

PHYSICAL AND CHEMICAL PROPERTIES OF SAN FRANCISCO BAY, CALIFORNIA, 1980

By Allan Y. Ota, Laurence E. Schemel, and Stephen W. Hager

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CONVERSION FACTORS

Metric units are used in this report. For readers who prefer inch-pound units, the conversion factors for the terms used in this report are listed below.

<u>Multiply</u>	<u>By</u>	<u>To obtain</u>
cm (centimeter)	0.3937	inch
km (kilometer)	0.6214	mile
m (meter)	3.281	foot
m ² (square meter)	10.76	square foot
mm (millimeter)	0.03937	inch

TRADE NAMES

The use of brand or trade names in this report is for identification purposes and does not imply endorsement by the U.S. Geological Survey.

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ABSTRACT

The U.S. Geological Survey conducted hydrologic investigations in both the deep-water channels and the shallow-water regions of the San Francisco Bay estuarine system during 1980. Cruises were conducted regularly, usually at two-week intervals. Physical and chemical properties of the water column were measured at regularly-occupied stations. Measurements of physical and chemical properties presented in this report include temperature, salinity, suspended particulate matter, turbidity, extinction coefficient, partial pressure of CO_2 , partial pressure of oxygen, dissolved organic carbon, particulate organic carbon, discrete chlorophyll-a, fluorescence of photosynthetic pigments, dissolved silica, dissolved phosphate, nitrate plus nitrite, nitrite, ammonium, dissolved inorganic nitrogen, dissolved nitrogen, dissolved phosphorus, total nitrogen, and total phosphorus. Analytical methods are described.

INTRODUCTION

The U.S. Geological Survey conducted hydrologic investigations in both the deep-water channels and the shallow-water embayments of the San Francisco Bay estuarine system during 1980. Sampling cruises were scheduled regularly during the year, usually at two-week intervals (table 1), during each of which a suite of physical, chemical, and biological variables was measured (table 2). This report presents the physical and chemical measurements made at regularly-occupied locations in the estuary (tables 3a and 3b) during these sampling cruises. Similar data collected at additional locations and times during 1980 have been reported by Dedini and others (1981) and Schemel (1984 a,b). The biological data are described in the following reports: Ambler and others (1985) for zooplankton, Wong and Cloern (1982) for phytoplankton species and abundances, and Cole and others (1986) for phytoplankton productivity.

ACKNOWLEDGMENTS

We thank the captain and crew of the R/V Polaris and the many scientists and technicians who were responsible for the quality of the data collected during this investigation. We thank Brian Cole and Andrea Alpine for the chlorophyll-a data, and thank Dana Harmon and Ray Herndon for initial entry and editing of the data.

METHODS

Two vessels were used in this study. The R/V Polaris occupied deep-water stations along the main channel, and a shallow-draft vessel, the R/V Estero, occupied stations in the shallow-water areas of the bay. Transect lines showing the location of sample stations which correspond to locations listed in tables 3a and 3b are shown in figures 1a and 1b.

Physical properties and concentrations of dissolved and particulate substances in water obtained through intakes near the bow of each vessel were measured continuously, and discrete samples for additional measurements and for calibration of continuously-measuring instruments were collected at specific locations. The bow intake was about 2 meters below the surface on the R/V Polaris, and about 1 meter below the surface on the R/V Estero. A submersible pump aboard the Polaris was used to obtain water at deeper depths. Details of the pumping systems and the continuously-measuring instruments on both vessels are documented by Schemel and Dedini (1979) and Dedini and Schemel (1980). Continuous measurements on the R/V Polaris were temperature at the bow or submersible pump intakes, salinity, turbidity, pH and the sample temperature in the pH flow cell, the partial pressure of carbon dioxide, the partial pressure of oxygen, and chlorophyll a fluorescence. A reading was made at each station mark for each continuous measurement. Discrete samples were collected for measurements of dissolved nutrients, total nutrients, chlorophyll-a, dissolved and particulate organic carbon, and suspended particulate matter. Extinction coefficients were measured when the vessel was anchored on station. Comparable continuous and discrete sample measurements were made on the R/V Estero. A major difference was that concentrations of dissolved inorganic nutrients were continuously measured on the R/V Estero.

Table 1. Cruise dates during 1980.

Cruise Number	Calendar Date	Vessel	Cruise Number	Calendar Date	Vessel
1	8 Jan 80	Polaris	13	18 Jun 80	Polaris
1	8 Jan 80	Estero	13	18 Jun 80	Estero
1	9 Jan 80	Polaris	14	1 Jul 80	Polaris
1	9 Jan 80	Estero	14	1 Jul 80	Estero
2	23 Jan 80	Polaris	14	2 Jul 80	Polaris
2	24 Jan 80	Polaris	15	16 Jul 80	Polaris
3	5 Feb 80	Polaris	15	16 Jul 80	Estero
3	5 Feb 80	Estero	15	17 Jul 80	Polaris
3	6 Feb 80	Polaris	15	17 Jul 80	Estero
3	6 Feb 80	Estero	16	4 Aug 80	Polaris
4	20 Feb 80	Polaris	16	4 Aug 80	Estero
4	20 Feb 80	Estero	16	5 Aug 80	Polaris
5	27 Feb 80	Estero	16	5 Aug 80	Estero
6	4 Mar 80	Polaris	17	18 Aug 80	Polaris
6	4 Mar 80	Estero	17	18 Aug 80	Estero
6	5 Mar 80	Polaris	17	19 Aug 80	Polaris
6	5 Mar 80	Estero	17	19 Aug 80	Estero
7	18 Mar 80	Polaris	18	3 Sep 80	Polaris
7	18 Mar 80	Estero	18	3 Sep 80	Estero
7	19 Mar 80	Polaris	18	4 Sep 80	Polaris
7	19 Mar 80	Estero	18	4 Sep 80	Estero
8	8 Apr 80	Polaris	19	16 Sep 80	Polaris
8	8 Apr 80	Estero	19	16 Sep 80	Estero
8	9 Apr 80	Polaris	19	17 Sep 80	Polaris
8	9 Apr 80	Estero	19	17 Sep 80	Estero
9	22 Apr 80	Polaris	20	15 Oct 80	Polaris
9	22 Apr 80	Estero	20	15 Oct 80	Estero
9	23 Apr 80	Polaris	20	16 Oct 80	Polaris
9	23 Apr 80	Estero	20	16 Oct 80	Estero
10	7 May 80	Polaris	21	28 Oct 80	Polaris
10	7 May 80	Estero	21	28 Oct 80	Estero
10	8 May 80	Polaris	21	29 Oct 80	Polaris
10	8 May 80	Estero	21	29 Oct 80	Estero
11	21 May 80	Polaris	22	12 Nov 80	Polaris
11	21 May 80	Estero	22	12 Nov 80	Estero
11	22 May 80	Polaris	22	13 Nov 80	Polaris
11	22 May 80	Estero	22	13 Nov 80	Estero
12	4 Jun 80	Polaris	23	16 Dec 80	Polaris
12	4 Jun 80	Estero	23	16 Dec 80	Estero
12	5 Jun 80	Polaris	23	17 Dec 80	Polaris
12	5 Jun 80	Estero	23	17 Dec 80	Estero
13	17 Jun 80	Polaris			
13	17 Jun 80	Estero			

Table 2. Summary of measurements, abbreviations, and units.

Measurement	Column Title	Units
Station	STA	
Universal Transverse Mercator	UTM-NORTH	Meters
Universal Transverse Mercator	UTM-EAST	Meters
Local time	TIME	Hours and minutes
Depth	DEPTH	Meters
Temperature at the sample intake	BOW TEMP	Degrees Celsius
Salinity	SALIN	Practical Salinity
Suspended particulate matter	SUS PAR MATTER	mg/L
Turbidity	TURBIDITY	
Extinction coefficient	EXT COEF	1/m
Sample temperature in pH flow cell	SAMPLE TEMP	Degrees Celsius
pH	PH	
Partial pressure of CO ₂	PCO2	ppt by volume
Partial pressure of oxygen	OXYGEN	percent
Particulate organic carbon	PAR ORG CARBON	mg/L
Dissolved organic carbon	DIS ORG CARBON	mg/L
Discrete chlorophyll- <u>a</u>	CHLOROPHYLL-A	ug/L
Fluorescence of chlorophyll- <u>a</u>	FLUOR	
Dissolved silica	SIO2	uM
Dissolved phosphate	PO4	uM
Nitrate plus nitrite	NO3+NO2	uM
Nitrite	NO2	uM
Ammonium	NH3	uM
Dissolved phosphate (discrete)	DISCRET PHOSPH	uM
Dissolved nitrogen	DISSOLV NITROG	uM
Dissolved phosphorus	DISSOLV PHOSPH	uM
Total nitrogen	TOTAL NITROG	uM
Total phosphorus	TOTAL PHOSPH	uM

Table 3a. San Francisco Bay station locations, main channel, for R/V Polaris.
(N.= north, W.= west, deg.= degrees, min.= minutes).

Area	Station Number	UTM Station		N. Latitude		W. Longitude	
		N.	E.	Deg.	Min.	Deg.	Min.
Old Sac. River		225.5	- 616.8	38	10.7	121	40.0
Rio Vista	RV	222.9	- 614.9	38	8.9	121	41.3
Toland's Landing		216.4	- 610.0	38	5.2	121	44.8
Winter Island	1	210.7	- 601.8	38	2.4	121	50.4
Chain Island	2	213.2	- 600.4	38	3.8	121	51.3
Pittsburgh	3	211.8	- 598.4	38	3.0	121	52.7
Simmon's Point	4	211.5	- 593.4	38	2.9	121	56.1
Middle Ground	5	212.8	- 589.5	38	3.6	121	58.8
Roe Island	6	213.3	- 584.7	38	3.9	122	2.1
Avon Pier	7	211.3	- 579.3	38	2.9	122	5.8
Martinez	8	209.3	- 574.5	38	1.8	122	9.1
Benicia	9	211.4	- 572.5	38	3.0	122	10.4
Crockett	10	212.5	- 569.5	38	3.6	122	12.5
Mare Island	11	212.7	- 564.6	38	3.7	122	15.8
Hercules	12	211.6	- 560.4	38	3.1	122	18.7
N. of Pinole Point	13	209.3	- 555.7	38	1.9	122	21.9
W. of Pinole Point	14	206.7	- 552.5	38	0.5	122	24.1
Pt. San Pablo	15	202.4	- 549.5	37	58.2	122	26.2
Red Rock	16	196.3	- 548.3	37	54.9	122	27.0
Raccoon Strait	17	192.6	- 550.6	37	52.9	122	25.6
Berkeley Pier	18	189.3	- 553.1	37	51.1	122	23.8
Golden Gate	19	185.6	- 546.5	37	49.1	122	28.3
Blossom Rock	20	185.4	- 552.4	37	49.0	122	24.3
Bay Bridge	21	183.6	- 555.5	37	48.0	122	22.2
Potrero Point	22	179.4	- 556.5	37	45.7	122	21.5
Hunter's Point	23	175.5	- 558.5	37	43.6	122	20.2
Candlestick Point	24	172.5	- 558.3	37	42.0	122	20.3
Oyster Point	25	169.4	- 559.5	37	40.3	122	19.5
San Bruno Shoal	26	165.4	- 560.5	37	38.2	122	19.0
San Francisco Airport	27	163.4	- 562.5	37	37.1	122	17.5
N. San Mateo Bridge	28	161.5	- 564.4	37	36.0	122	16.2
S. San Mateo Bridge	29	159.5	- 566.7	37	34.9	122	14.8
Redwood Creek	30	156.5	- 571.4	37	33.3	122	11.5
Coyote Hills	31	153.8	- 574.4	37	31.8	122	9.4
Ravenswood Point	32	152.5	- 576.5	37	31.1	122	8.1
Dumbarton Bridge	33	151.6	- 577.5	37	30.6	122	7.4
Newark Slough	34	149.8	- 580.6	37	29.6	122	5.3
Palo Alto	35	148.5	- 581.5	37	28.9	122	4.7
Calaveras Point	36	147.4	- 582.7	37	28.3	122	3.8
Sacramento River	649	212.9	- 605.6	38	3.6	121	47.8
	651	215.0	- 608.5	38	4.7	121	45.8
	653	217.1	- 612.1	38	5.8	121	42.0
	655	219.7	- 613.9	38	7.2	121	42.3
	657	223.4	- 614.9	38	9.2	121	41.3

Table 3a. San Francisco Bay station locations, main channel, for R/V Polaris.
(N.= north, W.= west, deg.= degrees, min.= minutes)--continued.

Area	Station Number	UTM Station		N. Latitude		W. Longitude	
		N.	E.	Deg.	Min.	Deg.	Min.
San Joaquin River	745	210.3	- 598.3	38	2.3	121	52.8
	747	209.4	- 601.9	38	1.7	121	50.3
	749	208.9	- 605.5	38	1.4	121	47.9
	751	209.5	- 609.1	38	1.7	121	45.4
	753	210.3	- 612.6	38	2.1	121	43.0
	755	212.2	- 615.2	38	3.1	121	41.2
	757	215.9	- 616.1	38	5.1	121	40.6
	759	216.8	- 616.0	38	5.6	121	40.6

Table 3b. San Francisco Bay station locations, shallow water, for R/V Estero.
(N.= north, W.= west, deg.= degrees, min.= minutes).

Area	Station Number	UTM Station		N. Latitude		W. Longitude	
		N.	E.	Deg.	Min.	Deg.	Min.
South Bay	102	148.6	- 580.3	37	28.9	122	5.5
	104	149.8	- 580.2	37	29.6	122	5.5
	106	149.8	- 580.8	37	29.6	122	5.1
	108	150.0	- 579.8	37	29.7	122	5.8
	110	150.3	- 579.7	37	31.3	122	5.9
	112	151.1	- 578.0	37	30.3	122	7.1
	114	152.5	- 576.9	37	31.1	122	7.8
	116	153.9	- 575.7	37	31.8	122	8.6
	118	156.0	- 574.0	37	33.0	122	9.7
	120	157.0	- 573.0	37	33.5	122	10.4
	122	158.1	- 571.8	37	34.1	122	11.2
	124	159.9	- 571.9	37	35.1	122	11.1
	126	161.8	- 572.0	37	36.1	122	11.1
	128	161.2	- 570.6	37	35.8	122	12.0
	130	160.6	- 569.2	37	35.5	122	13.0
	132	160.0	- 567.4	37	35.2	122	14.2
	134	159.5	- 566.3	37	34.9	122	14.9
	136	160.4	- 564.6	37	35.4	122	16.1
	138	160.7	- 562.8	37	35.6	122	17.3
	140	161.0	- 561.0	37	35.7	122	18.6
	142	161.4	- 558.7	37	36.0	122	20.1
	144	162.0	- 560.4	37	36.3	122	18.9
	146	162.8	- 562.1	37	36.7	122	17.8
	148	163.4	- 563.9	37	37.0	122	16.6
	150	164.1	- 565.6	37	37.4	122	15.4
	152	164.8	- 567.3	37	37.8	122	14.2
	154	165.4	- 569.1	37	38.1	122	13.0
	156	165.8	- 570.3	37	38.3	122	12.2
	158	167.4	- 569.4	37	39.2	122	12.8
	160	169.2	- 568.5	37	40.1	122	13.4
	162	170.8	- 567.6	37	41.0	122	14.0
	164	172.5	- 566.7	37	41.9	122	14.6
	166	174.2	- 565.8	37	42.9	122	15.2
	168	175.1	- 565.3	37	43.4	122	15.5
	170	174.4	- 563.6	37	43.0	122	16.7
	172	173.8	- 561.9	37	42.7	122	17.8
	174	173.1	- 560.1	37	42.2	122	19.1
	176	172.4	- 558.4	37	41.9	122	20.3
	178	171.8	- 556.7	37	41.6	122	21.4
	180	170.9	- 554.4	37	41.1	122	23.0
	182	169.8	- 555.0	37	40.5	122	22.6
	184	168.5	- 555.7	37	39.8	122	22.1
	186	167.4	- 555.4	37	39.2	122	22.3
	188	166.0	- 555.0	37	35.2	122	22.6
	190	166.8	- 556.9	37	38.9	122	21.3
	192	167.4	- 558.6	37	39.2	122	20.1
	194	168.0	- 560.3	37	39.6	122	19.0
	196	168.7	- 562.0	37	39.9	122	17.8
	198	169.4	- 563.7	37	40.3	122	16.7
	200	170.0	- 565.4	37	40.6	122	15.5

Table 3b. San Francisco Bay station locations, shallow water, for R/V Estero.
(N.= north, W.= west, deg.= degrees, min.= minutes)--continued.

Area	Station Number	UTM Station		N. Latitude		W. Longitude	
		N.	E.	Deg.	Min.	Deg.	Min.
Central Bay	252	185.6	- 557.3	37	49.1	122	20.9
	254	187.0	- 558.7	37	49.8	122	20.0
	256	188.0	- 559.8	37	50.4	122	19.2
	258	189.7	- 558.8	37	51.3	122	19.9
	260	191.3	- 558.0	37	52.2	122	20.4
	262	193.1	- 557.0	37	53.1	122	21.2
	264	193.0	- 555.1	37	53.1	122	22.4
	266	192.8	- 553.2	37	53.0	122	23.7
	268	192.7	- 551.4	37	52.9	122	24.9
	270	192.5	- 549.5	37	52.8	122	26.2
San Pablo Bay	302	205.2	- 553.5	37	59.7	122	23.4
	304	206.9	- 552.3	38	0.6	122	24.3
	306	208.8	- 551.1	38	1.6	122	25.1
	308	210.7	- 549.8	38	2.7	122	25.9
	310	212.2	- 548.8	38	3.5	122	26.6
	312	213.5	- 547.9	38	4.2	122	27.2
	314	214.7	- 549.8	38	4.8	122	25.9
	316	215.2	- 551.5	38	5.1	122	24.8
	318	215.7	- 553.3	38	5.4	122	23.5
	320	216.3	- 555.1	38	5.7	122	22.3
	322	216.7	- 556.9	38	5.9	122	21.1
	324	216.9	- 558.6	38	6.0	122	19.9
	326	215.3	- 559.3	38	5.1	122	19.4
	328	213.5	- 560.0	38	4.1	122	19.0
	330	211.8	- 560.7	38	3.2	122	18.5
	332	210.1	- 561.4	38	2.3	122	18.0
	334	208.4	- 562.1	38	1.4	122	17.5
Suisun Bay	402	210.2	- 577.5	38	2.3	122	7.0
	404	211.2	- 577.3	38	2.8	122	7.1
	406	213.3	- 579.1	38	3.9	122	5.9
	408	215.0	- 580.5	38	4.8	122	4.9
	410	216.7	- 581.9	38	5.8	122	4.0
	412	218.0	- 582.9	38	6.5	122	3.6
	414	219.3	- 582.3	38	7.2	122	3.7
	416	219.0	- 584.2	38	7.0	122	2.4
	418	218.8	- 586.7	38	6.9	122	0.7
	420	217.9	- 586.2	38	6.4	122	1.0
	422	216.7	- 585.8	38	5.7	122	1.3
	424	215.4	- 588.1	38	5.0	122	59.7
	426	214.8	- 589.5	38	4.7	122	58.8
	428	214.0	- 590.5	38	4.2	122	58.1
	430	214.3	- 592.5	38	4.6	122	56.7
	432	214.5	- 594.6	38	4.5	122	55.3
	434	213.3	- 594.0	38	3.8	122	55.7
	436	212.5	- 593.5	38	3.3	122	56.1
	438	211.5	- 593.0	38	2.9	122	56.4

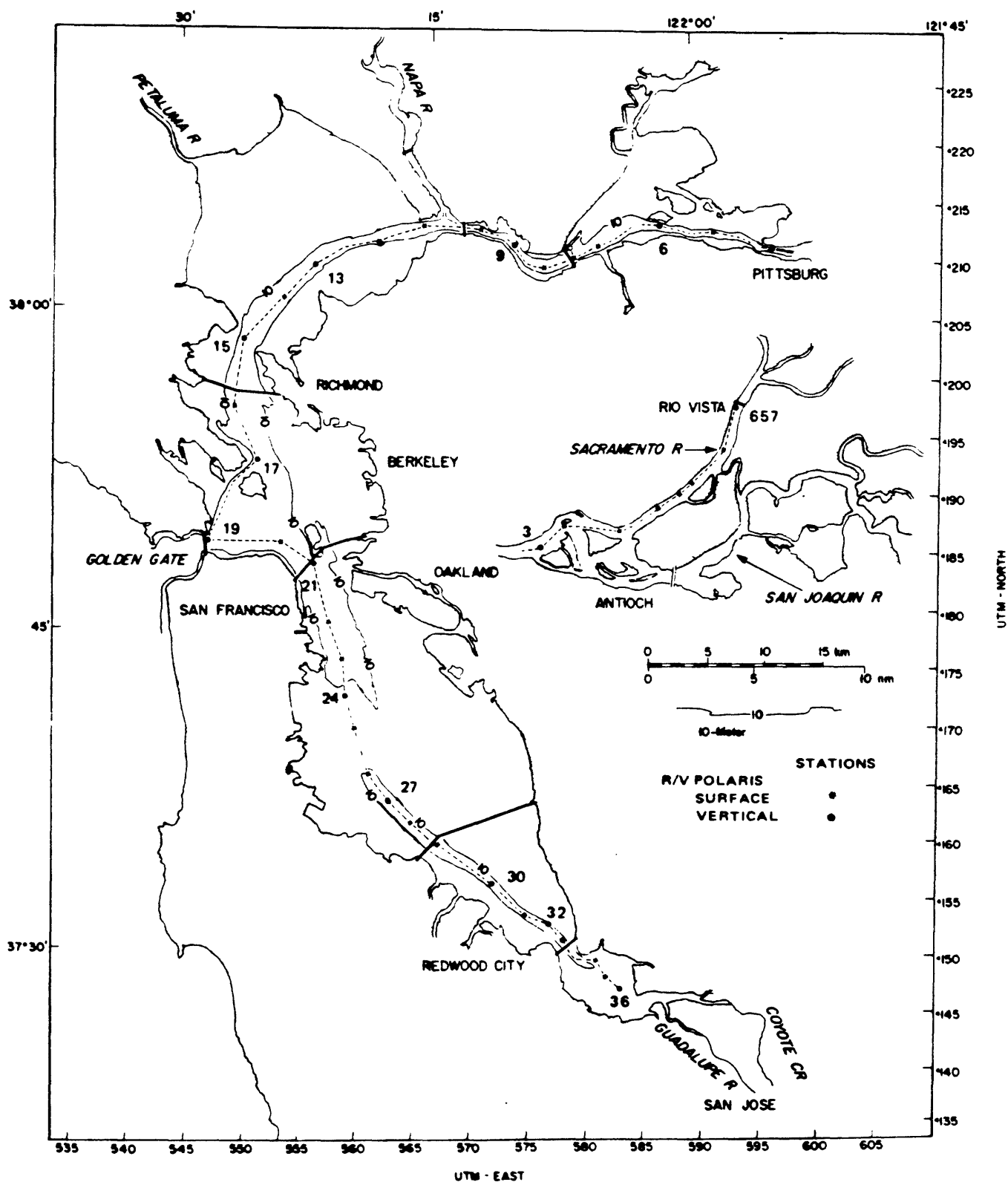


Figure 1a. Map of San Francisco Bay showing station locations for R/V Polaris.

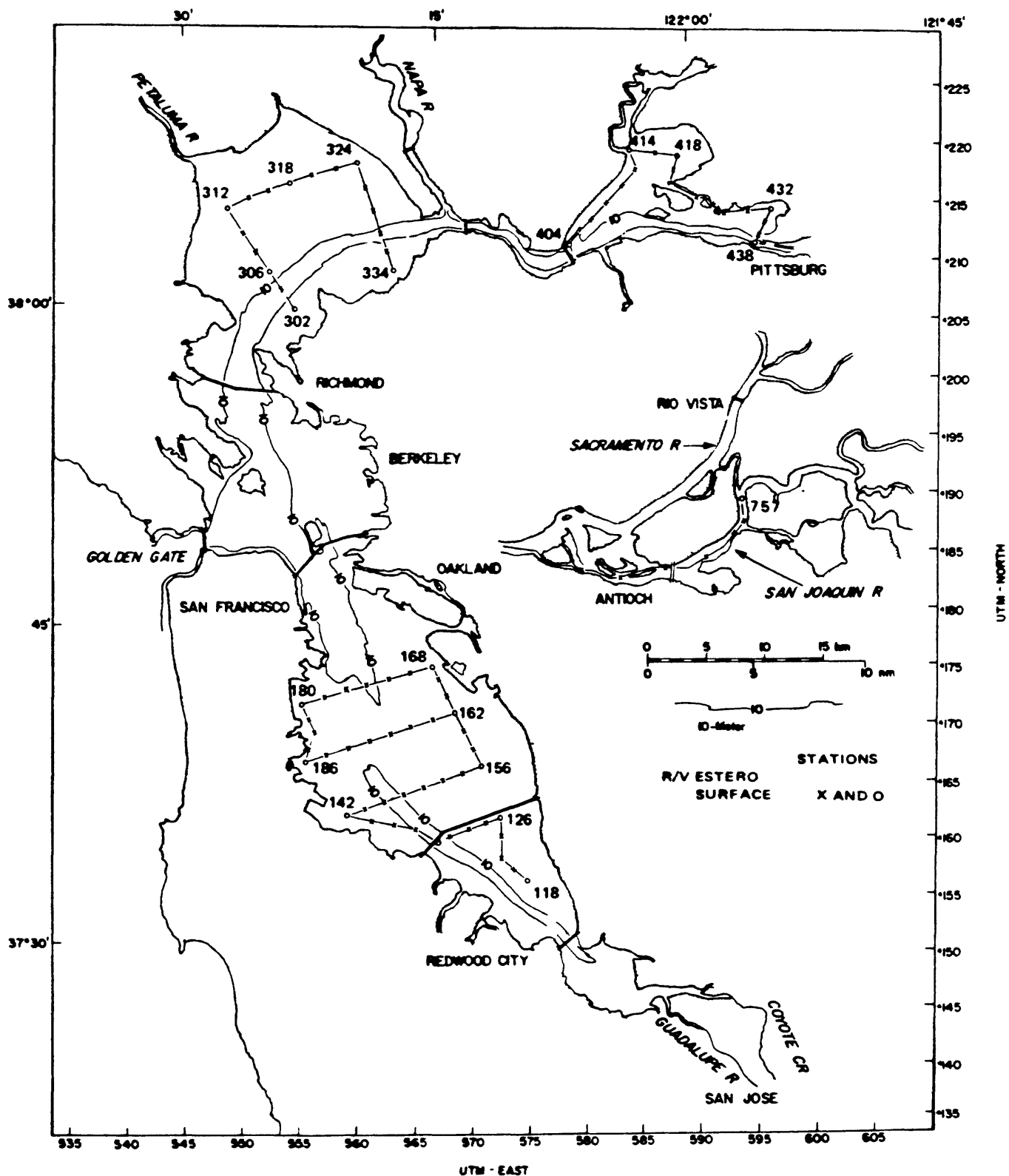


Figure 1b. Map of San Francisco Bay showing station locations for R/V Estero.

Continuous Measurements

Salinity was measured continuously with a flow-sample electrodeless induction salinometer. The calibration procedure is described by Dedini and others (1981); continuously measured salinities agreed with those measured in the laboratory usually within ± 0.05 salinity units.

All temperatures were measured by linearized thermistor probes inserted into the sample stream. The probes were routinely calibrated at ice point and near 20°C . Temperature measurements were accurate to approximately $\pm 0.1^{\circ}\text{C}$.

The abundance of light-scattering and -absorbing constituents in the water, referred to here as turbidity, was measured by a Turner Designs Model 10 fluorometer equipped with a nephelometry flow cell (R/V Polaris; Schemel, 1975) and a Turner Designs Model 40 nephelometer (R/V Estero). Instrument readings were related to concentrations of suspended particulate matter (see below) by linear regression. Turbidity data are expressed as the predicted concentrations of suspended particulate matter, but are unitless in the data tables to differentiate these semi-quantitative turbidity values from measured concentrations.

The pH was determined electrometrically. Electrodes were calibrated in buffer solutions of pH 7.413 and 4.008 at 25°C (Bates, 1954). A temperature correction was applied to the data using an average slope of $0.010 \text{ pH}/^{\circ}\text{C}$ (Harvey, 1957).

The partial pressure of carbon dioxide (pCO_2) in the water was estimated by measuring the CO_2 content of air equilibrated with the sample stream. The carbon dioxide concentration was determined by an infrared analyzer (Gordon and Park, 1972, and Broecker and Takahashi, 1966), and is expressed as ppt (by volume) in dry air. These measurements typically agreed within ± 5 percent of those calculated from discrete pH and alkalinity measurements.

Dissolved oxygen was measured with a membrane-covered polarographic electrode (Yellow Springs Instrument Co.). Thermistors within the electrode were rewired to compensate for the change in the permeability of the membrane with respect to temperature, but not for the relationship between temperature and the solubility of oxygen in water. Therefore, the electrode responded to the partial pressure of oxygen. Calibrations were performed in air, and the data are referenced to the partial pressure of oxygen in air (100 percent). These results are considered semiquantitative.

A Turner Designs Model 10 fluorometer measured fluorescence associated with chlorophyll *a* of phytoplankton, other chlorophylls, and their degradation products (Lorenzen, 1966). Data are expressed in relative units, and are considered semi-quantitative.

Discrete Sample Measurements

Particulate and dissolved organic carbon was measured by the method of Menzel and Vaccaro (1964). Particles were collected on precombusted glass fiber filters. Organic carbon was wet oxidized using potassium persulfate in sealed glass ampules. The CO_2 content of each ampule was related to the carbon content on the filter by a standard curve prepared by oxidation of standard sucrose solutions. Additional details of the method for particulate organic carbon are given by Schemel and Dedini (1979). Estimated precisions for dissolved and particulate organic carbon measurements were $\pm 0.2 \text{ mg/L}$ and $\pm 0.1 \text{ mg/L}$, respectively (Schemel, 1984b).

A Secchi disk was used to measure the attenuation of light at fixed stations. The extinction coefficient (EXT COEF) was calculated as $1.5/d$ where d is the Secchi depth in meters (Perkins, 1975).

Chlorophyll *a* was measured by the method described by Strickland and Parsons (1972). Calculations were based on the trichromatic equation recommended by SCOR-UNESCO Working Group 17 (1966). Precision of the analysis was ± 10 percent, as estimated from replicates.

Concentrations of suspended particulate matter were determined gravimetrically. An aliquot of sample water was vacuum filtered through a preweighed 47 mm-diameter, 0.45 μ m pore-size silver filter. The filter was air dried for a minimum of four weeks, then weighed. After additional drying time, the filter was reweighed. Corrections were made for the weight of salt on the filter, on the basis of experiments where filters were rinsed with bicarbonate water and on other experiments where small quantities of previously filtered saltwater were filtered. Mean and median deviations were typically 1.4 and 0.9 mg/L, respectively (Hager and Harmon, 1984).

Nutrient Measurements

Concentrations of nutrients were measured using a Technicon AutoAnalyzer II system. For the continuous measurements on the R/V Estero, the pumped sample stream was filtered through a 0.45 μ m membrane filter, with vacuum supplied by a variable speed tubing pump. The filtrate was delivered to a 3 mL reservoir from which the AutoAnalyzer continuously drew its sample. Because difficulties with the continuous filtration system lead to excessive baseline drift, and because of other factors associated with operations on a small vessel underway, continuous nutrient measurements are believed to be less accurate than those measured from discrete samples.

Discrete samples for dissolved inorganic nutrient analysis were filtered through 47mm diameter, 0.4 μ m pore-sized Nuclepore polycarbonate membrane filters under vacuum (less than 17 kPa). Filtered samples were stored in 30 mL amber Nalgene linear-polyethylene bottles that had been preconditioned by soaking in a 2.5 meq/L solution of sodium bicarbonate. Samples were vigorously shaken before analysis.

At some stations, samples were collected for total nitrogen (TN), total phosphorus (TP), dissolved nitrogen (DN), and dissolved phosphorus (DP). Total (unfiltered) and dissolved (gravity-filtered through a glass fiber filter) samples were digested using hydrogen peroxide and ultraviolet light prior to analysis. The method is described for nitrogen by Hager and Harmon (1984). After digestion, samples were analyzed for ammonium, nitrate plus nitrite, and dissolved reactive phosphate (subsequently referred to as phosphate) by the methods given below. Because the hydrogen peroxide and ultraviolet light digestion does not mineralize all forms of nitrogen, and because the "total" samples were membrane filtered after digestion prior to analysis removing particle-adsorbed phosphorus, TN and TP both could be underestimates of the true total amounts of these elements in the sample.

Concentrations of ammonium, nitrate, nitrite, dissolved reactive phosphate, and dissolved silica were measured simultaneously on a Technicon AutoAnalyzer II system. Analyzer responses were linear over the ranges of concentrations encountered in this study. Standard curves were based on upscale standards and blanks that were analyzed at two- to four-hour intervals. Standards were prepared in artificial river water (1.0 meq/L solution of sodium bicarbonate) and artificial seawater (Strickland and Parsons (1972)). The analyzer was maintained at constant temperature by circulating 37°C water through tubes inserted through the centers of the glass mixing coils on each manifold.

The ammonium method was an automated version of the phenol-hypochlorite method of Solorzano (1969), with color development at 37°C as recommended by Berg and Abdullah (1977). This temperature and the increased reaction time resulting from the addition of ten-turn coils in place of five-turn coils and two additional twenty-turn coils before the heating bath gave maximum color development and low blanks. Typical precision was \pm 0.2 μ mol/L.

The nitrate + nitrite method was the Technicon (1973) method number AII-100-70W with one twenty-turn coil added to increase reaction time for better color stability. 0.121 g of copper sulfate was added per 20 liters of ammonium chloride solution, as suggested by Connors and Beland (1976). The pH of this reagent was not adjusted. Typical precision was ± 0.1 $\mu\text{mol/L}$. Nitrate can be calculated by subtracting the corresponding concentration of nitrite from the results of this analysis.

The nitrite method was an adaptation of the Technicon (1973) method number AII-100-70W with the cadmium column removed. To fit all five analyses for nutrients on a single proportioning pump, the sample-ammonium chloride mixture was drawn from the debubbler which preceded the cadmium column in the nitrate + nitrite analysis. Typical precision was ± 0.05 $\mu\text{mol/L}$.

The dissolved silica method was a modification of the Technicon (1976) method number AII-105-71W. The acid-molybdate reagent was diluted and its flow rate increased, keeping the acid- and molybdate-to-sample ratios unchanged. Additional mixing coils were added to give more complete color development. Typical precision was ± 1 $\mu\text{mol/L}$.

The phosphate method was a modification of that of Atlas and others (1971), using ascorbic acid (70 g plus 50 mL acetone per liter of solution) as a reductant. This modification allowed analysis of samples predigested with hydrogen peroxide in ultraviolet light, as described below. To increase reaction time for maximum color development, ten-turn coils replaced the five-turn coils and a twenty-turn coil replaced the ten-turn coil in the manifold design. Typical precision was ± 0.05 $\mu\text{mol/L}$.

RESULTS

The body of data contained in this report characterizes hydrologic conditions in San Francisco Bay during a year with an average rate of freshwater inflow to the estuary. These data are also the product of the first effort on the part of the U.S. Geological Survey to collect detailed measurements in the shallow water areas that compose most of the major sub-embayments. To obtain an adequate level of detail, continuous measurements were employed on the R/V Estero, when possible. In the case of nutrients, concentrations were measured in the flow from a continuous filtration system and in discrete samples that were collected simultaneously. We provide here details of our quality control on the continuous measurements as provided by comparisons with measurements of discrete samples.

Concentrations of nutrients in discrete samples were determined by identical methods for both the R/V Polaris and R/V Estero samples. The continuous filtration system on the R/V Estero, however, constituted a significant change in methodology that might have been more subject to error. Thus, we make the assumption that measurements of discrete samples are representative of the true values in our analysis of the data. Consequently, in linear regression analysis of the data sets we treated the continuous values as functions of the discrete-sample values.

Approximately 250 discrete samples were collected over the year on the R/V Estero while nutrients were measured continuously. Approximately 20 percent of these samples were collected in the South Bay (figure 1a). In some cases the ranges of concentrations in the South Bay were different from those in the reach of the bay to the north (northern reach), thus affecting the distributions of concentration values in the analyses below.

Concentrations of dissolved silica (discrete-sample) ranged from 3.8 to 310 μM in the northern reach of the bay, whereas the range in the southern reach was limited to 63 to 150 μM (figure 2a). Differences in concentrations (expressed here and below as discrete values minus continuous values) were generally small, with more than 50 percent of the differences less than 5 μM . Linear regression analysis yielded a coefficient of determination (r^2) of 0.99, an intercept of 3.3 μM , and a slope of 0.95.

Concentrations of phosphate (discrete-sample) ranged from 1.3 to 4.4 μM in the northern reach, which was narrow in comparison with that of 2.2 to 19.0 μM in the southern reach (figure 2b). Differences in concentrations were generally small, with more than 50 percent of the differences less than 0.2 μM . Five samples from the southern reach exhibited large differences, with continuous values between 2 and 8 μM higher than discrete-sample values. These values were included in the linear regression analysis, which yielded a coefficient of determination of 0.90. The intercept and slope values were 0.29 μM and 0.99, respectively.

Concentrations of nitrate plus nitrite (discrete-sample) ranged from near zero to 53 μM in the northern reach, and from 2.3 to 64 μM in the southern reach (figure 3a). Differences in concentrations were generally small, with more than 50 percent of the differences less than 1.0 μM . Nine samples showed large differences where discrete-sample values exceeded continuous values by 6 μM or more. In spite of these outliers, linear regression analysis of all the data yielded a coefficient of determination of 0.98. The intercept and slope values were 1.4 μM and 0.90, respectively. The low slope value was in part an effect of the outliers, all of which exceeded 50 μM in concentration.

Concentrations of nitrite (discrete-sample) were low in both reaches, exhibiting a range from nearly zero to approximately 2.3 μM (figure 3b). Nitrite is an intermediate product in the nitrification of ammonium to nitrite, a factor that could be responsible for differences between continuous values and values from discrete samples, which were stored for a period of time before analysis. Differences in concentrations were generally small, with more than 50 percent of the differences less than 0.2 μM . However, many samples with higher than average concentrations showed large differences. Continuous values from two samples from the northern reach exceeded the discrete-sample values by 1.96 and 2.05 μM , and four discrete-sample values from the southern reach exceeded the continuous values by 0.9 μM or more. Consequently, linear regression analysis of all the data yielded a coefficient of determination of only 0.55 and a very low value for slope, 0.74.

Concentrations of ammonium (discrete-sample) ranged from near zero to 14.2 μM in the northern reach, and from near zero to 8.3 μM in the southern reach (figure 4). Over 50 percent of the differences between values were less than 0.3 μM . Linear regression analysis yielded a coefficient of determination of 0.87, an intercept of 0.12 μM , and a slope of 1.0.

Numerical values for all measurements are listed in tables A and B in the appendix.

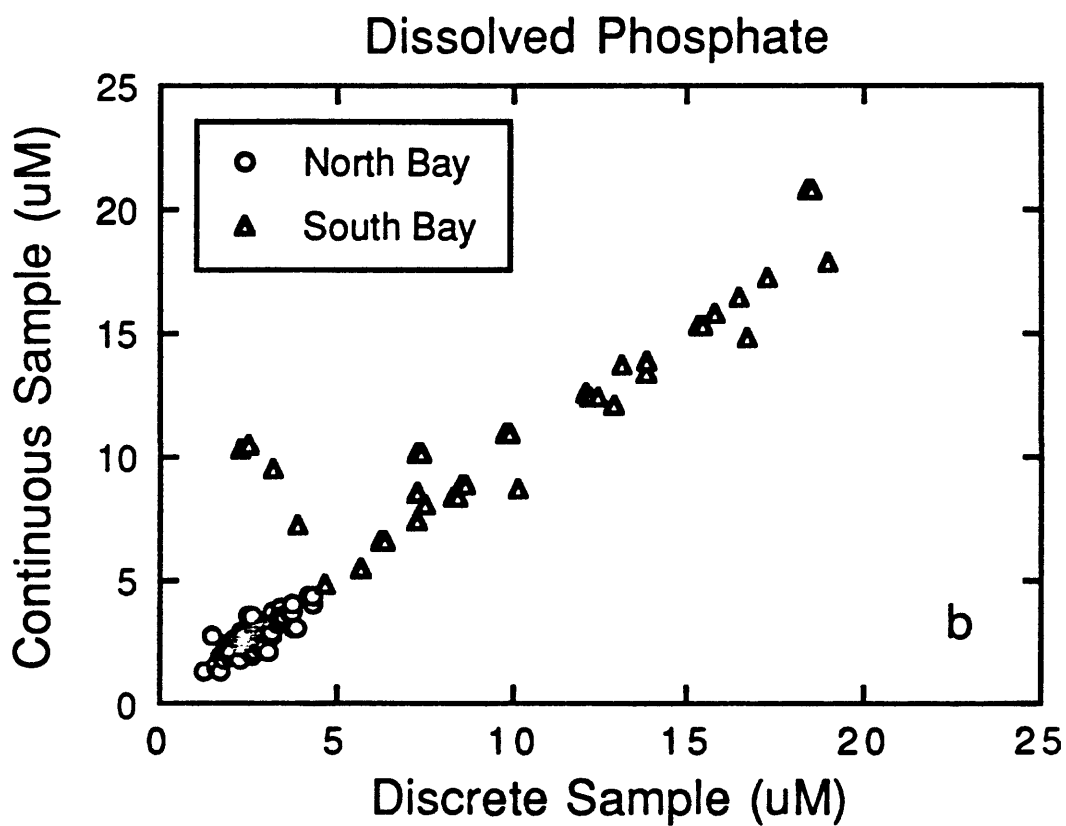
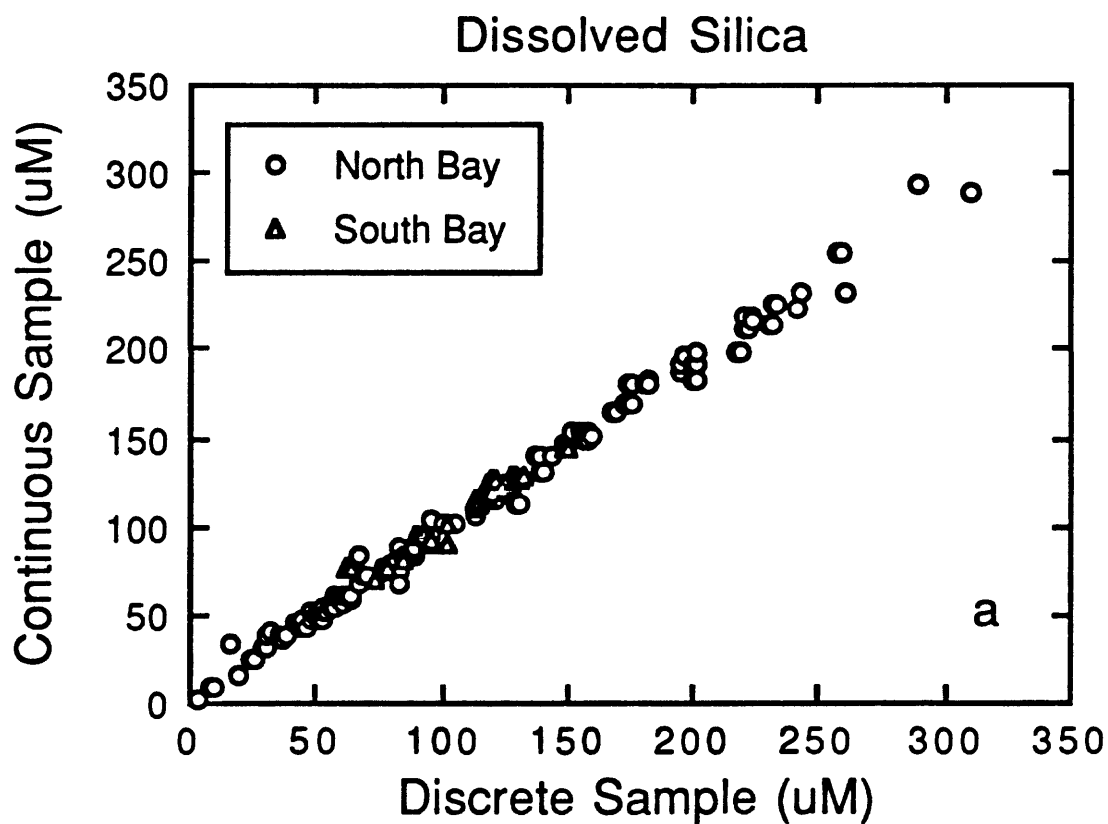


Figure 2. Comparison of continuous versus discrete nutrient measurements: dissolved silica (a) and dissolved phosphate (b).

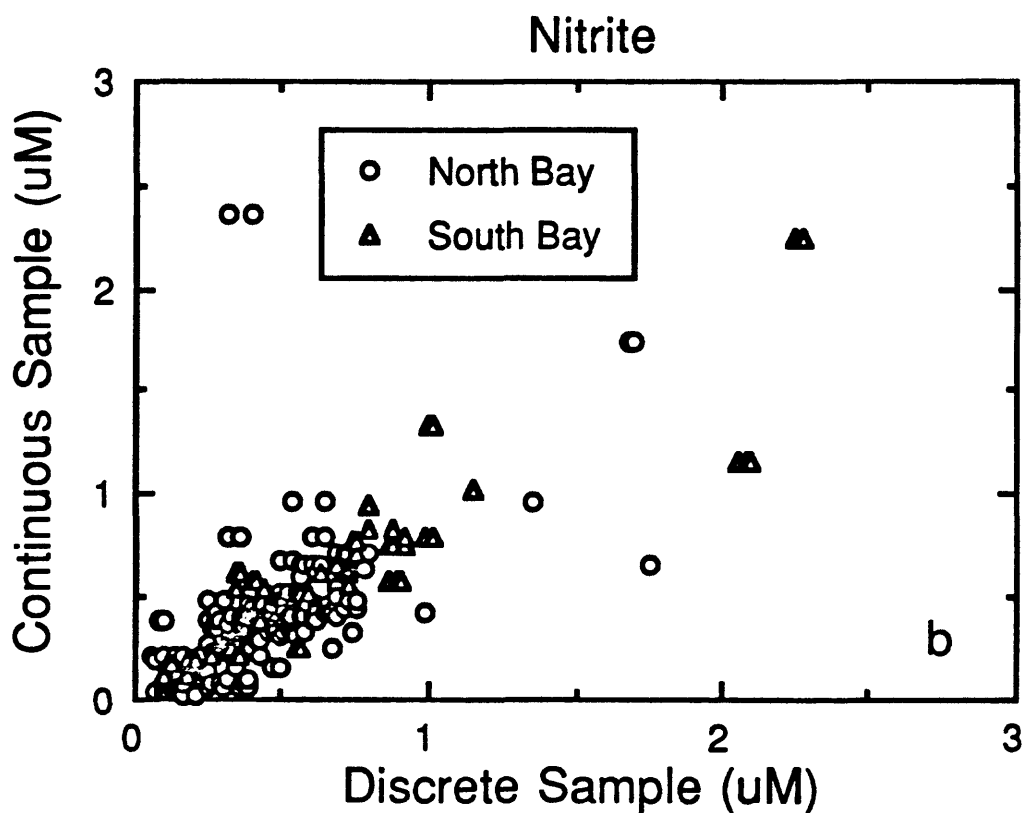
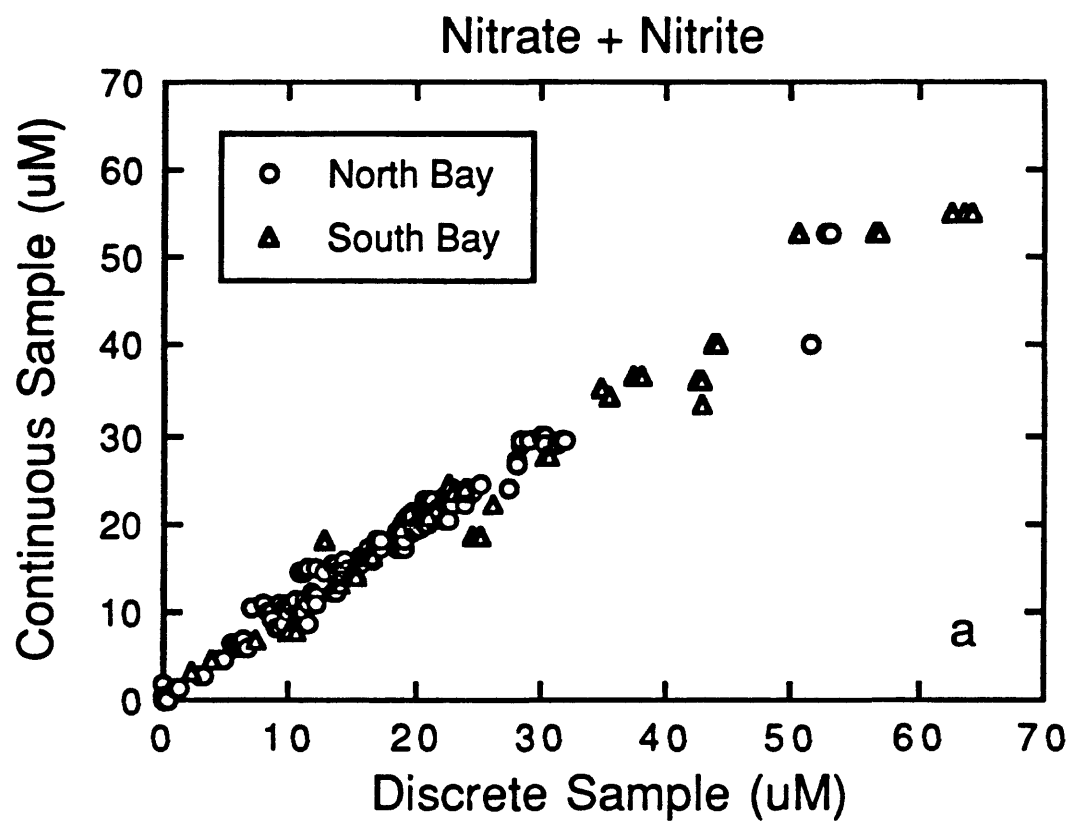


Figure 3. Comparison of continuous versus discrete nutrient measurements: nitrate + nitrite (a) and nitrite (b).

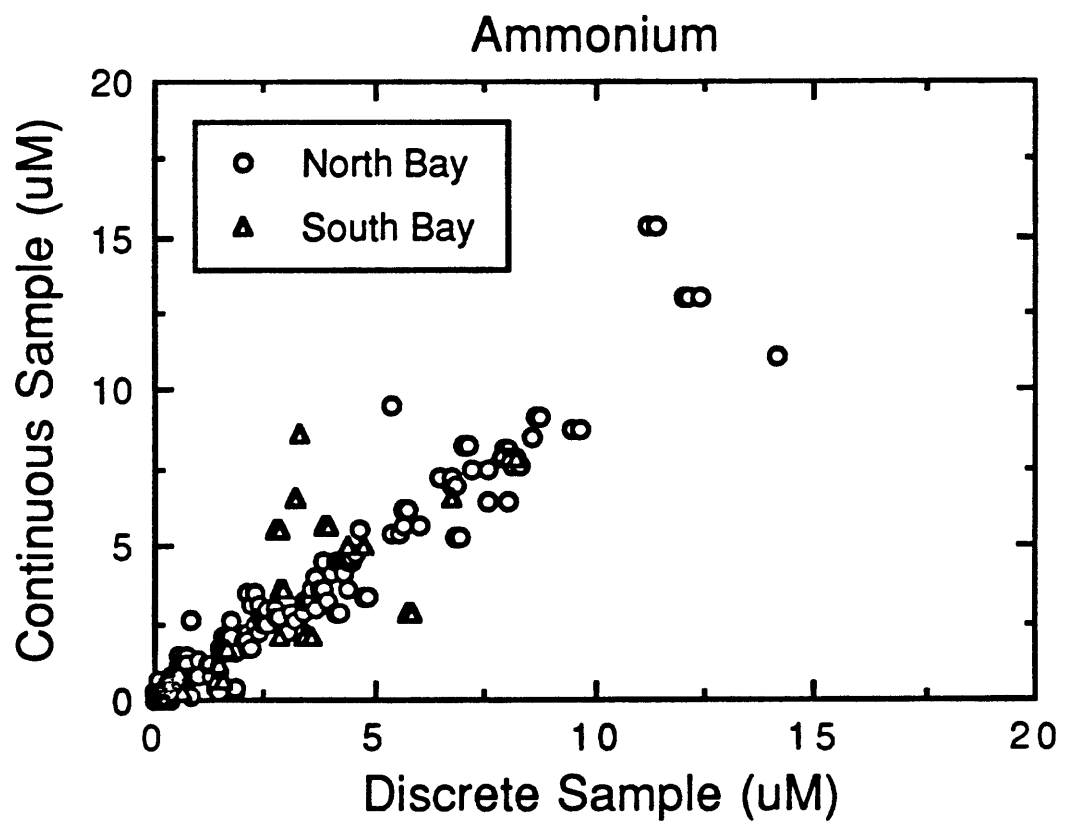


Figure 4. Comparison of continuous versus discrete nutrient measurements: ammonium.

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APPENDIX

Table A.--Physical and chemical data collected aboard the R/V Polaris.

DATE		CRUISE #		LOCATION													
8 JAN 80		1		S F BAY													
STA	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
36	147.4	582.7	936	0	11.5	25.19	-	12.9	-	11.7	7.74	-	78.0	-	-	-	0.117
36	147.4	582.7	943	2	11.5	25.29	6.3	14.0	1.41	11.7	7.74	-	77.0	0.4	6.1	2.3	0.104
36	147.4	582.7	951	5	11.5	26.20	-	11.4	-	11.7	7.77	-	77.0	-	-	-	0.087
34	149.8	580.6	1011	1	11.6	25.49	-	12.6	-	11.9	-	-	-	-	-	-	0.115
33	151.6	577.6	1024	1	11.6	26.20	-	11.4	-	11.7	7.83	-	79.0	-	-	-	0.120
32	152.5	576.5	1036	0	11.4	26.60	-	10.6	-	12.0	7.81	-	79.0	-	-	-	0.094
32	152.5	576.5	1042	2	11.4	26.71	10.4	10.4	1.21	11.9	7.85	-	78.0	0.3	6.0	1.9	0.092
32	152.5	576.5	1049	5	11.4	27.21	-	11.0	-	12.0	7.86	-	79.0	-	-	-	0.088
32	152.5	576.5	1055	10	11.4	27.41	-	11.9	-	11.9	7.87	-	78.0	-	-	-	0.089
31	153.8	574.5	1116	1	11.7	27.31	-	11.4	-	11.8	7.88	-	80.0	-	-	-	0.107
30	156.5	571.4	1135	0	11.8	27.82	-	7.7	-	12.1	7.89	-	80.0	-	-	-	0.099
30	156.5	571.4	1138	2	11.4	28.02	2.6	9.2	1.12	12.1	7.89	-	78.0	0.4	3.3	1.9	0.089
30	156.5	571.4	1144	5	11.3	28.12	-	9.6	-	11.9	7.90	-	77.0	-	-	-	0.085
30	156.5	571.4	1147	10	11.3	28.22	-	9.3	-	11.8	7.90	-	77.0	-	-	-	0.086
30	156.5	571.4	1149	14	11.3	28.32	-	10.3	-	11.7	7.90	-	77.0	-	-	-	0.086
29	159.5	566.7	1218	1	11.6	28.32	-	7.2	-	11.8	7.91	-	80.0	-	-	-	0.110
28	161.5	564.4	1228	1	11.5	27.82	-	5.7	-	11.6	7.96	-	85.0	-	-	-	0.129
27	163.4	562.5	1243	0	11.4	27.51	-	4.7	-	11.6	7.96	-	86.0	-	-	-	0.121
27	163.4	562.5	1248	2	11.3	27.31	3.3	4.7	0.72	11.6	7.97	-	86.0	0.3	2.9	2.0	0.132
27	163.4	562.5	1256	5	11.2	28.02	-	5.0	-	11.5	7.93	-	82.0	-	-	-	0.110
27	163.4	562.5	1259	12	11.2	28.12	-	8.0	-	11.4	7.94	-	83.0	-	-	0.9	0.102
26	165.4	560.5	1319	1	11.6	26.81	-	4.6	-	11.7	7.98	-	92.0	-	-	-	0.136
25	169.4	559.5	1332	1	11.6	24.89	-	4.9	-	11.6	7.98	-	92.0	-	-	-	0.119
24	172.5	558.3	1352	0	11.6	24.89	-	6.0	-	11.9	7.97	-	89.0	-	-	-	0.104
24	172.5	558.3	1355	2	11.5	25.09	10.9	6.3	0.80	11.7	7.97	-	89.0	0.2	2.7	1.2	0.106
24	172.5	558.3	1400	5	11.2	25.80	-	6.3	-	11.4	7.97	-	88.0	-	-	-	0.102
24	172.5	558.3	1403	9	11.2	26.30	-	6.3	-	11.4	7.96	-	88.0	-	-	-	0.100
23	175.5	558.5	1429	1	11.5	25.29	-	5.7	-	11.5	7.97	-	93.0	-	-	-	0.119
22	179.4	556.5	1446	1	11.5	24.89	-	5.9	-	11.6	7.98	-	94.0	-	-	-	0.123
21	183.6	555.5	1502	0	11.2	23.47	-	6.3	-	11.3	7.99	-	95.0	-	-	-	0.125
21	183.6	555.5	1506	2	11.2	24.18	4.6	6.7	0.85	11.3	7.98	-	95.0	0.3	2.4	1.5	0.120
21	183.6	555.5	1510	5	11.3	26.00	-	7.7	-	11.4	7.99	-	94.0	-	-	-	0.112
21	183.6	555.5	1513	10	11.5	27.62	-	5.6	-	11.6	8.02	-	95.0	-	-	-	0.103
21	183.6	555.5	1516	17	11.7	29.13	-	18.0	-	11.8	8.04	-	95.0	-	-	-	0.111
20	185.4	552.4	1607	1	11.4	23.47	-	5.2	-	11.5	8.00	-	105.0	-	-	-	0.122
19	185.6	546.5	1635	20	12.0	30.95	-	4.3	-	12.2	8.08	-	109.0	-	-	0.9	0.096
19	185.6	546.5	1640	10	11.9	30.04	-	3.3	-	12.0	8.07	-	108.0	-	-	-	0.097
19	185.6	546.5	1644	2	11.7	27.92	2.9	3.2	0.70	11.8	8.05	-	107.0	0.3	2.6	0.9	0.102

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
8 JAN 80	1	S F BAY										
STATION	DEPTH	SI02	PO4	NO3+NO2	NO2	NH3	DISSOLV	DISSOLV	TOTAL	TOTAL	PHOSPH	TOTAL
	m	uM	uM	uM	uM	uM	NITROG	PHOSPH	NITROG	PHOSPH	uM	uM
36	0	-	-	-	-	-	-	-	-	-	-	-
36	2	129	23.90	109.8	-	21.90	131.3	-	130.0	22.8	-	-
36	5	-	-	-	-	-	-	-	-	-	-	-
34	1	-	-	-	-	-	-	-	-	-	-	-
33	1	-	-	-	-	-	-	-	-	-	-	-
32	0	-	-	-	-	-	-	-	-	-	-	-
32	2	-	-	-	-	-	-	-	-	-	-	-
32	5	-	-	-	-	-	-	-	-	-	-	-
32	10	-	-	-	-	-	-	-	-	-	-	-
31	1	-	-	-	-	-	-	-	-	-	-	-
30	0	-	-	-	-	-	-	-	-	-	-	-
30	2	112	13.30	45.1	-	13.50	64.9	-	64.1	11.6	-	-
30	5	-	-	-	-	-	-	-	-	-	-	-
30	10	-	-	-	-	-	-	-	-	-	-	-
30	14	-	-	-	-	-	-	-	-	-	-	-
29	1	-	-	-	-	-	-	-	-	-	-	-
28	1	-	-	-	-	-	-	-	-	-	-	-
27	0	-	-	-	-	-	-	-	-	-	-	-
27	2	89	8.23	29.1	-	9.00	41.9	-	44.7	7.1	-	-
27	5	-	-	-	-	-	-	-	-	-	-	-
27	12	-	-	-	-	-	-	-	-	-	-	-
26	1	-	-	-	-	-	-	-	-	-	-	-
25	1	-	-	-	-	-	-	-	-	-	-	-
24	0	-	-	-	-	-	-	-	-	-	-	-
24	2	93	5.91	26.8	-	11.15	40.4	-	40.7	5.0	-	-
24	5	-	-	-	-	-	-	-	-	-	-	-
24	9	-	-	-	-	-	-	-	-	-	-	-
23	1	-	-	-	-	-	-	-	-	-	-	-
22	1	-	-	-	-	-	-	-	-	-	-	-
21	0	-	-	-	-	-	-	-	-	-	-	-
21	2	-	-	-	-	-	-	-	-	-	-	-
21	5	-	-	-	-	-	-	-	-	-	-	-
21	10	-	-	-	-	-	-	-	-	-	-	-
21	17	-	-	-	-	-	-	-	-	-	-	-
20	1	-	-	-	-	-	-	-	-	-	-	-
19	20	-	-	-	-	-	-	-	-	-	-	-
19	10	-	-	-	-	-	-	-	-	-	-	-
19	2	58	3.00	17.4	-	7.00	26.4	2.6	28.0	2.2	-	-

- DATA NOT AVAILABLE

Table A.-- Physical and chemical data collected aboard the R/V PolarIs (continued).

DATE		CRUISE #		LOCATION															
9 JAN 80		1		S F BAY															
STA	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR		
17	192.6	550.6	738	0	11.2	24.68	-	0.8	-	11.3	7.97	-	-	-	-	-	0.059		
17	192.6	550.6	743	2	11.5	26.60	3.3	0.6	0.68	11.5	7.98	-	-	0.3	1.9	0.6	0.060		
17	192.6	550.6	750	4	11.9	29.94	-	1.2	-	11.9	8.00	-	-	-	-	-	0.058		
17	192.6	550.6	756	1	11.5	24.28	-	0.6	-	11.5	7.97	-	-	-	-	-	0.061		
16	196.3	548.3	836	1	11.3	22.06	-	2.8	-	11.2	7.95	-	-	-	-	-	0.076		
15	202.4	549.5	904	0	10.4	15.38	-	8.2	-	10.5	7.89	-	-	-	-	-	0.105		
15	202.4	549.5	907	2	10.6	17.00	10.1	6.7	1.28	10.7	7.91	-	-	0.3	3.7	0.4	0.102		
15	202.4	549.5	911	5	10.8	20.74	-	5.7	-	10.9	7.94	-	-	-	-	-	0.097		
15	202.4	549.5	916	9	11.4	26.40	-	3.8	-	11.4	7.97	-	-	-	-	-	0.087		
14	206.7	552.5	958	1	11.1	19.53	-	4.7	-	11.1	7.93	-	-	-	-	-	0.111		
13	209.3	555.7	1023	0	10.6	16.09	-	4.0	-	10.7	7.90	-	-	-	-	-	0.131		
13	209.3	555.7	1029	2	10.7	17.71	8.2	4.3	1.13	10.8	7.91	-	-	0.4	3.6	0.8	0.120		
13	209.3	555.7	1035	5	11.2	23.77	-	2.3	-	11.2	7.95	-	-	-	-	-	0.109		
13	209.3	555.7	1038	10	11.3	25.29	-	5.2	-	11.3	7.96	-	-	-	-	0.7	0.108		
12	211.6	560.4	1113	1	10.6	12.55	-	13.4	-	10.5	7.85	-	-	-	-	-	0.137		
11	212.7	564.4	1137	1	10.5	11.24	-	15.7	-	10.4	7.81	-	-	-	-	-	0.145		
10	212.5	569.5	1207	1	10.4	9.22	-	20.3	-	10.3	7.78	-	-	-	-	-	0.155		
9	211.4	572.5	1223	0	10.0	8.63	-	25.4	-	10.2	7.76	-	-	-	-	-	0.159		
9	211.4	572.5	1227	2	10.0	9.51	10.5	25.7	2.41	10.2	7.76	-	-	0.5	3.9	1.0	0.156		
9	211.4	572.5	1232	5	10.1	10.33	-	31.0	-	10.2	7.77	-	-	-	-	-	0.157		
9	211.4	572.5	1235	10	10.1	10.74	-	35.5	-	10.2	7.78	-	-	-	-	-	0.158		
9	211.4	572.5	1242	12	10.2	10.63	-	36.6	-	10.3	7.78	-	-	-	-	-	0.156		
8	209.3	574.5	1316	1	10.1	4.06	-	45.5	-	10.0	7.67	-	-	-	-	-	0.159		
7	211.3	579.3	1334	1	10.1	4.38	-	38.5	-	10.0	7.61	-	-	-	-	-	0.150		
6	213.3	584.7	1406	0	9.8	0.67	-	67.1	-	9.9	7.56	-	-	-	-	-	0.162		
6	213.3	584.7	1409	2	9.7	0.77	59.2	72.7	4.55	9.9	7.55	-	-	0.8	4.6	0.8	0.165		
6	213.3	584.7	1420	5	9.7	3.30	-	58.4	-	9.9	7.58	-	-	-	-	-	0.158		
6	213.3	584.7	1426	7	9.7	5.52	-	42.8	-	9.9	7.61	-	-	-	-	-	0.146		
5	212.8	589.5	1454	1	10.3	0.06	-	75.8	-	10.2	7.50	-	-	-	-	-	0.162		
4	211.5	593.4	1508	1	10.1	0.03	-	65.8	-	9.9	7.51	-	-	-	-	-	0.155		
3	211.8	598.4	1534	0	9.9	0.04	-	58.4	-	10.1	7.48	-	-	-	-	-	0.148		
3	211.8	598.4	1538	2	9.9	0.05	28.4	59.9	4.41	10.0	7.48	-	-	0.8	4.6	1.2	0.150		
3	211.8	598.4	1542	5	9.9	0.05	-	64.1	-	10.0	7.48	-	-	-	-	-	0.153		
3	211.8	598.4	1545	10	9.9	0.05	-	67.8	-	10.0	7.48	-	-	-	-	-	0.155		
651	215.0	608.6	1649	1	10.1	0.05	-	36.4	-	10.0	7.56	-	-	-	-	-	0.129		
657	223.4	614.9	1732	0	9.7	0.05	-	31.7	-	9.9	7.58	-	-	-	-	-	0.123		
657	223.4	614.9	1738	2	9.7	0.02	-	31.1	-	9.9	7.58	-	-	0.3	4.4	-	0.123		
657	223.4	614.9	1744	5	9.7	0.02	-	33.1	-	9.8	7.58	-	-	-	-	-	0.123		

- DATA NOT AVAILABLE

Table A.---Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION								
9 JAN 80	1	S F BAY								
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
17	0	-	-	-	-	-	-	-	-	-
17	2	-	-	-	-	-	-	-	-	-
17	4	-	-	-	-	-	-	-	-	-
17	1	-	-	-	-	-	-	-	-	-
16	1	-	-	-	-	-	-	-	-	-
15	0	-	-	-	-	-	-	-	-	-
15	2	132	2.79	24.4	0.57	9.95	41.1	3.0	42.1	2.2
15	5	-	-	-	-	-	-	-	-	-
15	9	-	-	-	-	-	-	-	-	-
14	1	-	-	-	-	-	-	-	-	-
13	0	-	-	-	-	-	-	-	-	-
13	2	128	2.91	24.1	0.71	9.87	39.5	3.1	41.9	2.5
13	5	-	-	-	-	-	-	-	-	-
13	10	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	-
10	1	-	-	-	-	-	-	-	-	-
9	0	-	-	-	-	-	-	-	-	-
9	2	185	2.63	28.5	0.61	10.45	45.2	2.7	49.1	2.3
9	5	-	-	-	-	-	-	-	-	-
9	10	-	-	-	-	-	-	-	-	-
9	12	-	-	-	-	-	-	-	-	-
8	1	-	-	-	-	-	-	-	-	-
7	1	-	-	-	-	-	-	-	-	-
6	0	-	-	-	-	-	-	-	-	-
6	2	246	3.13	28.3	1.48	7.08	46.6	2.7	52.8	2.9
6	5	-	-	-	-	-	-	-	-	-
6	7	-	-	-	-	-	-	-	-	-
5	1	-	-	-	-	-	-	-	-	-
4	1	-	-	-	-	-	-	-	-	-
3	0	-	-	-	-	-	-	-	-	-
3	2	259	3.07	26.8	1.37	5.82	42.4	-	48.0	2.5
3	5	-	-	-	-	-	-	-	-	-
3	10	-	-	-	-	-	-	-	-	-
651	1	-	-	-	-	-	-	-	-	-
657	0	-	-	-	-	-	-	-	-	-
657	2	282	2.58	20.3	0.51	6.07	34.0	2.3	37.6	2.2
657	5	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.-- Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
23 JAN 80		2		S F BAY													
UTM	UTM	TIME	DEPTH	BOW	SALIN	SUS	TURB	EXT	SAMPLE	PH	PCO2	OXYGEN	PAR	ORG	DIS	CHLORO	FLUOR
NORTH	EAST		m	TEMP		MATTER	IDITY	COEF	TEMP		ppt	percent	mg/L	mg/L	mg/L	PHYLL-A	
				deg C		mg/L		1/m	deg C							ug/L	
36	147.4	582.7	740	0	11.0	20.49	15.7	-	11.0	7.83	-	-	-	-	-	-	0.117
36	147.4	582.7	744	2	11.4	20.99	15.0	1.65	11.3	7.85	-	-	0.3	3.3	-	2.3	0.119
36	147.4	582.7	751	6	11.4	21.18	15.0	-	11.4	7.86	-	-	-	-	-	-	0.117
34	149.8	580.6	810	1	11.2	21.22	15.0	-	11.4	7.86	-	-	-	-	-	-	0.115
33	151.6	577.5	832	1	11.5	21.11	15.0	-	11.7	7.03	-	-	-	-	-	-	0.117
32	152.5	576.5	844	0	11.5	21.07	15.7	-	11.6	7.92	-	-	-	-	-	-	0.115
32	152.5	576.5	848	2	11.4	21.09	15.0	1.44	11.6	7.91	-	-	0.3	4.5	-	2.2	0.118
32	152.5	576.5	854	5	11.4	21.14	15.7	-	11.6	7.91	-	-	-	-	-	-	0.120
32	152.5	576.5	857	8	11.4	21.16	17.1	-	11.5	7.91	-	-	-	-	-	-	0.120
31	153.8	574.5	914	1	11.5	20.63	14.3	-	11.6	7.92	-	-	-	-	-	-	0.136
30	156.5	571.4	931	0	11.6	19.04	10.0	-	11.7	7.95	-	-	-	-	-	-	0.126
30	156.5	571.4	935	2	11.5	19.40	10.7	1.15	11.7	7.94	-	-	0.2	3.2	-	1.6	0.121
30	156.5	571.4	942	5	11.6	20.75	15.7	-	11.7	7.92	-	-	-	-	-	-	0.129
30	156.5	571.4	946	12	11.6	20.83	20.0	-	11.7	7.92	-	-	-	-	-	-	0.132
29	159.5	566.7	1008	1	11.6	18.62	9.3	-	11.8	7.94	-	-	-	-	-	-	0.169
28	161.5	564.4	1019	1	11.5	18.52	9.6	-	11.7	7.97	-	-	-	-	-	-	0.164
27	163.4	562.5	1036	0	11.5	18.06	10.0	-	11.8	7.96	-	-	-	-	-	-	0.145
27	163.4	562.5	1040	2	11.5	19.02	11.0	1.11	11.9	7.94	-	-	0.2	3.1	-	1.3	0.129
27	163.4	562.5	1048	5	11.6	19.61	16.6	-	11.9	7.93	-	-	-	-	-	-	0.132
27	163.4	562.5	1051	9	11.6	19.78	20.1	-	11.9	7.93	-	-	-	-	-	1.3	0.136
26	165.4	560.5	1122	1	11.8	18.75	10.0	-	11.8	7.95	-	-	-	-	-	-	0.164
25	169.4	559.5	1138	1	11.5	15.27	11.4	-	11.8	7.98	-	-	-	-	-	-	0.170
24	172.5	558.3	1155	0	11.3	13.32	14.6	-	11.8	7.96	-	-	-	-	-	-	0.158
24	172.5	558.3	1201	2	11.2	14.44	21.3	1.59	11.8	7.94	-	-	0.3	3.3	-	0.6	0.140
24	172.5	558.3	1208	5	11.4	16.23	14.1	-	11.9	7.93	-	-	-	-	-	-	0.142
24	172.5	558.3	1213	8	11.6	17.35	16.4	-	12.0	7.94	-	-	-	-	-	-	0.140
23	175.5	558.5	1257	1	11.5	15.02	16.4	-	11.7	7.94	-	-	-	-	-	-	0.151
22	179.4	556.5	1310	1	11.0	11.93	30.4	-	11.3	7.96	-	-	-	-	-	-	0.158
21	183.6	555.5	1329	0	11.5	12.23	21.4	-	12.0	7.96	-	-	-	-	-	-	0.161
21	183.6	555.5	1333	2	11.2	13.89	24.3	1.54	11.7	7.98	-	-	0.2	3.2	-	-	0.151
21	183.6	555.5	1340	5	11.3	15.18	24.3	-	11.8	7.98	-	-	-	-	-	-	0.151
21	183.6	555.5	1344	10	11.4	16.22	24.5	-	11.8	7.99	-	-	-	-	-	-	0.151
21	183.6	555.5	1348	13	11.8	18.73	28.5	-	12.0	8.03	-	-	-	-	-	-	0.148
20	185.4	552.4	1418	1	11.1	11.28	32.1	-	11.3	7.94	-	-	-	-	-	-	0.164
19	185.6	546.5	1535	22	12.4	30.09	15.7	-	13.0	8.12	-	-	-	-	-	-	0.126

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
23 JAN 80	2	S F BAY										
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM		
36	0	-	-	-	-	-	-	-	-	-		
36	2	-	-	-	-	-	-	-	-	-		
36	6	-	-	-	-	-	-	-	-	-		
34	1	-	-	-	-	-	-	-	-	-		
33	1	-	-	-	-	-	-	-	-	-		
32	0	-	-	-	-	-	-	-	-	-		
32	2	-	-	-	-	-	-	-	-	-		
32	5	-	-	-	-	-	-	-	-	-		
32	8	-	-	-	-	-	-	-	-	-		
31	1	-	-	-	-	-	-	-	-	-		
30	0	-	-	-	-	-	-	-	-	-		
30	2	-	-	-	-	-	-	-	-	-		
30	5	-	-	-	-	-	-	-	-	-		
30	12	-	-	-	-	-	-	-	-	-		
29	1	-	-	-	-	-	-	-	-	-		
28	1	-	-	-	-	-	-	-	-	-		
27	0	-	-	-	-	-	-	-	-	-		
27	2	-	-	-	-	-	-	-	-	-		
27	5	-	-	-	-	-	-	-	-	-		
27	9	-	-	-	-	-	-	-	-	-		
26	1	-	-	-	-	-	-	-	-	-		
25	1	-	-	-	-	-	-	-	-	-		
24	0	-	-	-	-	-	-	-	-	-		
24	2	-	-	-	-	-	-	-	-	-		
24	5	-	-	-	-	-	-	-	-	-		
24	8	-	-	-	-	-	-	-	-	-		
23	1	-	-	-	-	-	-	-	-	-		
22	1	-	-	-	-	-	-	-	-	-		
21	0	-	-	-	-	-	-	-	-	-		
21	2	-	-	-	-	-	-	-	-	-		
21	5	-	-	-	-	-	-	-	-	-		
21	10	-	-	-	-	-	-	-	-	-		
21	13	-	-	-	-	-	-	-	-	-		
20	1	-	-	-	-	-	-	-	-	-		
19	22	-	1.58	-	-	-	18.7	1.5	21.3	1.7		

- DATA NOT AVAILABLE

Table A.-- Physical and chemical data collected aboard the R/V *Polaris* (continued).

DATE		CRUISE #		LOCATION													
23 JAN 80		2		S F BAY													
STA	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
19	185.6	546.5	1542	10	12.2	22.93	-	12.9	-	12.7	8.09	-	-	-	-	-	0.129
19	185.6	546.5	1546	5	12.5	25.52	-	14.3	-	12.8	8.10	-	-	-	-	-	0.126
19	185.6	546.5	1550	2	12.3	25.30	2.3	13.7	-	12.7	8.11	-	-	0.2	2.7	-	0.128
19	185.6	546.5	1651	13	12.7	28.79	-	14.3	-	13.1	8.11	-	-	-	-	-	0.123

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V *Polaris* (continued).

DATE		CRUISE #	LOCATION							
23 JAN 80		2	S F BAY							
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV		TOTAL	
							NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM
19	10	-	-	-	-	-	-	-	-	-
19	5	-	-	-	-	-	-	-	-	-
19	2	-	-	-	-	-	-	-	-	-
19	13	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A--- Physical and chemical data collected aboard the R/V Polarís (continued).

DATE		CRUISE #		LOCATION													
24 JAN 80		2		S F BAY													
STA	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUSP MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
19	185.6	546.5	736	13	12.4	25.97	-	1.5	-	12.1	8.08	-	-	-	-	-	0.064
19	185.6	546.5	741	5	11.8	23.25	-	1.5	-	11.8	8.09	-	-	-	-	-	0.067
19	185.6	546.5	745	2	11.6	21.94	5.5	1.5	1.13	11.7	8.09	-	-	0.3	3.5	-	0.068
17	192.6	550.6	846	14	12.4	27.68	-	27.1	-	12.1	8.12	-	-	-	-	-	0.094
17	192.6	550.6	852	10	11.0	16.30	-	7.2	-	11.2	8.10	-	-	-	-	-	0.088
17	192.6	550.6	933	6	10.4	12.38	-	12.9	-	10.6	8.01	-	-	-	-	-	0.133
17	192.6	550.6	945	2	10.2	9.56	20.3	20.0	2.64	10.4	7.95	-	-	0.3	-	0.5	0.125
17	192.6	550.6	953	0	9.9	7.55	-	24.3	-	10.1	7.89	-	-	-	-	-	0.132
16	196.3	548.3	1033	1	9.9	6.74	-	39.9	-	10.1	7.88	-	-	-	-	-	0.145
15	202.4	549.5	1109	0	9.9	6.74	-	27.1	-	10.1	7.82	-	-	-	-	-	0.143
15	202.4	549.5	1114	2	9.9	6.74	32.1	30.0	2.96	10.1	7.81	-	-	0.3	4.8	0.5	0.147
15	202.4	549.5	1120	5	10.0	6.74	-	31.4	-	10.0	7.81	-	-	-	-	-	0.147
15	202.6	549.5	1126	7	10.3	9.56	-	71.3	-	10.4	7.89	-	-	-	-	-	0.161
14	206.7	552.5	1200	1	9.7	3.82	-	52.7	-	9.8	7.69	-	-	-	-	-	0.164
13	209.3	555.7	1220	0	10.0	5.63	-	42.8	-	10.2	7.72	-	-	-	-	-	0.158
13	209.3	555.7	1225	2	10.0	5.84	46.3	44.2	4.85	10.2	7.72	-	-	0.4	4.6	0.6	0.158
13	209.3	555.7	1232	5	10.3	9.36	-	28.5	-	10.5	7.84	-	-	-	-	-	0.147
13	209.3	555.7	1239	9	11.2	15.80	-	62.7	-	11.3	8.00	-	-	-	-	0.6	0.151
12	211.6	560.4	1325	1	9.6	2.39	-	81.2	-	9.8	7.58	-	-	-	-	-	0.186
11	212.7	564.6	1345	1	9.5	1.36	-	-	-	9.6	7.50	-	-	-	-	-	0.205
10	212.5	569.5	1404	1	9.3	0.05	-	-	-	9.5	7.36	-	-	-	-	-	0.204
9	211.4	572.5	1419	0	9.1	0.02	-	-	-	9.2	7.37	-	-	-	-	-	0.202
9	211.4	572.5	1424	2	9.1	0.01	142.4	-	10.40	9.2	7.37	-	-	0.5	5.8	-	0.199
9	211.4	572.5	1428	5	9.1	0.01	-	-	-	9.2	7.36	-	-	-	-	-	0.199
9	211.4	572.5	1434	11	9.1	0.04	-	-	-	9.2	7.36	-	-	-	-	-	0.204
11	212.7	564.6	1504	1	9.3	0.36	-	-	-	-	-	-	-	-	-	-	0.210
12	211.6	560.4	1515	1	9.5	0.93	-	-	-	-	-	-	-	-	-	-	0.202
13	209.3	555.7	1532	1	9.8	3.27	-	-	-	-	-	-	-	-	-	-	0.181
14	206.7	552.5	1542	1	10.3	7.85	-	-	-	-	-	-	-	-	-	-	0.158
16	196.3	548.3	1622	1	9.9	4.63	-	-	-	-	-	-	-	-	-	-	0.167
22	179.4	556.5	1715	1	10.9	11.27	-	-	-	-	-	-	-	-	-	-	0.147
23	175.5	558.5	1725	1	11.0	12.48	-	-	-	-	-	-	-	-	-	-	0.144
25	169.4	559.5	1746	1	11.4	15.30	-	-	-	-	-	-	-	-	-	-	0.143
28	161.5	564.4	1812	1	11.9	16.51	-	-	-	-	-	-	-	-	-	-	0.167
29	159.5	566.7	1824	1	11.7	15.50	-	-	-	-	-	-	-	-	-	-	0.148

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
24 JAN 80	2	S F BAY										
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM		
19	13	-	-	-	-	-	-	-	-	-	-	-
19	5	-	-	-	-	-	-	-	-	-	-	-
19	2	-	1.87	-	-	-	25.6	1.9	26.9	1.9	-	-
17	14	-	-	-	-	-	-	-	-	-	-	-
17	10	-	-	-	-	-	-	-	-	-	-	-
17	6	-	-	-	-	-	-	-	-	-	-	-
17	2	-	1.86	-	-	-	30.1	1.9	34.6	1.9	-	-
17	0	-	-	-	-	-	-	-	-	-	-	-
16	1	-	-	-	-	-	-	-	-	-	-	-
15	0	-	-	-	-	-	-	-	-	-	-	-
15	2	-	-	-	-	-	-	-	-	-	-	-
15	5	-	-	-	-	-	-	-	-	-	-	-
15	7	-	-	-	-	-	-	-	-	-	-	-
14	1	-	1.49	-	-	-	36.6	1.8	40.1	1.9	-	-
13	0	-	-	-	-	-	-	-	-	-	-	-
13	2	-	-	-	-	-	-	-	-	-	-	-
13	5	-	-	-	-	-	-	-	-	-	-	-
13	9	-	-	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	-	-	-
10	1	-	-	-	-	-	-	-	-	-	-	-
9	0	-	-	-	-	-	-	-	-	-	-	-
9	2	-	1.55	-	-	-	39.4	1.9	48.4	2.1	-	-
9	5	-	-	-	-	-	-	-	-	-	-	-
9	11	-	-	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-	-	-
13	1	-	-	-	-	-	-	-	-	-	-	-
14	1	-	-	-	-	-	-	-	-	-	-	-
16	1	-	-	-	-	-	-	-	-	-	-	-
22	1	-	-	-	-	-	-	-	-	-	-	-
23	1	-	-	-	-	-	-	-	-	-	-	-
25	1	-	-	-	-	-	-	-	-	-	-	-
28	1	-	-	-	-	-	-	-	-	-	-	-
29	1	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.-- Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION															
5 FEB 80		3		S F BAY															
STA	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR WATER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR		
36	147.4	582.7	742	0	11.9	17.30	-	7.0	-	11.9	8.05	-	86.0	-	-	-	0.193		
36	147.4	582.7	746	2	11.9	17.30	8.8	7.7	1.52	11.9	8.05	-	84.0	-	5.7	5.7	0.196		
36	147.4	582.7	754	6	11.9	17.50	-	7.7	-	11.9	8.06	-	72.0	-	-	-	0.196		
35	148.5	581.5	818	1	11.8	17.70	-	6.0	-	12.0	8.09	-	63.0	-	-	-	0.186		
33	151.6	577.5	830	1	11.8	18.00	-	5.7	-	12.0	8.07	-	58.0	-	-	-	0.167		
32	152.5	576.5	841	0	12.0	18.00	-	7.0	-	12.1	8.10	-	56.0	-	-	-	0.174		
32	152.5	576.5	845	2	11.9	19.40	8.6	6.6	1.30	12.1	8.10	-	58.0	-	6.6	4.7	0.169		
32	152.5	576.5	851	5	11.9	18.00	-	6.6	-	12.0	8.08	-	44.0	-	-	-	0.161		
32	152.5	576.5	854	9	11.9	18.00	-	6.6	-	12.0	8.07	-	40.0	-	-	-	0.158		
31	153.8	574.5	910	1	11.9	18.00	-	5.9	-	12.1	8.04	-	41.0	-	-	-	0.167		
30	156.5	571.4	928	0	11.7	17.70	-	7.3	-	12.0	8.02	-	41.0	-	-	-	0.117		
30	156.5	571.4	932	2	11.6	17.70	4.4	7.3	1.17	12.0	8.02	-	-	-	3.6	2.2	0.117		
30	156.5	571.4	939	5	11.7	17.90	-	7.9	-	12.0	8.04	-	-	-	-	-	0.125		
30	156.5	571.4	942	12	11.8	17.90	-	8.6	-	12.0	8.04	-	-	-	-	-	0.126		
29	159.5	566.7	1020	1	11.4	17.40	-	8.0	-	11.6	7.95	-	-	-	-	-	0.098		
28	161.5	564.4	1032	1	11.3	17.30	-	8.3	-	11.5	7.94	-	-	-	-	-	0.104		
27	163.4	562.5	1049	0	11.1	17.30	-	12.3	-	11.7	7.96	-	-	-	-	-	0.094		
27	163.4	562.5	1052	2	11.2	17.30	7.5	10.2	1.32	11.5	7.96	-	-	-	3.2	1.8	0.104		
27	163.4	562.5	1101	5	11.1	17.30	-	10.2	-	11.4	7.96	-	-	-	-	-	0.094		
27	163.4	562.5	1104	10	11.1	17.40	-	14.1	-	11.4	7.96	-	-	-	-	1.2	0.096		
26	165.4	560.5	1130	1	11.2	17.50	-	7.9	-	11.4	7.99	-	-	-	-	-	0.113		
24	172.5	558.3	1202	0	11.6	18.80	-	6.0	-	12.1	8.02	-	-	-	-	-	0.087		
24	172.5	558.3	1207	2	11.4	19.10	10.2	7.7	-	11.9	8.02	-	-	-	2.6	-	0.072		
24	172.5	558.3	1215	5	11.4	20.20	-	15.1	1.15	11.9	8.02	-	-	-	-	-	0.079		
24	172.5	558.3	1219	9	11.5	20.30	-	22.4	-	11.9	8.02	-	-	-	-	-	0.085		
23	175.5	558.5	1309	1	11.7	18.70	-	5.7	-	12.0	8.02	-	-	-	-	-	0.096		
22	179.4	556.5	1322	1	11.5	17.90	-	7.6	-	11.7	8.01	-	-	-	-	-	0.094		
21	183.6	555.5	1342	0	11.3	17.80	-	8.5	-	11.5	8.01	-	-	-	-	-	0.082		
21	183.6	555.5	1346	2	11.4	19.00	8.8	8.5	0.93	11.6	8.02	-	-	-	2.6	1.3	0.077		
21	183.6	555.5	1353	5	11.5	20.30	-	7.7	-	11.7	8.04	-	-	-	-	-	0.078		
21	183.6	555.5	1355	10	11.7	24.10	-	6.5	-	11.9	8.06	-	-	-	-	-	0.071		
21	183.6	555.5	1359	15	11.9	25.90	-	10.7	-	12.0	8.07	-	-	-	-	-	0.078		
20	185.4	552.4	1427	1	11.5	18.40	-	8.0	-	11.8	8.02	-	-	-	-	-	0.088		
19	185.6	546.5	1456	20	12.3	29.50	-	5.3	-	12.5	8.13	-	-	-	-	2.6	0.096		
19	185.6	546.5	1505	10	12.3	29.30	-	4.7	-	12.5	8.13	-	-	-	-	-	0.096		
19	185.6	546.5	1510	2	12.2	26.40	3.3	3.3	0.90	12.5	8.13	-	-	-	2.3	2.6	0.108		

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
5 FEB 80	3	S F BAY										
STATION	DEPTH m	SI02 uM	PO4 uM	NO3+NO2 uM	NO2 uM	NH3 uM	DISSOLV NITROG uM	DISSOLV PHOSPH uM	TOTAL NITROG uM	TOTAL PHOSPH uM		
36	0	-	-	-	-	-	-	-	-	-		
36	2	-	-	-	-	-	163.0	21.3	169.6	22.7		
36	6	-	-	-	-	-	-	-	-	-		
35	1	-	-	-	-	-	-	-	-	-		
33	1	-	-	-	-	-	-	-	-	-		
32	0	-	-	-	-	-	-	-	-	-		
32	2	-	-	-	-	-	-	-	-	-		
32	5	-	-	-	-	-	-	-	-	-		
32	9	-	-	-	-	-	-	-	-	-		
31	1	-	-	-	-	-	-	-	-	-		
30	0	-	-	-	-	-	-	-	-	-		
30	2	131	8.11	49.4	1.09	10.67	63.6	8.5	64.2	8.9		
30	5	-	-	-	-	-	-	-	-	-		
30	12	-	-	-	-	-	-	-	-	-		
29	1	-	-	-	-	-	-	-	-	-		
28	1	-	-	-	-	-	-	-	-	-		
27	0	-	-	-	-	-	-	-	-	-		
27	2	134	6.21	38.2	0.71	9.38	-	-	-	-		
27	5	-	-	-	-	-	-	-	-	-		
27	10	-	-	-	-	-	-	-	-	-		
26	1	-	-	-	-	-	-	-	-	-		
24	0	-	-	-	-	-	-	-	-	-		
24	2	117	2.19	17.2	0.65	6.76	32.2	2.3	34.4	2.6		
24	5	-	-	-	-	-	-	-	-	-		
24	9	-	-	-	-	-	-	-	-	-		
23	1	-	-	-	-	-	-	-	-	-		
22	1	-	-	-	-	-	-	-	-	-		
21	0	-	-	-	-	-	-	-	-	-		
21	2	-	-	-	-	-	-	-	-	-		
21	5	-	-	-	-	-	-	-	-	-		
21	10	-	-	-	-	-	-	-	-	-		
21	15	-	-	-	-	-	-	-	-	-		
20	1	-	-	-	-	-	-	-	-	-		
19	20	-	-	-	-	-	-	-	-	-		
19	10	-	-	-	-	-	-	-	-	-		
19	2	64	1.33	11.0	0.44	2.51	19.9	1.4	23.4	1.7		

- DATA NOT AVAILABLE

Table A.-- Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION														
6 FEB 80		3		S F BAY														
UTM	UTM	TIME	DEPTH	BOW	SALIN	SUS	TURB	EXT	SAMPLE	PH	PCO2	OXYGEN	PAR	ORG	DIS	ORG	CHLORO	FLUOR
STA	NORTH	EAST	m	TEMP	mg/L	MATER	IDITY	1/m	deg C		ppt	percent	mg/L	mg/L	mg/L	mg/L	ug/L	
19	185.6	546.5	723	20	11.9	25.70	1.5	-	11.9	8.15	-	85.0	-	-	-	-	1.8	0.085
19	185.6	546.5	728	10	12.0	26.60	0.5	1.12	12.0	8.16	-	85.0	-	-	-	-	-	0.088
19	185.6	546.5	732	2	11.8	24.60	-0.5	-	11.9	8.15	-	85.0	0.2	2.2	-	-	1.8	0.080
17	192.6	550.6	909	0	10.7	12.50	5.3	1.35	10.9	7.97	-	84.0	-	-	-	-	-	0.078
17	192.6	550.6	912	2	10.8	14.10	5.6	-	11.1	7.99	-	84.0	0.3	3.0	-	-	0.8	0.076
17	192.6	550.6	921	5	10.3	18.10	3.9	-	11.4	8.05	-	83.0	-	-	-	-	-	0.075
17	192.6	550.6	927	9	11.7	24.10	3.0	-	11.9	8.09	-	82.0	-	-	-	-	-	0.074
17	192.6	550.6	930	16	11.9	25.80	8.0	-	12.0	8.10	-	82.0	-	-	-	-	-	0.080
16	196.3	548.3	954	1	10.6	12.80	7.2	-	11.8	7.97	-	84.0	-	-	-	-	-	0.080
15	202.4	549.5	1026	0	10.1	7.98	13.2	-	10.5	7.83	-	84.0	-	-	-	-	-	0.083
15	202.4	549.5	1030	2	10.2	10.00	10.6	2.03	10.5	7.88	-	84.0	0.2	3.3	-	-	0.6	0.080
15	202.4	549.5	1037	5	10.7	13.70	7.2	-	11.0	7.96	-	84.0	-	-	-	-	-	0.077
15	202.4	549.5	1041	10	11.5	21.80	17.9	-	11.7	8.05	-	83.0	-	-	-	-	-	0.084
15	202.4	549.5	1045	16	11.8	22.90	26.3	-	11.8	8.07	-	81.0	-	-	-	-	-	0.094
14	206.7	552.5	1123	1	10.4	9.75	8.3	-	10.4	7.88	-	85.0	-	-	-	-	-	0.082
13	209.3	555.7	1140	0	10.9	10.30	12.4	-	10.9	7.87	-	84.0	-	-	-	-	-	0.084
13	209.3	555.7	1144	2	10.8	11.80	10.9	2.12	10.8	7.91	-	82.0	0.3	3.1	-	-	0.7	0.081
13	209.3	555.7	1152	5	11.1	14.75	6.3	-	11.1	7.95	-	82.0	-	-	-	-	-	0.074
13	209.3	555.7	1158	9	11.7	21.47	18.7	-	11.7	8.04	-	80.0	-	-	-	-	1.1	0.080
12	211.6	560.4	1230	1	10.2	7.00	22.5	-	10.2	7.77	-	83.0	-	-	-	-	-	0.091
11	212.7	564.6	1245	1	10.1	4.63	31.7	-	10.1	7.72	-	85.0	-	-	-	-	-	0.100
10	212.5	569.5	1305	1	9.7	2.30	39.2	-	9.7	7.63	-	87.0	-	-	-	-	-	0.109
9	211.4	572.5	1323	0	9.9	1.38	39.9	-	9.9	7.55	-	87.0	-	-	-	-	-	0.110
9	211.4	572.5	1326	2	9.8	1.15	42.2	3.88	9.8	7.55	-	85.0	0.5	4.5	-	-	1.2	0.112
9	211.4	572.5	1331	5	9.8	1.91	41.3	-	9.8	7.57	-	84.0	-	-	-	-	-	0.109
9	211.4	572.5	1334	10	9.9	5.12	40.6	-	9.9	7.62	-	84.0	-	-	-	-	-	0.109
9	211.4	572.5	1338	20	10.5	10.60	-	-	10.5	7.80	-	82.0	-	-	-	-	-	0.137
9	211.4	572.5	1343	15	10.2	7.50	33.8	-	10.2	7.75	-	83.0	-	-	-	-	-	0.100
8	209.3	574.5	1359	1	9.5	0.92	43.5	-	9.5	-	-	88.0	-	-	-	-	-	0.112
7	211.3	579.3	1415	0	9.3	0.17	40.9	-	9.5	7.33	-	89.0	-	-	-	-	-	0.109
6	213.3	584.7	1443	2	9.7	0.10	37.4	3.95	9.8	7.30	-	89.0	-	-	-	-	0.9	0.105
6	213.3	584.7	1447	5	9.2	0.11	39.1	-	9.7	7.29	-	88.0	-	-	-	-	-	0.105
6	213.3	584.7	1453	9	9.2	0.10	38.8	-	9.7	7.29	-	88.0	-	-	-	-	-	0.104
6	213.3	584.7	1456	1	9.2	0.11	40.6	-	9.6	7.28	-	88.0	-	-	-	-	-	0.106
5	212.8	589.5	1522	1	9.4	0.12	37.6	-	9.6	7.23	-	87.0	-	-	-	-	-	0.106

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION							
6 FEB 80		3	S F BAY							
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
19	20	-	-	-	-	-	-	-	-	-
19	10	-	-	-	-	-	-	-	-	-
19	2	79	1.55	14.3	0.44	3.83	24.8	1.7	26.7	1.8
17	0	-	-	-	-	-	-	-	-	-
17	2	-	-	-	-	-	-	-	-	-
17	5	-	-	-	-	-	-	-	-	-
17	9	-	-	-	-	-	-	-	-	-
17	16	-	-	-	-	-	-	-	-	-
16	1	-	-	-	-	-	-	-	-	-
15	0	-	-	-	-	-	-	-	-	-
15	2	212	1.75	24.1	0.59	7.14	39.8	1.9	40.8	2.0
15	5	-	-	-	-	-	-	-	-	-
15	10	-	-	-	-	-	-	-	-	-
15	16	-	-	-	-	-	-	-	-	-
14	1	-	-	-	-	-	-	-	-	-
13	0	-	-	-	-	-	-	-	-	-
13	2	197	1.73	22.9	0.51	7.09	36.6	1.9	39.7	2.1
13	5	-	-	-	-	-	-	-	-	-
13	9	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	-
10	1	-	-	-	-	-	-	-	-	-
9	0	-	-	-	-	-	-	-	-	-
9	2	278	2.05	26.7	1.45	7.00	46.6	1.9	50.4	2.3
9	5	-	-	-	-	-	-	-	-	-
9	10	-	-	-	-	-	-	-	-	-
9	20	-	-	-	-	-	-	-	-	-
9	15	-	-	-	-	-	-	-	-	-
8	1	-	-	-	-	-	-	-	-	-
7	0	-	-	-	-	-	-	-	-	-
6	2	288	2.41	28.5	1.80	6.86	44.7	1.9	49.0	2.2
6	5	-	-	-	-	-	-	-	-	-
6	9	-	-	-	-	-	-	-	-	-
6	1	-	-	-	-	-	-	-	-	-
5	1	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.-- Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION												
6 FEB 80		3		S F BAY												
STA	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR WATER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
4	211.5	593.4	1537	1	9.5	0.10	-	35.2	-	9.9	7.30	-	88.0	-	-	0.101
4	211.5	593.4	1544	0	10.4	0.11	-	35.1	-	10.5	7.20	-	87.0	-	-	0.107
4	211.5	593.4	1547	2	9.7	0.11	16.2	35.7	1.04	10.0	7.22	-	86.0	-	0.9	0.106
4	211.5	593.4	1551	5	9.2	0.11	-	37.4	-	9.6	7.27	-	86.0	-	-	0.103
4	211.5	593.4	1554	10	9.1	0.11	-	40.2	-	9.5	7.27	-	86.0	-	-	0.103
651	215.0	608.5	1710	1	9.0	0.14	-	42.1	-	9.3	7.48	-	89.0	-	-	0.097
653	217.1	612.1	1717	1	9.1	0.13	-	39.5	-	9.4	7.46	-	89.0	-	-	0.091
655	219.7	613.9	1728	1	9.2	0.14	-	39.6	-	9.4	7.45	-	89.0	-	-	0.092
657	223.4	614.9	1748	0	9.2	0.13	-	38.1	-	9.5	7.41	-	89.0	-	-	0.085
657	223.4	614.9	1751	2	9.2	0.12	25.2	38.8	0.76	9.5	7.41	-	89.0	0.4	1.4	0.085
657	223.4	614.9	1758	5	9.2	0.08	-	39.2	-	9.4	7.46	-	88.0	-	-	0.085

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION								
6 FEB 80	3	S F BAY								
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
4	1	-	-	-	-	-	-	-	-	-
4	0	-	-	-	-	-	-	-	-	-
4	2	281	2.57	28.6	0.81	7.48	46.6	1.9	50.4	2.2
4	5	-	-	-	-	-	-	-	-	-
4	10	-	-	-	-	-	-	-	-	-
651	1	-	-	-	-	-	-	-	-	-
653	1	-	-	-	-	-	-	-	-	-
655	1	-	-	-	-	-	-	-	-	-
657	0	-	-	-	-	-	-	-	-	-
657	2	318	2.30	19.4	0.45	6.08	30.7	1.7	36.0	2.4
657	5	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.-- Physical and chemical data collected aboard the R/V *Polaris* (continued).

DATE		CRUISE #		LOCATION													
20 FEB 80		4		S F BAY													
STA	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
36	147.4	582.7	856	0	13.3	3.20	-	-	-	13.3	7.70	-	61.0	-	-	-	0.306
36	147.4	582.7	900	2	13.2	5.40	-	-	18.90	13.2	7.76	-	69.0	-	7.6	2.6	0.295
36	147.4	582.7	909	4	13.4	7.60	-	-	-	13.3	7.76	-	68.0	-	-	-	0.290
34	149.8	580.6	931	1	13.1	8.60	-	-	-	13.3	7.85	-	75.0	-	-	-	0.250
33	151.6	577.5	945	1	13.2	11.00	-	-	-	13.3	7.89	-	77.0	-	-	-	0.189
32	152.5	576.5	955	0	13.3	11.80	-	43.6	-	13.4	7.91	-	77.0	-	-	-	0.165
32	152.5	576.5	958	2	13.3	12.00	33.9	36.4	3.36	13.4	7.91	-	75.0	-	5.3	1.4	0.162
32	152.5	576.5	1003	5	13.3	13.40	-	34.2	-	13.3	7.94	-	77.0	-	-	-	0.155
32	152.5	576.5	1007	9	13.3	18.70	-	21.0	-	13.3	7.99	-	79.0	-	-	-	0.120

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V *Polaris* (continued).

DATE	CRUISE #	LOCATION
20 FEB 80	4	S F BAY

STATION	DEPTH m	SI02 µM	PO4 µM	NO3+NO2 µM	NO2 µM	NH3 µM	DISSOLV		TOTAL NITROG µM	TOTAL PHOSPH µM
							NITROG µM	PHOSPH µM		
36	0	-	-	-	-	-	-	-	-	-
36	2	166	8.66	108.8	3.95	22.49	137.2	9.3	158.6	11.0
36	4	-	-	-	-	-	-	-	-	-
34	1	-	-	-	-	-	-	-	-	-
33	1	-	-	-	-	-	-	-	-	-
32	0	-	-	-	-	-	-	-	-	-
32	2	131	9.74	77.5	2.30	16.90	-	-	95.0	10.0
32	5	-	-	-	-	-	-	-	-	-
32	9	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polarls (continued).

DATE		CRUISE #		LOCATION													
4 MAR 80		6		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATER mg/L	TURB IDITY mg/L	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
36	147.4	582.7	937	0	13.6	9.64	-	22.6	-	13.5	7.88	-	74.0	-	-	-	0.158
36	147.4	582.7	943	2	13.4	9.59	22.5	19.9	2.50	13.6	7.89	-	72.0	-	3.1	4.2	0.151
36	147.4	582.7	950	5	13.8	11.16	-	37.0	-	13.8	7.93	-	75.0	-	-	-	0.142
35	148.5	581.5	1003	1	13.9	11.35	-	10.7	-	13.9	7.96	-	79.0	-	-	-	0.136
34	149.8	580.6	1010	1	13.7	11.54	-	10.7	-	13.7	7.94	-	75.0	-	-	-	0.142
33	151.6	577.5	1024	1	14.2	12.49	-	6.7	-	14.2	7.99	-	81.0	-	-	-	0.148
32	152.5	576.6	1039	0	14.2	13.03	-	6.5	-	14.4	8.02	-	80.0	-	-	-	0.131
32	152.5	576.5	1044	2	14.2	13.04	6.0	6.7	1.33	14.4	8.03	-	78.0	-	4.2	2.7	0.126
32	152.5	576.5	1050	5	14.1	13.24	-	9.4	-	14.2	8.03	-	78.0	-	-	-	0.110
32	152.5	576.5	1053	8	14.1	13.28	-	11.3	-	14.2	8.03	-	78.0	-	-	-	0.106
31	153.8	574.5	1110	1	14.4	13.34	-	9.4	-	14.4	8.04	-	83.0	-	-	-	0.132
30	156.5	571.4	1135	0	14.2	13.64	-	7.5	-	14.4	8.04	-	80.5	-	-	-	0.108
30	156.5	571.4	1138	2	14.2	13.64	9.0	8.4	1.23	14.3	8.04	-	78.0	-	3.6	2.6	0.107
30	156.5	571.4	1144	5	14.2	13.65	-	10.7	-	14.3	8.04	-	79.0	-	-	-	0.101
30	156.5	571.4	1150	10	14.1	13.65	-	11.5	-	14.3	8.04	-	79.0	-	-	-	0.099
29	159.5	566.7	1220	1	14.0	13.27	-	6.5	-	14.0	8.03	-	83.8	-	-	-	0.119
-	-	-	1229	1	14.0	13.28	-	7.3	-	14.1	8.02	-	84.0	-	-	-	-
28	161.5	564.4	1237	1	13.9	13.33	-	9.1	-	13.9	8.01	-	82.0	-	-	-	0.099
27	163.4	562.5	1254	0	13.7	13.06	-	13.1	-	13.7	8.00	-	82.0	-	-	-	0.093
27	163.4	562.5	1259	2	13.6	13.06	15.8	12.9	1.72	13.7	7.99	-	80.0	-	3.5	1.9	0.093
27	163.4	562.5	1305	5	13.5	13.09	-	19.3	-	13.7	7.99	-	80.0	-	-	-	0.090
27	163.4	562.5	1309	9	13.5	13.13	-	20.2	-	13.8	7.99	-	80.0	-	-	1.1	0.089
26	165.4	560.5	1334	1	13.8	13.34	-	9.4	-	13.8	8.00	-	82.0	-	-	-	0.098
25	169.4	559.5	1357	1	13.9	13.65	-	6.6	-	14.0	8.05	-	84.0	-	-	-	0.098
24	172.5	558.3	1418	0	13.3	12.56	-	8.1	-	13.6	8.02	-	76.0	-	-	-	0.077
24	172.5	558.3	1429	2	13.2	13.79	7.3	7.8	1.30	13.5	8.03	-	77.0	-	2.8	0.8	0.065
24	172.5	558.3	1437	5	13.3	15.70	-	8.7	-	13.5	8.06	-	78.0	-	-	-	0.063
24	172.5	558.3	1440	8	13.3	16.22	-	9.5	-	13.6	8.06	-	77.0	-	-	-	0.063
23	175.5	558.5	1505	1	13.8	13.35	-	9.0	-	13.8	8.02	-	82.0	-	-	-	0.080
22	179.4	556.5	1517	1	14.0	11.02	-	9.8	-	14.0	8.00	-	84.0	-	-	-	0.088
21	183.6	555.5	1533	0	13.2	12.74	-	9.0	2.50	13.4	8.01	-	79.0	-	3.1	-	0.077
21	183.6	555.5	1537	2	13.1	13.52	7.8	9.0	1.37	13.3	8.02	-	77.0	-	-	0.7	0.068
21	183.6	555.5	1551	5	13.2	14.31	-	8.8	-	13.4	8.04	-	78.0	-	-	-	0.064
21	183.6	555.5	1554	10	13.3	20.55	-	7.1	-	13.4	8.12	-	79.0	-	-	-	0.056
21	183.6	555.5	1608	17	13.4	23.79	-	11.0	-	13.5	8.14	-	77.0	-	-	-	0.059
20	185.4	552.4	1632	1	13.4	13.23	-	8.8	-	13.5	8.03	-	80.0	-	-	-	0.069
19	185.6	546.5	1705	1	13.6	17.28	4.6	6.7	-	13.6	8.10	-	80.0	-	-	1.3	0.070

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION		DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV		TOTAL	
4 MAR 80			S	F BAY							NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM
36	0	-	-	-	-	-	-	-	-	-	-	-	-	-
36	2	179	15.99	111.0	2.94	18.90	133.8	16.8	138.6	17.5	-	-	-	-
36	5	-	-	-	-	-	-	-	-	-	-	-	-	-
35	1	163	12.06	81.3	2.81	15.13	-	-	-	-	-	-	-	-
34	1	162	12.82	80.7	3.16	17.05	-	-	-	-	-	-	-	-
33	1	152	9.78	64.2	2.71	15.11	-	-	-	-	-	-	-	-
32	0	-	-	-	-	-	-	-	-	-	-	-	-	-
32	2	147	8.09	54.2	2.10	12.56	-	-	-	-	-	-	-	-
32	5	-	-	-	-	-	-	-	-	-	-	-	-	-
32	8	-	-	-	-	-	-	-	-	-	-	-	-	-
31	1	145	7.97	54.1	2.03	12.47	-	-	-	-	-	-	-	-
30	0	-	-	-	-	-	-	-	-	-	-	-	-	-
30	2	138	5.58	39.6	1.21	9.98	-	-	-	-	-	-	-	-
30	5	-	-	-	-	-	-	-	-	-	-	-	-	-
30	10	-	-	-	-	-	-	-	-	-	-	-	-	-
29	1	142	4.17	30.7	0.87	9.42	-	-	-	-	-	-	-	-
28	1	-	-	-	-	-	-	-	-	-	-	-	-	-
27	0	-	-	-	-	-	-	-	-	-	-	-	-	-
27	2	143	3.47	28.0	0.71	9.88	45.1	3.8	47.6	3.9	-	-	-	-
27	5	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9	-	-	-	-	-	-	-	-	-	-	-	-	-
26	1	142	3.03	25.8	0.65	7.76	-	-	-	-	-	-	-	-
25	1	140	2.34	21.6	0.64	7.42	-	-	-	-	-	-	-	-
24	0	-	-	-	-	-	-	-	-	-	-	-	-	-
24	2	142	2.06	20.5	0.55	6.43	-	-	-	-	-	-	-	-
24	5	-	-	-	-	-	-	-	-	-	-	-	-	-
24	8	-	-	-	-	-	-	-	-	-	-	-	-	-
23	1	145	2.04	20.6	0.51	6.70	-	-	-	-	-	-	-	-
22	1	-	-	-	-	-	-	-	-	-	-	-	-	-
21	0	-	-	-	-	-	-	-	-	-	-	-	-	-
21	2	147	1.96	20.0	0.51	6.71	-	-	-	-	-	-	-	-
21	5	-	-	-	-	-	-	-	-	-	-	-	-	-
21	10	-	-	-	-	-	-	-	-	-	-	-	-	-
21	17	-	-	-	-	-	-	-	-	-	-	-	-	-
20	1	148	1.87	20.0	0.51	5.86	-	-	-	-	-	-	-	-
19	1	122	1.67	16.7	0.47	4.93	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION		TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR WATER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
STATION	UTM NORTH		UTM EAST																
5 MAR 80		6		S F BAY															
19	185.6	546.5	720	1	13.3	16.13	7.5	8.8	-	-	-	13.4	8.12	-	86.0	-	-	0.9	0.070
17	192.6	550.6	826	25	13.4	25.64	35.7	29.1	-	-	-	13.4	8.22	-	82.0	-	-	-	0.069
17	192.6	550.6	839	20	13.3	24.77	-	32.6	-	-	-	13.4	8.22	-	83.0	-	-	0.8	0.072
17	192.6	550.6	844	15	13.3	22.29	-	22.8	-	-	-	13.3	8.21	-	81.0	-	-	-	0.068
17	192.6	550.6	850	10	13.2	18.01	14.5	16.1	-	-	-	13.2	8.18	-	82.0	-	-	-	0.066
17	192.6	550.6	857	5	13.0	14.48	-	21.1	-	-	-	13.1	8.15	-	82.0	-	-	-	0.072
17	192.6	550.6	903	2	13.0	11.97	18.6	22.9	-	1.60	-	13.2	8.12	-	82.0	-	3.0	1.0	0.075
17	192.6	550.6	915	0	13.0	10.27	-	24.9	-	-	-	13.2	8.06	-	83.0	-	-	-	0.079
16	196.3	548.3	950	1	12.6	3.01	-	47.5	-	-	-	12.6	7.82	-	83.0	-	-	-	0.095
15	202.4	549.5	1015	0	12.6	1.90	-	66.4	-	-	-	13.0	7.79	-	86.0	-	-	-	0.108
15	202.4	549.5	1019	2	12.7	1.80	65.2	71.6	-	5.32	-	13.0	7.79	-	85.0	-	3.9	1.0	0.112
15	202.4	549.5	1031	5	12.6	4.55	49.0	31.8	-	-	-	12.9	7.83	-	85.0	-	-	-	0.084
15	202.4	549.5	1040	10	13.2	15.88	-	27.8	-	-	-	13.4	8.09	-	84.0	-	-	-	0.075
15	202.4	549.5	1054	18	13.3	22.79	-	-	-	-	-	13.4	8.18	-	83.0	-	-	-	0.144
15	202.4	549.5	1101	14	13.2	17.48	-	48.3	-	-	-	13.3	8.14	-	82.0	-	-	-	-
14	206.7	552.5	1130	1	12.8	3.46	-	42.3	-	-	-	12.8	7.76	-	89.0	-	-	-	0.090
13	209.3	555.7	1155	0	13.1	4.10	-	40.3	-	-	-	13.3	7.79	-	92.0	-	-	-	0.090
13	209.3	555.7	1200	2	13.1	3.97	39.1	40.9	-	3.37	-	13.3	7.79	-	91.0	-	3.6	0.8	0.090
13	209.3	555.7	1211	5	12.9	8.14	-	27.6	-	-	-	13.1	7.87	-	89.0	-	-	-	0.079
13	209.3	555.7	1216	8	13.0	9.38	-	28.1	-	-	-	13.1	7.92	-	89.0	-	-	0.7	0.078
12	211.6	560.4	1251	1	12.7	0.52	-	87.3	-	-	-	12.7	7.54	-	89.0	-	-	-	0.124
11	212.7	564.6	1304	1	12.7	0.14	-	81.9	-	-	-	12.7	7.42	-	89.0	-	-	-	0.118
10	212.5	569.5	1316	1	12.6	0.07	-	68.7	-	-	-	12.6	7.36	-	89.0	-	-	-	0.111
9	211.4	572.5	1335	0	12.5	0.07	-	62.1	-	-	-	12.4	7.36	-	88.0	-	-	-	0.110
9	211.4	572.5	1342	2	12.5	0.07	62.6	63.5	-	5.77	-	12.5	7.36	-	88.0	-	4.3	1.7	0.111
9	211.4	572.5	1352	5	12.5	0.07	-	66.3	-	-	-	12.5	7.35	-	88.0	-	-	-	0.110
9	211.4	572.5	1356	10	12.5	0.07	-	67.1	-	-	-	12.5	7.36	-	89.0	-	-	-	0.110
9	211.4	572.5	1359	15	12.5	0.07	-	69.9	-	-	-	12.5	7.36	-	89.0	-	-	-	0.111
9	211.4	572.5	1403	25	12.5	0.07	-	75.1	-	-	-	12.5	7.36	-	89.0	-	-	-	0.112
8	209.3	574.3	1433	1	12.6	0.06	-	79.2	-	-	-	12.6	7.39	-	91.0	-	-	-	0.112
7	211.3	579.3	1447	1	12.5	0.06	-	62.2	-	-	-	12.5	7.31	-	90.0	-	-	-	0.108
6	213.3	584.7	1516	0	12.3	0.03	-	63.4	-	-	-	12.2	7.35	-	90.0	-	-	-	0.105
6	213.3	584.7	1524	2	12.3	0.03	57.8	62.7	-	5.09	-	12.2	7.34	-	90.0	-	4.1	1.0	0.105
6	213.3	584.7	1534	9	12.3	0.03	-	66.7	-	-	-	12.2	7.33	-	89.0	-	-	1.1	0.107
5	212.8	589.5	1616	1	12.4	0.05	-	56.2	-	-	-	12.4	7.29	-	91.0	-	-	-	0.102
4	211.5	593.4	1625	1	12.6	0.05	-	60.0	-	-	-	12.6	7.27	-	90.0	-	-	-	0.106
3	211.8	598.4	1647	0	12.6	0.03	-	50.0	-	-	-	12.7	7.26	-	89.0	-	-	-	0.107
3	211.8	598.4	1650	2	12.6	0.03	52.4	56.8	-	4.78	-	12.6	7.29	-	89.0	-	4.3	0.5	0.105
3	211.8	598.4	1703	8	12.4	0.03	-	60.4	-	-	-	12.4	7.33	-	90.0	-	-	-	0.105

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION								
5 MAR 80	6	S F BAY								
STATION	DEPTH	SI02	PO4	NO3+NO2	NO2	NH3	DISSOLV	DISSOLV	TOTAL	TOTAL
	m	UM	UM	UM	UM	UM	NITROG	PHOSPH	NITROG	PHOSPH
19	1	130	1.84	16.6	0.53	5.40	29.5	2.1	30.2	2.2
17	25	-	-	-	-	-	18.3	1.3	21.3	1.6
17	20	-	-	-	-	-	-	-	-	-
17	15	-	-	-	-	-	-	-	-	-
17	10	-	-	-	-	-	27.5	1.7	28.9	1.9
17	5	146	1.56	17.8	0.43	4.72	-	-	-	-
17	2	166	1.59	19.8	0.44	4.93	31.3	1.8	33.5	2.0
17	0	-	-	-	-	-	-	-	-	-
16	1	196	1.55	25.0	0.56	4.89	-	-	-	-
15	0	-	-	-	-	-	-	-	-	-
15	2	212	1.79	26.3	0.65	6.26	41.3	2.0	45.4	2.6
15	5	181	1.74	24.5	0.53	5.29	-	-	-	-
15	10	-	-	-	-	-	-	-	-	-
15	18	-	-	-	-	-	-	-	-	-
15	14	-	-	-	-	-	-	-	-	-
14	1	191	1.58	21.2	0.52	5.05	-	-	-	-
13	0	183	1.67	21.5	0.49	5.64	-	-	-	-
13	2	221	1.64	24.8	0.55	5.38	38.7	1.8	42.2	2.2
13	5	-	-	-	-	-	-	-	-	-
13	8	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-
11	1	253	1.68	25.8	0.52	3.74	-	-	-	-
10	1	-	-	-	-	-	-	-	-	-
9	0	-	-	-	-	-	-	-	-	-
9	2	249	1.72	30.2	0.55	3.73	45.0	1.9	50.8	2.5
9	5	-	-	-	-	-	-	-	-	-
9	10	-	-	-	-	-	-	-	-	-
9	15	-	-	-	-	-	-	-	-	-
9	25	-	-	-	-	-	-	-	-	-
8	1	-	-	-	-	-	-	-	-	-
7	1	-	-	-	-	-	-	-	-	-
6	0	-	-	-	-	-	-	-	-	-
6	2	252	1.49	24.8	0.57	3.48	39.8	1.6	46.0	2.2
6	9	-	-	-	-	-	-	-	-	-
5	1	-	-	-	-	-	-	-	-	-
4	1	-	-	-	-	-	-	-	-	-
3	0	-	-	-	-	-	-	-	-	-
3	2	249	1.66	26.2	0.63	3.76	-	-	-	-
3	8	-	-	-	-	-	-	-	-	-

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION		DEPTH m	TIME	UTM EAST	UTM NORTH	BOW TEMP deg C	SALIN	SUS PAR WATER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
18 MAR 80		7	S F BAY																		
36	147.4	582.7	1121	0	13.4	10.43	-	68.6	-	13.7	8.39	-	93.0	-	2.4	4.9	15.0	0.372	-	-	0.372
36	147.4	582.7	1126	2	13.4	10.45	95.4	87.6	5.59	13.7	8.39	-	92.0	-	2.4	4.9	15.0	0.375	-	-	0.375
36	147.4	582.7	1133	7	13.4	10.47	-	123.7	-	13.6	8.39	-	92.0	-	2.4	4.9	15.0	0.375	-	-	0.375
35	148.5	581.5	1145	1	13.3	11.32	-	130.0	-	13.4	8.36	-	92.0	-	2.4	4.9	15.0	0.360	-	-	0.360
34	149.8	580.6	1152	1	13.5	11.54	-	96.1	-	13.5	8.35	-	93.0	-	2.4	4.9	15.0	0.330	-	-	0.330
33	151.6	577.5	1207	1	13.7	12.28	-	55.8	-	13.7	8.28	-	92.0	-	2.4	4.9	15.0	0.253	-	-	0.253
32	152.5	576.5	1223	0	13.8	12.43	-	62.2	-	14.1	8.26	-	91.0	-	2.4	4.9	15.0	0.242	-	-	0.242
32	152.5	576.5	1228	2	13.8	12.43	73.7	68.6	5.04	14.1	8.25	-	90.0	-	1.8	4.0	6.8	0.245	-	-	0.245
32	152.5	576.5	1233	5	13.8	12.47	-	106.7	-	14.1	8.25	-	90.0	-	2.4	4.9	15.0	0.257	-	-	0.257
32	152.5	576.5	1236	9	13.8	12.47	-	144.9	-	14.1	8.25	-	90.0	-	2.4	4.9	15.0	0.284	-	-	0.284
31	153.8	574.5	1253	1	13.8	12.98	-	55.8	-	13.9	-	-	90.0	-	2.4	4.9	15.0	0.200	-	-	0.200
30	156.5	571.4	1315	0	13.8	13.43	-	39.9	-	14.1	8.15	-	91.0	-	2.4	4.9	15.0	0.154	-	-	0.154
30	156.5	571.4	1320	2	13.8	13.44	42.3	43.1	3.22	14.1	8.15	-	91.0	-	0.9	3.5	3.7	0.157	-	-	0.157
30	156.5	571.4	1326	5	13.7	13.50	-	49.5	-	14.1	8.15	-	91.0	-	2.4	4.9	15.0	0.158	-	-	0.158
30	156.5	571.4	1330	12	13.7	13.50	-	74.9	-	14.0	8.15	-	90.0	-	2.4	4.9	15.0	0.170	-	-	0.170
29	159.5	566.7	1357	1	13.8	13.92	-	49.5	-	13.9	8.14	-	90.0	-	2.4	4.9	15.0	0.150	-	-	0.150
28	161.5	564.4	1412	1	14.0	14.65	-	27.6	-	14.0	8.13	-	93.0	-	2.4	4.9	15.0	0.139	-	-	0.139
27	163.4	562.5	1427	0	13.7	16.25	-	30.4	-	14.0	8.09	-	92.0	-	2.4	4.9	15.0	0.113	-	-	0.113
27	163.4	562.5	1434	2	13.6	16.25	25.7	31.5	2.21	14.0	8.09	-	92.0	-	0.7	2.7	2.1	0.112	-	-	0.112
27	163.4	562.5	1439	5	13.7	16.21	-	28.3	-	14.1	8.09	-	92.0	-	2.4	4.9	15.0	0.115	-	-	0.115
27	163.4	562.5	1443	10	13.6	16.33	-	32.9	-	14.0	8.09	-	92.0	-	2.4	4.9	15.0	0.114	-	-	0.114
26	165.4	560.5	1500	1	13.9	16.70	-	29.3	-	13.9	-	-	92.0	-	2.4	4.9	15.0	0.114	-	-	0.114
25	169.4	559.5	1510	1	13.7	18.11	-	26.2	-	13.8	8.08	-	91.0	-	2.4	4.9	15.0	0.099	-	-	0.099
24	172.5	558.3	1529	0	13.5	18.18	-	21.9	-	13.9	8.08	-	92.0	-	2.4	4.9	15.0	0.088	-	-	0.088
24	172.5	558.3	1532	2	13.5	18.14	19.4	21.9	1.95	13.9	8.08	-	91.0	-	0.5	2.5	1.7	0.089	-	-	0.089
24	172.5	558.3	1540	5	13.5	18.22	-	25.1	-	13.9	8.08	-	91.0	-	2.4	4.9	15.0	0.091	-	-	0.091
24	172.5	558.3	1544	10	13.5	18.35	-	53.7	-	13.8	8.08	-	90.0	-	2.4	4.9	15.0	0.104	-	-	0.104
23	175.5	558.3	1600	1	13.6	18.03	-	23.4	-	13.7	8.08	-	91.0	-	2.4	4.9	15.0	0.090	-	-	0.090
22	179.4	558.5	1613	1	13.6	18.21	-	19.4	-	13.7	8.08	-	91.0	-	2.4	4.9	15.0	0.089	-	-	0.089
21	183.6	556.5	1635	0	13.5	18.38	-	17.7	-	13.9	8.08	-	88.0	-	2.4	4.9	15.0	0.085	-	-	0.085
21	183.6	555.5	1639	2	13.5	18.36	13.9	17.7	1.75	13.9	8.08	-	87.0	-	0.4	2.4	1.5	0.085	-	-	0.085
21	183.6	555.5	1645	5	13.5	18.35	-	20.9	-	13.8	8.08	-	87.0	-	2.4	4.9	15.0	0.090	-	-	0.090
21	183.6	555.5	1652	10	13.4	19.55	-	60.1	-	13.7	8.08	-	87.0	-	2.4	4.9	15.0	0.107	-	-	0.107
20	185.4	552.4	1718	1	13.5	18.65	-	20.9	-	13.5	8.08	-	89.0	-	2.4	4.9	15.0	0.085	-	-	0.085
19	185.6	546.5	1744	2	13.3	22.62	17.0	21.9	-	13.6	8.09	-	89.0	-	0.5	2.2	1.5	0.077	-	-	0.077
19	185.6	546.5	1825	20	13.6	21.62	-	19.8	-	13.6	8.11	-	89.0	-	2.4	4.9	15.0	0.079	-	-	0.079

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION		DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV		TOTAL	
18 MAR 80			S	F BAY							NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM
36	0	-	-	-	-	-	-	-	-	-	-	-	-	-
36	2	136	15.31	70.4	2.47	2.80	-	-	-	-	-	-	108.8	18.3
36	7	-	-	-	-	-	-	-	-	-	-	-	-	-
35	1	-	-	-	-	-	-	-	-	-	-	-	-	-
34	1	-	-	-	-	-	-	-	-	-	-	-	-	-
33	1	-	-	-	-	-	-	-	-	-	-	-	-	-
32	0	-	-	-	-	-	-	-	-	-	-	-	-	-
32	2	127	7.11	58.2	1.15	4.32	-	-	-	-	-	-	-	-
32	5	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9	-	-	-	-	-	-	-	-	-	-	-	-	-
31	1	-	-	-	-	-	-	-	-	-	-	-	-	-
30	0	-	-	-	-	-	-	-	-	-	-	-	-	-
30	2	132	5.01	26.1	0.83	4.90	-	-	-	-	-	-	49.0	5.9
30	5	-	-	-	-	-	-	-	-	-	-	-	-	-
30	12	-	-	-	-	-	-	-	-	-	-	-	-	-
29	1	-	-	-	-	-	-	-	-	-	-	-	-	-
28	1	-	-	-	-	-	-	-	-	-	-	-	-	-
27	0	-	-	-	-	-	-	-	-	-	-	-	-	-
27	2	127	2.92	18.3	0.70	4.10	-	-	-	-	-	-	37.4	3.6
27	5	-	-	-	-	-	-	-	-	-	-	-	-	-
27	10	-	-	-	-	-	-	-	-	-	-	-	-	-
26	1	-	-	-	-	-	-	-	-	-	-	-	-	-
25	1	-	-	-	-	-	-	-	-	-	-	-	-	-
24	0	-	-	-	-	-	-	-	-	-	-	-	-	-
24	2	121	1.94	14.5	0.71	3.43	-	-	-	-	-	-	29.7	2.4
24	5	-	-	-	-	-	-	-	-	-	-	-	-	-
24	10	-	-	-	-	-	-	-	-	-	-	-	-	-
23	1	-	-	-	-	-	-	-	-	-	-	-	-	-
22	1	-	-	-	-	-	-	-	-	-	-	-	-	-
21	0	-	-	-	-	-	-	-	-	-	-	-	-	-
21	2	118	1.99	14.2	0.69	3.61	-	-	-	-	-	-	-	-
21	5	-	-	-	-	-	-	-	-	-	-	-	-	-
21	10	-	-	-	-	-	-	-	-	-	-	-	-	-
20	1	-	-	-	-	-	-	-	-	-	-	-	-	-
19	2	93	1.66	12.3	0.66	2.52	-	-	-	-	-	-	-	-
19	20	-	-	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
19 MAR 80		7		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR WATER mg/L	TURB IDITY	Lat COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
19	185.6	546.5	719	2	12.9	20.72	20.3	18.7	1.45	13.1	8.11	-	90.0	-	-	1.1	0.077
19	185.6	546.5	726	40	13.0	24.92	39.7	30.8	-	13.1	8.11	-	86.0	-	-	1.4	0.087
17	192.6	550.6	820	0	13.0	14.37	-	64.3	-	13.2	8.09	-	91.0	-	-	-	0.102
17	192.6	550.6	826	2	13.0	14.79	59.0	67.9	4.08	13.2	8.09	-	91.0	0.9	3.2	1.6	0.104
17	192.6	550.6	833	5	13.0	18.85	59.8	58.0	-	13.3	8.11	-	89.0	-	-	-	0.098
17	192.6	550.6	840	10	13.0	19.42	-	70.7	-	13.4	8.11	-	89.0	-	-	-	0.106
17	192.6	550.6	847	15	13.0	20.08	-	60.9	-	13.3	8.11	-	88.0	-	-	-	0.100
17	192.6	550.6	850	20	13.0	20.63	-	63.3	-	13.3	8.12	-	88.0	-	-	-	0.103
16	196.3	548.3	914	1	13.0	13.15	-	60.1	-	13.1	8.07	-	91.0	-	-	-	0.100
15	202.4	549.5	943	0	12.9	4.74	-	115.8	-	13.2	7.92	-	94.0	-	-	-	0.147
15	202.4	549.5	948	2	12.9	5.46	132.5	-	5.90	13.2	7.93	-	93.0	2.2	3.9	2.7	0.158
15	202.4	549.5	953	5	12.9	7.46	-	142.8	-	13.2	7.97	-	93.0	-	-	-	0.141
15	202.4	549.5	959	10	12.9	10.07	108.4	117.3	1.95	13.2	8.00	-	92.0	-	-	-	0.137
14	206.7	552.5	1025	1	12.9	6.41	-	85.5	1.45	12.9	7.92	-	93.0	-	-	-	0.139
13	209.3	555.7	1044	0	13.2	5.47	-	108.8	-	13.5	7.87	-	92.0	-	-	-	0.149
13	209.3	555.7	1048	2	13.1	6.16	91.0	107.8	5.64	13.4	7.86	-	89.0	1.4	3.5	3.0	0.145
13	209.3	555.7	1054	5	13.1	8.19	-	-	-	13.4	7.92	-	90.0	-	-	3.8	0.174
12	211.6	560.4	1209	5	-	3.73	-	-	-	-	-	-	-	-	-	-	-
12	211.6	560.4	1223	1	13.1	0.44	-	142.8	-	13.1	7.73	-	95.0	-	-	-	0.159
11	212.7	564.6	1256	1	12.5	0.21	-	121.6	-	12.6	7.62	-	95.0	-	-	-	0.150
10	212.5	569.5	1309	1	12.6	0.08	-	87.6	-	12.7	7.58	-	96.0	-	-	-	0.140
9	211.4	572.5	1327	0	13.1	0.08	-	70.7	-	13.4	7.57	-	95.0	-	-	-	0.132
9	211.4	572.5	1332	2	12.8	0.10	63.4	94.0	6.05	13.1	7.59	-	93.0	1.2	4.2	2.9	0.147
9	211.4	572.5	1339	5	12.8	0.09	-	87.6	-	13.1	7.51	-	93.0	-	-	-	0.140
9	211.4	572.5	1345	15	12.5	0.09	-	98.2	-	12.8	7.58	-	93.0	-	-	-	0.148
8	209.3	574.5	1408	1	12.5	0.07	-	91.9	-	12.6	7.56	-	96.0	-	-	-	0.145
7	211.3	579.3	1425	1	12.6	0.04	-	66.4	-	12.7	7.51	-	97.0	-	-	-	0.132
6	213.3	584.7	1451	0	12.9	0.01	-	53.7	4.61	13.4	7.51	-	96.0	-	-	-	0.123
6	213.3	584.7	1456	2	12.8	0.01	-	62.2	-	13.3	7.49	-	95.0	0.9	5.6	2.3	0.128
6	213.3	584.7	1501	5	12.7	0.02	-	68.6	-	13.2	7.49	-	95.0	-	-	-	0.129
5	212.8	589.5	1533	1	12.5	0.03	-	56.7	-	12.5	7.50	-	95.0	-	-	-	0.126
4	211.5	593.4	1545	1	12.5	0.02	-	66.4	-	12.6	7.59	-	99.0	-	-	-	0.151
3	211.8	598.4	1603	0	12.5	0.02	-	58.0	-	12.8	7.63	-	97.0	-	-	-	0.136
3	211.8	598.4	1609	2	12.4	0.00	-	60.1	4.14	12.6	7.63	-	95.0	0.8	3.9	4.0	0.137
3	211.8	598.4	1615	5	12.1	0.01	-	69.6	-	12.3	7.63	-	95.0	-	-	-	0.137
3	211.8	598.4	1618	10	12.1	0.01	-	78.5	-	12.3	7.63	-	95.0	-	-	-	0.140
651	215.0	608.5	1705	1	11.4	0.04	-	77.5	-	11.5	7.67	-	97.0	-	-	-	0.153
657	223.4	614.9	1746	0	11.7	0.02	-	89.8	-	12.1	7.72	-	97.0	-	-	-	0.189
657	223.4	614.9	1750	2	11.4	0.02	-	102.5	4.83	11.8	7.76	-	94.0	1.2	3.7	-	0.189

- DATA NOT AVAILABLE

Table A.---Physical and chemical data collected aboard the R/V *Polaris* (continued).

DATE		CRUISE #		LOCATION						
19 MAR 80		7		S F BAY						
STATION	DEPTH M	SI02 UM/L	PO4 UM/L	NO3+NO2 UM/L	NO2 UM/L	NH3 UM/L	DISSOLV NITROG UM/L	DISSOLV PHOSPH UM/L	TOTAL NITROG UM/L	TOTAL PHOSPH UM/L
19	2	105	1.73	14.4	0.53	2.75	-	-	-	-
19	40	75	1.55	12.4	0.53	1.65	-	-	23.6	2.1
17	0	-	-	-	-	-	-	-	-	-
17	2	148	1.88	17.1	0.65	3.18	-	-	32.7	2.6
17	5	-	-	-	-	-	-	-	29.2	2.3
17	10	-	-	-	-	-	-	-	-	-
17	15	-	-	-	-	-	-	-	-	-
17	20	-	-	-	-	-	-	-	-	-
16	1	-	-	-	-	-	-	-	-	-
15	0	-	-	-	-	-	-	-	-	-
15	2	208	1.84	22.0	0.55	3.12	-	-	43.4	3.0
15	5	-	-	-	-	-	-	-	-	-
15	10	174	1.88	19.9	0.64	3.33	-	-	39.5	2.9
14	1	-	-	-	-	-	-	-	-	-
13	0	-	-	-	-	-	-	-	-	-
13	2	203	1.86	21.7	0.50	3.37	-	-	-	-
13	5	-	-	-	-	-	-	-	-	-
12	5	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	-
10	1	-	-	-	-	-	-	-	-	-
9	0	-	-	-	-	-	-	-	-	-
9	2	241	1.36	22.1	0.32	1.98	-	-	43.2	2.4
9	5	-	-	-	-	-	-	-	-	-
9	15	-	-	-	-	-	-	-	-	-
8	1	239	1.38	22.1	0.32	1.92	-	-	42.3	2.3
7	1	236	1.40	22.7	0.32	1.86	-	-	42.5	2.3
6	0	-	-	-	-	-	-	-	-	-
6	2	209	1.24	19.6	0.32	1.82	-	-	41.3	2.2
6	5	-	-	-	-	-	-	-	-	-
5	1	233	1.36	21.1	0.32	2.17	-	-	41.0	2.2
4	1	253	1.05	16.6	0.26	1.74	-	-	34.3	1.9
3	0	-	-	-	-	-	-	-	-	-
3	2	243	1.22	18.9	0.28	2.08	30.0	1.4	37.9	2.0
3	5	-	-	-	-	-	-	-	-	-
3	10	-	-	-	-	-	-	-	-	-
651	1	-	-	-	-	-	-	-	31.7	1.8
657	0	-	-	-	-	-	-	-	-	-
657	2	245	1.03	15.0	0.24	1.86	-	-	37.2	2.1

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION															
8 APR 80	8	S F BAY															
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
36	147.4	582.7	933	0	14.6	11.31	-	33.4	-	15.1	8.61	-	116.0	-	-	-	1.329
36	147.4	582.7	938	2	14.1	12.40	33.2	28.3	3.83	14.6	8.55	-	108.0	2.7	5.0	-	1.272
36	147.4	582.7	945	5	13.9	15.42	-	24.0	-	14.3	8.49	-	101.0	-	-	-	0.968
35	148.5	581.5	1000	1	14.3	13.41	-	21.9	-	14.5	8.69	-	124.0	-	-	-	1.503
34	149.8	580.6	1006	1	14.2	13.60	-	24.0	-	14.3	8.64	-	117.0	-	-	-	1.379
33	151.6	577.5	1018	1	14.1	14.35	-	16.6	-	14.2	8.70	-	123.0	-	-	-	1.493
32	152.5	576.5	1031	0	14.3	14.54	-	13.4	-	14.6	8.73	-	128.0	-	-	-	1.525
32	152.5	576.5	1035	2	14.1	14.91	20.7	12.2	2.22	14.5	8.67	-	122.0	2.8	4.6	50.2	1.417
32	152.5	576.5	1042	5	13.9	15.80	-	17.0	-	14.3	8.57	-	109.0	-	-	-	1.018
32	152.5	576.5	1046	8	13.9	17.18	-	21.9	-	14.3	8.42	-	99.0	-	-	-	0.214
31	153.8	574.5	1102	1	13.9	14.99	-	14.5	-	14.0	8.68	-	119.0	-	-	-	1.408
30	156.5	571.4	1117	0	13.9	15.63	-	9.2	-	14.4	8.63	-	117.0	-	-	-	1.212
30	156.5	571.4	1121	2	14.0	16.00	16.2	9.2	1.94	14.0	8.61	-	115.0	2.3	5.9	38.1	1.142
30	156.5	571.4	1127	5	14.0	17.54	-	9.2	-	14.0	8.46	-	106.0	-	-	-	0.727
30	156.5	571.4	1131	10	13.6	19.75	-	9.6	-	14.1	8.17	-	87.0	-	-	-	0.718
29	159.5	566.7	1206	1	14.1	16.93	-	7.5	-	14.1	8.56	-	113.0	-	-	-	1.044
28	161.5	564.4	1216	1	13.9	17.87	-	4.3	-	14.0	8.52	-	112.0	-	-	-	0.718
27	163.4	562.5	1232	0	14.0	18.30	-	4.5	-	14.7	8.54	-	120.0	-	-	-	0.791
27	163.4	562.5	1236	2	13.9	18.62	7.5	2.4	1.49	14.4	8.46	-	110.0	1.2	2.9	21.5	0.560
27	163.4	562.5	1245	5	13.4	21.10	-	0.9	-	13.9	8.22	-	95.0	-	-	-	0.206
27	163.4	562.5	1249	9	13.2	22.12	-	2.8	-	13.7	8.16	-	89.0	-	-	3.8	0.154
26	165.4	560.5	1305	1	14.0	19.30	-	1.4	-	14.1	8.41	-	109.0	-	-	-	0.563
25	169.4	559.5	1316	1	14.1	20.40	-	0.9	-	14.2	8.47	-	119.0	-	-	-	0.540
24	172.5	558.3	1336	0	13.7	21.32	-	0.1	-	14.5	8.32	-	111.0	-	-	-	0.295
24	172.5	558.3	1341	2	13.1	22.55	2.8	-1.0	0.98	13.9	8.15	-	95.0	0.4	1.3	3.9	0.158
24	172.5	558.3	1346	7	12.3	24.15	-	42.1	-	13.2	8.06	-	84.0	-	-	-	0.151
23	175.5	558.5	1445	1	13.1	22.48	-	0.1	-	13.2	8.14	-	92.0	-	-	-	0.189
22	179.4	556.5	1502	1	13.1	17.60	-	6.0	-	13.3	8.14	-	96.0	-	-	-	0.186
21	183.6	555.5	1521	0	14.0	19.95	-	2.0	-	14.4	8.36	-	119.0	-	-	-	0.414
21	183.6	555.5	1525	2	13.7	19.00	7.4	3.9	1.17	14.1	8.27	-	109.0	0.9	2.6	9.2	0.280
21	183.6	555.5	1532	5	12.8	20.95	-	2.8	-	13.3	8.16	-	98.0	-	-	-	0.177
21	183.6	555.5	1538	9	12.6	22.75	-	3.3	-	13.0	8.12	-	93.0	-	-	-	0.153
21	183.6	555.5	1543	16	11.8	26.64	34.5	22.6	-	12.2	8.06	-	88.0	-	-	-	0.143
20	185.4	552.4	1613	1	13.0	22.00	-	0.7	-	13.1	8.17	-	99.0	-	-	-	0.199
19	185.6	546.5	1650	39	10.7	31.70	5.4	0.3	-	10.9	8.09	-	92.0	-	-	1.3	0.126
19	185.6	546.5	1657	20	11.0	30.60	-	-0.3	-	11.1	8.09	-	91.0	-	-	-	0.120
19	185.6	546.5	1701	10	11.1	29.11	-	-0.6	-	11.4	8.12	-	93.0	-	-	-	0.117
19	185.6	546.5	1705	2	11.3	28.20	3.7	-0.8	0.71	11.8	8.13	-	95.0	0.4	1.8	2.7	0.139

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
8 APR 80	8	S F BAY										
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM		
36	0	-	-	-	-	-	-	-	-	-		
36	2	45	16.29	85.2	2.25	-	-	92.0	17.2	109.5	19.9	-
36	5	-	-	-	-	-	-	-	-	-		
35	1	-	-	-	-	-	-	-	-	-		
34	1	39	14.04	60.1	2.05	0.36	-	-	-	-		
33	1	-	-	-	-	-	-	-	-	-		
32	0	-	-	-	-	-	-	-	-	-		
32	2	33	10.56	34.4	1.49	0.61	28.5	1.6	35.7	2.3		
32	5	-	-	-	-	-	-	-	-	-		
32	8	-	-	-	-	-	-	-	-	-		
31	1	-	-	-	-	-	-	-	-	-		
30	0	-	-	-	-	-	-	-	-	-		
30	2	42	8.24	24.4	1.14	0.33	-	-	-	-		
30	5	-	-	-	-	-	-	-	-	-		
30	10	-	-	-	-	-	-	-	-	-		
29	1	51	6.72	18.8	0.90	-	-	-	-	-		
28	1	-	-	-	-	-	-	-	-	-		
27	0	-	-	-	-	-	-	-	-	-		
27	2	68	4.58	14.2	0.61	0.58	23.4	5.0	31.1	5.9		
27	5	-	-	-	-	-	-	-	-	-		
27	9	-	-	-	-	-	-	-	-	-		
26	1	-	-	-	-	-	-	-	-	-		
25	1	75	3.37	11.4	0.42	0.68	-	-	-	-		
24	0	-	-	-	-	-	-	-	-	-		
24	2	84	2.58	18.5	0.39	1.36	-	-	-	-		
24	7	-	-	-	-	-	-	-	-	-		
23	1	-	-	-	-	-	-	-	-	-		
22	1	-	-	-	-	-	-	-	-	-		
21	0	-	-	-	-	-	-	-	-	-		
21	2	100	17.56	18.1	0.44	1.41	-	-	-	-		
21	5	-	-	-	-	-	-	-	-	-		
21	9	-	-	-	-	-	-	-	-	-		
21	16	-	-	-	-	-	-	-	-	-		
20	1	-	-	-	-	-	-	-	-	-		
19	39	-	-	-	-	-	22.7	1.7	26.3	2.0		
19	20	-	-	-	-	-	-	-	-	-		
19	10	-	-	-	-	-	-	-	-	-		
19	2	-	-	-	-	-	-	-	-	-		

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polarís (continued).

DATE		CRUISE #		LOCATION													
9 APR 80		8		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
19	185.6	546.5	715	1	11.1	30.00	2.5	1.9	-	11.2	8.11	-	90.0	-	-	2.3	0.120
17	192.6	550.6	756	0	11.9	25.70	-	3.6	-	11.8	8.10	-	89.0	-	-	-	0.094
17	192.6	550.6	800	2	11.9	25.47	3.6	3.8	0.61	11.4	8.10	-	89.0	0.3	1.9	1.9	0.095
17	192.6	550.6	807	5	11.5	28.50	-	4.0	-	11.5	8.09	-	88.0	-	-	-	0.097
17	192.6	550.6	812	10	10.8	30.77	-	4.0	-	11.1	8.08	-	88.0	-	-	-	0.113
17	192.6	550.6	817	15	10.8	31.18	-	3.8	-	11.0	8.08	-	88.0	-	-	-	0.112
17	192.6	550.6	820	26	10.7	31.34	6.8	4.7	-	10.7	8.08	-	88.0	-	-	-	0.114
16	196.3	548.3	833	1	12.6	20.10	-	6.4	-	12.7	8.10	-	92.0	-	-	-	0.104
15	202.4	549.5	921	0	13.3	16.30	-	10.8	-	13.5	8.10	-	94.0	-	-	-	0.118
15	202.4	549.5	926	2	13.0	16.90	7.0	10.4	1.31	13.3	8.10	-	94.0	0.4	2.6	2.6	0.117
15	202.4	549.5	931	5	12.6	18.50	-	9.5	-	13.1	8.07	-	93.0	-	-	-	0.103
15	202.4	549.5	934	10	11.8	25.35	-	8.3	-	12.4	8.04	-	89.0	-	-	-	0.085
15	202.4	549.5	939	15	11.6	26.90	-	20.8	-	12.0	8.05	-	87.0	-	-	-	0.102
14	206.7	552.5	1014	1	13.4	15.50	-	15.3	-	13.4	8.08	-	94.0	-	-	-	0.140
13	209.3	555.7	1033	0	13.6	12.60	-	14.2	-	14.1	8.04	-	95.0	-	-	-	0.106
13	209.3	555.7	1038	2	13.5	13.60	9.9	13.1	1.39	14.0	8.06	-	95.0	0.4	2.7	2.8	0.128
13	209.3	555.7	1045	5	13.4	15.42	-	12.1	-	13.7	8.07	-	95.0	-	-	-	0.120
13	209.3	555.7	1049	8	11.7	25.71	-	37.5	-	12.2	8.03	-	87.0	-	-	3.8	0.126
12	211.6	560.4	1120	1	13.6	11.25	-	22.7	-	13.7	8.00	-	93.0	-	-	-	0.158
11	212.7	564.6	1140	1	13.5	12.34	-	38.6	-	13.8	7.98	-	91.4	-	-	-	0.126
10	212.5	569.5	1159	1	13.8	8.80	-	38.6	-	13.9	7.95	-	92.0	-	-	-	0.115
9	211.4	572.5	1221	0	14.3	6.20	-	28.2	-	14.8	7.92	-	95.0	-	-	-	0.106
9	211.4	572.5	1227	2	14.5	6.00	20.1	28.6	1.99	14.8	7.92	-	95.0	0.5	2.9	2.3	0.111
9	211.4	572.5	1234	5	13.8	7.20	-	37.5	-	14.4	7.88	-	91.0	-	-	-	0.104
9	211.4	572.5	1242	10	13.6	10.30	-	74.6	-	14.0	7.90	-	90.0	-	-	-	0.133
9	211.4	572.7	1253	15	13.4	10.50	-	109.6	-	13.9	7.90	-	89.0	-	-	-	0.157
8	209.3	574.3	1317	1	14.4	3.30	-	48.1	-	14.5	7.85	-	94.0	-	-	-	0.117
7	211.3	579.3	1340	1	14.4	2.50	-	55.3	-	14.6	7.82	-	93.0	-	-	-	0.116
6	213.3	584.7	1417	0	14.2	0.20	-	65.5	-	14.8	7.58	-	94.0	-	-	-	0.114
6	213.3	584.7	1422	2	14.2	0.16	62.0	65.1	5.16	14.8	7.58	-	94.0	1.1	3.4	2.5	0.115
6	213.3	584.7	1429	5	14.3	0.11	-	58.7	-	14.8	7.55	-	95.0	-	-	-	0.110
5	212.8	589.5	1455	1	14.4	0.09	-	42.4	-	14.5	7.47	-	94.0	-	-	-	0.105
4	211.5	593.4	1512	1	14.1	0.09	-	47.5	-	14.2	7.47	-	95.0	-	-	-	0.126
3	211.8	598.4	1536	0	14.3	0.10	-	46.8	-	14.8	7.49	-	96.0	-	-	-	0.111
3	211.8	598.4	1540	2	14.5	0.10	42.0	44.3	3.24	14.8	7.51	-	96.0	0.8	3.6	2.4	0.110

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V *Polaris* (continued).

DATE	CRUISE #	LOCATION								
9 APR 80	8	S F BAY								
STATION	DEPTH m	SI02 µM	PO4 µM	NO3+NO2 µM	NO2 µM	NH3 µM	DISSOLV NITROG µM	DISSOLV PHOSPH µM	TOTAL NITROG µM	TOTAL PHOSPH µM
19	1	42	1.59	17.7	0.32	1.33	-	-	-	-
17	0	-	-	-	-	-	-	-	-	-
17	2	71	2.02	18.9	0.35	2.18	-	-	-	-
17	5	-	-	-	-	-	-	-	-	-
17	10	-	-	-	-	-	-	-	-	-
17	15	-	-	-	-	-	-	-	-	-
17	26	-	-	-	-	-	-	-	-	-
16	1	-	-	-	-	-	-	-	-	-
15	0	-	-	-	-	-	-	-	-	-
15	2	123	2.12	20.1	0.36	2.23	-	-	-	-
15	5	-	-	-	-	-	-	-	-	-
15	10	-	-	-	-	-	-	-	-	-
15	15	-	-	-	-	-	-	-	-	-
14	1	-	-	-	-	-	-	-	-	-
13	0	-	-	-	-	-	-	-	-	-
13	2	145	2.10	21.0	0.37	2.32	30.0	2.2	33.5	2.5
13	5	-	-	-	-	-	-	-	-	-
13	8	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	-
10	1	-	-	-	-	-	-	-	-	-
9	0	-	-	-	-	-	-	-	-	-
9	2	190	1.88	22.1	0.39	4.15	-	-	-	-
9	5	-	-	-	-	-	-	-	36.4	2.6
9	10	-	-	-	-	-	-	-	38.8	2.8
9	15	-	-	-	-	-	-	-	-	-
8	1	-	-	-	-	-	-	-	-	-
7	1	-	-	-	-	-	-	-	-	-
6	0	-	-	-	-	-	29.2	1.7	38.3	2.4
6	2	228	1.53	18.7	0.42	3.43	29.2	1.7	37.9	2.5
6	5	-	-	-	-	-	-	-	-	-
5	1	-	-	-	-	-	-	-	-	-
4	1	-	-	-	-	-	-	-	-	-
3	0	-	-	-	-	-	-	-	-	-
3	2	226	1.50	17.9	0.34	3.64	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
9 APR 80		8		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR WATER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
3	211.8	598.4	1545	5	14.4	0.10	-	43.9	-	14.8	7.50	-	96.0	-	-	-	0.108
3	211.8	598.4	1548	9	14.4	0.10	-	50.2	-	14.7	7.48	-	95.0	-	-	-	0.112
652	216.4	610.6	1711	1	13.3	0.10	-	41.8	-	13.4	7.54	-	96.0	-	-	-	0.120
653	217.1	612.1	1723	1	13.2	0.10	-	35.4	-	13.3	7.48	-	96.0	-	-	-	0.107
655	219.7	613.9	1733	1	13.2	0.09	-	37.5	-	13.3	7.48	-	96.0	-	-	-	0.109
657	223.4	614.9	1754	0	13.5	0.10	-	37.5	-	13.6	7.60	-	97.0	-	-	-	0.120
657	223.4	614.9	1757	2	13.4	0.10	33.7	39.0	3.09	13.6	7.59	-	97.0	0.5	2.6	2.7	0.118
657	223.4	614.9	1801	5	13.4	0.10	-	39.9	-	13.5	7.58	-	97.0	-	-	-	0.114

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION								
9 APR 80	8	S F BAY								
STATION	DEPTH m	SI02 uM	PO4 uM	NO3+NO2 uM	NO2 uM	NH3 uM	DISSOLV NITROG uM	DISSOLV PHOSPH uM	TOTAL NITROG uM	TOTAL PHOSPH uM
3	5	-	-	-	-	-	-	-	-	-
3	9	-	-	-	-	-	-	-	-	-
652	1	-	-	-	-	-	-	-	-	-
653	1	-	-	-	-	-	-	-	-	-
655	1	-	-	-	-	-	-	-	-	-
657	0	-	-	-	-	-	-	-	-	-
657	2	251	1.44	15.2	0.30	4.73	24.7	1.5	30.7	2.1
657	5	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.---Physical and chemical data collected aboard the R/V Polar's (continued).

DATE		CRUISE #		LOCATION															
22 APR 80		9		S F BAY															
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR		
36	147.4	582.7	1002	0	15.5	16.19	-	17.4	-	15.5	8.34	0.359	85.0	-	-	-	0.600		
36	147.4	582.7	1007	2	15.6	16.53	14.1	18.4	-	15.4	8.31	0.370	81.0	0.7	4.7	-	0.505		
36	147.4	582.7	1013	5	15.8	17.82	-	33.3	-	15.7	8.23	0.400	73.0	-	-	-	0.335		
35	148.5	581.5	1030	1	15.7	17.35	-	29.0	-	15.9	8.30	0.357	82.0	-	-	-	0.420		
34	149.8	580.6	1033	1	15.5	17.51	-	24.8	-	15.7	8.21	0.408	76.3	-	-	-	0.380		
33	151.6	577.5	1045	1	15.7	18.16	-	21.0	-	15.9	8.27	0.382	80.4	-	-	-	0.416		
32	152.5	576.5	1057	0	15.7	18.14	-	17.4	-	15.7	8.26	0.388	80.0	-	-	-	0.355		
32	152.5	576.5	1101	2	15.8	18.35	13.7	17.2	-	15.7	8.26	0.386	80.0	1.2	4.0	-	0.362		
32	152.5	576.5	1108	5	15.8	18.78	-	23.1	-	15.7	8.25	0.385	79.0	-	-	-	0.327		
30	156.5	571.4	1148	0	15.8	19.24	-	16.5	-	15.6	8.28	0.360	82.0	-	-	-	0.328		
30	156.5	571.4	1152	2	15.8	19.28	13.6	16.7	-	15.6	8.28	0.361	81.0	0.7	3.6	-	0.320		
30	156.5	571.4	1159	5	15.9	19.67	-	23.7	-	15.7	8.26	0.362	79.0	-	-	-	0.250		
30	156.5	571.4	1203	10	16.0	20.10	-	42.8	-	15.8	8.26	0.363	79.0	-	-	-	0.245		
29	159.5	566.7	1225	1	16.0	20.10	-	14.2	-	16.1	8.28	0.345	84.0	-	-	-	0.270		
28	161.5	564.4	1237	1	15.9	20.46	-	11.0	-	16.0	8.29	0.328	86.0	-	-	-	0.280		
27	163.4	562.5	1253	0	15.8	20.90	-	10.0	-	15.6	8.30	0.319	87.0	-	-	-	0.235		
27	163.4	562.5	1257	2	15.8	20.85	6.7	10.0	-	15.6	8.30	0.319	87.0	0.4	2.9	-	0.230		
27	163.4	562.5	1304	5	15.8	20.98	-	10.0	-	15.7	8.30	0.321	88.0	-	-	-	0.216		
27	163.4	562.5	1307	9	15.9	21.65	-	14.2	-	15.7	8.27	0.327	87.0	-	-	-	0.195		
26	165.4	560.5	1329	1	15.9	21.41	-	6.8	-	16.1	8.29	0.319	90.0	-	-	-	0.225		
25	169.4	559.5	1340	1	15.8	22.17	-	5.3	-	16.0	8.29	0.310	93.0	-	-	-	0.216		
24	172.5	558.3	1358	0	15.0	24.00	-	3.2	-	14.8	8.21	0.376	93.0	-	-	-	0.127		
24	172.5	558.3	1404	2	14.9	24.03	1.4	3.2	-	14.8	8.21	0.373	93.0	0.4	3.2	-	0.120		
24	172.5	558.3	1410	5	15.0	24.07	-	3.2	-	14.9	8.19	0.376	92.0	-	-	-	0.111		
23	179.4	558.5	1432	1	14.7	24.45	-	3.0	-	14.9	8.17	0.415	92.0	-	-	-	0.122		
22	179.4	556.5	1452	1	14.0	22.00	-	10.4	-	14.3	8.13	0.441	93.0	-	-	-	0.177		
21	183.6	555.5	1506	0	13.9	23.20	-	10.0	-	14.0	8.14	0.432	93.0	-	-	-	0.174		
21	183.6	555.5	1512	2	14.0	24.70	5.2	6.8	-	14.1	8.14	0.440	91.0	0.5	3.2	-	0.147		
21	183.6	555.5	1518	5	14.0	25.54	-	6.6	-	14.0	8.14	0.440	92.0	-	-	-	0.160		
21	183.6	555.5	1522	10	13.5	26.10	-	10.4	-	13.8	8.11	0.457	90.0	-	-	-	0.163		
20	185.4	552.4	1552	1	13.7	24.40	-	9.3	-	13.9	8.11	0.474	92.0	-	-	-	0.163		
19	185.6	546.5	1627	2	11.8	29.90	5.6	5.3	-	12.0	8.08	0.502	80.0	0.6	1.6	-	0.206		
19	185.6	546.5	1633	35	11.4	31.00	14.4	10.6	-	11.5	8.05	0.526	76.0	-	-	-	0.265		
19	185.6	546.5	1640	20	11.4	32.00	-	14.2	-	11.3	8.02	0.544	72.0	-	-	-	0.280		
19	185.6	546.5	1645	10	11.7	30.22	-	5.3	-	11.9	8.08	0.507	80.0	-	-	-	0.220		

- DATA NOT AVAILABLE

Table A.---Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION						
22 APR 80		9		S F BAY						
STATION	DEPTH m	S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV		TOTAL	TOTAL
							NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM
36	0	-	-	-	-	-	-	-	-	-
36	2	36	18.72	71.1	4.35	11.74	91.5	20.3	110.5	22.6
36	5	-	-	-	-	-	-	-	-	-
35	1	-	-	-	-	-	-	-	-	-
34	1	-	-	-	-	-	-	-	-	-
33	1	-	-	-	-	-	-	-	-	-
32	0	-	-	-	-	-	-	-	-	-
32	2	42	12.50	23.0	2.89	14.49	-	-	-	-
32	5	-	-	-	-	-	-	-	-	-
30	0	-	-	-	-	-	-	-	-	-
30	2	43	9.34	12.8	2.11	8.08	-	-	-	-
30	5	-	-	-	-	-	-	-	-	-
30	10	-	-	-	-	-	-	-	-	-
29	1	-	-	-	-	-	-	-	-	-
28	1	-	-	-	-	-	-	-	-	-
27	0	-	-	-	-	-	-	-	-	-
27	2	50	5.89	8.1	1.59	5.17	20.4	6.0	25.5	6.5
27	5	-	-	-	-	-	-	-	-	-
27	9	-	-	-	-	-	-	-	-	-
26	1	-	-	-	-	-	-	-	-	-
25	1	-	-	-	-	-	-	-	-	-
24	0	-	-	-	-	-	-	-	-	-
24	2	60	3.34	11.9	1.39	3.27	-	-	-	-
24	5	-	-	-	-	-	-	-	-	-
23	1	-	-	-	-	-	-	-	-	-
22	1	71	2.27	14.4	0.44	2.15	-	-	-	-
21	0	74	2.24	14.8	0.32	2.40	-	-	-	-
21	2	62	2.28	14.1	0.43	2.59	22.0	2.5	26.9	2.9
21	5	-	-	-	-	-	-	-	-	-
21	10	-	-	-	-	-	-	-	-	-
20	1	-	-	-	-	-	-	-	-	-
19	2	39	1.77	16.0	1.02	2.87	-	-	-	-
19	35	34	1.63	16.0	0.86	2.31	21.4	1.7	28.6	2.3
19	20	-	-	-	-	-	-	-	-	-
19	10	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION												
23 APR 80		9		S F BAY												
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
19	185.6	546.5	714	2	11.3	31.40	3.6	3.6	0.72	11.3	8.01	0.565	50.0	-	6.9	0.175
19	185.6	546.5	721	40	10.4	32.50	11.0	8.5	-	10.7	7.95	0.637	40.0	-	5.0	0.185
19	185.6	546.5	727	20	10.5	32.20	-	5.7	-	10.8	7.97	0.638	43.0	-	-	0.200
17	192.6	550.6	806	0	12.7	26.75	-	5.7	-	12.8	8.08	0.507	88.0	-	-	0.166
17	192.6	550.6	812	2	13.2	24.80	4.0	5.9	0.85	13.2	8.12	0.488	93.0	0.5	1.9	0.193
17	192.6	550.6	821	5	11.9	29.35	-	4.9	-	12.3	8.05	0.514	83.0	-	-	0.161
17	192.6	550.6	825	10	11.2	31.07	-	7.8	-	11.6	8.01	0.563	77.0	-	-	0.204
17	192.6	550.6	830	20	11.1	31.36	-	8.9	-	11.4	8.00	0.584	74.0	-	-	0.196
17	192.6	550.6	834	30	11.0	31.52	-	20.6	-	11.4	7.99	0.590	72.0	-	-	0.246
16	196.3	548.3	913	1	13.2	24.53	-	6.1	-	13.4	8.07	0.501	96.0	-	-	0.166
15	202.4	549.5	944	0	14.2	16.20	-	10.0	-	14.3	8.09	0.483	104.0	-	-	0.169
15	202.4	549.5	950	2	14.2	16.60	6.2	9.5	1.21	14.3	8.09	0.479	103.0	0.5	5.3	0.167
15	202.4	549.5	954	5	14.2	17.30	-	9.5	-	14.3	8.07	0.484	104.0	-	-	0.161
15	202.4	549.5	958	10	13.2	24.60	-	7.8	-	13.6	8.05	0.494	99.0	-	-	0.145
15	202.4	549.5	1002	15	13.0	26.03	-	10.6	-	13.3	8.05	0.513	96.0	-	-	0.151
14	206.7	552.5	1029	1	14.3	17.10	-	10.0	-	14.5	8.08	0.490	106.0	-	-	0.138
13	209.3	555.7	1050	0	14.8	15.00	9.0	11.0	-	15.1	8.02	0.553	106.0	-	-	0.113
13	209.3	555.7	1056	2	14.5	17.30	10.3	12.3	1.10	14.9	8.00	0.578	102.0	0.3	2.2	0.108
13	209.3	555.7	1110	5	13.4	24.30	-	10.0	-	14.1	8.03	0.563	100.0	-	-	0.109
13	211.6	555.7	1104	8	13.1	25.67	-	47.5	-	13.8	8.04	0.550	98.0	-	6.5	0.199
12	212.7	560.4	1135	1	15.1	11.80	-	15.3	-	15.3	7.98	0.594	105.0	-	-	0.137
11	212.5	564.6	1205	1	14.9	13.20	-	18.4	-	15.1	7.98	0.621	105.0	-	-	0.117
10	211.4	569.5	1233	1	15.4	6.20	-	60.8	-	15.6	7.90	0.694	108.0	-	-	0.151
9	211.4	572.5	1256	0	15.5	5.30	-	54.5	-	15.9	7.91	0.718	110.0	-	-	0.162
9	211.4	572.5	1300	2	15.5	6.50	38.5	55.5	3.99	15.8	7.91	0.715	108.0	0.8	3.1	0.159
9	211.4	572.5	1306	5	15.4	7.60	-	54.5	-	15.7	7.90	0.703	107.0	-	-	0.147
9	211.4	572.5	1314	10	15.3	8.40	-	56.6	-	15.6	7.92	0.695	107.0	-	-	0.142
9	211.4	572.5	1320	14	14.8	15.20	-	118.1	-	15.3	7.93	0.681	104.0	-	-	0.167
8	209.3	574.3	1343	1	15.8	2.60	-	86.3	-	16.0	7.90	0.673	112.0	-	-	0.189
7	211.3	579.3	1410	1	16.1	1.95	-	87.3	-	16.3	7.83	0.764	112.0	-	-	0.181
6	213.3	584.7	1448	0	16.2	0.29	-	132.9	-	16.6	7.63	0.840	112.0	-	-	0.183
6	213.3	584.7	1454	2	16.2	0.21	153.6	135.0	9.00	16.6	7.61	0.847	111.0	2.3	6.8	0.181
6	213.3	584.7	1459	5	16.3	0.19	-	149.9	-	16.5	7.60	0.848	112.0	-	-	0.183
5	212.8	589.5	1526	1	16.5	0.08	-	7.8	-	16.7	7.70	0.878	114.0	-	-	0.193
4	211.5	593.4	1544	1	16.1	0.07	-	50.2	-	16.3	7.50	0.850	115.0	-	-	0.142

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
23 APR 80	9	S F BAY										
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM		
19	2	26	1.55	16.5	0.37	1.81	-	-	-	-		
19	40	25	1.60	18.5	0.36	1.73	-	-	-	-		
19	20	-	-	-	-	-	-	-	-	-		
17	0	-	-	-	-	-	-	-	-	-		
17	2	57	1.86	13.2	0.34	2.16	-	-	-	-		
17	5	-	-	-	-	-	-	-	-	-		
17	10	-	-	-	-	-	-	-	-	-		
17	20	-	-	-	-	-	-	-	-	-		
17	30	-	-	-	-	-	-	-	-	-		
16	1	-	-	-	-	-	-	-	-	-		
15	0	-	-	-	-	-	-	-	-	-		
15	2	107	2.24	15.6	0.26	2.21	-	-	-	-		
15	5	-	-	-	-	-	-	-	-	-		
15	10	-	-	-	-	-	-	-	-	-		
15	15	-	-	-	-	-	-	-	-	-		
14	1	-	-	-	-	-	-	-	-	-		
13	0	-	-	-	-	-	-	-	-	-		
13	2	108	2.36	16.5	0.23	3.29	-	-	-	-		
13	5	-	-	-	-	-	-	-	-	-		
13	8	-	-	-	-	-	-	-	-	-		
12	1	-	-	-	-	-	-	-	-	-		
11	1	-	-	-	-	-	-	-	-	-		
10	1	-	-	-	-	-	-	-	-	-		
9	0	-	-	-	-	-	-	-	-	-		
9	2	-	-	-	-	-	-	-	-	-		
9	5	-	-	-	-	-	-	-	-	-		
9	10	-	-	-	-	-	-	-	-	-		
9	14	-	-	-	-	-	-	-	-	-		
8	1	-	-	-	-	-	-	-	-	-		
7	1	-	-	-	-	-	-	-	-	-		
6	0	-	-	-	-	-	-	-	-	-		
6	2	-	-	-	-	-	-	-	-	-		
6	5	-	-	-	-	-	-	-	-	-		
5	1	-	-	-	-	-	-	-	-	-		
4	1	-	-	-	-	-	-	-	-	-		

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polar's (continued).

DATE		CRUISE #		LOCATION												
23 APR 80		9		S F BAY												
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR WATER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
3	211.8	598.4	1610	0	16.4	0.09	-	50.2	-	16.5	7.49	0.906	114.0	-	-	0.131
3	211.8	598.4	1613	2	16.3	0.09	43.4	55.5	3.57	16.4	7.49	0.905	114.0	0.9	3.4	0.134
3	211.8	598.4	1618	5	16.2	0.09	-	60.0	-	16.3	7.47	0.892	114.0	-	-	0.135
651	215.0	608.5	1717	1	15.1	0.07	-	27.6	-	15.3	7.48	0.785	120.0	-	-	0.150
653	217.1	612.1	1726	1	14.9	0.07	-	27.6	-	15.1	7.47	0.835	119.0	-	-	0.142
655	219.7	613.9	1737	1	14.5	0.07	-	26.3	-	14.7	7.44	0.895	118.0	-	-	0.136
657	223.4	614.9	1756	0	14.2	0.07	-	22.7	-	14.2	7.43	0.886	118.0	-	-	0.129
657	223.4	614.9	1801	2	14.2	0.07	15.1	22.7	1.87	14.2	7.44	0.887	118.0	0.7	2.3	5.0

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION								
23 APR 80	9	S F BAY								
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
3	0	-	-	-	-	-	-	-	-	-
3	2	-	-	-	-	-	-	-	-	-
3	5	-	-	-	-	-	-	-	-	-
651	1	-	-	-	-	-	-	-	-	-
653	1	-	-	-	-	-	-	-	-	-
655	1	-	-	-	-	-	-	-	-	-
657	0	-	-	-	-	-	-	-	-	-
657	2	-	-	-	-	-	25.8	2.1	30.6	2.4

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION																	
7 MAY 80		10		S F BAY																	
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR				
36	147.4	582.7	940	0	17.4	17.70	-	18.4	-	18.0	7.79	1.351	30.0	-	-	-	0.170				
36	147.4	582.7	947	2	17.5	17.64	16.0	19.7	2.33	18.0	7.79	1.314	27.0	0.7	6.0	4.6	0.172				
36	147.4	582.7	955	5	17.2	18.64	-	23.5	-	17.7	7.82	1.278	29.0	-	-	-	0.140				
35	148.5	581.6	1009	1	17.6	18.00	-	19.5	-	17.6	7.83	1.161	37.0	-	-	-	0.194				
34	149.8	580.6	1013	1	17.4	18.74	-	16.3	-	17.3	7.79	1.140	-	-	-	-	0.253				
33	151.6	577.6	1028	1	17.4	19.40	-	16.5	-	17.5	7.95	0.916	40.0	-	-	-	0.170				
32	152.5	576.5	1039	0	17.4	19.50	-	14.6	-	17.7	8.03	0.734	47.0	-	-	-	0.310				
32	152.5	576.5	1044	2	17.4	19.50	11.9	16.3	1.75	17.6	8.02	0.746	41.0	1.2	4.6	15.4	0.243				
32	152.5	576.5	1050	5	17.3	19.77	-	37.7	-	17.5	8.01	0.758	39.0	-	-	-	0.182				
32	152.5	576.5	1056	9	17.3	19.77	-	50.2	-	17.5	8.00	0.766	38.0	-	-	-	0.168				
31	153.8	574.5	1112	1	17.5	19.90	-	12.7	-	17.6	8.03	0.742	43.0	-	-	-	0.145				
30	156.5	571.4	1148	0	17.7	20.50	-	12.5	-	17.9	8.13	0.547	36.0	-	-	-	0.164				
30	156.5	571.4	1154	2	17.6	20.50	5.5	12.5	1.30	17.8	8.13	0.557	36.0	0.7	3.6	6.3	0.156				
30	156.5	571.4	1200	5	17.3	20.80	-	19.3	-	17.7	8.12	0.566	39.0	-	-	-	0.129				
30	156.5	571.4	1204	9	17.4	20.89	-	22.7	-	17.6	8.12	0.563	41.0	-	-	-	0.129				
29	159.5	566.7	1232	1	17.7	21.19	-	8.3	-	17.8	8.21	0.463	46.0	-	-	-	0.151				
28	161.5	564.4	1243	1	17.5	21.42	-	5.3	-	17.6	8.28	0.385	48.0	-	-	-	0.167				
27	163.4	562.5	1257	0	17.4	21.67	-	3.8	-	17.6	8.30	0.349	39.0	-	-	-	0.143				
27	163.4	562.5	1313	2	17.2	21.94	0.5	3.6	0.71	17.5	8.30	0.344	30.0	0.4	3.2	6.5	0.134				
27	163.4	562.5	1309	5	16.8	22.89	-	3.4	-	17.2	8.31	0.333	31.0	-	-	-	0.110				
27	163.4	562.5	1315	9	16.7	23.48	-	4.7	-	17.0	8.33	0.307	35.0	-	-	-	0.104				
26	165.4	560.5	1332	1	17.4	22.23	-	2.5	-	17.6	8.33	0.309	101.0	-	-	-	0.131				
25	169.4	559.5	1346	1	17.0	23.72	-	1.9	-	17.3	8.37	0.258	-	-	-	-	0.118				
24	172.5	558.3	1403	0	16.1	24.79	-	1.5	-	16.5	8.28	0.267	-	-	-	-	0.091				
24	172.5	558.3	1408	2	16.1	24.83	-	1.3	0.91	16.5	8.36	0.273	-	0.4	3.8	-	0.093				
24	172.5	558.3	1415	6	15.7	24.97	-	1.7	-	16.2	8.34	0.284	-	-	-	-	0.090				
23	175.5	558.3	1450	1	16.3	24.96	-	1.1	-	16.5	8.34	0.297	-	-	-	-	0.095				
22	179.4	556.5	1505	1	16.1	25.14	-	1.5	-	16.3	8.31	0.315	-	-	-	-	0.104				
21	183.6	555.5	1523	0	15.3	24.63	-	3.6	-	15.9	8.25	0.366	-	-	-	-	0.137				
21	183.6	555.5	1529	2	15.2	24.61	1.6	3.4	0.78	15.8	8.25	0.365	-	0.5	2.5	4.2	0.129				
21	183.6	555.5	1537	5	14.9	26.12	-	2.3	-	15.4	8.23	0.387	-	-	-	-	0.104				
21	183.6	555.5	1543	10	14.5	26.75	-	3.2	-	15.2	8.21	0.387	-	-	-	-	0.102				
20	185.4	552.4	1616	1	14.5	26.42	-	3.4	-	14.7	8.20	0.405	-	-	-	-	0.120				
19	185.6	546.5	1654	40	12.1	31.05	-	2.8	-	12.1	8.09	0.519	-	-	-	8.6	0.227				
19	185.6	546.5	1706	10	12.2	30.55	-	2.5	-	12.7	8.11	0.490	-	-	-	-	0.278				
19	185.6	546.5	1713	2	12.8	29.96	2.3	1.9	1.12	13.0	8.13	0.486	-	0.6	1.8	-	0.292				

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION		DEPTH m	ST02 µM	PO4 µM	NO3+NO2 µM	NO2 µM	NH3 µM	DISSOLV		TOTAL	
7 MAY 80			S	F BAY							NITROG µM	PHOSPH µM	NITROG µM	PHOSPH µM
36	0	-	-	-	-	-	-	-	-	-	-	-	-	-
36	2	62	23.01	80.6	3.63	-	-	-	-	-	105.0	24.6	108.1	24.9
36	5	-	-	-	-	-	-	-	-	-	-	-	-	-
35	1	-	-	-	-	-	-	-	-	-	-	-	-	-
34	1	-	-	-	-	-	-	-	-	-	-	-	-	-
33	1	-	-	-	-	-	-	-	-	-	-	-	-	-
32	0	-	-	-	-	-	-	-	-	-	-	-	-	-
32	2	13	1.17	12.0	0.39	-	-	-	-	-	-	-	-	-
32	5	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9	-	-	-	-	-	-	-	-	-	-	-	-	-
31	1	-	-	-	-	-	-	-	-	-	-	-	-	-
30	0	-	-	-	-	-	-	-	-	-	-	-	-	-
30	2	-	-	-	-	-	-	-	-	-	-	-	-	-
30	5	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9	-	-	-	-	-	-	-	-	-	-	-	-	-
29	1	-	-	-	-	-	-	-	-	-	-	-	-	-
28	1	-	-	-	-	-	-	-	-	-	-	-	-	-
27	0	-	-	-	-	-	-	-	-	-	-	-	-	-
27	2	15	6.59	2.0	0.20	-	-	-	-	-	15.4	7.2	18.7	7.6
27	5	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9	-	-	-	-	-	-	-	-	-	-	-	-	-
26	1	-	-	-	-	-	-	-	-	-	-	-	-	-
25	1	-	-	-	-	-	-	-	-	-	-	-	-	-
24	0	-	-	-	-	-	-	-	-	-	-	-	-	-
24	2	12	2.80	9.7	0.22	-	-	-	-	-	10.8	3.2	14.5	3.8
24	6	-	-	-	-	-	-	-	-	-	-	-	-	-
23	1	-	-	-	-	-	-	-	-	-	-	-	-	-
22	1	-	-	-	-	-	-	-	-	-	-	-	-	-
21	0	-	-	-	-	-	-	-	-	-	-	-	-	-
21	2	29	1.95	29.2	0.35	-	-	-	-	-	15.7	2.2	19.9	2.7
21	5	-	-	-	-	-	-	-	-	-	-	-	-	-
21	10	-	-	-	-	-	-	-	-	-	-	-	-	-
20	1	-	-	-	-	-	-	-	-	-	-	-	-	-
19	40	13	1.17	12.0	0.39	-	-	-	-	-	19.2	1.5	27.5	2.3
19	10	-	-	-	-	-	-	-	-	-	-	-	-	-
19	2	15	1.33	10.0	0.31	-	-	-	-	-	16.6	1.5	23.6	2.2

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION																	
8 MAY 80		10		S F BAY																	
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR				
19	185.6	546.5	709	1	12.1	30.80	2.3	3.0	-	12.4	8.07	0.490	75.0	-	-	23.6	0.193				
17	192.6	550.6	746	0	13.0	28.74	-	3.8	-	13.3	8.12	0.469	81.0	-	-	-	0.140				
17	192.6	550.6	752	2	12.7	29.44	2.1	3.4	0.92	13.1	8.12	0.485	80.0	0.5	1.8	5.3	0.145				
17	192.6	550.6	758	5	12.5	29.81	-	3.6	-	13.0	8.11	0.491	79.0	-	-	-	0.146				
17	192.6	550.6	805	10	11.7	31.29	-	6.8	-	12.3	8.06	0.523	73.0	-	-	-	0.231				
17	192.6	550.6	810	20	11.7	31.41	-	13.8	-	12.2	8.06	0.539	72.0	-	-	-	0.300				
17	192.6	550.6	818	30	11.5	31.71	2.3	27.8	-	11.9	8.04	0.550	68.0	-	-	23.6	0.470				
16	196.3	548.3	853	1	14.8	23.88	-	5.5	-	15.0	8.24	0.368	95.0	-	-	-	0.158				
15	202.4	549.5	927	0	15.7	20.40	-	8.9	-	15.8	8.32	0.308	100.0	-	-	-	0.210				
15	202.4	549.5	933	2	14.9	20.25	5.0	8.5	1.20	15.4	8.26	0.343	97.0	0.7	2.3	9.0	0.191				
15	202.4	549.5	940	5	14.5	24.36	-	7.2	-	14.9	8.20	0.397	95.0	-	-	-	0.142				
15	202.4	549.5	947	10	13.7	27.10	-	6.4	-	14.2	8.15	0.445	89.0	-	-	-	0.126				
15	202.4	549.5	954	20	13.6	27.71	-	34.8	-	14.0	8.13	0.464	87.0	-	-	-	0.194				
14	206.7	552.5	1023	1	15.4	21.15	-	6.8	-	15.5	8.31	0.318	104.0	-	-	-	0.196				
13	209.3	555.7	1046	0	16.2	15.50	-	8.9	-	16.4	8.35	0.281	116.0	-	-	-	0.200				
13	209.3	555.7	1053	2	16.1	15.82	3.3	8.1	1.06	16.4	8.35	0.277	117.0	0.8	2.8	8.1	0.221				
13	209.3	555.7	1100	6	14.6	24.18	-	13.6	-	15.0	8.15	0.408	97.0	-	-	3.2	0.140				
13	209.3	555.7	1107	3	15.7	17.65	-	6.6	-	15.8	8.29	0.343	112.0	-	-	-	-				
12	211.6	560.4	1133	1	16.9	13.77	-	21.6	-	17.1	8.41	0.253	114.0	-	-	-	0.342				
11	212.7	564.6	1149	1	16.7	12.34	-	11.2	-	16.9	8.23	0.367	111.0	-	-	-	0.210				
10	212.5	569.5	1213	1	16.5	12.00	-	48.5	-	16.7	8.13	0.465	104.0	-	-	-	0.167				
9	211.4	572.5	1234	0	16.8	7.80	-	46.0	-	17.1	8.07	0.520	106.0	-	-	-	0.183				
9	211.4	572.5	1241	2	16.8	8.25	33.5	46.6	2.84	17.0	8.08	0.491	105.0	1.0	3.1	5.3	0.178				
9	211.4	572.5	1247	5	16.8	8.66	-	54.7	-	17.0	8.08	0.489	105.0	-	-	-	0.177				
9	211.4	572.5	1257	10	16.7	9.25	-	64.0	-	16.9	8.09	0.484	105.0	-	-	-	0.188				
8	209.3	574.5	1325	1	17.0	4.50	-	55.5	-	17.1	8.02	0.527	107.0	-	-	-	0.177				
7	211.3	579.3	1348	1	17.2	4.00	-	65.9	-	17.3	7.99	0.565	106.0	-	-	-	0.190				
6	213.3	584.3	1424	0	17.5	0.51	-	107.1	-	17.8	7.94	0.519	110.0	-	-	-	0.211				
6	213.3	584.3	1430	2	17.3	0.36	117.7	124.4	7.18	17.8	7.85	0.561	107.0	2.1	4.4	7.5	0.205				
6	213.3	584.3	1438	5	17.4	0.32	-	128.7	-	17.7	7.82	0.613	107.0	-	-	7.3	0.207				
5	212.8	589.5	1504	1	17.8	0.09	-	74.4	-	17.9	7.65	0.697	107.0	-	-	-	0.170				
4	211.5	593.4	1521	1	17.7	0.06	-	50.2	-	17.8	7.64	0.692	108.0	-	-	-	0.164				
3	211.8	598.4	1547	0	17.8	0.08	-	50.2	-	17.9	7.64	0.742	106.0	-	-	-	0.151				
3	211.8	598.4	1554	2	17.9	0.09	50.8	52.4	4.54	18.0	7.64	0.766	106.0	1.0	3.4	4.7	0.153				
3	211.8	598.4	1559	5	17.9	0.08	-	54.5	-	18.0	7.63	0.775	106.0	-	-	-	0.155				

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE 8 MAY 80	STATION	DEPTH m	CRUISE # 10	LOCATION		SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV		TOTAL PHOSPH UM
											NITROG UM	PHOSPH UM	
	19	1	17	1.53	9.5	0.48	3.53	-	-	-	-	-	-
	17	0	-	-	-	-	-	-	-	-	-	-	-
	17	2	20	1.61	8.5	0.44	3.91	20.0	1.8	24.5	2.3	-	-
	17	5	-	-	-	-	-	-	-	-	-	-	-
	17	10	-	-	-	-	-	-	-	-	-	-	-
	17	20	-	-	-	-	-	-	-	-	-	-	-
	17	30	-	-	-	-	-	-	-	-	-	-	-
	16	1	-	-	-	-	-	-	-	-	-	-	-
	15	0	-	-	-	-	-	-	-	-	-	-	-
	15	2	44	1.85	5.5	0.40	1.46	-	-	-	-	-	-
	15	5	-	-	-	-	-	-	-	-	-	-	-
	15	10	-	-	-	-	-	-	-	-	-	-	-
	15	20	-	-	-	-	-	-	-	-	-	-	-
	14	1	-	-	-	-	-	-	-	-	-	-	-
	13	0	-	-	-	-	-	-	-	-	-	-	-
	13	2	80	1.93	8.7	0.43	0.32	18.3	2.3	25.7	2.8	-	-
	13	6	-	-	-	-	-	-	-	-	-	-	-
	13	3	-	-	-	-	-	-	-	-	-	-	-
	12	1	-	-	-	-	-	-	-	-	-	-	-
	11	1	-	-	-	-	-	-	-	-	-	-	-
	10	1	-	-	-	-	-	-	-	-	-	-	-
	9	0	-	-	-	-	-	-	-	-	-	-	-
	9	2	144	2.25	16.2	0.47	3.32	29.1	2.5	34.4	3.1	-	-
	9	5	-	-	-	-	-	-	-	-	-	-	-
	9	10	-	-	-	-	-	-	-	-	-	-	-
	8	1	-	-	-	-	-	-	-	-	-	-	-
	7	1	-	-	-	-	-	-	-	-	-	-	-
	6	0	-	-	-	-	-	-	-	-	-	-	-
	6	2	204	2.03	17.0	0.45	1.34	29.8	2.1	42.6	3.1	-	-
	6	5	-	-	-	-	-	-	-	-	-	-	-
	5	1	-	-	-	-	-	-	-	-	-	-	-
	4	1	-	-	-	-	-	-	-	-	-	-	-
	3	0	-	-	-	-	-	-	-	-	-	-	-
	3	2	196	2.03	14.4	0.51	1.47	27.5	2.0	33.6	2.6	-	-
	3	5	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION											
8 MAY 80		10		S F BAY											
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
2	213.2	600.4	1739	1	18.3	0.07	47.7	-	18.6	7.50	0.888	106.0	-	-	0.151
651	215.0	608.4	1806	1	17.5	0.04	25.0	-	17.7	7.78	0.445	117.0	-	-	0.335
653	217.1	612.1	1819	1	17.5	0.05	21.8	-	17.7	7.84	0.382	118.0	-	-	0.362
655	219.7	613.9	1831	1	17.6	0.05	21.2	-	17.7	7.75	0.455	118.0	-	-	0.368
657	223.4	614.9	1855	0	17.3	0.02	18.4	2.19	17.6	7.92	0.334	120.0	-	-	0.400
657	223.4	614.9	1900	2	17.4	0.01	18.9	-	17.6	7.91	0.329	120.0	1.1	2.2	0.395

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V *Polaris* (continued).

DATE	CRUISE #	LOCATION								
8 MAY 80	10	S F BAY								
STATION	DEPTH m	S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
2	1	-	-	-	-	-	-	-	-	-
651	1	-	-	-	-	-	-	-	-	-
653	1	-	-	-	-	-	-	-	-	-
655	1	-	-	-	-	-	-	-	-	-
657	0	-	-	-	-	-	-	-	-	-
657	2	-	-	-	-	-	15.9	1.9	25.2	2.7

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V *Polaris* (continued).

DATE		CRUISE #		LOCATION																				
21 MAY 80		11		S F BAY																				
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR							
36	147.4	582.7	709	0	18.2	20.71	-	12.1	-	18.2	7.79	1.183	-	-	-	-	0.104							
36	147.4	582.7	715	2	18.3	20.91	11.1	12.1	1.34	18.4	7.82	1.127	-	0.4	4.0	1.7	0.100							
36	147.4	582.7	722	4	18.3	21.27	-	12.1	-	18.4	7.84	1.074	-	-	-	-	0.092							
35	148.5	581.5	737	1	18.6	21.42	-	12.3	-	18.6	7.85	-	-	-	-	-	0.108							
34	149.8	580.6	743	1	18.5	21.93	-	10.4	-	18.8	7.98	0.843	-	-	-	-	0.146							
33	151.6	577.5	757	1	18.2	22.27	-	7.8	-	18.4	7.97	0.809	-	-	-	-	0.136							
32	152.5	576.5	807	0	18.0	22.20	-	9.5	-	18.3	7.89	0.975	-	-	-	-	0.119							
32	152.5	576.5	814	2	17.8	22.25	7.4	8.3	1.41	18.1	7.87	0.985	-	0.3	3.5	2.2	0.099							
32	152.5	576.5	819	5	17.8	22.44	-	7.8	-	18.1	7.89	0.946	-	-	-	-	0.092							
32	152.5	576.5	824	8	17.7	22.52	-	16.3	-	18.2	7.88	0.902	-	-	-	-	0.093							
31	153.8	574.5	840	1	17.8	22.57	-	6.8	-	18.0	7.86	0.916	-	-	-	-	0.114							
30	156.5	571.4	901	0	17.4	22.77	-	6.4	-	17.6	7.91	0.821	-	-	-	-	0.120							
30	156.5	571.4	905	2	17.4	22.73	4.0	6.4	0.87	17.5	7.91	0.802	-	0.4	3.0	4.3	0.133							
30	156.5	571.4	913	5	17.4	22.81	-	8.5	-	17.5	7.88	0.849	-	-	-	-	0.123							
30	156.5	571.4	920	10	17.2	23.46	-	13.1	-	17.4	7.87	0.826	-	-	-	-	0.079							
29	159.5	566.7	948	1	17.2	23.70	-	7.0	-	17.5	7.88	0.842	-	-	-	-	0.095							
28	161.5	564.4	955	1	17.1	24.37	-	5.7	-	17.3	7.91	0.748	-	-	-	-	0.100							
27	163.4	562.5	1011	0	16.9	24.60	-	4.2	-	17.3	7.93	0.693	-	-	-	-	0.098							
27	163.4	562.5	1018	2	17.0	24.47	2.4	4.2	0.95	17.2	7.93	0.708	-	0.3	2.5	2.5	0.093							
27	163.4	562.5	1024	5	16.9	24.57	-	4.2	-	17.2	7.92	0.734	-	-	-	-	0.079							
27	163.4	562.5	1030	10	16.7	25.12	-	13.1	-	17.0	7.92	0.741	-	-	-	0.9	0.073							
26	165.4	560.5	1048	1	17.0	24.88	-	3.8	-	17.3	7.94	0.706	-	-	-	-	0.092							
25	169.4	559.5	1057	1	17.0	25.01	-	3.6	-	17.3	7.95	0.683	-	-	-	-	0.101							
24	172.5	558.3	1115	0	15.3	26.35	-	5.3	-	15.4	7.94	0.652	-	-	-	-	0.076							
24	172.5	558.3	1123	2	15.4	26.15	5.4	5.7	0.87	15.7	7.92	0.651	-	0.3	2.0	1.6	0.079							
24	172.5	558.3	1128	5	15.4	26.24	-	5.9	-	15.8	7.92	0.657	-	-	-	-	0.076							
24	172.5	558.3	1133	7	15.4	26.23	-	5.9	-	15.8	7.92	0.662	-	-	-	-	0.076							
23	175.5	558.5	1158	1	15.3	26.18	-	8.5	-	15.6	7.92	0.681	-	-	-	-	0.095							
22	179.4	556.5	1209	1	15.0	26.13	-	7.4	-	15.4	7.91	0.644	-	-	-	-	0.103							
21	183.6	555.5	1225	0	15.6	25.97	-	10.2	-	16.0	7.91	0.655	-	-	-	-	0.090							
21	183.6	555.5	1231	2	15.6	25.91	12.7	10.6	1.25	16.0	7.91	0.660	-	0.4	2.5	2.3	0.097							
21	183.6	555.5	1237	5	15.4	26.02	-	11.0	-	16.0	7.91	0.670	-	-	-	-	0.095							
21	183.6	555.5	1242	10	15.3	26.16	-	11.0	-	15.8	7.91	0.676	-	-	-	-	0.093							
21	183.6	555.5	1247	14	14.8	26.53	-	14.4	-	15.5	7.89	0.692	-	-	-	-	0.109							
20	185.4	552.4	1310	1	14.8	26.64	-	5.9	-	15.1	7.92	0.663	-	-	-	-	0.119							
19	185.6	546.5	1331	1	14.4	26.91	5.6	5.5	-	14.6	7.92	0.666	-	0.4	-	3.2	0.130							

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION		ST02	PO4	NO3+NO2	NO2	NH3	DISSOLV		DISSOLV		TOTAL	
21 MAY 80			S	F BAY	UM	UM	UM	UM	UM	NITROG	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH
STATION	DEPTH									UM	UM	UM	UM	UM	UM
m															
36	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	2	89	17.79	50.7	3.91	38.93	-	-	-	-	-	-	-	-	-
36	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	2	64	11.85	24.6	2.04	18.25	-	-	-	-	-	-	-	-	-
32	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	2	59	10.14	-	1.66	16.01	-	-	-	-	-	-	-	-	-
30	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	2	46	6.52	9.9	0.99	14.46	-	-	-	-	-	-	-	-	-
27	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	2	37	3.86	9.8	0.84	13.41	-	-	-	-	-	-	-	-	-
24	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	2	39	4.07	9.2	0.75	12.67	-	-	-	-	-	-	-	-	-
21	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	1	36	3.07	13.0	0.77	12.11	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and data chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
22 MAY 80		11		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
19	185.6	546.5	617	40	11.6	31.47	5.5	3.0	-	11.9	7.85	0.711	-	-	-	4.7	0.142
19	185.6	546.5	623	12	11.8	31.21	-	2.5	-	11.9	7.84	0.709	-	-	-	-	0.122
19	185.6	546.5	628	2	11.8	31.05	3.1	2.3	0.87	11.9	7.84	0.719	-	0.4	1.4	2.8	0.122
17	192.6	550.6	709	0	14.1	24.40	-	8.3	-	14.5	7.98	0.586	-	-	-	-	0.122
17	192.6	550.6	714	2	13.7	26.80	-	6.6	1.10	14.1	7.90	0.658	-	-	2.7	4.3	0.111
17	192.6	550.6	720	5	13.6	27.20	6.9	6.4	-	14.2	7.89	0.677	-	-	-	-	0.108
17	192.6	550.6	725	10	12.3	30.25	-	10.0	-	13.0	7.84	0.749	-	-	-	-	0.152
17	192.6	550.6	731	15	12.1	30.68	-	10.2	-	12.8	7.84	0.774	-	-	-	-	0.171
17	192.6	550.6	737	25	12.1	30.76	-	15.3	-	12.6	7.84	0.781	-	-	-	-	0.174
16	196.3	548.3	804	1	14.7	23.25	-	13.8	-	14.9	7.99	0.592	-	-	-	-	0.168
15	202.4	549.5	832	0	14.8	23.04	10.3	17.2	-	15.1	7.97	0.600	-	-	-	-	0.149
15	202.4	549.5	837	2	14.7	23.10	-	16.1	1.67	15.2	7.97	0.601	-	0.6	2.1	6.0	0.152
15	202.4	549.5	842	5	14.5	24.78	-	13.1	-	15.0	7.92	0.634	-	-	-	-	0.134
15	202.4	549.5	847	10	13.5	27.64	-	12.9	-	14.1	7.86	0.727	-	-	-	-	0.127
15	202.4	549.5	852	20	13.2	28.45	-	12.1	-	13.8	7.85	0.775	-	-	-	-	0.119
14	206.7	552.5	917	1	15.7	18.19	-	25.9	-	15.9	8.07	0.453	-	-	-	-	0.206
13	209.3	555.7	936	0	16.5	15.15	-	22.7	-	16.8	8.11	0.428	-	-	-	-	0.214
13	209.3	555.7	942	2	16.0	16.90	21.2	25.6	1.88	16.3	8.03	0.500	-	0.7	2.5	4.0	0.209
13	209.3	555.7	948	5	14.8	23.50	-	15.0	-	15.4	7.93	0.599	-	-	-	-	0.153
13	209.3	555.7	952	9	14.5	25.20	-	21.4	-	15.1	7.90	0.666	-	-	-	11.0	0.171
12	211.6	560.4	1022	1	16.6	12.54	-	162.6	-	16.8	8.05	0.482	-	-	-	-	0.507
11	212.7	564.6	1035	1	16.9	13.27	-	145.6	-	17.2	-	0.517	-	-	-	-	0.460
10	212.5	569.5	1051	1	17.2	10.20	-	22.7	-	17.4	8.05	0.515	-	-	-	-	0.070
9	211.4	572.5	1110	0	17.1	8.30	-	42.8	-	17.5	7.99	0.531	-	-	-	-	0.193
9	211.4	572.5	1117	2	17.1	7.76	38.6	44.9	3.88	17.5	7.97	0.542	-	1.0	3.1	11.7	0.203
9	211.4	572.5	1123	5	17.1	10.25	-	69.3	-	17.5	7.91	0.607	-	-	-	-	0.226
9	211.4	572.5	1129	10	17.1	11.95	-	48.1	-	17.5	7.95	0.610	-	-	-	-	0.212
9	211.4	572.5	1135	20	16.9	14.22	-	49.6	-	17.3	7.97	0.589	-	-	-	-	0.244
8	209.3	574.3	1156	1	17.6	6.19	-	34.6	-	17.8	8.00	0.569	-	-	-	-	0.191
7	211.3	579.3	1216	1	18.0	3.66	-	54.5	-	18.2	7.95	0.579	-	-	-	-	0.237
6	213.3	584.7	1246	0	18.7	0.52	-	95.2	-	19.0	7.82	0.645	-	-	-	-	0.252
6	213.3	584.7	1252	2	18.7	0.48	80.3	94.8	6.18	18.9	7.83	0.629	-	1.4	3.5	12.8	0.252
6	213.3	584.7	1258	5	18.5	0.68	-	131.9	-	18.8	7.82	0.647	-	-	-	12.8	0.271
5	212.8	589.5	1325	1	18.9	0.12	-	82.0	-	19.1	7.65	0.737	-	-	-	-	0.190
4	211.5	593.4	1341	1	19.2	0.08	-	67.2	-	19.3	7.59	0.773	-	-	-	-	0.169

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION								
22 MAY 80	11	S F BAY								
STATION	DEPTH m	S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
19	40	28	2.08	17.4	0.38	-	-	-	-	-
19	12	-	-	-	-	-	-	-	-	-
19	2	29	2.21	17.3	0.36	-	-	-	-	-
17	0	-	-	-	-	-	-	-	-	-
17	2	34	2.47	14.0	0.38	-	-	-	-	-
17	5	-	-	-	-	-	-	-	-	-
17	10	-	-	-	-	-	-	-	-	-
17	15	-	-	-	-	-	-	-	-	-
17	25	-	-	-	-	-	-	-	-	-
16	1	-	-	-	-	-	-	-	-	-
15	0	-	-	-	-	-	-	-	-	-
15	2	37	2.40	11.6	0.29	-	-	-	-	-
15	5	-	-	-	-	-	-	-	-	-
15	10	-	-	-	-	-	-	-	-	-
15	20	-	-	-	-	-	-	-	-	-
14	1	-	-	-	-	-	-	-	-	-
13	0	-	-	-	-	-	-	-	-	-
13	2	54	2.28	11.6	0.28	-	-	-	-	-
13	5	-	-	-	-	-	-	-	-	-
13	9	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	-
10	1	-	-	-	-	-	-	-	-	-
9	0	-	-	-	-	-	-	-	-	-
9	2	200	2.61	18.0	0.32	-	-	-	-	-
9	5	-	-	-	-	-	-	-	-	-
9	10	-	-	-	-	-	-	-	-	-
9	20	-	-	-	-	-	-	-	-	-
8	1	-	-	-	-	-	-	-	-	-
7	1	-	-	-	-	-	-	-	-	-
6	0	-	-	-	-	-	-	-	-	-
6	2	196	2.55	21.4	0.30	-	-	-	-	-
6	5	-	-	-	-	-	-	-	-	-
5	1	-	-	-	-	-	-	-	-	-
4	1	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and data chemical data collected aboard the R/V *Polaris* (continued).

DATE		CRUISE #	LOCATION															
22 MAY 80		11	S F BAY															
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
3	211.8	598.4	1407	0	18.9	0.08	-	52.4	-	19.4	7.59	0.810	-	-	-	-	-	0.149
3	211.8	598.4	1416	2	18.9	0.08	46.5	53.0	3.49	19.2	7.59	0.797	-	0.9	3.6	2.7	0.149	
3	211.8	598.4	1423	5	18.8	0.08	-	58.7	-	19.2	7.59	0.809	-	-	-	-	0.150	
3	211.8	598.4	1429	8	18.8	0.08	-	65.1	-	19.2	7.59	0.821	-	-	-	-	0.153	
2	213.2	600.4	1543	1	19.2	0.07	-	46.0	-	19.3	7.58	0.735	-	-	-	-	0.150	
651	215.0	608.5	1612	1	19.1	0.06	-	41.8	-	19.3	7.62	0.750	-	-	-	-	-	0.191
653	217.1	612.1	1625	1	19.2	0.06	-	30.5	-	19.4	7.64	0.749	-	-	-	-	-	0.199
655	219.7	613.9	1637	1	19.1	0.06	-	25.9	-	19.4	7.60	0.765	-	-	-	-	-	0.215
657	223.4	614.9	1658	0	19.2	0.07	-	24.2	-	19.4	7.62	0.841	-	-	-	-	-	0.199
657	223.4	614.9	1703	2	19.2	0.04	20.2	24.6	2.26	19.4	7.62	0.831	-	0.6	3.3	6.5	0.196	
657	223.4	614.9	1709	5	19.2	0.04	-	24.2	-	19.4	7.61	0.835	-	-	-	-	-	0.199

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION		STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV		TOTAL		TOTAL PHOSPH UM
22 MAY 80			S	F BAY								NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM	
3	0	-			-	-	-	-	-	-	-					-
3	2	210	2.03	20.0	0.34	-	-	-	-	-	-	-	-	-	-	-
3	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
651	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
653	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
655	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
657	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
657	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
657	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V PolarIs (continued).

DATE		CRUISE #		LOCATION													
4 JUN 80		12		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
36	147.4	582.7	748	0	17.0	22.76	-	25.5	-	16.9	-	1.037	-	-	-	-	0.119
36	147.4	582.7	755	2	17.0	22.57	25.5	28.5	2.52	17.1	7.84	1.029	-	0.3	-	2.6	0.117
35	148.5	581.5	819	1	17.0	23.16	-	27.2	-	17.2	7.87	0.974	-	-	-	-	0.123
34	149.8	580.6	823	1	16.8	23.10	-	66.4	-	17.0	7.85	0.976	-	-	-	-	0.136
33	151.6	577.5	835	1	16.9	23.85	-	45.2	-	17.1	7.90	0.875	-	-	-	-	0.133
32	152.5	576.5	847	0	16.9	23.97	-	38.9	-	17.0	7.92	0.804	-	-	-	-	0.130
32	152.5	576.5	851	2	16.9	23.92	36.6	45.2	2.73	17.0	7.92	0.800	-	0.9	-	2.8	0.133
32	152.5	576.5	858	5	16.9	24.05	-	64.3	-	16.9	7.93	0.805	-	-	-	-	0.142
31	153.8	574.4	917	1	16.8	24.24	-	43.1	-	17.0	7.95	0.783	-	-	-	-	0.142
30	156.5	571.4	935	0	16.8	24.43	-	58.0	-	17.0	7.99	0.661	-	-	-	-	0.158
30	156.5	571.4	939	2	16.8	24.23	64.6	64.3	4.21	17.0	7.99	0.673	-	1.1	-	-	0.158
30	156.5	571.4	947	5	16.8	24.31	-	74.9	-	16.9	7.99	0.671	-	-	-	-	0.161
30	156.5	571.4	950	10	16.8	24.30	-	81.3	-	16.8	7.99	0.672	-	-	-	-	0.165
29	159.5	566.7	1022	1	16.6	24.76	-	26.2	-	16.8	7.95	0.679	-	-	-	-	0.117
28	161.5	564.4	1030	1	16.6	24.84	-	47.4	-	16.7	7.95	0.701	-	-	-	-	0.122
28	161.5	564.4	1046	10	16.5	24.85	-	74.9	-	16.7	7.95	0.699	-	-	-	-	0.133
27	163.4	562.5	1107	0	16.7	24.85	-	30.4	-	16.9	7.94	0.711	-	-	-	-	0.111
27	163.4	562.5	1112	2	16.6	24.87	27.6	30.4	2.48	17.0	7.95	0.713	-	0.6	-	2.3	0.114
27	163.4	562.5	1118	5	16.6	24.88	-	43.1	-	16.9	7.94	0.713	-	-	-	-	0.117
27	163.4	562.5	1122	9	16.6	24.92	-	62.2	-	16.9	7.94	0.716	-	-	-	1.5	0.127
26	165.4	560.5	1145	1	16.6	25.29	-	15.6	-	16.8	7.95	0.709	-	-	-	-	0.108
25	169.4	559.5	1158	1	16.2	25.83	-	11.3	-	16.4	7.95	0.673	-	-	-	-	0.092
24	172.5	558.3	1216	0	16.8	26.13	-	9.2	-	16.2	7.94	0.684	-	-	-	-	0.082
24	172.5	558.3	1220	2	15.8	26.13	7.3	11.3	0.66	16.0	7.94	0.681	-	0.2	-	1.7	0.085
24	172.5	558.3	1228	5	15.7	26.24	-	9.2	-	16.0	7.94	0.689	-	-	-	-	0.082
23	175.5	558.5	1253	1	15.6	26.50	-	11.3	-	15.8	7.92	0.693	-	-	-	-	0.082
22	179.4	556.5	1309	1	15.3	26.79	-	9.2	-	15.5	7.92	0.700	-	-	-	-	0.082
21	183.6	555.5	1327	0	14.9	27.44	-	11.3	-	15.2	7.89	0.728	-	-	-	-	0.089
21	183.6	555.5	1331	2	14.9	27.55	7.8	11.3	1.00	15.2	7.89	0.726	-	0.3	-	1.9	0.092
21	183.6	555.5	1338	5	14.7	27.23	-	13.4	-	14.9	7.90	0.704	-	-	-	-	0.092
21	183.6	555.5	1344	10	14.4	27.80	-	21.9	-	14.7	7.89	0.731	-	-	-	-	0.098
20	185.4	552.4	1417	1	14.2	27.55	-	15.6	-	14.4	7.90	0.689	-	-	-	-	0.120
19	185.6	546.5	1456	40	11.9	31.12	-	13.4	-	12.5	7.88	0.718	-	-	-	5.3	0.171
19	185.6	546.5	1509	20	12.7	30.26	-	7.1	-	13.4	7.89	0.711	-	-	-	-	0.104
19	185.6	546.5	1515	10	12.4	30.50	-	9.2	-	12.5	7.88	0.715	-	-	-	-	0.123
19	185.6	546.5	1520	2	13.2	29.56	5.7	7.1	0.86	13.6	7.89	0.715	-	0.4	-	3.4	0.104

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
4 JUN 80	12	S F BAY										
STATION	DEPTH	SI02	PO4	NO3+NO2	NO2	NH3	DISSOLV	DISSOLV	TOTAL	TOTAL	PHOSPH	TOTAL
	m	UM	UM	UM	UM	UM	NITROG	PHOSPH	NITROG	UM	UM	UM
36	0	-	-	-	-	-	-	-	-	-	-	-
36	2	118	18.65	79.4	5.50	13.62	98.1	20.7	101.3	21.9	-	-
35	1	-	-	-	-	-	-	-	-	-	-	-
34	1	-	-	-	-	-	-	-	-	-	-	-
33	1	-	-	-	-	-	-	-	-	-	-	-
32	0	-	-	-	-	-	-	-	-	-	-	-
32	2	97	13.50	44.6	3.06	15.36	59.0	13.9	67.5	14.9	-	-
32	5	-	-	-	-	-	-	-	-	-	-	-
31	1	-	-	-	-	-	-	-	-	-	-	-
30	0	-	-	-	-	-	-	-	-	-	-	-
30	2	85	10.38	28.9	1.90	7.37	40.3	10.8	49.8	12.1	-	-
30	5	-	-	-	-	-	-	-	-	-	-	-
30	10	-	-	-	-	-	-	-	-	-	-	-
29	1	-	-	-	-	-	-	-	-	-	-	-
28	1	-	-	-	-	-	-	-	-	-	-	-
28	10	-	-	-	-	-	-	-	-	-	-	-
27	0	-	-	-	-	-	-	-	-	-	-	-
27	2	76	8.39	22.3	1.52	8.37	35.6	8.9	42.2	9.5	-	-
27	5	-	-	-	-	-	-	-	-	-	-	-
27	9	-	-	-	-	-	-	-	-	-	-	-
26	1	-	-	-	-	-	-	-	-	-	-	-
25	1	-	-	-	-	-	-	-	-	-	-	-
24	0	-	-	-	-	-	-	-	-	-	-	-
24	2	63	5.01	15.7	0.88	5.95	26.9	5.2	30.6	5.6	-	-
24	5	-	-	-	-	-	-	-	-	-	-	-
23	1	-	-	-	-	-	-	-	-	-	-	-
22	1	-	-	-	-	-	-	-	-	-	-	-
21	0	-	-	-	-	-	-	-	-	-	-	-
21	2	47	3.51	15.3	0.53	5.57	26.0	3.6	28.7	3.9	-	-
21	5	-	-	-	-	-	-	-	-	-	-	-
21	10	-	-	-	-	-	-	-	-	-	-	-
20	1	-	-	-	-	-	-	-	-	-	-	-
19	40	-	-	-	-	-	-	-	-	-	-	-
19	20	-	-	-	-	-	-	-	-	-	-	-
19	10	-	-	-	-	-	-	-	-	-	-	-
19	2	37	2.46	16.9	0.49	4.92	24.3	2.5	29.8	2.9	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION																	
5 JUN 80		12		S F BAY																	
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR				
17	192.6	550.6	623	0	13.6	30.12	-	1.8	-	12.8	7.94	0.695	-	-	-	-	0.089				
17	192.6	550.6	629	2	13.0	30.89	6.7	2.8	0.69	12.4	7.95	0.705	-	0.4	1.6	3.9	0.114				
17	192.6	550.6	637	5	12.5	30.94	-	2.8	-	12.6	7.94	0.705	-	-	-	-	0.114				
17	192.6	550.6	645	10	12.3	31.27	-	9.2	-	12.4	7.96	0.703	-	-	-	-	0.161				
17	192.6	550.6	650	20	12.3	31.27	-	9.2	-	12.4	7.96	0.694	-	-	-	-	0.155				
17	192.6	550.6	656	30	12.2	31.41	-	11.3	-	12.4	7.97	0.682	-	-	-	-	0.165				
16	196.3	548.1	731	1	14.6	23.77	-	9.2	-	14.8	-	0.644	-	-	-	-	0.111				
15	202.4	549.5	803	0	15.2	21.74	-	15.6	-	15.2	8.02	0.637	-	-	-	-	0.139				
15	202.4	549.5	809	2	15.0	22.37	14.3	13.4	1.66	15.1	7.92	0.639	-	0.6	1.9	5.8	0.136				
15	202.4	549.5	815	5	14.8	24.36	-	9.2	-	14.9	8.00	0.667	-	-	-	-	0.104				
15	202.4	549.5	820	10	14.0	27.28	-	9.2	-	14.3	7.97	0.709	-	-	-	-	0.104				
15	202.4	549.5	826	15	13.8	27.80	-	19.8	-	14.2	7.97	0.726	-	-	-	-	0.120				
14	206.7	552.5	900	1	15.7	16.22	-	17.7	-	15.9	8.13	0.466	-	-	-	-	0.199				
13	209.3	555.7	929	0	16.2	15.08	-	15.6	-	16.6	8.15	0.462	-	-	-	-	0.174				
13	209.3	555.7	935	2	16.2	17.20	15.0	15.6	1.64	16.6	8.11	0.505	-	0.6	2.5	10.2	0.171				
13	209.3	555.7	944	5	14.9	23.80	-	13.4	-	15.4	7.98	0.678	-	-	-	6.3	0.117				
12	211.6	560.4	1022	1	16.4	14.74	-	17.7	-	16.6	8.06	0.570	-	-	-	-	0.212				
11	212.7	564.6	1108	1	16.4	12.92	-	28.3	-	16.6	8.03	0.586	-	-	-	-	0.203				
10	212.5	569.5	1132	1	16.7	9.08	-	49.5	-	16.9	8.01	0.593	-	-	-	-	0.215				
9	211.4	572.5	1206	0	16.9	7.04	-	79.2	-	17.2	7.97	0.646	-	-	-	-	0.225				
9	211.4	572.5	1211	2	16.9	7.71	113.8	106.7	-	17.2	7.97	0.649	-	2.1	4.1	16.5	0.259				
9	211.4	572.5	1219	5	16.9	8.27	-	157.6	-	17.2	7.98	0.665	-	-	-	-	0.291				
9	211.4	572.5	1225	10	16.9	8.67	-	157.6	-	17.2	7.96	0.672	-	-	-	-	0.294				
8	209.3	574.5	1256	1	17.2	3.72	-	153.4	-	17.3	7.98	0.615	-	-	-	-	0.297				
7	211.3	579.3	1318	1	17.7	2.68	-	158.4	-	17.7	7.89	0.709	-	-	-	-	0.313				
6	213.3	584.7	1358	0	18.2	0.36	-	130.0	-	18.6	7.83	0.704	-	-	-	-	0.260				
6	213.3	584.7	1406	2	18.2	0.31	111.6	121.6	5.87	18.6	7.82	0.724	-	2.2	3.6	9.9	0.250				
6	213.3	584.7	1414	5	18.2	0.30	-	115.2	-	18.6	7.81	0.735	-	-	-	9.2	0.238				
5	212.8	589.5	1449	1	18.2	0.10	-	65.4	-	18.4	7.70	0.753	-	-	-	-	0.182				
4	211.5	593.4	1504	1	18.4	0.07	-	60.3	-	18.4	7.68	-	-	-	-	-	0.161				
3	211.8	598.4	1532	0	18.4	0.07	-	47.6	-	18.9	7.71	0.783	-	-	-	-	0.161				
3	211.8	598.4	1539	2	18.4	0.06	36.2	45.2	2.38	18.8	7.73	0.767	-	0.8	4.9	4.8	0.161				
3	211.8	598.4	1545	5	18.4	0.06	-	51.6	-	18.8	7.71	0.775	-	-	-	-	0.165				
2	213.2	600.4	1604	1	18.6	0.07	-	50.5	-	18.8	-	0.821	-	-	-	-	0.157				
651	215.0	608.5	1632	1	19.1	0.05	-	25.5	-	19.2	-	0.830	-	-	-	-	0.199				
657	223.4	614.9	1716	0	19.2	0.07	-	26.2	-	19.7	7.76	0.842	-	-	-	-	0.212				
657	223.4	614.9	1721	2	19.2	0.07	22.4	26.2	2.64	19.7	7.76	0.836	-	0.7	3.5	7.3	0.209				
657	223.4	614.9	1726	5	19.2	0.06	-	28.3	-	19.7	7.75	0.850	-	-	-	-	0.203				

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
5 JUN 80	12	S F BAY										
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM		
17	0	-	-	-	-	-	-	-	-	-		
17	2	34	2.19	16.5	0.43	3.93	23.3	2.3	29.9	2.8		
17	5	-	-	-	-	-	-	-	-	-		
17	10	-	-	-	-	-	-	-	-	-		
17	20	-	-	-	-	-	-	-	-	-		
17	30	-	-	-	-	-	-	-	-	-		
16	1	-	-	-	-	-	-	-	-	-		
15	0	-	-	-	-	-	-	-	-	-		
15	2	49	2.42	14.6	0.43	3.48	22.5	2.6	28.6	3.1		
15	5	-	-	-	-	-	-	-	-	-		
15	10	-	-	-	-	-	-	-	-	-		
15	15	-	-	-	-	-	-	-	-	-		
14	1	-	-	-	-	-	-	-	-	-		
13	0	-	-	-	-	-	-	-	-	-		
13	2	61	2.29	14.7	0.40	1.68	21.2	2.5	29.9	3.1		
13	5	-	-	-	-	-	-	-	-	-		
12	1	-	-	-	-	-	-	-	-	-		
11	1	-	-	-	-	-	-	-	-	-		
10	1	-	-	-	-	-	-	-	-	-		
9	0	-	-	-	-	-	-	-	-	-		
9	2	131	2.46	20.1	0.53	3.14	29.2	2.6	42.7	3.9		
9	5	-	-	-	-	-	-	-	-	-		
9	10	-	-	-	-	-	-	-	-	-		
8	1	-	-	-	-	-	-	-	-	-		
7	1	-	-	-	-	-	-	-	-	-		
6	0	-	-	-	-	-	-	-	-	-		
6	2	198	2.83	20.8	0.48	2.53	30.6	2.4	43.8	3.3		
6	5	-	-	-	-	-	-	-	-	-		
5	1	-	-	-	-	-	-	-	-	-		
4	1	-	-	-	-	-	-	-	-	-		
3	0	-	-	-	-	-	-	-	-	-		
3	2	215	2.54	19.6	0.52	1.93	-	-	-	-		
3	5	-	-	-	-	-	-	-	-	-		
2	1	-	-	-	-	-	-	-	-	-		
651	1	-	-	-	-	-	-	-	-	-		
657	0	-	-	-	-	-	-	-	-	-		
657	2	251	2.20	15.4	0.65	3.38	28.6	2.5	35.0	3.0		
657	5	-	-	-	-	-	-	-	-	-		

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
17 JUN 80		13		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
36	147.4	582.7	721	0	19.2	23.41	-	51.6	-	19.1	7.79	1.135	-	-	-	-	0.130
36	147.4	582.7	726	2	19.2	23.42	49.8	55.8	4.65	19.1	7.80	1.171	-	1.0	4.2	1.5	0.127
36	147.4	582.7	731	4	19.2	23.58	-	58.0	-	19.1	7.80	1.169	-	-	-	-	0.123
35	148.5	581.5	749	1	19.1	23.64	-	36.8	-	19.3	7.82	1.159	-	-	-	-	0.117
34	149.8	580.6	754	1	18.8	24.05	-	51.6	-	19.0	7.84	1.076	-	-	-	-	0.123
33	151.6	577.5	807	1	19.1	24.33	-	43.1	-	19.4	7.85	0.984	-	-	-	-	0.117
32	152.5	576.5	822	0	19.1	24.63	-	38.9	-	19.4	7.88	0.919	-	-	-	-	0.117
32	152.5	576.5	828	2	19.1	24.64	33.6	45.2	3.04	19.3	7.88	0.910	-	0.9	4.4	1.9	0.120
32	152.5	576.5	835	5	19.2	24.67	-	51.6	-	19.3	7.84	0.906	-	-	-	-	0.127
31	153.8	574.5	850	1	19.1	24.75	-	43.1	-	19.3	7.90	0.899	-	-	-	-	0.127
30	156.5	571.4	909	0	18.8	24.85	-	51.6	-	19.3	7.89	0.888	-	-	-	1.8	0.120
30	156.5	571.4	914	2	18.8	24.84	67.3	64.3	3.67	19.2	7.89	0.890	-	1.4	4.6	1.8	0.127
30	156.5	571.4	921	5	18.8	24.83	-	74.9	-	19.2	7.89	0.896	-	-	-	-	0.127
30	156.5	571.4	926	10	18.8	24.84	-	89.8	-	19.2	7.89	0.894	-	-	-	-	0.136
29	159.5	566.7	953	1	18.4	25.18	-	19.8	-	18.7	7.89	0.846	-	-	-	-	0.098
28	161.5	564.4	1004	1	18.3	25.33	-	38.9	-	18.5	7.92	0.797	-	-	-	-	0.104
27	163.4	562.5	1022	0	18.2	25.54	-	38.9	-	18.6	7.93	0.780	-	-	-	-	0.095
27	163.4	562.5	1027	2	18.3	25.54	16.4	34.6	2.81	18.6	7.93	0.780	-	0.8	3.1	1.5	0.095
27	163.4	562.5	1032	5	18.1	25.56	-	49.5	-	18.5	7.93	0.780	-	-	-	-	0.101
27	163.4	562.5	1037	9	18.1	25.56	-	66.4	-	18.5	7.92	0.779	-	-	-	1.3	0.111
26	165.4	560.5	1052	1	18.2	25.71	-	26.2	-	18.4	7.93	0.760	-	-	-	-	0.095
25	169.4	559.5	1104	1	17.9	26.28	-	7.1	-	18.2	7.93	0.749	-	-	-	-	0.085
24	172.5	558.3	1137	0	17.2	27.01	-	2.8	-	18.0	7.93	0.745	-	-	-	-	0.070
24	172.5	558.3	1144	2	16.8	27.06	4.6	2.8	0.70	17.7	7.93	0.740	-	0.2	2.4	1.2	0.073
24	172.5	558.3	1150	5	16.5	27.36	-	5.0	-	17.5	7.91	0.752	-	-	-	-	0.060
23	175.5	558.5	1216	1	17.0	27.24	-	2.8	-	17.2	7.94	0.755	-	-	-	-	0.070
22	179.4	556.5	1230	1	17.2	27.02	-	5.0	-	17.5	7.92	0.740	-	-	-	-	0.085
21	183.6	555.5	1247	0	16.9	27.73	-	5.0	-	17.5	7.91	0.790	-	-	-	-	0.085
21	183.6	555.5	1252	2	16.4	27.88	7.0	2.8	1.04	17.1	7.90	0.810	-	0.3	2.2	1.5	0.082
21	183.6	555.5	1301	5	16.0	28.34	-	9.2	-	16.6	7.87	0.839	-	-	-	-	0.079
21	183.6	555.5	1306	10	15.5	28.43	-	9.2	-	16.4	7.87	0.844	-	-	-	-	0.079
20	185.4	552.4	1335	1	15.4	28.52	-	2.8	-	15.7	7.89	0.816	-	-	-	3.2	0.073
19	185.6	546.5	1416	39	12.1	31.89	6.6	2.8	-	12.6	7.84	0.865	-	-	-	-	0.123
19	185.6	546.5	1427	20	13.0	30.68	-	0.7	-	13.6	7.85	0.858	-	-	-	-	0.089
19	185.6	546.5	1432	10	13.3	30.29	-	0.7	-	14.2	7.86	0.850	-	-	-	-	0.089
19	185.6	546.5	1443	2	13.4	30.58	2.1	0.7	0.83	14.0	7.85	0.858	-	0.4	2.0	2.1	0.089

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION							
17 JUN 80		13	S F BAY							
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
36	0	-	-	-	-	-	-	-	-	-
36	2	142	22.05	80.6	4.81	13.88	-	-	-	-
36	4	-	-	-	-	-	-	-	-	-
35	1	-	-	-	-	-	-	-	-	-
34	1	-	-	-	-	-	-	-	-	-
33	1	-	-	-	-	-	-	-	-	-
32	0	-	-	-	-	-	-	-	-	-
32	2	111	14.58	43.5	2.31	8.33	-	-	-	-
32	5	-	-	-	-	-	-	-	-	-
31	1	-	-	-	-	-	-	-	-	-
30	0	-	-	-	-	-	-	-	-	-
30	2	104	12.61	36.2	1.96	7.64	-	-	-	-
30	5	-	-	-	-	-	-	-	-	-
30	10	-	-	-	-	-	-	-	-	-
29	1	-	-	-	-	-	-	-	-	-
28	1	-	-	-	-	-	-	-	-	-
27	0	-	-	-	-	-	-	-	-	-
27	2	93	9.35	25.2	1.19	6.46	-	-	-	-
27	5	-	-	-	-	-	-	-	-	-
27	9	-	-	-	-	-	-	-	-	-
26	1	-	-	-	-	-	-	-	-	-
25	1	-	-	-	-	-	-	-	-	-
24	0	-	-	-	-	-	-	-	-	-
24	2	66	5.17	19.0	0.77	8.08	-	-	-	-
24	5	-	-	-	-	-	-	-	-	-
23	1	-	-	-	-	-	-	-	-	-
22	1	-	-	-	-	-	-	-	-	-
21	0	-	-	-	-	-	-	-	-	-
21	2	57	3.92	17.6	0.67	6.42	-	-	-	-
21	5	-	-	-	-	-	-	-	-	-
21	10	-	-	-	-	-	-	-	-	-
20	1	-	-	-	-	-	-	-	-	-
19	39	-	-	-	-	-	-	-	-	-
19	20	-	-	-	-	-	-	-	-	-
19	10	-	-	-	-	-	-	-	-	-
19	2	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polarís (continued).

DATE		CRUISE #	LOCATION		DEPTH m	TIME	UTM		BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
18 JUN 80			S	F BAY			NORTH	EAST													
17	192.6	550.6	620		0	13.9	29.69	-	3.1	-	-	-	-	13.8	7.88	-	-	-	-	-	0.076
17	192.6	550.6	630		2	13.6	30.15	4.3	2.7	0.81	-	-	-	13.6	7.89	-	-	0.3	1.8	1.6	0.079
17	192.6	550.6	640		5	13.3	30.59	-	2.4	-	-	-	-	13.4	7.90	-	-	-	-	-	0.079
17	192.6	550.6	646		10	13.3	30.55	-	2.2	-	-	-	-	13.4	7.90	-	-	-	-	-	0.076
17	192.6	550.6	653		20	13.3	31.16	-	1.6	-	-	-	-	13.4	7.90	-	-	-	-	-	0.076
16	196.3	548.3	725		1	15.6	26.01	-	5.8	-	-	-	-	15.9	7.99	-	-	-	-	-	0.098
15	202.4	549.5	807		0	16.6	23.10	-	29.2	-	-	-	-	16.2	8.00	-	-	-	-	-	0.130
15	202.4	549.5	815		2	16.4	23.60	25.0	24.9	2.65	-	-	-	16.1	8.00	-	-	0.6	2.4	2.7	0.120
15	202.4	549.5	821		5	16.2	24.04	-	18.6	-	-	-	-	15.9	8.00	-	-	-	-	-	0.104
15	202.4	549.5	827		10	15.9	25.20	-	12.2	-	-	-	-	15.7	7.99	-	-	-	-	-	0.092
14	206.7	552.5	909		1	16.4	23.30	-	14.3	-	-	-	-	16.5	8.02	-	-	-	-	-	0.130
13	209.3	555.7	952		0	17.2	18.96	-	16.4	-	-	-	-	17.0	8.09	0.562	-	-	-	-	0.146
13	209.3	555.7	959		2	17.3	18.84	16.0	17.5	1.64	-	-	-	17.1	8.09	0.560	-	0.6	5.9	8.7	0.147
13	209.3	555.7	1006		5	16.6	21.98	-	48.2	-	-	-	-	16.6	8.03	0.648	-	-	-	-	0.142
12	211.6	560.4	1050		1	18.2	13.09	-	27.0	-	-	-	-	18.4	8.06	0.614	-	-	-	-	0.184
11	212.7	564.6	1111		1	18.4	12.40	-	29.2	-	-	-	-	18.6	8.05	0.614	-	-	-	-	0.199
10	212.5	569.5	1131		1	18.5	9.60	-	48.2	-	-	-	-	18.7	8.05	0.626	-	-	-	-	0.212
9	211.4	572.5	1200		0	18.9	7.30	-	65.2	-	-	-	-	19.2	8.03	0.633	-	-	-	-	0.234
9	211.4	572.5	1209		2	18.7	7.46	82.6	82.2	3.45	-	-	-	19.1	8.01	0.669	-	1.7	3.6	15.8	0.250
9	211.4	572.5	1216		5	18.7	7.61	-	99.1	-	-	-	-	19.1	8.00	0.664	-	-	-	-	0.253
9	211.4	572.5	1222		10	18.7	8.26	-	118.2	-	-	-	-	19.1	7.99	0.686	-	-	-	-	0.278
9	211.4	572.5	1231		15	18.8	8.80	-	143.6	-	-	-	-	19.0	7.99	0.692	-	-	-	-	0.297
8	209.3	574.5	1300		1	19.0	5.10	-	158.5	-	-	-	-	19.2	7.99	-	-	-	-	-	0.313
7	211.3	579.3	1323		1	19.6	2.68	-	139.4	-	-	-	-	19.8	7.94	0.720	-	-	-	-	0.320
6	213.3	584.7	1354		0	20.4	0.45	-	111.8	-	-	-	-	20.7	7.80	0.854	-	-	-	-	0.218
6	213.3	584.7	1400		2	20.3	0.45	106.2	114.0	6.75	-	-	-	20.7	7.80	0.849	-	1.6	5.4	9.1	0.218
6	213.3	584.7	1407		5	20.3	0.44	-	116.1	-	-	-	-	20.7	7.79	0.852	-	-	-	-	0.218
5	212.8	589.5	1436		1	20.2	0.17	-	73.7	-	-	-	-	20.4	7.72	0.877	-	-	-	-	0.177
4	211.5	593.4	1452		1	20.1	0.09	-	77.9	-	-	-	-	20.3	7.70	0.866	-	-	-	-	0.168
3	211.8	598.4	1536		0	20.8	0.12	-	58.8	-	-	-	-	21.3	7.65	0.979	-	-	-	-	0.171
3	211.8	598.4	1540		2	20.7	0.12	48.0	58.8	4.23	-	-	-	21.3	7.66	1.018	-	1.1	3.7	5.0	0.171
3	211.8	598.4	1546		5	20.7	0.11	-	67.3	-	-	-	-	21.2	7.62	1.034	-	-	-	-	0.174
3	211.8	598.4	1551		10	20.7	0.11	-	71.6	-	-	-	-	21.2	7.62	1.049	-	-	-	-	0.177
651	215.0	608.5	1642		1	20.6	0.03	-	33.4	-	-	-	-	20.9	7.57	0.897	-	-	-	-	0.168
657	223.4	614.9	1720		0	20.7	0.00	-	22.8	-	-	-	-	21.4	7.53	0.974	-	-	-	-	0.158
657	223.4	614.9	1727		2	20.7	0.00	14.5	22.8	1.94	-	-	-	21.3	7.53	0.963	-	0.6	-	5.5	0.158

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
18 JUN 80	13	S F BAY										
STATION	DEPTH	SI02	PO4	NO3+NO2	NO2	NH3	DISSOLV	DISSOLV	TOTAL	TOTAL	TOTAL	TOTAL
	m	UM	UM	UM	UM	UM	NITROG	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH
							UM	UM	UM	UM	UM	UM
17	0	-	-	-	-	-	-	-	-	-	-	-
17	2	39	2.60	19.0	0.62	6.49	-	-	-	-	-	-
17	5	-	-	-	-	-	-	-	-	-	-	-
17	10	-	-	-	-	-	-	-	-	-	-	-
17	20	-	-	-	-	-	-	-	-	-	-	-
16	1	-	-	-	-	-	-	-	-	-	-	-
15	0	-	-	-	-	-	-	-	-	-	-	-
15	2	36	2.60	14.9	0.54	4.97	-	-	-	-	-	-
15	5	-	-	-	-	-	-	-	-	-	-	-
15	10	-	-	-	-	-	-	-	-	-	-	-
14	1	-	-	-	-	-	-	-	-	-	-	-
13	0	-	-	-	-	-	-	-	-	-	-	-
13	2	47	2.43	14.7	0.55	2.27	-	-	-	-	-	-
13	5	-	-	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	-	-	-
10	1	-	-	-	-	-	-	-	-	-	-	-
9	0	-	-	-	-	-	-	-	-	-	-	-
9	2	121	2.64	19.0	0.47	2.37	-	-	-	-	-	-
9	5	-	-	-	-	-	-	-	-	-	-	-
9	10	-	-	-	-	-	-	-	-	-	-	-
9	15	-	-	-	-	-	-	-	-	-	-	-
8	1	-	-	-	-	-	-	-	-	-	-	-
7	1	-	-	-	-	-	-	-	-	-	-	-
6	0	-	-	-	-	-	-	-	-	-	-	-
6	2	164	2.44	21.4	0.36	1.13	-	-	-	-	-	-
6	5	-	-	-	-	-	-	-	-	-	-	-
5	1	-	-	-	-	-	-	-	-	-	-	-
4	1	-	-	-	-	-	-	-	-	-	-	-
3	0	-	-	-	-	-	-	-	-	-	-	-
3	2	221	2.53	20.6	0.35	0.79	-	-	-	-	-	-
3	5	-	-	-	-	-	-	-	-	-	-	-
3	10	-	-	-	-	-	-	-	-	-	-	-
651	1	-	-	-	-	-	-	-	-	-	-	-
657	0	-	-	-	-	-	-	-	-	-	-	-
657	2	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
1 JUL 80		14		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	ORG PHYLL-A ug/L	CHLORO FLUOR
36	147.4	582.7	706	0	20.6	23.63	-	113.1	-	20.3	7.80	1.252	-	-	-	-	0.174
36	147.4	582.7	712	2	20.6	23.37	112.1	94.0	4.38	20.3	7.79	1.289	-	1.9	4.4	3.1	0.165
36	147.4	582.7	718	4	20.6	23.61	-	-	-	20.3	7.80	1.286	-	-	-	-	0.212
35	148.5	581.5	734	1	20.7	24.02	-	115.2	-	21.0	7.82	1.186	-	-	-	-	0.165
34	149.8	580.6	738	1	20.5	24.70	-	62.2	-	20.6	7.86	1.024	-	-	-	-	0.138
33	151.6	577.6	750	1	20.6	25.18	-	19.8	-	20.9	7.92	0.803	-	-	-	-	0.109
32	152.5	576.5	802	0	20.7	25.24	-	19.8	-	20.5	7.95	0.803	-	-	-	-	0.105
32	152.5	576.5	808	2	20.6	25.30	30.8	21.9	1.92	20.6	7.95	0.793	-	0.6	3.2	-	0.112
32	152.5	576.5	814	5	20.7	25.40	-	38.9	-	20.5	7.95	0.791	-	-	-	-	0.111
32	152.5	576.5	819	9	20.7	25.39	-	60.1	-	20.6	7.95	0.789	-	-	-	-	0.122
31	153.8	574.5	837	1	20.6	25.53	-	16.6	-	20.9	7.96	0.778	-	-	-	-	0.102
30	156.5	571.4	854	0	20.6	25.90	-	17.7	-	20.4	8.00	0.701	-	-	-	-	0.102
30	156.5	571.4	858	2	20.6	25.76	29.0	19.8	1.73	20.5	8.00	0.702	-	0.4	3.3	1.6	0.101
30	156.5	571.4	904	5	20.6	25.85	-	32.5	-	20.4	8.00	0.701	-	-	-	-	0.104
30	156.5	571.4	908	10	20.6	25.87	-	55.8	-	20.5	8.00	0.689	-	-	-	-	0.116
29	159.5	566.7	932	1	20.4	26.07	-	16.6	-	20.7	8.00	0.666	-	-	-	-	0.093
28	161.5	564.4	956	1	20.3	26.30	-	12.4	-	20.5	8.00	0.688	-	-	-	-	0.086
27	163.4	562.5	1010	0	20.2	26.40	-	10.3	-	20.2	8.00	0.701	-	-	-	-	0.088
27	163.4	562.5	1015	2	20.2	26.33	9.6	12.4	1.29	20.2	8.00	0.697	-	0.4	3.0	1.4	0.082
27	163.4	562.5	1024	5	20.1	26.41	-	17.7	-	20.1	7.99	0.708	-	-	-	-	0.081
27	163.4	562.5	1031	10	20.1	26.42	-	23.0	-	20.1	7.99	0.714	-	-	-	1.0	0.082
26	165.4	560.5	1056	1	20.0	26.57	-	10.3	-	20.2	7.99	0.701	-	-	-	-	0.081
25	169.4	559.5	1110	1	19.8	27.16	-	4.3	-	20.1	7.99	0.690	-	-	-	-	0.085
24	172.5	558.3	1133	0	18.5	27.33	-	5.0	-	18.4	7.90	0.792	-	-	-	-	0.067
24	172.5	558.3	1145	2	18.3	27.35	13.3	10.3	0.76	18.1	7.89	0.804	-	0.3	2.1	0.6	0.067
24	172.5	558.3	1153	5	18.2	27.89	-	12.6	-	18.1	7.88	0.822	-	-	-	-	0.070
23	175.5	558.5	1219	1	18.8	27.51	-	4.3	-	18.9	7.90	0.816	-	-	-	-	0.078
22	179.4	556.5	1236	1	16.2	28.31	-	15.1	-	16.5	7.82	0.903	-	-	-	-	0.091
21	183.6	555.5	1256	0	16.3	28.06	-	13.0	-	16.7	7.83	0.894	-	-	-	-	0.092
21	183.6	555.5	1300	2	16.1	28.06	9.3	15.6	1.26	16.6	7.82	0.901	-	0.4	2.5	1.9	0.092
21	183.6	555.5	1306	5	15.5	28.66	-	24.0	-	16.2	7.81	0.921	-	-	-	-	0.101
21	183.6	555.5	1314	12	15.3	29.00	-	36.8	-	15.9	7.81	0.912	-	-	-	-	0.111
20	185.4	552.4	1345	1	13.9	30.73	-	6.0	-	14.3	7.84	0.821	-	-	-	-	0.127
18	189.3	553.1	1358	1	14.9	29.42	-	5.4	-	15.3	7.83	0.856	-	-	-	-	0.109
17	192.6	550.6	1410	1	16.0	27.61	-	8.8	-	16.2	7.81	0.898	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V *Polaris* (continued).

DATE		CRUISE #	LOCATION		ST02	PO4	NO3+NO2	NO2	NH3	DISSOLV		TOTAL	
1 JUL 80			S	F BAY	UM	UM	UM	UM	UM	NITROG	PHOSPH	NITROG	PHOSPH
STATION	DEPTH									UM	UM	UM	UM
	m												
36	0	-	-	-	-	-	-	-	-	-	-	-	-
36	2	149	35.20	107.2	5.09	2.75	-	-	-	-	-	-	-
36	4	-	-	-	-	-	-	-	-	-	-	-	-
35	1	-	-	-	-	-	-	-	-	-	-	-	-
34	1	-	-	-	-	-	-	-	-	-	-	-	-
33	1	-	-	-	-	-	-	-	-	-	-	-	-
32	0	-	-	-	-	-	-	-	-	-	-	-	-
32	2	117	49.10	51.2	2.09	7.72	-	-	-	-	-	-	-
32	5	-	-	-	-	-	-	-	-	-	-	-	-
32	9	-	-	-	-	-	-	-	-	-	-	-	-
31	1	-	-	-	-	-	-	-	-	-	-	-	-
30	0	-	-	-	-	-	-	-	-	-	-	-	-
30	2	103	15.21	36.0	1.50	5.11	-	-	-	-	-	-	-
30	5	-	-	-	-	-	-	-	-	-	-	-	-
30	10	-	-	-	-	-	-	-	-	-	-	-	-
29	1	-	-	-	-	-	-	-	-	-	-	-	-
28	1	-	-	-	-	-	-	-	-	-	-	-	-
27	0	-	-	-	-	-	-	-	-	-	-	-	-
27	2	86	10.77	24.7	0.98	4.40	-	-	-	-	-	-	-
27	5	-	-	-	-	-	-	-	-	-	-	-	-
27	10	-	-	-	-	-	-	-	-	-	-	-	-
26	1	-	-	-	-	-	-	-	-	-	-	-	-
25	1	-	-	-	-	-	-	-	-	-	-	-	-
24	0	-	-	-	-	-	-	-	-	-	-	-	-
24	2	71	5.43	20.8	0.71	4.58	-	-	-	-	-	-	-
24	5	-	-	-	-	-	-	-	-	-	-	-	-
23	1	-	-	-	-	-	-	-	-	-	-	-	-
22	1	-	-	-	-	-	-	-	-	-	-	-	-
21	0	-	-	-	-	-	-	-	-	-	-	-	-
21	2	-	-	-	-	-	-	-	-	-	-	-	-
21	5	-	-	-	-	-	-	-	-	-	-	-	-
21	12	-	-	-	-	-	-	-	-	-	-	-	-
20	1	-	-	-	-	-	-	-	-	-	-	-	-
18	1	-	-	-	-	-	-	-	-	-	-	-	-
17	1	-	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION														
1 JUL 80	14	S F BAY														
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
16	196.3	548.3	1421	1	16.0	28.38	-	10.7	-	15.9	7.81	0.907	-	-	-	-
15	202.4	549.5	1440	1	18.0	22.84	-	13.4	-	18.3	-	0.901	-	-	-	-
14	206.7	552.5	1453	1	17.8	22.36	-	17.7	-	18.1	7.83	0.887	-	-	-	-
13	209.3	555.7	1502	1	18.2	21.25	-	20.9	-	18.4	7.84	0.869	-	-	-	-
12	211.6	560.4	1518	1	18.9	17.58	-	47.4	-	19.1	7.85	0.869	-	-	-	-
11	212.7	564.6	1529	1	19.2	12.53	-	36.8	-	19.5	7.91	0.746	-	-	-	-
10	212.5	569.5	1540	1	19.2	10.65	-	51.6	-	19.5	7.91	0.747	-	-	-	-
9	211.4	572.5	1549	1	19.3	7.78	-	-	-	19.6	7.91	0.728	-	-	-	-
8	209.3	574.5	1556	1	19.2	7.58	-	102.5	-	19.5	7.87	0.770	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION								
1 JUL 80	14	S F BAY								
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
16	1	-	-	-	-	-	-	-	-	-
15	1	-	-	-	-	-	-	-	-	-
14	1	-	-	-	-	-	-	-	-	-
13	1	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	-
10	1	-	-	-	-	-	-	-	-	-
9	1	-	-	-	-	-	-	-	-	-
8	1	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polarís (continued).

DATE		CRUISE #		LOCATION													
2 JUL 80		14		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
657	223.4	614.9	551	0	20.2	0.01	-	33.6	-	20.2	7.33	0.996	-	-	-	-	0.117
657	223.4	614.9	558	2	20.1	0.01	25.9	34.6	-	20.1	7.32	0.977	-	0.4	2.8	2.7	0.117
657	223.4	614.9	604	5	20.2	0.01	-	35.3	-	20.2	7.35	0.977	-	-	-	-	0.117
655	219.7	613.9	622	1	20.0	0.01	-	31.0	-	20.2	7.26	1.114	-	-	-	-	0.101
653	217.1	612.1	633	1	19.9	0.01	-	39.9	-	20.2	7.37	1.018	-	-	-	-	0.112
651	215.0	608.5	644	1	20.0	0.03	-	45.2	-	20.2	7.40	0.957	-	-	-	-	0.112
2	213.2	600.4	700	1	20.0	0.07	-	55.8	-	20.3	7.41	0.908	-	-	-	-	0.131
3	211.8	598.4	736	2	20.3	0.57	74.3	84.5	5.84	20.0	7.67	0.807	-	1.2	3.2	7.4	0.188
3	211.8	598.4	741	5	20.3	0.60	-	91.9	-	20.1	7.67	0.788	-	-	-	-	0.191
3	211.8	598.4	745	10	20.3	0.68	-	111.0	-	20.2	7.68	0.793	-	-	-	-	0.197
3	211.8	598.4	749	0	20.3	0.59	-	77.0	-	20.0	7.68	0.793	-	-	-	-	0.213
4	211.5	593.4	812	1	19.8	1.28	-	94.0	-	20.1	7.77	0.750	-	-	-	-	0.246
5	212.8	589.5	824	1	19.5	2.12	-	88.7	-	19.8	7.86	0.684	-	-	-	-	0.292
6	213.3	584.7	844	0	19.2	3.29	-	89.8	-	19.0	7.89	0.671	-	-	-	-	0.300
6	213.3	584.7	849	2	19.3	3.21	70.6	74.9	5.98	19.0	7.90	0.669	-	1.6	3.7	18.2	0.295
6	213.3	584.7	857	5	19.3	4.38	-	-	-	19.1	7.85	0.716	-	-	-	24.6	0.375
7	211.3	579.3	925	1	18.9	6.59	-	-	-	19.2	7.85	0.740	-	-	-	-	0.295
8	209.3	574.5	940	1	18.8	6.99	-	85.5	-	19.2	7.86	0.741	-	-	-	-	0.280
9	211.4	572.5	958	0	18.7	9.41	-	74.9	-	18.6	7.87	0.779	-	-	-	-	0.185
9	211.4	572.5	1004	2	18.8	9.55	108.6	102.5	6.23	18.6	7.84	-	-	2.0	3.4	9.1	0.207
9	211.4	572.5	1009	5	18.8	9.75	-	123.7	-	18.6	7.84	0.801	-	-	-	-	0.226
9	211.4	572.5	1014	11	18.8	9.63	-	-	-	18.7	7.84	0.815	-	-	-	-	0.242
10	212.5	569.5	1046	1	18.8	9.38	-	132.2	-	19.1	7.84	0.785	-	-	-	-	0.250
11	212.7	564.6	1058	1	18.7	12.66	-	113.1	-	19.0	7.82	0.836	-	-	-	-	0.200
12	211.6	560.4	1110	1	18.6	15.07	-	104.6	-	18.9	7.81	0.879	-	-	-	-	0.162
13	209.3	555.7	1134	0	18.2	18.53	-	85.5	-	18.6	7.80	0.924	-	-	-	-	0.123
13	209.3	555.7	1141	2	18.3	18.38	78.2	81.3	4.72	18.6	7.81	0.919	-	1.3	2.9	2.6	0.123
13	209.3	555.7	1149	5	18.2	18.34	-	85.5	-	18.5	7.81	0.910	-	-	-	2.2	0.126
14	206.7	552.5	1209	1	18.2	18.99	-	43.1	-	18.5	7.80	0.917	-	-	-	-	0.109
15	202.4	549.5	1231	0	18.1	19.09	-	45.2	-	18.4	7.81	0.923	-	-	-	-	0.109
15	202.4	549.5	1235	2	18.0	19.16	48.4	53.7	2.63	18.4	7.80	0.913	-	0.9	3.1	2.5	0.110
15	202.4	549.5	1241	5	17.6	20.49	-	66.4	-	18.1	7.79	0.916	-	-	-	-	0.113
15	202.4	549.5	1247	10	16.9	23.70	-	119.4	-	17.5	7.78	0.956	-	-	-	-	0.129
16	196.3	548.3	1325	1	17.5	21.59	-	23.0	-	18.0	7.80	0.932	-	-	-	-	0.093
17	192.6	550.6	1348	0	16.0	26.54	-	12.4	-	16.8	7.80	0.926	-	-	-	-	0.082

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION							
2 JUL 80		14	S F BAY							
STATION	DEPTH m	S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
657	0	-	-	-	-	-	-	-	-	-
657	2	212	1.79	14.2	0.62	1.51	-	-	-	-
657	5	-	-	-	-	-	-	-	-	-
655	1	-	-	-	-	-	-	-	-	-
653	1	-	-	-	-	-	-	-	-	-
651	1	-	-	-	-	-	-	-	-	-
2	1	-	-	-	-	-	-	-	-	-
3	2	212	2.33	18.6	0.31	0.55	-	-	-	-
3	5	-	-	-	-	-	-	-	-	-
3	10	-	-	-	-	-	-	-	-	-
3	0	-	-	-	-	-	-	-	-	-
4	1	-	-	-	-	-	-	-	-	-
5	1	-	-	-	-	-	-	-	-	-
6	0	-	-	-	-	-	-	-	-	-
6	2	165	2.40	18.5	0.29	0.73	-	-	-	-
6	5	-	-	-	-	-	-	-	-	-
7	1	-	-	-	-	-	-	-	-	-
8	1	-	-	-	-	-	-	-	-	-
9	0	-	-	-	-	-	-	-	-	-
9	2	97	2.59	18.4	0.60	2.75	-	-	-	-
9	5	-	-	-	-	-	-	-	-	-
9	11	-	-	-	-	-	-	-	-	-
10	1	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-
13	0	-	-	-	-	-	-	-	-	-
13	2	75	2.67	17.9	0.57	4.94	-	-	-	-
13	5	-	-	-	-	-	-	-	-	-
14	1	-	-	-	-	-	-	-	-	-
15	0	-	-	-	-	-	-	-	-	-
15	2	72	2.77	18.3	0.32	5.09	-	-	-	-
15	5	-	-	-	-	-	-	-	-	-
15	10	-	-	-	-	-	-	-	-	-
16	1	-	-	-	-	-	-	-	-	-
17	0	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION														
2 JUL 80		14	S F BAY														
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
17	192.6	550.6	1354	2	15.5	27.11	12.3	16.6	1.18	16.3	7.79	0.934	-	0.4	2.0	1.5	0.087
17	192.6	550.6	1401	5	15.3	28.01	-	18.7	-	16.1	7.80	0.926	-	-	-	-	0.093
17	192.6	550.6	1406	10	15.2	28.46	-	18.7	-	15.9	7.80	0.910	-	-	-	-	0.099
17	192.6	550.6	1413	20	14.6	29.18	-	15.6	-	15.4	7.81	0.883	-	-	-	7.2	0.105
19	185.6	546.5	1503	40	12.7	31.45	4.0	10.3	-	13.5	7.86	0.736	-	-	-	-	0.188
19	185.6	546.5	1511	20	13.5	31.29	-	7.7	-	13.7	7.86	0.735	-	-	-	-	0.170
19	185.6	546.5	1515	10	13.9	30.81	-	5.8	-	14.3	7.86	0.748	-	-	-	-	0.136
19	185.6	546.5	1521	2	13.9	30.61	10.9	5.0	0.86	14.6	7.86	0.737	-	0.4	5.9	4.6	0.136

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION							
2 JUL 80		14	S F BAY							
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV		TOTAL	TOTAL
							NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM
17	2	55	2.99	19.9	0.61	6.64	-	-	-	-
17	5	-	-	-	-	-	-	-	-	-
17	10	-	-	-	-	-	-	-	-	-
17	20	-	-	-	-	-	-	-	-	-
19	40	-	-	-	-	-	-	-	-	-
19	20	-	-	-	-	-	-	-	-	-
19	10	-	-	-	-	-	-	-	-	-
19	2	43	2.60	19.0	0.43	4.90	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
16 JUL 80		15		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
36	147.2	582.7	748	0	-	23.57	-	46.3	-	21.3	7.91	1.092	-	-	-	-	0.125
36	147.2	582.7	754	2	-	23.86	34.5	44.4	2.63	21.3	7.91	1.103	-	0.8	4.8	2.1	0.124
36	147.2	582.7	800	4	-	24.06	-	79.2	-	21.4	7.91	1.101	-	-	-	-	0.139
35	148.5	581.5	814	1	21.2	24.15	-	48.4	-	21.5	7.93	1.039	-	-	-	-	0.126
34	149.8	580.6	818	1	20.8	24.89	-	30.4	-	21.1	7.95	0.977	-	-	-	-	0.117
33	151.6	577.5	829	1	20.9	25.71	-	32.5	-	21.3	7.97	0.870	-	-	-	-	0.114
32	152.5	576.5	844	0	-	25.86	-	26.2	-	21.1	7.97	0.870	-	-	-	-	0.111
32	152.5	576.5	848	2	-	25.76	18.9	30.4	1.81	21.1	7.96	0.863	-	0.6	3.4	2.1	0.108
32	152.5	576.5	855	5	-	25.96	-	38.9	-	21.0	7.97	0.843	-	-	-	-	0.114
30	156.5	571.4	1009	0	-	26.15	-	21.9	-	21.3	8.00	0.780	-	-	-	-	0.103
30	156.5	571.4	1014	2	-	26.08	10.8	24.0	2.45	21.3	8.00	0.783	-	0.4	3.5	2.2	0.100
30	156.5	571.4	1020	5	-	26.29	-	30.4	-	21.1	8.00	0.776	-	-	-	-	0.099
30	156.5	571.4	1026	10	-	26.33	-	26.2	-	21.1	8.00	0.775	-	-	-	-	0.099
29	159.5	566.7	1051	1	20.4	26.58	-	17.7	-	20.8	-	0.732	-	-	-	-	0.092
28	161.5	564.4	1101	1	20.2	26.78	-	19.8	-	20.6	7.99	0.713	-	-	-	-	0.091
27	163.4	562.5	1117	0	-	26.81	-	17.7	-	20.8	7.99	0.705	-	-	-	-	0.079
27	163.4	562.5	1123	2	-	26.67	5.2	15.6	1.10	20.9	7.99	0.710	-	0.3	2.5	1.5	0.089
27	163.4	562.5	1131	5	-	26.99	-	17.7	-	20.7	7.99	0.719	-	-	-	-	0.076
27	163.4	562.5	1136	10	-	27.27	-	47.4	-	20.5	7.98	0.710	-	-	-	0.7	0.089
26	165.4	560.5	1154	1	20.1	27.17	-	13.4	-	20.5	8.00	0.689	-	-	-	-	0.101
25	169.4	559.5	1212	1	19.5	27.59	-	11.3	-	19.9	7.95	0.742	-	-	-	-	0.073
24	172.5	558.3	1257	0	-	28.21	-	9.2	-	19.4	7.87	0.932	-	-	-	-	0.059
24	172.5	558.3	1302	2	-	28.19	4.4	11.3	0.68	19.1	7.86	0.939	-	0.2	1.7	0.6	0.063
24	172.5	558.3	1308	5	-	28.44	-	13.4	-	18.6	7.84	0.956	-	-	-	-	0.066
23	175.5	558.5	1334	1	17.6	28.55	-	13.4	-	18.3	-	0.954	-	-	-	-	0.068
22	179.4	556.5	1350	1	16.6	28.35	-	13.4	-	17.3	7.80	0.997	-	-	-	-	0.083
21	183.6	555.5	1414	0	-	28.33	-	15.6	-	17.6	7.81	-	-	-	-	-	0.086
21	183.6	555.5	1434	2	-	28.21	5.9	15.6	1.08	17.5	7.82	0.996	-	0.4	2.3	1.6	0.086
21	183.6	555.5	1439	5	-	28.91	-	15.6	-	17.0	7.80	1.011	-	-	-	-	0.085
21	183.6	555.5	1445	10	-	29.13	-	19.8	-	16.5	7.80	1.043	-	-	-	-	0.092
20	185.4	552.4	1515	1	14.3	30.63	-	9.2	-	15.0	7.80	0.973	-	-	-	-	0.095
19	185.6	546.5	1558	40	-	31.69	5.1	7.1	-	13.8	7.83	0.832	-	-	-	3.7	0.127
19	185.6	546.5	1608	20	-	31.41	-	7.1	-	14.1	7.83	0.879	-	-	-	-	0.117
19	185.6	546.5	1614	10	-	31.44	-	6.0	-	14.3	7.83	0.880	-	-	-	-	0.118
19	185.6	546.5	1618	2	-	30.89	2.2	6.0	0.58	14.6	7.84	0.880	-	0.4	4.2	2.1	0.117

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
16 JUL 80	15	S F BAY										
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM		
36	0	-	-	-	-	-	-	-	-	-		
36	2	149	31.32	88.0	3.19	10.95	-	-	-	-		
36	4	-	-	-	-	-	-	-	-	-		
35	1	-	-	-	-	-	-	-	-	-		
34	1	-	-	-	-	-	-	-	-	-		
33	1	-	-	-	-	-	-	-	-	-		
32	0	-	-	-	-	-	-	-	-	-		
32	2	113	21.94	47.0	1.83	6.84	-	-	-	-		
32	5	-	-	-	-	-	-	-	-	-		
30	0	-	-	-	-	-	-	-	-	-		
30	2	109	17.50	33.8	1.26	4.86	-	-	-	-		
30	5	-	-	-	-	-	-	-	-	-		
30	10	-	-	-	-	-	-	-	-	-		
29	1	-	-	-	-	-	-	-	-	-		
28	1	-	-	-	-	-	-	-	-	-		
27	0	-	-	-	-	-	-	-	-	-		
27	2	98	11.80	22.8	0.85	4.25	38.3	12.3	40.2	12.7		
27	5	-	-	-	-	-	-	-	-	-		
27	10	-	-	-	-	-	-	-	-	-		
26	1	-	-	-	-	-	-	-	-	-		
25	1	-	-	-	-	-	-	-	-	-		
24	0	-	-	-	-	-	-	-	-	-		
24	2	74	5.32	22.7	0.76	7.26	-	-	-	-		
24	5	-	-	-	-	-	-	-	-	-		
23	1	-	-	-	-	-	-	-	-	-		
22	1	-	-	-	-	-	-	-	-	-		
21	0	-	-	-	-	-	-	-	-	-		
21	2	55	3.45	19.3	0.60	6.37	-	-	-	-		
21	5	-	-	-	-	-	-	-	-	-		
21	10	-	-	-	-	-	-	-	-	-		
20	1	-	-	-	-	-	-	-	-	-		
19	40	38	2.33	17.4	0.66	5.41	-	-	-	-		
19	20	-	-	-	-	-	-	-	-	-		
19	10	-	-	-	-	-	-	-	-	-		
19	2	45	2.73	19.7	0.74	6.50	-	-	-	-		

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
17 JUL 80		15		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
17	192.6	550.6	624	0	-	29.42	-	34.7	-	15.6	7.69	0.968	-	-	-	-	0.084
17	192.6	550.6	630	2	-	29.47	3.4	34.5	0.74	15.5	7.75	0.985	-	0.3	1.4	2.2	0.086
17	192.6	550.6	636	5	-	30.42	-	34.2	-	15.1	7.79	0.981	-	-	-	-	0.090
17	192.6	550.6	641	10	-	30.50	-	34.2	-	15.0	7.81	0.966	-	-	-	-	0.090
17	192.6	550.6	647	20	-	30.66	-	34.2	-	14.9	7.82	0.988	-	-	-	1.6	0.089
16	196.3	548.3	720	1	16.9	26.65	-	36.2	-	17.4	7.88	0.953	-	-	-	-	0.083
15	202.4	549.5	754	0	-	23.00	-	48.0	-	18.2	7.90	0.925	-	-	-	-	0.089
15	202.4	549.5	800	2	-	23.02	32.0	48.0	1.22	18.2	7.89	0.927	-	0.6	1.9	1.5	0.089
15	202.4	549.5	810	5	-	23.38	-	43.0	-	17.9	7.90	0.914	-	-	-	-	0.083
15	202.4	549.5	815	10	-	24.30	-	37.8	-	17.7	7.91	0.914	-	-	-	-	0.081
15	202.4	549.5	820	20	-	24.82	-	37.1	-	17.6	7.90	0.905	-	-	-	-	0.085
14	206.7	552.5	851	1	18.3	19.80	-	39.4	-	18.7	7.98	0.965	-	-	-	-	0.102
13	209.3	555.7	920	0	-	17.62	-	38.8	-	18.6	7.99	0.722	-	-	-	-	0.095
13	209.3	555.7	927	2	-	17.90	9.2	38.5	1.47	18.6	7.98	0.727	-	0.3	2.1	2.5	0.100
13	209.3	555.7	937	5	-	23.16	-	42.6	-	18.0	7.91	0.922	-	-	-	-	0.083
13	209.3	555.7	943	10	-	23.60	-	46.3	-	18.0	7.88	0.946	-	-	-	1.5	0.090
12	211.6	560.4	1019	1	19.0	16.66	-	41.8	-	19.5	8.05	0.784	-	-	-	-	0.101
11	212.7	564.6	1038	1	19.2	15.60	-	48.0	-	19.6	7.98	0.751	-	-	-	-	0.122
10	212.5	569.5	1104	1	19.5	12.26	-	55.0	-	19.9	7.99	0.702	-	-	-	-	0.155
9	211.4	572.5	1124	0	-	9.71	-	56.0	-	19.7	8.04	-	-	-	-	-	0.177
9	211.4	572.5	1131	2	-	9.48	66.6	65.8	3.93	19.8	8.02	0.616	-	1.4	2.5	8.7	0.192
9	211.4	572.5	1139	5	-	10.39	-	77.7	-	19.9	7.99	0.674	-	-	-	-	0.209
9	211.4	572.5	1144	10	-	10.77	-	85.0	-	19.9	7.98	0.714	-	-	-	-	0.218
9	211.4	572.5	1150	20	-	10.43	-	85.0	-	19.9	7.98	0.704	-	-	-	-	0.228
8	209.3	574.3	1214	1	-	5.72	-	103.0	-	20.3	-	0.565	-	-	-	-	0.445
7	211.3	579.3	1240	1	20.5	3.51	-	100.0	-	20.9	8.04	0.535	-	-	-	-	0.445
6	213.3	584.7	1311	0	-	1.34	-	100.0	-	21.7	7.91	0.652	-	-	-	-	0.330
6	213.3	584.7	1316	2	-	1.28	159.0	100.0	10.80	21.7	7.90	0.667	-	2.4	2.6	15.3	0.330
6	213.3	584.7	1327	5	-	1.46	-	105.0	-	21.7	7.92	0.658	-	-	-	16.0	0.340
5	212.8	589.5	1352	1	21.3	0.43	-	80.0	-	21.8	7.71	0.782	-	-	-	-	0.220
4	211.5	593.4	1408	1	21.1	0.18	-	68.0	-	21.6	7.68	0.828	-	-	-	-	0.181
3	211.8	598.4	1435	0	-	0.17	-	65.0	-	22.5	7.61	0.952	-	-	-	-	0.183
3	211.8	598.4	1442	2	-	0.16	55.4	64.0	4.56	22.5	7.61	0.937	-	1.7	3.2	5.1	0.182
3	211.8	598.4	1449	5	-	0.16	-	67.7	-	22.4	7.60	0.951	-	-	-	-	0.185
2	213.2	600.4	1621	1	22.0	0.11	-	56.0	-	22.4	7.59	0.956	-	-	-	-	0.165
653	217.1	612.1	1658	1	21.7	0.01	-	45.0	-	22.2	7.63	0.803	-	-	-	-	0.203
655	219.7	613.9	1708	1	22.0	0.01	-	43.0	-	22.4	7.57	0.890	-	-	-	-	-
657	223.4	614.9	1728	0	-	0.00	-	42.0	-	23.4	7.57	0.945	-	-	-	-	0.222
657	223.4	614.9	1736	2	-	0.00	18.0	42.0	1.80	23.3	7.56	0.933	-	0.7	2.3	8.0	0.222
657	223.4	614.9	1742	4	-	0.00	-	43.0	-	23.3	7.56	0.924	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
17 JUL 80	15	S F BAY										
STATION	DEPTH m	SIO2 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM		
17	0	-	-	-	-	-	-	-	-	-		
17	2	56	3.06	19.4	0.70	7.26	-	-	-	-		
17	5	-	-	-	-	-	-	-	-	-		
17	10	-	-	-	-	-	-	-	-	-		
17	20	-	-	-	-	-	-	-	-	-		
16	1	-	-	-	-	-	-	-	-	-		
15	0	-	-	-	-	-	-	-	-	-		
15	2	75	3.38	21.0	0.68	6.70	-	-	-	-		
15	5	-	-	-	-	-	-	-	-	-		
15	10	-	-	-	-	-	-	-	-	-		
15	20	-	-	-	-	-	-	-	-	-		
14	1	-	-	-	-	-	-	-	-	-		
13	0	-	-	-	-	-	-	-	-	-		
13	2	94	3.13	21.2	0.74	4.66	32.9	3.4	37.8	3.7		
13	5	-	-	-	-	-	-	-	-	-		
13	10	-	-	-	-	-	-	-	-	-		
12	1	-	-	-	-	-	-	-	-	-		
11	1	-	-	-	-	-	-	-	-	-		
10	1	-	-	-	-	-	-	-	-	-		
9	0	-	-	-	-	-	-	-	-	-		
9	2	122	2.75	19.8	0.49	1.95	-	-	-	-		
9	5	-	-	-	-	-	-	-	-	-		
9	10	-	-	-	-	-	-	-	-	-		
9	20	-	-	-	-	-	-	-	-	-		
8	1	-	-	-	-	-	-	-	-	-		
7	1	-	-	-	-	-	-	-	-	-		
6	0	-	-	-	-	-	-	-	-	-		
6	2	199	2.31	17.6	0.13	0.13	25.9	2.5	44.0	4.0		
6	5	-	-	-	-	-	-	-	-	-		
5	1	-	-	-	-	-	-	-	-	-		
4	1	-	-	-	-	-	-	-	-	-		
3	0	-	-	-	-	-	-	-	-	-		
3	2	228	2.09	16.0	0.25	0.17	-	-	-	-		
3	5	-	-	-	-	-	-	-	-	-		
2	1	-	-	-	-	-	-	-	-	-		
653	1	-	-	-	-	-	-	-	-	-		
655	1	-	-	-	-	-	-	-	-	-		
657	0	-	-	-	-	-	-	-	-	-		
657	2	242	1.84	11.3	0.44	1.41	-	-	-	-		
657	4	-	-	-	-	-	-	-	-	-		

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION															
4 AUG 80	16	S F BAY															
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOM TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
36	147.4	582.7	736	0	22.8	25.89	-	36.8	-	22.5	7.83	1.189	-	-	-	-	0.130
36	147.4	582.7	743	2	22.8	25.77	26.0	36.8	2.80	22.5	7.83	1.165	-	0.7	4.2	2.2	0.130
36	147.4	582.7	751	5	22.9	26.44	-	49.5	-	22.4	7.89	1.007	-	-	-	-	0.132
35	148.5	581.5	803	1	22.6	26.58	-	34.6	-	23.0	7.91	0.938	-	-	-	-	0.128
34	149.8	580.6	809	1	22.5	26.87	-	28.3	-	22.8	7.94	-	-	-	-	-	0.120
33	151.6	577.5	823	1	22.3	27.34	-	24.7	-	22.6	-	0.858	-	-	-	-	0.105
32	152.5	576.5	834	0	22.3	27.45	-	19.8	-	22.4	7.92	0.849	-	-	-	-	0.108
32	152.5	576.5	840	2	22.4	27.30	16.4	21.3	1.47	22.3	7.92	0.850	-	0.4	3.4	1.5	0.102
32	152.5	576.5	847	5	22.4	27.46	-	26.2	-	22.5	7.92	0.867	-	-	-	-	0.099
32	152.5	576.5	853	10	22.4	27.46	-	32.5	-	22.6	7.93	0.866	-	-	-	-	0.102
31	153.8	574.4	908	1	22.3	27.45	-	24.0	-	22.6	7.94	0.836	-	-	-	-	0.109
30	156.5	571.4	928	0	22.0	27.75	-	13.4	-	22.5	7.99	0.740	-	-	-	-	0.085
30	156.5	571.4	936	2	22.2	27.66	6.2	11.1	1.12	22.5	7.99	0.755	-	0.3	3.3	2.2	0.093
30	156.5	571.4	944	5	22.0	27.83	-	13.0	-	22.4	7.98	0.759	-	-	-	-	0.079
30	156.5	571.4	949	10	22.0	27.86	-	13.0	-	22.4	7.97	0.759	-	-	-	-	0.071
29	159.5	566.7	1013	1	21.8	27.90	-	11.3	-	22.2	7.96	0.753	-	-	-	-	0.092
28	161.5	564.4	1023	1	21.6	28.09	-	9.2	-	21.9	7.98	0.735	-	-	-	-	0.087
27	163.4	562.5	1039	0	21.5	28.11	-	7.1	-	21.6	8.00	0.694	-	-	-	-	0.082
27	163.4	562.5	1045	2	21.6	28.10	3.6	9.2	0.73	21.6	8.00	0.683	-	0.2	2.5	1.0	0.084
27	163.4	562.5	1052	5	21.6	28.19	-	7.1	-	21.7	8.00	0.701	-	-	-	-	0.078
27	163.4	562.5	1057	10	21.4	28.29	-	11.3	-	21.5	7.98	0.712	-	-	-	0.6	0.074
26	165.4	560.5	1114	1	20.9	28.46	-	5.0	-	21.3	7.97	0.695	-	-	-	-	0.101
25	169.4	559.5	1126	1	20.4	28.72	-	5.0	-	20.9	7.96	0.719	-	-	-	-	0.107
24	172.5	558.3	1143	0	19.7	29.09	-	5.0	-	20.1	7.91	0.815	-	-	-	-	0.084
24	172.5	558.3	1150	2	19.7	28.96	2.7	4.7	0.87	20.2	7.91	0.802	-	0.2	2.3	1.5	0.090
24	172.5	558.3	1159	5	19.5	29.09	-	5.6	-	20.0	7.91	0.807	-	-	-	-	0.079
23	175.5	558.5	1217	1	19.4	29.21	-	7.5	-	19.8	7.90	0.824	-	-	-	-	0.091
22	179.4	556.5	1229	1	19.1	29.30	-	5.4	-	19.5	7.90	-	-	-	-	-	0.103
21	183.6	555.5	1244	0	19.4	29.27	-	11.3	-	19.7	7.92	0.781	-	-	-	-	0.116
21	183.6	555.5	1250	2	19.4	29.17	2.8	7.1	0.71	19.7	7.92	0.781	-	0.4	2.1	1.4	0.117
21	183.6	555.5	1300	5	19.1	29.32	-	9.2	-	19.4	7.90	0.804	-	-	-	-	0.092
21	183.6	555.5	1308	10	18.6	29.46	-	5.0	-	18.9	7.90	0.811	-	-	-	-	0.078
21	183.6	555.5	1315	15	18.3	29.51	-	15.6	-	18.7	7.90	0.789	-	-	-	-	0.079
16	196.3	548.3	1417	1	18.3	27.17	-	-	-	-	-	-	-	-	-	-	-
15	202.4	549.5	1439	1	19.9	23.74	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION												
4 AUG 80	16	S F BAY												
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM				
36	0	-	-	-	-	-	-	-	-	-				
36	2	167	28.83	53.0	2.92	13.25	75.8	29.2	84.8	30.0				
36	5	-	-	-	-	-	-	-	-	-				
35	1	-	-	-	-	-	-	-	-	-				
34	1	-	-	-	-	-	-	-	-	-				
33	1	-	-	-	-	-	-	-	-	-				
32	0	-	-	-	-	-	-	-	-	-				
32	2	124	17.22	27.0	1.37	7.32	-	-	-	-				
32	5	-	-	-	-	-	-	-	-	-				
32	10	-	-	-	-	-	-	-	-	-				
31	1	-	-	-	-	-	-	-	-	-				
30	0	-	-	-	-	-	-	-	-	-				
30	2	108	18.76	19.8	1.03	5.70	-	-	-	-				
30	5	-	-	-	-	-	-	-	-	-				
30	10	-	-	-	-	-	-	-	-	-				
29	1	-	-	-	-	-	-	-	-	-				
28	1	-	-	-	-	-	-	-	-	-				
27	0	-	-	-	-	-	-	-	-	-				
27	2	81	10.00	18.7	0.75	4.85	33.9	10.6	36.3	10.6				
27	5	-	-	-	-	-	-	-	-	-				
27	10	-	-	-	-	-	-	-	-	-				
26	1	-	-	-	-	-	-	-	-	-				
25	1	-	-	-	-	-	-	-	-	-				
24	0	-	-	-	-	-	-	-	-	-				
24	2	76	5.48	20.0	0.80	5.38	31.4	5.5	35.0	5.7				
24	5	-	-	-	-	-	-	-	-	-				
23	1	-	-	-	-	-	-	-	-	-				
22	1	-	-	-	-	-	-	-	-	-				
21	0	-	-	-	-	-	-	-	-	-				
21	2	73	4.80	18.6	0.74	5.44	30.4	4.6	32.7	5.1				
21	5	-	-	-	-	-	-	-	-	-				
21	10	-	-	-	-	-	-	-	-	-				
21	15	-	-	-	-	-	-	-	-	-				
16	1	-	-	-	-	-	-	-	-	-				
15	1	-	-	-	-	-	-	-	-	-				

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polarís (continued).

DATE		CRUISE #		LOCATION												
4 AUG 80		16		S F BAY												
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
14	206.7	552.5	1452	1	19.1	24.94	-	-	-	-	-	-	-	-	-	-
13	209.3	555.7	1506	1	19.6	22.74	-	-	-	-	-	-	-	-	-	-
12	211.6	560.4	1525	1	20.5	18.21	-	-	-	-	-	-	-	-	-	-
11	212.7	564.6	1539	1	20.9	16.01	-	-	-	-	-	-	-	-	-	-
10	212.5	569.5	1557	1	21.3	13.78	-	-	-	-	-	-	-	-	-	-
9	211.4	572.5	1609	1	21.6	11.66	-	-	-	-	-	-	-	-	-	-
8	209.3	574.5	1619	1	21.7	9.80	-	-	-	-	-	-	-	-	-	-
7	211.3	579.3	1655	1	21.9	7.56	-	-	-	-	-	-	-	-	-	-
6	213.3	584.7	1714	1	22.3	3.51	-	-	-	-	-	-	-	-	-	-
5	212.8	589.5	1729	1	22.7	1.93	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V *Polaris* (continued).

DATE	CRUISE #	LOCATION								
4 AUG 80	16	S F BAY								
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
14	1	-	-	-	-	-	-	-	-	-
13	1	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	-
10	1	-	-	-	-	-	-	-	-	-
9	1	-	-	-	-	-	-	-	-	-
8	1	-	-	-	-	-	-	-	-	-
7	1	-	-	-	-	-	-	-	-	-
6	1	-	-	-	-	-	-	-	-	-
5	1	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V PolarIs (continued).

DATE		CRUISE #		LOCATION																	
5 AUG 80		16		S F BAY																	
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR				
657	223.4	614.9	800	0	22.2	0.01	-	22.5	-	22.0	7.53	0.989	-	-	-	-	0.145				
657	223.4	614.9	808	2	22.2	0.01	13.2	23.0	1.69	22.1	7.52	0.996	-	0.4	3.0	5.8	0.141				
655	219.7	613.9	821	1	22.3	0.00	-	24.0	-	22.7	-	1.110	-	-	-	-	0.130				
653	217.1	612.1	839	1	22.2	0.00	-	24.9	-	22.6	7.42	1.103	-	-	-	-	0.124				
651	215.0	608.5	846	1	22.1	0.00	-	28.3	-	22.5	7.52	0.973	-	-	-	-	0.123				
649	212.9	605.6	904	1	21.8	0.02	-	43.7	-	22.2	7.54	0.865	-	-	-	-	0.113				
3	211.8	598.4	938	0	22.4	0.34	-	66.4	-	22.5	7.73	0.819	-	-	-	-	0.140				
3	211.8	598.4	944	2	22.4	0.35	51.2	67.0	4.42	22.6	7.73	0.813	-	0.8	2.8	-	0.143				
3	211.8	598.4	952	5	22.4	0.38	-	69.4	-	22.6	7.73	0.816	-	-	-	-	0.145				
3	211.8	598.4	957	10	22.4	0.51	-	85.1	-	22.6	7.71	0.855	-	-	-	-	0.155				
4	211.5	593.4	1043	1	22.1	1.11	-	121.1	-	22.5	7.81	0.796	-	-	-	-	0.193				
5	212.8	589.5	1058	1	22.4	2.05	-	102.2	-	22.4	7.92	0.714	-	-	-	-	0.273				
6	213.3	584.7	1122	0	21.3	5.69	-	97.6	-	21.6	8.14	0.465	-	-	-	-	0.432				
6	213.3	584.7	1130	2	21.3	6.79	156.0	142.5	6.72	21.6	8.08	0.498	-	3.0	3.0	22.5	0.436				
6	213.3	584.7	1137	5	21.2	7.25	-	-	-	21.5	8.06	0.537	-	-	-	-	0.454				
6	213.3	584.7	1145	10	21.1	7.46	-	-	-	21.4	8.06	0.550	-	-	-	-	0.400				
7	211.3	579.3	1215	1	20.9	12.01	-	38.6	-	21.3	8.05	0.623	-	-	-	-	0.218				
8	209.3	574.5	1231	1	20.8	14.54	-	17.7	-	21.1	8.01	0.597	-	-	-	-	0.164				
9	211.4	572.5	1254	0	20.7	15.66	-	15.1	-	21.0	8.03	0.634	-	-	-	-	0.142				
9	211.4	572.5	1304	2	20.4	15.72	14.8	18.1	1.46	21.2	8.03	0.653	-	0.5	2.8	4.8	0.125				
9	211.4	572.5	1311	5	20.2	17.64	-	22.5	-	20.7	7.98	0.719	-	-	-	-	0.112				
9	211.4	572.5	1316	10	20.1	18.28	-	31.9	-	20.6	7.97	0.747	-	-	-	-	0.112				
9	211.4	572.5	1322	15	20.1	18.41	-	53.1	-	20.5	7.97	0.759	-	-	-	-	0.118				
10	212.5	569.5	1434	1	20.5	15.95	-	14.5	-	20.8	8.00	0.671	-	-	-	-	0.138				
11	212.7	564.6	1450	1	19.9	18.80	-	25.3	-	20.3	7.98	0.712	-	-	-	-	0.121				
12	211.6	560.4	1500	1	19.6	20.82	-	15.5	-	20.2	8.02	0.671	-	-	-	-	0.148				
13	209.3	555.7	1525	0	19.4	23.81	-	19.8	-	19.6	8.02	0.675	-	-	-	-	0.131				
13	209.3	555.7	1532	2	19.4	23.62	14.4	19.1	1.28	19.7	8.02	0.701	-	0.5	2.3	3.0	0.132				
13	209.3	555.7	1540	5	19.4	23.81	-	18.5	-	19.8	8.02	0.694	-	-	-	-	0.127				
13	209.3	555.7	1546	10	18.8	25.24	-	35.2	-	19.3	7.97	0.769	-	-	-	1.5	0.099				
14	206.7	552.5	1607	1	19.5	23.98	-	19.1	-	19.8	8.04	0.681	-	-	-	-	0.165				
15	202.4	549.5	1632	0	19.1	25.11	-	21.7	-	19.6	7.99	0.731	-	-	-	-	0.113				
15	202.4	549.5	1640	2	19.1	25.07	37.9	24.4	2.00	19.5	7.99	0.731	-	0.5	2.2	2.2	0.118				
15	202.4	549.5	1647	5	18.5	26.06	-	14.5	-	19.0	7.98	0.740	-	-	-	-	0.092				
15	202.4	549.5	1654	10	18.3	26.51	-	16.8	-	18.7	7.96	0.771	-	-	-	-	0.084				

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
5 AUG 80	16	S F BAY										
STATION	DEPTH	SI02	PO4	NO3+NO2	NO2	NH3	DISSOLV	DISSOLV	TOTAL	TOTAL	PHOSPH	PHOSPH
	m	UM	UM	UM	UM	UM	NITROG	PHOSPH	NITROG	NITROG	UM	UM
657	0	-	-	-	-	-	-	-	-	-	-	-
657	2	252	2.06	9.5	0.28	0.94	16.4	2.2	22.1	2.7	-	-
655	1	-	-	-	-	-	-	-	-	-	-	-
653	1	-	-	-	-	-	-	-	-	-	-	-
651	1	-	-	-	-	-	-	-	-	-	-	-
649	1	-	-	-	-	-	-	-	-	-	-	-
3	0	-	-	-	-	-	-	-	-	-	-	-
3	2	225	2.36	14.8	0.17	0.60	21.8	2.6	31.4	4.9	-	-
3	5	-	-	-	-	-	-	-	-	-	-	-
3	10	-	-	-	-	-	-	-	-	-	-	-
4	1	-	-	-	-	-	-	-	-	-	-	-
5	1	-	-	-	-	-	-	-	-	-	-	-
6	0	-	-	-	-	-	-	-	-	-	-	-
6	2	132	2.43	14.7	0.22	0.16	21.9	2.7	38.6	5.4	-	-
6	5	-	-	-	-	-	-	-	-	-	-	-
6	10	-	-	-	-	-	-	-	-	-	-	-
7	1	-	-	-	-	-	-	-	-	-	-	-
8	1	-	-	-	-	-	-	-	-	-	-	-
9	0	-	-	-	-	-	-	-	-	-	-	-
9	2	97	3.11	19.2	0.54	2.69	30.6	3.2	34.3	4.5	-	-
9	5	-	-	-	-	-	-	-	-	-	-	-
9	10	-	-	-	-	-	-	-	-	-	-	-
9	15	-	-	-	-	-	-	-	-	-	-	-
10	1	-	-	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-	-	-
13	0	-	-	-	-	-	-	-	-	-	-	-
13	2	78	3.43	19.9	0.65	4.77	34.9	3.3	35.6	3.7	-	-
13	5	-	-	-	-	-	-	-	-	-	-	-
13	10	-	-	-	-	-	-	-	-	-	-	-
14	1	-	-	-	-	-	-	-	-	-	-	-
15	0	-	-	-	-	-	-	-	-	-	-	-
15	2	72	3.47	19.2	0.72	5.83	-	-	-	-	-	-
15	5	-	-	-	-	-	-	-	-	-	-	-
15	10	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
5 AUG 80		16		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
15	202.4	549.5	1659	15	17.4	28.80	-	20.8	-	17.9	7.96	0.755	-	-	-	-	0.079
16	196.3	548.3	1800	1	17.7	28.53	-	6.4	-	18.1	8.00	0.707	-	-	-	-	0.107
17	192.6	550.6	1826	0	17.0	30.04	-	4.9	-	17.3	8.00	0.688	-	-	-	-	0.091
17	192.6	550.6	1832	2	16.6	30.34	12.4	4.5	0.81	17.0	8.00	0.697	-	0.3	1.9	2.4	0.085
17	192.6	550.6	1840	5	16.6	30.90	-	4.9	-	16.6	7.99	0.682	-	-	-	-	0.083
17	192.6	550.6	1845	15	16.1	31.06	-	6.2	-	16.4	7.99	0.684	-	-	-	-	0.084
17	192.6	550.6	1853	30	16.0	31.16	45.3	25.3	-	16.2	7.99	0.682	-	-	-	2.1	0.097
19	185.6	546.5	1931	1	14.9	32.17	7.2	1.5	-	15.5	8.07	0.583	-	0.4	-	1.5	0.087
20	185.4	552.4	1944	1	15.2	31.99	-	1.5	-	15.7	-	-	-	-	-	-	0.078
21	183.6	555.5	1956	1	17.9	30.87	-	3.7	-	16.8	-	-	-	-	-	-	0.084
22	179.4	556.5	2005	1	17.3	30.38	-	2.8	-	-	-	-	-	-	-	-	0.103
23	175.5	558.5	2017	1	17.8	29.90	-	5.8	-	-	-	-	-	-	-	-	0.081

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V *Polaris* (continued).

DATE	CRUISE #	LOCATION								
5 AUG 80	16	S F BAY								
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
15	15	-	-	-	-	-	-	-	-	-
16	1	-	-	-	-	-	-	-	-	-
17	0	-	-	-	-	-	-	-	-	-
17	2	-	-	-	-	-	27.2	2.7	30.4	3.0
17	5	-	-	-	-	-	-	-	-	-
17	15	-	-	-	-	-	-	-	-	-
17	30	-	-	-	-	-	-	-	-	-
19	1	-	-	-	-	-	21.4	2.0	25.9	2.4
20	1	-	-	-	-	-	-	-	-	-
21	1	-	-	-	-	-	-	-	-	-
22	1	-	-	-	-	-	-	-	-	-
23	1	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
18 AUG 80		17		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
36	147.4	582.7	704	0	20.2	26.08	-	43.9	-	19.8	7.89	1.067	-	-	-	-	0.141
36	147.4	582.7	712	2	20.4	26.16	26.2	44.7	2.20	20.0	7.90	1.027	-	0.6	4.4	2.6	0.144
36	147.4	582.7	720	5	20.5	26.73	-	51.1	-	20.3	7.95	0.946	-	-	-	-	0.152
35	148.5	581.5	730	1	20.4	26.73	-	39.3	-	20.7	-	0.854	-	-	-	-	0.149
34	149.8	580.6	737	1	20.4	27.13	-	36.3	-	20.7	-	0.817	-	-	-	-	0.164
33	151.6	577.6	748	1	20.3	27.43	-	32.6	-	20.6	7.95	0.803	-	-	-	-	0.147
32	152.5	576.5	800	0	20.3	27.73	-	29.4	-	20.4	7.95	0.829	-	-	-	-	0.126
32	152.5	576.5	806	2	20.4	27.61	21.8	29.6	1.89	20.5	7.98	0.819	-	0.4	3.7	2.2	0.157
32	152.5	576.5	814	5	20.4	27.70	-	31.5	-	20.6	7.96	0.789	-	-	-	-	0.139
32	152.5	576.5	819	10	20.4	27.72	-	35.0	-	20.6	7.95	0.816	-	-	-	-	0.136
31	153.8	574.5	833	1	20.3	27.80	-	26.2	-	20.5	7.95	0.814	-	-	-	-	0.135
30	156.5	571.4	851	0	20.1	28.01	-	26.4	-	20.3	7.95	0.826	-	-	-	-	0.096
30	156.5	571.4	858	2	20.0	27.81	23.3	24.6	1.44	20.1	7.96	0.818	-	0.3	3.4	3.1	0.111
30	156.5	571.4	905	5	19.9	28.12	-	27.0	-	20.1	7.96	0.816	-	-	-	-	0.085
30	156.5	571.4	911	10	19.9	28.17	-	28.3	-	20.0	7.96	0.798	-	-	-	-	0.088
29	159.5	566.7	938	1	19.7	28.39	-	19.7	-	20.0	8.00	0.694	-	-	-	-	0.099
28	161.5	564.4	946	1	19.6	28.63	-	19.2	-	19.8	8.02	0.646	-	-	-	-	0.090
27	163.4	562.5	1002	0	19.3	28.77	-	18.9	-	19.6	8.04	0.618	-	-	-	-	0.078
27	163.4	562.5	1008	2	19.4	28.68	6.8	18.4	0.67	19.6	8.04	0.622	-	0.3	2.4	1.2	0.084
27	163.4	562.5	1014	5	19.4	28.74	-	20.8	-	19.6	8.04	0.621	-	-	-	-	0.078
27	163.4	562.5	1020	10	19.4	28.74	-	24.3	-	19.6	8.03	0.624	-	-	-	0.8	0.079
26	165.4	560.5	1038	1	19.2	29.01	-	14.6	-	19.5	-	0.618	-	-	-	-	0.088
25	169.4	559.5	1050	1	19.1	29.10	-	14.6	-	19.5	7.97	0.662	-	-	-	-	0.085
24	172.5	558.3	1108	0	19.0	29.28	-	14.1	-	19.7	7.95	0.711	-	-	-	-	0.079
24	172.5	558.3	1115	2	18.8	29.18	6.5	14.4	0.82	19.6	7.94	0.726	-	0.2	3.3	1.0	0.083
24	172.5	558.3	1122	5	18.5	29.48	-	14.9	-	19.3	7.91	0.760	-	-	-	-	0.099
24	172.5	558.3	1127	8	18.3	29.62	-	15.2	-	19.1	7.90	0.772	-	-	-	-	0.059
23	175.5	558.5	1219	1	19.0	29.31	-	11.7	-	19.3	7.94	0.708	-	-	-	-	0.081
22	179.4	556.5	1234	1	18.5	29.54	-	13.0	-	18.7	7.84	0.709	-	-	-	-	0.083
21	183.6	555.5	1252	0	18.3	29.80	-	13.0	-	18.7	7.92	0.704	-	-	-	-	0.091
21	183.6	555.5	1300	2	18.2	29.74	5.3	12.0	0.90	18.8	7.94	0.716	-	0.3	3.2	2.8	0.100
21	183.6	555.5	1307	5	17.6	29.97	-	12.2	-	18.2	7.90	0.730	-	-	-	-	0.079
21	183.6	555.5	1312	10	17.4	29.98	-	13.8	-	18.0	7.89	0.774	-	-	-	-	0.073
21	183.6	555.5	1316	15	17.2	30.06	-	24.3	-	17.7	7.89	0.796	-	-	-	-	0.079
20	185.4	552.4	1341	1	15.8	30.96	-	10.4	-	16.1	7.92	0.716	-	-	-	-	0.075
19	185.6	546.5	1419	40	13.8	32.54	20.2	13.3	-	14.2	7.94	0.654	-	-	-	2.3	0.102
19	185.6	546.5	1426	20	13.8	32.46	-	10.6	-	14.3	7.93	0.653	-	-	-	-	0.093
19	185.6	546.5	1430	10	14.3	32.35	-	8.5	-	14.4	7.93	0.661	-	-	-	-	0.085
19	185.6	556.5	1437	2	14.9	31.56	2.8	8.2	0.51	15.2	7.94	0.660	-	0.3	1.8	2.3	0.095

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V *Polaris* (continued).

DATE		CRUISE #	LOCATION		STATION	DEPTH m	S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV		TOTAL	
18	AUG 80		S	F BAY								NITROG	PHOSPH	NITROG	PHOSPH
		17										UM	UM	UM	UM
36		0	-	-	-	-	-	-	-	-	-	-	-	-	-
36		2	167	28.42	40.7	3.10	16.74	-	-	-	-	-	-	-	-
36		5	-	-	-	-	-	-	-	-	-	-	-	-	-
35		1	-	-	-	-	-	-	-	-	-	-	-	-	-
34		1	-	-	-	-	-	-	-	-	-	-	-	-	-
33		1	-	-	-	-	-	-	-	-	-	-	-	-	-
32		0	-	-	-	-	-	-	-	-	-	-	-	-	-
32		2	135	18.79	26.7	1.37	5.12	-	-	-	-	-	-	-	-
32		5	-	-	-	-	-	-	-	-	-	-	-	-	-
32		10	-	-	-	-	-	-	-	-	-	-	-	-	-
31		1	-	-	-	-	-	-	-	-	-	-	-	-	-
30		0	-	-	-	-	-	-	-	-	-	-	-	-	-
30		2	127	17.10	24.3	1.16	7.13	-	-	-	-	-	-	-	-
30		5	-	-	-	-	-	-	-	-	-	-	-	-	-
30		10	-	-	-	-	-	-	-	-	-	-	-	-	-
29		1	-	-	-	-	-	-	-	-	-	-	-	-	-
28		1	-	-	-	-	-	-	-	-	-	-	-	-	-
27		0	-	-	-	-	-	-	-	-	-	-	-	-	-
27		2	75	9.78	17.5	0.77	4.91	-	-	-	-	-	-	-	-
27		5	-	-	-	-	-	-	-	-	-	-	-	-	-
27		10	-	-	-	-	-	-	-	-	-	-	-	-	-
26		1	-	-	-	-	-	-	-	-	-	-	-	-	-
25		1	-	-	-	-	-	-	-	-	-	-	-	-	-
24		0	-	-	-	-	-	-	-	-	-	-	-	-	-
24		2	73	-	17.7	0.79	5.70	-	-	-	-	-	-	-	-
24		5	-	-	-	-	-	-	-	-	-	-	-	-	-
24		8	-	-	-	-	-	-	-	-	-	-	-	-	-
23		1	-	-	-	-	-	-	-	-	-	-	-	-	-
22		1	-	-	-	-	-	-	-	-	-	-	-	-	-
21		0	-	-	-	-	-	-	-	-	-	-	-	-	-
21		2	72	4.81	16.2	0.78	6.82	-	-	-	-	-	-	-	-
21		5	-	-	-	-	-	-	-	-	-	-	-	-	-
21		10	-	-	-	-	-	-	-	-	-	-	-	-	-
21		15	-	-	-	-	-	-	-	-	-	-	-	-	-
20		1	-	-	-	-	-	-	-	-	-	-	-	-	-
19		40	-	-	-	-	-	-	-	-	-	-	-	-	-
19		20	-	-	-	-	-	-	-	-	-	-	-	-	-
19		10	-	-	-	-	-	-	-	-	-	-	-	-	-
19		2	45	2.65	15.5	0.65	6.97	-	-	-	-	-	-	-	-

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
19 AUG 80		17		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
17	192.6	550.6	642	0	15.5	30.60	-	0.1	-	15.5	7.95	0.687	-	-	-	-	0.073
17	192.6	550.6	650	2	15.2	30.93	19.8	4.1	0.95	15.3	7.95	0.685	-	0.3	3.4	1.5	0.081
17	192.6	550.6	657	5	15.2	31.28	-	4.9	-	15.2	7.96	0.682	-	-	-	-	0.084
17	192.6	550.6	702	10	15.1	31.21	-	4.9	-	15.2	7.96	0.679	-	-	-	-	0.084
17	192.6	550.6	708	30	14.9	31.58	-	3.6	-	15.0	7.96	0.674	-	-	-	-	0.085
16	196.3	548.3	734	1	16.5	28.58	-	5.4	-	16.7	7.97	0.681	-	-	-	-	0.089
15	202.4	549.5	804	0	17.1	26.26	-	7.3	-	17.5	8.01	0.656	-	-	-	-	0.095
15	202.4	549.5	809	2	17.1	26.69	26.7	12.7	1.77	17.3	8.00	0.655	-	0.3	1.8	2.2	0.086
15	202.4	549.5	817	5	17.0	27.21	-	13.7	-	17.3	7.99	0.677	-	-	-	-	0.083
15	202.4	549.5	823	15	16.5	28.53	-	21.0	-	16.8	7.98	0.691	-	-	-	-	0.090
14	206.7	552.5	853	1	17.5	25.11	-	7.6	-	17.7	8.02	0.638	-	-	-	-	0.115
13	209.3	555.7	912	0	18.1	22.04	-	12.7	-	18.5	8.07	0.574	-	-	-	-	0.143
13	209.3	555.7	917	2	17.9	23.56	21.7	10.3	1.73	18.3	8.03	0.609	-	0.3	2.2	2.9	0.102
13	209.3	555.7	924	5	17.2	26.76	-	25.5	-	17.7	7.98	0.669	-	-	-	2.1	0.092
12	211.6	560.4	948	1	18.3	21.04	-	9.2	-	18.5	8.05	0.574	-	-	-	-	0.131
11	212.7	564.6	1009	1	18.5	19.53	-	26.6	-	18.7	8.06	0.563	-	-	-	-	0.120
10	212.5	569.5	1024	1	18.7	16.60	-	8.1	-	18.9	8.09	0.518	-	-	-	-	0.130
9	211.4	572.5	1038	0	18.9	15.47	-	6.0	-	19.3	8.14	0.442	-	-	-	-	0.145
9	211.4	572.5	1043	2	18.9	15.37	9.0	6.5	1.26	19.4	8.15	0.447	-	0.9	2.7	4.5	0.142
9	211.4	572.5	1050	5	18.7	16.77	-	8.7	-	19.3	8.07	0.507	-	-	-	-	0.113
9	211.4	572.5	1055	10	18.6	18.32	-	34.4	-	19.1	8.03	0.580	-	-	-	-	0.111
9	211.4	572.5	1100	15	18.5	19.36	-	64.4	-	19.0	8.01	0.596	-	-	-	-	0.119
8	209.3	574.3	1137	1	19.0	13.85	-	8.1	-	19.2	8.22	0.385	-	-	-	-	0.212
7	211.3	579.3	1153	1	18.9	11.65	-	13.2	-	19.1	8.29	0.314	-	-	-	-	0.222
6	213.3	584.7	1221	0	19.7	6.26	-	69.0	-	20.4	8.37	0.243	-	-	-	-	0.621
6	213.3	584.7	1226	2	19.3	7.10	61.6	67.9	4.27	19.9	8.28	0.277	-	1.8	2.7	33.9	0.535
6	213.3	584.7	1233	5	19.1	9.45	-	51.5	-	19.7	8.24	0.299	-	-	-	16.1	0.301
5	212.8	589.5	1305	1	19.8	4.98	-	70.0	0.95	20.0	8.29	0.297	-	0.3	3.4	-	0.485
4	211.5	593.4	1321	1	20.2	3.29	-	69.0	-	20.5	8.09	0.432	-	-	-	-	0.346
3	211.8	598.4	1344	0	20.6	2.20	-	65.5	-	21.1	7.95	0.609	-	-	-	-	0.261
3	211.8	598.4	1350	2	20.5	2.17	49.0	65.2	3.88	21.2	7.97	0.588	-	1.0	-	11.8	0.260
3	211.8	598.4	1357	5	20.4	2.23	-	68.7	-	21.0	7.94	0.629	-	-	-	-	0.258
3	211.8	598.4	1403	10	20.1	2.59	-	78.1	-	20.7	7.91	0.686	-	-	-	-	0.279
2	213.2	600.4	1448	1	20.8	1.17	-	72.4	-	21.1	7.83	0.667	-	-	-	-	0.184
649	212.9	605.6	1506	1	20.5	0.42	-	56.1	-	20.8	7.83	0.660	-	-	-	-	0.142

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION		ST02	PO4	NO3+NO2	NO2	NH3	DISSOLV		TOTAL	
19	AUG 80		S	F BAY	UM	UM	UM	UM	UM	UM	UM	UM	UM
17		0	-		-	-	-	-	-	-	-	-	-
17		2	49		2.94	16.3	0.87	7.34	-	-	-	-	-
17		5	-		-	-	-	-	-	-	-	-	-
17		10	-		-	-	-	-	-	-	-	-	-
17		30	-		-	-	-	-	-	-	-	-	-
16		1	-		-	-	-	-	-	-	-	-	-
15		0	-		-	-	-	-	-	-	-	-	-
15		2	70		3.74	18.1	0.93	6.66	-	-	-	-	-
15		5	-		-	-	-	-	-	-	-	-	-
15		15	-		-	-	-	-	-	-	-	-	-
14		1	-		-	-	-	-	-	-	-	-	-
13		0	-		-	-	-	-	-	-	-	-	-
13		2	76		3.67	19.1	0.91	4.72	-	-	-	-	-
13		5	-		-	-	-	-	-	-	-	-	-
12		1	-		-	-	-	-	-	-	-	-	-
11		1	-		-	-	-	-	-	-	-	-	-
10		1	-		-	-	-	-	-	-	-	-	-
9		0	-		-	-	-	-	-	-	-	-	-
9		2	86		2.91	15.1	0.76	1.56	-	-	-	-	-
9		5	-		-	-	-	-	-	-	-	-	-
9		10	-		-	-	-	-	-	-	-	-	-
9		15	-		-	-	-	-	-	-	-	-	-
8		1	-		-	-	-	-	-	-	-	-	-
7		1	-		-	-	-	-	-	-	-	-	-
6		0	-		-	-	-	-	-	-	-	-	-
6		2	104		1.86	5.0	0.17	0.12	-	-	-	-	-
6		5	-		-	-	-	-	-	-	-	-	-
5		1	-		-	-	-	-	-	-	-	-	-
4		1	-		-	-	-	-	-	-	-	-	-
3		0	-		-	-	-	-	-	-	-	-	-
3		2	188		2.39	13.7	0.27	0.54	-	-	-	-	-
3		5	-		-	-	-	-	-	-	-	-	-
3		10	-		-	-	-	-	-	-	-	-	-
2		1	-		-	-	-	-	-	-	-	-	-
649		1	-		-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION															
19 AUG 80		17		S F BAY															
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	ORG PHYLL-A ug/L	CHLORO FLUOR		
651	215.0	608.5	1517	1	20.7	0.07	-	37.1	-	21.0	7.74	0.693	-	-	-	-	0.141		
652	216.4	610.6	1523	1	20.8	0.07	-	30.1	-	21.1	7.75	0.709	-	-	-	-	-		
653	217.1	612.1	1533	1	21.2	0.07	-	21.2	-	21.5	7.70	0.810	-	-	-	-	0.142		
655	219.7	613.9	1544	1	21.2	0.05	-	17.2	-	21.5	7.63	0.976	-	-	-	-	0.129		
657	223.4	614.9	1604	0	21.4	0.04	-	17.0	-	22.2	7.60	1.121	-	-	-	-	0.122		
657	223.4	914.9	1610	2	21.3	0.04	12.9	16.7	1.62	22.1	7.60	1.127	-	0.4	2.5	3.3	0.123		
657	223.4	614.9	1616	5	21.3	0.04	-	18.3	-	22.0	7.59	1.149	-	-	-	-	0.117		

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION							
19 AUG 80		17	S F BAY							
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV		TOTAL NITROG UM	TOTAL PHOSPH UM
							NITROG UM	PHOSPH UM		
651	1	-	-	-	-	-	-	-	-	-
652	1	-	-	-	-	-	-	-	-	-
653	1	-	-	-	-	-	-	-	-	-
655	1	-	-	-	-	-	-	-	-	-
657	0	-	-	-	-	-	-	-	-	-
657	2	265	2.51	10.3	0.48	3.09	-	-	-	-
657	5	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
3 SEP 80		18		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
36	147.4	582.7	700		0	20.8	26.00	-	18.6	20.5	7.90	1.115	-	-	-	-	0.119
36	147.4	582.7	706	2	20.8	26.10	11.9	18.5	1.73	20.5	7.91	1.120	-	0.5	5.0	1.8	0.119
36	147.4	582.7	712	5	20.8	26.35	-	21.0	-	20.5	7.92	1.098	-	-	-	-	0.117
35	148.5	581.5	726	1	20.6	26.83	-	15.9	-	20.8	7.94	-	-	-	-	-	0.107
34	149.8	580.6	732	1	20.5	27.33	-	15.4	-	21.0	8.00	0.802	-	-	-	-	0.104
33	151.6	577.5	746	1	20.3	28.08	-	14.8	-	20.6	8.01	0.725	-	-	-	-	0.101
32	152.5	576.5	756	0	20.3	28.15	-	12.0	-	20.2	8.00	0.768	-	-	-	-	0.091
32	152.5	576.5	805	2	20.3	28.18	13.2	11.9	1.27	20.2	8.00	0.768	-	0.4	7.8	1.2	0.090
32	152.5	576.5	810	5	20.3	28.24	-	16.8	-	20.2	8.00	0.771	-	-	-	-	0.091
32	152.5	576.5	814	10	20.3	28.25	-	16.1	-	20.2	8.00	0.770	-	-	-	-	0.092
31	153.8	574.4	833	1	20.2	28.38	-	13.1	-	20.3	7.99	0.762	-	-	-	-	0.084
30	156.5	571.4	852	0	19.8	28.72	-	11.4	-	19.8	8.02	0.680	-	-	-	-	0.078
30	156.5	571.4	857	2	19.8	28.73	12.3	10.6	1.38	19.8	8.02	0.673	-	0.3	3.6	1.1	0.075
30	156.5	571.4	903	5	19.8	28.73	-	14.8	-	19.8	8.02	0.679	-	-	-	-	0.081
30	156.5	571.4	907	10	19.8	28.73	-	25.0	-	19.8	8.02	0.682	-	-	-	-	0.084
29	159.5	566.7	945	1	19.7	29.00	-	12.0	-	19.9	8.00	0.705	-	-	-	-	0.079
28	161.5	564.4	955	1	19.4	29.21	-	13.4	-	19.7	8.00	0.683	-	-	-	-	0.082
27	163.4	562.5	1010	0	19.0	29.55	-	11.2	-	19.3	7.98	0.704	-	-	-	-	0.074
27	163.4	562.5	1015	2	19.0	29.47	3.6	10.9	1.15	19.4	7.98	0.702	-	0.3	3.7	1.3	0.075
27	163.4	562.5	1021	5	19.0	29.55	-	10.0	-	19.4	7.97	0.690	-	-	-	-	0.073
27	163.4	562.5	1025	10	19.0	29.56	-	10.9	-	19.5	7.97	0.695	-	-	-	1.2	0.072
26	165.4	560.5	1043	1	18.8	29.83	-	6.7	-	19.0	7.96	0.680	-	-	-	-	0.095
25	169.4	559.5	1057	1	18.5	30.09	-	7.2	-	18.9	7.95	0.709	-	-	-	-	0.092
24	172.5	558.3	1151	0	18.2	30.25	-	6.4	-	18.7	7.95	0.708	-	-	-	-	0.075
24	172.5	558.3	1158	2	18.2	30.22	9.3	6.9	0.97	18.7	7.95	0.708	-	0.3	3.3	1.8	0.079
24	172.5	558.3	1204	5	17.9	30.26	-	11.2	-	18.5	7.94	0.718	-	-	-	-	0.070
24	172.5	558.3	1208	8	17.9	30.25	-	13.4	-	18.5	7.93	0.728	-	-	-	-	0.070
23	175.5	558.5	1230	1	18.1	30.41	-	6.1	-	18.3	7.96	0.685	-	-	-	-	0.079
22	179.4	556.5	1242	1	17.5	30.55	-	6.1	-	17.6	7.98	0.642	-	-	-	-	0.087
21	183.6	555.5	1256	0	17.2	30.39	-	5.3	-	17.6	8.01	0.600	-	-	-	-	0.113
21	183.6	555.5	1300	2	17.2	30.37	7.2	5.4	0.92	17.6	8.00	0.612	-	0.4	1.9	3.3	0.111
21	183.6	555.5	1307	5	16.8	30.40	-	7.2	-	17.2	7.99	0.624	-	-	-	-	0.085
21	183.6	555.5	1312	10	16.6	30.58	-	10.3	-	17.0	7.99	0.624	-	-	-	-	0.081
21	183.6	555.5	1317	14	16.3	30.78	-	10.9	-	16.8	7.99	0.610	-	-	-	-	0.082
20	185.4	552.4	1342	1	16.4	30.88	-	6.1	-	16.7	8.01	0.582	-	-	-	-	0.097
19	185.6	546.5	1410	40	15.3	31.62	-	5.5	-	15.4	8.06	0.512	-	-	-	3.3	0.108
19	185.6	546.5	1416	20	15.3	31.69	-	5.7	-	15.4	8.05	0.515	-	-	-	-	0.106
19	185.6	546.5	1424	2	15.3	31.53	5.8	5.0	0.79	15.5	8.06	0.518	-	0.5	1.6	3.4	0.117

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
3 SEP 80	18	S F BAY										
STATION	DEPTH m	SI02 uM	PO4 uM	NO3+NO2 uM	NO2 uM	NH3 uM	DISSOLV NITROG uM	DISSOLV PHOSPH uM	TOTAL NITROG uM	TOTAL PHOSPH uM		
36	0	-	-	-	-	-	-	-	-	-		
36	2	-	-	-	-	-	76.0	30.4	77.0	31.7		
36	5	-	-	-	-	-	-	-	-	-		
35	1	-	-	-	-	-	-	-	-	-		
34	1	-	-	-	-	-	-	-	-	-		
33	1	-	-	-	-	-	-	-	-	-		
32	0	-	-	-	-	-	-	-	-	-		
32	2	126	19.40	23.8	1.24	6.85	-	-	-	-		
32	5	-	-	-	-	-	-	-	-	-		
32	10	-	-	-	-	-	-	-	-	-		
31	1	-	-	-	-	-	-	-	-	-		
30	0	-	-	-	-	-	-	-	-	-		
30	2	100	14.97	18.2	0.92	6.31	-	-	-	-		
30	5	-	-	-	-	-	-	-	-	-		
30	10	-	-	-	-	-	-	-	-	-		
29	1	-	-	-	-	-	-	-	-	-		
28	1	-	-	-	-	-	-	-	-	-		
27	0	-	-	-	-	-	-	-	-	-		
27	2	-	-	-	-	-	31.6	9.6	28.9	9.7		
27	5	-	-	-	-	-	-	-	-	-		
27	10	-	-	-	-	-	-	-	-	-		
26	1	-	-	-	-	-	-	-	-	-		
25	1	-	-	-	-	-	-	-	-	-		
24	0	-	-	-	-	-	-	-	-	-		
24	2	62	5.19	17.3	0.74	6.48	29.1	5.5	28.4	5.7		
24	5	-	-	-	-	-	-	-	-	-		
24	8	-	-	-	-	-	-	-	-	-		
23	1	-	-	-	-	-	-	-	-	-		
22	1	-	-	-	-	-	-	-	-	-		
21	0	-	-	-	-	-	-	-	-	-		
21	2	49	3.68	15.0	0.68	6.45	26.7	4.0	27.2	4.2		
21	5	-	-	-	-	-	-	-	-	-		
21	10	-	-	-	-	-	-	-	-	-		
21	14	-	-	-	-	-	-	-	-	-		
20	1	-	-	-	-	-	-	-	-	-		
19	40	-	-	-	-	-	-	-	-	-		
19	20	-	-	-	-	-	-	-	-	-		
19	2	32	2.37	11.2	0.50	5.13	21.6	2.6	22.0	3.1		

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION																	
4 SEP 80		18		S F BAY																	
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUSP MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR				
17	192.6	550.6	621	0	17.2	27.60	-	10.3	-	17.1	7.98	0.575	-	-	-	-	0.089				
17	192.6	550.6	628	2	16.9	28.70	26.8	13.4	1.27	16.8	7.99	0.573	-	0.5	2.3	2.8	0.092				
17	192.6	550.6	634	5	16.6	29.51	-	16.5	-	16.6	8.00	0.568	-	-	-	-	0.096				
17	192.6	550.6	638	10	16.3	30.12	-	17.5	-	16.4	8.00	0.554	-	-	-	-	0.099				
17	192.6	550.6	643	20	16.1	30.44	-	14.0	-	16.2	8.01	0.546	-	-	-	-	0.100				
17	192.6	550.6	648	40	16.1	30.56	-	17.2	-	16.2	8.02	0.539	-	-	-	-	0.104				
16	196.3	548.3	722	1	17.6	26.40	-	12.5	-	17.7	8.00	0.582	-	-	-	-	0.101				
15	202.4	549.5	747	0	17.9	24.50	-	13.9	-	17.8	8.03	0.557	-	-	-	-	0.130				
15	202.4	549.5	752	2	18.0	24.58	20.2	13.5	2.05	17.8	8.03	0.550	-	0.6	2.6	5.6	0.136				
15	202.4	549.5	758	5	17.7	25.97	-	17.0	-	17.6	8.00	0.576	-	-	-	-	0.107				
15	202.4	549.5	803	10	17.5	26.53	-	16.4	-	17.5	8.00	0.586	-	-	-	-	0.101				
15	202.4	549.5	808	15	17.4	27.10	-	18.5	-	17.4	8.00	0.584	-	-	-	-	0.100				
14	206.7	552.5	832	1	17.9	24.90	-	16.5	-	18.1	8.00	0.578	-	-	-	-	0.116				
13	209.3	555.7	850	0	17.8	23.01	-	10.2	-	17.7	8.02	0.562	-	-	-	-	0.137				
13	209.3	555.7	855	2	18.0	24.01	24.2	16.0	1.84	17.9	8.01	0.570	-	0.5	2.5	3.3	0.108				
13	209.3	555.7	905	7	17.7	25.57	-	50.0	-	17.6	8.00	0.582	-	-	-	-	0.134				
12	211.6	560.4	935	1	18.3	21.10	-	10.5	-	18.4	8.01	0.586	-	-	-	-	0.108				
11	212.7	564.6	950	1	18.3	18.40	-	9.4	-	18.5	8.02	0.575	-	-	-	-	0.114				
10	212.5	569.5	1006	1	18.5	15.50	-	10.4	-	18.7	8.06	0.539	-	-	-	-	0.133				
9	211.4	572.5	1021	0	18.5	15.87	-	25.0	-	18.8	8.04	0.523	-	-	-	-	0.136				
9	211.4	572.5	1027	2	18.5	16.01	55.8	30.0	2.73	18.8	8.04	0.546	-	1.1	2.8	5.2	0.134				
9	211.4	572.5	1035	5	18.5	17.10	-	45.0	-	18.8	8.02	0.564	-	-	-	-	0.141				
9	211.4	572.5	1041	10	18.5	17.80	-	32.5	-	18.7	8.02	0.562	-	-	-	-	0.127				
9	211.4	572.5	1048	16	18.5	18.01	-	30.0	-	18.6	8.01	0.573	-	-	-	-	0.122				
8	209.3	574.3	1111	1	18.7	14.90	-	18.0	-	18.8	8.07	0.522	-	-	-	-	0.152				
7	211.3	579.3	1128	1	18.7	12.60	-	50.0	-	19.0	8.13	0.457	-	-	-	-	0.275				
6	213.3	584.7	1157	0	19.2	8.34	-	58.0	-	19.6	8.16	0.403	-	-	-	-	0.380				
6	213.3	584.7	1202	2	19.2	8.42	77.6	43.5	4.84	19.7	8.19	0.386	-	2.1	3.0	28.1	0.365				
6	213.3	584.7	1210	7	19.1	8.91	-	63.0	-	19.6	8.17	0.404	-	-	-	-	0.366				
5	212.8	589.5	1233	1	19.6	5.50	-	52.0	-	19.8	8.13	0.443	-	-	-	-	0.410				
4	211.5	593.4	1250	1	19.8	4.01	-	60.0	-	20.0	8.04	0.556	-	-	-	-	0.360				
3	211.8	598.4	1313	0	19.9	2.60	-	55.0	-	20.7	7.89	0.757	-	-	-	-	0.280				
3	211.8	598.4	1319	2	19.9	2.60	127.0	70.0	5.83	20.6	7.88	0.784	-	2.3	2.7	13.5	0.280				
3	211.8	598.4	1324	5	19.9	2.58	-	80.0	-	20.5	7.87	0.807	-	-	-	-	0.281				
3	211.8	598.4	1329	10	19.9	2.59	-	95.0	-	20.5	7.87	0.815	-	-	-	-	0.290				

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION								
4 SEP 80	18	S F BAY								
STATION	DEPTH m	SI02 uM	PO4 uM	NO3+NO2 uM	NO2 uM	NH3 uM	DISSOLV NITROG uM	DISSOLV PHOSPH uM	TOTAL NITROG uM	TOTAL PHOSPH uM
17	0	-	-	-	-	-	-	-	-	-
17	2	49	3.24	14.7	-	4.85	-	-	-	-
17	5	-	-	-	-	-	-	-	-	-
17	10	-	-	-	-	-	-	-	-	-
17	20	-	-	-	-	-	-	-	-	-
17	40	-	-	-	-	-	-	-	-	-
16	1	-	-	-	-	-	-	-	-	-
15	0	-	-	-	-	-	-	-	-	-
15	2	56	3.43	16.1	-	2.51	25.9	3.3	27.4	4.0
15	5	-	-	-	-	-	-	-	-	-
15	10	-	-	-	-	-	-	-	-	-
15	15	-	-	-	-	-	-	-	-	-
14	1	-	-	-	-	-	-	-	-	-
13	0	-	-	-	-	-	-	-	-	-
13	2	57	3.37	15.6	-	3.30	25.4	3.5	28.1	3.9
13	7	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	-
10	1	-	-	-	-	-	-	-	-	-
9	0	-	-	-	-	-	-	-	-	-
9	2	65	2.84	11.7	-	2.42	23.3	3.0	27.3	3.7
9	5	-	-	-	-	-	-	-	-	-
9	10	-	-	-	-	-	-	-	-	-
9	16	-	-	-	-	-	-	-	-	-
8	1	-	-	-	-	-	-	-	-	-
7	1	-	-	-	-	-	-	-	-	-
6	0	-	-	-	-	-	-	-	-	-
6	2	81	2.10	6.4	-	0.37	15.6	2.3	28.3	3.6
6	7	-	-	-	-	-	-	-	-	-
5	1	-	-	-	-	-	-	-	-	-
4	1	-	-	-	-	-	-	-	-	-
3	0	-	-	-	-	-	-	-	-	-
3	2	165	2.36	11.3	0.14	1.09	19.0	2.3	34.5	3.7
3	5	-	-	-	-	-	-	-	-	-
3	10	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
4 SEP 80		18		S F BAY													
STATION	UTM		TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
	NORTH	EAST															
2	213.2	600.4	1404	1	20.2	2.50	-	50.0	-	20.3	7.87	0.805	-	-	-	-	0.272
649	212.9	605.6	1420	1	20.3	1.30	-	43.0	-	20.5	7.78	0.883	-	-	-	-	0.207
651	215.0	608.5	1431	1	20.1	0.66	-	40.0	-	20.6	7.80	0.845	-	-	-	-	0.180
652	216.4	610.6	1435	1	20.3	0.43	-	29.0	-	20.6	7.82	0.788	-	-	-	-	0.169
653	217.1	612.1	1443	1	20.6	0.16	-	22.0	-	21.0	7.77	0.722	-	-	-	-	0.190
655	219.7	613.9	1455	1	21.1	0.12	-	15.0	-	21.4	7.71	0.851	-	-	-	-	0.187
657	223.4	614.9	1513	0	21.8	0.09	-	13.0	-	22.3	7.69	0.979	-	-	-	-	0.180
657	223.4	614.9	1519	2	21.7	0.10	17.0	13.0	2.43	22.5	7.68	0.947	-	0.4	6.4	6.8	0.163
757	215.9	616.0	1647	0	21.7	0.14	-	16.5	-	22.6	7.97	0.495	-	-	-	-	0.280
757	215.9	616.0	1652	2	21.6	0.15	21.2	16.5	2.87	22.4	7.93	0.525	-	-	-	9.7	0.280
757	215.9	616.0	1657	5	21.2	0.17	-	20.0	-	22.1	7.83	0.595	-	-	-	-	0.310
757	215.9	616.0	1702	10	21.3	0.23	-	22.0	-	22.0	7.92	0.542	-	-	-	-	0.108
755	212.1	615.2	1722	1	21.4	0.28	-	23.0	-	21.7	7.98	0.560	-	-	-	-	0.119
753	210.3	612.6	1734	1	22.0	0.50	-	22.0	-	22.3	7.98	0.498	-	-	-	-	0.286
751	209.5	609.1	1746	1	22.1	0.70	-	25.0	-	22.3	7.86	0.663	-	-	-	-	0.252

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V *Polaris* (continued).

DATE	CRUISE #	LOCATION								
4 SEP 80	18	S F BAY								
STATION	DEPTH m	S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
2	1	-	-	-	-	-	-	-	-	-
649	1	-	-	-	-	-	-	-	-	-
651	1	-	-	-	-	-	-	-	-	-
652	1	-	-	-	-	-	-	-	-	-
653	1	-	-	-	-	-	-	-	-	-
655	1	-	-	-	-	-	-	-	-	-
657	0	-	-	-	-	-	-	-	-	-
657	2	239	2.44	10.1	0.45	1.63	18.9	2.5	23.0	3.0
757	0	-	-	-	-	-	-	-	-	-
757	2	-	-	-	-	-	16.8	2.3	23.3	2.8
757	5	-	-	-	-	-	-	-	-	-
757	10	-	-	-	-	-	-	-	-	-
755	1	-	-	-	-	-	-	-	-	-
753	1	-	-	-	-	-	-	-	-	-
751	1	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION																	
16 SEP 80		19		S F BAY																	
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOT TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR				
36	147.4	582.7	932	0	19.3	26.30	-	6.9	-	19.6	7.97	0.955	-	-	-	-	0.120				
36	147.4	582.7	938	2	19.6	26.50	5.4	7.6	1.26	19.9	7.97	0.928	-	0.2	4.8	1.4	0.108				
36	147.4	582.7	943	5	19.6	26.90	-	7.9	-	19.9	7.98	0.929	-	-	-	-	0.097				
35	148.5	581.5	955	1	19.4	26.50	-	6.7	-	19.5	7.98	0.904	-	-	-	-	0.158				
34	149.8	580.6	1001	1	19.1	26.29	-	10.2	-	19.3	7.97	0.935	-	-	-	-	0.120				
33	151.6	577.5	1012	1	19.5	27.44	-	8.3	-	19.6	8.00	0.807	-	-	-	-	0.123				
32	152.5	576.5	1024	0	19.6	27.70	-	6.5	-	20.1	8.01	0.802	-	-	-	-	0.100				
32	152.5	576.5	1028	2	19.6	27.65	5.2	6.5	1.02	20.0	8.01	0.811	-	0.3	4.1	-	0.101				
32	152.5	576.5	1032	5	19.6	27.76	-	7.4	-	19.9	8.00	0.805	-	-	-	-	0.089				
32	152.5	576.5	1035	10	19.6	27.90	-	9.1	-	19.8	8.01	0.785	-	-	-	-	0.092				
31	153.8	574.4	1052	1	19.6	27.95	-	4.8	-	19.8	8.01	0.743	-	-	-	-	0.127				
30	156.5	571.4	1109	0	19.6	28.50	-	3.1	-	20.3	8.00	0.777	-	-	-	-	0.084				
30	156.5	571.4	1113	2	19.8	28.48	2.8	3.2	0.75	20.1	8.00	0.774	-	0.3	4.2	1.8	0.089				
30	156.5	571.4	1118	5	19.5	28.61	-	4.8	-	20.1	7.99	0.767	-	-	-	-	0.078				
30	156.5	571.4	1122	10	19.5	28.74	-	6.4	-	19.9	7.98	0.788	-	-	-	-	0.074				
29	159.5	566.7	1148	1	19.4	29.00	-	4.3	-	19.6	7.96	0.783	-	-	-	-	0.097				
28	161.5	564.4	1158	1	19.4	29.17	-	3.2	-	19.6	7.97	0.773	-	-	-	-	0.092				
27	163.4	562.5	1214	0	19.5	29.17	-	4.4	-	20.3	7.99	0.739	-	-	-	-	0.106				
27	163.4	562.5	1218	2	19.4	29.17	3.4	4.4	1.31	20.0	7.98	0.744	-	0.4	3.3	2.5	0.101				
27	163.4	562.5	1224	5	19.1	29.28	-	3.9	-	19.8	7.97	0.760	-	-	-	-	0.066				
27	163.4	562.5	1228	10	19.0	29.52	-	4.6	-	19.6	7.96	0.775	-	-	-	0.7	0.059				
26	165.4	560.5	1245	1	19.3	29.41	-	3.9	-	19.4	7.99	0.734	-	-	-	-	0.085				
25	169.4	559.5	1259	1	18.8	29.75	-	2.2	-	19.0	7.98	0.711	-	-	-	-	0.081				
24	172.5	558.3	1316	0	18.5	30.16	-	1.9	-	19.7	7.97	0.712	-	-	-	-	0.068				
24	172.5	558.3	1321	2	18.4	30.34	3.7	2.4	0.53	19.0	7.97	0.711	-	0.2	-	1.7	0.079				
24	172.5	558.3	1327	5	18.1	30.43	-	5.7	-	18.8	7.95	0.713	-	-	-	-	0.059				
23	175.5	558.5	1407	1	18.5	30.22	-	2.7	-	18.6	8.10	0.498	-	-	-	-	0.206				
22	179.4	556.5	1424	1	17.8	30.16	-	3.2	-	17.8	8.05	0.548	-	-	-	-	0.111				
21	183.6	555.5	1442	0	17.4	29.90	-	4.6	-	18.0	8.11	0.474	-	-	-	-	0.190				
21	183.6	555.5	1448	2	17.1	30.05	6.4	4.8	0.81	17.7	8.09	0.505	-	0.9	2.2	7.8	0.174				
21	183.6	555.5	1455	5	15.9	31.17	-	5.3	-	16.8	8.10	0.479	-	-	-	-	0.100				
21	183.6	555.5	1459	10	15.8	31.32	-	7.9	-	16.5	8.12	0.458	-	-	-	-	0.105				
20	185.4	552.4	1528	1	16.3	30.90	-	4.8	-	16.2	8.14	0.430	-	-	-	-	0.206				
19	185.6	546.5	1607	40	14.7	32.28	-	1.5	-	15.1	8.20	0.357	-	-	-	7.1	0.180				
19	185.6	546.5	1614	20	14.8	32.28	-	1.5	-	15.1	8.20	0.370	-	-	-	-	0.300				
19	185.6	546.5	1618	10	15.1	32.10	-	1.3	-	15.4	8.22	0.365	-	-	-	-	0.237				
19	185.6	546.5	1622	5	15.1	31.98	-	1.3	-	15.7	8.27	0.350	-	-	-	-	0.161				
19	185.6	546.5	1626	2	15.3	31.98	2.7	1.2	0.75	15.5	8.22	0.363	-	1.3	2.1	13.9	0.180				

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
16 SEP 80	19	S F BAY										
STATION	DEPTH	SI02	PO4	NO3+NO2	NO2	NH3	DISSOLV	DISSOLV	DISSOLV	TOTAL	TOTAL	TOTAL
	m	UM	UM	UM	UM	UM	NITROG	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH
							UM	UM	UM	UM	UM	UM
36	0	-	-	-	-	-	-	-	-	-	-	-
36	2	145	28.44	52.4	1.90	10.74	-	-	-	-	-	-
36	5	-	-	-	-	-	-	-	-	-	-	-
35	1	-	-	-	-	-	-	-	-	-	-	-
34	1	-	-	-	-	-	-	-	-	-	-	-
33	1	-	-	-	-	-	-	-	-	-	-	-
32	0	-	-	-	-	-	-	-	-	-	-	-
32	2	127	22.80	35.1	1.33	6.70	-	-	-	-	-	-
32	5	-	-	-	-	-	-	-	-	-	-	-
32	10	-	-	-	-	-	-	-	-	-	-	-
31	1	-	-	-	-	-	-	-	-	-	-	-
30	0	-	-	-	-	-	-	-	-	-	-	-
30	2	117	18.55	22.3	0.91	6.21	-	-	-	-	-	-
30	5	-	-	-	-	-	-	-	-	-	-	-
30	10	-	-	-	-	-	-	-	-	-	-	-
29	1	-	-	-	-	-	-	-	-	-	-	-
28	1	-	-	-	-	-	-	-	-	-	-	-
27	0	-	-	-	-	-	-	-	-	-	-	-
27	2	98	13.64	20.2	0.86	8.70	-	-	-	-	-	-
27	5	-	-	-	-	-	-	-	-	-	-	-
27	10	-	-	-	-	-	-	-	-	-	-	-
26	1	-	-	-	-	-	-	-	-	-	-	-
25	1	-	-	-	-	-	-	-	-	-	-	-
24	0	-	-	-	-	-	-	-	-	-	-	-
24	2	61	-	16.3	0.73	6.47	-	-	-	-	-	-
24	5	-	-	-	-	-	-	-	-	-	-	-
23	1	-	-	-	-	-	-	-	-	-	-	-
22	1	-	-	-	-	-	-	-	-	-	-	-
21	0	-	-	-	-	-	-	-	-	-	-	-
21	2	43	3.06	9.8	0.47	6.29	-	-	-	-	-	-
21	5	-	-	-	-	-	-	-	-	-	-	-
21	10	-	-	-	-	-	-	-	-	-	-	-
20	1	-	-	-	-	-	-	-	-	-	-	-
19	40	-	-	-	-	-	-	-	-	-	-	-
19	20	-	-	-	-	-	-	-	-	-	-	-
19	10	-	-	-	-	-	-	-	-	-	-	-
19	5	-	-	-	-	-	-	-	-	-	-	-
19	2	29	1.26	3.7	0.18	1.21	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
17 SEP 80		19		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUSP MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIC ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
17	192.6	550.6	620	0	16.5	29.81	-	4.6	-	16.4	8.13	0.455	-	-	-	-	0.108
17	192.6	550.6	625	2	16.0	30.50	4.9	4.8	0.57	16.1	8.14	0.446	-	0.5	1.9	4.5	0.114
17	192.6	550.6	631	5	15.9	31.04	-	5.3	-	15.9	8.15	0.435	-	-	-	-	0.136
17	192.6	550.6	635	10	15.9	31.10	-	8.3	-	15.8	8.14	0.431	-	-	-	-	0.139
17	192.6	550.6	639	20	15.8	31.17	-	8.4	-	15.8	8.14	0.433	-	-	-	-	0.138
17	192.6	550.6	642	30	15.8	31.19	-	8.1	-	15.8	8.14	0.433	-	-	-	5.6	0.139
16	196.3	548.3	711	1	16.7	29.01	-	3.8	-	16.8	8.13	0.454	-	-	-	-	0.127
15	202.4	549.5	739	0	17.6	25.07	-	5.1	-	17.7	8.11	0.470	-	-	-	-	0.111
15	202.4	549.5	743	2	17.6	26.09	4.0	6.0	0.91	17.6	8.10	0.473	-	0.4	2.1	2.3	0.095
15	202.4	549.5	748	5	17.5	26.30	-	6.7	-	17.6	8.10	0.471	-	-	-	-	0.092
15	202.4	549.5	753	10	17.0	28.20	-	12.6	-	17.2	8.09	0.482	-	-	-	-	0.090
15	202.4	549.5	757	15	16.8	28.71	-	21.4	-	17.1	8.09	0.489	-	-	-	-	0.094
14	206.7	552.5	821	1	18.0	24.85	-	4.8	-	18.1	8.11	0.472	-	-	-	-	0.146
13	209.3	555.7	842	0	18.1	22.71	-	6.2	-	18.3	8.12	0.465	-	-	-	-	0.155
13	209.3	555.7	848	2	17.8	25.66	4.3	4.8	1.08	18.2	8.10	0.462	-	0.3	2.0	2.4	0.092
13	209.3	555.7	853	5	17.3	27.30	-	7.4	-	17.7	8.07	0.491	-	-	-	-	0.081
12	211.6	560.4	923	1	18.1	20.51	-	8.3	-	18.3	8.10	0.476	-	-	-	-	0.142
11	212.7	564.6	938	1	19.7	20.48	-	11.9	-	18.3	8.08	0.493	-	-	-	-	0.117
10	212.5	569.5	956	1	18.1	16.25	-	9.8	-	18.3	8.13	0.466	-	-	-	-	0.110
9	211.4	572.5	1010	0	18.2	14.20	-	11.2	-	18.7	8.17	0.414	-	-	-	-	0.127
9	211.4	572.5	1014	2	18.2	15.60	8.0	9.3	1.40	18.7	8.14	0.436	-	0.4	2.6	3.0	0.114
9	211.4	572.5	1021	5	18.2	19.50	-	14.3	-	18.7	8.11	0.469	-	-	-	-	0.108
9	211.4	572.5	1024	10	18.1	20.40	-	23.8	-	18.6	8.09	0.482	-	-	-	-	0.120
9	211.4	572.5	1028	20	18.1	20.70	-	36.8	-	18.5	8.09	0.495	-	-	-	-	0.128
8	209.3	574.5	1153	1	18.3	14.80	-	10.3	-	18.5	8.16	0.430	-	-	-	-	0.136
7	211.3	579.3	1210	1	18.7	12.50	-	16.1	-	18.9	8.22	0.431	-	-	-	-	0.174
6	213.3	584.7	1238	0	19.2	6.11	-	57.6	-	19.8	8.23	0.387	-	-	-	-	0.480
6	213.3	584.7	1242	2	18.7	7.10	52.9	49.0	4.85	19.4	8.22	0.386	-	1.8	3.1	24.3	0.425
6	213.3	584.7	1248	5	18.5	9.07	-	35.1	-	19.1	8.17	0.391	-	-	-	14.8	0.280
5	212.8	589.5	1309	1	18.9	5.55	-	55.9	-	19.1	8.12	0.435	-	-	-	-	0.415
4	211.5	593.4	1327	1	19.0	2.20	-	72.3	-	19.3	7.95	0.654	-	-	-	-	0.260
3	211.8	598.4	1354	0	19.6	1.20	-	68.0	-	20.2	7.80	0.936	-	-	-	-	0.174
3	211.8	598.4	1358	2	19.5	1.20	61.7	68.9	4.43	20.2	7.81	0.934	-	1.1	2.8	5.7	0.172
3	211.8	598.4	1403	5	19.5	1.20	-	69.7	-	20.1	7.81	0.933	-	-	-	-	0.174
3	211.8	598.4	1408	10	19.1	1.40	-	95.7	-	20.0	7.82	0.940	-	-	-	-	0.203

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION		STATION	DEPTH m	SI02 uM	PO4 uM	NO3+NO2 uM	NO2 uM	NH3 uM	DISSOLV		TOTAL	
17 SEP 80			S	F BAY								NITROG uM	PHOSPH uM	NITROG uM	PHOSPH uM
17	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	2	38	2.10	6.8	0.15	4.11	-	-	-	-	-	-	-	-	-
17	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	2	44	2.67	9.6	0.30	3.41	-	-	-	-	-	-	-	-	-
15	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	2	44	2.68	10.0	0.38	3.03	20.1	2.8	23.4	3.2	-	-	-	-	-
13	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	2	61	2.66	10.4	0.54	2.41	20.3	2.8	25.6	3.2	-	-	-	-	-
9	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	2	88	1.99	8.5	0.30	0.62	17.0	2.3	32.2	3.7	-	-	-	-	-
6	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	2	175	2.77	13.1	0.38	2.76	23.2	2.9	31.5	3.6	-	-	-	-	-
3	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION												
17 SEP 80		19		S F BAY												
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
2	213.2	600.4	1426	1	19.7	0.70	-	68.0	-	19.9	7.77	0.892	-	-	-	0.165
649	212.9	605.6	1442	1	19.6	0.28	-	52.4	-	19.8	7.74	0.918	-	-	-	0.161
651	215.0	608.5	1456	1	19.7	0.10	-	29.9	-	19.9	7.73	0.862	-	-	-	0.174
652	216.4	610.6	1503	1	19.9	0.08	-	24.7	-	20.1	7.71	0.856	-	-	-	0.179
653	217.1	612.1	1510	1	20.0	0.08	-	17.8	-	20.2	7.60	1.016	-	-	-	0.127
655	219.7	613.9	1521	1	20.1	0.08	-	17.8	-	20.3	7.61	1.072	-	-	-	0.146
657	223.4	614.9	1547	0	20.6	0.07	-	12.6	-	21.5	7.48	1.732	-	-	-	0.082
657	223.4	914.9	1552	2	20.4	0.06	12.6	12.6	1.37	21.4	7.47	1.744	-	0.2	2.9	2.1
757	215.9	616.0	1647	1	20.1	0.11	28.0	25.6	2.79	20.3	8.10	0.343	-	-	32.5	0.430
755	212.1	615.2	1715	1	20.2	0.09	-	25.6	-	20.4	8.18	0.319	-	-	-	0.400
753	210.3	612.6	1727	1	20.2	0.13	-	29.0	-	20.3	8.19	0.287	-	-	-	0.425

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION								
17 SEP 80	19	S F BAY								
STATION	DEPTH m	S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
2	1	-	-	-	-	-	-	-	-	-
649	1	-	-	-	-	-	-	-	-	-
651	1	-	-	-	-	-	-	-	-	-
652	1	-	-	-	-	-	-	-	-	-
653	1	-	-	-	-	-	-	-	-	-
655	1	-	-	-	-	-	-	-	-	-
657	0	-	-	-	-	-	-	-	-	-
657	2	253	2.73	11.8	0.59	5.04	21.5	2.7	25.7	3.1
757	1	-	-	-	-	-	11.0	1.9	21.7	2.9
755	1	-	-	-	-	-	-	-	-	-
753	1	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION															
15 OCT 80		20		S F BAY															
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR	
36	147.4	582.7	1002	0	17.0	26.22	-	13.5	-	17.4	7.93	0.944	-	-	-	-	-	0.168	
36	147.4	582.7	1007	2	17.1	26.60	13.8	12.6	1.92	17.5	7.94	0.933	-	0.4	4.6	-	2.9	0.130	
36	147.4	582.7	1013	5	17.3	27.40	-	14.3	-	17.6	7.95	0.921	-	-	-	-	-	0.125	
35	148.5	581.5	1038	1	16.9	26.60	-	12.6	-	17.1	7.96	0.890	-	-	-	-	-	0.190	
34	149.8	580.6	1044	1	16.7	26.45	-	14.3	-	16.9	7.95	0.907	-	-	-	-	-	0.165	
33	151.6	577.5	1055	1	17.1	27.65	-	10.9	-	17.3	7.98	0.813	-	-	-	-	-	0.171	
32	152.5	576.5	1105	0	17.3	28.25	-	9.1	-	18.0	7.98	0.799	-	-	-	-	-	0.127	
32	152.5	576.5	1111	2	17.5	28.40	11.8	10.9	1.22	18.0	7.96	0.800	-	0.3	4.1	-	2.3	0.114	
32	152.5	576.5	1117	5	17.6	28.48	-	12.6	-	18.1	7.97	0.809	-	-	-	-	-	0.114	
32	152.5	576.5	1121	10	17.8	28.62	-	14.3	-	18.2	7.96	0.817	-	-	-	-	-	0.116	
31	153.8	574.4	1137	1	17.6	28.52	-	8.3	-	17.9	7.98	0.772	-	-	-	-	-	0.144	
30	156.5	571.4	1202	0	18.1	29.13	-	5.1	-	18.9	7.96	0.807	-	-	-	-	-	0.120	
30	156.5	571.4	1209	2	18.0	29.13	6.5	5.5	0.63	18.7	7.96	0.805	-	0.3	3.6	-	2.4	0.109	
30	156.5	571.4	1214	5	18.0	29.17	-	6.0	-	18.7	7.96	0.806	-	-	-	-	-	0.092	
30	156.5	571.4	1218	10	18.0	29.20	-	6.7	-	18.6	7.96	0.792	-	-	-	-	-	0.095	
29	159.5	566.7	1246	1	18.2	29.40	-	4.3	-	18.4	7.94	0.772	-	-	-	-	-	0.108	
28	161.5	564.4	1257	1	18.6	29.52	-	4.1	-	18.7	7.93	0.795	-	-	-	-	-	0.101	
27	163.4	562.5	1313	0	18.6	29.52	-	3.8	-	19.2	7.94	0.781	-	-	-	-	-	0.097	
27	163.4	562.5	1317	2	18.4	29.55	4.4	3.8	0.74	18.9	7.94	0.788	-	0.2	4.8	-	1.6	0.095	
27	163.4	562.5	1324	5	18.3	29.67	-	4.3	-	18.7	7.92	0.777	-	-	-	-	-	0.070	
27	163.4	562.5	1329	9	18.3	29.70	-	5.5	-	18.7	7.92	0.796	-	-	-	-	0.9	0.069	
26	165.4	560.5	1346	1	18.3	29.88	-	3.9	-	18.6	7.94	0.789	-	-	-	-	-	0.087	
25	169.4	559.5	1411	1	18.5	29.98	-	5.3	-	18.8	7.92	0.778	-	-	-	-	-	0.082	
24	172.5	558.3	1430	0	17.8	29.97	-	5.3	-	18.3	7.91	0.768	-	-	-	-	-	0.078	
24	172.5	558.3	1435	2	17.7	29.97	7.4	5.8	0.92	18.1	7.91	0.775	-	0.2	2.3	-	1.5	0.071	
24	172.5	558.3	1440	5	17.7	29.96	-	7.0	-	18.1	7.91	0.779	-	-	-	-	-	0.068	
23	175.5	558.5	1523	1	17.1	29.67	-	3.1	-	17.3	7.93	0.682	-	-	-	-	-	0.089	
22	179.4	556.5	1536	1	16.4	29.75	-	2.2	-	16.7	7.94	0.680	-	-	-	-	-	0.087	
21	183.6	555.5	1708	1	16.3	29.72	4.2	2.5	-	16.5	7.95	0.660	-	0.2	-	-	2.0	0.106	
20	185.4	552.4	1723	1	15.9	30.40	-	1.2	-	16.1	7.95	0.662	-	-	-	-	-	0.095	
19	185.6	546.5	1753	40	13.0	32.64	8.4	6.7	-	13.6	7.92	0.656	-	-	-	-	1.7	0.078	
19	185.6	546.5	1759	20	13.7	32.34	-	3.8	-	13.9	7.93	0.670	-	-	-	-	-	0.075	
19	185.6	546.5	1805	10	14.7	31.65	-	2.2	-	14.5	7.96	0.646	-	-	-	-	-	0.077	
19	185.6	546.5	1809	2	14.8	31.47	7.4	2.2	-	14.7	7.96	0.630	-	-	-	-	-	0.084	
19	185.6	546.5	1812	2	14.8	31.56	-	2.2	0.61	14.7	7.97	0.621	-	0.3	1.4	-	1.5	0.079	

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
15 OCT 80	20	S F BAY										
STATION	DEPTH	SI02	PO4	NO3+NO2	NO2	NH3	DISSOLV	DISSOLV	TOTAL	TOTAL	TOTAL	TOTAL
	m	UM	UM	UM	UM	UM	NITROG	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH
							UM	UM	UM	UM	UM	UM
36	0	-	-	-	-	-	-	-	-	-	-	-
36	2	165	33.65	75.1	2.00	12.04	94.0	35.2	95.8	35.8	-	-
36	5	-	-	-	-	-	-	-	-	-	-	-
35	1	-	-	-	-	-	-	-	-	-	-	-
34	1	-	-	-	-	-	-	-	-	-	-	-
33	1	-	-	-	-	-	-	-	-	-	-	-
32	0	-	-	-	-	-	-	-	-	-	-	-
32	2	143	22.95	45.2	1.23	6.71	-	-	-	-	-	-
32	5	-	-	-	-	-	-	-	-	-	-	-
32	10	-	-	-	-	-	-	-	-	-	-	-
31	1	-	-	-	-	-	-	-	-	-	-	-
30	0	-	-	-	-	-	-	-	-	-	-	-
30	2	132	17.63	33.3	1.02	7.10	-	-	-	-	-	-
30	5	-	-	-	-	-	-	-	-	-	-	-
30	10	-	-	-	-	-	-	-	-	-	-	-
29	1	-	-	-	-	-	-	-	-	-	-	-
28	1	-	-	-	-	-	-	-	-	-	-	-
27	0	-	-	-	-	-	-	-	-	-	-	-
27	2	115	13.25	26.1	0.94	7.56	39.8	13.3	45.5	13.6	-	-
27	5	-	-	-	-	-	-	-	-	-	-	-
27	9	-	-	-	-	-	-	-	-	-	-	-
26	1	-	-	-	-	-	-	-	-	-	-	-
25	1	-	-	-	-	-	-	-	-	-	-	-
24	0	-	-	-	-	-	-	-	-	-	-	-
24	2	-	-	-	-	-	-	-	-	-	-	-
24	5	-	-	-	-	-	-	-	-	-	-	-
23	1	-	-	-	-	-	-	-	-	-	-	-
22	1	-	-	-	-	-	-	-	-	-	-	-
21	1	-	-	-	-	-	-	-	-	-	-	-
20	1	-	-	-	-	-	-	-	-	-	-	-
19	40	31	1.86	12.6	0.57	3.68	20.5	1.8	23.1	2.1	-	-
19	20	-	-	-	-	-	-	-	-	-	-	-
19	10	-	-	-	-	-	-	-	-	-	-	-
19	2	-	-	-	-	-	-	-	-	-	-	-
19	2	35	2.22	10.7	0.59	5.21	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
16 OCT 80		20		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
17	192.6	550.6	619	0	15.2	30.22	-	0.8	-	15.2	7.97	0.647	-	-	-	-	0.080
17	192.6	550.6	624	2	15.0	30.35	8.9	0.7	-	15.0	7.97	0.653	-	0.3	1.7	1.7	0.079
17	192.6	550.6	630	5	14.8	31.15	-	1.2	-	14.9	7.96	0.652	-	-	-	-	0.087
17	192.6	550.6	634	10	14.7	31.16	-	1.3	-	14.7	7.97	0.652	-	-	-	-	0.088
17	192.6	550.6	638	20	14.6	31.41	-	1.1	-	14.6	7.96	0.664	-	-	-	-	0.084
17	192.6	550.6	644	30	14.5	31.50	-	1.1	-	14.5	7.96	0.666	-	-	-	1.7	0.084
16	196.3	548.3	718	1	15.6	29.52	-	0.6	-	15.8	7.94	0.651	-	-	-	-	0.077
15	202.4	549.5	745	0	16.4	24.00	-	0.8	-	16.2	8.00	0.563	-	-	-	-	0.080
15	202.4	549.5	750	2	16.2	26.75	2.3	0.4	0.76	16.1	7.97	0.611	-	0.1	1.8	1.3	0.074
15	202.4	549.5	755	5	15.9	27.87	-	0.6	-	15.9	7.96	0.625	-	-	-	-	0.077
15	202.4	549.5	800	10	15.9	28.50	-	0.5	-	15.8	7.95	0.636	-	-	-	-	0.076
14	206.7	552.5	829	1	16.4	25.50	-	1.1	-	16.7	7.99	0.619	-	-	-	-	0.085
13	209.3	555.7	845	0	16.5	24.45	-	1.3	-	16.5	8.01	0.602	-	-	-	-	0.088
13	209.3	555.7	850	2	16.5	25.25	1.7	1.0	0.70	16.5	8.00	0.611	-	0.2	3.2	1.7	0.083
13	209.3	555.7	857	5	16.5	26.46	-	0.1	-	16.5	7.97	0.628	-	-	-	-	0.070
13	209.3	555.7	901	8	16.4	26.71	-	0.0	-	16.5	7.97	0.652	-	-	-	1.0	0.068
12	211.6	560.4	928	1	16.6	21.62	-	2.4	-	16.8	8.04	0.567	-	-	-	-	0.104
11	212.7	564.6	943	1	16.8	18.70	-	2.0	-	16.9	8.05	0.580	-	-	-	-	0.098
10	212.5	569.5	1003	1	16.9	15.60	-	1.8	-	17.1	8.08	0.554	-	-	-	-	0.095
9	211.4	572.5	1013	0	17.1	12.48	-	4.8	-	17.4	8.14	0.480	-	-	-	-	0.142
9	211.4	572.5	1019	2	17.2	12.80	12.9	4.2	1.60	17.4	8.14	0.472	-	0.4	2.8	5.3	0.133
9	211.4	572.5	1024	5	17.2	15.80	-	1.5	-	17.4	8.07	0.525	-	-	-	-	0.091
9	211.4	572.5	1030	10	17.2	18.95	-	1.1	-	17.4	8.03	0.574	-	-	-	-	0.085
9	211.4	572.5	1034	20	17.2	19.49	-	1.6	-	17.4	8.02	0.606	-	-	-	-	0.093
8	209.3	574.3	1104	1	17.2	13.10	-	5.9	-	17.4	8.10	0.506	-	-	-	-	0.158
7	211.3	579.3	1121	1	17.5	11.83	-	6.5	-	17.7	8.10	0.580	-	-	-	-	0.168
6	213.3	584.7	1151	0	17.5	5.23	-	25.5	-	17.8	8.38	0.294	-	-	-	-	0.460
6	213.3	584.7	1155	2	17.5	7.15	52.6	18.3	3.62	17.8	8.17	0.419	-	1.4	2.2	21.0	0.350
6	213.3	584.7	1204	5	17.4	8.50	-	14.1	-	17.9	8.13	0.485	-	-	-	14.6	0.285
5	212.8	589.5	1230	1	17.0	5.00	-	24.2	-	17.3	8.07	0.539	-	-	-	-	0.440
4	211.5	593.4	1248	1	17.6	1.90	-	13.8	-	17.8	7.93	0.721	-	-	-	-	0.280
3	211.8	598.4	1311	0	17.9	0.90	-	7.0	-	18.5	7.79	0.856	-	-	-	-	0.176
3	211.8	598.4	1315	2	17.7	1.00	66.0	7.8	4.65	18.4	7.80	0.875	-	1.1	3.6	9.7	0.188
3	211.8	598.4	1320	5	17.9	1.25	-	8.3	-	18.4	7.81	0.882	-	-	-	-	0.196
3	211.8	598.4	1324	10	17.9	1.49	-	9.8	-	18.4	7.82	0.888	-	-	-	-	0.218

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION								
16 OCT 80	20	S F BAY								
STATION	DEPTH m	S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
17	0	-	-	-	-	-	-	-	-	-
17	2	41	2.54	10.8	0.48	5.44	-	-	-	-
17	5	-	-	-	-	-	-	-	-	-
17	10	-	-	-	-	-	-	-	-	-
17	20	-	-	-	-	-	-	-	-	-
17	30	-	-	-	-	-	-	-	-	-
16	1	-	-	-	-	-	-	-	-	-
15	0	-	-	-	-	-	-	-	-	-
15	2	47	2.81	9.8	0.54	4.82	20.4	2.9	22.6	3.0
15	5	-	-	-	-	-	-	-	-	-
15	10	-	-	-	-	-	-	-	-	-
14	1	-	-	-	-	-	-	-	-	-
13	0	-	-	-	-	-	-	-	-	-
13	2	50	2.85	9.4	0.51	4.31	20.7	3.0	22.7	3.1
13	5	-	-	-	-	-	-	-	-	-
13	8	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	-
10	1	-	-	-	-	-	-	-	-	-
9	0	-	-	-	-	-	-	-	-	-
9	2	70	2.70	8.2	0.29	2.25	18.9	2.9	23.6	3.2
9	5	63	2.80	7.8	0.36	3.05	19.2	2.9	22.9	3.2
9	10	-	-	-	-	-	-	-	-	-
9	20	-	-	-	-	-	-	-	-	-
8	1	-	-	-	-	-	-	-	-	-
7	1	-	-	-	-	-	-	-	-	-
6	0	-	-	-	-	-	-	-	-	-
6	2	91	2.58	9.2	0.19	0.71	18.9	2.8	31.3	4.1
6	5	-	-	-	-	-	-	-	-	-
5	1	-	-	-	-	-	-	-	-	-
4	1	-	-	-	-	-	-	-	-	-
3	0	-	-	-	-	-	-	-	-	-
3	2	171	2.79	15.2	0.30	1.63	23.0	2.9	32.4	3.8
3	5	-	-	-	-	-	-	-	-	-
3	10	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polarís (continued).

DATE	CRUISE #	LOCATION															
16 OCT 80	20	S F BAY															
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
2	213.2	600.4	1418	1	18.2	0.35	-	4.1	-	18.4	7.68	0.876	-	-	-	-	0.131
649	212.9	605.6	1433	1	18.1	0.21	-	4.8	-	18.4	7.62	0.925	-	-	-	-	0.142
651	215.0	608.5	1446	1	17.4	0.08	-	4.0	-	17.7	7.57	0.831	-	-	-	-	0.130
652	216.4	610.6	1452	1	17.4	0.06	-	4.6	-	17.7	7.59	0.762	-	-	-	-	0.139
653	217.1	612.1	1500	1	17.3	0.06	-	4.0	-	17.5	7.55	0.785	-	-	-	-	0.130
655	219.7	613.9	1511	1	17.1	0.06	-	2.6	-	17.4	7.49	0.844	-	-	-	-	0.108
657	223.4	614.9	1532	0	17.0	0.06	-	0.9	-	17.6	7.43	1.044	-	-	-	-	0.082
657	223.4	614.9	1537	2	16.9	0.06	10.6	0.9	1.30	17.6	7.42	1.038	-	0.2	3.1	2.1	0.082
757	215.9	616.0	1634	0	17.9	0.07	-	11.0	-	18.3	7.74	0.572	-	-	-	-	0.237
757	215.9	616.0	1638	2	17.9	0.07	20.0	10.4	2.54	18.2	7.70	0.627	-	-	-	6.6	0.228
757	215.9	616.0	1642	5	17.8	0.07	-	10.4	-	18.2	7.67	0.649	-	-	-	-	0.228
757	215.9	616.0	1646	10	17.8	0.07	-	11.0	-	18.2	7.68	0.676	-	-	-	-	0.237
755	212.1	615.2	1706	1	17.9	0.05	-	10.0	-	18.1	7.72	0.616	-	-	-	-	0.222
753	210.3	612.6	1718	1	18.2	0.06	-	11.0	-	18.5	7.78	0.584	-	-	-	-	0.237

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
16 OCT 80	20	S F BAY										
STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM		
2	1	-	-	-	-	-	-	-	-	-		
649	1	-	-	-	-	-	-	-	-	-		
651	1	-	-	-	-	-	-	-	-	-		
652	1	-	-	-	-	-	-	-	-	-		
653	1	-	-	-	-	-	-	-	-	-		
655	1	-	-	-	-	-	-	-	-	-		
657	0	-	-	-	-	-	-	-	-	-		
657	2	-	-	-	-	-	24.2	2.9	26.9	3.1		
757	0	-	-	-	-	-	-	-	-	-		
757	2	-	-	-	-	-	19.4	1.9	26.6	2.6		
757	5	-	-	-	-	-	-	-	-	-		
757	10	-	-	-	-	-	-	-	-	-		
755	1	-	-	-	-	-	-	-	-	-		
753	1	-	-	-	-	-	-	-	-	-		

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION																
28 OCT 80	21	S F BAY																
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
33	151.6	577.5	931	1	16.2	27.70	25.2	15.2	-	16.6	7.91	0.891	-	-	-	-	-	0.109
32	152.5	576.5	943	0	16.5	28.07	-	14.3	-	17.1	7.92	0.863	-	-	-	-	-	0.097
32	152.5	576.5	948	2	16.5	28.12	16.4	15.2	1.40	17.1	7.92	0.847	-	0.4	5.0	1.8	0.096	
32	152.5	576.5	955	5	16.5	28.40	-	36.8	-	17.1	7.93	0.847	-	-	-	-	0.107	
31	153.8	574.4	1023	1	16.5	28.50	-	10.9	-	16.9	7.94	0.799	-	-	-	-	0.116	
30	156.5	571.4	1051	0	17.1	28.75	-	7.4	-	17.7	7.95	0.796	-	-	-	-	0.092	
30	156.5	571.4	1056	2	16.8	29.15	11.5	11.4	1.36	17.5	7.94	0.797	-	0.3	6.3	1.3	0.078	
30	156.5	571.4	1102	5	16.7	29.26	-	14.3	-	17.4	7.93	0.792	-	-	-	-	0.078	
30	156.5	571.4	1105	9	16.6	29.27	-	21.8	-	17.4	7.94	0.781	-	-	-	-	0.087	
29	159.5	566.7	1143	1	16.6	29.50	-	10.5	-	17.1	7.93	0.791	-	-	-	-	0.073	
28	161.5	564.4	1154	1	16.5	29.66	-	7.9	-	17.0	7.93	0.780	-	-	-	-	0.075	
27	163.4	562.5	1215	0	17.3	29.82	-	7.4	-	18.2	7.93	0.774	-	-	-	-	0.059	
27	163.4	562.5	1221	2	16.8	29.78	14.5	14.3	0.80	17.7	7.92	0.762	-	0.3	2.6	1.0	0.070	
27	163.4	562.5	1226	5	16.8	29.90	-	19.9	-	17.6	7.92	0.771	-	-	-	-	0.068	
27	163.4	562.5	1231	10	16.8	30.00	-	35.6	-	17.5	7.92	0.774	-	-	-	1.2	0.077	
26	165.4	560.5	1304	1	16.9	29.97	-	17.8	-	17.5	7.94	0.741	-	-	-	-	0.078	
25	169.4	559.5	1315	1	16.5	29.95	-	23.8	-	17.2	7.90	0.755	-	-	-	-	0.076	
24	172.5	558.3	1336	0	15.4	29.85	-	15.2	-	16.6	7.90	0.756	-	-	-	-	0.067	
24	172.5	558.3	1342	2	15.3	29.81	19.8	16.9	1.25	16.4	7.90	0.769	-	0.4	1.8	1.3	0.068	
24	172.5	558.3	1347	6	15.3	29.81	-	18.7	-	16.2	7.89	0.766	-	-	-	-	0.069	
23	175.5	558.5	1423	1	14.8	30.10	-	10.9	-	15.3	7.89	0.746	-	-	-	-	0.068	
22	179.4	556.5	1439	1	14.5	30.41	-	3.9	-	15.1	7.89	0.733	-	-	-	-	0.067	
21	183.6	555.5	1456	0	14.9	30.31	-	5.7	-	15.7	7.89	0.760	-	-	-	-	0.066	
21	183.6	555.5	1502	2	14.9	30.14	5.6	5.0	0.87	15.8	7.90	0.758	-	0.2	1.9	1.5	0.076	
21	183.6	555.5	1507	5	14.4	30.48	-	6.5	-	15.6	7.89	0.766	-	-	-	-	0.067	
21	183.6	555.5	1512	14	13.9	31.08	-	10.0	-	14.9	7.88	0.777	-	-	-	-	0.068	
20	185.4	552.4	1538	1	14.2	31.00	-	2.2	-	14.6	7.88	0.744	-	-	-	-	0.078	
19	185.6	546.5	1607	2	13.5	31.70	4.8	3.6	0.69	14.3	7.88	0.713	-	0.2	2.0	1.4	0.075	
19	185.6	546.5	1613	10	13.4	31.82	-	3.9	-	14.2	7.89	0.731	-	-	-	-	0.086	
19	185.6	546.5	1617	20	13.2	32.00	-	5.7	-	14.0	7.89	0.732	-	-	-	-	0.087	
19	185.6	546.5	1623	40	13.0	32.19	-	5.7	-	13.5	7.88	0.733	-	-	-	1.8	0.090	

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
28 OCT 80	21	S F BAY										
STATION	DEPTH	SI02	PO4	NO3+NO2	NO2	NH3	DISSOLV	DISSOLV	TOTAL	TOTAL	TOTAL	
	m	UM	UM	UM	UM	UM	NITROG	PHOSPH	NITROG	PHOSPH	PHOSPH	
							UM	UM	UM	UM	UM	
33	1	-	-	-	-	-	82.1	28.7	84.0	29.4	-	
32	0	-	-	-	-	-	-	-	-	-	-	
32	2	141	23.76	51.4	1.18	7.49	-	-	-	-	-	
32	5	-	-	-	-	-	-	-	-	-	-	
31	1	-	-	-	-	-	-	-	-	-	-	
30	0	-	-	-	-	-	-	-	-	-	-	
30	2	128	17.31	31.3	0.91	7.03	-	-	-	-	-	
30	5	-	-	-	-	-	-	-	-	-	-	
30	9	-	-	-	-	-	-	-	-	-	-	
29	1	-	-	-	-	-	-	-	-	-	-	
28	1	-	-	-	-	-	-	-	-	-	-	
27	0	-	-	-	-	-	-	-	-	-	-	
27	2	107	10.36	22.6	0.78	5.08	34.9	10.4	35.0	10.7	-	
27	5	-	-	-	-	-	-	-	-	-	-	
27	10	-	-	-	-	-	-	-	-	-	-	
26	1	-	-	-	-	-	-	-	-	-	-	
25	1	-	-	-	-	-	-	-	-	-	-	
24	0	-	-	-	-	-	-	-	-	-	-	
24	2	53	4.19	14.8	0.72	7.32	-	-	-	-	-	
24	6	-	-	-	-	-	-	-	-	-	-	
23	1	-	-	-	-	-	-	-	-	-	-	
22	1	-	-	-	-	-	-	-	-	-	-	
21	0	-	-	-	-	-	-	-	-	-	-	
21	2	46	3.41	14.8	0.70	7.23	-	-	-	-	-	
21	5	-	-	-	-	-	-	-	-	-	-	
21	14	-	-	-	-	-	-	-	-	-	-	
20	1	-	-	-	-	-	-	-	-	-	-	
19	2	36	2.38	15.6	0.63	4.83	23.2	2.5	24.6	2.7	-	
19	10	-	-	-	-	-	-	-	-	-	-	
19	20	-	-	-	-	-	-	-	-	-	-	
19	40	-	-	-	-	-	-	-	-	-	-	

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polarís (continued).

DATE		CRUISE #		LOCATION																
29 OCT 80		21		S F BAY																
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR			
17	192.6	550.6	616	0	13.8	-	-	6.4	-	13.8	7.92	0.708	-	-	-	-	0.070			
17	192.6	550.6	621	2	13.6	31.25	8.7	6.7	0.69	13.7	7.93	0.715	-	0.3	1.4	1.3	0.072			
17	192.6	550.6	626	5	13.6	31.28	-	8.8	-	13.7	7.92	0.723	-	-	-	-	0.075			
17	192.6	550.6	630	10	13.6	31.31	-	10.9	-	13.7	7.92	0.722	-	-	-	-	0.075			
17	192.6	550.6	634	20	13.6	31.39	-	11.0	-	13.7	7.92	0.727	-	-	-	-	0.077			
17	192.6	550.6	638	40	13.5	31.54	-	13.1	-	13.7	7.92	0.727	-	-	-	-	0.081			
16	196.3	548.3	712	1	14.1	30.46	-	4.6	-	14.4	7.93	0.725	-	-	-	-	0.071			
15	202.4	549.5	744	0	15.0	25.72	-	7.4	-	14.9	7.97	0.675	-	-	-	-	0.067			
15	202.4	549.5	748	2	15.0	25.84	7.3	7.4	0.97	15.0	7.96	0.679	-	0.2	1.7	1.2	0.068			
15	202.4	549.5	754	10	14.6	29.08	-	8.8	-	14.7	7.93	0.697	-	-	-	-	0.069			
15	202.4	549.5	758	20	14.5	29.42	-	11.9	-	14.7	7.93	0.713	-	-	-	-	0.072			
14	206.7	552.5	831	1	15.1	25.30	-	7.0	-	15.4	7.96	0.684	-	-	-	-	0.081			
13	209.3	555.7	852	0	15.4	24.45	-	7.0	-	15.9	7.97	0.670	-	-	-	-	0.070			
13	209.3	555.7	857	2	15.3	25.25	6.2	7.0	0.89	15.8	7.95	0.688	-	0.2	1.7	1.5	0.070			
13	209.3	555.7	904	7	15.2	25.57	-	8.1	-	15.8	7.95	0.696	-	-	-	1.5	0.066			
12	211.6	560.4	942	1	15.4	22.70	-	8.8	-	15.8	7.98	0.646	-	-	-	-	0.078			
11	212.7	564.6	1000	1	15.7	18.30	-	12.4	-	16.1	8.00	0.648	-	-	-	-	0.085			
10	212.5	569.5	1025	1	15.7	17.23	-	11.9	-	16.2	7.99	0.620	-	-	-	-	0.077			
9	211.4	572.5	1040	0	16.0	14.30	-	15.2	-	16.7	8.01	0.619	-	-	-	-	0.108			
9	211.4	572.5	1055	2	15.9	15.05	15.3	15.5	1.63	16.6	8.00	0.641	-	0.4	2.3	2.7	0.093			
9	211.4	572.5	1100	5	15.8	17.75	-	12.6	-	16.6	7.97	0.638	-	-	-	-	0.073			
9	211.4	572.5	1104	10	15.8	18.01	-	12.6	-	16.5	7.97	0.665	-	-	-	-	0.071			
9	211.4	572.5	1109	20	15.8	20.50	-	17.4	-	16.4	7.97	0.667	-	-	-	-	0.069			
8	209.3	574.1	1133	1	15.9	14.55	-	31.5	-	16.3	7.99	0.642	-	-	-	-	0.126			
7	211.3	579.3	1200	1	16.1	8.50	-	34.2	-	16.5	8.13	0.478	-	-	-	-	0.308			
6	213.3	584.7	1233	0	16.3	6.60	-	50.7	-	17.3	8.00	0.619	-	-	-	-	0.278			
6	213.3	584.7	1237	2	16.1	7.07	71.7	67.1	3.32	17.1	7.98	0.635	-	1.6	2.5	15.8	0.290			
6	213.3	584.7	1244	5	16.1	7.48	-	90.5	-	17.1	7.98	0.658	-	-	-	17.3	0.304			
5	212.8	589.5	1312	1	16.3	3.50	-	59.4	-	16.8	7.85	0.826	-	-	-	-	0.265			
4	211.5	593.4	1331	1	16.8	1.69	-	57.6	-	17.2	7.78	0.931	-	-	-	-	0.187			
3	211.8	598.4	1357	0	17.0	1.00	-	60.2	-	17.9	7.69	1.059	-	-	-	-	0.158			
3	211.8	598.4	1405	2	16.6	0.97	63.4	67.1	4.62	17.8	7.68	1.070	-	1.5	2.8	4.4	0.163			
3	211.8	598.4	1411	8	16.6	1.22	-	85.3	-	17.6	7.68	1.080	-	-	-	-	0.180			
2	213.3	600.4	1510	1	16.6	0.83	-	53.3	-	17.5	7.66	1.028	-	-	-	-	0.142			
649	212.9	605.6	1524	1	16.0	0.23	-	38.7	-	16.6	-	0.893	-	-	-	-	0.122			

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
29 OCT 80	21	S F BAY										
STATION	DEPTH	SI02	PO4	NO3+NO2	NO2	NH3	DISSOLV	DISSOLV	DISSOLV	TOTAL	TOTAL	TOTAL
	m	UM	UM	UM	UM	UM	NITROG	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH
							UM	UM	UM	UM	UM	UM
17	0	-	-	-	-	-	-	-	-	-	-	-
17	2	39	2.60	14.6	0.69	5.54	-	-	-	-	-	-
17	5	-	-	-	-	-	-	-	-	-	-	-
17	10	-	-	-	-	-	-	-	-	-	-	-
17	20	-	-	-	-	-	-	-	-	-	-	-
17	40	-	-	-	-	-	-	-	-	-	-	-
16	1	-	-	-	-	-	-	-	-	-	-	-
15	0	-	-	-	-	-	-	-	-	-	-	-
15	2	38	3.01	12.5	0.66	6.30	-	-	-	-	-	-
15	10	-	-	-	-	-	-	-	-	-	-	-
15	20	-	-	-	-	-	-	-	-	-	-	-
14	1	-	-	-	-	-	-	-	-	-	-	-
13	0	-	-	-	-	-	-	-	-	-	-	-
13	2	51	2.96	11.7	0.61	5.98	23.7	3.1	24.0	3.3	-	-
13	7	-	-	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	-	-	-
10	1	-	-	-	-	-	-	-	-	-	-	-
9	0	-	-	-	-	-	-	-	-	-	-	-
9	2	74	2.73	11.7	0.41	3.58	22.6	2.9	26.2	3.2	-	-
9	5	-	-	-	-	-	-	-	-	-	-	-
9	10	-	-	-	-	-	-	-	-	-	-	-
9	20	-	-	-	-	-	-	-	-	-	-	-
8	1	-	-	-	-	-	-	-	-	-	-	-
7	1	-	-	-	-	-	-	-	-	-	-	-
6	0	-	-	-	-	-	-	-	-	-	-	-
6	2	106	2.59	14.8	0.15	1.19	-	-	-	-	-	-
6	5	-	-	-	-	-	-	-	-	-	-	-
5	1	-	-	-	-	-	-	-	-	-	-	-
4	1	-	-	-	-	-	-	-	-	-	-	-
3	0	-	-	-	-	-	-	-	-	-	-	-
3	2	172	2.53	15.8	0.29	1.61	25.5	2.8	34.7	3.6	-	-
3	8	-	-	-	-	-	-	-	-	-	-	-
2	1	-	-	-	-	-	-	-	-	-	-	-
649	1	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V *Polaris* (continued).

DATE		CRUISE #		LOCATION													
29 OCT 80		21		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
651	215.0	608.5	1536	1	15.8	0.08	-	23.8	-	16.3	7.53	0.818	-	-	-	-	0.122
652	216.4	610.6	1541	1	15.8	0.07	-	20.4	-	16.4	7.54	0.834	-	-	-	-	0.114
653	217.1	612.1	1548	1	15.8	0.07	-	15.2	-	16.3	7.52	0.834	-	-	-	-	0.095
655	219.1	613.9	1600	1	15.5	0.08	-	16.1	-	16.0	7.44	1.055	-	-	-	-	0.098
657	223.4	614.9	1615	0	15.7	0.04	-	12.6	-	16.4	7.41	1.170	-	-	-	-	0.085
657	223.4	614.9	1620	2	15.5	0.04	13.7	14.3	1.49	16.2	7.41	1.193	-	0.3	2.1	1.5	0.080
757	215.9	616.0	1711	1	15.9	0.05	19.6	21.9	2.47	16.3	7.53	0.877	-	-	-	6.1	0.184
755	212.1	615.2	1742	1	16.0	0.06	-	24.7	-	16.4	7.59	0.751	-	-	-	-	0.212
753	210.3	612.6	1754	1	16.3	0.08	-	29.9	-	16.7	7.64	0.705	-	-	-	-	0.226

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V *Polaris* (continued).

DATE	CRUISE #	LOCATION								
29 OCT 80	21	S F BAY								
STATION	DEPTH m	S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
651	1	-	-	-	-	-	-	-	-	-
652	1	-	-	-	-	-	-	-	-	-
653	1	-	-	-	-	-	-	-	-	-
655	1	-	-	-	-	-	-	-	-	-
657	0	-	-	-	-	-	-	-	-	-
657	2	-	-	-	-	-	31.6	3.6	35.1	3.9
757	1	275	3.44	18.3	0.08	6.57	26.7	2.3	32.8	2.8
755	1	-	-	-	-	-	-	-	-	-
753	1	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION															
12 NOV 80		22	S F BAY															
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	D15 ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR	
36	147.4	582.7	1013	0	14.7	25.62	-	4.5	-	15.1	7.91	0.915	-	-	-	-	0.219	
36	147.4	582.7	1019	2	15.0	26.40	10.4	5.5	1.34	15.3	7.90	0.912	-	0.4	4.4	2.6	0.119	
36	147.4	582.7	1025	5	15.6	27.75	-	5.0	-	15.8	7.92	0.881	-	-	-	-	0.103	
35	148.5	581.5	1036	1	14.8	26.40	-	6.0	-	14.9	7.94	0.868	-	-	-	-	0.187	
34	149.8	580.6	1045	1	14.9	27.20	-	4.8	-	15.1	7.92	0.861	-	-	-	-	0.128	
33	151.6	577.5	1055	1	15.6	28.40	-	3.3	-	15.7	7.95	0.795	-	-	-	-	0.136	
32	152.5	576.5	1108	0	15.8	28.48	-	3.1	-	16.2	7.96	0.770	-	-	-	-	0.134	
32	152.5	576.5	1114	2	15.7	28.70	6.1	3.8	1.39	16.1	7.95	0.784	-	0.3	3.4	2.3	0.101	
32	152.5	576.5	1121	9	15.9	29.14	-	14.0	-	16.2	7.94	0.782	-	-	-	-	0.098	
31	153.8	574.4	1151	1	15.9	29.03	-	2.3	-	16.1	7.96	0.756	-	-	-	-	0.146	
30	156.5	571.4	1211	0	16.1	29.57	-	3.0	-	16.5	7.95	0.775	-	-	-	-	0.087	
30	156.5	571.4	1217	2	15.9	29.58	6.8	3.5	0.77	16.4	7.94	0.770	-	0.4	3.0	2.1	0.092	
30	156.5	571.4	1223	5	15.9	29.60	-	4.5	-	16.3	7.94	0.775	-	-	-	-	0.079	
30	156.5	571.4	1226	12	15.9	29.61	-	6.0	-	16.3	7.94	0.774	-	-	-	-	0.079	
29	159.5	566.7	1303	1	15.7	29.94	-	3.2	-	15.9	7.95	0.737	-	-	-	-	0.074	
28	161.5	564.4	1314	1	16.0	29.98	-	3.2	-	16.1	7.96	0.721	-	-	-	-	0.082	
27	163.4	562.5	1332	0	16.1	29.97	-	3.2	-	16.4	7.96	0.726	-	-	-	-	0.086	
27	163.4	562.5	1339	2	16.0	29.90	6.9	3.8	0.99	16.4	7.96	0.723	-	0.3	2.7	1.9	0.082	
27	163.4	562.5	1345	5	15.9	29.95	-	4.7	-	16.3	7.96	0.723	-	-	-	-	0.074	
27	163.4	562.5	1349	12	15.9	29.95	-	5.5	-	16.3	7.96	0.727	-	-	-	1.4	0.074	
26	165.4	560.5	1405	1	16.3	29.85	-	3.3	-	16.5	7.97	0.706	-	-	-	-	0.090	
25	169.4	559.5	1427	1	15.6	29.93	-	2.5	-	16.0	7.93	0.726	-	-	-	-	0.078	
24	172.5	558.3	1443	0	14.9	29.92	-	1.4	-	15.4	7.90	0.761	-	-	-	-	0.066	
24	172.5	558.3	1448	2	14.7	29.91	3.5	1.7	0.81	15.2	7.90	0.766	-	0.2	1.8	1.5	0.071	
24	172.5	558.3	1454	8	14.6	29.90	-	3.0	-	15.1	7.90	0.763	-	-	-	-	0.065	
23	175.5	558.5	1515	1	14.9	29.98	-	1.2	-	15.2	7.91	0.709	-	-	-	-	0.082	
22	179.4	556.5	1527	1	14.7	29.94	-	1.3	-	14.9	7.91	0.725	-	-	-	-	0.087	
21	183.6	555.5	1543	0	14.7	29.70	-	1.2	-	14.8	7.92	0.736	-	-	-	-	0.086	
21	183.6	555.5	1547	2	14.4	29.84	2.1	1.5	0.77	14.6	7.91	0.773	-	0.2	1.8	1.5	0.073	
21	183.6	555.5	1553	5	13.8	31.00	-	0.8	-	14.1	7.91	0.768	-	-	-	-	0.059	
21	183.6	555.5	1557	15	13.7	31.22	-	8.0	-	13.8	7.91	0.751	-	-	-	-	0.077	
20	185.4	552.4	1626	1	14.6	29.88	-	0.8	-	14.8	7.93	0.715	-	-	-	-	0.093	
19	185.6	546.5	1658	30	12.8	32.36	6.4	7.0	0.51	12.9	7.91	0.730	-	-	-	1.4	0.082	
19	185.6	546.5	1705	2	13.2	31.92	18.1	2.6	-	12.9	7.92	0.720	-	0.4	1.5	1.7	0.070	

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION										
12 NOV 80	22	S F BAY										
STATION	DEPTH m	S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM		
36	0	-	-	-	-	-	-	-	-	-		
36	2	158	33.73	91.9	1.94	10.74	113.7	35.0	115.4	35.5		
36	5	-	-	-	-	-	-	-	-	-		
35	1	-	-	-	-	-	-	-	-	-		
34	1	-	-	-	-	-	-	-	-	-		
33	1	-	-	-	-	-	-	-	-	-		
32	0	-	-	-	-	-	-	-	-	-		
32	2	134	20.48	44.5	1.07	6.09	-	-	-	-		
32	9	-	-	-	-	-	-	-	-	-		
31	1	-	-	-	-	-	-	-	-	-		
30	0	-	-	-	-	-	-	-	-	-		
30	2	119	14.23	29.0	0.83	7.23	-	-	-	-		
30	5	-	-	-	-	-	-	-	-	-		
30	12	-	-	-	-	-	-	-	-	-		
29	1	-	-	-	-	-	-	-	-	-		
28	1	-	-	-	-	-	-	-	-	-		
27	0	-	-	-	-	-	-	-	-	-		
27	2	110	11.46	23.4	0.54	4.15	35.0	11.5	37.2	11.8		
27	5	-	-	-	-	-	-	-	-	-		
27	12	-	-	-	-	-	-	-	-	-		
26	1	-	-	-	-	-	-	-	-	-		
25	1	-	-	-	-	-	-	-	-	-		
24	0	-	-	-	-	-	-	-	-	-		
24	2	48	3.59	16.6	0.85	6.74	-	-	-	-		
24	8	-	-	-	-	-	-	-	-	-		
23	1	-	-	-	-	-	-	-	-	-		
22	1	-	-	-	-	-	-	-	-	-		
21	0	-	-	-	-	-	-	-	-	-		
21	2	46	4.03	16.0	0.81	11.11	-	-	-	-		
21	5	-	-	-	-	-	-	-	-	-		
21	15	-	-	-	-	-	-	-	-	-		
20	1	-	-	-	-	-	-	-	-	-		
19	30	-	-	-	-	-	-	-	-	-		
19	2	32	2.45	16.7	0.61	4.06	23.8	2.4	26.8	2.7		

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
13 NOV 80		22		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
17	192.6	550.6	618	0	13.7	30.80	-	5.0	-	13.3	7.93	0.706	-	-	-	-	0.065
17	192.6	550.6	623	2	13.5	29.70	2.5	3.4	-	13.3	7.94	0.709	-	0.2	2.3	1.1	0.067
17	192.6	550.6	630	5	13.3	31.40	-	5.5	-	13.1	7.94	0.713	-	-	-	-	0.066
17	192.6	550.6	636	10	13.3	31.44	-	7.6	-	13.2	7.94	0.711	-	-	-	-	0.068
17	192.6	550.6	640	20	13.2	31.57	-	12.6	-	13.3	7.94	0.712	-	-	-	-	0.074
17	192.6	550.6	644	30	13.2	31.62	-	13.6	-	13.2	7.94	0.713	-	-	-	1.1	0.076
16	196.3	548.3	714	1	13.7	29.73	-	3.4	-	13.9	7.95	0.714	-	-	-	-	0.070
15	202.4	549.5	744	0	14.0	25.57	-	5.7	-	13.9	7.99	0.672	-	-	-	-	0.079
15	202.4	549.5	749	2	14.0	25.59	5.2	6.2	0.87	14.0	7.99	0.671	-	0.2	2.0	-	0.077
15	202.4	549.5	754	5	14.1	25.51	-	6.2	-	14.0	7.99	0.675	-	-	-	-	0.075
15	202.4	549.5	758	10	14.1	28.85	-	6.7	-	14.0	7.96	0.710	-	-	-	-	0.071
15	202.4	549.5	802	20	14.0	29.35	-	6.7	-	13.9	8.19	0.723	-	-	-	-	0.070
14	206.7	552.5	834	1	14.3	25.54	-	4.4	-	14.4	8.14	0.687	-	-	-	-	0.085
13	209.3	555.7	855	0	14.5	24.67	-	5.7	-	14.4	8.14	0.686	-	-	-	-	0.075
13	209.3	555.7	900	2	14.5	24.90	4.8	5.5	-	14.4	8.14	0.684	-	0.2	2.0	1.3	0.074
13	209.3	555.7	906	8	14.6	26.08	-	4.6	-	14.5	8.16	0.705	-	-	-	0.6	0.056
13	209.3	555.7	912	2	14.5	24.82	-	5.5	-	14.4	8.15	0.691	-	-	-	-	-
12	211.6	560.4	937	1	14.5	22.60	-	7.9	-	14.7	8.16	0.705	-	-	-	-	0.082
11	212.7	564.6	955	1	14.5	18.50	13.7	11.9	-	14.7	8.17	0.719	-	-	-	-	0.073
10	212.5	569.5	1020	1	14.7	15.10	-	12.6	-	14.9	8.15	0.697	-	-	-	-	0.097
9	211.4	572.5	1035	0	15.0	14.60	-	12.1	-	15.0	8.13	0.686	-	-	-	-	0.098
9	211.4	572.5	1040	2	15.0	16.20	12.5	12.4	1.42	15.0	8.15	0.702	-	0.8	2.5	-	0.080
9	211.4	572.5	1046	5	15.0	17.15	-	16.9	-	15.0	8.18	0.720	-	-	-	-	0.076
9	211.4	572.5	1051	10	15.0	18.40	-	14.3	-	15.0	8.19	0.734	-	-	-	-	0.071
9	211.4	572.5	1056	20	15.0	20.12	-	17.1	-	15.0	8.19	0.732	-	-	-	-	0.071
8	209.3	574.3	1136	1	14.9	13.20	12.3	12.1	-	15.1	8.00	0.639	-	-	-	-	0.136
7	211.3	579.3	1158	1	15.0	10.70	-	21.2	-	15.2	7.99	0.606	-	-	-	-	0.157
6	213.3	584.7	1226	0	15.1	6.50	-	27.3	-	15.4	7.93	0.706	-	-	-	-	0.176
6	213.3	584.7	1233	2	15.0	6.95	33.5	31.6	2.43	15.3	7.91	0.728	-	0.8	2.8	6.4	0.169
6	213.3	584.7	1241	5	15.0	9.34	-	33.0	-	15.3	7.93	0.716	-	-	-	6.6	0.161
5	212.8	589.5	1318	1	15.2	3.50	-	36.8	-	15.3	7.79	0.847	-	-	-	-	0.149
4	211.5	593.4	1334	1	15.6	2.10	-	37.7	-	15.8	7.72	1.017	-	-	-	-	0.127
3	211.8	598.4	1403	0	15.9	1.41	-	40.8	-	16.2	7.67	1.052	-	-	-	-	0.119
3	211.8	598.4	1408	2	15.8	1.35	36.2	39.4	3.23	16.2	7.68	1.052	-	0.6	3.3	1.9	0.117
3	211.8	598.4	1414	5	15.7	1.81	-	44.6	-	16.1	7.69	1.052	-	-	-	-	0.127

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION		ST02	PO4	NO3+NO2	NO2	NH3	DISSOLV		TOTAL	
13 NOV 80	22		S F BAY							NITROG	PHOSPH	NITROG	PHOSPH
STATION	DEPTH				UM	UM	UM	UM	UM	UM	UM	UM	UM
17	0	-	-	-	-	-	-	-	-	-	-	-	-
17	2	43	2.93	15.8	0.60	5.44	-	-	-	-	-	-	-
17	5	-	-	-	-	-	-	-	-	-	-	-	-
17	10	-	-	-	-	-	-	-	-	-	-	-	-
17	20	-	-	-	-	-	-	-	-	-	-	-	-
17	30	-	-	-	-	-	-	-	-	-	-	-	-
16	1	-	-	-	-	-	-	-	-	-	-	-	-
15	0	-	-	-	-	-	-	-	-	-	-	-	-
15	2	56	3.00	15.3	0.56	5.63	-	-	-	-	-	-	-
15	5	-	-	-	-	-	-	-	-	-	-	-	-
15	10	-	-	-	-	-	-	-	-	-	-	-	-
15	20	-	-	-	-	-	-	-	-	-	-	-	-
14	1	-	-	-	-	-	-	-	-	-	-	-	-
13	0	-	-	-	-	-	-	-	-	-	-	-	-
13	2	56	2.94	15.3	0.58	5.66	-	-	-	-	-	-	-
13	8	-	-	-	-	-	-	-	-	-	-	-	-
13	2	-	-	-	-	-	-	-	-	27.1	2.8	27.8	2.9
12	1	-	-	-	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	29.2	2.6	32.2	2.9
10	1	-	-	-	-	-	-	-	-	-	-	-	-
9	0	-	-	-	-	-	-	-	-	-	-	-	-
9	2	81	2.74	16.0	0.51	5.63	-	-	-	-	-	-	-
9	5	-	-	-	-	-	-	-	-	-	-	-	-
9	10	-	-	-	-	-	-	-	-	-	-	-	-
9	20	-	-	-	-	-	-	-	-	-	-	-	-
8	1	92	2.73	17.8	0.47	4.53	-	-	-	29.3	2.7	33.7	3.2
7	1	-	-	-	-	-	-	-	-	-	-	-	-
6	0	-	-	-	-	-	-	-	-	-	-	-	-
6	2	129	2.82	20.1	0.41	2.41	-	-	-	30.9	2.9	37.5	3.5
6	5	-	-	-	-	-	-	-	-	-	-	-	-
5	1	-	-	-	-	-	-	-	-	-	-	-	-
4	1	-	-	-	-	-	-	-	-	-	-	-	-
3	0	-	-	-	-	-	-	-	-	-	-	-	-
3	2	193	2.88	21.3	0.42	2.95	-	-	-	31.7	2.7	37.5	3.3
3	5	-	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
13 NOV 80		22		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
2	213.2	600.4	1439	1	15.7	1.10	-	42.0	-	15.7	7.62	1.137	-	-	-	-	0.114
649	212.9	605.6	1453	1	15.0	0.40	-	32.5	-	15.3	7.52	1.153	-	-	-	-	0.097
651	215.0	608.5	1505	1	14.7	0.16	-	17.8	-	14.8	7.46	1.042	-	-	-	-	0.089
652	216.4	610.6	1510	1	14.4	0.09	-	16.9	-	14.7	-	1.046	-	-	-	-	0.082
653	217.1	612.1	1517	1	14.3	0.08	-	12.1	-	14.5	-	1.102	-	-	-	-	0.066
655	219.7	613.9	1527	1	14.3	0.08	-	12.1	-	14.5	7.34	1.151	-	-	-	-	0.070
657	223.4	614.9	1544	0	14.2	0.04	-	10.5	-	14.5	7.33	1.202	-	-	-	-	0.060
657	223.4	614.9	1549	2	14.2	0.04	10.9	10.9	1.24	14.5	7.33	1.193	-	0.1	2.6	0.8	0.059
757	215.9	616.0	1641	0	15.0	0.09	18.9	19.5	1.93	15.2	7.54	0.841	-	-	-	6.6	0.131
755	212.1	615.2	1710	1	15.2	0.12	-	36.0	-	15.3	7.56	0.829	-	-	-	-	0.131
753	210.3	612.6	1725	1	16.4	0.35	-	30.8	-	16.4	7.54	0.993	-	-	-	-	0.152
751	209.5	609.1	1737	0	15.9	0.44	-	36.0	-	16.0	7.50	1.213	-	-	-	-	0.000

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #	LOCATION							
13 NOV 80		22	S F BAY							
STATION	DEPTH m	S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV		TOTAL NITROG UM	TOTAL PHOSPH UM
							NITROG UM	PHOSPH UM		
2	1	-	-	-	-	-	-	-	-	-
649	1	-	-	-	-	-	-	-	-	-
651	1	-	-	-	-	-	-	-	-	-
652	1	-	-	-	-	-	-	-	-	-
653	1	-	-	-	-	-	-	-	-	-
655	1	-	-	-	-	-	-	-	-	-
657	0	-	-	-	-	-	-	-	-	-
657	2	-	-	-	-	-	30.1	3.4	33.5	-
757	0	266	3.45	15.9	0.70	8.78	27.8	2.3	33.8	2.8
755	1	-	-	-	-	-	-	-	-	-
753	1	-	-	-	-	-	-	-	-	-
751	0	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION																	
16 DEC 80		23		S F BAY																	
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR			
36	147.4	582.7	937	0	10.2	27.29	-	10.9	-	10.5	7.90	0.850	-	-	-	-	-	0.119			
36	147.4	582.7	942	2	10.3	27.84	13.9	13.3	1.38	10.6	7.91	0.824	-	0.4	3.5	-	1.4	0.090			
36	147.4	582.7	947	6	10.5	28.21	-	17.8	-	10.7	7.92	0.811	-	-	-	-	-	0.089			
35	148.5	581.5	1001	1	10.3	27.74	-	13.3	-	10.5	7.91	0.813	-	-	-	-	-	0.112			
34	149.8	580.6	1007	1	10.5	27.94	-	16.6	-	10.6	7.92	0.777	-	-	-	-	-	0.098			
33	151.6	577.5	1018	1	10.7	28.65	-	19.2	-	10.9	7.94	0.750	-	-	-	-	-	0.094			
32	152.5	576.5	1029	0	10.6	28.45	-	18.5	-	11.1	7.93	0.789	-	-	-	-	-	0.096			
32	152.5	576.5	1035	2	10.6	28.57	17.2	16.1	1.46	11.1	7.94	0.785	-	0.4	2.9	-	1.5	0.093			
32	152.5	576.5	1041	5	10.7	28.80	-	24.7	-	11.2	7.94	0.777	-	-	-	-	-	0.089			
32	152.5	576.5	1045	10	10.8	28.83	-	42.0	-	11.2	7.94	0.780	-	-	-	-	-	0.096			
31	153.8	574.4	1100	1	10.9	28.95	-	15.7	-	11.0	7.95	0.749	-	-	-	-	-	0.084			
30	156.5	571.4	1121	0	11.1	29.12	-	10.9	-	11.6	7.95	0.742	-	-	-	-	-	0.073			
30	156.5	571.4	1126	2	11.0	29.15	14.8	14.3	1.25	11.5	7.95	0.746	-	0.4	2.6	-	1.3	0.079			
30	156.5	571.4	1132	5	11.0	29.29	-	22.1	-	11.5	7.95	0.734	-	-	-	-	-	0.081			
30	156.5	571.4	1136	10	11.0	29.30	-	26.4	-	11.5	7.95	0.732	-	-	-	-	-	0.082			
29	159.5	566.7	1214	1	11.1	29.51	-	23.0	-	11.3	7.96	0.692	-	-	-	-	-	0.078			
28	161.5	564.4	1223	1	11.0	29.61	-	21.2	-	11.2	7.97	0.679	-	-	-	-	-	0.074			
27	163.4	562.5	1237	0	11.3	29.70	-	31.6	-	11.8	7.98	0.673	-	-	-	-	-	0.081			
27	163.4	562.5	1244	2	11.2	29.68	29.4	26.4	1.84	11.8	7.98	0.667	-	0.5	2.9	-	1.0	0.079			
27	163.4	562.5	1252	5	11.2	29.66	-	26.4	-	11.7	7.98	0.666	-	-	-	-	-	0.079			
27	163.4	562.5	1256	10	11.2	29.66	-	29.9	-	11.7	7.98	0.665	-	-	-	-	-	0.081			
26	165.4	560.5	1313	1	11.3	29.71	-	24.7	-	11.5	7.98	0.637	-	-	-	-	1.1	0.081			
25	169.4	559.5	1326	1	11.4	29.65	-	19.5	-	11.8	7.98	0.634	-	-	-	-	-	0.078			
24	172.5	558.3	1349	0	11.5	29.36	-	13.1	-	12.2	7.96	0.663	-	-	-	-	-	0.078			
24	172.5	558.3	1353	2	11.5	29.35	18.5	14.3	1.30	12.1	7.96	0.663	-	0.4	2.5	-	1.3	0.075			
24	172.5	558.3	1359	7	11.4	29.41	-	18.7	-	12.0	7.97	0.655	-	-	-	-	-	0.076			
23	175.5	558.5	1432	1	11.7	29.21	-	11.4	-	11.8	7.97	0.636	-	-	-	-	-	0.085			
22	179.4	556.5	1447	1	11.3	28.87	-	13.6	-	11.5	7.96	0.642	-	-	-	-	-	0.079			
21	183.6	555.5	1503	0	11.2	28.61	-	8.1	-	11.7	7.97	0.634	-	-	-	-	-	0.077			
21	183.6	555.5	1508	2	11.1	28.59	9.6	10.3	0.80	11.6	7.97	0.630	-	0.3	1.8	-	1.3	0.075			
21	183.6	555.5	1513	5	11.0	28.68	-	13.6	-	11.5	7.97	0.638	-	-	-	-	-	0.075			
21	183.6	555.5	1517	12	11.0	28.70	-	17.8	-	11.4	7.96	0.649	-	-	-	-	-	0.081			
20	185.4	552.4	1548	1	11.2	28.14	-	7.7	-	11.3	8.01	0.575	-	-	-	-	-	0.074			
19	185.6	546.5	1630	40	11.3	30.99	5.9	5.0	0.46	11.6	8.07	0.510	-	-	-	-	1.5	0.078			
19	185.6	546.5	1636	20	11.3	30.85	-	4.3	-	11.7	8.07	0.507	-	-	-	-	-	0.074			
19	185.6	546.5	1641	10	11.3	30.92	-	4.1	-	11.8	8.07	0.518	-	-	-	-	-	0.075			
19	185.6	546.5	1647	2	11.2	30.65	3.0	3.4	0.46	11.9	8.06	0.531	-	0.2	1.5	-	1.4	0.073			

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION		STATION	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV		TOTAL	
		23	S F BAY								NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM
16 DEC 80														
36	0	-	-	-	-	-	-	-	-	-	-	-	-	-
36	2	132	19.19	72.5	1.70	-	-	-	-	-	-	-	-	-
36	6	-	-	-	-	-	-	-	-	-	-	-	-	-
35	1	-	-	-	-	-	-	-	-	-	-	-	-	-
34	1	-	-	-	-	-	-	-	-	-	-	-	-	-
33	1	-	-	-	-	-	-	-	-	-	-	-	-	-
32	0	-	-	-	-	-	-	-	-	-	-	-	-	-
32	2	123	15.58	53.7	1.37	-	-	-	-	-	-	-	-	-
32	5	-	-	-	-	-	-	-	-	-	-	-	-	-
32	10	-	-	-	-	-	-	-	-	-	-	-	-	-
31	1	-	-	-	-	-	-	-	-	-	-	-	-	-
30	0	-	-	-	-	-	-	-	-	-	-	-	-	-
30	2	115	12.96	40.3	1.05	-	-	-	-	-	-	-	-	-
30	5	-	-	-	-	-	-	-	-	-	-	-	-	-
30	10	-	-	-	-	-	-	-	-	-	-	-	-	-
29	1	-	-	-	-	-	-	-	-	-	-	-	-	-
28	1	-	-	-	-	-	-	-	-	-	-	-	-	-
27	0	-	-	-	-	-	-	-	-	-	-	-	-	-
27	2	109	10.71	30.7	0.83	-	-	-	-	-	-	-	-	-
27	5	-	-	-	-	-	-	-	-	-	-	-	-	-
27	10	-	-	-	-	-	-	-	-	-	-	-	-	-
26	1	-	-	-	-	-	-	-	-	-	-	-	-	-
25	1	-	-	-	-	-	-	-	-	-	-	-	-	-
24	0	-	-	-	-	-	-	-	-	-	-	-	-	-
24	2	92	8.58	28.6	0.85	-	-	-	-	-	-	-	-	-
24	7	-	-	-	-	-	-	-	-	-	-	-	-	-
23	1	-	-	-	-	-	-	-	-	-	-	-	-	-
22	1	-	-	-	-	-	-	-	-	-	-	-	-	-
21	0	-	-	-	-	-	-	-	-	-	-	-	-	-
21	2	31	6.55	24.4	-	-	-	-	-	-	-	-	-	-
21	5	-	-	-	-	-	-	-	-	-	-	-	-	-
21	12	-	-	-	-	-	-	-	-	-	-	-	-	-
20	1	-	-	-	-	-	-	-	-	-	-	-	-	-
19	40	-	-	-	-	-	-	-	-	-	-	-	-	-
19	20	-	-	-	-	-	-	-	-	-	-	-	-	-
19	10	-	-	-	-	-	-	-	-	-	-	-	-	-
19	2	38	2.36	15.1	0.67	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
17 DEC 80		23		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
17	192.6	550.6	651	0	10.5	27.32	-	5.5	-	10.8	8.03	0.560	-	-	-	-	0.066
17	192.6	550.6	656	2	10.7	28.55	4.8	5.3	-	11.0	8.04	0.553	-	0.2	1.5	1.4	0.067
17	192.6	550.6	703	5	10.9	30.48	-	13.6	-	11.2	8.06	0.530	-	-	-	-	0.084
17	192.6	550.6	707	10	11.0	30.69	-	14.0	-	11.3	8.07	0.521	-	-	-	-	0.086
17	192.6	550.6	712	20	11.0	31.00	-	7.0	-	11.3	8.09	0.498	-	-	-	-	0.084
16	196.3	548.3	745	1	11.1	29.88	-	7.6	-	11.3	8.06	0.520	-	-	-	-	0.073
15	202.4	549.5	813	0	10.4	25.94	-	11.9	-	10.5	8.03	0.553	-	-	-	-	0.071
15	202.4	549.5	820	2	10.7	26.74	13.3	12.8	1.18	10.7	8.03	0.548	-	0.3	1.6	-	0.071
15	202.4	549.5	826	5	10.8	28.08	-	13.8	-	10.8	8.04	0.552	-	-	-	-	0.071
15	202.4	549.5	830	10	10.8	28.28	-	13.1	-	10.9	8.04	0.545	-	-	-	-	0.070
15	202.4	549.5	834	20	10.9	28.65	-	11.7	-	10.9	8.04	0.543	-	-	-	-	0.072
14	206.7	552.5	858	1	10.7	26.79	-	9.5	-	10.9	8.04	0.564	-	-	-	-	0.070
13	209.3	555.7	918	0	10.7	24.21	-	9.3	-	10.6	8.03	0.574	-	-	-	-	0.073
13	209.3	555.7	923	2	10.5	24.76	9.8	10.5	1.07	10.7	8.03	0.561	-	0.2	2.1	1.3	0.065
13	209.3	555.7	936	5	10.6	25.78	-	18.0	-	10.8	8.03	0.571	-	-	-	1.1	0.072
12	211.6	560.4	1000	1	10.6	25.19	20.6	18.8	-	10.8	8.02	0.583	-	-	-	-	0.076
11	212.7	564.6	1018	1	10.3	21.62	-	20.6	-	10.5	8.00	0.601	-	-	-	-	0.078
10	212.5	569.5	1033	1	10.2	20.12	-	19.5	-	10.4	7.99	0.606	-	-	-	-	0.073
9	211.4	572.5	1046	0	10.3	19.62	-	20.7	-	10.6	8.00	0.606	-	-	-	-	0.078
9	211.4	572.5	1054	2	10.2	19.98	24.4	21.2	1.91	10.6	7.99	0.602	-	0.4	1.9	1.4	0.077
9	211.4	572.5	1101	5	10.3	21.16	-	24.7	-	10.6	8.00	0.602	-	-	-	-	0.075
9	211.4	572.5	1106	10	10.3	21.70	-	33.4	-	10.7	8.00	0.610	-	-	-	-	0.079
9	211.4	572.5	1110	20	10.3	21.98	-	35.1	-	10.6	8.00	0.606	-	-	-	-	0.081
8	209.3	574.3	1137	1	10.3	19.21	-	23.3	-	10.5	7.98	0.630	-	-	-	-	0.078
7	211.3	579.3	1156	1	10.2	15.50	-	31.1	-	10.5	7.95	0.672	-	-	-	-	0.090
6	213.3	584.7	1230	0	10.0	11.82	-	27.3	-	10.6	7.90	0.720	-	-	-	-	0.094
6	213.3	584.7	1235	2	10.0	11.67	23.9	25.9	2.32	10.5	7.91	0.715	-	-	2.3	2.3	0.092
6	213.3	584.7	1244	5	9.9	13.23	-	30.6	-	10.5	7.92	0.700	-	-	-	1.5	0.086
5	212.8	589.5	1312	1	9.5	5.82	38.8	42.4	-	9.8	7.87	0.775	-	-	-	-	0.129
4	211.5	593.4	1330	1	9.6	4.46	-	49.3	-	9.9	7.80	0.883	-	-	-	-	0.128
3	211.8	598.4	1359	0	9.9	1.93	-	49.0	-	10.7	7.75	1.010	-	-	-	-	0.119
3	211.8	598.4	1405	2	9.7	2.10	37.2	49.7	3.51	10.7	7.75	1.014	-	0.7	3.1	2.4	0.116
3	211.8	598.4	1416	6	9.6	2.55	-	57.1	-	10.3	7.75	0.986	-	-	-	-	0.117
2	213.2	600.4	1434	1	9.5	0.89	-	52.9	-	9.8	7.75	1.085	-	-	-	-	0.101
649	212.9	605.6	1454	1	9.3	0.20	-	45.2	-	9.6	7.69	1.176	-	-	-	-	0.093

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE	CRUISE #	LOCATION								
17 DEC 80	23	S F BAY								
STATION	DEPTH m	S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
17	0	-	-	-	-	-	-	-	-	-
17	2	51	16.65	16.9	0.69	6.18	-	-	-	-
17	5	-	-	-	-	-	-	-	-	-
17	10	-	-	-	-	-	-	-	-	-
17	20	-	-	-	-	-	-	-	-	-
16	1	-	-	-	-	-	-	-	-	-
15	0	-	-	-	-	-	-	-	-	-
15	2	62	2.82	18.8	0.68	6.99	-	-	-	-
15	5	-	-	-	-	-	-	-	-	-
15	10	-	-	-	-	-	-	-	-	-
15	20	-	-	-	-	-	-	-	-	-
14	1	-	-	-	-	-	-	-	-	-
13	0	-	-	-	-	-	-	-	-	-
13	2	72	2.91	19.9	0.69	7.62	-	-	-	-
13	5	-	-	-	-	-	-	-	-	-
12	1	-	-	-	-	-	-	-	-	-
11	1	-	-	-	-	-	-	-	-	-
10	1	-	-	-	-	-	-	-	-	-
9	0	-	-	-	-	-	-	-	-	-
9	2	100	3.00	22.3	0.62	8.66	-	-	-	-
9	5	-	-	-	-	-	-	-	-	-
9	10	-	-	-	-	-	-	-	-	-
9	20	-	-	-	-	-	-	-	-	-
8	1	-	-	-	-	-	-	-	-	-
7	1	-	-	-	-	-	-	-	-	-
6	0	-	-	-	-	-	-	-	-	-
6	2	152	3.07	26.3	0.51	8.37	-	-	-	-
6	5	-	-	-	-	-	-	-	-	-
5	1	-	-	-	-	-	-	-	-	-
4	1	-	-	-	-	-	-	-	-	-
3	0	-	-	-	-	-	-	-	-	-
3	2	230	2.75	29.9	0.49	6.65	-	-	-	-
3	6	-	-	-	-	-	-	-	-	-
2	1	-	-	-	-	-	-	-	-	-
649	1	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V Polaris (continued).

DATE		CRUISE #		LOCATION													
17 DEC 80		23		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
651	215.0	608.5	1508	1	8.4	0.09	-	46.5	-	8.8	7.71	-	-	-	-	-	0.086
652	216.4	610.6	1514	1	8.2	0.07	-	39.4	-	8.5	7.70	1.236	-	-	-	-	0.078
653	217.1	612.1	1522	1	8.1	0.07	-	35.8	-	8.4	7.72	1.211	-	-	-	-	0.075
655	219.7	613.9	1535	1	8.2	0.07	-	28.2	-	8.5	7.74	1.160	-	-	-	-	0.071
657	223.4	614.9	1556	0	8.2	0.08	-	25.4	-	8.7	7.75	1.127	-	-	-	-	0.065
657	223.4	614.9	1602	2	8.2	0.08	21.4	25.2	2.05	8.7	7.74	1.147	-	0.3	2.6	0.6	0.065
757	215.9	616.0	1628	0	8.6	0.07	-	34.6	-	9.0	7.68	1.212	-	-	-	-	0.085
757	215.9	616.0	1734	2	8.6	0.06	22.8	34.8	-	9.0	7.69	1.234	-	-	-	0.5	0.086
757	215.9	616.0	1739	7	8.6	0.08	-	37.5	-	8.9	7.67	1.215	-	-	-	-	0.086
755	212.1	615.2	1801	1	8.8	0.03	-	34.1	-	9.3	7.67	1.224	-	-	-	-	0.090
753	210.3	612.6	1811	1	9.0	0.05	-	36.8	-	9.4	7.69	1.215	-	-	-	-	0.089

- DATA NOT AVAILABLE

Table A.--Physical and chemical data collected aboard the R/V *Polaris* (continued).

DATE	CRUISE #	LOCATION								
17 DEC 80	23	S F BAY								
STATION	DEPTH m	S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
651	1	-	-	-	-	-	-	-	-	-
652	1	-	-	-	-	-	-	-	-	-
653	1	-	-	-	-	-	-	-	-	-
655	1	-	-	-	-	-	-	-	-	-
657	0	-	-	-	-	-	-	-	-	-
657	2	-	-	-	-	-	-	-	-	-
757	0	-	-	-	-	-	-	-	-	-
757	2	-	-	-	-	-	-	-	-	-
757	7	-	-	-	-	-	-	-	-	-
755	1	-	-	-	-	-	-	-	-	-
753	1	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero.

DATE		CRUISE #	LOCATION		TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
8 JAN 80			S	F BAY															
STATION	UTM NORTH	UTM EAST																	
102	148.5	580.7	923		1	11.3	25.20	-	-	12.4	1.67	-	-	24.470	-	-	-	1.9	0.094
104	149.3	580.7	929		1	11.4	25.50	-	-	21.7	-	-	-	23.980	-	-	-	-	0.102
106	149.9	580.8	931		1	11.4	25.70	-	-	41.0	-	-	-	24.250	-	-	-	-	0.117
108	150.0	579.7	935		1	11.3	25.60	-	-	55.9	-	-	-	24.420	-	-	-	-	0.123
110	150.3	578.8	941		1	11.4	25.90	-	-	19.5	-	-	-	22.700	-	-	-	-	0.095
112	151.2	578.0	944		1	11.4	26.31	-	-	22.4	-	-	-	21.800	-	-	-	-	0.098
114	152.5	576.9	950		1	11.5	26.51	-	-	21.7	-	-	-	20.490	-	-	-	-	0.094
116	153.9	575.8	956		1	11.4	27.42	-	-	23.9	-	-	-	17.390	-	-	-	-	0.089
118	155.4	574.6	1003		1	11.5	27.82	-	-	17.2	1.45	-	-	15.730	-	-	-	1.1	0.081
120	156.8	573.3	1024		1	11.6	27.52	-	-	16.1	-	-	-	16.320	-	-	-	-	0.084
122	158.5	571.4	1033		1	11.7	27.72	-	-	15.0	-	-	-	15.020	-	-	-	-	0.073
124	156.8	573.3	1036		1	11.7	27.82	-	-	15.2	-	-	-	14.840	-	-	-	-	0.071
126	160.0	571.0	1041		1	11.7	28.02	-	-	13.2	-	-	-	-	-	-	-	-	0.083
128	161.1	570.9	1055		1	11.7	28.12	-	-	7.6	0.99	-	-	13.700	-	-	-	1.1	0.067
130	160.5	569.2	1105		1	11.7	28.23	-	-	14.0	-	-	-	12.610	-	-	-	-	0.065
132	159.9	567.5	1114		1	11.7	28.23	-	-	15.0	-	-	-	11.040	-	-	-	-	0.060
134	159.5	566.1	1118		1	11.7	28.12	-	-	16.5	-	-	-	15.940	-	-	-	-	0.063
136	160.4	564.6	1124		1	11.6	27.42	-	-	15.0	-	-	-	10.620	-	-	-	-	0.085
138	160.7	562.8	1132		1	11.7	27.32	-	-	12.8	-	-	-	9.180	-	-	-	-	0.071
140	161.0	561.0	1138		1	11.7	27.32	-	-	11.8	-	-	-	9.080	-	-	-	-	0.078
142	161.4	558.8	1233		1	11.8	26.71	-	-	4.7	0.87	-	-	6.750	-	-	-	1.4	0.082
144	162.1	560.4	1244		1	11.7	26.41	-	-	13.4	-	-	-	6.490	-	-	-	-	0.065
146	162.8	562.3	1251		1	11.7	27.01	-	-	13.6	-	-	-	6.800	-	-	-	-	0.082
148	163.6	564.1	1257		1	11.7	26.71	-	-	12.0	-	-	-	7.770	-	-	-	-	0.071
150	164.2	565.6	1304		1	11.8	27.01	-	-	12.0	-	-	-	8.130	-	-	-	-	0.066
152	164.0	567.3	1309		1	11.5	28.33	-	-	12.4	-	-	-	10.500	-	-	-	-	0.074
154	165.4	569.1	1315		1	11.6	28.33	-	-	10.6	-	-	-	13.140	-	-	-	-	0.100
156	165.7	569.8	1321		1	11.7	28.23	-	-	4.2	0.83	-	-	13.790	-	0.2	-	2.0	0.092
158	167.4	569.1	1345		1	11.6	28.02	-	-	9.8	-	-	-	14.430	-	-	-	-	0.112
160	169.3	568.5	1353		1	11.6	28.02	-	-	10.3	-	-	-	14.630	-	-	-	-	0.114
162	170.9	567.6	1407		1	11.6	27.82	-	-	3.3	0.70	-	-	15.290	-	-	-	1.5	0.109
164	172.5	566.7	1417		1	11.4	27.22	-	-	18.8	-	-	-	15.920	-	-	-	-	0.127
168	175.0	565.2	1429		1	11.3	26.81	-	-	4.9	0.87	-	-	17.190	-	-	-	6.9	0.152
170	174.4	563.6	1447		1	11.4	25.70	-	-	37.3	-	-	-	8.720	-	-	-	-	0.093
172	173.8	561.9	1453		1	11.4	24.39	-	-	37.7	-	-	-	5.810	-	-	-	-	0.089

- DATA NOT AVAILABLE

Table B.---Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION																
8 JAN 80		1	S F BAY																
STATION	DEPTH m	CONTINUOUS										DISCRET				DISSOLV		TOTAL	
		SI02 UM	P04 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM			
102	1	127	24.47	115.4	3.23	22.03	-	-	-	-	-	-	-	-	-	-			
104	1	126	23.98	105.7	3.17	22.26	-	-	-	-	-	-	-	-	-	-			
106	1	125	24.25	99.0	3.48	22.17	-	-	-	-	-	-	-	-	-	-			
108	1	126	24.42	93.9	4.48	24.70	-	-	-	-	-	-	-	-	-	-			
110	1	122	22.70	91.9	3.47	19.84	-	-	-	-	-	-	-	-	-	-			
112	1	119	21.79	81.8	3.22	21.21	-	-	-	-	-	-	-	-	-	-			
114	1	116	20.48	75.3	2.81	19.36	-	-	-	-	-	-	-	-	-	-			
116	1	108	17.39	56.4	1.45	14.51	-	-	-	-	-	-	-	-	-	-			
118	1	104	15.72	48.5	1.13	11.42	-	-	-	-	-	-	-	-	-	-			
120	1	109	16.31	54.7	0.63	9.90	-	-	-	-	-	-	-	-	-	-			
122	1	103	15.01	46.7	0.29	11.42	-	-	-	-	-	-	-	-	-	-			
124	1	102	14.82	46.4	0.13	11.48	-	-	-	-	-	-	-	-	-	-			
126	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
128	1	100	13.69	32.7	-	8.92	-	-	-	-	-	-	-	-	-	-			
130	1	97	12.61	-	0.30	9.73	-	-	-	-	-	-	-	-	-	-			
132	1	90	11.03	-	-	8.80	-	-	-	-	-	-	-	-	-	-			
134	1	96	15.93	-	-	15.80	-	-	-	-	-	-	-	-	-	-			
136	1	98	10.62	-	-	9.37	-	-	-	-	-	-	-	-	-	-			
138	1	94	9.17	22.0	0.64	8.17	-	-	-	-	-	-	-	-	-	-			
140	1	93	9.07	21.4	0.84	7.34	-	-	-	-	-	-	-	-	64.1	-			
142	1	93	6.76	26.5	0.00	7.49	-	-	-	-	-	-	-	-	-	-			
144	1	91	6.49	26.6	1.48	9.65	-	-	-	-	-	-	-	-	-	-			
146	1	91	6.80	27.4	1.56	9.26	-	-	-	-	-	-	-	-	-	-			
148	1	90	7.78	27.6	1.56	9.12	-	-	-	-	-	-	-	-	-	-			
150	1	89	8.13	27.7	1.02	8.33	-	-	-	-	-	-	-	-	-	-			
152	1	94	10.50	32.7	0.57	6.92	-	-	-	-	-	-	-	-	-	-			
154	1	91	13.14	31.5	0.53	6.45	-	-	-	-	-	-	-	-	-	-			
156	1	102	13.79	33.3	0.64	6.64	-	-	-	-	-	-	-	-	-	-			
158	1	105	14.42	35.6	2.43	5.70	-	-	-	-	-	-	-	-	-	-			
160	1	15	14.63	35.9	2.35	5.30	-	-	-	-	-	-	-	-	-	-			
162	1	106	15.29	39.6	1.80	6.57	-	-	-	-	-	-	-	-	-	-			
164	1	106	15.92	51.9	2.23	9.28	-	-	-	-	-	-	-	-	-	-			
168	1	109	17.19	58.6	2.75	12.52	-	-	-	-	-	-	-	-	-	-			
170	1	96	8.72	32.7	0.52	10.05	-	-	-	-	-	-	-	-	-	-			
172	1	95	5.81	25.5	0.46	10.00	-	-	-	-	-	-	-	-	-	-			

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION												
8 JAN 80		1		S F BAY												
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
174	173.1	559.4	1500	1	11.3	24.18	-	17.2	-	-	-	5.590	-	-	-	0.079
252	185.5	557.3	1558	1	11.2	22.57	-	18.7	-	-	-	3.610	-	-	-	0.078
254	186.9	558.7	1604	1	11.3	21.56	-	17.2	-	-	-	3.850	-	-	-	0.078
256	188.0	559.8	1610	1	11.2	21.56	-	15.0	-	-	-	3.380	-	-	-	0.086
258	189.8	559.2	1617	1	11.2	21.26	-	18.0	-	-	-	3.340	-	-	-	0.080
260	191.4	558.4	1619	1	11.3	21.86	-	15.8	-	-	-	2.940	-	-	-	0.073
262	193.2	556.7	1633	1	11.2	21.86	-	6.5	0.99	-	-	2.770	-	-	1.0	0.069
264	193.0	555.2	1648	1	11.1	20.75	-	3.9	-	-	-	2.560	-	-	-	0.065
266	192.6	553.3	1656	1	11.2	19.74	-	21.0	-	-	-	2.410	-	-	-	0.067
268	192.7	551.3	1702	1	11.0	16.41	-	34.3	-	-	-	2.490	-	-	-	0.079
270	192.5	549.7	1707	1	10.7	15.60	-	23.2	-	-	-	2.400	-	-	-	0.073

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION												
8 JAN 80	1	S F BAY												
STATION	DEPTH m	SI02 UM	PO4 UM	CONTINUOUS			NH3 UM	DISCRET			DISSOLV			TOTAL
				NO3+NO2 UM	NO2 UM			PHOSPH UM	NITROG UM		PHOSPH UM	NITROG UM		PHOSPH UM
174	1	98	5.59	25.2	0.59		10.89	-	-	-	-	-	-	-
252	1	101	3.71	22.4	-		10.08	-	-	-	-	-	-	-
254	1	108	3.66	22.7	-		10.28	-	-	-	-	-	-	-
256	1	107	3.53	23.0	-		9.62	-	-	-	-	-	-	-
258	1	109	3.50	23.2	-		10.08	-	-	-	-	-	-	-
260	1	104	3.18	22.8	-		10.01	-	-	-	-	-	-	-
262	1	109	2.92	22.7	-		9.90	-	-	-	-	-	-	-
264	1	112	2.60	22.8	-		9.90	-	-	-	-	-	-	-
266	1	116	2.45	23.0	-		10.07	-	-	-	-	-	-	-
268	1	142	2.55	25.8	-		10.75	-	-	-	-	-	-	-
270	1	103	2.50	26.5	-		10.56	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION																	
9 JAN 80		1		S F BAY																	
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR				
302	205.2	553.4	803	1	10.4	15.90	-	12.0	1.50	-	-	3.490	-	-	-	0.7	0.067				
304	206.9	552.3	816	1	10.6	18.33	-	24.7	-	-	-	3.280	-	-	-	-	0.072				
306	209.1	551.2	825	1	10.9	11.25	-	19.3	-	-	-	3.330	-	-	-	-	0.080				
308	210.7	549.8	841	1	10.1	10.85	-	37.0	1.87	-	-	3.240	-	-	-	0.7	0.089				
310	212.2	548.8	847	1	10.2	11.66	-	36.7	-	-	-	3.490	-	-	-	-	0.090				
312	213.6	547.9	854	1	10.4	11.46	-	-	2.73	-	-	6.400	-	-	-	2.1	0.111				
314	214.7	549.8	911	1	10.3	11.46	-	79.4	-	-	-	5.150	-	-	-	-	0.125				
316	215.2	551.5	919	1	10.3	11.56	-	51.2	-	-	-	4.850	-	-	-	-	0.112				
318	215.8	553.3	927	1	10.3	11.46	-	26.9	2.73	-	-	4.730	-	-	-	1.6	0.093				
320	216.4	555.4	951	1	10.3	11.05	-	32.1	-	-	-	4.710	-	-	-	-	0.094				
322	216.7	557.0	958	1	10.2	11.05	-	30.6	-	-	-	4.820	-	-	-	-	0.092				
324	217.0	558.7	1006	1	10.2	11.66	-	23.9	2.50	-	-	9.200	-	-	-	1.4	0.098				
326	215.3	559.3	1022	1	10.3	11.15	-	41.0	-	-	-	10.250	-	-	-	-	0.097				
328	213.4	559.9	1030	1	10.4	13.98	-	47.0	-	-	-	10.900	-	-	-	-	0.090				
330	211.8	560.9	1037	1	10.4	10.85	-	43.2	-	-	-	7.720	-	-	-	-	0.089				
332	210.0	561.4	1043	1	10.3	11.66	-	32.8	-	-	-	7.740	-	-	-	-	0.082				
334	208.5	562.1	1048	1	10.6	14.08	-	18.7	1.87	-	-	4.770	-	-	-	0.5	0.072				
402	210.3	577.5	1324	1	10.1	3.78	-	126.4	-	-	-	5.800	-	-	-	-	0.139				
404	211.3	577.3	1328	1	10.0	3.07	-	77.0	4.96	-	-	5.770	-	-	-	0.9	0.117				
406	213.4	579.1	1347	1	9.8	1.26	-	124.1	-	-	-	6.790	-	-	-	-	0.141				
408	215.0	580.4	1355	1	9.8	0.22	-	121.8	-	-	-	6.660	-	-	-	-	0.141				
410	216.8	581.8	1403	1	9.8	0.49	-	120.6	-	-	-	6.350	-	-	-	-	0.141				
412	218.0	582.9	1410	1	9.8	0.20	-	110.0	-	-	-	6.590	-	-	-	-	0.132				
414	219.3	582.4	1415	1	9.7	0.52	-	98.2	6.21	-	-	1.530	-	-	-	1.9	0.154				
416	219.1	584.4	1431	1	10.0	0.06	-	104.1	-	-	-	2.110	-	-	-	-	0.126				
418	218.6	586.7	1442	1	10.0	0.25	-	87.2	5.29	-	-	2.090	-	0.3	-	2.4	0.142				
420	217.7	586.2	1457	1	9.9	0.47	-	111.1	-	-	-	1.960	-	-	-	-	0.139				
422	216.8	585.8	1500	1	10.1	0.29	-	133.5	-	-	-	2.030	-	-	-	-	0.139				
424	215.5	587.9	1511	1	9.9	0.14	-	126.4	-	-	-	1.910	-	-	-	-	0.139				
426	214.8	589.5	1517	1	10.0	0.08	-	121.8	-	-	-	1.840	-	-	-	-	0.133				
428	214.1	590.4	1522	1	9.8	0.04	-	106.5	-	-	-	1.780	-	-	-	-	0.130				
747	209.4	601.9	1618	1	10.5	0.05	-	94.7	-	-	-	2.070	-	-	-	-	0.125				
749	208.9	605.5	1629	1	10.3	0.04	-	91.2	-	-	-	2.130	-	-	-	-	0.119				
751	209.5	609.1	1640	1	9.9	0.04	-	91.2	-	-	-	2.040	-	-	-	-	0.116				
753	210.3	612.6	1651	1	9.6	0.05	-	77.0	-	-	-	1.940	-	-	-	-	0.116				
755	212.2	615.2	1703	1	9.4	0.06	-	58.2	-	-	-	1.860	-	-	-	-	0.115				
757	215.9	616.1	1715	1	9.3	0.06	-	-	3.72	-	-	0.000	-	-	-	0.2	0.112				

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION	CONTINUOUS														DISCRET				TOTAL	
			STATION	DEPTH	SI02	PO4	NO3+NO2	NO2	NH3	PHOSPH	NITROG	DISSOLV	PHOSPH	NITROG	DISSOLV	PHOSPH	NITROG	DISSOLV	PHOSPH	NITROG	DISSOLV	PHOSPH
9 JAN 80	1	S F BAY		m	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM
302	1		141		3.49	25.3	1.82	10.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-
304	1		122		3.29	23.2	1.65	10.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-
306	1		175		3.33	27.7	1.82	10.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-
308	1		178		3.24	28.2	2.87	11.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-
310	1		168		3.49	28.2	1.79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
312	1		175		6.40	29.7	1.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
314	1		172		-	30.3	1.07	16.91	-	-	-	-	-	-	-	-	-	-	-	-	-	-
316	1		173		-	29.5	0.89	16.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-
318	1		174		-	29.5	0.96	15.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-
320	1		177		-	30.0	0.80	15.76	-	-	-	-	-	-	-	-	-	-	-	-	-	-
322	1		178		-	30.3	0.78	15.87	-	-	-	-	-	-	-	-	-	-	-	-	-	-
324	1		177		-	31.1	0.76	15.71	-	-	-	-	-	-	-	-	-	-	-	-	-	-
326	1		179		-	29.3	1.18	15.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-
328	1		159		-	27.1	0.37	14.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
330	1		180		-	28.6	0.99	13.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-
332	1		174		-	28.0	0.79	13.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-
334	1		166		-	27.5	1.02	15.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-
402	1		233		-	31.4	1.52	9.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-
404	1		237		-	30.4	1.80	10.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-
406	1		247		-	29.8	1.51	11.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-
408	1		256		-	29.1	1.44	12.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-
410	1		229		-	29.4	1.77	12.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-
412	1		244		-	29.1	1.47	10.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-
414	1		257		-	30.0	0.60	8.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-
416	1		251		2.11	27.6	0.49	5.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-
418	1		247		2.09	29.0	0.42	6.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-
420	1		248		1.96	29.3	0.53	6.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-
422	1		249		2.03	29.1	0.48	5.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-
424	1		251		1.91	27.6	0.46	4.98	-	-	-	-	-	-	-	-	-	-	-	-	-	-
426	1		252		1.84	26.6	0.41	4.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-
428	1		257		1.78	25.3	0.42	4.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-
747	1		258		2.07	29.1	0.66	5.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-
749	1		258		2.13	31.6	0.79	4.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-
751	1		258		2.04	32.6	1.18	5.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-
753	1		259		1.94	31.6	0.68	5.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-
755	1		259		1.86	33.5	0.61	5.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-
757	1		260		1.78	31.8	0.68	5.64	-	-	-	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
5 FEB 80		3		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
118	156.2	574.0	804	1	11.7	17.86	-	13.3	1.43	-	-	-	-	-	-	3.4	0.134
120	157.4	572.7	828	1	11.4	17.86	-	14.5	-	-	-	-	-	-	-	-	0.117
122	158.4	571.7	833	1	11.4	17.76	-	14.8	-	-	-	-	-	-	-	-	0.103
124	159.9	571.8	839	1	11.4	17.76	-	11.6	-	-	-	-	-	-	-	-	0.101
126	161.8	572.0	847	1	11.5	17.76	-	6.1	1.19	-	-	-	-	-	-	2.2	0.101
128	161.2	570.5	905	1	11.2	17.56	-	13.7	-	-	-	-	-	-	-	-	0.096
130	160.6	569.1	911	1	11.3	17.36	-	15.2	-	-	-	-	-	-	-	-	0.102
132	160.0	567.3	917	1	11.1	17.36	-	19.7	-	-	-	-	-	-	-	-	0.088
134	159.4	566.3	921	1	11.3	17.36	-	19.7	-	-	-	-	-	-	-	-	0.094
136	160.3	564.6	929	1	11.3	17.15	-	17.4	-	-	-	-	-	-	-	-	0.118
138	160.7	562.8	936	1	11.4	16.45	-	14.5	-	-	-	-	-	-	-	-	0.159
140	161.1	561.0	944	1	11.4	16.04	-	17.4	-	-	-	-	-	-	-	-	0.158
142	161.7	568.8	953	1	11.3	16.35	-	6.3	1.22	-	-	-	-	-	-	3.0	0.129
144	162.1	560.4	1010	1	11.4	16.65	-	15.2	-	-	-	-	-	-	-	-	0.110
146	162.7	562.2	1017	1	11.2	17.15	-	18.2	-	-	-	-	-	-	-	-	0.091
148	163.4	564.0	1024	1	11.3	17.36	-	17.1	-	-	-	-	-	-	-	-	0.093
150	164.1	565.8	1034	1	11.6	17.76	-	17.1	-	-	-	-	-	-	-	-	0.107
152	164.8	567.5	1041	1	11.9	17.56	-	17.1	-	-	-	-	-	-	-	-	0.128
154	165.3	569.1	1047	1	11.8	17.76	-	14.1	-	-	-	-	-	-	-	-	0.131
156	165.8	570.3	1056	1	11.8	17.76	-	7.0	1.01	-	-	-	-	-	3.5	4.8	0.127
158	167.5	569.4	1113	1	11.7	18.16	-	18.6	-	-	-	-	-	-	-	-	0.276
160	169.3	568.5	1123	1	11.7	18.67	-	29.3	-	-	-	-	-	-	-	-	0.576
162	170.9	567.6	1130	1	11.8	17.76	-	13.0	1.63	-	-	-	-	-	-	35.3	0.510
164	172.7	566.8	1152	1	11.8	17.26	-	18.2	-	-	-	-	-	-	-	-	0.157
166	174.2	566.2	1159	1	11.9	17.56	-	18.2	-	-	-	-	-	-	-	-	0.155
168	175.0	565.5	1202	1	11.8	17.56	-	8.9	1.30	-	-	-	-	-	-	7.6	0.174
170	174.4	563.6	1221	1	11.7	18.26	-	36.8	-	-	-	-	-	-	-	-	0.094
172	173.8	562.0	1227	1	11.8	18.16	-	22.6	-	-	-	-	-	-	-	-	0.094
174	173.1	560.0	1234	1	11.8	18.57	-	18.9	-	-	-	-	-	-	-	-	0.076
176	172.2	558.2	1307	1	11.6	18.47	-	20.4	-	-	-	-	-	-	-	-	0.079
178	171.7	556.7	1311	1	11.7	19.27	-	28.6	-	-	-	-	-	-	-	-	0.082
180	171.0	554.4	1320	1	11.9	18.37	-	15.2	1.36	-	-	-	-	-	-	2.3	0.098
182	169.8	555.1	1336	1	11.7	18.16	-	25.6	-	-	-	-	-	-	-	-	0.092
184	168.6	555.7	1341	1	11.7	17.96	-	27.8	-	-	-	-	-	-	-	-	0.106
186	167.4	555.3	1346	1	11.9	17.46	-	24.1	1.14	-	-	-	-	-	-	3.7	0.116

- DATA NOT AVAILABLE

Table B.---Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION																		
5 FEB 80			S F BAY																		
STATION	DEPTH m	CONTINUOUS														DISCRET				TOTAL	
		S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	DISSOLV PHOSPH UM	NITROG UM	DISSOLV PHOSPH UM	NITROG UM	PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM						
118	1	133	8.49	55.0	0.80	4.62	-	-	-	-	-	-	-	-	-						
120	1	132	7.92	50.0	0.66	4.97	-	-	-	-	-	-	-	-	-						
122	1	135	8.05	50.9	0.75	7.43	-	-	-	-	-	-	-	-	-						
124	1	134	8.11	51.4	0.77	8.96	-	-	-	-	-	-	-	-	-						
126	1	134	7.94	49.7	0.70	7.08	-	-	-	-	-	-	-	-	-						
128	1	138	7.70	48.7	0.69	8.84	-	-	-	-	-	-	-	-	-						
130	1	138	7.32	46.6	0.67	8.75	-	-	-	-	-	-	-	-	-						
132	1	137	7.08	43.9	0.56	8.00	-	-	-	-	-	-	-	-	-						
134	1	138	7.53	45.5	0.71	10.51	-	-	-	-	-	-	-	-	-						
136	1	138	7.54	44.3	0.80	10.16	-	-	-	-	-	-	-	-	-						
138	1	140	6.23	40.5	0.62	2.61	-	-	-	-	-	-	-	-	-						
140	1	135	5.54	36.9	0.47	0.25	-	-	-	-	-	-	-	-	-						
142	1	136	5.75	38.2	0.77	1.79	-	-	-	-	-	-	-	-	-						
144	1	140	5.20	39.3	0.48	2.90	-	-	-	-	-	-	-	-	-						
146	1	136	6.12	41.8	0.63	7.53	-	-	-	-	-	-	-	-	-						
148	1	136	6.38	43.5	0.63	7.65	-	-	-	-	-	-	-	-	-						
150	1	135	6.79	46.4	0.56	5.24	-	-	-	-	-	-	-	-	-						
152	1	130	6.75	46.6	0.51	4.06	-	-	-	-	-	-	-	-	-						
154	1	126	6.74	44.6	0.47	2.67	-	-	-	-	-	-	-	-	-						
156	1	125	6.82	44.1	0.49	2.46	6.8	44.5	7.1	50.8	7.6	-	-	-	-						
158	1	114	5.95	32.4	0.40	0.81	-	-	-	-	-	-	-	-	-						
160	1	102	7.51	22.8	0.63	1.63	-	-	-	-	-	-	-	-	-						
162	1	115	8.00	40.6	1.05	0.58	-	-	-	-	-	-	-	-	-						
164	1	131	4.89	-	0.70	3.55	-	-	-	-	-	-	-	-	-						
166	1	128	4.36	-	0.76	4.16	-	-	-	-	-	-	-	-	-						
168	1	128	4.56	-	0.79	3.77	-	-	-	-	-	-	-	-	-						
170	1	127	3.85	-	0.55	7.83	-	-	-	-	-	-	-	-	-						
172	1	126	3.52	-	0.51	7.14	-	-	-	-	-	-	-	-	-						
174	1	122	2.76	-	0.57	7.00	-	-	-	-	-	-	-	-	-						
176	1	124	2.22	14.1	0.51	6.42	-	-	-	-	-	-	-	-	-						
178	1	121	2.18	14.6	0.48	6.76	-	-	-	-	-	-	-	-	-						
180	1	123	2.75	15.3	0.59	8.40	-	-	-	-	-	-	-	-	-						
182	1	124	2.78	15.9	0.57	8.90	-	-	-	-	-	-	-	-	-						
184	1	125	2.89	16.1	0.61	9.21	-	-	-	-	-	-	-	-	-						
186	1	130	3.43	18.0	0.61	9.36	-	-	-	-	-	-	-	-	-						

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
5 FEB 80		3		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
188	166.0	555.2	1350	1	11.9	16.85	-	14.5	-	-	-	-	-	-	-	-	0.122
190	166.8	557.0	1409	1	11.6	17.86	-	27.1	-	-	-	-	-	-	-	-	0.091
192	167.1	558.3	1413	1	11.5	18.06	-	29.3	-	-	-	-	-	-	-	-	0.084
194	167.9	560.2	1418	1	11.6	18.47	-	27.8	-	-	-	-	-	-	-	-	0.080
196	168.8	562.0	1427	1	11.6	18.37	-	29.3	-	-	-	-	-	-	-	-	0.087
198	169.3	563.7	1431	1	11.6	18.06	-	29.3	-	-	-	-	-	-	-	-	0.094
200	170.0	565.5	1438	1	11.7	17.86	-	33.0	-	-	-	-	-	-	-	-	0.099
162	170.8	567.6	1445	1	12.0	17.05	-	18.6	-	-	-	-	-	-	-	-	0.122
164	172.7	566.7	1454	1	12.0	17.66	-	25.6	-	-	-	-	-	-	-	-	0.145
168	174.4	565.3	1502	1	11.9	17.76	-	25.6	-	-	-	-	-	-	-	-	0.110

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION										
5 FEB 80			S F BAY										
STATION	DEPTH m	----- CONTINUOUS -----					DISCRET		DISSOLV		DISSOLV		TOTAL PHOSPH UM
		SIO2 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM			
188	1	132	4.01	19.1	0.70	11.73	-	-	-	-	-	-	-
190	1	130	3.54	18.8	0.66	10.62	-	-	-	-	-	-	-
192	1	128	3.03	-	0.66	8.26	-	-	-	-	-	-	-
194	1	124	2.77	-	-	7.69	-	-	-	-	-	-	-
196	1	-	-	-	-	-	-	-	-	-	-	-	-
198	1	125	3.06	18.6	0.54	6.26	-	-	-	-	-	-	-
200	1	128	3.43	22.2	0.60	6.98	-	-	-	-	-	-	-
162	1	133	4.22	26.4	0.61	6.87	-	-	-	-	-	-	-
164	1	129	4.23	32.9	0.64	5.14	-	-	-	-	-	-	-
168	1	128	3.68	24.7	0.61	7.17	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table B.---Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION														
6 FEB 80		3		S F BAY														
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
302	205.2	553.4	808	1	11.0	12.73	-	35.3	2.98	-	-	-	-	-	-	-	0.9	0.082
304	206.9	552.2	827	1	11.0	10.01	-	30.8	-	-	-	-	-	-	-	-	-	0.079
306	208.8	551.0	835	1	10.5	7.29	-	36.8	-	-	-	-	-	-	-	-	-	0.083
308	210.8	549.8	843	1	10.7	6.88	-	50.1	-	-	-	-	-	-	-	-	-	0.095
310	212.2	548.7	851	1	11.0	5.97	-	66.2	-	-	-	-	-	-	-	-	-	0.112
312	213.5	547.8	858	1	10.7	4.46	-	90.9	4.91	-	-	-	-	-	-	-	2.8	0.147
314	214.7	549.7	920	1	10.6	4.26	-	83.9	-	-	-	-	-	-	-	-	-	0.145
316	215.3	551.4	928	1	10.7	4.36	-	56.8	-	-	-	-	-	-	-	-	-	0.128
318	215.7	553.2	938	1	10.8	3.96	-	55.6	3.30	-	-	-	-	0.6	5.2	4.0	-	0.145
320	216.2	555.0	1007	1	10.8	4.06	-	50.9	-	-	-	-	-	-	-	-	-	0.126
322	216.7	556.8	1016	1	10.7	4.16	-	50.2	-	-	-	-	-	-	-	-	-	0.134
324	217.0	558.5	1026	1	11.1	4.06	-	50.6	2.10	-	-	-	-	-	-	-	5.3	0.161
326	215.3	559.2	1046	1	11.0	4.46	-	43.9	-	-	-	-	-	-	-	-	-	0.117
328	213.5	559.9	1055	1	10.8	5.47	-	36.8	-	-	-	-	-	-	-	-	-	0.092
330	211.8	560.6	1102	1	10.1	6.48	-	55.6	-	-	-	-	-	-	-	-	0.8	0.093
332	210.1	561.3	1108	1	10.7	10.11	-	52.1	-	-	-	-	-	-	-	-	-	0.087
334	208.4	562.0	1115	1	11.1	9.10	-	34.5	2.97	-	-	-	-	-	-	-	1.3	0.085
402	210.3	577.6	1419	1	10.2	0.11	-	72.0	-	-	-	-	-	-	-	-	-	0.109
402	210.3	577.6	1424	1	10.2	0.12	-	69.7	-	-	-	-	-	-	-	-	-	0.113
404	211.1	577.4	1428	1	10.3	0.07	-	69.7	3.97	-	-	-	-	-	-	-	1.6	0.109
406	213.3	579.2	1446	1	10.1	0.02	-	74.4	-	-	-	-	-	-	-	-	-	0.112
408	215.1	580.5	1452	1	10.2	0.02	-	72.0	-	-	-	-	-	-	-	-	-	0.111
410	216.8	581.9	1458	1	10.3	0.07	-	76.8	-	-	-	-	-	-	-	-	-	0.117
412	217.0	582.8	1503	1	10.0	0.03	-	73.2	-	-	-	-	-	-	-	-	-	0.109
414	219.3	582.3	1507	1	10.2	0.04	-	81.5	-	-	-	-	-	-	-	-	2.1	0.120
416	219.1	584.2	1515	1	9.5	0.02	-	69.7	-	-	-	-	-	-	-	-	-	0.106
418	218.8	586.6	1525	1	9.8	0.03	-	72.6	4.07	-	-	-	-	0.6	4.0	1.5	-	0.113
420	217.8	586.4	1540	1	10.1	0.03	-	73.2	-	-	-	-	-	-	-	-	-	0.123
422	216.7	585.8	1544	1	10.0	0.02	-	72.0	-	-	-	-	-	-	-	-	-	0.113
424	215.5	587.9	1551	1	9.7	0.00	-	70.9	-	-	-	-	-	-	-	-	-	0.104
-	214.2	589.3	1557	1	9.9	0.00	-	70.9	-	-	-	-	-	-	-	-	-	0.105
-	213.2	591.0	1602	1	9.6	0.00	-	72.0	-	-	-	-	-	-	-	-	-	0.102
438	211.6	592.9	1626	1	9.9	0.01	-	62.7	2.59	-	-	-	-	-	-	-	0.8	0.108
745	210.3	598.3	1650	1	12.0	0.02	-	69.7	-	-	-	-	-	-	-	-	-	0.110
747	209.4	601.9	1658	1	10.7	0.03	-	62.7	-	-	-	-	-	-	-	-	-	0.174
749	208.8	605.4	1708	1	10.5	0.03	-	60.3	-	-	-	-	-	-	-	-	-	0.107
751	209.5	609.1	1720	1	9.8	0.02	-	60.3	-	-	-	-	-	-	-	-	-	0.105
753	210.3	612.6	1729	1	10.0	0.00	-	55.6	-	-	-	-	-	-	-	-	-	0.110
755	212.1	615.2	1738	1	9.9	0.03	-	53.2	-	-	-	-	-	-	-	-	-	0.107
757	215.9	616.0	1748	1	9.5	0.00	-	53.2	-	-	-	-	-	-	-	-	0.5	0.098

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION														
6 FEB 80		3	S F BAY														
STATION	DEPTH m	CONTINUOUS						DISCRETE				DISCRETE				TOTAL	
		S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISCRET PHOSPH UM	DISCRET NITROG UM	DISSOLV PHOSPH UM	DISSOLV NITROG UM	TOTAL PHOSPH UM	TOTAL NITROG UM
302	1	193	1.87	21.4	0.61	7.03	-	-	-	-	-	-	-	-	-	-	-
304	1	213	1.85	23.5	0.64	7.13	-	-	-	-	-	-	-	-	-	-	-
306	1	241	1.73	25.9	0.55	6.79	-	-	-	-	-	-	-	-	-	-	-
308	1	237	1.78	25.8	0.59	6.86	-	-	-	-	-	-	-	-	-	-	-
310	1	253	2.08	29.1	0.65	8.58	-	-	-	-	-	-	-	-	-	-	-
312	1	276	2.88	24.7	0.98	10.67	-	-	-	-	-	-	-	-	-	-	-
314	1	292	3.54	46.1	1.14	12.09	-	-	-	-	-	-	-	-	-	-	-
316	1	306	2.63	46.6	0.81	11.40	-	-	-	-	-	-	-	-	-	-	-
318	1	290	2.33	40.2	0.66	11.11	310	2.17	51.54	1.76	14.15	2.2	74.1	2.5	77.4	2.9	-
320	1	296	2.45	40.5	1.00	11.98	-	-	-	-	-	-	-	-	-	-	-
322	1	297	2.49	40.9	0.92	11.88	-	-	-	-	-	-	-	-	-	-	-
324	1	292	2.77	39.8	0.86	12.46	-	-	-	-	-	-	-	-	-	-	-
326	1	267	1.84	30.2	0.65	11.22	-	-	-	-	-	-	-	-	-	-	-
328	1	252	2.10	25.2	0.58	9.72	-	-	-	-	-	-	-	-	-	-	-
330	1	244	2.05	25.8	0.60	9.85	-	-	-	-	-	-	-	-	-	-	-
332	1	214	1.75	21.8	0.49	7.83	-	-	-	-	-	-	-	-	-	-	-
334	1	214	1.81	22.3	0.56	8.22	-	-	-	-	-	-	-	-	-	-	-
402	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
402	1	286	-	35.0	0.85	11.29	-	-	-	-	-	-	-	-	-	-	-
404	1	285	-	32.5	0.85	9.96	-	-	-	-	-	-	-	-	-	-	-
406	1	290	-	-	0.88	13.03	-	-	-	-	-	-	-	-	-	-	-
408	1	293	-	29.0	0.84	12.37	-	-	-	-	-	-	-	-	-	-	-
410	1	293	-	-	0.92	12.51	-	-	-	-	-	-	-	-	-	-	-
412	1	293	-	-	0.97	12.21	-	-	-	-	-	-	-	-	-	-	-
414	1	293	-	27.8	0.98	11.47	-	-	-	-	-	-	-	-	-	-	-
416	1	294	-	26.9	0.99	10.68	-	-	-	-	-	-	-	-	-	-	-
418	1	294	2.79	26.9	0.96	9.55	289	1.47	28.21	1.36	5.37	1.5	44.1	1.6	46.8	2.2	-
420	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
422	1	292	3.99	26.6	0.96	10.90	-	-	-	-	-	-	-	-	-	-	-
424	1	291	3.98	27.2	0.85	10.29	-	-	-	-	-	-	-	-	-	-	-
-	1	285	3.60	28.7	0.94	9.93	-	-	-	-	-	-	-	-	-	-	-
-	1	290	3.17	28.9	0.99	8.87	-	-	-	-	-	-	-	-	-	-	-
438	1	282	1.96	29.7	0.60	8.13	-	-	-	-	-	-	-	-	-	-	-
745	1	275	2.94	31.1	0.79	11.37	-	-	-	-	-	-	-	-	-	-	-
747	1	259	3.53	34.4	1.03	11.74	-	-	-	-	-	-	-	-	-	-	-
749	1	254	1.94	31.5	0.72	9.02	-	-	-	-	-	-	-	-	-	-	-
751	1	257	1.80	31.2	0.70	8.29	-	-	-	-	-	-	-	-	-	-	-
753	1	261	1.96	29.7	0.69	8.29	-	-	-	-	-	-	-	-	-	-	-
755	1	251	1.86	28.3	0.68	7.93	-	-	-	-	-	-	-	-	-	-	-
757	1	255	1.75	28.5	0.66	7.92	-	-	-	-	-	-	-	-	-	-	-

Table B.---Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
20 FEB 80		4		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SUS SALIN	PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
118	156.0	574.0	847	1	12.8	16.55	-	207.6	9.33	-	-	-	-	-	-	3.3	0.221
120	157.2	573.0	908	1	12.9	15.34	-	229.9	-	-	-	-	-	-	-	-	0.240
122	158.2	571.9	913	1	12.9	14.83	-	222.5	-	-	-	-	-	-	-	-	0.340
124	159.9	571.9	921	1	12.8	14.53	-	337.6	-	-	-	-	-	-	-	-	0.300
126	161.7	571.9	929	1	12.9	12.61	-	365.1	12.40	-	-	-	-	-	-	3.9	0.385
128	161.2	570.5	945	1	12.9	16.55	-	105.1	-	-	-	-	-	-	-	-	0.173
130	160.6	569.0	951	1	13.0	18.37	-	71.9	-	-	-	-	-	-	-	-	0.147
132	160.0	567.4	957	1	13.2	17.46	-	46.3	-	-	-	-	-	-	-	-	0.122
134	159.6	566.3	1001	1	13.1	17.76	-	35.9	-	-	-	-	-	-	-	-	0.114
136	160.3	564.5	1006	1	13.0	18.77	-	26.3	-	-	-	-	-	-	-	-	0.094
138	160.7	562.8	1011	1	12.9	21.09	-	86.9	-	-	-	-	-	-	-	-	0.090
140	161.0	561.0	1018	1	13.1	20.69	-	74.4	-	-	-	-	-	-	-	-	0.097
142	161.5	558.8	1027	1	13.1	20.99	-	76.8	1.26	-	-	-	-	-	-	2.4	0.098
144	162.0	560.3	1051	1	12.9	20.69	-	95.6	-	-	-	-	-	-	-	-	0.094
146	163.2	563.2	1100	1	13.1	20.28	-	142.6	-	-	-	-	-	-	-	-	0.110
28	161.1	563.9	1107	1	12.9	20.18	-	135.6	-	-	-	-	-	-	-	2.7	0.113
29	159.5	566.6	1119	1	13.0	18.37	-	107.4	-	-	-	-	-	-	-	-	0.104
30	156.5	571.3	1135	1	12.9	16.45	-	121.5	-	-	-	-	-	-	-	2.2	0.123

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION																
20 FEB 80			S F BAY																
STATION	DEPTH m	SI02		PO4		CONTINUOUS NO3+NO2		NO2		NH3		DISCRET PHOSPH		DISSOLV NITROG		TOTAL PHOSPH		TOTAL NITROG	TOTAL PHOSPH
		UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM		
118	1	117	7.88	49.5	1.29	11.39	-	-	-	-	-	-	-	-	-	-	-	-	-
120	1	121	8.65	56.8	1.53	11.57	-	-	-	-	-	-	-	-	-	-	-	-	-
122	1	123	7.71	56.5	1.53	10.19	-	-	-	-	-	-	-	-	-	-	-	-	-
124	1	123	7.41	56.0	1.38	9.67	-	-	-	-	-	-	-	-	-	-	-	-	-
126	1	124	6.50	53.1	1.30	8.53	-	-	-	-	-	-	-	-	-	-	-	-	-
128	1	122	8.67	51.8	1.25	10.37	-	-	-	-	-	-	-	-	-	-	-	-	-
130	1	114	7.21	40.1	0.97	7.20	-	-	-	-	-	-	-	-	-	-	-	-	-
132	1	115	7.87	46.1	1.19	8.03	-	-	-	-	-	-	-	-	-	-	-	-	-
134	1	115	8.41	50.2	1.28	8.60	-	-	-	-	-	-	-	-	-	-	-	-	-
136	1	115	7.28	44.3	1.17	7.66	-	-	-	-	-	-	-	-	-	-	-	-	-
138	1	102	4.53	26.2	0.61	4.07	-	-	-	-	-	-	-	-	-	-	-	-	-
140	1	106	4.18	25.0	0.51	1.59	-	-	-	-	-	-	-	-	-	-	-	-	-
142	1	104	4.14	24.1	0.45	4.13	-	-	-	-	-	-	-	-	-	-	-	-	-
144	1	101	4.05	23.4	0.49	7.17	-	-	-	-	-	-	-	-	-	-	-	-	-
146	1	107	5.65	34.0	0.79	8.45	-	-	-	-	-	-	-	-	-	-	-	-	-
28	1	106	5.39	29.2	0.65	7.83	-	-	-	-	-	-	-	-	-	-	-	-	-
29	1	112	7.47	43.2	1.15	10.82	-	-	-	-	-	-	-	-	-	-	-	-	-
30	1	119	8.70	51.4	1.22	12.36	-	-	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION												
27 FEB 80		5		S F BAY												
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
30	156.5	571.4	902	1	13.6	12.51	-	8.6	0.84	-	-	-	-	-	5.6	0.150
30	156.5	571.4	915	1	13.5	12.01	-	-	-	-	-	-	-	-	-	-
29	159.4	566.7	946	1	13.4	10.90	-	5.8	-	-	-	-	-	-	-	0.096
28	161.5	564.4	955	1	13.4	10.90	-	5.8	-	-	-	-	-	-	-	0.112
27	163.4	562.5	1004	1	13.5	11.10	-	6.7	1.06	-	-	-	-	-	4.4	0.131
26	165.4	560.5	1025	1	13.3	10.39	-	10.5	-	-	-	-	-	-	-	0.113
25	169.4	559.5	1036	1	13.1	10.29	-	11.7	-	-	-	-	-	-	-	0.141
24	172.5	558.3	1043	1	13.0	9.59	-	16.7	1.59	-	-	-	-	-	1.3	0.092
180	172.4	554.6	1114	1	13.2	11.00	-	10.8	-	-	-	-	-	-	-	0.077
176	172.2	558.2	1130	1	13.2	10.70	-	13.0	-	-	-	-	-	-	-	0.084
174	173.1	560.2	1136	1	13.5	9.79	-	15.2	-	-	-	-	-	-	-	0.125
172	173.8	561.8	1142	1	13.4	11.71	-	10.8	-	-	-	-	-	-	-	0.095
170	174.4	563.6	1150	1	13.7	12.31	-	18.9	-	-	-	-	-	-	-	0.137
168	175.5	565.3	1158	1	13.9	12.41	-	23.4	2.26	-	-	-	-	-	2.7	0.130
166	174.2	565.8	1216	1	14.1	12.51	-	25.6	-	-	-	-	-	-	-	0.151
164	172.6	566.7	1223	1	14.3	12.82	-	23.4	-	-	-	-	-	-	-	0.155
162	170.8	567.4	1231	1	14.2	12.51	-	26.4	-	-	-	-	-	-	-	0.131
160	169.3	568.5	1237	1	14.4	13.12	-	27.8	-	-	-	-	-	-	-	0.156
158	167.5	569.3	1246	1	14.7	14.43	-	35.3	-	-	-	-	-	-	-	0.197
156	165.7	570.0	1255	1	14.7	14.93	-	33.8	2.23	-	-	-	-	-	4.9	0.157
154	165.5	569.1	1310	1	14.8	14.93	-	25.6	-	-	-	-	-	-	-	0.148
152	164.7	567.4	1316	1	14.5	14.03	-	13.0	-	-	-	-	-	-	-	0.111
150	164.1	565.6	1322	1	14.0	12.41	-	10.8	-	-	-	-	-	-	-	0.105
148	163.2	564.0	1329	1	13.6	11.60	-	14.5	-	-	-	-	-	-	-	0.104
146	162.8	562.0	1334	1	13.7	11.50	-	7.0	-	-	-	-	-	-	-	0.097
144	162.0	564.0	1340	1	13.6	10.60	-	11.5	-	-	-	-	-	-	-	0.086
142	161.3	559.2	1345	1	13.8	10.09	-	10.8	-	-	-	-	-	-	-	0.084
140	161.0	560.9	1354	1	14.1	10.29	-	9.3	-	-	-	-	-	-	-	0.090
138	160.7	562.8	1402	1	14.0	10.90	-	8.5	-	-	-	-	-	-	-	0.100
136	160.3	564.6	1409	1	14.1	12.92	-	9.3	-	-	-	-	-	-	-	0.106
134	159.5	566.3	1415	1	14.3	13.32	-	10.0	-	-	-	-	-	-	-	0.124
132	159.9	567.4	1420	1	14.1	12.92	-	14.5	-	-	-	-	-	-	-	0.106
130	160.6	569.2	1428	1	14.0	13.72	-	13.0	-	-	-	-	-	-	-	0.124
128	161.2	570.6	1433	1	14.0	13.12	-	32.3	-	-	-	-	-	-	-	0.114
126	161.7	572.0	1440	1	14.5	12.71	-	23.4	-	-	-	-	-	-	-	0.289
124	159.9	571.9	1448	1	14.7	12.61	-	-	-	-	-	-	-	-	-	-
122	158.0	571.9	1457	1	14.5	13.42	-	21.2	-	-	-	-	-	-	-	0.126
120	157.0	573.0	1501	1	14.6	13.32	-	26.4	-	-	-	-	-	-	-	0.131
118	156.4	570.4	1510	1	14.5	13.93	-	27.8	3.26	-	-	-	-	-	3.2	0.134

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION											
27 FEB 80	5	S F BAY											
STATION	DEPTH m	SI02 UM	PO4 UM	CONTINUOUS			DISCRET			DISSOLV	DISSOLV	TOTAL	TOTAL
				NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM
30	1	-	-	-	-	-	-	-	-	-	-	-	-
30	1	-	-	-	-	-	-	-	-	-	-	-	-
29	1	-	-	-	-	-	-	-	-	-	-	-	-
28	1	-	-	-	-	-	-	-	-	-	-	-	-
27	1	-	-	-	-	-	-	-	-	-	-	-	-
26	1	-	-	-	-	-	-	-	-	-	-	-	-
25	1	-	-	-	-	-	-	-	-	-	-	-	-
24	1	-	-	-	-	-	-	-	-	-	-	-	-
180	1	-	-	-	-	-	-	-	-	-	-	-	-
176	1	-	-	-	-	-	-	-	-	-	-	-	-
174	1	-	-	-	-	-	-	-	-	-	-	-	-
172	1	-	-	-	-	-	-	-	-	-	-	-	-
170	1	-	-	-	-	-	-	-	-	-	-	-	-
168	1	-	-	-	-	-	-	-	-	-	-	-	-
166	1	-	-	-	-	-	-	-	-	-	-	-	-
164	1	-	-	-	-	-	-	-	-	-	-	-	-
162	1	-	-	-	-	-	-	-	-	-	-	-	-
160	1	-	-	-	-	-	-	-	-	-	-	-	-
158	1	-	-	-	-	-	-	-	-	-	-	-	-
156	1	-	-	-	-	-	-	-	-	-	-	-	-
154	1	-	-	-	-	-	-	-	-	-	-	-	-
152	1	-	-	-	-	-	-	-	-	-	-	-	-
150	1	-	-	-	-	-	-	-	-	-	-	-	-
148	1	-	-	-	-	-	-	-	-	-	-	-	-
146	1	-	-	-	-	-	-	-	-	-	-	-	-
144	1	-	-	-	-	-	-	-	-	-	-	-	-
142	1	-	-	-	-	-	-	-	-	-	-	-	-
140	1	-	-	-	-	-	-	-	-	-	-	-	-
138	1	-	-	-	-	-	-	-	-	-	-	-	-
136	1	-	-	-	-	-	-	-	-	-	-	-	-
134	1	-	-	-	-	-	-	-	-	-	-	-	-
132	1	-	-	-	-	-	-	-	-	-	-	-	-
130	1	-	-	-	-	-	-	-	-	-	-	-	-
128	1	-	-	-	-	-	-	-	-	-	-	-	-
126	1	-	-	-	-	-	-	-	-	-	-	-	-
124	1	-	-	-	-	-	-	-	-	-	-	-	-
122	1	-	-	-	-	-	-	-	-	-	-	-	-
120	1	-	-	-	-	-	-	-	-	-	-	-	-
118	1	-	-	-	-	-	-	-	-	-	-	-	-

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION																		
4 MAR 80		6		S F BAY																		
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR				
118	156.1	574.1	836	1	13.2	13.24	-	81.3	2.02	-	-	-	-	-	-	-	3.4	0.126				
120	157.2	572.9	900	1	13.1	13.23	-	13.9	-	-	-	-	-	-	-	-	-	0.157				
122	158.3	571.8	907	1	13.4	13.56	-	12.4	-	-	-	-	-	-	-	-	-	0.142				
124	159.9	571.9	913	1	13.4	13.61	-	21.2	-	-	-	-	-	-	-	-	-	0.144				
126	161.9	571.9	920	1	13.4	13.44	-	32.2	2.97	-	-	-	-	-	-	-	5.4	0.160				
128	161.2	570.5	937	1	13.6	13.60	-	13.9	-	-	-	-	-	-	-	-	-	0.108				
130	160.6	569.2	943	1	13.7	13.55	-	13.3	-	-	-	-	-	-	-	-	-	0.116				
132	160.0	567.4	949	1	13.8	13.52	-	16.7	-	-	-	-	-	-	-	-	-	0.110				
134	159.6	566.3	954	1	14.0	13.39	-	9.6	-	-	-	-	-	-	-	-	-	0.106				
136	160.3	564.5	1001	1	13.7	12.82	-	9.0	-	-	-	-	-	-	-	-	-	0.110				
138	160.7	562.8	1008	1	13.8	12.21	-	7.0	-	-	-	-	-	-	-	-	-	0.118				
140	161.1	561.0	1015	1	13.4	12.12	-	7.5	-	-	-	-	-	-	-	-	-	0.126				
142	161.4	558.8	1023	1	13.5	12.13	-	8.2	1.21	-	-	-	-	-	-	-	2.0	0.123				
144	162.1	560.3	1039	1	13.5	12.45	-	12.2	-	-	-	-	-	-	-	-	-	0.141				
146	162.9	562.0	1045	1	13.9	13.29	-	10.3	-	-	-	-	-	-	-	-	-	0.143				
148	163.4	563.9	1051	1	13.7	13.13	-	11.0	-	-	-	-	-	-	-	-	-	0.145				
150	164.1	565.6	1057	1	13.7	13.22	-	19.4	-	-	-	-	-	-	-	-	-	0.150				
152	164.8	567.7	1105	1	14.1	14.00	-	26.4	-	-	-	-	-	-	-	-	-	0.269				
154	165.5	569.1	1111	1	14.0	13.51	-	24.9	-	-	-	-	-	-	-	-	-	0.222				
156	166.0	570.2	1116	1	13.8	13.29	-	26.1	3.16	-	-	-	-	-	5.5	-	6.5	0.231				
158	167.6	569.3	1136	1	14.0	13.75	-	24.4	-	-	-	-	-	-	-	-	-	0.308				
160	169.3	568.5	1143	1	14.1	13.87	-	29.3	-	-	-	-	-	-	-	-	-	0.321				
162	170.9	567.6	1150	1	14.4	13.11	-	31.6	3.38	-	-	-	-	-	-	-	18.9	0.440				
164	172.8	566.8	1208	1	14.4	13.08	-	16.7	-	-	-	-	-	-	-	-	-	0.227				
166	174.3	565.8	1214	1	14.6	12.65	-	16.5	-	-	-	-	-	-	-	-	-	0.264				
168	175.1	565.3	1217	1	14.4	12.78	-	16.9	1.72	-	-	-	-	-	-	-	9.3	0.258				
170	174.4	563.7	1231	1	14.1	13.04	-	14.8	-	-	-	-	-	-	-	-	-	0.154				
172	173.9	561.8	1236	1	14.0	13.09	-	11.3	-	-	-	-	-	-	-	-	-	0.161				
174	173.3	560.5	1243	1	13.9	11.35	-	14.6	-	-	-	-	-	-	-	-	-	0.150				
176	172.3	558.2	1251	1	13.9	10.54	-	15.4	-	-	-	-	-	-	-	-	-	0.158				
178	172.0	556.7	1256	1	13.7	11.13	-	12.2	-	-	-	-	-	-	-	-	-	0.159				
180	171.0	554.4	1303	1	14.0	13.37	-	12.0	1.26	-	-	-	-	-	-	-	1.8	0.147				
182	168.6	555.0	1320	1	13.9	13.16	-	11.0	-	-	-	-	-	-	-	-	-	0.149				
184	166.8	555.8	1325	1	14.1	13.44	-	9.8	-	-	-	-	-	-	-	-	-	0.156				
190	166.8	556.8	1332	1	13.9	13.76	-	11.3	-	-	-	-	-	-	-	-	-	0.141				

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION		STATION	DEPTH m	CONTINUOUS						DISCRETE						DISSOLV				TOTAL	
4 MAR 80			CRUISE #	S F BAY			SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	DISSOLV UM	PHOSPH UM	NITROG UM	DISSOLV UM	TOTAL PHOSPH UM	TOTAL NITROG UM
118	1	137	6.36	43.6	1.21	7.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
120	1	139	5.40	40.5	0.97	2.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
122	1	140	4.99	36.0	0.96	2.98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
124	1	140	4.78	35.1	0.84	4.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
126	1	142	5.05	36.4	0.84	2.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
128	1	141	4.67	35.1	0.84	6.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
130	1	142	4.63	32.6	0.76	6.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
132	1	141	4.58	32.7	0.81	7.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
134	1	136	4.81	32.7	0.89	10.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
136	1	133	4.31	29.5	0.72	9.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
138	1	141	3.26	26.1	0.61	4.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
140	1	146	3.02	25.3	0.58	4.87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
142	1	147	2.99	25.2	0.60	5.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
144	1	147	3.15	26.0	0.62	6.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
146	1	140	3.99	29.7	0.69	8.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
148	1	140	4.11	30.1	0.83	8.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
150	1	142	3.96	28.9	0.83	8.71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
152	1	143	5.27	39.5	0.85	2.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
154	1	144	5.27	35.0	0.76	4.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
156	1	144	4.87	34.4	0.76	5.08	149	4.71	35.48	0.87	4.56	4.7	48.6	5.2	52.2	5.5	-	-	-	-	-	-		
158	1	141	5.08	36.5	0.80	2.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
160	1	134	5.64	39.9	0.92	0.74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
162	1	131	6.74	49.3	1.76	2.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
164	1	135	6.41	50.7	2.35	4.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
166	1	139	7.10	49.4	2.99	9.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
168	1	139	6.67	45.5	2.51	8.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
170	1	145	2.67	22.6	0.60	6.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
172	1	144	2.48	21.8	0.59	6.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
174	1	161	1.96	20.8	0.55	5.64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
176	1	112	1.83	21.1	0.57	5.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
178	1	113	1.78	21.4	0.56	5.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
180	1	91	2.10	19.7	0.55	5.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
182	1	95	2.07	20.6	0.56	5.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
184	1	94	2.05	20.5	0.55	7.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
190	1	92	2.32	20.7	0.58	10.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION												
4 MAR 80		6		S F BAY												
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
192	167.3	558.7	1338	1	14.1	13.37	9.6	-	-	-	-	-	-	-	-	0.161
194	168.1	560.3	1354	1	14.0	13.69	9.3	-	-	-	-	-	-	-	-	0.146
196	168.7	562.0	1400	1	13.7	13.59	9.6	-	-	-	-	-	-	-	-	0.157
198	169.4	563.8	1406	1	13.9	13.34	18.2	-	-	-	-	-	-	-	-	0.174
200	170.1	565.4	1412	1	13.9	13.15	24.9	-	-	-	-	-	-	-	-	0.229
162	170.9	567.2	1421	1	14.9	13.04	19.2	-	-	-	-	-	-	-	-	0.530
164	172.4	566.3	1428	1	14.9	12.53	20.6	-	-	-	-	-	-	-	-	0.580
166	173.9	565.5	1434	1	14.8	12.80	14.5	-	-	-	-	-	-	-	-	0.370
168	174.7	565.1	1436	1	14.6	12.80	14.7	-	-	-	-	-	-	-	-	0.333

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION								
4 MAR 80			S F BAY								
STATION	DEPTH m	CONTINUOUS									
		SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISCRET		DISSOLV		TOTAL
							PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH
192	1	93	2.21	21.6	0.65	12.02	-	-	-	-	-
194	1	90	2.40	22.9	0.69	6.60	-	-	-	-	-
196	1	91	2.53	24.1	0.64	6.85	-	-	-	-	-
198	1	91	2.47	24.1	0.58	6.65	-	-	-	-	-
200	1	92	2.56	25.5	0.62	6.67	-	-	-	-	-
162	1	92	4.94	39.4	1.22	6.24	-	-	-	-	-
164	1	87	7.36	36.2	2.20	1.64	-	-	-	-	-
166	1	90	4.92	24.2	1.34	6.43	-	-	-	-	-
168	1	90	6.63	32.3	2.84	8.58	-	-	-	-	-

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION												
5 MAR 80		6		S F BAY												
STATION	UTN NORTH	UTN EAST	TIME	DEPTH m	BOW TEMP deg C	SUSP MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIC ORG CARBON mg/L	CHLORO PHYLL - A ug/L	FLUOR
302	205.2	553.6	813	1	13.1	7.04	-	47.5	3.08	-	-	-	-	-	0.8	0.100
304	206.9	552.3	828	1	12.6	1.68	-	145.0	-	-	-	-	-	-	-	0.155
306	208.8	551.1	836	1	12.7	1.86	-	130.9	6.17	-	-	-	-	-	0.8	0.148
308	210.7	549.9	847	1	12.9	2.47	-	86.3	-	-	-	-	-	-	-	0.123
310	212.2	548.8	854	1	13.0	2.47	-	114.4	-	-	-	-	-	-	-	0.145
312	213.5	547.9	901	1	13.2	1.97	-	170.8	18.30	-	-	-	-	-	4.4	0.222
314	214.7	549.8	920	1	13.1	2.05	-	140.3	-	-	-	-	-	-	-	0.237
316	215.2	551.5	927	1	13.2	2.00	-	220.3	-	-	-	-	-	-	-	0.297
318	215.7	553.3	936	1	13.3	1.88	-	294.5	-	-	-	-	-	7.7	10.9	0.396
320	216.2	555.1	953	1	13.3	1.62	-	302.0	-	-	-	-	-	-	-	0.405
322	216.7	556.9	1002	1	13.1	1.31	-	333.9	-	-	-	-	-	-	-	0.427
324	217.0	558.6	1011	1	12.9	1.16	-	326.5	-	-	-	-	-	-	-	0.425
326	215.3	559.2	1030	1	13.6	1.75	-	267.1	-	-	-	-	-	-	-	0.440
328	213.5	560.0	1037	1	13.6	1.74	-	222.5	-	-	-	-	-	-	-	0.440
330	211.8	560.7	1044	1	12.7	0.76	-	177.9	-	-	-	-	-	-	-	0.210
332	210.2	561.4	1054	1	13.0	3.47	-	107.4	-	-	-	-	-	-	-	0.164
334	208.5	562.1	1100	1	13.1	3.66	-	126.2	-	-	-	-	-	-	1.0	0.180
402	210.2	577.5	1401	1	12.7	0.02	-	102.6	-	-	-	-	-	-	-	0.188
404	211.2	577.3	1409	1	12.6	0.01	-	100.3	6.56	-	-	-	-	-	1.7	0.183
406	213.4	579.2	1429	1	12.5	0.00	-	105.0	-	-	-	-	-	-	-	0.183
408	215.0	580.5	1435	1	12.6	0.00	-	107.4	-	-	-	-	-	-	-	0.185
410	216.8	581.9	1442	1	12.7	0.01	-	115.6	-	-	-	-	-	-	-	0.194
412	218.0	582.9	1447	1	12.5	0.00	-	116.0	-	-	-	-	-	-	-	0.189
414	219.3	582.4	1452	1	12.7	0.01	-	121.5	-	-	-	-	-	-	1.4	0.200
416	219.0	584.3	1500	1	12.5	0.00	-	112.1	-	-	-	-	-	-	-	0.191
418	218.8	586.7	1511	1	12.9	0.03	-	154.4	7.97	-	-	-	-	5.4	1.8	0.221

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION																	
5 MAR 80		6	S F BAY																	
STATION	DEPTH m	CONTINUOUS				DISCRETE				DISCRETE DISSOLV				TOTAL						
		SI02 UM	PO4 UM	NO3+NO2 UM	NH3 UM	SI02 UM	PO4 UM	NO3+NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM					
302	1	190	2.01	23.7	0.52	5.92	-	-	-	-	-	-	-	-	-	-				
304	1	234	1.27	25.8	0.74	4.31	-	-	-	-	-	-	-	-	-	-				
306	1	230	0.75	25.3	0.58	3.10	-	-	-	-	-	-	-	-	-	-				
308	1	222	2.19	26.0	0.55	2.17	-	-	-	-	-	-	-	-	-	-				
310	1	210	1.96	26.2	0.65	2.26	-	-	-	-	-	-	-	-	-	-				
312	1	205	3.22	26.7	0.70	5.87	-	-	-	-	-	-	-	-	-	-				
314	1	201	-	26.1	0.82	11.67	-	-	-	-	-	-	-	-	-	-				
316	1	200	-	25.9	0.78	11.15	-	-	-	-	-	-	-	-	-	-				
318	1	234	-	53.0	1.74	13.05	260	6.19	52.93	1.69	12.10	6.2	81.3	6.3	92.4	7.3				
320	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
322	1	-	-	-	-	8.90	-	-	-	-	-	-	-	-	-	-				
324	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
326	1	226	-	54.3	1.65	3.44	-	-	-	-	-	-	-	-	-	-				
328	1	227	-	35.7	1.42	1.14	-	-	-	-	-	-	-	-	-	-				
330	1	238	-	30.4	1.53	3.05	-	-	-	-	-	-	-	-	-	-				
332	1	239	-	25.7	1.25	2.76	-	-	-	-	-	-	-	-	-	-				
334	1	236	-	25.9	1.13	2.17	-	-	-	-	-	-	-	-	-	-				
402	1	246	3.26	27.3	0.59	3.02	-	-	-	-	-	-	-	-	-	-				
404	1	249	3.37	26.2	0.61	3.51	-	-	-	-	-	-	-	-	-	-				
406	1	250	1.65	24.1	0.38	0.66	-	-	-	-	-	-	-	-	-	-				
408	1	248	1.81	24.6	0.30	1.44	-	-	-	-	-	-	-	-	-	-				
410	1	253	3.32	24.6	0.50	3.00	-	-	-	-	-	-	-	-	-	-				
412	1	254	2.73	23.0	0.49	3.31	-	-	-	-	-	-	-	-	-	-				
414	1	255	2.98	21.8	0.70	5.42	-	-	-	-	-	-	-	-	-	-				
416	1	254	-	21.7	0.39	0.76	-	-	-	-	-	-	-	-	-	-				
418	1	255	2.05	20.4	0.33	3.37	258	3.11	21.57	0.66	4.76	1.5	36.7	2.2	42.6	2.3				

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION															
18 MAR 80	7	S F BAY															
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
118	156.1	574.0	1156	1	13.7	12.25	-	77.5	-	-	-	-	-	-	-	4.6	0.250
-	156.8	572.5	1204	1	13.7	12.68	-	101.7	-	-	-	-	-	-	-	-	0.250
-	157.4	570.9	1212	1	13.7	13.06	-	71.2	-	-	-	-	-	-	-	-	0.200
-	158.0	569.5	1220	1	13.8	13.38	-	59.4	-	-	-	-	-	-	-	3.8	0.174
-	158.7	568.1	1228	1	13.9	13.46	-	90.0	-	-	-	-	-	-	-	-	0.193
134	159.4	566.2	1238	1	13.7	13.83	-	94.6	-	-	-	-	-	-	-	-	0.186
136	160.4	564.5	1246	1	13.9	13.99	-	78.2	-	-	-	-	-	-	-	3.2	0.170
138	160.7	562.7	1253	1	13.8	14.97	-	94.6	-	-	-	-	-	-	-	-	0.177
140	161.0	560.9	1300	1	13.7	15.10	-	68.8	-	-	-	-	-	-	-	-	0.174
142	161.5	558.7	1308	1	13.7	15.30	-	80.5	-	-	-	-	-	-	-	3.8	0.164
-	163.2	558.2	1316	1	13.8	15.89	-	90.0	-	-	-	-	-	-	-	-	0.164
-	164.7	557.1	1323	1	13.9	16.63	-	101.7	-	-	-	-	-	-	-	-	0.180
188	166.2	555.5	1330	1	14.0	17.01	-	90.0	-	-	-	-	-	-	-	2.9	0.202
186	168.0	555.7	1337	1	13.7	17.17	-	85.3	-	-	-	-	-	-	-	-	0.218
184	168.5	555.8	1340	1	13.8	17.45	-	101.7	-	-	-	-	-	-	-	-	0.145
182	170.1	555.9	1346	1	13.9	17.39	-	113.5	-	-	-	-	-	-	-	2.1	0.151
180	170.9	554.7	1350	1	13.9	17.48	-	115.8	-	-	-	-	-	-	-	-	0.151
-	171.7	554.7	1354	1	14.1	17.73	-	-	-	-	-	-	-	-	-	-	-
178	171.9	556.5	1358	1	13.6	17.83	-	106.4	-	-	-	-	-	-	-	-	0.136
176	172.5	558.4	1406	1	13.6	17.42	-	99.4	-	-	-	-	-	-	-	-	0.132
174	173.1	560.2	1412	1	13.7	18.67	-	104.1	-	-	-	-	-	-	-	1.7	0.136
172	173.8	561.9	1419	1	13.9	18.09	-	104.1	-	-	-	-	-	-	-	-	0.151
-	174.2	562.8	1422	1	13.8	17.78	-	101.7	-	-	-	-	-	-	-	-	0.151
-	175.9	559.0	1444	1	13.6	19.19	-	85.3	-	-	-	-	-	-	-	1.8	0.129
21	182.6	554.4	1510	1	13.7	18.96	-	87.6	-	-	-	-	-	-	-	1.6	0.132

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION															
			CONTINUOUS					DISCRETE					DISCRETE DISSOLV				
18 MAR 80	7	S F BAY	STATION	DEPTH	S102	PO4	NO3+NO2	NO2	NH3	S102	PO4	NO3+NO2	NO2	NH3	PHOSPH	NITROG	TOTAL
				m	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM
118	1		130		24.5	1.33	1.00	3.31	-	128	7.36	-	-	-	-	-	-
-	1		131		36.5	3.46	-	-	-	-	-	-	-	-	-	-	-
-	1		132		30.3	2.24	-	-	-	-	-	-	-	-	-	-	-
-	1		131		27.6	1.26	-	-	-	-	-	-	-	-	-	-	-
-	1		131		27.5	0.76	-	-	-	-	-	-	-	-	-	-	-
134	1		123		25.9	0.30	-	-	-	-	-	-	-	-	-	-	-
136	1		123		24.4	0.26	-	-	-	128	3.85	22.66	0.56	3.88	-	-	-
138	1		124		22.1	0.41	-	-	-	-	-	-	-	-	-	-	-
140	1		126		19.1	0.44	-	-	-	-	-	-	-	-	-	-	-
142	1		128		20.8	0.58	-	-	-	129	3.17	20.95	0.41	2.84	-	-	-
-	1		127		19.5	0.59	-	-	-	-	-	-	-	-	-	-	-
-	1		128		17.8	0.12	-	-	-	-	-	-	-	-	-	-	-
188	1		123		16.2	0.21	-	-	-	119	2.55	16.42	0.35	2.81	-	-	-
186	1		123		16.1	0.48	-	-	-	-	-	-	-	-	-	-	-
184	1		123		14.9	0.42	-	-	-	-	-	-	-	-	-	-	-
182	1		127		16.4	0.39	-	-	-	120	2.33	16.63	0.43	3.21	-	-	-
180	1		127		16.2	0.37	-	-	-	-	-	-	-	-	-	-	-
-	1		-		-	-	-	-	-	-	-	-	-	-	-	-	-
178	1		128		15.1	0.36	7.34	-	-	-	-	-	-	-	-	-	-
176	1		130		12.51	15.1	0.49	-	-	-	-	-	-	-	-	-	-
174	1		111		2.49	13.9	0.61	2.02	-	114	1.91	14.66	0.51	3.16	-	-	-
172	1		113		2.57	14.8	0.62	5.83	-	-	-	-	-	-	-	-	-
-	1		-		-	-	-	-	-	-	-	-	-	-	-	-	-
-	1		112		2.34	14.1	0.42	4.40	-	-	-	-	-	-	-	-	-
21	1		113		2.24	14.5	0.54	2.79	-	114	1.96	14.16	0.39	5.80	-	-	-

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
19 MAR 80		7		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
302	204.3	552.7	817	1	12.3	8.85	-	127.6	7.55	-	-	-	-	-	-	2.4	0.166
304	206.9	552.3	842	1	12.7	3.93	-	73.6	-	-	-	-	-	-	-	-	0.142
306	208.8	551.1	850	1	12.6	5.85	-	181.0	8.74	-	-	-	-	-	-	5.0	0.230
308	210.7	549.8	910	1	12.5	5.39	-	155.0	-	-	-	-	-	-	-	-	0.225
310	212.4	548.9	918	1	12.2	5.11	-	166.2	-	-	-	-	-	-	-	-	0.395
312	213.5	547.9	928	1	12.2	4.90	-	221.9	13.80	-	-	-	-	-	-	25.5	0.550
314	214.7	549.7	950	1	12.4	4.90	-	236.8	-	-	-	-	-	-	-	-	0.555
-	213.7	550.3	955	1	12.1	4.68	-	147.6	-	-	-	-	-	-	-	-	-
316	214.3	552.1	1003	1	12.6	4.92	-	125.3	-	-	-	-	-	-	-	-	0.302
318	214.9	553.9	1012	1	12.6	4.76	-	125.3	9.06	-	-	-	-	-	-	20.1	0.397
320	215.5	555.4	1030	1	12.8	4.79	-	117.9	-	-	-	-	-	-	-	-	0.380
322	216.3	556.9	1040	1	12.8	4.69	-	140.2	-	-	-	-	-	-	-	-	0.395
324	216.7	558.6	1050	1	12.7	4.40	-	176.6	9.90	-	-	-	-	-	-	18.8	0.435
326	215.3	559.3	1112	1	13.1	4.51	-	132.8	-	-	-	-	-	-	-	-	0.428
328	213.5	560.0	1119	1	13.4	2.15	-	153.6	-	-	-	-	-	-	-	-	0.207
330	211.8	560.7	1128	1	13.3	0.40	-	169.2	-	-	-	-	-	-	-	-	0.207
332	210.0	561.2	1134	1	14.3	4.22	-	65.9	-	-	-	-	-	-	-	-	0.140
334	208.5	562.0	1140	1	13.6	3.99	-	140.2	7.99	-	-	-	-	-	-	3.6	0.190
-	183.1	554.7	1432	1	14.1	18.84	-	23.1	-	-	-	-	-	-	-	-	-
168	174.9	565.7	1524	1	14.4	14.82	-	7.7	-	-	-	-	-	-	-	-	-
166	174.2	564.2	1526	1	14.5	14.66	-	10.9	-	-	-	-	-	-	-	-	-
164	172.9	556.8	1532	1	14.6	15.43	-	12.4	-	-	-	-	-	-	-	-	-
162	170.8	567.7	1541	1	14.5	14.21	-	36.2	-	-	-	-	-	-	-	-	-
160	169.5	568.7	1547	1	14.7	13.52	-	48.1	-	-	-	-	-	-	-	-	-
160	169.2	568.6	1636	1	14.7	13.08	-	8.7	-	-	-	-	-	-	-	-	-
158	167.5	569.4	1645	1	15.9	13.08	-	8.3	-	-	-	-	-	-	-	-	-
154	165.6	568.6	1654	1	14.5	13.31	-	19.1	-	-	-	-	-	-	-	-	-
152	163.9	568.0	1700	1	14.4	13.36	-	25.8	-	-	-	-	-	-	-	-	-
-	160.1	566.5	1715	1	14.3	13.44	-	28.0	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION																				
			CONTINUOUS					DISCRETE					DISCRET DISSOLV					TOTAL				
19 MAR 80	7	S F BAY	STATION	DEPTH	S102	PO4	NO3+NO2	NO2	NH3	S102	PO4	NO3+NO2	NO2	NH3	PHOSPH	NITROG	DISSOLV	PHOSPH	NITROG	TOTAL	TOTAL	
				m	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	
302	1		184		2.13	20.7	0.48	3.28	200	2.13	21.40	0.57	3.47	-	-	-	-	-	-	-	-	
304	1		201		1.92	21.8	0.57	2.97	-	-	-	-	-	-	-	-	-	-	-	-	-	
306	1		198		2.03	22.2	0.62	3.29	219	2.14	23.01	0.61	3.92	-	-	-	-	-	-	-	-	
308	1		203		2.12	23.1	0.66	3.74	-	-	-	-	-	-	-	-	-	-	-	-	-	
310	1		205		2.62	23.0	0.46	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	
312	1		214		4.00	29.4	0.42	0.96	231	4.33	31.67	0.44	0.68	-	-	-	-	-	-	-	-	
314	1		219		4.56	31.5	0.46	1.92	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	1		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
316	1		210		2.15	22.9	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
318	1		211		2.11	22.1	0.05	-	222	2.51	22.24	0.33	0.35	-	-	-	-	-	-	-	-	
320	1		214		-	22.2	0.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
322	1		212		-	20.4	0.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
324	1		223		-	28.8	0.51	-	242	-	30.83	0.48	1.22	-	-	-	-	-	-	-	-	
326	1		204		3.82	24.4	0.54	2.58	-	-	-	-	-	-	-	-	-	-	-	-	-	
328	1		228		2.50	24.2	0.55	3.39	-	-	-	-	-	-	-	-	-	-	-	-	-	
330	1		240		1.96	23.0	0.59	5.46	-	-	-	-	-	-	-	-	-	-	-	-	-	
332	1		239		1.85	22.8	0.53	1.46	-	-	-	-	-	-	-	-	-	-	-	-	-	
334	1		218		2.03	22.3	0.67	3.03	224	2.08	22.55	0.52	3.63	-	-	-	-	-	-	-	-	
-	1		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
168	1		120		3.67	18.5	0.49	0.63	-	-	-	-	-	-	-	-	-	-	-	-	-	
166	1		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
164	1		123		3.41	18.6	0.47	0.43	-	-	-	-	-	-	-	-	-	-	-	-	-	
162	1		129		4.18	21.3	0.53	1.84	-	-	-	-	-	-	-	-	-	-	-	-	-	
160	1		133		4.85	21.5	0.59	3.44	-	-	-	-	-	-	-	-	-	-	-	-	-	
160	1		126		4.27	18.6	0.38	1.84	-	-	-	-	-	-	-	-	-	-	-	-	-	
158	1		124		4.86	18.3	0.43	3.59	-	-	-	-	-	-	-	-	-	-	-	-	-	
154	1		133		4.94	18.8	0.40	1.69	-	-	-	-	-	-	-	-	-	-	-	-	-	
152	1		140		5.03	23.8	0.41	1.38	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	1		131		5.39	27.7	0.79	4.76	-	-	-	-	-	-	-	-	-	-	-	-	-	

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION															
8 APR 80	8	S F BAY															
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
118	156.0	573.8	907	1	13.8	16.31	-	16.3	2.08	-	8.46	-	-	-	-	42.6	0.854
120	156.9	572.9	919	1	13.8	16.80	-	18.1	-	-	8.38	-	-	-	-	-	0.715
122	158.3	571.6	925	1	13.6	17.17	-	19.6	-	-	8.35	-	-	-	-	-	0.579
124	159.8	571.5	932	1	13.9	17.24	-	25.5	-	-	8.38	-	-	-	-	-	0.651
126	161.8	572.0	939	1	14.2	16.72	-	28.5	-	-	8.52	-	-	-	-	-	0.806
128	161.1	570.6	957	1	14.3	17.61	-	31.4	2.34	-	8.37	-	-	-	-	48.1	0.594
130	160.8	569.0	1005	1	13.9	18.37	-	26.2	-	-	8.26	-	-	-	-	-	0.440
132	159.9	567.3	1010	1	14.0	17.54	-	31.4	-	-	8.33	-	-	-	-	-	0.605
134	159.5	566.3	1014	1	14.0	17.62	-	23.3	-	-	8.38	-	-	-	-	-	0.485
136	160.4	564.6	1020	1	13.8	18.97	-	24.8	-	-	8.26	-	-	-	-	-	0.350
138	160.7	562.8	1028	1	14.4	19.96	-	26.2	-	-	8.35	-	-	-	-	-	0.278
140	161.0	560.9	1035	1	14.6	20.55	-	27.7	-	-	8.38	-	-	-	-	-	0.282
142	161.5	558.9	1044	1	14.3	21.00	-	25.9	1.50	-	8.27	-	-	-	-	14.2	0.310
144	162.1	560.5	1102	1	14.4	20.24	-	24.0	-	-	8.30	-	-	-	-	-	0.314
146	162.9	562.1	1108	1	14.2	18.70	-	18.1	-	-	8.25	-	-	-	-	-	0.350
148	163.3	563.9	1115	1	14.0	19.27	-	19.6	-	-	8.22	-	-	-	-	-	0.340
150	164.2	565.6	1124	1	14.7	17.88	-	24.8	-	-	8.34	-	-	-	-	-	0.450
152	164.7	567.4	1129	1	14.9	17.09	-	30.7	-	-	8.47	-	-	-	-	-	0.630
154	165.4	569.1	1136	1	15.4	15.57	-	44.1	-	-	8.61	-	-	-	-	-	0.981
156	165.8	570.2	1141	1	15.6	14.86	-	50.7	2.99	-	8.70	-	-	-	-	59.9	1.218
158	167.7	569.3	1203	1	15.6	14.48	-	43.6	-	-	8.59	-	-	-	-	-	1.123
160	169.3	568.5	1212	1	15.6	14.14	-	42.5	-	-	8.58	-	-	-	-	-	1.202
162	170.8	567.5	1221	1	16.1	14.52	-	30.7	2.21	-	8.21	-	-	1.5	4.5	20.0	0.400
164	172.5	566.5	1245	1	15.3	15.08	-	31.9	-	-	8.23	-	-	-	-	-	0.430
166	174.0	565.7	1254	1	16.0	15.71	-	23.3	-	-	8.23	-	-	-	-	-	0.400
168	175.2	565.4	1300	1	15.4	16.41	-	24.0	1.69	-	8.26	-	-	-	-	28.4	0.520
170	174.4	563.6	1317	1	14.6	18.66	-	17.3	-	-	8.15	-	-	-	-	-	0.280
172	173.8	561.9	1324	1	14.5	20.05	-	13.6	-	-	8.17	-	-	-	-	-	0.245
174	173.1	560.1	1332	1	14.8	20.49	-	12.1	-	-	8.22	-	-	-	-	-	0.096
176	172.5	558.5	1338	1	14.0	20.62	-	7.7	-	-	8.08	-	-	-	-	-	0.151
178	171.8	556.6	1344	1	13.5	21.00	-	9.9	-	-	8.01	-	-	-	-	-	0.132
180	170.8	554.7	1351	1	14.4	21.20	-	18.1	0.92	-	8.19	-	-	-	-	5.0	0.148
180	170.8	554.7	1445	1	14.6	21.27	-	14.4	-	-	8.17	-	-	-	-	-	0.155
182	169.8	555.5	1450	1	14.7	20.75	-	14.4	-	-	8.17	-	-	-	-	-	0.145
184	168.6	555.8	1456	1	14.6	21.05	-	9.2	-	-	8.01	-	-	-	-	-	0.139

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION																					
8 APR 80		8	S F BAY																					
STATION	DEPTH m	CONTINUOUS								DISCRETE								DISCRET		DISSOLV		DISSOLV		TOTAL PHOSPH UM
		SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM							
118	1	39	6.24	9.2	0.80	0.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
120	1	47	6.59	9.4	0.90	0.71	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
122	1	53	5.98	13.7	0.89	0.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
124	1	50	5.65	10.0	0.84	0.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
126	1	45	5.45	0.7	0.37	0.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
128	1	55	6.32	7.0	0.85	0.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
130	1	68	5.79	11.8	0.71	0.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
132	1	73	5.88	13.2	0.71	1.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
134	1	51	6.69	12.5	0.90	0.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
136	1	66	5.47	11.4	0.51	0.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
138	1	72	3.90	5.8	0.32	0.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
140	1	72	2.42	0.2	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
142	1	73	2.21	0.2	0.05	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
144	1	73	2.96	0.2	0.13	1.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
146	1	73	4.86	13.2	0.53	0.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
148	1	62	4.38	9.6	0.64	0.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
150	1	70	4.26	8.0	0.48	0.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
152	1	58	4.54	1.5	0.27	0.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
154	1	31	5.21	0.0	0.07	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
156	1	11	6.22	0.1	0.09	0.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
158	1	17	10.75	9.1	1.52	1.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
160	1	25	11.19	7.1	1.24	2.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
162	1	78	7.99	22.2	0.54	-	78	7.57	26.25	0.59	-0.29	7.5	37.0	7.8	47.2	8.9	-	-	-	-				
164	1	94	7.85	24.8	0.78	1.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
166	1	88	7.86	23.8	0.94	1.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
168	1	74	8.38	20.9	1.09	2.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
170	1	79	5.66	16.6	0.63	0.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
172	1	79	4.85	12.4	0.56	0.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
174	1	79	3.72	8.1	0.56	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
176	1	78	3.63	9.8	0.60	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
178	1	89	3.21	18.7	0.60	0.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
180	1	68	2.54	15.8	0.42	0.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
180	1	81	2.64	14.2	0.37	1.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
182	1	81	2.71	14.6	0.49	1.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
184	1	86	2.87	16.8	0.45	1.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-				

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
8 APR 80		8		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOB TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
186	167.4	555.6	1500	1	14.4	20.23	-	10.6	-	-	8.06	-	-	-	-	-	0.155
188	165.8	555.0	1506	1	14.6	20.32	-	12.9	2.40	-	8.17	-	-	-	-	5.6	0.180
190	166.5	557.6	1526	1	14.3	20.56	-	28.5	-	-	8.05	-	-	-	-	-	0.110
192	166.8	558.8	1531	1	15.1	19.85	-	9.9	-	-	8.29	-	-	-	-	-	0.350
194	168.0	560.3	1537	1	16.0	18.53	-	12.9	-	-	8.37	-	-	-	-	-	0.560
196	168.7	562.1	1544	1	15.3	19.61	-	10.6	-	-	8.32	-	-	-	-	-	0.530
198	169.2	563.8	1549	1	15.5	20.35	-	12.1	-	-	8.30	-	-	-	-	-	0.500
200	170.2	565.5	1556	1	14.4	19.95	-	21.8	-	-	8.15	-	-	-	-	-	0.340
162	170.6	567.5	1604	1	15.1	17.53	-	18.8	-	-	8.22	-	-	-	-	-	0.360
164	172.8	566.8	1613	1	15.1	17.96	-	18.1	-	-	8.22	-	-	-	-	-	0.470
166	174.0	565.9	1620	1	15.6	17.94	-	18.8	-	-	8.27	-	-	-	-	-	0.600
168	175.3	565.4	1624	1	15.5	17.80	-	18.1	-	-	8.38	-	-	-	-	-	0.570

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION													
8 APR 80			S F BAY													
STATION	DEPTH m	----- CONTINUOUS ----- DISCRET DISSOLV DISSOLV TOTAL														
		SI02	PO4	NO3+NO2	NO2	NH3	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH	
		UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	
186	1	89	2.98	16.6	0.46	1.88	-	-	-	-	-	-	-	-	-	
188	1	86	2.91	14.5	0.44	1.31	-	-	-	-	-	-	-	-	-	
190	1	87	2.71	16.7	0.35	1.14	-	-	-	-	-	-	-	-	-	
192	1	84	2.81	16.7	0.39	1.05	-	-	-	-	-	-	-	-	-	
194	1	62	4.22	8.7	0.70	0.31	-	-	-	-	-	-	-	-	-	
196	1	66	3.75	7.8	0.54	0.45	-	-	-	-	-	-	-	-	-	
198	1	73	3.19	9.2	0.47	0.50	-	-	-	-	-	-	-	-	-	
200	1	78	3.54	12.5	0.45	0.92	-	-	-	-	-	-	-	-	-	
162	1	81	5.03	15.7	0.44	0.58	-	-	-	-	-	-	-	-	-	
164	1	79	5.11	16.7	0.55	0.79	-	-	-	-	-	-	-	-	-	
166	1	65	4.74	13.2	0.56	0.77	-	-	-	-	-	-	-	-	-	
168	1	65	5.05	13.6	0.67	0.64	-	-	-	-	-	-	-	-	-	

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION															
9 APR 80		8	S F BAY															
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	CARBON mg/L	DIS ORG CARBON mg/L	PHYLL-A ug/L	CHLORO	FLUOR
302	205.0	553.4	748		1	13.4	17.86	-	0.93	-	7.87	-	-	-	-	-	2.6	0.123
304	206.9	552.4	805		1	12.7	18.86	-	-	-	7.88	-	-	-	-	-	-	0.106
306	209.1	551.3	813		1	12.9	18.68	-	1.26	-	7.86	-	-	-	-	-	3.2	0.115
308	210.7	549.8	831		1	13.5	11.97	-	-	-	7.84	-	-	-	-	-	-	0.094
310	212.2	548.8	838		1	13.6	10.59	-	-	-	7.84	-	-	-	-	-	-	0.101
312	213.5	547.9	845		1	13.7	11.42	-	3.76	-	7.91	-	-	-	-	-	9.0	0.215
314	214.7	549.7	903		1	13.8	11.34	-	-	-	7.95	-	-	-	-	-	-	0.243
316	215.3	551.5	911		1	13.7	11.56	-	-	-	7.91	-	-	-	-	-	-	0.237
318	215.7	553.3	919		1	14.4	11.32	-	5.88	-	7.93	-	-	-	1.7	3.1	14.5	0.315
320	216.3	555.3	936		1	14.2	10.61	-	-	-	7.99	-	-	-	-	-	-	0.350
322	216.7	557.0	943		1	14.4	10.91	-	-	-	8.08	-	-	-	-	-	-	0.470
324	216.9	558.5	950		1	14.9	11.63	-	13.90	-	8.25	-	-	-	-	-	39.4	0.660
326	215.3	559.3	1008		1	14.9	11.21	-	-	-	8.13	-	-	-	-	-	-	0.520
328	213.2	560.1	1017		1	14.1	10.58	-	-	-	7.95	-	-	-	-	-	-	0.310
330	211.1	560.6	1023		1	14.3	10.28	-	-	-	7.95	-	-	-	-	-	-	0.190
332	210.1	561.3	1029		1	14.3	10.53	-	-	-	8.01	-	-	-	-	-	-	0.231
334	208.5	561.9	1035		1	14.0	11.66	-	2.27	-	7.87	-	-	-	-	-	5.4	0.150
402	210.2	577.6	1258		1	15.0	2.47	-	-	-	7.77	-	-	-	-	-	-	0.123
404	211.2	577.4	1303		1	14.8	2.30	-	5.39	-	7.82	-	-	-	-	-	4.6	0.177
406	213.3	579.2	1324		1	14.7	1.27	-	-	-	7.84	-	-	-	-	-	-	0.174
408	215.0	580.5	1333		1	15.1	0.82	-	-	-	7.86	-	-	-	-	-	-	0.189
410	216.8	581.9	1343		1	14.9	0.07	-	-	-	7.84	-	-	-	-	-	-	0.151
412	218.0	582.9	1350		1	15.2	0.28	-	-	-	7.73	-	-	-	-	-	-	0.320
414	219.3	582.3	1356		1	16.2	0.32	-	7.91	-	7.92	-	-	-	-	-	13.4	0.350
416	218.8	584.2	1419		1	15.0	0.05	-	-	-	7.89	-	-	-	-	-	-	0.160
418	218.3	586.4	1432		1	15.6	0.07	-	6.33	-	8.41	-	-	-	2.3	3.9	24.0	0.475
-	217.5	585.1	1449		1	15.4	0.16	-	-	-	7.78	-	-	-	-	-	-	0.140
-	216.5	583.8	1454		1	15.2	0.70	-	-	-	7.78	-	-	-	-	-	-	0.142
-	214.4	585.6	1508		1	14.5	0.03	-	-	-	7.73	-	-	-	-	-	-	-
745	210.2	598.4	1626		1	15.0	0.03	-	-	-	7.61	-	-	-	-	-	-	-
747	209.3	601.8	1642		1	14.7	0.03	-	-	-	7.62	-	-	-	-	-	-	-
749	208.9	605.5	1656		1	13.9	0.02	-	-	-	7.62	-	-	-	-	-	-	-
751	209.5	609.1	1711		1	13.8	0.02	-	-	-	7.62	-	-	-	-	-	-	-
753	210.3	612.6	1726		1	14.0	0.02	-	-	-	7.62	-	-	-	-	-	-	-
755	212.1	615.2	1740		1	14.4	0.03	-	-	-	7.62	-	-	-	-	-	-	-
757	215.9	616.0	1756		1	13.6	0.01	-	-	-	7.60	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION														
			CONTINUOUS							DISCRETE						
9 APR 80	8	S F BAY	ST102	PO4	NO3+NO2	NO2	NH3	SI02	PO4	NO3+NO2	NO2	NH3	DISCRETE	PHOSPH	DISSOLV	TOTAL
STATION	DEPTH		UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM
	m															
302	1	118	2.15	20.4	0.47	2.24	-	-	-	-	-	-	-	-	-	-
304	1	114	2.04	20.2	0.45	2.10	-	-	-	-	-	-	-	-	-	-
306	1	112	2.11	20.2	0.44	2.24	-	-	-	-	-	-	-	-	-	-
308	1	146	2.07	21.9	0.42	2.88	-	-	-	-	-	-	-	-	-	-
310	1	157	2.08	21.9	0.34	3.21	-	-	-	-	-	-	-	-	-	-
312	1	157	2.69	21.8	0.47	2.58	-	-	-	-	-	-	-	-	-	-
314	1	154	3.14	22.0	0.59	2.72	-	-	-	-	-	-	-	-	-	-
316	1	160	2.74	22.0	0.44	2.94	-	-	-	-	-	-	-	-	-	-
318	1	152	2.10	20.4	0.24	0.16	152	1.94	19.43	0.28	0.02	1.9	27.3	2.1	37.0	3.1
320	1	155	1.92	19.8	0.27	0.18	-	-	-	-	-	-	-	-	-	-
322	1	155	1.90	17.4	0.29	0.05	-	-	-	-	-	-	-	-	-	-
324	1	142	1.70	8.4	0.22	0.09	-	-	-	-	-	-	-	-	-	-
326	1	147	1.65	11.5	0.32	0.03	-	-	-	-	-	-	-	-	-	-
328	1	162	1.83	21.0	0.34	0.50	-	-	-	-	-	-	-	-	-	-
330	1	160	1.93	19.2	0.40	1.12	-	-	-	-	-	-	-	-	-	-
332	1	160	1.93	20.0	0.38	1.28	-	-	-	-	-	-	-	-	-	-
334	1	160	1.92	22.9	0.25	1.70	-	-	-	-	-	-	-	-	-	-
402	1	211	1.24	22.6	0.58	5.14	-	-	-	-	-	-	-	-	-	-
404	1	212	1.37	21.3	0.66	4.74	-	-	-	-	-	-	-	-	-	-
406	1	217	1.45	21.2	0.61	3.13	-	-	-	-	-	-	-	-	-	-
408	1	219	1.04	20.5	0.70	2.63	-	-	-	-	-	-	-	-	-	-
410	1	226	1.31	19.7	0.76	2.25	-	-	-	-	-	-	-	-	-	-
412	1	227	1.21	19.8	0.84	2.06	-	-	-	-	-	-	-	-	-	-
414	1	220	0.98	21.6	1.16	2.88	-	-	-	-	-	-	-	-	-	-
416	1	226	1.40	-	0.81	2.22	-	-	-	-	-	-	-	-	-	-
418	1	219	1.37	14.2	0.80	0.14	223	1.51	11.03	0.33	0.58	1.5	21.8	1.5	39.6	3.0
-	1	215	1.15	9.0	0.86	0.18	-	-	-	-	-	-	-	-	-	-
-	1	220	1.47	19.7	0.97	2.33	-	-	-	-	-	-	-	-	-	-
-	1	222	1.61	19.5	0.98	3.04	-	-	-	-	-	-	-	-	-	-
745	1	206	0.96	19.5	0.56	2.32	-	-	-	-	-	-	-	-	-	-
747	1	192	1.47	20.9	0.62	4.64	-	-	-	-	-	-	-	-	-	-
749	1	194	1.51	20.8	0.45	4.79	-	-	-	-	-	-	-	-	-	-
751	1	195	1.47	20.2	0.36	3.51	-	-	-	-	-	-	-	-	-	-
753	1	187	1.51	19.8	0.32	3.43	-	-	-	-	-	-	-	-	-	-
755	1	182	1.50	19.8	0.28	3.19	-	-	-	-	-	-	-	-	-	-
757	1	199	-	19.3	0.40	4.95	-	-	-	-	-	2.0	32.2	1.8	36.9	2.3

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
22 APR 80		9		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
118	155.1	574.0	1130	1	18.0	19.97	-	53.6	3.77	-	-	-	-	-	-	14.1	0.333
120	157.1	573.0	1144	1	15.7	19.49	-	61.1	-	-	-	-	-	-	-	-	0.320
122	158.0	571.7	1150	1	15.9	19.47	-	63.4	-	-	-	-	-	-	-	-	0.295
124	159.9	571.9	1159	1	15.8	19.96	-	143.2	-	-	-	-	-	-	-	-	0.300
126	161.3	571.6	1210	1	15.8	19.78	-	138.6	7.68	-	-	-	-	-	-	10.0	0.324
128	161.1	570.6	1224	1	15.8	19.95	-	82.2	-	-	-	-	-	-	-	-	0.260
130	160.6	569.2	1230	1	15.7	20.60	-	42.3	-	-	-	-	-	-	-	-	0.210
132	159.9	567.4	1238	1	16.0	20.08	-	17.9	-	-	-	-	-	-	-	-	0.246
134	159.5	566.3	1243	1	16.0	20.00	-	17.9	-	-	-	-	-	-	-	-	0.253
136	160.4	564.6	1250	1	15.8	21.35	-	31.3	-	-	-	-	-	-	-	-	0.174
138	161.0	562.9	1302	1	15.5	22.21	-	19.4	-	-	-	-	-	-	-	-	0.199
140	161.0	561.0	1309	1	15.2	23.73	-	22.4	-	-	-	-	-	-	-	-	0.280
142	161.4	558.8	1322	1	14.9	24.02	-	27.6	1.68	-	-	-	-	-	-	7.5	0.290
144	162.1	560.5	1339	1	15.1	22.98	-	19.4	-	-	-	-	-	-	-	-	0.250
146	162.8	562.2	1345	1	16.0	21.26	-	17.9	-	-	-	-	-	-	-	-	0.210
148	163.4	563.9	1352	1	15.8	21.70	-	15.7	-	-	-	-	-	-	-	-	0.185
150	164.1	565.5	1403	1	15.8	20.79	-	32.8	-	-	-	-	-	-	-	-	0.197
152	164.8	567.4	1410	1	15.9	20.05	-	77.6	-	-	-	-	-	-	-	-	0.246
154	165.4	569.1	1417	1	16.0	19.09	-	91.6	-	-	-	-	-	-	-	-	0.260
156	165.9	570.3	1423	1	16.1	18.03	-	122.2	6.97	-	-	-	-	-	-	8.0	0.287
158	167.7	569.6	1442	1	16.0	18.19	-	131.6	-	-	-	-	-	-	-	-	0.290
160	169.2	568.5	1453	1	16.1	18.68	-	86.9	-	-	-	-	-	-	-	-	0.300
162	170.9	567.6	1502	1	16.2	19.06	-	63.4	3.63	-	-	-	-	-	-	14.1	0.330
164	172.5	566.8	1520	1	15.7	19.26	-	54.0	-	-	-	-	-	-	-	-	0.320
166	174.2	565.8	1528	1	15.5	21.78	-	30.5	-	-	-	-	-	-	-	-	0.265
168	175.2	565.2	1534	1	15.6	21.40	-	23.1	1.70	-	-	-	-	-	-	15.1	0.285
170	174.4	563.6	1549	1	15.5	23.19	-	24.6	-	-	-	-	-	-	-	-	0.187
172	173.8	561.9	1555	1	15.2	23.70	-	12.5	-	-	-	-	-	-	-	-	0.145
174	173.2	560.1	1603	1	15.2	23.89	-	8.1	-	-	-	-	-	-	-	-	0.124
176	172.5	558.3	1610	1	15.1	24.08	-	9.7	-	-	-	-	-	-	-	-	0.119
178	171.9	556.6	1617	1	14.9	24.41	-	9.0	-	-	-	-	-	-	-	-	0.110
180	171.2	554.3	1625	1	14.7	24.78	-	17.9	1.05	-	-	-	-	-	-	5.8	0.221
178	171.7	556.7	1640	1	15.0	24.22	-	-2.2	-	-	-	-	-	-	-	-	0.110
176	172.3	558.3	1646	1	14.9	24.12	-	-2.7	-	-	-	-	-	-	-	-	0.113
23	175.5	558.5	1701	1	15.3	22.36	-	4.5	-	-	-	-	-	-	-	-	0.153
22	179.4	556.5	1723	1	14.4	21.36	-	5.9	-	-	-	-	-	-	-	-	0.146
21	183.6	555.5	1747	1	14.0	24.64	-	5.3	-	-	-	-	-	-	-	-	0.139

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION		CONTINUOUS												DISCRET				DISSOLV		TOTAL	
22 APR 80		9	S F BAY		DEPTH	SI02	PO4	NO3+NO2	NO2	NH3	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH					
STATION	m	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM					
118	1	46	6.96	6.1	0.57	1.04	-	-	-	-	-	-	-	-	-	-	-	-	-					
120	1	41	-	5.3	-	2.84	-	-	-	-	-	-	-	-	-	-	-	-	-					
122	1	41	6.16	6.6	-	2.41	-	-	-	-	-	-	-	-	-	-	-	-	-					
124	1	45	5.09	3.8	-	2.11	-	-	-	-	-	-	-	-	-	-	-	-	-					
126	1	54	7.57	3.4	0.06	4.51	-	-	-	-	-	-	-	-	-	-	-	-	-					
128	1	51	7.80	3.6	0.65	8.85	-	-	-	-	-	-	-	-	-	-	-	-	-					
130	1	42	5.69	3.8	0.59	6.04	-	-	-	-	-	-	-	-	-	-	-	-	-					
132	1	47	6.37	6.3	0.42	5.35	-	-	-	-	-	-	-	-	-	-	-	-	-					
134	1	36	8.16	6.7	0.19	4.81	-	-	-	-	-	-	-	-	-	-	-	-	-					
136	1	30	7.56	5.5	0.33	4.61	-	-	-	-	-	-	-	-	-	-	-	-	-					
138	1	39	5.25	2.6	0.22	1.26	-	-	-	-	-	-	-	-	-	-	-	-	-					
140	1	48	4.28	0.2	0.05	0.48	-	-	-	-	-	-	-	-	-	-	-	-	-					
142	1	44	3.63	2.0	0.26	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-					
144	1	47	3.08	4.4	0.31	0.72	-	-	-	-	-	-	-	-	-	-	-	-	-					
146	1	44	4.54	6.7	0.34	2.18	-	-	-	-	-	-	-	-	-	-	-	-	-					
148	1	38	5.40	6.9	0.33	2.65	-	-	-	-	-	-	-	-	-	-	-	-	-					
150	1	45	4.23	4.7	0.33	0.45	-	-	-	-	-	-	-	-	-	-	-	-	-					
152	1	28	4.48	1.4	0.18	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-					
154	1	29	5.61	1.9	0.26	0.49	-	-	-	-	-	-	-	-	-	-	-	-	-					
156	1	32	7.27	5.4	0.58	2.97	-	-	-	-	-	-	-	-	-	-	-	-	-					
158	1	29	6.80	2.6	0.29	1.71	-	-	-	-	-	-	-	-	-	-	-	-	-					
160	1	16	6.11	0.7	0.09	0.60	-	-	-	-	-	-	-	-	-	-	-	-	-					
162	1	14	5.78	0.5	0.00	0.32	-	-	-	-	-	-	-	-	-	-	-	-	-					
164	1	13	5.65	0.6	0.17	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-					
166	1	13	4.39	5.0	0.20	0.28	-	-	-	-	-	-	-	-	-	-	-	-	-					
168	1	10	4.59	0.8	0.13	0.21	-	-	-	-	-	-	-	-	-	-	-	-	-					
170	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
172	1	47	2.88	9.5	0.16	1.41	-	-	-	-	-	-	-	-	-	-	-	-	-					
174	1	53	2.84	9.9	0.21	3.54	-	-	-	-	-	-	-	-	-	-	-	-	-					
176	1	53	2.81	11.1	0.23	1.75	-	-	-	-	-	-	-	-	-	-	-	-	-					
178	1	53	2.80	11.3	0.32	2.14	-	-	-	-	-	-	-	-	-	-	-	-	-					
180	1	39	2.46	7.9	0.31	1.37	-	-	-	-	-	-	-	-	-	-	-	-	-					
178	1	29	2.40	10.3	0.35	2.65	-	-	-	-	-	-	-	-	-	-	-	-	-					
176	1	28	2.86	10.4	0.42	1.97	-	-	-	-	-	-	-	-	-	-	-	-	-					
23	1	70	2.27	14.4	0.44	2.15	-	-	-	-	-	-	-	-	-	-	-	-	-					
22	1	74	2.24	14.8	0.32	2.40	-	-	-	-	-	-	-	-	-	-	-	-	-					
21	1	62	2.28	14.1	0.43	2.59	-	-	-	-	-	-	-	-	-	-	-	-	-					

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
23 APR 80		9		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
302	205.2	553.5	758	1	14.4	15.30	-	13.0	-	-	-	-	-	-	-	-	0.334
304	206.9	552.3	810	1	14.2	14.47	-	11.2	-	-	-	-	-	-	-	-	0.171
306	208.8	551.1	818	1	14.4	14.09	-	9.7	-	-	-	-	-	-	-	-	0.130
308	210.7	549.9	837	1	14.7	12.17	-	11.2	-	-	-	-	-	-	-	-	0.136
310	212.2	548.7	844	1	14.9	11.93	-	10.5	-	-	-	-	-	-	-	-	0.145
312	213.5	547.9	851	1	14.8	11.26	-	11.1	-	-	-	-	-	-	-	-	0.133
314	214.7	550.7	907	1	14.9	11.07	-	9.1	-	-	-	-	-	-	-	-	0.147
316	215.2	551.5	915	1	14.9	11.50	-	8.2	-	-	-	-	-	-	-	-	0.120
318	215.6	553.3	922	1	14.9	11.51	-	8.2	-	-	-	-	-	-	-	-	0.158
320	216.2	555.1	939	1	14.9	11.25	-	9.0	-	-	-	-	-	-	-	-	0.161
322	216.6	556.9	946	1	14.7	11.35	-	7.5	-	-	-	-	-	-	-	-	0.164
324	217.0	558.6	954	1	14.6	13.13	-	23.1	-	-	-	-	-	-	-	-	0.237
326	215.3	559.4	1016	1	14.9	12.75	-	14.9	-	-	-	-	-	-	-	-	0.174
328	213.6	560.1	1024	1	14.9	13.02	-	32.0	-	-	-	-	-	-	-	-	0.221
330	211.8	560.7	1031	1	15.3	8.31	-	14.9	-	-	-	-	-	-	-	-	0.130
332	210.1	561.4	1038	1	16.1	11.15	-	14.2	-	-	-	-	-	-	-	-	0.142
334	208.4	562.0	1045	1	15.0	14.11	-	25.3	-	-	-	-	-	-	-	-	0.158

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION	CONTINUOUS											
			SI02	PO4	NO3+NO2	NO2	NH3	DISCRET	DISCRET	DISCRET	DISCRET	TOTAL	TOTAL	TOTAL
STATION	DEPTH		UM	UM	UM	UM	UM	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH
	m							UM	UM	UM	UM	UM	UM	UM
302	1	123	2.37	18.9	0.19	2.56	-	-	-	-	-	-	-	-
304	1	124	2.37	20.2	0.30	2.45	-	-	-	-	-	-	-	-
306	1	118	2.38	18.6	0.33	2.19	-	-	-	-	-	-	-	-
308	1	137	2.37	19.4	0.36	2.44	-	-	-	-	-	-	-	-
310	1	137	2.36	19.4	0.23	2.38	-	-	-	-	-	-	-	-
312	1	143	2.37	19.6	0.27	2.18	-	-	-	-	-	-	-	-
314	1	140	2.35	19.4	0.33	2.25	-	-	-	-	-	-	-	-
316	1	140	2.33	19.8	0.15	2.46	-	-	-	-	-	-	-	-
318	1	140	2.33	19.0	0.14	2.46	-	-	-	-	-	-	-	-
320	1	140	2.35	19.2	0.31	2.34	-	-	-	-	-	-	-	-
322	1	143	2.35	19.0	0.28	2.12	-	-	-	-	-	-	-	-
324	1	132	2.99	18.5	0.18	1.42	-	-	-	-	-	-	-	-
326	1	-	-	-	-	-	-	-	-	-	-	-	-	-
328	1	127	2.34	18.3	0.31	-	-	-	-	-	-	-	-	-
330	1	158	2.47	19.5	0.31	0.94	-	-	-	-	-	-	-	-
332	1	148	2.45	18.5	0.38	2.56	-	-	-	-	-	-	-	-
334	1	137	2.49	18.2	0.44	2.65	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION																
7 MAY 80		10		S F BAY																
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	ORG PHYLL-A ug/L	CHLORO	FLUOR		
118	155.1	574.0	917	1	17.2	21.32	-	9.4	1.68	-	-	-	-	-	-	-	5.2	0.151		
120	157.0	573.0	930	1	17.1	21.45	-	7.2	-	-	-	-	-	-	-	-	-	0.139		
122	158.1	571.9	933	1	17.0	21.58	-	2.0	-	-	-	-	-	-	-	-	-	0.126		
124	159.9	571.9	940	1	16.9	21.56	-	6.4	-	-	-	-	-	-	-	-	-	0.109		
126	161.8	572.0	948	1	17.1	21.45	-	7.2	1.14	-	-	-	-	-	-	-	3.5	0.115		
128	161.2	570.6	1006	1	17.0	22.18	-	3.8	-	-	-	-	-	-	-	-	-	0.102		
130	160.5	562.1	1012	1	17.2	22.12	-	4.2	-	-	-	-	-	-	-	-	-	0.109		
132	160.0	567.4	1018	1	17.4	21.48	-	5.7	-	-	-	-	-	-	-	-	-	0.155		
134	159.5	566.3	1023	1	17.3	22.13	-	0.5	-	-	-	-	-	-	-	-	-	0.117		
136	160.4	564.6	1028	1	17.2	22.49	-	4.9	-	-	-	-	-	-	-	-	-	0.106		
138	160.8	562.9	1035	1	17.2	22.95	-	4.2	-	-	-	-	-	-	-	-	-	0.109		
140	161.0	561.0	1043	1	16.3	25.72	-	5.5	-	-	-	-	-	-	-	-	-	0.113		
142	161.7	558.7	1053	1	16.2	25.58	-	3.8	0.71	-	-	-	-	-	-	-	3.3	0.101		
144	162.0	560.4	1109	1	16.7	24.31	-	3.4	-	-	-	-	-	-	-	-	-	0.102		
146	162.8	562.1	1115	1	17.4	22.11	-	0.5	-	-	-	-	-	-	-	-	-	0.132		
148	163.8	563.9	1122	1	17.2	22.88	-	8.6	-	-	-	-	-	-	-	-	-	0.094		
150	164.1	565.6	1131	1	17.2	22.74	-	4.9	-	-	-	-	-	-	-	-	-	0.101		
152	164.8	567.4	1137	1	17.1	23.21	-	9.4	-	-	-	-	-	-	-	-	-	0.110		
154	165.4	569.1	1143	1	17.2	23.44	-	9.4	-	-	-	-	-	-	-	-	-	0.091		
156	165.8	570.2	1150	1	17.8	23.24	-	17.6	1.47	-	-	-	-	-	-	-	2.2	0.098		
158	167.5	569.4	1209	1	18.1	22.44	-	22.0	-	-	-	-	-	-	-	-	-	0.110		
160	169.2	568.5	1219	1	18.6	21.40	-	20.5	-	-	-	-	-	-	-	-	-	0.256		
162	170.8	567.6	1228	1	20.0	18.69	8.0	25.7	-	-	-	-	-	1.6	4.7	-	-	0.259		
164	172.5	566.7	1252	1	19.4	19.10	-	25.0	-	-	-	-	-	-	-	-	-	0.174		
166	174.1	565.7	1301	1	19.5	18.97	-	18.3	-	-	-	-	-	-	-	-	-	0.139		
168	175.0	565.1	1307	1	19.1	19.27	-	14.6	1.48	-	-	-	-	-	-	-	-	0.237		
170	174.4	563.6	1325	1	18.7	21.88	-	9.4	-	-	-	-	-	-	-	-	-	0.100		
172	173.8	561.9	1332	1	17.2	23.76	-	6.4	-	-	-	-	-	-	-	-	-	0.107		
174	173.1	560.1	1338	1	17.0	24.35	-	3.4	-	-	-	-	-	-	-	-	-	0.094		
176	172.4	558.4	1346	1	16.4	24.99	-	3.4	-	-	-	-	-	-	-	-	-	0.090		
178	171.8	556.7	1353	1	15.7	25.72	-	3.4	-	-	-	-	-	-	-	-	-	0.087		
180	171.1	554.8	1401	1	17.4	25.85	-	18.3	1.06	-	-	-	-	-	-	-	0.9	0.091		
182	169.9	555.1	1454	1	17.2	25.83	-	14.6	-	-	-	-	-	-	-	-	-	0.088		
186	167.4	555.6	1505	1	16.1	25.73	-	8.6	-	-	-	-	-	-	-	-	-	0.088		
188	165.8	555.6	1510	1	16.5	25.76	-	19.8	1.04	-	-	-	-	-	-	-	1.5	0.088		

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION															
7 MAY 80	10	S F BAY															
STATION	DEPTH	CONTINUOUS					DISCRETE					DISCRET					TOTAL
	m	SI02	PO4	NO3+NO2	NO2	NH3	SI02	PO4	NO3+NO2	NO2	NH3	PHOSPH	NITROG	DISSOLV	PHOSPH	NITROG	PHOSPH
		UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM
118	1	39	7.92	5.7	0.43	-	-	-	-	-	-	-	-	-	-	-	-
120	1	31	7.47	4.3	0.42	-	-	-	-	-	-	-	-	-	-	-	-
122	1	20	7.59	4.8	0.44	-	-	-	-	-	-	-	-	-	-	-	-
124	1	20	7.45	3.6	0.42	-	-	-	-	-	-	-	-	-	-	-	-
126	1	28	7.85	6.2	0.29	-	-	-	-	-	-	-	-	-	-	-	-
128	1	18	7.10	3.5	0.29	-	-	-	-	-	-	-	-	-	-	-	-
130	1	17	6.28	1.8	0.25	-	-	-	-	-	-	-	-	-	-	-	-
132	1	14	6.46	2.0	0.25	-	-	-	-	-	-	-	-	-	-	-	-
134	1	17	7.57	3.7	0.35	-	-	-	-	-	-	-	-	-	-	-	-
136	1	13	6.74	1.8	0.28	-	-	-	-	-	-	-	-	-	-	-	-
138	1	13	5.86	1.3	0.14	-	-	-	-	-	-	-	-	-	-	-	-
140	1	16	3.53	0.3	0.09	-	-	-	-	-	-	-	-	-	-	-	-
142	1	19	3.77	0.6	0.08	-	-	-	-	-	-	-	-	-	-	-	-
144	1	14	3.44	0.5	0.17	-	-	-	-	-	-	-	-	-	-	-	-
146	1	12	5.39	1.0	0.22	-	-	-	-	-	-	-	-	-	-	-	-
148	1	10	6.54	1.1	0.28	-	-	-	-	-	-	-	-	-	-	-	-
150	1	9	5.08	0.6	0.16	-	-	-	-	-	-	-	-	-	-	-	-
152	1	21	4.80	0.8	0.22	-	-	-	-	-	-	-	-	-	-	-	-
154	1	18	4.59	0.6	0.09	-	-	-	-	-	-	-	-	-	-	-	-
156	1	25	4.74	0.8	0.10	-	-	-	-	-	-	-	-	-	-	-	-
158	1	39	6.55	6.5	1.25	-	-	-	-	-	-	-	-	-	-	-	-
160	1	67	8.81	12.3	1.91	-	-	-	-	-	-	-	-	-	-	-	-
162	1	111	14.85	53.1	2.31	-	121	16.71	50.55	2.26	-	9.1	42.6	16.9	49.5	18.6	-
164	1	93	11.98	30.0	0.29	-	-	-	-	-	-	-	-	-	-	-	-
166	1	84	10.17	16.3	0.21	-	-	-	-	-	-	-	-	-	-	-	-
168	1	72	9.62	11.7	0.18	-	-	-	-	-	-	-	-	-	-	-	-
170	1	54	7.40	2.2	0.13	-	-	-	-	-	-	-	-	-	-	-	-
172	1	23	4.46	0.2	0.07	-	-	-	-	-	-	-	-	-	-	-	-
174	1	10	3.85	0.4	0.00	-	-	-	-	-	-	-	-	-	-	-	-
176	1	11	3.04	1.2	0.14	-	-	-	-	-	-	-	-	-	-	-	-
178	1	12	2.69	1.5	0.09	-	-	-	-	-	-	-	-	-	-	-	-
180	1	9	1.99	0.8	0.07	-	-	-	-	-	-	-	-	-	-	-	-
182	1	14	1.94	2.0	0.21	-	-	-	-	-	-	-	-	-	-	-	-
186	1	15	2.43	3.2	0.29	-	-	-	-	-	-	-	-	-	-	-	-
188	1	14	2.29	2.3	0.17	-	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION															
7 MAY 80	10	S F BAY															
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOM TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
190	165.9	557.2	1527	1	16.0	25.71	-	5.7	-	-	-	-	-	-	-	-	0.091
192	167.2	559.1	1535	1	16.4	24.84	-	4.9	-	-	-	-	-	-	-	-	0.098
194	167.8	560.4	1539	1	17.0	24.12	-	8.6	-	-	-	-	-	-	-	-	0.113
196	168.7	562.0	1546	1	17.2	23.86	-	7.9	-	-	-	-	-	-	-	-	0.117
198	169.5	563.9	1554	1	17.2	23.60	-	10.9	-	-	-	-	-	-	-	-	0.110
200	170.0	565.5	1600	1	17.6	23.55	-	16.1	-	-	-	-	-	-	-	-	0.123
162	170.8	567.3	1608	1	19.0	21.27	-	16.1	-	-	-	-	-	-	-	-	0.126
166	174.1	565.7	1625	1	18.6	22.28	-	15.3	-	-	-	-	-	-	-	-	0.167
168	175.0	565.1	1629	1	19.6	21.37	-	19.8	-	-	-	-	-	-	-	-	0.193
21	183.1	554.7	1730	1	14.6	27.56	-	6.4	-	-	-	-	-	-	-	-	0.107

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION											
7 MAY 80			S F BAY											
STATION	DEPTH m	CONTINUOUS										TOTAL PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
		SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISCRET PHOSPH UM	DISCRET NITROG UM	DISCOUNT PHOSPH UM	DISCOUNT NITROG UM				
190	1	17	2.49	3.2	0.24	-	-	-	-	-	-	-	-	
192	1	12	2.67	1.1	0.15	-	-	-	-	-	-	-	-	
194	1	11	2.95	1.0	0.17	-	-	-	-	-	-	-	-	
196	1	10	3.71	0.7	0.19	-	-	-	-	-	-	-	-	
198	1	10	3.59	0.4	0.16	-	-	-	-	-	-	-	-	
200	1	14	3.47	0.2	0.10	-	-	-	-	-	-	-	-	
162	1	43	4.91	0.3	0.16	-	-	-	-	-	-	-	-	
166	1	36	5.60	0.6	0.30	-	-	-	-	-	-	-	-	
168	1	41	6.29	0.5	0.31	-	-	-	-	-	-	-	-	
21	1	-	-	63.1	-	-	-	-	-	-	-	-	-	

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION																	
8 MAY 80		10		S F BAY																	
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR			
302	205.3	553.4	809	1	15.4	20.85	-	5.4	1.78	-	-	-	-	-	-	-	6.5	0.155			
304	206.9	552.3	823	1	15.2	21.53	-	3.2	-	-	-	-	-	-	-	-	-	0.155			
306	208.9	551.1	830	1	15.4	20.74	-	4.6	1.08	-	-	-	-	-	-	-	6.4	0.164			
308	210.7	549.9	848	1	15.8	15.30	-	3.2	-	-	-	-	-	-	-	-	-	0.208			
310	212.2	548.8	855	1	16.1	14.72	-	9.8	-	-	-	-	-	-	-	-	-	0.256			
312	213.5	547.9	902	1	16.4	14.51	-	12.1	1.84	-	-	-	-	-	-	-	19.9	0.300			
314	214.7	550.0	1010	1	16.9	15.31	-	26.2	-	-	-	-	-	-	-	-	-	0.410			
316	215.2	551.5	1017	1	17.0	16.13	-	82.3	-	-	-	-	-	-	-	-	-	0.430			
318	215.7	553.3	1026	1	17.1	16.10	25.2	25.9	2.82	-	-	-	-	2.8	2.8	2.8	25.3	0.400			
320	216.3	555.1	1042	1	17.1	16.40	-	82.3	-	-	-	-	-	-	-	-	-	0.550			
322	216.7	556.9	1051	1	17.3	16.47	-	54.1	-	-	-	-	-	-	-	-	-	0.490			
324	216.9	558.6	1100	1	17.7	16.97	-	159.9	9.24	-	-	-	-	-	-	-	12.4	0.370			
326	215.3	559.8	1117	1	17.2	15.20	-	164.6	-	-	-	-	-	-	-	-	-	0.630			
328	213.5	560.0	1125	1	17.3	14.42	-	164.6	-	-	-	-	-	-	-	-	-	0.630			
330	211.8	560.7	1133	1	17.1	13.85	-	164.6	-	-	-	-	-	-	-	-	-	0.630			
332	210.1	561.4	1140	1	17.2	13.52	-	9.2	-	-	-	-	-	-	-	-	-	0.220			
334	208.4	562.4	1147	1	17.4	15.69	-	8.5	1.22	-	-	-	-	-	-	-	10.7	0.230			
402	210.2	577.5	1343	1	17.5	3.92	-	89.4	-	-	-	-	-	-	-	-	-	0.234			
404	211.2	577.3	1349	1	17.6	1.53	-	105.8	5.81	-	-	-	-	-	-	-	10.0	0.253			
406	213.3	579.1	1411	1	17.2	2.06	-	159.9	-	-	-	-	-	-	-	-	-	0.262			
408	215.0	580.5	1420	1	17.2	1.39	-	189.6	-	-	-	-	-	-	-	-	-	0.290			
410	216.7	581.9	1430	1	17.5	0.73	-	174.8	-	-	-	-	-	-	-	-	-	0.290			
412	218.0	582.9	1437	1	17.9	0.43	-	241.6	-	-	-	-	-	-	-	-	-	0.460			
414	219.3	582.3	1443	1	18.9	0.59	-	159.9	13.20	-	-	-	-	-	-	-	28.5	0.455			
416	218.5	584.1	1507	1	17.6	0.26	-	263.9	-	-	-	-	-	-	-	-	-	0.400			
420	217.2	586.2	1520	1	17.5	0.64	320.0	219.3	-	-	-	-	-	-	-	-	12.1	0.340			
422	216.7	585.8	1539	1	17.7	0.25	-	122.8	-	-	-	-	-	-	-	-	-	0.250			
424	215.4	588.1	1551	1	17.7	0.11	-	98.8	-	-	-	-	-	-	-	-	-	0.218			
426	214.8	589.5	1558	1	17.7	0.10	-	119.9	-	-	-	-	-	-	-	-	-	0.237			
428	214.0	590.5	1603	1	17.4	0.16	-	197.1	-	-	-	-	-	-	-	-	-	0.301			
430	214.3	592.5	1607	1	17.4	0.15	-	204.5	-	-	-	-	-	-	-	-	-	0.310			
434	213.3	594.0	1624	1	17.1	0.07	-	174.8	-	-	-	-	-	-	-	-	9.1	0.290			
436	212.3	593.5	1629	1	17.5	0.05	-	85.6	-	-	-	-	-	-	-	-	-	0.215			
438	211.5	593.0	1634	1	18.2	0.06	-	49.4	-	-	-	-	-	-	-	-	-	0.170			
745	210.2	598.2	1757	1	18.9	0.06	-	37.6	-	-	-	-	-	-	-	-	-	0.145			

- DATA NOT AVAILABLE

Table B.---Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION															
8 MAY 80	10	S F BAY															
STATION	DEPTH	CONTINUOUS					DISCRETE					DISCRET					TOTAL
	m	SI02	PO4	NO3+NO2	NO2	NH3	SI02	PO4	NO3+NO2	NO2	NH3	PHOSPH	NITROG	DISSOLV	DISSOLV	TOTAL	PHOSPH
		UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM
302	1	49	1.94	9.3	0.47	-	-	-	-	-	-	-	-	-	-	-	-
304	1	46	1.98	8.7	0.42	-	-	-	-	-	-	-	-	-	-	-	-
306	1	53	1.96	8.4	0.54	-	-	-	-	-	-	-	-	-	-	-	-
308	1	75	1.94	11.0	0.43	-	-	-	-	-	-	-	-	-	-	-	-
310	1	80	2.00	12.2	0.42	-	-	-	-	-	-	-	-	-	-	-	-
312	1	77	1.85	10.8	0.25	-	-	-	-	-	-	-	-	-	-	-	-
314	1	55	1.55	1.1	0.38	-	-	-	-	-	-	-	-	-	-	-	-
316	1	28	1.42	0.3	0.36	-	-	-	-	-	-	-	-	-	-	-	-
318	1	32	1.32	0.2	0.06	-	29	1.27	0.15	0.29	-	1.3	9.1	1.5	17.3	2.6	-
320	1	44	1.33	0.2	0.05	-	-	-	-	-	-	-	-	-	-	-	-
322	1	21	1.36	0.3	0.00	-	-	-	-	-	-	-	-	-	-	-	-
324	1	15	2.31	0.2	0.00	-	-	-	-	-	-	-	-	-	-	-	-
326	1	24	1.61	0.1	0.10	-	-	-	-	-	-	-	-	-	-	-	-
328	1	57	1.78	0.5	0.14	-	-	-	-	-	-	-	-	-	-	-	-
330	1	77	2.02	9.4	0.34	-	-	-	-	-	-	-	-	-	-	-	-
332	1	84	2.06	10.8	0.43	-	-	-	-	-	-	-	-	-	-	-	-
334	1	77	1.87	10.7	0.38	-	-	-	-	-	-	-	-	-	-	-	-
402	1	175	2.32	22.4	0.47	2.33	-	-	-	-	-	-	-	-	-	-	-
404	1	193	2.16	21.0	0.39	1.46	-	-	-	-	-	-	-	-	-	-	-
406	1	192	2.20	22.1	0.52	1.58	-	-	-	-	-	-	-	-	-	-	-
408	1	195	2.18	22.6	0.49	1.92	-	-	-	-	-	-	-	-	-	-	-
410	1	200	2.22	21.4	0.48	1.11	-	-	-	-	-	-	-	-	-	-	-
412	1	196	2.09	18.9	0.62	0.07	-	-	-	-	-	-	-	-	-	-	-
414	1	189	2.37	19.1	0.26	0.06	-	-	-	-	-	-	-	-	-	-	-
416	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
420	1	198	-	21.4	0.54	-	-	-	-	-	-	-	-	-	-	-	-
422	1	199	-	19.8	0.83	-	-	-	-	-	-	-	-	-	-	-	-
424	1	189	-	17.9	0.57	-	-	-	-	-	-	-	-	-	-	-	-
426	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
428	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
430	1	198	-	18.7	0.76	-	-	-	-	-	-	-	-	-	-	-	-
434	1	185	-	18.8	0.27	-	-	-	-	-	-	-	-	-	-	-	-
436	1	-	-	18.5	0.02	-	-	-	-	-	-	-	-	-	-	-	-
438	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
745	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION														
8 MAY 80		10		S F BAY														
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR	
747	209.2	601.9	1811	1	19.0	0.06	-	30.0	-	-	-	-	-	-	-	-	0.145	
749	208.9	605.5	1824	1	18.5	0.05	-	25.9	-	-	-	-	-	-	-	-	0.133	
751	209.5	609.1	1840	1	18.1	0.04	-	47.1	-	-	-	-	-	-	-	-	0.145	
753	210.3	612.6	1853	1	18.5	0.05	-	47.1	-	-	-	-	-	-	-	-	0.133	
755	212.1	615.2	1907	1	18.7	0.06	-	18.8	-	-	-	-	-	-	-	-	0.136	
757	215.9	616.0	1922	1	18.2	0.05	28.4	25.9	-	-	-	-	-	-	-	-	0.142	

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION												
8 MAY 80		10		S F BAY												
STATION	DEPTH m	CONTINUOUS						DISCRETE			DISCRET		DISSOLV		TOTAL	
		SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM
747	1	183	2.46	19.8	0.81	2.81	-	-	-	-	-	-	-	-	-	-
749	1	181	2.46	19.6	0.72	3.12	-	-	-	-	-	-	-	-	-	-
751	1	185	3.43	17.5	0.74	4.42	-	-	-	-	-	-	-	-	-	-
753	1	180	2.93	19.9	0.49	4.51	-	-	-	-	-	-	-	-	-	-
755	1	180	2.70	20.6	0.51	4.29	-	-	-	-	-	-	-	-	-	-
757	1	180	2.31	18.2	0.46	4.61	174	2.13	18.78	0.43	4.51	1.9	33.5	2.0	37.9	2.5

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
21 MAY 80		11		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
118	155.1	574.0	633	1	17.4	22.91	2.2	7.6	1.17	-	-	-	-	-	-	2.0	0.108
120	157.3	572.7	650	1	17.4	23.35	-	6.9	-	-	-	-	-	-	-	-	0.101
122	158.2	571.8	655	1	17.4	23.46	-	6.1	-	-	-	-	-	-	-	-	0.101
124	159.9	571.9	701	1	17.4	23.65	-	7.6	-	-	-	-	-	-	-	-	0.101
126	161.8	572.8	707	1	17.9	24.23	11.6	16.5	1.07	-	-	-	-	-	-	3.2	0.146
128	161.2	570.6	725	1	17.3	23.83	-	8.4	-	-	-	-	-	-	-	-	0.095
130	160.6	569.2	730	1	17.1	23.94	-	9.1	-	-	-	-	-	-	-	-	0.101
132	160.0	567.6	736	1	17.2	24.25	-	6.1	-	-	-	-	-	-	-	-	0.127
134	159.5	566.3	741	1	17.0	24.51	-	5.4	-	-	-	-	-	-	-	-	0.095
136	160.4	564.6	747	1	16.7	24.90	-	8.4	-	-	-	-	-	-	-	-	0.084
138	160.7	562.8	754	1	16.8	25.28	-	11.3	-	-	-	-	-	-	-	-	0.096
140	161.2	561.0	800	1	16.7	26.04	-	9.1	-	-	-	-	-	-	-	-	0.123
142	161.5	558.7	809	1	17.3	26.37	0.2	10.6	0.71	-	-	-	-	-	-	3.3	0.125
144	162.2	560.4	829	1	16.4	25.60	-	6.9	-	-	-	-	-	-	-	-	0.099
146	162.9	561.2	835	1	17.0	24.80	-	4.6	-	-	-	-	-	-	-	-	0.108
148	163.4	563.9	841	1	17.0	24.86	-	6.9	-	-	-	-	-	-	-	-	0.079
150	164.1	565.6	849	1	16.9	25.00	-	5.4	-	-	-	-	-	-	-	-	0.085
152	164.8	567.2	856	1	17.0	25.06	-	8.4	-	-	-	-	-	-	-	-	0.111
154	165.6	569.0	902	1	17.1	25.03	-	11.3	-	-	-	-	-	-	-	-	0.120
156	166.0	570.2	908	1	17.4	24.91	12.7	16.5	1.45	-	-	-	-	-	-	2.6	0.123
158	167.5	569.4	924	1	17.3	24.77	-	19.5	-	-	-	-	-	-	-	-	0.127
160	169.2	568.5	931	1	17.8	24.49	-	22.5	-	-	-	-	-	-	-	-	0.144
162	170.8	567.6	939	1	18.0	23.98	3.1	23.2	-	-	-	-	-	-	-	3.0	0.146
164	172.7	566.7	948	1	18.9	23.41	-	24.0	-	-	-	-	-	-	-	-	0.161
166	174.2	565.8	955	2	19.1	23.51	-	16.5	-	-	-	-	-	-	-	-	0.171
168	175.1	565.3	959	1	18.9	23.57	6.6	14.3	1.31	-	-	-	-	-	-	2.6	0.174
170	174.4	563.6	1015	1	16.7	24.85	-	24.0	-	-	-	-	-	-	-	-	0.108
172	173.8	561.9	1022	1	16.3	25.37	-	21.7	-	-	-	-	-	-	-	-	0.098
174	173.3	560.0	1032	1	15.4	26.13	-	11.3	-	-	-	-	-	-	-	-	0.087
176	172.4	558.4	1038	1	15.2	26.34	-	12.1	-	-	-	-	-	-	-	-	0.095
178	171.8	556.7	1046	1	15.2	26.40	-	12.1	-	-	-	-	-	-	-	-	0.095
180	170.9	554.4	1055	1	16.2	26.45	7.3	15.0	1.31	-	-	-	-	-	-	1.8	0.098

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION												
			S F BAY											
STATION	DEPTH	CONTINUOUS												
	m	SI02	PO4	NO3+NO2	NO2	NH3	DISCRET	DISSOLV	DISSOLV	TOTAL	DISSOLV	DISSOLV	TOTAL	TOTAL
		UM	UM	UM	UM	UM	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH	PHOSPH
118	1	57	10.03	18.2	1.34	13.64	-	-	-	-	-	-	-	-
120	1	55	9.74	17.0	1.45	13.13	-	-	-	-	-	-	-	-
122	1	54	9.50	15.9	1.36	13.04	-	-	-	-	-	-	-	-
124	1	53	8.67	13.3	1.14	11.62	-	-	-	-	-	-	-	-
126	1	51	7.86	9.6	0.65	7.17	-	-	-	-	-	-	-	-
128	1	53	8.52	12.7	0.99	11.69	-	-	-	-	-	-	-	-
130	1	50	8.18	11.6	1.03	12.37	-	-	-	-	-	-	-	-
132	1	49	7.43	10.6	0.84	8.80	-	-	-	-	-	-	-	-
134	1	46	7.34	9.4	0.84	12.24	-	-	-	-	-	-	-	-
136	1	45	4.79	8.3	0.75	12.19	-	-	-	-	-	-	-	-
138	1	45	4.25	7.8	0.76	10.17	-	-	-	-	-	-	-	-
140	1	43	4.88	6.1	0.60	7.15	-	-	-	-	-	-	-	-
142	1	42	5.57	7.8	0.37	8.59	-	-	-	-	-	-	-	-
144	1	44	5.83	7.9	0.83	9.64	-	-	-	-	-	-	-	-
146	1	45	6.03	8.8	1.09	10.04	-	-	-	-	-	-	-	-
148	1	45	6.19	8.9	1.05	10.05	-	-	-	-	-	-	-	-
150	1	43	5.46	7.3	0.92	10.29	-	-	-	-	-	-	-	-
152	1	43	5.34	7.4	0.81	10.38	-	-	-	-	-	-	-	-
154	1	43	5.35	7.1	0.71	8.73	-	-	-	-	-	-	-	-
156	1	43	5.54	6.7	0.60	8.25	-	-	-	-	-	-	-	-
158	1	44	5.63	6.8	0.65	6.74	-	-	-	-	-	-	-	-
160	1	45	5.74	6.7	0.64	6.30	-	-	-	-	-	-	-	-
162	1	52	6.37	5.8	0.59	6.15	-	-	-	-	-	-	-	-
164	1	62	7.84	5.4	0.46	5.72	-	-	-	-	-	-	-	-
166	2	67	8.73	9.8	0.43	5.58	-	-	-	-	-	-	-	-
168	1	66	8.30	7.2	0.49	5.74	-	-	-	-	-	-	-	-
170	1	48	5.40	6.6	0.75	10.59	-	-	-	-	-	-	-	-
172	1	42	4.78	6.7	0.80	11.14	-	-	-	-	-	-	-	-
174	1	36	4.79	8.9	0.87	11.80	-	-	-	-	-	-	-	-
176	1	34	2.77	10.0	0.83	11.45	-	-	-	-	-	-	-	-
178	1	35	3.54	10.6	0.88	11.44	-	-	-	-	-	-	-	-
180	1	-	-	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
22 MAY 80		11		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
302	205.2	553.6	646	1	15.6	17.07	24.8	29.2	2.94	-	8.03	-	-	-	-	7.6	0.168
304	206.9	552.3	705	1	15.5	17.58	-	28.4	-	-	8.05	-	-	-	-	-	0.161
306	208.8	551.2	713	1	15.5	19.00	23.7	23.2	2.43	-	7.95	-	-	-	-	9.0	0.171
308	210.6	549.8	730	1	15.0	20.24	-	29.9	-	-	8.01	-	-	-	-	-	0.171
310	212.3	548.7	737	1	15.7	18.65	-	49.2	-	-	8.07	-	-	-	-	-	0.307
312	213.5	547.9	744	1	16.0	18.50	79.8	84.6	5.75	-	8.06	-	-	-	-	25.5	0.430
314	214.8	550.0	803	1	16.0	16.51	-	77.6	-	-	-	-	-	-	-	-	0.390
316	215.2	551.5	810	1	16.2	15.18	-	72.9	-	-	8.10	-	-	-	-	-	0.430
318	215.7	553.3	817	1	16.4	14.09	111.6	141.1	10.00	-	8.10	-	-	-	-	49.2	0.620
320	216.2	555.0	832	1	17.2	14.01	-	129.4	-	-	8.21	-	-	-	-	-	0.600
322	216.7	556.9	840	1	16.6	12.61	-	157.5	-	-	8.09	-	-	-	-	-	0.530
324	216.9	558.6	848	1	16.9	13.00	273.0	271.3	14.80	-	8.06	-	-	-	-	28.1	0.590
326	215.2	559.3	905	1	16.3	12.08	-	159.9	-	-	-	-	-	-	-	-	0.400
328	213.5	560.2	911	1	16.5	13.45	-	130.2	-	-	-	-	-	-	-	-	0.360
330	211.8	560.7	918	1	17.0	13.64	-	65.9	-	-	7.93	-	-	-	-	-	0.270
332	210.1	561.4	925	1	16.5	13.70	-	23.6	-	-	8.03	-	-	-	-	-	0.205
334	208.4	562.1	931	1	16.3	16.41	26.7	32.9	2.25	-	8.08	-	-	-	-	11.2	0.220
402	210.2	577.5	1202	1	18.0	4.44	-	54.1	-	-	7.92	-	-	-	-	-	0.240
404	211.1	577.4	1206	1	17.8	4.58	35.0	42.4	3.14	-	7.91	-	-	-	-	7.1	0.184
406	213.3	579.1	1228	1	18.2	2.15	-	103.5	-	-	7.95	-	-	-	-	-	0.280
408	215.1	580.5	1232	1	18.2	1.64	-	118.7	-	-	7.92	-	-	-	-	-	0.315
410	216.7	581.9	1241	1	18.5	0.96	-	162.3	-	-	7.95	-	-	-	-	-	0.350
412	218.0	582.8	1247	1	18.6	0.55	-	211.9	-	-	7.95	-	-	-	-	-	0.390
414	219.2	582.3	1252	1	18.7	0.38	207.5	226.8	16.10	-	7.98	-	-	-	-	23.2	0.440
416	219.0	584.2	1310	1	18.3	0.52	-	278.8	-	-	7.91	-	-	-	-	-	0.430
418	218.8	586.7	1321	1	17.8	0.38	465.8	315.9	32.10	-	7.94	-	-	-	-	41.4	0.610
420	217.8	586.2	1404	1	18.5	0.18	-	308.5	-	-	7.91	-	-	-	-	-	0.560
422	216.9	585.8	1409	1	18.7	0.30	-	152.5	-	-	7.86	-	-	-	-	-	0.310
424	215.3	588.1	1420	1	18.9	0.23	-	159.9	-	-	7.87	-	-	-	-	-	0.300
428	214.0	590.5	1432	1	19.3	0.10	-	100.5	-	-	7.90	-	-	-	-	-	0.230
430	214.2	592.6	1442	1	18.9	0.12	-	47.1	-	-	7.85	-	-	-	-	-	0.290
432	214.5	594.6	1452	1	18.0	0.10	344.9	241.6	-	-	7.87	-	-	-	-	18.3	0.340
-	214.2	595.5	1501	1	19.1	0.08	-	100.5	-	-	7.85	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION		CONTINUOUS										DISCRETE					DISCRETE DISSOLV				TOTAL	
22 MAY 80			11	S F BAY	STATION	DEPTH	SI02	PO4	NO3+NO2	NO2	NH3	SI02	PO4	NO3+NO2	NO2	NH3	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH	NITROG	UM	UM	
302	1	58	2.31	11.7	0.38	-	-	-	0.36	-	60	2.33	11.96	0.36	-	-	2.3	22.2	2.5	25.6	3.1	-	-		
304	1	58	2.30	11.4	0.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
306	1	48	2.23	10.6	0.48	-	-	-	0.28	-	48	2.24	11.57	0.28	-	-	2.2	18.8	2.4	27.8	3.0	-	-		
308	1	42	2.20	9.5	0.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
310	1	34	2.20	7.3	0.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
312	1	25	2.09	5.9	0.22	-	-	-	0.16	-	25	2.10	6.56	0.16	-	-	2.1	14.1	2.3	29.1	4.0	-	-		
314	1	28	1.95	5.2	0.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
316	1	29	1.86	4.3	0.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
318	1	24	1.83	2.6	0.19	-	-	-	0.07	-	26	1.83	2.98	0.07	-	-	1.8	11.8	2.1	31.5	4.1	-	-		
320	1	3	1.88	0.1	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
322	1	47	1.76	5.0	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
324	1	45	2.16	4.4	0.04	-	-	-	0.09	-	43	2.24	4.59	0.09	-	-	2.2	12.1	2.5	41.2	4.7	-	-		
326	1	77	2.37	12.1	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
328	1	74	2.45	11.9	0.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
330	1	76	2.50	11.1	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
332	1	69	2.42	11.7	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
334	1	47	2.30	5.8	0.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
402	1	151	2.76	22.7	0.40	-	-	-	0.21	-	45	2.18	5.92	0.21	-	-	2.2	15.1	2.5	23.0	3.3	-	-		
404	1	150	2.46	20.0	0.30	-	-	-	0.40	-	158	2.77	19.99	0.40	-	-	2.8	29.8	2.5	37.8	3.1	-	-		
406	1	170	2.37	19.2	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
408	1	173	2.33	19.6	0.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
410	1	182	2.71	19.4	0.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
412	1	187	2.25	18.8	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
414	1	187	2.22	18.8	0.09	-	-	-	0.36	-	195	2.94	19.86	0.36	-	-	2.9	28.6	2.5	50.7	4.0	-	-		
416	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
418	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	27.4	2.3	59.7	4.3	-	-		
420	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
422	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
424	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
428	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
430	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
432	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	35.0	2.4	54.6	3.8	-	-		
-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION																	
4 JUN 80		12		S F BAY																	
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR				
118	156.0	573.9	637	1	16.5	24.57	18.6	23.2	2.19	-	-	-	-	-	-	4.3	0.155				
120	157.0	573.0	651	1	16.3	24.75	-	23.2	-	-	-	-	-	-	-	-	0.127				
122	158.1	571.8	656	1	16.1	24.85	-	24.0	-	-	-	-	-	-	-	-	0.111				
124	159.9	571.9	703	1	16.6	24.70	-	17.3	-	-	-	-	-	-	-	-	0.136				
126	161.8	572.0	710	1	16.4	25.12	26.2	24.0	1.98	-	-	-	-	-	-	4.4	0.149				
128	162.2	570.6	728	1	16.6	24.64	-	24.7	-	-	-	-	-	-	-	-	0.139				
130	160.6	569.2	733	1	16.4	24.82	-	19.5	-	-	-	-	-	-	-	-	0.108				
132	160.0	567.4	740	1	16.5	24.87	-	11.3	-	-	-	-	-	-	-	-	0.108				
134	159.5	566.3	744	1	16.5	24.93	9.1	15.8	-	-	-	-	-	-	-	-	0.108				
136	160.4	564.6	749	1	16.3	25.18	-	15.0	-	-	-	-	-	-	-	-	0.098				
138	160.7	562.8	757	1	16.2	25.26	-	9.1	-	-	-	-	-	-	-	-	0.104				
140	161.0	561.0	803	1	16.1	26.71	-	10.6	-	-	-	-	-	-	-	-	0.165				
142	161.5	558.8	817	1	15.6	26.78	7.0	8.4	1.03	-	-	-	-	-	-	3.7	0.146				
144	162.2	560.2	834	1	15.9	26.01	-	8.4	-	-	-	-	-	-	-	-	0.104				
148	164.6	562.9	848	1	16.3	25.25	-	15.8	-	-	-	-	-	-	-	-	0.104				
150	164.1	565.6	902	1	16.2	25.37	19.8	24.0	-	-	-	-	-	-	-	-	0.114				
152	164.8	567.3	917	1	16.5	25.15	-	34.4	-	-	-	-	-	-	-	-	0.155				
154	165.4	569.1	923	1	17.0	24.85	-	24.7	-	-	-	-	-	-	-	-	0.171				
156	165.8	570.3	930	1	17.2	24.91	48.1	58.8	3.59	-	-	-	-	-	-	6.2	0.199				
158	167.5	569.4	951	1	16.8	24.89	-	37.6	-	-	-	-	-	-	-	-	0.196				
160	169.2	568.5	959	1	16.9	24.93	-	44.7	-	-	-	-	-	-	-	-	0.177				
162	170.8	567.6	1007	1	16.8	24.80	79.5	87.0	-	-	-	-	-	1.3	3.3	4.8	0.199				
164	172.5	566.7	1029	1	16.7	24.89	-	87.0	-	-	-	-	-	-	-	-	0.190				
166	174.2	565.8	1037	1	16.9	24.86	-	65.9	-	-	-	-	-	-	-	-	0.187				
168	175.1	565.3	1042	1	17.0	25.27	57.2	63.6	-	-	-	-	-	-	-	4.4	0.171				
170	174.4	563.6	1056	1	16.3	24.84	-	44.7	-	-	-	-	-	-	-	-	0.142				
172	173.8	561.9	1103	1	15.6	25.58	-	30.6	-	-	-	-	-	-	-	-	0.111				
174	173.1	560.1	1111	1	15.8	25.90	-	15.1	-	-	-	-	-	-	-	-	0.089				
176	172.4	558.4	1117	1	15.6	26.13	-	9.1	-	-	-	-	-	-	-	-	0.089				
178	171.5	555.4	1123	1	15.2	26.80	-	6.9	-	-	-	-	-	-	-	-	0.092				
180	171.5	555.4	1131	1	15.9	26.87	24.6	26.2	-	-	-	-	-	-	-	2.3	0.123				
182	170.0	555.5	1148	1	15.9	26.81	-	15.0	-	-	-	-	-	-	-	-	0.117				
184	168.5	555.7	1153	1	16.0	26.77	-	15.0	-	-	-	-	-	-	-	-	0.117				
186	167.4	555.4	1200	1	16.1	26.77	13.2	18.8	-	-	-	-	-	-	-	-	0.117				
188	166.2	555.8	1204	1	16.3	26.79	-	21.0	-	-	-	-	-	-	-	-	0.120				

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION	CONTINUOUS														DISCRETE				DISSOLV				TOTAL	
4 JUN 80	12	S F BAY	DEPTH m	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISCRET PHOSPH UM	DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM								
118	1	80	9.35	21.9	1.36	4.21																				
120	1	77	8.97	21.4	1.51	6.10																				
122	1	74	8.69	20.1	1.45	7.20																				
124	1	77	9.06	21.0	1.31	3.74																				
126	1	69	6.93	15.3	0.60	0.71																				
128	1	78	9.16	20.9	1.31	4.63																				
130	1																									
132	1	70	8.35	17.3	1.38	7.85																				
134	1	71	8.64	17.4	1.42	8.66																				
136	1	71	8.52	17.0	1.33	8.82																				
138	1	67	7.37	14.7	1.13	5.97																				
140	1	56	4.24	3.1	0.35	0.07																				
142	1	54	3.87	13.6	0.44	1.31																				
144	1	60	5.22	14.7	0.66	4.53																				
148	1	66	7.08	18.4	1.06	7.69																				
150	1	64	6.61	17.9	0.72	1.39																				
152	1	65	6.36	16.9	0.55	1.47																				
154	1	69	6.86	4.7	0.10	0.37																				
156	1	72	8.00	5.5	0.02	0.62																				
158	1	69	7.44	1.9	0.07	0.11																				
160	1	72	7.95	2.4	0.18	0.33																				
162	1	74	8.47	7.6	0.21	0.64																				
164	1	75	9.31	10.7	0.34	0.55																				
166	1	78	8.71	10.0	0.15	1.38																				
168	1	83	8.50	15.8	0.16	2.64																				
170	1	72	6.79	15.3	0.26	0.96																				
172	1	64	5.89	17.9	0.64	3.72																				
174	1	59	5.33	16.2	0.72	5.78																				
176	1	57	5.11	15.7	0.75	5.21																				
178	1	53	4.03	15.1	0.58	4.35																				
180	1	43	3.47	11.7	0.67	2.52																				
182	1	50	3.70	14.7	0.54	2.25																				
184	1	50	3.88	12.8	0.50	1.93																				
186	1	51	4.07	12.2	0.40	3.39																				
188	1																									

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION		TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
5 JUN 80		12		S F BAY																
STATION	UTM NORTH	UTM EAST																		
302	205.2	550.0	654	1	15.0	17.16	12.7	14.3	-	-	-	-	-	7.98	-	-	-	-	5.3	0.130
304	206.9	552.3	715	1	14.6	18.34	-	10.6	-	-	-	-	-	7.98	-	-	-	-	-	0.146
306	208.8	551.1	723	1	15.2	17.69	12.3	12.8	-	-	-	-	-	8.02	-	-	-	-	6.7	0.130
308	210.7	549.8	743	1	15.5	18.89	-	18.8	-	-	-	-	-	7.95	-	-	-	-	-	0.158
310	212.3	548.9	749	1	15.4	17.54	-	16.5	-	-	-	-	-	7.98	-	-	-	-	-	0.234
312	213.5	547.9	757	1	16.0	17.96	35.2	49.4	-	-	-	-	-	8.03	-	-	-	-	-	0.305
314	214.7	550.0	814	1	15.9	17.32	-	49.4	-	-	-	-	-	8.05	-	-	-	-	29.4	0.300
316	215.2	551.5	823	1	16.3	16.87	-	56.5	-	-	-	-	-	8.15	-	-	-	-	-	0.390
318	215.7	553.3	830	1	16.5	16.38	83.9	103.5	-	-	-	-	-	8.12	-	-	2.6	3.3	43.3	0.420
320	216.3	555.1	855	1	16.8	15.78	-	115.3	-	-	-	-	-	8.17	-	-	-	-	-	0.520
322	216.7	556.9	903	1	17.0	16.42	-	112.9	-	-	-	-	-	8.19	-	-	-	-	-	0.520
324	216.9	558.6	913	1	17.3	17.81	94.5	119.9	-	-	-	-	-	7.99	-	-	-	-	25.1	0.350
326	215.3	559.3	933	1	17.0	16.30	-	129.4	-	-	-	-	-	8.24	-	-	-	-	-	0.500
328	213.5	560.0	942	1	17.2	15.80	-	101.1	-	-	-	-	-	8.15	-	-	-	-	-	0.407
329	212.9	560.4	945	1	16.7	16.70	-	82.3	-	-	-	-	-	8.03	-	-	-	-	21.0	0.280
330	211.8	560.7	952	1	16.8	12.07	-	21.2	-	-	-	-	-	8.01	-	-	-	-	12.8	0.140
332	210.1	561.4	958	1	16.3	14.78	-	70.5	-	-	-	-	-	7.98	-	-	-	-	-	0.212
334	208.4	562.1	1005	1	16.2	15.47	45.8	56.5	-	-	-	-	-	8.03	-	-	-	-	15.5	0.180
402	210.3	577.6	1215	1	17.7	3.70	-	159.9	-	-	-	-	-	8.01	-	-	-	-	-	0.300
404	211.1	577.3	1219	1	17.6	2.25	129.3	115.3	-	-	-	-	-	8.08	-	-	-	-	18.3	0.320
406	213.3	579.3	1234	1	17.4	2.55	-	145.0	-	-	-	-	-	7.96	-	-	-	-	-	0.280
408	215.0	580.5	1242	1	17.4	1.95	-	226.8	-	-	-	-	-	7.99	-	-	-	-	-	0.380
410	216.8	581.9	1251	1	17.6	0.58	-	174.8	-	-	-	-	-	8.08	-	-	-	-	-	0.320
412	218.0	582.9	1258	1	18.3	0.89	-	226.8	-	-	-	-	-	7.99	-	-	-	-	-	0.450
414	219.3	582.3	1304	1	19.2	0.91	201.4	226.8	-	-	-	-	-	8.06	-	-	-	-	33.4	0.470
416	218.1	584.0	1328	1	18.4	1.09	-	234.2	-	-	-	-	-	8.20	-	-	-	-	-	0.540
420	218.1	586.0	1336	1	18.4	0.75	136.1	182.2	-	-	-	-	-	8.23	-	-	-	-	28.9	0.420
422	216.8	585.8	1354	1	18.4	0.72	-	152.5	-	-	-	-	-	7.96	-	-	-	-	-	0.298
424	215.4	588.0	1403	1	18.3	0.42	-	159.9	-	-	-	-	-	7.92	-	-	-	-	-	0.289
426	214.7	589.6	1412	1	18.2	0.26	-	122.8	-	-	-	-	-	7.92	-	-	-	-	-	0.244
428	214.0	590.5	1416	1	18.4	0.32	-	130.2	-	-	-	-	-	7.96	-	-	-	-	-	0.250
430	214.3	592.5	1426	1	18.2	0.18	-	122.8	-	-	-	-	-	8.03	-	-	-	-	-	0.240
432	214.4	593.5	1431	1	18.4	0.22	151.1	159.9	-	-	-	-	-	8.10	-	-	-	-	17.0	0.320
434	213.3	594.0	1455	1	18.5	0.16	-	115.3	-	-	-	-	-	7.94	-	-	-	-	-	0.230
436	212.4	593.5	1501	1	18.4	0.19	-	100.5	-	-	-	-	-	7.91	-	-	-	-	-	0.210

- DATA NOT AVAILABLE

Table B.---Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION															
			CONTINUOUS					DISCRETE					DISSOLV				
5 JUN 80	12	S F BAY	STATION	DEPTH	SI02	PO4	NO3+NO2	NO2	NH3	SI02	PO4	NO3+NO2	NO2	NH3	PHOSPH	NITROG	TOTAL
				m	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM
302	1	61	2.74	16.0	0.46	0.39	1.45	0.39	2.00	64	2.43	14.48	0.39	1.71	2.4	25.4	2.6
304	1	53	2.61	14.0	0.49	0.46	0.28	0.28	2.28	-	-	-	-	-	-	-	3.0
306	1	57	2.76	15.2	0.41	0.45	0.36	0.36	1.70	56	2.32	13.58	0.39	1.52	2.3	25.1	2.6
308	1	50	2.70	13.6	0.53	0.21	0.00	0.00	2.31	-	-	-	-	-	-	-	2.9
310	1	45	2.69	12.4	0.50	0.21	0.00	0.00	1.65	-	-	-	-	-	-	-	-
312	1	34	2.58	11.0	0.39	0.46	0.36	0.36	1.45	30	2.02	9.31	0.26	0.64	2.0	19.7	2.3
314	1	36	2.05	11.0	0.46	0.45	0.36	0.36	0.28	-	-	-	-	-	-	-	3.4
316	1	38	2.04	10.5	0.45	0.21	0.00	0.00	0.36	-	-	-	-	-	-	-	-
318	1	16	1.86	6.3	0.21	0.00	0.00	0.00	0.26	19	1.77	5.56	0.10	0.26	1.8	16.3	2.1
320	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.7
322	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
324	1	3	2.40	0.4	0.00	0.40	0.12	0.12	0.15	4	2.38	0.2	0.01	0.15	2.4	11.5	2.7
326	1	2	2.03	0.5	0.05	0.25	0.13	0.13	-	-	-	-	-	-	-	-	4.1
328	1	20	2.00	2.7	0.09	0.12	0.12	0.12	-	-	-	-	-	-	-	-	-
329	1	24	2.07	3.1	0.11	0.28	0.38	0.38	-	-	-	-	-	-	-	-	-
330	1	90	2.44	16.0	0.40	0.40	0.40	0.40	2.56	-	-	-	-	-	-	-	-
332	1	81	2.40	15.0	0.43	0.25	0.80	0.80	1.59	-	-	-	-	-	-	-	-
334	1	69	2.35	14.5	0.25	0.36	2.16	2.16	0.39	67	2.34	14.01	0.39	0.98	2.3	26.5	2.6
402	1	158	2.60	22.1	0.36	0.28	0.38	0.38	0.36	-	-	-	-	-	-	-	3.4
404	1	165	2.38	21.2	0.28	0.28	0.38	0.38	1.63	169	2.63	20.17	0.36	1.63	2.6	30.8	2.7
406	1	168	2.39	20.9	0.36	0.36	1.08	1.08	-	-	-	-	-	-	-	-	46.4
408	1	171	2.32	20.8	0.39	0.39	1.69	1.69	-	-	-	-	-	-	-	-	-
410	1	190	2.16	20.0	0.25	0.25	0.67	0.67	-	-	-	-	-	-	-	-	-
412	1	173	1.96	16.8	0.19	0.19	0.68	0.68	-	-	-	-	-	-	-	-	-
414	1	170	1.98	17.4	0.07	0.07	0.27	0.27	1.65	174	2.59	18.75	0.28	1.65	2.6	29.2	2.2
416	1	174	2.03	17.0	0.21	0.21	0.52	0.52	-	-	-	-	-	-	-	-	50.7
420	1	183	2.11	19.2	0.32	0.32	0.25	0.25	1.84	182	2.92	19.86	0.40	1.84	2.9	29.0	2.4
422	1	184	2.10	20.3	0.23	0.23	0.80	0.80	-	-	-	-	-	-	-	-	43.5
424	1	-	-	21.0	0.68	0.81	0.81	0.81	-	-	-	-	-	-	-	-	-
426	1	-	-	21.1	1.31	1.31	0.82	0.82	-	-	-	-	-	-	-	-	-
428	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
430	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
432	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
434	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
436	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
5 JUN 80		12		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
438	211.5	593.1	1505	1	18.7	0.13	90.0	96.5	-	-	7.78	-	-	-	-	7.9	0.199
745	210.3	598.3	1543	1	18.8	0.08	-	61.2	-	-	7.73	-	-	-	-	-	-
747	209.3	602.0	1557	1	19.0	0.07	-	47.1	-	-	7.77	-	-	-	-	-	-
749	208.9	605.5	1612	1	18.7	0.06	37.0	40.0	-	-	7.77	-	-	-	-	-	-
751	209.5	609.1	1627	1	18.6	0.06	38.0	37.6	-	-	7.77	-	-	-	-	-	-
753	210.3	612.6	1640	1	18.7	0.06	33.0	32.9	-	-	7.75	-	-	-	-	-	-
757	212.1	615.2	1655	1	19.0	0.06	-	28.3	-	-	7.77	-	-	-	-	-	-
757	215.9	616.0	1710	1	18.6	0.05	43.0	37.6	-	-	7.66	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION														
5 JUN 80		12	S F BAY														
STATION	DEPTH m	CONTINUOUS			DISCRETE			DISCRET			DISSOLV		TOTAL				
		SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM
438	1	-	-	-	-	-	-	-	22.03	0.47	-	-	-	-	-	-	-
745	1	194	2.75	19.9	0.40	2.24	-	-	-	-	-	-	-	-	-	-	-
747	1	193	2.68	19.3	0.32	1.72	-	-	-	-	-	-	-	-	-	-	-
749	1	196	2.80	19.2	0.42	1.88	-	-	-	-	-	-	-	-	-	-	-
751	1	201	2.73	18.6	0.37	1.89	-	-	-	-	-	-	-	-	-	-	-
753	1	195	2.74	19.1	0.39	2.25	-	-	-	-	-	-	-	-	-	-	-
757	1	194	2.78	20.4	0.57	1.54	-	-	-	-	-	-	-	-	-	-	-
757	1	192	2.56	17.4	0.36	2.90	195	2.84	19.08	0.56	4.19	2.8	33.6	2.3	38.0	2.7	-

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION														
17 JUN 80		13		S F BAY														
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR	
118	156.0	574.0	629	1	18.7	25.45	25.1	-	2.86	-	7.99	-	-	-	-	-	2.4	-
120	157.2	572.8	636	1	18.3	25.14	-	-	-	-	7.87	-	-	-	-	-	-	-
122	158.1	571.9	640	1	18.3	25.26	-	-	-	-	7.90	-	-	-	-	-	-	-
124	159.9	571.9	646	1	18.4	25.86	-	-	-	-	8.06	-	-	-	-	-	-	-
126	161.8	572.0	654	1	18.3	25.91	12.1	-	1.40	-	8.03	-	-	-	-	-	2.8	-
128	161.2	570.6	710	1	18.1	25.94	-	-	-	-	8.01	-	-	-	-	-	-	-
130	160.6	569.2	716	1	18.2	25.82	-	-	-	-	8.01	-	-	-	-	-	-	-
132	160.0	567.4	723	1	18.0	25.73	-	-	-	-	7.91	-	-	-	-	-	-	-
134	159.6	566.3	726	1	18.2	25.68	17.9	-	-	-	7.90	-	-	-	-	-	-	-
136	160.4	564.6	732	1	18.1	25.76	-	-	-	-	7.90	-	-	-	-	-	-	-
138	160.7	562.7	739	1	17.9	26.13	-	-	-	-	7.92	-	-	-	-	-	-	-
140	161.2	561.0	746	1	18.2	27.40	-	-	-	-	8.10	-	-	-	-	-	-	-
142	161.4	558.8	754	1	17.9	27.39	7.9	-	2.18	-	8.06	-	-	-	-	-	6.8	-
144	161.9	560.6	811	1	17.8	26.87	-	-	-	-	7.85	-	-	-	-	-	-	-
146	162.7	562.1	817	1	18.2	25.77	-	-	-	-	7.85	-	-	-	-	-	-	-
148	163.4	563.9	826	1	18.0	25.92	-	-	-	-	7.91	-	-	-	-	-	-	-
150	164.1	565.6	834	1	17.9	26.04	15.6	-	-	-	7.92	-	-	-	-	-	-	-
152	164.8	567.4	841	1	17.8	26.25	-	-	-	-	7.92	-	-	-	-	-	-	-
154	165.7	568.9	849	1	17.8	26.22	-	-	-	-	7.92	-	-	-	-	-	-	-
156	166.0	571.1	856	1	18.1	26.16	8.7	-	0.91	-	7.99	-	-	-	-	-	1.7	-
158	167.5	569.4	917	1	18.1	26.06	-	-	-	-	7.99	-	-	-	-	-	-	-
160	168.9	568.2	927	1	18.0	26.23	-	-	-	-	7.94	-	-	-	-	-	-	-
162	170.7	567.4	936	1	18.3	26.03	6.0	-	0.80	-	7.99	-	-	-	-	-	1.6	-
164	172.5	566.5	953	1	19.1	26.16	-	-	-	-	8.04	-	-	-	-	-	-	-
166	174.0	565.5	1000	1	19.7	26.12	-	21.0	-	-	7.99	-	-	-	-	-	-	0.110
168	175.0	565.1	1006	1	20.7	25.55	18.9	24.0	1.79	-	7.93	-	-	-	-	-	4.1	0.123
170	173.4	563.6	1022	1	19.3	26.08	-	19.5	-	-	8.01	-	-	-	-	-	-	0.101
172	173.7	561.9	1028	1	18.2	26.46	-	4.7	-	-	7.90	-	-	-	-	-	-	0.070
174	172.8	559.6	1039	1	17.8	26.82	4.2	1.7	-	-	7.91	-	-	-	-	-	-	0.063
176	172.2	558.2	1045	1	17.6	26.99	-	1.7	-	-	7.91	-	-	-	-	-	-	0.063
178	171.8	556.6	1051	1	17.1	27.55	-	1.0	-	-	7.91	-	-	-	-	-	-	0.057
180	171.2	554.9	1055	1	17.2	27.71	12.4	15.1	1.50	-	7.91	-	-	-	-	-	1.2	0.073
164	172.7	566.4	1206	1	20.0	26.08	-	14.3	-	-	8.04	-	-	-	-	-	-	0.099
166	174.3	566.0	1216	1	20.9	25.68	-	15.4	-	-	7.97	-	-	-	-	-	-	0.117
168	175.3	565.7	1221	1	20.7	25.14	-	12.7	-	-	7.88	-	-	-	-	-	-	0.106
170	175.5	564.6	1229	1	20.3	25.43	-	8.4	-	-	7.90	-	-	-	-	-	-	0.101
-	176.7	564.4	1237	1	21.0	25.18	-	6.9	-	-	7.91	-	-	-	-	-	-	0.108
172	177.7	563.8	1243	1	19.9	25.79	-	14.3	-	-	8.23	-	-	-	-	-	-	0.076
-	183.9	555.3	1330	1	16.6	26.95	-	9.1	-	-	-	-	-	-	-	-	-	0.085

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE 17 JUN 80	STATION	DEPTH m	CRUISE # 13	LOCATION S F BAY	CONTINUOUS					DISCRET					TOTAL PHOSPH UM
					SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	DISSOLV PHOSPH UM	NITROG UM	TOTAL NITROG UM	
	118	1	92	9.43	24.2	0.88	1.20	-	-	-	-	-	-	-	-
	120	1	97	11.20	31.6	1.78	6.23	-	-	-	-	-	-	-	-
	122	1	96	11.03	31.1	1.78	6.02	-	-	-	-	-	-	-	-
	124	1	86	8.14	19.1	0.74	0.31	-	-	-	-	-	-	-	-
	126	1	80	7.15	15.0	0.40	0.29	-	-	-	-	-	-	-	-
	128	1	77	7.01	18.9	0.64	0.50	-	-	-	-	-	-	-	-
	130	1	82	7.38	18.0	0.56	0.29	-	-	-	-	-	-	-	-
	132	1	83	8.67	23.0	1.08	6.51	-	-	-	-	-	-	-	-
	134	1	84	9.14	24.0	1.13	6.51	-	-	-	-	-	-	-	-
	136	1	83	0.90	23.1	1.14	6.77	-	-	-	-	-	-	-	-
	138	1	77	8.12	20.7	0.95	8.33	-	-	-	-	-	-	-	-
	140	1	52	3.77	2.8	0.15	5.33	-	-	-	-	-	-	-	-
	142	1	58	3.91	5.1	0.12	0.10	-	-	-	-	-	-	-	-
	144	1	64	4.45	10.8	0.44	0.42	-	-	-	-	-	-	-	-
	146	1	78	7.78	19.6	0.84	6.86	-	-	-	-	-	-	-	-
	148	1	80	8.02	22.0	0.99	5.57	-	-	-	-	-	-	-	-
	150	1	74	6.52	20.8	0.90	5.55	-	-	-	-	-	-	-	-
	152	1	73	6.50	19.3	0.67	3.78	-	-	-	-	-	-	-	-
	154	1	70	6.18	17.9	0.64	2.83	-	-	-	-	-	-	-	-
	156	1	73	6.31	18.0	0.45	0.35	-	-	-	-	-	-	-	-
	158	1	73	6.60	17.9	0.36	0.19	-	-	-	-	-	-	-	-
	160	1	74	6.54	18.8	0.49	1.45	-	-	-	-	-	-	-	-
	162	1	77	6.65	19.1	0.29	0.08	-	-	-	-	-	-	-	-
	164	1	-	6.66	14.1	0.25	0.00	-	-	-	-	-	-	-	-
	166	1	82	7.54	6.2	0.27	0.46	-	-	-	-	-	-	-	-
	168	1	88	11.11	17.3	1.72	3.93	-	-	-	-	-	-	-	-
	170	1	85	6.66	10.4	0.22	0.13	-	-	-	-	-	-	-	-
	172	1	74	6.11	19.4	0.59	0.11	-	-	-	-	-	-	-	-
	174	1	75	5.67	18.8	0.71	5.76	-	-	-	-	-	-	-	-
	176	1	66	5.35	18.4	0.69	5.55	-	-	-	-	-	-	-	-
	178	1	55	4.10	23.3	0.58	9.21	-	-	-	-	-	-	-	-
	180	1	49	3.66	16.8	0.48	4.45	-	-	-	-	-	-	-	-
	164	1	82	7.07	9.7	0.25	0.44	-	-	-	-	-	-	-	-
	166	1	88	10.98	17.4	2.07	3.11	-	-	-	-	-	-	-	-
	168	1	105	14.73	43.6	4.28	6.92	-	-	-	-	-	-	-	-
	170	1	97	12.75	38.4	3.92	3.71	-	-	-	-	-	-	-	-
	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
	172	1	99	11.69	30.8	1.89	4.39	-	-	-	-	-	-	-	-
	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
18 JUN 80		13		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
302	205.4	553.4	705	1	16.6	23.30	30.6	30.6	2.35	-	7.88	-	-	-	-	3.8	0.123
304	206.9	552.3	720	1	16.5	24.42	-	14.3	-	-	7.86	-	-	-	-	-	0.108
306	208.8	551.1	731	1	16.8	22.89	26.4	28.4	-	-	7.88	-	-	-	-	5.0	0.139
308	210.7	549.8	741	1	17.6	18.08	-	105.8	-	-	7.96	-	-	-	-	-	0.237
310	212.2	548.8	749	1	18.8	18.23	-	150.5	-	-	7.99	-	-	-	-	-	0.260
312	213.5	547.9	756	1	19.2	18.69	217.9	197.1	8.61	-	7.94	-	-	-	-	6.8	0.315
314	214.7	550.0	816	1	18.7	18.05	-	241.6	-	-	8.01	-	-	-	-	-	0.310
316	215.6	551.3	825	1	18.5	17.07	-	278.8	-	-	8.04	-	-	-	-	-	0.440
318	215.8	553.2	834	1	18.4	16.39	394.3	278.8	105.00	-	8.01	-	-	-	-	42.8	0.510
-	215.0	555.1	850	1	19.0	19.13	390.9	286.2	-	-	7.89	-	-	-	-	-	0.420
-	214.5	557.2	857	1	18.7	17.88	326.2	263.9	-	-	7.99	-	-	-	-	-	0.370
-	214.4	558.4	906	1	18.0	16.10	345.8	263.9	-	-	7.99	-	-	-	-	37.4	0.450
-	213.9	560.0	915	1	17.8	15.97	428.1	278.8	-	-	7.93	-	-	-	-	-	0.410
402	210.3	577.7	1057	1	19.6	4.80	92.4	49.4	-	-	7.99	-	-	-	-	-	0.220
404	211.2	577.4	1101	1	19.3	4.57	69.8	54.1	5.35	-	7.97	-	-	-	-	17.4	0.250
406	213.4	579.1	1124	1	19.7	3.29	-	84.6	-	-	7.99	-	-	-	-	-	0.250
408	215.0	580.5	1134	1	19.9	2.87	155.6	130.2	-	-	7.97	-	-	-	-	12.6	0.310
410	216.8	581.9	1144	1	19.9	1.58	-	101.1	-	-	7.99	-	-	-	-	-	0.270
412	218.0	582.9	1151	1	20.6	1.50	-	169.3	-	-	8.00	-	-	-	-	-	0.410
414	219.3	582.3	1157	1	21.0	1.58	154.1	159.9	15.10	-	8.14	-	-	-	-	40.7	0.480
416	219.0	584.2	1218	1	19.7	1.90	-	167.3	-	-	8.04	-	-	-	-	-	0.380
418	218.8	586.7	1230	1	21.2	1.22	187.9	174.8	12.10	-	8.27	-	-	-	-	36.9	0.490
420	217.8	586.3	1247	1	21.1	1.01	-	182.2	-	-	8.22	-	-	-	-	-	0.460
422	216.8	585.9	1252	1	20.4	1.42	-	122.8	-	-	7.92	-	-	-	-	-	0.270
424	215.3	588.1	1304	1	20.2	0.85	153.9	145.0	-	-	7.90	-	-	-	-	-	0.280
426	214.8	589.6	1314	1	20.4	0.61	-	145.0	-	-	7.92	-	-	-	-	-	0.260
428	214.0	590.5	1318	1	20.4	0.72	-	130.2	-	-	7.92	-	-	-	-	-	0.250
430	214.3	592.5	1327	1	20.5	0.70	-	174.8	-	-	7.95	-	-	-	-	-	0.290
432	214.4	594.6	1339	1	20.9	0.37	120.3	137.6	8.79	-	7.88	-	-	-	-	11.4	0.260
434	213.0	593.9	1355	1	20.6	0.35	-	122.8	-	-	7.88	-	-	-	-	-	0.240
436	212.2	593.4	1402	1	20.5	0.25	-	107.9	-	-	7.83	-	-	-	-	-	0.220
438	211.4	593.1	1408	1	20.9	0.24	70.4	176.4	5.61	-	7.80	-	-	-	-	11.1	0.199
748	209.1	603.1	1546	1	21.6	0.09	25.3	33.2	-	-	7.81	-	-	-	-	-	-
749	208.8	605.4	1555	1	21.3	0.07	28.3	36.7	-	-	7.81	-	-	-	-	-	-
751	209.5	609.1	1610	1	21.2	0.07	30.6	33.6	-	-	7.83	-	-	-	-	-	-
753	210.3	612.6	1626	1	21.3	0.07	32.9	32.7	-	-	7.79	-	-	-	-	-	-
755	212.1	615.2	1642	1	21.8	0.08	22.5	25.9	-	-	7.81	-	-	-	-	-	-
757	215.9	616.0	1658	1	21.4	0.06	26.2	28.3	-	-	7.67	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

[illegible]

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
1 JUL 80		14		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
118	156.1	574.1	625	1	20.4	25.99	-	10.9	-	-	-	-	-	-	-	-	0.107
120	157.0	573.0	641	1	20.4	26.08	-	10.9	-	-	-	-	-	-	-	-	0.105
122	158.1	571.9	648	1	20.2	26.12	-	2.8	-	-	-	-	-	-	-	-	0.100
124	159.9	571.9	655	1	20.3	26.27	-	5.0	-	-	-	-	-	-	-	-	0.191
126	161.9	572.2	705	1	20.3	26.31	-	5.4	-	-	-	-	-	-	-	-	0.112
128	161.1	570.6	731	1	20.2	26.30	-	6.9	-	-	-	-	-	-	-	-	0.134
130	160.7	569.1	737	1	20.2	26.26	-	9.8	-	-	-	-	-	-	-	-	0.094
132	160.0	567.5	744	1	19.7	26.56	-	10.2	-	-	-	-	-	-	-	-	0.075
134	159.5	566.2	748	1	20.2	26.39	-	21.3	-	-	-	-	-	-	-	-	0.091
136	160.4	564.6	753	1	20.0	26.61	-	13.9	-	-	-	-	-	-	-	-	0.091
138	161.0	563.2	802	1	19.8	27.48	-	8.3	-	-	-	-	-	-	-	-	0.095
140	161.1	561.0	810	1	20.4	28.23	-	19.4	-	-	-	-	-	-	-	-	0.166
142	161.5	558.8	820	1	20.2	28.38	-	10.6	-	-	-	-	-	-	-	-	0.190
144	162.1	560.4	847	1	20.0	28.17	-	7.1	-	-	-	-	-	-	-	-	0.145
146	162.8	562.1	854	1	20.0	26.69	-	11.1	-	-	-	-	-	-	-	-	0.078
148	165.8	563.9	901	1	19.9	26.87	-	6.6	-	-	-	-	-	-	-	-	0.073

- DATA NOT AVAILABLE

Table 8.---Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION		STATION	DEPTH m	CONTINUOUS										DISCRET				DISSOLV		TOTAL	
1 JUL 80			S F BAY				SI02	PO4	NO3+NO2	NO2	NH3	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH	UM	UM				
118	1	97	13.21	29.1	1.10	2.08	-	-	-	-	-	-	-	-	-	-	-	-						
120	1	96	13.16	28.8	1.09	2.20	-	-	-	-	-	-	-	-	-	-	-	-						
122	1	93	11.95	27.6	1.06	2.85	-	-	-	-	-	-	-	-	-	-	-	-						
124	1	80	10.18	11.7	0.53	0.06	-	-	-	-	-	-	-	-	-	-	-	-						
126	1	67	9.11	1.7	0.18	0.42	-	-	-	-	-	-	-	-	-	-	-	-						
128	1	88	10.57	20.8	0.74	0.63	-	-	-	-	-	-	-	-	-	-	-	-						
130	1	96	11.58	27.3	1.06	3.64	-	-	-	-	-	-	-	-	-	-	-	-						
132	1	89	9.84	23.3	0.77	4.62	-	-	-	-	-	-	-	-	-	-	-	-						
134	1	86	10.60	22.8	0.86	4.67	-	-	-	-	-	-	-	-	-	-	-	-						
136	1	70	8.03	15.5	0.47	2.41	-	-	-	-	-	-	-	-	-	-	-	-						
138	1	75	6.59	15.6	0.44	2.51	-	-	-	-	-	-	-	-	-	-	-	-						
140	1	63	4.17	1.0	0.09	0.63	-	-	-	-	-	-	-	-	-	-	-	-						
142	1	72	4.20	0.1	0.00	0.02	-	-	-	-	-	-	-	-	-	-	-	-						
144	1	64	4.16	1.3	0.24	0.46	-	-	-	-	-	-	-	-	-	-	-	-						
146	1	85	9.83	21.7	0.81	6.57	-	-	-	-	-	-	-	-	-	-	-	-						
148	1	86	8.72	21.9	0.78	4.04	-	-	-	-	-	-	-	-	-	-	-	-						

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
16 JUL 80		15		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
118	156.0	574.0	628	1	20.7	26.47	20.0	24.9	1.95	-	7.94	-	-	-	-	1.9	0.127
120	157.0	573.0	645	1	20.4	26.64	-	15.8	-	-	7.94	-	-	-	-	-	0.104
122	158.1	571.8	650	1	20.2	26.78	-	13.2	-	-	7.93	-	-	-	-	-	0.097
124	159.9	571.9	657	1	20.7	26.77	-	15.8	-	-	7.98	-	-	-	-	-	0.129
126	161.7	571.9	703	1	20.6	26.92	13.4	22.5	1.62	-	8.01	-	-	-	-	2.5	0.174
128	161.2	570.6	720	1	20.6	26.77	-	14.3	-	-	8.00	-	-	-	-	-	0.123
130	160.7	568.9	727	1	19.8	27.03	-	10.2	-	-	7.95	-	-	-	-	-	0.088
132	160.0	567.4	732	1	19.9	27.16	-	10.4	-	-	7.96	-	-	-	-	-	0.083
134	159.7	566.3	736	1	20.0	27.08	17.8	18.8	-	-	7.93	-	-	-	-	-	0.091
136	160.4	564.6	742	1	20.3	27.32	-	15.0	-	-	8.00	-	-	-	-	-	0.095
138	160.7	562.8	749	1	19.6	27.47	-	10.9	-	-	7.93	-	-	-	-	-	0.092
140	161.0	561.2	756	1	20.0	28.45	-	15.6	-	-	8.03	-	-	-	-	-	0.146
142	161.7	558.9	806	1	19.6	28.54	6.7	13.3	1.23	-	8.10	-	-	-	-	1.7	0.171
144	162.1	560.4	824	1	19.5	28.17	-	8.9	-	-	-	-	-	-	-	-	0.104
146	162.9	562.0	830	1	19.9	27.25	-	13.6	-	-	-	-	-	-	-	-	0.087
148	163.4	563.6	837	1	20.0	27.53	-	9.8	-	-	7.99	-	-	-	-	-	0.086
150	164.1	565.6	846	1	20.6	27.05	-	11.7	-	-	8.11	-	-	-	-	-	0.155
152	164.9	567.2	852	1	20.4	27.41	-	15.7	-	-	8.09	-	-	-	-	-	0.158
154	165.4	569.1	900	1	20.4	27.44	-	18.6	-	-	8.06	-	-	-	-	-	0.111
156	165.8	570.0	906	1	20.4	27.40	13.8	22.3	1.27	-	8.07	-	-	-	-	1.9	0.134
158	167.5	569.1	930	1	20.5	27.39	-	11.5	-	-	8.13	-	-	-	-	-	0.196
160	169.0	568.3	942	1	20.7	27.46	-	11.8	-	-	8.18	-	-	-	-	-	0.134
162	170.9	567.4	951	1	20.8	27.45	8.1	13.6	1.10	-	8.18	-	-	0.3	3.4	1.1	0.098
164	172.5	566.5	1014	1	20.8	27.54	-	14.1	-	-	8.14	-	-	-	-	-	0.097
166	174.4	565.8	1024	1	20.9	27.46	-	11.0	-	-	8.05	-	-	-	-	-	0.090
168	175.1	565.3	1027	1	20.8	27.19	6.1	13.2	1.03	-	8.09	-	-	-	-	1.4	0.081
170	174.4	563.6	1053	1	20.3	27.55	-	8.1	-	-	-	-	-	-	-	-	0.077
172	173.8	561.9	1100	1	19.8	27.54	-	9.5	-	-	-	-	-	-	-	-	0.088
174	173.1	560.1	1106	1	19.3	27.82	-	4.2	-	-	7.90	-	-	-	-	-	0.065
176	172.4	558.4	1113	1	19.0	28.05	-	2.0	-	-	7.88	-	-	-	-	-	0.066
178	171.8	556.7	1119	1	18.1	28.10	-	4.7	-	-	7.80	-	-	-	-	-	0.074
180	171.1	554.6	1128	1	19.3	28.51	19.0	21.4	1.63	-	7.85	-	-	-	-	1.4	0.101
182	169.4	555.4	1143	1	18.9	28.52	-	17.3	-	-	7.85	-	-	-	-	-	0.100
184	168.5	555.7	1147	1	18.8	28.42	-	5.8	-	-	7.85	-	-	-	-	-	0.091
186	167.4	555.4	1151	1	18.8	28.51	-	12.8	-	-	7.89	-	-	-	-	-	0.100

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION																		
16 JUL 80		15	S F BAY																		
STATION	DEPTH m	CONTINUOUS					DISCRETE					DISCRET					DISSOLV		DISSOLV		TOTAL PHOSPH UM
		SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM				
118	1	102	16.17	28.5	1.00	3.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
120	1	99	15.46	26.5	0.88	4.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
122	1	97	14.82	25.5	0.83	4.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
124	1	97	14.40	25.2	0.83	1.87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
126	1	96	12.86	20.9	0.63	0.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
128	1	99	14.35	24.5	0.87	1.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
130	1	94	12.41	22.7	0.86	3.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
132	1	91	11.60	21.4	0.85	4.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
134	1	92	12.78	22.5	1.02	6.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
136	1	87	11.98	20.9	0.98	9.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
138	1	83	10.09	19.9	0.84	4.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
140	1	56	4.96	11.1	0.44	1.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
142	1	58	4.93	9.4	0.39	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
144	1	57	5.07	15.5	0.46	1.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
146	1	85	10.20	19.6	0.50	5.87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
148	1	86	10.90	20.9	0.80	3.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
150	1	101	10.95	15.8	0.45	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
152	1	100	9.53	4.6	0.21	0.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
154	1	93	9.50	17.2	0.24	0.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
156	1	87	9.61	16.0	0.21	0.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
158	1	86	9.39	12.1	0.32	0.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
160	1	90	9.19	7.1	0.30	0.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
162	1	93	8.83	3.0	0.20	0.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
164	1	89	9.86	1.3	0.32	1.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
166	1	90	10.77	5.0	0.28	0.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
168	1	90	12.57	13.0	0.72	0.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
170	1	104	8.11	9.1	0.47	1.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
172	1	97	8.20	16.3	0.55	3.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
174	1	85	7.43	22.8	0.79	5.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
176	1	79	6.25	22.2	0.78	5.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
178	1	76	5.23	22.2	0.78	5.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
180	1	68	4.70	21.8	0.66	3.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
182	1	67	4.66	22.4	0.76	3.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
184	1	76	5.35	23.2	0.78	7.79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
186	1	73	5.13	22.0	0.63	5.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION																	
16 JUL 80		15		S F BAY																	
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR				
188	166.2	555.2	1156	1	19.1	28.59	-	16.4	-	-	7.92	-	-	-	-	-	0.113				
190	166.9	557.1	1204	1	20.3	27.75	-	3.9	-	-	7.92	-	-	-	-	-	0.077				
192	167.5	558.4	1210	1	19.9	27.61	-	4.8	-	-	7.92	-	-	-	-	-	0.075				
194	168.7	559.5	1216	1	20.4	27.68	-	4.0	-	-	7.95	-	-	-	-	-	0.080				
196	168.8	562.4	1250	1	19.5	27.72	-	11.3	-	-	7.92	-	-	-	-	-	0.076				
198	169.4	563.7	1254	1	19.6	27.54	-	14.1	-	-	7.92	-	-	-	-	-	0.083				
200	170.0	565.4	1301	1	20.2	27.61	-	18.7	-	-	7.93	-	-	-	-	-	0.105				
162	170.9	567.3	1311	1	21.1	27.65	-	13.6	-	-	8.14	-	-	-	-	-	0.109				
164	172.5	566.5	1321	1	21.0	27.67	-	11.3	-	-	8.06	-	-	-	-	-	0.079				
166	174.1	566.2	1328	1	20.5	27.65	-	6.3	-	-	8.01	-	-	-	-	-	0.073				
168	175.1	565.3	1332	1	20.9	27.56	-	9.5	-	-	8.09	-	-	-	-	-	0.082				
-	177.8	561.9	1350	1	18.6	28.41	-	6.1	-	-	7.85	-	-	-	-	-	-				
-	180.7	557.8	1410	1	16.8	28.94	-	10.6	-	-	7.77	-	-	-	-	-	-				
-	184.1	555.5	1429	1	16.2	29.01	-	-	-	-	7.82	-	-	-	-	-	-				

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION		CONTINUOUS										DISCRET				TOTAL	
16 JUL 80			15	S F BAY	SI02	PO4	NO3+NO2	NO2	NH3	PHOSPH	NITROG	DISSOLV	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH			
STATION	DEPTH				UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM			
188	1	73	4.99	21.8	0.61	2.03	-	-	-	-	-	-	-	-	-	-	-			
190	1	81	7.26	23.7	0.58	3.09	-	-	-	-	-	-	-	-	-	-	-			
192	1	81	7.88	21.3	0.57	3.54	-	-	-	-	-	-	-	-	-	-	-			
194	1	82	8.00	21.5	0.70	3.14	-	-	-	-	-	-	-	-	-	-	-			
196	1	85	7.68	22.9	0.85	4.57	-	-	-	-	-	-	-	-	-	-	-			
198	1	88	8.01	23.5	0.74	4.15	-	-	-	-	-	-	-	-	-	-	-			
200	1	94	8.41	24.5	0.66	2.93	-	-	-	-	-	-	-	-	-	-	-			
162	1	98	8.09	7.6	0.25	0.16	-	-	-	-	-	-	-	-	-	-	-			
164	1	93	9.66	9.6	0.44	0.57	-	-	-	-	-	-	-	-	-	-	-			
166	1	94	9.59	13.2	0.68	1.41	-	-	-	-	-	-	-	-	-	-	-			
168	1	94	9.70	13.6	0.68	0.96	-	-	-	-	-	-	-	-	-	-	-			
-	1	78	7.66	14.7	0.71	6.62	-	-	-	-	-	-	-	-	-	-	-			
-	1	64	4.31	19.4	0.65	8.72	-	-	-	-	-	-	-	-	-	-	-			
-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
17 JUL 80		15		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
302	205.4	553.3	714	1	17.5	23.94	14.6	16.5	1.67	-	7.81	-	-	-	-	0.9	0.085
304	207.0	552.4	731	1	17.9	24.27	-	24.3	-	-	7.80	-	-	-	-	-	0.097
306	209.0	551.0	741	1	18.6	21.32	19.5	31.4	2.33	-	7.80	-	-	-	-	1.7	0.111
308	210.7	549.8	759	1	19.2	19.49	-	136.4	-	-	7.85	-	-	-	-	-	0.179
310	212.2	548.8	806	1	20.0	18.34	-	178.7	-	-	7.90	-	-	-	-	-	0.242
312	213.5	547.9	814	1	20.8	18.65	129.4	215.6	8.69	-	7.92	-	-	-	-	17.0	0.310
314	214.7	550.0	840	1	20.0	18.35	-	162.1	-	-	7.93	-	-	-	-	-	0.250
316	215.2	551.5	848	1	20.0	18.42	-	156.2	-	-	7.94	-	-	-	-	-	0.250
318	215.5	553.3	858	1	20.0	17.67	148.4	167.3	10.70	-	7.94	-	-	2.2	2.4	12.8	0.262
320	216.1	555.2	919	1	20.0	17.46	-	171.0	-	-	7.95	-	-	-	-	-	0.272
322	216.4	226.9	928	1	19.8	17.44	-	114.6	-	-	7.96	-	-	-	-	-	0.224
324	216.1	558.0	934	1	20.0	16.54	60.6	80.4	5.26	-	7.99	-	-	-	-	7.2	0.208
326	215.4	559.2	957	1	20.1	16.65	-	117.1	-	-	-	-	-	-	-	-	0.253
328	213.4	560.0	1009	1	19.0	17.78	-	117.6	-	-	7.87	-	-	-	-	-	0.568
330	212.2	560.6	1017	1	19.2	16.24	-	44.7	-	-	7.85	-	-	-	-	3.2	0.127
-	211.3	563.0	1031	1	19.0	17.31	-	32.9	-	-	7.83	-	-	-	-	-	0.115
-	210.4	563.6	1036	1	18.9	19.31	-	35.3	2.86	-	7.85	-	-	-	-	-	0.125
402	210.0	578.5	1220	1	20.4	4.99	-	208.2	-	-	7.98	-	-	-	-	-	-
404	211.0	577.2	1225	1	20.0	4.53	177.4	171.8	-	-	8.05	-	-	-	-	28.5	-
406	213.0	579.3	1241	1	20.2	3.82	-	214.1	-	-	8.06	-	-	-	-	-	-
408	215.0	580.5	1250	1	20.3	3.81	-	183.7	-	-	8.06	-	-	-	-	-	-
410	216.7	581.8	1259	1	20.5	3.11	-	211.2	-	-	8.03	-	-	-	-	-	-
412	217.9	582.8	1306	1	21.5	2.24	-	246.1	-	-	8.19	-	-	-	-	-	-
414	219.0	582.3	1312	1	22.7	2.10	196.2	200.8	12.80	-	8.18	-	-	-	-	57.0	-
416	218.8	584.1	1331	1	20.7	2.75	310.2	269.9	19.80	-	8.07	-	-	-	-	50.3	-
420	217.9	586.4	1353	1	20.8	3.02	-	274.3	-	-	8.01	-	-	-	-	-	-
422	216.7	585.8	1401	1	21.1	1.49	-	161.4	-	-	7.94	-	-	-	-	-	-
424	215.3	588.0	1411	1	21.2	0.93	-	184.4	-	-	7.92	-	-	-	-	-	-
426	214.7	589.5	1419	1	21.5	0.74	-	152.5	-	-	7.88	-	-	-	-	-	-
428	214.1	590.4	1423	1	21.5	0.54	-	140.6	-	-	7.86	-	-	-	-	-	-
430	214.2	592.5	1431	1	21.6	1.34	-	182.2	-	-	7.98	-	-	-	-	-	-
432	214.5	594.7	1442	1	22.1	0.77	202.6	196.3	13.80	-	7.92	-	-	-	-	17.2	-
747	209.3	602.0	1621	1	23.0	0.13	-	16.4	-	-	7.75	-	-	-	-	-	-
751	209.5	609.1	1646	1	22.2	0.06	22.4	10.4	-	-	7.84	-	-	-	-	-	-
753	210.3	612.6	1659	1	22.4	0.07	34.8	11.9	-	-	7.82	-	-	-	-	-	-
755	212.1	615.2	1712	1	22.6	0.06	-	12.8	-	-	7.82	-	-	-	-	-	-
757	215.9	616.0	1726	1	22.3	0.06	19.8	9.6	-	-	7.65	-	-	-	-	-	0.222

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION														
			CONTINUOUS							DISCRETE						
17 JUL 80	15	S F BAY	STATION	DEPTH	SIO2	PO4	NO3+NO2	NO2	NH3	SIO2	PO4	NO3+NO2	NO2	NH3	DISCRET PHOSPH	DISSOV PHOSPH
			m	um	um	um	um	um	um	um	um	um	um	um	um	um
302	1	77	3.48	21.5	0.63	7.17	0.75	6.63	2.6	35.8	3.6	38.8	4.0			
304	1	75	3.47	21.0	0.67	6.83										
306	1	83	3.35	21.3	0.71	6.15	0.78	5.69	3.4	34.4	3.5	39.6	4.0			
308	1	77	3.30	21.9	0.74	5.45										
310	1	88	3.45	22.2	0.63	4.77										
312	1	85	4.29	17.2	0.46	2.71	0.59	2.48	4.3	29.0	4.6	42.2	6.1			
314	1	91	4.16	19.2	0.55	3.24										
316	1	87	4.05	18.8	0.57	3.37										
318	1	93	4.04	20.8	0.41	2.59	0.63	2.44	3.8	32.4	4.2	44.4	5.8			
320	1	91		18.2	0.44	1.44										
322	1															
324	1															
326	1															
328	1															
330	1															
	1															
	1															
402	1	143	2.61	18.9	0.32	0.60										
404	1	143	2.48	16.7	0.27	0.02										
406	1	145	2.33	15.0	0.15	0.23										
408	1	145	2.36	14.6	0.22	0.25										
410	1	157	2.37	14.6	0.36	0.29										
412	1															
414	1															
416	1	154	2.58	14.0	0.12											
420	1															
422	1															
424	1															
426	1															
428	1															
430	1	200	2.57	16.4	0.20											
432	1	205	2.58	17.8	0.03											
747	1	217	2.55	17.3	0.18	0.77										
751	1	220	2.06	16.9	0.15	0.25										
753	1	220	2.04	13.7	0.16	0.58										
755	1	217	1.89	13.3	0.13	0.71										
757	1	226	1.77	13.9	0.16	2.20	0.48	3.22	2.3	24.5	2.2	29.4	2.7			

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION																
4 AUG 80		16		S F BAY																
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR			
118	156.0	574.0	629	1	22.2	27.46	15.9	9.4	1.62	-	7.97	-	-	-	-	1.4	0.103			
120	157.0	573.0	637	1	21.8	27.67	-	16.1	-	-	8.05	-	-	-	-	-	0.123			
122	158.1	572.1	642	1	21.6	27.77	-	14.3	-	-	8.09	-	-	-	-	-	0.120			
124	159.9	571.9	649	1	21.5	27.90	-	22.2	-	-	8.26	-	-	-	-	-	0.127			
126	161.8	572.0	655	1	21.7	28.35	42.1	44.1	3.10	-	8.19	-	-	-	-	1.9	0.116			
128	161.3	570.5	711	1	21.8	28.09	-	13.5	-	-	8.23	-	-	-	-	-	0.098			
130	160.7	568.9	716	1	21.6	27.90	-	7.3	-	-	8.22	-	-	-	-	-	0.092			
132	160.0	567.3	723	1	21.6	28.14	-	10.8	-	-	7.99	-	-	-	-	-	0.079			
134	159.7	566.3	727	1	21.9	28.01	-	13.5	-	-	7.96	-	-	-	-	-	0.082			
136	160.4	564.6	734	1	21.3	28.20	-	4.7	-	-	8.05	-	-	-	-	-	0.076			
138	160.7	562.8	740	1	20.9	28.57	-	2.1	-	-	8.06	-	-	-	-	-	0.092			
140	161.0	561.0	747	1	20.6	28.88	-	3.8	-	-	8.07	-	-	-	-	-	0.120			
142	161.4	558.7	753	1	20.2	28.95	2.0	2.9	1.01	-	8.02	-	-	-	-	2.4	0.127			
144	162.3	561.2	811	1	21.5	28.32	-	2.9	-	-	8.00	-	-	-	-	-	0.073			
146	162.8	562.1	813	1	21.5	28.39	-	4.7	-	-	7.97	-	-	-	-	-	0.076			
148	163.4	563.9	819	1	21.3	28.30	-	3.8	-	-	7.97	-	-	-	-	-	0.073			
150	164.1	565.6	826	1	21.2	28.43	-	0.3	-	-	7.98	-	-	-	-	-	0.082			
152	164.9	567.6	833	1	21.3	28.32	-	3.8	-	-	7.94	-	-	-	-	-	0.098			
154	165.4	569.1	839	1	21.4	28.18	-	10.8	-	-	8.03	-	-	-	-	-	0.095			
156	165.8	570.3	844	1	21.6	28.28	16.4	17.0	1.46	-	8.09	-	-	-	-	2.5	0.117			
158	167.7	569.5	910	1	21.7	28.33	-	14.3	-	-	-	-	-	-	-	-	0.114			
160	169.2	568.5	918	1	21.7	28.28	-	10.8	-	-	8.04	-	-	-	-	-	0.101			
162	170.8	567.6	924	1	21.9	28.32	9.3	12.6	1.46	-	8.08	-	-	-	4.7	1.3	0.106			
164	172.5	566.9	945	1	22.0	28.50	-	10.8	-	-	8.09	-	-	-	-	-	0.092			
166	174.2	565.9	950	1	21.7	28.90	-	8.2	-	-	8.08	-	-	-	-	-	0.108			
168	175.1	565.3	954	1	21.9	28.92	6.7	10.0	1.21	-	8.08	-	-	-	-	2.2	0.095			
170	174.4	563.6	1009	1	22.0	28.59	-	7.3	-	-	7.96	-	-	-	-	-	0.089			
172	173.8	561.9	1016	1	20.7	28.85	-	4.7	-	-	7.88	-	-	-	-	-	0.092			
174	173.2	560.0	1023	1	19.2	29.27	-	2.9	-	-	7.90	-	-	-	-	-	0.082			
176	172.4	558.4	1029	1	19.5	29.32	-	2.9	-	-	7.88	-	-	-	-	-	0.082			
178	171.8	556.7	1036	1	19.1	29.48	-	3.8	-	-	7.89	-	-	-	-	-	0.082			
180	171.1	554.4	1044	1	19.6	29.38	15.5	17.0	1.58	-	7.89	-	-	-	-	1.9	0.134			
182	174.0	556.9	1107	1	19.0	29.51	-	3.8	-	-	7.87	-	-	-	-	-	0.082			
184	179.0	557.4	1123	1	19.5	29.38	-	3.8	-	-	7.89	-	-	-	-	-	0.092			
-	183.4	558.8	1136	1	20.6	29.15	-	2.9	-	-	7.90	-	-	-	-	-	0.127			
-	182.8	560.9	1142	1	21.0	29.12	-	0.3	-	-	7.89	-	-	-	-	-	0.114			
-	182.7	562.6	1149	1	21.6	29.04	-	0.3	-	-	7.89	-	-	-	-	-	0.114			
-	182.2	564.5	1157	1	21.5	29.03	-	2.1	-	-	7.94	-	-	-	-	-	0.136			
-	181.2	566.1	1205	1	22.0	29.03	-	2.1	-	-	7.93	-	-	-	-	-	0.092			
-	180.5	567.2	1212	1	21.5	29.02	-	4.7	-	-	7.91	-	-	-	-	-	0.089			

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION		CONTINUOUS										DISCRET				TOTAL	
4 AUG 80		16	S F BAY		ST02	PO4	NO3+NO2	NO2	NH3	PHOSPH	DISSOLV	DISSOLV	DISSOLV	DISSOLV	DISSOLV	DISSOLV	DISSOLV			
STATION	DEPTH	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM			
118	1	123	17.35	25.3	1.25	6.49	-	-	-	-	-	-	-	-	-	-	-			
120	1	112	15.37	21.2	1.00	1.49	-	-	-	-	-	-	-	-	-	-	-			
122	1	110	14.86	19.6	0.94	1.64	-	-	-	-	-	-	-	-	-	-	-			
124	1	98	12.95	11.9	0.72	0.75	-	-	-	-	-	-	-	-	-	-	-			
126	1	110	11.79	1.8	1.04	1.39	-	-	-	-	-	-	-	-	-	-	-			
128	1	108	12.80	0.9	0.10	0.92	-	-	-	-	-	-	-	-	-	-	-			
130	1	103	13.12	0.1	0.02	0.80	-	-	-	-	-	-	-	-	-	-	-			
132	1	89	11.90	6.9	0.32	6.13	-	-	-	-	-	-	-	-	-	-	-			
134	1	92	12.47	19.1	0.82	6.98	-	-	-	-	-	-	-	-	-	-	-			
136	1	83	11.38	18.1	0.74	3.14	-	-	-	-	-	-	-	-	-	-	-			
138	1	54	8.08	16.6	0.50	0.81	-	-	-	-	-	-	-	-	-	-	-			
140	1	40	6.24	13.0	0.50	0.50	-	-	-	-	-	-	-	-	-	-	-			
142	1	51	5.95	15.7	0.44	0.25	-	-	-	-	-	-	-	-	-	-	-			
144	1	74	9.81	17.3	0.71	4.94	-	-	-	-	-	-	-	-	-	-	-			
146	1	71	9.51	15.4	0.68	4.44	-	-	-	-	-	-	-	-	-	-	-			
148	1	81	10.13	17.6	0.73	5.32	-	-	-	-	-	-	-	-	-	-	-			
150	1	80	8.68	18.3	0.65	4.56	-	-	-	-	-	-	-	-	-	-	-			
152	1	84	9.10	17.1	0.61	3.31	-	-	-	-	-	-	-	-	-	-	-			
154	1	90	9.99	15.0	0.59	3.65	-	-	-	-	-	-	-	-	-	-	-			
156	1	95	10.05	6.3	0.35	1.27	-	-	-	-	-	-	-	-	-	-	-			
158	1	98	9.25	4.3	0.37	0.24	-	-	-	-	-	-	-	-	-	-	-			
160	1	96	9.35	7.2	0.37	1.76	-	-	-	-	-	-	-	-	-	-	-			
162	1	106	9.17	8.9	0.30	0.16	-	-	-	-	-	-	-	-	-	-	-			
164	1	115	8.96	1.0	0.14	0.03	-	-	-	-	-	-	-	-	-	-	-			
166	1	77	7.30	0.7	0.13	0.00	-	-	-	-	-	-	-	-	-	-	-			
168	1	70	7.49	6.0	0.26	0.53	-	-	-	-	-	-	-	-	-	-	-			
170	1	82	6.76	11.5	0.46	0.45	-	-	-	-	-	-	-	-	-	-	-			
172	1	80	6.00	18.3	0.68	4.06	-	-	-	-	-	-	-	-	-	-	-			
174	1	72	5.00	18.6	0.73	4.61	-	-	-	-	-	-	-	-	-	-	-			
176	1	71	4.86	18.8	0.66	4.95	-	-	-	-	-	-	-	-	-	-	-			
178	1	67	4.39	18.6	0.71	5.79	-	-	-	-	-	-	-	-	-	-	-			
180	1	76	4.74	19.4	0.65	1.82	-	-	-	-	-	-	-	-	-	-	-			
182	1	84	4.35	18.3	0.61	6.89	-	-	-	-	-	-	-	-	-	-	-			
184	1	70	4.72	18.0	0.70	5.63	-	-	-	-	-	-	-	-	-	-	-			
-	1	70	5.07	16.0	0.65	4.40	-	-	-	-	-	-	-	-	-	-	-			
-	1	79	5.78	13.3	0.75	5.01	-	-	-	-	-	-	-	-	-	-	-			
-	1	83	6.24	12.3	0.83	4.85	-	-	-	-	-	-	-	-	-	-	-			
-	1	89	6.90	9.8	0.78	4.76	-	-	-	-	-	-	-	-	-	-	-			
-	1	92	7.28	10.2	0.78	6.89	-	-	-	-	-	-	-	-	-	-	-			
-	1	101	7.93	7.3	0.76	7.44	-	-	-	-	-	-	-	-	-	-	-			
																	29.6	10.0		

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION														
5 AUG 80		16		S F BAY														
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	ORG PHYLL-A ug/L	CHLORO PHYLL-A ug/L	FLUOR
757	215.9	616.0	816	1	23.2	0.06	34.1	32.7	-	-	7.74	-	-	-	-	-	-	0.117
755	212.1	615.2	838	1	23.1	0.07	-	26.6	-	-	7.79	-	-	-	-	-	-	0.114
753	210.3	612.6	849	1	23.1	0.08	-	31.0	-	-	7.80	-	-	-	-	-	-	0.117
751	209.5	609.1	858	1	23.2	0.09	-	29.2	-	-	7.80	-	-	-	-	-	-	0.127
749	208.9	605.5	928	1	23.7	0.20	-	32.7	-	-	7.77	-	-	-	-	-	-	0.133
747	209.4	601.9	941	1	23.5	0.39	-	46.8	-	-	7.72	-	-	-	-	-	-	0.136
745	210.1	598.3	955	1	24.2	0.77	-	92.4	-	-	7.81	-	-	-	-	-	-	0.171
-	214.2	595.5	1045	1	20.8	2.59	-	212.5	-	-	7.96	-	-	-	-	-	-	0.350
432	214.5	594.6	1050	1	20.6	2.45	201.0	212.5	12.60	-	7.89	-	-	-	-	-	16.5	0.340
430	214.2	594.5	1107	1	21.7	2.62	-	186.2	-	-	7.87	-	-	-	-	-	-	0.360
428	214.0	590.3	1116	1	21.9	2.50	-	177.4	-	-	7.83	-	-	-	-	-	-	0.320
426	214.8	589.6	1120	1	21.7	3.12	-	159.9	-	-	7.92	-	-	-	-	-	-	0.350
424	215.5	588.1	1126	1	20.9	4.10	-	203.7	-	-	7.99	-	-	-	-	-	-	0.510
422	216.6	585.8	1136	1	20.9	5.70	-	159.9	-	-	8.06	-	-	-	-	-	-	0.510
420	217.9	586.2	1143	1	21.3	3.68	-	221.2	-	-	8.01	-	-	-	-	-	-	0.450
418	219.0	586.8	1147	1	19.8	3.80	296.9	291.4	20.00	-	8.10	-	-	-	3.5	51.6	0.620	0.560
416	219.0	584.3	1210	1	21.1	5.90	-	221.2	-	-	8.04	-	-	-	-	-	-	0.650
414	219.3	582.5	1218	1	21.0	5.52	185.7	194.9	12.40	-	8.13	-	-	-	-	-	53.8	0.450
410	216.8	581.9	1234	1	21.0	8.47	-	142.3	-	-	8.01	-	-	-	-	-	-	0.250
408	215.0	580.5	1242	1	21.1	10.34	-	63.4	-	-	7.97	-	-	-	-	-	-	0.185
406	213.2	579.2	1249	1	21.2	11.93	-	44.8	-	-	7.97	-	-	-	-	-	-	0.148
404	211.2	579.2	1300	1	21.2	12.78	17.0	31.7	1.68	-	7.96	-	-	-	-	-	7.0	0.196
402	210.2	577.5	1307	1	21.5	11.09	-	43.3	-	-	8.01	-	-	-	-	-	-	0.183
334	208.5	562.0	1456	1	19.8	22.78	84.8	151.1	5.94	-	7.92	-	-	-	-	-	5.0	0.117
330	211.8	560.8	1515	1	20.5	18.75	-	28.4	-	-	7.89	-	-	-	-	-	-	0.155
328	213.4	560.1	1522	1	20.3	19.88	-	151.1	-	-	7.87	-	-	-	-	-	4.8	0.250
326	215.4	559.6	1530	1	20.0	21.55	-	231.7	-	-	7.94	-	-	-	-	-	-	0.275
324	216.8	558.8	1538	1	20.0	20.85	203.8	247.5	15.80	-	7.87	-	-	-	-	-	6.8	0.268
322	216.7	556.9	1557	1	20.1	20.01	-	265.1	-	-	7.87	-	-	-	-	-	-	0.262
320	216.2	555.1	1605	1	20.2	19.79	-	256.3	-	-	7.92	-	-	-	-	-	-	0.268
318	215.8	553.2	1615	1	20.3	19.71	244.9	238.8	-	-	7.91	-	-	-	2.5	6.4	0.268	0.234
310	213.5	550.8	1637	1	20.4	19.67	-	212.5	-	-	7.96	-	-	-	-	-	-	0.167
308	210.8	549.9	1649	1	20.4	20.70	69.2	97.6	-	-	8.01	-	-	-	-	-	4.9	0.132
306	208.7	549.6	1657	1	20.6	21.71	-	40.0	-	-	8.03	-	-	-	-	-	-	0.113
304	206.8	549.7	1705	1	19.4	24.69	-	51.2	2.41	-	7.93	-	-	-	-	-	2.9	0.113

- DATA NOT AVAILABLE

Table B.---Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION																			
5 AUG 80		16	S F BAY																			
STATION	DEPTH m	CONTINUOUS					DISCRETE					DISCRET				DISSOLV				TOTAL		
		SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM			
757	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
755	1	230	2.10	12.4	0.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
753	1	227	2.02	11.7	0.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
751	1	227	2.04	11.6	0.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
749	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
747	1	222	2.44	12.9	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
745	1	217	2.48	14.4	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
-	1	-	3.24	13.6	0.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
432	1	182	2.49	16.2	0.08	-	-	16.00	0.13	-	2.4	23.5	2.6	45.8	8.5	-	-	-	-			
430	1	181	2.42	15.6	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
428	1	177	2.40	15.4	0.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
426	1	174	2.40	15.5	0.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
424	1	164	2.37	14.3	0.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
422	1	147	2.31	13.3	0.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
420	1	155	2.36	13.5	0.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
418	1	139	2.36	10.4	0.07	-	-	9.59	0.11	-	2.4	18.1	2.6	52.9	5.3	-	-	-	-			
416	1	124	2.28	9.7	0.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
414	1	121	2.29	9.9	0.08	-	-	8.61	0.14	-	2.2	18.4	2.5	38.2	5.7	-	-	-	-			
410	1	114	2.48	12.9	0.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
408	1	112	2.60	13.8	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
406	1	107	2.77	15.7	0.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
404	1	103	2.89	17.0	0.45	-	-	17.14	0.41	-	2.8	25.9	3.0	33.1	3.9	-	-	-	-			
402	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
334	1	79	3.55	20.0	0.72	4.12	20.89	0.71	4.17	4.17	3.6	31.0	3.6	40.2	5.9	-	-	-	-			
330	1	88	3.32	19.1	0.60	3.58	-	-	-	-	-	-	-	-	-	-	-	-	-			
328	1	87	3.35	19.4	0.66	3.56	-	-	-	-	-	-	-	-	-	-	-	-	-			
326	1	82	3.55	20.1	0.64	3.19	-	-	-	-	-	-	-	-	-	-	-	-	-			
324	1	84	3.69	20.3	0.46	1.73	20.79	0.51	2.11	2.11	3.7	30.1	3.7	44.8	8.3	-	-	-	-			
322	1	85	3.62	20.5	0.28	1.51	-	-	-	-	-	-	-	-	-	-	-	-	-			
320	1	88	3.71	20.3	0.22	1.33	-	-	-	-	-	-	-	-	-	-	-	-	-			
318	1	87	3.71	19.9	0.34	1.54	20.96	0.52	1.74	1.74	3.6	29.9	3.6	47.2	6.3	-	-	-	-			
310	1	88	3.69	20.5	0.57	2.71	-	-	-	-	-	-	-	-	-	-	-	-	-			
308	1	84	3.49	22.4	0.79	3.28	20.94	0.62	3.48	3.48	3.5	31.5	3.3	38.2	4.4	-	-	-	-			
306	1	81	3.38	21.3	0.77	3.16	-	-	-	-	-	-	-	-	-	-	-	-	-			
304	1	73	3.44	19.9	0.52	4.85	-	-	-	-	-	-	-	-	-	-	-	-	-			

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
18 AUG 80		17		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
118	155.1	574.0	628	1	20.0	27.97	8.0	7.3	1.19	-	7.86	-	-	-	-	1.2	0.102
120	157.0	573.0	639	1	19.9	28.13	-	4.7	-	-	7.90	-	-	-	-	-	0.095
122	158.1	571.9	645	1	19.9	28.22	-	6.6	-	-	7.93	-	-	-	-	-	0.123
124	159.9	571.9	652	1	19.8	28.42	-	6.6	-	-	7.97	-	-	-	-	-	0.146
126	161.8	572.0	659	1	19.8	28.68	18.7	22.6	1.96	-	8.04	-	-	-	-	2.2	0.138
128	161.2	570.6	731	1	19.8	28.43	-	7.3	-	-	7.98	-	-	-	-	-	0.156
130	160.6	569.2	736	1	19.7	28.48	-	5.4	-	-	8.01	-	-	-	-	-	0.128
132	160.0	567.4	744	1	19.5	28.68	-	0.9	-	-	7.93	-	-	-	-	-	0.085
134	159.5	566.3	747	1	19.6	28.77	-	6.6	-	-	7.95	-	-	-	-	-	0.088
136	160.4	564.6	754	1	19.5	28.85	-	7.3	-	-	7.97	-	-	-	-	-	0.090
138	160.7	562.8	801	1	19.0	29.68	-	6.0	-	-	8.14	-	-	-	-	-	0.085
140	161.0	561.0	808	1	19.1	29.79	-	9.8	-	-	8.16	-	-	-	-	-	0.133
142	161.4	558.8	817	1	19.0	29.67	4.2	7.9	1.04	-	8.12	-	-	-	-	2.6	0.139
144	162.0	560.4	837	1	19.2	29.33	-	4.7	-	-	8.00	-	-	0.3	-	-	0.119
146	162.8	562.1	843	1	19.4	29.12	-	3.4	-	-	7.95	-	-	-	-	-	0.079
148	163.4	563.9	849	1	19.5	28.93	-	4.7	-	-	7.97	-	-	-	-	-	0.079
150	164.1	565.6	858	1	19.6	28.83	-	2.2	-	-	7.93	-	-	-	-	-	0.076
152	164.8	567.4	905	1	19.7	29.00	-	4.1	-	-	8.00	-	-	-	-	-	0.111
154	165.4	569.1	913	1	20.0	28.82	-	10.5	-	-	8.02	-	-	-	-	-	0.127
156	165.8	570.3	920	1	20.0	28.68	22.2	20.0	3.07	-	8.05	-	-	-	-	3.9	0.136
158	167.5	569.4	936	1	19.8	28.80	-	21.9	-	-	8.05	-	-	-	-	-	0.142
160	169.2	568.5	944	1	19.8	28.91	-	20.7	-	-	8.05	-	-	-	-	-	0.146
162	170.8	567.6	952	1	19.8	28.79	20.1	18.1	1.88	-	8.04	-	-	-	-	5.9	0.142
164	172.5	566.7	1012	1	19.9	28.93	-	17.5	-	-	8.00	-	-	-	-	-	0.155
166	174.2	565.8	1018	1	19.8	29.08	-	15.6	-	-	7.91	-	-	-	-	-	0.104
168	175.1	565.3	1024	1	19.8	29.02	14.7	13.0	1.57	-	7.91	-	-	-	-	1.1	0.085
170	174.4	563.6	1049	1	19.7	29.23	-	4.7	-	-	7.88	-	-	-	-	-	0.073
172	173.8	561.8	1057	1	19.7	29.12	-	10.5	-	-	7.88	-	-	-	-	-	0.079
174	173.1	560.1	1106	1	19.3	29.53	-	0.3	-	-	7.86	-	-	-	-	-	0.076
176	172.4	558.4	1112	1	19.2	29.47	-	0.9	-	-	7.92	-	-	-	-	-	0.079
178	171.8	556.7	1118	1	19.0	29.94	-	1.5	-	-	7.92	-	-	-	-	-	0.079
180	170.9	554.4	1128	1	19.1	30.02	10.6	7.9	2.19	-	7.85	-	-	-	-	1.3	0.089

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION												
			CONTINUOUS						DISCRET					
18 AUG 80	17	S F BAY	ST02	PO4	NO3+NO2	NO2	NH3	PHOSPH	NITROG	DISSOLV	PHOSPH	NITROG	TOTAL	TOTAL
STATION	DEPTH	m	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM
118	1	126	17.05	24.6	1.18	7.12	-	-	-	-	-	-	-	-
120	1	123	16.70	24.2	1.23	7.13	-	-	-	-	-	-	-	-
122	1	117	15.61	22.5	1.18	5.66	-	-	-	-	-	-	-	-
124	1	109	14.00	20.2	0.97	1.80	-	-	-	-	-	-	-	-
126	1	111	13.24	0.4	0.03	0.08	-	-	-	-	-	-	-	-
128	1	109	13.71	16.1	0.69	0.59	-	-	-	-	-	-	-	-
130	1	104	13.87	19.2	0.82	1.57	-	-	-	-	-	-	-	-
132	1	93	12.19	16.2	0.66	5.19	-	-	-	-	-	-	-	-
134	1	86	11.60	18.3	0.80	6.09	-	-	-	-	-	-	-	-
136	1	81	11.13	17.7	0.77	5.93	-	-	-	-	-	-	-	-
138	1	16	5.78	5.1	0.30	0.74	-	-	-	-	-	-	-	-
140	1	17	5.13	4.3	0.25	0.44	-	-	-	-	-	-	-	-
142	1	26	5.10	7.7	0.48	0.00	-	-	-	-	-	-	-	-
144	1	40	6.56	11.0	0.56	0.32	-	-	-	-	-	-	-	-
146	1	54	8.23	15.0	0.61	3.89	-	-	-	-	-	-	-	-
148	1	72	9.63	16.7	0.63	5.10	-	-	-	-	-	-	-	-
150	1	79	10.26	17.1	0.67	5.52	-	-	-	-	-	-	-	-
152	1	77	9.46	17.4	0.52	1.51	-	-	-	-	-	-	-	-
154	1	74	9.87	13.0	0.29	0.18	-	-	-	-	-	-	-	-
156	1	96	11.10	8.1	0.10	0.21	-	-	-	-	-	-	-	-
158	1	94	11.07	6.6	0.20	0.16	-	-	-	-	-	-	-	-
160	1	69	9.89	12.8	0.30	0.38	-	-	-	-	-	-	-	-
162	1	78	9.86	14.5	0.33	0.64	-	-	-	-	-	-	-	-
164	1	102	10.66	5.6	0.24	0.61	-	-	-	-	-	-	-	-
166	1	108	10.44	8.6	0.31	5.41	-	-	-	-	-	-	-	-
168	1	106	10.50	9.1	0.38	6.16	-	-	-	-	-	-	-	-
170	1	95	8.44	13.0	0.64	8.65	-	-	-	-	-	-	-	-
172	1	91	8.48	14.7	0.63	6.83	-	-	-	-	-	-	-	-
174	1	73	6.88	16.9	0.69	4.82	-	-	-	-	-	-	-	-
176	1	72	6.87	17.6	0.82	5.14	-	-	-	-	-	-	-	-
178	1	68	5.33	17.2	0.79	6.44	-	-	-	-	-	-	-	-
180	1	69	4.93	16.9	0.70	6.89	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table B.---Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION																	
19 AUG 80		17		S F BAY																	
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR			
302	205.2	553.5	718	1	17.7	23.62	13.6	11.7	1.66	-	-	-	-	-	-	-	4.1	0.109			
304	206.9	552.3	737	1	17.6	23.79	-	16.8	-	-	-	-	-	-	-	-	-	0.117			
306	208.8	551.1	746	1	17.6	23.36	15.2	12.4	1.75	-	-	-	-	-	-	-	4.1	0.112			
308	210.7	549.8	804	1	18.0	22.83	-	27.7	-	-	-	-	-	-	-	-	-	0.123			
310	212.2	548.8	811	1	18.3	22.07	-	59.7	-	-	-	-	-	-	-	-	-	0.157			
312	213.5	547.9	817	1	18.4	21.66	51.7	56.7	4.65	-	-	-	-	-	-	-	8.1	0.171			
314	214.7	550.0	832	1	18.5	21.69	-	56.9	-	-	-	-	-	-	-	-	-	0.161			
316	215.2	551.5	839	1	18.4	21.83	-	2.2	-	-	-	-	-	-	-	-	-	0.149			
318	215.7	553.3	847	1	18.2	22.07	28.3	35.3	2.77	-	-	-	-	-	2.7	-	4.8	0.127			
320	216.3	555.1	907	1	18.3	21.85	-	33.5	-	-	-	-	-	-	-	-	-	0.127			
322	216.7	556.9	915	1	18.2	22.18	-	29.5	-	-	-	-	-	-	-	-	-	0.117			
324	216.9	558.6	923	1	18.2	21.50	32.5	41.6	2.86	-	-	-	-	-	-	-	5.9	0.134			
326	215.3	559.3	940	1	18.3	21.99	-	33.5	-	-	-	-	-	-	-	-	-	0.117			
328	213.5	560.0	948	1	18.4	21.37	-	35.5	-	-	-	-	-	-	-	-	-	0.117			
330	211.8	560.7	956	1	18.7	20.25	-	21.0	-	-	-	-	-	-	-	-	-	0.111			
332	210.1	561.4	1002	1	19.0	20.10	-	18.9	-	-	-	-	-	-	-	-	-	0.101			
334	208.4	562.1	1010	1	18.7	20.93	7.2	11.3	1.32	-	-	-	-	-	-	-	3.5	0.103			
402	210.2	577.5	1144	1	19.8	9.99	-	17.3	-	-	8.30	-	-	-	-	-	-	0.171			
404	211.2	577.3	1148	1	19.5	11.98	15.1	14.3	1.57	-	8.30	-	-	-	-	-	12.7	0.172			
406	213.3	579.1	1203	1	19.8	10.58	-	31.4	-	-	8.35	-	-	-	-	-	-	0.320			
408	215.0	580.5	1211	1	19.8	9.26	-	37.5	-	-	8.42	-	-	-	-	-	-	0.410			
410	216.7	581.9	1220	1	19.8	8.24	-	47.6	-	-	8.45	-	-	-	-	-	-	0.510			
412	218.0	582.9	1226	1	19.6	6.87	-	57.7	-	-	8.44	-	-	-	-	-	-	0.580			
414	219.3	582.3	1232	1	19.8	6.78	68.0	57.7	5.04	-	8.51	-	-	-	-	-	40.3	0.475			
416	219.0	584.2	1251	1	19.9	6.56	-	51.6	-	-	8.47	-	-	-	-	-	-	0.560			
418	218.8	586.7	1301	1	19.6	7.09	57.5	57.7	4.79	-	8.49	-	-	-	1.7	-	35.8	0.435			
420	217.9	586.2	1314	1	19.9	6.77	-	45.6	-	-	8.54	-	-	-	-	-	-	0.460			
422	216.7	585.8	1319	1	19.8	6.46	-	49.6	-	-	8.47	-	-	-	-	-	-	0.500			
424	215.4	588.1	1329	1	20.0	5.07	-	53.7	-	-	8.28	-	-	-	-	-	-	0.410			
426	214.8	589.5	1337	1	19.9	4.73	-	57.3	-	-	8.13	-	-	-	-	-	-	0.400			
428	214.0	590.5	1341	1	20.5	4.32	-	53.7	-	-	8.26	-	-	-	-	-	-	0.380			
430	214.3	592.5	1348	1	20.7	3.69	-	61.7	-	-	8.23	-	-	-	-	-	-	0.390			
432	214.5	594.6	1359	1	20.0	4.30	72.0	69.8	6.17	-	8.21	-	-	-	-	-	29.6	0.350			
-	212.0	597.2	1426	1	20.5	2.36	-	75.9	-	-	7.79	-	-	-	-	-	-	0.255			
747	209.8	599.5	1533	1	22.1	1.00	-	49.3	-	-	-	-	-	-	-	-	-	-			
749	208.8	605.3	1547	1	22.2	0.70	-	37.5	-	-	7.63	-	-	-	-	-	-	-			
751	209.5	609.1	1603	1	22.5	0.49	-	35.5	-	-	7.61	-	-	-	-	-	-	-			
753	210.3	612.6	1619	1	22.0	0.27	-	31.5	-	-	7.48	-	-	-	-	-	-	-			
755	212.1	615.2	1634	1	22.0	0.16	-	27.4	-	-	7.29	-	-	-	-	-	-	-			
757	215.9	616.0	1652	1	21.9	0.12	29.1	23.4	-	-	7.41	-	-	-	-	-	-	-			

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE 19 AUG 80	CRUISE # 17	LOCATION S F BAY	STATION	DEPTH m	CONTINUOUS					DISCRETE					DISCRET					TOTAL PHOSPH UM
					SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	DISSOLV PHOSPH UM	NITROG UM		
302	1	74	3.68	18.8	0.56	4.72	77	3.69	18.79	0.68	4.46	3.7	31.4	3.8	33.7	4.0				
304	1	73	3.70	18.3	0.80	4.66	-	-	-	-	-	-	-	-	-	-				
306	1	74	3.68	18.7	0.55	4.55	77	3.72	18.66	0.68	4.25	3.7	30.6	3.8	34.5	4.2				
308	1	77	3.73	18.9	0.78	3.91	-	-	-	-	-	-	-	-	-	-				
310	1	82	4.18	20.3	0.64	2.59	-	-	-	-	-	-	-	-	-	-				
312	1	87	4.28	21.1	0.53	1.88	89	4.36	21.03	0.48	2.06	4.4	32.2	4.4	37.4	5.2				
314	1	88	4.17	21.7	0.58	2.33	-	-	-	-	-	-	-	-	-	-				
316	1	86	4.04	21.4	0.59	2.54	-	-	-	-	-	-	-	-	-	-				
318	1	67	3.76	19.6	0.47	3.64	84	3.73	20.08	0.64	3.65	3.7	31.5	3.9	33.8	4.4				
320	1	81	3.65	19.4	0.78	3.26	-	-	-	-	-	-	-	-	-	-				
322	1	80	3.61	19.1	0.81	3.51	-	-	-	-	-	-	-	-	-	-				
324	1	81	3.70	19.3	0.66	2.75	84	3.74	19.78	0.62	2.79	3.7	29.4	3.9	34.0	4.5				
326	1	80	3.71	19.2	0.77	3.60	-	-	-	-	-	-	-	-	-	-				
328	1	78	3.61	18.7	0.80	3.77	-	-	-	-	-	-	-	-	-	-				
330	1	79	3.50	18.1	0.77	2.98	-	-	-	-	-	-	-	-	-	-				
332	1	79	3.45	17.8	0.76	2.72	-	-	-	-	-	-	-	-	-	-				
334	1	79	3.47	18.1	0.49	2.88	81	3.53	19.29	0.74	3.22	3.5	29.6	3.7	32.9	4.0				
402	1	89	2.18	9.1	-	0.24	-	-	-	-	-	-	-	-	-	-				
404	1	83	2.31	10.8	0.41	0.27	67	2.30	8.14	0.35	0.20	2.3	18.4	2.5	24.7	3.0				
406	1	79	2.00	6.7	0.34	0.14	-	-	-	-	-	-	-	-	-	-				
408	1	77	1.84	3.5	0.20	0.09	-	-	-	-	-	-	-	-	-	-				
410	1	75	1.73	2.2	0.15	0.04	-	-	-	-	-	-	-	-	-	-				
412	1	82	1.60	1.9	0.17	0.04	-	-	-	-	-	-	-	-	-	-				
414	1	76	1.51	1.9	-	-	77	1.57	0.06	-	0.05	1.6	9.9	1.8	29.6	3.5				
416	1	96	1.62	1.9	0.00	0.08	-	-	-	-	-	-	-	-	-	-				
418	1	89	1.73	1.8	-	0.03	83	1.79	0.03	-	0.03	1.8	9.7	2.0	26.6	3.5				
420	1	88	1.74	2.0	0.19	0.11	-	-	-	-	-	-	-	-	-	-				
422	1	93	1.73	2.0	0.17	0.11	-	-	-	-	-	-	-	-	-	-				
424	1	115	1.81	5.0	0.36	0.26	-	-	-	-	-	-	-	-	-	-				
426	1	131	2.03	8.9	0.27	0.26	-	-	-	-	-	-	-	-	-	-				
428	1	138	2.04	9.8	0.39	0.20	-	-	-	-	-	-	-	-	-	-				
430	1	148	2.07	11.5	0.45	0.19	-	-	-	-	-	-	-	-	-	-				
432	1	139	2.09	10.4	0.38	-	139	2.08	7.09	0.09	0.20	2.1	16.6	2.3	32.3	3.6				
-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
747	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
749	1	211	2.60	11.4	0.29	1.18	-	-	-	-	-	-	-	-	-	-				
751	1	198	2.55	8.3	0.41	0.70	-	-	-	-	-	-	-	-	-	-				
753	1	198	2.04	6.7	0.39	0.70	-	-	-	-	-	-	-	-	-	-				
755	1	194	2.02	5.5	0.32	0.60	-	-	-	-	-	-	-	-	-	-				
757	1	-	2.04	9.7	0.06	-	-	2.62	10.22	0.32	-	2.6	18.6	2.7	25.2	3.0				

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE 3 SEP 80	CRUISE # 18	LOCATION S F BAY															
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
118	155.1	574.0	614	1	20.3	28.20	-	16.7	-	-	7.94	-	-	-	-	1.2	0.092
120	157.0	573.0	633	1	20.2	28.45	-	14.8	-	-	8.01	-	-	-	-	-	0.104
122	158.1	571.9	639	1	20.1	28.49	-	12.9	-	-	8.01	-	-	-	-	-	0.092
124	159.9	571.9	645	1	19.9	28.71	-	12.9	-	-	8.05	-	-	-	-	-	0.098
126	161.8	572.0	652	1	19.8	29.16	-	19.2	1.37	-	8.13	-	-	-	-	1.2	0.094
128	161.3	570.5	707	1	19.8	28.77	-	12.2	-	-	8.09	-	-	-	-	-	0.095
130	160.7	569.1	713	1	19.8	28.71	-	10.3	-	-	8.05	-	-	-	-	-	0.089
132	159.9	567.3	719	1	19.7	29.01	-	20.4	-	-	7.87	-	-	-	-	-	0.079
134	159.6	566.1	723	1	19.7	28.94	-	17.3	-	-	7.97	-	-	-	-	-	0.078
136	160.4	564.6	730	1	19.5	29.38	-	11.6	-	-	7.99	-	-	-	-	-	0.066
138	160.7	562.8	737	1	19.3	30.09	-	10.3	-	-	8.09	-	-	-	-	-	0.070
140	160.9	560.9	744	1	19.2	30.31	-	12.9	-	-	8.06	-	-	-	-	-	0.085
142	161.5	558.7	753	1	18.8	30.16	-	14.1	1.14	-	8.04	-	-	-	-	3.4	0.114
144	162.1	560.4	807	1	19.0	29.85	-	13.5	-	-	7.94	-	-	-	-	-	0.082
146	162.7	562.4	813	1	19.5	29.39	-	19.2	-	-	7.98	-	-	-	-	-	0.079
148	163.4	563.9	819	1	19.3	29.35	-	12.9	-	-	7.96	-	-	-	-	-	0.070
150	164.1	565.6	825	1	19.3	29.43	-	12.2	-	-	7.96	-	-	-	-	-	0.066
152	164.8	567.4	832	1	19.2	29.51	-	14.1	-	-	7.96	-	-	-	-	-	0.089
154	165.7	569.0	840	1	19.5	29.46	-	11.6	-	-	8.05	-	-	-	-	-	0.095
156	165.1	570.2	844	1	19.7	29.31	-	12.2	0.84	-	8.15	-	-	-	-	2.6	0.109
158	167.5	569.3	858	1	19.8	29.28	-	11.6	-	-	8.10	-	-	-	-	-	0.117
160	169.2	568.4	905	1	19.8	29.30	-	11.0	-	-	8.03	-	-	-	-	-	0.101
162	171.0	567.9	912	1	19.7	29.55	12.6	18.5	1.29	-	8.02	-	-	0.4	3.3	2.9	0.114
164	172.7	566.9	928	1	19.5	29.72	-	14.1	-	-	7.91	-	-	-	-	-	0.085
166	174.5	565.9	935	1	19.6	29.72	-	13.5	-	-	7.95	-	-	-	-	-	0.092
168	175.1	565.3	938	1	19.7	29.68	-	14.1	0.94	-	7.93	-	-	-	-	1.9	0.095
170	174.3	563.2	955	1	19.1	29.87	-	13.5	-	-	7.92	-	-	-	-	-	0.095
172	173.8	561.8	1000	1	18.4	30.28	-	17.3	-	-	7.92	-	-	-	-	-	0.092
174	173.2	560.0	1007	1	17.3	30.65	-	12.2	-	-	7.95	-	-	-	-	-	0.085
176	172.7	558.3	1012	1	17.7	30.59	-	13.5	-	-	7.91	-	-	-	-	-	0.073
178	171.8	556.4	1019	1	17.6	30.61	-	11.6	-	-	7.91	-	-	-	-	-	0.070
180	171.0	554.4	1027	1	18.1	30.54	-	19.8	1.49	-	7.91	-	-	-	-	2.1	0.081
182	169.8	555.0	1041	1	18.4	30.49	-	21.7	-	-	7.93	-	-	-	-	-	0.098
184	169.6	555.7	1047	1	18.3	30.41	-	12.9	-	-	7.93	-	-	-	-	-	0.111
-	168.8	558.0	1053	1	18.3	30.43	-	11.6	-	-	7.91	-	-	-	-	-	0.063

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION																
3 SEP 80		18	S F BAY																
STATION	DEPTH m	CONTINUOUS					DISCRETE					DISCRET				DISSOLV		TOTAL	
		SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM		
118	1	123	19.40	24.9	1.27	6.11	-	-	-	-	-	-	-	-	-	-	-		
120	1	119	18.42	22.9	1.05	4.24	-	-	-	-	-	-	-	-	-	-	-		
122	1	115	17.98	21.8	1.05	5.36	-	-	-	-	-	-	-	-	-	-	-		
124	1	106	16.59	18.8	0.93	3.24	-	-	-	-	-	-	-	-	-	-	-		
126	1	107	15.31	5.1	0.11	0.31	-	-	-	-	-	-	-	-	-	-	-		
128	1	101	38.55	14.3	0.56	-	-	-	-	-	-	-	-	-	-	-	-		
130	1	103	39.60	17.7	0.84	-	-	-	-	-	-	-	-	-	-	-	-		
132	1	100	38.49	15.7	0.76	-	-	-	-	-	-	-	-	-	-	-	-		
134	1	95	35.91	17.9	0.90	7.63	-	-	-	-	-	-	-	-	-	-	-		
136	1	85	32.30	16.5	0.86	7.99	-	-	-	-	-	-	-	-	-	-	-		
138	1	51	20.05	7.6	0.46	3.02	-	-	-	-	-	-	-	-	-	-	-		
140	1	56	6.24	7.0	0.42	1.24	-	-	-	-	-	-	-	-	-	-	-		
142	1	65	6.44	15.5	0.58	1.13	-	-	-	-	-	-	-	-	-	-	-		
144	1	60	6.95	17.1	0.65	2.58	-	-	-	-	-	-	-	-	-	-	-		
146	1	74	10.96	15.9	0.81	6.63	-	-	-	-	-	-	-	-	-	-	-		
148	1	77	10.92	16.6	0.81	6.23	-	-	-	-	-	-	-	-	-	-	-		
150	1	75	10.20	17.1	0.81	5.90	-	-	-	-	-	-	-	-	-	-	-		
152	1	72	9.78	17.4	0.75	5.64	-	-	-	-	-	-	-	-	-	-	-		
154	1	67	9.83	16.1	0.55	2.75	-	-	-	-	-	-	-	-	-	-	-		
156	1	72	10.85	10.1	0.26	0.68	-	-	-	-	-	-	-	-	-	-	-		
158	1	78	11.45	9.5	0.27	0.52	-	-	-	-	-	-	-	-	-	-	-		
160	1	78	10.99	12.6	0.43	0.88	-	-	-	-	-	-	-	-	-	-	-		
162	1	78	11.00	6.7	0.25	1.19	63	9.88	7.38	0.32	1.38	9.9	21.3	10.3	19.7	10.6	-		
164	1	65	9.07	12.6	0.56	4.69	-	-	-	-	-	-	-	-	-	-	-		
166	1	74	9.22	13.9	0.64	6.03	-	-	-	-	-	-	-	-	-	-	-		
168	1	73	9.28	13.4	0.53	5.73	-	-	-	-	-	-	-	-	-	-	-		
170	1	72	8.27	15.1	0.75	5.80	-	-	-	-	-	-	-	-	-	-	-		
172	1	68	6.51	16.7	0.90	7.52	-	-	-	-	-	-	-	-	-	-	-		
174	1	52	4.79	16.0	0.88	6.91	-	-	-	-	-	-	-	-	-	-	-		
176	1	53	4.67	16.1	0.91	5.82	-	-	-	-	-	-	-	-	-	-	-		
178	1	52	4.51	15.8	0.88	7.02	-	-	-	-	-	-	-	-	-	-	-		
180	1	56	5.17	16.5	0.72	7.66	-	-	-	-	-	-	-	-	-	-	-		
182	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
184	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION												
3 SEP 80		18		S F BAY												
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
194	168.3	560.3	1119	1	19.2	30.01	11.6	-	-	7.90	-	-	-	-	-	0.073
196	168.9	562.3	1126	1	19.5	29.76	11.6	-	-	7.91	-	-	-	-	-	0.079
198	169.4	563.7	1131	1	19.5	29.56	14.8	-	-	7.91	-	-	-	-	-	0.079
200	170.4	565.4	1137	1	19.8	29.43	24.2	-	-	7.95	-	-	-	-	-	0.101
162	171.0	566.4	1146	1	20.0	29.32	10.3	-	-	8.08	-	-	-	-	-	0.120
164	172.7	566.9	1153	1	19.8	29.58	17.3	-	-	8.00	-	-	-	-	-	0.111
166	174.4	565.5	1200	1	19.6	29.74	15.4	-	-	7.89	-	-	-	-	-	0.085
168	175.3	565.0	1203	1	19.6	29.73	17.9	-	-	7.91	-	-	-	-	-	0.082
-	176.2	564.5	1208	1	19.6	29.73	14.1	-	-	7.89	-	-	-	-	-	0.079
-	177.4	565.1	1216	1	19.5	29.71	11.0	-	-	7.96	-	-	-	-	-	0.092

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION														
3 SEP 80			18	S F BAY													
STATION	DEPTH m	-----		CONTINUOUS				-----		DISCRET		DISSOLV		TOTAL		TOTAL	
		SI02	UM	PO4	UM	NO3+NO2	UM	NO2	UM	NH3	UM	PHOSPH	UM	NITROG	UM	PHOSPH	UM
194	1	65		6.40		16.9		0.84		5.81		-		-		-	
196	1	68		7.50		17.5		0.82		5.68		-		-		-	
198	1	70		8.31		17.3		0.77		5.03		-		-		-	
200	1	70		9.68		15.3		0.72		4.37		-		-		-	
162	1	80		11.37		10.4		0.39		0.95		-		-		-	
164	1	60		9.23		5.5		0.31		0.05		-		-		-	
166	1	55		9.44		9.0		0.37		2.12		-		-		-	
168	1	72		9.26		13.2		0.64		4.97		-		-		-	
-	1	75		9.31		13.8		0.65		4.94		-		-		-	
-	1	78		9.59		13.6		0.61		4.67		-		-		-	

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION												
4 SEP 80		18		S F BAY												
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
302	202.3	553.7	658	1	18.2	25.01	96.5	5.22	-	7.99	-	-	-	-	3.6	0.158
304	207.0	552.3	721	1	18.2	23.08	34.5	-	-	8.02	-	-	-	-	-	0.127
306	209.0	551.3	728	1	18.1	23.82	66.5	5.45	-	8.01	-	-	-	-	6.3	0.152
308	210.7	549.8	746	1	18.6	22.92	162.4	-	-	8.06	-	-	-	-	-	0.225
310	212.2	548.8	752	1	18.6	22.88	150.4	-	-	8.09	-	-	-	-	-	0.237
312	213.5	547.9	758	1	18.6	22.81	146.1	10.40	-	8.14	-	-	-	-	16.0	0.287
314	214.8	549.7	816	1	18.6	22.76	110.2	-	-	8.09	-	-	-	-	-	0.227
316	213.3	551.5	823	1	18.4	22.88	108.2	-	-	8.07	-	-	1.8	-	-	0.226
318	215.8	553.3	830	1	18.1	22.74	94.2	6.63	-	8.04	-	-	-	-	8.0	0.190
320	216.3	555.3	846	1	18.0	23.02	90.5	-	-	8.01	-	-	-	-	-	0.187
322	216.8	556.9	853	1	17.9	23.08	86.5	-	-	8.01	-	-	-	-	-	0.187
324	217.0	558.6	900	1	17.7	23.70	42.5	3.67	-	8.01	-	-	-	-	9.1	0.161
326	215.3	559.4	915	1	18.1	21.46	54.5	-	-	7.96	-	-	-	-	-	0.139
328	213.5	560.1	922	1	18.3	20.39	44.5	-	-	7.98	-	-	-	-	-	0.123
330	211.8	560.7	929	1	18.4	19.85	16.5	-	-	7.96	-	-	-	-	-	0.101
332	210.0	561.5	935	1	18.3	21.54	31.8	-	-	7.96	-	-	-	-	-	0.146
334	208.4	562.1	942	1	17.8	25.45	72.9	5.90	-	8.01	-	-	-	-	8.9	0.190
-	212.1	564.4	1005	1	18.4	20.13	17.3	-	-	7.98	-	-	-	-	-	0.117
-	212.5	568.0	1015	1	18.5	16.47	16.1	-	-	8.02	-	-	-	-	-	0.120
402	210.2	577.5	1110	1	19.0	12.46	146.1	-	-	8.06	-	-	-	-	-	0.330
404	211.2	577.3	1114	1	19.0	12.01	67.2	4.35	-	-	-	-	-	-	18.5	0.220
406	213.3	579.1	1127	1	19.1	11.72	101.9	-	-	8.08	-	-	-	-	-	0.300
408	215.0	580.5	1133	1	19.1	10.65	89.3	-	-	8.11	-	-	-	-	-	0.350
410	216.7	581.9	1140	1	19.2	9.06	120.5	-	-	8.18	-	-	-	-	-	0.540
412	218.0	582.9	1145	1	19.3	8.63	202.9	-	-	8.16	-	-	-	-	-	0.690
414	219.2	582.3	1150	1	19.4	7.82	141.0	10.70	-	8.23	-	-	-	-	61.0	0.700
416	219.0	584.3	1207	1	19.2	7.56	101.9	-	-	8.24	-	-	-	-	-	0.600
418	218.8	586.7	1216	1	19.7	5.42	81.9	6.85	-	8.15	-	-	2.7	3.2	33.8	0.432
420	217.5	586.2	1235	1	19.4	6.75	120.8	-	-	8.15	-	-	-	-	-	0.560
422	216.8	585.8	1237	1	19.4	7.62	95.6	-	-	8.27	-	-	-	-	-	0.510
424	215.4	588.0	1244	1	19.2	6.58	108.2	-	-	8.15	-	-	-	-	-	0.520
426	214.8	589.6	1251	1	19.4	5.89	127.2	-	-	8.08	-	-	-	-	-	0.480
428	214.1	590.5	1254	1	19.6	4.83	117.1	-	-	8.03	-	-	-	-	-	0.440
430	214.3	592.5	1301	1	19.5	4.45	190.3	-	-	7.94	-	-	-	-	-	0.490
432	214.5	594.7	1309	1	20.2	2.97	74.2	6.52	-	8.00	-	-	-	-	25.6	-
745	210.3	598.3	1358	1	20.8	2.19	68.4	-	-	7.82	-	-	-	-	-	-
747	209.3	601.9	1410	1	21.2	1.58	68.4	-	-	7.84	-	-	-	-	-	-
749	208.8	605.3	1423	1	21.6	1.10	68.4	-	-	7.84	-	-	-	-	-	-
751	209.5	609.1	1437	1	22.0	0.87	56.4	-	-	7.87	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION															
4 SEP 80		18		S F BAY															
STATION	DEPTH m	CONTINUOUS						DISCRETE						DISSOLV				TOTAL	
		SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM		SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM		PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM	
302	1	56	3.31	16.0	0.64	3.72		-	-	-	-	-	-	-	-	-	-	-	
304	1	58	3.28	16.3	0.71	2.51		-	-	-	-	-	-	-	-	-	-	-	
306	1	57	3.28	16.5	0.47	2.25		60	3.29	16.74	0.68	2.21	3.3	27.8	3.3	33.2	4.7	4.7	
308	1	58	3.29	17.5	0.59	2.44		-	-	-	-	-	-	-	-	-	-	-	
310	1	55	3.36	14.0	0.36	0.51		-	-	-	-	-	-	-	-	-	-	-	
312	1	54	3.77	14.8	0.25	0.31		52	3.72	11.77	0.33	0.06	3.7	19.5	3.8	33.6	5.7	5.7	
314	1	55	4.01	12.9	0.40	0.55		-	-	-	-	-	-	-	-	-	-	-	
316	1	60	4.15	15.5	0.39	0.51		-	-	-	-	-	-	-	-	-	-	-	
318	1	61	3.94	18.1	0.48	0.75		62	3.40	17.14	0.50	0.72	3.4	25.5	3.5	33.2	5.0	5.0	
320	1	59	3.53	17.7	0.54	0.76		-	-	-	-	-	-	-	-	-	-	-	
322	1	58	3.42	16.8	0.62	1.69		-	-	-	-	-	-	-	-	-	-	-	
324	1	58	3.38	16.3	-	2.56		60	3.40	15.92	-	0.82	3.4	25.7	3.5	31.0	4.5	4.5	
326	1	63	3.24	15.7	0.73	3.49		-	-	-	-	-	-	-	-	-	-	-	
328	1	62	3.10	15.3	0.74	3.51		-	-	-	-	-	-	-	-	-	-	-	
330	1	62	3.15	15.4	0.77	2.91		-	-	-	-	-	-	-	-	-	-	-	
332	1	62	3.16	15.7	0.75	2.88		-	-	-	-	-	-	-	-	-	-	-	
334	1	-	-	-	-	-		-	-	-	-	-	3.6	26.5	3.7	34.7	5.1	5.1	
-	1	62	3.13	15.1	0.67	2.69		-	-	-	-	-	-	-	-	-	-	-	
-	1	63	2.97	13.1	0.66	2.61		-	-	-	-	-	-	-	-	-	-	-	
402	1	64	2.44	9.3	0.46	1.25		-	-	-	-	-	-	-	-	-	-	-	
404	1	64	2.38	8.2	0.43	0.93		-	-	-	-	-	-	-	-	-	-	-	
406	1	63	2.34	7.9	0.39	0.92		-	-	-	-	-	-	-	-	-	-	-	
408	1	64	2.17	6.4	0.28	0.55		-	-	-	-	-	-	-	-	-	-	-	
410	1	59	1.89	2.3	0.22	0.20		-	-	-	-	-	-	-	-	-	-	-	
412	1	58	2.41	1.5	0.12	0.17		-	-	-	-	-	-	-	-	-	-	-	
414	1	58	1.68	0.3	0.04	0.01		63	1.58	0.19	0.13	0.09	1.6	10.0	1.7	25.4	4.3	4.3	
416	1	65	1.62	0.6	0.09	0.10		-	-	-	-	-	-	-	-	-	-	-	
418	1	105	2.00	6.4	0.05	-		114	1.91	6.04	0.12	-	1.9	15.1	2.1	32.5	4.3	4.3	
420	1	112	2.00	6.3	0.11	0.00		-	-	-	-	-	-	-	-	-	-	-	
422	1	90	1.89	3.8	0.04	0.08		-	-	-	-	-	-	-	-	-	-	-	
424	1	95	1.90	4.6	0.00	0.11		-	-	-	-	-	-	-	-	-	-	-	
426	1	106	2.00	6.9	0.00	0.06		-	-	-	-	-	-	-	-	-	-	-	
428	1	124	2.10	8.4	0.01	0.11		-	-	-	-	-	-	-	-	-	-	-	
430	1	123	2.12	8.7	0.00	0.25		-	-	-	-	-	-	-	-	-	-	-	
432	1	154	2.29	11.3	0.22	0.24		159	2.21	10.54	0.19	0.09	2.2	20.0	2.3	33.3	3.8	3.8	
745	1	218	2.44	12.4	0.37	1.23		-	-	-	-	-	-	-	-	-	-	-	
747	1	177	2.40	12.6	0.38	0.71		-	-	-	-	-	-	-	-	-	-	-	
749	1	175	2.27	10.1	-	0.53		-	-	-	-	-	-	-	-	-	-	-	
751	1	166	2.12	6.5	-	0.33		-	-	-	-	-	-	-	-	-	-	-	

Table B.---Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION																	
16 SEP 80		19		S F BAY																	
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR				
118	155.1	574.0	907	1	18.5	28.88	6.4	0.2	-	-	-	-	-	-	-	-	0.136				
120	157.0	573.0	916	1	19.2	28.66	-	0.2	-	-	-	-	-	-	-	-	0.089				
122	158.1	571.9	921	1	19.4	28.77	-	0.2	-	-	-	-	-	-	-	-	0.079				
124	159.9	571.9	929	1	19.1	28.90	-	0.3	-	-	-	-	-	-	-	-	0.114				
126	161.8	572.0	935	1	18.8	29.23	14.3	0.3	1.95	-	-	-	-	-	-	4.0	0.133				
128	161.2	570.6	951	1	19.4	28.89	-	0.2	-	-	-	-	-	-	-	-	0.092				
130	160.6	569.2	957	1	19.4	28.93	-	0.2	-	-	-	-	-	-	-	-	0.073				
132	160.0	567.4	1004	1	19.3	29.24	-	0.2	-	-	-	-	-	-	-	-	0.076				
134	159.5	566.3	1007	1	19.5	29.08	-	0.2	-	-	-	-	-	-	-	-	0.073				
136	160.4	566.6	1013	1	19.4	29.27	-	0.2	-	-	-	-	-	-	-	-	0.069				
138	161.0	562.8	1021	1	19.3	29.54	-	0.2	-	-	-	-	-	-	-	-	0.066				
140	161.0	561.0	1027	1	18.9	30.51	-	0.2	-	-	-	-	-	-	-	-	0.089				
142	161.4	558.8	1036	1	18.7	30.39	7.9	0.2	1.03	-	-	-	-	-	-	1.6	0.079				
144	162.0	560.4	1054	1	19.2	29.73	-	0.2	-	-	-	-	-	-	-	-	0.063				
146	162.8	562.1	1058	1	19.4	29.35	-	0.2	-	-	-	-	-	-	-	-	0.063				
148	163.4	563.9	1104	1	19.2	29.35	-	0.2	-	-	-	-	-	-	-	-	0.060				
150	164.1	565.6	1111	1	19.2	29.49	-	0.2	-	-	-	-	-	-	-	-	0.060				
152	164.8	567.4	1118	1	19.2	29.70	-	0.2	-	-	-	-	-	-	-	-	0.082				
154	165.4	569.1	1125	1	19.4	29.71	-	0.2	-	-	-	-	-	-	-	-	0.073				
156	165.8	570.3	1130	1	19.0	29.57	14.3	0.3	1.47	-	-	-	-	-	-	4.0	0.104				
158	167.5	569.4	1149	1	19.3	29.70	-	0.3	-	-	-	-	-	-	-	-	0.079				
160	169.2	568.5	1157	1	19.4	29.88	-	0.2	-	-	-	-	-	-	-	-	0.085				
162	170.8	567.6	1205	1	19.2	29.70	13.4	0.3	1.69	-	-	-	-	-	-	4.7	0.104				
164	172.5	566.7	1224	1	19.6	29.94	-	0.2	-	-	-	-	-	-	-	-	0.079				
166	174.2	565.8	1231	1	19.3	29.92	-	0.2	-	-	-	-	-	-	-	-	0.066				
168	175.1	565.3	1235	1	19.3	29.96	5.8	0.2	0.75	-	-	-	-	-	-	1.8	0.070				
170	174.4	563.6	1246	1	19.8	29.81	-	0.2	-	-	-	-	-	-	-	-	0.063				
172	173.8	561.9	1253	1	20.0	29.91	-	0.2	-	-	-	-	-	-	-	-	0.057				
174	173.1	560.1	1259	1	19.6	29.74	-	0.1	-	-	-	-	-	-	-	-	0.063				
176	172.4	558.4	1305	1	19.5	30.14	-	0.1	-	-	-	-	-	-	-	-	0.054				
178	171.8	556.7	1315	1	18.5	30.50	-	0.2	-	-	-	-	-	-	-	-	0.070				
180	170.9	554.4	1320	1	19.0	30.56	7.6	0.3	1.19	-	-	-	-	-	-	1.6	0.079				

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION														
16 SEP 80		19	S F BAY														
STATION	DEPTH m	CONTINUOUS										DISCRET				TOTAL	
		SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	DISSOLV PHOSPH UM	NITROG UM	PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM				
118	1	117	18.98	20.3	0.68	0.27	-	-	-	-	-	-	-				
120	1	123	19.58	25.0	1.06	1.92	-	-	-	-	-	-	-				
122	1	119	18.85	24.5	1.17	5.48	-	-	-	-	-	-	-				
124	1	117	18.25	22.7	1.08	3.82	-	-	-	-	-	-	-				
126	1	102	16.15	16.6	0.67	1.12	-	-	-	-	-	-	-				
128	1	118	17.89	21.8	0.73	4.78	-	-	-	-	-	-	-				
130	1	114	17.27	21.5	0.86	5.88	-	-	-	-	-	-	-				
132	1	105	15.17	20.0	0.89	7.56	-	-	-	-	-	-	-				
134	1	110	16.49	21.2	0.94	8.14	-	-	-	-	-	-	-				
136	1	107	16.07	20.9	0.93	15.56	-	-	-	-	-	-	-				
138	1	101	13.78	20.4	0.98	6.81	-	-	-	-	-	-	-				
140	1	93	7.44	14.3	0.57	4.84	-	-	-	-	-	-	-				
142	1	92	7.61	17.6	0.95	8.79	-	-	-	-	-	-	-				
144	1	88	9.54	18.4	0.77	7.16	-	-	-	-	-	-	-				
146	1	98	14.09	19.7	0.90	8.62	-	-	-	-	-	-	-				
148	1	101	14.65	20.2	0.95	8.21	-	-	-	-	-	-	-				
150	1	97	13.41	19.8	0.99	8.00	-	-	-	-	-	-	-				
152	1	90	12.17	19.8	0.83	5.14	-	-	-	-	-	-	-				
154	1	79	11.63	18.6	0.61	2.33	-	-	-	-	-	-	-				
156	1	81	12.27	17.0	0.45	1.28	-	-	-	-	-	-	-				
158	1	73	11.69	15.2	0.49	-	-	-	-	-	-	-	-				
160	1	85	12.24	2.1	0.22	-	-	-	-	-	-	-	-				
162	1	80	11.48	1.5	0.21	-	-	-	-	-	-	-	-				
164	1	63	9.77	6.4	0.14	2.54	-	-	-	-	-	-	-				
166	1	80	11.52	13.5	0.38	1.87	-	-	-	-	-	-	-				
168	1	81	9.96	15.7	0.48	1.91	-	-	-	-	-	-	-				
170	1	82	9.42	17.0	0.95	2.47	-	-	-	-	-	-	-				
172	1	80	9.75	17.4	0.92	1.24	-	-	-	-	-	-	-				
174	1	80	9.84	19.5	1.09	2.20	-	-	-	-	-	-	-				
176	1	71	7.48	18.3	0.98	2.21	-	-	-	-	-	-	-				
178	1	59	4.98	15.3	0.99	2.75	-	-	-	-	-	-	-				
180	1	61	4.97	15.8	0.86	2.87	-	-	-	-	-	-	-				

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
17 SEP 80		19		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
302	205.4	553.8	652	1	18.1	22.05	-	9.6	1.09	-	-	-	-	-	-	3.2	0.112
304	206.9	552.3	730	1	17.9	22.72	-	9.6	-	-	-	-	-	-	-	-	0.127
306	208.8	551.1	738	1	17.9	24.79	6.9	9.6	1.25	-	-	-	-	-	-	2.5	0.101
308	210.7	549.8	756	1	18.0	22.04	-	10.8	-	-	-	-	-	-	-	-	0.133
310	212.8	548.8	802	1	18.2	21.05	-	19.6	-	-	-	-	-	-	-	-	0.127
312	213.5	547.9	808	1	18.6	22.27	23.5	24.7	2.30	-	-	-	-	-	-	4.6	0.152
314	214.7	550.9	825	1	18.6	22.24	-	27.2	-	-	-	-	-	-	-	-	0.180
316	215.4	551.5	832	1	18.3	21.47	-	24.0	-	-	-	-	-	-	-	-	0.155
318	215.7	553.3	840	1	18.4	21.78	25.2	26.6	2.99	-	-	-	-	-	-	5.3	0.174
320	216.6	555.7	857	1	18.2	21.41	-	26.6	-	-	-	-	-	-	-	-	0.218
322	216.7	556.9	902	1	18.2	21.53	-	29.1	-	-	-	-	-	-	-	-	0.291
324	216.9	558.6	909	1	18.1	21.67	45.2	42.3	3.72	-	-	-	-	-	-	29.6	0.370
326	213.7	560.1	928	1	18.3	20.60	-	25.9	-	-	-	-	-	-	-	-	0.250
328	213.5	560.0	935	1	18.3	19.63	-	18.4	-	-	-	-	-	-	-	-	0.196
330	211.8	560.7	942	1	18.0	20.21	-	11.5	-	-	-	-	-	-	-	-	0.089
332	210.2	561.6	948	1	18.1	21.96	-	13.4	-	-	-	-	-	-	-	-	0.101
334	208.4	562.1	954	1	18.0	20.86	12.0	14.0	1.57	-	-	-	-	-	-	2.9	0.104
402	210.2	577.5	1120	1	18.4	11.63	-	29.7	-	-	-	-	-	-	-	-	0.168
404	211.2	577.3	1124	1	18.6	12.44	-	19.6	1.87	-	-	-	-	-	-	9.1	0.146
406	213.3	579.1	1138	1	18.9	10.38	-	32.2	-	-	-	-	-	-	-	-	0.275
408	215.0	580.5	1146	1	18.8	9.77	-	37.2	-	-	-	-	-	-	-	-	0.300
410	216.7	581.9	1153	1	18.8	6.37	-	73.3	-	-	-	-	-	-	-	-	0.560
412	218.0	582.9	1159	1	19.0	4.69	-	65.4	-	-	-	-	-	-	-	-	0.400
414	219.3	582.3	1204	1	19.0	4.49	75.6	75.3	5.55	-	-	-	-	-	-	34.0	0.410
416	219.0	584.5	1221	1	18.9	4.13	-	83.2	-	-	-	-	-	-	-	-	0.430
418	218.8	586.7	1231	1	18.8	3.74	88.2	89.2	6.72	-	-	-	-	-	-	23.7	0.340
420	217.9	586.2	1244	1	18.9	4.93	-	85.3	-	-	-	-	-	-	-	-	0.440
422	216.2	585.8	1248	1	19.0	5.29	-	73.3	-	-	-	-	-	-	-	-	0.440
424	215.4	588.1	1257	1	18.6	4.99	-	79.3	-	-	-	-	-	-	-	-	0.370
426	214.8	589.5	1304	1	19.0	3.60	-	67.3	-	-	-	-	-	-	-	-	0.310
428	214.0	590.5	1308	1	19.3	2.80	-	73.3	-	-	-	-	-	-	-	-	0.250
430	214.4	592.7	1318	1	19.3	2.56	-	81.3	-	-	-	-	-	-	-	-	0.260
432	214.5	594.6	1326	1	19.1	2.19	98.7	97.2	5.69	-	-	-	-	-	-	14.3	0.270
745	210.3	598.3	1411	1	20.1	0.91	-	77.3	-	-	-	-	-	-	-	-	0.160
747	209.3	601.8	1427	1	19.8	0.59	-	79.3	-	-	-	-	-	-	-	-	0.170
749	208.8	605.3	1441	1	19.8	0.36	-	69.4	-	-	-	-	-	-	-	-	0.180
751	209.5	609.1	1455	1	20.5	0.37	-	45.5	-	-	-	-	-	-	-	-	0.201

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION															
			CONTINUOUS					DISCRETE					DISSOLV				
17 SEP 80	19	S F BAY	STATION	DEPTH	S102	P04	NO3+NO2	NO2	NH3	S102	P04	NO3+NO2	NO2	NH3	DISCRET	DISSOLV	TOTAL
				m	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM
302	1	45	2.89	10.3	0.42	-	-	-	-	-	-	-	-	-	-	-	-
304	1	45	2.80	10.4	0.47	-	-	-	-	-	-	-	-	-	-	-	-
306	1	43	2.85	10.5	0.28	-	-	-	-	46	2.90	10.18	0.28	-	2.9	20.5	3.1
308	1	45	2.94	10.4	0.51	1.16	-	-	-	-	-	-	-	-	-	-	3.5
310	1	46	2.78	10.5	0.50	1.55	-	-	-	-	-	-	-	-	-	-	-
312	1	44	2.82	11.2	0.40	0.33	-	-	-	45	2.90	11.18	0.36	0.38	2.9	19.5	3.1
314	1	42	2.74	10.6	0.50	1.51	-	-	-	-	-	-	-	-	-	-	3.3
316	1	40	2.69	10.3	0.37	1.57	-	-	-	-	-	-	-	-	-	-	-
318	1	42	2.73	10.8	0.26	0.59	-	-	-	43	2.77	10.08	0.52	0.05	2.8	18.5	3.0
320	1	36	2.54	7.7	0.31	0.74	-	-	-	-	-	-	-	-	-	-	3.5
322	1	24	2.35	4.4	0.27	0.52	-	-	-	-	-	-	-	-	-	-	-
324	1	10	2.13	0.1	0.14	-	-	-	-	8	2.30	0.20	0.15	-	2.3	10.4	2.5
326	1	17	2.18	0.4	0.00	0.49	-	-	-	-	-	-	-	-	-	-	3.9
328	1	33	2.42	4.4	0.08	0.55	-	-	-	-	-	-	-	-	-	-	-
330	1	44	2.64	8.0	0.29	1.43	-	-	-	-	-	-	-	-	-	-	-
332	1	51	2.72	10.0	0.30	2.06	-	-	-	-	-	-	-	-	-	-	-
334	1	48	2.76	10.0	0.22	1.52	-	-	-	52	2.88	11.05	0.34	1.49	2.9	21.0	3.1
402	1	66	2.31	8.8	0.37	1.05	-	-	-	-	-	-	-	-	-	-	3.5
404	1	66	2.43	8.7	0.38	1.74	-	-	-	-	-	-	-	-	-	-	-
406	1	67	2.33	7.7	0.41	1.16	-	-	-	-	-	-	-	-	-	-	-
408	1	68	2.12	6.3	0.34	0.41	-	-	-	-	-	-	-	-	-	-	-
410	1	66	2.15	3.3	0.28	0.50	-	-	-	-	-	-	-	-	-	-	-
412	1	75	1.87	1.0	0.17	0.54	-	-	-	-	-	-	-	-	-	-	-
414	1	107	2.07	6.9	0.15	0.14	-	-	-	113	1.88	6.48	0.34	0.02	1.9	16.4	2.2
416	1	111	2.20	8.6	0.11	0.69	-	-	-	-	-	-	-	-	-	-	3.8
418	1	114	2.21	8.6	0.05	0.00	-	-	-	130	2.24	11.20	0.38	0.04	2.2	20.3	2.6
420	1	99	2.16	7.9	0.16	0.11	-	-	-	-	-	-	-	-	-	-	3.9
422	1	98	2.16	8.0	0.07	0.36	-	-	-	-	-	-	-	-	-	-	-
424	1	89	1.97	5.3	0.27	0.16	-	-	-	-	-	-	-	-	-	-	-
426	1	130	2.31	10.0	0.14	0.85	-	-	-	-	-	-	-	-	-	-	-
428	1	139	2.40	11.0	0.14	1.02	-	-	-	-	-	-	-	-	-	-	-
430	1	154	2.55	12.4	0.28	1.08	-	-	-	-	-	-	-	-	-	-	-
432	1	154	2.55	12.3	0.23	0.72	-	-	-	155	2.48	13.59	0.33	0.45	2.4	21.7	2.6
745	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9
747	1	177	2.63	11.3	0.43	1.76	-	-	-	-	-	-	-	-	-	-	-
749	1	167	2.69	6.9	0.44	2.03	-	-	-	-	-	-	-	-	-	-	-
751	1	120	1.84	2.6	0.01	0.18	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table B.---Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
15 OCT 80		20		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
118	156.1	574.0	857	1	16.8	29.13	-	-	1.80	-	-	-	-	-	-	2.6	0.133
120	157.0	573.0	913	1	17.5	28.95	-	-	-	-	-	-	-	-	-	-	0.107
122	158.1	571.9	918	1	17.7	29.18	-	-	-	-	-	-	-	-	-	-	0.107
124	159.9	571.9	925	1	17.3	29.31	-	-	-	-	-	-	-	-	-	-	0.113
126	161.7	571.8	932	1	16.3	29.45	-	-	1.06	-	-	-	-	-	-	2.8	0.117
128	161.2	570.6	947	1	17.2	29.44	-	-	-	-	-	-	-	-	-	-	0.117
130	160.8	569.0	952	1	17.8	29.32	-	-	-	-	-	-	-	-	-	-	0.098
132	160.0	567.3	958	1	18.0	29.69	-	-	-	-	-	-	-	-	-	-	0.095
134	159.6	566.3	1002	1	17.9	29.43	-	-	-	-	-	-	-	-	-	-	0.093
136	160.4	564.6	1008	1	18.3	29.68	-	-	-	-	-	-	-	-	-	-	0.079
138	160.8	561.7	1016	1	17.7	29.82	-	-	-	-	-	-	-	-	-	-	0.082
140	161.0	561.0	1022	1	16.3	30.08	-	-	-	-	-	-	-	-	-	-	0.114
142	161.4	558.8	1031	1	16.9	30.17	-	-	1.11	-	-	-	-	-	-	3.0	0.111
144	162.0	560.4	1046	1	17.4	30.24	-	-	-	-	-	-	-	-	-	-	0.085
146	162.8	562.1	1053	1	18.5	29.79	-	-	-	-	-	-	-	-	-	-	0.082
148	163.6	564.2	1101	1	17.9	29.78	-	-	-	-	-	-	-	-	-	-	0.076
150	164.1	565.6	1107	1	17.8	29.96	-	-	-	-	-	-	-	-	-	-	0.082
152	164.8	567.5	1114	1	17.4	29.91	-	-	-	-	-	-	-	-	-	-	0.089
154	165.4	569.1	1120	1	17.4	29.65	-	-	-	-	-	-	-	-	-	-	0.092
156	165.8	570.3	1125	1	17.2	29.46	-	-	1.57	-	-	-	-	-	-	5.0	0.152
158	167.5	569.4	1142	1	17.1	29.50	-	-	-	-	-	-	-	-	-	-	0.101
160	169.2	568.5	1151	1	17.4	29.63	-	-	-	-	-	-	-	-	-	-	0.095
162	170.8	567.6	1159	1	17.4	29.62	2.8	-	0.94	-	-	-	-	0.2	3.5	1.7	0.089
164	172.8	567.0	1216	1	17.1	30.06	-	-	-	-	-	-	-	-	-	-	0.085
166	174.2	565.8	1223	1	17.5	29.95	-	-	-	-	-	-	-	-	-	-	0.088
168	175.1	565.3	1228	1	17.7	29.97	-	-	-	-	-	-	-	-	-	-	0.093
170	174.4	563.6	1242	1	18.1	30.05	-	-	0.96	-	-	-	-	-	-	2.1	0.070
172	173.8	561.9	1249	1	19.4	29.93	-	-	-	-	-	-	-	-	-	-	0.073
174	173.1	560.1	1256	1	19.0	30.07	-	-	-	-	-	-	-	-	-	-	0.073
176	172.4	558.4	1303	1	18.6	30.08	-	-	-	-	-	-	-	-	-	-	0.068
178	171.8	556.7	1310	1	18.2	30.19	-	-	-	-	-	-	-	-	-	-	0.072
180	170.9	554.4	1316	1	17.8	30.18	-	-	1.10	-	-	-	-	-	-	2.5	0.098
182	169.8	555.0	1330	1	17.8	30.13	-	-	-	-	-	-	-	-	-	-	0.098
184	168.4	555.8	1336	1	17.9	30.23	-	-	-	-	-	-	-	-	-	-	0.104
186	167.6	556.2	1339	1	17.6	30.13	-	-	-	-	-	-	-	-	-	-	0.091

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION															
15 OCT 80		20		S F BAY															
STATION	DEPTH m	CONTINUOUS						DISCRETE						DISCRET DISSOLV				TOTAL	
		SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM		
118	1	130	20.81	35.4	0.84	3.61	132	18.42	34.88	0.84	2.91	-	-	-	-	-	-		
120	1	130	18.66	35.3	1.01	4.90	-	-	-	-	-	-	-	-	-	-	-		
122	1	131	19.10	35.5	1.03	4.91	-	-	-	-	-	-	-	-	-	-	-		
124	1	127	17.85	32.5	0.97	3.93	-	-	-	-	-	-	-	-	-	-	-		
126	1	119	15.82	23.6	0.41	0.27	119	15.72	23.34	0.42	0.52	-	-	-	-	-	-		
128	1	127	16.34	31.1	0.78	2.16	-	-	-	-	-	-	-	-	-	-	-		
130	1	128	17.32	32.4	0.86	3.64	-	-	-	-	-	-	-	-	-	-	-		
132	1	119	15.16	28.5	1.00	5.72	-	-	-	-	-	-	-	-	-	-	-		
134	1	122	15.19	30.2	1.02	6.88	-	-	-	-	-	-	-	-	-	-	-		
136	1	118	15.28	28.7	1.06	7.28	-	-	-	-	-	-	-	-	-	-	-		
138	1	99	13.52	26.0	0.90	6.74	-	-	-	-	-	-	-	-	-	-	-		
140	1	95	8.05	19.3	0.82	6.43	-	-	-	-	-	-	-	-	-	-	-		
142	1	91	8.38	19.4	0.66	7.89	94	8.40	18.61	0.71	8.17	-	-	-	-	-	-		
144	1	95	8.65	20.4	0.73	4.25	-	-	-	-	-	-	-	-	-	-	-		
146	1	113	13.60	25.7	0.84	7.18	-	-	-	-	-	-	-	-	-	-	-		
148	1	113	13.67	26.7	0.85	6.86	-	-	-	-	-	-	-	-	-	-	-		
150	1	106	11.87	23.7	0.82	5.39	-	-	-	-	-	-	-	-	-	-	-		
152	1	111	12.59	24.1	0.61	2.39	-	-	-	-	-	-	-	-	-	-	-		
154	1	133	16.04	25.3	0.04	0.80	-	-	-	-	-	-	-	-	-	-	-		
156	1	125	16.43	18.4	0.17	0.20	124	16.48	12.76	0.12	0.14	-	-	-	-	-	-		
158	1	127	9.69	12.7	0.22	0.10	-	-	-	-	-	-	-	-	-	-	-		
160	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
162	1	112	15.27	4.5	0.11	0.10	114	15.35	3.95	0.14	0.23	15.3	17.8	15.5	17.7	15.3	-		
164	1	84	13.32	2.3	0.05	0.32	-	-	-	-	-	-	-	-	-	-	-		
166	1	82	12.68	12.1	0.36	1.14	-	-	-	-	-	-	-	-	-	-	-		
168	1	82	12.14	13.7	0.40	1.66	85	12.91	13.70	0.40	1.62	-	-	-	-	-	-		
170	1	85	9.30	15.7	0.66	5.38	-	-	-	-	-	-	-	-	-	-	-		
172	1	122	13.48	21.5	0.53	3.06	-	-	-	-	-	-	-	-	-	-	-		
174	1	91	9.17	19.3	0.81	5.75	-	-	-	-	-	-	-	-	-	-	-		
176	1	77	7.30	17.2	0.62	6.93	-	-	-	-	-	-	-	-	-	-	-		
178	1	67	5.67	14.6	0.61	8.15	-	-	-	-	-	-	-	-	-	-	-		
180	1	70	5.47	14.4	0.56	8.02	74	5.71	15.27	0.73	7.82	-	-	-	-	-	-		
182	1	67	5.40	13.9	0.57	8.01	-	-	-	-	-	-	-	-	-	-	-		
184	1	67	5.50	14.0	0.60	8.23	-	-	-	-	-	-	-	-	-	-	-		
186	1	71	6.19	14.5	0.59	10.90	-	-	-	-	-	-	-	-	-	-	-		

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
15 OCT 80		20		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
190	166.7	556.4	1341	1	18.0	30.16	-	-	-	-	-	-	-	-	-	-	0.097
192	167.4	558.6	1348	1	18.2	30.15	-	-	-	-	-	-	-	-	-	-	0.073
-	168.1	560.4	1407	1	18.4	30.12	-	-	-	-	-	-	-	-	-	-	0.076
-	170.5	560.0	1417	1	18.4	30.14	-	-	-	-	-	-	-	-	-	-	0.073
-	173.2	560.4	1429	1	17.6	30.15	-	-	-	-	-	-	-	-	-	-	0.073
-	174.2	558.1	1436	1	17.5	30.10	-	-	-	-	-	-	-	-	-	-	0.079
-	178.2	556.2	1452	1	16.6	29.79	-	-	-	-	-	-	-	-	-	-	0.073
-	183.1	554.7	1513	1	16.2	29.89	-	-	-	-	-	-	-	-	-	-	0.076

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION															
15 OCT 80			S F BAY															
STATION	DEPTH m	-----		CONTINUOUS				-----		DISCRET				DISSOLV		TOTAL		TOTAL PHOSPH UM
		SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM			
190	1	76	6.66	15.6	0.67	8.24	-	-	-	-	-	-	-	-	-	-	-	
192	1	106	7.38	17.7	0.77	5.92	-	-	-	-	-	-	-	-	-	-	-	
-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	1	84	-	23.2	0.82	5.93	-	-	-	-	-	-	-	-	-	-	-	
-	1	60	5.39	13.4	0.75	7.31	-	-	-	-	-	-	-	-	-	-	-	
-	1	54	4.55	12.2	0.73	7.30	-	-	-	-	-	-	-	-	-	-	-	
-	1	46	3.37	11.2	0.69	7.67	-	-	-	-	-	-	-	-	-	-	-	
-	1	42	2.90	10.7	0.59	7.19	-	-	-	-	-	-	-	-	-	-	-	

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION														
16 OCT 80		20		S F BAY														
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
302	205.2	553.5	656	1	16.7	23.39	-	-	-	-	7.93	-	-	-	-	-	1.2	0.101
304	206.9	552.3	711	1	16.8	23.53	-	-	-	-	7.96	-	-	-	-	-	-	0.117
306	209.1	551.1	719	1	16.6	25.11	3.4	-	0.88	-	7.93	-	-	-	-	-	1.6	0.108
308	210.7	549.8	738	1	16.6	22.29	-	-	-	-	7.95	-	-	-	-	-	-	0.114
310	212.2	548.8	745	1	16.6	21.30	-	-	-	-	7.96	-	-	-	-	-	-	0.130
312	213.5	547.9	753	1	16.3	22.44	5.8	-	0.71	-	7.95	-	-	-	-	-	2.1	0.141
314	214.7	550.0	813	1	16.1	21.77	-	-	-	-	7.99	-	-	-	-	-	-	0.184
316	215.4	551.4	820	1	15.9	21.77	-	-	-	-	8.00	-	-	-	-	-	-	0.184
318	215.7	553.3	828	1	15.8	20.96	14.3	-	1.80	-	7.99	-	-	0.3	2.1	-	4.2	0.196
320	216.3	555.1	844	1	15.5	21.01	-	-	-	-	8.15	-	-	-	-	-	-	0.275
322	216.7	556.9	852	1	15.5	20.77	-	-	-	-	8.14	-	-	-	-	-	-	0.289
324	216.9	558.6	859	1	15.1	21.76	17.2	-	1.87	-	8.14	-	-	-	-	-	-	0.280
326	215.2	559.3	915	1	16.6	19.14	-	-	-	-	7.98	-	-	-	-	-	-	0.196
328	213.5	560.0	922	1	16.9	18.95	-	-	-	-	7.96	-	-	-	-	-	-	0.162
330	211.8	560.7	929	1	16.9	19.56	-	-	-	-	7.96	-	-	-	-	-	2.2	0.152
332	210.1	561.4	936	1	17.0	19.97	-	-	-	-	7.96	-	-	-	-	-	-	0.133
334	208.4	562.1	942	1	15.3	19.02	62.5	-	2.11	-	7.97	-	-	-	-	-	1.7	0.155
-	212.0	564.2	1007	1	16.7	18.07	-	-	-	-	-	-	-	-	-	-	-	-
-	212.5	568.0	1019	1	17.1	15.44	-	-	-	-	8.01	-	-	-	-	-	-	-
402	210.2	577.5	1111	1	17.8	11.32	-	-	-	-	8.06	-	-	-	-	-	-	0.199
404	211.2	577.3	1114	1	17.6	11.72	-	-	1.34	-	8.08	-	-	-	-	-	6.7	0.152
406	213.3	579.1	1129	1	17.6	10.54	-	-	-	-	8.12	-	-	-	-	-	-	0.180
408	215.0	580.5	1136	1	17.6	8.68	-	-	-	-	8.15	-	-	-	-	-	-	0.330
410	216.7	581.9	1144	1	17.2	4.55	-	-	-	-	8.33	-	-	-	-	-	-	0.470
412	218.0	582.9	1150	1	17.1	4.29	-	-	-	-	8.30	-	-	-	-	-	-	0.480
414	219.3	582.4	1156	1	17.1	3.66	63.0	-	5.47	-	8.19	-	-	-	-	-	45.9	0.465
416	219.0	584.2	1212	1	17.5	3.64	-	-	-	-	8.34	-	-	-	-	-	-	0.410
418	218.8	586.7	1222	1	17.4	2.59	42.6	-	4.02	-	8.15	-	-	1.3	3.5	-	18.4	0.275
420	217.9	586.1	1235	1	17.6	2.88	-	-	-	-	8.19	-	-	-	-	-	-	0.298
422	216.8	585.8	1239	1	17.2	3.29	-	-	-	-	8.10	-	-	-	-	-	-	0.362
424	215.5	588.0	1248	1	17.8	3.75	-	-	-	-	8.22	-	-	-	-	-	-	0.230
426	214.8	589.5	1256	1	17.6	2.94	-	-	-	-	8.01	-	-	-	-	-	-	0.330
428	214.0	590.5	1300	1	17.6	2.17	-	-	-	-	7.93	-	-	-	-	-	-	0.270
430	214.3	592.6	1309	1	18.8	1.71	-	-	-	-	7.99	-	-	-	-	-	-	0.206
432	214.5	594.9	1318	1	18.2	0.97	57.0	-	4.68	-	8.01	-	-	-	-	-	10.6	0.198
745	210.3	598.4	1500	1	18.7	0.48	-	-	-	-	7.72	-	-	-	-	-	-	0.161
747	209.4	601.9	1513	1	18.9	0.41	-	-	-	-	7.70	-	-	-	-	-	-	0.158
749	208.8	605.2	1527	1	19.2	0.21	-	-	-	-	7.51	-	-	-	-	-	-	0.174
751	209.5	609.1	1542	1	19.4	0.15	-	-	-	-	7.56	-	-	-	-	-	-	0.187

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION															
16 OCT 80		20	S F BAY															
STATION	DEPTH m	CONTINUOUS						DISCRETE						DISCRET		DISSOLV		TOTAL PHOSPH UM
		SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM			
302	1	50	3.01	9.0	0.55	4.59	-	-	-	-	-	-	-	-	-	-	-	
304	1	50	2.87	8.8	0.51	3.40	-	-	-	-	-	-	-	-	-	-	-	
306	1	50	2.87	8.5	0.40	3.58	49	2.83	9.49	0.55	4.14	2.8	19.0	3.0	22.1	3.1	3.1	
308	1	51	2.90	8.8	0.52	3.95	-	-	-	-	-	-	-	-	-	-	-	
310	1	52	2.79	8.8	0.49	3.56	-	-	-	-	-	-	-	-	-	-	-	
312	1	51	2.83	8.3	0.33	3.04	53	2.86	9.18	0.44	2.39	2.9	19.0	3.0	20.8	3.2	3.2	
314	1	51	2.81	8.5	0.51	2.67	-	-	-	-	-	-	-	-	-	-	-	
316	1	53	2.74	8.5	0.47	1.54	-	-	-	-	-	-	-	-	-	-	-	
318	1	54	2.66	8.3	0.27	0.71	57	2.87	9.34	0.35	1.30	2.9	18.8	3.0	22.7	3.4	3.4	
320	1	35	2.44	2.1	0.13	0.62	-	-	-	-	-	-	-	-	-	-	-	
322	1	31	2.45	1.4	0.09	0.20	-	-	-	-	-	-	-	-	-	-	-	
324	1	33	3.26	0.3	0.00	0.00	16	2.93	0.11	0.00	0.00	2.9	10.0	3.2	16.1	3.9	3.9	
326	1	44	2.68	5.6	0.24	0.67	-	-	-	-	-	-	-	-	-	-	-	
328	1	55	2.81	7.9	0.38	3.17	-	-	-	-	-	-	-	-	-	-	-	
330	1	57	2.80	8.1	0.37	3.09	-	-	-	-	-	-	-	-	-	-	-	
332	1	52	2.83	8.4	0.41	3.24	-	-	-	-	-	-	-	-	-	-	-	
334	1	58	2.78	8.2	0.24	2.70	-	-	-	-	-	-	-	-	-	-	-	
-	1	56	2.87	8.3	0.33	2.86	-	-	-	-	-	-	-	-	-	-	-	
-	1	65	2.79	7.8	0.26	2.73	-	-	-	-	-	-	-	-	-	-	-	
402	1	64	2.62	8.0	0.42	1.98	-	-	-	-	-	-	-	-	-	-	-	
404	1	67	2.71	8.0	0.34	2.17	-	-	-	-	-	-	-	-	-	-	-	
406	1	73	2.54	7.7	0.40	1.16	-	-	-	-	-	-	-	-	-	-	-	
408	1	73	2.43	7.2	0.32	0.81	-	-	-	-	-	-	-	-	-	-	-	
410	1	78	2.26	6.4	0.33	0.25	-	-	-	-	-	-	-	-	-	-	-	
412	1	89	2.09	4.3	0.29	0.17	-	-	-	-	-	-	-	-	-	-	-	
414	1	116	2.33	9.0	0.15	0.07	120	2.38	8.72	0.17	0.04	2.4	17.9	2.5	31.1	3.8	3.8	
416	1	114	2.27	9.4	0.18	0.11	-	-	-	-	-	-	-	-	-	-	-	
418	1	131	2.46	10.9	0.01	0.17	140	2.69	12.09	0.19	0.21	2.7	19.9	2.7	31.1	3.6	3.6	
420	1	136	2.55	12.6	0.35	0.31	-	-	-	-	-	-	-	-	-	-	-	
422	1	137	2.56	13.5	0.36	0.32	-	-	-	-	-	-	-	-	-	-	-	
424	1	115	2.38	10.3	0.32	0.18	-	-	-	-	-	-	-	-	-	-	-	
426	1	146	2.44	11.6	0.22	0.36	-	-	-	-	-	-	-	-	-	-	-	
428	1	141	2.58	13.8	0.34	0.74	-	-	-	-	-	-	-	-	-	-	-	
430	1	158	2.66	15.0	0.21	1.13	-	-	-	-	-	-	-	-	-	-	-	
432	1	169	2.67	14.6	0.35	0.78	173	2.91	14.86	0.27	0.83	2.9	23.1	2.9	32.7	4.0	4.0	
745	1	169	2.76	14.1	0.24	2.17	-	-	-	-	-	-	-	-	-	-	-	
747	1	166	3.16	13.2	0.27	2.20	-	-	-	-	-	-	-	-	-	-	-	
749	1	154	2.37	10.7	0.17	0.97	-	-	-	-	-	-	-	-	-	-	-	
751	1	142	2.18	9.1	0.23	0.86	-	-	-	-	-	-	-	-	-	-	-	

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION														
			CONTINUOUS							DISCRET						
28 OCT 80	21	S F BAY	STATION	DEPTH	SI02	PO4	NO3+NO2	NO2	NH3	PHOSPH	NITROG	DISSOLV	PHOSPH	NITROG	TOTAL	TOTAL
				m	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM
118	1		135	23.38	49.3		0.87	5.34	-	-	-	-	-	-	-	-
120	1		131	23.15	43.7		0.73	2.85	-	-	-	-	-	-	-	-
122	1		131	20.18	42.6		0.98	6.53	-	-	-	-	-	-	-	-
124	1		130	20.24	42.3		0.96	5.79	-	-	-	-	-	-	-	-
126	1		127	18.54	38.3		0.78	5.11	-	-	-	-	-	-	-	-
128	1		127	17.97	37.5		0.89	5.94	-	-	-	-	-	-	-	-
130	1		122	16.07	32.9		0.85	6.36	-	-	-	-	-	-	-	-
132	1		114	13.58	28.0		0.83	6.83	-	-	-	-	-	-	-	-
134	1		118	14.88	30.9		0.92	8.10	-	-	-	-	-	-	-	-
136	1		116	14.91	28.9		0.90	5.73	-	-	-	-	-	-	-	-
138	1		107	11.32	23.2		0.65	7.40	-	-	-	-	-	-	-	-
140	1		100	8.05	22.3		0.48	1.89	-	-	-	-	-	-	-	-
142	1		101	8.25	18.4		0.46	1.92	-	-	-	-	-	-	-	-
144	1		104	9.39	20.5		0.65	4.26	-	-	-	-	-	-	-	-
146	1		106	10.66	22.9		0.86	6.75	-	-	-	-	-	-	-	-
148	1		108	12.43	26.3		0.92	6.74	-	-	-	-	-	-	-	-
150	1		121	15.07	30.5		0.82	5.98	-	-	-	-	-	-	-	-
152	1		127	16.02	31.0		0.66	2.85	-	-	-	-	-	-	-	-
154	1		125	16.70	33.6		0.68	3.11	-	-	-	-	-	-	-	-
156	1		126	17.04	32.8		0.47	1.52	-	-	-	-	-	-	-	-
158	1		118	16.98	27.7		0.30	0.37	-	-	-	-	-	-	-	-
160	1		115	16.32	22.7		0.31	0.37	-	-	-	-	-	-	-	-
162	1		74	16.02	0.8		0.06	0.09	-	-	-	-	-	-	-	-
164	1		63	17.43	0.8		0.17	0.34	-	-	-	-	-	-	-	-
166	1		67	16.63	5.7		0.33	1.03	-	-	-	-	-	-	-	-
168	1		67	14.44	9.9		0.45	3.45	-	-	-	-	-	-	-	-
170	1		68	8.16	13.8		0.66	5.97	-	-	-	-	-	-	-	-
172	1		81	8.22	16.7		0.76	5.33	-	-	-	-	-	-	-	-
174	1		63	5.86	15.8		0.78	6.75	-	-	-	-	-	-	-	-
176	1		53	8.04	14.7		0.78	7.03	-	-	-	-	-	-	-	-
178	1		54	4.42	14.7		0.79	7.02	-	-	-	-	-	-	-	-
180	1		65	5.26	16.4		0.77	8.28	-	-	-	-	-	-	-	-
-	1		45	3.41	14.1		0.57	7.23	-	-	-	-	-	-	-	-
-	1		44	3.25	14.4		0.63	7.25	-	-	-	-	-	-	-	-
-	1		41	2.91	14.4		0.55	6.23	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION												
29 OCT 80		21		S F BAY												
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
302	205.2	553.5	653	1	15.2	24.70	-	-	1.10	-	7.93	-	-	-	1.0	0.095
304	206.9	552.3	711	1	15.1	26.02	-	-	-	-	7.90	-	-	-	-	0.111
306	208.8	551.1	720	1	15.3	25.99	17.4	-	1.67	-	7.90	-	-	-	1.2	0.108
308	210.7	549.8	739	1	15.3	24.65	-	-	-	-	7.91	-	-	-	-	0.117
310	212.2	548.8	745	1	15.3	21.92	-	-	-	-	8.12	-	-	-	-	0.139
312	213.5	547.9	753	1	14.7	21.34	41.3	-	3.12	-	8.09	-	-	-	5.5	0.199
314	214.7	550.0	817	1	14.9	21.92	-	-	-	-	8.18	-	-	-	-	0.158
316	215.2	551.5	825	1	15.2	22.22	-	-	-	-	8.04	-	-	-	-	0.158
318	215.7	553.3	833	1	15.4	21.83	10.9	-	1.33	-	7.98	-	-	-	2.9	0.158
320	216.3	555.1	854	1	15.4	21.72	-	-	-	-	7.97	-	-	-	-	0.130
322	216.7	556.9	902	1	15.5	20.42	-	-	-	-	7.95	-	-	-	-	0.127
324	217.0	558.4	910	1	15.2	20.55	5.8	-	0.93	-	8.00	-	-	-	1.8	0.120
326	215.3	559.3	929	1	15.5	20.48	-	-	-	-	7.92	-	-	-	-	0.117
328	213.5	560.0	938	1	15.6	19.07	-	-	-	-	8.01	-	-	-	-	0.114
330	211.8	560.7	945	1	15.8	21.13	-	-	-	-	7.92	-	-	-	1.7	0.120
332	210.1	561.4	953	1	15.7	20.11	-	-	-	-	7.91	-	-	-	-	0.108
334	208.4	562.1	1000	1	15.0	22.61	3.5	-	0.77	-	8.10	-	-	-	0.8	0.171
-	212.4	568.0	1045	1	16.0	16.42	-	-	-	-	7.95	-	-	-	-	0.128
402	210.2	577.5	1153	1	16.8	10.52	-	-	-	-	7.95	-	-	-	-	0.180
404	211.2	577.3	1200	1	16.8	9.72	-	-	2.58	-	8.08	-	-	-	10.1	0.206
406	213.3	579.1	1219	1	16.7	7.42	-	-	-	-	8.13	-	-	-	-	0.290
408	215.0	580.5	1227	1	16.3	6.61	-	-	-	-	8.17	-	-	-	-	0.360
410	216.7	581.9	1236	1	16.2	4.97	-	-	-	-	8.18	-	-	-	-	0.278
412	218.0	582.9	1243	1	16.4	4.94	-	-	-	-	8.27	-	-	-	-	0.301
414	219.3	582.3	1248	1	16.0	5.15	80.4	-	5.33	-	8.13	-	-	-	17.6	0.390
416	219.0	584.2	1309	1	17.3	4.16	-	-	-	-	8.18	-	-	-	-	0.140
418	218.8	586.7	1319	1	16.3	5.00	26.2	-	3.50	-	8.53	-	-	-	14.8	0.275
420	217.9	586.2	1331	1	16.4	4.17	-	-	-	-	8.15	-	-	-	-	0.203
422	216.7	585.8	1337	1	16.5	5.28	-	-	-	-	8.04	-	-	-	-	0.326
424	215.4	588.1	1348	1	17.0	3.98	-	-	-	-	7.90	-	-	-	-	0.282
426	214.8	589.5	1355	1	16.8	3.40	-	-	-	-	7.87	-	-	-	-	0.294
428	214.0	590.5	1358	1	17.3	2.91	-	-	-	-	7.97	-	-	-	-	0.250
430	214.3	592.5	1406	1	17.0	2.15	-	-	-	-	7.99	-	-	-	-	0.171
432	214.5	594.6	1416	1	17.7	1.87	38.8	-	3.96	-	7.95	-	-	-	5.4	0.168
-	214.0	595.5	1429	1	16.9	2.17	-	-	-	-	7.82	-	-	-	-	0.193

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION																
29 OCT 80	21	S F BAY																
STATION	DEPTH	CONTINUOUS				DISCRETE				DISCRET				DISSOLV				TOTAL
	m	SI02	PO4	NO3+NO2	NO2	NH3	SI02	PO4	NO3+NO2	NO2	NH3	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH
		UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM
302	1	50	2.92	11.9	0.60	5.59	-	-	-	-	-	-	-	-	-	-	-	-
304	1	50	3.01	12.1	0.59	6.02	-	-	-	-	-	-	-	-	-	-	-	-
306	1	49	3.02	12.1	0.48	5.67	51	3.03	11.91	0.56	5.83	3.0	24.7	3.1	25.5	3.3	3.3	3.3
308	1	50	2.97	11.7	0.59	5.80	-	-	-	-	-	-	-	-	-	-	-	-
310	1	48	2.83	5.8	0.32	2.60	-	-	-	-	-	-	-	-	-	-	-	-
312	1	38	3.32	1.1	0.08	2.01	39	3.48	1.45	0.13	1.65	3.5	12.9	3.7	18.0	4.3	4.3	4.3
314	1	38	2.97	0.3	0.07	1.14	-	-	-	-	-	-	-	-	-	-	-	-
316	1	43	2.71	2.8	0.19	0.80	-	-	-	-	-	-	-	-	-	-	-	-
318	1	54	2.83	10.2	0.35	3.03	56	2.84	10.61	0.38	2.66	2.8	20.7	3.0	24.7	3.2	3.2	3.2
320	1	54	2.80	10.1	0.47	3.21	-	-	-	-	-	-	-	-	-	-	-	-
322	1	57	2.80	10.5	0.49	4.30	-	-	-	-	-	-	-	-	-	-	-	-
324	1	52	2.70	8.6	0.36	2.48	54	2.74	8.92	0.34	2.37	2.7	19.7	2.9	21.1	3.0	3.0	3.0
326	1	59	2.84	10.8	0.48	4.42	-	-	-	-	-	-	-	-	-	-	-	-
328	1	62	2.81	11.5	0.57	4.57	-	-	-	-	-	-	-	-	-	-	-	-
330	1	57	2.82	11.4	0.55	4.39	-	-	-	-	-	-	-	-	-	-	-	-
332	1	58	2.79	11.5	0.65	4.67	-	-	-	-	-	-	-	-	-	-	-	-
334	1	40	2.58	5.7	0.42	3.51	32	2.39	5.18	0.28	2.19	2.4	15.9	2.5	17.4	2.7	2.7	2.7
-	-	66	2.76	11.9	0.49	3.91	-	-	-	-	-	-	-	-	-	-	-	-
402	1	87	2.70	13.0	0.33	2.10	-	-	-	-	-	-	-	-	-	-	-	-
404	1	91	2.48	12.1	0.18	0.29	-	-	-	-	-	-	-	-	-	-	-	-
406	1	95	2.35	12.3	0.38	0.20	-	-	-	-	-	-	-	-	-	-	-	-
408	1	94	2.16	10.8	0.31	0.11	-	-	-	-	-	-	-	-	-	-	-	-
410	1	115	2.51	12.8	0.20	0.20	-	-	-	-	-	-	-	-	-	-	-	-
412	1	114	2.22	12.0	0.06	0.02	-	-	-	-	-	-	-	-	-	-	-	-
414	1	101	1.92	9.1	0.04	0.00	105	1.94	8.53	0.15	0.41	2.0	18.9	2.1	35.5	3.6	3.6	3.6
416	1	121	2.28	12.9	0.22	0.12	-	-	-	-	-	-	-	-	-	-	-	-
418	1	104	2.24	4.4	0.00	0.02	96	2.91	3.02	0.43	0.21	1.6	14.2	1.8	23.1	2.5	2.5	2.5
420	1	123	1.74	12.1	0.20	0.13	-	-	-	-	-	-	-	-	-	-	-	-
422	1	112	2.32	12.3	0.22	0.06	-	-	-	-	-	-	-	-	-	-	-	-
424	1	129	2.64	15.0	0.25	0.26	-	-	-	-	-	-	-	-	-	-	-	-
426	1	140	2.53	15.4	0.17	0.41	-	-	-	-	-	-	-	-	-	-	-	-
428	1	142	2.51	15.5	0.18	0.35	-	-	-	-	-	-	-	-	-	-	-	-
430	1	150	2.60	15.7	0.19	0.66	-	-	-	-	-	-	-	-	-	-	-	-
432	1	152	2.53	16.0	0.13	0.57	160	2.39	16.57	0.22	0.30	2.9	25.8	2.8	31.0	3.3	3.3	3.3
-	-	153	2.64	16.0	0.23	0.87	-	-	-	-	-	-	-	-	-	-	-	-

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION															
29 OCT 80	21	S F BAY															
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SUS SALIN	PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
-	212.8	596.1	1434	1	17.0	1.87	-	-	-	-	7.75	-	-	-	-	-	0.209
745	210.3	598.3	1559	1	18.8	1.39	-	-	-	-	7.63	-	-	-	-	-	0.161
747	209.3	601.9	1611	1	17.2	0.63	-	-	-	-	7.56	-	-	-	-	-	0.152
749	208.9	605.5	1622	1	17.9	0.28	-	-	-	-	7.39	-	-	-	-	-	0.177
750	209.3	607.2	1629	1	17.0	0.18	-	-	-	-	7.30	-	-	-	-	-	0.184
751	209.5	609.1	1634	1	17.0	0.14	-	-	-	-	7.20	-	-	-	-	-	0.193

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION											
29 OCT 80		21	S F BAY											
STATION	DEPTH m	----- CONTINUOUS ----- DISCRET DISSOLV												TOTAL PHOSPH UM
		SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM		
-	1	152	2.72	16.1	0.33	1.61	-	-	-	-	-	-	-	
745	1	159	2.64	15.5	0.21	2.40	-	-	-	-	-	-	-	
747	1	152	2.31	14.8	0.40	1.47	-	-	-	-	-	-	-	
749	1	151	2.11	13.7	0.32	0.45	-	-	-	-	-	-	-	
750	1	151	2.04	13.4	0.33	0.32	-	-	-	-	-	-	-	
751	1	112	1.87	12.1	0.33	0.29	-	-	-	-	-	-	-	

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
12 NOV 80		22		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
118	156.0	574.0	852	1	14.2	28.24	-	14.3	1.54	-	-	-	-	-	-	3.5	0.140
120	157.1	572.8	908	1	15.4	28.90	-	18.8	-	-	-	-	-	-	-	-	0.112
122	158.1	571.8	913	1	15.6	29.00	-	21.7	-	-	-	-	-	-	-	-	0.111
124	159.9	571.9	921	1	14.9	29.18	-	17.3	-	-	-	-	-	-	-	-	0.112
126	161.8	572.0	928	1	14.4	29.34	-	15.8	1.21	-	-	-	-	-	-	2.5	0.118
128	161.2	570.2	950	1	15.6	29.29	-	18.0	-	-	-	-	-	-	-	-	0.101
130	160.8	568.9	956	1	15.5	29.53	-	17.3	-	-	-	-	-	-	-	-	0.092
132	160.0	567.3	1002	1	15.9	29.80	-	15.0	-	-	-	-	-	-	-	-	0.084
134	159.5	566.2	1006	1	15.8	29.58	-	15.8	-	-	-	-	-	-	-	-	0.092
136	160.5	562.3	1012	1	15.5	29.85	-	14.3	-	-	-	-	-	-	-	-	0.078
138	160.7	562.8	1019	1	14.9	29.78	-	13.6	-	-	-	-	-	-	-	-	0.090
140	161.0	561.0	1026	1	14.6	30.09	-	18.8	-	-	-	-	-	-	-	-	0.130
142	161.3	558.8	1035	1	15.1	30.01	-	14.3	1.21	-	-	-	-	-	-	3.5	0.127
144	162.0	560.8	1054	1	15.5	29.94	-	17.3	-	-	-	-	-	-	-	-	0.082
146	162.8	562.1	1058	1	15.9	29.91	-	16.5	-	-	-	-	-	-	-	-	0.079
148	163.4	563.9	1104	1	15.9	29.93	-	17.3	-	-	-	-	-	-	-	-	0.079
150	164.1	565.6	1111	1	15.4	29.84	-	20.2	-	-	-	-	-	-	-	-	0.085
152	164.6	567.4	1119	1	15.3	29.76	-	20.2	-	-	-	-	-	-	-	-	0.111
154	165.3	569.3	1126	1	15.0	29.57	-	19.5	-	-	-	-	-	-	-	-	0.111
156	165.8	570.3	1131	1	14.7	29.42	-	11.3	0.98	-	-	-	-	-	-	2.1	0.114
158	167.4	569.4	1148	1	15.0	29.48	-	17.3	-	-	-	-	-	-	-	-	0.114
160	169.2	568.5	1156	1	15.3	29.46	-	18.8	-	-	-	-	-	-	-	-	0.103
162	170.8	567.6	1203	1	15.4	29.27	5.9	10.6	0.96	-	-	-	-	0.3	3.5	1.5	0.104
164	172.5	566.7	1222	1	15.4	29.20	-	20.2	-	-	-	-	-	-	-	-	0.106
166	174.2	565.7	1229	1	15.7	29.15	-	16.5	-	-	-	-	-	-	-	-	0.104
168	175.1	565.3	1232	1	15.7	28.94	-	11.8	1.05	-	-	-	-	-	-	1.4	0.098
170	174.4	563.6	1254	1	15.6	29.41	-	16.0	-	-	-	-	-	-	-	-	0.081
172	173.8	561.9	1301	1	15.4	29.70	-	15.8	-	-	-	-	-	-	-	-	0.081
174	173.1	560.1	1306	1	15.5	29.63	-	14.3	-	-	-	-	-	-	-	-	0.092
176	172.4	558.4	1312	1	14.6	29.75	-	15.0	-	-	-	-	-	-	-	-	0.073
178	172.0	556.4	1320	1	14.9	29.85	-	11.3	-	-	-	-	-	-	-	-	0.073
180	170.9	554.4	1328	1	15.7	29.97	-	11.3	1.12	-	-	-	-	-	-	1.9	0.095
182	169.8	555.0	1344	1	15.7	30.01	-	16.5	-	-	-	-	-	-	-	-	0.092
184	168.5	555.7	1348	1	15.6	29.97	-	11.3	-	-	-	-	-	-	-	-	0.092
-	168.0	557.3	1354	1	15.6	29.97	-	11.3	-	-	-	-	-	-	-	-	0.082

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION												
12 NOV 80			22	S F BAY											
STATION	DEPTH m	CONTINUOUS													
		SI02 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	DISCRET		DISSOLV		TOTAL				
							PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH	NITROG	PHOSPH	UM	
118	1	131	21.47	46.9	0.90	4.51	-	-	-	-	-	-	-	-	
120	1	128	18.91	43.5	1.00	5.38	-	-	-	-	-	-	-	-	
122	1	126	18.62	41.1	1.05	5.94	-	-	-	-	-	-	-	-	
124	1	123	16.93	37.8	1.00	4.84	-	-	-	-	-	-	-	-	
126	1	121	15.67	33.4	0.80	4.16	-	-	-	-	-	-	-	-	
128	1	122	16.31	35.3	0.89	5.88	-	-	-	-	-	-	-	-	
130	1	118	15.05	31.6	0.87	6.06	-	-	-	-	-	-	-	-	
132	1	112	12.66	26.0	0.82	6.75	-	-	-	-	-	-	-	-	
134	1	115	14.18	28.8	0.89	9.89	-	-	-	-	-	-	-	-	
136	1	113	13.22	27.6	0.90	8.50	-	-	-	-	-	-	-	-	
138	1	106	10.19	21.1	0.71	4.62	-	-	-	-	-	-	-	-	
140	1	112	8.41	17.0	0.66	3.12	-	-	-	-	-	-	-	-	
142	1	99	8.74	21.1	0.68	3.70	-	-	-	-	-	-	-	-	
144	1	101	10.41	21.2	0.76	3.96	-	-	-	-	-	-	-	-	
146	1	103	10.80	22.1	0.78	4.41	-	-	-	-	-	-	-	-	
148	1	104	10.78	22.8	0.79	5.03	-	-	-	-	-	-	-	-	
150	1	101	10.66	22.8	0.79	5.07	-	-	-	-	-	-	-	-	
152	1	116	13.01	26.7	0.68	3.42	-	-	-	-	-	-	-	-	
154	1	121	14.72	30.5	0.58	0.41	-	-	-	-	-	-	-	-	
156	1	120	14.94	31.4	0.56	0.56	-	-	-	-	-	-	-	-	
158	1	123	15.24	29.7	0.53	0.00	-	-	-	-	-	-	-	-	
160	1	121	15.70	25.3	0.40	0.22	-	-	-	-	-	-	-	-	
162	1	120	17.20	25.4	0.33	0.43	17.7	39.2	17.6	40.6	17.7	40.6	17.7	17.7	
164	1	107	17.44	21.1	0.50	1.59	-	-	-	-	-	-	-	-	
166	1	69	14.01	15.6	0.73	5.23	-	-	-	-	-	-	-	-	
168	1	72	16.82	20.7	0.98	6.49	-	-	-	-	-	-	-	-	
170	1	55	9.36	14.6	0.75	6.13	-	-	-	-	-	-	-	-	
172	1	59	7.23	15.6	0.81	6.26	-	-	-	-	-	-	-	-	
174	1	51	7.15	14.9	0.84	7.34	-	-	-	-	-	-	-	-	
176	1	46	4.18	15.6	0.83	6.94	-	-	-	-	-	-	-	-	
178	1	47	4.05	15.6	0.87	6.93	-	-	-	-	-	-	-	-	
180	1	67	5.80	16.8	0.79	7.41	-	-	-	-	-	-	-	-	
182	1	63	6.02	16.9	0.78	6.91	-	-	-	-	-	-	-	-	
184	1	67	6.05	17.3	0.81	7.74	-	-	-	-	-	-	-	-	
-	1	66	6.22	17.5	0.80	7.54	-	-	-	-	-	-	-	-	

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION																	
12 NOV 80		22		S F BAY																	
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR mg/L	DIS mg/L	ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR			
192	167.7	558.7	1359	1	15.9	29.96	-	12.8	-	-	-	-	-	-	-	-	-	0.079			
194	168.0	560.3	1405	1	16.2	29.84	-	15.8	-	-	-	-	-	-	-	-	-	0.085			
-	168.5	561.5	1410	1	16.3	29.83	-	19.5	-	-	-	-	-	-	-	-	-	0.092			
-	170.5	559.8	1432	1	15.2	29.89	-	12.8	-	-	-	-	-	-	-	-	-	0.079			
-	174.8	558.2	1447	1	15.6	29.88	-	10.6	-	-	-	-	-	-	-	-	-	0.082			
-	179.1	556.4	1501	1	15.0	29.76	-	10.6	-	-	-	-	-	-	-	-	-	0.095			
-	182.8	554.4	1515	1	14.4	29.93	-	11.3	-	-	-	-	-	-	-	-	-	0.079			
-	184.8	552.7	1523	1	14.3	30.28	-	11.3	-	-	-	-	-	-	-	-	-	0.085			
-	186.4	550.4	1530	1	13.6	30.97	-	12.1	-	-	-	-	-	-	-	-	-	0.076			
-	188.3	548.0	1540	1	13.0	31.70	-	7.6	-	-	-	-	-	-	-	-	-	0.073			
-	189.6	546.7	1546	1	13.8	31.60	-	9.8	-	-	-	-	-	-	-	-	-	0.079			

- DATA NOT AVAILABLE

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #	LOCATION								
12 NOV 80			S F BAY								
STATION	DEPTH m	CONTINUOUS				DISCRET		DISSOLV NITROG UM	DISSOLV PHOSPH UM	TOTAL NITROG UM	TOTAL PHOSPH UM
		SIO2 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM				
192	1	72	7.18	18.0	0.80	7.14	-	-	-	-	-
194	1	86	9.48	19.1	0.69	5.07	-	-	-	-	-
-	1	96	11.08	19.6	0.79	3.90	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-	-
-	1	46	4.02	15.9	0.70	6.93	-	-	-	-	-
-	1	44	4.05	14.7	0.58	8.95	-	-	-	-	-
-	1	42	3.49	15.0	0.60	7.67	-	-	-	-	-
-	1	40	3.16	15.3	0.64	6.38	-	-	-	-	-
-	1	38	2.97	15.3	0.66	6.16	-	-	-	-	-
-	1	29	2.31	15.4	0.57	3.28	-	-	-	-	-
-	1	32	2.53	15.2	0.53	3.15	-	-	-	-	-

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION																
13 NOV 80		22		S F BAY																
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG CARBON mg/L	DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR			
302	205.2	553.5	728	1	14.5	23.82	-	6.7	1.02	-	7.86	-	-	-	-	0.8	0.069			
304	206.9	552.3	737	1	14.2	25.71	-	5.4	-	-	7.86	-	-	-	-	-	0.077			
306	209.0	551.0	745	1	14.3	25.28	7.1	6.7	1.04	-	7.86	-	-	-	-	0.9	0.075			
308	210.7	549.8	803	1	14.2	22.07	-	13.2	-	-	7.92	-	-	-	-	-	0.111			
310	212.3	548.7	812	1	13.6	21.87	-	17.7	-	-	8.13	-	-	-	-	-	0.133			
312	213.8	547.7	819	1	12.8	22.03	12.8	14.2	1.52	-	8.17	-	-	-	-	3.0	0.152			
314	214.7	550.0	837	1	13.1	21.22	-	17.6	-	-	8.27	-	-	-	-	-	0.114			
316	215.3	551.8	847	1	13.2	21.64	-	11.3	-	-	8.27	-	-	-	-	-	0.082			
318	215.7	553.3	855	1	13.4	21.60	12.0	11.9	1.42	-	8.08	-	-	0.5	2.5	4.1	0.133			
320	216.5	555.3	911	1	13.9	21.50	-	12.6	-	-	7.97	-	-	-	-	-	0.111			
322	216.7	556.9	917	1	13.9	21.32	-	11.3	-	-	7.90	-	-	-	-	-	0.095			
324	216.9	558.6	926	1	13.4	21.50	7.2	5.4	1.05	-	7.96	-	-	-	-	1.6	0.084			
326	215.3	559.3	944	1	14.1	20.87	-	10.0	-	-	7.91	-	-	-	-	-	0.078			
328	213.4	560.0	952	1	14.6	20.26	-	13.9	-	-	7.83	-	-	-	-	-	0.078			
330	211.8	560.7	959	1	14.9	18.92	-	14.5	-	-	7.83	-	-	-	-	1.4	0.079			
332	210.1	561.4	1006	1	14.7	18.90	-	11.9	-	-	7.81	-	-	-	-	-	0.071			
334	208.4	562.1	1013	1	13.7	21.92	8.6	9.3	1.16	-	7.90	-	-	-	-	0.6	0.066			
-	212.0	564.4	1038	1	14.8	19.18	-	15.2	-	-	7.83	-	-	-	-	-	0.072			
-	212.4	568.0	1053	1	14.8	16.08	-	12.6	-	-	7.83	-	-	-	-	-	0.082			
402	210.2	577.5	1144	1	15.2	9.82	-	22.3	-	-	7.95	-	-	-	-	-	0.130			
404	211.2	577.3	1147	1	15.1	10.23	-	16.1	1.76	-	7.95	-	-	-	-	5.1	0.131			
406	213.3	579.1	1202	1	15.0	8.54	-	26.9	-	-	7.96	-	-	-	-	-	0.171			
408	215.0	580.5	1210	1	14.6	6.33	-	38.6	-	-	8.09	-	-	-	-	-	0.310			
410	216.7	581.9	1218	1	14.7	6.12	-	37.9	-	-	8.02	-	-	-	-	-	0.280			
412	218.0	582.9	1224	1	14.9	5.48	-	33.4	-	-	8.08	-	-	-	-	-	0.219			
414	219.3	582.4	1229	1	14.3	5.59	52.4	47.7	5.05	-	8.03	-	-	-	-	18.9	0.290			
416	219.0	584.2	1244	1	15.1	5.09	-	27.5	-	-	7.98	-	-	-	-	-	0.170			
418	218.8	586.7	1254	1	15.2	4.59	22.9	22.3	3.56	-	7.91	-	-	0.2	3.0	6.2	0.140			
420	217.9	586.2	1306	1	14.9	6.91	-	37.9	-	-	7.91	-	-	-	-	-	0.220			
422	216.7	585.8	1311	1	15.1	6.13	-	30.1	-	-	7.93	-	-	-	-	-	0.230			
424	215.4	588.1	1325	1	15.5	3.58	-	32.1	-	-	7.80	-	-	-	-	-	0.158			
426	214.8	589.5	1332	1	15.3	4.13	-	39.2	-	-	7.80	-	-	-	-	-	0.177			
428	214.0	590.6	1336	1	15.5	3.44	-	36.0	-	-	7.77	-	-	-	-	-	0.170			
430	214.4	592.8	1344	1	15.7	3.04	-	32.1	-	-	7.84	-	-	-	-	-	0.142			
432	214.3	594.7	1352	1	15.1	2.41	35.7	41.2	6.98	-	7.82	-	-	-	-	4.4	-			
745	210.3	598.3	1432	1	15.8	0.93	-	41.2	-	-	7.59	-	-	-	-	-	-			
747	209.3	601.9	1443	1	15.9	0.76	-	38.6	-	-	7.59	-	-	-	-	-	-			
749	208.8	605.5	1455	1	16.2	0.43	-	32.1	-	-	7.50	-	-	-	-	-	-			
751	209.5	609.1	1509	1	16.0	0.28	-	28.8	-	-	7.45	-	-	-	-	-	-			

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
16 DEC 80		23		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUS PAR MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR ORG DIS ORG CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR	
118	156.0	574.0	850	1	10.8	28.95	-	11.3	1.59	-	7.93	-	-	-	1.2	0.090	
120	157.0	573.0	909	1	11.0	29.36	-	16.5	-	-	7.92	-	-	-	-	0.085	
122	158.1	571.8	914	1	11.1	29.50	-	15.8	-	-	7.94	-	-	-	-	0.085	
124	159.9	571.9	920	1	11.1	29.33	-	21.2	-	-	7.93	-	-	-	-	0.085	
126	161.7	572.8	925	1	11.0	29.20	-	13.4	1.42	-	7.93	-	-	-	1.0	0.083	
128	161.1	570.0	945	1	11.2	29.52	-	24.7	-	-	7.94	-	-	-	-	0.085	
130	160.8	569.1	949	1	11.2	29.49	-	22.8	-	-	7.95	-	-	-	-	0.089	
132	159.9	567.3	956	1	11.1	29.57	-	16.5	-	-	7.96	-	-	-	-	0.082	
134	159.5	566.3	959	1	11.4	29.67	-	18.8	-	-	7.97	-	-	-	-	0.081	
136	160.4	564.6	1005	1	10.9	29.54	-	21.2	-	-	7.96	-	-	-	-	0.082	
138	160.7	562.8	1011	1	11.0	29.70	-	17.6	-	-	7.96	-	-	-	-	0.081	
140	161.0	561.0	1018	1	10.6	29.79	-	16.5	-	-	7.99	-	-	-	-	0.104	
142	161.4	558.7	1026	1	11.0	29.82	-	10.9	1.10	-	8.00	-	-	-	1.9	0.117	
144	162.0	560.4	1045	1	11.3	29.71	-	28.0	-	-	7.96	-	-	-	-	0.091	
146	163.0	562.0	1051	1	11.6	29.68	-	18.8	-	-	7.95	-	-	-	-	0.082	
148	163.6	564.0	1058	1	11.1	29.60	-	30.6	-	-	7.95	-	-	-	-	0.085	
150	164.1	565.6	1105	1	11.1	29.65	-	30.3	-	-	7.96	-	-	-	-	0.092	
152	164.8	567.3	1111	1	10.9	29.29	-	22.2	-	-	7.95	-	-	-	-	0.097	
154	165.4	569.1	1117	1	11.0	29.23	-	21.2	-	-	7.96	-	-	-	-	0.101	
156	166.0	570.0	1124	1	10.8	28.99	-	13.7	1.05	-	7.97	-	-	-	1.5	0.101	
158	167.5	569.4	1140	1	10.5	28.93	-	18.2	-	-	8.00	-	-	-	-	0.119	
160	169.3	568.4	1147	1	9.9	28.63	-	22.4	-	-	8.11	-	-	-	-	0.153	
162	170.8	567.6	1154	1	9.1	27.91	10.4	17.0	0.92	-	8.04	-	-	0.4	2.8	4.2	0.147
164	172.5	566.7	1209	1	9.0	27.62	-	22.2	-	-	8.08	-	-	-	-	0.157	
166	174.1	565.5	1215	1	9.0	27.54	-	24.5	-	-	8.09	-	-	-	-	0.165	
168	175.1	565.3	1220	1	8.7	26.86	-	17.2	1.05	-	8.05	-	-	-	4.5	0.149	
170	174.4	563.6	1242	1	10.2	28.91	-	21.2	-	-	8.00	-	-	-	-	0.101	
172	173.8	561.9	1249	1	10.6	29.33	-	40.0	-	-	7.98	-	-	-	-	0.105	
174	173.1	560.1	1256	1	11.3	29.25	-	37.2	-	-	7.96	-	-	-	-	0.094	
176	172.4	558.4	1304	1	11.5	29.22	-	27.1	-	-	7.95	-	-	-	-	0.084	
178	171.8	556.7	1310	1	11.5	29.08	-	16.5	-	-	7.97	-	-	-	-	0.092	
180	171.0	554.6	1318	1	11.2	29.17	-	16.5	1.20	-	7.96	-	-	-	1.8	0.108	
182	170.0	555.3	1333	1	10.6	29.20	-	24.0	-	-	8.01	-	-	-	-	0.149	
184	168.5	555.7	1338	1	11.2	29.36	-	21.0	-	-	8.05	-	-	-	-	0.141	
188	169.2	559.4	1351	1	11.7	29.46	-	21.2	-	-	7.97	-	-	-	-	0.082	
190	169.5	561.0	1357	1	11.5	29.53	-	26.6	-	-	-	-	-	-	-	0.088	
-	174.8	557.8	1431	1	11.8	28.97	-	18.6	-	-	7.96	-	-	-	-	0.086	
-	179.1	556.4	1445	1	11.3	28.52	-	16.0	-	-	7.96	-	-	-	-	0.080	
-	181.7	555.4	1456	1	11.1	28.10	-	19.1	-	-	7.96	-	-	-	-	0.078	
-	182.7	554.3	1501	1	11.1	28.12	-	17.4	-	-	7.97	-	-	-	-	0.078	

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE	CRUISE #	LOCATION															
			CONTINUOUS					DISCRETE					DISCRETE DISSOLV				
16 DEC 80	23	S F BAY	STATION	DEPTH	SI02	PO4	NO3+NO2	NO2	NH3	SI02	PO4	NO3+NO2	NO2	NH3	PHOSPH	NITROG	TOTAL
				m	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM
118	1	117	13.37	40.0	1.03	8.18	118	13.78	43.90	1.15	-	-	-	-	-	-	-
120	1	116	12.85	38.5	1.07	9.53	-	-	-	-	-	-	-	-	-	-	-
122	1	112	11.71	33.2	0.93	8.73	-	-	-	-	-	-	-	-	-	-	-
124	1	115	12.24	35.5	0.97	9.12	-	-	-	-	-	-	-	-	-	-	-
126	1	115	12.44	36.6	0.79	6.84	114	12.41	37.64	1.00	-	-	-	-	-	-	-
128	1	113	11.62	33.3	1.01	9.05	-	-	-	-	-	-	-	-	-	-	-
130	1	112	11.49	33.0	1.03	7.79	-	-	-	-	-	-	-	-	-	-	-
132	1	113	11.45	32.0	0.97	8.78	-	-	-	-	-	-	-	-	-	-	-
134	1	112	10.93	30.5	0.96	7.20	-	-	-	-	-	-	-	-	-	-	-
136	1	110	10.72	29.0	1.01	9.20	-	-	-	-	-	-	-	-	-	-	-
138	1	107	9.51	26.6	0.94	4.99	-	-	-	-	-	-	-	-	-	-	-
140	1	105	9.06	27.4	0.98	3.58	-	-	-	-	-	-	-	-	-	-	-
142	1	94	7.40	24.0	0.78	4.42	94	7.35	23.98	0.74	-	-	-	-	-	-	-
144	1	105	10.10	27.9	0.64	4.12	-	-	-	-	-	-	-	-	-	-	-
146	1	100	9.73	28.3	0.64	5.40	-	-	-	-	-	-	-	-	-	-	-
148	1	108	11.20	29.2	0.62	5.63	-	-	-	-	-	-	-	-	-	-	-
150	1	141	12.01	30.6	0.67	5.66	-	-	-	-	-	-	-	-	-	-	-
152	1	116	12.85	35.1	0.78	7.71	-	-	-	-	-	-	-	-	-	-	-
154	1	113	12.72	35.2	0.88	5.80	-	-	-	-	-	-	-	-	-	-	-
156	1	117	13.87	36.3	0.79	4.67	118	13.81	42.74	0.92	-	-	-	-	-	-	-
158	1	120	14.42	42.8	0.79	4.45	-	-	-	-	-	-	-	-	-	-	-
160	1	120	14.92	45.1	0.74	0.74	-	-	-	-	-	-	-	-	-	-	-
162	1	128	17.22	52.8	0.76	4.06	128	17.23	56.74	0.89	-	-	-	-	-	-	-
164	1	125	16.78	40.9	1.17	4.48	-	-	-	-	-	-	-	-	-	-	-
166	1	125	16.70	50.2	1.02	3.95	-	-	-	-	-	-	-	-	-	-	-
168	1	126	17.81	55.1	1.16	7.84	130	-	63.54	2.07	-	-	-	-	-	-	-
170	1	129	15.75	35.1	0.68	2.32	-	-	-	-	-	-	-	-	-	-	-
172	1	123	13.51	28.1	0.70	5.11	-	-	-	-	-	-	-	-	-	-	-
174	1	114	11.82	25.4	0.75	5.73	-	-	-	-	-	-	-	-	-	-	-
176	1	94	9.01	21.9	0.73	6.53	-	-	-	-	-	-	-	-	-	-	-
178	1	77	6.44	19.1	0.72	8.73	-	-	-	-	-	-	-	-	-	-	-
180	1	95	6.62	18.5	0.58	12.01	90	6.30	25.02	0.89	-	-	-	-	-	-	-
182	1	102	6.71	24.0	0.80	9.33	-	-	-	-	-	-	-	-	-	-	-
184	1	99	8.45	24.5	0.73	-	-	-	-	-	-	-	-	-	-	-	-
188	1	91	8.72	27.6	0.78	6.31	103	10.14	30.40	0.76	-	-	-	-	-	-	-
190	1	91	10.99	30.7	0.76	5.28	-	-	-	-	-	-	-	-	-	-	-
-	1	80	6.96	24.8	0.76	6.78	-	-	-	-	-	-	-	-	-	-	-
-	1	69	5.38	23.1	0.80	11.39	-	-	-	-	-	-	-	-	-	-	-
-	1	63	4.31	20.9	0.76	10.26	-	-	-	-	-	-	-	-	-	-	-
-	1	61	8.95	31.4	0.76	10.32	-	-	-	-	-	-	-	-	-	-	-

Table B.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE		CRUISE #		LOCATION													
17 DEC 80		23		S F BAY													
STATION	UTM NORTH	UTM EAST	TIME	DEPTH m	BOW TEMP deg C	SALIN	SUSP MATTER mg/L	TURB IDITY	EXT COEF 1/m	SAMPLE TEMP deg C	PH	PCO2 ppt	OXYGEN percent	PAR CARBON mg/L	DIS CARBON mg/L	CHLORO PHYLL-A ug/L	FLUOR
302	205.1	553.7	707	1	10.2	22.72	13.6	6.1	-	-	7.93	-	-	-	-	1.0	0.077
304	206.9	552.3	724	1	10.3	23.04	-	6.1	-	-	7.92	-	-	-	-	-	0.072
306	208.8	551.1	732	1	10.7	25.50	-	15.0	2.05	-	7.93	-	-	-	-	1.0	0.082
308	210.7	549.8	748	1	10.6	26.20	-	18.8	-	-	7.92	-	-	-	-	-	0.087
310	212.2	548.8	754	1	10.2	20.94	-	22.7	-	-	7.90	-	-	-	-	-	0.089
312	213.8	547.6	802	1	10.1	20.47	38.6	31.6	2.56	-	7.90	-	-	-	-	1.4	0.101
314	214.7	550.0	820	1	10.1	20.06	-	29.9	-	-	7.88	-	-	-	-	-	0.101
316	215.4	551.6	827	1	10.0	19.61	-	23.2	-	-	7.88	-	-	-	-	-	0.095
318	215.7	553.3	833	1	9.8	19.26	20.0	15.8	2.10	-	7.79	-	-	0.4	2.2	1.4	0.100
320	216.5	555.4	850	1	9.3	19.87	-	18.8	-	-	7.93	-	-	-	-	-	0.165
322	216.7	556.9	855	1	9.0	20.31	-	20.2	-	-	7.97	-	-	-	-	-	0.187
324	216.9	558.6	902	1	9.2	19.25	24.4	21.7	2.22	-	7.94	-	-	-	-	3.4	0.136
326	215.3	559.3	917	1	9.7	19.52	-	29.2	-	-	7.90	-	-	-	-	-	0.117
328	213.5	559.6	924	1	10.1	18.63	-	18.8	-	-	7.86	-	-	-	-	-	0.085
330	211.9	560.9	930	1	10.6	24.37	-	12.1	-	-	7.92	-	-	-	-	1.2	0.079
332	210.0	561.4	937	1	10.4	27.27	-	18.0	-	-	7.91	-	-	-	-	-	0.082
334	208.4	562.2	943	1	10.3	21.81	20.4	18.0	2.00	-	7.86	-	-	-	-	0.4	0.089
402	210.2	577.5	1125	1	10.4	16.88	-	32.9	-	-	7.85	-	-	-	-	-	0.101
404	211.2	577.3	1129	1	10.3	17.08	-	19.5	2.24	-	7.86	-	-	-	-	1.6	0.089
406	213.3	579.2	1144	1	10.4	14.18	-	18.8	-	-	7.83	-	-	-	-	-	0.095
408	215.0	580.5	1151	1	10.3	14.27	-	32.1	-	-	7.83	-	-	-	-	-	0.104
410	216.7	581.9	1200	1	9.9	7.36	-	41.0	-	-	7.76	-	-	-	-	-	0.161
412	218.0	582.9	1206	1	10.4	6.72	-	31.4	-	-	7.79	-	-	-	-	-	0.127
414	219.2	582.6	1211	1	10.2	5.19	21.9	24.0	3.03	-	7.76	-	-	-	-	5.0	0.130
416	219.0	584.2	1227	1	10.2	4.51	-	21.7	-	-	7.72	-	-	-	-	-	0.122
418	218.8	586.7	1237	1	9.2	3.37	14.9	7.6	2.27	-	8.28	-	-	1.1	1.0	11.2	0.213
420	217.8	586.7	1250	1	9.9	4.00	-	22.5	-	-	7.69	-	-	-	-	-	0.130
422	216.7	585.8	1254	1	10.0	5.50	-	30.6	-	-	7.69	-	-	-	-	-	0.123
424	215.4	588.0	1303	1	9.7	6.37	-	47.7	-	-	7.70	-	-	-	-	-	0.142
426	218.4	589.5	1311	1	9.7	5.12	-	40.3	-	-	7.65	-	-	-	-	-	0.133
428	214.0	590.5	1314	1	10.1	3.16	-	38.8	-	-	7.53	-	-	-	-	-	0.133
430	214.3	592.5	1324	1	10.2	2.50	-	46.2	-	-	7.53	-	-	-	-	-	0.133
432	214.5	594.8	1334	1	10.2	1.31	39.8	51.7	3.88	-	7.31	-	-	-	-	1.8	0.123
745	210.4	598.3	1449	1	10.0	0.84	-	72.9	-	-	7.44	-	-	-	-	-	0.123
747	209.4	601.9	1506	1	9.9	0.47	-	70.5	-	-	7.29	-	-	-	-	-	0.117
749	208.9	605.5	1520	1	9.9	0.24	-	65.9	-	-	7.05	-	-	-	-	-	0.117
751	209.5	609.1	1537	1	10.4	0.19	-	51.7	-	-	7.02	-	-	-	-	-	0.111

- DATA NOT AVAILABLE

Table 8.--Physical and chemical data collected aboard the R/V Estero (continued).

DATE 17 DEC 80	CRUISE # 23	LOCATION S F BAY	CONTINUOUS										DISCRETE										DISCRET DISSOLV				TOTAL	
			STATION	DEPTH m	S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	S102 UM	PO4 UM	NO3+NO2 UM	NO2 UM	NH3 UM	PHOSPH UM	NITROG UM	DISSOLV UM	PHOSPH UM	NITROG UM	DISSOLV UM	PHOSPH UM	NITROG UM	PHOSPH UM	NITROG UM				
302	1		75		2.97	20.4	0.51	8.13	84	2.58	22.10	0.69	8.01	2.9	-	-	-	-	-	-	-	-	-					
304	1		82		2.97	20.7	0.60	7.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
306	1		71		3.03	19.3	0.43	7.42	69	2.89	20.42	0.67	7.39	-	-	-	-	-	-	-	-	-	-					
308	1		69		2.93	19.4	0.50	7.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
310	1		90		3.02	21.4	0.53	7.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
312	1		95		3.09	22.3	0.39	7.85	96	2.89	24.04	0.61	8.18	2.9	-	-	-	-	-	-	-	-	-					
314	1		97		3.09	23.5	0.60	7.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
316	1		99		3.02	29.8	0.64	8.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
318	1		101		3.00	23.9	0.42	7.64	101	2.90	24.41	0.63	8.22	2.9	-	-	-	-	-	-	-	-	-					
320	1		93		2.91	23.0	0.59	6.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
322	1		81		2.78	19.8	0.43	2.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
324	1		95		2.72	24.3	0.41	5.28	96	2.71	25.28	0.53	6.91	2.7	-	-	-	-	-	-	-	-	-					
326	1		96		2.85	23.4	0.58	6.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
328	1		107		2.99	23.4	0.63	7.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
330	1		103		2.97	22.7	0.59	6.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
332	1		83		2.93	20.8	0.59	7.76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
334	1		84		3.03	23.9	0.45	8.81	89	3.83	27.77	0.73	9.60	3.8	-	-	-	-	-	-	-	-	-					
402	1		115		3.05	23.4	0.60	8.54	119	2.99	24.66	0.56	8.60	-	-	-	-	-	-	-	-	-	-					
404	1		115		3.17	23.2	0.66	9.18	122	3.01	22.62	0.57	8.75	-	-	-	-	-	-	-	-	-	-					
406	1		125		3.05	23.9	0.53	8.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
408	1		132		3.06	24.1	0.68	8.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
410	1		181		2.80	26.4	0.64	8.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
412	1		181		2.81	26.9	0.46	8.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
414	1		193		2.75	27.1	0.29	8.31	200	2.87	28.08	0.42	7.07	2.9	-	-	-	-	-	-	-	-	-					
416	1		200		2.80	27.2	0.37	7.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
418	1		197		1.97	22.4	0.34	0.99	197	1.96	21.20	0.55	0.64	2.0	-	-	-	-	-	-	-	-	-					
420	1		200		2.26	24.3	0.46	4.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
422	1		200		2.73	27.0	0.57	6.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
424	1		173		2.81	27.1	0.52	8.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
426	1		194		2.76	27.8	0.48	7.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
428	1		208		2.70	28.8	0.57	7.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
430	1		217		2.66	24.1	0.53	6.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
432	1		226		2.82	30.0	0.40	6.95	233	3.18	30.16	0.59	6.77	3.2	-	-	-	-	-	-	-	-	-					
745	1		232		2.78	28.8	0.59	8.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
747	1		235		2.54	30.0	0.61	7.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
749	1		238		3.24	29.8	0.66	6.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
751	1		238		3.84	29.5	0.55	6.24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					

- DATA NOT AVAILABLE