UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

CalCOFI Cruise 9308
11 – 27 August 1993

CalCOFI Cruise 9310
8 – 26 October 1993

SIO Reference 94-14
15 July 1994

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LA JOLLA, CALIFORNIA 92093-0227

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Approved for distribution:

Edward A. Frieman, Director

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INTRODUCTION

The data in this report were collected during Cruises 9308* and 9310 of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the RV *New Horizon* of the Scripps Institution of Oceanography, University of California, San Diego. The CalCOFI program was organized in the late 1940's to study the causes of variations in population size of fishes of importance to the State of California. It is carried out by NOAA's National Marine Fisheries Service Southwest Fisheries Science Center, the California Department of Fish and Game, and the Marine Life Research Group (MLRG) at Scripps Institution of Oceanography (SIO). MLRG contributes to this program by investigations of the physical, chemical and biological structure of the California Current. Data from CalCOFI Cruises 9308 and 9310 were collected and processed by personnel of the Marine Life Research Group and the Southwest Fisheries Science Center. Volunteers and other SIO staff members also assisted in the collection of data and chemical analyses at sea.

STANDARD PROCEDURES

Rosette Cast Data

At each station on cruises 9308 and 9310 a Sea-Bird Electronics, Inc., Conductivity-Temperature-Depth (CTD) instrument was deployed with a 24-place General Oceanics rosette. The rosette was equipped with 20 to 24 ten-liter plastic (PVC) bottles. The CTD/rosette cast usually sampled 20 depths to a maximum sampling depth of 525 meters, bottom depth permitting. Pressures and temperatures assigned to the water sample data were derived from the CTD signals collected just prior to the bottle trip. Pressures have been converted to depth by the Saunders (1981) pressure-to-depth conversion technique. CTD temperatures reported with the bottle data have been rounded to the nearest hundredth of a degree Celsius.

Salinity samples were collected from all rosette bottles and analyzed at sea using a Guildline model 8400A Autosal salinometer. The results were compared with the CTD salinity in order to verify that the rosette bottle did not mis-trip or leak. The salinometer was standardized before and after each group of samples with substandard seawater. Periodic checks on the conductivity of the substandard were made by comparison with IAPSO Standard Seawater batch P122. Salinity values have been calculated from the algorithms for the Practical Salinity Scale, 1978 (UNESCO, 1981a) and were reported to three decimal places, provided that accepted standards were met. If only one determination per sample was obtained, or there was doubt concerning the accuracy of the analytical results, the salinities were reported to two 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).

Samples for chlorophyll-a and phaeopigments were filtered onto GF/F 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 Designs fluorometer (Yentsch and Menzel, 1963; Holm-Hansen *et al.* 1965).

Evaluation of the data involved comparisons with the CTD cast profiles, adjacent stations and consideration of the variation of a property as a function of density or depth and the relationships with other properties (Klein, 1973). Estimates of precision of the standard techniques are given in SIO, 1991.

* The first two digits represent the year and the last digits the month of the cruise.

Primary Productivity Sampling

Primary productivity samples were taken each day shortly before local apparent noon (LAN), from the standard rosette cast. Primary production was estimated from 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). The depths with ambient light intensities corresponding to light levels simulated by the on-deck incubators were identified and sampled on the up rosette cast. Occasionally an extra bottle or two were tripped in addition to the usual 20 levels sampled in the combined rosette-productivity cast in order to maintain the normal sampling depth resolution. The ten-liter bottles were equipped with epoxy-coated springs and Viton O-rings. Triplicate samples (two light and one dark control) were drawn from each productivity sample depth into 250 ml polycarbonate incubation bottles. Samples were inoculated with 10 uCi of C as NaHCO (200 ul of 50 uCi/ml stock) prepared in a 0.3 g/liter solution of sodium carbonate (Fitzwater *et al.* 1982). Samples were incubated from LAN to civil twilight in seawater-cooled incubators with neutral-density screens which simulate *in situ* light levels. At the end of the incubation, the samples were filtered onto Millipore HA filters and placed in scintillation vials. One half ml of 10% HC1 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. Salinity, oxygen, nutrients, chlorophyll-a and phaeopigments were determined for all depths.

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).

Avifauna Observations

Seabirds were counted within a 300 meter wide strip off to one side of the ship. Counts were made while underway between stations during periods of daylight. These counts were summed over 20 nautical mile (nm) intervals, or the distance between consecutive stations, whichever was less. Included at the end of this report are individual maps of the most numerous bird species (individuals/nm).

TABULATED DATA

Rosette Cast Data

The time reported is the Coordinated Universal Time (UTC) of the first rosette bottle trip on the up cast. The rosette bottles tripped on the up cast are reported as cast 2, where cast 1 is considered to be the down CTD cast. 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. Secchi depths and Forel water color scales are also reported for most daylight stations.

Observed and interpolated standard depth data from CTD/rosette 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 (UNESCO, 1981, b). 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.

On stations where primary productivity samples were drawn from six of the rosette bottles, a footnote appears after each productivity depth sampled. The corresponding primary productivity data are reported in a separate section following the tabulated rosette cast data

Primary Productivity Data

In addition to the normal hydrographic data also reported in the rosette cast data section, the tabulated data include: the *in situ* light levels at which the samples were collected, 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 and the dark uptake. The uptake values are totals for the incubation period. Hydrographic data presented in the primary productivity data tables has been extended into the nutricline for stations where the nutricline depth was deeper than the deepest productivity sample. Also shown are the times of LAN, civil twilight, and the value of the mean uptake integrated from the surface to the deepest sample, assuming the shallowest value continues to the surface and that negative values (when dark uptake exceeds light uptake) are zero. The uptake data have been presented to two significant digits (values <1.00) or one decimal (values >1.00). Precision of 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 UTC, add eight hours to the PST time. Incubation light intensities are listed in a footnote at the bottom of each page.

Macrozooplankton Data

Macrozooplankton biomass volumes are tabulated as total biomass volume (cm/1000m strained) and as the total volume minus the volume of larger organisms under the heading "Small." Tow times are given in local PST (+8) time.

FOOTNOTES

In addition to footnotes, special notations are used without footnotes because the meaning is always the same.

D: CTD salinity value listed in place of normal ship-board salinity analysis.
ISL: After a depth value indicates that this is an interpolated or extrapolated standard level.
U: Uncertain value. Values which are not used in interpolation because they seem to be in error without apparent reason.

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CalCOFI Cruise 9308

SHIP'S CAPTAIN

John P. Manion, RV *New Horizon*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

Renger, Edward H. (in charge)	Staff Research Associate, SIO
Abramenkoff, Dimitry N.	Fishery Biologist, NMFS
Arfaa, Kaivon	Student, UCB
Bower, Susan L.	Graduate Student, University of Southern California
Cecil, Debra L.	Volunteer
Gripp, Sherry L.	Staff Research Associate, SIO
Gruber, Dennis W.	Marine Technician, SIO
Guevara, Monica S.	Biological Technician, NMFS
Hays, Amy E.	Biological Technician, NMFS
Kitmitto, Khalil G.	Student, UCLA
Mitchell, Brian G.	Assistant Research Biologist, SIO
Morgan, Stacey R.	Staff Research Associate* SIO
Root, F. Elwood	Bird Observer, Volunteer
Veit, Richard R.	Research Scientist, University of Washington
Wilkinson, James R.	Staff Research Associate, SIO

FIGURES

Cruise 9308

1. CalCOFI Cruise 9308, track and station positions.

2. Horizontal distribution of dynamic height anomaly (0 over 500m). In areas shallower than 500 m, the dynamic heights were extrapolated on the basis of the offshore deeper steric height as described in Reid and Mantyla (1976).

3. Horizontal distributions at 10 meters: A) chlorophyll-a; B) potential density; C) temperature; and D) salinity.

4. Horizontal distributions at 200 meters: A) dynamic height anomaly (200 over 500 m); B) potential density; C) temperature; and D) salinity.

5. Sections along CalCOFI line 90 (vertical exaggeration, 1000): A) potential density; B) temperature; C) salinity; D) silicate; E) nitrate; F) phosphate; G) chlorophyll-a; H) oxygen saturation; I) oxygen; J) nitrite; and K) phaeopigments.

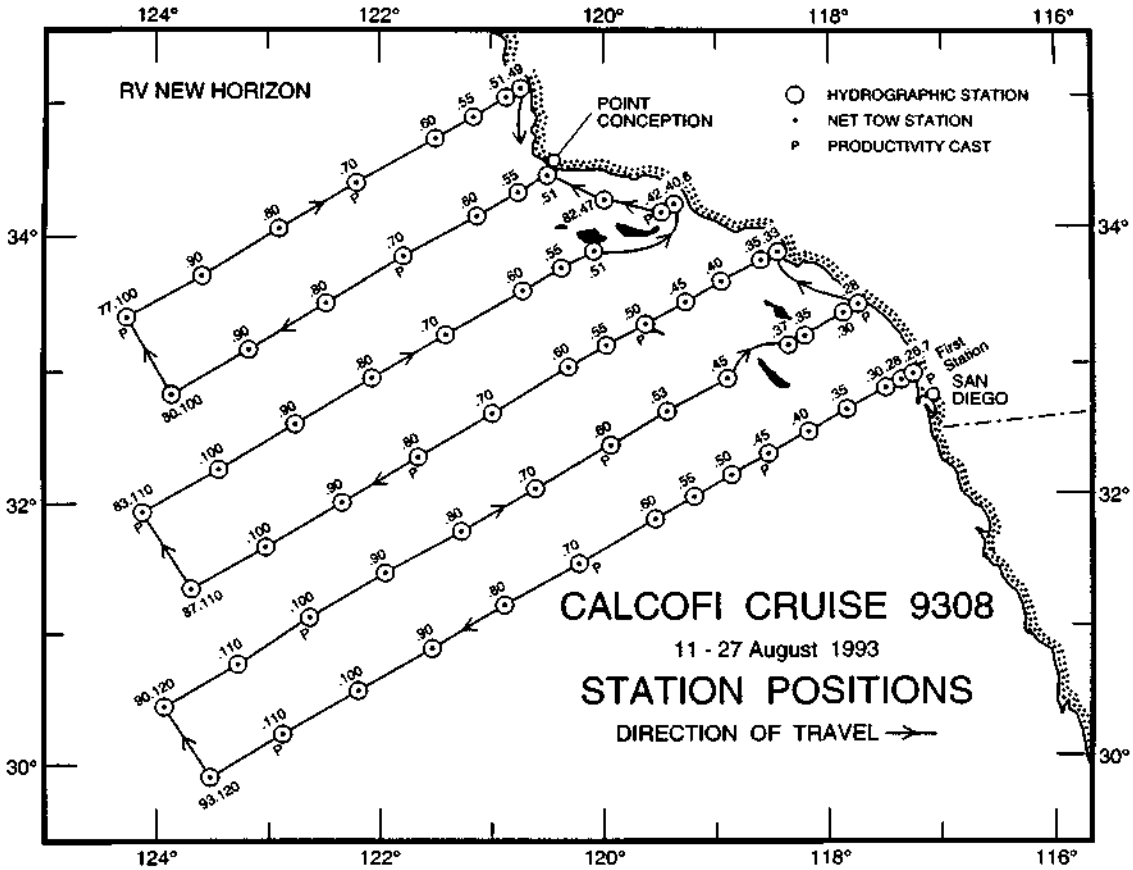


FIGURE 1

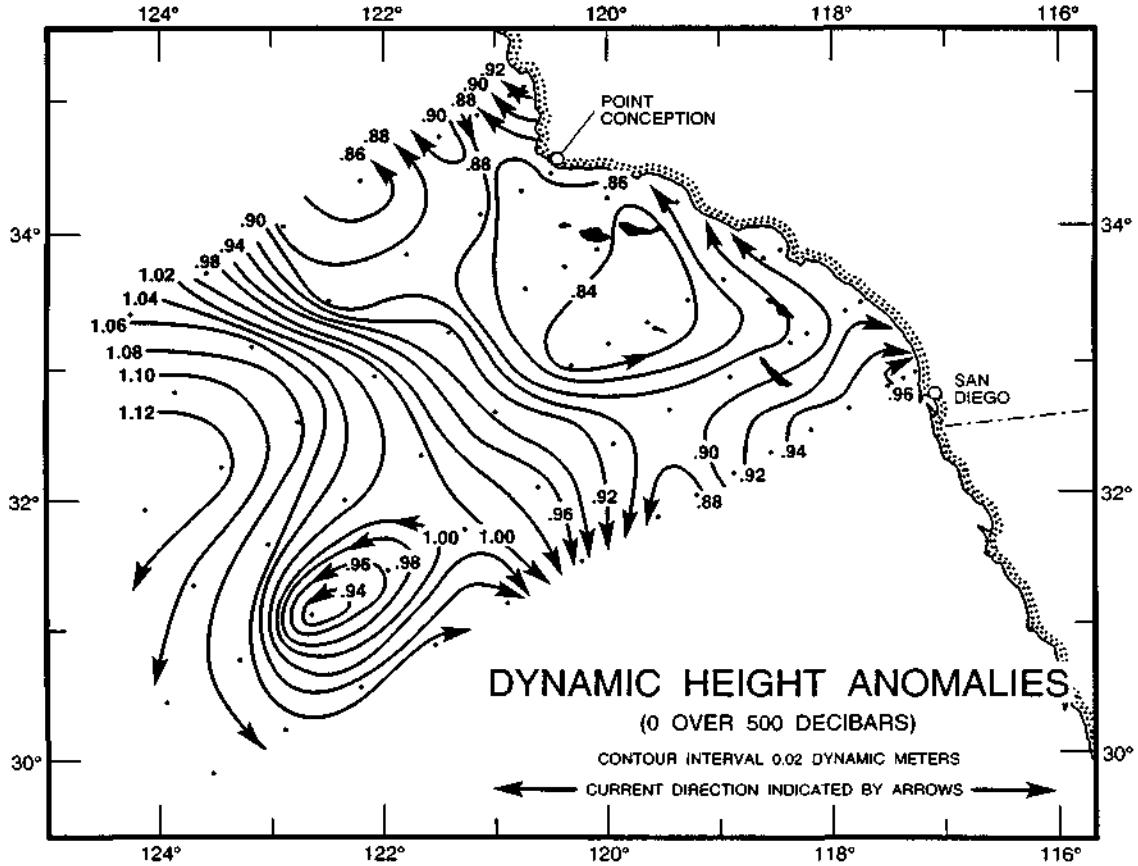


FIGURE 2

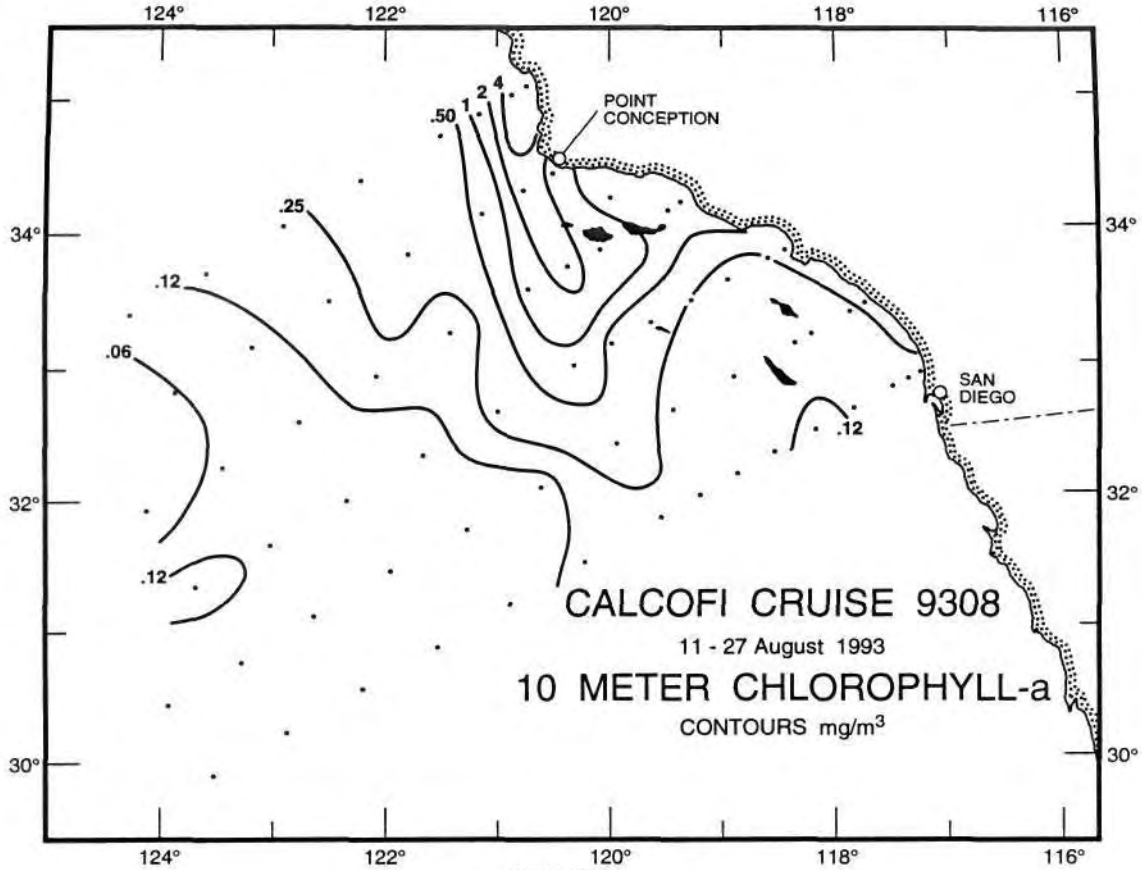


FIGURE 3A

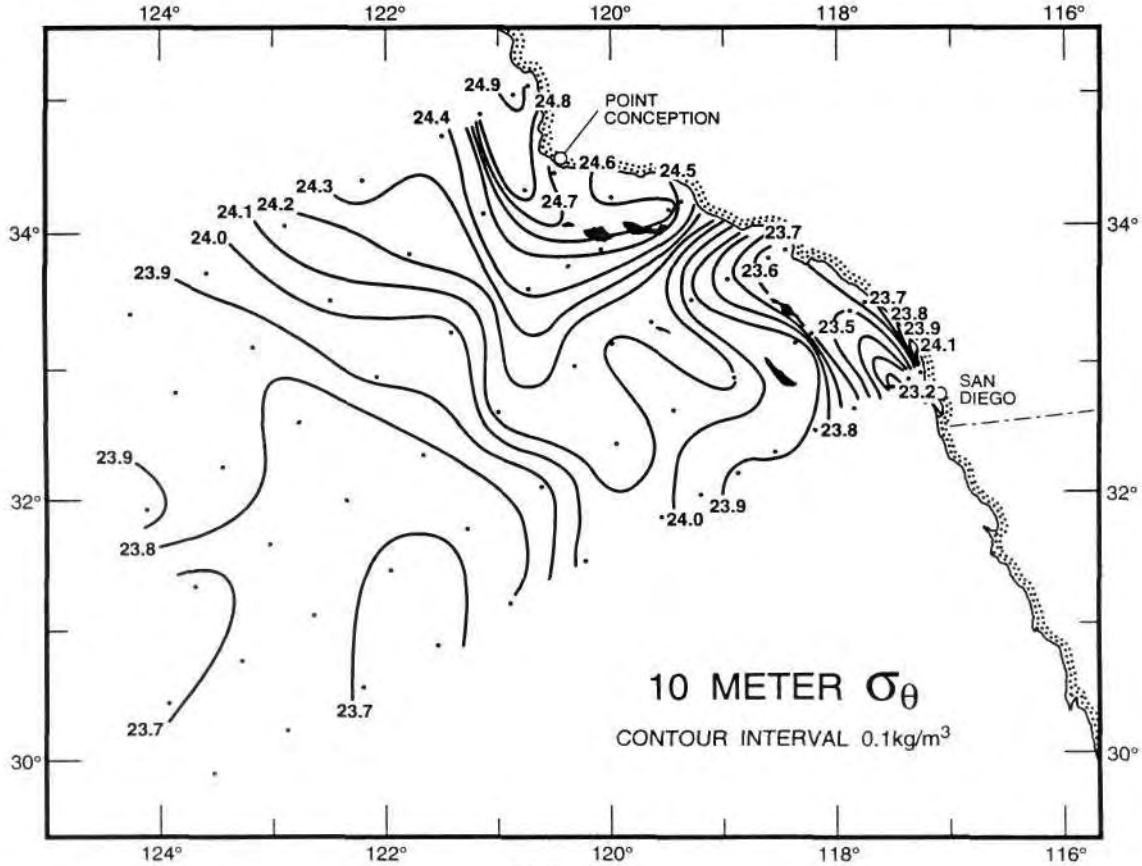


FIGURE 3B

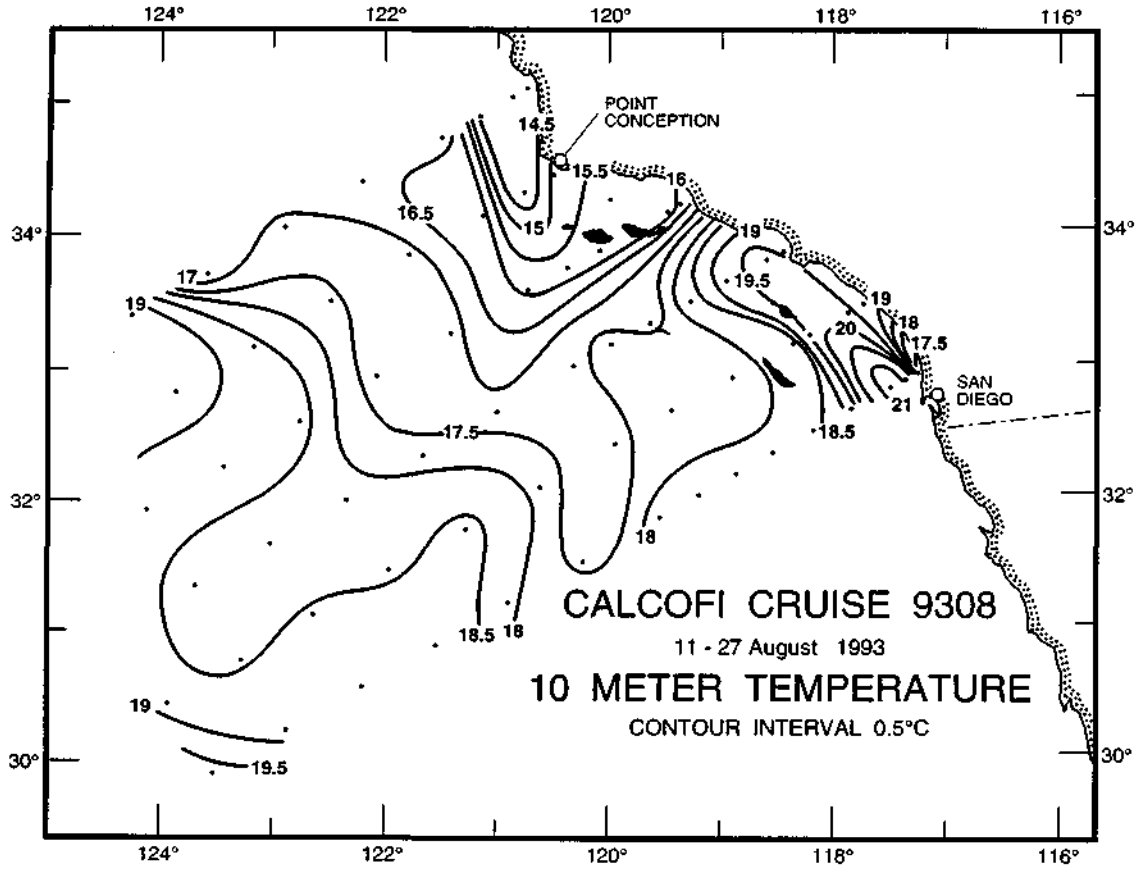


FIGURE 3C

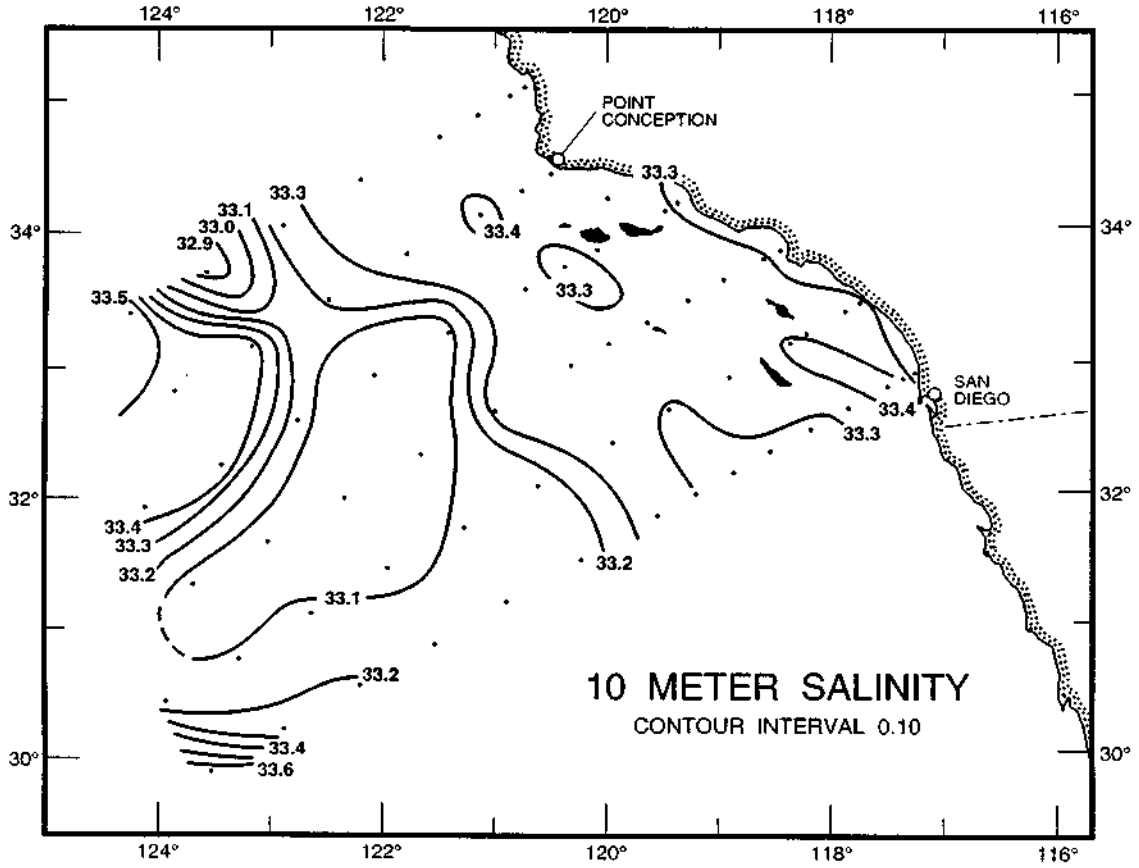


FIGURE 3D

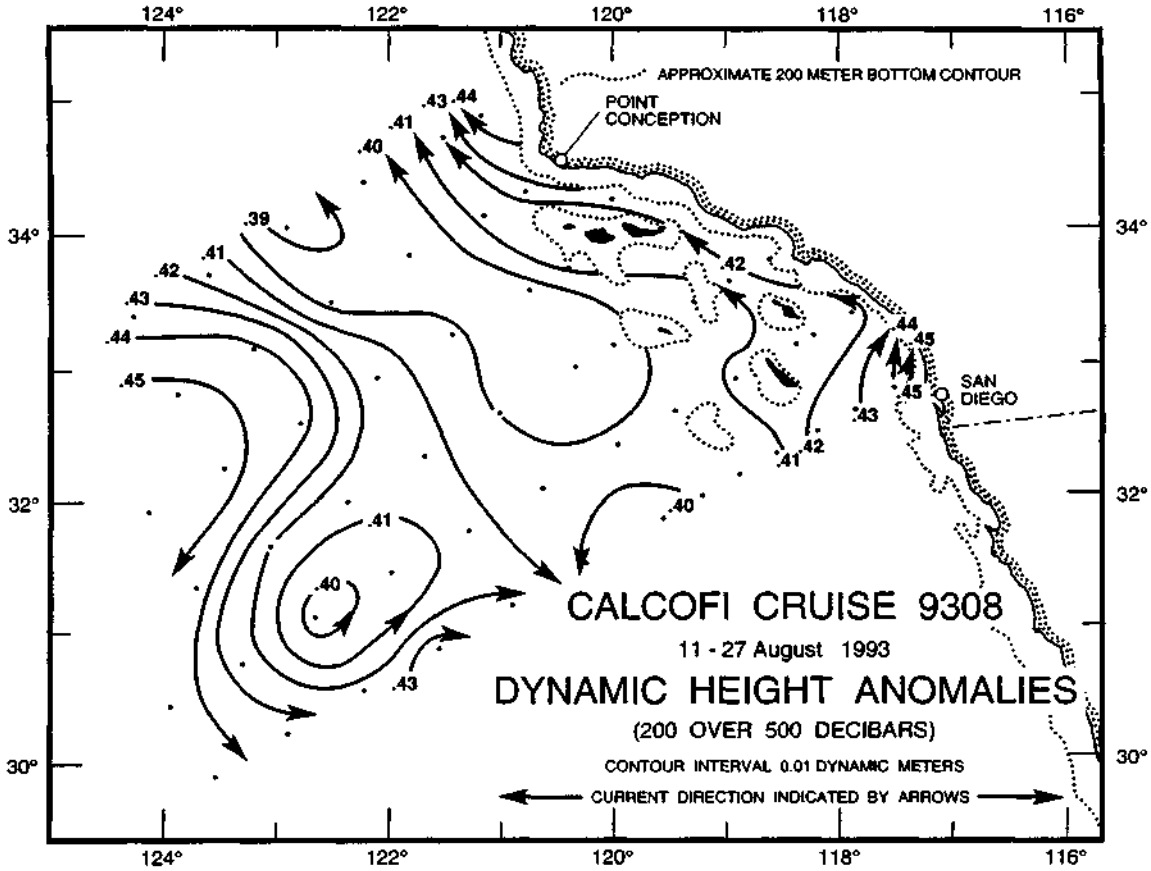


FIGURE 4A

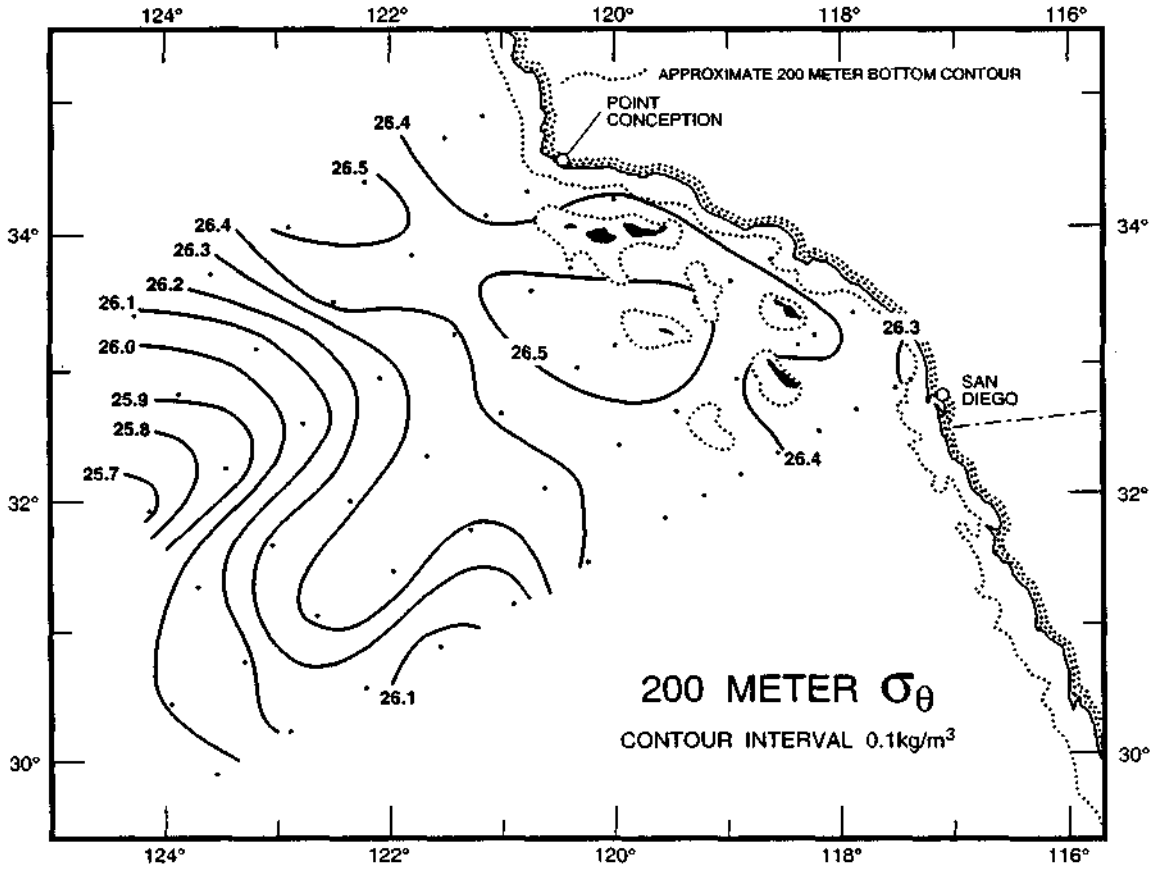


FIGURE 4B

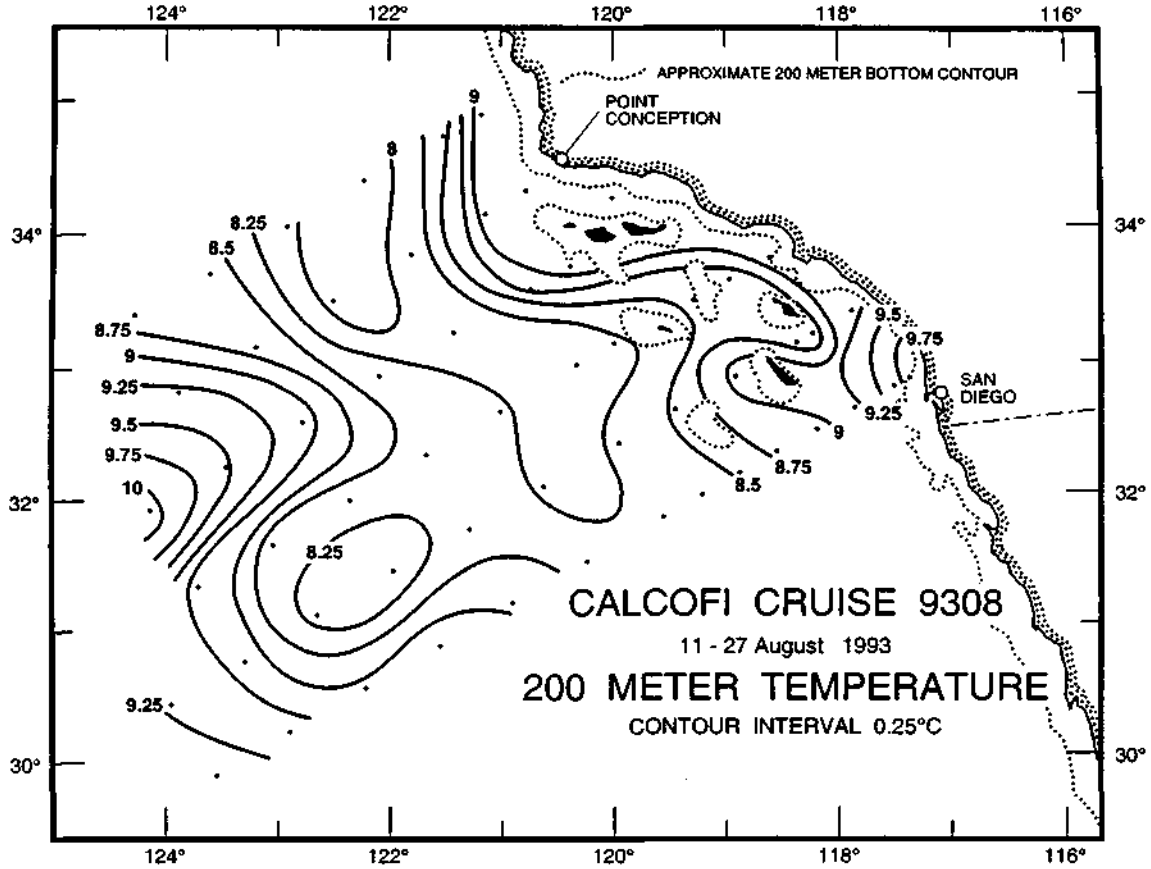


FIGURE 4C

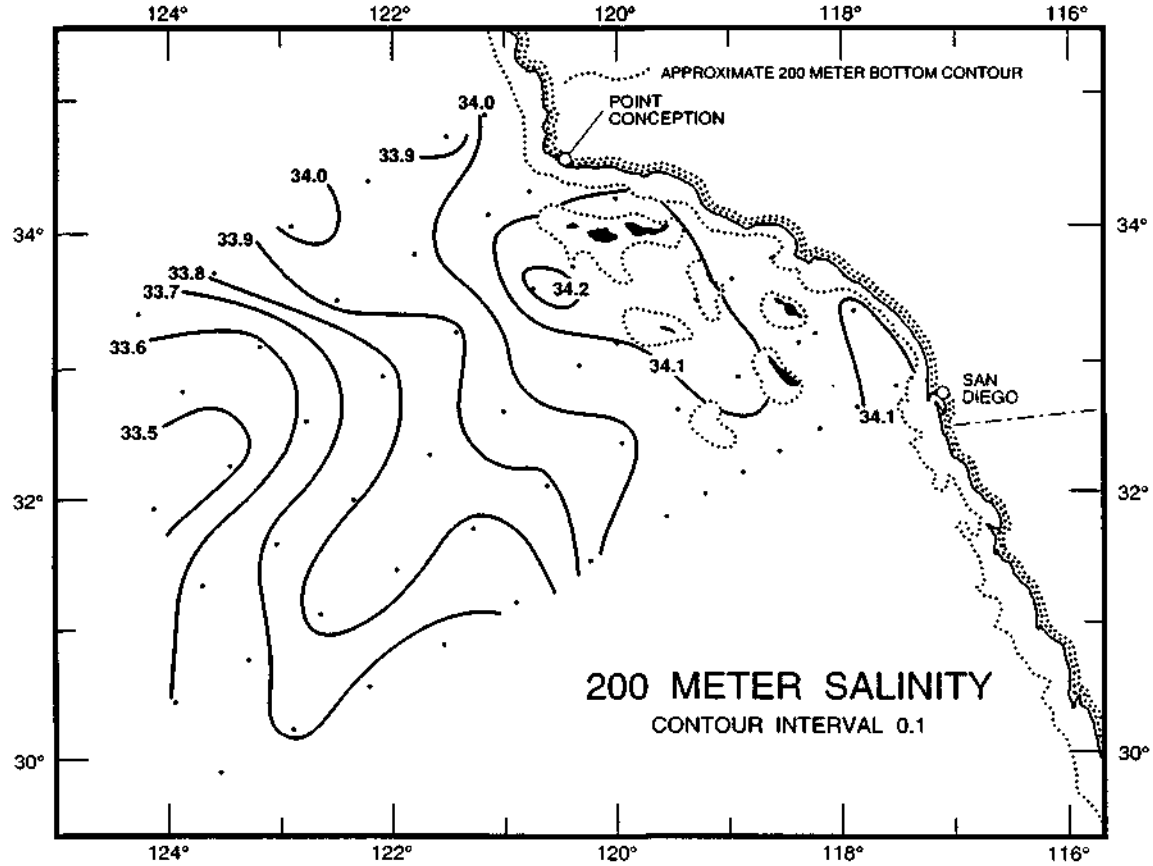


FIGURE 4D

CALCOFI CRUISE 9308

14 - 17 AUGUST 1993

POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 90

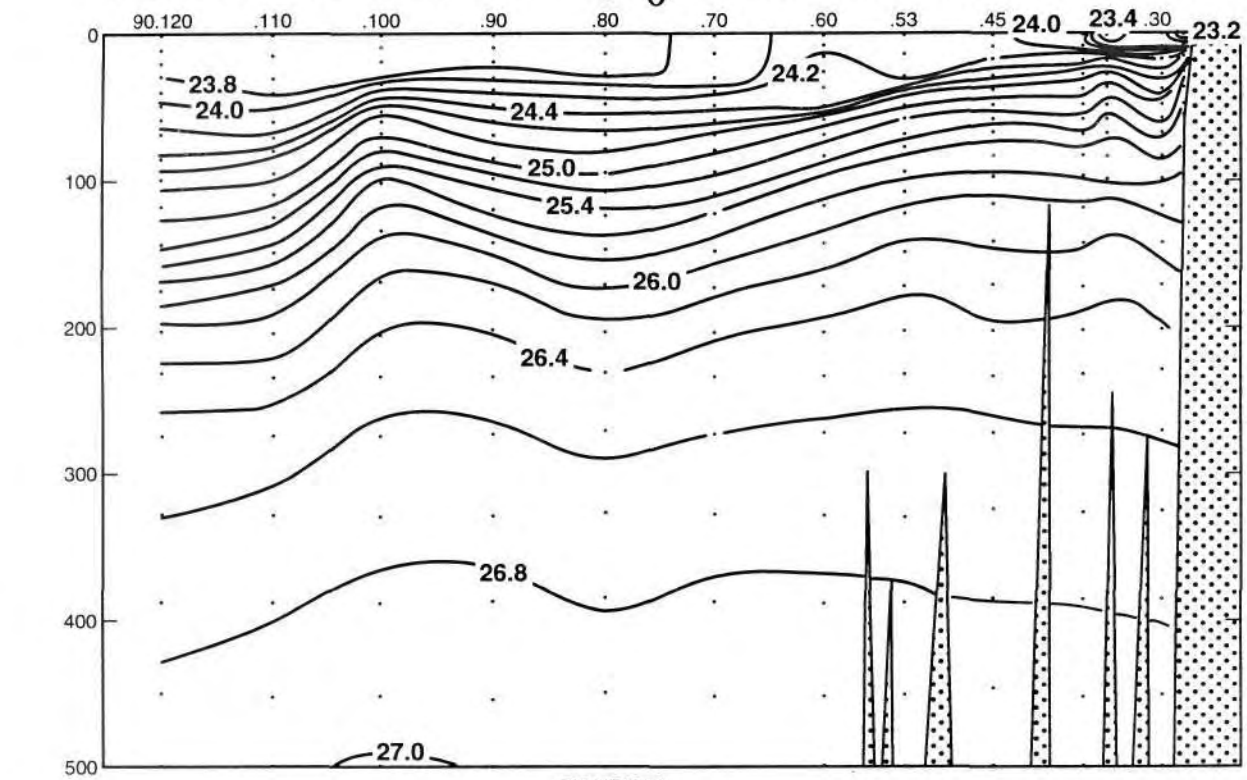


FIGURE 5A

TEMPERATURE (°C) ALONG CALCOFI LINE 90

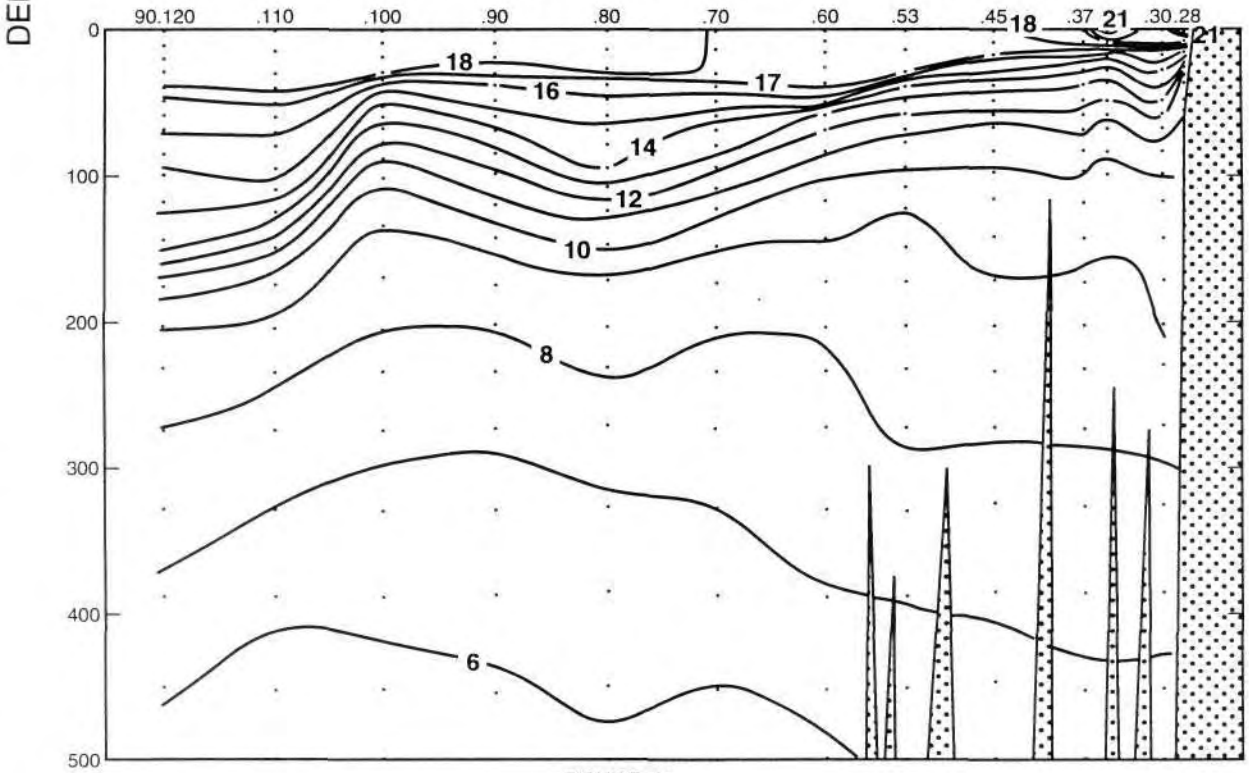


FIGURE 5B

CALCOFI CRUISE 9308

14 - 17 AUGUST 1993

SALINITY ALONG CALCOFI LINE 90

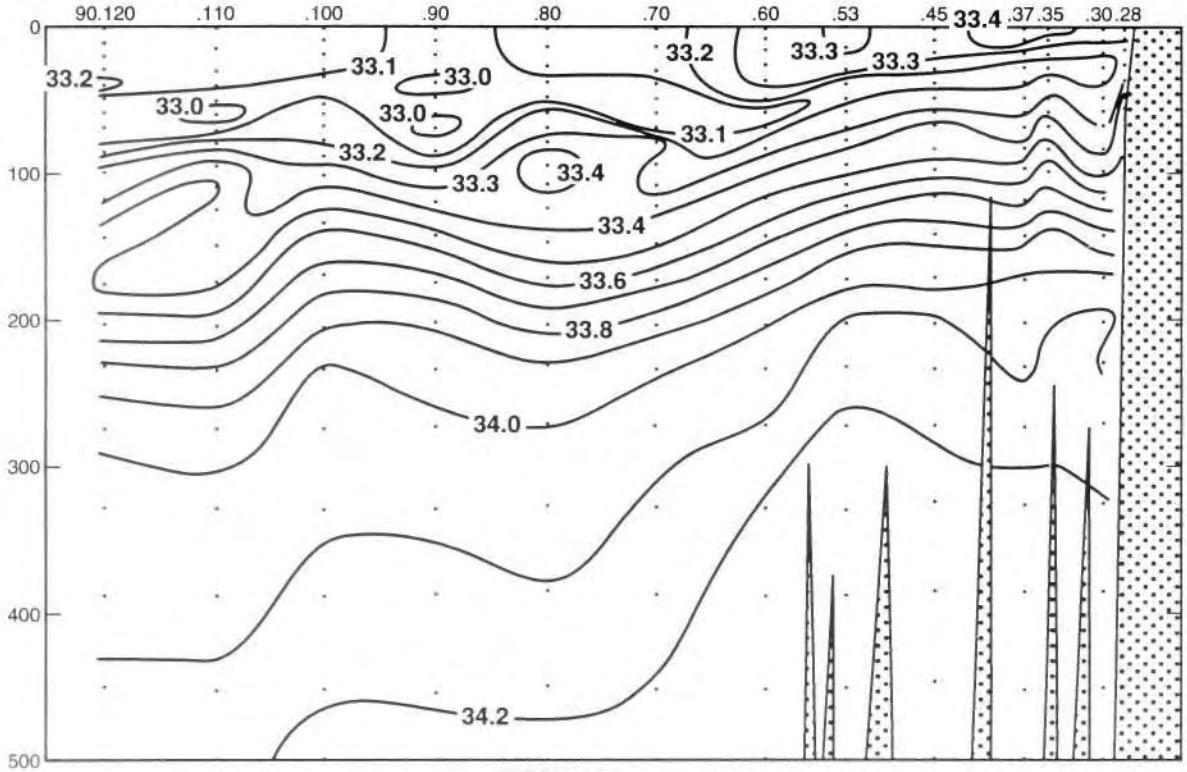


FIGURE 5C

DEPTH (m)

SILICATE (μM/l) ALONG CALCOFI LINE 90

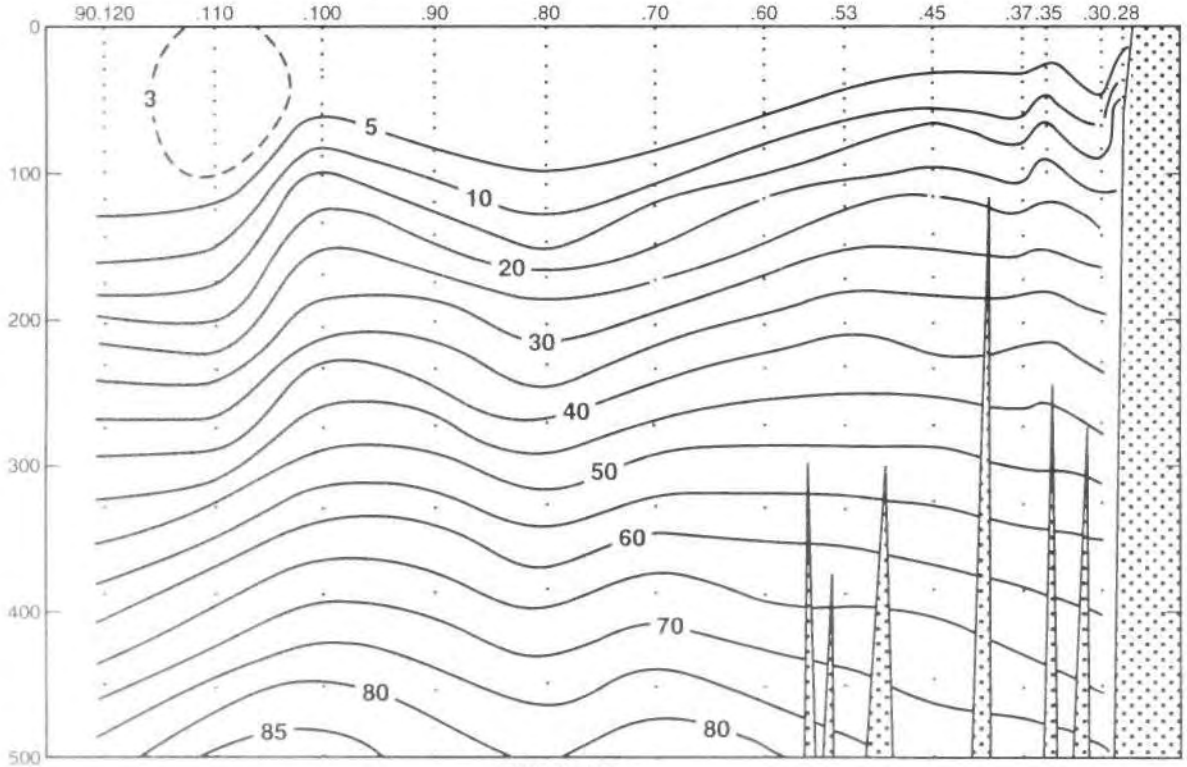


FIGURE 5D

CALCOFI CRUISE 9308

14 - 17 AUGUST 1993

NITRATE (μM/l) ALONG CALCOFI LINE 90

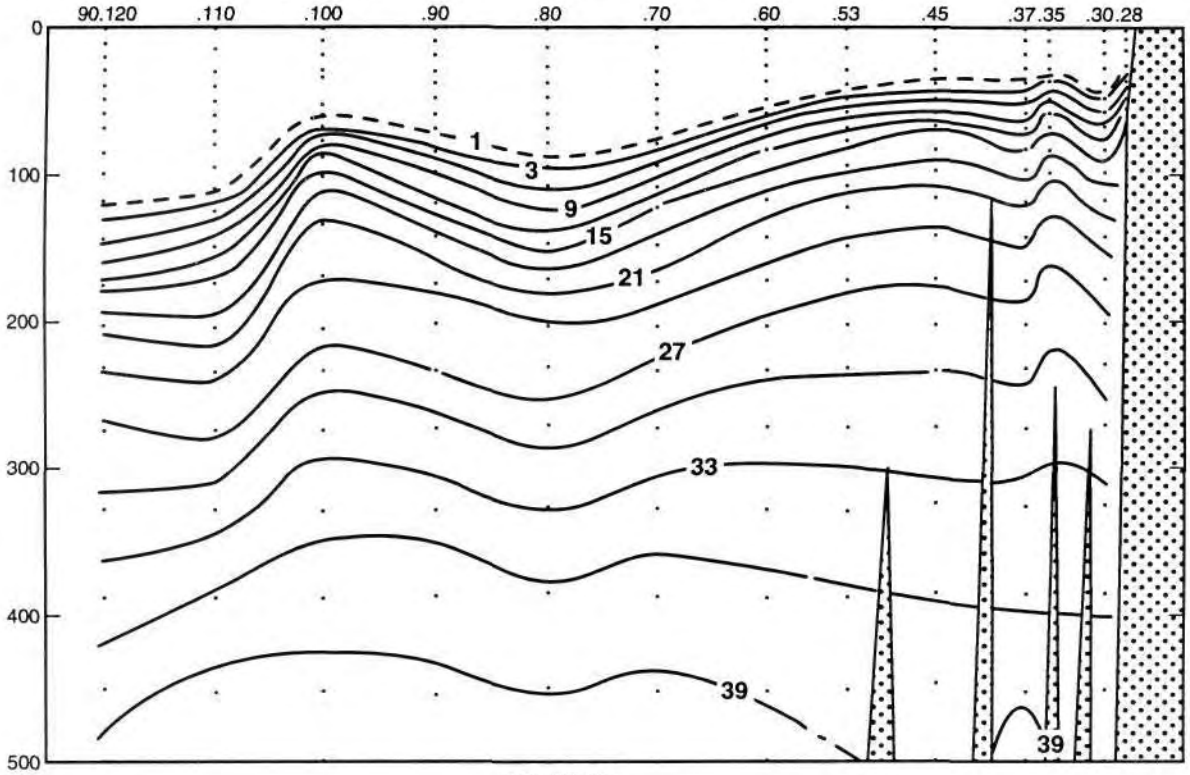


FIGURE 5E

DEPTH (m)

PHOSPHATE (μM/l) ALONG CALCOFI LINE 90

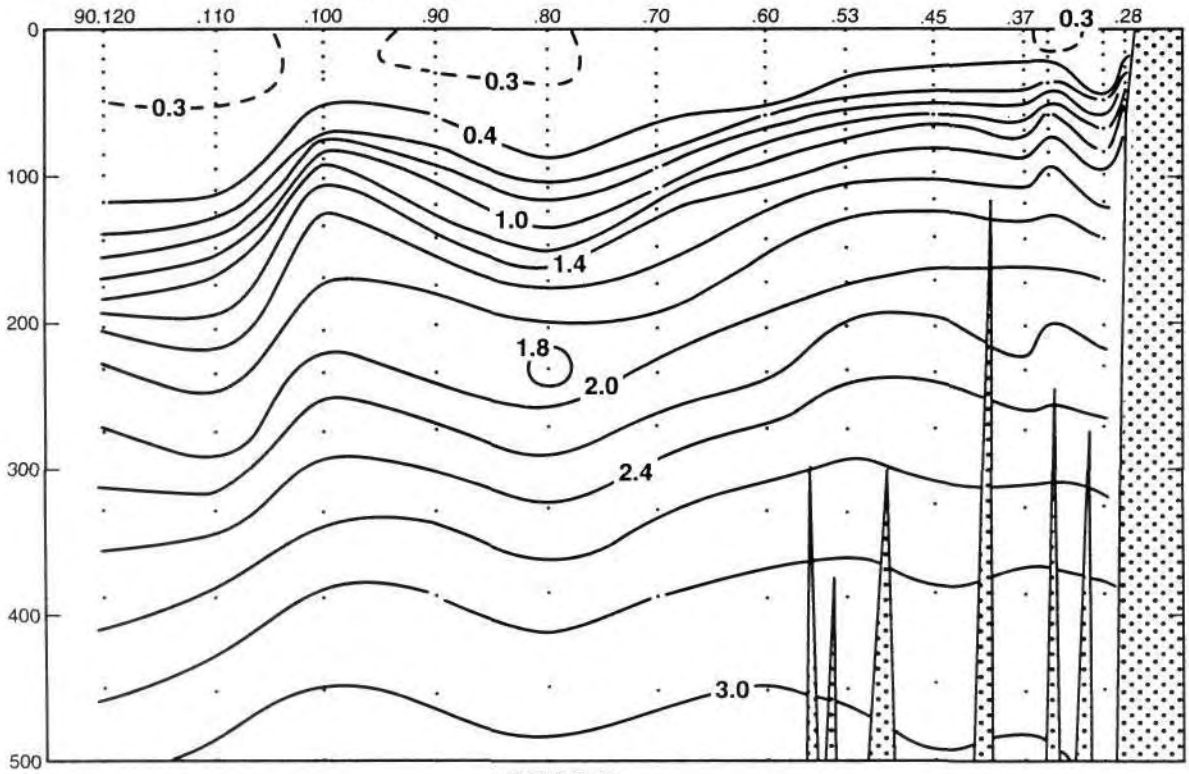


FIGURE 5F

CALCOFI CRUISE 9308

14 - 17 AUGUST 1993

CHLOROPHYLL-a (µg/l) ALONG CALCOFI LINE 90

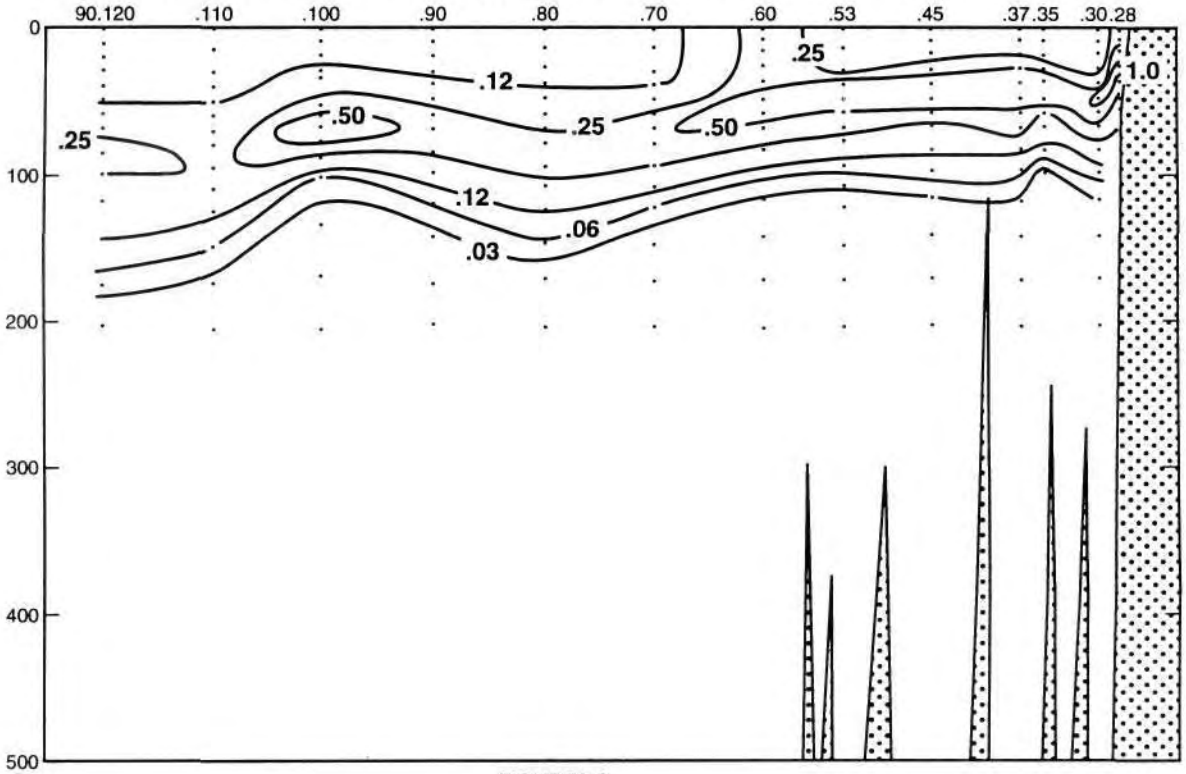


FIGURE 5G

DEPTH (m)

OXYGEN SATURATION (%) ALONG CALCOFI LINE 90

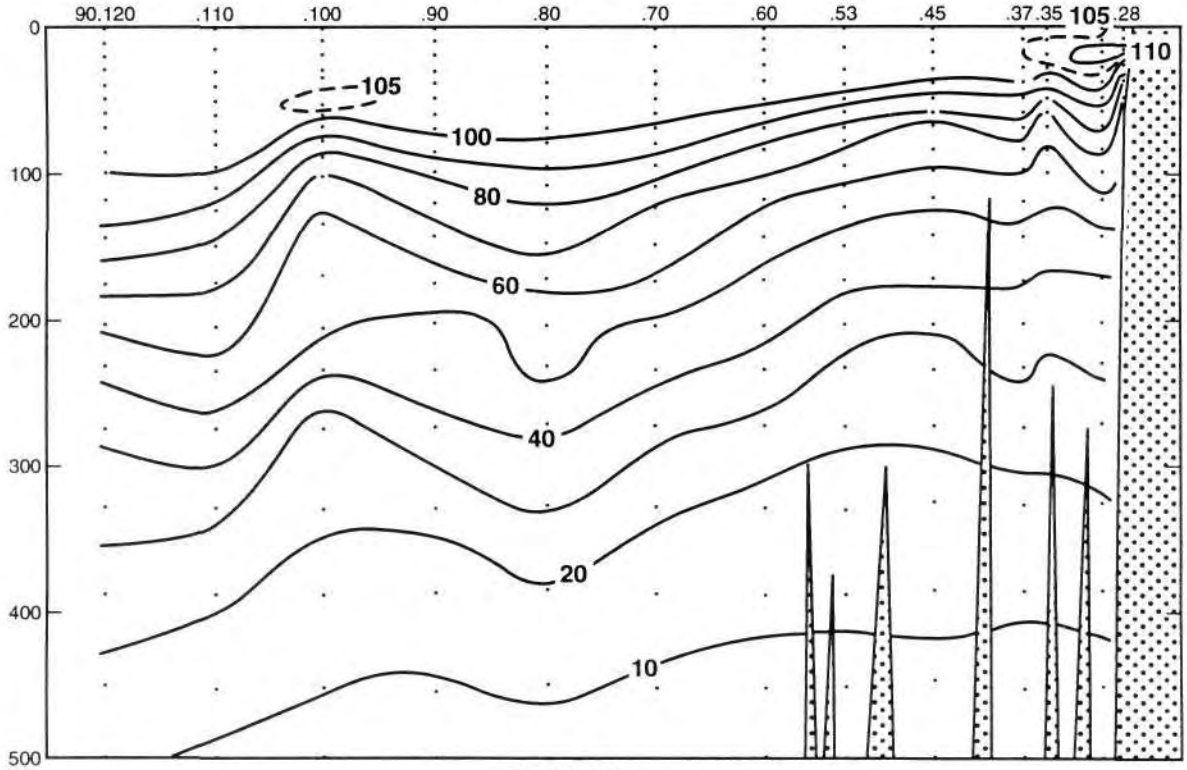


FIGURE 5H

CALCOFI CRUISE 9308

14 - 17 AUGUST 1993

OXYGEN (ml/l) ALONG CALCOFI LINE 90

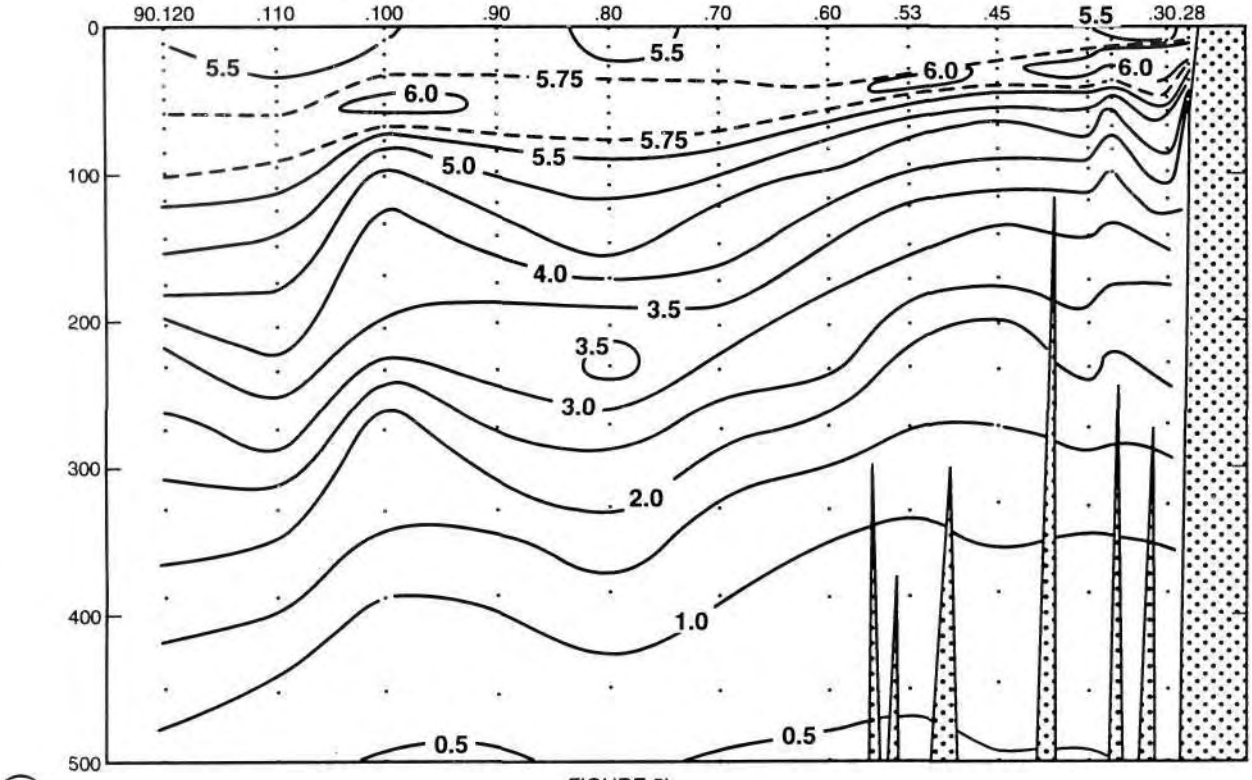


FIGURE 5I

NITRITE (µM/l) ALONG CALCOFI LINE 90

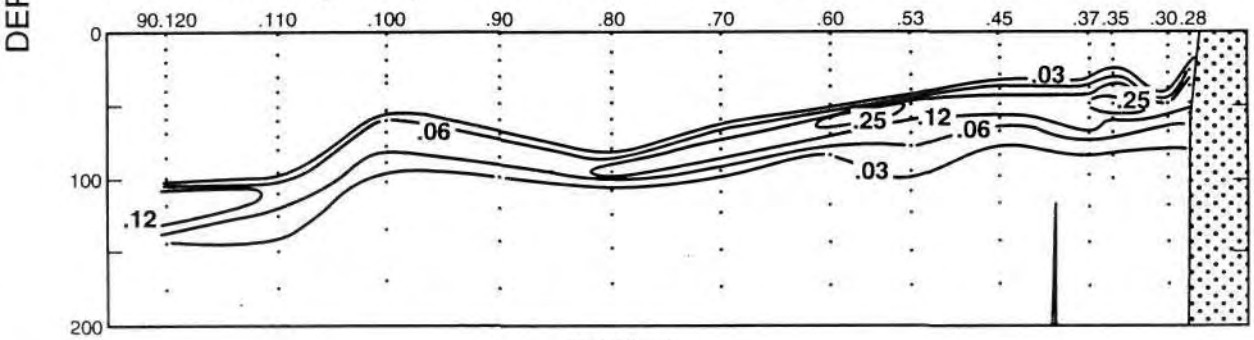


FIGURE 5J

PHAEOPIGMENTS (µg/l) ALONG CALCOFI LINE 90

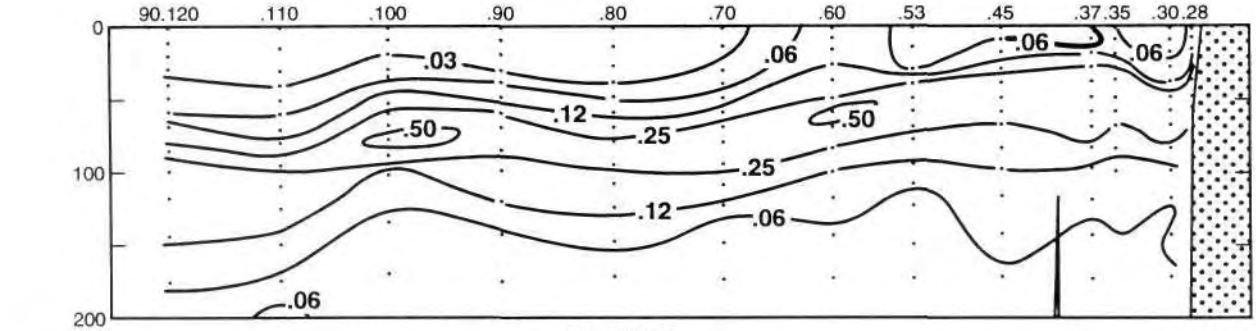


FIGURE 5K

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 77 *k'.t*

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD	ANT	TYPE
35 5.3 N	120 47.0 W	26/08/93	1045 UTC	72 ▪	00 kn			1011.4 ab	12.8 C	12.8 C				

CAST	DEPTH ▪	TEMP DE6 C	POT TEMP DE6 C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uH/I	PO4 uH/l	NO3 uM/t	NO2 uM/l	CHL-A ug/L	PHAEO ug/L	PRESS db
	0 ISL	14.52	14.52	33.398	24.841	309.9	0.000	6.21	107.1	2.0	0.39	0.6	0.04	5.45	1.53	0
2	2	14.52	14.52	33.398	24.841	310.0	0.006	6.21	107.1	2.0	0.39	0.6	0.04	5.45	1.53	2
2	10	14.25	14.25	33.395	24.896	305.0	0.031	6.20	106.3	2.0	0.43	0.8	0.04	7.51	2.05	10
	20 ISL	13.18	13.18	33.394	25.114	284.4	0.060	5.46	91.6	6.3	0.79	5.4	0.16	6.16	2.19	20
2	21	13.07	13.07	33.395	25.137	282.3	0.063	5.38	90.0	6.8	0.83	5.9	0.17	5.90	2.20	21
2	30	12.60	12.60	33.401	25.234	273.3	0.088	5.07	84.0	8.8	0.97	8.1	0.19	4.44	1.98	30
2	40	12.41	12.40	33.402	25.272	269.9	0.115	4.98	82.2	9.4	1.00	8.7	0.20	3.68	1.89	40
	50 ISL	11.77	11.76	33.432	25.416	256.4	0.142	4.48	72.9	12.7	1.21	12.4	0.22	1.70	1.24	50
2	53	11.57	11.56	33.444	25.463	252.1	0.149	4.32	70.0	13.8	1.28	13.6	0.23	1.11	1.02	53
2	68	11.33	11.32	33.471	25.528	246.2	0.187	4.10	66.1	15.7	1.37	14.9	0.23	0.52	0.48	68

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIMD SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD	AMT	TYPE
35 1.5 N	120 55.4 W	26/08/93	0736 UTC	243 ▪	34CI 06 kn			1011.7 ab	14.1 C	13.9 C				

CAST	DEPTH ▪	TEMP DEC C	POT TEMP DEC C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN aL/l	OXY PCT	SIO3 uH/L	PO4 uM/1	NO3 uM/L	NO2 uM/L	CHL-A ug/L	PHAEO ug/I	PRESS db
	0 ISL	14.35	14.35	33.391	24.871	307.0	0.000	6.78	116.5	1.7	0.31	0.3	0.02	6.30	3.01	0
2	2	14.35	14.35	33.391	24.871	307.1	0.006	6.78	116.5	1.7	0.31	0.3	0.02	6.30	3.01	2
2	9	14.16	14.16	33.389	24.910	303.6	0.028	6.59	112.8	1.8	0.36	0.3	0.02	7.15	3.43	9
	10 ISL	14.12	14.12	33.388	24.918	302.9	0.031	6.51	111.3	2.0	0.38	0.5	0.03	7.02	3.42	10
2	19	13.69	13.69	33.385	25.004	294.9	0.057	5.75	97.4	4.6	0.61	3.1	0.16	5.13	2.97	19
	20 ISL	13.64	13.64	33.385	25.015	293.9	0.060	5.70	96.5	4.8	0.63	3.4	0.17	4.97	2.92	20
2	29	13.13	13.13	33.393	25.124	283.8	0.086	5.26	88.1	7.1	0.82	6.2	0.27	3.63	2.34	29
	30 ISL	13.06	13.06	33.395	25.139	282.3	0.089	5.20	87.0	7.5	0.85	6.6	0.27	3.47	2.25	30
2	39	12.31	12.30	33.425	25.309	266.4	0.114	4.62	76.1	11.2	1.10	10.9	0.31	1.99	1.38	39
2	49	11.23	11.22	33.478	25.551	243.6	0.139	4.03	64.9	15.7	1.37	15.8	0.15	0.32	0.70	49
	50 ISL	11.18	11.17	33.481	25.562	242.5	0.142	4.00	64.3	15.9	1.38	16.0	0.14	0.31	0.66	50
2	59	10.85	10.84	33.508	25.642	235.1	0.163	3.84	61.3	17.5	1.48	17.4	0.08	0.20	0.43	59
2	70	10.38	10.37	33.573	25.775	222.6	0.189	3.54	56.0	19.8	1.62	19.5	0.04	0.13	0.28	70
	75 ISL	10.25	10.24	33.605	25.822	218.2	0.200	3.42	53.9	20.9	1.67	20.3	0.04	0.12	0.30	75
2	84	10.09	10.08	33.655	25.889	212.1	0.219	3.26	51.2	22.5	1.73	21.3	0.04	0.11	0.34	84
2	99	9.98	9.97	33.687	25.932	208.3	0.250	3.16	49.6	23.4	1.77	22.0	0.03	0.09	0.41	100
	100 ISL	9.97	9.96	33.691	25.937	207.8	0.253	3.15	49.4	23.5	1.78	22.1	0.03	0.09	0.41	101
2	119	9.77	9.76	33.782	26.042	198.3	0.291	2.87	44.8	25.9	1.88	23.6	0.02	0.05	0.29	120
	125 ISL	9.73	9.72	33.801	26.064	196.3	0.303	2.82	44.0	26.4	1.90	23.9	0.03	0.04	0.27	126
2	146	9.61	9.59	33.853	26.125	191.0	0.344	2.65	41.3	28.3	1.98	24.8	0.05	0.03	0.22	147
	150 ISL	9.58	9.56	33.863	26.137	189.8	0.351	2.60	40.5	28.9-	2.00	25.0	0.07	0.03	0.22	151
2	170	9.43	9.41	33.915	26.203	184.0	0.389	2.37	36.8	31.7	2.09	26.1	0.15	0.04	0.24	171
2	194	9.23	9.21	33.996	26.299	175.3	0.432	2.16	33.4	34.2	2.18	27.6	0.09	0.03	0.21	195
	200 ISL	9.16	9.14	34.013	26.323	173.1	0.442	2.11	32.6	35.1	2.21	27.9	0.09			201
2	225	8.89	8.87	34.083	26.422	164.2	0.484	1.88	28.8	38.8	2.32	29.4	0.10			226

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	W□T	SECCHI/FOREL	CLD	AMT	TYPE
34 53.0 N	121 12.1 W	26/08/93	0354 UTC	1923 ▪	3310 09 kn			1010.9 ab	14.9 C	13.9 C				

CAST	DEPTH a	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN aL/L	OXY PCT	SIO3 uM/l	PO4 uH/L	NO3 uM/L	NO2 uM/L	CHL-A ug/L	PHAEO ug/L	PRESS db
	0 ISL	14.82	14.82	33.328	24.723	:!21 .2	0.000	5.99	103.9	3.9	0.54	2.3	0.16	1.04	0.35	0
2	2	14.82	14.82	33.328	24.723	:)21.2	0.006	5.99	103.9	3.9	0.54	2.3	0.16	1.04	0.35	2
	10 ISL	14.19	14.19	33.340	24.866	:S07.8	0.032 '	5.79	99.1	5.1	0.62	3.6	0.19	1.20	0.58	10
2	11	14.07	14.07	33.343	24.893	505.3	0.035	5.74	98.0	5.4	0.64	3.9	0.20	1.22	0.61	11
2	20	12.97	12.97	33.391	25.154	IJ80.7	0.061	5.08	84.8	9.4	0.92	7.9	0.25	1.10	0.53	20
2	30	11.05	11.05	33.520	25.615	J36.9	0.087	3.89	62.4	17.5	1.44	16.6	0.19	0.52	0.36	30
2	39	10.61	10.61	33.565	25.728	226.4	0.108	3.62	57.5	19.7	1.57	18.4	0.18	0.34	0.28	39
2	50	10.14	10.13	33.614	25.847	215.3	0.132	3.41	33.7	21.6	1.70	20.2	0.08	0.16	0.18	50
2	59	9.86	9.85	33.711	25.970	203.8	0.151	3.14	49.1	24.3	1.80	22.0	0.04	0.05	0.15	59
2	69	9.85	9.84	33.728	25.986	202.6	0.171	3.03	47.4	24.8	1.83	22.6	0.05	0.06	0.16	69
	75 ISL	9.85	9.84	33.730	25.987	202.5	0.183	3.01	47.1	24.8	1.84	22.7	0.05	0.06	0.17	75
2	84	9.86	9.85	33.732	25.987	202.7	0.202	2.98	46.6	24.9	1.85	22.8	0.05	0.05	0.17	84
2	98	9.71	9.7p	33.807	26.071	195.0	0.229	2.74	42.8	26.9	1.94	23.9	0.06	0.02	0.16	99
	100 ISL	9.69	9.68	33.815	26.081	194.2	0.233	2.72	42.4	27.1	1.95	24.0	0.06	0.02	0.16	101
2	118	9.57	9.56	33.870	26.144	188.5	0.268	2.56	39.8	28.6	2.01	25.1	0.06	0.01	0.16	119
	125 ISL	9.54	9.53	33.885	26.161	187.1	0.281	2.51	39.0	29.1	2.03	25.3	0.07	0.01	0.15	126
2	144	9.48	9.46	33.924	26.201	183.6	0.316	2.37	36.8	30.6	2.09	25.9	0.09	0.01	0.14	145
	150 ISL	9.44	9.42	33.944	26.224	181.6	0.327	2.32	36.0	31.2	2.11	26.2	0.08	0.01	0.14	151
2	174	9.27	9.25	34.021	26.312	173.7	0.370	2.12	32.8	33.5	2.19	27.5	0.05	0.01	0.14	175
	200 ISL	9.22	9.20	34.059	26.350	170.6	0.414	2.01	31.1	34.8	2.23	28.0	0.05	0.00	0.11	201
2	204	9.21	9.19	34.063	26.355	170.2	0.421	2.00	30.9	35.0	2.24	28.1	0.05	0.00	0.11	205
2	235	9.05	9.02	34.103	26.412	165.4	0.473	1.85	28.5	36.9	2.31	28.9	0.02			236
	250 ISL	8.96	8.93	34.125	26.444	162.6	0.498	1.77	27.2	38.4	2.35	29.3	0.02			252
2	274	8.82	8.79	34.157	26.491	158.5	0.536	1.64	25.1	41.0	2.40	30.0	0.02			276
	300 ISL	8.66	8.63	34.170	26.527	155.6	0.577	1.56	23.8	42.9	2.44	30.5	0.02			302
2	328	8.46	8.43	34.176	26.563	152.6	0.620	1.50	22.8	44.8	2.49	31.1	0.02			330
2	388	7.88	7.84	34.195	26.665	143.5	0.709	1.32	19.8	51.1	2.62	32.9	0.02			391
	400 ISL	7.74	7.70	34.193	26.684	141.9	0.726	1.29	19.3	52.5	2.64	33.3	0.02			403
2	452	7.12	7.08	34.187	26.768	134.2	0.798	1.09	16.1	60.4	2.76	35.4	0.02			455
	500 ISL	6.55	6.50	34.217	26.869	124.8	0.860	0.77	11.2	71.5	2.95	37.5	0.06			504
2	521	6.30	6.25	34.231	26.913	120.7	0.886	0.63	9.1	76.4	3.04	38.4	0.08			525

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 44.2 N	121 32.7 W	25/08/93	2345 UTC	893 m	340 07 kn	340 08 08	1	1011.1 ab	16.0 C	15.0 C	15a 03	4/8	SC

CAST	DEPTH m	DEG C	TEMP C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT ml/l	OXYGEN	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/L	PRESS db
	0	ISL	17.07	17.07	33.372	24.250	366.3	0.000	5.80	105.2	2.1	0.32	0.3	0.01	0.35	0.09	0
2	2		17.07	17.07	33.372	24.250	366.3	0.007	5.80	105.2	2.1	0.32	0.3	0.01	0.35	0.09	2
	10	ISL	16.76	16.76	33.368	24.319	359.9	0.036	5.81	104.7	2.0	0.31	0.2	0.01	0.35	0.09	10
2	11		16.70	16.70	33.368	24.333	358.6	0.040	5.81	104.6	2.0	0.31	0.2	0.01	0.35	0.09	11
2	20		16.21	16.21	33.367	24.446	348.2	0.072	5.82	103.8	1.7	0.31	0.2	0.01	0.43	0.12	20
	30	ISL	15.65	15.65	33.352	24.561	337.5	0.106	5.83	102.8	2.3	0.38	0.6	0.05	1.92	0.63	30
2	31		15.54	15.54	33.348	24.582	335.5	0.109	5.83	102.6	2.4	0.39	0.6	0.05	2.03	0.67	31
2	41		12.81	12.80	33.305	25.119	284.5	0.140	5.14	85.5	7.3	0.83	6.5	0.33	0.71	0.47	41
2	50		11.87	11.86	33.392	25.366	261.2	0.165	4.46	72.8	12.2	1.17	11.9	0.40	0.43	0.36	50
2	60		11.64	11.63	33.408	25.422	256.1	0.191	4.33	70.3	13.4	1.23	13.2	0.38	0.39	0.35	60
2	71		11.27	11.26	33.425	25.503	248.6	0.219	4.16	67.0	14.7	1.32	14.8	0.18	0.28	0.28	71
	75	ISL	11.10	11.09	33.442	25.547	244.6	0.228	4.07	65.3	15.4	1.36	15.5	0.14	0.26	0.29	75
2	83		10.78	10.77	33.483	25.635	236.2	0.248	3.89	62.0	16.9	1.44	16.8	0.08	0.23	0.30	83
2	98		10.40	10.39	33.562	25.763	224.4	0.282	3.61	57.1	19.6	1.58	18.9	0.04	0.09	0.19	98
	100	ISL	10.35	10.34	33.572	25.780	222.8	0.287	3.58	56.6	19.9	1.60	19.2	0.04	0.09	0.19	100
2	118		9.97	9.96	33.667	25.919	210.0	0.326	3.30	51.7	22.7	1.72	21.4	0.04	0.07	0.19	119
	125	ISL	9.90	9.89	33.713	25.967	205.6	0.340	3.16	49.5	23.8	1.77	22.1	0.03	0.06	0.18	126
2	143		9.70	9.68	33.809	26.075	195.6	0.376	2.87	44.8	26.3	1.89	23.7	0.02	0.03	0.14	144
	150	ISL	9.51	9.49	33.812	26.109	192.5	0.390	2.90	45.0	27.0	1.91	24.1	0.02	0.02	0.13	151
2	174		8.84	8.82	33.803	26.209	183.2	0.435	3.06	46.8	29.1	1.94	25.4	0.02	0.01	0.10	175
	200	ISL	8.48	8.46	33.878	26.324	172.7	0.481	2.88	43.7	32.4	2.02	26.9	0.02	0.00	0.07	201
2	206		8.42	8.40	33.900	26.350	170.3	0.492	2.82	42.8	33.3	2.04	27.3	0.02	0.00	0.06	207
2	235		8.13	8.11	33.990	26.465	159.8	0.539	2.55	38.4	37.9	2.16	29.0	0.01			236
	250	ISL	7.98	7.95	34.019	26.510	155.8	0.563	2.45	36.8	40.2	2.21	29.6	0.01			251
2	274		7.76	7.73	34.057	26.573	150.2	0.600	2.27	33.9	43.9	2.30	30.6	0.01			276
	300	ISL	7.60	7.57	34.099	26.629	145.2	0.638	1.92	28.6	48.3	2.43	32.1	0.01			302
2	328		7.48	7.45	34.144	26.682	140.6	0.678	1.52	22.6	52.8	2.58	33.6	0.01			330
2	387		7.34	7.30	34.236	26.775	132.7	0.739	0.90	13.3	60.0	2.81	35.4	0.01			390
	400	ISL	7.22	7.18	34.239	26.794	131.0	0.776	0.85	12.6	61.8	2.84	35.9	0.01			403
2	453		6.63	6.59	34.226	26.865	124.6	0.844	0.74	10.8	69.4	2.95	37.8	0.00			456
	500	ISL	6.21	6.17	34.217	26.913	120.3	0.901	0.64	9.2	75.2	3.02	39.4	0.00			503
2	523		6.01	5.96	34.213	26.935	118.3	0.929	0.59	8.5	78.1	3.06	40.2	0.00			527

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 24.2 N	122 16.1 W	25/08/93	1828 UTC	4016 a	010 09 kn	330 12 11	1	1011.2 ab	16.8 C	15.3 C	17a 02	5/8	SC

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l.	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS: db
	0	ISL	16.60	16.60	33.370	24.358	355.9	0.000	5.79	104.0	1.6	0.30	0.0	0.01	0.42	0.13	0
2	2	A	16.60	16.60	33.370	24.358	356.0	0.007	5.79	104.0	1.6	0.30	0.0	0.01	0.42	0.13	2
	10	ISL	16.53	16.53	33.369	24.374	354.8	0.036	5.78	103.7	1.5	0.29	0.0	0.01	0.43	0.11	10
2	12	A	16.51	16.51	33.369	24.378	354.4	0.043	5.78	103.7	1.4	0.29	0.0	0.01	0.44	0.11	12
	20	ISL	16.50	16.50	33.369	24.381	354.4	0.071	5.80	104.0	1.2	0.28	0.0	0.02	0.46	0.16	20
2	22	A	16.50	16.50	33.369	24.381	354.5	0.078	5.80	104.0	1.2	0.28	0.0	0.02	0.47	0.17	22
	30	ISL	15.88	15.88	33.323	24.487	344.6	0.106	5.78	102.4	2.2	0.38	0.9	0.10	0.96	0.38	30
2	33	A	15.45	15.44	33.297	24.563	337.4	0.116	5.77	101.3	2.9	0.44	1.2	0.16	1.12	0.45	33
2	46	A	11.98	11.97	33.193	25.191	277.7	0.156	5.25	85.7	8.5	0.92	8.5	0.61	0.51	0.41	46
	50	ISL	11.49	11.48	33.239	25.318	265.7	0.167	5.02	81.1	10.4	1.06	10.9	0.46	0.38	0.38	50
2	53		11.25	11.24	33.277	25.391	258.9	0.175	4.84	77.8	11.7	1.16	12.6	0.31	0.30	0.35	53
2	59	A	10.89	10.88	33.312	25.482	250.3	0.190	4.52	72.2	14.0	1.30	14.8	0.06	0.23	0.25	59
2	68		10.14	10.13	33.380	25.665	233.0	0.212	4.16	65.4	16.9	1.47	17.6	0.03	0.13	0.15	68
	75	ISL	9.92	9.91	33.461	25.766	223.6	0.228	3.91	61.2	18.9	1.58	19.4	0.03	0.08	0.11	75
2	84		9.78	9.77	33.562	25.868	214.0	0.248	3.65	57.0	21.2	1.69	21.2	0.02	0.03	0.08	84
2	99		9.18	9.17	33.645	26.031	198.8	0.279	3.35	51.6	24.8	1.79	23.0	0.02	0.01	0.06	99
	100	ISL	9.16	9.15	33.650	26.038	198.1	0.281	3.33	51.3	25.0	1.80	23.1	0.02	0.01	0.06	100
2	118		8.91	8.90	33.744	26.151	187.7	0.315	3.06	46.9	28.2	1.92	24.9	0.01	0.01	0.07	119
	125	ISL	8.78	8.77	33.782	26.201	18-3.0	0.328	2.98	45.5	29.4	1.95	25.5	0.01	0.01	0.07	126
2	144		8.43	8.42	33.873	26.327	171.4	0.362	2.83	42.9	32.4	2.01	26.7	0.01	0.01	0.05	145
	150	ISL	8.34	8.32	33.895	26.358	168.5	0.372	2.84	43.0	33.2	2.02	27.0	0.01	0.01	0.05	151
2	172		8.04	8.02	33.951	26.447	160.4	0.408	2.86	43.0	35.9	2.05	27.7	0.01	0.01	0.06	173
	200	ISL	7.77	7.75	33.976	26.306	155.1	0.453	2.79	41.7	38.4	2.09	28.5	0.01	0.01	0.04	201
2	203		7.73	7.73	33.978	26.511	154.7	0.457	2.78	41.5	38.7	2.10	28.6	0.01	0.01	0.04	204
2	234		7.47	7.45	34.018	26.583	148.3	0.504	2.46	36.5	44.3	2.24	30.6	0.01			235
	250	ISL	7.30	7.28	34.039	26.624	144.7	0.528	2.24	33.1	47.4	2.33	31.6	0.01			252
2	272		7.08	7.05	34.067	26.677	139.9	0.559	1.92	28.3	51.6	2.45	33.0	0.01			274
	300	ISL	6.95	6.92	34.099	26.720	136.2	0.598	1.59	23.3	56.3	2.58	34.5	0.01			302
2	326		6.87	6.84	34.126	26.752	133.4	0.633	1.33	19.5	60.1	2.68	35.6	0.01			328
2	387		6.56	6.52	34.185	26.841	125.8	0.712	0.92	13.4	66.9	2.86	37.4	0.01			390
	400	ISL	6.47	6.43	34.199	26.864	123.7	0.728	0.83	12.1	69.0	2.90	37.8	0.01			403
2	450		6.12	6.08	34.246	26.947	116.3	0.788	0.55	7.9	77.1	3.03	39.2	0.00			453
	500	ISL	5.83	5.79	34.273	27.005	111.2	0.845	0.43	6.2	83.0	3.10	40.4	0.00			504
2	524		5.69	5.65	34.287	27.034	108.6	0.871	0.37	5.3	85.9	3.13	41.0	0.00			528

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 77 80

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIME	BOTTOM	UIMD SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMI' TYPE
34 4.0 N	122 56.5 W	25/08/93	1030 UTC	4232 ▪	340 22 kn			1011.3 ab	16.7 C	15.3 C		

CAST	DEPTH ▪	TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	>VA	DYN HT	OXY6EN «L/l	OXY PCT	SI03 UH/I	PO4 uM/l	NO3 uM/l	NO2 uM/L	CHL-A ug/I	PHAEO ug/I	PRESS db
	0 ISL	17.35	17.35	33.283	24.115	379.1	0.000	5.60	102.1	2.6	0.36	0.1	0.00	0.21	0.07	0
2	2	17.35	17.35	33.283	24.115	379.1	0.008	5.60	102.1	2.6	0.36	0.1	0.00	0.21	0.07	2
	10 ISL	17.36	17.36	33.289	24.118	379.2	0.038	5.60	102.1	2.6	0.35	0.1	0.00	0.21	0.06	10
2	15	17.36	17.36	33.294	24.122	379.0	0.057	5.60	102.1	2.6	0.35	0.1	0.00	0.21	0.06	15
	20 ISL	17.36	17.36	33.294	24.122	379.1	0.076	5.60	102.1	2.6	0.35	0.1	0.00	0.21	0.06	20
	30 ISL	17.35	17.35	33.293	24.124	379.2	0.114	5.59	101.9	2.5	0.36	0.1	0.00	0.22	0.06	30
2	31	17.35	17.34	33.293	24.124	379.3	0.118	5.59	101.9	2.5	0.36	0.1	0.00	0.22	0.06	31
2	41	17.22	17.21	33.294	24.156	376.6	0.155	5.64	102.5	2.6	0.35	0.0	0.00	0.27	0.09	41
	50 ISL	13.54	13.53	33.283	24.957	300.3	0.186	5.73	96.7	6.3	0.66	4.2	0.28	0.83	0.40	50
2	51	13.09	13.08	33.292	25.054	291.0	0.189	5.74	96.0	6.8	0.71	4.9	0.32	0.88	0.43	51
2	61	11.43	11.42	33.314	25.387	259.4	0.216	4.88	78.8	11.8	1.15	12.6	0.54	0.53	0.40	61
2	70	10.79	10.78	33.308	25.497	249.1	0.239	4.51	71.8	14.2	1.31	14.9	0.09	0.39	0.36	70
	75 ISL	10.52	10.51	33.343	25.572	242.1	0.251	4.33	68.6	15.8	1.41	16.5	0.06	0.29	0.27	75
2	80	10.27	10.26	33.389	25.650	234.7	0.263	4.17	65.7	17.4	1.50	18.1	0.03	0.19	0.17	80
2	95	9.28	9.27	33.511	25.910	210.2	0.297	3.78	58.3	21.9	1.68	21.2	0.02	0.05	0.07	95
	100 ISL	9.11	9.10	33.544	25.963	205.2	0.307	3.70	56.9	22.9	1.72	21.9	0.02	0.03	0.06	100
2	112	8.84	8.83	33.616	26.062	196.0	0.331	3.56	54.4	24.9	1.78	23.2	0.02	0.01	0.04	113
2	124	8.62	8.61	33.687	26.152	187.6	0.354	3.41	51.9	26.9	1.84	24.1	0.01	0.00	0.04	125
	125 ISL	8.61	8.60	33.693	26.158	187.1	0.356	3.40	51.7	27.1	1.84	24.2	0.01	0.00	0.04	126
2	149	8.37	8.35	33.836	26.307	173.3	0.399	3.10	46.9	31.4	1.96	26.1	0.01	0.00	0.04	150
	150 ISL	8.37	8.35	33.843	26.312	172.8	0.401	3.08	46.6	31.6	1.97	26.2	0.01	0.00	0.04	151
2	175	8.26	8.24	33.984	26.440	161.2	0.443	2.49	37.6	37.0	2.13	28.6	0.01	0.00	0.04	176
	200 ISL	8.02	8.00	34.033	26.515	154.5	0.482	2.29	34.4	40.7	2.21	29.8	0.01	0.00	0.04	201
2	204	7.97	7.95	34.036	26.524	153.6	0.488	2.28	34.3	41.2	2.22	30.0	0.01	0.00	0.04	205
2	237	7.55	7.53	34.069	26.612	145.7	0.538	2.01	29.9	47.2	2.36	31.9	0.01			238
	250 ISL	7.37	7.35	34.072	26.640	"43.2	0.557	1.93	28.6	49.6	2.41	32.6	0.01			251
2	274	7.04	7.01	34.074	26.688	'138.9	0.590	1.77	26.0	53.9	2.51	34.0	0.01			276
	300 ISL	6.76	6.73	34.087	26.736	134.5	0.626	1.54	22.5	58.8	2.62	35.5	0.01			302
2	327	6.49	6.46	34.100	26.782	130.3	0.662	1.30	18.9	63.6	2.73	36.9	0.01			329
2	388	5.89	5.86	34.094	26.855	123.8	0.739	1.03	14.7	72.6	2.88	39.5	0.01			391
	400 ISL	5.81	5.78	34.098	26.868	122.7	0.754	0.98	14.0	74.2	2.90	39.8	0.01			403
2	453	5.52	5.48	34.130	26.929	117.3	0.818	0.75	10.6	81.4	3.00	41.0	0.00			456
	500 ISL	5.29	5.25	34.188	27.003	110.7	0.871	0.54	7.6	88.6	3.10	42.0	0.00			503
2	524	5.18	5.14	34.218	27.040	107.4	0.897	0.43	6.1	92.3	3.15	42.5	0.00			528

RV NEU HORIZON CALCOFI CRUISE 9308 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD ANT TYPE
33 43.4 N	123 38.4 W	25/08/93	0210 UTC	4118 ▪	340 23 kn	330 15 08	0	1012.5 «b	17.0 C	14.9 C		0/8

CAST	DEPTH ▪	TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SI03 uM/l	PO4 uM/L	NO3 uM/I	NO2 uM/l	CHL-A ug/I	PHAEO ug/I	PRESS db
	0 ISL	16.79	16.79	32.873	23.932	396.5	0.000	5.73	103.0	3.2	0.35	0.2	0.01	0.15	0.04	0
2	3	16.79	16.79	32.873	23.932	396.6	0.012	5.73	103.0	3.2	0.35	0.2	0.01	0.15	0.04	3
	10 ISL	16.80	16.80	32.874	23.931	396.9	0.040	5.73	103.1	3.2	0.34	0.2	0.01	0.15	0.04	10
2	16	16.80	16.80	32.875	23.932	397.0	0.063	5.73	103.1	3.2	0.34	0.1	0.01	0.15	0.05	16
	20 ISL	16.70	16.70	32.881	23.960	394.5	0.079	5.74	103.0	3.2	0.34	0.1	0.01	0.19	0.06	20
	30 ISL	16.45	16.45	32.897	24.030	388.1	0.118	5.82	104.0	3.1	0.35	0.0	0.01	0.26	0.09	30
2	32	16.40	16.39	32.900	24.044	386.9	0.126	5.85	104.4	3.1	0.35	0.0	0.01	0.27	0.09	32
2	40	15.27	15.26	32.882	24.283	364.3	0.156	6.00	104.7	2.8	0.36	0.0	0.01	0.24	0.09	40
2	49	15.01	15.00	32.870	24.330	360.0	0.189	6.02	104.5	2.9	0.37	0.0	0.01	0.29	0.14	49
	50 ISL	15.00	14.99	32.871	24.333	359.7	0.192	6.02	104.4	2.9	0.37	0.0	0.01	0.30	0.14	50
2	60	14.88	14.87	32.941	24.413	352.4	0.228	6.00	103.9	2.8	0.37	0.0	0.01	0.36	0.18	60
2	70	13.74	13.73	32.936	24.649	330.2	0.262	6.06	102.5	3.2	0.38	0.0	0.03	0.47	0.36	70
	75 ISL	13.34	13.33	32.941	24.733	322.2	0.278	6.03	101.2	3.4	0.39	0.1	0.04	0.45	0.37	75
2	80	13.01	13.00	32.942	24.800	315.9	0.294	5.99	99.8	3.6	0.41	0.3	0.07	0.44	0.37	80
2	94	12.26	12.25	32.893	24.907	306.0	0.338	5.94	97.4	4.3	0.50	1.3	0.32	0.32	0.30	94
	100 ISL	12.12	12.11	32.970	24.993	297.9	0.356	5.65	92.4	5.4	0.62	3.3	0.21	0.25	0.26	100
2	108	11.91	11.90	33.088	25.124	285.6	0.379	5.22	85.0	7.2	0.81	6.4	0.02	0.16	0.20	108
2	124	10.82	10.81	33.158	25.376	261.8	0.423	4.77	75.9	11.1	1.09	11.4	0.02	0.12	0.13	125
	125 ISL	10.75	10.74	33.166	25.395	260.0	0.426	4.75	75.5	11.4	1.11	11.7	0.02	0.12	0.13	126
2	149	9.31	9.29	33.398	25.818	220.0	0.483	4.28	66.0	18.5	1.49	18.5	0.02	0.02	0.0S	150
	150 ISL	9.28	9.26	33.406	25.828	219.0	0.486	4.27	65.8	18.7	1.50	18.7	0.02	0.02	0.0.'i	151
2	175	8.77	8.75	33.600	26.061	197.2	0.538	3.82	58.3	24.0	1.70	22.2	0.01	0.01	0.06	176
	200 ISL	8.59	8.57	33.821	26.262	178.6	0.585	3.00	45.6	30.4	1.95	26.0	0.01	0.00	0.04	201
2	205	8.56	8.54	33.859	26.297	175.4	0.593	2.85	43.3	31.6	1.99	26.6	0.01	0.00	0.05	206
2	233	8.06	8.04	33.939	26.435	162.6	0.641	2.78	41.8	36.0	2.06	28.2	0.01			234
	250 ISL	7.83	7.81	33.973	26.496	157.0	0.668	2.69	40.3	38.9	2.11	29.2	0.01			251
2	277	7.50	7.47	34.011	26.574	149.9	0.709	2.48	36.8	43.8.	2.22	30.7	0.00			279
	300 ISL	7.22	7.19	34.032	26.630	144.8	0.743	2.24	33.1	48.2	2.34	32.1	0.00			302
2	328	6.89	6.86	34.050	26.690	139.4	0.783	1.91	28.0	53.7	2.48	33.9	0.00			330
2	386	6.24	6.21	34.078	26.798	129.5	0.861	1.31	18.9	65.4	2.72	37.6	0.00			388
	400 ISL	6.10	6.06	34.088	26.824	127.1	0.879	1.19	17.1	68.3	2.78	38.3	0.00			402
2	452	5.65	5.61	34.125	26.909	119.3	0.943	0.83	11.8	78.5	2.96	40.4	0.00			455
	500 ISL	5.30	5.26	34.137	26.961	114.7	0.999	0.71	10.0	85.5	3.03	41.6	0.00			503
2	522	5.14	5.10	34.144	26.985	112.4	1.024	0.65	9.1	88.7	3.06	42.1	0.00			526

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD ANT TYPE
33 23.6 N	124 19.4 W	24/08/93	1826 UTC	4546 •	350 25 kn	300 10 08	1	1016.2 ab	19.6 C	17.0 C	27a 01	5/8 AC

CAST	DEPTH a		TEMP DEG C	POT TEMP PEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ai./l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/I	NO2 uM/l	CHL-A ug/I	PHAEO ug/1	PRESS db
	0	ISL	19.21	19.21	33.516	23.835	405.8	0.000	5.42	102.5	3.4	0.29	0.2	0.00	0.07	0.02	0
2	3	A	19.21	19.21	33.516	23.835	405.9	0.012	5.42	102.5	3.4	0.29	0.2	0.00	0.07	0.02	3
	10	ISL	19.21	19.21	33.516	23.836	406.1	0.041	5.41	102.3	3.4	0.29	0.2	0.00	0.07	0.01	10
2	17	A	19.21	19.21	33.516	23.836	406.3	0.069	5.39	101.9	3.4	0.29	0.2	0.00	0.07	0.01	17
	20	ISL	19.21	19.21	33.516	23.836	406.4	0.081	5.39	101.9	3.4	0.29	0.2	0.00	0.07	0.01	20
	30	ISL	19.21	19.20	33.516	23.837	406.7	0.122	5.40	102.1	3.3	0.28	0.2	0.00	0.07	0.02	30
2	32	A	19.21	19.20	33.516	23.837	406.8	0.130	5.40	102.1	3.3	0.28	0.2	0.00	0.07	0.02	32
2	41		19.19	19.18	33.514	23.841	406.8	0.167	5.42	102.4	3.3	0.29	0.2	0.00	0.07	0.02	41
	50	ISL	18.36	18.35	33.495	24.035	388.5	0.202	5.64	104.9	3.1	0.25	0.2	0.00	0.11	0.03	50
2	51	A	18.24	18.23	33.490	24.060	386.1	0.206	5.67	105.2	3.1	0.25	0.2	0.00	0.11	0.03	51
2	62		16.81	16.80	33.341	24.289	364.5	0.248	5.85	105.5	3.1	0.28	0.2	0.00	0.12	0.04	62
2	72	A	15.90	15.89	33.343	24.499	344.7	0.283	5.88	104.2	3.1	0.27	0.2	0.00	0.13	0.04	72
	75	ISL	15.77	15.76	33.378	24.555	339.5	0.293	5.87	103.7	3.1	0.27	0.2	0.00	0.14	0.05	75
2	79		15.64	15.63	33.427	24.622	333.2	0.307	5.85	103.2	3.2	0.27	0.2	0.00	0.16	0.07	79
2	95	A	15.09	15.08	33.467	24.775	319.1	0.359	5.77	100.6	3.2	0.29	0.2	0.00	0.19	0.14	95
	100	ISL	14.88	14.87	33.477	24.828	314.2	0.375	5.70	99.0	3.4	0.31	0.4	0.05	0.25	0.21	100
2	109		14.37	14.35	33.484	24.942	303.5	0.403	5.53	95.1	4.0	0.38	0.7	0.12	0.32	0.32	109
2	124		12.91	12.89	33.448	25.212	277.9	0.446	5.24	87.4	6.2	0.63	4.9	0.02	0.17	0.23	125
	125	ISL	12.83	12.81	33.445	25.226	276.6	0.449	5.23	87.1	6.3	0.64	5.1	0.02	0.16	0.23	126
2	150		11.13	11.11	33.395	25.506	250.1	0.515	4.94	79.3	10.2	0.96	10.4	0.01	0.08	0.13	151
2	174		9.65	9.63	33.463	25.814	221.0	0.571	4.75	73.8	14.8	1.21	14.9	0.00	0.02	0.04	175
	200	ISL	8.71	8.69	33.626	26.091	194.9	0.625	4.46	68.0	20.6	1.45	19.1	0.00	0.00	0.02	201
2	204		8.62	8.60	33.654	26.127	191.5	0.633	4.40	66.9	21.6	1.49	19.7	0.00	0.00	0.02	205
2	234		8.15	8.13	33.822	26.330	172.6	0.688	3.77	56.8	28.9	1.74	23.9	0.00			235
	250	ISL	7.95	7.92	33.888	26.412	165.0	0.715	3.63	54.4	31.9	1.80	25.1	0.00			251
2	273		7.70	7.67	33.958	26.504	156.6	0.752	3.48	51.9	35.9	1.87	26.4	0.00			274
	300	ISL	7.47	7.44	34.005	26.574	150.3	0.793	3.04	45.1	40.9	2.04	28.8	0.00			302
2	327		7.23	7.20	34.028	26.626	145.7	0.833	2.54	37.5	46.2	2.24	31.3	0.00			329
2	387		6.45	6.42	34.041	26.742	135.0	0.917	1.74	25.2	59.3	2.58	35.8	0.00			389
	400	ISL	6.33	6.29	34.051	26.765	132.9	0.935	1.58	22.8	61.9	2.65	36.6	0.00			402
2	451		5.90	5.86	34.094	26.854	124.8	1.000	1.06	15.2	71.7	2.87	39.3	0.00			454
	500	ISL	5.50	5.46	34.121	26.925	118.3	1.060	0.84	11.9	80.5	2.98	40.8	0.00			503
2	524		5.30	5.26	34.135	26.960	115.1	1.088	0.73	10.3	84.8	3.04	41.5	0.00			527

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 80 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 26.9 N	120 32.2 W	23/08/93	0323 UTC	81 a	280 18 kn			1010.8 ab	15.0 C	15.0 C		

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/l	CHL-A ug/1	PHAEO ug/ I	PRESS db
	0	ISL	16.38	16.38	33.350	24.393	352.6	0.000	5.98	107.0	3.3	0.31	0.5	0.04	0.90	0.28	0
2	2		16.38	16.38	33.350	24.393	352.6	0.007	5.98	107.0	3.3	0.31	0.5	0.04	0.90	0.28	2
2	10		15.05	15.05	33.348	24.689	324.7	0.034	5.72	99.6	5.2	0.50	2.6	0.11	1.21	0.53	10
2	19		13.26	13.26	33.339	25.056	290.0	0.062	5.28	88.7	8.0	0.79	5.8	0.24	2.45	1.23	19
	20	ISL	13.10	13.10	33.341	25.089	286.8	0.065	5.22	87.4	8.3	0.82	6.3	0.24	2.48	1.25	20
	30	ISL	11.92	11.92	33.373	25.342	263.0	0.092	4.60	75.1	11.6	1.11	10.6	0.27	2.80	1.48	30
2	32		11.76	11.76	33.382	25.379	259.5	0.097	4.48	72.9	12.3	1.16	11.5	0.28	2.86	1.52	32
2	40		11.32	11.32	33.426	25.494	248.7	0.118	4.117	67.2	14.7	1.30	14.0	0.21	1.21	0.95	40
2	49		10.95	10.94	33.485	25.606	238.3	0.140	3.91	62.6	16.9	1.42	16.0	0.14	0.90	0.54	49
	50	ISL	10.93	10.92	33.487	25.611	237.8	0.142	3.91	62.5	16.9	1.42	16.0	0.14	0.91	0.55	50
2	60		10.81	10.80	33.496	25.640	235.3	0.166	3.87	61.7	17.3	1.45	16.4	0.11	0.96	0.69	63
2	74		10.71	10.70	33.524	25.680	231.8	0.198	3.75	59.7	18.2	1.50	17.2	0.09	0.80.	0.72	74

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 80 55

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 18.8 N	120 48.3 W	23/08/93	0621 UTC	771 a	280 14 kn				14.8 C	14.7 C		

CAST	DEPTH a		TEMP DE6 C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/1	PO4 uM/l	NO3 uM/1	NO2 uM/l	CHL-A ug/l	PHAEO ug/ I	PRESS db
	0	ISL	14.90	14.90	33.355	24.726	320.8	0.000	6.30	109.4	2.8	0.33	0.0	0.02	1.25	0.94	0
2	2		14.90	14.90	33.355	24.726	320.9	0.006	6.30	109.4	2.8	0.33	0.0	0.02	1.25	0.94	2
	10	ISL	14.37	14.37	33.352	24.837	310.5	0.032	6.22	106.9	3.0	0.39	0.0	0.03	2.44	1.15	10
2	11		14.26	14.26	33.352	24.861	308.4	0.035	6.21	106.5	3.0	0.40	0.0	0.03	2.64	1.18	11
2	19		13.37	13.37	33.361	25.051	290.5	0.059	5.32	89.6	7.6	0.77	5.6	0.35	3.43	1.17	19
	20	ISL	13.28	13.28	33.362	25.070	288.7	0.062	5.25	88.2	8.0	0.80	6.1	0.36	3.27	1.16	20
2	30		12.54	12.54	33.376	25.226	274.0	0.090	4.81	79.6	11.2	1.03	9.5	0.51	1.23	0.95	30
2	40		11.81	11.80	33.404	25.387	259.0	0.116	4.49	73.2	13.7	1.19	12.6	0.20	0.74	0.68	40
2	50		10.99	10.98	33.448	25.570	241.7	0.141	4.10	65.6	16.2	1.38	15.7	0.06	0.55	0.65	50
2	60		10.48	10.47	33.499	25.700	229.6	0.165	3.84	60.8	18.5	1.51	17.9	0.03	0.24	0.55	60
2	71		10.18	10.17	33.591	25.823	218.1	0.190	3.52	55.4	20.6	1.62	19.7	0.04	0.22	0.32	71
	75	ISL	10.08	10.07	33.623	25.865	214.1	0.198	3.42	53.7	21.5	1.66	20.3	0.04	0.19	0.28	75
2	85		9.84	9.83	33.696	25.963	205.1	0.219	3.19	49.9	23.6	1.75	21.8	0.04	0.11	0.23	85
2	99		9.60	9.59	33.770	26.060	196.0	0.247	2.97	46.2	26.1	1.84	23.2	0.03	0.03	0.16	100
	100	ISL	9.60	9.59	33.775	26.064	195.7	0.249	2.96	46.1	26.2	1.84	23.3	0.03	0.03	0.16	101
2	119		9.53	9.52	33.850	26.135	189.4	0.286	2.75	42.7	28.0	1.92	24.3	0.02	0.01	0.15	120
	125	ISL	9.50	9.49	33.868	26.154	187.7	0.297	2.70	41.9	28.5	1.94	24.6	0.02	0.01	0.15	126
2	144		9.41	9.39	33.916	26.206	183.1	0.332	2.56	39.7	29.9	1.99	25.3	0.02	0.01	0.14	145
	150	ISL	9.39	9.37	33.930	26.221	181.9	0.343	2.51	38.9	30.3	2.01	25.5	0.02	0.01	0.14	151
2	172		9.33	9.31	33.979	26.269	177.7	0.383	2.31	35.8	32.0	2.08	26.3	0.03	0.01	0.13	173
	200	ISL	9.18	9.16	34.047	26.347	170.9	0.432	2.08	32.1	34.7	2.16	27.3	0.03	0.01	0.11	201
2	204		9.16	9.14	34.057	26.358	169.9	0.439	2.05	31.6	35.1	2.17	27.5	0.03	0.01	0.11	205
2	232		8.97	8.94	34.115	26.434	163.2	0.485	1.82	28.0	37.9	2.27	28.7	0.03			233
	250	ISL	8.86	8.83	34.146	26.476	159.5	0.514	1.71	26.2	39.5	2.32	29.3	0.03			252
2	273		8.69	8.66	34.175	26.526	155.2	0.550	1.60	24.4	41.6	2.37	30.0	0.03			275
	300	ISL	8.42	8.39	34.180	26.572	151.2	0.592	1.51	22.9	44.8	2.44	30.9	0.06			302
2	330		8.07	8.04	34.174	26.620	146.9	0.636	1.43	21.5	48.9	2.52	31.9	0.09			332
2	389		7.26	7.22	34.180	26.742	135.8	0.720	1.18	17.4	58.0	2.69	34.4	0.02			392
	400	ISL	7.10	7.06	34.183	26.767	133.5	0.735	1.10	16.2	60.5	2.74	35.0	0.02			403
2	450		6.48	6.44	34.206	26.869	124.0	0.799	0.76	11.0	71.4	2.94	37.5	0.03			453
	500	ISL	6.18	6.14	34.246	26.940	117.7	0.859	0.56	8.1	77.8	3.04	38.8	0.02			503
2	519		6.06	6.01	34.262	26.968	115.2	0.882	0.48	6.9	80.2	3.08	39.3	0.02			523

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AHT TYPE
34 9.1 N	121 9.6 W	23/08/93	1006 UTC	2251 •	320 08 kn			1011.0 ab	16.4 C	15.8 C		

CAST	DEPTH •	TEMP DEG C	POT TEMP DE6 C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uH/l	PO4 uM/L	NO3 uM/l	NO2 uM/L	CHL-A ug/l	PHAEO ug/L	PRESS db
	0 ISL	16.11	16.11	33.401	24.494	343.0	0.000	5.83	103.8	1.9	0.30	0.0	0.03	0.53	0.25	0
2	2	16.11	16.11	33.401	24.494	343.0	0.007	5.83	103.8	1.9	0.30	0.0	0.03	0.53	0.25	2
	10 ISL	16.11	16.11	33.401	24.494	343.2	0.034	5.82	103.6	1.7	0.30	0.0	0.03	0.53	0.25	10
2	11	16.11	16.11	33.401	24.494	343.3	0.038	5.82	103.6	1.7	0.30	0.0	0.03	0.53	0.25	11
	20 ISL	16.10	16.10	33.402	24.498	343.3	0.069	5.81	103.4	1.7	0.30	0.0	0.04	0.54	0.26	20
2	21	16.10	16.10	33.402	24.498	343.3	0.072	5.81	103.4	1.7	0.30	0.0	0.04	0.54	0.26	21
2	30	15.84	15.84	33.395	24.551	338.5	0.103	5.72	101.3	2.4	0.36	0.4	0.05	0.71	0.39	30
2	40	13.37	13.36	33.313	25.014	294.5	0.134	5.20	87.5	6.3	0.77	5.2	0.28	0.75	0.38	40
2	50	11.70	11.69	33.378	25.387	259.2	0.162	4.41	71.7	11.9	1.18	12.5	0.33	0.35	0.27	50
2	60	11.00	10.99	33.445	25.566	242.3	0.187	4.02	64.4	15.2	1.36	16.0	0.12	0.25	0.28	60
2	75	10.65	10.64	33.505	25.675	232.3	0.223	3.74	59.5	17.2	1.48	17.4	0.14	0.15	0.25	75
2	85	10.55	10.54	33.536	25.717	228.5	0.246	3.62	57.4	18.2	1.53	18.1	0.11	0.11	0.23	85
2	100	10.36	10.35	33.578	25.783	222.6	0.280	3.50	55.3	19.6	1.60	19.2	0.09	0.07	0.25	100
2	119	10.09	10.08	33.658	25.892	212.6	0.321	3.28	51.6	22.0	1.72	21.0	0.03	0.05	0.22	120
	125 ISL	9.98	9.97	33.698	25.942	208.0	0.334	3.17	49.7	23.1	1.77	21.8	0.03	0.04	0.20	126
2	145	9.63	9.61	33.843	26.113	192.0	0.374	2.77	43.1	27.2	1.92	24.3	0.02	0.03	0.15	146
	150 ISL	9.57	9.55	33.877	26.150	188.6	0.383	2.68	41.7	28.1	1.96	24.8	0.02	0.03	0.15	151
2	174	9.36	9.34	34.006	26.285	176.2	0.427	2.36	36.6	31.8	2.11	26.6	0.02	0.01	0.14	175
	200 ISL	9.14	9.12	34.065	26.367	168.9	0.472	2.21	34.1	34.5	2.19	27.9	0.01	0.01	0.14	201
2	204	9.08	9.06	34.066	26.378	168.0	0.478	2.19	33.7	34.9	2.20	28.1	0.01	0.01	0.14	205
2	234	8.03	8.01	34.010	26.496	156.9	0.527	2.48	37.3	39.5	2.20	29.6	0.01			235
	250 ISL	7.78	7.76	34.030	26.548	152.1	0.552	2.33	34.8	42.6	2.28	30.7	0.01			251
2	269	7.61	7.58	34.064	26.600	147.4	0.580	2.07	30.8	46.5	2.40	32.1	0.00			271
	300 ISL	7.22	7.19	34.076	26.665	141.6	0.625	1.83	27.0	52.0	2.53	34.0	0.00			302
2	324	6.93	6.90	34.075	26.704	138.0	0.659	1.68	24.6	56.0	2.61	35.3	0.00			326
2	389	6.26	6.23	34.087	26.803	129.1	0.746	1.25	18.0	66.5	2.83	38.4	0.00			392
	400 ISL	6.20	6.16	34.095	26.817	127.9	0.760	1.19	17.2	67.6	2.85	38.7	0.00			403
2	453	6.04	6.00	34.146	26.878	122.7	0.826	0.89	12.8	72.2	2.96	39.6	0.00			456
	500 ISL	5.95	5.91	34.209	26.940	117.5	0.883	0.62	8.9	78.3	3.10	40.9	0.00			503
2	522	5.91	5.86	34.239	26.969	'15.0	0.908	0.49	7.0	81.1	3.16	41.5	0.00			526

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	UET	SECCHI/FOREL	CLD AMT TYPE
33 51.0 N	121 50.9 W	23/08/93	1815 UTC	3642 a	3ISO 21 kn	350 06 05	2	1013.0 ab	17.0 C	16.1 C	14a 03	8/8 ST

CAST	DEPTH a	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/L	NO3 uM/I	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0 ISL	17.17	17.17	33.362	24.218	569.2	0.000	5.69	103.4	2.3	0.30	0.1	0.01	0.28	0.07	0
2	1 A	17.17	17.17	33.362	24.218	J69.3	0.004	5.69	103.4	2.3	0.30	0.1	0.01	0.28	0.07	1
2	10 A	17.16	17.16	33.362	24.221	369.3	0.037	5.69	103.4	2.2	0.31	0.1	0.01	0.28	0.07	10
2	18 A	17.17	17.17	33.363	24.220	369.7	0.066	5.68	103.2	2.0	0.30	0.1	0.01	0.28	0.07	18
	20 ISL	17.17	17.17	33.362	24.219	569.8	0.074	5.68	103.2	2.0	0.30	0.1	0.01	0.28	0.07	20
2	27 A	17.15	17.15	33.360	24.223	369.7	0.100	3.68	103.2	2.0	0.30	0.1	0.01	0.27	0.07	27
	30 ISL	16.98	16.98	33.349	24.254	366.8	0.111	5.76	104.3	2.1	0.31	0.1	0.01	0.33	0.10	30
2	38 A	16.17	16.16	33.306	24.409	352.3	0.140	5.96	106.1	2.5	0.34	0.1	0.01	0.52	0.21	38
	50 ISL	14.13	14.12	33.256	24.815	313.8	0.180	5.82	99.4	4.8	0.58	2.2	0.29	0.57	0.49	50
2	51 A	13.95	13.94	33.250	24.847	310.7	0.183	5.81	98.9	5.0	0.60	2.4	0.32	0.22 U	0.96 U	51
2	58	12.98	12.97	33.161	24.975	298.7	0.204	5.56	92.7	6.5	0.70	4.3	0.50	0.61	0.60	58
2	69	12.04	12.03	33.153	25.150	282.3	0.236	5.18	84.7	8.7	0.90	7.9	0.19	0.48	0.44	69
	75 ISL	11.57	11.56	33.173	25.252	272.6	0.253	4.98	80.6	10.1	1.01	9.9	0.10	0.39	0.36	75
2	85	10.81	10.80	33.230	25.433	255.5	0.279	4.65	74.1	12.9	1.20	13.1	0.03	0.23	0.23	85
2	100	9.60	9.59	33.356	25.737	226.7	0.315	4.22	65.5	17.8	1.48	18.0	0.02	0.07	0.09	100
2	120	8.84.	8.83	33.629	26.072	195.2	0.357	3.55	54.3	25.2	1.78	23.0	0.02	0.01	0.05	121
	125 ISL	8.76	8.75	33.662	26.110	191.6	0.367	3.46	52.8	26.2	1.81	23.6	0.02	0.01	0.05	126
2	145	8.59	8.57	33.752	26.208	182.7	0.404	3.20	48.7	29.0	1.89	25.0	0.01	0.01	0.05	146
	150 ISL	8.56	8.54	33.786	26.239	179.9	0.414	3.12	47.4	30.0	1.92	25.4	0.01	0.01	0.05	151
2	172	8.42	8.40	33.922	26.367	168.1	0.452	2.78	42.2	34.3	2.04	27.1	0.01	0.00	0.04	173
	200 ISL	8.12	8.10	33.996	26.471	158.7	0.498	2.52	38.0	38.3	2.14	28.7	0.01	0.00	0.04	201
2	202	8.10	8.08	33.998	26.475	158.3	0.501	2.51	37.8	38.6	2.15	28.8	0.01	0.00	0.04	203
2	233	7.68	7.66	34.016	26.551	151.4	0.549	2.47	36.9	42.4	2.19	30.1	0.01			234
	250 ISL	7.42	7.40	34.012	26.586	148.3	0.574	2.45	36.3	44.6	2.22	30.7	0.01			251
2	272	7.11	7.08	34.009	26.627	144.6	0.606	2.43	35.8	47.8	2.27	31.6	0.01			274
	300 ISL	6.87	6.84	34.035	26.680	139.8	0.646	2.10	30.8	52.8	2.40	33.3	0.01			302
2	326	6.72	6.69	34.070	26.728	135.6	0.682	1.70	24.8	57.7	2.55	34.9	0.01			328
2	389	6.36	6.33	34.162	26.849	124.9	0.764	0.94	13.6	68.9	2.85	37.6	0.00			392
	400 ISL	6.34	6.30	34.181	26.867	123.3	0.778	0.85	12.3	70.4	2.89	37.9	0.00			403
2	452	6.22	6.18	34.261	26.946	116.5	0.840	0.55	7.9	76.8	3.04	38.9	0.00			455
	500 ISL	5.91	5.87	34.287	27.006	111.2	0.895	0.42	6.0	83.1	3.12	40.0	0.00			503
2	524	5.76	5.71	34.301	27.036	108.5	0.921	0.36	5.1	86.2	3.16	40.6	0.00			528

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9308 .STATION 80 80

LATITUDE	LONGITUDE	OAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD ANT	TYPE
33 29.2 N	122 32.4 W	23/08/93	2311 UTC	3995 m	330 22 Icn	330 07 06	2	1013.1 ab	18.1 C	17.2 C	16a 03	8/8	SC

CAST	DEPTH m		TEMP DE6 C	POT TEMP DEG C	SALINITY	SI6NA THETA	SVA	DYN HT mL/l	OXY6EN	OXY PCT	SIO3 uM/I	PO4 uM/L	NO3 uM/L	NO2 uM/l	CHL-A ug/L	PHAEO ug/I	PRESS db
	0	ISL	17.56	17.56	33.258	24.046	385.7	0.000	5.60	102.5	3.0	0.35	0.0	0.00	0.20	0.05	0
2	2		17.56	17.56	33.258	24.046	385.7	0.008	5.60	102.5	3.0	0.35	0.0	0.00	0.20	0.05	2
	10	ISL	17.56	17.56	33.257	24.045	386.1	0.039	5.59	102.3	3.0	0.36	0.0	0.00	0.22	0.05	10
2	11		17.56	17.56	33.257	24.045	386.1	0.042	5.59	102.3	3.0	0.36	0.0	0.00	0.22	0.05	11
2	20		17.53	17.53	33.257	24.053	385.7	0.077	5.60	102.4	2.8	0.35	0.0	0.00	0.20	0.06	20
	30	ISL	16.41	16.41	33.231	24.296	362.8	0.115	5.70	101.9	2.9	0.35	0.0	0.00	0.34	0.11	30
2	31		16.24	16.24	33.229	24.333	359.3	0.118	5.71	101.8	2.9	0.35	0.0	0.00	0.37	0.12	31
2	40		14.46	14.45	33.237	24.731	321.6	0.149	6.05	104.1	3.3	0.51	1.3	0.13	0.82	0.36	40
2	48		12.47	12.46	33.073	25.005	295.5	0.174	5.80	95.6	5.1	0.63	3.2	0.33	0.75	0.52	48
	50	ISL	12.38	12.37	33.093	25.038	292.4	0.179	5.74	94.5	5.4	0.66	3.7	0.40	0.71	0.52	50
2	60		11.93	11.92	33.121	25.145	282.5	0.208	5.41	88.2	7.0	0.84	6.9	0.55	0.48	0.41	60
2	70		11.79	11.78	33.292	25.304	267.6	0.236	4.93	80.2	10.7	1.09	11.4	0.18	0.38	0.34	70
	75	ISL	11.47	11.46	33.334	25.396	258.9	0.249	4.69	75.8	12.4	1.19	13.2	0.14	0.32	0.31	75
2	86		10.60	10.59	33.405	25.606	239.1	0.276	4.18	66.3	16.1	1.39	16.5	0.04	0.20	0.23	86
2	98		9.86	9.85	33.527	25.828	218.2	0.304	3.68	57.5	20.2	1.62	20.1	0.02	0.09	0.14	98
	100	ISL	9.78	9.77	33.537	25.849	216.2	0.308	3.64	56.8	20.7	1.64	20.5	0.02	0.09	0.14	100
2	118		9.31	9.30	33.592 D	25.969	205.1	0.346									119
	125	ISL	9.12	9.11	33.629	26.028	199.5	0.360	3.25	50.0	25.6	1.83	23.7	0.02	0.04	0.10	126
2	144		8.70	8.68	33.738	26.180	185.4	0.397	3.15	48.0	28.0	1.88	24.6	0.02	0.00	0.07	145
	150	ISL	8.66	8.64	33.773	26.213	182.3	0.408	3.02	46.0	29.0	1.92	25.2	0.02	0.00	0.07	151
2	174		8.53	8.51	33.886	26.322	172.4	0.450	2.68	40.7	32.6	2.03	26.9	0.01	0.00	0.07	175
	200	ISL	7.95	7.93	33.919	26.435	161.9	0.494	3.06	45.9	35.0	1.98	26.9	0.02	0.00	0.04	201
2	201		7.93	7.91	33.920	26.439	161.6	0.495	3.07	46.0	35.1	1.98	26.9	0.02	0.00	0.04	202
2	232		7.56	7.54	34.003	26.558	150.7	0.544	2.56	38.1	42.0	2.16	29.8	0.02			233
	250	ISL	7.38	7.36	34.031	26.606	146.4	0.570	2.30	34.1	45.5	2.27	31.1	0.02			251
2	272		7.14	7.11	34.047	26.653	142.2	0.602	2.04	30.1	49.7	2.38	32.5	0.02			274
	300	ISL	6.68	6.65	34.039	26.709	137.0	0.641	1.91	27.8	55.1	2.47	34.1	0.02			302
2	327		6.23	6.20	34.025	26.757	132.5	0.678	1.84	26.5	60.3	2.54	35.4	0.02			329
2	389		5.64	5.61	34.047	26.848	124.3	0.757	1.38	19.6	72.1	2.75	38.3	0.02			391
	400	ISL	5.56	5.53	34.054	26.864	122.9	0.771	1.30	18.5	74.0	2.79	38.8	0.02			403
2	452		5.24	5.20	34.095	26.934	116.5	0.833	0.94	13.2	82.9	2.94	40.8	0.01			455
	500	ISL	4.97	4.93	34.143	27.004	110.2	0.887	0.67	9.4	92.1	3.05	42.1	0.01			S03
2	524		4.83	4.79	34.167	27.039	107.0	0.914	0.53	7.4	96.7	3.11	42.7	0.01			528

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 80 90

LATITUDE	LON6ITUDE	DAY/NO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 8.9 N	123 13.3 W	24/08/93	0524 UTC	4227 a	350 24 kn			1014.1 ab	18.0 C	17.0 C			

CAST	DEPTH a		TEMP DEG C	POT TEMP DEC C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/l	PO4 uM/L	NO3 uM/1	NO2 uM/l	CHL-A ug/1	PHAEO ug/ I	PRESS db
	0	ISL	18.89	18.89	33.401	23.828	406.4	0.000	5.42	101.8	3.2	0.28	0.1	0.00	0.08	0.02	0
2	3		18.89	18.89	33.401	23.828	406.5	0.012	5.42	101.8	3.2	0.28	0.1	0.00	0.08	0.02	3
	10	ISL	18.89	18.89	33.400	23.828	406.8	0.041	5.42	101.8	3.1	0.28	0.1	0.00	0.07	0.03	10
2	16		18.90	18.90	33.400	23.826	407.2	0.065	5.42	101.8	3.0	0.27	0.1	0.00	0.07	0.03	16
	20	ISL	18.90	18.90	33.400	23.826	407.4	0.081	5.42	101.8	3.0	0.27	0.1	0.00	0.07	0.03	20
2	30		18.90	18.89	33.400	23.826	407.7	0.122	5.42	101.8	3.0	0.27	0.1	0.00	0.08	0.02	30
2	39		18.89	18.88	33.399	23.829	407.8	0.159	5.41	101.6	2.7	0.27	0.0	0.00	0.08	0.02	39
2	49		18.58	18.57	33.410	23.915	399.9	0.199	5.48	102.3	2.6	0.27	0.0	0.00	0.10	0.02	49
	50	ISL	18.56	18.55	33.414	23.923	399.2	0.203	5.49	102.5	2.6	0.27	0.0	0.00	0.10	0.02	50
2	60		18.02	18.01	33.424	24.064	386.0	0.242	5.55	102.5	2.7	0.28	0.0	0.00	0.12	0.03	60
2	70		16.33	16.32	33.338	24.398	354.4	0.279	5.88	105.1	2.8	0.28	0.0	0.00	0.14	0.05	70
	75	ISL	16.05	16.04	33.417	24.522	342.6	0.297	5.88	104.5	2.8	0.27	0.0	0.00	0.16	0.06	75
2	80		15.91	15.90	33.500	24.618	333.7	0.314	5.88	104.3	2.7	0.26	0.0	0.00	0.17	0.07	80
2	95		14.93	14.92	33.397	24.755	320.9	0.363	5.82	101.1	2.8	0.30	0.0	0.00	0.19	0.12	95
	100	ISL	14.74	14.73	33.435	24.826	314.4	0.379	5.75	99.6	3.0	0.31	0.1	0.02	0.22	0.18	100
2	108		14.47	14.45	33.511	24.942	303.$	0.404	5.62	96.8	3.4	0.34	0.2	0.06	0.27	0.27	108
2	124		13.66	13.64	33.536	25.130	285.9	0.451	5.31	90.0	4.7	0.52	3.2	0.13	0.20	0.30	125
	125	ISL	13.57	13.55	33.532	25.146	284.5	0.454	5.29	89.5	4.8	0.53	3.4	0.13	0.20	0.29	126
	150	ISL	11.18	11.16	33.436	25.529	248.0	0.520	4.91	78.9	9.8	0.95	10.4	0.02	0.08	0.10	151
2	151		11.08	11.06	33.432	25.544	246.6	0.523	4.90	78.6	10.1	0.97	10.7	0.01	0.08	0.09	152
2	177		9.06	9.04	33.437	25.888	213.8	0.582	4.46	68.4	17.7	1.42	18.0	0.00	0.01	0.04	178
	200	ISL	8.60	8.58	33.538	26.039	199.7	0.630	4.12	62.6	22.2	1.63	21.2	0.00	0.01	0.02	201
2	205		8.58	8.56	33.568	26.066	197.3!	0.640	4.04	61.4	23.1	1.66	21.7	0.00	0.01	0.02	206
2	233		8.24	8.22	33.788	26.290	176.4	0.692	3.44	51.9	29.7	1.87	25.3	0.00			234
	250	ISL	8.08	8.05	33.868	26.377	168.4	0.721	3.27	49.2	32.2	1.93	26.3	0.00			251
2	274		7.83	7.80	33.936	26.467	160.?	0.761	3.15	47.1	35.5	1.98	27.2	0.00			275
	300	ISL	7.37	7.34	33.971	26.561	151.4	0.801	3.02	44.7	41.2	2.07	28.9	0.00			302
2	325		6.94	6.91	33.987	26.633	144.7	0.838	2.85	41.8	47.0	2.18	30.6	0.00			327
2	386		6.48	6.45	34.022	26.723	136.8	0.924	1.97	28.6	56.9	2.52	34.8	0.00			388
	400	ISL	6.37	6.33	34.032	26.745	134.8	0.943	1.79	25.9	59.5	2.59	35.7	0.00			<.02
2	452		5.94	5.90	34.072	26.832	126.9	1.011	1.24	17.8	69.5	2.81	38.7	0.00			<.55
	500	ISL	5.51	5.47	34.100	26.907	120.CI	1.071	0.95	13.5	78.7	2.95	40.3	0.00			503
2	522		5.32	5.28	34.114	26.941	116.8	1.097	0.82	11.6	82.9	3.02	41.1	0.00			525

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 80 100

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 49.0 N	123 54.5 W	24/08/93	1123 UTC	4352 ▪	350 22 kn			1014.5 ab	18.2 C	16.5 C			

CAST	DEPTH ▪	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/L	PO4 uM/l	NO3 uM/L	NO2 uM/L	CHL-A ug/L	PHAEO ug/I	PRESS db
	0 ISL	19.12	19.12	33.473	23.825	406.7	0.000	5.38	101.5	3.1	0.29	0.1	0.00	0.06	0.02	0
2	2	19.12	19.12	33.473	23.825	4CI6.8	0.008	5.38	101.5	3.1	0.29	0.1	0.00	0.06	0.02	2
	10 ISL	19.12	19.12	33.472	23.825	4CI7.1	0.041	5.38	101.5	3.1	0.28	0.1	0.00	0.06	0.02	10
2	15	19.12	19.12	33.471	23.824	407.4	0.061	5.38	101.5	3.0	0.28	0.1	0.00	0.06	0.02	15
	20 ISL	19.12	19.12	33.472	23.825	407.4	0.081	5.38	101.5	2.9	0.28	0.1	0.00	0.06	0.02	20
2	30	19.13	19.12	33.473	23.824	407.9	0.122	5.38	101.5	2.7	0.28	0.1	0.00	0.07	0.02	30
2	40	19.13	19.12	33.474	23.825	408.2	0.163	5.38	101.5	2.9	0.28	0.0	0.01	0.07	0.01	40
	50 ISL	19.11	19.10	33.472	23.829	408.2	0.204	5.38	101.5	2.9	0.28	0.0	0.01	0.07	0.01	50
2	51	19.11	19.10	33.472	23.829	408.2	0.208	5.38	101.5	2.9	0.28	.0.0	0.01	0.07	0.01	51
2	60	17.32	17.31	33.385	24.203	372.8	0.243	5.77	105.1	2.9	0.29	0.0	0.01	0.10	0.05	60
2	71	16.89	16.88	33.385	24.304	363.4	0.284	5.78	104.4	2.8	0.29	0.0	0.01	0.13	0.05	71
	75 ISL	16.78	16.77	33.387	24.332	360.9	0.298	5.78	104.2	2.7	0.29	0.0	0.01	0.14	0.05	75
2	80	16.65	16.64	33.398	24.371	3!S7.3	0.316	5.77	103.8	2.7	0.28	0.0	0.01	0.15	0.06	80
2	95	16.15	16.13	33.538	24.594	336.6	0.368	5.69	101.4	3.1	0.28	0.0	0.01	0.19 A	0.11 A	95
	100 ISL	16.10	16.08	33.600	24.653	331.1	0.385	5.67	101.0	3.3	0.27	0.0	0.01	0.21	0.15	100
2	110	15.84	15.82	33.666	24.762	320.9	0.417	5.62	99.6	3.6	0.26	0.0	0.01	0.25	0.22	110
2	125	14.40	14.38	33.481	24.934	304.7	0.464	5.44	93.6	4.1	0.44	1.1	0.13	0.22	0.22	125
2	149	13.38	13.36	33.649	25.275	272.8	0.534	5.14	86.7	6.3	0.58	4.7	0.03	0.12	0.11	150
	150 ISL	13.3Q	13.28	33.645	25.288	271.5	0.536	5.13	86.3	6.4	0.59	4.9	0.03	0.12	0.11	151
2	174	11.28	11.26	33.516	25.574	244.3	0.598	4.92	79.3	9.8	0.90	9.8	0.01	0.06	0.08	175
	200 ISL	9.30	9.28	33.524	25.918	211.5	0.657	4.53	69.9	17.0	1.30	16.3	0.01	0.02	0.04	201
2	204	9.06	9.04	33.540	25.969	206.6	0.666	4.47	68.6	18.2	1.36	17.2	0.01	0.01	0.03	205
2	234	8.46	8.44	33.782	26.252	180.1	0.724	4.21	63.8	24.1	1.52	20.4	0.01			235
	250 ISL	8.26	8.23	33.856	26.341	171.9	0.752	4.04	61.0	27.0	1.60	21.8	0.01			251
2	273	8.03	8.00	33.920	26.426	164.2	0.791	3.79	57.0	31.1	1.70	23.6	0.01			274
	300 ISL	7.72	7.69	33.963	26.505	157.0	0.834	3.50	52.2	35.7	1.83	25.6	0.01			302
2	328	7.39	7.36	33.982	26.567	151.3	0.877	3.18	47.1	40.5	1.96	27.6	0.01			330
2	388	6.65	6.61	33.998 D	26.682	140.9	0.965									390
	400 ISL	6.54	6.50	34.010	26.706	138.7	0.982	2.13	30.9	55.3	2.37	32.9	0.01			402
2	450	6.14	6.10	34.065	26.801	130.0	1.049	1.45	20.9	65.5	2.64	36.3	0.01			453
	500 ISL	5.82	5.78	34.104	26.873	123.6	1.112	1.07	15.3	73.7	2.81	38.9	0.01			503
2	522	5.68	5.64	34.122	26.904	120.7	1.139	0.90	12.8	77.3	2.89	40.0	0.01			525

A) SECOND FLUOROMETER READING NOT RECORDED, CHLOROPHYLL AND PHAEOPIGMENTS CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 82 47

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 16.4 N	120 1.8 W	22/08/93	2207 UTC	576 ▪	250 08 kn	270 02 07	1	1012.3 ab	18.2 C	17.0 C	13a 03	1/8	ST

CAST	DEPTH a	TEMP DE6 C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/L	NO2 uM/L	CHL-A ug/1	PHAEO ug/ I	PRESS db
	0 ISL	18.00	18.00	33.362	24.019	588.2	0.000									0
2	2 A	18.00	18.00	33.362 D	24.019	288.3	0.008									2
2	10	15.68	15.68	33.349	24.551	2I37.9	0.037	6.32	111.5	1.8	0.28	0.0	0.01	0.51	0.11	10
2	20	13.87	13.87	33.302	24.903	304.6	0.069	6.38	108.5	1.7	0.41	0.0	0.01	0.86	0.54	20
	30 ISL	12.66	12.66	33.320	25.160	280.4	0.098	5.47	90.7	5.9	0.81	5.2	0.22	5.21	2.43	30
2	31	12.56	12.56	33.325	25.183	278.2	0.101	5.35	88.5	6.5	0.86	5.9	0.24	5.49	2.55	31
2	40	11.58	11.57	33.408	25.432	254.6	0.125	4.44	72.0	13.1	1.20	12.4	0.20	0.88	0.69	40
2	50	10.78	10.77	33.516	25.661	233.1	0.149	3.91	62.3	16.9	1.43	16.1	0.08	0.59	0.76	50
2	60	10.10	10.09	33.729	25.944	206.3	0.171	3.12	49.1	23.1	1.75	21.2	0.03	0.26	0.31	60
2	70	9.93	9.92	33.831	26.053	196.2	0.191	2.85	44.7	25.6	1.88	23.0	0.03	0.16	0.26	70
	75 ISL	9.87	9.86	33.863	26.088	193.0	0.201	2.76	43.2	26.4	1.92	23.5	0.03	0.13	0.23	75
2	84	9.76	9.75	33.906	26.140	'88.2	0.218	2.64	41.3	27.7	1.97	24.1	0.02	0.10	0.19	84
2	99	9.51	9.50	33.978	26.238	179.2	0.246	2.44	37.9	30.1	2.05	25.3	0.02	0.06	0.17	100
	100 ISL	9.50	9.49	33.981	26.242	"78.9	0.248	2.43	37.8	30.2	2.05	25.4	0.02	0.06	0.17	101
2	119	9.38	9.37	34.030	26.300	173.7	0.281	2.30	35.7	32.3	2.11	26.3	0.03	0.04	0.17	120
	125 ISL	9.34	9.33	34.039	26.314	172.5	0.292	2.26	35.0	32.8	2.12	26.6	0.03	0.04	0.16	126
2	142	9.24	9.22	34.059	26.346	169.8	0.321	2.17	33.6	34.0	2.16	27.2	0.02	0.03	0.14	143
	150 ISL	9.22	9.20	34.067	26.355	169.1	0.334	2.13	32-9	34.4	2.17	27.4	0.03	0.03	0.13	151
2	173	9.19	9.17	34.088 D	26.377	I67.5	0.373	2.02	31.2	35.4	2.21	27.8	0.07	0.03	0.11	174
	200 ISL	9.12	9.10	34.106	26.403	165.6	0.418	1.87	28.8	36.7	2.26	28.4	0.05	0.02	0.09	201
2	204	9.11	9.09	34.112	26.409	I65.0	0.424	1.84	28.4	37.1	2.27	28.5	0.04	0.02	0.09	205
2	233	8.61	8.59	34.149	26.517	155.2	0.471	1.48	22.6	43.9	2.44	30.7	0.02	0.01	0.08	234
	250 ISL	8.40	8.37	34.154	26.553	151.9	0.497	1.40	21.3	46.5	2.50	31.4	0.01			252
2	273	8.18	8.15	34.154	26.587	149.1	0.532	1.36	20.5	49.3	2.55	31.9	0.01			275
	300 ISL	7.95	7.92	34.160	26.626	145.7	0.571	1.28	19.2	52.3	2.61	32.5	0.01			302
2	327	7.76	7.73	34.166	26.659	142.9	0.610	1.19	17.8	55.1	2.67	33.0	0.01			329
2	386	7.40	7.36	34.177	26.720	137.9	0.693	0.98	14.5	61.4	2.80	34.1	0.02			389
	400 ISL	7.24	7.20	34.183	26.748	135.4	0.712	0.87	12.9	65.3	2.87	34.1	0.02			403
2	450	6.68	6.64	34.209	26.845	126.5	0.778	0.45	6.6	81.2	3.14	33.9	0.01			453
	500 ISL	6.45	6.40	34.222	26.886	123.1	0.840	0.13	1.9	94.0	3.31	31.2	0.01			504
2	520	6.41	6.36	34.225	26.894	122.6	0.865	0.06	0.9	98.0	3.37	29.8	0.01			524
2	551	6.38	6.33	34.228	26.901	122.4	0.903	0.07	1.0	101.9	3.47	28.1	0.05			555
2	568	6.38	6.33	34.229	26.901	122.6	0.924	0.05	0.7	103.4	3.50	27.2	0.10			572
2	572	6.38	6.33	34.229	26.901	122.6	0.929	0.05	0.7	103.7	3.49	27.1	0.11			576
2	576	6.38	6.33	34.229	26.902	122.7	0.933	0.07	1.0	103.9	3.52	26.9	0.12			580
2	577	6.38	6.33	34.228	26.901	122.8	0.935	0.03	0.4	103.8	3.52	27.0	0.12			581

A) SANTA BARBARA BASIN STATION.

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 83 40.6

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	UEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD ANT	TYPE
34 13.4 N	119 24.8 W	22/08/93	150? UTC	33 m	110 09 kn	120 01 05	2	1013.1 ab	18.2 C	16.1 C	13a 03	8/8	ST

CAST	DEPTH m		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SIGMA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SI03 uM/l	PO4 uM/l	NO3 uM/I	NO2 uM/l	CHL-A ug/l	PHAEO ug/I	PRESS db
	0	ISL	18.25	18.25	33.359	23.955	394.3	0.000	5.97	110.7	1.2	0.14	0.0	0.00	0.52	0.11	0
2	2		18.25	18.25	33.359	23.956	394.4	0.008	5.97	110.7	1.2	0.14	0.0	0.00	0.52	0.11	2
2	5		18.06	18.06	33.347	23.993	390.9	0.020	6.10	112.7	1.0	0.14	0.0	0.00	0.50	0.09	5
2	10		16.08	16.08	33.275	24.404	351.8	0.038	6.61	117.5	1.2	0.23	0.0	0.00	0.58	0.14	10
2	20		14.01	14.01	33.251	24.835	311.1	0.071	6.65	113.3	1.5	0.35	0.0	0.01	1.57	0.56	20
2	30		12.68	12.68	33.292	25.134	282.8	0.101	5.36	88.9	7.4	0.81	5.4	0.20	1.84	0.83	30

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 83 42

LATITUDE	LONGITUDE	DAY/NO/YR	CAST TIME	BOTTON	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 10.8 N	119 30.5 W	22/08/93	1846 UTC	127 m	360 0? kn	270 01 06	2	1013.4 ab	17.2 C	15.9 C	13B 03	8/8	ST

CAST	DEPTH •		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SI03 uM/l	PO4 uM/I	NO3 uM/I	NO2 uM/l	CHL-A ug/L	PHAEO ug/L	PRESS db
	0	ISL	19.11	19.11	33.388	23.763	412.7	0.000	5.84	110.1	1.6	0.14	0.3	0.01	0.39	0.08	0
2	1	A	19.11	19.11	33.388	23.763	412.7	0.004	5.84	110.1	1 .,6	0.14	0.3	0.01	0.39	0.08	1
2	8	A	15.83	15.83	33.341	24.511	341.6	0.031	6.30	111.5	1.3	0.21	0.3	0.01	0.90	0.26	8
	10	ISL	15.34	15.34	33.319	24.603	332.9	0.037	6.48	113.5	1.3	0.23	0.3	0.01	0.88	0.28	10
2	16	A	14.44	14.44	33.253	24.746	319.4	0.057	6.86	118.0	1.4	0.28	0.2	0.01	0.85	0.34	16
	20	ISL	13.94	13.94	33.249	24.848	309.8	0.069	6.70	114.0	1.6	0.33	0.3	0.02	1.23	0.44	20
2	24	A	13.47	13.47	33.257	24.950	300.2	0.082	6.55	110.4	2.3	0.41	0.4	0.03	1.58	0.54	24
	30	ISL	12.61	12.61	33.266	25.127	283.4	0.099	5.90	97.7	5.2	0.63	3.2	0.16	1.38	0.57	30
2	35	A	11.96	11.96	33.290	25.270	269.9	0.113	5.28	86.2	8.1	0.85	6.4	0.26	1.01	0.59	35
2	46	A	11.24	11.23	33.406	25.493	249.0	0.142	4.34	69.9	13.6	1.25	13.3	0.13	0.50	0.23	46
	50	ISL	11.01	11.00	33.434	25.556	243.1	0.152	4.19	67.1	14.6	1.32	14.6	0.09	0.46	0.23	50
2	55		10.79	10.78	33.461	25.616	237.4	0.164	4.08	65.1	15.5	1.37	15.6	0.06	0.42	0.24	55
2	64		10.62	10.61	33.499	25.676	232.0	0.185	3.88	61.6	16.8	1.45	16.6	0.07	0.42	0.22	64
2	75		10.52	10.51	33.566	25.745	225.6	0.210	3.64	57.7	18.5	1.54	18.2	0.02	0.15	0.17	75
2	85		10.35	10.34	33.626	25.822	218.5	0.232	3.42	54.1	19.9	1.62	19.2	0.02	0.09	0.15	85
2	95		10.20	10.19	33.701	23.906	210.7	0.254	3.19	50.3	22.0	1.71	20.8	0.02	0.08	0.13	95
	100	ISL	10.16	10.15	33.721	25.929	208.7	0.264	3.13	49.3	22.5	1.73	21.2	0.02	0.07	0.12	101
2	122		9.96	9.95	33.810	26.032	199.3	0.309	2.89	45.3	24.7	1.83	22.7	0.02	0.03	0.10	123

A> PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 52.6 N	120 8.4 W	22/08/93	0816 UTC	103 m	060 06 kn			1011.9 ab	15.5 C	15.0 C			

CAST	DEPTH •		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SI03 uM/I	PO4 uM/L	NO3 uM/L	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	a	ISL	16.08	16.08	33.341	24.455	346.7	0.000	5.78	102.8	5.3	0.47	2.1	0.06	1.40	0.48	0
2	2		16.08	16.08	33.341	24.455	346.8	0.007	5.78	102.8	5.3	0.47	2.1	0.06	1.40	0.48	2
2	10		15.66	15.66	33.348	24.555	337.5	0.034	5.65	99.6	5.8	0.52	2.7	0.07	1.40	0.55	10
2	20		12.49	12.49	33.296	25.174	278.8	0.065	5.29	87.4	8.8	0.83	6.9	0.18	0.99	0.54	20
2	30		12.17	12.17	33.385	25.304	266.6	0.092	4.77	78.3	11.5	1.02	10.0	0.17	1.14	0.55	30
2	41		11.45	11.44	33.412	25.459	252.1	0.121	4.41	71.3	13.5	1.19	12.7	0.16	0.63	0.49	41
2	50		10.94	10.93	33.546	25.656	233.6	0.143	3.82	61.1	17.8	1.43	16.5	0.11	0.50	0.38	50
2	60		10.45	10.44	33.572	25.762	223.7	0.166	3.64	57.6	19.2	1.53	18.3	0.06	0.21	0.25	60
2	75		10.32	10.31	33.662	25.855	215.2'	0.199	3.36	53.1	21.4	1.64	19.8	0.06	0.18	0.21	75
2	92		10.12	10.11	33.759	25.965	205.1	0.234	2.98	46.9	24.0	1.77	21.7	0.04	0.09	0.15	92

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 83 55

LATITUDE	LONGITUDE	DAY/NO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	T PE
33 44.7 N	120 24.6 W	22/08/93	0428 UTC	955 a	340 '17 kn			1011.9 ab	15.8 C	15.3 C			

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SI6MA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	S103 uM/l	PO4 uM/l	NO3 uM/I	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	13.74	15.74	33.291	24.493	343.I	0.000	6.01	106.1	4.2	0.35	0.0	0.02	3.19	0.81	0
2	2		15.74	15.74	33.291	24.493	343.;?	0.007	6.01	106.1	4.2	0.35	0.0	0.02	3.19	0.81	2
2	10		15.73	15.73	33.292	24.496	343.I	0.034	6.03	106.5	4.0	0.33	0.0	0.02	3.00	0.87	10
2	19		15.01	15.01	33.307	24.666	327.I	0.064	5.65	98.3	5.5	0.51	2.0	0.07	2.04	0.64	19
	20	ISL	14.95	14.95	33.311	24.682	325.6	0.068	5.61	97.5	5.7	0.53	2.3	0.07	2.03	0.64	20
2	29		14.31	14.31	33.344	24.844	310.4	0.096	5.26	90.3	8.1	0.74	5.6	0.11	1.90	0.72	29
	30	ISL	14.18	14.18	33.347	24.874	307.6	0.099	5.23	89.5	8.3	0.76	5.9	0.11	1.88	0.72	30
2	39		12.99	12.98	33.374	25.137	282.3	0.126	4.98	83.2	10.2	0.90	8.3	0.14	1.58	0.70	39
2	50		11.94	11.93	33.414	25.370	260.5	0.156	4.55	74.3	13.3	1.13	11.9	0.14	1.00	0.57	50
2	60		10.59	10.58	33.318	25.696	230.3	0.180	3.87	61.5	18.2	1.47	17.2	0.07	0.37	0.31	60
2	71		10.36	10.35	33.571	25.777	222.5	0.205	3.68	58.2	19.7	1.56	18.6	0.04	0.24	0.25	71
	75	ISL	10.26	10.25	33.595	25.813	219.2	0.214	3.59	56.6	20.4	1.60	19.2	0.03	0.20	0.23	75
2	85		10.02	10.01	33.658	25.903	210.3	0.236	3.35	52.6	22.2	1.70	20.6	0.02	0.13	0.18	85
2	100		9.74	9.73	33.756	26.026	199.3	0.266	3.05	47.6	25.1	1.82	22.5	0.01	0.05	0.14	101
2	121		9.43	9.42	33.832	26.137	189.2	0.307	2.90	45.0	27.8	1.89	24.0	0.01	0.03	0.11	122
	125	ISL	9.43	9.42	33.872	26.168	186.3	0.315	2.79	43.3	28.7	1.93	24.4	0.01	0.03	0.10	126
2	146		9.40	9.38	34.059	26.320	172.4	0.352	2.24	34.8	32.9	2.11	26.5	0.01	0.01	0.08	147
	150	ISL	9.39	9.3?	34.070	26.330	171.5	0.359	2.23	34.6	33.2	2.12	26.6	0.01	0.01	0.08	151
2	174		9.27	9.25	34.092	26.367	168.4	0.400	2.14	33.1	34.6	2.16	27.2	0.01	0.01	0.08	175
	200	ISL	9.02	9.00	34.156	26.458	160.3	0.443	1.82	28.0	38.3	2.31	28.7	0.01	0.01	0.06	201
2	204		8.98	8.96	34.166	26.472	159.0	0.449	1.76	27.1	39.0	2.33	29.0	0.01	0.01	0.06	205
2	234		8.72	8.70	34.210	26.548	152.3	0.496	1.45	22.2	43.2	2.46	30.6	0.01			235
	250	ISL	8.60	8.5?	34.222	26.576	149.9	0.520	1.38	21.1	44.7	2.50	31.0	0.01			251
2	272		8.42	8.39	34.232	26.612	146.8	0.553	1.31	19.9	46.7	2.54	31.4	0.01			274
	300	ISL	8.09	8.06	34.242	26.670	141.7	0.593	1.14	17.2	51.1	2.64	32.7	0.00			302
2	326		7.77	7.74	34.249	26.723	136.9	0.629	0.98	14.7	55.2	2.73	33.9	0.00			328
2	387		7.30	7.26	34.248	26.790	131.3	0.711	0.84	12.4	60.8	2.83	35.4	0.00			390
	400	ISL	7.22	7.18	34.249	26.802	130.3	0.728	0.81	12.0	61.9	2.85	35.7	0.00			403
2	453		6.93	6.89	34.256	26.848	126.5	0.796	0.69	10.1	66.4	2.92	36.8	0.00			456
	500	ISL	6.66	6.61	34.270	26.896	122.4	0.855	0.56	8.2	70.7	3.00	37.8	0.00			503
2	521		6.54	6.49	34.277	26.918	120.6	0.880	0.50	7.3	72.6	3.03	38.2	0.00			525

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 83 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	UEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 34.7 N	120 45.7 U	22/08/93	0006 UTC	1439 •	300 17 kn	320 05 08	2	1012.9 ab	16.8 C	16.1 C	12a 04	8/8	ST

CAST	DEPTH •		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/I	PO4 uM/L	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	15.99	15.99	33.313	24.453	346.8	0.000	5.99	106.3	1.7	0.29	0.0	0.01	1.32	0.44	0
2	2		15.99	15.99	33.313	24.453	346.9	0.007	5.99	106.3	1.7	0.29	0.0	0.01	1.32	0.44	2
2	10		15.98	15.98	33.313	24.456	346.9	0.035	6.00	106.5	1.6	0.29	0.0	0.01	1.39	0.51	10
2	19		15.95	15.95	33.313	24.463	346.5	0.066	6.01	106.6	1.5	0.28	0.0	0.01	1.35	0.58	19
	20	ISL	15.95	15.95	33.314	24.464	346.5	0.069	6.00	106.4	1.5	0.28	0.0	0.01	1.30	0.57	20
2	30		15.90	15.90	33.321	24.481	345.2	0.104	5.86	103.8	1.7	0.33	0.0	0.02	0.84	0.41	30
2	39		15.85	15.84	33.322	24.493	344.3	0.135	5.82	103.0	1.7	0.33	0.0	0.02	0.94	0.43	39
2	49		14.64	14.63	33.333	24.767	318.4	0.168	5.42	93.6	5.3	0.58	2.9	0.17	0.88	0.47	49
	50	ISL	14.32	14.31	33.337	24.838	311.7	0.171	5.31	91.1	6.1	0.64	3.9	0.18	0.84	0.47	50
2	60		11.22	11.21	33.454	25.534	245.4	0.199	4.20	67.6	14.7	1.28	14.1	0.29	0.37	0.45	60
2	68		10.31	10.30	33.542	25.763	222.7	0.218	3.69	58.2	19.4	1.55	18.6	0.05	0.17	0.24	68
	75	ISL	9.83	9.82	33.586	25.878	815!.9	0.233	3.53	55.2	21.5	1.65	20.2	0.04	0.10	0.19	75
2	82		9.54	9.53	33.620	25.953	205.9	0.248	3.47	53.9	22.7	1.69	20.8	0.03	0.07	0.15	82
2	98		9.20	9.19	33.733	26.096	19!!.5	0.280	3.16	48.7	26.1	1.82	23.0	0.02	0.02	0.12	98
	100	ISL	9.18	9.17	33.739	26.104	191.8	0.284	3.15	48.6	26.3	1.83	23.1	0.02	0.02	0.12	100
2	120		9.06	9.05	33.800	26.171	18!i.8	0.321	3.05	46.9	27.7	1.87	23.5	0.02	0.02	0.08	121
	125	ISL	9.04	9.03	33.836	26.203	18!!.9	0.331	2.95	45.4	28.7	1.90	24.0	0.02	0.02	0.08	126
2	148		8.96	8.94	34.014	26.355	168.9	0.371	2.41	37.0	33.9	2.09	26.5	0.01	0.00	0.07	149
	150	ISL	8.96	8.94	34.025	26.364	16(1.2	0.374	2.37	36.4	34.2	2.11	26.6	0.01	0.00	0.07	151
2	172		8.93	8.91	34.121	26.444	1611.0	0.411	1.97	30.3	37.6	2.27	27.9	0.01	0.00	0.06	173
	200	ISL	8.80	8.78	34.206	26.532	15:1.2	0.455	1.54	23.6	41.7	2.44	30.6	0.01	0.00	0.06	201
2	202		8.79	8.77	34.210	26.536	15.!.8	0.458	1.51	23.1	42.0	2.45	30.8	0.01	0.00	0.06	203
2	234		8.47	8.45	34.231	26.603	147.0	0.506	1.29	19.6	46.4	2.57	31.7	0.03			235
	250	ISL	8.23	8.20	34.216	26.628	144.8	0.529	1.31	19.8	48.0	2.59	32.2	0.02			251
2	275		7.86	7.83	34.192	26.664	141.6	0.565	1.36	20.4	50.6	2.61	33.1	0.01			277
	300	ISL	7.62	7.59	34.209	26.713	137.3	0.600	1.18	17.6	54.4	2.70	34.1	0.01			302
2	334		7.36	7.33	34.244	26.778	131.6	0.645	0.87	12.9	59.7	2.83	35.5	0.01			336
2	387		6.95	6.91	34.261	26.849	12:5.4	0.713	0.65	9.5	65.9	2.95	37.1	0.01			390
	400	ISL	6.84	6.80	34.260	26.863	124.2	0.730	0.62	9.1	67.5	2.97	37.5	0.01			403
2	452		6.43	6.39	34.257	26.916	117.6	0.793	0.54	7.8	73.8	3.03	38.8	0.01			455
	500	ISL	6.21	6.17	34.284	26.966	115.3	0.849	0.44	6.4	78.1	3.09	39.5	0.01			503
2	522		6.11	6.06	34.297	26.989	113.3	0.875	0.39	5.6	80.0	3.12	39.8	0.01			526

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 15.4 N	121 27.7 W	21/08/93	1851 UTC	3805 •	320 18 kn	350 06 08	2	1015.2 ab	19.2 C	17.2 C	21a 02	8/8	ST

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SI6HA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uH/I	PO4 uM/I	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	17.23	17.23	33.080	23.988	391.2	0.000	5.68	103.1	3.4	0.34	0.1	0.00	0.17	0.05	0
2	3	A	17.23	17.23	33.080	23.988	391.3	0.012	5.68	103.1	3.4	0.34	0.1	0.00	0.17	0.05	3
2	10		17.23	17.23	33.080	23.988	391.5	0.039	5.67	103.0	3.1	0.34	0.1	0.00	0.15	0.05	10
2	15	A	17.22	17.22	33.080	23.991	391.4	0.059	5.68	103.1	3.0	0.33	0.1	0.00	0.16	0.05	15
	20	ISL	16.68	16.68	33.057	24.100	381.2	0.078	5.83	104.7	3.1	0.34	0.1	0.00	0.20	0.07	20
2	26	A	15.84	15.84	33.032	24.272	364.9	0.100	6.04	106.7	3.2	0.35	0.1	0.00	0.26	0.11	26
	30	ISL	15.51	15.51	33.033	24.346	358.0	0.115	6.07	106.5	3.2	0.36	0.1	0.00	0.29	0.12	30
2	40	A	14.71	14.70	33.039	24.325	341.2	0.150	6.16	106.4	3.1	0.38	0.1	0.00'	0.36	0.17	40
	50	ISL	13.36	13.35	33.013	24.784	316.7	0.183	5.95	99.9	4.0	0.49	1.1	0.14	0.40	0.27	50
2	55	A	12.79	12.78	33.014	24.898	305.9	0.198	5.81	96.4	4.5	0.54	1.7	0.-22	0.42	0.31	55
2	63		12.61	12.60	33.059	24.968	299.5	0.222	5.67	93.7	5.1	0.58	2.7	0.30	0.36	0.31	63
2	71	A	12.61	12.60	33.228	25.099	287.2	0.246	5.34	88.4	6.0	0.64	4.4	0.05	0.25	0.27	71
	75	ISL	12.24	12.23	33.242	25.181	279.5	0.257	5.20	85.4	7.0	0.73	5.9	0.05	0.21	0.25	75
2	84		11.20	11.19	33.231	25.365	262.0	0.282	4.93	79.2	9.7	0.97	9.7	0.04	0.15	0.20	84
2	100		10.28	10.27	33.298	25.578	242.0	0.322	4.57	72.0	13.5	1.24	14.2	0.01	0.08	0.10	100
2	119		9.44	9.43	33.404	25.801	2<!1.0	0.366	4.10	63.4	19.0	1.56	19.4	0.00	0.03	0.05	120
	125	ISL	9.21	9.20	33.447	25.871	214.4	0.379	4.00	61.6	20.4	1.62	20.4	0.00	0.02	0.04	126
2	145		8.61	8.59	33.597	26.083	194.5	0.420	3.75	57.0	24.5	1.75	22.7	0.00	0.00	0.03	146
	150	ISL	8.52	8.50	33.630	26.123	190.9	0.430	3.69	56.0	25.4	1.77	23.2	0.00	0.00	0.03	151
2	175		8.25	8.23	33.775	26.278	176.5	0.475	3.44	51.9	29.4	1.87	25.2	0.00	0.00	0.03	176
	200	ISL	8.10	8.08	33.890	26.391	166.2	0.518	3.23	48.6	33.1	1.94	26.6	0.00	0.00	0.03	201
2	206		8.07	8.05	33.915	26.415	164.1	0.528	3.15	47.4	34.1	1.96	27.0	0.00	0.00	0.03	207
2	234		7.85	7.83	34.025	26.534	1!>3.2	0.573	2.40	36.0	41.3	2.22	30.3	0.00			235
	250	ISL	7.71	7.69	34.044	26.569	150.0	0.597	2.32	34.6	43.7	2.28	31.2	0.00			251
2	272		7.49	7.46	34.045	26.602	147.2	0.630	2.20	32.7	46.3	2.33	31.9	0.00			274
	300	ISL	7.10	7.07	34.042	26.655	142.4	0.670	2.04	30.0	50.8	2.43	33.3	0.00			302
2	326		6.70	6.67	34.037	26.705	137.8	0.707	1.87	27.3	55.6	2.53	34.8	0.00			328
2	387		5.86	5.83	34.059	26.831	126.1	0.787	1.33	19.0	69.5	2.79	38.6	0.00			389
	400	ISL	5.78	5.75	34.076	26.854	124.0	0.803	1.21	17.3	71.9	2.84	39.2	0.00			403
2	452		5.55	5.51	34.148	26.940	116.3	0.866	0.80	11.4	80.5	3.01	40.9	0.00			455
	500	ISL	5.29	5.25	34.171	26.989	112.0	0.921	0.61	8.6	87.0	3.08	42.0	0.00			503
2	524		5.16	5.12	34.183	27.014	109.8	0.947	0.52	7.3	90.3	3.12	42.5	0.00			528

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 55.3 N	122 8.0 W	21/08/93	1150 UTC	4178 a	340 20 kn			1015.5 ab	16.9 C	16.2 C			

CAST	DEPTH ▪	TEMP DE6 C	POT TEMP DE6 C	SALINITY	SIGMA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uH/L	NO2 uH/L	CHL-A ug/l	PHAEO ug/l	PRESS db
	0 ISL	17.13	17.13	33.006	23.955	394.4	0.000	5.67	102.7	2.5	0.32	0.1	0.01	0.22	0.06	0
2	2	17.13	17.13	33.006	23.955	394.4	0.008	5.67	102.7	2.5	0.32	0.1	0.01	0.22	0.06	2
	10 ISL	17.09	17.09	33.011	23.968	393.4	0.039	5.69	103.0	2.5	0.33	0.1	0.01	0.24	0.07	10
2	15	17.06	17.06	33.016	23.979	392.5	0.059	5.70	103.1	2.5	0.33	0.1	0.01	0.25	0.08	15
	20 ISL	17.06	17.06	33.017	23.980	392.6	0.079	5.70	103.1	2.5	0.33	0.1	0.01	0.26	0.08	20
	30 ISL	17.05	17.05	33.019	23.985	392.5	0.118	5.71	103.3	2.6	0.33	0.1	0.01	0.28	0.08	30
2	31	17.05	17.04	33.019	23.985	392.5	0.122	5.71	103.3	2.6	0.33	0.1	0.01	0.28	0.08	31
2	40	17.05	17.04	33.018	23.984	392.9	0.157	5.72	103.5	2.5	0.33	0.1	0.00	0.26	0.08	40
2	50	16.98	16.97	33.016	24.000	391.7	0.196	5.72	103.3	2.5	0.33	0.1	0.01	0.25	0.09	50
2	61	15.98	15.97	33.203	24.373	356.4	0.238	5.94	105.3	2.7	0.29	0.1	0.00	0.25	0.01	61
2	70	15.02	15.01	33.249	24.621	333.0	0.269	5.95	103.5	2.7	0.29	0.1	0.00	0.18	0.09	70
	75 ISL	14.80	14.79	33.252	24.671	328.4	0.285	5.94	102.9	2.7	0.30	0.1	0.00	0.19	0.11	75
2	80	14.60	14.59	33.234	24.700	325.7	0.301	5.92	102.1	2.8	0.32	0.1	0.00	0.20	0.13	80
2	95	13.08	13.07	33.071	24.886	308.2	0.349	5.81	97.0	3.4	0.41	0.4	0.06	0.35	0.34	95
	100 ISL	12.89	12.88	33.117	24.959	301.3	0.364	5.63	93.7	4.1	0.48	1.7	0.05	0.32	0.32	100
2	110	12.54	12.53	33.254	25.134	284.9	0.394	5.25	86.8	6.0	0.66	5.0	0.03	0.23	0.22	110
2	125	11.16	11.14	33.383	25.491	251.0	0.434	4.94	79.3	9.2	0.91	9.5	0.01	0.11	0.12	126
2	146	10.02	10.00	33.395	25.699	231.5	0.484	4.78	74.9	12.8	1.13	13.2	0.01	0.05	0.07	147
	150 ISL	9.88	9.86	33.419	25.741	227.5	0.494	4.60	71.9	14.3	1.22	14.6	0.01	0.04	0.06	151
2	177	9.14	9.12	33.625	26.023	201.1	0.551	3.40	52.3	24.6	1.78	23.2	0.00	0.01	0.04	178
	200 ISL	8.39	8.37	33.768	26.251	179.5	0.595	3.33	50.4	29.0	1.85	25.1	0.00	0.00	0.02	201
2	206	8.21	8.19	33.802	26.305	174.5	0.606	3.31	49.9	29.9	1.87	25.3	0.00	0.00	0.02	207
2	234	7.78	7.76	33.942	26.479	158.)	0.652	3.06	45.7	36.6	1.99	27.6	0.00			235
	250 ISL	7.55	7.53	33.975	26.538	152.9	0.677	2.91	43.3	39.9	2.06	28.7	0.00			251
2	274	7.24	7.21	33.994	26.597	147.IS	0.713	2.68	39.6	44.4	2.16	30.3	0.00			275
	300 ISL	6.94	6.91	34.009	26.650	142./	0.751	2.39	35.0	49.2	2.28	32.1	0.00			502
2	326	6.66	6.63	34.017	26.695	138.7	0.788	2.10	30.6	54.1	2.41	33.9	0.00			528
2	393	5.97	5.94	34.053	26.813	128.0	0.877	1.40	20.1	67.4	2.72	37.9	0.00			395
	400 ISL	5.90	5.87	34.056	26.824	126.9	0.886	1.36	19.5	68.7	2.74	38.2	0.00			402
2	453	5.43	5.39	34.081	26.901	119.9	0.951	1.09	15.4	77.9	2.88	40.2	0.00			456
	500 ISL	5.20	5.16	34.122	26.961	114.5	1.006	0.79	11.1	85.1	2.99	41.6	0.00			S03
2	522	5.09	5.05	34.141	26.989	112.0	1.031	0.65	9.1	88.4	3.04	42.2	0.00			.'25

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 83 90

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 34.5 N	122 48.7 W	21/08/93	0549 UTC	4267 ▪	360 21 kn			1017.3 ab	17.1 C	16.8 C			

CAST	DEPTH a	TEMP DEG C	POT TEMP DE6 C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/I	NO3 uM/I	NO2 uM/L	CHL-A ug/l	PHAEO ug/l	PRESS db
	0 ISL	18.58	18.58	33.191	23.745	414.3	0.000	5.46	101.8	3.0	0.28	0.0	0.00	0.08	0.02	0
2	2	18.58	18.58	33.191	23.745	414.4	0.008	5.46	101.8	3.0	0.28	0.0	0.00	0.08	0.02	2
	10 ISL	18.58	18.58	33.190	23.745	414.7	0.041	5.46	101.8	3.0	0.28	0.0	0.00	0.08	0.01	10
2	15	18.58	18.58	33.190	23.745	414.9	0.062	5.46	101.8	2.9	0.28	0.0	0.00	0.08	0.01	15
	20 ISL	18.58	18.58	33.193	23.748	414.8	0.083	5.46	101.8	2.8	0.28	0.0	0.00	0.08	0.01	20
2	30	18.58	18.57	33.199	23.753	414.7	0.124	5.47	102.0	2.7	0.28	0.0	0.00	0.08	0.02	30
2	40	18.64	18.63	33.331	23.839	406.8	0.165	5.47	102.2	2.8	0.28	0.0	0.00	0.09	0.03	40
2	50	18.43	18.42	33.367	^3.919	399.5	0.206	5.52	102.7	2.7	0.28	0.0	0.00	0.10	0.03	50
2	58	18.29	18.28	33.375	23.960	395.9	0.238	5.52	102.5	2.8	0.29	0.0	0.00	0.11	0.04	58
2	69	17.16	17.15	33.372	24.231	370.3	0.280	5.73	104.1	2.6	0.29	0.0	0.00	0.15	0.05	69
	75 ISL	16.64	16.63	33.392	24.368	357.4	0.302	5.83	104.8	2.6	0.29	0.0	0.00	0.16	0.06	75
2	80	16.30	16.29	33.418	24.467	348.2	0.319	5.89	105.2	2.7	0.28	0.0	0.00	0.16	0.06	80
2	94	15.90	15.89	33.533	24.646	331.5	0.367	5.83	103.4	2.7	0.25	0.0	0.00	0.20	0.08	94
	100 ISL	15.46	15.44	33.491	24.712	325.3	0.387	5.80	101.9	2.7	0.26	0.0	0.00	0.21	0.14	100
2	109	14.76	14.74	33.412	24.804	316.7	0.415	5.73	99.2	2.7	0.29	0.0	0.00	0.23	0.23	109
2	124	14.17	14.15	33.418	24.934	304.7	0.462	5.58	95.5	3.6	0.37	0.4	0.16	0.28	0.26	124
	125 ISL	14.10	14.08	33.423	24.952	302.9	0.465	5.56	95.0	3.7	0.38	0.6	0.16	0.27	0.26	125
	150 ISL	12.02	12.00	33.530	25.448	255.9	0.535	5.02	82.2	7.S	0.78	7.5	0.04	0.10	0.11	151
2	152	11.82	11.80	33.539	25.492	251.7	0.540	4.97	81.0	8.3	0.82	8.2	0.02	0.08	0.09	153
2	174	9.79	9.77	33.496	25.816	220.8	0.592	4.58	71.4	14.8	1.24	15.0	0.00	0.02	0.04	175
	200 ISL	9.15	9.13	33.604	26.005	203.2	0.647	4.49	69.1	17.9	1.37	17.4	0.00	0.01	0.02	201
2	203	9.14	9.12	33.621	26.020	201.9	0.653	4.48	68.9	18.2	1.37	17.5	0.00	0.01	0.02	204
2	235	8.42	8.40	33.796	26.269	178.5	0.714	3.97	60.2	25.5	1.62	22.2	0.00			236
	250 ISL	8.27	8.24	33.868	26.349	171.2	0.740	3.67	55.4	28.7	1.73	24.0	0.00			251
2	272	8.11	8.08	33.950	26.437	163.1	0.777	3.25	48.9	33.2	1.88	26.3	0.00			273
	300 ISL	7.70	7.67	33.995	26.533	134.3	0.821	2.93	43.7	38.8	2.03	28.5	0.00			302
2	324	7.33	7.30	34.010	26.598	148.4	0.858	2.71	40.1	43.6	2.14	30.1	0.00			326
2	387	6.63	6.59	34.044	26.721	137.2	0.948	1.85	26.9	56.2	2.50	35.1	0.00			389
	400 ISL	6.50	6.46	34.054	26.746	134.9	0.965	1.69	24.5	58.8	2.57	36.0	0.00			402
2	454	5.99	5.95	34.097	26.845	125.7	1.036	1.13	16.2	69.7	2.81	39.1	0.00			457
	500 ISL	5.54	5.50	34.124	26.922	118.6	1.092	0.86	12.2	78.8	2.94	40.9	0.00			502
2	520	5.35	5.31	34.136	26.955	115.6	1.115	0.74	10.5	82.7	3.00	41.7	0.00			523

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 83 100

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 15.1 N	123 29.8 W	20/08/93	2321 UTC	4139 •	360 20 kn	360 05 05	1	1018.0 ab	20.1 C	17.5 C	31a 01	3/8	SC

CAST	DEPTH a		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/L	OXY PCT	SIO3 uH/I	PO4 uM/I	NO3 uM/I	NO2 uM/l	CHL-A ug/t	PHAEO ug/L	PRESS db
	0	ISL	18.81	18.81	33.457	23.891	400.4	0.000	5.43	101.9	3.0	0.29	0.1	0.00	0.07	0.01	0
2	2		18.81	18.81	33.457	23.891	400.5	0.008	5.43	101.9	3.0	0.29	0.1	0.00	0.07	0.01	2
	10	ISL	18.80	18.80	33.456	23.893	400.6	0.040	5.42	101.7	2.9	0.29	0.1	0.00	0.07	0.01	10
2	16		18.80	18.80	33.456	23.894	400.8	0.064	5.42	101.7	2.8	0.29	0.1	0.00	0.07	0.01	16
	20	ISL	18.77	18.77	33.455	23.901	400.2	0.080	5.43	101.8	2.8	0.29	0.1	0.00	0.07	0.01	20
2	30		18.70	18.69	33.452	23.916	399.1	0.120	5.44	101.8	2.7	0.29	0.1	0.00	0.07	0.02	30
2	40		18.69	18.68	33.451	23.918	399.3	0.160	5.44	101.8	2.5	0.29	0.1	0.00	0.07	0.01	40
	50	ISL	18.69	18.68	33.451	23.919	399.6	0.200	5.44	101.8	2.5	0.28	0.1	0.00	0.07	0.02	50
2	51		18.69	18.68	33.451	23.919	399.6	0.204	5.44	101.8	2.5	0.28	0.1	0.00	0.07	0.02	51
2'	61		18.65	18.64	33.450	23.929	399.1	0.244	5.42	101.3	2.4	0.28	0.1	0.00	0.08	0.02	61
2	71		18.27	18.26	33.407	23.990	393.5	0.283	5.51	102.3	2.4	0.27	0.1	0.00	0.12	0.03	71
	75	ISL	18.05	18.04	33.390	24.031	389.7	0.299	5.58	103.1	2.4	0.28	0.1	0.00	0.12	0.04	75
2	77		17.93	17.92	33.381	24.054	387.6	0.307	5.61	103.4	2.4	0.28	0.1	0.00	0.12	0.04	77
2	94		16.31	16.30	33.260	24.343	360.3	0.371	5.81	103.7	2.5	0.30	0.1	0.00	0.16	0.05	94
	100	ISL	15.97	15.95	33.301	24.452	350.1	0.392	5.77	102.3	2.5	0.31	0.1	0.00	0.19	0.11	100
2	109		15.58	15.56	33.376	24.597	336.5	0.423	5.68	100.0	2.6	0.32	0.1	0.00	0.23	0.21	109
2	124		15.03	15.01	33.389	24.728	324.4	0.472	5.59	97.3	2.9	0.36	0.3	0.08	0.28	0.25	124
	125	ISL	15.01	14.99	33.393	24.736	323.7	0.476	5.58	97.1	2.9	0.36	0.3	0.08	0.28	0.25	125
	150	ISL	14.03	14.01	33.465	25.000	299.1	0.553	5.31	90.6	4.2	0.51	2.5	0.02	0.15	0.14	151
2	151		13.98	13.96	33.467	25.012	298.0	0.556	5.30	90.4	4.3	0.52	2.7	0.02	0.14	0.13	152
2	176		11.61	11.59	33.407	25.429	258.2	0.626	4.89	79.3	9.1	0.93	9.7	0.01	0.06	0.08	177
	200	ISL	9.67	9.65	33.481	25.825	220.5	0.683	4.34	67.5	16.6	1.37	16.9	0.00	0.02	0.04	201
2	205		9.36	9.34	33.510	25.898	213.5	0.694	4.22	65.2	18.3	1.45	18.3	0.00	0.01	0.03	206
2	237		8.69	8.66	33.767	26.205	184.7	0.758	3.58	54.6	26.1	1.74	23.1	0.00			238
	250	ISL	8.49	8.46	33.848	26.300	176.0	0.781	3.39	51.5	28.9	1.82	24.4	0.00			251
2	273		8.21	8.18	33.957	26.428	164.1	0.820	3.13	47.2	33.5	1.92	26.1	0.00			274
	300	ISL	7.93	7.90	34.009	26.511	156.6	0.864	2.90	43.5	37.6	2.02	27.7	0.00			302
2	329		7.64	7.61	34.026	26.566	151.6	0.908	2.64	39.3	42.0	2.14	29.4	0.00			331
2	386		6.92	6.88	34.068	26.701	139.3	0.991	1.85	27.1	54.5	2.50	33.6	0.00			388
	400	ISL	6.76	6.72	34.082	26.733	136.3	1.011	1.65	24.1	57.8	2.59	34.7	0.00			402
2	452		6.24	6.20	34.135	26.844	126.1	1.079	1.01	14.6	68.9	2.86	38.1	0.00			455
	500	ISL	5.96	5.92	34.172	26.909	120.4	1.138	0.75	10.8	75.5	2.98	39.4	0.00			503
2	523		5.82	5.77	34.191	26.942	117.4	1.165	0.62	8.9	78.7	3.04	40.0	0.00			526

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 83 110

LATITUDE	LON6ITUDE	OAY/HO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 55.3 N	124 10.2 W	20/08/93	1826 UTC	4190 a	020 16 kn	360 05 08	2	1019.0 ab	19.1 C	17.0 C	36a 01	8/8	ST

CAST	DEPTH a		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/L	OXY PCT	SIO3 uH/1	PO4 uM/1	NO3 uM/1	NO2 uM/l	CHL-A ug/1	PHAEO ug/ I	PRESS db
	0	ISL	18.80	18.80	33.462	23.898	399.8	0.000	5.42	101.7	2.8	0.29	0.0	0.00	0.03	0.01	0
2	1	A	18.80	18.80	33.462	23.898	399.8	0.004	5.42	101.7	2.8	0.29	0.0	0.00	0.03	0.01	1
	10	ISL	18.77	18.77	33.463	23.906	399.3	0.040	5.44	102.0	2.8	0.28	0.0	0.00	0.03	0.00	10
2	14		18.76	18.76	33.463	23.909	399.2	0.056	5.45	102.1	2.8	0.28	0.0	0.00	0.03	0.00	14
	20	ISL	18.76	18.76	33.462	23.908	399.5	0.080	5.45	102.1	2.6	0.28	0.0	0.00	0.03	0.01	20
2	24	A	18.76	18.76	33.461	23.908	399.7	0.096	5.45	102.1	2.5	0.28	0.0	0.00	0.03	0.01	24
	30	ISL	18.68	18.67	33.451	23.921	398.7	0.120	5.47	102.4	2.5	0.28	0.0	0.00	0.05	0.01	30
2	43	A	18.36	18.35	33.419	23.976	393.9	0.171	5.52	102.6	2.5	0.28	0.0	0.00	0.09	0.02	43
2	49		18.16	18.15	33.405	24.015	390.4	0.195	5.55	102.8	2.5	0.28	0.0	0.00	0.10	0.02	49
	50	ISL	18.15	18.14	33.405	24.017	390.2	0.199	5.55	102.8	2.5	0.28	0.0	0.00	0.10	0.02	50
2	61		18.06	18.05	33.405	24.040	388.4	0.242	5.55	102.6	2.4	0.28	0.0	0.00	0.10	0.05	61
2	69	A	17.94	17.93	33.394	24.061	386.6	0.273	5.59	103.1	2.3	0.29	0.0	0.00	0.14	0.05	69
	75	ISL	17.32	17.31	33.385	24.203	373.2	0.295	5.71	104.0	2.4	0.28	0.0	0.00	0.17	0.06	75
2	78		16.97	16.96	33.383	24.284	365.5	0.306	5.77	104.4	2.5	0.28	0.0	0.00	0.18	0.07	78
2	96	A	16.06	16.04	33.395	24.504	345.1	0.370	5.77	102.6	2.4	0.30	0.0	0.00	0.21	0.12	96
	100	ISL	15.94	15.92	33.403	24.537	3420	0.384	5.74	101.8	2.4	0.30	0.0	0.00	0.22	0.14	100
2	109		15.73	15.71	33.433	24.608	335.6	0.415	5.66	100.0	2.4	0.30	0.0	0.00	0.17 U	0.12 U	109
	125	ISL	15.51	15.49-	33.561	24.756	321,9	0.467	5.59	98.4	2.6	0.32	0.0	0.09	0.25	0.25	125
2	127	A	15.47	15.45	33.577	24.777	320 0	0.474	5.58	98.1	2.6	0.32	0.0	0.10	0.25	0.25	127
2	149		14.48	14.46	33.597	25.007	298 5	0.542	5.33	91.9	3.9	0.46	2.1	0.07	0.17	0.14	150
	150	ISL	14.40	14.38	33.592	25.021	297,2	0.545	5.32	91.6	4.0	0.47	2.3	0.07	0.17	0.14	151
2	172		12.50	12.48	33.471	25.311	269 7	0.607	5.08	84.0	6.8	0.76	6.9	0.01	0.09	0.10	173
	200	ISL	10.19	10.17	33.422	25.692	233 3	0.677	4.60	72.3	13.6	1.23	14.5	0.00	0.04	0.05	201
2	203		9.98	9.96	33.428	25.732	229 5	0.684	4.54	71.1	14.5	1.28	15.3	0.00	0.03	0.05	204
2	233		8.70	8.68	33.679	26.135	191.3	0.748	4.00	60.9	23.1	1.61	21.1	0.00			234
	250	ISL	8.42	8.39	33.806	26.277	178 0	0.779	3.70	56.1	27.1	1.73	23.2	0.00			251
2	270		8.26	8.23	33.924	26.394	167 2	0.813	3.38	51.1	31.3	1.85	25.1	0.00			271
	300	ISL	7.89	7.86	34.000	26.509	156 7	0.862	3.00	45.0	37.5	2.02	27.6	0.00			302
2	327		7.56	7.53	34.023	26.575	150 7	0.904	2.68	39.9	42.9	2.17	29.5	0.00			329
2	387		6.91	6.87	34.074	26.707	138 7	0.990	1.85	27.1	54.8	2.52	33.9	0.00			389
	400	ISL	6.77	6.73	34.081	26.731	136 5	1.008	1.71	25.0	57.3	2.58	34.7	0.00			402
2	451		6.28	6.24	34.108	26.818	128 6	1.076	1.24	17.9	66.7	2.79	37.6	0.00			454
	500	ISL	5.96	5.92	34.154	26.895	121 7	1.137	0.87	12.5	74.6	2.95	39.4	0.00			503
2	523		5.81	5.76	34.176	26.931	118 4	1.165	0.70	10.0	78.3	3.02	40.3	0.00			526

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 87 33

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 53.4 N	118 29.3 W	18/08/93	0202 UTC	56 •	040 04 kn	100 01 05	1	1011.2 ab	21.1 C	18.9 C	12a 02	5/8 SC

CAST	DEPTH •	TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SI03 uH/L	PO4 uM/l	NO3 uM/L	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0 ISL	19.68	19.68	33.286	23.539	434.9	0.000	5.79	110.3	2.8	0.29	0.1	0.00	0.43	0.15	0
2	2	19.68	19.68	33.286	23.539	434.1	0.009	5.79	110.3	2.8	0.29	0.1	0.00	0.43	0.15	2
2	6	19.62	19.62	33.282	23.552	433.0	0.026	5.80	110.4	2.6	0.30	0.0	0.00	0.47	0.15	6
2	9	19.44	19.44	33.281	23.597	428.II	0.039	5.84	110.7	2.5	0.29	0.0	0.01	0.48	0.16	9
	10 ISL	19.14	19.14	33.273	23.668	422.1	0.043	5.90	111.3	2.6	0.30	0.0	0.01	0.47	0.16	10
2	20	15.31	15.31	33.226	24.538	339.3	0.081	6.32	110.6	4.6	0.38	0.0	0.01	0.35	0.15	20
2	30	13.07	13.07	33.181	24.972	298.3	0.113	5.50	91.9	II.0	0.95	4.0	0.35	1.18	0.27	30
2	40	12.17	12.16	33.267	25.213	275.3	0.142	4.76	78.1	10.8	1.14	8.9	0.78	0.93	0.25	40
2	50	11.42	11.41	33.381	25.441	254.0	0.168	4.19	67.7	14.3	1.32	13.7	0.49	0.25	0.27	50

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 87 35

LATITUDE	LON6ITUDE	DAY/NO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 49.2 N	118 37.6 W	18/08/93	0416 UTC	657 •	310 11 kn			1011.1 ab	18.9 C	18.1 C		

CAST	DEPTH •	TEMP DES C	POT TEMP DE6 C	SALINITY	SIGMA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SI03 uM/l	PO4 uM/l	NO3 uM/L	NO2 uM/l	CHL-A ug/l	PHAEO ug/L	PRESS db
	0 ISL	20.52	20.52	33.382	23.392	448.0	0.000	5.59	108.2	3.9	0.28	0.1	0.00	0.22	0.05	0
2	1	20.52	20.52	33.382	23.392	448.1	0.004	5.59	108.2	3.9	0.28	0.1	0.00	0.22	0.05	1
2	10	19.98	19.98	33.360	23.518	436.4	0.044	5.62	107.7	3.7	0.28	0.1	0.00	0.25	0.05	10
2	19	16.16	16.16	33.235	24.356	356.8	0.080	6.26	111.4	4.2	0.36	0.0	0.00	0.37	0.14	9
	20 ISL	15.92	15.92	33.228	24.405	352.1	0.084	6.32	111.9	4.3	0.36	0.0	0.00	0.57	0.22	20
2	30	14.27	14.27	33.192	24.735	320.8	0.117	6.62	113.4	4.9	0.41	0.2	0.02	2.40	0.93	.10
2	40	12.92	12.91	33.246	25.052	290.9	0.148	6.18	103.0	5.6	0.51	0.9	0.05	1.97	.0.85	4.0
2	49	11.92	11.91	33.310	25.293	268.1	0.173	4.91	80.1	9.8	1.00	9.4	0.36	0.90	0.66	49
	50 ISL	11.84	11.83	33.315	25.312	266.3	0.176	4.84	78.9	10.2	1.03	9.9	0.35	0.83	0.65	50
2	39	11.29	11.28	33.374	25.459	252.5	0.199	4.38	70.6	13.3	1.22	13.0	0.18	0.41	0.52	59
2	69	10.73	10.72	33.509	25.664	233.2	0.223	3.81	60.7	17.1	1.44	16.8	0.05	0.14	0.21	69
	75 ISL	10.60	10.59	33.544	25.714	228.5	0.237	3.66	58.1	18.2	1.50	17.7	0.05	0.13	0.19	75
2	85	10.50	10.49	33.586	25.765	224.0	0.260	3.49	55.3	19.5	1.57	18.6	0.05	0.10	0.17	85
2	99	10.21	10.20	33.717	25.917	209.8	0.290	3.08	48.6	22.6	1.72	21.0	0.01	0.04	0.13	99
	100 ISL	10.20	10.19	33.725	25.925	209.0	0.292	3.06	48.2	22.8	1.73	21.1	0.01	0.04	0.13	100
2	119	10.00	9.99	33.828	26.040	198.5	0.331	2.80	44.0	25.2	1.84	22.8	0.02	0.02	0.07	120
	125 ISL	9.89	9.88	33.835	26.063	196.4	0.343	2.85	44.7	25.5	1.84	22.9	0.02	0.02	0.07	126
2	144	9.50	9.48	33.838	26.131	190.3	0.379	3.06	47.5	26.2	1.81	23.1	0.01	0.01	0.05	145
	150 ISL	9.37	9.35	33.840	26.154	188.2	0.391	3.03	46.9	26.7	1.82	23.4	0.01	0.01	0.05	151
2	172	9.05	9.03	33.884	26.240	180.4	0.431	2.93	45.1	29.2	1.91	24.9	0.02	0.01	0.06	175
	200 ISL	9.23	9.21	34,072	26.359	169.8	0.480	2.27	35.1	33.5	2.12	26.8	0.03	0.01	0.06	201
2	202	9.25	9.23	34.086	26.366	169.1	0.484	2.22	34.3	33.8	2.13	26.9	0.03	0.01	0.06	203
2	233	9.08	9.05	34.159	26.451	161.6	0.535	1.90	29.3	36.9	2.25	28.3	0.07			234
	250 ISL	9.02	8.99	34.194	26.488	158.4	0.562	1.74	26.8	38.8	2.32	29.0	0.05			25'
2	273	8.92	8.89	34.234	26.536	154.3	0.598	1.53	23.5	41.4	2.41	29.8	0.02			27.':
	300 ISL	8.75	8.72	34.267	26.589	149.8	0.639	1.27	19.4	44.6	2.52	30.8	0.02			302'
2	328	8.51	8.48	34.285	26.641	145.3	0.681	1.05	16.0	47.9	2.61	31.8	0.01			330
2	386	7.80	7.76	34.269	26.735	136.9	0.762	0.91	13.6	54.7	2.72	33.7	0.00			388
	400 ISL	7.64	7.60	34.267	26.757	134.9	0.781	0.86	12.8	56.5	2.75	34.3	0.00			403
2	450	7.13	7.09	34.268	26.830	128.3	0.847	0.68	10.0	63.5	2.88	36.2	0.01			453
	500 ISL	6.67	6.62	34.279	26.902	121.9	0.910	0.54	7.9	70.8	2.98	37.6	0.01			503
2	521	6.48	6.43	34.285	26.932	119.1	0.935	0.48	7.0	73.9	3.02	38.2	0.01			525

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 87 40

LATITUDE	LON6ITUDE	DAY/HO/YR	CAST TIME	BOTTOM	WIND SPEI-D	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 39.4 N	118 58.6 W	18/08/93	0802 UTC	748 •	230 02 kn			1011.1 ab	17.9 C	17.1 C		

CAST	DEPTH a	TEMP DE6 C	POT TEMP DES C	SALINITY	SI6MA THETA	SVA	HYN HT	OXY6EN al/l	OXY PCT	SI03 uM/I	PO4 uM/L	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0 ISL	20.32	20.32	33.406	23.464	441.2	0.000	5.42	104.6	3.5	0.27	0.0	0.01	0.19	0.06	0
2	1	20.32	20.32	33.406	23.464	441.3	0.004	5.42	104.6	3.5	0.27	0.0	0.01	0.19	0.06	1
2	10	19.13	19.13	33.349	23.728	416.3	0.043	5.57	105.1	3.6	0.32	0.0	0.01	0.18	0.06	10
2	20	13.81	13.81	33.154	24.801	314.2	0.080	6.11	103.7	4.8	0.48	0.9	0.05	0.51	0.17	20
2	30	12.64	12.64	33.211	25.079	288.0	0.110	5.47	90.6	7.4	0.76	5.6	0.21	0.66	0.35	30
2	40	11.97	11.96	33.287	25.266	270.5	0.138	5.01	81.8	9.5	0.97	9.2	0.20	0.57	0.39	40
2	50	11.68	11.67	33.315	25.342	263.5	0.164	4.82	78.3	10.7	1.06	10.7	0.12	0.52	0.40	50
2	61	11.17	11.16	33.392	25.495	249.1	0.192	4.40	70.7	13.3	1.24	13.7	0.06	0.28	0.25	61
2	70	10.52	10.51	33.431	25.640	235.5	0.214	4.19	66.4	15.8	1.38	16.0	0.03	0.25	0.27	70
	75 ISL	10.34	10.33	33.446	25.683	231.5	3.226	4.12	65.0	16.5	1.42	16.7	0.03	0.21	0.24	75
2	85	10.13	10.12	33.482	25.747	225.6	0.249	3.99	62.7	17.7	1.48	17.7	0.03	0.13	0.17	85
2	100	9.73	9.72	33.592	25.900	211.3	0.282	3.62	56.4	21.1	1.64	20.0	0.02	0.05	0.09	100
2	125	9.53	9.52	33.721	26.034	199.1	0.333	3.29	51.1	24.2	1.75	21.9	0.01	0.02	0.06	126
2	144	9.26	9.24	33.882	26.204	183.3	0.369	2.83	43.7	28.5	1.93	24.4	0.01	0.01	0.05	145
	150 ISL	9.20	9.18	33.903	26.230	180.9	0.380	2.77	42.8	29.2	1.96	24.8	0.01	0.01	0.05	151
2	174	8.98	8.96	33.952	26.304	174.3	0.423	2.61	40.1	31.7	2.03	26.0	0.01	0.00	0.05	175
	200 ISL	8.73	8.71	34.053	26.423	163.5	0.467	2.29	35.0	35.9	2.16	27.7	0.01	0.00	0.05	201
2	204	8.69	8.67	34.069	26.442	161.8	CI.473	2.24	34.2	36.6	2.18	28.0	0.01	0.00	0.05	205
2	233	8.51	8.49	34.140	26.525	154.3	0.519	1.87	28.5	41.1	2.32	29.6	0.01			234
	2J0 ISL	8.37	8.34	34.154	26.558	151.5	0.545	1.77	26.9	43.0	2.37	30.3	0.01			251
2	273	8.20	8.17	34.169	26.596	148.3	C.579	1.64	24.8	45.3	2.43	31.0	0.02			275
	300 ISL	8.15	8.12	34.226	26.648	143.8	0.619	1.29	19.5	48.6	2.56	31.9	0.02			302
2	328	8.09	8.06	34.281	26.701	139.3	0.659	0.93	14.0	52.2	2.70	32.9	0.01			330
2	387	7.44	7.40	34.279	26.795	130.9	0.738	0.73	10.8	59.7	2.84	35.1	0.01			390
	400 ISL	7.30	7.26	34.276	26.812	129.4	0.755	0.70	10.4	61.5	2.87	35.6	0.01			403
2	452	6.77	6.73	34.270	26.881	123.2	0.821	0.59	8.6	68.8	2.96	37.4	0.01			455
	500 ISL	6.42	6.37	34.286	26.940	118.0	0.879	0.46	6.7	74.9	3.05	38.4	0.01			503
2	521	6.27	6.22	34.294	26.966	115.7	0.903	0.41	5.9	77.5	3.09	38.9	0.01			525

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 87 45

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AHT TYPE
33 29.5 N	119 19.1 W	18/08/93	1211 UTC	1639 •	270 08 kn			1011.1 ab	17.2 C	16.5 C		

CAST	DEPTH •		TEMP DEC C	POT TEMP DEC C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	S103 uM/I	PO4 uH/I	NO3 uH/l	NO2 uH/l	CHL-A ug/I	PHAEO ug/l	PRESS db
	0	ISL	18.42	18.42	33.323	23.886	400.9	0.000	5.65	105.1	3.6	0.32	0.0	0.01	0.24	0.09	0
2	2		18.42	18.42	33.323	23.886	401.1)	0.008	5.65	105.1	3.6	0.32	0.0	0.01	0.24	0.09	2
2	10		18.10	18.10	33.313	23.957	394.5	0.040	5.71	105.6	3.6	0.32	0.0	0.00	0.25	0.10	10
	20	ISL	14.29	14.29	33.274	24.794	314.9	0.075	6.08	104.2	5.6	0.50	1.5	0.06	0,95	0.35	20
2	21		13.87	13.87	33.280	24.886	306.;!	0.078	6.09	103.5	5.9	0.53	1.7	0.07	1.02	0.38	21
2	30		12.33	12.33	33.308	25.214	275.2	0.105	5.22	85.9	9.4	0.89	7.9	0.27	1.12	0.44	30
2	40		11.19	11.19	33.383	25.484	249.7	0.131	4.47	71.9	13.3	1.22	13.3	0.16	0.46	0.43	40
2	50		10.84	10.83	33.421	25.576	241.1	0.155	4.28	68.3	14.7	1.31	14.8	0.08	0.35	0.31	50
2	60		10.66	10.65	33.427	25.612	237.9	0.179	4.21	66.9	15.1	1.35	15.4	0.05	0.25	0.26	60
2	70		10.26	10.25	33.522	25.756	224.4	0.202	3.89	61.3	111.1	1.49	17.8	0.04	0.13	0.16	70
	75	ISL	10.11	10.10	33.574	25.822	218.5	0.213	3.74	58.8	19.4	1.55	18.8	0.03	0.09	0.13	75
2	85		9.86	9.85	33.675	25.943	206.9	0.235	3.45	54.0	21.8	1.67	20.5	0.02	0.05	0.09	85
2	100		9.57	9.56	33.803	26.091	193.1	0.265	3.08	47.9	25.5	1.82	22.8	0.02	0.02	0.08	101
2	120		9.29	9.28	33.873	26.192	184.1)	0.302	2.88	44.5	28.1	1.91	24.2	0.02	0.01	0.06	121
	125	ISL	9.24	9.23	33.896	26.218	181.6	0.312	2.81	43.4	2».9	1.94	24.6	0.02	0.01	0.06	'126
2	144		9.05	9.03	33.984	26.317	172. $	0.345	2.52	38.8	32.2	2.06	26.3	0.01	0.00	0.06	I45
	150	ISL	8.97	8.95	34.009	26.350	169.5	0.356	2.44	37.5	33.3	2.09	26.8	0.01	0.00	0.06	151
2	174		8.69	8.67	34.094	26.461	159.1	0.395	2.15	32.8	37.7	2.22	28.5	0.02	0.00	0.06	175
	200	ISL	8.51	8.49	34.150	26.533	153.0	0.436	1.85	28.2	41.4	2.35	29.8	0.04	0.00	0.05	201
2	205		8.49	8.47	34.158	26.542	152.2	0.443	1.79	27.2	42.0	2.37	30.0	0.04	0.00	0.05	206
2	234		8.39	8.37	34.197	26.588	148.J	0.487	1.46	22.2	45.5	2.50	31.0	0.14			235
	250	ISL	8.36	8.33	34.233	26.621	145.5	0.510	1.30	19.7	47.1	2.56	31.5	0.12			251
2	274		8.28	8.25	34.279	26.670	141.3	0.545	1.10	16.7							276
	300	ISL	8.09	8.06	34.282	26.701	138.7	0.581	0.98	14.8	52.2	2.71	32.9	0.05			302
2	327		7.83	7.80	34.267	26.728	136.5	0.618	0.91	13.6	54.9	2.77	33.7	0.01			329
2	387		7.15	7.11	34.254	26.816	128.7	0.698	0.77	11.4	62.4	2.87	35.8	0.01			390
	400	ISL	7.06	7.02	34.256	26.830	127.5	0.714	0.74	10.9	63.7	2.89	36.1	0.01			403
2	453		6.74	6.70	34.271	26.886	122.5	0.781	0.59	8.6	69.4	2.98	37.4	0.01			456
	500	ISL	6.32	6.27	34.293	26.959	116.1	0.837	0.45	6.5	77.1	3.08	38.7	0.00			:i03
2	522		6.12	6.07	34.304	26.994	112.9	0.862	0.38	5.5	80.7	3.13	39.3	0.00			S26

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 87 50

LATITUDE	LON6ITUDE	DAY/NO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT T"PE
33 19.5 N	119 40.2 W	18/08/93	1846 UTC	78 •	310 08 kn	280 04 06	2	1011.2 ab	17.0 C	16.2 C	16B O2	8/8 ST

CAST	DEPTH •		TEMP DEG C	POT TEMP DE6 C	SALINITY	SIGMA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	S1O3 uH/1	PO4 uM/l	NO3 uM/1	NO2 uM/l	CHL-A ug/l	PHAEO ug/I	PRESS (lb
	0	ISL	17.56	17.56	33.309	24.085	382.0	0.000	5.62	102.9	4.0	0.37	0.0	0.00	0.29	0.09	0
2	1	A	17.56	17.56	33.309	24.085	382.0	0.004	5.62	102.9	4.0	0.37	0.0	0.00	0.29	0.09	1
	10	ISL	17.50	17.50	33.309	24.099	380.9	0.038	5.61	102.5	3.8	0.36	0.0	0.00	0.32	0.09	10
2	11	A	17.49	17.49	33.309	24.102	380.7	0.042	5.61	102.5	3.8	0.36	0.0	0.00	0.32	0.09	11
2	20	A	17.11	17.11	33.330	24.209	370.il	0.076	5.75	104.3	3.6	0.36	0.0	0.01	1.25	0.41	20
2	25		15.37	15.37	33.365	24.632	330.5	0.093	5.89	103.3	5.4	0.46	1.3	0.06	1.60	0.60	25
	30	ISL	12.24	12.24	33.389	25.294	267.6	0.108	4.98	81.9	10.8	0.97	9.5	0.17	0.97	0.50	30
2	31	A	11.64	11.64	33.404 D	25.418	255.!!	0.111	4.76	77.3	12.0	1.08	11.3	0.19	0.81	0.46	31
2	43	A	11.15	11.14	33.472	25.560	242.5	0.141	4.21	67.7	15.4	1.30	15.0	0.14	0.44	0.34	43
2	50		10.67	10.66	33.492	25.661	233.0	0.157	4.10	65.2	16.5	1.37	16.0	0.10	0.34	0.30	50
2	58	A	9.94	9.93	33.585	25.859	214.4	0.175	3.67	57.5	20.4	1.59	19.8	0.05	0.09	0.20	58
2	64		9.93	9.92	33.586	25.861	214.?	0.188	3.66	57.3	20.6	1.61	19.9	0.04	0.11	0.14	64
2	73		9.92	9.91	33.590	25.866	214.0	0.207	3.64	57.0	21.0	1.61	20.0	0.04	0.11	0.16	73

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 87 55

LATITUDE	LON6ITUDE	DAY/HO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AHT TVPE
33 9.7 N	120 0.7 W	18/08/93	2123 UTC	1179 a	310 18 kn	320 05 05	2	1011.2 ab	17.1 C	16.2 C		8/8 !iC

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	S [O3 uH/1	PO4 uM/l	NO3 uM/1	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS (lb
	0	ISL	17.98	17.98	33.343	24.009	389.?	0.000	5.57	102.8	4.1	0.37	0.0	0.00	0.29	0.09	0
2	2		17.98	17.98	33.343	24.009	389.?	0.008	5.57	102.8	4.1	0.37	0.0	0.00	0.29	0.09	2
2	10		17.98	17.98	33.342	24.009	389.5	0.039	5.56	102.6	3.8	0.36	0.0	0.00	0.30	0.08	10
	20	ISL	17.98	17.98	33.347	24.013	389.5	0.078	5.57	102.8	3.7	0.36	0.0	0.00	0.30	0.09	20
2	21		17.98	17.98	33.347	24.013	389.5	0.082	5.57	102.8	3.7	0.36	0.0	0.00	0.30	0.09	21
2	30		17.39	17.39	33.349	24.157	376.I	0.116	5.67	103.4	4.0	0.36	0.3	0.00	0.78	0.19	30
2	40		12.84	12.83	33.439	25.217	275.2	0.149	5.05	84.1	10.7	0.92	8.8	0.21	1.22	0.63	40
2	50		10.93	10.92	33.486	25.611	237.9	0.174	4.14	66.2	16.1	1.35	15.8	0.19	0.64	0.41	50
2	60		10.08	10.07	33.576	25.828	217.3	0.197	3.61	56.7	20.8	1.62	20.2	0.05	0.19	0.25	60
2	69		9.70	9.69	33.637	25.939	206.9	0.216	3.40	53.0	23.0	1.72	21.9	0.04	0.09	0.14	69
	75	ISL	9.52	9.51	33.676	26.000	201.3	0.229	3.29	51.1	24.4	1.77	22.7	0.04	0.05	0.11	75
2	83		9.34	9.33	33.726	26.068	194.9	0.244	3.18	49.2	26.0	1.83	23.6	0.04	0.03	0.09	83
2	98		9.05	9.04	33.816	26.185	184.1	0.273	3.00	46.1	211.6	1.91	25.0	0.02	0.01	0.07	98
	100	ISL	9.02	9.01	33.828	26.199	182.il	0.276	2.97	45.6	29.0	1.92	25.2	0.02	0.01	0.07	100
2	119		8.81	8.80	33.919	26.304	173.?	0.310	2.75	42.1	32.0	2.01	26.7	0.01	0.01	0.09	120
	125	ISL	8.74	8.73	33.933	26.326	171.?	0.321	2.75	42.0	32.5	2.02	26.9	0.01	0.01	0.08	126
2	143		8.54	8.53	33.960	26.378	166.5	0.351	2.74	41.7	33.9	2.04	27.3	0.01	0.00	0.06	144
	150	ISL	8.46	8.44	33.968	26.397	164.9	0.363	2.72	41.3	34.5	2.05	27.4	0.01	0.00	0.06	151
2	174		8.22	8.20	34.006	26.463	158.9	0.401	2.65	40.0	37.3	2.11	28.3	0.01	0.00	0.05	175
	200	ISL	8.03	8.01	34.087	26.556	150.6	0.442	2.17	32.7	43.1	2.29	30.5	0.00	0.01	0.04	i!01
2	204		8.01	7.99	34.100	26.569	149.4	0.448	2.09	31.4	44.0	2.32	30.9	0.00	0.01	0.04	205
2	234		8.02	8.00	34.158	26.613	145.IS	0.492	1.68	25.3	46.8	2.45	32.1	0.00			;!35
	250	ISL	8.00	7.97	34.190	26.642	143.4	0.515	1.45	21.8	48.7	2.54	32.7	0.00			251
2	275		7.97	7.94	34.237	26.683	139.9	0.551	1.14	17.1	51.6	2.66	33.5	0.01			277
	300	ISL	7.85	7.82	34.247	26.709	137.IS	0.585	1.03	15.4	53.5	2.71	34.1	0.01			302
2	329		7.65	7.62	34.244	26.736	135.6	0.625	0.99	14.8	55.8	2.74	34.7	0.01			3(31
2	386		7.16	7.12	34.257	26.817	128.6	0.700	0.78	11.5	62.8	2.86	36.5	0.00			2189
	400	ISL	7.04	7.00	34.259	26.835	127.0	0.718	0.75	11.0	64.5	2.89	36.9	0.00			403
2	452		6.60	6.56	34.266	26.901	121.?	0.783	0.64	9.3	711.1	3.00	38.5	0.00			455
	500	ISL	6.24	6.20	34.282	26.961	115.9	0.840	0.52	7.5	77.6	3.07	39.7	0.00			!03
2	521		6.08	6.03	34.289	26.987	113.5	0.864	0.47	6.8	80.5	3.10	40.2	0.00			!25

RV HEW HORIZON CALCOFI CRUISE 9308 STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIKE	BOTTOM	WIND SPEED	WAVES UEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 59.5 N	120 21.4 W	19/08/93	0318 UTC	710 •	320 19 kn	330 06 06	1010.8 «b	16.9 C	15.9 C		

CAST	DEPTH •		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	17.41	17.41	33.399	24.190	372.0	0.000	5.65	103.2	6.5	0.37	0.1	0.01	0.64	0.25	0
2	3		17.41	17.41	33.399	24.190	372.1	0.011	5.65	103.2	6.5	0.37	0.1	0.01	0.64	0.25	3
2	10		17.42	17.42	33.400	24.188	372.4	0.037	5.64	103.0	5.7	0.39	0.1	0.01	0.67	0.24	10
2	19		16.59	16.59	33.373	24.363	356.1	0.070	5.62	101.0	5.7	0.43	0.7	0.05	0.95	0.43	19
	20	ISL	16.38	16.38	33.368	24.408	351.8	0.074	5.60	100.2	5.9	0.45	1.0	0.07	0.94	0.43	20
2	30		14.07	14.07	33.360	24.907	304.5	0.106	5.24	89.5	7.5	0.73	5.1	0.33	0.72	0.34	30
2	38		12.65	12.64	33.422	25.241	272.9	0.129	4.71	78.1	13.0	1.03	10.3	0.48	0.60	0.40	38
2	48		10.90	10.89	33.440	25.580	240.7	0.155	4.20	67.1	16.8	1.36	16.3	0.15	0.26	0.26	48
	50	ISL	10.78	10.77	33.455	25.613	237.6	0.160	4.13	65.8	17.3	1.39	16.8	0.14	0.26	0.26	50
2	58		10.54	10.53	33.517	25.703	229.2	0.179	3.90	61.9	18.9	1.45	18.1	0.08	0.24	0.25	58
2	70		9.99	9.98	33.576	25.844	216.1	0.205	3.56	55.8	21.7	1.63	20.4	0.05	0.13	0.19	70
	75	ISL	9.86	9.85	33.395	25.880	212.7	0.216	3.48	54.4	22.3	1.68	20.9	0.05	0.11	0.18	75
2	86		9.63	9.62	33.640	25.954	205.9	0.239	3.35	52.1	23.7	1.76	21.9	0.05	0.08	0.16	86
2	98		9.25	9.24	33.715	26.074	194.6	0.263	3.20	49.4	26.6	1.82	23.8	0.02	0.04	0.11	98
	100	ISL	9.22	9.21	33.729	26.090	193.2	0.267	3.16	48.7	27.0	1.83	24.0	0.02	0.04	0.11	100
2	119		8.99	8.98	33.848	26.220	181.2	0.303	2.85	43.8	30.5	1.95	25.5	0.02	0.01	0.09	120
	125	ISL	8.89	8.88	33.876	26.258	177.7	0.313	2.81	43.1	31.4	1.97	26.0	0.02	0.01	0.09	126
2	142		8.61	8.60	33.939	26.351	169.1	0.343	2.73	41.6	33.8	2.02	27.1	0.01	0.01	0.08	143
	150	ISL	8.55	8.53	33.959	26.376	166.9	0.356	2.70	41.1	34.5	2.04	27.4	0.01	0.01	0.08	151
2	174		8.38	8.36	34.008	26.441	161.1	0.396	2.55	38.7	37.1	2.11	28.2	0.01	0.01	0.07	175
	200	ISL	8.03	8.01	34.067	26.540	152.1	0.436	2.24	33.7	42.4	2.25	30.0	0.01	0.01	0.06	201
2	204		7.98	7.96	34.076	26.554	150.8	0.442	2.19	32.9	43.2	2.27	30.3	0.01	0.01	0.06	205
2	236		7.89	7.87	34.122	26.604	146.6	0.490	1.86	27.9	46.5	2.40	31.6	0.01			237
	250	ISL	7.81	7.79	34.141	26.631	144.3	0.510	1.69	25.3	48.5	2.46	32.2	0.01			251
2	276		7.64	7.61	34.174	26.682	139.8	0.547	1.39	20.7	52.4	2.58	33.4	0.01			278
	300	ISL	7.51	7.48	34.205	26.725	136.0	0.580	1.13	16.8	55.8	2.69	34.3	0.01			302
2	326		7.38	7.35	34.232	26.765	132.6	0.615	0.91	13.5	59.2	2.79	35.2	0.01			328
2	384		7.05	7.01	34.256	26.831	127.1	0.691	0.72	10.6	64.5	2.89	36.5	0.01			38/
	400	ISL	6.92	6.88	34.258	26.851	125.4	0.711	0.67	9.8	66.4	2.92	37.0	0.01			403
2	451		6.50	6.46	34.265	26.913	119.9	0.773	0.53	7.7	72.6	3.01	38.5	0.01			454
	500	ISL	6.24	6.20	34.285	26.963	115.6	0.831	0.43	6.2	77.6	3.07	39.5	0.01			50!!
2	522		6.13	6.08	34.294	26.984	113.8	0.856	0.38	5.5	79.8	3.10	39.9	0.01			526

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 39.4 N	121 2.3 W	19/08/93	0915 UTC	3739 •	330 15 kn		1011.2 ab	17.0 C	16.0 C		

CAST	DEPTH •		TEMP DE6 C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	»YN HT	OXYGEN al/l	OXY PCT	SIO3 uM/1	PO4 uM/l	NO3 uM/L	NO2 uM/L	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	17.09	17.09	33.309	24.197	371.3	0.000	5.65	102.5	2.8	0.31	0.0	0.01	0.34	0.13	0
2	2		17.09	17.09	33.309	24.197	371.4	0.007	5.65	102.5	2.8	0.31	0.0	0.01	0.34	0.13	2
	10	ISL	17.09	17.09	33.309	24.197	371.6	0.037	5.65	102.5	2.8	0.30	0.0	0.00	0.34	0.10	10
2	15		17.09	17.09	33.309	24.197	371.8	0.056	5.65	102.5	2.8	0.30	0.0	0.00	0.34	0.08	15
	20	ISL	17.09	17.09	33.309	24.197	371.9	0.074	5.65	102.5	2.7	0.30	0.0	0.00	0.34	0.09	20
2	30		17.09	17.09	33.309	24.198	372.2	0.112	5.65	102.5	2.6	0.30	0.0	0.00	0.33	0.11	30
2	40		17.09	17.08	33.308	24.197	372.6	0.149	5.65	102.5	2.7	0.30	0.1	0.01	0.32	0.10	40
	50	ISL	17.02	17.01	33.302	24.210	371.7	0.186	5.66	102.5	2.7	0.30	0.1	0.01	0.34	0.10	50
2	51		17.01	17.00	33.301	24.211	371.6	0.190	5.66	102.5	2.7	0.30	0.1	0.01	0.34	0.10	51
2	60		16.04	16.03	33.183	24.3*4	359.1	0.223	5.82	103.3	2.8	0.37	0.2	0.01	0.45	0.22	60
2	70		13.66	13.65	33.051	24.754	320.1	0.257	5.88	99.4	3.7	0.51	1.1	0.11	0.41	0.27	70
	75	ISL	12.94	12.93	33.052	24.898	306.4	0.272	5.73	95.4	4.7	0.61	2.6	0.23	0.45	0.29	75
2	79		12.49	12.48	33.070	25.000	296.8	0.284	5.55	91.5	5.7	0.70	4.2	0.31	0.47	0.29	79
2	94		11.19	11.18	33.212	25.352	263.5	0.326	4.75	76.3	11.4	1.13	12.2	0.10	0.26	0.20	94
	100	ISL	10.80	10.79	33.246	25.448	254.4	0.342	4.55	72.5	12.8	1.22	13.9	0.06	0.21	0.18	100
2	109		10.27	10.26	33.298	25.580	242.0	3.364	4.32	68.0	14.9	1.34	16.0	0.03	0.15	0.16	109
2	125		9.22	9.21	33.476	25.892	212.4	3.401	3.90	60.1	20.6	1.61	20.6	0.01	0.05	0.06	126
2	149		8.98	8.96	33.802	26.186	185.0	3.448	2.78	42.7	29.7	1.97	26.2	0.01	0.02	0.06	150
	150	ISL	8.97	8.95	33.809	26.193	184.3	0.450	2.77	42.5	29.9	1.97	26.3	0.01	0.02	0.06	151
2	175		8.71	8.69	33.909	26.313	173.4	0.495	2.50	38.2	33.5	2.06	27.8	0.01	0.01	0.07	176
	200	ISL	8.26	8.24	33.965	26.426	163.0	0.537	2.63	39.8	33.8	2.07	28.3	0.01	0.01	0.04	201
2	204		8.19	8.17	33.972	26.442	161.5	0.543	2.66	40.1	36.2	2.07	28.4	0.01	0.01	0.04	205
2	234		7.79	7.77	34.039	26.554	151.3	0.590	2.52	37.7	41.8	2.16	29.6	0.01			235
	230	ISL	7.59	7.57	34.054	26.594	147.6	CI.614	2.34	34.8	44.9	2.24	30.7	0.01			251
2	272		7.34	7.31	34.064	26.638	143.7	CI.646	2.05	30.4	49.0	2.36	32.3	0.01			274
	300	ISL	7.10	7.07	34.084	26.688	139.3	0.686	1.76	25.9	53.3	2.49	33.8	0.01			302
2	329		6.88	6.85	34.104	26.734	135.2	0.726	1.49	21.8	57.5	2.61	35.2	0.01			331
2	387		6.37	6.34	34.144	26.833	126.3	0.801	1.03	14.9	67.3	2.83	38.0	0.01			389
	400	ISL	6.26	6.22	34.149	26.852	124.7	0.818	0.96	13.9	69.3	2.87	38.5	0.01			403
2	452		5.89	5.85	34.175	26.920	118.6	0.881	0.71	10.2	76.8	2.99	40.0	0.01			455
	500	ISL	5.71	5.67	34.231	26.987	112.8	0.937	0.49	7.0	82.6	3.07	41.0	0.01			503
2	521		5.63	5.59	34.255	27.016	110.2	0.960	0.40	5.7	85.2	3.11	41.4	0.01			525

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 87 80

LATITUDE	LON6ITUDE	DAY/HO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AHT	TYPE
32 19.2 N	121 43.3 W	19/08/93	1826 UTC	4053 •	330 20 kn	340 07 07	2	1013.9 ab	17.8 C	16.0 C	26a 01	8/8	ST

CAST	DEPTH •		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/L	NO2 uM/L	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	18.02	18.02	33.050	23.775	411.5	0.000	5.53	101.9	5.2	0.30	0.2	0.01	0.11	0.03	0
2	2	A	18.02	18.02	33.050	23.775	411.5	0.008	5.53	101.9	3.2	0.30	0.2	0.01	0.11	0.03	2
	10	ISL	17.99	17.99	33.049	23.782	411.2	0.041	5.54	102.1	3.2	0.31	0.2	0.01	0.11	0.03	10
2	19	A	17.96	17.96	33.048	23.789	410.8	0.078	5.56	102.4	3.1	0.32	0.2	0.01	0.12	0.03	19
	20	ISL	17.93	17.93	33.048	23.797	410.1	0.082	5.57	102.5	3.1	0.32	0.2	0.01	0.12	0.03	20
	30	ISL	17.63	17.62	33.058	23.877	402.8	0.123	5.62	102.8	5.0	0.33	0.1	0.01	0.15	0.05	30
2	32	A	17.57	17.56	33.061	23.894	401.5	0.131	5.63	102.9	5.0	0.33	0.1	0.01	0.16	0.05	32
2	39		17.50	17.49	33.073	23.920	399.0	0.159	5.62	102.6	5.0	0.33	0.1	0.01	0.18	0.05	39
2	49	A	17.40	17.39	33.088	23.956	395.9	0.199	5.65	102.9	2.9	0.33	0.1	0.01	0.19	0.06	49
	50	ISL	17.35	17.34	33.077	23.959	395.6	0.203	5.66	103.0	2.9	0.33	0.1	0.01	0.19	0.06	50
2	58		16.94	16.93	33.102	24.075	384.8	0.234	5.71	103.1	2.8	0.34	0.1	0.01	0.23	0.07	58
2	69	A	14.11	14.10	33.009	24.629	332.1	0.273	6.11	104.2	3.0	0.34	0.1	0.01	0.24	0.12	69
	75	ISL	13.54	13.53	32.991	24.732	322.4	0.293	6.06	102.1	3.1	0.36	0.1	0.01	0.25	0.17	75
2	78		13.40	13.39	32.990	24.759	319.8	0.303	6.04	101.5	3.2	0.38	0.1	0.01	0.26	0.20	78
2	92	A	12.79	12.78	33.119	24.980	299.1	0.346	5.66	94.0	4.4	0.49	1.6	0.07	0.37	0.32	92
	100	ISL	12.23	12.22	33.158	25.118	286.0	0.369	5.37	88.1	6.1	0.67	4.6	0.07	0.31	0.30	100
2	111		11.36	11.35	33.201	25.313	267.6	0.400	4.95	79.8	9.4	0.98	9.7	0.06	0.19	0.20	111
2	124		10.36	10.35	33.271	25.544	245.8	0.433	4.47	70.5	14.2	1.30	14.9	0.03	0.13	0.04	125
	125	ISL	10.30	10.29	33.276	25.558	244.4	0.436	4.46	70.3	14.4	1.31	15.1	0.03	0.12	0.04	126
2	149		9.18	9.16	33.438	25.870	215.1)	0.491	4.25	65.4	19.0	1.52	18.8	0.01	0.02	0.05	150
	150	ISL	9.16	9.14	33.450	25.882	213.9	0.493	4.21	64.7	19.4	1.54	19.1	0.01	0.02	0.05	151
2	172		8.83	8.81	33.716	26.143	189.5	0.537	3.27	50.0	27.3	1.93	24.3	0.01	0.00	0.04	'173
	200	ISL	8.45	8.43	33.875	26.326	172.5	0.588	2.85	43.2	32.2	2.02	26.8	0.01	0.00	0.04	201
2	203		8.41	8.39	33.884	26.339	171.3	0.593	2.84	43.1	32.6	2.03	26.9	0.01	0.00	0.04	204
2	233		7.94	7.92	33.971	26.478	158.3	0.642	2.82	42.3	37.6	2.11	28.2	0.01			234
	250	ISL	7.75	7.73	33.994	26.524	154.5	0.669	2.78	41.5	40.0	2.15	28.9	0.01			251
2	272		7.53	7.50	34.011	26.570	150.5	0.703	2.67	39.7	43.2	2.22	30.0	0.01			273
	300	ISL	7.26	7.23	34.035	26.627	145.;?	0.744	2.34	34.6	48.1	2.35	31.7	0.01			I$02
2	327		7.00	6.97	34.056	26.680	140.4	0.782	1.96	28.8	53.1	2.49	33.4	0.00			!529
2	387		6.37	6.34	34.095	26.795	129.9	0.864	1.33	19.3	64.3	2.78	37.0	0.00			:i89
	400	ISL	6.28	6.24	34.107	26.816	128.1	0.880	1.22	17.6	66.4	2.83	37.5	0.00			*02
2	453		5.99	5.95	34.157	26.893	121.5	0.946	0.86	12.3	74.3	3.00	39.3	0.00			*56
	500	ISL	5.75	5.71	34.200	26.957	115.6	1.002	0.63	9.0	80.9	3.11	40.4	0.00			S03
2	523		5.64	5.60	34.221	26.987	112.9	1.028	0.52	7.4	84.2	3.17	41.0	0.00			.'i26

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 87 90

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AHT	TYPE
31 59.4 N	122 24.3 W	19/08/93	2302 UTC	4114 •	350 16 kn	330 06 08	2	1014.8 ab	18.0 C	16.8 C	24a 01	8/8	!iT

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/L	PO4 uM/L	NO3 uM/1	NO2 uM/L	CHL-A ug/1	PHAEO ug/I	PRKSS clb
	0	ISL	18.06	18.06	33.025	23.746	414.2	0.000	5.55	102.4	2.7	0.29	0.2	0.01	0.11	0.03	0
2	2		18.06	18.06	33.025	23.747	414.3	0.008	5.55	102.4	2.7	0.29	0.2	0.01	0.11	0.03	2
	10	ISL	18.05	18.05	33.024	23.749	414.4	0.041	5.54	102.2	2.5	0.29	0.2	0.01	0.11	0.03	10
2	14		18.04	18.04	33.024	23.751	414.3	0.058	5.54	102.2	2.4	0.29	0.2	0.01	0.11	0.03	14
	20	ISL	17.95	17.95	33.017	23.768	412.9	0.083	5.55	102.2	2.4	0.29	0.2	0.01	0.12	0.03	20
2	30		17.75	17.74	33.011	23.812	409.0	0.124	5.59	102.5	2.3	0.30	0.2	0.01	0.16	0.04	30
2	39		17.60	17.59	33.026	23.860	404.7	0.161	5.63	102.9	2.5	0.30	0.2	0.01	0.22 A	0.07 A	39
2	50		17.28	17.27	33.074	23.973	394.3	0.204	5.66	102.9	2.5	0.33	0.2	0.02	0.26	0.09	50
2	60		17.03	17.02	33.059	24.021	390.0	0.244	5.71	103.3	2.5	0.33	0.1	0.01	0.32	0.12	60
2	69		14.51	14.50	33.077	24.597	335."	0.276	6.06	104.2	2.6	0.32	0.1	0.01	0.27	0.16	69
	75	ISL	14.27	14.26	33.082	24.652	330."	0.296	6.02	103.0	2.6	0.32	0.1	0.01	0.27	0.19	75
2	81		14.04	14.03	33.088	24.705	325.2	0.316	5.98	101.9	2.7	0.33	0.1	0.01	0.27	0.21	81
2	95		13.49	13.48	33.086	24.816	314.9	0.361	5.85	98.5	3.1	0.39	0.3	0.06	0.31	0.25	95
	100	ISL	13.14	13.13	33.080	24.881	308.7'	0.376	5.70	95.3	3.7	0.48	1.5	0.06	0.30	0.28	100
2	110		12.35	12.34	33.084	25.038	293.9	0.406	5.35	88.0	5.7	0.70	4.9	0.04	0.25	0.30	110
2	125		11.21	11.19	33.170	25.316	267.6	0.449	4.85	77.9	10.4	1.06	11.2	0.03	0.15	0.17	125
2	148		9.79	9.77	33.359	25.709	230.4	0.506	4.32	67.3	16.4	1.42	17.3	0.02	0.04	0.07	149
	150	ISL	9.68	9.66	33.378	25.742	227.3	0.510	4.31	67.0	16.9	1.44	17.6	0.02	0.03	0.07	151
2	178		8.58	8.56	33.639	26.121	191.5	0.569	4.07	61.8	23.2	1.63	21.5	0.02	0.00	0.03	179
	200	ISL	8.37	8.35	33.798	26.278	177.0	0.610	3.37	51.0	29.2	1.88	25.1	0.02	0.00	0.05	201
2	207		8.35	8.33	33.837	26.312	173.9	0.622	3.17	48.0	3CI.9	1.94	26.0	0.02	0.00	0.05	208
2	236		7.95	7.93	33.922	26.438	162.3	0.671	3.35	50.3	34.0	1.91	26.4	0.02			237
	250	ISL	7.77	7.75	33.952	26.488	157.7	0.693	3.24	48.4	36.5	1.96	27.3	0.01			251
2	272		7.53	7.50	33.992	26.555	151.7	0.727	2.94	43.7	40.8	2.09	29.0	0.00			273
	300	ISL	7.38	7.35	34.046	26.619	146.0	0.769	2.40	35.6	45.9	2.28	31.1	0.00			302
2	328		7.20	7.17	34.080	26.671	141.4	0.809	1.89	27.9	51.3	2.46	33.2	0.00			330
2	389		6.05	6.02	34.035	26.788	130.3	0.892	1.67	24.0	65.0	2.67	36.9	0.00			391
	400	ISL	6.04	6.01	34.060	26.809	128.4	0.906	1.52	21.8	66.8	2.73	37.5	0.00			402
2	450		6.00	5.96	34.166	26.899	120.7	0.968	0.81	11.6	74.5	2.98	39.6	0.00			453
	500	ISL	5.58	5.54	34.187	26.967	114.4	1.027	0.62	8.8	82.8	3.07	41.1	0.00			503
2	521		5.40	5.36	34.196	26.996	111.7	1.051	0.54	7.6	86.3	3.11	41.7	0.00			524

A) SECOND FLUOROMETER READING NOT RECORDED, CHLOROPHYLL AND PHAEOPIGMENTS
CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 87 100

LATITUDE	LON6ITUOE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	HAVES UEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 39.2 N	123 4.5 W	20/08/93	0442 UTC	4105 ▪	340 14 kn		1015.7 ab	18.2 C	16.8 C		

CAST	DEPTH ▪	TEMP DEG C	POT TEMP DEC C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/L	NO2 uN/l	CHL-A ug/l	PHAEO ug/I	PRESS db
	0 ISL	18.30	18.30	33.099	23.744	414.4	0.000	5.49	101.8	3.5	0.29	0.1	0.00	0.09	0.03	0
2	2	18.30	18.30	33.099	23.744	414.5	0.008	5.49	101.8	3.5	0.29	0.1	0.00	0.09	0.03	2
	10 ISL	18.30	18.30	33.098	23.744	414.8	0.041	5.48	101.6	3.4	0.29	0.0	0.00	0.09	0.02	10
2	15	18.30	18.30	33.097	23.743	415.1	0.062	5.48	101.6	3.3	0.29	0.0	0.00	0.09	0.02	15
	20 ISL	18.30	18.30	33.097	23.744	415.2	0.083	5.48	101.6	3.3	0.29	0.0	0.00	0.09	0.02	20
2	30	18.30	18.29	33.097	23.744	415.5	0.125	5.49	101.8	3.2	0.28	0.0	0.01	0.09	0.02	30
2	40	18.28	18.27	33.097	23.749	415.3	0.166	5.50	101.9	3.1	0.29	0.0	0.01	0.10	0.03	40
2	50	17.93	17.92	33.135	23.864	404.7	0.207	5.57	102.5	3.1	0.28	0.0	0.01	0.13	0.04	S0
2	60	17.32	17.31	33.213	24.071	385.3	0.247	5.66	103.0	3.3	0.30	0.0	0.01	0.18	0.06	60
2	70	16.13	16.12	32.966	24.157	377.2	0.285	5.77	102.5	3.5	0.33	0.0	0.00	0.22	0.14	70
	75 ISL	16.45	16.44	33.107	24.193	374.0	0.303	5.78	103.4	3.4	0.32	0.0	0.00	0.22	0.13	75
2	82	16.89	16.88	33.347	24.276	366.5	0.329	5.78	104.4	3.2	0.30	0.0	0.00	0.23	0.11	82
2	94	15.14	15.13	33.276	24.617	334.1	0.371	5.90	102.9	3.4	0.30	0.0	0.01	0.20	0.12	94
	100 ISL	14.69	14.68	33.254	24.697	326.6	0.391	5.85	101.1	3.5	0.32	0.0	0.01	0.24	0.18	100
2	112	14.08	14.06	33.260	24.830	314.2	0.430	5.74	98.0	3.7	0.36	0.1	0.02	0.29	0.28	112
2	124	13.33	13.31	33.377	25.074	291.1	0.466	5.40	90.8	5.1	0.52	2.7	0.19	0.20	0.21	124
	125 ISL	13.22	13.20	33.375	25.094	289.2	0.469	5.37	90.1	5.4	0.55	3.1	0.19	0.19	0.20	125
2	149	10.55	10.53	33.303	25.537	247.0	0.533	4.59	72.7	13.2	1.19	13.6	0.01	0.06	0.09	150
	150 ISL	10.48	10.46	33.305	25.550	245.7	0.536	4.56	72.1	13.5	1.21	13.9	0.01	0.06	0.09	151
2	175	9.17	9.15	33.436	25.870	215.5	0.593	4.02	61.8	20.3	1.58	20.0	0.01	0.02	0.04	176
	200 ISL	8.34	8.32	33.711	26.214	183.0	0.643	3.68	55.6	27.4	1.77	23.8	0.01	0.00	0.02	201
2	201	8.32	8.30	33.722	26.226	181.9	0.645	3.67	55.5	27.7	1.78	23.9	0.01	0.00	0.02	2C2
2	231	7.99	7.97	33.875	26.396	166.3	0.697	3.41	51.2	32.5	1.90	25.6	0.01			232
	250 ISL	7.77	7.75	33.933	26.474	159.1	0.728	3.24	48.4	36.0	1.96	26.8	0.01			251
2	273	7.48	7.45	33.976	26.549	152.2	0.764	3.01	44.7	40.7	2.04	28.3	0.01			274
	300 ISL	7.07	7.04	33.999	26.625	145.2	0.804	2.65	39.0	46.8	2.20	30.6	0.01			302
2	329	6.67	6.64	34.012	26.689	139.3	0.845	2.25	32.8	53.2	2.37	33.0	0.00			331
2	388	6.30	6.27	34.057	26.774	131.9	0.925	1.60	23.1	62.3	2.61	36.0	0.00			390
	400 ISL	6.18	6.14	34.064	26.795	130.0	0.941	1.48	21.3	64.9	2.66	36.7	0.00			402
2	449	5.73	5.69	34.100	26.880	122.1	1.003	1.03	14.7	75.1	2.86	39.3	0.00			452
	500 ISL	5.58	5.54	34.171	26.955	115.6	1.063	0.68	9.7	81.5	2.98	40.5	0.00			503
2	521	5.52	5.48	34.201	26.986	112.8	1.087	0.54	7.7	84.1	3.03	41.0	0.00			524

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE:
31 19.8 N	123 44.9 W	20/08/93	1011 UTC	3961 ▪	360 14 kn		1016.0 ab	17.8 C	16.9 C		

CAST	DEPTH a	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/L	NO3 uM/L	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0 ISL	18.27	18.27	33.022	23.693	419.3	0.000	5.50	101.9	2.5	0.29	0.0	0.00	0.13	0.06	0
2	2	18.27	18.27	33.022	23.693	419.4	0.008	5.50	101.9	2.5	0.29	0.0	0.00	0.13	0.06	2
	10 ISL	18.28	18.28	33.022	23.691	419.9	0.042	5.50	101.9	2.5	0.29	0.0	0.00	0.15	0.04	10
2	15	18.28	18.28	33.022	23.691	420.1	0.063	5.50	101.9	2.5	0.29	0.0	0.00	0.16	0.03	15
	20 ISL	18.28	18.28	33.022	23.691	420.2	0.084	5.50	101.9	2.5	0.29	0.0	0.00	0.13	0.02	20
2	30	18.28	18.27	33.022	23.692	420.5	0.126	5.50	101.9	2.4	0.30	0.0	0.00	0.08	0.01	30
2	40	17.98	17.97	33.009	23.755	414.8	0.168	5.57	102.6	2.4	0.29	0.0	0.00	0.16	0.03	40
2	50	18.01	18.00	33.165	23.868	404.4	0.209	5.56	102.5	2.4	0.28	0.0	0.00	0.14	0.05	50
2	60	17.19	17.18	33.103	24.017	390.4	0.248	5.65	102.5	2.4	0.29	0.0	0.00	0.17	0.06	60
2	70	16.24	16.23	33.085	24.224	370.9	0.287	5.84	104.0	2.5	0.32	0.0	0.00	0.22	.0.10	70
	75 ISL	16.30	16.29	33.236	24.327	361.3	0.305	5.82	103.9	2.5	0.31	0.0	0.00	0.21	0.09	75
2	80	16.36	16.35	33.377	24.421	352.5	0.323	5.77	103.2	2.4	0.30	0.0	0'. 00	0.19	0.09	80
2	94	15.60	15.59	33.405	24.615	334.4	0.371	5.68	100.1	2.5	0.31	0.0	0.00	0.21	0.17	94
	100 ISL	15.30	15.28	33.418	24.691	327.3	0.391	5.68	99.5	2.6	0.31	0.0	0.00	0.20	0.20	100
2	109	14.91	14.89	33.450	24.801	317.0	0.420	5.68	98.7	2.9	0.31	0.0	0.01	0.19	0.22	109
2	125	14.42	14.40	33.572	25.000	298.5	0.469	5.42	93.3	3.7	0.40	1.5	0.21	0.18	0.17	125
2	150	11.29	11.27	33.448	25.519	249.0	0.537	4.93	79.4	9.4	1.03	9.7	0.02	0.06	0.08	151
2	175	9.75	9.73	33.511	25.835	219.1	0.596	4.56	71.1	15.0	1.25	15.5	0.01	0.01	0.04	176
	200 ISL	8.93	8.91	33.620	26.052	198.6	0.648	4.17	63.9	20.7	1.51	19.6	0.01	0.00	0.02	201
2	204	8.85	8.83	33.640	26.080	196.0	0.656	4.12	63.0	21.6	1.55	20.1	0.01	0.00	0.02	205
2	234	8.39	8.37	33.789	26.268	178.6	0.712	3.89	58.9	26.4	1.66	22.5	0.01			235
	250 ISL	8.17	8.14	33.861	26.338	170.2	0.740	3.71	55.9	29.5	1.74	23.8	0.01			251
2	274	7.86	7.83	33.948	26.473	159.7	0.780	3.42	51.2	34.3	1.86	25.8	0.01			275
	300 ISL	7.58	7.55	33.986	26.543	153.3	0.820	3.12	46.4	38.8	1.99	27.7	0.00			302
2	327	7.32	7.29	34.000	26.591	149.0	0.861	2.80	41.4	43.4	2.12	29.6	0.00			329
2	388	6.73	6.69	34.041	26.705	138.8	0.949	2.01	29.3	54.8	2.45	33.8	0.01			390
	400 ISL	6.61	6.57	34.049	26.727	136.7	0.965	1.86	27.1	57.3	2.52	34.6	0.01			402
2	452	6.08	6.04	34.082	26.822	128.0	1.034	1.29	18.5	68.1	2.77	37.7	0.01			455
	500 ISL	5.65	5.61	34.101	26.891	121.7	1.094	1.02	14.5	76.5	2.89	39.6	0.01			503
2	522	5.45	5.41	34.111	26.923	118.7	1.121	0.89	12.6	80.4	2.95	40.5	0.01			525

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 29.1 N	117 46.0 W	17/08/93	1917 UTC	60 -	280 07 kn	280 01 05	1	1013.1 ab	21.2 C	18.8 C	14a 04	7/8	SC

CAST	DEPTH -		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/L	NO3 uM/L	NO2 uM/L	CHL-A . ug/l	PHAEO ug/l	PRESS db
	0	ISL	21.22	21.22	33.329	23.164	469.8	0.000	5.55	108.8	4.3	0.34	0.0	0.00	0.42	0.11	0
2	1	A	21.22	21.22	33.329	23.164	469.9	0.005	5.55	108.8	4.3	0.34	0.0	0.00	0.42	0.11	1
2	9	A	19.60	19.60	33.322	23.588	429.7	0.041	5.72	108.8	3.3	0.32	0.0	0.00	0.33	0.10	9
	10	ISL	19.13	19.13	33.302	23.693	419.7	0.045	5.80	109.4	3.4	0.32	0.0	0.00	0.34	0.11	10
2	17	A	15.65	15.65	33.214	24.454	347.3	0.072	6.28	110.6	4.4	0.39	0.0	0.00	0.59	0.23	17
	20	ISL	14.58	14.58	33.214	24.687	325.2	0.082	6.17	106.4	4.8	0.43	0.3	0.02	0.87	0.35	20
2	27	A	12.82	12.82	33.246	25.071	288.7	0.103	5.91	98.3	6.0	0.58	2.2	0.08	1.40	0.60	27
	30	ISL	12.46	12.46	33.261	25.153	281.0	0.112	5.65	93.2	7.0	0.69	4.0	0.12	1.31	0.59	30
2	38	A	11.96	11.96	33.307	25.283	268.8	0.134	4.89	79.9	10.1	1.02	9.4	0.19	0.80	0.55	38
2	50	A	11.15	11.14	33.445	25.539	244.6	0.165	4.01	64.4	15.5	1.37	14.6	0.14	0.28	0.36	50
2	58		11.01	11.00	33.479	25.591	239.9	0.184	3.90	62.5	16.1	1.39	15.7	0.08	0.28	0.28	58

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 25.2 N	117 54.2 W	17/08/93	1625 UTC	615 -	140 03 kn	300 01 05	1	1013.2 ab	20.1 C	18.0 C	28a 01	7/8	ST

CAST	DEPTH a		TEMP DEG C	POT TEMP DE6 C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/1	PO4 uM/l	NO3 uM/1	NO2 uM/l	CHL-A ug/1	PHAEO ug/ I	PRESS db
	0	ISL	19.86	19.86	33.323	23.521	435.8	0.000	5.48	104.8	4.0	0.32	0.0	0.00	0.16	0.03	0
2	2		19.86	19.86	33.323	23.521	435.8	0.009	5.48	104.8	4.0	0.32	0.0	0.00	0.16	0.03	2
2	10		19.77	19.77	33.319	23.542	434.2	0.044	5.50	105.0	3.9	0.32	0.0	0.00	0.16	0.03	10
2	19		16.81	16.81	33.224	24.198	371.8	0.080	6.18	111.4	4.0	0.35	0.0	0.00	0.21	0.05	19
	20	ISL	16.60	16.60	33.219	24.243	367.6	0.083	6.18	110.9	4.0	0.35	0.0	0.00	0.21	0.05	20
2	29		15.27	15.27	33.188	24.518	341.5	0.115	6.20	108.4	4.1	0.37	0.0	0.00	0.23	0.09	29
	30	ISL	15.17	15.17	33.185	24.538	339.7	0.119	6.19	108.0	4.1	0.37	0.0	0.00	0.23	0.09	30
2	40		14.29	14.28	33.175	24.719	322.7	0.152	5.98	102.5	3.9	0.37	0.0	0.00	0.26	0.12	40
2	50		13.04	13.03	33.244	25.027	293.6	0.183	5.67	94.7	6.0	0.63	3.1	0.15	1.02	0.46	50
2	60		12.23	12.22	33.244	25.184	278.8	0.211	5.28	86.7	7.7	0.80	6.4	0.10	0.60	0.41	60
2	69		11.71	11.70	33.294	25.320	266.0	0.236	4.93	80.1	10.0	1.00	9.7	0.05	0.37	0.33	69
	75	ISL	11.34	11.33	33.330	25.416	256.9	0.252	4.76	76.7	11.4	1.10	11.4	0.03	0.27	0.27	75
2	85		10.75	10.74	33.392	25.570	242.5	0.277	4.52	72.0	13.6	1.23	13.8	0.02	0.17	0.19	85
2	100		10.07	10.06	33.488	25.762	224.5	0.312	4.16	65.3	17.2	1.41	16.9	0.02	0.06	0.10	100
2	119		9.70	9.69	33.611	25.920	209.8	0.353	3.79	59.0	20.8	1.57	19.6	0.01	0.03	0.06	120
	125	ISL	9.63	9.62	33.659	25.969	205.2	0.365	3.64	56.6	22.0	1.63	20.5	0.01	0.02	0.06	126
2	144		9.47	9.45	33.813	26.116	191.7	0.403	3.15	48.9	25.7	1.80	23.0	0.01	0.01	0.07	145
	150	ISL	9.43	9.41	33.857	26.157	187.9	0.414	3.01	46.7	26.8	1.85	23.6	0.01	0.01	0.07	151
2	173		9.33	9.31	34.003	26.288	176.0	0.456	2.56	39.7	30.9	2.00	25.7	0.01	0.01	0.05	174
	200	ISL	9.24	9.22	34.121	26.395	166.3	0.502	2.16	33.4	34.8	2.16	27.4	0.01	0.00	0.05	201
2	203		9.23	9.21	34.131	26.405	165.5	0.507	2.13	32.9	35.2	2.17	27.6	0.01	0.00	0.05	204
2	231		8.51	8.49	34.096	26.491	157.5	0.553	2.19	33.3	39.4	2.22	29.1	0.01			232
	250	ISL	8.46	8.43	34.142	26.535	153.7	0.582	1.98	30.1	41.7	2.31	29.9	0.01			251
2	272		8.40	8.37	34.187	26.580	149.9	0.616	1.67	25.4	44.3	2.42	30.8	0.01			274
	300	ISL	8.06	8.03	34.200	26.641	144.3	0.657	1.45	21.8	48.6	2.53	32.2	0.01			302
2	327		7.71	7.68	34.202	26.695	139.6	0.695	1.29	19.3	52.9	2.62	33.6	0.01			329
2	387		7.38	7.34	34.248 D	26.779	132.4	0.777									389
	400	ISL	7.27	7.23	34.253	26.798	130.7	0.794									403
2	453		6.81	6.77	34.268 D	26.874	123.9	0.861									456
	500	ISL	6.53	6.48	34.284	26.925	119.6	0.918	0.56	8.1	70.9	2.98	38.5	0.01			503
2	524 '		6.38	6.33	34.293	26.952	117.2	0.947	0.46	6.7	73.4	3.03	39.2	0.01			528

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 15.0 N	118 15.2 W	17/08/93	1200 UTC	388 a	250 07 kn			1012.0 ab	18.0 C	17.2 C			

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/I	NO2 uH/l	CHL-A ug/l	PHAEO ug/I	PRESS db
	0	ISL	21.35	21.35	33.470	23.236	463.0	0.000	5.33	104.8	3.3	0.23	0.0	0.00	0.16	0.07	0
2	2		21.35	21.35	33.470	23.236	463.0	0.009	5.33	104.8	3.3	0.23	0.0	0.00	0.16	0.07	2
2	10		19.94	19.94	33.386	23.548	433.5	0.045	5.59	107.1	3.5	0.27	0.0	0.00	0.19	0.08	10
2	20		15.46	15.46	33.206	24.490	343.9	0.084	6.10	107.0	4.4	0.39	0.0	0.00	0.24	0.10	20
2	30		13.69	13.69	33.185	24.850	309.9	0.117	5.97	101.0	5.2	0.50	0.9	0.06	0.49	0.31	30
2	39		12.92	12.91	33.277	25.076	288.6	0.144	5.75	95.8	7.2	0.67	3.2	0.16	0.84	0.46	39
	50	ISL	12.00	11.99	33.303	25.273	270.0	0.174	4.97	81.2	10.0	0.97	8.5	0.38	0.56	0.41	50
2	51		11.91	11.90	33.305	25.292	268.3	0.177	4.89	79.8	10.3	1.00	9.0	0.39	0.52	0.41	51
2	60		11.10	11.09	33.392	25.507	247.9	0.200	4.35	69.8	13.8	1.25	13.3	0.11	0.25	0.31	60
2	70		10.89	10.88	33.434	25.578	241.5	0.225	4.15	66.3	15.1	1.33	14.6	0.07	0.18	0.22	70
	75	ISL	10.72	10.71	33.467	25.633	236.2	0.237	4.02	64.0	16.1	1.38	15.5	0.05	0.14	0.19	75
2	85		10.32	10.31	33.541	25.760	224.3	0.260	3.76	59.4	18.5	1.50	17.6	0.02	0.08	0.14	85
	100	ISL	9.61	9.60	33.652	25.967	205.0	0.292	3.51	54.6	22.4	1.66	20.5	0.02	0.02	0.08	100
2	101		9.57	9.56	33.659	25.979	203.8	0.294	3.50	54.4	22.6	1.67	20.7	0.02	0.02	0.08	101
2	120		9.30	9.29	33.735	26.082	194.3	0.332	3.31	51.2	25.0	1.75	23.2	0.01	0.02	0.09	121
	125	ISL	9.30	9.29	33.773	26.112	191.6	0.341	3.20	49.5	25.8	1.78	23.8	0.01	0.02	0.08	126
2	143		9.30	9.28	33.909	26.219	181.9	0.375	2.80	43.3	28.8	1.91	25.5	0.03	0.01	0.06	144
	150	ISL	9.18	9.16	33.938	26.261	178.0	0.388	2.73	42.1	30.0	1.94	26.1	0.03	0.01	0.06	151
2	174		8.73	8.71	34.008	26.387	166.4	0.429	2.56	39.1	34.2	2.05	27.8	0.02	0.00	0.05	175
	200	ISL	8.56	8.54	34.083	26.473	158.7	0.471	2.26	34.4	37.9	2.18	29.2	0.03	0.00	0.05	201
2	205		8.55	8.53	34.095	26.484	157.8	0.479	2.20	33.5	38.6	2.21	29.4	0.03	0.00	0.05	206
2	233		8.42	8.40	34.138	26.538	153.1	0.523	1.90	28.9	42.1	2.32	30.5	0.02			234
	250	ISL	8.30	8.27	34.155	26.569	150.4	0.548	1.76	26.7	44.1	2.38	31.2	0.02			251
2	274		8.12	8.09	34.175	26.612	146.6	0.584	1.59	24.0	46.9	2.46	32.2	0.02			276
	300	ISL	7.95	7.92	34.203	26.660	142.5	0.622	1.42	21.3	49.3	2.53	33.0	0.02			302
2	328		7.79	7.76	34.230 D	26.705	138.6	0.661									330
2	381		7.50	7.46	34.254	26.766	133.6	0.733	0.90	13.4	56.9	2.76	35.3	0.02			383

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 10.5 N	118 22.9 W	17/08/93	0903 UTC	1170 -	290 10 kn			1011.9 ab	17.1 C	16.8 C			

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/L	NO3 uM/L	NO2 uM/L	CHL-A ug/l	PHAEO ug/l.	PRESS db
	0 ISL	18.40	18.40	33.450	23.988	391.2	0.000	5.53	102.9	4.8	0.34	0.1	0.00	0.18	0.06	0
2	1	18.40	18.40	33.450	23.988	391.2	0.004	5.53	102.9	4.8	0.34	0.1	0.00	0.18	0.06	1
2	10	18.39	18.39	33.447	23.989	391.5	0.039	5.53	102.9	4.6	0.34	0.0	0.01	0.17	0.05	10
2	20	16.27	16.27	33.287	24.371	355.4	0.076	5.88	104.9	4.2	0.39	0.0	0.01	0.27	0.12	20
2	30	14.09	14.09	33.148	24.739	320.5	0.110	6.15	104.9	4.7	0.44	0.1	0.02	0.59	0.29	30
2	40	13.45	13.44	33.190	24.903	305.1	0.142	5.77	97.2	5.6	0.59	2.1	0.11	0.66	0.40	40
2	50	12.72	12.71	33.237	25.084	288.1	0.171	5.40	89.6	7.4	0.77	4.7	0.23	0.59	0.44	50
2	60	11.98	11.97	33.288	25.265	271.0	0.199	4.96	81.0	9.5	0.97	8.0	0.17	0.41	0.40	60
2	70	11.35	11.34	33.329	25.414	257.1	0.226	4.66	75.1	12.1	1.15	11.1	0.07	0.34	0.39	70
	75 ISL	11.03	11.02	33.360	25.495	249.4	0.238	4.50	72.1	13.4	1.23	12.6	0.06	0.27	0.33	75
2	85	10.49	10.48	33.434	25.648	235.1	0.262	4.19	66.4	15.7	1.37	15.1	0.03	0.13	0.18	85
2	99	10.17	10.16	33.544	25.789	221.9	0.294	3.84	60.4	18.2	1.50	17.2	0.02	0.07	0.11	99
	100 ISL	10.13	10.12	33.551	25.801	220.8	0.297	3.82	60.1	18.5	1.51	17.4	0.02	0.07	0.11	100
2	120	9.47	9.46	33.684	26.015	200.8	0.339	3.45	53.5	23.6	1.71	20.9	0.02	0.02	0.07	121
	125 ISL	9.39	9.38	33.720	26.056	197.0	0.349	3.35	51.9	24.6	1.75	21.6	0.02	0.02	0.06	126
2	145	9.19	9.17	33.854	26.193	.184.3	0.387	3.00	46.3	28.1	1.89	23.8	0.02	0.01	0.05	146
	150 ISL	9.14	9.12	33.886	26.226	181.2	0.396	2.92	45.0	29.0	1.92	24.3	0.02	0.01	0.05	151
2	174	8.90	8.88	34.006	26.359	169.1	0.438	2.62	40.2	33.1	2.04	26.2	0.02	0.01	0.05	175
	200 ISL	8.55	8.53	34.046	26.445	161.3	0.481	2.45	37.3	36.6	2.12	27.7	0.02	0.00	0.05	201
2	204	8.50	8.48	34.048	26.454	160.5	0.487	2.43	37.0	37.1	2.13	27.9	0.02	0.00	0.05	205
2	234	8.15	8.13	34.083	26.535	153.2	0.534	2.19	33.0	41.7	2.25	29.6	0.02			235
	250 ISL	8.13	8.10	34.123	26.570	150.2	0.559	1.98	29.9	43.6	2.33	30.3	0.02			251
2	275	8.11	8.08	34.176	26.615	146.4	0.596	1.63	24.6	46.5	2.45	31.4	0.01			277
	300 ISL	7.95	7.92	34.201	26.658	142.7	0.632	1.38	20.7	49.7	2.55	32.6	0.01			302
2	328	7.73	7.70	34.220	26.706	138.5	0.671	1.15	17.2	53.4	2.66	33.9	0.01			330
2	387	7.44	7.40	34.281	26.796	130.8	0.751	0.71	10.5	60.3	2.86	35.8	0.01			389
	400 ISL	7.33	7.29	34.280	26.811	129.5	0.768	0.68	10.1	61.7	2.88	36.4	0.01			403
2	454	6.86	6.82	34.267	26.867	124.7	0.836	0.60	8.8	67.5	2.95	38.6	0.01			457
	500 ISL	6.53	6.48	34.286	26.926	119.5	0.893	0.47	6.8	73.2	3.04	39.8	0.01			503
2	523	6.36	6.31	34.296	26.956	116.7	0.920	0.40	5.8	76.0	3.08	40.4	0.01			527

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 54.8 N	118 56.0 W	17/08/93	0347 UTC	1691 -	290 14 kn			1012.4 ab	17.9 C	16.8 C			

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/I	PRESS db
	0 ISL	18.04	18.04	33.362	24.009	389.2	0.000	5.59	103.3	4.9	0.36	0.3	0.00	0.19	0.05	0
2	1	18.04	18.04	33.362	24.009	389.2	0.004	5.59	103.3	4.9	0.36	0.3	0.00	0.19	0.05	1
2	10	17.54	17.54	33.332	24.108	380.1	0.039	5.64	103.2	4.6	0.37	0.2	0.01	0.19	0.06	10
2	19	17.19	17.19	33.328	24.188	372.7	0.072	5.65	102.7	4.5	0.37	0.2	0.01	0.20	0.07	19
	20 ISL	17.05	17.05	33.320	24.215	370.2	0.076	5.68	102.9	4.5	0.37	0.2	0.01	0.22	0.08	20
2	30	15.23	15.23	33.234	24.562	337.4	0.111	5.95	103.9	4.7	0.42	0.2	0.02	0.47	0.24	30
2	40	13.49	13.48	33.196	24.899	305.4	0.144	5.84	98.4	5.8	0.55	1.8	0.08	0.69	0.46	40
2	50	12.61	12.60	33.241	25.109	285.7	0.173	5.32	88.1	8.1	0.77	6.0	0.18	0.59	0.50	50
2	60	11.89	11.88	33.319	25.306	267.1	0.201	4.78	78.0	10.9	1.03	10.3	0.09	0.34	0.32	60
2	69	10.96	10.95	33.426	25.559	243.2	0.224	4.23	67.7	15.1	1.30	15.0	0.03	0.17	0.20	69
	75 ISL	10.63	10.62	33.445	25.632	236.4	0.238	4.19	66.6	16.3	1.37	16.3	0.03	0.16	0.18	75
2	85	10.32	10.31	33.455	25.693	230.7	0.262	4.13	65.2	17.4	1.42	17.3	0.03	0.13	0.15	85
2	99	9.95	9.94	33.546	25.827	218.2	0.293	3.79	59.4	20.2	1.56	19.3	0.02	0.09	0.12	99
	100 ISL	9.92	9.91	33.555	25.839	217.1	0.295	3.76	58.8	20.5	1.57	19.5	0.02	0.09	0.12	100
2	118	9.41	9.40	33.709	26.044	197.9	0.332	3.31	51.3	25.2	1.77	22.9	0.01	0.02	0.07	119
	125 ISL	9.38	9.37	33.760	26.089	193.8	0.346	3.18	49.2	26.2	1.82	23.5	0.01	0.02	0.07	126
2	143	9.32	9.30	33.851	26.170	186.5	0.380	2.92	45.2	28.2	1.91	24.6	0.01	0.01	0.06	144
	150 ISL	9.22	9.20	33.879	26.208	183.0	0.393	2.86	44.2	29.3	1.94	25.1	0.01	0.01	0.06	151
2	173	8.96	8.94	33.967	26.319	172.9	0.434	2.63	40.4	32.8	2.04	26.7	0.01	0.01	0.06	174
	200 ISL	9.11	9.09	34.103	26.402	165.6	0.480	2.06	31.8	36.3	2.20	28.2	0.01	0.00	0.06	201
2	203	9.13	9.11	34.117	26.410	165.0	0.485	1.99	30.7	36.7	2.22	28.3	0.01	0.00	0.06	204
2	234	8.75	8.73	34.193	26.530	154.0	0.534	1.60	24.5	41.7	2.39	30.0	0.01			235
	250 ISL	8.48	8.45	34.195	26.573	150.1	0.559	1.54	23.4	44.3	2.44	30.7	0.01			251
2	273	8.11	8.08	34.187	26.623	145.6	0.593	1.50	22.6	48.0	2.49	31.7	0.01			275
	300 ISL	7.85	7.82	34.204	26.676	141.0	0.631	1.30	19.5	51.7	2.57	32.8	0.01			302
2	325	7.67	7.64	34.221	26.715	137.5	0.666	1.11	16.6	54.8	2.64	33.8	0.01			327
2	386	7.11	7.07	34.223	26.797	130.4	0.748	0.90	13.3	61.9	2.81	35.8	0.01			388
	400 ISL	7.05	7.01	34.232	26.812	129.1	0.766	0.83	12.2	63.2	2.84	36.1	0.01			403
2	448	6.85	6.81	34.266	26.867	124.6	0.827	0.61	8.9	67.8	2.94	37.0	0.01			451
	500 ISL	6.45	6.40	34.278	26.930	119.0	0.890	0.49	7.1	74.4	3.01	38.2	0.01			503
2	521	6.29	6.24	34.283	26.955	116.7	0.915	0.44	6.4	77.0	3.04	38.7	0.01			525

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 39.5 N	119 29.0 W	16/08/93	2207 UTC	1316 •	300 13 kn	310 03 04	1	1014.4 ab	19.3 C	17.5 C	18a 02	6/8	SC

CAST	DEPTH •		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/I	PRESS db
	0	ISL	17.71	17.71	33.288	24.033	386.9	0.000	5.61	103.0	3.9	0.37	0.0	0.00	0.19	0.05	0
2	1		17.71	17.71	33.288	24.033	387.0	0.004	5.61	103.0	3.9	0.37	0.0	0.00	0.19	0.05	1
	10	ISL	17.66	17.66	33.285	24.043	386.3	0.039	5.62	103.0	3.9	0.37	0.0	0.00	0.20	0.05	10
2	15		17.62	17.62	33.284	24.052	385.6	0.058	5.62	103.0	3.8	0.37	0.0	0.00	0.21	0.05	15
	20	ISL	17.59	17.59	33.289	24.063	384.7	0.077	5.62	102.9	3.7	0.37	0.0	0.00	0.22	0.05	20
2	30		17.53	17.52	33.300	24.086	382.8	0.116	5.63	103.0	3.6	0.37	0.0	0.00	0.23	0.06	30
2	40		14.11	14.10	33.167	24.750	319.7	0.151	6.15	105.0	4.2	0.44	0.0	0.01	0.59	0.31	40
2	50		13.00	12.99	33.197	24.998	296.3	0.182	5.63	93.9	6.1	0.67	3.8	0.23	0.75	0.42	50
2	60		11.98	11.97	33.249	25.235	273.9	0.210	5.08	83.0	9.0	0.95	8.8	0.12	0.44	0.34	60
2	70		11.45	11.44	33.299	25.372	261.0	0.237	4.77	77.1	11.1	1.11	11.7	0.08	0.28	0.28	70
	75	ISL	11.06	11.05	33.332	25.468	252.0	0.250	4.60	73.7	12.6	1.21	13.3	0.06	0.21	0.23	75
2	79		10.75	10.74	33.360	25.545	244.7	0.260	4.47	71.2	13.8	1.28	14.5	0.05	0.17	0.19	79
2	95		10.16	10.15	33.447	25.715	228.9	0.297	4.14	65.1	17.1	1.47	17.5	0.03	0.08	0.10	95
	100	ISL	9.94	9.93	33.476	25.774	223.3	0.309	4.03	63.1	18.3	1.52	18.4	0.03	0.06	0.08	100
2	109		9.56	9.55	33.538	25.886	212.8	0.328	3.83	59.5	20.6	1.61	19.9	0.03	0.03	0.06	110
2	124		9.08	9.07	33.691	26.083	194.3	0.359	3.48	53.5	24.9	1.76	22.7	0.02	0.01	0.05	125
	125	ISL	9.06	9.05	33.701	26.094	193.3	0.361	3.46	53.2	25.1	1.77	22.8	0.02	0.01	0.05	126
2	150		8.86	8.84	33.898	26.280	176.1	0.407	3.09	47.3	29.6	1.90	24.8	0.01	0.01	0.03	151
2	173		8.70	8.68	33.992	26.379	167.1	0.446	2.82	43.1	213.0	2.00	26.3	0.01	0.00	0.04	174
	200	ISL	8.54	8.52	34.099	26.488	157.2	0.490	2.26	34.4	38.9	2.22	28.6	0.01	0.00	0.03	201
2	203		8.52	8.50	34.109	26.499	156.2	0.495	2.20	33.5	39.5	2.25	28.8	0.01	0.00	0.03	204
2	233		8.41	8.39	34.168	26.563	150.7	0.541	1.84	27.9	42.8	2.38	29.9	0.01			234
	250	ISL	8.34	8.31	34.191	26.592	148.3	0.566	1.69	25.6	44.6	2.44	30.5	0.01			251
2	273		8.20	8.17	34.213	26.630	145..0	0.600	1.50	22.7	47.3	2.51	31.5	0.00			275
	300	ISL	7.88	7.85	34.225	26.688	139.9	0.639	1.26	18.9	51 .9	2.62	32.9	0.00			302
2	330		7.50	7.47	34.232	26.748	134.4	0.680	1.03	15.3	S7.1	2.73	34.5	0.00			332
2	388		7.05	7.01	34.251	26.827	127.5	0.756	0.76	11.2	64.1	2.87	36.3	0.00			390
	400	ISL	6.96	6.92	34.255	26.843	126.2	0.771	0.71	10.4	65.5	2.90	36.6	0.00			403
2	451		6.61	6.57	34.273	26.905	120.8	0.834	0.55	8.0	71.4	2.99	38.0	0.00			454
	500	ISL	6.27	6.23	34.294	26.966	115.4	0.892	0.44	6.4	77.4	3.06	39.1	0.00			503
2	524		6.11	6.06	34.305	26.996	112.8	0.919	0.39	5.6	80.3	3.10	39.7	0.00			528

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 90 60

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 25.2 N	119 58.9 W	16/08/93	1816 UTC	974 a	300 15 kn	320 03 04	2	1014.4 ab	17.0 C	16.8 C	14a 03	8/8	ST

CAST	DEPTH a		TEMP DE6 C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	$103 uM/l	PO4 uM/l	NO3 uM/I	NO2 uM/L	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	17.24	17.24	33.357	24.198	371.2	0.000	5.67	103.2	4.3	0.35	0.0	0.00	0.31	0.10	0
2	1	A	17.24	17.24	33.357	24.198	371.2	0.004	5.67	103.2	4.3	0.35	0.0	0.00	0.31	0.10	1
2	9	A	17.24	17.24	33.357	24.198	371.5	0.033	5.69	103.5	4.2	0.35	0.0	0.00	0.31	0.10	9
	10	ISL	17.24	17.24	33.357	24.198	371.5	0.037	5.69	103.5	4.2	0.35	0.0	0.00	0.31	0.10	10
2	17	A	17.23	17.23	33.360	24.203	371.2	0.063	5.69	103.5	4.0	0.35	0.0	0.00	0.32	0.11	17
	20	ISL	17.24	17.24	33.365	24.205	371.2	0.074	5.68	103.3	4.1	0.35	0.0	0.00	0.33	0.11	20
2	27	A	17.26	17.26	33.375	24.208	371.1	0.100	5.66	103.0	4.3	0.35	0.0	0.00	0.38	0.12	27
	30	ISL	17.26	17.26	33.376	24.209	371.1	0.111	5.65	102.8	4.3	0.35	0.0	0.00	0.40	0.13	30
2	38	A	17.26	17.25	33.378	24.211	371.2	0.141	5.64	102.7	4.3	0.35	0.0	0.00	0.47	0.16	38
2	50	A	16.00	15.99	33.205	24.370	356.4	0.185	5.85	103.8	3.1	0.37	0.0	0.00	0.56	0.28	50
2	60		12.83	12.82	33.037	24.908	305.1	0.218	5.70	94.7	4.8	0.61	3.0	0.36	0.61	0.54	60
2	70		12.03	12.02	33.127	25.131	284.0	0.247	5.18	84.6	7.6	0.85	7.3	0.11	0.36	0.36	70
	75	ISL	11.74	11.73	33.183	25.229	274.8	0.261	' 5.01	81.4	8.9	0.96	9.2	0.08	0.28	0.30	75
2	84		11.25	11.24	33.280	25.394	259.3	0.285	4.78	76.9	11.0	1.12	12.1	0.03	0.19	0.22	84
2	99		10.23	10.22	33.387	25.656	234.5	0.322	4.49	70.7	14.3	1.29	15.2	0.02	0.07	0.11	99
	100	ISL	10.17	10.16	33.393	25.671	233.1	0.325	4.47	70.3	14.6	1.31	15.5	0.02	0.07	0.11	100
2	118		9.34	9.33	33.503	25.894	212.1	0.365	4.03	62.2	20.1	1.56	19.8	0.01	0.02	0.08	119
	125	ISL	9.22	9.21	33.552	25.952	206.8	0.379	3.89	59.9	21.3	1.61	20.6	0.01	0.02	0.07	126
2	144		9.07	9.05	33.685	26.080	194.9	0.418	3.55	54.6	24.1	1.72	22.2	0.01	0.01	0.05	145
	150	ISL	8.99	8.97	33.724	26.123	190.9	0.429	3.44	52.8	25.3	1.76	22.9	0.01	0.01	0.05	151
2	173		8.64	8.62	33.856	26.282	176.3	0.471	3.08	46.9	30.2	1.91	25.3	0.01	0.00	0.04	174
	200	ISL	8.26	8.24	33.969	26.429	162.7	0.517	2.83	42.8	35.0	2.03	27.3	0.00	0.00	0.03	201
2t	204		8.21	8.19	33.981	26.446	161.2	0.524	2.80	42.3	35.7	2.04	27.6	0.00	0.00	0.03	205
2	234		7.80	7.78	34.033	26.547	151.9	0.571	2.54	38.0	41.4	2.17	29.5	0.00			235
	250	ISL	7.73	7.71	34.066	26.584	148.7	0.595	2.27	33.9	44.3	2.27	30.5	0.00			251
2	273		7.69	7.66	34.113	26.627	145.0	0.628	1.84	27.5	48.1	2.42	31.9	0.00			275
	300	ISL	7.60	7.57	34.164	26.680	140.4	0.667	1.47	21.9	52.1	2.56	33.1	0.00			302
2	329		7.46	7.43	34.206	26.734	135.7	0.707	1.17	17.4	56.1	2.68	34.2	0.00			331
2	388		6.94	6.90	34.234	26.829	127.3	0.784	0.80	11.7	64.3	2.84	36.6	0.00			390
	400	ISL	6.82	6.78	34.238	26.848	125.5	0.800	0.74	10.8	66.1	2.87	37.0	0.00			403
2	452		6.32	6.28	34.255	26.928	118.3	0.863	0.55	8.0	74.2	3.01	38.8	0.00			455
	500	ISL	5.91	5.87	34.265	26.989	112.8	0.919	0.45	6.4	81.4	3.08	40.2	0.00			503
?	525		5.69	5.65	34.271	27.021	109.8	0.946	0.40	5.7	85.1	3.11	40.9	0.00			529

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 90 70

LATITUDE	LONGITUDE	DAY/NO/YR	CAST TINE	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 S.4 N	120 38.7 W	16/08/93	1049 UTC	3816 ▪	330 14 kn			1014.5 ab	17.0 C	16.9 C		

CAST	DEPTH ▪	TEMP DE6 C	POT TEMP DEG C	SALINITY	SI6HA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/I	NO3 uM/I	NO2 uM/l	CHL-A ug/I	PHAEO ug/I	PRESS db
	0 ISL	17.97	17.97	33.116	23.838	405.5	0.000	5.52	101.7	3.3	0.32	0.1	0.00	0.10	0.02	0
2	2	17.97	17.97	33.116	23.838	405.6	0.008	5.52	101.7	3.3	0.32	0.1	0.00	0.10	0.02	2
	10 ISL	17.97	17.97	33.115	23.838	405.9	0.041	5.53	101.9	3.2	0.33	0.1	0.00	0.10	0.03	10
2	15	17.97	17.97	33.115	23.838	406.0	0.061	5.53	101.9	3.1	0.34	0.1	0.00	0.10	0.03	15
	20 ISL	17.97	17.97	33.116	23.839	406.1	0.081	5.53	101.9	3.1	0.33	0.1	0.00	0.10	0.03	20
	30 ISL	17.97	17.96	33.119	23.842	406.2	0.122	5.54	102.1	3.0	0.31	0.1	0.00	0.10	0.03	30
2	31	17.97	17.96	33.119	23.842	406.?	0.126	5.54	102.1	3.0	0.31	0.1	0.00	0.10	0.03	31
2	40	16.51	16.50	33.088	24.163	375.7	0.161	5.80	103.8	3.0	0.33	0.1	0.00	0.13	0.04	40
2	50	15.42	15.41	33.042	24.374	356.0	0.198	5.95	104.2	3.0	0.35	0.1	0.00	0.20	0.09	50
2	60	14.62	14.61	33.075	24.572	337.3	0.232	5.97	102.9	3.0	0.37	0.1	0.00	0.28	0.22	60
2	70	13.40	13.39	33.059	24.813	314.5	0.265	5.82	97.8	3.8	0.45	0.6	0.10	0.46	0.32	70
	75 ISL	13.60	13.59	33.217	24.894	306.9	0.280	5.70	96.3	3.9	0.44	0.9	0.16	0.43	0.31	75
2	80	13.86	13.85	33.377	24.965	300.4	0.296	5.56	94.5	4.0	0.43	1.2	0.19	0.36	0.28	80
2	95	12.30	12.29	33.274	25.195	278.7	0.339	5.15	84.7	7.5	0.81	7.0	0.04	0.24	0.30	95
	100 ISL	11.94	11.93	33.271	25.261	272.5	0.333	5.06	82.6	8.4	0.88	8.3	0.03	0.20	0.27	100
2	110	11.31	11.30	33.292	25.393	260.0	0.379	4.86	78.3	10.5	1.03	10.9	0.02	0.13	0.19	110
2	124	10.33	10.32	33.368	25.625	238.1	0.414	4.36	68.8	15.9	1.38	16.4	0.01	0.04	0.07	125
	125 ISL	10.27	10.26	33.373	25.639	236.7	0.417	4.36	68.7	16.1	1.39	16.6	0.01	0.04	0.07	126
2	149	9.09	9.07	33.496	25.929	209.4	0.470	4.24	65.1	19.9	1.51	18.9	0.01	0.01	0.04	150
	150 ISL	9.06	9.04	33.503	25.939	208.4	0.472	4.23	64.9	20.1	1.52	19.0	0.01	0.01	0.04	151
2	174	8.47	8.45	33.684	26.173	186.5	0.520	3.89	59.0	25.0	1.67	22.1	0.00	0.00	0.03	175
	200 ISL	8.13	8.11	33.862	26.364	168.8	0.566	3.34	50.3	31.6	1.88	25.4	0.00	0.00	0.03	201
2	204	8.10	8.08	33.885	26.387	166.7	0.573	3.26	49.1	32.6	1.91	25.8	0.00	0.00	0.03	205
2	234	7.84	7.82	33.983	26.502	156.2	0.621	2.86	42.8	38.3	2.05	27.7	0.00			235
	250 ISL	7.73	7.71	34.020	26.548	152.1	0.646	2.58	38.3	41.5	2.15	29.0	0.00			251
2	274	7.56	7.53	34.062	26.605	146.9	0.682	2.15	32.0	46.4	2.31	31.0	0.00			276
	300 ISL	7.32	7.29	34.096	26.667	141.5	0.719	1.78	26.3	51.6	2.46	32.7	0.00			302
2	328	7.03	7.00	34.121	26.727	136.0	0.758	1.46	21.5	57.1	2.59	34.4	0.00			330
2	387	6.36	6.33	34.144	26.835	126.2	0.835	1.05	15.2	68.1	2.80	37.5	0.00			389
	400 ISL	6.27	6.23	34.155	26.855	124.4	0.852	0.96	13.9	70.0	2.84	37.9	0.00			4c2
2	452	5.99	5.95	34.203	26.929	117.8	0.914	0.64	9.2	77.1	2.98	39.3	0.00			455
	500 ISL	5.71	5.67	34.233	26.988	112.6	0.970	0.48	6.8	83.5	3.07	40.7	0.00			503
2	523	5.57	5.53	34.247	27.016	110.1	0.995	0.40	5.7	86.6	3.12	41.3	0.00			526

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 90 80

LATITUDE	LON6ITUDE	DAY/NO/YR	CAST TINE	BOTTOM	WINO SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPI-:
31 45.0 N	121 18.7 W	16/08/93	0510 UTC	3593 ▪	340 17 kn			1014.9 ab	18.5 C	17.1 C		

CAST	DEPTH a	TEMP DE6 C	POT TEMP DEC C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/1.	PO4 uM/l	NO3 uM/1	NO2 uM/l	CHL-A ug/l	PHAEO ug/1	PRES.'i db
	0 ISL	18.61	18.61	33.154	23.710	417.7	0.000	5.47	102.0	3.0	0.30	0.1	0.00	0.07	0.02	CI
2	2	18.61	18.61	33.154	23.710	417.8	0.008	5.47	102.0	3.0	0.30	0.1	0.00	0.07	0.02	2
	10 ISL	18.62	18.62	33.155	23.708	418.2	0.042	5.47	102.1	3.0	0.29	0.1	0.00	0.08	0.02	1C
2	15	18.62	18.62	33.156	23.709	418.3	0.063	5.48	102.2	3.0	0.29	0.1	0.00	0.08	0.02	15
	20 ISL	18.54	18.54	33.158	23.731	416.4	0.084	5.49	102.3	3.0	0.29	0.1	0.00	0.08	0.02	20
2	28	18.40	18.40	33.161	23.768	413.1	0.117	5.51	102.4	3.0	0.29	0.1	0.00	0.09	0.02	28
	30 ISL	18.13	18.12	33.134	23.814	408.8	0.125	5.55	102.6	3.0	0.29	0.1	0.00	0.09	0.02	30
2	39	16.81	16.80	33.034	24.053	386.3	0.161	5.76	103.7	3.1	0.30	0.1	0.00	0.11	0.03	39
2	49	15.95	15.94	33.082	24.286	364.3	0.198	5.88	104.1	3.1	0.34	0.1	0.00	0.15	0.06	49
	50 ISL	15.93	15.92	33.100	24.305	36216	0.202	5.88	104.1	3.1	0.34	0.1	0.00	0.15	0.06	50
2	60	15.76	15.75	33.267	24.472	347.0	0.237	5.86	103.5	3.0	0.30	0.1	0.00	0.18	0.09	60
2	70	14.81	14.80	33.262	24.676	327.7	0.271	5.84	101.2	3.1	0.32	0.0	0.01	0.23	0.19	70
	75 ISL	14.80	14.79	33.326	24.728	322.9	0.287	5.80	100.5	3.2	0.32	0.0	0.01	0.26	0.23	75
2	80	14.79	14.78	33.377	24.770	319.1	0.303	5.73	99.3	3.3	0.33	0.0	0.01	0.29	0.26	80
2	95	14.12	14.11	33.461	24.976	299.8	0.350	5.43	92.9	4.3	0.45	1.5	0.13	0.31	0.28	95
	100 ISL	13.68	13.67	33.460	25.067	291.3	0.365	5.33	90.3	5.0	0.52	2.7	0.10	0.27	0.24	100
2	109	12.77	12.76	33.436	25.230	275.8	0.390	5.17	86.0	6.4	0.66	5.2	0.02	0.18	0.17	109
2	125	11.27	11.25	33.344	25.441	255.8	0.433	4.91	79.0					0.12	0.14	126
2	148	10.29	10.27	33.423	25.675	233.8	0.489	4.73	74.6	12.7	1.14	13.2	0.01	0.05	0.08	149
	150 ISL	10.17	10.15	33.432	25.702	231.2	0.494	4.68	73.6	13.4	1.18	13.8	0.01	0.05	0.07	151
2	172	8.97	8.95	33.560	25.999	203.2	0.541	4.00	61.3	21.4	1.57	20.2	0.01	0.01	0.03	173
	200 ISL	8.45	8.43	33.750	26.228	181.8	0.595	3.36	50.9	28.0	1.82	24.2	0.01	0.00	0.04	201
2	204	8.43	8.41	33.775	26.251	179.7	0.603	3.31	50.2	28.6	1.83	24.4	0.01	0.00	0.04	205
2	232	8.10	8.08	33.901	26.400	166.0	0.651	3.56	53.6	31.3	1.79	24.4	0.01			233
	250 ISL	7.87	7.85	33.953	26.473	159.1	0.680	3.32	49.7	35.1	1.89	26.0	0.01			251
2	271	7.59	7.56	33.994	26.548	152.4	0.713	2.88	42.9	40.2	2.06	28.4	0.01			272
	300 ISL	7.22	7.19	34.027	26.626	145.2	0.756	2.43	35.9	46.7	2.25	30.9	0.01			302
2	327	6.92	6.89	34.047	26.683	140.0	0.795	2.05	30.1	52.3	2.42	32.9	0.01			329
2	385	6.53	6.50	34.106	26.783	131.2	0.873	1.36	19.8	62.0	2.70	36.2	0.01			387
	400 ISL	6.43	6.39	34.123	26.809	128.8	3.893	1.20	17.4	64.6	2.76	36.9	0.01			402
2	4:50	6.13	6.09	34.178	26.892	121.5	3.955	0.77	11.1	72.9	2.92	38.8	0.01			453
	500 ISL	5.87	5.83	34.219	26.957	115.7	1.015	0.55	7.9	79.4	3.03	40.0	0.01			503
2	521	5.76	5.72	34.236	26.985	113.3	1.039	0.46	6.6	82.2	3.07	40.5	0.01			524

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 90 90

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TINE	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AHT	TYPE
31 25.8 N	121 59.8 W	15/08/93	2317 UTC	3825 ▪	350 16 kn	330 04 07	1	1015,9 ab	19.0 C	17.2 C		6/8	SC

CAST	DEPTH ▪	TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0 ISL	18.42	18.42	33.044	23.673	421.3	0.000	5.55	103.1	3.3	0.30	0.1	0.00	0.09	0.02	0
2	2	18.42	18.42	33.044	23.673	421.3	0.008	5.55	103.1	3.3	0.30	0.1	0.00	0.09	0.02	2
2	10	18.42	18.42	33.044	23.673	421.6	0.042	5.54	102.9	3.2	0.29	0.1	0.00	0.09	0.02	10
2	20	18.32	18.32	33.052	23.704	419.0	0.084	5.54	102.7	3.1	0.29	0.1	0.00	0.10	0.02	20
	30 ISL	17.63	17.62	33.132	23.934	397.4	0.125	5.65	103.4	3.1	0.30	0.1	0.00	0.11	0.03	30
2	31	17.51	17.50	33.133	23.963	394.6	0.129	5.67	103.5	3.1	0.30	0.1	0.00	0.11	0.03	31
2	39	16.12	16.11	32.961	24.155	376.5	0.160	5.89	104.6	3.4	0.32	0.1	0.00	0.16	0.06	39
2	49	15.48	15.47	33.007	24.333	359.7	0.197	5.93	104.0	3.3	0.35	0.1	0.00	0.21	0.10	49
	50 ISL	15.40	15.39	33.014	24.356	357.6	0.200	5.93	103.8	3.3	0.35	0.1	0.00	0.22	0.11	50
2	60	14.57	14.56	33.055	24.568	337.7	0.235	5.95	102.4	3.1	0.40	0.1	0.01	0.31	0.25	60
;>	70	13.64	13.63	32.976	24.700	325.3	0.268	5.95	100.5	3.5	0.43	0.1	0.05	0.35	0.31	70
	75 ISL	13.29	13.28	32.989	24.780	317.7	0.284	5.84	97.9	4.0	0.48	0.9	0.06	0.33	0.29	75
2	86	12.64	12.63	33.079	24.978	299.1	0.318	5.48	90.7	5.9	0.65	3.8	0.07	0.25	0.26	86
?.	99	11.90	11.89	33.228	25.235	274.9	0.355	5.02	81.8	9.0	0.93	8.7	0.03	0.16	0.18	99
	100 ISL	11.84	11.83	33.234	25.250	273.4	0.358	5.01	81.6	9.2	0.94	8.9	0.03	0.15	0.18	100
?.	120	10.61	10.60	33.333	25.549	245.2	0.410	4.79	76.0	112.6	1.11	12.6	0.02	0.06	0.12	120
	125 ISL	10.30	10.29	33.370	25.631	237.5	0.422	4.66	73.5	114.0	1.19	13.9	0.02	0.04	0.10	126
2	143	9.30	9.28	33.515	25.911	211.1	0.462	4.17	64.3	119.5	1.49	18.7	0.01	0.01	0.05	144
	150 ISL	9.03	9.01	33.569	25.996	203.0	0.477	4.05	62.1	21.4	1.56	20.0	0.01	0.01	0.05	151
2	175	8.39	8.37	33.742	26.231	181.0	0.525	3.71	56.2	27.6	1.74	23.3	0.01	0.00	0.03	176
	200 ISL	8.10	8.08	33.873	26.377	167.5	0.569	3.29	49.5	32.5	1.89	25.8	0.01	0.00	0.04	201
2	202	8.08	8.06	33.882	26.387	166.6	0.572	3.26	49.0	32.9	1.90	26.0	0.01	0.00	0.04	203
2	234	7.65	7.63	33.974	26.523	154.1	0.623	3.25	48.4	38.1	1.95	27.0	0.01			235
	250 ISL	7.44	7.42	33.993	26.568	150.0	0.648	2.99	44.4	41.6	2.05	28.4	0.01			251
2	273	7.17	7.14	34.010	26.619	145.4	0.681	2.52	37.2	46.9	2.22	30.7	0.01			274
	300 ISL	6.94	6.91	34.045	26.679	140.0	0.720	2.06	30.2	S2.6	2.40	32.9	0.01			302
2	329	6.73	6.70	34.083	26.737	134.8	0.760	1.63	23.8	58.4	2.57	34.8	0.01			331
2	387	6.29	6.26	34.133	26.835	126.1	0.836	1.06	15.3	68.4	2.80	37.5	0.01			389
	400 ISL	6.21	6.17	34.144	26.854	124.4	0.852	0.97	14.0	70.2	2.84	38.0	0.01			402
2	455	5.92	5.88	34.189	26.927	118.0	0.918	0.66	9.5	77.3	2.98	39.6	0.01			458
	500 ISL	5.70	5.66	34.229	26.986	112.8	0.970	0.49	7.0	83.0	3.06	40.4	0.01			503
2	524	5.58	5.54	34.251	27.018	109.9	0.997	0.40	5.7	(16.0	3.11	40.9	0.01			527

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 5.6 N	122 41.1 W	15/08/93	1825 UTC	4023 ▪	340 18 kn	340 04 07	1	1018.0 ab	18.3 C	16.9 C	29a 01	7/8	SC

CAST	DEPTH a	TEMP DEG C	POT TEMP DE6 C	SALINITY	SIGMA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SI03 uM/I	P04 uM/l	N03 uH/I	N02 uM/l	CHL-A ug/I	PHAEO ug/l	PRESS db
	0 ISL	18.64	18.64	33.175	23.718	416.9	0.000	5.49	102.5	3.3	0.32	0.0	0.00	0.10	0.03	0
2	1 A	18.64	18.64	33.175	23.718	417.0	0.004	5.49	102.5	3.3	0.32	0.0	0.00	0.10	0.03	1
8	10	18.53	18.53	33.178	23.748	414.4	0.042	5.50	102.5	3.2	0.32	0.0	0.00	0.10	0.02	10
2	20 A	18.51	18.51	33.173	23.750	414.6	0.083	5.51	102.6	3.1	0.31	0.0	0.00	0.10	0.03	20
?.	30	18.39	18.38	33.167	23.775	412,5	0.124	5.52	102.5	3.1	0.31	0.0	0.00	0.14	0.04	30
2	35 A	16.86	16.85	33.097	24.089	382.7	0.144	5.79	104.4	3.1	0.32	0.0	0.00	0.16	0.05	35
	50 ISL	14.27	14.26	33.098	24.664	328.2	0.198	6.18	105.8	4.3	0.38	0.0	0.01	0.31	0.16	50
2	54 A	13.87	13.86	33.109	24.755	319.6	0.211	6.29	106.8	4.6	0.41	0.0	0.01	0.35	0.19	54
2	60	13.14	13.13	33.102	24.897	306.2	0.229	5.99	100.2	4.7	0.49	0.9	0.07	0.74	0.43	60
2	68	12.86	12.85	33.154	24.993	297.2	0.253	5.89	98.0	5.8	0.57	2.3	0.09	0.72	0.47	68
	75 ISL	12.33	12.32	33.174	25.111	286.1	0.274	5.45	89.6	7.2	0.77	6.0	0.08	0.58	0.59	75
2	78 A	12.06	12.05	33.182	25.168	280.7	0.282	5.23	85.5	8.0	0.87	7.8	0.08	0.50	0.61	78
2	89	11.11	11.10	33.248	23.394	259.4	0.312	4.75	76.2	12.1	1.16	12.6	0.02	0.20	0.27	89
	100 ISL	10.44	10.43	33.353	25.594	240.5	0.340	4.44	70.2	14.7	1.34	15.7	0.03	0.07	0.12	100
2	102 A	10.34	10.33	33.373	25.626	237.4	0.344	4.40	69.4	15.1	1.36	16.1	0.03	0.06	0.10	102
	125 ISL	9.37	9.36	33.524	25.906	211.2	0.396	3.94	60.9	20.5	1.60	20.1	0.02	0.02	0.06	126
2	135	9.06	9.05	33.573	25.994	202.9	0.417	3.80	58.3	22.6	1.67	21.2	0.01	0.00	0.04	136
	150 ISL	8.68	8.66	33.647	26.111	192.0	0.446	3.71	56.5	25.0	1.74	22.6	0.01	0.00	0.04	151
2	170	8.32	8.30	33.737	26.237	180.3	0.484	3.65	55.2	27.7	1.79	23.9	0.01	0.00	0.03	171
	200 ISL	8.04	8.02	33.869	26.383	166.9	0.536	3.48	52.3	31.6	1.85	25.1	0.02	0.00	0.03	201
2	205	8.01	7.99	33.890	26.404	165.0	0.544	3.45	51.8	32.4	1.87	25.4	0.02	0.00	0.03	206
V.	234	7.75	7.73	34.005	26.533	153.2	0.590	2.70	40.3	40.5	2.12	29.0	0.01			235
	250 ISL	7.60	7.58	34.031	26.575	149.4	0.614	2.18	32.5	43.7	2.21	30.1	0.01			251
2	274	7.34	7.31	34.046	26.624	145.0	0.650	1.55	22.9	47.8	2.31	31.4	0.01			276
	300 ISL	6.99	6.96	34.052	26.677	140.2	0.687	1.62	23.8	53.0	2.44	33.2	0.01			302
2	330	6.61	6.58	34.062	26.737	134.8	0:728	1.71	24.9	59.0	2.58	35.2	0.01			332
2	388	6.27	6.24	34.147	26.849	124.8	0.803	1.00	14.4	69.9	2.85	38.0	0.01			390
	400 ISL	6.17	6.13	34.154	26.867	123.1	0.818	0.93	13.4	71.9	2.89	38.5	0.01			402
2	452	5.75	5.71	34.178	26.939	116.6	0.880	0.71	10.1	80.1	3.02	40.3	0.01			455
	500 ISL	5.50	5.46	34.232	27.013	110.0	0.935	0.49	7.0	87.0	3.12	41.3	0.01			503
▪'.	520	5.40	5.36	34.255	27.043	107.3	0.957	0.40	5.7	89.9	3.16	41.7	0.01			523

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 93 35

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD ANT TYPE
32 41.3 N	117 52.7 W	12/08/93	1001 UTC	622 •	00 kn			1013.0 ab	19.0 C	18.5 C		

CAST	DEPTH •		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/1	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/I	PHAEO ug/I	PRESS db
	0	ISL	19.90	19.90	33.384	23.55?	432.3	0.000	5.38	103.0	4.0	0.29	0.2	0.00	0,17	0.03	0
2	2		19.90	19.90	33.384	23.557	432.4	0.009	5.38	103.0	4.0	0.29	0.2	0.00	0.17	0.03	2
	10	ISL	19.42	19.42	33.330	23.640	424.7	0.043	5.45	103.3	3.8	0.32	0.2	0.00	0.14	0.03	10
2	11		19.33	19.33	33.320	23.655	423.3	0.047	5.46	103.4	3.8	0.33	0.2	0.00	0.14	0.03	11
	20	ISL	18.51	18.51	33.260	23.816	408.3	0.085	5.60	104.3	3.7	0.35	0.2	0.00	0.14	0.03	20
2	21		18.38	18.38	33.254	23.844	405.7	0.089	5.62	104.4	3.7	0.35	0.2	0.00	0.14	0.03	21
	30	ISL	16.49	16.49	33.205	24.258	366.5	0.123	5.92	106.0	3.8	0.37	0.2	0.00	0.28	0.09	30
2	31		16.26	16.26	33.202	24.308	361.7	0.127	5.95	106.1	3.8	0.37	0.2	0.00	0.31	0.10	31
2	40		14.53	14.52	33.183	24.674	327.0	0.158	5.97	102.8	4.2	0.44	0.7	0.03	0.74	0.38	40
2	50		13.77	13.76	33.202	24.847	310.7	0.190	5.70	96.6	5.4	0.63	2.7	0.09	1.07	0.49	50
2	60		12.98	12.97	33.222	25.022	294.3	0.220	5.44	90.7	6.3	0.71	4.8	0.15	0.66	0.49	60
2	70		12.55	12.54	33.254	25.131	284.11	0.249	5.22	86.3	7.6	0.81	6.4	0.18	0.43	0.46	70
	75	ISL	12.17	12.16	33.288	25.230	274.8	0.263	5.00	82.0	8.9	0.91	8.1	0.15	0.34	0.39	75
2	85		11.37	11.36	33.375	25.446	254.4	0.290	4.50	72.6	12.2	1.15	12.0	0.06	0.20	0.25	85
2	100		10.59	10.58	33.508	25.688	231.6	0.326	3.86	61.3	17.0	1.45	16.5	0.02	0.08	0.15	'100
2	120		10.09	10.08	33.605	25.850	216.5	0.371	3.63	57.0	20.0	1.57	18.7	0.01	0.03	0.10	121
	125	ISL	9.93	9.92	33.672	25.930	209.1	0.381	3.46	54.2	21.8	1.66	19.8	0.01	0.02	0.08	126
2	144		9.42	9.40	33.929	26.215	182.3	0.419	2.79	43.3	28.5	1.98	23.8	0.01	0.00	0.03	145
	150	ISL	9.38	9.36	33.971	26.254	178.7	0.429	2.70	41.9	29.6	1.99	24.3	0.01	0.00	0.03	151
2	174		9.24	9.22	34.030	26.324	172.6	0.472	2.49	38.5	32.2	2.04	25.3	0.01	0.00	0.05	175
	200	ISL	9.15	9.13	34.091	26.386	167.1	0.516	2.25	34.7	34.8	2.15	26.2	0.01	0.00	0.03	201
2	203		9.14	9.12	34.097	26.393	166.6	0.521	2.22	34.3	35.1	2.16	26.3	0.01	0.00	0.03	204
2	233		8.96	8.93	34.143	26.458	161.0	0.570	2.03	31.2	37.6	2.24	*27.2*	0.01			234
	250	ISL	8.83	8.80	34.169	26.499	157.3	0.597	1.89	29.0	39.6	2.30	27.9	0.01			251
2	274		8.65	8.62	34.199	26.551	152.8	0.634	1.69	25.8	42.4	2.38	28.9	0.01			276
	300	ISL	8.49	8.46	34.210	26.584	150.0	0.674	1.58	24.0	44.4	2.43	29.6	0.01			302
2	329		8.31	8.28	34.218	26.619	147.2	0.717	1.46	22.1	46.9	2.50	30.3	0.01			331
2	387		7.78	7.74	34.267	26.737	136.8	0.799	0.88	13.2	56.0	2.75	32.8	0.01			389
	400	ISL	7.61	7.57	34.273	26.766	134.0	0.817	0.80	11.9	58.4	2.80	33.4	0.01			403
2	452		6.97	6.93	34.290	26.870	124.5	0.884	0.56	8.2	67.0	2.96	35.7	0.01			455
	500	ISL	6.68	6.63	34.304	26.921	120.2	0.943	0.46	6.7	71.6	3.04	36.9	0.01			503
2	522		6.55	6.50	34.311	26.943	118.2	0.969	0.41	6.0	73.7	3.07	37.4	0.01			526

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 93 40

LATITUDE	LONSITUDE	DAY/NO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 30.6 N	118 13.1 W	12/08/93	1423 UTC	1622 a	290 20 kn	300 04 05	1	1013.0 ab	18.2 C	17.0 C		7/8 SC

CAST	DEPTH a		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/1	PO4 uM/t	NO3 uM/I	NO2 uM/l	CHL-A ug/l	PHAEO ug/1	PRESS db
	0	ISL	18.36	18.36	33.261	23.853	404.0	0.000	5.52	102.6	3.4	0.34	0.2	0.01	0.10	0.02	0
2	2		18.36	18.36	33.261	23.853	404.1	0.008	5.52	102.6	3.4	0.34	0.2	0.01	0.10	0.02	2
	10	ISL	18.36	18.36	33.265	23.857	404.0	0.040	5.51	102.4	3.2	0.34	0.2	0.01	0.10	0.02	10
2	11		18.36	18.36	33.265	23.857	404.1	0.044	5.51	102.4	3.2	0.34	0.2	0.01	0.10	0.02	11
	20	ISL	18.26	18.26	33.268	23.884	401.8	0.081	5.54	102.7	3.2	0.34	0.2	0.01	0.10	0.02	20
2	21		18.25	18.25	33.268	23.887	401.6	0.085	5.54	102.7	3.2	0.34	0.2	0.01	0.10	0.02	21
	30	ISL	16.77	16.77	33.242	24.221	369.9	0.119	5.80	104.5	3.5	0.36	0.1	0.01	0.13	0.04	30
2	31		16.59	16.59	33.240	24.261	366.1	0.123	5.83	104.6	3.5	0.36	0.1	0.01	0.14	0.04	31
2	40		15.71	15.70	33.207	24.436	349.7	0.155	5.92	104.4	3.1	0.34	0.1	0.01	0.18	0.08	4CI
2	50	'	14.41	14.40	33.168	24.688	325.9	0.189	5.92	101.7	3.5	0.38	0.1	0.01	0.35	0.26	50
2	60		13.78	13.77	33.177	24.826	313.0	0.221	5.77	97.8	3.8	0.44	0.8	0.08	0.54	0.40	60
2	70		12.75	12.74	33.220	25.066	290.4	0.251	5.34	88.6	5.6	0.67	4.4	0.07	0.46	0.41	7G
	75	ISL	12.37	12.36	33.252	25.164	281.1	0.266	5.18	85.3	6.8	0.77	6.1	0.06	0.37	0.36	75
2	85		11.77	11.76	33.321	25.331	265.4	0.293	4.86	79.1	9.4	0.96	9.3	0.03	0.20	0.25	85
2	100		11.13	11.12	33.413	25.519	247.7	0.331	4.24	68.1	13.6	1.24	13.6	0.02	0.16	0.22	100
2	120		9.89	9.88	33.595	25.876	214.0	0.378	3.62	56.6	20.2	1.57	18.9	0.01	0.02	0.08	121
	125	ISL	9.74	9.73	33.626	25.925	209.4	0.388	3.55	55.4	21.2	1.61	19.6	0.01	0.02	0.07	126
2	145		9.44	9.42	33.728	26.054	197.5	0.429	3.36	52.1	24.0	1.73	21.3	0.01	0.00	0.05	146
	150	ISL	9.40	9.38	33.755	26.082	195.0	0.439	3.30	51..1	24.6	1.75	21.6	0.01	0.00	0.05	151
2	174		9.25	9.23	33.884	26.208	183.5	0.484	2.96	45.7	27.9	1.87	23.1	0.01	0.00	0.04	175
	200	ISL	8.95	8.93	34.032	26.372	168.4	0.530	2.53	38.9	33.4	2.03	25.6	0.01	0.00	0.04	201
2	204		8.90	8.88	34.051	26.395	166.3	0.536	2.47	37.9	34.2	2.06	26.0	0.01	0.00	0.04	205
2	234		8.69	8.67	34.112	26.476	159.1	0.585	2.18	33.3	37.9	2.20	27.4	0.01			235
	250	ISL	8.68	8.65	34.155	26.511	156.1	0.611	1.95	29.8	40.0	2.29	28.0	0.01			251
2	274		8.65	8.62	34.211	26.560	151.9	0.647	1.62	24.7	43.1	2.41	28.9	0.01			276
	300	ISL	8.40	8.37	34.226	26.611	147.5	0.686	1.43	21.7	46.4	2.50	29.8	0.01			302
2	330		8.05	8.02	34.228	26.665	142.6	0.730	1.27	19.1	50.2	2.59	30.9	0.00			332
2	387		7.59	7.55	34.263	26.761	134.3	0.809	0.87	13.0	57.6	2.78	33.3	0.00			389
	400	ISL	7.47	7.43	34.270	26.784	132.3	0.826	0.79	11.7	59.5	2.82	33.8	0.00			402
2	452		6.98	6.94	34.292	26.870	124.5	0.893	0.55	8.1	66.9	2.97	35.8	0.00			455
	500	ISL	6.59	6.54	34.307	26.935	118.7	0.951	0.42	6.1	73.1	3.06	37.0	0.00			503
2	522		6.41	6.36	34.315	26.965	116.0	0.977	0.36	5.2	76.0	3.10	37.6	0.00			526

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 57.1 N	117 18.3 U	11/08/93	1909 UTC	63 •	290 05 kn	300 02 05	1	1015.2 ab	22.1 C	20.0 C	23a 02	2/8	CI

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/L	NO3 uM/I	NO2 uM/l	CHL-A ug/l	PHAEO ufl/I	PRESS db
	0	ISL	20.97	20.97	33.364	23.258	460.8	0.000	5.56	108.5	4.0	0.30	0.2	0.00	0.18	0.05	0
8	3	A	20.97	20.97	33.364	23.259	460.9	0.014	5.56	108.5	4.0	0.30	0.2	0.00	0.18	0.05	3
2	5		20.50	20.50	33.350	23.374	450.0	0.023	5.59	108.2	3.8	0.30	0.2	0.00	0.16	0.05	5
2	10		17.03	17.03	33.278	24.187	372.5	0.043	6.05	109.6	4.4	0.35	0.2	0.00	0.22	0.07	10
2	16	A	14.25	14.25	33.182	24.732	320..8	0.064	6.25	107.0	4.6	0.41	0.2	0.01	0.32	0.15	16
	20	ISL	13.37	13.37	33.196	24.923	302.6	0.077	6.08	102.2	5.2	0.51	1.4	0.06	0.65	0.32	20
2	28	A	12.61	12.61	33.262	25.124	283.7	0.100	5.46	90.4	7.1	0.76	5.0	0.18	1.26	0.65	28
	30	ISL	12.44	12.44	33.277	25.169	279.5	0.106	5.30	87.4	7.8	0.81	5.9	0.21	1.21	0.65	30
2	44	A	11.73	11.72	33.365	25.371	260.5	0.144	4.38	71.2	12.9	1.17	11.9	0.38	0.54	0.48	44
2	50		11.62	11.61	33.386	25.408	257.2	0.159	4.24	68.8					0.43	0.50	50

A> PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 93 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 53.5 N	117 24.2 W	12/08/93	0058 UTC	534 a	280 07 kn	280 02 0S	1	1013.S ab	21.8 C	19.2 C		3/8	CS

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/L	PO4 uM/I	NO3 uM/I	NO2 uM/L	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	22.06	22.06	33.42	23.003	485.3	0.000	5.37	106.9	3.4	0.27	0.2	0.00	0.15	0.04	0
2	2		22.06	22.06	33.42	23.003	485.3	0.010	5.37	106.9	3.4	0.27	0.2	0.00	0.15	0.04	2
	10	ISL	21.16	21.16	33.39	23.227	464.2	0.048	5.49	107.5	3.7	0.28	0.2	0.00	0.15	0.04	10
2	11		20.93	20.93	33.38	23.282	459.0	0.052	5.51	107.5	3.7	0.28	0.2	0.00	0.15	0.04	11
2	20		17.41	17.41	33.25	24.076	383.5	0.090	6.03	110.0	4.1	0.35	0.2	0.00	0.20	Q.06	20
2	30		14.58	14.58	33.15	24.638	330.1	0.126	6.15	106.0	4.0	0.40	0.2	0.00	0.32	0.18	30
2	41		13.12	13.11	33.17	24.953	300.3	0.161	5.65	94.5	5.9	0.63	3.4	0.16	0.74	0.56	41
2	S0		12.21	12.20	33.30	25.231	274.1	0.186	4.98	81.8	8.8	0.92	7.9	0.20	0.63	0.53	50
2	59		11.56	11.55	33.38	23.415	256.8	0.210	4.44	71.9	12.2	1.13	11.7	0.10	0.38	0.47	59
2	68		11.17	11.16	33.47	25.556	243.5	0.233	3.82	61.4	16.0	1.37	15.0	0.04	0.24	0.36	68
	75	ISL	11.01	11.00	33.51	25.614	238.1	0.250	3.57	57.2	17.6	1.46	16.4	0.03	0.16	0.29	75
2	85		10.89	10.88	33.54	25.661	233.9	0.273	3.42	54.7	18.6	1.51	17.3	0.02	0.10	0.23	85
2	100		10.73	10.72	33.58	25.720	228.6	0.308	3.37	53.7	19.2	1.56	18.0	0.02	0.08	0.20	100
2	121		10.29	10.28	33.65	25.851	216.5	0.355	3.28	51.8	21.1	1.65	19.6	0.01	0.04	0.14	122
	125	ISL	10.25	10.24	33.68	25.879	214.0	0.363	3.21	50.6	21.7	1.68	20.0	0.01	0.03	0.13	126
2	145		10.08	10.06	33.81	26.012	201.7	0.405	2.85	44.8	24.9	1.82	22.0	0.01	0.01	0.08	146
	150	ISL	9.99	9.97	33.83	26.043	198.9	0.415	2.82	44.3	25.5	1.84	22.4	0.01	0.01	0.07	151
2	174		9.67	9.65	33.92	26.167	187.5	0.461	2.66	41.5	27.9	1.94	23.8	0.01	0.00	0.06	175
	200	ISL	9.87	9.85	34.08	26.259	179.5	0.509	2.09	32.8	31.2	2.12	25.4	0.01	0.00	0.06	201
2	204		9.90	9.88	34.10	26.270	178.5	0.516	2.01	31.5	31.7	2.14	25.6	0.01	0.00	0.06	205
2	233		9.46	9.43	34.11	26.352	171.3	0.567	2.08	32.3	33.6	2.17	26.3	0.01			234
	250	ISL	9.38	9.35	34.14	26.391	167.9	0.596	1.95	30.3	35.2	2.23	26.9	0.01			251
2	273		9.32	9.29	34.19	26.438	163.9	0.634	1.72	26.7	37.5	2.33	27.8	0.01			275
	300	ISL	9.08	9.05	34.20	26.488	159.6	0.677	1.60	24.7	40.2	2.40	28.7	0.01			302
2	328		8.79	8.75	34.21	26.539	155.1	0.722	1.48	22.7	43.1	2.47	29.6	0.01			330
2	386		8.34	8.30	34.27	26.656	144.8	0.809	1.00	15.2	50.2	2.69	31.6	0.01			388
	400	ISL	8.17	8.13	34.27	26.685	142.2	0.829	0.93	14.0	52.1	2.73	32.3	0.01			403
2	451		7.47	7.43	34.28	26.792	132.3	0.899	0.73	10.9	60.0	2.88	34.8	0.01			454
	500	ISL	6.78	6.73	34.29	26.898	122.4	0.961	0.51	7.5	69.7	3.03	36.9	0.01			503
2	521		6.48	6.43	34.30	26.944	118.0	0.986	0.41	6.0	73.9	3.09	37.8	0.01			525

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 93 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 50.6 N	117 31.9 W	12/08/93	0416 UTC	849 a	290 06 kn			1013.1 ab	20.0 C	18.6 C			

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/I	PO4 uM/I	NO3 uM/I	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	21.66	21.66	33.428	23.119	474.1	0.000	5.35	105.8	3.9	0.32	0.1	0.01	0.14	0.04	0
2	2		21.66	21.66	33.428	23.119	474.2	0.009	5.35	105.8	3.9	0.32	0.1	0.01	0.14	0.04	2
	10	ISL	21.37	21.37	33.422	23.195	467.3	0.047	5.39	106.0	3.5	0.29	0.1	0.01	0.15	0.04	10
2	11		21.33	21.33	33.421	23.205	466.4	0.052	5.39	105.9	3.5	0.29	0.1	0.01	0.15	0.04	11
2	20		18.21	18.21	33.264	23.893	400.9	0.091	5.81	107.6	3.8	0.39	0.1	0.01	0.21	0.05	20
2	28		15.66	15.66	33.195	24.438	349.2	0.121	6.17	108.7	4.0	0.48	0.1	0.01	0.21	0.08	28
	30	ISL	15.35	15.35	33.178	24.493	344.0	0.128	6.16	107.8	4.0	0.47	0.1	0.01	0.23	0.09	30
2	39		14.40	14.39	33.129	24.660	328.3	0.158	6.12	105.1	3.9	0.42	0.1	0.01	0.30	0.14	39
2	49		12.96	12.95	33.227	25.029	293.3	0.189	5.85	97.5	4.4	0.59	2.0	0.07	1.19	0.57	49
	50	ISL	12.83	12.82	33.238	25.063	290.I	0.192	5.74	95.5	4.9	0.64	2.8	0.08	1.14	0.57	50
2	58		12.02	12.01	33.317	25.280	269.6	0.214	4.86	79.5	9.3	1.00	9.0	0.17	0.54	0.54	58
2	69		11.63	11.62	33.377	25.400	258.4	0.243	4.47	72.5	11.8	1.16	11.8	0.10	0.36	0.44	69
	75	ISL	11.24	11.23	33.439	25.519	247.2	0.259	4.13	66.5	14.1	1.30	14.0	0.07	0.25	0.37	75
2	84		10.72	10.71	33.537	25.688	231.3	0.280	3.63	57.8	17.6	1.50	17.1	0.03	0.12	0.27	84
2	98		10.60	10.59	33.625	25.778	223.0	0.312	3.26	51.8	20.2	1.63	18.9	0.03	0.06	0.15	98
	100	ISL	10.57	10.56	33.643	25.797	221.2	0.316	3.20	50.8	20.6	1.65	19.2	0.03	0.06	0.14	100
2	118		10.30	10.29	33.805	25.971	205.1	0.355	2.72	43.0	24.4	1.84	21.8	0.02	0.03	0.09	119
	125	ISL	10.29	10.28	33.861	26.016	201.0	0.369	2.57	40.6	25.5	1.89	22.5	0.02	0.02	0.08	126
2	144		10.26	10.24	33.973	26.109	192.6	0.406	2.24	35.4	27.8	2.00		0.02	0.01	0.06	145
	150	ISL	10.23	10.21	33.999	26.135	190.3	0.418	2.17	34.3	28.4	2.04	24.5	0.02	0.01	0.06	151
2	173		10.12	10.10	34.068	26.208	183.9	0.461	2.01	31.7	30.7	2.15	25.4	0.00	0.01	0.05	174
	200	ISL	9.55	9.53	34.116	26.341	171.6	0.509	2.07	32.2	33.3	2.19	26.1	0.00	0.00	0.05	201
2	203		9.49	9.47	34.121	26.355	170.3	0.514	2.07	32.2	33.6	2.19	26.2	0.00	0.00	0.05	204
2	232		9.37	9.34	34.202	26.438	163.0	0.562	1.72	26.7	37.5	2.33	27.5	0.00			233
	250	ISL	9.26	9.23	34.234	26.481	159.2	0.591	1.55	24.0	39.6	2.41	28.2	0.00			251
2	271		9.10	9.07	34.256	26.525	155.5	0.624	1.41	21.8	41.7	2.48	28.9	0.00			273
	300	ISL	8.80	8.77	34.260	26.576	151.1	0.669	1.33	20.4	44.3	2.54	29.7	0.00			302
2	327		8.53	8.50	34.254	26.613	147.8	0.709	1.29	19.6	46.5	2.57	30.3	0.00			329
2	387		8.20	8.16	34.256	26.666	143.8	0.797	1.13	17.1	50.5	2.66	31.5	0.00			589
	400	ISL	8.07	8.03	34.260	26.689	141.8	0.815	1.06	16.0	52.2	2.70	32.0	0.00			403
2	450		7.50	7.46	34.277	26.786	133.0	0.884	0.76	11.3	59.5	2.86	33.9	0.00			453
	500	ISL	7.05	7.00	34.285	26.855	126.7	0.949	0.59	8.7	66.0	2.98	35.5	0.00			503
2	523		6.84	6.79	34.290	26.888	123.7	0.978	0.51	7.5	69.0	3.04	36.3	0.00			527

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 93 45

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 21.0 N	118 33.8 W	12/08/93	1910 UTC	1357 •	300 21 kn	300 05 05	1	1014.9 ab	18.9 C	18.3 C	19a O2	4/8	AC

CAST	DEPTH •	.	TEMP DEC C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/ L	PO4 uM/l	NO3 uM/I	NO2 uM/l	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	18.15	18.15	33.295	23.931	396.6	0.000	5.53	102.4	4.0	0.37	0.2	0.00	0.14	0.04	0
2	2	A	18.15	18.15	33.295	23.931	396.7	0.008	5.53	102.4	4.0	0.37	0.2	0.00	0.14	0.04	2
	10	ISL	18.15	18.15	33.297	23.933	396.8	0.040	5.53	102.3	3.9	0.36	0.2	0.00	0.13	0.03	10
2	13	A	18.15	18.15	33.298	23.934	396.8	0.052	5.53	102.3	3.8	0.36	0.2	0.00	0.13	0.03	13
	20	ISL	18.14	18.14	33.297	23.936	396.9	0.079	5.54	102.5	3.7	0.36	0.2	0.00	0.13	0.03	20
2	23	A	18.13	18.13	33.297	23.938	396.7	0.091	5.54	102.5	3.6	0.36	0.2	0.00	0.13	0.03	23
	30	ISL	16.84	16.84	33.249	24.210	371.0	0.118	5.81	104.8	3.4	0.38	0.2	0.00	0.15	0.05	30
2	36	A	15.49	15.48	33.212	24.489	344.6	0.140	6.00	105.4	3.2	0.41	0.2	0.00	0.17	0.10	36
2	43		14.43	14.42	33.179	24.692	325.3	0.163	5.90	101.4	3.9	0.48	0.7	0.08	0.38	0.19	43
2	50	A	13.32	13.31	33.174	24.917	304.0	0.185	5.52	92.7	5.6	0.67	3.6	0.29	0.42	0.24	50
2	60		12.87	12.86	33.192	25.020	294.4	0.215	5.33	88.7	6.7	0.76	5.3	0.28	0.33	0.31	60
2	67	A	12.59	12.58	33.213	25.091	287.8	0.235	5.21	86.2	7.4	0.82	6.5	0.26	0.26	0.26	67
	75	ISL	11.94	11.93	33.247	25.241	273.7	0.258	5.00	81.6	8.9	0.96	8.8	0.16	0.18	0.23	75
2	84		11.20	11.19	33.289	25.410	257.8	0.282	4.77	76.6	10.7	1.13	11.4	0.04	0.11	0.21	84
2	100		10.69	10.68	33.329	25.532	246.5	0.322	4.56	72.5	13.0	1.27	13.6	0.02	0.08	0.14	100
2	118		9.88	9.87	33.450	25.764	224.6	0.364	4.18	65.3	17.0	1.47	16.8	0.01	0.02	0.08	119
	125	ISL	9.67	9.66	33.506	25.843	217.2	0.380	4.00	62.2	18.8	1.54	18.0	0.01	0.01	0.07	126
2	144		9.25	9.23	33.661	26.033	199.5	0.420	3.54	54.6	23.4	1.71	20.9	0.01	0.00	0.06	145
	150	ISL	9.11	9.09	33.707	26.091	194.0	0.431	3.45	53.1	24.6	1.75	21.6	0.01	0.00	0.06	151
2	174		8.72	8.70	33.881	26.289	175.6	0.476	3.10	47.3	29.0	1.89	23.8	0.00	0.00	0.05	175
	200	ISL	8.79	8.77	34.044	26.406	165.1	0.520	2.53	38.7	34.0	2.08	25.8	0.00	0.00	0.04	201
2	204		8.80	8.78	34.061	26.418	164.0	0.527	2.45	37.5	34.7	2.11	26.0	0.00	0.00	0.04	205
2	234		8.77	8.75	34.133	26.480	158.8	0.575	2.10	32.1	37.7	2.24	27.3	0.00			235
	250	ISL	8.54	8.51	34.158	26.535	153.7	0.600	1.89	28.8	40.9	2.34	28.3	0.00			251
2	271		8.19	8.16	34.185	26.610	146.9	0.632	1.62	24.5	45.4	2.47	29.6	0.00			273
	300	ISL	7.97	7.94	34.214	26.666	142.0	0.673	1.35	20.3	49.2	2.60	30.9	0.00			302
2	328		7.81	7.78	34.236	26.707	138.5	0.713	1.14	17.1	52.3	2.70	32.0	0.00			330
2	389		7.25	7.21	34.279	26.822	128.3	0.794	0.67	9.9	61.4	2.90	34.7	0.00			391
	400	ISL	7.17	7.13	34.286	26.838	126.8	0.808	0.61	9.0	62.8	2.93	35.0	0.00			403
2	452		6.81	6.77	34.314	26.910	120.5	0.872	0.43	6.3	68.9	3.04	36.4	0.00			455
	500	ISL	6.45	6.40	34.325	26.967	115.5	0.929	0.35	5.1	74.4	3.12	37.7	0.00			503
2	523		6.28	6.23	34.331	26.994	113.1	0.955	0.31	4.5	77.1	3.16	38.3	0.00			527

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 93 50

LATITUDE	LON6ITUDE	DAY/HO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 11.0 N	118 54.4 W	13/08/93	0018 UTC	1360 a	310 18 kn	310 05 06	1	1014.1 ab	18.2 C	16.5 C	20a O2	7/8	SC

CAST	DEPTH a		TEMP DE6 C	POT TEMP DUG C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/1	PO4 uH/l	NO3 uM/1	NO2 uM/L	CHL-A ug/l	PHAEO ug/ I	PRESS db
	0	ISL	18.17	18.17	33.252	23.893	400.2	0.000	5.56	102.9	3.7	0.36	0.2	0.00	0.15	0.04	0
2	2		18.17	18.17	33.252	23.893	400.3	0.008	5.56	102.9	3.7	0.36	0.2	0.00	0.15	0.04	2
2	10		18.17	18.17	33.253	23.894	400.5	0.040	5.53	102.4	3.5	0.34	0.2	0.00	0.14	0.04	10
	20	ISL	18.14	18.14	33.252	23.901	400.1	0.080	5.56	102.9	3.4	0.34	0.2	0.00	0.14	0.04	20
2	21		18.14	18.14	33.252	23.901	400.2	0.084	5.56	102.9	3.4	0.34	0.2	0.00	0.14	0.04	21
2	30		15.92	15.92	33.161	24.353	357.3	0.118	5.94	105.2	3.5	0.38	0.2	0.00	0.24	0.09	30
2	40		14.56	14.55	33.144	24.638	330.4	0.153	6.00	103.4	3.7	0.40	0.2	0.01	0.36	0.17	40
	50	ISL	13.80	13.79	33.142	24.795	315.7	0.185	5.83	98.9	4.2	0.51	1.3	0.11	0.47	0.26	50
2	51		13.73	13.72	33.143	24.810	314.3	0.188	5.80	98.2	4.3	0.53	1.5	0.12	0.47	0.27	51
2	60		12.67	12.66	33.188	25.056	291.0	0.215	5.35	88.6	6.3	0.73	5.3	0.18	0.39	0.33	60
2	70		12.11	12.10	33.237	25.202	277.3	0.244	5.08	83.2	8.1	0.91	8.1	0.05	0.23	0.22	70
	75	ISL	11.82	11.81	33.257	25.271	270.8	0.257	4.95	80.6	9.1	0.99	9.4	0.05	0.19	0.19	75
2	85		11.30	11.29	33.295	25.396	259.1	0.284	4.73	76.2	11.0	1.11	11.5	0.05	0.16	0.17	85
	100	ISL	10.88	10.87	33.345	25.511	248.5	0.322	4.53	72.3	12.8	1.24	13.6	0.03	0.11	0.14	100
2	101		10.85	10.84	33.350	25.520	247.6	0.324	4.51	71.9	13.0	1.25	13.8	0.03	0.11	0.14	101
2	120		9.54	9.53	33.574	25.917	210.0	0.368	3.70	57.4	21.4	1.65	19.9	0.02	0.03	0.08	121
	125	ISL	9.48	9.47	33.640	25.979	204.3	0.378	3.53	54.7	22.8	1.71	20.8	0.02	0.03	0.08	126
2	147		9.20	9.18	33.808	26.156	187.9	0.421	3.03	46.7	27.0	1.86	23.2	0.01	0.01	0.07	148
	150	ISL	9.15	9.13	33.821	26.174	186.2	0.427	3.03	46.7	27.4	'1.87	23.4	0.01	0.01	0.07	151
2	174		8.76	8.74	33.898	26.296	175.0	0.470	3.00	45.8	30.6	1.93	24.5	0.02	0.00	0.07	175
	200	ISL	8.51	8.49	34.022	26.432	162.5	0.514	2.64	40.1	35.6	2.05	26.0	0.01	0.00	0.04	201
2	203		8.49	8.47	34.035	26.446	161.3	0.519	2.59	39.4	36.2	2.07	26.2	0.01	0.00	0.04	204
2	233		8.36	8.34	34.095	26.513	155.4	0.567	2.19	33.2	40.3	2.22	27.9	0.01			234
	250	ISL	8.15	8.12	34.116	26.561	151.0	0.593	2.04	30.8	43.2	2.31	28.8	0.01			251
2	273		7.86	7.83	34.144	26.626	145.1	0.627	1.82	27.3	47.3	2.44	29.9	0.01			275
	300	ISL	7.71	7.68	34.201	26.693	139.2	0.665	1.37	20.5	52.0	2.61	31.3	0.01			302
2	331		7.61	7.58	34.264	26.758	133.6	0.707	0.88	13.1	56.8	2.78	32.8	0.01			333
2	384		7.30	7.26	34.306	26.836	126.9	0.776	0.57	8.4	62.3	2.94	34.4	0.00			386
	400	ISL	7.18	7.14	34.310	26.856	125.2	0.797	0.52	7.7	64.1	2.97	34.9	0.00			403
2	454		6.76	6.72	34.317	26.919	119.6	0.863	0.42	6.1	70.4	3.07	36.7	0.00			457
	500	ISL	6.41	6.36	34.331	26.977	114.5	0.916	0.35	5.1	76.0	3.14	37.8	0.00			503
2	523		6.23	6.18	34.339	27.007	111.8	0.942	0.31	4.5	78.8	3.18	38.4	0.00			527

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCNI/FOREL	CLD AMT TYPE
32 1.3 N	119 14.1 W	13/08/93	0512 UTC	1577 •	300 19 kn			1014.6 ab	17.8 C	15.5 C		

CAST	DEPTH •		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SIGMA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/I	PO4 uM/I	NO 5 uM/l	NO2 uH/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	18.01	18.01	33.299	23.968	393.1	0.000	5.56	102.6	4.2	0.36	0.0	0.00	0.13	0.03	0
2	2		18.01	18.01	33.299	23.968	393.1	0.008	5.56	102.6	4.2	0.36	0.0	0.00	0.13	0.03	2
	10	ISL	18.02	18.02	33.299	23.966	393.6	0.039	5.55	102.5	4.1	0.35	0.0	0.00	0.14	0.03	10
2	16		18.02	18.02	33.299	23.966	393.8	0.063	5.55	102.5	4.0	0.35	0.0	0.00	0.15	0.04	16
	20	ISL	17.89	17.89	33.298	23.998	391.0	0.079	5.60	103.1	4.0	0.36	0.0	0.00	0.16	0.05	20
	30	ISL	17.57	17.56	33.296	24.074	384.1	0.117	5.75	105.2	4.1	0.37	0.0	0.00	0.20	0.06	30
2	31		17.54	17.53	33.296	24.081	383.4	0.121	5.77	105.5	4.1	0.37	0.0	0.00	0.20	0.06	31
2	41		13.68	13.67	33.273	24.920	303.5	0.156	5.86	99.2	5.6	0.57	2.2	0.16	0.61	0.25	41
2	50		12.34	12.33	33.304	25.209	276.1	0.182	5.05	83.2	9.5	0.94	8.6	0.41	0.59	0.35	50
2	57		11.61	11.60	33.377	25.403	257.8	0.200	4.55	73.8	12.7	1.18	12.2	0.12	0.32	0.28	57
2	69		10.47	10.46	33.388	25.615	237.8	0.230	4.37	69.2	14.8	1.34	15.1	0.03	0.09	0.14	69
	75	ISL	10.32	10.31	33.401	25.651	234.5	0.244	4.30	67.8	15.4	1.38	15.7	0.02	0.07	0.13	75
2	80		10.27	10.26	33.416	25.672	232.7	0.256	4.24	66.8	16.0	1.41	16.1	0.02	0.06	0.13	80
2	94		9.76	9.75	33.501	25.824	218.4	0.288	3.90	60.8	19.5	1.57	18.6	0.02	0.04	0.09	94
	100	ISL	9.58	9.57	33.570	25.907	210.6	0.300	3.68	57.2	21.5	1.65	19.8	0.02	0.04	0.09	100
2	109		9.37	9.36	33.671	26.021	200.0	0.319	3.38	52.3	24.2	1.75	21,5	0.02	0.03	0.10	110
2	124		9.18	9.17	33.747	26.111	191.7	0.348	3.20	49.3	26.3	1.82	22.7	0.02	0.01	0.05	125
	125	ISL	9.17	9.16	33.752	26.116	191.2	0.350	3.19	49.2	26.4	1.82	22.8	0.02	0.01	0.05	126
2	150		8.90	8.88	33.881	26.260	177.9	0.396	2.90	44.5	30.4	1.94	24.5	0.01	0.00	0.05	151
2	173		8.92	8.90	34.054	26.393	165.8	0.436	2.33	35.8	34.9	2.11	26.1	0.01	0.00 A	0.05 A	174
	200	ISL	8.49	8.47	34.070	26.473	158.6	0.480	2.28	34.7	38.1	2.18	27'..2	0.01	0.00	0.05	201
2	203		8.43	8.41	34.066	26.479	158.1	0.484	2.27	34.5	38.4	2.18	27.3	0.01	0.00	0.05	204
2	234		8.14	8.12	34.100	26.550	151.8	0.532	2.11	31.8	42.4	2.27	28.6	0.01			235
	250	ISL	8.01	7.98	34.117	26.583	148.9	0.556	1.99	29.9	44.4	2.33	29.3	0.01			251
2	277		7.80	7.77	34.145	26.636	144.3	0.596	1.73	25.9	48.2	2.45	30.6	0.00			279
	300	ISL	7.58	7.55	34.170	26.688	139.6	0.629	1.45	21.6	52.3	2.57	31,9	0.00			302
2	323		7.36	7.33	34.192	26.737	135.2	0.660	1.18	17.5	56.5	2.68	33.1	0.00			325
2	390		6.79	6.75	34.214	26.833	126.8	0.748	0.84	12.3	65.4	2.85	35.1	0.00			392
	400	ISL	6.72	6.68	34.223	26.850	125.3	0.761	0.78	11.4	66.8	2.88	35.4	0.00			403
2	450		6.42	6.38	34.271	26.928	118.4	0.822	0.49	7.1	73.3	3.02	36.8	0.00			453
	500	ISL	6.22	6.18	34.307	26.983	113.7	0.880	0.36	5.2	77.9	3.10	37.9	0.00			503
2	521		6.13	6.08	34.323	27.007	111.6	0.903	0.30	4.3	79.8	3.13	38.4	0.00			525

A) SECOND FLUORONETER READINC NOT RECORDED, CHLOROPHYLL AND PHAEOPI6MENTS
CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.

RV NEW HORIZON — CALCOFI CRUISE 9308 — STATION 93 60

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 51.0 N	119 34.6 W	13/08/93	0927 UTC	1848 •	310 15 kn			1014.3 ab	17.2 C	16.3 C		

CAST	DEPTH •		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/l	PO4 uM/L	NO3 uM/I	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	18.05	18.05	33.373	24.015	388.6	0.000	5.56	102.8	4.1	0.36	0.1	0.00	0.18	0.05	0
2	2		18.05	18.05	33.373	24.015	388.7	0.008	5.56	102.8	4.1	0.36	0.1	0.00	0.18	0.05	2
	10	ISL	18.05	18.05	33.370	24.013	389.1	0.039	5.55	102.6	4.1	0.36	0.1	0.00	0.17	0.05	10
2	11		18.05	18.05	33.369	24.013	389.2	0.043	5.55	102.6	4.1	0.36	0.1	0.00	0.17	0.05	11
2	20		18.04	18.04	33.369	24.015	389.3	0.078	5.56	102.7	4.1	0.34	0.0	0.00	0.17	0.05	20
	30	ISL	15.21	15.21	33.303	24.620	331.9	0.114	6.22	108.7	4.7	0.41	0.1	0.02	0.53	0.20	30
2	31		14.86	14.86	33.302	24.695	324.7	0.117	6.26	108.6	4.8	0.42	0.1	0.02	0.58	0.22	31
2	40		12.69	12.68	33.327	25.159	280.6	0.144	5.55	92.1	7.8	0.77	5.5	0.18	0.94	0.45	40
2	50		11.87	11.86	33.339	25.325	265.1	0.172	4.86	79.2	10.8	1.05	10.3	0.23	0.77	0.47	50
2	61		10.97	10.96	33.358	25.504	248.2	0.200	4.47	71.5	13.5	1.25	13.4	0.06	0.27	0.27	61
2	70		10.36	10.35	33.433	25.669	232.7	0.222	4.17	65.9	16.3	1.40	16.1	0.04	0.16	0.19	70
	75	ISL	10.13	10.12	33.434	25.709	229.0	0.233	4.17	65.5	16.9	1.43	16.6	0.04	0.12	0.16	75
2	85		9.79	9.78	33.427	25.761	224.2	0.256	4.17	65.0	17.6	1.46	17.0	0.03	0.07	0.12	85
2	100		9.47	9.46	33.531	25.895	211.7	0.288	3.84	59.5	20.7	1.59	19.2	0.02	0.04	0.09	100
2	119		9.37	9.36	33.704	26.047	197.7	0.327	3.29	50.9	24.7	1.77	21.6	0.01	0.02	0.07	120
	125	ISL	9.29	9.28	33.755	26.099	192.8	0.339	3.16	48.8	26.0	1.82	22.3	0.01	0.02	0.07	126
2	144		8.99	8.97	33.887	26.251	178.7	0.374	2.88	44.2	29.8	1.94	24.3	0.01 .	0.01	0.08	145
	150	ISL	8.87	8.85	33.910	26.288	175.3	0.385	2.86	43.8	30.8	1.96	24.7	0.01	0.01	0.08	151
2	174		8.44	8.42	33.974	26.405	164.6	0.426	2.80	'42.5	34.6	2.01	25.8	0.01	0.00	0.05	175
	200	ISL	8.29	8.27	34.052	26.489	157.0	0.468	2.48	37.5	38.4	2.13	27.1	0.01	0.00	0.04	201
2	206		8.27	8.25	34.068	26.505	155.6	0.477	2.39	36.2	39.3	2.16	27.4	0.01	0.00	0.04	207
2	233		8.11	8.09	34.114	26.565	150.3	0.518	2.05	30.9	43.4	2.30	28.7	0.01			234
	250	ISL	8.00	7.97	34.144	26.606	146.8	0.543	1.82	27.4	46.2	2.40	29.7	0.01			251
2	273		7.79	7.76	34.171	26.658	142.1	0.577	1.55	23.2	50.2	2.52	31.0	0.01			275
	300	ISL	7.31	7.28	34.154	26.714	137.0	0.614	1.43	21.2	55.3	2.61	32.5	0.01			302
2	328		6.80	6.77	34.130	26.765	132.2	0.652	1.36	19.9	60.5	2.68	34.0	0.01			330
2	388		6.32	6.29	34.160	26.853	124.5	0.729	0.95	13.7	69.8	2.87	36.6	0.01			390
	400	ISL	6.22	6.18	34.166	26.870	122.9	0.744	0.88	12.7	71.6	2.91	37.0	0.01			403
2	453		5.84	5.80	34.196	26.942	116.4	0.807	0.63	9.0	79.4	3.04	38.6	0.01			456
	500	ISL	5.59	5.55	34.229	27.000	111.4	0.861	0.49	7.0	85.2	3.11	39.5	0.01			503
2	522		5.48	5.44	34.245	27.026	109.1	0.885	0.43	6.1	87.9	3.15	39.9	0.01			526

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 93 70

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 29.9 N	120 16.2 U	13/08/93	1822 UTC	3930 -	330 14 kn	310 04 06	2	1016.4 ab	17.7 C	15.6 C	27a 02	8/8	SC

CAST	DEPTH -		TEMP DEC C	POT TEMP DEC C	SALINITY	SI6MA THETA	SVA	DYN HT	OXYGEN «L/l	OXY PCT	SIO3 uM/l	PO4 uN/1	NO3 uH/l	NO2 uM/l	CHL-A ug/1	PHAEO ug/I	PRESS db
	0	ISL	17.40	17.40	33.167	24.014	388.7	0.000	5.62	102.4	3.9	0.37	0.1	0.00	0.14	0.04	0
2	1	A	17.40	17.40	33.167	24.014	388.7	0.004	5.62	102.4	3.9	0.37	0.1	0.00	0.14	0.04	1
	10	ISL	17.40	17.40	33.167	24.015	389.0	0.039	5.62	102.4	3.8	0.37	0.1	0.00	0.14	0.03	10
2	11		17.40	17.40	33.167	24.015	389.0	0.043	5.67 U	103.4 U	3.8	0.37	0.1	0.00	0.14	0.03	11
2	18	A	17.38	17.38	33.166	24.019	388.8	0.070	5.63	102.6	3.7	0.37	0.1	0.00	0.14	0.04	18
	20	ISL	17.37	17.37	33.166	24.021	388.7	0.078	5.63	102.6	3.7	0.37	0.1	0.00	0.14	0.04	20
	30	ISL	17.32	17.32	33.165	24.033	387.9	0.117	5.63	102.5	3.6	0.37	0.1	0.00	0.14	0.04	30
2	33	A	17.30	17.29	33.165	24.038	387.5	0.128	5.63	102.4	3.6	0.37	0.1	0.00	0.14	0.04	33
2	40		16.13	16.12	33.054	24.224	369.9	0.155	5.85	103.9	3.4	0.34	0.1	0.00	0.17	0.05	40
	50	ISL	14.78	14.77	33.053	24.521	341.9	0.190	6.02	104.1	3.4	0.37	0.1	0.00	0.20	0.11	50
2	51	A	14.68	14.67	33.059	24.547	339.4	0.194	6.03	104.1	3.4	0.37	0.1	0.00	0.21	0.12	51
2	60		14.30	14.29	33.117	24.672	327.7	0.224	5.99	102.6	3.6	0.39	0.1	0.00	0.31	0.22	60
2	73	A	13.26	13.25	33.100	24.872	308.9	0.265	5.66	94.9	5.0	0.57	2.4	0.09	0.49	0.40	73
	75	ISL	13.10	13.09	33.098	24.903	306.1	0.271	5.60	93.6	5.4	0.61	3.0	0.08	0.46	0.39	75
2	85		12.46	12.45	33.140	25.060	291.2	0.301	5.31	87.6	7.2	0.78	5.6	0.01	0.23	0.33	85
2	96	A	12.27	12.26	33.349	25.259	272.6	0.332	5.08	83.5	7.8	0.82	7.0	0.02	0.14	0.15	96
	100	ISL	11.96	11.95	33.365	25.330	265.9	0.343	5.01	81.9	8.5	0.87	8.0	0.02	0.12	0.14	100
2	118		10.33	10.32	33.378	25.632	237.2	0.388	4.64	73.2	13.4	1.21	13.3	0.01	0.05	0.07	119
	125	ISL	9.92	9.91	33.437	25.748	226.3	0.404	4.36	68.2	16.1	1.36	15.6	0.01	0.03	0.06	126
2	144		9.14	9.12	33.624	26.021	200.5	0.445	3.62	55.7	23.4	1.72	21.2	0.00	0.00	0.04	145
	150	ISL	8.99	8.97	33.671	26.082	194.9	0.457	3.50	53.7	24.9	1.78	22.1	0.00	0.00	0.04	151
2	173		8.65	8.63	33.828	26.258	178.5	0.500	3.17	48.3	29.7	1.91	24.3	0.00	0.00	0.03	174
	200	ISL	8.40	8.38	33.983	26.419	163.7	0.546	2.80	42.5	35.4	2.07	26.6	0.01	0.00	0.03	201
2	205		8.37	8.35	34.006	26.441	161.7	0.554	2.73	41.4	36.4	2.10	26.9	0.01	0.00	0.03	206
2	233		8.25	8.23	34.093	26.528	153.9	0.598	2.37	35.8	40.6	2.23	28.3	0.01			234
	250	ISL	8.15	8.12	34.141	26.581	149.2	0.624	2.03	30.6	44.0	2.36	29.4	0.01			251
2	272		7.97	7.94	34.186	26.643	143.6	0.656	1.60	24.1	48.5	2.52	30.8	0.01			273
	300	ISL	7.54	7.51	34.182	26.703	138.2	0.696	1.41	21.0	53.2	2.62	32.3	0.01			302
2	329		7.11	7.08	34.169	26.754	133.6	0.735	1.31	19.3	57.6	2.69	33.6	0.01			331
2	387		6.87	6.83	34.245	26.847	125.5	0.810	0.81	11.9	65.6	2.90	35.6	0.01			389
	400	ISL	6.79	6.75	34.254	26.865	123.9	0.826	0.75	11.0	67.1	2.93	35.9	0.01			402
2	453		6.46	6.42	34.276	26.927	118.6	0.891	0.62	9.0	72.7	3.02	37.0	0.00			456
	500	ISL	6.17	6.13	34.290	26.976	114.3	0.946	0.53	7.6	77.6	3.09	37.9	0.00			503
2	524		6.02	5.97	34.297	27.001	112.2	0.973	0.48	6.9	80.1	3.12	38.3	0.00			527

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 10.9 N	120 56.0 W	13/08/93	2307 UTC	3871 -	320 17 kn	320 06 07	1	1017.2 lb	19.1 C	17.0 C	25a 01	2/8	SC

CAST	DEPTH a		TEMP DEG C	POT TEMP DEC, C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uH/L	PO4 uM/l	NO3 uM/1	NO2 uM/l	CHL-A ug/I	PHAEO ug/L	PRESS db
	0	ISL	18.28	18.28	33.160	23.796	409.5	0.000	5.51	102.2	3.3	0.32	0.2	0.00	0.07	0.02	0
2	2		18.28	18.28	33.160	23.796	409.6	0.008	5.51	102.2	3.3	0.32	0.2	0.00	0.07	0.02	2
	10	ISL	18.27	18.27	33.160	23.799	409.6	0.041	5.52	102.3	3.1	0.32	0.1	0.00	0.08	0.02	10
2	15		18.25	18.25	33.160	23.804	409.3	0.061	5.53	102.5	3.0	0.32	0.1	0.00	0.08	0.02	15
	20	ISL	18.23	18.23	33.160	23.809	409.0	0.082	5.53	102.4	3.0	0.32	0.1	0.00	0.08	0.02	20
2	30		18.18	18.17	33.159	23.821	408.2	0.123	5.52	102.1	2.9	0.32	0.1	0.00	0.09	0.02	30
2	40		17.25	17.24	33.118	24.014	390.1	0.163	5.69	103.4	2.8	0.32	0.1	0.00	0.11	0.03	40
2	49		17.16	17.15	33.185	24.087	383.4	0.197	5.68	103.1	2.6	0.31	0.1	0.00	0.13	0.04	49
	50	ISL	17.13	17.12	33.196	24.102	382.0	0.201	5.69	103.2	2.6	0.31	0.1	0.00	0.13	0.04	50
2	61		16.51	16.50	33.288	24.318	361.7	0.242	5.85	104.9	2.6	0.30	0.1	0.00	0.15	0.05	61
2	70		15.76	15.75	33.279	24.481	346.4	0.274	5.92	104.5	2.6	0.30	0.1	0.00	0.16	0.06	70
	75	ISL	15.36	15.35	33.256	24.552	339.7	0.291	5.90	103.3	2.8	0.31	0.1	0.00	0.18	0.09	75
2	81		14.92	14.91	33.229	24.628	332.7	0.311	5.88	102.1	3.0	0.33	0.1	0.00	0.22	0.15	81
2	97		14.08	14.07	33.238	24.813	315.4	0.363	5.69	97.1	3.4	0.42	0.8	0.17	0.35	0.32	97
	100	ISL	13.97	13.96	33.257	24.850	311.9	0.373	5.63	95.9	3.6	0.45	1.2	0.16	0.34	0.31	100
2	109		13.62	13.60	33.337	24.984	299.3	0.400	5.42	91.7	4.6	0.54	2.7	0.09	0.27	0.25	109
2	122		12.91	12.89	33.488	25.243	274.9	0.437	5.12	85.4	6.7	0.69	5.7	0.01	0.13	0.14	122
	125	ISL	12.63	12.61	33.484	25.295	270.0	0.446	5.07	84.1	7.3	0.74	6.5	0.01	0.11	0.13	125
2	147		10.50	10.48	33.398	25.619	239.1	0.502	4.74	75.0	12.4	1.14	12.4	0.01	0.04	0.07	148
	150	ISL	10.31	10.29	33.400	25.654	235.9	0.509	4.70	74.1	13.0	1.18	13.0	0.01	0.03	0.06	151
2	176		9.21	9.19	33.496	25.911	211.7	0.567	4.25	65.4	18.8	1.49	17.8	0.01	0.01	0.03	177
	200	ISL	8.74	8.72	33.703	26.147	189.6	0.615	3.62	55.2	25.0	1.74	21.7	0.01	0.00	0.03	201
2	205		8.68	8.66	33.749	26.192	185.4	0.624	3.49	53.2	26.3	1.79	22.4	0.01	0.00	0.03	206
2	237		8.38	8.36	33.927	26.378	168.2	0.681	2.95	44.7	32.9	1.99	25.2	0.01			238
	250	ISL	8.23	8.20	33.965	26.431	163.4	0.703	2.85	43.0	34.9	2.04	25.9	0.01			251
2	275		7.94	7.91	34.013	26.512	156.0	0.743	2.67	40.1	38.7	2.13	27.2	0.01			276
	300	ISL	7.69	7.66	34.059	26.585	149.4	0.781	2.27	33.9	44.0	2.29	29.0	0.01			302
2	328		7.42	7.39	34.100	26.656	143.0	0.822	1.79	26.6	50.3	2.47	31.1	0.01			330
2	388		6.76	6.72	34.145	26.783	131.4	0.904	1.19	17.4	61.6	2.75	34.6	0.01			390
	400	ISL	6.67	6.63	34.155	26.803	129.6	0.920	1.09	15.9	63.5	2.80	35.1	0.01			402
2	452		6.31	6 27	34.192	26.880	122.8	0.985	0.75	10.8	71.6	2.96	37.0	0.01			455
	500	ISL	5.88	5.84	34.208	26.947	116.6	1.043	0.58	8.3	79.8	3.06	38.6	0.01			503
2	521		5.69	5.65	34.216	26.977	113.9	1.067	0.51	7.3	83.4	3.10	39.3	0.01			524

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 93 90

LATITUDE	LON6ITUDE	DAY/HO/YR	CAST TINE	BOTTOM	WIND SPEED	UAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
30 51.2 N	121 35.3 W	14/08/93	0SU UTC	4084 •	320 14 kn			1017.0 ab	19.1 C	17.1 C		

CAST	DEPTH •		TEMP DEC C	POT TEMP DEC C	SALINITY	SI6NA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/I	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	18.75	18.75	33.155	23.675	421.0	0.000	5.45	101.9	3.1	0.29	0.1	0.00	0.07	0.02	0
2	2		18.75	18.75	33.155	23.676	421.1	0.008	5.45	101.9	3.1	0.29	0.1	0.00	0.07	0.02	2
	10	ISL	18.76	18.76	33.156	23.674	421.5	0.042	5.45	102.0	3.0	0.29	0.1	0.00	0.07	0.01	10
2	15		18.76	18.76	33.156	23.674	421.6	0.063	5.45	102.0	3.0	0.29	0.1	0.00	0.07	0.01	15
	20	ISL	18.75	18.75	33.155	23.676	421.6	0.084	5.45	101.9	3.0	0.29	0.1	0.00	0.07	0.01	20
2	30		18.74	18.73	33.154	23.679	421.8	0.126	5.46	102.1	3.0	0.28	0.1	0.00	0.07	0.01	30
2	40		18.44	18.43	33.150	23.750	415.3	0.168	5.49	102.1	2.9	0.29	0.1	0.00	0.10	0.02	40
	50	ISL	17.52	17.51	33.132	23.961	395.5	0.209	5.67	103.6	2.9	0.29	0.1	0.00	0.10	0.04	50
2	51		17.41	17.40	33.132	23.987	393.0	0.213	5.69	103.7	2.9	0.29	0.1	0.00	0.10	0.04	51
2	59		16.58	16.57	33.162	24.205	372.4	0.243	5.81	104.2	3.0	0.32	0.1	0.00	0.13	0.04	59
2	71		16.29	16.28	33.274	24.358	358.2	0.287	5.84	104.2	2.8	0.31	0.1	0.00	0.14	0.06	71
	75	ISL	16.13	16.12	33.351	24.454	349.2	0.301	5.82	103.6	2.8	0.30	0.1	0.00	0.16	0.09	75
2	80		15.88	15.87	33.430	24.571	338.2	0.319	5.79	102.6	2.8	0.29	0.1	0.00	0.19	0.13	80
2	95		14.60	14.59	33.277	24.733	322.9	0.368	5.79	99.9	3.0	0.33	0.1	0.03	0.29	0.33	95
	100	ISL	14.35	14.34	33.304	24.807	316.0	0.384	5.69	97.7	3.3	0.37	0.5	0.10	0.28	0.30	100
2	107		14.10	14.08	33.379	24.918	305.7	0.406	5.52	94.3	3.9	0.43	1.2	0.18	0.25	0.23	107
2	123		13.75	13.73	33.611	25.170	282.1	0.453	5.20	88.3	5.5	0.56	3.9	0.03	0.17	0.15	123
	125	ISL	13.39	13.57	33.602	25.196	279.7	0.459	5.17	87.5	5.8	0.59	4.4	0.03	0.16	0.14	125
2	148		11.32	11.30	33.416	25.488	251.8	0.520	4.87	78.5	10.1	0.97	9.9	0.01	0.07	0.10	149
	150	ISL	11.15	11.13	33.412	23.516	249.2	0.525	4.85	77.9	10.5	1.00	10.4	0.01	0.06	0.09	151
2	174		9.49	9.47	33.458	25.836	218.9	0.581	4.56	70.6	16.1	1.32	13.5	0.00	0.02	0.04	175
	200	ISL	8.88	8.86	33.644	26.079	196.1	0.635	3.84	58.7	23.3	1.64	20.5	0.00	0.00	0.02	201
2	203		8.86	8.84	33.669	26.102	194.0	0.641	3.75	57.3	24.1	1.67	21.0	0.00	0.00	0.02	204
2	235		8.50	8.48	33.878	26.322	173.6	0.699	3.18	48.3	30.4	1.88	24.1	0.00			236
	250	ISL	8.32	8.29	33.935	26.394	167.0	0.725	3.04	46.0	33.1	1.95	25.2	0.00			251
2	269		8.07	8.04	33.984	26.470	160.0	0.756	2.89	43.5	36.6	2.03	26.4	0.00			270
	300	ISL	7.60	7.57	34.024	26.570	150.8	0.804	2.57	38.3	42.8	2.19	28.7	0.00			302
2	327		7.23	7.20	34.044	26.638	144.5	0.844	2.24	33.1	48.3	2.34	30.6	0.00			329
2	388		6.82	6.78	34.125	26.759	133.7	0.929	1.33	19.5	60.1	2.67	34.3	0.00			390
	400	ISL	6.70	6.66	34.132	26.781	131.8	0.945	1.22	17.8	62.3	2.72	34.9	0.00			402
2	449		6.19	6.15	34.154	26.865	124.0	1.008	0.90	13.0	71.2	2.90	36.9	0.00			452
	500	ISL	5.80	5.76	34.192	26.945	116.8	1.069	0.64	9.1	79.6	3.03	38,6	0.00			503
2	520		5.65	5.61	34.207	26.975	114.0	1.092	0.54	7.7	82.9	3.08	39.2	0.00			523

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 93 100

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
30 31.6 N	122 15.4 U	14/08/93	1107 UTC	4163 a	320 13 kn			1016.0 ab	18.0 C	16.1 C		

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SI6MA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO? uM/I	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	18.84	18.84	33.209	23.694	419.2	0.000	5.44	102.0	2.9	0.28	0.2	0.00	0.07	0.01	0
2	2		18.84	18.84	33.209	23.694	419.3	0.008	5.44	102.0	2.9	0.28	0.2	0.00	0.07	0.01	2
2	10		18.84	18.84	33.210	23.695	419.5	0.042	5.44	102.0	2.7	0.28	0.2	0.00	0.07	0.01	10
2	20		18.84	18.84	33.209	23.695	419.8	0.084	5.44	102.0	2.7	0.28	0.2	0.00	0.07	0.01	20
2	30		18.46	18.45	33.194	23.779	412.2	0.126	5.46	101.6	2.5	0.28	0.1	0.00	0.08	0.02	30
2	40		17.91	17.90	33.143	23.875	403.4	0.166	5.58	102.7	2.8	0.29	0.1	0.00	0.10	0.02	40
2	50		16.93	16.92	33.082	24.062	385.8	0.206	5.73	103.4	3.0	0.31	0.1	0.00	0.10	0.03	50
2	61		16.62	16.61	33.089	24.140	378.7	0.248	5.77	103.5	3.1	0.32	0.0	0.00	0.12	0.04	61
2	70		16.39	16.38	33.293	24.349	359.0	0.281	5.80	103.7	2.9	0.30	0.1	0.00	0.15	0.06	70
	75	ISL	16.16	16.15	33.346	24.443	350.2	0.299	5.79	103.1	2.9	0.30	0.1	0.00	0.16	0.08	75
2	85		15.73	15.72	33.423	24.599	335.6	0.333	5.76	101.7	2.9	0.30	0.1	0.00	0.18	0.12	85
	100	ISL	15.68	15.66	33.640	24.778	319.1	0.382	5.58	98.6	3.0	0.29	0.1	0.02	0.25	0.21	100
2	101		15.68	15.66	33.654	24.789	318.1	0.385	5.57	98.4	3.0	0.29	0.1	0.02	0.25	0.22	101
2	120		13.70	13.68	33.475	25.075	291.0	0.443	5.31	90.0	4.9	0.53	2.9	0.08	0.22	0.20	120
	125	ISL	13.12	13.10	33.448	25.171	281.9	0.457	5.22	87.4	5.8	0.62	4.2	0.07	0.19	0.18	125
2	146		10.97	10.95	33.411	25.547	246.1	0.513	4.83	77.3	10.6	0.99	10.4	0.01	0.06	0.11	147
	150	ISL	10.71	10.69	33.410	25.592	241.9	0.523	4.77	75.9	11.5	1.05	11.4	0.01	0.05	0.10	151
2	175		9.54	9.52	33.460	25.829	219.5	0.580	4.35	67.5	17.3	1.39	16.6	0.01	0.02	0.04	176
	200	ISL	8.76	8.74	33.651	26.103	193.8	0.632	3.80	58.0	24.4	1.68	21.3	0.01	0.00	0.02	201
2	203		8.69	8.67	33.677	26.134	190.8	0.638	3.74	57.0	25.2	1.71	21.7	0.01	0.00	0.02	204
2	235		8.23	8.21	33.855	26.344	171.3	0.696	3.68	55.5	29.5	1.75	22.9	0.00			236
	250	ISL	7.99	7.96	33.914	26.426	163.7	0.721	3.50	52.6	32.7	1.83	24.2	0.00			251
2	274		7.62	7.59	33.979	26.532	154.0	0.759	3.12	46.5	38.5	1.99	26.6	0.00			275
	300	ISL	7.25	7.22	34.007	26.606	147.1	0.798	2.74	40.5	44.6	2.16	28.9	0.00			302
2	328		6.89	6.86	34.016	26.663	141.9	0.839	2.34	34.3	51.0	2.33	31.1	0.00			330
2	387		6.32	6.29	34.051	26.766	132.6	0.920	1.64	23.7	62.2	2.64	34.9	0.00			389
	400	ISL	6.24	6.20	34.069	26.791	130.3	0.937	1.48	21.4	64.6	2.70	35.5	0.00			402
2	452		5.98	5.94	34.148	26.887	121.8	1.002	0.91	13.1	73.6	2.92	37.5	0.00			455
	500	ISL	5.72	5.68	34.192	26.954	115.8	1.059	0.64	9.1	81.2	3.04	39.0	0.00			503
2	521		5.60	5.56	34.211	26.984	113.1	1.083	0.52	7.4	84.5	3.09	39.6	0.00			524

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 93 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	UEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 11.9 N	122 56.3 U	14/08/93	1832 UTC	4193 •	350 16 kn	330 04 08	2	1018.0 ab	17.9 C	16.3 C	31a 01	8/8	SC

CAST	DEPTH a		TEMP DEC C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/L	OXY PCT	SIO3 uM/ L	PO4 uM/l	NO3 uM/L	NO2 uM/L	CHL-A ug/L	PHAEO ug/I	PRESS db
	0	ISL	18.95	18.95	33.266	23.710	417.7	0.000	5.46	102.6	3.2	0.30	0.2	0.00	0.08	0.02	0
2	1	A	18.95	18.95	33.266	23.710	417.7	0.004	5.46	102.6	3.2	0.30	0.2	0.00	0.08	0.02	1
	10	ISL	18.94	18.94	33.267	23.714	417.7	0.042	5.44	102.2	3.0	0.29	0.2	0.00	0.09	0.01	10
2	11		18.94	18.94	33.267	23.714	417.7	0.046	5.44	102.2	3.0	0.29	0.2	0.00	0.09	0.01	11
	20	ISL	19.23	19.23	33.397	23.740	415.6	0.083	5.40	102.1	2.9	0.28	0.2	0.00	0.09	0.02	20
2	22	A	19.33	19.33	33.443	23.750	414.7	0.092	5.39	102.1	2.9	0.28	0.2	0.00	0.09	0.02	22
	30	ISL	19.87	19.86	33.700	23.807	409.6	0.125	5.33	102.1	2.9	0.27	0.2	0.00	0.09	0.02	30
2	31		19.93	19.92	33.730	23.814	408.9	0.129	5.33	102.3	2.9	0.27	0.2	0.00	0.09	0.02	31
2	39	A	20.03	20.02	33.824	23.860	404.9	0.161	5.35	102.9	2.8	0.26	0.2	0.00	0.09	0.02	39
2	50		19.36	19.35	33.800	24.016	390.4	0.205	5.50	104.5	2.8	0.26	0.2	0.00	0.09	0.02	50
2	60	A	18.97	18.96	33.843	24.149	378.1	0.244	5.52	104.1	2.7	0.24	0.2	0.00	0.10	0.03	60
2	70		17.13	17.12	33.425	24.279	365.8	0.281	5.79	105.1	2.7	0.28	0.2	0.00	0.11	0.03	70
	75	ISL	16.77	16.76	33.406	24.349	359.3	0.299	5.78	104.2	2.7	0.29	0.2	0.00	0.12	0.04	75
2	82	A	16.47	16.46	33.457	24.458	349.1	0.324	5.77	103.4	2.7	0.30	0.2	0.00	0.14	0.06	82
2	99		15.11	15.10	33.466	24.770	319.7	0.381	5.63	98.2	3.3	0.35	0.1	0.00	0.23	0.22	99
	100	ISL	15.04	15.02	33.465	24.784	318.4	0.384	5.62	97.9	3.4	0.36	0.1	0.01	0.24	0.23	100
2	109	A	14.42	14.40	33.451	24.906	306.9	0.412	5.49	94.5	4.2	0.45	0.8	0.10	0.30	0.35	109
	125	ISL	13.48	13.46	33.429	25.084	290.3	0.460	5.25	88.6	5.7	0.63	3.7	0.06	0.26	0.27	125
2	140		12.61	12.59	33.435	25.261	273.6	0.502	5.05	83.7	7.5	0.80	7.0	0.03	0.15	0.20	141
	150	ISL	11.85	11.83	33.487	25.446	256.0	0.528	4.97	81.1	8.9	0.89	8.8	0.02	0.10	0.14	151
2	172		10.28	10.26	33.630	25.839	218.9	0.581	4.75	75.0	13.0	1.09	12.8	0.00	0.02	0.04	173
	200	ISL	9.07	9.05	33.711	26.101	194.0	0.638	4.12	63.3	21.3	1.48	19.0	0.00	0.00	0.02	201
2	204		8.96	8.94	33.721	26.127	191.7	0.646	4.02	61.6	22.5	1.54	19.8	0.00	0.00	0.02	205
2	234		8.65	8.63	33.892	26.309	174.8	0.701	3.31	50.4	29.4	1.80	23.7	0.00			235
	250	ISL	8.42	8.39	33.940	26.383	168.1	0.729	3.28	49.7	31.8	1.85	24.5	0.00			251
2	273		8.07	8.04	33.981	26.468	160.3	0.766	3.24	48.8	35.0	1.89	25.4	0.00			274
	300	ISL	7.66	7.63	34.014	26.554	152.3	0.808	2.90	43.2	40.8	2.05	27.6	0.00			302
2	328		7.24	7.21	34.037	26.632	145.2	0.850	2.44	36.0	47.7	2.25	30.3	0.00			330
2	386		6.42	6.39	34.085	26.780	131.3	0.930	1.55	22.5	62.8	2.64	35.1	0.00			388
	400	ISL	6.36	6.32	34.108	26.807	129.0	0.949	1.36	19.7	65.2	2.71	35.8	0.00			402
2	450		6.24	6.20	34.190	26.887	122.0	1.011	0.81	11.7	72.1	2.91	37.5	0.00			453
	500	ISL	5.93	5.89	34.228	26.957	115.8	1.071	0.59	8.5	79.0	3.02	38.8	0.00			503
2	521		5.80	!i.76	34.244	26.986	113.2	1.095	0.50	7.1	81.9	3.06	39.3	0.00			524

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 93 120

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
29 51.5 N	123 35.1 W	14/08/93	2329 UTC	4042 a	350 15 kn	360 04 06	1	1017.6 ab	19.8 C	16.9 C	29a 01	7/8	AC

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIO3 uM/l	PO4 uM/L	NO3 uM/I	NO2 uM/L	CHL-A ug/L	PHAEO ug/I	PRESS db
	0	ISL	20.01	20.01	33.697	23.767	412.3	0.000	5.32	102.2	2.9	0.28	0.2	0.00	0.06	0.01	0
2	2		20.01	20.01	33.697	23.767	412.4	0.008	5.32	102.2	2.9	0.28	0.2	0.00	0.06	0.01	2
	10	ISL	20.00	20.00	33.698	23.771	412.3	0.041	5.32	102.2	2.8	0.27	0.2	0.00	0.06	0.01	10
2	16		19.98	19.98	33.697	23.775	412.1	0.066	5.32	102.2	2.7	0.27	0.2	0.00	0.06	0.01	16
	20	ISL	19.97	19.97	33.698	23.779	411.9	0.082	5.32	102.1	2.7	0.27	0.2	0.00	0.06	0.01	20
2	30		19.92	19.91	33.689	23.786	411.6	0.124	5.33	102.2	2.6	0.27	0.2	0.00	0.07	0.01	30
2	41		19.77	19.76	33.723	23.851	405.8	0.169	5.38	102.9	2.7	0.27	0.2	0.00	0.08	0.02	41
2	49		18.98	18.97	33.632	23.984	393.3	0.201	5.53	104.2	2.6	0.27	0.2	0.00	0.10	0.01	49
	50	ISL	18.86	18.85	33.615	24.002	391.7	0.204	5.55	104.3	2.6	0.27	0.2	0.00	0.10	0.01	50
2	60		17.76	17.75	33.473	24.165	376.4	0.243	5.73	105.4	2.6	0.29	0.2	0.00	0.09	0.04	60
2	70		17.35	17.34	33.448	24.244	369.1	0.280	5.78	105.4	2.6	0.29	0.2	0.00	0.11	0.04	70
	75	ISL	17.32	17.31	33.505	24.295	364.4	0.298	5.77	105.2	2.6	0.28	0.2	0.00	0.12	0.04	75
2	81		17.28	'17.27	33.587	24.368	357.7	0.320	5.75	104.8	2.6	0.27	0.2	0.00	0.14	0.05	81
2	95		16.11	'16.09	33.512	24.583	337.6	0.369	5.73	102.0	2.8	0.31	0.2	0.00	0.17	0.11	95
	100	ISL	15.69	15.67	33.461	24.638	332.4	0.386	5.70	100.6	2.9	0.32	0.2	0.00	0.23	0.17	100
2	111		14.85	14.83	33.371.	24.753	321.6	0.422	5.65	98.0	3.0	0.37	0.2	0.02	0.33	0.28	111
2	124		14.16	14.14	33.389	24.913	306.6	0.462	5.39	92.2	4.4	0.53	2.3	0.07	0.25	0.24	124
	125	ISL	14.14	14.12	33.404	24.929	305.1	0.465	5.37	91.8	4.4	0.53	2.4	0.07	0.24	0.24	125
2	147		13.65	13.63	33.726	25.280	272.3	0.529	5.08	86.2	5.8	0.61	5.0	0.02	0.11	0.14	148
	150	ISL	13.39	13.37	33.726	25.333	267.3	0.537	5.05	85.2	6.2	0.64	5.6	0.02	0.10	0.13	151
2	174		11.06	11.04	33.649	25.717	230.7	0.597	4.79	76.9	10.8	0.98	10.9	0.01	0.03	0.05	175
	200	ISL	9.47	9.45	33.615	25.962	207.4	0.654	4.31	66.8	18.0	1.39	17.0	0.01	0.01	0.02	201
2	204		9.30	9.28	33.619	25.993	204.5	0.662	4.23	65.3	19.2	1.45	17.8	0.01	0.01	0.02	205
2	233		8.62	8.60	33.828	26.264	179.1	0.718	3.78	57.5	26.5	1.67	21.6	0.01			234
	250	ISL	8.36	8.33	33.903	26.363	169.9	0.747	3.57	54.1	29.9	1.76	23.1	0.01			251
2	273		8.09	8.06	33.966	26.453	161.7	0.785	3.32	50.0	34.1	1.87	24.7	0.01			274
	300	ISL	7.75	7.72	34.002	26.531	154.5	0.828	3.02	45.1	39.1	2.01	26.7	0.01			302
2	328		7.39	7.36	34.018	26.596	148.7	0.871	2.67	39.6	44.7	2.17	28.8	0.01			330
2	388		6.54	6.50	34.068	26.751	134.2	0.955	1.66	24.1	59.9	2.59	34.1	0.00			390
	400	ISL	6.42	6.38	34.076	26.774	132.2	0.971	1.53	22.2	62.3	2.65	34.8	0.00			402
2	451		6.00	5.96	34.110	26.854	124.8	1.037	1.10	15.8	71.5	2.85	37.2	0.01			454
	500	ISL	5.64	5.60	34.154	26.934	117.6	1.096	0.79	11.2	79.8	2.97	38.8	0.01			503
2	522		5.4II	5.44	34.174	26.969	114.4	1.122	0.65	9.2	83.5	3.03	39.5	0.01			525

RV NEW HORIZON — CALCOFI CRUISE 9308 — STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIHE	SECCHI	FOREL	INCUBATION TINE	LAN	CIVIL TUILI6HT	INTE6RATED VALUE
34 24.2 N	122 16.1 U	25/ 8/93	1828 UTC	17 •	02	1213 - 1910 PST	1211 PST	1909 PST	325.8 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/I	PO4 uM/L	NO3 uN/l	NO2 uN/l	CHL ug/L	PHAEO ug/l	LI6HT PCT	UPTAKE (ag C/a3) 1	2	MEAN	DARK
2	16.60	33.370	24.358	5.79	104.0	1.6	0.30	0.0	0.01	0.42	0.13	83. A	4.4	4.8	4.6	0.10
12	16.51	33.369	24.378	5.78	103.7	1.4	0.29	0.0	0.01	0.44	0.11	34.	6.7	5.1	5.9	0.13
22	16.50	33.369	24.381	5.80	104.0	1.2	0.28	0.0	0.02	0.47	0.17-	14.	7.8	7.5	7.7	0.12
33	15.45	33.297	24.563	5.77	101.3	2.9	0.44	1.2	0.16	1.12	0.45	5.1	11.6	10.5	11.0	0.11
46	11.98	33.193	25.191	5.25	85.7	8.5	0.92	8.5	0.61	0.51	0.41	1.6	1.7	1.5	1.6	0.06
53	11.25	33.277	25.391	4.84	77.8	11.7	1.16	12.6	0.31	0.30	0.35					
59	10.89	33.312	25.482	4.52	72.2	14.0	1.30	14.8	0.06	0.23	0.25	0.49	0.15	0.14	0.14	0.04
68	10.14	33.380	25.665	4.16	65.4	16.9	1.47	17.6	0.03	0.13	0.15					

RV NEW HORIZON — CALCOFI CRUISE 9308 — STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 23.6 N	124 19.4 W	24/ 8/93	1826 UTC	27 a	01	1218 - 1915 PST	1219 PST	1917 PST	69.4 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SI6MA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/l	PO4 uN/l	NO3 uM/I	NO2 uN/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3) 1	2	MEAN	DARK
3	19.21	33.516	23.835	5.42	102.5	3.4	0.29	0.2	0.00	0.07	0.02	84. A	0.29	0.38	0.33	0.07
17	19.21	33.516	23.836	5.39	101.9	3.4	0.29	0.2	0.00	0.07	0.01	38.	1.4	1.4	1.4	0.07
32	19.21	33.516	23.837	5.40	102.1	3.3	0.28	0.2	0.00	0.07	0.02	16.	1.0	1.2	1.1	0.08
41	19.19	33.514	23.841	5.42	102.4	3.3	0.29	0.2	0.00	0.07	0.02					
51	18.24	33.490	24.060	5.67	105.2	3.1	0.25	0.2	0.00	0.11	0.03	5.5	0.97	0.91	0.94	0.09
62	16.81	33.341	24.289	5.85	105.5	3.1	0.28	0.2	0.00	0.12	0.04					
72	15.90	33.343	24.499	5.88	104.2	3.1	0.27	0.2	0.00	0.13	0.04	1.7	0.28	0.34	0.31	0.09
79	15.64	33.427	24.622	5.85	103.2	3.2	0.27	0.2	0.00	0.16	0.07					
95	15.09	33.467	24.775	5.77	100.6	3.2	0.29	0.2	0.00	0.19	0.14	0.45	0.10	0.17	0.13	0.06
109	14.37	33.484	24.942	5.53	95.1	4.0	0.38	0.7	0.12	0.32	0.32					
124	12.91	33.448	25.212	5.24	87.4	6.2	0.63	4.9	0.02	0.17	0.23					

RV NEW HORIZON — CALCOFI CRUISE 9308 — STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 51.0 N	121 50.9 W	23/ 8/93	1815 UTC	14 a	03	1213 - 1913 PST	1210 PST	1913 PST	149.5 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3) 1	2	MEAN	DARK
1	17.17	33.362	24.218	5.69	103.4	2.3	0.30	0.1	0.01	0.28	0.07	90. A	5.4	5.7	5.6	0.13
10	17.16	33.362	24.221	5.69	103.4	2.2	0.31	0.1	0.01	0.28	0.07	33.	6.5	6.1	6.3	0.15
18	17.17	33.363	24.220	5.68	103.2	2.0	0.30	0.1	0.01	0.28	0.07	14.	4.1	3.6	3.9	0.12
27	17.15	33.360	24.223	5.68	103.2	2.0	0.30	0.1	0.01	0.27	0.07	5.2	1.8	1.7	1.8	0.13
38	16.17	33.306	24.409	5.96	106.1	2.5	0.34	0.1	0.01	0.52	0.21	1.6	0.93	1.0	0.98	0.12
51	13.95	33.250	24.847	5.81	98.9	5.0	0.60	2.4	0.32	0.22 U	0.96 U	0.37	0.46	0.33	0.40	0.08
58	12.98	33.161	24.975	5.56	92.7	6.5	0.70	4.3	0.50	0.61	0.60					

RV NEW HORIZON — CALCOFI CRUISE 9308 — STATION 83 42

LATITUDE	LONGITUDE	DA.Y/MO/YR	CAST TINE	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 10.8 N	119 30.5 W	22/ 8/93	1846 UTC	13 a	03	1202 - 1909 PST	1201 PST	1909 PST	359.0 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/l	PO4 uH/l	NO3 uM/I	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3> 1	2	MEAN	DARK
1	19.11	33.388	23.763	5.84	110.1	1.6	0.14	0.3	0.01	0.39	0.08	89. A	7.6	7.9	7.7	0.12
8	15.83	33.341	24.511	6.30	111.5	1.3	0.21	0.3	0.01	0.90	0.26	39.	15.5	14.8	15.2	0.20
16	14.44	33.253	24.746	6.86	118.0	1.4	0.28	0.2	0.01	0.85	0.34	15.	9.7	8.6	9.2	0.21
24	13.47	33.257	24.950	6.55	110.4	2.3	0.41	0.4	0.03	1.58	0.54	5.9	10.2	9.6	9.9	0.38
35	11.96	33.290	25.270	5.28	86.2	8.1	0.85	6.4	0.26	1.01	0.59	1.6	4.0	4.1	4.1	0.08
46	11.24	33.406	25.493	4.34	69.9	13.6	1.25	13.3	0.13	0.50	0.23	0.44	0.26	0.23	0.25	0.06
55	10.79	33.461	25.616	4.08	65.1	15.5	1.37	15.6	0.06	0.42	0.24					

RV NEW HORIZON — CALCOFI CRUISE 9308 — STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 15.4 N	121 27.7 W	21/ 8/93	1851 UTC	21 a	02	1212 - 1910 PST	1209 PST	1908 PST	151.2 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	S103 uM/I	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3) 1	2	MEAN	DARK
3	17.23	33.080	23.988	5.68	103.1	3.4	0.34	0.1	0.00	0.17	0.05	80. A	2.8	3.1	2.9	0.08
10	17.23	33.080	23.988	5.67	103.0	3.1	0.34	0.1	0.00	0.15	0.05					
15	17.22	33.080	23.991	5.68	103.1	3.0	0.33	0.1	0.00	0.16	0.05	33.	3.2	3.1	3.2	0.07
26	15.84	33.032	24.272	6.04	106.7	3.2	0.35	0.1	0.00	0.26	0.11	15.	3.3	3.1	3.2	0.08
40	14.71	33.039	24.525	6.16	106.4	3.1	0.38	0.1	0.00	0.36	0.17	5.4	2.4	2.3	2.3	0.06
55	12.79	33.014	24.898	5.81	96.4	4.5	0.54	1.7	0.22	0.42	0.31	1.8	0.84	0.94	0.89	0.03
63	12.61	33.059	24.968	5.67	93.7	5.1	0.58	2.7	0.30	0.36	0.31					
71	12.61	33.228	25.099	5.34	88.4	6.0	0.64	4.4	0.05	0.25	0.27	0.56	0.15	0.14	0.14	0.02
84	11.20	33.231	25.365	4.93	79.2	9.7	0.97	9.7	0.04	0.15	0.20					

A) INCUBATION LIGHT INTENSITIES WERE 94, 35, 15, 5.3, 1.6 AND 0.44 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEU HORIZON — CALCOFI CRUISE 9308 — STATION 83 110

LATITUDE	LON6ITUDE	DAY/HO/YR	CAST TIHE	SECCHI	FOREL	INCUBATION TIHE	LAN	CIVIL TWILIGHT	INTESRATED VALUE
31 55.3 N	124 10.2 U	20/ 8/93	1826 UTC	36 •	01	1220 - 1916 PST	1220 PST	1916 PST	121.0 ag C/a2

DEPTH a	TEMP DE6 C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uH/I	PO4 uH/l	NO3 uH/I	NO2 uH/l	CHL ug/L	PHAEO ug/l	LI6HT PCT	UPTAKE (ag C/a3> 1	2	MEAN	DARK
1	18.80	33.462	23.898	5.42	101.7	2.8	0.29	0.0	0.00	0.03	0.01	96. A	0.52	0.69	0.60	0.07
14	18.76	33.463	23.909	5.45	102.1	2.8	0.28	0.0	0.00	0.03	0.00					
24	18.76	33.461	23.908	5.45	102.1	2.5	0.28	0.0	0.00	0.03	0.01	36.	1.4	1.8	1.6	0.07
43	18.36	33.419	23.976	5.52	102.6	2.5	0.28	0.0	0.00	0.09	0.02	16.	1.5	1.4	1.4	0.09
49	18.16	33.40!i	24.015	5.!»5	102.8	2.5	0.28	0.0	0.00	0.10	0.02					
61	18.06	33.40!i	24.040	5.55	102.6	2.4	0.28	0.0	0.00	0.10	0.05					
69	17.94	33.394	24.061	5.59	103.1	2.3	0.29	0.0	0.00	0.14	0.05	5.3	1.1	0.94	1.0	0.07
78	16.97	33.383	24.284	5.77	104.4	2.5	0.28	0.0	0.00	0.18	0.07					
96	16.06	33.395	24.504	5.77	102.6	2.4	0.30	0.0	0.00	0.21	0.12	1.7	0.63	0.66	0.64	0.04
109	15.73	33.433	24.608	5.66	100.0	2.4	0.30	0.0	0.00	0.17 U	0.12 U					
127	15.47	33.577	24.777	5.58	98.1	2.6	0.32	0.0	0.10	0.25	0.25	0.44	0.27	0.23	0.25	0.02
149	14.48	33.597	25.007	5.33	91.9	3.9	0.46	2.1	0.07	0.17	0.14					
172	12.50	33.471	25.311	5.08	84.0	6.8	0.76	6.9	0.01	0.09	0.10					

RV NEW HORIZON — CALCOFI CRUISE 9308 — STATION 87 50

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 19.5 N	119 40.2! W	18/ 8/93	1846 UTC	16 a	02	1204 - 1911 PST	1201 PST	1909 PST	405.8 ag C/a2

DEPTH a	TEMP DEG C	SALINIITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uH/l	PO4 uH/l	NO3 uM/I	NO2 uH/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3) 1	2	MEAN	DARK
1	17.56	33.309	24.085	5.62	102.9	4.0	0.37	0.0	0.00	0.29	0.09	91. A	5.6	5.7	5.7	0.09
11	17.49	33.309	24.102	5.61	102.5	3.8	0.36	0.0	0.00	0.32	0.09	35.	8.2	8.0	8.1	0.11
20	17.11	33.330	24.209	5.75	104.3	3.6	0.36	0.0	0.01	1.25	0.41	15.	19.6	19.2	19.4	0.14
25	15.37	33.365	24.632	5.89	103.3	5.4	0.46	1.3	0.06	1.60	0.60					
31	11.64	33.4D4 D	25.418	4.76	77.3	12.0	1.08	11.3	0..19	0.81	0.46	5.1	7.5	7.3	7.4	0.10
43	11.15	33.472	25.560	4.21	67.7	15.4	1.30	15.0	0.14	0.44	0.34	1.6	1.1	1.3	1.2	0.04
50	10.67	33.492	25.661	4.10	65.2	16.5	1.37	16.0	0.10	0.34	0.30					
58	9.94	33.585	25.859	3.67	57.5	20.4	1.59	19.8	0.05	0.09	0.20	0.38	0.07	0.07	0.07	0.03
64	9.93	33.586	25.861	3.66	57.3	20.6	1.61	19.9	0.04	0.11	0.14					

RV NEW HORIZON — CALCOFI CRUISE 9308 — STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIHE	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 19.2 N	121 43.3 W	19/ 8/93	1826 UTC	26 a	01	1213 - 1916 PST	1211 PST	1916 PST	114.9 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/l	PO4 uH/l	NO3 uM/I	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3) 1	2	MEAN	DARK
2	18.02	33.050	23.775	5.53	101.9	3.2	0.30	0.2	0.01	0.11	0.03	89. A	2.5	2.6	2.6	0.09
19	17.96	33.048	23.789	5.56	102.4	3.1	0.32	0.2	0.01	0.12	0.03	33.	2.5	2.4	2.5	0.09
32	17.57	33.061	23.894	5.63	102.9	3.0	0.33	0.1	0.01	0.16	0.05	15.	1.9	1.8	1.9	0.08
39	17.50	33.073	23.920	5.62	102.6	3.0	0.33	0.1	0.01	0.18	0.05					
49	17.40	33.088	23.956	5.65	102.9	2.9	0.33	0.1	0.01	0.19	0.06	5.5	0.84	0.77	0.80	0.08
58	16.94	33.102	24.075	5.71	103.1	2.8	0.34	0.1	0.01	0.23	0.07					
69	14.11	33.009	24.629	6.11	104.2	3.0	0.34	0.1	0.01	0.24	0.12	1.7	0.23	0.26	0.24	0.04
78	13.40	32.990	24.759	6.04	101.5	3.2	0.38	0.1	0.01	0.26	0.20					
92	12.79	33.119	24.980	5.66	94.0	4.4	0.49	1.6	0.07	0.37	0.32	0.44	0.15	0.13	0.14	0.02
111	11.36	33.201	25.313	4.95	79.8	9.4	0.98	9.7	0.06	0.19	0.20					

RV NEW HORIZON — CALCOFI CRUISE 9308 — STATION 90 28

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIHE	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 29.1 N	117 46.0 W	17/ 8/93	1917 UTC	14 a	04	1157 - 1905 PST	1155 PST	1903 PST	517.5 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/l	PO4 uH/l	NO3 uH/I	NO2 uH/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3) 1	2	MEAN	DARK
1	21.22	33.329	23.164	5.55	108.8	4.3	0.34	0.0	0.00	0.42	0.11	90. A	12.3	13.0	12.6	0.26
9	19.60	33.322	23.588	5.72	108.8	3.3	0.32	0.0	0.00	0.33	0.10	37.	13.0	12.1	12.6	0.19
17	15.65	321.214	24.454	6.28	110.6	4.4	0.39	0.0	0.00	0.59	0.23	16.	15.0	14.1	14.6	0.13
27	12.82	33.246	25.071	5.91	98.3	6.0	0.58	2.2	0.08	1.40	0.60	5.2	17.2	15.9	16.5	0.11
38	11.96	33.307	25.283	4.89	79.9	10.1	1.02	9.4	0.19	0.80	0.55	1.6	3.9	4.2	4.1	0.05
50	11.15	33.445	25.539	4.01	64.4	15.5	1.37	14.6	0.14	0.28	0.36	0.42	0.33	0.29	0.31	0.04
58	11.01	33.479	25.591	3.90	62.5	16.1	1.39	15.7	0.08	0.28	0.28					

RV NEW HORIZON — CALCOFI CRUISE 9308 — STATION 90 60

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 25.2 N	119 58.9 W	16/ 8/93	1816 UTC	14 a	03	1207 - 1910 PST	1204 PST	1908 PST	215.5 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uH/l	PO4 uM/l	NO3 uH/I	NO2 uH/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3) 1	2	MEAN	DARK
1	17.24	213.357	24.198	5.67	103.2	4.3	0.35	0.0	0.00	0.31	0.10	90. A	4.5	4.4	4.5	0.11
9	17.24	33.357	24.198	5.69	103.5	4.2	0.35	0.0	0.00	0.31	0.10	37.	8.1	8.5	8.3	0.11
17	17.23	33.360	24.203	5.69	103.5	4.0	0.35	0.0	0.00	0.32	0.11	16.	7.2	6.7	7.0	0.11
27	17.26	33.375	24.208	5.66	103.0	4.3	0.35	0.0	0.00	0.38	0.12	5.2	4.7	4.3	4.5	0.11
38	17.26	33.378	24.211	5.64	102.7	4.3	0.35	0.0	0.00	0.47	0.16	1.6	1.5	1.6	1.5	0.10
50	16.00	53.205	24.370	5.85	103.8	3.1	0.37	0.0	0.00	0.56	0.28	0.42	0.19	0.16	0.17	0.06
60	12.83	33.037	24.908	5.70	94.7	4.8	0.61	3.0	0.36	0.61	0.54					
70	12.03	33.127	25.131	5.18	84.6	7.6	0.85	7.3	0.11	0.36	0.36					

A) INCUBATION LIGHT INTENSITIES WERE 94, 35, 15, 5.3, 1.6 AND 0.44 PERCENT RESPECTIVELY.

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TINE	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILI6HT	INTE6RATED VALUE
31 5.6 N	122 41.1 U	15/ 8/93	1825 UTC	29 •	01	1215 - 1915 PST	1215 PST	1915 PST	221.3 ag C/«2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/l	NO2 uH/l	CHL ug/l	PHAEO ufl/L	LIGHT PCT	UPTAKE (ag C/a3> 1	2	MEAN	DARK
1	18.64	33.175	23.718	5.49	102.5	3.3	0.32	0.0	0.00	0.10	0.03	95. A	1.4	1.5	1.4	0.06
10	18.53	33.178	23.748	5.50	102.5	3.2	0.32	0.0	0.00	0.10	0.02					
20	18.51	33.173	23.750	5.51	102.6	3.1	0.31	0.0	0.00	0.10	0.03	35.	2.6	2.7	2.6	0.07
30	18.39	33.167	23.775	5.52	102.5	3.1	0.31	0.0	0.00	0.14	0.04					
35	16.86	33.097	24.089	5.79	104.4	3.1	0.32	0.0	0.00	0.16	0.05	16.	2.5	2.5	2.5	0.09
54	13.87	33.109	24.755	6.29	106.8	4.6	0.41	0.0	0.01	0.35	0.19	5.7	3.2	3.0	3.1	0.06
60	13.14	33.102	24.897	5.99	100.2	4.7	0.49	0.9	0.07	0.74	0.43					
68	12.86	33.154	24.993	5.89	98.0	5.8	0.57	2.3	0.09	0.72	0.47					
78	12.06	33.182	25.168	5.23	85.5	8.0	0.87	7.8	0.08	0.50	0.61	1.6	2.2	2.2	2.2	0.03
89	11.11	33.248	25.394	4.75	76.2	12.1	1.16	12.6	0.02	0.20	0.27					
102	10.34	33.373	25.626	4.40	69.4	15.1	1.36	16.1	0.03	0.06	0.10	0.45	0.10	0.08	0.09	0.01
135	9.06	33.573	25.994	3.80	58.3	22.6	1.67	21.2	0.01	0.00	0.04					

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 57.1 N	117 18.3 W	11/ 8/93	1909 UTC	23 a	02	1155 - 1904 PST	1154 PST	1904 PST	489.3 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/l	NO2 uH/l	CHL ug/I	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3> 1	2	MEAN	DARK
3	20.97	33.364	23.259	5.56	108.5	4.0	0.30	0.2	0.00	0.18	0.05	82. A	6.7	7.4	7.1	0.10
5	20.50	33.350	23.374	5.59	108.2	3.8	0.30	0.2	0.00	0.16	0.05					
10	17.03	33.278	24.187	6.05	109.6	4.4	0.35	0.2	0.00	0.22	0.07					
16	14.25	33.182	24.732	6.25	107.0	4.6	0.41	0.2	0.01	0.32	0.15	34.	8.2	7.8	8.0	0.12
28	12.61	33.262	25.124	5.46	90.4	7.1	0.76	5.0	0.18	1.26	0.65	15.	19.2	19.9	19.5	0.10
44	11.73	33.365	25.371	4.38	71.2	12.9	1.17	11.9	0.38	0.34	0.48.	5.3	6.0	6.1	6.1	0.11
50	11.62	33.386	25.408	4.24	68.8					0.43	0.50					

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 93 45

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 21.0 N	118 33.8 W	12/ 8/93	1910 UTC	19 a	02	1207 - 1910 PST	1159 PST	1909 PST	69.8 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/l	PO4 uN/l	NO3 uM/l	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3> 1	2	MEAN	DARK
2	18.15	33.295	23.931	5.53	102.4	4.0	0.37	0.2	0.00	0.14	0.04	85. A	0.70	0.80	0.75	0.07
13	18.15	33.298	23.934	5.53	102.3	3.8	0.36	0.2	0.00	0.13	0.03	35.	1.3	1.3	1.3	0.06
23	18.13	33.297	23.938	5.54	102.5	3.6	0.36	0.2	0.00	0.13	0.03	16.	1.3	1.2	1.3	0.07
36	15.49	33.212	24.489	6.00	105.4	3.2	0.41	0.2	0.00	0.17	0.10	5.5	0.64	0.63	0.64	0.06
43	14.43	33.179	24.692	5.90	101.4	3.9	0.48	0.7	0.08	0.38	0.19					
50	13.32	33.174	24.917	5.52	92.7	5.6	0.67	3.6	0.29	0.42	0.24	1.8	1.5	1.7	1.6	0.04
60	12.87	33.192	25.020	5.33	88.7	6.7	0.76	5.3	0.28	0.33	0.31					
67	12.59	33.213	25.091	5.21	86.2	7.4	0.82	6.5	0.26	0.26	0.26	0.45	0.28	0.27	0.28	0.03
84	11.20	33.289	25.410	4.77	76.6	10.7	1.13	11.4	0.04	0.11	0.21					

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 29.9 N	120 16.2 W	13/ 8/93	1822 UTC	27 a	02	1206 - 1913 PST	1206 PST	1913 PST	207.1 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL ug/l	PHAEO ug/.l	LIGHT PCT	UPTAKE (ag C/a3> 1	2	MEAN	DARK
1	17.40	33.167	24.014	5.62	102.4	3.9	0.37	0.1	0.00	0.14	0.04	94. A	1.8	1.6	1.7	0.06
11	17.40	33.167	24.015	5.67 U	103.4 U	3.8	0.37	0.1	0.00	0.14	0.03					
18	17.38	33.166	24.019	5.63	102.6	3.7	0.37	0.1	0.00	0.14	0.04	36.	3.6	3.4	3.5	0.06
33	17.30	33.165	24.038	5.63	102.4	3.6	0.37	0.1	0.00	0.14	0.04	15.	2.1	3.0	2.6	0.07
40	16.13	33.054	24.224	5.85	103.9	3.4	0.34	0.1	0.00	0.17	0.05					
51	14.68	33.059	24.547	6.03	104.1	3.4	0.37	0.1	0.00	0.21	0.12	5.5	2.0	2.0	2.0	0.06
60	14.30	33.117	24.672	5.99	102.6	3.6	0.39	0.1	0.00	0.31	0.22					
73	13.26	33.100	24.872	5.66	94.9	5.0	0.57	2.4	0.09	0.49	0.40	1.6	2.1	2.3	2.2	0.03
85	12.46	33.140	25.060	5.31	87.6	7.2	0.78	5.6	0.01	0.23	0.33					
96	12.27	33.349	25.259	5.08	83.5	7.8	0.82	7.0	0.02	0.14	0.15	0.43	0.22	0.22	0.22	0.01
118	10.33	33.378	25.632	4.64	73.2	13.4	1.21	13.3	0.01	0.05	0.07					

RV NEW HORIZON CALCOFI CRUISE 9308 STATION 93 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 11.9 N	122 56.3 W	14/ 8/93	1832 UTC	31 a	01	1215 - 1920 PST	1217 PST	1919 PST	106.0 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3> 1	2	MEAN	DARK
1	18.95	33.266	23.710	5.46	102.6	3.2	0.30	0.2	0.00	0.08	0.02	95. A	1.5	1.5	1.5	0.07
11	18.94	33.267	23.714	5.44	102.2	3.0	0.29	0.2	0.00	0.09	0.01					
22	19.33	33.443	23.750	5.39	102.1	2.9	0.28	0.2	0.00	0.09	0.02	34.	2.0	2.1	2.0	0.09
31	19.93	33.730	23.814	5.33	102.3	2.9	0.27	0.2	0.00	0.09	0.02					
39	20.03	33.824	23.860	5.35	102.9	2.8	0.26	0.2	0.00	0.09	0.02	14.	1.3	1.2	1.2	0.09
50	19.36	33.800	24.016	5.50	104.5	2.8	0.26	0.2	0.00	0.09	0.02					
60	18.97	33.843	24.149	5.52	104.1	2.7	0.24	0.2	0.00	0.10	0.03	5.1	0.75	0.73	0.74	0.07
70	17.13	33.425	24.279	5.79	105.1	2.7	0.28	0.2	0.00	0.11	0.03					
82	16.47	33.457	24.458	5.77	103.4	2.7	0.30	0.2	0.00	0.14	0.06	1.7	0.33	0.36	0.34	0.06
99	13.11	33.466	24.770	5.63	98.2	3.3	0.35	0.1	0.00	0.23	0.22					
109	14.42	33.451	24.906	5.49	94.5	4.2	0.45	0.8	0.10	0.30	0.35	0.45	0.30	0.29	0.29	0.02
140	12.61	33.435	25.261	5.05	83.7	7.5	0.80	7.0	0.03	0.15	0.20					

A) INCUBATION LIGHT INTENSITIES WERE 94, 35, 15, 5.3, 1.6 AND 0.44 PERCENT RESPECTIVELY.

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505 mm

Line	Sta.	Position		Date Mo/Day	Time (PST) Start	End	Water Volume Strained (m)	Max. Tow Depth (m)	Volume per 1000 m Total (an)	Strained Small (cm'
77	49	35 04.9N	120 47.5W	08/26	0332	0341	173	66	423	423
77	51	35 02.2N	120 55.8V/	08/26	0040	0102	479	194	171	171
77	55	34 52.7N	121 13.0V/	08/25	2057	2119	441	213	136	136
77	60	34 45.7N	12133.2W	08/25	1713	1735	453	216	46	46
77	70	34 23.1N	12215.0W	08/25	0935	0957	454	213	53	53
77	80	34 04.9N	122 56.8W	08/25	0350	0412	484	202	72	72
77	100	33 25.2N	12419.8W	08/24	1200	1222	516	206	14	14
80	51	34 27.0N	120 33.8W	08/22	2015	2024	183	79	120	66
80	55	34 19.4N	120 49.4W	08/22	2323	2345	454	197	115	115
80	60	3410.0N	121 11.5W	08/23	0316	0338	457	205	131	131
80	70	33 49.4N	12150.6W	08/23	0843	0905	466	204	144	62
80	80	33 30.3N	122 32.8W	08/23	1640	1702	448	212	49	36
80	90	33 09.4N	123 13.8W	08/23	2223	2245	517	204	21	21
80	100	32 50.2N	123 54.9W	08/24	0436	0457	466	210	11	11
82	47	3416. IN	120 02.0W	08/22	1601	1623	426	207	59	59
83	40.6	34 14.0N	119 23.8W	08/22	0811	0815	65	21	77	77
83	42	34 10.5N	119 30.1W	08/22	0940	0954	293	129	44	44
83	51	34 52.3N	12010.2 W	08/22	0113	0135	460	200	39	39
83	55	33 45. IN	120 25.6W	08/21	2142	2204	490	195	98	98
83	60	33 35.4N	120 46.8W	08/21	1738	1760	479	207	244	244
83	70	33 15.0N	12127.0W	08/21	0953	1015	495	209	152	152
83	80	32 55.6N	122 08.3W	08/21	0504	0526	476	216	50	50
83	90	32 35.2N	122 49.3W	08/20	2250	2312	462	211	15	15
83	100	3216. IN	123 30.8W	08/20	1654	1716	465	208	9	9
83	110	3154.8N	12410.0W	08/20	0829	0851	479	197	8	8
87	33	33 52.4N	118 29.6W	08/17	1855	1860	103	40	127	127
87	35	33 48.9N	118 38.9W	08/17	2128	2150	454	201	117	117
87	40	33 39.5N	118 57.8W	08/18	0116	0138	448	201	58	58
87	45	33 29.6N	119 19.6W	08/18	0528	0550	426	214	47	47
87	50	33 19.5N	119 40.7W	08/18	0942	0950	160	75	50	50
87	55	33 10.7N	120 02.2W	08/18	1506	1529	483	217	21	21
87	60	32 59.3N	120 22.9W	08/18	2035	2057	450	227	91	91
87	70	32 40.0N	121 03.4W	08/19	0236	0259	472	211	100	100
87	80	32 19.3N	121 42.9W	08/19	0837	0859	450	224	38	38
87	90	3159.8N	122 26.1W	08/19	1633	1655	466	212	39	39
87	100	3139.8N	123 05.7W	08/19	2147	2209	463	209	39	39
87	110	3120.8N	123 45.2W	08/20	0324	0346	450	205	24	24
90	28	33 28.8N	U7 46.7W	08/17	1230	1239	175	77	86	86
90	30	33 25.2N	117 53.3W	08/17	0940	1001	448	194	29	29
90	35	33 13.6N	118 15.4W	08/17	0525	0547	437	198	87	87
90	37	33 10.5N	U8 23.7W	08/17	0214	0236	420	203	76	76
90	45	32 54.9N	118 56.9W	08/16	2100	2122	414	208	85	65
90	53	32 40.8N	U9 29.7W	08/16	1544	1606	437	217	23	23
90	60	32 25.2N	119 57.8W	08/16	0854	0915	424	204	118	118
90	70	32 06.1N	120 39.5W	08/16	0408	0430	444	211	41	41
90	80	3145.7N	121 18.9W	08/15	2214	2236	452	210	33	33
90	90	3127.6N	122 00.3W	08/15	1650	1712	451	206	29	29
90	100	3105.0N	122 39.8W	08/15	0903	0924	439	204	16	16
90	110	30 45.8N	123 20.3W	08/15	0427	0449	441	212	39	39
90	120	30 26.3N	124 00.6W	08/14	2236	2258	447	209	31	31
93	26.7	32 56.0N	117 18.8W	08/11	1300	1307	169	68	53	53
93	28	32 52.6N	117 26.2W	08/11	1845	1907	446	214	34	34
93	30	32 50.7N	117 33.2W	08/11	2305	2327	437	204	71	71
93	35	32 41.6N	117 53.3W	08/12	0330	0352	425	205	42	42
93	40	32 30.6N	118 14.8W	08/12	0804	0825	423	219	21	21
93	45	32 22.0N	118 35.3W	08/12	1315	1337	436	212	32	32
93	50	32 11.9N	118 56.9W	08/12	1825	1847	471	198	47	47
93	55	32 01.8N	119 15.6W	08/12	2233	2255	480	210	56	56
93	60	3151.0N	119 35.6W	08/13	0245	0309	529	214	74	74
93	70	3130.4N	12015.4W	08/13	0735	0757	455	207	26	26
93	80	31 11.4N	120 57.4W	08/13	1642	1704	479	207	35	35
93	90	31 52.0N	12135.5W	08/13	2220	2244	485	238	31	31
93	100	30 32.0N	12215.8W	08/14	0420	0442	631	212	22	22
93	110	30 11.0N	122 55.5W	08/14	0900	0925	347	253	32	32
93	120	29 53.1N	123 35.8W	08/14	1707	1729	470	209	13	13

Cruise 9310

1. CalCOFI Cruise 9310, track and station positions.

2. Horizontal distribution of dynamic height anomaly (0 over 500m). In areas shallower than 500 m, the dynamic heights were extrapolated on the basis of the offshore deeper steric height as described in Reid and Mantyla (1976).

3. Horizontal distributions at 10 meters: A) chlorophyll-a; B) potential density; C) temperature; and D) salinity.

4. Horizontal distributions at 200 meters: A) dynamic height anomaly (200 over 500 m); B) potential density; C) temperature; and D) salinity.

5. Sections along CalCOFI line 90 (vertical exaggeration, 1000): A) potential density; B) temperature; C) salinity; D) silicate; E) nitrate; F) phosphate; G) chlorophyll-a; H) oxygen saturation; I) oxygen; J) nitrite; and K) phaeopigments.

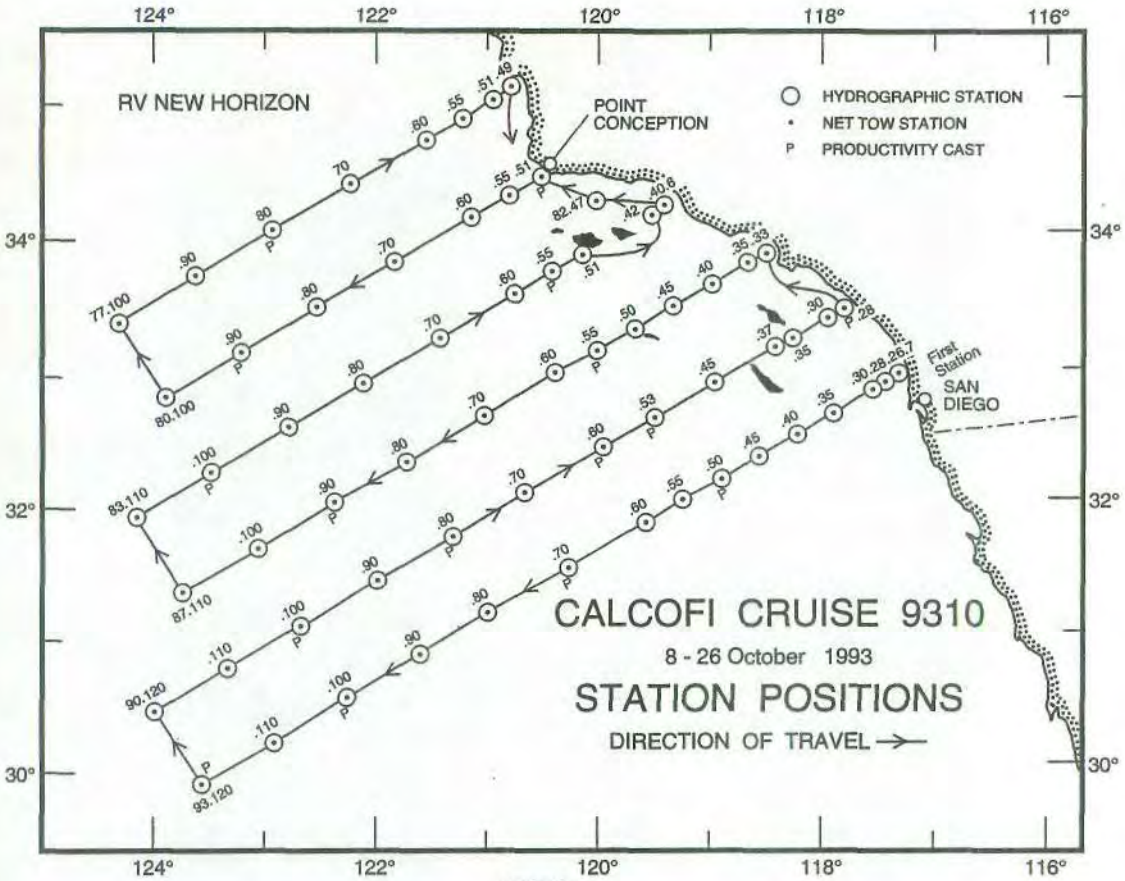


FIGURE 1

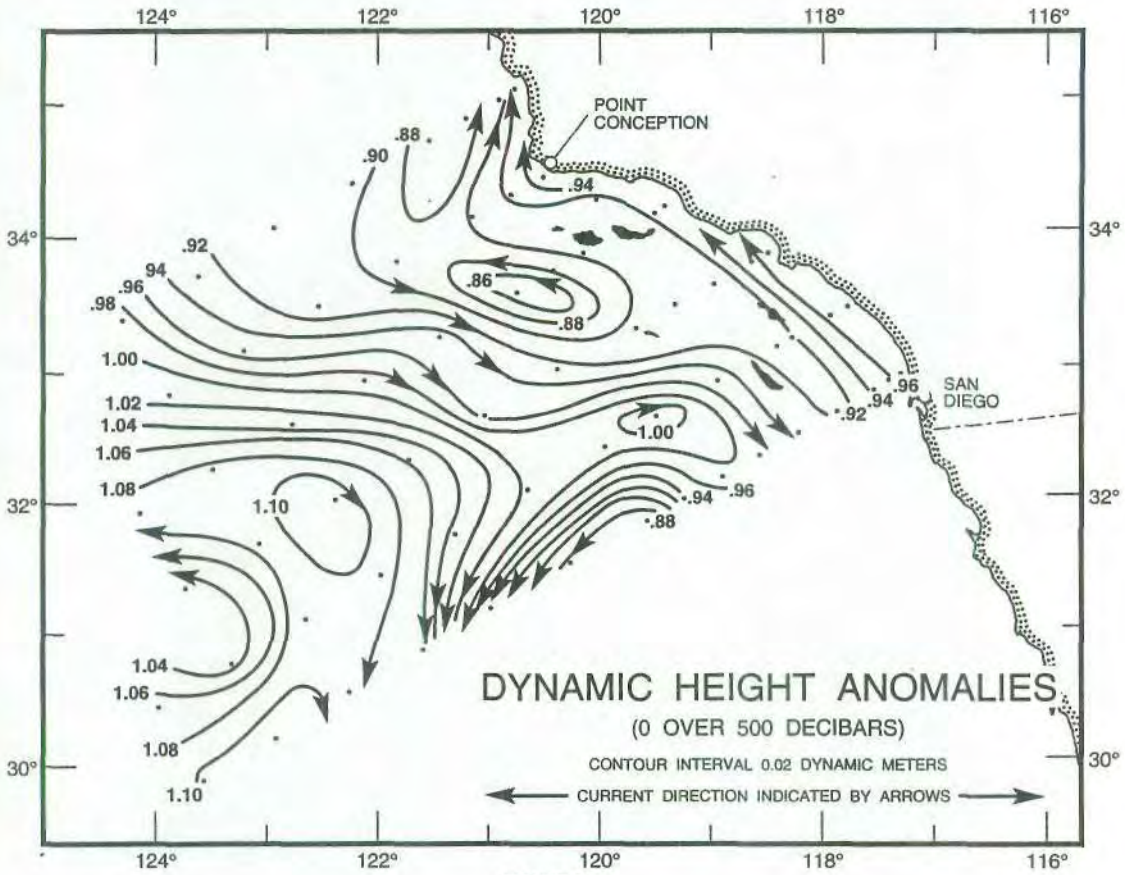


FIGURE 2

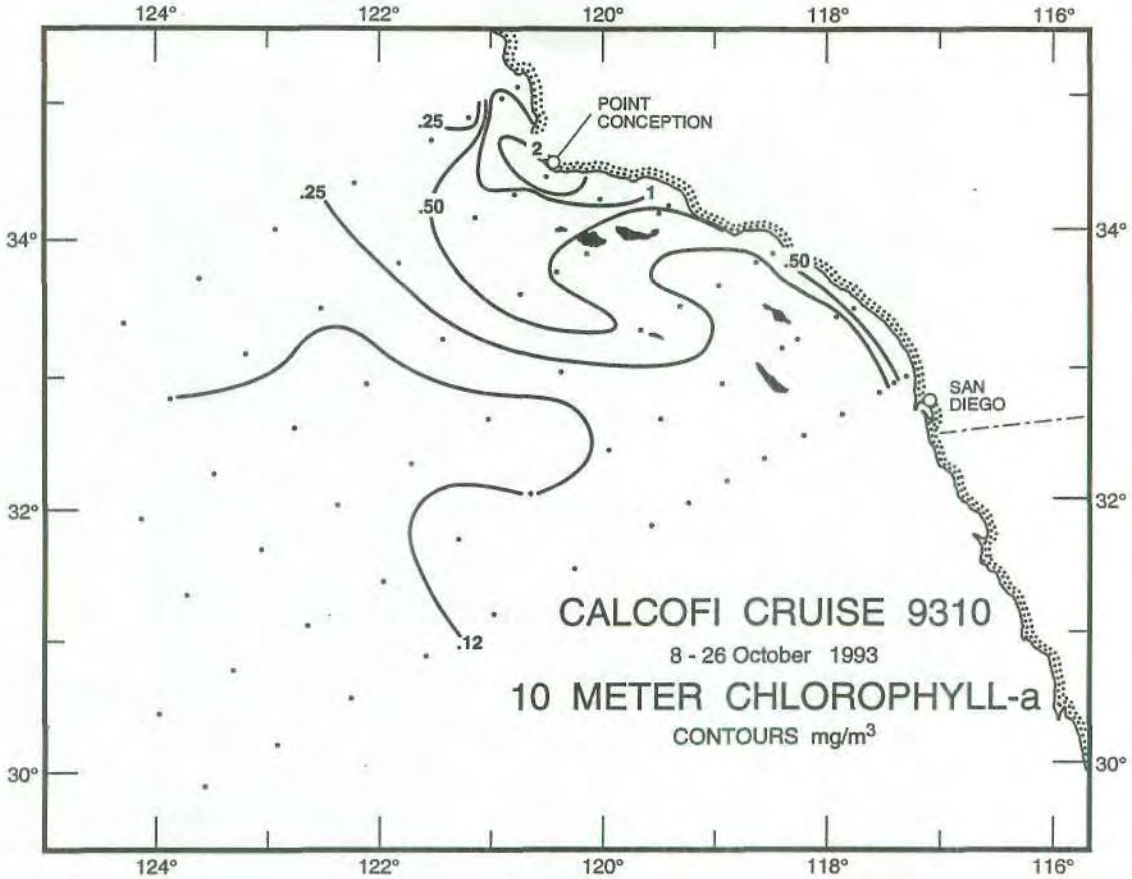


FIGURE 3A

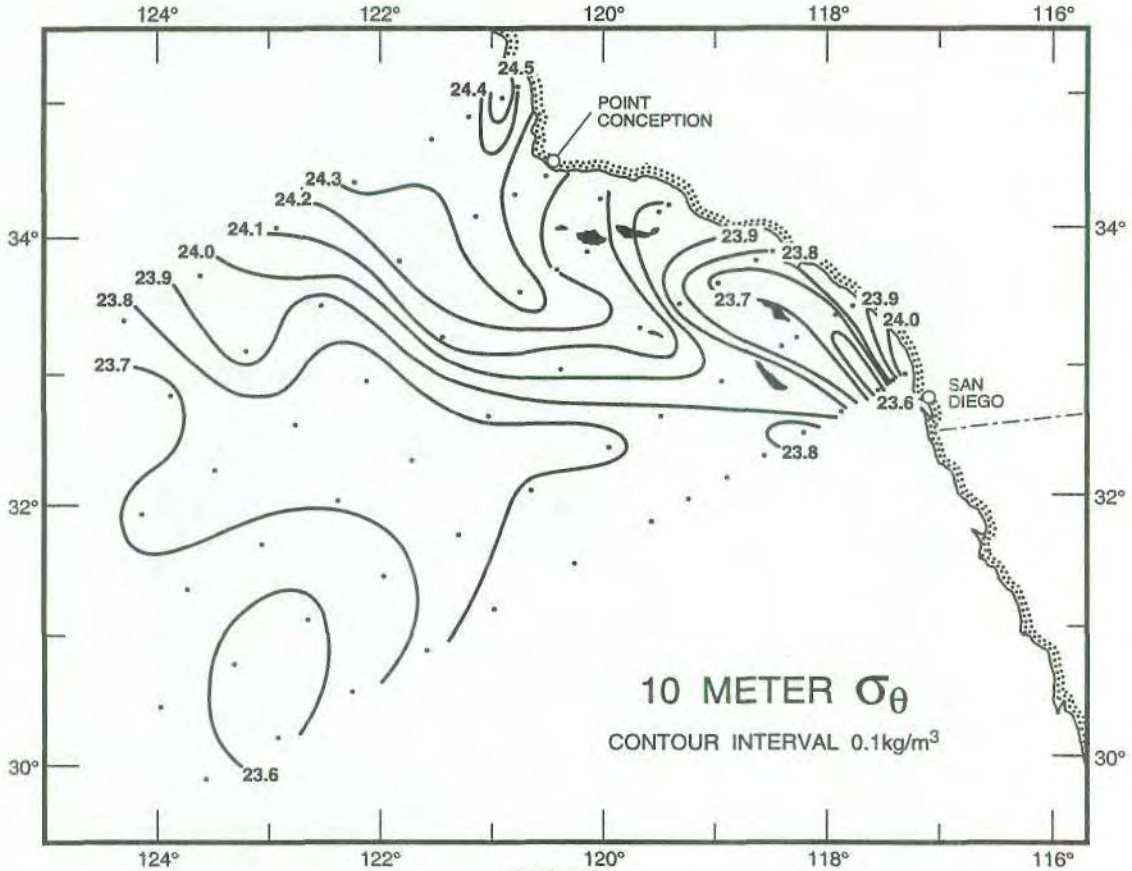


FIGURE 3B

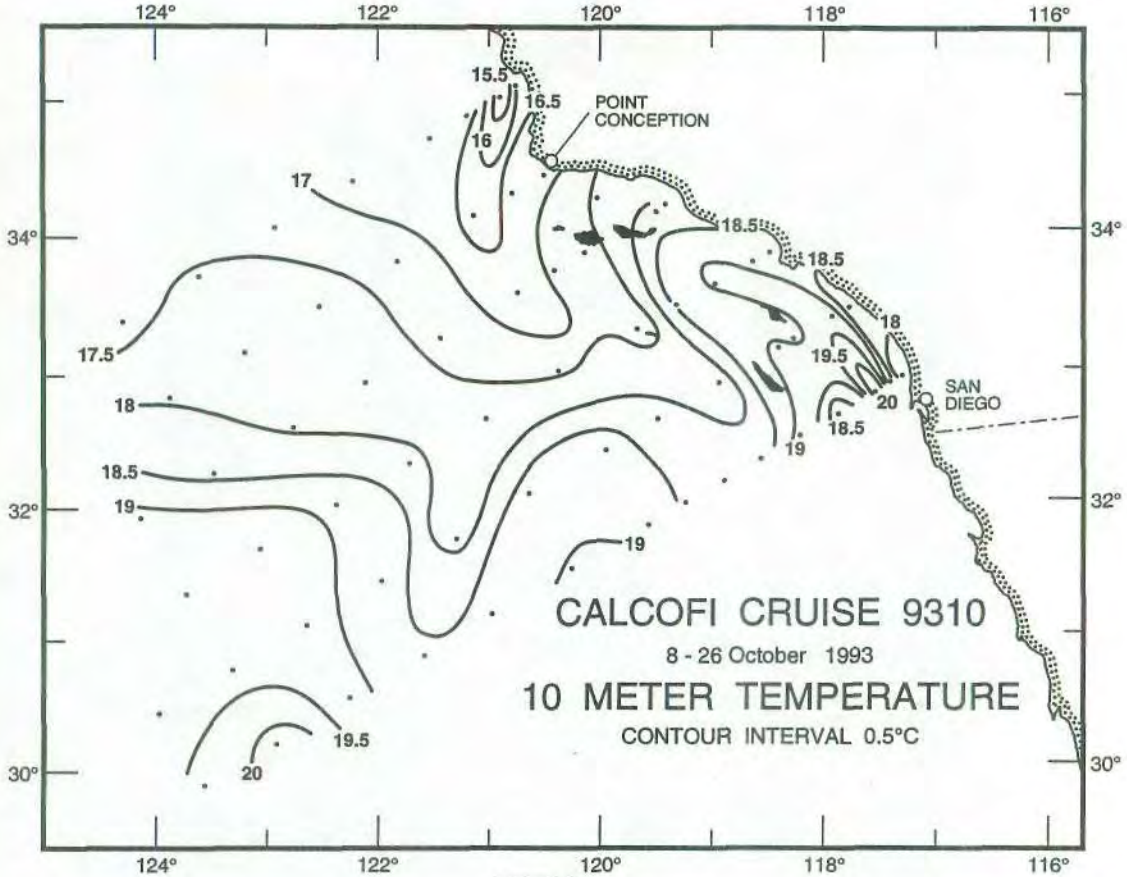


FIGURE 3C

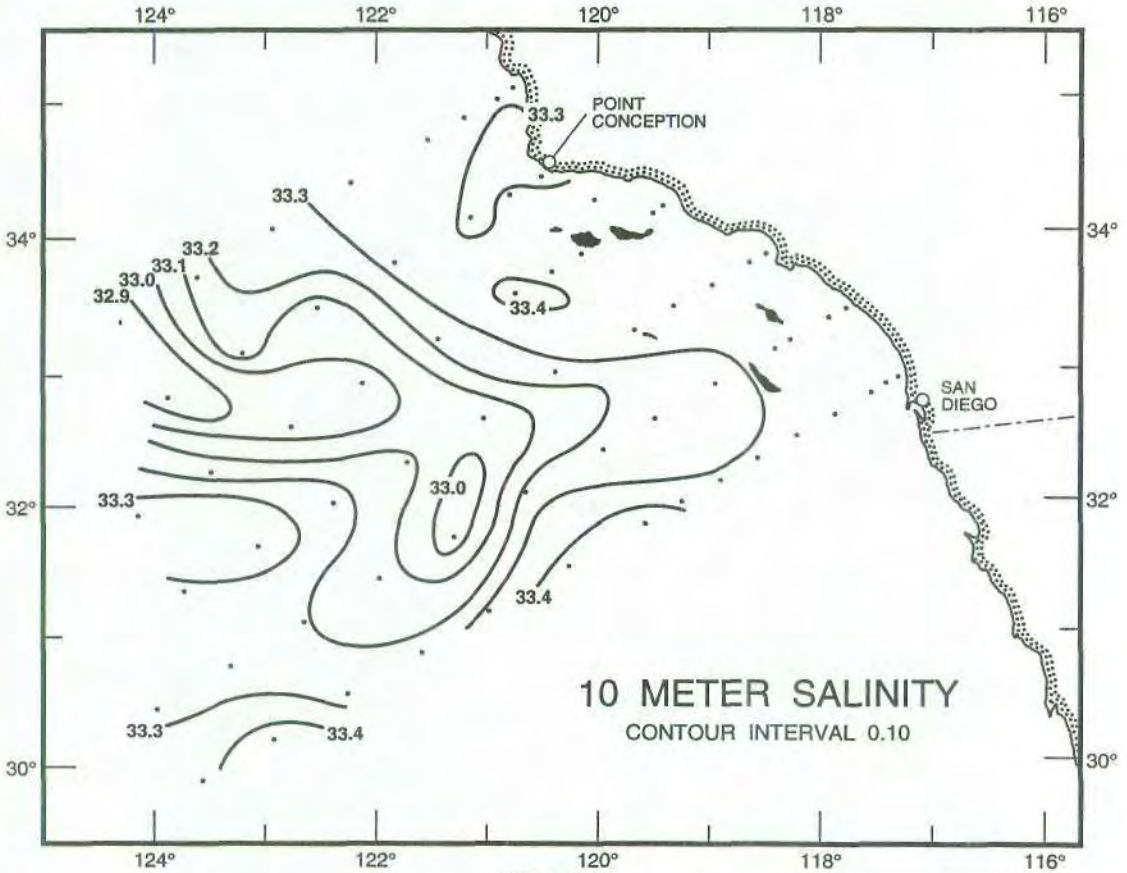


FIGURE 3D

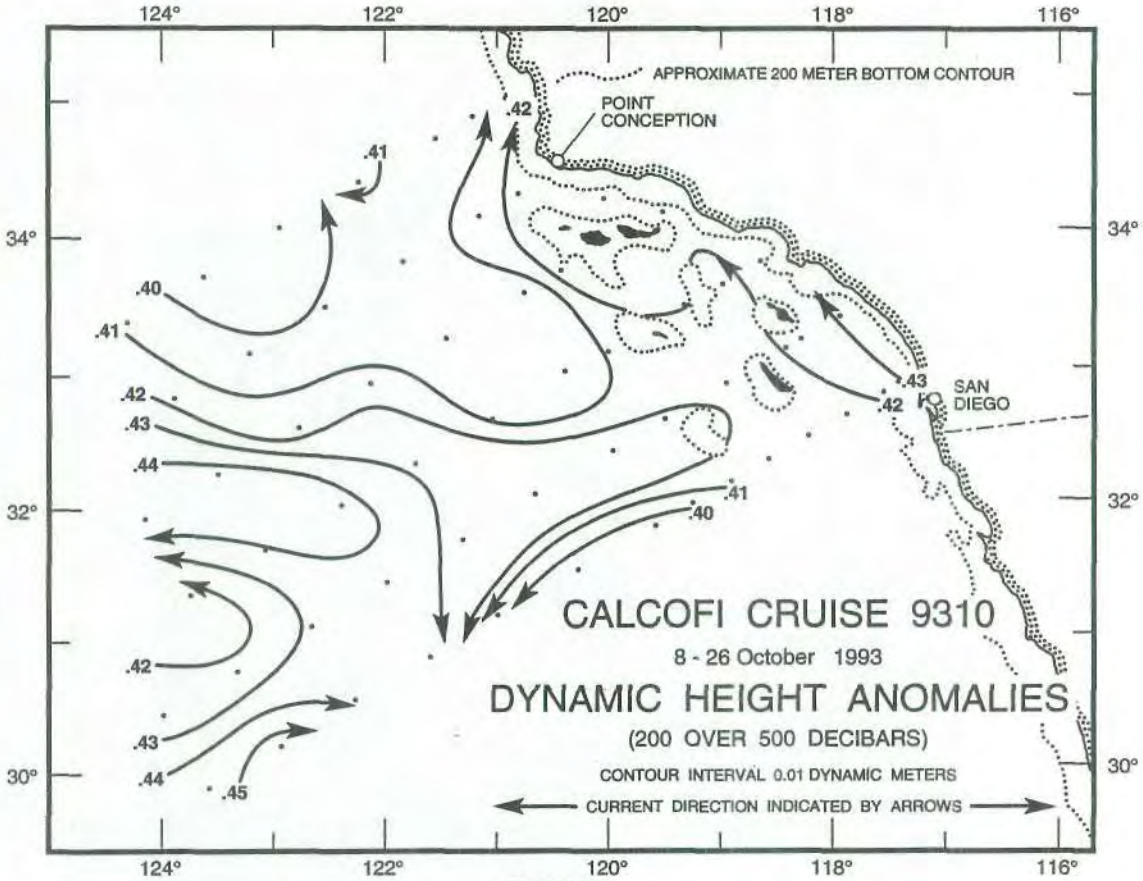


FIGURE 4A

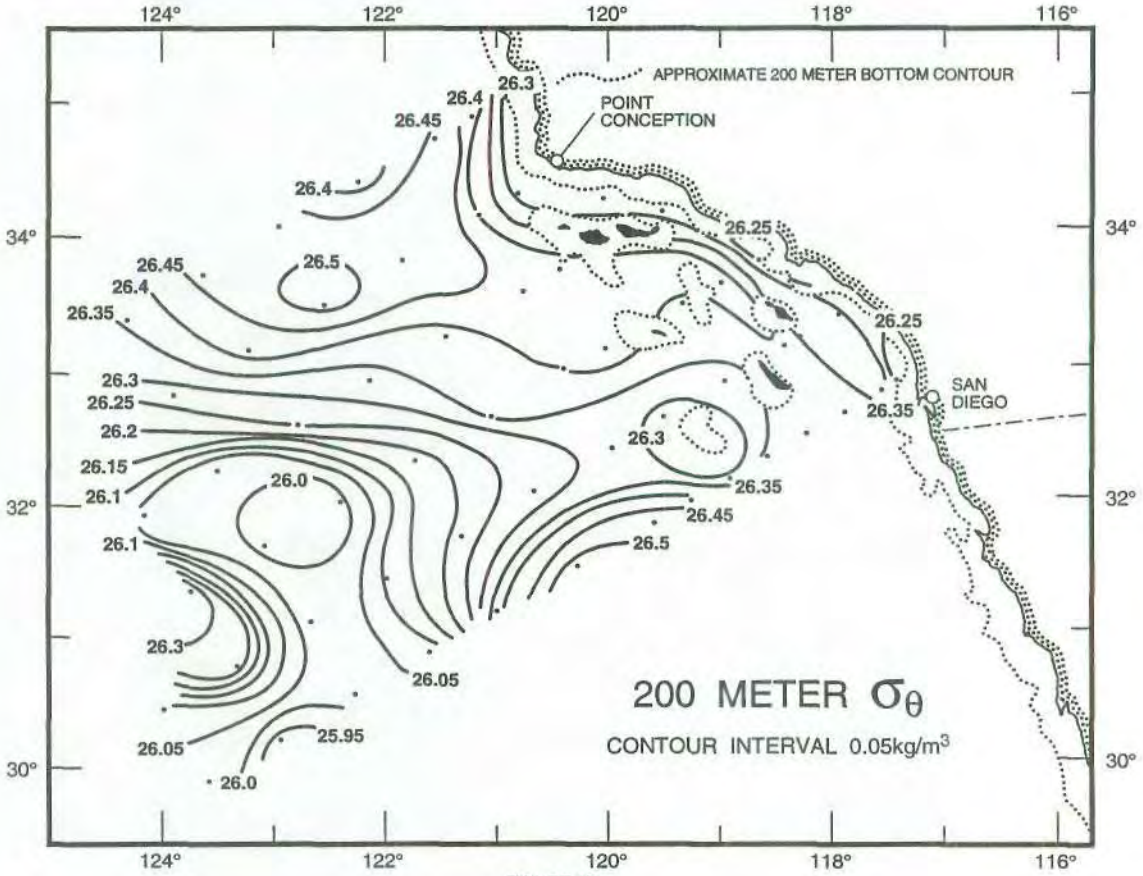


FIGURE 4B

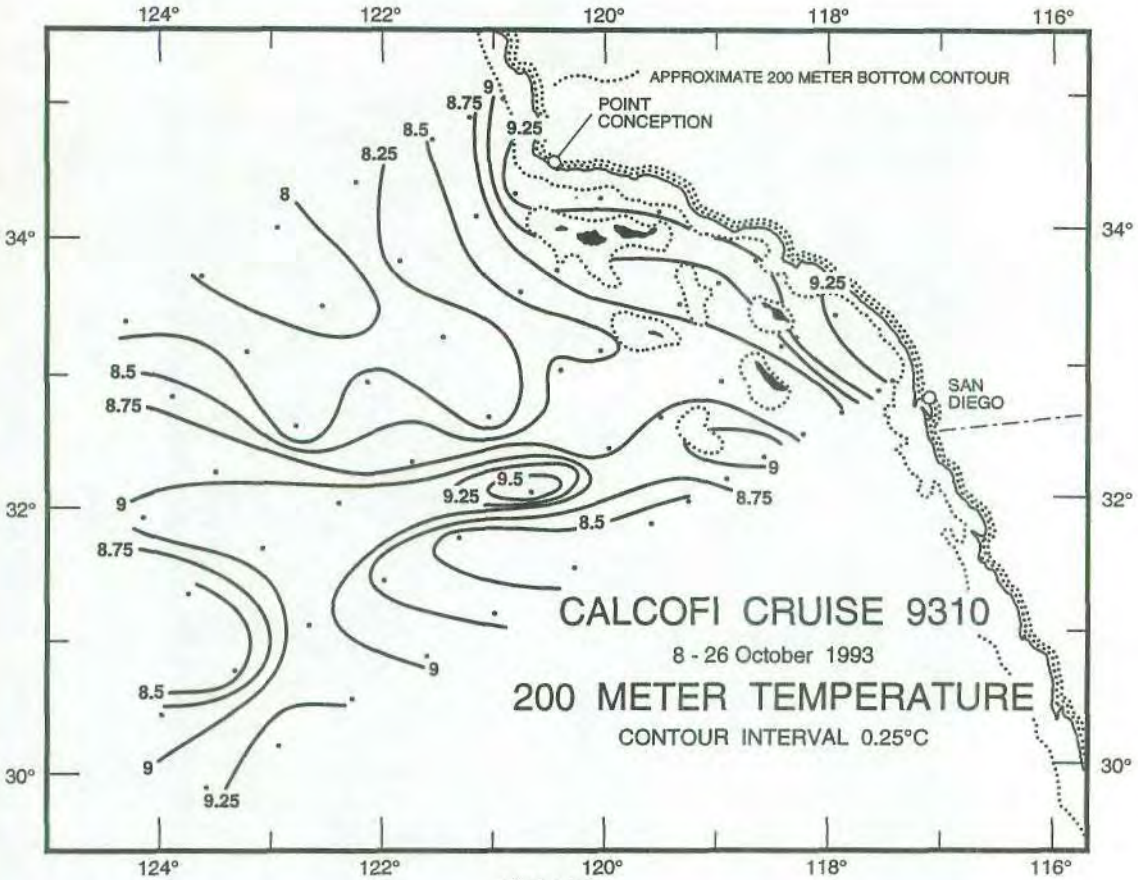


FIGURE 4C

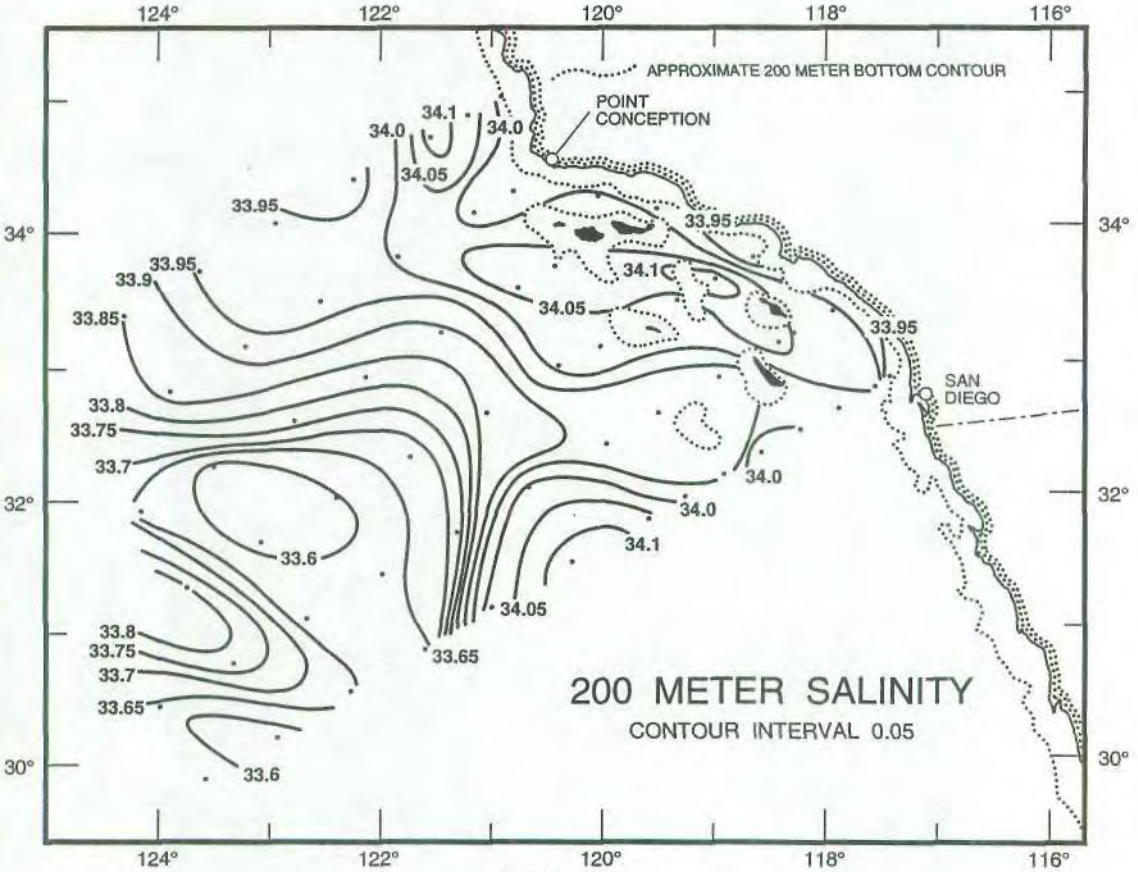


FIGURE 4D

CALCOFI CRUISE 9310

12 - 17 OCTOBER 1993

POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 90

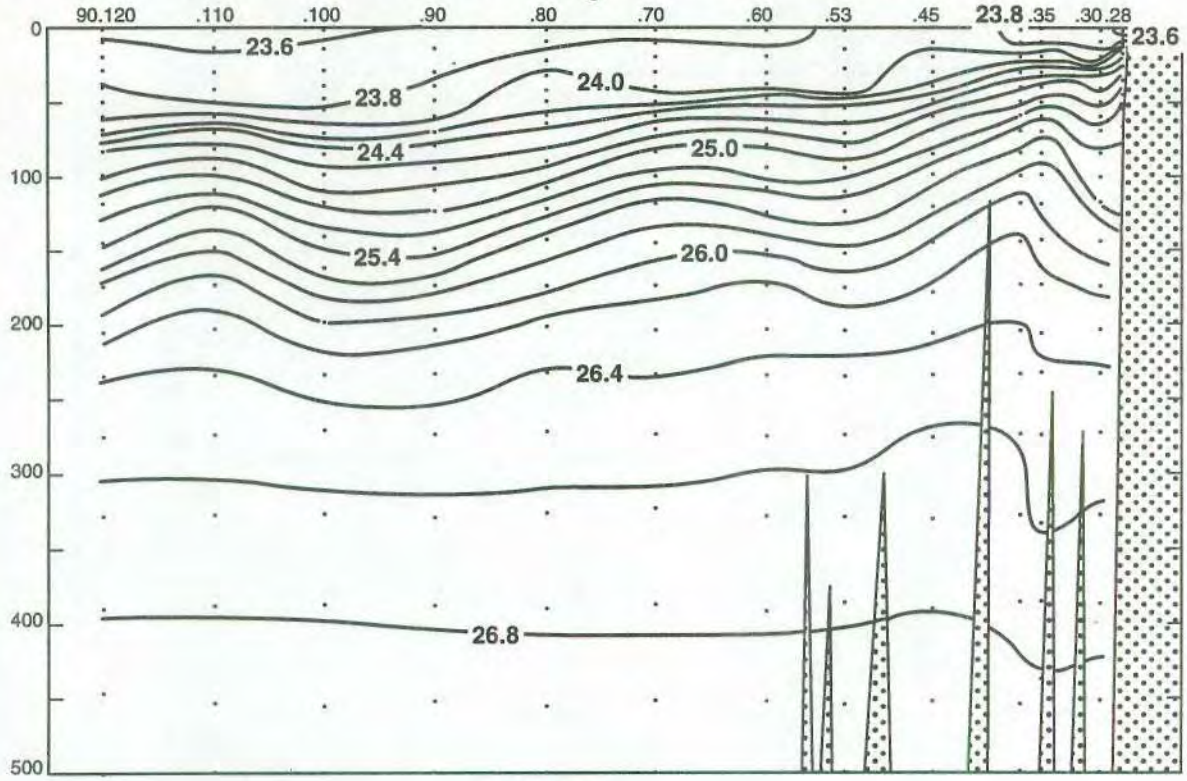


FIGURE 5A

DEPTH (m)

TEMPERATURE (°C) ALONG CALCOFI LINE 90

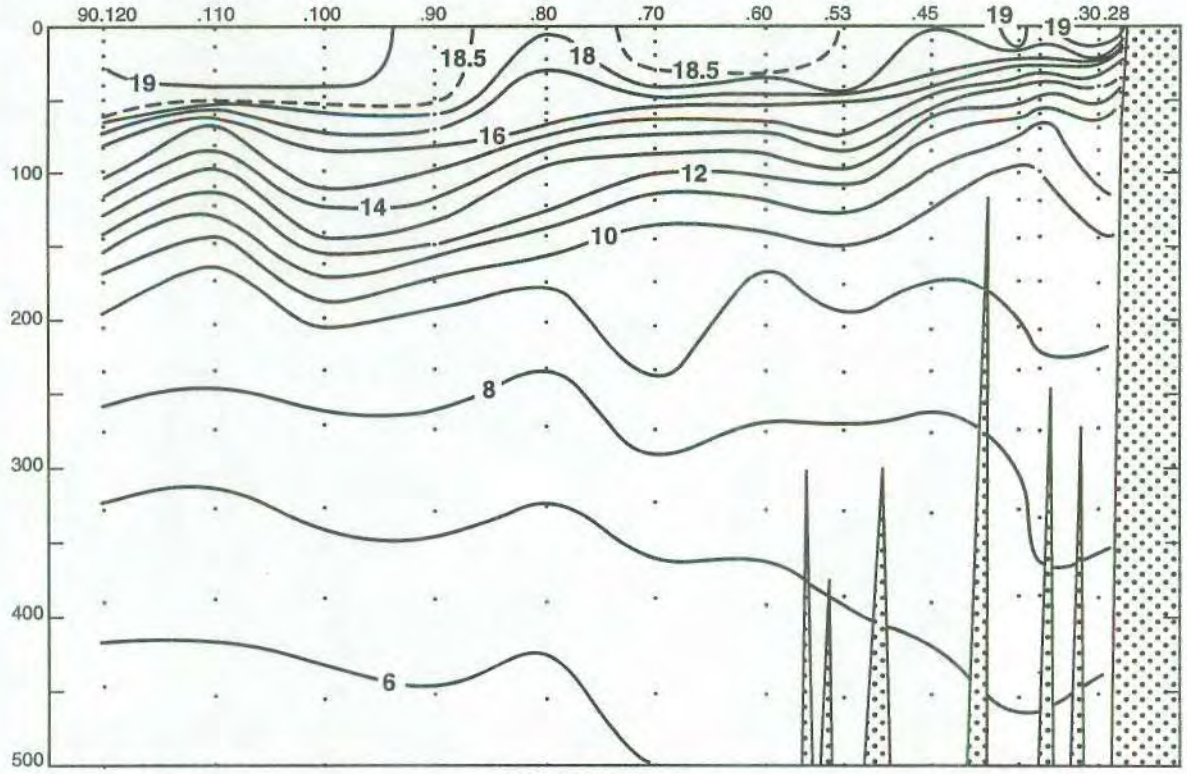


FIGURE 5B

CALCOFI CRUISE 9310

12 - 17 OCTOBER 1993

SALINITY ALONG CALCOFI LINE 90

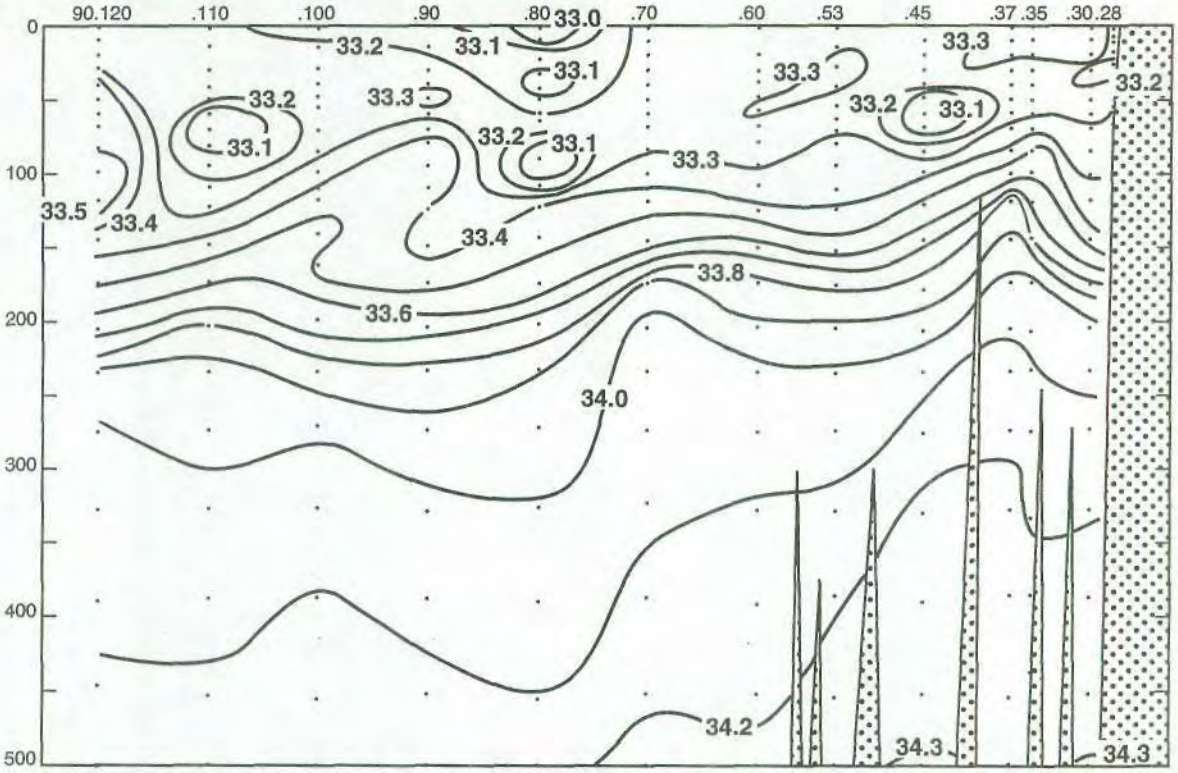


FIGURE 5C

DEPTH (m)

SILICATE (µM/l) ALONG CALCOFI LINE 90

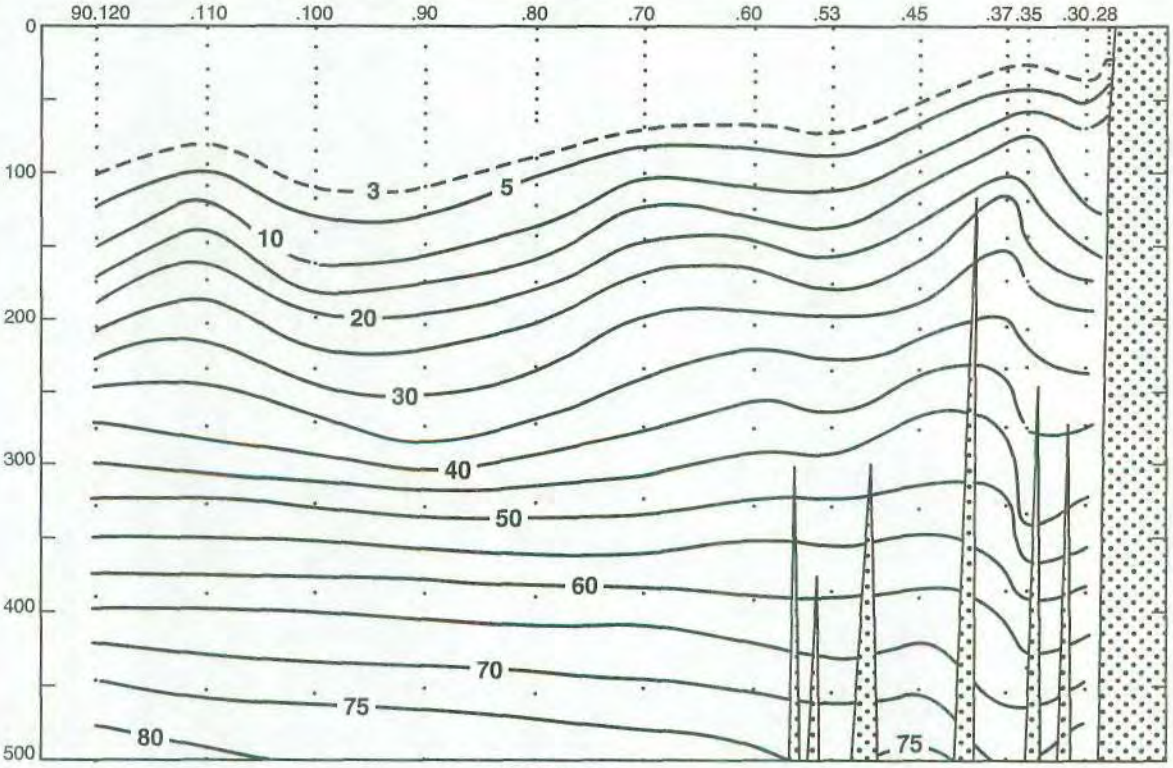


FIGURE 5D

CALCOFI CRUISE 9310

12 - 17 OCTOBER 1993

NITRATE (µM/l) ALONG CALCOFI LINE 90

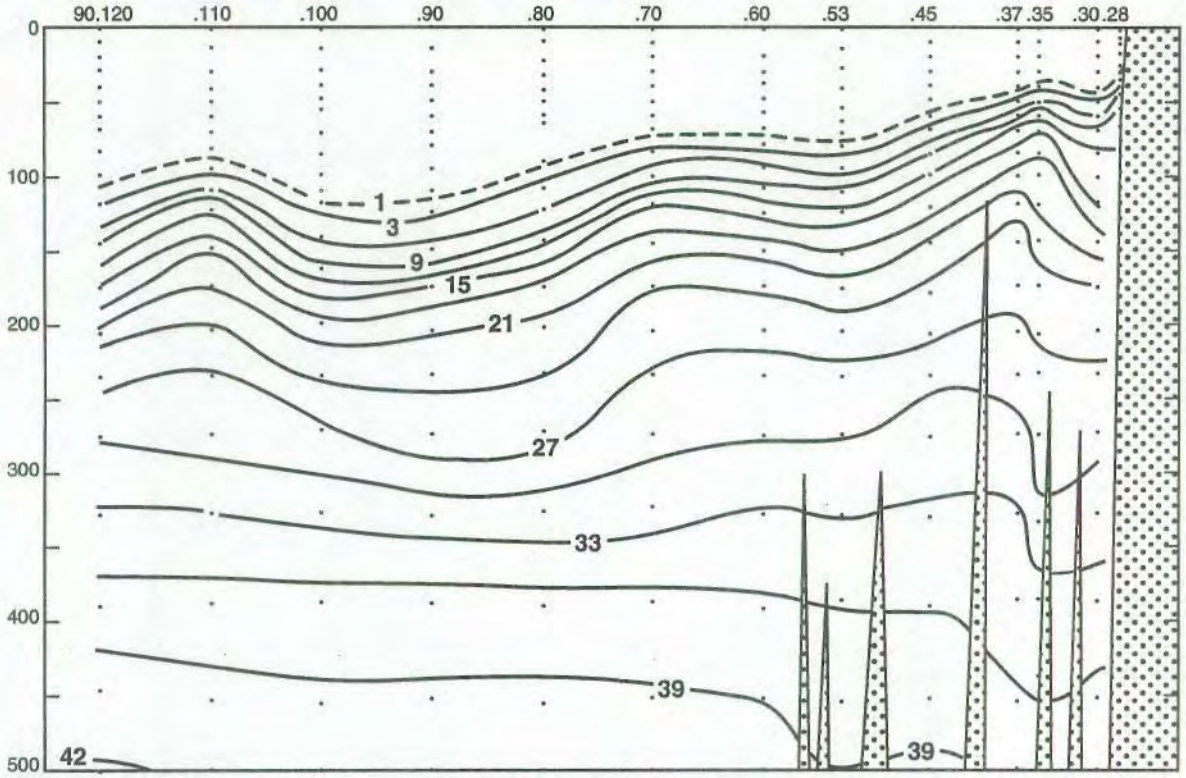


FIGURE 5E

DEPTH (m)

PHOSPHATE (µM/l) ALONG CALCOFI LINE 90

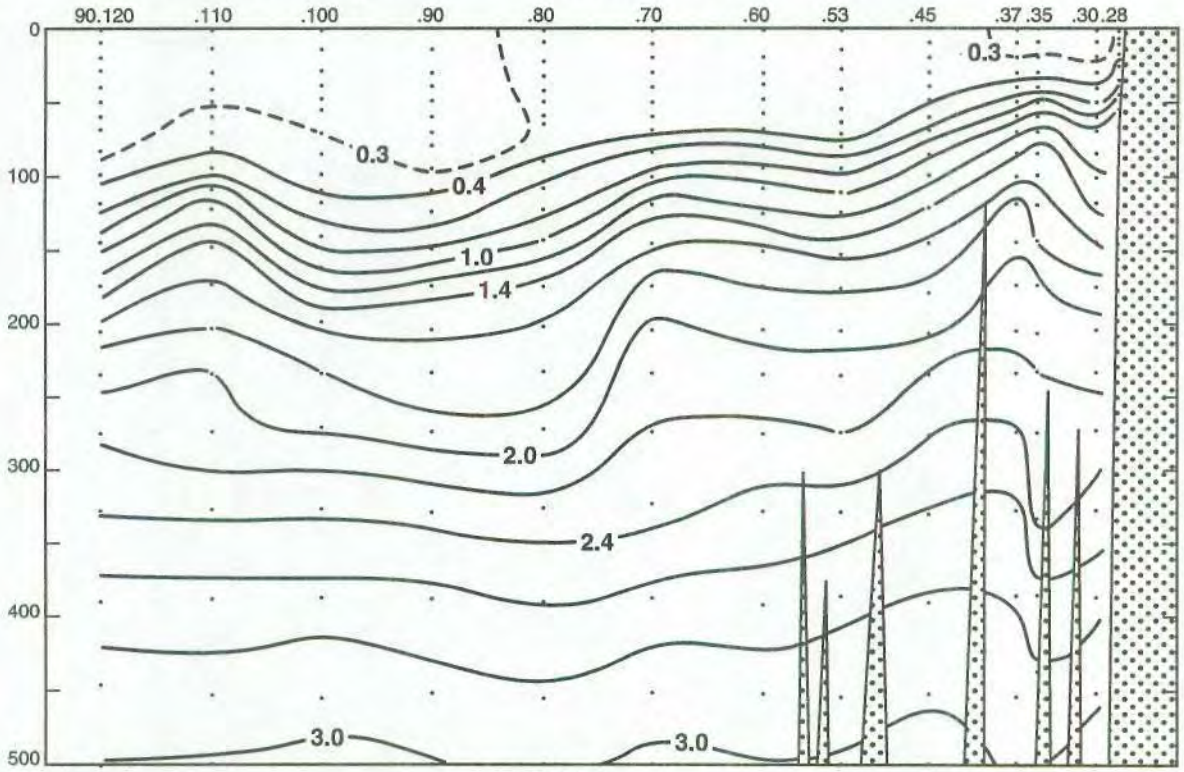


FIGURE 5F

CALCOFI CRUISE 9310

12 - 17 OCTOBER 1993

CHLOROPHYLL-a (µg/l)) ALONG CALCOFI LINE 90

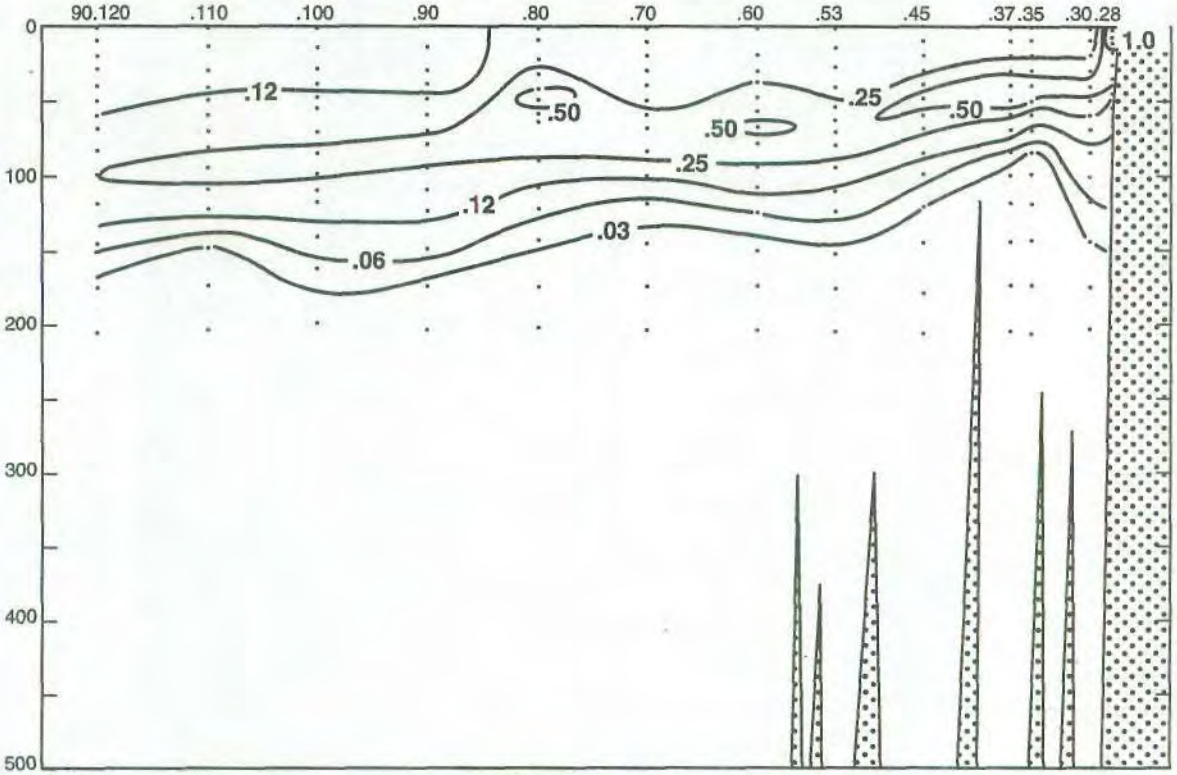


FIGURE 5G

DEPTH (m)

OXYGEN SATURATION (%) ALONG CALCOFI LINE 90

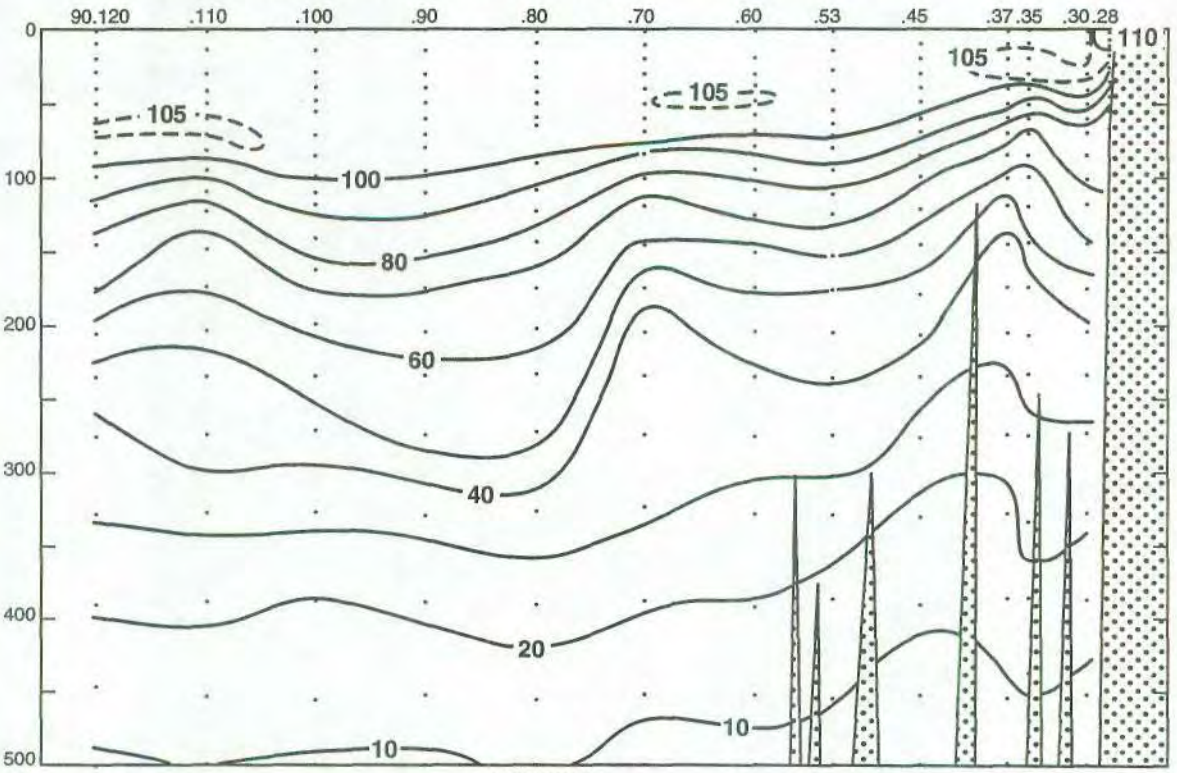


FIGURE 5H

CALCOFI CRUISE 9310

12 - 17 OCTOBER 1993

OXYGEN (ml/l) ALONG CALCOFI LINE 90

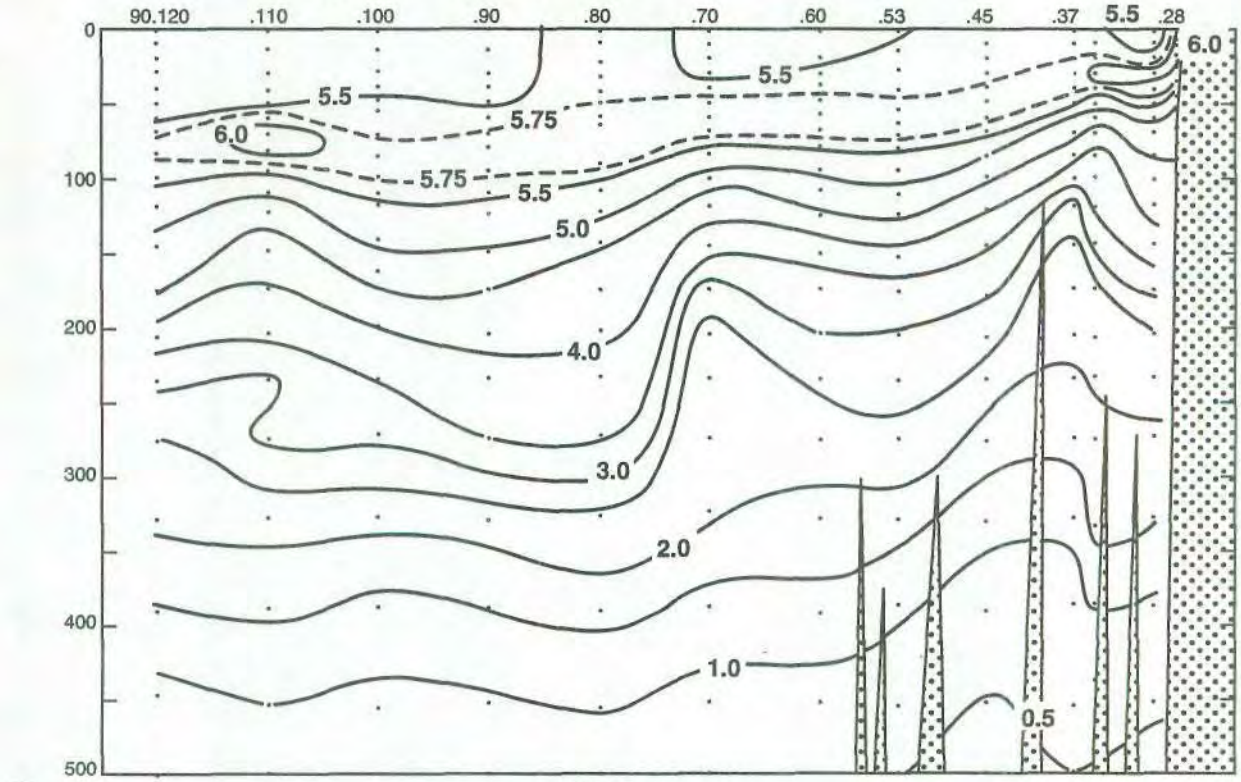


FIGURE 5I

NITRITE (µM/l) ALONG CALCOFI LINE 90

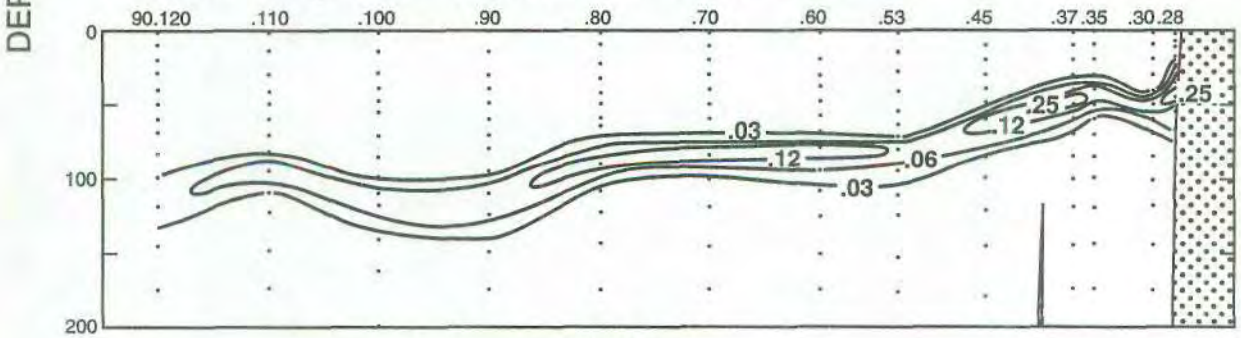


FIGURE 5J

PHAEOPIGMENTS (µg/l) ALONG CALCOFI LINE 90

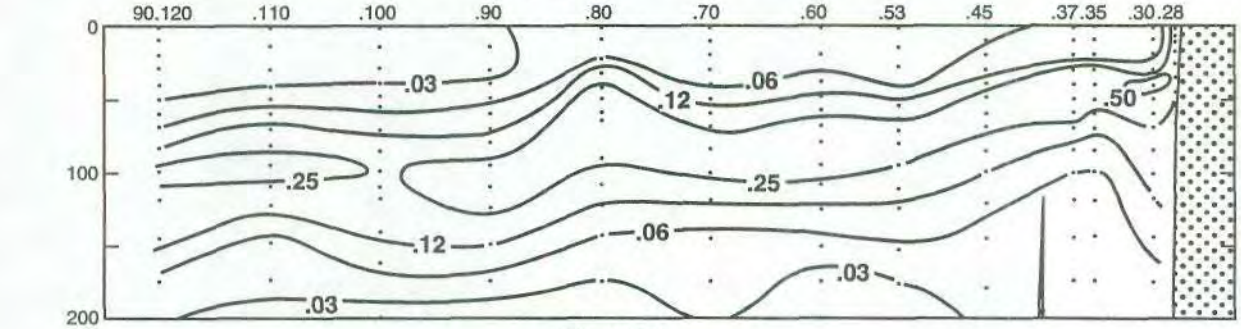


FIGURE 5K

PERSONNEL

CalCOFI Cruise 9310

SHIP'S CAPTAIN

John P. Manion, RV *New Horizon*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

		Participation (Leg)
Chereskin, Teresa K. (in charge, Leg I)	Asst Research Oceanographer, SIO	I
Renger, Edward H. (in charge, Leg II)	Staff Research Associate, SIO	I, II
Abramenkoff, Dimitry N.	Fishery Biologist, NMFS	I, II
Bradley, Albert M.	Senior Engineer, WHOI	I
Duester, Alan	Engineer, WHOI	I
Griffith, David A.	Fishery Biologist, NMFS	I, II
Gripp, Sherry L.	Staff Research Associate, SIO	I, II
Gruber, Dennis W.	Marine Technician, SIO	I, II
Hallman, Craig M.	Staff Research Associate, SIO	II
Hays, Amy E.	Biological Technician, NMFS	I, II
Johnson, Christina S.	Graduate Student, SIO	I
Liberatore, Stephen P.	Research Engineer, WHOI	I
Mattson, Carl W.	Electronics Technician, SIO	I
McGowan, John A.	Professor, SIO	II
Mitchell, Brian G.	Asst. Research Biologist, SIO	II
Morgan, Stacey R.	Staff Research Associate, SIO	I, II
Peterson, Ray G.	Asst Research Oceanographer, SIO	I
Root, F. Elwood	Bird Observer, Volunteer	II
Veit, Richard R.	Research Scientist, Univ. of Washington	I, II
Wilkinson, James R.	Staff Research Associate, SIO	I,II

Leg I: San Diego to Dana Pt., CA 8-17 Oct., 1993

Leg II: Dana Pt. to San Diego, CA 17 - 26 Oct, 1993

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 77 49

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TINE	BOTTOM	WIND SPEED	WAVES	UEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD ANT TYPE
35 5.6 N	120 46.6 W	25/10/93	1642 UTC	68 •	320 07 kn	140 04 06	4	1015.0 ab	15.0 C	15.0 C	20a 03	8/8

CAST	DEPTH •	TENP DEG C	POT TENP DEC C	SALINITY	SIGNA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uN/I	PO4 uH/l	NO3 uN/I	NO2 uN/L	CHL-A ug/I	PHAEO ug/L	PRESS db
	0 ISL	16.43	16.43	33.327	24.364	355.4	0.000	5.92	106.0	2.4	0.33	0.2	0.00	0.75	0.19	0
2	2	16.43	16.43	33.327	24.364	355.4	0.007	5.92	106.0	2.4	0.33	0.2	0.00	0.75	0.19	2
	10 ISL	16.31	16.31	33.326	24.391	353.1	0.035	5.95	106.3	2.3	0.33	0.2	0.00	0.87	0.24	10
2	11	16.30	16.30	33.326	24.393	352.9	0.039	5.95	106.3	2.3	0.33	0.2	0.00	0.89	0.25	11
2	20	15.38	15.38	33.304	24.583	335.1	0.070	5.80	101.7	3.1	0.42	0.8	0.11	2.34	0.56	20
2	30	13.91	13.91	33.275	24.874	307.6	0.102	5.26	89.5	5.5	0.70	4.6	0.61	0.61	0.39	30
2	43	13.12	13.11	33.281	25.039	292.2	0.141	4.99	83.5	7.2	0.86	7.2	0.39	0.41	0.36	43
	50 ISL	12.82	12.81	33.288	25.104	286.2	0.161	4.84	80.5	8.6	0.94	8.3	0.34	0.34	0.38	50
2	52	12.75	12.74	33.291	25.120	284.7	0.167	4.80	79.7	9.1	0.97	8.6	0.33	0.32	0.38	52
2	64	12.52	12.51	33.323	25.190	278.4	0.201	4.50	74.4	13.8	1.18	9.8	0.36	0.30 U	1.32 U	64

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 77 51

LATITUDE	LONGITUDE	DAY/NO/YR	CAST TINE	BOTTON	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD ANT TYPE
35 1.4 N	120 54.9 W	25/10/93	1405 UTC	232 •	090 02 kn	320 04 07	0	1014.1 ab	16.0 C	15.5 C	14a 04	0/8

CAST	DEPTH a	TENP DEG C	POT TENP DEG C	SALINITY	SIGNA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uN/I	PO4 uN/l	NO3 uH/l	NO2 uN/L	CHL-A ug/I	PHAEO ug/I	PRESS db
	0 ISL	15.97	15.97	33.312	24.457	346.5	0.000	5.98	106.1	3.1	0.35	0.2	0.02	1.01	0.45	0
2	2	15.97	15.97	33.312	24.457	346.5	0.007	5.98	106.1	3.1	0.35	0.2	0.02	1.01	0.45	2
	10 ISL	15.48	15.48	33.302	24.559	337.0	0.034	5.99	105.2	3.3	0.37	0.3	0.06	1.59	0.62	10
2	11	15.40	15.40	33.301	24.576	335.5	0.038	5.99	105.1	3.3	0.37	0.3	0.06	1.66	0.65	11
2	20	14.96	14.96	33.288	24.662	327.5	0.067	5.76	100.1	4.2	0.48	1.6	0.26	1.12	0.67	20
	30 ISL	13.56	13.56	33.275	24.946	300.7	0.099	5.22	88.2	6.4	0.74	5.5	0.32	0.64	0.42	30
2	32	13.27	13.27	33.277	25.006	295.1	0.105	5.11	85.8	6.9	0.80	6.4	0.33	0.56	0.36	32
2	41	12.63	12.62	33.310	25.158	280.8	0.131	4.81	79.7	9.2	0.95	8.9	0.16	0.27	0.25	41
	50 ISL	11.90	11.89	33.353	25.331	264.6	0.155	4.48	73.1	12.3	1.14	11.6	0.07	0.15	0.22	50
2	52	11.77	11.76	33.362	25.362	261.6	0.161	4.42	71.9	12.8	1.18	12.1	0.06	0.14	0.22	52
2	60	11.63	11.62	33.373	25.396	258.5	0.181	4.35	70.6	12.9	1.20	12.7	0.05	0.11	0.19	60
2	71	11.51	11.50	33.386	25.429	255.7	0.210	4.37	70.7	13.1	1.22	13.0	0.04	0.10	0.18	71
	75 ISL	11.45	11.44	33.392	25.444	254.3	0.220	4.34	70.2	13.3	1.23	13.2	0.04	0.10	0.18	75
2	86	11.21	11.20	33.419	25.509	248.4	0.247	4.20	67.6	14.3	1.30	14.3	0.03	0.08	0.17	86
	100 ISL	10.65	10.64	33.493	25.666	233.7	0.281	3.90	62.0	16.9	1.44	16.8	0.02	0.05	0.13	100
2	101	10.61	10.60	33.501	25.680	232.4	0.284	3.87	61.5	17.2	1.45	17.0	0.02	0.05	0.13	102
2	117	9.95	9.94	33.681	23.933	208.6	0.319	3.28	51.4	22.5	1.73	21.3	0.02	0.02	0.09	118
	125 ISL	9.89	9.88	33.698	25.957	206.5	0.335	3.23	50.6	22.9	1.75	21.7	0.02	0.02	0.09	126
2	143	9.75	9.73	33.737	26.011	201.7	0.372	3.13	48.9	23.9	1.80	22.5	0.02	0.01	0.08	144
	150 ISL	9.66	9.64	33.766	26.048	198.3	0.386	3.03	47.2	25.1	1.84	23.1	0.04	0.01	0.09	151
2	173	9.35	9.33	33.869	26.180	186.2	0.430	2.66	41.2	29.6	1.99	25.0	0.10	0.01	0.14	174
	200 ISL	9.16	9.14	33.954	26.277	177.4	0.480	2.35	36.2	33.2	2.12	26.7	0.16	0.01	0.16	201
2	204	9.14	9.12	33.964	26.288	176.5	0.487	2.31	35.6	33.7	2.14	26.9	0.17	0.01	0.16	205
2	229	8.95	8.93	34.002	26.349	171.2	0.530	2.12	32.6	36.8	2.23	27.9	0.22			230

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 77 55

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TINE	BOTTON	WIND SPEED	WAVES	WEA	BARONETER	DRY	WET	SECCHI/FOREL	CLD ANT TYPE
34 53.4 N	121 12.5 W	25/10/93	1024 UTC	560 a	290 07 kn			1014.7 ab	16.4 C	15.8 C		

CAST	DEPTH a	TENP DEG C	POT TENP DE6 C	SALINITY	SIGNA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uN/1	PO4 uH/l	NO3 uH/l	NO2 uN/I	CHL-A ug/I	PHAEO ug/I	PRESS db
	0 ISL	16.66	16.66	33.336	24.318	359.8	0.000	5.80	104.3	2.3	0.33	0.2	0.00	0.25	0.08	0
2	1	16.66	16.66	33.336	24.318	359.8	0.004	5.80	104.3	2.3	0.33	0.2	0.00	0.25	0.08	1
2	10	16.67	16.67	33.336	24.316	360.3	0.036	5.75	103.4	2.3	0.33	0.2	0.00	0.24	0.09	10
2	20	16.36	16.36	33.333	24.385	354.0	0.072	5.80	103.7	2.2	0.33	0.2	0.00	0.31	0.13	20
2	30	14.92	14.92	33.301	24.681	326.0	0.106	5.64	98.0	4.0	0.49	2.2	0.15	0.80	0.51	30
2	41	13.99	13.98	33.289	24.869	308.4	0.141	5.37	91.5	5.8	0.66	4.5	0.32	0.76	0.59	41
2	50	12.15	12.14	33.318	25.256	271.6	0.167	4.73	77.6	10.4	1.04	10.7	0.13	0.47	0.45	50
2	60	10.89	10.88	33.416	25.563	242.6	0.192	4.22	67.4	14.8	1.35	15.4	0.03	0.18	0.25	60
2	69	10.57	10.56	33.451	25.647	234.8	0.214	4.05	64.3	16.1	1.41	16.6	0.02	0.14	0.19	69
	75 ISL	10.34	10.33	33.494	25.720	227.9	0.228	3.91	61.7	17.4	1.48	17.7	0.02	0.10	0.16	75
2	85	10.01	10.00	33.571	25.837	217.1	0.250	3.69	57.9	19.7	1.60	19.4	0.01	0.04	0.11	85
2	100	9.79	9.78	33.652	25.937	207.8	0.282	3.47	54.2	21.9	1.70	21.2	0.01	0.02	0.08	100
2	121	9.43	9.42	33.728	26.056	196.9	0.324	3.21	49.7	24.7	1.80	23.0	0.01	0.01	0.08	122
	125 ISL	9.37	9.36	33.751	26.083	194.3	0.332	3.15	48.8	25.4	1.83	23.4	0.01	0.01	0.08	126
2	146	9.08	9.06	33.874	26.227	181.1	0.372	2.84	43.7	29.0	1.96	25.4	0.01	0.00	0.05	147
	150 ISL	9.04	9.02	33.890	26.245	179.4	0.379	2.81	43.2	29.5	1.98	25.6	0.01	0.00	0.05	151
2	176	8.84	8.82	33.977	26.346	170.4	0.424	2.57	39.4	32.6	2.07	27.0	0.01	0.00	0.05	177
	200 ISL	8.71	8.69	34.054	26.427	163.1	0.464	2.15	32.8	36.5	2.20	28.8	0.01	0.01	0.04	201
2	205	8.69	8.67	34.068	26.441	161.9	0.472	2.06	31.5	37.3	2.23	29.1	0.01	0.01	0.04	206
2	235	8.55	8.53	34.117	26.501	156.7	0.520	1.83	27.9	40.2	2.33	30.0	0.01			236
	250 ISL	8.31	8.28	34.116	26.537	153.4	0.544	1.85	28.0	42.0	2.36	30.6	0.01			251
2	272	7.91	7.88	34.108	26.591	148.5	0.577	1.91	28.7	45.0	2.39	31.5	0.01			274
	300 ISL	7.55	7.52	34.116	26.650	143.2	0.618	1.77	26.3	49.2	2.48	32.7	0.01			302
2	328	7.23	7.20	34.129	26.705	138.2	0.657	1.55	22.9	54.0	2.58	34.0	0.01			330
2	391	6.46	6.42	34.162	26.836	126.2	0.740	1.02	14.8	66.5	2.83	37.4	0.01			394
	400 ISL	6.42	6.38	34.168	26.846	125.3	0.752	0.97	14.1	67.6	2.86	37.7	0.01			403
2	454	6.24	6.20	34.205	26.899	121.0	0.818	0.76	11.0	73.4	2.98	38.7	0.01			457
	500 ISL	5.99	5.95	34.234	26.954	116.1	0.873	0.57	8.2	78.8	3.06	39.6	0.01			503
2	518	5.89	5.84	34.245	26.976	114.3	0.893	0.50	7.2	80.9	3.09	39.9	0.01			522

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 43.3 N	121 33.0 W	25/10/93	0636 UTC	935 m	320 11 kn			1015.9 ab	15.3 C	14.8 C		

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 db
	0	ISL	16.71	16.71	33.343	24.312	360.3	0.000	5.74	103.3	2.3	0.33	0.1	0.00	0.25	0.09	0
2	2		16.71	16.71	33.343	24.312	360.4	0.007	5.74	103.3	2.3	0.33	0.1	0.00	0.25	0.09	2
	10	ISL	16.72	16.72	33.343	24.310	360.9	0.036	5.73	103.2	2.2	0.32	0.1	0.00	0.26	0.09	10
2	11		16.72	16.72	33.343	24.310	360.9	0.040	5.73	103.2	2.2	0.32	0.1	0.00			11
2	20		16.71	16.71	33.343	24.312	360.9	0.072	5.73	103.2	2.1	0.32	0.1	0.00	0.28	0.09	20
	30	ISL	15.60	15.60	33.313	24.542	339.3	0.107	5.70	100.4	2.8	0.39	0.6	0.11	0.70	0.52	30
2	31		15.44	15.44	33.309	24.574	336.3	0.111	5.70	100.0	2.9	0.40	0.7	0.12	0.74	0.56	31
2	41		13.73	13.72	33.263	24.902	305.2	0.143	5.22	88.5	6.2	0.71	5.4	0.26	0.60	0.46	41
	50	ISL	12.69	12.68	33.284	25.126	284.1	0.169	4.89	81.1	8.8	0.93	8.8	0.10	0.40	0.36	50
2	51		12.60	12.59	33.288	25.147	282.1	0.172	4.86	80.5	9.0	0.95	9.1	0.08	0.38	0.35	51
2	60		12.05	12.04	33.295	25.258	271.8	0.197	4.69	76.7	10.3	1.06	10.9	0.03	0.29	0.29	60
2	71		11.02	11.01	33.420	25.544	244.7	0.225	4.13	66.2	15.0	1.36	15.7	0.02	0.15	0.20	71
	75	ISL	10.72	10.71	33.451	25.621	237.4	0.235	4.01	63.8	16.2	1.43	16.9	0.02	0.12	0.17	75
2	86		10.11	10.10	33.519	25.779	222.5	0.260	3.76	59.1	18.9	1.57	19.3	0.01	0.07	0.12	86
2	100		9.73	9.72	33.605	25.910	210.4	0.291	3.48	54.3	21.5	1.70	21.3	0.01	0.04	0.09	100
2	121		9.27	9.26	33.802	26.139	188.9	0.332	2.95	45.6	27.0	1.92	24.6	0.01	0.01	0.06	122
	125	ISL	9.15	9.14	33.824	26.176	185.5	0.340	2.93	45.2	27.8	1.94	25.0	0.01	0.01	0.06	126
2	144		8.65	8.63	33.898	26.313	172.8	0.374	2.86	43.6	31.1	1.98	26.4	0.01	0.00	0.04	145
	150	ISL	8.63	8.61	33.924	26.336	170.7	0.384	2.83	43.1	31.8	2.00	26.6	0.01	0.00	0.04	151
2	173		8.56	8.54	33.988	26.398	165.3	0.423	2.60	39.6	34.4	2.07	27.5	0.01	0.00	0.04	174
	200	ISL	8.52	8.50	34.103	26.494	156.6	0.466	2.02	30.7	39.6	2.14	29.4	0.01	0.00	0.03	201
2	203		8.51	8.49	34.114	26.505	155.7	0.471	1.96	29.8	40.2	2.91	U 29.6	0.01	0.00	0.03	204
2	233		8.28	8.26	34.147	26.566	150.4	0.517	1.72	26.0	43.5	2.39	U 30.8	0.01			234
	250	ISL	7.96	7.93	34.124	26.596	147.7	0.542	1.82	27.3	45.2	2.28	31.3	0.01			251
2	274		7.49	7.46	34.088	26.636	144.0	0.577	1.97	29.3	47.9	2.36	32.0	0.01			276
	300	ISL	7.22	7.19	34.111	26.692	139.0	0.614	1.69	25.0	52.8	2.49	33.5	0.01			302
2	328		7.04	7.01	34.151	26.749	133.9	0.652	1.28	18.8	58.1	2.63	35.2	0.01			330
2	387		6.72	6.68	34.181	26.817	128.2	0.730	0.96	14.0	64.4	2.82	37.0	0.00			390
	400	ISL	6.72	6.68	34.199	26.831	127.1	0.746	0.87	12.7	65.1	2.85	37.2	0.00			403
2	452		6.71	6.67	34.269	26.888	122.5	0.811	0.56	8.2	68.5	2.96	37.9	0.00			455
	500	ISL	6.13	6.09	34.238	26.940	117.7	0.869	0.53	7.6	75.6	3.02	39.7	0.00			503
2	522		5.87	5.82	34.226	26.963	115.5	0.894	0.52	7.4	78.9	3.05	40.5	0.00			526

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 23.6 N	122 14.9 W	25/10/93	0105 UTC	4015 m	350 14 kn	340 06 06	2	1015.4 ab	15.6 C	15.0 C		8/8 ST

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 db
	0	ISL	16.74	16.74	33.344	24.305	360.9	0.000	5.72	103.0	2.4	0.33	0.1	0.00	0.32	0.12	0
2	2		16.74	16.74	33.344	24.305	361.0	0.007	5.72	103.0	2.4	0.33	0.1	0.00	0.32	0.12	2
	10	ISL	16.74	16.74	33.344	24.306	361.2	0.036	5.72	103.0	2.3	0.33	0.1	0.00	0.32	0.11	10
2	15		16.74	16.74	33.343	24.305	361.5	0.054	5.72	103.0	2.3	0.33	0.1	0.00	0.32	0.11	15
	20	ISL	16.74	16.74	33.343	24.305	361.6	0.072	5.72	103.0	2.3	0.33	0.1	0.00	0.32	0.11	20
2	30		16.73	16.73	33.344	24.309	361.6	0.108	5.72	103.0	2.3	0.33	0.1	0.00	0.31	0.12	30
2	41		13.90	13.89	33.026	24.684	326.0	0.146	6.14	104.3	3.4	0.40	0.1	0.02	0.67	0.43	41
2	50		12.66	12.65	33.005	24.916	304.0	0.175	5.87	97.1	4.6	0.55	2.3	0.14	0.66	0.53	50
2	60		12.17	12.16	33.081	25.069	289.7	0.204	5.41	88.6	6.4	0.76	5.9	0.14	0.47	0.45	60
2	70		11.75	11.74	33.150	25.201	277.3	0.233	5.08	82.5	8.3	0.94	9.0	0.04	0.32	0.35	70
	75	ISL	11.78	11.77	33.256	25.278	270.2	0.246	4.74	77.1	10.2	1.06	10.9	0.02	0.23	0.27	75
2	79		11.80	11.79	33.343	25.342	264.2	0.257	4.48	72.9	11.7	1.16	12.4	0.01	0.17	0.21	79
2	94		10.52	10.51	33.332	25.563	243.3	0.295	4.31	68.3	14.7	1.36	15.6	0.01	0.09	0.14	94
	100	ISL	10.09	10.08	33.345	25.647	235.4	0.309	4.29	67.3	15.9	1.42	16.7	0.01	0.07	0.10	100
2	109		9.58	9.57	33.378	25.757	225.0	0.330	4.25	65.9	17.6	1.49	18.2	0.01	0.04	0.06	110
2	125		9.12	9.11	33.463	25.898	211.8	0.365	4.08	62.7	20.2	1.60	20.2	0.01	0.01	0.05	126
2	148		8.76	8.74	33.630	26.086	194.4	0.412	3.69	56.3	24.3	1.75	22.7	0.01	0.01	0.04	149
	150	ISL	8.72	8.70	33.645	26.104	192.7	0.416	3.65	55.6	24.8	1.77	22.9	0.01	0.01	0.04	151
2	173		8.31	8.29	33.796	26.285	175.8	0.458	3.27	49.4	30.0	1.93	25.6	0.01	0.00	0.03	174
	200	ISL	8.18	8.16	33.904	26.390	166.4	0.504	2.93	44.2	34.2	2.04	27.7	0.00	0.00	0.03	201
2	203		8.17	8.15	33.912	26.397	165.7	0.509	2.91	43.9	34.5	2.05	27.8	0.00	0.00	0.03	204
2	232		7.78	7.76	33.951	26.486	157.6	0.556	3.22	48.1	35.9	1.98	27.2	0.01			233
	250	ISL	7.56	7.54	33.971	26.533	153.3	0.584	3.12	46.4	38.7	2.03	28.1	0.01			251
2	274		7.27	7.24	33.992	26.591	148.1	0.620	2.84	42.0	43.3	2.14	29.9	0.01			276
	300	ISL	6.97	6.94	34.005	26.643	143.4	0.658	2.55	37.4	48.1	2.28	31.7	0.01			302
2	328		6.67	6.64	34.017	26.693	138.9	0.698	2.21	32.2	53.5	2.43	33.7	0.00			330
2	388		6.15	6.12	34.068	26.802	129.1	0.778	1.41	20.3	65.1	2.70	37.3	0.00			390
	400	ISL	6.10	6.06	34.085	26.822	127.3	0.793	1.27	18.3	67.0	2.75	37.8	0.00			403
2	451		5.99	5.95	34.164	26.898	120.7	0.857	0.79	11.3	73.9	2.92	39.5	0.00			454
	500	ISL	5.91	5.87	34.226	26.958	115.7	0.915	0.55	7.9	78.3	3.01	40.1	0.00			503
2	521		5.87	5.82	34.252	26.984	113.5	0.939	0.45	6.4	80.2	3.05	40.4	0.00			525

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL		CLD AMT TYPE
34 3.5 N	122 56.8 W	24/10/93	1856 UTC	4236 ▪	350 18 kn	350 08 06	1	1017.5 «b	17.0 C	15.8 C	25a	02	7/8 SC

CAST	DEPTH ▪		TEMP DEC C	POT TEMP DEC C	SALINITY	SISMA THETA	SVA	DYN HT	OXY6EN il/l	OXY PCT	SIO3 uH/l	PO4 uM/l	NO3 uM/I	NO2 uM/I	CHL-A ug/L	PHAEO ug/I	PRESS db
	0	ISL	17.32	17.32	33.278	24.118	378.8	0.000	5.63	102.5	2.4	0.34	0.1	0.00	0.17	0.05	0
2	2	A	17.32	17.32	33.278	24.118	378.8	0.008	5.63	102.5	2.4	0.34	0.1	0.00	0.17	0.05	2
2	10		17.32	17.32	33.278	24.119	379.1	0.038	5.64	102.7	2.2	0.34	0.1	0.00	0.18	0.06	10
2	17	A	17.32	17.32	33.278	24.119	379.3	0.064	5.63	102.5	2.1	0.33	0.1	0.00	0.19	0.06	17
	20	ISL	17.32	17.32	33.278	24.119	379.4	0.076	5.63	102.5	2.1	0.33	0.1	0.00	0.19	0.06	20
	30	ISL	17.32	17.32	33.277	24.119	379.7	0.114	5.62	102.3	2.1	0.33	0.1	0.00	0.19	0.06	30
2	32	A	17.32	17.31	33.277	24.119	379.8	0.121	5.62	102.3	2.1	0.33	0.1	0.00	0.19	0.06	32
2	40		16.89	16.88	33.251	24.200	372.2	0.151	5.75	103.8	2.0	0.33	0.1	0.00	0.36	0.14	40
2	48	A	14.59	14.58	33.026	24.541	339.9	0.180	6.08	104.7	2.8	0.37	0.0	0.01	0.59	0.40	48
	50	ISL	14.24	14.23	33.011	24.603	334.0	0.187	6.06	103.6	2.9	0.37	0.1	0.02	0.59	0.44	50
2	57		13.38	13.37	33.002	24.772	318.0	0.209	5.98	100.4	3.1	0.40	0.3	0.07	0.59	0.52	57
2	66	A	12.53	12.52	32.988	24.928	303.3	0.237	5.72	94.4	4.1	0.56	2.5	0.14	0.54	0.51	66
	75	ISL	11.88	11.87	33.038	25.090	288.0	0.264	5.40	87.9	6.0	0.78	6.1	0.06	0.35	0.38	75
2	78		11.69	11.68	33.063	25.145	282.9	0.273	5.29	85.8	6.8	0.85	7.4	0.02	0.28	0.33	78
2	93	A	10.72	10.71	33.188	25.416	257.3	0.313	4.80	76.3	11.2	1.14	12.4	0.01	0.14	0.17	93
	100	ISL	10.22	10.21	33.259	25.558	243.9	0.331	4.56	71.7	13.6	1.29	15.0	0.01	0.09	0.11	100
2	114		9.33	9.32	33.407	25.821	219.0	0.363	4.12	63.6	18.4	1.57	19.5	0.01	0.03	0.04	115
	125	ISL	8.95	8.94	33.508	25.960	205.9	0.386	3.90	59.7	21.1	1.68	21.5	0.01	0.02	0.04	126
2	143		8.62	8.61	33.657	26.128	190.2	0.422	3.60	54.8	24.9	1.79	23.6	0.01	0.00	0.03	144
	150	ISL	8.56	8.54	33.720	26.187	184.8	0.435	3.40	51.7	26.6	1.85	24.6	0.01	0.00	0.03	151
2	175		8.40	8.38	33.901	26.354	169.4	0.479	2.83	42.9	32.0	2.03	27.3	0.01	0.00	0.03	176
	200	ISL	7.95	7.93	33.952	26.461	159.5	0.521	2.89	43.4	35.9	2.05	28.2	0.01	0.00	0.02	201
2	203		7.89	7.87	33.954	26.472	158.5	0.525	2.90	43.5	36.3	2.05	28.3	0.01	0.00	0.02	204
2	233		7.56	7.54	34.009	26.563	150.3	0.572	2.53	37.6	42.2	2.21	30.6	0.01			234
	250	ISL	7.28	7.26	34.018	26.610	145.9	0.597	2.38	35.2	45.8	2.30	31.8	0.01			251
2	271		6.92	6.89	34.021	26.662	141.1	0.627	2.21	32.4	50.3	2.40	33.1	0.01			273
	300	ISL	6.52	6.49	34.022	26.717	136.1	0.667	1.97	28.6	55.9	2.52	34.9	0.01			302
2	328		6.26	6.23	34.035	26.761	132.2	0.705	1.71	24.7	60.8	2.62	36.4	0.01			330
2	389		6.33	6.30	34.167	26.857	124.1	0.783	0.91	13.2	68.8	2.85	38.0	0.01			391
	400	ISL	6.29	6.25	34.183	26.875	122.5	0.796	0.82	11.9	70.4	2.90	38.4	0.01			403
2	452		5.99	5.95	34.237	26.956	115.3	0.858	0.52	7.5	77.8	3.08	40.1	0.00			455
	500	ISL	5.69	5.65	34.262	27.014	110.2	0.912	0.41	5.8	83.4	3.14	41.2	0.00			503
2	525		5.54	5.50	34.276	27.043	107.6	0.940	0.36	5.1	86.3	3.17	41.7	0.00			529

A> PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 77 90

LATITUDE	LONCITUDE	DAY/NO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL		CLD AMT TYPE
33 43.3 N	123 38.4 W	24/10/93	1233 UTC	4154 ▪	340 17 kn			1016.9 «b	16.8 C	15.6 C			

CAST	DEPTH ▪		TEMP DEG C	POT TEMP DEC C	SALINITY	SICMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/l	NO2 uM/I	CHL-A ug/I	PHAEO ug/I	PRESS db
	0	ISL	17.58	17.58	33.193	23.991	390.9	0.000	5.59	102.3	2.5	0.33	0.2	0.00	0.14	0.05	0
2	2		17.58	17.58	33.193	23.991	391.0	0.008	5.59	102.3	2.5	0.33	0.2	0.00	0.14	0.05	2
2	10		17.58	17.58	33.186	23.986	391.7	0.039	5.61	102.6	2.3	0.33	0.2	0.00	0.15	0.05	10
2	20		17.58	17.58	33.186	23.987	392.0	0.078	5.60	102.4	2.3	0.33	0.2	0.00	0.15	0.05	20
2	30		17.59	17.58	33.191	23.988	392.2	0.118	5.61	102.6	2.2	0.33	0.2	0.00	0.16	0.05	30
2	41		17.37	17.36	33.231	24.072	384.6	0.160	5.70	103.9	2.2	0.33	0.2	0.00	0.32	0.13	41
2	50		15.23	15.22	33.100	24.460	347.7	0.193	6.06	105.8	2.6	0.36	0.2	0.00	0.54	0.32	50
2	61		13.02	13.01	32.985	24.831	312.5	0.230	5.88	98.0	4.0	0.54	2.3	0.23	0.72	0.59	61
2	71		12.38	12.37	33.026	24.987	297.9	0.260	5.63	92.6	4.8	0.63	3.8	0.08	0.53	0.47	71
	75	ISL	12.07	12.06	33.053	25.066	290.3	0.272	5.50	89.9	5.7	0.73	5.5	0.05	0.44	0.41	75
2	85		11.29	11.28	33.131	25.271	271.0	0.300	5.16	83.0	8.6	1.00	10.1	0.02	0.23	0.27	85
2	99		10.38	10.37	33.225	25.504	249.0	0.336	4.83	76.2	12.3	1.23	13.9	0.01	0.09	0.11	99
	100	ISL	10.32	10.31	33.233	25.521	247.4	0.339	4.80	75.6	12.6	1.25	14.2	0.01	0.08	0.11	100
2	121		9.25	9.24	33.422	25.845	216.8	0.387	4.19	64.5	19.5	1.59	19.9	0.01	0.03	0.05	122
	125	ISL	9.12	9.11	33.472	25.905	211.2	0.396	4.04	62.1	20.9	1.65	20.9	0.01	0.02	0.05	126
2	144		8.68	8.66	33.696	26.150	188.2	0.434	3.37	51.3	26.7	1.88	24.8	0.01	0.00	0.04	145
	150	ISL	8.59	8.57	33.744	26.201	183.4	0.445	3.25	49.4	28.0	1.92	25.5	0.01	0.00	0.04	151
2	173		8.31	8.29	33.877	26.349	169.8	0.486	2.98	45.1	32.1	2.02	27.2	0.02	0.00	0.03	174
	200	ISL	7.99	7.97	33.971	26.470	158.6	0.530	2.76	41.5	36.6	2.11	28.7	0.02	0.00	0.02	201
2	205		7.93	7.91	33.982	26.488	157.0	0.538	2.73	41.0	37.4	2.13	29.0	0.02	0.00	0.02	206
2	233		7.54	7.52	34.016	26.572	149.4	0.581	2.59	38.5	42.4	2.22	30.6	0.01			234
	250	ISL	7.36	7.34	34.032	26.610	146.0	0.606	2.40	35.5	45.7	2.30	31.7	0.01			251
2	274		7.13	7.10	34.052	26.658	141.7	0.641	2.09	30.8	50.3	2.43	33.3	0.01			276
	300	ISL	6.91	6.88	34.077	26.708	137.3	0.677	1.76	25.8	54.8	2.57	35.2	0.01			302
2	328		6.66	6.63	34.099	26.759	132.7	0.715	1.45	21.1	59.7	2.70	37.0	0.01			330
2	387		5.91	5.88	34.107	26.863	123.1	0.790	1.07	15.3	71.7	2.88	39.4	0.01			389
	400	ISL	5.78	5.75	34.107	26.879	121.7	0.806	1.02	14.6	73.8	2.91	39.8	0.01			403
2	453		5.33	5.29	34.117	26.941	116.0	0.869	0.85	12.0	81.3	3.00	41.0	0.00			456
	500	ISL	5.09	5.05	34.160	27.004	110.4	0.922	0.62	8.7	88.1	3.09	42.1	0.00			503
2	523		4.98	4.94	34.182	27.034	107.7	0.947	0.51	7.1	91.4	3.13	42.7	0.00			527

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 77 100

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 23.0 N	124 19.4 W	24/10/93	0648 UTC	4487 •	010 14 kn			1018.5 ab	16.5 C	15.1 C		

CAST	DEPTH •		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SISMA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/L	NO2 uM/I	CHL-A ug/I	PHAEO ug/I	PRESS db
	0	ISL	17.23	17.23	32.798	23.772	411.8	0.000	5.67	102.8	2.9	0.31	0.1	0.00	0.16	0.04	0
2	1		17.23	17.23	32.798	23.772	411.8	0.004	5.67	102.8	2.9	0.31	0.1	0.00	0.16	0.04	1
	10	ISL	17.22	17.22	32.800	23.776	411.7	0.041	5.67	102.8	2.8	0.31	0.1	0.00	0.16	0.04	10
2	11		17.22	17.22	32.800	23.776	411.8	0.045	5.67	102.8	2.8	0.31	0.1	0.00	0.16	0.04	11
2	20		17.06	17.06	32.830	23.837	406.2	0.082	5.69	102.8	2.8	0.31	0.1	0.00	0.16	0.05	20
2	29		16.99	16.99	32.871	23.885	401.9	0.118	5.69	102.7	2.8	0.32	0.1	0.00	0.17	0.05	29
	30	ISL	16.93	16.93	32.872	23.900	400.6	0.122	5.70	102.8	2.8	0.32	0.1	0.00	0.17	0.05	30
2	40		16.11	16.10	32.870	24.087	383.0	0.162	5.80	102.9	2.8	0.32	0.1	0.00	0.22	0.09	40
2	50		15.18	15.17	32.879	24.301	362.9	0.199	5.97	104.0	3.0	0.35	0.1	0.00	0.43	0.27	50
2	60		14.37	14.36	32.835	24.440	349.8	0.235	6.01	102.9	3.2	0.41	0.2	0.06	0.73	0.49	60
2	71		13.42	13.41	32.839	24.638	331.1	0.272	5.95	99.9	3.7	0.48	1.2	0.20	0.56	0.45	71
	75	ISL	13.10	13.09	32.843	24.705	324.8	0.285	5.93	98.9	3.8	0.49	1.4	0.17	0.50	0.42	75
2	85		12.40	12.39	32.880	24.870	309.3	0.317	5.84	96.0	4.2	0.54	2.2	0.06	0.36	0.34	85
2	100		11.67	11.66	33.038	25.130	284.8	0.361	5.41	87.7	6.7	0.77	6.3	0.02	0.17	0.21	100
2	120		10.48	10.47	33.247	25.505	249.4	0.415	4.77	75.4	12.5	1.18	13.5	0.02	0.08	0.12	121
	125	ISL	10.18	10.17	33.296	25.594	241.0	0.427	4.57	71.8	14.3	1.29	15.3	0.02	0.06	0.10	126
2	145		9.17	9.15	33.485	25.908	211.3	0.472	3.83	58.9	21.1	1.65	21.4	0.01	0.02	0.05	146
	150	ISL	9.03	9.01	33.534	25.968	205.6	0.483	3.71	56.9	22.4	1.70	22.2	0.01	0.01	0.05	151
2	174		8.57	8.55	33.736	26.198	184.1	0.530	3.34	50.8	27.6	1.85	24.6	0.01	0.00	0.03	175
	200	ISL	8.10	8.08	33.850	26.359	169.2	0.575	3.26	49.1	31.5	1.93	26.0	0.01	0.00	0.03	201
2	203		8.06	8.04	33.860	26.373	167.9	0.581	3.24	48.7	31.9	1.94	26.1	0.01	0.00	0.03	204
2	233		8.10	8.08	34.010	26.485	157.9	0.629	2.46	37.1	38.1	2.17	29.1	0.01			234
	250	ISL	7.96	7.93	34.040	26.530	153.9	0.656	2.30	34.5	40.7	2.24	30.0	0.01			251
2	273		7.67	7.64	34.049	26.379	149.5	0.691	2.21	33.0	44.1	2.30	31.0	0.00			275
	300	ISL	7.19	7.16	34.048	26.647	143.2	0.730	2.04	30.1	49.7	2.41	32.7	0.00			302
2	328		6.71	6.68	34.051	26.715	136.9	0.770	1.81	26.4	55.7	2.53	34.5	0.00			330
2	388		6.40	6.37	34.136	26.823	127.3	0.849	1.05	15.2	66.1	2.81	37.5	0.00			390
	400	ISL	6.32	6.28	34.152	26.846	125.2	0.864	0.95	13.7	68.2	2.86	38.0	0.00			402
2	453		5.93	5.89	34.201	26.935	117.2	0.928	0.62	8.9	77.1	3.01	39.8	0.00			456
	500	ISL	5.49	5.45	34.198	26.987	112.5	0.982	0.51	7.2	84.2	3.07	41.3	0.00			503
2	524		5.26	5.22	34.197	27.014	110.0	1.009	0.45	6.3	87.8	3.10	42.1	0.00			528

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 80 51

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TINE	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 27.4 N	120 31.1 W	22/10/93	1842 UTC	67 a	300 04 kn	290 01 06	0	1016.3 ab	17.1 C	15.5 C	12a 04	0/8

CAST	DEPTH a		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6HA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/I	NO2 uM/L	CHL-A ug/I	PHAEO ug/I	PRESS db
	0	ISL	17.43	17.43	33.313	24.119	378.7	0.000	6.15	112.3	3.1	0.31	0.1	0.00	1.29	0.23	0
2	2	A	17.43	17.43	33.313	24.119	378.8	0.008	6.15	112.3	3.1	0.31	0.1	0.00	1.29	0.23	2
2	8	A	17.23	17.23	33.303	24.159	375.1	0.030	6.20	112.7	3.2	0.31	0.1	0.01	3.38	0.27	8
	10	ISL	16.92	16.92	33.287	24.220	369.4	0.038	6.21	112.2	3.3	0.31	0.1	0.01	3.54	0.38	10
2	15	A	16.03	16.03	33.249	24.396	352.8	0.056	6.25	111.0	3.7	0.34	0.1	0.01	3.93	0.61	15
	20	ISL	15.36	15.36	33.230	24.531	340.1	0.073	5.92	103.7	4.3	0.39	0.1	0.04	2.36	0.50	20
2	22	A	15.13	15.13	33.226	24.578	335.7	0.080	5.77	100.6	4.5	0.41	0.1	0.06	1.62	0.43	22
	30	ISL	14.31	14.31	33.226	24.753	319.1	0.106	5.52	94.7	5.2	0.56	1.8	0.32	0.72	0.37	30
2	32	A	14.13	14.13	33.229	24.793	315.4	0.112	5.48	93.6	5.4	0.60	2.4	0.38	0.66	0.37	32
2	43	A	13.16	13.15	33.252	25.009	295.1	0.146	5.13	85.9	7.3	0.82	5.9	0.37	0.31	0.26	43
	50	ISL	12.82	12.81	33.269	25.089	287.6	0.166	5.02	83.5	8.3	0.89	7.2	0.28	0.27	0.26	50
2	62		12.24	12.23	33.302	25.227	274.7	0.200	4.82	79.2	9.9	1.00	9.3	0.13	0.19	0.26	62

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 80 55

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 19.4 N	120 48.0 W	22/10/93	2218 UTC	745 a	290 07 kn	330 01 03	0	1015.1 ab	18.0 C	17.0 C	16a 03	0/8

CAST	DEPTH a		TEMP OES C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/l	PO4 uM/L	NO3 uM/L	NO2 uM/I	CHL-A ug/1	PHAEO ug/I	PRESS db
	0	ISL	16.97	16.97	33.308	24.224	368.7	0.000	5.96	107.8	3.0	0.33	0.1	0.01	0.84	0.27	0
2	2		16.97	16.97	33.308	24.224	368.8	0.007	5.96	107.8	3.0	0.33	0.1	0.01	0.84	0.27	2
	10	ISL	16.78	16.78	33.309	24.270	364.7	0.037	5.96	107.4	3.0	0.33	0.1	0.01	0.91	0.33	10
2	11		16.74	16.74	33.309	24.279	363.8	0.040	5.96	107.3	3.0	0.33	0.1	0.01	0.92	0.35	11
2	19		16.40	16.40	33.310	24.358	356.5	0.069	5.90	105.6	3.2	0.35	0.2	0.02	1.33	0.55	19
	20	ISL	16.34	16.34	33.311	24.373	355.1	0.073	5.88	105.1	3.3	0.36	0.3	0.03	1.31	0.55	20
2	30		15.55	15.55	33.323	24.561	337.6	0.107	5.57	98.0	4.4	0.50	2.0	0.11	0.85	0.57	30
2	40		14.40	14.39	33.320	24.807	314.3	0.140	5.26	90.4	6.4	0.69	4.7	0.24	0.54	0.41	40
2	49		13.09	13.08	33.327	25.081	288.4	0.167	4.89	81.8	9.1	0.92	8.2	0.30	0.32	0.34	49
	50	ISL	12.99	12.98	33.329	25.103	286.4	0.170	4.86	81.1	9.3	0.93	8.5	0.30	0.31	0.33	50
2	59		12.33	12.32	33.351	25.248	272.7	0.195	4.65	76.6	11.1	1.04	10.4	0.22	0.22	0.26	59
2	69		11.78	11.77	33.379	25.374	260.9	0.222	4.45	72.4	12.6	1.17	12.2	0.14	0.16	0.22	69
	75	ISL	11.57	11.56	33.390	25.421	256.5	0.237	4.39	71.1	13.1	1.21	12.8	0.12	0.14	0.20	75
2	84		11.27	11.26	33.412	25.493	249.9	0.260	4.29	69.1	14.0	1.27	13.9	0.09	0.12	0.18	84
2	99		10.52	10.51	33.496	25.691	231.2	0.296	3.90	61.8	17.1	1.47	17.3	0.03	0.06	0.14	99
	100	ISL	10.49	10.48	33.501	25.700	230.4	0.298	3.88	61.5	17.2	1.48	17.4	0.03	0.06	0.14	100
2	119		10.08	10.07	33.589	25.839	217.5	0.341	3.61	56.7	19.6	1.62	19.4	0.02	0.03	0.10	120
	125	ISL	9.99	9.98	33.626	25.884	213.5	0.354	3.49	54.7	20.6	1.67	20.1	0.02	0.02	0.09	126
2	144		9.75	9.73	33.745	26.017	201.1	0.393	3.11	48.5	24.0	1.81	22.3	0.02	0.01	0.08	145
	150	ISL	9.67	9.65	33.779	26.037	197.5	0.405	3.02	47.1	24.9	1.85	22.9	0.02	0.01	0.08	151
2	173		9.44	9.42	33.896	26.186	185.6	0.449	2.70	41.9	28.1	1.98	24.7	0.02	0.01	0.07	174
	200	ISL	9.38	9.36	33.995	26.274	177.9	0.498	2.27	35.2	31.6	2.14	26.5	0.04	0.00	0.06	201
2	205		9.37	9.35	34.009	26.287	176.8	0.507	2.20	34.1	32.2	2.17	26.8	0.04	0.00	0.06	206
2	235		9.08	9.05	34.080	26.389	167.5	0.559	1.87	28.8	36.3	2.28	28.6	0.03			236
	250	ISL	8.94	8.91	34.107	26.433	163.6	0.584	1.84	28.3	37.6	2.32	29.0	0.03			251
2	274		8.68	8.65	34.135	26.496	158.0	0.622	1.79	27.3	39.6	2.37	29.6	0.02			276
	300	ISL	8.28	8.25	34.138	26.560	152.2	0.663	1.78	26.9	42.8	2.41	30.6	0.02			302
2	324		7.85	7.82	34.129	26.617	146.9	0.699	1.77	26.5	46.6	2.45	31.7	0.02			326
2	385		6.67	6.63	34.110	26.767	132.8	0.784	1.40	20.4	60.2	2.70	35.9	0.01			387
	400	ISL	6.51	6.47	34.114	26.792	130.6	0.804	1.30	18.9	62.8	2.75	36.6	0.01			403
2	456		6.09	6.05	34.149	26.874	123.2	0.875	0.93	13.4	71.5	2.91	38.6	0.01			459
	500	ISL	5.81	5.77	34.200	26.950	116.3	0.927	0.65	9.3	78.6	3.03	40.0	0.00			503
2	529		5.63	5.58	34.234	26.999	111.9	0.961	0.47	6.7	83.2	3.11	40.9	0.00			533

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 80 60

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	UEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 8.8 N	121 9.3 W	23/10/93	0156 UTC	2222 •	300 08 kn	310 01 OS		1015.5 ab	17.1 C	16.3 C		

CAST	DEPTH •		TEMP DE6 C	POT TEMP DEC C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/L	PO4 uM/l	NO3 uM/l	NO2 uM/I	CHL-A ug/I	PHAEO ug/I	PRESS do
	0	ISL	17.09	17.09	33.318	24.203	370.7	0.000	5.99	108.6	2.5	0.31	0.1	0.00	0.84	0.25	0
2	1		17.09	17.09	33.318	24.203	370.7	0.004	5.99	108.6	2.5	0.31	0.1	0.00	0.84	0.25	1
	10	ISL	16.42	16.42	33.292	24.340	358.0	0.036	5.99	107.2	2.7	0.33	0.1	0.00	0.94	0.37	10
2	11		16.33	16.33	33.289	24.358	356.3	0.040	5.99	107.0	2.7	0.33	0.1	0.00	0.95	0.39	11
	20	ISL	16.28	16.28	33.283	24.365	355.9	0.072	5.98	106.7	2.7	0.33	0.1	0.00	0.93	0.42	20
2	21		16.28	16.28	33.282	24.365	356.0	0.076	5.98	106.7	2.7	0.33	0.1	0.00	0.93	0.42	21
	30	ISL	15.84	15.84	33.279	24.462	347.0	0.107	5.75	101.7	3.2	0.40	0.5	0.06	1.16	0.56	30
2	31		15.75	15.75	33.278	24.481	345.1	0.111	5.71	100.8	3.2	0.41	0.5	0.07	1.17	0.57	31
2	41		14.03	14.02	33.274	24.849	310.3	0.144	5.33	90.9	5.8	0.67	4.1	0.30	0.65	0.42	41
	50	ISL	13.31	13.30	33.264	24.989	297.2	0.171	5.21	87.5	6.5	0.76	5.6	0.29	0.45	0.38	50
2	51		13.25	13.24	33.263	25.000	296.2	0.174	5.20	87.3	6.6	0.77	5.7	0.29	0.44	0.38	51
2	61		12.34	12.33	33.282	25.193	278.0	0.203	4.93	81.2	8.5	0.88	8.6	0.12	0.32	0.31	61
2	71		11.99	11.98	33.297	25.271	270.8	0.230	4.80	78.4	9.5	1.03	9.9	0.09	0.27	0.28	71
	75	ISL	11.62	11.61	33.330	25.365	261.8	0.241	4.61	74.8	11.0	1.13	11.6	0.07	0.23	0.26	75
2	85		10.64	10.63	33.442	25.628	237.0	0.266	4.09	65.0	15.4	1.39	16.2	0.03	0.12	0.19	85
2	100		10.01	10.00	33.583	25.846	216.5	0.300	3.65	57.2	19.4	1.62	19.7	0.02	0.05	0.12	100
2	118		9.68	9.67	33.707	25.998	202.3	0.337	3.28	51.1	23.0	1.77	22.0	0.02	0.02	0.10	119
	125	ISL	9.61	9.60	33.752	26.045	198.0	0.351	3.15	49.0	24.1	1.82	22.7	0.02	0.02	0.09	126
2	143		9.44	9.42	33.844	26.145	188.9	0.386	2.88	44.7	26.6	1.92	24.2	0.01	0.01	0.06	144
	150	ISL	9.34	9.32	33.856	26.171	186.6	0.399	2.83	43.8	27.3	1.94	24.7	0.01	0.01	0.06	151
2	174		8.97	8.95	33.886	26.254	179.0	0.443	2.72	41.8	29.8	2.01	26.1	0.01	0.01	0.07	175
	200	ISL	8.66	8.64	33.996	26.389	166.7	0.488	2.46	37.5	34.1	2.11	27.7	0.01	0.01	0.05	201
2	205		8.61	8.59	34.018	26.414	164.4	0.496	2.41	36.7	34.9	2.13	28.0	0.01	0.01	0.05	206
2	234		8.52	8.50	34.069	26.468	159.7	0.543	2.19	33.3	37.4	2.23	28.9	0.01			235
	250	ISL	8.43	8.40	34.105	26.510	156.0	0.569	1.99	30.2	39.7	2.31	29.7	0.01			251
2	273		8.18	8.15	34.139	26.575	150.2	0.604	1.76	26.6	43.7	2.42	31.0	0.01			275
	300	ISL	7.48	7.45	34.091	26.640	144.1	0.644	1.87	27.8	48.6	2.45	32.4	0.01			302
2	328		6.78	6.75	34.041	26.698	138.6	0.683	2.00	29.2	53.5	2.47	33.7	0.00			330
2	385		6.69	6.65	34.129	26.780	131.6	0.760	1.26	18.4	61.0	2.72	36.3	0.00			387
	400	ISL	6.51	6.47	34.130	26.804	129.4	0.780	1.16	16.9	63.7	2.77	37.0	0.00			403
2	454		5.82	5.78	34.128	26.891	121.3	0.847	0.93	13.3	73.3	2.91	39.4	0.00			457
	500	ISL	5.66	5.62	34.176	26.949	116.2	0.902	0.68	9.7	78.6	3.01	40.4	0.00			503
2	525		5.57	5.53	34.202	26.981	113.5	0.931	0.55	7.8	81.5	3.07	41.0	0.00			529

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 80 70

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 49.1 N	121 50.5 W	23/10/93	0711 UTC	3626 •	320 08 kn			1016.8 ab	16.4 C	15.8 C		

CAST	DEPTH a		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SIGMA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/L	NO2 uM/I	CHL-A ug/1	PHAEO ug/I	PRESS db
	0	ISL	17.19	17.19	33.368	24.218	369.2	0.000	5.66	102.9	2.0	0.32	0.1	0.00	0.31	0.13	0
2	1		17.19	17.19	33.368	24.218	369.3	0.004	5.66	102.9	2.0	0.32	0.1	0.00	0.31	0.13	1
2	10		17.20	17.20	33.368	24.216	369.8	0.037	5.65	102.7	2.0	0.31	0.1	0.00	0.29	0.17	10
2	20		17.20	17.20	33.367	24.216	370.1	0.074	5.66	102.9	2.0	0.31	0.1	0.00	0.31	0.13	20
2	30		17.16	17.16	33.365	24.224	369.7	0.111	5.66 '	102.8	2.0	0.31	0.1	0.00	0.35	0.15	30
2	40		15.82	15.81	33.302	24.485	345.1	0.147	5.65	99.9	2.5	0.41	0.8	0.11	0.85	0.50	40
2	50		13.04	13.03	33.141	24.947	301.1	0.179	5.55	92.6	4.6	0.62	3.5	0.33	0.68	0.53	50
2	60		12.43	12.42	33.229	25.134	283.5	0.208	5.03	82.9	7.5	0.85	7.6	0.27	0.36	0.34	60
2	69		11.59	11.58	33.342	25.380	260.3	0.233	4.46	72.3	11.5	1.16	12.7	0.02	0.19	0.27	69
	75	ISL	11.17	11.16	33.373	25.480	250.8	0.248	4.27	68.6	13.1	1.29	14.6	0.02	0.13	0.22	75
2	85		10.61	10.60	33.408	25.607	239.0	0.273	4.08	64.8	15.2	1.42	16.7	0.02	0.09	0.15	85
2	100		9.92	9.91	33.530	25.820	218.9	0.307	3.74	58.5	18.7	1.57	19.4	0.02	0.04	0.12	100
2	119		9.60	9.59	33.745	26.041	198.3	0.347	3.09	48.1	24.2	1.79	22.8	0.01	0.01	0.08	120
	125	ISL	9.52	9.51	33.787	26.087	194.0	0.358	2.98	46.3	25.3	1.84	23.5	0.01	0.01	0.08	126
2	145		9.23	9.21	33.876	26.204	183.3	0.396	2.78	42.9	28.2	1.95	25.1	0.01	0.00	0.07	146
	150	ISL	9.11	9.09	33.887	26.232	180.7	0.405	2.77	42.7	28.8	1.97	25.4	0.01	0.00	0.07	151
2	174		8.58	8.56	33.929	26.348	170.0	0.447	2.75	41.9	32.0	2.05	26.9	0.01	0.00	0.06	175
	200	ISL	8.28	8.26	34.023	26.468	159.0	0.490	2.49	37.7	36.9	2.17	28.7	0.01	0.00	0.04	201
2	204		8.26	8.24	34.037	26.482	157.7	0.496	2.44	36.9	37.6	2.19	28.9	0.01	0.00	0.04	205
2	234		8.23	8.21	34.089	26.528	154.0	0.543	2.14	32.3	40.3	2.29	29.8	0.01			235
	250	ISL	8.18	8.15	34.117	26.558	151.4	0.567	1.96	29.6	42.2	2.36	30.5	0.01			251
2	274		8.04	8.01	34.153	26.607	147.1	0.603	1.70	25.6	45.4	2.47	31.6	0.01			276
	300	ISL	7.74	7.71	34.170	26.665	141.9	0.641	1.48	22.1	49.8	2.57	32.9	0.01			302
2	328		7.38	7.35	34.177	26.722	136.7	0.680	1.29	19.1	54.5	2.66	34.2	0.00			330
2	385		6.93	6.89	34.182	26.789	131.0	0.756	1.10	16.1	60.6	2.77	36.1	0.00			387
	400	ISL	6.79	6.75	34.186	26.811	129.0	0.776	1.02	14.9	62.7	2.80	36.7	0.00			403
2	450		6.32	6.28	34.203	26.887	122.1	0.838	0.76	11.0	70.3	2.90	38.6	0.00			453
	500	ISL	5.90	5.86	34.221	26.955	115.9	0.898	0.62	8.9	77.8	3.01	40.0	0.00			503
2	521		5.73	5.69	34.229	26.983	113.4	0.922	0.56	8.0	80.9	3.06	40.6	0.00			525

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 29.1 N	122 33.1 W	23/10/93	1248 UTC	3996 -	230 06 kn			1015.4 ab	17.1 C	16.1 C		

CAST	DEPTH -		TEMP DE6 C	POT TEMP DEG C	SALINITY	SI6MA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/I	NO2 uM/I	CHL-A ug/I	PHAEO ug/I	PRESS db
	0	ISL	17.75	17.75	33.056	23.845	404.8	0.000	5.57	102.2	2.4	0.31	0.1	0.00	0.13	0.03	0
2	1		17.75	17.75	33.056	23.845	404.8	0.004	5.57	102.2	2.4	0.31	0.1	0.00	0.13	0.03	1
2	10		17.76	17.76	33.055	23.843	405.4	0.041	5.57	102.2	2.3	0.31	0.1	0.00	0.13	0.03	10
	20	ISL	16.76	16.76	33.058	24.082	382.9	0.080	5.65	101.6	2.3	0.31	0.0	0.00	0.15	0.05	20
2	21		16.61	16.61	33.057	24.116	379.7	0.084	5.66	101.5	2.3	0.31	0.0	0.00	0.15	0.05	21
	30	ISL	15.09	15.09	33.023	24.430	349.9	0.117	6.02	104.7	2.6	0.34	0.0	0.00	0.26	0.14	30
2	31		14.92	14.92	33.019	24.464	346.7	0.120	6.06	105.1	2.6	0.34	0.0	0.00	0.28	0.15	31
2	41		13.81	13.80	32.969	24.659	328.4	0.154	6.09	103.2	3.0	0.38	0.0	0.00	0.42	0.29	41
	50	ISL	13.12	13.11	32.955	24.787	316.4	0.183	6.02	100.5	3.3	0.44	0.5	0.06	0.88	0.59	50
2	51		13.06	13.05	32.957	24.801	315.1	0.186	6.00	100.1	3.3	0.45	0.6	0.07	0.92	0.62	51
2	61		12.48	12.47	33.038	24.977	298.6	0.217	5.72	94.3	4.4	0.58	2.9	0.05	0.52	0.43	61
2	72		11.63	11.62	33.099	25.184	279.0	0.248	5.31	86.0	6.8	0.80	7.0	0.02	0.29	0.32	72
	75	ISL	11.42	11.41	33.119	25.238	273.9	0.257	5.22	84.2	7.6	0.87	8.2	0.02	0.24	0.28	75
2	85		10.75	10.74	33.200	25.420	256.7	0.283	4.91	78.1	10.6	1.10	12.1	0.01	0.13	0.17	85
	100	ISL	9.89	9.88	33.365	25.696	230.7	0.320	4.39	68.6	16.9	1.49	18.2	0.01	0.06	0.10	100
2	101		9.84	9.83	33.377	25.714	229.0	0.322	4.35	67.9	17.3	1.51	18.6	0.01	0.06	0.10	101
2	118		9.17	9.16	33.538	25.949	206.9	0.359	3.70	56.9	23.3	1.79	23.1	0.01	0.03	0.05	119
	125	ISL	8.96	8.95	33.584	26.018	200.4	0.373	3.57	54.7	24.8	1.82	24.0	0.01	0.02	0.05	126
2	144		8.52	8.51	33.696	26.174	185.9	0.410	3.36	51.0	28.1	1.89	25.3	0.01	0.01	0.04	145
	150	ISL	8.42	8.40	33.748	26.230	180.6	0.421	3.28	49.7	29.3	1.91	25.7	0.01	0.01	0.04	151
2	173		8.10	8.08	33.923	26.416	163.3	0.461	3.02	45.5	33.8	1.98	27.0	0.01	0.00	0.02	174
	200	ISL	7.80	7.78	33.978	26.504	155.4	0.504	2.78	41.6	38.4	2.09	28.7	0.01	0.00	0.03	201
2	203		7.77	7.75	33.979	26.509	154.9	0.508	2.76	41.3	38.8	2.10	28.9	0.01	0.00	0.03	204
2	234		7.57	7.55	34.010	26.563	150.3	0.556	2.63	39.1	42.1	2.17	29.8	0.01			235
	250	ISL	7.48	7.46	34.030	26.591	147.8	0.580	2.41	35.8	44.4	2.24	30.7	0.01			251
2	272		7.35	7.32	34.058	26.632	144.3	0.612	2.07	30.7	47.9	2.34	32.2	0.00			274
	300	ISL	7.14	7.11	34.085	26.683	139.8	0.651	1.75	25.8	52.6	2.48	33.7	0.00			302
2	327		6.93	6.90	34.107	26.729	135.7	0.689	1.50	22.0	57.1	2.60	35.0	0.00			329
2	387		6.47	6.44	34.144	26.820	127.6	0.768	1.05	15.2	65.9	2.79	37.3	0.00			389
	400	ISL	6.35	6.31	34.146	26.838	126.1	0.784	1.00	14.5	67.8	2.82	37.8	0.00			403
2	452		5.83	5.79	34.148	26.906	119.9	0.848	0.84	12.0	75.9	2.93	39.7	0.00			455
	500	ISL	5.36	5.32	34.163	26.975	113.5	0.904	0.67	9.5	84.5	3.02	41.2	0.00			503
2	530		5.06	5.02	34.174	27.019	109.3	0.937	0.56	7.9	89.9	3.07	42.2	0.00			534

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 80 90

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 9.0 N	123 12.9 W	23/10/93	1840 UTC	4227 -	320 09 kn	340 03 07	2	1017.1 ab	18.5 C	16.8 C	29a 01	8/8 SC

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/I	NO2 uM/ (.	CHL-A ug/1	PHAEO ug/L	PRESS db
	0	ISL	17.77	17.77	33.162	23.922	397.5	0.000	5.59	102.6	2.8	0.34	0.1	0.00	0.13	0.03	0
2	2	A	17.77	17.77	33.162	23.922	397.6	0.008	5.59	102.6	2.8	0.34	0.1	0.00	0.13	0.03	2
2	10		17.73	17.73	33.160	23.930	397.0	0.040	5.59	102.5	2.7	0.33	0.1	0.00	0.13	0.03	10
2	20	A	17.71	17.71	33.158	23.934	397.0	0.079	5.60	102.7	2.6	0.33	0.1	0.00	0.13	0.04	20
2	29		17.63	17.63	33.165	23.959	395.0	0.115	5.62	102.9	2.6	0.32	0.1	0.00	0.17	0.05	29
	30	ISL	17.65	17.64	33.176	23.963	394.6	0.119	5.62	102.9	2.6	0.32	0.1	0.00	0.17	0.05	30
2	37	A	17.77	17.76	33.291	24.022	389.2	0.146	5.61	103.1	2.4	0.33	0.0	0.00	0.19	0.06	37
2	46		16.87	16.86	33.250	24.205	372.1	0.181	5.77	104.1	2.5	0.33	0.0	0.00	0.36	0.15	46
	50	ISL	15.87	15.86	33.176	24.377	355.7	0.195	5.90	104.4	2.7	0.35	0.1	0.02	0.52	0.24	50
2	55	A	14.54	14.53	33.092	24.602	334.3	0.213	6.03	103.8	3.1	0.40	0.4	0.05	0.70	0.36	55
2	67		12.70	12.69	33.031	24.929	303.3	0.251	5.76	95.4	4.2	0.54	2.3	0.17	0.58	0.51	67
2	75	A	12.01	12.00	33.039	25.067	290.3	0.275	5.53	90.3	5.5	0.70	5.2	0.07	0.44	0.43	75
2	91		10.93	10.92	33.146	25.347	263.9	0.319	5.01	80.0	10.0	1.08	11.3	0.02	0.18	0.25	91
	100	ISL	10.61	10.60	33.218	25.459	253.3	0.342	4.78	75.8	12.1	1.22	13.6	0.01	0.15	0.19	100
2	105	A	10.46	10.45	33.261	25.519	247.7	0.355	4.65	73.5	13.2	1.28	14.8	0.01	0.14	0.17	105
	125	ISL	9.60	9.59	33.472	25.828	218.6	0.401	3.91	60.7	19.7	1.61	20.1	0.01	0.06	0.09	126
2	138		9.08	9.07	33.606	26.017	200.8	0.429	3.46	53.2	23.8	1.79	23.1	0.01	0.01	0.05	139
	150	ISL	8.83	8.81	33.684	26.117	191.5	0.452	3.28	50.1	26.1	1.87	24.5	0.01	0.01	0.05	151
2	173		8.53	8.51	33.800	26.255	178.8	0.495	3.05	46.3	29.7	1.96	26.2	0.01	0.00	0.04	174
	200	ISL	8.24	8.22	33.940	26.409	164.6	0.541	2.65	40.0	34.9	2.07	28.3	0.01	0.00	0.04	201
2	202		8.22	8.20	33.949	26.419	163.6	0.544	2.62	39.6	35.3	2.08	28.4	0.01	0.00	0.04	203
2	232		7.85	7.83	34.013	26.524	154.0	0.592	2.48	37.1	40.1	2.20	29.9	0.01			233
	250	ISL	7.56	7.54	34.020	26.572	149.7	0.619	2.46	36.6	42.8	2.23	30.5	0.01			251
2	272		7.22	7.19	34.018	26.619	145.5	0.652	2.44	36.0	46.3	2.28	31.3	0.01			274
	300	ISL	6.91	6.88	34.034	26.674	140.4	0.692	2.14	31.4	51.3	2.43	33.1	0.01			302
2	326		6.67	6.64	34.053	26.722	136.2	0.728	1.78	25.9	56.3	2.59	34.9	0.01			328
2	388		6.03	6.00	34.104	26.845	124.9	0.809	1.06	15.2	69.5	2.90	38.7	0.01			390
	400	ISL	5.93	5.90	34.110	26.863	123.3	0.824	0.98	14.0	71.6	2.94	39.1	0.01			403
2	453		5.54	5.50	34.134	26.930	117.3	0.887	0.76	10.8	79.4	3.04	40.5	0.01			456
	500	ISL	5.29	5.25	34.159	26.980	112.9	0.941	0.60	8.5	85.1	3.09	41.5	0.00			503
2	525		5.15	5.11	34.173	27.007	110.4	0.969	0.52	7.3	88.1	3.12	42.1	0.00			529

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 48.8 N	123 53.8 W	24/10/93	0055 UTC	4353 •	330 14 ten	340 02 05	1	1016.8 ab	17.8 C	16.0 C		7/8	CU

CAST	DEPTH •		TEMP DEG C	POT TEMP DE6 C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/L	NO3 uM/I	NO2 uM/I	CHL-A ug/l	PHAEO ufl/I	PRESS db
	0	ISL	18.05	18.05	32.906	23.658	422.7	0.000	5.56	102.5	2.6	0.30	0.0	0.00	0.12	0.04	0
2	1		18.05	18.05	32.906	23.658	422.7	0.004	5.56	102.5	2.6	0.30	0.0	0.00	0.12	0.04	1
	10	ISL	17.98	17.98	32.891	23.664	422.5	0.042	5.59	102.9	2.4	0.29	0.0	0.00	0.12	0.03	10
2	11		17.97	17.97	32.889	23.665	422.4	0.046	5.59	102.9	2.4	0.29	0.0	0.00	0.12	0.03	11
	20	ISL	17.95	17.95	32.893	23.673	421.9	0.084	5.57	102.4	2.4	0.29	0.0	0.00	0.12	0.03	20
2	21		17.95	17.95	32.894	23.674	421.9	0.089	5.57	102.4	2.4	0.29	0.0	0.00	0.12	0.03	21
	30	ISL	18.00	17.99	32.925	23.686	421.0	0.127	5.56	102.4	2.4	0.29	0.0	0.00	0.14	0.05	30
2	31		18.01	18.00	32.928	23.686	421.1	0.131	5.56	102.4	2.4	0.29	0.0	0.00	0.14	0.05	31
2	40		17.26	17.25	32.844	23.801	410.3	0.168	5.70	103.4	2.3	0.30	0.0	0.00	0.23	0.11	40
	50	ISL	16.53	16.52	32.765	23.911	400.1	0.209	5.84	104.4	2.6	0.33	0.0	0.00	0.32	0.14	50
2	51		16.46	16.45	32.766	23.928	398.5	0.213	5.85	104.4	2.6	0.33	0.0	0.00	0.33	0.14	51
2	61		15.89	15.88	32.998	24.236	369.5	0.251	5.93	104.8	2.5	0.31	0.0	0.00	0.36	0.22	61
2	70		13.63	13.62	32.943	24.676	327.5	0.283	6.12	103.3	3.1	0.35	0.0	0.01	0.39	0.29	70
	75	ISL	13.10	13.09	32.939	24.780	317.8	0.299	6.09	101.7	3.2	0.38	0.3	0.05	0.38	0.28	75
2	85		12.65	12.64	32.951	24.877	308.7	0.330	5.90	97.6	3.6	0.45	0.9	0.12	0.31	0.25	85
2	100		11.80	11.79	33.030	25.099	287.7	0.375	5.56	90.3	5.7	0.65	4.4	0.04	0.18	0.20	100
2	120		10.77	10.76	33.136	25.368	262.5	0.430	5.05	80.3	10.1	1.00	10.6	0.01	0.09	0.13	120
	125	ISL	10.56	10.55	33.185	25.443	255.5	0.443	4.90	77.6	11.6	1.11	12.4	0.01	0.08	0.12	126
2	145		9.83	9.81	33.406	25.739	227.6	0.491	4.27	66.6	18.1	1.51	19.0	0.01	0.05	0.07	146
	150	ISL	9.65	9.63	33.458	25.809	220.9	0.502	4.08	63.4	19.6	1.59	20.2	0.01	0.04	0.06	151
2	173		8.95	8.93	33.672	26.089	194.6	0.550	3.31	50.7	25.6	1.84	24.1	0.00	0.00	0.03	174
	200	ISL	8.55	8.53	33.856	26.296	175.4	0.600	2.89	43.9	30.8	1.98	26.6	0.00	0.00	0.02	201
2	204		8.52	8.50	33.877	26.317	173.4	0.607	2.85	43.3	31.5	1.99	26.8	0.00	0.00	0.02	205
2	234		8.29	8.27	33.984	26.437	162.6	0.657	2.57	38.9	36.2	2.10	28.4	0.00			235
	250	ISL	7.95	7.92	34.002	26.501	156.6	0.683	2.56	38.4	39.2	2.15	29.3	0.00			251
2	273		7.41	7.38	34.009	26.585	148.8	0.718	2.54	37.7	43.5	2.21	30.5	0.00			274
	300	ISL	7.03	7.00	34.015	26.643	143.5	0.757	2.39	35.1	48.0	2.30	31.9	0.00			302
2	329		6.73	6.70	34.022	26.689	139.3	0.798	2.13	31.1	52.8	2.41	33.5	0.00			331
2	389		6.22	6.19	34.071	26.795	129.8	0.879	1.34	19.3	64.7	2.71	37.5	0.00			391
	400	ISL	6.18	6.14	34.084	26.811	128.4	0.893	1.23	17.7	66.3	2.76	37.9	0.00			402
2	453		5.95	5.91	34.138	26.883	122.2	0.960	0.84	12.0	73.4	2.93	39.4	0.00			456
	500	ISL	5.46	5.42	34.145	26.949	116.0	1.016	0.69	9.8	81.6	3.00	40.8	0.00			503
2	526		5.19	5.15	34.151	26.985	112.5	1.045	0.61	8.6	86.2	3.04	41.6	0.00			529

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 82 47

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 17.0 N	120 1.9 W	22/10/93	1348 UTC	579 •	360 01 kn	320 01 05	0	1015.0 ab	17.3 C	16.8 C	17a 03	0/8	

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/L	PO4 uH/l	NO3 uM/L	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	17.84	17.84	33.367	24.062	384.2	0.000	5.65	104.0	2.3	0.29	0.0	0.01	0.87	0.38	0
2	1	A	17.84	17.84	33.367	24.062	384.2	0.004	5.65	104.0	2.3	0.29	0.0	0.01	0.87	0.38	1
2	10		17.64	17.64	33.362	24.107	380.2	0.038	5.70	104.5	2.5	0.31	0.0	0.01	1.03	0.52	10
	20	ISL	16.41	16.41	33.338	24.378	354.7	0.075	5.56	99.5	3.6	0.43	1.4	0.09	1.22	0.64	20
2	21		16.24	16.24	33.335	24.414	351.2	0.079	5.54	98.8	3.8	0.45	1.6	0.10	1.24	0.64	21
2	30		14.40	14.40	33.315	24.803	314.4	0.108	5.25	90.2	6.3	0.67	4.5	0.31	0.54	0.43	30
2	40		13.34	13.33	33.310	25.018	294.2	0.139	5.08	85.4	8.1	0.82	6.8	0.23	0.52	0.37	40
2	50		12.07	12.06	33.349	25.296	267.9	0.167	4.67	76.5	10.9	1.05	10.7	0.12	0.24	0.25	50
2	60		11.45	11.44	33.392	25.444	254.0	0.193	4.40	71.1	12.9	1.19	13.0	0.08	0.15	0.21	60
2	70		10.82	10.81	33.428	25.585	240.7	0.218	4.21	67.1	14.4	1.29	14.6	0.06	0.11	0.17	70
	75	ISL	10.67	10.66	33.455	25.633	236.3	0.230	4.10	65.2	15.4	1.35	15.5	0.06	0.09	0.16	75
2	85		10.49	10.48	33.514	25.710	229.1	0.253	3.89	61.6	17.4	1.47	17.3	0.05	0.05	0.14	85
2	99		10.13	10.12	33.595	25.835	217.5	0.284	3.62	56.9	19.5	1.59	19.3	0.01	0.03	0.10	99
	100	ISL	10.12	10.11	33.599	25.840	217.1	0.286	3.61	56.8	19.6	1.60	19.4	0.01	0.03	0.10	100
2	119		9.96	9.95	33.664	25.918	210.0	0.327	3.35	52.5	21.5	1.69	20.8	0.02	0.02	0.09	120
	125	ISL	9.92	9.91	33.694	25.948	207.3	0.340	3.25	50.9	22.3	1.72	21.3	0.02	0.02	0.09	126
2	144		9.80	9.78	33.794	26.047	198.3	0.378	2.94	46.0	24.9	1.83	22.9	0.01	0.02	0.09	145
	150	ISL	9.76	9.74	33.822	26.076	195.7	0.390	2.86	44.7	25.6	1.86	23.4	0.01	0.02	0.09	151
2	174		9.58	9.56	33.922	26.184	185.9	0.436	2.57	40.0	28.4	1.97	25.0	0.01	0.01	0.07	175
	200	ISL	9.41	9.39	34.004	26.276	177.7	0.483	2.26	35.1	31.6	2.09	26.5	0.01	0.01	0.08	201
2	204		9.38	9.36	34.015	26.290	176.4	0.490	2.21	34.3	32.2	2.11	26.7	0.01	0.01	0.08	205
2	235		8.94	8.91	34.115	26.439	162.8	0.543	1.68	25.8	39.3	2.31	29.5	0.00			236
	250	ISL	8.66	8.63	34.138	26.501	157.0	0.567	1.50	22.9	43.0	2.40	30.7	0.00			251
2	273		8.24	8.21	34.156	26.580	149.8	0.602	1.30	19.7	48.3	2.53	32.1	0.00			275
	300	ISL	7.96	7.93	34.167	26.630	145.3	0.642	1.18	17.7	52.2	2.60	33.0	0.00			302
2	329		7.73	7.70	34.172	26.668	142.1	0.683	1.10	16.4	56.0	2.66	33.5	0.00			331
2	388		7.04	7.00	34.193	26.783	131.7	0.764	0.76	11.2	68.1	2.87	34.7	0.01			391
	400	ISL	6.93	6.89	34.199	26.803	129.9	0.780	0.66	9.7	71.2	2.92	34.4	0.01			403
2	450		6.58	6.54	34.220	26.867	124.3	0.843	0.26	3.8	84.1	3.14	33.4	0.01			453
	500	ISL	6.43	6.38	34.226	26.892	122.5	0.905	0.08	1.2	93.9	3.27	30.4	0.01			503
2	519		6.41	6.36	34.226	26.895	122.5	0.928	0.05	0.7	97.7	3.35	28.3	0.01			523
2	545		6.39	6.34	34.228	26.899	122.5	0.960	0.04	0.6	104.5	3.58	23.5	0.01			549
2	567		6.39	6.34	34.228	26.899	122.8	0.987	0.04	0.6	104.6	3.63	23.3	0.01			571
2	574		6.39	6.34	34.227	26.899	122.9	0.996	0.04	0.6	104.8	3.60	23.3	0.01			578
2	578	B	6.39	6.34	34.229	26.900	122.9	1.001	0.03	0.4	107.7	3.89	22.9	0.07			582

A) SANTA BARBARA BASIN STATION.
B> CAST TOUCHED BOTTOM, MUD IN WATER SAMPLES.

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 83 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 13.5 N	119 24.7 W	22/10/93	0848 UTC	35 a	170 01 kn			1015.7 ab	18.3 C	17.2 C			

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/I	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	18.50	18.50	33.329	23.871	402.4	0.000	6.16	114.8	2.6	0.25	0.0	0.00	0.38	0.13	0
2	2		18.50	18.50	33.329	23.871	402.4	0.008	6.16	114.8	2.6	0.25	0.0	0.00	0.38	0.13	2
2	6		18.50	18.50	33.328	23.870	402.6	0.024	6.14	114.4	2.7	0.24	0.0	0.00	0.41	0.12	6
	10	ISL	17.58	17.58	33.305	24.077	383.0	0.040	6.13	112.2	3.0	0.26	0.0	0.01	0.98	0.20	10
2	11		17.28	17.28	33.298	24.144	376.7	0.044	6.13	111.6	3.1	0.27	0.0	0.01	1.15	0.22	11
	20	ISL	14.66	14.66	33.232	24.684	325.5	0.075	5.44	94.0	5.8	0.57	2.2	0.21	1.75	0.40	20
2	21		14.40	14.40	33.228	24.736	320.6	0.078	5.35	91.9	6.1	0.61	2.5	0.24	1.82	0.41	21
	30	ISL	13.44	13.44	33.241	24.944	300.9	0.106	5.28	88.9	6.9	0.73	4.3	0.35	0.51	0.33	30
2	31		13.33	13.33	33.243	24.968	298.7	0.109	5.27	88.6	7.0	0.74	4.5	0.36	0.37	0.32	31

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AHT TYPE
34 10.6 N	119 30.4 W	22/10/93	0620 UTC	139 •	280 09 kn			1015.9 ab	18.0 C	16.8 C		

CAST	DEPTH •		TEMP DE6 C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/l	PO4 uH/l	NO3 uH/I	NO2 uM/L	CHL-A ug/l	PHAEO ug/I	PRESS db
	0	ISL	18.33	18.33	33.320	23.906	399.0	0.000	6.06	112.6	2.5	0.28	0.0	0.00	0.46	0.10	0
2	1		18.33	18.33	33.320	23.906	399.0	0.004	6.06	112.6	2.5	0.28	0.0	0.00	0.46	0.10	1
2	10		18.12	18.12	33.312	23.952	395.0	0.040	6.06	112.1	2.6	0.28	0.0	0.00	0.41	0.12	10
2	20		16.16	16.16	33.240	24.359	356.4	0.077	5.93	105.5	3.1	0.35	0.0	0.00	0.70	0.30	20
2	30		15.15	15.15	33.217	24.567	336.9	0.112	5.99	104.5	3.3	0.39	0.1	0.01	0.71	0.35	30
2	40		13.45	13.44	33.224	24.929	302.6	0.144	5.50	92.6	5.7	0.63	3.5	0.20	0.62	0.43	40
	50	ISL	12.59	12.58	33.280	25.143	282.5	0.173	4.95	81.9	8.3	0.89	7.5	0.07	0.47	0.39	50
2	51		12.53	12.52	33.286	25.159	281.0	0.176	4.90	81.0	8.5	0.91	7.9	0.05	0.45	0.39	51
2	60		11.97	11.96	33.326	25.297	268.0	0.201	4.64	75.8	10.0	1.01	10.3	0.03	0.23	0.33	60
2	71		11.33	11.32	33.388	25.463	252.4	0.229	4.34	70.0	12.2	1.21	12.8	0.02	0.11	0.20	71
	75	ISL	11.20	11.19	33.405	25.500	249.0	0.239	4.27	68.7	12.8	1.26	13.5	0.02	0.09	0.17	75
2	85		11.03	11.02	33.435	25.554	244.1	0.264	4.16	66.7	14.0	1.33	14.6	0.02	0.06	0.14	85
2	98		10.93	10.92	33.444	25.579	242.0	0.296	4.12	65.9	14.5	1.35	15.0	0.02	0.06	0.14	98
	100	ISL	10.91	10.90	33.444	25.583	241.7	0.300	4.12	65.8	14.5	1.36	15.1	0.02	0.06	0.14	100
2	124		10.43	10.42	33.510	25.718	229.2	0.357	3.88	61.4	17.0	1.47	17.3	0.02	0.03	0.10	125
	125	ISL	10.40	10.39	33.519	25.730	228.1	0.359	3.85	60.9	17.3	1.49	17.5	0.02	0.03	0.10	126
2	134		10.09	10.07	33.601	25.847	217.1	0.379	3.59	56.4	19.6	1.62	19.5	0.02	0.02	0.10	135

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 83 51

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 53.2 N	120 8.8 W	21/10/93	2308 UTC	94 •	290 11 kn	290 01 04	2	1016.8 ab	18.0 C	16.7 C	20a 02	8/8 ST

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SI6MA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	17.44	17.44	33.335	24.133	377.3	0.000	5.65	103.2	2.7	0.33	0.0	0.00	0.21	0.07	0
2	1		17.44	17.44	33.335	24.133	377.4	0.004	5.65	103.2	2.7	0.33	0.0	0.00	0.21	0.07	1
2	10		17.38	17.38	33.335	24.148	376.3	0.038	5.66	103.2	2.6	0.33	0.0	0.00	0.26	0.10	10
2	20		17.00	17.00	33.322	24.228	368.9	0.075	5.69	103.0	2.6	0.33	0.0	0.01	0.54	0.27	20
	30	ISL	16.96	16.96	33.333	24.247	367.5	0.112	5.68	102.8	2.9	0.34	0.0	0.01	0.58	0.25	30
2	31		16.96	16.95	33.334	24.247	367.5	0.115	5.68	102.8	2.9	0.34	0.0	0.01	0.58	0.25	31
2	40		13.48	13.47	33.316	24.994	296.4	0.145	5.06	85.3	8.6	0.80	6.7	0.16	0.48	0.37	40
2	50		12.14	12.13	33.356	25.288	268.7	0.174	4.69	76.9	11.5	1.06	10.7	0.16	0.33	0.31	50
2	60		11.68	11.67	33.400	25.408	257.4	0.200	4.49	72.9	13.2	1.17	12.6	0.12	0.22	0.24	60
2	70		11.53	11.52	33.409	25.443	254.3	0.225	4.42	71.6	13.6	1.21	13.1	0.11	0.19	0.25	70
	73	ISL	11.23	11.22	33.428	25.512	247.8	0.238	4.31	69.4	14.6	1.27	14.2	0.09	0.16	0.22	75
2	83		10.80	10.79	33.459	25.613	238.3	0.257	4.14	66.0	16.0	1.37	15.8	0.07	0.11	0.18	83
2	92		10.79	10.78	33.465	25.620	237.9	0.279	4.11	65.5	16.1	1.39	15.8	0.07	0.11	0.19	92

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 44.8 N	120 25.2 W	21/10/93	1851 UTC	1098 a	320 12 kn	330 04 05	1	1019.9 ab	17.9 C	16.2 C	14* 03	7/8 ST

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SI6MA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uH/I	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	17.28	17.28	33.367	24.196	371.4	0.000	5.68	103.4	2.2	0.32	0.1	0.01	0.46	0.15	0
2	2	A	17.28	17.28	33.367	24.196	371.4	0.007	5.68	103.4	2.2	0.32	0.1	0.01	0.46	0.15	2
2	9	A	17.27	17.27	33.365	24.197	371.5	0.033	5.68	103.4	2.1	0.31	0.1	0.01	0.42	0.15	9
	10	ISL	17.27	17.27	33.365	24.197	371.6	0.037	5.68	103.4	2.1	0.31	0.1	0.01	0.42	0.15	10
2	18	A	17.26	17.26	33.365	24.200	371.6	0.067	5.67	103.2	2.0	0.31	0.1	0.00	0.46	0.15	18
	20	ISL	17.26	17.26	33.366	24.201	371.6	0.074	5.67	103.2	2.0	0.31	0.1	0.00	0.46	0.16	20
2	26	A	17.26	17.26	33.369	24.203	371.5	0.097	5.67	103.2	2.0	0.31	0.1	0.00	0.46	0.17	26
	30	ISL	16.87	16.87	33.370	24.296	362.8	0.111	5.62	101.5	2.4	0.34	0.6	0.02	0.60	0.29	30
2	37	A	15.83	15.82	33.374	24.538	340.0	0.136	5.52	97.7	4.0	0.46	1.6	0.06	0.85	0.50	37
	50	ISL	13.25	13.24	33.402	25.107	285.9	0.177	4.77	80.1	9.8	0.97	9.1	0.16	0.67	0.49	50
2	51	A	13.05	13.04	33.407	25.151	281.8	0.179	4.70	78.6	10.3	1.01	9.7	0.16	0.64	0.49	51
2	59		11.98	11.97	33.437	25.381	260.0	0.201	4.34	71.0	13.3	1.23	13.1	0.09	0.51	0.44	59
2	69		10.75	10.74	33.482	25.640	235.5	0.226	4.02	64.0	16.6	1.43	16.5	0.04	0.22	0.27	69
	75	ISL	10.29	10.28	33.536	25.762	224.0	0.240	3.80	60.0	18.8	1.55	18.4	0.03	0.13	0.20	75
2	84		9.85	9.84	33.620	25.901	210.8	0.259	3.50	54.7	21.8	1.71	20.8	0.02	0.07	0.14	84
2	100		9.42	9.41	33.707	26.041	197.9	0.292	3.27	50.7	25.0	1.80	22.8	0.02	0.04	0.11	100
2	118		9.11	9.10	33.799	26.163	186.6	0.327	3.06	47.1	27.8	1.90	24.3	0.02	0.02	0.09	119
	125	ISL	9.03	9.02	33.854	26.219	181.4	0.339	2.91	44.7	29.3	1.96	25.0	0.02	0.01	0.08	126
2	144		8.91	8.89	33.990	26.344	169.9	0.373	2.51	38.5	33.0	2.10	26.7	0.02	0.00	0.06	145
	150	ISL	8.90	8.88	34.000	26.354	169.1	0.383	2.44	37.4	33.6	2.12	27.0	0.02	0.00	0.06	151
2	174		8.87	8.85	34.040	26.390	166.1	0.423	2.29	35.1	34.8	2.16	27.6	0.04	0.00	0.06	175
	200	ISL	8.81	8.79	34.063	26.418	164.0	0.466	2.20	33.7	36.0	2.20	28.0	0.03	0.00	0.06	201
2	205		8.80	8.78	34.068	26.424	163.5	0.474	2.18	33.4	36.2	2.21	28.1	0.03	0.00	0.06	206
2	236		8.70	8.67	34.120	26.480	158.7	0.524	1.98	30.3	38.7	2.30	29.0	0.01			237
	250	ISL	8.67	8.64	34.139	26.500	157.1	0.546	1.86	28.4	39.8	2.34	29.5	0.01			251
2	272		8.58	8.55	34.165	26.535	154.2	0.581	1.67	25.5	41.9	2.42	30.3	0.02			274
	300	ISL	8.30	8.27	34.195	26.602	148.3	0.623	1.43	21.7	45.9	2.53	31.6	0.02			302
2	330		7.95	7.92	34.219	26.673	141.8	0.666	1.20	18.0	50.7	2.64	32.9	0.01			332
2	392		7.39	7.35	34.236	26.768	133.5	0.752	0.89	13.2	58.8	2.80	35.0	0.01			395
	400	ISL	7.29	7.25	34.234	26.781	132.4	0.762	0.87	12.9	59.9	2.82	35.3	0.01			403
2	454		6.64	6.60	34.218	26.857	125.3	0.832	0.76	11.1	67.5	2.91	37.4	0.01			457
	500	ISL	6.23	6.19	34.217	26.911	120.6	0.889	0.66	9.5	73.3	2.99	38.7	0.01			503
2	524		6.02	5.97	34.218	26.938	118.0	0.917	0.61	8.8	76.3	3.03	39.4	0.01			528

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 83 60

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 34.8 N	120 45.1 W	21/10/93	1458 UTC	1314 •	310 15 kn	350 04 08	1	1018.7 ab	16.6 C	15.6 C	15a 03	5/8	SC

CAST	DEPTH a		TEMP DE6 C	POT TEMP DEC C	SALINITY	SI6MA THETA	SVA	DYN HT	OXYGEN al/L	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/L	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	16.79	16.79	33.403	24.339	357.7	0.000	5.66	102.1	3.8	0.38	0.8	0.03			0
2	2		16.79	16.79	33.403	24.339	357.8	0.007	5.66	102.1	3.8	0.38	0.8	0.03			2
2	10		16.67	16.67	33.401	24.366	355.5	0.036	5.68	102.2	3.8	0.38	0.9	0.03	0.71	0.28	10
2	20		15.88	15.88	33.375	24.526	340.5	0.070	5.58	98.8	4.5	0.47	2.1	0.06	1.05	0.54	20
2	30		13.00	13.00	33.359	25.123	283.9	0.102	5.13	85.7	8.7	0.83	7.4	0.13	0.95	0.45	30
2	39		11.59	11.59	33.392	25.418	256.0	0.126	4.55	73.8	12.5	1.17	12.6	0.14	0.61	0.38	39
2	50		11.21	11.20	33.431	25.518	246.7	0.154	4.40	70.8	13.7	1.25	13.8	0.15	0.57	0.33	50
2	58		10.43	10.42	33.504	25.712	228.3	0.173	3.98	63.0	17.3	1.46	17.3	0.08	0.24	0.23	58
2	69		9.94	9.93	33.583	25.857	214.7	0.197	3.66	57.3	20.3	1.61	19.7	0.04	0.10	0.13	69
	75	ISL	9.82	9.81	33.608	25.897	211.1	0.210	3.57	55.8	21.2	1.65	20.4	0.04	0.08	0.12	75
2	86		9.71	9.70	33.651	25.949	206.4	0.233	3.44	53.6	22.4	1.71	21.2	0.04	0.05	0.10	86
2	100		9.53	9.52	33.740	26.048	197.2	0.261	3.16	49.1	24.9	1.82	22.7	0.03	0.03	0.08	101
2	119		9.48	9.47	33.778	26.087	193.9	0.298	3.05	47.3	25.9	1.86	23.3	0.03	0.01	0.10	120
	125	ISL	9.44	9.43	33.801	26.111	191.7	0.310	3.00	46.5	26.5	1.88	23.6	0.03	0.01	0.10	126
2	145		9.26	9.24	33.890	26.210	182.7	0.347	2.79	43.1	28.9	1.95	24.8	0.02	0.01	0.08	146
	150	ISL	9.22	9.20	33.913	26.235	180.5	0.356	2.72	42.0	29.6	1.98	25.2	0.02	0.01	0.08	151
2	175		8.99	8.97	34.013	26.350	170.0	0.400	2.40	36.9	33.4	2.13	26.9	0.01	0.00	0.06	176
	200	ISL	8.66	8.64	34.054	26.434	162.4	0.442	2.29	34.9	36.6	2.20	28.2	0.01	0.00	0.05	201
2	204		8.61	8.59	34.059	26.446	161.3	0.448	2.27	34.6	37.1	2.21	28.4	0.01	0.00	0.05	205
2	236		8.57	8.55	34.152	26.526	154.4	0.499	1.64	25.0	42.2	2.42	30.4	0.01			237
	250	ISL	8.45	8.42	34.165	26.554	151.9	0.520	1.54	23.4	43.9	2.46	31.0	0.01			251
2	275		8.15	8.12	34.170	26.604	147.3	0.557	1.45	21.9	47.1	2.52	31.9	0.01			277
	300	ISL	7.78	7.75	34.178	26.665	141.9	0.594	1.31	19.6	51.6	2.60	33.0	0.01			302
2	328		7.35	7.32	34.185	26.733	135.7	0.632	1.16	17.2	57.1	2.69	34.3	0.01			330
2	386		6.55	6.51	34.198	26.853	124.7	0.708	0.86	12.5	68.0	2.91	37.3	0.00			389
	400	ISL	6.42	6.38	34.196	26.868	123.3	0.725	0.82	11.9	69.9	2.94	37.8	0.00			403
2	448		6.08	6.04	34.201	26.916	119.1	0.783	0.70	10.1	75.3	3.01	39.0	0.00			451
	500	ISL	5.92	5.88	34.265	26.988	112.9	0.844	0.48	6.9	80.1	3.09	40.0	0.00			503
2	522		5.85	5.80	34.292	27.018	110.3	0.868	0.38	5.4	82.1	3.12	40.4	0.00			526

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 14.8 N	121 26.7 W	21/10/93	0941 UTC	3801 a	300 09 kn			1019.0 ab	16.4 C	15.4 C			

CAST	DEPTH a		TEMP DEC C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/1	PO4 uM/l	NO3 uM/L	NO2 uM/I	CHL-A ug/L	PHAEO ug/ I	PRESS db
	0	ISL	17.17	17.17	33.211	24.103	380.3	0.000	5.71	103.7	2.7	0.35	0.1	0.00	0.17	0.06	0
2	1		17.17	17.17	33.211	24.103	380.3	0.004	5.71	103.7	2.7	0.35	0.1	0.00	0.17	0.06	1
	10	ISL	17.13	17.13	33.209	24.111	379.8	0.038	5.71	103.6	2.6	0.35	0.0	0.00	0.17	0.06	10
2	15		17.10	17.10	33.208	24.117	379.4	0.057	5.71	103.5	2.5	0.35	0.0	0.00	0.17	0.06	15
	20	ISL	17.09	17.09	33.210	24.121	379.1	0.076	5.72	103.7	2.5	0.35	0.0	0.00	0.17	0.06	20
2	30		17.07	17.07	33.214	24.130	378.7	0.114	5.75	104.2	2.4	0.34	0.0	0.00	0.18	0.06	30
2	40		16.95	16.94	33.245	24.182	374.0	0.151	5.75	103.9	2.3	0.34	0.0	0.00	0.25	0.10	40
2	49		16.58	16:57	33.256	24.277	365.3	0.185	5.76	103.4	2.3	0.34	0.1	0.00	0.31	0.14	49
	50	ISL	16.29	16.28	33.227	24.321	361.0	0.188	5.79	103.3	2.4	0.35	0.1	0.01	0.35	0.18	50
2	60		13.40	13.39	32.984	24.754	319.8	0.222	6.03	101.3	3.4	0.44	0.5	0.10	0.68	0.60	60
2	69		12.89	12.88	32.969	24.844	311.4	0.251	5.90	98.1	4.0	0.51	1.5	0.17	0.54	0.57	69
	75	ISL	12.46	12.45	32.989	24.943	302.1	0.269	5.71	94.1	4.7	0.60	2.9	0.11	0.46	0.53	75
2	79		12.17	12.16	33.011	25.015	295.3	0.281	5.57	91.2	5.3	0.67	4.1	0.06	0.40	0.49	79
2	94		11.43	11.42	33.117	25.235	274.7	0.324	5.14	82.9	8.4	0.93	8.7	0.02	0.19	0.27	9*
	100	ISL	11.19	11.18	33.163	25.314	267.2	0.340	4.94	79.3	9.8	1.03	10.4	0.01	0.15	0.21	100
2	109		10.78	10.77	33.239	25.446	254.8	0.364	4.65	74.0	12.4	1.19	13.1	0.01	0.10	0.15	109
2	124		9.64	9.63	33.407	25.771	224.0	0.400	4.22	65.6	18.5	1.53	18.7	0.01	0.03	0.05	125
	125	ISL	9.63	9.62	33.424	25.786	222.7	0.402	4.17	64.8	18.8	1.55	19.0	0.01	0.03	0.05	126
2	149		9.31	9.29	33.706	26.058	197.2	0.452	3.23	49.9	25.1	1.84	23.4	0.01	0.01	0.05	150
	150	ISL	9.28	9.26	33.710	26.066	196.4	0.454	3.23	49.9	25.3	1.85	23.5	0.01	0.01	0.05	151
2	174		8.60	8.58	33.764	26.216	182.5	0.500	3.26	49.6	28.4	1.92	25.3	0.01	0.00	0.03	175
	200	ISL	8.17	8.15	33.884	26.375	167.7	0.545	3.15	47.5	32.4	1.97	26.5	0.01	0.00	0.02	201
2	203		8.13	8.11	33.898	26.392	166.1	0.550	3.13	47.2	32.9	1.97	26.6	0.01	0.00	0.02	204
2	232		7.84	7.82	33.966	26.489	157.4	0.597	3.09	46.3	36.5	2.02	27.5	0.01			233
	250	ISL	7.68	7.66	34.004	26.542	152.6	0.625	2.79	41.6	40.3	2.13	29.0	0.01			251
2	273		7.47	7.44	34.045	26.605	146.9	0.659	2.31	34.3	45.8	2.31	31.2	0.00			275
	300	ISL	7.15	7.12	34.070	26.670	141.0	0.698	1.93	28.5	51.7	2.47	33.2	0.00			302
2	328		6.80	6.77	34.088	26.732	135.4	0.737	1.61	23.5	57.5	2.61	35.0	0.00			330
2	387		6.23	6.20	34.141	26.849	124.7	0.814	1.04	15.0	68.9	2.87	38.3	0.00			389
	400	ISL	6.14	6.10	34.153	26.870	122.8	0.830	0.95	13.7	71.0	2.91	38.8	0.00			403
2	453		5.86	5.82	34.201	26.944	116.3	0.893	0.65	9.3	77.8	3.01	40.2	0.00			456
	500	ISL	5.76	5.72	34.238	26.986	112.9	0.947	0.51	7.3	81.4	3.08	40.8	0.00			503
2	527		5.70	5.65	34.260	27.011	110.8	0.977	0.43	6.1	83.4	3.12	41.1	0.00			531

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 83 80

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AHT TYPE
32 54.7 N	122 7.9 W	21/10/93	0422 UTC	4183 •	320 10 kn			1020.3 ab	17.3 C	15.2 C		

CAST	DEPTH •	TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uH/l	NO2 uM/L	CHL-A ug/I	PHAEO ug/I	PRESS db
	0 ISL	17.92	17.92	32.977	23.744	414.5	0.000	5.56	102.3	2.7	0.30	0.0	0.00	0.09	0.03	0
2	2	17.92	17.92	32.977	23.744	414.6	0.008	5.56	102.3	2.7	0.30	0.0	0.00	0.09	0.03	2
	10 ISL	17.90	17.90	32.982	23.753	414.0	0.041	5.57	102.4	2.6	0.30	0.0	0.00	0.09	0.03	10
2	15	17.88	17.88	32.986	23.761	413.4	0.062	5.57	102.4	2.5	0.30	0.0	0.00	0.09	0.03	15
	20 ISL	17.86	17.86	32.983	23.764	413.3	0.083	5.57	102.3	2.5	0.30	0.0	0.00	0.09	0.03	20
	30 ISL	17.83	17.82	32.978	23.768	413.2	0.124	5.57	102.3	2.4	0.29	0.0	0.00	0.10	0.03	30
2	31	17.83	17.82	32.978	23.768	413.3	0.128	5.57	102.3	2.4	0.29	0.0	0.00	0.10	0.03	31
2	41	17.19	17.18	32.946	23.896	401.3	0.169	5.72	103.7	2.6	0.30	0.0	0.00	0.16	0.06	41
2	50	16.33	16.32	33.032	24.162	376.2	0.204	5.87	104.7	2.9	0.33	0.0	0.00	0.32	0.16	50
2	60	14.78	14.77	33.008	24.487	345.4	0.240	6.02	104.1	3.1	0.39	0.1	0.02	0.56	0.39	60
2	70	13.54	13.53	32.963	24.710	324.3	0.274	5.97	100.6	3.3	0.42	0.5	0.12	0.42	0.38	70
	75 ISL	13.12	13.11	32.996	24.820	313.9	0.289	5.84	97.6	3.7	0.49	1.5	0.11	0.31	0.36	75
2	80	12.77	12.76	33.054	24.933	303.2	0.305	5.66	93.9	4.4	0.58	2.8	0.10	0.20	0.33	80
2	95	11.73	11.72	33.313	25.332	265.5	0.348	4.95	80.5	8.8	0.90	8.6	0.01	0.09	0.17	95
	100 ISL	11.22	11.21	33.312	25.425	256.8	0.361	4.78	76.8	10.4	1.03	10.6	0.01	0.08	0.14	100
2	110	10.28	10.27	33.281	25.565	243.4	0.386	4.54	71.5	13.5	1.27	14.2	0.01	0.06	0.10	110
2	125	9.68	9.67	33.331	25.705	230.3	0.421	4.45	69.2	16.9	1.45	17.3	0.01	0.03	0.05	126
2	150	8.76	8.74	33.557	26.029	199.8	0.475	3.79	57.8	23.9	1.76	22.6	0.01	0.01	0.03	151
2	174	8.50	8.48	33.720	26.197	184.3	0.521	3.24	49.2	29.0	1.96	25.8	0.01	0.01	0.04	175
	200 ISL	8.28	8.26	33.830	26.317	173.3	0.568	2.99	45.2	32.2	2.03	27.0	0.01	0.00	0.03	201
2	203	8.26	8.24	33.840	26.328	172.3	0.573	2.97	44.9	32.5	2.03	27.1	0.01	0.00	0.03	204
2	234	8.04	8.02	33.971	26.464	159.9	0.624	2.67	40.2	37.0	2.12	28.5	0.01			235
	250 ISL	7.80	7.78	33.993	26.516	155.1	0.649	2.67	39.9	39.2	2.14	29.0	0.01			251
2	272	7.44	7.41	34.001	26.574	149.8	0.683	2.67	39.6	42.4	2.17	29.8	0.01			274
	300 ISL	7.09	7.06	34.008	26.629	144.8	0.724	2.49	36.6	47.1	2.26	31.3	0.00			302
2	326	6.85	6.82	34.019	26.671	141.1	0.761	2.21	32.3	51.6	2.37	32.9	0.00			328
2	387	6.65	6.61	34.117	26.776	132.0	0.845	1.27	18.5	61.7	2.72	36.3	0.00			389
	400 ISL	6.51	6.47	34.118	26.795	130.2	0.862	1.18	17.1	64.0	2.77	37.0	0.00			402
2	453	5.84	5.80	34.114	26.878	122.5	0.929	0.95	13.6	73.6	2.91	39.4	0.00			456
	500 ISL	5.44	5.40	34.152	26.957	115.3	0.985	0.69	9.8	82.7	3.03	41.1	0.00			503
2	532	5.16	5.12	34.179	27.011	110.2	1.021	0.51	7.2	88.9	3.12	42.2	0.00			536

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 83 90

LATITUDE	LONGITUDE	DAY/NO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AHT TYPE
32 35.1 N	122 47.3 W	20/10/93	2304 UTC	4107 •	320 08 kn	350 02 05	1	1020.4 ab	18.9 C	17.1 C	31a 01	4/8 CS

CAST	DEPTH a	TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/l	PO4 uH/l	NO3 uM/l	NO2 uM/I	CHL-A ug/I	PHAEO ug/L	PRESS db
	0 ISL	18.18	18.18	32.975	23.679	420.7	0.000	5.61	103.7	2.9	0.32	0.0	0.00	0.09	0.02	0
2	1	18.18	18.18	32.975	23.679	420.7	0.004	5.61	103.7	2.9	0.32	0.0	0.00	0.09	0.02	1
	10 ISL	17.97	17.97	32.974	23.730	416.2	0.042	5.60	103.1	2.9	0.31	0.0	0.00	0.10	0.03	10
2	15	17.82	17.82	32.973	23.766	412.9	0.063	5.60	102.8	2.9	0.31	0.0	0.00	0.10	0.03	15
	20 ISL	17.81	17.81	32.973	23.768	412.8	0.083	5.60	102.8	2.9	0.31	0.0	0.00	0.10	0.03	20
2	30	17.78	17.77	32.972	23.775	412.5	0.125	5.60	102.7	2.8	0.30	- 0.0	0.00	0.10	0.03	30
2	40	17.72	17.71	32.968	23.787	411.7	0.166	5.64	.103.3	2.7	0.30	0.0	0.00	0.12	0.04	40
2	50	17.61	17.60	32.974	23.818	409.1	0.207	5.66	103.5	2.6	0.30	0.0	0.00	0.17	0.05	50
2	60	17.31	17.30	33.140	24.017	390.4	0.247	5.77	105.0	2.6	0.34	0.0	0.00	0.24	0.09	60
2	70	16.55	16.54	33.052	24.128	380.1	0.285	5.84	104.6	2.5	0.34	0.0	0.00	0.37	0.19	70
	75 ISL	15.55	15.54	33.002	24.315	362.3	0.304	5.98	105.0	2.7	0.36	0.0	0.01	0.45	0.33	75
2	79	14.68	14.67	32.974	24.482	346.4	0.318	6.08	104.9	3.0	0.38	0.0	0.01	0.49	0.43	79
2	94	12.73	12.72	32.974	24.880	308.7	0.367	5.90	97.7	3.8	0.49	1.0	0.18	0.26	0.32	94
	100 ISL	12.16	12.15	32.992	25.003	297.0	0.385	5.71	93.5	4.9	0.60	2.9	0.13	0.19	0.27	100
2	110	11.45	11.44	33.040	25.172	281.0	0.414	5.39	86.9	7.1	0.80	6.6	0.03	0.11	0.20	110
2	123	10.98	10.97	33.131	25.327	266.5	0.450	5.20	83.1	9.3	0.96	9.7	0.02	0.08	0.14	123
	125 ISL	10.90	10.88	33.151	25.357	263.7	0.455	5.12	81.7	9.9	1.00	10.4	0.02	0.07	0.13	125
2	149	9.81	9.79	33.392	25.731	228.3	0.514	4.21	65.7	17.5	1.46	18.0	0.01	0.02	0.05	150
	150 ISL	9.76	9.74	33.400	25.746	227.0	0.516	4.21	65.6	17.7	1.47	18.1	0.01	0.02	0.05	151
2	173	8.66	8.64	33.564	26.050	198.2	0.565	4.29	65.3	21.1	1.57	20.2	0.01	0.01	0.02	174
	200 ISL	8.13	8.11	33.751	26.277	177.0	0.616	3.91	58.8	27.2	1.75	23.4	0.00	0.00	0.02	201
2	203	8.10	8.08	33.770	26.296	175.2	0.621	3.86	58.1	27.9	1.77	23.7	0.00	0.00	0.02	204
2	233	7.91	7.89	33.912	26.436	162.4	0.672	3.54	53.1	32.7	1.89	25.6	0.00			234
	250 ISL	7.72	7.70	33.953	26.496	136.9	0.699	3.37	50.3	35.8	1.95	26.7	0.00			251
2	271	7.45	7.42	33.983	26.559	151.2	0.731	3.11	46.1	40.0	2.05	28.1	0.00			272
	300 ISL	7.15	7.12	34.022	26.632	144.6	0.774	2.52	37.1	46.6	2.27	31.0	0.00			302
2	327	6.88	6.85	34.045	26.687	139.6	0.813	1.98	29.0	52.7	2.48	33.6	0.00			329
2	387	6.14	6.11	34.054	26.792	130.0	0.894	1.56	22.5	64.2	2.70	36.9	0.00			389
	400 ISL	6.04	6.01	34.067	26.815	127.9	0.910	1.42	20.4	66.6	2.75	37.5	0.00			402
2	449	5.78	5.74	34.125	26.894	120.9	0.971	0.90	12.8	75.2	2.92	39.6	0.00			452
	500 ISL	5.55	5.51	34.181	26.966	114.5	1.031	0.65	9.2	82.2	3.05	40.8	0.00			503
2	526	5.43	5.39	34.210	27.004	111.1	1.061	0.52	7.4	85.8	3.11	41.4	0.00			529

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 15.1 N	123 29.8 W	20/10/93	1814 UTC	4132 •	320 07 kn	340 03 07	1	1022.4 ab	18.0 C	15.6 C	40a 01	7/8	CU

CAST	DEPTH a		TEMP DE6 C	POT TEMP DEG C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/l	NO2 uM/I	CHL-A ug/I	PHAEO ug/I	PRESS db
	0	ISL	18.53	18.53	33.123	23.706	418.1	0.000	5.50	102.4	2.6	0.29	0.1	0.00	0.09	0.02	0
2	2	A	18.53	18.53	33.123	23.706	418.2	0.008	5.50	102.4	2.6	0.29	0.1	0.00	0.09	0.02	2
	10	ISL	18.48	18.48	33.118	23.715	417.6	0.042	5.50	102.3	2.5	0.28	0.1	0.00	0.09	0.03	10
2	13		18.45	18.45	33.115	23.720	417.2	0.054	5.50	102.3	2.4	0.28	0.1	0.00	0.09	0.03	13
	20	ISL	18.44	18.44	33.114	23.722	417.3	0.084	5.50	102.2	2.3	0.28	0.1	0.00	0.09	0.04	20
2	27	A	18.44	18.44	33.112	23.721	417.6	0.113	5.51	102.4	2.3	0.28	0.0	0.00	0.10	0.04	27
	30	ISL	18.44	18.43	33.111	23.720	417.8	0.125	5.51	102.4	2.3	0.28	0.0	0.00	0.10	0.04	30
2	39		18.43	18.42	33.109	23.722	418.0	0.163	5.51	102.4	2.3	0.28	0.0	0.00	0.10	0.03	39
2	50	A	19.04	19.03	33.419	23.807	410.3	0.208	5.44	102.5	2.2	0.25	0.0	0.00	0.12	0.04	50
2	59		18.86	18.85	33.471	23.892	402.5	0.245	5.45	102.3	2.2	0.24	0.0	0.00	0.14	0.05	59
2	68		18.00	17.99	33.448	24.088	384.1	0.280	5.63	104.0	2.3	0.24	0.0	0.00	0.19	0.08	68
	75	ISL	16.58	16.57	33.440	24.419	352.6	0.306	5.87	105.5	2.4	0.23	0.0	0.00	0.23	0.11	75
2	76	A	16.38	16.37	33.442	24.467	348.0	0.310	5.90	105.6	2.4	0.23	0.0	0.00	0.23	0.11	76
2	92		15.52	15.51	33.542	24.738	322.6	0.363	5.81	102.3	2.6	0.24	0.0	0.00	0.24	0.27	92
	100	ISL	15.17	15.15	33.570	24.837	313.4	0.389	5.75	100.5	2.6	0.26	0.0	0.03	0.23	0.28	100
2	106	A	14.97	14.95	33.595	24.900	307.6	0.407	5.69	99.1	2.7	0.27	0.0	0.06	0.21	0.28	106
2	123		14.81	14.79	33.751	25.055	293.3	0.458	5.47	95.0	3.1	0.31	0.7	0.14	0.13	0.23	123
	125	ISL	14.73	14.71	33.762	25.081	290.9	0.464	5.44	94.4	3.2	0.32	0.9	0.13	0.12	0.22	125
2	144	A	13.53	13.51	33.773	25.341	266.5	0.517	5.18	87.7	5.1	0.51	4.3	0.01	0.06	0.13	145
	150	ISL	12.88	12.86	33.705	25.418	259.1	0.533	5.12	85.5	6.2	0.62	5.9	0.01	0.05	0.11	151
2	174		10.28	10.26	33.475	25.718	230.3	0.592	4.82	76.0	12.0	1.08	12.7	0.00	0.03	0.05	175
	200	ISL	8.89	8.87	33.584	26.030	200.7	0.648	4.29	65.6	19.9	1.49	19.2	0.00	0.00	0.02	201
2	204		8.78	8.76	33.615	26.072	196.8	0.656	4.22	64.4	21.0	1.53	19.9	0.00	0.00	0.02	205
2	233		8.49	8.47	33.817	26.275	178.0	0.710	4.20	63.8	24.3	1.55	21.0	0.00			234
	250	ISL	8.26	8.23	33.888	26.366	169.6	0.740	4.00	60.4	27.5	1.64	22.5	0.00			251
2	272		7.97	7.94	33.950	26.458	161.1	0.776	3.62	54.3	32.2	1.80	24.8	0.00			273
	300	ISL	7.72	7.69	34.006	26.539	153.8	0.820	3.05	45.5	38.1	2.00	27.6	0.00			302
2	327		7.47	7.44	34.033	26.596	148.7	0.861	2.54	37.7	43.8	2.18	30.1	0.00			329
2	387		6.57	6.53	34.030	26.717	137.4	0.947	2.10	30.5	55.5	2.44	33.7	0.00			389
	400	ISL	6.46	6.42	34.047	26.745	134.9	0.964	1.90	27.6	58.3	2.51	34.6	0.00			402
2	454		6.07	6.03	34.126	26.858	124.6	1.035	1.07	15.4	69.9	2.80	38.2	0.00			457
	500	ISL	5.66	5.62	34.153	26.931	117.9	1.090	0.78	11.1	78.3	2.94	40.1	0.00			503
2	523		5.45	5.41	34.168	26 968	114.5	1.117	0.64	9.1	82.5	3.01	41.1	0.00			526

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 83 110

LATITUDE	LONGITUDE	DAY/NO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 54.7 N	124 10.4 W	20/10/93	0954 UTC	4182 a	330 08 kn			1020.7 ab	17.5 C	14.9 C			

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/I	CHL-A ug/l	PHAEO ug/I	PRESS db
	0	ISL	19.05	19.05	33.387	23.777	411.3	0.000	5.47	103.0	2.4	0.26	0.0	0.00	0.08	0.03	0
2	1		19.05	19.05	33.387	23.777	411.3	0.004	5.47	103.0	2.4	0.26	0.0	0.00	0.08	0.03	1
	10	ISL	19.06	19.06	33.388	23.776	411.8	0.041	5.47	103.1	2.2	0.26	0.0	0.00	0.08	0.03	10
2	15		19.06	19.06	33.388	23.776	411.9	0.062	5.46	102.9	2.1	0.26	0.0	0.00	0.08	0.03	15
	20	ISL	19.06	19.06	33.388	23.776	412.1	0.082	5.45	102.7	2.1	0.26	0.0	0.00	0.08	0.03	20
2	30		19.07	19.06	33.388	23.774	412.7	0.124	5.44	102.5	2.1	0.26	0.0	0.00	0.09	0.02	30
2	40		19.05	19.04	33.386	23.778	412.6	0.165	5.55 U	104.5 U	2.1	0.25	0.0	0.00	0.09	0.02	40
2	50		19.06	19.05	33.430	23.810	410.0	0.206	5.50	103.6	2.1	0.25	0.0	0.00	0.11	0.03	50
2	60		18.56	18.55	33.469	23.966	395.5	0.246	5.69	106.2	2.1	0.25	0.0	0.00	0.14	0.05	60
2	71		17.44	17.43	33.444	24.220	371.5	0.288	5.81	106.1	2.1	0.26	0.0	0.00	0.19	0.07	71
	75	ISL	17.02	17.01	33.472	24.341	360.1	0.303	5.86	106.2	2.2	0.25	0.0	0.00	0.21	0.09	75
2	80		16.54	16.53	33.513	24.484	346.5	0.321	5.91	106.1	2.4	0.24	0.0	0.00	0.24	0.12	80
2	96		15.81	15.80	33.519	24.656	330.6	0.375	5.81	102.8	2.5	0.28	0.0	0.00	0.22	0.25	96
	100	ISL	15.66	15.64	33.524	24.693	327.1	0.388	5.76	101.7	2.6	0.29	0.1	0.04	0.21	0.26	100
2	110		15.23	15.21	33.541	24.802	317.1	0.420	5.60	98.0	3.0	0.34	0.2	0.12	0.19	0.28	110
2	124		14.31	14.29	33.570	25.022	296.3	0.463	5.36	92.1	4.2	0.48	2.3	0.04	0.11	0.19	124
	125	ISL	14.22	14.20	33.565	25.037	294.9	0.466	5.34	91.6	4.3	0.49	2.5	0.04	0.11	0.18	125
2	148		12.05	12.03	33.450	25.380	262.4	0.530	4.94	80.9	8.1	0.86	8.5	0.01	0.05	0.08	149
	150	ISL	11.89	11.87	33.447	25.408	259.7	0.535	4.92	80.3	8.5	0.89	9.0	0.01	0.05	0.08	151
2	174		10.30	10.28	33.476	25.715	230.6	0.594	4.65	73.3	13.6	1.20	14.2	0.01	0.02	0.04	175
	200	ISL	9.14	9.12	33.647	26.040	199.9	0.650	3.95	60.8	21.2	1.56	20.2	0.00	0.00	0.02	201
2	203		9.05	9.03	33.670	26.073	196.8	0.656	3.87	59.4	22.1	1.60	20.8	0.00	0.00	0.02	204
2	233		8.54	8.52	33.831	26.279	177.7	0.712	3.68	55.9	27.0	1.73	23.2	0.00			234
	250	ISL	8.41	8.38	33.901	26.354	170.8	0.742	3.42	51.8	29.8	1.82	24.7	0.00			251
2	274		8.26	8.23	33.974	26.434	163.6	0.782	3.03	45.8	34.0	1.95	26.7	0.00			275
	300	ISL	7.87	7.84	34.009	26.519	155.7	0.824	2.81	42.1	39.0	2.07	28.5	0.00			302
2	329		7.40	7.37	34.026	26.600	148.2	0.868	2.61	38.7	44.6	2.19	30.3	0.00			331
2	388		6.78	6.74	34.055	26.709	138.4	0.952	1.97	28.8	55.0	2.44	34.0	0.00			390
	400	ISL	6.64	6.60	34.062	26.734	136.2	0.969	1.81	26.4	57.6	2.51	34.8	0.00			402
2	451		6.13	6.09	34.103	26.833	127.1	1.036	1.19	17.1	68.5	2.77	37.9	0.00			454
	500	ISL	5.87	5.83	34.158	26.909	120.2	1.096	0.83	11.9	75.7	2.91	39.6	0.00			503
2	525		5.73	5.68	34.186	26.949	116.7	1.126	0.64	9.1	79.4	2.98	40.4	0.00			528

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 87 33

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD ANT TYPE
33 53.2 N	118 29.4 W	18/10/93	0133 UTC	55 -	250 08 kn	250 02 05	1	1011.5 ab	18.2 C	15.6 C		1/8 CS

CAST	DEPTH -		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/L	NO2 uM/1	CHL-A ug/L	PHAEO ug/l	PRESS db
	0	ISL	19.12	19.12	33.338	23.722	416.6	0.000	5.76	108.6	2.3	0.27	0.2	0.01	0.36	0.08	0
2	2		19.12	19.12	33.338	23.722	416.6	0.008	5.76	108.6	2.3	0.27	0.2	0.01	0.36	0.08	2
2	6		19.12	19.12	33.338	23.722	416.7	0.025	5.76	108.6	2.3	0.27	0.1	0.01	0.33	0.08	6
	10	ISL	19.09	19.09	33.336	23.729	416.3	0.042	5.77	108.7	2.2	0.27	0.2	0.01	0.32	0.07	10
2	11		19.08	19.08	33.335	23.730	416.2	0.046	5.77	108.7	2.2	0.27	0.2	0.01	0.32	0.07	11
	20	ISL	18.48	18.48	33.303	23.857	404.4	0.083	5.88	109.5	2.3	0.31	0.2	0.01	0.31	0.11	20
2	21		18.41	18.41	33.300	23.872	403.0	0.087	5.89	109.6	2.3	0.31	0.2	0.01	0.31	0.11	21
2	30		15.45	15.45	33.166	24.462	346.9	0.121	5.65	99.1	4.4	0.58	0.6	0.11	1.89	0.46	30
2	39		14.23	14.22	33.164	24.723	322.3	0.151	5.60	95.8	5.1	0.67	1.5	0.23	0.32	0.20	39
2	50		13.33	13.32	33.222	24.952	300.7	0.185	5.23	87.9	6.8	0.82	4.8	0.43	0.19	0.23	50

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 87 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 49.2 N	118 37.8 W	18/10/93	0326 UTC	679 -	300 12 kn			1012.1 ab	17.9 C	15.5 C		

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/1	PO4 uM/l	NO3 uM/1	NO2 uM/I	CHL-A ug/l	PHAEO ug/1	PRESS db
	0	ISL	18.96	18.96	33.345	23.768	412.2	0.000	5.64	106.0	2.2	0.27	0.1	0.00	0.20	0.07	0
2	2		18.96	18.96	33.345	23.768	412.3	0.008	5.64	106.0	2.2	0.27	0.1	0.00	0.20	0.07	2
	10	ISL	18.84	18.84	33.339	23.794	410.1	0.041	5.67	106.4	2.2	0.27	0.1	0.00	0.21	0.08	10
2	11		18.82	18.82	33.338	23.798	409.7	0.045	5.67	106.3	2.2	0.27	0.1	0.00	0.21	0.08	11
	20	ISL	17.05	17.05	33.235	24.150	376.4	0.081	5.91	107.0	2.8	0.35	0.1	0.01	0.65	0.31	20
2	21		16.82	16.82	33.225	24.196	372.0	0.084	5.94	107.1	2.9	0.36	0.1	0.01	0.70	0.34	21
	30	ISL	15.58	15.58	33.195	24.455	347.6	0.117	6.02	105.9	3.1	0.37	0.1	0.00	0.65	0.32	30
2	31		15.44	15.44	33.193	24.485	344.8	0.120	6.03	105.8	3.1	0.37	0.1	0.00	0.64	0.32	31
2	40		13.62	13.61	33.181	24.861	309.1	0.150	5.46	92.3	5.4	0.73	2.9	0.39	0.28	0.21	40
2	50		12.65	12.64	33.277	25.129	283.8	0.179	5.07	84.0	7.2	0.83	6.8	0.25	0.22	0.25	50
2	60		12.47	12.46	33.291	25.175	279.7	0.207	4.96	81.9	7.8	0.89	7.8	0.14	0.19	0.24	60
2	71		12.26	12.25	33.301	25.223	275.4	0.238	4.87	80.0	8.4	0.94	8.7	0.09	0.17	0.20	71
	75	ISL	12.10	12.09	33.311	25.261	271.8	0.249	4.80	78.6	8.8	0.98	9.3	0.07	0.17	0.20	75
2	85		11.67	11.66	33.348	25.370	261.6	0.276	4.57	74.2	10.3	1.09	11.3	0.03	0.16	0.22	85
2	100		11.16	11.15	33.417	25.517	247.9	0.314	4.13	66.4	13.3	1.29	14.3	0.01	0.13	0.21	100
2	119		10.78	10.77	33.463	25.621	238.5	0.360	3.97	63.3	15.1	1.40	16.1	0.01	0.05	0.12	120
	125	ISL	10.58	10.57	33.477	25.667	234.2	0.374	3.95	62.7	15.8	1.43	16.8	0.01	0.04	0.10	126
2	145		9.91	9.89	33.548	25.836	218.3	0.419	3.82	59.8	18.6	1.56	19.2	0.00	0.02	0.07	146
	150	ISL	9.77	9.75	33.581	25.886	213.7	0.430	3.73	58.2	19.7	1.60	20.0	0.00	0.02	0.06	151
2	174		9.27	9.25	33.756	26.104	193.3	0.479	3.24	50.0	25.0	1.80	23.3	0.00	0.01	0.05	175
	200	ISL	9.24	9.22	33.906	26.227	182.2	0.528	2.82	43.6	28.3	1.94	25.1	0.01	0.00	0.04	201
2	204		9.23	9.21	33.922	26.241	181.0	0.535	2.76	42.6	28.8	1.96	25.3	0.01	0.00	0.04	205
2	233		9.24	9.21	34.070	26.356	170.7	0.586	2.18	33.7	33.4	2.15	27.4	0.00			234
	250	ISL	8.99	8.96	34.123	26.438	163.2	0.615	1.92	29.5	37.1	2.26	28.8	0.00			251
2	273		8.58	8.55	34.172	26.540	153.7	0.651	1.64	25.0	42.0	2.40	30.5	0.00			275
	300	ISL	8.30	8.27	34.204	26.609	147.6	0.692	1.43	21.7	45.6	2.50	31.7	0.00			302
2	329		8.05	8.02	34.222	26.661	143.1	0.734	1.25	18.8	49.2	2.59	32.8	0.00			331
2	386		7.40	7.36	34.259	26.785	131.8	0.812	0.78	11.6	59.4	2.79	35.7	0.00			388
	400	ISL	7.30	7.26	34.262	26.801	130.4	0.831	0.73	10.8	60.8	2.82	36.1	0.00			403
2	453		6.95	6.91	34.268	26.855	125.9	0.898	0.62	9.1	66.0	2.91	37.1	0.01			456
	500	ISL	6.49	6.44	34.287	26.932	118.8	0.956	0.48	7.0	73.7	3.01	38.4	0.00			503
2	521		6.28	6.23	34.296	26.967	115.6	0.981	0.42	6.1	77.2	3.06	39.0	0.00			525

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 87 40

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 39.4 N	118 58.4 W	18/10/93	0654 UTC	748 a	00 kn			1013.0 ab	17.5 C	15.0 C		

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/I	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	19.45	19.45	33.383	23.672	421.3	0.000	5.46	103.6	2.1	0.27	0.3	0.00	0.20	0.06	0
2	1		19.45	19.45	33.383	23.672	421.3	0.004	5.46	103.6	2.1	0.27	0.3	0.00	0.20	0.06	1
2	10		19.42	19.42	33.380	23.678	421.1	0.042	5.46	103.6	1.8	0.26	0.2	0.00	0.20	0.07	10
	20	ISL	16.70	16.70	33.275	24.262	365.7	0.081	5.89	106.0	2.1	0.30	0.2	0.00	0.32	0.13	20
2	21		16.38	16.38	33.268	24.331	359.2	0.085	5.93	106.0	2.1	0.31	0.2	0.00	0.33	0.14	21
2	30		14.76	14.76	33.228	24.659	328.1	0.116	5.89	101.9	3.4	0.42	0.8	0.05	1.18	0.58	30
2	41		13.47	13.46	33.222	24.924	303.2	0.151	5.49	92.5	5.3	0.64	4.0	0.36	0.56	0.40	41
2	50		12.49	12.48	33.260	25.146	282.1	0.177	5.03	83.1	7.8	0.87	8.0	0.08	0.32	0.36	50
2	60		11.76	11.75	33.306	25.320	265.8	0.204	4.72	76.8	9.9	1.05	10.9	0.02	0.20	0.28	60
2	70		11.39	11.38	33.340	25.415	257.0	0.231	4.57	73.8	11.1	1.15	12.4	0.02	0.14	0.30	70
	73	ISL	11.27	11.26	33.352	25.446	254.1	0.243	4.51	72.6	11.5	1.18	12.8	0.02	0.13	0.27	75
2	84		11.04	11.03	33.379	25.509	248.4	0.266	4.38	70.2	12.6	1.23	13.8	0.01	0.12	0.19	84
2	100		10.22	10.21	33.495	25.742	226.4	0.304	3.96	62.4	16.7	1.44	17.6	0.01	0.03	0.08	100
2	119		9.67	9.66	33.593	25.911	210.7	0.345	3.68	57.3	20.1	1.60	20.2	0.00	0.01	0.06	120
	125	ISL	9.60	9.59	33.651	25.968	205.4	0.358	3.51	54.6	21.4	1.66	21.1	0.00	0.01	0.06	126
2	145		9.47	9.45	33.849	26.144	189.0	0.397	2.92	45.3	25.9	1.85	23.9	0.00	0.00	0.06	146
	150	ISL	9.41	9.39	33.882	26.180	185.7	0.407	2.82	43.7	26.9	1.89	24.5	0.00	0.00	0.06	151
2	175		9.12	9.10	34.010	26.327	172.2	0.452	2.43	37.5	31.9	2.06	26.8	0.01	0.00	0.05	176
	200	ISL	8.91	8.89	34.110	26.439	162.0	0.493	2.04	31.3	36.6	2.19	28.5	0.01	0.00	0.05	201
2	204		8.88	8.86	34.122	26.453	160.7	0.500	1.99	30.5	37.3	2.21	28.7	0.01	0.00	0.05	205
2	232		8.72	8.70	34.172	26.518	155.1	0.544	1.78	27.2	40.0	2.32	29.7	0.00			233
	250	ISL	8.60	8.57	34.190	26.551	152.3	0.572	1.65	25.2	41.7	2.38	30.3	0.00			251
2	272		8.43	8.40	34.205	26.589	149.0	0.605	1.50	22.8	44.0	2.45	31.1	0.01			274
	300	ISL	8.17	8.14	34.224	26.644	144.2	0.646	1.30	19.6	47.6	2.55	32.3	0.01			302
2	325		7.92	7.89	34.238	26.692	139.9	0.681	1.12	16.8	51.1	2.63	33.4	0.01			327
2	387		7.40	7.36	34.266	26.790	131.4	0.765	0.76	11.3	59.2	2.79	35.7	0.00			389
	400	ISL	7.28	7.24	34.268	26.809	129.7	0.782	0.71	10.5	60.9	2.82	36.1	0.00			403
2	452		6.85	6.81	34.276	26.875	123.9	0.848	0.57	8.4	67.2	2.91	37.6	0.00			455
	500	ISL	6.58	6.53	34.287	26.920	120.1	0.907	0.49	7.1	71.6	2.99	38.4	0.00			503
2	526		6.44	6.39	34.293	26.944	118.1	0.938	0.45	6.5	74.0	3.03	38.9	0.00			530

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 87 45

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 29.6 N	119 19.3 W	18/10/93	1032 UTC	1647 •	260 09 kn			1013.3 ab	16.9 C	13.0 C		

CAST	DEPTH •		TEMP DE6 C	POT TEMP DEC C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/L	OXY PCT	SIO3 uM/1	PO4 uM/l	NO3 uM/1	NO2 uM/I	CHL-A ug/L	PHAEO ug/1	PRESS db
	0	ISL	18.63	18.63	33.362	23.864	403.1	0.000	5.55	103.7	2.6	0.31	0.4	0.00	0.21	0.08	0
2	1		18.63	18.63	33.362	23.864	403.1	0.004	5.55	103.7	2.6	0.31	0.4	0.00	0.21	0.08	1
2	10		18.59	18.59	33.359	23.872	402.6	0.040	5.52	103.1	2.5	0.31	0.4	0.00	0.27	0.06	10
2	19		17.23	17.23	33.319	24.172	374.3	0.075	5.75	104.6	2.5	0.33	0.4	0.00	0.33	0.16	19
	20	ISL	17.08	17.08	33.315	24.204	371.2	0.079	5.75	104.3	2.5	0.33	0.4	0.00	0.39	0.20	20
2	30		15.29	15.29	33.248	24.560	337.6	0.114	5.75	100.6	3.0	0.41	0.7	0.03	0.83	0.51	30
2	40		12.79	12.78	33.134	24.990	296.7	0.146	5.50	91.3	5.6	0.64	4.1	0.18	0.47	0.36	40
2	50		12.38	12.37	33.169	25.097	286.8	0.175	5.25	86.4	7.4	0.81	6.7	0.11	0.33	0.31	50
2	59		11.25	11.24	33.256	25.375	260.5	0.200	4.75	76.4	11.3	1.06	11.7	0.03	0.17	0.22	59
2	69		11.03	11.02	33.355	25.491	249.6	0.225	4.49	71.9	13.4	1.25	13.9	0.03	0.14	0.20	69
	75	ISL	10.86	10.85	33.378	25.539	245.2	0.240	4.38	69.9	14.3	1.31	14.8	0.03	0.12	0.21	75
2	85		10.49	10.48	33.417	25.635	236.3	0.264	4.19	66.3	15.9	1.40	16.4	0.02	0.08	0.22	85
2	99		9.79	9.78	33.573	25.875	213.7	0.296	3.81	59.5	20.0	1.58	19.7	0.01	0.02	0.08	99
	100	ISL	9.76	9.75	33.583	25.888	212.4	0.298	3.78	59.0	20.3	1.59	19.9	0.01	0.02	0.08	100
2	119		9.34	9.33	33.748	26.086	194.0	0.337	3.35	51.8	24.7	1.78	22.9	0.01	0.01	0.06	120
	125	ISL	9.29	9.28	33.780	26.119	190.9	0.348	3.25	50.2	25.6	1.82	23.4	0.01	0.01	0.05	126
2	145		9.19	9.17	33.857	26.196	184.1	0.386	3.01	46.4	27.8	1.91	24.6	0.01	0.01	0.04	146
	150	ISL	9.14	9.12	33.876	26.219	182.0	0.395	2.96	45.6	28.4	1.93	24.9	0.01	0.01	0.04	151
2	174		8.96	8.94	33.964	26.317	173.1	0.437	2.74	42.1	31.4	2.03	26.3	0.01	0.00	0.04	175
	200	ISL	8.97	8.95	34.044	26.378	167.8	0.482	2.42	37.2	33.8	2.12	27.3	0.01	0.00	0.04	201
2	206		8.97	8.95	34.063	26.393	166.5	0.492	2.34	36.0	34.5	2.14	27.6	0.01	0.00	0.04	207
2	234		8.63	8.61	34.149	26.514	155.5	0.537	1.88	28.7	40.3	2.33	29.9	0.02			235
	250	ISL	8.50	8.47	34.171	26.552	152.2	0.561	1.76	26.8	42.4	2.39	30.6	0.02			251
2	272		8.36	8.33	34.186	26.585	149.3	0.595	1.65	25.0	44.7	2.45	31.3	0.02			274
	300	ISL	8.21	8.18	34.208	26.625	146.0	0.636	1.46	22.1	47.2	2.53	32.2	0.02			302
2	329		8.05	8.02	34.226	26.664	142.8	0.678	1.26	19.0	49.8	2.62	33.1	0.02			331
2	388		7.52	7.48	34.243	26.755	134.8	0.760	0.94	14.0	57.2	2.79	35.3	0.01			390
	400	ISL	7.40	7.36	34.248	26.776	132.9	0.776	0.89	13.2	59.0	2.81	35.7	0.01			403
2	451		6.93	6.89	34.268	26.858	125.6	0.842	0.71	10.4	66.5	2.91	37.5	0.01			454
	500	ISL	6.57	6.52	34.284	26.919	120.2	0.902	0.56	8.2	72.3	3.01	38.9	0.00			503
2	523		6.40	6.35	34.292	26.948	117.6	0.929	0.49	7.1	75.0	3.06	39.6	0.00			527

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 19.4 N	119 39.9 W	18/10/93	1417 UTC	78 •	320 06 kn	300 05 07	0	1013.9 ab	16.7 C	15.0 C	19a 03	0/8

CAST	DEPTH a		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SIfiNA THETA	SVA	DYN HT	OXY6EN al/L	OXY PCT	SIO3 uM/1	PO4 uM/l	NO3 uM/1	NO2 uM/1	CHL-A ug/L	PHAEO ug/1	PRESS db
	0	ISL	17.31	17.31	33.330	24.161	374.7	0.000	5.61	102.2	2.1	0.35	0.3	0.00	0.41	0.17	0
2	3		17.31	17.31	33.330	24.161	374.8	0.011	5.61	102.2	2.1	0.35	0.3	0.00	0.41	0.17	3
	10	ISL	17.31	17.31	33.331	24.162	375.0	0.037	5.62	102.4	2.1	0.34	0.3	0.00	0.42	0.17	10
2	11		17.31	17.31	33.331	24.162	375.0	0.041	5.62	102.4	2.1	0.34	0.3	0.00	0.42	0.17	11
2	20		16.90	16.90	33.320	24.250	366.9	0.075	5.64	101.9	2.2	0.37	0.6	0.02	0.64	0.29	20
2	30		16.68	16.68	33.312	24.296	362.8	0.111	5.62	101.1	2.3	0.38	0.6	0.03	0.64	0.32	30
2	39		16.30	16.29	33.309	24.381	355.0	0.143	5.62	100.3	2.5	0.41	0.9	0.04	0.65	0.34	39
2	50		15.27	15.26	33.314	24.616	332.9	0.181	5.40	94.5	4.7	0.59	3.4	0.06	0.65	0.36	50
2	59		14.01	14.00	33.295	24.870	308.8	0.210	5.19	88.5	6.6	0.74	5.6	0.13	0.46	0.38	59
2	70		11.53	11.52	33.347	25.395	258.9	0.241	4.57	74.0	12.4	1.15	12.3	0.11	0.19	0.25	70

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 87 55

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 9.3 N	120 0.0 W	18/10/93	1805 UTC	1216 a	320 12 kn	320 05 05	1	1015.5 ab	17.8 C	15.9 C	21a 03	1/8 SC

CAST	DEPTH •		TEMP DEG C	POT TEMP DEC C	SALINITY	SI6NA THETA	SVA	DYN HT	OXY6EN al/L	OXY PCT	SIO3 uM/l	PO4 uH/L	NO3 uH/L	NO2 uM/t	CHL-A ug/L	PHAEO ug/I	PRESS db
	0	ISL	17.83	17.83	33.396	24.086	381.8	0.000	5.58	102.7	2.3	0.30	0.3	0.00	0.27	0.09	0
2	1	A	17.83	17.83	33.396	24.086	381.8	0.004	5.58	102.7	2.3	0.30	0.3	0.00	0.27	0.09	1
	10	ISL	17.80	17.80	33.396	24.094	381.4	0.038	5.58	102.6	2.2	0.30	0.3	0.00	0.27	0.09	10
2	14	A	17.79	17.79	33.396	24.097	381.3	0.053	5.58	102.6	2.2	0.30	0.3	0.00	0.27	0.09	14
	20	ISL	17.59	17.59	33.388	24.139	377.5	0.076	5.62	103.0	2.1	0.30	0.3	0.00	0.35	0.12	20
2	27	A	17.29	17.29	33.376	24.202	371.7	0.102	5.68	103.4	2.1	0.31	0.3	0.01	0.47	0.18	27
	30	ISL	17.26	17.26	33.376	24.209	371.1	0.114	5.69	103.6	2.1	0.31	0.3	0.01	0.52	0.20	30
2	40	A	16.79	16.78	33.359	24.307	362.1	0.150	5.73	103.3	2.2	0.33	0.3	0.01	0.71	0.31	40
2	48		15.49	15.48	33.318	24.571	337.1	0.178	5.59	98.2	3.8	0.47	2.0	0.11	0.89	0.52	48
	50	ISL	14.88	14.87	33.291	24.683	326.5	0.185	5.50	95.4	4.7	0.54	3.0	0.16	0.81	0.51	50
2	56	A	13.06	13.05	33.247	25.025	293.9	0.203	5.17	86.4	7.7	0.79	6.7	0.26	0.50	0.42	56
2	66		11.57	11.56	33.335	25.394	258.9	0.231	4.51	73.1	12.5	1.15	12.7	0.10	0.25	0.28	66
	75	ISL	10.72	10.71	33.439	25.612	238.3	0.253	4.10	65.3	15.8	1.36	16.2	0.05	0.15	0.23	75
2	77	A	10.59	10.58	33.454	25.646	235.1	0.258	4.03	64.0	16.4	1.39	16.8	0.04	0.14	0.22	77
2	95		10.08	10.07	33.521	25.786	222.1	0.299	3.78	59.4	18.8	1.52	19.1	0.02	0.08	0.14	95
	100	ISL	9.89	9.88	33.560	25.848	216.2	0.310	3.66	57.2	20.0	1.58	20.1	0.02	0.06	0.11	100
2	110		9.54	9.53	33.637	25.966	205.2	0.331	3.43	53.3	22.4	1.69	21.9	0.02	0.03	0.07	111
2	123		9.33	9.32	33.690	26.042	198.2	0.358	3.32	51.3	24.0	1.75	23.0	0.04	0.02	0.06	124
	125	ISL	9.29	9.28	33.702	26.058	196.7	0.362	3.30	51.0	24.4	1.76	23.2	0.04	0.02	0.06	126
2	149		8.87	8.85	33.849	26.240	179.8	0.407	2.99	45.8	29.1	1.89	25.4	0.02	0.01	0.05	150
	150	ISL	8.86	8.84	33.855	26.246	179.2	0.409	2.98	45.6	29.3	1.90	25.5	0.02	0.01	0.05	151
2	174		8.61	8.59	33.966	26.373	167.7	0.450	2.68	40.8	33.3	2.01	27.2	0.01	0.00	0.05	175
	200	ISL	8.45	8.43	34.017	26.438	162.0	0.493	2.49	37.8	36.0	2.09	28.2	0.01	0.00	0.05	201
2	203		8.44	8.42	34.020	26.442	161.6	0.498	2.47	37.5	36.2	2.10	28.3	0.01	0.00	0.05	204
2	232		8.31	8.29	34.060	26.493	157.3	0.544	2.31	35.0	38.7	2.17	29.3	0.01			233
	250	ISL	8.19	8.16	34.080	26.527	154.3	0.572	2.21	33.4	40.5	2.22	29.9	0.01			251
2	273		8.02	7.99	34.102	26.570	150.6	0.607	2.06	31.0	43.0	2.29	30.7	0.01			275
	300	ISL	7.83	7.80	34.124	26.616	146.6	0.647	1.86	27.9	46.2	2.38	31.7	0.01			302
2	327		7.62	7.59	34.144	26.662	142.6	0.686	1.63	24.3	49.8	2.47	32.9	0.01			329
2	388		6.93	6.89	34.191	26.796	130.3	0.770	1.05	15.4	60.4	2.73	36.2	0.01			390
	400	ISL	6.83	6.79	34.200	26.817	128.5	0.785	0.96	14.1	62.4	2.77	36.7	0.01			403
2	454		6.45	6.41	34.240	26.900	121.1	0.853	0.62	9.0	70.8	2.92	38.7	0.01			457
	500	ISL	6.15	6.11	34.274	26.966	115.3	0.907	0.47	6.8	76.8	3.01	39.9	0.01			503
2	524		6.00	5.95	34.292	26.999	112.3	0.934	0.39	5.6	79.9	3.06	40.5	0.01			528

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 87 60

LATITUDE	LONGITUDE '	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	UEA	BAROMETER	DRY	WET	SECCHI/FOREL		CLD AMT	TYPE
32 59.8 N	120 22.5 W	18/10/93	2219 UTC	737 ▪	310 19 kn	320 05 05	1	1015.6 ab	17.3 C	16.0 C	21a	02	3/8	SC

CAST	DEPTH a		TEMP DE6 C	POT TEMP DEC C	SALINITY	▪ SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/1	PO4 uM/L	NO3 uM/l	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	17.45	17.45	33.274	24.084	382.0	0.000	5.65	103.2	2.4	0.33	0.3	0.00	0.18	0.05	0
2	2		17.45	17.45	33.274	24.084	382.1	0.008	5.65	103.2	2.4	0.33	0.3	0.00	0.18	0.05	2
2	10		17.46	17.46	33.272	24.081	382.7	0.038	5.65	103.2	2.2	0.32	0.3	0.00	0.18	0.05	10
2	20		17.44	17.44	33.272	24.086	382.5	0.076	5.64	103.0	2.1	0.32	0.3	0.00	0.18	0.05	20
2	30		17.12	17.12	33.308	24.190	372.9	0.114	5.68	103.1	2.1	0.32	0.3	0.00	0.30	0.12	30
2	40		17.06	17.05	33.304	24.201	372.2	0.152	5.69	103.1	1.9	0.32	0.3	0.00	0.33	0.14	40
2	49		16.70	16.69	33.286	24.272	365.7	0.185	5.69	102.4	1.9	0.33	0.3	0.00	0.59	0.30	49
	50	ISL	16.66	16.65	33.282	24.278	365.2	0.188	5.68	102.1	2.0	0.34	0.4	0.00	0.60	0.32	50
2	59		15.94	15.93	33.250	24.418	352.0	0.221	5.63	99.8	2.5	0.39	0.8	0.06	0.73	0.43	59
2	69		13.78	13.77	33.266	24.895	306.7	0.254	5.19	88.0	6.3	0.73	5.8	0.21	0.34	0.31	69
	75	ISL	12.77	12.76	33.287	25.114	285.9	0.271	4.92	81.7	8.6	0.91	8.7	0.17	0.22	0.25	75
2	87		11.25	11.24	33.339	25.440	255.0	0.304	4.45	71.6	12.9	1.21	13.8	0.03	0.12	0.17	87
2	100		10.25	10.24	33.394	25.658	234.4	0.336	4.17	65.7	16.4	1.43	17.3	0.02	0.05	0.12	100
2	117		9.35	9.34	33.480	25.875	214.0	0.374	4.01	61.9	19.7	1.59	20.0	0.01	0.01	0.05	118
	125	ISL	9.15	9.14	33.511	25.931	208.7	0.391	3.96	60.9	20.5	1.62	20.7	0.01	0.01	0.04	126
2	143		8.94	8.92	33.592	26.028	199.8	0.427	3.78	57.9	22.4	1.68	22.0	0.01	0.00	0.03	144
	150	ISL	8.90	8.88	33.652	26.081	194.9	0.441	3.61	55.3	23.8	1.74	22.8	0.01	0.00	0.03	151
2	174		8.81	8.79	33.864	26.262	178.3	0.486	2.96	45.3	29.2	1.94	25.5	0.00	0.00	0.03	175
	200	ISL	8.63	8.61	34.005	26.401	165.5	0.531	2.51	38.3	34.3	2.09	27.8	0.00	0.00	0.04	201
2	206		8.58	8.56	34.026	26.425	163.3	0.541	2.43	37.0	35.3	2.12	28.2	0.00	0.00	0.04	207
2	233		8.32	8.30	34.073	26.502	156.5	0.584	2.23	33.8	38.9	2.22	29.5	0.00			234
	250	ISL	8.06	8.03	34.090	26.554	151.7	0.610	2.08	31.3	42.1	2.29	30.7	0.00			251
2	272		7.73	7.70	34.109	26.618	145.8	0.643	1.86	27.8	46.5	2.39	32.2	0.00			274
	300	ISL	7.50	7.47	34.142	26.677	140.6	0.683	1.53	22.7	52.1	2.55	33.9	0.00			302
2	330		7.28	7.25	34.176	26.735	135.4	0.724	1.18	17.5	56.4	2.69	35.2	0.00			332
2	379		6.66	6.63	34.218	26.854	124.5	0.788	0.77	11.2	56.1	2.69	35.2	0.00			381
	400	ISL	6.52	6.48	34.229	26.881	122.2	0.814	0.68	9.9	60.2	2.77	36.3	0.00			403
2	456		6.29	6.25	34.253	26.931	118.1	0.881	0.53	7.7	73.5	3.01	39.7	0.00			459
	500	ISL	6.05	6.01	34.281	26.984	113.4	0.932	0.42	6.0	78.3	3.08	40.6	0.00			503
2	523		5.93	5.88	34.296	27.011	111.1	0.958	0.37	5.3	80.8	3.12	41.0	0.00			527

RV NEW HORI2ON CALCOFI CRUISE 9310 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL		CLD AMT	TYPE
32 39.3 N	121 2.1 W	19/10/93	0412 UTC	3799 a	330 15 kn			1017.2 ab	17.7 C	16.8 C				

CAST	DEPTH a		TEMP DE6 C	POT TEMP DEC C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	17.84	17.84	33.032	23.805	408.6	0.000	5.58	102.5	2.5	0.31	0.0	0.00	0.11	0.03	0
2	2		17.84	17.84	33.032	23.805	408.7	0.008	5.58	102.5	2.5	0.31	0.0	0.00	0.11	0.03	2
2	10		17.84	17.84	33.032	23.806	408.9	0.041	5.60	102.9	2.5	0.31	0.0	0.00	0.11	0.03	10
2	20		17.62	17.62	33.037	23.863	403.8	0.082	5.58	102.1	2.5	0.31	0.0	0.00	0.12	0.03	20
	30	ISL	16.89	16.89	33.046	24.043	386.9	0.121	5.77	104.1	2.5	0.33	0.0	0.00	0.17	0.07	30
2	31		16.82	16.81	33.048	24.061	385.3	0.125	5.79	104.3	2.5	0.33	0.0	0.00	0.18	0.08	31
2	41		16.51	16.50	33.093	24.167	375.4	0.163	5.82	104.2	2.5	0.34	0.0	0.00	0.27	0.14	41
	50	ISL	15.99	15.98	33.150	24.3-30	360.2	0.196	5.85	103.7	2.5	0.36	0.0	0.01	0.43	0.26	50
2	51		15.89	15.88	33.151	24.353	358.0	0.200	5.86	103.7	2.5	0.36	0.0	0.01	0.45	0.28	51
2	60		14.18	14.17	33.008	24.613	333.3	0.231	5.98	102.1	2.9	0.41	0.3	0.08	0.61	0.45	60
2	70		13.18	13.17	32.980	24.795	316.1	0.263	5.87	98.2	3.4	0.46	0.7	0.16	0.44	0.37	70
	75	ISL	12.91	12.90	33.008	24.870	309.1	0.279	5.76	95.8	3.8	0.50	1.5	0.13	0.33	0.31	75
2	85		12.44	12.43	33.087	25.023	294.8	0.309	5.46	90.0	5.1	0.64	4.1	0.04	0.15	0.19	85
2	100		11.23	11.22	33.180	25.320	266.7	0.331	4.93	79.2	9.3	0.97	9.7	0.01	0.06	0.14	100
2	120		9.91	9.90	33.382	25.706	230.1	0.401	4.54	71.0	14.6	1.27	15.2	0.01	0.03	0.05	121
	125	ISL	9.68	9.67	33.420	25.774	223.7	0.412	4.40	68.4	16.2	1.35	16.6	0.01	0.02	0.05	126
2	144		9.02	9.00	33.547	25.980	204.4	0.453	3.88	59.5	21.9	1.64	21.1	0.01	0.01	0.03	145
	150	ISL	8.87	8.85	33.590	26.037	199.1	0.465	3.78	57.8	23.2	1.69	22.0	0.01	0.01	0.03	151
2	175		8.45	8.43	33.753	26.230	181.1	0.512	3.45	52.3	27.8	1.83	24.4	0.00	0.00	0.03	176
	200	ISL	8.22	8.20	33.878	26.363	168.9	0.556	3.06	46.2	32.1	1.96	26.6	0.00	0.00	0.02	201
2	204		8.18	8.16	33.894	26.382	167.2	0.563	3.02	45.5	32.7	1.97	26.8	0.00	0.00	0.02	205
2	233		7.67	7.65	33.960	26.509	155.4	0.610	3.33	49.7	36.3	1.91	26.7	0.00			234
	250	ISL	7.48	7.46	33.984	26.555	151.2	0.636	3.14	46.6	39.5	1.99	27.8	0.00			251
2	272		7.26	7.23	34.004	26.602	147.0	0.669	2.74	40.5	44.4	2.14	29.8	0.00			274
	300	ISL	6.81	6.78	34.013	26.671	140.7	0.709	2.35	34.4	51.3	2.31	32.3	0.00			302
2	327		6.40	6.37	34.021	26.732	135.0	0.746	2.00	29.0	57.7	2.46	34.5	0.00			329
2	387		6.07	6.04	34.078	26.820	127.3	0.825	1.30	18.7	67.4	2.72	37.5	0.00			389
	400	ISL	5.95	5.92	34.086	26.841	125.3	0.841	1.16	16.6	69.9	2.76	38.1	0.00			402
2	454		5.46	5.42	34.119	26.928	117.4	0.907	0.71	10.1	79.9	2.92	40.4	0.00			457
	500	ISL	5.21	5.17	34.162	26.991	111.7	0.959	0.57	8.0	86.6	3.03	41.5	0.01			503
2	527		5.07	5.03	34.188	27.028	108.4	0.989	0.48	6.7	90.6	3.09	42.1	0.01			531

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 19.* N	121 43.6 W	19/10/93	0958 UTC	4061 -	310 16 kn			1017.3 ab	16.9 C	15.2 C		

CAST	DEPTH -		TEMP DEC C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/L	PO4 uM/l	NO3 uM/I	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	18.36	18.36	33.119	23.745	414.4	0.000	5.54	102.8	2.4	0.27	0.1	0.00	0.10	0.03	0
2	1		18.36	18.36	33.119	23.745	414.4	0.004	5.54	102.8	2.4	0.27	0.1	0.00	0.10	0.03	1
	10	ISL	18.37	18.37	33.119	23.743	414.9	0.041	5.53	102.7	2.3	0.27	0.0	0.00	0.10	0.03	10
2	15		18.38	18.38	33.119	23.740	415.3	0.062	5.53	102.7	2.3	0.27	0.0	0.00	0.10	0.03	15
	20	ISL	18.38	18.38	33.119	23.741	415.5	0.083	5.53	102.7	2.3	0.27	0.0	0.00	0.10	0.03	20
2	30		18.38	18.37	33.119	23.741	415.8	0.125	5.54	102.9	2.2	0.27	0.0	0.00	0.10	0.03	30
2	40		18.36	18.35	33.128	23.753	415.0	0.166	5.52	102.5	2.2	0.26	0.0	0.00	0.10	0.03	40
	50	ISL	18.40	18.39	33.233	23.824	408.6	0.207	5.55	103.2	2.2	0.25	0.0	0.00	0.13	0.04	50
2	51		18.40	18.39	33.264 U	23.848 U		0.211	5.55	103.2	2.2	0.25	0.0	0.00	0.13	0.04	51
2	60		18.67	18.66	33.339	23.839	407.6	0.248	5.64	105.4	2.2	0.25	0.0	0.00	0.16	0.06	60
2	69		17.98	17.97	33.495	24.129	380.2	0.284	5.74	106.0	2.3	0.22	0.0	0.00	0.18	0.07	69
	75	ISL	16.79	16.78	33.431	24.363	357.9	0.306	5.86	105.7	2.4	0.23	0.0	0.00	0.21	0.11	75
2	80		15.81	15.80	33.378	24.547	340.5	0.323	5.94	105.1	2.4	0.25	0.0	0.00	0.23	0.16	80
2	95		15.43	15.42	33.614	24.813	315.5	0.372	5.78	101.6	2.5	0.24	0.0	0.01	0.25	0.29	95
	100	ISL	14.45	14.44	33.463	24.909	306.4	0.388	5.67	97.6	3.3	0.35	1.1	0.02	0.22	0.28	100
2	112		12.36	12.35	33.192	25.120	286.2	0.423	5.37	88.4	5.5	0.64	4.4	0.03	0.14	0.26	112
2	123		12.69	12.67	33.450	25.257	273.6	0.454	5.15	85.5	6.7	0.70	6.3	0.02	0.12	0.13	123
	125	ISL	12.59	12.57	33.459	25.283	271.1	0.460	5.11	84.7	7.1	0.73	6.8	0.02	0.11	0.12	125
2	149		10.60	10.58	33.400	25.604	240.7	0.521	4.63	73.5	12.8	1.17	13.6	0.01	0.04	0.06	150
	150	ISL	10.54	10.52	33.403	25.616	239.5	0.523	4.60	72.9	13.1	1.19	13.9	0.01	0.04	0.06	151
2	175		9.36	9.34	33.513	25.900	212.7	0.580	4.06	62.7	20.1	1.56	20.0	0.01	0.01	0.03	176
	200	ISL	8.51	8.49	33.670	26.156	188.6	0.630	3.95	59.9	24.6	1.68	22.3	0.00	0.00	0.02	201
2	204		8.42	8.40	33.698	26.192	185.2	0.638	3.93	59.5	25.1	1.68	22.4	0.00	0.00	0.02	205
2	233		8.26	8.24	33.902	26.377	168.2	0.689	3.81	57.6	28.7	1.70	23.2	0.00			234
	250	ISL	8.07	8.04	33.946	26.440	162.5	0.717	3.76	56.6	31.0	1.74	24.0	0.00			251
2	275		7.72	7.69	33.966	26.507	156.4	0.757	3.61	53.9	35.0	1.84	25.6	0.00			276
	300	ISL	7.37	7.34	33.987	26.574	150.3	0.795	3.21	47.5	40.7	2.00	28.0	0.00			302
2	329		6.95	6.92	34.003	26.645	143.7	0.838	2.67	39.2	48.1	2.21	31.0	0.00			331
2	386		6.16	6.13	34.026	26.767	132.3	0.916	1.86	26.8	61.7	2.55	35.6	0.00			388
	400	ISL	6.03	6.00	34.036	26.792	130.1	0.935	1.69	24.3	64.7	2.62	36.5	0.00			402
2	452		5.63	5.59	34.081	26.877	122.3	1.000	1.18	16.8	74.7	2.82	39.2	0.00			455
	500	ISL	5.32	5.28	34.125	26.949	115.8	1.058	0.85	12.0	82.8	2.95	40.8	0.00			503
2	522		5.18	5.14	34.145	26.982	112.8	1.083	0.70	9.9	86.5	3.01	41.5	0.00			525

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 87 90

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 59.5 N	122 23.9 W	19/10/93	1828 UTC	4106 -	350 16 kn	350 04 07	1	1020.0 ab	18.2 C	15.9 C	37a 01	1/8 SC

CAST	DEPTH a		TEMP DES C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/I	PO4 uN/l	NO3 uM/I	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	19.01	19.01	33.279	23.705	418.2	0.000	5.43	102.1	2.4	0.28	0.1	0.00	0.08	0.02	0
2	2	A	19.01	19.01	33.279	23.705	418.3	0.008	5.43	102.1	2.4	0.28	0.1	0.00	0.08	0.02	2
	10	ISL	18.98	18.98	33.277	23.711	417.9	0.042	5.44	102.3	2.3	0.27	0.0	0.00	0.08	0.03	10
2	13		18.96	18.96	33.276	23.716	417.6	0.054	5.44	102.2	2.3	0.27	0.0	0.00	0.08	0.03	13
	20	ISL	18.93	18.93	33.274	23.722	417.3	0.084	5.44	102.2	2.3	0.27	0.0	0.00	0.09	0.02	20
2	25	A	18.91	18.91	33.271	23.725	417.2	0.104	5.44	102.1	2.3	0.27	0.0	0.00	0.09	0.02	25
	30	ISL	18.88	18.87	33.266	23.729	417.0	0.125	5.44	102.1	2.3	0.26	0.0	0.00	0.09	0.02	30
2	35		18.84	18.83	33.260	23.735	416.6	0.146	5.45	102.2	2.3	0.26	0.0	0.00	0.09	0.03	35
2	47	A	18.75	18.74	33.248	23.749	415.7	0.196	5.45	102.0	2.2	0.26	0.0	0.00	0.09	0.03	47
	50	ISL	18.76	18.75	33.258	23.754	415.3	0.209	5.46	102.2	2.2	0.26	0.0	0.00	0.10	0.03	50
2	58		18.77	18.76	33.31 D	23.791	412.0	0.242	5.48	102.6	2.2	0.26	0.0	0.00	0.12	0.03	58
2	70	A	17.69	17.68	33.142	23.928	399.2	0.290	5.63	103.2	2.2	0.30	0.0	0.00	0.19	0.08	70
	75	ISL	17.24	17.23	33.201	24.081	384.8	0.310	5.72	103.9	2.1	0.29	0.0	0.00	0.22	0.10	75
2	83		16.60	16.59	33.353	24.348	359.6	0.340	5.83	104.7	2.1	0.27	0.0	0.00	0.25	0.14	83
2	98	A	15.89	15.87	33.543	24.656	330.6	0.391	5.81	103.0	2.6	0.25	0.0	0.00	0.27	0.22	98
	100	ISL	15.82	15.80	33.558	24.683	328.1	0.398	5.80	102.7	2.6	0.25	0.0	0.00	0.26	0.23	100
2	115		15.38	15.36	33.640	24.845	313.1	0.446	5.71	100.3	2.9	0.25	0.0	0.01	0.19	0.30	115
	125	ISL	15.18	15.16	33.706	24.940	304.4	0.477	5.57	97.5	3.1	0.28	0.6	0.08	0.17	0.24	125
2	134	A	14.84	14.82	33.732	25.034	295.6	0.504	5.42	94.2	3.6	0.34	1.1	0.12	0.15	0.17	135
2	149		13.44	13.42	33.626	25.245	275.6	0.547	5.15	86.9	5.5	0.59	4.7	0.02	0.08	0.14	150
	150	ISL	13.33	13.31	33.619	25.262	274.0	0.550	5.14	86.6	5.7	0.61	5.0	0.02	0.08	0.14	151
2	174		10.92	10.90	33.518	25.640	238.0	0.611	4.82	77.1	10.9	1.00	11.3	0.01	0.04	0.06	175
	200	ISL	9.17	9.15	33.598	25.997	204.0	0.668	4.38	67.4	18.2	1.40	17.7	0.00	0.01	0.03	201
2	204		8.99	8.97	33.621	26.044	199.5	0.677	4.30	65.9	19.4	1.45	18.6	0.00	0.01	0.02	205
2	231		8.65	8.63	33.806	26.242	181.1	0.728	3.71	56.5	25.7	1.71	22.6	0.00			232
	250	ISL	8.35	8.32	33.886	26.351	171.1	0.761	3.72	56.3	28.6	1.74	23.6	0.00			251
2	272		7.98	7.95	33.943	26.451	161.8	0.798	3.73	56.0	31.7	1.77	24.2	0.00			273
	300	ISL	7.58	7.55	33.976	26.535	154.0	0.842	3.45	51.3	36.8	1.90	26.3	0.00			302
2	328		7.22	7.19	33.989	26.597	148.5	0.885	3.03	44.7	42.6	2.08	28.9	0.00			330
2	388		6.49	6.45	34.035	26.732	136.0	0.970	1.96	28.4	57.4	2.51	34.4	0.00			390
	400	ISL	6.36	6.32	34.043	26.755	133.8	0.986	1.80	26.0	60.0	2.58	35.2	0.00			402
2	453		5.88	5.84	34.082	26.847	125.4	1.055	1.24	17.7	70.4	2.83	38.2	0.00			456
	500	ISL	5.60	5.56	34.132	26.922	118.7	1.112	0.87	12.4	77.9	2.98	39.9	0.00			503
2	524		5.46	5.42	34.158	26.959	115.3	1.140	0.68	9.6	81.8	3.05	40.7	0.00			527

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 87 100

LATITUDE	LON6ITUOE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 40.1 N	123 5.1 W	19/10/93	2318 UTC	4149 •	320 09 kn	340 03 08	1	1019.9 ab	17.9 C	15.1 C		3/8	SC

CAST	DEPTH •		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6HA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uH/l	PO4 uM/L	NO3 uM/l	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	19.44	19.44	33.388	23.679	420.7	0.000	5.40	102.5	2.4	0.30	0.1	0.00	0.08	0.02	0
2	1		19.44	19.44	33.388	23.679	420,7	0.004	5.40	102.5	2.4	0.30	0.1	0.00	0.08	0.02	1
	10	ISL	19.38	19.38	33.384	23.691	419.8	0.042	5.41	102.5	2.3	0.29	0.0	0.00	0.09	0.02	10
2	15		19.34	19.34	33.381	23.700	419.3	0.063	5.42	102.7	2.2	0.29	0.0	0.00	0.09	0.02	15
	20	ISL	19.33	19.33	33.381	23.702	419.2	0.084	5.41	102.4	2.2	0.29	0.0	0.00	0.09	0.02	20
2	30		19.32	19.31	33.381	23.705	419,2	0.126	5.40	102.2	2.2	0.29	0.0	0.00	0.09	0.02	30
2	40		19.32	19.31	33.381	23.706	419.6	0.168	5.41	102.4	2.2	0.28	0.0	0.00	0.09	0.02	40
2	50		19.31	19.30	33.384	23.711	419,4	0.210	5.44	103.0	2.1	0.27	0.0	0.00	0.10	0.02	50
2	60		18.33	18.32	33.361	23.940	397.9	0.251	5.67	105.3	2.1	0.28	0.0	0.00	0.16	0.05	60
2	70		17.54	17.53	33.364	24.135	379.6	0.290	5.78	105.8	2.2	0.29	0.0	0.00	0.20	0.07	70
	75	ISL	16.90	16.89	33.367	24.288	365.0	0.308	5.80	104.8	2.2	0.30	0.0	0.00	0.23	0.11	75
2	78		16.54	16.53	33.373	24.377	356.7	0.319	5.81	104.3	2.2	0.30	0.0	0.00	0.24	0.14	78
2	96		16.12	16.10	33.505	24.575	338.3	0.382	5.73	102.0	2.3	0.29	0.0	0.00	0.24	0.19	96
	100	ISL	16.01	15.99	33.527	24.617	334,5	0.395	5.70	101.3	2.4	0.30	0.0	0.01	0.23	0.21	100
2	110		15.55	15.53	33.557	24.743	322.7	0.428	5.59	98.5	2.7	0.31	0.0	0.04	0.18	0.25	110
	125	ISL	14.07	14.05	33.514	25.029	295.7	0.474	5.34	91.3	4.0	0.48	2.1	0.07	0.13	0.23	125
2	127		13.83	13.81	33.505	25.072	291.6	0.480	5.30	90.1	4.3	0.51	2.6	0.07	0.12	0.23	127
	150	ISL	11.24	11.22	33.423	25.508	250.0	0.542	4.80	77.2	10.0	1.01	10.6	0.01	0.06	0.12	151
2	151		11.14	11.12	33.421	25.525	248.4	0.545	4.78	76.8	10.3	1.03	11.0	0.01	0.06	0.11	152
2	174		9.92	9.90	33.480	25.782	224.1	0.599	4.52	70.7	14.6	1.27	15.1	0.01	0.02	0.04	175
	200	ISL	9.10	9.08	33.586	25.999	203,8	0.655	4.29	65.9	18.9	1.46	18.4	0.00	0.01	0.02	201
2	204		9.01	8.99	33.606	26.029	201,0	0.663	4.24	65.0	19.7	1.49	18.9	0.00	0.01	0.02	205
2	237		8.39	8.37	33.817	26.290	176.5	0.725	3.34	50.6	29.0	1.86	24.7	0.00			238
	250	ISL	8.15	8.12	33.864	26.363	169.7	0.748	3.38	50.9	31.0	1.87	25.2	0.00			251
2	254		8.08	8.05	33.876	26.383	167.9	0.754	3.39	51.0	31.6	1.87	25.3	0.00			255
	300	ISL	7.35	7.32	33.971	26.564	151.2	0.828	3.00	44.4	40.8	2.06	28.5	0.00			302
2	325		7.02	6.99	33.999	26.632	144,9	0.865	2.62	38.5	46.4	2.21	30.6	0.00			327
2	387		6.39	6.36	34.045	26.753	133.9	0.951	1.67	24.2	60.2	2.59	35.4	0.00			389
	400	ISL	6.29	6.25	34.057	26.775	131.9	0.969	1.51	21.8	62.6	2.65	36.1	0.00			402
2	455		5.95	5.91	34.110	26.861	124.3	1.039	0.98	14.0	71.5	2.86	38.6	0.00			458
	500	ISL	5.71	5.67	34.158	26.929	118,2	1.094	0.72	10.3	78.0	2.99	39.9	0.00			503
2	525		5.57	5.53	34.185	26.967	114,7	1.123	0.57	8.1	81.6	3.06	40.6	0.00			528

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 87 110

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 19.7 N	123 44.7 W	20/10/93	0436 UTC	3994 a	340 08 kn			1020.7 ab	17.5 C	14.8 C			

CAST	DEPTH a		TEMP DE6 C	POT TEMP DEC C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/I	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	19.23	19.23	33.237	23.617	426.6	0.000	5.41	102.2	2.8	0.29	0.1	0.00	0.08	0.02	0
2	1		19.23	19.23	33.237	23.617	426.6	0.004	5.41	102.2	2.8	0.29	0.1	0.00	0.08	0.02	1
	10	ISL	19.24	19.24	33.235	23.613	427.3	0.043	5.41	102.2	2.6	0.29	0.0	0.00	0.08	0.03	10
2	16		19.25	19.25	33.233	23.610	427.9	0.068	5.41	102.2	2.5	0.29	0.0	0.00	0.08	0.03	16
	20	ISL	19.25	19.25	33.232	23.609	428.1	0.085	5.41	102.2	2.5	0.29	0.0	0.00	0.08	0.03	20
2	30		19.24	19.23	33.230	23.611	428.3	0.128	5.42	102.4	2.5	0.28	0.0	0.00	0.09	0.03	30
2	40		19.20	19.19	33.231	23.622	427.6	0.171	5.41	102.1	2.5	0.28	0.0	0.00	0.10	0.03	40
2	50		19.19	19.18	33.231	23.625	427.6	0.214	5.42	102.3	2.5	0.28	0.0	0.00	0.11	0.03	50
2	60		17.81	17.80	33.137	23.895	402.1	0.255	5.68	104.3	2.7	0.30	0.0	0.00	0.21	0.08	60
2	70		15.31	15.30	33.051	24.405	353.5	0.293	6.03	105.4	2.9	0.34	0.0	0.00	0.25	0.15	70
	75	ISL	14.83	14.82	33.070	24.524	342.3	0.310	6.00	103.9	2.9	0.34	0.0	0.00	0.23	0.18	75
2	80		14.56	14.55	33.095	24.601	335.1	0.327	5.97	102.8	2.9	0.33	0.0	0.00	0.22	0.22	80
2	95		13.23	13.22	33.101	24.880	308.8	0.376	5.73	96.0	4.4	0.51	1.2	0.10	0.32	0.40	95
	100	ISL	12.94	12.93	33.138	24.966	300.7	0.391	5.56	92.6	5.1	0.59	2.6	0.08	0.28	0.37	100
2	109		12.44	12.43	33.210	25.119	286.3	0.417	5.21	85.9	6.7	0.76	5.8	0.04	0.17	0.29	109
2	125		11.15	11.13	33.277	25.410	258.7	0.461	4.68	75.1	11.0	1.11	11.9	0.02	0.09	0.22	125
2	149		9.65	9.63	33.446	25.800	221.8	0.519	4.31	67.0	17.0	1.44	17.4	0.01	0.03	0.04	150
	150	ISL	9.60	9.58	33.454	25.814	220.4	0.521	4.30	66.8	17.2	1.45	17.6	0.01	0.03	0.04	151
2	175		8.69	8.67	33.648	26.111	192.5	0.572	4.02	61.2	23.1	1.63	21.1	0.01	0.00	0.02	176
	200	ISL	8.32	8.30	33.838	26.317	173.3	0.618	3.38	51.1	29.8	1.86	24.8	0.00	0.00	0.03	201
2	204		8.29	8.27	33.863	26.341	171.1	0.625	3.29	49.7	30.8	1.89	25.3	0.00	0.00	0.03	205
2	234		7.94	7.92	33.940	26.454	160.8	0.675	3.29	49.4	34.1	1.93	26.0	0.00			235
	250	ISL	7.80	7.78	33.968	26.497	157.0	0.700	3.18	47.6	36.3	1.98	26.8	0.00			251
2	275		7.58	7.55	33.996	26.551	152.1	0.739	2.93	43.6	40.2	2.07	28.4	0.00			276
	300	ISL	7.27	7.24	34.005	26.602	147.5	0.776	2.71	40.0	44.3	2.17	29.9	0.00			302
2	330		6.86	6.83	34.009	26.661	142.1	0.820	2.40	35.1	50.2	2.32	31.9	0.00			332
2	387		6.05	6.02	34.046	26.797	129.4	0.897	1.57	22.5	65.1	2.67	36.7	0.00			389
	400	ISL	5.95	5.92	34.058	26.819	127.4	0.914	1.43	20.5	67.5	2.73	37.4	0.00			402
2	452		5.70	5.66	34.110	26.891	121.0	0.978	0.98	14.0	75.4	2.91	39.5	0.00			455
	500	ISL	5.48	5.44	34.162	26.960	115.0	1.035	0.69	9.8	81.8	3.02	40.8	0.00			503
2	521		5.39	5.35	34.185	26.989	112.4	1.059	0.56	7.9	84.6	3.07	41.3	0.00			524

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 29.0 N	117 46.1 W	17/10/93	1902 UTC	70 -	250 10 kn	260 03 05	1	1013.5 ab	19.3 C	16.2 C	07a 05	3/8	CU

CAST	DEPTH a		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 db
	0	ISL	19.26	19.26	33.201	23.582	429.9	0.000	5.95	112.4	3.0	0.31	0.2	0.01	1.02	0.38	0
2	2	A	19.26	19.26	33.201	23.582	430.0	0.009	5.95	112.4	3.0	0.31	0.2	0.01	1.02	0.38	2
2	5	A	19.20	19.20	33.199	23.596	428.8	0.021	5.97	112.7	2.8	0.31	0.2	0.01	1.10	0.38	5
2	9	A	18.88	18.88	33.215	23.689	420.0	0.038	6.00	112.5	2.8	0.31	0.1	0.01	1.09	0.38	9
	10	ISL	18.32	18.32	33.221	23.833	406.3	0.043	6.00	111.4	2.6	0.32	0.1	0.01	0.94	0.34	10
2	13	A	16.57	16.57	33.257	24.278	363.9	0.054	6.03	108.2	2.1	0.34	0.1	0.00	0.50	0.22	13
2	19	A	15.96	15.96	33.234	24.400	352.5	0.076	6.19	109.7	2.2	0.36	0.1	0.00	0.61	0.27	19
	20	ISL	15.80	15.80	33.228	24.431	349.5	0.079	6.16	108.9	2.4	0.37	0.1	0.01	0.66	0.29	20
2	26	A	14.84	14.84	33.199	24.620	331.7	0.100	5.86	101.6	3.6	0.46	0.6	0.08	0.93	0.40	26
	30	ISL	14.39	14.39	33.196	24.713	322.9	0.113	5.76	98.9	4.0	0.51	1.0	0.15	0.85	0.39	30
2	35		13.87	13.87	33.203	24.827	312.2	0.129	5.63	95.7	4.5	0.58	1.9	0.24	0.64	0.33	35
2	45		12.46	12.45	33.258	25.151	281.6	0.158	5.02	82.8	7.6	0.85	6.8	0.35	0.23	0.25	45
	50	ISL	12.10	12.09	33.298	25.250	272.2	0.172	4.82	79.0	8.9	0.96	8.8	0.22	0.19	0.25	50
2	55		11.89	11.88	33.331	25.315	266.1	0.186	4.69	76.5	9.8	1.05	10.3	0.08	0.14	0.24	55
2	67		11.78	11.77	33.343	23.347	263.4	0.217	4.60	74.9	10.3	1.10	11.0	0.08	0.13	0.23	67

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 24.9 N	117 54.6 W	17/10/93	1344 UTC	609 a	240 08 kn	290 02 06	1	1011.9 ab	18.0 C	14.8 C		5/8	SC

CAST	DEPTH a		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 db
	0	ISL	19.45	19.45	33.367	23.660	422.5	0.000	5.47	103.8	2.2	0.28	0.2	0.01	0.23	0.06	0
2	2		19.45	19.45	33.367	23.660	422.5	0.008	5.47	103.8	2.2	0.28	0.2	0.01	0.23	0.06	2
2	10		19.44	19.44	33.366	23.662	422.6	0.042	5.47	103.8	2.1	0.27	0.2	0.00	0.22	0.06	10
2	20		18.32	18.32	33.325	23.913	399.0	0.083	5.63	104.6	2.2	0.29	0.2	0.00	0.25	0.08	20
2	30		15.35	15.35	33.188	24.501	343.2	0.120	6.03	105.6	2.6	0.35	0.2	0.00	0.34	0.18	30
2	41		14.12	14.11	33.204	24.776	317.2	0.157	5.93	101.3	3.3	0.41	0.1	0.01	0.58	0.53	41
2	50		13.35	13.34	33.204	24.934	302.4	0.185	5.52	92.8	4.5	0.58	3.1	0.16	0.43	0.44	50
2	60		12.55	12.54	33.244	25.123	284.7	0.214	5.15	85.1	6.8	0.81	6.6	0.07	0.27	0.33	60
2	70		11.78	11.77	33.329	25.335	264.7	0.241	4.68	76.2	10.0	1.05	10.7	0.03	0.15	0.20	70
	75	ISL	11.62'	11.61	33.348	25.379	260.5	0.255	4.58	74.3	10.7	1.10	11.6	0.03	0.14	0.19	75
2	85		11.46	11.45	33.364	25.421	256.8	0.280	4.50	72.7	11.5	1.15	12.3	0.02	0.11	0.17	85
	100	ISL	11.19	11.18	33.391	25.491	250.4	0.319	4.38	70.4	12.6	1.23	13.4	0.02	0.08	0.14	100
2	101		11.17	11.16	33.393	25.497	249.9	0.321	4.37	70.2	12.7	1.23	13.5	0.02	0.08	0.14	101
2	118		10.91	10.90	33.427	25.570	243.3	0.363	4.23	67.6	13.8	1.30	14.8	0.02	0.06	0.12	119
	125	ISL	10.66	10.65	33.442	25.625	238.1	0.380	4.15	66.0	14.9	1.36	15.9	0.02	0.05	0.11	126
2	144		9.94	9.92	33.524	25.813	220.6	0.423	3.83	59.9	19.0	1.57	19.2	0.01	0.03	0.07	145
	150	ISL	9.76	9.74	33.580	25.886	213.6	0.436	3.68	57.4	20.5	1.63	20.3	0.01	0.02	0.06	151
2	175		9.26	9.24	33.836	26.169	187.3	0.487	3.03	46.8	26.6	1.87	24.1	0.01	0.00	0.05	176
	200	ISL	9.23	9.21	34.011	26.311	174.3	0.532	2.54	39.3	31.0	2.04	26.2	0.01	0.00	0.04	201
2	204		9.22	9.20	34.028	26.326	173.0	0.539	2.48	38.3	31.6	2.06	26.4	0.01	0.00	0.04	205
2	234		8.81	8.78	34.058	26.415	165.0	0.589	2.39	36.6	34.7	2.13	27.3	0.01			235
	250	ISL	8.73	8.70	34.100	26.460	160.9	0.615	2.19	33.5	36.8	2.21	28.1	0.01			251
2	273		8.67	8.64	34.160	26.517	156.0	0.652	1.87	28.6	39.9	2.32	29.4	0.01			275
	300	ISL	8.49	8.46	34.185	26.565	151.9	0.693	1.69	25.7	42.8	2.40	30.4	0.01			302
2	328		8.26	8.23	34.197	26.610	148.0	0.735	1.54	23.3	45.9	2.48	31.3	0.01			330
2	387		7.70	7.66	34.255	26.739	136.5	0.819	0.93	13.9	55.3	2.74	34.2	0.01			389
	400	ISL	7.54	7.50	34.262	26.767	133.8	0.837	0.84	12.5	57.6	2.79	34.8	0.01			403
2	452		6.90	6.86	34.282	26.873	124.1	0.904	0.56	8.2	66.9	2.96	37.1	0.01			455
	500	ISL	6.41	6.36	34.301	26.954	116.7	0.962	0.41	5.9	75.2	3.08	38.5	0.01			503
2	526		6.14	6.09	34.313	26.998	112.6	0.992	0.33	4.8	79.7	3.15	39.2	0.01			530

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 15.0 N	118 16.1 W	17/10/93	0913 UTC	483 a	260 12 kn			1012.5 ab	17.9 C	14.8 C			

CAST	DEPTH a		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 db
	0	ISL	18.92	18.92	33.364	23.792	409.8	0.000	5.53	103.9	2.6	0.29	0.1	0.00	0.22	0.07	0
2	1		18.92	18.92	33.364	23.793	409.9	0.004	5.53	103.9	2.6	0.29	0.1	0.00	0.22	0.07	1
2	10		18.91	18.91	33.364	23.795	409.9	0.041	5.57	104.6	2.3	0.28	0.0	0.00	0.21	0.07	10
2	20		17.34	17.34	33.304	24.134	377.9	0.080	5.80	105.7	2.5	0.31	0.0	0.00	0.24	0.09	20
2	30		15.48	15.48	33.268	24.534	340.1	0.116	6.02	105.7	3.3	0.37	0.0	0.01	0.41	0.26	30
2	40		13.67	13.66	33.253	24.907	304.8	0.149	5.67	96.0	4.2	0.49	1.6	0.13	0.54	0.42	40
	50	ISL	12.54	12.53	33.270	25.145	282.3	0.178	5.16	85.3	7.0	0.80	6.5	0.08	0.38	0.38	50
2	51		12.45	12.44	33.272	25.164	280.5	0.181	5.11	84.3	7.4	0.83	7.1	0.07	0.36	0.38	51
2	60		11.54	11.53	33.299	25.355	262.4	0.205	4.74	76.7	10.5	1.07	11.1	0.03	0.17	0.24	60
2	70		10.81	10.80	33.384	25.553	243.8	0.230	4.38	69.8	13.9	1.29	14.8	0.02	0.09	0.14	70
	75	ISL	10.56	10.55	33.433	25.635	236.1	0.242	4.20	66.6	15.5	1.37	16.1	0.02	0.06	0.11	75
2	85		10.22	10.21	33.518	25.760	224.4	0.265	3.90	61.4	17.7	1.48	17.9	0.01	0.03	0.08	85
2	99		10.02	10.01	33.574	25.837	217.3	0.296	3.72	58.4	18.0	1.56	19.0	0.01	0.02	0.06	99
	100	ISL	10.01	10.00	33.576	25.841	217.0	0.299	3.72	58.3	18.1	1.56	19.1	0.01	0.02	0.06	100
2	119		9.83	9.82	33.617	25.903	211.4	0.339	3.62	56.6	20.5	1.61	20.1	0.01	0.01	0.05	120
	125	ISL	9.78	9.77	33.647	25.935	208.5	0.352	3.53	55.1	21.3	1.64	20.6	0.01	0.01	0.05	126
2	144		9.65	9.63	33.774	26.056	197.4	0.390	3.15	49.1	24.0	1.78	22.5	0.01	0.00	0.04	145
	150	ISL	9.63	9.61	33.829	26.103	193.1	0.402	2.98	46.4	25.3	1.83	23.2	0.01	0.00	0.04	151
2	174		9.55	9.53	34.018	26.264	178.3	0.447	2.43	37.8	29.9	2.01	25.4	0.01	0.00	0.04	175
	200	ISL	9.27	9.25	34.029	26.318	173.6	0.492	2.45	37.9	31.6	2.04	26.1	0.02	0.00	0.06	201
2	207		9.18	9.16	34.023	26.328	172.8	0.505	2.46	38.0	32.0	2.05	26.2	0.02	0.00	0.06	208
2	233		8.89	8.86	34.104	26.438	162.8	0.548	2.08	31.9	36.7	2.20	28.1	0.03			234
	250	ISL	8.82	8.79	34.135	26.474	159.7	0.576	1.98	30.3	38.2	2.25	28.6	0.03			251
2	275		8.75	8.72	34.161	26.505	157.2	0.615	1.91	29.2	39.5	2.29	29.0	0.02			277
	300	ISL	8.63	8.60	34.174	26.535	154.8	0.654	1.82	27.8	40.8	2.31	29.5	0.02			302
2	333		8.39	8.36	34.187	26.582	150.8	0.705	1.64	24.9	43.7	2.37	30.6	0.03			335
2	386		7.74	7.70	34.247	26.727	137.6	0.781	1.02	15.3	54.2	2.67	33.8	0.01			388
	400	ISL	7.62	7.58	34.253	26.749	135.7	0.800	0.94	14.0	56.0	2.71	34.3	0.01			403
2	437		7.30	7.26	34.271	26.809	130.3	0.849	0.72	10.7	60.9	2.83	35.6	0.01			440

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 90 37

LATITUDE	LON61TUDE	PAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 11.1 N	118 23.6 W	17/10/93	0547 UTC	1179 •	280 13 kn			1013.0 ab	18.0 C	16.0 C			

CAST	DEPTH •		TEMP DEC C	POT TEMP DEC C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/L	PO4 uH/l	NO3 uM/I	NO2 uM/I	CHL-A ug/L	PHAEO ug/I	PRESS db
	0	ISL	19.05	19.05	33.377	23.770	412.0	0.000	5.51	103.8	2.5	0.27	0.1	0.00	0.19	0.07	0
2	2		19.05	19.05	33.377	23.770	412.1	0.008	5.51	103.8	2.5	0.27	0.1	0.00	0.19	0.07	2
2	10		19.04	19.04	33.376	23.772	412.2	0.041	5.52	104.0	2.3	0.27	0.0	0.00	0.18	0.07	10
2	20		17.92	17.92	33.329	24.014	389.4	0.081	5.75	106.0	2.4	0.30	0.0	0.00	0.21	0.09	20
2	30		15.68	15.68	33.255	24.479	345.3	0.118	5.97	105.3	3.1	0.36	0.0	0.01	0.47	0.28	30
2	40		14.16	14.15	33.244	24.799	315.1	0.151	5.78	98.8	3.9	0.43	0.6	0.06	0.55	0.35	40
2	50		13.21	13.20	33.223	24.977	298.3	0.182	5.51	92.4	6.0	0.65	3.8	0.27	0.64	0.50	50
2	60		12.28	12.27	33.278	25.201	277.2	0.210	4.99	82.0	9.0	0.93	8.8	0.06	0.29	0.31	60
2	70		11.21	11.20	33.337	25.445	254.1	0.237	4.58	73.6	11.9	1.15	12.5	0.03	0.14	0.21	70
	75	ISL	10.85	10.84	33.369	25.534	245.7	0.250	4.41	70.4	13.3	1.24	14.0	0.03	0.10	0.17	75
2	85		10.34	10.33	33.439	25.678	232.2	0.273	4.11	64.9	16.0	1.39	16.6	0.02	0.05	0.11	85
2	100		9.87	9.86	33.571	25.860	215.1	0.307	3.74	58.5	19.8	1.56	19.3	0.01	0.01	0.06	100
2	119		9.71	9.70	33.822	26.083	194.3	0.346	2.92	45.6	25.1	1.82	23.0	0.01	0.00	0.05	120
	125	ISL	9.70	9.69	33.874	26.126	190.4	0.357	2.76	43.1	26.3	1.87	23.7	0.01	0.00	0.05	126
2	145		9.65	9.63	33.985	26.221	181.8	0.395	2.44	38.1	29.1	1.98	25.1	0.01	0.00	0.04	146
	150	ISL	9.60	9.58	33.999	26.240	180.1	0.404	2.43	37.9	29.6	1.99	25.3	0.01	0.00	0.04	151
2	174		9.29	9.27	34.037	26.321	172.8	0.446	2.40	37.1	31.7	2.03	26.2	0.01	0.00	0.03	175
	200	ISL	8.99	8.97	34.072	26.397	166.1	0.490	2.30	35.4	34.5	2.10	27.3	0.01	0.00	0.04	201
2	205		8.94	8.92	34.080	26.411	164.8	0.498	2.27	34.9	35.1	2.12	27.5	0.01	0.00	0.04	206
2	234		8.73	8.71	34.149	26.499	157.0	0.545	1.94	29.7	39.2	2.26	29.0	0.01			235
	250	ISL	8.58	8.55	34.164	26.534	153.9	0.570	1.83	27.9	41.1	2.32	29.7	0.01			251
2	274		8.34	8.31	34.176	26.580	149.8	0.606	1.67	25.3	44.0	2.40	30.7	0.01			276
	300	ISL	8.12	8.09	34.204	26.636	144.9	0.645	1.40	21.1	47.7	2.51	31.9	0.01			302
2	328		7.92	7.89	34.235	26.690	140.2	0.685	1.12	16.8	51.6	2.62	33.1	0.00			330
2	386		7.62	7.58	34.270	26.762	134.2	0.764	0.81	12.1	56.9	2.78	34.6	0.00			388
	400	ISL	7.52	7.48	34.273	26.779	132.7	0.783	0.75	11.2	58.4	2.80	35.0	0.00			403
2	454		7.09	7.05	34.280	26.845	127.0	0.853	0.59	8.7	64.1	2.88	36.4	0.00			457
	500	ISL	6.79	6.74	34.287	26.892	122.9	0.910	0.50	7.3	68.4	2.97	37.5	0.00			503
2	522		6.65	6.60	34.291	26.914	121.0	0.937	0.46	6.7	70.4	3.01	38.0	0.00			526

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 90 45

LATITUDE	LON6ITUDE	OAY/NO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 54.8 N	118 55.9 W	16/10/93	2244 UTC	1699 •	280 10 kn	280 01 02	1	1012.8 ab	18.8 C	16.3 C		6/8	SC

CAST	DEPTH a		TEMP DEC C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/I	NO2 uM/I	CHL-A ug/I	PHAEO ug/I	PRESS db
	0	ISL	18.02	18.02	33.233	23.915	398.1	0.000	5.57	102.8	2.7	0.34	0.2	0.00	0.15	0.05	0
2	1		18.02	18.02	33.233	23.915	398.1	0.004	5.57	102.8	2.7	0.34	0.2	0.00	0.15	0.05	1
2	10		17.79	17.79	33.229	23.969	393.4	0.040	5.60	102.9	2.7	0.34	0.1	0.00	0.16	0.05	10
2	20		17.50	17.50	33.256	24.059	385.1	0.079	5.63	102.9	2.6	0.35	0.1	0.00	0.19	0.08	20
2	30		17.46	17.45	33.276	24.085	383.0	0.117	5.64	103.0	2.6	0.35	0.1	0.00	0.25	0.11	30
2	40		16.35	16.34	33.203	24.288	363.8	0.154	5.78	103.2	2.7	0.36	0.1	0.00	0.39	0.21	40
2	49		14.56	14.55	33.089	24.595	334.7	0.186	5.98	103.0	2.9	0.40	0.1	0.02	0.64	0.43	49
	50	ISL	14.40	14.39	33.080	24.622	332.2	0.189	5.97	102.5	2.9	0.41	0.1	0.03	0.64	0.42	50
2	60		13.15	13.14	33.033	24.842	311.4	0.221	5.87	98.1	3.8	0.50	1.1	0.13	0.46	0.37	60
' 2	69		12.41	12.40	33.057	25.005	296.1	0.249	5.57	91.7	5.2	0.68	3.9	0.12	0.27	0.28	69
	75	ISL	12.06	12.05	33.105	25.109	286.3	0.266	5.34	87.3	6.5	0.81	6.0	0.09	0.21	0.24	75
2	85		11.60	11.59	33.215	25.280	270.2	0.294	4.96	80.3	9.0	1.00	9.4	0.03	0.15	0.19	85
2	99		10.98	10.97	33.398	25.534	246.3	0.330	4.51	72.2	12.2	1.15	13.1	0.02	0.07	0.12	99
	100	ISL	10.93	10.92	33.405	25.549	244.9	0.332	4.48	71.6	12.4	1.16	13.3	0.02	0.07	0.12	100
2	121		10.08	10.07	33.516	25.782	223.0	0.382	4.03	63.3	17.4	1.42	17.5	0.01	0.03	0.07	122
	125	ISL	9.97	9.96	33.544	25.823	219.2	0.390	3.94	61.7	18.2	1.46	18.2	0.01	0.03	0.06	126
2	145		9.53	9.51	33.684	26.005	202.2	0.433	3.54	55.0	22.2	1.63	21.1	0.01	0.01	0.04	146
	150	ISL	9.43	9.41	33.713	26.044	198.6	0.443	3.45	53.5	23.2	1.67	21.7	0.01	0.01	0.04	151
2	179		8.94	8.92	33.858	26.237	180.8	0.498	3.03	46.5	28.5	1.86	24.8	0.01	0.00	0.04	180
	200	ISL	8.66	8.64	33.939	26.344	170.9	0.535	2.82	43.0	32.1	1.95	26.3	0.00	0.00	0.03	201
2	206		8.59	8.57	33.961	26.372	168.3	0.545	2.75	41.9	33.2	1.98	26.7	0.00	0.00	0.03	207
2	234		8.28	8.26	34.075	26.509	155.7	0.590	2.24	33.9	39.8	2.21	29.1	0.00			235
	250	ISL	8.11	8.08	34.106	26.559	151.2	0.615	2.03	30.6	42.8	2.29	30.2	0.00			251
2	276		7.90	7.87	34.139	26.617	146.1	0.653	1.75	26.3	46.7	2.40	31.6	0.00			278
	300	ISL	7.88	7.85	34.185	26.656	142.8	0.688	1.45	21.8	49.2	2.50	32.5	0.00			302
2	330		7.86	7.83	34.234	26.698	139.4	0.730	1.11	16.6	52.1	2.62	33.4	0.00			332
2	390		7.28	7.24	34.256	26.799	130.4	0.811	0.76	11.2	60.5	2.81	35.8	0.00			392
	400	ISL	7.18	7.14	34.261	26.817	128.8	0.824	0.71	10.5	62.0	2.84	36.2	0.00			403
2	452		6.66	6.62	34.288	26.910	120.4	0.889	0.49	7.1	69.7	2.98	38.1	0.00			455
	500	ISL	6.31	6.26	34.304	26.969	115.2	0.945	0.40	5.8	75.7	3.08	39.4	0.00			503
2	521		6.15	6.10	34.312	26.996	112.7	0.969	0.36	5.2	78.3	3.12	39.9	0.00			525

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 90 53

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 39.3 N	119 28.8 W	16/10/93	1858 UTC	1319 -	350 01 krt	350 02 04	5	1014.5 ab	18.5 C	17.2 C	42a 01	5/8	ST

CAST	DEPTH -		TEMP DE6 C	POT TEMP DES C	SALINITY	SI6MA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	18.49	18.49	33.262	23.822	407.0	0.000	5.49	102.3	2.9	0.31	0.0	0.00	0.13	0.03	0
2	1	A	18.49	18.49	33.262	23.822	407.1	0.004	5.49	102.3	2.9	0.31	0.0	0.00	0.13	0.03	1
	10	ISL	18.43	18.43	33.274	23.846	405.0	0.041	5.52	102.7	2.8	0.31	0.0	0.00	0.14	0.04	10
2	14		18.40	18.40	33.283	23.861	403.8	0.057	5.53	102.8	2.8	0.31	0.0	0.00	0.14	0.04	14
	20	ISL	18.40	18.40	33.295	23.870	403.1	0.081	5.53	102.8	2.8	0.31	0.0	0.00	0.14	0.04	20
2	28	A	18.40	18.40	33.312	23.884	402.1	0.113	5.53	102.8	2.8	0.31	0.0	0.00	0.15	0.04	28
	30	ISL	18.37	18.36	33.312	23.891	401.5	0.121	5.53	102.8	2.8	0.31	0.0	0.00	0.16	0.04	30
2	41		18.21	18.20	33.309	23.929	398.3	0.165	5.55	102.8	2.8	0.31	0.0	0.00	0.20	0.06	41
	50	ISL	16.42	16.41	33.273	24.327	360.5	0.199	5.79	103.6	2.8	0.32	0.0	0.00	0.26	0.15	50
2	54	A	15.65	15.64	33.272	24.500	344.1	0.213	5.88	103.6	2.8	0.32	0.0	0.00	0.28	0.19	54
2	63		15.45	15.44	33.292	24.560	338.6	0.244	5.83	102.3	2.7	0.33	0.0	0.00	0.32	0.24	63
2	71		15.04	15.03	33.299	24.655	329.8	0.271	5.79	100.8	2.8	0.34	0.0	0.01	0.36	0.29	71
	75	ISL	14.78	14.77	33.309	24.719	323.8	0.284	5.71	98.9	3.1	0.38	0.4	0.05	0.37	0.32	75
2	80	A	14.41	14.40	33.323	24.809	315.3	0.300	5.59	96.1	3.6	0.45	1.2	0.10	0.39	0.35	80
2	94		13.23	13.22	33.342	25.066	291.1	0.342	5.32	89.3	6.1	0.72	5.4	0.05	0.20	0.25	94
	100	ISL	12.64	12.63	33.352	25.190	279.3	0.360	5.14	85.2	7.4	0.83	7.3	0.04	0.16	0.21	100
2	111	A	11.72	11.71	33.376	25.383	261.0	0.389	4.83	78.5	9.8	1.00	10.4	0.02	0.11	0.15	111
2	124		11.27	11.25	33.401	25.485	251.6	0.423	4.62	74.4	11.7	1.14	12.4	0.01	0.08	0.10	125
	125	ISL	11.22	11.20	33.405	25.497	250.4	0.425	4.60	74.0	11.9	1.15	12.6	0.01	0.08	0.10	126
	150	ISL	10.05	10.03	33.551	25.815	220.5	0.484	3.89	61.0	18.2	1.50	18.2	0.01	0.02	0.05	151
2	152	A	9.96	9.94	33.567	25.843	217.9	0.488	3.83	60.0	18.8	1.53	18.7	0.01	0.02	0.05	153
2	175		9.55	9.53	33.771	26.071	196.6	0.536	3.22	50.0	24.2	1.77	22.4	0.01	0.01	0.03	176
	200	ISL	8.81	8.79	33.912	26.300	175.2	0.582	2.99	45.7	30.2	1.91	25.2	0.01	0.00	0.02	201
2	204		8.70	8.68	33.929	26.330	172.3	0.589	2.97	45.3	31.1	1.93	25.6	0.01	0.00	0.02	205
2	235		8.35	8.33	34.015	26.452	161.2	0.641	2.69	40.8	35.8	2.07	27.6	0.01			236
	250	ISL	8.20	8.17	34.034	26.490	157.9	0.665	2.58	39.0	37.7	2.12	28.3	0.01			251
2	274		7.98	7.95	34.053	26.537	153.6	0.702	2.40	36.1	40.9	2.20	29.5	0.00			275
	300	ISL	7.70	7.67	34.085	26.604	147.6	0.742	2.09	31.2	45.5	2.34	31.1	0.00			302
2	328		7.42	7.39	34.122	26.673	141.4	0.782	1.72	25.5	50.6	2.50	32.9	0.00			330
2	386		7.06	7.02	34.187	26.775	132.4	0.861	1.10	16.2	59.3	2.74	35.7	0.00			388
	400	ISL	6.97	6.93	34.199	26.797	130.5	0.880	1.00	14.7	61.2	2.79	36.2	0.00			402
2	454		6.61	6.57	34.239	26.878	123.4	0.948	0.69	10.1	68.1	2.93	38.0	0.00			457
	500	ISL	6.36	6.31	34.272	26.937	118.2	1.004	0.52	7.5	73.5	3.02	39.0	0.00			503
2	526		6.22	6.17	34.291	26.971	115.3	1.034	0.43	6.2	76.5	3.07	39.6	0.00			529

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TINE	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 25.1 N	119 57.4 W	15/10/93	1848 UTC	901 -	280 06 kn	310 03 04	1	1017.8 ab	20.1 C	18.6 C	30a 02	7/8	SC

CAST	DEPTH a		TEMP DEG C	POT TEMP DEC C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	18.68	18.68	33.269	23.780	411.0	0.000	5.48	102.4	2.8	0.30	0.1	0.00	0.14	0.03	0
2	2	A	18.68	18.68	33.269	23.780	411.1	0.008	5.48	102.4	2.8	0.30	0.1	0.00	0.14	0.03	2
	10	ISL	18.63	18.63	33.270	23.794	410.1	0.041	5.48	102.3	2.7	0.29	0.1	0.00	0.15	0.04	10
2	20	A	18.54	18.54	33.271	23.817	408.2	0.082	5.49	102.3	2.6	0.29	0.1	0.00	0.16	0.05	20
2	30		18.51	18.50	33.271	23.825	407.8	0.123	5.51	102.7	2.5	0.30	0.0	0.00	0.17	0.05	30
2	38	A	17.97	17.96	33.273	23.960	395.2	0.155	5.58	102.9	2.2	0.31	0.0	0.00	0.25	0.09	38
2	48		16.76	16.75	33.271	24.246	368.1	0.193	5.88	105.9	2.2	0.31	0.0	0.00	0.32	0.14	48
	S0	ISL	16.53	16.52	33.282	24.308	362.3	0.200	5.88	105.4	2.3	0.31	0.0	0.00	0.32	0.14	50
2	57	A	15.74	15.73	33.314	24.512	343.0	0.225	5.88	103.8	2.7	0.31	0.0	0.00	0.34	0.19	57
2	68		14.66	14.65	33.255	24.703	325.1	0.262	5.86	101.2	3.0	0.36	0.0	0.00	0.55	0.47	68
	75	ISL	13.96	13.95	33.269	24.861	310.2	0.284	5.68	96.7	3.9	0.48	1.4	0.12	0.50	0.46	75
2	79	A	13.59	13.58	33.284	24.948	301.9	0.296	5.56	94.0	4.5	0.56	2.4	0.18	0.44	0.46	79
2	94		12.60	12.59	33.293	25.152	282.8	0.340	5.18	85.7	6.5	0.80	6.1	0.07	0.24	0.31	94
	100	ISL	12.27	12.26	33.304	25.224	276.0	0.357	4.98	81.9	7.7	0.91	7.8	0.04	0.20	0.28	100
2	108	A	11.84	11.83	33.327	25.323	266.7	0.379	4.73	77.1	9.5	1.04	10.0	0.02	0.16	0.24	108
2	125		10.79	10.77	33.423	25.588	241.7	0.422	4.43	70.6	13.3	1.23	13.8	0.01	0.06	0.10	126
2	150		9.52	9.50	33.655	25.984	204.3	0.478	3.65	56.6	21.6	1.63	20.5	0.01	0.01	0.04	151
2	174		8.90	8.88	33.813	26.208	183.4	0.524	3.35	51.3	27.1	1.79	23.6	0.00	0.00	0.02	175
	200	ISL	8.68	8.66	33.908	26.317	173.5	0.570	3.05	46.5	30.6	1.91	25.5	0.00	0.00	0.02	201
2	204		8.66	8.64	33.919	26.329	172.4	0.577	3.00	45.7	31.1	1.93	25.7	0.00	0.00	0.02	205
2	235		8.24	8.22	34.034	26.483	158.2	0.629	2.60	39.3	37.6	2.10	28.3	0.00			236
	250	ISL	8.12	8.09	34.057	26.520	155.0	0.652	2.47	37.2	39.5	2.15	29.0	0.00			251
2	275		7.95	7.92	34.074	26.558	151.7	0.690	2.28	34.2	42.2	2.23	29.9	0.00			277
	300	ISL	7.67	7.64	34.091	26.613	146.8	0.728	2.05	30.6	46.2	2.34	31.5	0.00			302
2	328		7.34	7.31	34.105	26.671	141.5	0.768	1.80	26.7	51.0	2.46	33.3	0.00			330
2	392		6.71	6.67	34.122	26.771	132.5	0.856	1.35	19.7	60.3	2.69	36.3	0.00			394
	400	ISL	6.65	6.61	34.128	26.784	131.4	0.866	1.28	18.7	61.6	2.72	36.7	0.00			402
2	452		6.32	6.28	34.176	26.866	124.1	0.933	0.82	11.9	69.6	2.90	38.9	0.00			455
	500	ISL	6.03	5.99	34.224	26.941	117.4	0.991	0.57	8.2	76.0	3.00	40.2	0.00			503
2	522		5.89	5.84	34.247	26.977	114.2	1.016	0.46	6.6	78.9	3.05	40.8	0.00			525

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 90 70

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD ART TYPE
32 5.1 N	120 38.6 W	15/10/93	0620 UTC	3815 •	280 09 kn			1017.6 ab	18.5 C	17.4 C		

CAST	DEPTH •		TEMP DE6 C	POT TEMP DEG C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	18.67	18.67	33.291	23.799	409.2	0.000	5.47	102.2	3.0	0.31	0.2	0.00	0.12	0.03	0
2	2		18.67	18.67	33.291	23.799	409.2	0.008	5.47	102.2	3.0	0.31	0.2	0.00	0.12	0.03	2
	10	ISL	18.67	18.67	33.292	23.801	409.4	0.041	5.46	102.1	2.9	0.31	0.2	0.00	0.12	0.03	10
2	11		18.67	18.67	33.292	23.801	409.4	0.045	5.46	102.1	2.9	0.31	0.2	0.00	0.12	0.03	11
2	20		18.57	18.57	33.289	23.824	407.6	0.082	5.46	101.9	2.8	0.30	0.2	0.00	0.12	0.03	20
2	30		18.53	18.52	33.288	23.833	407.0	0.123	5.48	102.1	2.8	0.30	0.2	0.00	0.13	0.04	30
2	40		18.35	18.34	33.279	23.871	403.7	0.163	5.52	102.5	2.8	0.31	0.2	0.00	0.16	0.05	40
2	50		16.88	16.87	33.224	24.182	374.3	0.202	5.81	104.9	2.7	0.31	0.2	0.00	0.20	0.08	50
2	60		15.35	15.34	33.238	24.540	340.4	0.238	5.93	103.8	2.8	0.34	0.2	0.00	0.27	0.16	60
2	69		14.78	14.77	33.279	24.696	325.8	0.268	5.84	101.1	2.9	0.36	0.2	0.00	0.30	0.23	69
	75	ISL	14.22	14.21	33.287	24.821	314.0	0.287	5.67	97.1	3.6	0.44	1.1	0.05	0.32	0.30	75
2	84		13.32	13.31	33.296	25.012	295.9	0.314	5.35	89.9	5.2	0.61	3.4	0.12	0.35	0.37	84
2	100		12.03	12.02	33.340	25.297	269.0	0.360	4.84	79.2	8.8	0.95	8.9	0.03	0.14	0.29	100
2	119		10.73	10.72	33.447	25.617	238.8	0.408	4.17	66.4	14.2	1.31	14.8	0.01	0.05	0.13	119
	125	ISL	10.42	10.41	33.472	25.690	231.9	0.422	4.08	64.5	15.5	1.38	16.0	0.01	0.04	0.10	126
2	145		9.74	9.72	33.581	25.891	213.2	0.466	3.81	59.4	19.4	1.56	19.1	0.01	0.01	0.04	146
	150	ISL	9.75	9.73	33.643	25.937	208.8	0.477	3.62	56.5	20.7	1.62	20.0	0.01	0.01	0.04	151
2	174		9.78	9.76	33.903	26.136	190.5	0.525	2.72	42.5	26.4	1.89	23.8	0.01	0.00	0.04	175
	200	ISL	9.54	9.52	34.039	26.282	177.1	0.573	2.38	37.0	30.4	2.03	25.9	0.01	0.00	0.03	201
2	204		9.49	9.47	34.050	26.299	175.6	0.580	2.36	36.7	30.9	2.04	26.1	0.01	0.00	0.03	205
2	234		9.09	9.06	34.089	26.395	167.0	0.631	2.29	35.3	34.0	2.13	27.3	0.01			235
	250	ISL	8.77	8.74	34.092	26.448	162.1	0.657	2.27	34.7	36.2	2.16	28.1	0.01			251
2	274		8.27	8.24	34.087	26.521	155.4	0.696	2.25	34.0	39.8	2.21	29.4	0.01			275
	300	ISL	7.83	7.80	34.080	26.581	149.9	0.735	2.21	33.1	43.5	2.27	30.7	0.01			302
2	323		7.48	7.45	34.077	26.629	145.5	0.769	2.11	31.3	47.2	2.34	31.9	0.01			325
2	387		6.68	6.64	34.123	26.776	132.0	0.858	1.33	19.4	60.7	2.67	36.6	0.00			389
	400	ISL	6.56	6.52	34.135	26.802	129.7	0.875	1.20	17.5	63.1	2.73	37.3	0.00			402
2	452		6.20	6.16	34.185	26.889	121.9	0.940	0.77	11.1	71.3	2.93	39.4	0.00			455
	500	ISL	6.00	5.96	34.232	26.952	116.4	0.998	0.54	7.8	76.8	3.03	40.7	0.00			503
2	522		5.91	5.86	34.254	26.980	113.9	1.023	0.44	6.3	79.3	3.08	41.3	0.00			525

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 44.9 N	121 18.4 W	14/10/93	1753 UTC	3544 •	330 05 kn	360 02 06	1	1019.0 ab	20.5 C	18.1 C	34a 01	1/8 SC

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uH/l	PO4 uM/l	NO3 uH/l	NO2 uH/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	18.13	18.13	32.963	23.682	420.4	0.000	5.55	102.5	2.4	0.32	0.1	0.00	0.15	0.04	0
2	2	A	18.13	18.13	32.963	23.682	420.5	0.008	5.55	102.5	2.4	0.32	0.1	0.00	0.15	0.04	2
2	10		17.88	17.88	32.958	23.739	415.3	0.042	5.57	102.3	2.2	0.31	0.1	0.00	0.17	0.04	10
	20	ISL	17.66	17.66	33.083	23.888	401.4	0.083	5.64	103.3	2.2	0.32	0.1	0.00	0.18	0.06	20
2	23	A	17.56	17.56	33.116	23.938	396.7	0.095	5.67	103.6	2.2	0.32	0.1	0.00	0.18	0.06	23
	30	ISL	17.06	17.06	33.074	24.025	388.7	0.122	5.72	103.5	2.3	0.34	0.1	0.00	0.27	0.14	30
2	33		16.86	16.85	33.052	24.055	385.9	0.134	5.73	103.3	2.3	0.35	0.1	0.00	0.32	0.18	33
2	43	A	16.72	16.71	33.085	24.113	380.7	0.172	5.73	103.0	2.5	0.35	0.1	0.00	0.50	0.28	43
2	50		16.70	16.69	33.126	24.149	377.4	0.199	5.75	103.4	2.5	0.35	0.1	0.00	0.51	0.30	50
2	59		16.31	16.30	33.117	24.232	369.8	0.232	5.82	103.8	2.5	0.36	0.1	0.00	0.48	0.32	59
2	65	A	16.37	16.36	33.251	24.322	361.5	0.254	5.83	104.2	2.5	0.31	0.1	0.01	0.38	0.26	65
	75	ISL	15.44	15.43	33.198	24.490	345.6	0.290	5.85	102.6	2.7	0.35	0.3	0.09	0.30	0.27	75
2	90	A	13.49	13.48	33.013	24.759	320.1	0.339	5.89	99.2	3.0	0.42	0.5	0.17	0.23	0.29	90
	100	ISL	12.67	12.66	33.029	24.934	303.6	0.371	5.65	93.5	4.3	0.56	2.5	0.09	0.16	0.21	100
2	108		12.28	12.27	33.104	25.067	291.1	0.394	5.42	89.0	5.5	0.66	4.3	0.02	0.11	0.14	108
2	122	A	12.49	12.47	33.418	25.271	272.2	0.434	5.14	84.9	6.7	0.71	6.0	0.01	0.07	0.11	122
	125	ISL	12.33	12.31	33.443	25.321	267.5	0.442	5.09	83.9	7.1	0.74	6.6	0.01	0.06	0.10	126
2	143		10.93	10.91	33.485	25.612	239.9	0.488	4.83	77.2	10.5	1.00	11.0	0.01	0.04	0.06	144
	150	ISL	10.44	10.42	33.485	25.698	231.8	0.504	4.69	74.2	12.3	1.12	13.0	0.01	0.03	0.05	151
2	174		9.08	9.06	33.518	25.948	208.0	0.557	4.25	65.3	18.9	1.48	18.9	0.01	0.01	0.03	175
	200	ISL	8.32	8.30	33.725	26.228	181.7	0.608	4.12	62.3	24.4	1.62	21.7	0.01	0.00	0.02	201
2	202		8.29	8.27	33.742	26.246	180.0	0.611	4.12	62.2	24.8	1.62	21.8	0.01	0.00	0.02	203
2	233		8.01	7.99	33.892	26.406	165.3	0.665	3.85	57.8	29.6	1.72	23.8	0.01			234
	250	ISL	7.86	7.84	33.934	26.461	160.3	0.692	3.73	55.9	31.9	1.76	24.7	0.01			251
2	272		7.65	7.62	33.965	26.516	155.4	0.727	3.52	52.5	35.2	1.84	26.0	0.00			273
	300	ISL	7.32	7.29	33.993	26.585	149.1	0.770	2.98	44.1	41.7	2.05	29.1	0.00			302
2	327		6.98	6.95	34.010	26.646	143.6	0.809	2.42	35.5	48.5	2.27	32.2	0.00			329
2	390		6.20	6.17	34.036	26.770	132.1	0.896	1.75	25.2	61.4	2.58	36.7	0.00			392
	400	ISL	6.12	6.08	34.045	26.787	130.6	0.909	1.63	23.4	63.2	2.62	37.3	0.00			402
2	455		5.79	5.75	34.101	26.873	122.9	0.979	1.04	14.8	72.4	2.84	39.8	0.00			458
	500	ISL	5.56	5.52	34.146	26.937	117.2	1.033	0.76	10.8	78.7	2.96	41.2	0.00			503
2	522		5.45	5.41	34.169	26.969	114.4	1.058	0.62	8.8	81.8	3.02	41.9	0.00			525

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 90 90

LATITUDE	LONGITUDE	OAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	MET	SECCHI/FOREL	CLD AMT TYPE
31 24.7 N	121 59.3 W	14/10/93	0700 UTC	3924 •	330 03 kn			1018.3 ab	18.3 C	16.5 C		

CAST	DEPTH •		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uH/I	PO4 uM/L	NO3 uH/l	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	18.85	18.85	33.121	23.624	425.9	0.000	5.44	101.9	2.3	0.27	0.2	0.00	0.09	0.03	0
2	1		18.85	18.85	33.121	23.625	425.9	0.004	5.44	101.9	2.3	0.27	0.2	0.00	0.09	0.03	1
	10	ISL	18.75	18.75	33.138	23.663	422.6	0.042	5.45	101.9	2.2	0.27	0.2	0.00	0.08	0.02	10
2	15		18.67	18.67	33.157	23.698	419.4	0.063	5.46	102.0	2.2	0.27	0.2	0.00	0.08	0.02	15
	20	ISL	18.63	18.63	33.191	23.734	416.1	0.084	5.46	101.9	2.2	0.27	0.2	0.00	0.08	0.02	20
	30	ISL	18.57	18.56	33.248	23.793	410.9	0.126	5.46	101.8	2.2	0.27	0.2	0.00	0.09	0.03	30
2	31		18.57	18.56	33.253	23.797	410.5	0.130	5.46	101.8	2.2	0.27	0.2	0.00	0.09	0.03	31
2	40		18.53	18.52	33.253	23.807	409.9	0.167	5.47	101.9	2.2	0.26	0.2	0.00	0.10	0.03	40
2	50		18.55	18.54	33.327	23.859	405.3	0.208	5.48	102.2	2.2	0.26	0.2	0.00	0.14 '	0.05	50
2	60		18.06	18.05	33.282	23.946	397.3	0.248	5.56	102.7	2.2	0.27	0.2	0.00	0.20	0.08	60
2	70		17.24	17.23	33.367	24.208	372.5	0.286	5.75	104.6	2.1	0.25	0.1	0.00	0.23	0.11	70
	75	ISL	16.73	16.72	33.400	24.353	358.8	0.304	5.81	104.7	2.1	0.24	0.1	0.00	0.26	0.15	75
2	80		16.26	16.25	33.426	24.482	346.7	0.322	5.84	104.2	2.2	0.24	0.1	0.00	0.29	0.19	80
2	95		15.55	15.54	33.435	24.649	331.2	0.373	5.79	101.9	2.5	0.27	0.1	0.00	0.24	0.28	95
	100	ISL	15.31	15.29	33.438	24.704	326.0	0.389	5.73	100.4	2.6	0.29	0.1	0.03	0.22	0.30	100
2	110		14.77	14.75	33.435	24.819	315.3	0.421	5.57	96.5	3.0	0.36	0.2	0.08	0.19	0.33	110
2	125		13.76	13.74	33.402	25.006	297.7	0.467	5.32	90.3	4.3	0.52	2.4	0.09	0.14	0.28	125
2	150		11.92	11.90	33.383	25.353	265.0	0.538	4.98	81.3	7.9	0.84	7.9	0.01	0.09	0.12	151
2	174		9.69	9.67	33.436	25.786	223.7	0.596	4.51	70.2	14.9	1.29	13.7	0.00	0.02	0.04	175
	200	ISL	8.70	8.68	33.647	26.109	193.1	0.651	4.16	63.4	21.5	1.54	20.4	0.00	0.00	0.02	201
2	204		8.63	8.61	33.680	26.146	189.7	0.658	4.12	62.7	22.4	1.56	20.8	0.00	0.00	0.02	205
2	234		8.26	8.24	33.816	26.309	174.6	0.713	3.87	38.4	27.0	1.67	22.8	0.00			235
	250	ISL	8.12	8.09	33.865	26.369	169.2	0.740	3.75	56.5	29.0	1.74	23.7	0.00			251
2	274		7.90	7.87	33.923	26.447	162.1	0.780	3.50	52.4	32.6	1.88	25.4	0.00			275
	300	ISL	7.58	7.55	33.985	26.542	153.4	0.821	2.92	43.5	39.6	2.09	28.6	0.00			302
2	329		7.18	7.15	34.038	26.641	144.3	0.864	2.23	32.9	48.3	2.33	32.3	0.00			331
2	388		6.30	6.27	34.059	26.775	131.7	0.946	1.53	22.1	62.4	2.65	37.1	0.00			390
	400	ISL	6.22	6.18	34.071	26.795	129.9	0.961	1.41	20.3	64.4	2.70	37.7	0.00			402
2	452		5.97	5.93	34.129	26.873	123.1	1.027	0.95	13.6	71.9	2.89	39.7	0.00			455
	500	ISL	5.68	5.64	34.173	26.944	116.7	1.085	0.68	9.7	79.1	3.00	41.3	0.00			503
2	522		5.54	5.50	34.193	26.977	113.7	1.110	0.55	7.8	82.4	3.05	42.0	0.00			525

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 90 100

LATITUDE	LONGITUDE	DAY/NO/YR	CAST TINE	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 5.3 H	122 39.8 W	13/10/93	1810 UTC	3982 •	060 04 kn	330 03 08	1	1018.8 ab	19.9 C	17.5 C	45a 01	4/8 AC

CAST	DEPTH •		TEMP DEG C	POT TEMP DEC C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/L	NO2 uM/I	CHL-A ug/l	PHAEO ug/L	PRESS db
	0	ISL	19.22	19.22	33.106	23.520	435.9	0.000	5.41	102.1	2.6	0.28	0.1	0.00	0.10	0.02	0
2	2	A	19.22	19.22	33.106	23.520	435.9	0.009	5.41	102.1	2.6	0.28	0.1	0.00	0.10	0.02	2
	10	ISL	19.21	19.21	33.201	23.595	429.0	0.043	5.43	102.5	2.5	0.28	0.1	0.00	0.09	0.02	10
2	15		19.19	19.19	33.272	23.655	423.5	0.065	5.44	102.7	2.4	0.28	0.1	0.00	0.09	0.02	15
	20	ISL	19.18	19.18	33.272	23.657	423.5	0.086	5.44	102.7	2.4	0.28	0.1	0.00	0.09	0.02	20
2	29	A	19.15	19.14	33.270	23.664	423.2	0.124	5.43	102.4	2.4	0.28	0.1	0.00	0.10	0.03	29
	30	ISL	19.15	19.14	33.270	23.664	423.2	0.128	5.43	102.4	2.4	0.28	0.1	0.00	0.10	0.03	30
2	39		19.11	19.10	33.271	23.675	422.4	0.166	5.45	102.7	2.4	0.28	0.1	0.00	0.10	0.03	39
2	48		18.68	18.67	33.251	23.768	413.8	0.204	5.52	103.2	2.3	0.28	0.1	0.00	0.13	0.03	48
	50	ISL	18.64	18.63	33.250	23.778	413.0	0.212	5.52	103.1	2.3	0.28	0.1	0.00	0.13	0.03	50
2	56	A	18.49	18.48	33.249	23.815	409.7	0.237	5.52	102.8	2.3	0.29	0.1	0.00	0.13	0.04	56
2	71		17.36	17.35	33.235	24.079	384.9	0.296	5.70	103.8	2.4	0.30	0.1	0.00	0.23	0.10	71
	75	ISL	16.97	16.96	33.242	24.176	375.7	0.312	5.76	104.1	2.4	0.31	0.1	0.00	0.24	0.12	75
2	85	A	16.03	16.02	33.276	24.419	352.8	0.348	5.87	104.2	2.5	0.32	0.1	0.00	0.25	0.18	85
2	99		15.22	15.20	33.348	24.655	330.7	0.396	5.78	101.0	2.5	0.33	0.1	0.00	0.25	0.24	99
	100	ISL	15.21	15.19	33.352	24.660	330.2	0.399	5.77	100.8	2.5	0.33	0.1	0.01	0.25	0.24	100
2	109		15.15	15.13	33.420	24.726	324.2	0.429	5.65	98.6	2.6	0.37	0.1	0.07	0.23	0.22	109
2	118	A	14.27	14.25	33.461	24.946	303.4	0.457	5.45	93.5	3.7	0.45	1.2	0.10	0.17	0.19	118
	125	ISL	13.88	13.86	33.507	25.063	292.4	0.478	5.32	90.6	4.4	0.52	2.4	0.08	0.14	0.17	125
2	141		13.12	13.10	33.571	25.267	273.3	0.523	5.09	85.3	6.1	0.69	5.6	0.02	0.10	0.14	142
	150	ISL	12.37	12.35	33.539	25.388	261.7	0.547	4.99	82.3	7.5	0.81	7.6	0.02	0.08	0.11	151
2	162	A	11.32	11.30	33.494	25.549	246.4	0.578	4.84	78.1	9.9	0.98	10.5	0.01	0.05	0.08	163
2	199		9.10	9.08	33.633	26.036	200.3	0.660	4.02	61.8	20.4	1.56	19.8	0.00	0.01	0.02	200
	200	ISL	9.07	9.05	33.639	26.045	199.4	0.662	4.00	61.4	20.6	1.57	20.0	0.00			201
2	234		8.49	8.47	33.849	26.300	175.6	0.726	3.54	53.7	27.6	1.80	23.8	0.00			235
	250	ISL	8.21	8.18	33.916	26.395	166.8	0.753	3.35	50.6	31.3	1.88	25.4	0.00			251
2	271		7.87	7.84	33.981	26.497	157.3	0.787	3.10	46.4	36.3	1.99	27.3	0.00			272
	300	ISL	7.47	7.44	34.028	26.592	148.6	0.832	2.62	38.9	43.3	2.19	30.1	0.00			302
2	327		7.14	7.11	34.051	26.656	142.7	0.871	2.16	31.8	49.7	2.38	32.5	0.00			329
2	387		6.51	6.47	34.102	26.782	131.3	0.953	1.37	19.9	61.8	2.70	36.6	0.00			389
	400	ISL	6.37	6.33	34.108	26.805	129.2	0.970	1.26	18.2	64.2	2.75	37.3	0.00			402
2	455		5.88	5.84	34.136	26.890	121.4	1.039	0.89	12.7	73.5	2.93	39.9	0.00			458
	500	ISL	5.69	5.65	34.180	26.949	116.3	1.093	0.66	9.4	79.2	3.04	41.1	0.00			503
2	525		5.58	5.54	34.204	26.981	113.4	1.121	0.53	7.5	82.4	3.10	41.7	0.00			528

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 90 110

LATITUDE	LON6ITUDC	DAY/HO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 45.4 N	123 19.8 W	13/10/93	1225 UTC	4013 -	00 kn			1017.8 ab	18.8 C	16.9 C			

CAST	DEPTH -	TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/l	PO4 uM/L	NO3 uM/L	NO2 uM/L	CHL-A ug/L	PHAEO ug/I	PRESS db
	0 ISL	19.29	19.29	33.223	23.591	429.1	0.000	5.42	102.5	2.6	0.30	0.2	0.00	0.09	0.03	0
2	2	19.29	19.29	33.223	23.591	429.1	0.009	5.42	102.5	2.6	0.30	0.2	0.00	0.09	0.03	2
	10 ISL	19.29	19.29	33.222	23.591	429.5	0.043	5.42	102.5	2.5	0.29	0.2	0.00	0.09	0.02	10
2	14	19.29	19.29	33.221	23.590	429.6	0.060	5.42	102.5	2.4	0.29	0.2	0.00	0.09	0.02	14
	20 ISL	19.24	19.24	33.221	23.603	428.6	0.086	5.43	102.5	2.4	0.29	0.2	0.00	0.09	0.02	20
2	30	19.15	19.14	33.227	23.631	426.3	0.129	5.45	102.8	2.4	0.30	0.2	0.00	0.10	0.02	30
2	40	19.14	19.13	33.247	23.649	424.9	0.171	5.43	102.4	2.4	0.29	0.2	0.00	0.10	0.03	40
2	50	18.82	18.81	33.228	23.716	418.9	0.213	5.47	102.5	2.2	0.29	0.2	0.00	0.14	0.05	50
2	60	16.63	16.62	33.078	24.129	379.7	0.253	5.90	105.9	2.3	0.33	0.2	0.00	0.19	0.07	60
2	70	14.96	14.95	33.066	24.493	345.1	0.290	6.09	105.7	2.6	0.33	0.2	0.00	0.23	0.13	70
	75 ISL	14.55	14.54	33.057	24.574	337.5	0.307	6.07	104.5	2.7	0.34	0.2	0.00	0.23	0.15	75
2	81	14.20	14.19	33.056	24.647	330.7	0.327	6.04	103.2	3.0	0.37	0.2	0.00	0.24	0.18	81
2	95	13.13	13.12	33.169	24.952	301.9	0.371	5.62	94.0	4.4	0.54	2.0	0.12	0.33	0.32	95
	100 ISL	12.77	12.76	33.192	25.041	293.5	0.386	5.44	90.3	5.3	0.64	3.6	0.10	0.30	0.30	100
2	109	12.14	12.13	33.226	25.188	279.6	0.412	5.12	83.9	7.4	0.84	7.1	0.03	0.22	0.22	109
2	122	11.18	11.17	33.287	25.413	258.4	0.447	4.75	76.3	10.7	1.11	11.7	0.01	0.14	0.16	122
	125 ISL	10.98	10.96	33.303	25.461	253.8	0.454	4.67	74.7	11.5	1.16	12.6	0.01	0.12	0.14	125
2	148	9.73	9.71	33.438	25.780	223.6	0.509	4.22	65.7	17.0	1.45	17.9	0.01	0.03	0.05	149
	150 ISL	9.64	9.62	33.450	25.805	221.4	0.514	4.20	65.3	17.4	1.47	18.2	0.01	0.03	0.05	151
2	173	8.80	8.78	33.591	26.049	198.3	0.562	3.99	60.9	21.6	1.61	20.8	0.00	0.01	0.04	174
	200 ISL	8.31	8.29	33.783	26.275	177.3	0.613	3.66	55.3	27.6	1.78	23.9	0.00	0.00	0.02	201
2	203	8.28	8.26	33.803	26.295	175.4	0.618	3.61	54.5	28.3	1.80	24.2	0.00	0.00	0.02	204
2	234	8.18	8.16	33.937	26.416	164.5	0.671	2.99	45.1	33.9	2.00	27.2	0.00			235
	250 ISL	8.01	7.98	33.961	26.460	160.5	0.697	3.02	45.4	35.4	2.00	27.6	0.00			251
2	274	7.67	7.64	33.975	26.321	155.0	0.734	3.13	46.7	37.9	2.01	28.0	0.00			275
	300 ISL	7.29	7.26	34.000	26.595	148.2	0.774	2.77	40.9	43.8	2.17	30.3	0.00			302
2	327	6.89	6.86	34.022	26.668	141.5	0.813	2.28	33.4	50.8	2.37	33.0	0.00			329
2	388	6.17	6.14	34.047	26.783	130.9	0.896	1.63	23.5	63.5	2.66	37.1	0.00			390
	400 ISL	6.08	6.05	34.058	26.803	129.1	0.912	1.50	21.6	65.6	2.71	37.7	0.00			402
2	453	5.80	5.76	34.115	26.883	122.0	0.978	1.00	14.3	74.0	2.88	40.0	0.00			456
	500 ISL	5.57	5.53	34.167	26.953	115.8	1.034	0.71	10.1	80.7	3.01	41.4	0.00			503
2	528	5.43	5.39	34.198	26.994	112.0	1.066	0.54	7.6	84.7	3.09	42.3	0.00			531

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 90 120

LATITUDE	LON6ITUDIE	DAY/NO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 25.1 N	123 59.7 W	12/10/93	2327 UTC	4227 -	090 05 kn	310 03 06	1	1018.4 ab	20.0 C	17.9 C	40a 01	4/8	SC

CAST	DEPTH -	TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uH/l	PO4 uH/L	NO3 uM/L	NO2 uM/I	CHL-A ug/I	PHAEO ug/I	PRESS db
	0 ISL	19.77	19.77	33.271	23.504	437.3	0.000	5.39	102.8	2.6	0.29	0.1	0.00	0.07	0.02	0
2	2	19.77	19.77	33.271	23.505	437.4	0.009	5.39	102.8	2.6	0.29	0.1	0.00	0.07	0.02	2
2	10	19.31	19.31	33.276	23.627	426.0	0.043	5.40	102.2	2.4	0.28	0.1	0.00	0.08	0.02	10
2	20	19.24	19.24	33.282	23.650	424.2	0.086	5.41	102.2	2.3	0.28	0.1	0.00	0.08	0.02	20
2	29	18.96	18.95	33.292	23.729	417.0	0.124	5.46	102.6	2.3	0.28	0.1	0.00	0.08	0.03	29
	30 ISL	18.96	18.95	33.303	23.737	416.2	0.128	5.46	102.6	2.3	0.28	0.1	0.00	0.08	0.03	30
2	40	18.99	18.98	33.405	23.808	409.8	0.169	5.44	102.4	2.3	0.27	0.1	0.00	0.09	0.02	40
2	50	18.96	18.95	33.459	23.857	405.5	0.210	5.43	102.1	2.2	0.26	0.1	0.00	0.09	0.03	50
2	59	18.80	18.79	33.479	23.913	400.5	0.246	5.45	102.2	2.2	0.26	0.1	0.00	0.12	0.04	59
2	69	17.77	17.76	33.473	24.163	376.9	0.285	5.73	105.4	2.3	0.25	0.1	0.00	0.16	0.06	69
	75 ISL	16.96	16.95	33.471	24.354	358.8	0.307	5.75	104.1	2.4	0.26	0.1	0.00	0.17	0.08	75
2	83	15.99	15.98	33.487	24.590	336.5	0.335	5.78	102.7	2.5	0.28	0.1	0.00	0.19	0.12	83
2	99	15.48	15.46	33.580	24.776	319.2	0.387	5.59	98.3	2.7	0.33	0.1	0.03	0.25	0.27	99
	100 ISL	15.42	15.40	33.582	24.791	317.8	0.391	5.57	97.9	2.8	0.34	0.2	0.03	0.25	0.27	100
2	119	13.93	13.91	33.555	25.089	289.7	0.448	5.24	89.3	4.7	0.54	3.0	0.04	0.20	0.22	119
	125 ISL	13.39	13.37	33.505	25.161	282.9	0.465	5.15	86.8	5.5	0.63	4.4	0.03	0.17	0.20	125
2	145	11.63	11.61	33.366	25.393	260.9	0.520	4.86	78.8	8.9	0.95	9.3	0.01	0.07	0.15	146
	150 ISL	11.24	11.22	33.371	25.468	253.8	0.533	4.81	77.4	9.9	1.01	10.4	0.01	0.06	0.13	151
2	174	9.71	9.69	33.481	25.818	220.6	0.590	4.53	70.5	15.3	1.30	15.7	0.01	0.02	0.05	175
	200 ISL	8.77	8.75	33.624	26.080	195.9	0.644	3.86	58.9	23.0	1.65	21.8	0.00	0.00	0.03	201
2	205	8.65	8.63	33.656	26.124	191.8	0.653	3.72	56.6	24.5	1.71	22.8	0.00	0.00	0.03	206
2	235	8.20	8.18	33.908	26.390	167.0	0.707	3.11	46.9	32.3	1.92	26.5	0.00			236
	250 ISL	8.05	8.02	33.971	26.462	160.3	0.732	2.85	42.9	35.6	2.02	27.8	0.00			251
2	275	7.80	7.77	34.021	26.539	153.4	0.771	2.50	37.4	40.5	2.16	29.7	0.00			276
	300 ISL	7.42	7.39	34.033	26.603	147.5	0.809	2.30	34.1	45.2	2.27	31.5	0.00			302
2	328	6.98	6.95	34.028	26.660	142.3	0.849	2.12	31.1	50.5	2.38	33.4	0.00			330
2	390	6.21	6.18	34.061	26.789	130.4	0.934	1.48	21.3	63.7	2.67	37.5	0.00			392
	400 ISL	6.11	6.07	34.071	26.809	128.5	0.947	1.37	19.7	65.8	2.72	38.1	0.00			402
2	446	5.71	5.67	34.117	26.896	120.6	1.004	0.92	13.1	75.0	2.90	40.5	0.00			449
	500 ISL	5.41	5.37	34.157	26.964	114.5	1.067	0.66	9.3	82.9	3.00	42.2	0.00			503
2	524	5.27	5.23	34.175	26.995	111.7	1.095	0.55	7.8	86.4	3.05	42.9	0.00			527

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD ANT TYPE
32 57.1 N	117 18.1 W	08/10/93	1947 UTC	56 -	130 05 kn	230 03 09	2	1013.2 ab	20.0 C	16.2 C	16a 03	8/8 ST

CAST	DEPTH -	TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6NA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uH/L	PO4 uM/l	NO3 uM/l	NO2 uM/I	CHL-A ug/l	PHAEO ug/L	PRESS db
	0 ISL	19.59	19.59	33.335	23.600	428.2	0.000	5.77	109.8	2.8	0.48	0.1	0.00	0.62	0.14	0
2	2	19.59	19.59	33.335	23.600	428.3	0.009	5.77	109.8	2.8	0.48	0.1	0.00	0.62	0.14	2
2	10	17.70	17.70	33.267	24.019	388.5	0.041	6.00	110.1	3.2	0.52	0.0	0.00	0.68	0.29	10
	20 ISL	15.65	15.65	33.228	24.465	346.3	0.078	5.95	104.8	4.0	0.58	0.0	0.01	0.80	0.44	20
2	21	15.48	15.48	33.226	24.501	342.9	0.081	5.95	104.5	4.1	0.59	0.0	0.01	0.81	0.45	21
	30 ISL	14.49	14.49	33.210	24.703	323.9	0.111	5.87	101.0	4.5	0.63	0.5	0.06	0.69	0.52	30
2	31	14.41	14.41	33.209	24.719	322.4	0.115	5.85	100.5	4.5	0.64	0.6	0.07	0.67	0.52	31
2	41	13.83	13.82	33.220	24.849	310.3	0.146	5.54	94.1	5.7	0.77	2.2	0.25	0.52	0.39	41
	50 ISL	13.67	13.66	33.231	24.890	306.6	0.174	5.44	92.1	6.1	0.79	2.7	0.30	0.50	0.35	50
2	51	13.65	13.64	33.232	24.895	306.2	0.177	5.43	91.9	6.2	0.79	2.7	0.31	0.50	0.35	51

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 93 28

LATITUDE	LONSITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 54.7 N	117 23.5 W	08/10/93	2310 UTC	643 -	200 09 kn	210 02 08	1	1011.2 ab	20.0 C	17.7 C	22a 02	2/8 SC

CAST	DEPTH a	TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/I	NO2 uM/L	CHL-A ug/l	PHAEO ug/L	PRESS db
	0 ISL	19.57	19.57	33.369	23.631	425.3	0.000	5.58	106.1	2.1	0.40	0.0	0.00	0.26	0.06	0
2	2	19.57	19.57	33.369	23.631	425.3	0.009	5.58	106.1	2.1	0.40	0.0	0.00	0.26	0.06	2
2	10	18.63	18.63	33.316	23.829	406.7	0.042	5.75	107.4	2.5	0.39	0.0	0.00	0.27	0.11	10
2	20	16.52	16.52	33.259	24.292	362.9	0.080	6.03	108.1	2.1	0.41	0.0	0.00	0.36	0.14	20
2	30	15.23	15.23	33.157	24.503	343.0	0.116	6.07	106.0	2.9	0.44	0.0	0.00	0.46	0.28	30
2	39	13.82	13.81	33.169	24.811	313.8	0.145	5.86	99.4	4.6	0.58	1.2	0.07	0.89	0.59	39
2	50	12.83	12.82	33.234	25.060	290.3	0.178	5.36	89.1	6.9	0.80	5.5	0.13	0.61	0.54	50
2	59	12.35	12.34	33.262	25.175	279.6	0.204	5.06	83.3	8.3	0.92	7.7	0.07	0.39	0.38	59
2	69	11.95	11.94	33.318	25.294	268.5	0.231	4.77	77.9	9.7	1.05	9.6	0.04	0.25	0.28	69
	75 ISL	11.84	11.83	33.339	25.331	265.1	0.247	4.65	75.8	10.4	1.09	10.3	0.04	0.20	0.25	75
2	85	11.74	11.73	33.362	25.368	261.8	0.274	4.50	73.2	11.3	1.14	11.2	0.04	0.15	0.22	85
2	99	11.59	11.58	33.380	25.410	258.2	0.310	4.38	71.0	12.4	1.19	12.0	0.04	0.13	0.20	99
	100 ISL	11.56	11.55	33.384	25.419	257.4	0.313	4.36	70.6	12.5	1.20	12.1	0.04	0.13	0.20	100
2	119	10.78	10.77	33.480	25.634	237.2	0.360	4.01	63.9	15.7	1.39	15.4	0.02	0.05	0.11	120
	125 ISL	10.55	10.54	33.497	25.687	232.2	0.374	3.97	63.0	16.5	1.43	16.3	0.02	0.04	0.10	126
2	143	9.96	9.94	33.554	25.833	218.7	0.414	3.83	60.0	19.1	1.54	18.7	0.02	0.02	0.07	144
	150 ISL	9.84	9.82	33.595	25.885	213.8	0.430	3.69	57.7	20.3	1.60	19.6	0.02	0.02	0.07	151
2	173	9.57	9.55	33.746	26.048	198.8	0.477	3.19	49.6	24.4	1.78	22.3	0.01	0.01	0.06	174
	200 ISL	9.15	9.13	33.910	26.245	180.5	0.528	2.80	43.2	29.2	1.95	25.1	0.02	0.00	0.04	201
2	202	9.13	9.11	33.922	26.237	179.4	0.532	2.77	42.7	29.5	1.96	25.3	0.02	0.00	0.04	203
2	233	9.12	9.09	34.083	26.385	167.9	0.586	2.29	35.3	33.6	2.10	27.1	0.02			234
	250 ISL	8.94	8.91	34.125	26.447	162.3	0.614	2.12	32.6	36.4	2.17	28.1	0.02			251
2	272	8.64	8.61	34.154	26.517	155.9	0.649	1.93	29.5	40.2	2.26	29.3	0.02			274
	300 ISL	8.32	8.29	34.184	26.590	149.4	0.691	1.64	24.9	44.7	2.38	30.8	0.02			302
2	327	8.05	8.02	34.205	26.647	144.3	0.731	1.38	20.8	48.8	2.50	32.1	0.01			329
2	386	7.64	7.60	34.251	26.744	135.9	0.814	0.94	14.0	55.9	2.75	34.3	0.01			388
	400 ISL	7.52	7.48	34.258	26.767	133.8	0.833	0.86	12.8	57.7	2.80	34.8	0.01			402
2	450	7.03	6.99	34.279	26.853	126.1	0.898	0.61	9.0	65.1	2.95	36.6	0.01			453
	500 ISL	6.40	6.35	34.306	26.959	116.2	0.958	0.41	5.9	75.7	3.07	38.9	0.02			503
2	523	6.11	6.06	34.320	27.007	111.6	0.984	0.32	4.6	80.6	3.12	39.9	0.02			527

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 93 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 50.8 N	117 32.0 W	09/10/93	0152 UTC	858 a	220 05 kn			1011.3 ab	18.5 C	16.5 C		

CAST	DEPTH a	TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/I	NO2 uM/I	CHL-A ug/l	PHAEO ug/I	PRESS db
	0 ISL	20.16	20.16	33.381	23.487	439.0	0.000	5.52	106.2	2.6	0.27	0.0	0.00			0
2	2	20.16	20.16	33.381	23.487	439.1	0.009	5.52	106.2	2.6	0.27	0.0	0.00			2
2	10	20.05	20.05	33.378	23.514	436.8	0.044	5.53	106.1	2.5	0.27	0.0	0.00	0.16	0.08	10
	20 ISL	18.51	18.51	33.300	23.847	405.4	0.086	5.87	109.4	2.5	0.30	0.0	0.00	0.22	0.10	20
2	21	18.30	18.30	33.293	23.893	400.9	0.090	5.91	109.7	2.5	0.30	0.0	0.00	0.23	0.10	21
	30 ISL	16.50	16.50	33.275	24.309	361.6	0.124	5.98	107.2	2.5	0.33	0.0	0.00	0.33	0.18	30
2	31	16.30	16.30	33.274	24.354	357.3	0.128	5.99	106.9	2.5	0.34	0.0	0.00	0.34	0.19	31
2	40	14.86	14.85	33.233	24.642	330.0	0.159	5.86	101.6	3.6	0.43	0.7	0.05	0.86	0.54	40
2	50	13.76	13.75	33.217	24.861	309.4	0.191	5.64	95.6	4.8	0.57	2.3	0.14	0.83	0.53	50
2	60	12.43	12.42	33.264	25.161	281.0	0.220	5.11	84.3	8.3	0.88	7.7	0.11	0.38	0.35	60
2	70	11.48	11.47	33.316	25.380	260.3	0.247	4.71	76.1	10.9	1.10	11.4	0.03	0.17	0.23	70
	75 ISL	11.16	11.15	33.346	25.461	252.7	0.260	4.56	73.2	12.0	1.18	12.8	0.03	0.14	0.19	75
2	86	10.65	10.64	33.410	25.601	239.5	0.287	4.30	68.3	14.4	1.32	15.2	0.02	0.09	0.14	86
2	100	10.08	10.07	33.487	25.759	224.7	0.320	3.99	62.6	17.5	1.48	17.8	0.02	0.04	0.10	100
2	120	9.78	9.77	33.622	25.915	210.3	0.363	3.58	55.9	20.9	1.64	20.1	0.03	0.02	0.07	121
	125 ISL	9.72	9.71	33.658	25.954	206.8	0.374	3.47	54.1	21.8	1.68	20.7	0.03	0.02	0.07	126
2	145	9.49	9.47	33.786	26.092	194.0	0.414	3.09	48.0	24.9	1.81	22.9	0.01	0.01	0.06	146
	150 ISL	9.43	9.41	33.807	26.118	191.6	0.423	3.04	47.1	25.6	1.83	23.3	0.01	0.01	0.06	151
2	175	9.21	9.19	33.895	26.223	182.1	0.470	2.84	43.8	28.4	1.93	24.6	0.01	0.00	0.05	176
	200 ISL	9.27	9.25	34.008	26.302	175.1	0.515	2.47	38.2	30.6	2.05	25.8	0.01	0.00	0.05	201
2	203	9.28	9.26	34.020	26.310	174.5	0.520	2.43	37.6	30.9	2.06	25.9	0.01	0.00	0.05	204
2	234	9.09	9.06	34.085	26.392	167.3	0.573	2.22	34.2	34.2	2.14	27.2	0.02			235
	250 ISL	8.83	8.80	34.094	26.440	162.9	0.599	2.21	33.9	36.1	2.18	27.9	0.02			251
2	274	8.41	8.38	34.104	26.513	156.2	0.638	2.16	32.8	39.3	2.26	28.9	0.02			276
	300 ISL	8.22	8.19	34.149	26.578	150.5	0.678	1.85	28.0	43.3	2.39	30.2	0.01			302
2	330	8.07	8.04	34.207	26.646	144.5	0.722	1.41	21.2	48.3	2.55	31.8	0.00			332
2	388	7.48	7.44	34.267	26.780	132.4	0.802	0.81	12.0	58.1	2.83	34.7	0.00			390
	400 ISL	7.37	7.33	34.272	26.799	130.7	0.818	0.74	11.0	59.8	2.86	35.2	0.00			403
2	452	6.89	6.85	34.286	26.877	123.7	0.884	0.56	8.2	66.6	2.97	37.1	0.00			455
	500 ISL	6.49	6.44	34.299	26.942	117.9	0.942	0.43	6.2	73.3	3.05	38.6	0.00			503
2	521	6.31	6.26	34.306	26.971	115.3	0.967	0.38	5.5	76.2	3.08	39.2	0.00			525

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCH1/FOREL	CLD AHT TYPE
32 40.7 N	117 52.4 W	09/10/93	0533 UTC	616 •	240 01 kn			1012.5 ab	18.0 C	16.0 C		

CAST	DEPTH •		TEMP OES C	POT TEMP DE6 C	SALINITY	S16HA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/L	NO3 uM/l	NO2 uM/1	CHL-A ug/L	PHAEO ug/1.	PRESS db
	0	ISL	18.65	18.65	33.374	23.868	402.7	0.000	5.64	105.4	2.3	0.24	0.0	0.00	0.22	0.08	0
2	2		18.65	18.65	33.374	23.868	402.7	0.008	5.64	105.4	2.3	0.24	0.0	0.00	0.22	0.08	2
2	10		18.35	18.35	33.360	23.932	396.9	0.040	5.69	105.8	2.1	0.25	0.0	0.00	0.18	0.09	10
2	20		17.91	17.91	33.351	24.033	387.6	0.079	5.76	106.1	2.0	0.25	0.0	0.00	0.19	0.13	20
2	30		15.85	15.85	33.188	24.390	353.8	0.116	5.99	105.9	2.8	0.30	0.0	0.00	0.29	0.21	30
2	40		14.02	14.01	33.219	24.809	314.1	0.150	5.81	99.0	4.0	0.42	0.6	0.06	0.57	0.44	40
2	50		13.50	13.49	33.274	24.958	300.2	0.180	5.51	92.9	4.8	0.53	2.6	0.11	0.32	0.47	50
2	60		12.88	12.87	33.290	25.094	287.4	0.210	5.24	87.3	6.4	0.69	5.2	0.09	0.38	0.40	60
2	70		12.27	12.26	33.324	25.239	273.8	0.238	5.02	82.5	7.8	0.84	7.8	0.05	0.28	0.32	70
	75	ISL	11.83	11.82	33.335	25.330	265.2	0.251	4.87	79.3	9.2	0.95	9.6	0.03	0.22	0.27	75
2	85		10.96	10.95	33.369	25.515	247.8	0.277	4.54	72.6	12.5	1.18	13.3	0.01	0.13	0.17	85
2	100		10.21	10.20	33.477	25.730	227.6	0.313	4.04	63.6	17.2	1.44	17.4	0.01	0.07	0.11	100
2	125		9.39	9.38	33.665	26.013	201.0	0.366	3.47	53.7	23.2	1.70	21.7	0.00	0.01	0.06	126
2	144		9.19	9.17	33.705	26.077	195.3	0.404	3.43	52.9	24.6	1.75	22.6	0.00	0.01	0.05	145
	150	ISL	9.14	9.12	33.749	26.119	191.4	0.415	3.31	51.0	25.7	1.79	23.2	0.00	0.01	0.05	151
2	174		8.92	8.90	33.931	26.297	175.0	0.459	2.80	43.0	30.8	1.97	25.6	0.00	0.01	0.04	175
	200	ISL	8.54	8.52	33.987	26.400	165.5	0.504	2.69	40.9	34.1	2.04	26.9	0.00	0.00	0.04	201
2	203		8.50	8.48	33.990	26.409	164.8	0.509	2.69	40.9	34.4	2.04	27.0	0.00	0.00	0.04	204
2	234		8.21	8.19	34.054	26.503	156.3	0.558	2.47	37.3	38.8	2.16	28.5	0.00			235
	250	ISL	8.09	8.06	34.080	26.542	152.8	0.583	2.31	34.8	41.1	2.22	29.3	0.00			251
2	273		7.95	7.92	34.113	26.589	148.7	0.618	2.04	30.6	44.3	2.32	30.4	0.00			275
	300	ISL	7.84	7.81	34.154	26.638	144.5	0.657	1.70	25.5	47.8	2.45	31.6	0.00			302
2	328		7.73	7.70	34.195	26.686	140.4	0.697	1.36	20.3	51.5	2.58	32.7	0.00			330
2	388		7.31	7.27	34.270	26.806	129.8	0.778	0.76	11.3	60.1	2.82	35.0	0.00			390
	400	ISL	7.22	7.18	34.278	26.825	128.1	0.794	0.69	10.2	61.7	2.86	35.4	0.00			403
2	452		6.85	6.81	34.299	26.893	122.2	0.859	0.51	7.5	68.1	2.98	37.0	0.00			455
	500	ISL	6.55	6.50	34.311	26.943	117.9	0.917	0.43	6.3	73.2	3.04	38.1	0.00			503
2	521		6.42	6.37	34.317	26.965	116.0	0.941	0.40	5.8	75.5	3.06	38.6	0.00			525

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 93 40

LATITUDE	LON6ITUDE	DAY/HO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WE*	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 30.6 N	118 12.2 W	09/10/93	0936 UTC	1661 a	130 05 *kn*			1012.7 ab	18.0 C	15.0 C		

CAST	DEPTH a		TEMP DE6 C	POT TEMP DE6 C	SALINITY	S16MA THETA	SVA	DYN HT	OXY6EN al/L	OXY PCT	S103 uM/L	PO4 uH/L	NO3 uM/1	NO2 uM/I	CHL-A ug/L	PHAEO ug/L	PRESS db
	0	ISL	19.32	19.32	33.405	23.722	416.5	0.000	5.47	103.6	2.4	0.29	0.0	0.00	0.18	0.07	0
2	2		19.32	19.32	33.405	23.722	416.6	0.008	5.47	103.6	2.4	0.29	0.0	0.00	0.18	0.07	2
2	10		19.25	19.25	33.399	23.736	415.6	0.042	5.48	103.6	2.3	0.29	0.0	0.00	0.18	0.08	10
2	20		17.94	17.94	33.334	24.013	389.5	0.082	5.73	105.6	2.9	0.32	0.0	0.00	0.25	0.14	20
2	30		16.84	16.84	33.304	24.252	367.0	0.120	5.89	106.3	2.9	0.35	0.0	0.00	0.31	0.24	30
2	40		14.92	14.91	33.206	24.609	333.2	0.155	5.97	103.6	3.6	0.41	0.0	0.01	0.36	0.30	40
2	50		13.74	13.73	33.218	24.866	308.9	0.187	5.57	94.4	5.4	0.60	2.8	0.22	0.46	0.40	50
2	60		13.04	13.03	33.239	25.023	294.2	0.217	5.24	87.5	7.5	0.79	6.2	0.21	0.33	0.37	60
2	69		12.46	12.45	33.259	25.152	282.1	0.243	5.02	82.8	8.9	0.90	8.4	0.07	0.27	0.30	69
	75	ISL	12.00	11.99	33.283	25.258	272.1	0.260	4.89	79.9	9.7	0.97	9.7	0.06	0.23	0.26	75
2	84		11.30	11.29	33.336	25.428	256.0	0.283	4.66	75.1	11.5	1.10	11.9	0.04	0.16	0.21	84
2	99		10.26	10.25	33.465	25.712	229.2	0.320	4.04	63.7	17.2	1.43	17.3	0.02	0.06	0.13	99
	100	ISL	10.22	10.21	33.472	25.724	228.1	0.322	4.01	63.1	17.4	1.44	17.5	0.02	0.06	0.13	100
2	119		9.66	9.65	33.591	25.911	210.6	0.364	3.67	57.1	21.1	1.62	20.5	0.02	0.03	0.08	120
	125	ISL	9.52	9.51	33.636	25.969	205.2	0.376	3.59	55.7	22.3	1.65	21.1	0.02	0.02	0.07	126
2	144		9.15	9.13	33.769	26.133	189.9	0.414	3.37	51.9	25.7	1.74	22.7	0.02	0.01	0.04	145
	150	ISL	9.07	9.05	33.796	26.167	186.8	0.425	3.29	50.6	26.7	1.78	23.2	0.02	0.01	0.04	151
2	175		8.83	8.81	33.890	26.279	176.7	0.470	2.92	44.7	30.3	1.93	25.2	0.01	0.01	0.04	176
	200	ISL	8.72	8.70	34.000	26.383	167.3	0.513	2.54	38.8	33.7	2.06	26.8	0.01	0.01	0.05	201
2	203		8.71	8.69	34.012	26.394	166.3	0.518	2.50	38.2	34.1	2.07	27.0	0.01	0.01	0.05	204
2	233		8.70	8.68	34.089	26.456	161.0	0.567	2.17	33.2	37.3	2.19	28.0	0.00			234
	250	ISL	8.61	8.58	34.124	26.498	157.3	0.595	1.98	30.2	39.5	2.26	28.8	0.00			251
2	274		8.43	8.40	34.165	26.558	152.0	0.632	1.73	26.3	42.8	2.37	30.1	0.01			276
	300	ISL	8.19	8.16	34.195	26.618	146.6	0.670	1.49	22.5	46.5	2.47	31.3	0.01			302
2	329		7.92	7.89	34.218	26.677	141.3	0.712	1.26	18.9	50.6	2.58	32.5	0.01			331
2	393		7.42	7.38	34.255	26.779	132.5	0.800	0.86	12.8	58.4	2.77	34.6	0.01			395
	400	ISL	7.32	7.28	34.255	26.793	131.2	0.809	0.83	12.3	59.7	2.79	35.0	0.01			403
2	454		6.62	6.58	34.260	26.893	122.0	0.878	0.61	8.9	69.2	2.94	37.6	0.00			457
	500	ISL	6.43	6.38	34.299	26.949	117.1	0.933	0.44	6.4	73.7	3.03	38.5	0.00			503
2	523		6.33	6.28	34.319	26.979	114.6	0.959	0.36	5.2	76.0	3.08	38.9	0.00			527

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 21.1 N	118 33.4 W	09/10/93	1411 UTC	1322 •	150 05 kn	310 04 07	2	1013.9 ab	18.2 C	15.6 C	29a 01	8/8	ST

CAST	DEPTH •		TEMP DEC C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uH/l	PO4 uM/l	NO3 uM/I	NO2 uM/I	CHL-A ug/I	PHAEO ug/I	PRESS db
	0	ISL	18.45	18.45	33.315	23.872	402.2	0.000	5.49	102.2	3.3	0.31	0.1	0.00	0.15	0.06	0
2	2		18.45	18.45	33.315	23.872	402.3	0.008	5.49	102.2	3.3	0.31	0.1	0.00	0.15	0.06	2
	10	ISL	18.42	18.42	33.312	23.878	402.0	0.040	5.50	102.3	3.1	0.31	0.1	0.00	0.16	0.05	10
2	16		18.38	18.38	33.309	23.886	401.5	0.064	5.51	102.4	3.0	0.31	0.1	0.00	0.16	0.05	16
	20	ISL	18.34	18.34	33.309	23.896	400.7	0.080	5.52	102.5	3.0	0.31	0.1	0.00	0.17	0.05	20
2	30		18.24	18.23	33.308	23.920	398.7	0.120	5.55	102.9	2.9	0.31	0.1	0.00	0.20	0.06	30
2	39		18.20	18.19	33.307	23.930	398.1	0.156	5.55	102.8	2.8	0.30	0.1	0.00	0.20	0.09	39
2	50		16.41	16.40	33.221	24.289	364.1	0.198	5.90	105.5	2.8	0.33	0.1	0.00	0.36	0.18	50
2	59		14.99	14.98	33.289	24.658	329.1	0.229 "	5.87	102.1	3.3	0.34	0.1	0.01	0.50	0.34	59
2	70		13.13	13.12	33.208	24.982	298.4	0.264	5.50	92.0	5.3	0.59	3.4	0.15	0.32	0.38	70
	75	ISL	12.57	12.56	33.216	25.098	287.4	0.278	5.29	87.5	6.8	0.74	5.8	0.10	0.24	0.32	75
2	79		12.21	12.20	33.232	25.179	279.8	0.290	5.13	84.2	8.1	0.85	7.8	0.05	0.19	0.26	79
2	94		11.27	11.26	33.298	25.404	258.5	0.330	4.73	76.1	11.2	1.11	12.1	0.02	0.14	0.18	94
	100	ISL	10.95	10.94	33.331	25.488	250.7	0.345	4.65	74.3	12.0	1.16	13.0	0.01	0.11	0.15	100
2	109		10.50	10.49	33.384	25.608	239.4	0.368	4.54	71.9	13.4	1.22	14.3	0.01	0.07	0.10	109
2	123		9.85	9.84	33.468	25.784	222.9	0.400	4.27	66.7	16.9	1.40	17.5	0.01	0.03	0.07	124
	125	ISL	9.79	9.78	33.476	25.800	221.3	0.404	4.25	66.3	17.2	1.41	17.7	0.01	0.03	0.07	126
2	149		9.40	9.38	33.615	25.973	205.3	0.456	3.92	60.7	20.4	1.53	19.6	0.01	0.01	0.04	150
	150	ISL	9.40	9.38	33.628	25.983	204.4	0.458	3.88	60.0	20.7	1.34	19.8	0.01	0.01	0.04	151
2	172		9.36	9.34	33.901	26.203	184.0	0.500	2.93	45.4	26.9	1.85	24.0	0.00	0.01	0.04	173
	200	ISL	9.24	9.22	34.072	26.357	169.9	0.550	2.35	36.3	32.3	2.06	26.6	0.00	0.01	0.04	201
2	203		9.22	9.20	34.081	26.367	169.0	0.555	2.32	35.9	32.7	2.07	26.7	0.00	0.01	0.04	204
2	233		9.01	8.98	34.130	26.440	162.7	0.60S	2.13	32.8	35.9	2.16	27.8	0.00			234
	250	ISL	8.85	8.82	34.164	26.492	158.0	0.632	1.93	29.6	38.4	2.23	28.7	0.00			251
2	272		8.60	8.57	34.197	26.557	152.1	0.666	1.68	25.6	41.9	2.33	30.0	0.00			274
	300	ISL	8.11	8.08	34.184	26.621	146.3	0.708	1.62	24.4	46.3	2.40	31.3	0.00			302
2	326		7.66	7.63	34.166	26.674	141.5	0.745	1.59	23.7	50.3	2.47	32.5	0.00			328
2	387		7.25	7.21	34.229	26.782	132.0	0.829	0.97	14.3	58.8	2.72	35.1	0.00			389
	400	ISL	7.15	7.11	34.243	26.807	129.7	0.846	0.86	12.7	60.8	2.76	35.6	0.00			402
2	453		6.78	6.74	34.289	26.895	122.0	0.912	0.55	8.0	68.3	2.91	37.5	0.00			456
	500	ISL	6.52	6.47	34.305	26.942	117.9	0.969	0.48	7.0	72.5	2.98	38.4	0.00			503
2	523		6.40	6.35	34.313	26.965	116.0	0.996	0.44	6.4	74.5	3.02	38.8	0.00			526

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD ANT	TYPE
32 10.8 N	118 53.1 W	09/10/93	1837 UTC	1449 •	150 05 kn	290 04 08	2	1015.0 ab	18.9 C	16.0 C	29a 01	8/8	ST

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/ I	CHL-A ug/1.	PHAEO ug/ l	PRESS db
	0	ISL	18.52	18.52	33.308	23.850	404.4	0.000	5.50	102.5	2.9	0.33	6.1	0.00	0.13	0.04	0
2	2	A	18.52	18.52	33.308	23.850	404.4	0.008	5.50	102.5	2.9	0.33	0.1	0.00	0.13	0.04	2
	10	ISL	18.49	18.49	33.302	23.853	404.4	0.040	5.50	102.5	2.9	0.33	0.1	0.00	0.14	0.04	10
2	20	A	18.45	18.45	33.305	23.866	403.6	0.081	5.51	102.6	2.8	0.33	0.0	0.01	0.15	0.04	20
2	29		18.35	18.34	33.299	23.886	401.9	0.117	5.51	102.4	2.7	0.32	0.0	0.01	0.18	0.06	29
	30	ISL	18.34	18.33	33.297	23.887	401.9	0.121	5.51	102.3	2.7	0.32	0.0	0.01	0.18	0.06	30
2	38	A	18.19	18.18	33.291	23.920	399.0	0.153	5.54	102.6	2.5	0.33	0.0	0.01	0.22	0.08	38
2	48		17.60	17.59	33.320	24.085	383.5	0.192	5.66	103.7	2.2	0.33	0.0	0.01	0.34	0.11	48
	50	ISL	17.10	17.09	33.260	24.158	376.6	0.200	5.75	104.3	2.3	0.33	0.0	0.01	0.36	0.15	50
2	59	A	14.65	14.64	33.025	24.527	341.5	0.232	6.04	104.1	2.9	0.38	0.0	0.01	0.42	0.33	59
2	69		13.13	13.12	33.078	24.881	308.0	0.265	5.72	95.6	4.3	0.53	1.9	0.15	0.37	0.35	69
	75	ISL	13.05	13.04	33.097	24.912	305.2	0.283	5.66	94.5	4.5	0.56	2.2	0.14	0.34	0.34	75
2	80	A	12.99	12.98	33.114	24.937	302.9	0.298	5.62	93.7	4.7	0.58	2.6	0.14	0.31	0.34	80
2	94		12.27	12.26	33.226	25.163	281.6	0.339	5.19	85.3	7.3	0.82	6.6	0.06	0.20	0.28	94
	100	ISL	11.74	11.73	33.277	25.302	268.5	0.356	4.90	79.6	9.5	1.01	9.7	0.04	0.16	0.23	100
2	108	A	11.03	11.02	33.344	25.484	251.3	0.376	4.54	72.7	12.5	1.25	13.6	0.02	0.11	0.16	108
2	123		10.25	10.24	33.427	25.684	232.4	0.413	4.22	66.5	16.0	1.41	16.6	0.01	0.06	0.10	124
	125	ISL	10.16	10.15	33.440	25.710	230.0	0.417	4.18	65.7	16.5	1.43	17.0	0.01	0.05	0.09	126
2	148		9.41	9.39	33.600	25.959	206.6	0.468	3.74	57.9	21.2	1.65	20.6	0.00	0.01	0.05	149
	150	ISL	9.37	9.35	33.615	25.978	204.9	0.472	3.72	57.5	21.5	1.66	20.8	0.00	0.01	0.05	151
2	173		9.01	8.99	33.777	26.162	187.7	0.517	3.48	53.4	25.2	1.76	22.5		0.00	0.04	. 174
	200	ISL	8.78	8.76	33.905	26.299	175.2	0.566	3.16	48.3	29.0	1.86	24.4	0.00	0.01	0.03	201
2	203		8.77	8.75	33.920	26.312	174.0	0.571	3.11	47.5	29.5	1.88	24.6	0.00	0.01	0.03	204
2	232		8.96	8.93	34.138	26.454	161.3	0.620	2.07	31.8	36.4	2.22	28.0	0.00			233
	250	ISL	8.85	8.82	34.181	26.505	156.8	0.648	1.91	29.3	39.5	2.32	29.1	0.00			251
2	273		8.54	8.51	34.186	26.557	152.1	0.684	1.71	26.0	43.1	2.39	30.1	0.00			274
	300	ISL	8.04	8.01	34.181	26.630	145.4	0.724	1.59	23.9	47.7	2.48	31.4	0.00			302
2	326		7.51	7.48	34.168	26.697	139.2	0.761	1.49	22.2	52.4	2.56	32.8	0.00			328
2	386		6.60	6.56	34.165	26.820	127.8	0.841	1.05	15.3	64.7	2.79	36.6	0.00			388
	400	ISL	6.48	6.44	34.170	26.840	126.0	0.859	0.97	14.1	66.7	2.83	37.1	0.00			402
2	452		6.21	6.17	34.203	26.901	120.7	0.923	0.72	10.4	72.3	2.93	38.4	0.00			455
	500	ISL	6.14	6.10	34.260	26.956	116.2	0.980	0.50	7.2	76.0	3.02	38.9	0.00			503
2	524		6.11	6.06	34.289	26.983	113.9	1.007	0.39	5.6	77.8	3.07	39.2	0.00			527

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 93 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TINE	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 0.8 N	119 14.2 W	10/10/93	0312 UTC	1592 •	170 01 kn	330 03 10	1	1013.2 «b	18.9 C	15.8 C	31« 01	4/8	SC

CAST	DEPTH •		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/I	NO2 uM/I	CHL-A ug/I	PHAEO ug/I	PRESS db
	0	ISL	18.54	18.54	33.320	23.854	404.0	0.000	5.45	101.6	2.6	0.33	0.1	0.00	0.12	0.04	0
2	2		18.54	18.54	33.320	23.854	404.1	0.008	5.45	101.6	2.6	0.33	0.1	0.00	0.12	0.04	2
2	10		18.47	18.47	33.327	23.877	402.1	0.040	5.46	101.7	2.6	0.33	0.1	0.00	0.14	0.03	10
2	20		18.09	18.09	33.413	24.037	387.2	0.080	5.51	101.9	2.6	0.33	0.1	0.00	0.19	0.06	20
2	30		16.99	16.99	33.318	24.228	369.3	0.118	5.80	105.0	2.4	0.33	0.1	0.00	0.28	0.12	30
2	40		16.31	16.30	33.255	24.338	359.1	.0.154	5.81	103.7	2.4	0.34	0.1	0.00	0.35	0.19	40
2	50		15.17	15.16	33.133	24.498	344.1	0.189	5.92	103.2	2.5	0.36	0.1	0.00	0.45	0.33	50
2	60		13.99	13.98	33.071	24.701	324.9	0.223	5.94	101.1	3.0	0.39	0.1	0.02	0.67	0.56	60
2	70		13.06	13.05	33.054	24.876	308.4	0.254	5.74	95.8	4.0	0.50	1.6	0.12	0.52	0.48	70
	75	ISL	12.67	12.66	33.040	24.942	302.3	0.270	5.63	93.2	4.5	0.57	2.6	0.10	0.42	0.44	75
2	85		11.96	11.95	33.052	25.086	288.6	0.299	5.35	87.2	6.2	0.75	5.5	0.03	0.24	0.36	85
2	100		10.95	10.94	33.259	25.431	256.0	0.340	4.71	75.3	11.6	1.14	12.3	0.01	0.13	0.18	100
2	119		10.12	10.11	33.406	25.690	231.7	0.386	4.35	68.3	15.5	1.35	16.1	0.01	0.06	0.09	120
	125	ISL	9.93	9.92	33.446	25.753	225.8	0.400	4.22	66.0	16.7	1.42	17.2	0.01	0.05	0.07	126
2	143		9.48	9.46	33.570	25.924	209.8	0.439	3.79	58.7	20.5	1.62	20.3	0.00	0.02	0.05	144
	150	ISL	9.32	9.30	33.639	26.004	202.3	0.454	3.58	55.3	22.5	1.70	21.5	0.00	0.01	0.05	151
2	174		8.87	8.85	33.863	26.252	179.2	0.499	2.97	45.5	28.9	1.91	25.0	0.00	0.00	0.04	175
	200	ISL	8.50	8.48	33.978	26.399	165.6	0.544	2.84	43.2	33.2	1.99	26.5	0.00	0.00	0.03	201
2	204		8.45	8.43	33.988	26.415	164.2	0.551	2.84	43.1	33.7	2.00	26.6	0.00	0.00	0.03	205
2	234		8.18	8.16	34.054	26.508	155.8	0.599	2.54	38.3	38.3	2.14	28.2	0.00			235
	250	ISL	8.21	8.18	34.132	26.565	150.7	0.623	2.05	31.0	41.8	2.30	29.5	0.00			251
2	272		8.25	8.22	34.225	26.632	144.8	0.656	1.36	20.6	46.7	2.53	31.4	0.00			274
	300	ISL	7.98	7.95	34.228	26.675	141.1	0.696	1.21	18.2	50.9	2.64	32.8	0.00			302
2	330		7.57	7.54	34.229	26.736	135.6	0.737	1.05	15.6	54.7	2.69	33.8	0.00			332
2	387		6.99	6.95	34.239	26.826	127.6	0.812	0.82	12.1	62.6	2.83	35.9	0.00			389
	400	ISL	6.82	6.78	34.240	26.850	125.4	0.829	0.76	11.1	65.0	2.87	36.5	0.00			402
2	452		6.20	6.16	34.254	26.943	116.8	0.892	0.52	7.5	74.0	3.01	38.8	0.00			455
	500	ISL	6.03	5.99	34.294	26.997	112.2	0.947	0.38	5.5	78.4	3.09	39.6	0.00			503
2	521		5.96	5.91	34.311	27.019	110.3	0.970	0.32	4.6	80.3	3.13	40.0	0.00			524

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 51.0 N	119 34.2 W	10/10/93	0930 UTC	1875 •	140 03 kn			1014.4 ab	18.0 C	16.0 C			

CAST	DEPTH •		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/1	PO4 uH/l	NO3 uM/1	NO2 uM/I	CHL-A ug/l	PHAEO ug/ I	PRESS db
	0	ISL	18.99	18.99	33.446	23.837	405.5	0.000	5.47	103.0	2.1	0.25	0.1	0.00	0.24	0.07	0
2	1		18.99	18.99	33.446	23.838	405.6	0.004	5.47	103.0	2.1	0.25	0.1	0.00	0.24	0.07	1
	10	ISL	18.99	18.99	33.444	23.836	406.0	0.041	5.44	102.4	2.1	0.24	0.0	0.00	0.25	0.07	10
2	11		18.99	18.99	33.444	23.836	406.0	0.045	5.44	102.4	2.1	0.24	0.0	0.00	0.25	0.07	11
	20	ISL	18.84	18.84	33.441	23.872	402.9	0.081	5.48	102.8	2.1	0.24	0.0	0.00	0.28	0.11	20
2	21		18.82	18.82	33.441	23.877	402.5	0.085	5.48	102.8	2.1	0.24	0.0	0.00	0.28	0.11	21
2	30		14.71	14.71	33.279	24.709	323.3	0.118	6.33	109.5	2.5	0.36	0.0	0.00	0.66	0.40	30
2	40		12.81	12.80	33.256	25.081	288.1	0.148	5.59	92.9	5.8	0.69	4.3	0.18	0.76	0.67	40
2	50		12.22	12.21	33.322	25.246	272.6	0.176	5.07	83.3	7.8	0.88	7.9	0.10	0.44	0.45	50
2	60		11.55	11.54	33.406	25.437	254.7	0.203	4.70	76.1	10.3	1.00	10.8	0.02	0.17	0.22	60
2	70		10.94	10.93	33.434	25.569	242.3	0.228	4.57	73.1	12.0	1.11	12.5	0.02	0.11	0.14	70
	75	ISL	10.81	10.80	33.437	25.594	240.0	0.240	4.45	71.0	12.9	1.18	13.5	0.01	0.10	0.14	75
2	84		10.60	10.59	33.452	25.643	235.5	0.261	4.18	66.4	14.8	1.32	15.6	0.00	0.09	0.14	84
2	99		9.76	9.75	33.565	25.874	213.8	0.295	3.68	57.4	19.8	1.60	20.2	0.00	0.04	0.08	99
	100	ISL	9.71	9.70	33.571	25.887	212.6	0.297	3.67	57.2	20.0	1.61	20.4	0.00	0.04	0.08	100
2	118		9.06	9.05	33.686	26.082	194.2	0.333	3.50	53.8	23.8	1.72	22.5	0.00	0.01	0.05	119
	125	ISL	9.00	8.99	33.750	26.142	188.7	0.347	3.36	51.6	25.4	1.77	23.4	0.00	0.01	0.05	126
2	145		8.83	8.81	33.887	26.276	176.3	0.383	2.91	44.5	29.6	1.92	25.5	0.00	0.00	0.04	146
	150	ISL	8.80	8.78	33.911	26.300	174.2	0.392	2.83	43.3	30.4	1.95	25.9	0.00	0.00	0.04	151
2	175		8.65	8.63	34.003	26.396	165.6	0.435	2.52	38.4	34.1	2.05	27.4	0.00	0.00	0.04	176
	200	ISL	8.46	8.44	34.074	26.481	157.9	0.475	2.41	36.6	37.4	2.10	28.2	0.00	0.00	0.03	201
2	203		8.44	8.42	34.082	26.490	157.0	0.480	2.39	36.3	37.8	2.11	28.3	0.00	0.00	0.03	204
2	234		8.52	8.50	34.167	26.545	152.5	0.528	1.87	28.5	41.2	2.28	29.5	0.00			235
	250	ISL	8.29	8.26	34.173	26.585	148.9	0.552	1.76	26.7	43.7	2.36	30.4	0.00			251
2	272		7.90	7.87	34.172	26.643	143.6	0.584	1.66	24.9	47.5	2.47	31.7	0.01			274
	300	ISL	7.67	7.64	34.204	26.702	138.4	0.623	1.33	19.9	52.1	2.61	33.0	0.01			302
2	327		7.50	7.47	34.237	26.752	133.9	0.660	1.01	15.0	56.4	2.73	34.2	0.00			329
2	387		6.90	6.86	34.257	26.852	125.0	0.738	0.69	10.1	65.3	2.89	36.6	0.01			389
	400	ISL	6.78	6.74	34.266	26.876	122.9	0.754	0.63	9.2	67.2	2.92	37.1	0.01			403
2	453		6.34	6.30	34.298	26.960	115.4	0.817	0.43	6.2	74.4	3.03	38.8	0.00			456
	500	ISL	5.96	5.92	34.300	27.010	110.8	0.870	0.37	5.3	80.3	3.07	40.0	0.00			503
2	524		5.77	5.72	34.302	27.036	108.6	0.897	0.34	4.9	83.3	3.09	40.6	0.00			528

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 30.6 N	120 14.5 W	10/10/93	1836 UTC	3922 -	130 08 kn	130 01 01	2	1015.1 ab	20.1 C	17.1 C	27a 02	8/8	SC

CAST	DEPTH -		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uM/I	PO4 uN/L	NO3 uM/I	NO2 uM/I	CHL-A ug/I	PHAEO ug/I	PRESS db
	0	ISL	19.06	19.06	33.479	23.845	404.8	0.000	5.43	102.4	3.1	0.34	0.1	0.00	0.22	0.06	0
2	2	A	19.06	19.06	33.479	23.845	404.9	0.008	5.43	102.4	3.1	0.34	0.1	0.00	0.22	0.06	2
2	10		19.01	19.01	33.477	23.857	404.1	0.040	5.44	102.5	2.8	0.29	0.0	0.00	0.22	0.06	10
2	17	A	19.00	19.00	33.477	23.859	404.1	0.069	5.43	102.2	2.7	0.29	0.0	0.00	0.22	0.09	17
	20	ISL	18.80	18.80	33.469	23.904	399.9	0.081	5.51	103.4	2.7	0.30	0.0	0.00	0.27	0.12	20
	30	ISL	17.26	17.26	33.399	24.227	369.5	0.119	5.85	106.5	2.6	0.31	0.0	0.00	0.44	0.20	30
2	33	A	16.54	16.53	33.373	24.375	355.4	0.130	5.98	107.3	2.6	0.32	0.0	0.00	0.49	0.23	33
2	43		13.21	13.20	33.307	25.042	292.0	0.163	6.25	104.8	3.5	0.45	0.3	0.02	1.22	0.80	43
	50	ISL	12.56	12.55	33.322	25.181	278.8	0.182	5.57	92.2	5.3	0.69	4.0	0.14	0.80	0.69	50
2	52	A	12.48	12.47	33.329	25.202	276.9	0.188	5.32	87.9	6.1	0.77	5.4	0.17	0.63	0.66	52
2	62		11.28	11.27	33.405	25.485	250.1	0.214	4.28	68.9	11.9	1.20	12.9	0.03	0.32	0.39	62
2	71	A	10.51	10.50	33.496	25.693	230.5	0.236	3.84	60.9	16.8	1.44	17.2	0.01	0.11	0.16	71
	75	ISL	10.31	10.30	33.527	25.751	225.0	0.245	3.75	59.2	17.9	1.49	18.0	0.01	0.09	0.14	75
2	83		10.03	10.02	33.580	25.840	216.7	0.263	3.67	57.6	19.2	1.54	18.9	0.00	0.04	0.10	83
2	97	A	9.67	9.66	33.676	25.975	204.1	0.292	3.55	55.3	21.6	1.63	20.5	0.00	0.01	0.05	97
	100	ISL	9.56	9.55	33.689	26.004	201.4	0.298	3.54	55.0	22.1	1.64	20.8	0.00	0.01	0.05	100
2	119		9.00	8.99	33.772	26.159	187.0	0.335	3.44	52.8	25.3	1.73	22.6	0.00	0.00	0.03	120
	125	ISL	9.00	8.99	33.820	26.197	183.5	0.346	3.31	50.8	26.3	1.77	23.2	0.00	0.00	0.03	126
2	144		9.00	8.98	33.947	26.296	174.4	0.380	2.87	44.1	29.3	1.91	24.8	0.00	0.00	0.03	145
	150	ISL	8.95	8.93	33.974	26.325	171.8	0.391	2.79	42.8	30.3	1.94	25.3	0.00	0.00	0.03	151
2	175		8.68	8.66	34.054	26.431	162.2	0.432	2.53	38.6	34.7	2.05	27.0	0.00	0.00	0.03	176
	200	ISL	8.46	8.44	34.111	26.510	155.1	0.472	2.21	33.6	39.1	2.20	28.6	0.00	0.00	0.03	201
2	204		8.42	8.40	34.117	26.521	154.2	0.478	2.16	32.8	39.8	2.22	28.9	0.00	0.00	0.03	205
2	237		7.81	7.79	34.113	26.609	146.1	0.528	1.97	29.5	45.4	2.33	30.8	0.00			238
	250	ISL	7.80	7.78	34.139	26.631	144.3	0.547	1.80	27.0	47.1	2.39	31.3	0.00			251
2	269		7.78	7.75	34.171	26.659	141.9	0.574	1.53	22.9	49.4	2.48	32.1	0.00			271
	300	ISL	7.44	7.41	34.183	26.718	136.7	0.617	1.27	18.9	54.3	2.61	33.6	0.00			302
2	321		7.15	7.12	34.182	26.758	133.0	0.643	1.13	17.0	37.8	2.69	34.6	0.00			323
2	386		6.31	6.47	34.198	26.858	124.1	0.729	0.82	11.9	67.6	2.89	37.4	0.00			388
	400	ISL	6.39	6.35	34.201	26.876	122.5	0.746	0.76	11.0	69.6	2.92	37.9	0.00			403
2	455		6.00	5.96	34.227	26.947	116.2	0.812	0.54	7.8	76.6	3.00	39.3	0.00			458
	500	ISL	5.84	5.80	34.274	27.005	111.2	0.863	0.40	5.7	81.0	3.06	40.0	0.00			503
2	526		5.75	5.70	34.302	27.038	108.3	0.892	0.32	4.6	83.5	3.10	40.4	0.00			530

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 93 80

LATITUDE	LON6ITUDE	DAY/NO/YR	CAST TINE	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 9.6 N	120 58.7 W	11/10/93	0438 UTC	3841 a	100 09 kn	130 03 04	2	1011.9 ab	19.0 C	17.0 C	27a 01	8/8	SC

CAST	DEPTH a		TEMP DE6 C	POT TEMP DE6 C	SALINITY	SI6MA THETA	SVA	DYN HT	OXY6EN al/l	OXY PCT	SIO3 uN/l	PO4 uN/l	NO3 uM/l	NO2 uM/I	CHL-A ug/I	PHAEO ug/I	PRESS db
	0	ISL	18.66	18.66	33.315	23.820	407.2	0.000	5.47	102.2	2.8	0.32	0.0	0.00	0.13	0.03	0
2	2		18.66	18.66	33.315	23.820	407.3	0.008	5.47	102.2	2.8	0.32	0.0	0.00	0.13	0.03	2
	10	ISL	18.61	18.61	33.347	23.858	404.0	0.041	5.47	102.2	2.7	0.32	0.0	0.00	0.13	0.04	10
2	11		18.60	18.60	33.352	23.864	403.4	0.045	5.47	102.1	2.7	0.32	0.0	0.00	0.13	0.04	11
2	20		18.53	18.53	33.376	23.900	400.3	0.081	5.46	101.8	2.5	0.32	0.0	0.00	0.15	0.05	20
2	30		16.74	16.74	33.244	24.230	369.1	0.119	5.82	104.8	2.5	0.33	0.0	0.00	0.22	0.08	30
2	40		15.10	15.09	33.140	24.519	341.8	0.155	5.96	103.8	2.6	0.38	0.0	0.01	0.37	0.21	40
2	50		13.54	13.53	33.115	24.827	312.6	0.188	5.94	100.2	4.2	0.49	0.7	0.06	0.91	0.75	50
2	60		12.65	12.64	33.222	25.086	288.1	0.218	5.27	87.3	7.2	0.79	6.1	0.16	0.47	0.47	60
2	70		12.03	12.02	33.237	25.217	275.9	0.246	5.00	81.8	8.6	0.93	8.5	0.05	0.27	0.43	70
	75	ISL	11.74	11.73	33.287	25.310	267.1	0.259	4.85	78.8	9.6	1.00	9.8	0.04	0.20	0.34	75
2	85		11.22	11.21	33.399	25.492	250.0	0.285	4.57	73.5	11.8	1.13	12.3	0.01	0.10	0.16	85
2	100		10.57	10.56	33.465	25.658	234.4	0.322	4.31	68.4	14.6	1.29	15.0	0.01	0.05	0.10	100
2	120		9.63	9.62	33.521	25.861	215.4	0.367	3.82	59.4	19.8	1.60	20.2	0.01	0.03	0.06	121
	125	ISL	9.50	9.49	33.547	25.903	211.5	0.377	3.74	58.0	20.7	1.64	20.8	0.01	0.03	0.06	126
2	144		9.18	9.16	33.669	26.050	197.8	0.416	3.43	52.8	23.7	1.73	22.5	0.00	0.01	0.05	145
	150	ISL	9.11	9.09	33.720	26.101	193.1	0.428	3.29	50.6	25.0	1.77	23.2	0.00	0.01	0.05	151
2	174		8.91	8.89	33.910	26.282	176.4	0.472	2.75	42.2	30.0	1.95	25.8	0.00	0.00	0.04	175
	200	ISL	8.72	8.70	34.018	26.397	165.9	0.517	2.38	36.4	34.2	2.08	27.6	0.01	0.00	0.04	201
2	204		8.69	8.67	34.028	26.409	164.8	0.523	2.34	35.7	34.7	2.10	27.8	0.01	0.00	0.04	205
2	234		8.28	8.26	34.052	26.491	157.4	0.572	2.34	35.4	38.0	2.15	28.9	0.01			235
	250	ISL	8.01	7.98	34.064	26.541	152.8	0.596	2.26	34.0	40.9	2.21	29.7	0.01			251
2	273		7.63	7.60	34.082	26.611	146.4	0.631	2.07	30.9	45.6	2.31	31.1	0.00			275
	300	ISL	7.36	7.33	34.107	26.669	141.2	0.670	1.78	26.4	50.3	2.44	32.7	0.00			302
2	327		7.15	7.12	34.136	26.722	136.5	0.707	1.46	21.5	54.9	2.57	34.2	0.01			329
2	387		6.69	6.65	34.218	26.850	125.1	0.786	0.77	11.2	66.0	2.87	37.3	0.00			389
	400	ISL	6.51	6.47	34.215	26.871	123.1	0.802	0.71	10.3	68.5	2.91	37.9	0.00			402
2	454		5.82	5.78	34.199	26.947	116.0	0.866	0.58	8.3	77.8	3.01	40.0	0.00			457
	500	ISL	5.61	5.57	34.244	27.009	110.5	0.918	0.41	5.8	83.5	3.08	40.9	0.00			503
2	523		5.51	5.47	34.267	27.039	107.8	0.944	0.33	4.7	86.3	3.12	41.4	0.00			526

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	UAVES	UEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD ANT TYPE
30 50.9 N	121 35.9 U	11/10/93	0953 UTC	4116 •	320 14 kn			1014.0 ab	17.5 C	17.5 C		

CAST	DEPTH •		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 db
	0	ISL	18.52	18.52	33.224	23.786	410.5	0.000	5.48	102.1	2.4	0.30	0.1	0.00	0.11	0.03	0
2	1		18.52	18.52	33.224	23.786	410.5	0.004	5.48	102.1	2.4	0.30	0.1	0.00	0.11	0.03	1
	10	ISL	18.52	18.52	33.230	23.791	410.4	0.041	5.49	102.3	2.3	0.30	0.1	0.00	0.11	0.03	10
2	15		18.52	18.52	33.233	23.793	410.3	0.062	5.50	102.5	2.3	0.30	0.1	0.00	0.11	0.03	15
	20	ISL	18.47	18.47	33.239	23.810	408.9	0.082	5.51	102.6	2.3	0.30	0.1	0.00	0.11	0.03	20
2	30		18.34	18.33	33.249	23.850	405.4	0.123	5.52	102.5	2.2	0.30	0.1	0.00	0.13	0.04	30
2	40		18.22	18.21 '	33.250	23.881	402.8	0.163	5.53	102.4	2.2	0.30	0.1	0.00	0.16	0.05	40
2	49		17.17	17.16	33.201	24.097	382.5	0.198	5.81	105.4	2.2	0.30	0.1	0.00	0.23	0.10	49
	50	ISL	17.12	17.11	33.217	24.121	380.2	0.202	5.81	105.4	2.2	0.30	0.1	0.00	0.24	0.11	50
2	59		16.85	16.84	33.382	24.311	362.3	0.236	5.85	105.6	2.3	0.29	0.1	0.00	0.28	0.16	59
2	70		16.21	16.20	33.403	24.475	347.0	0.275	5.93	105.7	2.2	0.27	0.1	0.00	0.27	0.25	70
	75	ISL	16.15	16.14	33.464	24.536	341.4	0.292	5.91	105.3	2.2	0.26	0.1	0.00	0.28	0.21	75
2	80		16.10	16.09	33.529	24.597	335.7	0.309	5.89	104.9	2.3	0.25	0.1	0.00	0.28	0.18	80
2	94		15.44	15.43	33.599	24.799	316.8	0.355	5.68	99.9	2.7	0.30	0.0	0.03	0.19	0.37	94
	100	ISL	15.39	15.37	33.645	24.846	312.5	0.373	5.61	98.5	2.8	0.30	0.1	0.09	0.19	0.32	100
2	110		15.30	15.28	33.702	24.910	306.7	0.404	5.50	96.5	3.1	0.32	0.2	0.17	0.20	0.20	110
2	125		14.48	14.46	33.661	25.056	293.2	0.449	5.36	92.4	3.9	0.44	2.0	0.11	0.15	0.16	125
2	149		12.59	12.57	33.489	25.307	269.4	0.517	5.07	84.0	6.9	0.77	7.0	0.01	0.09	0.13	150
	150	ISL	12.49	12.47	33.485	25.323	267.9	0.520	5.06	83.7	7.1	0.79	7.3	0.01	0.09	0.13	151
2	174		10.28	10.26	33.473	25.716	230.5	0.579	4.65	73.3	13.3	1.22	14.3	0.00	0.03	0.05	175
	200	ISL	8.92	8.90	33.629	26.061	197.8	0.635	4.02	61.5	21.7	1.61	20.6	0.00	0.00	0.02	201
2	205		8.76	8.74	33.666	26.115	192.7	0.645	3.90	59.5	23.2	1.67	21.5	0.00	0.00	0.02	206
2	236		8.34	8.32	33.847	26.321	173.6	0.702	3.53	53.4	28.9	1.83	24.3	0.00			237
	250	ISL	8.15	8.12	33.903	26.394	166.8	0.725	3.34	50.3	31.8	1.91	25.6	0.00			251
2	274		7.85	7.82	33.971	26.492	157.8	0.764	3.02	45.2	36.7	2.05	27.7	0.00			275
	300	ISL	7.58	7.55	34.012	26.564	151.4	0.805	2.71	40.3	41.6	2.17	29.5	0.00			302
2	330		7.28	7.25	34.038	26.627	145.7	0.849	2.35	34.7	47.3	2.32	31.4	0.00			332
2	390		6.60	6.56	34.093	26.763	133.2	0.933	1.47	21.4	60.6	2.69	35.8	0.00			392
	400	ISL	6.51	6.47	34.102	26.782	131.5	0.946	1.37	19.9	62.5	2.74	36.4	0.00			402
2	452		6.12	6.08	34.148	26.869	123.6	1.012	0.95	13.7	71.1	2.93	38.7	0.00			455
	500	ISL	5.84	5.80	34.196	26.943	117.0	1.070	0.67	9.6	77.6	3.04	40.0	0.00			503
2	521		5.72	5.68	34.217	26.974	114.2	1.094	0.55	7.8	80.5	3.09	40.6	0.00			524

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 93 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	UAVES	UEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
30 30.8 N	122 16.1 U	11/10/93	1838 UTC	4172 •	360 04 kn	300 06 07	1	1016.5 ab	19.9 C	18.1 C	35a 01	6/8 SC

CAST	DEPTH a		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 db
	0	ISL	19.17	19.17	33.233	23.629	425.4	0.000	5.42	102.2	2.5	0.29	0.0	0.00	0.08	0.02	0
2	3	A	19.17	19.17	33.233	23.629	425.5	0.013	5.42	102.2	2.5	0.29	0.0	0.00	0.08	0.02	3
	10	ISL	19.12	19.12	33.233	23.642	424.5	0.043	5.43	102.3	2.2	0.28	0.0	0.00	0.09	0.03	10
2	12		19.10	19.10	33.234	23.648	424.0	0.051	5.44	102.5	2.1	0.28	0.0	0.00	0.09	0.03	12
	20	ISL	19.07	19.07	33.257	23.674	421.9	0.085	5.44	102.4	2.1	0.28	0.0	0.00	0.09	0.03	20
2	24	A	19.05	19.05	33.267	23.687	420.8	0.102	5.44	102.4	2.1	0.28	0.0	0.00	0.09	0.03	24
	30	ISL	19.01	19.00	33.263	23.694	420.3	0.127	5.45	102.5	2.0	0.28	0.0	0.00	0.11	0.03	30
2	35		18.94	18.93	33.255	23.706	419.4	0.148	5.46	102.5	2.0	0.28	0.0	0.00	0.13	0.04	35
2	45	A	18.63	18.62	33.247	23.778	412.8	0.190	5.52	103.1	2.0	0.29	0.1		0.13	0.05	45
	50	ISL	18.45	18.44	33.234	23.813	409.7	0.210	5.56	103.4	2.0	0.30	0.1	0.00	0.15	0.06	50
2	56		18.15	18.14	33.226	23.881	403.4	0.234	5.62	104.0	2.0	0.30	0.1	0.00	0.17	0.07	56
2	67	A	17.22	17.21	33.281	24.147	378.3	0.277	5.77	104.9	2.1	0.30	0.1	0.00	0.21	0.10	67
	75	ISL	16.44	16.43	33.285	24.332	360.8	0.307	5.82	104.2	2.1	0.30	0.1	0.00	0.23	0.17	75
2	81		15.87	15.86	33.293	24.468	348.0	0.328	5.86	103.7	2.2	0.31	0.1	0.00	0.23	0.22	81
2	93	A	15.02	15.01	33.389	24.730	323.3	0.369	5.73	99.8	2.6	0.34	0.1	0.04	0.22	0.28	93
	100	ISL	14.64	14.63	33.422	24.837	313.3	0.391	5.63	97.3	2.9	0.37	0.4	0.05	0.20	0.26	100
2	111		14.05	14.03	33.461	24.992	298.8	0.425	5.44	92.9	3.7	0.45	1.7	0.07	0.15	0.23	111
	125	ISL	13.03	13.01	33.534	25.255	273.9	0.465	5.10	85.3	6.1	0.69	6.0	0.02	0.11	0.14	125
2	127	A	12.88	12.86	33.543	25.292	270.4	0.470	5.06	84.4	6.5.	0.73	6.6	0.01	0.10	0.13	127
2	150		11.52	11.50	33.542	25.550	246.1	0.529	4.88	79.1	9.2	0.92	10.0	0.00	0.05	0.09	151
2	171		10.34	10.32	33.553	25.768	225.5	0.579	4.65	73.4	12.8	1.15	13.9	0.00	0.03	0.05	172
	200	ISL	9.22	9.20	33.657	26.035	200.4	0.641	4.24	65.4	19.0	1.46	18.8	0.00	0.01	0.02	201
2	204		9.11	9.09	33.677	26.069	197.3	0.649	4.17	64.1	20.0	1.50	19.4	0.00	0.01	0.02	205
2	235		8.61	8.59	33.851 D	26.284	177.3	0.707	3.44	52.4	27.8	1.81	24.2	0.00			236
	250	ISL	8.43	8.40	33.915	26.361	170.1	0.733	3.24	49.1	30.6	1.88	25.5	0.00			251
2	273		8.17	8.14	33.990	26.460	161.1	0.771	3.00	45.3	34.7	1.97	27.0	0.00			274
	300	ISL	7.81	7.78	34.039	26.552	152.6	0.813	2.62	39.2	40.8	2.14	29.2	0.00			302
2	329		7.45	7.42	34.070	26.628	145.7	0.856	2.19	32.5	47.4	2.33	31.5	0.00			331
2	394		6.94	6.90	34.142	26.756	134.2	0.947	1.32	19.4	58.8	2.67	35.6	0.00			396
	400	ISL	6.89	6.85	34.148	26.768	133.2	0.955	1.26	18.5	59.9	2.70	35.9	0.00			402
2	454		6.44	6.40	34.198	26.868	124.1	1.025	0.79	11.5	69.0	2.90	38.0	0.00			457
	500	ISL	6.20	6.16	34.247	26.938	117.9	1.081	0.55	7.9	74.5	3.02	39.2	0.00			503
2	522		6.09	6.04	34.271	26.971	115.0	1.106	0.43	6.2	77.1	3.08	39.8	0.00			525

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 93 110

LATITUDE	LONCITUDE	DAY/MO/YR	CAST TINE	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 10.4 N	122 55.5 W	12/10/93	0811 UTC	3459 •	350 04 kn			1018.9 ab	19.1 C	17.2 C			

CAST	DEPTH •		TEMP DEC C	POT TEMP DEC C	SALINITY	SI6MA THETA	SVA	DYN HT	OXYSEN al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/I	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	20.03	20.03	33.419	23.550	433.0	0.000	5.35	102.7	2.5	0.26	0.1	0.00	0.08	0.02	0
2	1		20.03	20.03	33.419	23.550	433.0	0.004	5.35	102.7	2.5	0.26	0.1	0.00	0.08	0.02	1
	10	ISL	20.00	20.00	33.468	23.595	429.0	0.043	5.34	102.4	2.5	0.26	0.1	0.00	0.08	0.02	10
2	15		19.98	19.98	33.500	23.625	426.4	0.065	5.33	102.2	2.4	0.26	0.1	0.00	0.08	0.02	15
	20	ISL	19.95	19.95	33.494	23.629	426.2	0.086	5.34	102.4	2.3	0.26	0.1	0.00	0.08	0.02	20
	30	ISL	19.90	19.89	33.481	23.632	426.3	0.128	5.37	102.8	2.2	0.26	0.1	0.00	0.09	0.02	30
2	31		19.89	19.88	33.480	23.634	426.1	0.133	5.37	102.8	2.2	0.26	0.1	0.00	0.09	0.02	31
2	39		19.85	19.84	33.483	23.647	425.2	0.167	5.37	102.7	2.1	0.25	0.1	0.00	0.10	0.03	39
2	49		19.86	19.85	33.609	23.741	416.6	0.209	5.38	103.0	2.1	0.25	0.1	0.00	0.12	0.04	49
	50	ISL	19.76	19.75	33.599	23.760	414.9	0.213	5.40	103.2	2.1	0.25	0.1	0.00	0.12	0.04	50
2	60		18.40	18.39	33.429	23.975	394.6	0.253	5.68	105.7	2.1	0.26	0.1	0.00	0.14	0.05	60
2	70		17.08	17.07	33.287	24.185	374.8	0.292	5.81	105.3	2.2	0.28	0.1	0.00	0.17	0.07	70
	75	ISL	16.77	16.76	33.318	24.281	365.7	0.310	5.85	105.4	2.3	0.29	0.1	0.00	0.18	0.08	75
2	79		16.60	16.59	33.361	24.354	358.9	0.325	5.87	105.4	2.3	0.30	0.1	0.00	0.19	0.10	79
2	94		15.95	15.94	33.449	24.570	338.7	0.377	5.71	101.3	2.3	0.30	0.0	0.00	0.22	0.20	94
	100	ISL	15.53	15.51	33.449	24.664	329.9	0.397	5.64	99.2	2.5	0.32	0.1	0.05	0.25	0.24	100
2	110		14.78	14.76	33.439	24.820	315.2	0.430	5.52	95.7	2.7	0.39	0.2	0.12	0.27	0.27	110
2	124		13.94	13.92	33.460	23.014	297.0	0.472	5.34	91.0	4.2	0.52	2.9	0.03	0.18	0.19	124
	125	ISL	13.89	13.87	33.464	25.027	295.7	0.475	5.33	90.7	4.3	0.53	3.1	0.03	0.18	0.19	125
2	149		12.65	12.63	33.540	25.335	266.8	0.543	5.00	83.0	7.0	0.75	7.2	0.01	0.09	0.11	150
	150	ISL	12.57	12.55	33.539	25.350	265.4	0.546	4.99	82.7	7.2	0.76	7.4	0.01	0.09	0.11	151
2	175		10.69	10.67	33.506	25.671	234.9	0.608	4.71	74.9	11.8	1.10	112.8	0.00	0.03	0.05	176
	200	ISL	9.44	9.42	33.558	25.922	211.1	0.664	4.27	66.1	17.4	1.42	117.6	0.00	0.01	0.03	201
2	205		9.26	9.24	33.578	25.967	206.9	0.674	4.18	64.5	18.6	1.48	18.5	0.00	0.01	0.03	206
2	235		8.64	8.62	33.775	26.219	183.4	0.733	3.76	57.3	25.4	1.70	22.7	0.00			236
	250	ISL	8.46	8.43	33.861	26.314	174.5	0.760	3.52	53.4	28.5	1.80	24.2	0.00			251
2	274		8.22	8.19	33.968	26.435	163.5	0.800	3.16	47.7	33.3	1.94	26.1	0.00			275
	300	ISL	7.87	7.84	34.012	26.522	155.5	0.842	2.91	43.6	38.0	2.06	27.9	0.00			302
2	327		7.49	7.46	34.024	26.586	149.6	0.883	2.68	39.8	43.0	2.17	29.6	0.00			329
2	387		6.65	6.61	34.050	26.723	137.0	0.969	1.91	27.8	56.6	2.50	34.2	0.00			389
	400	ISL	6.55	6.51	34.060	26.744	135.1	0.987	1.76	25.6	58.8	2.56	35.0	0.00			402
2	451		6.22	6.18	34.109	26.826	127.8	1.054	1.24	17.9	67.0	2.77	37.5	0.00			454
	500	ISL	5.85	5.81	34.164	26.916	119.5	1.114	0.82	11.7	76.1	2.94	39.6	0.00			503
2	525		5.66	5.62	34.193	26.963	115.3	1.144	0.60	8.5	80.8	3.02	40.6	0.00			528

RV NEW HORIZON CALCOFI CRUISE 9310 STATION 93 120

LATITUDE	LONGITUDE	DAY/NO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
29 50.9 N	123 35.3 W	12/10/93	1852 UTC	4060 •	360 07 kn	320 03 06	1	1019.0 ab	19.9 C	17.3 C	36a 01	7/8	SC

CAST	DEPTH a		TEMP DEC C	POT TEMP DEC C	SALINITY	SI6MA THETA	SVA	DYN HT	OXYGEN al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/L	NO2 uM/I	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	19.72	19.72	33.392	23.610	427.3	0.000	5.37	102.4	2.5	0.27	0.2	0.00	0.08	0.02	0
2	2	A	19.72	19.72	33.392	23.610	427.4	0.009	5.37	102.4	2.5	0.27	0.2	0.00	0.08	0.02	2
	10	ISL	19.67	19.67	33.383	23.616	427.0	0.043	5.39	102.7	2.3	0.28	0.2	0.00	0.08	0.02	10
2	12		19.64	19.64	33.376	23.619	426.9	0.051	5.40	102.8	2.3	0.28	0.2	0.00	0.08	0.02	12
	20	ISL	19.47	19.47	33.347	23.641	425.1	0.085	5.41	102.7	2.2	0.27	0.2	0.00	0.09	0.03	20
2	24	A	19.38	19.38	33.341	23.659	423.4	0.102	5.42	102.7	2.2	0.27	0.2	0.00	0.09	0.03	24
	30	ISL	19.26	19.25	33.374	23.715	418.3	0.128	5.44	102.9	2.2	0.27	0.1	0.00	0.09	0.03	30
2	35		19.20	19.19	33.410	23.758	414.4	0.148	5.45	103.0	2.2	0.27	0.1	0.00	0.09	0.03	35
2	47	A	19.25	19.24	33.461	23.785	412.3	0.198	5.45	103.1	2.2	0.27	0.1	0.00	0.10	0.03	47
	50	ISL	19.20	19.19	33.455	23.793	411.6	0.210	5.46	103.2	2.2	0.27	0.1	0.00	0.11	0.03	50
2	58		18.79	18.78	33.416	23.867	404.8	0.243	5.53	103.7	2.2	0.27	0.1	0.00	0.14	0.05	58
2	68	A	17.45	17.44	33.354	24.148	378.2	0.282	5.76	105.2	2.4	0.28	0.1	0.00	0.18	0.08	68
	75	ISL	16.78	16.77	33.326	24.285	365.3	0.308	5.84	105.3	2.5	0.29	0.1	0.00	0.20	0.10	75
2	80		16.44	16.43	33.329	24.366	357.7	0.326	5.86	104.9	2.5	0.30	0.1	0.00	0.22	0.11	80
2	96	A	16.13	16.11	33.557	24.613	334.7	0.382	5.78	103.0	2.6	0.28	0.1	0.00	0.25	0.22	96
	100	ISL	15.93	15.91	33.579	24.675	328.9	0.395	5.72	101.5	2.6	0.29	0.1	0.02	0.25	0.22	100
2	108		15.44	15.42	33.595	24.797	317.5	0.421	5.57	97.9	2.8	0.33	0.1	0.07	0.23	0.23	108
	125	ISL	14.34	14.32	33.561	25.009	297.6	0.473	5.35	92.0	3.9	0.47	1.4	0.05	0.18	0.20	125
2	131	A	13.88	13.86	33.537	25.086	290.3	0.491	5.27	89.7	4.6	0.54	2.3	0.04	0.16	0.19	131
2	150		12.04	12.02	33.491	25.414	259.2	0.543	4.96	81.2	8.2	0.85	7.3	0.01	0.08	0.09	151
2	174		10.20	10.18	33.419	25.688	233.2	0.602	4.59	72.2	13.4	1.23	13.7	0.01	0.03	0.05	175
	200	ISL	9.16	9.14	33.624	26.019	201.9	0.659	3.97	61.1	20.7	1.59	19.9	0.00	0.00	0.02	201
2	204		9.07	9.05	33.664	26.065	197.6	0.667	3.88	59.6	21.8	1.64	20.7	0.00	0.00	0.02	205
2	235		8.70	8.68	33.834	26.256	179.9	0.725	3.52	53.7	27.0	1.79	23.7	0.00			236
	250	ISL	8.57	8.54	33.889	26.320	174.1	0.752	3.38	51.4	29.0	1.84	24.7	0.00			251
2	275		8.33	8.30	33.952	26.406	166.3	0.794	3.18	48.1	32.5	1.91	26.3	0.00			276
	300	ISL	7.97	7.94	33.990	26.490	158.6	0.835	2.98	44.7	37.0	2.01	28.2	0.00			302
2	329		7.52	7.49	34.016	26.576	150.7	0.880	2.71	40.3	42.8	2.15	30.5	0.00			331
2	388		6.76	6.72	34.052	26.710	138.3	0.965	1.97	28.8	55.2	2.47	35.3	0.00			390
	400	ISL	6.63	6.59	34.063	26.736	136.0	0.981	1.80	26.2	57.9	2.54	36.3	0.00			402
2	451		6.12	6.08	34.115	26.843	126.0	1.048	1.13	16.3	68.9	2.81	40.3	0.00			454
	500	ISL	5.76	5.72	34.155	26.920	119.0	1.108	0.81	11.6	77.2	2.94		0.00			503
2	525		5.57	5.53	34.176	26.960	115.4	1.137	0.64	9.1	81.4	3.00		0.00			528

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 3.5 N	122 56.8 W	24/10/93	1856 UTC	25 •	02	1153 - 1752 PST	1156 PST	1750 PST	175.1 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/I	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3) 1	2	MEAN	DARK
2	17.32	33.278	24.118	5.63	102.5	2.4	0.34	0.1	0.00	0.17	0.05	88. A	2.3	2.3	2.3	0.08
10	17.32	33.278	24.119	5.64	102.7	2.2	0.34	0.1	0.00	0.18	0.06					
17	17.32	33.278	24.119	5.63	102.5	2.1	0.33	0.1	0.00	0.19	0.06	35.	2.7	2.7	2.7	0.08
32	17.32	33.277	24.119	5.62	102.3	2.1	0.33	0.1	0.00	0.19	0.06	14.	1.9	1.7	1.8	0.08
40	16.89	33.251	24.200	5.75	103.8	2.0	0.33	0.1	0.00	0.36	0.14					
48	14.59	33.026	24.541	6.08	104.7	2.8	0.37	0.0	0.01	0.59	0.40	5.2	3.1	3.1	3.1	0.06
57	13.38	33.002	24.772	5.98	100.4	3.1	0.40	0.3	0.07	0.59	0.52					
66	12.53	32.988	24.928	5.72	94.4	4.1	0.56	2.5	0.14	0.54	0.51	1.7	1.4	1.3	1.4	0.05
78	11.69	33.063	25.145	5.29	85.8	6.8	0.85	7.4	0.02	0.28	0.33					
93	10.72	33.188	25.416	4.80	76.3	11.2	1.14	12.4	0.01	0.14	0.17	0.33	0.04	0.05	0.05	0.03
114	9.33	33.407	25.821	4.12	63.6	18.4	1.57	19.5	0.01	0.03	0.04					

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 80 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TINE	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 27.4 N	120 31.1 W	22/10/93	1842 UTC	12 a	04	1147 - 1752 PST	1147 PST	1750 PST	1093.8 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uH/L	PO4 uH/l	NO3 uM/L	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3) 1	2	MEAN	DARK
2	17.43	33.313	24.119	6.15	112.3	3.1	0.31	0.1	0.00	1.29	0.23	77. A	19.6	15.1	117.4	0.29
8	17.23	33.303	24.159	6.20	112.7	3.2	0.31	0.1	0.01	3.38	0.27	36.	83.8	78.5	81.2	0.27
15	16.03	33.249	24.396	6.25	111.0	3.7	0.34	0.1	0.01	3.93	0.61	15.	55.3	42.3	48.8	0.32
22	15.13	33.226	24.578	5.77	100.6	4.5	0.41	0.1	0.06	1.62	0.43	6.0	14.0	12.1	13.1	0.28
32	14.13	33.229	24.793	5.48	93.6	5.4	0.60	2.4	0.38	0.66	0.37	1.7	2.4	2.4	2.4	0.11
43	13.16	33.252	25.009	5.13	85.9	7.3	0.82	5.9	0.37	0.31	0.26	0.41	0.17	0.16	0.16	0.06
62	12.24	33.302	25.227	4.82	79.2	9.9	1.00	9.3	0.13	0.19	0.26					

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILI6HT	INTEGRATED VALUE
33 9.0 N	123 12.9 W	23/10/93	1840 UTC	29 a	01	1155 - 1758 PST	1157 PST	1758 PST	234.0 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/I	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3> 1	2	MEAN	DARK
2	17.77	33.162	23.922	5.59	102.6	2.8	0.34	0.1	0.00	0.13	0.03	90. A	1.5	1.6	1.6	0.08
10	17.73	33.160	23.930	5.59	102.5	2.7	0.33	0.1	0.00	0.13	0.03					
20	17.71	33.158	23.934	5.60	102.7	2.6	0.33	0.1	0.00	0.13	0.04	35.	2.6	2.6	2.6	0.06
29	17.63	33.165	23.959	5.62	102.9	2.6	0.32	0.1	0.00	0.17	0.05					
37	17.77	33.291	24.022	5.61	103.1	2.4	0.33	0.0	0.00	0.19	0.06	14.	2.1	2.0	2.1	0.09
46	16.87	33.250	24.205	5.77	104.1	2.5	0.33	0.0	0.00	0.36	0.15					
55	14.54	33.092	24.602	6.03	103.8	3.1	0.40	0.4	0.05	0.70	0.36	5.4	5.0	4.8	4.9	0.07
67	12.70	33.031	24.929	5.76	95.4	4.2	0.54	2.3	0.17	0.58	0.51					
75	12.01	33.039	25.067	5.53	90.3	5.5	0.70	5.2	0.07	0.44	0.43	1.9	1.6	1.6	1.6	0.05
91	10.93	33.146	25.347	5.01	80.0	10.0	1.08	11.3	0.02	0.18	0.25					
105	10.46	33.261	25.519	4.65	73.5	13.2	1.28	14.8	0.01	0.14	0.17	0.39	0.08	0.07	0.07	0.02
138	9.08	33.606	26.017	3.46	53.2	23.8	1.79	23.1	0.01	0.01	0.05					

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 44.8 N	120 25.2 W	21/10/93	1851 UTC	14 a	03	1144 - 1750 PST	1147 PST	1746 PST	220.5 ag C/a2

DEPTH a	TEMP DE6 C	SALINITY	SI6MA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3> 1	2	MEAN	DARK
2	17.28	33.367	24.196	5.68	103.4	2.2	0.32	0.1	0.01	0.46	0.15	80. A	8.4	8.8	8.6	0.18
9	17.27	33.365	24.197	5.68	103.4	2.1	0.31	0.1	0.01	0.42	0.15	37.	8.6	8.4	8.5	0.18
18	17.26	33.365	24.200	5.67	103.2	2.0	0.31	0.1	0.00	0.46	0.15	14.	6.0	5.6	5.8	0.23
26	17.26	33.369	24.203	5.67	103.2	2.0	0.31	0.1	0.00	0.46	0.17	5.8	2.8	2.5	2.7	0.17
37	15.83	33.374	24.538	5.52	97.7	4.0	0.46	1.6	0.06	0.85	0.50	1.7	2.4	2.2	2.3	0.10
51	13.05	33.407	25.151	4.70	78.6	10.3	1.01	9.7	0.16	0.64	0.49	0.37	0.21	0.22	0.22	0.06
59	11.98	33.437	25.381	4.34	71.0	13.3	1.23	13.1	0.09	0.51	0.44					

A) INCUBATION LIGHT INTENSITIES WERE 96, 36, 14, 5.2, 1.7 AND 0.37 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 83 100

LATITUDE	LONCITUDE	DAY/MO/YR	CAST TINE	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 15.1 N	123 29.8 U	20/10/93	1814 UTC	40 •	01	1158 - 1800 PST	1159 PST	1758 PST	176.3 ag C/a2

DEPTH a	TENP DEG C	SALINITY	SI6NA THETA	DISS O2 al/l	OXY PCT	SIO3 uH/I	PO4 uN/L	NO3 uN/l	NO2 uH/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag. C/a3) 1	2	NEAN	DARK
2	18.53	33.123	23.706	5.50	102.4	2.6	0.29	0.1	0.00	0.09	0.02	93. A	0.58	0.54	0.56	0.05
13	18.45	33.115	23.720	5.50	102.3	2.4	0.28	0.1	0.00	0.09	0.03					
27	18.44	33.112	23.721	5.51	102.4	2.3	0.28	0.0	0.00	0.10	0.04	35.	2.0	2.0	2.0	0.07
39	18.43	33.109	23.722	5.51	102.4	2.3	0.28	0.0	0.00 •	0.10	0.03					
50	19.04	33.419	23.807	5.44	102.5	2.2	0.25	0.0	0.00	0.12	0.04	15.	1.6	1.3	1.4	0.08
59	18.86	33.471	23.892	5.45	102.3	2.2	0.24	0.0	0.00	0.14	0.05					
68	18.00	33.448	24.088	5.63	104.0	2.3	0.24	0.0	0.00	0.19	0.08					
76	16.38	33.442	24.467	5.90	105.6	2.4	0.23	0.0	0.00	0.23	0.11	5.4	1.8	1.8	1.8	0.07
92	15.52	33.542	24.738	5.81	102.3	2.6	0.24	0.0	0.00	0.24	0.27					
106	14.97	33.595	24.900	5.69	99.1	2.7	0.27	0.0	0.06	0.21	0.28	1.7	0.98	1.0	1.0	0.02
123	14.81	33.751	25.055	5.47	95.0	3.1	0.31	0.7	0.14	0.13	0.23					
144	13.53	33.773	25.341	5.18	87.7	5.1	0.51	4.3	0.01	0.06	0.13	0.40	0.08	0.07	0.08	0.01
174	10.28	33.475	25.718	4.82	76.0	12.0	1.08	12.7	0.00	0.03	0.05					

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TINE	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 9.3 N	120 0.0 W	18/10/93	1805 UTC	21 a	03	1145 ^ 1751 PST	1145 PST	1751 PST	371.0 ag C/a2

DEPTH a	TENP DE6 C	SALINITY	SIGNA THETA	DISS O2 al/L	OXY PCT	SIO3 UN/L	PO4 uH/l	NO3 uH/l	NO2 uN/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3) 1	2	NEAN	DARK
1	17.83	33.396	24.086	5.58	102.7	2.3	0.30	0.3	0.00	0.27	0.09	93. A	2.4	2.3	2.3	0.10
14	17.79	33.396	24.097	5.58	102.6	2.2	0.30	0.3	0.00	0.27	0.09	36.	6.1	6.4	6.3	0.11
27	17.29	33.376	24.202	5.68	103.4	2.1	0.31	0.3	0.01	0.47	0.18	14.	8.8	8.8	8.8	0.10
40	16.79	33.359	24.307	5.73	103.3	2.2	0.33	0.3	0.01	0.71	0.31	5.4	8.0	8.1	8.1	0.07
48	15.49	33.318	24.571	5.59	98.2	3.8	0.47	2.0	0.11	0.89	0.52					
56	13.06	33.247	25.025	5.17	86.4	7.7	0.79	6.7	0.26	0.50	0.42	1.7	2.1	2.2	2.1	0.04
66	11.57	33.355	25.394	4.51	73.1	12.5	1.15	12.7	0.10	0.25	0.28					
77	10.59	33.454	25.646	4.03	64.0	16.4	1.39	16.8	0.04	0.14	0.22	0.36	0.11	0.12	0.11	0.02
95	10.08	33.521	25.786	3.78	59.4	18.8	1.52	19.1	0.02	0.08	0.14					

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 87 90

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TINE	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 59.5 N	122 23.9 W	19/10/93	1828 UTC	37 a	01	1150 - 1759 PST	1152 PST	1757 PST	153.9 ag C/a2

DEPTH a	TENP DE6 C	SALINITY	SIGNA THETA	DISS O2 al/l	OXY PCT	SIO3 uN/l	PO4 uM/l	NO3 uN/I	NO2 uH/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3> 1	2	NEAN	DARK
2	19.01	33.279	23.705	5.43	102.1	2.4	0.28	0.1	0.00	0.08	0.02	92. A	0.60	0.62	0.61	0.09
13	18.96	33.276	23.716	5.44	102.2	2.3	0.27	0.0	0.00	0.08	0.03					
25	18.91	33.271	23.725	5.44	102.1	2.3	0.27	0.0	0.00	0.09	0.02	35.	1.6	1.7	1.7	0.09
35	18.84	33.260	23.735	5.45	102.2	2.3	0.26	0.0	0.00	0.09	0.03					
47	18.75	33.248	23.749	5.45	102.0	2.2	0.26	0.0	0.00	0.09	0.03	14.	1.4	1.3	1.3	0.09
58	18.77	33.31 D	23.791	5.48	102.6	2.2	0.26	0.0	0.00	0.12	0.03					
70	17.69	33.142	23.928	5.63	103.2	2.2	0.30	0.0	0.00	0.19	0.08	5.5	1.5	1.6	1.6	0.08
83	16.60	33.353	24.348	5.83	104.7	2.1	0.27	0.0	0.00	0.25	0.14					
98	15.89	33.543	24.656	5.81	103.0	2.6	0.25	0.0	0.00	0.27	0.22	1.7	1.2	1.1	1.1	0.02
115	15.38	33.640	24.845	5.71	100.3	2.9	0.25	0.0	0.01	0.19	0.30					
134	14.84	33.732	25.034	5.42	94.2	3.6	0.34	1.1	0.12	0.15	0.17	0.39	0.12	0.13	0.12	0.02
149	13.44	33.626	25.245	5.15	86.9	5.5	0.59	4.7	0.02	0.08	0.14					

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 90 28

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TINE	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 29.0 N	117 46.1 W	17/10/93	1902 UTC	7a	05	1141 - 1745 PST	1136 PST	1743 PST	147.5 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGNA THETA	DISS O2 al/l	OXY PCT	SIO3 uH/l	PO4 uN/l	NO3 uH/l	NO2 uN/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3) 1	2	NEAN	DARK
2	19.26	33.201	23.582	5.95	112.4	3.0	0.31	0.2	0.01	1.02	0.38	64. A	-0.04U	-0.06U	-0.05U	0.38 U
5	19.20	33.199	23.596	5.97	112.7	2.8	0.31	0.2	0.01	1.10	0.38	33.	2.0 U	1.9 U	2.0 U	0.30 U
9	18.88	33.215	23.689	6.00	112.5	2.8	0.31	0.1	0.01	1.09	0.38	14.	9.2 U	10.2 U	9.7 U	0.31 U
13	16.57	33.257	24.278	6.03	108.2	2.1	0.34	0.1	0.00	0.50	0.22	5.8	10.2 U	10.1 U	10.1 U	0.12 U
19	15.96	33.234	24.400	6.19	109.7	2.2	0.36	0.1	0.00	0.61	0.27	I.6	8.0 U	7.9 U	7.9 U	0.09 U
26	14.84	33.199	24.620	S.86	101.6	3.6	0.46	0.6	0.08	0.93	0.40	0.33	0.04U	0.00U	0.02U	0.10 U
35	13.87	33.203	24.827	5.63	95.7	4.5	0.58	1.9	0.24	0.64	0.33					
45	12.46	33.258	25.151	5.02	82.8	7.6	0.85	6.8	0.35	0.23	0.25					

A) INCUBATION LIGHT INTENSITIES WERE 96, 36, 14, 5.2, 1.7 AND 0.37 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 90 53

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIKE	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 39.3 N	119 28.8 W	16/10/93	1858 UTC	42 .	01	1147 - 17*6 PST	1142 PST	1742 PST	269.4 ag C/a2

DEPTH .	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/I	NO2 uM/L	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE 1	2	<ag C/a3> MEAN	DARK
1	18.49	33.262	23.822	5.49	102.3	2.9	0.31	0.0	0.00	0.13	0.03	96. A	2.6	2.4	2.5	0.05
14	18.40	33.283	23.861	5.53	102.8	2.8	0.31	0.0	0.00	0.14	0.04					
28	18.40	33.312	23.884	5.53	102.8	2.8	0.31	0.0	0.00	0.15	0.04	36.	2.9	2.8	2.8	0.12
41	18.21	33.309	23.929	5.55	102.8	2.8	0.31	0.0	0.00	0.20	0.06					
54	15.65	33.272	24.500	5.88	103.6	2.8	0.32	0.0	0.00	0.28	0.19	14.	2.9	2.8	2.8	0.09
63	15.45	33.292	24.560	5.83	102.3	2.7	0.33	0.0	0.00	0.32	0.24					
71	15.04	33.299	24.655	5.79	100.8	2.8	0.34	0.0	0.01	0.36	0.29					
80	14.41	33.323	24.809	5.59	96.1	3.6	0.45	1.2	0.10	0.39	0.35	5.4	2.6	2.6	2.6	0.03
94	13.23	33.342	25.066	5.32	89.3	6.1	0.72	5.4	0.05	0.20	0.25					
111	11.72	33.376	25.383	4.83	78.5	9.8	1.00	10.4	0.02	0.11	0.15	1.7	0.33		0.33	0.01
124	11.27	33.401	25.485	4.62	74.4	11.7	1.14	12.4	0.01	0.08	0.10					
152	9.96	33.567	25.843	3.83	60.0	18.8	1.53	18.7	0.01	0.02	0.05	0.39	0.01	0.02	0.01	0.01
175	9.55	33.771	26.071	3.22	50.0	24.2	1.77	22.4	0.01	0.01	0.03					

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 25.1 N	119 57.4 W	15/10/93	1848 UTC	30 .	02	1143 - 1755 PST	1146 PST	1753 PST	216.6 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/I	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE 1	2	(ag C/a3> MEAN	DARK
2	18.68	33.269	23.780	5.48	102.4	2.8	0.30	0.1	0.00	0.14	0.03	90. A	2.0	2.0	2.0	0.11
20	18.54	33.271	23.817	5.49	102.3	2.6	0.29	0.1	0.00	0.16	0.05	36.	2.7	2.8	2.7	0.14
30	18.51	33.271	23.825	5.51	102.7	2.5	0.30	0.0	0.00	0.17	0.05					
38	17.97	33.273	23.960	5.58	102.9	2.2	0.31	0.0	0.00	0.25	0.09	14.	3.2	3.1	3.2	0.15
48	16.76	33.271	24.246	5.88	105.9	2.2	0.31	0.0	0.00	0.32	0.14					
57	15.74	33.314	24.512	5.88	103.8	2.7	0.31	0.0	0.00	0.34	0.19	5.4	2.3	2.3	2.3	0.06
68	14.66	33.255	24.703	5.86	101.2	3.0	0.36	0.0	0.00	0.55	0.47					
79	13.59	33.284	24.948	5.56	94.0	4.5	0.56	2.4	0.18	0.44	0.46	1.8	1.4	1.5	1.5	0.03
94	12.60	33.293	25.152	5.18	85.7	6.5	0.80	6.1	0.07	0.24	0.31					
108	11.84	33.327	25.323	4.73	77.1	9.5	1.04	10.0	0.02	0.16	0.24	0.40	0.10	0.10	0.10	0.03
125	10.79	33.423	25.588	4.43	70.6	13.3	1.23	13.8	0.01	0.06	0.10					

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 44.9 N	121 18.4 W	14/10/93	1753 UTC	34 a	01	1145 - 1751 PST	1151 PST	1756 PST	265.3 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE 1	2	<ag C/a3> MEAN	DARK
2	18.13	32.963	23.682	5.55	102.5	2.4	0.32	0.1	0.00	0.15	0.04	91. A	2.0	2.1	2.1	0.07
10	17.88	32.958	23.739	5.57	102.3	2.2	0.31	0.1	0.00	0.17	0.04					
23	17.56	33.116	23.938	5.67	103.6	2.2	0.32	0.1	0.00	0.18	0.06	3!i.	2.9	3.1	3.0	0.10
33	16.86	33.052	24.055	5.73	103.3	2.3	0.35	0.1	0.00	0.32	0.18					
43	16.72	33.085	24.113	5.73	103.0	2.5	0.35	0.1	0.00	0.50	0.28	14.	4.5	4.9	4.7	0.06
50	16.70	33.126	24.149	5.75	103.4	2.5	0.35	0.1	0.00	0.51	0.30					
59	16.31	33.117	24.232	5.82	103.8	2.5	0.36	0.1	0.00	0.48	0.32					
65	16.37	33.251	24.322	5.83	104.2	2.5	0.31	0.1	0.01	0.38	0.26	!>.3	2.4	2.4	2.4	0.03
90	13.49	33.013	24.759	5.89	99.2	3.0	0.42	0.5	0.17	0.23	0.29	1.7	0.79	0.72	0.76	0.02
108	12.28	33.104	25.067	5.42	89.0	5.5	0.66	4.3	0.02	0.11	0.14					
122	12.49	33.418	25.271	5.14	84.9	6.7	0.71	6.0	0.01	0.07	0.11	0.41	0.05	0.06	0.05	0.01
143	10.93	33.485	25.612	4.83	77.2	10.5	1.00	11.0	0.01	0.04	0.06					

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 5.3 N	122 39.8 W	13/10/93	1810 UTC	45 a	01	1158 - 1802 PST	1157 PST	1802 PST	191.8 ag C/a2

DEPTH a	TEMP DE6 C	SALINITY	SI6MA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/I	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE 1	2	(ag C/a3) MEAN	DARK
2	19.22	33.106	23.520	5.41	102.1	2.6	0.28	0.1	0.00	0.10	0.02	93. A	1.4	1.4	1.4	0.05
15	19.19	33.272	23.655	5.44	102.7	2.4	0.28	0.1	0.00	0.09	0.02					
29	19.15	33.270	23.664	5.43	102.4	2.4	0.28	0.1	0.00	0.10	0.03	37.	1.5	1.5	1.5	0.09
39	19.11	33.271	23.675	5.45	102.7	2.4	0.28	0.1	0.00	0.10	0.03					
48	18.68	33.251	23.768	5.52	103.2	2.3	0.28	0.1	0.00	0.13	0.03					
56	18.49	33.249	23.815	5.52	102.8	2.3	0.29	0.1	0.00	0.13	0.04	15.	1.7	1.8	1.8	0.09
71	17.36	33.235	24.079	5.70	103.8	2.4	0.30	0.1	0.00	0.23	0.10					
85	16.03	33.276	24.419	5.87	104.2	2.5	0.32	0.1	0.00	0.25	0.18	5.5	1.8	1.9	1.8	0.02
99	15.22	33.348	24.655	5.78	101.0	2.5	0.33	0.1	0.00	0.25	0.24					
109	15.15	33.420	24.726	5.65	98.6	2.6	0.37	0.1	0.07	0.23	0.22					
118	14.27	33.461	24.946	5.45	93.5	3.7	0.45	1.2	0.10	0.17	0.19	1.8	0.58	0.58	0.58	0.01
141	13.12	33.571	25.267	5.09	85.3	6.1	0.69	5.6	0.02	0.10	0.14					
162	11.32	33.494	25.549	4.84	78.1	9.9	0.98	10.5	0.01	0.05	0.08	0.40	0.05	0.05	0.05	0.01
199	9.10	33.633	26.036	4.02	61.8	20.4	1.56	19.8	0.00	0.01	0.02					

A) INCUBATION LIGHT INTENSITIES WERE 96, 36, 14, 5.2, 1.7 AND 0.37 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 93 50

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TINE	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILI6HT	INTEGRATED VALUE
32 10.8 N	118 53.1 W	9/10/93	1837 UTC	29 .	01	1143 - 1803 PST	1143 PST	1758 PST	234.9 ag C/a2

DEPTH .	TEMP DE6 C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/l	PO4 uN/L	NO3 uH/l	NO2 uH/l	CHL ug/l	PHAEO ug/l	LI6HT PCT	UPTAKE (ag C/a3> 1	2	MEAN	DARK
2	18.52	33.308	23.850	5.50	102.5	2.9	0.33	0.1	0.00	0.13	0.04	90. A	2.2	2.3	2.3	0.09
20	18.45	33.305	23.866	5.51	102.6	2.8	0.33	0.0	0.01	0.15	0.04	35.	3.1	3.0	3.1	0.10
29	18.35	33.299	23.886	5.51	102.4	2.7	0.32	0.0	0.01	0.18	0.06					
38	18.19	33.291	23.920	5.54	102.6	2.5	0.33	0.0	0.01	0.22	0.08	13.	3.0	2.7	2.9	0.07
48	17.60	33.320	24.085	5.66	103.7	2.2	0.33	0.0	0.01	0.34	0.11					
59	14.65	33.025	24.527	6.04	104.1	2.9	0.38	0.0	0.01	0.42	0.33	4.4	3.5	3.2	3.3	0.04
69	13.13	33.078	24.881	5.72	95.6	4.3	0.53	1.9	0.15	0.37	0.35					
80	12.99	33.114	24.937	5.62	93.7	4.7	0.58	2.6	0.14	0.31	0.34	1.4	1.1	1.1	1.1	0.02
94	12.27	33.226	25.163	5.19	85.3	7.3	0.82	6.6	0.06	0.20	0.28					
108	11.03	33.344	25.484	4.54	72.7	12.5	1.25	13.6	0.02	0.11	0.16	0.33	0.07	0.07	0.07	0.01
123	10.25	33.427	25.684	4.22	66.5	16.0	1.41	16.6	0.01	0.06	0.10					

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 30.6 N	120 14.5 W	10/10/93	1836 UTC	27 .	02	1149 - 1805 PST	1148 PST	1802 PST	373.2 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uN/l	PO4 uM/l	NO3 uM/I	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3> 1	2	MEAN	DARK
2	19.06	33.479	23.845	5.43	102.4	3.1	0.34	0.1	0.00	0.22	0.06	89. A	3.2	3.1	3.1	0.09
10	19.01	33.477	23.857	5.44	102.5	2.8	0.29	0.0	0.00	0.22	0.06					
17	19.00	33.477	23.859	5.43	102.2	2.7	0.29	0.0	0.00	0.22	0.09	38.	4.3	4.2	4.3	0.10
33	16.54	33.373	24.375	5.98	107.3	2.6	0.32	0.0	0.00	0.49	0.23	15.	7.4	8.2	7.8	0.11
43	13.21	33.307	25.042	6.25	104.8	3.5	0.45	0.3	0.02	1.22	0.80					
52	12.48	33.329	25.202	5.32	87.9	6.1	0.77	5.4	0.17	0.63	0.66	5.2	6.9	7.1	7.0	0.07
62	11.28	33.405	25.485	4.28	68.9	11.9	1.20	12.9	0.03	0.32	0.39					
71	10.51	33.496	25.693	3.84	60.9	16.8	1.44	17.2	0.01	0.11	0.16	1.8	0.33	0.32	0.33	0.02
83	10.03	33.580	25.840	3.67	57.6	19.2	1.54	18.9	0.00	0.04	0.10					
97	9.67	33.676	25.975	3.55	55.3	21.6	1.63	20.5	0.00	0.01	0.05	0.40	0.01	0.01	0.01	0.00
119	9.00	33.772	26.159	3.44	52.8	25.3	1.73	22.6	0.00	0.00	0.03					

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 93 100

LATITUDE	LON6ITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 30.8 N	122 16.1 W	11/10/93	1838 UTC	35 a	01	1156 - 1807 PST	1156 PST	1810 PST	164.0 ag C/a2

DEPTH a	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uM/I	PO4 uH/l	NO3 uN/I	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3) 1	2	MEAN	DARK
3	19.17	33.233	23.629	5.42	102.2	2.5	0.29	0.0	0.00	0.08	0.02	88. A	1.1	1.1	1.1	0.05
12	19.10	33.234	23.648	5.44	102.5	2.1	0.28	0.0	0.00	0.09	0.03					
24	19.05	33.267	23.687	5.44	102.4	2.1	0.28	0.0	0.00	0.09	0.03	35.	1.9	1.8	1.9	0.08
35	18.94	33.255	23.706	5.46	102.5	2.0	0.28	0.0	0.00	0.13	0.04					
45	18.63	33.247	23.778	5.52	103.1	2.0	0.29	0.1		0.13	0.05	14.	1.9	1.8	1.8	0.09
56	18.15	33.226	23.881	5.62	104.0	2.0	0.30	0.1	0.00	0.17	0.07					
67	17.22	33.281	24.147	5.77	104.9	2.1	0.30	0.1	0.00	0.21	0.10	5.3	1.7	1.6	1.7	0.04
81	15.87	33.293	24.468	5.86	103.7	2.2	0.31	0.1	0.00	0.23	0.22					
93	15.02	33.389	24.730	5.73	99.8	2.6	0.34	0.1	0.04	0.22	0.28	1.7	0.95	0.94	0.94	0.02
111	14.05	33.461	24.992	5.44	92.9	3.7	0.45	1.7	0.07	0.15	0.23					
127	12.88	33.543	25.292	5.06	84.4	6.5	0.73	6.6	0.01	0.10	0.13	0.38	0.08	0.09	0.09	0.01
150	11.52	33.542	25.550	4.88	79.1	9.2	0.92	10.0	0.00	0.05	0.09					

RV NEW HORIZON — CALCOFI CRUISE 9310 — STATION 93 120

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
29 50.9 N	123 35.3 W	12/10/93	1852 UTC	36 a	01	1157 - 1811 PST	1200 PST	1816 PST	156.8 ag C/a2

DEPTH a	TEMP DE6 C	SALINITY	SIGMA THETA	DISS O2 al/l	OXY PCT	SIO3 uH/l	PO4 uM/l	NO3 uM/I	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3> 1	2	MEAN	DARK
2	19.72	33.392	23.610	5.37	102.4	2.5	0.27	0.2	0.00	0.08	0.02	92. A	1.5	1.5	1.5	0.06
12	19.64	33.376	23.619	5.40	102.8	2.3	0.28	0.2	0.00	0.08	0.02					
24	19.38	33.341	23.659	5.42	102.7	2.2	0.27	0.2	0.00	0.09	0.03	36.	1.8	1.8	1.8	0.10
35	19.20	33.410	23.758	5.45	103.0	2.2	0.27	0.1	0.00	0.09	0.03					
47	19.25	33.461	23.785	5.45	103.1	2.2	0.27	0.1	0.00	0.10	0.03	13.	1.3	1.2	1.3	0.09
58	18.79	33.416	23.867	5.53	103.7	2.2	0.27	0.1	0.00	0.14	0.05					
68	17.45	33.354	24.148	5.76	105.2	2.4	0.28	0.1	0.00	0.18	0.08	S.5	1.4	1.4	1.4	0.05
80	16.44	33.329	24.366	5.86	104.9	2.5	0.30	0.1	0.00	0.22	0.11					
96	16.13	33.557	24.613	5.78	103.0	2.6	0.28	0.1	0.00	0.25	0.22	1.7	1.0	1.0	1.0	0.02
108	15.44	33.595	24.797	5.57	97.9	2.8	0.33	0.1	0.07	0.23	0.23					
131	13.88	33.537	25.086	5.27	89.7	4.6	0.54	2.3	0.04	0.16	0.19	0.37	0.13	0.14	0.14	0.01
150	12.04	33.491	25.414	4.96	81.2	8.2	0.85	7.3	0.01	0.08	0.09					

A) INCUBATION LIGHT INTENSITIES WERE 96, 36, 14, 5.2, 1.7 AND 0.37 PERCENT RESPECTIVELY.

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505 nun

line	Sta.	Position		Date Mo/Day	Time(PST) Start	End	Water Volume Strained (m)	Max. Tow Depth (mi)	Volume per 1000 m Total (cm)	Strained Small (cm)
77	49	35 05.8N	120 46.8W-	10/25	0925	0932	133	58	15	15
77	51	35 01.2N	120 54.6W	10/25	0700	0722	497	188	195	34
77	55	34 54.2N	121 13.6W	10/25	0337	0359	460	211	174	174
77	60	34 44.2N	12133.5W	10/24	2338	0000	459	212	85	74
77	70	34 24.1N	12215.7W	10/24	1808	1830	442	214	111	52
77	80	34 04.7N	122 57.7W	10/24	1153	1215	470	210	34	17
77	90	33 44.0N	123 38.9W	10/24	0532	0554	471	207	206	206
77	100	33 23.0N	12419.6W	10/23	2345	0007	422	209	95	66
80	51	34 27.8N	120 31.6W	10/22	1120	1126	115	48	52	52
80	55	34 18.8N	120 48.9W	10/22	1521	1543	444	203	56	56
80	60	34 08.3N	121 10.7W	10/22	1901	1923	445	203	1021	1021
80	70	33 49.8N	12151.6W	10/23	0013	0035	439	212	112	112
80	80	33 29.6N	122 32.6W	10/23	0552	0614	439	210	155	78
80	90	33 09.1N	123 13.4W	10/23	1152	1214	425	206	66.	31
80	100	34 48.8N	123 52.3W	10/23	1753	1815	422	213	116	76
82	47	34 17.2N	120 01.6W	10/22	0700	0722	411	221	127	58
83	40.6	34 12.7N	119 24.3W	10/22	0130	0133	51	21	158	158
83	42	34 10.6N	119 31.6W	10/21	2309	2326	331	161	18	18
83	51	33 52.7N	12010.3 W	10/21	1559	1621	464	199	19	19
83	55	33 45.2N	120 26.3W	10/21	1223	1245	452	212	27	27
83	60	33 34.6N	120 45.3W	10/21	0802	0825	475	205	38	38
83	70	33 15.0N	12127.7W	10/21	0245	0307	439	209	105	77
83	80	32 55.4N	122 08.0W	10/20	2120	2141	425	214	115	63
83	90	32 34.8N	122 47.6W	10/20	1607	1629	434	210	69	30
83	100	32 14.9N	123 29.8W	10/20	0820	0842	451	208	24	24
83	110	3155.3N	124 11.4W	10/20	0255	0317	464	211	37	37
87	33	33 52.7N	118 29.8W	10/17	1816	1821	102	43	68	68
87	35	33 48.9N	118 39.0W	10/17	2033	2054	439	206	50	50
87	40	33 39.0N	118 59.8W	10/18	0001	0023	437	207	64	64
87	45	33 30. IN	119 20.9W	10/18	0340	0402	414	214	80	80
87	50	33 19.0N	119 40.6W	10/18	0705	0712	140	59	29	29
87	55	33 09.5N	120 00.8W	10/18	1105	1127	426	218	31	31
87	60	32 59.8N	120 23.4W	10/18	1540	1602	422	214	28	28
87	70	32 39.5N	12102.6W	10/18	2121	2144	468	214	94	56
87	80	3219.6N	12145.0W	10/19	0310	1332	472	209	66	42
87	90	3159.5N	122 23.7W	10/19	0820	0842	457	207	66	48
87	100	3140.6N	123 06.4W	10/19	1622	1643	442	205	20	20
87	110	3120.5N	123 46.0W	10/19	2133	2155	461	207	50	50
90	28	33 28.9N	117 46.4W	10/17	1025	1033	152	74	59	59
90	30	33 24.4N	117 54.8W	10/17	0648	0710	442	209 .	14	14
90	35	33 14.7N	118 18.1W	10/17	0238	0260	425	215	59	59
90	37	33U.4N	118 25.0W	10/16	2300	2321	425	209	56	56
90	45	32 55.1N	118 56.3W	10/16	1758	1820	406	219	106	32
90	53	32 39.4N	119 28.4W	10/16	1000	1022	451	209	22	22
90	60	32 25.3N	119 57.2W	10/15	0950	1012	434	211	23	23
90	70	32 05.0N	120 38.6W	10/14	2326	2348	446	209	52	38
90	80	3145.0N	121 18.6W	10/14	0859	0921	433	211	76	42
90	90	3125.2N	121 59.6W	10/14	0004	0026	461	202	80	46
90	100	3105.2W	122 39.6W	10/13	1100	1122	434	210	37	37
90	110	30 45.4N	123 20.3W	10/13	0530	0552	445	211	65	65
90	120	30 25.8N	123 59.3W	10/12	1629	1651	466	196	21	21
93	26.7	32 56.2N	117 17.4W	10/08	1247	1253	112	39	45	45
93	28	32 53.6N	117 23.5W	10/08	1623	1645	427	203	30	30
93	30	32 50.6N	117 32.9W	10/08	1903	1925	432	204	42	42
93	35	32 40.1N	117 53.0W	10/08	2242	2304	413	217	68	68
93	40	32 30.0N	118 09.4W	10/09	0303	0325	449	202	49	49
93	45	32 21.3N	118 32.9W	10/09	0724	0746	447	202	27	27
93	50	32 10.4N	118 51.9W	10/09	1140	1202	451	198	31	31
93	55	32 00.3N	119 13.9W	10/09	2020	2042	438	210	89	57
93	60	3150.7N	119 33.6W	10/10	0245	0307	435	215	62	62
93	70	31 30.4N	120 14.2W	10/10	1215	1237	455	199	48	48
93	80	31 10.0N	120 55.3W	10/10	2136	2158	413	213	68	68
93	90	30 51.4N	12137.6W	10/11	0302	0324	473	203	38	38
93	100	30 30.7N	12215.8W	10/11	1128	1150	455	211	13	13
93	110	30 11.8N	122 56.1W	10/12	0120	0142	463	207	43	43
93	120	29 50.3N	123 35.3W	10/12	0959	1021	449	208	29	29

FIGURES

Avifauna Observations

CalCOFI Cruise 9308

1a. Cook's Petrel distribution.

1b. Sooty Shearwater distribution.

1c. Pink-footed Shearwater distribution.

1d. Leach's Storm-Petrel distribution.

1e. Black Storm-Petrel distribution.

1f. Western Gull distribution.

CalCOFI Cruise 9310

2a. Northern Fulmar distribution.

2b. Sooty Shearwater distribution.

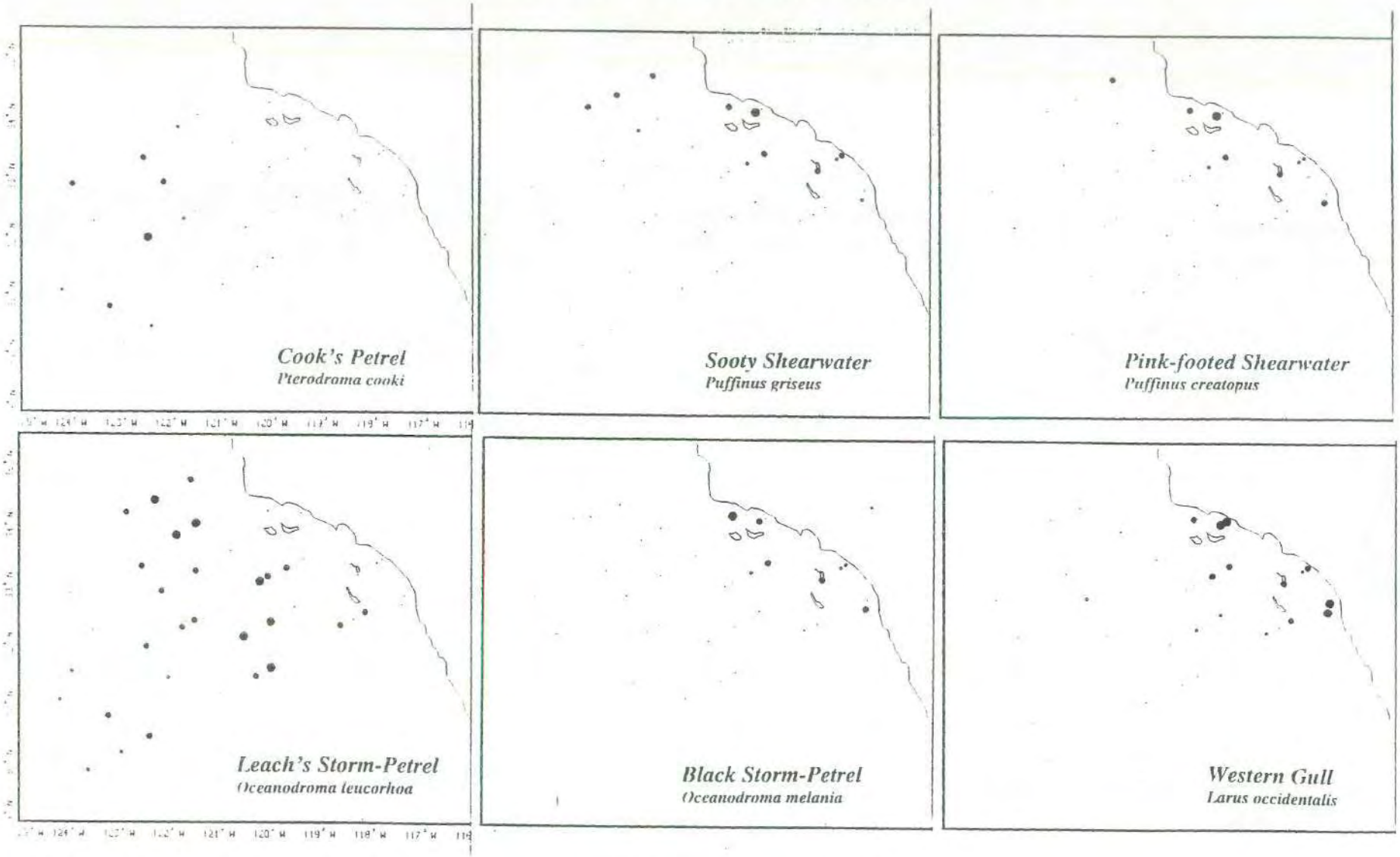
2c. Leach's Storm-Petrel distribution.

2d. Black-vented Shearwater distribution.

2e. Pink-footed Shearwater distribution.

2f. Western Gull distribution.

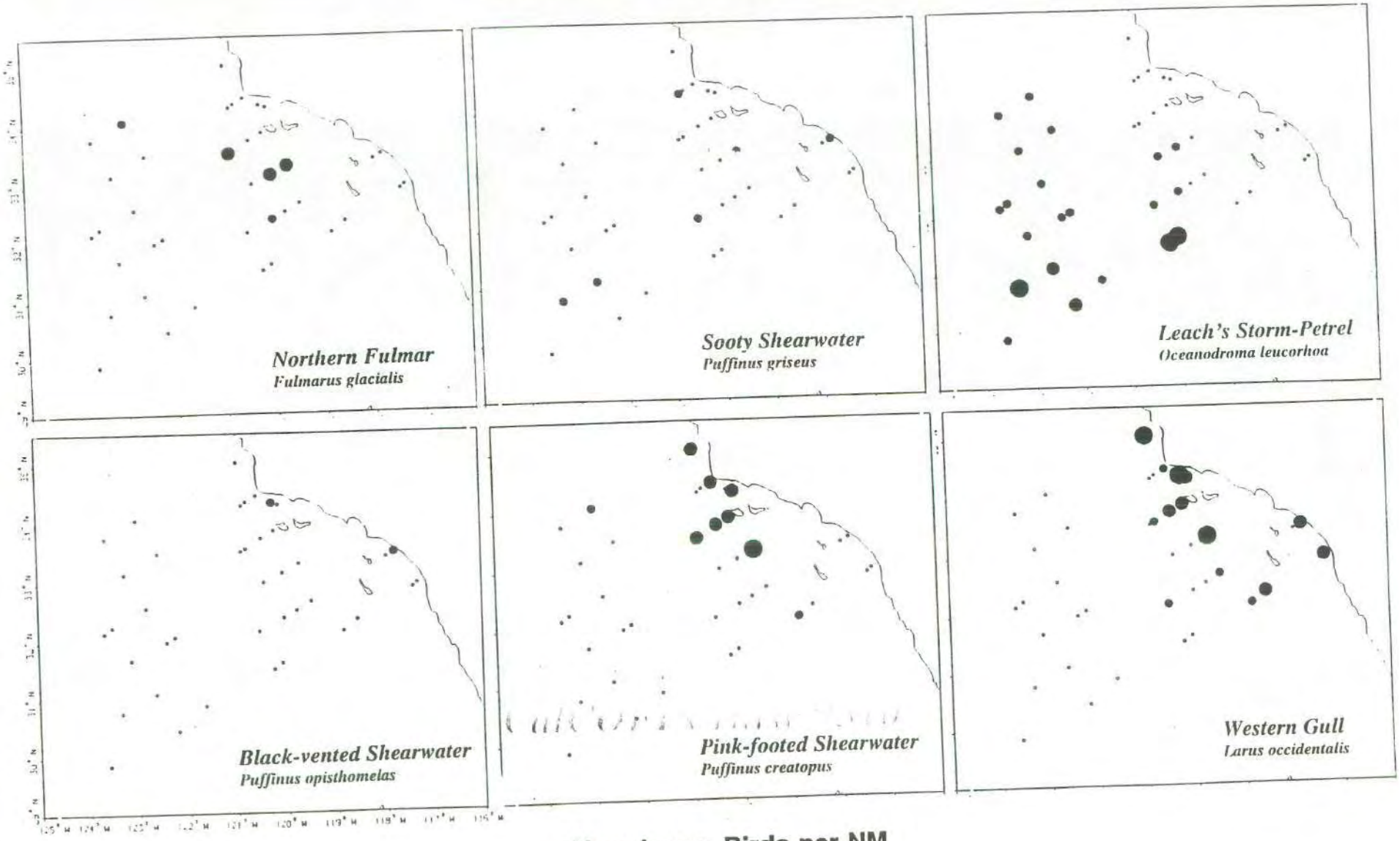
CalCOFI Cruise 9308



Abundance, Birds per NM

- 0
- 0-0.1
- 0.1-1.0
- 1.0-10
- 10-100

CalCOFI Cruise 9310



Abundance, Birds per NM

- 0
- 0-0.1
- 0.1-1.0
- 1.0-10
- 10-100