ATLANTIC COASTAL EXPERIMENT IV
R/V ATLANTIS II CRUISE
3-13 APRIL 1978

DATA REPORT

W. Behrens, Editor

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ABSTRACT

The R/V ATLANTIS II cruise to New York Bight and Georges Bank during the spring of 1978 was part of a study of the physical, chemical, and biological interactions between these two regions. Temperature, salinity, chlorophyll, phaeophytin, particle size, phosphate, silicate, nitrate, nitrite, and ammonium measurements of the water column were made. Additional nutrient samples were taken near the sediment-bottom interface. Productivity measurements included chlorophyll, phaeophytin, and ^{14}C uptake data fractionated to less than or greater than $20\text{ }\mu\text{m}$. Particulate nitrogen, carbon, and amorphous silica analyses were made as well as nitrogen uptake dynamics using ^{15}N . Phytoplankton and zooplankton species composition and abundance were investigated by discrete sampling and vertical BONGO net tows.

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INTRODUCTION

The cruise aboard the R/V ATLANTIS II from 3-13 April 1978 consisted of two transects, one across the continental shelf in the New York Bight off Shinnecock Inlet and the other across Georges Bank. Each transect included a time series station occupied for at least 24 h. Hydrography, productivity, plankton distribution, and plankton abundance data were collected. This cruise coincided in part with Leg I of the R/V ARGUS cruise (25 March - 8 April) such that data from each cruise complements the other as part of an investigation of processes occurring along the Northeast continental shelf.

In addition to the data presented here, zooplankton composition and abundance data¹ were collected from discrete depths at the time series stations using a pumping system. This system pumped about 850 liters per minute through a 10-cm hose to a 102- μ m mesh net. Approximately one cubic meter of seawater was sampled from each depth. Microbiological analyses² were also done on productivity samples. These included: uptake of ¹⁴C labeled dissolved amino acids by bacteria and phytoplankton; size fractionation of the organisms responsible for the uptake; measuring total dissolved free amino acids by fluorescence; determining bacterial numbers by acridine orange dye and fluorescent microscopy; size determination of bacteria responsible for uptake by preserving specimens and observing under a scanning electron microscope.

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METHODS

Hydrography

Five-liter Niskin bottles with paired Gohla reversing thermometers were used to collect samples. Salinities were analysed onboard with a Guildline Model 8400 salinometer. Chlorophyll a and phaeophytin concentrations from each sample were determined fluoremetrically as described in the productivity section but were not fractionated.

In situ measurements of in vivo chlorophyll fluorescence were also made with a Turner Designs Model 10 fluorometer housed in a watertight pressure case. This instrument was also equipped with a thermistor and depth transducer, such that fluorescence, temperature, and depth (FTD) could be simultaneously measured. FTD data were used to determine the depth of the chlorophyll maximum from which discrete samples from the hydrography cast were taken for phytoplankton species composition analysis. Phytoplankton samples were also taken from other depths, preserved with Lugol's iodine, and counted in Uttermohl chambers with an inverted microscope after returning to Brookhaven National Laboratory (BNL).

Abundance and size-frequency distribution of particulate material was determined with a Coulter Counter Model TA II. A 280- μm aperture tube was used, which quantified particles between 50.4 and 128.0 μm equivalent spherical diameter (ESD). Counting duration ranged from 60 to 300 seconds depending on particle concentration.

All nutrient samples were analyzed soon after collection using Technicon Auto Analyzer II hardware. The automated chemical methods were modified for small-volume glassware in the manifolds to optimize stability and sensitivity. The basic techniques and reagents for phosphate were described by

Murphy and Riley (1962); for dissolved silicon, nitrate, and nitrite by Armstrong et al. (1967), and Bendschneider and Robinson (1952); and for ammonium by Slawyk and MacIsaac (1972), and Patton and Crouch (1977). A complete description of the automated chemical methods is given by Whitley et al. (in press).

Interface

Near-bottom nutrient samples were collected with 16 closely spaced 50-cc glass syringes mounted on an aluminum frame, a design similar to one described by Broenkow (1969). The 16 syringes were spaced about 25 cm apart over the 3.25-m length of the sampling device. The lower end which rested on the bottom was weighted with 27 kg of lead and the upper end was held vertical with a small buoyant deep-sea glass sphere enclosed in a plastic hard hat. The lowest sampling syringe was 13 cm above the sediment-water interface. If sediment was present in the near-bottom water samples, they were immediately filtered through a prewashed 1-cm Millipore filter with 5- μ m pore size. Nutrient concentrations were then determined as previously described in the hydrography section.

Productivity

Each day a productivity station was occupied at ca 0800 h local time. At these stations, light extinction coefficients were determined with a Lambda LI 192S quantum sensor interfaced to a ratio amplifier. A second sensor, placed on the deck, served as a reference. The ratios of surface light (I_0) to light at known depths (I_z) were output directly onto a recorder. $\log I_z/I_0$ were plotted as a function of depth and extrapolated through the origin. Sampling depths were determined from the light extinction plots corresponding to 100, 60, 30, 15, 5, 1, and 0.1% of I_0 .

Samples were obtained from desired depths with either 10- or 30-liter Niskin bottles. Samples were drawn for ^{14}C uptake measurements and incubated with 5 μCi of $\text{NaH}^{14}\text{CO}_3$ in screened bottles at 100, 60, 15, 5, and 1% light. A dark bottle was run in parallel and samples were incubated for 6 h at sea surface temperatures. Upon completion of the incubations, the samples were immediately filtered on Millipore HA filters at 10 mm Hg vacuum pressure, fumed for 60 seconds over concentrated HCl , and placed in scintillation vials to which 10 ml of Filter Solv (Beckman) was added. In some cases samples were size-fractionated with 22 μm mesh Nitex screening (Malone, 1971). The samples were counted in a Beckman LS 3150T scintillation counter with an external standard. Dark-bottle counts were subtracted from the corresponding light-bottle counts in the productivity calculations (Strickland and Parsons, 1972).

Chlorophyll a and phaeophytin concentrations were determined fluorometrically from 90% acetone extracts. Freshly drawn samples were filtered on Reeve Angel 984H glass fiber filters and ground in a tissue grinder with 90% acetone. The acetone extracts were filtered into clean graduated centrifuge tubes to remove the glass fibers, filters rinsed with acetone, brought to a constant volume, and measured before and after acidification in a Turner Designs Model 10 fluorometer (Yentsch and Menzel, 1963) calibrated with pure chlorophyll a (Perkins and Roberts, 1962). Some samples were also fractionated using 22 μm Nitex screening (Malone, 1971).

Amorphous particulate silica samples were filtered on 47 mm, 0.45 μm Millipore filters. A modification of the method described by Hurd (1973) was used which involves leaching the samples for 2 h at 85°C in 5% Na_2CO_3 and measuring the soluble reactive silicon on the autoanalyzer. Preliminary experiments indicated that positive interference by mineral silicon was <3%.

Samples for the determination of particulate organic carbon (POC) and nitrogen (PON), 125-250 ml, were collected on precombusted glass fiber filters (Gelman, Type AE, 10 mm). Samples were rinsed with filtered seawater and inorganic carbon was removed by placing filters above a bath of fuming concentrated HCl for one minute. Filters were then frozen in a dessicator and returned to the laboratory for analysis.

Filters were dried at 37°C for 24 h and placed in acid-washed aluminum boats for combustion analysis in a Carlo Erba Model 1104 Elemental Analyzer. Peaks were recorded and integrated using a Columbia Scientific Model CSI 38 integrator. Actaniline was used as a standard.

The nitrogen-15 method used to measure the uptake of nitrate ammonium and urea by the natural populations of phytoplankton has been described previously (Neess et al., 1962; Dugdale and Goering, 1967). The maximal utilization rate of dissolved inorganic nitrogen by phytoplankton was determined at 8 stations from water samples taken at 6 light depths (100, 50, 30, 15, 5, and 1%). The water was passed through 253- μ m Nitex mesh to remove large zooplankton and placed in 2-L bottles fitted with the appropriate neutral-density light screens. The samples were enriched with $\sim 9 \mu\text{mol L}^{-1}$ of ^{15}N -labelled NH_4 or NO_3 and incubated under natural light for 6 to 8 h, 0900 to 1700 h local time, in plexiglass tanks cooled by surface seawater. In addition to the ^{15}N samples described above, the maximal uptake rate of NO_2 was measured at the 100, 30, and 1% light depths. Similar incubations for 22 h were also done at Station 22 for NH_4 , NO_3 , and NO_2 .

After incubation with the stable isotope ^{15}N , the method of Pavlou et al. (1974) and the modified combustion technique of Gunther et al. (1966)

were used to measure the $^{15}\text{N}/^{14}\text{N}$ ratio in the phytoplankton. The biological transport rate of NH_4 (and NO_3 or NO_2) was calculated from the equation:

$$\text{NH}_4 = V_{\text{NH}_4} \cdot \text{PN},$$

where V_{NH_4} is the specific uptake rate of NH_4 (h^{-1}) and PN is the particulate organic N concentration ($\mu\text{mol L}^{-1}$) determined at the end of the experiment. The resulting units of transport are μmol of N utilized per liter per hour.

Zooplankton

Zooplankton abundance was estimated from samples collected with 102- μm mesh nets attached to a 60-cm diameter BONGO net-frame. Vertical hauls were made from a few meters off the bottom to the surface at stations less than 100 m deep, and from 100 m to the surface at deeper stations. The amount of water filtered was measured with a General Oceanic flow-meter fitted into the mouth of one of the nets. Zooplankton samples obtained from one net of each BONGO haul were preserved for later composition analysis while the samples from the other net were filtered on board for dry weight analysis. Volume estimates determined by the flow meter were used to calculate numbers per cubic meter ($\text{No.}/\text{m}^3$). Numbers per square meter ($\text{No.}/\text{m}^2$) were calculated by multiplying the $\text{No.}/\text{m}^3$ by the net tow depth after wire angle corrections were made.

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Fig. 1 Station Locations: R/V Atlantis II April 1978

TABLE 1. Station List

Station	Date	Messenger Time	Latitude N	Longitude W	Sonic Depth
1	3 April 78	1448	41 3.1	71 39.7	38
2	4 April 78	0042	40 47.7	72 32.3	21
3		0732	40 42.5	72 29.0	37
4		1505	40 39.0	72 26.0	43
5		1741	40 32.1	72 23.7	49
6		2015	40 26.6	72 20.0	55
7		2331	40 21.5	72 17.5	58
8	5 April 78	0212	40 16.5	72 14.5	60
9		0435	40 9.9	72 11.0	71
10		1852	39 32.4	71 43.4	1426
11		2300	39 42.4	71 52.0	292
12	6 April 78	0146	39 49.0	71 55.0	150
13		0355	39 54.5	71 59.4	97
14		0552	40 0.0	72 3.1	78
15		0952	40 4.5	72 5.5	76
16		1443	40 19.7	72 11.5	62
17		1833	40 20.0	72 11.4	67
19		2344	40 20.0	72 11.4	67
22	7 April 78	0720	40 19.7	72 12.5	68
24		1225	40 19.7	72 11.5	60
27		1828	40 20.0	72 11.9	63
29		2319	40 19.7	72 11.9	62
32	8 April 78	0636	40 19.6	72 12.0	63
33	9 April 78	1139	40 15.9	67 20.8	1829
34		1505	40 23.6	67 27.1	232
35		1737	40 29.0	67 34.6	137
36		2004	40 36.0	67 39.5	97
37		2237	40 42.5	67 45.7	76
38	10 April 78	0129	40 48.5	67 50.5	67
39		0354	40 53.3	67 57.5	56
40		0626	40 59.3	68 3.7	49
41		1012	41 7.0	68 10.0	42
42		1309	41 13.1	68 15.2	45
43		1553	41 18.5	68 20.5	53
44		1917	41 25.5	68 27.9	75
45		2140	41 33.0	68 31.1	102
46	11 April 78	0113	41 31.2	68 36.9	156
47		0256	41 45.9	68 42.0	172
48		0618	41 23.2	68 22.0	64
49		1535	40 54.9	67 56.1	56
50		1955	40 50.3	67 55.6	71
52	12 April 78	0040	40 50.3	67 53.6	67
55		0713	40 49.3	67 53.1	71
57		1237	40 52.3	67 51.3	65
60		1820	40 49.4	67 52.5	75
62		2334	40 50.5	67 53.5	69
65	13 April 78	0607	40 50.1	67 54.1	71

Hydrography Data

TABLE OF UNITS

CRUISE	STATION	CAST	DATE LOCAL	TIME EST	LATITUDE DEGREES	LONGITUDE DEGREES	DEPTH M
ACCEPTED DEPTH M	TEMPERATURE C	SALINITY PARTS/1000	SIGMA-T	FLOUROMETRIC CHLOROPHYLL UG/L	PHAEOPHYTIN UG/L	PARTICLE VOLUME MM3/LITER	
ACCEPTED DEPTH M	PHOSPHATE UG-AT/L	SILICATE UG-AT/L	NITRATE UG-AT/L	NITRITE UG-AT/L	AMMONIUM UG-AT/L		

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	1	1	3 APR 78	14:48:00	41 3.1 N	71 39.7 W	38

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	3.32	31.095	24.771	1.53	0.27	1.80
10	3.40	31.109	24.774	1.77	0.27	1.31
19	2.80	31.485	25.124	2.64	0.48	1.68
29	2.44	32.265	25.774	1.73	0.51	0.98

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.27	1.37	0.88	0.03	0.27
10	0.29	1.53	1.10	0.04	0.37
19	0.37	2.32	2.68	0.05	0.77
29	0.46	2.48	4.25	0.08	1.40

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	2	1	4 APR 78	00:42:00	40 47.7 N	72 32.3 W	21

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	3.84	31.838	25.313	5.53	0.85	3.12
5	3.94	31.836	25.302	4.99	1.24	2.99
10	3.88	31.839	25.311	5.24	1.09	2.91
18	3.66	31.944	25.414	12.96	2.14	5.43

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.35	2.15	0.38	0.03	-
5	0.33	2.02	0.35	0.03	0.27
10	0.38	2.08	0.34	0.03	0.44
18	0.37	2.23	0.55	0.04	0.63

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	3	1	4 APR 78	07:32:00	40 42.5 N	72 29.0 W	37

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	3.96	31.737	25.222	1.18	0.21	1.18
10	3.96	31.735	25.219	0.99	0.20	1.09
20	3.98	31.735	25.218	1.16	0.16	0.98
29	3.39	32.038	25.514	9.49	1.46	1.90

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.22	0.98	0.47	0.02	0.15
10	0.21	0.93	0.48	0.01	0.14
20	0.21	0.93	0.43	0.01	0.19
29	0.32	1.72	0.98	0.04	0.53

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	4	1	4 APR 78	15:05:00	40 39.0 N	72 26.0 W	43

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.01	31.698	25.186	0.73	0.06	1.10
10	4.00	31.700	25.188	0.94	0.07	0.98
20	3.96	31.700	25.192	0.63	0.08	1.07
30	3.51	32.005	25.476	1.12	0.22	0.94
35	3.24	32.244	25.690	4.35	0.78	1.18

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.07	1.15	0.89	0.05	0.47
10	0.07	1.13	0.80	0.05	0.56
20	0.06	1.12	0.82	0.05	0.84
30	0.08	1.40	1.15	0.07	0.63
35	0.09	1.73	1.36	0.07	0.63

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	5	1	4 APR 78	17:41:00	40 32.1 N	72 23.7 W	49

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	3.96	31.851	25.313	0.72	0.23	0.92
10	3.96	31.851	25.312	0.70	0.11	1.45
20	3.88	31.865	25.331	0.58	0.14	0.99
30	3.66	32.199	25.617	0.70	0.22	0.68
40	-	32.259	-	0.35	0.22	1.27

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.00	1.92	0.43	0.01	0.30
10	0.22	1.23	0.37	0.07	0.47
20	0.20	1.23	0.37	0.07	0.45
30	0.21	3.84	1.77	0.03	0.49
40	0.22	2.36	1.40	0.06	0.53

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	5	1	4 APR 78	20:15:00	40 26.6 N	72 20.0 W	55

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	3.95	32.137	25.540	2.26	0.25	2.30
10	3.96	32.205	25.592	2.39	0.00	2.24
20	3.88	32.230	25.621	0.48	0.03	1.12
30	3.77	32.345	25.722	0.52	0.00	1.10
40	3.52	32.635	25.976	1.30	0.18	1.30
50	3.53	32.639	25.979	0.78	0.14	1.05

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.25	3.41	1.25	0.06	0.39
10	0.24	3.44	1.25	0.06	0.40
20	0.24	3.57	1.40	0.06	0.39
30	0.25	3.70	2.18	0.06	0.36
40	0.47	4.21	5.24	0.11	1.28
50	0.49	4.29	5.24	0.11	1.51

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	7	1	4 APR 78	23:31:00	40 21.5 N	72 17.5 W	58

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.16	32.545	25.843	3.57	0.08	3.31
5	4.19	32.543	25.839	3.17	0.01	4.54
15	4.16	32.545	25.843	2.96	0.07	4.40
25	4.03	32.551	25.861	1.27	0.05	3.52
35	3.72	32.664	25.980	3.57	0.44	5.24
45	3.67	32.734	26.041	1.80	0.07	3.70

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.21	1.92	1.63	0.10	0.20
5	0.18	1.82	1.58	0.10	0.08
15	0.18	1.77	1.62	0.11	0.16
25	0.18	1.77	2.01	0.09	0.13
35	0.30	2.31	4.32	0.11	0.32
45	0.37	2.95	5.62	0.12	0.78

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	8	1	5 APR 78	02:12:00	40 16.5 N	72 14.5 W	60

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	3.64	32.397	25.776	2.78	0.35	1.65
10	3.63	32.401	25.780	3.35	0.29	1.81
20	3.44	32.397	25.794	2.91	0.32	3.52
30	3.35	32.444	25.840	1.43	0.21	1.57
40	3.29	32.617	25.983	2.61	0.21	1.42
50	3.36	32.668	26.017	4.04	0.68	2.17
55	3.36	32.674	26.022	4.35	1.30	2.07

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.16	2.24	0.39	0.04	-
10	0.18	2.18	0.49	0.05	-
20	0.23	2.16	1.27	0.09	-
30	0.23	2.50	-	0.10	-
40	0.38	3.37	4.63	0.13	-
50	0.46	3.66	5.27	0.13	-
55	0.44	3.70	5.24	0.16	-

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	9	1	5 APR 78	04:35:00	40 9.9 N	72 11.0 W	71

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	3.67	32.428	25.798	2.13	0.38	1.39
10	3.65	32.423	25.795	2.38	0.41	2.08
20	3.76	32.454	25.810	3.93	0.50	2.48
30	3.74	32.462	25.818	3.56	0.46	2.29
40	2.95	32.662	26.048	1.90	0.37	0.68
50	3.37	32.781	26.106	3.41	0.77	1.41
60	3.38	32.766	26.092	3.31	0.94	1.57

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.20	2.54	0.74	0.04	0.00
10	0.19	2.51	0.74	0.04	0.00
20	0.18	2.53	0.69	0.04	0.00
30	0.17	2.56	0.74	0.04	0.00
40	0.47	4.20	6.49	0.08	0.42
50	0.51	5.01	7.26	0.09	1.07
60	0.52	5.08	7.22	0.08	1.04

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	10	1	5 APR 78	18:52:00	39 32.4 N	71 43.4 W	1426

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	7.04	33.525	26.275	2.43	0.59	2.04
9	7.02	33.519	26.272	2.43	0.59	2.21
19	7.02	33.518	26.272	3.17	0.21	2.67
28	6.90	33.511	26.282	3.39	0.46	1.26
37	7.33	33.679	26.354	2.91	0.11	2.36
47	8.34	34.103	26.539	1.00	0.13	0.85
70	10.40	34.834	26.773	0.43	0.13	0.21
93	11.46	35.194	26.861	0.39	0.07	0.22
233	10.40	35.273	27.115	-	-	-
933	4.32	35.026	27.794	-	-	-

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.11	1.87	1.57	0.09	0.10
9	0.10	1.82	1.48	0.08	0.10
19	0.11	1.82	1.49	0.07	0.13
28	0.13	1.77	1.82	0.08	0.23
37	0.20	2.31	3.99	0.15	0.33
47	0.29	3.94	7.06	0.24	0.34
70	0.38	4.72	9.51	0.17	-
93	0.20	4.97	-	0.07	-
233	0.93	10.82	22.48	0.04	-
933	0.64	11.56	20.34	0.04	-

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	11	1	5 APR 78	23:00:00	39 42.4 N	71 52.0 W	292

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	6.06	33.233	26.173	4.13	0.23	3.02
10	6.06	33.235	26.174	3.52	0.48	2.26
20	6.07	33.237	26.174	3.65	0.45	1.89
30	6.09	33.281	26.207	2.96	0.33	1.95
40	6.24	33.351	26.243	1.65	0.40	1.82
50	6.67	33.544	26.339	1.33	0.17	0.81
74	11.53	34.976	26.679	0.52	0.09	0.34
99	11.53	35.121	26.791	0.35	0.06	0.27
199	10.65	35.246	27.049	0.52	0.00	-
248	10.00	35.246	27.163	0.26	0.05	-

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.28	4.12	3.86	0.13	0.15
10	0.25	4.15	3.86	0.13	0.06
20	0.25	4.08	3.91	0.13	0.06
30	0.25	4.12	4.53	0.14	0.09
40	0.30	4.20	4.77	0.14	0.25
50	0.32	4.13	5.77	0.17	0.25
74	0.31	3.72	6.72	0.29	0.30
99	0.39	4.69	9.51	0.27	0.06
199	0.79	9.59	19.07	0.05	0.00
248	-	-	-	-	-

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	12	1	6 APR 78	01:46:00	39 49.0 N	71 55.0 W	150

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	5.70	33.113	26.121	3.52	0.48	1.80
10	5.71	33.112	26.120	3.35	0.40	1.62
20	5.72	33.132	26.135	3.00	0.54	1.97
30	5.64	33.150	26.158	2.48	0.50	1.42
40	5.63	33.173	26.177	1.91	0.45	1.51
49	5.74	33.255	26.230	1.43	0.22	1.31
74	7.49	33.931	26.530	0.50	0.12	0.65
99	9.26	34.553	26.745	0.35	0.14	0.13
124	10.85	35.165	26.950	0.22	0.16	-
138	10.76	35.195	26.989	0.10	2.65	-

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.35	5.31	6.33	0.14	0.16
10	0.35	5.32	6.33	0.14	0.11
20	0.34	5.33	6.33	0.14	0.11
30	0.37	4.99	6.43	0.14	0.14
40	0.38	5.05	6.62	0.14	0.12
49	0.40	5.20	7.13	0.17	0.17
74	0.40	5.06	7.67	0.21	0.22
99	0.47	6.20	10.85	0.14	0.01
124	0.62	7.59	14.50	0.14	0.00
138	0.69	8.78	16.27	0.17	0.00

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	13	1	6 APR 78	03:55:00	39 54.5 N	71 59.4 W	97

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.93	32.919	26.058	2.07	0.49	2.02
10	4.95	32.920	26.056	2.07	0.48	1.30
20	4.97	32.924	26.057	2.32	0.60	1.04
29	4.96	32.938	26.059	2.10	0.45	1.11
39	4.95	32.970	26.096	2.02	0.43	1.45
49	4.38	33.019	26.196	1.42	0.23	0.43
73	4.98	33.222	26.291	0.93	0.25	0.75
88	5.75	33.473	26.400	0.99	0.29	0.38

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.44	5.56	6.89	0.12	-
10	0.41	5.52	6.86	0.12	-
20	0.41	5.58	7.46	0.12	0.00
29	0.40	5.44	6.93	0.13	0.00
39	0.42	5.40	7.68	0.12	0.00
49	0.57	7.87	10.23	0.12	0.25
73	0.62	8.23	11.02	0.17	0.19
88	0.62	8.63	11.58	0.16	0.13

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	14	1	6 APR 78	05:52:00	40 0.0 N	72 3.1 W	78

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.26	32.670	25.932	3.34	0.56	1.57
10	4.34	32.713	25.958	1.99	0.40	1.25
20	4.35	32.783	26.013	1.91	0.36	1.12
30	4.36	32.853	26.067	1.30	0.34	0.52
40	4.35	32.872	26.082	1.09	0.29	0.74
50	4.50	32.940	26.120	1.25	0.44	0.52
60	4.23	32.986	26.185	1.32	0.29	1.00
70	4.21	-	-	1.00	0.34	0.86

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.28	4.86	3.30	0.10	0.35
10	0.29	5.04	4.03	0.11	0.12
20	0.34	5.86	5.87	0.11	0.11
30	0.43	6.39	7.71	0.12	0.14
40	0.48	6.67	8.10	0.12	0.56
50	0.49	6.26	8.64	0.16	0.30
60	0.53	7.57	10.05	0.16	0.43
70	0.54	7.66	10.19	0.17	0.49

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	15	1	6 APR 78	09:52:00	40 4.5 N	72 5.5 W	76

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.06	32.480	25.785	2.39	0.33	1.28
10	3.93	32.464	25.801	2.39	0.00	1.76
20	3.84	32.476	25.820	1.65	0.19	0.87
30	3.26	32.598	25.970	2.48	0.14	0.68
40	3.00	32.726	26.095	1.33	0.19	0.82
50	3.57	32.844	26.138	2.26	0.20	1.69
65	3.70	32.887	26.159	2.70	0.18	2.17

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.02	3.30	0.93	0.03	0.46
10	0.00	3.35	0.91	0.04	0.07
20	0.03	3.39	1.25	0.04	0.00
30	0.11	3.44	4.28	0.07	0.17
40	0.24	4.92	7.38	0.07	0.61
50	0.29	5.76	8.21	0.07	0.85
65	0.33	6.74	9.22	0.07	0.14

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	16	1	6 APR 78	14:43:00	40 19.7 N	72 11.5 W	62

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.21	32.487	25.791	18.96	0.64	4.87
10	4.27	32.483	25.782	12.13	0.29	4.90
20	3.66	32.458	25.822	1.58	0.18	1.39
30	3.46	32.531	25.899	1.57	0.17	0.80
40	3.36	32.615	25.975	2.71	0.65	1.95
50	3.36	32.634	25.990	4.74	0.65	1.49
60	3.39	32.656	26.005	9.22	1.86	2.30

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.25	1.94	0.37	0.04	0.05
10	0.21	2.00	0.26	0.06	0.00
20	0.23	2.10	0.86	0.05	0.06
30	0.32	2.55	2.58	0.09	0.27
40	0.41	2.16	4.42	0.11	0.82
50	0.46	2.61	4.91	0.11	1.06
60	0.48	2.87	5.16	0.11	1.10

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	17	1	6 APR 78	18:33:00	40 20.0 N	72 11.4 W	67

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	3.91	32.428	25.775	3.61	0.24	1.60
8	3.90	32.426	25.774	2.96	0.28	2.16
18	3.65	32.416	25.790	2.00	0.15	1.59
28	3.60	32.430	25.805	1.61	0.19	0.88
38	3.33	32.472	25.864	0.94	0.17	0.73
48	3.33	32.623	25.984	2.74	0.60	1.05
58	3.36	32.652	26.004	3.70	0.56	1.71
63	3.36	32.651	26.003	4.43	1.16	1.10

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.16	2.30	0.38	0.04	0.05
8	0.15	2.13	0.36	0.03	0.00
18	0.16	2.30	0.62	0.03	0.14
28	0.17	2.42	0.90	0.05	0.06
38	0.24	2.69	1.60	0.06	0.32
48	0.39	3.55	4.99	0.09	0.92
58	0.66	3.87	5.30	0.09	0.99
63	0.41	3.85	5.28	0.09	0.95

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	19	1	6 APR 78	23:44:00	40 20.0 N	72 11.4 W	67
AN-99	19	2	6 APR 78	23:53:00	40 20.0 N	72 11.4 W	67

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	3.93	32.454	25.793	6.89	0.19	-
10	3.93	32.453	25.793	6.00	0.56	-
20	3.89	32.451	25.795	4.44	1.06	-
30	3.49	32.444	25.827	2.18	0.23	-
40	3.61	32.574	25.919	1.78	0.06	-
50	3.34	32.618	25.979	2.58	0.15	-
60	3.39	32.659	26.007	6.44	0.00	-
65*	3.42	32.656	26.002	6.22	0.00	-

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.20	2.51	0.45	0.04	0.26
10	0.17	2.49	0.43	0.03	0.00
20	0.13	2.47	0.49	0.04	0.04
30	0.21	2.64	1.56	0.06	0.21
40	0.22	2.92	2.28	0.09	0.16
50	0.38	3.83	4.73	0.10	1.74
60	0.36	3.97	5.42	0.09	1.03
65*	0.45	4.00	5.49	0.09	1.40

- DATA NOT TAKEN

* CAST 2

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	22	1	7 APR 78	07:20:00	40 19.7 N	72 12.5 W	68
AN-99	22	2	7 APR 78	07:29:00	40 19.7 N	72 12.5 W	63

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0+	3.76	32.401	25.768	2.28	0.38	1.65
8	3.75	32.401	25.768	1.92	0.22	1.32
18	3.97	32.464	25.797	1.15	0.22	2.23
28	3.59	32.464	25.834	5.07	0.44	2.23
38	3.47	32.555	25.917	1.36	0.19	0.72
48	3.38	32.644	25.996	1.56	0.38	1.11
58	3.38	32.653	26.003	6.49	1.64	1.85
63	3.39	32.654	26.003	10.44	1.62	1.78

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0+	0.23	2.21	0.31	0.03	0.23
8	0.23	2.22	0.22	0.02	0.05
18	0.23	2.43	0.26	0.03	0.15
28	0.21	2.64	0.88	0.05	0.06
38	0.29	2.75	2.92	0.10	0.40
48	0.43	3.64	4.91	0.10	0.80
58	0.47	3.90	5.15	0.10	0.93
63	0.49	3.91	5.19	0.11	1.00

- DATA NOT TAKEN
+ CAST 1

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	24	1	7 APR 78	12:25:00	40 19.7 N	72 11.5 W	60

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	3.83	32.406	25.765	3.04	0.39	-
10	3.82	32.417	25.775	2.02	0.18	-
20	3.91	32.525	25.852	0.92	0.12	-
30	3.60	32.560	25.909	4.79	0.25	-
39	3.53	32.610	25.956	2.12	0.18	-
49	3.41	32.659	26.006	4.84	0.56	-
59	3.40	32.660	26.007	4.62	0.67	-

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.14	2.32	0.25	0.00	0.42
10	0.11	2.35	0.25	0.00	0.27
20	0.10	2.43	0.30	0.04	0.21
30	0.15	2.68	1.26	0.08	0.34
39	0.41	3.09	3.67	0.10	2.56
49	0.43	4.04	5.36	0.10	1.45
59	0.42	4.05	5.37	0.09	1.37

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	27	1	7 APR 78	18:28:00	40 20.0 N	72 11.9 W	63

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	3.84	32.397	25.757	7.56	0.31	-
8	3.85	32.396	25.755	7.11	0.49	-
18	3.74	32.396	25.765	2.22	0.19	-
28	3.94	32.482	25.814	1.33	0.24	-
38	3.64	32.506	25.863	4.00	0.20	-
47	3.36	32.621	25.980	2.09	0.43	-
57	3.37	32.636	25.991	5.33	0.00	-
62	3.37	32.638	25.992	5.33	0.96	-

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.16	2.21	0.04	0.00	0.14
8	0.16	2.24	0.03	0.00	0.06
18	0.13	2.27	0.08	0.00	0.04
28	0.12	2.35	0.13	0.03	0.06
38	0.14	2.58	0.64	0.06	0.04
47	0.34	3.54	4.45	0.08	0.47
57	0.37	3.77	4.79	0.08	0.67
62	0.36	3.85	4.78	0.09	0.74

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	29	1	7 APR 78	23:19:00	40 19.7 N	72 11.9 W	62

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	3.98	32.387	25.735	2.27	0.20	-
10	3.84	32.387	25.749	2.67	0.00	-
20	3.64	32.392	25.772	2.18	0.34	-
30	3.66	32.455	25.820	3.16	0.20	-
40	3.41	32.614	25.970	1.29	0.18	-
50	3.37	32.644	25.997	5.33	0.00	-
60	3.38	32.644	25.996	6.22	1.12	-

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.14	2.20	0.27	0.03	0.24
10	0.11	2.16	0.21	0.02	0.04
20	0.10	2.12	0.25	0.02	0.03
30	0.11	2.27	0.46	0.04	0.01
40	0.23	2.96	3.88	0.10	0.39
50	0.29	3.85	5.08	0.10	0.68
60	0.32	3.86	5.00	0.12	0.83

- DATA NOT TAKEN

CRUISE AN-99	STATION 32	CAST 1	DATE 8 APR 78	TIME 06:36:00	LATITUDE 40 19.6 N	LONGITUDE 72 12.0 W	DEPTH 63
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ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	3.72	32.393	25.766	3.09	0.50	2.11
10	3.72	32.393	25.765	2.63	0.49	2.61
20	3.66	32.419	25.792	2.51	0.45	2.29
30	3.42	32.496	25.875	3.86	0.38	2.41
40	3.34	32.531	25.910	1.82	0.15	1.25
50	3.38	32.624	25.981	2.38	0.48	1.73
60	3.38	32.642	25.995	5.15	0.72	1.27
63	3.38	32.643	25.996	4.69	0.45	1.95

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.16	2.20	0.18	0.00	0.36
10	0.15	2.21	0.21	0.00	0.14
20	0.15	2.21	0.22	0.01	0.07
30	0.22	2.56	1.74	0.07	0.10
40	0.26	3.01	2.93	0.08	0.24
50	0.34	3.65	4.41	0.08	0.54
60	0.38	3.95	4.87	0.08	0.69
63	0.36	3.96	4.85	0.07	0.72

- DATA NOT TAKEN

CRUISE AN-99	STATION 33	CAST 1	DATE 9 APR 78	TIME 11:39:00	LATITUDE 40 15.9 N	LONGITUDE 67 20.8 W	DEPTH 1829
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ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	3.38	32.180	25.627	3.91	0.44	2.26
10	3.35	32.182	25.632	4.27	0.87	1.83
20	3.39	32.359	25.769	5.29	0.85	2.22
30	3.53	32.499	25.867	5.20	0.78	2.44
40	4.20	33.047	26.237	2.35	0.80	1.29
50	4.39	33.177	26.320	1.83	0.52	0.99
74	4.92	33.487	26.508	0.87	0.28	0.77
99	5.54	33.697	26.602	0.73	0.27	0.69
248	8.83	35.065	27.216	0.41	0.18	0.15
993	4.24	34.968	27.756	-	-	0.10

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.25	0.56	0.14	0.01	0.21
10	0.29	0.85	0.13	0.02	0.26
20	0.31	0.89	0.74	0.04	0.40
30	0.42	1.53	3.34	0.07	0.52
40	0.68	5.86	9.77	0.11	0.56
50	0.72	6.69	10.87	0.12	0.42
74	0.76	8.60	12.77	0.17	0.29
99	0.79	8.90	13.53	0.14	0.26
248	0.91	11.84	20.02	0.02	0.74
993	0.92	11.88	20.30	0.03	-

- DATA NOT TAKEN

CRUISE AN-99	STATION 34	CAST 1	DATE 9 APR 78	TIME 15:05:00	LATITUDE 40 23.6 N	LONGITUDE 67 27.1 W	DEPTH 232
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ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	3.50	32.171	25.609	3.24	0.90	2.09
10	3.45	32.172	25.614	3.29	0.64	1.96
20	3.44	32.202	25.640	3.38	0.98	2.40
30	3.54	32.297	25.705	4.98	1.21	2.24
40	4.22	32.469	25.777	2.84	0.88	1.81
49	4.75	32.667	25.878	1.69	0.51	1.12
74	5.30	33.197	26.236	2.62	1.05	1.54
99	7.25	33.972	26.597	1.38	0.67	1.01
198	10.84	35.319	27.072	-	-	0.45

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.17	0.52	0.15	0.03	0.19
10	0.18	0.50	0.13	0.05	0.28
20	0.15	0.57	0.19	0.03	0.20
30	0.15	0.59	0.34	0.03	0.21
40	0.14	0.56	0.22	0.05	0.32
49	0.16	0.64	0.28	0.03	0.22
74	0.38	2.92	5.16	0.15	0.59
99	0.60	5.99	10.71	0.14	0.36
198	0.91	10.39	21.22	0.04	0.18

- DATA NOT TAKEN

CRUISE AN-99	STATION 35	CAST 1	DATE 9 APR 78	TIME 17:37:00	LATITUDE 40 29.0 N	LONGITUDE 67 34.6 W	DEPTH 137
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ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	3.87	32.525	25.855	6.62	0.72	2.98
10	3.86	32.524	25.856	6.71	1.05	2.80
19	3.84	32.525	25.859	5.56	1.52	3.40
29	3.85	32.527	25.860	5.64	1.59	3.30
39	3.79	32.550	25.883	6.13	1.31	2.83
49	3.80	32.580	25.906	5.60	1.74	2.76
73	4.07	32.916	26.146	3.20	0.73	1.48
97	4.99	33.458	26.478	1.34	0.33	1.07
121	7.25	34.137	26.726	1.20	0.58	0.97

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.22	0.87	1.31	0.08	0.42
10	0.24	0.79	1.30	0.08	0.26
19	0.23	0.81	1.34	0.08	0.22
29	0.24	0.84	1.39	0.07	0.19
39	0.24	0.86	2.30	0.07	0.21
49	0.24	0.98	2.38	0.08	0.24
73	0.48	4.59	7.99	0.11	0.34
97	0.64	7.76	11.91	0.12	0.22
121	0.64	8.03	13.33	0.10	0.12

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	36	1	9 APR 78	20:04:00	40 36.0 N	67 39.5 W	97

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.11	32.558	25.858	0.67	0.07	0.51
10	4.12	32.561	25.859	0.62	0.11	0.68
20	4.06	32.613	25.906	0.67	0.17	0.41
29	3.97	32.628	25.928	0.58	0.16	0.68
39	3.88	32.754	26.036	0.67	0.54	0.66
49	3.95	32.807	26.072	0.80	0.72	0.65
59	3.93	32.848	26.106	1.20	0.74	1.11
68	4.10	32.891	26.123	1.47	1.21	1.54
78	4.42	33.069	26.232	1.91	1.66	1.67
88	4.49	33.098	26.247	3.42	2.50	2.07

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.40	2.05	2.30	0.09	0.97
10	0.34	2.20	2.31	0.09	0.83
20	0.41	2.55	3.12	0.11	0.84
29	0.43	2.51	3.61	0.11	1.11
39	0.60	4.28	6.42	0.13	0.94
49	0.66	4.83	7.24	0.13	0.95
59	0.68	5.18	7.59	0.13	0.98
68	0.67	5.28	7.98	0.13	0.99
78	0.70	6.07	9.05	0.14	0.82
88	0.74	6.32	9.44	0.14	0.83

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	37	1	9 APR 78	22:37:00	40 42.5 N	67 45.7 W	76

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.25	32.570	25.854	1.38	0.09	0.99
10	4.25	32.570	25.854	1.33	0.19	0.76
20	4.24	32.606	25.883	2.22	0.35	1.07
30	4.15	32.630	25.911	1.42	0.20	0.91
40	3.92	32.733	26.015	1.56	0.59	0.85
50	3.91	32.735	26.018	1.38	0.67	1.21
60	3.92	32.736	26.018	1.47	0.63	0.98
70	3.91	32.737	26.020	1.42	0.52	0.95

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.32	1.86	0.86	0.06	1.46
10	0.31	1.76	0.86	0.06	0.92
20	0.33	2.01	1.35	0.06	0.70
30	0.39	2.36	2.20	0.08	1.08
40	0.61	3.80	5.97	0.11	1.39
50	0.59	3.85	6.05	0.13	1.00
60	0.60	3.81	5.95	0.13	0.95
70	0.59	3.76	5.96	0.12	0.90

- DATA NOT TAKEN

CRUISE AN-99	STATION 38	CAST 1	DATE 10 APR 78	TIME 01:29:00	LATITUDE 40 48.5 N	LONGITUDE 67 50.5 W	DEPTH 67
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ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.16	32.470	25.784	0.76	0.35	0.71
10	4.17	32.469	25.781	0.81	0.17	0.51
20	4.18	32.472	25.783	0.76	0.24	0.50
30	4.03	32.701	25.980	1.28	0.66	0.91
40	4.02	32.729	26.002	1.96	1.14	1.35
50	4.02	32.730	26.003	2.80	1.34	1.40
64	4.01	32.730	26.004	5.56	4.83	3.23

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.25	1.10	0.79	0.05	0.75
10	0.24	1.10	0.74	0.05	0.61
20	0.25	1.09	0.83	0.05	0.67
30	0.44	2.71	4.55	0.10	0.91
40	0.47	2.94	4.83	0.10	0.70
50	0.45	3.03	5.03	0.10	0.61
64	0.45	3.12	5.12	0.09	0.63

- DATA NOT TAKEN

CRUISE AN-99	STATION 39	CAST 1	DATE 10 APR 78	TIME 03:54:00	LATITUDE 40 53.3 N	LONGITUDE 67 57.5 W	DEPTH 56
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ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.38	32.958	26.148	8.13	1.83	2.63
10	4.39	32.959	26.147	7.29	1.63	2.56
20	4.39	32.956	26.145	6.27	1.81	2.77
29	4.38	32.964	26.152	7.78	1.61	2.99
39	4.39	32.958	26.146	7.60	2.84	3.26
49	4.41	32.958	26.145	6.98	2.51	2.72

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.28	1.96	1.16	0.83	0.04
10	0.26	1.84	1.56	0.68	0.04
20	0.26	1.85	1.61	0.48	0.04
29	0.25	1.82	1.49	0.46	0.02
39	0.25	1.99	1.36	0.74	0.02
49	0.25	1.96	1.29	0.70	0.02

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	40	1	10 APR 78	06:26:00	40 59.3 N	68 3.7 W	49

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.46	32.949	26.132	12.09	3.02	5.90
5	4.48	32.949	26.130	9.02	2.10	5.30
10	4.49	32.948	26.128	9.16	2.38	4.89
15	4.47	32.949	26.131	10.49	2.62	4.93
20	4.47	32.948	26.131	9.91	2.41	4.40
30	4.47	32.949	26.131	12.67	3.01	4.24
40	4.47	32.950	26.132	13.33	3.19	4.62
45	4.49	32.950	26.130	10.89	2.48	5.17

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.14	0.50	0.14	0.04	0.32
5	0.15	0.62	0.14	0.04	0.21
10	0.15	0.58	0.18	0.04	0.38
15	0.14	0.65	0.12	0.05	0.36
20	0.14	0.61	0.12	0.04	-
30	0.14	0.53	0.11	0.05	0.46
40	0.14	0.49	0.20	0.05	0.45
45	0.12	0.51	0.19	0.06	0.31

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	41	1	10 APR 78	10:12:00	41 7.0 N	68 10.0 W	42

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.49	32.928	26.112	14.44	2.34	3.35
10	4.49	32.926	26.111	14.22	2.04	3.38
20	4.48	32.926	26.112	14.16	2.29	3.99
30	4.47	32.926	26.113	17.11	2.03	4.62
40	4.47	32.931	26.117	16.89	2.78	4.21

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.12	0.43	0.16	0.00	0.55
10	0.12	0.42	0.19	0.00	0.40
20	0.09	0.41	0.21	0.02	0.37
30	0.09	0.40	0.20	0.02	0.35
40	0.08	0.40	0.13	0.02	0.26

- DATA NOT TAKEN

CRUISE AN-99	STATION 42	CAST 1	DATE 10 APR 78	TIME 13:09:00	LATITUDE 41 13.1 N	LONGITUDE 68 15.2 W	DEPTH 45
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ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.51	32.922	26.105	13.91	1.04	4.39
5	4.53	32.925	26.105	14.13	1.65	4.11
10	4.50	32.923	26.107	12.84	2.68	4.07
20	4.48	32.922	26.109	14.18	1.82	4.31
30	4.48	32.923	26.110	12.27	2.42	4.57
40	4.47	32.923	26.110	15.24	1.80	3.98
45	4.47	32.923	26.110	13.20	2.43	3.43

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.08	0.39	0.09	0.04	0.36
5	0.08	0.34	0.07	0.06	0.32
10	0.08	0.44	0.06	0.06	0.26
20	0.08	0.39	0.02	0.05	0.21
30	0.10	0.49	0.06	0.05	0.24
40	0.11	0.54	0.06	0.05	0.25
45	0.14	0.49	0.04	0.06	0.32

- DATA NOT TAKEN

CRUISE AN-99	STATION 43	CAST 1	DATE 10 APR 78	TIME 15:53:00	LATITUDE 41 18.5 N	LONGITUDE 68 20.5 W	DEPTH 53
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ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.40	32.806	26.026	6.71	1.63	2.48
5	4.44	32.802	26.018	7.60	0.84	2.13
10	4.39	32.811	26.030	6.67	0.73	2.31
20	4.35	32.829	26.048	7.24	1.25	2.50
29	4.37	32.842	26.057	8.31	1.29	2.84
39	4.37	32.851	26.064	11.29	2.24	2.96
44	4.37	32.850	26.063	14.13	2.12	3.09

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.21	2.42	4.04	0.07	0.60
5	0.22	2.26	4.08	0.07	0.31
10	0.21	2.29	3.76	0.08	0.45
20	0.17	1.88	3.18	0.07	0.26
29	0.17	1.71	3.07	0.07	0.24
39	0.15	1.35	2.19	0.06	0.32
44	0.14	1.29	2.09	0.06	0.27

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	44	1	10 APR 78	19:17:00	41 25.5 N	68 27.9 W	75

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.15	32.715	25.979	0.98	0.44	0.54
10	4.14	32.714	25.978	0.84	0.31	0.49
20	4.14	32.714	25.979	0.89	0.26	0.50
29	4.12	32.712	25.980	1.42	0.00	0.73
39	4.11	32.712	25.981	0.98	0.44	0.55
49	4.11	32.714	25.982	0.71	0.29	0.63
59	4.10	32.711	25.980	0.76	0.29	0.68
68	4.10	32.713	25.982	1.20	0.48	1.03

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.51	7.23	10.23	0.12	0.31
10	0.54	7.24	10.21	0.13	0.23
20	0.54	7.20	10.16	0.13	0.23
29	0.55	7.21	10.16	0.13	0.26
39	0.54	7.32	10.24	0.13	0.27
49	0.53	7.33	10.19	0.13	0.29
59	0.53	7.29	10.19	0.13	0.29
68	0.50	7.30	10.33	0.13	0.29

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	45	1	10 APR 78	21:40:00	41 33.0 N	68 31.1 W	102

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.22	32.774	26.019	8.89	2.65	4.71
10	4.23	32.773	26.017	12.22	1.15	5.66
20	4.18	32.773	26.021	12.98	2.13	5.86
30	4.07	32.775	26.034	12.04	1.01	5.43
40	4.05	32.778	26.039	11.64	0.84	5.12
50	4.04	32.795	26.053	8.67	0.77	4.50
60	4.04	32.821	26.074	7.24	0.99	3.25
70	4.05	32.833	26.082	6.36	0.20	3.24
79	4.04	32.841	26.090	6.62	0.77	2.64
89	4.33	32.858	26.074	5.16	0.82	2.29

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.26	0.88	2.01	0.12	0.65
10	0.20	0.89	2.40	0.12	0.35
20	0.22	0.91	2.43	0.13	0.27
30	0.27	0.93	2.93	0.16	0.25
40	0.28	1.09	3.37	0.15	0.23
50	0.35	1.70	4.76	0.17	0.24
60	0.45	3.04	6.46	0.17	0.31
70	0.49	3.50	7.19	0.17	0.32
79	0.55	3.91	7.54	0.15	0.33
89	0.57	4.62	8.18	0.14	0.41

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	46	1	11 APR 78	01:13:00	41 31.2 N	68 36.9 W	156

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.17	32.771	26.021	14.00	1.21	5.10
10	4.18	32.770	26.019	13.56	1.13	4.73
20	4.18	32.773	26.022	12.93	1.23	5.21
29	4.17	32.774	26.024	14.00	1.21	4.96
39	4.13	32.770	26.024	13.33	0.83	5.45
49	4.01	32.765	26.032	11.64	0.58	4.45
59	3.99	32.792	26.055	8.80	0.48	4.23
78	3.96	32.829	26.088	6.44	0.90	3.16
98	4.24	33.043	26.229	1.01	0.35	0.54
147	4.71	33.252	26.345	1.49	0.66	1.19

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.34	1.56	2.78	0.15	0.12
10	0.33	1.54	2.68	0.16	0.20
20	0.31	1.51	2.69	0.15	0.16
29	0.30	1.49	2.78	0.16	0.29
39	0.33	1.56	3.27	0.16	0.26
49	0.40	2.03	4.60	0.20	0.29
59	0.47	2.99	5.81	0.21	0.52
78	0.58	5.08	7.91	0.21	0.34
98	0.82	9.19	11.84	0.12	0.43
147	0.87	10.30	13.11	0.12	0.13

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	47	1	11 APR 78	02:56:00	41 45.9 N	68 42.0 W	172

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.01	32.656	25.946	10.49	1.00	4.64
10	4.00	32.656	25.947	12.22	0.52	4.34
20	4.00	32.656	25.946	11.73	0.49	4.41
30	4.00	32.677	25.964	11.29	0.41	4.34
39	4.05	32.749	26.016	8.71	0.68	3.84
49	4.03	32.762	26.028	7.47	0.77	3.47
59	3.99	32.800	26.062	5.73	0.46	2.40
79	4.05	32.946	26.172	2.27	0.30	1.00
98	4.32	33.082	26.253	1.00	0.26	0.57
157	5.77	33.769	26.632	0.43	0.21	0.32

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.33	1.80	3.35	0.16	0.26
10	0.32	1.79	3.32	0.15	0.08
20	0.31	1.83	3.28	0.15	0.13
30	0.33	1.87	3.81	0.15	0.13
39	0.41	2.55	5.27	0.16	0.15
49	0.45	2.99	5.76	0.16	0.21
59	0.56	5.24	7.99	0.22	0.24
79	0.73	7.84	10.79	0.15	0.27
98	0.82	9.36	12.18	0.12	0.15
157	1.06	13.44	16.58	0.05	0.02

- DATA NOT TAKEN

CRUISE AN-99	STATION 48	CAST 1	DATE 11 APR 78	TIME 06:18:00	LATITUDE 41 23.2 N	LONGITUDE 68 22.0 W	DEPTH 64
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ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.27	32.755	25.998	3.20	0.84	-
10	4.31	32.782	26.016	3.91	0.91	-
20	4.32	32.783	26.016	3.58	1.11	-
30	4.31	32.787	26.020	4.98	1.16	-
40	4.31	32.788	26.020	5.07	1.23	-
50	4.32	32.788	26.020	4.98	1.11	-
60	4.31	32.787	26.019	3.51	1.79	-

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.48	3.57	6.00	0.10	0.17
10	0.46	2.76	5.12	0.10	0.24
20	0.45	2.83	5.11	0.09	0.21
30	0.43	2.51	4.81	0.09	0.34
40	0.44	2.53	4.79	0.10	0.29
50	0.45	2.55	4.74	0.19	0.45
60	0.47	2.57	4.87	0.20	1.45

- DATA NOT TAKEN

CRUISE AN-99	STATION 49	CAST 1	DATE 11 APR 78	TIME 15:35:00	LATITUDE 40 54.9 N	LONGITUDE 67 56.1 W	DEPTH 56
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ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.48	32.905	26.096	3.38	0.50	-
10	4.46	32.940	26.125	3.82	0.69	-
20	4.48	32.992	26.164	6.18	0.59	-
30	4.49	33.004	26.173	7.56	0.84	-
40	4.50	33.010	26.176	7.69	1.33	-
50	4.49	33.012	26.179	6.58	0.34	-

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.26	2.31	2.32	0.08	0.39
10	0.24	1.97	1.71	0.05	0.26
20	0.26	1.57	0.93	0.04	0.15
30	0.29	1.53	0.82	0.04	0.17
40	0.30	1.38	0.67	0.03	0.21
50	0.29	1.23	0.50	0.04	0.19

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	50	1	11 APR 78	19:55:00	40 50.3 N	67 55.6 W	71
AN-99	50	2	11 APR 78	20:06:00	40 50.3 N	67 55.6 W	71

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.50	32.994	26.163	6.31	1.66	3.03
9	4.52	32.992	26.159	7.02	2.42	2.50
19	4.52	32.992	26.159	6.22	1.54	2.71
28	4.51	33.004	26.171	6.71	2.20	2.74
38	4.49	33.008	26.175	8.09	1.35	3.30
47	4.50	33.007	26.174	8.36	1.24	3.02
57	4.49	33.007	26.175	10.71	1.88	2.42
65*	4.49	33.005	26.173	9.02	2.41	4.09

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.23	1.39	0.47	0.02	0.20
9	0.24	1.44	0.56	0.04	0.37
19	0.22	1.35	0.47	0.04	0.27
28	0.20	1.01	0.38	0.04	0.26
38	0.19	0.92	0.24	0.04	0.26
47	0.20	0.92	0.25	0.03	0.33
57	0.26	0.98	0.40	0.03	0.51
65*	0.23	1.03	0.50	0.03	0.16

- DATA NOT TAKEN
• CAST 2

CRUISE	STATION	CAST	DATE	TIME	LATITUDE	LONGITUDE	DEPTH
AN-99	52	1	12 APR 78	00:40:00	40 50.3 N	67 53.6 W	67

ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.51	33.009	26.174	7.64	1.17	-
10	4.51	33.008	26.174	4.76	0.38	-
19	4.52	33.008	26.173	7.47	0.50	-
29	4.51	33.010	26.175	8.00	1.44	-
39	4.50	33.011	26.177	7.37	0.83	-
49	4.51	33.010	26.175	6.27	1.02	-
63	4.51	33.012	26.177	9.64	1.00	-

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.28	1.64	1.29	0.08	0.50
10	0.27	1.45	1.17	0.09	0.32
19	0.28	1.40	1.28	0.10	0.40
29	0.26	1.41	1.01	0.12	0.27
39	0.26	1.31	0.89	0.13	0.29
49	0.27	1.37	0.96	0.14	0.24
63	0.25	1.33	0.90	0.03	0.42

- DATA NOT TAKEN

CRUISE AN-99	STATION 55	CAST 1	DATE 12 APR 78	TIME 07:13:00	LATITUDE 40 49.3 N	LONGITUDE 67 53.1 W	DEPTH 71
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ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.51	-	-	10.27	1.53	-
10	4.51	32.983	26.154	8.62	1.66	-
19	4.51	32.991	26.161	9.20	1.34	-
29	4.52	32.997	26.164	9.16	1.60	-
39	4.51	33.000	26.168	10.49	1.68	-
49	4.51	33.005	26.172	10.36	2.60	-
58	4.50	33.004	26.171	10.44	1.62	-
63	4.50	33.004	26.171	11.78	2.38	-

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.24	1.23	0.87	0.03	0.43
10	0.23	1.50	0.82	0.03	0.33
19	0.21	1.37	0.52	0.02	0.43
29	0.21	1.34	0.46	0.02	0.32
39	0.20	1.60	0.40	0.02	0.42
49	0.17	1.67	0.34	0.03	0.42
58	0.14	1.25	0.38	0.03	0.22
63	0.14	1.17	0.36	0.03	0.32

- DATA NOT TAKEN

CRUISE AN-99	STATION 57	CAST 1	DATE 12 APR 78	TIME 12:37:00	LATITUDE 40 52.3 N	LONGITUDE 67 51.3 W	DEPTH 65
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ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.62	32.983	26.142	5.91	0.59	2.59
10	4.60	32.979	26.141	6.67	0.83	3.23
19	4.56	32.979	26.145	6.49	1.22	2.25
29	4.50	32.980	26.153	6.62	0.98	2.72
38	4.49	32.990	26.162	5.96	0.97	1.77
48	4.49	32.989	26.161	7.07	1.22	2.41
58	4.49	32.992	26.163	9.29	1.67	2.63

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.35	1.78	1.44	0.05	0.42
10	0.34	1.76	1.39	0.05	0.21
19	0.36	1.75	1.63	0.05	0.64
29	0.36	1.73	1.70	0.07	0.33
38	0.35	1.66	1.71	0.05	0.35
48	0.35	1.60	1.71	0.05	0.59
58	0.34	1.58	1.02	0.05	0.40

- DATA NOT TAKEN

CRUISE AN-99	STATION 60	CAST 1	DATE 12 APR 78	TIME 18:20:00	LATITUDE 40 49.4 N	LONGITUDE 67 52.5 W	DEPTH 75
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ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.64	33.001	26.154	9.42	1.49	-
5	4.64	33.002	26.155	8.76	1.10	-
10	4.66	33.000	26.151	9.33	1.16	-
20	4.64	33.008	26.160	8.84	1.17	-
30	4.62	33.010	26.164	8.76	0.84	-
40	4.56	33.017	26.175	11.73	1.12	-
50	4.56	33.019	26.177	11.11	1.48	-
60	4.54	33.018	26.178	12.53	2.05	-

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.22	1.17	0.25	0.04	0.15
5	0.22	1.08	0.25	0.04	0.00
10	0.22	1.05	0.25	0.04	1.31
20	0.19	0.87	0.25	0.04	0.24
30	0.19	0.78	0.25	0.04	0.17
40	0.20	-	0.25	0.04	0.19
50	0.19	1.11	0.25	0.04	0.21
60	0.17	1.03	0.25	0.04	0.17

- DATA NOT TAKEN

CRUISE AN-99	STATION 62	CAST 1	DATE 12 APR 78	TIME 23:34:00	LATITUDE 40 50.5 N	LONGITUDE 67 53.5 W	DEPTH 69
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ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.58	33.015	26.172	9.20	2.23	-
10	4.60	33.013	26.168	8.84	0.12	-
20	4.62	33.014	26.167	8.84	0.65	-
30	4.58	33.016	26.172	4.62	0.41	-
40	4.59	33.014	26.170	8.89	1.60	-
50	4.59	33.014	26.170	9.82	1.77	-
65	4.58	33.017	26.174	12.89	2.27	-

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.17	0.68	0.17	0.07	0.10
10	0.18	0.72	0.17	0.07	0.08
20	0.18	0.66	0.18	0.06	0.32
30	0.19	0.61	0.18	0.06	0.51
40	0.19	0.75	0.18	0.06	0.33
50	0.19	0.80	0.23	0.06	1.11
65	0.19	0.79	0.19	0.05	0.48

- DATA NOT TAKEN

CRUISE AN-99	STATION 65	CAST 1	DATE 13 APR 78	TIME 06:07:00	LATITUDE 40 50.1 N	LONGITUDE 67 54.1 W	DEPTH 71
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ACCEPTED DEPTH	TEMPERATURE	SALINITY	SIGMA-T	FLOUROMETRIC CHLOROPHYLL	PHAEOPHYTIN	PARTICLE VOLUME
0	4.48	32.933	26.117	5.91	0.85	-
10	4.48	32.935	26.118	6.13	1.10	-
20	4.51	32.937	26.118	6.71	1.26	-
30	4.52	32.958	26.132	7.69	1.54	-
39	4.54	32.971	26.141	9.29	1.25	-
49	4.50	32.980	26.153	9.11	1.74	-
59	4.56	32.986	26.151	10.40	2.08	-
64	4.54	32.984	26.151	10.40	2.50	-

ACCEPTED DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
0	0.28	2.08	1.77	0.11	0.60
10	0.19	2.00	1.76	0.11	0.59
20	0.17	1.92	1.75	0.11	0.61
30	0.17	1.59	1.31	0.11	0.55
39	0.11	1.46	0.91	0.06	0.49
49	0.12	1.53	0.82	0.04	0.45
59	0.12	1.44	0.58	0.03	0.46
64	0.13	1.75	0.57	0.03	0.40

- DATA NOT TAKEN

Productivity Data

TABLE OF UNITS

CRUISE	STATION	DATE LOCAL	TIME EST	LATITUDE DEGREES	LONGITUDE DEGREES	SONIC DEPTH M		
LIGHT DEPTH %	DEPTH M	TOTAL FLUORO CHLOROPHYLL UG/L	CHLOROPHYLL >20 MICRONS UG/L	CHLOROPHYLL <20 MICRONS UG/L	TOTAL FLUORO PHAEOPHYTIN UG/L	PHAEOPHYTIN >20 MICRONS UG/L	PHAEOPHYTIN <20 MICRONS UG/L	
LIGHT DEPTH %	DEPTH M	PHOSPHATE UG-AT/L	SILICATE UG-AT/L	NITRATE UG-AT/L	NITRITE UG-AT/L	AMMONIUM UG-AT/L		
LIGHT DEPTH %	DEPTH M	PARTICULATE NITROGEN UG-AT/L	PARTICULATE CARBON UG/L	PARTICULATE AMORPHOUS SI UMOLS SI/L	C-14 UPTAKE TOTAL UG/L/HR	C-14 UPTAKE >20 MICRONS UG/L/HR	C-14 UPTAKE <20 MICRONS UG/L/HR	
LIGHT DEPTH %	DEPTH M	AMMONIUM UPTAKE VLCTY PER HOUR	N15 FINAL PN AMMONIUM UG-AT/L	RHO AMMONIUM UG-AT/L/HR	NITRATE UPTAKE VLCTY PER HOUR	N15 FINAL PN NITRATE UG-AT/L	RHO NITRATE UG-AT/L/HR	
LIGHT DEPTH %	DEPTH M	NITRITE UPTAKE VLCTY PER HOUR	N15 FINAL PN NITRITE UG-AT/L	RHO NITRITE UG-AT/L/HR	22H AMMONIUM UPTAKE VLCTY PER HOUR	N15 FINAL PN AMMONIUM 22H UG-AT/L	22H RHO AMMONIUM UG-AT/L/HR	
LIGHT DEPTH %	DEPTH M	22H NITRATE UPTAKE VLCTY PER HOUR	N15 FINAL PN NITRATE 22H UG-AT/L	22H RHO NITRATE UG-AT/L/HR	22H NITRITE UPTAKE VLCTY PER HOUR	N15 FINAL PN NITRITE 22H UG-AT/L	22H RHO NITRITE UG-AT/L/HR	

CRUISE AN-99	STATION 3	DATE 4 APR 78	TIME 08:30:00	LATITUDE 40 43.9 N	LONGITUDE 72 28.4 W	SONIC DEPTH 37
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LIGHT DEPTH	DEPTH	TOTAL FLUORO CHLOROPHYLL	CHLOROPHYLL >20 MICRONS	CHLOROPHYLL <20 MICRONS	TOTAL FLUORO PHAEOPHYTIN	PHAEOPHYTIN >20 MICRONS	PHAEOPHYTIN <20 MICRONS
100.0	0.0	1.04	0.13	0.91	0.28	0.08	0.21
50.0	3.0	1.52	0.18	1.33	0.34	0.15	0.19
50.0	3.0	-	-	-	-	-	-
30.0	5.0	1.49	0.18	1.31	0.37	0.11	0.26
15.0	9.0	1.27	0.16	1.11	0.22	0.07	0.15
5.0	17.0	1.60	0.20	1.40	0.34	0.11	0.23
1.0	30.0	6.13	1.47	4.66	1.10	0.26	0.84

LIGHT DEPTH	DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
100.0	0.0	0.27	0.98	0.43	0.01	0.19
50.0	3.0	0.25	0.98	0.38	0.01	0.17
50.0	3.0	-	-	-	-	-
30.0	5.0	0.24	1.00	0.33	0.01	0.18
15.0	9.0	0.24	1.03	0.38	0.01	0.22
5.0	17.0	0.20	1.03	0.35	0.01	0.14
1.0	30.0	0.26	1.53	0.81	0.02	0.28

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE AN-99	STATION 3	DATE 4 APR 78	TIME 08:30:00	LATITUDE 40 43.9 N	LONGITUDE 72 28.4 W	SONIC DEPTH 37
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LIGHT DEPTH	DEPTH	PARTICULATE NITROGEN	PARTICULATE CARBON	PARTICULATE AMORPHOUS SI	C-14 UPTAKE TOTAL	C-14 UPTAKE >20 MICRONS	C-14 UPTAKE <20 MICRONS
100.0	0.0	4.64	593	0.80	1.80	0.40	1.20
50.0	3.0	2.40	326	0.58	1.62	0.30	1.32
50.0	3.0	-	-	-	-	-	-
30.0	5.0	3.74	571	0.53	3.22	0.44	2.78
15.0	9.0	1.56	391	0.56	1.93	0.34	1.59
5.0	17.0	1.54	337	1.11	1.55	0.22	1.33
1.0	30.0	3.37	482	1.96	-	-	-

LIGHT DEPTH	DEPTH	AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM	RHO AMMONIUM	NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE	RHO NITRATE
100.0	0.0	0.00325	6.13	0.01990	0.00179	3.73	0.00667
50.0	3.0	0.00244	3.19	0.00777	0.00171	3.72	0.00637
50.0	3.0	0.00123	3.19	0.00392	0.00038	5.47	0.00210
30.0	5.0	0.00291	6.44	0.01874	0.00134	3.41	0.00455
15.0	9.0	0.00370	3.66	0.01354	0.00152	5.89	0.00896
5.0	17.0	0.00163	3.98	0.00648	0.00038	3.04	0.00116
1.0	30.0	0.00521	6.73	0.03504	0.00013	6.59	0.00086

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE AN-99	STATION 3	DATE 4 APR 78	TIME 08:30:00	LATITUDE 40 43.9 N	LONGITUDE 72 28.4 W	SONIC DEPTH 37
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LIGHT DEPTH	DEPTH	NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE	RHO NITRITE	22H AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM 22H	22H RHO AMMONIUM
100.0	0.0	0.00160	4.21	0.00673	-	-	-
50.0	3.0	-	-	-	-	-	-
50.0	3.0	-	-	-	-	-	-
30.0	5.0	0.00173	4.21	0.00729	-	-	-
15.0	9.0	-	-	-	-	-	-
5.0	17.0	-	-	-	-	-	-
1.0	30.0	0.00094	8.50	0.00795	-	-	-

LIGHT DEPTH	DEPTH	22H NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE 22H	22H RHO NITRATE	22H NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE 22H	22H RHO NITRITE
100.0	0.0	-	-	-	-	-	-
50.0	3.0	-	-	-	-	-	-
50.0	3.0	-	-	-	-	-	-
30.0	5.0	-	-	-	-	-	-
15.0	9.0	-	-	-	-	-	-
5.0	17.0	-	-	-	-	-	-
1.0	30.0	-	-	-	-	-	-

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE AN-99	STATION 15	DATE 6 APR 78	TIME 08:00:00	LATITUDE 40 4.5 N	LONGITUDE 72 5.5 W	SONIC DEPTH 77
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LIGHT DEPTH	DEPTH	TOTAL FLUORO CHLOROPHYLL	CHLOROPHYLL >20 MICRONS	CHLOROPHYLL <20 MICRONS	TOTAL FLUORO PHAEOPHYTIN	PHAEOPHYTIN >20 MICRONS	PHAEOPHYTIN <20 MICRONS
100.0	0.0	2.06	0.80	1.26	0.17	0.04	0.12
50.0	3.0	2.16	0.96	1.20	0.58	0.07	0.50
50.0	3.0	-	-	-	-	-	-
30.0	5.0	1.37	0.24	1.13	0.25	0.04	0.20
15.0	9.0	1.80	0.45	1.35	0.23	0.08	0.14
5.0	16.0	1.60	0.51	1.09	0.16	0.06	0.09
1.0	26.0	2.16	0.55	1.61	0.21	0.07	0.14
0.1	41.0	1.46	0.42	1.04	0.13	0.04	0.09

LIGHT DEPTH	DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
100.0	0.0	0.12	3.37	1.04	0.00	0.62
50.0	3.0	0.10	3.32	1.02	0.00	0.42
50.0	3.0	-	-	-	-	-
30.0	5.0	0.09	3.00	0.98	0.00	0.39
15.0	9.0	0.08	3.05	1.15	0.02	0.36
5.0	16.0	0.08	3.12	0.96	0.02	0.37
1.0	26.0	0.10	3.20	1.66	0.04	0.42
0.1	41.0	0.26	4.28	5.83	0.08	0.81

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE AN-99	STATION 15	DATE 6 APR 78	TIME 08:00:00	LATITUDE 40 4.5 N	LONGITUDE 72 5.5 W	SONIC DEPTH 77
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LIGHT DEPTH	DEPTH	PARTICULATE NITROGEN	PARTICULATE CARBON	PARTICULATE AMORPHOUS SI	C-14 UPTAKE TOTAL	C-14 UPTAKE >20 MICRONS	C-14 UPTAKE <20 MICRONS
100.0	0.0	2.59	438	0.19	2.01	0.25	1.76
50.0	3.0	2.86	400	0.23	6.06	0.68	5.38
50.0	3.0	-	-	-	-	-	-
30.0	5.0	2.82	438	0.17	4.99	1.11	3.88
15.0	9.0	4.63	544	0.30	3.69	1.03	2.66
5.0	16.0	3.60	394	0.20	2.52	1.04	1.48
1.0	26.0	2.41	369	0.03	1.32	0.54	0.78
0.1	41.0	1.02	207	0.20	-	-	-

LIGHT DEPTH	DEPTH	AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM	RHO AMMONIUM	NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE	RHO NITRATE
100.0	0.0	0.00371	5.27	0.01956	0.00483	4.41	0.02131
50.0	3.0	0.00471	7.50	0.03535	0.00467	4.45	0.02076
50.0	3.0	0.00330	7.44	0.02455	0.00179	5.47	0.00977
30.0	5.0	0.00423	4.31	0.01824	0.00366	4.29	0.01570
15.0	9.0	0.00422	4.59	0.01937	0.00397	4.36	0.01732
5.0	16.0	0.00357	5.52	0.01968	0.00240	4.85	0.01164
1.0	26.0	0.00383	1.80	0.00690	0.00144	4.47	0.00642
0.1	41.0	-	-	-	-	-	-

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE	STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
AN-99	15	6 APR 78	08:00:00	40 4.5 N	72 5.5 W	77

LIGHT DEPTH	DEPTH	NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE	RHO NITRITE	22H AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM 22H	22H RHO AMMONIUM
100.0	0.0	0.00239	5.32	0.01273	-	-	-
50.0	3.0	-	-	-	-	-	-
50.0	3.0	-	-	-	-	-	-
30.0	5.0	0.00224	4.35	0.00974	-	-	-
15.0	9.0	-	-	-	-	-	-
5.0	16.0	-	-	-	-	-	-
1.0	26.0	0.00227	4.07	0.00926	-	-	-
0.1	41.0	-	-	-	-	-	-

LIGHT DEPTH	DEPTH	22H NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE 22H	22H RHO NITRATE	22H NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE 22H	22H RHO NITRITE
100.0	0.0	-	-	-	-	-	-
50.0	3.0	-	-	-	-	-	-
50.0	3.0	-	-	-	-	-	-
30.0	5.0	-	-	-	-	-	-
15.0	9.0	-	-	-	-	-	-
5.0	16.0	-	-	-	-	-	-
1.0	26.0	-	-	-	-	-	-
0.1	41.0	-	-	-	-	-	-

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE AN-99	STATION 22	DATE 7 APR 78	TIME 08:35:00	LATITUDE 40 19.6 N	LONGITUDE 72 12.1 W	SONIC DEPTH 67
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LIGHT DEPTH	DEPTH	TOTAL FLUORO CHLOROPHYLL	CHLOROPHYLL >20 MICRONS	CHLOROPHYLL <20 MICRONS	TOTAL FLUORO PHAEOPHYTIN	PHAEOPHYTIN >20 MICRONS	PHAEOPHYTIN <20 MICRONS
100.0	0.0	2.10	0.37	1.73	0.27	0.06	0.21
50.0	3.0	2.67	0.36	2.31	0.28	0.07	0.21
50.0	3.0	-	-	-	-	-	-
30.0	5.0	2.40	0.53	1.87	0.12	0.10	0.02
15.0	10.0	2.52	0.50	2.02	0.37	0.09	0.29
5.0	17.0	2.70	0.68	2.02	0.33	0.13	0.21
1.0	29.0	2.90	0.92	1.98	0.23	0.15	0.09
0.1	45.0	3.82	1.96	1.87	0.37	0.14	0.23

LIGHT DEPTH	DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
100.0	0.0	0.28	2.85	0.32	0.02	0.41
50.0	3.0	0.25	2.62	0.14	0.01	0.18
50.0	3.0	-	-	-	-	-
30.0	5.0	0.24	2.41	0.15	0.02	0.18
15.0	10.0	0.23	2.35	0.17	0.03	0.00
5.0	17.0	0.23	2.47	0.26	0.04	0.00
1.0	29.0	0.24	2.55	0.34	0.05	0.00
0.1	45.0	0.37	3.50	4.22	0.08	0.00

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE AN-99	STATION 22	DATE 7 APR 78	TIME 08:35:00	LATITUDE 40 19.6 N	LONGITUDE 72 12.1 W	SONIC DEPTH 67
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LIGHT DEPTH	DEPTH	PARTICULATE NITROGEN	PARTICULATE CARBON	PARTICULATE AMORPHOUS SI	C-14 UPTAKE TOTAL	C-14 UPTAKE >20 MICRONS	C-14 UPTAKE <20 MICRONS
100.0	0.0	4.20	590	0.00*	6.77	1.55	5.22
50.0	3.0	3.81	677	0.00*	5.75	0.82	4.93
50.0	3.0	-	-	-	-	-	-
30.0	5.0	2.76	420	0.00*	4.35	1.27	3.08
15.0	10.0	3.11	628	0.16	1.38	0.28	1.10
5.0	17.0	4.26	345	0.20	0.33	0.12	0.21
1.0	29.0	6.21	723	0.25	-	0.04	-
0.1	45.0	1.99	329	0.78	-	-	-

LIGHT DEPTH	DEPTH	AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM	RHO AMMONIUM	NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE	RHO NITRATE
100.0	0.0	0.00369	7.19	0.02650	0.00361	4.25	0.01532
50.0	3.0	0.00447	7.50	0.03353	0.00389	4.42	0.01718
50.0	3.0	0.00273	4.63	0.01263	0.00092	4.61	0.00424
30.0	5.0	0.00344	5.35	0.01842	0.00266	4.35	0.01159
15.0	10.0	0.00308	5.40	0.01666	0.00229	5.30	0.01215
5.0	17.0	0.00249	4.19	0.01042	0.00108	5.50	0.00594
1.0	29.0	0.00242	5.58	0.01349	0.00105	5.01	0.00524
0.1	45.0	-	-	-	-	-	-

- DATA NOT TAKEN
* NOT DETECTED

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE AN-99	STATION 22	DATE 7 APR 78	TIME 08:35:00	LATITUDE 40 19.6 N	LONGITUDE 72 12.1 W	SONIC DEPTH 67
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LIGHT DEPTH	DEPTH	NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE	RHO NITRITE	22H AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM 22H	22H RHO AMMONIUM
100.0	0.0	0.00295	6.06	0.01729	0.00320	7.07	0.02261
50.0	3.0	-	-	-	0.00218	6.23	0.01360
50.0	3.0	-	-	-	0.00213	4.72	0.01003
30.0	5.0	0.00220	5.45	0.01202	0.00286	4.96	0.01415
15.0	10.0	-	-	-	0.00272	4.80	0.01305
5.0	17.0	-	-	-	0.00203	4.34	0.00880
1.0	29.0	0.00116	5.58	0.00649	0.00202	4.80	0.00971
0.1	45.0	-	-	-	-	-	-

LIGHT DEPTH	DEPTH	22H NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE 22H	22H RHO NITRATE	22H NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE 22H	22H RHO NITRITE
100.0	0.0	0.00307	4.92	0.01513	0.00243	6.35	0.01542
50.0	3.0	0.00308	4.83	0.01490	-	-	-
50.0	3.0	0.00085	4.14	0.00353	-	-	-
30.0	5.0	0.00134	3.87	0.00517	0.00212	4.74	0.01003
15.0	10.0	0.00182	4.42	0.00803	-	-	-
5.0	17.0	0.00087	3.86	0.00334	-	-	-
1.0	29.0	0.00073	3.78	0.00274	0.00082	3.89	0.00317
0.1	45.0	-	-	-	-	-	-

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE AN-99	STATION 32	DATE 8 APR 78	TIME 08:44:00	LATITUDE 40 19.7 N	LONGITUDE 72 11.8 W	SONIC DEPTH 63
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LIGHT DEPTH	DEPTH	TOTAL FLUORO CHLOROPHYLL	CHLOROPHYLL >20 MICRONS	CHLOROPHYLL <20 MICRONS	TOTAL FLUORO PHAEOPHYTIN	PHAEOPHYTIN >20 MICRONS	PHAEOPHYTIN <20 MICRONS
100.0	0.0	1.83	0.36	1.47	0.20	0.04	0.16
50.0	3.0	2.26	0.48	1.78	0.18	0.07	0.11
50.0	3.0	-	-	-	-	-	-
30.0	5.0	1.72	0.36	1.36	0.11	0.04	0.06
15.0	9.0	2.48	0.76	1.73	0.18	0.06	0.12
5.0	18.0	3.22	0.60	2.62	0.34	0.03	0.31
1.0	31.0	1.97	0.27	1.70	0.13	0.05	0.09
0.1	45.0	2.39	0.87	1.52	0.16	0.00	0.16

LIGHT DEPTH	DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
100.0	0.0	0.17	2.28	0.09	0.00	0.42
50.0	3.0	0.16	2.30	0.06	0.00	0.26
50.0	3.0	-	-	-	-	-
30.0	5.0	0.14	2.29	0.07	0.00	0.13
15.0	9.0	0.14	2.32	0.04	0.00	0.10
5.0	18.0	0.14	2.29	0.06	0.00	0.07
1.0	31.0	0.16	2.43	0.54	0.05	0.08
0.1	45.0	0.25	3.10	2.73	0.07	0.30

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE AN-99	STATION 32	DATE 8 APR 78	TIME 08:44:00	LATITUDE 40 19.7 N	LONGITUDE 72 11.8 W	SONIC DEPTH 63
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LIGHT DEPTH	DEPTH	PARTICULATE NITROGEN	PARTICULATE CARBON	PARTICULATE AMORPHOUS SI	C-14 UPTAKE TOTAL	C-14 UPTAKE >20 MICRONS	C-14 UPTAKE <20 MICRONS
100.0	0.0	2.21	370	0.00*	1.76	0.27	1.49
50.0	3.0	2.53	342	0.00*	6.12	1.00	5.12
50.0	3.0	-	-	-	-	-	-
30.0	5.0	2.90	329	0.00*	7.95	1.01	6.94
15.0	9.0	2.75	465	0.00*	3.08	0.49	2.59
5.0	18.0	2.16	433	0.14	2.20	0.55	1.65
1.0	31.0	3.03	386	0.00*	1.31	0.37	0.94
0.1	45.0	4.00	699	0.20	-	-	-

LIGHT DEPTH	DEPTH	AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM	RHO AMMONIUM	NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE	RHO NITRATE
100.0	0.0	0.00349	4.00	0.01398	0.00169	4.45	0.00752
50.0	3.0	0.00418	4.49	0.01877	0.00165	4.35	0.00719
50.0	3.0	0.00157	3.91	0.00615	0.00038	4.25	0.00159
30.0	5.0	0.00203	4.25	0.00862	0.00124	6.08	0.00751
15.0	9.0	0.00270	4.57	0.01232	0.00231	3.65	0.00845
5.0	18.0	0.00240	5.03	0.01210	0.00144	4.74	0.00681
1.0	31.0	0.00172	4.72	0.00811	0.00105	4.06	0.00425
0.1	45.0	-	-	-	-	-	-

- DATA NOT TAKEN
• NOT DETECTED

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE	STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
AN-99	32	8 APR 78	08:44:00	40 19.7 N	72 11.8 W	63

LIGHT DEPTH	DEPTH	NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE	RHO NITRITE	22H AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM 22H	22H RHO AMMONIUM
100.0	0.0	0.00112	4.88	0.00546	-	-	-
50.0	3.0	-	-	-	-	-	-
50.0	3.0	-	-	-	-	-	-
30.0	5.0	0.00106	4.31	0.00455	-	-	-
15.0	9.0	-	-	-	-	-	-
5.0	18.0	-	-	-	-	-	-
1.0	31.0	0.00137	4.85	0.00665	-	-	-
0.1	45.0	-	-	-	-	-	-

LIGHT DEPTH	DEPTH	22H NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE 22H	22H RHO NITRATE	22H NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE 22H	22H RHO NITRITE
100.0	0.0	-	-	-	-	-	-
50.0	3.0	-	-	-	-	-	-
50.0	3.0	-	-	-	-	-	-
30.0	5.0	-	-	-	-	-	-
15.0	9.0	-	-	-	-	-	-
5.0	18.0	-	-	-	-	-	-
1.0	31.0	-	-	-	-	-	-
0.1	45.0	-	-	-	-	-	-

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE AN-99	STATION 33	DATE 9 APR 78	TIME 10:30:00	LATITUDE 40 17.0 N	LONGITUDE 67 20.0 W	SONIC DEPTH 1829
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LIGHT DEPTH	DEPTH	TOTAL FLUORO CHLOROPHYLL	CHLOROPHYLL >20 MICRONS	CHLOROPHYLL <20 MICRONS	TOTAL FLUORO PHAEOPHYTIN	PHAEOPHYTIN >20 MICRONS	PHAEOPHYTIN <20 MICRONS
100.0	0.0	3.24	-	-	1.21	-	-
100.0	0.0	4.22	-	-	0.50	-	-
100.0	0.0	3.87	-	-	0.75	-	-
100.0	0.0	3.64	-	-	0.55	-	-
100.0	0.0	3.96	-	-	0.71	-	-
100.0	0.0	3.64	-	-	0.60	-	-
100.0	0.0	-	-	-	-	-	-
100.0	0.0	-	-	-	-	-	-

LIGHT DEPTH	DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
100.0	0.0	0.19	0.55	0.04	0.01	0.32
100.0	0.0	0.21	0.51	0.04	0.01	0.17
100.0	0.0	0.20	0.52	0.04	0.01	0.19
100.0	0.0	0.18	0.48	0.07	0.00	0.18
100.0	0.0	0.17	0.44	0.12	0.00	0.14
100.0	0.0	0.17	0.47	0.10	0.00	0.11
100.0	0.0	0.17	0.51	0.10	0.00	0.12
100.0	0.0	0.17	0.49	0.00	0.00	0.11

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE AN-99	STATION 33	DATE 9 APR 78	TIME 10:30:00	LATITUDE 40 17.0 N	LONGITUDE 67 20.0 W	SONIC DEPTH 1829
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LIGHT DEPTH	DEPTH	PARTICULATE NITROGEN	PARTICULATE CARBON	PARTICULATE AMORPHOUS SI	C-14 UPTAKE TOTAL	C-14 UPTAKE >20 MICRONS	C-14 UPTAKE <20 MICRONS
100.0	0.0	3.63	424	-	2.25	-	-
100.0	0.0	2.89	437	-	2.58	-	-
100.0	0.0	2.82	425	-	1.88	-	-
100.0	0.0	3.16	332	-	2.74	-	-
100.0	0.0	2.82	389	-	2.86	-	-
100.0	0.0	3.26	433	-	1.97	-	-
100.0	0.0	2.85	505	-	-	-	-
100.0	0.0	2.84	347	-	-	-	-

LIGHT DEPTH	DEPTH	AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM	RHO	AMMONIUM UPTAKE VLCTY	NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE	RHO	NITRATE
100.0	0.0	0.00729	5.25	0.03828	0.00428	4.83	0.02066		
100.0	0.0	0.00690	4.90	0.03382	0.00439	4.31	0.01893		
100.0	0.0	0.00435	4.94	0.02148	0.00549	3.91	0.02145		
100.0	0.0	0.00757	4.90	0.03708	0.00449	4.33	0.01945		
100.0	0.0	0.00701	5.10	0.03573	0.00497	4.23	0.02101		
100.0	0.0	0.00677	4.95	0.03285	0.00519	4.11	0.02132		
100.0	0.0	0.00811	4.76	0.03861	0.00590	4.19	0.02471		
100.0	0.0	0.00919	4.33	0.03978	0.00602	4.29	0.02582		

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE AN-99	STATION 33	DATE 9 APR 78	TIME 10:30:00	LATITUDE 40 17.0 N	LONGITUDE 67 20.0 W	SONIC DEPTH 1829
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LIGHT DEPTH	DEPTH	NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE	RHO NITRITE	22H AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM 22H	22H RHO AMMONIUM
100.0	0.0	-	-	-	-	-	-
100.0	0.0	-	-	-	-	-	-
100.0	0.0	-	-	-	-	-	-
100.0	0.0	-	-	-	-	-	-
100.0	0.0	-	-	-	-	-	-
100.0	0.0	-	-	-	-	-	-
100.0	0.0	-	-	-	-	-	-
100.0	0.0	-	-	-	-	-	-

LIGHT DEPTH	DEPTH	22H NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE 22H	22H RHO NITRATE	22H NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE 22H	22H RHO NITRITE
100.0	0.0	-	-	-	-	-	-
100.0	0.0	-	-	-	-	-	-
100.0	0.0	-	-	-	-	-	-
100.0	0.0	-	-	-	-	-	-
100.0	0.0	-	-	-	-	-	-
100.0	0.0	-	-	-	-	-	-
100.0	0.0	-	-	-	-	-	-
100.0	0.0	-	-	-	-	-	-

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE	STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
AN-99	40	10 APR 78	08:00:00	40 59.2 N	68 4.3 W	49

LIGHT DEPTH	DEPTH	TOTAL FLUORO CHLOROPHYLL	CHLOROPHYLL >20 MICRONS	CHLOROPHYLL <20 MICRONS	TOTAL FLUORO PHAEOPHYTIN	PHAEOPHYTIN >20 MICRONS	PHAEOPHYTIN <20 MICRONS
100.0	0.0	14.22	-	-	2.04	-	-
35.0	3.0	14.00	-	-	2.00	-	-
35.0	3.0	-	-	-	-	-	-
15.0	6.0	8.89	-	-	1.34	-	-
5.0	9.0	14.22	-	-	2.30	-	-
0.5	12.0	14.67	-	-	2.64	-	-
0.2	15.0	15.11	-	-	1.67	-	-
0.1	18.0	13.78	-	-	3.79	-	-

LIGHT DEPTH	DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
100.0	0.0	0.12	0.68	0.18	0.00	0.72
35.0	3.0	0.13	0.97	0.22	0.01	0.55
35.0	3.0	-	-	-	-	-
15.0	6.0	0.13	0.71	0.21	0.01	0.73
5.0	9.0	0.12	0.66	0.20	0.01	0.58
0.5	12.0	0.10	0.90	0.17	0.02	0.36
0.2	15.0	0.10	0.90	0.15	0.01	0.33
0.1	18.0	0.15	0.84	0.15	0.00	0.27

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE	STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
AN-99	40	10 APR 78	08:00:00	40 59.2 N	68 4.3 W	49

LIGHT DEPTH	DEPTH	PARTICULATE NITROGEN	PARTICULATE CARBON	PARTICULATE AMORPHOUS SI	C-14 UPTAKE TOTAL	C-14 UPTAKE >20 MICRONS	C-14 UPTAKE <20 MICRONS
100.0	0.0	6.42	655	4.75	6.44	-	-
35.0	3.0	7.64	795	4.29	16.76	-	-
35.0	3.0	-	-	-	-	-	-
15.0	6.0	7.14	698	4.56	21.02	-	-
5.0	9.0	5.42	702	4.57	30.26	-	-
0.5	12.0	4.87	620	4.55	22.65	-	-
0.2	15.0	6.01	713	5.05	9.17	-	-
0.1	18.0	6.01	971	3.99	-	-	-

LIGHT DEPTH	DEPTH	AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM	RHO AMMONIUM	NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE	RHO NITRATE
100.0	0.0	0.00715	10.69	0.07639	0.01055	11.72	0.12367
35.0	3.0	0.00719	10.64	0.07652	0.01145	11.61	0.13288
35.0	3.0	0.00367	9.66	0.03549	0.00146	10.69	0.01563
15.0	6.0	0.00697	11.19	0.07799	0.00608	10.50	0.06386
5.0	9.0	0.00571	11.30	0.06450	0.00749	12.27	0.09189
0.5	12.0	0.00652	11.35	0.07397	0.00460	11.51	0.05297
0.2	15.0	0.00502	11.30	0.05670	0.00299	11.88	0.03552
0.1	18.0	-	-	-	-	-	-

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE	STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
AN-99	40	10 APR 78	08:00:00	40 59.2 N	68 4.3 W	49

LIGHT DEPTH	DEPTH	NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE	RHO NITRITE	22H AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM 22H	22H RHO AMMONIUM
100.0	0.0	0.00350	11.99	0.04200	-	-	-
35.0	3.0	-	-	-	-	-	-
35.0	3.0	-	-	-	-	-	-
15.0	6.0	0.00241	11.88	0.02859	-	-	-
5.0	9.0	-	-	-	-	-	-
0.5	12.0	-	-	-	-	-	-
0.2	15.0	0.00267	10.94	0.02923	-	-	-
0.1	18.0	-	-	-	-	-	-

LIGHT DEPTH	DEPTH	22H NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE 22H	22H RHO NITRATE	22H NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE 22H	22H RHO NITRITE
100.0	0.0	-	-	-	-	-	-
35.0	3.0	-	-	-	-	-	-
35.0	3.0	-	-	-	-	-	-
15.0	6.0	-	-	-	-	-	-
5.0	9.0	-	-	-	-	-	-
0.5	12.0	-	-	-	-	-	-
0.2	15.0	-	-	-	-	-	-
0.1	18.0	-	-	-	-	-	-

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE	STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
AN-99	48	11 APR 78	07:15:00	41 22.7 N	68 21.9 W	64

LIGHT DEPTH	DEPTH	TOTAL FLUORO CHLOROPHYLL	CHLOROPHYLL >20 MICRONS	CHLOROPHYLL <20 MICRONS	TOTAL FLUORO PHAEOPHYTIN	PHAEOPHYTIN >20 MICRONS	PHAEOPHYTIN <20 MICRONS
100.0	0.0	4.04	-	-	1.05	-	-
50.0	3.0	4.49	-	-	1.12	-	-
50.0	3.0	-	-	-	-	-	-
30.0	5.0	4.98	-	-	1.21	-	-
15.0	9.0	6.00	-	-	0.98	-	-
5.0	13.5	4.98	-	-	0.90	-	-
1.0	21.0	5.78	-	-	1.04	-	-
0.1	31.0	6.18	-	-	1.16	-	-

LIGHT DEPTH	DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
100.0	0.0	0.42	2.69	4.96	0.09	0.18
50.0	3.0	0.42	2.49	4.76	0.08	0.23
50.0	3.0	-	-	-	-	-
30.0	5.0	0.43	2.44	4.79	0.10	0.26
15.0	9.0	0.45	2.38	4.72	0.10	0.27
5.0	13.5	0.43	2.38	4.68	0.10	0.51
1.0	21.0	0.42	2.32	4.59	0.09	0.45
0.1	31.0	0.41	2.27	4.57	0.08	0.29

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE	STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
AN-99	48	11 APR 78	07:15:00	41 22.7 N	68 21.9 W	64

LIGHT DEPTH	DEPTH	PARTICULATE NITROGEN	PARTICULATE CARBON	PARTICULATE AMORPHOUS SI	C-14 UPTAKE TOTAL	C-14 UPTAKE >20 MICRONS	C-14 UPTAKE <20 MICRONS
100.0	0.0	1.55	398	2.03	9.73	-	-
50.0	3.0	2.49	361	2.38	9.20	-	-
50.0	3.0	-	-	-	-	-	-
30.0	5.0	3.00	424	2.61	7.93	-	-
15.0	9.0	2.45	309	2.86	4.72	-	-
5.0	13.5	2.94	417	-	5.98	-	-
1.0	21.0	-	375	3.68	0.89	-	-
0.1	31.0	-	338	3.50	-	-	-

LIGHT DEPTH	DEPTH	AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM	RHO AMMONIUM	NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE	RHO NITRATE
100.0	0.0	0.00343	4.25	0.01458	0.00477	5.73	0.02731
50.0	3.0	0.00319	5.18	0.01653	0.00537	4.90	0.02631
50.0	3.0	0.00098	4.74	0.00465	0.00030	4.39	0.00132
30.0	5.0	0.00502	5.08	0.02548	0.00446	5.03	0.02241
15.0	9.0	0.00261	5.57	0.01452	0.00358	5.75	0.02061
5.0	13.5	0.00100	5.40	0.00542	0.00067	4.99	0.00336
1.0	21.0	0.00349	5.78	0.02017	-	5.42	-
0.1	31.0	-	-	-	-	-	-

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE AN-99	STATION 48	DATE 11 APR 78	TIME 07:15:00	LATITUDE 41 22.7 N	LONGITUDE 68 21.9 W	SONIC DEPTH 64
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LIGHT DEPTH	DEPTH	NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE	RHO NITRITE	22H AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM 22H	22H RHO AMMONIUM
100.0	0.0	0.00187	4.55	0.00852	-	-	-
50.0	3.0	-	-	-	-	-	-
50.0	3.0	-	-	-	-	-	-
30.0	5.0	0.00168	4.76	0.00799	-	-	-
15.0	9.0	-	-	-	-	-	-
5.0	13.5	-	-	-	-	-	-
1.0	21.0	0.00145	5.49	0.00794	-	-	-
0.1	31.0	-	-	-	-	-	-

LIGHT DEPTH	DEPTH	22H NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE 22H	22H RHO NITRATE	22H NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE 22H	22H RHO NITRITE
100.0	0.0	-	-	-	-	-	-
50.0	3.0	-	-	-	-	-	-
50.0	3.0	-	-	-	-	-	-
30.0	5.0	-	-	-	-	-	-
15.0	9.0	-	-	-	-	-	-
5.0	13.5	-	-	-	-	-	-
1.0	21.0	-	-	-	-	-	-
0.1	31.0	-	-	-	-	-	-

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE AN-99	STATION 55	DATE 12 APR 78	TIME 08:15:00	LATITUDE 40 48.9 N	LONGITUDE 67 52.9 W	SONIC DEPTH 71
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LIGHT DEPTH	DEPTH	TOTAL FLUORO CHLOROPHYLL	CHLOROPHYLL >20 MICRONS	CHLOROPHYLL <20 MICRONS	TOTAL FLUORO PHAEOPHYTIN	PHAEOPHYTIN >20 MICRONS	PHAEOPHYTIN <20 MICRONS
100.0	0.0	10.67	-	-	0.87	-	-
50.0	2.0	10.67	-	-	0.35	-	-
50.0	2.0	-	-	-	-	-	-
30.0	4.0	11.56	-	-	1.29	-	-
15.0	6.0	11.33	-	-	1.52	-	-
5.0	9.0	11.78	-	-	1.60	-	-
1.0	10.5	10.22	-	-	0.79	-	-
0.1	17.0	11.11	-	-	1.48	-	-

LIGHT DEPTH	DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
100.0	0.0	0.17	0.93	0.27	0.02	0.19
50.0	2.0	0.18	0.93	0.21	0.01	0.16
50.0	2.0	-	-	-	-	-
30.0	4.0	0.16	0.93	0.21	0.01	0.16
15.0	6.0	0.15	0.93	0.21	0.01	0.15
5.0	9.0	0.14	0.74	0.21	0.01	0.20
1.0	10.5	0.14	0.74	0.19	0.02	0.18
0.1	17.0	0.13	0.89	0.19	0.01	0.16

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE AN-99	STATION 55	DATE 12 APR 78	TIME 08:15:00	LATITUDE 40 48.9 N	LONGITUDE 67 52.9 W	SONIC DEPTH 71
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LIGHT DEPTH	DEPTH	PARTICULATE NITROGEN	PARTICULATE CARBON	PARTICULATE AMORPHOUS SI	C-14 UPTAKE TOTAL	C-14 UPTAKE >20 MICRONS	C-14 UPTAKE <20 MICRONS
100.0	0.0	4.96	486	2.86	11.02	-	-
50.0	2.0	4.24	429	2.79	14.43	-	-
50.0	2.0	-	-	-	-	-	-
30.0	4.0	4.39	503	2.89	-	-	-
15.0	6.0	4.29	499	3.10	12.77	-	-
5.0	9.0	3.51	454	2.89	15.29	-	-
1.0	10.5	3.82	448	1.61	5.17	-	-
0.1	17.0	1.33	316	2.42	-	-	-

LIGHT DEPTH	DEPTH	AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM	RHO AMMONIUM	NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE	RHO NITRATE
100.0	0.0	0.00594	8.26	0.04907	0.00755	8.81	0.06652
50.0	2.0	0.00486	8.85	0.04304	0.00633	8.69	0.05499
50.0	2.0	0.00187	8.61	0.01610	0.00109	8.22	0.00898
30.0	4.0	0.00524	8.98	0.04706	0.00513	9.23	0.04737
15.0	6.0	0.00514	9.14	0.04700	0.00320	8.89	0.02847
5.0	9.0	0.00358	9.10	0.03257	0.00543	8.85	0.04806
1.0	10.5	0.00580	8.89	0.05156	0.00397	8.98	0.03568
0.1	17.0	-	-	-	-	-	-

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE	STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
AN-99	55	12 APR 78	08:15:00	40 48.9 N	67 52.9 W	71

LIGHT DEPTH	DEPTH	NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE	RHO NITRITE	22H AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM 22H	22H RHO AMMONIUM
100.0	0.0	0.00526	9.06	0.04763	-	-	-
50.0	2.0	-	-	-	-	-	-
50.0	2.0	-	-	-	-	-	-
30.0	4.0	0.00535	8.30	0.04440	-	-	-
15.0	6.0	-	-	-	-	-	-
5.0	9.0	-	-	-	-	-	-
1.0	10.5	0.00552	10.26	0.05661	-	-	-
0.1	17.0	-	-	-	-	-	-

LIGHT DEPTH	DEPTH	22H NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE 22H	22H RHO NITRATE	22H NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE 22H	22H RHO NITRITE
100.0	0.0	-	-	-	-	-	-
50.0	2.0	-	-	-	-	-	-
50.0	2.0	-	-	-	-	-	-
30.0	4.0	-	-	-	-	-	-
15.0	6.0	-	-	-	-	-	-
5.0	9.0	-	-	-	-	-	-
1.0	10.5	-	-	-	-	-	-
0.1	17.0	-	-	-	-	-	-

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE AN-99	STATION 65	DATE 13 APR 78	TIME 06:55:00	LATITUDE 40 49.7 N	LONGITUDE 67 53.8 W	SONIC DEPTH 65		
LIGHT DEPTH	DEPTH	TOTAL FLUORO CHLOROPHYLL	CHLOROPHYLL >20 MICRONS	CHLOROPHYLL <20 MICRONS	TOTAL FLUORO PHAEOPHYTIN	PHAEOPHYTIN >20 MICRONS	PHAEOPHYTIN <20 MICRONS	
50.0	3.0	6.93	-	-	1.56	-	-	
50.0	3.0	-	-	-	-	-	-	
0.1	24.0	9.33	-	-	1.63	-	-	
LIGHT DEPTH	DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM		
50.0	3.0	0.17	1.93	1.43	0.04	0.54		
50.0	3.0	-	-	-	-	-		
0.1	24.0	0.14	1.45	0.54	0.03	0.59		
LIGHT DEPTH	DEPTH	PARTICULATE NITROGEN	PARTICULATE CARBON	PARTICULATE AMORPHOUS SI	C-14 UPTAKE TOTAL	C-14 UPTAKE >20 MICRONS	C-14 UPTAKE <20 MICRONS	
50.0	3.0	2.94	376	1.69	10.90	-	-	
50.0	3.0	-	-	1.79	-	-	-	
0.1	24.0	3.81	437	2.26	-	-	-	
LIGHT DEPTH	DEPTH	AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM	RHO AMMONIUM	NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE	RHO NITRATE	
50.0	3.0	0.00463	6.80	0.03146	-	-	-	
50.0	3.0	0.00145	7.82	0.01134	-	-	-	
0.1	24.0	-	-	-	-	-	-	

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

CRUISE AN-99	STATION 65	DATE 13 APR 78	TIME 06:55:00	LATITUDE 40 49.7 N	LONGITUDE 67 53.8 W	SONIC DEPTH 65		
LIGHT DEPTH	DEPTH	NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE	RHO NITRITE	22H AMMONIUM UPTAKE VLCTY	N15 FINAL PN AMMONIUM 22H	22H RHO AMMONIUM	
50.0	3.0	-	-	-	-	-	-	
50.0	3.0	-	-	-	-	-	-	
0.1	24.0	-	-	-	-	-	-	
LIGHT DEPTH	DEPTH	22H NITRATE UPTAKE VLCTY	N15 FINAL PN NITRATE 22H	22H RHO NITRATE	22H NITRITE UPTAKE VLCTY	N15 FINAL PN NITRITE 22H	22H RHO NITRITE	
50.0	3.0	-	-	-	-	-	-	
50.0	3.0	-	-	-	-	-	-	
0.1	24.0	-	-	-	-	-	-	

- DATA NOT TAKEN

SECOND VALUE OF DUPLICATE LIGHT DEPTHS IS N-15 DARK BOTTLE

Zooplankton Data

TABLE OF UNITS

STATION	DATE LOCAL	TIME LOCAL	LATITUDE DEGREES	LONGITUDE DEGREES	SONIC DEPTH M
WIRE OUT M	WIRE ANGLE DEGREES	FLOW METER FACTOR M/REV	NET MOUTH AREA M2	NET MESH U	
NET TOW DEPTH M	FLOW METER REV	VOLUME SAMPLE M3	FRACTION COUNT	VOLUME COUNT M3	

STATION 1	DATE 3 APR 78	TIME 15:33:00	LATITUDE 41 3.1 N	LONGITUDE 71 39.7 W	SONIC DEPTH 38
NET TOW DEPTH 35.0	FLOW METER 200.	VOLUME SAMPLE 8.88	FRACTION COUNT 0.120	VOLUME COUNT 1.065	

S P E C I E S	RANK COUNTS %			NO./M3	NO./M2
PSEUDOCALANUS SPP. C	1.0	775	62.70	727.55	25464.
PSEUDOCALANUS MINUTUS AF	2.0	162	13.11	152.08	5323.
OITHONA SIMILIS	3.0	138	11.17	129.55	4534.
PSEUDOCALANUS MINUTUS AM	4.0	74	5.99	69.47	2431.
CHAETOGNATH	5.0	42	3.40	39.43	1380.
TEMORA SPP. C	6.0	31	2.51	29.10	1019.
TEMORA LONGICORNIS AF	7.0	5	0.40	4.69	164.
TEMORA LONGICORNIS AM	8.0	4	0.32	3.76	131.
ACARTIA TONSA A	11.0	1	0.08	0.94	33.
ACARTIA LONGIREMIS AF	11.0	1	0.08	0.94	33.
ACARTIA SPP. C	11.0	1	0.08	0.94	33.
PARACALANUS PARVUS AF	11.0	1	0.08	0.94	33.
PARACALANUS SPP. C	11.0	1	0.08	0.94	33.
TOTALS	13	1236	100	1160.33	40612.

SIZE FRACTIONS (MICRONS)	GRAMS DRY WEIGHT %		GM/M3	GM/M2
102-223	0.106	23.19	0.0119	0.42
223-505	0.149	32.60	0.0168	0.59
505-1050	0.070	15.32	0.0079	0.28
1050 +	0.132	28.88	0.0149	0.52
TOTALS	0.457	100	0.0515	1.80

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
2	4 APR 78	-9:-9:-9	40 47.7 N	72 32.3 W	21
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
20.0	60.	2.66	0.160	0.426	

S P E C I E S	RANK COUNTS %			NO./M3	NO./M2
PSEUDOCALANUS SPP. C	1.0	730	49.19	1713.27	34265.
PSEUDOCALANUS MINUTUS AF	2.0	178	11.99	417.76	8355.
OITHONA SIMILIS	3.0	165	11.12	387.25	7745.
TEMORA SPP. C	4.0	127	8.56	298.06	5961.
PSEUDOCALANUS MINUTUS AM	5.0	98	6.60	230.00	4600.
ACARTIA TONSA A	6.0	87	5.86	204.18	4084.
ACARTIA TONSA AF	7.0	24	1.62	56.33	1127.
TEMORA LONGICORNIS AM	8.0	23	1.55	53.98	1080.
ACARTIA TONSA AM	9.0	20	1.35	46.94	939.
CHAETOGNATH	10.0	15	1.01	35.20	704.
TEMORA LONGICORNIS AF	11.0	12	0.81	28.16	563.
ACARTIA SPP. C	12.0	2	0.13	4.69	94.
PARACALANUS PARVUS AM	14.0	1	0.07	2.35	47.
PARACALANUS SPP. C	14.0	1	0.07	2.35	47.
CENTROPAGES SPP. C	14.0	1	0.07	2.35	47.
TOTALS	15	1484	100	3482.87	69657.

SIZE FRACTIONS (MICRONS)	GRAMS DRY WEIGHT %		GM/M3	GM/M2
102-223	0.069	11.20	0.0259	0.52
223-505	0.084	13.64	0.0315	0.63
505-1050	0.052	8.44	0.0195	0.39
1050 +	0.411	66.72	0.1543	3.09
TOTALS	0.616	100	0.2313	4.63

STATION 3	DATE 4 APR 78	TIME 10:05:00	LATITUDE 40 42.5 N	LONGITUDE 72 29.0 W	SONIC DEPTH 37
NET TOW DEPTH 35.0	FLOW METER 150.	VOLUME SAMPLE 6.66	FRACTION COUNT 0.100	VOLUME COUNT 0.666	

S P E C I E S	RANK COUNTS %			NO./M3	NO./M2
OITHONA SIMILIS	1.0	730	42.44	1096.49	38377.
APPENDICULARIA	2.0	560	32.56	841.15	29440.
PSEUDOCALANUS SPP. C	3.0	230	13.37	345.47	12091.
PSEUDOCALANUS MINUTUS AF	4.0	128	7.44	192.26	6729.
PSEUDOCALANUS MINUTUS AM	5.0	30	1.74	45.06	1577.
TEMORA SPP. C	6.0	23	1.34	34.55	1209.
CHAETOGNATH	7.0	12	0.70	18.02	631.
TEMORA LONGICORNIS AM	8.0	4	0.23	6.01	210.
CENTROPAGES SPP. C	10.0	1	0.06	1.50	53.
ACARTIA TONSA A	10.0	1	0.06	1.50	53.
ACARTIA SPP. C	10.0	1	0.06	1.50	53.
TOTALS	11	1720	100	2583.52	90423.

SIZE FRACTIONS (MICRONS)	GRAMS DRY WEIGHT %		GM/M3	GM/M2
102-223	0.032	41.56	0.0048	0.17
223-505	0.032	41.56	0.0048	0.17
505-1050	0.009	11.69	0.0014	0.05
1050 +	0.004	5.19	0.0006	0.02
TOTALS	0.077	100	0.0116	0.40

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
4	4 APR 78	15:45:00	40 39.0 N	72 26.0 W	43
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
41.0	285.	12.65	0.040	0.506	

S P E C I E S	RANK COUNTS %			NO./M3	NO./M2
OITHONA SIMILIS	1.0	960	90.57	1897.32	77790.
PSEUDOCALANUS SPP. C	2.0	53	5.00	104.75	4295.
PSEUDOCALANUS MINUTUS AF	3.0	9	0.85	17.79	729.
CHAETOGNATH	4.0	8	0.75	15.81	648.
TEMORA SPP. C	5.5	7	0.66	13.83	567.
ACARTIA SPP. C	5.5	7	0.66	13.83	567.
CALANUS SPP. C	7.0	4	0.38	7.91	324.
PSEUDOCALANUS MINUTUS AM	9.0	3	0.28	5.93	243.
ACARTIA LONGIREMIS AF	9.0	3	0.28	5.93	243.
ACARTIA LONGIREMIS AM	9.0	3	0.28	5.93	243.
TEMORA LONGICORNIS AM	11.0	2	0.19	3.95	162.
TEMORA LONGICORNIS AF	12.0	1	0.09	1.98	81.
TOTALS	12	1060	100	2094.96	85893.

SIZE FRACTIONS (MICRONS)	GRAMS DRY WEIGHT %		GM/M3	GM/M2
102-223	0.072	51.43	0.0057	0.23
223-505	0.053	37.86	0.0042	0.17
505-1050	0.015	10.71	0.0012	0.05
1050 +	0.000	0.00	0.0000	0.00
TOTALS	0.140	100	0.0111	0.45

STATION 5	DATE 4 APR 78	TIME 18:50:00	LATITUDE 40 32.1 N	LONGITUDE 72 23.7 W	SONIC DEPTH 49
NET TOW DEPTH 46.0	FLOW METER 365.	VOLUME SAMPLE 16.20	FRACTION COUNT 0.020	VOLUME COUNT 0.324	

SPECIES	RANK	COUNTS	%	NO./M3	NO./M2
OITHONA SIMILIS	1.0	1275	85.80	3935.16	181017.
PSEUDOCALANUS SPP. C	2.0	115	7.74	354.94	16327.
PSEUDOCALANUS MINUTUS AF	3.0	55	3.70	169.75	7809.
PSEUDOCALANUS MINUTUS AM	4.0	15	1.01	46.30	2130.
CALANUS SPP. C	5.0	10	0.67	30.86	1420.
ACARTIA SPP. C	6.0	9	0.61	27.78	1278.
ACARTIA LONGIREMIS AM	7.5	3	0.20	9.26	426.
CHAETOGNATH	7.5	3	0.20	9.26	426.
ACARTIA LONGIREMIS AF	9.0	1	0.07	3.09	142.
TOTALS	9	1486	100	4586.39	210974.

SIZE FRACTIONS (MICRONS)	GRAMS DRY WEIGHT	%	GM/M3	GM/M2
102-223	0.082	62.60	0.0051	0.23
223-505	0.049	37.40	0.0030	0.14
TOTALS	0.131	100	0.0081	0.37

STATION 6	DATE 4 APR 78	TIME 20:45:00	LATITUDE 40 26.6 N	LONGITUDE 72 20.0 W	SONIC DEPTH 55
NET TOW DEPTH 52.0	FLOW METER 575.	VOLUME SAMPLE 25.52	FRACTION COUNT 0.020	VOLUME COUNT 0.510	

SPECIES	RANK	COUNTS	%	NO./M3	NO./M2
OITHONA SIMILIS	1.0	1230	78.29	2409.80	125310.
PSEUDOCALANUS SPP. C	2.0	238	15.15	466.29	24247.
PSEUDOCALANUS MINUTUS AF	3.0	42	2.67	82.29	4279.
CALANUS SPP. C	4.0	28	1.78	54.86	2853.
PSEUDOCALANUS MINUTUS AM	5.0	13	0.83	25.47	1324.
CHAETOGNATH	6.0	8	0.51	15.67	815.
ACARTIA SPP. C	7.0	7	0.45	13.71	713.
ACARTIA LONGIREMIS AF	8.0	5	0.32	9.80	509.
TOTALS	8	1571	100	3077.89	160050.

SIZE FRACTIONS (MICRONS)	GRAMS DRY WEIGHT	%	GM/M3	GM/M2
102-223	0.527	51.02	0.0206	1.07
223-505	0.451	43.66	0.0177	0.92
505-1050	0.031	3.00	0.0012	0.06
1050 +	0.024	2.32	0.0009	0.05
TOTALS	1.033	100	0.0405	2.10

STATION 7	DATE 4 APR 78	TIME 23:55:00	LATITUDE 40 21.5 N	LONGITUDE 72 17.5 W	SONIC DEPTH 58
NET TOW DEPTH 48.0	FLOW METER 285.	VOLUME SAMPLE 12.65	FRACTION COUNT 0.029	VOLUME COUNT 0.361	

S P E C I E S	RANK COUNTS %			NO./M3	NO./M2
OITHONA SIMILIS	1.0	1055	80.60	2919.11	140117.
PSEUDOCALANUS SPP. C	2.0	180	13.75	498.05	23906.
CALANUS FINMARCHICUS A	3.0	23	1.76	63.64	3055.
PSEUDOCALANUS MINUTUS AF	4.0	18	1.38	49.80	2391.
ACARTIA SPP. C	5.0	15	1.15	41.50	1992.
PSEUDOCALANUS MINUTUS AM	6.0	8	0.61	22.14	1063.
ACARTIA LONGIREMIS AF	7.0	6	0.46	16.60	797.
ACARTIA LONGIREMIS AM	8.0	2	0.15	5.53	266.
TEMORA SPP. C	9.5	1	0.08	2.77	133.
CHAETOGNATH	9.5	1	0.08	2.77	133.
TOTALS	10	1309	100	3621.91	173852.

SIZE FRACTIONS (MICRONS)	GRAMS DRY WEIGHT %		GM/M3	GM/M2
102-223	0.068	6.46	0.0054	0.26
223-505	0.928	88.13	0.0734	3.52
505-1050	0.032	3.04	0.0025	0.12
1050 +	0.025	2.37	0.0020	0.09
TOTALS	1.053	100	0.0832	4.00

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
8	5 APR 79	02:50:00	40 16.5 N	72 14.5 W	60
NET TOW	FLOW	VOLUME	FRACTION	VOLUME	
DEPTH	METER	SAMPLE	COUNT	COUNT	
47.0	490.	21.75	0.029	0.621	

SPECIES	RANK COUNTS %			NO./M3	NO./M2
OITHONA SIMILIS	1.0	1110	77.14	1786.36	83959.
PSEUDOCALANUS SPP. C	2.0	132	9.17	212.43	9984.
PSEUDOCALANUS MINUTUS AF	3.0	110	7.64	177.03	8320.
CHAETOGNATH	4.0	50	3.47	80.47	3782.
CALANUS SPP. C	5.0	16	1.11	25.75	1210.
PSEUDOCALANUS MINUTUS AM	6.0	13	0.90	20.92	983.
ACARTIA LONGIREMIS AF	7.5	2	0.14	3.22	151.
ACARTIA LONGIREMIS AM	7.5	2	0.14	3.22	151.
CENTROPAGES TYPICUS AF	10.5	1	0.07	1.61	76.
ACARTIA SPP. C	10.5	1	0.07	1.61	76.
CENTROPAGES SPP. C	10.5	1	0.07	1.61	76.
TEMORA SPP. C	10.5	1	0.07	1.61	76.
TOTALS	12	1439	100	2315.83	108844.

SIZE FRACTIONS (MICRONS)	GRAMS DRY WEIGHT %		GM/M3	GM/M2
102-223	0.140	36.65	0.0064	0.30
223-505	0.202	52.88	0.0093	0.44
505-1050	0.040	10.47	0.0018	0.09
TOTALS	0.382	100	0.0176	0.83

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
9	5 APR 78	05:15:00	40 9.9 N	72 11.0 W	71
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
68.0	370.	16.42	0.100	1.642	

SPECIES	RANK COUNTS %			NO./M3	NO./M2
OITHONA SIMILIS	1.0	855	53.37	520.64	35404.
PSEUDOCALANUS SPP. C	2.0	370	23.10	225.31	15321.
PSEUDOCALANUS MINUTUS AF	3.0	190	11.86	115.70	7867.
PSEUDOCALANUS MINUTUS AM	4.0	92	5.74	56.02	3910.
CALANUS SPP. C	5.0	42	2.62	25.58	1739.
CHAETOGNATH	6.0	36	2.25	21.92	1491.
ACARTIA SPP. C	7.0	7	0.44	4.26	290.
ACARTIA LONGIREMIS AM	8.0	5	0.31	3.04	207.
ACARTIA LONGIREMIS AF	9.0	4	0.25	2.44	166.
CENTROPAGES SPP. C	10.0	1	0.06	0.61	41.
TOTALS	10	1602	100	975.52	66335.

SIZE FRACTIONS (MICRONS)	GRAMS DRY WEIGHT %		GM/M3	GM/M2
102-223	0.381	37.35	0.0232	1.58
223-505	0.531	52.06	0.0323	2.20
505-1050	0.060	5.88	0.0037	0.25
1050 +	0.048	4.71	0.0029	0.20
TOTALS	1.020	100	0.0621	4.22

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
10	5 APR 78	20:00:00	39 32.4 N	71 43.4 W	1426
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
86.6	1280.	56.81	0.012	0.710	

SPECIES	RANK COUNTS %			NO./M3	NO./M2
OITHONA SIMILIS	1.0	1160	94.85	1633.48	141463.
CALANUS SPP. C	2.0	43	3.52	60.55	5244.
PSEUDOCALANUS SPP. C	3.0	10	0.82	14.08	1220.
CENTROPAGES SPP. C	4.5	4	0.33	5.63	488.
CHAETOGNATH	4.5	4	0.33	5.63	488.
CENTROPAGES TYPICUS AF	6.5	1	0.08	1.41	122.
PSEUDOCALANUS MINUTUS AF	6.5	1	0.08	1.41	122.
TOTALS	7	1223	100	1722.19	149146.

STATION 11	DATE 5 APR 78	TIME 23:55:00	LATITUDE 39 42.4 N	LONGITUDE 71 52.0 W	SONIC DEPTH 292
NET TOW DEPTH 100.0	FLOW METER 1110.	VOLUME SAMPLE 49.27	FRACTION COUNT 0.008	VOLUME COUNT 0.379	

SPECIES	RANK COUNTS %			NO./M3	NO./M2
OITHONA SIMILIS	1.0	1005	97.29	2651.92	265192.
CALANUS SPP. C	2.0	18	1.74	47.50	4750.
PSEUDOCALANUS SPP. C	3.0	4	0.39	10.55	1055.
PSEUDOCALANUS MINUTUS AF	4.0	3	0.29	7.92	792.
CHAETOGNATH	5.0	2	0.19	5.28	528.
CENTROPAGES SPP. C	6.0	1	0.10	2.64	264.
TOTALS	6	1033	100	2725.81	272581.

STATION 12	DATE 6 APR 78	TIME 02:25:00	LATITUDE 39 49.0 N	LONGITUDE 71 55.0 W	SONIC DEPTH 150
NET TOW DEPTH 100.0	FLOW METER 1075.	VOLUME SAMPLE 47.71	FRACTION COUNT 0.012	VOLUME COUNT 0.596	

SPECIES	RANK COUNTS %			NO./M3	NO./M2
OITHONA SIMILIS	1.0	1290	87.34	2162.95	216295.
PSEUDOCALANUS MINUTUS AF	2.0	113	7.55	189.47	18947.
PSEUDOCALANUS SPP. C	3.0	37	2.51	62.04	6204.
CALANUS SPP. C	4.0	29	1.96	48.62	4862.
PSEUDOCALANUS MINUTUS AM	5.0	7	0.47	11.74	1174.
CHAETOGNATH	6.0	1	0.07	1.68	168.
TOTALS	6	1477	100	2476.49	247649.

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
13	6 APR 78	04:20:00	39 54.5 N	71 59.4 W	97
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
94.0	965.	42.83	0.017	0.714	

SPECIES	RANK COUNTS %			NO./M3	NO./M2
OITHONA SIMILIS	1.0	745	56.27	1043.65	98103.
PSEUDOCALANUS SPP. C	2.0	310	23.41	434.27	40821.
PSEUDOCALANUS MINUTUS AF	3.0	130	9.82	182.11	17119.
CALANUS SPP. C	4.0	83	6.27	116.27	10930.
PSEUDOCALANUS MINUTUS AM	5.0	44	3.32	61.64	5794.
CALANUS FINMARCHICUS A	6.0	6	0.45	8.41	790.
CHAETOGNATH	7.0	4	0.30	5.60	527.
ACARTIA SPP. C	8.0	2	0.15	2.80	263.
TOTALS	8	1324	100	1854.75	174347.

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
14	6 APR 78	06:25:00	40 0.0 N	72 3.1 W	78
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
75.0	755.	33.51	0.012	0.419	

SPECIES	RANK COUNTS %			NO./M3	NO./M2
OITHONA SIMILIS	1.0	970	65.45	2315.74	173680.
PSEUDOCALANUS SPP. C	2.0	300	20.24	716.21	53716.
CALANUS SPP. C	3.0	87	5.87	207.70	15578.
PSEUDOCALANUS MINUTUS AF	4.0	75	5.06	179.05	13429.
CHAETOGNATH	5.0	25	1.69	59.68	4476.
PSEUDOCALANUS MINUTUS AM	6.0	17	1.15	40.59	3044.
ACARTIA LONGIREMIS AM	8.5	2	0.13	4.77	358.
ACARTIA SPP. C	8.5	2	0.13	4.77	358.
CALANUS FINMARCHICUS A	8.5	2	0.13	4.77	358.
ACARTIA LONGIREMIS AF	8.5	2	0.13	4.77	358.
TOTALS	10	1482	100	3538.06	265355.

STATION 15	DATE 6 APR 78	TIME 10:15:00	LATITUDE 40 4.5 N	LONGITUDE 72 5.5 W	SONIC DEPTH 76
NET TOW DEPTH 65.0	FLOW METER 540.	VOLUME SAMPLE 23.97	FRACTION COUNT 0.025	VOLUME COUNT 0.599	

SPECIES		RANK	COUNTS	%	NO./M3	NO./M2
OITHONA SIMILIS	- - - - -	1.0	1310	73.23	2186.31	142110.
PSEUDOCALANUS SPP. C	- - - - -	2.0	175	9.78	292.06	18984.
PSEUDOCALANUS MINUTUS AF	- - - - -	3.0	120	6.71	200.27	13018.
CALANUS SPP. C	- - - - -	4.0	83	4.64	138.52	9004.
CHAETOGNATH	- - - - -	5.0	58	3.24	96.80	6292.
PSEUDOCALANUS MINUTUS AM	- - - - -	6.0	36	2.01	60.08	3905.
ACARTIA LONGIREMIS AM	- - - - -	8.0	2	0.11	3.34	217.
CALANUS FINMARCHICUS A	- - - - -	8.0	2	0.11	3.34	217.
ACARTIA LONGIREMIS AF	- - - - -	8.0	2	0.11	3.34	217.
ACARTIA SPP. C	- - - - -	10.0	1	0.06	1.67	108.
TOTALS		10	1739	100	2985.73	194073.

STATION 32	DATE 8 APR 78	TIME 06:36:00	LATITUDE 40 19.6 N	LONGITUDE 72 12.0 W	SONIC DEPTH 63
NET TOW DEPTH 60.0	FLOW METER 300.	VOLUME SAMPLE 13.32	FRACTION COUNT 0.062	VOLUME COUNT 0.819	

SPECIES		RANK	COUNTS	%	NO./M3	NO./M2
OITHONA SIMILIS	- - - - -	1.0	755	55.84	921.41	55285.
PSEUDOCALANUS SPP. C	- - - - -	2.0	365	27.00	445.45	26727.
PSEUDOCALANUS MINUTUS AF	- - - - -	3.0	125	9.25	152.55	9153.
CHAETOGNATH	- - - - -	4.0	65	4.81	79.33	4760.
PSEUDOCALANUS MINUTUS AM	- - - - -	5.0	28	2.07	34.17	2050.
CALANUS SPP. C	- - - - -	6.0	8	0.59	9.76	586.
ACARTIA LONGIREMIS AF	- - - - -	7.0	3	0.22	3.66	220.
ACARTIA LONGIREMIS AM	- - - - -	8.0	2	0.15	2.44	146.
ACARTIA SPP. C	- - - - -	9.0	1	0.07	1.22	73.
TOTALS		9	1352	100	1650.00	99000.

STATION 33	DATE 9 APR 78	TIME 12:30:00	LATITUDE 40 15.9 N	LONGITUDE 67 20.8 W	SONIC DEPTH 1829
NET TOW DEPTH 94.0	FLOW METER 1280.	VOLUME SAMPLE 56.81	FRACTION COUNT 0.013	VOLUME COUNT 0.757	

SPECIES	RANK COUNTS %			NO./M3	NO./M2
OITHONA SIMILIS	1.0	1040	73.24	1372.96	129017.
CALANUS SPP. C	2.0	295	20.77	389.45	36596.
PSEUDOCALANUS SPP. C	3.0	71	5.00	93.73	8808.
PSEUDOCALANUS MINUTUS AM	4.0	6	0.42	7.92	744.
PSEUDOCALANUS MINUTUS AF	5.5	3	0.21	3.96	372.
CALANUS FINMARCHICUS A	5.5	3	0.21	3.96	372.
CHAETOGNATH	7.0	2	0.14	2.64	248.
TOTALS	7	1420	100	1874.62	176157.

STATION 34	DATE 9 APR 78	TIME 15:30:00	LATITUDE 40 23.6 N	LONGITUDE 67 27.1 W	SONIC DEPTH 232
NET TOW DEPTH 98.5	FLOW METER 935.	VOLUME SAMPLE 41.50	FRACTION COUNT 0.012	VOLUME COUNT 0.488	

SPECIES	RANK COUNTS %			NO./M3	NO./M2
OITHONA SIMILIS	1.0	955	56.61	1956.07	192638.
CALANUS SPP. C	2.0	620	36.75	1269.91	125062.
PSEUDOCALANUS SPP. C	3.0	95	5.63	194.58	19163.
CALANUS FINMARCHICUS A	4.0	6	0.36	12.29	1210.
PSEUDOCALANUS MINUTUS AM	5.0	5	0.30	10.24	1009.
PSEUDOCALANUS MINUTUS AF	6.0	4	0.24	8.19	807.
CENTROPAGES SPP. C	7.5	1	0.06	2.05	202.
CHAETOGNATH	7.5	1	0.06	2.05	202.
TOTALS	8	1687	100	3455.39	340289.

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
35	9 APR 78	18:10:00	40 29.0 N	67 34.6 W	137
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
100.0	930.	41.28	0.020	0.826	

SPECIES	RANK COUNTS %			NO./M3	NO./M2
OITHONA SIMILIS	1.0	910	58.37	1102.31	110231.
CALANUS SPP. C	2.0	585	37.52	708.63	70863.
PSEUDOCALANUS SPP. C	3.0	40	2.57	48.45	4845.
CALANUS FINMARCHICUS A	4.0	15	0.96	18.17	1817.
PSEUDOCALANUS MINUTUS AF	6.0	3	0.19	3.63	363.
PSEUDOCALANUS MINUTUS AM	6.0	3	0.19	3.63	363.
CHAETOGNATH	6.0	3	0.19	3.63	363.
TOTALS	7	1559	100	1888.46	188846.

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
36	9 APR 78	20:30:00	40 36.0 N	67 39.5 W	97
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
82.3	920.	40.83	0.007	0.272	

SPECIES	RANK COUNTS %			NO./M3	NO./M2
CALANUS SPP. C	1.0	585	49.70	2148.99	176803.
OITHONA SIMILIS	2.0	560	47.58	2057.15	169247.
PSEUDOCALANUS SPP. C	3.0	19	1.61	69.80	5742.
PSEUDOCALANUS MINUTUS AF	4.0	7	0.59	25.71	2116.
TEMORA SPP. C	7.5	1	0.08	3.67	302.
CENTROPAGES SPP. C	7.5	1	0.08	3.67	302.
ACARTIA LONGIREMIS AF	7.5	1	0.08	3.67	302.
ACARTIA LONGIREMIS AM	7.5	1	0.08	3.67	302.
CALANUS FINMARCHICUS A	7.5	1	0.08	3.67	302.
CHAETOGNATH	7.5	1	0.08	3.67	302.
TOTALS	10	1177	100	4323.69	355721.

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
37	9 APR 78	23:15:00	40 42.9 N	67 45.7 W	76
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
73.7	605.	26.85	0.007	0.192	

SPECIES	RANK	COUNTS	%	NO./M3	NO./M2
OITHONA SIMILIS	1.0	790	58.43	4118.83	303634.
CALANUS SPP. C	2.0	495	36.61	2580.79	190252.
PSEUDOCALANUS SPP. C	3.0	49	3.62	255.47	18833.
CHAETOGNATH	4.0	8	0.59	41.71	3075.
PSEUDOCALANUS MINUTUS AM	5.5	3	0.22	15.64	1153.
ACARTIA SPP. C	5.5	3	0.22	15.64	1153.
PSEUDOCALANUS MINUTUS AF	7.0	2	0.15	10.43	789.
ACARTIA LONGIREMIS AM	8.5	1	0.07	5.21	384.
TEMORA SPP. C	8.5	1	0.07	5.21	384.
TOTALS	9	1352	100	7048.94	519637.

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
38	10 APR 78	01:58:00	40 48.5 N	67 50.5 W	67
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
62.8	940.	41.72	0.005	0.220	

SPECIES	RANK	COUNTS	%	NO./M3	NO./M2
OITHONA SIMILIS	1.0	1150	67.73	5237.19	328687.
CALANUS SPP. C	2.0	490	28.86	2231.50	140049.
PSEUDOCALANUS SPP. C	3.0	36	2.12	163.95	10289.
CHAETOGNATH	4.0	7	0.41	31.88	2001.
PSEUDOCALANUS MINUTUS AF	5.0	6	0.35	27.32	1715.
PSEUDOCALANUS MINUTUS AM	6.0	5	0.29	22.77	1429.
CENTROPAGES TYPICUS AF	7.0	2	0.12	9.11	572.
ACARTIA LONGIREMIS AF	8.5	1	0.06	4.55	286.
ACARTIA LONGIREMIS AM	8.5	1	0.06	4.55	286.
TOTALS	9	1698	100	7732.82	485314.

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
39	10 APR 78	04:20:00	40 53.3 N	67 57.5 W	56
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
53.0	385.	17.09	0.064	1.087	

SPECIES	RANK	COUNTS	%	NO./M3	NO./M2
OITHONA SIMILIS	1.0	775	55.40	712.71	37773.
CALANUS SPP. C	2.0	215	15.37	197.72	10479.
PSEUDOCALANUS SPP. C	3.0	180	12.87	165.53	8773.
CHAETOGNATH	4.0	103	7.36	94.72	5020.
PSEUDOCALANUS MINUTUS AF	5.0	69	4.93	63.45	3363.
PSEUDOCALANUS MINUTUS AM	6.0	46	3.29	42.30	2242.
ACARTIA SPP. C	7.0	5	0.36	4.60	244.
CENTROPAGES SPP. C	8.5	2	0.14	1.84	97.
CALANUS FINMARCHICUS A	8.5	2	0.14	1.84	97.
ACARTIA LONGIREMIS AF	10.5	1	0.07	0.92	49.
TEMORA SPP. C	10.5	1	0.07	0.92	49.
TOTALS	11	1399	100	1286.55	68187.

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
40	10 APR 78	06:55:00	40 59.3 N	68 3.7 W	49
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
46.0	385.	17.09	0.060	1.025	

SPECIES	RANK	COUNTS	%	NO./M3	NO./M2
CALANUS SPP. C	1.0	515	34.87	502.31	23106.
OITHONA SIMILIS	2.0	350	23.70	341.37	15703.
PSEUDOCALANUS SPP. C	3.0	280	18.96	273.10	12563.
CHAETOGNATH	4.0	228	15.44	222.38	10230.
PSEUDOCALANUS MINUTUS AF	5.0	58	3.93	56.57	2602.
PSEUDOCALANUS MINUTUS AM	6.0	36	2.44	35.11	1615.
CALANUS FINMARCHICUS A	7.0	10	0.68	9.75	449.
TOTALS	7	1477	100	1440.60	66268.

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
41	10 APR 78	10:35:00	41 7.0 N	68 10.0 W	42
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
39.4	310.	13.76	0.110	1.513	

SPECIES	RANK	COUNTS	%	NO./M3	NO./M2
CALANUS SPP. C	1.0	675	42.43	445.99	17569.
PSEUDOCALANUS SPP. C	2.0	365	22.94	241.16	9500.
CHAETOGNATH	3.0	290	18.23	191.61	7548.
OITHONA SIMILIS	4.0	145	9.11	95.80	3774.
PSEUDOCALANUS MINUTUS AF	5.0	60	3.77	39.64	1562.
PSEUDOCALANUS MINUTUS AM	6.0	37	2.33	24.45	963.
CALANUS FINMARCHICUS A	7.0	15	0.94	9.91	390.
ACARTIA SPP. C	8.0	2	0.13	1.32	52.
ACARTIA LONGIREMIS AM	9.5	1	0.06	0.66	26.
ACARTIA LONGIREMIS AF	9.5	1	0.06	0.66	26.
TOTALS	10	1591	100	1051.21	41410.

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
42	10 APR 78	13:25:00	41 13.1 N	68 15.2 W	45
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
37.6	345.	15.31	0.058	0.893	

SPECIES	RANK	COUNTS	%	NO./M3	NO./M2
CALANUS SPP. C	1.0	795	49.81	890.03	33454.
PSEUDOCALANUS SPP. C	2.5	260	16.29	291.08	10941.
CHAETOGNATH	2.5	260	16.29	291.08	10941.
OITHONA SIMILIS	4.0	192	12.03	214.95	8080.
PSEUDOCALANUS MINUTUS AF	5.0	43	2.69	48.14	1809.
PSEUDOCALANUS MINUTUS AM	6.0	24	1.50	26.87	1010.
CALANUS FINMARCHICUS A	7.0	21	1.32	23.51	884.
ACARTIA SPP. C	8.0	1	0.06	1.12	42.
TOTALS	8	1596	100	1786.78	67161.

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
43	10 APR 78	17:25:00	41 18.5 N	68 20.5 W	56
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
50.0	340.	15.09	0.036	0.539	

SPECIES	RANK	COUNTS	%	NO./M3	NO./M2
PSEUDOCALANUS SPP. C	1.0	465	32.38	862.79	43140.
CALANUS SPP. C	2.0	410	28.55	760.74	38037.
OITHONA SIMILIS	3.0	335	23.33	621.58	31079.
CHAETOGNATH	4.0	145	10.10	269.04	13452.
PSEUDOCALANUS MINUTUS AF	5.0	51	3.55	94.63	4731.
PSEUDOCALANUS MINUTUS AM	6.0	26	1.81	48.24	2412.
CALANUS FINMARCHICUS A	7.0	4	0.28	7.42	371.
TOTALS	7	1436	100	2664.45	133223.

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
44	10 APR 78	19:50:00	41 25.5 N	68 27.9 W	75
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
73.0	775.	34.40	0.025	0.860	

SPECIES	RANK	COUNTS	%	NO./M3	NO./M2
OITHONA SIMILIS	1.0	540	39.53	627.95	45841.
PSEUDOCALANUS SPP. C	2.0	480	35.14	558.18	40747.
CALANUS SPP. C	3.0	178	13.03	206.99	15110.
PSEUDOCALANUS MINUTUS AF	4.0	75	5.49	87.22	6367.
CALANUS FINMARCHICUS A	5.0	40	2.93	46.51	3396.
PSEUDOCALANUS MINUTUS AM	6.0	30	2.20	34.89	2547.
CHAETOGNATH	7.0	23	1.68	26.75	1952.
TOTALS	7	1366	100	1588.49	115960.

SIZE FRACTIONS (MICRONS)	GRAMS DRY WEIGHT	%	GM/M3	GM/M2
505-1050	0.578	54.53	0.0168	1.23
1050 +	0.480	45.37	0.0140	1.02
TOTALS	1.058	100	0.0308	2.25

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
45	10 APR 78	22:10:00	41 33.0 N	68 31.1 W	102
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
99.6	670.	29.74	0.040	1.189	

SPECIES	RANK	COUNTS	%	NO./M3	NO./M2
PSEUDOCALANUS SPP. C	1.0	665	42.99	559.06	55694.
CALANUS SPP. C	2.0	415	26.83	348.89	34756.
OITHONA SIMILIS	3.0	275	17.78	231.19	23031.
PSEUDOCALANUS MINUTUS AF	4.0	102	6.59	85.75	8542.
PSEUDOCALANUS MINUTUS AM	5.0	66	4.27	55.49	5527.
CALANUS FINMARCHICUS A	6.0	23	1.49	19.34	1926.
CHAETOGNATH	7.0	1	0.06	0.84	84.
TOTALS	7	1547	100	1300.56	129561.

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
46	11 APR 78	00:35:00	41 31.2 N	68 36.9 W	156
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
100.0	780.	34.62	0.080	2.770	

SPECIES	RANK	COUNTS	%	NO./M3	NO./M2
CALANUS SPP. C	1.0	535	40.32	193.17	19317.
OITHONA SIMILIS	2.0	470	35.42	169.70	16970.
PSEUDOCALANUS MINUTUS AF	3.0	190	14.32	68.60	6860.
PSEUDOCALANUS SPP. C	4.0	83	6.25	29.97	2997.
PSEUDOCALANUS MINUTUS AM	5.0	27	2.03	9.75	975.
CALANUS FINMARCHICUS A	6.0	21	1.58	7.58	758.
CHAETOGNATH	7.0	1	0.08	0.36	36.
TOTALS	7	1327	100	479.14	47914.

STATION	DATE	TIME	LATITUDE	LONGITUDE	SONIC DEPTH
47	11 APR 78	03:25:00	41 45.9 N	68 42.0 W	172
NET TOW DEPTH	FLOW METER	VOLUME SAMPLE	FRACTION COUNT	VOLUME COUNT	
100.0	880.	39.06	0.040	1.562	

SPECIES	RANK	COUNTS	%	NO./M3	NO./M2
OITHONA SIMILIS	1.0	550	42.44	352.04	35204.
CALANUS SPP. C	2.0	455	35.11	291.23	29123.
PSEUDOCALANUS MINUTUS AF	3.0	142	10.96	90.89	9089.
PSEUDOCALANUS SPP. C	4.0	87	6.71	55.69	5569.
PSEUDOCALANUS MINUTUS AM	5.0	32	2.47	20.48	2048.
CALANUS FINMARCHICUS A	6.0	30	2.31	19.20	1920.
TOTALS	6	1296	100	829.54	82954.

Phytoplankton Data

LAT 40 42.5
SONIC DEPTH 37

LONG 72 29.0 DATE 78/04/04
ONE PERCENT LIGHT DEPTH 30

TIME 0732

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
3	1	0.0	GYMNOINIUM SIMPLEX	404500	54
3	1	0.0	SKELETONEMA COSTATUM	6300	54
3	1	0.0	NANNOPLANKTON	5100	54
3	1	0.0	THALASSIOSIRA SP.	4600	54
3	1	0.0	GYMNOINIUM SP.	4500	54
3	1	0.0	AMPHIDIUM PHAEOCYSTICOLA	3300	54
3	1	0.0	GYMNOINIUM FILUM	2000	54
3	1	0.0	OXYTOXUM GLADIOLUS	1500	54
3	1	0.0	LAUDERIA BOREALIS	1000	54
3	1	0.0	SCENEDESMUS SP.	800	54
3	1	0.0	CHAETOCERO GRACILE	700	54
3	1	0.0	EXUVIELLA COMPRESSA	600	54
3	1	0.0	GYRODINIUM SP.	500	54
3	1	0.0	NAVICULA SP.	500	54
3	1	0.0	EXUVIELLA SP.	400	54
3	1	0.0	PERIDINIUM SP.	300	54
3	1	0.0	ASTERIONELLA JAPONICA	300	54
3	1	0.0	DINOPHYSIS OVUM	300	54
3	1	0.0	DINOPHYSIS ACUTA	200	54
3	1	0.0	PROROCENTRUM HICANS	200	54
3	1	0.0	HELOSIRA MONILIFORMIS	200	54
3	1	0.0	RHIZOSOLENIA HEBETATA	100	54
3	1	0.0	SILIATE	100	54
3	1	0.0	MESODINIUM RUBRUM	100	54
3	1	0.0	CERATIUM FURCA	100	54
3	1	0.0	SILICA FLAGELLATE	100	54

TOTAL CELLS
PERCENT DIATOM/TOTAL 3
PERCENT DINOFLAGELLATE/TOTAL 95
PERCENT OTHER/TOTAL 1

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
3	1	20.0	GYMNOINIUM SIMPLEX	1374900	64
3	1	20.0	SKELETONEMA COSTATUM	11800	64
3	1	20.0	THALASSIOSIRA SP.	9000	64
3	1	20.0	AMPHIDIUM SP.	7800	64
3	1	20.0	HELOSIRA MONILIFORMIS	4600	64
3	1	20.0	GYMNOINIUM SP.	3600	64
3	1	20.0	ASTERIONELLA JAPONICA	3400	64
3	1	20.0	NANNOPLANKTON	3400	64
3	1	20.0	GYMNOINIUM FILUM	3000	64
3	1	20.0	RHIZOSOLENIA DELICATULA	2800	64
3	1	20.0	GYMNOINIUM PYGMAEUM	1400	64
3	1	20.0	OXYTOXUM GLADIOLUS	1400	64
3	1	20.0	CHAETOCEROS SP.	800	64
3	1	20.0	NAVICULA SP.	600	64
3	1	20.0	COSCIINOISCUS SP.	400	64
3	1	20.0	SILIATE	400	64
3	1	20.0	PERIDINIUM SP.	200	64
3	1	20.0	TINTINNIDA	200	64
3	1	20.0	CHAETOCEROS GRACILE	200	64
3	1	20.0	CERATIUM TRIPOS	200	64
3	1	20.0	NITZSCHIA CLOSTERIUM	200	64
3	1	20.0	PROROCENTRUM SP.	200	64

TOTAL CELLS
PERCENT DIATOM/TOTAL 2
PERCENT DINOFLAGELLATE/TOTAL 97
PERCENT OTHER/TOTAL 0

LAT 40 32.1
SONIC DEPTH 49

LONG 72 23.7 DATE 78/04/04
ONE PERCENT LIGHT DEPTH

TIME 1741

STA	CAST DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
5	1	0.0 GYMNOIDINIUM SIMPLEX	12400	94 45
5	1	0.0 AMPHIDINIUM SP.	3600	94 13
5	1	0.0 GYMNOIDINIUM SP.	2700	94 10
5	1	0.0 GYMNOIDINIUM PYGMAEUM	2000	94 7
5	1	0.0 RHIZOSOLENIA DELICATULA	1400	94 5
5	1	0.0 GYMNOIDINIUM FILUM	1000	94 4
5	1	0.0 NANNOPHANKTON	1000	94 4
5	1	0.0 THALASSIOSIRA SP.	1000	94 4
5	1	0.0 OXYTOXUM GLADIOLUS	600	94 2
5	1	0.0 EXUVIELLA SP.	400	94 1
5	1	0.0 MESODINIUM RUBRUM	400	94 1
5	1	0.0 PERIDINIUM SP.	400	94 1
5	1	0.0 CERATIUM TRIPOS	300	94 1
5	1	0.0 DINOPHYSIS PUNCTATA	200	94 1
5	1	0.0 MELOSIRA SP.	100	94 0
5	1	0.0 NITZSCHIA PUNGENS V. ATLANTICA	100	94 0

TOTAL CELLS
PERCENT DIATOM/TOTAL 9
PERCENT DINOFLAGELLATE/TOTAL 86
PERCENT OTHER/TOTAL 5

STA	CAST DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
5	1	30.0 GYMNOIDINIUM PYGMAEUM	3400	104 31
5	1	30.0 GYMNOIDINIUM SIMPLEX	2500	104 23
5	1	30.0 GYMNOIDINIUM SP.	1100	104 10
5	1	30.0 GYMNOIDINIUM FILUM	1000	104 9
5	1	30.0 AMPHIDINIUM SP.	700	104 6
5	1	30.0 THALASSIOSIRA SP.	700	104 6
5	1	30.0 OXYTOXUM GLADIOLUS	400	104 4
5	1	30.0 PROROCENTRUM SP.	200	104 2
5	1	30.0 NANNOPHANKTON	200	104 2
5	1	30.0 PERIDINIUM SP.	200	104 2
5	1	30.0 MELOSIRA MONILIFORMIS	200	104 2
5	1	30.0 CERATIUM TRIPOS	100	104 1
5	1	30.0 RHIZOSOLENIA DELICATULA	100	104 1

TOTAL CELLS
PERCENT DIATOM/TOTAL 9
PERCENT DINOFLAGELLATE/TOTAL 89
PERCENT OTHER/TOTAL 2

LAT 40 28.6
SONIC DEPTH 55

LONG 72 20.0 DATE 78/04/05
ONE PERCENT LIGHT DEPTH

TIME 2015

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
6	1	0.0	MESODINIUM RUBRUM	8900	11 %
6	1	0.0	GYMNODINIUM PYGMAEUM	2500	11 %
6	1	0.0	GYMNODINIUM SIMPLEX	2000	11 %
6	1	0.0	NANNOPLANKTON	1900	11 %
6	1	0.0	AMPHIDINIUM SP.	1700	11 %
6	1	0.0	GYMNODINIUM FILUM	1000	11 %
6	1	0.0	GYMNODINIUM SP.	700	11 %
6	1	0.0	THALASSIOSIRA SP.	600	11 %
6	1	0.0	PERIDINIUM SP.	400	11 %
6	1	0.0	SKELETONEMA COSTATUM	300	11 %
6	1	0.0	OXYTOXUM GLADIOLUS	200	11 %
6	1	0.0	SILICA FLAGELLATE	200	11 %
6	1	0.0	TINTINNIDA	200	11 %
6	1	0.0	DINOPHYSIS SP.	100	11 %
6	1	0.0	CERATIUM TRIPOS	100	11 %
6	1	0.0	NITZSCHIA PUNGENS V. ATLANTICA	100	11 %

TOTAL CELLS
PERCENT DIATOM/TOTAL 5
PERCENT DINOFLAGELLATE/TOTAL 42
PERCENT OTHER/TOTAL 53

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
6	1	30.0	AMPHIDINIUM SP.	5300	12 %
6	1	30.0	GYMNODINIUM SIMPLEX	4700	12 %
6	1	30.0	GYMNODINIUM PYGMAEUM	3600	12 %
6	1	30.0	NANNOPLANKTON	2300	12 %
6	1	30.0	GYMNODINIUM FILUM	1000	12 %
6	1	30.0	MESODINIUM RUBRUM	800	12 %
6	1	30.0	THALASSIOSIRA SP.	600	12 %
6	1	30.0	RHIZOSOLENIA DELICATULA	600	12 %
6	1	30.0	THALASSIOSIRA GRAVIDA	600	12 %
6	1	30.0	GYMNODINIUM SP.	500	12 %
6	1	30.0	EXUVIELLA SP.	300	12 %
6	1	30.0	OXYTOXUM GLADIOLUS	200	12 %
6	1	30.0	PERIDINIUM SP.	200	12 %
6	1	30.0	NAVICULA SP.	100	12 %
6	1	30.0	SILIATE	100	12 %
6	1	30.0	CERATIUM TRIPOS	100	12 %
6	1	30.0	PERIDINIUM MINUSCULUM	100	12 %

TOTAL CELLS
PERCENT DIATOM/TOTAL 9
PERCENT DINOFLAGELLATE/TOTAL 78
PERCENT OTHER/TOTAL 15

LAT 40 21.5
SONIC DEPTH 58

LONG 72 17.5 DATE 78/04/05
ONE PERCENT LIGHT DEPTH

TIME 2331

STA	CAST DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
7	1	0.0 MESODINIUM RUBRUM	14700	13.4
7	1	0.0 NANNOPHANKTON	4800	13.4
7	1	0.0 AMPHIDINIUM SP.	3900	13.4
7	1	0.0 GYMNOINIUM PYGMAEUM	3400	13.4
7	1	0.0 GYMNOINIUM SP.	1500	13.4
7	1	0.0 GYMNOINIUM FILUM	1000	13.4
7	1	0.0 TINTINNICA	600	13.4
7	1	0.0 CERATIUM TRIPOS	500	13.4
7	1	0.0 PERIDINIUM SP.	400	13.4
7	1	0.0 THALASSIOSIRA SP.	300	13.4
7	1	0.0 PROCENTRUM SP.	200	13.4
7	1	0.0 COSCINOISCUS WAILESII	200	13.4
7	1	0.0 OXYTOXUM GLADIOLUS	200	13.4
7	1	0.0 EXUVIELLA SP.	100	13.4

TOTAL CELLS
PERCENT DIATOM/TOTAL 2
PERCENT DINOFLAGELLATE/TOTAL 35
PERCENT OTHER/TOTAL 63

STA	CAST DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
7	1	25.0 NANNOPHANKTON	5100	14.4
7	1	25.0 AMPHIDINIUM SP.	2700	14.4
7	1	25.0 GYMNOINIUM PYGMAEUM	2200	14.4
7	1	25.0 MESODINIUM RUBRUM	1900	14.4
7	1	25.0 GYMNOINIUM FILUM	500	14.4
7	1	25.0 COSCINOISCUS WAILESII	400	14.4
7	1	25.0 OXYTOXUM GLADIOLUS	200	14.4
7	1	25.0 PERIDINIUM SP.	100	14.4
7	1	25.0 SILICA FLAGELLATE	100	14.4
7	1	25.0 COSCINOISCUS CONCINNUS	100	14.4
7	1	25.0 CERATIUM TRIPOS	100	14.4
7	1	25.0 RHIZOSOLENIA DELICATULA	100	14.4
7	1	25.0 GYMNOINIUM SP.	100	14.4

TOTAL CELLS
PERCENT DIATOM/TOTAL 4
PERCENT DINOFLAGELLATE/TOTAL 43
PERCENT OTHER/TOTAL 53

LAT 40 09.9
SONIC DEPTH 71

LONG 72 11.0 DATE 78/04/05
ONE PERCENT LIGHT DEPTH

TIME 0435

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
9	1	0.0	NANNOPLANKTON	12500	17.4
9	1	0.0	MESODINIUM RUBRUM	9200	17.4
9	1	0.0	AMPHIDINIUM SP.	6400	17.4
9	1	0.0	GYMNOINIUM SIMPLEX	5100	17.4
9	1	0.0	GYMNOINIUM PYGMAEUM	3700	17.4
9	1	0.0	GYMNOINIUM FILUM	2500	17.4
9	1	0.0	OXYTOXUM GLADIOLUS	2000	17.4
9	1	0.0	GYMNOINIUM SP.	1700	17.4
9	1	0.0	THALASSIOSIRA SP.	1300	17.4
9	1	0.0	PERIDINIUM SP.	700	17.4
9	1	0.0	SILICA FLAGELLATE	600	17.4
9	1	0.0	CHAETOCEROS SP.	400	17.4
9	1	0.0	TINTINNICA	300	17.4
9	1	0.0	HELOSIRA MONILIFORMIS	100	17.4
9	1	0.0	EXUVIELLA SP.	100	17.4
9	1	0.0	CERATIUM TRIPOS	100	17.4
9	1	0.0	NITZSCHIA PUNGENS V. ATLANTICA	100	17.4

TOTAL CELLS
PERCENT DIATOM/TOTAL 4
PERCENT DINOFLAGELLATE/TOTAL 48
PERCENT OTHER/TOTAL 48

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
9	1	30.0	NANNOPLANKTON	23300	18.4
9	1	30.0	MESODINIUM RUBRUM	12300	18.4
9	1	30.0	AMPHIDINIUM SP.	12200	18.4
9	1	30.0	GYMNOINIUM PYGMAEUM	4500	18.4
9	1	30.0	GYMNOINIUM SIMPLEX	3600	18.4
9	1	30.0	RHIZOSOLENIA DELICATULA	1400	18.4
9	1	30.0	CHAETOCEROS SP.	1200	18.4
9	1	30.0	GYMNOINIUM FILUM	1000	18.4
9	1	30.0	GYMNOINIUM SP.	900	18.4
9	1	30.0	PERIDINIUM SP.	700	18.4
9	1	30.0	CHAETOCEROS GRACILE	700	18.4
9	1	30.0	EXUVIELLA SP.	600	18.4
9	1	30.0	SILICA FLAGELLATE	500	18.4
9	1	30.0	OXYTOXUM GLADIOLUS	400	18.4
9	1	30.0	CERATIUM TRIPOS	300	18.4
9	1	30.0	TINTINNICA	300	18.4
9	1	30.0	THALASSIOSIRA SP.	270	18.4
9	1	30.0	COSCIINODISCUS WAILESI	100	18.4
9	1	30.0	SILIATE	100	18.4
9	1	30.0	DINOPHYSIS ACUTA	100	18.4

TOTAL CELLS
PERCENT DIATOM/TOTAL 6
PERCENT DINOFLAGELLATE/TOTAL 38
PERCENT OTHER/TOTAL 57

LAT 39 32.4
SONIC DEPTH 1426

LONG 71 43.4 DATE 78/04/05
ONE PERCENT LIGHT DEPTH

TIME 1852

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES	
10	1	0.0	NANNOPLANKTON	16100	19.4	29
10	1	0.0	GYMNOIDINIUM PYGMAEUM	6200	19.4	11
10	1	0.0	AMPHIDINIUM SP.	5700	19.4	10
10	1	0.0	GYMNOIDINIUM SP.	4800	19.4	8
10	1	0.0	MESODINIUM RUBRUM	4200	19.4	7
10	1	0.0	GYMNOIDINIUM FILUM	3900	19.4	7
10	1	0.0	PYRAMIMONAS	3800	19.4	7
10	1	0.0	OXYTOXUM GLADIOLUS	3000	19.4	5
10	1	0.0	PERIDINIUM FAEROENSE	2900	19.4	5
10	1	0.0	GYMNOIDINIUM MINUTUM	2500	19.4	4
10	1	0.0	CHAETOCEROS SP.	1800	19.4	3
10	1	0.0	EXUVIELLA SP.	600	19.4	1
10	1	0.0	LAUDERIA BOREALIS	500	19.4	1
10	1	0.0	THALASSIOSIRA GRAVIDA	500	19.4	1
10	1	0.0	NITZSCHIA CLOSTERIUM	400	19.4	1
10	1	0.0	TINTINNIDA	400	19.4	1
10	1	0.0	CERATIUM FUSUS	200	19.4	0
10	1	0.0	COSCONODISCUS CONCINNUS	200	19.4	0
10	1	0.0	DINOPHYSIS PUNCTATA	100	19.4	0
10	1	0.0	CERATIUM TRIPOS	100	19.4	0
10	1	0.0	COSCONODISCUS SP.	100	19.4	0
10	1	0.0	CERATIUM FURCA	100	19.4	0
10	1	0.0	PERIDINIUM MINUSCULUM	100	19.4	0
10	1	0.0	SILICA FLAGELLATE	100	19.4	0
10	1	0.0	PERIDINIUM SP.	100	19.4	0

TOTAL CELLS
PERCENT DIATOM/TOTAL 6
PERCENT DINOFLAGELLATE/TOTAL 52
PERCENT OTHER/TOTAL 42

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES	
10	1	30.0	NANNOPLANKTON	16100	20.4	25
10	1	30.0	GYMNOIDINIUM MINUTUM	6300	20.4	10
10	1	30.0	GYMNOIDINIUM PYGMAEUM	6200	20.4	10
10	1	30.0	PYRAMIDONAS	4800	20.4	8
10	1	30.0	AMPHIDINIUM SP.	4800	20.4	8
10	1	30.0	GYMNOIDINIUM FILUM	3800	20.4	6
10	1	30.0	GYMNOIDINIUM SP.	3600	20.4	6
10	1	30.0	MESODINIUM RUBRUM	3500	20.4	6
10	1	30.0	PERIDINIUM FAEROENSE	2900	20.4	5
10	1	30.0	OXYTOXUM GLADIOLUS	2100	20.4	3
10	1	30.0	CHAETOCEROS SP.	1600	20.4	3
10	1	30.0	LEPTOCYLINDRUS DANICUS	1000	20.4	2
10	1	30.0	COSCONODISCUS CONCINNUS	900	20.4	1
10	1	30.0	LAUDERIA BOREALIS	800	20.4	1
10	1	30.0	THALASSIOSIRA SP.	700	20.4	1
10	1	30.0	CYCLOTELLA NANA	500	20.4	1
10	1	30.0	EXUVIELLA SP.	400	20.4	1
10	1	30.0	PROROCENTRUM HICANS	400	20.4	1
10	1	30.0	TINTINNIDA	400	20.4	1
10	1	30.0	THALASSIOSIRA GRAVIDA	400	20.4	1
10	1	30.0	PROROCENTRUM SP.	400	20.4	1
10	1	30.0	CERATIUM TRIPOS	300	20.4	0
10	1	30.0	NITZSCHIA CLOSTERIUM	300	20.4	0
10	1	30.0	CERATIUM FURCA	300	20.4	0
10	1	30.0	NITZSCHIA PUNGENS V. ATLANTICA	300	20.4	0
10	1	30.0	DINOPHYSIS PUNCTATA	200	20.4	0
10	1	30.0	CERATIUM FUSUS	200	20.4	0
10	1	30.0	PERIDINIUM SP.	200	20.4	0
10	1	30.0	COSCONOSIRA POLYCHORDA	100	20.4	0
10	1	30.0	COSCONODISCUS RADIATUS	100	20.4	0

TOTAL CELLS
PERCENT DIATOM/TOTAL 11
PERCENT DINOFLAGELLATE/TOTAL 50
PERCENT OTHER/TOTAL 39

LAT 39 42.4
SONIC DEPTH 292

LONG 71 52.0 DATE 78/04/05
ONE PERCENT LIGHT DEPTH

TIME 2300

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
11	1	0.0	NANNOPLANKTON	15800	21 %
11	1	0.0	AMPHIDINIUM SP.	9600	21 %
11	1	0.0	MESODINIUM RUBRUM	9300	21 %
11	1	0.0	GYMNODINIUM PYGMAEUM	5100	21 %
11	1	0.0	PERIDINIUM SP.	4800	21 %
11	1	0.0	GYMNODINIUM SP.	3100	21 %
11	1	0.0	EXUVIELLA SP.	3000	21 %
11	1	0.0	THALASSIOSIRA SP.	2700	21 %
11	1	0.0	GYMNODINIUM FILUM	2500	21 %
11	1	0.0	GYMNODINIUM SIMPLEX	1800	21 %
11	1	0.0	OXYTOXUM GLADIOLUS	1700	21 %
11	1	0.0	ASTERIONELLA JAPONICA	700	21 %
11	1	0.0	TINTINNIDA	400	21 %
11	1	0.0	SILICA FLAGELLATE	400	21 %
11	1	0.0	RHIZOSOLENIA DELICATULA	400	21 %
11	1	0.0	CERATIUM TRIPOS	300	21 %
11	1	0.0	GYMNODINIUM MINUTUM	300	21 %
11	1	0.0	DINOPHYSIS PUNCTATA	300	21 %
11	1	0.0	PERIDINIUM MINUSCULUM	200	21 %
11	1	0.0	PROROCENTRUM MICANS	200	21 %
11	1	0.0	CERATIUM FURCA	200	21 %
11	1	0.0	COSCIINODISCUS SP.	200	21 %
11	1	0.0	MELOSIRA SP.	200	21 %
11	1	0.0	CERATIUM FUSUS	100	21 %
11	1	0.0	GUINARDIA FLACCIDA	100	21 %

TOTAL CELLS
PERCENT DIATOM/TOTAL
PERCENT DINOFLAGELLATE/TOTAL
PERCENT OTHER/TOTAL

7
52
41

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
11	1	30.0	NANNOPLANKTON	14500	22 %
11	1	30.0	AMPHIDINIUM SP.	9300	22 %
11	1	30.0	GYMNODINIUM PYGMAEUM	5200	22 %
11	1	30.0	MESODINIUM RUBRUM	3800	22 %
11	1	30.0	GYMNODINIUM FILUM	2500	22 %
11	1	30.0	GYMNODINIUM SP.	2000	22 %
11	1	30.0	PERIDINIUM FAEROENSE	1900	22 %
11	1	30.0	OXYTOXUM GLADIOLUS	1800	22 %
11	1	30.0	THALASSIOSIRA SP.	1600	22 %
11	1	30.0	CHAETOCEROS SIMPLEX	1300	22 %
11	1	30.0	GRAMMATOPHORA SP.	1200	22 %
11	1	30.0	GYMNODINIUM SIMPLEX	1200	22 %
11	1	30.0	COSCIINODISCUS HAILESII	800	22 %
11	1	30.0	EXUVIELLA SP.	600	22 %
11	1	30.0	CERATIUM TRIPOS	600	22 %
11	1	30.0	SILICA FLAGELLATE	300	22 %
11	1	30.0	GYMNODINIUM MINUTUM	300	22 %
11	1	30.0	CHAETOCEROS SP.	200	22 %
11	1	30.0	CERATIUM FURCA	200	22 %
11	1	30.0	NITZSCHIA CLOSTERIUM	200	22 %
11	1	30.0	PROROCENTRUM MICANS	100	22 %
11	1	30.0	PERIDINIUM MINUSCULUM	100	22 %
11	1	30.0	PERIDINIUM SP.	100	22 %
11	1	30.0	COCHLODINIUM SP.	100	22 %
11	1	30.0	COSCIINODISCUS CONCINNUS	100	22 %
11	1	30.0	CERATIUM FUSUS	100	22 %
11	1	30.0	RHIZOSOLENIA DELICATULA	100	22 %

TOTAL CELLS
PERCENT DIATOM/TOTAL
PERCENT DINOFLAGELLATE/TOTAL
PERCENT OTHER/TOTAL

11
52
37

LAT 39 54.5
SONIC DEPTH 97

LONG 71 59.4 DATE 78/04/06
ONE PERCENT LIGHT DEPTH

TIME 0355

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
13	1	0.0	NANNOPLANKTON	31900	25 %
13	1	0.0	MESODINIUM RUBRUM	8500	25 %
13	1	0.0	AMPHIDINIUM SP.	4800	25 %
13	1	0.0	GYMNOINIUM PYGMAEUM	4100	25 %
13	1	0.0	PYRAMIDONAS	2900	25 %
13	1	0.0	GYMNOINIUM SIMPLEX	2500	25 %
13	1	0.0	GYMNOINIUM SP.	1900	25 %
13	1	0.0	THALASSIOSIRA SP.	1200	25 %
13	1	0.0	GYMNOINIUM FILUM	1000	25 %
13	1	0.0	PERIDINIUM FAEROENSE	1000	25 %
13	1	0.0	TINTINNIDA	600	25 %
13	1	0.0	DINOPHYSIS PUNCTATA	400	25 %
13	1	0.0	EXUVIELLA SP.	400	25 %
13	1	0.0	SILICA FLAGELLATE	400	25 %
13	1	0.0	OXYTOXUM GLADIOLUS	200	25 %
13	1	0.0	RHIZOSOLENIA DELICATULA	200	25 %
13	1	0.0	CERATIUM TRIPOS	200	25 %
13	1	0.0	CHAETOCEROS SP.	100	25 %
13	1	0.0	COSCIINODISCUS SP.	100	25 %
13	1	0.0	NITZSCHIA CLOSTERIUM	100	25 %

TOTAL CELLS
PERCENT DIATOM/TOTAL 3
PERCENT DINOFLAGELLATE/TOTAL 26
PERCENT OTHER/TOTAL 71

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
13	1	30.0	NANNOPLANKTON	37600	25 %
13	1	30.0	AMPHIDINIUM SP.	7700	25 %
13	1	30.0	GYMNOINIUM PYGMAEUM	6200	25 %
13	1	30.0	MESODINIUM RUBRUM	5900	25 %
13	1	30.0	GYMNOINIUM SIMPLEX	5300	25 %
13	1	30.0	PYRAMIDONAS	3600	25 %
13	1	30.0	GYMNOINIUM FILUM	2500	25 %
13	1	30.0	THALASSIOSIRA SP.	1900	25 %
13	1	30.0	OXYTOXUM GLADIOLUS	1500	25 %
13	1	30.0	PERIDINIUM FAEROENSE	1000	25 %
13	1	30.0	SILICA FLAGELLATE	400	25 %
13	1	30.0	COSCIINODISCUS HAILESII	200	25 %
13	1	30.0	GYMNOINIUM SP.	130	25 %
13	1	30.0	CERATIUM TRIPOS	100	25 %
13	1	30.0	DINOPHYSIS PUNCTATA	100	25 %
13	1	30.0	COSCIINODISCUS SP.	100	25 %
13	1	30.0	CHAETOCEROS SIMPLEX	100	25 %
13	1	30.0	CERATIUM FURCA	100	25 %
13	1	30.0	PERIDINIUM SP.	100	25 %
13	1	30.0	NITZSCHIA PUNGENS V. ATLANTICA	100	25 %

TOTAL CELLS
PERCENT DIATOM/TOTAL 3
PERCENT DINOFLAGELLATE/TOTAL 33
PERCENT OTHER/TOTAL 64

LAT 40 04.5
SONIC DEPTH 76

LONG 72 05.5 DATE 78/04/06
ONE PERCENT LIGHT DEPTH 25

TIME 0952

STA	CAST DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
15	1	0.0 NANNOPLANKTON	13500	00 4 27
15	1	0.0 GYMNOIDINIUM SIMPLEX	10600	00 4 21
15	1	0.0 MESODINIUM RUBRUM	10000	00 4 20
15	1	0.0 AMPHIDINIUM SP.	4900	00 4 10
15	1	0.0 GYMNOIDINIUM PYGMAEUM	2300	00 4 5
15	1	0.0 GYMNOIDINIUM SP.	2300	00 4 5
15	1	0.0 GYMNOIDINIUM FILUM	1500	00 4 3
15	1	0.0 PYRAMIMONAS	1200	00 4 2
15	1	0.0 THALASSIOSIRA SP.	950	00 4 2
15	1	0.0 OXYTOXUM GLADIOLUS	950	00 4 2
15	1	0.0 PERIDINIUM FAERCENSE	750	00 4 1
15	1	0.0 CERATIUM TRIPOS	550	00 4 1
15	1	0.0 TINTINNIDA	450	00 4 1
15	1	0.0 SILICA FLAGELLATE	300	00 4 1
15	1	0.0 EXUVIELLA SP.	200	00 4 0
15	1	0.0 CHAETOCEROS SIMPLEX	200	00 4 0
15	1	0.0 CHAETOCEROS SP.	100	00 4 0
15	1	0.0 PERIDINIUM SP.	100	00 4 0
15	1	0.0 PROROCENTRUM MICANS	100	00 4 0

TOTAL CELLS
PERCENT DIATOM/TOTAL 2
PERCENT DINOFLAGELLATE/TOTAL 47
PERCENT OTHER/TOTAL 50

STA	CAST DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
15	1	30.0 GYMNOIDINIUM SIMPLEX	54100	00 4 56
15	1	30.0 AMPHIDINIUM SP.	9200	00 4 9
15	1	30.0 MESODINIUM RUBRUM	8300	00 4 9
15	1	30.0 AMPHIDINIUM SP.	6700	00 4 7
15	1	30.0 NANNOPLANKTON	5100	00 4 5
15	1	30.0 GYMNOIDINIUM PYGMAEUM	3700	00 4 4
15	1	30.0 GYMNOIDINIUM FILUM	2500	00 4 3
15	1	30.0 PYRAMIMONAS	2100	00 4 2
15	1	30.0 OXYTOXUM GLADIOLUS	1800	00 4 2
15	1	30.0 GYMNOIDINIUM SP.	1200	00 4 1
15	1	30.0 PERIDINIUM FAERCENSE	850	00 4 1
15	1	30.0 THALASSIOSIRA SP.	600	00 4 1
15	1	30.0 CHAETOCEROS SP.	400	00 4 0
15	1	30.0 EXUVIELLA SP.	300	00 4 0
15	1	30.0 NITZSCHIA PUNGENS V. ATLANTICA	200	00 4 0
15	1	30.0 TINTINNIDA	150	00 4 0
15	1	30.0 PERIDINIUM SP.	150	00 4 0
15	1	30.0 SILICA FLAGELLATE	100	00 4 0

TOTAL CELLS
PERCENT DIATOM/TOTAL 1
PERCENT DINOFLAGELLATE/TOTAL 83
PERCENT OTHER/TOTAL 16

LAT 41 15.9
SONIC DEPTH 1829

LONG 67 20.8 DATE 78/04/09
ONE PERCENT LIGHT DEPTH

TIME 1139

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
33	1	0.0	CHAETOCEROS SP.	87600	79 %
33	1	0.0	UNIDENTIFIED DIATOMS	59800	79 %
33	1	0.0	NANNOPLANKTON	29800	79 %
33	1	0.0	THALASSIOSIRA SP.	27800	79 %
33	1	0.0	THALASSIOSIRA GRAVIDA	17800	79 %
33	1	0.0	ASTERIONELLA JAPONICA	16600	79 %
33	1	0.0	CYCLOTELLA NANA	15600	79 %
33	1	0.0	AMPHIDINIUM SP.	14200	79 %
33	1	0.0	NITZSCHIA CLOSTERIUM	9000	79 %
33	1	0.0	THALASSIOSIRA HYALINA	5000	79 %
33	1	0.0	GYMNOINIUM SIMPLEX	4600	79 %
33	1	0.0	MESODINIUM RUBRUM	3800	79 %
33	1	0.0	NITZSCHIA PUNGENS V. ATLANTICA	3400	79 %
33	1	0.0	GYMNOINIUM SP.	3200	79 %
33	1	0.0	GYMNOINIUM PYGMAEUM	3200	79 %
33	1	0.0	THALASSIONEMA NITZSCHIOIDES	3000	79 %
33	1	0.0	LAUDERIA BOREALIS	2000	79 %
33	1	0.0	GYMNOINIUM FILUM	2000	79 %
33	1	0.0	PERIDINIUM SP.	1800	79 %
33	1	0.0	COSCIOSIRA F. LYCHORDA	1600	79 %
33	1	0.0	OXYTOXUM GLADIOLUS	1600	79 %
33	1	0.0	CHAETOCEROS DIADEMA	1400	79 %
33	1	0.0	NAVICULA SP.	1000	79 %
33	1	0.0	HELOSIRA MONILIFORMIS	1000	79 %
33	1	0.0	RHIZOSOLENIA HEBETATA	1000	79 %
33	1	0.0	EXUVIELLA SP.	600	79 %
33	1	0.0	RHIZOSOLENIA SP.	600	79 %
33	1	0.0	PERIDINIUM MINUSCULUM	400	79 %
33	1	0.0	LEPTOCYLINDRUS MINIMUS	400	79 %
33	1	0.0	PHALACROMA ROTUNDATUM	200	79 %
33	1	0.0	DINOPHYSIS PUNCTATA	200	79 %
33	1	0.0	CHAETOCEROS GRACILE	200	79 %
33	1	0.0	CERATIUM TRIPOS	200	79 %

TOTAL CELLS
PERCENT DIATOM/TOTAL 80
PERCENT DINOFLAGELLATE/TOTAL 10
PERCENT OTHER/TOTAL 10

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
33	1	30.0	THALASSIOSIRA SP.	71400	80 %
33	1	30.0	CYCLOTELLA NANA	64000	80 %
33	1	30.0	NANNOPLANKTON	25800	80 %
33	1	30.0	CHAETOCEROS SP.	18200	80 %
33	1	30.0	THALASSIOSIRA GRAVIDA	15600	80 %
33	1	30.0	THALASSIOSIRA HYALINA	14800	80 %
33	1	30.0	ASTERIONELLA JAPONICA	12600	80 %
33	1	30.0	NAVICULA SP.	8600	80 %
33	1	30.0	CHAETOCEROS DIADEMA	6400	80 %
33	1	30.0	NITZSCHIA CLOSTERIUM	5600	80 %
33	1	30.0	AMPHIDINIUM SP.	5600	80 %
33	1	30.0	GYMNOINIUM SP.	4800	80 %
33	1	30.0	NITZSCHIA PUNGENS V. ATLANTICA	4800	80 %
33	1	30.0	GYMNOINIUM PYGMAEUM	3400	80 %
33	1	30.0	HELOSIRA SP.	3200	80 %
33	1	30.0	COSCIOSIRA POLYCHORDA	3000	80 %
33	1	30.0	RHIZOSOLENIA HEBETATA	3000	80 %
33	1	30.0	THALASSIONEMA NITZSCHIOIDES	2800	80 %
33	1	30.0	LEPTOCYLINDRUS MINIMUS	2800	80 %
33	1	30.0	THALASSIOSIRA CONDENSATA	2400	80 %
33	1	30.0	THALASSIOSIRA BALTICA	2200	80 %
33	1	30.0	GYMNOINIUM FILUM	2000	80 %
33	1	30.0	GYMNOINIUM SIMPLEX	1800	80 %
33	1	30.0	RHIZOSOLENIA DELICATULA	1800	80 %
33	1	30.0	MESODINIUM RUBRUM	1400	80 %
33	1	30.0	OXYTOXUM GLADIOLUS	800	80 %
33	1	30.0	CHAETOCEROS GRACILE	600	80 %
33	1	30.0	EXUVIELLA SP.	400	80 %
33	1	30.0	NITZSCHIA LONGISSIMA	400	80 %
33	1	30.0	SKELETONEMA COSTATUM	400	80 %
33	1	30.0	PERIDINIUM SP.	400	80 %
33	1	30.0	CERATIUM TRIPOS	200	80 %

TOTAL CELLS
PERCENT DIATOM/TOTAL 84
PERCENT DINOFLAGELLATE/TOTAL 7
PERCENT OTHER/TOTAL 9

STA CAST DEPTH(M)			SPECIES	(NO./L)		PERCENTAGES
33	1	100.0	THALASSIOSIRA SP.	8900	81 %	21
33	1	100.0	CYCLOTELLA NANA	7600	81 %	18
33	1	100.0	NANNOPLANKTON	5800	81 %	14
33	1	100.0	THALASSIOSIRA GRAVIDA	3300	81 %	8
33	1	100.0	UNIDENTIFIED DIATOMS	3100	81 %	7
33	1	100.0	THALASSIOSIRA HYALINA	2400	81 %	6
33	1	100.0	GYMNOINIUM SP.	1800	81 %	4
33	1	100.0	GYMNOINIUM PYGMAEUM	1800	81 %	4
33	1	100.0	GYMNOINIUM FILUM	1500	81 %	4
33	1	100.0	OXYTOXUM GLADIOLUS	1300	81 %	3
33	1	100.0	NITZSCHIA CLOSTERIUM	1000	81 %	2
33	1	100.0	CHAETOCEROS CECIPIENS	900	81 %	2
33	1	100.0	NITZSCHIA PUNGENS V. ATLANTICA	700	81 %	2
33	1	100.0	AMPHIDIUM SP.	600	81 %	1
33	1	100.0	NAVICULA SP.	400	81 %	1
33	1	100.0	THALASSIONEMA NITZSCHIOIDES	400	81 %	1
33	1	100.0	MESODINIUM RUBRUM	300	81 %	1
33	1	100.0	ASTERIONELLA JAPONICA	300	81 %	1
33	1	100.0	PERIDINIUM SP.	300	81 %	1
33	1	100.0	EXUVIELLA SP.	100	81 %	0
33	1	100.0	GYMNOINIUM MINUTUM	100	81 %	0
33	1	100.0	NITZSCHIA LONGISSIMA	100	81 %	0

TOTAL CELLS	
PERCENT DIATOM/TOTAL	68
PERCENT DINOFAGELLATE/TOTAL	18
PERCENT OTHER/TOTAL	14

LAT 42 27.7
SONIC DEPTH 232

LONG 67 27.1 DATE 78/04/09
ONE PERCENT LIGHT DEPTH

TIME 1505

STA	CAST DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
34	1	0.0 CHAETOCEROS SP.	130000	82 % 43
34	1	0.0 UNIDENTIFIED DIATOMS	38400	82 % 13
34	1	0.0 CYCLOTELLA NANA	22400	82 % 7
34	1	0.0 NANNOPHANKTON	20800	82 % 7
34	1	0.0 THALASSIOSIRA GRAVIDA	17600	82 % 6
34	1	0.0 THALASSIOSIRA SP.	16200	82 % 5
34	1	0.0 GYMNODINIUM SP.	6800	82 % 2
34	1	0.0 ASTERIONELLA JAPONICA	6400	82 % 2
34	1	0.0 AMPHIDINIUM SP.	6200	82 % 2
34	1	0.0 THALASSIOSIRA HYALINA	5000	82 % 2
34	1	0.0 NITZSCHIA CLOSTERIUM	4600	82 % 2
34	1	0.0 MESODINIUM RUBRUM	4200	82 % 1
34	1	0.0 NITZSCHIA DELICATISSIMA	3400	82 % 1
34	1	0.0 THALASSIOSIRA SP.	2800	82 % 1
34	1	0.0 RHIZOSOLENIA HEBETATA	2600	82 % 1
34	1	0.0 THALASSIONEMA NITZSCHIOIDES	2600	82 % 1
34	1	0.0 THALASSIOSIRA NORDENSKIOLDII	2600	82 % 1
34	1	0.0 PERIDINIUM SP.	2200	82 % 1
34	1	0.0 LAUCERIA BOREALIS	1800	82 % 1
34	1	0.0 GYMNODINIUM PYGMAEUM	1600	82 % 1
34	1	0.0 EXUVIELLA SP.	1400	82 % 0
34	1	0.0 GYMNODINIUM FILUM	1000	82 % 0
34	1	0.0 PERIDINIUM MINUSCULUM	800	82 % 0
34	1	0.0 RHIZOSOLENIA DELICATULA	800	82 % 0
34	1	0.0 OXYTOXUM GLADIOLUS	400	82 % 0
34	1	0.0 CHAETOCEROS DIADEMA	200	82 % 0
34	1	0.0 COSCINOSIRA POLYCHORDA	200	82 % 0

TOTAL CELLS
PERCENT DIATOM/TOTAL 85
PERCENT DINOFLAGELLATE/TOTAL 7
PERCENT OTHER/TOTAL 8

STA	CAST DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
34	1	30.0 CHAETOCEROS SP.	81100	83 % 44
34	1	30.0 CYCLOTELLA NANA	18200	83 % 10
34	1	30.0 THALASSIOSIRA SP.	14000	83 % 8
34	1	30.0 THALASSIOSIRA GRAVIDA	12400	83 % 7
34	1	30.0 UNIDENTIFIED DIATOMS	11300	83 % 6
34	1	30.0 NANNOPHANKTON	8800	83 % 5
34	1	30.0 ASTERIONELLA JAPONICA	6500	83 % 3
34	1	30.0 THALASSIOSIRA HYALINA	3700	83 % 2
34	1	30.0 AMPHIDINIUM SP.	3500	83 % 2
34	1	30.0 NITZSCHIA DELICATISSIMA	3000	83 % 2
34	1	30.0 LAUCERIA BOREALIS	2600	83 % 1
34	1	30.0 RHIZOSOLENIA HEBETATA	2600	83 % 1
34	1	30.0 GYMNODINIUM SP.	2400	83 % 1
34	1	30.0 NITZSCHIA CLOSTERIUM	2100	83 % 1
34	1	30.0 CHAETOCEROS DIADEMA	1500	83 % 1
34	1	30.0 GYMNODINIUM PYGMAEUM	1500	83 % 1
34	1	30.0 EXUVIELLA SP.	900	83 % 0
34	1	30.0 THALASSIOSIRA BALTICA	900	83 % 0
34	1	30.0 PERIDINIUM SP.	600	83 % 0
34	1	30.0 MESODINIUM RUBRUM	600	83 % 0
34	1	30.0 COSCINOSIRA POLYCHORDA	600	83 % 0
34	1	30.0 GYMNODINIUM FILUM	500	83 % 0
34	1	30.0 CERATIUM TRIPOS	500	83 % 0
34	1	30.0 CHAETOCEROS GRACILE	500	83 % 0
34	1	30.0 OXYTOXUM GLADIOLUS	400	83 % 0
34	1	30.0 NAVICULA SP.	300	83 % 0
34	1	30.0 NITZSCHIA PUNGENS V. ATLANTICA	300	83 % 0
34	1	30.0 PERIDINIUM MINUSCULUM	300	83 % 0
34	1	30.0 THALASSIONEMA NITZSCHIOIDES	200	83 % 0
34	1	30.0 DINOPHYSIS PUNCTATA	100	83 % 0
34	1	30.0 COSCINOISCUS SP.	100	83 % 0
34	1	30.0 GYMNODINIUM MINUTUM	100	83 % 0

TOTAL CELLS
PERCENT DIATOM/TOTAL 89
PERCENT DINOFLAGELLATE/TOTAL 6
PERCENT OTHER/TOTAL 5

STA	CAST	DEPTH(M)	SPECIES	(NO./L)		PERCENTAGES
34	1	100.0	CHAETOCEROS SP.	16000	84 %	19
34	1	100.0	THALASSIOSIRA SP.	13200	84 %	15
34	1	100.0	CYCLOTELLA NANA	12700	84 %	15
34	1	100.0	THALASSIOSIRA GRAVIDA	8400	84 %	10
34	1	100.0	THALASSIOSIRA HYALINA	6700	84 %	8
34	1	100.0	CHAETOCEROS DIADEMA	5700	84 %	7
34	1	100.0	NANNOPLANKTON	4600	84 %	5
34	1	100.0	NITZSCHIA DELICATISSIMA	3000	84 %	3
34	1	100.0	NITZSCHIA CLOSTERIUM	2500	84 %	3
34	1	100.0	AMPHIDINIUM SP.	2200	84 %	3
34	1	100.0	GYMNOINIUM FILUM	1500	84 %	2
34	1	100.0	GYMNOINIUM SP.	1500	84 %	2
34	1	100.0	THALASSIOSIRA SP.	1500	84 %	2
34	1	100.0	SKELTONEMA COSTATUM	1300	84 %	2
34	1	100.0	LAUDERIA BOREALIS	1000	84 %	1
34	1	100.0	GYMNOINIUM PYGMAEUM	800	84 %	1
34	1	100.0	UNIDENTIFIED DIATOMS	800	84 %	1
34	1	100.0	THALASSIONEMA NITZSCHIOIDES	700	84 %	1
34	1	100.0	OXYTOXUM GLACIOLUS	500	84 %	1
34	1	100.0	COSCIINOSIRA POLYCHORDA	400	84 %	0
34	1	100.0	MESOCINIUM RUBRUM	400	84 %	0
34	1	100.0	RHIZOSOLENIA HEBETATA	300	84 %	0
34	1	100.0	PERIDINIUM SP.	200	84 %	0
34	1	100.0	NITZSCHIA PUNGENS V. ATLANTICA	200	84 %	0
						TOTAL CELLS
						PERCENT DIATOM/TOTAL
						PERCENT DINOFAGELLATE/TOTAL
						PERCENT OTHER/TOTAL
						86
						8
						6

LAT 40 29.0
SONIC DEPTH 137

LONG 67 34.6 DATE 78/04/09
ONE PERCENT LIGHT DEPTH

TIME 1737

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
33	1	0.0	CHAETOCEROS SP.	149100	85 %
33	1	0.0	THALASSIOSIRA SP.	46600	85 %
33	1	0.0	THALASSIOSIRA GRAVIDA	36700	85 %
33	1	0.0	THALASSIOSIRA HYALINA	30400	85 %
33	1	0.0	NANNOPLANKTON	22200	85 %
33	1	0.0	CYCLOTELLA NANA	21200	85 %
33	1	0.0	UNIDENTIFIED DIATOMS	17300	85 %
33	1	0.0	ASTERIONELLA JAPONICA	10600	85 %
33	1	0.0	NITZSCHIA DELICATISSIMA	9500	85 %
33	1	0.0	GYMNODINIUM SIMPLEX	7200	85 %
33	1	0.0	NITZSCHIA CLOSTERIUM	6600	85 %
33	1	0.0	RHIZOSOLENIA STOLTERFOTHII	5000	85 %
33	1	0.0	THALASSIONEMA NITZSCHIOIDES	4600	85 %
33	1	0.0	CHAETOCEROS DIADEMA	4200	85 %
33	1	0.0	AMPHIDINIUM SP.	3600	85 %
33	1	0.0	MESODINIUM RUBRUM	2900	85 %
33	1	0.0	CHAETOCEROS GRACILE	2200	85 %
33	1	0.0	PYRAMIDONAS	2000	85 %
33	1	0.0	COSCIINOSIRA POLYCHORDA	1700	85 %
33	1	0.0	LAUDERIA BOREALIS	1700	85 %
33	1	0.0	EXUVIELLA SP.	1500	85 %
33	1	0.0	RHIZOSOLENIA HEBETATA	1300	85 %
33	1	0.0	GYMNODINIUM SP.	1100	85 %
33	1	0.0	OXYTOXUM GLADIOLUS	1100	85 %
33	1	0.0	GYMNODINIUM PYGMAEUM	1000	85 %
33	1	0.0	GYMNODINIUM FILUM	1000	85 %
33	1	0.0	THALASSIOSIRA BALTICA	800	85 %
33	1	0.0	PERIDINIUM MINUSCULUM	700	85 %
33	1	0.0	PERIDINIUM SP.	600	85 %
33	1	0.0	SILICA FLAGELLATE	200	85 %
33	1	0.0	CERATIUM TRIPOS	200	85 %
33	1	0.0	RHIZOSOLENIA SETIGERA	200	85 %
33	1	0.0	TINTINNIDA	100	85 %

TOTAL CELLS
PERCENT DIATOM/TOTAL
PERCENT DINOFLAGELLATE/TOTAL
PERCENT OTHER/TOTAL

89
5
7

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
33	1	30.0	CHAETOCEROS SP.	67000	86 %
33	1	30.0	THALASSIOSIRA SP.	40400	86 %
33	1	30.0	THALASSIOSIRA GRAVIDA	22500	86 %
33	1	30.0	THALASSIOSIRA HYALINA	19900	86 %
33	1	30.0	NANNOPLANKTON	17700	86 %
33	1	30.0	CYCLOTELLA NANA	13000	86 %
33	1	30.0	OXYTOXUM GLADIOLUS	9400	86 %
33	1	30.0	UNIDENTIFIED DIATOMS	4800	86 %
33	1	30.0	LAUDERIA BOREALIS	4600	86 %
33	1	30.0	NITZSCHIA DELICATISSIMA	4200	86 %
33	1	30.0	ASTERIONELLA JAPONICA	3300	86 %
33	1	30.0	AMPHIDINIUM SP.	2900	86 %
33	1	30.0	CHAETOCEROS DIADEMA	2100	86 %
33	1	30.0	NITZSCHIA CLOSTERIUM	2000	86 %
33	1	30.0	RHIZOSOLENIA HEBETATA	1800	86 %
33	1	30.0	MESODINIUM RUBRUM	1500	86 %
33	1	30.0	COSCIINOSIRA POLYCHORDA	1100	86 %
33	1	30.0	THALASSIONEMA NITZSCHIOIDES	1000	86 %
33	1	30.0	EXUVIELLA SP.	900	86 %
33	1	30.0	PERIDINIUM SP.	900	86 %
33	1	30.0	RHIZOSOLENIA SP.	700	86 %
33	1	30.0	GYMNODINIUM FILUM	500	86 %
33	1	30.0	CHAETOCEROS GRACILE	500	86 %
33	1	30.0	GYMNODINIUM SP.	500	86 %
33	1	30.0	CHAETOCEROS GRACILE	400	86 %
33	1	30.0	OXYTOXUM GLADIOLUS	400	86 %
33	1	30.0	TINTINNIDA	200	86 %
33	1	30.0	NITZSCHIA PUNGENS V. ATLANTICA	100	86 %
33	1	30.0	PERIDINIUM MINUSCULUM	100	86 %
33	1	30.0	CERATIUM TRIPOS	100	86 %
33	1	30.0	DINOPHYSIS PUNCTATA	100	86 %

TOTAL CELLS
PERCENT DIATOM/TOTAL
PERCENT DINOFLAGELLATE/TOTAL
PERCENT OTHER/TOTAL

86
5
9

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
35	1	125.0	THALASSIOSIRA SP.	21300	87 % 30
35	1	125.0	THALASSIOSIRA HYALINA	15100	87 % 22
35	1	125.0	CYCLOTELLA NANA	6600	87 % 9
35	1	125.0	NANNOPLANKTON	6400	87 % 9
35	1	125.0	THALASSIOSIRA GRAVIDA	3700	87 % 5
35	1	125.0	CHAETOCEROS DIADEMA	2300	87 % 3
35	1	125.0	NITZSCHIA DELICATISSIMA	2100	87 % 3
35	1	125.0	GYMNOINIUM FILUM	2000	87 % 3
35	1	125.0	CHAETOCEROS SP.	2000	87 % 3
35	1	125.0	NITZSCHIA CLOSTERIUM	1300	87 % 2
35	1	125.0	OXYTOXUM GLADIOLUS	1000	87 % 1
35	1	125.0	GYMNOINIUM PYGMAEUM	900	87 % 1
35	1	125.0	UNIDENTIFIED DIATOMS	800	87 % 1
35	1	125.0	THALASSIONEMA NITZSCHIOIDES	700	87 % 1
35	1	125.0	GYMNOINIUM SP.	700	87 % 1
35	1	125.0	AMPHIDINIUM SP.	600	87 % 1
35	1	125.0	NAVICULA SP.	300	87 % 0
35	1	125.0	MESOCINIUM RUBRUM	300	87 % 0
35	1	125.0	THALASSIOSIRA BALTICA	300	87 % 0
35	1	125.0	LAUDERIA BOREALIS	300	87 % 0
35	1	125.0	LEPTOCYLINDRUS DANICUS	200	87 % 0
35	1	125.0	COSCIINOSIRA POLYCHORDA	200	87 % 0
35	1	125.0	EXUVIELLA SP.	200	87 % 0
35	1	125.0	PLEUROSIGMA AESTUARII	100	87 % 0
35	1	125.0	PERIDINIUM SP.	100	87 % 0
35	1	125.0	NITZSCHIA PUNGENS V. ATLANTICA	100	87 % 0
35	1	125.0	COSCIINODISCUS SP.	100	87 % 0
35	1	125.0	RHIZOSOLENIA STOLTERFOTHII	100	87 % 0
35	1	125.0	PROROCENTRUM SP.	100	87 % 0
35	1	125.0	TINTINNIDIA	100	87 % 0

TOTAL CELLS
 PERCENT DIATOM/TOTAL
 PERCENT DINOFLAGELLATE/TOTAL
 PERCENT OTHER/TOTAL

82
 8
 10

LAT 40 35.0
SONIC DEPTH 97

LONG 67 39.5 DATE 78/04/09
ONE PERCENT LIGHT DEPTH

TIME 2004

STA	CST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
36	1	0.0	NANNOPLANKTON	14600	88 % 46
36	1	0.0	GYMNOIDINIUM PYGMAEUM	3500	88 % 11
36	1	0.0	MESCOIDINIUM RUBRUM	3500	88 % 11
36	1	0.0	AMPHIDINIUM SP.	2500	88 % 8
36	1	0.0	THALASSIOSIRA SP.	1800	88 % 6
36	1	0.0	PYRAMIDONAS	1400	88 % 4
36	1	0.0	GYMNOIDINIUM FILUM	700	88 % 2
36	1	0.0	EXUVIELLA SP.	600	88 % 2
36	1	0.0	OXYTOXUM GLADIOLUS	500	88 % 2
36	1	0.0	PERIDINIUM FAERGENSE	400	88 % 1
36	1	0.0	GYMNOIDINIUM SP.	400	88 % 1
36	1	0.0	TINTINNIDA	400	88 % 1
36	1	0.0	GYMNOIDINIUM MINUTUM	300	88 % 1
36	1	0.0	CERATIUM TRIPOS	300	88 % 1
36	1	0.0	NITZSCHIA CLOSTERIUM	200	88 % 1
36	1	0.0	THALASSIOSIRA GRAVIDA	100	88 % 0
36	1	0.0	RHIZOSOLENIA SP.	100	88 % 0
36	1	0.0	CHAETOCEROS SP.	100	88 % 0
36	1	0.0	CERATIUM FUSUS	100	88 % 0

TOTAL CELLS
PERCENT DIATOM/TOTAL 7
PERCENT DINOFLAGELLATE/TOTAL 30
PERCENT OTHER/TOTAL 63

STA	CST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
36	1	30.0	NANNOPLANKTON	5800	89 % 24
36	1	30.0	GYMNOIDINIUM PYGMAEUM	3400	89 % 14
36	1	30.0	MESCOIDINIUM RUBRUM	3300	89 % 14
36	1	30.0	AMPHIDINIUM SP.	2700	89 % 11
36	1	30.0	GYMNOIDINIUM SP.	2000	89 % 8
36	1	30.0	THALASSIOSIRA SP.	1800	89 % 7
36	1	30.0	GYMNOIDINIUM FILUM	1300	89 % 5
36	1	30.0	CHAETOCEROS SP.	900	89 % 4
36	1	30.0	GYMNOIDINIUM MINUTUM	600	89 % 2
36	1	30.0	CHAETOCEROS DIADEMA	500	89 % 2
36	1	30.0	LAUDERIA BOREALIS	400	89 % 2
36	1	30.0	ASTERIONELLA JAPONICA	300	89 % 1
36	1	30.0	EXUVIELLA SP.	300	89 % 1
36	1	30.0	THALASSIONEMA NITZSCHIOIDES	200	89 % 1
36	1	30.0	TINTINNIDA	200	89 % 1
36	1	30.0	NITZSCHIA DELICATISSIMA	100	89 % 0
36	1	30.0	NITZSCHIA CLOSTERIUM	100	89 % 0
36	1	30.0	THALASSIOSIRA GRAVIDA	100	89 % 0
36	1	30.0	NITZSCHIA PUNGENS V. ATLANTICA	100	89 % 0

TOTAL CELLS
PERCENT DIATOM/TOTAL 19
PERCENT DINOFLAGELLATE/TOTAL 43
PERCENT OTHER/TOTAL 39

STA	CAST	DEPTH(M)	SPECIES	(NO./L)		PERCENTAGES
36	1	90.0	THALASSIOSIRA HYALINA	26500	90 %	22
36	1	90.0	CHAETOCEROS DIADEMA	19100	90 %	16
36	1	90.0	CHAETOCEROS SP.	14600	90 %	12
36	1	90.0	NANNOPLANKTON	10400	90 %	9
36	1	90.0	NITZSCHIA DELICATISSIMA	10000	90 %	8
36	1	90.0	THALASSIOSIRA GRAVIDA	9900	90 %	8
36	1	90.0	THALASSIOSIRA SP.	7200	90 %	6
36	1	90.0	THALASSIONEMA NITZSCHIOIDES	4800	90 %	4
36	1	90.0	CYCLOTELLA NANA	3500	90 %	3
36	1	90.0	GYMNOINIUM PYGMAEUM	2500	90 %	2
36	1	90.0	BIDDULPHIA SP.	1700	90 %	1
36	1	90.0	NITZSCHIA CLOSTERIUM	1600	90 %	1
36	1	90.0	GYMNOINIUM FILUM	1300	90 %	1
36	1	90.0	COSCINODISCUS SP.	1000	90 %	1
36	1	90.0	MESOCINIUM RUBRUM	1000	90 %	1
36	1	90.0	NITZSCHIA PUNGENS V. ATLANTICA	1000	90 %	1
36	1	90.0	ASTERIONELLA JAPONICA	1000	90 %	1
36	1	90.0	LAUDERIA BOJALIS	1000	90 %	1
36	1	90.0	RHIZOSOLENIA ALATA	700	90 %	1
36	1	90.0	COSCINODISCUS CENTRALIS	600	90 %	0
36	1	90.0	EXUVIELLA SP.	600	90 %	0
36	1	90.0	PERIDINIUM FAERCENSE	500	90 %	0
36	1	90.0	HELOSIRA MONILIFORMIS	400	90 %	0
36	1	90.0	COSCINOSIRA POLYCHORDA	300	90 %	0
36	1	90.0	SILICA FLAGELLATE	200	90 %	0
36	1	90.0	OXYTOXUM CLADICLUS	200	90 %	0
36	1	90.0	AMPHIDINIUM SP.	200	90 %	0
36	1	90.0	GYMNOINIUM MINUTUM	100	90 %	0
36	1	90.0	RHIZOSOLENIA HEBETATA	100	90 %	0

TOTAL CELLS	
PERCENT DIATOM/TOTAL	86
PERCENT DINOFLAGELLATE/TOTAL	4
PERCENT OTHER/TOTAL	10

LAT 40 42.5
SONIC DEPTH 67

LONG 67 50.5 DATE 78/04/10
ONE PERCENT LIGHT DEPTH

TIME 0129

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
38	1	0.0	NANNOPHANKTON	11500	94 % 38
38	1	0.0	GYMNOINIUM PYGMAEUM	5800	94 % 19
38	1	0.0	MESCOINIUM RUBRUM	4800	94 % 16
38	1	0.0	AMPHIDIUM SP.	1900	94 % 6
38	1	0.0	THALASSIOSIRA SP.	1700	94 % 6
38	1	0.0	CYCLOTELLA NANA	900	94 % 3
38	1	0.0	EXUVIELLA SP.	900	94 % 3
38	1	0.0	OXYTOXUM GLADIOLUS	500	94 % 2
38	1	0.0	CHAETOCEROS SP.	500	94 % 2
38	1	0.0	THALASSIOSIRA GRAVIDA	500	94 % 2
38	1	0.0	LAUDERIA BOREALIS	300	94 % 1
38	1	0.0	PERIDINIUM FAEROENSE	300	94 % 1
38	1	0.0	PERIDINIUM FAEROENSE	300	94 % 1
38	1	0.0	THALASSIONEMA NITZSCHIOIDES	200	94 % 1
38	1	0.0	CERATIUM FUSUS	100	94 % 0
38	1	0.0	CERATIUM TRIPOS	100	94 % 0

TOTAL CELLS
PERCENT DIATOM/TOTAL 14
PERCENT DINOFLAGELLATE/TOTAL 32
PERCENT OTHER/TOTAL 54

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
38	1	30.0	NANNOPHANKTON	7100	95 % 15
38	1	30.0	CHAETOCEROS SP.	6400	95 % 13
38	1	30.0	THALASSIOSIRA SP.	6000	95 % 13
38	1	30.0	MESCOINIUM RUBRUM	5100	95 % 11
38	1	30.0	GYMNOINIUM PYGMAEUM	3700	95 % 8
38	1	30.0	CHAETOCEROS DIADEMA	3500	95 % 7
38	1	30.0	THALASSIOSIRA GRAVIDA	2700	95 % 6
38	1	30.0	AMPHIDIUM SP.	2600	95 % 5
38	1	30.0	THALASSIOSIRA MYALINA	2200	95 % 5
38	1	30.0	HELOSIRA MONILIFORMIS	2000	95 % 4
38	1	30.0	GYMNOINIUM FILUM	1100	95 % 2
38	1	30.0	THALASSIONEMA NITZSCHIOIDES	1000	95 % 2
38	1	30.0	LAUDERIA BOREALIS	900	95 % 2
38	1	30.0	NITZSCHIA DELICATISSIMA	700	95 % 1
38	1	30.0	COSCIINOSIRA POLYCHORDA	700	95 % 1
38	1	30.0	PERIDINIUM FAEROENSE	400	95 % 1
38	1	30.0	TINTINNIDA	400	95 % 1
38	1	30.0	EXUVIELLA SP.	400	95 % 1
38	1	30.0	COSCIINODISCUS WAILESII	200	95 % 0
38	1	30.0	RHIZOSOLENIA SP.	100	95 % 0
38	1	30.0	RHIZOSOLENIA ALATA	100	95 % 0
38	1	30.0	COSCIINODISCUS CENTRALIS	100	95 % 0
38	1	30.0	PROROCENTRUM SP.	100	95 % 0
38	1	30.0	RHIZOSOLENIA HEBETATA	100	95 % 0
38	1	30.0	CERATIUM TRIPOS	100	95 % 0
38	1	30.0	COSCIINODISCUS SP.	100	95 % 0
38	1	30.0	PERIDINIUM SP.	100	95 % 0
38	1	30.0	OXYTOXUM GLADIOLUS	100	95 % 0

TOTAL CELLS
PERCENT DIATOM/TOTAL 56
PERCENT DINOFLAGELLATE/TOTAL 18
PERCENT OTHER/TOTAL 26

STA	CST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
38	1	65.0	THALASSIOSIRA SP.	51100	96 % 30
38	1	65.0	CHAETOCEROS DIADEMA	22500	96 % 13
38	1	65.0	NANNOPHANKTON	18900	96 % 11
38	1	65.0	CHAETOCEROS SP.	15500	96 % 9
38	1	65.0	THALASSIOSIRA GRAVIDA	12900	96 % 8
38	1	65.0	THALASSIOSIRA HYALINA	12100	96 % 7
38	1	65.0	NITZSCHIA DELICATISSIMA	8400	96 % 5
38	1	65.0	MESODINIUM RUBRUM	5500	96 % 3
38	1	65.0	CYCLOTELLA NANA	2500	96 % 1
38	1	65.0	MELOSIRA MONILIFORMIS	2500	96 % 1
38	1	65.0	COSCINOIDISCUS SP.	2400	96 % 1
38	1	65.0	GYMNOINIUM PYGMAEUM	2100	96 % 1
38	1	65.0	LAUDERIA BOREALIS	1800	96 % 1
38	1	65.0	GYMNOINIUM FILUM	1700	96 % 1
38	1	65.0	ASTERIONELLA JAPONICA	1600	96 % 1
38	1	65.0	NAVICULA SP.	1200	96 % 1
38	1	65.0	COSCINOSIRA POLYCHORDA	800	96 % 0
38	1	65.0	AMPHIDINIUM SP.	800	96 % 0
38	1	65.0	THALASSIONEMA NITZSCHIOIDES	800	96 % 0
38	1	65.0	NITZSCHIA PUNGENS V. ATLANTICA	600	96 % 0
38	1	65.0	EXUVIELLA SP.	500	96 % 0
38	1	65.0	SILICA FLAGELLATE	500	96 % 0
38	1	65.0	RHIZOLENIA HEBETATA	500	96 % 0
38	1	65.0	NITZSCHIA CLOSTERIUM	400	96 % 0
38	1	65.0	COSCINOIDISCUS CENTRALIS	300	96 % 0
38	1	65.0	RHIZOLENIA ALATA	300	96 % 0
38	1	65.0	TINTINNIDA	200	96 % 0
38	1	65.0	OXYTOKUM GLADIOLUS	100	96 % 0
38	1	65.0	PROROCENTRUM SP.	100	96 % 0
38	1	65.0	BIDOLPHIA SP.	100	96 % 0
38	1	65.0	PLEUROSIGMA AESTUARII	100	96 % 0
38	1	65.0	CERATIUM TRIPOS	100	96 % 0
38	1	65.0	COSCINOIDISCUS HALLII	100	96 % 0
38	1	65.0	PERIDINIUM FAEROENSE	100	96 % 0

TOTAL CELLS
 PERCENT DIATOM/TOTAL 82
 PERCENT DINOFAGELLATE/TOTAL 3
 PERCENT OTHER/TOTAL 15

LAT 40 53.3
SONIC DEPTH 58

LONG 68 57.5 DATE 78/04/10
ONE PERCENT LIGHT DEPTH

TIME 0334

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
39	1	0.0	THALASSIOSIRA GRAVIDA	10900	97 % 20
39	1	0.0	CHAETOCEROS SP.	8000	97 % 14
39	1	0.0	CHAETOCEROS DEBILE	6800	97 % 12
39	1	0.0	THALASSIOSIRA SP.	5600	97 % 10
39	1	0.0	MESODINIUM RUBRUM	3800	97 % 7
39	1	0.0	NITZSCHIA DELICATISSIMA	3100	97 % 6
39	1	0.0	GYMNOINIUM SIMPLEX	2900	97 % 5
39	1	0.0	THALASSIONEMA NITZSCHIOIDES	2800	97 % 5
39	1	0.0	NANNOPLANKTON	2600	97 % 5
39	1	0.0	GYMNOINIUM FILUM	1800	97 % 3
39	1	0.0	HELOSIRA MONILIFORMIS	1600	97 % 3
39	1	0.0	LAUDERIA BOREALIS	800	97 % 1
39	1	0.0	TINTINNIDA	700	97 % 1
39	1	0.0	RHIZOSOLENIA HEBETATA	600	97 % 1
39	1	0.0	COSCIINOISCUS CENTRALIS	500	97 % 1
39	1	0.0	GYMNOINIUM PYGMAEUM	400	97 % 1
39	1	0.0	NITZSCHIA CLOSTERIUM	400	97 % 1
39	1	0.0	CHAETOCEROS DIADEMA	400	97 % 1
39	1	0.0	AMPHIDIUM SP.	300	97 % 1
39	1	0.0	PERIDINIUM SP.	300	97 % 1
39	1	0.0	NAVICULA SP.	200	97 % 0
39	1	0.0	ASTERIONELLA JAPONICA	200	97 % 0
39	1	0.0	PROOCENTRUM SP.	200	97 % 0
39	1	0.0	PLEUROSIGMA AESTUARII	200	97 % 0
39	1	0.0	NITZSCHIA PUNGENS V. ATLANTICA	200	97 % 0
39	1	0.0	OXYTOXUM GLADIOLUS	200	97 % 0
39	1	0.0	PERIDINIUM FAEROENSE	100	97 % 0
39	1	0.0	PERIDINIUM MINUSCULUM	100	97 % 0
39	1	0.0	CERATIUM TRIPOS	100	97 % 0

TOTAL CELLS
PERCENT DIATOM/TOTAL 76
PERCENT DINOFLLAGELLATE/TOTAL 11
PERCENT OTHER/TOTAL 13

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
39	1	30.0	CHAETOCEROS SP.	26400	98 % 33
39	1	30.0	THALASSIOSIRA GRAVIDA	21800	98 % 27
39	1	30.0	GYMNOINIUM SIMPLEX	5700	98 % 7
39	1	30.0	THALASSIOSIRA SP.	3300	98 % 4
39	1	30.0	NANNOPLANKTON	2700	98 % 3
39	1	30.0	MESODINIUM RUBRUM	2600	98 % 3
39	1	30.0	THALASSIONEMA NITZSCHIOIDES	2600	98 % 3
39	1	30.0	CHAETOCEROS DEBILE	2500	98 % 3
39	1	30.0	RHIZOSOLENIA HEBETATA	2400	98 % 3
39	1	30.0	NITZSCHIA DELICATISSIMA	2100	98 % 3
39	1	30.0	NITZSCHIA CLOSTERIUM	1200	98 % 2
39	1	30.0	LAUDERIA BOREALIS	1100	98 % 1
39	1	30.0	TINTINNIDA	700	98 % 1
39	1	30.0	GYMNOINIUM SP.	600	98 % 1
39	1	30.0	GYMNOINIUM FILUM	600	98 % 1
39	1	30.0	GYMNOINIUM PYGMAEUM	500	98 % 1
39	1	30.0	COSCIINOISCUS SP.	500	98 % 1
39	1	30.0	PERIDINIUM FAEROENSE	400	98 % 1
39	1	30.0	HELOSIRA MONILIFORMIS	400	98 % 1
39	1	30.0	OXYTOXUM GLADIOLUS	300	98 % 0
39	1	30.0	NAVICULA SP.	300	98 % 0
39	1	30.0	COSCIINOISCUS WAILESII	200	98 % 0
39	1	30.0	SKELETONEMA COSTATUM	200	98 % 0
39	1	30.0	CHAETOCEROS DIADEMA	100	98 % 0
39	1	30.0	AMPHIDIUM SP.	100	98 % 0
39	1	30.0	COSCIINOISCUS CENTRALIS	100	98 % 0
39	1	30.0	DITYLUM BRIGHTWELLII	100	98 % 0
39	1	30.0	PERIDINIUM SP.	100	98 % 0
39	1	30.0	PROOCENTRUM SP.	100	98 % 0
39	1	30.0	EXUVIELLA SP.	100	98 % 0
39	1	30.0	CERATIUM TRIPOS	100	98 % 0

TOTAL CELLS
PERCENT DIATOM/TOTAL 82
PERCENT DINOFLLAGELLATE/TOTAL 11
PERCENT OTHER/TOTAL 8

LAT 40 59.3
SONIC DEPTH 49

LONG 68 03.7 DATE 79/04/10
ONE PERCENT LIGHT DEPTH 11

TIME 0628

STA	CAST	DEPTH(M)	SPECIES	(NO./L.)	PERCENTAGES
40	1	45.0	CHAETOCEROS SP.	340800	102 % 64
40	1	45.0	THALASSIOSIRA GRAVIDA	81000	102 % 15
40	1	45.0	NANNOPLANKTON	23000	102 % 4
40	1	45.0	NITZSCHIA DELICATISSIMA	17000	102 % 3
40	1	45.0	THALASSIONEMA NITZSCHIOIDES	13200	102 % 2
40	1	45.0	GYMNOIDINIUM SIMPLEX	8600	102 % 1
40	1	45.0	THALASSIOSIRA SP.	8600	102 % 1
40	1	45.0	CHAETOCEROS HIGHAMI	5400	102 % 1
40	1	45.0	LAUDERIA BOREALIS	5000	102 % 1
40	1	45.0	MELOSIRA MONILIFORMIS	4800	102 % 1
40	1	45.0	CHAETOCEROS DIADEMA	3400	102 % 1
40	1	45.0	AMPHIDINIUM SP.	2800	102 % 1
40	1	45.0	LEPTOCYLINDRUS DANICUS	2600	102 % 0
40	1	45.0	MESODINIUM RUBRUM	2400	102 % 0
40	1	45.0	NITZSCHIA CLOSTERIUM	2400	102 % 0
40	1	45.0	CHAETOCEROS GRACILE	2000	102 % 0
40	1	45.0	ASTERIONELLA JAPONICA	1800	102 % 0
40	1	45.0	NITZSCHIA PUNGENS V. ATLANTICA	1200	102 % 0
40	1	45.0	SKELETONEMA COSTATUM	1200	102 % 0
40	1	45.0	PLEUROSIGMA AESTUARII	1000	102 % 0
40	1	45.0	GYMNOIDINIUM FILUM	800	102 % 0
40	1	45.0	OXYTOXUM GLADIOLUS	600	102 % 0
40	1	45.0	PERIDINIUM MINUSCULUM	600	102 % 0
40	1	45.0	GYMNOIDINIUM PYGMAEUM	600	102 % 0
40	1	45.0	COSCIINODISCUS SP.	600	102 % 0
40	1	45.0	RHIZOSOLENIA SETIGERA	400	102 % 0
40	1	45.0	RHIZOSOLENIA HEBETATA	400	102 % 0
40	1	45.0	NAVICULA SP.	400	102 % 0
40	1	45.0	TINTINNIDA	400	102 % 0
40	1	45.0	OSTYLUM BRIGHTWELLII	400	102 % 0
40	1	45.0	SILICA FLAGELLATE	200	102 % 0
40	1	45.0	PERIDINIUM SP.	200	102 % 0
40	1	45.0	GYMNOIDINIUM SP.	200	102 % 0
40	1	45.0	PROROCENTRUM SP.	200	102 % 0

TOTAL CELLS
PERCENT DIATOM/TOTAL 92
PERCENT DINOFLAGELLATE/TOTAL 3
PERCENT OTHER/TOTAL 5

LAT 41 07.0
SONIC DEPTH 42

LONG 68 10.0 DATE 78/04/10
ONE PERCENT LIGHT DEPTH

TIME 1012

STA	CAST DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
41	1	0.0 THALASSIOSIRA GRAVIDA	44500	110 % 28
41	1	0.0 CHAETOCEROS SP.	34300	110 % 22
41	1	0.0 NITZSCHIA DELICATISSIMA	15400	110 % 10
41	1	0.0 THALASSIOSIRA SP.	12800	110 % 8
41	1	0.0 THALASSIONEMA NITZSCHIOIDES	9400	110 % 6
41	1	0.0 GYMNODINIUM SIMPLEX	9100	110 % 6
41	1	0.0 CHAETOCEROS DEBILE	6800	110 % 4
41	1	0.0 MELOSIRA MONILIFORMIS	3300	110 % 2
41	1	0.0 LAUDERIA BOREALIS	2900	110 % 2
41	1	0.0 PLEUROSIGMA AESTUARII	2100	110 % 1
41	1	0.0 NITZSCHIA PUNGENS V. ATLANTICA	2000	110 % 1
41	1	0.0 NANNOPLANKTON	1610	110 % 1
41	1	0.0 RHIZOSOLENIA HEBETATA	1300	110 % 1
41	1	0.0 AMPHIDINIUM SP.	1200	110 % 1
41	1	0.0 NITZSCHIA CLOSTERIUM	1100	110 % 1
41	1	0.0 NAVICULA SP.	1000	110 % 1
41	1	0.0 GYMNODINIUM FILUM	900	110 % 1
41	1	0.0 MESODINIUM RUBRUM	900	110 % 1
41	1	0.0 COSCINOISCUS CENTRALIS	800	110 % 1
41	1	0.0 OXYTOXUM GLADIOLUS	700	110 % 0
41	1	0.0 ASTERIONELLA JAPONICA	700	110 % 0
41	1	0.0 GYMNODINIUM SP.	700	110 % 0
41	1	0.0 COSCINOISCUS SP.	600	110 % 0
41	1	0.0 GYMNODINIUM PYGMAEUM	500	110 % 0
41	1	0.0 TINTINNIDA	500	110 % 0
41	1	0.0 PERIDINIUM FAERCENSE	400	110 % 0
41	1	0.0 PERIDINIUM MINUSCULUM	300	110 % 0
41	1	0.0 PERIDINIUM SP.	300	110 % 0
41	1	0.0 COSCINOISCUS WAILESII	200	110 % 0
41	1	0.0 COSCINOSIRA POLYCHORDA	200	110 % 0
41	1	0.0 EXUVIELLA SP.	200	110 % 0
41	1	0.0 DITYLUM BRIGHTWELLII	100	110 % 0

TOTAL CELLS
PERCENT DIATOM/TOTAL
PERCENT DINOFLAGELLATE/TOTAL
PERCENT OTHER/TOTAL

69
9
2

STA	CAST DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
41	1	40.0 CHAETOCEROS SP.	52600	111 % 27
41	1	40.0 THALASSIOSIRA GRAVIDA	43300	111 % 22
41	1	40.0 NITZSCHIA DELICATISSIMA	21300	111 % 11
41	1	40.0 THALASSIOSIRA SP.	17900	111 % 9
41	1	40.0 CHAETOCEROS DEBILE	11800	111 % 6
41	1	40.0 THALASSIONEMA NITZSCHIOIDES	6500	111 % 4
41	1	40.0 GYMNODINIUM SIMPLEX	8300	111 % 4
41	1	40.0 NANNOPLANKTON	7900	111 % 4
41	1	40.0 NITZSCHIA PUNGENS V. ATLANTICA	2800	111 % 1
41	1	40.0 MELOSIRA MONILIFORMIS	2400	111 % 1
41	1	40.0 PLEUROSIGMA AESTUARII	2100	111 % 1
41	1	40.0 LAUDERIA BOREALIS	1500	111 % 1
41	1	40.0 ASTERIONELLA JAPONICA	1500	111 % 1
41	1	40.0 RHIZOSOLENIA HEBETATA	1500	111 % 1
41	1	40.0 OXYTOXUM GLADIOLUS	1400	111 % 1
41	1	40.0 NITZSCHIA CLOSTERIUM	1400	111 % 1
41	1	40.0 NAVICULA SP.	1300	111 % 1
41	1	40.0 GYMNODINIUM FILUM	1200	111 % 1
41	1	40.0 COSCINOISCUS SP.	800	111 % 0
41	1	40.0 COSCINOISCUS CENTRALIS	700	111 % 0
41	1	40.0 AMPHIDINIUM SP.	700	111 % 0
41	1	40.0 GYMNODINIUM SP.	500	111 % 0
41	1	40.0 GYMNODINIUM PYGMAEUM	400	111 % 0
41	1	40.0 MESODINIUM RUBRUM	300	111 % 0
41	1	40.0 GONIAULAX SP.	200	111 % 0
41	1	40.0 EXUVIELLA SP.	200	111 % 0
41	1	40.0 COSCINOSIRA POLYCHORDA	200	111 % 0
41	1	40.0 PERIDINIUM MINUSCULUM	100	111 % 0
41	1	40.0 COSCINOISCUS WAILESII	100	111 % 0

TOTAL CELLS
PERCENT DIATOM/TOTAL
PERCENT DINOFLAGELLATE/TOTAL
PERCENT OTHER/TOTAL

69
7
4

LAT 41 18.5
SONIC DEPTH 53

LONG 68 20.5 DATE 78/04/10
ONE PERCENT LIGHT DEPTH

TIME 1553

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
43	1	0.0	NANNOPLANKTON	66100	115 4 45
43	1	0.0	CHAETOCEROS SP.	15200	115 4 10
43	1	0.0	THALASSIOSIRA GRAVIDA	14100	115 4 10
43	1	0.0	THALASSIOSIRA SP.	8000	115 4 5
43	1	0.0	NITZSCHIA DELICATISSIMA	7800	115 4 5
43	1	0.0	THALASSIONEMA NITZSCHIOIDES	7700	115 4 5
43	1	0.0	GYMNOINIUM SIMPLEX	7500	115 4 5
43	1	0.0	CHAETOCEROS DEBILE	5200	115 4 4
43	1	0.0	NITZSCHIA CLOSTERIUM	2700	115 4 2
43	1	0.0	NITZSCHIA PUNGENS V. ATLANTICA	2600	115 4 2
43	1	0.0	MELOSIRA MONILIFORMIS	2100	115 4 1
43	1	0.0	AMPHIDINIUM SP.	1100	115 4 1
43	1	0.0	MESODINIUM RUBRUM	1100	115 4 1
43	1	0.0	NAVICULA SP.	800	115 4 1
43	1	0.0	RHIZOLENIA HEBETATA	800	115 4 1
43	1	0.0	LAUDERIA BOREALIS	800	115 4 1
43	1	0.0	COSCINOSIRA POLYCHORDA	700	115 4 0
43	1	0.0	GYMNOINIUM FILUM	600	115 4 0
43	1	0.0	GYMNOINIUM SP.	500	115 4 0
43	1	0.0	COSCINODISCUS CENTRALIS	500	115 4 0
43	1	0.0	CHAETOCEROS GRACILE	500	115 4 0
43	1	0.0	COSCINODISCUS LINEATUS	300	115 4 0
43	1	0.0	COSCINODISCUS HAILESI	200	115 4 0
43	1	0.0	DITYLUM BRIGHTWELLII	200	115 4 0
43	1	0.0	OXYTOXUM GLADIOLUS	200	115 4 0
43	1	0.0	TINTINNIDA	200	115 4 0
43	1	0.0	GYMNOINIUM PYGMAEUM	100	115 4 0
43	1	0.0	GONIAULAX SP.	100	115 4 0
43	1	0.0	PLEUROSIGMA AESTUARII	100	115 4 0
43	1	0.0	EXUVIELLA SP.	100	115 4 0
43	1	0.0	PERIDINIUM SP.	100	115 4 0
43	1	0.0	ASTERIONELLA JAPONICA	100	115 4 0
43	1	0.0	COSCINODISCUS SP.	100	115 4 0

TOTAL CELLS
PERCENT DIATOM/TOTAL 48
PERCENT DINOFLAGELLATE/TOTAL 7
PERCENT OTHER/TOTAL 45

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
43	1	30.0	CHAETOCEROS SP.	24200	116 4 17
43	1	30.0	GYMNOINIUM SIMPLEX	20500	116 4 14
43	1	30.0	THALASSIOSIRA GRAVIDA	19500	116 4 13
43	1	30.0	THALASSIOSIRA SP.	14400	116 4 10
43	1	30.0	FLAGELLATA	14100	116 4 10
43	1	30.0	NITZSCHIA DELICATISSIMA	11800	116 4 8
43	1	30.0	THALASSIONEMA NITZSCHIOIDES	10200	116 4 7
43	1	30.0	CHAETOCEROS DEBILE	7400	116 4 5
43	1	30.0	NITZSCHIA PUNGENS V. ATLANTICA	5500	116 4 4
43	1	30.0	LAUDERIA BOREALIS	3500	116 4 2
43	1	30.0	NAVICULA SP.	1800	116 4 1
43	1	30.0	AMPHIDINIUM SP.	1500	116 4 1
43	1	30.0	NITZSCHIA CLOSTERIUM	1500	116 4 1
43	1	30.0	MESODINIUM RUBRUM	1100	116 4 1
43	1	30.0	RHIZOLENIA HEBETATA	1000	116 4 1
43	1	30.0	COSCINODISCUS LINEATUS	1000	116 4 1
43	1	30.0	MELOSIRA MONILIFORMIS	1000	116 4 1
43	1	30.0	OXYTOXUM GLADIOLUS	900	116 4 1
43	1	30.0	CHAETOCEROS DIADEMA	600	116 4 0
43	1	30.0	GONIAULAX SP.	600	116 4 0
43	1	30.0	COSCINOSIRA POLYCHORDA	500	116 4 0
43	1	30.0	GYMNOINIUM SP.	500	116 4 0
43	1	30.0	PERIDINIUM SP.	400	116 4 0
43	1	30.0	GYMNOINIUM FILUM	400	116 4 0
43	1	30.0	RHIZOLENIA SETIGERA	400	116 4 0
43	1	30.0	TINTINNIDA	400	116 4 0
43	1	30.0	EXUVIELLA SP.	300	116 4 0
43	1	30.0	CHAETOCEROS GRACILE	200	116 4 0
43	1	30.0	COSCINODISCUS SP.	200	116 4 0
43	1	30.0	COSCINODISCUS CENTRALIS	200	116 4 0
43	1	30.0	PLEUROSIGMA AESTUARII	200	116 4 0
43	1	30.0	DITYLUM BRIGHTWELLII	200	116 4 0
43	1	30.0	COSCINODISCUS CURVATULUS	100	116 4 0

TOTAL CELLS
PERCENT DIATOM/TOTAL 72
PERCENT DINOFLAGELLATE/TOTAL 17
PERCENT OTHER/TOTAL 11

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
43	1	45.0	NITZSCHIA DELICATISSIMA	18900	117 %
43	1	45.0	THALASSIOSIRA SP.	18200	117 %
43	1	45.0	CHALCOPHOS SP.	16900	117 %
43	1	45.0	COSCIINODISCUS LINEATUS	8000	117 %
43	1	45.0	THALASSIOSIRA GRAVIDA	7600	117 %
43	1	45.0	LAOGERIA BOREALIS	7000	117 %
43	1	45.0	THALASSIOSIRA ROTULA	4800	117 %
43	1	45.0	GYMNODINIUM SIMPLEX	4000	117 %
43	1	45.0	NITZSCHIA PUNGENS V. ATLANTICA	3100	117 %
43	1	45.0	CHAETOCEROS DIDYMUS	2600	117 %
43	1	45.0	AMPHIDINIUM SP.	2100	117 %
43	1	45.0	THALASSIONEMA NITZSCHIOIDES	1700	117 %
43	1	45.0	NAVICULA SP.	1400	117 %
43	1	45.0	NITZSCHIA CLOSTERIUM	1100	117 %
43	1	45.0	PLEUROSIGMA AESTUARII	1100	117 %
43	1	45.0	CHAETOCEPOS CEBILE	1100	117 %
43	1	45.0	ASTERIONELLA JAPONICA	700	117 %
43	1	45.0	NANNOPLANKTON	660	117 %
43	1	45.0	PERIDINIUM SP.	500	117 %
43	1	45.0	COSCIINOSIRA POLYCHORDA	500	117 %
43	1	45.0	OXYTOXUM GLADIOLUS	500	117 %
43	1	45.0	COSCIINODISCUS CENTRALIS	500	117 %
43	1	45.0	RHIZOSOLENIA HEBETATA	400	117 %
43	1	45.0	RHIZOSOLENIA SETIGERA	400	117 %
43	1	45.0	MESODINIUM RUBRUM	400	117 %
43	1	45.0	COSCIINODISCUS SP.	400	117 %
43	1	45.0	TINTINNIDA	400	117 %
43	1	45.0	CHAETOCEROS DIADEMA	300	117 %
43	1	45.0	PERIDINIUM MINUSCULUM	200	117 %
43	1	45.0	NITZSCHIA SP.	100	117 %
43	1	45.0	GYMNODINIUM PYGMAEUM	100	117 %
43	1	45.0	GYMNODINIUM FILUM	100	117 %
43	1	45.0	RHIZOSOLENIA DELICATULA	100	117 %
43	1	45.0	SILICA FLAGELLATE	100	117 %
43	1	45.0	GYMNODINIUM SP.	100	117 %

TOTAL CELLS	
PERCENT DIATOM/TOTAL	91
PERCENT DINOFLAGELLATE/TOTAL	7
PERCENT OTHER/TOTAL	1

LAT 41 33.0
SONIC DEPTH 102

LONG 68 31.1 DATE 78/04/10
ONE PERCENT LIGHT DEPTH

TIME 2140

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
55	1	0.0	THALASSIOSIRA GRAVIDA	133800	121 % 40
55	1	0.0	THALASSIOSIRA SP.	63400	121 % 19
55	1	0.0	CHAETOCEROS SP.	30600	121 % 9
55	1	0.0	THALASSIOSIRA ROTULA	26200	121 % 8
55	1	0.0	NANNOPLANKTON	25000	121 % 7
55	1	0.0	LAUDERIA BOREALIS	21200	121 % 6
55	1	0.0	NITZSCHIA DELICATISSIMA	9400	121 % 3
55	1	0.0	RHIZOSOLENIA HEBETATA	9400	121 % 3
55	1	0.0	MESODINIUM RUBRUM	3400	121 % 1
55	1	0.0	GYMNODINIUM SIMPLEX	2400	121 % 1
55	1	0.0	TINTINNIDA	2400	121 % 1
55	1	0.0	NITZSCHIA CLOSTERIUM	1800	121 % 1
55	1	0.0	RHIZOSOLENIA SP.	1400	121 % 0
55	1	0.0	OXYTOXUM GLADIOLUS	1000	121 % 0
55	1	0.0	COSCIOSIRA POLYCHORDA	400	121 % 0
55	1	0.0	GYMNODINIUM FILUM	400	121 % 0
55	1	0.0	ASTERIONELLA JAPONICA	400	121 % 0
55	1	0.0	CHAETOCEROS DIADEMA	400	121 % 0
55	1	0.0	RHIZOSOLENIA DELICATULA	200	121 % 0
55	1	0.0	THALASSIONEMA NITZSCHIOIDES	200	121 % 0
55	1	0.0	GYMNODINIUM PYGMAEUM	200	121 % 0
55	1	0.0	PERIDINIUM SP.	200	121 % 0
55	1	0.0	RHIZOSOLENIA SETICERA	200	121 % 0
55	1	0.0	AMPHIDINIUM SP.	160	121 % 0

TOTAL CELLS
PERCENT DIATOM/TOTAL 89
PERCENT DINOFLAGELLATE/TOTAL 1
PERCENT OTHER/TOTAL 9

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
55	1	30.0	THALASSIOSIRA GRAVIDA	71600	122 % 42
55	1	30.0	CHAETOCEROS SP.	29000	122 % 17
55	1	30.0	THALASSIOSIRA ROTULA	22000	122 % 13
55	1	30.0	LAUDERIA BOREALIS	18800	122 % 11
55	1	30.0	NANNOPLANKTON	12800	122 % 8
55	1	30.0	NITZSCHIA DELICATISSIMA	6000	122 % 4
55	1	30.0	GYMNODINIUM SIMPLEX	4200	122 % 2
55	1	30.0	AMPHIDINIUM SP.	2200	122 % 1
55	1	30.0	OXYTOXUM GLADIOLUS	800	122 % 0
55	1	30.0	PERIDINIUM SP.	800	122 % 0
55	1	30.0	COSCIOSIRA POLYCHORDA	400	122 % 0
55	1	30.0	CHAETOCEROS DIADEMA	400	122 % 0
55	1	30.0	COSCIOSIRA LINEATUS	200	122 % 0
55	1	30.0	THALASSIONEMA NITZSCHIOIDES	200	122 % 0
55	1	30.0	BIDDULPHIA SP.	200	122 % 0
55	1	30.0	GYMNODINIUM PYGMAEUM	200	122 % 0
55	1	30.0	TINTINNIDA	200	122 % 0
55	1	30.0	GYMNODINIUM SP.	200	122 % 0
55	1	30.0	RHIZOSOLENIA HEBETATA	200	122 % 0
55	1	30.0	MESODINIUM RUBRUM	200	122 % 0

TOTAL CELLS
PERCENT DIATOM/TOTAL 87
PERCENT DINOFLAGELLATE/TOTAL 3
PERCENT OTHER/TOTAL 8

STA	CAST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
55	1	90.0	THALASSIOSIRA GRAVIDA	27200	123 % 32
55	1	90.0	THALASSIOSIRA SP.	25600	123 % 30
55	1	90.0	CHAETOCEROS SP.	11400	123 % 13
55	1	90.0	LAUDERIA BOREALIS	8400	123 % 10
55	1	90.0	NITZSCHIA DELICATISSIMA	4800	123 % 6
55	1	90.0	RHIZOSOLENIA HEBETATA	1800	123 % 2
55	1	90.0	OXYTOXUM GLADIOLUS	1400	123 % 2
55	1	90.0	COSCIOSIRA POLYCHORDA	1000	123 % 1
55	1	90.0	NANNOPLANKTON	860	123 % 1
55	1	90.0	CHAETOCEROS DIADEMA	800	123 % 1
55	1	90.0	GYMNODINIUM SIMPLEX	600	123 % 1
55	1	90.0	THALASSIONEMA NITZSCHIOIDES	600	123 % 1
55	1	90.0	NITZSCHIA CLOSTERIUM	600	123 % 1
55	1	90.0	AMPHIDINIUM SP.	400	123 % 0
55	1	90.0	SILICA FLAGELLATE	200	123 % 0

TOTAL CELLS
PERCENT DIATOM/TOTAL 96
PERCENT DINOFLAGELLATE/TOTAL 3
PERCENT OTHER/TOTAL 1

LAT 41 45.9
SONIC DEPTH 172

LONG 68 42.0 DATE 78/04/11
ONE PERCENT LIGHT DEPTH

TIME 0256

STA	CAST DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
47	1	0.0 THALASSIOSIRA GRAVIDA	82500 127 4	30
47	1	0.0 LAUDERIA BOREALIS	44000 127 4	16
47	1	0.0 THALASSIOSIRA SP.	43700 127 4	16
47	1	0.0 GYMNOIDINIUM SIMPLEX	34000 127 4	12
47	1	0.0 COCCOLITHOPHORES	14600 127 4	5
47	1	0.0 AMPHIDINIUM SP.	14600 127 4	5
47	1	0.0 MELOSIRA SP.	9700 127 4	3
47	1	0.0 RHIZOSOLENIA HEBETATA	9000 127 4	3
47	1	0.0 CHAETOCEROS SP.	9000 127 4	3
47	1	0.0 OXYTOXUM GLADIOLUS	4800 127 4	2
47	1	0.0 NITZSCHIA CLOSTERIUM	4500 127 4	2
47	1	0.0 CONIAULAX SP.	4500 127 4	2
47	1	0.0 COSCINOIDISCUS SP.	4500 127 4	2

TOTAL CELLS
PERCENT DIATOM/TOTAL 74
PERCENT DINOFLAGELLATE/TOTAL 21
PERCENT OTHER/TOTAL 5

STA	CAST DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
47	1	30.0 THALASSIOSIRA SP.	78000 128 4	24
47	1	30.0 THALASSIOSIRA GRAVIDA	75000 128 4	23
47	1	30.0 LAUDERIA BOREALIS	71000 128 4	22
47	1	30.0 SKELETONEMA COSTATUM	20000 128 4	6
47	1	30.0 RHIZOSOLENIA HEBETATA	19000 128 4	6
47	1	30.0 GYMNOIDINIUM SIMPLEX	19000 128 4	6
47	1	30.0 MELOSIRA SP.	13000 128 4	4
47	1	30.0 CHAETOCEROS OIDYMIUS	12000 128 4	4
47	1	30.0 NITZSCHIA DELICATISSIMA	12000 128 4	4
47	1	30.0 AMPHIDINIUM SP.	6500 128 4	2

TOTAL CELLS
PERCENT DIATOM/TOTAL 92
PERCENT DINOFLAGELLATE/TOTAL 8
PERCENT OTHER/TOTAL 0

LAT 40 49.3
SONIC DEPTH 71

LONG 67 53.1 DATE 78/04/12
ONE PERCENT LIGHT DEPTH 11

TIME 0713

STA	CST	DEPTH(M)	SPECIES	(NO./L)	PERCENTAGES
55	1	0.0	GYMNODINIUM SIMPLEX	132200	148 %
55	1	0.0	NANNOPHANKTON	119500	148 %
55	1	0.0	CHAETOCEROS SP.	25800	148 %
55	1	0.0	LAUDERIA BOREALIS	11400	148 %
55	1	0.0	THALASSIOSIRA GRAVIDA	10600	148 %
55	1	0.0	THALASSIOSIRA SP.	8800	148 %
55	1	0.0	MESODINIUM RUBRUM	6600	148 %
55	1	0.0	NITZSCHIA DELICATISSIMA	6600	148 %
55	1	0.0	CHAETOCEROS DEBILE	5200	148 %
55	1	0.0	HELOSIRA MONILIFORMIS	4400	148 %
55	1	0.0	NITZSCHIA CLOSTERIUM	2500	148 %
55	1	0.0	RHIZOLENIA HEBETATA	2500	148 %
55	1	0.0	GYMNODINIUM FILUM	2400	148 %
55	1	0.0	GYMNODINIUM SP.	1800	148 %
55	1	0.0	OXYTOXUM GLADIOLUS	1600	148 %
55	1	0.0	TINTINNIDA	1000	148 %
55	1	0.0	COSCIINOISCUS LINEATUS	1000	148 %
55	1	0.0	AMPHIDINIUM SP.	1000	148 %
55	1	0.0	THALASSIONEMA NITZSCHIOIDES	800	148 %
55	1	0.0	RHIZOLENIA SP.	600	148 %
55	1	0.0	GONIAULAX SP.	600	148 %
55	1	0.0	NITZSCHIA PUNGENS V. ATLANTICA	400	148 %
55	1	0.0	ASTEROMPHALUS HEPTACTIS	400	148 %
55	1	0.0	CHAETOCEROS GRACILE	400	148 %
55	1	0.0	EXUVIELLA SP.	200	148 %
55	1	0.0	NAVICULA SP.	200	148 %
55	1	0.0	COSCIINOSIRA POLYCHORDA	200	148 %
55	1	0.0	COSCIINOISCUS SP.	200	148 %
55	1	0.0	COSCIINOISCUS CURVATULUS	200	148 %

TOTAL CELLS
PERCENT DIATOM/TOTAL 24
PERCENT DINOFLAGELLATE/TOTAL 40
PERCENT OTHER/TOTAL 36

Interface Data

TABLE OF UNITS

CRUISE	STATION	CAST	DATE LOCAL	TIME EST	SONIC DEPTH M
LATITUDE DEGREES	LONGITUDE DEGREES	BOTTOM TEMPERATURE C			
DEPTH M	PHOSPHATE UG-AT/L	SILICATE UG-AT/L	NITRATE UG-AT/L	NITRITE UG-AT/L	AMMONIUM UG-AT/L

CRUISE AN99	STATION 2	CAST 2	DATE 4 APR 78	TIME 01:30:00	SONIC DEPTH 21

LATITUDE 40 47.7 N	LONGITUDE 72 32.3 W	BOTTOM TEMPERATURE 3.66			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
17.91	0.42	4.86	0.87	0.05	0.91
18.09	0.41	4.82	0.97	0.05	1.03
18.33	0.47	5.28	0.78	0.05	0.99
18.64	0.47	5.04	0.82	0.05	0.73
18.82	-	-	-	-	-
19.00	0.50	1.82	0.84	0.08	0.90
19.18	0.42	2.66	1.33	0.08	1.50
19.36	0.46	2.33	0.87	0.05	0.78
19.55	0.45	2.29	1.10	0.06	0.88
19.91	0.52	2.10	1.08	0.09	1.38
20.09	0.39	3.24	0.57	0.06	0.54
20.26	0.45	3.25	0.56	0.07	0.45
20.44	0.40	2.97	0.58	0.05	0.57
20.62	0.41	3.13	0.57	0.06	0.45
20.81	0.44	2.89	0.58	0.06	0.55

- DATA NOT TAKEN

CRUISE AN99	STATION 3	CAST 2	DATE 4 APR 78	TIME 10:35:00	SONIC DEPTH 37

LATITUDE 40 42.5 N	LONGITUDE 72 29.0 W	BOTTOM TEMPERATURE 3.39			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
33.74	0.34	3.76	1.37	0.05	1.16
33.91	0.31	3.75	1.18	0.04	0.80
34.09	-	-	-	-	-
34.33	0.31	3.34	0.95	0.05	0.75
34.64	0.37	7.32	1.20	0.08	0.96
34.82	0.40	-	1.27	0.10	1.22
35.00	0.28	2.93	1.05	0.06	0.63
35.18	0.36	4.20	1.10	0.06	0.70
35.36	0.38	6.36	1.12	0.07	0.65
35.55	0.26	2.76	0.98	0.06	0.54
35.91	0.26	2.36	1.01	0.07	0.49
36.09	0.33	3.33	0.99	0.08	0.51
36.26	0.23	2.49	0.95	0.06	0.42
36.44	0.27	3.07	1.12	0.07	0.70
36.62	0.22	2.82	1.07	0.07	0.44
36.81	0.23	3.01	1.06	0.06	0.44

- DATA NOT TAKEN

CRUISE AN99	STATION 4	CAST 2	DATE 4 APR 78	TIME 16:20:00	SONIC DEPTH 43

LATITUDE 40 39.0 N	LONGITUDE 72 26.0 W	BOTTOM TEMPERATURE 3.23			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
39.74	0.11	3.93	1.52	0.08	0.69
39.91	0.11	3.80	1.51	0.08	0.73
40.09	0.09	3.72	1.56	0.07	0.84
40.33	0.10	3.64	1.46	0.07	0.54
40.64	0.08	5.14	1.45	0.07	0.58
40.82	0.10	-	1.52	0.10	0.78
41.00	0.08	3.95	1.49	0.08	0.54
41.18	0.09	4.21	1.48	0.08	0.59
41.36	0.09	4.87	1.53	0.08	0.60
41.55	0.12	3.61	1.43	0.08	0.56
41.91	0.13	4.37	1.51	0.09	0.56
42.09	0.11	4.29	1.08	0.08	0.52
42.26	0.13	4.56	1.40	0.08	0.55
42.44	0.16	6.00	1.36	0.07	0.63
42.62	0.15	5.68	1.31	0.07	0.54
42.81	0.17	5.60	1.45	0.07	0.74

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- DATA NOT TAKEN

CRUISE AN99	STATION 5	CAST 2	DATE 4 APR 78	TIME 18:35:00	SONIC DEPTH 49

LATITUDE 40 32.1 N	LONGITUDE 72 23.7 W	BOTTOM TEMPERATURE -			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
45.74	0.27	3.68	1.70	0.06	0.81
45.91	0.24	3.66	1.69	0.06	0.73
46.09	0.25	3.58	1.50	0.06	0.70
46.33	0.25	4.35	1.40	0.06	0.58
46.64	0.26	3.93	1.41	0.05	0.73
46.82	0.28	-	1.44	0.06	-
47.00	0.27	3.68	1.65	0.05	-
47.18	0.26	3.60	1.32	0.05	-
47.36	0.26	4.41	1.42	0.04	-
47.55	0.25	3.94	1.32	0.04	0.54
47.91	0.25	3.62	1.47	0.04	0.56
48.09	0.26	4.14	1.38	0.03	0.65
48.26	0.27	4.06	1.51	0.04	0.56
48.62	0.27	4.43	1.37	0.04	0.49
48.81	0.35	3.91	1.37	0.04	0.99

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- DATA NOT TAKEN

CRUISE AN99	STATION 6	CAST 2	DATE 4 APR 78	TIME 21:30:00	SONIC DEPTH 55

LATITUDE 40 26.6 N	LONGITUDE 72 20.0 W	BOTTOM TEMPERATURE 3.54			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
51.74	0.51	5.76	5.28	0.11	1.47
51.91	0.51	5.51	5.33	0.11	1.43
52.09	0.51	5.30	5.25	0.09	1.43
52.33	0.51	5.39	5.38	0.10	1.58
52.64	0.51	6.31	5.25	0.09	1.47
52.82	-	-	-	-	-
53.00	0.52	5.75	5.28	0.10	1.64
53.18	0.52	6.28	5.28	0.09	1.54
53.36	0.52	6.13	5.27	0.10	1.50
53.55	0.52	5.12	5.27	0.10	1.55
53.91	0.52	6.06	5.26	0.11	1.63
54.09	0.55	6.49	5.26	0.11	1.67
54.26	0.53	6.08	5.26	0.11	1.70
54.44	0.53	8.39	5.31	0.11	1.65
54.62	0.50	6.31	4.67	0.11	1.47
54.81	0.52	6.20	5.45	0.10	1.43

- DATA NOT TAKEN

CRUISE AN99	STATION 15	CAST 2	DATE 6 APR 78	TIME 11:00:00	SONIC DEPTH 76

LATITUDE 40 4.5 N	LONGITUDE 72 5.5 W	BOTTOM TEMPERATURE 3.72			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
72.74	0.33	9.81	10.59	0.13	0.81
72.91	0.32	10.28	10.49	0.13	0.73
73.09	0.37	9.48	10.46	0.12	0.89
73.67	0.37	9.41	10.60	0.13	0.89
74.00	0.37	8.76	9.46	0.11	0.58
74.18	0.37	12.78	10.33	0.13	0.70
74.55	0.38	10.64	10.68	0.12	0.81
74.91	0.40	11.86	10.34	0.13	0.76
75.09	0.39	9.53	10.17	0.10	0.78
75.26	0.41	10.40	10.27	0.11	0.87
75.44	0.42	14.17	10.66	0.12	0.86
75.62	0.43	8.64	9.81	0.10	0.89
75.81	0.72	11.53	9.54	0.18	0.83

- DATA NOT TAKEN

CRUISE AN99	STATION 16	CAST 2	DATE 6 APR 78	TIME 14:43:00	SONIC DEPTH 62

LATITUDE 40 19.7 N	LONGITUDE 72 11.5 W	BOTTOM TEMPERATURE 3.39			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
58.74	0.44	5.71	5.31	0.09	1.00
58.91	0.48	6.15	5.29	0.10	1.10
59.09	0.48	10.33	5.73	0.14	1.21
59.33	0.48	5.76	5.37	0.11	1.08
59.64	0.49	6.49	5.60	0.12	1.16
59.82	-	-	-	-	-
60.00	0.46	5.71	5.25	0.11	1.05
60.18	0.47	6.45	5.44	0.11	1.11
60.36	0.49	7.33	5.13	0.13	1.01
60.55	0.54	7.23	5.23	0.12	1.15
60.91	0.55	6.45	5.22	0.12	1.25
61.09	0.52	6.20	5.22	0.12	1.17
61.26	0.51	6.64	5.35	0.13	1.25
61.44	0.54	9.35	5.43	0.14	1.28
61.81	0.54	7.72	5.34	0.13	1.32

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- DATA NOT TAKEN

CRUISE AN99	STATION 17	CAST 2	DATE 6 APR 78	TIME 20:10:00	SONIC DEPTH 67

LATITUDE 40 20.0 N	LONGITUDE 72 11.4 W	BOTTOM TEMPERATURE 3.37			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
63.91	0.41	4.00	5.06	0.10	1.04
64.09	0.41	3.95	5.02	0.09	0.96
64.33	0.40	4.44	5.27	0.09	0.96
64.64	0.40	4.25	5.31	0.08	0.97
64.82	0.40	4.65	5.06	0.09	0.98
65.00	0.41	3.81	5.69	0.09	1.07
65.18	0.39	4.50	5.26	0.09	0.99
65.36	0.41	3.67	5.89	0.09	1.12
65.55	0.40	4.02	5.15	0.10	0.98
65.91	0.50	4.02	6.22	0.10	2.23
66.09	0.41	3.88	5.16	0.09	1.07
66.26	0.40	3.88	5.20	0.10	0.98
66.44	0.41	3.88	5.05	0.11	1.05
66.62	0.41	4.03	5.06	0.10	0.93

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- DATA NOT TAKEN

CRUISE AN99	STATION 22	CAST 3	DATE 7 APR 78	TIME 10:25:00	SONIC DEPTH 68

LATITUDE 40 19.7 N	LONGITUDE 72 12.5 W	BOTTOM TEMPERATURE 3.40			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
64.91	0.48	4.75	5.44	0.09	-
65.09	0.45	5.14	5.49	0.09	-
65.33	0.46	5.08	5.54	0.08	-
65.64	0.45	5.23	5.53	0.09	-
65.82	0.47	5.66	5.18	0.10	-
66.00	0.46	5.17	5.67	0.10	-
66.18	0.46	6.19	5.52	0.10	-
66.36	0.45	5.50	5.52	0.10	-
66.55	0.45	5.89	5.56	0.10	-
66.91	0.46	4.85	5.65	0.10	-
67.09	0.43	4.79	5.27	0.09	-
67.26	0.42	4.69	5.27	0.09	-
67.44	0.42	4.98	5.18	0.08	0.58
67.62	0.46	4.93	5.50	0.10	0.81

- DATA NOT TAKEN

CRUISE AN99	STATION 24	CAST 2	DATE 7 APR 78	TIME 12:45:00	SONIC DEPTH 60

LATITUDE 40 19.7 N	LONGITUDE 72 11.5 W	BOTTOM TEMPERATURE 3.41			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
56.91	0.57	4.47	5.31	0.18	1.13
57.09	0.50	4.55	5.23	0.16	0.90
57.33	0.15	4.53	5.52	0.16	0.86
57.64	0.06	4.91	5.27	0.16	-
57.82	0.13	5.19	5.18	0.16	0.98
58.00	0.31	4.70	5.46	0.09	0.93
58.18	0.31	4.83	5.36	0.10	1.02
58.36	0.33	4.82	5.59	0.10	1.19
58.55	0.33	4.80	5.35	0.10	1.04
58.91	0.34	4.74	5.52	0.12	0.96
59.09	0.28	4.66	5.33	0.13	0.93
59.26	0.28	4.89	5.27	0.15	0.93
59.44	0.28	5.12	5.20	0.16	0.93
59.62	0.32	4.96	5.25	0.16	0.93

- DATA NOT TAKEN

CRUISE AN99	STATION 27	CAST 2	DATE 7 APR 78	TIME 18:15:00	SONIC DEPTH 63

LATITUDE 40 20.0 N	LONGITUDE 72 11.9 W	BOTTOM TEMPERATURE 3.36			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
59.74	0.44	4.90	4.95	0.10	0.09
59.91	0.43	4.76	4.80	0.10	0.81
60.09	0.38	4.52	4.74	0.10	0.79
60.33	0.40	4.48	4.91	0.11	0.87
60.64	0.40	5.86	4.80	0.11	0.77
60.82	0.43	5.92	4.89	0.11	0.96
61.00	0.42	4.85	4.88	0.11	0.81
61.18	0.42	5.64	4.82	0.11	0.88
61.36	0.45	5.50	5.05	0.11	1.15
61.55	0.43	5.26	4.84	0.11	0.90
61.91	0.42	4.58	4.78	0.10	0.90
62.09	0.40	4.34	4.58	0.10	0.83
62.26	0.40	4.40	4.76	0.10	0.83
62.44	0.34	4.50	4.41	0.10	0.70
62.62	0.41	4.36	4.73	0.11	0.81
62.81	0.41	4.37	4.76	0.12	0.96

- DATA NOT TAKEN

CRUISE AN99	STATION 29	CAST 2	DATE 7 APR 78	TIME 23:40:00	SONIC DEPTH 62

LATITUDE 40 19.7 N	LONGITUDE 72 11.9 W	BOTTOM TEMPERATURE 3.38			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
58.91	0.42	4.66	5.09	0.12	1.61
59.09	0.40	4.74	4.94	0.10	1.04
59.33	0.41	4.73	5.13	0.10	1.11
59.64	0.36	4.86	4.54	0.10	0.85
59.82	0.41	5.04	5.00	0.10	1.07
60.00	0.39	4.49	4.99	0.10	0.94
60.18	0.38	5.70	4.99	0.10	0.88
60.36	0.40	5.83	4.93	0.09	1.03
60.55	0.34	4.83	4.35	0.08	0.83
60.91	0.38	4.82	4.97	0.08	0.91
61.09	0.38	5.39	4.95	0.08	0.83
61.26	0.37	4.49	4.94	0.08	0.90

- DATA NOT TAKEN

CRUISE AN99	STATION 32	CAST 2	DATE 8 APR 78	TIME 07:00:00	SONIC DEPTH 63

LATITUDE 40 19.6 N	LONGITUDE 72 12.0 W	BOTTOM TEMPERATURE 3.38			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
59.91	0.43	4.96	4.88	0.12	0.83
60.09	0.41	4.83	4.49	0.11	0.80
60.33	0.44	8.50	5.14	0.13	0.94
60.64	0.40	-	4.23	0.11	0.72
60.82	0.40	-	4.51	0.10	0.78
61.00	0.40	-	4.64	0.10	0.79
61.18	0.42	5.73	4.90	0.12	0.85
61.36	0.41	5.50	4.84	0.12	0.82
61.55	0.39	5.67	4.58	0.12	0.74
61.91	0.39	5.11	4.57	0.12	0.78
62.09	0.41	5.62	4.85	0.11	0.83
62.26	0.40	5.15	4.79	0.11	0.77
62.44	0.39	5.71	4.68	0.11	0.74
62.62	0.38	5.73	4.43	0.11	0.74

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- DATA NOT TAKEN

CRUISE AN99	STATION 36	CAST 2	DATE 9 APR 78	TIME 19:50:00	SONIC DEPTH 97

LATITUDE 40 36.0 N	LONGITUDE 67 39.5 W	BOTTOM TEMPERATURE -			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
93.91	0.52	5.75	7.95	0.13	0.92
94.09	0.53	6.97	7.76	0.12	0.87
94.33	0.54	7.10	7.72	0.11	0.82
94.64	0.53	7.58	7.61	0.12	0.80
94.82	0.58	8.99	7.84	0.13	-
95.00	0.58	7.16	7.66	0.12	1.07
95.18	0.56	7.05	7.52	0.11	0.91
95.36	0.60	7.43	7.57	0.11	1.06
95.55	0.60	6.58	7.56	0.12	0.92
95.91	0.60	7.84	7.61	0.12	1.03
96.09	0.61	6.40	7.60	0.13	0.89
96.26	0.64	6.78	7.64	0.14	1.33
96.44	0.62	6.87	7.56	0.13	0.89
96.81	0.65	6.90	7.50	0.14	0.89

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- DATA NOT TAKEN

CRUISE AN99	STATION 37	CAST 2	DATE 9 APR 78	TIME 23:50:00	SONIC DEPTH 76

LATITUDE 40 42.5 N	LONGITUDE 67 45.7 W	BOTTOM TEMPERATURE 3.92			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
72.91	0.53	4.68	5.65	0.13	0.77
73.09	0.55	5.06	5.64	0.13	1.20
73.33	0.54	5.34	5.74	0.13	1.16
73.64	0.55	5.04	5.74	0.13	1.02
73.82	0.55	5.61	5.74	0.12	0.88
74.00	0.57	5.11	5.74	0.12	2.14
74.18	0.54	5.59	5.68	0.13	1.30
74.36	0.54	5.58	5.68	0.13	1.16
74.55	0.54	5.13	5.68	0.13	0.99
74.91	0.53	5.26	5.77	0.13	1.13
75.09	0.53	5.50	5.67	0.12	1.11
75.26	0.53	6.57	5.67	0.12	1.03
75.44	0.54	7.05	5.77	0.12	1.21

- DATA NOT TAKEN

CRUISE AN99	STATION 38	CAST 2	DATE 10 APR 78	TIME 10:20:00	SONIC DEPTH 67

LATITUDE 40 48.5 N	LONGITUDE 67 50.5 W	BOTTOM TEMPERATURE 4.02			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
63.91	0.43	3.87	4.68	0.11	0.94
64.09	0.44	4.00	4.66	0.13	0.83
64.33	0.47	4.03	4.66	0.13	0.69
64.64	0.44	4.02	4.65	0.13	0.59
64.82	0.44	4.25	4.63	0.14	0.60
65.00	0.44	4.03	4.60	0.16	0.81
65.18	0.44	4.26	4.65	0.16	0.61
65.36	0.43	4.30	4.58	0.18	0.62
65.55	0.43	4.18	4.62	0.18	0.61
65.91	0.43	4.46	4.56	0.19	0.64
66.09	0.43	4.20	4.55	0.19	0.68
66.26	0.43	4.18	4.54	0.19	0.87
66.44	0.43	4.21	4.54	0.19	0.66
66.81	0.46	4.40	4.53	0.20	0.66

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	SONIC
AN99	41	2	10 APR 78	11:10:00	DEPTH 42
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LATITUDE	LONGITUDE	BOTTOM			
41 7.0 N	68 10.0 W	TEMPERATURE 4.47			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
38.91	0.13	1.27	0.11	0.09	0.74
39.09	0.11	2.00	0.07	0.09	0.59
39.33	0.10	1.61	0.08	0.08	0.54
39.64	0.10	1.60	0.08	0.09	0.43
39.82	0.11	2.34	0.14	0.08	0.40
40.00	0.12	1.16	0.10	0.07	0.33
40.18	0.10	2.33	0.15	0.07	0.27
40.36	0.10	2.59	0.11	0.06	0.24
40.55	0.11	2.33	0.12	0.06	0.57
40.91	0.10	1.19	0.08	0.05	0.32
41.09	0.11	2.47	0.18	0.05	0.39
41.26	0.11	1.83	0.05	0.04	0.26
41.44	0.11	1.83	0.29	0.04	0.37
41.81	0.14	2.12	0.20	0.04	0.31

- DATA NOT TAKEN

CRUISE	STATION	CAST	DATE	TIME	SONIC
AN99	42	2	10 APR 78	12:40:00	DEPTH 45
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LATITUDE	LONGITUDE	BOTTOM			
41 13.1 N	68 15.2 W	TEMPERATURE 4.48			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
41.91	0.15	1.05	0.22	0.01	0.91
42.09	0.14	1.04	0.13	0.01	0.72
42.33	0.14	0.93	0.13	0.00	0.58
42.64	0.12	0.98	0.13	0.00	0.50
42.82	0.12	1.26	0.13	0.00	0.42
43.00	0.12	1.01	0.13	0.00	0.38
43.18	0.11	1.10	0.12	0.00	0.41
43.36	0.11	1.09	0.12	0.00	0.44
43.55	0.12	1.08	0.11	0.01	0.34
43.91	0.11	1.07	0.10	0.01	0.36
44.09	0.11	1.07	0.10	0.01	0.29
44.26	0.13	1.11	0.10	0.01	0.26
44.44	0.11	0.95	0.09	0.02	0.35
44.81	0.17	1.39	0.12	0.03	0.94

- DATA NOT TAKEN

CRUISE AN99	STATION 43	CAST 2	DATE 10 APR 78	TIME 15:40:00	SONIC DEPTH 56

LATITUDE 41 18.5 N	LONGITUDE 68 20.5 W	BOTTOM TEMPERATURE 4.39			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
52.74	0.19	5.07	3.56	0.07	0.87
52.91	0.19	2.88	4.00	0.06	0.65
53.09	0.21	2.95	4.04	0.06	0.58
53.33	0.22	4.40	3.42	0.05	0.46
53.64	0.20	3.00	4.13	0.06	0.41
53.82	0.25	-	3.39	0.07	0.36
54.00	0.24	2.71	3.86	0.08	0.30
54.18	0.24	3.17	3.84	0.09	0.30
54.36	0.29	4.97	3.78	0.10	0.36
54.55	0.24	3.37	3.84	0.09	0.28
54.91	0.24	3.69	3.97	0.09	0.36
55.09	0.24	5.88	3.63	0.09	0.24
55.26	0.25	3.15	3.97	0.09	0.29
55.44	0.25	4.80	3.53	0.09	0.37
55.62	0.29	3.35	4.01	0.08	0.37
55.81	0.33	3.52	3.53	0.12	0.40

- DATA NOT TAKEN

CRUISE AN99	STATION 44	CAST 2	DATE 10 APR 78	TIME 20:10:00	SONIC DEPTH 75

LATITUDE 41 25.5 N	LONGITUDE 68 27.9 W	BOTTOM TEMPERATURE 4.09			

DEPTH	PHOSPHATE	SILICATE	NITRATE	NITRITE	AMMONIUM
71.91	0.53	7.90	10.29	0.13	0.66
72.09	0.54	7.86	10.20	0.13	0.53
72.33	0.57	8.22	10.20	0.13	0.44
72.64	0.56	7.93	10.30	0.13	0.50
72.82	0.58	8.87	10.19	0.14	0.34
73.00	0.58	7.60	10.20	0.13	0.31
73.18	0.59	8.40	10.25	0.14	0.32
73.36	0.58	8.55	10.20	0.14	0.32
73.55	0.58	8.02	10.21	0.14	0.36
73.91	0.58	8.03	10.21	0.14	0.31
74.09	0.56	8.38	10.56	0.13	0.23
74.26	0.59	8.04	10.32	0.13	0.26
74.44	0.59	8.40	10.22	0.13	0.41
74.81	0.67	8.36	10.12	0.14	0.33

- DATA NOT TAKEN