

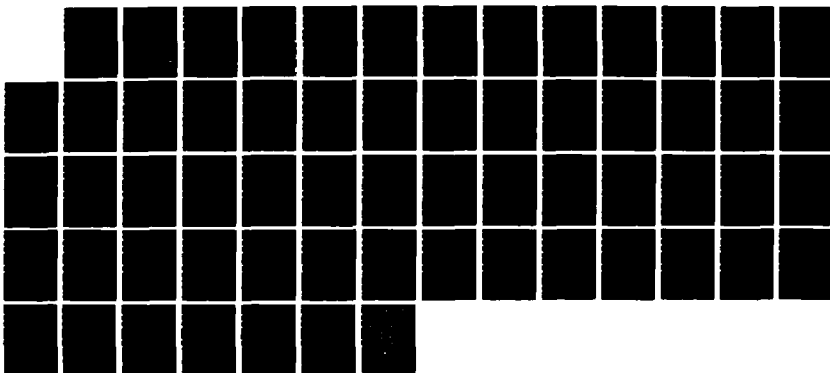
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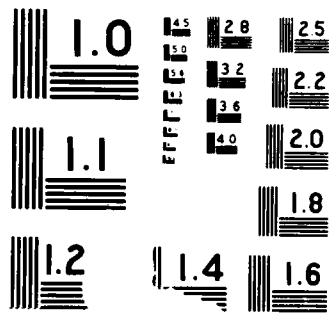
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PHYSICAL, CHEMICAL AND BIOLOGICAL
DATA REPORT

CRUISE SQ86
15-22 March, 1986

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SIO Reference 87-17
31 July 1987

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PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

CRUISE SQ86
15-22 March, 1986

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

Sponsored by

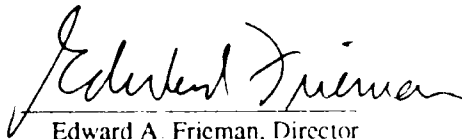
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and

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31 July 1987

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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 fluor 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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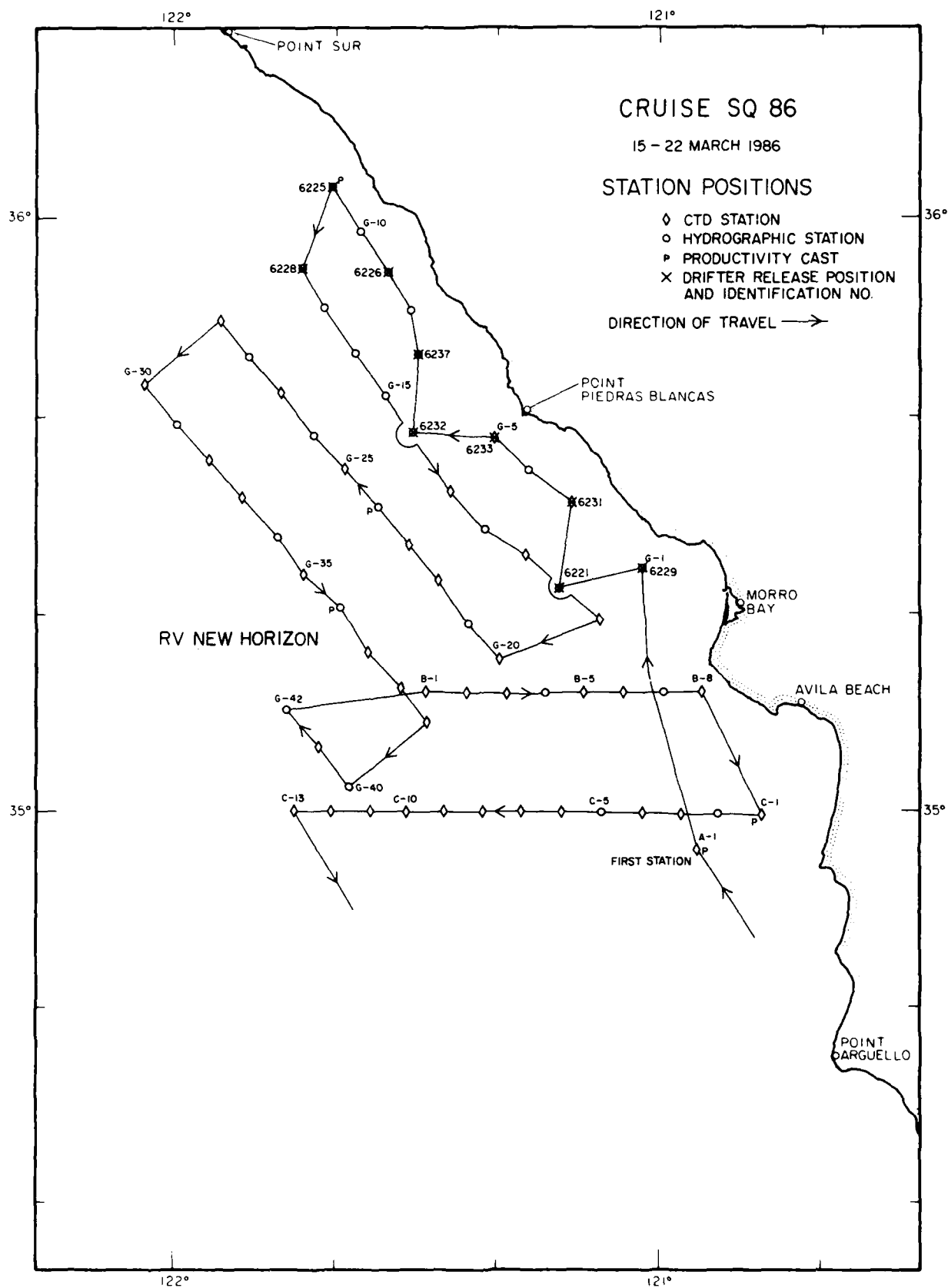


FIGURE 1

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.

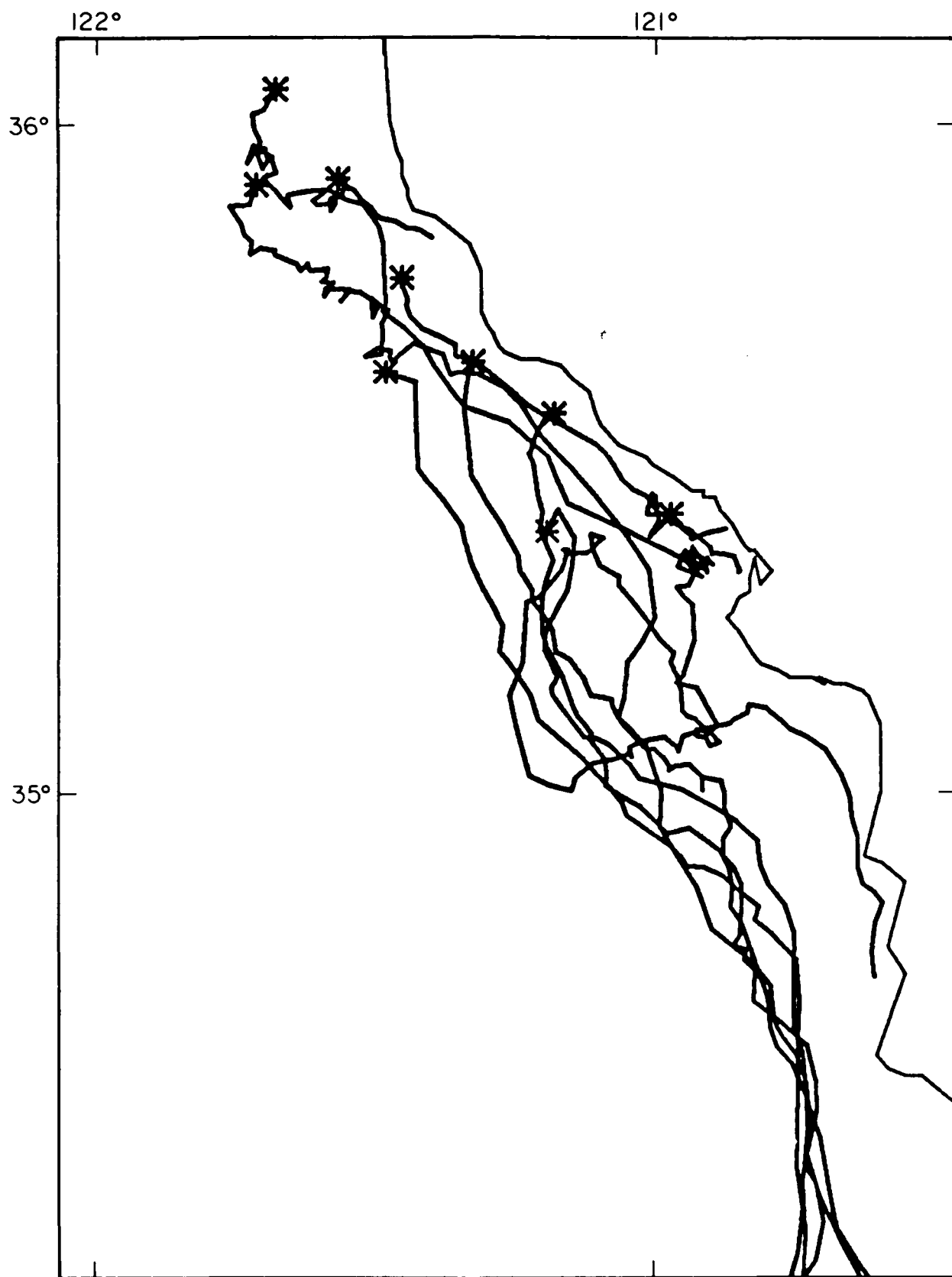


FIGURE 2a

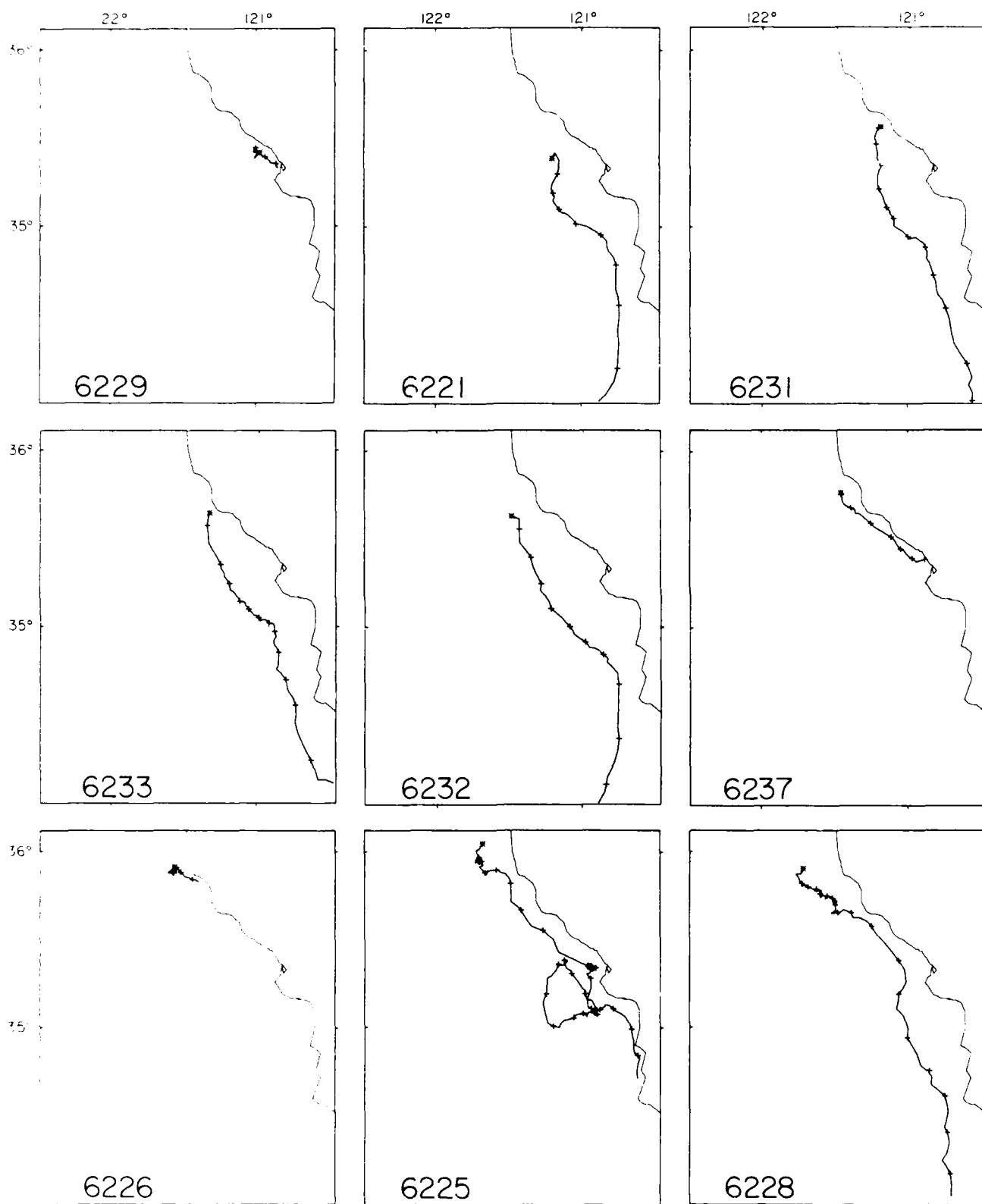


FIGURE 10

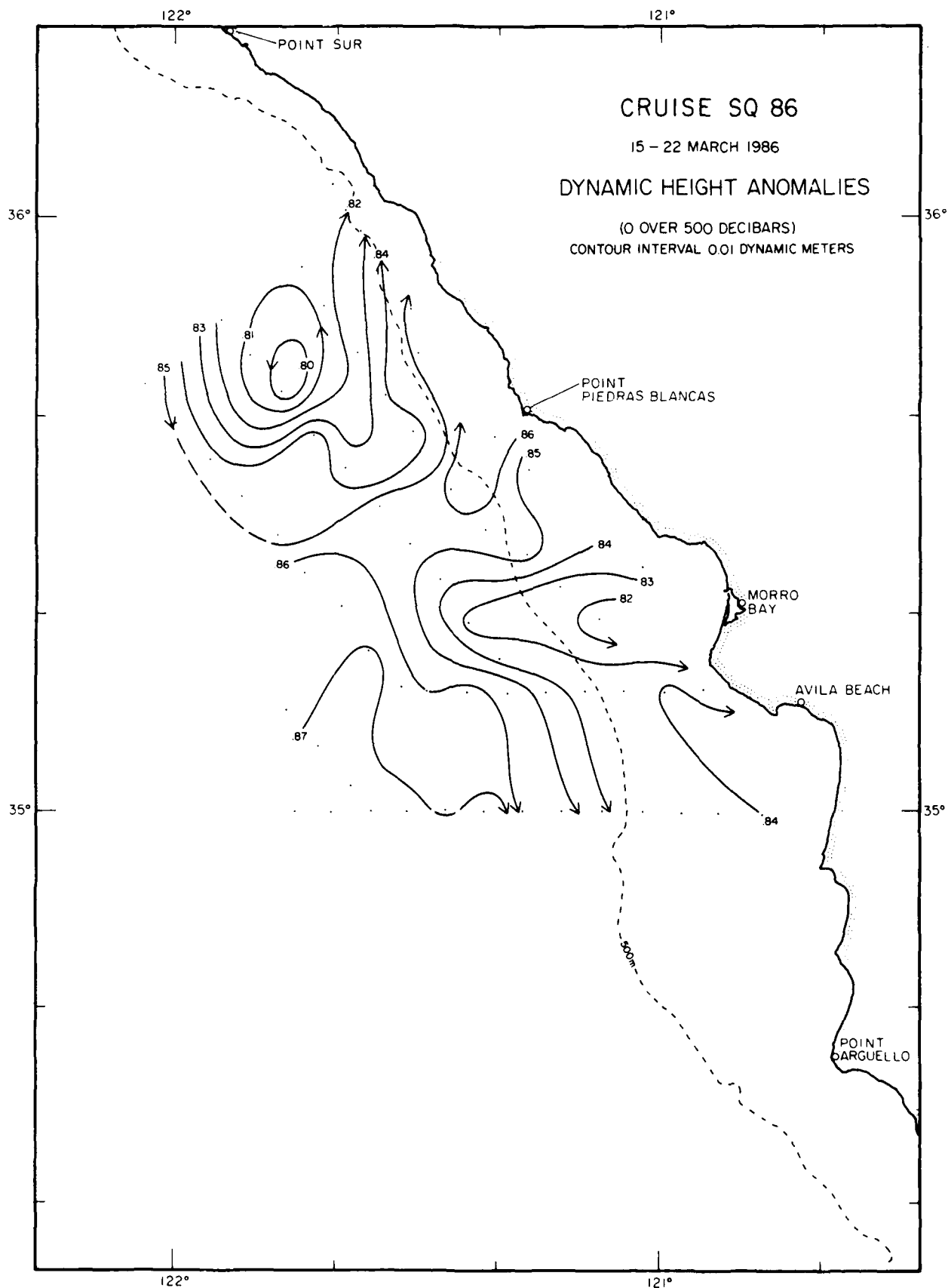
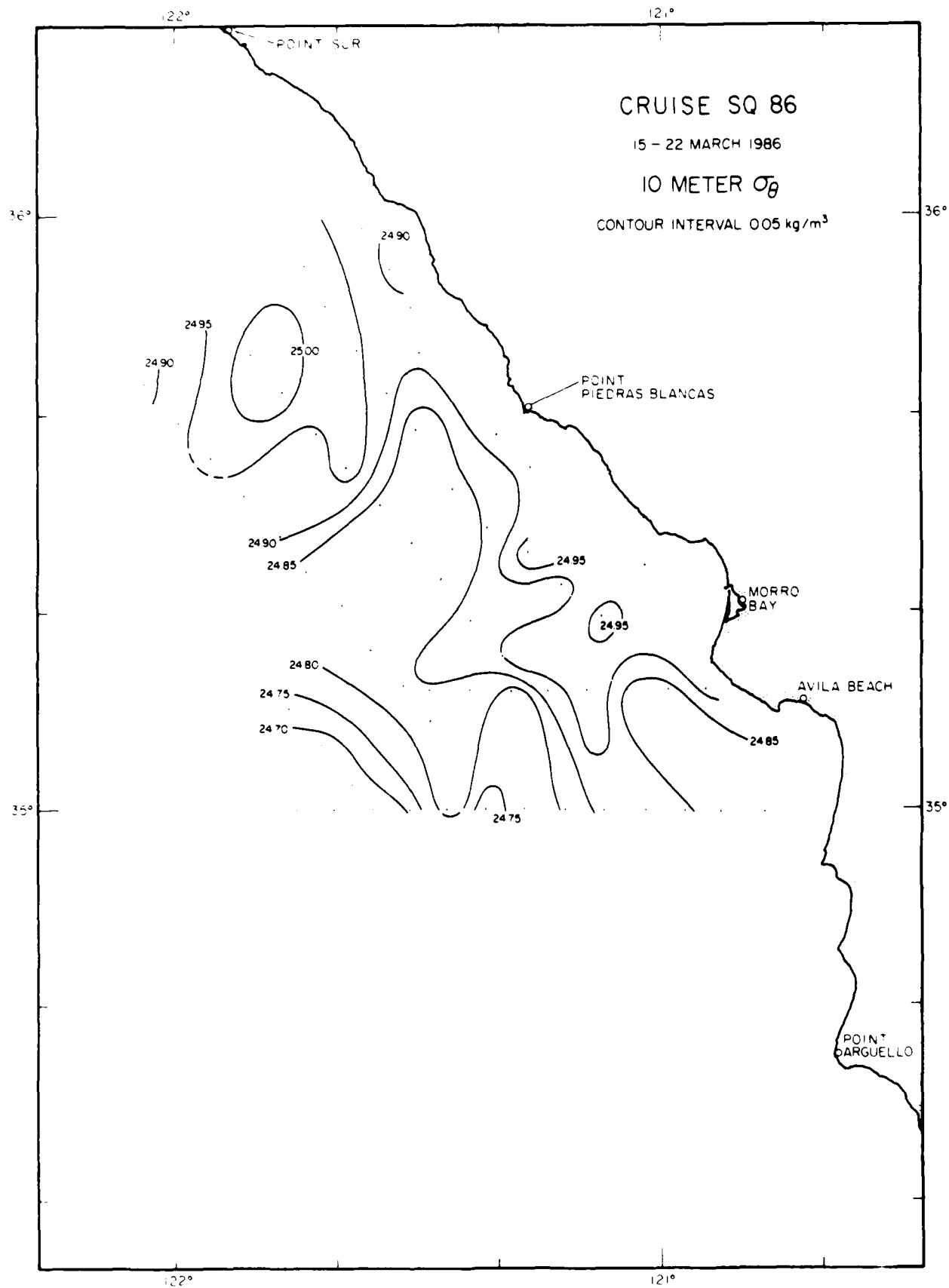


FIGURE 3



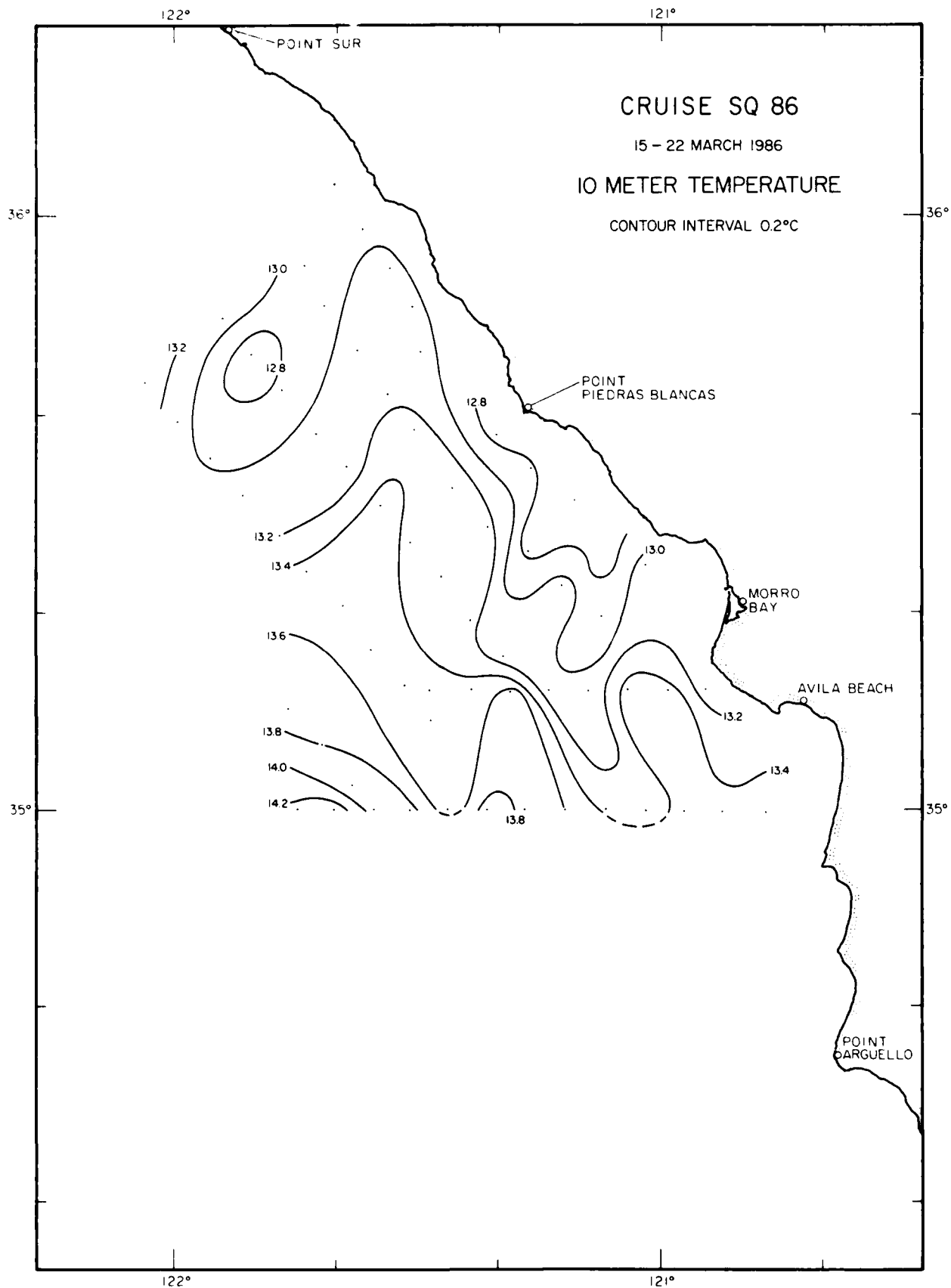


FIGURE 5

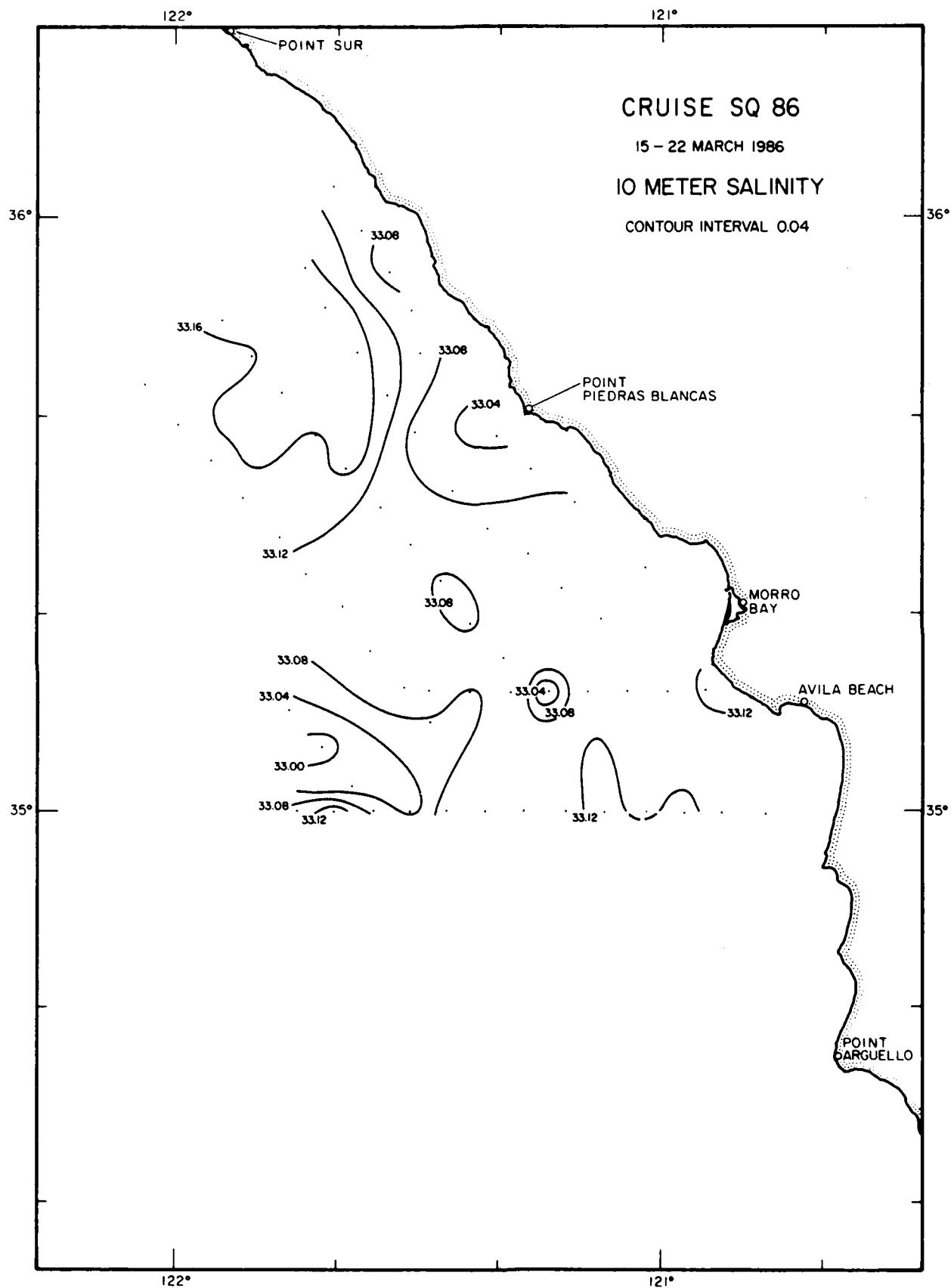


FIGURE 6

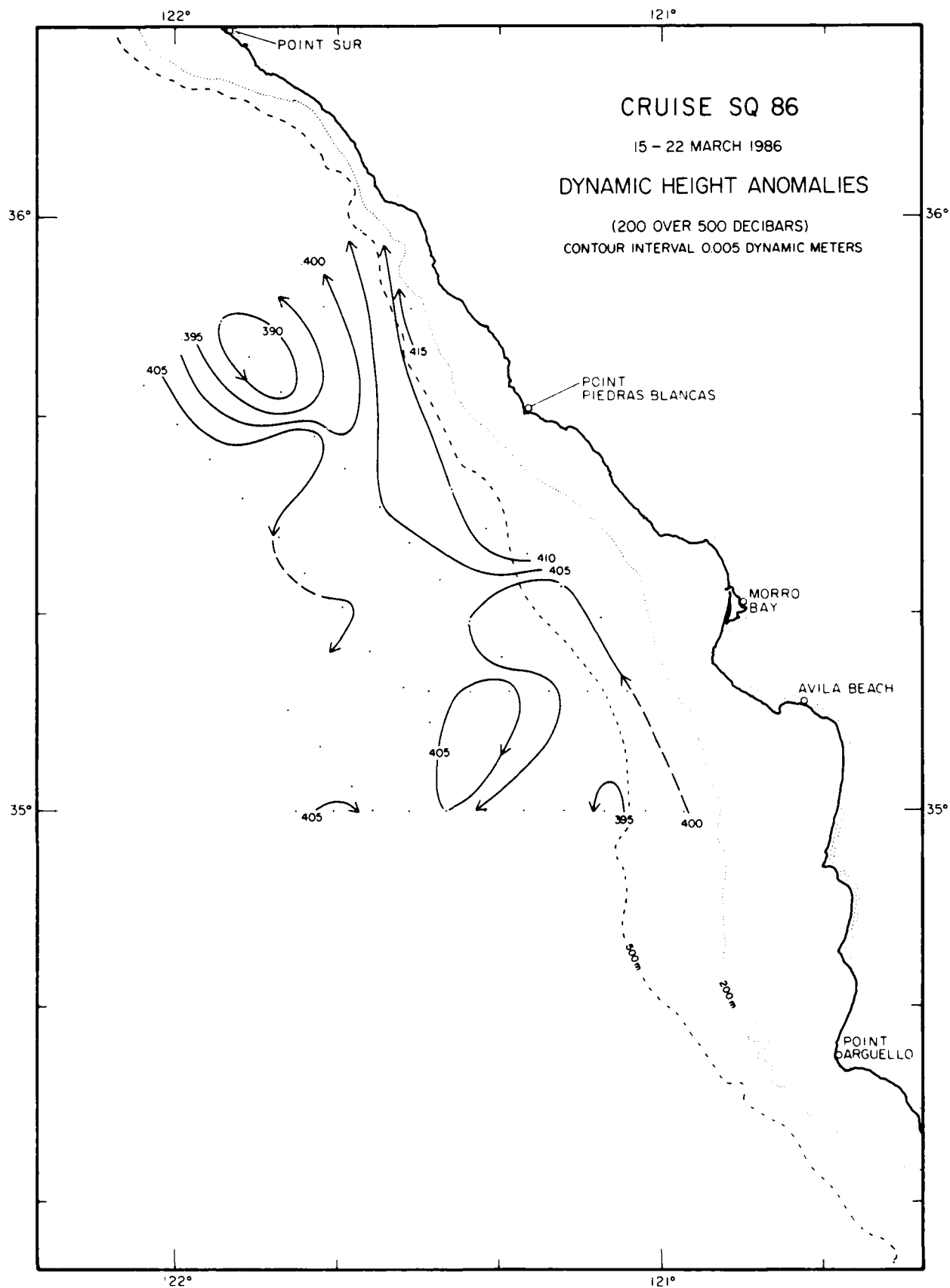
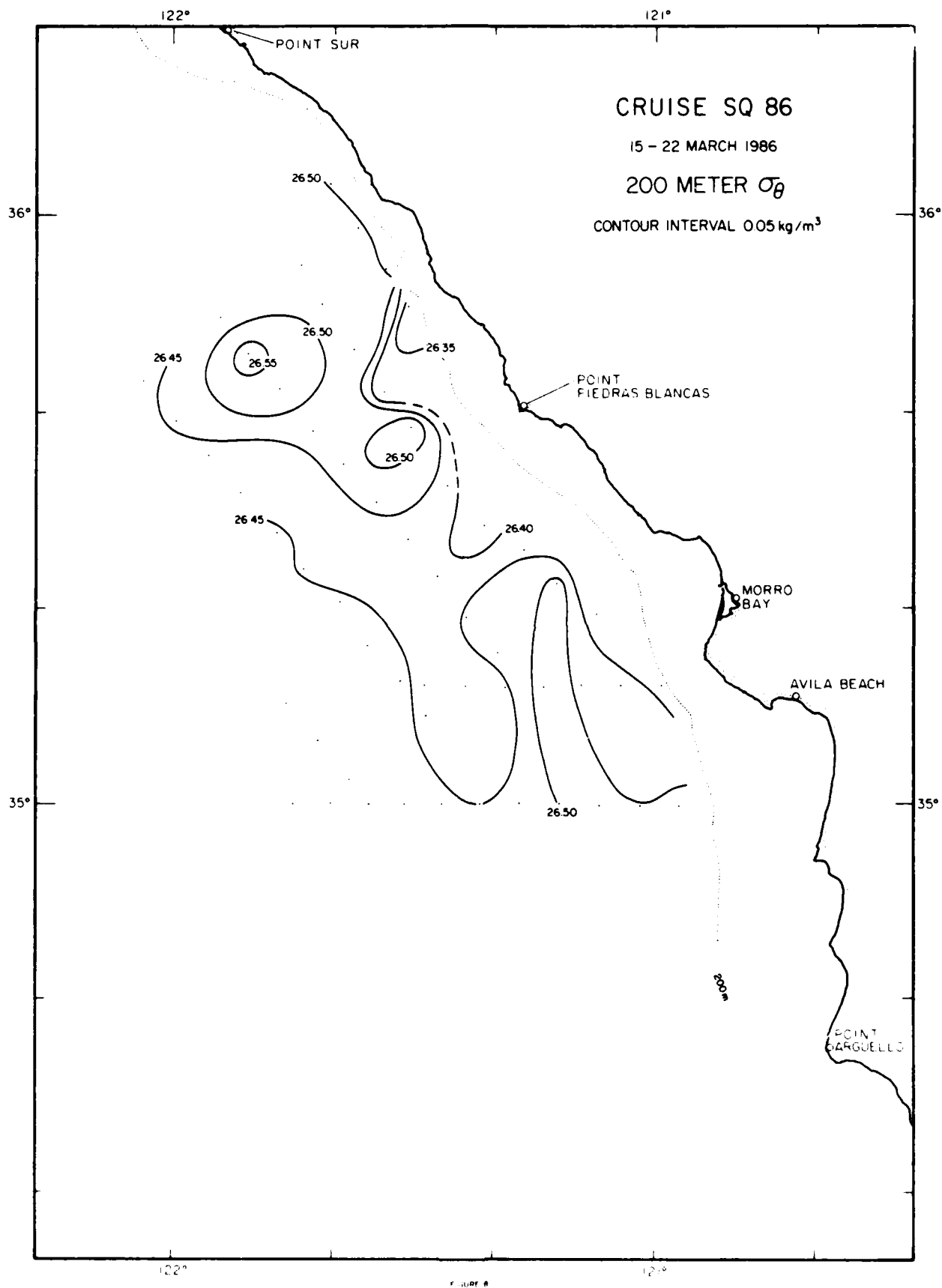
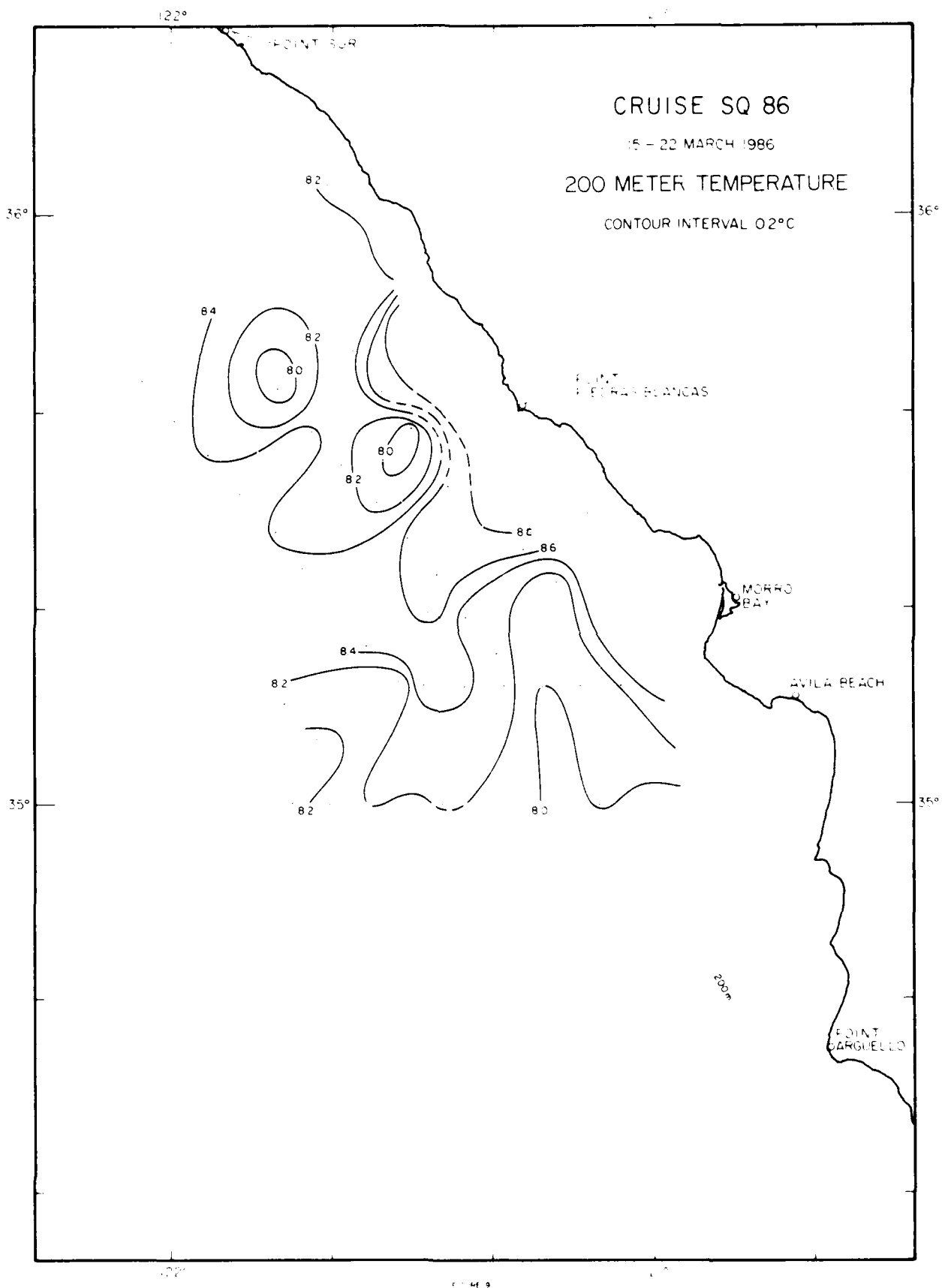


FIGURE 7





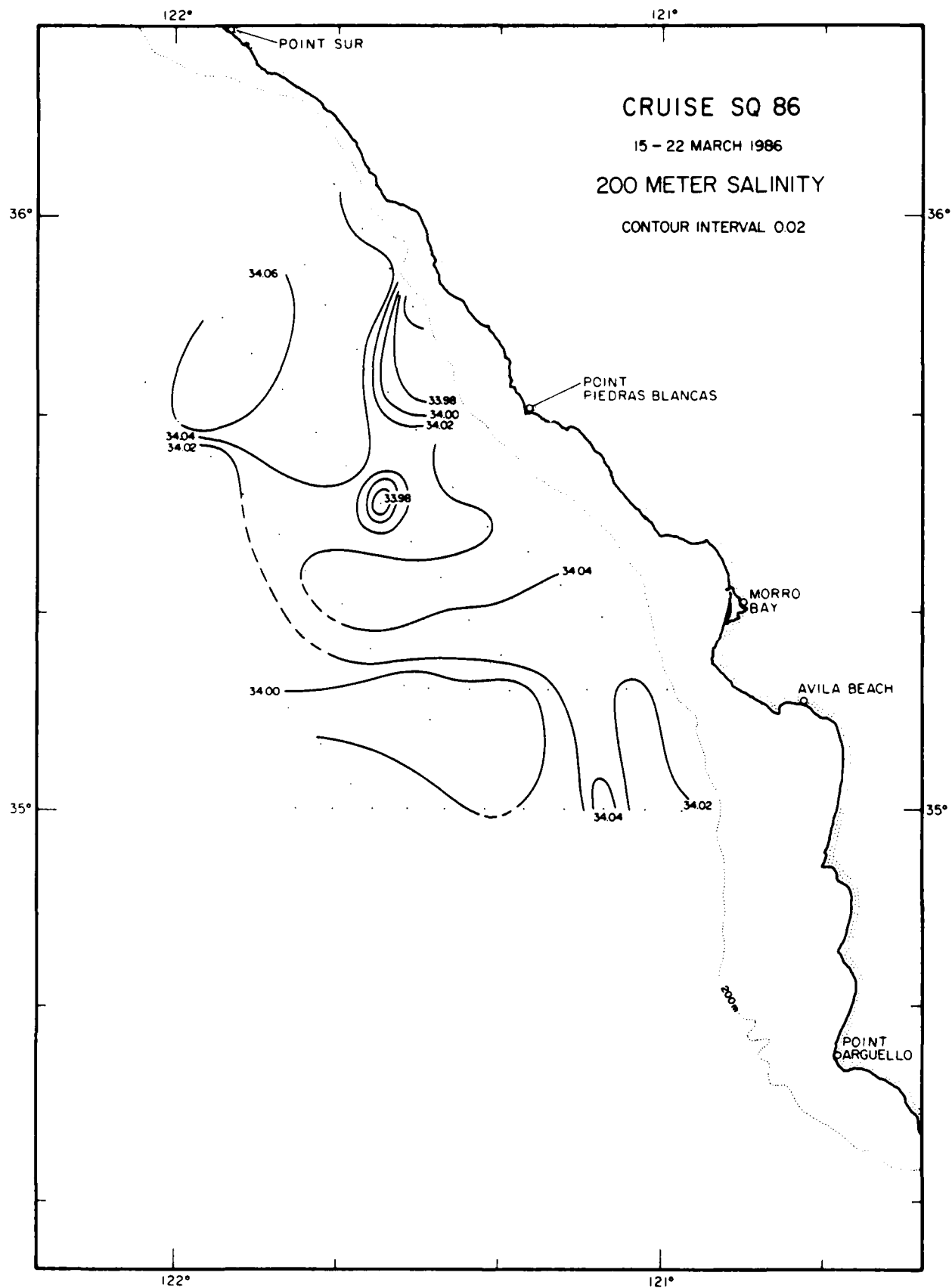


FIGURE 10

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	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	13.26	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 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	13.19	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	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	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
	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	103

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					
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	12.72	12.72	33.754	24.709	325.9	.000	6.07	100.4							0
1	1	12.72	12.72	33.754	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	10.37	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					
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	13.38	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	13.34	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					
CST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	CXY	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	13.11	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				
CASST 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 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
1 10 ISL	13.07	13.07	33.096	24.906	304.0	.030	6.25	104.4							10
1 11	13.07	13.07	33.096	24.906	304.0	.033	6.25	104.4	2.9	.39	.5	.04	1.74	.50	11
1 20 ISL	13.08	13.07	33.095	24.904	304.5	.061	6.24	104.2							20
1 21	13.08	13.07	33.095	24.904	304.6	.064	6.24	104.2	3.0	.39	.5	.04	1.46	.54	21
1 30 ISL	13.07	13.07	33.105	24.913	303.9	.091	6.15	102.7							30
1 31	13.07	13.07	33.107	24.914	303.8	.094	6.14	102.6	3.3	.42	.8	.06	1.46	.45	31
1 50 ISL	11.55	11.55	33.443	25.465	251.8	.147	4.73	76.7							50
1 51	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
1 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
1 75 ISL	10.40	10.39	33.641	25.824	218.1	.205	3.78	59.9							76
1 76	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
1 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
1 100 ISL	9.67	9.66	33.737	26.023	199.6	.258	3.46	53.9							101
1 106	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
1 125 ISL	9.32	9.30	33.828	26.152	187.8	.306	3.14	48.6							126
1 127	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
1 150 ISL	9.24	9.23	33.869	26.197	184.1	.352	2.98	46.0							151
1 154	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
1 175	9.00	8.98	33.936	26.286	175.8	.397	2.72	41.8	32.1	2.02	26.1	.04	.01	.12	176
1 200 ISL	8.93	8.91	33.955	26.315	173.8	.441	2.67	40.9							202
1 212	8.90	8.88	33.957	26.321	173.4	.461	2.64	40.5	33.2	2.06	26.6	.03			213
1 243	8.57	8.55	34.000	26.406	165.8	.514	2.60	39.6	35.5	2.13	27.7	.02			244
1 250 ISL	8.47	8.45	34.012	26.431	163.5	.526	2.55	38.7							252
1 283	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	
CASST 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
1 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
1 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
1 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
1 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
1 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
1 100 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
1 125 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
1 150 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
1 200 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	
CASST 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	12.84	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
	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
	20 ISL	12.79	12.79	33.151	25.003	295.0	.061	5.95	98.7						20
1	30 ISL	12.59	12.58	33.232	25.106	285.4	.090	5.67	93.8						30
	33	12.53	12.52	33.260	25.139	282.4	.098	5.57	92.1	6.6	.65	4.6	.15	.44	.37
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
	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
	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
1	75 ISL	9.91	9.90	33.737	25.983	202.9	.199	3.40	53.2						76
	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
1	100 ISL	9.58	9.56	33.813	26.098	192.5	.249	3.10	48.2						89
	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
1	125 ISL	9.15	9.14	33.913	26.245	179.0	.295	2.78	42.8						105
	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
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
	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
1	200 ISL	8.29	8.27	34.032	26.474	158.5	.422	2.40	36.4						182
	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
1	248	7.86	7.83	34.082	26.578	149.3	.497	2.03	30.4	46.3	2.37	30.5	.00		213
	250 ISL	7.85	7.82	34.083	26.580	149.1	.499	2.02	30.3						250
1	300 ISL	7.60	7.57	34.121	26.647	143.5	.572	1.67	24.8						252
	305	7.58	7.57	34.125	26.653	143.0	.579	1.63	24.3	51.9	2.53	32.3	.00		302
1	363	7.17	7.1	34.186	26.759	133.7	.659	1.06	15.6	61.2	2.78	34.7	.01		307
	400 ISL	6.90	6.86	34.206	26.813	129.0	.708	.85	12.5						365
1	425	6.72	6.68	34.211	26.841	126.5	.741	.78	11.4	69.5	2.94	36.3	.02		403

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	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	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									76
1	82	10.16	10.15	33.661	25.881	212.8	.215									82
	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		
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	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		
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	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
1	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	151	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	5.98	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 S466

STATION G 14 HYDRO

ATC018	LONGITUDE	LATITUDE	MEASUREMENT	BOTTOM	WIND SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
17 40.4 N	111 03.0 W	17 43.80	17 40.4 N 111 03.0 W	612 M	320 KT	301.11 CM	1	1016.1 MB	10.3	10.2	1/8		ST		
TEMP	POT	TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
°C	°C	°C	PSU	KG/M3	KG/M3	M	ML/L	PPT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
17.4	33.134	33.134	33.180	24.846	310.6	0.100							1.8	1.43	0
17.3	33.133	33.133	33.182	24.837	310.6	0.131							1.7	1.43	10
17.2	33.132	33.132	33.179	24.838	310.7	0.162									41
17.1	33.131	33.131	33.181	24.839	310.9	0.193							1.6	1.45	15
17.0	33.130	33.130	33.183	24.843	311.0	0.224									30
16.9	33.129	33.129	33.181	24.843	311.0	0.254							1.27	1.47	41
16.8	33.128	33.128	33.180	24.843	311.0	0.284									50
16.7	33.127	33.127	33.179	24.843	311.0	0.314							1.16	1.16	61
16.6	33.126	33.126	33.178	24.843	311.0	0.344									76
16.5	33.125	33.125	33.178	24.843	311.0	0.374							1.05	1.15	82
16.4	33.124	33.124	33.178	24.843	311.0	0.404									101
16.3	33.123	33.123	33.178	24.843	311.0	0.434							1.01	1.11	103
16.2	33.122	33.122	33.178	24.843	311.0	0.464									126
16.1	33.121	33.121	33.178	24.843	311.0	0.494							1.00	1.10	129
16.0	33.120	33.120	33.178	24.843	311.0	0.524									151
15.9	33.119	33.119	33.178	24.843	311.0	0.554							1.00	1.19	156
15.8	33.118	33.118	33.178	24.843	311.0	0.584									202
15.7	33.117	33.117	33.178	24.843	311.0	0.614							1.00	1.07	206

RV NEW HORIZON

CRUISE S466

STATION G 15 HYDRO

LATITUDE	LONGITUDE	DAY MO YR	MEASUREMENT	BOTTOM	WIND SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
15 34.6 N	111 04.7 W	14 03 86	15 34.6 N 111 04.7 W	612 M	320 KT	301.11 CM	1	1016.1 MB	10.3	10.2	C	1/8	ST		
TEMP	POT	TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
°C	°C	°C	PSU	KG/M3	KG/M3	M	ML/L	PPT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
15.3	33.116	33.116	33.181	24.842	311.2	1.00									0
15.2	33.115	33.115	33.181	24.842	311.2	1.00							1.11	1.50	2
15.1	33.114	33.114	33.181	24.842	311.2	1.00									10
15.0	33.113	33.113	33.181	24.842	311.2	1.00							1.11	1.51	12
14.9	33.112	33.112	33.181	24.842	311.2	1.00									20
14.8	33.111	33.111	33.181	24.842	311.2	1.00							1.96	1.49	27
14.7	33.110	33.110	33.181	24.842	311.2	1.00									30
14.6	33.109	33.109	33.181	24.842	311.2	1.00							1.33	1.29	43
14.5	33.108	33.108	33.181	24.842	311.2	1.00									50
14.4	33.107	33.107	33.181	24.842	311.2	1.00							1.65	1.11	63
14.3	33.106	33.106	33.181	24.842	311.2	1.00									76
14.2	33.105	33.105	33.181	24.842	311.2	1.00							1.02	1.08	83
14.1	33.104	33.104	33.181	24.842	311.2	1.00									101
14.0	33.103	33.103	33.181	24.842	311.2	1.00							1.01	1.07	104
13.9	33.102	33.102	33.181	24.842	311.2	1.00									126
13.8	33.101	33.101	33.181	24.842	311.2	1.00							1.00	1.07	130
13.7	33.100	33.100	33.181	24.842	311.2	1.00									151
13.6	33.099	33.099	33.181	24.842	311.2	1.00							1.01	1.09	156
13.5	33.098	33.098	33.181	24.842	311.2	1.00									202
13.4	33.097	33.097	33.181	24.842	311.2	1.00							1.00	1.07	209

STATION G 15 HYDRO

RV NEW HORIZON

CRUISE S466

LATITUDE	LONGITUDE	DAY MO YR	START TIME	BOTTOM			
15 34.6 N	111 04.7 W	14 03 86	0104 GMT	612 M			
WIND	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS	
TEMP	POT	TEMP	SALINITY	SIGMA	SVA	DYN HT	PRESS
°C	°C	°C	PSU	KG/M3	KG/M3	M	D.BAR
15.3	33.114	33.114	33.180	24.846	310.6	0.100	0
15.2	33.113	33.113	33.182	24.837	310.6	0.131	10
15.1	33.112	33.112	33.179	24.838	310.7	0.162	20
15.0	33.111	33.111	33.181	24.839	310.9	0.193	30
14.9	33.110	33.110	33.181	24.843	311.0	0.224	40
14.8	33.109	33.109	33.181	24.843	311.0	0.254	50
14.7	33.108	33.108	33.180	24.843	311.0	0.284	76
14.6	33.107	33.107	33.179	24.843	311.0	0.314	101
14.5	33.106	33.106	33.178	24.843	311.0	0.344	126
14.4	33.105	33.105	33.178	24.843	311.0	0.374	151
14.3	33.104	33.104	33.178	24.843	311.0	0.404	176
14.2	33.103	33.103	33.178	24.843	311.0	0.434	202
14.1	33.102	33.102	33.178	24.843	311.0	0.464	227
14.0	33.101	33.101	33.178	24.843	311.0	0.494	252
13.9	33.100	33.100	33.178	24.843	311.0	0.524	277
13.8	33.099	33.099	33.178	24.843	311.0	0.554	302
13.7	33.098	33.098	33.178	24.843	311.0	0.584	327
13.6	33.097	33.097	33.178	24.843	311.0	0.614	353
13.5	33.096	33.096	33.178	24.843	311.0	0.644	378
13.4	33.095	33.095	33.178	24.843	311.0	0.674	403
13.3	33.094	33.094	33.178	24.843	311.0	0.704	428
13.2	33.093	33.093	33.178	24.843	311.0	0.734	453
13.1	33.092	33.092	33.178	24.843	311.0	0.764	478
13.0	33.091	33.091	33.178	24.843	311.0	0.794	503
12.9	33.090	33.090	33.178	24.843	311.0	0.824	528
12.8	33.089	33.089	33.178	24.843	311.0	0.854	553

STATION C 17 HYDRO

STATION G 19 CTD

CRUISE SQ86

STATION C 21 HYDRO

[illegible]

STATION 6 23 CTD

[illegible]

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
	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
	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
	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
	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
	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
	75 ISL	10.93	10.93	33.495	25.618	237.8	.214	4.41	70.6							76
1	80	10.84	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
	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
	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
	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
	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
	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
	500 ISL	5.96	5.92	34.239	26.962	115.4	.856	.49	7.0							506
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 STD

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		SVA		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	PASSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE	
33 36.14 N	121 46.14 W	12 15 85	11-8 GMT	280 M	340	06 KT	280 06 09	1	1020.7 MB	15.2 C	13.0 C		6/8	CC	
LAST	TEMP	DEPTH	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OKY	SIC3	PC4	NO3	NO2	CHL-A	PHAE0	PRESS
M	DEG C	DEG		THERIA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
1	13.34	13.34	33.163	24.894	304.9	0.000	6.17	103.8	3.2	.44	.8	.05	1.11	.41	0
1	13.34	13.34	33.163	24.939	300.9	0.030	6.19	103.6	3.3	.45	.9	.05	1.86	.44	10
2	13.34	13.34	33.163	24.955	299.6	0.060	6.14	102.5							20
3	13.34	13.34	33.163	24.956	299.6	0.063	6.13	102.4	3.4	.46	1.0	.07	.96	.56	21
4	13.34	13.34	33.162	24.961	299.3	0.090	6.09	101.6							30
5	13.34	13.34	33.162	24.961	299.3	0.093	6.08	101.5	3.4	.46	1.2	.07	.98	.50	31
6	13.34	13.34	33.161	25.025	293.5	0.125	5.90	98.2	4.4	.54	2.3	.11	.73	.50	42
7	13.34	13.34	33.146	25.377	260.2	0.148	4.91	80.2							50
8	13.34	13.34	33.163	25.456	252.7	0.152	4.69	76.3	12.1	1.08	11.2	.07	.21	.28	52
9	13.34	13.34	33.164	25.622	237.1	0.179	4.27	68.6	15.1	1.28	14.4	.03	.11	.20	63
10	13.34	13.34	33.163	25.788	221.5	0.202	3.84	61.0	18.9	1.49	17.7	.02	.06	.16	73
11	13.34	13.34	33.163	25.812	219.2	0.207	3.84	60.9							76
12	13.34	13.34	33.162	25.916	209.6	0.236	3.87	60.5	20.7	1.58	19.6	.01	.03	.13	89
13	13.34	13.34	33.174	26.015	200.4	0.260	3.45	53.7							101
14	13.34	13.34	33.179	26.052	197.0	0.269	3.26	50.8	24.8	1.79	22.5	.00	.02	.06	105
15	13.34	13.34	33.186	26.179	185.3	0.307	2.96	45.8	28.6	1.91	24.5	.00	.01	.09	125
16	13.34	13.34	33.186	26.182	185.0	0.308	2.95	45.7							126
17	13.34	13.34	33.199	26.292	174.9	0.353	2.74	42.1	31.7	2.01	26.0	.00	.01	.08	151
18	13.34	13.34	34.021	26.406	164.7	0.405	2.38	36.3	36.4	2.18	27.9	.00			182
19	13.34	13.34	34.057	26.455	160.3	0.436	2.21	33.7							202
20	13.34	13.34	34.074	26.481	158.1	0.455	2.13	32.4	39.9	2.27	28.9	.00			213
21	13.34	13.34	34.104	26.543	152.6	0.503	1.97	29.8	43.3	2.35	30.2	.00			244
22	13.34	13.34	34.109	26.560	151.2	0.514	1.93	29.1							252
23	13.34	13.34	34.126	26.629	145.0	0.563	1.74	26.0	48.4	2.48	31.8	.00			285
24	13.34	13.34	34.139	26.658	142.4	0.588	1.61	24.0							302
25	13.34	13.34	34.173	26.731	136.1	0.650	1.25	18.5	57.2	2.69	34.1	.00			347
26	13.34	13.34	34.208	26.838	126.5	0.722	.85	12.5							403
27	13.34	13.34	34.219	26.876	122.9	0.749	.73	10.6	70.4	2.95	37.6	.00			424
28	13.34	13.34	34.240	26.978	113.8	0.840	.49	7.0	81.3	3.08	39.7	.00			502
29	13.34	13.34	34.241	26.979	113.6	0.842	.49	7.0							504
30	13.34	13.34	34.273	27.047	107.8	0.926	.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			
33 42.14 N	121 46.14 W	12 15 85	0050 GMT	976 M			
WIND	SPEED	WAVES	SEA	BAROMETER	DRY	WET	CLOUDS
DEPTH M	TEMP DEG C	DEPTH 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	33.165	25.010	294.1	0.029	10
20	12.764	12.766	33.165	25.019	293.5	0.059	20
30	12.748	12.744	33.161	25.224	274.2	0.087	30
40	11.751	11.746	33.184	25.382	254.4	0.114	40
50	11.141	11.135	33.496	25.581	240.7	0.139	50
75	10.298	10.189	33.680	25.856	215.0	0.196	76
100	9.277	9.266	33.899	26.214	181.5	0.245	101
125	8.975	8.952	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	7.342	34.160	26.702	137.7	0.518	277
300	7.153	7.124	34.145	26.760	132.6	0.552	302
325	6.951	6.928	34.224	26.817	127.8	0.617	353
350	6.738	6.712	34.234	26.887	121.6	0.679	403
375	6.521	6.441	34.246	26.934	117.6	0.739	454
400	6.373	6.340	34.271	26.998	111.9	0.797	504
425	6.148	6.104	34.277	27.056	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		
CST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	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	13.09	13.09	33.164	24.953	299.3	.000	6.49	108.5	3.5	.42	.4	.04	3.62	1.07	0
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								13.54								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								13.049								13.044				33.191				24.984				297.1				0.089				30			
40								12.170								13.325				25.257				271.3				0.118				40							
50								11.142								11.146				33.490				25.567				242.0				0.143				50			
60								10.207								10.204				33.642				25.850				215.6				0.200				76			
75								9.986								9.975				33.758				26.003				201.5				0.253				101			
100								9.942								9.926				33.887				26.195				183.8				0.301				126			
125								9.174								9.198				33.970				26.312				173.1				0.345				151			
150								8.664								8.664				34.021				26.405				164.7				0.387				176			
175								8.352								8.352				34.063				26.485				157.4				0.428				202			
200								8.207								8.192				34.092				26.577				149.0				0.466				227			
225								8.044								8.021				34.123				26.640				143.3				0.503				252			
250								7.847								7.844				34.141				26.688				139.1				0.538				277			
275								7.593								7.593				34.153				26.739				134.5				0.572				302			
300								7.448								7.448				34.170				26.799				129.3				0.638				353			
350								6.219								6.219				34.186				26.879				122.1				0.701				403			
400								6.028								6.028				34.206				26.934				117.3				0.761				454			
450								5.813								5.813				34.231				26.981				113.3				0.818				504			
500								5.957								5.912				34.240				26.990				112.6				0.831				515			

RV NEW HORIZON

CRUISE SQ86

STATION G 31 HYDRO

LATITUDE	LONGITUDE	DAY MO YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	AMT	TYPE		
35 31.6 N	121 51.6 W	19 03 86	1833 GMT	1151 M	310 06 KT			1023.0 MB	12.8 C	12.2 C					
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	CHL	S103	PC4	NO3	NO2	CHL-A	PHAEO	PRESS
M	DEG C	DEG C		THETA			ML/L	POT	UM/L	UM/L	UM/L	UM/L	UM/L	UM/L	D.BAR
0	12.94	12.94	33.152	24.948	299.7	0.00	6.14	102.7							0
1	12.94	12.94	33.152	24.948	299.7	0.03	6.14	102.7	4.9	149	1.7	1.09	1.86	1.54	1
2	12.94	12.94	33.152	24.944	300.4	0.03	6.12	102.4							10
3	12.94	12.94	33.152	24.944	300.4	0.03	6.12	102.3	4.9	149	1.7	1.09	1.93	1.56	11
4	12.94	12.94	33.150	24.956	299.3	0.00	6.08	101.5							16
5	12.94	12.94	33.145	24.972	298.2	0.01	6.05	100.8	5.7	150	1.8	1.09	1.18	1.52	27
6	12.94	12.94	33.144	24.972	298.2	0.01	6.04	100.6							30
7	12.94	12.94	33.144	24.977	298.1	0.02	6.01	100.1	5.1	151	2.1	1.11	1.84	1.54	42
8	12.94	12.94	33.233	25.268	279.5	0.148	5.46	88.7							50
9	12.94	12.94	33.338	25.516	246.9	0.166	4.94	78.7	11.3	114	12.2	1.03	1.17	1.18	57
10	12.94	12.94	33.470	25.624	237.0	0.192	4.46	71.1	14.5	118	14.7	1.02	1.09	1.11	68
11	12.94	12.94	33.555	25.689	231.0	0.209	4.11	65.6							76
12	12.94	12.94	33.567	25.714	228.1	0.215	3.99	63.7	16.6	141	16.6	1.01	1.05	1.09	78
13	12.94	12.94	33.706	25.390	217.3	0.248	3.48	55.0	21.0	162	21.1	1.01	1.02	1.08	93
14	12.94	12.94	33.748	25.370	204.7	0.264	3.31	52.0							101
15	12.94	12.94	33.788	26.048	197.5	0.281	3.16	49.4	25.3	179	24.9	1.00	1.01	1.06	109
16	12.94	12.94	33.853	26.137	189.2	0.310	2.93	45.5	28.1	190	24.3	1.00	1.01	1.06	124
17	12.94	12.94	33.860	26.147	188.4	0.313	2.91	45.2							126
18	12.94	12.94	33.941	26.268	177.3	0.357	2.66	41.0	32.0	2102	26.1	1.00	1.01	1.05	150
19	12.94	12.94	33.943	26.272	176.9	0.358	2.65	40.9							151
20	12.94	12.94	33.942	26.358	169.0	0.393	2.48	38.0	35.3	2113	27.5	1.00	1.02	1.06	171
21	12.94	12.94	34.033	26.426	162.9	0.426	2.36	36.0	37.9	2119	28.5	1.00			191
22	12.94	12.94	34.060	26.464	159.5	0.442	2.38	35.2							202
23	12.94	12.94	34.080	26.499	156.3	0.459	2.40	36.4	39.4	2120	28.9	1.00			212
24	12.94	12.94	34.049	26.536	153.2	0.507	2.74	41.1	41.0	2115	28.6	1.00			243
25	12.94	12.94	34.118	26.558	151.1	0.520	2.72	40.5							252
26	12.94	12.94	34.131	26.652	142.3	0.570	2.61	38.5	51.5	2117	31.4	1.00			286
27	12.94	12.94	34.134	26.662	139.7	0.592	2.55	34.1							302
28	12.94	12.94	34.144	26.748	134.1	0.634	1.48	21.6	60.3	2165	35.4	1.00			347
29	12.94	12.94	34.126	26.821	127.7	0.726	1.06	15.7							403
30	12.94	12.94	34.134	26.848	125.2	0.754	0.97	14.5	10.0	2188	38.1	1.00			425
31	12.94	12.94	34.237	26.948	116.8	0.847	0.53	7.6	28.3	31.07	39.5	1.00			503
32	12.94	12.94	34.236	26.949	116.7	0.848	0.53	7.6							504
33	12.94	12.94	34.236	27.066	105.9	0.932	0.53	4.7	89.4	31.11	41.2	1.00			580

STATION G 33 CTD

RV NEW HORIZON

CRUISE SQ86

STATION G 33 CTD

LATITUDE	LONGITUDE	DAY MO YR	START TIME	BOTTOM	LATITUDE	LONGITUDE	DAY MO YR	START TIME	BOTTOM						
35 31.6 N	121 51.6 W	19 03 86	1136 GMT	1031 M	35 31.8 N	121 51.6 W	19 03 86	1136 GMT	1031 M						
WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS		
240	03 KT		1022.9 MB	12.9 C	12.5 C		240	03 KT		1022.9 MB	12.9 C	12.5 C			
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	12.94	12.94	33.154	24.944	300.1	0.000	0	0	12.94	12.94	33.154	24.944	300.1	0.000	0
1	12.94	12.94	33.152	24.942	300.6	0.030	10	10	12.94	12.94	33.152	24.942	300.6	0.030	10
2	12.94	12.94	33.157	24.978	298.0	0.060	20	20	12.94	12.94	33.154	24.971	298.0	0.060	20
3	12.93	12.92	33.151	24.980	297.5	0.089	30	30	12.94	12.93	33.157	24.978	297.6	0.090	30
40	12.762	12.757	33.159	25.015	294.4	0.119	40	40	11.808	11.803	33.417	25.347	257.9	0.118	40
50	11.640	11.634	33.451	25.349	249.4	0.146	50	50	11.535	11.529	33.475	25.493	249.1	0.143	50
60	10.448	10.444	33.630	25.661	220.3	0.205	76	75	10.432	10.423	33.606	25.792	221.1	0.202	76
100	8.494	8.493	33.765	26.042	185.8	0.257	101	100	9.735	9.724	33.675	25.964	105.3	0.255	101
125	8.1	8.103	33.831	26.116	181.3	0.305	126	125	9.309	9.295	33.801	26.132	189.7	0.304	126
150	8.445	8.429	33.931	26.193	174.8	0.350	151	150	8.200	8.184	33.883	26.214	182.4	0.351	151
175	8.445	8.422	33.993	26.404	164.6	0.393	176	175	8.733	8.714	33.970	26.357	169.2	0.395	176
200	8.442	8.401	34.021	26.443	161.4	0.433	202	200	8.561	8.540	34.022	26.424	163.3	0.436	202
225	8.442	8.374	34.031	26.473	158.3	0.473	227	225	8.276	8.253	34.076	26.510	155.4	0.476	227
250	8.441	8.358	34.029	26.504	155.0	0.512	252	250	7.984	7.959	34.092	26.567	150.4	0.514	252
275	8.441	8.344	34.047	26.534	149.4	0.549	277	275	7.747	7.720	34.124	26.627	145.7	0.551	277
300	8.441	8.327	34.071	26.571	143.0	0.587	302	300	7.568	7.540	34.167	26.670	141.4	0.587	302
350	8.441	8.319	34.061	26.591	135.1	0.651	353	350	7.158	7.124	34.194	26.754	134.0	0.656	353
400	8.441	8.310	34.043	26.613	125.1	0.711	403	400	6.455	6.417	34.222	26.817	128.1	0.722	403
450	8.441	8.311	34.015	26.673	115.1	0.781	454	450	6.459	6.418	34.230	26.890	122.0	0.784	454
500	8.441	8.311	34.014	26.673	105.1	0.841	504	500	6.253	6.209	34.233	26.946	117.0	0.844	504
550	8.441	8.311	34.014	26.673	95.1	0.891	515	550	5.888	5.843	34.222	26.982	115.1	0.860	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					
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	13.19	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		C	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	34.045	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	12.74	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
1	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	241	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	291	7.54	7.52	34.105	26.642	143.7	.583	1.79	26.6	49.3	2.47	32.4	.00			284
1	320 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	449	6.35	6.31	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	05 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
	13.64	13.64	33.121	24.808	313.0	0.000	0	0	14.233	14.233	33.126	24.691	324.1	0.000	0
1	13.44	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
2	13.33	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
3	13.17	13.115	33.108	24.861	308.8	0.093	30	30	13.284	13.280	33.116	24.878	307.1	0.093	30
4	13.03	13.011	33.108	24.862	309.0	0.124	40	40	13.275	13.270	33.119	24.883	307.0	0.124	40
5	13.01	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	11.114	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	10.23	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	9.514	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	8.545	8.568	33.973	26.366	168.3	0.429	176	175	8.475	8.457	33.945	26.377	167.2	0.420	176
200	8.407	8.404	34.034	26.456	160.2	0.470	202	200	8.168	8.148	33.993	26.461	159.6	0.461	202
225	8.042	8.108	34.153	26.513	155.2	0.510	227	225	7.803	7.781	34.023	26.539	152.5	0.500	227
250	7.442	7.507	34.103	26.599	147.2	0.548	252	250	7.725	7.700	34.060	26.580	149.0	0.537	252
275	7.004	7.012	34.114	26.649	142.8	0.584	277	275	7.528	7.501	34.074	26.619	145.6	0.574	277
300	6.545	6.545	34.141	26.698	138.5	0.619	302	300	7.498	7.469	34.113	26.655	142.7	0.610	302
325	6.106	6.147	34.197	26.781	131.3	0.686	353	350	7.133	7.100	34.173	26.754	133.9	0.679	353
400	5.615	5.614	34.211	26.846	125.6	0.751	403	400	6.822	6.785	34.224	26.837	126.6	0.744	403
475	5.417	5.476	34.247	26.909	120.1	0.812	454	450	6.494	6.453	34.245	26.898	121.3	0.806	454
500	5.444	5.498	34.244	26.968	114.8	0.811	504	500	5.951	5.907	34.277	26.993	112.4	0.865	504
574	5.131	5.117	34.266	27.008	111.3	0.909	518	508	5.719	5.713	34.283	27.019	109.9	0.874	511

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

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SiO3 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
35 6.6 N 121 41.9 W 20/03/86 0212 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	13.898	13.898	32.998	24.662	326.9	0.000	0
10	13.801	13.800	32.997	24.681	325.4	0.033	10
20	13.758	13.755	33.000	24.693	324.6	0.065	20
30	13.734	13.730	33.001	24.699	324.3	0.098	30
40	13.645	13.639	33.011	24.725	322.1	0.130	40
50	13.409	13.402	33.106	24.846	310.7	0.162	50
75	11.254	11.245	33.440	25.517	247.3	0.231	76
100	10.454	10.442	33.561	25.753	225.4	0.290	101
125	9.473	9.459	33.797	26.103	192.5	0.343	126
150	8.978	8.962	33.899	26.262	177.8	0.389	151
175	8.561	8.543	33.963	26.378	167.2	0.432	176
200	8.247	8.227	34.009	26.462	159.6	0.473	202
225	7.910	7.887	34.054	26.548	151.7	0.512	227
250	7.548	7.524	34.040	26.589	148.0	0.549	252
275	7.525	7.498	34.093	26.635	144.2	0.586	277
300	7.349	7.320	34.107	26.671	141.1	0.621	302
350	6.777	6.745	34.104	26.748	134.2	0.690	353
400	6.355	6.319	34.146	26.837	126.1	0.755	403
450	5.758	5.720	34.145	26.912	119.1	0.817	454
500	5.484	5.442	34.176	26.970	114.0	0.875	504
511	5.385	5.343	34.182	26.987	112.5	0.887	515

LATITUDE LONGITUDE DAY/MO/YR START TIME BOTTOM
35 10.3 N 121 45.8 W 20/03/86 0320 GMT 1479 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	13.898	13.898	32.992	24.657	327.4	0.000	0
10	13.718	13.717	33.036	24.729	320.9	0.032	10
20	13.552	13.549	33.095	24.808	313.6	0.064	20
30	13.412	13.408	33.099	24.840	310.8	0.095	30
40	13.273	13.268	33.125	24.888	306.5	0.126	40
50	12.375	12.368	33.245	25.157	281.1	0.156	50
75	11.000	10.991	33.307	25.459	252.8	0.222	76
100	10.285	10.273	33.552	25.775	223.3	0.282	101
125	9.557	9.543	33.780	26.076	195.1	0.334	126
150	8.776	8.760	33.855	26.260	178.0	0.381	151
175	8.311	8.293	33.941	26.399	165.1	0.424	176
200	8.018	7.998	33.989	26.480	157.7	0.464	202
225	7.830	7.808	34.003	26.519	154.4	0.503	227
250	7.593	7.569	34.008	26.558	151.1	0.541	252
275	7.247	7.221	34.024	26.619	145.4	0.578	277
300	7.049	7.021	34.041	26.661	141.8	0.614	302
350	6.654	6.622	34.104	26.764	132.5	0.683	353
400	6.423	6.387	34.183	26.857	124.3	0.747	403
450	6.298	6.258	34.248	26.926	118.5	0.808	454
500	5.776	5.733	34.245	26.989	112.5	0.865	504
511	5.623	5.580	34.232	26.998	111.7	0.878	515

STATION B 1 TI							RV NEW HORIZON							CRUISE SQ86							STATION B 2 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							
15 12.0 N		121 23.6 W		20/03/86	0700 GMT	624 M	15 12.0 N		121 23.6 W		20/03/86	0814 GMT	706 M	15 12.0 N		121 23.6 W		20/03/86	0814 GMT	706 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				
270	02 KT			1027.4 MB	13.0 C	12.7 C		280	05 KT			1025.8 MB	13.0 C	12.7 C		280	05 KT			1025.8 MB	13.0 C	12.7 C					
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	PRESS	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	M	DEG C	DEG C		THETA			D.BAR				
0	14.124	14.124	33.113	24.646	123.7	0.000	0	0	13.670	13.670	33.087	24.777	316.0	0.000	0	0	13.670	13.670	33.087	24.777	316.0	0.000	0				
10	13.509	13.508	33.114	24.642	123.2	0.032	10	10	13.427	13.426	33.076	24.818	312.3	0.031	10	10	13.427	13.426	33.076	24.818	312.3	0.031	10				
20	13.334	13.331	33.119	24.651	122.1	0.163	20	20	13.345	13.342	33.073	24.833	311.2	0.063	20	20	13.345	13.342	33.073	24.833	311.2	0.063	20				
30	13.301	13.297	33.119	24.662	120.7	0.194	30	30	13.297	13.293	33.082	24.850	309.8	0.094	30	30	13.297	13.293	33.082	24.850	309.8	0.094	30				
40	13.130	13.125	33.144	24.671	112.4	0.124	40	40	13.123	13.118	33.113	24.908	304.5	0.124	40	40	13.123	13.118	33.113	24.908	304.5	0.124	40				
50	11.778	11.771	33.158	24.635	102.0	0.153	50	50	11.871	11.865	33.293	25.289	268.5	0.153	50	50	11.871	11.865	33.293	25.289	268.5	0.153	50				
75	10.841	10.832	33.142	25.593	140.1	0.215	75	75	10.508	10.499	33.414	25.629	236.6	0.216	75	75	10.508	10.499	33.414	25.629	236.6	0.216	75				
100	10.358	10.346	33.193	25.473	214.1	0.272	100	100	10.286	10.274	33.708	25.897	211.7	0.272	100	100	10.286	10.274	33.708	25.897	211.7	0.272	100				
125	9.666	9.652	33.174	26.131	169.9	0.323	126	125	9.733	9.719	33.844	26.097	193.2	0.323	126	125	9.733	9.719	33.844	26.097	193.2	0.323	126				
150	9.469	9.452	33.189	26.176	186.1	0.370	151	150	9.356	9.339	33.897	26.200	183.8	0.370	151	150	9.356	9.339	33.897	26.200	183.8	0.370	151				
175	8.988	8.969	33.191	26.372	174.5	0.415	176	175	8.867	8.848	33.949	26.319	172.8	0.414	176	175	8.867	8.848	33.949	26.319	172.8	0.414	176				
200	8.538	8.517	33.197	26.408	164.8	0.457	202	200	8.501	8.480	33.999	26.416	164.1	0.457	202	200	8.501	8.480	33.999	26.416	164.1	0.457	202				
225	7.988	7.965	34.008	26.500	156.2	0.497	227	225	8.272	8.249	34.038	26.481	158.2	0.497	227	225	8.272	8.249	34.038	26.481	158.2	0.497	227				
250	7.595	7.571	34.014	26.582	150.6	0.536	252	250	7.805	7.780	34.036	26.549	152.0	0.536	252	250	7.805	7.780	34.036	26.549	152.0	0.536	252				
275	7.407	7.380	34.017	26.619	143.1	0.572	277	275	7.609	7.582	34.047	26.586	148.8	0.573	277	275	7.609	7.582	34.047	26.586	148.8	0.573	277				
300	7.277	7.248	34.100	26.676	140.8	0.608	302	300	7.353	7.324	34.092	26.658	142.2	0.610	302	300	7.353	7.324	34.092	26.658	142.2	0.610	302				
350	7.122	7.089	34.193	26.771	132.3	0.676	353	350	7.124	7.091	34.158	26.743	134.9	0.679	353	350	7.124	7.091	34.158	26.743	134.9	0.679	353				
400	6.795	6.778	34.226	26.841	126.1	0.741	403	400	6.807	6.770	34.215	26.832	127.0	0.744	403	400	6.807	6.770	34.215	26.832	127.0	0.744	403				
450	6.410	6.369	34.247	26.920	120.7	0.802	454	450	6.303	6.263	34.252	26.928	118.2	0.806	454	450	6.303	6.263	34.252	26.928	118.2	0.806	454				
500	5.964	5.918	34.275	26.990	114.7	0.860	504	500	5.867	5.824	34.271	26.999	111.8	0.863	504	500	5.867	5.824	34.271	26.999	111.8	0.863	504				
508	5.930	5.886	34.277	26.996	112.3	0.869	512	530	5.667	5.622	34.290	27.039	108.2	0.896	534	530	5.667	5.622	34.290	27.039	108.2	0.896	534				

STATION B 1 CTD										RV NEW HORIZON										CRUISE SQ86											
LATITUDE		LONGITUDE		DAY/MO/YR		START TIME		BOTTOM		LATITUDE		LONGITUDE		DAY/MO/YR		START TIME		BOTTOM		LATITUDE		LONGITUDE		DAY/MO/YR		START TIME		BOTTOM			
15 11.9 N		121 24.7 W		20/03/86		0925 GMT		656 M		15 11.9 N		121 24.7 W		20/03/86		0925 GMT		656 M		15 11.9 N		121 24.7 W		20/03/86		0925 GMT		656 M			
WIND		SPEED		WAVES		WEA		BAROMETER		DRY		WET		CLOUDS		WIND		SPEED		WAVES		WEA		BAROMETER		DRY		WET		CLOUDS	
34		04 KT						1025.8 MB		13.0 C		12.8 C				34		04 KT						1025.8 MB		13.0 C		12.8 C			
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		14.121		14.121		33.091		24.708		122.5		0.000		0		0		13.670		13.670		33.087		24.777		316.0		0.000		0	
10		13.509		13.508		33.086		24.783		115.6		0.032		10		10		13.427		13.426		33.076		24.818		312.3		0.031		10	
20		13.334		13.331		33.083		24.837		110.9		0.063		20		20		13.427		13.426		33.076		24.818		312.3		0.031		20	
30		13.297		13.293		33.091		24.858		109.1		0.094		30		30		13.345		13.342		33.073		24.833		311.2		0.063		30	
40		13.130		13.125		33.114		25.071		102.4		0.124		40		40		13.297		13.293		33.082		24.850		309.8		0.094		40	
50		11.778		11.771		33.158		25.326		102.0		0.153		50		50		13.297		13.293		33.082		24.850		309.8		0.094		50	
75		10.841		10.832		33.142		25.593		140.1		0.215		75		75		11.871		11.865		33.293		25.289		268.5		0.153		75	
100		10.508		10.499		33.414		25.629		236.6		0.216		100		100		10.508		10.499		33.414		25.629		236.6		0.216		100	
125		10.275		10.266		33.408		25.666		230.2		0.252		125		125		10.275		10.266		33.408		25.666		230.2		0.252		125	
150		10.149		10.140		34.048		26.618		145.6		0.364		150		150		10.149		10.140		34.048		26.618		145.6		0.364		150	
175		9.734		9.725		34.083		26.658		142.2		0.600		175		175		9.734		9.725		34.083		26.658		142.2		0.600		175	
200		9.417		9.408		34.174		26.758		133.5		0.569		200		200		9.417		9.408		34.174		26.758		133.5		0.569		200	
225		9.083		9.075		34.215		26.829		127.4		0.734		225		225		9.083		9.075		34.215		26.829		127.4		0.734		225	
250		8.771		8.762		34.243		26.889		122.2		0.797		250		250		8.771		8.762		34.243		26.889		122.2		0.797		250	
275		8.471		8.463		34.264		26.963		115.4		0.854		275		275		8.471		8.463		34.264		26.963		115.4		0.854		275	
300		8.181		8.174		34.282		27.010		111.2		0.891		300		300		8.181		8.174		34.282		27.010		111.2		0.891		300	

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	PHAE	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	11.94	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 PHAEOPHYTTIN
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							
35 12.0 N								121 9.1 W								20/03/86								1242 GMT								M							
WIND		SPEED		WAVES		WEA		BAROMETER		DRY		WET		CLOUDS		WIND		SPEED		WAVES		WEA		BAROMETER		DRY		WET		CLOUDS									
020		03 KT														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		12.397		12.392		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		8.9 9		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		8.7 7		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																									

TABLE 1. *Continued*[illegible]

$\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{8}$ $\frac{1}{16}$

[illegible][illegible][illegible]

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	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	13.730	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	WS					
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			
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			
1	20 ISL	13.14	13.14	33.130	24.918	303.6	.062	6.40	107.1							20			
1	30 ISL	13.02	13.02	33.131	24.943	301.1	.092	6.24	104.2							30			
1	41	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			
1	50	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	.25	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			
1	75 ISL	10.81	10.80	33.535	25.671	232.8	.214	4.26	68.0							75			
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			
1	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			
1	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			
1	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			
1	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			
1	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			
1	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			
1	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			
1	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 8 CTD

RV NEW HORIZON

CRUISE SQ86

STATION C 9 CTD

LATITUDE LONGITUDE DAY/MO/YR START TIME BOTTOM
 35 0.0 N 121 21.6 W 21/03/86 0422 GMT 439 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	13.949	13.949	33.093	24.725	320.9	0.000	0
10	13.886	13.885	33.090	24.736	320.2	0.032	10
20	13.369	13.356	33.092	24.843	310.3	0.064	20
30	13.290	13.286	33.090	24.857	309.1	0.095	30
40	13.191	13.186	33.087	24.875	307.8	0.125	40
50	13.153	13.146	33.098	24.891	306.5	0.156	50
75	11.377	11.368	33.262	25.356	262.6	0.227	76
100	10.845	10.836	33.464	25.609	239.2	0.290	101
125	9.984	9.973	33.655	25.907	211.2	0.346	126
150	9.524	9.508	33.846	26.213	182.4	0.395	151
175	8.594	8.576	33.950	26.363	168.6	0.439	176
200	8.183	8.163	33.981	26.450	160.6	0.481	202
225	7.948	7.925	34.043	26.533	153.1	0.520	227
250	7.547	7.523	34.072	26.615	145.6	0.557	252
275	7.459	7.432	34.115	26.661	141.6	0.593	277
300	7.282	7.252	34.133	26.713	136.9	0.628	302
350	6.810	6.778	34.145	26.776	131.6	0.695	353
400	6.308	6.272	34.198	26.884	121.6	0.758	403
408	6.247	6.211	34.200	26.894	120.8	0.768	411

LATITUDE LONGITUDE DAY/MO/YR START TIME BOTTOM
 35 0.1 N 121 26.5 W 21/03/86 0524 GMT 463 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	13.878	13.878	33.088	24.736	319.9	0.000	0
10	13.568	13.567	33.095	24.804	313.7	0.032	10
20	13.332	13.329	33.081	24.842	310.4	0.063	20
30	13.307	13.303	33.091	24.855	309.4	0.094	30
40	12.665	12.660	33.195	25.062	289.9	0.124	40
50	11.864	11.858	33.204	25.221	274.9	0.152	50
75	11.435	11.486	33.372	25.421	256.6	0.219	76
100	10.484	10.472	33.556	25.744	226.3	0.279	101
125	9.696	9.682	33.715	26.002	202.1	0.332	126
150	8.906	8.890	33.870	26.251	178.8	0.380	151
175	8.523	8.505	33.968	26.387	166.2	0.423	176
200	8.244	8.224	34.010	26.463	159.5	0.464	202
225	7.862	7.840	34.033	26.538	152.6	0.503	227
250	7.735	7.710	34.063	26.581	149.0	0.541	252
275	7.543	7.516	34.102	26.639	143.7	0.577	277
300	7.459	7.470	34.109	26.651	143.0	0.613	302
350	7.120	7.087	34.138	26.728	136.3	0.683	353
400	6.514	6.478	34.187	26.849	125.2	0.748	403
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
 35 0.1 N 121 31.1 W 21/03/86 0626 GMT 708 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	14.841	14.841	33.044	24.706	322.8	0.000	0
10	14.444	14.443	33.035	24.704	323.2	0.032	10
20	14.454	14.450	33.069	24.706	323.3	0.065	20
30	13.674	13.671	33.130	24.732	321.1	0.097	30
40	13.874	13.873	33.153	24.781	316.2	0.129	40
50	12.844	12.843	33.195	25.029	293.3	0.159	50
75	11.377	11.348	33.337	25.455	253.3	0.228	76
100	10.454	10.445	33.530	25.727	227.9	0.288	101
125	9.911	9.911	33.700	25.951	207.0	0.342	126
150	9.114	9.143	33.859	26.202	183.5	0.391	151
175	8.617	8.589	33.953	26.363	168.6	0.435	176
200	8.141	8.117	34.007	26.483	157.5	0.476	202
225	7.810	7.744	34.029	26.542	152.1	0.514	227
250	7.534	7.505	34.041	26.593	147.7	0.552	252
275	7.283	7.255	34.067	26.634	144.1	0.588	277
300	7.068	7.049	34.092	26.670	141.0	0.624	302
350	6.583	6.550	34.158	26.762	132.9	0.692	353
400	6.012	6.000	34.181	26.816	128.4	0.758	403
450	5.512	5.511	34.212	26.890	121.9	0.820	454
500	5.044	5.036	34.233	26.965	115.0	0.880	504
510	5.044	5.030	34.238	26.976	114.1	0.891	514

LATITUDE LONGITUDE DAY/MO/YR START TIME BOTTOM
 35 0.1 N 121 35.6 W 21/03/86 0728 GMT 1234 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	14.102	14.102	33.055	24.664	326.8	0.000	0
10	14.132	14.131	33.067	24.667	326.7	0.033	10
20	14.201	14.198	33.132	24.703	323.6	0.065	20
30	14.097	14.093	33.119	24.715	322.7	0.098	30
40	14.043	14.037	33.118	24.726	322.0	0.130	40
50	12.603	12.596	33.211	25.087	287.8	0.160	50
75	11.333	11.324	33.344	25.428	255.8	0.228	76
100	10.301	10.289	33.496	25.729	227.7	0.289	101
125	9.839	9.825	33.730	25.990	203.3	0.342	126
150	8.961	8.945	33.895	26.262	177.8	0.390	151
175	8.462	8.444	33.973	26.401	165.0	0.433	176
200	8.196	8.176	34.004	26.466	159.2	0.474	202
225	7.915	7.892	34.029	26.527	153.6	0.513	227
250	7.524	7.500	34.051	26.601	146.9	0.550	252
275	7.283	7.257	34.070	26.651	142.5	0.586	277
300	7.162	7.134	34.099	26.691	139.1	0.622	302
350	6.869	6.836	34.160	26.780	131.3	0.689	353
400	6.580	6.543	34.188	26.841	126.0	0.753	403
450	6.292	6.252	34.219	26.903	120.5	0.815	454
500	6.100	6.056	34.235	26.941	117.5	0.875	504
510	6.035	5.990	34.233	26.948	116.9	0.886	514

STATION C 12 CTD

RV NEW HORIZON

CRUISE SQ86

STATION C 13 CTD

LATITUDE LONGITUDE DAY/MO/YR START TIME BOTTOM
 35 0.0 N 121 40.4 W 21/03/86 0836 GMT 1593 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	14.431	14.435	33.130	24.652	327.9	0.000	0
10	14.477	14.469	33.135	24.650	326.5	0.033	10
20	14.484	14.483	33.138	24.732	321.8	0.065	20
30	14.492	14.484	33.156	24.745	319.9	0.097	30
40	14.565	14.560	33.191	24.777	317.1	0.129	40
50	12.784	12.782	33.221	25.061	290.2	0.159	50
75	11.184	11.177	33.314	25.424	256.1	0.228	76
100	9.916	9.905	33.514	25.842	216.8	0.287	101
125	9.117	9.125	33.717	26.092	193.5	0.338	126
150	8.911	8.894	33.898	26.271	176.9	0.384	151
175	8.401	8.433	33.970	26.400	161.0	0.427	176
200	8.117	8.117	34.004	26.478	158.1	0.467	202
225	7.935	7.913	34.041	26.526	153.8	0.506	227
250	7.697	7.651	34.071	26.563	150.7	0.545	252
275	7.443	7.414	34.091	26.613	146.3	0.582	277
300	7.375	7.324	34.119	26.659	142.2	0.618	302
350	6.941	6.941	34.141	26.757	133.7	0.687	353
400	6.631	6.641	34.178	26.826	127.4	0.752	403
450	6.317	6.317	34.224	26.904	120.5	0.814	454
500	5.988	5.940	34.231	26.945	115.0	0.873	504
529	5.614	5.574	34.245	27.010	110.9	0.906	533

LATITUDE LONGITUDE DAY/MO/YR START TIME BOTTOM
 35 0.0 N 121 45.1 W 21/03/86 0944 GMT 1885 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	14.221	14.221	33.094	24.669	326.2	0.000	0
10	14.228	14.237	33.088	24.661	327.3	0.033	10
20	14.177	14.169	33.081	24.670	326.8	0.065	20
30	14.021	14.021	33.069	24.691	325.0	0.099	30
40	13.961	13.955	33.071	24.707	323.8	0.130	40
50	13.030	13.023	33.163	24.966	299.3	0.162	50
75	10.923	10.914	33.380	25.530	264.1	0.230	76
100	9.928	9.917	33.534	25.825	218.4	0.288	101
125	9.552	9.538	33.745	26.050	197.6	0.340	126
150	8.975	8.959	33.875	26.244	179.5	0.387	151
175	8.634	8.616	33.953	26.359	169.0	0.430	176
200	8.254	8.234	34.001	26.455	160.3	0.472	202
225	7.967	7.944	34.024	26.516	154.8	0.511	227
250	7.675	7.650	34.042	26.573	149.7	0.549	252
275	7.656	7.629	34.087	26.611	146.5	0.586	277
300	7.420	7.391	34.116	26.668	141.4	0.622	302
350	6.800	6.768	34.107	26.747	134.2	0.691	353
400	6.621	6.584	34.186	26.834	126.7	0.756	403
450	5.707	5.669	34.130	26.906	119.6	0.818	454
500	5.467	5.425	34.171	26.968	114.2	0.876	504
528	5.292	5.249	34.186	27.001	111.2	0.908	532

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 M	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT 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 M	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT 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	33.349	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 M	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT 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 M	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT 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 M	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT 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

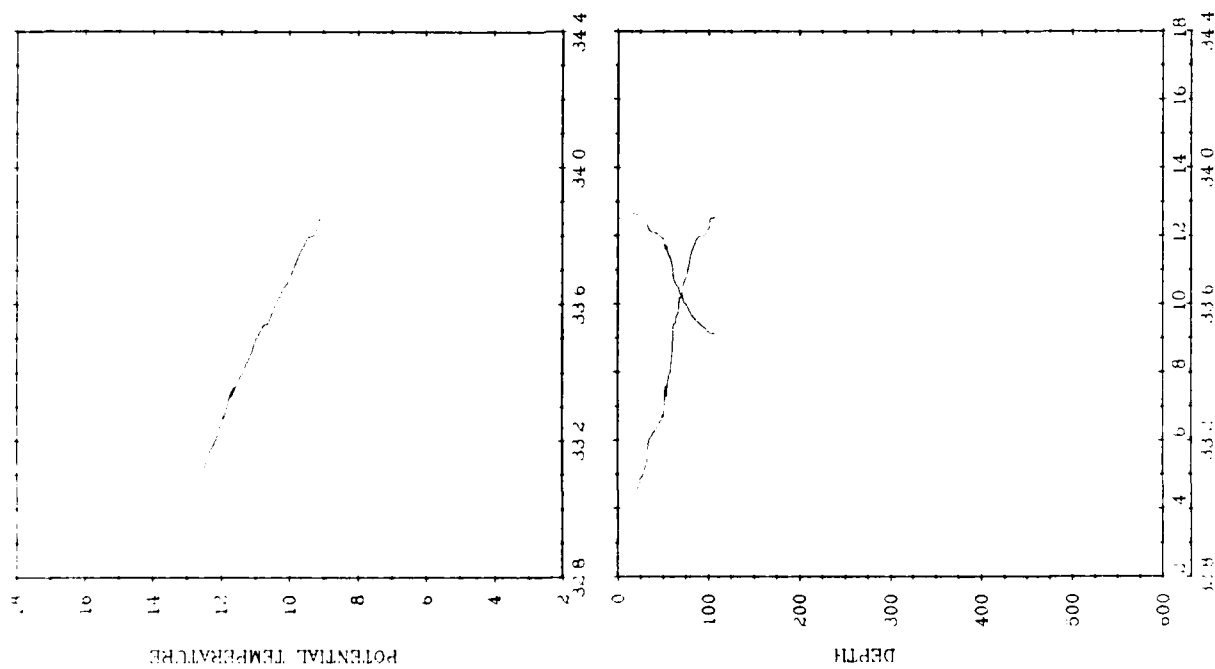
Sta	Day	Mo	Local Time (+8 PST)	Secchi Depth (m)	Weather	Clouds Type Amt
A 1	16	3	1100	19	-	- -
G 1	16	3	1500	13	1	SC 6/8
G 11	17	3	0955	8	1	ST 1/8
G 24	18	3	1105	14	1	CS 3/8
G 26	18	3	1357	11	1	CC 6/8
G 36	19	3	1020	14	0	- 0
G 40	19	3	1602	21	0	- 0
C 1	20	3	1050	13	1	CI 3/8
C 2	20	3	1140	12	1	CS 3/8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

Cruise SQ86

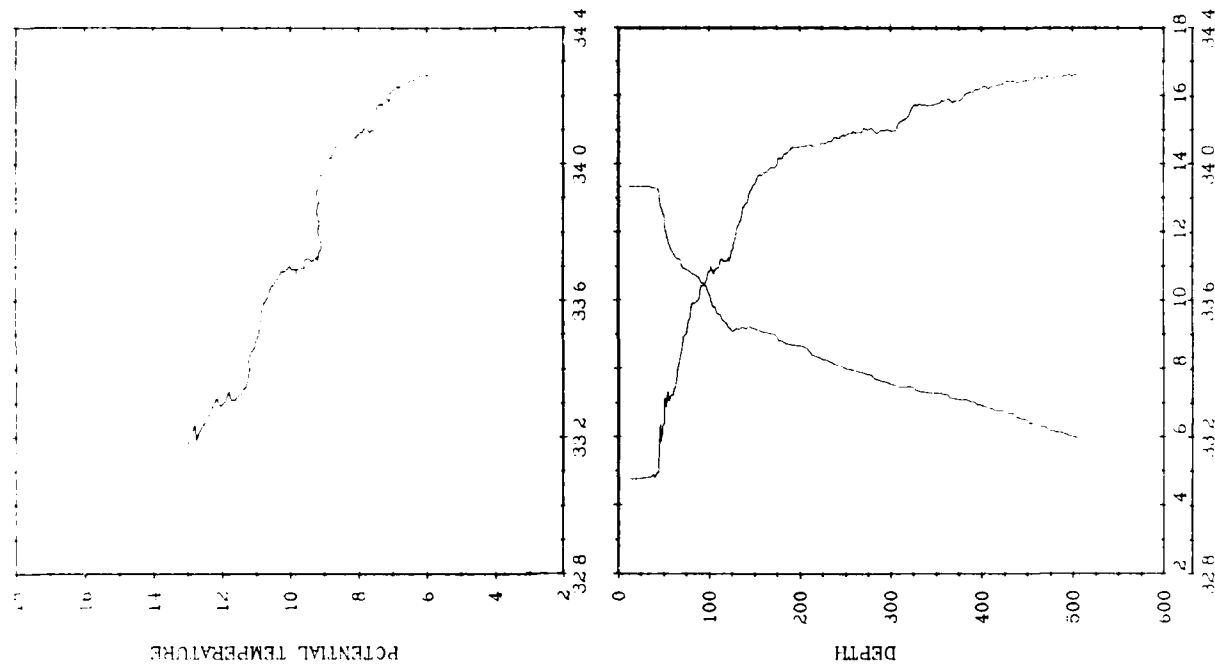
MACROZOOPLANKTON BIOMASS Net Mesh Size 0.505 mm

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)	Mean (cm ³)
G 8	35 50.8N	121 51.1W	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	1757	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 3	35 06.0N	121 07.1W	3/21	0059	0120	455	212	98	98

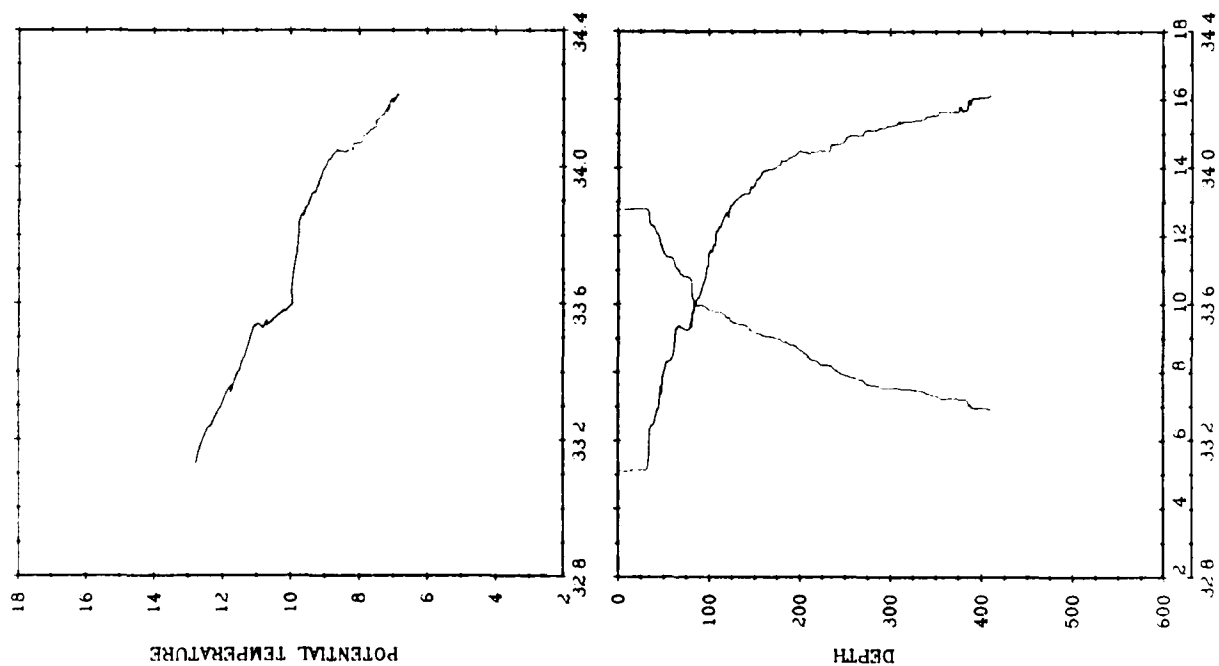
CRUISE SQ86 G 5



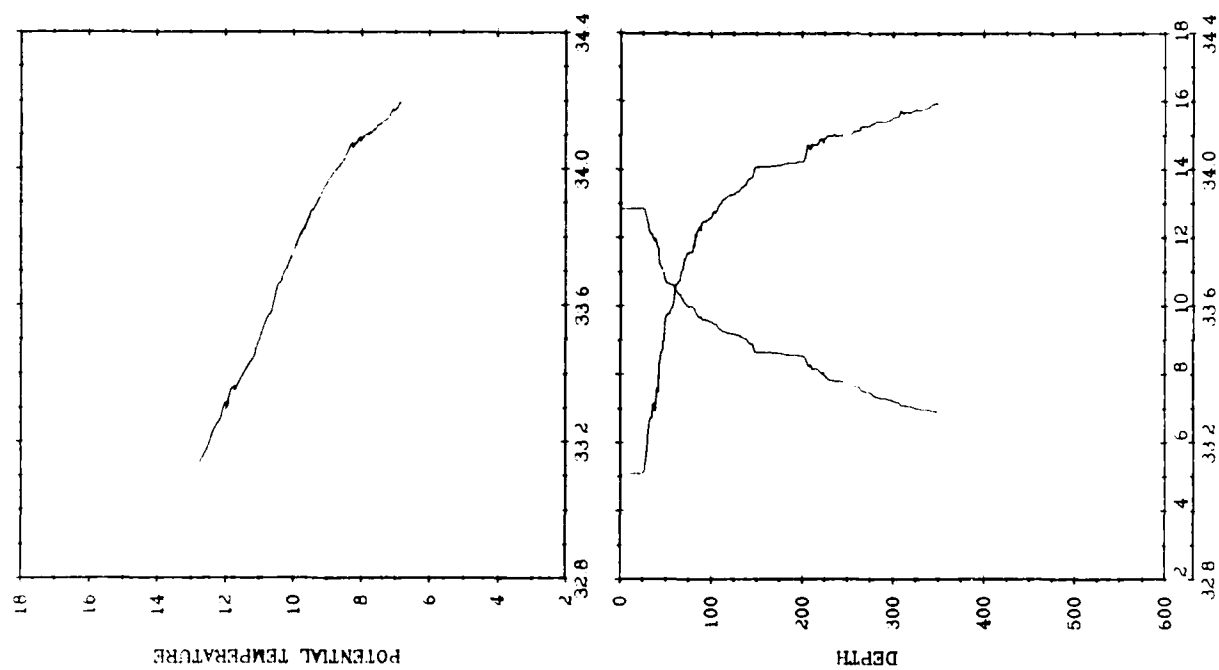
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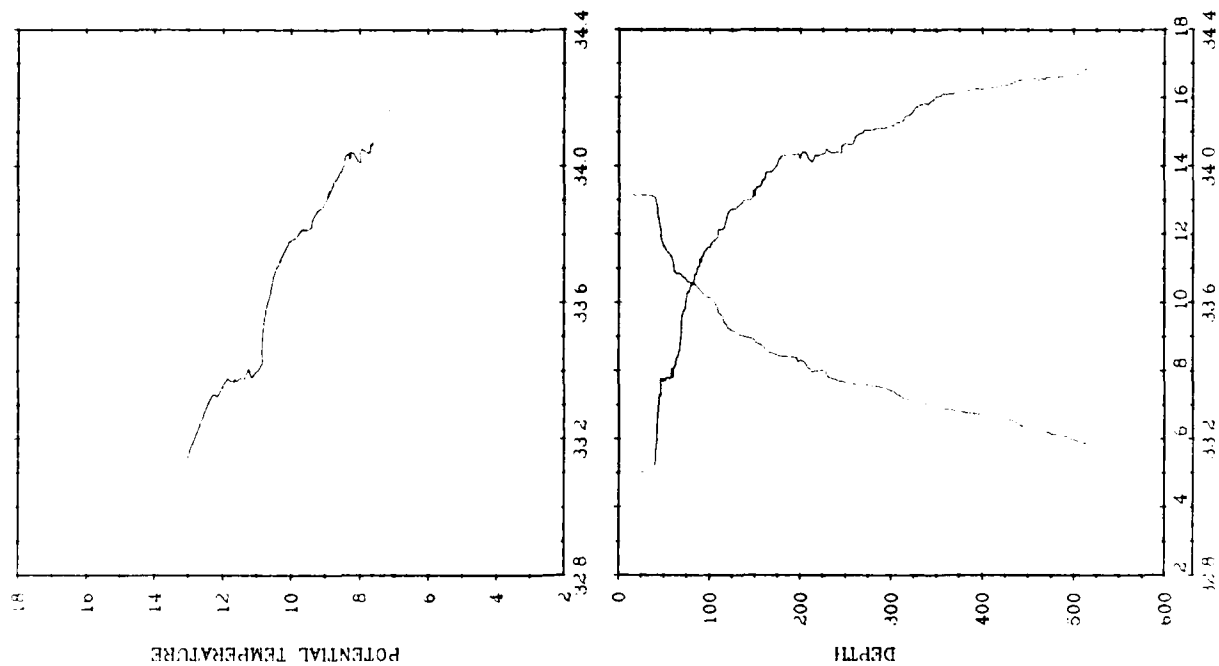
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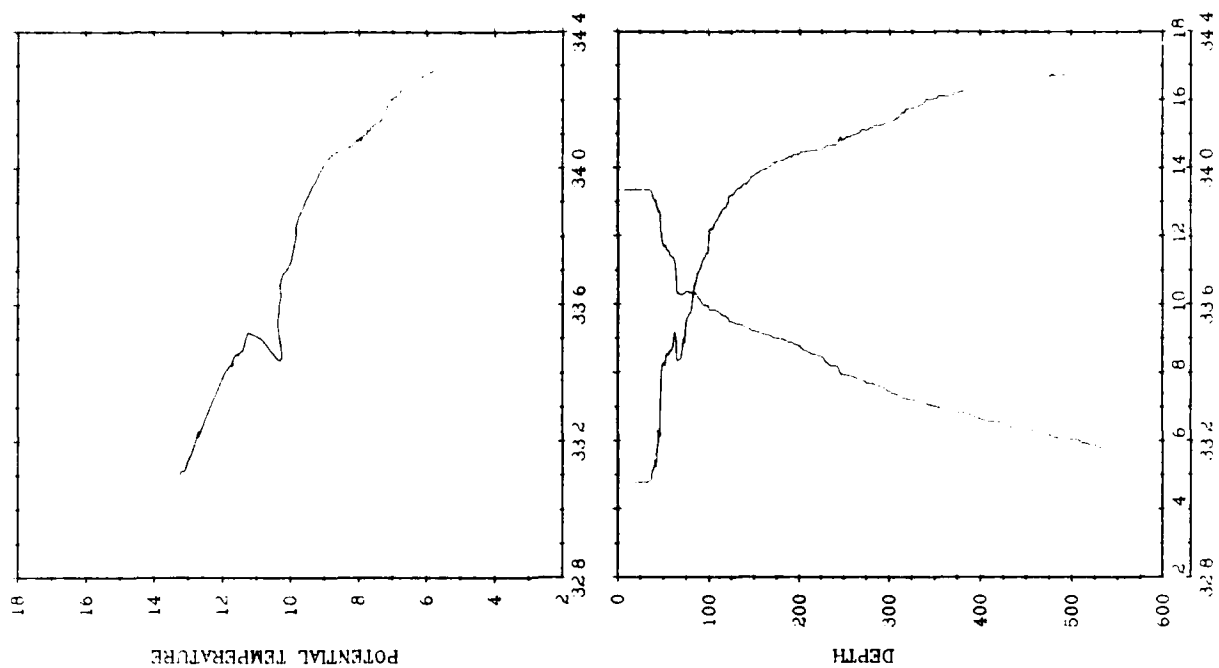
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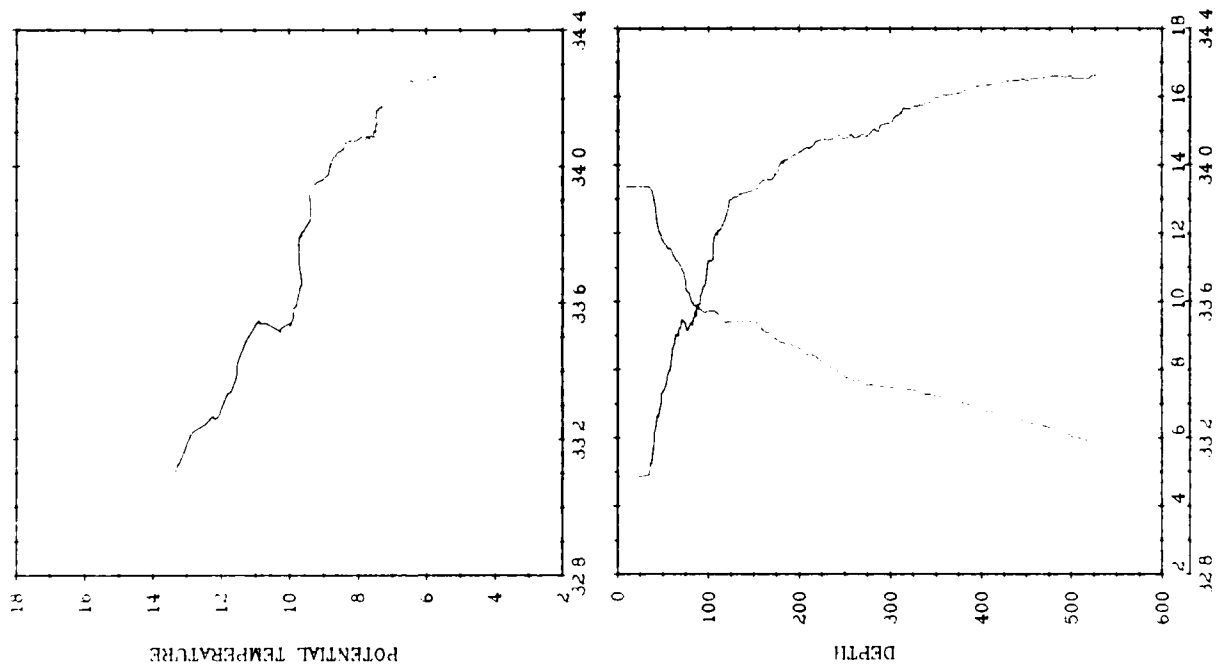
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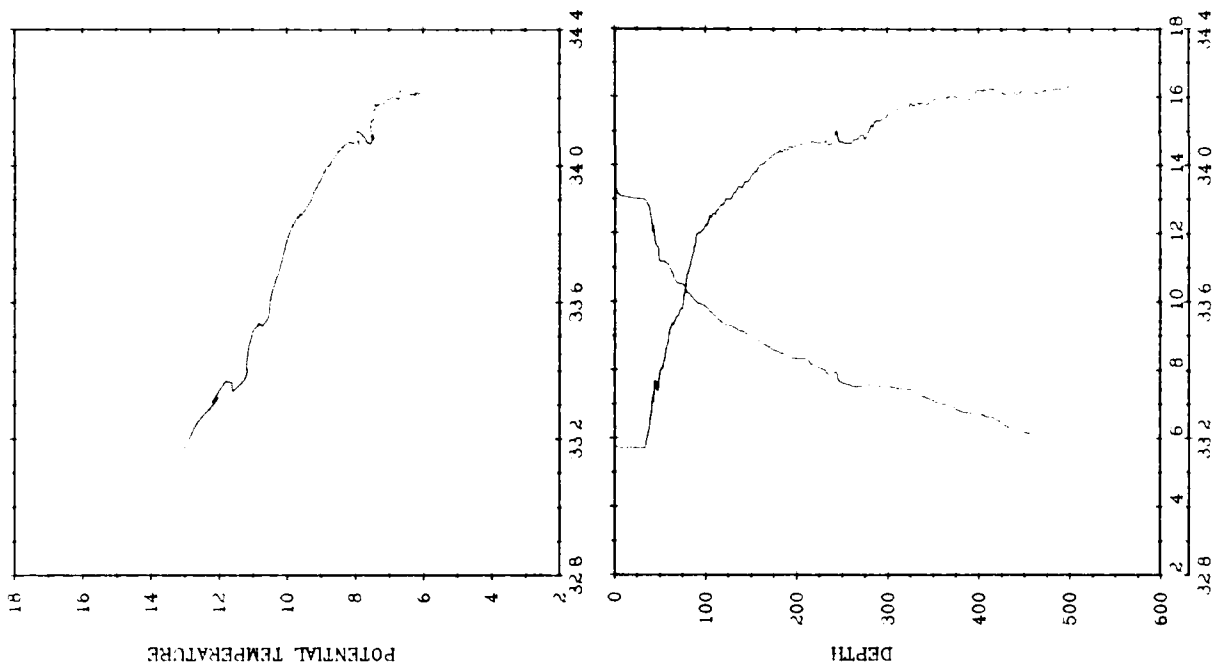
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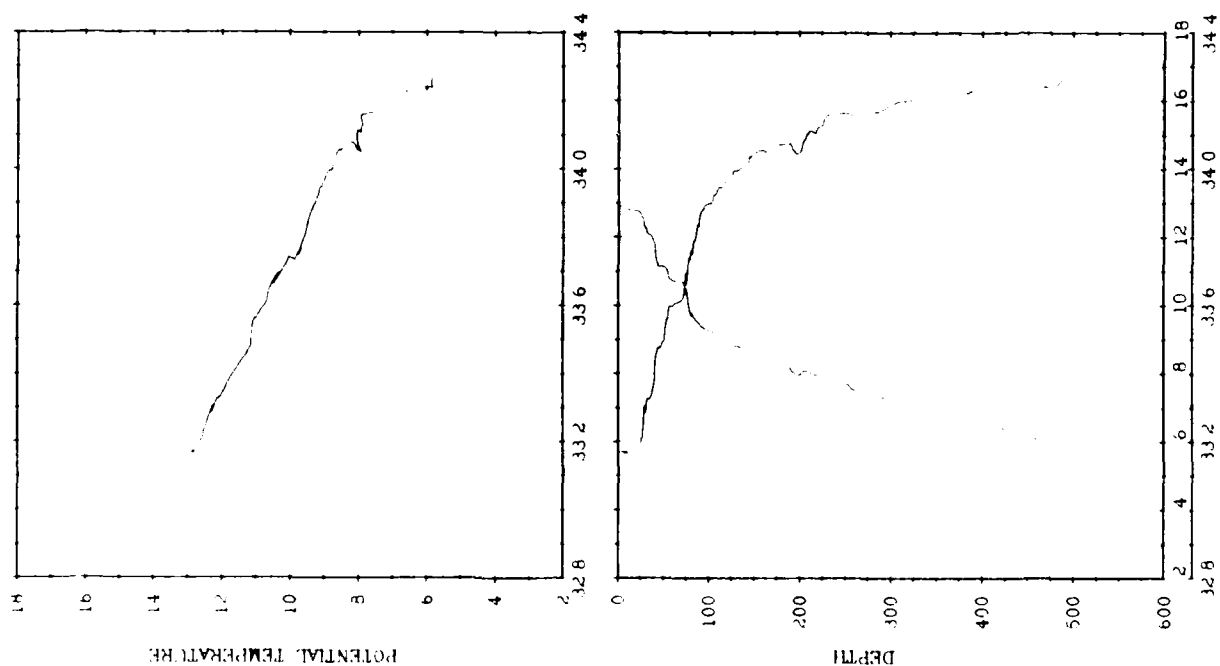
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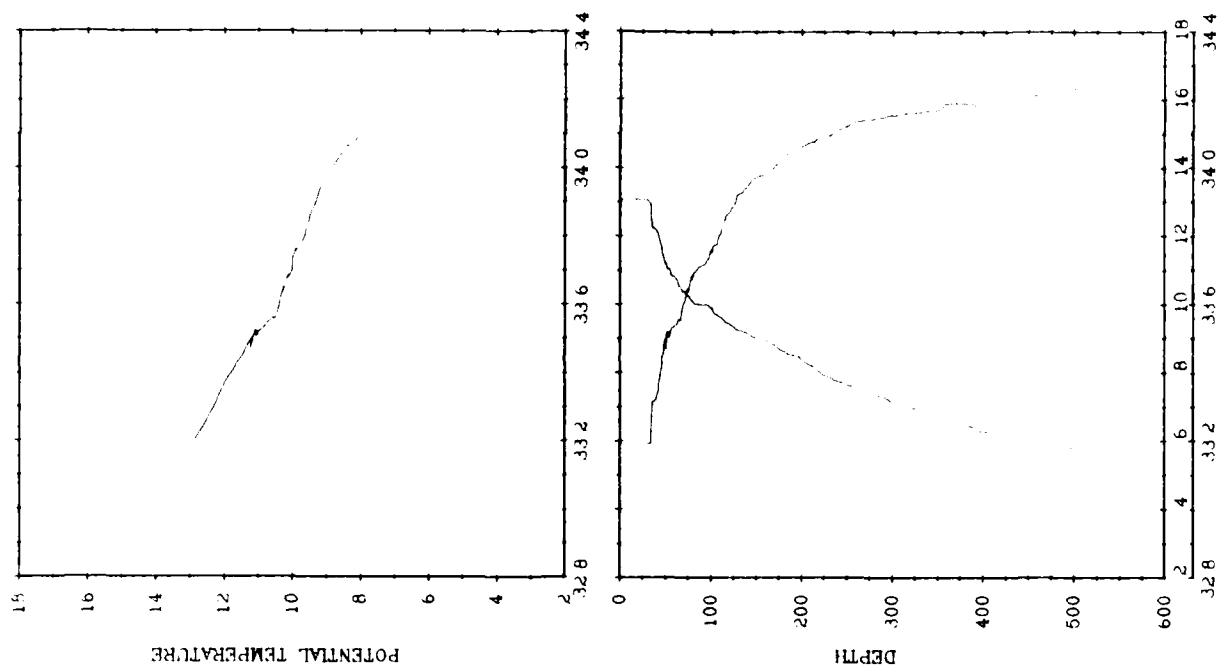
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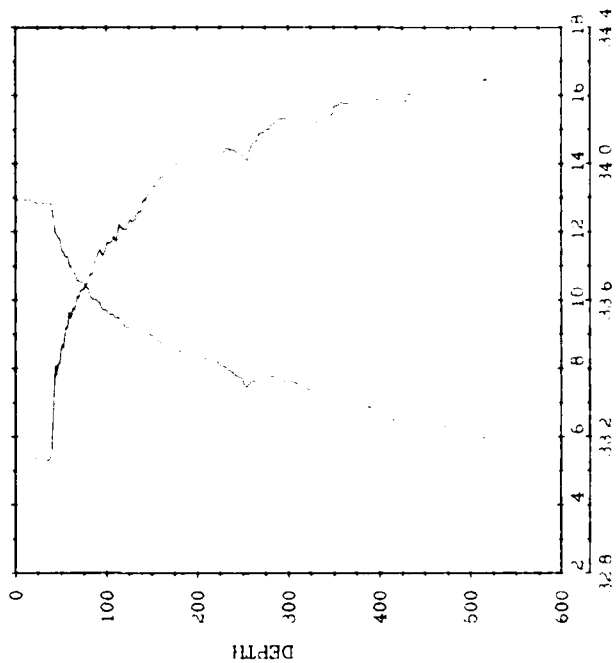
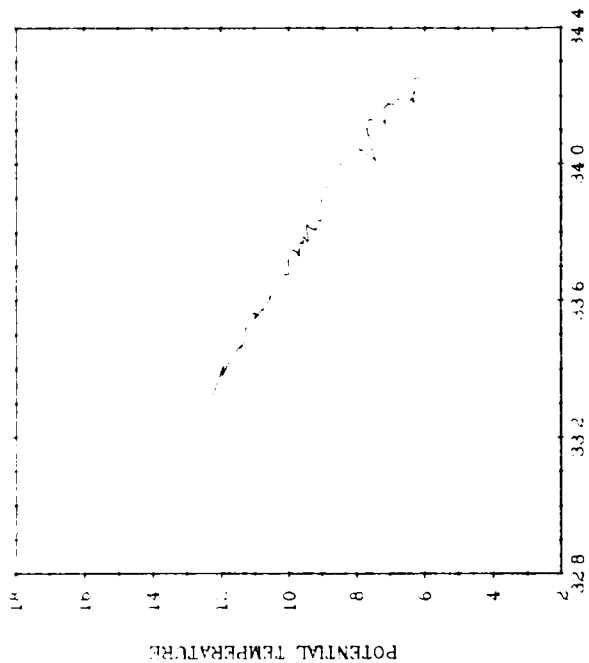
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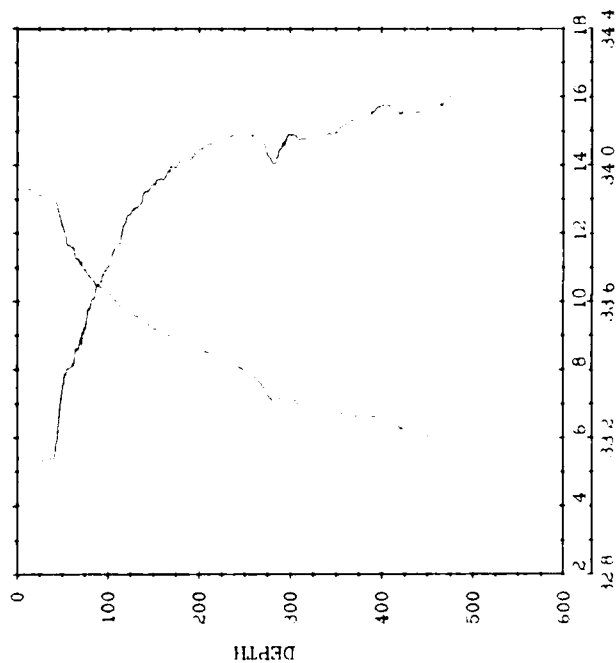
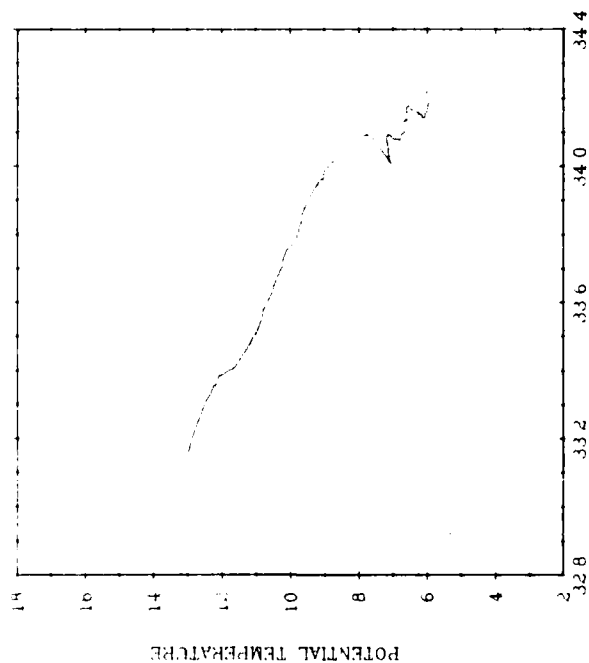
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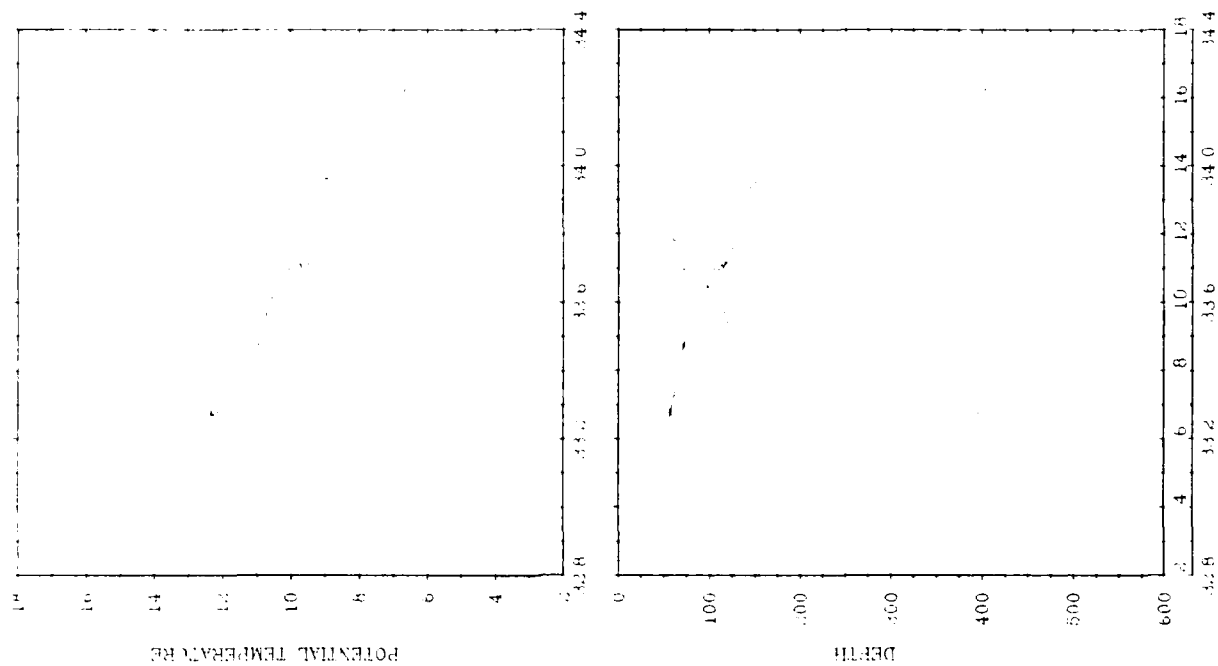
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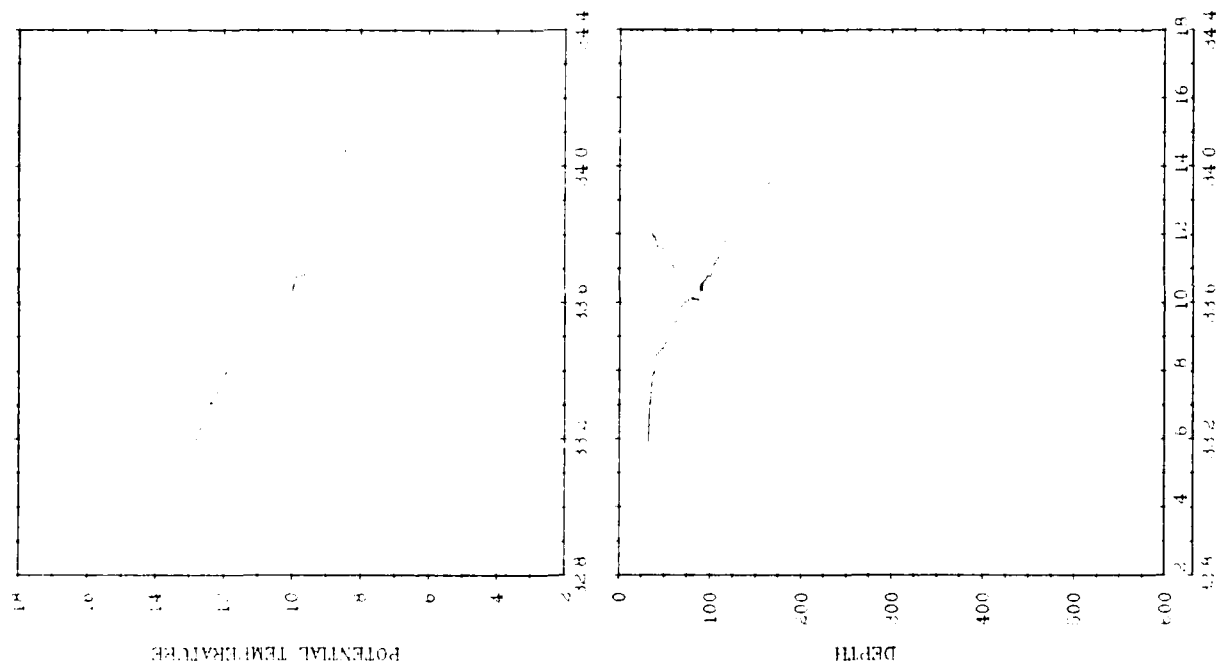
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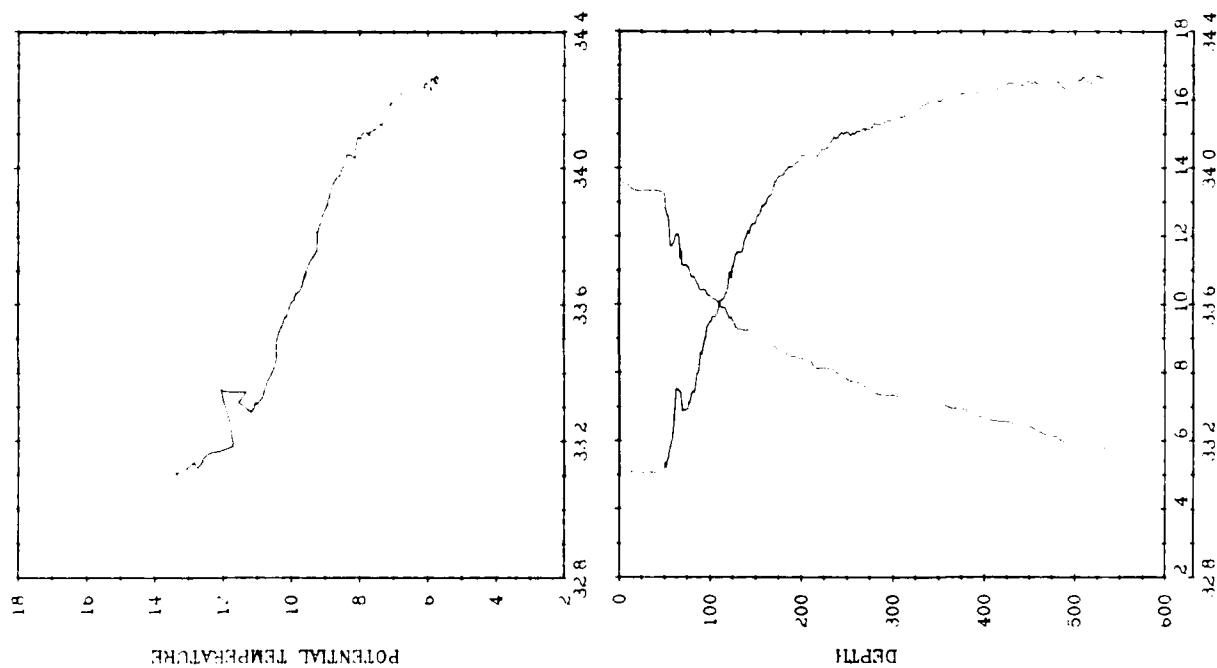
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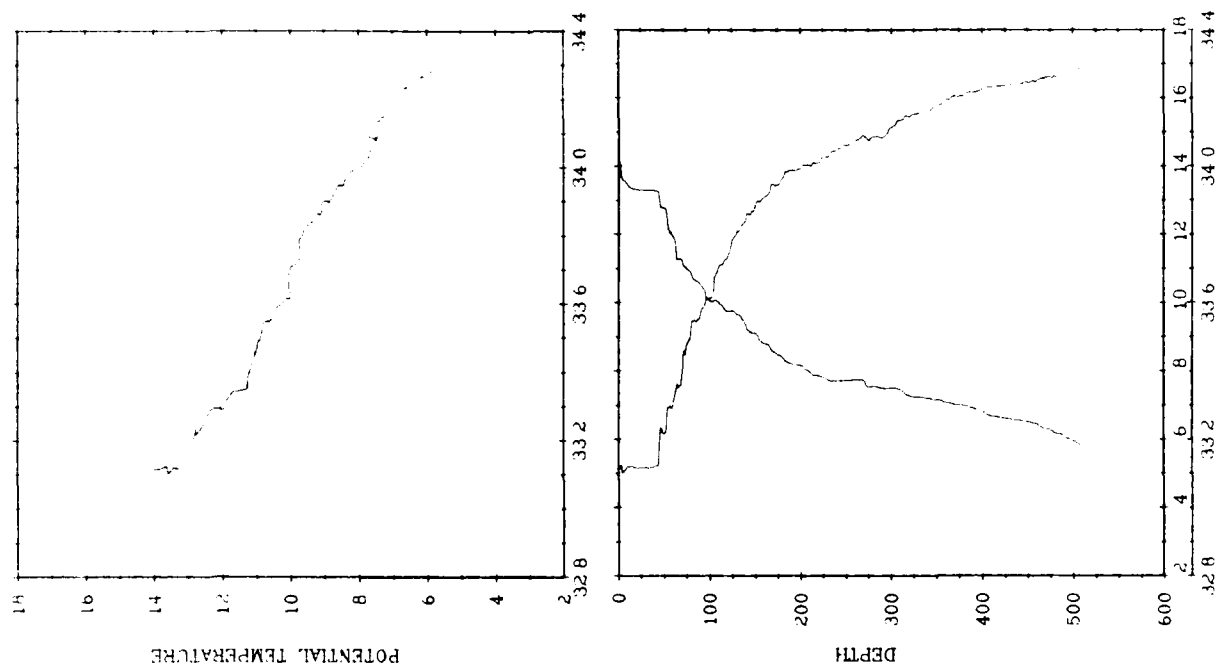
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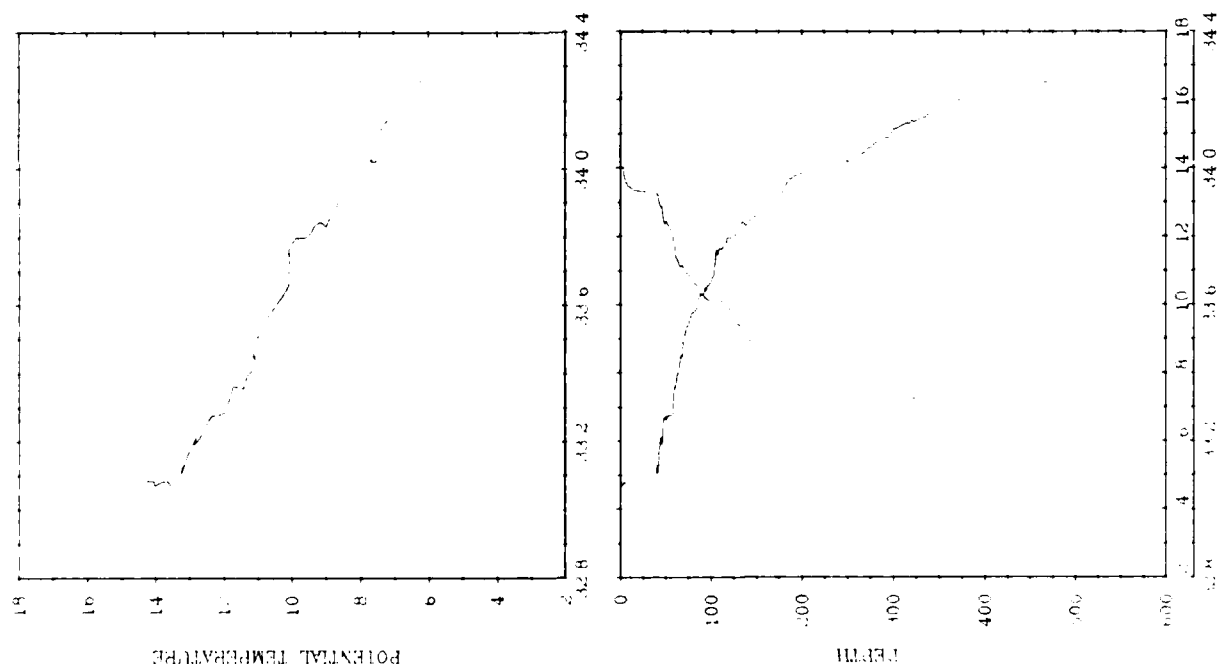
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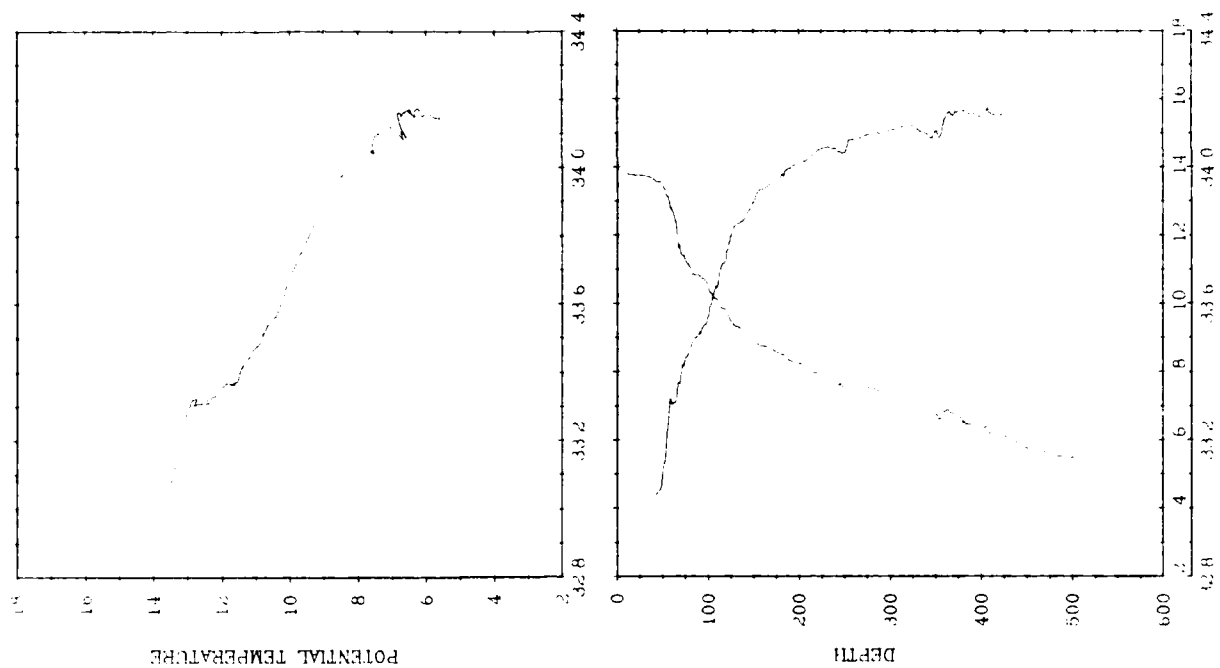
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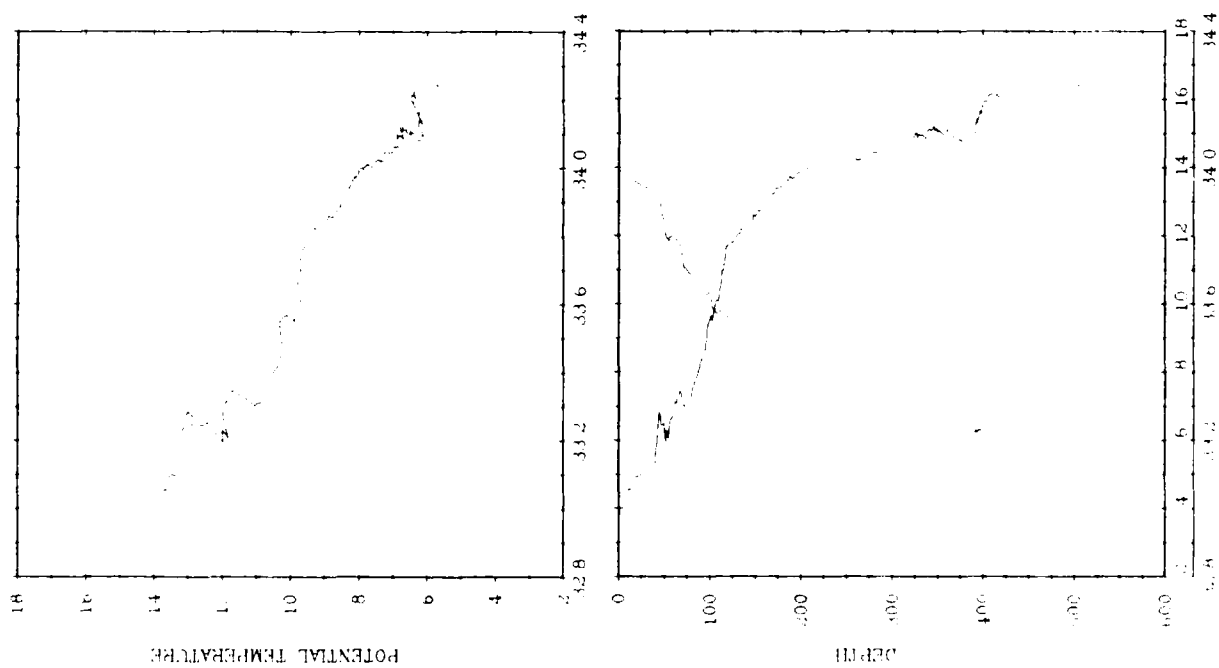
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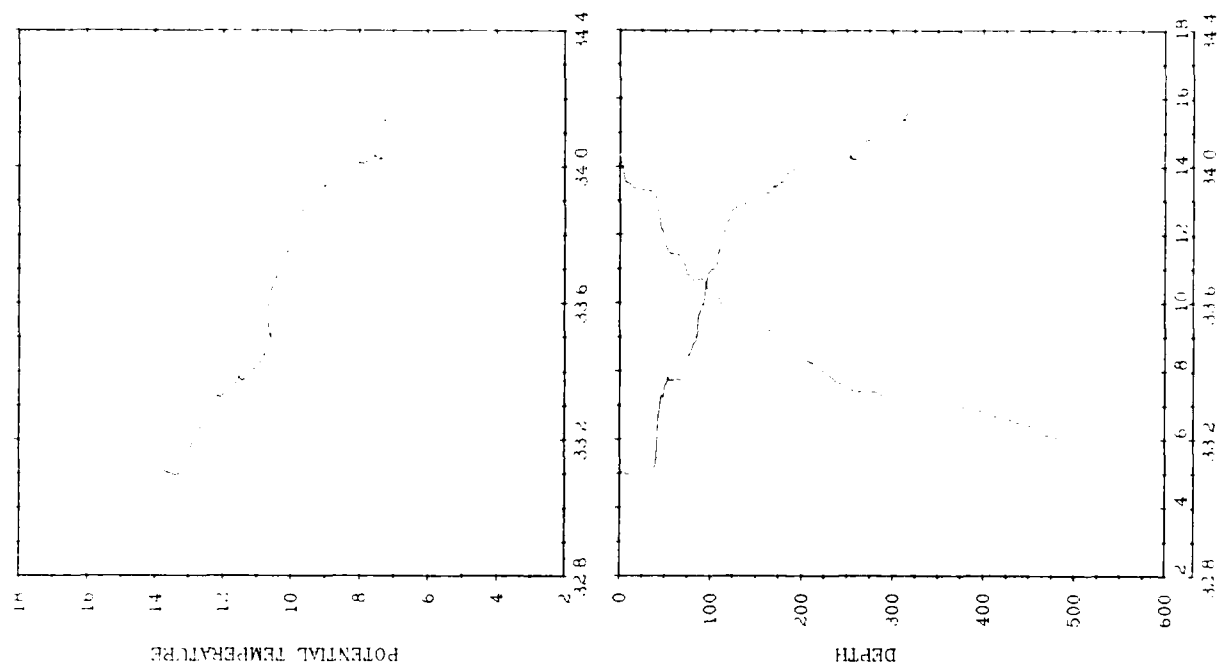
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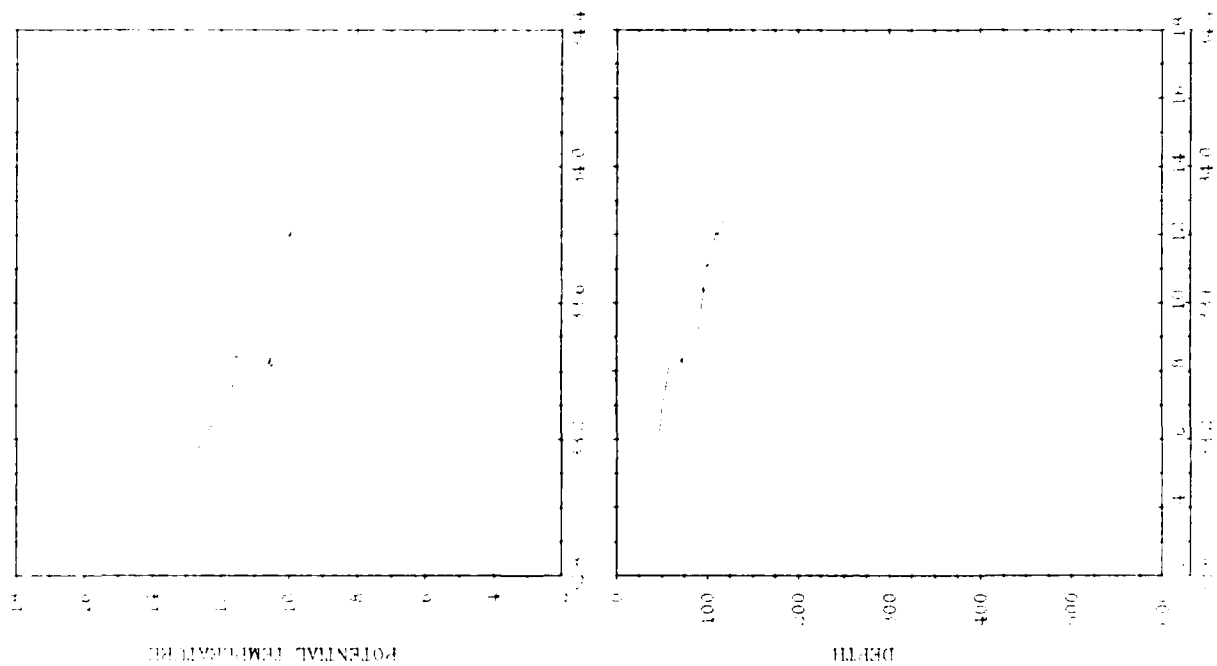
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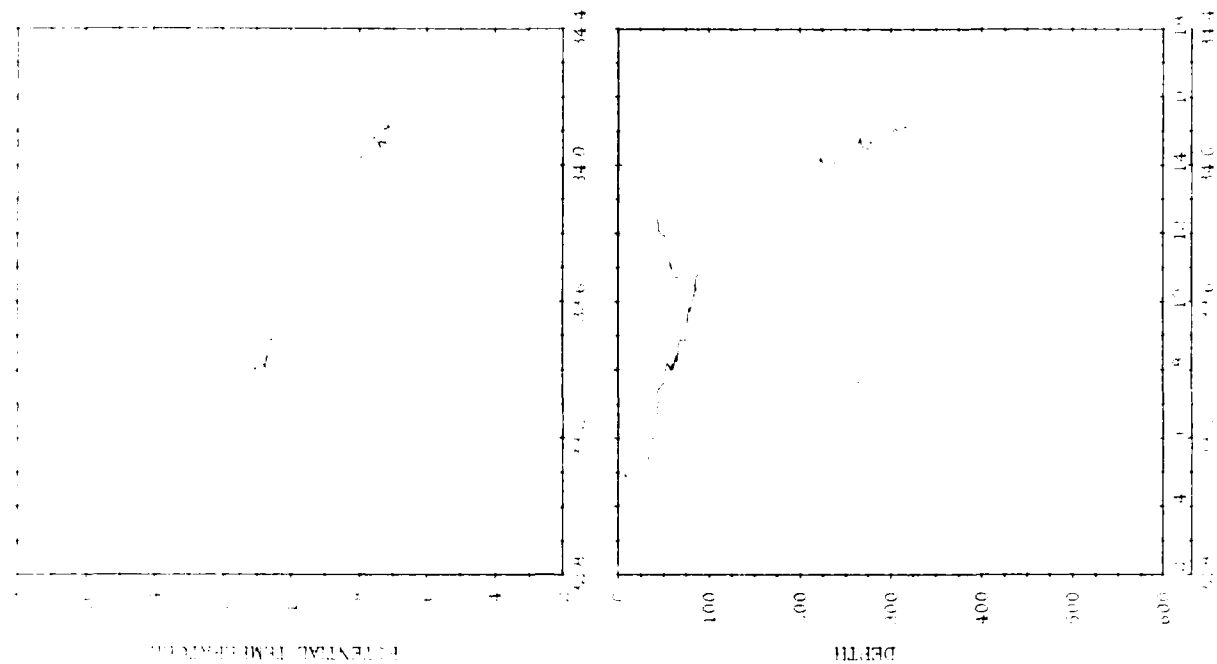
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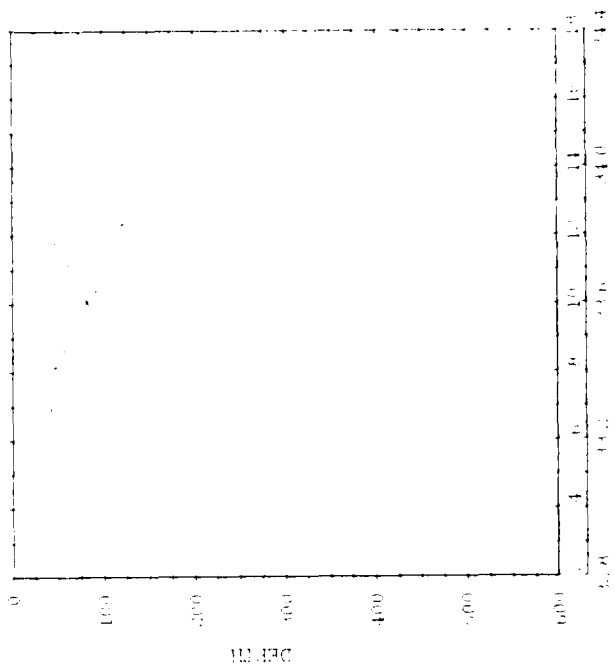
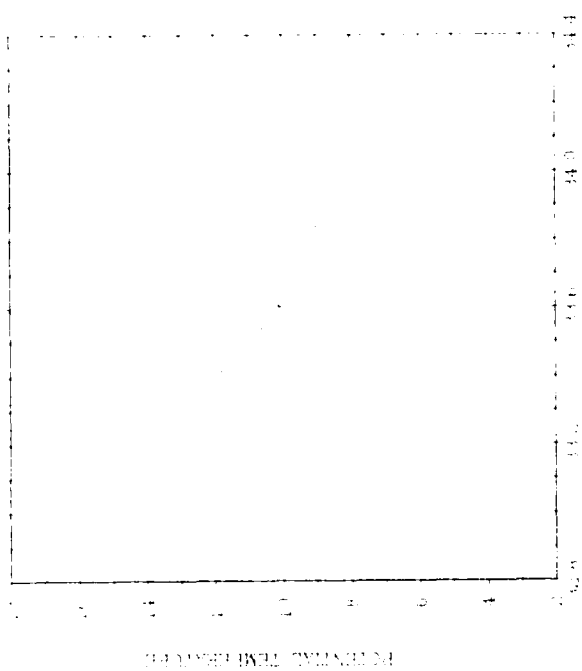
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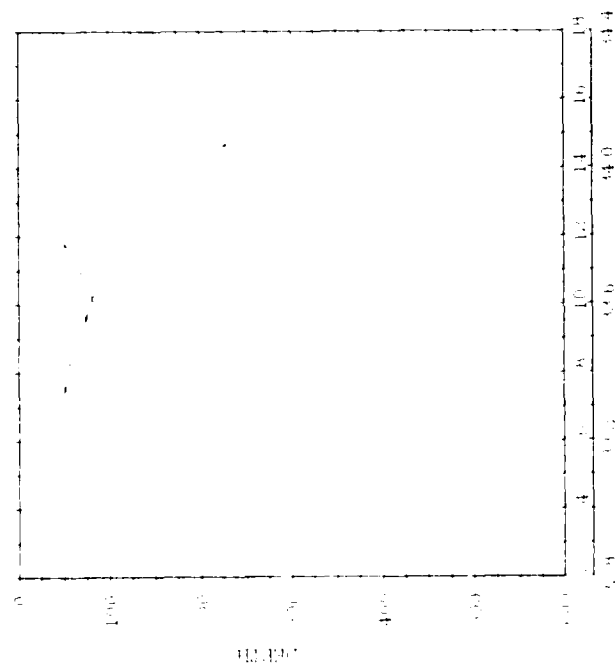
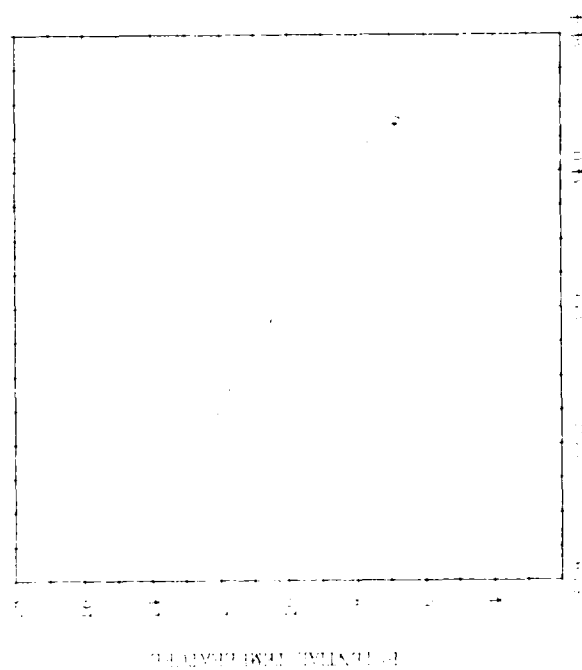
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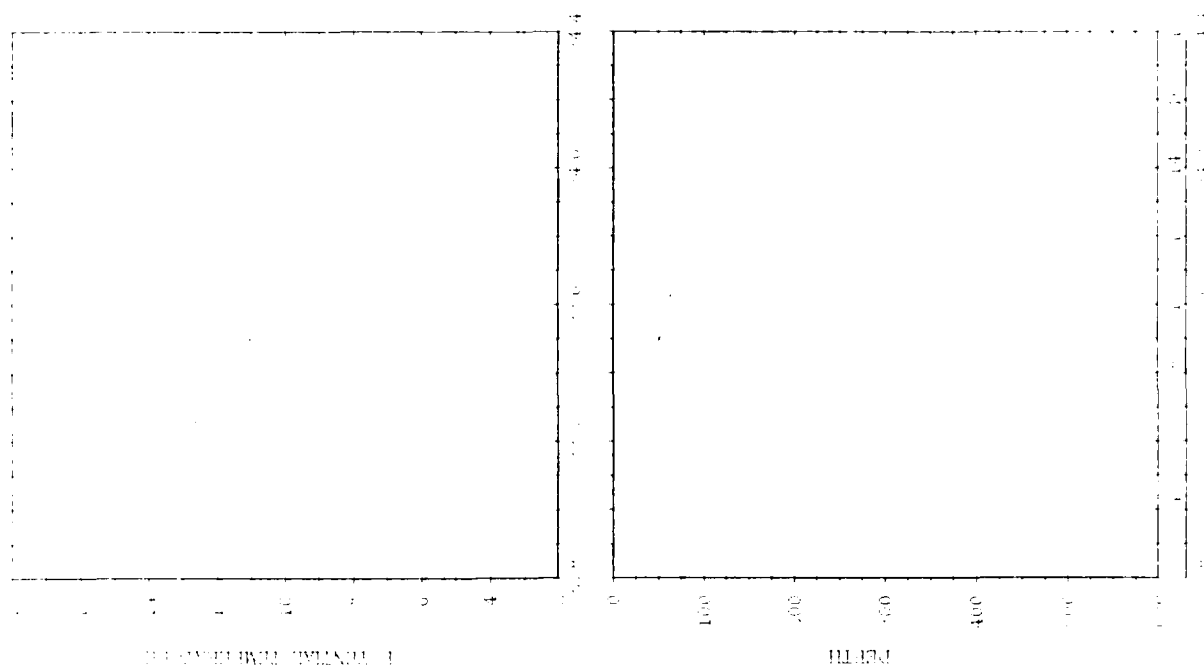
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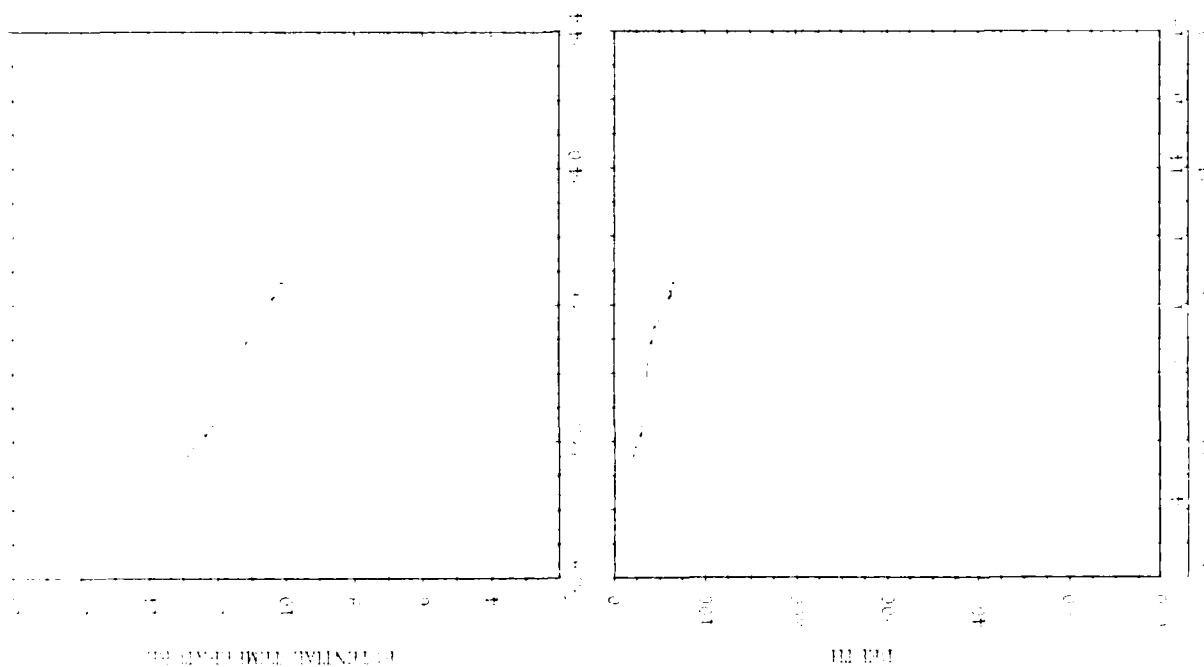
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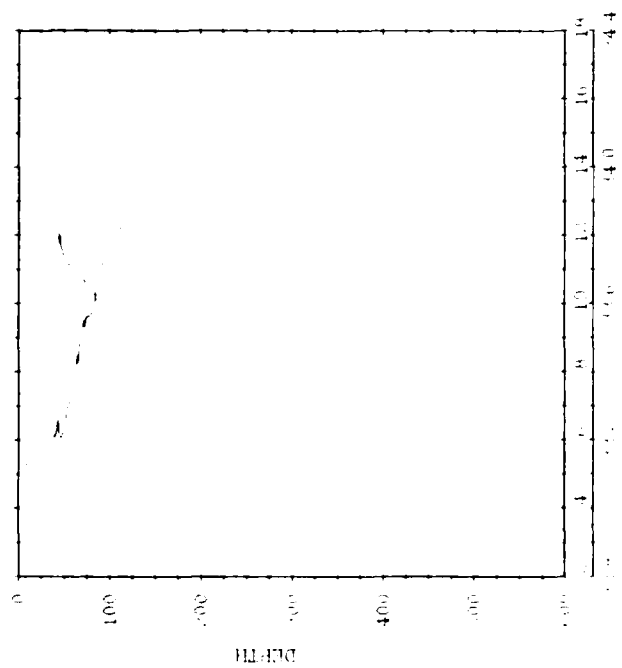
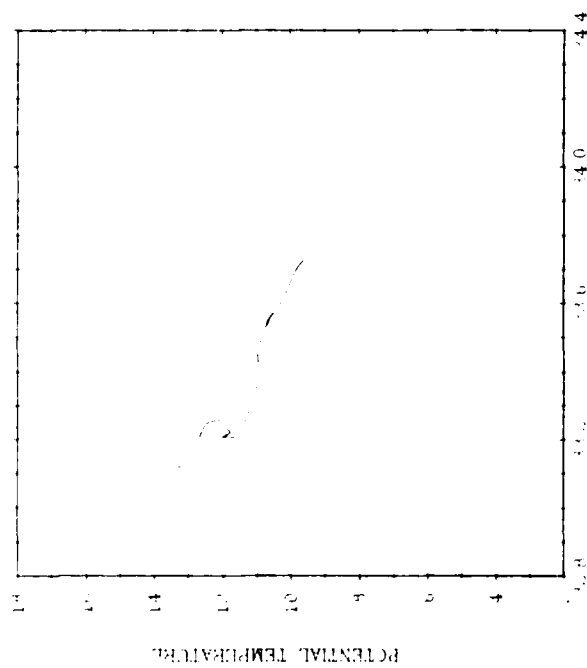
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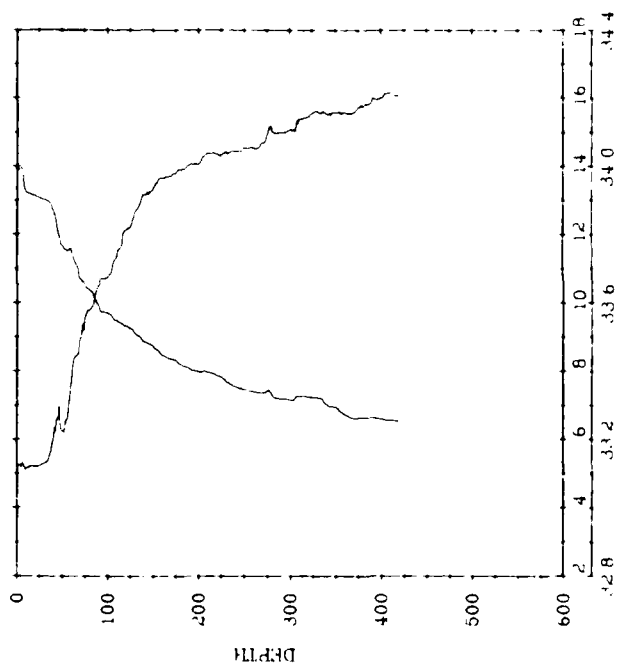
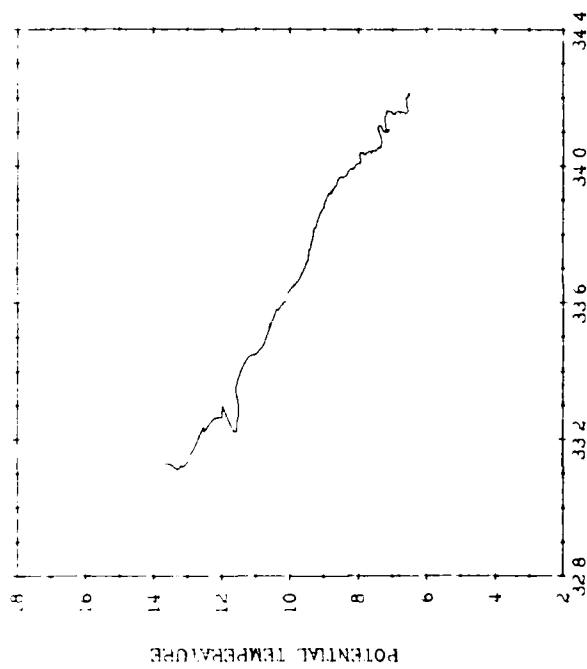
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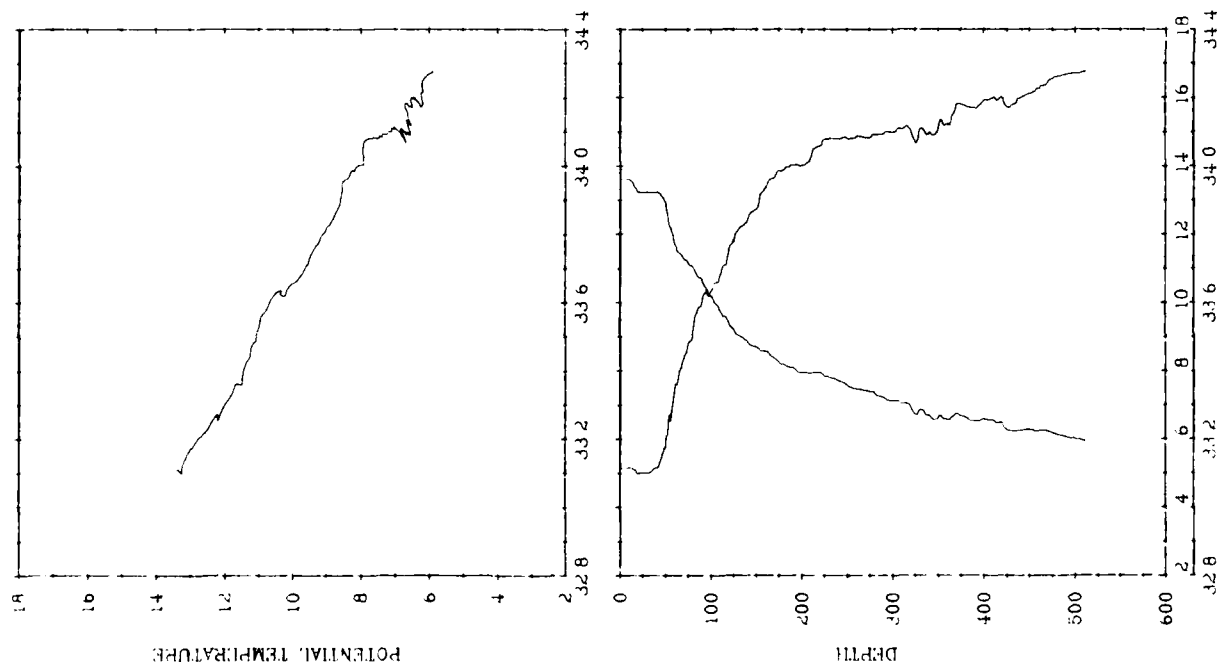
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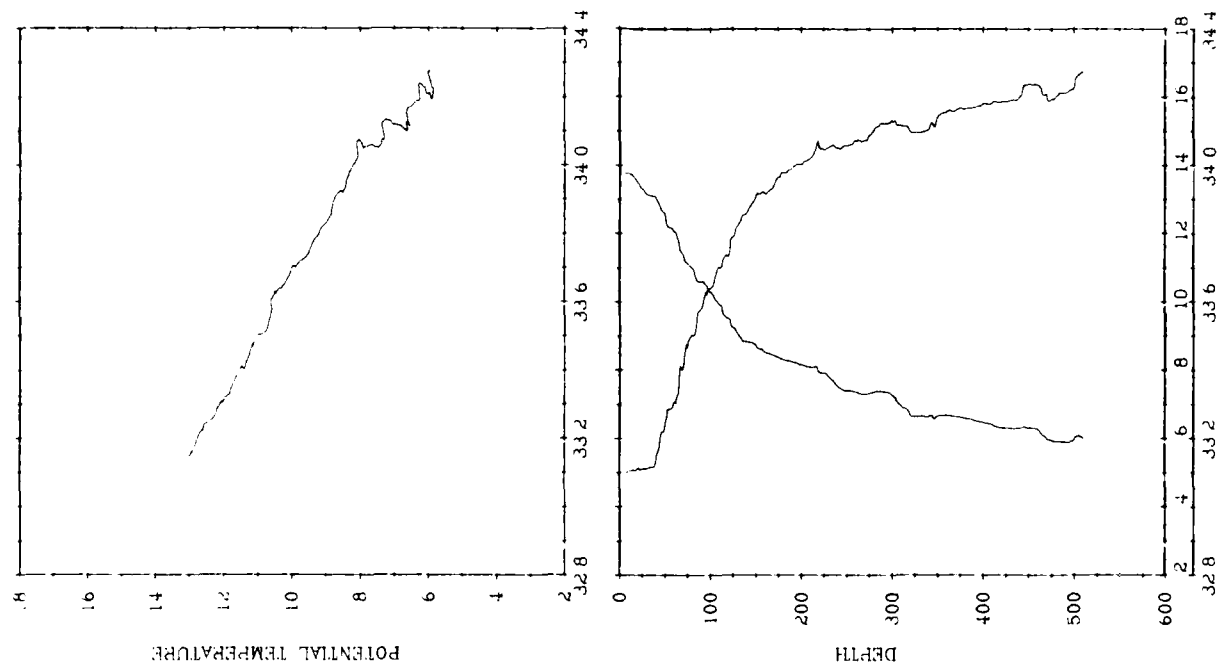
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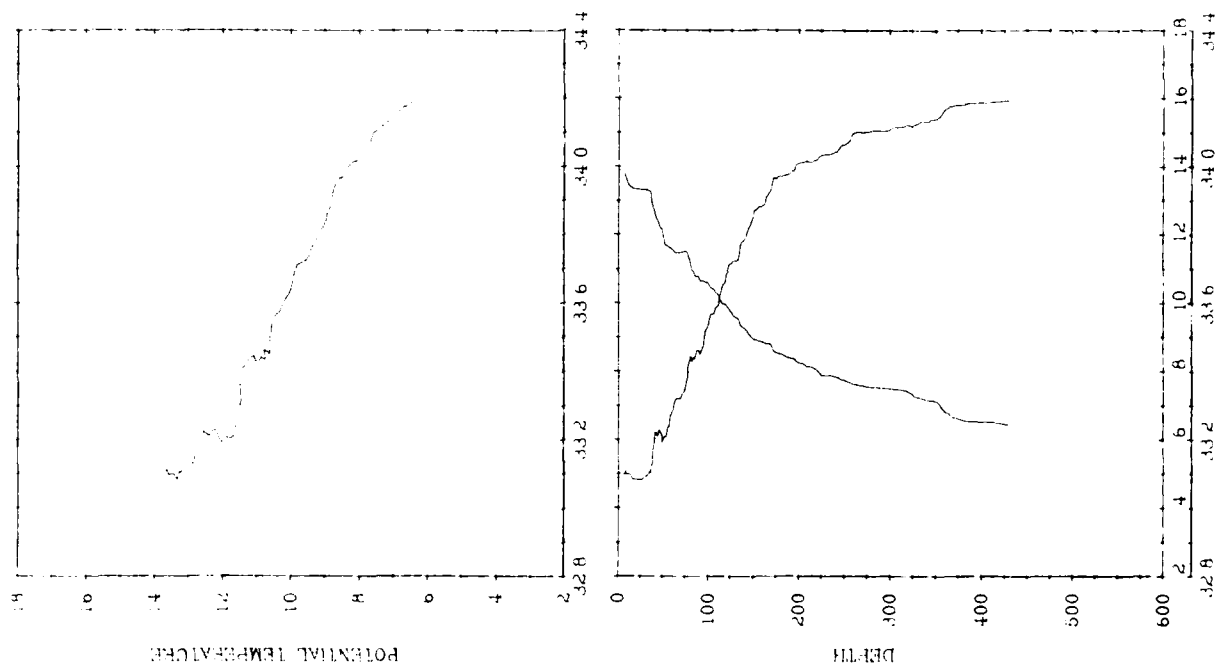
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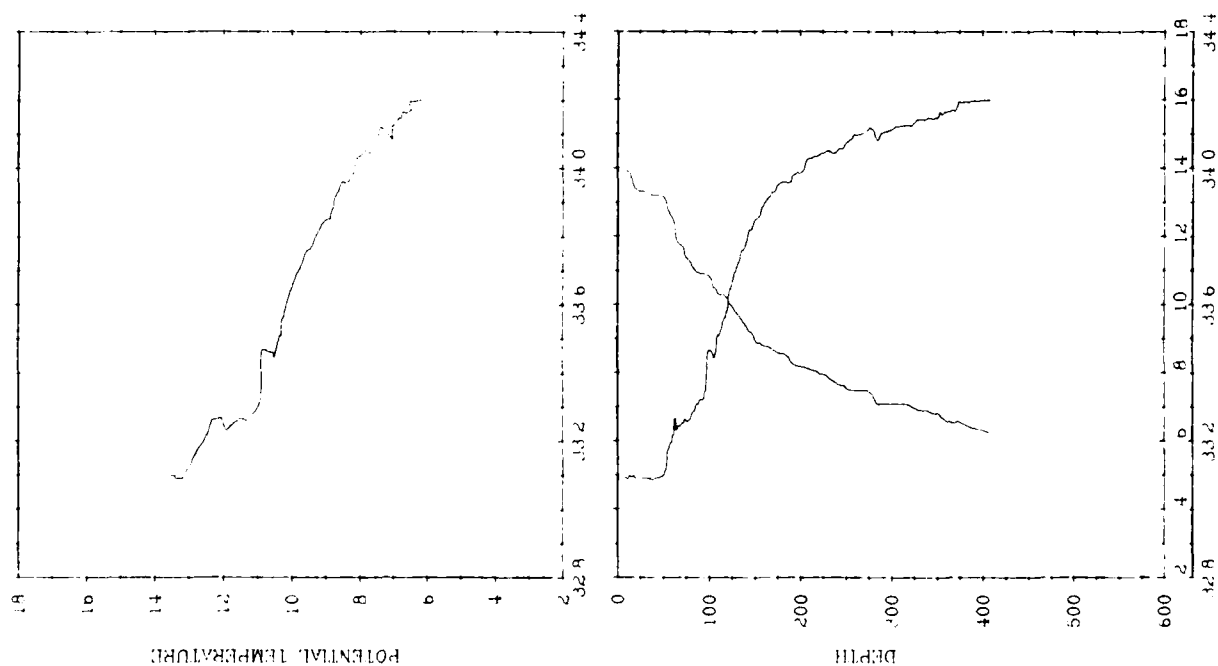
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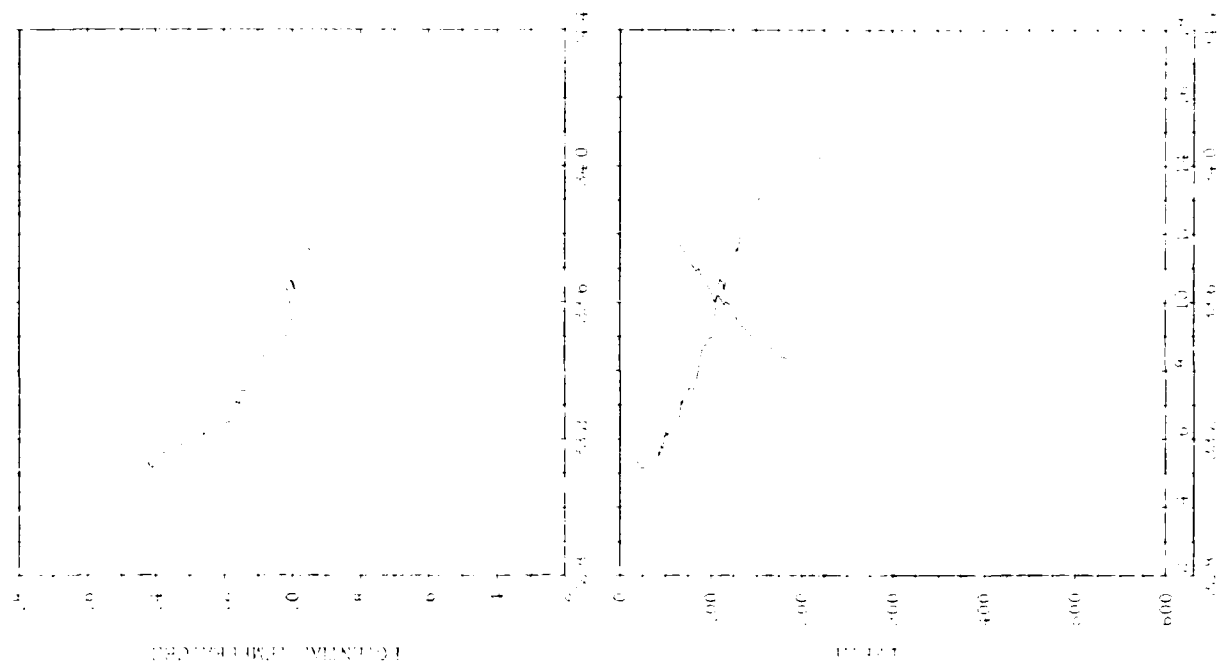
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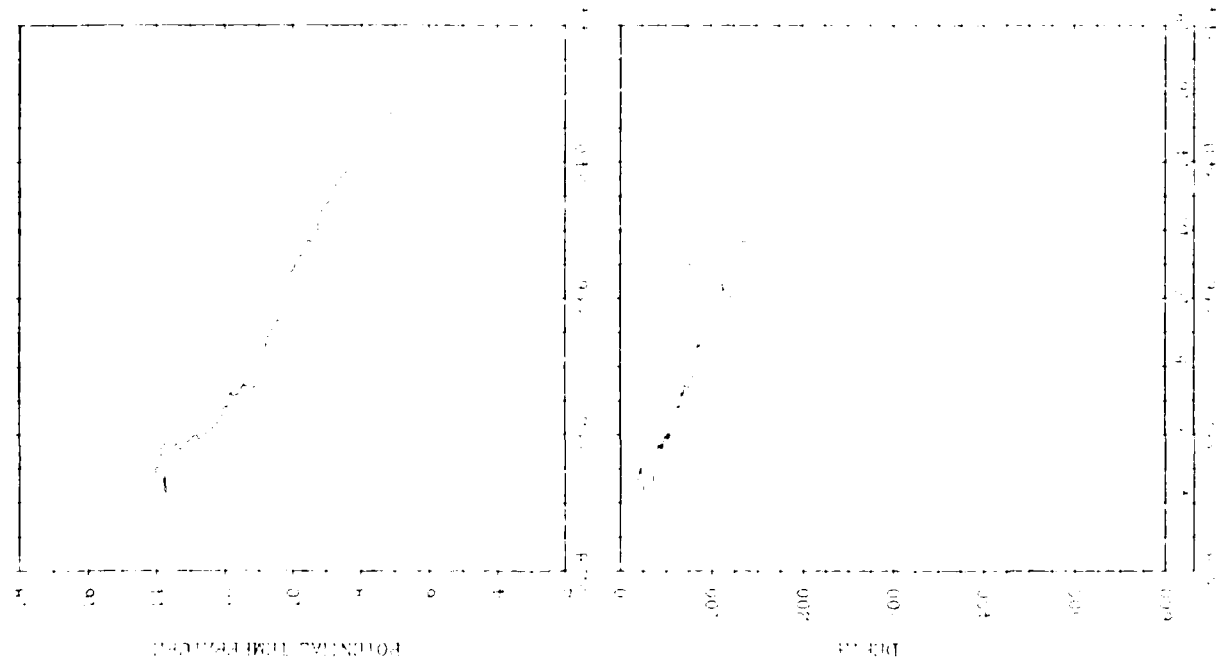
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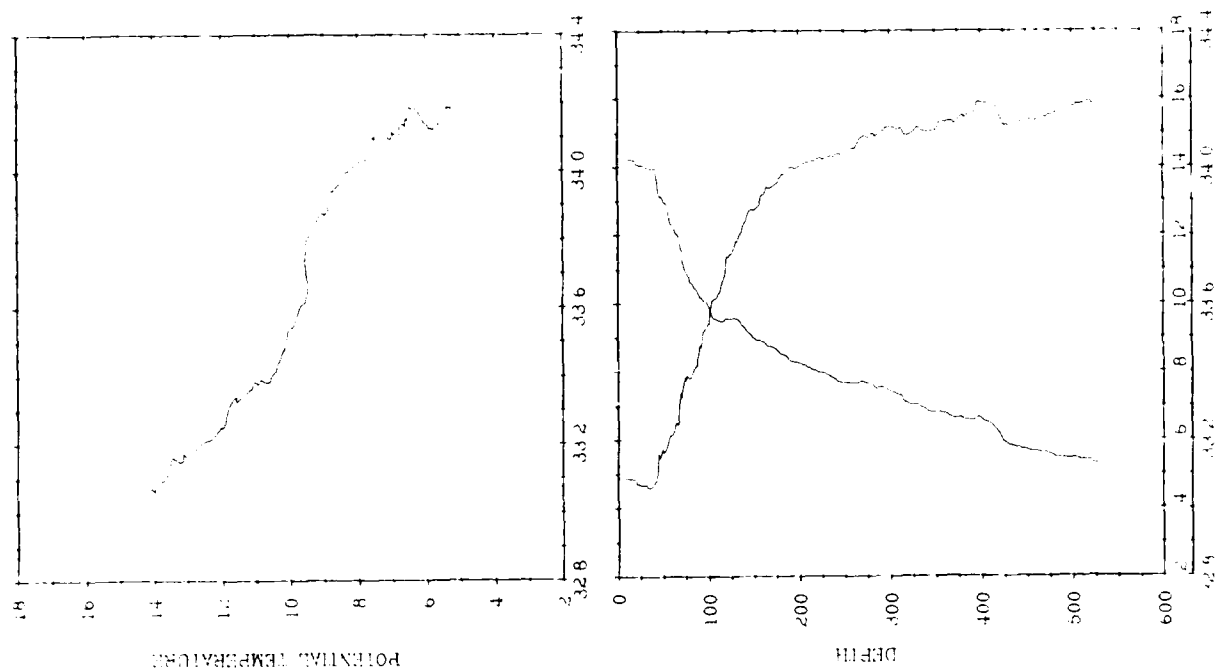
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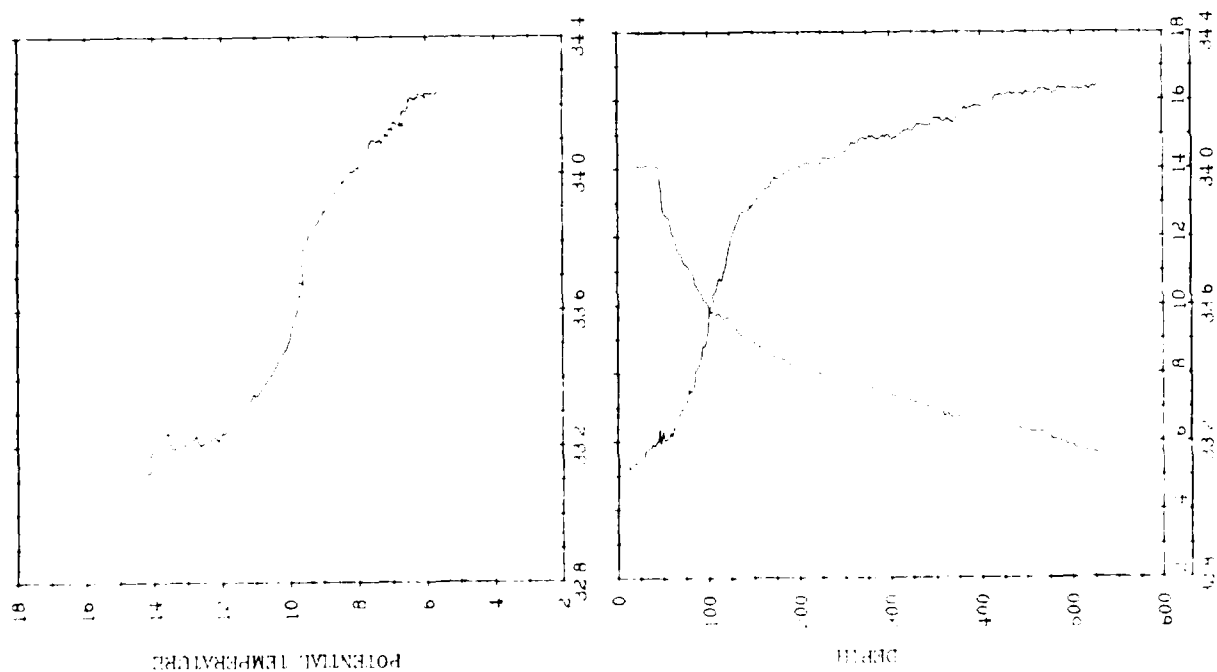
CRUISE SQ86 C 10



CRUISE SQ86 C 13



CRUISE SQ86 C 12



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