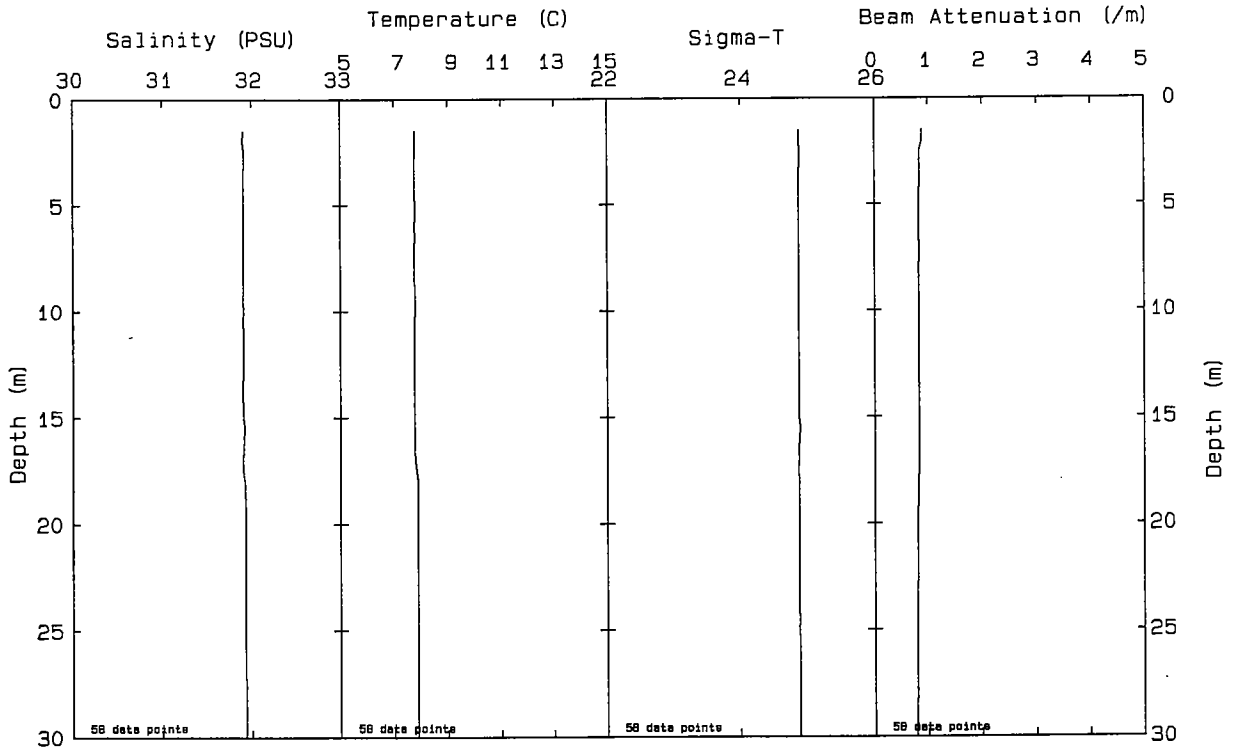

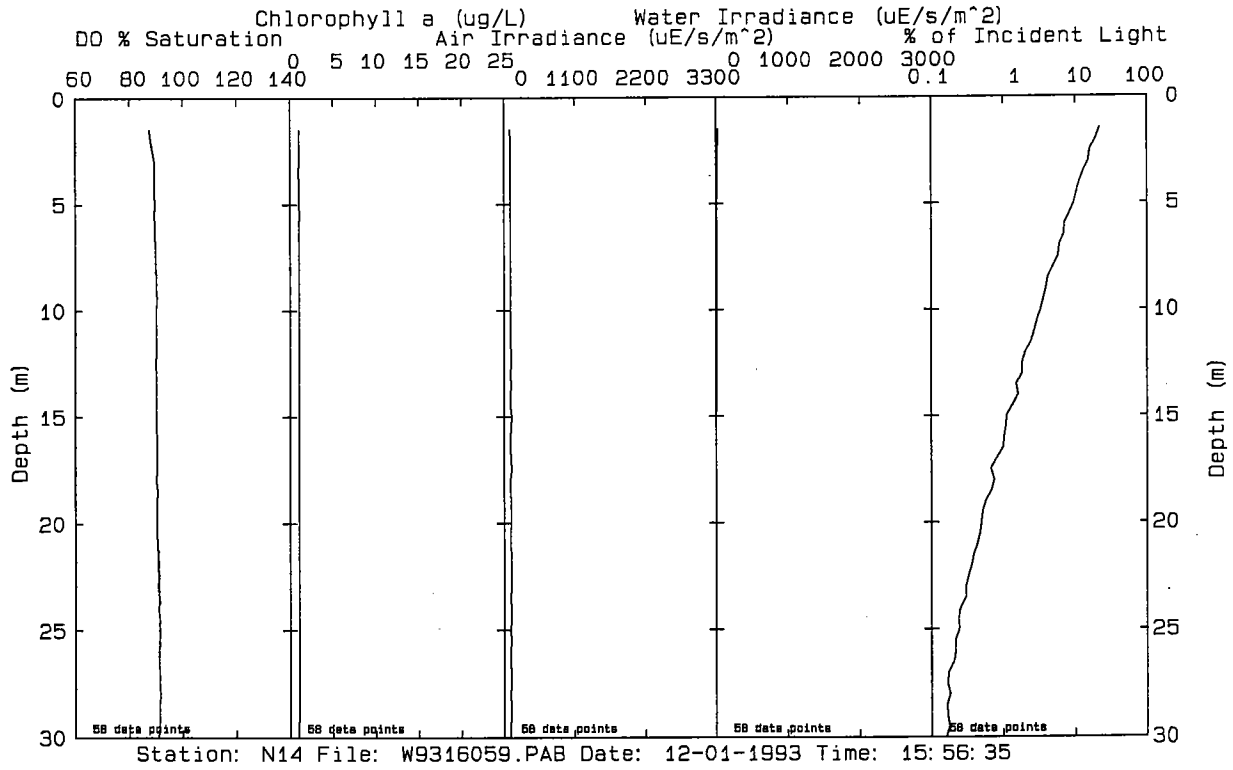

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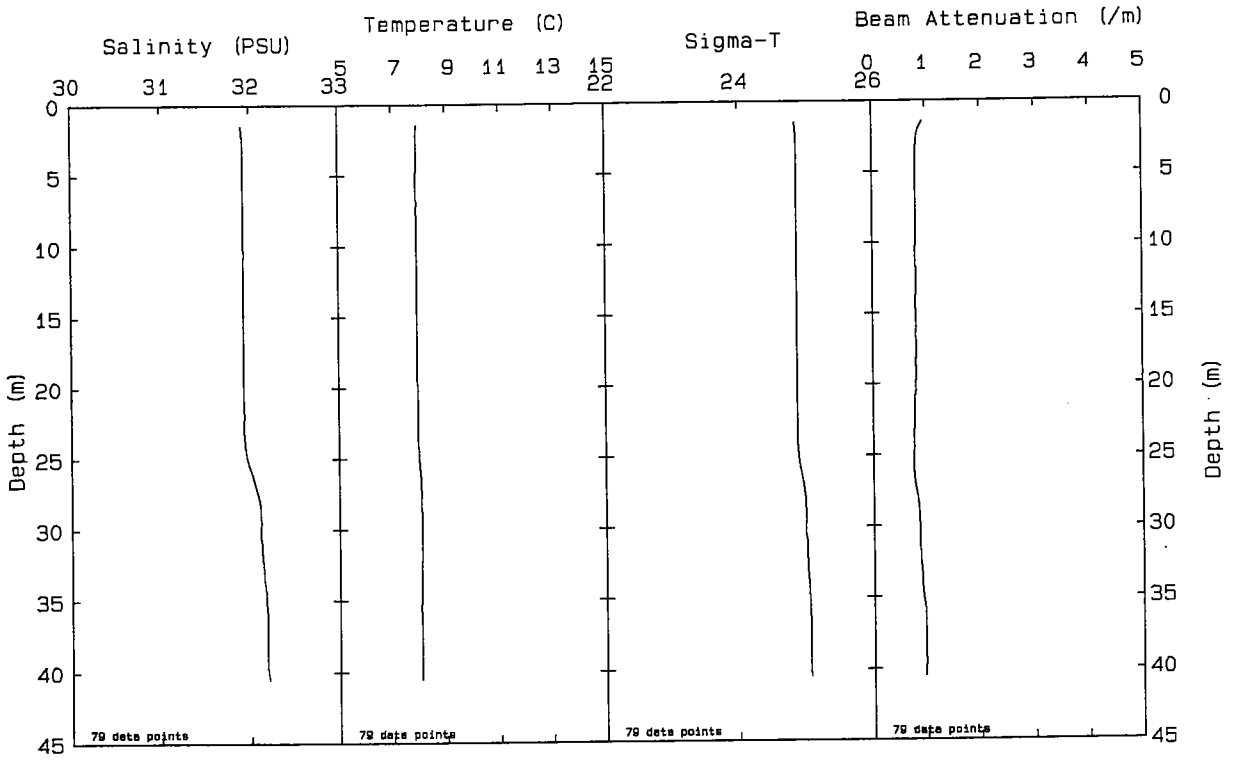

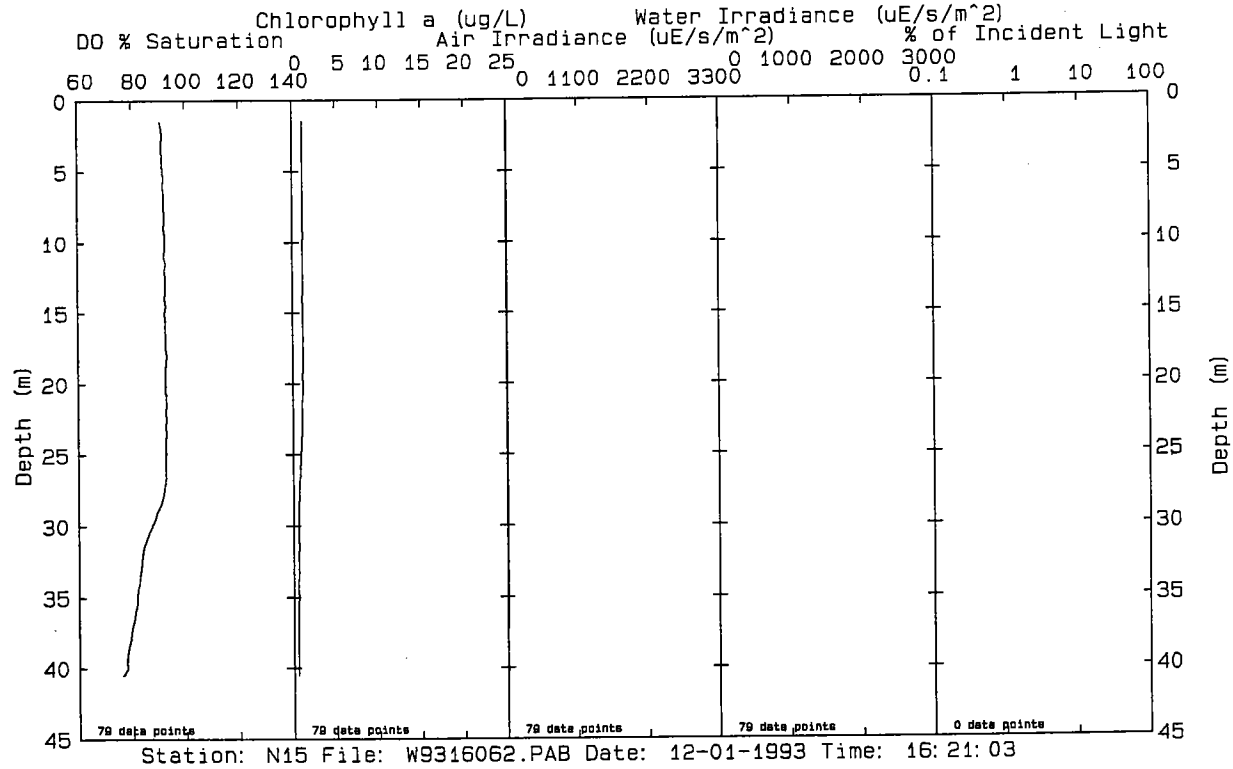

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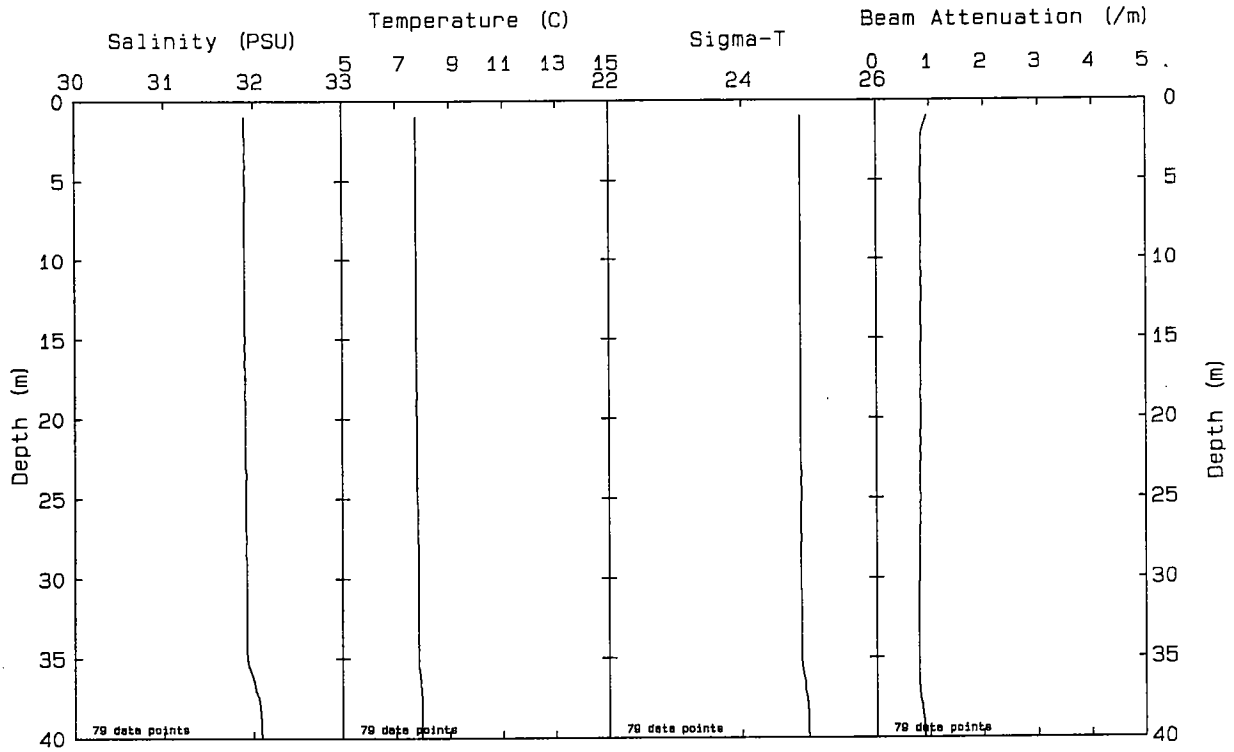

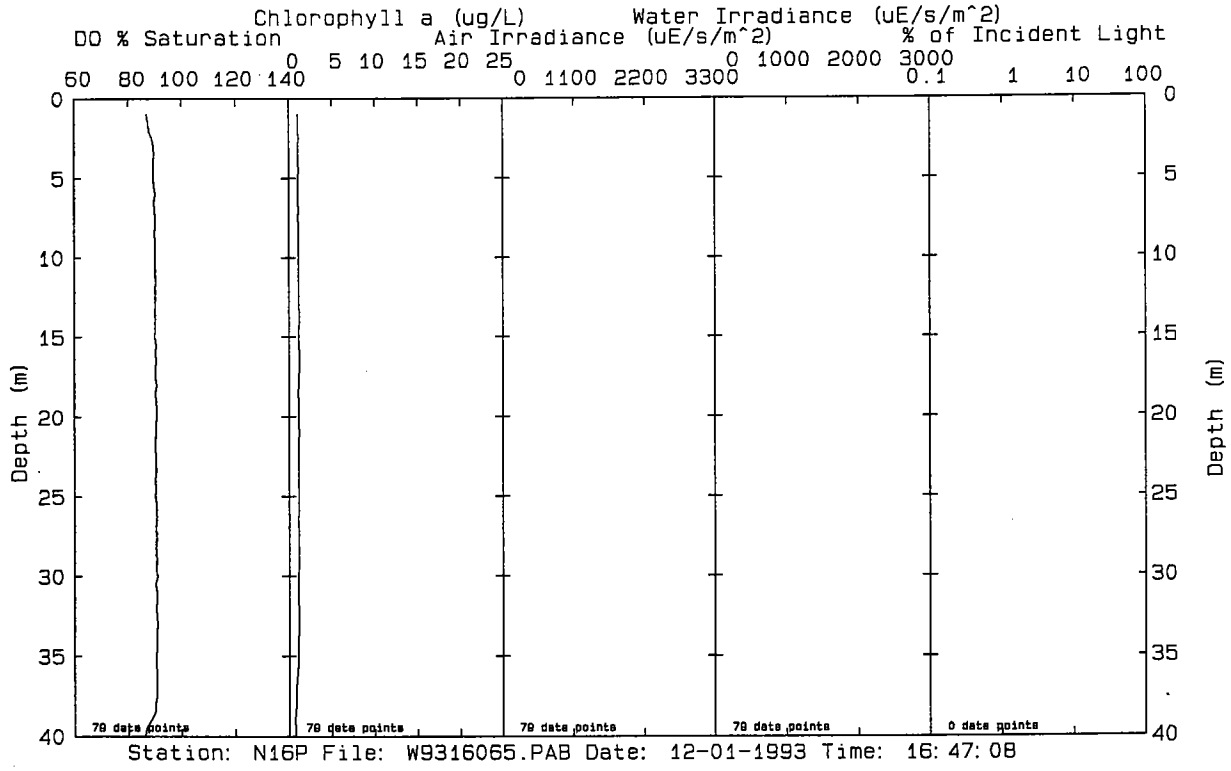

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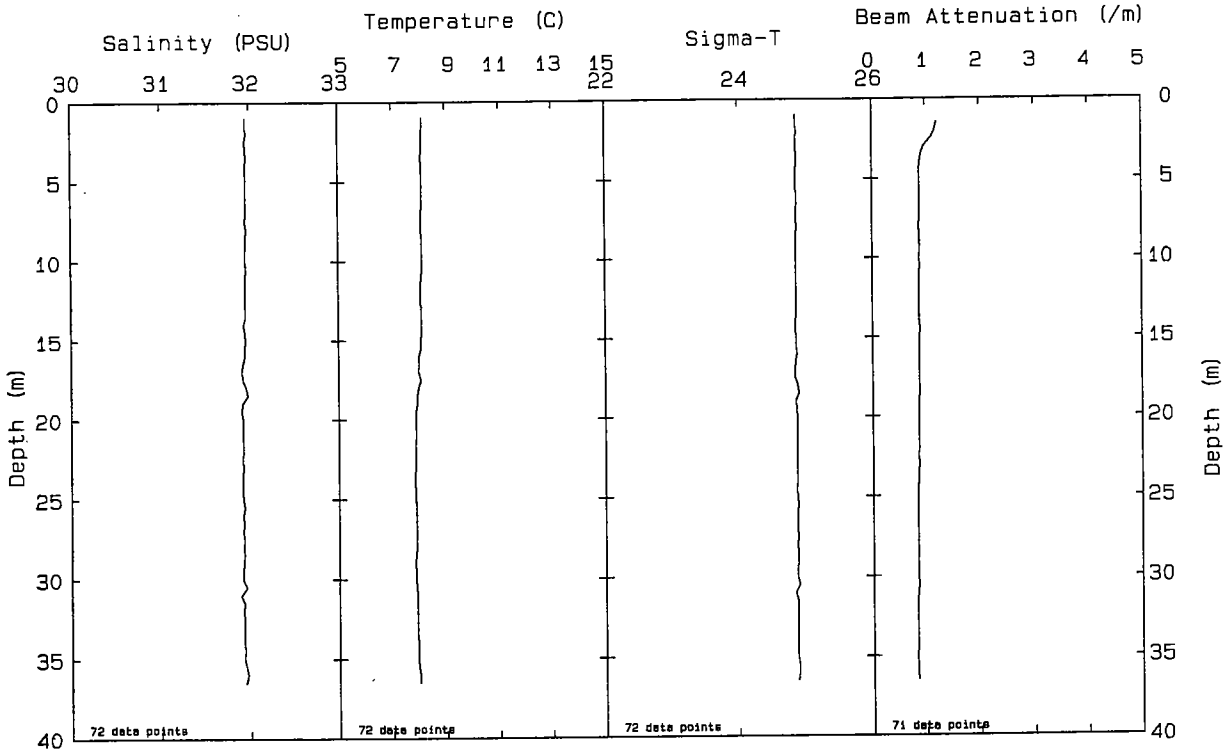

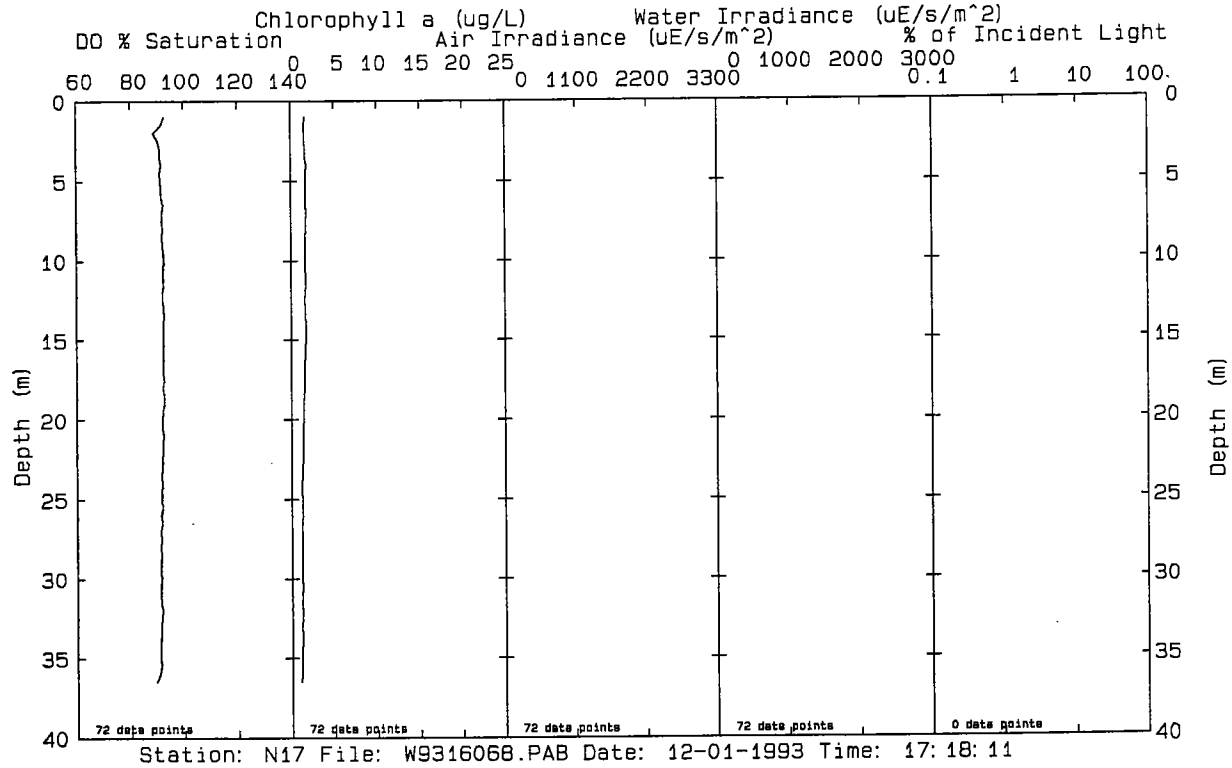

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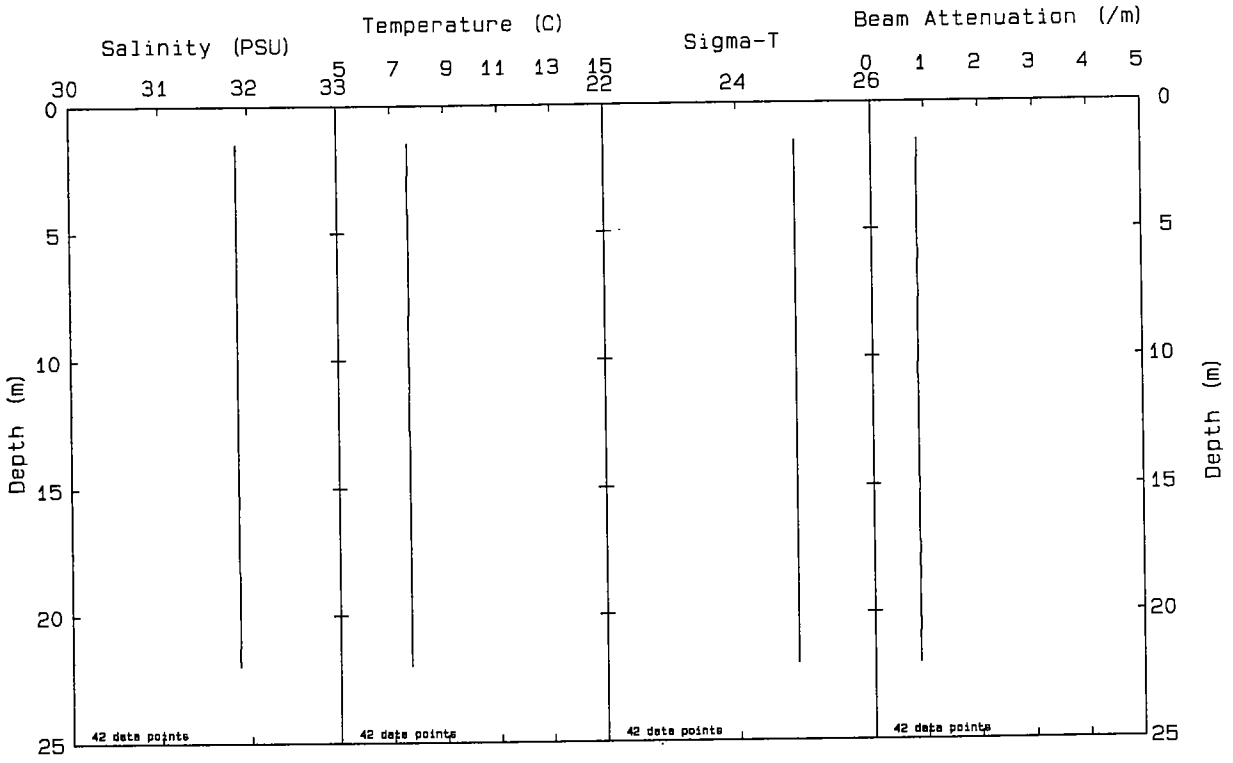

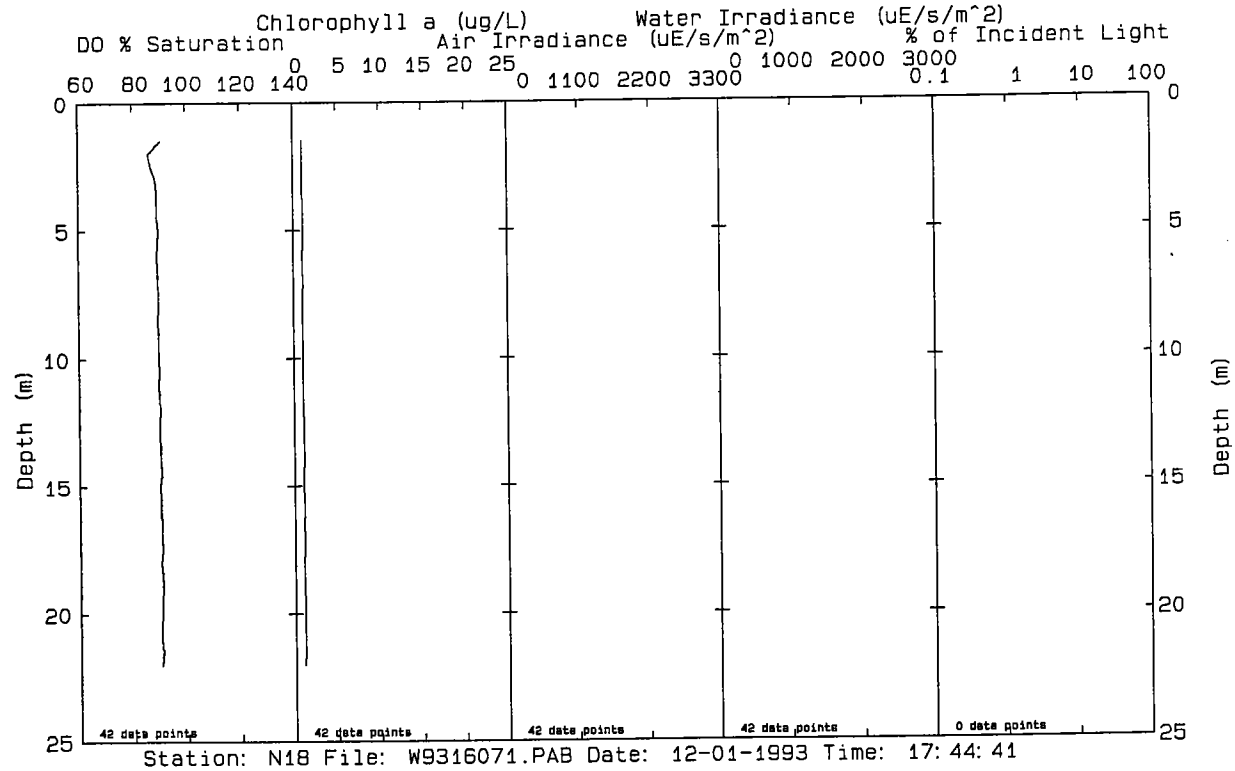

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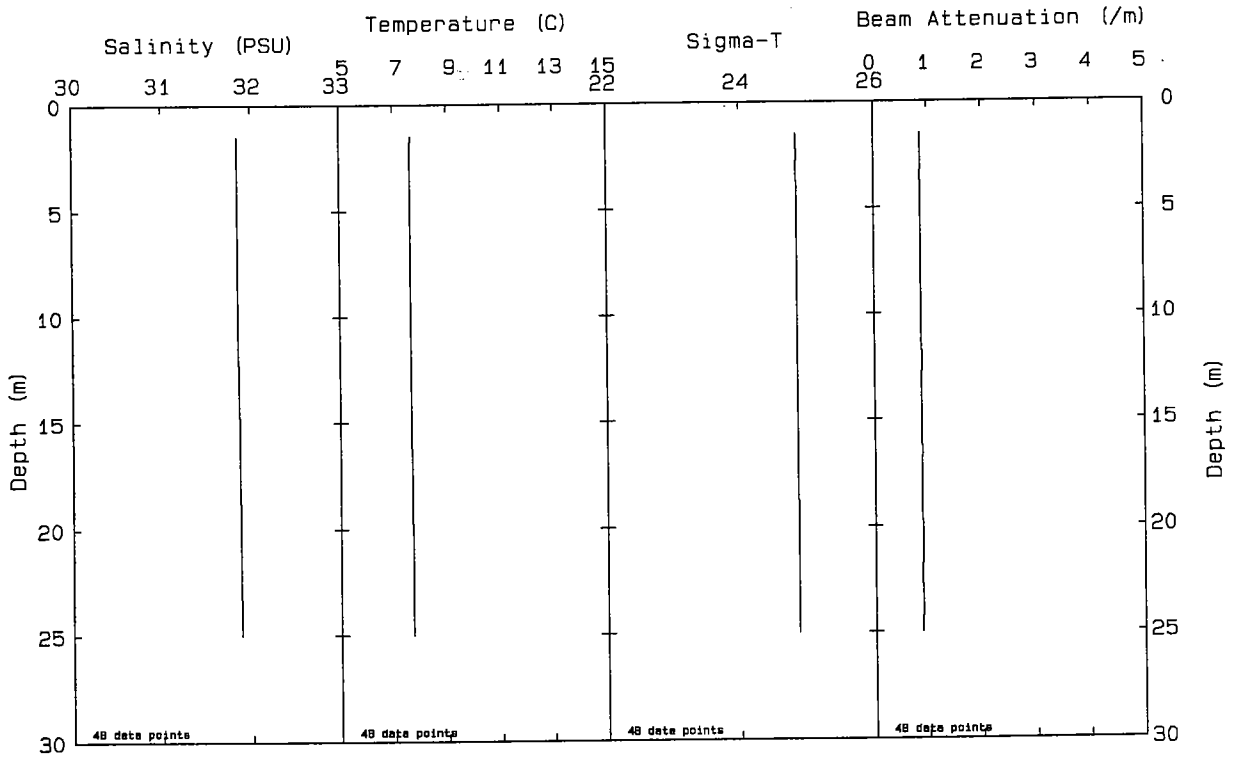

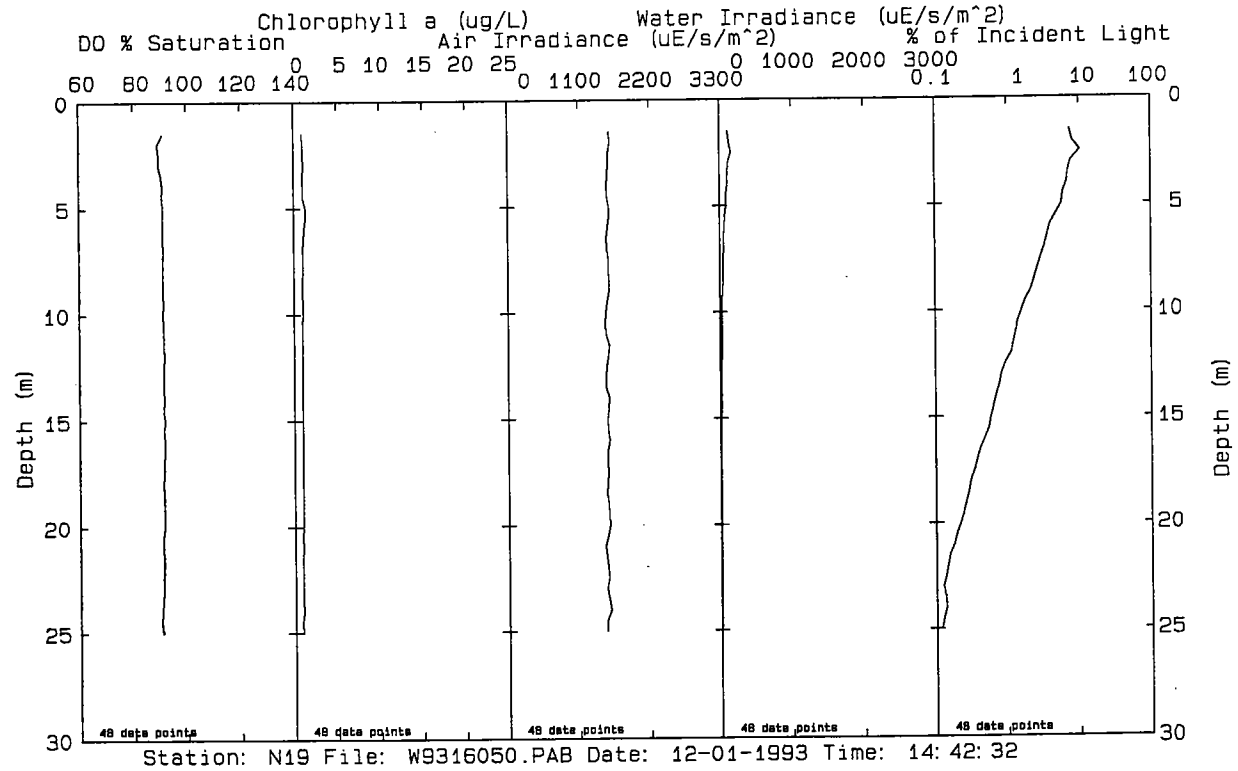

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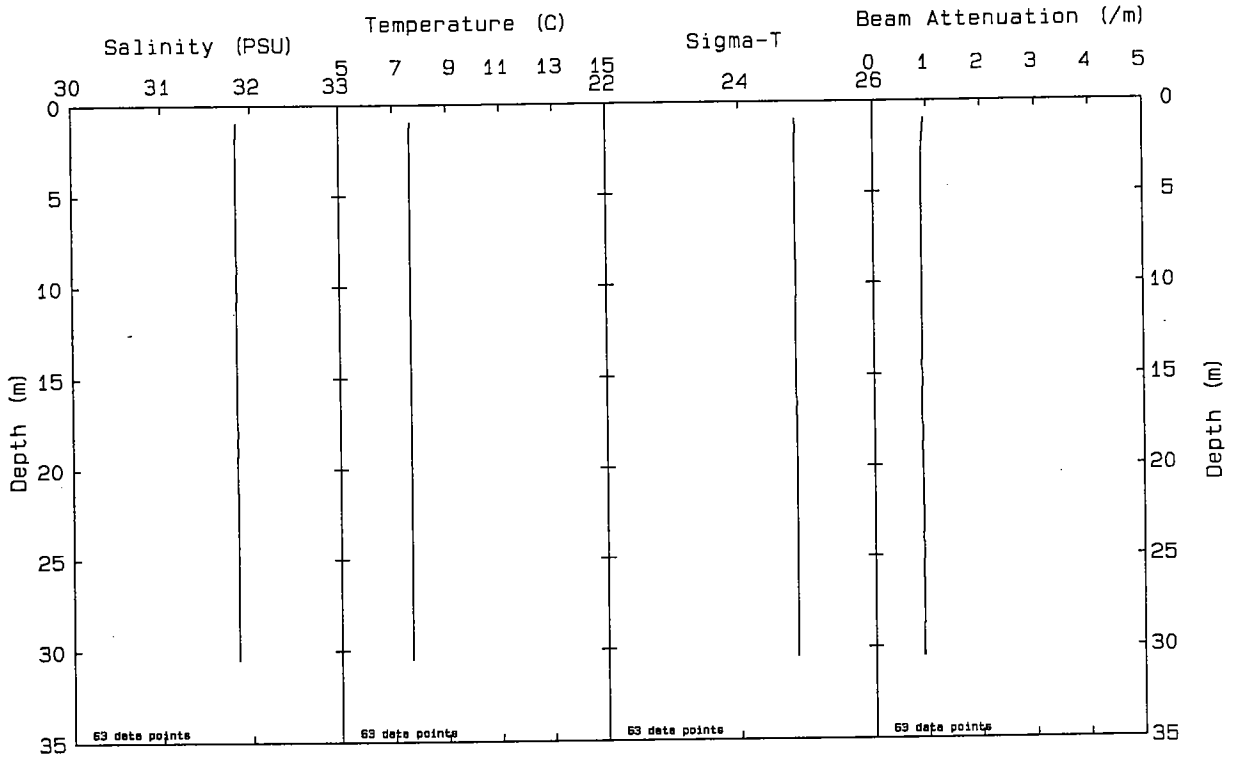
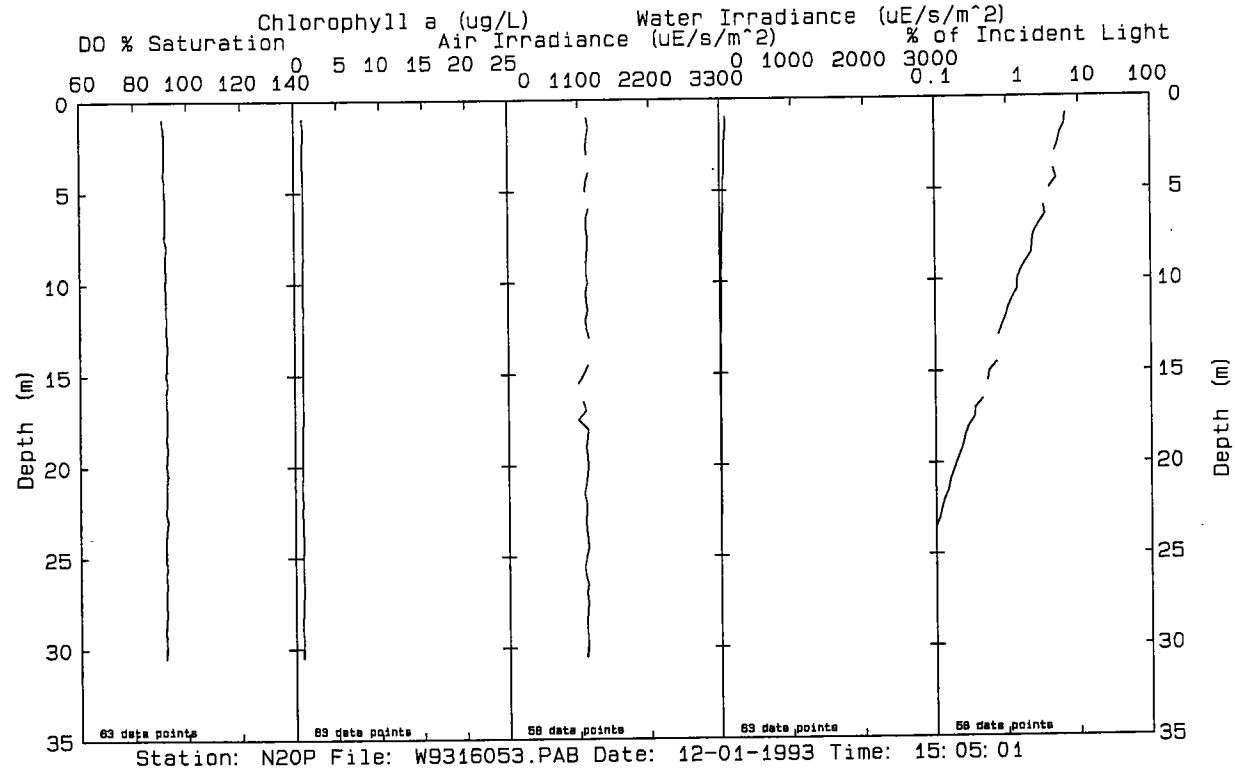
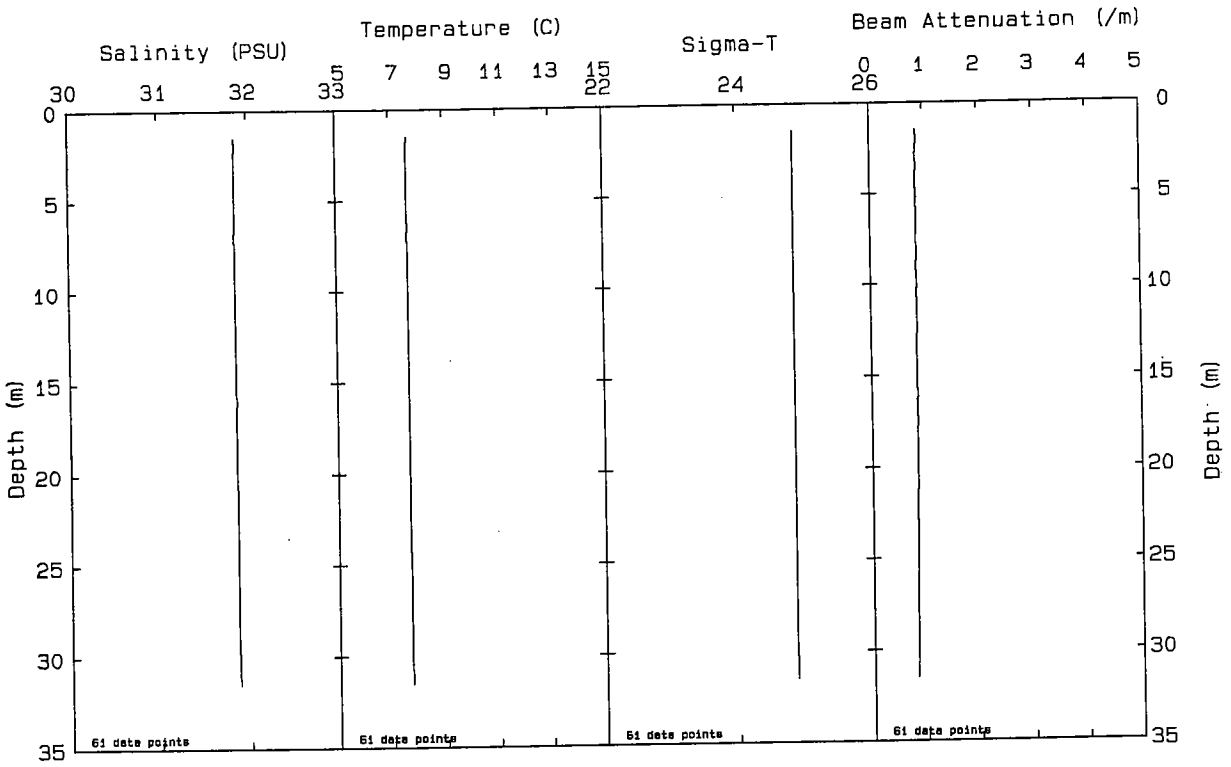
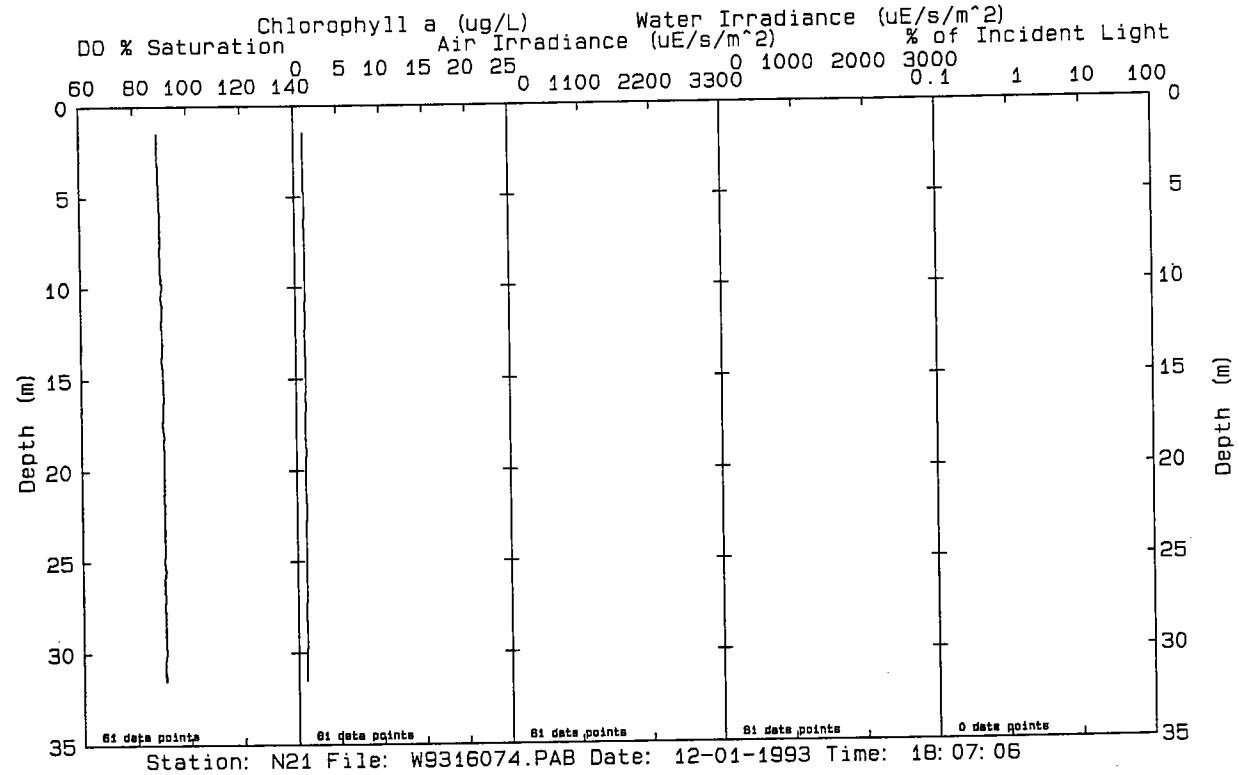




Station: N20P File: W9316053.PAB Date: 12-01-1993 Time: 15:05:01





Station: N21 File: W9316074.PAB Date: 12-01-1993 Time: 18:07:06

APPENDIX C

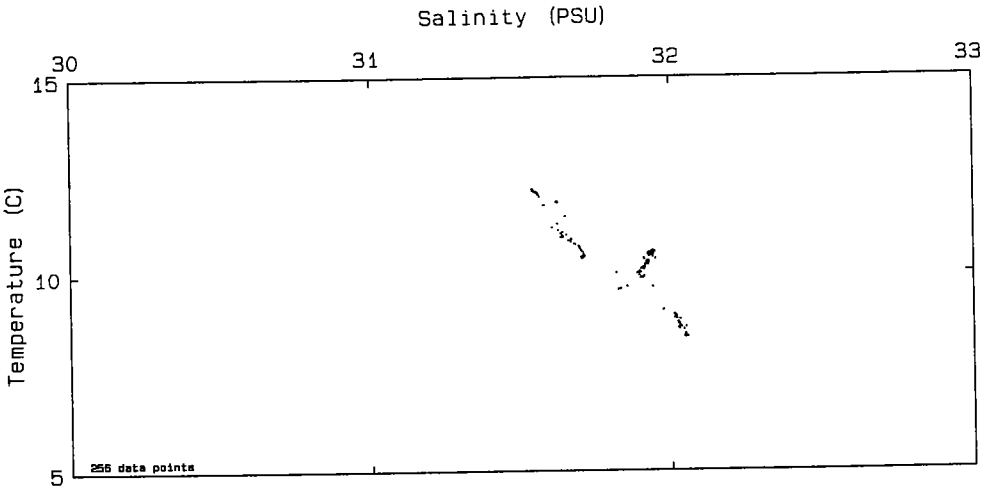
COMPARISON OF VERTICAL PROFILE DATA: SCATTER PLOTS

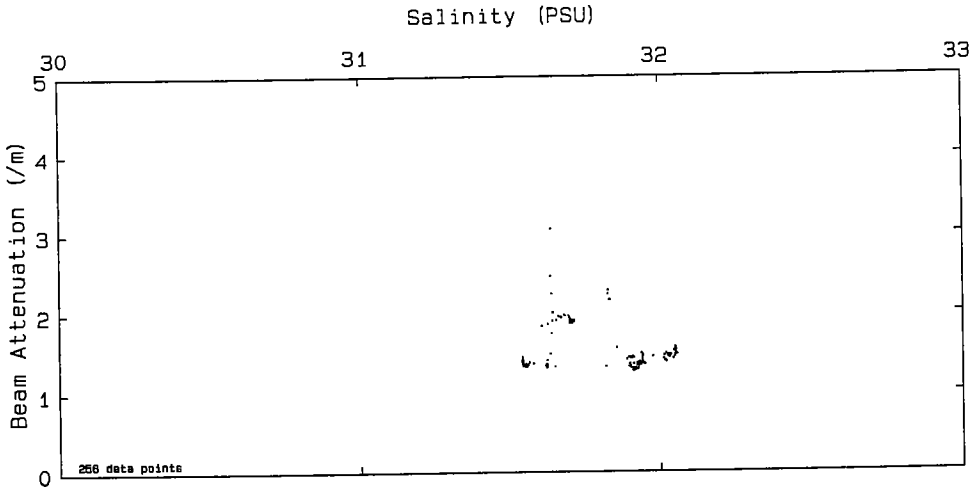
Parameter-Parameter Plots of Vertical Profile Data, Combined Surveys

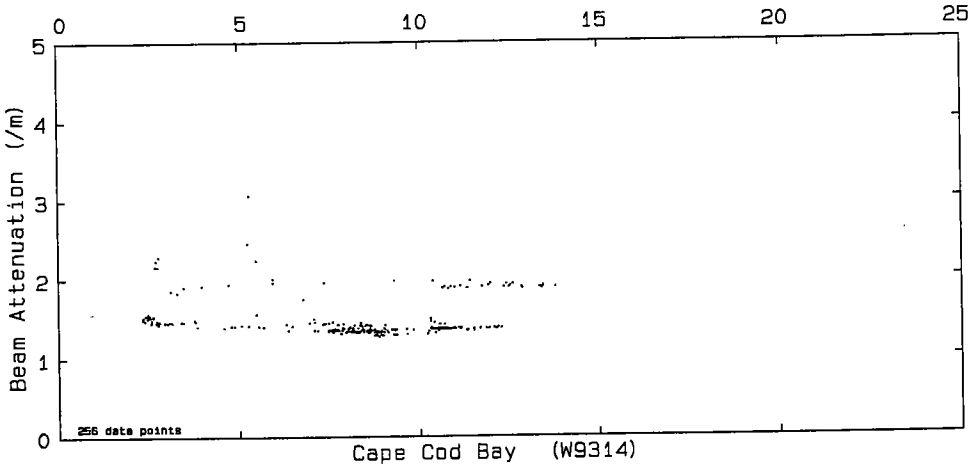
Note that for nearfield surveys, all plots are given as figures in the accompanying text report. For combined surveys, composite plots (all stations) are given as figures in the accompanying text report.

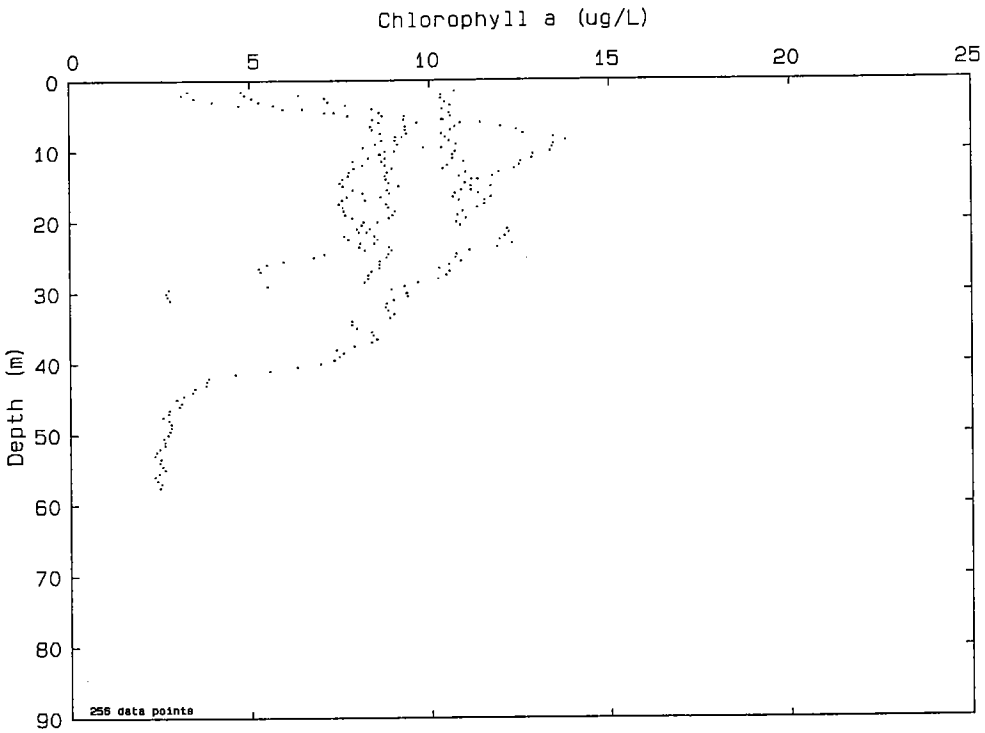
The plots for the October survey (W9314) given here separate stations by station groups as defined in the text report.

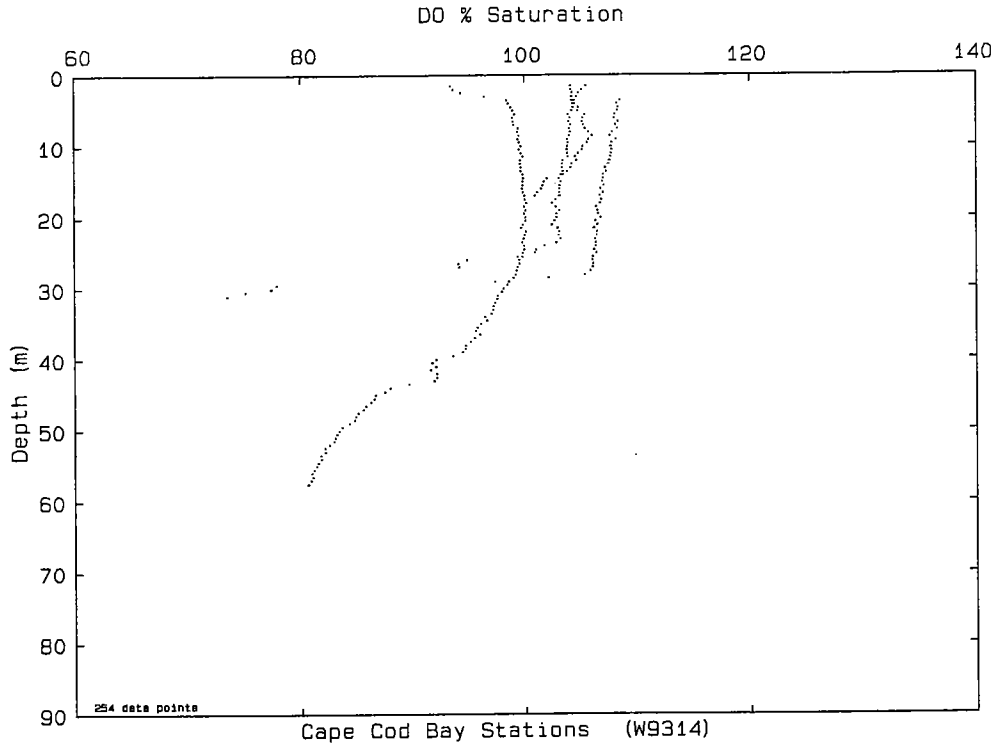
Data are as described in Appendix B and include the entire profile at each station.

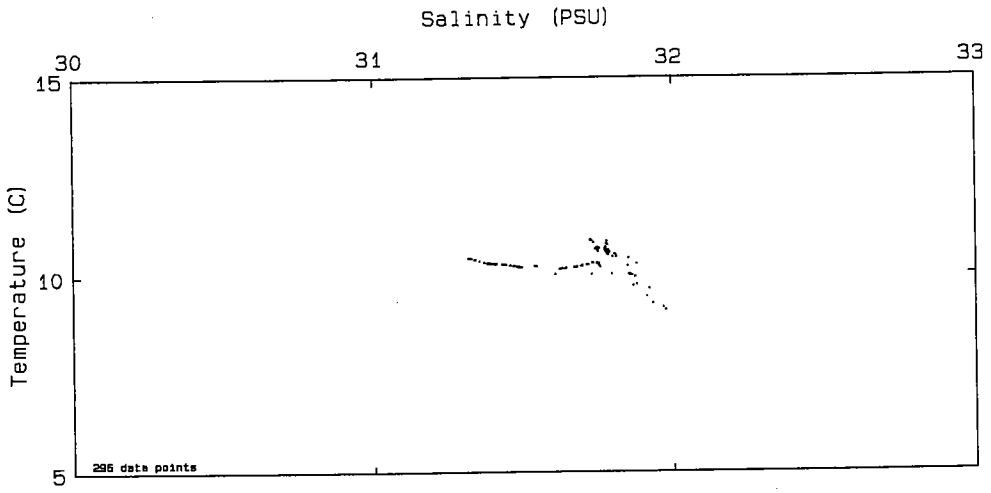

Salinity (PSU)
30
31
32
33
15
10
5
Temperature (C)
256 data points

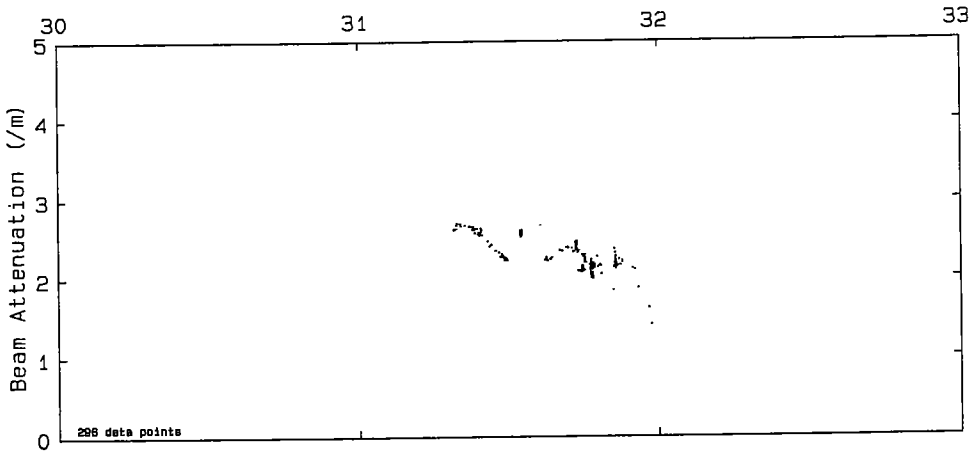

Salinity (PSU)
30
31
32
33
5
4
3
2
1
0
Beam Attenuation (/m)
256 data points

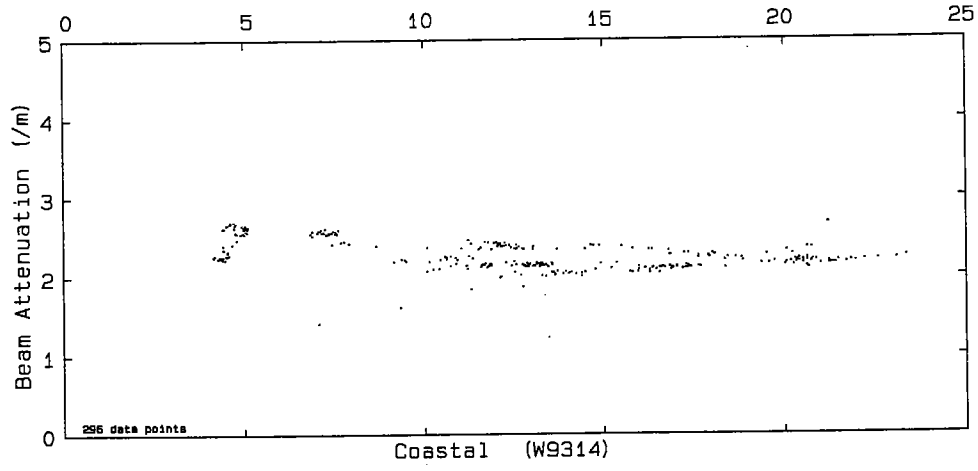

Chlorophyll a (ug/L)
0
5
10
15
20
25
5
4
3
2
1
0
Beam Attenuation (/m)
256 data points
Cape Cod Bay (W9314)

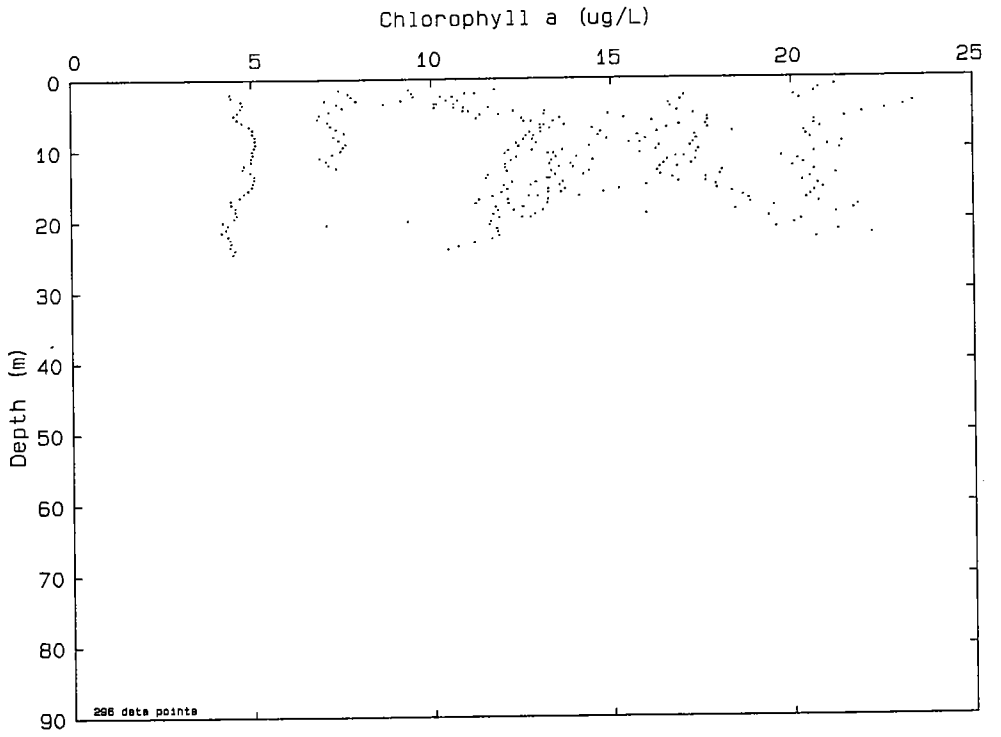

Chlorophyll a (ug/L)
0
5
10
15
20
25
Depth (m)
0
10
20
30
40
50
60
70
80
90
256 data points

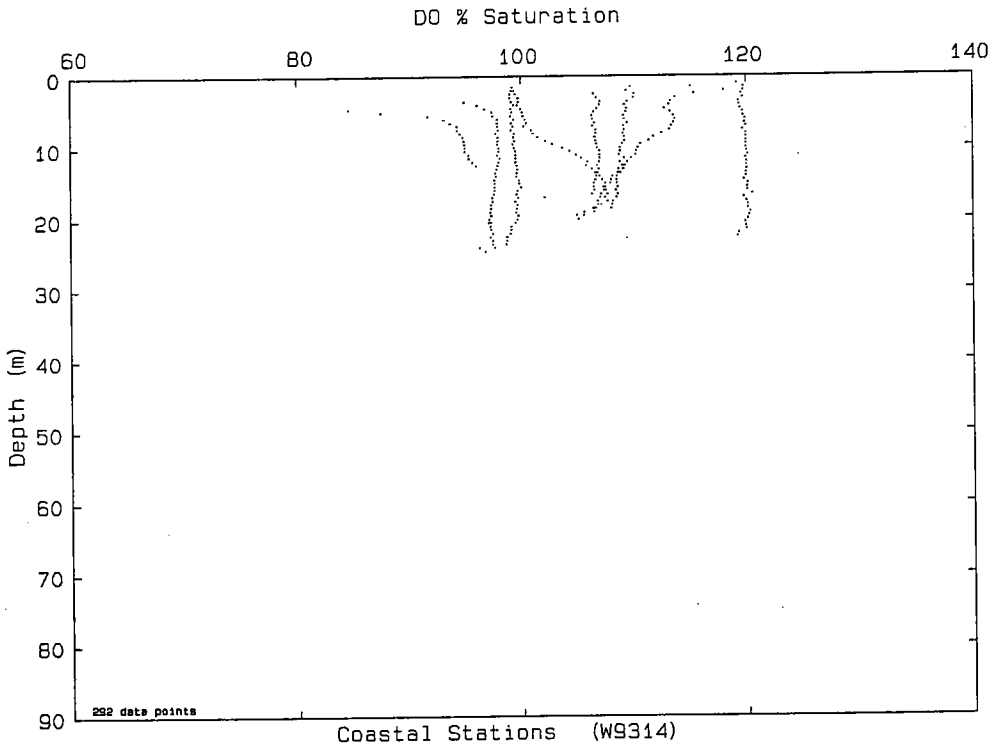

DO % Saturation
60
80
100
120
140
Depth (m)
0
10
20
30
40
50
60
70
80
90
254 data points
Cape Cod Bay Stations (W9314)

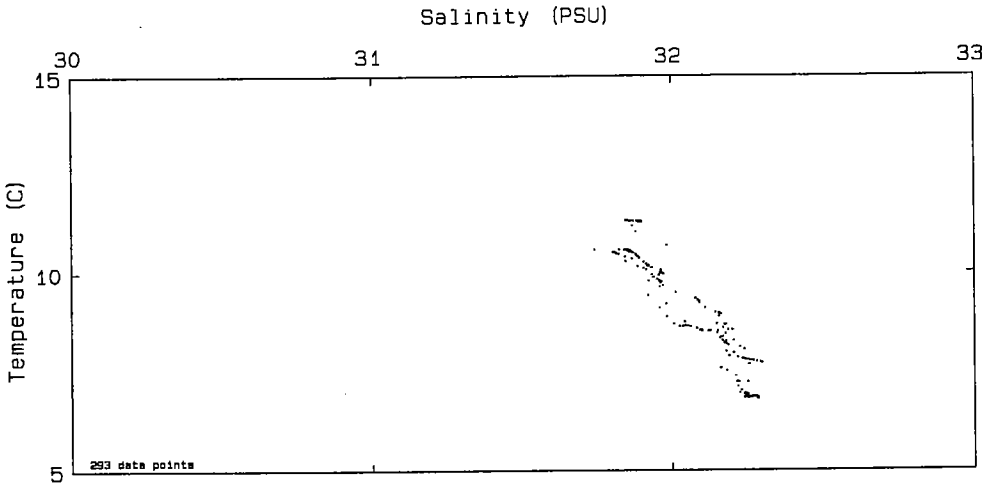

Salinity (PSU)
30
31
32
33
15
10
5
Temperature (C)
296 data points

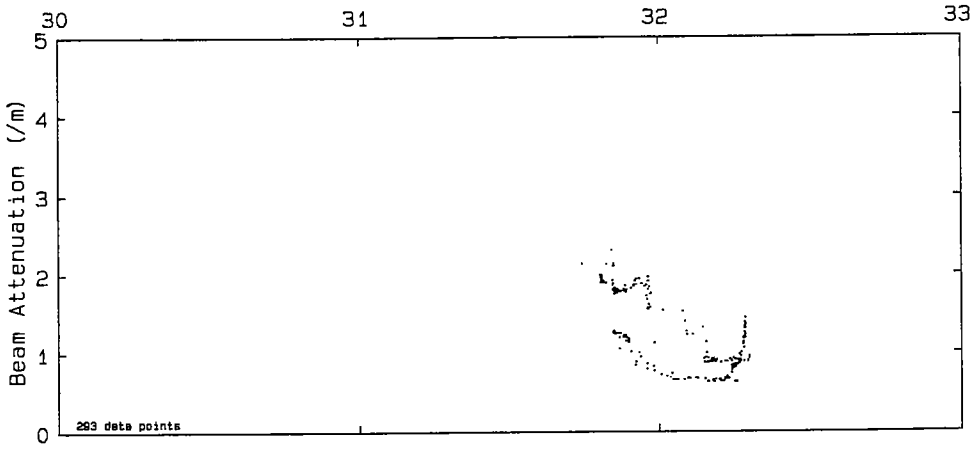

Salinity (PSU)
30
31
32
33
5
4
3
2
1
0
Beam Attenuation (/m)
296 data points

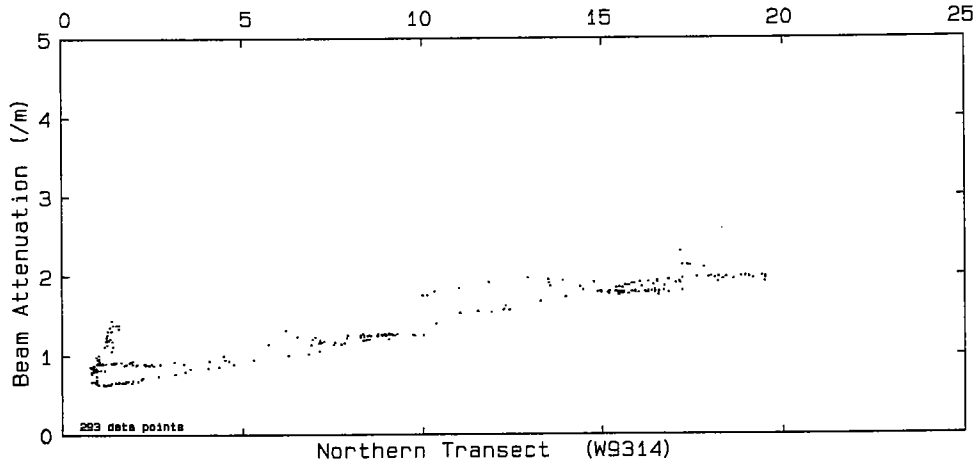

Chlorophyll a (ug/L)
0
5
10
15
20
25
5
4
3
2
1
0
Beam Attenuation (/m)
296 data points
Coastal (W9314)

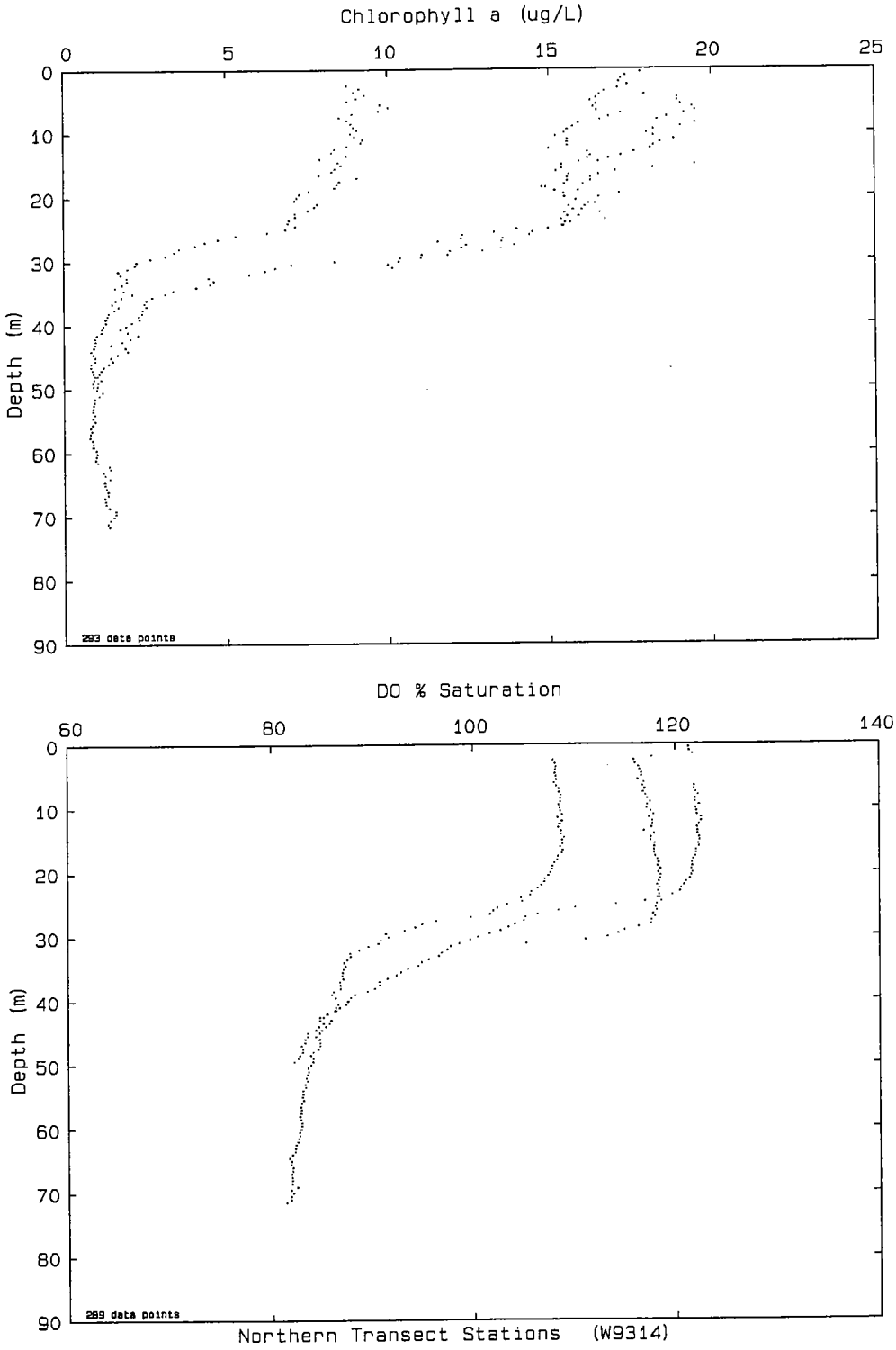

Chlorophyll a (ug/L)
0
5
10
15
20
25
Depth (m)
0
10
20
30
40
50
60
70
80
90
296 data points

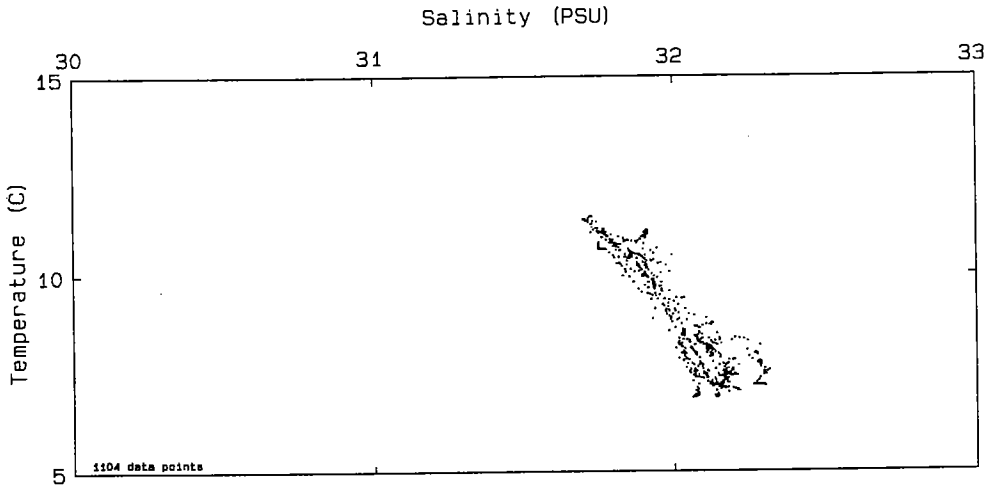

DO % Saturation
60
80
100
120
140
Depth (m)
0
10
20
30
40
50
60
70
80
90
292 data points
Coastal Stations (W9314)

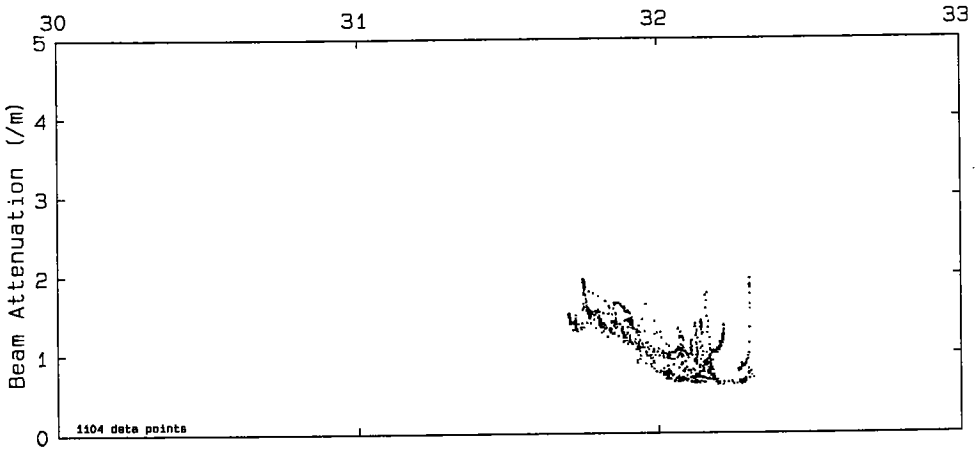

Salinity (PSU)
30
31
32
33
15
10
5
Temperature (C)
293 data points

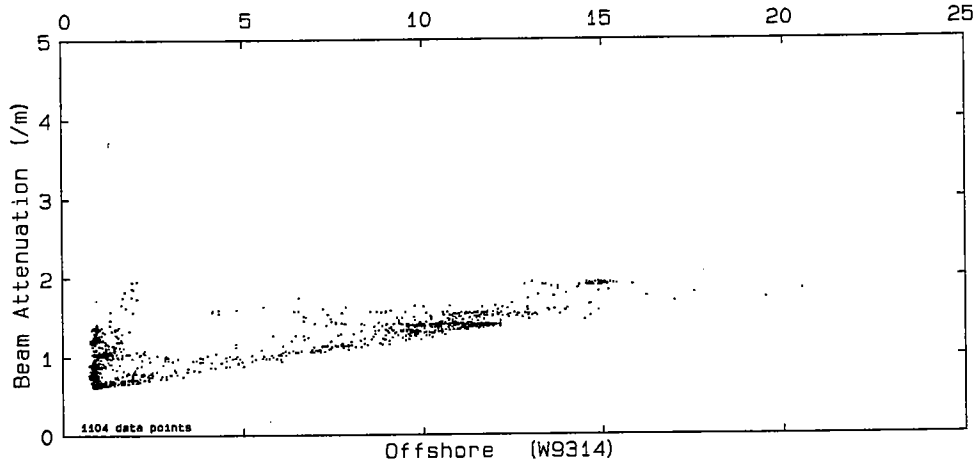

Salinity (PSU)
30
31
32
33
5
4
3
2
1
0
Beam Attenuation (/m)
293 data points

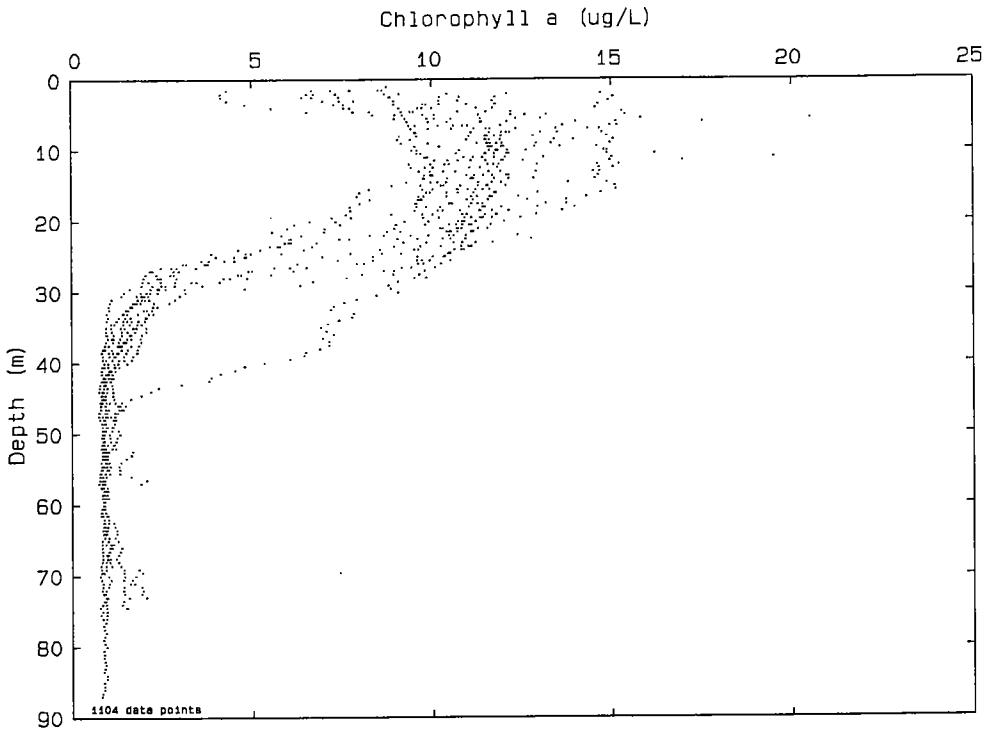

Chlorophyll a (ug/L)
0
5
10
15
20
25
5
4
3
2
1
0
Beam Attenuation (/m)
293 data points
Northern Transect (W9314)

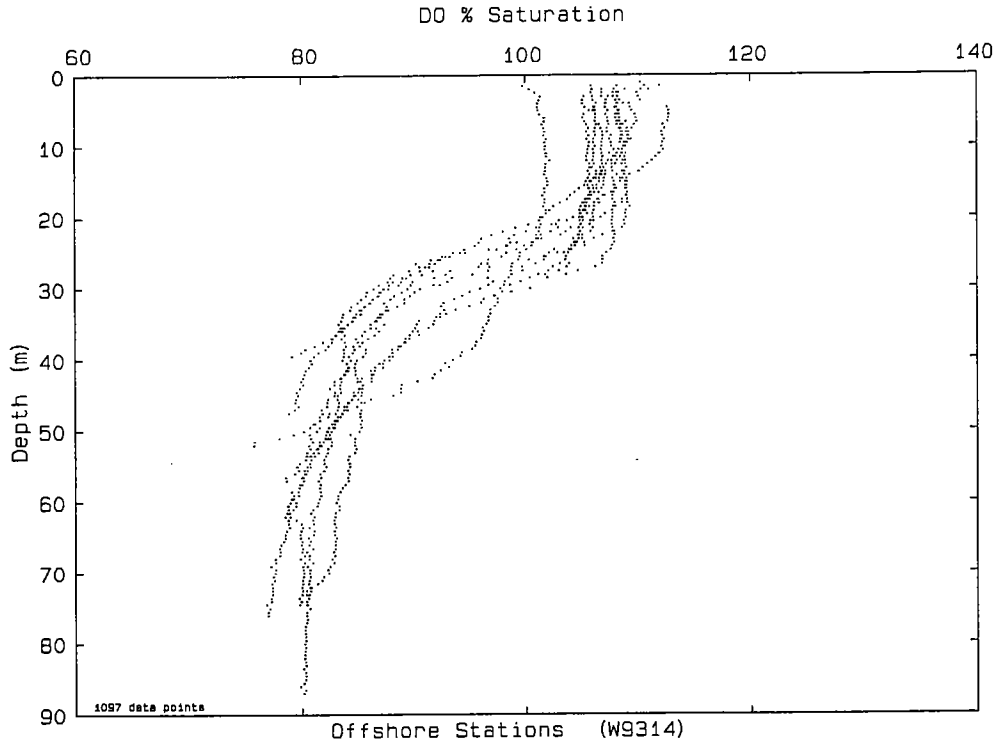

Chlorophyll a (ug/L)
0
5
10
15
20
25
Depth (m)
0
10
20
30
40
50
60
70
80
90
293 data points
DO % Saturation
60
80
100
120
140
Depth (m)
289 data points
Northern Transect Stations (W9314)


Salinity (PSU)
30
31
32
33
15
10
5
Temperature (C)
1104 data points


Salinity (PSU)
30
31
32
33
5
4
3
2
1
0
Beam Attenuation (/m)
1104 data points


Chlorophyll a (ug/L)
0
5
10
15
20
25
5
4
3
2
1
0
Beam Attenuation (/m)
1104 data points
Offshore (W9314)


Chlorophyll a (ug/L)
0
5
10
15
20
25
Depth (m)
0
10
20
30
40
50
60
70
80
90
1104 data points


DO % Saturation
60
80
100
120
140
Depth (m)
0
10
20
30
40
50
60
70
80
90
1097 data points
Offshore Stations (W9314)

APPENDIX D

ADDITIONAL TOWING PROFILE DATA FROM NEARFIELD STATIONS

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

APPENDIX E

METABOLISM DATA AND PRODUCTIVITY—IRRADIANCE MODELING

Part 1

^{14}C Incubation Data

Table E1-1 includes data from the October (W9314) survey. The table includes data for samples from the BioProductivity stations that were incubated from surface and chlorophyll maximum depths (dark and light bottles). ^{14}C-production was calculated using measured 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 E, Part 2, the criterion used for rejecting suspect data is given.

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

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)	Stock (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)
W9314	F01P	14-OCT-93	0903	2.35	W93140392					5678463.0	25.0	6.0	
W9314	F01P	14-OCT-93	0903	2.35	W93140392	-3	DARK	0	9145.4				
W9314	F01P	14-OCT-93	0903	2.35	W93140392	-2	DARK	0	10421.8				
W9314	F01P	14-OCT-93	0903	2.35	W93140392	-1	DARK	0	8786.1				
W9314	F01P	14-OCT-93	0903	2.35	W93140392	1	LIGHT	846	34455.1				19.2
W9314	F01P	14-OCT-93	0903	2.35	W93140392	2	LIGHT	1434	29535.8				15.4
W9314	F01P	14-OCT-93	0903	2.35	W93140392	3	LIGHT	605	37260.0				21.4
W9314	F01P	14-OCT-93	0903	2.35	W93140392	4	LIGHT	266	30981.3				16.6
W9314	F01P	14-OCT-93	0903	2.35	W93140392	5	LIGHT	299	41160.9				24.4
W9314	F01P	14-OCT-93	0903	2.35	W93140392	6	LIGHT	177	29218.9				15.2
W9314	F01P	14-OCT-93	0903	2.35	W93140392	7	LIGHT	252	45674.6				27.9
W9314	F01P	14-OCT-93	0903	2.35	W93140392	8	LIGHT	78	16898.1				5.7
W9314	F01P	14-OCT-93	0903	2.35	W93140392	9	LIGHT	20	24936.3				11.9
W9314	F01P	14-OCT-93	0903	2.35	W93140392	10	LIGHT	22	11990.2				2.0
W9314	F01P	14-OCT-93	0903	2.35	W93140392	11	LIGHT	3	9891.1				0.3
W9314	F01P	14-OCT-93	0903	2.35	W93140392	12	LIGHT	3	9011.6				-0.3
W9314	F01P	14-OCT-93	0902	6.83	W93140391					5678463.0	25.3	6.0	
W9314	F01P	14-OCT-93	0902	6.83	W93140391	-3	DARK	0	8737.5				
W9314	F01P	14-OCT-93	0902	6.83	W93140391	-2	DARK	0	11884.2				
W9314	F01P	14-OCT-93	0902	6.83	W93140391	-1	DARK	0	7066.2				
W9314	F01P	14-OCT-93	0902	6.83	W93140391	1	LIGHT	853	29039.2				15.4
W9314	F01P	14-OCT-93	0902	6.83	W93140391	2	LIGHT	1342	31189.8				17.1
W9314	F01P	14-OCT-93	0902	6.83	W93140391	3	LIGHT	931	28984.4				15.4
W9314	F01P	14-OCT-93	0902	6.83	W93140391	4	LIGHT	442	31824.4				17.6
W9314	F01P	14-OCT-93	0902	6.83	W93140391	5	LIGHT	301	28484.8				15.0
W9314	F01P	14-OCT-93	0902	6.83	W93140391	6	LIGHT	202	27947.9				14.6
W9314	F01P	14-OCT-93	0902	6.83	W93140391	7	LIGHT	175	29863.8				16.1
W9314	F01P	14-OCT-93	0902	6.83	W93140391	8	LIGHT	124	27539.7				14.3
W9314	F01P	14-OCT-93	0902	6.83	W93140391	9	LIGHT	21	12471.2				2.5
W9314	F01P	14-OCT-93	0902	6.83	W93140391	10	LIGHT	26	11588.4				1.8
W9314	F01P	14-OCT-93	0902	6.83	W93140391	11	LIGHT	2	8598.0				-0.5
W9314	F01P	14-OCT-93	0902	6.83	W93140391	12	LIGHT	3	7724.4				-1.2
W9314	F02P	14-OCT-93	0740	2.29	W93140376					5678463.0	25.1	6.0	
W9314	F02P	14-OCT-93	0740	2.29	W93140376	-3	DARK	0	4252.3				
W9314	F02P	14-OCT-93	0740	2.29	W93140376	-2	DARK	0	5234.9				
W9314	F02P	14-OCT-93	0740	2.29	W93140376	-1	DARK	0	4402.9				
W9314	F02P	14-OCT-93	0740	2.29	W93140376	1	LIGHT	902	37671.7				25.6
W9314	F02P	14-OCT-93	0740	2.29	W93140376	2	LIGHT	1314	34880.1				23.5
W9314	F02P	14-OCT-93	0740	2.29	W93140376	3	LIGHT	1181	33772.9				22.6
W9314	F02P	14-OCT-93	0740	2.29	W93140376	4	LIGHT	1888	31954.5				21.2
W9314	F02P	14-OCT-93	0740	2.29	W93140376	5	LIGHT	450	33467.7				22.4

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

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)	Stock (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)
W9314	F02P	14-OCT-93	0740	2.29	W93140376	6	LIGHT	299	35189.3				23.7
W9314	F02P	14-OCT-93	0740	2.29	W93140376	7	LIGHT	183	27938.0				18.1
W9314	F02P	14-OCT-93	0740	2.29	W93140376	8	LIGHT	86	24994.2				15.8
W9314	F02P	14-OCT-93	0740	2.29	W93140376	9	LIGHT	35	10700.2				4.7
W9314	F02P	14-OCT-93	0740	2.29	W93140376	10	LIGHT	37	11918.3				5.7
W9314	F02P	14-OCT-93	0740	2.29	W93140376	11	LIGHT	4	95.9				-3.5
W9314	F02P	14-OCT-93	0740	2.29	W93140376	12	LIGHT	3	6693.5				1.6
W9314	F02P	14-OCT-93	0739	13.54	W93140374					5678463.0	25.1	6.0	
W9314	F02P	14-OCT-93	0739	13.54	W93140374	-3	DARK	0	4044.8				
W9314	F02P	14-OCT-93	0739	13.54	W93140374	-2	DARK	0	4291.4				
W9314	F02P	14-OCT-93	0739	13.54	W93140374	-1	DARK	0	4241.4				
W9314	F02P	14-OCT-93	0739	13.54	W93140374	1	LIGHT	1241	23701.2				15.1
W9314	F02P	14-OCT-93	0739	13.54	W93140374	2	LIGHT	1820	23005.8				14.5
W9314	F02P	14-OCT-93	0739	13.54	W93140374	3	LIGHT	748	23791.3				15.1
W9314	F02P	14-OCT-93	0739	13.54	W93140374	4	LIGHT	397	26625.8				17.3
W9314	F02P	14-OCT-93	0739	13.54	W93140374	5	LIGHT	454	35792.4				24.4
W9314	F02P	14-OCT-93	0739	13.54	W93140374	6	LIGHT	278	27467.6				18.0
W9314	F02P	14-OCT-93	0739	13.54	W93140374	7	LIGHT	235	26426.3				17.2
W9314	F02P	14-OCT-93	0739	13.54	W93140374	8	LIGHT	369	27831.2				18.3
W9314	F02P	14-OCT-93	0739	13.54	W93140374	9	LIGHT	36	12230.9				6.2
W9314	F02P	14-OCT-93	0739	13.54	W93140374	10	LIGHT	37	10090.3				4.6
W9314	F02P	14-OCT-93	0739	13.54	W93140374	11	LIGHT	2	4459.1				0.2
W9314	F02P	14-OCT-93	0739	13.54	W93140374	12	LIGHT	4	5711.5				1.2
W9314	F13P	13-OCT-93	0925	1.59	W93140273					5801345.0	25.4	6.2	
W9314	F13P	13-OCT-93	0925	1.59	W93140273	-3	DARK	0	7912.4				
W9314	F13P	13-OCT-93	0925	1.59	W93140273	-2	DARK	0	8892.3				
W9314	F13P	13-OCT-93	0925	1.59	W93140273	-1	DARK	0	6277.7				
W9314	F13P	13-OCT-93	0925	1.59	W93140273	1	LIGHT	751	75462.7				50.7
W9314	F13P	13-OCT-93	0925	1.59	W93140273	2	LIGHT	824	68374.1				45.4
W9314	F13P	13-OCT-93	0925	1.59	W93140273	3	LIGHT	1025	108004.7				75.1
W9314	F13P	13-OCT-93	0925	1.59	W93140273	4	LIGHT	658	118903.1				83.2
W9314	F13P	13-OCT-93	0925	1.59	W93140273	5	LIGHT	114	72306.5				48.4
W9314	F13P	13-OCT-93	0925	1.59	W93140273	6	LIGHT	147	63563.9				41.8
W9314	F13P	13-OCT-93	0925	1.59	W93140273	7	LIGHT	113	68685.3				45.6
W9314	F13P	13-OCT-93	0925	1.59	W93140273	8	LIGHT	38	29721.1				16.5
W9314	F13P	13-OCT-93	0925	1.59	W93140273	9	LIGHT	17	14828.8				5.3
W9314	F13P	13-OCT-93	0925	1.59	W93140273	10	LIGHT	17	18161.6				7.8
W9314	F13P	13-OCT-93	0925	1.59	W93140273	11	LIGHT	1	7015.1				-0.5
W9314	F13P	13-OCT-93	0925	1.59	W93140273	12	LIGHT	2	6074.1				-1.2
W9314	F13P	13-OCT-93	0923	11.09	W93140271					5801345.0	25.4	6.2	
W9314	F13P	13-OCT-93	0923	11.09	W93140271	-3	DARK	0	4433.8				

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

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)	Stock (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)
W9314	F13P	13-OCT-93	0923	11.09	W93140271	-2	DARK	0	4748.5				
W9314	F13P	13-OCT-93	0923	11.09	W93140271	-1	DARK	0	2290.1				
W9314	F13P	13-OCT-93	0923	11.09	W93140271	1	LIGHT	833	96676.6				69.3
W9314	F13P	13-OCT-93	0923	11.09	W93140271	2	LIGHT	998	102288.8				73.5
W9314	F13P	13-OCT-93	0923	11.09	W93140271	3	LIGHT	377	113601.5				81.9
W9314	F13P	13-OCT-93	0923	11.09	W93140271	4	LIGHT	122	62578.5				43.9
W9314	F13P	13-OCT-93	0923	11.09	W93140271	5	LIGHT	131	77450.0				55.0
W9314	F13P	13-OCT-93	0923	11.09	W93140271	6	LIGHT	163	79824.0				56.7
W9314	F13P	13-OCT-93	0923	11.09	W93140271	7	LIGHT	140	85332.7				60.8
W9314	F13P	13-OCT-93	0923	11.09	W93140271	8	LIGHT	187	92472.2				66.2
W9314	F13P	13-OCT-93	0923	11.09	W93140271	9	LIGHT	13	31815.5				20.9
W9314	F13P	13-OCT-93	0923	11.09	W93140271	10	LIGHT	9	7358.4				2.6
W9314	F13P	13-OCT-93	0923	11.09	W93140271	11	LIGHT	1	2352.3				-1.1
W9314	F13P	13-OCT-93	0923	11.09	W93140271	12	LIGHT	2	21364.9				13.1
W9314	F23P	15-OCT-93	0543	2.34	W93140475					5490803.0	25.3	6.0	
W9314	F23P	15-OCT-93	0543	2.34	W93140475	-3	DARK	0	16571.0				
W9314	F23P	15-OCT-93	0543	2.34	W93140475	-2	DARK	0	19817.8				
W9314	F23P	15-OCT-93	0543	2.34	W93140475	-1	DARK	0	18819.3				
W9314	F23P	15-OCT-93	0543	2.34	W93140475	1	LIGHT	800	58658.5				32.5
W9314	F23P	15-OCT-93	0543	2.34	W93140475	2	LIGHT	1207	71590.1				42.9
W9314	F23P	15-OCT-93	0543	2.34	W93140475	3	LIGHT	1707	66621.6				38.9
W9314	F23P	15-OCT-93	0543	2.34	W93140475	4	LIGHT	1009	59854.8				33.4
W9314	F23P	15-OCT-93	0543	2.34	W93140475	5	LIGHT	385	62375.6				35.5
W9314	F23P	15-OCT-93	0543	2.34	W93140475	6	LIGHT	270	54933.3				29.5
W9314	F23P	15-OCT-93	0543	2.34	W93140475	7	LIGHT	165	47795.6				23.7
W9314	F23P	15-OCT-93	0543	2.34	W93140475	8	LIGHT	77	31516.0				10.6
W9314	F23P	15-OCT-93	0543	2.34	W93140475	9	LIGHT	32	21305.7				2.3
W9314	F23P	15-OCT-93	0543	2.34	W93140475	10	LIGHT	33	25892.7				6.0
W9314	F23P	15-OCT-93	0543	2.34	W93140475	11	LIGHT	3	17283.6				-0.9
W9314	F23P	15-OCT-93	0543	2.34	W93140475	12	LIGHT	3	20192.0				1.4
W9314	F23P	15-OCT-93	0542	10.93	W93140473					5490803.0	25.5	6.0	
W9314	F23P	15-OCT-93	0542	10.93	W93140473	-3	DARK	0	11991.6				
W9314	F23P	15-OCT-93	0542	10.93	W93140473	-2	DARK	0	17548.1				
W9314	F23P	15-OCT-93	0542	10.93	W93140473	-1	DARK	0	23816.0				
W9314	F23P	15-OCT-93	0542	10.93	W93140473	1	LIGHT	1144	70255.9				42.6
W9314	F23P	15-OCT-93	0542	10.93	W93140473	2	LIGHT	1596	60456.8				34.7
W9314	F23P	15-OCT-93	0542	10.93	W93140473	3	LIGHT	617	62506.2				36.3
W9314	F23P	15-OCT-93	0542	10.93	W93140473	4	LIGHT	322	62209.2				36.1
W9314	F23P	15-OCT-93	0542	10.93	W93140473	5	LIGHT	374	73454.9				45.2
W9314	F23P	15-OCT-93	0542	10.93	W93140473	6	LIGHT	251	52917.7				28.5
W9314	F23P	15-OCT-93	0542	10.93	W93140473	7	LIGHT	212	64463.9				37.9

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

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)		Stock (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)
W9314	F23P	15-OCT-93	0542	10.93	W93140473	8	LIGHT	333	79877.1					50.4
W9314	F23P	15-OCT-93	0542	10.93	W93140473	9	LIGHT	32	30757.8					10.5
W9314	F23P	15-OCT-93	0542	10.93	W93140473	10	LIGHT	33	32933.1					12.3
W9314	F23P	15-OCT-93	0542	10.93	W93140473	11	LIGHT	1	12667.4					-4.2
W9314	F23P	15-OCT-93	0542	10.93	W93140473	12	LIGHT	3	20292.1					2.0
W9314	N01P	13-OCT-93	0528	0.88	W93140229						5801345.0	25.3	6.1	
W9314	N01P	13-OCT-93	0528	0.88	W93140229	-3	DARK	0	2920.7					
W9314	N01P	13-OCT-93	0528	0.88	W93140229	-2	DARK	0	1120.1					
W9314	N01P	13-OCT-93	0528	0.88	W93140229	-1	DARK	0	1515.6					
W9314	N01P	13-OCT-93	0528	0.88	W93140229	1	LIGHT	793	83795.7					61.4
W9314	N01P	13-OCT-93	0528	0.88	W93140229	2	LIGHT	1151	95836.9					70.4
W9314	N01P	13-OCT-93	0528	0.88	W93140229	3	LIGHT	1049	97051.6					71.3
W9314	N01P	13-OCT-93	0528	0.88	W93140229	4	LIGHT	1630	76886.1					56.2
W9314	N01P	13-OCT-93	0528	0.88	W93140229	5	LIGHT	396	79939.6					58.5
W9314	N01P	13-OCT-93	0528	0.88	W93140229	6	LIGHT	264	112519.5					82.9
W9314	N01P	13-OCT-93	0528	0.88	W93140229	7	LIGHT	162	82621.9					60.5
W9314	N01P	13-OCT-93	0528	0.88	W93140229	8	LIGHT	76	67846.5					49.4
W9314	N01P	13-OCT-93	0528	0.88	W93140229	9	LIGHT	31	23638.9					16.3
W9314	N01P	13-OCT-93	0528	0.88	W93140229	10	LIGHT	32	27825.0					19.5
W9314	N01P	13-OCT-93	0528	0.88	W93140229	11	LIGHT	3	6101.0					3.2
W9314	N01P	13-OCT-93	0528	0.88	W93140229	12	LIGHT	3	5347.5					2.6
W9314	N01P	13-OCT-93	0526	13.32	W93140227						5801345.0	25.1	6.1	
W9314	N01P	13-OCT-93	0526	13.32	W93140227	-3	DARK	0	9458.7					
W9314	N01P	13-OCT-93	0526	13.32	W93140227	-2	DARK	0	1676.0					
W9314	N01P	13-OCT-93	0526	13.32	W93140227	-1	DARK	0	3728.9					
W9314	N01P	13-OCT-93	0526	13.32	W93140227	1	LIGHT	1109	122171.9					87.4
W9314	N01P	13-OCT-93	0526	13.32	W93140227	2	LIGHT	1643	120282.7					86.0
W9314	N01P	13-OCT-93	0526	13.32	W93140227	3	LIGHT	642	120039.2					85.8
W9314	N01P	13-OCT-93	0526	13.32	W93140227	4	LIGHT	309	117812.1					84.2
W9314	N01P	13-OCT-93	0526	13.32	W93140227	5	LIGHT	390	113286.6					80.8
W9314	N01P	13-OCT-93	0526	13.32	W93140227	6	LIGHT	246	114609.0					81.8
W9314	N01P	13-OCT-93	0526	13.32	W93140227	7	LIGHT	207	100962.1					71.6
W9314	N01P	13-OCT-93	0526	13.32	W93140227	8	LIGHT	326	123168.4					88.2
W9314	N01P	13-OCT-93	0526	13.32	W93140227	9	LIGHT	32	20689.0					11.7
W9314	N01P	13-OCT-93	0526	13.32	W93140227	10	LIGHT	31	26957.6					16.4
W9314	N01P	13-OCT-93	0526	13.32	W93140227	11	LIGHT	1	3274.7					-1.3
W9314	N01P	13-OCT-93	0526	13.32	W93140227	12	LIGHT	3	5656.7					0.5
W9314	N04P	13-OCT-93	0644	2.50	W93140241						5801345.0	25.1	6.0	
W9314	N04P	13-OCT-93	0644	2.50	W93140241	-3	DARK	0	3259.7					
W9314	N04P	13-OCT-93	0644	2.50	W93140241	-2	DARK	0	11302.4	s				
W9314	N04P	13-OCT-93	0644	2.50	W93140241	-1	DARK	0	3307.7					

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

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)	Stock (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)
W9314	N04P	13-OCT-93	0644	2.50	W93140241	1	LIGHT	666	85941.5				62.7
W9314	N04P	13-OCT-93	0644	2.50	W93140241	2	LIGHT	1170	55234.2				39.4
W9314	N04P	13-OCT-93	0644	2.50	W93140241	3	LIGHT	471	57070.5				40.8
W9314	N04P	13-OCT-93	0644	2.50	W93140241	4	LIGHT	230	83190.2				60.6
W9314	N04P	13-OCT-93	0644	2.50	W93140241	5	LIGHT	181	61153.6				43.9
W9314	N04P	13-OCT-93	0644	2.50	W93140241	6	LIGHT	144	60626.6				43.5
W9314	N04P	13-OCT-93	0644	2.50	W93140241	7	LIGHT	16	16243.1				9.8
W9314	N04P	13-OCT-93	0644	2.50	W93140241	8	LIGHT	18	10064.4				5.1
W9314	N04P	13-OCT-93	0644	2.50	W93140241	9	LIGHT	63	31052.9				21.1
W9314	N04P	13-OCT-93	0644	2.50	W93140241	10	LIGHT	206	57727.3				41.3
W9314	N04P	13-OCT-93	0644	2.50	W93140241	11	LIGHT	2	2326.1				-0.7
W9314	N04P	13-OCT-93	0644	2.50	W93140241	12	LIGHT	2	2955.1				-0.2
W9314	N04P	13-OCT-93	0643	11.92	W93140240					5801345.0	25.1	6.0	
W9314	N04P	13-OCT-93	0643	11.92	W93140240	-3	DARK	0	1598.4				
W9314	N04P	13-OCT-93	0643	11.92	W93140240	-2	DARK	0	2164.9				
W9314	N04P	13-OCT-93	0643	11.92	W93140240	-1	DARK	0	3973.4				
W9314	N04P	13-OCT-93	0643	11.92	W93140240	1	LIGHT	761	64309.8				44.2
W9314	N04P	13-OCT-93	0643	11.92	W93140240	2	LIGHT	1073	59368.8				40.5
W9314	N04P	13-OCT-93	0643	11.92	W93140240	3	LIGHT	724	66346.7				45.8
W9314	N04P	13-OCT-93	0643	11.92	W93140240	4	LIGHT	321	51860.1				34.8
W9314	N04P	13-OCT-93	0643	11.92	W93140240	5	LIGHT	236	82680.3				58.2
W9314	N04P	13-OCT-93	0643	11.92	W93140240	6	LIGHT	165	53343.1				35.9
W9314	N04P	13-OCT-93	0643	11.92	W93140240	7	LIGHT	143	39974.0				25.8
W9314	N04P	13-OCT-93	0643	11.92	W93140240	8	LIGHT	102	49533.7				33.0
W9314	N04P	13-OCT-93	0643	11.92	W93140240	9	LIGHT	22	13841.3				6.0
W9314	N04P	13-OCT-93	0643	11.92	W93140240	10	LIGHT	17	12787.8				5.2
W9314	N04P	13-OCT-93	0643	11.92	W93140240	11	LIGHT	2	2439.8				-2.7
W9314	N04P	13-OCT-93	0643	11.92	W93140240	12	LIGHT	3	5472.5				-0.4
W9314	N07P	13-OCT-93	0804	2.14	W93140257					5801345.0	25.0	6.2	
W9314	N07P	13-OCT-93	0804	2.14	W93140257	-3	DARK	0	1563.9				
W9314	N07P	13-OCT-93	0804	2.14	W93140257	-2	DARK	0	1724.8				
W9314	N07P	13-OCT-93	0804	2.14	W93140257	-1	DARK	0	1780.2				
W9314	N07P	13-OCT-93	0804	2.14	W93140257	1	LIGHT	768	43985.3				30.8
W9314	N07P	13-OCT-93	0804	2.14	W93140257	2	LIGHT	1150	51860.0				36.6
W9314	N07P	13-OCT-93	0804	2.14	W93140257	3	LIGHT	1240	35723.7				24.8
W9314	N07P	13-OCT-93	0804	2.14	W93140257	4	LIGHT	475	44539.3				31.2
W9314	N07P	13-OCT-93	0804	2.14	W93140257	5	LIGHT	149	35528.2				24.7
W9314	N07P	13-OCT-93	0804	2.14	W93140257	6	LIGHT	171	41893.6				29.3
W9314	N07P	13-OCT-93	0804	2.14	W93140257	7	LIGHT	36	16762.1				11.0
W9314	N07P	13-OCT-93	0804	2.14	W93140257	8	LIGHT	211	49221.4				34.7
W9314	N07P	13-OCT-93	0804	2.14	W93140257	9	LIGHT	23	9609.1				5.8

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

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)		Stock (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)
W9314	N07P	13-OCT-93	0804	2.14	W93140257	10	LIGHT	21	7850.9					4.5
W9314	N07P	13-OCT-93	0804	2.14	W93140257	11	LIGHT	2	1878.2					0.1
W9314	N07P	13-OCT-93	0804	2.14	W93140257	12	LIGHT	3	2251.8					0.4
W9314	N07P	13-OCT-93	0803	8.70	W93140256						5801345.0	25.2	6.2	
W9314	N07P	13-OCT-93	0803	8.70	W93140256	-3	DARK	0	3615.8					
W9314	N07P	13-OCT-93	0803	8.70	W93140256	-2	DARK	0	2857.9					
W9314	N07P	13-OCT-93	0803	8.70	W93140256	-1	DARK	0	2080.8					
W9314	N07P	13-OCT-93	0803	8.70	W93140256	1	LIGHT	1158	39932.0					27.2
W9314	N07P	13-OCT-93	0803	8.70	W93140256	2	LIGHT	1185	40960.6					28.0
W9314	N07P	13-OCT-93	0803	8.70	W93140256	3	LIGHT	755	53156.8					36.9
W9314	N07P	13-OCT-93	0803	8.70	W93140256	4	LIGHT	133	39714.8					27.1
W9314	N07P	13-OCT-93	0803	8.70	W93140256	5	LIGHT	146	46946.1					32.4
W9314	N07P	13-OCT-93	0803	8.70	W93140256	6	LIGHT	219	40173.3					27.4
W9314	N07P	13-OCT-93	0803	8.70	W93140256	7	LIGHT	211	38912.8					26.5
W9314	N07P	13-OCT-93	0803	8.70	W93140256	8	LIGHT	124	29471.0					19.5
W9314	N07P	13-OCT-93	0803	8.70	W93140256	9	LIGHT	20	8185.5					3.9
W9314	N07P	13-OCT-93	0803	8.70	W93140256	10	LIGHT	9	3713.6					0.6
W9314	N07P	13-OCT-93	0803	8.70	W93140256	11	LIGHT	2	3383.6					0.4
W9314	N07P	13-OCT-93	0803	8.70	W93140256	12	LIGHT	1	2137.6					-0.5
W9314	N10P	12-OCT-93	0902	1.05	W93140061						5474152.0	25.4	6.2	
W9314	N10P	12-OCT-93	0902	1.05	W93140061	-3	DARK	0	2917.7	s				
W9314	N10P	12-OCT-93	0902	1.05	W93140061	-2	DARK	0	771.5					
W9314	N10P	12-OCT-93	0902	1.05	W93140061	-1	DARK	0	675.6					
W9314	N10P	12-OCT-93	0902	1.05	W93140061	1	LIGHT	1085	193554.5					152.1
W9314	N10P	12-OCT-93	0902	1.05	W93140061	2	LIGHT	774	202345.3					159.0
W9314	N10P	12-OCT-93	0902	1.05	W93140061	3	LIGHT	1145	175972.4					138.2
W9314	N10P	12-OCT-93	0902	1.05	W93140061	4	LIGHT	515	78282.7					61.2
W9314	N10P	12-OCT-93	0902	1.05	W93140061	5	LIGHT	153	125506.7					98.4
W9314	N10P	12-OCT-93	0902	1.05	W93140061	6	LIGHT	162	113033.6					88.6
W9314	N10P	12-OCT-93	0902	1.05	W93140061	7	LIGHT	22	22661.9					17.3
W9314	N10P	12-OCT-93	0902	1.05	W93140061	8	LIGHT	12	14349.1					10.7
W9314	N10P	12-OCT-93	0902	1.05	W93140061	9	LIGHT	200	151075.2					118.6
W9314	N10P	12-OCT-93	0902	1.05	W93140061	10	LIGHT	34	31905.7					24.6
W9314	N10P	12-OCT-93	0902	1.05	W93140061	11	LIGHT	2	1893.9					0.9
W9314	N10P	12-OCT-93	0902	1.05	W93140061	12	LIGHT	2	2678.7					1.5
W9314	N10P	12-OCT-93	0900	8.96	W93140059						5474152.0	25.0	6.2	
W9314	N10P	12-OCT-93	0900	8.96	W93140059	-3	DARK	0	729.1					
W9314	N10P	12-OCT-93	0900	8.96	W93140059	-2	DARK	0	598.4					
W9314	N10P	12-OCT-93	0900	8.96	W93140059	-1	DARK	0	1025.5					
W9314	N10P	12-OCT-93	0900	8.96	W93140059	1	LIGHT	1135	166020.8					128.7
W9314	N10P	12-OCT-93	0900	8.96	W93140059	2	LIGHT	1120	169511.1					131.4

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

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)	Stock (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)
W9314	N10P	12-OCT-93	0900	8.96	W93140059	3	LIGHT	765	168627.9				130.7
W9314	N10P	12-OCT-93	0900	8.96	W93140059	4	LIGHT	159	129110.6				99.9
W9314	N10P	12-OCT-93	0900	8.96	W93140059	5	LIGHT	165	68464.7				52.7
W9314	N10P	12-OCT-93	0900	8.96	W93140059	6	LIGHT	207	141875.0				109.9
W9314	N10P	12-OCT-93	0900	8.96	W93140059	7	LIGHT	19	19129.1				14.3
W9314	N10P	12-OCT-93	0900	8.96	W93140059	8	LIGHT	9	7236.2				5.0
W9314	N10P	12-OCT-93	0900	8.96	W93140059	9	LIGHT	200	166339.0				128.9
W9314	N10P	12-OCT-93	0900	8.96	W93140059	10	LIGHT	118	112115.1				86.7
W9314	N10P	12-OCT-93	0900	8.96	W93140059	11	LIGHT	2	2997.3				1.7
W9314	N10P	12-OCT-93	0900	8.96	W93140059	12	LIGHT	1	892.9				0.1
W9314	N16P	12-OCT-93	0803	1.16	W93140045					5474152.0	24.9	6.1	
W9314	N16P	12-OCT-93	0803	1.16	W93140045	-3	DARK	0	1087.9				
W9314	N16P	12-OCT-93	0803	1.16	W93140045	-2	DARK	0	517.3				
W9314	N16P	12-OCT-93	0803	1.16	W93140045	-1	DARK	0	900.1				
W9314	N16P	12-OCT-93	0803	1.16	W93140045	1	LIGHT	750	55318.0				42.9
W9314	N16P	12-OCT-93	0803	1.16	W93140045	2	LIGHT	1315	51620.9				40.0
W9314	N16P	12-OCT-93	0803	1.16	W93140045	3	LIGHT	538	51714.4				40.1
W9314	N16P	12-OCT-93	0803	1.16	W93140045	4	LIGHT	213	59220.3				46.0
W9314	N16P	12-OCT-93	0803	1.16	W93140045	5	LIGHT	267	54352.4				42.1
W9314	N16P	12-OCT-93	0803	1.16	W93140045	6	LIGHT	158	52534.5				40.7
W9314	N16P	12-OCT-93	0803	1.16	W93140045	7	LIGHT	225	42972.6				33.2
W9314	N16P	12-OCT-93	0803	1.16	W93140045	8	LIGHT	69	25614.2				19.5
W9314	N16P	12-OCT-93	0803	1.16	W93140045	9	LIGHT	18	14513.1				10.8
W9314	N16P	12-OCT-93	0803	1.16	W93140045	10	LIGHT	19	6306.3				4.3
W9314	N16P	12-OCT-93	0803	1.16	W93140045	11	LIGHT	3	1389.9				0.4
W9314	N16P	12-OCT-93	0803	1.16	W93140045	12	LIGHT	3	1113.8				0.2
W9314	N16P	12-OCT-93	0802	19.21	W93140043					5474152.0	25.4	6.1	
W9314	N16P	12-OCT-93	0802	19.21	W93140043	-3	DARK	0	853.6				
W9314	N16P	12-OCT-93	0802	19.21	W93140043	-2	DARK	0	954.1				
W9314	N16P	12-OCT-93	0802	19.21	W93140043	-1	DARK	0	810.8				
W9314	N16P	12-OCT-93	0802	19.21	W93140043	1	LIGHT	750	111341.8				88.9
W9314	N16P	12-OCT-93	0802	19.21	W93140043	2	LIGHT	1205	94084.2				75.0
W9314	N16P	12-OCT-93	0802	19.21	W93140043	3	LIGHT	800	130702.1				104.4
W9314	N16P	12-OCT-93	0802	19.21	W93140043	4	LIGHT	370	110404.8				88.1
W9314	N16P	12-OCT-93	0802	19.21	W93140043	5	LIGHT	272	108992.9				87.0
W9314	N16P	12-OCT-93	0802	19.21	W93140043	6	LIGHT	180	87488.5				69.7
W9314	N16P	12-OCT-93	0802	19.21	W93140043	7	LIGHT	156	101726.8				81.1
W9314	N16P	12-OCT-93	0802	19.21	W93140043	8	LIGHT	111	74617.8				59.3
W9314	N16P	12-OCT-93	0802	19.21	W93140043	9	LIGHT	19	16024.2				12.2
W9314	N16P	12-OCT-93	0802	19.21	W93140043	10	LIGHT	24	16988.3				13.0
W9314	N16P	12-OCT-93	0802	19.21	W93140043	11	LIGHT	2	4492.7				2.9

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

Event	Station	Date	Time	Depth (M)	Sample id	Rep	Level	Light uEm/m²/sec	C14 (DPM)	Stock (DPM)	Dissolved Inorganic Carbon (mg C/L)	Length of incubation (hours)	Production (Dark corrected) (mg C/m³/hr)
W9314	N16P	12-OCT-93	0802	19.21	W93140043	12	LIGHT	3	5374.6				3.6
W9314	N20P	12-OCT-93	0712	1.45	W93140031					5474152.0	25.3	6.0	
W9314	N20P	12-OCT-93	0712	1.45	W93140031	-3	DARK	0	1005.0				
W9314	N20P	12-OCT-93	0712	1.45	W93140031	-2	DARK	0	706.0				
W9314	N20P	12-OCT-93	0712	1.45	W93140031	-1	DARK	0	500.0				
W9314	N20P	12-OCT-93	0712	1.45	W93140031	1	LIGHT	826	72350.1				57.7
W9314	N20P	12-OCT-93	0712	1.45	W93140031	2	LIGHT	1096	81493.9				65.1
W9314	N20P	12-OCT-93	0712	1.45	W93140031	3	LIGHT	392	63284.8				50.4
W9314	N20P	12-OCT-93	0712	1.45	W93140031	4	LIGHT	1246	65212.7				52.0
W9314	N20P	12-OCT-93	0712	1.45	W93140031	5	LIGHT	1737	79468.0				63.5
W9314	N20P	12-OCT-93	0712	1.45	W93140031	6	LIGHT	273	73239.0				58.5
W9314	N20P	12-OCT-93	0712	1.45	W93140031	7	LIGHT	168	74871.1				59.8
W9314	N20P	12-OCT-93	0712	1.45	W93140031	8	LIGHT	79	62944.3				50.2
W9314	N20P	12-OCT-93	0712	1.45	W93140031	9	LIGHT	34	28987.1				22.8
W9314	N20P	12-OCT-93	0712	1.45	W93140031	10	LIGHT	32	18098.1				14.0
W9314	N20P	12-OCT-93	0712	1.45	W93140031	11	LIGHT	3	4593.7				3.1
W9314	N20P	12-OCT-93	0712	1.45	W93140031	12	LIGHT	3	3210.3				2.0
W9314	N20P	12-OCT-93	0710	16.66	W93140029					5474152.0	25.3	6.0	
W9314	N20P	12-OCT-93	0710	16.66	W93140029	-3	DARK	0	568.1				
W9314	N20P	12-OCT-93	0710	16.66	W93140029	-2	DARK	0	949.2				
W9314	N20P	12-OCT-93	0710	16.66	W93140029	-1	DARK	0	822.3				
W9314	N20P	12-OCT-93	0710	16.66	W93140029	1	LIGHT	1137	169782.9				136.2
W9314	N20P	12-OCT-93	0710	16.66	W93140029	2	LIGHT	1610	117834.7				94.3
W9314	N20P	12-OCT-93	0710	16.66	W93140029	3	LIGHT	650	117486.1				94.1
W9314	N20P	12-OCT-93	0710	16.66	W93140029	4	LIGHT	340	142888.6				114.5
W9314	N20P	12-OCT-93	0710	16.66	W93140029	5	LIGHT	444	161349.8				129.4
W9314	N20P	12-OCT-93	0710	16.66	W93140029	6	LIGHT	255	88667.7				70.8
W9314	N20P	12-OCT-93	0710	16.66	W93140029	7	LIGHT	215	126068.6				101.0
W9314	N20P	12-OCT-93	0710	16.66	W93140029	8	LIGHT	337	118913.2				95.2
W9314	N20P	12-OCT-93	0710	16.66	W93140029	9	LIGHT	33	37009.8				29.2
W9314	N20P	12-OCT-93	0710	16.66	W93140029	10	LIGHT	34	26975.6				21.1
W9314	N20P	12-OCT-93	0710	16.66	W93140029	11	LIGHT	3	4789.9				3.2
W9314	N20P	12-OCT-93	0710	16.66	W93140029	12	LIGHT	2	3045.6				1.8

s = Suspect data, value not used in calculating production

APPENDIX E

METABOLISM DATA AND PRODUCTIVITY—IRRADIANCE MODELING

Part 2

Summary of P-I Modeling

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

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

Table E2-1. Basis for excluding dark bottle outliers using the Dixon Criteria for high values (X_3) and low values (X_1) [Cruise 9314].

CRUISE 9314
ANALYSIS OF DARK BOTTLES USING THE DIXON CRITERION

OBS	STA	BOT	_NAME_	COL1	COL2	COL3	X_3	X_1
1	F13P	6	DARKDPM	2290.11	4433.82	4748.47	0.12799	0.87201
2	F13P	10	DARKDPM	6277.70	7912.42	8892.31	0.37477	0.62523
3	F1P	6	DARKDPM	7066.24	8737.54	11884.24	0.65311	0.34689
4	F1P	10	DARKDPM	8786.11	9145.44	10421.80	0.78032	0.21968
5	F23P	6	DARKDPM	11991.63	17548.08	23816.04	0.53009	0.46991
6	F23P	10	DARKDPM	16570.97	18819.33	19817.84	0.30753	0.69247
7	F2P	6	DARKDPM	4044.76	4241.36	4291.44	0.20302	0.79698
8	F2P	10	DARKDPM	4252.33	4402.86	5234.93	0.84680	0.15320
9	N10P	6	DARKDPM	598.43	729.08	1025.51	0.69409	0.30591
10	N10P	10	DARKDPM	675.60	771.50	2917.73*	0.95723	0.04277
11	N16P	6	DARKDPM	810.82	853.60	954.06	0.70134	0.29866
12	N16P	10	DARKDPM	517.32	900.12	1087.92	0.32913	0.67087
13	N1P	6	DARKDPM	1675.98	3728.93	9458.74	0.73622	0.26378
14	N1P	10	DARKDPM	1120.12	1515.55	2920.65	0.78038	0.21962
15	N20P	6	DARKDPM	568.05	822.26	949.22	0.33308	0.66692
16	N20P	10	DARKDPM	499.96	705.95	1005.01	0.59214	0.40786
17	N4P	8	DARKDPM	1598.44	2164.87	3973.38	0.76150	0.23850
18	N4P	10	DARKDPM	3259.66	3307.67	11302.38*	0.99403	0.00597
19	N7P	8	DARKDPM	2080.79	2857.93	3615.83	0.49373	0.50627
20	N7P	10	DARKDPM	1563.87	1724.82	1780.16	0.25586	0.74414

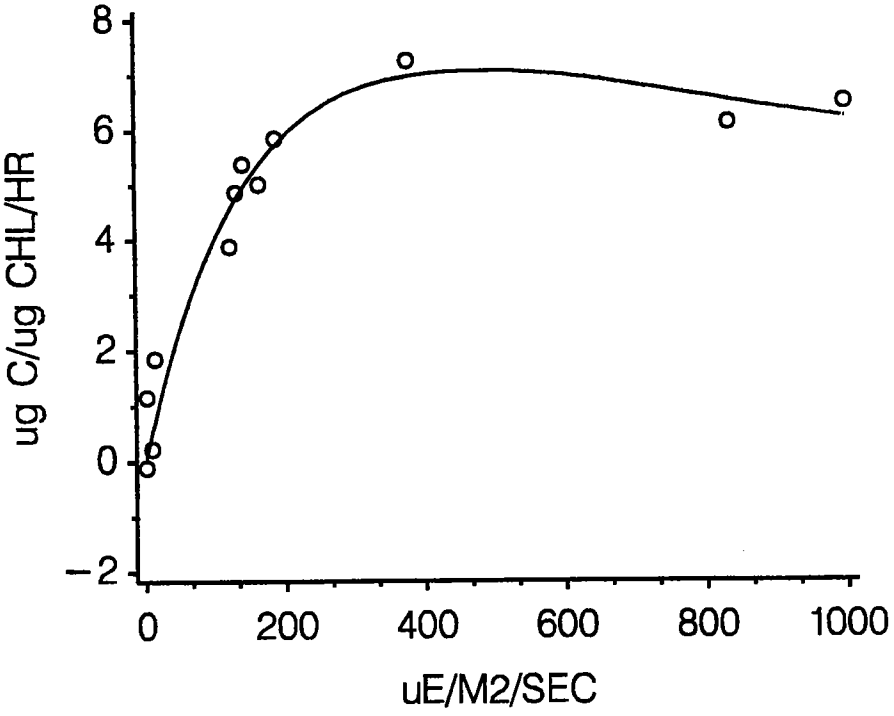
[1] 6 = Subsurface chlorophyll maximum sample
10 = Surface sample
[2] COL# = Replicate dark bottle value (dpm)
[3] Calculated values to be judged against the Dixon Criteria, see text report for full description.
If X_3 > 0.941, then the high replicate value exceeded the criteria and was not used in production calculations.
If X_1 > 0.941, then the low replicate value exceeded the criteria and was not used in production calculations.
*denotes high values excluded; no low values were rejected.

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

P VS I CURVE PARAMETERS 9314 OCTOBER 1993
MODEL PLATT ET AL, 1980

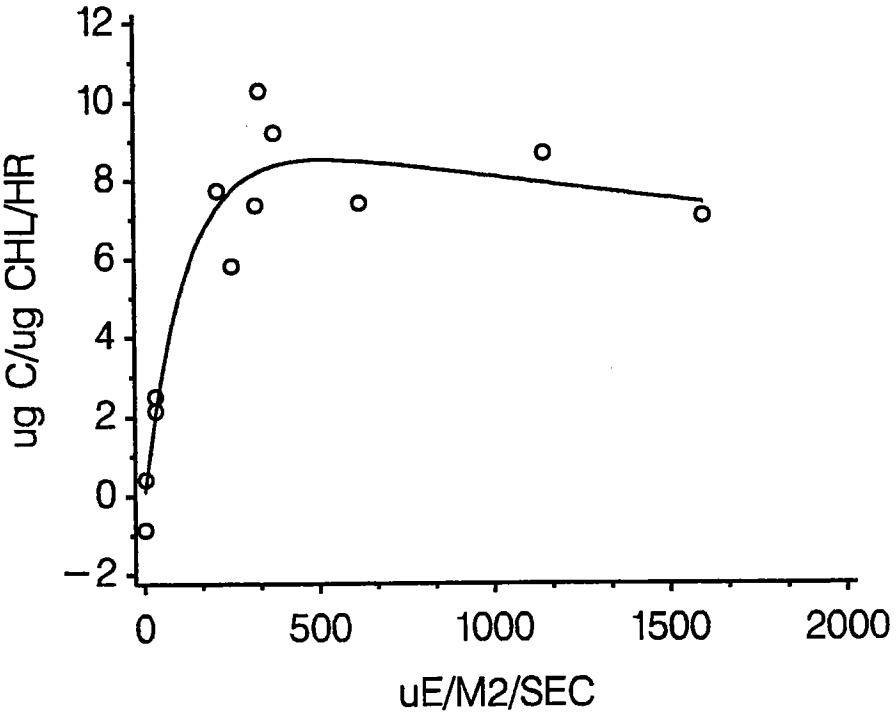
STA	DEPTH	P_SB	ALPHA	BETA	R_2
F13P	CHL	8.63(0.54)	0.057(0.002)	0.003(0.0005)	0.958
F13P	SUR	. .	. .	. .	.
F1P	CHL	. .	. .	. .	.
F1P	SUR	. .	. .	. .	.
F23P	CHL	9.41(0.51)	0.072(0.013)	0.001(0.0006)	0.916
F23P	SUR	. .	. .	. .	.
F2P	CHL	. .	. .	. .	.
F2P	SUR	. .	. .	. .	.
N10P	CHL	. .	. .	. .	.
N10P	SUR	. .	. .	. .	.
N16P	CHL	. .	. .	. .	.
N16P	SUR	. .	. .	. .	.
N1P	CHL	7.04(0.27)	0.050(0.001)	0.001(0.0002)	0.991
N1P	SUR	. .	. .	. .	.
N20P	CHL	. .	. .	. .	.
N20P	SUR	. .	. .	. .	.
N4P	CHL	. .	. .	. .	.
N4P	SUR	. .	. .	. .	.
N7P	CHL	. .	. .	. .	.
N7P	SUR	. .	. .	. .	.

STATION F13P CHLA MAXIMUM



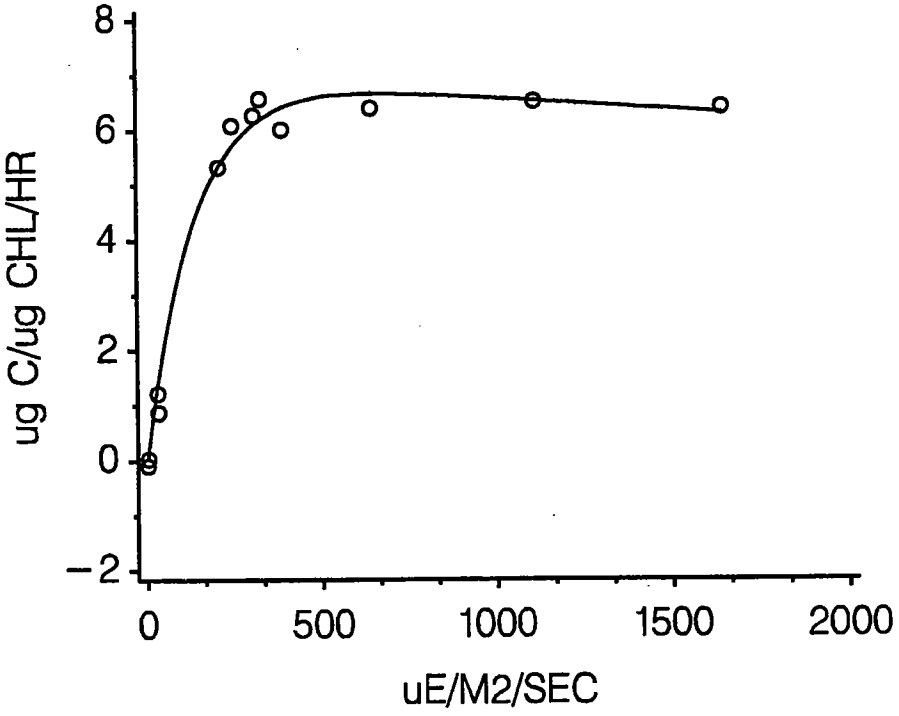
NEGATIVE EXPONENTIAL MODEL WITH INHIBITION PLATT ET AL, 1980
CRUISE NUMBER 9314 OCTOBER, 1993

STATION F23P CHLA MAXIMUM



NEGATIVE EXPONENTIAL MODEL WITH INHIBITION PLATT ET AL, 1980
CRUISE NUMBER 9314 OCTOBER, 1993

STATION N1P CHLA MAXIMUM



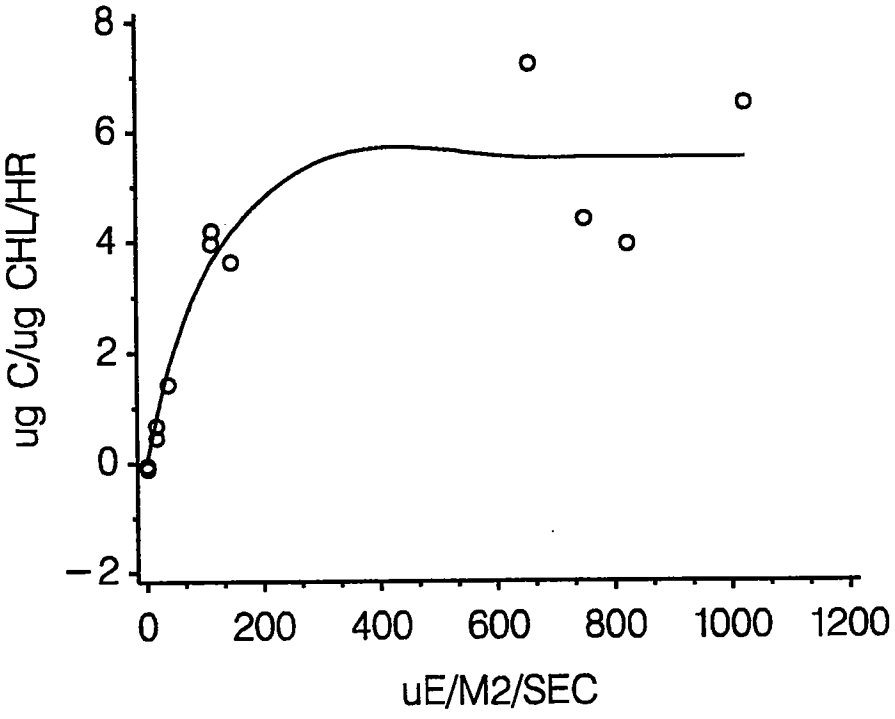
NEGATIVE EXPONENTIAL MODEL WITH INHIBITION PLATT ET AL, 1980
CRUISE NUMBER 9314 OCTOBER, 1993

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

P VS I CURVE PARAMETERS 9314 OCTOBER 1993
MODEL WEBB ET AL 1974

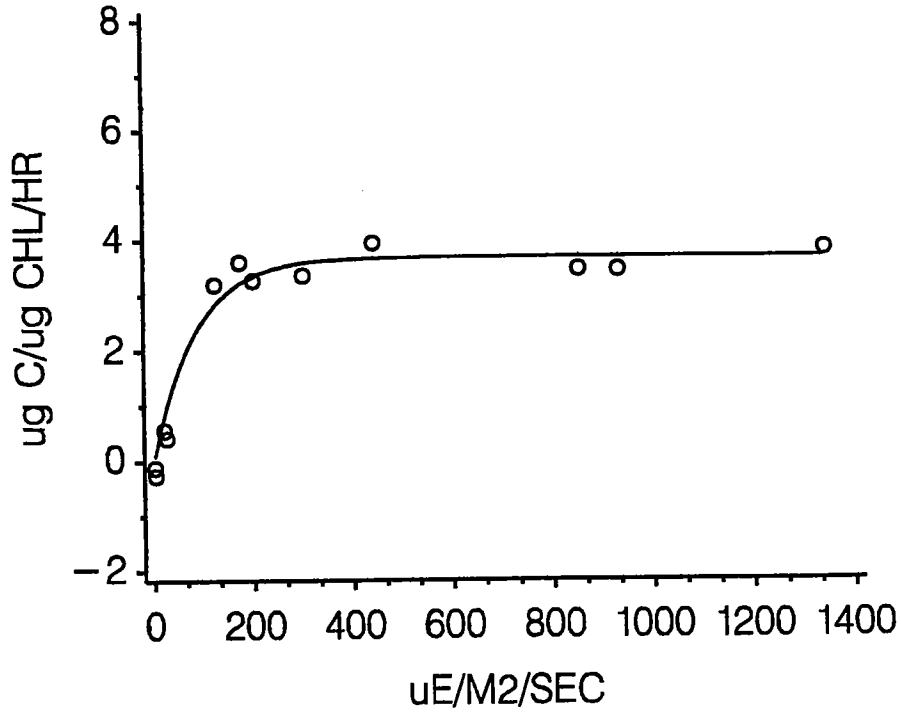
STATION	DEPTH	PMAX	ALPHA	R_2
F13P	CHL	. .	. .	.
	SUR	5.53(0.04)	0.053(0.012)	0.877
F1P	CHL	3.70(0.10)	0.043(0.007)	0.975
	SUR	4.47(0.35)	0.047(0.007)	0.757
F23P	CHL	. .	. .	.
	SUR	7.82(0.09)	0.042(0.005)	0.967
F2P	CHL	3.41(0.08)	0.040(0.014)	0.885
	SUR	4.46(0.01)	0.043(0.006)	0.964
N10P	CHL	8.21(0.07)	0.063(0.009)	0.924
	SUR	7.46(0.74)	0.057(0.017)	0.847
N16P	CHL	7.26(0.12)	0.072(0.011)	0.961
	SUR	6.20(0.08)	0.074(0.010)	0.954
N1P	CHL	. .	. .	.
	SUR	5.53(0.19)	0.078(0.014)	0.924
N20P	CHL	5.54(0.26)	0.040(0.011)	0.898
	SUR	3.31(0.14)	0.053(0.003)	0.944
N4P	CHL	5.54(0.18)	0.059(0.016)	0.893
	SUR	5.51(0.26)	0.063(0.017)	0.892
N7P	CHL	7.11(0.22)	0.085(0.010)	0.933
	SUR	5.28(0.23)	0.063(0.010)	0.948

STATION F13P SURFACE



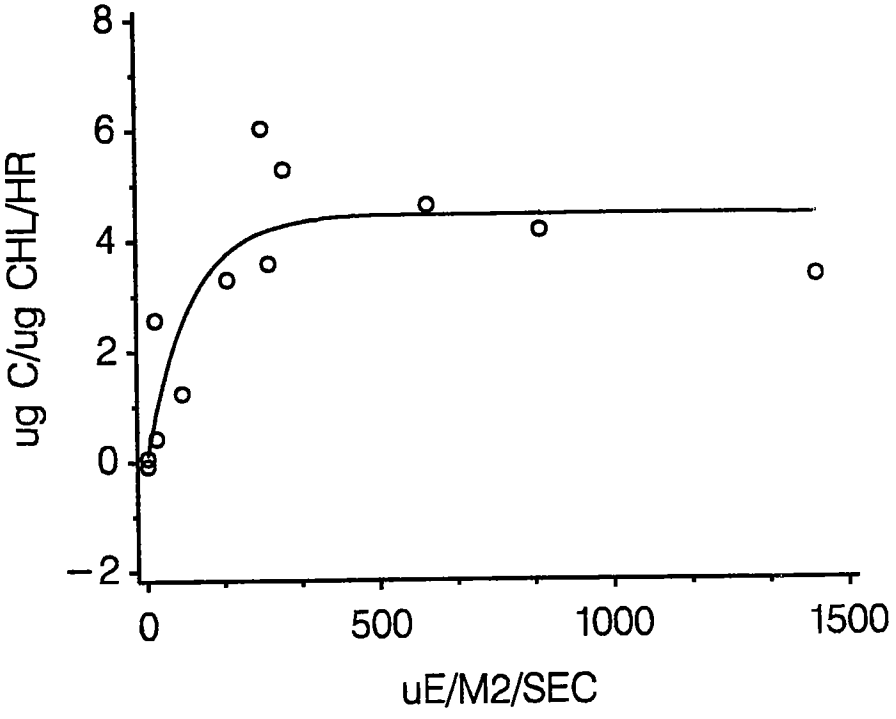
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9314 OCTOBER, 1993

STATION F1P CHLA MAXIMUM



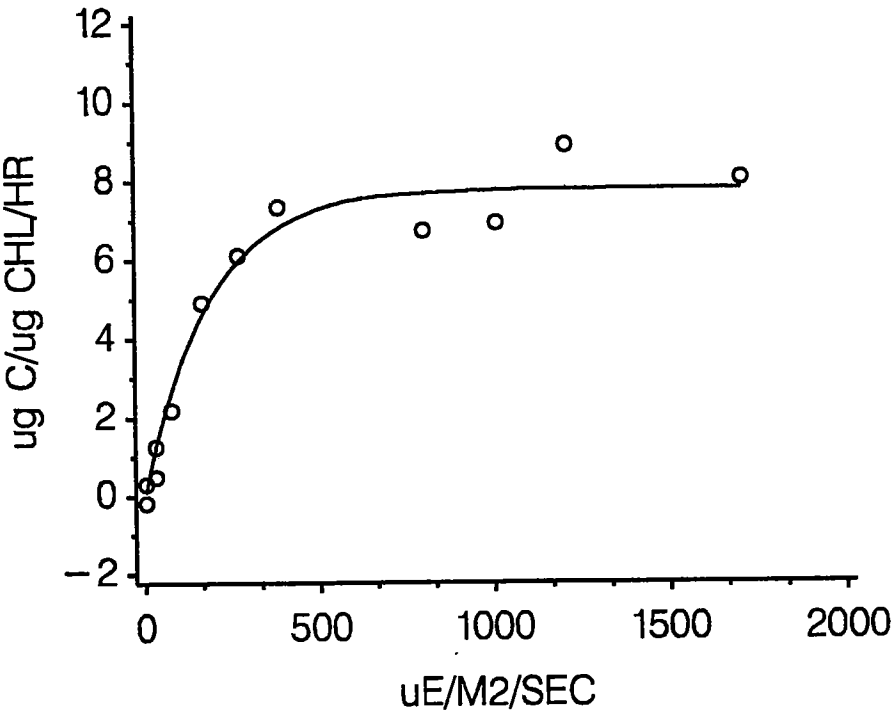
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9314 OCTOBER, 1993

STATION F1P SURFACE



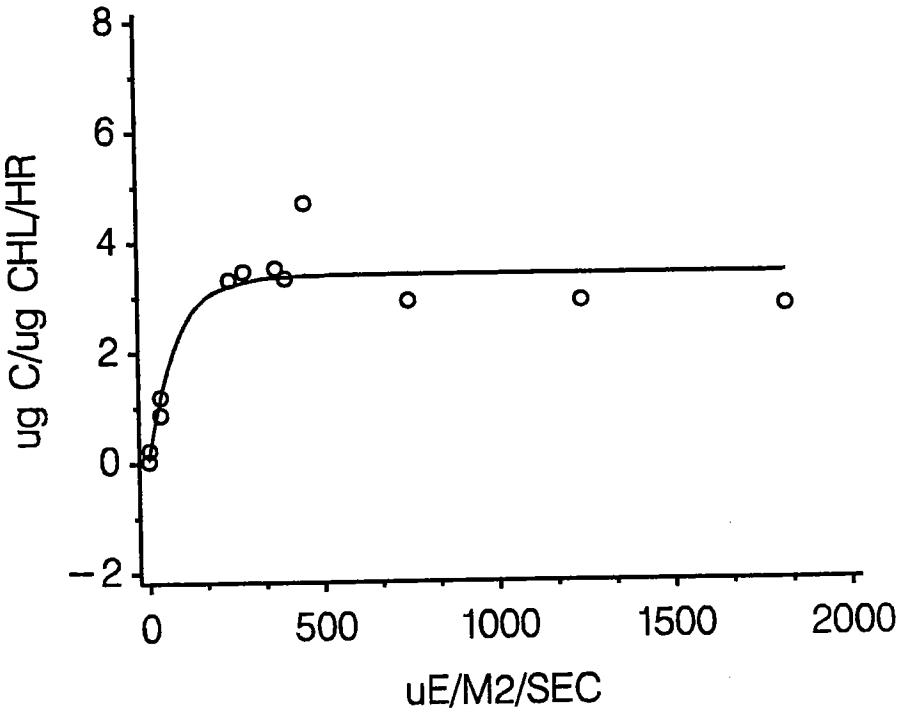
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9314 OCTOBER, 1993

STATION F23P SURFACE



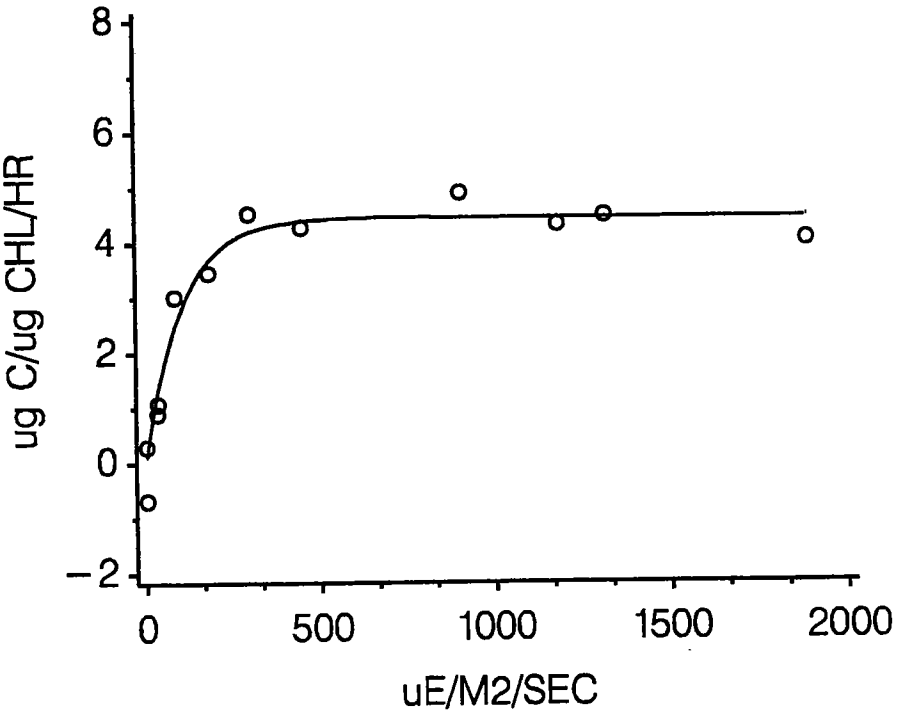
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9314 OCTOBER, 1993

STATION F2P CHLA MAXIMUM



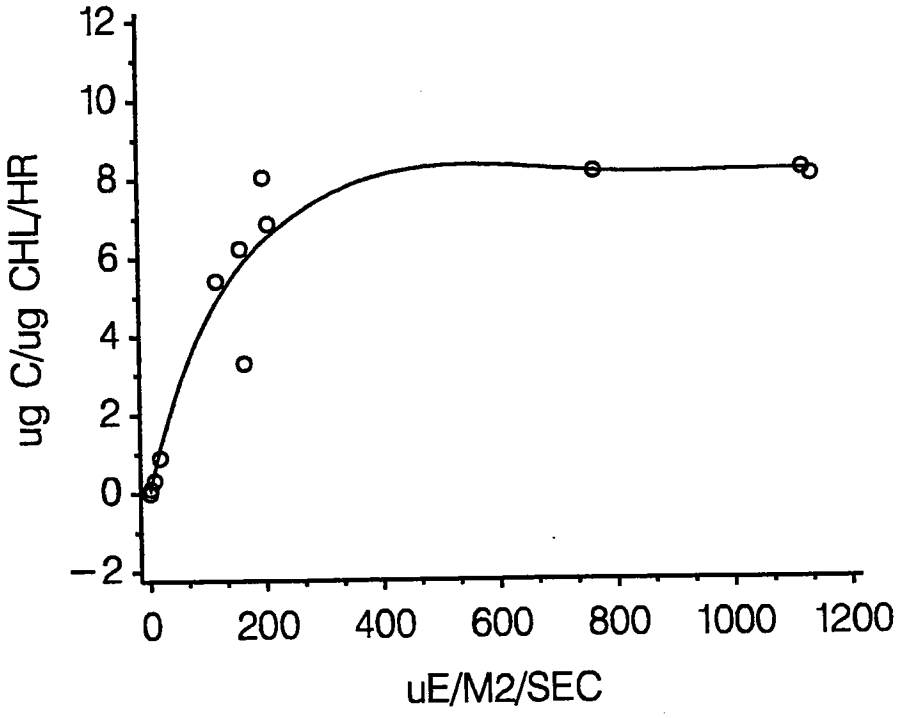
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9314 OCTOBER, 1993

STATION F2P SURFACE



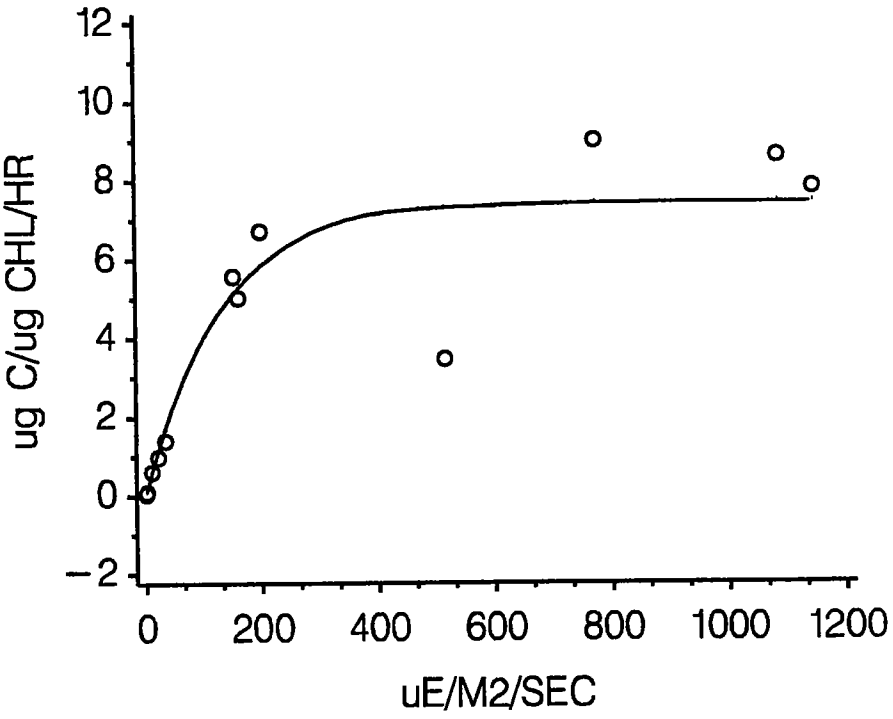
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9314 OCTOBER, 1993

STATION N10P CHLA MAXIMUM



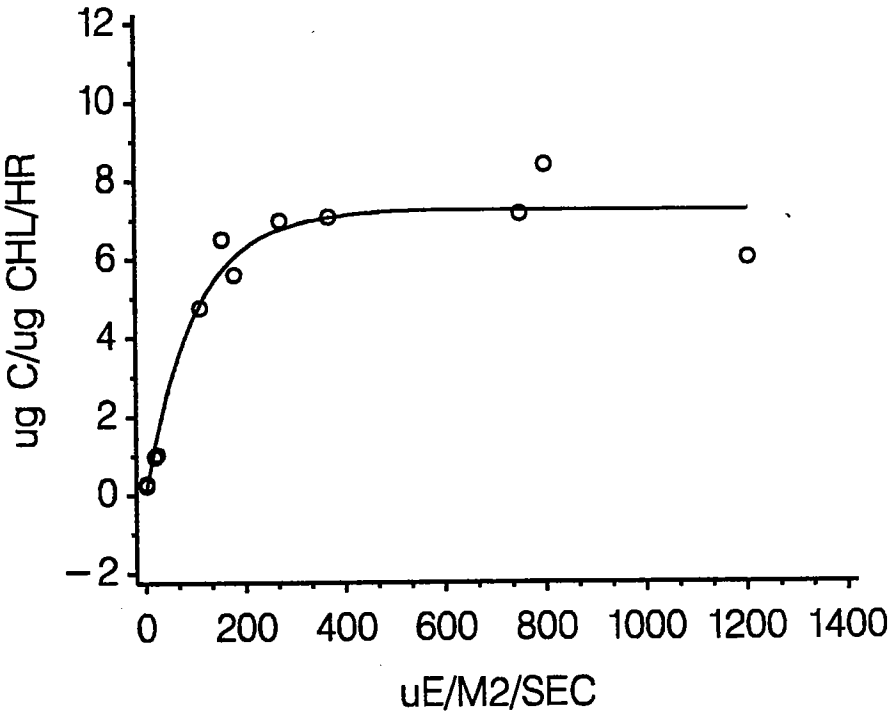
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9314 OCTOBER, 1993

STATION N10P SURFACE



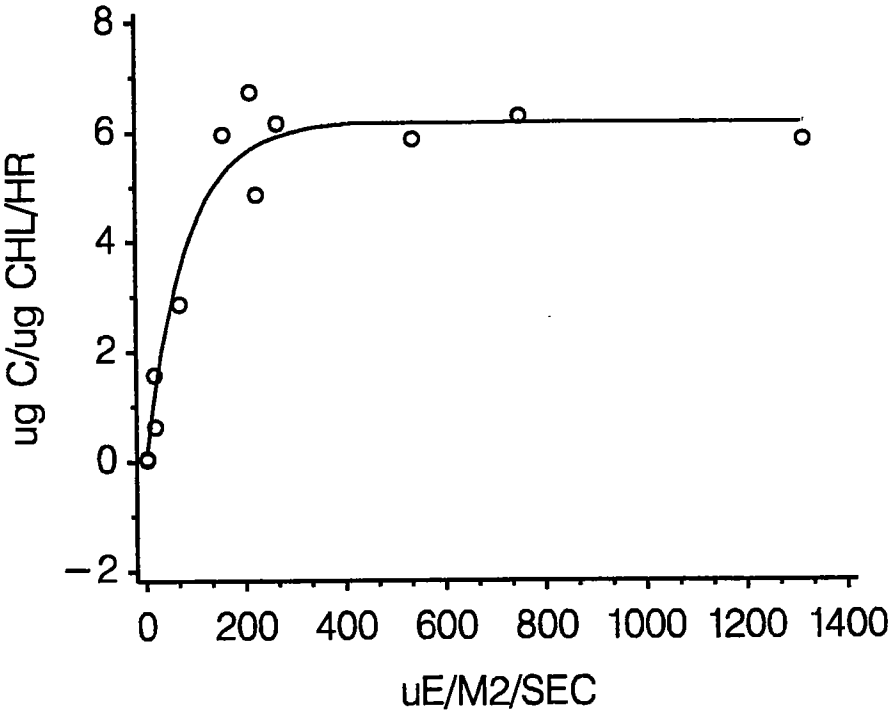
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9314 OCTOBER, 1993

STATION N16P CHLA MAXIMUM



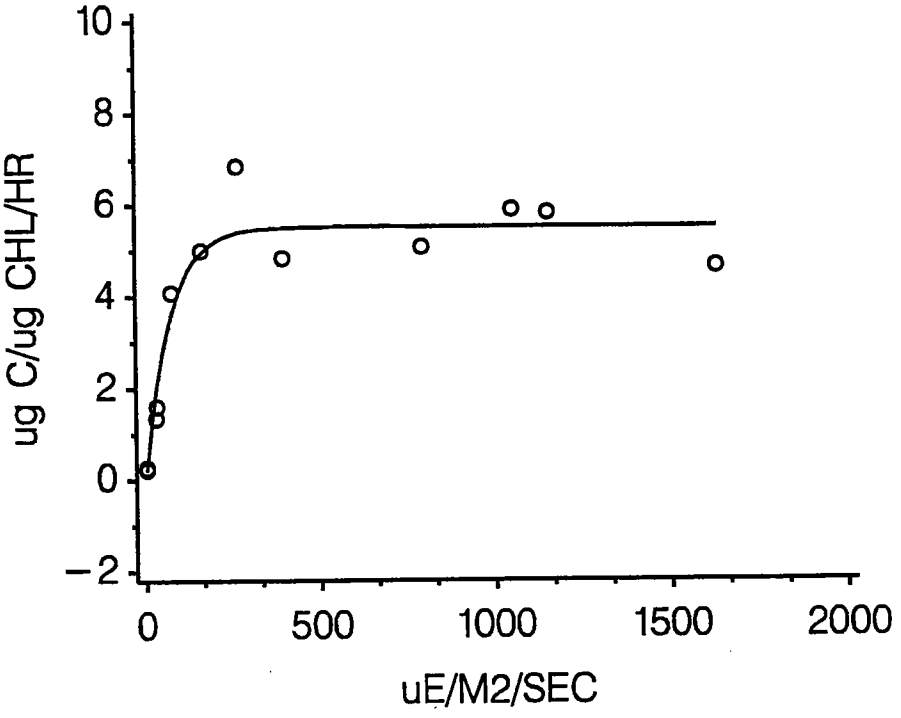
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9314 OCTOBER, 1993

STATION N16P SURFACE



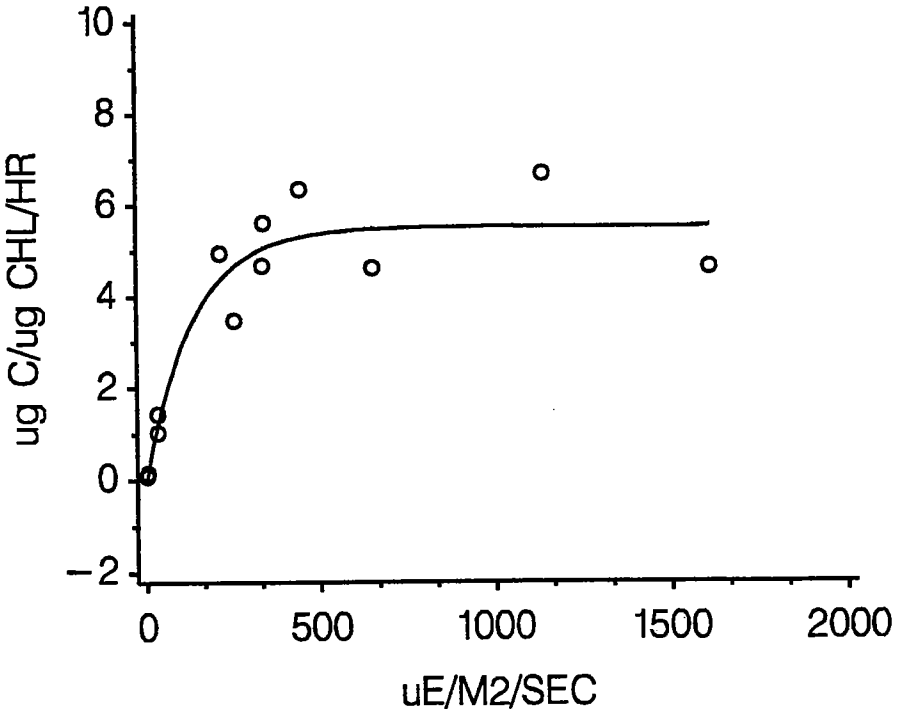
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9314 OCTOBER, 1993

STATION N1P SURFACE



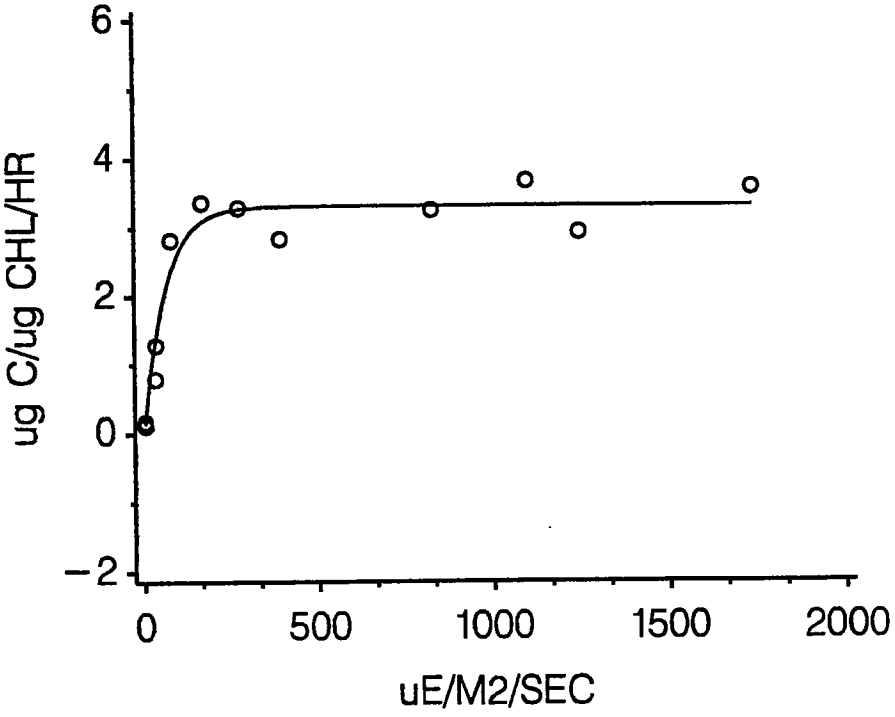
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9314 OCTOBER, 1993

STATION N20P CHLA MAXIMUM



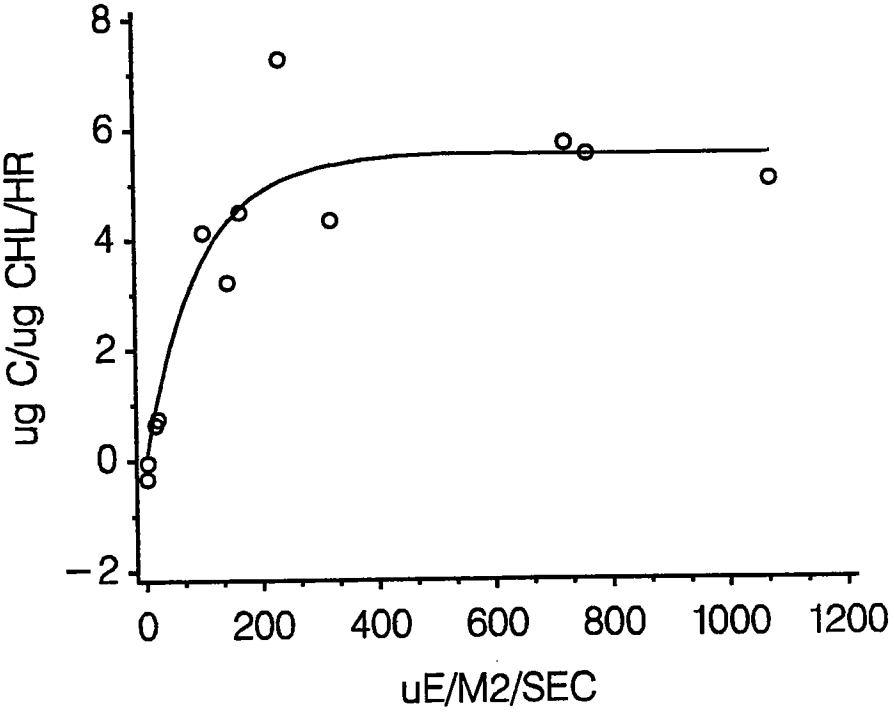
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9314 OCTOBER, 1993

STATION N20P SURFACE



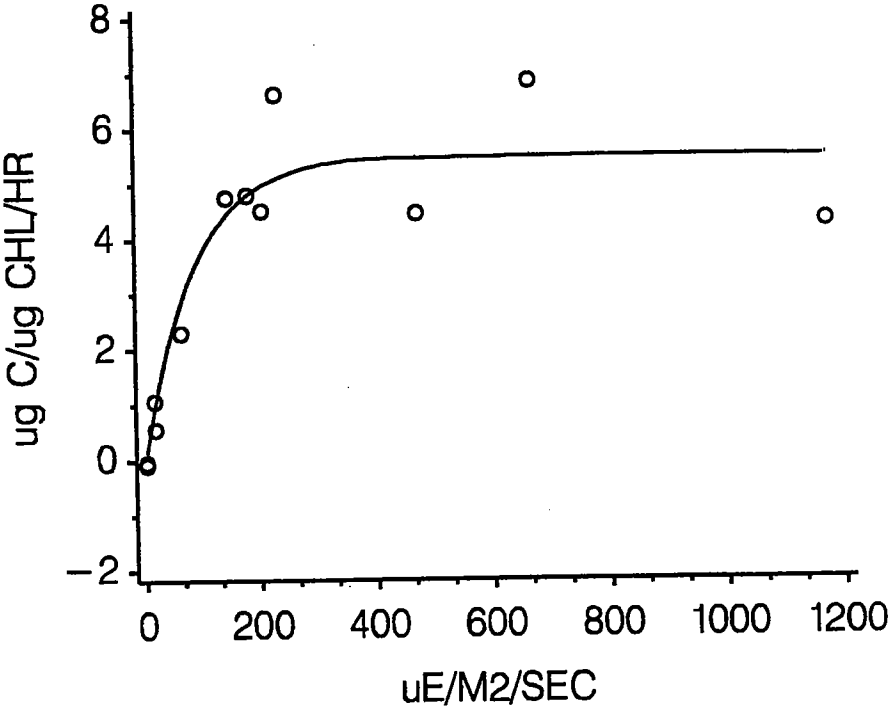
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9314 OCTOBER, 1993

STATION N4P CHLA MAXIMUM



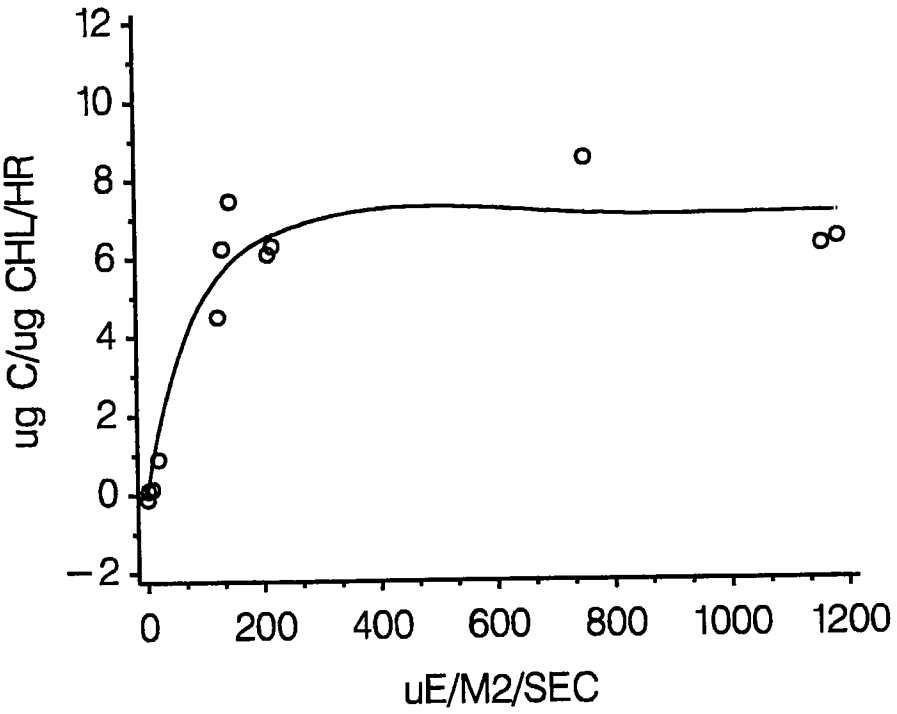
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9314 OCTOBER, 1993

STATION N4P SURFACE



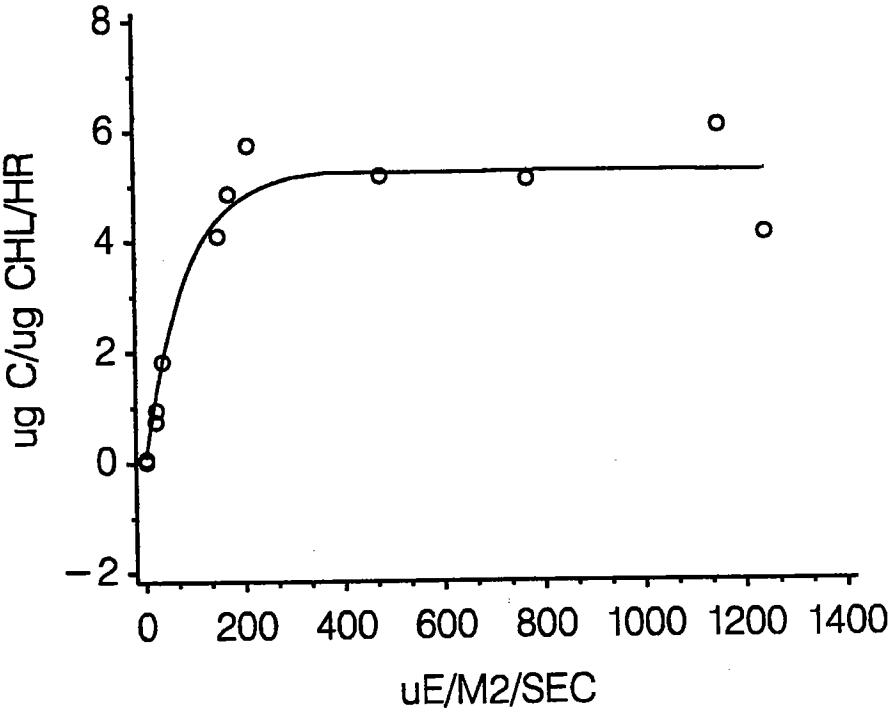
NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9314 OCTOBER, 1993

STATION N7P CHLA MAXIMUM



NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9314 OCTOBER, 1993

STATION N7P SURFACE



NEGATIVE EXPONENTIAL MODEL, WEBB ET AL 1974
CRUISE NUMBER 9314 OCTOBER, 1993

APPENDIX E

METABOLISM DATA AND PRODUCTIVITY—IRRADIANCE MODELING

Part 3

Respiration Data

Table E3-1 includes data from October 1993 (W9314). Water samples were taken at surface, subsurface chlorophyll maximum, and intermediate 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 mean initial concentration minus the mean final concentration, divided by the incubation time. The table includes incubation data for samples from the BioProductivity stations.

Table E3-2 for October 1993 gives mean dissolved concentrations (mg O_2 L^{-1}) for initial and incubation (dark) samples. The numbers in parentheses are standard deviations (n = 3 in most cases) for initial and final concentrations. The probability (p), from a Student's t-test for statistical significance, that one can reject the null hypothesis that the initial concentration is equal to the final concentration. Routinely, $p \leq 0.05$ is used as the significance level.

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

EVENT	STATION	DATE	TIME	DEPTH (M)	SAMPLE ID	LEVEL	DISSOLVED OXYGEN (mg/L)	NET RESPIRATION (mg O2/L/hr)	LENGTH OF INCUBATION (hours)	INCUBATION TEMPERATURE (C)
W9314	F01P	14-OCT-93	0903	2.35	W93140392			0.01054	8.0	13.0
W9314	F01P	14-OCT-93	0903	2.35	W93140392	DARK	8.81			
W9314	F01P	14-OCT-93	0903	2.35	W93140392	DARK	8.82			
W9314	F01P	14-OCT-93	0903	2.35	W93140392	DARK	8.87			
W9314	F01P	14-OCT-93	0903	2.35	W93140392	INIT	8.90			
W9314	F01P	14-OCT-93	0903	2.35	W93140392	INIT	8.93			
W9314	F01P	14-OCT-93	0903	2.35	W93140392	INIT	8.93			
W9314	F01P	14-OCT-93	0901	13.23	W93140390			0.00217	8.0	13.0
W9314	F01P	14-OCT-93	0901	13.23	W93140390	DARK	8.86			
W9314	F01P	14-OCT-93	0901	13.23	W93140390	DARK	8.64			
W9314	F01P	14-OCT-93	0901	13.23	W93140390	DARK	8.83			
W9314	F01P	14-OCT-93	0901	13.23	W93140390	INIT	8.89			
W9314	F01P	14-OCT-93	0901	13.23	W93140390	INIT	8.87			
W9314	F01P	14-OCT-93	0901	13.23	W93140390	INIT	8.63			
W9314	F01P	14-OCT-93	0859	25.91	W93140388			0.04821	8.0	9.0
W9314	F01P	14-OCT-93	0859	25.91	W93140388	DARK	7.92			
W9314	F01P	14-OCT-93	0859	25.91	W93140388	DARK	8.05			
W9314	F01P	14-OCT-93	0859	25.91	W93140388	DARK	7.84			
W9314	F01P	14-OCT-93	0859	25.91	W93140388	INIT	8.32			
W9314	F01P	14-OCT-93	0859	25.91	W93140388	INIT	8.36			
W9314	F01P	14-OCT-93	0859	25.91	W93140388	INIT	8.30			
W9314	F02P	14-OCT-93	0740	2.29	W93140376			0.01146	8.0	13.0
W9314	F02P	14-OCT-93	0740	2.29	W93140376	DARK	9.06			
W9314	F02P	14-OCT-93	0740	2.29	W93140376	DARK	9.14			
W9314	F02P	14-OCT-93	0740	2.29	W93140376	DARK	8.80			
W9314	F02P	14-OCT-93	0740	2.29	W93140376	INIT	9.10			
W9314	F02P	14-OCT-93	0740	2.29	W93140376	INIT	9.12			
W9314	F02P	14-OCT-93	0740	2.29	W93140376	INIT	9.05			
W9314	F02P	14-OCT-93	0739	13.54	W93140374			-0.00763	8.0	13.0
W9314	F02P	14-OCT-93	0739	13.54	W93140374	DARK	9.17			
W9314	F02P	14-OCT-93	0739	13.54	W93140374	DARK	9.25			
W9314	F02P	14-OCT-93	0739	13.54	W93140374	DARK	9.03			
W9314	F02P	14-OCT-93	0739	13.54	W93140374	INIT	9.07			
W9314	F02P	14-OCT-93	0739	13.54	W93140374	INIT	9.10			
W9314	F02P	14-OCT-93	0739	13.54	W93140374	INIT	9.10			
W9314	F02P	14-OCT-93	0737	30.15	W93140372			-0.04992	8.0	9.0
W9314	F02P	14-OCT-93	0737	30.15	W93140372	DARK	7.85			
W9314	F02P	14-OCT-93	0737	30.15	W93140372	DARK	7.94			
W9314	F02P	14-OCT-93	0737	30.15	W93140372	DARK	7.98			
W9314	F02P	14-OCT-93	0737	30.15	W93140372	INIT	7.68			
W9314	F02P	14-OCT-93	0737	30.15	W93140372	INIT	7.30			
W9314	F02P	14-OCT-93	0737	30.15	W93140372	INIT	7.59			

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

EVENT	STATION	DATE	TIME	DEPTH (M)	SAMPLE ID	LEVEL	DISSOLVED OXYGEN (mg/L)	NET RESPIRATION (mg O2/L/hr)	LENGTH OF INCUBATION (hours)	INCUBATION TEMPERATURE (C)
W9314	F13P	13-OCT-93	0925	1.59	W93140273			0.01908	8.0	11.0
W9314	F13P	13-OCT-93	0925	1.59	W93140273	DARK	8.81			
W9314	F13P	13-OCT-93	0925	1.59	W93140273	DARK	9.22			
W9314	F13P	13-OCT-93	0925	1.59	W93140273	DARK	9.24			
W9314	F13P	13-OCT-93	0925	1.59	W93140273	INIT	9.22			
W9314	F13P	13-OCT-93	0925	1.59	W93140273	INIT	9.26			
W9314	F13P	13-OCT-93	0925	1.59	W93140273	INIT	9.24			
W9314	F13P	13-OCT-93	0923	11.09	W93140271			-0.00025	8.0	11.0
W9314	F13P	13-OCT-93	0923	11.09	W93140271	DARK	9.14			
W9314	F13P	13-OCT-93	0923	11.09	W93140271	DARK	9.13			
W9314	F13P	13-OCT-93	0923	11.09	W93140271	DARK	9.15			
W9314	F13P	13-OCT-93	0923	11.09	W93140271	INIT	9.12			
W9314	F13P	13-OCT-93	0923	11.09	W93140271	INIT	9.15			
W9314	F13P	13-OCT-93	0923	11.09	W93140271	INIT	9.15			
W9314	F13P	13-OCT-93	0921	23.35	W93140269			0.00758	8.0	9.5
W9314	F13P	13-OCT-93	0921	23.35	W93140269	DARK	8.93			
W9314	F13P	13-OCT-93	0921	23.35	W93140269	DARK	8.99			
W9314	F13P	13-OCT-93	0921	23.35	W93140269	DARK	8.96			
W9314	F13P	13-OCT-93	0921	23.35	W93140269	INIT	9.02			
W9314	F13P	13-OCT-93	0921	23.35	W93140269	INIT	8.99			
W9314	F13P	13-OCT-93	0921	23.35	W93140269	INIT	9.05			
W9314	F23P	15-OCT-93	0543	2.34	W93140475			0.03142	8.0	11.5
W9314	F23P	15-OCT-93	0543	2.34	W93140475	DARK	8.56			
W9314	F23P	15-OCT-93	0543	2.34	W93140475	DARK	8.52			
W9314	F23P	15-OCT-93	0543	2.34	W93140475	DARK	8.24			
W9314	F23P	15-OCT-93	0543	2.34	W93140475	INIT	8.70			
W9314	F23P	15-OCT-93	0543	2.34	W93140475	INIT	8.69			
W9314	F23P	15-OCT-93	0543	2.34	W93140475	INIT	8.69			
W9314	F23P	15-OCT-93	0542	10.93	W93140473			0.02863	8.0	11.5
W9314	F23P	15-OCT-93	0542	10.93	W93140473	DARK	8.55			
W9314	F23P	15-OCT-93	0542	10.93	W93140473	DARK	8.47			
W9314	F23P	15-OCT-93	0542	10.93	W93140473	DARK	8.51			
W9314	F23P	15-OCT-93	0542	10.93	W93140473	INIT	8.73			
W9314	F23P	15-OCT-93	0542	10.93	W93140473	INIT	8.77			
W9314	F23P	15-OCT-93	0542	10.93	W93140473	INIT	8.71			
W9314	F23P	15-OCT-93	0540	23.47	W93140471			0.02850	8.0	11.5
W9314	F23P	15-OCT-93	0540	23.47	W93140471	DARK	8.56			
W9314	F23P	15-OCT-93	0540	23.47	W93140471	DARK	8.49			
W9314	F23P	15-OCT-93	0540	23.47	W93140471	DARK	8.60			
W9314	F23P	15-OCT-93	0540	23.47	W93140471	INIT	8.77			
W9314	F23P	15-OCT-93	0540	23.47	W93140471	INIT	8.78			
W9314	F23P	15-OCT-93	0540	23.47	W93140471	INIT	8.78			

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

EVENT	STATION	DATE	TIME	DEPTH (M)	SAMPLE ID	LEVEL	DISSOLVED OXYGEN (mg/L)	NET RESPIRATION (mg O2/L/hr)	LENGTH OF INCUBATION (hours)	INCUBATION TEMPERATURE (C)
W9314	N01P	13-OCT-93	0528	0.88	W93140229			-0.01351	9.5	10.5
W9314	N01P	13-OCT-93	0528	0.88	W93140229	DARK	10.30			
W9314	N01P	13-OCT-93	0528	0.88	W93140229	DARK	10.29			
W9314	N01P	13-OCT-93	0528	0.88	W93140229	DARK	10.32			
W9314	N01P	13-OCT-93	0528	0.88	W93140229	INIT	10.02			
W9314	N01P	13-OCT-93	0528	0.88	W93140229	INIT	10.36			
W9314	N01P	13-OCT-93	0528	0.88	W93140229	INIT	10.14			
W9314	N01P	13-OCT-93	0526	13.32	W93140227			0.00719	9.5	10.5
W9314	N01P	13-OCT-93	0526	13.32	W93140227	DARK	10.25			
W9314	N01P	13-OCT-93	0526	13.32	W93140227	DARK	10.29			
W9314	N01P	13-OCT-93	0526	13.32	W93140227	DARK	10.36			
W9314	N01P	13-OCT-93	0526	13.32	W93140227	INIT	10.31			
W9314	N01P	13-OCT-93	0526	13.32	W93140227	INIT	10.42			
W9314	N01P	13-OCT-93	0526	13.32	W93140227	INIT	10.37			
W9314	N01P	13-OCT-93	0524	27.53	W93140224			0.02340	9.5	9.5
W9314	N01P	13-OCT-93	0524	27.53	W93140224	DARK	9.65			
W9314	N01P	13-OCT-93	0524	27.53	W93140224	DARK	9.54			
W9314	N01P	13-OCT-93	0524	27.53	W93140224	DARK	9.69			
W9314	N01P	13-OCT-93	0524	27.53	W93140224	INIT	9.88			
W9314	N01P	13-OCT-93	0524	27.53	W93140224	INIT	9.84			
W9314	N01P	13-OCT-93	0524	27.53	W93140224	INIT	9.83			
W9314	N04P	13-OCT-93	0644	2.50	W93140241			0.01004	8.0	11.0
W9314	N04P	13-OCT-93	0644	2.50	W93140241	DARK	9.93			
W9314	N04P	13-OCT-93	0644	2.50	W93140241	DARK	9.92			
W9314	N04P	13-OCT-93	0644	2.50	W93140241	DARK	9.93			
W9314	N04P	13-OCT-93	0644	2.50	W93140241	INIT	9.99			
W9314	N04P	13-OCT-93	0644	2.50	W93140241	INIT	10.00			
W9314	N04P	13-OCT-93	0644	2.50	W93140241	INIT	10.03			
W9314	N04P	13-OCT-93	0643	11.92	W93140240			0.03604	8.0	11.0
W9314	N04P	13-OCT-93	0643	11.92	W93140240	DARK	9.92			
W9314	N04P	13-OCT-93	0643	11.92	W93140240	DARK	9.78			
W9314	N04P	13-OCT-93	0643	11.92	W93140240	DARK	9.55			
W9314	N04P	13-OCT-93	0643	11.92	W93140240	INIT	10.05			
W9314	N04P	13-OCT-93	0643	11.92	W93140240	INIT	10.04			
W9314	N04P	13-OCT-93	0643	11.92	W93140240	INIT	10.03			
W9314	N04P	13-OCT-93	0639	45.37	W93140237			0.01175	8.0	9.5
W9314	N04P	13-OCT-93	0639	45.37	W93140237	DARK	7.66			
W9314	N04P	13-OCT-93	0639	45.37	W93140237	DARK	7.67			
W9314	N04P	13-OCT-93	0639	45.37	W93140237	DARK	7.65			
W9314	N04P	13-OCT-93	0639	45.37	W93140237	INIT	7.77			
W9314	N04P	13-OCT-93	0639	45.37	W93140237	INIT	7.74			
W9314	N04P	13-OCT-93	0639	45.37	W93140237	INIT	7.75			

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

EVENT	STATION	DATE	TIME	DEPTH (M)	SAMPLE ID	LEVEL	DISSOLVED OXYGEN (mg/L)	NET RESPIRATION (mg O2/L/hr)	LENGTH OF INCUBATION (hours)	INCUBATION TEMPERATURE (C)
W9314	N07P	13-OCT-93	0804	2.14	W93140257			0.00417	8.0	11.0
W9314	N07P	13-OCT-93	0804	2.14	W93140257	DARK	9.32			
W9314	N07P	13-OCT-93	0804	2.14	W93140257	DARK	9.39			
W9314	N07P	13-OCT-93	0804	2.14	W93140257	DARK	9.35			
W9314	N07P	13-OCT-93	0804	2.14	W93140257	INIT	9.37			
W9314	N07P	13-OCT-93	0804	2.14	W93140257	INIT	9.41			
W9314	N07P	13-OCT-93	0804	2.14	W93140257	INIT	9.38			
W9314	N07P	13-OCT-93	0803	8.70	W93140256			0.00267	8.0	11.0
W9314	N07P	13-OCT-93	0803	8.70	W93140256	DARK	9.34			
W9314	N07P	13-OCT-93	0803	8.70	W93140256	DARK	9.33			
W9314	N07P	13-OCT-93	0803	8.70	W93140256	DARK	9.34			
W9314	N07P	13-OCT-93	0803	8.70	W93140256	INIT	9.23			
W9314	N07P	13-OCT-93	0803	8.70	W93140256	INIT	9.40			
W9314	N07P	13-OCT-93	0803	8.70	W93140256	INIT	9.43			
W9314	N07P	13-OCT-93	0800	42.25	W93140253			0.01225	8.0	10.0
W9314	N07P	13-OCT-93	0800	42.25	W93140253	DARK	7.58			
W9314	N07P	13-OCT-93	0800	42.25	W93140253	DARK	7.59			
W9314	N07P	13-OCT-93	0800	42.25	W93140253	DARK	7.56			
W9314	N07P	13-OCT-93	0800	42.25	W93140253	INIT	7.61			
W9314	N07P	13-OCT-93	0800	42.25	W93140253	INIT	7.75			
W9314	N07P	13-OCT-93	0800	42.25	W93140253	INIT	7.66			
W9314	N10P	12-OCT-93	0902	1.05	W93140061			0.00708	8.0	11.0
W9314	N10P	12-OCT-93	0902	1.05	W93140061	DARK	9.49			
W9314	N10P	12-OCT-93	0902	1.05	W93140061	DARK	9.50			
W9314	N10P	12-OCT-93	0902	1.05	W93140061	DARK	9.49			
W9314	N10P	12-OCT-93	0902	1.05	W93140061	INIT	9.55			
W9314	N10P	12-OCT-93	0902	1.05	W93140061	INIT	9.54			
W9314	N10P	12-OCT-93	0902	1.05	W93140061	INIT	9.55			
W9314	N10P	12-OCT-93	0900	8.96	W93140059			0.00704	8.0	11.0
W9314	N10P	12-OCT-93	0900	8.96	W93140059	DARK	9.43			
W9314	N10P	12-OCT-93	0900	8.96	W93140059	DARK	9.48			
W9314	N10P	12-OCT-93	0900	8.96	W93140059	DARK	9.45			
W9314	N10P	12-OCT-93	0900	8.96	W93140059	INIT	9.51			
W9314	N10P	12-OCT-93	0900	8.96	W93140059	INIT	9.51			
W9314	N10P	12-OCT-93	0900	8.96	W93140059	INIT	9.51			
W9314	N10P	12-OCT-93	0858	21.43	W93140057			0.03983	8.0	8.5
W9314	N10P	12-OCT-93	0858	21.43	W93140057	DARK	7.52			
W9314	N10P	12-OCT-93	0858	21.43	W93140057	DARK	7.02			
W9314	N10P	12-OCT-93	0858	21.43	W93140057	DARK	7.10			
W9314	N10P	12-OCT-93	0858	21.43	W93140057	INIT	7.54			
W9314	N10P	12-OCT-93	0858	21.43	W93140057	INIT	7.52			
W9314	N10P	12-OCT-93	0858	21.43	W93140057	INIT	7.53			

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

EVENT	STATION	DATE	TIME	DEPTH (M)	SAMPLE ID	LEVEL	DISSOLVED OXYGEN (mg/L)	NET RESPIRATION (mg O2/L/hr)	LENGTH OF INCUBATION (hours)	INCUBATION TEMPERATURE (C)
W9314	N16P	12-OCT-93	0803	1.16	W93140045			-0.00146	8.0	11.0
W9314	N16P	12-OCT-93	0803	1.16	W93140045	DARK	9.76			
W9314	N16P	12-OCT-93	0803	1.16	W93140045	DARK	9.75			
W9314	N16P	12-OCT-93	0803	1.16	W93140045	DARK	9.77			
W9314	N16P	12-OCT-93	0803	1.16	W93140045	INIT	9.78			
W9314	N16P	12-OCT-93	0803	1.16	W93140045	INIT	9.73			
W9314	N16P	12-OCT-93	0803	1.16	W93140045	INIT	9.75			
W9314	N16P	12-OCT-93	0802	19.21	W93140043			0.00325	8.0	11.0
W9314	N16P	12-OCT-93	0802	19.21	W93140043	DARK	8.78			
W9314	N16P	12-OCT-93	0802	19.21	W93140043	DARK	8.74			
W9314	N16P	12-OCT-93	0802	19.21	W93140043	DARK	8.78			
W9314	N16P	12-OCT-93	0802	19.21	W93140043	INIT	8.79			
W9314	N16P	12-OCT-93	0802	19.21	W93140043	INIT	8.79			
W9314	N16P	12-OCT-93	0802	19.21	W93140043	INIT	8.80			
W9314	N16P	12-OCT-93	0759	38.81	W93140041			-0.00500	8.0	8.0
W9314	N16P	12-OCT-93	0759	38.81	W93140041	DARK	7.53			
W9314	N16P	12-OCT-93	0759	38.81	W93140041	DARK	7.53			
W9314	N16P	12-OCT-93	0759	38.81	W93140041	DARK	7.52			
W9314	N16P	12-OCT-93	0759	38.81	W93140041	INIT	7.49			
W9314	N16P	12-OCT-93	0759	38.81	W93140041	INIT	7.49			
W9314	N16P	12-OCT-93	0759	38.81	W93140041	INIT	7.48			
W9314	N20P	12-OCT-93	0712	1.45	W93140031			-0.01525	8.0	11.0
W9314	N20P	12-OCT-93	0712	1.45	W93140031	DARK	10.55			
W9314	N20P	12-OCT-93	0712	1.45	W93140031	DARK	10.52			
W9314	N20P	12-OCT-93	0712	1.45	W93140031	DARK	10.59			
W9314	N20P	12-OCT-93	0712	1.45	W93140031	INIT	10.40			
W9314	N20P	12-OCT-93	0712	1.45	W93140031	INIT	10.35			
W9314	N20P	12-OCT-93	0712	1.45	W93140031	INIT	10.54			
W9314	N20P	12-OCT-93	0710	16.66	W93140029			0.00429	8.0	11.0
W9314	N20P	12-OCT-93	0710	16.66	W93140029	DARK	9.95			
W9314	N20P	12-OCT-93	0710	16.66	W93140029	DARK	9.80			
W9314	N20P	12-OCT-93	0710	16.66	W93140029	DARK	9.92			
W9314	N20P	12-OCT-93	0710	16.66	W93140029	INIT	10.00			
W9314	N20P	12-OCT-93	0710	16.66	W93140029	INIT	10.06			
W9314	N20P	12-OCT-93	0710	16.66	W93140029	INIT	9.71			
W9314	N20P	12-OCT-93	0708	28.58	W93140027			0.01400	8.0	8.0
W9314	N20P	12-OCT-93	0708	28.58	W93140027	DARK	7.48			
W9314	N20P	12-OCT-93	0708	28.58	W93140027	DARK	7.52			
W9314	N20P	12-OCT-93	0708	28.58	W93140027	DARK	7.56			
W9314	N20P	12-OCT-93	0708	28.58	W93140027	INIT	7.64			
W9314	N20P	12-OCT-93	0708	28.58	W93140027	INIT	7.64			
W9314	N20P	12-OCT-93	0708	28.58	W93140027	INIT	7.62			

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

RESPIRATION CRUISE 9314

STATION	DEPTH	INITIAL	DARK	p
F13P	BOT	9.020(0.030)	8.960(0.026)	0.06
	CHL	9.136(0.016)	9.138(0.012)	0.88
	SUR	9.240(0.017)	9.088(0.242)	0.39
F1P	BOT	8.323(0.030)	7.937(0.106)	0.01
	CHL	8.794(0.143)	8.776(0.119)	0.88
	SUR	8.919(0.017)	8.834(0.031)	0.02
F23P	BOT	8.777(0.005)	8.549(0.054)	0.02
	CHL	8.739(0.031)	8.510(0.038)	0.01
	SUR	8.694(0.008)	8.442(0.172)	0.13
F2P	BOT	7.522(0.195)	7.921(0.066)	0.03
	CHL	9.087(0.015)	9.148(0.114)	0.45
	SUR	9.092(0.038)	9.000(0.179)	0.43
N10P	BOT	7.530(0.013)	7.211(0.267)	0.17
	CHL	9.509(0.004)	9.453(0.024)	0.06
	SUR	9.547(0.005)	9.490(0.004)	0.01
N16P	BOT	7.485(0.004)	7.525(0.004)	0.01
	CHL	8.793(0.004)	8.767(0.021)	0.10
	SUR	9.749(0.025)	9.760(0.009)	0.49
N1P	BOT	9.849(0.027)	9.627(0.075)	0.01
	CHL	10.367(0.052)	10.298(0.055)	0.20
	SUR	10.175(0.175)	10.303(0.017)	0.33
N20P	BOT	7.631(0.007)	7.519(0.042)	0.02
	CHL	9.922(0.187)	9.888(0.082)	0.79
	SUR	10.431(0.099)	10.553(0.036)	0.11
N4P	BOT	7.753(0.011)	7.659(0.009)	0.01
	CHL	10.038(0.011)	9.750(0.185)	0.11
	SUR	10.006(0.023)	9.925(0.003)	0.03
N7P	BOT	7.671(0.073)	7.573(0.013)	0.09
	CHL	9.353(0.106)	9.332(0.005)	0.76
	SUR	9.388(0.019)	9.354(0.036)	0.23

APPENDIX F

PHYTOPLANKTON SPECIES DATA TABLES

A complete listing, by survey, is given for taxonomic analyses of whole-water samples analyzed for W9314, W9315, and W9316 (Table F-1).

Table F1. Phytoplankton Species Data for October, November, and December 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93140029	N20P	10-12-93	07:10	17.5	AMPHIDINIUM SPP.	.009
W93140029	N20P	10-12-93	07:10	17.5	ASTERIONELLOPSIS GLACIALIS	6.398
W93140029	N20P	10-12-93	07:10	17.5	CHAETOCEROS RADICANS (1 CELL FORM)	.018
W93140029	N20P	10-12-93	07:10	17.5	CHAETOCEROS SPP. (10-20UM)	.018
W93140029	N20P	10-12-93	07:10	17.5	CHAETOCEROS SPP.(<10UM)	.026
W93140029	N20P	10-12-93	07:10	17.5	CRYPTOMONADS	.018
W93140029	N20P	10-12-93	07:10	17.5	GYMNODINIUM SPP.	.035
W93140029	N20P	10-12-93	07:10	17.5	LEPTOCYLINDRUS DANICUS	.211
W93140029	N20P	10-12-93	07:10	17.5	LEPTOCYLINDRUS MINIMUS	.097
W93140029	N20P	10-12-93	07:10	17.5	MICROFLAGELLATES	.475
W93140029	N20P	10-12-93	07:10	17.5	NAVICULOID DIATOMS	.009
W93140029	N20P	10-12-93	07:10	17.5	RHIZOSOLENIA DELICATULA	.062
W93140029	N20P	10-12-93	07:10	17.5	RHIZOSOLENIA STOLTERFOTHII	.009
W93140029	N20P	10-12-93	07:10	17.5	SKELETONEMA COSTATUM	.308
W93140031	N20P	10-12-93	07:12	2.32	ASTERIONELLOPSIS GLACIALIS	6.505
W93140031	N20P	10-12-93	07:12	2.32	CERATIUM FUSUS	.01
W93140031	N20P	10-12-93	07:12	2.32	CHAETOCEROS RADICANS (1 CELL FORM)	.01
W93140031	N20P	10-12-93	07:12	2.32	CHAETOCEROS SPP. (10-20UM)	.019
W93140031	N20P	10-12-93	07:12	2.32	CRYPTOMONADS	.029
W93140031	N20P	10-12-93	07:12	2.32	CYLINDROTHECA CLOSTERIUM	.01
W93140031	N20P	10-12-93	07:12	2.32	GYMNODINIUM SPP.	.01
W93140031	N20P	10-12-93	07:12	2.32	GYRODINIUM SPIRALE	.01
W93140031	N20P	10-12-93	07:12	2.32	LEPTOCYLINDRUS DANICUS	.192
W93140031	N20P	10-12-93	07:12	2.32	LEPTOCYLINDRUS MINIMUS	.144
W93140031	N20P	10-12-93	07:12	2.32	MICROFLAGELLATES	.645
W93140031	N20P	10-12-93	07:12	2.32	NITZSCHIA (CF) DELICATISSIMA	.019
W93140031	N20P	10-12-93	07:12	2.32	PROROCENTRUM MICANS	.01
W93140031	N20P	10-12-93	07:12	2.32	RHIZOSOLENIA DELICATULA	.183
W93140031	N20P	10-12-93	07:12	2.32	RHIZOSOLENIA STOLTERFOTHII	.038
W93140031	N20P	10-12-93	07:12	2.32	SKELETONEMA COSTATUM	.26
W93140031	N20P	10-12-93	07:12	2.32	THALASSIONEMA NITZSCHOIDES	.01
W93140031	N20P	10-12-93	07:12	2.32	UNID. ATHECATE DINOFLAGELLATE	.01
W93140031	N20P	10-12-93	07:12	2.32	UNID. CENTRALES	.01
W93140043	N16P	10-12-93	08:02	20.13	ASTERIONELLOPSIS GLACIALIS	5.133
W93140043	N16P	10-12-93	08:02	20.13	CHAETOCEROS DIDYMUS	.019
W93140043	N16P	10-12-93	08:02	20.13	CHAETOCEROS SPP. (10-20UM)	.076
W93140043	N16P	10-12-93	08:02	20.13	CHAETOCEROS SPP.(<10UM)	.028
W93140043	N16P	10-12-93	08:02	20.13	EUCAMPIA ZODIACUS	.009
W93140043	N16P	10-12-93	08:02	20.13	GYMNODINIUM SPP.	.009
W93140043	N16P	10-12-93	08:02	20.13	LEPTOCYLINDRUS DANICUS	.123
W93140043	N16P	10-12-93	08:02	20.13	LEPTOCYLINDRUS MINIMUS	.085
W93140043	N16P	10-12-93	08:02	20.13	MICROFLAGELLATES	.645
W93140043	N16P	10-12-93	08:02	20.13	NITZSCHIA (CF) DELICATISSIMA	.057
W93140043	N16P	10-12-93	08:02	20.13	PLEUROSIGMA SPP.	.009
W93140043	N16P	10-12-93	08:02	20.13	RHIZOSOLENIA DELICATULA	.133
W93140043	N16P	10-12-93	08:02	20.13	SKELETONEMA COSTATUM	.37
W93140045	N16P	10-12-93	08:03	1.91	ASTERIONELLOPSIS GLACIALIS	2.766
W93140045	N16P	10-12-93	08:03	1.91	CERATIUM FUSUS	.009
W93140045	N16P	10-12-93	08:03	1.91	CERATIUM TRIPOS	.009
W93140045	N16P	10-12-93	08:03	1.91	CHAETOCEROS SPP.(<10UM)	.028
W93140045	N16P	10-12-93	08:03	1.91	CRYPTOMONADS	.065
W93140045	N16P	10-12-93	08:03	1.91	GYMNODINIUM SPP.	.009
W93140045	N16P	10-12-93	08:03	1.91	GYRODINIUM SPP.	.009
W93140045	N16P	10-12-93	08:03	1.91	LEPTOCYLINDRUS DANICUS	.822
W93140045	N16P	10-12-93	08:03	1.91	LEPTOCYLINDRUS MINIMUS	.075
W93140045	N16P	10-12-93	08:03	1.91	MICROFLAGELLATES	.449
W93140045	N16P	10-12-93	08:03	1.91	NAVICULOID DIATOMS	.009
W93140045	N16P	10-12-93	08:03	1.91	NITZSCHIA (CF) DELICATISSIMA	.056
W93140045	N16P	10-12-93	08:03	1.91	NITZSCHIA (cf) PUNGENS	.028
W93140045	N16P	10-12-93	08:03	1.91	NITZSCHIA SPP.	.009
W93140045	N16P	10-12-93	08:03	1.91	PROBOSCIA (=RHIZOSOLENIA) ALATA	.009
W93140045	N16P	10-12-93	08:03	1.91	RHIZOSOLENIA DELICATULA	.234

Table F1. Phytoplankton Species Data for October, November, and December 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93140045	N16P	10-12-93	08:03	1.91	RHIZOSOLENIA STOLTERFOTHII	.019
W93140045	N16P	10-12-93	08:03	1.91	SKELETONEMA COSTATUM	.178
W93140045	N16P	10-12-93	08:03	1.91	THALASSIONEMA NITZSCHOIDES	.009
W93140059	N10P	10-12-93	09:00	9.88	ASTERIONELLOPSIS GLACIALIS	5.249
W93140059	N10P	10-12-93	09:00	9.88	CERATIUM FUSUS	.021
W93140059	N10P	10-12-93	09:00	9.88	CHAETOCEROS SPP. (10-20UM)	.095
W93140059	N10P	10-12-93	09:00	9.88	CRYPTOMONADS	.063
W93140059	N10P	10-12-93	09:00	9.88	CYLINDROTHECA CLOSTERIUM	.011
W93140059	N10P	10-12-93	09:00	9.88	DETONULA CONFERVACEA	.011
W93140059	N10P	10-12-93	09:00	9.88	LEPTOCYLINDRUS DANICUS	.18
W93140059	N10P	10-12-93	09:00	9.88	LEPTOCYLINDRUS MINIMUS	.011
W93140059	N10P	10-12-93	09:00	9.88	LITHODESMIUM (cf) UNDULATUM	.011
W93140059	N10P	10-12-93	09:00	9.88	MICROFLAGELLATES	.613
W93140059	N10P	10-12-93	09:00	9.88	NAVICULOID DIATOMS	.021
W93140059	N10P	10-12-93	09:00	9.88	NITZSCHIA SPP.	.011
W93140059	N10P	10-12-93	09:00	9.88	RHIZOSOLENIA DELICATULA	.148
W93140059	N10P	10-12-93	09:00	9.88	RHIZOSOLENIA STOLTERFOTHII	.032
W93140059	N10P	10-12-93	09:00	9.88	SCRIPPSIELLA TROCHOIDEA	.011
W93140059	N10P	10-12-93	09:00	9.88	SKELETONEMA COSTATUM	.581
W93140061	N10P	10-12-93	09:02	2.07	ASTERIONELLOPSIS GLACIALIS	5.775
W93140061	N10P	10-12-93	09:02	2.07	CHAETOCEROS SPP. (10-20UM)	.02
W93140061	N10P	10-12-93	09:02	2.07	CHAETOCEROS SPP.(<10UM)	.03
W93140061	N10P	10-12-93	09:02	2.07	CRYPTOMONADS	.131
W93140061	N10P	10-12-93	09:02	2.07	CYLINDROTHECA CLOSTERIUM	.02
W93140061	N10P	10-12-93	09:02	2.07	DETONULA CONFERVACEA	.06
W93140061	N10P	10-12-93	09:02	2.07	GYMNODINIUM SPP.	.01
W93140061	N10P	10-12-93	09:02	2.07	LEPTOCYLINDRUS DANICUS	.231
W93140061	N10P	10-12-93	09:02	2.07	LEPTOCYLINDRUS MINIMUS	.06
W93140061	N10P	10-12-93	09:02	2.07	LICMOPHORA SPP.	.01
W93140061	N10P	10-12-93	09:02	2.07	MICROFLAGELLATES	.874
W93140061	N10P	10-12-93	09:02	2.07	NITZSCHIA (cf) PUNGENS	.02
W93140061	N10P	10-12-93	09:02	2.07	NITZSCHIA SPP.	.03
W93140061	N10P	10-12-93	09:02	2.07	RHIZOSOLENIA DELICATULA	.11
W93140061	N10P	10-12-93	09:02	2.07	RHIZOSOLENIA STOLTERFOTHII	.02
W93140061	N10P	10-12-93	09:02	2.07	SKELETONEMA COSTATUM	.251
W93140061	N10P	10-12-93	09:02	2.07	UNID. CENTRALES	.02
W93140227	N01P	10-13-93	05:26	13.85	AMPHIDINIUM SPP.	.01
W93140227	N01P	10-13-93	05:26	13.85	ASTERIONELLOPSIS GLACIALIS	6.072
W93140227	N01P	10-13-93	05:26	13.85	CHAETOCEROS DEBILIS	.021
W93140227	N01P	10-13-93	05:26	13.85	CHAETOCEROS SOCIALIS	.021
W93140227	N01P	10-13-93	05:26	13.85	CHAETOCEROS SPP. (10-20UM)	.052
W93140227	N01P	10-13-93	05:26	13.85	CRYPTOMONADS	.073
W93140227	N01P	10-13-93	05:26	13.85	DETONULA CONFERVACEA	.052
W93140227	N01P	10-13-93	05:26	13.85	EUTREPTIA/EUTREPTIELLA SPP.	.01
W93140227	N01P	10-13-93	05:26	13.85	GYMNODINIUM SPP.	.01
W93140227	N01P	10-13-93	05:26	13.85	GYRODINIUM SPIRALE	.01
W93140227	N01P	10-13-93	05:26	13.85	LEPTOCYLINDRUS DANICUS	.22
W93140227	N01P	10-13-93	05:26	13.85	LEPTOCYLINDRUS MINIMUS	.115
W93140227	N01P	10-13-93	05:26	13.85	MICROFLAGELLATES	.535
W93140227	N01P	10-13-93	05:26	13.85	NITZSCHIA (CF) DELICATISSIMA	.01
W93140227	N01P	10-13-93	05:26	13.85	RHIZOSOLENIA DELICATULA	.126
W93140227	N01P	10-13-93	05:26	13.85	RHIZOSOLENIA STOLTERFOTHII	.052
W93140227	N01P	10-13-93	05:26	13.85	SCRIPPSIELLA TROCHOIDEA	.01
W93140227	N01P	10-13-93	05:26	13.85	SKELETONEMA COSTATUM	.063
W93140227	N01P	10-13-93	05:26	13.85	UNID. CENTRALES	.01
W93140229	N01P	10-13-93	05:28	1.98	AMPHIDINIUM SPP.	.015
W93140229	N01P	10-13-93	05:28	1.98	ASTERIONELLOPSIS GLACIALIS	4.8
W93140229	N01P	10-13-93	05:28	1.98	CHAETOCEROS SOCIALIS	.031
W93140229	N01P	10-13-93	05:28	1.98	CHAETOCEROS SPP. (10-20UM)	.069
W93140229	N01P	10-13-93	05:28	1.98	CHAETOCEROS SPP.(<10UM)	.023
W93140229	N01P	10-13-93	05:28	1.98	CRYPTOMONADS	.069
W93140229	N01P	10-13-93	05:28	1.98	CYLINDROTHECA CLOSTERIUM	.015

Table F1. Phytoplankton Species Data for October, November, and December 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93140229	N01P	10-13-93	05:28	1.98	DETONULA CONFERVACEA	.015
W93140229	N01P	10-13-93	05:28	1.98	GYRODINIUM SPIRALE	.008
W93140229	N01P	10-13-93	05:28	1.98	LEPTOCYLINDRUS DANICUS	.137
W93140229	N01P	10-13-93	05:28	1.98	LEPTOCYLINDRUS MINIMUS	.008
W93140229	N01P	10-13-93	05:28	1.98	LITHODESMIUM (cf) UNDULATUM	.008
W93140229	N01P	10-13-93	05:28	1.98	MICROFLAGELLATES	.359
W93140229	N01P	10-13-93	05:28	1.98	NAVICULOID DIATOMS	.008
W93140229	N01P	10-13-93	05:28	1.98	NITZSCHIA (cf) PUNGENS	.015
W93140229	N01P	10-13-93	05:28	1.98	NITZSCHIA SPP.	.023
W93140229	N01P	10-13-93	05:28	1.98	PYRAMIMONAS/TETRASELMIS SPP.	.008
W93140229	N01P	10-13-93	05:28	1.98	RHIZOSOLENIA DELICATULA	.114
W93140229	N01P	10-13-93	05:28	1.98	RHIZOSOLENIA STOLTERFOTHII	.053
W93140229	N01P	10-13-93	05:28	1.98	SKELETONEMA COSTATUM	.092
W93140229	N01P	10-13-93	05:28	1.98	THALASSIONEMA NITZSCHOIDES	.008
W93140240	N04P	10-13-93	06:43	12.05	AMPHIDINIUM SPP.	.008
W93140240	N04P	10-13-93	06:43	12.05	ASTERIONELLOPSIS GLACIALIS	3.669
W93140240	N04P	10-13-93	06:43	12.05	CRYPTOMONADS	.05
W93140240	N04P	10-13-93	06:43	12.05	CYLINDROTHECA CLOSTERIUM	.05
W93140240	N04P	10-13-93	06:43	12.05	GYRODINIUM (CF) AUREOLUM	.008
W93140240	N04P	10-13-93	06:43	12.05	GYRODINIUM SPIRALE	.008
W93140240	N04P	10-13-93	06:43	12.05	LEPTOCYLINDRUS DANICUS	.066
W93140240	N04P	10-13-93	06:43	12.05	LEPTOCYLINDRUS MINIMUS	.124
W93140240	N04P	10-13-93	06:43	12.05	MICROFLAGELLATES	.663
W93140240	N04P	10-13-93	06:43	12.05	NITZSCHIA (CF) DELICATISSIMA	.041
W93140240	N04P	10-13-93	06:43	12.05	PLEUROSIGMA SPP.	.008
W93140240	N04P	10-13-93	06:43	12.05	PYRAMIMONAS/TETRASELMIS SPP.	.008
W93140240	N04P	10-13-93	06:43	12.05	RHIZOSOLENIA DELICATULA	.19
W93140240	N04P	10-13-93	06:43	12.05	RHIZOSOLENIA STOLTERFOTHII	.008
W93140240	N04P	10-13-93	06:43	12.05	SKELETONEMA COSTATUM	.149
W93140240	N04P	10-13-93	06:43	12.05	UNID. ATHECATE DINOFLAGELLATE	.025
W93140241	N04P	10-13-93	06:44	2.54	ASTERIONELLOPSIS GLACIALIS	4.674
W93140241	N04P	10-13-93	06:44	2.54	CERATIUM FUSUS	.009
W93140241	N04P	10-13-93	06:44	2.54	CHAETOCEROS SPP. (10-20UM)	.018
W93140241	N04P	10-13-93	06:44	2.54	CRYPTOMONADS	.027
W93140241	N04P	10-13-93	06:44	2.54	CYLINDROTHECA CLOSTERIUM	.027
W93140241	N04P	10-13-93	06:44	2.54	GUINARDIA FLACCIDA	.009
W93140241	N04P	10-13-93	06:44	2.54	GYRODINIUM (CF) AUREOLUM	.009
W93140241	N04P	10-13-93	06:44	2.54	LEPTOCYLINDRUS DANICUS	.045
W93140241	N04P	10-13-93	06:44	2.54	LEPTOCYLINDRUS MINIMUS	.189
W93140241	N04P	10-13-93	06:44	2.54	MICROFLAGELLATES	.765
W93140241	N04P	10-13-93	06:44	2.54	NITZSCHIA (CF) DELICATISSIMA	.027
W93140241	N04P	10-13-93	06:44	2.54	NITZSCHIA (cf) PUNGENS	.009
W93140241	N04P	10-13-93	06:44	2.54	PYRAMIMONAS/TETRASELMIS SPP.	.009
W93140241	N04P	10-13-93	06:44	2.54	RHIZOSOLENIA DELICATULA	.153
W93140241	N04P	10-13-93	06:44	2.54	RHIZOSOLENIA STOLTERFOTHII	.036
W93140241	N04P	10-13-93	06:44	2.54	SKELETONEMA COSTATUM	.252
W93140241	N04P	10-13-93	06:44	2.54	UNID. ATHECATE DINOFLAGELLATE	.009
W93140241	N04P	10-13-93	06:44	2.54	UNID. CENTRALES	.009
W93140256	N07P	10-13-93	08:03	9.64	AMPHIDINIUM SPP.	.014
W93140256	N07P	10-13-93	08:03	9.64	ASTERIONELLOPSIS GLACIALIS	1.669
W93140256	N07P	10-13-93	08:03	9.64	CERATIUM TRIPOS	.007
W93140256	N07P	10-13-93	08:03	9.64	CHAETOCEROS RADICANS (1 CELL FORM)	.007
W93140256	N07P	10-13-93	08:03	9.64	CHAETOCEROS SPP. (10-20UM)	.029
W93140256	N07P	10-13-93	08:03	9.64	COCCOLITHOPHORID	.007
W93140256	N07P	10-13-93	08:03	9.64	CRYPTOMONADS	.022
W93140256	N07P	10-13-93	08:03	9.64	CYLINDROTHECA CLOSTERIUM	.043
W93140256	N07P	10-13-93	08:03	9.64	EUCAMPIA ZODIACUS	.007
W93140256	N07P	10-13-93	08:03	9.64	GYRODINIUM SPIRALE	.007
W93140256	N07P	10-13-93	08:03	9.64	GYRODINIUM SPP.	.007
W93140256	N07P	10-13-93	08:03	9.64	LEPTOCYLINDRUS DANICUS	.159
W93140256	N07P	10-13-93	08:03	9.64	LEPTOCYLINDRUS MINIMUS	.968
W93140256	N07P	10-13-93	08:03	9.64	MICROFLAGELLATES	.939

Table F1. Phytoplankton Species Data for October, November, and December 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93140256	N07P	10-13-93	08:03	9.64	NAVICULOID DIATOMS	.007
W93140256	N07P	10-13-93	08:03	9.64	NITZSCHIA (CF) DELICATISSIMA	.029
W93140256	N07P	10-13-93	08:03	9.64	RHIZOSOLENIA DELICATULA	.188
W93140256	N07P	10-13-93	08:03	9.64	RHIZOSOLENIA STOLTERFOTHII	.014
W93140256	N07P	10-13-93	08:03	9.64	SKELETONEMA COSTATUM	.499
W93140256	N07P	10-13-93	08:03	9.64	UNID. ATHECATE DINOFLAGELLATE	.029
W93140256	N07P	10-13-93	08:03	9.64	UNID. CENTRALES	.014
W93140257	N07P	10-13-93	08:04	2.04	AMPHIDINIUM SPP.	.02
W93140257	N07P	10-13-93	08:04	2.04	ASTERIONELLOPSIS GLACIALIS	1.476
W93140257	N07P	10-13-93	08:04	2.04	CHAETOCEROS SPP.(<10UM)	.026
W93140257	N07P	10-13-93	08:04	2.04	CRYPTOMONADS	.039
W93140257	N07P	10-13-93	08:04	2.04	CYLINDROTHECA CLOSTERIUM	.039
W93140257	N07P	10-13-93	08:04	2.04	DETONULA CONFERVACEA	.039
W93140257	N07P	10-13-93	08:04	2.04	GYMNODINIUM SPP.	.007
W93140257	N07P	10-13-93	08:04	2.04	GYRODINIUM (CF) AUREOLUM	.007
W93140257	N07P	10-13-93	08:04	2.04	LEPTOCYLINDRUS DANICUS	.131
W93140257	N07P	10-13-93	08:04	2.04	LEPTOCYLINDRUS MINIMUS	1.03
W93140257	N07P	10-13-93	08:04	2.04	MICROFLAGELLATES	.853
W93140257	N07P	10-13-93	08:04	2.04	NITZSCHIA (CF) DELICATISSIMA	.066
W93140257	N07P	10-13-93	08:04	2.04	PHAEOCYSTIS POUCHETII	.052
W93140257	N07P	10-13-93	08:04	2.04	RHIZOSOLENIA DELICATULA	.23
W93140257	N07P	10-13-93	08:04	2.04	RHIZOSOLENIA FRAGILISSIMA	.007
W93140257	N07P	10-13-93	08:04	2.04	RHIZOSOLENIA STOLTERFOTHII	.02
W93140257	N07P	10-13-93	08:04	2.04	SKELETONEMA COSTATUM	.394
W93140257	N07P	10-13-93	08:04	2.04	THALASSIONEMA NITZSCHOIDES	.007
W93140257	N07P	10-13-93	08:04	2.04	UNID. ATHECATE DINOFLAGELLATE	.02
W93140272	F13P	10-13-93	09:24	6.92	ASTERIONELLOPSIS GLACIALIS	3.783
W93140272	F13P	10-13-93	09:24	6.92	CHAETOCEROS SPP. (10-20UM)	.021
W93140272	F13P	10-13-93	09:24	6.92	CRYPTOMONADS	.028
W93140272	F13P	10-13-93	09:24	6.92	CYLINDROTHECA CLOSTERIUM	.014
W93140272	F13P	10-13-93	09:24	6.92	LEPTOCYLINDRUS DANICUS	.071
W93140272	F13P	10-13-93	09:24	6.92	LEPTOCYLINDRUS MINIMUS	.241
W93140272	F13P	10-13-93	09:24	6.92	MICROFLAGELLATES	.56
W93140272	F13P	10-13-93	09:24	6.92	NITZSCHIA (CF) DELICATISSIMA	.057
W93140272	F13P	10-13-93	09:24	6.92	NITZSCHIA (cf) PUNGENS	.028
W93140272	F13P	10-13-93	09:24	6.92	PROTOPERIDINIUM BREVE	.007
W93140272	F13P	10-13-93	09:24	6.92	RHIZOSOLENIA DELICATULA	.113
W93140272	F13P	10-13-93	09:24	6.92	RHIZOSOLENIA STOLTERFOTHII	.014
W93140272	F13P	10-13-93	09:24	6.92	SKELETONEMA COSTATUM	.701
W93140272	F13P	10-13-93	09:24	6.92	SURIRELLA SPP.	.007
W93140272	F13P	10-13-93	09:24	6.92	THALASSIONEMA NITZSCHOIDES	.007
W93140272	F13P	10-13-93	09:24	6.92	UNID. ATHECATE DINOFLAGELLATE	.014
W93140272	F13P	10-13-93	09:24	6.92	UNID. CENTRALES	.007
W93140273	F13P	10-13-93	09:25	2.53	ASTERIONELLOPSIS GLACIALIS	4.835
W93140273	F13P	10-13-93	09:25	2.53	CHAETOCEROS RADICANS (1 CELL FORM)	.009
W93140273	F13P	10-13-93	09:25	2.53	CHAETOCEROS SPP. (10-20UM)	.018
W93140273	F13P	10-13-93	09:25	2.53	CRYPTOMONADS	.046
W93140273	F13P	10-13-93	09:25	2.53	GYRODINIUM SPIRALE	.009
W93140273	F13P	10-13-93	09:25	2.53	GYRODINIUM SPP.	.009
W93140273	F13P	10-13-93	09:25	2.53	LEPTOCYLINDRUS DANICUS	.055
W93140273	F13P	10-13-93	09:25	2.53	LEPTOCYLINDRUS MINIMUS	.396
W93140273	F13P	10-13-93	09:25	2.53	MICROFLAGELLATES	.626
W93140273	F13P	10-13-93	09:25	2.53	NITZSCHIA (CF) DELICATISSIMA	.055
W93140273	F13P	10-13-93	09:25	2.53	NITZSCHIA (cf) PUNGENS	.009
W93140273	F13P	10-13-93	09:25	2.53	PROTOPERIDINIUM SPP.	.009
W93140273	F13P	10-13-93	09:25	2.53	RHIZOSOLENIA DELICATULA	.276
W93140273	F13P	10-13-93	09:25	2.53	RHIZOSOLENIA STOLTERFOTHII	.018
W93140273	F13P	10-13-93	09:25	2.53	SKELETONEMA COSTATUM	.58
W93140273	F13P	10-13-93	09:25	2.53	UNID. ATHECATE DINOFLAGELLATE	.009
W93140374	F02P	10-14-93	07:39	14.49	AMPHIDINIUM SPP.	.006
W93140374	F02P	10-14-93	07:39	14.49	ASTERIONELLOPSIS GLACIALIS	.808
W93140374	F02P	10-14-93	07:39	14.49	CHAETOCEROS SPP. (10-20UM)	.006

Table F1. Phytoplankton Species Data for October, November, and December 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93140374	F02P	10-14-93	07:39	14.49	CRYPTOMONADS	.069
W93140374	F02P	10-14-93	07:39	14.49	CYLINDROTHECA CLOSTERIUM	.051
W93140374	F02P	10-14-93	07:39	14.49	GYRODINIUM (CF) AUREOLUM	.006
W93140374	F02P	10-14-93	07:39	14.49	GYRODINIUM SPIRALE	.006
W93140374	F02P	10-14-93	07:39	14.49	GYRODINIUM SPP.	.006
W93140374	F02P	10-14-93	07:39	14.49	LEPTOCYLINDRUS DANICUS	.038
W93140374	F02P	10-14-93	07:39	14.49	LEPTOCYLINDRUS MINIMUS	1.585
W93140374	F02P	10-14-93	07:39	14.49	MICROFLAGELLATES	.272
W93140374	F02P	10-14-93	07:39	14.49	NITZSCHIA (CF) DELICATISSIMA	.057
W93140374	F02P	10-14-93	07:39	14.49	NITZSCHIA (cf) PUNGENS	.006
W93140374	F02P	10-14-93	07:39	14.49	PROBOSCIA (=RHIZOSOLENIA) ALATA	.006
W93140374	F02P	10-14-93	07:39	14.49	PROTOPERIDINIUM SPP.	.006
W93140374	F02P	10-14-93	07:39	14.49	RHIZOSOLENIA DELICATULA	.183
W93140374	F02P	10-14-93	07:39	14.49	RHIZOSOLENIA HEBETATA F. SEMISPINA	.006
W93140374	F02P	10-14-93	07:39	14.49	RHIZOSOLENIA STOLTERFOTHII	.013
W93140374	F02P	10-14-93	07:39	14.49	SKELETONEMA COSTATUM	.309
W93140374	F02P	10-14-93	07:39	14.49	UNID. ATHECATE DINOFLAGELLATE	.006
W93140374	F02P	10-14-93	07:39	14.49	UNID. CENTRALES	.013
W93140376	F02P	10-14-93	07:40	2.29	AMPHIDINIUM SPP.	.006
W93140376	F02P	10-14-93	07:40	2.29	ASTERIONELLOPSIS GLACIALIS	.853
W93140376	F02P	10-14-93	07:40	2.29	CERATIUM FUSUS	.006
W93140376	F02P	10-14-93	07:40	2.29	CHAETOCEROS SOCIALIS	.037
W93140376	F02P	10-14-93	07:40	2.29	CHAETOCEROS SPP. (10-20UM)	.031
W93140376	F02P	10-14-93	07:40	2.29	CHAETOCEROS SPP.(<10UM)	.012
W93140376	F02P	10-14-93	07:40	2.29	CRYPTOMONADS	.043
W93140376	F02P	10-14-93	07:40	2.29	CYLINDROTHECA CLOSTERIUM	.031
W93140376	F02P	10-14-93	07:40	2.29	GUINARDIA FLACCIDA	.006
W93140376	F02P	10-14-93	07:40	2.29	GYRODINIUM (CF) AUREOLUM	.006
W93140376	F02P	10-14-93	07:40	2.29	GYRODINIUM SPIRALE	.006
W93140376	F02P	10-14-93	07:40	2.29	LEPTOCYLINDRUS DANICUS	.019
W93140376	F02P	10-14-93	07:40	2.29	LEPTOCYLINDRUS MINIMUS	1.137
W93140376	F02P	10-14-93	07:40	2.29	MICROFLAGELLATES	.365
W93140376	F02P	10-14-93	07:40	2.29	NITZSCHIA (CF) DELICATISSIMA	.049
W93140376	F02P	10-14-93	07:40	2.29	NITZSCHIA (cf) PUNGENS	.012
W93140376	F02P	10-14-93	07:40	2.29	PHAEOCYSTIS POUCHETII	.019
W93140376	F02P	10-14-93	07:40	2.29	RHIZOSOLENIA DELICATULA	.074
W93140376	F02P	10-14-93	07:40	2.29	RHIZOSOLENIA SPP	.006
W93140376	F02P	10-14-93	07:40	2.29	SKELETONEMA COSTATUM	.426
W93140376	F02P	10-14-93	07:40	2.29	THALASSIONEMA NITZSCHOIDES	.006
W93140376	F02P	10-14-93	07:40	2.29	UNID. ATHECATE DINOFLAGELLATE	.025
W93140391	F01P	10-14-93	09:02	7.77	AMPHIDINIUM SPP.	.014
W93140391	F01P	10-14-93	09:02	7.77	ASTERIONELLOPSIS GLACIALIS	.061
W93140391	F01P	10-14-93	09:02	7.77	CERATAULINA PELAGICA	.007
W93140391	F01P	10-14-93	09:02	7.77	CERATIUM FUSUS	.02
W93140391	F01P	10-14-93	09:02	7.77	CHAETOCEROS DIDYMUS	.007
W93140391	F01P	10-14-93	09:02	7.77	CHAETOCEROS RADICANS (1 CELL FORM)	.007
W93140391	F01P	10-14-93	09:02	7.77	CHAETOCEROS SPP. (10-20UM)	.014
W93140391	F01P	10-14-93	09:02	7.77	CRYPTOMONADS	.116
W93140391	F01P	10-14-93	09:02	7.77	CYLINDROTHECA CLOSTERIUM	.027
W93140391	F01P	10-14-93	09:02	7.77	LEPTOCYLINDRUS MINIMUS	2.472
W93140391	F01P	10-14-93	09:02	7.77	MICROFLAGELLATES	.656
W93140391	F01P	10-14-93	09:02	7.77	NITZSCHIA (CF) DELICATISSIMA	.048
W93140391	F01P	10-14-93	09:02	7.77	NITZSCHIA (cf) PUNGENS	.007
W93140391	F01P	10-14-93	09:02	7.77	NITZSCHIA SPP.	.007
W93140391	F01P	10-14-93	09:02	7.77	RHIZOSOLENIA DELICATULA	.089
W93140391	F01P	10-14-93	09:02	7.77	RHIZOSOLENIA STOLTERFOTHII	.014
W93140391	F01P	10-14-93	09:02	7.77	SKELETONEMA COSTATUM	.362
W93140391	F01P	10-14-93	09:02	7.77	THALASSIONEMA NITZSCHOIDES	.007
W93140391	F01P	10-14-93	09:02	7.77	UNID. ATHECATE DINOFLAGELLATE	.02
W93140392	F01P	10-14-93	09:03	2.23	AMPHIDINIUM SPP.	.007
W93140392	F01P	10-14-93	09:03	2.23	ASTERIONELLOPSIS GLACIALIS	.086
W93140392	F01P	10-14-93	09:03	2.23	CERATIUM FUSUS	.022

Table F1. Phytoplankton Species Data for October, November, and December 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93140392	F01P	10-14-93	09:03	2.23	CERATIUM TRIPOS	.007
W93140392	F01P	10-14-93	09:03	2.23	CRYPTOMONADS	.1
W93140392	F01P	10-14-93	09:03	2.23	CYLINDROTHECA CLOSTERIUM	.029
W93140392	F01P	10-14-93	09:03	2.23	EUTREPTIA/EUTREPTIELLA SPP.	.007
W93140392	F01P	10-14-93	09:03	2.23	GYMNODINIUM SPP.	.007
W93140392	F01P	10-14-93	09:03	2.23	GYRODINIUM SPP.	.007
W93140392	F01P	10-14-93	09:03	2.23	LEPTOCYLINDRUS MINIMUS	2.538
W93140392	F01P	10-14-93	09:03	2.23	MICROFLAGELLATES	.688
W93140392	F01P	10-14-93	09:03	2.23	NITZSCHIA (CF) DELICATISSIMA	.072
W93140392	F01P	10-14-93	09:03	2.23	NITZSCHIA (cf) PUNGENS	.007
W93140392	F01P	10-14-93	09:03	2.23	PROTOPERIDINIUM BIPES	.007
W93140392	F01P	10-14-93	09:03	2.23	RHIZOSOLENIA DELICATULA	.093
W93140392	F01P	10-14-93	09:03	2.23	SKELETONEMA COSTATUM	.265
W93140392	F01P	10-14-93	09:03	2.23	THALASSIONEMA NITZSCHOIDES	.014
W93140392	F01P	10-14-93	09:03	2.23	UNID. ATHECATE DINOFLAGELLATE	.007
W93140473	F23P	10-15-93	05:42	11.85	ASTERIONELLOPSIS GLACIALIS	1.629
W93140473	F23P	10-15-93	05:42	11.85	CHAETOCEROS SPP. (10-20UM)	.022
W93140473	F23P	10-15-93	05:42	11.85	CRYPTOMONADS	.053
W93140473	F23P	10-15-93	05:42	11.85	CYLINDROTHECA CLOSTERIUM	.004
W93140473	F23P	10-15-93	05:42	11.85	GYMNODINIUM SPP.	.013
W93140473	F23P	10-15-93	05:42	11.85	LEPTOCYLINDRUS DANICUS	.004
W93140473	F23P	10-15-93	05:42	11.85	LEPTOCYLINDRUS MINIMUS	.022
W93140473	F23P	10-15-93	05:42	11.85	MICROFLAGELLATES	.556
W93140473	F23P	10-15-93	05:42	11.85	NITZSCHIA (CF) DELICATISSIMA	.004
W93140473	F23P	10-15-93	05:42	11.85	RHIZOSOLENIA DELICATULA	.027
W93140473	F23P	10-15-93	05:42	11.85	SKELETONEMA COSTATUM	.036
W93140473	F23P	10-15-93	05:42	11.85	THALASSIONEMA NITZSCHOIDES	.004
W93140475	F23P	10-15-93	05:43	2.31	ASTERIONELLOPSIS GLACIALIS	1.239
W93140475	F23P	10-15-93	05:43	2.31	CHAETOCEROS DIDYMUS	.004
W93140475	F23P	10-15-93	05:43	2.31	CHAETOCEROS SPP. (10-20UM)	.008
W93140475	F23P	10-15-93	05:43	2.31	CRYPTOMONADS	.042
W93140475	F23P	10-15-93	05:43	2.31	CYLINDROTHECA CLOSTERIUM	.008
W93140475	F23P	10-15-93	05:43	2.31	DICTYOCHA SPECULUM	.004
W93140475	F23P	10-15-93	05:43	2.31	GYMNODINIUM SPP.	.017
W93140475	F23P	10-15-93	05:43	2.31	LEPTOCYLINDRUS DANICUS	.008
W93140475	F23P	10-15-93	05:43	2.31	LEPTOCYLINDRUS MINIMUS	.008
W93140475	F23P	10-15-93	05:43	2.31	MICROFLAGELLATES	.5
W93140475	F23P	10-15-93	05:43	2.31	NAVICULOID DIATOMS	.004
W93140475	F23P	10-15-93	05:43	2.31	PROBOSCIA (=RHIZOSOLENIA) ALATA	.004
W93140475	F23P	10-15-93	05:43	2.31	RHIZOSOLENIA DELICATULA	.046
W93140475	F23P	10-15-93	05:43	2.31	SKELETONEMA COSTATUM	.197
W93140494	N10P	10-15-93	06:32	2.24	ASTERIONELLOPSIS GLACIALIS	3.405
W93140494	N10P	10-15-93	06:32	2.24	CRYPTOMONADS	.074
W93140494	N10P	10-15-93	06:32	2.24	GYRODINIUM SPIRALE	.007
W93140494	N10P	10-15-93	06:32	2.24	LEPTOCYLINDRUS MINIMUS	.074
W93140494	N10P	10-15-93	06:32	2.24	MICROFLAGELLATES	.757
W93140494	N10P	10-15-93	06:32	2.24	NAVICULOID DIATOMS	.007
W93140494	N10P	10-15-93	06:32	2.24	NITZSCHIA SPP.	.029
W93140494	N10P	10-15-93	06:32	2.24	RHIZOSOLENIA DELICATULA	.029
W93140494	N10P	10-15-93	06:32	2.24	RHIZOSOLENIA STOLTERFOTHII	.015
W93140494	N10P	10-15-93	06:32	2.24	SKELETONEMA COSTATUM	.265
W93140494	N10P	10-15-93	06:32	2.24	THALASSIONEMA NITZSCHOIDES	.007
W93140494	N10P	10-15-93	06:32	2.24	UNID. ATHECATE DINOFLAGELLATE	.007
W93150026	N10P	11-03-93	07:24	2.31	AMPHIDINIUM SPP.	.001
W93150026	N10P	11-03-93	07:24	2.31	ASTERIONELLOPSIS GLACIALIS	.026
W93150026	N10P	11-03-93	07:24	2.31	CERATIUM TRIPOS	.001
W93150026	N10P	11-03-93	07:24	2.31	CHAETOCEROS SOCIALIS	.008
W93150026	N10P	11-03-93	07:24	2.31	CRYPTOMONADS	.229
W93150026	N10P	11-03-93	07:24	2.31	CYLINDROTHECA CLOSTERIUM	.007
W93150026	N10P	11-03-93	07:24	2.31	LEPTOCYLINDRUS MINIMUS	.008
W93150026	N10P	11-03-93	07:24	2.31	MICROFLAGELLATES	.302
W93150026	N10P	11-03-93	07:24	2.31	NAVICULOID DIATOMS	.003

Table F1. Phytoplankton Species Data for October, November, and December 1993.

Event	Station	Date	Time (EST)	Depth (M)	Taxon	Millions of Cells per Liter
W93150026	N10P	11-03-93	07:24	2.31	SKELETONEMA COSTATUM	.008
W93160027	N10P	12-01-93	07:42	3	ASTERIONELLOPSIS GLACIALIS	.011
W93160027	N10P	12-01-93	07:42	3	CHAETOCEROS SPP.(<10UM)	.003
W93160027	N10P	12-01-93	07:42	3	CRYPTOMONADS	.173
W93160027	N10P	12-01-93	07:42	3	CYLINDROTHECA CLOSTERIUM	.001
W93160027	N10P	12-01-93	07:42	3	GYRODINIUM (CF) AUREOLUM	.001
W93160027	N10P	12-01-93	07:42	3	LEPTOCYLINDRUS MINIMUS	.004
W93160027	N10P	12-01-93	07:42	3	MICROFLAGELLATES	.219
W93160027	N10P	12-01-93	07:42	3	NITZSCHIA (CF) DELICATISSIMA	.001
W93160027	N10P	12-01-93	07:42	3	NITZSCHIA (cf) PUNGENS	.001
W93160027	N10P	12-01-93	07:42	3	PLEUROSIGMA SPP.	.001
W93160027	N10P	12-01-93	07:42	3	RHIZOSOLENIA DELICATULA	.003
W93160027	N10P	12-01-93	07:42	3	SKELETONEMA COSTATUM	.043
W93160027	N10P	12-01-93	07:42	3	THALASSIONEMA NITZSCHOIDES	.01
W93160027	N10P	12-01-93	07:42	3	THALASSIOSIRA SPP.	.003
W93160027	N10P	12-01-93	07:42	3	UNID. CENTRALES	.004

APPENDIX G

ZOOPLANKTON SPECIES DATA TABLES

A complete listing for survey W9314 is given for taxonomic analyses of zooplankton net tow samples (Table G-1).

Table G1. Zooplankton Species Data for October 1993.

Event	Station	Date	Time	Taxon	Qual[1]	Individuals Per M3
W93140034	N20P	10-12-93	07:18	ACARTIA TONSA	C	47
W93140034	N20P	10-12-93	07:18	BIVALVE VELIGER		40006
W93140034	N20P	10-12-93	07:18	CENTROPAGES HAMATUS	F	236
W93140034	N20P	10-12-93	07:18	CENTROPAGES HAMATUS	M	803
W93140034	N20P	10-12-93	07:18	CENTROPAGES SPP.	C	1370
W93140034	N20P	10-12-93	07:18	COPEPOD NAUPLII	N	12328
W93140034	N20P	10-12-93	07:18	ECHINODERM PLUTEI		94
W93140034	N20P	10-12-93	07:18	GASTROPOD VELIGER		472
W93140034	N20P	10-12-93	07:18	MICROSETELLA NORVEGICA		236
W93140034	N20P	10-12-93	07:18	OIKIOPLEURA DIOICA		614
W93140034	N20P	10-12-93	07:18	OITHONA ATLANTICA	F	47
W93140034	N20P	10-12-93	07:18	OITHONA SIMILIS	F	2031
W93140034	N20P	10-12-93	07:18	OITHONA SIMILIS	C	3259
W93140034	N20P	10-12-93	07:18	OITHONA SIMILIS	M	47
W93140034	N20P	10-12-93	07:18	PARACALANUS PARVUS	F	661
W93140034	N20P	10-12-93	07:18	PARACALANUS PARVUS	C	4204
W93140034	N20P	10-12-93	07:18	PARACALANUS PARVUS	M	236
W93140034	N20P	10-12-93	07:18	PODON POLYPHEMOIDES		189
W93140034	N20P	10-12-93	07:18	PSEUDOCALANUS NEWMANI	F	520
W93140034	N20P	10-12-93	07:18	PSEUDOCALANUS NEWMANI	C	520
W93140034	N20P	10-12-93	07:18	PSEUDOCALANUS NEWMANI	M	47
W93140034	N20P	10-12-93	07:18	TEMORA LONGICORNIS	C	47
W93140034	N20P	10-12-93	07:18	UNIDENTIFIED LARVAE		331
W93140048	N16P	10-12-93	08:10	BIVALVE VELIGER		93353
W93140048	N16P	10-12-93	08:10	CENTROPAGES HAMATUS	F	308
W93140048	N16P	10-12-93	08:10	CENTROPAGES HAMATUS	M	206
W93140048	N16P	10-12-93	08:10	CENTROPAGES SPP.	C	6888
W93140048	N16P	10-12-93	08:10	COPEPOD NAUPLII	N	18300
W93140048	N16P	10-12-93	08:10	ECHINODERM PLUTEI		103
W93140048	N16P	10-12-93	08:10	GASTROPOD VELIGER		2879
W93140048	N16P	10-12-93	08:10	OIKIOPLEURA DIOICA		1851
W93140048	N16P	10-12-93	08:10	OITHONA ATLANTICA	F	103
W93140048	N16P	10-12-93	08:10	OITHONA SIMILIS	F	3290
W93140048	N16P	10-12-93	08:10	OITHONA SIMILIS	C	7094
W93140048	N16P	10-12-93	08:10	OITHONA SIMILIS	M	103
W93140048	N16P	10-12-93	08:10	PARACALANUS PARVUS	F	103
W93140048	N16P	10-12-93	08:10	PARACALANUS PARVUS	M	103
W93140048	N16P	10-12-93	08:10	PARACALANUS PARVUS	C	5757
W93140048	N16P	10-12-93	08:10	PODON POLYPHEMOIDES		206
W93140048	N16P	10-12-93	08:10	PSEUDOCALANUS NEWMANI	F	411
W93140048	N16P	10-12-93	08:10	PSEUDOCALANUS NEWMANI	M	308
W93140048	N16P	10-12-93	08:10	PSEUDOCALANUS NEWMANI	C	308
W93140048	N16P	10-12-93	08:10	TEMORA LONGICORNIS	C	206
W93140048	N16P	10-12-93	08:10	UNIDENTIFIED LARVAE		1028
W93140068	N10P	10-12-93	09:08	ACARTIA TONSA	C	71
W93140068	N10P	10-12-93	09:08	BARNACLE NAUPLII	N	286
W93140068	N10P	10-12-93	09:08	BIVALVE VELIGER		2321
W93140068	N10P	10-12-93	09:08	CENTROPAGES HAMATUS	F	71
W93140068	N10P	10-12-93	09:08	CENTROPAGES HAMATUS	M	143
W93140068	N10P	10-12-93	09:08	CENTROPAGES SPP.	C	714
W93140068	N10P	10-12-93	09:08	COPEPOD NAUPLII	N	6141
W93140068	N10P	10-12-93	09:08	GASTROPOD VELIGER		321
W93140068	N10P	10-12-93	09:08	MICROSETELLA NORVEGICA		785
W93140068	N10P	10-12-93	09:08	OIKIOPLEURA DIOICA		428
W93140068	N10P	10-12-93	09:08	OITHONA SIMILIS	M	36
W93140068	N10P	10-12-93	09:08	OITHONA SIMILIS	C	1500
W93140068	N10P	10-12-93	09:08	OITHONA SIMILIS	F	643
W93140068	N10P	10-12-93	09:08	PARACALANUS PARVUS	C	928
W93140068	N10P	10-12-93	09:08	PARACALANUS PARVUS	F	143
W93140068	N10P	10-12-93	09:08	PODON POLYPHEMOIDES		107
W93140068	N10P	10-12-93	09:08	PSEUDOCALANUS NEWMANI	F	107

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

Table G1. Zooplankton Species Data for October 1993.

Event	Station	Date	Time	Taxon	Qual[1]	Individuals Per M3
W93140068	N10P	10-12-93	09:08	PSEUDOCALANUS NEWMANI	C	179
W93140068	N10P	10-12-93	09:08	PSEUDOCALANUS NEWMANI	M	107
W93140068	N10P	10-12-93	09:08	TEMORA LONGICORNIS	F	214
W93140068	N10P	10-12-93	09:08	TEMORA LONGICORNIS	M	143
W93140068	N10P	10-12-93	09:08	TEMORA LONGICORNIS	C	1143
W93140068	N10P	10-12-93	09:08	UNIDENTIFIED LARVAE		71
W93140230	N01P	10-13-93	05:32	ACARTIA TONSA	F	52
W93140230	N01P	10-13-93	05:32	ACARTIA TONSA	C	157
W93140230	N01P	10-13-93	05:32	ACARTIA TONSA	M	104
W93140230	N01P	10-13-93	05:32	BIVALVE VELIGER		7210
W93140230	N01P	10-13-93	05:32	CENTROPAGES HAMATUS	F	209
W93140230	N01P	10-13-93	05:32	CENTROPAGES SPP.	C	313
W93140230	N01P	10-13-93	05:32	COPEPOD NAUPLII	N	14524
W93140230	N01P	10-13-93	05:32	ECHINODERM PLUTEI		104
W93140230	N01P	10-13-93	05:32	EVADNE NORDMANI		157
W93140230	N01P	10-13-93	05:32	GASTROPOD VELIGER		104
W93140230	N01P	10-13-93	05:32	MEDUSA		52
W93140230	N01P	10-13-93	05:32	OIKIOPLEURA DIOICA		418
W93140230	N01P	10-13-93	05:32	OITHONA ATLANTICA	F	52
W93140230	N01P	10-13-93	05:32	OITHONA SIMILIS	M	52
W93140230	N01P	10-13-93	05:32	OITHONA SIMILIS	F	1567
W93140230	N01P	10-13-93	05:32	OITHONA SIMILIS	C	2194
W93140230	N01P	10-13-93	05:32	PARACALANUS PARVUS	C	1411
W93140230	N01P	10-13-93	05:32	PARACALANUS PARVUS	F	627
W93140230	N01P	10-13-93	05:32	PARACALANUS PARVUS	M	52
W93140230	N01P	10-13-93	05:32	PODON POLYPHEMOIDES		104
W93140230	N01P	10-13-93	05:32	PSEUDOCALANUS NEWMANI	M	52
W93140230	N01P	10-13-93	05:32	PSEUDOCALANUS NEWMANI	F	679
W93140230	N01P	10-13-93	05:32	PSEUDOCALANUS NEWMANI	C	313
W93140230	N01P	10-13-93	05:32	TEMORA LONGICORNIS	F	104
W93140230	N01P	10-13-93	05:32	TEMORA LONGICORNIS	C	104
W93140242	N04P	10-13-93	06:50	BIVALVE VELIGER		14539
W93140242	N04P	10-13-93	06:50	CENTROPAGES HAMATUS	F	45
W93140242	N04P	10-13-93	06:50	CENTROPAGES SPP.	C	2275
W93140242	N04P	10-13-93	06:50	COPEPOD NAUPLII	N	16234
W93140242	N04P	10-13-93	06:50	GASTROPOD VELIGER		669
W93140242	N04P	10-13-93	06:50	MEDUSA		134
W93140242	N04P	10-13-93	06:50	MICROSETELLA NORVEGICA		45
W93140242	N04P	10-13-93	06:50	OIKIOPLEURA DIOICA		624
W93140242	N04P	10-13-93	06:50	OITHONA ATLANTICA	F	45
W93140242	N04P	10-13-93	06:50	OITHONA SIMILIS	M	89
W93140242	N04P	10-13-93	06:50	OITHONA SIMILIS	F	2408
W93140242	N04P	10-13-93	06:50	OITHONA SIMILIS	C	5575
W93140242	N04P	10-13-93	06:50	PARACALANUS PARVUS	M	45
W93140242	N04P	10-13-93	06:50	PARACALANUS PARVUS	F	134
W93140242	N04P	10-13-93	06:50	PARACALANUS PARVUS	C	3434
W93140242	N04P	10-13-93	06:50	PODON POLYPHEMOIDES		134
W93140242	N04P	10-13-93	06:50	PSEUDOCALANUS NEWMANI	F	45
W93140242	N04P	10-13-93	06:50	PSEUDOCALANUS NEWMANI	C	45
W93140242	N04P	10-13-93	06:50	PSEUDOCALANUS NEWMANI	M	268
W93140242	N04P	10-13-93	06:50	UNIDENTIFIED LARVAE		491
W93140260	N07P	10-13-93	08:13	ACARTIA TONSA	C	27
W93140260	N07P	10-13-93	08:13	BIVALVE VELIGER		8551
W93140260	N07P	10-13-93	08:13	CENTROPAGES SPP.	C	748
W93140260	N07P	10-13-93	08:13	COPEPOD NAUPLII	N	6333
W93140260	N07P	10-13-93	08:13	GASTROPOD VELIGER		748
W93140260	N07P	10-13-93	08:13	MEDUSA		27
W93140260	N07P	10-13-93	08:13	OIKIOPLEURA DIOICA		1416
W93140260	N07P	10-13-93	08:13	OITHONA ATLANTICA	F	80
W93140260	N07P	10-13-93	08:13	OITHONA SIMILIS	F	1764
W93140260	N07P	10-13-93	08:13	OITHONA SIMILIS	M	107

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

Table G1. Zooplankton Species Data for October 1993.

Event	Station	Date	Time	Taxon	Qual[1]	Individuals Per M3
W93140260	N07P	10-13-93	08:13	OITHONA SIMILIS	C	5077
W93140260	N07P	10-13-93	08:13	PARACALANUS PARVUS	F	294
W93140260	N07P	10-13-93	08:13	PARACALANUS PARVUS	M	27
W93140260	N07P	10-13-93	08:13	PARACALANUS PARVUS	C	2405
W93140260	N07P	10-13-93	08:13	PODON POLYPHEMOIDES		107
W93140260	N07P	10-13-93	08:13	UNIDENTIFIED LARVAE		241
W93140276	F13P	10-13-93	09:31	ACARTIA TONSA	M	32
W93140276	F13P	10-13-93	09:31	ACARTIA TONSA	C	32
W93140276	F13P	10-13-93	09:31	BARNACLE NAUPLII	N	95
W93140276	F13P	10-13-93	09:31	BIVALVE VELIGER		5932
W93140276	F13P	10-13-93	09:31	CENTROPAGES HAMATUS	F	32
W93140276	F13P	10-13-93	09:31	CENTROPAGES HAMATUS	M	95
W93140276	F13P	10-13-93	09:31	CENTROPAGES SPP.	C	2855
W93140276	F13P	10-13-93	09:31	COPEPOD NAUPLII	N	15322
W93140276	F13P	10-13-93	09:31	EVADNE NORDMANI		32
W93140276	F13P	10-13-93	09:31	GASTROPOD VELIGER		730
W93140276	F13P	10-13-93	09:31	MEDUSA		32
W93140276	F13P	10-13-93	09:31	MICROSETELLA NORVEGICA		317
W93140276	F13P	10-13-93	09:31	OIKIOPLEURA DIOICA		920
W93140276	F13P	10-13-93	09:31	OITHONA ATLANTICA	F	32
W93140276	F13P	10-13-93	09:31	OITHONA SIMILIS	F	2316
W93140276	F13P	10-13-93	09:31	OITHONA SIMILIS	M	32
W93140276	F13P	10-13-93	09:31	OITHONA SIMILIS	C	3680
W93140276	F13P	10-13-93	09:31	PARACALANUS PARVUS	C	3299
W93140276	F13P	10-13-93	09:31	PARACALANUS PARVUS	F	159
W93140276	F13P	10-13-93	09:31	PODON POLYPHEMOIDES		286
W93140276	F13P	10-13-93	09:31	TEMORA LONGICORNIS	C	1396
W93140276	F13P	10-13-93	09:31	TEMORA LONGICORNIS	F	32
W93140276	F13P	10-13-93	09:31	UNIDENTIFIED LARVAE		317
W93140379	F02P	10-14-93	07:45	ACARTIA TONSA	M	56
W93140379	F02P	10-14-93	07:45	ACARTIA TONSA	F	56
W93140379	F02P	10-14-93	07:45	BIVALVE VELIGER		12716
W93140379	F02P	10-14-93	07:45	CENTROPAGES HAMATUS	F	56
W93140379	F02P	10-14-93	07:45	CENTROPAGES SPP.	C	3514
W93140379	F02P	10-14-93	07:45	COPEPOD NAUPLII	N	9593
W93140379	F02P	10-14-93	07:45	ECHINODERM PLUTEI		558
W93140379	F02P	10-14-93	07:45	FISH EGG		56
W93140379	F02P	10-14-93	07:45	GASTROPOD VELIGER		3235
W93140379	F02P	10-14-93	07:45	MEDUSA		446
W93140379	F02P	10-14-93	07:45	MICROSETELLA NORVEGICA		56
W93140379	F02P	10-14-93	07:45	OIKIOPLEURA DIOICA		1339
W93140379	F02P	10-14-93	07:45	OITHONA ATLANTICA	F	56
W93140379	F02P	10-14-93	07:45	OITHONA SIMILIS	F	1673
W93140379	F02P	10-14-93	07:45	OITHONA SIMILIS	M	112
W93140379	F02P	10-14-93	07:45	OITHONA SIMILIS	C	4462
W93140379	F02P	10-14-93	07:45	PARACALANUS PARVUS	M	335
W93140379	F02P	10-14-93	07:45	PARACALANUS PARVUS	C	5912
W93140379	F02P	10-14-93	07:45	PARACALANUS PARVUS	F	948
W93140379	F02P	10-14-93	07:45	PODON POLYPHEMOIDES		279
W93140379	F02P	10-14-93	07:45	TEMORA LONGICORNIS	C	56
W93140379	F02P	10-14-93	07:45	UNIDENTIFIED LARVAE		446
W93140395	F01P	10-14-93	09:10	ACARTIA TONSA	C	122
W93140395	F01P	10-14-93	09:10	BIVALVE VELIGER		27794
W93140395	F01P	10-14-93	09:10	CENTROPAGES SPP.	C	2438
W93140395	F01P	10-14-93	09:10	CENTROPAGES TYPICUS	F	122
W93140395	F01P	10-14-93	09:10	COPEPOD NAUPLII	N	4998
W93140395	F01P	10-14-93	09:10	ECHINODERM PLUTEI		122
W93140395	F01P	10-14-93	09:10	GASTROPOD VELIGER		4023
W93140395	F01P	10-14-93	09:10	MEDUSA		244
W93140395	F01P	10-14-93	09:10	OIKIOPLEURA DIOICA		2194
W93140395	F01P	10-14-93	09:10	OITHONA ATLANTICA	F	122

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

Table G1. Zooplankton Species Data for October 1993.

Event	Station	Date	Time	Taxon	Qual[1]	Individuals Per M3
W93140395	F01P	10-14-93	09:10	OITHONA SIMILIS	F	3170
W93140395	F01P	10-14-93	09:10	OITHONA SIMILIS	C	5486
W93140395	F01P	10-14-93	09:10	PARACALANUS PARVUS	F	975
W93140395	F01P	10-14-93	09:10	PARACALANUS PARVUS	M	244
W93140395	F01P	10-14-93	09:10	PARACALANUS PARVUS	C	9143
W93140395	F01P	10-14-93	09:10	PODON POLYPHEMOIDES		122
W93140395	F01P	10-14-93	09:10	PSEUDOCALANUS NEWMANI	C	244
W93140395	F01P	10-14-93	09:10	TEMORA LONGICORNIS	F	366
W93140395	F01P	10-14-93	09:10	TEMORA LONGICORNIS	M	853
W93140395	F01P	10-14-93	09:10	TEMORA LONGICORNIS	C	975
W93140481	F23P	10-15-93	05:48	ACARTIA TONSA	M	623
W93140481	F23P	10-15-93	05:48	ACARTIA TONSA	C	2003
W93140481	F23P	10-15-93	05:48	ACARTIA TONSA	F	579
W93140481	F23P	10-15-93	05:48	BARNACLE NAUPLII	N	223
W93140481	F23P	10-15-93	05:48	BIVALVE VELIGER		1380
W93140481	F23P	10-15-93	05:48	CENTROPAGES HAMATUS	F	134
W93140481	F23P	10-15-93	05:48	CENTROPAGES HAMATUS	M	134
W93140481	F23P	10-15-93	05:48	CENTROPAGES SPP.	C	757
W93140481	F23P	10-15-93	05:48	COPEPOD NAUPLII	N	2805
W93140481	F23P	10-15-93	05:48	EURYTEMORA HERDMANI	M	89
W93140481	F23P	10-15-93	05:48	EURYTEMORA HERDMANI	F	178
W93140481	F23P	10-15-93	05:48	EURYTEMORA HERDMANI	C	1024
W93140481	F23P	10-15-93	05:48	GASTROPOD VELIGER		178
W93140481	F23P	10-15-93	05:48	MICROSETELLA NORVEGICA		223
W93140481	F23P	10-15-93	05:48	OITHONA SIMILIS	F	1291
W93140481	F23P	10-15-93	05:48	OITHONA SIMILIS	C	801
W93140481	F23P	10-15-93	05:48	OITHONA SIMILIS	M	45
W93140481	F23P	10-15-93	05:48	PARACALANUS PARVUS	F	89
W93140481	F23P	10-15-93	05:48	PARACALANUS PARVUS	C	668
W93140481	F23P	10-15-93	05:48	POLYCHAETE LARVAE		2716
W93140481	F23P	10-15-93	05:48	PSEUDOCALANUS NEWMANI	F	267
W93140481	F23P	10-15-93	05:48	PSEUDOCALANUS NEWMANI	M	134
W93140481	F23P	10-15-93	05:48	PSEUDOCALANUS NEWMANI	C	178
W93140481	F23P	10-15-93	05:48	TEMORA LONGICORNIS	F	89
W93140481	F23P	10-15-93	05:48	TEMORA LONGICORNIS	M	89
W93140481	F23P	10-15-93	05:48	TEMORA LONGICORNIS	C	579
W93140481	F23P	10-15-93	05:48	UNIDENTIFIED HARPACTICOID		445
W93140481	F23P	10-15-93	05:48	UNIDENTIFIED LARVAE		89

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