

data report

PHYSICAL, CHEMICAL AND BIOLOGICAL
DATA REPORT

CRUISE SQ86
15-22 March, 1986

SIO Reference 87-17
31 July 1987

UNIVERSITY OF CALIFORNIA
SCRIPPS INSTITUTION OF OCEANOGRAPHY

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

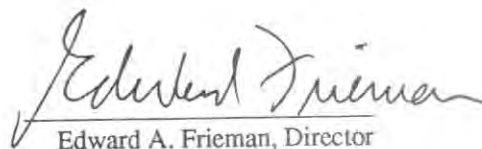
CRUISE SQ86
15-22 March, 1986

T. L. Hayward, A. W. Mantyla, and P. P. Niiler

Sponsored by
Marine Life Research Group,
Scripps Institution of Oceanography
and
Office of Naval Research

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31 July 1987

Approved for distribution:


Edward A. Frieman, Director

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INTRODUCTION

The data in this report were collected from 15 to 22 March 1986 on the SQ86 Cruise aboard *RV New Horizon* of the Scripps Institution of Oceanography (SIO). The purpose of the cruise was to describe structure in the near-coastal area, the California Transition Zone (Brink and Hartwig, 1985), and to investigate its effects upon physical, chemical and biological patterns in the California Current System. The SQ86 cruise site was located along the central California coast between Point Arguello and Point Sur (Fig. 1). The data were collected and processed by personnel of the Marine Life Research Group (MLRG) and the Oceanographic Data Facility (ODF) at SIO. Support was provided by the Marine Life Research Group of the Scripps Institution of Oceanography and the Office of Naval Research.

STANDARD PROCEDURES

Conductivity/Temperature/Depth (CTD) Data

A Neil Brown Instrument Systems CTD was used successfully on 35 stations to a maximum sampling depth of 500 m, bottom depth permitting. The CTD malfunctioned during the first part of the cruise and scheduled CTD stations were replaced by 10-bottle, 200 m Nansen casts, except for Station G 3, where no data were recovered. Checks on the CTD temperature and computed salinity were made on most CTD casts by comparison with deep-sea reversing thermometers and salinity samples from Niskin rosette bottles tripped near the surface and at the maximum CTD depth. The CTD data were processed and calibrated by personnel at the ODF who provided MLRG with a computer tape of the corrected CTD temperature and salinity data at one-db intervals. Standard depth data listed in this report have been extracted from the one-db interval tapes using the Saunders (1981) pressure-to-depth conversion technique. Profiles of the one-db interval CTD data appear at the end of this report. The complete one-db interval tapes will be sent to NODC.

Hydrographic Cast Data

Except for the CTD replacement Nansen casts, the hydrographic casts consisted of 20 epoxy-lined Nansen bottles lowered to a maximum sampling depth of 575 m, bottom depth permitting. Only temperature and salinity were determined on the CTD replacement casts. Temperature, salinity, dissolved oxygen, and nutrients from all depths, and usually chlorophyll-*a* and phaeopigments from the top 12 depths, were determined on the rest of the hydrographic stations.

Paired protected reversing thermometers were used to determine temperatures which were recorded to hundredths of a degree Celsius. Sampling bottles used below a depth of about 75 meters were equipped with unprotected thermometers for determination of the depth of sampling.

Salinity samples were analyzed at sea using inductive-type salinometers. Salinometers were standardized with substandard seawater. Periodic checks on the concentration of the substandard were made by comparison with Wormley Standard Seawater batch P-96. The salinity values are reported to three decimal places.

Dissolved oxygen was determined by the Winkler method as modified by Carpenter (1965), using the equipment and procedure outlined by Anderson (1971). Percent oxygen saturation was calculated from the equations of Weiss (1970).

Silicate, phosphate, nitrate and nitrite nutrients were determined at sea using an automated analyzer. The procedures used are similar to those described in Atlas *et al.* (1971).

Chlorophyll-*a* and phaeopigments were measured with a fluorometric technique (Yentsch and Menzel, 1963; Holm-Hansen *et al.*, 1965) from subsamples filtered onto GF/C filters. The pigments were extracted with a cold extraction technique in 90% acetone (Venrick and Hayward, 1984) and the fluorescence determined before and after acidification with a Turner design fluorometer.

The observed data have been evaluated using the methodology described by Klein (1973). This involves consideration of their variation as functions of density or depth and their relations to each other, and comparisons with adjacent observations.

Satellite Tracked Data

TRISTAR-II drifters are tracked by ARGOS, with an average of seven receptions per day. The latitude and longitude fixes are interpolated to 0.2-day intervals by linear interpolation. These data are plotted on Figure 2. The interpolated data are available on magnetic tape from SIO. For details of drifter construction and water following capabilities, see Niiler *et al.* (1987).

Primary Productivity Casts

Primary production was estimated from ^{14}C uptake using a simulated *in situ* technique. Light penetration was estimated from the Secchi depth (assuming that the 1% light level is three times the Secchi depth). Six depths, corresponding to predetermined levels of light penetration, were sampled with 5 l Niskin bottles. Temperature, salinity, oxygen, nutrients, chlorophyll-*a*, and phaeopigments were determined for all depths sampled. Triplicate samples (two light and one dark control) were drawn from each depth into 250 ml polycarbonate incubation bottles which were inoculated with approximately 10 μCi of ^{14}C as NaHCO_3 . These were incubated from near local apparent noon to civil twilight in seawater-cooled incubators with neutral-density screens which simulate the *in situ* light levels. At the end of the incubation, the samples were filtered onto HA millipore filters and placed in scintillation vials. One-half ml of 10% HCl was added to each sample. The sample was then allowed to sit, without a cap, at room temperature for 12 hours (after Lean and Burnison, 1979). Following this, 10 ml of scintillation fluid were added to each sample and the samples were returned to SIO where the radioactivity was determined with a scintillation counter.

Macrozooplankton Net Tows

Macrozooplankton was sampled with a 71 cm mouth diameter paired net (bongo net) equipped with 0.505 mm plankton mesh. Bottom depth permitting, the nets were towed obliquely from 210 m to the surface. The tow time for a standard tow was 21.5 minutes. Volumes filtered were determined from flowmeter readings and the mouth area of the net. Only one sample of each pair was retained and preserved. The biomass, as wet displacement volume, after removal of large (> 5 ml) organisms, was determined in the laboratory ashore. These procedures are summarized in greater detail in Kramer *et al.* (1972).

Additional Data

Additional data collected but not tabulated in this report include continuous near-surface measurements of temperature, salinity, and "chlorophyll" fluorescence, and vertical profiles of photosynthetically active radiation (PAR) measured with a Biospherical Instruments quantum scalar irradiance meter.

TABULATED DATA

Hydrographic and CTD Cast Data

Hydrographic and CTD cast data are reported together in the order occupied during the cruise. The time reported is Greenwich Mean Time (GMT). For CTD lowerings it is the "start down" time; for wire casts it is the time of the messenger release. Bottom depths, determined acoustically, have been corrected using British Admiralty Tables (Carter, 1980) and are reported in meters. Weather conditions have been coded using WMO code 4501.

Observed and interpolated standard depth data from hydrographic casts have been interspersed and are presented together sequentially by depth. Interpolated or extrapolated standard level data are noted by the footnote "ISL" printed after the depth. Density-related parameters have been calculated from the International Equation of State of Seawater 1980 (EOS80, UNESCO, 1981). Computed values of potential temperature, sigma-theta, specific volume anomaly (SVA), dynamic height or geopotential anomaly, and pressure are included with both observed and interpolated standard depth levels.

Where appropriate, two CTD stations are printed side by side. CTD temperature and salinity are tabulated to closer "standard depth" intervals than the interpolated standard depth hydrographic cast data.

Primary Productivity Casts

In addition to the normal hydrographic information, the tabulated data include: the light levels at which the samples were incubated, the uptake from each of the replicate light bottles (uptake 1 and uptake 2) which have been corrected for dark uptake by subtracting the dark value, the mean of the two uptake values, the dark uptake, chlorophyll-*a* and phaeopigments. The uptake values shown are the total for the incubation period. The times of local apparent noon (LAN), civil twilight, and the vertically integrated value of the mean uptake from the surface to the deepest sample depth (assuming that the shallowest measured value extends to the surface and that negative values are zero) are also shown for each experiment. The uptake data have been presented to two significant digits (values < 1.00) or one decimal (values > 1.00). The higher production values may not warrant all of the digits presented. Incubation time, LAN, and civil twilight are given in local Pacific Standard Time (PST); to convert to GMT, add eight hours to the PST time.

Secchi Disk Observations

Secchi disk observations were made on most daylight stations. The times are given in local PST (+8) time. Weather codes and cloud observations are also presented.

Macrozooplankton Data

Macrozooplankton biomass volumes are tabulated as total biomass volume ($\text{cm}^3/1000 \text{ m}^3$ strained) and as the total volume minus the volume of larger organisms under the heading "Small."

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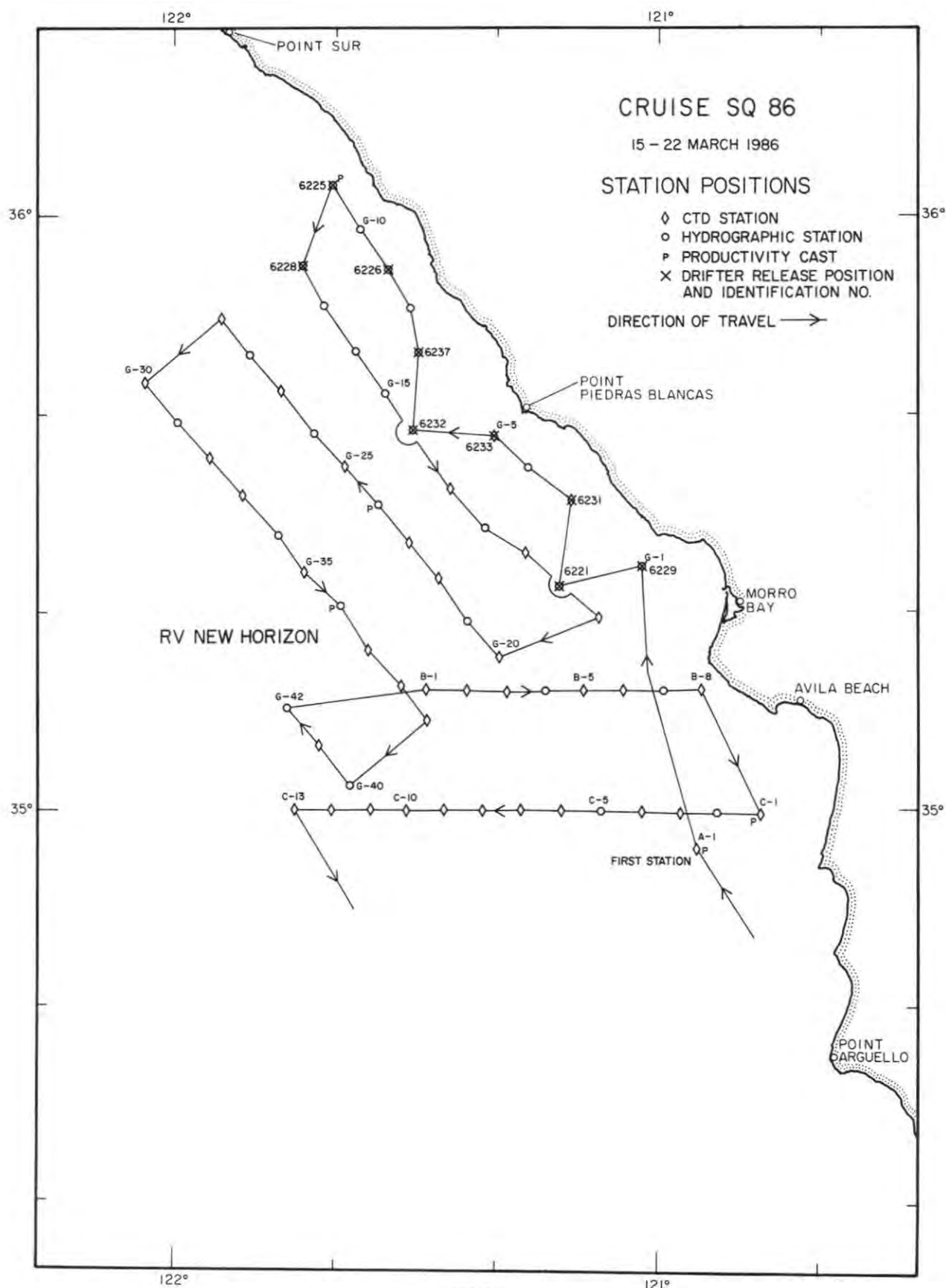


FIGURE 1

FIGURES

Cruise SQ86

1. SQ86 cruise track and station positions.
- 2a. Tracks of drifters released in study area. The star marks the deployment location.
- 2b. Individual tracks of drifters released in study area. The year date (YD) 76 is 17 March. Deployment location is marked by a star. A cross marks interpolated position at 00:00 (GMT) on consecutive days. The number (62__) designates the drifter transmitter identification in ARGOS system.
3. Horizontal distribution of dynamic height anomaly (0 over 500 m). In areas shallower than 500 m, the dynamic heights were extrapolated on the basis of the offshore deeper steric heights as described in Reid and Mantyla (1976).
4. Horizontal distribution of sigma-theta at 10 meters.
5. Horizontal distribution of temperature at 10 meters.
6. Horizontal distribution of salinity at 10 meters.
7. Horizontal distribution of dynamic height (200 over 500 m). Shallow water extrapolations as in 3 above.
8. Horizontal distribution of sigma-theta at 200 meters.
9. Horizontal distribution of temperature at 200 meters.
10. Horizontal distribution of salinity at 200 meters.

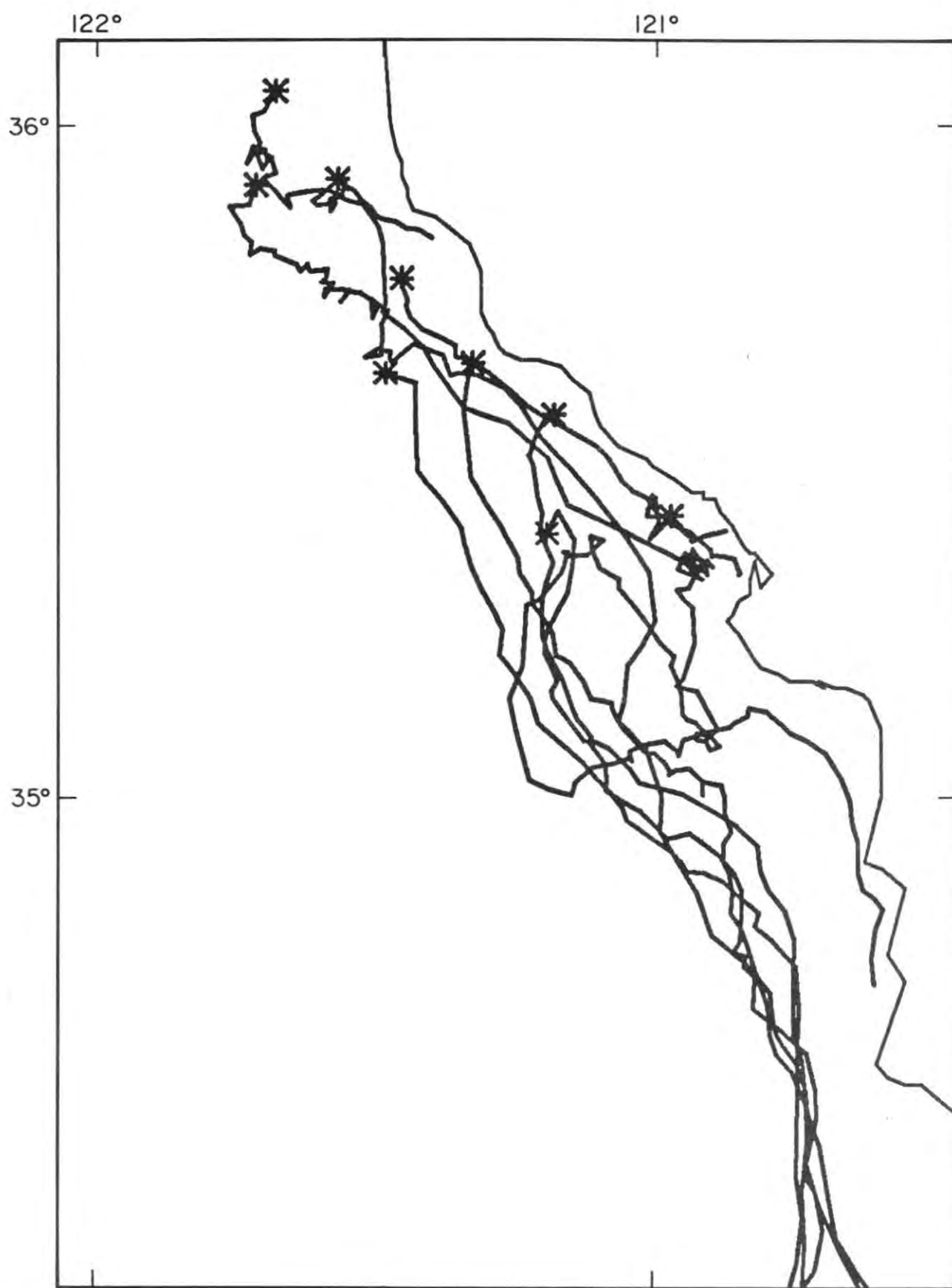


FIGURE 2a

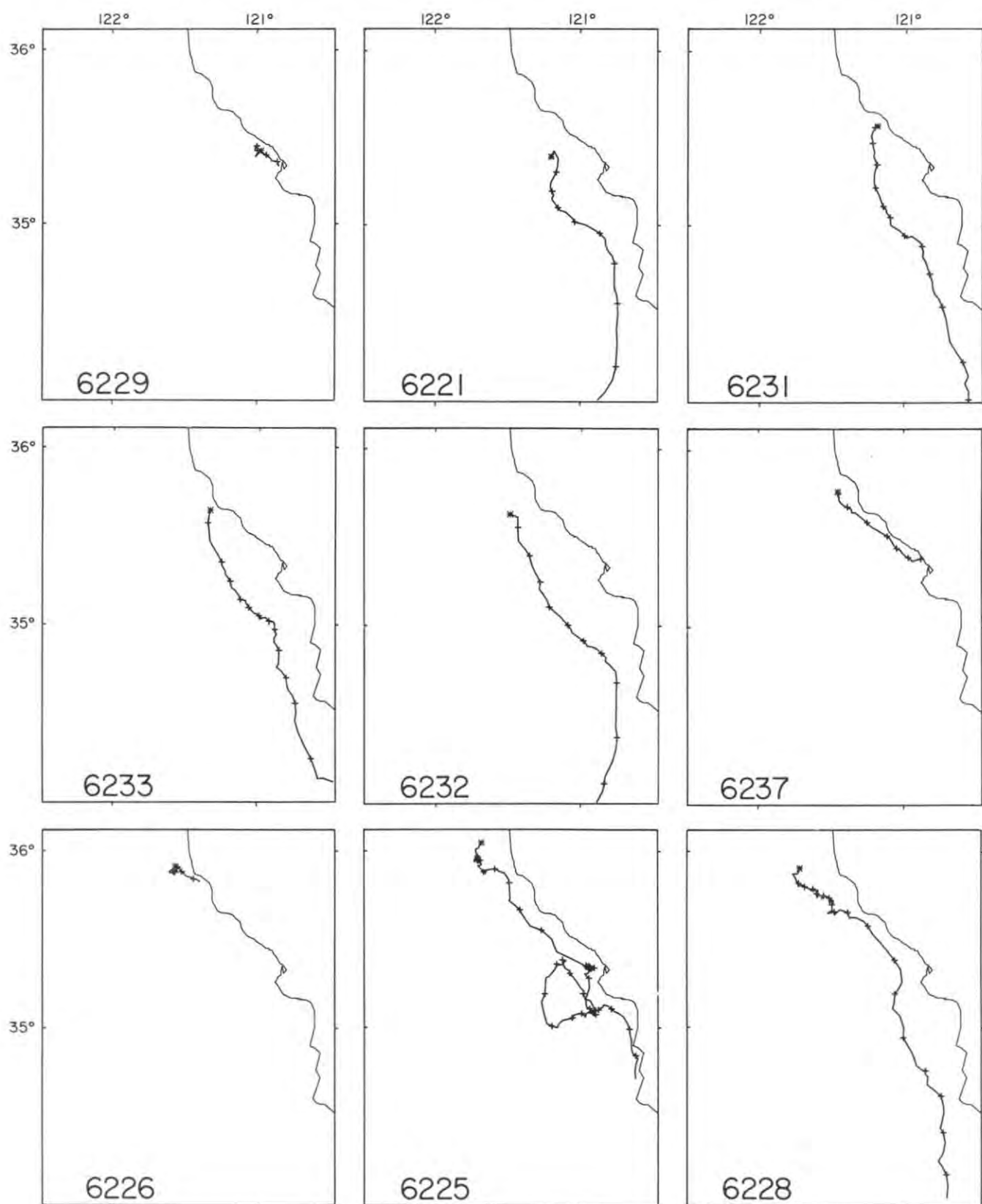


FIGURE 2b

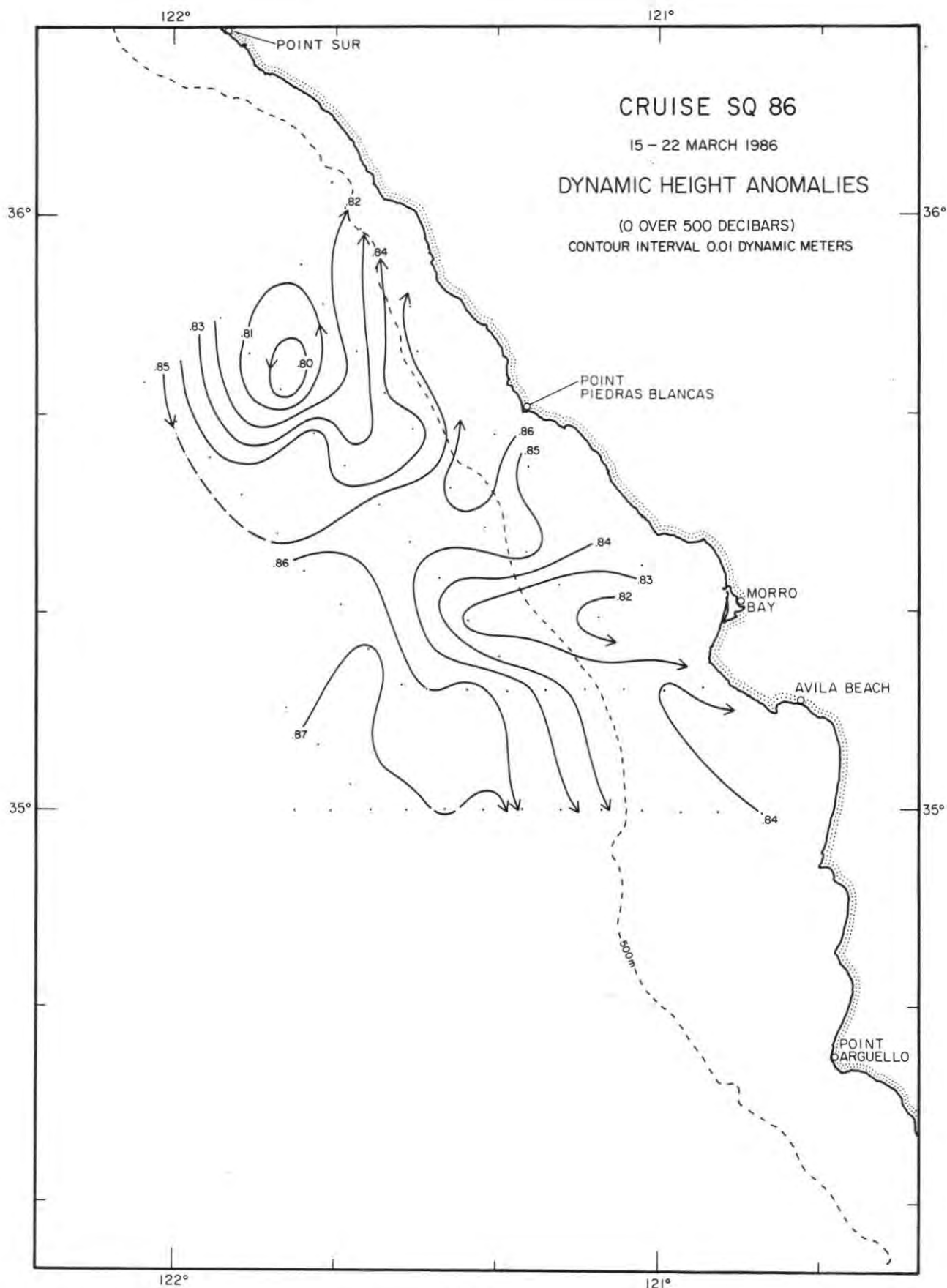


FIGURE 3

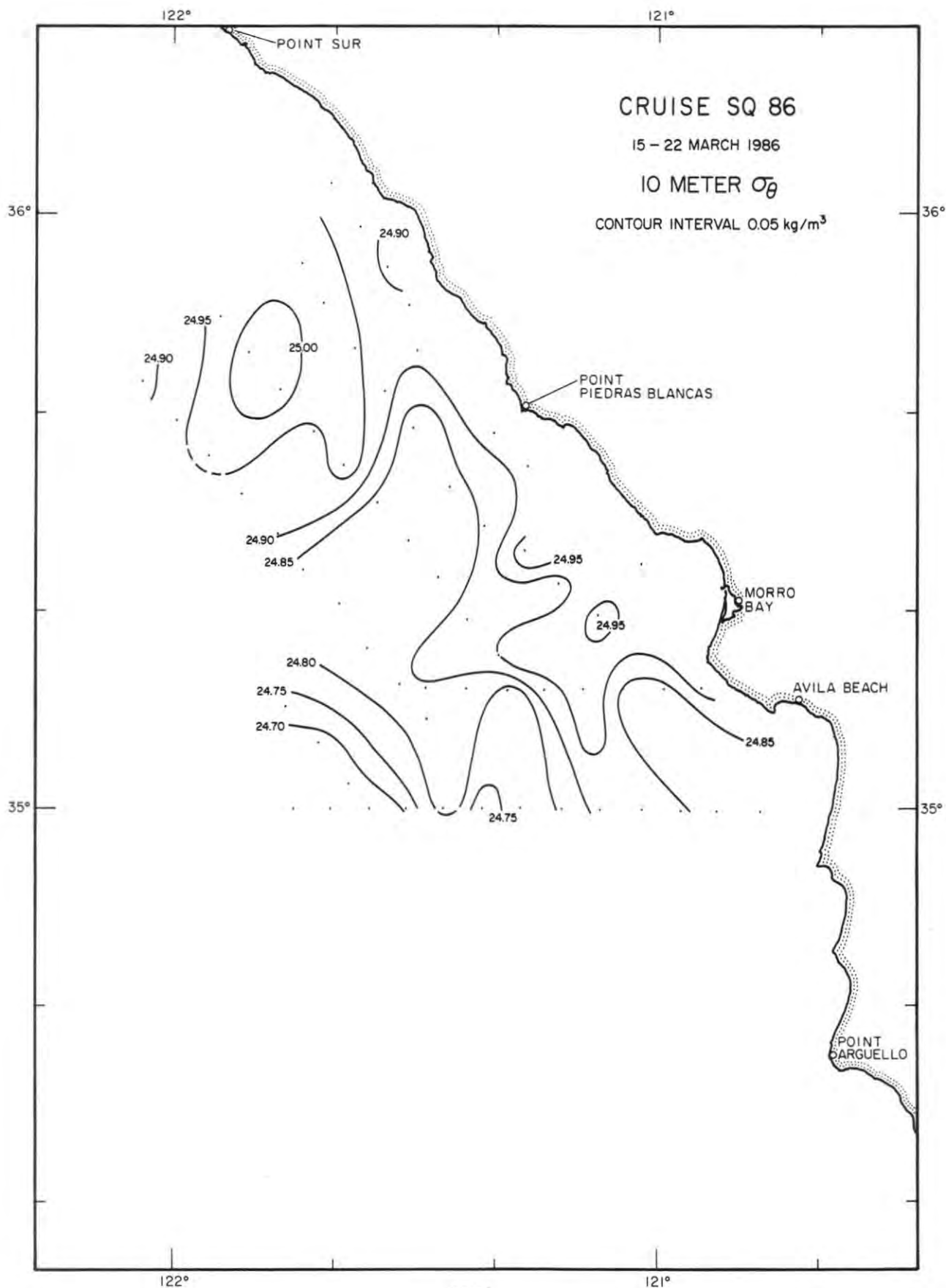


FIGURE 4

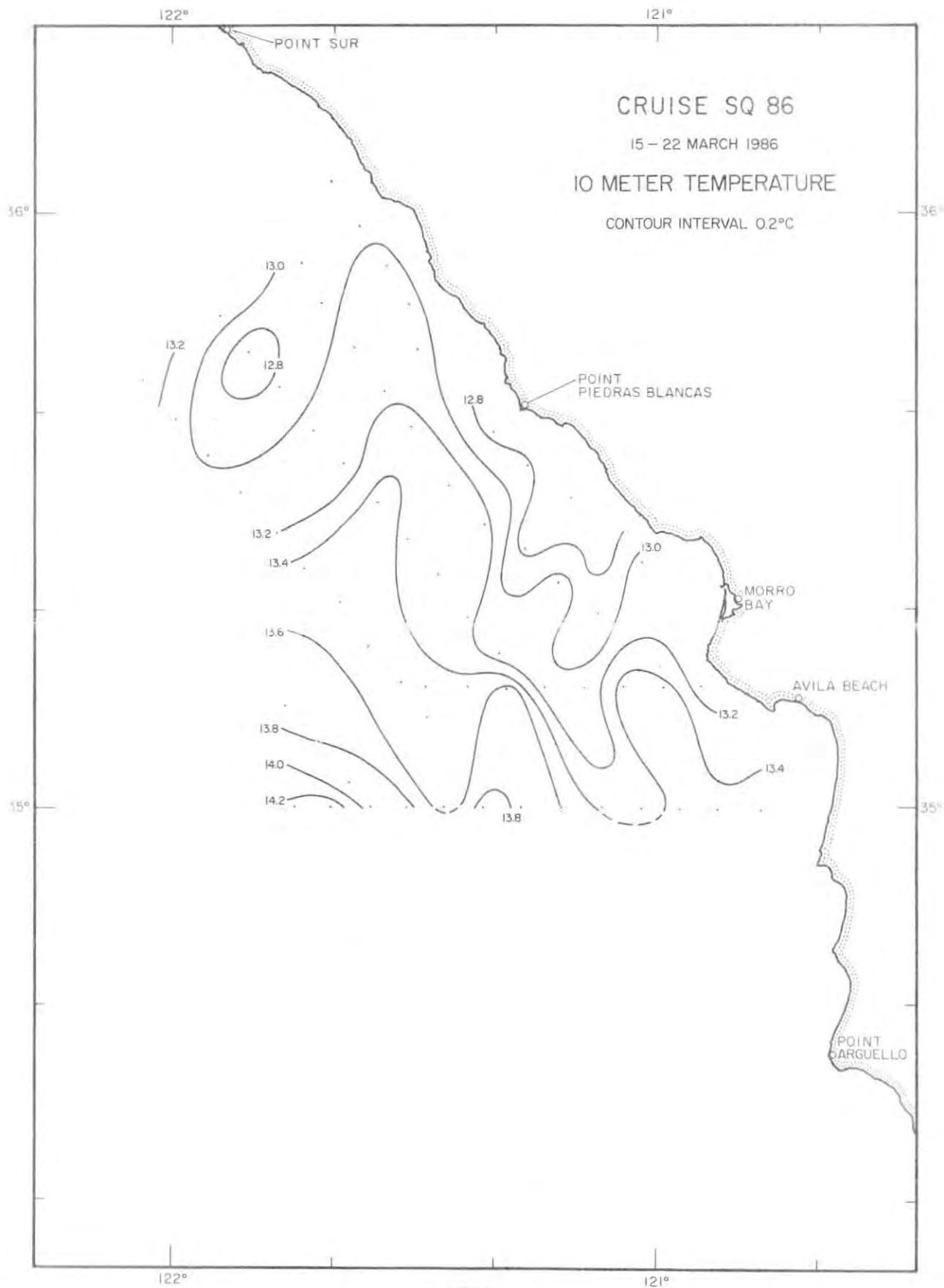


FIGURE 5

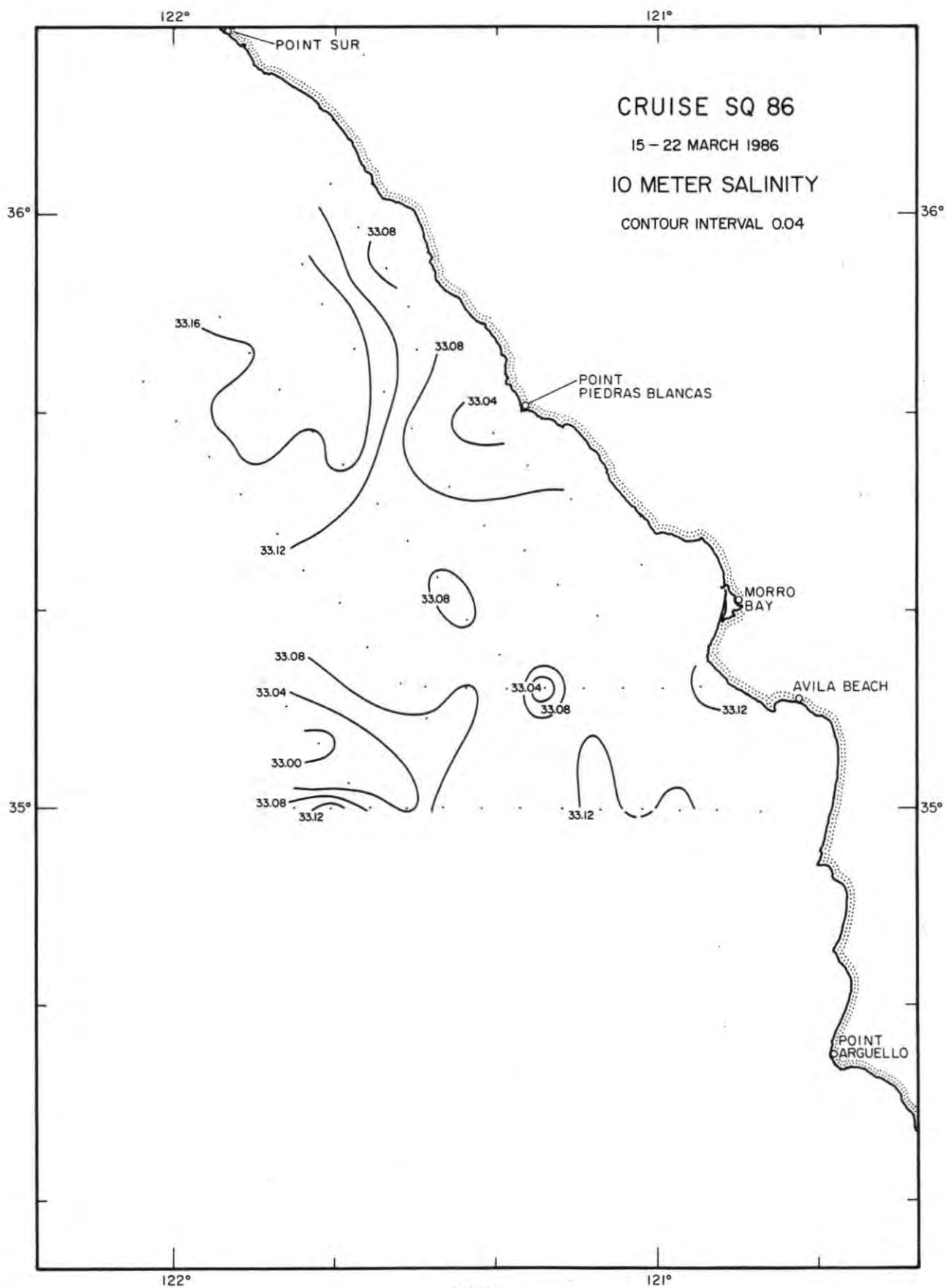


FIGURE 6

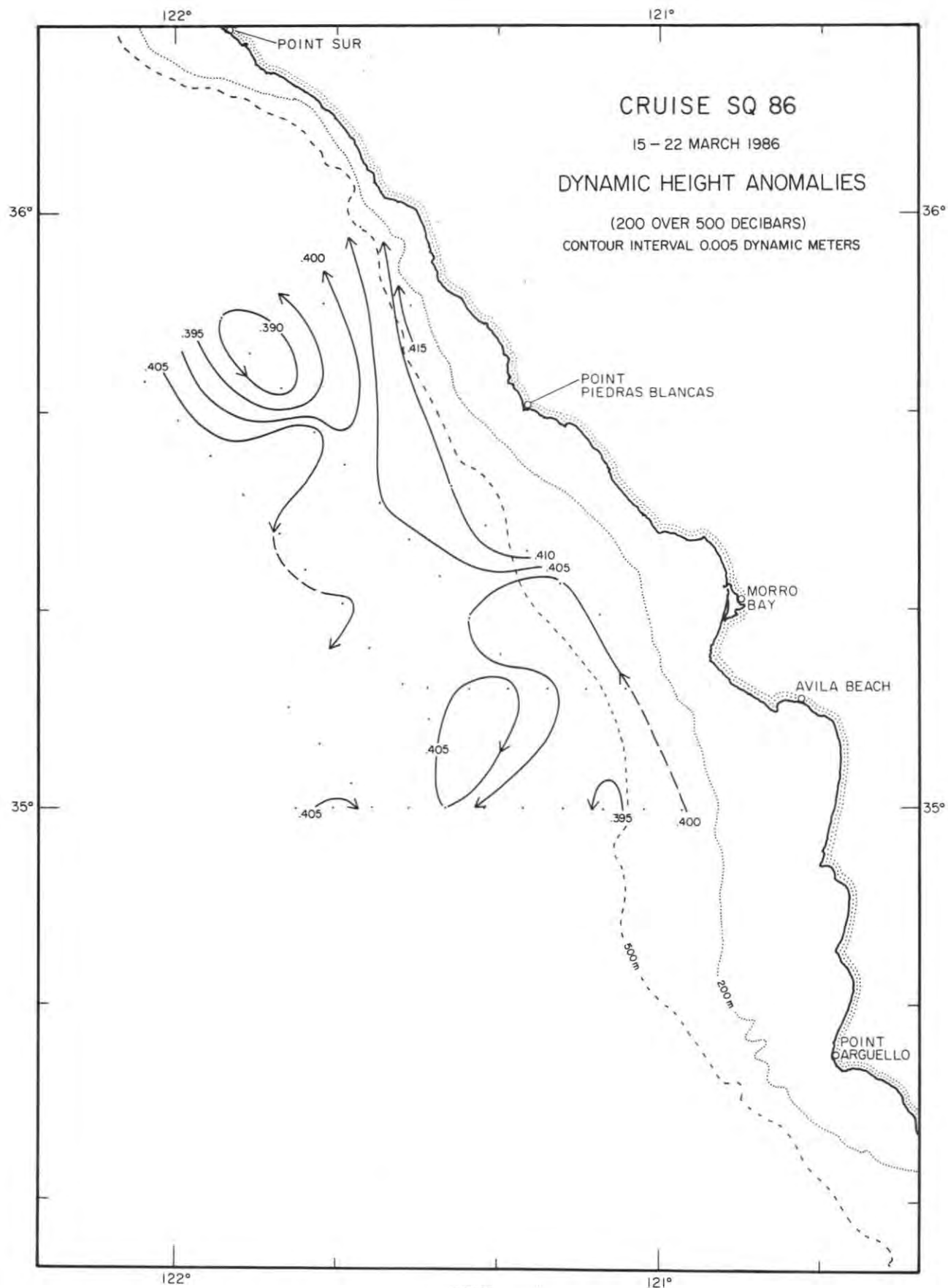


FIGURE 7

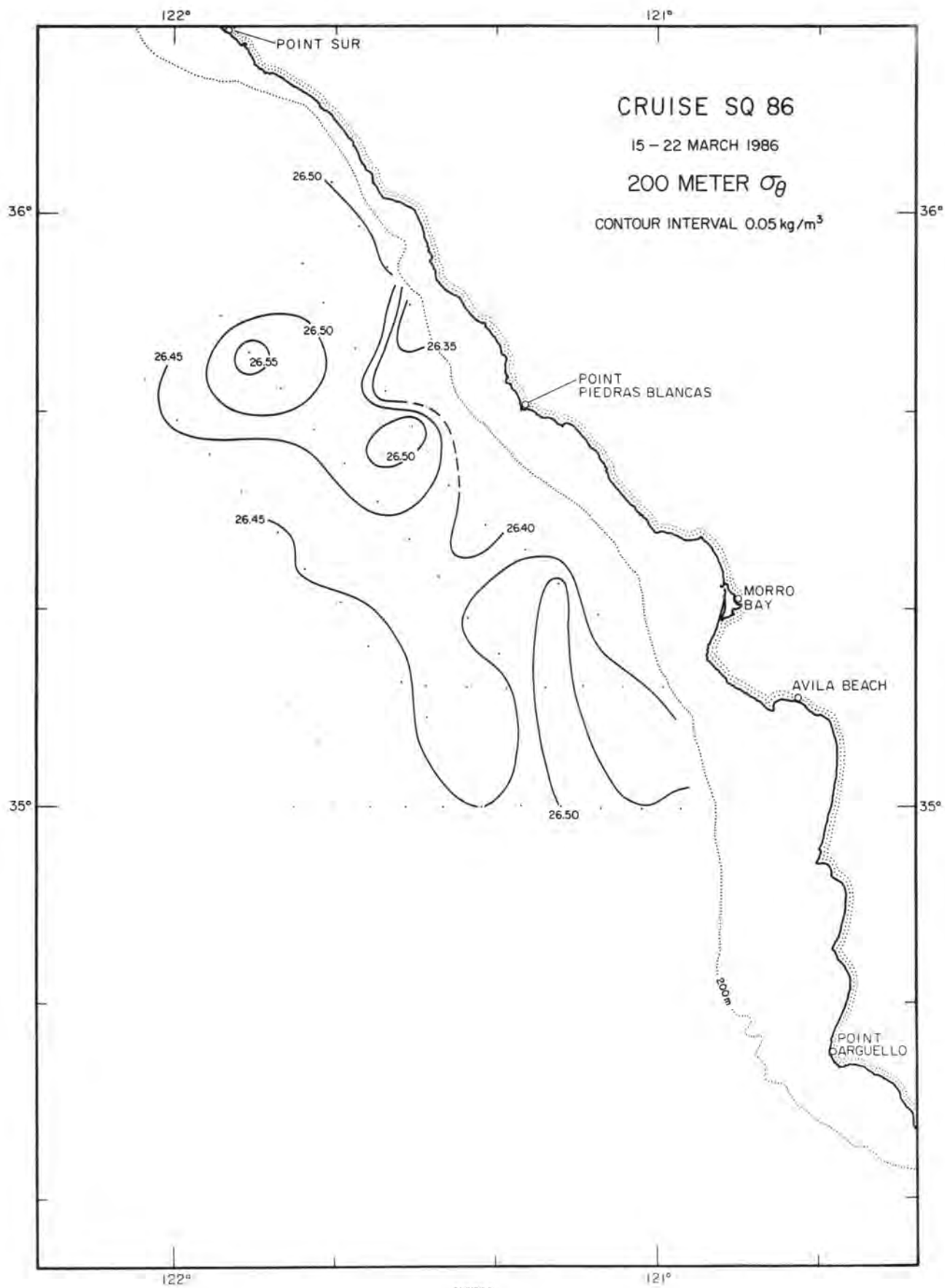


FIGURE 8

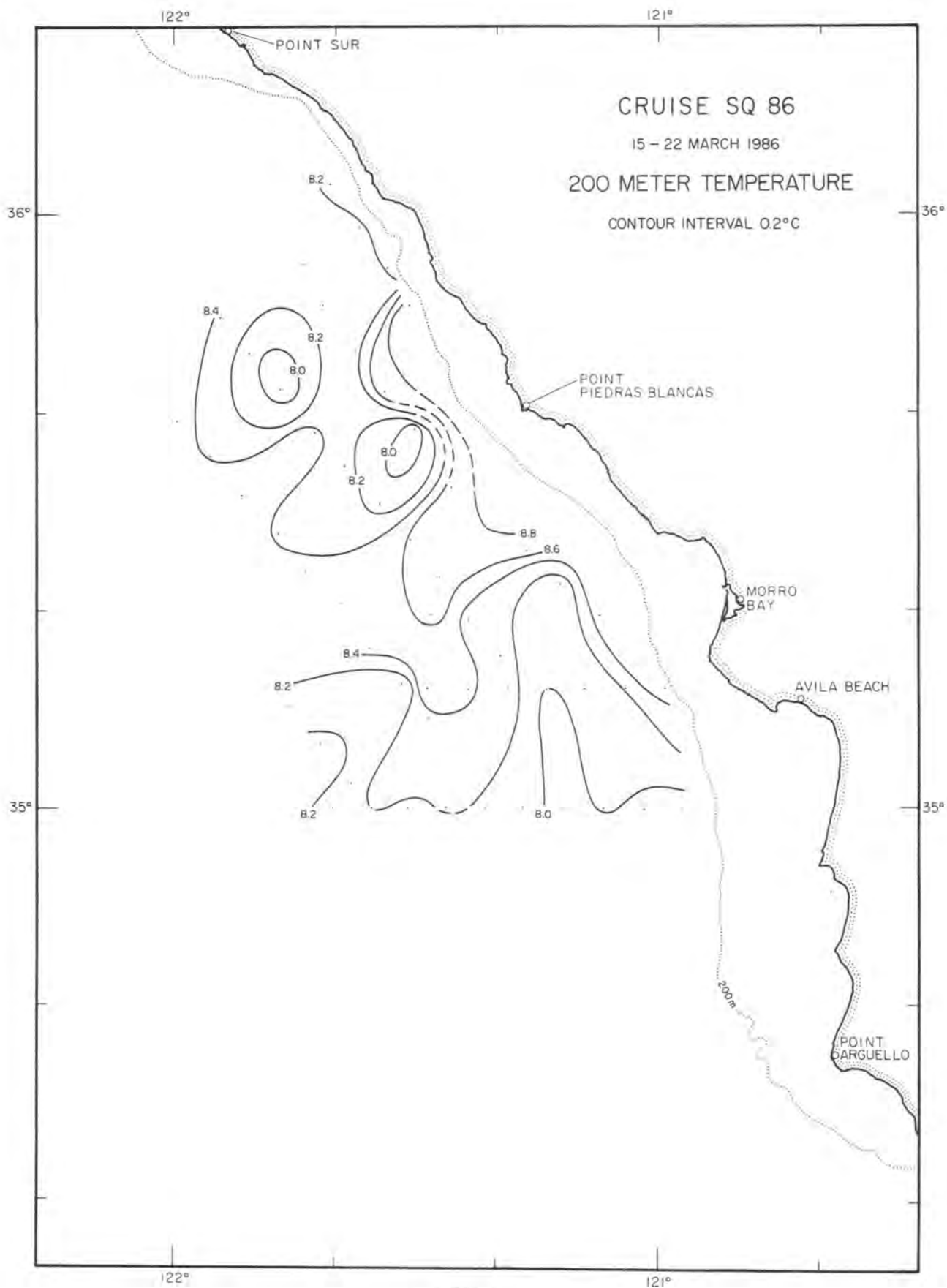


FIGURE 9

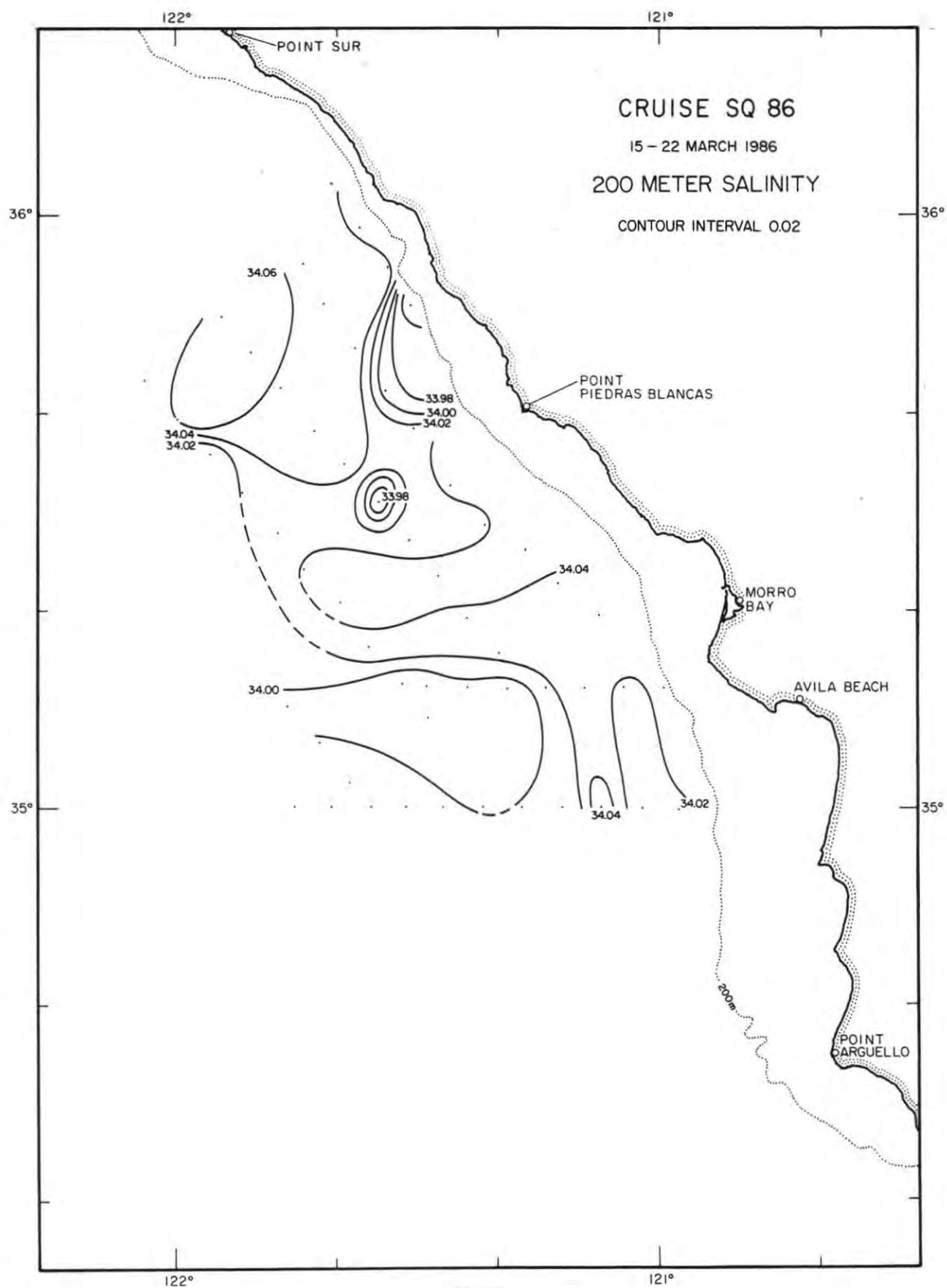


FIGURE 10

PERSONNEL

Cruise SQ86

SHIP'S CAPTAIN

Munsch, Phillip L., RV *New Horizon*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

Hayward, Thomas L. (Chief Scientist)	Asst. Research Oceanographer, SIO
Bryan, Walter R.	Marine Technician, SIO
Cummings, Sherry L.	Staff Research Associate, SIO
Hood, Raleigh R.	Graduate Student, SIO
Masten, Douglas M.	Marine Technician, SIO
Ohman, Mark D.	Asst. Research Oceanographer, SIO
Pillard, Eugene G.	Marine Technician, SIO
Plummer, Kenneth M.	Staff Research Associate, SIO
Schmitt, James A.	Electronics Technician, SIO
Schmitt, Walter R.	Staff Research Associate, SIO
Sweet, Paul R.	Staff Research Associate, SIO
Wilkinson, James R.	Staff Research Associate, SIO

RV NEW HORIZON

CRUISE SQ86

STATION G 1 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
35 24.8 N	121 02.0 W	16/03/86	2327 GMT	108 M	260	03 KT	260 10 08	1	1006.6 MB	12.1 C	11.8 C		6/8	SC		
CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHARO	PRESS
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
1	0	13.26	13.26	33.067	24.845	309.6	.000	6.04	101.3	5.1	.46	1.5	.05	.70	.37	0
1	10	13.03	13.03	33.094	24.911	303.5	.031	6.01	100.3	5.1	.46	1.6	.05	.89	.45	10
	20 ISL	12.88	12.87	33.108	24.953	299.7	.061	5.91	98.3							20
1	21	12.86	12.86	33.110	24.957	299.4	.064	5.90	98.1	6.1	.51	2.5	.07	.75	.55	21
	30 ISL	12.73	12.73	33.143	25.009	294.7	.091	5.75	95.4							30
1	31	12.71	12.71	33.148	25.016	294.1	.093	5.73	95.0	7.0	.60	3.7	.08	.63	.50	31
1	41	12.29	12.28	33.235	25.166	280.1	.122	5.36	88.1	9.7	.77	6.6	.14	.46	.37	41
	50 ISL	12.17	12.16	33.251	25.200	277.0	.147	5.28	86.7							50
1	52	12.15	12.14	33.254	25.207	276.4	.152	5.27	86.4	10.4	.84	7.4	.15	.43	.35	52
1	63	10.84	10.84	33.531	25.661	233.4	.182	4.24	67.7	18.0	1.31	15.1	.11	.15	.22	63
1	72	10.72	10.71	33.546	25.695	230.4	.203	4.18	66.6	18.3	1.34	15.6	.11	.14	.21	72
	75 ISL	10.70	10.69	33.547	25.700	229.9	.211	4.18	66.5							76
1	83	10.66	10.65	33.548	25.708	229.4	.228	4.17	66.3	18.5	1.35	16.0	.11	.12	.23	83
1	93	10.61	10.60	33.556	25.722	228.2	.251	4.14	65.8	19.0	1.38	16.1	.12	.13	.26	93
1	99	10.32	10.31	33.621	25.823	218.7	.267	3.88	61.3	21.4	1.52	18.0	.12	.09	.32	100

RV NEW HORIZON

CRUISE SQ86

STATION G 2 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
35 22.6 N	121 12.4 W	17/03/86	0120 GMT	389 M	360	07 KT	130 10 08	1	1007.0 MB	11.4 C	11.0 C		6/8	AS		
CAST	DEPTH	TEMP	POT	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHARO	PRESS
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
1	0	13.19	13.19	33.053	24.849	309.2	.000	6.21	103.9	3.7	.41	.6	.06	.89	.45	0
1	10	13.08	13.07	33.086	24.896	304.9	.031	6.15	102.7	3.8	.42	.9	.07	.96	.50	10
	20 ISL	13.00	12.99	33.112	24.933	301.7	.061	6.05	100.9							20
	30 ISL	12.92	12.91	33.139	24.969	298.5	.091	5.95	99.1							30
1	31	12.91	12.91	33.141	24.972	298.2	.094	5.94	98.9	4.9	.51	2.3	.09	.73	.52	31
1	46	12.03	12.02	33.281	25.250	272.1	.136	5.31	86.9	9.1	.83	7.7	.09	.32	.25	46
	50 ISL	11.64	11.64	33.356	25.381	259.8	.147	5.01	81.3							50
1	61	10.76	10.76	33.547	25.688	230.8	.174	4.25	67.8	16.1	1.29	15.4	.02	.07	.11	61
	75 ISL	10.50	10.49	33.662	25.824	218.1	.206	3.72	59.1							76
1	77	10.49	10.48	33.671	25.833	217.3	.209	3.68	58.4	20.4	1.51	18.6	.01	.04	.08	77
1	92	9.91	9.90	33.797	26.029	198.9	.240	3.14	49.2	25.7	1.76	22.4	.01	.02	.07	92
	100 ISL	9.66	9.65	33.835	26.101	192.2	.257	3.00	46.7							101
1	111	9.41	9.40	33.866	26.167	186.2	.278	2.90	45.0	29.6	1.89	24.4	.01	.02	.09	112
	125 ISL	9.28	9.27	33.890	26.206	182.7	.303	2.80	43.3							126
1	137	9.19	9.17	33.909	26.237	180.0	.326	2.74	42.3	31.8	1.99	25.5	.02	.01	.09	138
	150 ISL	8.92	8.91	33.952	26.313	173.0	.348	2.69	41.2							151
1	168	8.51	8.50	34.010	26.422	162.8	.379	2.63	40.0	36.6	2.08	27.5	.01	.00	.05	169
	200 ISL	8.03	8.01	34.036	26.515	154.4	.429	2.57	38.7							202
1	203	8.00	7.98	34.037	26.521	153.9	.434	2.57	38.6	41.2	2.17	28.8	.01	.00	.03	204
1	239	7.71	7.69	34.098	26.612	145.9	.487	1.87	27.9	49.9	2.45	31.5	.01	.01	.08	240
	250 ISL	7.68	7.66	34.108	26.624	144.9	.504	1.76	26.3							252
1	279	7.62	7.59	34.126	26.647	143.2	.546	1.59	23.7	53.2	2.55	32.5	.02			281
	300 ISL	7.50	7.47	34.139	26.675	140.8	.575	1.47	21.9							302
1	326	7.30	7.27	34.156	26.717	137.2	.611	1.31	19.4	58.0	2.69	33.6	.01			328
1	366	7.00	6.97	34.194	26.789	130.8	.665	.97	14.3	64.2	2.84	35.4	.03			368

RV NEW HORIZON

CRUISE SQ86

STATION G 4 HYDRO

LATITUDE		LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE	
35 34.7 N		121 16.1 W	17/03/86	0438 GMT	117 M	010	04 KT			1010.0 MB	12.0 C	11.4 C				
CST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHARO	PRESS
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
1	0	12.83	12.83	33.049	24.917	302.7	.000	6.08	101.0	5.5	.52	2.0	.09	.46	.33	0
1	10	12.82	12.82	33.051	24.919	302.7	.030	6.04	100.3	5.7	.53	2.3	.11	.71	.43	10
	20 ISL	12.59	12.59	33.124	25.021	293.3	.060	5.79	95.8							20
1	26	12.40	12.40	33.180	25.101	285.9	.077	5.61	92.4	8.4	.73	5.6	.21	.40	.33	26
	30 ISL	12.31	12.31	33.208	25.140	282.2	.089	5.52	90.8							30
1	36	12.11	12.11	33.256	25.216	275.2	.105	5.35	87.6	9.6	.85	7.3	.22	.33	.31	36
1	46	11.37	11.36	33.396	25.461	252.0	.131	4.82	77.8	13.4	1.08	11.3	.23	.20	.32	46
	50 ISL	11.13	11.13	33.440	25.538	244.7	.142	4.63	74.3							50
1	62	10.60	10.60	33.542	25.712	228.5	.169	4.22	67.0	17.5	1.35	15.8	.11	.11	.22	62
	75 ISL	10.09	10.08	33.665	25.896	211.2	.199	4.02	63.2							76
1	78	10.01	10.00	33.685	25.925	208.5	.204			22.8	1.60	19.8	.08	.06	.20	78
	100 ISL	10.00	9.99	33.690	25.931	208.4	.251	3.67	57.7							101
1	102	10.00	9.99	33.690	25.932	208.4	.256	3.64	57.1	23.1	1.61	20.1	.09	.06	.27	101

RV NEW HORIZON

CRUISE SQ86

STATION G 5 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
35 37.9 N	121 20.4 W	17/03/86	0645 GMT	132 M	270	02 KT				10.3 C	10.1 C					
CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHAO	PRESS
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
	0 ISL	12.72	12.72	32.754	24.709	325.9	.000	6.07	100.4							0
1	1	12.72	12.72	32.754	24.709	322.5	.003	6.07	100.4	9.0	.68	3.7	.17	.79	.46	1
	10 ISL	12.69	12.69	33.037	24.934	301.3	.031	6.00	99.3							10
1	11	12.69	12.68	33.054	24.948	300.0	.034	5.99	99.2	6.8	.59	3.3	.16	.88	.53	11
	20 ISL	12.66	12.66	33.060	24.958	299.3	.061	5.96	98.6							20
1	22	12.66	12.65	33.061	24.959	299.2	.067	5.95	98.5	6.8	.60	3.7	.16	.84	.47	22
	30 ISL	12.35	12.35	33.167	25.101	286.0	.091	5.60	92.2							30
1	32	12.27	12.27	33.193	25.136	282.7	.096	5.52	90.7	9.0	.77	6.2	.20	.39	.42	32
1	42	12.06	12.06	33.242	25.213	275.5	.124	5.38	88.0	9.9	.85	7.3	.22	.30	.35	42
	50 ISL	11.91	11.90	33.277	25.270	270.3	.146	5.26	85.8							50
1	54	11.81	11.80	33.301	25.308	266.8	.156	5.17	84.2	11.1	.93	8.8	.23	.24	.32	54
1	63	11.35	11.34	33.410	25.477	250.9	.179	4.74	76.5	13.7	1.11	12.0	.21	.19	.36	63
1	73	10.38	10.37	33.606	25.801	220.3	.203	3.97	62.8	18.3	1.44	17.9	.03	.05	.15	73
	75 ISL	10.24	10.23	33.637	25.848	215.8	.208	3.85	60.8							76
1	94	9.61	9.60	33.775	26.063	195.7	.246	3.32	51.7	26.1	1.75	22.3	.06	.04	.22	94
	100 ISL	9.43	9.42	33.807	26.118	190.6	.259	3.27	50.7							101
1	114	9.13	9.12	33.843	26.194	183.6	.285	3.15	48.5	28.3	1.85	24.7	.02	.04	.29	115

STATION G 5 CTD

RV NEW HORIZON

CRUISE SQ86

LATITUDE		LONGITUDE		DAY/MO/YR		START TIME		BOTTOM							
35 37.9 N		121 20.4 W		17/03/86		0703 GMT		132 M							
WIND		SPEED		WAVES		WEA		BAROMETER		DRY		WET		CLOUDS	
DEPTH		TEMP		POT TEMP		SALINITY		SIGMA		SVA		DYN HT		PRESS	
M		DEG C		DEG C				THETA						D.BAR	
0		12.705		12.705		33.034		24.928		301.6		0.000		0	
10		12.672		12.671		33.053		24.950		299.8		0.030		10	
20		12.622		12.619		33.058		24.964		298.8		0.060		20	
30		12.493		12.489		33.117		25.034		292.2		0.090		30	
40		12.104		12.099		33.223		25.191		277.6		0.118		40	
50		11.913		11.907		33.270		25.264		270.9		0.145		50	
75		9.992		9.983		33.676		25.921		208.8		0.205		76	
100		9.186		9.175		33.820		26.167		185.9		0.255		101	
106		9.127		9.116		33.854		26.203		182.6		0.266		107	

RV NEW HORIZON

CRUISE SQ86

STATION G 6 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
35 38.4 N	121 30.6 W	17/03/86	0857 GMT	625 M	320	20 KT				1013.7 MB	12.5 C	11.4 C				
CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHAO	PRESS
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
	0 ISL	13.38	13.38	33.052	24.810	312.7	.000									0
1	2	13.38	13.38	33.052	24.810	313.0	.006									2
	10 ISL	13.39	13.39	33.046	24.803	313.9	.031									10
1	12	13.39	13.39	33.044	24.802	314.0	.037									12
	20 ISL	13.39	13.38	33.048	24.805	313.8	.063									20
1	28	13.38	13.38	33.053	24.810	313.6	.087									28
	30 ISL	13.19	13.19	33.096	24.881	306.9	.094									30
1	43	11.86	11.86	33.389	25.366	261.1	.130									43
	50 ISL	11.35	11.35	33.457	25.512	247.2	.149									50
1	64	10.68	10.67	33.529	25.688	230.8	.181									64
	75 ISL	10.37	10.36	33.627	25.820	218.5	.207									76
1	85	10.19	10.18	33.702	25.909	210.2	.227									85
	100 ISL	9.86	9.85	33.769	26.017	200.2	.259									101
1	104	9.77	9.76	33.783	26.043	197.9	.268									105
	125 ISL	9.44	9.42	33.843	26.145	188.6	.308									126
1	130	9.34	9.33	33.857	26.171	186.1	.317									131
	150 ISL	8.75	8.73	33.918	26.314	172.9	.353									151
1	156	8.56	8.54	33.937	26.357	168.8	.363									157
	200 ISL	7.90	7.88	34.035	26.534	152.6	.434									202
1	208	7.87	7.85	34.046	26.548	151.4	.446									209

RV NEW HORIZON

CRUISE SQ86

STATION G 7 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
35 46.4 N	121 29.9 W	17/03/86	1035 GMT	93 M	340	08 KT				1014.0 MB	12.1 C	10.0 C				
CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHAO	PRESS
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
	0 ISL	13.11	13.11	33.114	24.911	303.2	.000									0
1	2	13.11	13.11	33.114	24.911	303.3	.006									2
	10 ISL	13.11	13.11	33.110	24.908	303.8	.030									10
1	12	13.11	13.11	33.110	24.908	303.9	.036									12
	20 ISL	13.05	13.05	33.126	24.933	301.7	.061									20
1	21	13.04	13.04	33.130	24.938	301.3	.063									21
	30 ISL	12.85	12.85	33.195	25.025	293.2	.090									30
1	33	12.77	12.77	33.219	25.060	290.0	.099									33
	50 ISL	12.08	12.07	33.336	25.284	269.0	.147									50
1	54	11.92	11.91	33.360	25.333	264.5	.157									54
	75 ISL	11.30	11.29	33.468	25.532	246.0	.211									76
1	79	11.22	11.21	33.482	25.557	243.6	.220									79

RV NEW HORIZON

CRUISE SQ86

STATION G 8 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE	
35 50.8 N	121 30.8 W	17/03/86	1201 GMT	333 M	350	12 KT			1014.6 MB	12.2 C	11.2 C				
CAST DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
0 ISL	13.08	13.08	33.096	24.904	303.9	.000	6.24	104.2							0
1	13.08	13.08	33.096	24.904	303.9	.003	6.24	104.2	2.9	.39	.5	.04	1.71	.58	1
10 ISL	13.07	13.07	33.096	24.906	304.0	.030	6.25	104.4							10
1	13.07	13.07	33.096	24.906	304.0	.033	6.25	104.4	2.9	.39	.5	.04	1.74	.50	11
20 ISL	13.08	13.07	33.095	24.904	304.5	.061	6.24	104.2							20
1	13.08	13.07	33.095	24.904	304.6	.064	6.24	104.2	3.0	.39	.5	.04	1.46	.54	21
30 ISL	13.07	13.07	33.105	24.913	303.9	.091	6.15	102.7							30
1	13.07	13.07	33.107	24.914	303.8	.094	6.14	102.6	3.3	.42	.8	.06	1.46	.45	31
50 ISL	11.55	11.55	33.443	25.465	251.8	.147	4.73	76.7							50
1	11.48	11.47	33.459	25.491	249.3	.149	4.67	75.6	12.4	1.09	12.0	.08	.27	.34	51
66	10.77	10.76	33.586	25.718	228.0	.185	4.05	64.6	16.8	1.35	16.6	.04	.08	.19	66
75 ISL	10.40	10.39	33.641	25.824	218.1	.205	3.78	59.9							76
1	10.38	10.37	33.644	25.830	217.5	.207	3.77	59.6	19.0	1.51	18.7	.03	.05	.18	76
92	9.94	9.93	33.704	25.953	206.2	.240	3.54	55.5	21.5	1.64	20.7	.01	.02	.15	92
100 ISL	9.67	9.66	33.737	26.023	199.6	.258	3.46	53.9							101
1	9.49	9.48	33.762	26.073	195.0	.270	3.40	52.8	24.5	1.75	22.6	.01	.02	.12	107
125 ISL	9.32	9.30	33.828	26.152	187.8	.306	3.14	48.6							126
1	9.31	9.30	33.835	26.158	187.3	.310	3.11	48.1	27.6	1.85	24.1	.03	.01	.12	128
150 ISL	9.24	9.23	33.869	26.197	184.1	.352	2.98	46.0							151
1	9.23	9.21	33.874	26.203	183.5	.360	2.96	45.7	29.0	1.93	24.9	.03	.01	.13	155
1	9.00	8.98	33.936	26.288	175.8	.397	2.72	41.8	32.1	2.02	26.1	.04	.01	.12	176
200 ISL	8.93	8.91	33.955	26.315	173.8	.441	2.67	40.9							202
1	8.90	8.88	33.957	26.321	173.4	.461	2.64	40.5	33.2	2.06	26.6	.03			213
1	8.57	8.55	34.000	26.406	165.8	.514	2.60	39.6	35.5	2.13	27.7	.02			244
250 ISL	8.47	8.45	34.012	26.431	163.5	.526	2.55	38.7							252
1	7.93	7.91	34.075	26.562	151.5	.578	2.14	32.1	43.9	2.34	30.5	.01			285

RV NEW HORIZON

CRUISE SQ86

STATION G 9 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE	
35 54.6 N	121 33.6 W	17/03/86	1402 GMT	417 M	320	22 KT	310 10 08	1	1015.4 MB	12.2 C	11.3 C		2/8	SC	
CAST DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
	0 ISL	12.86	12.86	32.898	24.793	317.4	.000								0
1	2	12.86	12.86	32.898	24.793	314.6	.006								2
	10 ISL	13.05	13.05	33.074	24.892	305.3	.031								10
1	12	13.07	13.07	33.104	24.911	303.6	.037								12
	20 ISL	13.01	13.01	33.132	24.945	300.5	.061								20
1	28	12.95	12.94	33.167	24.985	296.9	.085								28
	30 ISL	12.87	12.86	33.184	25.013	294.3	.091								30
1	43	12.24	12.23	33.305	25.229	274.1	.128								43
	50 ISL	11.81	11.81	33.377	25.365	261.3	.147								50
1	64	10.96	10.95	33.524	25.636	235.8	.181								64
	75 ISL	10.22	10.21	33.663	25.873	213.5	.206								76
1	85	9.71	9.70	33.766	26.038	197.9	.226								85
	100 ISL	9.48	9.47	33.840	26.135	189.0	.256								101
1	104	9.47	9.46	33.850	26.145	188.1	.264								105
	125 ISL	9.29	9.28	33.884	26.200	183.3	.302								126
1	130	9.24	9.22	33.890	26.214	182.0	.312								131
	150 ISL	8.86	8.85	33.952	26.322	172.1	.347								151
1	156	8.74	8.72	33.972	26.357	168.9	.357								157
	200 ISL	8.17	8.15	34.048	26.504	155.6	.429								202
1	209	8.10	8.08	34.052	26.518	154.3	.442								210

RV NEW HORIZON

CRUISE SQ86

STATION G 10 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
35 58.8 N	121 37.1 W	17/03/86	1531 GMT	463 M	310	25 KT	300 12 08	1	1016.5 MB	13.3 C	11.9 C		1/8	ST		
CAST	DEPTH	TEMP	POT	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
	0 ISL	12.84	12.84	32.927	24.819	314.5	.000	6.13	101.8							0
1	2	12.84	12.84	32.927	24.819	312.1	.006	6.13	101.8	6.3	.56	2.2	.12	.35	.26	2
	10 ISL	12.97	12.97	33.084	24.916	303.1	.031	6.09	101.5							10
1	11	12.97	12.97	33.099	24.927	302.1	.034	6.08	101.3	4.4	.47	1.3	.11	.48	.25	11
	20 ISL	12.79	12.79	33.151	25.003	295.0	.061	5.95	98.7							20
	30 ISL	12.59	12.58	33.232	25.106	285.4	.090	5.67	93.8							30
1	33	12.53	12.52	33.260	25.139	282.4	.098	5.57	92.1	6.6	.65	4.6	.15	.44	.37	33
1	48	11.63	11.62	33.415	25.429	255.1	.138	4.82	78.2	10.7	1.00	10.4	.10	.28	.27	48
	50 ISL	11.42	11.42	33.445	25.490	249.4	.144	4.68	75.6							50
1	58	10.73	10.72	33.551	25.697	229.8	.162	4.18	66.6	16.0	1.34	15.8	.04	.08	.18	58
	74	9.94	9.93	33.729	25.971	204.0	.197	3.43	53.8	23.0	1.66	20.8	.02	.02	.11	74
	75 ISL	9.91	9.90	33.737	25.983	202.9	.199	3.40	53.2							76
1	89	9.70	9.69	33.783	26.054	196.5	.226	3.21	50.1	25.7	1.76	22.2	.03	.02	.11	89
	100 ISL	9.58	9.56	33.813	26.098	192.5	.249	3.10	48.2							101
1	104	9.53	9.52	33.825	26.115	190.9	.257	3.06	47.6	27.7	1.81	23.2	.03	.02	.09	105
	125 ISL	9.15	9.14	33.913	26.245	179.0	.295	2.78	42.8							126
1	129	9.08	9.07	33.930	26.270	176.7	.303	2.72	41.9	31.9	1.97	25.6	.02	.01	.06	130
1	150	9.01	8.99	33.956	26.302	174.0	.339	2.60	40.0	33.0	2.04	26.2	.02	.00	.06	151
1	181	8.53	8.51	34.013	26.422	163.1	.391	2.47	37.6	37.9	2.13	27.9	.02	.00	.06	182
	200 ISL	8.29	8.27	34.032	26.474	158.5	.422	2.40	36.4							202
1	212	8.17	8.15	34.042	26.500	156.1	.440	2.35	35.5	41.3	2.22	29.0	.01	.00	.05	213
1	248	7.86	7.83	34.082	26.578	149.3	.497	2.03	30.4	46.3	2.37	30.5	.00			250
	250 ISL	7.85	7.82	34.083	26.580	149.1	.499	2.02	30.3							252
	300 ISL	7.60	7.57	34.121	26.647	143.5	.572	1.67	24.8							302
1	305	7.58	7.55	34.125	26.653	143.0	.579	1.63	24.3	51.9	2.53	32.3	.00			307
1	363	7.17	7.14	34.186	26.759	133.7	.659	1.06	15.6	61.2	2.78	34.7	.01			365
	400 ISL	6.90	6.86	34.206	26.813	129.0	.708	.85	12.5							403
1	425	6.72	6.68	34.211	26.841	126.5	.741	.78	11.4	69.5	2.94	36.3	.02			428

RV NEW HORIZON

CRUISE SQ86

STATION G 11 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
36 03.1 N	121 40.5 W	17/03/86	1730 GMT	545 M	300	26 KT	310 10 07	1	1017.0 MB	13.3 C	12.0 C		1/8	ST		
CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
	0 ISL	12.94	12.94	33.087	24.924	302.0	.000									0
1	1	12.94	12.94	33.087	24.924	302.1	.003									1
	10 ISL	12.92	12.92	33.085	24.926	302.1	.030									10
1	11	12.92	12.92	33.085	24.926	302.1	.033									11
	20 ISL	12.80	12.80	33.163	25.009	294.4	.060									20
1	26	12.66	12.65	33.229	25.089	287.0	.077									26
	30 ISL	12.49	12.48	33.266	25.152	281.1	.089									30
1	41	11.97	11.96	33.362	25.325	264.9	.118									41
	50 ISL	11.56	11.55	33.437	25.460	252.3	.142									50
1	61	11.08	11.07	33.518	25.609	238.3	.168									61
	75 ISL	10.43	10.42	33.616	25.800	220.3	.201									75
1	82	10.16	10.15	33.661	25.881	212.8	.215									82
1	100	9.69	9.68	33.792	26.063	195.9	.254									101
1	125	9.25	9.23	33.880	26.204	182.9	.301									126
	150 ISL	8.80	8.78	33.948	26.328	171.5	.345									151
1	151	8.78	8.76	33.950	26.333	171.0	.347									152
	200 ISL	8.15	8.13	34.041	26.502	155.7	.427									202
1	206	8.09	8.07	34.048	26.516	154.5	.436									207

RV NEW HORIZON

CRUISE SQ86

STATION G 12 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
35 54.9 N	121 44.1 W	17/03/86	1925 GMT	944 M	310	27 KT	310 12 07	1	1017.0 MB	12.9 C	11.3 C		1/8	CU		
CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
	0 ISL	12.94	12.94	33.171	24.988	296.0	.000									0
1	2	12.94	12.94	33.171	24.988	296.0	.006									2
	10 ISL	12.93	12.93	33.169	24.990	296.0	.030									10
1	12	12.92	12.92	33.169	24.990	296.0	.035									12
	20 ISL	12.93	12.93	33.171	24.991	296.2	.059									20
1	28	12.94	12.94	33.173	24.991	296.4	.083									28
	30 ISL	12.78	12.77	33.204	25.047	291.1	.089									30
1	43	11.67	11.66	33.428	25.431	254.8	.124									43
	50 ISL	11.34	11.33	33.506	25.552	243.5	.142									50
1	64	10.91	10.90	33.602	25.705	229.2	.174									64
	75 ISL	10.47	10.46	33.657	25.825	218.0	.199									76
1	85	10.13	10.12	33.699	25.917	209.4	.220									85
	100 ISL	9.71	9.70	33.793	26.061	196.0	.251									101
1	104	9.61	9.60	33.819	26.097	192.7	.260									105
	125 ISL	9.29	9.27	33.893	26.208	182.6	.298									126
1	130	9.23	9.21	33.906	26.228	180.7	.308									131
	150 ISL	9.05	9.04	33.964	26.302	174.1	.343									151
1	156	9.00	8.98	33.980	26.322	172.2	.353									157
	200 ISL	8.38	8.36	34.051	26.474	158.4	.426									202
1	208	8.24	8.22	34.057	26.501	156.1	.438									209

RV NEW HORIZON

CRUISE SQ86

STATION G 13 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
35 50.8 N	121 41.4 W	17/03/86	2103 GMT	795 M	310	28 KT	310 12 08	1	1017.1 MB	13.9 C	11.9 C		2/8	CU		
CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
	0 ISL	12.96	12.96	33.180	24.991	295.6	.000	6.03	100.5							0
1	1	12.96	12.96	33.180	24.991	295.7	.003	6.03	100.5	4.5	.48	1.9	.12	.88	.46	1
	10 ISL	12.97	12.97	33.178	24.988	296.2	.030	6.00	100.1							10
1	11	12.98	12.97	33.178	24.987	296.2	.032	6.00	100.1	4.5	.48	2.0	.12	.84	.50	11
	20 ISL	12.94	12.94	33.187	25.001	295.2	.059	5.96	99.4							20
1	21	12.94	12.94	33.188	25.003	295.1	.062	5.96	99.3	4.8	.51	2.3	.12	.85	.44	21
	30 ISL	11.94	11.93	33.422	25.376	259.7	.087	4.88	79.8							30
1	31	11.84	11.83	33.445	25.413	256.2	.089	4.78	77.9	11.6	1.02	10.5	.14	.29	.35	31
1	40	11.56	11.56	33.488	25.498	248.4	.112	4.56	73.9	13.4	1.13	12.4	.09	.22	.34	40
	50 ISL	11.31	11.30	33.539	25.584	240.5	.137	4.31	69.6							50
1	55	11.14	11.14	33.565	25.634	235.8	.148	4.18	67.2	16.3	1.30	15.0	.04	.11	.28	55
1	65	10.49	10.49	33.632	25.801	220.1	.171	3.80	60.3	19.5	1.51	18.3	.03	.05	.18	65
1	75	10.31	10.30	33.676	25.867	214.0	.192	3.61	57.0	21.2	1.57	19.6	.04	.04	.27	75
	90	9.50	9.49	33.762	26.070	194.9	.223	3.37	52.3	25.4	1.76	22.6	.02	.02	.19	90
	100 ISL	9.41	9.39	33.838	26.145	188.0	.243	3.10	48.1							101
1	108	9.33	9.31	33.871	26.184	184.4	.258	2.90	44.9	29.4	1.93	24.8	.02	.01	.12	109
	125 ISL	9.12	9.11	33.929	26.263	177.3	.288	2.74	42.2							126
1	128	9.08	9.07	33.937	26.275	176.2	.294	2.72	41.9	32.4	2.02	26.2	.01	.01	.11	129
	150 ISL	8.95	8.93	33.969	26.322	172.1	.332	2.56	39.3							151
1	153	8.93	8.91	33.972	26.327	171.7	.337	2.54	39.0	34.3	2.09	26.9	.02	.01	.10	154
1	183	8.64	8.62	34.007	26.400	165.3	.388	2.45	37.4	36.8	2.14	27.9	.00			184
	200 ISL	8.38	8.36	34.051	26.476	158.3	.415	2.27	34.4							202
1	212	8.20	8.18	34.082	26.526	153.7	.434	2.12	32.0	42.4	2.34	29.8	.00			213
1	246	8.00	7.98	34.128	26.593	147.9	.486	1.74	26.2	47.2	2.47	31.3	.02			248
	250 ISL	7.97	7.95	34.131	26.599	147.4	.491	1.71	25.8							252
1	297	7.53	7.50	34.149	26.678	140.5	.559	1.42	21.1	52.9	2.61	33.2	.01			299
	300 ISL	7.50	7.47	34.150	26.684	139.9	.563	1.40	20.8							302
1	352	6.90	6.86	34.172	26.786	130.8	.633	1.04	15.3	62.7	2.83	35.7	.00			354
	400 ISL	6.54	6.50	34.201	26.857	124.5	.695	.78	11.4							403
1	438	6.32	6.29	34.223	26.902	120.5	.741	.63	9.1	73.8	3.01	38.2	.01			441
	500 ISL	6.00	5.96	34.250	26.965	115.1	.814	.46	6.7							504
1	526	5.88	5.83	34.259	26.989	113.1	.844	.42	6.0	82.3	3.13	39.7	.01			530
	600 ISL	5.46	5.41	34.276	27.054	107.5	.926	.36	5.1							605
1	616	5.36	5.31	34.278	27.067	106.3	.943	.35	5.0	92.7	3.22	41.2	.00			621

RV NEW HORIZON

CRUISE SQ86

STATION G 14 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
35 46.4 N	121 37.6 W	17/03/86	2327 GMT													
CST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
M		DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
1	0	13.12	13.12	33.168	24.952	299.4	.000							.78	.43	0
1	10	13.11	13.11	33.167	24.952	299.6	.030							.77	.43	10
	20 ISL	13.10	13.10	33.168	24.955	299.6	.060									20
1	25	13.09	13.09	33.168	24.957	299.6	.075							.76	.45	25
	30 ISL	12.68	12.68	33.243	25.096	286.4	.090									30
1	41	11.67	11.67	33.433	25.435	254.4	.119							.27	.27	41
	50 ISL	11.17	11.16	33.514	25.590	239.9	.141									50
1	61	10.77	10.76	33.571	25.705	229.1	.167							.08	.18	61
	75 ISL	10.43	10.42	33.635	25.816	218.9	.199									76
1	82	10.30	10.29	33.663	25.860	214.8	.213							.05	.15	82
	100 ISL	9.78	9.77	33.784	26.041	197.9	.251									101
1	102	9.72	9.70	33.800	26.065	195.7	.256							.01	.11	103
	125 ISL	9.31	9.29	33.896	26.207	182.6	.298									126
1	128	9.26	9.24	33.906	26.223	181.2	.304							.00	.10	129
	150 ISL	8.92	8.91	33.962	26.320	172.3	.343									151
1	155	8.85	8.84	33.972	26.339	170.6	.351							.00	.19	156
	200 ISL	8.38	8.36	34.043	26.469	159.0	.425									202
1	205	8.34	8.32	34.047	26.478	158.2	.433							.00	.07	206

RV NEW HORIZON

CRUISE SQ86

STATION G 15 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
35 42.0 N	121 33.8 W	18/03/86	0107 GMT		120	27 KT	320 12 09	1	1016.1 MB	10.3 C	10.2 C		1/8	ST		
CST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
	0 ISL	13.16	13.16	33.140	24.922	302.2	.000									0
1	2	13.16	13.16	33.140	24.922	302.3	.006							1.11	.50	2
	10 ISL	13.17	13.17	33.141	24.920	302.6	.030									10
1	12	13.17	13.17	33.141	24.921	302.7	.036							1.11	.51	12
	20 ISL	13.13	13.13	33.144	24.930	302.0	.060									20
1	27	13.10	13.10	33.146	24.938	301.4	.081							.96	.49	27
	30 ISL	12.86	12.86	33.180	25.011	294.5	.091									30
1	43	11.70	11.70	33.353	25.367	260.9	.126							.33	.29	43
	50 ISL	11.24	11.23	33.423	25.507	247.7	.144									50
1	63	10.60	10.60	33.535	25.707	229.0	.175							.05	.11	63
	75 ISL	10.17	10.16	33.663	25.882	212.6	.202									76
1	83	9.98	9.97	33.730	25.965	204.8	.218							.02	.08	83
	100 ISL	9.78	9.76	33.783	26.042	197.9	.253									101
1	103	9.75	9.74	33.787	26.049	197.3	.260							.01	.07	104
	125 ISL	9.55	9.53	33.835	26.120	190.9	.301									126
1	129	9.51	9.49	33.843	26.133	189.7	.310							.00	.07	130
	150 ISL	9.32	9.30	33.889	26.199	183.9	.348									151
1	155	9.27	9.26	33.899	26.216	182.4	.358							.01	.09	156
	200 ISL	8.71	8.69	33.989	26.375	167.9	.436									202
1	208	8.59	8.57	34.004	26.406	165.2	.449							.00	.07	209

STATION G 16 CTD

RV NEW HORIZON

CRUISE SQ86

LATITUDE	LONGITUDE	DAY/MO/YR	START TIME	BOTTOM			
35 32.5 N	121 25.7 W	18/03/86	0234 GMT	622 M			
WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	PRESS
M	DEG C	DEG C		THETA			D.BAR
0	13.334	13.334	33.080	24.840	310.0	0.000	0
10	13.339	13.338	33.077	24.837	310.6	0.031	10
20	13.342	13.339	33.079	24.838	310.7	0.062	20
30	13.346	13.342	33.081	24.839	310.9	0.093	30
40	13.327	13.321	33.081	24.843	310.8	0.124	40
50	12.402	12.395	33.261	25.164	280.4	0.154	50
75	10.902	10.893	33.506	25.632	236.4	0.218	76
100	10.186	10.174	33.685	25.896	211.8	0.274	101
125	9.109	9.095	33.746	26.121	190.7	0.325	126
150	9.175	9.159	33.942	26.265	177.6	0.371	151
175	8.878	8.859	34.016	26.370	168.0	0.414	176
200	8.672	8.651	34.051	26.430	162.8	0.455	202
225	8.273	8.250	34.061	26.499	156.5	0.495	227
250	8.004	7.979	34.085	26.559	151.2	0.534	252
275	7.841	7.814	34.102	26.596	148.0	0.571	277
300	7.551	7.522	34.096	26.634	144.7	0.608	302
350	7.294	7.260	34.178	26.735	135.8	0.678	353
400	6.931	6.893	34.226	26.824	127.9	0.744	403
450	6.486	6.445	34.244	26.898	121.3	0.806	454
500	6.000	5.956	34.261	26.974	114.3	0.865	504
504	5.988	5.944	34.260	26.975	114.2	0.870	508

RV NEW HORIZON

CRUISE S086

STATION G 17 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
35 28.5 N	121 21.4 W	18/03/86	0450 GMT	592 M	320	22 KT	330 10 06	1	1018.1 MB	12.0 C	11.4 C		2/8	CI		
CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHAE0	PRESS
	M	DEG C	DEG C	ML/TH	THETA			UG/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
1	0	13.26	13.26	33.089	24.861	308.0	.000	6.21	104.1	3.5	.41	.5	.03	1.16	.41	0
1	10	13.28	13.28	33.087	24.856	308.8	.031	6.11	102.5	3.5	.41	.5	.03	1.12	.49	10
1	20 ISL	13.20	13.20	33.100	24.883	306.5	.062	6.06	101.5							20
1	30	13.11	13.11	33.112	24.909	304.2	.092	6.01	100.5	4.2	.46	1.4	.04	.87	.41	30
1	46	11.81	11.81	33.363	25.355	262.1	.137	5.00	81.4	9.5	.93	9.2	.04	.26	.29	46
1	50 ISL	11.61	11.60	33.407	25.427	255.4	.148	4.82	78.2							50
1	56	11.39	11.38	33.453	25.503	248.2	.162	4.62	74.6	11.8	1.09	12.1	.03	.18	.19	56
1	71	10.89	10.88	33.534	25.655	234.1	.198	4.28	68.4	15.4	1.29	15.2	.02	.08	.15	71
1	75 ISL	10.57	10.56	33.537	25.715	229.0	.208	4.27	67.8							76
1	87	9.81	9.80	33.545	25.850	215.8	.234	4.25	66.4	17.8	1.42	18.1	.01	.04	.11	87
1	100	9.83	9.82	33.720	25.983	203.4	.263	3.54	55.4	22.9	1.63	21.1	.01	.03	.10	101
1	125 ISL	9.53	9.52	33.897	26.171	186.1	.311	2.78	43.3							126
1	126	9.51	9.50	33.902	26.178	185.4	.313	2.76	42.9	29.4	1.92	24.8	.01	.04	.09	127
1	146	9.18	9.16	33.952	26.272	176.9	.349	2.64	40.7	32.2	2.03	26.0	.01	.02	.08	147
1	150 ISL	9.15	9.14	33.957	26.280	176.2	.356	2.62	40.5							151
1	177	9.04	9.02	33.984	26.321	172.8	.403	2.51	38.6	33.5	2.08	26.6	.01	.03	.08	178
1	200 ISL	8.80	8.78	34.031	26.394	166.3	.442	2.35	35.9							202
1	207	8.72	8.70	34.044	26.418	164.1	.453	2.30	35.1	37.6	2.21	28.1	.01	.04	.08	208
1	238	8.28	8.26	34.067	26.503	156.4	.503	2.23	33.7	41.4	2.26	29.4	.01			239
1	250 ISL	8.14	8.12	34.074	26.529	154.1	.522	2.18	33.0							252
1	278	7.86	7.83	34.090	26.584	149.3	.565	2.02	30.3	46.4	2.38	30.9	.01			280
1	300 ISL	7.62	7.59	34.113	26.638	144.3	.597	1.77	26.3							302
1	341	7.21	7.18	34.164	26.736	135.5	.654	1.26	18.6	58.3	2.72	34.4	.01			343
1	396	6.93	6.89	34.216	26.816	128.6	.727	.89	13.1	64.3	2.88	36.0	.01			399
1	400 ISL	6.92	6.88	34.217	26.819	128.3	.732	.88	12.8							403
1	459	6.57	6.53	34.235</												

STATION G 18 CTD

RV NEW HORIZON

CRUISE SQ86

STATION G 19 CTD

LATITUDE	LONGITUDE	DAY/MO/YR	START TIME	BOTTOM	LATITUDE	LONGITUDE	DAY/MO/YR	START TIME	BOTTOM						
35 26.0 N	121 16.4 W	18/03/86	0640 GMT	444 M	35 19.4 N	121 7.3 W	18/03/86	0853 GMT	347 M						
WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
								320	10 KT			1020.0 MB	13.0 C	11.9 C	
DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	12.770	12.770	33.111	24.975	297.1	0.000	0	0	12.843	12.843	33.103	24.955	299.0	0.000	0
10	12.779	12.778	33.110	24.973	297.6	0.030	10	10	12.848	12.847	33.109	24.959	299.0	0.030	10
20	12.795	12.792	33.114	24.973	297.8	0.060	20	20	12.853	12.850	33.110	24.959	299.2	0.060	20
30	12.791	12.787	33.113	24.974	298.0	0.089	30	30	12.464	12.460	33.199	25.104	285.7	0.089	30
40	12.233	12.228	33.258	25.194	277.3	0.118	40	40	11.814	11.809	33.354	25.347	262.7	0.116	40
50	11.524	11.518	33.399	25.436	254.5	0.145	50	50	10.702	10.696	33.572	25.718	227.7	0.141	50
75	10.809	10.800	33.525	25.663	233.4	0.206	76	75	9.984	9.975	33.756	25.985	202.7	0.195	76
100	9.819	9.808	33.749	26.008	201.1	0.260	101	100	9.537	9.526	33.859	26.140	188.5	0.244	101
125	9.495	9.481	33.891	26.173	185.9	0.308	126	125	9.181	9.167	33.926	26.251	178.4	0.290	126
150	9.198	9.182	33.949	26.266	177.5	0.354	151	150	8.653	8.637	34.007	26.397	164.9	0.332	151
175	8.967	8.948	34.005	26.347	170.2	0.397	176	175	8.615	8.597	34.013	26.408	164.3	0.374	176
200	8.635	8.614	34.047	26.433	162.5	0.439	202	200	8.532	8.511	34.022	26.429	162.8	0.414	202
225	8.213	8.190	34.047	26.497	156.6	0.479	227	225	7.961	7.938	34.089	26.568	149.9	0.454	227
250	7.911	7.886	34.082	26.570	150.1	0.517	252	250	7.756	7.731	34.102	26.608	146.4	0.491	252
275	7.628	7.601	34.108	26.632	144.5	0.554	277	275	7.455	7.428	34.130	26.674	140.4	0.526	277
300	7.522	7.493	34.122	26.658	142.4	0.590	302	300	7.205	7.176	34.155	26.729	135.5	0.561	302
350	7.299	7.265	34.152	26.714	137.8	0.660	353	349	6.898	6.865	34.189	26.798	129.5	0.626	352
400	6.940	6.902	34.204	26.805	129.7	0.727	403								
410	6.885	6.847	34.211	26.818	128.6	0.740	413								

STATION G 20 CTD

RV NEW HORIZON

CRUISE SQ86

LATITUDE		LONGITUDE		DAY/MO/YR		START TIME		BOTTOM							
35 15.4 N		121 19.6 W		18/03/86		1058 GMT		671 M							
WIND		SPEED		WAVES		WEA		BAROMETER		DRY		WET		CLOUDS	
320		17 KT						1019.9 MB		12.9 C		12.0 C			
DEPTH		TEMP		POT TEMP		SALINITY		SIGMA		SVA		DYN HT		PRESS	
M		DEG C		DEG C				THETA						D.BAR	
0		13.136		13.136		33.104		24.898		304.5		0.000		0	
10		13.141		13.140		33.108		24.900		304.5		0.030		10	
20		13.139		13.136		33.107		24.900		304.8		0.061		20	
30		13.143		13.139		33.105		24.898		305.3		0.091		30	
40		13.064		13.059		33.130		24.933		302.2		0.122		40	
50		11.627		11.621		33.374		25.397		258.2		0.150		50	
75		10.619		10.610		33.619		25.769		223.3		0.210		76	
100		10.141		10.129		33.760		25.962		205.5		0.264		101	
125		9.174		9.160		33.873		26.210		182.2		0.312		126	
150		8.859		8.843		33.926		26.302		174.0		0.357		151	
175		8.455		8.437		34.004		26.426		162.6		0.399		176	
200		8.301		8.280		34.022		26.464		159.4		0.439		202	
225		8.003		7.980		34.033		26.517		154.6		0.478		227	
250		7.652		7.627		34.066		26.595		147.6		0.516		252	
275		7.570		7.543		34.104		26.637		144.0		0.552		277	
300		7.411		7.382		34.119		26.672		141.0		0.588		302	
350		6.961		6.928		34.203		26.801		129.3		0.656		353	
400		6.718		6.681		34.224		26.851		125.2		0.719		403	
450		6.321		6.281		34.252		26.926		118.5		0.780		454	
500		5.981		5.937		34.263		26.978		113.9		0.838		504	
514		5.852		5.807		34.284		27.011		110.8		0.854		514	

RV NEW HORIZON

CRUISE SQ86

STATION G 21 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
35 19.2 N	121 23.5 W	18/03/86	1252 GMT	740 M	330	15 KT			1020.0 MB	12.7 C	11.9 C					
CST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHAE0	PRESS
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
	0 ISL	13.24	13.24	33.079	24.857	308.3	.000	6.09	102.1							0
1	1	13.24	13.24	33.079	24.857	308.4	.003	6.09	102.1	2.9	.40	.5	.02	1.07	.38	1
	10 ISL	13.27	13.26	33.078	24.852	309.1	.031	6.10	102.3							10
1	11	13.27	13.27	33.078	24.852	309.2	.034	6.10	102.3	2.9	.41	.5	.02	1.13	.40	11
	20 ISL	13.25	13.24	33.078	24.856	309.0	.062	6.09	102.1							20
1	27	13.23	13.23	33.079	24.860	308.8	.083	6.09	102.0	3.2	.41	.5	.02	1.09	.39	27
	30 ISL	12.94	12.93	33.149	24.973	298.1	.092	5.82	96.9							30
1	42	11.58	11.58	33.429	25.448	253.2	.125	4.75	77.0	10.7	1.05	11.2	.04	.10	.19	42
	50 ISL	10.78	10.78	33.455	25.612	237.7	.145	4.59	73.2							50
1	58	10.26	10.26	33.469	25.714	228.2	.163	4.48	70.6	14.6	1.30	15.6	.02	.04	.09	58
1	68	10.19	10.19	33.625	25.847	215.7	.185	3.88	61.1	18.6	1.51	18.6	.02	.03	.08	68
	75 ISL	10.13	10.12	33.710	25.925	208.5	.201	3.52	55.5							76
1	79	10.09	10.08	33.743	25.958	205.4	.208	3.38	53.2	22.5	1.68	20.9	.02	.02	.09	79
1	94	9.83	9.82	33.823	26.063	195.7	.238	3.03	47.4	25.8	1.80	22.9	.02	.02	.08	94
	100 ISL	9.75	9.74	33.846	26.095	192.8	.251	2.94	46.0							101
1	108	9.67	9.65	33.869	26.127	190.0	.267	2.86	44.6	27.4	1.89	23.8	.02	.02	.08	109
1	124	9.55	9.53	33.895	26.167	186.4	.297	2.74	42.6	29.1	1.95	24.6	.02	.01	.06	125
	125 ISL	9.54	9.52	33.897	26.170	186.2	.298	2.74	42.5							126
1	150	9.14	9.13	33.954	26.279	176.2	.344	2.58	39.8	32.3	2.05	26.2	.02	.02	.06	151
1	170	8.76	8.74	33.990	26.368	168.1	.378	2.51	38.4	35.1	2.13	27.2	.05	.01	.06	171
1	191	8.36	8.34	34.015	26.449	160.6	.412	2.65	40.2	36.9	2.13	27.6	.02			192
	200 ISL	8.30	8.28	34.027	26.468	159.0	.427	2.62	39.7							202
1	212	8.22	8.20	34.037	26.488	157.3	.445	2.58	39.0	38.4	2.19	28.1	.02			213
1	243	7.62	7.60	34.023	26.566	150.2	.493	2.74	40.8	42.4	2.21	29.1	.02			244
	250 ISL	7.54	7.51	34.033	26.585	148.4	.504	2.60	38.7							252
1	283	7.31	7.28	34.094	26.666	141.2	.552	1.79	26.5	51.4	2.54	32.8	.01			285
	300 ISL	7.23	7.21	34.117	26.695	138.7	.575	1.54	22.7							302
1	345	7.07	7.04	34.169	26.759	133.3	.636	1.08	15.9	60.3	2.81	35.0	.01			347
	400 ISL	6.78	6.75	34.216	26.837	126.6	.708	.75	11.0							403
1	422	6.63	6.60	34.232	26.869	123.7	.736	.67	9.8	70.1	3.05	37.0	.01			425
1	498	5.88	5.83	34.282	27.007	111.1	.825	.37	5.3	85.0	3.22	39.0	.02			502
	500 ISL	5.86	5.82	34.283	27.009	110.9	.827	.37	5.3							504
1	577	5.42	5.38	34.318	27.091	103.6	.909	.32	4.5	92.1	3.26	40.8	.01			581

STATION G 22 CTD

RV NEW HORIZON

CRUISE SQ86

STATION G 23 CTD

LATITUDE		LONGITUDE		DAY/MO/YR		START TIME		BOTTOM		LATITUDE		LONGITUDE		DAY/MO/YR		START TIME		BOTTOM	
35 23.3 N		121 27.2 W		18/03/86		1522 GMT		887 M		35 27.1 N		121 30.9 W		18/03/86		1643 GMT		912 M	
WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS	WIND	SPEED	WAVES	WEA
320	16 KT		0	1020.3 MB	15.1 C	13.1 C	0/8	330	12 KT		0	1022.1 MB	15.4 C	13.0 C	0/8	330	12 KT		0
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SWA	DYN HT	PRESS	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SWA	DYN HT	PRESS	DEPTH	TEMP	POT TEMP	SALINITY
M	DEG C	DEG C		THETA			D.BAR	M	DEG C	DEG C		THETA			D.BAR	M	DEG C	DEG C	
0	13.338	13.338	33.074	24.834	310.5	0.000	0	0	13.384	13.384	33.082	24.831	310.8	0.000	0	0	13.384	13.384	33.082
10	13.351	13.350	33.077	24.834	310.8	0.031	10	10	13.365	13.364	33.087	24.839	310.3	0.031	10	10	13.365	13.364	33.087
20	13.352	13.349	33.077	24.834	311.1	0.062	20	20	13.364	13.361	33.088	24.841	310.5	0.062	20	20	13.364	13.361	33.088
30	13.351	13.347	33.078	24.836	311.2	0.093	30	30	13.361	13.357	33.088	24.842	310.7	0.093	30	30	13.361	13.357	33.088
40	13.058	13.053	33.126	24.931	302.4	0.124	40	40	13.014	13.009	33.179	24.981	297.6	0.124	40	40	13.014	13.009	33.179
50	11.696	11.690	33.426	25.425	255.5	0.152	50	50	11.767	11.761	33.335	25.341	263.5	0.152	50	50	11.767	11.761	33.335
75	10.382	10.373	33.546	25.753	224.8	0.212	76	75	10.543	10.534	33.532	25.715	228.5	0.213	76	75	10.543	10.534	33.532
100	9.841	9.830	33.805	26.048	197.3	0.265	101	100	9.721	9.710	33.718	26.000	201.9	0.267	101	100	9.721	9.710	33.718
125	9.480	9.466	33.918	26.196	183.7	0.312	126	125	9.393	9.379	33.898	26.195	183.8	0.315	126	125	9.393	9.379	33.898
150	9.195	9.179	33.976	26.288	175.4	0.357	151	150	9.372	9.355	33.926	26.220	181.9	0.361	151	150	9.372	9.355	33.926
175	8.980	8.961	34.017	26.355	169.5	0.400	176	175	8.900	8.881	33.971	26.331	171.7	0.405	176	175	8.900	8.881	33.971
200	8.774	8.753	34.042	26.407	165.0	0.442	202	200	8.624	8.603	34.036	26.426	163.2	0.447	202	200	8.624	8.603	34.036
225	8.427	8.404	34.055	26.471	159.2	0.483	227	225	8.235	8.212	34.074	26.515	155.0	0.487	227	225	8.235	8.212	34.074
250	7.929	7.904	34.085	26.570	150.1	0.521	252	250	7.791	7.766	34.076	26.583	148.8	0.525	252	250	7.791	7.766	34.076
275	7.680	7.653	34.111	26.627	145.0	0.558	277	275	7.542	7.515	34.084	26.625	145.1	0.561	277	275	7.542	7.515	34.084
300	7.425	7.396	34.134	26.681	140.1	0.594	302	300	7.484	7.455	34.122	26.664	141.8	0.597	302	300	7.484	7.455	34.122
350	7.011	6.978	34.202	26.793	130.1	0.661	353	350	7.219	7.185	34.197	26.761	133.3	0.666	353	350	7.219	7.185	34.197
400	6.626	6.589	34.235	26.872	123.1	0.725	403	400	6.840	6.803	34.231	26.840	126.3	0.731	403	400	6.840	6.803	34.231
450	6.316	6.276	34.255	26.929	118.2	0.785	454	450	6.434	6.393	34.246	26.906	120.4	0.793	454	450	6.434	6.393	34.246
500	6.036	5.992	34.272	26.979	113.9	0.843	504	500	6.008	5.964	34.251	26.965	115.1	0.851	504	500	6.008	5.964	34.251
533	5.794	5.748	34.288	27.021	110.0	0.880	537	530	5.772	5.726	34.264	27.005	111.5	0.885	534	530	5.772	5.726	34.264

RV NEW HORIZON

CRUISE SQ86

STATION G 24 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
35 30.8 N	121 34.7 W	18/03/86	1833 GMT	883 M	340	10 KT	330 05 07	1	1022.7 MB	14.6 C	12.5 C	3/8		CS		
CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
1	0 ISL	13.46	13.46	33.087	24.821	312.1	.000	6.07	102.2							0
1	2	13.46	13.46	33.087	24.821	311.9	.006	6.07	102.2	3.5	.42	.5	.02	.58	.24	2
1	10 ISL	13.42	13.41	33.085	24.828	311.4	.031	6.09	102.4							10
1	12	13.41	13.41	33.085	24.829	311.4	.037	6.09	102.4	3.6	.42	.5	.02	.60	.25	12
1	20 ISL	13.40	13.40	33.083	24.830	311.5	.062	6.08	102.3							20
1	28	13.39	13.39	33.083	24.831	311.6	.087	6.08	102.2	3.6	.41	.5	.01	.61	.30	28
1	30 ISL	13.30	13.30	33.098	24.862	308.7	.093	6.03	101.1							30
1	43	12.53	12.53	33.228	25.113	285.1	.131	5.57	92.1	5.8	.68	4.8	.07	.47	.30	43
1	50 ISL	12.02	12.02	33.303	25.269	270.5	.151	5.28	86.3							50
1	59	11.46	11.45	33.390	25.441	254.3	.174	4.91	79.4	10.2	1.04	10.6	.04	.15	.19	59
1	69	11.09	11.08	33.474	25.574	241.8	.199	4.52	72.5	12.5	1.20	13.4	.03	.08	.12	69
1	75 ISL	10.93	10.93	33.495	25.618	237.8	.214	4.41	70.6							76
1	80	10.83	10.82	33.510	25.647	235.1	.225	4.34	69.3	14.3	1.29	14.9	.02	.06	.10	80
1	95	10.34	10.33	33.631	25.827	218.3	.259	3.81	60.2	18.5	1.51	18.4	.01	.03	.07	95
1	100 ISL	10.16	10.15	33.685	25.900	211.4	.271	3.58	56.4							101
1	110	9.85	9.84	33.776	26.024	199.8	.292	3.21	50.2	24.3	1.76	22.1	.01	.02	.07	111
1	125	9.58	9.57	33.831	26.112	191.7	.321	3.02	47.0	26.6	1.85	23.6	.01	.01	.06	126
1	150 ISL	9.01	8.99	33.898	26.257	178.3	.367	2.94	45.2							151
1	151	8.98	8.96	33.901	26.263	177.7	.369	2.94	45.2	29.9	1.95	25.4	.01	.01	.05	152
1	172	8.52	8.50	33.952	26.375	167.4	.405	2.94	44.7	32.7	2.00	26.5	.01	.01	.05	173
1	193	8.19	8.17	33.972	26.442	161.3	.439	3.13	47.2	34.3	1.97	26.4	.01			194
1	200 ISL	8.10	8.08	33.979	26.460	159.7	.451	3.10	46.8							202
1	213	7.99	7.97	33.993	26.489	157.2	.471	3.06	46.0	36.7	2.01	27.1	.01			214
1	245	7.83	7.81	34.048	26.554	151.4	.520	2.44	36.5	41.9	2.26	29.4	.01			246
1	250 ISL	7.81	7.78	34.058	26.566	150.4	.528	2.34	35.0							252
1	285	7.61	7.59	34.118	26.642	143.7	.580	1.74	25.9	48.9	2.48	31.9	.01			287
1	300 ISL	7.53	7.50	34.139	26.671	141.2	.601	1.55	23.0							302
1	347	7.23	7.20	34.191	26.754	133.9	.665	1.09	16.1	58.4	2.75	34.4	.01			349
1	400 ISL	6.80	6.76	34.219	26.836	126.7	.735	.78	11.5							403
1	423	6.60	6.56	34.226	26.869	123.8	.764	.70	10.2	68.9	2.95	37.2	.00			426
1	499	5.97	5.92	34.239	26.961	115.5	.855	.49	7.0	79.4	3.08	39.0	.00			503
1	500 ISL	5.96	5.92	34.239	26.962	115.4	.856	.49	7.0							504
1	575	5.58	5.53	34.281	27.043	108.3	.939	.36	5.1	88.0	3.17	40.3	.00			579

STATION G 25 CTD

RV NEW HORIZON

CRUISE SQ86

LATITUDE		LONGITUDE		DAY/MO/YR		START TIME		BOTTOM							
35 34.8 N		121 38.8 W		18/03/86		2035 GMT		M							
WIND		SPEED		WAVES		WEA		BAROMETER		DRY		WET		CLOUDS	
DEPTH		TEMP		POT TEMP		SALINITY		SIGMA		SWA		DYN HT		PRESS	
M		DEG C		DEG C				THETA						D.BAR	
0		13.324		13.324		33.172		24.913		303.0		0.000		0	
10		13.074		13.073		33.171		24.962		298.6		0.030		10	
20		13.028		13.025		33.172		24.972		297.9		0.060		20	
30		13.002		12.998		33.171		24.977		297.7		0.090		30	
40		12.419		12.414		33.274		25.171		279.5		0.119		40	
50		11.173		11.167		33.397		25.498		248.6		0.145		50	
75		10.512		10.503		33.584		25.761		224.1		0.204		76	
100		9.832		9.821		33.825		26.065		195.7		0.257		101	
125		9.300		9.286		33.899		26.210		182.3		0.304		126	
150		8.978		8.962		33.971		26.319		172.4		0.348		151	
175		8.568		8.550		34.032		26.431		162.2		0.390		176	
200		8.336		8.315		34.059		26.488		157.2		0.430		202	
225		8.068		8.045		34.065		26.533		153.2		0.469		227	
250		7.619		7.594		34.067		26.600		147.0		0.506		252	
275		7.452		7.425		34.075		26.631		144.4		0.543		277	
300		7.503		7.474		34.147		26.681		140.2		0.578		302	
350		7.121		7.088		34.189		26.768		132.6		0.646		353	
400		6.704		6.667		34.219		26.849		125.4		0.711		403	
450		6.187		6.147		34.213		26.912		119.6		0.772		454	
500		5.799		5.756		34.229		26.974		114.1		0.831		504	
512		5.726		5.682		34.236		26.989		112.8		0.844		516	

RV NEW HORIZON				CRUISE SQ86										STATION G 26 HYDRO			
LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE			
35 38.1 N	121 42.6 W	18/03/86	2248 GMT	880 M	340	06 KT	280 06 09	1	1020.7 MB	15.2 C	13.0 C	6/8	CC				
CST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS	
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR	
1	0	13.39	13.39	33.163	24.894	304.9	.000	6.17	103.8	3.2	.44	.8	.05	1.11	.41	0	
1	10	13.15	13.15	33.159	24.939	300.9	.030	6.19	103.6	3.3	.45	.9	.05	.86	.44	10	
	20 ISL	13.07	13.07	33.160	24.955	299.6	.060	6.14	102.5							20	
1	21	13.07	13.06	33.160	24.956	299.6	.063	6.13	102.4	3.4	.46	1.0	.07	.96	.56	21	
	30 ISL	13.05	13.05	33.162	24.961	299.3	.090	6.09	101.6							30	
1	31	13.05	13.04	33.162	24.961	299.3	.093	6.08	101.5	3.4	.46	1.2	.07	.88	.50	31	
1	42	12.88	12.87	33.201	25.025	293.5	.125	5.90	98.2	4.4	.54	2.3	.11	.73	.50	42	
	50 ISL	11.92	11.91	33.416	25.377	260.2	.148	4.91	80.2							50	
1	52	11.69	11.69	33.465	25.456	252.7	.152	4.69	76.3	12.1	1.08	11.2	.07	.21	.28	52	
1	63	11.13	11.12	33.545	25.622	237.1	.179	4.27	68.6	15.1	1.28	14.4	.03	.11	.20	63	
1	73	10.57	10.56	33.631	25.788	221.5	.202	3.84	61.0	18.9	1.49	17.7	.02	.06	.16	73	
	75 ISL	10.43	10.42	33.631	25.812	219.2	.207	3.84	60.9							76	
1	89	9.82	9.81	33.632	25.916	209.6	.236	3.87	60.5	20.7	1.58	19.6	.01	.03	.13	89	
	100 ISL	9.71	9.70	33.734	26.015	200.4	.260	3.45	53.7							101	
1	104	9.70	9.68	33.779	26.052	197.0	.269	3.26	50.8	24.8	1.79	22.5	.00	.02	.06	105	
1	124	9.34	9.32	33.866	26.179	185.3	.307	2.96	45.8	28.6	1.91	24.5	.00	.01	.09	125	
	125 ISL	9.33	9.31	33.868	26.182	185.0	.308	2.95	45.7							126	
1	150	8.99	8.97	33.939	26.292	174.9	.353	2.74	42.1	31.7	2.01	26.0	.00	.01	.08	151	
1	181	8.67	8.66	34.021	26.406	164.7	.405	2.38	36.3	36.4	2.18	27.9	.00			182	
	200 ISL	8.54	8.52	34.057	26.455	160.3	.436	2.21	33.7							202	
1	212	8.46	8.44	34.074	26.481	158.1	.455	2.13	32.4	39.9	2.27	28.9	.00			213	
1	243	8.21	8.18	34.104	26.543	152.6	.503	1.97	29.8	43.3	2.35	30.2	.00			244	
	250 ISL	8.12	8.10	34.109	26.560	151.2	.514	1.93	29.1							252	
1	283	7.74	7.72	34.126	26.629	145.0	.563	1.74	26.0	48.4	2.48	31.8	.00			285	
	300 ISL	7.61	7.59	34.139	26.658	142.4	.588	1.61	24.0							302	
1	345	7.29	7.26	34.173	26.731	136.1	.650	1.25	18.5	57.2	2.69	34.1	.00			347	
	400 ISL	6.73	6.69	34.208	26.838	126.5	.722	.85	12.5							403	
1	421	6.50	6.46	34.219	26.876	122.9	.749	.73	10.6	70.4	2.95	37.6	.00			424	
1	498	5.84	5.80	34.240	26.978	113.8	.840	.49	7.0	81.3	3.08	39.7	.00			502	
	500 ISL	5.83	5.79	34.241	26.979	113.6	.842	.49	7.0							504	
1	576	5.49	5.45	34.273	27.047	107.8	.926	.39	5.5	89.6	3.16	40.7	.00			580	

STATION G 27 CTD				RV NEW HORIZON				CRUISE SQ86							
LATITUDE		LONGITUDE		DAY/MO/YR		START TIME		BOTTOM							
35 42.4 N		121 46.7 W		19/03/86		0050 GMT		976 M							
WIND		SPEED		WAVES		WEA		BAROMETER		DRY		WET		CLOUDS	
DEPTH M		TEMP DEG C		POT TEMP DEG C		SALINITY		SIGMA THETA		SVA		DYN HT		PRESS D.BAR	
0		12.862		12.862		33.168		25.001		294.6		0.000		0	
10		12.821		12.820		33.168		25.010		294.1		0.029		10	
20		12.769		12.766		33.166		25.019		293.5		0.059		20	
30		12.248		12.244		33.301		25.224		274.2		0.087		30	
40		11.751		11.746		33.384		25.382		259.4		0.114		40	
50		11.141		11.135		33.496		25.581		240.7		0.139		50	
75		10.398		10.389		33.681		25.856		215.0		0.196		76	
100		9.277		9.266		33.899		26.214		181.5		0.245		101	
125		8.975		8.962		33.975		26.322		171.6		0.290		126	
150		8.653		8.637		34.045		26.427		162.0		0.331		151	
175		8.444		8.426		34.065		26.476		157.9		0.371		176	
200		7.970		7.950		34.051		26.536		152.4		0.410		202	
225		7.912		7.889		34.128		26.605		146.3		0.447		227	
250		7.697		7.672		34.161		26.663		141.1		0.483		252	
275		7.419		7.392		34.160		26.702		137.7		0.518		277	
300		7.153		7.124		34.185		26.760		132.6		0.552		302	
350		6.961		6.928		34.224		26.817		127.8		0.617		353	
400		6.508		6.472		34.234		26.887		121.6		0.679		403	
450		6.221		6.181		34.246		26.934		117.6		0.739		454	
500		5.873		5.830		34.271		26.998		111.9		0.797		504	
507		5.848		5.804		34.277		27.006		111.2		0.804		511	

RV NEW HORIZON

CRUISE SQ86

STATION G 28 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
35 46.0 N	121 50.6 W	19/03/86	0246 GMT	1072 M	330	06 KT	300 05 09	1	1020.0 MB	14.2 C	12.0 C	1/8		CC		
CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHAE0	PRESS
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
1	0	13.09	13.09	33.164	24.953	299.3	.000	6.49	108.5	3.5	.42	.4	.04	3.62	1.07	
1	10	12.75	12.75	33.157	25.015	293.6	.030	6.24	103.6	4.2	.50	1.4	.06	5.04	1.02	10
	20	12.58	12.58	33.172	25.060	289.6	.059	5.93	98.1							20
1	21	12.57	12.57	33.175	25.065	289.2	.061	5.90	97.6	7.0	.64	4.0	.14	1.04	.51	21
	30	12.41	12.40	33.234	25.141	282.1	.087	5.61	92.4							30
1	31	12.39	12.39	33.241	25.151	281.3	.090	5.58	91.9	8.0	.73	5.6	.18	.46	.39	31
1	42	12.05	12.04	33.335	25.289	268.3	.120	5.18	84.8	9.7	.90	8.1	.21	.27	.31	42
	50	11.18	11.17	33.435	25.526	245.9	.141	4.68	75.2							50
1	52	11.00	10.99	33.458	25.576	241.2	.145	4.57	73.2	14.2	1.20	13.2	.05	.15	.19	52
1	62	10.77	10.77	33.537	25.678	231.7	.169	4.25	67.8	16.5	1.34	15.6	.05	.11	.16	62
1	73	10.53	10.52	33.613	25.781	222.2	.194	3.91	62.0	18.5	1.48	17.7	.02	.09	.13	73
	75	10.47	10.46	33.629	25.804	220.0	.199	3.84	60.8							76
1	88	10.14	10.13	33.701	25.917	209.6	.226	3.52	55.4	22.0	1.66	20.2	.01	.03	.11	88
	100	9.84	9.82	33.744	26.001	201.7	.251	3.38	52.8							101
1	103	9.76	9.75	33.756	26.024	199.7	.258	3.34	52.2	24.4	1.75	22.1	.01	.02	.10	104
1	124	9.33	9.32	33.890	26.198	183.5	.298	2.80	43.3	29.8	1.97	25.0	.01	.02	.09	125
	125	9.31	9.30	33.894	26.204	182.9	.300	2.78	43.1							126
1	150	8.68	8.67	34.026	26.408	163.9	.343	2.35	35.9	37.3	2.18	28.0	.01	.01	.07	151
1	181	8.33	8.31	34.061	26.490	156.6	.392	2.19	33.2	40.8	2.27	29.4	.01			182
	200	8.02	8.00	34.079	26.551	151.1	.422	2.05	30.8							202
1	212	7.85	7.82	34.092	26.587	147.8	.439	1.94	29.1	46.2	2.41	31.0	.00			213
1	243	7.60	7.58	34.133	26.655	141.7	.484	1.59	23.7	51.4	2.57	32.5	.00			244
	250	7.54	7.52	34.138	26.667	140.7	.494	1.54	22.9							252
1	284	7.29	7.26	34.151	26.714	136.7	.542	1.34	19.8	56.3	2.70	34.0	.00			286
	300	7.17	7.14	34.164	26.741	134.3	.563	1.22	18.0							302
1	346	6.83	6.80	34.203	26.819	127.5	.623	.88	12.9	64.9	2.89	36.4	.00			348
	400	6.47	6.43	34.225	26.885	121.8	.691	.67	9.8							403
1	422	6.31	6.28	34.229	26.908	119.7	.717	.62	9.0	73.4	3.03	38.1	.00			425
1	499	5.57	5.52	34.240	27.011	110.3	.806	.47	6.7	86.2	3.17	40.5	.00			503
	500	5.56	5.52	34.240	27.012	110.2	.807	.47	6.7							504
1	576	5.22	5.18	34.303	27.102	102.2	.887	.33	4.7	95.3	3.25	41.5	.00			580

STATION G 29 CTD

RV NEW HORIZON

CRUISE SQ86

STATION G 30 CTD

LATITUDE								LONGITUDE								DAY/MO/YR								START TIME								BOTTOM																															
35 49.7 N								121 54.2 W								19/03/86								0445 GMT								M																															
WIND								SPEED								WAVES								WEA								BAROMETER								DRY								WET								CLOUDS							
DEPTH								TEMP								POT TEMP								SALINITY								SIGMA								SVA								DYN HT								PRESS							
M								DEG C								DEG C																THETA																								D.BAR							
0								13.054								13.054								33.192								24.982								296.4								0.000								0							
10								13.071								13.070								33.192								24.979								297.0								0.030								10							
20								13.067								13.064								33.193								24.981								297.1								0.059								20							
30								13.048								13.044								33.191								24.984								297.1								0.089								30							
40								12.175								12.170								33.325								25.257								271.3								0.118								40							
50								11.192								11.186								33.490								25.567								242.0								0.143								50							
75								10.253								10.244								33.642								25.850								215.6								0.200								76							
100								9.886								9.875								33.758								26.003								201.5								0.253								101							
125								9.340								9.326								33.887								26.195								183.8								0.301								126							
150								9.014								8.998								33.970								26.312								173.1								0.345								151							
175								8.682								8.664								34.021								26.405								164.7								0.387								176							
200								8.373								8.352								34.063								26.485								157.4								0.428								202							
225								7.915								7.892								34.092								26.577								149.0								0.466								227							
250								7.647								7.622								34.123								26.640								143.3								0.503								252							
275								7.416								7.389								34.141								26.688								139.1								0.538								277							
300								7.121								7.093								34.153								26.739								134.5								0.572								302							
350								6.780								6.748								34.170								26.799								129.3								0.638								353							
400								6.275								6.239								34.186								26.879								122.1								0.701								403							
450								5.967								5.928								34.206								26.934								117.3								0.761								454							
500								5.756								5.713								34.231								26.981								113.3								0.818								504							
511								5.741								5.697								34.240								26.990								112.6								0.831								515							

RV NEW HORIZON

CRUISE SQ86

STATION G 34 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
35 27.8 N	121 47.0 W	19/03/86	1323 GMT	1146 M	220	01 KT			1023.0 MB	12.8 C	12.4 C					
CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHARO	PRESS
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
	0 ISL	13.19	13.19	33.126	24.905	303.8	.000	6.16	103.2							0
1	1	13.19	13.19	33.126	24.905	303.9	.003	6.16	103.2	3.4	.43	.5	.02	.96	.54	1
	10 ISL	13.20	13.20	33.124	24.901	304.5	.030	6.16	103.2							10
1	11	13.20	13.20	33.124	24.901	304.5	.033	6.16	103.2	3.4	.43	.5	.02	.88	.62	11
	20 ISL	13.15	13.15	33.122	24.909	304.0	.061	6.13	102.6							20
1	26	13.12	13.12	33.120	24.914	303.7	.079	6.11	102.2	3.4	.44	.7	.04	.87	.46	26
	30 ISL	12.99	12.99	33.143	24.958	299.6	.091	6.00	100.0							30
1	41	12.47	12.46	33.240	25.135	283.0	.123	5.56	91.8	5.8	.69	4.8	.08	.39	.40	41
	50 ISL	11.75	11.74	33.360	25.364	261.4	.148	5.03	81.9							50
1	56	11.36	11.36	33.439	25.496	248.9	.162	4.70	75.9	11.0	1.12	11.6	.04	.13	.18	56
1	66	11.24	11.23	33.538	25.596	239.7	.187	4.27	68.8	13.8	1.26	14.1	.02	.10	.15	66
	75 ISL	11.03	11.03	33.579	25.665	233.3	.209	4.06	65.1							76
1	76	11.02	11.01	33.581	25.670	232.8	.210	4.05	64.9	15.6	1.38	15.7	.02	.08	.11	76
1	91	10.34	10.33	33.662	25.852	215.8	.244	3.68	58.2	19.6	1.56	19.1	.00	.02	.06	91
	100 ISL	9.97	9.96	33.738	25.975	204.3	.263	3.38	53.0							101
1	106	9.76	9.74	33.788	26.049	197.3	.276	3.19	49.8	24.7	1.80	22.7	.00	.01	.05	107
1	121	9.45	9.44	33.855	26.152	187.8	.305	2.96	45.9	27.8	1.90	24.3	.00	.00	.04	122
	125 ISL	9.41	9.39	33.867	26.168	186.4	.312	2.92	45.3							126
1	146	9.21	9.19	33.922	26.244	179.5	.351	2.74	42.3	30.6	1.99	25.7	.00	.01	.03	147
	150 ISL	9.16	9.14	33.934	26.261	178.0	.357	2.70	41.7							151
1	167	8.93	8.92	33.985	26.337	171.0	.387	2.54	39.0	33.7	2.10	26.9	.00	.01	.03	168
1	187	8.66	8.64	34.019	26.406	164.8	.421	2.44	37.2	36.5	2.15	27.7	.00			188
	200 ISL	8.37	8.35	34.028	26.458	160.0	.442	2.51	38.1							202
1	208	8.20	8.18	34.033	26.488	157.3	.454	2.55	38.5	39.3	2.16	28.6	.00			209
1	239	7.92	7.89	34.074	26.563	150.6	.502	2.21	33.2	43.6	2.32	30.1	.00			240
	250 ISL	7.82	7.80	34.095	26.593	147.9	.519	2.02	30.2							252
1	279	7.59	7.56	34.144	26.666	141.4	.561	1.54	22.9	51.5	2.58	32.6	.00			281
	300 ISL	7.45	7.42	34.161	26.699	138.5	.590	1.36	20.3							302
1	341	7.21	7.17	34.178	26.748	134.4	.646	1.15	17.0	58.5	2.75	34.9	.00			343
	400 ISL	6.87	6.83	34.204	26.815	128.7	.723	.82	12.0							403
1	417	6.76	6.75				.745	.74	10.8	67.1	2.93	36.8	.00			420
1	494	6.14	6.09	34.244	26.944	117.2	.839	.57	8.2	75.9	3.01	38.6	.00			497
	500 ISL	6.09	6.05	34.248	26.952	116.5	.846	.55	8.0							504
1	569	5.69	5.64	34.289	27.036	109.0	.924	.36	5.1	86.2	3.17	40.5	.00			573

STATION G 35 CTD

RV NEW HORIZON

CRUISE SQ86

LATITUDE		LONGITUDE		DAY/MO/YR		START TIME		BOTTOM							
35 24.1 N		121 43.8 W		19/03/86		1508 GMT		1165 M							
WIND		SPEED		WAVES		WEA		BAROMETER		DRY		WET		CLOUDS	
200		01 KT				0		1024.2 MB		14.0 C		13.2 C		0/8	
DEPTH		TEMP		POT TEMP		SALINITY		SIGMA		SVA		DYN HT		PRESS	
M		DEG C		DEG C				THETA						D.BAR	
0		13.506		13.506		33.088		24.812		312.7		0.000		0	
10		13.512		13.511		33.087		24.810		313.2		0.031		10	
20		13.457		13.454		33.090		24.823		312.1		0.063		20	
30		13.382		13.378		33.089		24.838		311.0		0.094		30	
40		13.382		13.376		33.087		24.837		311.4		0.125		40	
50		13.293		13.286		33.104		24.868		308.7		0.156		50	
75		10.877		10.868		33.493		25.626		237.0		0.224		76	
100		10.339		10.327		33.655		25.846		216.5		0.281		101	
125		9.354		9.340		33.747		26.083		194.4		0.332		126	
150		9.046		9.030		33.951		26.292		175.0		0.378		151	
175		8.902		8.883		34.002		26.355		169.4		0.421		176	
200		8.538		8.517		34.047		26.448		161.1		0.463		202	
225		8.136		8.113		34.073		26.529		153.6		0.502		227	
250		7.866		7.841		34.095		26.587		148.5		0.540		252	
275		7.653		7.626		34.115		26.634		144.3		0.576		277	
300		7.432		7.403		34.120		26.669		141.2		0.612		302	
350		7.154		7.121		34.198		26.770		132.3		0.680		353	
400		6.693		6.656		34.212		26.845		125.7		0.745		403	
450		6.459		6.418		34.253		26.908		120.2		0.806		454	
500		6.170		6.125		34.264		26.955		116.3		0.866		504	
531		5.926		5.880		34.281		27.000		112.2		0.901		535	

RV NEW HORIZON

CRUISE SQ86

STATION G 36 HYDRO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
35 20.6 N	121 39.4 W	19/03/86	1657 GMT	1017 M	140	07 KT	320 02 09	0	1024.2 MB	14.8 C	12.8 C	0/8				
CST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
M		DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
	0 ISL	13.58	13.58	33.098	24.804	313.5	.000	6.19	104.5							0
1	1	13.58	13.58	33.098	24.804	313.4	.003	6.19	104.5	2.6	.37	.0	.01	.72	.28	1
	10 ISL	13.54	13.54	33.095	24.811	313.0	.031	6.21	104.7							10
1	11	13.53	13.53	33.095	24.812	312.9	.034	6.21	104.7	2.6	.37	.0	.01	.70	.30	11
	20 ISL	13.46	13.46	33.094	24.826	311.9	.063	6.18	104.0							20
1	27	13.41	13.41	33.094	24.836	311.1	.084	6.14	103.3	2.7	.38	.0	.01	1.25	.42	27
	30 ISL	13.40	13.40	33.094	24.838	311.0	.094	6.13	103.1							30
1	42	13.38	13.38	33.096	24.844	310.8	.130	6.09	102.4	3.3	.38	.1	.03	1.03	.42	42
	50 ISL	12.75	12.74	33.221	25.066	289.8	.155	5.61	93.1							50
1	58	11.92	11.91	33.333	25.313	266.5	.177	5.15	84.1	8.7	.89	8.2	.05	.10	.21	58
1	68	10.76	10.75	33.329	25.519	247.0	.202	5.03	80.1	10.5	1.07	11.3	.03	.06	.12	68
	75 ISL	10.50	10.49	33.368	25.594	239.9	.220	4.88	77.3							76
1	78	10.47	10.46	33.387	25.615	238.0	.226	4.81	76.1	12.2	1.18	13.3	.02	.05	.10	78
1	94	10.19	10.18	33.563	25.800	220.8	.263	4.15	65.3	17.3	1.41	17.4	.01	.02	.08	94
	100 ISL	10.04	10.03	33.616	25.867	214.6	.277	3.95	62.1							101
1	108	9.82	9.81	33.673	25.948	207.0	.295	3.74	58.4	21.4	1.61	20.5	.01	.01	.07	109
1	124	9.40	9.39	33.766	26.090	193.7	.326	3.41	52.8	25.1	1.75	23.0	.01	.00	.06	125
	125 ISL	9.39	9.38	33.770	26.095	193.3	.328	3.39	52.6							126
1	149	9.11	9.09	33.900	26.242	179.7	.373	2.91	44.8	30.3	1.93	25.4	.03	.00	.05	150
	150 ISL	9.09	9.08	33.903	26.248	179.2	.374	2.90	44.7							151
1	170	8.68	8.66	33.977	26.371	167.8	.409	2.74	41.8	34.3	2.04	27.0	.01	.00	.05	171
1	191	8.51	8.50	34.036	26.443	161.3	.443	2.40	36.5	37.9	2.17	28.5	.01			192
	200 ISL	8.40	8.38	34.044	26.467	159.2	.458	2.40	36.5							202
1	212	8.25	8.22	34.048	26.493	156.9	.476	2.41	36.4	39.8	2.21	29.0	.01			213
1	243	8.03	8.01	34.081	26.552	151.7	.524	2.12	31.9	43.2	2.31	30.5	.00			244
	250 ISL	7.94	7.91	34.086	26.569	150.2	.535	2.06	30.9							252
1	282	7.54	7.52	34.105	26.642	143.7	.583	1.79	26.6	49.3	2.47	32.4	.00			284
	300 ISL	7.43	7.40	34.121	26.671	141.1	.608	1.63	24.3							302
1	345	7.21	7.18	34.162	26.734	135.7	.670	1.26	18.6	56.5	2.69	34.7	.00			347
	400 ISL	6.76	6.72	34.193	26.821	128.0	.743	.89	13.0							403
1	421	6.58	6.54	34.205	26.854	125.0	.769	.77	11.2	67.5	2.94	37.6	.00			424
1	499	6.05	6.01	34.267	26.972	114.5	.862	.45	6.5	78.3	3.11	39.6	.00			502
	500 ISL	6.04	6.00	34.268	26.974	114.3	.864	.45	6.4							504
1	574	5.61	5.56	34.297	27.052	107.4	.946	.33	4.7	87.3	3.19	41.0	.00			578

STATION G 37 CTD

RV NEW HORIZON

CRUISE SQ86

STATION G 38 CTD

LATITUDE	LONGITUDE	DAY/MO/YR	START TIME	BOTTOM	LATITUDE	LONGITUDE	DAY/MO/YR	START TIME	BOTTOM						
35 16.1 N	121 35.9 W	19/03/86	1923 GMT	839 M	35 12.5 N	121 31.8 W	19/03/86	2045 GMT	715 M						
WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
150	03 KT		0	1024.7 MB	16.0 C	13.4 C	0/8	190	05 KT		0				0/8
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	PRESS	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	PRESS
M	DEG C	DEG C		THETA			D.BAR	M	DEG C	DEG C		THETA			D.BAR
0	13.647	13.647	33.121	24.808	313.0	0.000	0	0	14.233	14.233	33.126	24.691	324.1	0.000	0
10	13.491	13.490	33.117	24.837	310.5	0.031	10	10	13.450	13.449	33.119	24.847	309.6	0.032	10
20	13.336	13.333	33.101	24.856	309.0	0.062	20	20	13.306	13.303	33.115	24.873	307.4	0.063	20
30	13.339	13.335	33.108	24.861	308.8	0.093	30	30	13.284	13.280	33.116	24.878	307.1	0.093	30
40	13.337	13.331	33.108	24.862	309.0	0.124	40	40	13.275	13.270	33.119	24.883	307.0	0.124	40
50	13.111	13.104	33.117	24.914	304.2	0.155	50	50	12.762	12.755	33.216	25.060	290.4	0.154	50
75	11.128	11.119	33.295	25.427	255.9	0.225	76	75	10.987	10.978	33.475	25.592	240.2	0.220	76
100	10.235	10.223	33.550	25.782	222.6	0.284	101	100	10.064	10.053	33.610	25.858	215.3	0.277	101
125	9.534	9.520	33.709	26.024	200.0	0.337	126	125	9.766	9.752	33.780	26.041	198.4	0.329	126
150	9.133	9.117	33.844	26.195	184.2	0.385	151	150	9.105	9.089	33.881	26.228	181.1	0.376	151
175	8.686	8.668	33.973	26.366	168.3	0.429	176	175	8.475	8.457	33.945	26.377	167.2	0.420	176
200	8.415	8.394	34.034	26.456	160.2	0.470	202	200	8.168	8.148	33.993	26.461	159.6	0.461	202
225	8.141	8.118	34.053	26.513	155.2	0.510	227	225	7.803	7.781	34.023	26.539	152.5	0.500	227
250	7.822	7.797	34.103	26.599	147.2	0.548	252	250	7.725	7.700	34.060	26.580	149.0	0.537	252
275	7.539	7.512	34.114	26.649	142.8	0.584	277	275	7.528	7.501	34.074	26.619	145.6	0.574	277
300	7.345	7.316	34.141	26.698	138.5	0.619	302	300	7.498	7.469	34.113	26.655	142.7	0.610	302
350	7.076	7.043	34.197	26.781	131.3	0.686	353	350	7.133	7.100	34.173	26.754	133.9	0.679	353
400	6.676	6.639	34.211	26.846	125.6	0.751	403	400	6.822	6.785	34.224	26.837	126.6	0.744	403
450	6.417	6.376	34.247	26.909	120.1	0.812	454	450	6.494	6.453	34.245	26.898	121.3	0.806	454
500	5.942	5.898	34.244	26.968	114.8	0.871	504	500	5.951	5.907	34.277	26.993	112.4	0.865	504
534	5.763	5.717	34.266	27.008	111.3	0.909	538	508	5.779	5.735	34.283	27.019	109.9	0.874	512

STATION G 39 CTD

RV NEW HORIZON

CRUISE SQ86

LATITUDE LONGITUDE DAY/MO/YR START TIME BOTTOM
35 9.1 N 121 28.5 W 19/03/86 2156 GMT M

WIND SPEED WAVES WEA BAROMETER DRY WET CLOUDS

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	14.595	14.595	33.086	24.584	334.4	0.000	0
10	13.437	13.436	33.077	24.817	312.5	0.032	10
20	13.315	13.312	33.075	24.840	310.5	0.063	20
30	13.303	13.299	33.080	24.847	310.1	0.095	30
40	13.239	13.234	33.109	24.882	307.0	0.125	40
50	12.385	12.378	33.271	25.175	279.4	0.155	50
75	10.872	10.863	33.544	25.667	233.1	0.219	76
100	10.119	10.107	33.669	25.895	211.9	0.274	101
125	9.591	9.577	33.799	26.085	194.2	0.325	126
150	8.861	8.845	33.861	26.251	178.8	0.372	151
175	8.550	8.532	33.921	26.346	170.1	0.415	176
200	8.249	8.229	33.988	26.445	161.2	0.457	202
225	7.886	7.864	34.003	26.511	155.2	0.496	227
250	7.607	7.583	34.019	26.564	150.4	0.535	252
275	7.432	7.405	34.059	26.621	145.4	0.572	277
300	7.408	7.379	34.112	26.667	141.5	0.607	302
350	7.112	7.079	34.172	26.756	133.7	0.676	353
400	6.751	6.714	34.224	26.846	125.6	0.741	403
450	6.387	6.346	34.250	26.916	119.5	0.802	454
483	6.244	6.201	34.258	26.941	117.4	0.841	487

RV NEW HORIZON

CRUISE SQ86

STATION G 40 HYDRO

LATITUDE LONGITUDE DAY/MO/YR MESSENGER BOTTOM WIND SPEED WAVES WEATHER BAROMETER DRY WET CLOUD AMT TYPE
35 02.5 N 121 38.2 W 20/03/86 0029 GMT 1331 M 240 04 KT 290 04 08 0 1022.3 MB 16.2 C 13.5 C 0/8

CST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SI03 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	14.59	14.59	33.022	24.536	339.0	.000	6.10	105.1	3.4	.40	.1	.00	.36	.17	0
1	10	13.84	13.84	33.023	24.693	324.3	.033	6.13	104.0	3.4	.40	.1	.00	.32	.20	10
1	20	13.55	13.54	33.041	24.768	317.4	.065	6.14	103.5							20
1	21	13.53	13.53	33.043	24.771	317.1	.068	6.14	103.5	3.4	.40	.1	.00	.62	.50	21
1	30	13.48	13.47	33.052	24.790	315.5	.097	6.11	102.8							30
1	31	13.48	13.47	33.054	24.792	315.4	.100	6.10	102.7	3.4	.41	.1	.01	.73	.53	31
1	42	13.32	13.31	33.107	24.865	308.7	.134	6.02	101.1	3.6	.45	.7	.06	.63	.51	42
1	50	12.42	12.42	33.187	25.102	286.4	.158	5.78	95.3							50
1	52	12.23	12.22	33.206	25.154	281.4	.163	5.72	93.9	5.4	.67	4.2	.07	.51	.41	52
1	63	12.03	12.02	33.298	25.264	271.3	.193	5.41	88.5	7.0	.80	6.7	.03	.30	.29	63
1	73	11.68	11.67	33.326	25.352	263.1	.220	5.26	85.4	8.1	.90	8.2	.03	.22	.24	73
1	75	11.55	11.54	33.333	25.381	260.4	.226	5.21	84.4							76
1	89	10.82	10.81	33.415	25.576	242.0	.260	4.79	76.4	12.2	1.16	12.8	.02	.09	.13	89
1	100	10.49	10.48	33.572	25.756	225.1	.287	4.15	65.7							101
1	105	10.33	10.32	33.650	25.844	216.9	.299	3.85	60.8	19.3	1.50	18.6	.00	.03	.07	106
1	124	9.33	9.32	33.782	26.114	191.4	.338	3.49	54.0	25.7	1.76	22.8	.00	.00	.03	125
1	125	9.31	9.30	33.786	26.120	190.9	.339	3.48	53.8							126
1	150	8.95	8.94	33.902	26.268	177.2	.385	3.09	47.4	30.8	1.90	25.4	.00	.00	.03	151
1	181	8.40	8.38	33.982	26.417	163.5	.438	2.91	44.1	35.7	2.02	27.3	.00			182
1	200	8.17	8.14	34.011	26.476	158.2	.468	2.80	42.3							202
1	212	8.04	8.02	34.024	26.504	155.7	.487	2.73	41.1	39.8	2.11	28.5	.00			213
1	242	7.74	7.71	34.039	26.562	150.6	.532	2.52	37.7	43.2	2.22	29.9	.00			243
1	250	7.66	7.64	34.044	26.576	149.3	.545	2.44	36.4							252
1	282	7.42	7.39	34.070	26.632	144.5	.592	2.10	31.2	48.6	2.39	31.9	.00			284
1	300	7.33	7.30	34.097	26.666	141.5	.618	1.85	27.4							302
1	345	7.10	7.07	34.164	26.750	134.1	.679	1.26	18.6	58.0	2.71	35.1	.00			347
1	400	6.67	6.63	34.202	26.840	126.2	.751	.86	12.6							403
1	420	6.48	6.45	34.208	26.870	123.5	.776	.77	11.2	68.5	2.95	38.0	.00			423
1	499	5.71	5.67	34.219	26.977	113.6	.869	.51	7.3	81.5	3.09	40.6	.00			502
1	500	5.70	5.66	34.220	26.979	113.5	.871	.51	7.2							504
1	578	5.31	5.27	34.273	27.068	105.6	.956	.36	5.1	91.6	3.20	41.7	.00			582

STATION G 41 CTD

RV NEW HORIZON

CRUISE SQ86

STATION G 42 CTD

LATITUDE LONGITUDE DAY/MO/YR START TIME BOTTOM LATITUDE LONGITUDE DAY/MO/YR START TIME BOTTOM
35 6.6 N 121 41.9 W 20/03/86 0212 GMT M 35 10.3 N 121 45.8 W 20/03/86 0320 GMT 1479 M

WIND SPEED WAVES WEA BAROMETER DRY WET CLOUDS WIND SPEED WAVES WEA BAROMETER DRY WET CLOUDS

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	13.898	13.898	32.998	24.662	326.9	0.000	0	0	13.898	13.898	32.992	24.657	327.4	0.000	0
10	13.801	13.800	32.997	24.681	325.4	0.033	10	10	13.718	13.717	33.036	24.729	320.9	0.032	10
20	13.758	13.755	33.000	24.693	324.6	0.065	20	20	13.552	13.549	33.095	24.808	313.6	0.064	20
30	13.734	13.730	33.001	24.699	324.3	0.098	30	30	13.412	13.408	33.099	24.840	310.8	0.095	30
40	13.645	13.639	33.011	24.725	322.1	0.130	40	40	13.273	13.268	33.125	24.888	306.5	0.126	40
50	13.409	13.402	33.106	24.846	310.7	0.162	50	50	12.375	12.368	33.245	25.157	281.1	0.156	50
75	11.254	11.245	33.440	25.517	247.3	0.231	76	75	11.000	10.991	33.307	25.459	252.8	0.222	76
100	10.454	10.442	33.561	25.753	225.4	0.290	101	100	10.285	10.273	33.552	25.775	223.3	0.282	101
125	9.473	9.459	33.797	26.103	192.5	0.343	126	125	9.557	9.543	33.780	26.076	195.1	0.334	126
150	8.978	8.962	33.899	26.262	177.8	0.389	151	150	8.776	8.760	33.855	26.260	178.0	0.381	151
175	8.561	8.543	33.963	26.378	167.2	0.432	176	175	8.311	8.293	33.941	26.399	165.1	0.424	176
200	8.247	8.227	34.009	26.462	159.6	0.473	202	200	8.018	7.998	33.989	26.480	157.7	0.464	202
225	7.910	7.887	34.054	26.548	151.7	0.512	227	225	7.830	7.808	34.003	26.519	154.4	0.503	227
250	7.548	7.524	34.040	26.589	148.0	0.549	252	250	7.593	7.569	34.008	26.558	151.1	0.541	252
275	7.525	7.498	34.093	26.635	144.2	0.586	277	275	7.247	7.221	34.024	26.619	145.4	0.578	277
300	7.349	7.320	34.107	26.671	141.1	0.621	302	300	7.049	7.021	34.041	26.661	141.8	0.614	302
350	6.777	6.745	34.104	26.748	134.2	0.690	353	350	6.654	6.622	34.104	26.764	132.5	0.683	353
400	6.355	6.319	34.146	26.837	126.1	0.755	403	400	6.423	6.387	34.183	26.857	124.3	0.747	403
450	5.758	5.720	34.145	26.912	119.1	0.817	454	450	6.298	6.258	34.248	26.926	118.5	0.808	454
500	5.484	5.442	34.176	26.970	114.0	0.875	504	500	5.776	5.733	34.245	26.989	112.5	0.865	504
511	5.385	5.343	34.182	26.987	112.5	0.887	515	511	5.623	5.580	34.232	26.998	111.7	0.878	515

STATION B 1 CTD RV NEW HORIZON

LATITUDE	LONGITUDE	DAY/MO/YR	START TIME	BOTTOM
35 12.1 N	121 28.7 W	20/03/86	0700 GMT	622 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
270	02 KT			1025.4 MB	13.5 C	12.5 C	

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	14.124	14.124	33.103	24.696	323.7	0.000	0
10	13.509	13.508	33.099	24.820	312.2	0.032	10
20	13.334	13.331	33.099	24.855	309.1	0.063	20
30	13.301	13.297	33.099	24.862	308.7	0.094	30
40	13.130	13.125	33.144	24.931	302.4	0.124	40
50	11.778	11.772	33.358	25.357	262.0	0.153	50
75	10.841	10.832	33.442	25.593	240.1	0.215	76
100	10.358	10.346	33.693	25.873	214.1	0.272	101
125	9.666	9.652	33.874	26.131	189.9	0.323	126
150	9.469	9.452	33.889	26.176	186.1	0.370	151
175	8.988	8.969	33.951	26.302	174.5	0.415	176
200	8.538	8.517	33.997	26.408	164.8	0.457	202
225	7.988	7.965	34.008	26.500	156.2	0.497	227
250	7.595	7.571	34.014	26.562	150.6	0.536	252
275	7.407	7.380	34.077	26.639	143.7	0.572	277
300	7.277	7.248	34.100	26.676	140.6	0.608	302
350	7.122	7.089	34.193	26.771	132.3	0.676	353
400	6.795	6.758	34.226	26.842	126.1	0.741	403
450	6.410	6.369	34.247	26.910	120.0	0.802	454
500	5.962	5.918	34.275	26.990	112.7	0.860	504
508	5.930	5.886	34.277	26.996	112.3	0.869	512

CRUISE SQ86 STATION B 2 CTD

LATITUDE	LONGITUDE	DAY/MO/YR	START TIME	BOTTOM
35 12.0 N	121 23.6 W	20/03/86	0814 GMT	706 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
280	05 KT			1025.8 MB	13.0 C	12.7 C	

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	13.670	13.670	33.087	24.777	316.0	0.000	0
10	13.427	13.426	33.076	24.818	312.3	0.031	10
20	13.345	13.342	33.073	24.833	311.2	0.063	20
30	13.297	13.293	33.082	24.850	309.8	0.094	30
40	13.123	13.118	33.113	24.908	304.5	0.124	40
50	11.871	11.865	33.293	25.289	268.5	0.153	50
75	10.508	10.499	33.414	25.629	236.6	0.216	76
100	10.286	10.274	33.708	25.897	211.7	0.272	101
125	9.733	9.719	33.844	26.097	193.2	0.323	126
150	9.356	9.339	33.897	26.200	183.8	0.370	151
175	8.867	8.848	33.949	26.319	172.8	0.414	176
200	8.501	8.480	33.999	26.416	164.1	0.457	202
225	8.272	8.249	34.038	26.481	158.2	0.497	227
250	7.805	7.780	34.036	26.549	152.0	0.536	252
275	7.609	7.582	34.047	26.586	148.8	0.573	277
300	7.353	7.324	34.092	26.658	142.2	0.610	302
350	7.124	7.091	34.158	26.743	134.9	0.679	353
400	6.807	6.770	34.215	26.832	127.0	0.744	403
450	6.303	6.263	34.252	26.928	118.2	0.806	454
500	5.867	5.824	34.271	26.999	111.8	0.863	504
530	5.667	5.622	34.290	27.039	108.2	0.896	534

STATION B 3 CTD RV NEW HORIZON

LATITUDE	LONGITUDE	DAY/MO/YR	START TIME	BOTTOM
35 11.9 N	121 18.7 W	20/03/86	0925 GMT	656 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
330	04 KT			1025.8 MB	13.5 C	12.8 C	

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	14.021	14.021	33.091	24.708	322.5	0.000	0
10	13.638	13.637	33.086	24.783	315.6	0.032	10
20	13.364	13.361	33.083	24.837	310.9	0.063	20
30	13.289	13.285	33.091	24.858	309.1	0.094	30
40	12.694	12.689	33.214	25.071	289.1	0.124	40
50	11.948	11.942	33.359	25.326	265.0	0.152	50
75	10.507	10.498	33.497	25.694	230.5	0.214	76
100	10.022	10.011	33.683	25.922	209.3	0.269	101
125	9.230	9.216	33.780	26.129	190.0	0.319	126
150	8.893	8.877	33.856	26.242	179.7	0.365	151
175	8.506	8.488	33.921	26.353	169.5	0.408	176
200	8.245	8.225	33.991	26.448	160.9	0.450	202
225	7.838	7.816	34.006	26.521	154.3	0.489	227
250	7.590	7.566	34.018	26.566	150.2	0.527	252
275	7.389	7.362	34.048	26.618	145.6	0.564	277
300	7.304	7.275	34.083	26.658	142.2	0.600	302
350	7.107	7.074	34.174	26.758	133.5	0.669	353
400	6.832	6.795	34.215	26.829	127.4	0.734	403
450	6.551	6.510	34.243	26.889	122.2	0.797	454
500	6.107	6.063	34.264	26.963	115.4	0.856	504
531	5.850	5.804	34.282	27.010	111.2	0.891	535

CRUISE SQ86

RV NEW HORIZON				CRUISE SQ86				STATION B 4 HYDRO									
LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE			
35 12.0 N	121 14.0 W	20/03/86	1055 GMT	581 M	020	05 KT			1025.6 MB	12.3 C	12.3 C						
CST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS	
M		DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR	
	0 ISL	13.31	13.31	33.050	24.821	312.4	.000	5.99	100.5								0
1	1	13.31	13.31	33.050	24.821	311.9	.003	5.99	100.5	7.1	.60	2.4	.11	.44 A	.27 A		1
	10 ISL	13.03	13.02	33.036	24.868	307.7	.031	6.05	100.9								10
1	11	13.00	13.00	33.035	24.872	307.3	.034	6.05	100.9	7.3	.62	2.8	.13	.64	.40		11
	20 ISL	12.83	12.83	33.034	24.905	304.7	.062	6.02	100.0								20
1	22	12.80	12.80	33.034	24.910	303.9	.067	6.01	99.8	7.4	.64	3.0	.13	.93	.50		22
	30 ISL	12.63	12.63	33.122	25.012	294.4	.092	5.81	96.2								30
1	43	12.26	12.26	33.299	25.220	274.9	.128	5.37	88.3	8.0	.81	6.1	.12	.35	.31		43
	50 ISL	11.95	11.95	33.367	25.332	264.5	.147	5.08	83.0								50
1	58	11.59	11.59	33.418	25.438	254.5	.168	4.82	78.2	11.2	1.04	10.5	.04	.19	.25		58
1	69	11.14	11.14	33.437	25.535	245.5	.195	4.70	75.5	12.6	1.14	12.2	.04	.15	.20		69
	75 ISL	10.97	10.96	33.487	25.606	238.9	.210	4.50	72.0								76
1	84	10.75	10.74	33.567	25.706	229.6	.230	4.18	66.6	16.2	1.35	15.8	.01	.07	.12		84
1	99	10.22	10.21	33.664	25.874	213.9	.266	3.73	58.8	21.1	1.56	19.4	.00	.04	.12		100
	100 ISL	10.20	10.19	33.667	25.879	213.4	.267	3.72	58.7								101
1	114	9.57	9.56	33.724	26.030	199.3	.296	3.57	55.5	23.5	1.69	22.0	.00	.02	.06		115
	125 ISL	9.22	9.20	33.785	26.135	189.5	.317	3.40	52.5								126
1	140	8.82	8.81	33.871	26.264	177.3	.345	3.16	48.4	29.8	1.90	25.6	.00	.01	.05		141
	150 ISL	8.61	8.60	33.911	26.329	171.4	.362	3.06	46.6								151
1	161	8.42	8.40	33.947	26.387	166.0	.381	2.97	45.1	34.3	2.00	27.5	.00	.00	.04		162
1	193	8.09	8.07	34.006	26.484	157.3	.432	2.80	42.2	38.4	2.10	28.6	.00	.01	.04		194
	200 ISL	8.00	7.98	34.013	26.501	155.7	.443	2.76	41.5								202
1	223	7.77	7.75	34.034	26.552	151.2	.478	2.58	38.6	42.7	2.20	30.1	.00				224
	250 ISL	7.65	7.62	34.079	26.606	146.5	.519	2.12	31.6								252
1	253	7.64	7.61	34.084	26.612	146.1	.524	2.06	30.7	47.3	2.38	32.0	.00				255
1	294	7.35	7.32	34.079	26.649	143.0	.583	1.94	28.7	50.5	2.46	33.0	.00				296
	300 ISL	7.30	7.27	34.084	26.660	142.1	.591	1.89	27.9								302
1	356	6.88	6.85	34.143	26.765	132.8	.667	1.28	18.8	60.3	2.72	35.9	.00				358
	400 ISL	6.74	6.70	34.203	26.832	127.0	.725	.87	12.7								403
1	412	6.69	6.66	34.218	26.850	125.5	.740	.77	11.2	67.9	2.92	37.4	.00				415
1	474	6.17	6.13	34.262	26.953	116.1	.815	.49	7.1	78.7	3.08	39.0	.00				477
	500 ISL	5.96	5.92	34.279	26.993	112.5	.845	.41	5.9								504
1	535	5.70	5.66	34.298	27.041	108.1	.884	.34	4.8	88.5	3.18	40.3	.00				539

A. SECOND FLOUROMETER READING NOT RECORDED, CHLOROPHYLL AND PHAEOPHYTIN
CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.

STATION B 5 CTD				RV NEW HORIZON				CRUISE SQ86				STATION B 6 CTD			
LATITUDE	LONGITUDE	DAY/MO/YR	START TIME	BOTTOM	LATITUDE	LONGITUDE	DAY/MO/YR	START TIME	BOTTOM	LATITUDE	LONGITUDE	DAY/MO/YR	START TIME	BOTTOM	
35 12.0 N	121 9.1 W	20/03/86	1242 GMT	M	35 12.0 N	121 4.3 W	20/03/86	1350 GMT	M	35 12.0 N	121 4.3 W	20/03/86	1350 GMT	M	
WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
								020	03 KT		0	1025.6 MB	12.5 C	11.5 C	0/8
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	PRESS	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	PRESS
M	DEG C	DEG C		THETA			D.BAR	M	DEG C	DEG C		THETA			D.BAR
0	13.284	13.284	33.144	24.899	304.3	0.000	0	0	13.585	13.585	33.110	24.812	312.6	0.000	0
10	13.045	13.044	33.119	24.928	301.9	0.030	10	10	13.425	13.424	33.106	24.842	310.1	0.031	10
20	13.001	12.998	33.124	24.941	301.0	0.060	20	20	13.199	13.196	33.105	24.887	306.1	0.062	20
30	12.973	12.969	33.128	24.949	300.4	0.091	30	30	13.110	13.106	33.108	24.907	304.4	0.092	30
40	12.947	12.942	33.132	24.958	299.8	0.121	40	40	12.997	12.992	33.237	25.146	281.9	0.122	40
50	11.773	11.767	33.343	25.346	263.0	0.149	50	50	11.636	11.630	33.429	25.438	254.3	0.149	50
75	10.491	10.482	33.561	25.746	225.5	0.210	76	75	10.382	10.373	33.566	25.769	223.3	0.208	76
100	9.489	9.478	33.704	26.027	199.2	0.263	101	100	9.452	9.441	33.705	26.034	198.6	0.261	101
125	8.969	8.956	33.818	26.200	183.2	0.311	126	125	9.052	9.039	33.864	26.223	181.0	0.308	126
150	8.747	8.731	33.936	26.327	171.5	0.355	151	150	8.721	8.705	33.931	26.327	171.5	0.353	151
175	8.425	8.407	33.993	26.422	162.9	0.397	176	175	8.502	8.484	33.962	26.386	166.4	0.395	176
200	8.193	8.173	34.024	26.482	157.7	0.437	202	200	8.203	8.183	34.010	26.469	158.8	0.435	202
225	7.886	7.864	34.054	26.551	151.4	0.475	227	225	7.892	7.870	34.030	26.531	153.3	0.474	227
250	7.715	7.690	34.083	26.599	147.2	0.513	252	250	7.663	7.638	34.059	26.588	148.2	0.512	252
275	7.388	7.361	34.076	26.641	143.5	0.549	277	275	7.415	7.388	34.086	26.645	143.1	0.549	277
300	7.019	6.991	34.063	26.682	139.8	0.585	302	300	7.236	7.207	34.114	26.692	139.0	0.584	302
350	6.814	6.782	34.138	26.770	132.2	0.653	353	350	6.879	6.846	34.161	26.779	131.3	0.651	353
400	6.610	6.573	34.212	26.856	124.6	0.717	403	400	6.706	6.669	34.211	26.842	126.0	0.716	403
450	6.376	6.335	34.254	26.920	119.1	0.778	454	408	6.675	6.637	34.213	26.848	125.5	0.726	411
500	5.995	5.951	34.277	26.988	113.0	0.836	504								
521	5.856	5.811	34.285	27.011	110.9	0.859	525								

STATION C 3 CTD					RV NEW HORIZON					CRUISE SQ86					STATION C 4 CTD				
LATITUDE		LONGITUDE		DAY/MO/YR	START TIME		BOTTOM		LATITUDE		LONGITUDE		DAY/MO/YR	START TIME		BOTTOM			
34 59.8 N		120 57.2 W		20/03/86	2114 GMT		325 M		34 59.9 N		121 2.0 W		20/03/86	2227 GMT		459 M			
WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS				
DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR				
0	13.730	13.730	33.149	24.813	312.5	0.000	0	0	13.980	13.980	33.126	24.744	319.1	0.000	0				
10	13.467	13.466	33.130	24.852	309.1	0.031	10	10	13.250	13.249	33.112	24.882	306.3	0.031	10				
20	13.102	13.099	33.118	24.916	303.3	0.062	20	20	13.142	13.139	33.119	24.909	304.0	0.062	20				
30	13.007	13.003	33.127	24.942	301.1	0.092	30	30	13.027	13.023	33.130	24.940	301.2	0.092	30				
40	12.644	12.639	33.215	25.082	288.1	0.121	40	40	12.696	12.691	33.196	25.057	290.4	0.122	40				
50	11.362	11.356	33.248	25.348	262.9	0.149	50	50	11.661	11.655	33.223	25.274	269.9	0.150	50				
75	10.565	10.556	33.560	25.733	226.8	0.210	76	75	10.482	10.473	33.557	25.745	225.6	0.212	76				
100	9.490	9.479	33.757	26.068	195.3	0.263	101	100	9.692	9.681	33.673	25.969	204.8	0.265	101				
125	8.984	8.971	33.891	26.255	178.0	0.310	126	125	9.244	9.230	33.823	26.160	187.0	0.314	126				
150	8.722	8.706	33.935	26.331	171.2	0.353	151	150	8.709	8.693	33.939	26.336	170.7	0.359	151				
175	8.638	8.620	34.022	26.412	164.0	0.395	176	175	8.332	8.314	33.979	26.425	162.6	0.401	176				
200	7.981	7.961	34.018	26.509	155.0	0.435	202	200	7.970	7.950	34.005	26.500	155.8	0.441	202				
225	7.802	7.780	34.035	26.548	151.6	0.473	227	225	7.807	7.785	34.034	26.547	151.7	0.479	227				
250	7.605	7.581	34.068	26.603	146.8	0.511	252	250	7.454	7.430	34.053	26.613	145.8	0.516	252				
275	7.431	7.404	34.115	26.665	141.2	0.547	277	275	7.420	7.393	34.093	26.650	142.7	0.552	277				
300	7.124	7.096	34.133	26.723	136.0	0.581	302	300	7.156	7.128	34.105	26.696	138.6	0.587	302				
304	7.087	7.058	34.139	26.733	135.1	0.587	306	350	6.943	6.910	34.157	26.767	132.5	0.655	353				
								400	6.588	6.551	34.201	26.850	125.1	0.720	403				
								420	6.523	6.485	34.210	26.866	123.9	0.744	423				

RV NEW HORIZON				CRUISE SQ86										STATION C 5 HYDRO			
LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE			
35 00.0 N	121 07.0 W	21/03/86	0025 GMT	536 M	320	14 KT	320 02 07	1	1025.3 MB	14.2 C	13.0 C	5/8	NS				
CST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHAEO	PRESS	
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR	
1	0	13.86	13.86	33.124	24.767	317.0	.000	6.38	108.3	4.7	.43	.5	.02	1.29	.55	0	
1	10	13.35	13.35	33.130	24.875	307.0	.031	6.56	110.2	3.1	.39	.2	.00	1.50	.69	10	
	20 ISL	13.14	13.14	33.130	24.918	303.6	.062	6.40	107.1							20	
	30 ISL	13.02	13.02	33.131	24.943	301.1	.092	6.24	104.2							30	
1	31	13.01	13.01	33.131	24.944	300.9	.095	6.23	103.9	4.2	.44	.6	.04	1.62	.92	31	
1	47	12.61	12.60	33.213	25.087	287.7	.141	5.63	93.2	5.9	.65	3.9	.21	.38	.44	47	
	50 ISL	12.31	12.31	33.257	25.178	279.1	.151	5.45	89.7							50	
1	57	11.67	11.66	33.357	25.377	260.3	.169	5.06	82.2	9.3	.96	9.0	.09	.19	.29	57	
1	73	10.89	10.88	33.525	25.649	234.7	.208	4.31	68.9	14.4	1.30	14.8	.06	.07	.13	73	
	75 ISL	10.81	10.80	33.535	25.671	232.8	.214	4.26	68.0							76	
1	89	10.44	10.43	33.568	25.761	224.4	.245	4.10	64.9	16.9	1.43	17.2	.04	.03	.11	89	
	100 ISL	10.10	10.09	33.618	25.858	215.4	.270	3.91	61.5							101	
1	103	9.99	9.98	33.636	25.891	212.3	.277	3.85	60.4	19.9	1.56	19.7	.02	.02	.11	104	
	125 ISL	9.16	9.14	33.780	26.140	188.9	.320	3.40	52.4							126	
1	129	9.01	9.00	33.810	26.187	184.5	.328	3.32	51.0	27.6	1.84	24.5	.00	.01	.04	130	
	150 ISL	8.75	8.73	33.910	26.307	173.5	.365	3.10	47.4							151	
1	151	8.74	8.73	33.915	26.312	173.0	.367	3.09	47.2	30.9	1.95	25.8	.00	.01	.03	152	
1	181	8.26	8.24	34.000	26.453	160.0	.417	2.85	43.1	36.3	2.08	27.7	.00	.00	.03	182	
	200 ISL	8.07	8.05	34.043	26.516	154.3	.447	2.55	38.4							202	
1	213	7.96	7.94	34.065	26.548	151.5	.466	2.35	35.3	42.1	2.28	30.0	.00	.00	.02	214	
1	244	7.69	7.66	34.080	26.601	146.9	.512	2.12	31.7	46.2	2.38	31.4	.00			245	
	250 ISL	7.59	7.56	34.080	26.615	145.6	.522	2.06	30.8							252	
1	284	7.02	6.99	34.080	26.695	138.3	.570	1.78	26.2	54.0	2.55	34.0	.00			286	
	300 ISL	6.77	6.74	34.079	26.728	135.8	.592	1.69	24.7							302	
1	346	6.29	6.26	34.075	26.789	129.8	.653	1.40	20.2	64.5	2.74	37.0	.00			348	
	400 ISL	6.47	6.43	34.202	26.866	123.5	.722	.78	11.4							403	
1	402	6.48	6.45	34.208	26.870	123.2	.724	.76	11.0	69.6	2.94	37.9	.00			405	
1	464	6.33	6.29	34.246	26.921	119.2	.798	.59	8.5	74.5	3.03	38.6	.00			467	
	500 ISL	6.08	6.04	34.268	26.970	114.8	.841	.48	6.8							504	
1	525	5.84	5.79	34.283	27.012	110.8	.869	.39	5.6	87.5	3.16	39.4	.06			529	

STATION C 6 CTD					RV NEW HORIZON					CRUISE SQ86					STATION C 7 CTD				
LATITUDE		LONGITUDE		DAY/MO/YR	START TIME		BOTTOM		LATITUDE		LONGITUDE		DAY/MO/YR	START TIME		BOTTOM			
35 0.0 N		121 11.9 W		21/03/86	0158 GMT		570 M		35 0.0 N		121 16.9 W		21/03/86	0314 GMT		592 M			
WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	PRESS	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	PRESS				
M	DEG C	DEG C		THETA			D.BAR	M	DEG C	DEG C		THETA			D.BAR				
0	13.584	13.584	33.108	24.811	312.7	0.000	0	0	13.762	13.762	33.106	24.773	316.3	0.000	0				
10	13.604	13.603	33.113	24.811	313.0	0.031	10	10	13.761	13.760	33.105	24.773	316.6	0.032	10				
20	13.229	13.226	33.099	24.876	307.1	0.062	20	20	13.495	13.492	33.111	24.832	311.3	0.063	20				
30	13.229	13.225	33.101	24.878	307.2	0.093	30	30	13.134	13.130	33.112	24.805	304.6	0.094	30				
40	13.237	13.232	33.116	24.888	306.5	0.124	40	40	13.045	13.040	33.134	24.940	301.5	0.124	40				
50	12.901	12.894	33.179	25.004	295.7	0.154	50	50	12.521	12.514	33.241	25.126	284.1	0.153	50				
75	11.168	11.159	33.479	25.563	242.9	0.221	76	75	11.134	11.125	33.472	25.564	242.9	0.219	76				
100	10.191	10.179	33.632	25.854	215.8	0.278	101	100	10.286	10.274	33.638	25.842	216.9	0.277	101				
125	9.234	9.220	33.778	26.126	190.2	0.329	126	125	9.245	9.231	33.790	26.134	189.5	0.328	126				
150	8.695	8.679	33.874	26.287	175.3	0.375	151	150	8.691	8.675	33.912	26.317	172.4	0.373	151				
175	8.224	8.206	33.986	26.447	160.5	0.417	176	175	8.359	8.341	33.964	26.409	164.1	0.415	176				
200	7.950	7.930	34.001	26.500	155.9	0.456	202	200	8.164	8.144	34.002	26.469	158.9	0.455	202				
225	7.843	7.821	34.077	26.575	149.1	0.495	227	225	7.918	7.895	34.044	26.539	152.6	0.494	227				
250	7.568	7.544	34.080	26.618	145.3	0.531	252	250	7.405	7.381	34.058	26.624	144.7	0.531	252				
275	7.391	7.364	34.082	26.645	143.1	0.567	277	275	7.328	7.302	34.087	26.658	141.8	0.567	277				
300	7.117	7.089	34.098	26.696	138.5	0.603	302	300	7.260	7.231	34.131	26.702	138.0	0.602	302				
350	6.627	6.595	34.108	26.771	131.9	0.670	353	350	6.653	6.621	34.142	26.794	129.7	0.669	353				
400	6.585	6.548	34.190	26.842	125.9	0.735	403	400	6.457	6.421	34.181	26.852	124.9	0.733	403				
450	6.277	6.237	34.210	26.898	121.0	0.796	454	450	6.302	6.262	34.238	26.917	119.3	0.794	454				
500	6.003	5.959	34.270	26.981	113.6	0.855	504	500	5.939	5.895	34.225	26.953	116.1	0.853	504				
512	5.930	5.885	34.277	26.996	112.3	0.869	516	510	5.999	5.954	34.270	26.982	113.7	0.864	514				

STATION C 8 CTD								RV NEW HORIZON				CRUISE SQ86				STATION C 9 CTD							
LATITUDE		LONGITUDE		DAY/MO/YR		START TIME		BOTTOM		LATITUDE		LONGITUDE		DAY/MO/YR		START TIME		BOTTOM					
35 0.0 N		121 21.6 W		21/03/86		0422 GMT		439 M		35 0.1 N		121 26.5 W		21/03/86		0524 GMT		463 M					
WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	13.949	13.949	33.093	24.725	320.9	0.000	0	0	13.878	13.878	33.088	24.736	319.9	0.000	0	0	13.878	13.878	33.088	24.736	319.9	0.000	0
10	13.886	13.885	33.090	24.736	320.2	0.032	10	10	13.568	13.567	33.095	24.804	313.7	0.032	10	10	13.568	13.567	33.095	24.804	313.7	0.032	10
20	13.369	13.366	33.092	24.843	310.3	0.064	20	20	13.332	13.329	33.081	24.842	310.4	0.063	20	20	13.332	13.329	33.081	24.842	310.4	0.063	20
30	13.290	13.286	33.090	24.857	309.1	0.095	30	30	13.307	13.303	33.091	24.855	309.4	0.094	30	30	13.307	13.303	33.091	24.855	309.4	0.094	30
40	13.191	13.186	33.087	24.875	307.8	0.125	40	40	12.665	12.660	33.195	25.062	289.9	0.124	40	40	12.665	12.660	33.195	25.062	289.9	0.124	40
50	13.153	13.146	33.098	24.891	306.5	0.156	50	50	11.864	11.858	33.204	25.221	274.9	0.152	50	50	11.864	11.858	33.204	25.221	274.9	0.152	50
75	11.377	11.368	33.262	25.356	262.6	0.227	76	75	11.495	11.486	33.372	25.421	256.6	0.219	76	75	11.495	11.486	33.372	25.421	256.6	0.219	76
100	10.848	10.836	33.464	25.609	239.2	0.290	101	100	10.484	10.472	33.556	25.744	226.3	0.279	101	100	10.484	10.472	33.556	25.744	226.3	0.279	101
125	9.984	9.970	33.655	25.907	211.2	0.346	126	125	9.696	9.682	33.715	26.002	202.1	0.332	126	125	9.696	9.682	33.715	26.002	202.1	0.332	126
150	9.024	9.008	33.846	26.213	182.4	0.395	151	150	8.906	8.890	33.870	26.251	178.8	0.380	151	150	8.906	8.890	33.870	26.251	178.8	0.380	151
175	8.594	8.576	33.950	26.363	168.6	0.439	176	175	8.523	8.505	33.968	26.387	166.2	0.423	176	175	8.523	8.505	33.968	26.387	166.2	0.423	176
200	8.183	8.163	33.982	26.450	160.6	0.481	202	200	8.244	8.224	34.010	26.463	159.5	0.464	202	200	8.244	8.224	34.010	26.463	159.5	0.464	202
225	7.948	7.925	34.043	26.533	153.1	0.520	227	225	7.862	7.840	34.033	26.538	152.6	0.503	227	225	7.862	7.840	34.033	26.538	152.6	0.503	227
250	7.547	7.523	34.072	26.615	145.6	0.557	252	250	7.735	7.710	34.063	26.581	149.0	0.541	252	250	7.735	7.710	34.063	26.581	149.0	0.541	252
275	7.459	7.432	34.115	26.661	141.6	0.593	277	275	7.543	7.516	34.102	26.639	143.7	0.577	277	275	7.543	7.516	34.102	26.639	143.7	0.577	277
300	7.080	7.052	34.113	26.713	136.9	0.628	302	300	7.499	7.470	34.109	26.651	143.0	0.613	302	300	7.499	7.470	34.109	26.651	143.0	0.613	302
350	6.810	6.778	34.145	26.776	131.6	0.695	353	350	7.120	7.087	34.138	26.728	136.3	0.683	353	350	7.120	7.087	34.138	26.728	136.3	0.683	353
400	6.308	6.272	34.198	26.884	121.6	0.758	403	400	6.514	6.478	34.187	26.849	125.2	0.748	403	400	6.514	6.478	34.187	26.849	125.2	0.748	403
408	6.247	6.211	34.200	26.894	120.8	0.768	411	430	6.432	6.393	34.193	26.865	124.1	0.786	433	430	6.432	6.393	34.193	26.865	124.1	0.786	433

STATION C 10 CTD								RV NEW HORIZON								CRUISE SQ86								STATION C 11 CTD							
LATITUDE		LONGITUDE		DAY/MO/YR		START TIME		BOTTOM		LATITUDE		LONGITUDE		DAY/MO/YR		START TIME		BOTTOM		LATITUDE		LONGITUDE		DAY/MO/YR		START TIME		BOTTOM			
35 0.1 N		121 31.1 W		21/03/86		0626 GMT		708 M		35 0.1 N		121 35.6 W		21/03/86		0728 GMT		1234 M		35 0.1 N		121 35.6 W		21/03/86		0728 GMT		1234 M			
WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	13.840	13.840	33.039	24.706	322.8	0.000	0	0	14.102	14.102	33.055	24.664	326.8	0.000	0	0	14.102	14.102	33.055	24.664	326.8	0.000	0	0	14.102	14.102	33.055	24.664	326.8	0.000	0
10	13.834	13.833	33.035	24.704	323.2	0.032	10	10	14.132	14.131	33.067	24.667	326.7	0.033	10	10	14.132	14.131	33.067	24.667	326.7	0.033	10	10	14.132	14.131	33.067	24.667	326.7	0.033	10
20	13.953	13.950	33.069	24.706	323.3	0.065	20	20	14.201	14.198	33.132	24.703	323.6	0.065	20	20	14.201	14.198	33.132	24.703	323.6	0.065	20	20	14.201	14.198	33.132	24.703	323.6	0.065	20
30	13.679	13.675	33.030	24.732	321.1	0.097	30	30	14.097	14.093	33.119	24.715	322.7	0.098	30	30	14.097	14.093	33.119	24.715	322.7	0.098	30	30	14.097	14.093	33.119	24.715	322.7	0.098	30
40	13.879	13.873	33.153	24.787	316.2	0.129	40	40	14.043	14.037	33.118	24.726	322.0	0.130	40	40	14.043	14.037	33.118	24.726	322.0	0.130	40	40	14.043	14.037	33.118	24.726	322.0	0.130	40
50	12.840	12.833	33.196	25.029	293.3	0.159	50	50	12.603	12.596	33.211	25.087	287.8	0.160	50	50	12.603	12.596	33.211	25.087	287.8	0.160	50	50	12.603	12.596	33.211	25.087	287.8	0.160	50
75	11.157	11.148	33.337	25.455	253.3	0.228	76	75	11.333	11.324	33.344	25.428	255.8	0.228	76	75	11.333	11.324	33.344	25.428	255.8	0.228	76	75	11.333	11.324	33.344	25.428	255.8	0.228	76
100	10.469	10.457	33.530	25.727	227.9	0.288	101	100	10.301	10.289	33.496	25.729	227.7	0.289	101	100	10.301	10.289	33.496	25.729	227.7	0.289	101	100	10.301	10.289	33.496	25.729	227.7	0.289	101
125	9.931	9.917	33.700	25.951	207.0	0.342	126	125	9.839	9.825	33.730	25.990	203.3	0.342	126	125	9.839	9.825	33.730	25.990	203.3	0.342	126	125	9.839	9.825	33.730	25.990	203.3	0.342	126
150	9.159	9.143	33.859	26.202	183.5	0.391	151	150	8.961	8.945	33.895	26.262	177.8	0.390	151	150	8.961	8.945	33.895	26.262	177.8	0.390	151	150	8.961	8.945	33.895	26.262	177.8	0.390	151
175	8.607	8.589	33.953	26.363	168.6	0.435	176	175	8.462	8.444	33.973	26.401	165.0	0.433	176	175	8.462	8.444	33.973	26.401	165.0	0.433	176	175	8.462	8.444	33.973	26.401	165.0	0.433	176
200	8.093	8.073	34.007	26.483	157.5	0.476	202	200	8.196	8.176	34.004	26.466	159.2	0.474	202	200	8.196	8.176	34.004	26.466	159.2	0.474	202	200	8.196	8.176	34.004	26.466	159.2	0.474	202
225	7.810	7.788	34.029	26.542	152.1	0.514	227	225	7.915	7.892	34.029	26.527	153.6	0.513	227	225	7.915	7.892	34.029	26.527	153.6	0.513	227	225	7.915	7.892	34.029	26.527	153.6	0.513	227
250	7.559	7.535	34.047	26.593	147.7	0.552	252	250	7.524	7.500	34.051	26.601	146.9	0.550	252	250	7.524	7.500	34.051	26.601	146.9	0.550	252	250	7.524	7.500	34.051	26.601	146.9	0.550	252
275	7.383	7.356	34.067	26.634	144.1	0.588	277	275	7.283	7.257	34.070	26.651	142.5	0.586	277	275	7.283	7.257	34.070	26.651	142.5	0.586	277	275	7.283	7.257	34.070	26.651	142.5	0.586	277
300	7.268	7.239	34.092	26.670	141.0	0.624	302	300	7.162	7.134	34.099	26.691	139.1	0.622	302	300	7.162	7.134	34.099	26.691	139.1	0.622	302	300	7.162	7.134	34.099	26.691	139.1	0.622	302
350	6.983	6.950	34.158	26.762	132.9	0.692	353	350	6.869	6.836	34.160	26.780	131.3	0.689	353	350	6.869	6.836	34.160	26.780	131.3	0.689	353	350	6.869	6.836	34.160	26.780	131.3	0.689	353
400	6.722	6.685	34.181	26.816	128.4	0.758	403	400	6.580	6.543	34.188	26.841	126.0	0.753	403	400	6.580	6.543	34.188	26.841	126.0	0.753	403	400	6.580	6.543	34.188	26.841	126.0	0.753	403
450	6.352	6.311	34.212	26.890	121.9	0.820	454	450	6.292	6.252	34.219	26.903	120.5	0.815	454	450	6.292	6.252	34.219	26.903	120.5	0.815	454	450	6.292	6.252	34.219	26.903	120.5	0.815	454
500	5.899	5.856	34.233	26.965	115.0	0.880	504	500	5.100	6.056	34.235	26.941	117.5	0.875	504	500	5.899	5.856	34.233	26.965	115.0	0.880	504	500	5.899	5.856	34.233	26.965	115.0	0.880	504
510	5.844	5.800	34.238	26.976	114.1	0.891	514	510	6.035	5.990	34.233	26.948	116.9	0.886	514	510	5.844	5.800	34.238	26.976	114.1	0.891	514	510	5.844	5.800	34.238	26.976	114.1	0.891	514

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON

CRUISE SQ86

STATION A 1

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		SECCHI DEPTH			INCUBATION TIME		LAN		CIVIL TWILIGHT		INTEGRATED VALUE	
34 56.1 N		120 55.2 W		03/16/86		1911 GMT		19 M			1215 - 1840 PST		1213 PST		1838 PST		289.0 MG C/M2	
DEPTH	TEMP	SALINITY	SIGMA	DISS O2	OXY	SI03	PO4	NO3	NO2	CHL	PHAEO	LIGHT	UPTAKE (MGC/M3)					
M	DEG C		THETA	ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	PCT	1	2	MEAN	DARK		
1	14.01	33.016	24.652	5.99	102.0	3.2	0.35	0.0	0.00	0.27	0.11	96	2.8	1.7	2.3	0.15		
13	13.98	33.028	24.669	5.99	101.9	3.4	0.35	0.0	0.00	0.31	0.12	34	6.4	6.0	6.2	0.17		
19	13.96	33.025	24.672	6.00	102.0	3.4	0.35	0.0	0.00	0.30	0.13	24	5.9	4.0	4.9	0.15		
28	13.90	33.017	24.677	6.01	102.1	3.5	0.35	0.0	0.00	0.35	0.13	12	5.7	4.6	5.1	0.17		
46	13.12	33.063	24.870	5.96	99.6	4.1	0.44	1.0	0.06	0.46	0.27	2.6	3.8	4.1	3.9	0.15		
85	10.62	33.550	25.717	4.29	68.2	15.2	1.27	15.7	0.01	0.05	0.07	0.13	0.01	0.04	0.02	0.15		

RV NEW HORIZON

CRUISE SQ86

STATION G 11

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		SECCHI DEPTH		INCUBATION TIME		LAN		CIVIL TWILIGHT		INTEGRATED VALUE	
36 03.0 N		121 41.0 W		03/17/86		1803 GMT		8 M		1214 - 1843 PST		1215 PST		1841 PST		964.5 MG C/M2	
DEPTH	TEMP	SALINITY	SIGMA	DISS O2	OXY	SI03	PO4	NO3	NO2	CHL	PHAEO	LIGHT	UPTAKE (MGC/M3)				
M	DEG C		THETA	ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	PCT	1	2	MEAN	DARK	
1	12.95	33.106	24.936	6.24	104.0	3.0	0.42	0.8	0.06	2.67	0.44	96	21.4	12.2	16.8	0.29	
7	12.97	33.106	24.933	6.23	103.8	3.0	0.41	0.8	0.06	2.71	0.79	34	67.6	78.2	72.9	0.30	
8	12.94	33.104	24.938	6.23	103.8	3.0	0.42	0.8	0.06	2.61	0.81	24	50.5	54.3	52.4	0.31	
12	12.94	33.106	24.938	6.22	103.6	3.0	0.42	0.9	0.06	2.65	0.80	12	50.3	52.6	51.4	0.32	
21	12.86	33.149	24.988	6.03	100.3	3.8	0.50	1.8	0.10	2.09	0.67	2.6	13.5	13.9	13.7	0.21	
37	11.85	33.399	25.375	4.95	80.7	10.3	0.96	9.9	0.11	0.43	0.41	0.13	0.63	0.83	0.73	0.14	

RV NEW HORIZON

CRUISE SQ86

STATION G 24

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		SECCHI DEPTH		INCUBATION TIME		LAN		CIVIL TWILIGHT		INTEGRATED VALUE	
35 30.8 N		121 34.8 W		03/18/86		1913 GMT		14 M		1214 - 1843 PST		1214 PST		1842 PST		524.0 MG C/M2	
DEPTH	TEMP	SALINITY	SIGMA	DISS O2	OXY	SI03	PO4	NO3	NO2	CHL	PHAEO	LIGHT	UPTAKE (MG/M3)				
M	DEG C		THETA	ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	PCT	1	2	MEAN	DARK	
1	13.49	33.097	24.822	6.06	102.1	3.4	0.42	0.6	0.02	0.62	0.25	96	10.5	9.7	10.1	0.24	
11	13.43	33.093	24.832	6.07	102.1	3.5	0.42	0.6	0.02	0.65	0.26	34	16.3	17.9	17.1	0.29	
14	13.40	33.093	24.837	6.07	102.1	3.5	0.42	0.6	0.02	0.60	0.25	24	15.1	16.1	15.6	0.29	
21	13.38	33.092	24.840	6.06	101.9	3.5	0.42	0.6	0.02	0.60	0.27	12	13.7	13.5	13.6	0.27	
35	13.36	33.095	24.847	6.03	101.3	3.6	0.42	0.6	0.04	0.61	0.28	2.6	6.1	5.8	6.0	0.18	
64	11.14	33.469	25.560	4.57	73.4	12.3	1.17	13.0	0.03	0.09	0.13	0.13	0.17	0.16	0.17	0.12	

RV NEW HORIZON

CRUISE SQ86

STATION G 36

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		SECCHI DEPTH		INCUBATION TIME		LAN		CIVIL TWILIGHT		INTEGRATED VALUE	
35 21.7 N		121 38.5 W		03/19/86		1826 GMT		14 M		1214 - 1842 PST		1214 PST		1842 PST		643.4 MG C/M2	
DEPTH	TEMP	SALINITY	SIGMA	DISS O2	OXY	SI03	PO4	NO3	NO2	CHL	PHAEO	LIGHT	UPTAKE (MGC/M3)				
M	DEG C		THETA	ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	PCT	1	2	MEAN	DARK	
0	13.66	33.088	24.780	6.16	104.2	3.5	0.38	0.1	0.01	0.52	0.22	96	9.9	10.9	10.4	0.31	
10	13.56	33.083	24.798	6.16	103.9	3.5	0.38	0.1	0.01	0.56	0.25	34	17.5	19.5	18.5	0.36	
13	13.51	33.080	24.805	6.14	103.5	3.5	0.38	0.1	0.01	0.57	0.26	24	15.9	14.7	15.3	0.35	
20	13.44	33.078	24.818	6.15	103.5	3.5	0.38	0.1	0.01	0.67	0.30	12	17.7	17.0	17.3	0.36	
34	13.42	33.080	24.823	6.09	102.4	3.6	0.39	0.1	0.01	0.78	0.39	2.6	10.5	9.1	9.8	0.18	
63	11.33	33.402	25.474	4.90	79.0	10.8	1.05	11.1	0.03	0.07	0.14	0.13	0.16	0.16	0.16	0.12	

RV NEW HORIZON

CRUISE SQ86

STATION C 1

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		SECCHI DEPTH		INCUBATION TIME		LAN		CIVIL TWILIGHT		INTEGRATED VALUE	
34 59.5 N		120 46.5 W		03/20/86		1854 GMT		13 M		1210 - 1842 PST		1211 PST		1842 PST		707.0 MG C/M2	
DEPTH	TEMP	SALINITY	SIGMA	DISS O2	OXY	SI03	PO4	NO3	NO2	CHL	PHAEO	LIGHT	UPTAKE (MGC/M3)				
M	DEG C		THETA	ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	PCT	1	2	MEAN	DARK	
1	13.83	33.088	24.746	6.26	106.2	3.9	0.39	0.0	0.00	0.59	0.27	96	12.4	9.8	11.1	0.32	
10	13.54	33.084	24.801	6.29	106.1	3.9	0.39	0.0	0.00	0.68	0.33	34	22.3	23.2	22.7	0.41	
13	13.50	33.084	24.809	6.29	106.0	3.8	0.38	0.0	0.00	0.67	0.38	24	22.2	27.9	25.1	0.39	
20	13.48	33.083	24.814	6.29	105.9	3.8	0.38	0.0	0.00	0.72	0.35	12	22.1	21.16	21.6	0.39	
33	12.88	33.189	25.015	5.75	95.7	5.8	0.60	2.8	0.13	0.67	0.36	2.6	9.8	7.3	8.6	0.23	
59	10.39	33.603	25.797	3.97	62.8	19.4	1.48	17.8	0.03	0.06	0.17	0.13	0*	0.07	0.04	0.19	

* DARK UPTAKE EXCEEDED LIGHT UPTAKE.

Secchi Disk Observations

Cruise SQ86

Sta.	Day	Mo.	Local Time (+8: PST)	Secchi Depth (m)	Weather	Clouds Type/Amt
A 1	16	3	1100	19	-	-
G 1	16	3	1500	13	1	SC 6/8
G 11	17	3	0955	8	1	ST 1/8
G 24	18	3	1105	14	1	CS 3/8
G 26	18	3	1357	11	1	CC 6/8
G 36	19	3	1020	14	0	- 0
G 40	19	3	1602	21	0	- 0
C 1	20	3	1050	13	1	CI 3/8
C 2	20	3	1140	12	1	CS 3/8
C 3	20	3	1310	9	-	-
C 4	20	3	1421	8	-	-
C 5	20	3	1615	8	1	NS 5/8

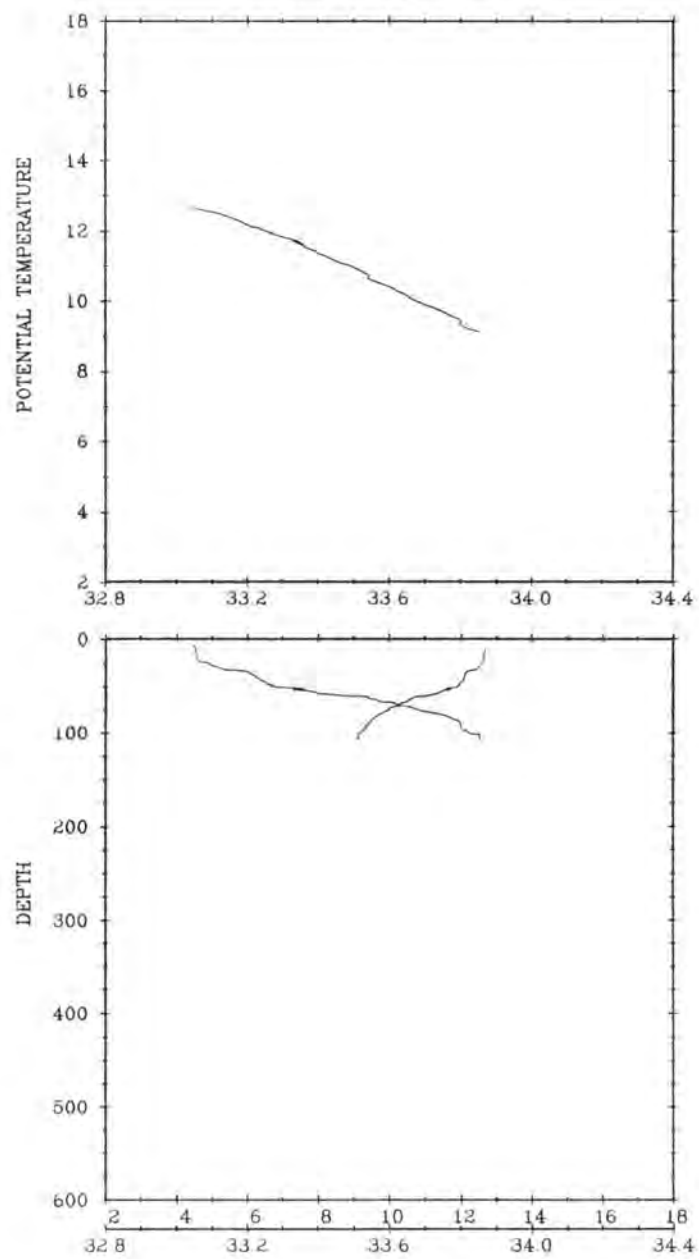
Cruise SQ86

MACROZOOPLANKTON BIOMASS

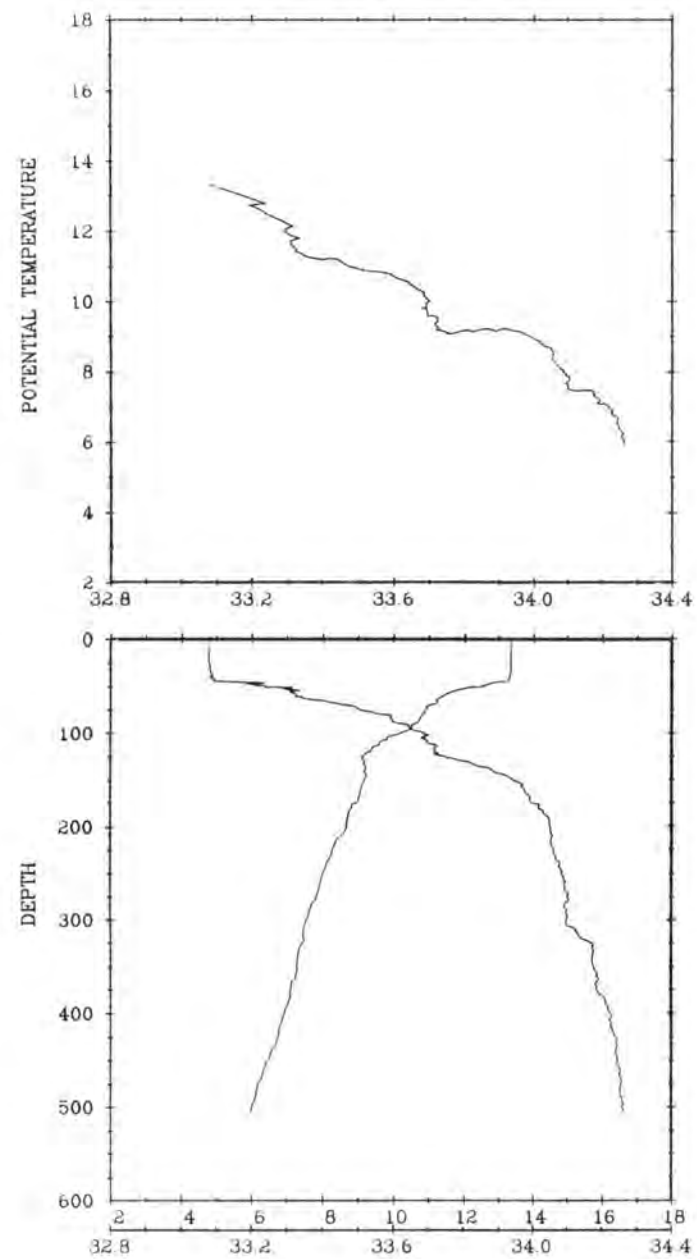
Net Mesh Size 0.505 mm

Sta.	Position		Date Mo/Day	Time (GMT) Start End		Water Volume Strained (m ³)	Max tow Depth (m)	Volume per 1000 m ³ Strained	
								Total (cm ³)	Small (cm ³)
G 8	35 50.8N	121 31.1W	3/17	1236	1258	450	212	155	155
G 10	35 59.0N	121 37.6W	3/17	1605	1627	534	193	70	70
G 17	35 28.5N	121 21.8W	3/18	0520	0542	472	201	92	92
G 21	35 19.4N	121 24.9W	3/18	1412	1433	473	172	56	56
G 24	35 30.9N	121 35.1W	3/18	1927	1949	462	208	105	64
G 26	35 37.9N	121 42.6W	3/18	2337	2359	430	159	93	93
G 28	35 45.9N	121 50.8W	3/19	0326	0348	442	172	228	228
G 34	35 27.7N	121 46.6W	3/19	1404	1426	428	168	136	100
G 36	35 20.8N	121 39.2W	3/19	1737	1758	453	176	85	85
G 40	35 02.5N	121 38.6W	3/20	0106	0128	452	193	46	46
G 42	35 10.4N	121 46.3W	3/20	0447	0510	457	216	105	94
B 4	35 12.0N	121 14.1W	3/20	1131	1153	408	212	175	175
B 7	35 12.0N	120 59.5W	3/20	1525	1547	407	180	158	158
C 2	34 59.6N	120 52.8W	3/20	2024	2035	232	96	62	62
C 5	35 00.0N	121 07.1W	3/21	0059	0120	455	212	98	98

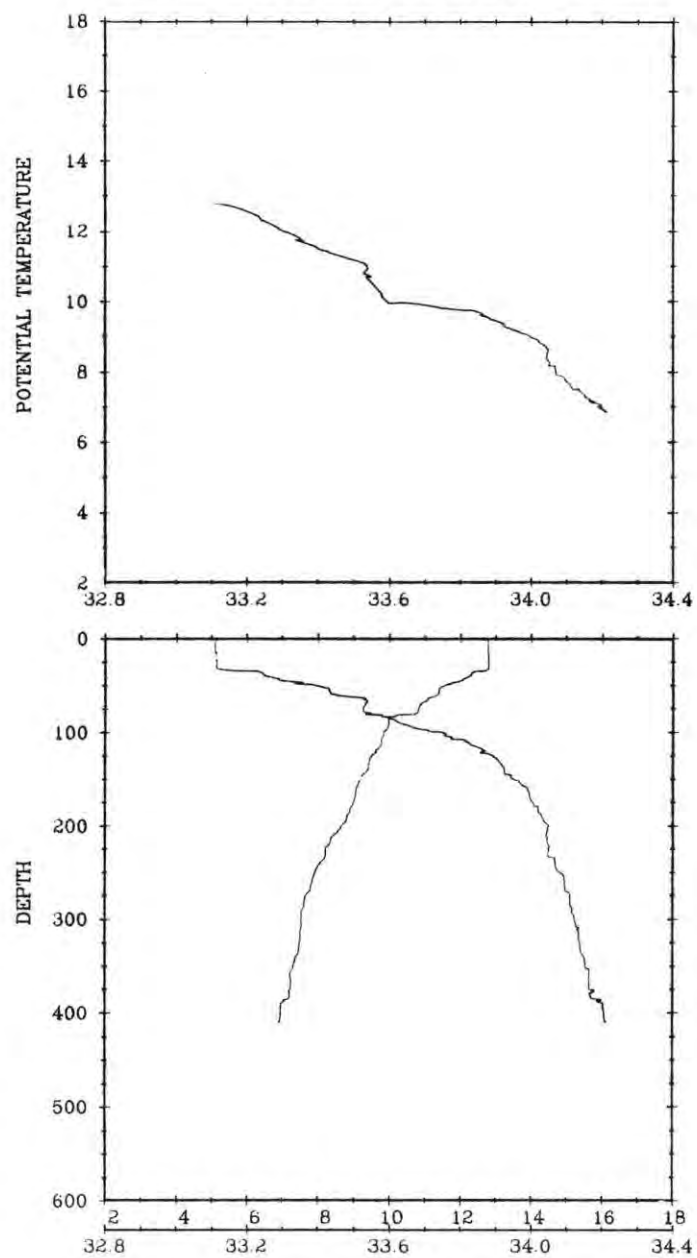
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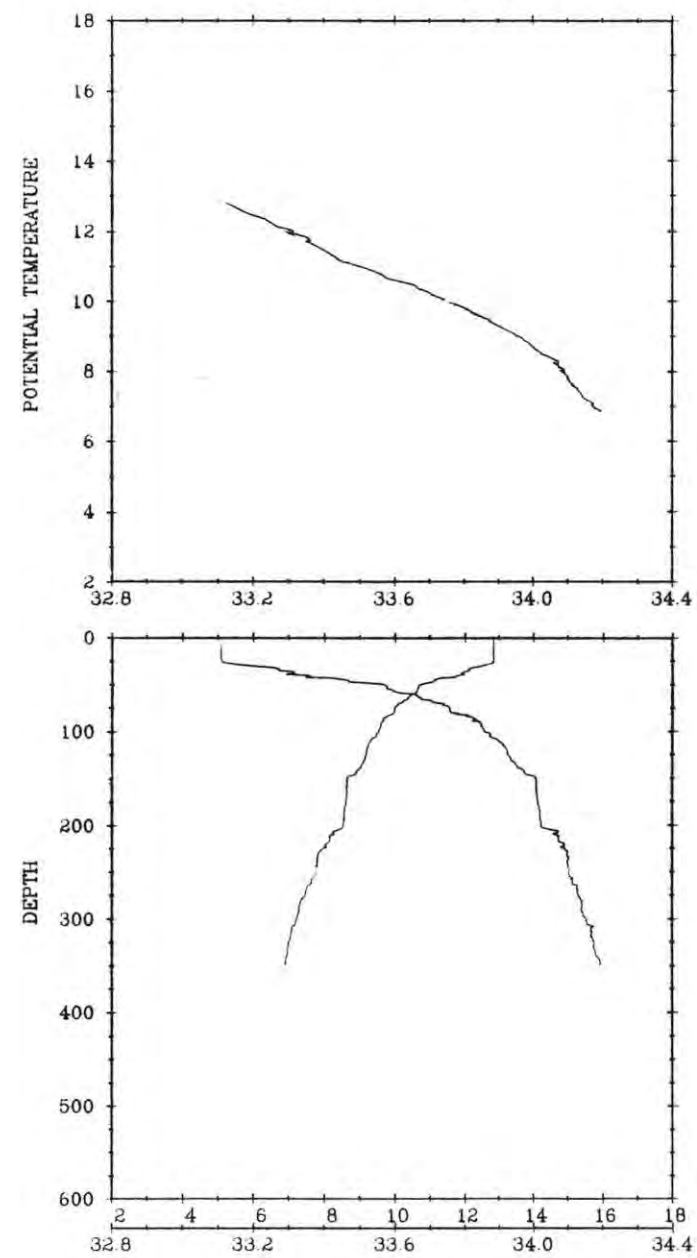
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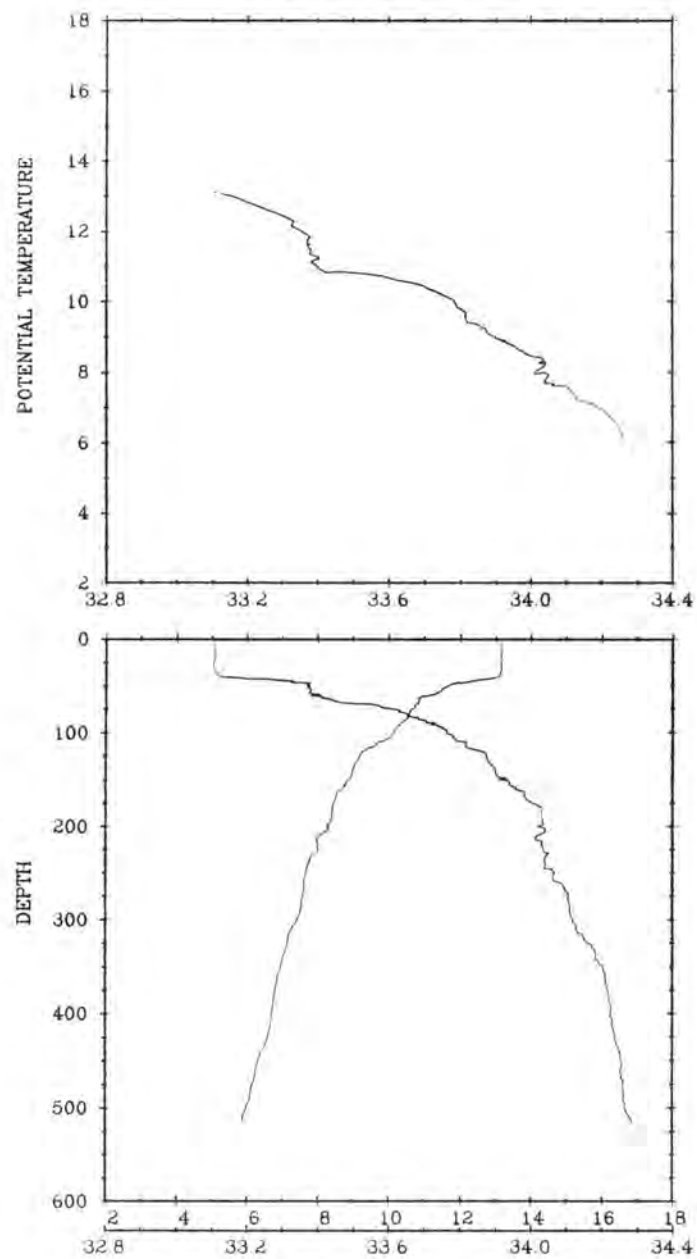
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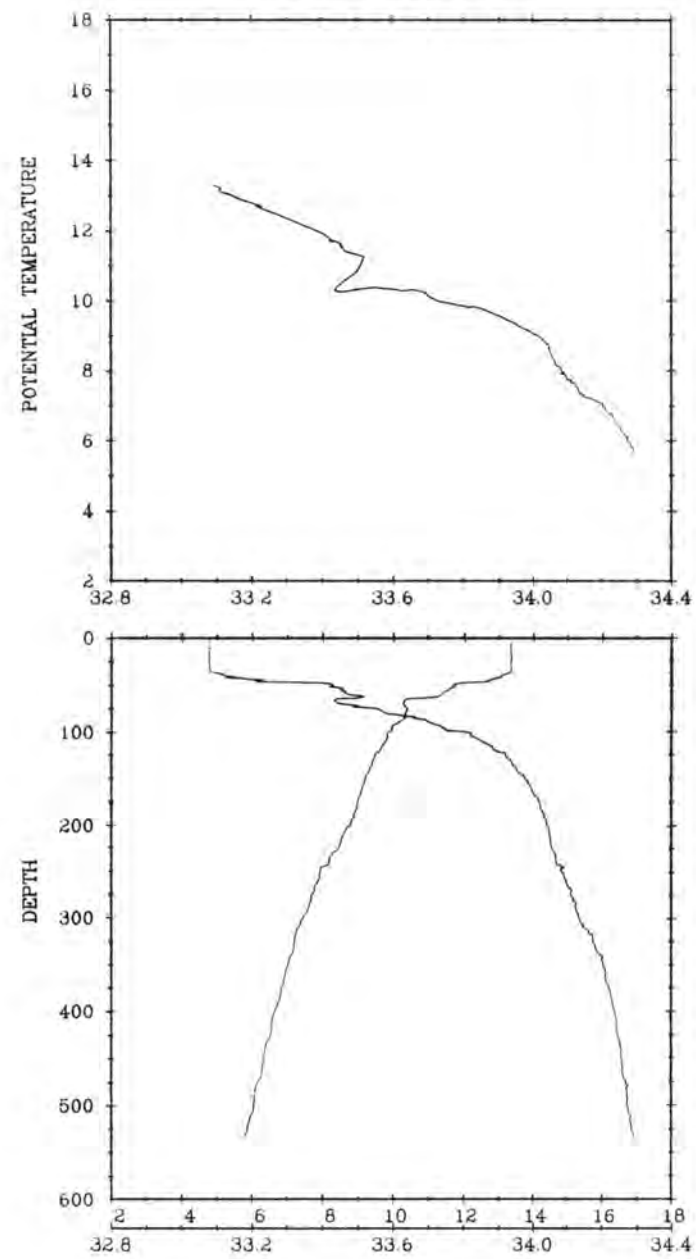
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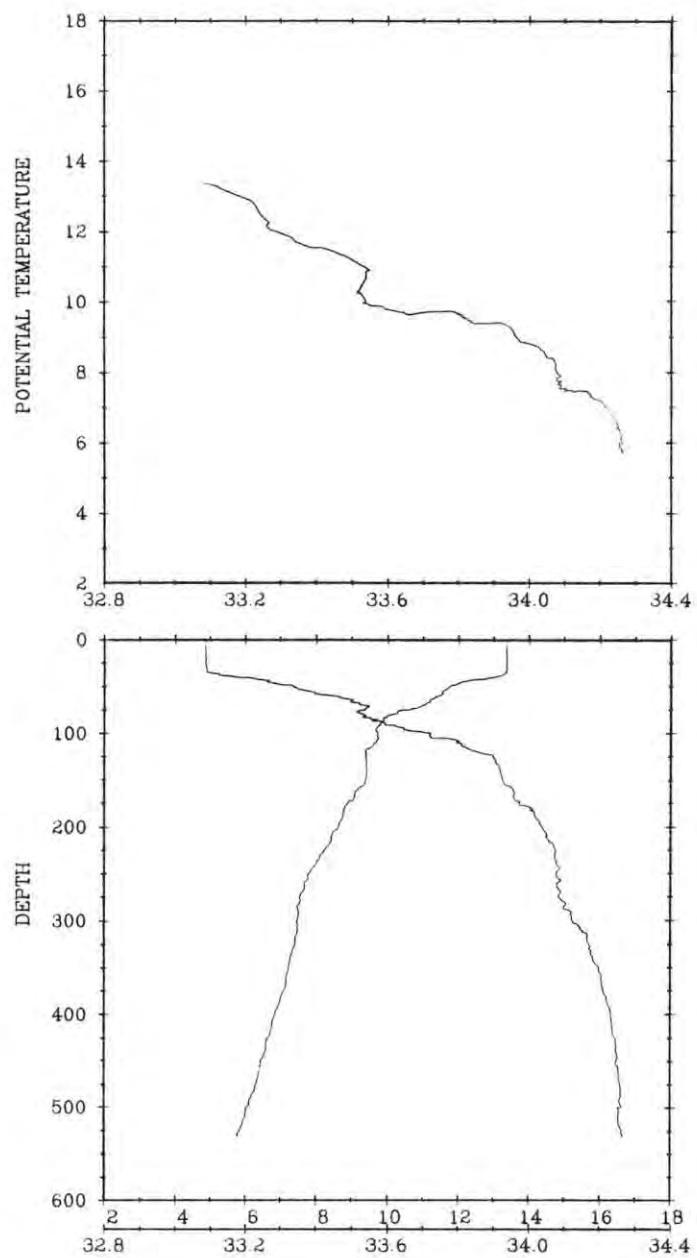
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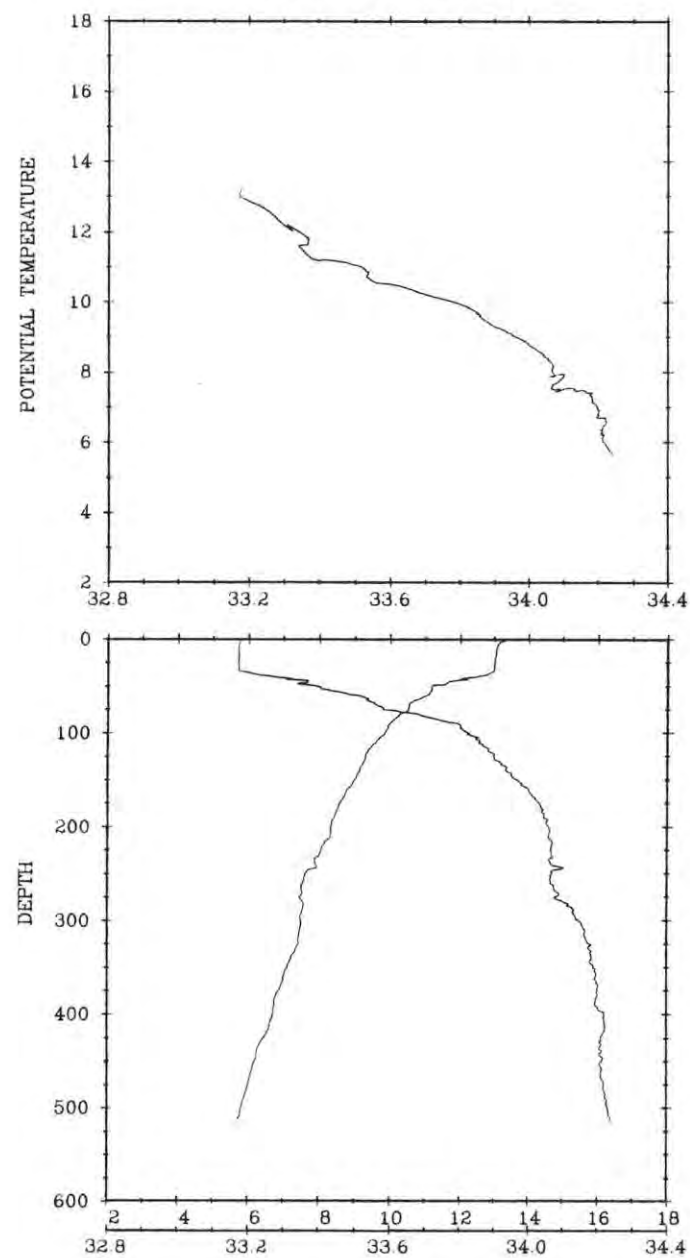
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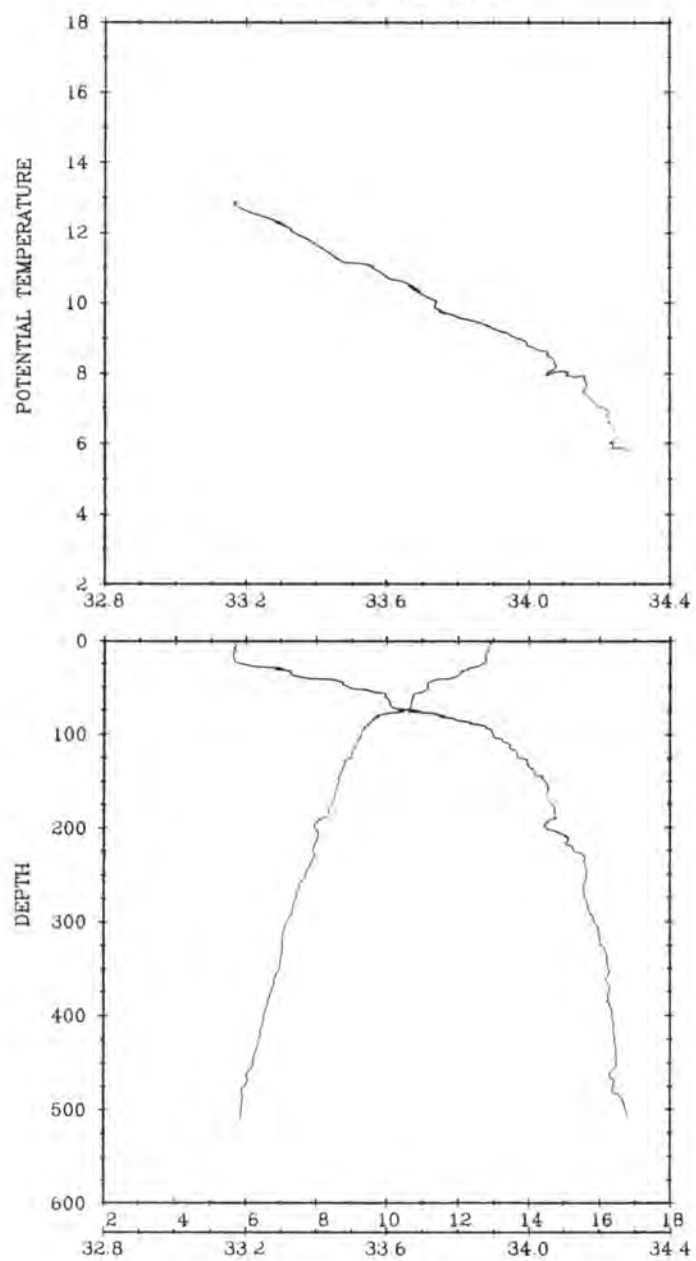
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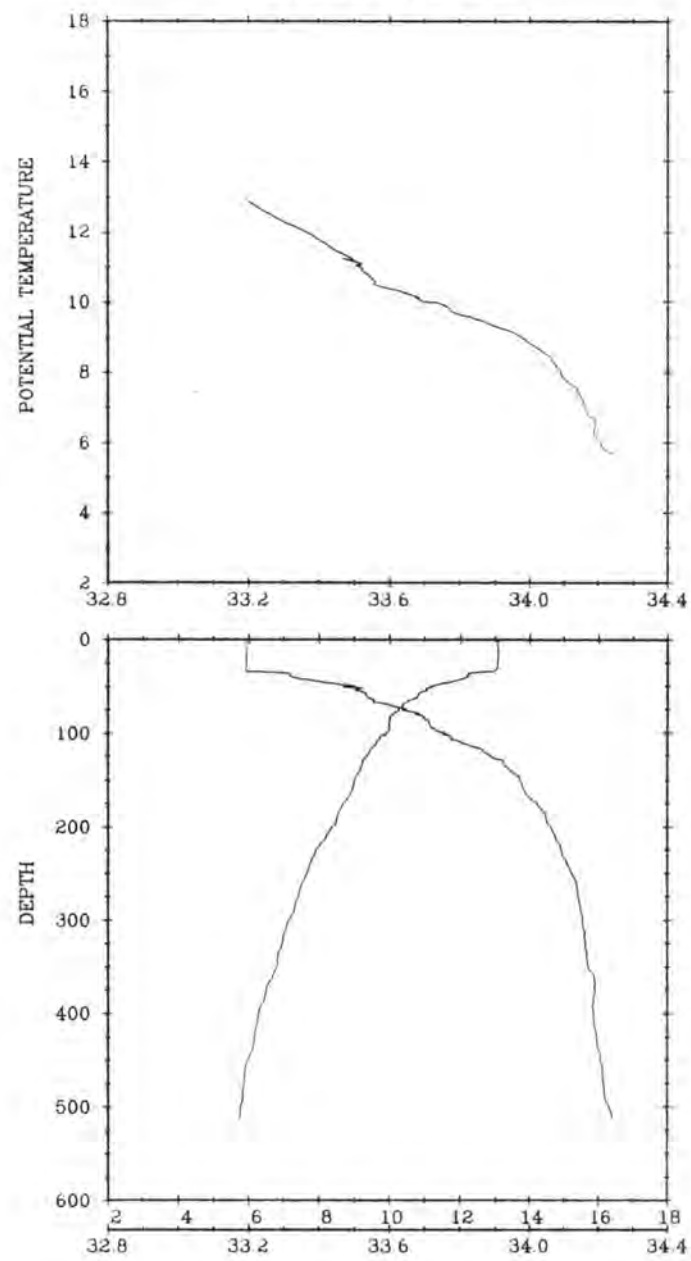
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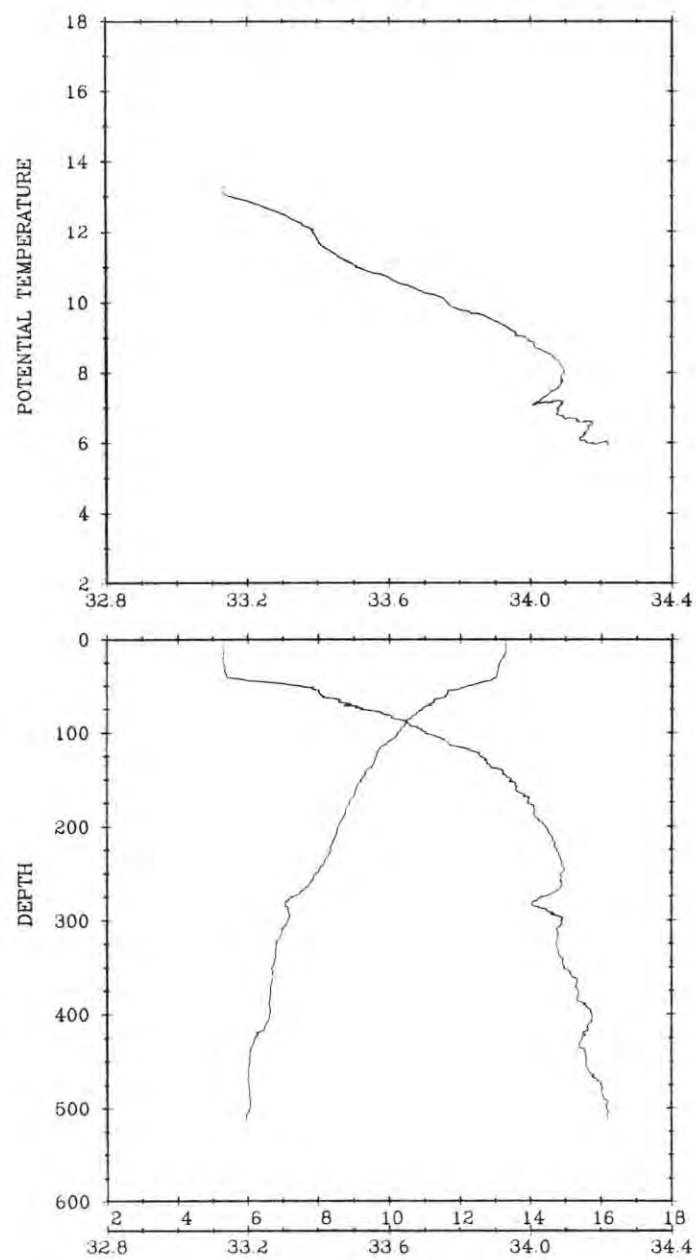
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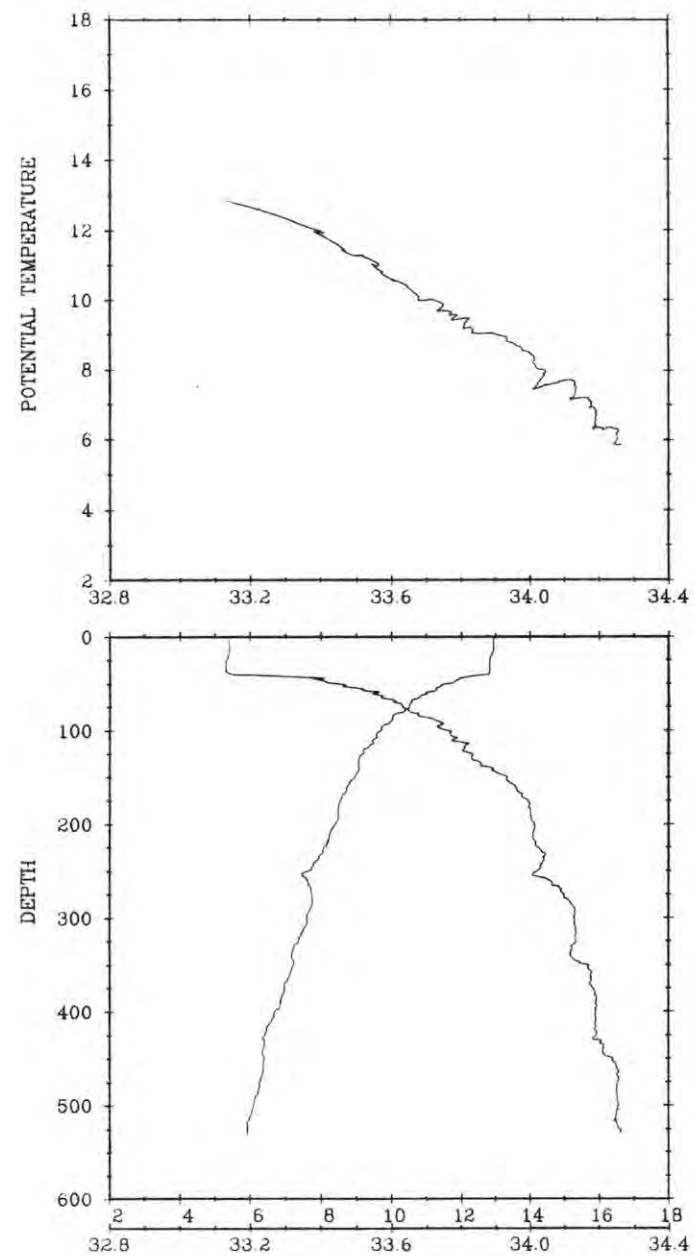
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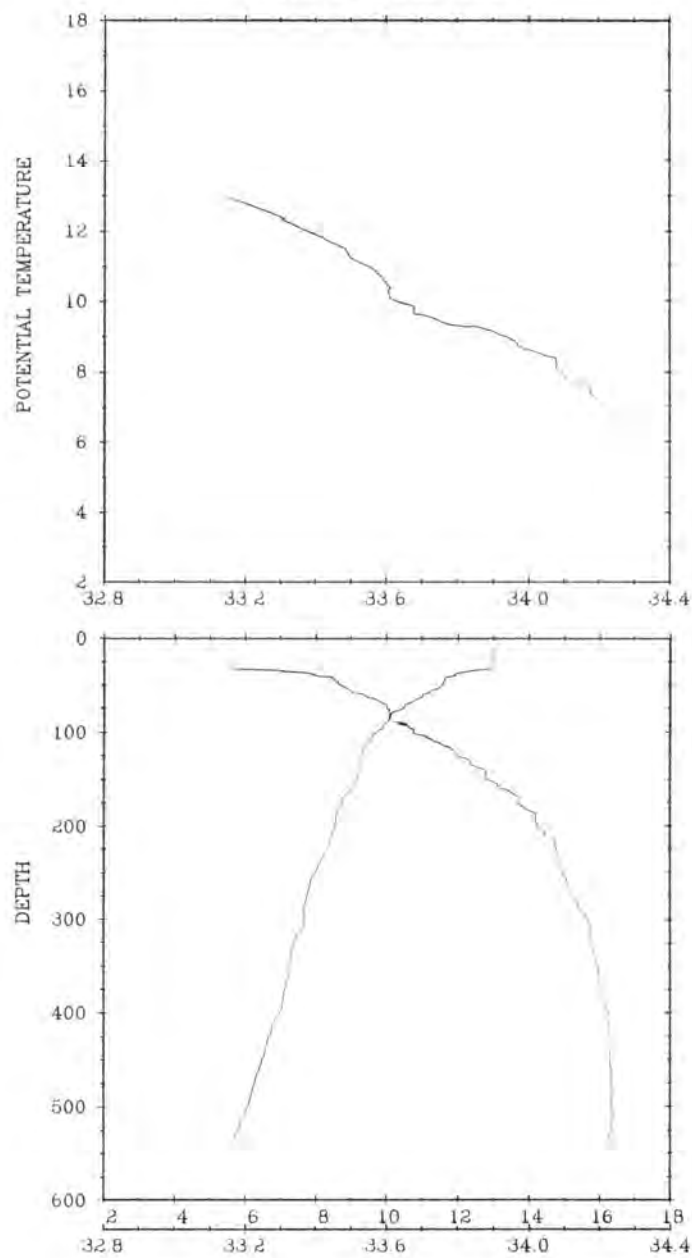
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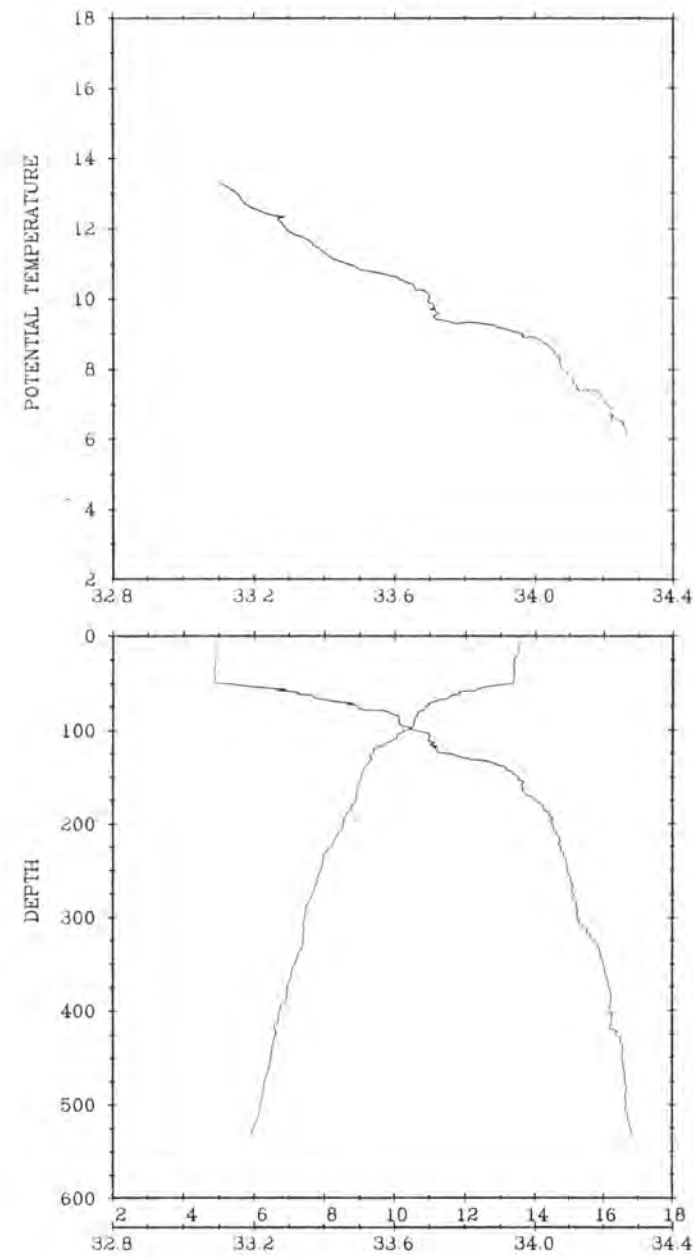
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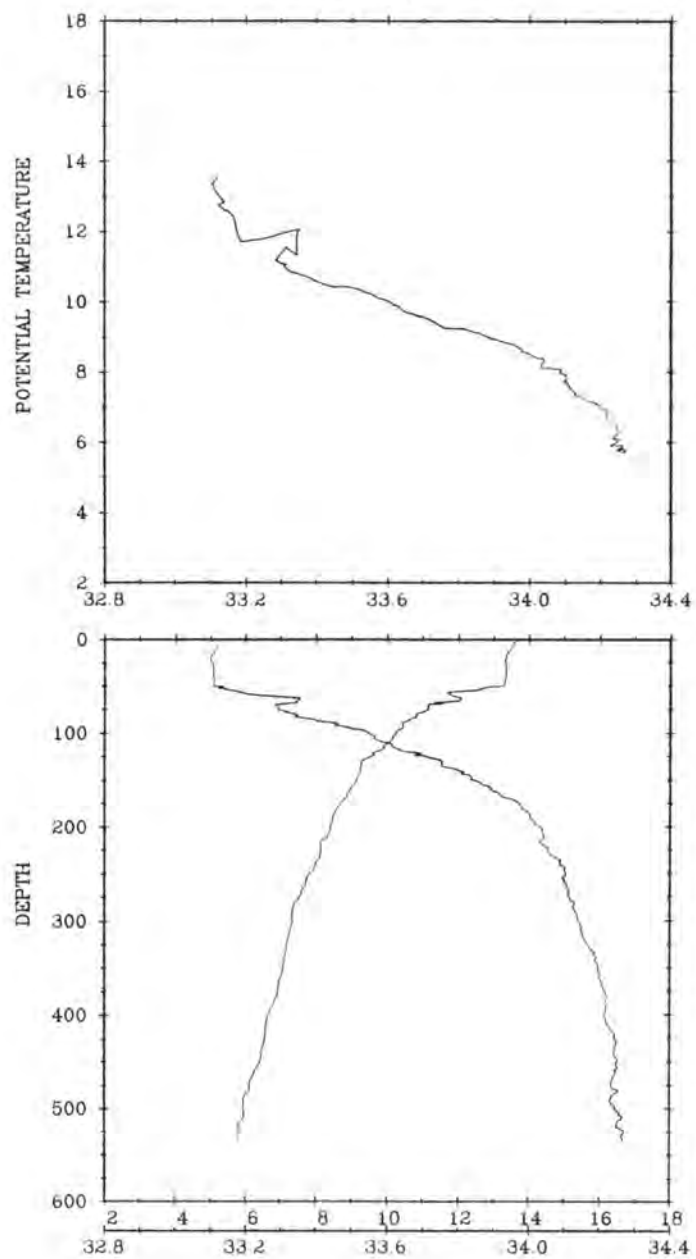
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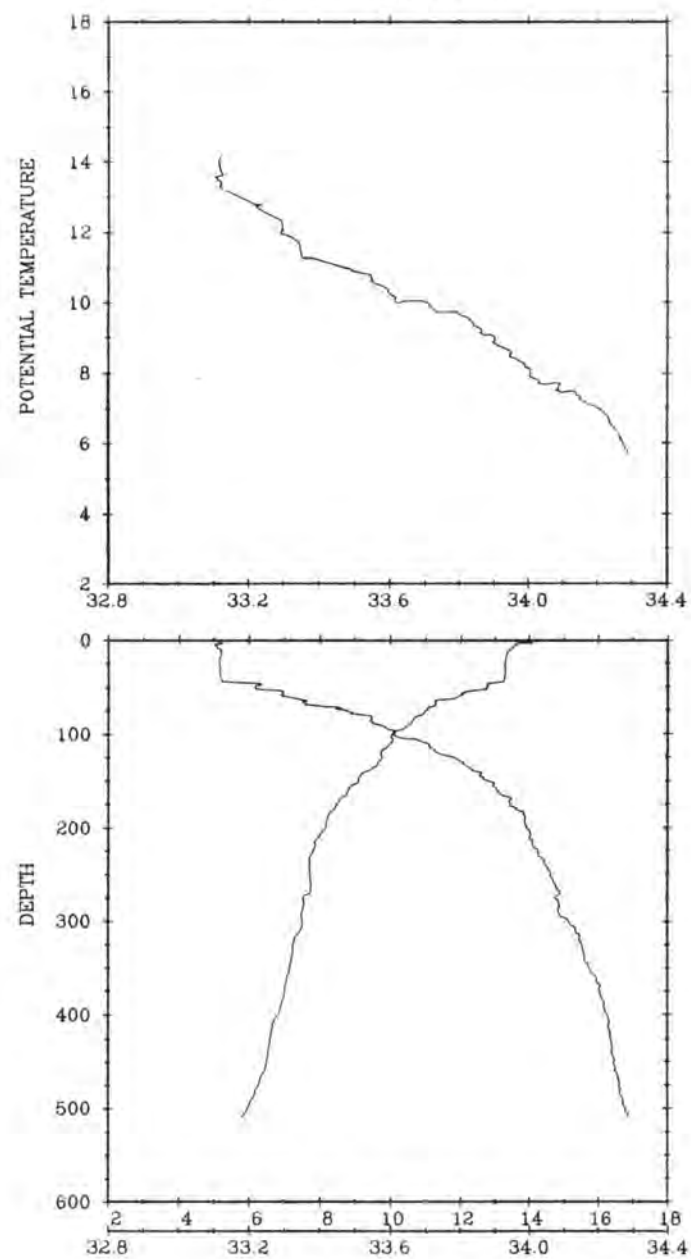
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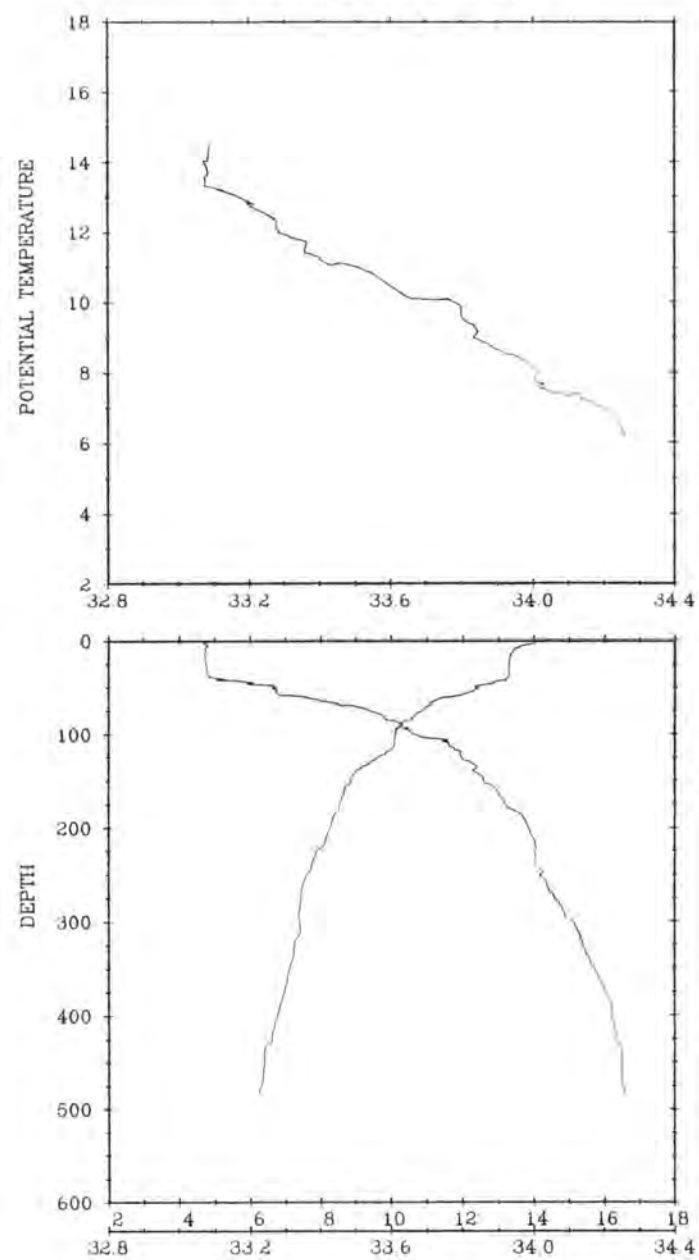
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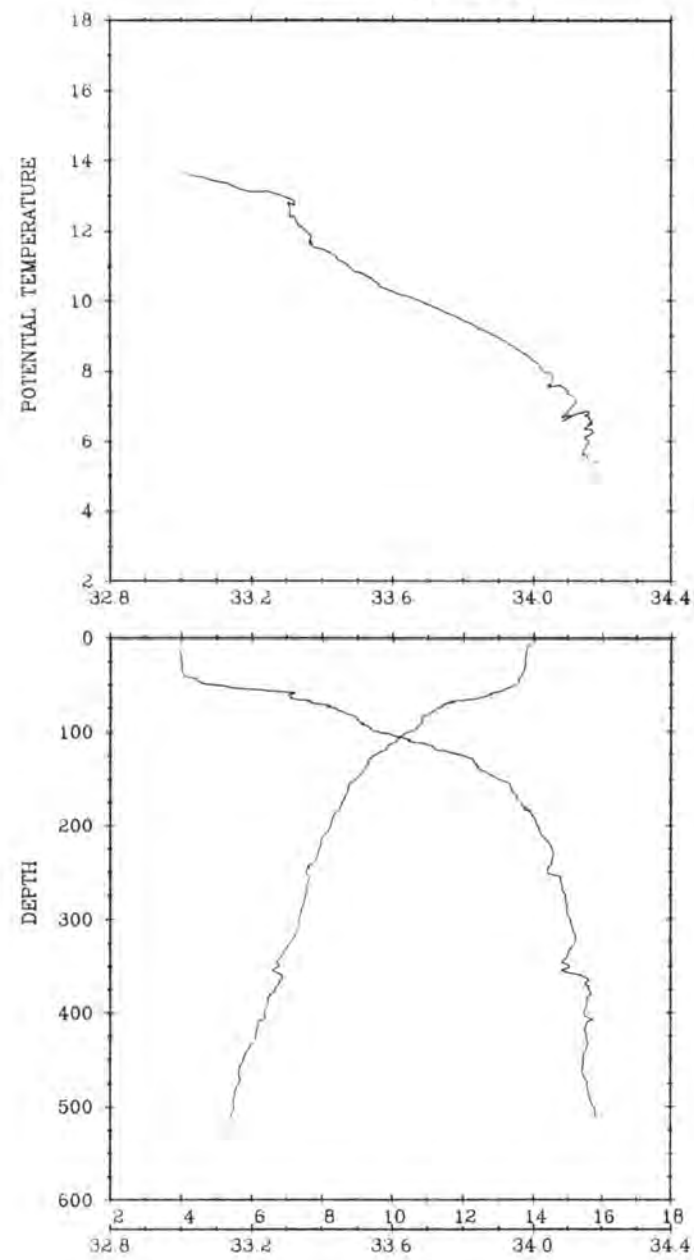
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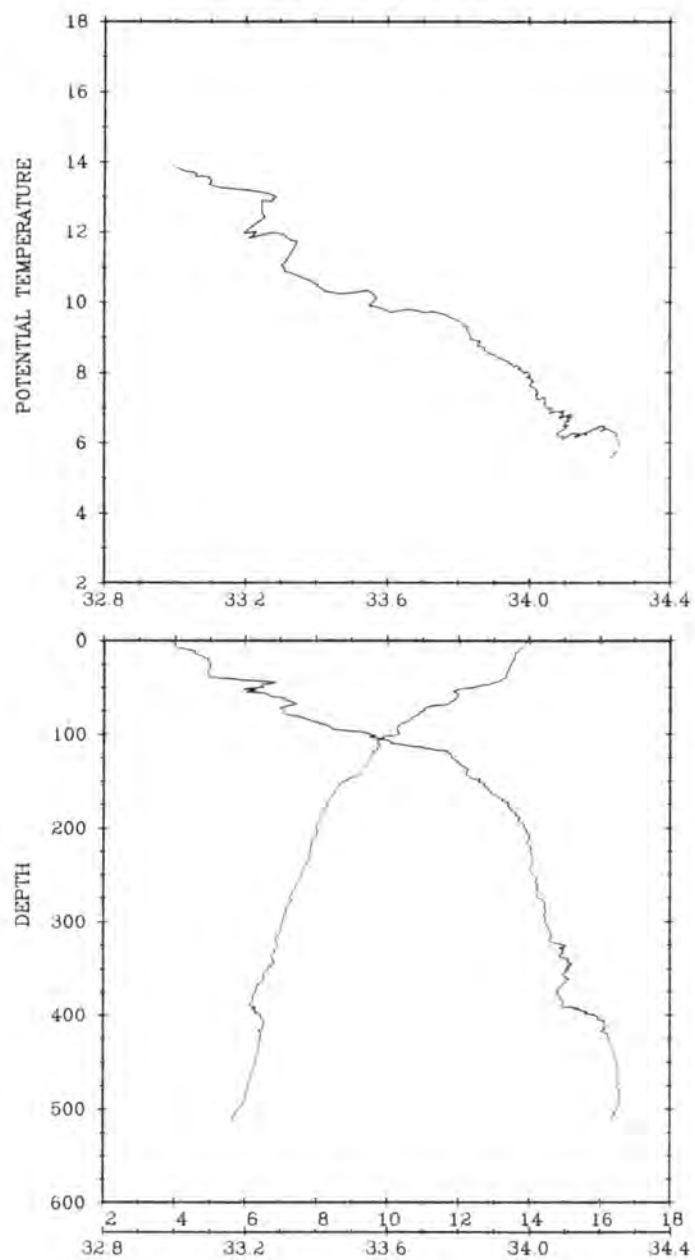
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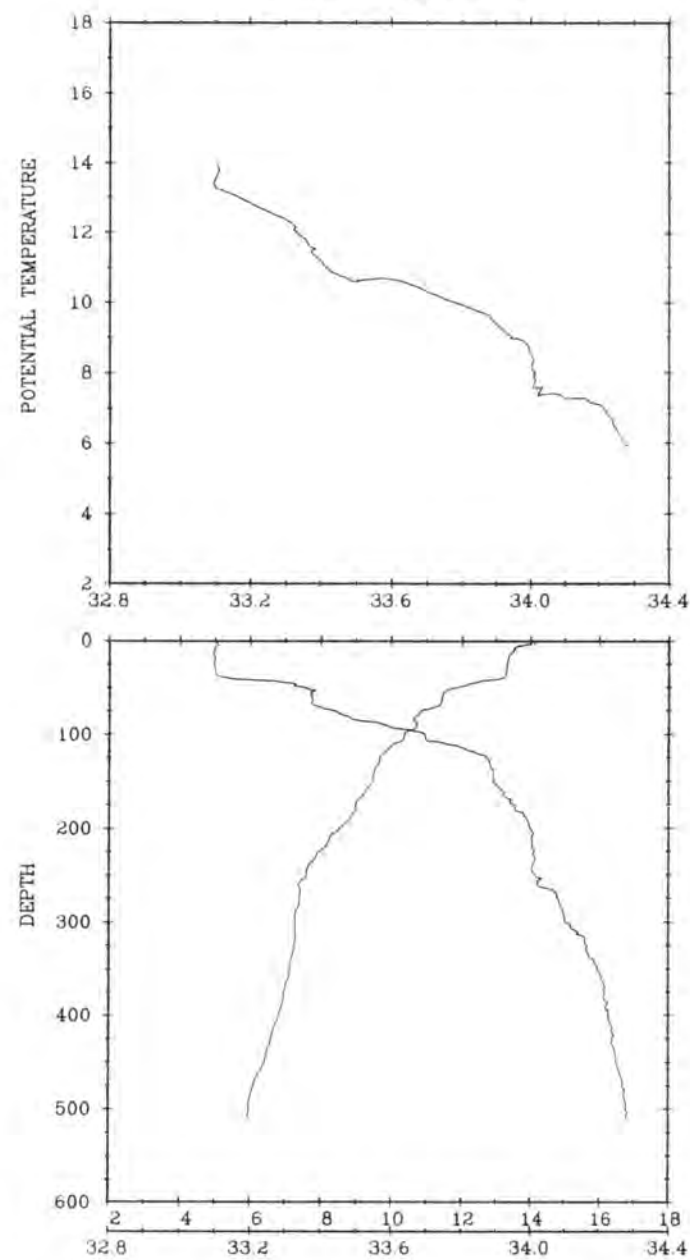
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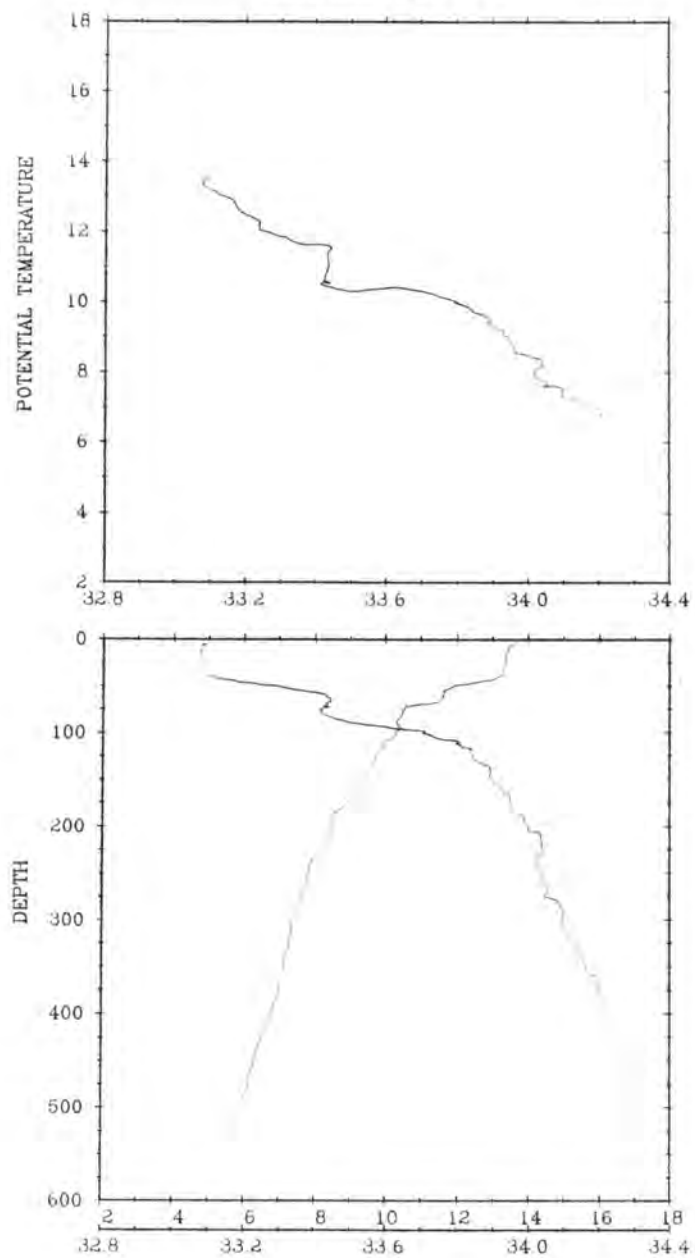
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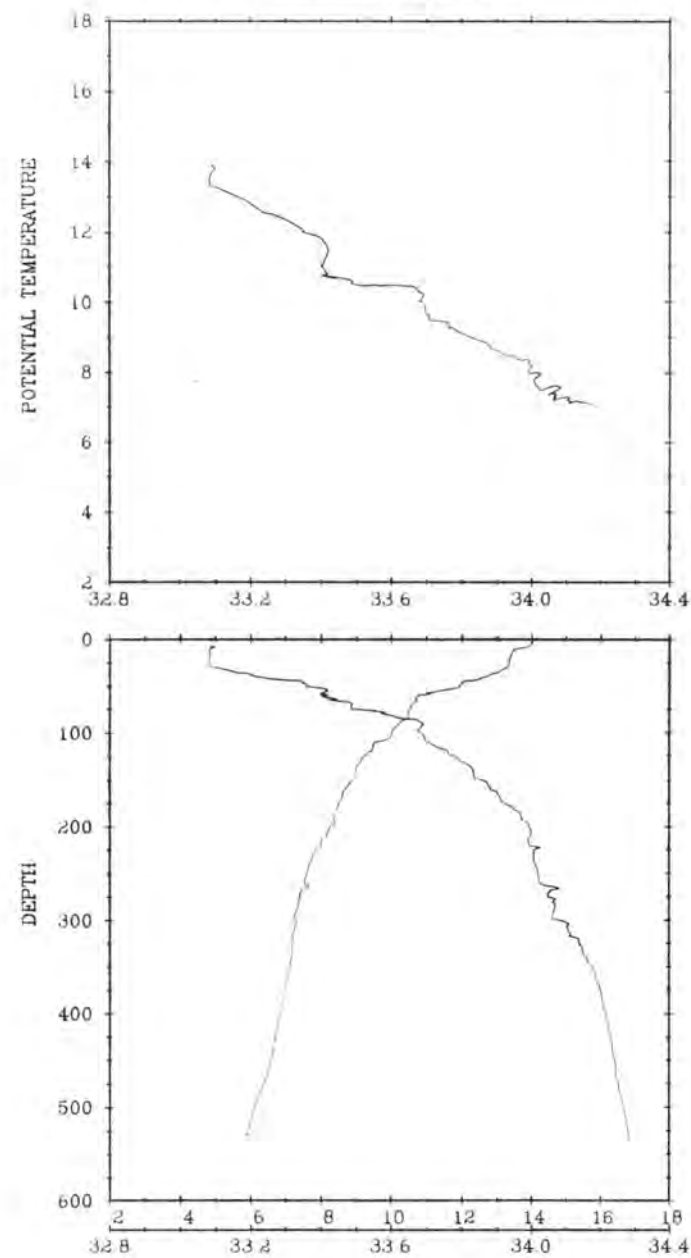
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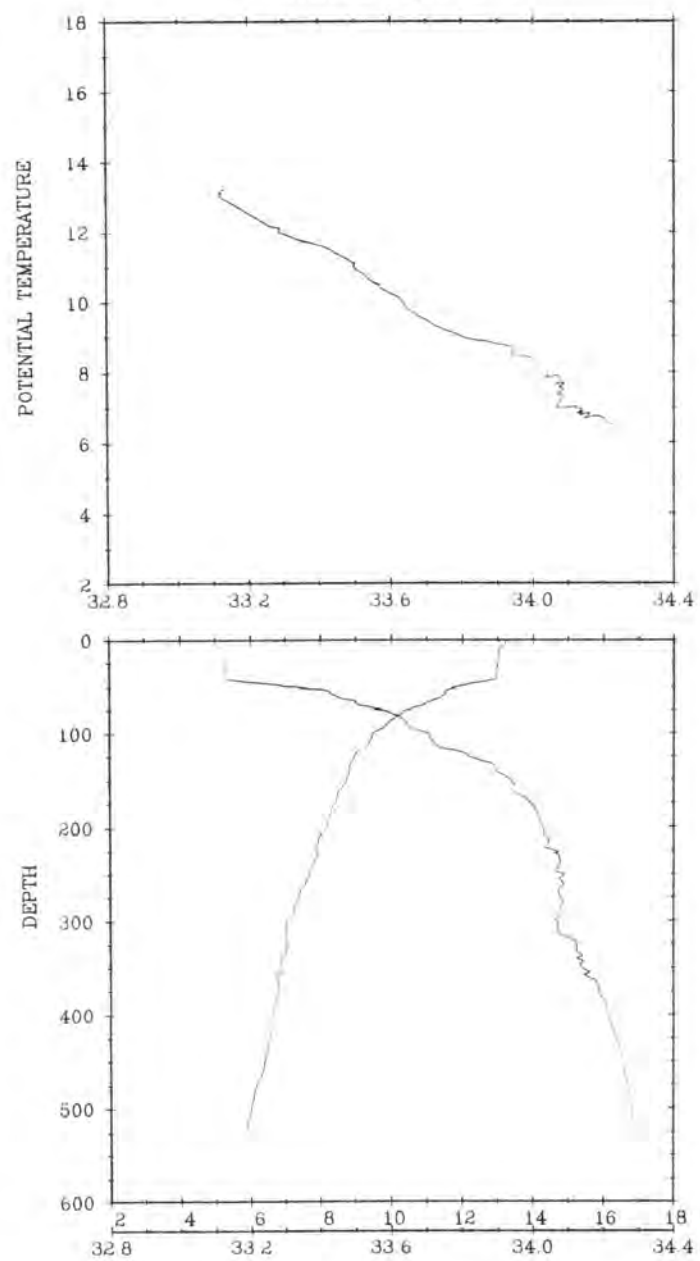
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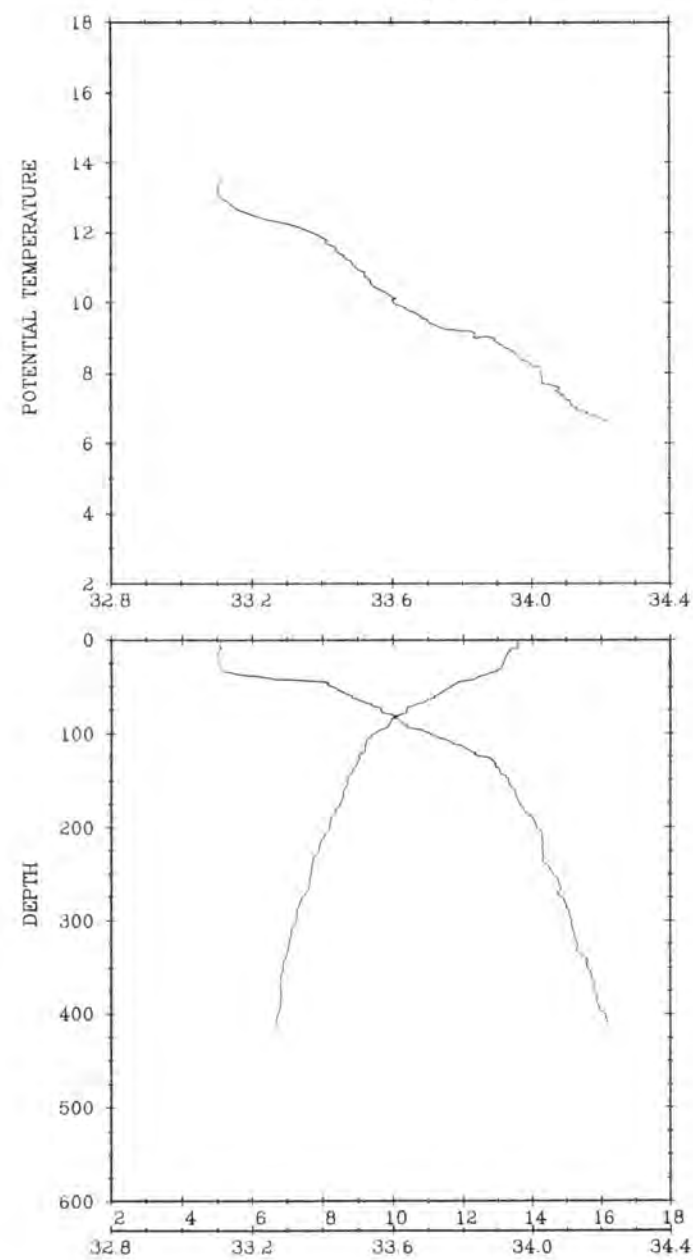
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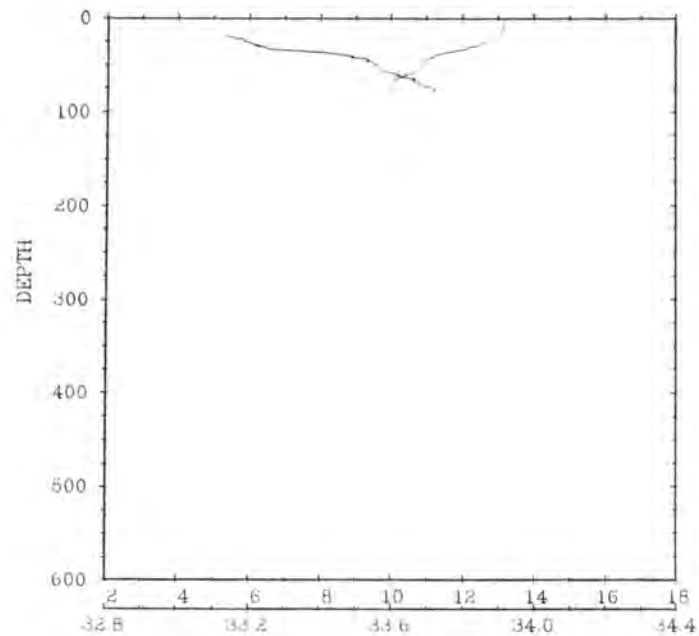
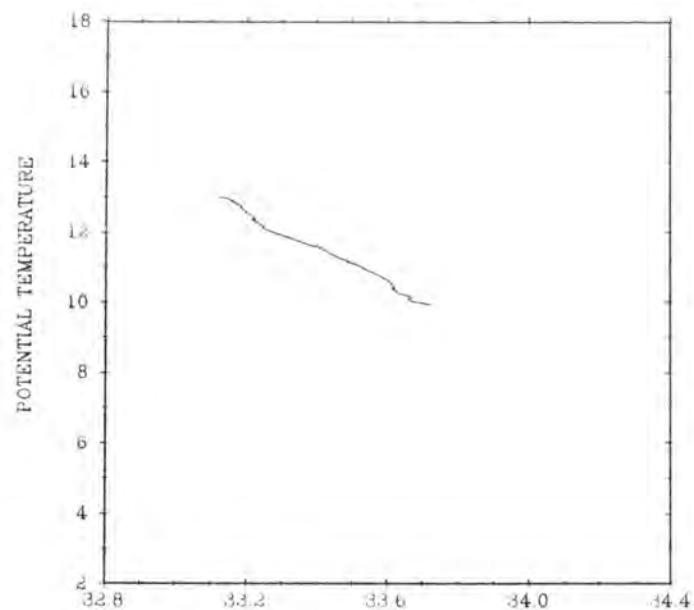
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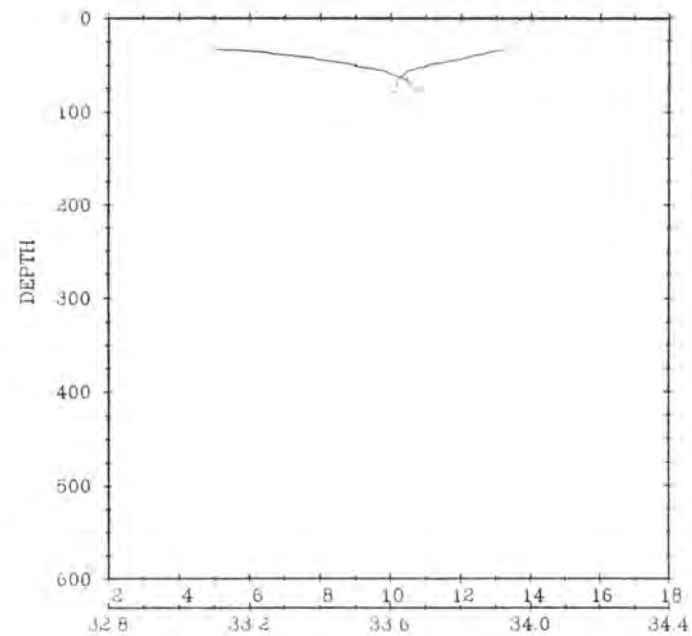
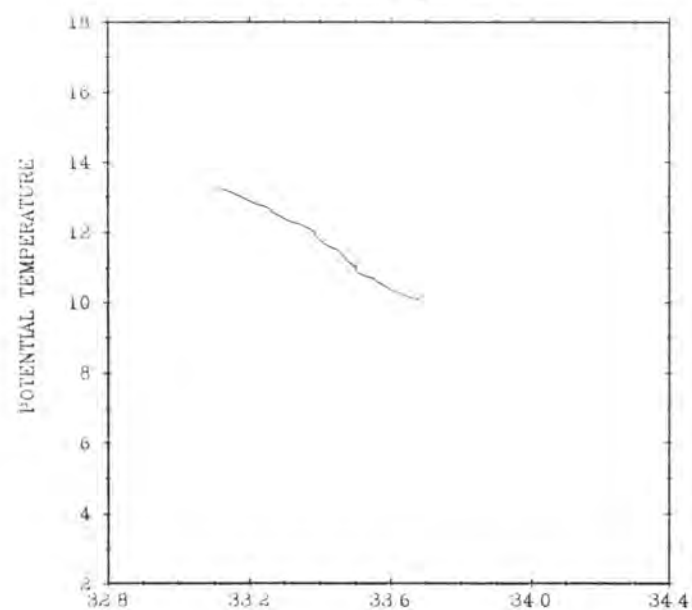
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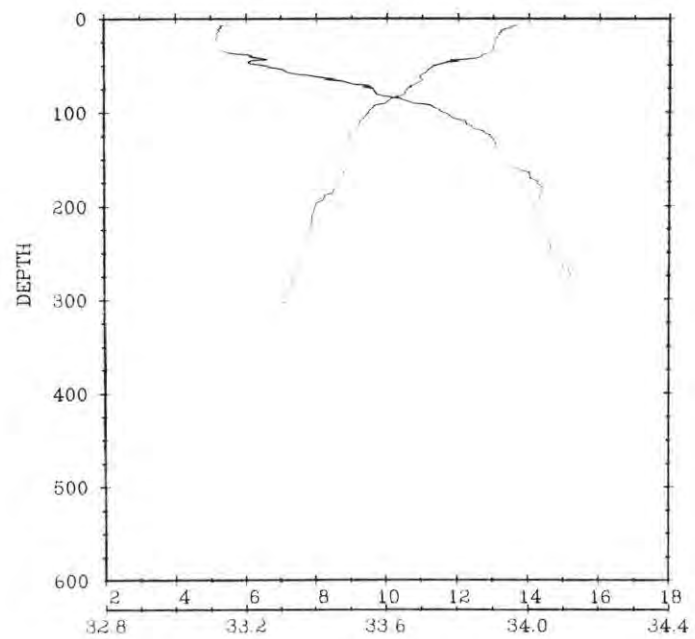
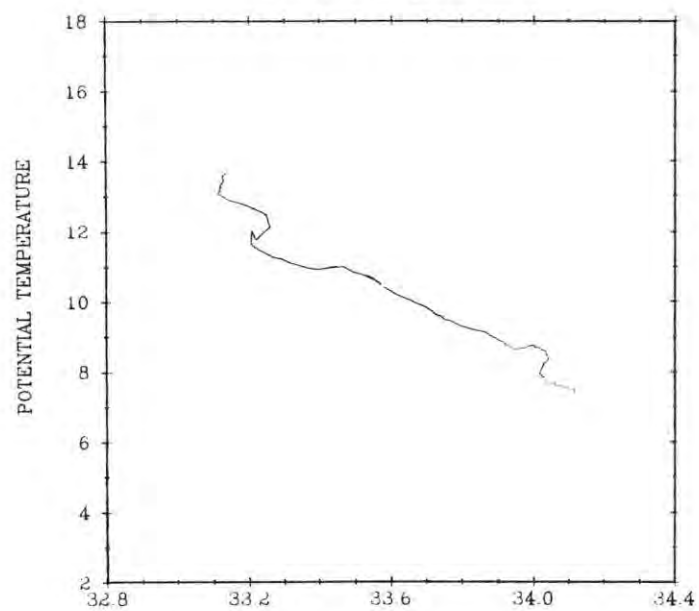
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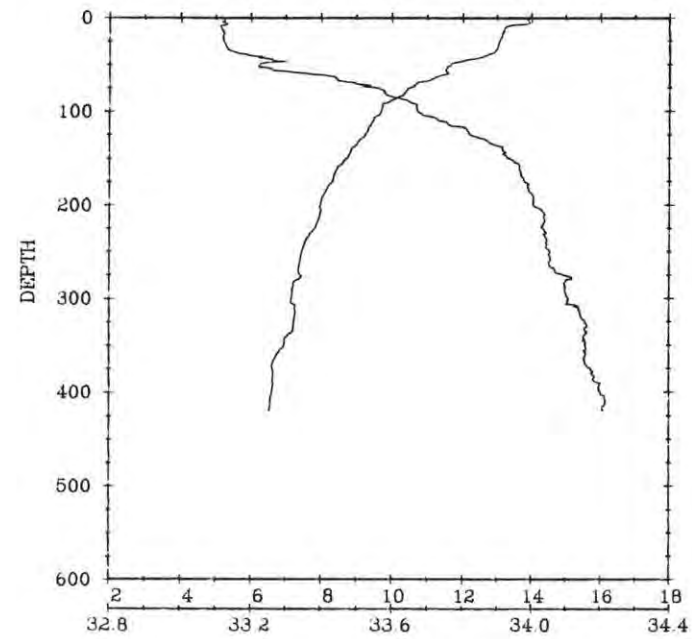
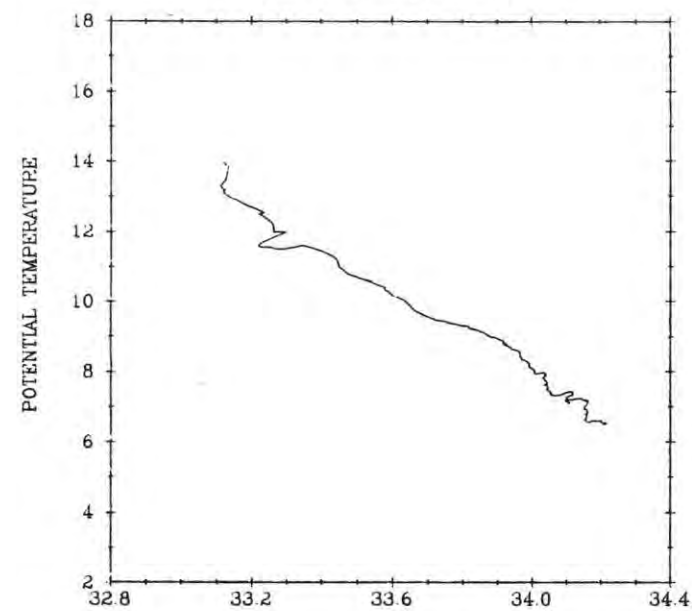
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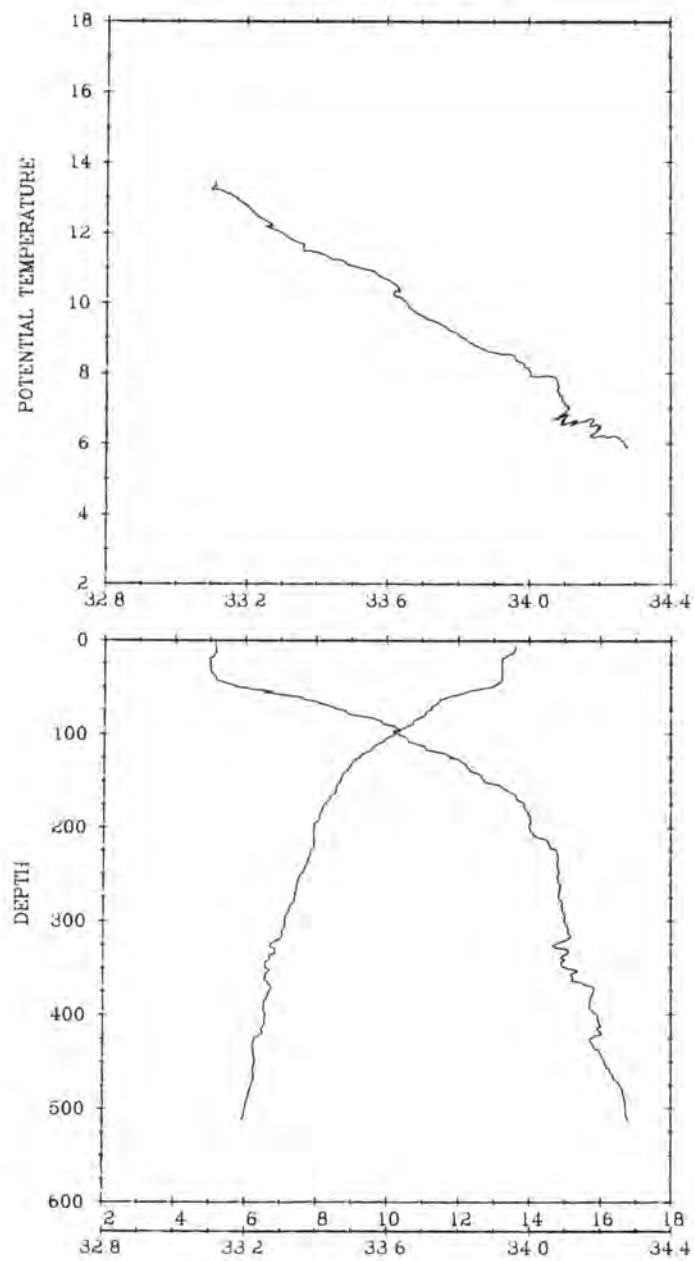
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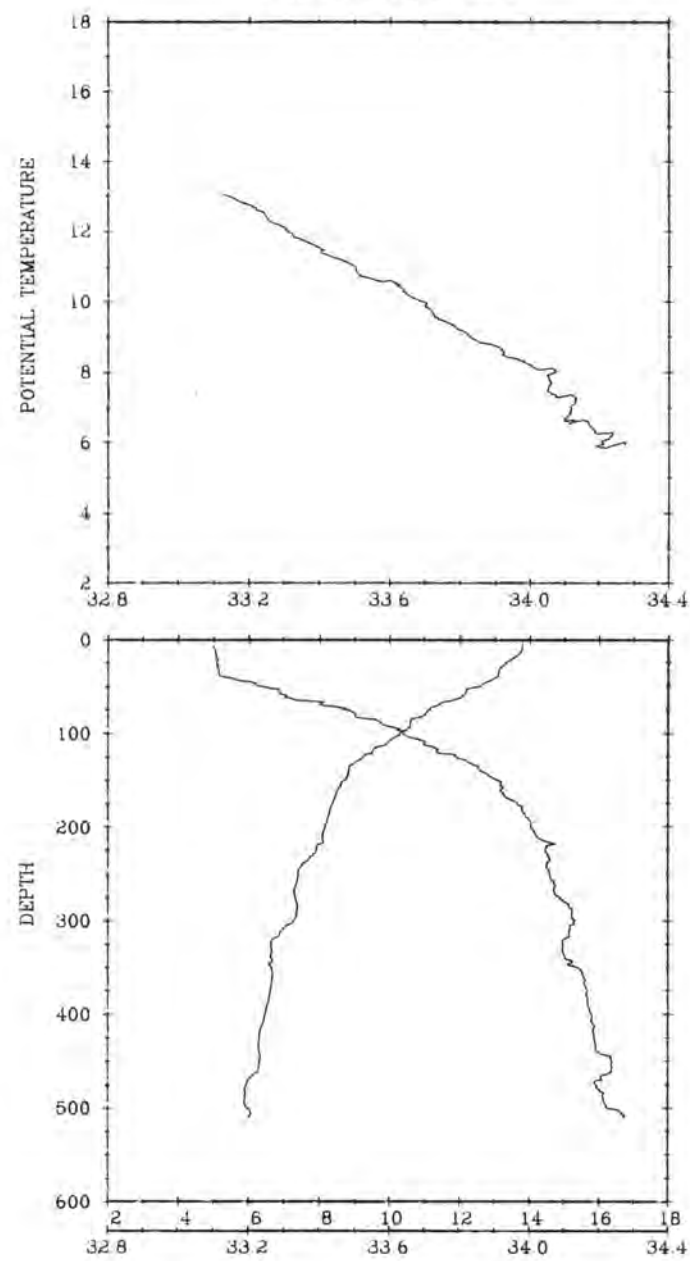
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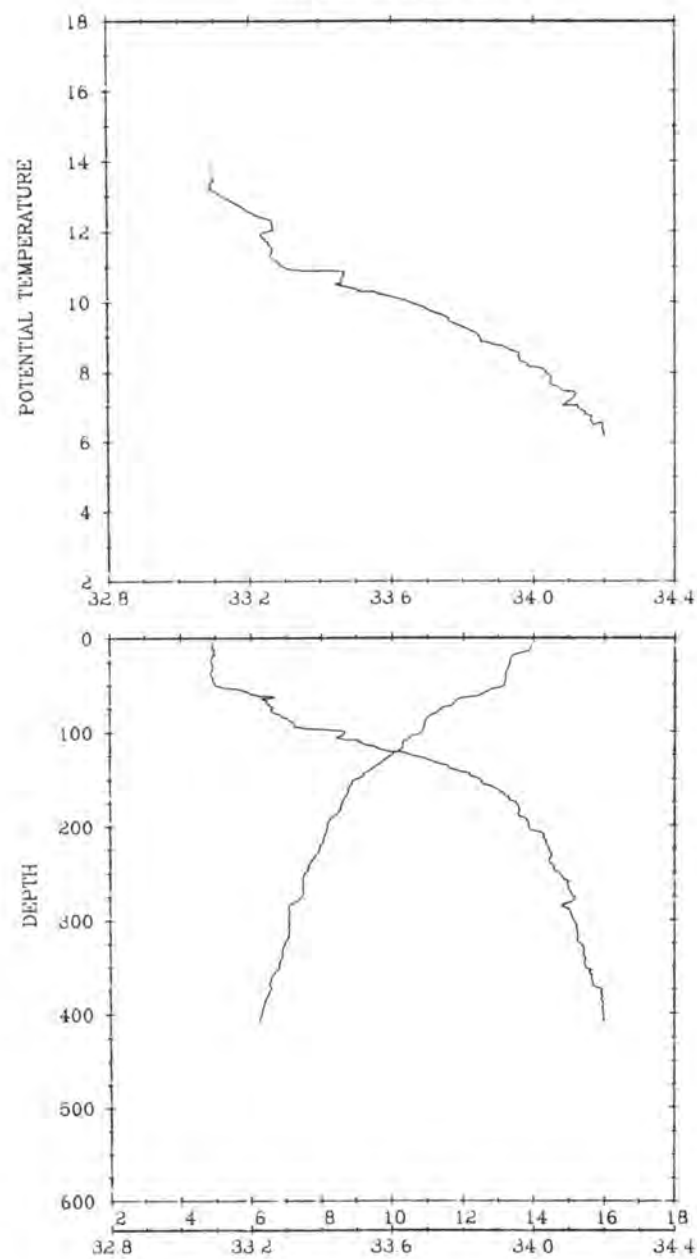
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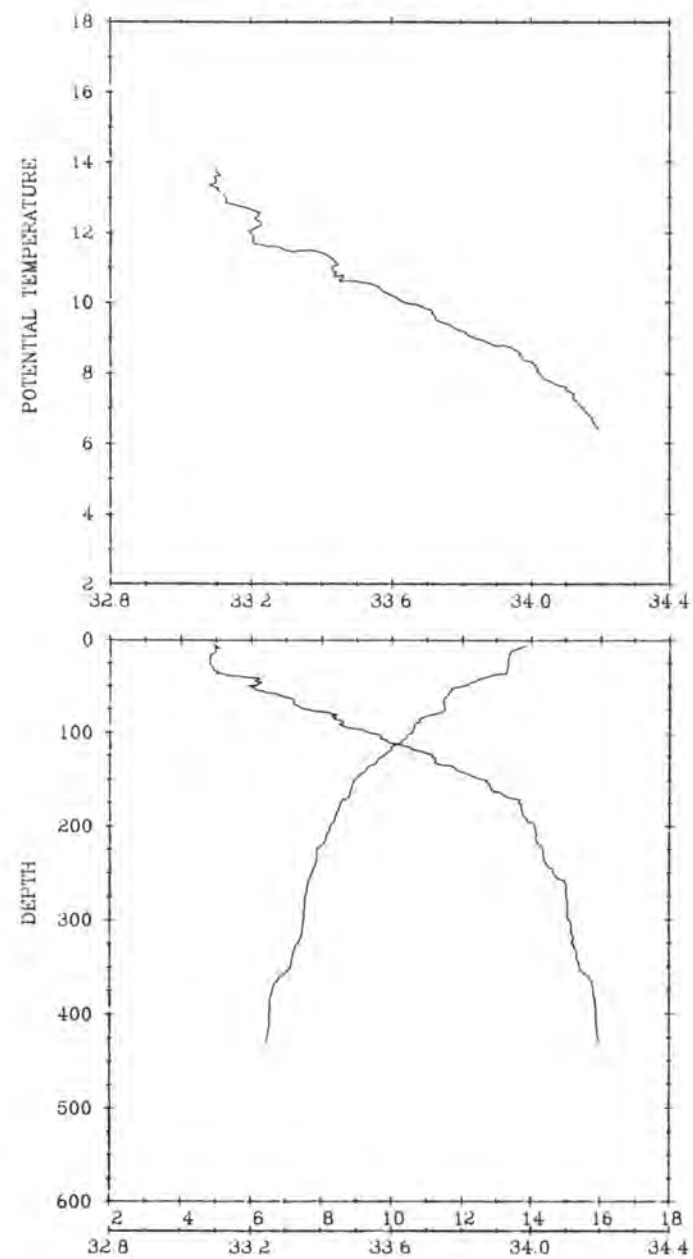
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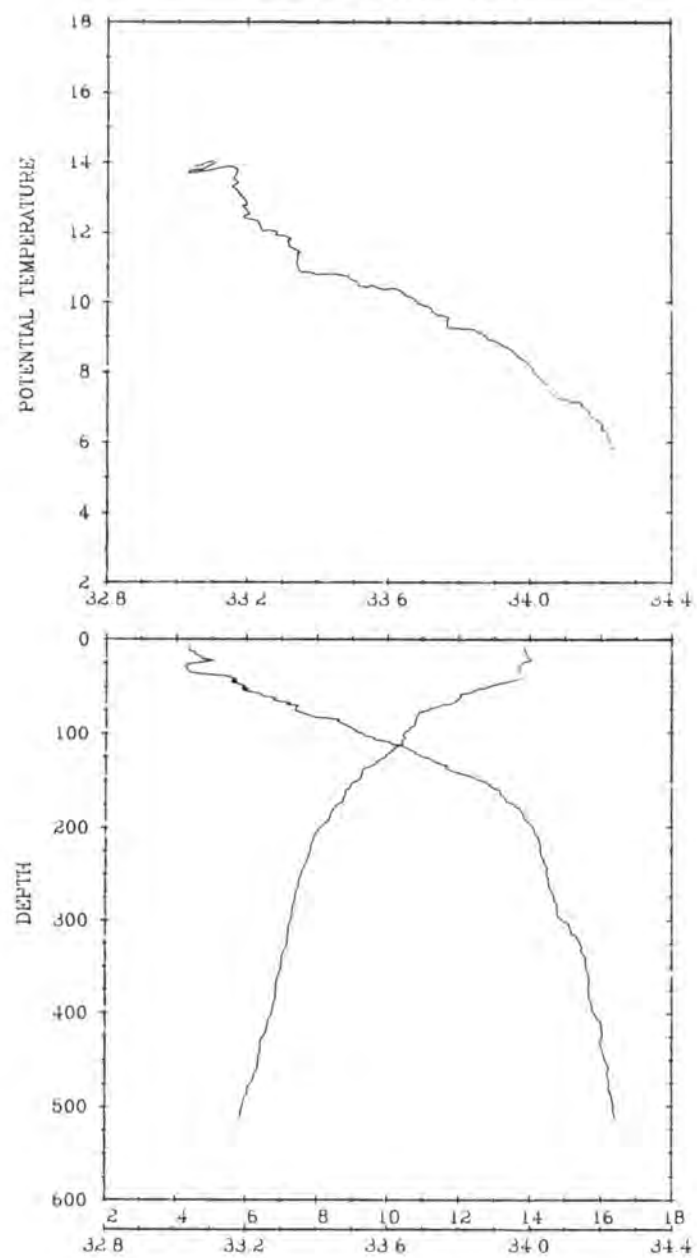
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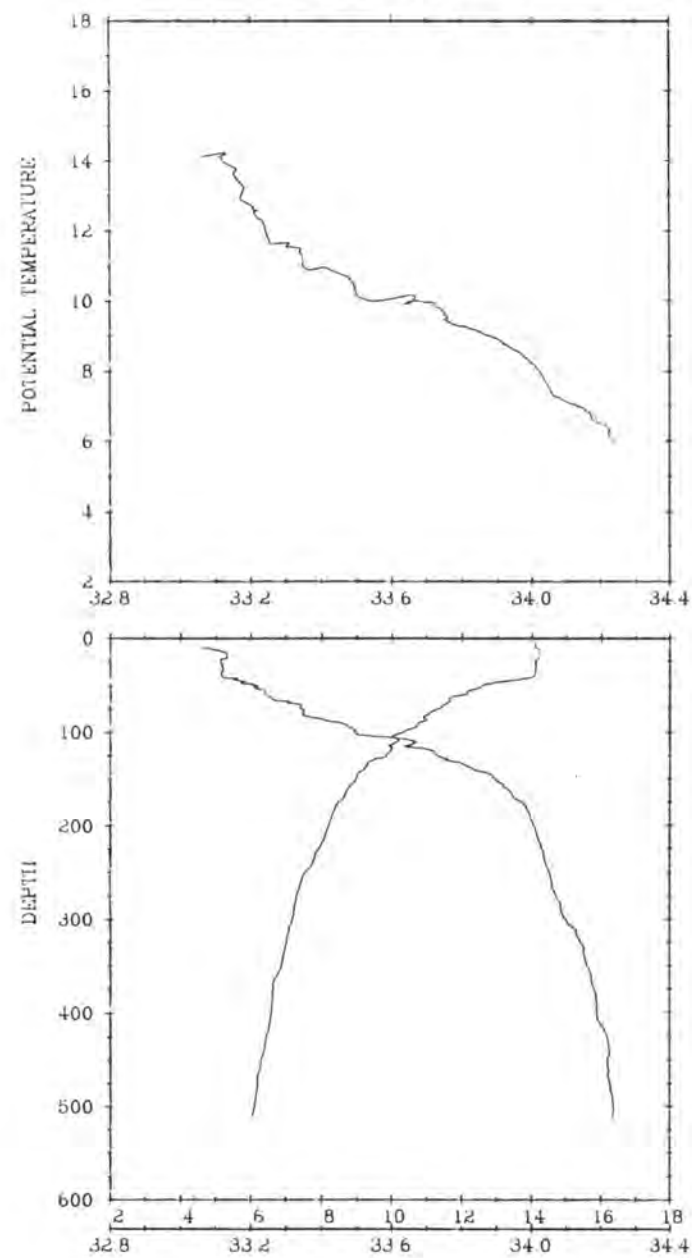
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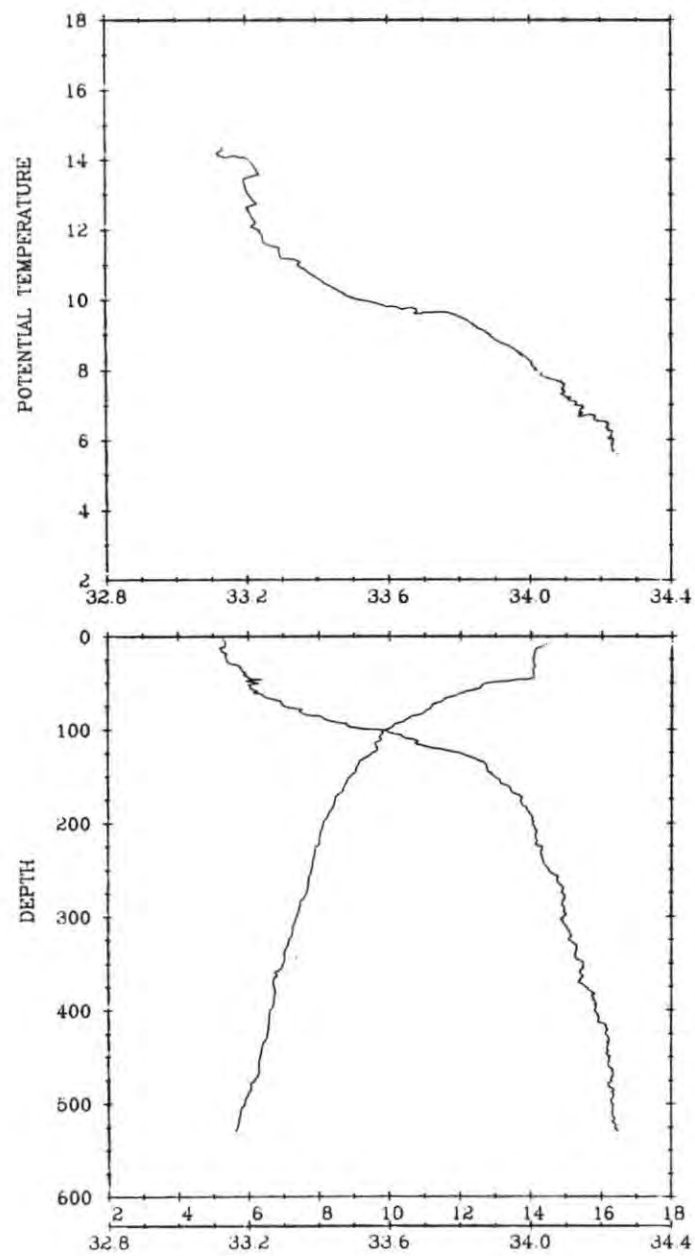
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CRUISE SQ86 C 11



CRUISE SQ86 C 12



CRUISE SQ86 C 13

