UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

CalCOFI Cruise 9702
29 January – 15 February 1997

CalCOFI Cruise 9704
2 – 20 April 1997

SIO Reference 97-13
13 December 1997

UNIVERSITY OF CALIFORNIA, SAN DIEGO

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LA JOLLA, CALIFORNIA 92093-0227

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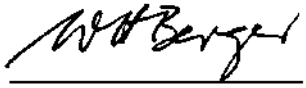
Approved for distribution:



Wolfgang H. Berger, Interim Director

CONTENTS

INTRODUCTION

The data in this report were collected during cruises 9702* and 9704 of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the NOAA ship RV *David Starr Jordan* and RV *New Horizon* of 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 9702 and 9704 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 9702 and 9704 a Sea-Bird Electronics, Inc., Conductivity-Temperature-Depth (CTD) instrument was deployed with a 24-place General Oceanics rosette. The rosette was equipped with 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. Occasional stations have multiple bottles tripped at the same depth to provide more water for ancillary programs. Pressures and temperatures assigned to the water sample data were derived from the CTD signals recorded just prior to the bottle trip. Pressures have been converted to depths 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, oxygen and nutrients were determined at sea for all depths sampled. Chlorophyll-a and phaeopigments were determined at sea within the top 200 meters, bottom depth permitting.

Salinity samples were collected from all rosette bottles and analyzed at sea using a Guildline model 8410 Portasal 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 P127. Salinity values have been calculated using 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 Adas *et al.* (1971).

Samples for chlorophyll-a and phaeopigments were filtered onto Whatman 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). 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 from all rosette productivity botdes.

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 meters 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

On Cruise 9702, sea birds 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).

Ancillary Programs

Several ancillary programs produced data on these cruises which are not presented in this report. These programs include:

1) *Underway Data.* Continuous near surface measurements of temperature, salinity and chlorophyll fluorescence were made from water pumped through the ship, and the data were logged at one minute intervals. Sardine and anchovy eggs were collected underway with a separate large volume pump on line 93 of 9704. This pump drew a continuous sample of approximately 640 liters per minute which was concentrated and collected by a 505 |um sieve system. Samples were collected from this system periodically for enumeration of sardine and anchovy eggs.

2) *ADCP.* Acoustic Doppler Current Profiler data were recorded continuously along the ship's cruise track.

3) *Bio-optics.* On cruises 9702 and 9704 apparent and inherent optical properties of the top 300 meters of the water column were measured daily with a bio-optical profiling package. Discrete water samples obtained from the CTD-rosette were analyzed for determination of absorption by particulate, detrital, and soluble material. HPLC determination of plant pigments and particulate size distribution. On cruise 9704 the discrete sampling included samples for particulate organic carbon. Also on cruise 9704 measurements of polarized sky radiances and above-water ocean surface reflectance were obtained in parallel widi in-water optical profiles.

4) *Carbon Monoxide Cycling.* On cruise 9704 the rate of microbial oxidation of CO was measured in a variety of samples from the mixed layer at 7 stations. Measurements were also made of the relative rate of photogeneration of CO upon irradiation of filtered (0.2um) and unfiltered mixed-layer water samples by a solar simulator at 8 stations. At 5 stations an 'optical buoy' was used to measure depth integrated CO production *in situ.*

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. The sample number reported is the cast number followed by a two digit rosette bottle number. 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 data from individual CTD/rosette trip levels are interpolated and reported for standard depths. Interpolated or extrapolated standard level data are noted by the footnote "ISL" printed after the depth. Multiple bottles tripped at the same depth to provide water for ancillary programs are not used in the calculation of standard depth data. Density-related parameters have been calculated from the International Equation of State of Seawater 1980 (UNESCO, 1981b). Computed values of potential temperature, sigma-theta, specific volume anomaly (SVA), and dynamic height or geopotential anomaly 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. 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 die 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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PERSONNEL

CalCOFI Cruise 9702

SHIP'S CAPTAIN

Timothy J. Clancy, *RV David Starr Jordan*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

Griffith, David A. (Chief Scientist)	Fishery Biologist, NMFS
Abramenkoff, Dimitry N.	Fishery Biologist, NMFS
Beaupre, Marie-Claude	Staff Research Associate, SIO
Dotson, Ronald C.	Fishery Biologist, NMFS
Fruetel, Debra L.	Laboratory Assistant, SIO
Hays, Amy E.	Fishery Biologist, NMFS
Hyrenbach, K. David	Graduate Student, SIO
McGinnis, Jean L.	Staff Research Associate, SIO
Ramirez, Fernando	Staff Research Associate, SIO
Renger, Edward H.	Staff Research Associate, SIO
Reynolds, Rick A.	Post Graduate Researcher, SIO
Rusk, Steve W.	Volunteer
Wilkinson, James R.	Programmer/Analyst, SIO

FIGURES

Cruise 9702

1. CalCOFI Cruise 9702, 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 93 (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.

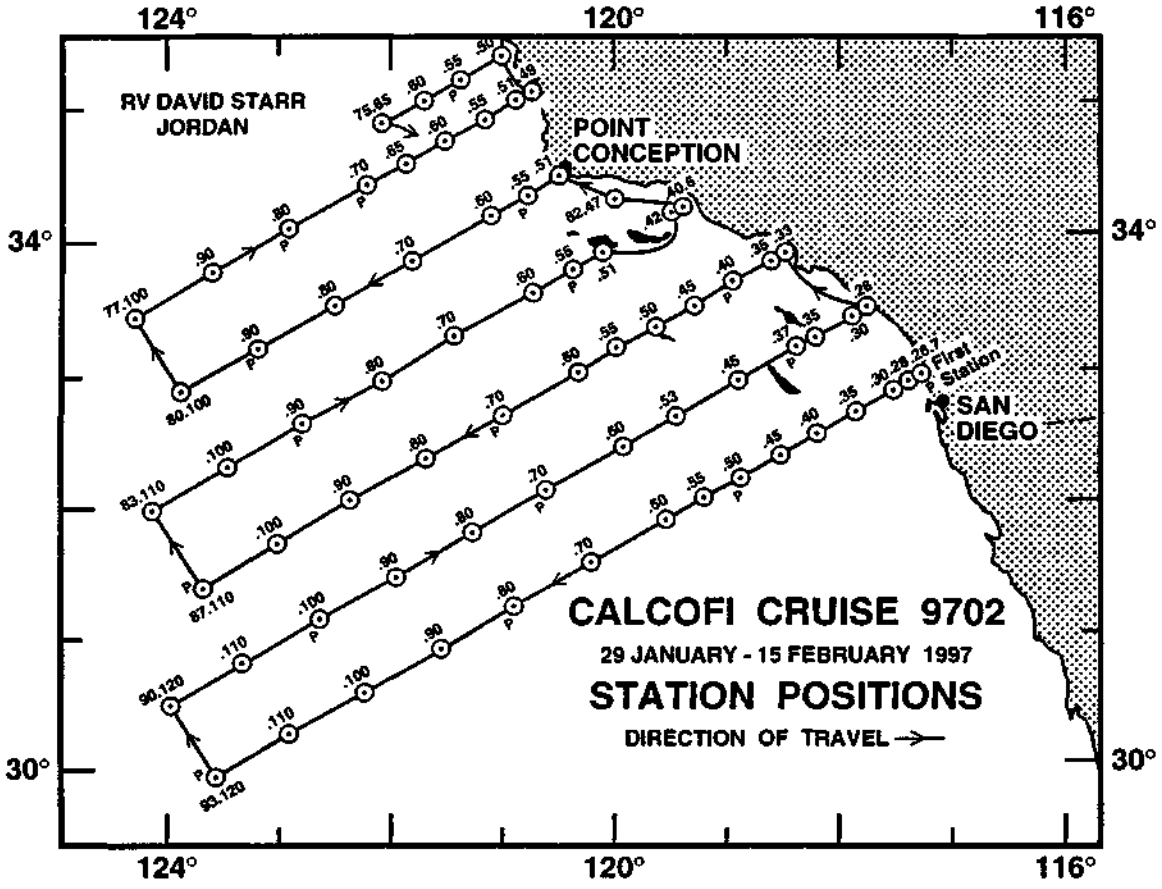

FIGURE 1

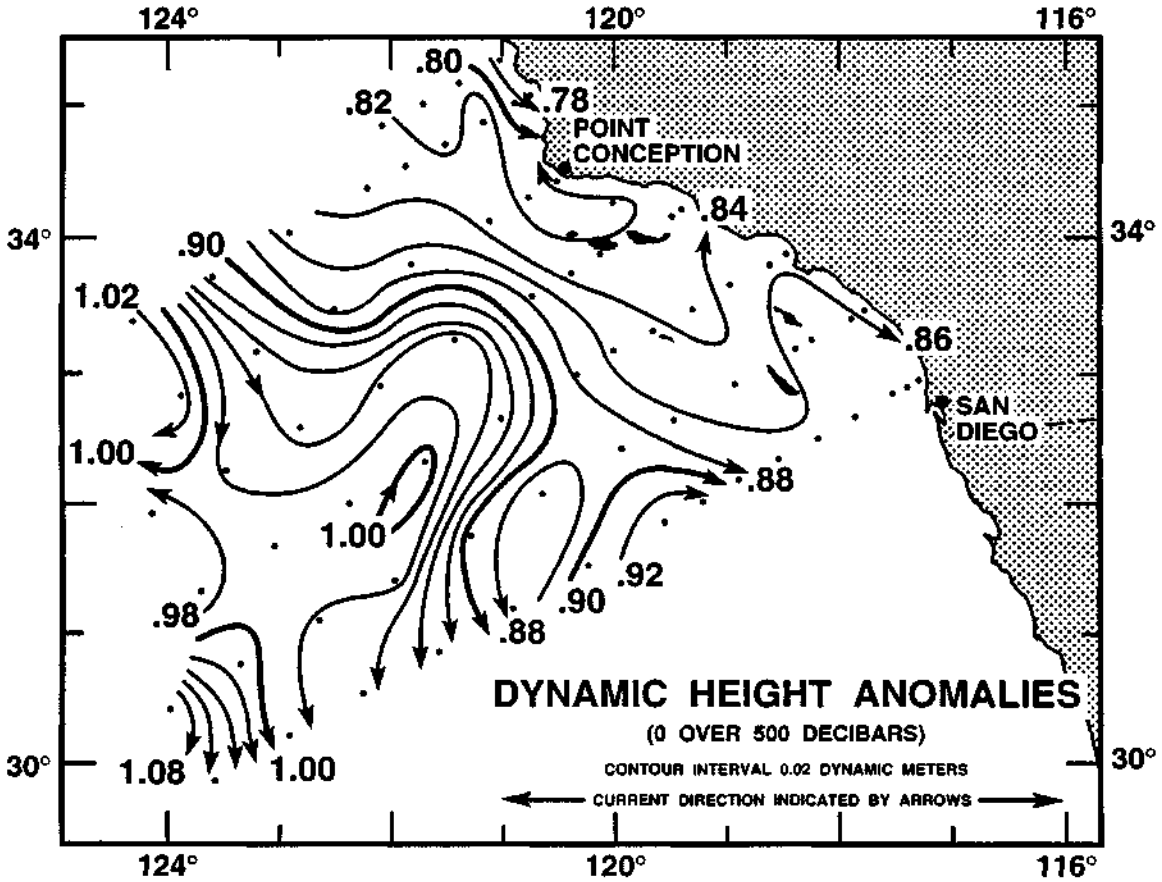

FIGURE 2

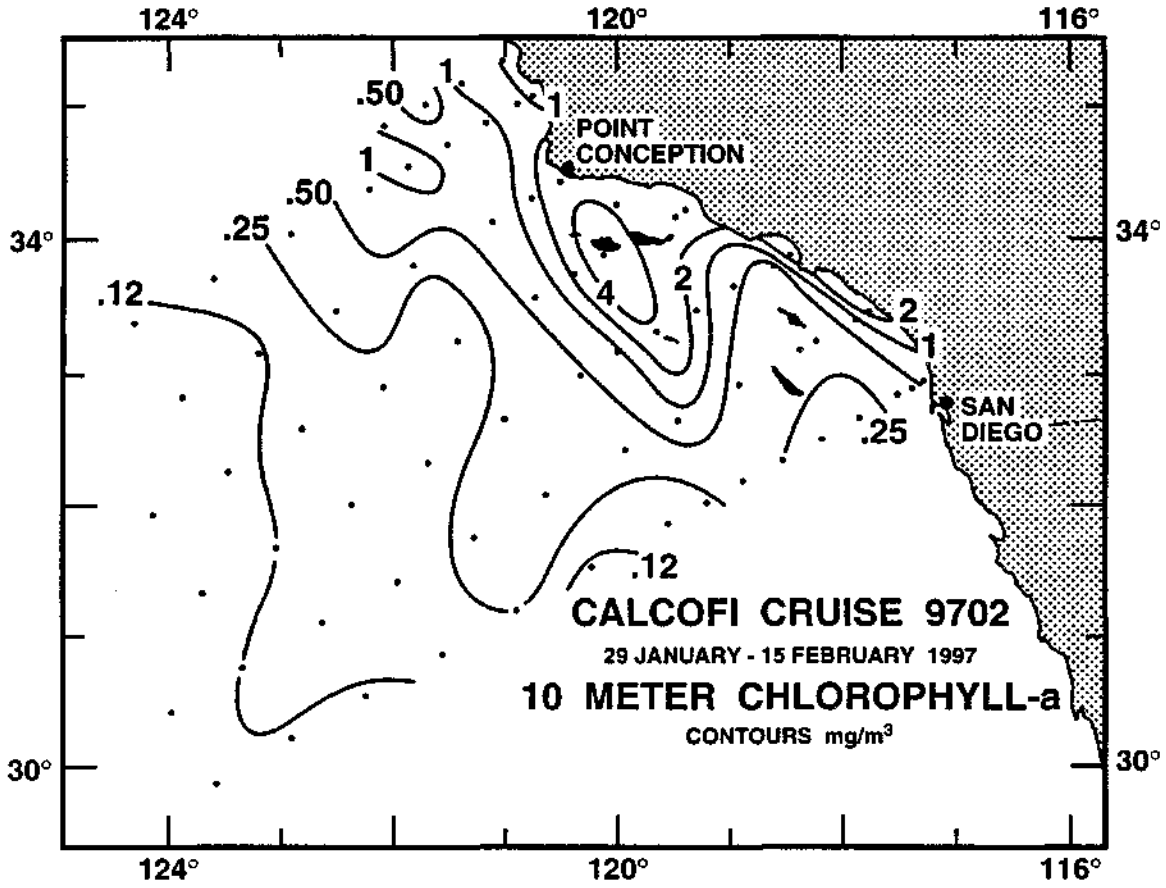

FIGURE 3A

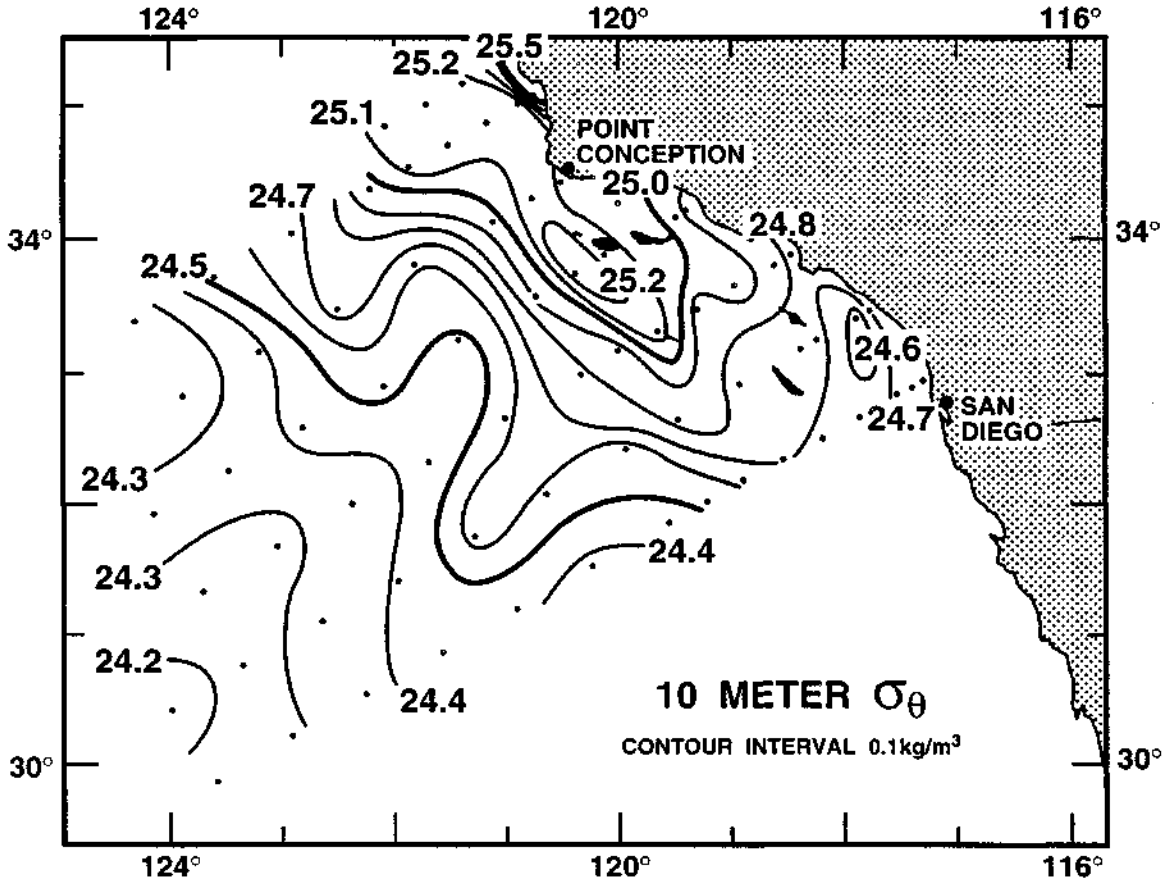

FIGURE 3B

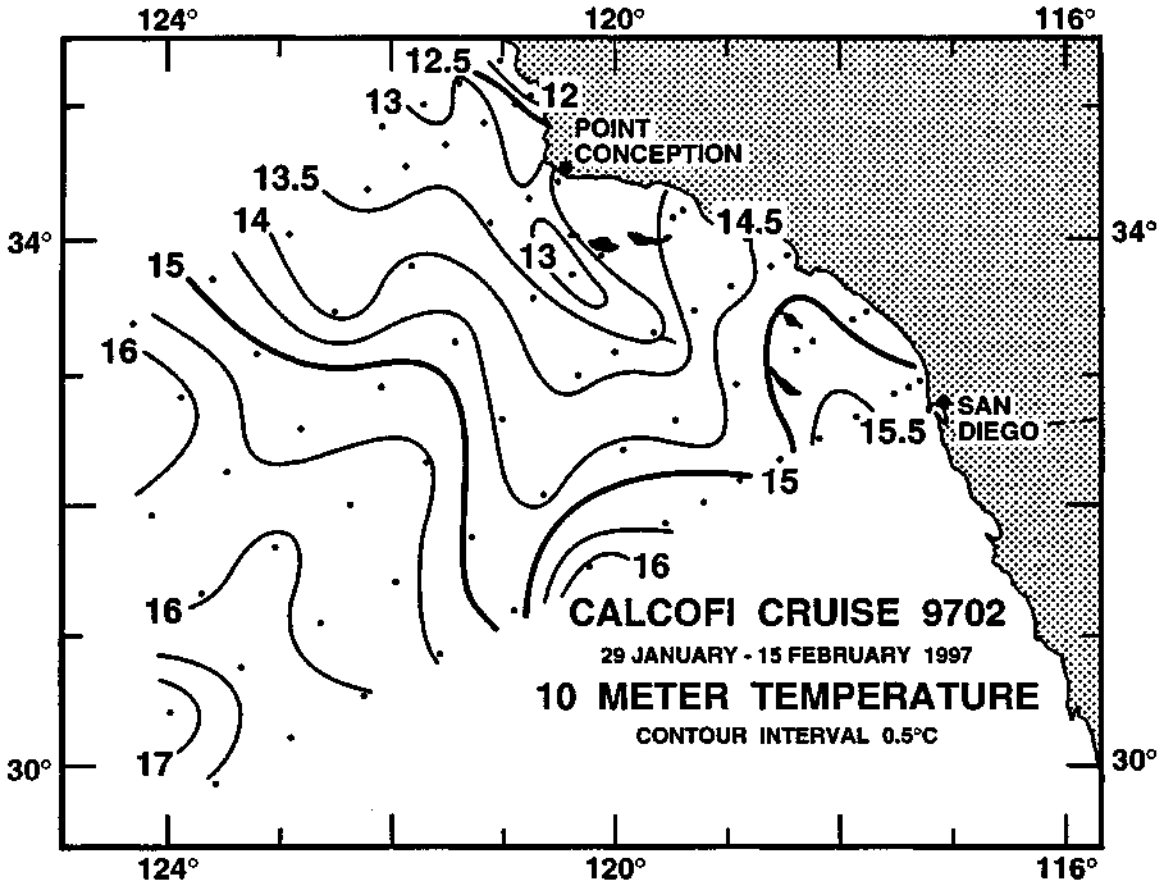

FIGURE 3C

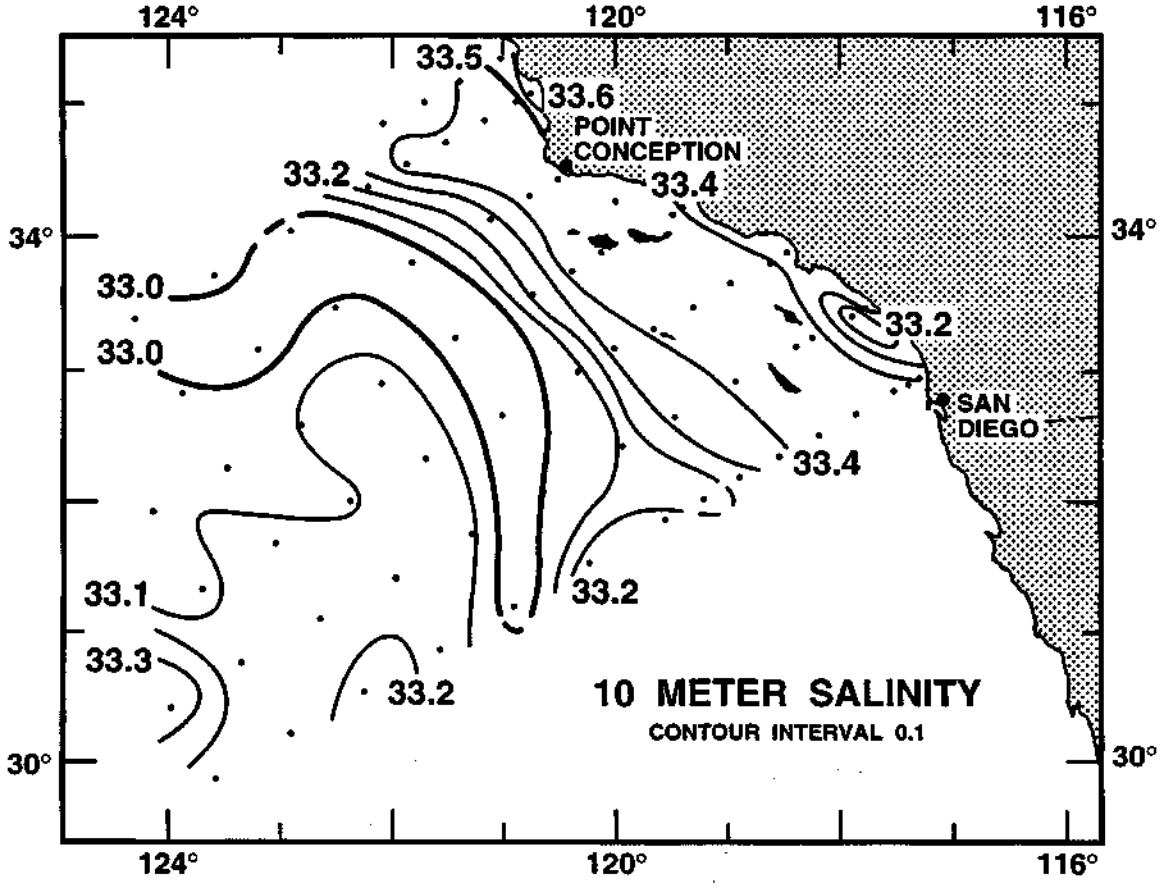

FIGURE 3D

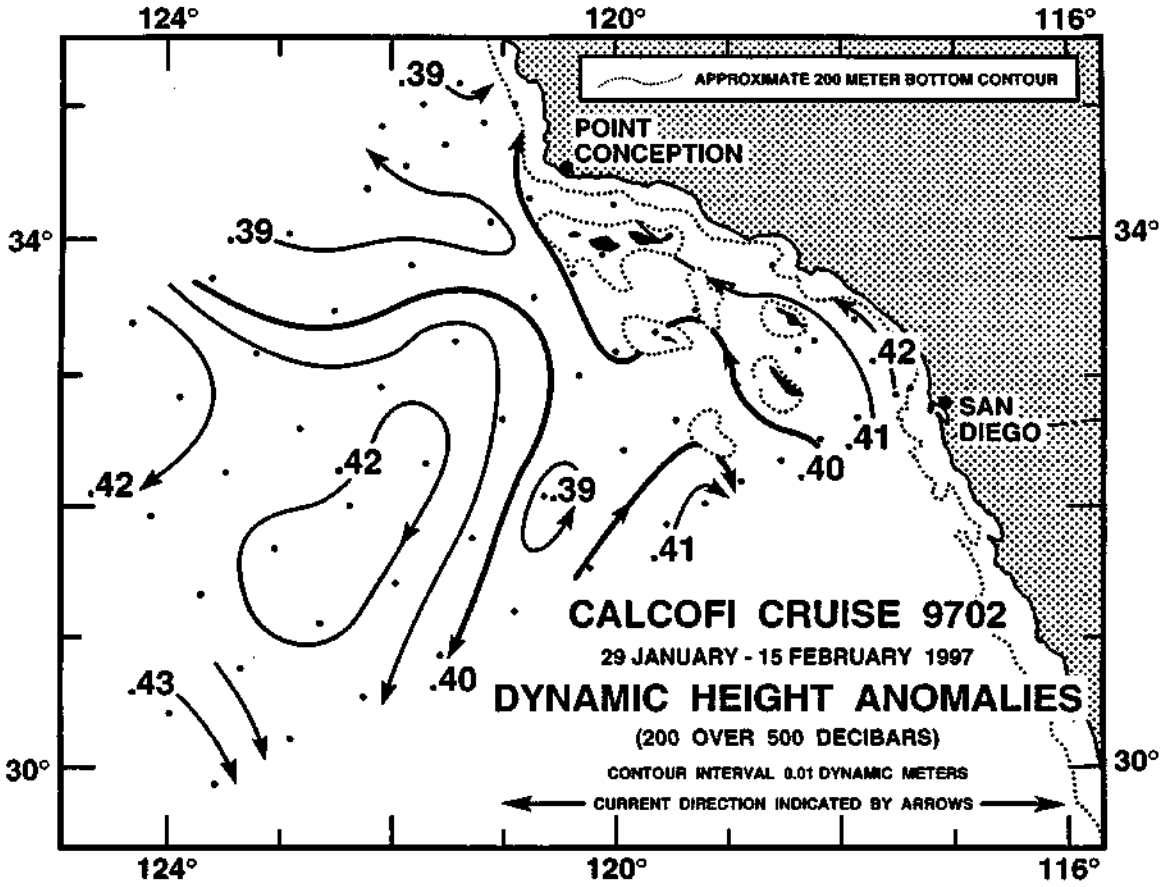

FIGURE 4A

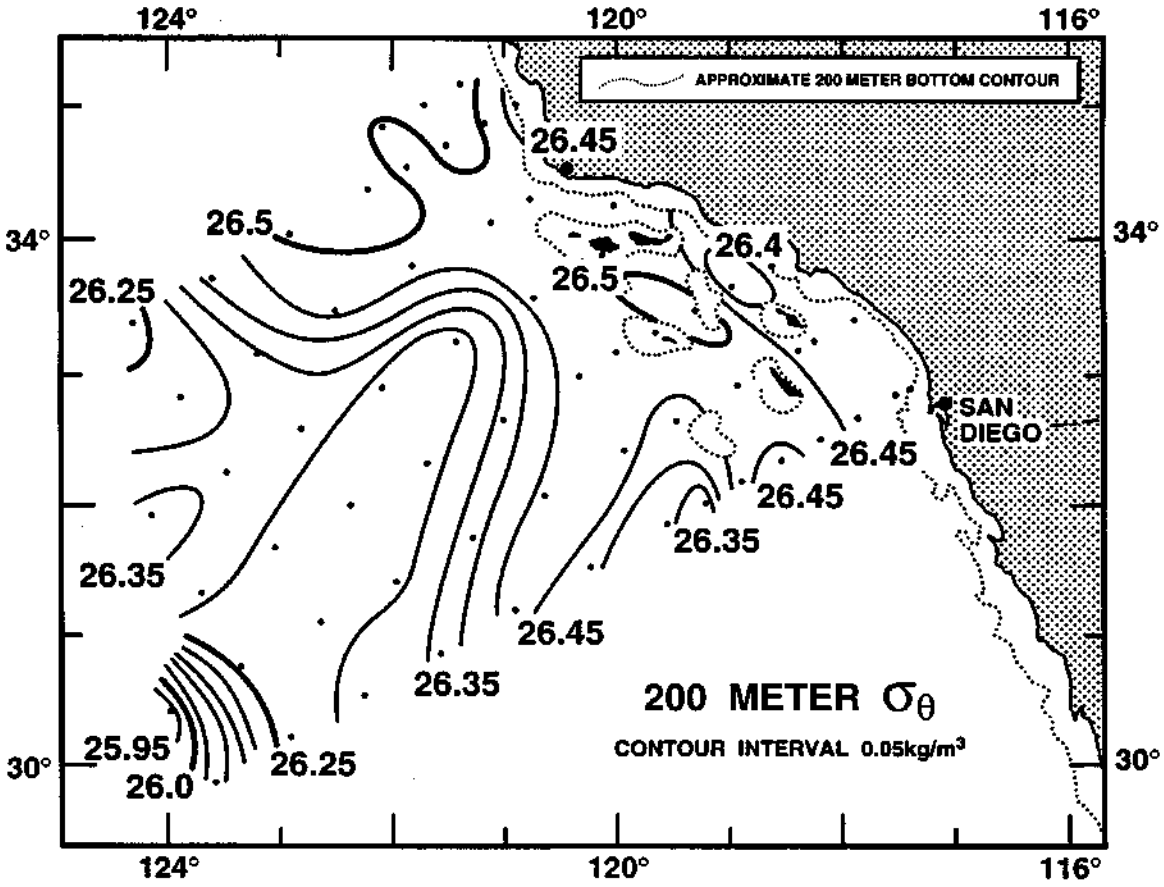

FIGURE 4B

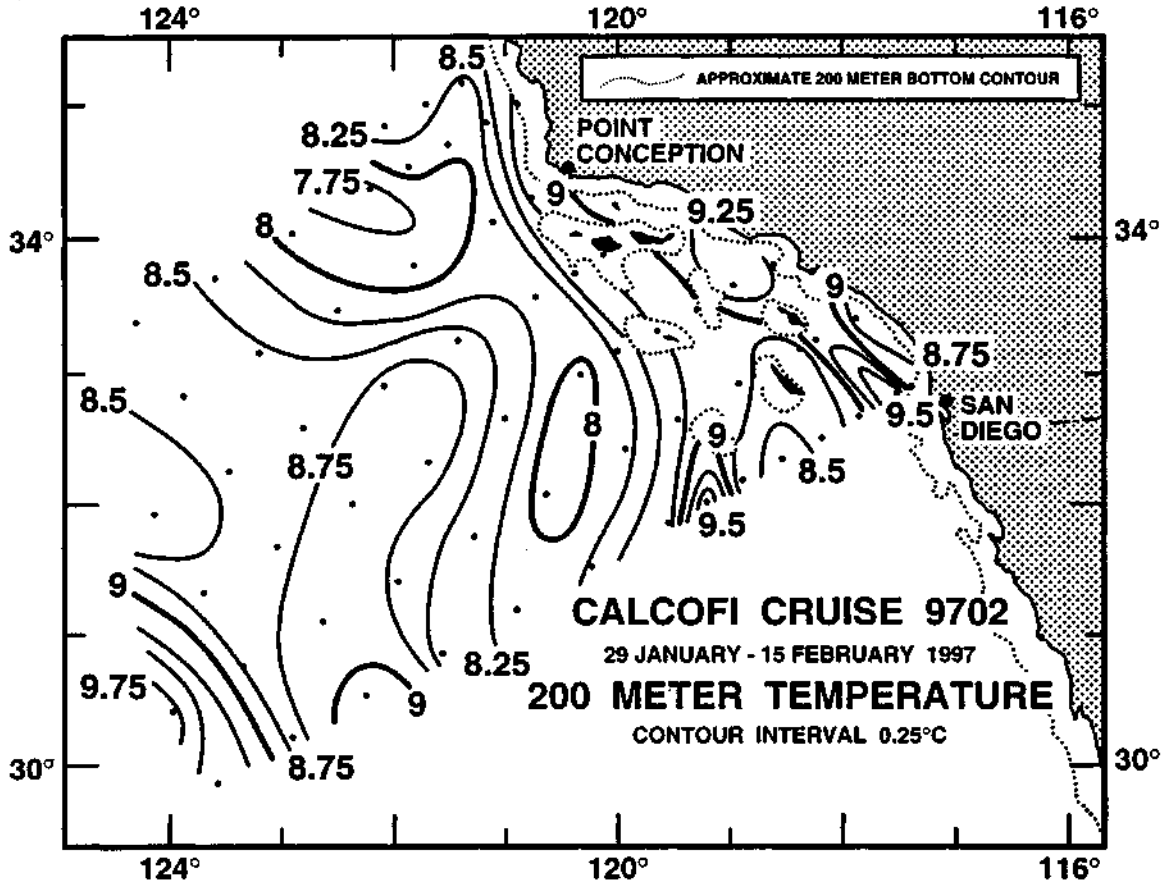

FIGURE 4C

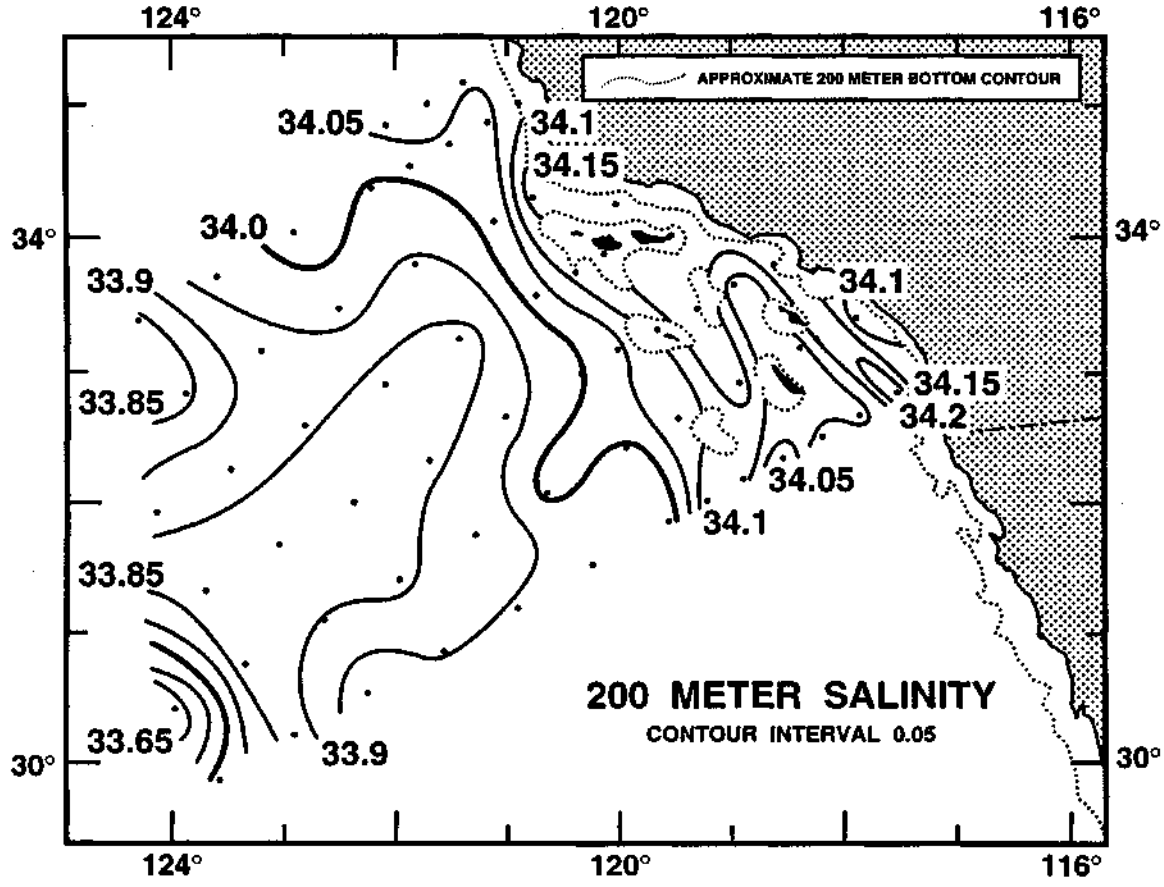

FIGURE 4D

CALCOFI CRUISE 9702

29 JANUARY - 1 FEBRUARY 1997

POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 93

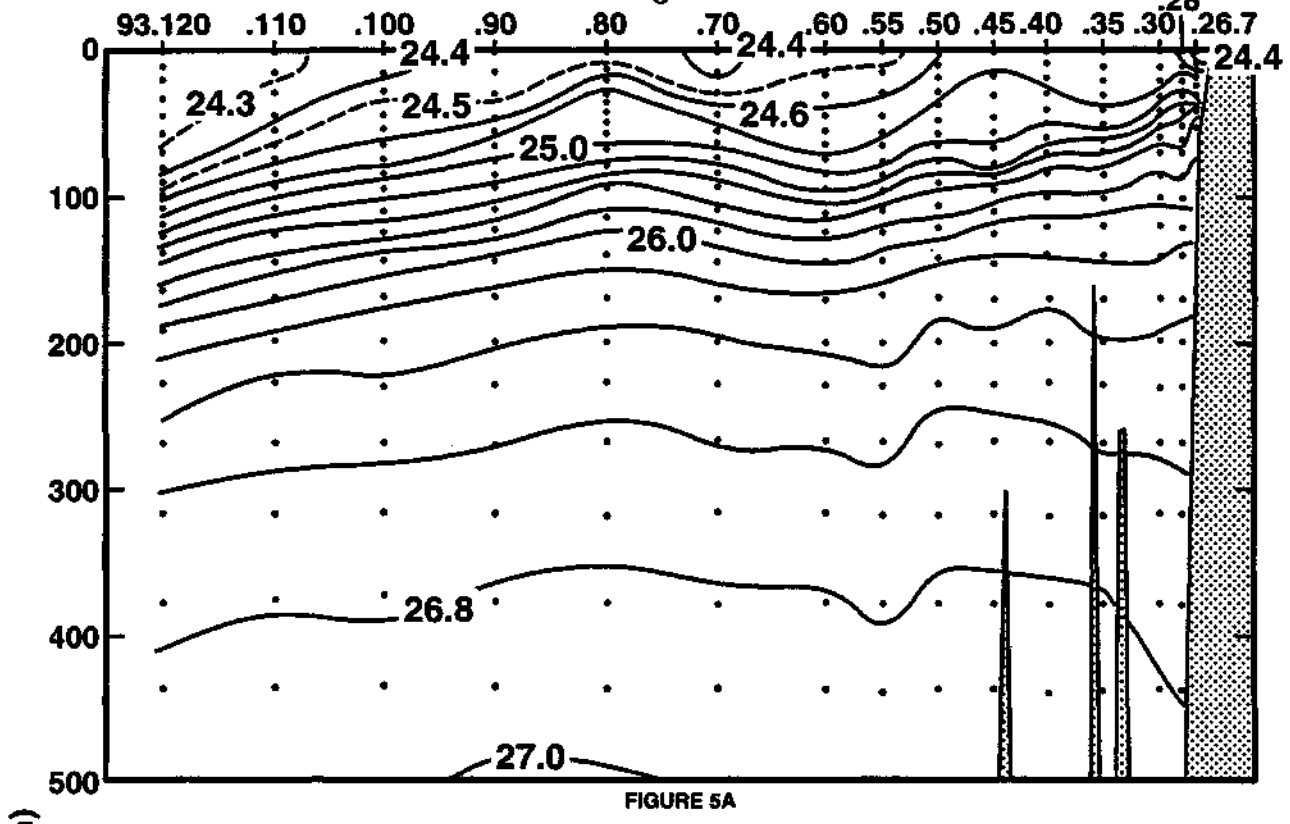

FIGURE 5A

TEMPERATURE (°C) ALONG CALCOFI LINE 93

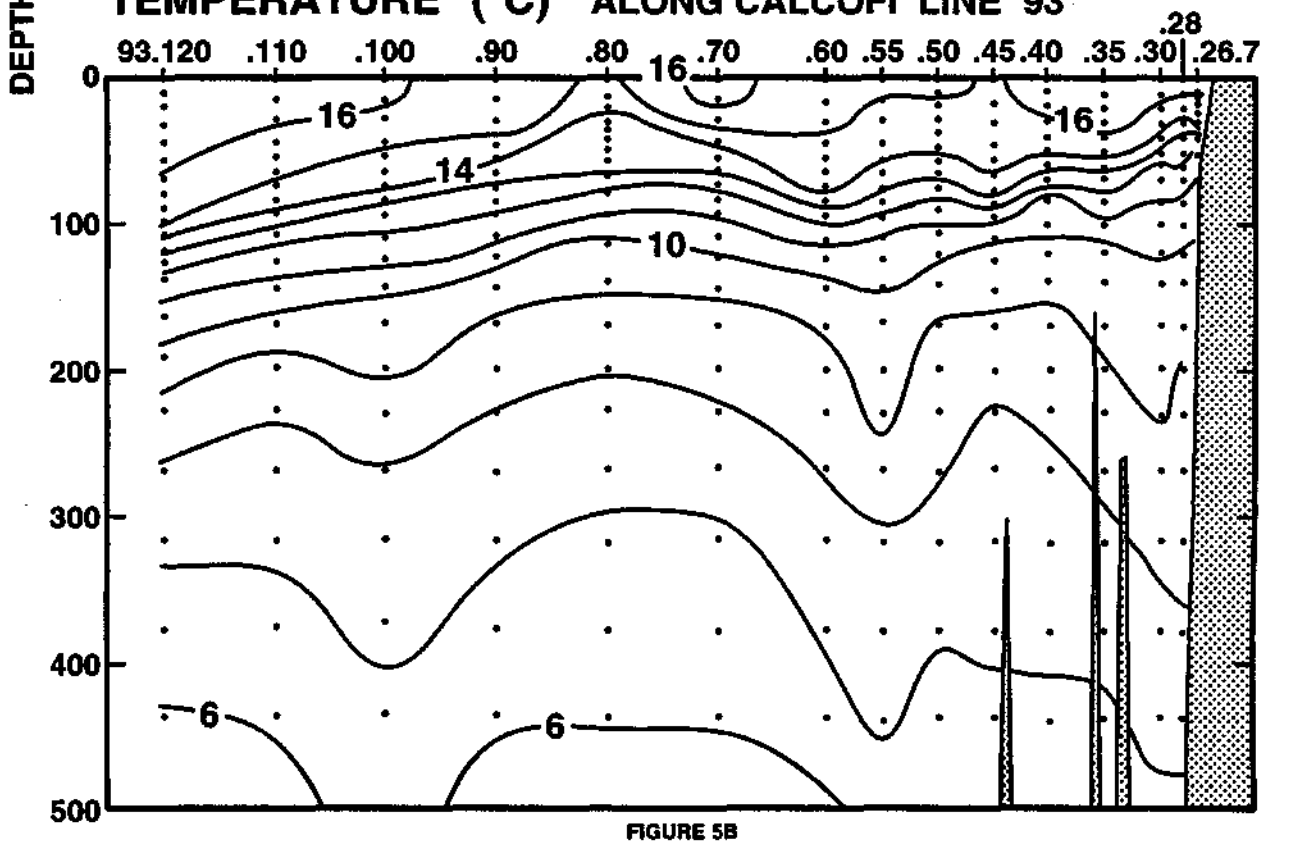

FIGURE 5B

CALCOFI CRUISE 9702

29 JANUARY - 1 FEBRUARY 1997

SALINITY ALONG CALCOFI LINE 93

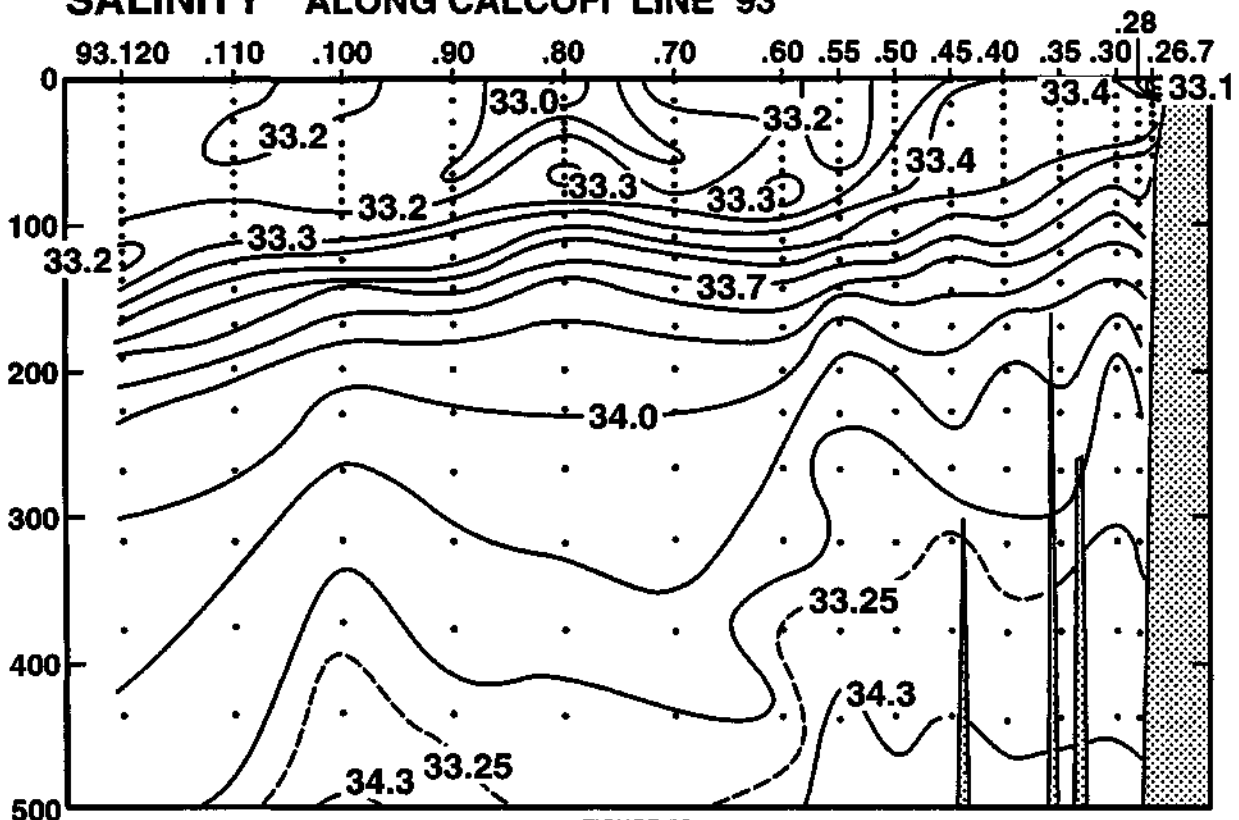

FIGURE 5C

SILICATE (μM/l) ALONG CALCOFI LINE 93

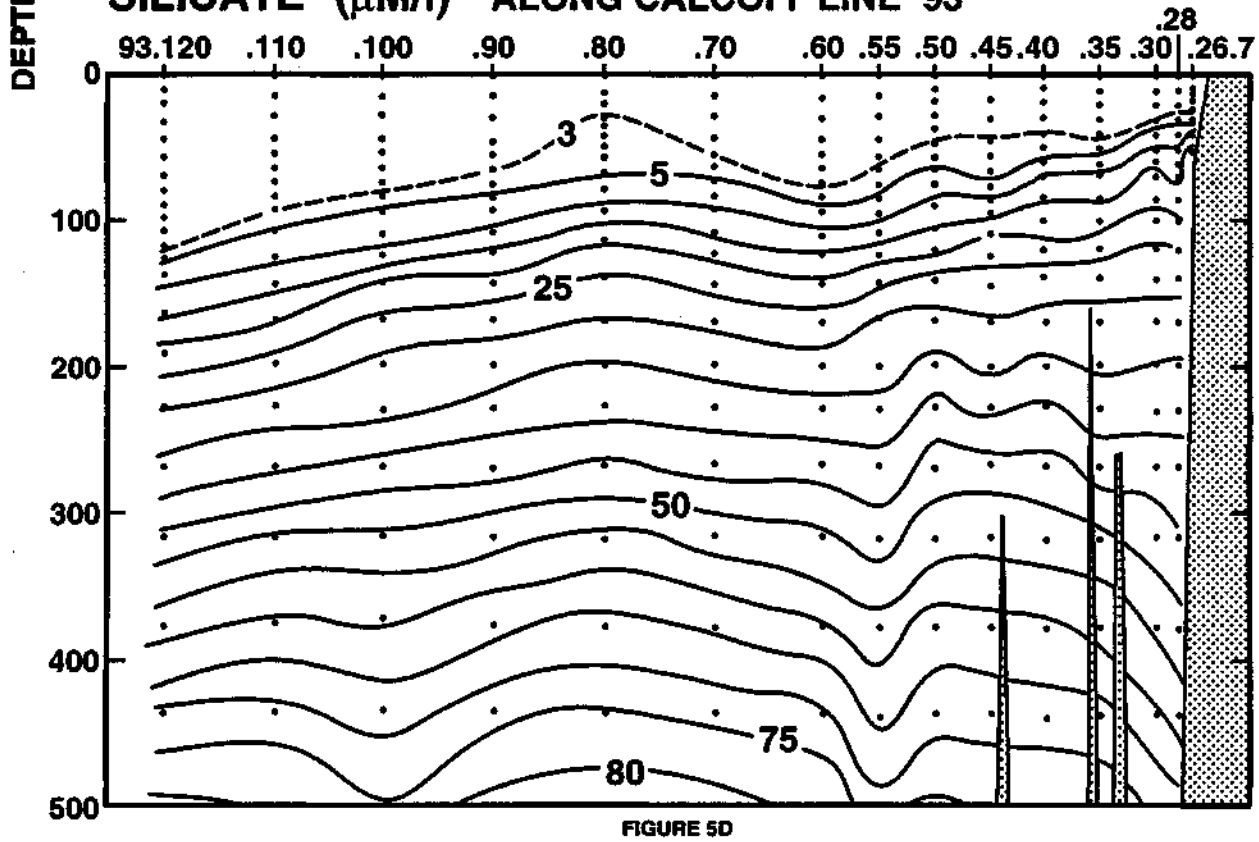

FIGURE 5D

CALCOFI CRUISE 9702

29 JANUARY - 1 FEBRUARY 1997

NITRATE (μM/l) ALONG CALCOFI LINE 93

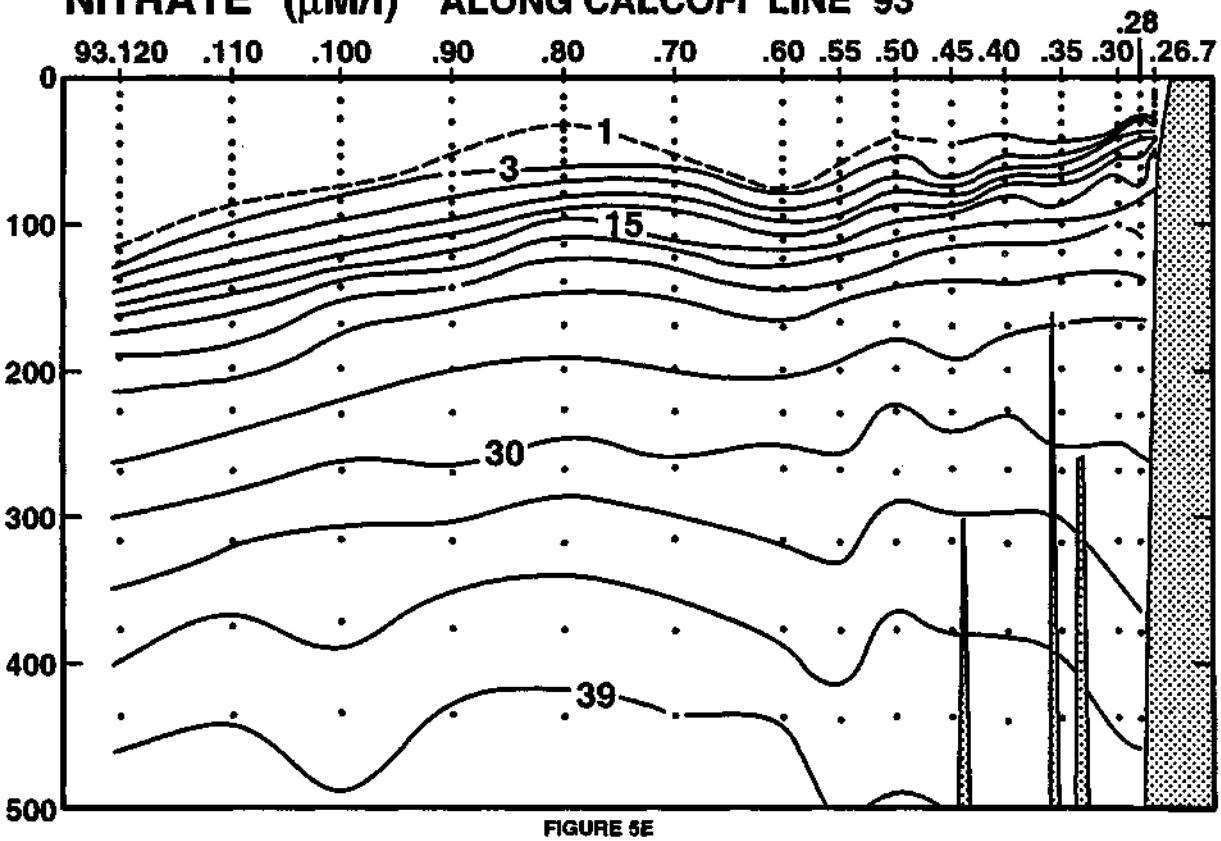

FIGURE 5E

PHOSPHATE (μM/l) ALONG CALCOFI LINE 93

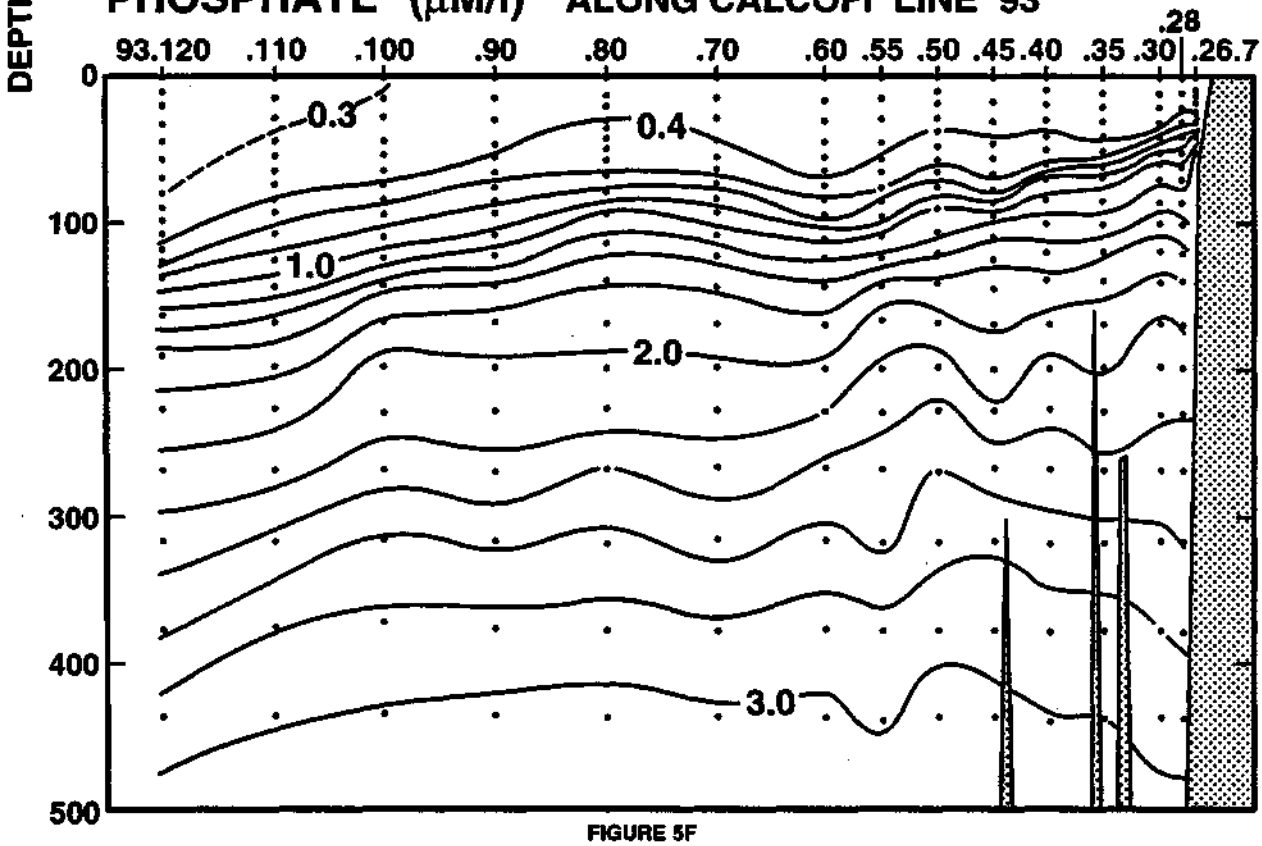

FIGURE 5F

CALCOFI CRUISE 9702

29 JANUARY - 1 FEBRUARY 1997

CHLOROPHYLL-a (µg/l)) ALONG CALCOFI LINE 93

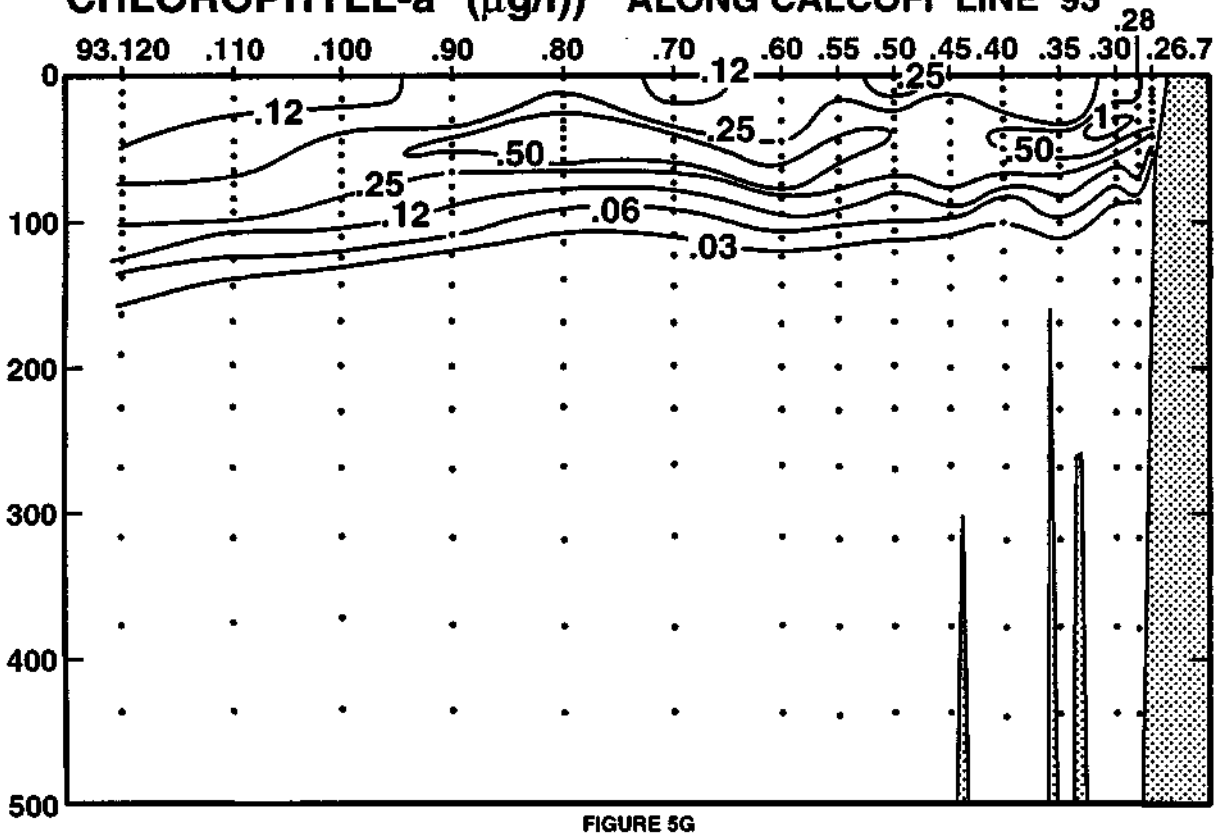

FIGURE 5G

OXYGEN SATURATION (%) ALONG CALCOFI LINE 93

DEPTH (m)

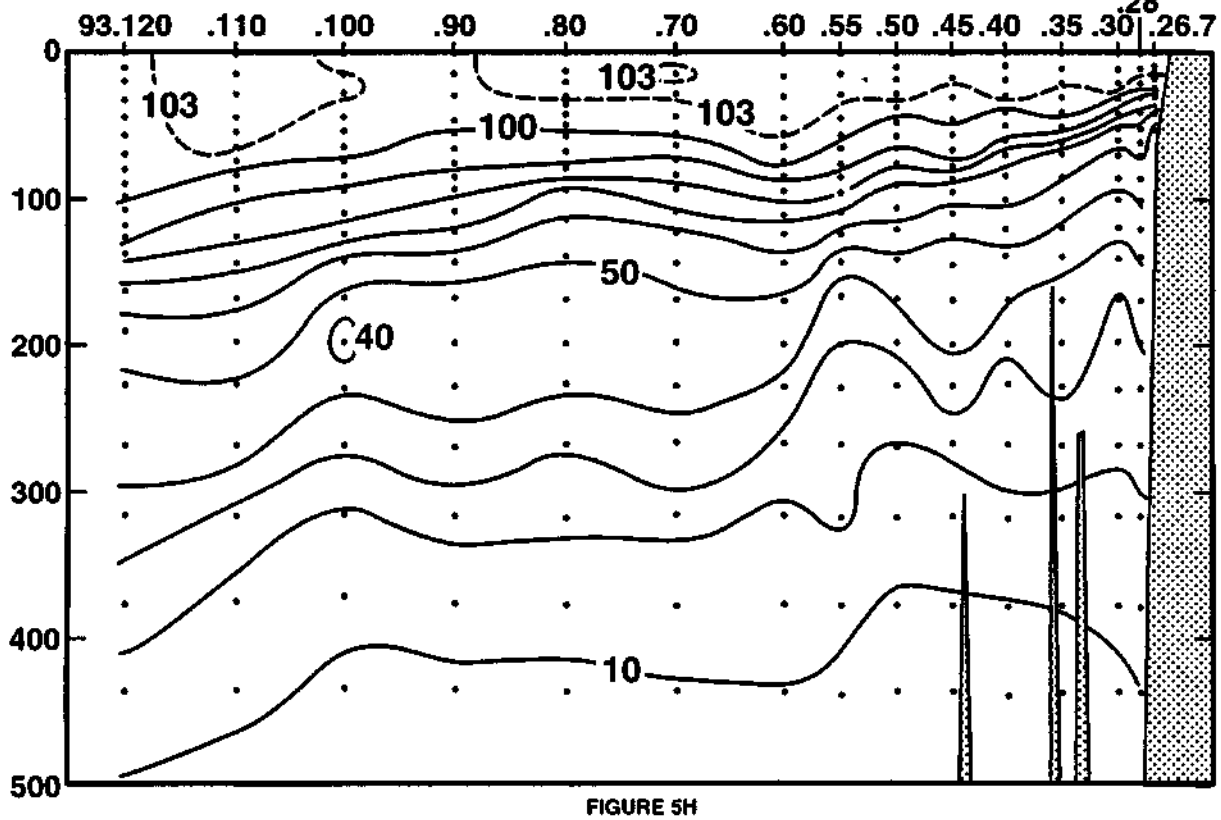

FIGURE 5H

CALCOFI CRUISE 9702

29 JANUARY - 1 FEBRUARY 1997

OXYGEN (ml/l) ALONG CALCOFI LINE 93

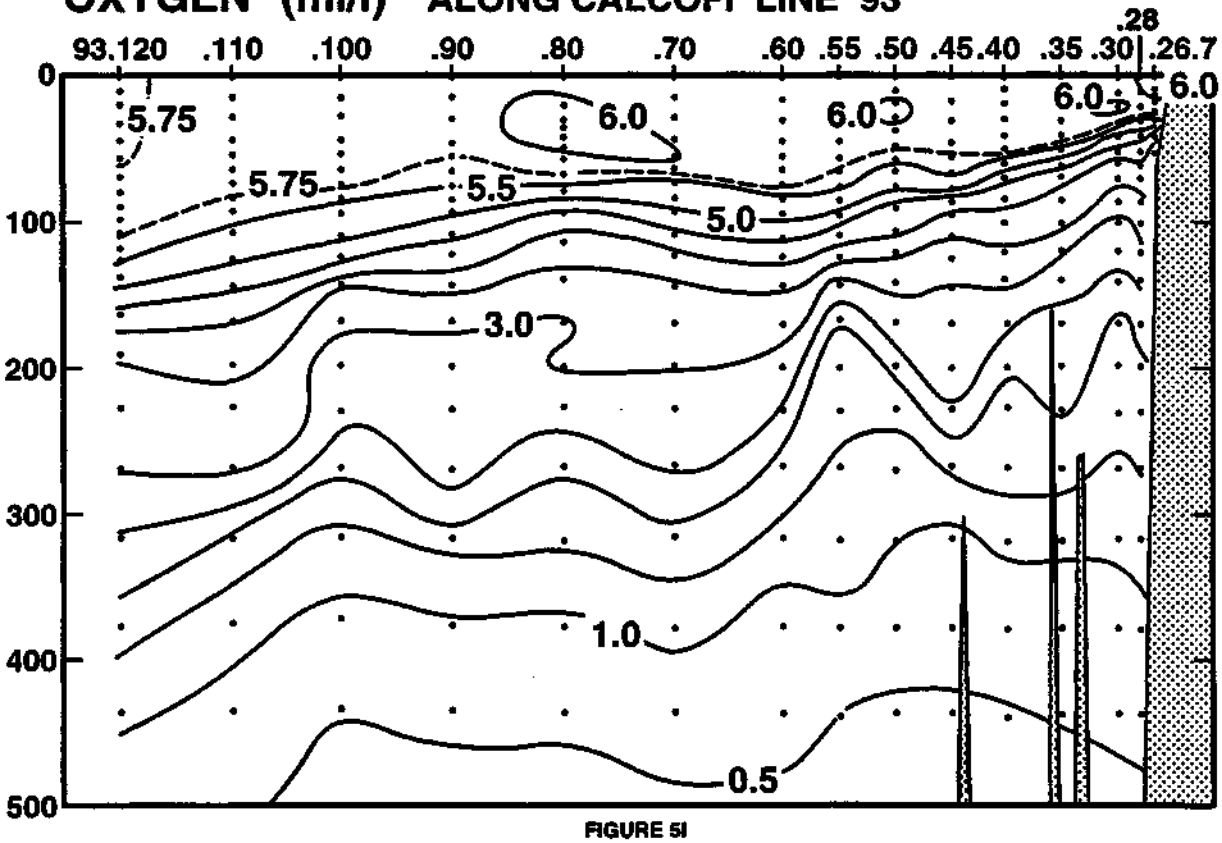

FIGURE 5I

DEPTH (m)

NITRITE (µM/l) ALONG CALCOFI LINE 93

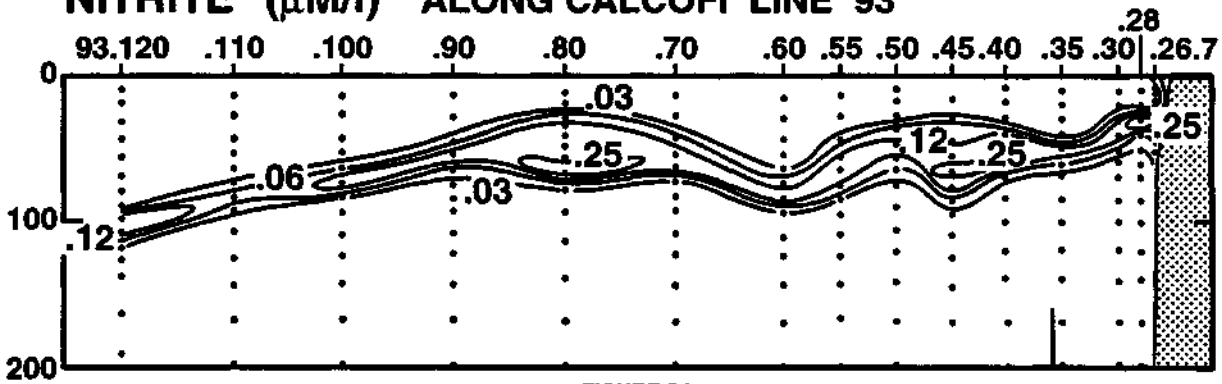

FIGURE 5J

PHAEOPIGMENTS (µg/l) ALONG CALCOFI LINE 93

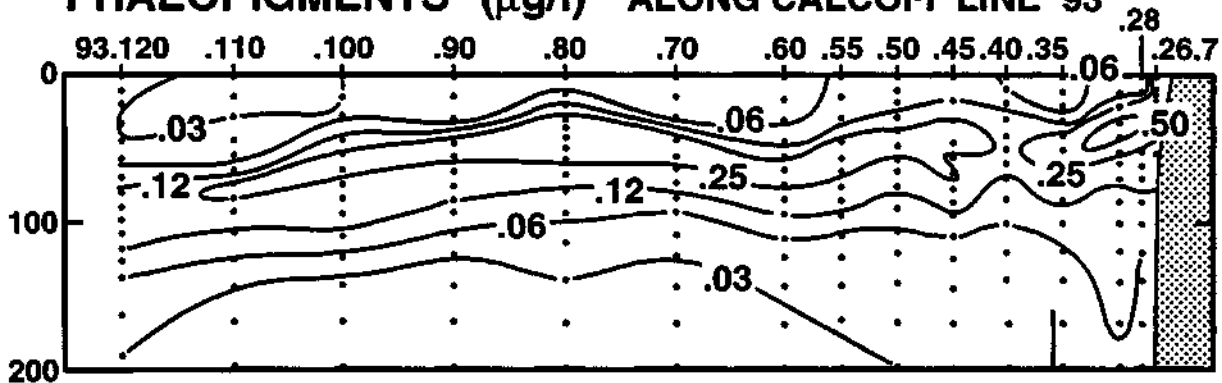

FIGURE 5K

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 75 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
35 21.0 N	121 3.2 W	14/02/97	1602 UTC	215 m	010 20 kn	330 05 06	1	1026.9 mb	13.9 C	10.9 C		3/8	CI

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	PRES db	SAMP
0	ISL	11.66	11.66	33.588	25.557	241.8	0.000	4.84	78.7	14.5	1.21	12.9	0.15	0.98	0.29	0	
2		11.66	11.66	33.588	25.557	241.9	0.005	4.84	78.7	14.5	1.21	12.9	0.15	0.98	0.29	2	214
2		11.65	11.65	33.588	25.558	241.7	0.005									2	215
9		11.64	11.64	33.588	25.560	241.7	0.022	4.78	77.7	14.5	1.21	12.9	0.15	0.95	0.30	9	213
10	ISL	11.64	11.64	33.588	25.560	241.7	0.024	4.78	77.7	14.5	1.21	12.9	0.15	0.95	0.30	10	
19		11.64	11.64	33.589	25.561	241.8	0.046	4.78	77.7	14.5	1.21	12.9	0.15	0.93	0.31	19	212
20	ISL	11.64	11.64	33.589	25.562	241.9	0.048	4.78	77.7	14.5	1.21	12.9	0.15	0.93	0.31	20	
30		11.63	11.63	33.590	25.564	241.8	0.073	4.75	77.2	14.6	1.22	13.0	0.15	0.94	0.31	30	211
40		11.60	11.59	33.591	25.571	241.4	0.097	4.70	76.3	14.7	1.23	13.2	0.15	0.85	0.28	40	210
49		11.32	11.31	33.617	25.643	234.8	0.118	4.32	69.7	16.1	1.34	15.0	0.11	0.55	0.23	49	209
50	ISL	11.23	11.22	33.626	25.666	232.6	0.120	4.22	68.0	16.5	1.37	15.5	0.10	0.50	0.22	50	
60		10.34	10.33	33.729	25.903	210.2	0.143	3.31	52.3	20.9	1.66	20.3	0.04	0.06	0.14	60	208
71		10.11	10.10	33.782	25.984	202.8	0.165	3.11	49.0	23.1	1.76	21.6	0.05	0.07	0.13	71	207
75	ISL	10.08	10.07	33.799	26.002	201.1	0.173	3.05	48.0	23.9	1.79	21.9	0.06	0.07	0.13	75	
84		10.02	10.01	33.833	26.039	197.8	0.191	2.92	45.9	25.4	1.85	22.5	0.08	0.08	0.14	84	206
99		9.77	9.76	33.878	26.117	190.7	0.220	2.76	43.1	26.5	1.92	23.8	0.05	0.03	0.10	100	205
100	ISL	9.75	9.74	33.882	26.123	190.2	0.222	2.75	43.0	26.6	1.93	23.9	0.05	0.03	0.10	101	
119		9.40	9.39	33.952	26.236	179.8	0.258	2.50	38.8	29.8	2.05	25.5	0.06	0.03	0.12	120	204
125	ISL	9.31	9.30	33.969	26.264	177.2	0.268	2.45	37.9	30.6	2.08	25.9	0.06	0.03	0.12	126	
141		9.13	9.11	34.006	26.322	172.0	0.296	2.33	35.9	32.6	2.16	26.7	0.06	0.03	0.13	142	203
150	ISL	9.05	9.03	34.025	26.350	169.5	0.312	2.23	34.3	33.9	2.20	27.2	0.07	0.03	0.12	151	
170		8.92	8.90	34.053	26.392	165.8	0.345	2.04	31.3	36.3	2.27	28.1	0.08	0.02	0.11	171	202
199		8.90	8.88	34.054	26.397	166.0	0.393	2.02	31.0	36.8	2.29	28.3	0.08	0.02	0.14	200	201
200	ISL	8.90	8.88	34.054	26.397	166.0	0.395	2.02	31.0	36.8	2.29	28.3	0.08	0.02	0.14	201	

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 75 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
35 11.0 N	121 24.3 W	14/02/97	1919 UTC	675 m	020 05 kn	330 03 06	1	1027.1 mb	15.5 C	13.3 C	25m 03	2/8	CI

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	PRES db	SAMP
0	ISL	13.19	13.19	33.407	25.122	283.2	0.000	6.02	101.0	5.8	0.56	2.9	0.17	0.54	0.26	0	
2	A	13.19	13.19	33.407	25.122	283.2	0.006	6.02	101.0	5.8	0.56	2.9	0.17	0.54	0.26	2	222
2		13.11	13.11	33.407	25.138	281.7	0.006									2	223
8		13.06	13.06	33.406	25.147	281.0	0.023	6.00	100.4	5.8	0.56	2.9	0.17	1.44	0.41	8	221
10	ISL	13.06	13.06	33.406	25.147	281.0	0.028	6.01	100.5	5.8	0.56	2.9	0.17	1.32	0.39	10	
15	A	13.05	13.05	33.406	25.149	281.0	0.042	6.03	100.9	5.8	0.56	2.9	0.17	0.81	0.32	15	220
20	ISL	13.04	13.04	33.406	25.151	280.9	0.056	6.02	100.7	5.9	0.56	3.0	0.17	0.88	0.37	20	
25		13.03	13.03	33.407	25.154	280.8	0.070	6.00	100.3	6.0	0.56	3.1	0.17	0.95	0.43	25	219
30	ISL	13.00	13.00	33.410	25.163	280.1	0.084	5.99	100.1	6.1	0.57	3.2	0.18	0.73	0.41	30	
33	A	12.99	12.99	33.411	25.166	279.9	0.093	5.98	99.9	6.1	0.57	3.2	0.18	0.60	0.38	33	218
41		12.99	12.98	33.411	25.166	280.1	0.115	5.98	99.9	6.1	0.57	3.2	0.18	0.74	0.32	41	217
50	ISL	12.97	12.96	33.410	25.169	280.0	0.140	5.94	99.2	6.1	0.58	3.3	0.18	0.45	0.27	50	
51	A	12.97	12.96	33.410	25.169	280.0	0.143	5.94	99.2	6.1	0.58	3.3	0.18	0.41	0.27	51	216
59		12.44	12.43	33.427	25.286	269.1	0.165	5.45	90.0	8.0	0.79	6.6	0.20	0.29	0.28	59	215
68	A	10.98	10.97	33.474	25.593	240.0	0.188	4.35	69.6	13.7	1.30	14.6	0.11	0.12	0.13	68	214
75	ISL	10.43	10.42	33.492	25.703	229.6	0.204	4.07	64.4	16.1	1.45	17.2	0.09	0.09	0.12	75	
82		10.13	10.12	33.524	25.780	222.4	0.220	3.96	62.3	18.0	1.53	18.5	0.08	0.06	0.11	82	213
95	A	9.64	9.63	33.716	26.011	200.6	0.248	3.31	51.5	23.2	1.79	22.3	0.04	0.02	0.08	95	212
100	ISL	9.57	9.56	33.746	26.047	197.4	0.258	3.20	49.8	24.0	1.83	23.0	0.04	0.02	0.07	101	
108		9.49	9.48	33.773	26.081	194.3	0.273	3.10	48.1	24.9	1.87	23.6	0.04	0.02	0.07	109	211
119		9.31	9.30	33.824	26.150	187.9	0.294	2.96	45.8	26.6	1.95	24.6	0.03	0.02	0.07	120	210
125	ISL	9.25	9.24	33.854	26.183	184.8	0.306	2.88	44.5	27.3	1.98	25.0	0.03	0.02	0.07	126	
139		9.10	9.08	33.921	26.260	177.8	0.331	2.71	41.7	29.2	2.05	25.9	0.05	0.02	0.07	140	209
150	ISL	8.85	8.83	33.963	26.333	171.1	0.350	2.58	39.5	31.5	2.12	27.0	0.05	0.02	0.06	151	
170		8.41	8.39	34.022	26.447	160.5	0.383	2.37	36.0	35.7	2.23	28.7	0.06	0.01	0.05	171	208
197		8.24	8.22	34.060	26.503	155.6	0.426	2.21	33.4	38.4	2.31	29.5	0.04	0.01	0.05	198	207
200	ISL	8.22	8.20	34.062	26.508	155.2	0.431	2.20	33.2	38.6	2.31	29.6	0.04			201	
229		7.90	7.88	34.066	26.559	150.8	0.475	2.13	32.0	41.6	2.36	30.6	0.04			230	206
250	ISL	7.52	7.50	34.062	26.611	146.0	0.506	2.04	30.3	45.5	2.43	31.7	0.04			252	
267		7.21	7.18	34.063	26.655	141.9	0.531	1.93	28.5	49.1	2.51	32.8	0.03			269	205
300	ISL	6.86	6.83	34.104	26.736	134.6	0.576	1.50	22.0	56.2	2.70	35.0	0.02			302	
319		6.72	6.69	34.132	26.777	130.9	0.601	1.24	18.1	60.0	2.80	36.1	0.02			321	204
378		6.38	6.35	34.184	26.864	123.3	0.676	0.84	12.2	68.3	2.97	38.0	0.02			381	203
400	ISL	6.19	6.15	34.187	26.891	120.9	0.703	0.76	11.0	71.4	3.02	38.7	0.02			403	
437		5.88	5.84	34.190	26.932	117.2	0.747	0.66	9.4	76.2	3.08	39.7	0.02			440	202
500	ISL	5.67	5.63	34.223	26.985	112.8	0.820	0.53	7.6	81.4	3.15	40.6	0.02			504	
512		5.63	5.59	34.229	26.995	112.1	0.833	0.50	7.1	82.4	3.16	40.8	0.02			516	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 75 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
35 1.0 N	121 45.3 W	14/02/97	2307 UTC	3519 m	320 03 kn	320 03 07	1	1024.9 mb	16.2 C	14.5 C		3/8	CI

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	PRES db	SAMP
0	ISL	13.16	13.16	33.366	25.096	285.6	0.000	6.00	100.6	6.0	0.62	3.4	0.16	0.36	0.10	0	
2		13.15	13.15	33.366	25.098	285.5	0.006									2	221
2		13.16	13.16	33.366	25.096	285.7	0.006	6.00	100.6	6.0	0.62	3.4	0.16	0.36	0.10	2	220
10		12.96	12.96	33.356	25.128	282.8	0.028	6.01	100.3	6.0	0.62	3.5	0.16	0.40	0.14	10	219
19		12.91	12.91	33.379	25.156	280.4	0.054	6.00	100.0	6.1	0.62	3.5	0.18	0.45	0.23	19	218
20	ISL	12.91	12.91	33.381	25.158	280.3	0.057	5.99	99.9	6.1	0.62	3.5	0.18	0.44	0.23	20	
30		12.92	12.92	33.401	25.172	279.3	0.085	5.94	99.1	6.2	0.63	3.7	0.19	0.29	0.21	30	217
40		12.04	12.03	33.398	25.339	263.5	0.112	5.29	86.6	9.0	0.91	8.3	0.17	0.24	0.17	40	216
49		10.95	10.94	33.473	25.597	239.1	0.134	4.34	69.4	14.2	1.32	15.0	0.10	0.13	0.19	49	215
50	ISL	10.89	10.88	33.476	25.610	237.9	0.137	4.31	68.9	14.4	1.34	15.3	0.10	0.12	0.19	50	
60		10.46	10.45	33.524	25.723	227.4	0.160	4.10	64.9	16.6	1.46	17.2	0.07	0.09	0.16	60	214
69		9.94	9.93	33.655	25.914	209.4	0.180	3.58	56.1	20.8	1.67	20.6	0.05	0.04	0.12	69	213
75	ISL	9.74	9.73	33.712	25.991	202.1	0.192	3.40	53.1	22.5	1.75	21.9	0.04	0.03	0.12	75	
83		9.57	9.56	33.764	26.060	195.7	0.208	3.27	50.9	24.1	1.81	22.9	0.04	0.02	0.11	83	212
99		9.41	9.40	33.832	26.140	188.5	0.239	3.05	47.3	26.2	1.90	24.2	0.03	0.02	0.11	100	211
100	ISL	9.39	9.38	33.835	26.145	187.9	0.241	3.04	47.1	26.3	1.91	24.3	0.03	0.02	0.11	101	
119		9.05	9.04	33.885	26.239	179.3	0.275	2.86	44.0	28.8	2.00	25.8	0.04	0.01	0.08	120	210
125	ISL	8.99	8.98	33.901	26.262	177.4	0.286	2.82	43.3	29.4	2.02	26.1	0.04	0.01	0.08	126	
140		8.86	8.85	33.946	26.318	172.3	0.312	2.71	41.5	31.0	2.07	26.7	0.05	0.01	0.07	141	209
150	ISL	8.75	8.73	33.984	26.365	168.0	0.329	2.57	39.3	32.7	2.12	27.3	0.04	0.01	0.07	151	
169		8.54	8.52	34.051	26.450	160.2	0.361	2.35	35.8	35.9	2.23	28.5	0.03	0.01	0.06	170	208
199		8.32	8.30	34.096	26.519	154.2	0.408	2.40	36.4	39.4	2.34	29.8	0.03	0.01	0.05	200	207
200	ISL	8.31	8.29	34.097	26.522	154.0	0.409	2.39	36.2	39.5	2.34	29.8	0.03			201	
228		7.93	7.91	34.103	26.583	148.5	0.452	2.01	30.2	43.1	2.41	30.9	0.02			229	206
250	ISL	7.59	7.57	34.086	26.620	145.2	0.484	1.95	29.0	45.9	2.45	31.9	0.02			252	
267		7.36	7.33	34.076	26.645	143.0	0.508	1.93	28.6	48.2	2.49	32.8	0.02			269	205
300	ISL	7.15	7.12	34.115	26.705	137.7	0.555	1.56	23.0	53.2	2.64	34.4	0.02			302	
316		7.07	7.04	34.138	26.734	135.1	0.577	1.36	20.0	55.7	2.72	35.1	0.02			318	204
376		6.55	6.52	34.153	26.817	127.9	0.655	1.03	15.0							379	203
400	ISL	6.37	6.33	34.165	26.850	124.9	0.686	0.90	13.0	67.4	2.96	38.2	0.02			403	
435		6.12	6.08	34.184	26.898	120.7	0.729	0.74	10.7	72.0	3.02	39.2	0.02			438	202
500	ISL	5.71	5.67	34.206	26.967	114.6	0.805	0.59	8.4	80.3	3.13	40.8	0.01			504	
514		5.62	5.58	34.211	26.982	113.3	0.821	0.56	8.0	82.1	3.15	41.1	0.01			518	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 75 65

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 50.9 N	122 6.5 W	15/02/97	0208 UTC	2524 m	300 04 kn	330 03 07	1	1024.0 mb	14.6 C	13.3 C		4/8	CI

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	PRES db	SAMP
0	ISL	13.43	13.43	33.391	25.061	288.9	0.000	6.22	104.9	4.9	0.52	2.1	0.11	0.87	0.39	0	
2		13.43	13.43	33.391	25.061	289.0	0.006	6.22	104.9	4.9	0.52	2.1	0.11	0.87	0.39	2	220
10		13.19	13.19	33.387	25.107	284.9	0.029	6.19	103.8	4.9	0.53	2.3	0.11	0.93	0.33	10	219
20	ISL	13.06	13.06	33.385	25.131	282.8	0.057	6.14	102.7	4.9	0.53	2.4	0.12	1.14	0.44	20	
21		13.05	13.05	33.385	25.133	282.7	0.060	6.13	102.5	4.9	0.53	2.4	0.12	1.16	0.45	21	218
30		13.04	13.04	33.385	25.135	282.7	0.085	6.07	101.5	5.0	0.57	2.5	0.12	1.04	0.43	30	217
40		13.04	13.03	33.387	25.137	282.8	0.114	6.10	102.0	5.0	0.54	2.5	0.12	0.94	0.40	40	216
50		12.80	12.79	33.398	25.193	277.7	0.142	5.66	94.2	6.5	0.70	5.0	0.12	0.51	0.29	50	215
59		11.28	11.27	33.441	25.513	247.4	0.165	4.50	72.5	12.8	1.26	14.1	0.05	0.12	0.15	59	214
69		10.52	10.51	33.509	25.701	229.7	0.189	4.10	65.0	16.4	1.45	17.2	0.03	0.08	0.09	69	213
75	ISL	10.45	10.44	33.544	25.740	226.1	0.203	4.00	63.3	17.1	1.49	17.9	0.03	0.07	0.09	75	
84		10.34	10.33	33.581	25.788	221.7	0.223	3.85	60.8	18.1	1.54	18.7	0.03	0.06	0.09	84	212
99		9.92	9.91	33.787	26.021	199.9	0.255	3.18	49.8	23.5	1.77	21.9	0.03	0.04	0.08	100	211
100	ISL	9.90	9.89	33.792	26.028	199.2	0.257	3.17	49.7	23.7	1.78	22.0	0.03	0.04	0.08	101	
118		9.53	9.52	33.829	26.118	190.9	0.292	3.05	47.4	25.6	1.87	23.4	0.02	0.04	0.11	119	210
125	ISL	9.30	9.29	33.850	26.172	185.9	0.305	3.04	47.0	26.8	1.90	24.1	0.02	0.04	0.11	126	
138		8.91	8.90	33.896	26.271	176.7	0.328	3.01	46.2	29.1	1.96	25.4	0.02	0.03	0.12	139	209
150	ISL	8.89	8.87	33.956	26.321	172.2	0.349	2.80	42.9	30.9	2.04	26.3	0.02	0.03	0.11	151	
168		8.85	8.83	34.019	26.377	167.3	0.380	2.44	37.4	33.5	2.15	27.3	0.02	0.02	0.10	169	208
198		8.41	8.39	34.079	26.492	156.7	0.429	2.23	33.8	38.1	2.28	29.0	0.02	0.02	0.09	199	207
200	ISL	8.38	8.36	34.080	26.498	156.2	0.432	2.23	33.8	38.3	2.28	29.1	0.02			201	
229		8.03	8.01	34.091	26.559	150.8	0.476	2.14	32.2	41.6	2.35	30.1	0.02			230	206
250	ISL	7.84	7.82	34.113	26.605	146.8	0.507	1.92	28.8	44.7	2.44	31.2	0.02			252	
268		7.70	7.67	34.136	26.643	143.4	0.534	1.70	25.4	47.6	2.53	32.3	0.02			270	205
300	ISL	7.45	7.42	34.169	26.706	137.9	0.579	1.36	20.2	52.4	2.67	33.9	0.02			302	
317		7.33	7.30	34.186	26.736	135.2	0.602	1.19	17.6	55.0	2.74	34.6	0.02			319	204
378		6.93	6.89	34.248	26.841	126.0	0.681	0.72	10.6	64.0	2.95	36.7	0.01			381	203
400	ISL	6.79	6.75	34.260	26.870	123.5	0.709	0.64	9.4	66.4	2.99	37.3	0.01			403	
436		6.55	6.51	34.270	26.910	120.0	0.753	0.56	8.1	70.0	3.05	38.1	0.01			439	202
500	ISL	6.03	5.99	34.261	26.971	114.6	0.828	0.46	6.6	77.7	3.13	39.8	0.01			504	
515		5.91	5.87	34.259	26.984	113.4	0.845	0.44	6.3	79.5	3.15	40.2	0.01			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 77 49

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
35 5.2 N	120 46.7 W	14/02/97	1241 UTC	73 m	060 08 kn			1024.5 mb	13.4 C	10.9 C		

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	PRES db	SAMP
0	ISL	11.76	11.76	33.601	25.548	242.6	0.000	4.88	79.5	15.6	1.23	13.1	0.15	1.38	0.40	0	
1		11.76	11.76	33.601	25.548	242.7	0.002	4.88	79.5	15.6	1.23	13.1	0.15	1.38	0.40	1	208
7		11.67	11.67	33.610	25.572	240.5	0.017	4.69	76.3	15.9	1.26	13.4	0.15	1.13	0.34	7	207
10	ISL	11.61	11.61	33.617	25.589	239.0	0.024	4.56	74.1	16.0	1.28	13.7	0.14	0.99	0.36	10	
12		11.56	11.56	33.622	25.602	237.8	0.029	4.47	72.5	16.1	1.29	13.9	0.14	0.91	0.37	12	206
20		11.35	11.35	33.647	25.660	232.5	0.048	4.17	67.4	17.0	1.36	15.2	0.12	0.75	0.31	20	205
30		10.77	10.77	33.736	25.833	216.2	0.070	3.45	55.1	21.0	1.62	18.9	0.09	0.33	0.22	30	204
40		10.66	10.66	33.756	25.868	213.1	0.092	3.32	52.9	21.8	1.67	19.6	0.09	0.23	0.21	40	203
50		10.30	10.29	33.812	25.975	203.2	0.112	2.98	47.1	24.7	1.81	21.5	0.10	0.08	0.27	50	202
61		10.17	10.16	33.838	26.017	199.4	0.135	2.82	44.5	26.6	1.91	22.3	0.14	0.10	0.59	61	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
35 1.3 N	120 55.2 W	14/02/97	1023 UTC	242 m	330 04 kn			1024.8 mb	13.9 C	11.0 C		

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	PRES db	SAMP
0	ISL	12.91	12.91	33.424	25.191	276.6	0.000	6.07	101.2	6.7	0.58	3.3	0.12	1.18	0.44	0	
2		12.91	12.91	33.424	25.191	276.7	0.006	6.07	101.2	6.7	0.58	3.3	0.12	1.18	0.44	2	215
10		12.91	12.91	33.425	25.192	276.8	0.028	6.06	101.1	6.7	0.59	3.4	0.12	1.11	0.39	10	214
20		12.90	12.90	33.429	25.197	276.6	0.055	5.99	99.9		0.58	3.4	0.12	1.15	0.38	20	213
30		11.92	11.92	33.521	25.457	252.1	0.082	4.77	78.0	12.0	1.01	10.8	0.15	0.35	0.25	30	212
39		10.68	10.68	33.676	25.802	219.4	0.103	3.62	57.7	18.9	1.52	18.3	0.04	0.08	0.15	39	211
49		10.43	10.42	33.739	25.895	210.7	0.124	3.32	52.6	21.1	1.66	20.0	0.03	0.04	0.10	49	210
50	ISL	10.41	10.40	33.746	25.904	209.9	0.127	3.29	52.1	21.4	1.67	20.2	0.03	0.04	0.10	50	
59		10.26	10.25	33.804	25.975	203.4	0.145	3.02	47.7	23.5	1.78	21.5	0.02	0.03	0.09	59	209
69		10.12	10.11	33.844	26.031	198.3	0.165	2.87	45.2	24.8	1.86	22.5	0.03	0.02	0.09	69	208
75	ISL	9.99	9.98	33.863	26.068	194.9	0.177	2.81	44.1	25.6	1.90	23.1	0.03	0.02	0.08	75	
84		9.79	9.78	33.887	26.120	190.1	0.194	2.74	42.9	26.8	1.94	23.9	0.02	0.02	0.07	84	207
98		9.55	9.54	33.917	26.183	184.3	0.221	2.68	41.7	28.3	2.00	24.6	0.02	0.01	0.07	99	206
100	ISL	9.54	9.53	33.923	26.190	183.8	0.224	2.65	41.2	28.5	2.01	24.7	0.02	0.01	0.07	101	
119		9.47	9.46	33.983	26.249	178.6	0.259	2.36	36.7	30.9	2.13	26.0	0.02	0.01	0.06	120	205
125	ISL	9.41	9.40	33.999	26.271	176.6	0.269	2.30	35.7	31.6	2.16	26.3	0.02	0.01	0.07	126	
139		9.25	9.23	34.030	26.321	172.1	0.294	2.21	34.2	33.0	2.21	27.0	0.03	0.01	0.08	140	204
150	ISL	9.18	9.16	34.043	26.343	170.2	0.313	2.16	33.4	33.7	2.23	27.3	0.04	0.01	0.08	151	
170		9.05	9.03	34.058	26.376	167.5	0.346	2.09	32.2	35.1	2.26	27.8	0.06	0.01	0.09	171	203
199		8.77	8.75	34.084	26.441	161.8	0.394	1.97	30.1	38.7	2.33	28.6	0.09	0.01	0.15	200	202
200	ISL	8.75	8.73	34.085	26.445	161.4	0.396	1.96	30.0	38.9	2.34	28.7	0.09			201	
230		8.22	8.20	34.133	26.564	150.5	0.443	1.70	25.7	44.8	2.50	30.8	0.11			231	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 53.3 N	121 12.0 W	14/02/97	0652 UTC	560 m	330 13 kn			1026.0 mb	14.1 C	11.8 C		

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	PRES db	SAMP
0	ISL	13.21	13.21	33.458	25.157	279.8	0.000	5.94	99.7	6.0	0.57	3.2	0.15	0.79	0.31	0	
2		13.21	13.21	33.458	25.157	279.9	0.006	5.94	99.7	6.0	0.57	3.2	0.15	0.79	0.31	2	220
10	ISL	13.22	13.22	33.459	25.156	280.2	0.028	5.94	99.7	6.0	0.58	3.2	0.15	0.80	0.31	10	
11		13.22	13.22	33.459	25.156	280.2	0.031	5.94	99.7	6.0	0.58	3.2	0.15	0.80	0.31	11	219
20	ISL	13.22	13.22	33.459	25.157	280.4	0.056	5.94	99.7	6.0	0.57	3.2	0.15	0.76	0.31	20	
21		13.22	13.22	33.459	25.157	280.5	0.059	5.94	99.7	6.0	0.57	3.2	0.15	0.76	0.31	21	218
30		13.20	13.20	33.457	25.159	280.4	0.084	5.91	99.2	6.0	0.58	3.3	0.16	0.85	0.35	30	217
40		13.14	13.13	33.461	25.175	279.2	0.112	5.79	97.1	6.3	0.61	3.7	0.16	0.73	0.39	40	216
48		12.79	12.78	33.503	25.276	269.7	0.134	5.23	87.0	8.6	0.81	6.8	0.17	0.45	0.36	48	215
50	ISL	12.65	12.64	33.519	25.316	266.0	0.139	5.04	83.6	9.4	0.88	7.9	0.16	0.40	0.33	50	
59		12.01	12.00	33.589	25.493	249.3	0.163	4.27	69.9	12.9	1.16	12.4	0.09	0.23	0.22	59	214
69		11.58	11.57	33.625	25.602	239.3	0.187	3.99	64.8	15.0	1.30	14.5	0.06	0.15	0.22	69	213
75	ISL	11.32	11.31	33.657	25.674	232.5	0.201	3.78	61.0	16.5	1.40	16.0	0.04	0.11	0.19	75	
84		10.97	10.96	33.704	25.774	223.1	0.222	3.49	55.9	18.7	1.53	18.0	0.02	0.07	0.14	84	212
100		10.61	10.60	33.750	25.874	214.0	0.257	3.28	52.2	21.0	1.64	19.6	0.02	0.05	0.13	101	211
119		10.05	10.04	33.802	26.011	201.3	0.296	3.05	47.9	23.4	1.77	21.7	0.02	0.05	0.11	120	210
125	ISL	9.81	9.80	33.822	26.067	196.1	0.308	3.03	47.4	24.6	1.82	22.5	0.02	0.04	0.10	126	
137		9.32	9.30	33.867	26.182	185.2	0.331	3.01	46.6	27.1	1.90	24.1	0.01	0.03	0.09	138	209
150	ISL	8.94	8.92	33.914	26.280	176.1	0.354	2.96	45.4	29.4	1.96	25.3	0.01	0.02	0.08	151	
168		8.58	8.56	33.973	26.383	166.6	0.385	2.85	43.4	32.3	2.03	26.5	0.01	0.01	0.07	169	208
197		8.29	8.27	34.040	26.480	157.8	0.432	2.53	38.3	36.6	2.17	28.2	0.01	0.02	0.06	198	207
200	ISL	8.27	8.25	34.047	26.488	157.1	0.437	2.48	37.5	37.1	2.19	28.4	0.01			201	
227		8.06	8.04	34.098	26.560	150.7	0.479	2.07	31.2	41.7	2.35	30.1	0.01			228	206
250	ISL	7.87	7.84	34.122	26.607	146.5	0.513	1.87	28.0	44.8	2.44	31.3	0.01			252	
268		7.71	7.68	34.137	26.643	143.4	0.539	1.72	25.7	47.3	2.50	32.1	0.01			270	205
300	ISL	7.45	7.42	34.185	26.718	136.7	0.584	1.27	18.9	53.4	2.68	33.9	0.01			302	
316		7.31	7.28	34.204	26.753	133.6	0.605	1.07	15.8	56.6	2.76	34.7	0.01			318	204
378		6.53	6.50	34.173	26.835	126.1	0.686	0.93	13.5	66.4	2.89	37.0	0.01			381	203
400	ISL	6.41	6.37	34.182	26.859	124.2	0.713	0.84	12.2	68.9	2.94	37.5	0.01			403	
436		6.26	6.22	34.207	26.898	120.8	0.757	0.68	9.8	72.7	3.01	38.2	0.01			439	202
500	ISL	5.85	5.81	34.258	26.991	112.5	0.832	0.44	6.3	81.9	3.14	39.7	0.02			504	
515		5.76	5.72	34.270	27.011	110.7	0.849	0.38	5.4	84.0	3.17	40.0	0.02			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 43.2 N	121 33.0 W	14/02/97	0241 UTC	952 m	310 12 kn			1025.5 mb	13.9 C	11.6 C		

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	PRES db	SAMP
0	ISL	13.32	13.32	33.431	25.114	283.9	0.000	6.06	102.0	5.6	0.54	2.7	0.11	0.91	0.27	0	
1		13.32	13.32	33.431	25.114	283.9	0.003	6.06	101.9	5.6	0.54	2.7	0.11	0.91	0.27	1	220
10	ISL	13.21	13.21	33.428	25.134	282.3	0.028	6.03	101.2	5.7	0.54	2.8	0.11	0.81	0.33	10	
11		13.20	13.20	33.427	25.136	282.2	0.031	6.02	101.0	5.7	0.54	2.8	0.11	0.80	0.34	11	219
20	ISL	13.17	13.17	33.426	25.141	281.9	0.057	6.00	100.6	5.7	0.55	2.8	0.11	0.87	0.41	20	
21		13.17	13.17	33.426	25.141	281.9	0.059	6.00	100.6	5.7	0.55	2.8	0.11	0.88	0.42	21	218
30		13.15	13.15	33.426	25.145	281.8	0.085	5.97	100.1	5.8	0.55	2.9	0.11	0.73	0.38	30	217
40		13.00	12.99	33.432	25.180	278.7	0.113	5.77	96.4	6.5	0.65	4.3	0.14	0.48	0.30	40	216
50	ISL	12.44	12.43	33.441	25.297	267.9	0.140	5.39	89.0	8.3	0.84	7.4	0.20	0.35	0.23	50	
51		12.35	12.34	33.442	25.315	266.2	0.143	5.33	87.9	8.6	0.87	7.8	0.20	0.34	0.23	51	215
61		11.03	11.02	33.452	25.567	242.3	0.168	4.45	71.3	13.3	1.29	14.4	0.06	0.28	0.30	61	214
71		10.57	10.56	33.537	25.714	228.5	0.192	4.02	63.8	16.3	1.45	17.2	0.03	0.18	0.31	71	213
75	ISL	10.34	10.33	33.581	25.788	221.5	0.201	3.86	61.0	17.8	1.52	18.3	0.03	0.15	0.27	75	
86		9.77	9.76	33.698	25.976	203.8	0.224	3.49	54.5	21.7	1.69	21.1	0.02	0.08	0.15	86	212
100		9.42	9.41	33.789	26.105	191.8	0.252	3.24	50.2	24.9	1.82	23.2	0.01	0.07	0.14	101	211
120		9.09	9.08	33.867	26.219	181.3	0.289	3.07	47.3	27.6	1.92	24.6	0.01	0.05	0.10	121	210
125	ISL	9.02	9.01	33.880	26.240	179.4	0.298	3.05	46.9	28.0	1.93	24.8	0.01	0.05	0.10	126	
140		8.81	8.80	33.917	26.303	173.7	0.325	2.98	45.6	29.7	1.97	25.6	0.01	0.04	0.10	141	209
150	ISL	8.58	8.56	33.955	26.368	167.6	0.342	2.86	43.5	32.1	2.04	26.5	0.01	0.03	0.09	151	
168		8.19	8.17	34.019	26.478	157.4	0.371	2.64	39.9	36.5	2.16	28.1	0.01	0.02	0.07	169	208
197		8.04	8.02	34.038	26.516	154.3	0.416	2.52	37.9	38.5	2.22	28.9	0.01	0.01	0.06	198	207
200	ISL	8.01	7.99	34.041	26.522	153.7	0.421	2.49	37.4	38.9	2.23	29.1	0.01			201	
227		7.69	7.67	34.071	26.593	147.4	0.461	2.21	33.0	43.5	2.36	30.6	0.01			228	206
250	ISL	7.52	7.50	34.103	26.643	143.0	0.495	1.91	28.4	47.2	2.48	31.9	0.01			252	
268		7.42	7.39	34.127	26.676	140.1	0.520	1.67	24.8	50.0	2.57	32.9	0.01			270	205
300	ISL	7.21	7.18	34.155	26.728	135.6	0.564	1.35	19.9	54.4	2.70	34.3	0.01			302	
315		7.13	7.10	34.168	26.750	133.7	0.585	1.22	18.0	56.3	2.75	34.8	0.01			317	204
377		6.94	6.90	34.245	26.837	126.3	0.665	0.72	10.6	63.3	2.95	36.6	0.01			380	203
400	ISL	6.78	6.74	34.257	26.869	123.6	0.694	0.63	9.2	66.2	3.00	37.2	0.01			403	
435		6.53	6.49	34.268	26.911	119.9	0.736	0.54	7.9	70.4	3.06	38.1	0.00			438	202
500	ISL	6.21	6.17	34.284	26.966	115.3	0.813	0.43	6.2	75.4	3.12	39.2	0.00			504	
517		6.13	6.08	34.288	26.980	114.2	0.832	0.40	5.8	76.7	3.14	39.5	0.00			521	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 77 65

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 33.4 N	121 54.0 W	13/02/97	2241 UTC	3783 m	120 10 kn	330 10 07	1	1025.9 mb	15.8 C	12.3 C		3/8 CI

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	PRES db	SAMP
0	ISL	13.37	13.37	33.434	25.107	284.6	0.000	6.01	101.2	3.8	0.55	2.8	0.13	1.30	0.30	0	
2		13.37	13.37	33.434	25.107	284.7	0.006	6.01	101.2	3.8	0.55	2.8	0.13	1.30	0.30	2	220
3		13.37	13.37	33.435	25.107	284.6	0.009									3	221
10		13.21	13.21	33.430	25.136	282.1	0.028	6.04	101.4	3.7	0.54	2.5	0.13	1.37	0.41	10	219
20		13.17	13.17	33.429	25.143	281.7	0.057	6.02	101.0	3.6	0.54	2.5	0.12	1.37	0.47	20	218
30		13.13	13.13	33.432	25.154	280.9	0.085	6.14 U	102.9 U	4.0	0.56	2.9	0.13	1.32	0.50	30	217
40		13.04	13.03	33.450	25.186	278.1	0.113	5.79	96.8	5.3	0.65	4.2	0.18	0.81	0.31	40	216
49		12.89	12.88	33.468	25.230	274.2	0.138	5.63	93.9	6.7	0.74	5.3	0.21	0.54	0.23	49	215
50	ISL	12.88	12.87	33.473	25.236	273.7	0.140	5.57	92.9	6.9	0.75	5.5	0.21	0.52	0.23	50	
60		12.42	12.41	33.520	25.362	261.9	0.167	4.84	79.9	9.5	0.96	9.3	0.21	0.37	0.27	60	214
70		11.08	11.07	33.542	25.628	236.7	0.192	4.12	66.1	14.5	1.34	15.4	0.07	0.22	0.26	70	213
75	ISL	10.79	10.78	33.582	25.711	228.9	0.204	3.91	62.4	16.2	1.43	16.9	0.06	0.17	0.25	75	
85		10.52	10.51	33.665	25.823	218.5	0.226	3.66	58.1	18.6	1.53	18.5	0.05	0.10	0.22	85	212
100		10.03	10.02	33.721	25.951	206.6	0.258	3.43	53.9	21.5	1.67	20.6	0.03	0.08	0.17	101	211
119		9.55	9.54	33.814	26.103	192.4	0.296	3.36	52.2	25.1	1.90	23.0	0.02	0.04	0.14	120	210
125	ISL	9.44	9.43	33.832	26.135	189.4	0.307	3.27	50.7	25.9	1.91	23.5	0.02	0.04	0.14	126	
140		9.21	9.19	33.869	26.202	183.4	0.335	3.01	46.5	27.5	1.92	24.4	0.02	0.03	0.14	141	209
150	ISL	9.06	9.04	33.899	26.249	179.0	0.353	2.93	45.1	28.8	1.96	25.0	0.02	0.03	0.13	151	
169		8.77	8.75	33.953	26.338	170.9	0.387	2.83	43.3	31.4	2.04	26.1	0.02	0.02	0.12	170	208
199		8.19	8.17	34.014	26.474	158.3	0.436	2.65	40.0	36.2	2.16	28.0	0.02	0.01	0.09	200	207
200	ISL	8.17	8.15	34.015	26.478	158.0	0.438	2.65	40.0	36.4	2.16	28.1	0.02			201	
228		7.62	7.60	34.030	26.571	149.4	0.481	2.53	37.7	41.7	2.29	30.1	0.02			229	206
250	ISL	7.62	7.60	34.074	26.606	146.5	0.513	2.23	33.2	44.2	2.38	31.0	0.02			252	
266		7.62	7.59	34.098	26.625	145.0	0.536	1.97	29.4	45.9	2.44	31.5	0.02			268	205
300	ISL	7.40	7.37	34.147	26.695	138.8	0.585	1.51	22.4	51.5	2.62	33.2	0.02			302	
318		7.24	7.21	34.167	26.734	135.4	0.609	1.30	19.2	54.7	2.71	34.2	0.02			320	204
376		6.69	6.66	34.191	26.828	126.9	0.685	0.93	13.6	63.6	2.89	36.7	0.01			378	203
400	ISL	6.48	6.44	34.205	26.867	123.4	0.715	0.78	11.3	67.5	2.96	37.7	0.01			403	
438		6.18	6.14	34.232	26.928	118.0	0.761	0.58	8.4	73.3	3.07	39.0	0.01			441	202
500	ISL	5.84	5.80	34.280	27.009	110.8	0.832	0.40	5.7	80.8	3.17	40.3	0.01			504	
512		5.77	5.73	34.290	27.026	109.3	0.845	0.36	5.1	82.3	3.19	40.5	0.01			516	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 23.2 N	122 15.3 W	13/02/97	1838 UTC	4018 m	330 18 kn	330 15 06	0	1027.1 mb	15.1 C	11.9 C	15m 03	0/8

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	PRES db	SAMP
0	ISL	13.35	13.35	33.271	24.984	296.2	0.000	6.08	102.2	4.2	0.47	1.5	0.11	0.83	0.29	0	
2	A	13.35	13.35	33.271	24.985	296.3	0.006	6.08	102.2	4.2	0.47	1.5	0.11	0.83	0.29	2	221
2		13.34	13.34	33.271	24.987	296.1	0.006									2	222
9	A	13.36	13.36	33.269	24.981	296.8	0.027	6.08	102.3	4.1	0.47	1.4	0.11	0.82	0.28	9	220
10	ISL	13.36	13.36	33.271	24.983	296.7	0.030	6.08	102.3	4.1	0.47	1.4	0.11	0.83	0.29	10	
20	ISL	13.32	13.32	33.298	25.012	294.2	0.059	6.06	101.9	4.2	0.48	1.7	0.12	0.92	0.35	20	
21	A	13.32	13.32	33.301	25.014	294.0	0.062	6.06	101.9	4.2	0.48	1.7	0.12	0.93	0.36	21	219
30	A	13.32	13.32	33.314	25.025	293.2	0.089	6.04	101.5	4.3	0.48	1.8	0.13	0.93	0.36	30	218
40	A	13.29	13.28	33.337	25.049	291.2	0.118	6.01	101.0	4.5	0.51	2.1	0.14	0.81	0.36	40	217
49		13.21	13.20	33.338	25.066	289.9	0.144	5.97	100.1	4.7	0.53	2.5	0.14	0.76	0.34	49	216
50	ISL	13.11	13.10	33.325	25.076	288.9	0.147	5.92	99.1	4.8	0.56	2.9	0.14	0.72	0.33	50	
56	A	12.45	12.44	33.251	25.147	282.2	0.164	5.62	92.7	5.8	0.72	5.3	0.13	0.44	0.24	56	215
63		12.16	12.15	33.240	25.194	277.9	0.184	5.45	89.4	6.8	0.82	6.8	0.11	0.31	0.19	63	214
70		10.51	10.50	33.374	25.597	239.5	0.202	4.51	71.4	13.8	1.31	15.0	0.03	0.08	0.08	70	213
75	ISL	10.29	10.28	33.397	25.653	234.3	0.214	4.44	70.0	14.9	1.36	15.8	0.02	0.06	0.07	75	
86		9.80	9.79	33.450	25.777	222.7	0.239	4.30	67.1	17.3	1.46	17.7	0.01	0.03	0.05	86	212
100	ISL	9.45	9.44	33.636	25.980	203.6	0.268	3.54	54.9	22.7	1.75	22.2	0.01	0.01	0.05	101	
101		9.43	9.42	33.650	25.994	202.3	0.271	3.48	53.9	23.1	1.77	22.5	0.01	0.01	0.05	102	211
119		8.98	8.97	33.815	26.196	183.5	0.305	3.08	47.3	28.0	1.96	25.5	0.01	0.00	0.06	120	210
125	ISL	8.86	8.85	33.850	26.242	179.2	0.316	2.99	45.8	29.1	1.99	26.0	0.01	0.00	0.06	126	
140		8.61	8.60	33.912	26.330	171.1	0.342	2.84	43.3	31.3	2.05	26.9	0.01	0.00	0.05	141	209
150	ISL	8.46	8.44	33.944	26.378	166.6	0.359	2.79	42.4	32.8	2.08	27.4	0.01	0.00	0.04	151	
167		8.22	8.20	33.982	26.444	160.6	0.387	2.75	41.5	35.2	2.13	28.0	0.01	0.00	0.03	168	208
199		7.69	7.67	33.998	26.535	152.3	0.437	2.76	41.2	39.1	2.18	29.0	0.01	0.00	0.03	200	207
200	ISL	7.68	7.66	33.998	26.537	152.2	0.439	2.76	41.2	39.2	2.18	29.0	0.01			201	
228		7.34	7.32	34.009	26.594	147.1	0.481	2.61	38.6	43.1	2.26	30.2	0.01			229	206
250	ISL	7.06	7.04	34.014	26.637	143.2	0.513	2.43	35.7	46.8	2.35	31.5	0.01			252	
268		6.85	6.83	34.021	26.672	140.1	0.538	2.24	32.8	50.1	2.43	32.6	0.01			270	205
300	ISL	6.58	6.55	34.049	26.730	134.9	0.582	1.81	26.3	56.0	2.60	34.7	0.01			302	
322		6.42	6.39	34.071	26.769	131.5	0.611	1.51	21.9	60.0	2.71	36.0	0.01			324	204
380		5.97	5.94	34.107	26.855	123.8	0.685	1.05	15.1	70.0	2.90	38.5	0.01			383	203
400	ISL	5.88	5.85	34.136	26.889	120.7	0.710	0.89	12.7	73.0	2.97	39.1	0.01			403	
435		5.74	5.70	34.187	26.947	115.6	0.751	0.64	9.1	78.1	3.08	40.0	0.00			438	202
500	ISL	5.30	5.26	34.218	27.025	108.6	0.824	0.48	6.8	87.2	3.18	41.5	0.00			504	
510		5.23	5.19	34.223	27.038	107.5	0.835	0.45	6.3	88.6	3.20	41.7	0.00			514	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 3.2 N	122 57.1 W	12/02/97	1859 UTC	4237 m	330 25 kn	330 08 06	1	1027.2 mb	15.2 C	13.0 C	20m 01	4/8 SC

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	PRES db	SAMP
0	ISL	13.77	13.77	32.903	24.615	331.4	0.000	6.11	103.4	2.3	0.35	0.2	0.01	0.29	0.06	0	
2	A	13.77	13.77	32.903	24.615	331.5	0.007	6.11	103.4	2.3	0.35	0.2	0.01	0.29	0.06	2	222
2		13.77	13.77	32.903	24.615	331.5	0.007									2	223
10	ISL	13.76	13.76	32.904	24.618	331.4	0.033	6.12	103.6	2.3	0.35	0.2	0.01	0.29	0.06	10	
14	A	13.76	13.76	32.904	24.618	331.5	0.046	6.12	103.6	2.3	0.35	0.2	0.01	0.29	0.06	14	221
20	ISL	13.72	13.72	32.902	24.625	331.0	0.066	6.13	103.6	2.3	0.35	0.2	0.02	0.29	0.06	20	
21		13.71	13.71	32.902	24.627	330.9	0.070	6.13	103.6	2.3	0.35	0.2	0.02	0.29	0.06	21	220
28	A	13.52	13.52	32.899	24.663	327.6	0.093	6.16	103.7	2.6	0.37	0.3	0.03	0.34	0.10	28	219
30	ISL	13.38	13.38	32.913	24.702	323.9	0.099	6.18	103.8	2.8	0.39	0.5	0.05	0.36	0.10	30	
35		13.03	13.03	32.952	24.802	314.5	0.115	6.23	103.9	3.4	0.45	1.2	0.12	0.41	0.11	35	218
41	A	12.92	12.91	32.973	24.840	311.1	0.134	6.20	103.1	3.6	0.49	1.6	0.21	0.41	0.14	41	217
49		11.95	11.94	33.083	25.112	285.4	0.158	5.58	91.0	5.8	0.81	6.6	0.12	0.26	0.11	49	216
50	ISL	11.80	11.79	33.085	25.141	282.6	0.161	5.55	90.2	6.0	0.83	6.8	0.11	0.24	0.11	50	
54	A	11.22	11.21	33.089	25.250	272.3	0.172	5.46	87.7	6.5	0.87	7.3	0.06	0.18	0.10	54	215
66		10.61	10.60	33.156	25.410	257.2	0.203	5.23	82.9	9.2	1.01	9.9	0.03	0.12	0.09	66	214
74	A	10.30	10.29	33.230	25.521	246.8	0.224	5.01	78.9	11.4	1.13	12.0	0.02	0.08	0.07	74	213
75	ISL	10.28	10.27	33.239	25.532	245.8	0.226	4.97	78.2	11.7	1.14	12.3	0.02	0.08	0.07	75	
88		10.06	10.05	33.364	25.667	233.2	0.257			15.4	1.36	15.9	0.01	0.05	0.09	88	212
97		9.87	9.86	33.467	25.779	222.7	0.278	4.18	65.3	18.5	1.55	18.4	0.01	0.03	0.07	97	211
100	ISL	9.75	9.74	33.497	25.822	218.7	0.284	4.11	64.1	19.5	1.59	19.1	0.01	0.03	0.07	100	
118		9.03	9.02	33.660	26.067	195.7	0.322	3.72	57.1	24.8	1.77	22.7	0.01	0.01	0.08	119	210
125	ISL	8.87	8.86	33.714	26.134	189.4	0.335	3.56	54.5	26.3	1.83	23.7	0.01	0.01	0.07	126	
139		8.70	8.69	33.816	26.241	179.5	0.361	3.23	49.3	28.8	1.94	25.3	0.00	0.00	0.04	140	209
150	ISL	8.74	8.72	33.910	26.308	173.3	0.380	2.89	44.1	30.8	2.03	26.3	0.00	0.00	0.04	151	
168		8.77	8.75	34.027	26.396	165.4	0.411	2.45	37.5	33.7	2.16	27.5	0.00	0.00	0.05	169	208
198		7.95	7.93	34.007	26.505	155.4	0.459	2.55	38.3	37.7	2.22	29.2	0.00	0.00	0.03	199	207
200	ISL	7.93	7.91	34.008	26.508	155.0	0.462	2.54	38.1	37.9	2.23	29.3	0.00			201	
228		7.72	7.70	34.030	26.557	150.9	0.505	2.37	35.4	41.7	2.31	30.5	0.00			229	206
250	ISL	7.39	7.37	34.044	26.615	145.5	0.537	2.17	32.2	45.9	2.40	31.8	0.00			251	
268		7.10	7.07	34.053	26.663	141.1	0.563	2.00	29.4	49.5	2.48	32.9	0.00			270	205
300	ISL	6.68	6.65	34.050	26.718	136.2	0.608	1.81	26.4	54.7	2.58	34.5	0.00			302	
318		6.48	6.45	34.050	26.744	133.8	0.632	1.70	24.7	57.6	2.64	35.4	0.00			320	204
381		6.08	6.05	34.124	26.855	123.9	0.713	1.00	14.4	69.2	2.91	38.4	0.00			383	203
400	ISL	5.97	5.94	34.146	26.886	121.1	0.736	0.85	12.2	72.2	2.97	39.0	0.00			403	
436		5.78	5.74	34.183	26.939	116.4	0.779	0.64	9.1	77.4	3.06	40.0	0.00			439	202
500	ISL	5.47	5.43	34.227	27.012	110.0	0.852	0.45	6.4	84.9	3.16	41.2	0.00			503	
513		5.41	5.37	34.236	27.027	108.8	0.866	0.41	5.8	86.4	3.18	41.5	0.00			517	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 42.8 N	123 37.7 W	12/02/97	1246 UTC	4331 m	310 15 kn			1027.0 mb	15.0 C	13.4 C		

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	PRES db	SAMP
0	ISL	14.82	14.82	33.045	24.505	341.9	0.000	5.90	102.1	1.8	0.28	0.0	0.00	0.18	0.05	0	
1		14.82	14.82	33.045	24.505	342.0	0.003	5.90	102.1	1.8	0.28	0.0	0.00	0.18	0.05	1	220
10	ISL	14.81	14.81	33.044	24.506	342.1	0.034	5.89	101.9	1.8	0.28	0.0	0.00	0.20	0.07	10	
16		14.81	14.81	33.043	24.506	342.3	0.055	5.89	101.9	1.8	0.29	0.0	0.00	0.22	0.08	16	219
20	ISL	14.74	14.74	33.036	24.515	341.5	0.068	5.89	101.8	1.8	0.30	0.0	0.01	0.23	0.09	20	
30		14.48	14.48	33.011	24.552	338.3	0.102	5.93	101.9	1.9	0.31	0.1	0.02	0.27	0.10	30	218
45		13.98	13.97	32.967	24.623	332.0	0.153	6.06	103.0	1.9	0.32	0.1	0.01	0.32	0.09	45	217
50	ISL	13.82	13.81	32.955	24.646	329.8	0.169	6.09	103.2	2.0	0.32	0.1	0.02	0.33	0.09	50	
54		13.72	13.71	32.950	24.663	328.3	0.182	6.10	103.2	2.1	0.33	0.1	0.02	0.34	0.10	54	216
65		13.61	13.60	32.965	24.697	325.4	0.218	5.99	101.1	2.3	0.39	0.7	0.10	0.31	0.14	65	215
74		13.23	13.22	32.990	24.793	316.5	0.247	5.94	99.5	2.8	0.47	1.7	0.19	0.32	0.17	74	214
75	ISL	13.17	13.16	33.002	24.814	314.5	0.250	5.92	99.0	2.8	0.47	1.8	0.18	0.32	0.18	75	
84		12.39	12.38	33.093	25.037	293.4	0.278	5.72	94.2	3.4	0.56	2.9	0.07	0.26	0.23	84	213
94		10.98	10.97	33.037	25.253	272.8	0.306	5.48	87.5	6.3	0.83	6.9	0.02	0.14	0.09	94	212
100	ISL	10.53	10.52	33.158	25.426	256.4	0.322	5.24	82.9	9.1	0.99	9.8	0.02	0.10	0.07	100	
108		10.16	10.15	33.356	25.644	235.9	0.342	4.90	77.0	12.9	1.18	13.5	0.01	0.06	0.05	108	211
124		9.53	9.52	33.490	25.853	216.2	0.378	4.41	68.4	18.2	1.45	17.9	0.01	0.02	0.04	125	210
125	ISL	9.50	9.49	33.501	25.867	214.9	0.380	4.37	67.7	18.5	1.47	18.2	0.01	0.02	0.04	126	
144		9.06	9.04	33.702	26.095	193.5	0.419	3.69	56.7	24.2	1.73	22.4	0.00	0.00	0.03	145	209
150	ISL	8.93	8.91	33.751	26.154	188.0	0.430	3.53	54.1	25.9	1.80	23.4	0.00	0.00	0.03	151	
170		8.57	8.55	33.877	26.309	173.6	0.466	3.10	47.2	30.9	1.98	26.1	0.01	0.00	0.03	171	208
200		8.40	8.38	33.982	26.418	163.8	0.517	2.48	37.6	35.4	2.18	28.6	0.00	0.00	0.04	201	207
228		7.69	7.67	33.989	26.529	153.5	0.561	2.60	38.8	40.1	2.22	29.8	0.00			229	206
250	ISL	7.22	7.20	33.983	26.591	147.7	0.595	2.58	38.1	44.0	2.27	30.7	0.00			251	
270		6.87	6.85	33.979	26.636	143.6	0.624	2.56	37.5	47.7	2.34	31.7	0.00			272	205
300	ISL	6.53	6.50	33.998	26.696	138.1	0.666	2.24	32.5	53.3	2.48	33.5	0.00			302	
314		6.43	6.40	34.012	26.721	135.9	0.685	2.05	29.7	55.8	2.55	34.4	0.00			316	204
377		6.18	6.15	34.098	26.821	127.1	0.768	1.21	17.4	65.6	2.84	37.6	0.00			379	203
400	ISL	6.01	5.98	34.110	26.853	124.3	0.797	1.03	14.8	69.3	2.91	38.6	0.00			403	
440		5.71	5.67	34.132	26.908	119.4	0.846	0.81	11.5	75.6	3.02	40.0	0.00			443	202
500	ISL	5.52	5.48	34.214	26.996	111.6	0.915	0.51	7.2	83.2	3.15	40.9	0.00			503	
519		5.46	5.42	34.240	27.024	109.2	0.936	0.41	5.8	85.6	3.19	41.2	0.00			523	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 23.3 N	124 19.5 W	12/02/97	0645 UTC	4407 m	320 16 kn			1028.0 mb	15.0 C	12.7 C		

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	PRES db	SAMP
0	ISL	15.65	15.65	32.946	24.247	366.5	0.000	5.81	102.2	1.6	0.28	0.0	0.00	0.09	0.02	0	
2		15.65	15.65	32.946	24.247	366.5	0.007	5.81	102.2	1.6	0.28	0.0	0.00	0.09	0.02	2	220
10	ISL	15.66	15.66	32.946	24.245	367.0	0.037	5.81	102.2	1.5	0.28	0.0	0.00	0.09	0.02	10	
15		15.66	15.66	32.947	24.246	367.0	0.055	5.81	102.2	1.5	0.28	0.0	0.00	0.09	0.02	15	219
20	ISL	15.66	15.66	32.948	24.247	367.1	0.073	5.81	102.2	1.5	0.28	0.0	0.00	0.09	0.02	20	
30		15.66	15.66	32.949	24.248	367.3	0.110	5.80	102.0	1.5	0.29	0.0	0.00	0.09	0.02	30	218
45		15.67	15.66	32.946	24.244	368.1	0.165	5.80	102.0	1.5	0.28	0.0	0.00	0.09	0.02	45	217
50	ISL	15.66	15.65	32.946	24.247	368.1	0.184	5.80	102.0	1.5	0.27	0.0	0.00	0.09	0.03	50	
54		15.66	15.65	32.946	24.247	368.2	0.198	5.81	102.2	1.5	0.27	0.0	0.00	0.09	0.03	54	216
64		15.26	15.25	32.949	24.338	359.8	0.235	5.84	101.9	1.5	0.30	0.0	0.00	0.24	0.10	64	215
75		14.91	14.90	32.961	24.423	352.0	0.274	5.85	101.4	1.6	0.34	0.0	0.02	0.37	0.22	75	214
84		14.78	14.77	33.060	24.527	342.2	0.305	5.85	101.2	1.8	0.35	0.1	0.11	0.33	0.21	84	213
96		13.83	13.82	33.068	24.733	322.9	0.345	5.87	99.5	2.0	0.38	0.4	0.16	0.29	0.18	96	212
100	ISL	13.43	13.42	33.036	24.789	317.5	0.358	5.84	98.2	2.2	0.42	0.8	0.12	0.26	0.17	100	
110		12.44	12.43	32.972	24.934	303.8	0.389	5.69	93.7	2.6	0.57	2.7	0.02	0.19	0.15	110	211
124		11.45	11.43	33.064	25.191	279.6	0.430	5.33	86.0	6.1	0.84	7.1	0.01	0.08	0.08	125	210
125	ISL	11.37	11.35	33.076	25.214	277.3	0.433	5.29	85.2	6.5	0.86	7.5	0.01	0.08	0.08	126	
145		9.97	9.95	33.340	25.664	234.7	0.484	4.60	72.0	14.6	1.30	15.1	0.01	0.02	0.04	146	209
150	ISL	9.79	9.77	33.399	25.740	227.5	0.495	4.49	70.0	15.8	1.35	16.1	0.01	0.02	0.03	151	
170		9.35	9.33	33.602	25.971	205.9	0.539	4.17	64.5	19.6	1.48	18.8	0.00	0.01	0.02	171	208
199		8.75	8.73	33.820	26.237	181.1	0.595	3.67	56.0	26.3	1.75	23.1	0.00	0.00	0.02	200	207
200	ISL	8.73	8.71	33.826	26.245	180.3	0.597	3.67	56.0	26.4	1.75	23.1	0.00			201	
229		8.21	8.19	33.939	26.413	164.7	0.647	3.75	56.6	30.2	1.79	24.1	0.00			230	206
250	ISL	7.88	7.86	33.969	26.486	158.0	0.681	3.45	51.7	34.1	1.93	25.9	0.00			251	
269		7.62	7.59	33.977	26.530	154.0	0.710	3.10	46.2	37.8	2.07	27.8	0.00			270	205
300	ISL	7.24	7.21	33.993	26.597	148.0	0.757	2.77	40.9	42.9	2.21	29.9	0.00			302	
319		7.03	7.00	34.001	26.632	144.8	0.785	2.59	38.1	45.9	2.29	31.0	0.00			321	204
378		6.51	6.48	34.029	26.724	136.6	0.868	1.96	28.5	55.6	2.55	34.5	0.00			380	203
400	ISL	6.29	6.25	34.043	26.764	132.9	0.897	1.68	24.3	60.1	2.66	35.9	0.00			402	
436		5.96	5.92	34.072	26.829	127.0	0.944	1.24	17.8	67.6	2.83	38.1	0.00			439	202
500	ISL	5.56	5.52	34.137	26.930	117.9	1.023	0.76	10.8	78.5	3.04	40.3	0.00			503	
512		5.48	5.44	34.149	26.949	116.1	1.037	0.67	9.5	80.5	3.08	40.7	0.00			515	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 80 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 27.1 N	120 31.6 W	10/02/97	1435 UTC	74 m	120 02 kn	250 02 06	1	1018.3 mb	13.5 C	12.1 C		6/8	SC

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	PRES db	SAMP
0	ISL	13.64	13.64	33.444	25.060	289.1	0.000	5.81	98.4	4.3	0.47	2.1	0.16	2.96	0.49	0	
1		13.64	13.64	33.444	25.060	289.1	0.003	5.81	98.4	4.3	0.47	2.1	0.16	2.96	0.49	1	207
10		13.55	13.55	33.455	25.087	286.8	0.029	5.62	95.0	4.8	0.54	3.0	0.18	2.96	0.56	10	206
20		13.20	13.20	33.486	25.182	278.0	0.057	5.11	85.8	7.2	0.73	5.8	0.22	2.36	0.54	20	205
30		12.74	12.74	33.529	25.306	266.5	0.084	4.66	77.5	9.4	0.93	8.8	0.20	1.39	0.47	30	204
39		12.38	12.37	33.572	25.409	256.9	0.108	4.38	72.3	11.7	1.09	10.7	0.23	0.99	0.49	39	203
50	ISL	12.17	12.16	33.595	25.468	251.6	0.136	4.18	68.7	12.8	1.17	11.8	0.20	0.73	0.43	50	
51		12.16	12.15	33.597	25.471	251.3	0.138	4.16	68.4	12.9	1.18	11.9	0.19	0.71	0.42	51	202
66		11.72	11.71	33.654	25.598	239.5	0.175	3.77	61.4	15.9	1.36	14.5	0.14	0.53	0.39	66	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 19.1 N	120 48.0 W	10/02/97	1837 UTC	744 m	130 08 kn	250 02 06	1	1018.9 mb	14.2 C	12.4 C	17m 03	6/8	SC

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	PRES db	SAMP
0	ISL	13.28	13.28	33.398	25.097	285.6	0.000	5.97	100.3	4.6	0.56	2.9	0.10	0.53	0.20	0	
2	A	13.28	13.28	33.398	25.097	285.6	0.006	5.97	100.3	4.6	0.56	2.9	0.10	0.53	0.20	2	220
2		13.26	13.26	33.398	25.101	285.2	0.006									2	221
10	ISL	13.18	13.18	33.477	25.178	278.1	0.028	5.92	99.3	5.5	0.59	3.5	0.13	1.19	0.40	10	
11	A	13.16	13.16	33.489	25.192	276.8	0.031	5.91	99.1	5.7	0.60	3.6	0.13	1.29	0.43	11	219
20	ISL	12.90	12.90	33.519	25.267	269.9	0.056	5.74	95.8	7.1	0.70	5.2	0.15	1.48	0.58	20	
23	A	12.80	12.80	33.523	25.289	267.8	0.064	5.66	94.2	7.7	0.75	5.9	0.16	1.54	0.61	23	218
30	ISL	12.65	12.65	33.550	25.340	263.2	0.082	5.48	91.0	9.5	0.86	7.6	0.19	1.37	0.59	30	
35	A	12.43	12.43	33.568	25.396	258.0	0.095	5.23	86.4	11.0	0.97	9.2	0.20	1.25	0.57	35	217
46	A	11.16	11.15	33.600	25.658	233.3	0.122	4.04	65.0	15.4	1.34	15.2	0.12	0.25	0.25	46	216
50	ISL	10.89	10.88	33.655	25.749	224.7	0.131	3.71	59.4	17.6	1.47	17.1	0.10	0.19	0.24	50	
55		10.67	10.66	33.722	25.840	216.1	0.143	3.40	54.2	19.9	1.59	18.8	0.07	0.11	0.22	55	215
65	A	10.57	10.56	33.749	25.879	212.7	0.164	3.29	52.3	20.8	1.65	19.4	0.05	0.08	0.18	65	214
75		10.46	10.45	33.777	25.920	209.0	0.185	3.17	50.3	21.8	1.70	20.2	0.05	0.09	0.19	75	213
83		10.39	10.38	33.800	25.950	206.3	0.202	3.06	48.5	22.4	1.73	20.8	0.04	0.07	0.18	83	212
98		10.12	10.11	33.842	26.030	199.0	0.232	2.91	45.8	24.5	1.83	22.2	0.03	0.05	0.15	99	211
100	ISL	10.08	10.07	33.849	26.042	197.9	0.236	2.88	45.3	24.8	1.84	22.4	0.03	0.05	0.15	101	
119		9.72	9.71	33.922	26.160	187.1	0.273	2.62	40.9	27.9	1.98	24.3	0.02	0.05	0.15	120	210
125	ISL	9.62	9.61	33.942	26.192	184.1	0.284	2.56	39.9	28.7	2.01	24.8	0.02	0.05	0.14	126	
138		9.44	9.42	33.985	26.255	178.4	0.307	2.41	37.4	30.5	2.09	25.8	0.02	0.04	0.11	139	209
150	ISL	9.40	9.38	34.035	26.301	174.2	0.328	2.15	33.4	32.3	2.18	26.8	0.02	0.04	0.11	151	
168		9.37	9.35	34.105	26.361	168.9	0.359	1.74	27.0	35.2	2.32	28.1	0.01	0.04	0.10	169	208
199		8.98	8.96	34.172	26.477	158.5	0.410	1.39	21.4	40.1	2.48	30.0	0.01	0.01	0.10	200	207
200	ISL	8.96	8.94	34.173	26.481	158.1	0.412	1.39	21.4	40.2	2.48	30.0	0.01			201	
229		8.54	8.52	34.196	26.565	150.6	0.456	1.40	21.3	43.2	2.53	31.0	0.01			230	206
250	ISL	8.34	8.31	34.205	26.603	147.3	0.488	1.36	20.6	45.0	2.56	31.5	0.01			252	
268		8.21	8.18	34.212	26.628	145.1	0.514	1.30	19.7	46.6	2.60	31.9	0.01			270	205
300	ISL	7.95	7.92	34.232	26.683	140.4	0.560	1.11	16.7	50.4	2.70	33.0	0.01			302	
318		7.82	7.79	34.242	26.710	138.0	0.585	1.00	15.0	52.6	2.75	33.7	0.01			320	204
377		7.44	7.40	34.247	26.770	133.2	0.665	0.88	13.1	57.4	2.83	35.0	0.01			380	203
400	ISL	7.23	7.19	34.243	26.796	130.8	0.695	0.83	12.3	59.8	2.86	35.6	0.01			403	
437		6.87	6.83	34.241	26.844	126.5	0.743	0.73	10.7	64.3	2.92	36.6	0.01			440	202
500	ISL	6.38	6.33	34.279	26.940	118.0	0.820	0.50	7.2	73.1	3.07	38.5	0.01			504	
514		6.27	6.22	34.288	26.962	116.0	0.836	0.45	6.5	75.1	3.10	38.9	0.01			518	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 9.0 N	121 9.1 W	10/02/97	2210 UTC	2193 m	140 05 kn	240 03 05	1	1017.8 mb	13.9 C	12.5 C	12m 04	7/8	SC

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	PRES db	SAMP
0	ISL	13.58	13.58	33.273	24.940	300.5	0.000	6.19	104.6	4.0	0.43	1.1	0.08	1.02	0.28	0	
2		13.57	13.57	33.274	24.942	300.3	0.006									2	221
2		13.58	13.58	33.273	24.940	300.6	0.006	6.19	104.6	4.0	0.43	1.1	0.08	1.02	0.28	2	220
10		13.50	13.50	33.275	24.958	299.1	0.030	6.16	103.9	4.0	0.43	1.1	0.08	0.87	0.27	10	219
20		13.48	13.48	33.285	24.970	298.2	0.060	6.13	103.4	3.9	0.43	1.1	0.08	0.98	0.32	20	218
30		13.49	13.49	33.295	24.976	297.9	0.090	6.09	102.7	4.0	0.43	1.2	0.08	0.86	0.33	30	217
40		13.47	13.46	33.304	24.987	297.1	0.119	6.04	101.8	4.1	0.45	1.5	0.10	0.69	0.27	40	216
50		13.37	13.36	33.307	25.010	295.2	0.149	5.96	100.3	4.4	0.50	2.1	0.12	0.51	0.24	50	215
60		11.68	11.67	33.375	25.389	259.3	0.177	4.93	80.1	9.9	1.06	11.0	0.05	0.16	0.14	60	214
70		11.26	11.25	33.410	25.493	249.6	0.202	4.86	78.2	11.8	1.20	13.1	0.03	0.13	0.11	70	213
75	ISL	11.09	11.08	33.425	25.535	245.6	0.215	4.70	75.4	12.7	1.26	14.0	0.03	0.12	0.10	75	
85		10.74	10.73	33.481	25.641	235.8	0.239	4.26	67.8	14.9	1.38	16.1	0.02	0.09	0.09	85	212
100		10.01	10.00	33.684	25.925	209.0	0.272	3.58	56.2	20.5	1.63	20.3	0.01	0.04	0.06	101	211
120		9.32	9.31	33.842	26.163	186.7	0.312	3.14	48.6	25.7	1.84	23.7	0.01	0.02	0.06	121	210
125	ISL	9.21	9.20	33.870	26.202	183.0	0.321	3.07	47.4	26.7	1.88	24.2	0.01	0.02	0.06	126	
140		8.97	8.95	33.929	26.287	175.2	0.348	2.91	44.7	29.2	1.96	25.4	0.01	0.01	0.04	141	209
150	ISL	8.85	8.83	33.944	26.318	172.5	0.365	2.86	43.8	30.2	1.99	26.0	0.01	0.01	0.04	151	
169		8.63	8.61	33.957	26.362	168.6	0.397	2.81	42.8	31.8	2.04	26.8	0.01	0.01	0.04	170	208
199		8.13	8.11	34.013	26.483	157.5	0.446	2.69	40.6	36.1	2.14	28.3	0.01	0.00	0.03	200	207
200	ISL	8.12	8.10	34.015	26.486	157.3	0.448	2.67	40.2	36.3	2.15	28.4	0.01			201	
228		7.75	7.73	34.073	26.586	148.1	0.491	2.19	32.7	42.7	2.34	30.6	0.01			229	206
250	ISL	7.47	7.45	34.085	26.636	143.6	0.523	2.03	30.2	46.4	2.42	31.8	0.01			252	
269		7.23	7.20	34.085	26.670	140.5	0.550	1.93	28.5	49.3	2.48	32.7	0.01			271	205
300	ISL	6.82	6.79	34.089	26.730	135.1	0.593	1.61	23.6	55.3	2.63	34.8	0.01			302	
317		6.63	6.60	34.098	26.762	132.2	0.615	1.41	20.5	58.5	2.71	35.8	0.01			319	204
377		6.54	6.51	34.216	26.868	123.1	0.692	0.78	11.3	66.1	2.95	37.5	0.01			379	203
400	ISL	6.44	6.40	34.247	26.906	119.8	0.720	0.62	9.0	69.1	3.02	38.1	0.01			403	
437		6.24	6.20	34.283	26.961	114.9	0.763	0.43	6.2	73.7	3.11	39.1	0.01			440	202
500	ISL	5.89	5.85	34.304	27.022	109.6	0.834	0.34	4.9	79.9	3.18	40.3	0.01			504	
510		5.83	5.79	34.308	27.033	108.7	0.845	0.33	4.7	80.9	3.19	40.5	0.01			514	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 49.2 N	121 50.7 W	11/02/97	0433 UTC	3723 m	010 12 kn			1020.2 mb	13.7 C	12.0 C		

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	PRES db	SAMP
0	ISL	14.05	14.05	32.957	24.599	333.0	0.000	6.08	103.5	2.1	0.33	0.0	0.00	0.27	0.06	0	
2		14.05	14.05	32.957	24.599	333.0	0.007	6.08	103.5	2.1	0.33	0.0	0.00	0.27	0.06	2	220
10		14.05	14.05	32.960	24.602	333.0	0.033	6.08	103.5	2.0	0.32	0.0	0.00	0.27	0.07	10	219
20		13.96	13.96	32.998	24.650	328.7	0.066	6.13	104.2	2.1	0.33	0.0	0.00	0.35	0.09	20	218
30	ISL	13.77	13.77	33.079	24.752	319.2	0.099	6.17	104.5	2.5	0.37	0.1	0.02	0.62	0.20	30	
31		13.75	13.75	33.087	24.762	318.3	0.102	6.17	104.5	2.5	0.37	0.1	0.02	0.65	0.21	31	217
40		13.53	13.52	33.117	24.830	312.0	0.130	6.11	103.0	2.9	0.42	0.8	0.09	0.74	0.30	40	216
50		12.53	12.52	33.142	25.047	291.6	0.161	5.75	95.0	4.2	0.65	4.1	0.25	0.36	0.22	50	215
61		11.50	11.49	33.067	25.182	278.9	0.192	5.57	90.0	5.3	0.80	6.3	0.07	0.27	0.15	61	214
69		11.16	11.15	33.151	25.309	266.9	0.214	5.36	86.0	7.0	0.93	8.6	0.03	0.18	0.11	69	213
75	ISL	10.79	10.78	33.221	25.429	255.6	0.229	5.07	80.7	9.6	1.08	11.2	0.03	0.13	0.09	75	
84		10.28	10.27	33.333	25.605	239.1	0.252	4.59	72.3	13.7	1.31	15.1	0.02	0.08	0.08	84	212
100	ISL	10.06	10.05	33.528	25.795	221.3	0.288	3.90	61.2	18.0	1.55	18.9	0.01	0.03	0.05	100	
101		10.05	10.04	33.538	25.804	220.5	0.291	3.87	60.7	18.2	1.56	19.1	0.01	0.03	0.05	101	211
121		9.13	9.12	33.633	26.030	199.3	0.333	3.88	59.7	22.6	1.69	21.7	0.01	0.01	0.03	122	210
125	ISL	9.14	9.13	33.670	26.057	196.8	0.341	3.72	57.3	23.4	1.74	22.4	0.01	0.01	0.03	126	
141		9.18	9.16	33.797	26.150	188.3	0.371	3.00	46.3	26.6	1.95	25.1	0.01	0.01	0.05	142	209
150	ISL	9.01	8.99	33.852	26.221	181.8	0.388	2.92	44.9	28.4	2.02	26.1	0.01	0.01	0.05	151	
170		8.50	8.48	33.933	26.364	168.4	0.423	2.74	41.6	32.0	2.10	27.5	0.01	0.00	0.04	171	208
200		7.83	7.81	33.944	26.473	158.4	0.472	3.04	45.5	35.6	2.09	27.9	0.01	0.00	0.03	201	207
228		7.37	7.35	33.976	26.564	150.0	0.515	2.82	41.8	40.5	2.18	29.6	0.00			229	206
250	ISL	7.14	7.12	33.996	26.612	145.6	0.548	2.57	37.9	44.2	2.29	30.9	0.00			251	
269		7.00	6.97	34.016	26.647	142.5	0.575	2.31	33.9	47.4	2.39	32.1	0.00			271	205
300	ISL	6.87	6.84	34.072	26.709	137.1	0.618	1.75	25.6	52.8	2.57	34.1	0.00			302	
319		6.79	6.76	34.104	26.746	133.9	0.644	1.43	20.9	56.1	2.68	35.2	0.00			321	204
379		6.29	6.26	34.131	26.833	126.1	0.722	1.02	14.7	65.5	2.88	37.7	0.00			381	203
400	ISL	6.17	6.13	34.152	26.866	123.3	0.748	0.87	12.5	68.6	2.95	38.3	0.00			403	
439		5.96	5.92	34.192	26.924	118.1	0.795	0.64	9.2	74.2	3.05	39.3	0.00			442	202
500	ISL	5.49	5.45	34.216	27.001	111.1	0.865	0.49	7.0	82.4	3.13	40.9	0.00			503	
513		5.39	5.35	34.221	27.017	109.6	0.880	0.46	6.5	84.2	3.15	41.2	0.00			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 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 32.1 W	11/02/97	1026 UTC	3993 m	330 18 kn			1021.0 mb	13.5 C	11.3 C		

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	PRES db	SAMP
0	ISL	13.67	13.67	33.034	24.736	319.9	0.000	6.17	104.3	2.7	0.35	0.0	0.00	0.39	0.11	0	
2		13.67	13.67	33.034	24.737	319.9	0.006	6.17	104.3	2.7	0.35	0.0	0.00	0.39	0.11	2	220
10	ISL	13.68	13.68	33.034	24.735	320.3	0.032	6.16	104.1	2.7	0.35	0.0	0.00	0.43	0.12	10	
15		13.68	13.68	33.033	24.734	320.5	0.048	6.16	104.1	2.7	0.35	0.0	0.00	0.46	0.13	15	219
20	ISL	13.67	13.67	33.032	24.735	320.5	0.064	6.17	104.3	2.7	0.35	0.0	0.00	0.45	0.13	20	
30	ISL	13.65	13.65	33.030	24.738	320.5	0.096	6.18	104.4	2.7	0.35	0.0	0.00	0.43	0.12	30	
31		13.65	13.65	33.030	24.738	320.5	0.099	6.18	104.4	2.7	0.35	0.0	0.00	0.43	0.12	31	218
45		13.43	13.42	33.032	24.785	316.5	0.144	6.14	103.3	2.9	0.40	0.6	0.04	0.61	0.25	45	217
50	ISL	13.46	13.45	33.119	24.846	310.8	0.160	6.14	103.4	3.3	0.42	0.8	0.06	0.73	0.34	50	
53		13.48	13.47	33.176	24.886	307.1	0.169	6.14	103.5	3.6	0.43	0.9	0.07	0.77	0.38	53	216
64		13.50	13.49	33.300	24.978	298.6	0.202	6.02	101.6	4.4	0.47	1.4	0.14	0.34	0.29	64	215
73		12.71	12.70	33.367	25.187	278.9	0.228	5.37	89.1	6.8	1.00 U	6.7	0.10	0.17	0.16	73	214
75	ISL	12.52	12.51	33.385	25.238	274.1	0.234	5.20	86.0	7.8	0.85	8.0	0.08	0.15	0.15	75	
83		11.68	11.67	33.444	25.443	254.7	0.255	4.58	74.4	12.0	1.17	12.8	0.02	0.11	0.12	83	213
94		10.39	10.38	33.445	25.674	232.8	0.282	4.27	67.5	15.9	1.41	16.6	0.01	0.07	0.15	94	212
100	ISL	10.09	10.08	33.496	25.765	224.2	0.295	4.05	63.6	17.7	1.51	18.2	0.01	0.05	0.12	100	
108		9.88	9.87	33.576	25.863	215.0	0.313	3.77	59.0	19.8	1.62	20.0	0.01	0.02	0.06	109	211
125		9.41	9.40	33.679	26.021	200.3	0.348	3.36	52.0	23.8	1.80	23.0	0.00	0.01	0.05	126	210
143		9.02	9.00	33.827	26.199	183.6	0.383	2.94	45.2	28.4	1.97	25.7	0.00	0.01	0.04	144	209
150	ISL	8.87	8.85	33.869	26.256	178.4	0.395	2.83	43.3	29.9	2.02	26.5	0.00	0.01	0.04	151	
168		8.53	8.51	33.946	26.369	167.9	0.427	2.67	40.6	33.1	2.10	27.8	0.00	0.00	0.05	169	208
197		8.11	8.09	33.992	26.469	158.8	0.474	2.65	39.9	36.3	2.16	28.6	0.00	0.00	0.05	198	207
200	ISL	8.06	8.04	33.994	26.478	157.9	0.479	2.64	39.7	36.7	2.17	28.7	0.00			201	
231		7.63	7.61	34.016	26.559	150.7	0.527	2.57	38.3	41.0	2.24	29.9	0.00			232	206
250	ISL	7.46	7.44	34.037	26.600	147.0	0.555	2.34	34.7	44.2	2.33	31.0	0.00			251	
269		7.30	7.27	34.058	26.639	143.5	0.582	2.08	30.8	47.5	2.43	32.2	0.00			271	205
300	ISL	6.96	6.93	34.075	26.700	138.1	0.626	1.76	25.8	52.9	2.57	33.9	0.00			302	
318		6.75	6.72	34.081	26.733	135.1	0.651	1.60	23.4	56.0	2.64	34.9	0.00			320	204
375		6.18	6.15	34.099	26.822	127.0	0.725	1.20	17.3	65.7	2.83	37.6	0.00			377	203
400	ISL	5.99	5.96	34.117	26.861	123.6	0.757	1.01	14.5	70.1	2.91	38.6	0.00			403	
437		5.77	5.73	34.152	26.916	118.6	0.801	0.76	10.8	76.0	3.02	39.8	0.00			440	202
500	ISL	5.62	5.58	34.229	26.996	111.8	0.874	0.47	6.7	82.7	3.14	40.6	0.00			503	
512		5.59	5.55	34.244	27.012	110.4	0.887	0.41	5.8	84.0	3.16	40.8	0.00			516	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 9.0 N	123 13.5 W	11/02/97	1808 UTC	4226 m	330 20 kn	330 08 06	1	1024.2 mb	15.2 C	13.1 C	33m 01	4/8	SC

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	PRES db	SAMP
0	ISL	15.08	15.08	32.934	24.363	355.4	0.000	5.88	102.2	1.6	0.30	0.0	0.00	0.11	0.02	0	
2		15.09	15.09	32.934	24.361	355.7	0.007									2	222
2	A	15.08	15.08	32.934	24.363	355.5	0.007	5.88	102.2	1.6	0.30	0.0	0.00	0.11	0.02	2	221
10	ISL	15.08	15.08	32.934	24.363	355.7	0.036	5.89	102.4	1.6	0.30	0.0	0.00	0.12	0.03	10	
12		15.08	15.08	32.934	24.363	355.8	0.043	5.89	102.4	1.6	0.30	0.0	0.00	0.12	0.03	12	220
20	ISL	15.08	15.08	32.934	24.364	356.0	0.071	5.88	102.2	1.6	0.30	0.0	0.00	0.11	0.03	20	
22	A	15.08	15.08	32.934	24.364	356.0	0.078	5.88	102.2	1.6	0.30	0.0	0.00	0.11	0.03	22	219
30	ISL	15.02	15.02	32.933	24.376	355.1	0.107	5.89	102.3	1.6	0.30	0.0	0.00	0.12	0.03	30	
33		15.00	15.00	32.932	24.380	354.8	0.117	5.90	102.4	1.6	0.30	0.0	0.00	0.12	0.03	33	218
45	A	14.35	14.34	32.936	24.522	341.6	0.159	5.99	102.6	1.7	0.33	0.0	0.01	0.25	0.10	45	217
50	ISL	14.15	14.14	32.995	24.609	333.4	0.176	5.91	100.9	1.8	0.37	0.3	0.05	0.30	0.19	50	
56		13.86	13.85	33.060	24.719	323.1	0.196	5.85	99.3	2.0	0.43	0.8	0.10	0.35	0.29	56	216
67	A	12.83	12.82	33.029	24.902	305.9	0.230	6.18	102.6	2.5	0.50	1.9	0.08	0.38	0.29	67	215
75	ISL	12.12	12.11	33.022	25.033	293.5	0.254	5.81	95.0	3.9	0.64	4.1	0.07	0.13	0.09	75	
77		11.96	11.95	33.022	25.063	290.7	0.260	5.70	92.9	4.3	0.68	4.7	0.07	0.07	0.04	77	214
90	A	11.36	11.35	33.044	25.191	278.8	0.297	5.67	91.3	5.4	0.79	6.2	0.03	0.15	0.12	90	213
100	ISL	10.90	10.89	33.083	25.303	268.2	0.324	5.33	85.0	7.1	0.90	8.1	0.02	0.10	0.09	100	
101		10.85	10.84	33.091	25.318	266.8	0.327	5.29	84.2	7.4	0.92	8.4	0.02	0.09	0.09	101	212
110		10.32	10.31	33.231	25.519	247.8	0.350	4.89	77.0	11.5	1.14	12.4	0.01	0.05	0.06	110	211
125	A	9.94	9.93	33.402	25.717	229.2	0.386	4.39	68.7	15.8	1.39	16.5	0.01	0.02	0.08	126	210
144		9.43	9.41	33.598	25.954	207.0	0.428	3.77	58.4	21.6	1.65	21.0	0.00	0.01	0.03	145	209
150	ISL	9.35	9.33	33.655	26.012	201.6	0.440	3.58	55.4	23.1	1.72	22.1	0.00	0.01	0.03	151	
167		9.18	9.16	33.791	26.146	189.2	0.473	3.16	48.7	26.5	1.87	24.4	0.00	0.00	0.03	168	208
198		8.55	8.53	33.907	26.336	171.6	0.529	3.13	47.6	30.4	1.95	25.8	0.00	0.00	0.02	199	207
200	ISL	8.54	8.52	33.916	26.345	170.8	0.532	3.09	47.0	30.8	1.97	26.0	0.00			201	
227		8.42	8.40	34.018	26.443	161.9	0.577	2.43	36.9	35.9	2.19	28.5	0.00			228	206
250	ISL	8.25	8.22	34.057	26.500	156.9	0.614	2.23	33.7	38.5	2.28	29.5	0.00			251	
268		8.07	8.04	34.071	26.538	153.5	0.642	2.16	32.5	40.5	2.32	30.1	0.00			270	205
300	ISL	7.60	7.57	34.090	26.622	145.9	0.690	1.90	28.3	46.2	2.45	31.9	0.00			302	
320		7.30	7.27	34.099	26.672	141.3	0.718	1.72	25.4	50.1	2.54	33.1	0.00			322	204
378		6.73	6.70	34.140	26.783	131.3	0.798	1.17	17.1	60.3	2.78	36.0	0.00			380	203
400	ISL	6.55	6.51	34.160	26.823	127.7	0.826	0.99	14.4	64.2	2.86	37.0	0.00			403	
439		6.25	6.21	34.194	26.889	121.7	0.875	0.72	10.4	70.7	2.99	38.5	0.00			442	202
500	ISL	5.85	5.81	34.224	26.964	115.1	0.947	0.54	7.7	78.6	3.11	40.0	0.00			503	
510		5.78	5.74	34.229	26.976	113.9	0.958	0.51	7.3	79.9	3.13	40.2	0.00			513	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 49.0 N	123 54.6 W	11/02/97	2318 UTC	4342 m	330 16 kn	330 08 07	1	1025.0 mb	16.2 C	13.2 C	23m 01	5/8	AC

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	PRES db	SAMP
0	ISL	16.25	16.25	33.081	24.216	369.4	0.000	5.73	102.1	1.4	0.27	0.0	0.00	0.11	0.02	0	
2		16.25	16.25	33.082	24.217	369.4	0.007									2	221
2		16.25	16.25	33.081	24.216	369.5	0.007	5.73	102.1	1.4	0.27	0.0	0.00	0.11	0.02	2	220
10	ISL	16.25	16.25	33.082	24.217	369.6	0.037	5.73	102.1	1.4	0.27	0.0	0.00	0.11	0.03	10	
15		16.25	16.25	33.082	24.217	369.8	0.055	5.64 U	100.5 U	1.4	0.27	0.0	0.00	0.11	0.03	15	219
20	ISL	16.25	16.25	33.081	24.217	370.0	0.074	5.73	102.1	1.4	0.27	0.0	0.00	0.11	0.03	20	
30		16.26	16.26	33.082	24.216	370.4	0.111	5.73	102.1	1.4	0.27	0.0	0.00	0.10	0.03	30	218
44		16.27	16.26	33.094	24.223	370.2	0.163	5.71	101.8	1.4	0.27	0.0	0.00	0.11	0.03	44	217
50	ISL	16.28	16.27	33.098	24.224	370.3	0.185	5.72	102.0	1.4	0.27	0.0	0.00	0.11	0.03	50	
59		16.30	16.29	33.105	24.225	370.4	0.218			1.4	0.27	0.0	0.00	0.12	0.03	59	216
74		15.84	15.83	33.077	24.308	363.0	0.273	5.77	101.9	1.5	0.29	0.0	0.00	0.21	0.11	74	215
75	ISL	15.75	15.74	33.066	24.320	361.9	0.277	5.78	101.9	1.5	0.29	0.0	0.00	0.22	0.11	75	
84		14.83	14.82	32.996	24.467	348.0	0.309	5.84	101.0	1.5	0.34	0.0	0.04	0.31	0.14	84	214
93		14.08	14.07	33.057	24.673	328.6	0.339	5.85	99.7	1.9	0.39	0.4	0.17	0.29	0.14	93	213
100	ISL	13.52	13.51	33.030	24.767	319.7	0.362	5.81	97.9	2.0	0.42	1.0	0.12	0.28	0.13	100	
104		13.20	13.19	33.004	24.811	315.6	0.375			2.0	0.45	1.4	0.07	0.27	0.13	104	212
113		12.44	12.43	32.979	24.940	303.4	0.403	5.71	94.0	2.4	0.55	2.4	0.02	0.22	0.13	113	211
124		11.48	11.46	32.991	25.128	285.5	0.435	5.66	91.3	4.3	0.73	5.2	0.01	0.13	0.12	125	210
125	ISL	11.41	11.39	33.002	25.150	283.5	0.438	5.64	90.9	4.5	0.74	5.4	0.01	0.12	0.12	126	
140		10.57	10.55	33.226	25.473	252.9	0.478	5.17	81.9	8.9	0.94	9.5	0.00	0.04	0.05	141	209
150	ISL	10.01	9.99	33.377	25.686	232.7	0.502	4.72	73.9	13.7	1.19	13.8	0.00	0.03	0.04	151	
166		9.26	9.24	33.594	25.979	205.0	0.537	4.05	62.5	21.2	1.58	20.2	0.00	0.01	0.02	167	208
195		8.70	8.68	33.823	26.247	180.0	0.593	3.72	56.7	26.3	1.72	23.0	0.00	0.00	0.02	196	207
200	ISL	8.63	8.61	33.846	26.276	177.3	0.602	3.68	56.0	27.1	1.75	23.4	0.00			201	
229		8.24	8.22	33.929	26.401	165.9	0.652	3.48	52.6	31.7	1.90	25.7	0.00			230	206
250	ISL	7.93	7.90	33.959	26.471	159.5	0.686	3.34	50.1	34.6	1.97	26.7	0.00			251	
269		7.65	7.62	33.974	26.523	154.7	0.716	3.19	47.5	37.3	2.03	27.6	0.00			270	205
300	ISL	7.25	7.22	33.998	26.599	147.8	0.763	2.78	41.1	43.2	2.20	30.0	0.00			302	
314		7.08	7.05	34.007	26.630	145.0	0.783	2.57	37.8	46.1	2.29	31.2	0.00			316	204
378		6.43	6.40	34.054	26.755	133.7	0.872	1.61	23.3	59.0	2.63	35.7	0.00			380	203
400	ISL	6.24	6.20	34.070	26.792	130.3	0.901	1.41	20.3	62.9	2.72	36.8	0.00			402	
438		5.97	5.93	34.099	26.849	125.1	0.950	1.14	16.3	69.0	2.84	38.2	0.00			441	202
500	ISL	5.69	5.65	34.149	26.924	118.6	1.026	0.79	11.3	76.6	2.99	39.8	0.00			503	
510		5.65	5.61	34.157	26.935	117.6	1.037	0.73	10.4	77.8	3.01	40.1	0.00			513	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 82 47

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 16.7 N	120 1.5 W	10/02/97	1008 UTC	576 m	250 08 kn			1020.0 mb	14.7 C	12.9 C		

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	PRES db	SAMP
0	ISL	13.65	13.65	33.472	25.079	287.2	0.000	6.28	106.4	2.3	0.35	0.5	0.06	3.90	0.57	0	
2	A	13.65	13.65	33.472	25.079	287.3	0.006	6.28	106.4	2.3	0.35	0.5	0.06	3.90	0.57	2	224
10		13.65	13.65	33.471	25.079	287.6	0.029	6.28	106.4	2.2	0.35	0.5	0.06	3.81	0.56	10	223
19		13.29	13.29	33.488	25.165	279.6	0.054	5.96	100.2	3.4	0.44	2.0	0.09	5.28	1.26	19	222
20	ISL	13.20	13.20	33.494	25.188	277.5	0.057	5.82	97.7	4.1	0.50	2.8	0.10	5.09	1.26	20	
30		12.19	12.19	33.579	25.451	252.6	0.084	4.29	70.5	11.6	1.11	11.4	0.18	2.24	0.87	30	221
40		11.51	11.50	33.659	25.640	234.8	0.108	3.66	59.3	15.8	1.39	15.6	0.06	0.49	0.37	40	220
50		11.18	11.17	33.689	25.724	227.1	0.131	3.56	57.3	18.3	1.49	17.1	0.09	0.31	0.39	50	219
60		10.94	10.93	33.738	25.805	219.6	0.153	3.26	52.2	19.4	1.59	18.3	0.02	0.16	0.28	60	218
69		10.57	10.56	33.800	25.919	209.0	0.173	3.00	47.7	22.2	1.73	20.5	0.02	0.09	0.17	69	217
75	ISL	10.39	10.38	33.833	25.976	203.7	0.185	2.87	45.5	23.5	1.80	21.5	0.02	0.06	0.16	75	
85		10.14	10.13	33.878	26.054	196.4	0.205	2.71	42.7	25.4	1.89	22.8	0.01	0.04	0.14	85	216
99		9.85	9.84	33.931	26.145	188.1	0.232	2.53	39.6	28.0	2.00	24.3	0.02	0.04	0.14	100	215
100	ISL	9.84	9.83	33.934	26.149	187.7	0.234	2.52	39.5	28.1	2.01	24.4	0.02	0.04	0.14	101	
119		9.64	9.63	33.982	26.220	181.4	0.269	2.38	37.1	29.6	2.08	25.4	0.01	0.04	0.15	120	214
125	ISL	9.61	9.60	33.993	26.234	180.2	0.280	2.33	36.3	30.0	2.10	25.6	0.01	0.04	0.15	126	
139		9.56	9.54	34.020	26.263	177.7	0.305	2.18	33.9	31.1	2.15	26.2	0.01	0.04	0.14	140	213
150	ISL	9.52	9.50	34.052	26.295	174.9	0.324	2.01	31.3	32.5	2.21	26.9	0.01	0.04	0.13	151	
168		9.41	9.39	34.105	26.355	169.6	0.355	1.74	27.0	35.0	2.32	28.1	0.01	0.03	0.10	169	212
199		9.07	9.05	34.165	26.457	160.4	0.406	1.46	22.5	39.1	2.45	29.6	0.01	0.03	0.08	200	211
200	ISL	9.06	9.04	34.166	26.459	160.2	0.408	1.45	22.3	39.2	2.45	29.6	0.01			201	
228		8.86	8.84	34.192	26.512	155.7	0.452	1.21	18.6	42.8	2.57	30.7	0.01			229	210
250	ISL	8.56	8.53	34.198	26.563	151.1	0.486	1.03	15.7	46.7	2.66	32.0	0.01			252	
269		8.28	8.25	34.200	26.608	147.1	0.514	0.89	13.5	50.5	2.74	33.0	0.01			271	209
300	ISL	7.89	7.86	34.206	26.671	141.4	0.559	0.73	11.0	56.7	2.87	33.9	0.01			302	
318		7.68	7.65	34.210	26.705	138.4	0.584	0.67	10.0	60.0	2.93	34.2	0.01			320	208
376		7.16	7.12	34.223	26.790	131.0	0.662	0.54	8.0	67.4	3.04	35.2	0.01			378	207
400	ISL	6.97	6.93	34.231	26.823	128.1	0.693	0.42	6.2	71.9	3.11	35.0	0.01			403	
437		6.72	6.68	34.240	26.864	124.5	0.740	0.23	3.4	80.2	3.24	34.6	0.01			440	206
500	ISL	6.45	6.40	34.239	26.899	121.9	0.818	0.10	1.5	98.7	3.44	28.4	0.01			504	
510		6.43	6.38	34.238	26.901	121.8	0.830	0.09	1.3	100.9	3.46	27.5	0.01			514	205
535		6.43	6.38	34.241	26.904	121.9	0.860	0.09	1.3	101.6	3.46	27.0	0.01			539	204
566		6.38	6.33	34.246	26.915	121.3	0.898	0.14	2.0	95.7	3.40	29.6	0.01			570	203
570		6.38	6.33	34.246	26.915	121.3	0.903	0.13	1.9	95.8	3.40	29.5	0.02			574	202
574		6.38	6.33	34.246	26.915	121.4	0.908	0.12	1.7	95.8	3.40	29.5	0.03			578	201

A) SANTA BARBARA BASIN STATION.

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 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 24.6 W	10/02/97	0559 UTC	37 m	050 06 kn			1020.5 mb	13.9 C	12.6 C		

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	PRES db	SAMP
0	ISL	14.41	14.41	33.366	24.839	310.1	0.000	6.66	114.5	3.5	0.24	0.0	0.01	2.17	0.43	0	
1		14.41	14.41	33.366	24.839	310.1	0.003	6.66	114.5	3.5	0.24	0.0	0.01	2.17	0.43	1	205
5		14.47	14.47	33.365	24.826	311.5	0.016	6.69	115.2	3.5	0.24	0.0	0.01	2.04	0.36	5	204
10		14.28	14.28	33.372	24.872	307.3	0.031	6.53	112.0	3.5	0.25	0.0	0.01	2.56	0.45	10	203
20		14.07	14.07	33.389	24.929	302.1	0.061	6.05	103.3	3.7	0.34	0.5	0.06	2.63	0.57	20	202
29		13.62	13.62	33.447	25.067	289.2	0.088	5.04	85.3	7.4	0.78	4.0	0.35	1.57	0.70	29	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 10.7 N	119 30.6 W	10/02/97	0355 UTC	135 m	300 08 kn			1020.9 mb	14.3 C	12.6 C		

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	PRES db	SAMP
0	ISL	14.25	14.25	33.409	24.906	303.7	0.000	6.48	111.1	2.8	0.30	0.0	0.01	2.06	0.48	0	
2		14.25	14.25	33.409	24.906	303.8	0.006	6.48	111.1	2.8	0.30	0.0	0.01	2.06	0.48	2	212
10	ISL	14.04	14.04	33.424	24.962	298.7	0.030	6.08	103.8	3.6	0.39	0.8	0.07	2.84	0.53	10	
11		14.00	14.00	33.427	24.973	297.7	0.033	6.00	102.4	3.8	0.41	1.0	0.08	2.91	0.54	11	211
20	ISL	13.53	13.53	33.473	25.105	285.3	0.059	5.31	89.7	5.8	0.65	4.4	0.25	1.42	0.49	20	
21		13.47	13.47	33.478	25.121	283.9	0.062	5.24	88.5	6.0	0.68	4.8	0.27	1.21	0.48	21	210
30		13.13	13.13	33.503	25.209	275.7	0.087	4.97	83.3	7.5	0.80	6.7	0.33	0.69	0.44	30	209
41		12.80	12.79	33.532	25.297	267.6	0.117	4.66	77.6	9.2	0.93	8.5	0.28	0.60	0.47	41	208
50	ISL	12.04	12.03	33.597	25.494	249.1	0.141	4.16	68.2	12.8	1.17	12.4	0.16	0.34	0.30	50	
51		11.94	11.93	33.607	25.520	246.6	0.143	4.10	67.1	13.3	1.20	12.9	0.15	0.31	0.28	51	207
60		11.14	11.13	33.704	25.743	225.5	0.164	3.55	57.1	17.9	1.47	17.1	0.06	0.16	0.20	60	206
69		10.82	10.81	33.747	25.834	217.1	0.184	3.38	54.0	20.0	1.58	18.7	0.04	0.11	0.18	69	205
75	ISL	10.52	10.51	33.796	25.925	208.6	0.197	3.17	50.3	21.9	1.68	20.2	0.03	0.07	0.15	75	
84		10.08	10.07	33.869	26.057	196.1	0.215	2.88	45.3	24.7	1.83	22.4	0.02	0.03	0.11	84	204
99		9.73	9.72	33.922	26.158	186.8	0.244	2.79	43.6	26.9	1.92	23.9	0.01	0.02	0.08	100	203
100	ISL	9.72	9.71	33.924	26.161	186.6	0.246	2.78	43.4	27.0	1.92	24.0	0.01	0.02	0.08	101	
120		9.53	9.52	34.005	26.256	177.9	0.282	2.42	37.7	30.0	2.07	25.7	0.01	0.03	0.09	121	202
125		9.49	9.48	34.046	26.295	174.4	0.291	2.22	34.5	31.8	2.14	26.4	0.01	0.03	0.10	126	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 52.9 N	120 8.2 W	09/02/97	2141 UTC	95 m	140 04 kn	270 03 05	1	1021.9 mb	15.6 C	14.0 C	11m 05	2/8	CU

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	PRES db	SAMP
0	ISL	13.84	13.84	33.466	25.036	291.4	0.000	6.20	105.5	3.1	0.41	1.1	0.06	4.25	0.58	0	
2		13.96	13.96	33.464	25.009	293.9	0.006									2	211
2		13.84	13.84	33.466	25.036	291.4	0.006	6.20	105.5	3.1	0.41	1.1	0.06	4.25	0.58	2	210
10		13.52	13.52	33.472	25.106	285.0	0.029	6.07	102.6	3.5	0.46	1.9	0.08	4.58	0.76	10	209
20		13.05	13.05	33.514	25.233	273.1	0.057	5.62	94.1	6.1	0.65	4.7	0.14	2.83	0.55	20	208
30		12.78	12.78	33.547	25.312	265.9	0.084	5.39	89.7	7.7	0.76	6.2	0.15	2.39	0.50	30	207
40		12.68	12.67	33.555	25.338	263.7	0.110	5.28	87.7	8.4	0.82	6.9	0.15	2.43	0.55	40	206
50		12.66	12.65	33.557	25.344	263.4	0.137	5.25	87.2	8.7	0.82	7.1	0.15	2.26	0.54	50	205
60		12.57	12.56	33.567	25.369	261.2	0.163	5.15	85.4	9.2	0.86	7.7	0.14	2.21	0.46	60	204
70		12.35	12.34	33.594	25.433	255.4	0.189	4.91	81.0	10.9	0.96	9.1	0.14	1.72	0.61	70	203
75	ISL	12.04	12.03	33.631	25.521	247.2	0.201	4.61	75.6	12.9	1.08	11.0	0.13	1.50	0.59	75	
86		11.20	11.19	33.732	25.755	225.1	0.227	3.83	61.7	18.3	1.41	15.9	0.10	0.93	0.54	86	202
88		11.06	11.05	33.748	25.792	221.5	0.232	3.71	59.6	19.2	1.47	16.7	0.10	0.80	0.55	88	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 45.1 N	120 24.3 W	09/02/97	1830 UTC	1025 m	300 01 kn	300 04 05	1	1022.4 mb	15.3 C	13.3 C	20m 05	3/8	CS

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	PRES db	SAMP
0	ISL	12.97	12.97	33.480	25.222	273.6	0.000	5.80	96.9	5.2	0.62	4.4	0.14	2.26	0.63	0	
2	A	12.97	12.97	33.480	25.222	273.7	0.005	5.80	96.9	5.2	0.62	4.4	0.14	2.26	0.63	2	222
2		12.97	12.97	33.480	25.222	273.7	0.005									2	223
10	ISL	12.95	12.95	33.479	25.225	273.6	0.027	5.79	96.7	5.2	0.64	4.5	0.14	2.32	0.61	10	
12	A	12.95	12.95	33.479	25.226	273.6	0.033	5.78	96.5	5.2	0.64	4.5	0.14	2.34	0.60	12	221
20		12.94	12.94	33.478	25.227	273.7	0.055	5.76	96.2	5.2	0.63	4.6	0.14	2.63	0.62	20	220
26	A	12.93	12.93	33.478	25.229	273.7	0.071	5.75	96.0	5.2	0.62	4.7	0.13	2.52	0.69	26	219
30	ISL	12.92	12.92	33.478	25.231	273.6	0.082	5.76	96.1	5.2	0.62	4.7	0.13	2.63	0.63	30	
34		12.91	12.91	33.478	25.233	273.5	0.093	5.76	96.1	5.2	0.62	4.7	0.13	2.83	0.57	34	218
40	A	12.91	12.90	33.480	25.235	273.5	0.109	5.78	96.4	5.1	0.63	4.7	0.13	3.20	0.69	40	217
47		12.84	12.83	33.479	25.248	272.4	0.129	5.68	94.6	5.4	0.65	4.6	0.13	2.87	0.58	47	216
50	ISL	12.52	12.51	33.487	25.317	265.9	0.137	5.26	87.0	7.6	0.81	7.2	0.16	1.80	0.51	50	
53	A	12.16	12.15	33.499	25.395	258.5	0.144	4.79	78.7	10.0	0.99	10.1	0.19	0.68	0.44	53	215
64		11.42	11.41	33.550	25.573	241.9	0.172	4.25	68.7	13.5	1.22	14.0	0.13	0.29	0.28	64	214
75	ISL	10.70	10.69	33.573	25.719	228.1	0.198	4.03	64.2	16.0	1.38	16.9	0.04	0.10	0.18	75	
76	A	10.64	10.63	33.575	25.732	226.9	0.200	4.02	63.9	16.2	1.39	17.1	0.03	0.09	0.18	76	213
84		10.25	10.24	33.618	25.833	217.5	0.218	3.87	61.0	17.8	1.48	18.6	0.01	0.06	0.17	84	212
99		9.56	9.55	33.721	26.029	199.0	0.249	3.47	53.9	22.8	1.71	22.3	0.01	0.03	0.13	100	211
100	ISL	9.53	9.52	33.727	26.038	198.1	0.251	3.46	53.7	23.0	1.72	22.4	0.01	0.03	0.13	101	
119		9.19	9.18	33.834	26.177	185.3	0.288	3.22	49.7	26.2	1.83	24.0	0.01	0.02	0.10	120	210
125	ISL	9.20	9.19	33.872	26.205	182.7	0.299	3.08	47.5	27.1	1.87	24.5	0.01	0.02	0.09	126	
139		9.21	9.19	33.948	26.264	177.5	0.324	2.76	42.6	29.2	1.97	25.6	0.01	0.02	0.08	140	209
150	ISL	9.05	9.03	33.985	26.318	172.5	0.343	2.63	40.5	31.1	2.03	26.5	0.01	0.02	0.09	151	
168		8.73	8.71	34.030	26.404	164.6	0.373	2.47	37.8	34.2	2.13	27.8	0.00	0.01	0.10	169	208
199		8.52	8.50	34.102	26.494	156.7	0.423	2.10	32.0	38.1	2.28	29.4	0.01	0.00	0.06	200	207
200	ISL	8.51	8.49	34.105	26.497	156.3	0.425	2.08	31.6	38.3	2.29	29.5	0.01			201	
228		8.31	8.29	34.175	26.583	148.6	0.467	1.61	24.4	43.4	2.46	31.2	0.01			229	206
250	ISL	8.28	8.25	34.201	26.609	146.7	0.500	1.44	21.8	44.9	2.52	31.7	0.01			252	
267		8.27	8.24	34.213	26.620	145.9	0.525	1.36	20.6	45.6	2.55	32.0	0.01			269	205
300	ISL	8.07	8.04	34.240	26.671	141.5	0.572	1.10	16.6	49.5	2.66	33.2	0.01			302	
320		7.90	7.87	34.253	26.707	138.4	0.600	0.96	14.4	52.2	2.73	34.0	0.01			322	204
379		7.38	7.34	34.266	26.793	130.9	0.680	0.75	11.1	59.4	2.86	35.6	0.01			381	203
400	ISL	7.16	7.12	34.271	26.828	127.8	0.707	0.68	10.0	62.3	2.91	36.3	0.01			403	
435		6.82	6.78	34.281	26.883	122.8	0.751	0.57	8.3	67.1	2.98	37.3	0.00			438	202
500	ISL	6.40	6.35	34.296	26.951	117.0	0.829	0.46	6.7	73.7	3.07	38.7	0.00			503	
510		6.33	6.28	34.299	26.963	115.9	0.840	0.44	6.4	74.7	3.08	38.9	0.00			514	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 83 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 34.7 N	120 45.3 W	09/02/97	1347 UTC	1382 m	280 13 kn			1020.6 mb	14.1 C	12.9 C			

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	PRES db	SAMP
0	ISL	13.54	13.54	33.218	24.905	303.8	0.000	6.06	102.3	3.7	0.43	1.0	0.07	0.68	0.23	0	
2		13.54	13.54	33.218	24.905	303.9	0.006	6.06	102.3	3.7	0.43	1.0	0.07	0.68	0.23	2	220
10	ISL	13.54	13.54	33.218	24.905	304.0	0.030	6.05	102.1	3.6	0.43	1.0	0.07	0.67	0.23	10	
16		13.54	13.54	33.218	24.906	304.2	0.049	6.05	102.1	3.6	0.43	1.0	0.07	0.65	0.23	16	219
20	ISL	13.54	13.54	33.218	24.906	304.3	0.061	6.05	102.1	3.6	0.43	1.0	0.07	0.64	0.23	20	
30		13.55	13.55	33.219	24.905	304.7	0.091	6.05	102.1	3.6	0.42	1.1	0.07	0.62	0.24	30	218
45		13.55	13.54	33.219	24.905	305.0	0.137	6.04	102.0	3.6	0.43	1.1	0.07	0.63	0.22	45	217
50	ISL	13.53	13.52	33.223	24.912	304.5	0.152	6.05	102.1	3.6	0.43	1.1	0.08	0.63	0.22	50	
55		13.52	13.51	33.227	24.918	304.1	0.167	6.05	102.1	3.6	0.43	1.1	0.08	0.63	0.23	55	216
64		12.79	12.78	33.328	25.141	283.0	0.194	5.52	91.8	6.0	0.73	5.7	0.22	0.26	0.16	64	215
75		11.02	11.01	33.231	25.397	258.8	0.224	5.00	80.0	9.9	1.08	11.2	0.03	0.10	0.08	75	214
84		10.35	10.34	33.324	25.586	240.9	0.246	4.60	72.6	13.6	1.28	14.7	0.02	0.06	0.05	84	213
95		10.08	10.07	33.396	25.688	231.3	0.272	4.39	68.9	15.8	1.40	16.5	0.02	0.04	0.04	95	212
100	ISL	9.95	9.94	33.428	25.735	227.0	0.284	4.30	67.3	16.8	1.45	17.3	0.02	0.03	0.04	100	
109		9.69	9.68	33.506	25.839	217.2	0.304	4.04	62.9	19.2	1.56	19.1	0.01	0.02	0.04	110	211
124		9.17	9.16	33.751	26.116	191.2	0.334	3.17	48.9	26.1	1.88	24.5	0.01	0.01	0.03	125	210
125	ISL	9.15	9.14	33.758	26.124	190.4	0.336	3.14	48.4	26.3	1.89	24.6	0.01	0.01	0.03	126	
144		8.96	8.94	33.834	26.214	182.2	0.372	2.89	44.3	28.9	1.99	26.0	0.01	0.01	0.05	145	209
150	ISL	8.86	8.84	33.863	26.253	178.6	0.382	2.82	43.2	30.0	2.02	26.5	0.01	0.01	0.05	151	
169		8.53	8.51	33.948	26.371	167.7	0.415	2.64	40.1	33.4	2.12	27.8	0.01	0.00	0.04	170	208
197		8.10	8.08	34.005	26.481	157.6	0.461	2.54	38.3	37.4	2.20	29.0	0.02	0.00	0.03	198	207
200	ISL	8.06	8.04	34.009	26.490	156.8	0.466	2.52	37.9	37.8	2.21	29.1	0.02			201	
228		7.75	7.73	34.036	26.557	150.8	0.509	2.36	35.3	41.6	2.30	30.3	0.01			229	206
250	ISL	7.53	7.51	34.048	26.598	147.2	0.541	2.23	33.2	44.5	2.36	31.2	0.01			251	
268		7.37	7.34	34.056	26.627	144.6	0.568	2.11	31.3	46.9	2.42	31.9	0.01			270	205
300	ISL	7.10	7.07	34.078	26.683	139.8	0.613	1.78	26.2	51.7	2.55	33.5	0.01			302	
318		6.96	6.93	34.094	26.715	136.9	0.638	1.57	23.0	54.7	2.63	34.4	0.01			320	204
378		6.57	6.54	34.167	26.825	127.1	0.717	0.92	13.4	66.0	2.90	37.3	0.00			380	203
400	ISL	6.41	6.37	34.184	26.860	124.0	0.745	0.79	11.5	68.7	2.95	37.9	0.00			403	
439		6.14	6.10	34.214	26.919	118.8	0.792	0.63	9.1	72.9	3.02	38.8	0.01			442	202
500	ISL	5.85	5.81	34.290	27.016	110.2	0.862	0.37	5.3	81.2	3.16	40.2	0.00			503	
511		5.80	5.76	34.304	27.033	108.6	0.874	0.32	4.6	82.7	3.19	40.4	0.00			515	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 15.0 N	121 26.9 W	09/02/97	0738 UTC	4816 m	330 20 kn			1021.9 mb	13.7 C	11.5 C			

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	PRES db	SAMP
0	ISL	14.83	14.83	32.954	24.432	348.8	0.000	5.93	102.6	1.7	0.31	0.0	0.00	0.17	0.05	0	
2		14.83	14.83	32.954	24.432	348.9	0.007	5.93	102.6	1.7	0.31	0.0	0.00	0.17	0.05	2	220
10	ISL	14.84	14.84	32.953	24.430	349.4	0.035	5.93	102.6	1.7	0.31	0.0	0.00	0.17	0.05	10	
16		14.85	14.85	32.953	24.428	349.7	0.056	5.93	102.6	1.7	0.31	0.0	0.00	0.17	0.05	16	219
20	ISL	14.85	14.85	32.953	24.428	349.8	0.070	5.93	102.6	1.7	0.31	0.0	0.00	0.17	0.05	20	
30	ISL	14.85	14.85	32.955	24.430	350.0	0.105	5.93	102.6	1.7	0.30	0.0	0.00	0.17	0.06	30	
31		14.85	14.85	32.955	24.430	350.0	0.108	5.93	102.6	1.7	0.30	0.0	0.00	0.17	0.06	31	218
44		14.85	14.84	32.953	24.429	350.5	0.154	5.92	102.5	1.7	0.31	0.0	0.00	0.17	0.05	44	217
50	ISL	14.85	14.84	32.955	24.430	350.5	0.175	5.92	102.5	1.7	0.31	0.0	0.00	0.17	0.06	50	
55		14.85	14.84	32.957	24.432	350.5	0.192	5.92	102.5	1.7	0.31	0.0	0.00	0.17	0.06	55	216
65		14.78	14.77	33.019	24.495	344.8	0.227	5.94	102.7	1.7	0.32	0.0	0.00	0.31	0.13	65	215
74		13.51	13.50	32.968	24.720	323.5	0.257	6.02	101.4	2.5	0.43	1.0	0.15	0.49	0.26	74	214
75	ISL	13.43	13.42	32.967	24.735	322.0	0.261	6.01	101.0	2.5	0.44	1.1	0.15	0.48	0.26	75	
85		12.89	12.88	33.012	24.878	308.6	0.292	5.81	96.6	2.8	0.55	2.6	0.13	0.41	0.23	85	213
92		12.52	12.51	33.122	25.035	293.8	0.313	5.52	91.1	4.1	0.69	4.8	0.03	0.23	0.19	92	212
100	ISL	11.87	11.86	33.182	25.205	277.8	0.336	5.28	86.0	6.2	0.84	7.4	0.02	0.13	0.13	100	
108		11.23	11.22	33.233	25.361	262.9	0.358	5.07	81.5	8.6	0.98	9.8	0.02	0.08	0.08	108	211
123		10.68	10.67	33.425	25.609	239.7	0.395	4.55	72.3	12.6	1.18	13.5	0.01	0.04	0.04	124	210
125	ISL	10.61	10.60	33.445	25.636	237.1	0.400	4.49	71.3	13.1	1.21	14.0	0.01	0.04	0.04	126	
148		9.85	9.83	33.632	25.912	211.2	0.452	3.88	60.7	19.2	1.51	19.1	0.01	0.01	0.03	149	209
150	ISL	9.79	9.77	33.647	25.934	209.2	0.456	3.84	60.0	19.7	1.53	19.5	0.01	0.01	0.03	151	
167		9.29	9.27	33.762	26.106	193.1	0.490	3.55	54.9	23.6	1.71	22.2	0.01	0.00	0.02	168	208
200	ISL	8.71	8.69	33.880	26.290	176.0	0.551	3.47	53.0	27.7	1.80	24.0	0.01	0.00	0.01	201	
201		8.70	8.68	33.882	26.293	175.7	0.553	3.47	52.9	27.8	1.80	24.0	0.01	0.00	0.01	202	207
226		8.25	8.23	33.947	26.413	164.6	0.595	3.23	48.8	32.0	1.93	26.0	0.00			227	206
250	ISL	8.05	8.02	34.006	26.490	157.7	0.634	2.80	42.1	36.4	2.10	28.0	0.00			251	
266		7.95	7.92	34.039	26.531	154.1	0.659	2.48	37.2	39.5	2.22	29.3	0.00			267	205
300	ISL	7.52	7.49	34.079	26.625	145.5	0.710	2.01	29.9	46.3	2.41	31.7	0.00			302	
320		7.25	7.22	34.095	26.676	140.9	0.738	1.78	26.3	50.1	2.51	32.9	0.00			322	204
381		6.73	6.69	34.140	26.783	131.3	0.821	1.20	17.5	59.7	2.75	35.7	0.00			383	203
400	ISL	6.45	6.41	34.135	26.816	128.2	0.846	1.10	16.0	63.8	2.81	36.8	0.00			402	
440		5.89	5.85	34.130	26.884	121.8	0.896	0.92	13.2	72.4	2.93	39.0	0.00			443	202
500	ISL	5.53	5.49	34.190	26.976	113.5	0.967	0.59	8.4	81.7	3.08	40.5	0.00			503	
507		5.49	5.45	34.197	26.986	112.6	0.975	0.55	7.8	82.8	3.10	40.7	0.00			510	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 83 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 54.3 N	122 6.6 W	09/02/97	0109 UTC	4117 m	300 14 kn	320 08 06	1	1021.2 mb	14.5 C	11.9 C		6/8	SC

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	PRES db	SAMP
0	ISL	15.27	15.27	33.184	24.514	341.0	0.000	5.88	102.8	1.7	0.32	0.0	0.00	0.17	0.06	0	
2		15.27	15.27	33.184	24.514	341.1	0.007									2	221
2		15.27	15.27	33.184	24.514	341.1	0.007	5.88	102.8	1.7	0.32	0.0	0.00	0.17	0.06	2	220
10	ISL	15.27	15.27	33.185	24.515	341.2	0.034	5.87	102.6	1.7	0.32	0.0	0.00	0.16	0.05	10	
15		15.27	15.27	33.185	24.516	341.4	0.051	5.87	102.6	1.7	0.32	0.0	0.00	0.16	0.05	15	219
20	ISL	15.27	15.27	33.184	24.515	341.6	0.068	5.86	102.4	1.7	0.32	0.0	0.00	0.17	0.05	20	
30		15.28	15.28	33.183	24.512	342.1	0.102	5.86	102.4	1.7	0.32	0.0	0.00	0.19	0.06	30	218
45		15.28	15.27	33.182	24.512	342.6	0.154	5.88	102.8	1.7	0.32	0.0	0.00	0.19	0.06	45	217
50	ISL	15.24	15.23	33.179	24.519	342.1	0.171	5.87	102.5	1.7	0.32	0.0	0.00	0.23	0.09	50	
60		15.17	15.16	33.174	24.530	341.3	0.205	5.85	102.0	1.7	0.32	0.1	0.01	0.31	0.15	60	216
74		14.36	14.35	33.160	24.693	326.1	0.252	5.72	98.1	2.4	0.45	1.3	0.13	0.30	0.22	74	215
75	ISL	14.30	14.29	33.162	24.707	324.8	0.255	5.71	97.8	2.5	0.46	1.4	0.12	0.28	0.21	75	
85		13.50	13.49	33.191	24.895	307.1	0.287	5.54	93.4	3.6	0.60	3.6	0.02	0.12	0.11	85	214
95		12.02	12.01	33.217	25.203	277.8	0.316	5.23	85.5	6.5	0.83	7.4	0.01	0.07	0.07	95	213
100	ISL	11.88	11.87	33.276	25.276	271.0	0.330	5.09	83.0	7.6	0.91	8.6	0.01	0.06	0.06	100	
105		11.74	11.73	33.317	25.334	265.6	0.343	4.95	80.5	8.5	0.96	9.6	0.01	0.05	0.06	105	212
110		11.62	11.61	33.401	25.421	257.4	0.356	4.79	77.7	9.4	1.00	10.5	0.01	0.05	0.06	110	211
125	ISL	10.71	10.70	33.447	25.621	238.6	0.393	4.43	70.5	13.6	1.24	14.5	0.01	0.03	0.04	126	
126		10.64	10.63	33.446	25.632	237.5	0.396	4.40	69.9	13.9	1.26	14.8	0.01	0.03	0.04	127	210
136		10.23	10.21	33.502	25.746	226.8	0.419	4.03	63.5	17.1	1.46	17.7	0.01	0.02	0.03	137	209
150	ISL	9.71	9.69	33.604	25.913	211.1	0.450	3.85	60.0	20.1	1.58	19.8	0.01	0.01	0.02	151	
164		9.29	9.27	33.707	26.063	197.1	0.478	3.79	58.5	22.4	1.63	21.1	0.00	0.00	0.02	165	208
197		8.88	8.86	33.859	26.247	180.1	0.540	3.19	48.9	28.0	1.88	24.8	0.00	0.00	0.02	198	207
200	ISL	8.83	8.81	33.869	26.263	178.6	0.546	3.18	48.7	28.4	1.89	25.0	0.00			201	
227		8.37	8.35	33.939	26.389	167.0	0.592	3.10	47.0	32.2	1.98	26.3	0.00			228	206
250	ISL	7.99	7.96	33.969	26.470	159.6	0.630	3.13	47.0	34.9	2.00	26.9	0.00			251	
262		7.80	7.77	33.980	26.506	156.3	0.649	3.15	47.1	36.5	2.02	27.3	0.00			263	205
300	ISL	7.27	7.24	34.019	26.613	146.5	0.706	2.62	38.7	44.6	2.25	30.3	0.00			302	
322		7.00	6.97	34.040	26.667	141.5	0.738	2.21	32.5	49.9	2.41	32.3	0.00			324	204
370		6.50	6.47	34.080	26.766	132.5	0.804	1.55	22.5	60.3	2.68	35.7	0.00			372	203
400	ISL	6.20	6.16	34.100	26.821	127.5	0.843	1.24	17.9	66.4	2.81	37.4	0.00			402	
437		5.90	5.86	34.127	26.880	122.1	0.889	0.95	13.6	73.1	2.94	39.0	0.00			440	202
500	ISL	5.66	5.62	34.196	26.965	114.7	0.964	0.61	8.7	80.6	3.09	40.4	0.00			503	
516		5.60	5.56	34.213	26.986	112.9	0.982	0.52	7.4	82.5	3.13	40.7	0.00			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 35.2 N	122 49.8 W	08/02/97	1834	UTC	4297 m	330	20 kn	320 10 06	1	1023.1 mb	15.1 C	13.9 C	24m 01	6/8	CU

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	PRES db	SAMP
0	ISL	15.45	15.45	33.110	24.418	350.2	0.000	5.86	102.8	1.7	0.31	0.0	0.00	0.14	0.04	0	
2	A	15.45	15.45	33.110	24.418	350.3	0.007	5.86	102.8	1.7	0.31	0.0	0.00	0.14	0.04	2	220
2		15.45	15.45	33.109	24.417	350.4	0.007									2	221
10	ISL	15.45	15.45	33.109	24.417	350.6	0.035	5.85	102.6	1.7	0.31	0.0	0.00	0.14	0.04	10	
15	A	15.44	15.44	33.108	24.419	350.6	0.053	5.85	102.6	1.7	0.31	0.0	0.00	0.14	0.04	15	219
20	ISL	15.43	15.43	33.111	24.424	350.3	0.070	5.85	102.5	1.7	0.31	0.0	0.00	0.14	0.04	20	
30	ISL	15.42	15.42	33.119	24.432	349.8	0.105	5.85	102.5	1.7	0.32	0.0	0.00	0.15	0.05	30	
33	A	15.42	15.41	33.121	24.434	349.7	0.116	5.85	102.5	1.7	0.32	0.0	0.00	0.15	0.05	33	218
49	A	15.41	15.40	33.123	24.438	349.8	0.172	5.86	102.7	1.7	0.32	0.0	0.00	0.16	0.05	49	217
50	ISL	15.32	15.31	33.125	24.459	347.8	0.175	5.88	102.8	1.7	0.33	0.0	0.00	0.19	0.08	50	
56		14.71	14.70	33.134	24.599	334.7	0.196	5.95	102.8	1.9	0.37	0.0	0.00	0.40	0.26	56	216
65	A	13.95	13.94	33.122	24.749	320.5	0.225	5.80	98.6	2.5	0.48	1.3	0.12	0.64	0.49	65	215
74		13.30	13.29	33.124	24.883	307.9	0.253	5.64	94.6	3.0	0.58	3.0	0.03	0.35	0.31	74	214
75	ISL	13.21	13.20	33.121	24.898	306.5	0.256	5.62	94.1	3.1	0.60	3.3	0.03	0.33	0.29	75	
83		12.55	12.54	33.122	25.029	294.2	0.280	5.51	91.0	4.2	0.69	4.8	0.02	0.21	0.18	83	213
91	A	12.30	12.29	33.197	25.135	284.2	0.304	5.47	89.9	4.5	0.65	4.3	0.01	0.17	0.14	91	212
100	ISL	11.94	11.93	33.317	25.296	269.1	0.328	5.13	83.8	7.1	0.83	7.5	0.01	0.10	0.09	100	
105		11.71	11.70	33.385	25.392	260.1	0.342	4.89	79.5	9.0	0.96	9.8	0.01	0.06	0.07	105	211
116		11.10	11.09	33.494	25.588	241.6	0.369	4.52	72.6	12.1	1.14	13.0	0.01	0.04	0.06	117	210
125	ISL	10.63	10.62	33.539	25.706	230.4	0.390	4.37	69.5	14.1	1.25	14.9	0.01	0.03	0.05	126	
140		9.94	9.92	33.594	25.867	215.3	0.424	4.12	64.5	17.7	1.43	17.7	0.01	0.01	0.03	141	209
150	ISL	9.60	9.58	33.658	25.974	205.3	0.445	3.71	57.7	21.4	1.63	20.6	0.01	0.00	0.03	151	
167		9.15	9.13	33.767	26.132	190.5	0.479	3.10	47.8	27.1	1.91	24.9	0.00	0.00	0.04	168	208
197		8.66	8.64	33.892	26.307	174.3	0.533	3.24	49.4	29.2	1.90	25.2	0.00	0.00	0.02	198	207
200	ISL	8.61	8.59	33.902	26.323	172.9	0.539	3.23	49.2	29.7	1.91	25.4	0.00			201	
229		8.10	8.08	33.978	26.460	160.2	0.587	3.00	45.2	34.8	2.04	27.3	0.00			230	206
250	ISL	7.82	7.80	34.004	26.522	154.6	0.620	2.83	42.4	38.1	2.13	28.5	0.00			251	
268		7.62	7.59	34.017	26.561	151.1	0.647	2.67	39.8	40.9	2.20	29.5	0.00			269	205
300	ISL	7.28	7.25	34.038	26.626	145.2	0.695	2.33	34.4	46.3	2.35	31.5	0.00			302	
313		7.15	7.12	34.045	26.650	143.1	0.713	2.19	32.3	48.5	2.41	32.3	0.00			315	204
375		6.53	6.50	34.077	26.760	133.2	0.799	1.55	22.5	59.6	2.67	35.8	0.00			377	203
400	ISL	6.27	6.23	34.091	26.805	129.1	0.832	1.33	19.2	64.4	2.77	37.1	0.00			402	
440		5.88	5.84	34.113	26.872	123.0	0.882	1.04	14.9	72.0	2.92	38.9	0.00			443	202
500	ISL	5.39	5.35	34.146	26.958	115.1	0.954	0.76	10.8	82.1	3.06	40.8	0.00			503	
514		5.27	5.23	34.154	26.978	113.2	0.970	0.69	9.7	84.4	3.09	41.2	0.00			517	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 14.7 N	123 29.6 W	08/02/97	0743	UTC	4157 m	330	08 kn			1023.5 mb	16.4 C	14.6 C			

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	PRES db	SAMP
0	ISL	15.53	15.53	33.039	24.345	357.1	0.000	5.89	103.4	1.7	0.32	0.0	0.00	0.11	0.03	0	
2		15.53	15.53	33.039	24.345	357.2	0.007	5.89	103.4	1.7	0.32	0.0	0.00	0.11	0.03	2	220
10	ISL	15.54	15.54	33.042	24.346	357.4	0.036	5.87	103.1	1.7	0.31	0.0	0.00	0.11	0.03	10	
15		15.54	15.54	33.043	24.347	357.5	0.054	5.86	102.9	1.7	0.31	0.0	0.00	0.11	0.03	15	219
20	ISL	15.50	15.50	33.056	24.366	355.8	0.071	5.86	102.8	1.7	0.31	0.0	0.00	0.12	0.03	20	
30		15.42	15.42	33.084	24.405	352.3	0.107	5.87	102.8	1.7	0.32	0.0	0.00	0.13	0.03	30	218
45		15.45	15.44	33.103	24.414	352.0	0.160	5.86	102.7	1.7	0.32	0.0	0.00	0.14	0.05	45	217
50	ISL	15.46	15.45	33.115	24.421	351.5	0.177	5.86	102.8	1.7	0.32	0.0	0.00	0.15	0.05	50	
54		15.46	15.45	33.124	24.428	350.9	0.191	5.86	102.8	1.7	0.32	0.0	0.00	0.18	0.05	54	216
65		14.89	14.88	33.074	24.514	343.0	0.229	5.93	102.8	1.8	0.34	0.0	0.00	0.37	0.19	65	215
75		14.23	14.22	33.109	24.681	327.3	0.263	5.85	100.1	2.4	0.44	0.8	0.12	0.58	0.38	75	214
84		13.26	13.25	33.038	24.825	313.7	0.292	5.77	96.7	2.7	0.53	2.3	0.08	0.41	0.28	84	213
92		13.00	12.99	33.134	24.951	301.9	0.316	5.59	93.2	3.5	0.64	4.0	0.03	0.30	0.25	92	212
100	ISL	12.58	12.57	33.182	25.070	290.7	0.340	5.40	89.3	4.7	0.75	5.8	0.03	0.21	0.20	100	
109		12.03	12.02	33.229	25.211	277.4	0.366	5.16	84.4	6.7	0.89	8.1	0.02	0.13	0.13	109	211
125	ISL	11.09	11.07	33.400	25.517	248.6	0.408	4.57	73.3	11.7	1.17	13.0	0.01	0.05	0.05	126	
126		11.03	11.01	33.412	25.537	246.6	0.410	4.53	72.6	12.1	1.19	13.3	0.01	0.05	0.05	127	210
143		10.14	10.12	33.584	25.826	219.4	0.450	3.97	62.4	17.7	1.46	18.1	0.00	0.01	0.03	144	209
150	ISL	9.90	9.88	33.649	25.917	210.8	0.465	3.69	57.8	20.1	1.59	20.0	0.00	0.01	0.03	151	
168		9.42	9.40	33.785	26.103	193.4	0.501	3.11	48.2	25.5	1.86	23.9	0.00	0.00	0.03	169	208
198		8.62	8.60	33.898	26.318	173.3	0.556	3.19	48.6	29.6	1.92	25.4	0.00	0.00	0.02	199	207
200	ISL	8.58	8.56	33.903	26.328	172.4	0.560	3.19	48.5	29.9	1.92	25.5	0.00			201	
227		8.13	8.11	33.958	26.440	162.1	0.605	3.15	47.5	33.4	1.99	26.6	0.00			228	206
250	ISL	7.85	7.83	33.982	26.500	156.6	0.642	3.05	45.7	36.2	2.06	27.6	0.00			251	
268		7.66	7.63	33.992	26.536	153.5	0.669	2.93	43.7	38.6	2.12	28.5	0.00			269	205
300	ISL	7.25	7.22	34.010	26.609	146.9	0.718	2.62	38.7	44.2	2.26	30.4	0.00			302	
319		7.00	6.97	34.020	26.651	143.0	0.745	2.40	35.2	47.9	2.35	31.6	0.00			321	204
379		6.27	6.24	34.052	26.774	131.7	0.827	1.67	24.1	60.9	2.66	35.8	0.00			381	203
400	ISL	6.14	6.10	34.069	26.804	129.1	0.855	1.46	21.0	64.2	2.75	36.8	0.00			402	
440		5.97	5.93	34.111	26.859	124.3	0.906	1.09	15.6	69.9	2.89	38.3	0.00			443	202
500	ISL	5.71	5.67	34.200	26.962	115.1	0.977	0.60	8.6	79.3	3.08	40.1	0.00			503	
509		5.67	5.63	34.213	26.977	113.7	0.988	0.53	7.6	80.7	3.11	40.4	0.00			512	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 83 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 54.5 N	124 10.2 W	08/02/97	0137 UTC	4195 m	320 02 kn	330 03 07	1	1023.2 mb	16.9 C	14.7 C		7/8	SC

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	PRES db	SAMP
0 ISL	15.83	15.83	33.089	24.317	359.8	0.000	5.86	103.5	1.7	0.31	0.0	0.00	0.11	0.02	0	
2	15.83	15.83	33.089	24.317	359.9	0.007	5.86	103.5	1.7	0.31	0.0	0.00	0.11	0.02	2	220
2	15.86	15.86	33.091	24.312	360.4	0.007									2	221
10 ISL	15.64	15.64	33.082	24.354	356.6	0.036	5.87	103.3	1.7	0.30	0.0	0.00	0.11	0.03	10	
15	15.50	15.50	33.078	24.383	354.0	0.054	5.87	103.0	1.7	0.30	0.0	0.00	0.11	0.03	15	219
20 ISL	15.49	15.49	33.085	24.390	353.5	0.071	5.87	103.0	1.7	0.30	0.0	0.00	0.11	0.03	20	
30	15.48	15.48	33.088	24.395	353.3	0.107	5.88	103.2	1.7	0.30	0.0	0.00	0.14	0.03	30	218
46	15.38	15.37	33.110	24.435	350.0	0.163	5.90	103.3	1.7	0.31	0.0	0.00	0.26	0.07	46	217
50 ISL	15.22	15.21	33.105	24.466	347.2	0.177	5.92	103.3	1.7	0.32	0.0	0.00	0.33	0.13	50	
55	14.95	14.94	33.099	24.520	342.1	0.194	5.94	103.1	1.8	0.33	0.0	0.00	0.43	0.22	55	216
64	14.24	14.23	33.112	24.681	327.0	0.224	5.85	100.1	2.3	0.42	0.8	0.08	0.63	0.45	64	215
74	13.59	13.58	33.123	24.824	313.6	0.256	5.73	96.7	2.6	0.53	2.2	0.10	0.47	0.38	74	214
75 ISL	13.52	13.51	33.126	24.840	312.1	0.259	5.71	96.3	2.7	0.54	2.4	0.09	0.45	0.37	75	
84	12.82	12.81	33.144	24.994	297.6	0.287	5.52	91.7	3.8	0.67	4.5	0.03	0.30	0.26	84	213
95	11.71	11.70	33.127	25.191	278.9	0.319	5.35	86.8	5.9	0.84	7.1	0.02	0.12	0.11	95	212
100 ISL	11.44	11.43	33.184	25.285	270.0	0.332	5.22	84.2	7.2	0.91	8.4	0.02	0.08	0.09	100	
111	11.05	11.04	33.335	25.473	252.3	0.361	4.87	78.0	10.2	1.06	11.2	0.01	0.05	0.06	111	211
125 ISL	10.52	10.51	33.425	25.636	237.0	0.395	4.42	70.0	13.8	1.29	14.9	0.01	0.03	0.04	126	
126	10.48	10.47	33.431	25.648	235.9	0.398	4.39	69.5	14.1	1.31	15.2	0.01	0.03	0.04	127	210
145	9.70	9.68	33.621	25.928	209.6	0.440	3.59	55.9	21.7	1.69	21.4	0.01	0.01	0.04	146	209
150 ISL	9.54	9.52	33.652	25.979	204.8	0.450	3.57	55.4	22.7	1.71	22.0	0.01	0.01	0.04	151	
169	9.04	9.02	33.747	26.134	190.3	0.488	3.49	53.6	25.3	1.78	23.2	0.01	0.00	0.03	170	208
198	8.34	8.32	33.906	26.367	168.5	0.540	3.32	50.3	31.1	1.91	25.6	0.00	0.00	0.02	199	207
200 ISL	8.32	8.30	33.911	26.374	167.9	0.543	3.31	50.1	31.3	1.92	25.7	0.00			201	
230	8.09	8.07	33.945	26.436	162.5	0.593	3.16	47.6	33.9	1.99	26.8	0.00			231	206
250 ISL	7.89	7.87	33.965	26.481	158.5	0.625	3.04	45.6	36.2	2.05	27.6	0.00			251	
270	7.65	7.62	33.983	26.530	154.0	0.656	2.89	43.1	39.0	2.13	28.6	0.00			271	205
300 ISL	7.22	7.19	34.003	26.607	147.0	0.701	2.58	38.1	44.7	2.27	30.6	0.00			302	
317	6.97	6.94	34.013	26.650	143.1	0.726	2.38	34.9	48.3	2.35	31.9	0.00			319	204
376	6.33	6.30	34.053	26.767	132.4	0.807	1.66	24.0	60.5	2.65	35.7	0.00			378	203
400 ISL	6.11	6.07	34.068	26.807	128.7	0.839	1.43	20.6	65.0	2.75	36.9	0.00			402	
437	5.83	5.79	34.095	26.864	123.6	0.885	1.13	16.1	71.3	2.88	38.5	0.00			440	202
500 ISL	5.61	5.57	34.172	26.952	115.9	0.961	0.67	9.5	79.7	3.06	40.3	0.00			503	
511	5.57	5.53	34.186	26.968	114.5	0.973	0.59	8.4	81.2	3.09	40.6	0.00			514	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 87 33

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 53.5 N	118 29.4 W	05/02/97	1052 UTC	56 m	030 08 kn			1016.1 mb	14.0 C	12.7 C			

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	PRES db	SAMP
0 ISL	14.87	14.87	33.224	24.632	329.8	0.000	6.74	116.9	4.2	0.20	0.0	0.00	1.74	0.35	0	
1	14.87	14.87	33.224	24.632	329.8	0.003	6.74	116.9	4.2	0.20	0.0	0.00	1.74	0.35	1	207
7	14.90	14.90	33.259	24.653	328.1	0.023	6.56	113.9	3.8	0.22	0.0	0.00	1.46	0.31	7	206
10 ISL	14.84	14.84	33.326	24.717	322.0	0.033	6.33	109.8	3.5	0.26	0.0	0.00	2.23	0.25	10	
11	14.81	14.81	33.349	24.741	319.7	0.036	6.24	108.2	3.4	0.27	0.0	0.00	2.50	0.24	11	205
20 ISL	14.25	14.25	33.406	24.905	304.4	0.064	5.67	97.2	3.4	0.34	0.0	0.02	2.10	0.55	20	
21	14.18	14.18	33.406	24.919	303.1	0.067	5.61	96.0	3.4	0.35	0.0	0.02	2.06	0.59	21	204
30	13.66	13.66	33.439	25.052	290.6	0.094	5.12	86.7	6.1	0.71	3.9	0.54	0.87	0.34	30	203
40	12.36	12.35	33.430	25.303	267.0	0.122	4.17	68.7	13.7	1.60 A	11.7 A	0.23 A	0.40	0.37	40	202
50	11.56	11.55	33.648	25.623	236.8	0.147	3.39	55.0	17.2	1.52	15.5	0.16	0.12	0.35	50	201

A) UNUSUAL PROFILES AND ODD NO3/PO4 RATIOS MAY BE DUE TO THE
PROXIMITY OF THIS STATION TO THE HYPERION WASTE-WATER OUTFALL.

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 87 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 49.4 N	118 37.7 W	05/02/97	1255 UTC	646 m	070 09 kn			1016.4 mb	14.4 C	13.0 C			

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	PRES db	SAMP
0 ISL	14.75	14.75	33.452	24.833	310.6	0.000	6.06	105.0	1.6	0.32	0.0	0.00	0.33	0.10	0	
2	14.75	14.75	33.452	24.833	310.7	0.006	6.06	105.0	1.6	0.32	0.0	0.00	0.33	0.10	2	220
10	14.74	14.74	33.452	24.836	310.7	0.031	6.07	105.1	1.6	0.34	0.0	0.00	0.36	0.12	10	219
20	14.66	14.66	33.452	24.853	309.3	0.062	6.08	105.1	1.5	0.33	0.0	0.00	0.44	0.15	20	218
30	14.04	14.04	33.457	24.988	296.8	0.092	5.91	100.9	2.7	0.43	1.1	0.08	1.28	0.56	30	217
40	12.88	12.87	33.481	25.242	272.9	0.121	4.66	77.7	8.4	0.92	9.0	0.16	0.40	0.37	40	216
50	11.99	11.98	33.549	25.466	251.7	0.147	4.26	69.7	11.5	1.13	12.2	0.03	0.21	0.26	50	215
60	11.58	11.57	33.587	25.572	241.8	0.172	4.10	66.5	13.0	1.23	13.8	0.02	0.14	0.20	60	214
70	11.27	11.26	33.672	25.695	230.4	0.195	3.50	56.5	16.9	1.45	16.7	0.01	0.08	0.14	70	213
75 ISL	11.14	11.13	33.695	25.736	226.5	0.207	3.41	54.9	17.7	1.50	17.4	0.01	0.08	0.12	75	
84	10.88	10.87	33.733	25.813	219.5	0.227	3.34	53.4	18.8	1.56	18.3	0.01	0.07	0.10	84	212
98	10.36	10.35	33.834	25.982	203.6	0.256	2.91	46.1	22.9	1.78	21.3	0.01	0.03	0.06	98	211
100 ISL	10.30	10.29	33.845	26.001	201.8	0.261	2.87	45.4	23.4	1.80	21.6	0.01	0.03	0.06	101	
118	9.93	9.92	33.929	26.130	189.9	0.296	2.63	41.3	26.6	1.95	23.8	0.01	0.02	0.05	119	210
125 ISL	9.85	9.84	33.954	26.163	186.9	0.309	2.53	39.6	27.6	2.00	24.4	0.01	0.02	0.05	126	
138	9.75	9.73	33.997	26.214	182.4	0.333	2.35	36.7	29.1	2.07	25.4	0.00	0.03	0.05	139	209
150 ISL	9.62	9.60	34.039	26.268	177.4	0.355	2.22	34.6	30.6	2.13	26.2	0.00	0.02	0.05	151	
168	9.43	9.41	34.097	26.345	170.5	0.386	2.05	31.8	32.6	2.21	27.2	0.01	0.00	0.05	169	208
198	9.25	9.23	34.155	26.420	163.9	0.436	1.78	27.5	35.5	2.32	28.6	0.00	0.01	0.03	199	207
200 ISL	9.23	9.21	34.159	26.427	163.4	0.439	1.76	27.2	35.7	2.33	28.7	0.00			201	
228	8.99	8.97	34.208	26.504	156.5	0.484	1.54	23.7	38.9	2.44	29.6	0.00			229	206
250 ISL	8.87	8.84	34.231	26.541	153.4	0.518	1.42	21.8	40.8	2.49	30.2	0.00			251	
267	8.78	8.75	34.244	26.566	151.3	0.544	1.34	20.5	42.1	2.53	30.6	0.00			269	205
300 ISL	8.56	8.53	34.264	26.616	147.1	0.593	1.16	17.7	45.0	2.61	31.5	0.00			302	
318	8.42	8.39	34.272	26.644	144.7	0.620	1.06	16.1	46.8	2.66	32.0	0.00			320	204
377	7.85	7.81	34.295	26.748	135.5	0.702	0.73	11.0	54.8	2.85	34.1	0.00			379	203
400 ISL	7.60	7.56	34.297	26.786	132.1	0.733	0.64	9.5	58.0	2.91	34.9	0.00			403	
437	7.22	7.18	34.298	26.841	127.2	0.781	0.53	7.8	62.9	2.98	36.1	0.00			440	202
500 ISL	6.78	6.73	34.305	26.908	121.5	0.859	0.41	6.0	69.5	3.08	37.3	0.00			503	
516	6.67	6.62	34.307	26.924	120.0	0.879	0.38	5.5	71.2	3.10	37.6	0.00			520	201

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 39.5 N	118 58.6 W	05/02/97	1842	UTC	762 m	310	07 kn	260 04 05	1	1018.3 mb	14.6 C	13.5 C	19m 04	4/8	CI

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	PRES db	SAMP
0	ISL	14.35	14.35	33.459	24.924	302.0	0.000	6.22	106.9	1.6	0.34	0.1	0.02	0.52	0.22	0	
1	A	14.35	14.35	33.459	24.924	302.0	0.003	6.22	106.9	1.6	0.34	0.1	0.02	0.52	0.22	1	221
1		14.35	14.35	33.458	24.923	302.1	0.003									1	222
10	ISL	14.28	14.28	33.457	24.937	301.0	0.030	6.24	107.1	1.7	0.34	0.1	0.02	0.60	0.27	10	
12	A	14.26	14.26	33.457	24.942	300.7	0.036	6.24	107.0	1.7	0.34	0.1	0.02	0.64	0.28	12	220
19		14.22	14.22	33.459	24.952	299.9	0.057	6.21	106.4	2.1	0.36	0.4	0.03	0.82	0.40	19	219
20	ISL	14.20	14.20	33.459	24.956	299.5	0.060	6.20	106.2	2.1	0.36	0.4	0.03	0.85	0.41	20	
26	A	13.99	13.99	33.459	25.000	295.5	0.078	6.08	103.7	2.7	0.41	1.1	0.06	0.95	0.48	26	218
30	ISL	13.77	13.77	33.464	25.049	290.9	0.090	5.90	100.2	3.6	0.50	2.1	0.12	0.88	0.57	30	
32		13.64	13.64	33.469	25.080	288.1	0.096	5.79	98.1	4.2	0.55	2.8	0.15	0.85	0.60	32	217
39	A	13.15	13.14	33.497	25.201	276.8	0.115	5.28	88.5	6.4	0.73	5.6	0.27	0.45	0.39	39	216
50	A	12.39	12.38	33.546	25.388	259.2	0.145	4.59	75.8	10.2	1.01	10.2	0.20	0.23	0.27	50	215
60		11.93	11.92	33.585	25.505	248.2	0.170	4.17	68.2	12.4	1.17	12.8	0.07	0.16	0.24	60	214
72	A	11.33	11.32	33.643	25.661	233.6	0.199	3.81	61.5	15.3	1.36	15.6	0.03	0.11	0.19	72	213
75	ISL	11.23	11.22	33.645	25.681	231.8	0.206	3.79	61.1	15.6	1.38	15.9	0.03	0.10	0.18	75	
85		10.90	10.89	33.657	25.750	225.5	0.229	3.75	60.0	16.7	1.42	16.9	0.02	0.08	0.15	85	212
99		10.31	10.30	33.761	25.934	208.2	0.259	3.39	53.6	20.3	1.62	19.8	0.01	0.03	0.11	100	211
100	ISL	10.28	10.27	33.766	25.943	207.3	0.261	3.37	53.2	20.5	1.63	20.0	0.01	0.03	0.11	101	
119		9.93	9.92	33.842	26.062	196.4	0.300	3.01	47.2	24.5	1.81	22.4	0.01	0.02	0.12	120	210
125	ISL	9.86	9.85	33.868	26.094	193.4	0.311	2.92	45.7	25.2	1.85	22.9	0.01	0.02	0.11	126	
139		9.74	9.72	33.925	26.159	187.6	0.338	2.73	42.7	26.6	1.93	23.8	0.01	0.01	0.09	140	209
150	ISL	9.65	9.63	33.958	26.200	183.9	0.359	2.61	40.7	27.8	1.98	24.5	0.01	0.01	0.09	151	
169		9.50	9.48	34.007	26.263	178.3	0.393	2.41	37.5	29.9	2.07	25.6	0.01	0.01	0.09	170	208
199		9.31	9.29	34.095	26.364	169.3	0.445	2.02	31.3	33.2	2.23	27.5	0.01	0.01	0.06	200	207
200	ISL	9.30	9.28	34.098	26.368	169.0	0.447	2.01	31.1	33.4	2.24	27.6	0.01			201	
228		8.85	8.83	34.173	26.499	157.0	0.492	1.66	25.5	39.0	2.41	29.6	0.01			229	206
250	ISL	8.60	8.57	34.215	26.571	150.4	0.526	1.40	21.4	42.7	2.52	30.8	0.01			251	
268		8.43	8.40	34.238	26.615	146.5	0.553	1.21	18.4	45.3	2.60	31.6	0.01			270	205
300	ISL	8.21	8.18	34.257	26.664	142.3	0.599	1.01	15.3	48.5	2.69	32.6	0.01			302	
317		8.10	8.07	34.261	26.684	140.7	0.623	0.94	14.2	50.1	2.73	33.1	0.01			319	204
378		7.50	7.46	34.283	26.789	131.4	0.706	0.69	10.3	58.3	2.90	35.1	0.00			380	203
400	ISL	7.30	7.26	34.287	26.821	128.6	0.735	0.61	9.0	61.1	2.95	35.7	0.00			403	
438		6.96	6.92	34.293	26.873	123.9	0.783	0.48	7.1	66.1	3.02	36.7	0.00			441	202
500	ISL	6.38	6.33	34.313	26.967	115.4	0.857	0.35	5.1	76.0	3.15	38.3	0.00			503	
512		6.27	6.22	34.317	26.984	113.8	0.871	0.32	4.6	77.9	3.17	38.6	0.00			516	201

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
33 29.3 N	119 19.1 W	05/02/97	2146	UTC	1633 m	290	18 kn	330 05 05	0	1017.9 mb	16.4 C	13.6 C	13m 03	0/8	

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	PRES db	SAMP
0	ISL	14.59	14.59	33.444	24.861	308.0	0.000	6.04	104.3	2.4	0.35	0.3	0.03	1.33	0.22	0	
2		14.60	14.60	33.443	24.859	308.3	0.006									2	221
2		14.59	14.59	33.444	24.861	308.0	0.006	6.04	104.3	2.4	0.35	0.3	0.03	1.33	0.22	2	220
9		14.50	14.50	33.438	24.876	306.8	0.028	6.05	104.3	2.4	0.35	0.3	0.03	1.07	0.22	9	219
10	ISL	14.46	14.46	33.434	24.882	306.3	0.031	6.06	104.4	2.3	0.35	0.4	0.03	1.09	0.25	10	
19		13.91	13.91	33.396	24.968	298.4	0.058	6.11	104.0	1.8	0.40	0.9	0.05	1.31	0.52	19	218
20	ISL	13.85	13.85	33.391	24.976	297.6	0.061	6.07	103.2	2.0	0.42	1.2	0.05	1.28	0.51	20	
30		13.14	13.14	33.368	25.102	285.8	0.090	5.53	92.6	5.0	0.65	4.8	0.09	0.81	0.40	30	217
39		12.38	12.37	33.404	25.279	269.2	0.115	4.93	81.3	8.4	0.93	9.0	0.09	0.39	0.25	39	216
49		11.69	11.68	33.517	25.497	248.7	0.141	4.42	71.9	12.1	1.16	12.7	0.06	0.27	0.18	49	215
50	ISL	11.66	11.65	33.532	25.514	247.1	0.143	4.35	70.7	12.5	1.18	13.0	0.06	0.26	0.18	50	
59		11.54	11.53	33.645	25.624	236.9	0.165	3.85	62.5	15.3	1.33	15.3	0.06	0.19	0.21	59	214
69		11.31	11.30	33.649	25.670	232.7	0.189	3.84	62.0	15.3	1.34	15.3	0.06	0.19	0.17	69	213
75	ISL	11.08	11.07	33.664	25.723	227.8	0.203	3.76	60.4	16.2	1.39	16.3	0.04	0.15	0.15	75	
84		10.68	10.67	33.703	25.824	218.3	0.223	3.57	56.9	18.4	1.51	18.3	0.02	0.07	0.13	84	212
100		9.97	9.96	33.811	26.031	198.9	0.256	3.13	49.1	23.7	1.76	21.8	0.02	0.03	0.08	101	211
119		9.67	9.66	33.902	26.152	187.8	0.293	2.78	43.4	26.8	1.90	23.9	0.01	0.02	0.11	120	210
125	ISL	9.56	9.55	33.926	26.189	184.4	0.304	2.70	42.0	27.8	1.94	24.5	0.01	0.02	0.11	126	
141		9.32	9.30	33.992	26.280	176.0	0.333	2.49	38.6	30.5	2.06	25.8	0.01	0.02	0.09	142	209
150	ISL	9.28	9.26	34.040	26.325	172.0	0.348	2.31	35.7	31.9	2.13	26.6	0.01	0.02	0.09	151	
169		9.23	9.21	34.133	26.406	164.7	0.380	1.92	29.7	34.8	2.27	28.1	0.01	0.01	0.08	170	208
200		8.93	8.91	34.196	26.503	156.0	0.430	1.58	24.3	39.3	2.42	29.6	0.00	0.01	0.05	201	207
227		8.78	8.76	34.220	26.546	152.4	0.472	1.42	21.8	41.4	2.48	30.3	0.00			228	206
250	ISL	8.53	8.50	34.232	26.595	148.1	0.506	1.29	19.6	44.2	2.55	31.2	0.00			252	
269		8.29	8.26	34.239	26.637	144.3	0.534	1.18	17.9	46.9	2.62	32.0	0.00			271	205
300	ISL	8.00	7.97	34.252	26.691	139.6	0.578	0.98	14.7	51.1	2.72	33.2	0.00			302	
319		7.83	7.80	34.260	26.723	136.9	0.604	0.87	13.0	53.6	2.77	33.9	0.00			321	204
376		7.33	7.29	34.279	26.810	129.2	0.680	0.75	11.1	61.0	2.91	35.6	0.00			378	203
400	ISL	7.12	7.08	34.287	26.846	126.0	0.711	0.63	9.3	64.3	2.96	36.3	0.00			403	
434		6.82	6.78	34.298	26.896	121.6	0.753	0.46	6.7	69.0	3.03	37.2	0.00			437	202
500	ISL	6.29	6.24	34.319	26.983	113.8	0.831	0.33	4.8	77.5	3.14	38.7	0.00			503	
511		6.20	6.15	34.323	26.998	112.4	0.843	0.31	4.5	78.9	3.16	39.0	0.00			515	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 19.2 N	119 39.9 W	06/02/97	0226 UTC	73 m	290 18 kn			1018.2 mb	13.9 C	12.3 C		

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	PRES db	SAMP
0	ISL	13.36	13.36	33.436	25.110	284.3	0.000	5.99	100.9	2.8	0.52	2.8	0.10	4.07	0.68	0	
2		13.36	13.36	33.436	25.110	284.3	0.006	5.99	100.9	2.8	0.52	2.8	0.10	4.07	0.68	2	208
10	ISL	13.37	13.37	33.436	25.108	284.7	0.028	5.99	100.9	2.7	0.52	2.8	0.10	3.78	0.75	10	
11		13.37	13.37	33.436	25.109	284.7	0.031	5.99	100.9	2.7	0.52	2.8	0.10	3.73	0.76	11	207
20	ISL	13.37	13.37	33.435	25.108	285.1	0.057	5.99	100.9	2.7	0.52	2.8	0.10	3.54	0.89	20	
21		13.37	13.37	33.435	25.108	285.1	0.060	5.99	100.9	2.7	0.52	2.8	0.10	3.53	0.90	21	206
30	ISL	13.36	13.36	33.435	25.110	285.1	0.085	5.98	100.7	2.8	0.52	2.8	0.10	3.75	0.92	30	
32		13.36	13.36	33.435	25.110	285.2	0.091	5.98	100.7	2.8	0.52	2.8	0.10	3.77	0.93	32	205
40		13.29	13.28	33.433	25.123	284.2	0.114	5.74 U	96.5 U	3.5	0.56	3.4	0.11	3.28	0.58	40	204
49		13.25	13.24	33.440	25.137	283.1	0.139	5.84	98.1	3.6	0.56	3.4	0.10	3.02	0.68	49	203
50	ISL	13.17	13.16	33.445	25.157	281.2	0.142	5.75	96.4	4.0	0.59	3.8	0.11	2.83	0.66	50	
60		12.25	12.24	33.516	25.391	259.1	0.169	4.77	78.5	9.7	0.96	9.8	0.16	0.71	0.30	60	202
64		11.96	11.95	33.551	25.473	251.3	0.179	4.44	72.6	12.1	1.11	12.0	0.15	0.23	0.15	64	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 9.6 N	120 0.5 W	06/02/97	0629 UTC	1203 m	310 22 kn			1019.7 mb	14.0 C	12.6 C		

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	PRES db	SAMP
0	ISL	13.99	13.99	33.306	24.881	306.1	0.000	6.04	103.0	2.6	0.41	0.7	0.05	0.99	0.36	0	
2		13.99	13.99	33.306	24.881	306.2	0.006	6.04	102.9	2.6	0.41	0.7	0.05	0.99	0.36	2	220
10		14.00	14.00	33.306	24.879	306.6	0.031	6.03	102.8	2.5	0.41	0.7	0.05	0.94	0.33	10	219
20	ISL	14.01	14.01	33.308	24.879	306.9	0.061	6.03	102.8	2.5	0.41	0.7	0.05	1.01	0.34	20	
21		14.01	14.01	33.308	24.879	306.9	0.064	6.03	102.8	2.5	0.41	0.7	0.05	1.02	0.34	21	218
30		14.01	14.01	33.306	24.878	307.3	0.092	6.02	102.6	2.5	0.40	0.7	0.05	0.93	0.35	30	217
40		13.77	13.76	33.336	24.951	300.6	0.122	5.81	98.6	3.5	0.50	2.1	0.06	0.70	0.32	40	216
50	ISL	12.91	12.90	33.292	25.090	287.6	0.152	5.33	88.8	5.4	0.73	5.8	0.05	0.30	0.20	50	
51		12.81	12.80	33.289	25.107	285.9	0.155	5.28	87.8	5.6	0.76	6.2	0.05	0.26	0.19	51	215
61		12.12	12.11	33.340	25.279	269.7	0.182	4.97	81.5	8.1	0.94	9.1	0.03	0.16	0.13	61	214
70		11.31	11.30	33.433	25.502	248.7	0.206	4.52	72.9	11.6	1.16	12.9	0.02	0.08	0.10	70	213
75	ISL	11.05	11.04	33.482	25.587	240.7	0.218	4.32	69.3	13.2	1.25	14.4	0.02	0.06	0.08	75	
84		10.72	10.71	33.559	25.705	229.6	0.239	4.04	64.3	15.7	1.37	16.5	0.01	0.04	0.05	84	212
99		10.04	10.03	33.658	25.900	211.4	0.272	3.85	60.5	19.2	1.55	19.4	0.01	0.02	0.04	99	211
100	ISL	10.01	10.00	33.663	25.909	210.5	0.274	3.84	60.3	19.4	1.56	19.5	0.01	0.02	0.04	100	
118		9.57	9.56	33.727	26.032	199.1	0.311	3.62	56.3	22.0	1.65	21.0	0.01	0.01	0.03	119	210
125	ISL	9.46	9.45	33.747	26.066	196.0	0.325	3.56	55.2	22.8	1.68	21.5	0.01	0.01	0.03	126	
140		9.27	9.25	33.792	26.132	190.0	0.354	3.43	53.0	24.5	1.74	22.6	0.01	0.01	0.02	141	209
150	ISL	9.12	9.10	33.833	26.188	184.9	0.373	3.32	51.1	26.0	1.80	23.5	0.01	0.01	0.02	151	
170		8.79	8.77	33.918	26.307	173.9	0.409	3.07	47.0	29.6	1.93	25.3	0.01	0.01	0.02	171	208
199		8.29	8.27	34.009	26.456	160.2	0.457	2.72	41.2	35.3	2.11	27.6	0.01	0.00	0.02	200	207
200	ISL	8.28	8.26	34.011	26.459	159.9	0.459	2.71	41.0	35.4	2.11	27.7	0.01			201	
230		8.05	8.03	34.062	26.533	153.3	0.506	2.37	35.7	39.5	2.25	29.3	0.01			231	206
250	ISL	8.06	8.03	34.124	26.581	149.1	0.536	1.93	29.1	42.6	2.39	30.4	0.01			251	
273		8.08	8.05	34.189	26.629	145.0	0.570	1.47	22.2	46.2	2.55	31.7	0.01			275	205
300	ISL	7.71	7.68	34.181	26.678	140.7	0.608	1.42	21.2	49.9	2.62	32.9	0.01			302	
320		7.40	7.37	34.165	26.710	137.8	0.636	1.38	20.5	52.6	2.65	33.7	0.01			322	204
366		7.09	7.06	34.211	26.790	130.7	0.698	0.95	14.0	59.1	2.81	35.4	0.01			368	203
400	ISL	6.81	6.77	34.239	26.850	125.3	0.741	0.72	10.5	64.4	2.93	36.7	0.00			403	
429		6.57	6.53	34.261	26.900	120.8	0.777	0.58	8.4	68.9	3.02	37.8	0.00			432	202
500	ISL	6.13	6.09	34.314	27.000	112.0	0.860	0.36	5.2	77.6	3.14	39.5	0.00			503	
505		6.10	6.06	34.318	27.007	111.4	0.865	0.34	4.9	78.2	3.15	39.6	0.00			508	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 59.3 N	120 20.9 W	06/02/97	1047 UTC	722 m	310 28 kn			1020.9 mb	13.5 C	12.2 C		

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	PRES db	SAMP
0	ISL	13.82	13.82	33.086	24.746	318.9	0.000	6.04	102.5	2.9	0.39	0.5	0.03	0.46	0.17	0	
2		13.82	13.82	33.086	24.746	319.0	0.006	6.04	102.5	2.9	0.39	0.5	0.03	0.46	0.17	2	220
10	ISL	13.81	13.81	33.086	24.748	319.0	0.032	6.03	102.3	3.0	0.39	0.5	0.03	0.46	0.17	10	
11		13.81	13.81	33.086	24.748	319.0	0.035	6.03	102.3	3.0	0.39	0.5	0.03	0.46	0.17	11	219
20		13.75	13.75	33.091	24.765	317.7	0.064	6.06	102.6	3.1	0.40	0.6	0.04	0.48	0.19	20	218
30	ISL	13.73	13.73	33.091	24.769	317.6	0.096	6.04	102.3	3.2	0.40	0.6	0.04	0.50	0.19	30	
31		13.73	13.73	33.091	24.769	317.6	0.099	6.04	102.3	3.2	0.40	0.6	0.04	0.50	0.19	31	217
40		13.72	13.71	33.091	24.771	317.6	0.127	6.04	102.2	3.2	0.41	0.7	0.04	0.50	0.18	40	216
50	ISL	12.07	12.06	33.066	25.076	288.8	0.158	5.59	91.4	4.6	0.72	5.2	0.08	0.39	0.25	50	
51		11.89	11.88	33.067	25.110	285.5	0.160	5.54	90.2	4.8	0.75	5.7	0.08	0.37	0.25	51	215
60		11.46	11.45	33.123	25.233	274.0	0.186	5.33	86.0	7.0	0.90	8.0	0.03	0.22	0.15	60	214
68		11.16	11.15	33.171	25.325	265.4	0.207	5.17	82.9	8.5	1.00	9.6	0.02	0.15	0.11	68	213
75	ISL	11.04	11.03	33.228	25.391	259.3	0.226	5.03	80.5	9.6	1.07	10.8	0.01	0.11	0.09	75	
85		10.83	10.82	33.338	25.514	247.8	0.251	4.70	74.9	12.2	1.21	13.3	0.01	0.08	0.07	85	212
99		10.08	10.07	33.555	25.813	219.6	0.284	3.77	59.2	19.5	1.60	19.8	0.01	0.03	0.05	99	211
100	ISL	10.05	10.04	33.565	25.825	218.4	0.286	3.76	59.0	19.8	1.61	19.9	0.01	0.03	0.05	100	
121		9.60	9.59	33.710	26.014	200.9	0.330	3.46	53.8	22.9	1.72	21.9	0.01	0.00	0.03	122	210
125	ISL	9.52	9.51	33.729	26.042	198.3	0.338	3.41	53.0	23.5	1.74	22.3	0.01	0.00	0.03	126	
136		9.31	9.30	33.774	26.111	191.9	0.359	3.29	50.9	25.3	1.81	23.4	0.01	0.00	0.04	137	209
150	ISL	9.02	9.00	33.832	26.203	183.4	0.386	3.19	49.0	27.4	1.87	24.5	0.01	0.00	0.04	151	
168		8.63	8.61	33.899	26.317	172.8	0.418	3.12	47.5	30.1	1.93	25.6	0.01	0.00	0.03	169	208
198		8.02	8.00	33.981	26.474	158.3	0.467	3.07	46.2	35.2	2.02	27.0	0.01	0.00	0.02	199	207
200	ISL	7.99	7.97	33.983	26.480	157.7	0.471	3.07	46.1	35.4	2.02	27.1	0.01			201	
227		7.75	7.73	34.008	26.535	152.9	0.512	2.90	43.3	38.7	2.11	28.1	0.01			228	206
250	ISL	7.63	7.61	34.047	26.583	148.7	0.547	2.49	37.1	42.5	2.25	29.7	0.00			251	
267		7.55	7.52	34.078	26.619	145.5	0.572	2.14	31.8	45.6	2.37	31.1	0.00			269	205
300	ISL	7.28	7.25	34.119	26.690	139.2	0.619	1.64	24.3	51.7	2.56	33.3	0.01			302	
320		7.10	7.07	34.140	26.732	135.4	0.647	1.39	20.5	55.4	2.67	34.4	0.01			322	204
379		6.68	6.65	34.201	26.838	126.1	0.724	0.83	12.1	64.9	2.91	36.9	0.00			381	203
400	ISL	6.64	6.60	34.231	26.867	123.6	0.750	0.69	10.1	66.8	2.97	37.3	0.00			403	
430		6.60	6.56	34.270	26.903	120.6	0.787	0.53	7.7	69.2	3.04	37.7	0.00			433	202
500	ISL	6.11	6.07	34.299	26.990	112.9	0.868	0.36	5.2	77.7	3.15	39.5	0.00			503	
516		6.00	5.95	34.306	27.010	111.1	0.886	0.32	4.6	79.6	3.18	39.9	0.00			520	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 38.5 N	121 2.1 W	06/02/97	1839 UTC	3839 m	310 16 kn	310 06 06	1	1023.8 mb	15.6 C	13.8 C	23m 02	4/8	CC

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	PRES db	SAMP
0	ISL	14.44	14.44	32.985	24.539	338.7	0.000	5.97	102.5	1.8	0.33	0.1	0.01	0.35	0.13	0	
2	A	14.44	14.44	32.985	24.539	338.7	0.007	5.97	102.5	1.8	0.33	0.1	0.01	0.35	0.13	2	222
2		14.44	14.44	32.985	24.539	338.7	0.007									2	223
10	ISL	14.43	14.43	32.985	24.542	338.7	0.034	5.98	102.6	1.8	0.33	0.0	0.01	0.34	0.12	10	
15	A	14.43	14.43	32.985	24.542	338.8	0.051	5.99	102.8	1.8	0.33	0.0	0.01	0.33	0.12	15	221
20	ISL	14.35	14.35	32.991	24.563	336.9	0.068	5.99	102.6	1.9	0.34	0.1	0.01	0.36	0.13	20	
23		14.30	14.30	32.995	24.577	335.7	0.078	5.99	102.5	2.0	0.34	0.1	0.01	0.38	0.13	23	220
30	ISL	14.22	14.22	33.001	24.599	333.9	0.101	6.00	102.5	2.1	0.35	0.1	0.02	0.40	0.14	30	
32	A	14.20	14.20	33.003	24.604	333.4	0.108	6.01	102.7	2.1	0.35	0.1	0.02	0.41	0.14	32	219
40		14.14	14.13	33.010	24.622	331.9	0.135	6.03	102.9	2.2	0.35	0.2	0.02	0.44	0.15	40	218
47	A	14.11	14.10	33.013	24.631	331.2	0.158	6.01	102.5	2.3	0.36	0.2	0.02	0.44	0.19	47	217
50	ISL	14.06	14.05	33.018	24.646	329.9	0.168	6.01	102.4	2.3	0.36	0.2	0.02	0.45	0.18	50	
54		14.00	13.99	33.024	24.663	328.4	0.181	6.02	102.4	2.4	0.36	0.3	0.03	0.46	0.17	54	216
61	A	13.99	13.98	33.025	24.666	328.3	0.204	6.02	102.4	2.4	0.36	0.3	0.04	0.47	0.18	61	215
72		13.91	13.90	33.027	24.684	326.9	0.240	6.03	102.4	2.5	0.39	0.4	0.07	0.45	0.20	72	214
75	ISL	13.68	13.67	33.026	24.730	322.5	0.250	5.98	101.1	2.6	0.43	0.8	0.08	0.40	0.20	75	
87	A	12.62	12.61	33.038	24.950	301.7	0.287	5.74	94.9	3.6	0.60	3.1	0.09	0.22	0.16	87	213
95		12.16	12.15	33.065	25.059	291.5	0.311	5.66	92.7	4.5	0.69	4.5	0.09	0.20	0.13	95	212
100	ISL	11.82	11.81	33.078	25.133	284.5	0.325	5.56	90.4	5.4	0.77	5.7	0.07	0.17	0.11	100	
109		11.18	11.17	33.124	25.286	270.1	0.350	5.29	84.9	7.6	0.94	8.4	0.03	0.11	0.09	109	211
125		10.18	10.17	33.332	25.622	238.3	0.391	4.64	72.9	14.1	1.30	14.7	0.01	0.04	0.05	126	210
145		9.52	9.50	33.600	25.941	208.3	0.435	3.85	59.7	20.9	1.60	20.3	0.01	0.01	0.04	146	209
150	ISL	9.39	9.37	33.649	26.001	202.7	0.446	3.69	57.1	22.4	1.67	21.4	0.01	0.01	0.04	151	
170		8.93	8.91	33.799	26.192	184.8	0.484	3.23	49.5	27.3	1.87	24.7	0.01	0.00	0.02	171	208
199		8.44	8.42	33.927	26.368	168.5	0.536	3.14	47.6	31.3	1.95	26.1	0.00	0.00	0.03	200	207
200	ISL	8.43	8.41	33.929	26.372	168.2	0.537	3.14	47.6	31.4	1.95	26.1	0.00			201	
227		8.07	8.05	33.966	26.455	160.6	0.582	3.08	46.4	34.5	2.02	27.1	0.00			228	206
250	ISL	7.74	7.72	33.989	26.522	154.5	0.618	2.92	43.6	38.1	2.11	28.4	0.00			251	
269		7.49	7.46	34.010	26.574	149.7	0.647	2.70	40.1	41.5	2.20	29.7	0.00			271	205
300	ISL	7.30	7.27	34.067	26.646	143.3	0.692	2.10	31.1	47.4	2.41	32.1	0.00			302	
318		7.20	7.17	34.097	26.684	140.0	0.718	1.75	25.8	51.1	2.54	33.5	0.00			320	204
378		6.32	6.29	34.103	26.807	128.6	0.798	1.30	18.8	64.0	2.78	37.2	0.00			380	203
400	ISL	6.11	6.07	34.115	26.844	125.2	0.826	1.13	16.3	68.1	2.85	38.2	0.00			402	
436		5.86	5.82	34.142	26.897	120.5	0.871	0.88	12.6	73.8	2.96	39.4	0.00			439	202
500	ISL	5.74	5.70	34.217	26.972	114.2	0.946	0.56	8.0	80.0	3.09	40.6	0.00			503	
513		5.71	5.67	34.232	26.987	112.8	0.960	0.50	7.1	81.3	3.12	40.8	0.00			516	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 19.3 N	121 42.8 W	07/02/97	0015 UTC	4039 m	320 18 kn	330 06 07	1	1023.2 mb	14.9 C	12.7 C	25m 02	6/8	CI

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	PRES db	SAMP
0	ISL	15.52	15.52	33.176	24.453	346.9	0.000	5.88	103.3	1.7	0.30	0.0	0.00	0.16	0.05	0	
1		15.52	15.52	33.176	24.453	346.9	0.003									1	221
1		15.52	15.52	33.176	24.453	346.9	0.003	5.88	103.3	1.7	0.30	0.0	0.00	0.16	0.05	1	220
10	ISL	15.53	15.53	33.176	24.451	347.4	0.035	5.86	103.0	1.7	0.30	0.0	0.00	0.16	0.05	10	
14		15.53	15.53	33.176	24.451	347.5	0.049	5.84	102.6	1.7	0.30	0.0	0.00	0.16	0.05	14	219
20	ISL	15.53	15.53	33.176	24.452	347.6	0.069	5.81	102.1	1.7	0.30	0.0	0.00	0.16	0.05	20	
30		15.53	15.53	33.176	24.452	347.9	0.104	5.78	101.6	1.7	0.30	0.0	0.00	0.16	0.05	30	218
44		15.50	15.49	33.176	24.459	347.7	0.153	5.83	102.4	1.6	0.30	0.0	0.00	0.17	0.05	44	217
50	ISL	15.48	15.47	33.181	24.467	347.0	0.174	5.83	102.3	1.6	0.30	0.0	0.00	0.19	0.06	50	
59		15.45	15.44	33.179	24.473	346.8	0.205	5.83	102.3	1.6	0.30	0.1	0.00	0.22	0.08	59	216
74		15.21	15.20	33.199	24.541	340.7	0.257	5.83	101.8	1.7	0.32	0.1	0.00	0.44	0.26	74	215
75	ISL	15.20	15.19	33.200	24.544	340.5	0.260	5.83	101.8	1.7	0.32	0.1	0.01	0.44	0.26	75	
83		15.05	15.04	33.207	24.583	337.0	0.287	5.78	100.6	1.8	0.35	0.2	0.08	0.44	0.28	83	214
92		14.56	14.55	33.203	24.685	327.5	0.317	5.67	97.7	2.4	0.46	1.6	0.07	0.24	0.21	92	213
100	ISL	13.96	13.95	33.208	24.814	315.3	0.343	5.56	94.6	3.2	0.55	3.1	0.03	0.16	0.15	100	
103		13.70	13.69	33.212	24.871	309.9	0.352	5.51	93.3	3.6	0.59	3.7	0.02	0.15	0.13	103	212
115		12.58	12.56	33.246	25.120	286.3	0.388	5.26	87.0	5.7	0.77	6.6	0.01	0.09	0.09	115	211
125	ISL	11.78	11.76	33.319	25.328	266.6	0.415	4.90	79.7	8.7	0.98	10.0	0.00	0.05	0.06	126	
126		11.71	11.69	33.328	25.348	264.7	0.418	4.86	79.0	9.0	1.00	10.4	0.00	0.05	0.06	127	210
141		10.73	10.71	33.474	25.638	237.3	0.456	4.24	67.5	14.5	1.32	15.6	0.00	0.02	0.03	142	209
150	ISL	10.46	10.44	33.520	25.721	229.5	0.477	4.07	64.4	16.0	1.40	17.1	0.00	0.02	0.03	151	
165		10.13	10.11	33.591	25.833	219.1	0.510	3.86	60.7	18.2	1.50	18.9	0.00	0.01	0.03	166	208
190		9.03	9.01	33.848	26.215	183.1	0.561	3.16	48.6	27.3	1.87	24.7	0.00	0.00	0.02	191	207
200	ISL	8.81	8.79	33.899	26.290	176.1	0.579	3.05	46.7	29.2	1.93	25.7	0.00			201	
228		8.47	8.45	33.974	26.401	165.9	0.627	2.89	43.9	32.7	2.03	27.0	0.00			229	206
250	ISL	8.25	8.22	34.032	26.480	158.7	0.662	2.60	39.3	36.5	2.16	28.4	0.00			251	
267		8.11	8.08	34.067	26.529	154.4	0.689	2.36	35.6	39.3	2.25	29.5	0.00			268	205
300	ISL	7.84	7.81	34.100	26.595	148.5	0.739	2.07	31.0	43.1	2.36	31.0	0.00			302	
318		7.69	7.66	34.109	26.624	146.0	0.765	1.93	28.8	45.2	2.42	31.7	0.00			320	204
379		7.11	7.07	34.150	26.739	135.7	0.851	1.31	19.3	55.9	2.69	35.2	0.00			381	203
400	ISL	6.88	6.84	34.161	26.780	132.1	0.879	1.13	16.6	59.8	2.77	36.3	0.00			402	
436		6.50	6.46	34.180	26.846	126.0	0.926	0.86	12.5	66.6	2.90	38.0	0.00			439	202
500	ISL	5.91	5.87	34.227	26.959	115.6	1.003	0.52	7.5	77.7	3.08	40.3	0.00			503	
506		5.85	5.81	34.232	26.970	114.6	1.010	0.49	7.0	78.7	3.10	40.5	0.00			509	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 87 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 59.5 N	122 23.7 W	07/02/97	0609 UTC	4088 m	330 14 kn			1024.8 mb	14.3 C	12.3 C		

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	PRES db	SAMP
0	ISL	15.63	15.63	33.066	24.344	357.3	0.000	5.82	102.4	1.7	0.31	0.0	0.00	0.14	0.04	0	
1		15.63	15.63	33.066	24.344	357.3	0.004	5.82	102.4	1.7	0.31	0.0	0.00	0.14	0.04	1	220
10	ISL	15.63	15.63	33.066	24.344	357.5	0.036	5.83	102.6	1.7	0.30	0.0	0.00	0.13	0.04	10	
17		15.64	15.64	33.066	24.342	357.9	0.061	5.83	102.6	1.7	0.30	0.0	0.00	0.13	0.04	17	219
20	ISL	15.64	15.64	33.067	24.343	357.9	0.072	5.83	102.6	1.7	0.30	0.0	0.00	0.13	0.04	20	
30	ISL	15.66	15.66	33.069	24.341	358.5	0.107	5.83	102.6	1.7	0.30	0.0	0.00	0.13	0.04	30	
31		15.66	15.66	33.069	24.341	358.5	0.111	5.83	102.6	1.7	0.30	0.0	0.00	0.13	0.04	31	218
46		15.57	15.56	33.073	24.364	356.7	0.165	5.82	102.3	1.7	0.32	0.0	0.00	0.17	0.06	46	217
50	ISL	15.55	15.54	33.082	24.376	355.8	0.179	5.83	102.4	1.7	0.32	0.0	0.00	0.20	0.08	50	
54		15.53	15.52	33.110	24.402	353.4	0.193	5.84	102.6	1.8	0.32	0.0	0.00	0.23	0.11	54	216
64		14.90	14.89	33.163	24.580	336.6	0.228	5.81	100.8	2.0	0.37	0.3	0.09	0.36	0.21	64	215
75		14.50	14.49	33.163	24.666	328.8	0.264	5.75	98.9	2.1	0.42	0.9	0.10	0.34	0.22	75	214
85		13.80	13.79	33.186	24.830	313.3	0.296	5.64	95.7	2.8	0.50	2.1	0.05	0.29	0.19	85	213
96		12.85	12.84	33.156	24.997	297.6	0.330	5.55	92.3	3.6	0.61	3.5	0.03	0.23	0.18	96	212
100	ISL	12.55	12.54	33.147	25.049	292.7	0.342	5.49	90.7	4.2	0.68	4.6	0.02	0.19	0.16	100	
108		12.00	11.99	33.151	25.156	282.6	0.365	5.34	87.2	5.7	0.82	6.9	0.01	0.10	0.11	108	211
124		11.14	11.12	33.308	25.436	256.2	0.408	4.95	79.4	9.3	0.99	10.0	0.01	0.05	0.05	125	210
125	ISL	11.10	11.08	33.325	25.457	254.3	0.410	4.90	78.6	9.7	1.01	10.4	0.01	0.05	0.05	126	
144		10.43	10.41	33.623	25.807	221.3	0.455	4.03	63.8	16.3	1.39	16.9	0.00	0.02	0.03	145	209
150	ISL	10.22	10.20	33.648	25.862	216.1	0.469	4.01	63.2	17.4	1.44	17.8	0.00	0.02	0.03	151	
167		9.65	9.63	33.674	25.978	205.3	0.504	3.94	61.3	19.8	1.52	19.3	0.00	0.01	0.02	168	208
198		8.86	8.84	33.889	26.274	177.6	0.564	3.41	52.2	27.2	1.81	23.7	0.00	0.00	0.01	199	207
200	ISL	8.82	8.80	33.896	26.286	176.5	0.567	3.38	51.7	27.6	1.82	23.9	0.00			201	
229		8.36	8.34	33.961	26.408	165.3	0.617	3.07	46.5	32.3	1.98	26.2	0.00			230	206
250	ISL	8.11	8.08	33.994	26.471	159.5	0.651	2.88	43.4	35.4	2.07	27.5	0.00			251	
269		7.92	7.89	34.021	26.521	155.0	0.681	2.68	40.2	38.3	2.16	28.6	0.00			270	205
300	ISL	7.63	7.60	34.081	26.611	146.9	0.728	2.14	31.9	44.5	2.37	30.9	0.00			302	
321		7.42	7.39	34.113	26.666	141.9	0.758	1.79	26.6	48.8	2.51	32.5	0.00			323	204
375		6.74	6.71	34.112	26.759	133.4	0.832	1.43	20.9	58.3	2.70	35.4	0.00			377	203
400	ISL	6.46	6.42	34.119	26.802	129.5	0.865	1.24	18.0	63.0	2.79	36.6	0.00			402	
435		6.15	6.11	34.140	26.859	124.4	0.910	0.99	14.3	68.9	2.91	38.0	0.00			438	202
500	ISL	5.98	5.94	34.216	26.941	117.4	0.988	0.61	8.8	75.3	3.06	39.4	0.00			503	
515		5.94	5.90	34.233	26.960	115.8	1.006	0.52	7.5	76.8	3.10	39.7	0.00			518	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 87 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 39.5 N	123 4.3 W	07/02/97	1211 UTC	4131 m	330 14 kn			1024.8 mb	15.7 C	13.3 C		

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	PRES db	SAMP
0	ISL	16.31	16.31	33.156	24.260	365.2	0.000	5.78	103.1	1.6	0.28	0.0	0.00	0.12	0.03	0	
2		16.31	16.31	33.156	24.260	365.3	0.007	5.78	103.1	1.6	0.28	0.0	0.00	0.12	0.03	2	220
10	ISL	16.32	16.32	33.158	24.260	365.6	0.037	5.79	103.3	1.6	0.28	0.0	0.00	0.12	0.03	10	
16		16.32	16.32	33.159	24.261	365.7	0.058	5.79	103.3	1.6	0.28	0.0	0.00	0.12	0.03	16	219
20	ISL	16.32	16.32	33.158	24.260	365.9	0.073	5.79	103.3	1.6	0.28	0.0	0.00	0.12	0.03	20	
30		16.32	16.32	33.157	24.260	366.3	0.110	5.79	103.3	1.6	0.28	0.0	0.00	0.12	0.03	30	218
44		16.33	16.32	33.167	24.266	366.1	0.161	5.75	102.6	1.6	0.28	0.0	0.00	0.12	0.04	44	217
50	ISL	16.30	16.29	33.163	24.270	366.0	0.183	5.77	102.9	1.7	0.28	0.0	0.00	0.12	0.04	50	
54		16.28	16.27	33.161	24.273	365.8	0.198	5.79	103.2	1.7	0.28	0.0	0.00	0.12	0.04	54	216
63		15.17	15.16	33.172	24.529	341.5	0.229	5.86	102.2	1.8	0.36	0.0	0.01	0.24	0.12	63	215
74		14.71	14.70	33.205	24.654	329.9	0.266	5.78	99.9	2.0	0.40	0.5	0.14	0.29	0.15	74	214
75	ISL	14.67	14.66	33.216	24.671	328.3	0.270	5.78	99.8	2.1	0.40	0.6	0.14	0.29	0.15	75	
83		14.32	14.31	33.305	24.814	314.9	0.295	5.73	98.3	2.7	0.41	1.3	0.07	0.25	0.14	83	213
94		13.59	13.58	33.344	24.995	297.9	0.329	5.61	94.8	3.3	0.48	2.2	0.03	0.19	0.12	94	212
100	ISL	13.14	13.13	33.331	25.076	290.3	0.347	5.59	93.6	3.7	0.51	2.6	0.03	0.16	0.11	100	
110		12.34	12.33	33.302	25.209	277.7	0.375	5.51	90.7	4.8	0.60	4.0	0.02	0.12	0.10	110	211
124		11.21	11.19	33.318	25.432	256.6	0.413	5.16	82.9	8.4	0.86	8.4	0.01	0.06	0.07	125	210
125	ISL	11.14	11.12	33.324	25.449	255.0	0.415	5.13	82.3	8.7	0.88	8.7	0.01	0.06	0.07	126	
143		10.14	10.12	33.465	25.733	228.2	0.459	4.64	72.9	14.0	1.20	14.2	0.01	0.02	0.05	144	209
150	ISL	9.88	9.86	33.520	25.820	220.0	0.474	4.47	69.9	16.0	1.30	15.9	0.01	0.02	0.04	151	
169		9.34	9.32	33.664	26.021	201.1	0.514	4.05	62.6	21.0	1.55	19.9	0.00	0.01	0.02	170	208
198		8.73	8.71	33.869	26.278	177.1	0.569	3.40	51.9	27.9	1.84	24.5	0.00	0.00	0.02	199	207
200	ISL	8.70	8.68	33.877	26.289	176.1	0.573	3.38	51.6	28.2	1.85	24.7	0.00			201	
227		8.29	8.27	33.956	26.414	164.6	0.619	3.17	47.9	32.4	1.96	26.2	0.00			228	206
250	ISL	8.04	8.01	33.995	26.483	158.4	0.656	2.94	44.2	35.9	2.07	27.6	0.00			251	
278		7.75	7.72	34.019	26.544	152.9	0.699	2.67	39.9	40.4	2.20	29.3	0.00			280	205
300	ISL	7.42	7.39	34.029	26.600	147.8	0.732	2.54	37.7	44.1	2.28	30.6	0.00			302	
317		7.17	7.14	34.035	26.640	144.2	0.757	2.43	35.8	47.1	2.35	31.6	0.00			319	204
377		6.59	6.56	34.081	26.755	133.8	0.841	1.53	22.3	58.5	2.67	35.5	0.00			379	203
400	ISL	6.39	6.35	34.098	26.795	130.2	0.871	1.32	19.1	62.6	2.77	36.7	0.00			402	
439		6.09	6.05	34.128	26.857	124.5	0.921	1.05	15.1	69.1	2.90	38.3	0.00			442	202
500	ISL	5.71	5.67	34.174	26.942	117.0	0.994	0.72	10.3	78.0	3.04	40.1	0.00			503	
512		5.63	5.59	34.183	26.958	115.5	1.008	0.66	9.4	79.8	3.07	40.4	0.00			515	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 19.3 N	123 43.1 W	07/02/97	1857 UTC	3996 m	340 10 kn	340 03 04	1	1025.9 mb	17.8 C	16.1 C	49m 01	5/8 CU

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	PRES db	SAMP
0	ISL	16.03	16.03	33.078	24.264	364.9	0.000	5.81	103.0	1.7	0.29	0.0	0.00	0.10	0.02	0	
1	A	16.03	16.03	33.078	24.264	364.9	0.004	5.81	103.0	1.7	0.29	0.0	0.00	0.10	0.02	1	221
1		16.03	16.03	33.078	24.264	364.9	0.004									1	222
10	ISL	15.99	15.99	33.078	24.273	364.3	0.036	5.80	102.8	1.7	0.29	0.0	0.00	0.10	0.02	10	
18		15.96	15.96	33.088	24.288	363.2	0.066	5.79	102.6	1.7	0.29	0.0	0.00	0.10	0.03	18	220
20	ISL	15.91	15.91	33.079	24.292	362.8	0.073	5.80	102.6	1.7	0.29	0.0	0.00	0.10	0.03	20	
30	ISL	15.66	15.66	33.043	24.321	360.4	0.109	5.84	102.8	1.6	0.30	0.0	0.00	0.12	0.03	30	
31	A	15.64	15.64	33.040	24.323	360.2	0.113	5.84	102.7	1.6	0.30	0.0	0.00	0.12	0.03	31	219
41		15.61	15.60	33.076	24.358	357.2	0.148	5.87	103.2	1.6	0.30	0.0	0.00	0.13	0.04	41	218
50	ISL	15.44	15.43	33.114	24.425	351.1	0.180	6.01	105.4	1.7	0.31	0.0	0.00	0.20	0.08	50	
56		15.29	15.28	33.133	24.472	346.7	0.201	6.07	106.1	1.7	0.32	0.0	0.00	0.26	0.12	56	217
67	A	15.00	14.99	33.128	24.532	341.3	0.239	5.89	102.3	1.8	0.34	0.0	0.00	0.38	0.26	67	216
75	ISL	14.32	14.31	33.135	24.682	327.2	0.266	5.79	99.2	2.2	0.41	0.8	0.08	0.42	0.39	75	
76		14.22	14.21	33.136	24.704	325.1	0.269	5.78	98.9	2.3	0.42	0.9	0.09	0.42	0.40	76	215
86		13.18	13.17	33.108	24.895	307.1	0.301	5.68	95.1	2.8	0.54	2.7	0.03	0.28	0.20	86	214
99	A	12.06	12.05	33.128	25.127	285.1	0.339	5.45	89.1	5.2	0.79	6.4	0.01	0.12	0.11	99	213
100	ISL	11.98	11.97	33.132	25.145	283.4	0.342	5.45	88.9	5.4	0.80	6.6	0.01	0.11	0.10	100	
110		11.46	11.45	33.252	25.335	265.6	0.370	5.41	87.4	7.4	0.86	8.1	0.01	0.06	0.06	110	212
120		11.81	11.79	33.582	25.527	247.6	0.395	5.18	84.5	7.3	0.71	6.9	0.01	0.03	0.04	121	211
125	ISL	11.36	11.34	33.576	25.605	240.2	0.407	5.01	80.9	9.0	0.82	8.7	0.01	0.03	0.03	126	
130	A	10.82	10.80	33.538	25.672	233.9	0.419	4.85	77.4	11.0	0.97	10.9	0.01	0.03	0.03	131	210
146		10.41	10.39	33.647	25.829	219.2	0.455	4.80	76.0	12.5	1.05	12.6	0.01	0.01	0.02	147	209
150	ISL	10.27	10.25	33.662	25.865	215.9	0.464	4.75	75.0	13.3	1.09	13.3	0.01	0.01	0.02	151	
165		9.68	9.66	33.710	26.002	203.0	0.496	4.45	69.3	17.5	1.31	16.7	0.00	0.01	0.02	166	208
186	A	8.83	8.81	33.815	26.220	182.4	0.536	3.63	55.5	26.0	1.74	23.1	0.00	0.00	0.01	187	207
200	ISL	8.56	8.54	33.868	26.304	174.7	0.561	3.60	54.8	28.5	1.77	23.8	0.00			201	
224		8.29	8.27	33.931	26.395	166.4	0.602	3.54	53.5	30.9	1.83	24.9	0.00			225	206
250	ISL	7.91	7.88	33.964	26.477	158.8	0.644	3.23	48.4	34.8	1.97	26.7	0.00			251	
267		7.65	7.62	33.975	26.524	154.6	0.671	2.97	44.3	37.8	2.08	28.0	0.00			268	205
300	ISL	7.14	7.11	34.004	26.619	145.8	0.720	2.53	37.3	45.3	2.29	30.9	0.00			302	
319		6.86	6.83	34.018	26.668	141.2	0.748	2.28	33.4	50.0	2.40	32.6	0.00			321	204
378		6.18	6.15	34.052	26.785	130.5	0.828	1.56	22.5	63.1	2.69	36.5	0.00			380	203
400	ISL	6.10	6.06	34.095	26.829	126.6	0.856	1.25	18.0	67.1	2.80	37.6	0.00			402	
437		6.03	5.99	34.167	26.896	120.8	0.902	0.80	11.5	72.9	2.97	39.0	0.00			440	202
500	ISL	5.65	5.61	34.200	26.969	114.3	0.976	0.56	8.0	80.9	3.08	40.6	0.00			503	
510		5.59	5.55	34.205	26.981	113.3	0.987	0.52	7.4	82.2	3.10	40.8	0.00			513	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 28.9 N	117 46.2 W	05/02/97	0414 UTC	80 m	090 07 kn			1017.5 mb	14.5 C	12.9 C		

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	PRES db	SAMP
0	ISL	15.22	15.22	32.933	24.332	358.4	0.000	7.09	123.6	4.9	0.22	0.0	0.01	1.08	0.29	0	
1		15.22	15.22	32.933	24.332	358.4	0.004	7.09	123.6	4.9	0.22	0.0	0.01	1.08	0.29	1	208
10		14.85	14.85	33.372	24.750	318.8	0.034	5.96	103.4	3.0	0.28	0.0	0.01	2.02	0.49	10	207
20		14.35	14.35	33.448	24.916	303.4	0.065	5.61	96.4	3.2	0.35	0.0	0.06	2.30	0.62	20	206
30		13.20	13.20	33.449	25.153	281.0	0.094	4.43	74.3	8.8	0.99	9.5	1.25	0.50	0.33	30	205
40		12.01	12.00	33.535	25.451	252.9	0.121	4.01	65.7	12.5	1.28	13.4	0.38	0.15	0.17	40	204
50		11.63	11.62	33.588	25.563	242.4	0.146	4.04	65.6	13.4	1.24	13.8	0.05	0.15	0.21	50	203
60		11.18	11.17	33.667	25.707	229.0	0.169	3.65	58.8	16.8	1.44	16.2	0.09	0.05	0.08	60	202
69		10.80	10.79	33.714	25.812	219.2	0.190	3.50	55.9	18.6	1.53	17.7	0.07	0.05	0.13	69	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 25.3 N	117 53.8 W	05/02/97	0127 UTC	613 m	310 03 kn	280 01 03	1	1017.0 mb	15.5 C	13.7 C		1/8 CI

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	PRES db	SAMP
0	ISL	15.12	15.12	33.063	24.454	346.8	0.000	6.57	114.4	3.5	0.24	0.0	0.00	0.68	0.16	0	
2		15.12	15.12	33.063	24.454	346.9	0.007	6.57	114.4	3.5	0.24	0.0	0.00	0.68	0.16	2	220
2		15.11	15.11	33.064	24.457	346.6	0.007									2	221
10		14.91	14.91	33.185	24.594	333.8	0.034	6.47	112.3	3.4	0.24	0.0	0.00	0.95	0.28	10	219
20		14.43	14.43	33.338	24.814	313.0	0.066	5.51	94.8	3.5	0.40	0.5	0.16	1.59	0.51	20	218
30		14.08	14.08	33.372	24.914	303.8	0.097	5.13	87.6	4.9	0.62	2.2	0.72	0.89	0.38	30	217
40		13.67	13.66	33.430	25.044	291.7	0.127	4.77	80.8	6.9	0.81	5.7	1.37	0.35	0.27	40	216
50		12.60	12.59	33.487	25.301	267.4	0.155	4.35	72.1	9.7	1.04	11.1	0.14	0.25	0.28	50	215
60		12.06	12.05	33.524	25.433	255.1	0.181	4.39	72.0	10.8	1.08	11.6	0.04	0.20	0.24	60	214
70		11.48	11.47	33.628	25.622	237.3	0.206	3.91	63.3	14.4	1.29	14.7	0.02	0.09	0.14	70	213
75	ISL	11.30	11.29	33.672	25.690	231.0	0.218	3.72	60.0	15.8	1.37	15.9	0.01	0.06	0.11	75	
85		11.02	11.01	33.743	25.795	221.2	0.240	3.43	55.1	18.2	1.51	17.7	0.01	0.04	0.08	85	212
99		10.66	10.65	33.806	25.909	210.7	0.270	3.18	50.7	20.7	1.64	19.5	0.01	0.03	0.08	99	211
100	ISL	10.63	10.62	33.810	25.917	209.9	0.272	3.17	50.5	20.9	1.65	19.6	0.01	0.03	0.08	100	
119		10.13	10.12	33.877	26.056	197.1	0.311	2.99	47.1	23.8	1.79	21.8	0.01	0.01	0.06	120	210
125	ISL	10.00	9.99	33.901	26.097	193.3	0.323	2.93	46.0	24.7	1.83	22.4	0.01	0.01	0.06	126	
139		9.72	9.70	33.956	26.187	184.9	0.349	2.78	43.4	26.7	1.92	23.7	0.01	0.01	0.05	140	209
150	ISL	9.50	9.48	33.994	26.253	178.9	0.369	2.68	41.7	28.5	1.98	24.6	0.01	0.01	0.05	151	
169		9.15	9.13	34.044	26.349	170.0	0.402	2.56	39.5	31.4	2.07	26.0	0.01	0.01	0.04	170	208
199		8.67	8.65	34.070	26.445	161.3	0.452	2.56	39.1	34.6	2.13	27.2	0.01	0.00	0.03	200	207
200	ISL	8.67	8.65	34.074	26.448	161.0	0.454	2.54	38.8	34.7	2.14	27.3	0.01			201	
229		8.75	8.73	34.175	26.516	155.3	0.500	1.81	27.7	39.2	2.36	29.3	0.01			230	206
250	ISL	8.46	8.43	34.181	26.566	150.8	0.532	1.75	26.6	42.0	2.43	30.3	0.01			251	
269		8.16	8.13	34.176	26.607	147.1	0.560	1.69	25.5	44.3	2.47	31.0	0.01			271	205
300	ISL	8.12	8.09	34.238	26.662	142.4	0.605	1.27	19.2	48.2	2.62	32.2	0.01			302	
319		8.09	8.06	34.271	26.693	139.9	0.632	1.00	15.1	50.6	2.72	32.8	0.01			321	204
377		7.62	7.58	34.294	26.781	132.3	0.711	0.70	10.4	57.2	2.87	34.6	0.01			379	203
400	ISL	7.45	7.41	34.298	26.808	129.9	0.741	0.62	9.2	59.8	2.92	35.2	0.01			403	
437		7.18	7.14	34.302	26.850	126.3	0.788	0.51	7.5	63.9	2.99	36.2	0.00			440	202
500	ISL	6.78	6.73	34.310	26.912	121.1	0.866	0.40	5.9	69.8	3.08	37.5	0.00			503	
516		6.68	6.63	34.312	26.927	119.8	0.885	0.37	5.4	71.3	3.10	37.8	0.00			520	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 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 15.1 W	04/02/97	2136 UTC	375 m	360 00 kn	270 02 07	1	1018.1 mb	16.9 C	15.0 C	19m 03	4/8	CI

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	PRES db	SAMP
0	ISL	15.55	15.55	33.444	24.653	327.8	0.000	5.99	105.5	2.4	0.30	0.0	0.00	0.32	0.06	0	
2		15.55	15.55	33.445	24.653	327.8	0.007									2	219
2		15.55	15.55	33.444	24.653	327.9	0.007	5.99	105.5	2.4	0.30	0.0	0.00	0.32	0.06	2	218
10		15.26	15.26	33.454	24.725	321.3	0.033	6.07	106.3	2.3	0.29	0.0	0.00	0.32	0.07	10	217
20		14.90	14.90	33.459	24.807	313.7	0.064	6.04	105.0	2.4	0.30	0.0	0.00	0.34	0.12	20	216
30		14.18	14.18	33.480	24.977	297.9	0.095	5.89	100.9	3.5	0.38	0.7	0.08	2.02	0.74	30	215
40		13.36	13.35	33.438	25.113	285.1	0.124	4.64	78.1	7.9	0.90	7.1	1.39	0.63	0.42	40	214
49		12.70	12.69	33.508	25.298	267.7	0.149	4.61	76.6	8.9	0.94	9.0	0.08	0.37	0.33	49	213
50	ISL	12.67	12.66	33.512	25.307	266.9	0.152	4.59	76.2	9.0	0.95	9.2	0.08	0.36	0.33	50	
59		12.37	12.36	33.539	25.386	259.6	0.175	4.31	71.1	10.5	1.06	10.8	0.05	0.28	0.32	59	212
70		11.61	11.60	33.597	25.574	241.9	0.203	3.98	64.6	13.3	1.24	13.9	0.02	0.10	0.16	70	211
75	ISL	11.35	11.34	33.618	25.638	235.9	0.215	3.91	63.2	14.3	1.29	14.9	0.02	0.08	0.12	75	
85		10.98	10.97	33.659	25.737	226.7	0.238	3.79	60.7	16.0	1.38	16.4	0.01	0.05	0.09	85	210
99		10.75	10.74	33.728	25.832	218.0	0.269	3.49	55.7	18.6	1.52	18.2	0.01	0.02	0.07	99	209
100	ISL	10.73	10.72	33.733	25.839	217.3	0.271	3.47	55.3	18.8	1.53	18.3	0.01	0.02	0.07	100	
119		10.20	10.19	33.832	26.009	201.5	0.311	3.10	48.9	22.7	1.73	21.1	0.01	0.01	0.06	120	208
125	ISL	10.02	10.01	33.863	26.064	196.4	0.323	3.01	47.3	24.0	1.79	22.0	0.01	0.01	0.06	126	
139		9.65	9.63	33.927	26.176	186.0	0.350	2.85	44.4	26.7	1.90	23.7	0.01	0.00	0.05	140	207
150	ISL	9.46	9.44	33.950	26.225	181.5	0.370	2.81	43.6	27.8	1.94	24.3	0.01	0.00	0.05	151	
169		9.24	9.22	33.991	26.293	175.4	0.404	2.75	42.5	29.7	2.00	25.2	0.01	0.00	0.04	170	206
198		9.08	9.06	34.148	26.442	161.8	0.453	1.91	29.4	36.1	2.29	28.3	0.01	0.01	0.03	199	205
200	ISL	9.07	9.05	34.152	26.447	161.4	0.456	1.90	29.3	36.3	2.29	28.4	0.01			201	
228		8.88	8.86	34.165	26.487	158.0	0.501	1.81	27.8	38.0	2.35	28.9	0.02			229	204
250	ISL	8.50	8.47	34.157	26.541	153.2	0.535	1.79	27.2	40.5	2.38	29.7	0.02			251	
267		8.20	8.17	34.159	26.588	148.9	0.561	1.78	26.9	43.1	2.43	30.5	0.01			269	203
300	ISL	8.04	8.01	34.247	26.681	140.6	0.608	1.11	16.7	49.7	2.68	32.6	0.01			302	
316		7.99	7.96	34.291	26.724	136.9	0.630	0.77	11.6	52.9	2.80	33.6	0.01			318	202
366		7.47	7.43	34.295	26.803	129.9	0.697	0.59	8.8	59.4	2.92	35.2	0.01			368	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 10.9 N	118 23.6 W	04/02/97	1839 UTC	1177 m	280 09 kn	280 04 05	1	1020.3 mb	16.3 C	14.7 C	21m 03	3/8	CI

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	PRES db	SAMP
0	ISL	15.36	15.36	33.462	24.708	322.5	0.000	6.00	105.3	2.3	0.32	0.0	0.00	0.29	0.14	0	
1		15.36	15.36	33.462	24.708	322.5	0.003	6.00	105.3	2.3	0.32	0.0	0.00	0.29	0.14	1	222
1		15.36	15.36	33.462	24.708	322.5	0.003									1	223
7		15.34	15.34	33.462	24.713	322.3	0.023	5.94	104.2	2.3	0.32	0.0	0.00	0.28	0.06	7	221
10	ISL	15.32	15.32	33.462	24.718	322.0	0.032	5.94	104.1	2.3	0.32	0.0	0.00	0.27	0.06	10	
14		15.30	15.30	33.462	24.722	321.7	0.045	5.95	104.2	2.3	0.32	0.0	0.00	0.27	0.06	14	220
20		15.28	15.28	33.463	24.728	321.3	0.064	5.94	104.0	2.3	0.32	0.0	0.00	0.29	0.07	20	219
28		14.81	14.81	33.480	24.843	310.6	0.090	5.93	102.9	2.3	0.33	0.0	0.01	0.55	0.24	28	218
30	ISL	14.68	14.68	33.479	24.870	308.0	0.096	5.86	101.4	2.6	0.36	0.3	0.04	0.81	0.38	30	
35		14.36	14.35	33.474	24.934	302.0	0.111	5.63	96.8	3.6	0.44	1.3	0.14	1.37	0.71	35	217
43		13.98	13.97	33.484	25.022	293.9	0.135	5.28	90.1	4.8	0.59	3.3	0.31	1.02	0.64	43	216
50		13.18	13.17	33.484	25.185	278.6	0.155	4.77	80.0	7.6	0.85	7.4	0.06	0.57	0.42	50	215
57		12.70	12.69	33.534	25.318	266.0	0.174	4.44	73.8	9.6	1.00	9.8	0.03	0.31	0.31	57	214
66		12.04	12.03	33.583	25.483	250.5	0.197	4.08	66.9	12.4	1.17	12.5	0.02	0.19	0.20	66	213
75	ISL	11.71	11.70	33.618	25.572	242.2	0.219	3.91	63.6	13.8	1.26	14.0	0.01	0.12	0.15	75	
79		11.62	11.61	33.632	25.600	239.7	0.229	3.85	62.6	14.3	1.29	14.5	0.01	0.10	0.14	79	212
94		11.20	11.19	33.709	25.737	227.0	0.264	3.46	55.7	17.3	1.47	16.9	0.01	0.05	0.10	94	211
100	ISL	10.97	10.96	33.729	25.794	221.6	0.278	3.41	54.7	18.2	1.52	17.7	0.01	0.03	0.09	100	
114		10.38	10.37	33.775	25.933	208.6	0.308	3.36	53.2	20.3	1.61	19.6	0.01	0.01	0.06	115	210
125	ISL	9.93	9.92	33.834	26.056	197.1	0.330	3.23	50.6	23.0	1.72	21.4	0.01	0.01	0.06	126	
137		9.48	9.46	33.895	26.178	185.6	0.353	3.11	48.3	25.8	1.82	23.2	0.00	0.00	0.05	138	209
150	ISL	9.11	9.09	33.917	26.255	178.5	0.377	3.22	49.6	27.2	1.84	23.8	0.00	0.00	0.05	151	
167		8.79	8.77	33.937	26.322	172.4	0.406	3.31	50.6	28.7	1.85	24.2	0.00	0.00	0.05	168	208
199		8.66	8.64	34.067	26.445	161.4	0.460	2.47	37.7	34.9	2.14	27.4	0.00	0.00	0.03	200	207
200	ISL	8.65	8.63	34.069	26.448	161.1	0.461	2.46	37.5	35.1	2.15	27.5	0.00			201	
229		8.37	8.35	34.126	26.536	153.2	0.507	2.07	31.4	39.4	2.30	29.2	0.01			230	206
250	ISL	8.43	8.40	34.203	26.587	148.8	0.539	1.54	23.4	42.9	2.47	30.5	0.01			251	
268		8.50	8.47	34.265	26.625	145.5	0.565	1.11	16.9	45.8	2.61	31.5	0.01			270	205
300	ISL	8.32	8.29	34.291	26.674	141.5	0.611	0.94	14.3	49.1	2.71	32.5	0.00			302	
318		8.16	8.13	34.288	26.696	139.6	0.636	0.85	12.8	50.7	2.74	32.9	0.00			320	204
375		7.57	7.53	34.287	26.782	132.0	0.714	0.66	9.8	57.7	2.87	34.8	0.00			377	203
400	ISL	7.27	7.23	34.292	26.829	127.8	0.746	0.56	8.3	61.8	2.94	35.8	0.00			403	
436		6.83	6.79	34.304	26.900	121.3	0.791	0.42	6.2	68.1	3.04	37.3	0.00			439	202
500	ISL	6.21	6.17	34.326	26.999	112.2	0.866	0.30	4.3	78.3	3.15	39.0	0.00			503	
511		6.10	6.05	34.331	27.017	110.5	0.878	0.28	4.0	80.1	3.17	39.3	0.00			515	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 55.0 N	118 56.3 W	04/02/97	1110 UTC	1686 m	300 20 kn			1019.9 mb	14.8 C	13.7 C		

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	PRES db	SAMP
0	ISL	14.97	14.97	33.415	24.757	317.9	0.000	5.99	104.2	2.7	0.34	0.0	0.00	0.24	0.06	0	
2		14.97	14.97	33.415	24.758	317.9	0.006	5.99	104.2	2.7	0.34	0.0	0.00	0.24	0.06	2	220
10		14.98	14.98	33.414	24.755	318.4	0.032	5.99	104.2	2.6	0.33	0.0	0.00	0.27	0.07	10	219
20		14.95	14.95	33.413	24.761	318.1	0.064	6.00	104.3	2.6	0.33	0.0	0.00	0.26	0.08	20	218
28		13.91	13.91	33.411	24.979	297.5	0.088	5.84	99.4	4.0	0.47	1.8	0.12	0.70	0.34	28	217
30	ISL	13.77	13.77	33.415	25.011	294.5	0.094	5.74	97.5	4.4	0.52	2.5	0.12	0.67	0.33	30	
41		13.26	13.25	33.440	25.135	283.1	0.126	5.16	86.7	6.5	0.77	6.4	0.09	0.51	0.27	41	216
50		12.86	12.85	33.456	25.226	274.6	0.151	4.93	82.1	7.7	0.87	8.1	0.05	0.36	0.23	50	215
60		11.97	11.96	33.529	25.454	253.1	0.177	4.38	71.7	11.3	1.12	12.1	0.03	0.20	0.18	60	214
72		11.76	11.75	33.533	25.497	249.3	0.208	4.32	70.4	12.0	1.17	12.8	0.02	0.16	0.17	72	213
75	ISL	11.54	11.53	33.557	25.556	243.7	0.215	4.21	68.3	13.0	1.23	13.8	0.02	0.13	0.15	75	
84		10.83	10.82	33.644	25.752	225.2	0.236	3.82	61.0	16.5	1.42	16.9	0.01	0.05	0.08	84	212
98		10.34	10.33	33.726	25.902	211.2	0.267	3.52	55.7	19.8	1.59	19.3	0.01	0.02	0.05	98	211
100	ISL	10.25	10.24	33.733	25.923	209.3	0.271	3.49	55.1	20.3	1.61	19.7	0.01	0.02	0.05	100	
122		9.48	9.47	33.836	26.132	189.7	0.315	3.13	48.6	25.8	1.84	23.2	0.01	0.01	0.05	123	210
125	ISL	9.47	9.46	33.866	26.157	187.4	0.320	3.04	47.2	26.5	1.87	23.6	0.01	0.01	0.05	126	
135		9.42	9.41	33.953	26.234	180.3	0.339	2.74	42.5	28.5	1.98	24.8	0.01	0.00	0.04	136	209
150	ISL	9.38	9.36	34.029	26.300	174.4	0.365	2.44	37.8	30.6	2.09	26.0	0.01	0.00	0.04	151	
169		9.30	9.28	34.082	26.354	169.6	0.398	2.17	33.6	32.8	2.19	27.0	0.01	0.00	0.04	170	208
200	ISL	8.93	8.91	34.157	26.473	158.8	0.449	1.83	28.1	37.8	2.35	28.9	0.00	0.00	0.03	201	
203		8.89	8.87	34.163	26.484	157.8	0.454	1.80	27.6	38.3	2.37	29.1	0.00	0.00	0.03	204	207
226		8.69	8.67	34.217	26.558	151.2	0.489	1.48	22.6	41.9	2.50	30.3	0.00			227	206
250	ISL	8.47	8.44	34.248	26.617	146.0	0.525	1.24	18.9	45.2	2.60	31.4	0.00			251	
264		8.35	8.32	34.259	26.644	143.7	0.545	1.14	17.3	46.9	2.65	31.9	0.00			266	205
300	ISL	8.09	8.06	34.273	26.694	139.4	0.596	0.96	14.5	50.1	2.73	32.9	0.00			302	
318		7.96	7.93	34.274	26.715	137.7	0.621	0.90	13.5	51.8	2.76	33.3	0.00			320	204
376		7.32	7.28	34.282	26.814	128.8	0.698	0.66	9.8	60.3	2.92	35.6	0.00			378	203
400	ISL	7.09	7.05	34.285	26.849	125.7	0.729	0.59	8.7	63.4	2.97	36.4	0.00			403	
437		6.78	6.74	34.292	26.897	121.5	0.775	0.50	7.3	68.0	3.04	37.4	0.00			440	202
500	ISL	6.35	6.30	34.313	26.971	115.0	0.849	0.36	5.2	75.1	3.13	38.8	0.00			503	
514		6.25	6.20	34.318	26.988	113.5	0.865	0.33	4.8	76.7	3.15	39.1	0.00			518	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 38.8 N	119 28.9 W	04/02/97	0515 UTC	1317 m	300 16 kn			1021.9 mb	13.7 C	12.0 C		

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	PRES db	SAMP
0	ISL	14.22	14.22	33.323	24.846	309.4	0.000	6.05	103.6	3.1	0.40	0.6	0.06	0.96	0.34	0	
1		14.22	14.22	33.323	24.846	309.4	0.003	6.05	103.6	3.1	0.40	0.6	0.06	0.96	0.34	1	220
10		14.23	14.23	33.328	24.848	309.5	0.031	6.07	104.0	3.1	0.40	0.6	0.06	0.97	0.32	10	219
20	ISL	14.26	14.26	33.339	24.851	309.6	0.062	6.07	104.1	3.1	0.39	0.6	0.05	1.02	0.34	20	
21		14.26	14.26	33.340	24.852	309.5	0.065	6.07	104.1	3.1	0.39	0.6	0.05	1.03	0.34	21	218
30		14.27	14.27	33.347	24.855	309.4	0.093	6.06	103.9	3.1	0.39	0.5	0.05	1.09	0.38	30	217
41		14.26	14.25	33.367	24.873	308.0	0.127	6.05	103.7	3.1	0.39	0.5	0.05	1.09	0.38	41	216
49		13.90	13.89	33.332	24.921	303.7	0.151	5.87	99.9	3.4	0.47	1.7	0.14	0.68	0.30	49	215
50	ISL	13.82	13.81	33.329	24.935	302.3	0.154	5.83	99.0	3.5	0.49	2.0	0.14	0.63	0.28	50	
60		12.82	12.81	33.332	25.139	283.2	0.184	5.36	89.2	5.7	0.75	6.1	0.09	0.19	0.14	60	214
70		11.63	11.62	33.405	25.422	256.4	0.211	4.70	76.3	10.0	1.06	11.3	0.02	0.08	0.08	70	213
75	ISL	11.25	11.24	33.444	25.521	247.0	0.223	4.51	72.6	11.6	1.16	12.9	0.02	0.07	0.07	75	
85		10.70	10.69	33.523	25.681	232.0	0.247	4.23	67.3	14.5	1.31	15.4	0.02	0.04	0.05	85	212
100		10.01	10.00	33.645	25.895	211.9	0.280	3.81	59.8	19.0	1.53	19.0	0.01	0.02	0.03	100	211
118		9.74	9.73	33.773	26.040	198.4	0.317	3.28	51.2	24.1	1.75	21.9	0.01	0.02	0.04	119	210
125	ISL	9.68	9.67	33.794	26.066	196.0	0.331	3.20	49.9	24.9	1.78	22.3	0.01	0.02	0.04	126	
138		9.57	9.55	33.820	26.105	192.6	0.356	3.13	48.7	25.9	1.82	22.8	0.01	0.01	0.05	139	209
150	ISL	9.34	9.32	33.867	26.179	185.8	0.379	3.02	46.7	27.5	1.88	23.9	0.01	0.01	0.05	151	
169		8.97	8.95	33.951	26.305	174.1	0.413	2.81	43.2	30.5	2.00	25.7	0.01	0.00	0.04	170	208
200		8.69	8.67	34.068	26.441	161.8	0.465	2.32	35.4	35.6	2.20	27.8	0.01	0.00	0.03	201	207
231		8.38	8.36	34.171	26.570	150.0	0.514	1.70	25.8	42.3	2.45	30.3	0.02			232	206
250	ISL	8.14	8.11	34.176	26.610	146.4	0.542	1.60	24.1	44.8	2.51	31.2	0.04			251	
270		7.89	7.86	34.168	26.641	143.7	0.571	1.55	23.3	47.2	2.54	31.9	0.05			272	205
300	ISL	7.58	7.55	34.193	26.706	137.9	0.613	1.27	18.9	52.1	2.67	33.3	0.04			302	
322		7.39	7.36	34.219	26.754	133.7	0.643	1.03	15.3	55.8	2.77	34.4	0.02			324	204
376		7.06	7.02	34.280	26.848	125.4	0.713	0.61	9.0	63.7	2.97	36.5	0.01			378	203
400	ISL	6.87	6.83	34.288	26.881	122.5	0.743	0.53	7.8	66.6	3.02	37.2	0.01			403	
434		6.62	6.58	34.293	26.919	119.2	0.784	0.47	6.9	70.1	3.06	37.9	0.01			437	202
500	ISL	6.31	6.26	34.314	26.977	114.4	0.861	0.36	5.2	75.7	3.14	38.9	0.01			503	
512		6.25	6.20	34.318	26.988	113.5	0.875	0.34	4.9	76.7	3.15	39.1	0.01			516	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 25.1 N	119 56.9 W	04/02/97	0007 UTC	952 m	300 12 kn	330 04 05	1	1021.1 mb	14.3 C	12.6 C		7/8	SC

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	PRES db	SAMP
0	ISL	14.66	14.66	33.118	24.595	333.3	0.000	6.01	103.7	2.5	0.34	0.0	0.00	0.29	0.08	0	
1		14.66	14.66	33.118	24.595	333.3	0.003	6.01	103.7	2.5	0.34	0.0	0.00	0.29	0.08	1	220
10	ISL	14.66	14.66	33.118	24.595	333.6	0.033	6.01	103.7	2.5	0.34	0.0	0.01	0.29	0.08	10	
16		14.66	14.66	33.117	24.595	333.8	0.053	6.01	103.7	2.5	0.34	0.0	0.01	0.29	0.08	16	219
20	ISL	14.61	14.61	33.113	24.603	333.2	0.067	6.02	103.8	2.5	0.34	0.0	0.01	0.31	0.09	20	
30	ISL	14.48	14.48	33.101	24.621	331.7	0.100	6.04	103.8	2.4	0.35	0.0	0.01	0.36	0.12	30	
31		14.47	14.47	33.100	24.622	331.6	0.103	6.04	103.8	2.4	0.35	0.0	0.01	0.36	0.12	31	218
43		13.88	13.87	33.086	24.735	321.2	0.142	6.02	102.2	2.7	0.40	0.5	0.08	0.60	0.31	43	217
50	ISL	13.65	13.64	33.117	24.806	314.6	0.165	5.97	100.9	3.1	0.44	1.0	0.14	0.63	0.35	50	
54		13.56	13.55	33.152	24.852	310.4	0.177	5.93	100.1	3.3	0.47	1.4	0.18	0.65	0.38	54	216
65		13.57	13.56	33.332	24.989	297.6	0.211	5.73	96.8	4.0	0.55	2.7	0.36	0.37	0.22	65	215
74		12.86	12.85	33.328	25.128	284.6	0.237	5.44	90.6	5.5	0.72	5.7	0.04	0.19	0.13	74	214
75	ISL	12.80	12.79	33.332	25.143	283.2	0.240	5.40	89.8	5.7	0.74	6.0	0.04	0.18	0.13	75	
85		12.14	12.13	33.395	25.319	266.6	0.267	4.91	80.5	8.8	0.97	9.7	0.02	0.12	0.11	85	213
95		11.14	11.13	33.470	25.562	243.6	0.293	4.40	70.7	12.6	1.21	13.7	0.01	0.08	0.09	95	212
100	ISL	10.84	10.83	33.497	25.636	236.6	0.305	4.25	67.8	13.9	1.29	15.0	0.01	0.06	0.08	100	
111		10.43	10.42	33.548	25.748	226.2	0.330	4.03	63.8	16.2	1.41	17.1	0.01	0.03	0.05	112	211
124		10.06	10.05	33.623	25.870	214.8	0.359	3.77	59.2	19.0	1.54	19.3	0.01	0.02	0.04	125	210
125	ISL	10.03	10.02	33.630	25.880	213.8	0.361	3.75	58.9	19.3	1.55	19.5	0.01	0.02	0.04	126	
144		9.41	9.39	33.760	26.084	194.7	0.400	3.38	52.4	24.1	1.75	22.6	0.01	0.00	0.03	145	209
150	ISL	9.26	9.24	33.791	26.133	190.1	0.411	3.33	51.4	25.1	1.78	23.2	0.01	0.00	0.03	151	
170		8.80	8.78	33.876	26.273	177.1	0.448	3.26	49.9	28.3	1.86	24.5	0.01	0.00	0.02	171	208
199		8.11	8.09	33.979	26.459	159.8	0.497	3.11	46.9	34.3	1.99	26.6	0.01	0.00	0.01	200	207
200	ISL	8.09	8.07	33.981	26.464	159.3	0.498	3.10	46.7	34.5	2.00	26.7	0.01			201	
227		7.73	7.71	34.022	26.549	151.6	0.540	2.71	40.5	39.9	2.16	28.8	0.01			228	206
250	ISL	7.60	7.58	34.069	26.605	146.6	0.575	2.28	34.0	43.9	2.32	30.5	0.01			251	
270		7.55	7.52	34.109	26.644	143.3	0.604	1.90	28.3	47.2	2.45	31.8	0.01			272	205
300	ISL	7.42	7.39	34.155	26.699	138.5	0.646	1.46	21.7	51.8	2.61	33.3	0.01			302	
321		7.31	7.28	34.182	26.736	135.3	0.675	1.21	17.9	54.9	2.71	34.2	0.01			323	204
377		6.88	6.84	34.239	26.841	125.9	0.748	0.72	10.6	63.9	2.94	36.6	0.00			379	203
400	ISL	6.70	6.66	34.247	26.872	123.2	0.776	0.63	9.2	66.9	2.99	37.4	0.00			403	
438		6.41	6.37	34.258	26.919	119.1	0.823	0.54	7.8	71.3	3.05	38.4	0.00			441	202
500	ISL	6.08	6.04	34.307	27.001	111.9	0.894	0.36	5.2	78.3	3.15	39.7	0.00			503	
512		6.02	5.97	34.316	27.016	110.6	0.907	0.32	4.6	79.6	3.17	39.9	0.00			515	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 4.8 N	120 38.5 W	03/02/97	1839 UTC	3823 m	320 13 kn	330 04 04	1	1023.8 mb	15.1 C	13.0 C	22m 02	4/8	CS

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	PRES db	SAMP
0	ISL	14.51	14.51	33.048	24.573	335.4	0.000	6.03	103.7	2.3	0.34	0.0	0.00	0.29	0.09	0	
1	A	14.51	14.51	33.048	24.573	335.4	0.003	6.03	103.7	2.3	0.34	0.0	0.00	0.29	0.09	1	222
1		14.51	14.51	33.049	24.574	335.4	0.003									1	223
6		14.50	14.50	33.049	24.576	335.3	0.020	6.04	103.9	2.3	0.35	0.0	0.00	0.28	0.09	6	221
10	ISL	14.49	14.49	33.049	24.578	335.2	0.034	6.04	103.8	2.3	0.35	0.0	0.00	0.32	0.10	10	
13	A	14.48	14.48	33.049	24.580	335.1	0.044	6.04	103.8	2.3	0.34	0.0	0.00	0.35	0.10	13	220
20	ISL	14.46	14.46	33.047	24.583	335.0	0.067	6.04	103.8	2.3	0.34	0.0	0.00	0.31	0.09	20	
21		14.46	14.46	33.047	24.583	335.0	0.070	6.04	103.8	2.3	0.34	0.0	0.00	0.30	0.09	21	219
29	A	14.35	14.35	33.051	24.610	332.8	0.097	6.06	103.9	2.3	0.35	0.0	0.01	0.37	0.13	29	218
30	ISL	14.23	14.23	33.059	24.641	329.8	0.100	6.05	103.5	2.4	0.37	0.2	0.02	0.41	0.17	30	
37		13.39	13.38	33.127	24.866	308.5	0.123	5.97	100.4	3.1	0.48	1.5	0.12	0.69	0.42	37	217
44	A	13.26	13.25	33.170	24.926	303.0	0.144	5.92	99.3	3.5	0.52	2.2	0.22	0.68	0.38	44	216
50	ISL	13.26	13.25	33.220	24.964	299.5	0.162	5.75	96.5	3.8	0.57	3.1	0.20	0.56	0.33	50	
51		13.26	13.25	33.228	24.971	298.9	0.165	5.72	96.0	3.8	0.58	3.2	0.19	0.53	0.32	51	215
58	A	13.25	13.24	33.308	25.035	293.0	0.186	5.64	94.7	4.3	0.61	3.8	0.21	0.36	0.24	58	214
68		12.47	12.46	33.291	25.175	279.9	0.215	5.32	87.8	6.1	0.81	7.0	0.04	0.19	0.16	68	213
75	ISL	11.90	11.89	33.383	25.354	262.9	0.234	4.85	79.2	9.2	1.01	10.4	0.03	0.12	0.12	75	
83	A	11.29	11.28	33.519	25.573	242.3	0.254	4.28	69.0	13.3	1.25	14.3	0.02	0.07	0.09	83	212
99		10.36	10.35	33.668	25.853	215.9	0.290	3.62	57.2	19.0	1.55	19.1	0.01	0.03	0.06	99	211
100	ISL	10.31	10.30	33.673	25.865	214.7	0.293	3.60	56.9	19.2	1.56	19.3	0.01	0.03	0.06	100	
119		9.61	9.60	33.752	26.045	197.9	0.332	3.37	52.4	22.8	1.72	21.9	0.01	0.01	0.04	120	210
125	ISL	9.45	9.44	33.780	26.093	193.4	0.344	3.30	51.2	24.0	1.76	22.7	0.01	0.01	0.04	126	
139		9.13	9.11	33.843	26.194	184.1	0.370	3.17	48.8	26.7	1.85	24.2	0.00	0.00	0.04	140	209
150	ISL	8.90	8.88	33.887	26.265	177.5	0.390	3.09	47.4	28.6	1.91	25.1	0.00	0.00	0.04	151	
168		8.56	8.54	33.946	26.365	168.3	0.421	3.00	45.7	31.5	1.98	26.2	0.00	0.00	0.03	169	208
197		8.00	7.98	33.995	26.488	157.0	0.468	2.93	44.0	35.9	2.06	27.6	0.00	0.00	0.03	198	207
200	ISL	7.96	7.94	34.001	26.498	156.0	0.473	2.89	43.4	36.5	2.08	27.8	0.00			201	
228		7.61	7.59	34.045	26.584	148.2	0.515	2.42	36.1	42.6	2.27	30.1	0.00			229	206
250	ISL	7.35	7.33	34.061	26.634	143.7	0.548	2.17	32.1	46.8	2.38	31.6	0.00			251	
268		7.16	7.13	34.071	26.669	140.6	0.573	1.99	29.3	49.9	2.46	32.6	0.00			270	205
300	ISL	6.93	6.90	34.102	26.725	135.7	0.617	1.63	23.9	55.0	2.60	34.2	0.00			302	
317		6.83	6.80	34.119	26.752	133.3	0.640	1.45	21.2	57.5	2.67	35.0	0.00			319	204
376		6.46	6.43	34.170	26.842	125.4	0.716	0.92	13.4	66.1	2.89	37.4	0.00			378	203
400	ISL	6.42	6.38	34.213	26.882	122.0	0.746	0.72	10.4	68.6	2.97	37.9	0.00			403	
437		6.37	6.33	34.275	26.938	117.2	0.790	0.47	6.8	72.1	3.06	38.5	0.00			440	202
500	ISL	6.00	5.96	34.297	27.003	111.6	0.863	0.35	5.0	78.8	3.15	39.9	0.00			503	
511		5.94	5.90	34.301	27.014	110.7	0.875	0.33	4.7	80.0	3.16	40.1	0.00			514	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 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 19.4 W	03/02/97	0726 UTC	3720 m	320 15 kn			1024.0 mb	14.7 C	12.8 C			

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	PRES db	SAMP
0	ISL	14.79	14.79	33.187	24.620	330.9	0.000	5.97	103.4	2.3	0.34	0.0	0.00	0.33	0.12	0	
2		14.79	14.79	33.187	24.621	331.0	0.007	5.97	103.4	2.3	0.34	0.0	0.00	0.33	0.12	2	220
10	ISL	14.80	14.80	33.188	24.620	331.3	0.033	5.98	103.5	2.3	0.34	0.0	0.00	0.35	0.11	10	
11		14.80	14.80	33.188	24.620	331.3	0.036	5.98	103.5	2.3	0.34	0.0	0.00	0.35	0.11	11	219
20	ISL	14.80	14.80	33.188	24.620	331.6	0.066	5.99	103.7	2.3	0.34	0.0	0.01	0.34	0.12	20	
21		14.80	14.80	33.188	24.620	331.6	0.070	5.99	103.7	2.3	0.34	0.0	0.01	0.34	0.12	21	218
30		14.77	14.77	33.189	24.627	331.2	0.099	5.96	103.1	2.3	0.34	0.1	0.01	0.37	0.13	30	217
39		14.43	14.42	33.191	24.701	324.4	0.129	6.00	103.1	2.4	0.38	0.4	0.04	0.54	0.24	39	216
50		13.85	13.84	33.218	24.843	311.1	0.164	5.98	101.6	3.1	0.45	1.2	0.11	0.65	0.35	50	215
61		13.49	13.48	33.257	24.947	301.5	0.198	5.72	96.4	3.6	0.56	2.9	0.17	0.48	0.29	61	214
69		12.62	12.61	33.251	25.115	285.6	0.221	5.37	88.9	5.3	0.78	6.3	0.03	0.24	0.18	69	213
75	ISL	11.88	11.87	33.256	25.260	271.9	0.238	5.14	83.8	7.5	0.95	8.9	0.02	0.14	0.12	75	
84		10.91	10.90	33.293	25.465	252.5	0.261	4.81	76.8	11.1	1.17	12.5	0.01	0.07	0.07	84	212
100		10.23	10.22	33.444	25.700	230.3	0.300	4.23	66.6	16.1	1.42	16.9	0.01	0.03	0.04	100	211
120		9.60	9.59	33.623	25.946	207.3	0.344	3.80	59.1	20.5	1.60	20.2	0.01	0.01	0.03	121	210
125	ISL	9.50	9.49	33.666	25.996	202.7	0.354	3.69	57.3	21.5	1.64	20.9	0.01	0.01	0.03	126	
138		9.30	9.28	33.763	26.104	192.6	0.380	3.44	53.2	24.1	1.75	22.6	0.01	0.00	0.02	139	209
150	ISL	9.07	9.05	33.819	26.185	185.1	0.402	3.31	50.9	26.2	1.83	23.8	0.01	0.00	0.02	151	
169		8.74	8.72	33.877	26.283	176.1	0.437	3.19	48.7	28.9	1.92	25.2	0.00	0.00	0.02	170	208
199		8.46	8.44	33.940	26.376	167.8	0.488	3.05	46.3	31.7	1.99	26.2	0.00	0.00	0.01	200	207
200	ISL	8.45	8.43	33.942	26.379	167.5	0.490	3.04	46.1	31.8	1.99	26.3	0.00			201	
230		8.02	8.00	34.012	26.499	156.5	0.539	2.78	41.8	36.9	2.13	28.1	0.00			231	206
250	ISL	7.79	7.77	34.038	26.553	151.6	0.569	2.57	38.4	40.2	2.23	29.3	0.00			251	
269		7.60	7.57	34.056	26.595	147.9	0.598	2.34	34.9	43.5	2.33	30.5	0.00			271	205
300	ISL	7.32	7.29	34.096	26.667	141.5	0.643	1.85	27.4	49.4	2.52	32.6	0.00			302	
324		7.11	7.08	34.120	26.715	137.1	0.676	1.51	22.2	54.0	2.65	34.1	0.00			326	204
380		6.50	6.47	34.115	26.794	130.1	0.751	1.24	18.0	62.9	2.80	36.6	0.00			382	203
400	ISL	6.31	6.27	34.128	26.829	126.9	0.777	1.09	15.8	66.5	2.87	37.5	0.00			403	
428		6.07	6.03	34.153	26.879	122.3	0.811	0.87	12.5	71.4	2.97	38.6	0.00			431	202
500	ISL	5.75	5.71	34.223	26.975	113.9	0.897	0.53	7.6	80.2	3.12	40.3	0.00			503	
510		5.71	5.67	34.233	26.988	112.7	0.908	0.48	6.8	81.4	3.14	40.5	0.00			513	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 23.8 N	121 59.0 W	03/02/97	0042 UTC	3882 m	350 15 kn	350 06 06	1	1022.9 mb	15.8 C	13.7 C		4/8	SC

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	PRES db	SAMP
0	ISL	15.70	15.70	33.162	24.402	351.7	0.000	5.83	102.8	1.6	0.30	0.0	0.00	0.14	0.04	0	
2		15.70	15.70	33.162	24.402	351.8	0.007	5.83	102.8	1.6	0.30	0.0	0.00	0.14	0.04	2	220
10	ISL	15.70	15.70	33.162	24.403	352.0	0.035	5.83	102.8	1.6	0.30	0.0	0.00	0.15	0.05	10	
15		15.70	15.70	33.162	24.403	352.1	0.053	5.83	102.8	1.6	0.30	0.0	0.00	0.16	0.05	15	219
20	ISL	15.69	15.69	33.161	24.404	352.1	0.070	5.83	102.8	1.6	0.30	0.0	0.00	0.15	0.05	20	
30		15.68	15.68	33.159	24.406	352.3	0.106	5.83	102.7	1.6	0.31	0.0	0.00	0.14	0.04	30	218
46		15.55	15.54	33.168	24.442	349.4	0.162	5.83	102.5	1.6	0.30	0.0	0.00	0.20	0.08	46	217
50	ISL	15.39	15.38	33.179	24.486	345.3	0.176	5.84	102.3	1.6	0.32	0.0	0.00	0.26	0.12	50	
54		15.23	15.22	33.190	24.529	341.2	0.189	5.85	102.2	1.6	0.33	0.0	0.00	0.33	0.16	54	216
65		15.16	15.15	33.203	24.555	339.1	0.227	5.82	101.5	1.6	0.33	0.1	0.01	0.45	0.25	65	215
74		14.92	14.91	33.190	24.597	335.3	0.257	5.78	100.3	1.8	0.38	0.3	0.10	0.48	0.29	74	214
75	ISL	14.89	14.88	33.191	24.604	334.7	0.260	5.77	100.1	1.8	0.39	0.4	0.10	0.46	0.28	75	
85		14.50	14.49	33.209	24.702	325.6	0.294	5.63	96.9	2.4	0.46	1.7	0.07	0.26	0.15	85	213
94		14.07	14.06	33.210	24.793	317.2	0.322	5.54	94.5	3.0	0.55	2.9	0.03	0.19	0.13	94	212
100	ISL	13.45	13.44	33.225	24.932	304.0	0.341	5.39	90.8	4.2	0.66	4.7	0.03	0.14	0.11	100	
109		12.47	12.46	33.268	25.158	282.5	0.367	5.12	84.5	6.6	0.84	7.7	0.02	0.08	0.08	109	211
124		11.58	11.56	33.356	25.394	260.3	0.408	4.70	76.2	10.2	1.06	11.4	0.01	0.04	0.05	125	210
125	ISL	11.52	11.50	33.365	25.412	258.6	0.411	4.67	75.6	10.5	1.08	11.7	0.01	0.04	0.05	126	
145		10.34	10.32	33.552	25.767	225.1	0.459	4.04	63.8	16.5	1.41	17.4	0.01	0.01	0.03	146	209
150	ISL	10.10	10.08	33.596	25.842	218.0	0.470	3.92	61.6	18.0	1.48	18.5	0.01	0.01	0.03	151	
168		9.40	9.38	33.736	26.068	196.7	0.508	3.56	55.1	22.9	1.67	21.8	0.00	0.00	0.02	169	208
197		8.72	8.70	33.867	26.278	177.1	0.562	3.22	49.2	28.5	1.87	24.9	0.00	0.00	0.02	198	207
200	ISL	8.67	8.65	33.880	26.296	175.4	0.567	3.17	48.3	29.1	1.89	25.2	0.00			201	
230		8.30	8.28	33.990	26.440	162.3	0.618	2.70	40.9	34.8	2.10	27.9	0.00			231	206
250	ISL	8.08	8.05	34.019	26.496	157.2	0.650	2.59	39.0	37.3	2.16	28.7	0.00			251	
270		7.84	7.81	34.030	26.540	153.2	0.681	2.53	37.9	39.7	2.21	29.4	0.00			271	205
300	ISL	7.37	7.34	34.037	26.613	146.5	0.726	2.34	34.7	45.0	2.31	31.1	0.00			302	
318		7.10	7.07	34.041	26.654	142.8	0.752	2.20	32.4	48.5	2.38	32.2	0.00			320	204
386		6.50	6.47	34.093	26.776	131.8	0.845	1.41	20.5	61.0	2.71	36.1	0.00			388	203
400	ISL	6.41	6.37	34.108	26.800	129.7	0.863	1.26	18.3	63.3	2.77	36.8	0.00			402	
429		6.27	6.23	34.145	26.848	125.5	0.900	0.97	14.0	67.7	2.88	38.0	0.00			432	202
500	ISL	6.29	6.24	34.290	26.960	115.9	0.986	0.42	6.1	74.3	3.10	39.1	0.00			503	
508		6.29	6.24	34.306	26.973	114.8	0.995	0.36	5.2	75.0	3.13	39.2	0.00			511	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 4.9 N	122 39.8 W	02/02/97	1831 UTC	3975 m	350 20 kn	350 06 06	1	1024.7 mb	16.3 C	14.2 C	31m 01	3/8	CS

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	PRES db	SAMP
0	ISL	15.70	15.70	33.132	24.379	353.9	0.000	5.83	102.8	1.6	0.31	0.1	0.00	0.14	0.04	0	
1	A	15.70	15.70	33.132	24.379	353.9	0.004	5.83	102.8	1.6	0.31	0.1	0.00	0.14	0.04	1	221
1		15.70	15.70				0.004									1	222
10	ISL	15.69	15.69	33.131	24.381	354.0	0.035	5.84	102.9	1.6	0.31	0.1	0.00	0.14	0.04	10	
11		15.69	15.69	33.131	24.381	354.1	0.039	5.84	102.9	1.6	0.31	0.1	0.00	0.14	0.04	11	220
18	A	15.69	15.69	33.131	24.381	354.3	0.064	5.85	103.1	1.6	0.31	0.1	0.00	0.14	0.04	18	219
20	ISL	15.69	15.69	33.131	24.381	354.3	0.071	5.85	103.1	1.6	0.31	0.1	0.00	0.14	0.04	20	
30	ISL	15.66	15.66	33.130	24.388	354.0	0.106	5.86	103.2	1.6	0.30	0.1	0.00	0.15	0.04	30	
31		15.66	15.66	33.130	24.388	354.1	0.110			1.6	0.30	0.1	0.00	0.15	0.04	31	218
41	A	15.48	15.47	33.155	24.447	348.7	0.145	5.86	102.8	1.7	0.31	0.1	0.00	0.23	0.09	41	217
50	ISL	15.21	15.20	33.149	24.502	343.7	0.176	5.89	102.8	1.7	0.32	0.1	0.00	0.31	0.15	50	
51		15.18	15.17	33.148	24.508	343.2	0.180	5.89	102.7	1.7	0.32	0.1	0.00	0.32	0.16	51	216
62	A	14.79	14.78	33.148	24.592	335.4	0.217	5.84	101.1	2.0	0.36	0.3	0.06	0.59	0.42	62	215
72		14.38	14.37	33.136	24.671	328.2	0.250	5.79	99.4	2.2	0.42	0.7	0.21	0.47	0.34	72	214
75	ISL	14.26	14.25	33.162	24.716	324.0	0.260	5.74	98.3	2.4	0.45	1.2	0.17	0.41	0.31	75	
83	A	13.92	13.91	33.237	24.845	311.9	0.285	5.57	94.7	3.1	0.54	2.9	0.04	0.26	0.25	83	213
93		13.33	13.32	33.263	24.985	298.8	0.316	5.40	90.7	4.3	0.65	4.5	0.02	0.20	0.19	93	212
100	ISL	12.96	12.95	33.302	25.089	289.0	0.336	5.25	87.6	5.3	0.72	5.8	0.02	0.18	0.18	100	
104		12.73	12.72	33.329	25.155	282.8	0.348	5.16	85.7	6.0	0.77	6.6	0.02	0.17	0.17	104	211
116	A	11.88	11.87	33.415	25.384	261.1	0.380	4.82	78.6	8.6	0.95	9.9	0.01	0.10	0.10	116	210
125	ISL	11.26	11.24	33.473	25.543	246.1	0.403	4.60	74.1	11.0	1.08	12.3	0.01	0.06	0.06	126	
134		10.72	10.70	33.533	25.686	232.6	0.425	4.41	70.2	13.3	1.20	14.3	0.01	0.04	0.04	135	209
150	ISL	10.22	10.20	33.667	25.877	214.7	0.461	4.24	66.8	16.1	1.32	16.5	0.01	0.02	0.03	151	
158		10.05	10.03	33.730	25.955	207.4	0.477	4.16	65.4	17.4	1.37	17.4	0.01	0.01	0.03	159	208
192		8.98	8.96	33.873	26.242	180.5	0.543	3.30	50.7	26.9	1.81	24.0	0.00	0.00	0.02	193	207
200	ISL	8.80	8.78	33.901	26.293	175.8	0.558	3.21	49.1	28.5	1.86	24.8	0.00			201	
225		8.38	8.36	33.975	26.416	164.5	0.600	3.02	45.8	32.7	1.98	26.6	0.00			226	206
250	ISL	8.12	8.09	34.021	26.491	157.7	0.640	2.75	41.4	36.4	2.11	28.1	0.00			251	
268		7.98	7.95	34.045	26.531	154.1	0.668	2.53	38.0	39.0	2.20	29.1	0.00			269	205
300	ISL	7.70	7.67	34.085	26.604	147.7	0.717	2.11	31.5	44.4	2.37	31.0	0.00			302	
318		7.55	7.52	34.105	26.641	144.3	0.743	1.88	28.0	47.5	2.46	32.1	0.00			320	204
376		7.13	7.09	34.176	26.757	134.0	0.824	1.28	18.9	57.0	2.74	35.3	0.00			378	203
400	ISL	6.87	6.83	34.185	26.800	130.1	0.855	1.08	15.8	61.0	2.82	36.4	0.00			402	
436		6.50	6.46	34.195	26.857	124.9	0.901	0.82	11.9	66.6	2.92	37.7	0.00			439	202
500	ISL	6.15	6.11	34.245	26.943	117.4	0.979	0.51	7.3	74.3	3.07	39.3	0.00			503	
511		6.09	6.04	34.254	26.958	116.1	0.992	0.46	6.6	75.6	3.09	39.6	0.00			514	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 90 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 45.1 N	123 22.0 W	02/02/97	0943 UTC	3953 m	330 18 kn			1023.7 mb	16.6 C	15.2 C			

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	PRES db	SAMP
0	ISL	16.42	16.42	33.154	24.233	367.8	0.000	5.75	102.8	1.7	0.28	0.0	0.00	0.12	0.03	0	
2		16.42	16.42	33.154	24.233	367.9	0.007	5.75	102.8	1.7	0.28	0.0	0.00	0.12	0.03	2	220
10	ISL	16.41	16.41	33.155	24.237	367.8	0.037	5.75	102.8	1.7	0.28	0.0	0.00	0.12	0.03	10	
15		16.41	16.41	33.157	24.239	367.8	0.055	5.75	102.8	1.7	0.28	0.0	0.00	0.12	0.03	15	219
20	ISL	16.43	16.43	33.161	24.237	368.1	0.074	5.74	102.7	1.7	0.28	0.0	0.00	0.12	0.03	20	
29		16.45	16.45	33.167	24.238	368.3	0.107	5.73	102.5	1.7	0.27	0.0	0.00	0.13	0.03	29	218
30	ISL	16.45	16.45	33.166	24.237	368.4	0.110	5.73	102.5	1.7	0.27	0.0	0.00	0.13	0.03	30	
45		16.39	16.38	33.158	24.245	368.1	0.166	5.72	102.2	1.7	0.28	0.0	0.00	0.14	0.04	45	217
50	ISL	16.23	16.22	33.133	24.262	366.6	0.184	5.74	102.2	1.7	0.28	0.0	0.00	0.16	0.05	50	
55		16.06	16.05	33.105	24.280	365.1	0.202	5.77	102.4	1.7	0.28	0.0	0.00	0.18	0.06	55	216
64		15.85	15.84	33.073	24.302	363.2	0.235	5.80	102.5	1.7	0.29	0.0	0.00	0.20	0.08	64	215
74		15.54	15.53	33.172	24.448	349.6	0.271	5.79	101.7	1.7	0.34	0.0	0.03	0.31	0.17	74	214
75	ISL	15.45	15.44	33.173	24.469	347.7	0.274	5.78	101.4	1.7	0.35	0.1	0.04	0.31	0.17	75	
85		14.53	14.52	33.168	24.664	329.3	0.308	5.72	98.5	2.2	0.43	0.9	0.15	0.28	0.15	85	213
94		14.16	14.15	33.192	24.760	320.3	0.337	5.68	97.1	2.4	0.45	1.3	0.07	0.25	0.15	94	212
100	ISL	13.67	13.66	33.219	24.882	308.8	0.356	5.66	95.8	2.8	0.48	1.5	0.04	0.20	0.13	100	
109		12.81	12.80	33.262	25.088	289.3	0.383	5.55	92.3	4.0	0.53	2.8	0.02	0.13	0.10	109	211
124		11.53	11.51	33.303	25.362	263.3	0.425	5.00	80.9	8.3	0.93	9.2	0.01	0.06	0.06	125	210
125	ISL	11.45	11.43	33.310	25.382	261.4	0.427	4.97	80.3	8.6	0.95	9.5	0.01	0.06	0.06	126	
148		10.12	10.10	33.524	25.782	223.6	0.483	4.32	67.9	15.8	1.33	16.1	0.01	0.02	0.04	149	209
150	ISL	10.06	10.04	33.543	25.807	221.2	0.487	4.24	66.5	16.4	1.36	16.7	0.01	0.02	0.04	151	
166		9.67	9.65	33.684	25.983	204.8	0.521	3.68	57.3	21.2	1.61	20.6	0.01	0.00	0.02	167	208
199		8.72	8.70	33.856	26.270	177.9	0.585	3.30	50.4	28.0	1.85	24.5	0.01	0.00	0.03	200	207
200	ISL	8.70	8.68	33.860	26.276	177.3	0.586	3.30	50.3	28.2	1.85	24.6	0.01			201	
232		8.17	8.15	33.957	26.433	162.8	0.641	3.17	47.8	33.2	1.96	26.4	0.01			233	206
250	ISL	7.83	7.81	33.983	26.504	156.3	0.670	3.02	45.2	36.8	2.05	27.8	0.01			251	
269		7.49	7.46	33.999	26.566	150.6	0.699	2.83	42.0	40.9	2.15	29.3	0.00			270	205
300	ISL	7.06	7.03	34.018	26.641	143.7	0.744	2.47	36.3	47.2	2.31	31.5	0.00			302	
313		6.92	6.89	34.025	26.666	141.4	0.763	2.31	33.9	49.7	2.38	32.4	0.00			315	204
375		6.48	6.45	34.077	26.766	132.6	0.848	1.51	21.9	60.1	2.68	36.0	0.00			377	203
400	ISL	6.30	6.26	34.104	26.811	128.5	0.880	1.26	18.2	64.4	2.78	37.2	0.00			402	
433		6.07	6.03	34.137	26.867	123.5	0.922	0.98	14.1	70.0	2.90	38.5	0.00			436	202
500	ISL	5.59	5.55	34.173	26.955	115.6	1.002	0.66	9.4	80.5	3.06	40.5	0.00			503	
515		5.48	5.44	34.182	26.976	113.7	1.019	0.59	8.4	82.8	3.09	41.0	0.00			518	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 24.2 N	123 59.7 W	02/02/97	0149 UTC	4228 m	360 14 kn	030 04 05	1	1022.2 mb	17.0 C	16.0 C		7/8	SC

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	PRES db	SAMP
0 ISL	17.39	17.39	33.369	24.171	373.7	0.000	5.62	102.6	1.7	0.24	0.0	0.00	0.10	0.03	0	
1	17.39	17.39	33.369	24.171	373.7	0.004	5.62	102.6	1.7	0.24	0.0	0.00	0.10	0.03	1	220
10 ISL	17.39	17.39	33.369	24.172	374.0	0.037	5.61	102.4	1.7	0.24	0.0	0.00	0.10	0.03	10	
15	17.39	17.39	33.369	24.172	374.2	0.056	5.61	102.4	1.7	0.24	0.0	0.00	0.10	0.03	15	219
20 ISL	17.38	17.38	33.370	24.175	374.0	0.075	5.61	102.3	1.7	0.24	0.0	0.00	0.10	0.03	20	
30	17.35	17.35	33.371	24.184	373.6	0.112	5.61	102.3	1.7	0.24	0.0	0.00	0.10	0.03	30	218
45	17.33	17.32	33.369	24.188	373.7	0.168	5.62	102.4	1.7	0.24	0.0	0.00	0.11	0.03	45	217
50 ISL	17.32	17.31	33.367	24.188	373.8	0.187	5.62	102.4	1.7	0.24	0.0	0.00	0.11	0.03	50	
60	17.30	17.29	33.363	24.191	373.9	0.224	5.62	102.4	1.7	0.24	0.0	0.00	0.13	0.04	60	216
75	16.84	16.83	33.269	24.227	370.8	0.280	5.68	102.5	1.6	0.25	0.0	0.00	0.19	0.06	75	215
85	16.79	16.78	33.293	24.258	368.3	0.317	5.65	101.8	1.6	0.26	0.0	0.00	0.21	0.12	85	214
96	16.45	16.43	33.224	24.284	366.1	0.357	5.68	101.6	1.6	0.28	0.0	0.00	0.23	0.17	96	213
100 ISL	16.17	16.15	33.196	24.326	362.1	0.372	5.71	101.6	1.5	0.30	0.0	0.00	0.26	0.18	100	
106	15.77	15.75	33.178	24.403	355.0	0.394	5.74	101.3	1.5	0.33	0.0	0.01	0.30	0.19	106	212
116	15.62	15.60	33.271	24.508	345.2	0.429	5.75	101.2	1.7	0.32	0.1	0.12	0.25	0.15	116	211
123	15.25	15.23	33.340	24.643	332.6	0.452	5.73	100.2	2.3	0.33	0.4	0.16	0.20	0.18	123	210
125 ISL	15.05	15.03	33.339	24.686	328.5	0.459	5.72	99.6	2.4	0.34	0.5	0.15	0.19	0.18	125	
138	13.60	13.58	33.302	24.962	302.2	0.500	5.64	95.3	3.0	0.42	1.4	0.03	0.13	0.11	139	209
150 ISL	12.55	12.53	33.354	25.210	278.7	0.535	5.47	90.5	4.7	0.55	3.7	0.02	0.08	0.08	151	
165	11.50	11.48	33.455	25.486	252.5	0.575	5.11	82.7	8.0	0.79	7.8	0.01	0.04	0.05	166	208
192	10.14	10.12	33.583	25.826	220.4	0.638	4.03	63.4	17.3	1.42	17.6	0.01	0.01	0.03	193	207
200 ISL	9.80	9.78	33.633	25.922	211.3	0.656	3.86	60.3	19.6	1.53	19.4	0.01			201	
229	8.81	8.79	33.807	26.218	183.5	0.713	3.49	53.4	26.6	1.80	23.6	0.00			230	206
250 ISL	8.36	8.33	33.897	26.358	170.4	0.750	3.26	49.4	30.9	1.92	25.7	0.00			251	
271	8.02	7.99	33.958	26.457	161.2	0.785	3.05	45.8	35.0	2.02	27.2	0.00			272	205
300 ISL	7.53	7.50	33.996	26.558	151.8	0.830	2.77	41.2	40.8	2.16	29.3	0.00			302	
313	7.33	7.30	34.004	26.593	148.6	0.850	2.63	38.9	43.5	2.23	30.2	0.00			315	204
376	6.54	6.51	34.064	26.748	134.3	0.939	1.70	24.7	58.2	2.61	35.0	0.00			378	203
400 ISL	6.34	6.30	34.090	26.795	130.1	0.971	1.40	20.3	62.9	2.73	36.4	0.00			402	
441	6.06	6.02	34.130	26.863	124.0	1.023	1.00	14.4	70.1	2.90	38.3	0.00			444	202
500 ISL	5.65	5.61	34.163	26.940	117.1	1.094	0.73	10.4	78.7	3.04	40.0	0.00			503	
514	5.55	5.51	34.171	26.959	115.4	1.110	0.66	9.4	80.7	3.07	40.4	0.00			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 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 57.2 N	117 18.2 W	29/01/97	1925 UTC	61 m	320 13 kn	310 01 04	1	1021.1 mb	20.8 C	18.0 C	06m 07	1/8	CU

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	PRES db	SAMP
0 ISL	15.38	15.38	33.059	24.394	352.5	0.000			3.9	0.38	0.7	0.06	1.45	0.42	0	
2 A	15.38	15.38	33.059	24.394	352.6	0.007			3.9	0.38	0.7	0.06	1.45	0.42	2	210
2	15.43	15.43	33.041	24.369	354.9	0.007									2	211
4 A	15.12	15.12	33.113	24.492	343.2	0.014	6.20	108.0	3.6	0.36	0.4	0.04	1.15	0.43	4	209
8 A	15.15	15.15	33.212	24.562	336.7	0.028	6.10	106.4	2.9	0.34	0.3	0.03	0.96	0.39	8	208
10 ISL	15.07	15.07	33.312	24.657	327.8	0.034	6.00	104.5	2.6	0.32	0.1	0.02	0.79	0.34	10	
12 A	14.99	14.99	33.401	24.743	319.6	0.041	5.91	102.9	2.3	0.31	0.0	0.01	0.63	0.28	12	207
16	14.98	14.98	33.416	24.757	318.4	0.054	5.88	102.3	2.2	0.31	0.0	0.00	0.53	0.23	16	206
16 A	14.97	14.97	33.417	24.760	318.2	0.054	5.89	102.5	2.2	0.31	0.0	0.00	0.55	0.22	16	205
20 ISL	14.90	14.90	33.419	24.776	316.7	0.066	5.84	101.5	2.4	0.33	0.2	0.03	0.54	0.24	20	
23 A	14.77	14.77	33.420	24.805	314.0	0.076	5.81	100.7	2.5	0.35	0.4	0.05	0.53	0.25	23	204
30	14.12	14.12	33.447	24.964	299.1	0.097	5.37	91.8	4.6	0.57	2.7	0.25	0.56	0.41	30	203
40	12.34	12.33	33.557	25.405	257.3	0.125	4.21	69.4	11.0	1.08	11.1	0.06	0.21	0.27	40	202
50 ISL	11.37	11.36	33.669	25.674	231.9	0.149	3.59	58.0	16.1	1.41	15.7	0.06	0.08	0.20	50	
51	11.27	11.26	33.681	25.701	229.3	0.152	3.53	56.9	16.6	1.44	16.2	0.06	0.07	0.19	51	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 93 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 54.8 N	117 23.7 W	29/01/97	2120 UTC	600 m	290 14 kn	310 01 05	0	1019.4 mb	18.7 C	16.0 C	18m 03	0/8	

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	PRES db	SAMP
0 ISL	15.54	15.54	33.350	24.583	334.5	0.000	5.99	105.4	2.5	0.32	0.1	0.01	0.43	0.14	0	
1	15.54	15.54	33.350	24.583	334.5	0.003	5.99	105.4	2.5	0.32	0.1	0.01	0.43	0.14	1	220
2	15.54	15.54	33.357	24.588	334.1	0.007									2	221
10	15.18	15.18	33.449	24.738	320.0	0.033	5.93	103.6	2.3	0.31	0.1	0.00	0.28	0.11	10	219
20	14.55	14.55	33.464	24.886	306.2	0.064	5.93	102.3	2.2	0.31	0.0	0.02	0.86	0.44	20	218
30	13.78	13.78	33.465	25.048	291.1	0.094	5.27	89.5	4.8	0.60	3.8	0.30	0.76	0.50	30	217
40	12.83	12.82	33.477	25.248	272.2	0.122	4.74	78.9	7.9	0.87	8.3	0.06	0.34	0.31	40	216
50	12.44	12.43	33.592	25.414	256.7	0.149	4.15	68.6	10.9	1.08	11.1	0.03	0.20	0.23	50	215
60	11.88	11.87	33.602	25.528	246.1	0.174	3.98	65.0	12.9	1.22	13.4	0.02	0.15	0.18	60	214
69	11.62	11.61	33.647	25.611	238.3	0.196	3.76	61.1	14.6	1.32	14.8	0.02	0.10	0.15	69	213
75 ISL	11.35	11.34	33.675	25.683	231.7	0.210	3.60	58.2	16.0	1.39	16.2	0.02	0.07	0.12	75	
84	10.93	10.92	33.717	25.791	221.5	0.230	3.41	54.6	17.9	1.50	18.2	0.02	0.03	0.09	84	212
100	10.46	10.45	33.789	25.930	208.6	0.264	3.29	52.2	20.2	1.62	19.7	0.01	0.02	0.07	100	211
120	9.90	9.89	33.919	26.127	190.2	0.304	2.88	45.2	25.0	1.86	22.9	0.01	0.01	0.06	121	210
125 ISL	9.79	9.78	33.939	26.161	187.1	0.314	2.80	43.8	26.0	1.90	23.5	0.01	0.01	0.06	126	
139	9.55	9.53	33.984	26.237	180.2	0.339	2.60	40.5	28.4	2.00	24.8	0.01	0.01	0.05	140	209
150 ISL	9.43	9.41	34.024	26.288	175.5	0.359	2.42	37.6	30.1	2.07	25.8	0.01	0.01	0.05	151	
168	9.29	9.27	34.081	26.355	169.5	0.390	2.15	33.3	32.5	2.17	27.1	0.01	0.01	0.05	169	208
198	9.00	8.98	34.135	26.444	161.5	0.440	1.96	30.2	35.5	2.28	28.3	0.01	0.01	0.05	199	207
200 ISL	8.99	8.97	34.140	26.450	161.0	0.443	1.94	29.8	35.7	2.29	28.4	0.01			201	
229	8.91	8.89	34.201	26.511	155.8	0.489	1.64	25.2	38.6	2.39	29.4	0.01			230	206
250 ISL	8.75	8.72	34.209	26.543	153.2	0.521	1.56	23.9	40.3	2.43	29.9	0.00			251	
268	8.60	8.57	34.208	26.565	151.3	0.549	1.52	23.2	41.7	2.46	30.2	0.00			270	205
300 ISL	8.41	8.38	34.226	26.609	147.6	0.597	1.37	20.8	44.3	2.54	31.1	0.00			302	
317	8.31	8.28	34.238	26.634	145.5	0.622	1.27	19.2	45.8	2.58	31.6	0.00			319	204
379	7.91	7.87	34.280	26.728	137.5	0.709	0.85	12.8	52.3	2.76	33.5	0.00			381	203
400 ISL	7.80	7.76	34.286	26.749	135.8	0.738	0.78	11.7	53.7	2.80	34.0	0.00			403	
438	7.56	7.52	34.291	26.788	132.6	0.789	0.67	10.0	57.0	2.87	34.9	0.00			441	202
500 ISL	6.75	6.70	34.309	26.915	120.8	0.868	0.41	6.0	68.8	3.05	37.5	0.01			503	
515	6.56	6.51	34.315	26.945	117.9	0.885	0.35	5.1	71.6	3.09	38.1	0.01			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 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 31.9 W	29/01/97	2346 UTC	853 m	300 10 kn	320 01 06	0	1018.9 mb	18.3 C	16.2 C	17m 03	0/8

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	PRES db	SAMP
0	ISL	15.14	15.14	33.412	24.718	321.6	0.000	5.98	104.4	2.4	0.30	0.0	0.00	0.32	0.10	0	
2		15.14	15.14	33.412	24.718	321.7	0.006	5.98	104.4	2.4	0.30	0.0	0.00	0.32	0.10	2	220
10		15.12	15.12	33.413	24.724	321.4	0.032	5.98	104.4	2.3	0.30	0.0	0.00	0.33	0.11	10	219
20		14.90	14.90	33.414	24.772	317.0	0.064	6.01	104.4	2.2	0.30	0.0	0.00	0.66	0.27	20	218
30	ISL	14.54	14.54	33.437	24.868	308.3	0.095	5.78	99.7	3.0	0.38	0.8	0.11	1.46	0.54	30	
31		14.48	14.48	33.441	24.883	306.8	0.098	5.73	98.7	3.1	0.39	0.9	0.12	1.51	0.56	31	217
41		13.42	13.41	33.488	25.139	282.6	0.128	4.93	83.1	6.7	0.76	6.2	0.20	0.66	0.50	41	216
50		12.50	12.49	33.581	25.393	258.7	0.152	4.19	69.3	11.2	1.08	11.0	0.04	0.26	0.30	50	215
59		11.89	11.88	33.641	25.556	243.3	0.175	3.79	61.9	14.4	1.28	14.0	0.02	0.12	0.18	59	214
69		11.48	11.47	33.683	25.665	233.2	0.199	3.61	58.5	16.0	1.38	15.6	0.02	0.07	0.13	69	213
75	ISL	11.29	11.28	33.708	25.719	228.2	0.213	3.51	56.7	17.0	1.44	16.4	0.02	0.05	0.11	75	
85		11.00	10.99	33.758	25.811	219.7	0.235	3.31	53.1	18.9	1.54	17.9	0.01	0.03	0.09	85	212
100		10.55	10.54	33.861	25.971	204.8	0.267	2.89	45.9	22.7	1.75	21.0	0.01	0.02	0.07	100	211
119		10.05	10.04	33.931	26.111	191.7	0.304	2.67	42.0	25.9	1.90	23.2	0.02	0.01	0.06	120	210
125	ISL	10.03	10.02	33.958	26.136	189.5	0.316	2.59	40.7	26.6	1.94	23.7	0.02	0.01	0.06	126	
140		9.99	9.97	34.013	26.186	185.1	0.344	2.36	37.1	28.1	2.02	24.7	0.01	0.01	0.06	141	209
150	ISL	9.89	9.87	34.060	26.240	180.2	0.362	2.19	34.4	29.7	2.09	25.6	0.01	0.01	0.06	151	
169		9.70	9.68	34.146	26.339	171.2	0.396	1.89	29.5	32.7	2.23	27.2	0.01	0.01	0.07	170	208
198		9.69	9.67	34.237	26.412	164.9	0.444	1.53	23.9	35.1	2.35	28.2	0.01	0.01	0.05	199	207
200	ISL	9.66	9.64	34.237	26.417	164.4	0.448	1.53	23.9	35.3	2.35	28.3	0.01			201	
230		9.03	9.00	34.207	26.497	157.2	0.496	1.67	25.7	38.2	2.37	29.2	0.01			231	206
250	ISL	8.72	8.69	34.207	26.546	152.8	0.527	1.58	24.2	40.8	2.43	30.0	0.01			251	
268		8.50	8.47	34.216	26.587	149.2	0.554	1.45	22.1	43.2	2.50	30.8	0.01			270	205
300	ISL	8.32	8.29	34.243	26.636	145.0	0.601	1.21	18.3	46.3	2.60	31.7	0.01			302	
316		8.26	8.23	34.258	26.657	143.3	0.624	1.09	16.5	47.7	2.65	32.1	0.01			318	204
378		7.84	7.80	34.284	26.741	136.2	0.711	0.79	11.8	54.0	2.80	33.9	0.00			380	203
400	ISL	7.66	7.62	34.289	26.771	133.6	0.741	0.71	10.6	56.2	2.85	34.5	0.00			403	
437		7.34	7.30	34.296	26.823	129.0	0.789	0.59	8.7	60.3	2.92	35.5	0.00			440	202
500	ISL	6.72	6.67	34.311	26.921	120.2	0.868	0.40	5.8	69.5	3.06	37.9	0.00			503	
511		6.61	6.56	34.314	26.938	118.6	0.881	0.37	5.4	71.1	3.09	38.3	0.00			515	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 40.8 N	117 52.4 W	30/01/97	0355 UTC	619 m	310 12 kn			1020.8 mb	17.7 C	15.6 C		

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	PRES db	SAMP
0	ISL	15.73	15.73	33.460	24.625	330.5	0.000	5.85	103.4	2.4	0.32	0.1	0.00	0.16	0.04	0	
2		15.73	15.73	33.460	24.625	330.6	0.007	5.85	103.4	2.4	0.32	0.1	0.00	0.16	0.04	2	220
10	ISL	15.56	15.56	33.456	24.660	327.5	0.033	5.86	103.2	2.4	0.31	0.1	0.00	0.15	0.04	10	
11		15.53	15.53	33.456	24.667	326.9	0.036	5.86	103.1	2.4	0.31	0.1	0.00	0.15	0.04	11	219
20		15.48	15.48	33.459	24.680	325.8	0.066	5.88	103.4	2.3	0.32	0.1	0.00	0.17	0.04	20	218
30		15.14	15.14	33.484	24.775	317.2	0.098	5.86	102.3	2.2	0.32	0.1	0.00	0.23	0.11	30	217
40		14.94	14.93	33.484	24.818	313.3	0.129	5.84	101.6	2.5	0.35	0.1	0.01	0.65	0.38	40	216
50		14.28	14.27	33.486	24.961	300.0	0.160	5.39	92.5	4.3	0.54	2.7	0.24	0.68	0.47	50	215
60		13.07	13.06	33.530	25.243	273.3	0.189	4.62	77.4	8.3	0.89	8.1	0.06	0.34	0.29	60	214
68		12.49	12.48	33.585	25.399	258.6	0.210	4.16	68.8	11.1	1.09	11.2	0.02	0.22	0.22	68	213
75	ISL	12.06	12.05	33.630	25.516	247.6	0.228	3.92	64.3	12.9	1.20	13.0	0.02	0.15	0.17	75	
84		11.56	11.55	33.677	25.646	235.4	0.249	3.74	60.7	14.8	1.31	14.8	0.01	0.09	0.13	84	212
100		10.67	10.66	33.724	25.843	216.9	0.285	3.60	57.3	17.9	1.48	18.2	0.01	0.05	0.09	100	211
119		9.81	9.80	33.860	26.096	193.1	0.324	3.09	48.3	24.0	1.77	22.5	0.01	0.01	0.05	120	210
125	ISL	9.77	9.76	33.901	26.135	189.5	0.336	2.97	46.4	25.2	1.83	23.2	0.01	0.01	0.05	126	
139		9.66	9.64	33.959	26.199	183.8	0.362	2.73	42.6	27.3	1.94	24.3	0.00	0.01	0.04	140	209
150	ISL	9.49	9.47	33.998	26.258	178.4	0.382	2.57	39.9	29.2	2.02	25.4	0.00	0.01	0.04	151	
169		9.19	9.17	34.047	26.345	170.4	0.415	2.35	36.3	32.0	2.12	27.0	0.00	0.01	0.03	170	208
198		8.98	8.96	34.082	26.406	165.1	0.464	2.22	34.1	34.2	2.19	27.9	0.00	0.01	0.03	199	207
200	ISL	8.96	8.94	34.085	26.412	164.6	0.467	2.21	34.0	34.4	2.20	28.0	0.00			201	
228		8.69	8.67	34.123	26.484	158.2	0.512	2.03	31.0	37.4	2.28	29.0	0.00			229	206
250	ISL	8.47	8.44	34.150	26.540	153.3	0.547	1.89	28.7	40.1	2.36	29.8	0.00			251	
268		8.28	8.25	34.171	26.585	149.2	0.574	1.74	26.3	42.6	2.43	30.6	0.00			270	205
300	ISL	7.93	7.90	34.210	26.668	141.7	0.620	1.33	20.0	48.5	2.60	32.5	0.00			302	
318		7.75	7.72	34.230	26.711	137.9	0.645	1.09	16.3	51.8	2.69	33.5	0.00			320	204
378		7.29	7.25	34.273	26.811	129.1	0.726	0.69	10.2	59.1	2.87	35.6	0.00			380	203
400	ISL	7.13	7.09	34.282	26.841	126.5	0.754	0.62	9.1	61.6	2.92	36.3	0.00			403	
438		6.86	6.82	34.293	26.887	122.5	0.801	0.53	7.8	66.0	3.00	37.3	0.00			441	202
500	ISL	6.38	6.33	34.312	26.966	115.5	0.875	0.36	5.2	73.9	3.10	38.9	0.00			503	
516		6.26	6.21	34.317	26.986	113.7	0.893	0.32	4.6	75.9	3.13	39.3	0.00			520	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 93 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 30.8 N	118 13.0 W	30/01/97	0845 UTC	1624 m	010 11 kn			1022.0 mb	17.5 C	15.0 C		

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	PRES db	SAMP
0	ISL	15.51	15.51	33.464	24.677	325.5	0.000	5.89	103.6	2.3	0.31	0.0	0.00	0.21	0.06	0	
1		15.51	15.51	33.464	24.677	325.6	0.003	5.89	103.6	2.3	0.31	0.0	0.00	0.21	0.06	1	220
9		15.52	15.52	33.466	24.677	325.8	0.029	5.90	103.8	2.3	0.31	0.0	0.00	0.20	0.06	9	219
10	ISL	15.51	15.51	33.463	24.676	325.9	0.033	5.90	103.8	2.3	0.31	0.0	0.00	0.20	0.06	10	
19		15.39	15.39	33.476	24.713	322.7	0.062	5.91	103.7	2.2	0.31	0.0	0.00	0.21	0.07	19	218
20	ISL	15.34	15.34	33.478	24.726	321.5	0.065	5.92	103.8	2.2	0.31	0.0	0.00	0.23	0.08	20	
29		14.78	14.78	33.479	24.849	310.0	0.093	5.97	103.5	2.4	0.32	0.0	0.01	0.47	0.19	29	217
30	ISL	14.71	14.71	33.473	24.859	309.1	0.096	5.96	103.2	2.5	0.33	0.1	0.02	0.47	0.20	30	
40		14.17	14.16	33.413	24.927	302.9	0.127	5.81	99.5	3.1	0.44	1.4	0.14	0.52	0.23	40	216
49		14.02	14.01	33.424	24.967	299.3	0.154	5.76	98.3	3.5	0.48	2.1	0.16	0.50	0.24	49	215
50	ISL	13.99	13.98	33.426	24.975	298.6	0.157	5.73	97.7	3.6	0.49	2.3	0.17	0.49	0.24	50	
59		13.45	13.44	33.441	25.098	287.1	0.184	5.32	89.7	5.6	0.67	5.3	0.22	0.35	0.20	59	214
69		12.12	12.11	33.474	25.384	260.0	0.211	4.63	76.0	10.0	1.01	10.8	0.04	0.16	0.11	69	213
75	ISL	11.47	11.46	33.505	25.529	246.3	0.226	4.35	70.4	12.3	1.17	13.3	0.03	0.09	0.08	75	
83		10.82	10.81	33.549	25.680	232.0	0.245	4.10	65.4	14.8	1.32	15.9	0.01	0.04	0.07	83	212
100		10.29	10.28	33.616	25.824	218.6	0.284	3.85	60.8	17.7	1.46	18.3	0.01	0.03	0.06	100	211
120		9.61	9.60	33.753	26.046	197.9	0.325	3.46	53.8	22.7	1.68	21.7	0.01	0.01	0.04	121	210
125	ISL	9.49	9.48	33.785	26.091	193.7	0.335	3.37	52.3	23.8	1.73	22.3	0.01	0.01	0.04	126	
138		9.23	9.21	33.862	26.193	184.2	0.360	3.14	48.5	26.4	1.84	23.8	0.01	0.00	0.03	139	209
150	ISL	9.02	9.00	33.930	26.280	176.1	0.381	2.94	45.2	29.0	1.94	25.0	0.01	0.00	0.03	151	
169		8.79	8.77	34.022	26.389	166.1	0.414	2.62	40.1	32.8	2.07	26.7	0.01	0.00	0.04	170	208
199		8.70	8.68	34.111	26.473	158.7	0.462	2.09	31.9	36.8	2.25	28.5	0.01	0.00	0.04	200	207
200	ISL	8.70	8.68	34.114	26.475	158.5	0.464	2.07	31.6	36.9	2.26	28.6	0.01			201	
227		8.52	8.50	34.160	26.539	152.9	0.506	1.77	26.9	40.7	2.38	29.9	0.01			228	206
250	ISL	8.07	8.04	34.145	26.596	147.7	0.541	1.80	27.1	44.0	2.41	30.9	0.01			251	
268		7.71	7.68	34.132	26.639	143.8	0.567	1.82	27.2	46.5	2.44	31.6	0.01			270	205
300	ISL	7.63	7.60	34.194	26.700	138.6	0.612	1.38	20.6	51.0	2.61	33.0	0.00			302	
318		7.58	7.55	34.224	26.731	135.9	0.637	1.08	16.1	53.5	2.71	33.8	0.00			320	204
378		7.17	7.13	34.272	26.827	127.5	0.716	0.66	9.7	61.1	2.89	35.9	0.00			380	203
400	ISL	7.03	6.99	34.281	26.854	125.2	0.744	0.58	8.5	63.4	2.94	36.4	0.00			403	
440		6.79	6.75	34.293	26.896	121.6	0.793	0.48	7.0	67.5	3.01	37.3	0.00			443	202
500	ISL	6.38	6.33	34.310	26.965	115.7	0.864	0.37	5.4	74.0	3.10	38.8	0.00			503	
513		6.29	6.24	34.314	26.980	114.3	0.879	0.35	5.1	75.4	3.12	39.1	0.00			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 20.8 N	118 33.3 W	30/01/97	1137 UTC	1357 m	010 08 kn			1021.1 mb	16.2 C	14.6 C		

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	PRES db	SAMP
0	ISL	14.93	14.93	33.305	24.681	325.1	0.000	5.98	103.9	2.3	0.34	0.0	0.00	0.24	0.07	0	
2		14.93	14.93	33.305	24.681	325.2	0.007	5.98	103.9	2.3	0.34	0.0	0.00	0.24	0.07	2	221
10	ISL	14.91	14.91	33.388	24.750	318.9	0.032	5.97	103.7	2.3	0.33	0.0	0.00	0.25	0.09	10	
16		14.89	14.89	33.472	24.819	312.5	0.051	5.97	103.7	2.4	0.33	0.0	0.00	0.26	0.12	16	220
20	ISL	14.84	14.84	33.485	24.840	310.6	0.064	5.95	103.3	2.4	0.34	0.1	0.01	0.30	0.16	20	
30		14.67	14.67	33.483	24.875	307.5	0.095	5.88	101.7	2.6	0.38	0.5	0.05	0.41	0.25	30	219
45		14.32	14.31	33.450	24.925	303.3	0.140	5.84	100.3	3.1	0.42	1.0	0.10	0.46	0.28	45	218
50	ISL	14.32	14.31	33.459	24.932	302.7	0.156	5.79	99.4	3.2	0.43	1.2	0.13	0.43	0.26	50	
55		14.33	14.32	33.475	24.942	301.9	0.171	5.73	98.4	3.3	0.45	1.5	0.17	0.39	0.24	55	217
65		13.98	13.97	33.470	25.012	295.5	0.201	5.55	94.7	4.2	0.53	2.9	0.26	0.33	0.26	65	216
75	ISL	13.31	13.30	33.468	25.147	282.9	0.229	5.20	87.5	6.3	0.73	6.0	0.17	0.23	0.18	75	
76		13.22	13.21	33.470	25.167	281.0	0.232	5.15	86.5	6.6	0.76	6.4	0.16	0.22	0.17	76	215
85		12.04	12.03	33.536	25.447	254.4	0.256	4.45	72.9	10.8	1.07	11.5	0.04	0.13	0.15	85	214
95		11.21	11.20	33.622	25.667	233.6	0.281	3.98	64.1	14.6	1.31	15.4	0.02	0.07	0.11	95	213
100	ISL	10.87	10.86	33.653	25.752	225.6	0.292	3.81	60.9	16.6	1.42	17.2	0.02	0.05	0.09	100	
109		10.33	10.32	33.703	25.886	213.0	0.312	3.56	56.3	20.0	1.59	19.8	0.01	0.02	0.06	110	211
124		9.60	9.59	33.808	26.090	193.7	0.342	3.25	50.6	24.0	1.77	22.4	0.00	0.01	0.04	125	210
125	ISL	9.57	9.56	33.814	26.100	192.8	0.344	3.23	50.2	24.2	1.78	22.5	0.00	0.01	0.04	126	
144		9.20	9.18	33.897	26.225	181.2	0.380	3.00	46.3	27.6	1.90	24.5	0.00	0.00	0.04	145	209
150	ISL	9.12	9.10	33.915	26.252	178.8	0.391	2.96	45.6	28.3	1.92	24.8	0.00	0.00	0.04	151	
169		8.90	8.88	33.958	26.321	172.5	0.424	2.88	44.2	30.2	1.98	25.6	0.00	0.01	0.04	170	208
199		8.43	8.41	34.019	26.442	161.5	0.474	2.75	41.7	34.3	2.07	27.2	0.00	0.00	0.04	200	207
200	ISL	8.41	8.39	34.021	26.447	161.1	0.476	2.74	41.6	34.5	2.07	27.3	0.00			201	
228		8.00	7.98	34.069	26.546	152.0	0.520	2.47	37.1	39.4	2.23	28.9	0.00			229	206
250	ISL	7.93	7.90	34.129	26.604	146.9	0.553	1.98	29.7	43.7	2.39	30.6	0.00			251	
267		7.88	7.85	34.176	26.649	142.9	0.577	1.58	23.7	47.0	2.52	31.8	0.00			269	205
300	ISL	7.76	7.73	34.236	26.714	137.3	0.623	1.09	16.3	52.0	2.71	33.4	0.00			302	
317		7.68	7.65	34.257	26.742	134.9	0.647	0.91	13.6	54.2	2.78	34.1	0.00			319	204
378		7.21	7.17	34.282	26.829	127.3	0.727	0.65	9.6	61.1	2.92	35.9	0.00			380	203
400	ISL	7.03	6.99	34.290	26.861	124.6	0.754	0.57	8.4	63.8	2.97	36.6	0.00			403	
437		6.74	6.70	34.300	26.908	120.4	0.800	0.45	6.6	68.2	3.05	37.7	0.00			440	202
500	ISL	6.34	6.29	34.308	26.968	115.3	0.874	0.38	5.5	74.3	3.11	38.9	0.00			503	
515		6.24	6.19	34.310	26.983	114.0	0.891	0.36	5.2	75.7	3.12	39.2	0.00			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 10.6 N	118 53.7 W	30/01/97	1835 UTC	1475 m	010 08 kn	310 04 06	0	1023.2 mb	19.1 C	16.6 C	28m 02	0/8

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	PRES db	SAMP
0	ISL	15.15	15.15	33.250	24.591	333.7	0.000	5.97	104.2	2.3	0.34	0.0	0.00	0.28	0.05	0	
2		15.17	15.17	33.251	24.588	334.1	0.007									2	223
2	A	15.15	15.15	33.250	24.591	333.8	0.007	5.97	104.1	2.3	0.34	0.0	0.00	0.28	0.05	2	222
10		15.01	15.01	33.251	24.623	331.0	0.033	5.97	103.9	2.3	0.34	0.0	0.00	0.33	0.07	10	221
18	A	14.71	14.71	33.254	24.690	324.9	0.060	6.01	103.9	2.2	0.34	0.0	0.00	0.24	0.09	18	220
20	ISL	14.65	14.65	33.255	24.703	323.6	0.066	6.02	104.0	2.2	0.34	0.0	0.00	0.26	0.10	20	
28		14.43	14.43	33.266	24.759	318.6	0.092	6.05	104.0	2.3	0.35	0.0	0.01	0.38	0.14	28	219
30	ISL	14.38	14.38	33.271	24.773	317.2	0.098	6.02	103.4	2.4	0.36	0.1	0.03	0.41	0.17	30	
37	A	14.24	14.23	33.291	24.818	313.1	0.120	5.90	101.1	2.6	0.40	0.7	0.09	0.50	0.25	37	218
47		14.16	14.15	33.307	24.848	310.6	0.151	5.77	98.7	3.1	0.47	1.6	0.13	0.47	0.25	47	217
50	ISL	14.07	14.06	33.309	24.868	308.8	0.161	5.72	97.6	3.2	0.49	2.0	0.12	0.44	0.24	50	
56	A	13.80	13.79	33.312	24.926	303.3	0.179	5.59	94.9	3.7	0.56	3.2	0.09	0.38	0.22	56	216
65		13.15	13.14	33.324	25.067	290.1	0.206	5.36	89.8	5.1	0.72	5.7	0.04	0.27	0.19	65	215
75	A	12.37	12.36	33.361	25.249	273.1	0.234	5.02	82.7	7.6	0.90	8.7	0.02	0.14	0.14	75	214
90		11.47	11.46	33.511	25.534	246.2	0.273	4.31	69.7	12.7	1.20	13.6	0.02	0.08	0.09	90	213
100	ISL	10.93	10.92	33.539	25.653	235.0	0.297	4.12	65.9	14.7	1.32	15.5	0.01	0.05	0.06	100	
106	A	10.65	10.64	33.552	25.713	229.4	0.311	4.04	64.2	15.7	1.38	16.5	0.01	0.04	0.05	106	212
121		10.16	10.15	33.661	25.882	213.6	0.344	3.67	57.8	19.5	1.57	19.5	0.01	0.02	0.05	122	211
125	ISL	9.98	9.97	33.697	25.941	208.0	0.352	3.56	55.8	20.9	1.63	20.4	0.01	0.02	0.05	126	
141		9.32	9.30	33.835	26.157	187.6	0.384	3.15	48.7	26.2	1.84	23.6	0.01	0.01	0.05	142	210
150	ISL	9.13	9.11	33.886	26.228	181.1	0.401	2.98	45.9	28.3	1.92	24.7	0.01	0.01	0.05	151	
168		8.90	8.88	33.965	26.327	172.0	0.432	2.68	41.1	31.7	2.05	26.3	0.00	0.00	0.04	169	209
198		8.63	8.61	34.095	26.471	158.8	0.482	2.19	33.4	36.7	2.25	28.4	0.00	0.00	0.03	199	208
200	ISL	8.61	8.59	34.102	26.480	158.0	0.485	2.15	32.8	37.1	2.27	28.5	0.00			201	
228		8.40	8.38	34.178	26.572	149.8	0.528	1.65	25.1	42.1	2.46	30.4	0.00			229	207
250	ISL	8.27	8.24	34.204	26.612	146.3	0.561	1.43	21.7	44.7	2.55	31.4	0.00			251	
268		8.14	8.11	34.215	26.641	143.9	0.587	1.31	19.8	46.8	2.60	32.1	0.00			270	206
269		8.14	8.11	34.214	26.640	144.0	0.588	1.31	19.8	46.8	2.60	32.2	0.00			271	205
300	ISL	7.78	7.75	34.222	26.700	138.6	0.632	1.13	16.9	51.2	2.70	33.5	0.00			302	
318		7.56	7.53	34.226	26.735	135.5	0.657	1.03	15.3	53.9	2.76	34.2	0.00			320	204
378		7.09	7.05	34.278	26.843	126.0	0.735	0.59	8.7	63.2	2.97	36.5	0.00			380	203
400	ISL	6.94	6.90	34.283	26.868	123.8	0.763	0.52	7.6	65.2	3.01	37.0	0.00			403	
437		6.71	6.67	34.288	26.903	120.9	0.808	0.46	6.7	68.3	3.05	37.7	0.00			440	202
500	ISL	6.28	6.23	34.316	26.982	113.9	0.882	0.33	4.8	75.8	3.14	39.2	0.00			503	
511		6.21	6.16	34.321	26.995	112.7	0.894	0.31	4.5	77.1	3.15	39.5	0.00			514	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 93 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 0.9 N	119 13.9 W	30/01/97	2135 UTC	1586 m	010 07 kn	330 04 07	0	1021.0 mb	18.0 C	15.8 C	27m 02	0/8

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	PRES db	SAMP
0	ISL	15.49	15.49	33.155	24.443	347.8	0.000	5.92	103.9	2.1	0.32	0.0	0.00	0.22	0.07	0	
2		15.49	15.49	33.155	24.443	347.8	0.007	5.92	103.9	2.1	0.32	0.0	0.00	0.22	0.07	2	220
2		15.50	15.50	33.156	24.442	348.0	0.007									2	221
10	ISL	15.18	15.18	33.149	24.507	342.0	0.035	5.94	103.6	2.1	0.33	0.0	0.00	0.23	0.08	10	
14		14.99	14.99	33.146	24.546	338.4	0.048	5.96	103.6	2.1	0.33	0.0	0.00	0.24	0.08	14	219
20	ISL	14.94	14.94	33.149	24.560	337.3	0.068	5.96	103.5	2.1	0.33	0.0	0.00	0.26	0.09	20	
29		14.91	14.91	33.155	24.571	336.5	0.099	5.96	103.4	2.1	0.33	0.0	0.00	0.30	0.11	29	218
30	ISL	14.89	14.89	33.156	24.576	336.0	0.102	5.96	103.4	2.1	0.33	0.0	0.00	0.32	0.13	30	
45		14.46	14.45	33.163	24.674	327.2	0.152	5.89	101.3	2.3	0.37	0.2	0.06	0.60	0.37	45	217
50	ISL	14.27	14.26	33.154	24.707	324.1	0.168	5.89	100.9	2.3	0.39	0.4	0.10	0.61	0.38	50	
55		14.07	14.06	33.157	24.751	320.0	0.184	5.89	100.5	2.4	0.42	0.8	0.14	0.62	0.38	55	216
64		13.76	13.75	33.233	24.874	308.6	0.213	5.75	97.5	3.1	0.50	2.0	0.18	0.41	0.29	64	215
75		13.36	13.35	33.265	24.980	298.7	0.246	5.55	93.3	3.7	0.60	3.7	0.10	0.25	0.20	75	214
85		12.45	12.44	33.314	25.197	278.2	0.275	5.14	84.8	6.2	0.81	7.3	0.01	0.16	0.15	85	213
95		11.92	11.91	33.426	25.385	260.6	0.302	4.90	80.0	8.2	0.90	9.2	0.01	0.09	0.10	95	212
100	ISL	11.53	11.52	33.472	25.493	250.3	0.314	4.70	76.1	10.0	1.01	11.0	0.01	0.06	0.08	100	
109		10.87	10.86	33.553	25.675	233.1	0.336	4.28	68.4	13.6	1.23	14.6	0.01	0.03	0.05	109	211
124		10.51	10.50	33.688	25.843	217.4	0.370			18.3	1.51	18.5	0.01	0.03	0.05	125	210
125	ISL	10.48	10.47	33.698	25.856	216.2	0.372	3.55	56.3	18.7	1.53	18.8	0.01	0.03	0.05	126	
143		10.00	9.98	33.879	26.080	195.3	0.409	2.80	44.0	24.8	1.86	23.0	0.00	0.01	0.04	144	209
150	ISL	9.92	9.90	33.940	26.141	189.6	0.423	2.54	39.8	26.7	1.96	24.2	0.00	0.01	0.04	151	
168		9.83	9.81	34.062	26.252	179.5	0.456	2.04	32.0	30.4	2.15	26.3	0.00	0.00	0.03	169	208
199		9.60	9.58	34.123	26.338	171.9	0.510	1.92	29.9	32.6	2.23	27.3	0.00	0.00	0.03	200	207
200	ISL	9.59	9.57	34.125	26.341	171.6	0.512	1.91	29.8	32.7	2.23	27.3	0.00			201	
229		9.21	9.18	34.192	26.456	161.2	0.560	1.71	26.4	36.3	2.35	28.6	0.00			230	206
250	ISL	8.97	8.94	34.224	26.520	155.4	0.594	1.54	23.7	39.1	2.43	29.5	0.00			251	
268		8.75	8.72	34.237	26.565	151.4	0.621	1.43	21.9	41.5	2.49	30.3	0.00			270	205
300	ISL	8.20	8.17	34.214	26.632	145.4	0.669	1.43	21.6	45.8	2.55	31.5	0.00			302	
318		7.91	7.88	34.200	26.664	142.4	0.695	1.42	21.3	48.2	2.58	32.2	0.00			320	204
378		7.51	7.47	34.264	26.773	132.9	0.777	0.84	12.5	56.7	2.85	34.8	0.00			380	203
400	ISL	7.37	7.33	34.286	26.810	129.6	0.806	0.69	10.2	59.2	2.91	35.5	0.00			402	
439		7.11	7.07	34.314	26.869	124.5	0.856	0.50	7.4	63.4	2.98	36.5	0.00			442	202
500	ISL	6.58	6.53	34.316	26.943	117.9	0.930	0.37	5.4	71.5	3.09	38.3	0.00			503	
512		6.47	6.42	34.317	26.959	116.5	0.944	0.35	5.1	73.1	3.11	38.7	0.00			515	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 50.8 N	119 34.3 W	31/01/97	0152 UTC	1778 m	330 10 kn	320 03 05	0	1020.8 mb	16.8 C	14.9 C		0/8

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	PRES db	SAMP
0	ISL	15.58	15.58	33.212	24.467	345.5	0.000	5.88	103.4	1.9	0.32	0.0	0.00	0.14	0.04	0	
2		15.58	15.58	33.212	24.468	345.6	0.007	5.88	103.4	1.9	0.32	0.0	0.00	0.14	0.04	2	221
10	ISL	15.50	15.50	33.210	24.484	344.2	0.035	5.89	103.5	1.9	0.31	0.0	0.00	0.13	0.04	10	
16		15.42	15.42	33.209	24.501	342.8	0.055	5.90	103.5	1.9	0.31	0.0	0.00	0.13	0.04	16	220
20	ISL	15.40	15.40	33.209	24.505	342.5	0.069	5.90	103.4	1.9	0.31	0.0	0.00	0.14	0.04	20	
30		15.36	15.36	33.209	24.515	341.9	0.103	5.89	103.2	1.9	0.31	0.0	0.00	0.15	0.05	30	219
44		14.89	14.88	33.249	24.648	329.6	0.150	5.97	103.6	2.2	0.34	0.0	0.00	0.25	0.10	44	218
50	ISL	14.79	14.78	33.260	24.678	326.9	0.170	5.96	103.2	2.2	0.35	0.0	0.00	0.28	0.13	50	
54		14.74	14.73	33.266	24.694	325.5	0.183	5.96	103.1	2.2	0.35	0.0	0.00	0.32	0.16	54	217
64		14.57	14.56	33.279	24.740	321.4	0.215	5.94	102.4	2.3	0.36	0.0	0.03	0.61	0.34	64	216
74		14.37	14.36	33.331	24.823	313.8	0.247	5.87	100.8	2.6	0.41	0.7	0.09	0.51	0.28	74	215
75	ISL	14.31	14.30	33.335	24.839	312.3	0.250	5.83	100.0	2.8	0.43	1.0	0.09	0.48	0.27	75	
84		13.54	13.53	33.344	25.005	296.6	0.277	5.44	91.9	4.5	0.63	4.2	0.12	0.24	0.19	84	214
94		12.44	12.43	33.287	25.178	280.2	0.306	5.29	87.3	6.0	0.78	6.5	0.03	0.12	0.12	94	213
100	ISL	11.88	11.87	33.329	25.317	267.1	0.323	5.04	82.2	7.9	0.92	8.9	0.02	0.08	0.09	100	
110		11.14	11.13	33.443	25.541	245.9	0.348	4.58	73.6	11.6	1.16	12.9	0.01	0.05	0.06	110	212
124		10.52	10.51	33.562	25.743	226.9	0.381	4.15	65.8	15.6	1.36	16.3	0.01	0.02	0.04	125	211
125	ISL	10.48	10.47	33.570	25.756	225.6	0.384	4.12	65.3	15.9	1.37	16.5	0.01	0.02	0.04	126	
144		9.73	9.71	33.714	25.996	203.1	0.424	3.63	56.6	21.2	1.62	20.6	0.01	0.01	0.03	145	210
150	ISL	9.55	9.53	33.755	26.058	197.3	0.436	3.52	54.7	22.7	1.68	21.6	0.01	0.01	0.03	151	
169		9.07	9.05	33.867	26.223	181.9	0.472	3.24	49.8	26.9	1.84	24.0	0.00	0.00	0.02	170	209
170		9.06	9.04	33.872	26.229	181.4	0.474	3.22	49.5	27.0	1.84	24.1	0.00	0.00	0.03	171	208
199		8.61	8.59	33.979	26.383	167.2	0.525	2.83	43.1	32.4	2.04	26.6	0.00	0.00	0.02	200	207
200	ISL	8.60	8.58	33.981	26.386	166.9	0.526	2.82	43.0	32.6	2.05	26.7	0.00			201	
229		8.33	8.31	34.048	26.481	158.4	0.574	2.45	37.1	36.9	2.20	28.5	0.00			230	206
250	ISL	8.17	8.14	34.100	26.546	152.5	0.606	2.11	31.9	40.7	2.33	29.9	0.00			251	
267		8.05	8.02	34.139	26.594	148.2	0.632	1.84	27.7	43.8	2.43	30.9	0.00			268	205
300	ISL	7.87	7.84	34.183	26.656	142.8	0.680	1.45	21.7	48.2	2.58	32.3	0.00			302	
316		7.78	7.75	34.199	26.682	140.6	0.703	1.29	19.3	50.2	2.64	32.9	0.00			318	204
377		7.25	7.21	34.267	26.812	129.0	0.785	0.70	10.4	60.2	2.91	35.7	0.00			379	203
400	ISL	6.82	6.78	34.241	26.851	125.3	0.814	0.69	10.1	65.1	2.97	37.0	0.00			402	
436		6.17	6.13	34.202	26.906	120.0	0.858	0.68	9.8	72.3	3.03	38.9	0.00			439	202
500	ISL	5.95	5.91	34.282	26.997	112.1	0.932	0.41	5.9	78.9	3.16	40.3	0.00			503	
516		5.90	5.86	34.302	27.019	110.1	0.950	0.34	4.9	80.6	3.19	40.6	0.00			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 30.8 N	120 14.7 W	31/01/97	0830 UTC	3932 m	320 08 kn			1022.1 mb	16.1 C	14.9 C		

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	PRES db	SAMP
0	ISL	16.24	16.24	33.273	24.366	355.2	0.000	5.79	103.2	1.7	0.30	0.0	0.00	0.10	0.02	0	
2		16.24	16.24	33.273	24.366	355.2	0.007	5.79	103.2	1.7	0.30	0.0	0.00	0.10	0.02	2	220
10	ISL	16.12	16.12	33.248	24.374	354.7	0.036	5.79	103.0	1.7	0.30	0.0	0.00	0.11	0.02	10	
15		16.05	16.05	33.233	24.379	354.4	0.053	5.79	102.8	1.7	0.30	0.0	0.00	0.11	0.02	15	219
20	ISL	15.85	15.85	33.187	24.389	353.6	0.071	5.83	103.1	1.7	0.30	0.0	0.00	0.13	0.03	20	
28		15.38	15.38	33.118	24.440	348.9	0.099	5.90	103.3	1.7	0.32	0.0	0.00	0.16	0.05	28	218
30	ISL	15.21	15.21	33.116	24.476	345.6	0.106	5.90	103.0	1.8	0.33	0.0	0.00	0.23	0.09	30	
43		14.09	14.08	33.120	24.718	322.9	0.149	5.91	100.8	2.4	0.41	0.6	0.07	0.66	0.38	43	217
50	ISL	13.62	13.61	33.086	24.788	316.3	0.172	6.00	101.3	2.8	0.44	0.9	0.15	0.63	0.40	50	
54		13.39	13.38	33.077	24.828	312.6	0.184	6.02	101.2	3.0	0.46	1.3	0.19	0.62	0.41	54	216
63		13.04	13.03	33.151	24.955	300.7	0.212	5.79	96.7	3.7	0.58	3.2	0.22	0.27	0.18	63	215
73		12.09	12.08	33.140	25.130	284.2	0.241	5.45	89.2	5.4	0.79	6.5	0.02	0.14	0.14	73	214
75	ISL	12.01	12.00	33.154	25.156	281.8	0.247	5.42	88.5	5.7	0.82	7.0	0.02	0.12	0.13	75	
84		11.69	11.68	33.239	25.282	270.0	0.272	5.23	84.9	7.5	0.95	9.1	0.01	0.08	0.08	84	213
93		11.01	11.00	33.317	25.466	252.6	0.295	4.81	77.0	10.7	1.14	12.4	0.01	0.05	0.06	93	212
100	ISL	10.81	10.80	33.373	25.545	245.2	0.313	4.62	73.6	12.0	1.20	13.6	0.01	0.04	0.05	100	
109		10.64	10.63	33.450	25.635	236.9	0.334	4.40	69.9	13.7	1.26	14.9	0.01	0.03	0.04	109	211
123		9.97	9.96	33.613	25.877	214.1	0.366	3.79	59.4	19.0	1.56	19.5	0.01	0.01	0.03	124	210
125	ISL	9.88	9.87	33.630	25.905	211.4	0.370	3.74	58.5	19.6	1.59	19.9	0.01	0.01	0.03	126	
144		9.21	9.19	33.761	26.117	191.5	0.408	3.45	53.2	24.2	1.76	22.8	0.01	0.00	0.02	145	209
150	ISL	9.06	9.04	33.794	26.167	186.8	0.420	3.37	51.8	25.5	1.81	23.5	0.01	0.00	0.02	151	
169		8.69	8.67	33.877	26.290	175.4	0.454	3.19	48.7	29.2	1.92	25.4	0.01	0.00	0.02	170	208
198		8.31	8.29	33.950	26.406	164.8	0.504	3.04	46.0	33.0	2.02	26.8	0.01	0.00	0.02	199	207
200	ISL	8.28	8.26	33.954	26.414	164.1	0.507	3.03	45.8	33.3	2.03	26.9	0.01			201	
228		7.90	7.88	33.997	26.504	155.9	0.552	2.86	42.9	37.4	2.12	28.4	0.01			229	206
250	ISL	7.62	7.60	34.018	26.562	150.7	0.585	2.70	40.2	40.9	2.21	29.5	0.01			251	
267		7.42	7.39	34.029	26.599	147.3	0.611	2.54	37.7	43.8	2.28	30.4	0.01			268	205
300	ISL	7.02	6.99	34.048	26.670	140.9	0.658	2.13	31.3	50.5	2.45	32.7	0.01			302	
316		6.84	6.81	34.058	26.703	137.9	0.681	1.91	28.0	53.8	2.54	33.9	0.01			318	204
378		6.44	6.41	34.134	26.816	127.9	0.763	1.15	16.7	64.7	2.83	37.1	0.00			380	203
400	ISL	6.32	6.28	34.161	26.854	124.6	0.791	0.94	13.6	67.9	2.91	37.9	0.00			402	
437		6.12	6.08	34.202	26.912	119.4	0.836	0.67	9.6	73.0	3.03	39.0	0.00			440	202
500	ISL	5.65	5.61	34.238	26.999	111.5	0.909	0.45	6.4	82.2	3.15	40.8	0.00			503	
516		5.53	5.49	34.248	27.022	109.4	0.926	0.39	5.5	84.5	3.18	41.2	0.00			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 10.8 N	120 55.4 W	31/01/97	1831 UTC	3841 m	320 14 kn	330 03 04	1	1023.0 mb	14.9 C	13.7 C	21m 02	6/8	SC

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	PRES db	SAMP
0	ISL	14.85	14.85	32.960	24.433	348.8	0.000	5.98	103.5	2.0	0.32	0.0	0.00	0.20	0.05	0	
1	A	14.85	14.85	32.960	24.433	348.8	0.003	5.98	103.5	2.0	0.32	0.0	0.00	0.20	0.05	1	221
2		14.85	14.85	32.961	24.433	348.8	0.007									2	222
10	ISL	14.67	14.67	32.979	24.486	344.0	0.035	6.05	104.3	2.3	0.33	0.0	0.00	0.25	0.06	10	
13	A	14.55	14.55	32.990	24.520	340.8	0.045			2.4	0.33	0.0	0.00	0.28	0.07	13	220
20		14.22	14.22	33.012	24.607	332.8	0.069	6.14	105.0	2.7	0.33	0.0	0.00	0.38	0.13	20	219
29	A	13.49	13.49	33.125	24.844	310.4	0.097	6.14	103.5	3.1	0.42	0.9	0.08	0.84	0.36	29	218
30	ISL	13.48	13.48	33.140	24.858	309.1	0.101	6.13	103.3	3.2	0.43	1.0	0.09	0.83	0.36	30	
35		13.42	13.42	33.184	24.904	304.8	0.116	6.07	102.2	3.6	0.46	1.4	0.14	0.75	0.38	35	217
42	A	13.43	13.42	33.231	24.939	301.8	0.137	6.01	101.2	3.7	0.47	1.7	0.18	0.82	0.38	42	216
49		13.44	13.43	33.243	24.946	301.2	0.158	6.01	101.2	3.7	0.47	1.8	0.18	0.72	0.37	49	215
50	ISL	13.43	13.42	33.245	24.950	300.9	0.161	6.00	101.0	3.7	0.47	1.8	0.18	0.70	0.36	50	
57	A	13.39	13.38	33.283	24.987	297.6	0.182	5.90	99.3	3.9	0.51	2.3	0.22	0.53	0.30	57	214
67		12.96	12.95	33.313	25.096	287.4	0.211	5.75	95.9	4.8	0.62	3.9	0.36	0.21	0.17	67	213
75	ISL	12.21	12.20	33.267	25.206	277.1	0.234	5.57	91.4	6.3	0.80	6.8	0.15	0.11	0.12	75	
79	A	11.81	11.80	33.256	25.273	270.8	0.245	5.43	88.4	7.4	0.91	8.6	0.03	0.09	0.10	79	212
94		10.99	10.98	33.488	25.603	239.7	0.283	4.28	68.5	13.7	1.28	14.9	0.02	0.05	0.07	94	211
100	ISL	10.58	10.57	33.540	25.715	229.0	0.297	4.08	64.8	15.7	1.37	16.6	0.02	0.04	0.06	100	
114		9.72	9.71	33.631	25.932	208.5	0.328	3.85	60.0	19.7	1.54	19.5	0.01	0.01	0.03	115	210
125	ISL	9.39	9.38	33.712	26.050	197.5	0.350	3.60	55.7	22.4	1.66	21.5	0.01	0.01	0.03	126	
139		9.15	9.13	33.802	26.159	187.4	0.377	3.32	51.2	25.4	1.79	23.5	0.01	0.00	0.03	140	209
150	ISL	8.99	8.97	33.851	26.223	181.5	0.398	3.15	48.4	27.3	1.87	24.6	0.01	0.00	0.03	151	
169		8.72	8.70	33.911	26.312	173.3	0.431	2.97	45.3	30.3	1.97	26.0	0.01	0.00	0.03	170	208
199		8.06	8.04	33.969	26.458	159.8	0.481	3.03	45.6	35.2	2.02	27.3	0.01	0.00	0.02	200	207
200	ISL	8.04	8.02	33.970	26.462	159.4	0.483	3.03	45.6	35.3	2.02	27.3	0.01			201	
227		7.73	7.71	33.998	26.530	153.4	0.525	2.80	41.8	38.8	2.13	28.7	0.01			228	206
250	ISL	7.62	7.60	34.048	26.585	148.5	0.560	2.40	35.8	42.7	2.28	30.2	0.00			251	
268		7.53	7.50	34.085	26.628	144.7	0.586	2.06	30.6	46.2	2.40	31.5	0.00			270	205
300	ISL	7.03	7.00	34.093	26.704	137.7	0.631	1.72	25.3	53.5	2.55	33.9	0.00			302	
318		6.73	6.70	34.093	26.745	133.9	0.656	1.56	22.8	57.5	2.63	35.1	0.00			320	204
378		6.38	6.35	34.162	26.846	125.0	0.733	0.92	13.3	67.3	2.89	37.8	0.00			380	203
400	ISL	6.28	6.24	34.191	26.882	121.8	0.761	0.75	10.8	70.3	2.96	38.5	0.00			403	
437		6.08	6.04	34.231	26.940	116.7	0.805	0.53	7.6	75.2	3.06	39.4	0.00			440	202
500	ISL	5.53	5.49	34.236	27.012	110.1	0.876	0.44	6.2	84.3	3.14	41.2	0.00			503	
512		5.43	5.39	34.237	27.025	108.9	0.889	0.42	5.9	86.0	3.16	41.5	0.00			515	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9702 STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 50.8 N	121 35.4 W	31/01/97	2339 UTC	4093 m	320 14 kn	330 03 04	1	1021.6 mb	15.0 C	14.0 C	23m 02	7/8	SC

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	PRES db	SAMP
0	ISL	15.52	15.52	33.157	24.438	348.2	0.000	5.86	102.9	1.7	0.31	0.0	0.00	0.14	0.05	0	
1		15.52	15.52	33.157	24.438	348.3	0.003	5.86	102.9	1.7	0.31	0.0	0.00	0.14	0.05	1	221
1		15.52	15.52	33.157	24.438	348.3	0.003									1	222
10	ISL	15.48	15.48	33.169	24.457	346.8	0.035	5.86	102.9	1.6	0.31	0.0	0.00	0.15	0.05	10	
15		15.45	15.45	33.176	24.469	345.8	0.052	5.86	102.8	1.6	0.31	0.0	0.00	0.15	0.05	15	220
20	ISL	15.42	15.42	33.172	24.473	345.6	0.069	5.85	102.6	1.6	0.31	0.0	0.00	0.15	0.05	20	
30		15.37	15.37	33.165	24.479	345.3	0.104	5.85	102.4	1.6	0.31	0.0	0.00	0.16	0.05	30	219
46		14.73	14.72	33.111	24.576	336.5	0.158	5.89	101.8	1.8	0.34	0.1	0.04	0.54	0.30	46	218
50	ISL	14.44	14.43	33.114	24.640	330.5	0.172	5.83	100.2	2.1	0.39	0.6	0.12	0.46	0.29	50	
55		14.05	14.04	33.119	24.726	322.4	0.188	5.75	98.0	2.4	0.45	1.3	0.20	0.34	0.26	55	216
56		14.06	14.05	33.122	24.726	322.4	0.191	5.75	98.0	2.4	0.45	1.3	0.20	0.34	0.26	56	217
66		13.22	13.21	33.105	24.884	307.6	0.223	5.67	95.0	3.0	0.56	3.0	0.04	0.25	0.21	66	215
75	ISL	12.83	12.82	33.147	24.994	297.3	0.250	5.52	91.7	3.8	0.64	4.3	0.02	0.19	0.17	75	
76		12.80	12.79	33.153	25.004	296.4	0.253	5.50	91.4	3.9	0.65	4.4	0.02	0.18	0.17	76	214
85		12.46	12.45	33.209	25.114	286.2	0.279	5.35	88.3	5.5	0.75	6.1	0.02	0.13	0.12	85	213
94		11.93	11.92	33.276	25.266	271.8	0.304	5.11	83.4	7.2	0.85	8.1	0.01	0.09	0.10	94	212
100	ISL	11.64	11.63	33.335	25.366	262.4	0.320	4.94	80.1	8.4	0.93	9.6	0.01	0.08	0.08	100	
109		11.20	11.19	33.407	25.502	249.6	0.343	4.69	75.4	10.6	1.07	12.0	0.01	0.06	0.05	109	211
123		10.25	10.24	33.412	25.673	233.5	0.377	4.37	68.8	15.1	1.33	15.9	0.01	0.02	0.03	124	210
125	ISL	10.16	10.15	33.435	25.706	230.4	0.382	4.30	67.6	15.8	1.36	16.4	0.01	0.02	0.03	126	
144		9.52	9.50	33.693	26.014	201.3	0.423	3.66	56.8	21.7	1.62	21.0	0.00	0.01	0.02	145	209
150	ISL	9.36	9.34	33.746	26.082	195.0	0.435	3.49	54.0	23.5	1.70	22.2	0.00	0.01	0.02	151	
168		8.95	8.93	33.859	26.236	180.6	0.469	3.10	47.6	28.0	1.89	24.9	0.00	0.00	0.02	169	208
199		8.44	8.42	33.943	26.381	167.3	0.523	2.88	43.7	32.4	2.02	26.8	0.00	0.00	0.02	200	207
200	ISL	8.42	8.40	33.946	26.386	166.8	0.524	2.88	43.7	32.6	2.02	26.8	0.00			201	
228		7.98	7.96	34.004	26.498	156.5	0.569	2.82	42.4	36.9	2.10	28.0	0.00			229	206
250	ISL	7.61	7.59	34.008	26.555	151.3	0.603	2.73	40.7	40.1	2.16	29.0	0.00			251	
270		7.32	7.29	34.009	26.598	147.5	0.633	2.64	39.1	43.3	2.23	30.1	0.00			271	205
300	ISL	7.15	7.12	34.071	26.670	141.0	0.676	2.01	29.6	49.6	2.44	32.5	0.00			302	
318		7.09	7.06	34.113	26.712	137.3	0.701	1.60	23.6	53.6	2.58	33.9	0.00			320	204
378		6.60	6.57	34.171	26.825	127.2	0.781	0.97	14.1	64.4	2.86	36.9	0.00			380	203
400	ISL	6.41	6.37	34.190	26.865	123.6	0.808	0.80	11.6	68.3	2.94	37.8	0.00			402	
436		6.11	6.07	34.220	26.927	117.9	0.852	0.59	8.5	74.3	3.04	39.1	0.00			439	202
500	ISL	5.74	5.70	34.279	27.021	109.6	0.925	0.37	5.3	82.6	3.16	40.6	0.00			503	
513		5.66	5.62	34.291	27.040	107.8	0.939	0.32	4.6	84.3	3.18	40.9	0.00			516	201

RV DAVID STARR JORDAN | CALCOFI CRUISE 9702 | STATION 93 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
30 30.8 N	122 15.6 W	01/02/97	0623 UTC	4121 m	320 10 kn			1023.5 mb	15.2 C	14.2 C		

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	PRES db	SAMP
0	ISL	16.09	16.09	33.244	24.378	354.0	0.000	5.79	102.9	1.7	0.30	0.0	0.00	0.10	0.03	0	
2		16.09	16.09	33.244	24.378	354.1	0.007	5.79	102.9	1.7	0.30	0.0	0.00	0.10	0.03	2	221
10	ISL	16.07	16.07	33.244	24.383	353.9	0.035	5.80	103.1	1.7	0.30	0.0	0.00	0.10	0.03	10	
16		16.06	16.06	33.244	24.385	353.8	0.057	5.80	103.0	1.7	0.30	0.0	0.00	0.10	0.03	16	220
20	ISL	15.83	15.83	33.215	24.415	351.1	0.071	5.83	103.1	1.7	0.31	0.0	0.00	0.12	0.03	20	
29		15.28	15.28	33.153	24.489	344.3	0.102	5.90	103.1	1.8	0.32	0.0	0.00	0.17	0.06	29	219
30	ISL	15.25	15.25	33.152	24.495	343.8	0.105	5.90	103.1	1.8	0.32	0.0	0.00	0.18	0.06	30	
45		15.06	15.05	33.160	24.543	339.7	0.157	5.89	102.5	1.8	0.33	0.0	0.00	0.33	0.17	45	218
50	ISL	15.00	14.99	33.159	24.555	338.6	0.174	5.88	102.2	1.8	0.33	0.0	0.00	0.39	0.23	50	
54		14.94	14.93	33.158	24.568	337.6	0.187	5.87	101.9	1.8	0.33	0.0	0.00	0.43	0.27	54	217
65		14.73	14.72	33.151	24.608	334.1	0.224	5.84	100.9	1.9	0.36	0.2	0.06	0.46	0.29	65	216
75		14.40	14.39	33.143	24.672	328.2	0.257	5.79	99.4	2.2	0.41	0.7	0.14	0.33	0.21	75	215
85		13.19	13.18	33.184	24.952	301.7	0.289	5.53	92.6	3.7	0.59	3.5	0.02	0.22	0.20	85	214
95		12.48	12.47	33.216	25.115	286.2	0.318	5.33	88.0	5.2	0.71	5.4	0.02	0.16	0.15	95	213
100	ISL	12.24	12.23	33.233	25.175	280.7	0.332	5.26	86.4	5.8	0.76	6.3	0.02	0.13	0.13	100	
110		11.86	11.85	33.288	25.289	270.0	0.360	5.08	82.8	7.4	0.88	8.3	0.01	0.09	0.10	110	211
111		11.79	11.78	33.289	25.303	268.7	0.363	5.08	82.7	7.4	0.88	8.3	0.01	0.10	0.09	111	212
125		11.28	11.26	33.465	25.533	247.0	0.399	4.54	73.1	11.7	1.13	12.8	0.01	0.04	0.05	126	210
144		10.10	10.08	33.702	25.925	210.0	0.442	3.55	55.8	20.4	1.59	20.0	0.00	0.01	0.02	145	209
150	ISL	9.85	9.83	33.749	26.004	202.6	0.454	3.41	53.3	22.1	1.67	21.2	0.00	0.01	0.02	151	
169		9.34	9.32	33.854	26.170	187.1	0.491	3.13	48.4	26.0	1.83	23.6	0.00	0.00	0.02	170	208
199		9.15	9.13	33.993	26.309	174.4	0.546	2.52	38.9	31.1	2.07	26.5	0.00	0.00	0.02	200	207
200	ISL	9.13	9.11	33.994	26.313	174.0	0.547	2.52	38.9	31.2	2.07	26.5	0.00			201	
230		8.48	8.46	34.011	26.429	163.4	0.598	2.71	41.2	34.2	2.09	27.3	0.00			231	206
250	ISL	8.19	8.16	34.054	26.507	156.2	0.630	2.45	37.0	38.2	2.20	28.8	0.00			251	
269		7.98	7.95	34.101	26.575	150.0	0.659	2.09	31.4	42.4	2.34	30.4	0.00			270	205
300	ISL	7.74	7.71	34.158	26.655	142.8	0.704	1.58	23.6	48.2	2.53	32.4	0.00			302	
317		7.64	7.61	34.183	26.690	139.8	0.728	1.33	19.8	51.0	2.62	33.3	0.00			319	204
373		7.22	7.18	34.227	26.785	131.5	0.804	0.89	13.2	58.7	2.83	35.4	0.00			375	203
400	ISL	7.04	7.00	34.252	26.829	127.5	0.839	0.71	10.5	62.4	2.92	36.3	0.00			402	
435		6.80	6.76	34.281	26.885	122.6	0.883	0.52	7.6	67.1	3.01	37.4	0.00			438	202
500	ISL	6.31	6.26	34.301	26.967	115.4	0.961	0.38	5.5	75.1	3.12	39.1	0.00			503	
513		6.21	6.16	34.305	26.983	113.9	0.975	0.35	5.1	76.7	3.14	39.4	0.00			516	201

RV DAVID STARR JORDAN | CALCOFI CRUISE 9702 | STATION 93 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
30 10.8 N	122 55.5 W	01/02/97	1215 UTC	4075 m	320 09 kn			1021.8 mb	16.0 C	14.8 C		

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	PRES db	SAMP
0	ISL	16.15	16.15	33.147	24.290	362.4	0.000	5.79	103.0	1.6	0.29	0.0	0.00	0.09	0.02	0	
1		16.15	16.15	33.147	24.290	362.5	0.004	5.79	103.0	1.6	0.29	0.0	0.00	0.09	0.02	1	221
10	ISL	16.15	16.15	33.147	24.290	362.7	0.036	5.81	103.3	1.6	0.29	0.0	0.00	0.09	0.02	10	
16		16.15	16.15	33.147	24.290	362.9	0.058	5.82	103.5	1.6	0.29	0.0	0.00	0.09	0.02	16	220
20	ISL	16.12	16.12	33.169	24.314	360.8	0.072	5.82	103.5	1.6	0.29	0.0	0.00	0.10	0.02	20	
30		16.03	16.03	33.221	24.375	355.3	0.108	5.81	103.1	1.7	0.30	0.0	0.00	0.13	0.03	30	219
45		15.96	15.95	33.214	24.386	354.7	0.162	5.83	103.3	1.7	0.30	0.0	0.00	0.13	0.04	45	218
50	ISL	15.91	15.90	33.216	24.399	353.6	0.179	5.83	103.2	1.7	0.30	0.0	0.00	0.13	0.04	50	
55		15.85	15.84	33.216	24.412	352.5	0.197	5.83	103.1	1.7	0.31	0.0	0.00	0.14	0.04	55	217
65		15.35	15.34	33.192	24.505	343.9	0.232	5.89	103.1	1.7	0.32	0.0	0.00	0.21	0.08	65	216
75		14.79	14.78	33.156	24.599	335.2	0.266	5.88	101.8	2.0	0.36	0.1	0.04	0.43	0.27	75	215
85		14.55	14.54	33.211	24.693	326.5	0.299	5.74	98.9	2.4	0.41	0.9	0.08	0.38	0.24	85	214
95		13.72	13.71	33.257	24.901	306.8	0.330	5.61	95.0	3.0	0.48	2.1	0.03	0.31	0.22	95	213
100	ISL	13.20	13.19	33.256	25.006	296.9	0.346	5.53	92.7	3.7	0.55	3.1	0.02	0.23	0.18	100	
109		12.31	12.30	33.260	25.182	280.2	0.372	5.38	88.5	5.3	0.68	5.2	0.01	0.10	0.09	109	212
125	ISL	11.50	11.48	33.382	25.429	257.0	0.414	5.07	82.0	8.1	0.85	8.4	0.01	0.06	0.05	126	
127		11.43	11.41	33.401	25.456	254.4	0.420	5.03	81.3	8.5	0.87	8.8	0.01	0.05	0.05	128	211
145		10.68	10.66	33.550	25.707	230.9	0.463	4.64	73.8	12.8	1.10	13.1	0.01	0.02	0.03	146	210
150	ISL	10.44	10.42	33.579	25.771	224.8	0.475	4.51	71.4	14.3	1.18	14.4	0.01	0.01	0.03	151	
169		9.56	9.54	33.679	25.997	203.5	0.515	4.05	62.9	19.8	1.48	19.1	0.00	0.00	0.02	170	209
199		8.75	8.73	33.877	26.282	176.8	0.572	3.66	55.9	26.7	1.73	23.1	0.00	0.00	0.01	200	207
199		8.75	8.73	33.874	26.279	177.0	0.572	3.68	56.2	26.6	1.72	23.1	0.00	0.00	0.01	200	208
200	ISL	8.73	8.71	33.881	26.288	176.3	0.574	3.64	55.6	26.9	1.74	23.2	0.00			201	
228		8.11	8.09	33.955	26.441	162.0	0.622	3.27	49.3	33.3	1.95	26.1	0.00			229	206
250	ISL	7.76	7.74	33.978	26.510	155.6	0.656	3.17	47.4	36.6	2.02	27.3	0.00			251	
269		7.54	7.51	33.991	26.552	151.9	0.686	3.06	45.5	39.3	2.08	28.2	0.00			270	205
300	ISL	7.32	7.29	34.047	26.628	145.1	0.732	2.37	35.1	46.1	2.33	31.1	0.00			302	
318		7.21	7.18	34.080	26.669	141.4	0.757	1.93	28.5	50.3	2.49	32.8	0.00			320	204
377		6.59	6.56	34.129	26.793	130.2	0.838	1.19	17.3	62.4	2.79	36.6	0.00			379	203
400	ISL	6.39	6.35	34.148	26.834	126.4	0.867	1.01	14.6	66.5	2.88	37.6	0.00			402	
437		6.11	6.07	34.176	26.893	121.2	0.913	0.80	11.5	72.3	2.99	38.8	0.00			440	202
500	ISL	5.79	5.75	34.211	26.961	115.3	0.987	0.58	8.3	79.2	3.10	40.2	0.00			503	
515		5.71	5.67	34.220	26.978	113.8	1.005	0.53	7.6	80.9	3.13	40.5	0.00			518	201

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
29 50.4 N	123 35.5 W	01/02/97	1859	UTC	4012 m	340	13 kn	350 03 04	1	1025.0 mb	18.2 C	16.7 C	34m 01	7/8	SC

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	PRES db	SAMP
0	ISL	16.48	16.48	33.152	24.218	369.3	0.000	5.73	102.6	1.6	0.28	0.0	0.00	0.10	0.04	0	
2		16.48	16.48	33.152	24.218	369.3	0.007									2	224
2	A	16.48	16.48	33.152	24.218	369.3	0.007	5.73	102.6	1.6	0.28	0.0	0.00	0.10	0.04	2	223
10	ISL	16.46	16.46	33.151	24.222	369.2	0.037	5.73	102.5	1.6	0.31	0.0	0.00	0.11	0.03	10	
12		16.45	16.45	33.151	24.225	369.0	0.044	5.73	102.5	1.6	0.32	0.0	0.00	0.11	0.03	12	222
20	ISL	16.44	16.44	33.151	24.227	369.0	0.074	5.73	102.5	1.6	0.29	0.0	0.00	0.11	0.03	20	
21	A	16.44	16.44	33.151	24.227	369.1	0.078	5.73	102.5	1.6	0.28	0.0	0.00	0.11	0.03	21	221
30	ISL	16.44	16.44	33.151	24.228	369.3	0.111	5.73	102.5	1.6	0.28	0.0	0.00	0.11	0.03	30	
34		16.44	16.43	33.151	24.228	369.4	0.126	5.73	102.5	1.6	0.28	0.0	0.00	0.11	0.03	34	220
46	A	16.44	16.43	33.151	24.228	369.8	0.170	5.74	102.7	1.6	0.28	0.0	0.00	0.11	0.03	46	219
50	ISL	16.43	16.42	33.150	24.230	369.7	0.185	5.74	102.6	1.6	0.28	0.0	0.00	0.12	0.03	50	
58		16.40	16.39	33.147	24.235	369.5	0.214	5.73	102.4	1.6	0.28	0.0	0.00	0.14	0.04	58	218
71	A	15.86	15.85	33.124	24.340	359.9	0.262	5.79	102.4	1.6	0.29	0.0	0.00	0.24	0.09	71	217
75	ISL	15.80	15.79	33.128	24.356	358.4	0.276	5.80	102.4	1.6	0.29	0.0	0.00	0.26	0.11	75	
81		15.72	15.71	33.133	24.378	356.5	0.297	5.80	102.2	1.6	0.30	0.0	0.00	0.27	0.13	81	216
91	A	15.46	15.45	33.119	24.425	352.3	0.333	5.82	102.1	1.6	0.32	0.0	0.00	0.28	0.17	91	215
100		15.09	15.07	33.230	24.592	336.6	0.364	5.75	100.1	2.0	0.36	0.3	0.21	0.26	0.18	100	214
108		14.44	14.42	33.250	24.747	322.0	0.390	5.76	99.0	2.3	0.36	0.5	0.16	0.22	0.15	108	213
119		13.27	13.25	33.184	24.937	304.1	0.425	5.69	95.4	2.7	0.44	1.3	0.03	0.16	0.12	119	212
125	ISL	12.82	12.80	33.187	25.028	295.4	0.443	5.61	93.2	3.4	0.50	2.2	0.02	0.12	0.11	125	
127	A	12.67	12.65	33.192	25.061	292.3	0.449	5.57	92.3	3.8	0.53	2.7	0.02	0.11	0.10	127	211
139		11.51	11.49	33.253	25.327	267.0	0.482	5.16	83.4	7.4	0.83	7.7	0.01	0.05	0.06	140	210
150	ISL	11.01	10.99	33.352	25.494	251.2	0.511	4.76	76.2	10.6	1.06	11.5	0.00	0.04	0.05	151	
165		10.64	10.62	33.499	25.674	234.4	0.547	4.24	67.4	14.8	1.32	15.7	0.00	0.02	0.04	166	209
192		9.60	9.58	33.711	26.016	202.2	0.606	3.58	55.7	21.8	1.65	21.2	0.00	0.00	0.03	193	207
194		9.50	9.48	33.727	26.045	199.5	0.610	3.52	54.6	22.6	1.68	21.6	0.00	0.00	0.03	195	208
200	ISL	9.36	9.34	33.760	26.094	194.9	0.622	3.45	53.4	23.7	1.72	22.4	0.00			201	
228		8.68	8.66	33.889	26.302	175.4	0.674	3.16	48.2	29.5	1.90	25.3	0.00			229	206
250	ISL	8.27	8.24	33.944	26.408	165.6	0.711	3.09	46.7	32.9	1.98	26.5	0.00			251	
269		7.96	7.93	33.972	26.477	159.3	0.742	3.04	45.6	35.7	2.03	27.3	0.00			270	205
300	ISL	7.42	7.39	34.002	26.578	149.8	0.790	2.71	40.2	42.3	2.19	29.7	0.00			302	
318		7.14	7.11	34.014	26.627	145.3	0.817	2.48	36.5	46.2	2.29	31.1	0.00			320	204
379		6.64	6.61	34.062	26.733	135.9	0.902	1.75	25.5	56.7	2.58	34.6	0.00			381	203
400	ISL	6.40	6.36	34.078	26.778	131.8	0.930	1.50	21.7	61.5	2.69	35.9	0.00			402	
438		5.96	5.92	34.110	26.859	124.2	0.979	1.09	15.6	70.4	2.87	38.2	0.00			441	202
500	ISL	5.50	5.46	34.167	26.961	114.9	1.053	0.69	9.8	81.4	3.05	40.3	0.00			503	
513		5.40	5.36	34.179	26.983	112.9	1.068	0.61	8.6	83.7	3.09	40.8	0.00			516	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 9702 — STATION 75 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
35 11.0 N	121 24.3 W	14/ 2/97	1919 UTC	25 m	03	1220 - 1815 PST	1220 PST	1815 PST	503.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	13.192	33.407	25.121	6.02	101.0	5.8	0.56	2.9	0.17	0.54	0.26	88. A	11.5	9.9	10.7	0.09
8	13.064	33.406	25.146	6.00	100.4	5.8	0.56	2.9	0.17	1.44	0.41					
15	13.052	33.406	25.149	6.03	100.9	5.8	0.56	2.9	0.17	0.81	0.32	40.	14.8	14.2	14.5	0.12
25	13.028	33.407	25.155	6.00	100.3	6.0	0.56	3.1	0.17	0.95	0.43					
33	12.993	33.411	25.165	5.98	99.9	6.1	0.57	3.2	0.18	0.60	0.38	13.	6.2	7.2	6.7	0.09
41	12.992	33.411	25.165	5.98	99.9	6.1	0.57	3.2	0.18	0.74	0.32					
51	12.972	33.410	25.169	5.94	99.2	6.1	0.58	3.3	0.18	0.41	0.27	4.4	3.3	3.8	3.6	0.09
59	12.435	33.427	25.287	5.45	90.0	8.0	0.79	6.6	0.20	0.29	0.28					
68	10.977	33.474	25.593	4.35	69.6	13.7	1.30	14.6	0.11	0.12	0.13	1.5	0.20	0.17	0.19	0.05
82	10.130	33.524	25.780	3.96	62.3	18.0	1.53	18.5	0.08	0.06	0.11					
95	9.638	33.716	26.012	3.31	51.5	23.2	1.79	22.3	0.04	0.02	0.08	0.29	0.01	0.00	0.00	0.02

RV DAVID STARR JORDAN — CALCOFI CRUISE 9702 — STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 23.2 N	122 15.3 W	13/ 2/97	1838 UTC	15 m	03	1223 - 1813 PST	1223 PST	1813 PST	336.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	13.348	33.271	24.985	6.08	102.2	4.2	0.47	1.5	0.11	0.83	0.29	81. A	7.0	6.2	6.6	0.11
9	13.356	33.269	24.982	6.08	102.3	4.1	0.47	1.4	0.11	0.82	0.28	40.	14.9	14.6	14.8	0.13
21	13.321	33.301	25.014	6.06	101.9	4.2	0.48	1.7	0.12	0.93	0.36	12.	9.7	10.2	9.9	0.08
30	13.315	33.314	25.026	6.04	101.5	4.3	0.48	1.8	0.13	0.93	0.36	4.6	4.4	4.6	4.5	0.05
40	13.293	33.337	25.048	6.01	101.0	4.5	0.51	2.1	0.14	0.81	0.36	1.7	1.0	0.91	0.97	0.04
49	13.214	33.338	25.065	5.97	100.1	4.7	0.53	2.5	0.14	0.76	0.34					
56	12.454	33.251	25.147	5.62	92.7	5.8	0.72	5.3	0.13	0.44	0.24	0.32	0.04	0.09	0.07	0.03

RV DAVID STARR JORDAN — CALCOFI CRUISE 9702 — STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 3.2 N	122 57.1 W	12/ 2/97	1859 UTC	20 m	01	1225 - 1817 PST	1226 PST	1817 PST	178.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	13.767	32.903	24.616	6.11	103.4	2.3	0.35	0.2	0.01	0.29	0.06	86. A	2.7	2.4	2.6	0.03
14	13.764	32.904	24.617	6.12	103.6	2.3	0.35	0.2	0.01	0.29	0.06	34.	4.8	4.8	4.8	0.05
21	13.705	32.902	24.628	6.13	103.6	2.3	0.35	0.2	0.02	0.29	0.06					
28	13.524	32.899	24.662	6.16	103.7	2.6	0.37	0.3	0.03	0.34	0.10	12.	4.5	4.5	4.5	0.05
35	13.033	32.952	24.802	6.23	103.9	3.4	0.45	1.2	0.12	0.41	0.11					
41	12.920	32.973	24.840	6.20	103.1	3.6	0.49	1.6	0.21	0.41	0.14	4.3	2.3	2.3	2.3	0.04
49	11.949	33.083	25.112	5.58	91.0	5.8	0.81	6.6	0.12	0.26	0.11					
54	11.218	33.089	25.250	5.46	87.7	6.5	0.87	7.3	0.06	0.18	0.10	1.6	0.31	0.28	0.29	0.03
66	10.613	33.156	25.410	5.23	82.9	9.2	1.01	9.9	0.03	0.12	0.09					
74	10.298	33.230	25.521	5.01	78.9	11.4	1.13	12.0	0.02	0.08	0.07	0.34	0.02	0.02	0.02	0.01

RV DAVID STARR JORDAN — CALCOFI CRUISE 9702 — STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 19.1 N	120 48.0 W	10/ 2/97	1837 UTC	17 m	03	1217 - 1811 PST	1217 PST	1811 PST	552.4 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	13.281	33.398	25.097	5.97	100.3	4.6	0.56	2.9	0.10	0.53	0.20	83. A	16.0	13.6	14.8	0.09
11	13.158	33.489	25.192	5.91	99.1	5.7	0.60	3.6	0.13	1.29	0.43	37.	20.1	19.9	20.0	0.17
23	12.797	33.523	25.290	5.66	94.2	7.7	0.75	5.9	0.16	1.54	0.61	13.	13.4	14.6	14.0	0.08
35	12.427	33.568	25.397	5.23	86.4	11.0	0.97	9.2	0.20	1.25	0.57	4.2	6.3	6.5	6.4	0.11
46	11.159	33.600	25.658	4.04	65.0	15.4	1.34	15.2	0.12	0.25	0.25	1.6	0.33	0.28	0.30	0.04
55	10.671	33.722	25.840	3.40	54.2	19.9	1.59	18.8	0.07	0.11	0.22					
65	10.574	33.749	25.878	3.29	52.3	20.8	1.65	19.4	0.05	0.08	0.18	0.28	0.01	0.02	0.01	0.02

A) INCUBATION LIGHT INTENSITIES WERE 90, 38, 12, 4.3, 1.6, 0.29 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 9702 — STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 9.0 N	123 13.5 W	11/ 2/97	1808 UTC	33 m	01	1227 - 1822 PST	1227 PST	1822 PST	118.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.082	32.934	24.363	5.88	102.2	1.6	0.30	0.0	0.00	0.11	0.02	91. A	2.0	1.9	2.0	0.05
12	15.079	32.934	24.364	5.89	102.4	1.6	0.30	0.0	0.00	0.12	0.03					
22	15.081	32.934	24.364	5.88	102.2	1.6	0.30	0.0	0.00	0.11	0.03	36.	1.6	1.5	1.5	0.04
33	14.995	32.932	24.381	5.90	102.4	1.6	0.30	0.0	0.00	0.12	0.03					
45	14.351	32.936	24.521	5.99	102.6	1.7	0.33	0.0	0.01	0.25	0.10	12.	1.4	1.5	1.4	0.03
56	13.859	33.060	24.720	5.85	99.3	2.0	0.43	0.8	0.10	0.35	0.29					
67	12.830	33.029	24.902	6.18	102.6	2.5	0.50	1.9	0.08	0.38	0.29	4.4	1.2	1.2	1.2	0.03
77	11.963	33.022	25.062	5.70	92.9	4.3	0.68	4.7	0.07	0.07	0.04					
90	11.355	33.044	25.192	5.67	91.3	5.4	0.79	6.2	0.03	0.15	0.12	1.5	0.15	0.12	0.13	0.02
101	10.854	33.091	25.318	5.29	84.3	7.4	0.92	8.4	0.02	0.09	0.09					
110	10.315	33.231	25.520	4.89	77.0	11.5	1.14	12.4	0.01	0.05	0.06					
125	9.942	33.402	25.717	4.39	68.7	15.8	1.39	16.5	0.01	0.02	0.08	0.30	0.00	0.00	0.00	0.01

RV DAVID STARR JORDAN — CALCOFI CRUISE 9702 — STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 45.1 N	120 24.3 W	9/ 2/97	1830 UTC	20 m	05	1216 - 1805 PST	1216 PST	1804 PST	1171.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	12.968	33.480	25.223	5.80	96.9	5.2	0.62	4.4	0.14	2.26	0.63	86. A	31.8	32.0	31.9	0.15
12	12.946	33.479	25.226	5.78	96.5	5.2	0.64	4.5	0.14	2.34	0.60	40.	40.3	45.7	43.0	0.17
20	12.937	33.478	25.228	5.76	96.2	5.2	0.63	4.6	0.14	2.63	0.62					
26	12.926	33.478	25.230	5.75	96.0	5.2	0.62	4.7	0.13	2.52	0.69	14.	19.6	22.7	21.1	0.23
34	12.913	33.478	25.233	5.76	96.1	5.2	0.62	4.7	0.13	2.83	0.57					
40	12.911	33.480	25.235	5.78	96.4	5.1	0.63	4.7	0.13	3.20	0.69	4.6	9.9	9.0	9.4	0.13
47	12.836	33.479	25.249	5.68	94.6	5.4	0.65	4.6	0.13	2.87	0.58					
53	12.164	33.499	25.394	4.79	78.7	10.0	0.99	10.1	0.19	0.68	0.44	1.7	0.57	0.54	0.55	0.05
64	11.418	33.550	25.573	4.25	68.7	13.5	1.22	14.0	0.13	0.29	0.28					
76	10.637	33.575	25.732	4.02	63.9	16.2	1.39	17.1	0.03	0.09	0.18	0.29	0.00	0.00	0.00	0.03

RV DAVID STARR JORDAN — CALCOFI CRUISE 9702 — STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 35.2 N	122 49.8 W	8/ 2/97	1834 UTC	24 m	01	1225 - 1813 PST	1225 PST	1813 PST	87.7 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.450	33.110	24.418	5.86	102.8	1.7	0.31	0.0	0.00	0.14	0.04	88. A	1.3	1.3	1.3	0.04
15	15.444	33.108	24.418	5.85	102.6	1.7	0.31	0.0	0.00	0.14	0.04	38.	1.8	1.8	1.8	0.04
33	15.424	33.121	24.433	5.85	102.5	1.7	0.32	0.0	0.00	0.15	0.05	12.	1.2	1.2	1.2	0.04
49	15.405	33.123	24.439	5.86	102.7	1.7	0.32	0.0	0.00	0.16	0.05	4.4	0.41	0.43	0.42	0.03
56	14.705	33.134	24.600	5.95	102.8	1.9	0.37	0.0	0.00	0.40	0.26					
65	13.953	33.122	24.748	5.80	98.7	2.5	0.48	1.3	0.12	0.64	0.49	1.6	0.91	1.1	1.0	0.04
74	13.299	33.124	24.883	5.64	94.6	3.0	0.58	3.0	0.03	0.35	0.31					
83	12.545	33.122	25.030	5.51	91.0	4.2	0.69	4.8	0.02	0.21	0.18					
91	12.299	33.197	25.135	5.47	89.9	4.5	0.65	4.3	0.01	0.17	0.14	0.30	0.04	0.05	0.05	0.01

RV DAVID STARR JORDAN — CALCOFI CRUISE 9702 — STATION 87 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 39.5 N	118 58.6 W	5/ 2/97	1842 UTC	19 m	04	1211 - 1800 PST	1210 PST	1759 PST	380.9 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	14.352	33.459	24.923	6.22	106.9	1.6	0.34	0.1	0.02	0.52	0.22	92. A	12.6	11.7	12.2	0.11
12	14.264	33.457	24.941	6.24	107.1	1.7	0.34	0.1	0.02	0.64	0.28	38.	12.9	12.8	12.8	0.13
19	14.220	33.459	24.952	6.21	106.4	2.1	0.36	0.4	0.03	0.82	0.40					
26	13.989	33.459	25.000	6.08	103.7	2.7	0.41	1.1	0.06	0.95	0.48	12.	8.2	9.5	8.9	0.09
32	13.635	33.469	25.081	5.79	98.1	4.2	0.55	2.8	0.15	0.85	0.60					
39	13.154	33.497	25.200	5.28	88.5	6.4	0.73	5.6	0.27	0.45	0.39	4.3	1.5	1.5	1.5	0.04
50	12.386	33.546	25.388	4.59	75.8	10.2	1.01	10.2	0.20	0.23	0.27	1.8	0.21	0.18	0.20	0.03
60	11.931	33.585	25.505	4.17	68.2	12.4	1.17	12.8	0.07	0.16	0.24					
72	11.334	33.643	25.661	3.81	61.5	15.3	1.36	15.6	0.03	0.11	0.19	0.30	0.01	0.02	0.01	0.02

A) INCUBATION LIGHT INTENSITIES WERE 90, 38, 12, 4.3, 1.6, 0.29 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 9702 — STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 38.5 N	121 2.1 W	6/ 2/97	1839 UTC	23 m	02	1219 - 1812 PST	1218 PST	1811 PST	181.9 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	14.444	32.985	24.538	5.97	102.5	1.8	0.33	0.1	0.01	0.35	0.13	88. A	3.4	2.9	3.1	0.05
15	14.432	32.985	24.541	5.99	102.8	1.8	0.33	0.0	0.01	0.33	0.12	37.	4.6	4.3	4.4	0.05
23	14.300	32.995	24.577	5.99	102.5	2.0	0.34	0.1	0.01	0.38	0.13					
32	14.201	33.003	24.604	6.01	102.7	2.1	0.35	0.1	0.02	0.41	0.14	12.	3.2	3.3	3.3	0.06
40	14.141	33.010	24.622	6.03	102.9	2.2	0.35	0.2	0.02	0.44	0.15					
47	14.106	33.013	24.632	6.01	102.5	2.3	0.36	0.2	0.02	0.44	0.19	4.3	1.7	1.8	1.7	0.05
54	14.001	33.024	24.662	6.02	102.4	2.4	0.36	0.3	0.03	0.46	0.17					
61	13.988	33.025	24.666	6.02	102.4	2.4	0.36	0.3	0.04	0.47	0.18	1.7	0.56	0.55	0.56	0.04
72	13.912	33.027	24.684	6.03	102.4	2.5	0.39	0.4	0.07	0.45	0.20					
87	12.622	33.038	24.950	5.74	94.9	3.6	0.60	3.1	0.09	0.22	0.16	0.30	0.06	0.08	0.07	0.02

RV DAVID STARR JORDAN — CALCOFI CRUISE 9702 — STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 19.3 N	123 43.1 W	7/ 2/97	1857 UTC	49 m	01	1229 - 1822 PST	1229 PST	1822 PST	170.6 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	16.028	33.078	24.264	5.81	103.0	1.7	0.29	0.0	0.00	0.10	0.02	97. A	1.2	1.1	1.2	0.04
18	15.961	33.088	24.288	5.79	102.6	1.7	0.29	0.0	0.00	0.10	0.03					
31	15.643	33.040	24.322	5.84	102.8	1.6	0.30	0.0	0.00	0.12	0.03	38.	1.6	1.6	1.6	0.06
41	15.611	33.076	24.357	5.87	103.2	1.6	0.30	0.0	0.00	0.13	0.04					
56	15.288	33.133	24.473	6.07	106.1	1.7	0.32	0.0	0.00	0.26	0.12					
67	14.995	33.128	24.533	5.89	102.3	1.8	0.34	0.0	0.00	0.38	0.26	12.	2.5	2.6	2.6	0.04
76	14.216	33.136	24.705	5.78	98.9	2.3	0.42	0.9	0.09	0.42	0.40					
86	13.178	33.108	24.895	5.68	95.1	2.8	0.54	2.7	0.03	0.28	0.20					
99	12.055	33.128	25.128	5.45	89.1	5.2	0.79	6.4	0.01	0.12	0.11	4.5	0.30	0.32	0.31	0.02
110	11.458	33.252	25.335	5.41	87.4	7.4	0.86	8.1	0.01	0.06	0.06					
120	11.807	33.582	25.527	5.18	84.5	7.3	0.71	6.9	0.01	0.03	0.04					
130	10.823	33.538	25.672	4.85	77.4	11.0	0.97	10.9	0.01	0.03	0.03	1.7	0.01	0.01	0.01	0.01
146	10.412	33.647	25.829	4.80	76.0	12.5	1.05	12.6	0.01	0.01	0.02					
165	9.684	33.710	26.001	4.45	69.3	17.5	1.31	16.7	0.00	0.01	0.02					
186	8.830	33.815	26.220	3.63	55.5	26.0	1.74	23.1	0.00	0.00	0.01	0.29	0.00	0.00	0.00	0.00

RV DAVID STARR JORDAN — CALCOFI CRUISE 9702 — STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 10.9 N	118 23.6 W	4/ 2/97	1839 UTC	21 m	03	1208 - 1854 PST	1208 PST	1752 PST	292.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	15.361	33.462	24.708	6.00	105.3	2.3	0.32	0.0	0.00	0.29	0.14	93. A	5.9	5.4	5.7	0.10
7	15.337	33.462	24.714	5.94	104.1	2.3	0.32	0.0	0.00	0.28	0.06					
14	15.300	33.462	24.722	5.95	104.2	2.3	0.32	0.0	0.00	0.27	0.06	36.	5.8	5.6	5.7	0.11
20	15.282	33.463	24.727	5.94	104.0	2.3	0.32	0.0	0.00	0.29	0.07					
28	14.812	33.480	24.843	5.93	102.9	2.3	0.33	0.0	0.01	0.55	0.24	13.	6.3	6.2	6.2	0.12
35	14.358	33.474	24.935	5.63	96.8	3.6	0.44	1.3	0.14	1.37	0.71					
43	13.977	33.484	25.022	5.28	90.1	4.8	0.59	3.3	0.31	1.02	0.64	4.3	4.9	5.1	5.0	0.06
50	13.183	33.484	25.184	4.77	80.0	7.6	0.85	7.4	0.06	0.57	0.42					
57	12.702	33.534	25.318	4.44	73.8	9.6	1.00	9.8	0.03	0.31	0.31	1.6	0.63	0.52	0.58	0.03
66	12.044	33.583	25.483	4.08	66.9	12.4	1.17	12.5	0.02	0.19	0.20					
79	11.617	33.632	25.601	3.85	62.6	14.3	1.29	14.5	0.01	0.10	0.14	0.31	0.02	0.02	0.02	0.01

RV DAVID STARR JORDAN — CALCOFI CRUISE 9702 — STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 4.8 N	120 38.5 W	3/ 2/97	1839 UTC	22 m	02	1217 - 1802 PST	1217 PST	1802 PST	194.9 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	14.510	33.048	24.573	6.03	103.7	2.3	0.34	0.0	0.00	0.29	0.09	93. A	4.0	3.9	3.9	0.06
6	14.501	33.049	24.576	6.04	103.9	2.3	0.35	0.0	0.00	0.28	0.09					
13	14.480	33.049	24.580	6.04	103.8	2.3	0.34	0.0	0.00	0.35	0.10	40.	5.0	5.1	5.1	0.06
21	14.461	33.047	24.583	6.04	103.8	2.3	0.34	0.0	0.00	0.30	0.09					
29	14.348	33.051	24.610	6.06	103.9	2.3	0.35	0.0	0.01	0.37	0.13	13.	2.8	2.9	2.8	0.05
37	13.393	33.127	24.865	5.97	100.4	3.1	0.48	1.5	0.12	0.69	0.42					
44	13.255	33.170	24.927	5.92	99.3	3.5	0.52	2.2	0.22	0.68	0.38	4.6	3.0	3.0	3.0	0.03
51	13.258	33.228	24.971	5.72	96.0	3.8	0.58	3.2	0.19	0.53	0.32					
58	13.246	33.308	25.036	5.64	94.7	4.3	0.61	3.8	0.21	0.36	0.24	1.7	0.50	0.44	0.47	0.02
68	12.470	33.291	25.175	5.32	87.8	6.1	0.81	7.0	0.04	0.19	0.16					
83	11.294	33.519	25.572	4.28	69.0	13.3	1.25	14.3	0.02	0.07	0.09	0.31	0.01	0.01	0.01	0.02

A) INCUBATION LIGHT INTENSITIES WERE 90, 38, 12, 4.3, 1.6, 0.29 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 9702 — STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 4.9 N	122 39.8 W	2/ 2/97	1831 UTC	31 m	01	1225 - 1812 PST	1225 PST	1808 PST	154.6 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	15.695	33.132	24.380	5.83	102.8	1.6	0.31	0.1	0.00	0.14	0.04	95. A	0.86	0.80	0.83	0.06
11	15.685	33.131	24.382	5.84	102.9	1.6	0.31	0.1	0.00	0.14	0.04					
18	15.687	33.131	24.382	5.85	103.1	1.6	0.31	0.1	0.00	0.14	0.04	41.	1.7	1.6	1.7	0.06
31	15.662	33.130	24.387			1.6	0.30	0.1	0.00	0.15	0.04					
41	15.483	33.155	24.446	5.86	102.8	1.7	0.31	0.1	0.00	0.23	0.09	13.	1.7	1.7	1.7	0.08
51	15.180	33.148	24.508	5.89	102.7	1.7	0.32	0.1	0.00	0.32	0.16					
62	14.785	33.148	24.594	5.84	101.1	2.0	0.36	0.3	0.06	0.59	0.42	4.6	2.9	2.8	2.9	0.03
72	14.375	33.136	24.672	5.79	99.3	2.2	0.42	0.7	0.21	0.47	0.34					
83	13.924	33.237	24.844	5.57	94.7	3.1	0.54	2.9	0.04	0.26	0.25	1.6	0.54	0.48	0.51	0.02
93	13.331	33.263	24.985	5.40	90.7	4.3	0.65	4.5	0.02	0.20	0.19					
104	12.730	33.329	25.155	5.16	85.7	6.0	0.77	6.6	0.02	0.17	0.17					
116	11.877	33.415	25.385	4.82	78.6	8.6	0.95	9.9	0.01	0.10	0.10	0.32	0.03	0.04	0.04	0.01

RV DAVID STARR JORDAN — CALCOFI CRUISE 9702 — STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 57.2 N	117 18.2 W	29/ 1/97	1925 UTC	6 m	07	1205 - 1748 PST	1202 PST	1745 PST	160.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.375	33.059	24.395			3.9	0.38	0.7	0.06	1.45	0.42	60. A	11.1	15.0	13.0	0.37
4	15.123	33.113	24.492	6.20	108.0	3.6	0.36	0.4	0.04	1.15	0.43	36.	25.3	25.5	25.4	0.33
8	15.150	33.212	24.562	6.10	106.4	2.9	0.34	0.3	0.03	0.96	0.39	13.	8.8	7.2	8.0	0.17
12	14.988	33.401	24.743	5.91	102.9	2.3	0.31	0.0	0.01	0.63	0.28	4.6	2.7	2.6	2.7	0.08
16	14.971	33.417	24.759	5.89	102.5	2.2	0.31	0.0	0.00	0.55	0.22	1.7	0.46	0.46	0.46	0.06
23	14.771	33.420	24.805	5.81	100.7	2.5	0.35	0.4	0.05	0.53	0.25	0.28	0.06	0.09	0.08	0.04

RV DAVID STARR JORDAN — CALCOFI CRUISE 9702 — STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 10.6 N	118 53.7 W	30/ 1/97	1835 UTC	28 m	02	1207 - 1759 PST	1209 PST	1757 PST	221.3 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.146	33.250	24.592	5.97	104.1	2.3	0.34	0.0	0.00	0.28	0.05	90. A	5.0	4.7	4.8	0.04
10	15.007	33.251	24.623	5.97	103.8	2.3	0.34	0.0	0.00	0.33	0.07					
18	14.711	33.254	24.690	6.01	103.9	2.2	0.34	0.0	0.00	0.24	0.09	37.	3.8	3.7	3.8	0.08
28	14.425	33.266	24.760	6.05	104.0	2.3	0.35	0.0	0.01	0.38	0.14					
37	14.243	33.291	24.818	5.90	101.1	2.6	0.40	0.7	0.09	0.50	0.25	13.	3.7	4.1	3.9	0.07
47	14.157	33.307	24.848	5.77	98.7	3.1	0.47	1.6	0.13	0.47	0.25					
56	13.800	33.312	24.926	5.59	94.9	3.7	0.56	3.2	0.09	0.38	0.22	4.6	1.5	1.5	1.5	0.03
65	13.151	33.324	25.067	5.36	89.8	5.1	0.72	5.7	0.04	0.27	0.19					
75	12.368	33.361	25.249	5.02	82.7	7.6	0.90	8.7	0.02	0.14	0.14	1.6	0.16	0.15	0.16	0.02
90	11.473	33.511	25.533	4.31	69.8	12.7	1.20	13.6	0.02	0.08	0.09					
106	10.652	33.552	25.712	4.04	64.2	15.7	1.38	16.5	0.01	0.04	0.05	0.30	0.00	0.01	0.01	0.01

RV DAVID STARR JORDAN — CALCOFI CRUISE 9702 — STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 10.8 N	120 55.4 W	31/ 1/97	1831 UTC	21 m	02	1216 - 1807 PST	1217 PST	1807 PST	257.0 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	14.850	32.960	24.433	5.98	103.5	2.0	0.32	0.0	0.00	0.20	0.05	93. A	2.4	2.2	2.3	0.07
13	14.546	32.990	24.521			2.4	0.33	0.0	0.00	0.28	0.07	39.	4.0	4.0	4.0	0.09
20	14.224	33.012	24.606	6.14	105.0	2.7	0.33	0.0	0.00	0.38	0.13					
29	13.485	33.125	24.845	6.14	103.4	3.1	0.42	0.9	0.08	0.84	0.36	12.	7.1	7.6	7.4	0.09
35	13.421	33.184	24.904	6.07	102.2	3.6	0.46	1.4	0.14	0.75	0.38					
42	13.427	33.231	24.939	6.01	101.2	3.7	0.47	1.7	0.18	0.82	0.38	4.6	4.2	4.3	4.2	0.04
49	13.438	33.243	24.947	6.01	101.2	3.7	0.47	1.8	0.18	0.72	0.37					
57	13.386	33.283	24.988	5.90	99.3	3.9	0.51	2.3	0.22	0.53	0.30	1.6	1.1	0.98	1.0	0.03
67	12.962	33.313	25.096	5.75	95.9	4.8	0.62	3.9	0.36	0.21	0.17					
79	11.806	33.256	25.273	5.43	88.4	7.4	0.91	8.6	0.03	0.09	0.10	0.31	0.02	0.03	0.03	0.02

RV DAVID STARR JORDAN — CALCOFI CRUISE 9702 — STATION 93 120

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
29 50.4 N	123 35.5 W	1/ 2/97	1859 UTC	34 m	01	1228 - 1816 PST	1228 PST	1816 PST	83.2 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.484	33.152	24.217	5.73	102.6	1.6	0.28	0.0	0.00	0.10	0.04	91. A	1.2	1.1	1.1	0.05
12	16.446	33.151	24.225	5.73	102.5	1.6	0.32	0.0	0.00	0.11	0.03					
21	16.443	33.151	24.227	5.73	102.5	1.6	0.28	0.0	0.00	0.11	0.03	39.	1.4	1.3	1.3	0.05
34	16.442	33.151	24.227	5.73	102.5	1.6	0.28	0.0	0.00	0.11	0.03					
46	16.440	33.151	24.228	5.74	102.7	1.6	0.28	0.0	0.00	0.11	0.03	13.	0.63	0.70	0.67	0.05
58	16.400	33.147	24.235	5.73	102.4	1.6	0.28	0.0	0.00	0.14	0.04					
71	15.861	33.124	24.339	5.79	102.4	1.6	0.29	0.0	0.00	0.24	0.09	4.1	0.72	0.70	0.71	0.03
81	15.716	33.133	24.379	5.80	102.2	1.6	0.30	0.0	0.00	0.27	0.13					
91	15.462	33.119	24.425	5.82	102.1	1.6	0.32	0.0	0.00	0.28	0.17	1.6	0.33	0.29	0.31	0.01
100	15.092	33.230	24.592	5.75	100.2	2.0	0.36	0.3	0.21	0.26	0.18					
108	14.443	33.250	24.746	5.76	99.0	2.3	0.36	0.5	0.16	0.22	0.15					
119	13.266	33.184	24.937	5.69	95.4	2.7	0.44	1.3	0.03	0.16	0.12					
127	12.667	33.192	25.062	5.57	92.3	3.8	0.53	2.7	0.02	0.11	0.10	0.32	0.02	0.03	0.03	0.01

A) INCUBATION LIGHT INTENSITIES WERE 90, 38, 12, 4.3, 1.6, 0.29 PERCENT RESPECTIVELY.

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505mm

Line	Sta.	Latitude N	Longitude W	Date Mo/Day	Time (PST) Start	Time (PST) End	Water Volume Strained (m³)	Max. Tow Depth (m)	Volume per 1000 m³ Strained Total (cm³)	Volume per 1000 m³ Strained Small (cm³)
75	50	3521.1	121 03.0	02/14	0822	0842	401	196	3388	357
75	55	35 11.2	121 24.3	02/14	1223	1245	429	205	144	100
75	60	35 00.7	121 45.4	02/14	1533	1555	414	215	573	155
75	65	34 50.8	122 06.7	02/14	1844	1905	427	216	1031	305
77	49	35 06.3	120 47.1	02/14	0532	0538	117	50	60	60
77	51	35 01.4	120 55.7	02/14	0310	0332	435	209	276	276
77	55	34 53.0	121 12.8	02/13	2351	0012	466	210	204	133
77	60	34 42.7	121 33.8	02/13	1945	2007	458	213	142	131
77	65	34 33.7	121 54.3	02/13	1542	1604	458	214	390	129
77	70	34 23.7	122 16.4	02/13	1134	1156	467	207	90	90
77	80	34 03.6	122 59.5	02/12	1239	1301	479	199	182	182
77	90	33 42.3	123 38.0	02/12	0538	0600	417	214	72	72
77	100	33 22.9	124 20.0	02/11	2340	2402	445	214	52	52
80	51	34 27.3	120 31.2	02/10	0719	0725	122	54	74	74
80	55	34 18.8	120 47.4	02/10	0934	0956	424	208	109	109
80	60	34 08.9	121 08.6	02/10	1524	1546	442	211	172	93
80	70	33 49.5	121 51.1	02/10	2133	2155	420	213	738	286
80	80	33 29.2	122 32.8	02/11	0320	0342	435	211	772	267
80	90	33 09.3	123 13.8	02/11	0830	0852	422	213	28	28
80	100	32 47.7	123 55.2	02/11	1700	1721	447	218	11	11
82	47	34 16.7	120 01.7	02/10	0312	0334	414	211	133	133
83	40.6	34 14.0	119 24.9	02/09	2237	2240	55	20	54	54
83	42	34 10.1	119 30.9	02/09	2044	2104	384	183	65	65
83	51	33 52.8	120 08.0	02/09	1459	1507	163	76	74	74
83	55	33 45.6	120 24.5	02/09	1131	1152	417	205	137	137
83	60	33 34.5	120 45.8	02/09	0649	0711	429	220	1318	152
83	70	33 15.1	121 27.8	02/09	0040	0102	455	216	145	145
83	80	32 53.9	122 06.4	02/08	1812	1834	487	210	45	45
83	90	32 35.1	122 49.2	02/08	0847	0909	464	210	17	17
83	100	32 14.8	123 30.2	02/08	0040	0102	439	214	82	82
83	110	31 54.5	124 11.5	02/07	1834	1856	460	214	144	144
87	33	33 53.9	118 29.8	02/05	0330	0335	98	42	41	41
87	35	33 50.0	118 37.4	02/05	0555	0617	415	212	60	60
87	40	33 39.3	118 59.3	02/05	0907	0928	425	213	1130	1130
87	45	33 29.1	119 18.6	02/05	1525	1547	419	217	136	136
87	50	33 17.9	11940.1	02/05	1930	1935	104	41	58	58
87	55	33 08.9	120 01.2	02/05	2346	0008	491	197	110	100
87	60	32 58.9	120 21.6	02/06	0348	0410	464	208	149	99
87	70	32 39.2	121 02.5	02/06	0905	0927	422	217	85	85
87	80	32 19.3	12143.5	02/06	1720	1742	449	215	18	18
87	90	31 59.7	122 24.1	02/06	2310	2331	451	213	22	22
87	100	31 39.9	123 05.0	02/07	0504	0526	441	215	25	25
87	110	31 19.7	123 42.6	02/07	1152	1213	427	208	75	75
90	28	33 29.2	117 46.4	02/04	2056	2104	152	70	66	66
90	30	33 25.3	117 54.5	02/04	1827	1849	422	216	62	62
90	35	33 15.0	118 15.5	02/04	1242	1304	431	216	30	30
90	37	33 11.2	118 23.7	02/04	0858	0919	427	213	35	35
90	45	32 54.3	118 57.2	02/04	0418	0440	441	218	45	45
90	53	32 37.2	11928.9	02/03	2232	2254	471	209	348	348
90	60	32 24.8	119 57.8	02/03	1718	1740	472	205	318	64
90	70	32 05.3	120 38.6	02/03	0857	0919	427	215	94	94
90	80	31 43.9	121 20.6	02/03	0033	0055	467	212	565	137
90	90	31 23.7	121 59.5	02/02	1739	1800	451	217	24	24
90	100	31 05.7	122 39.7	02/02	0846	0908	431	215	42	42
90	110	30 45.2	123 20.9	02/02	0048	0110	459	209	148	148
90	120	30 23.7	124 00.2	02/01	1850	1912	435	217	18	18
93	26.7	32 56.9	117 18.7	01/29	1210	1224	260	140	19	19
93	28	32 54.2	117 24.0	01/29	1418	1440	424	221	19	19
93	30	32 49.9	117 32.3	01/29	1708	1730	435	215	30	30
93	35	32 40.7	117 53.0	01/29	2100	2121	436	213	73	73
93	40	32 31.4	118 13.5	01/30	0048	0110	438	214	75	75
93	45	32 20.9	118 33.9	01/30	0453	0515	428	215	44	44
93	50	32 11.0	118 54.1	01/30	0858	0919	443	212	90	54
93	55	32 01.0	119 14.0	01/30	1500	1522	441	225	499	57
93	60	31 50.6	119 35.0	01/30	1902	1924	426	222	1049	204
93	70	31 31.1	120 15.2	01/31	0133	0155	433	215	564	148
93	80	31 11.1	120 55.7	01/31	0850	0911	423	216	97	97
93	90	30 50.0	121 35.1	01/31	1716	1738	400	222	70	58
93	100	30 30.9	122 16.5	01/31	2327	2349	424	214	64	64
93	110	30 10.4	122 56.1	02/01	0521	0543	425	215	115	115
93	120	29 50.5	123 35.1	02/01	1157	1219	400	214	23	23

FIGURES

Cruise 9704

1. CalCOFI Cruise 9704, 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 93 (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.

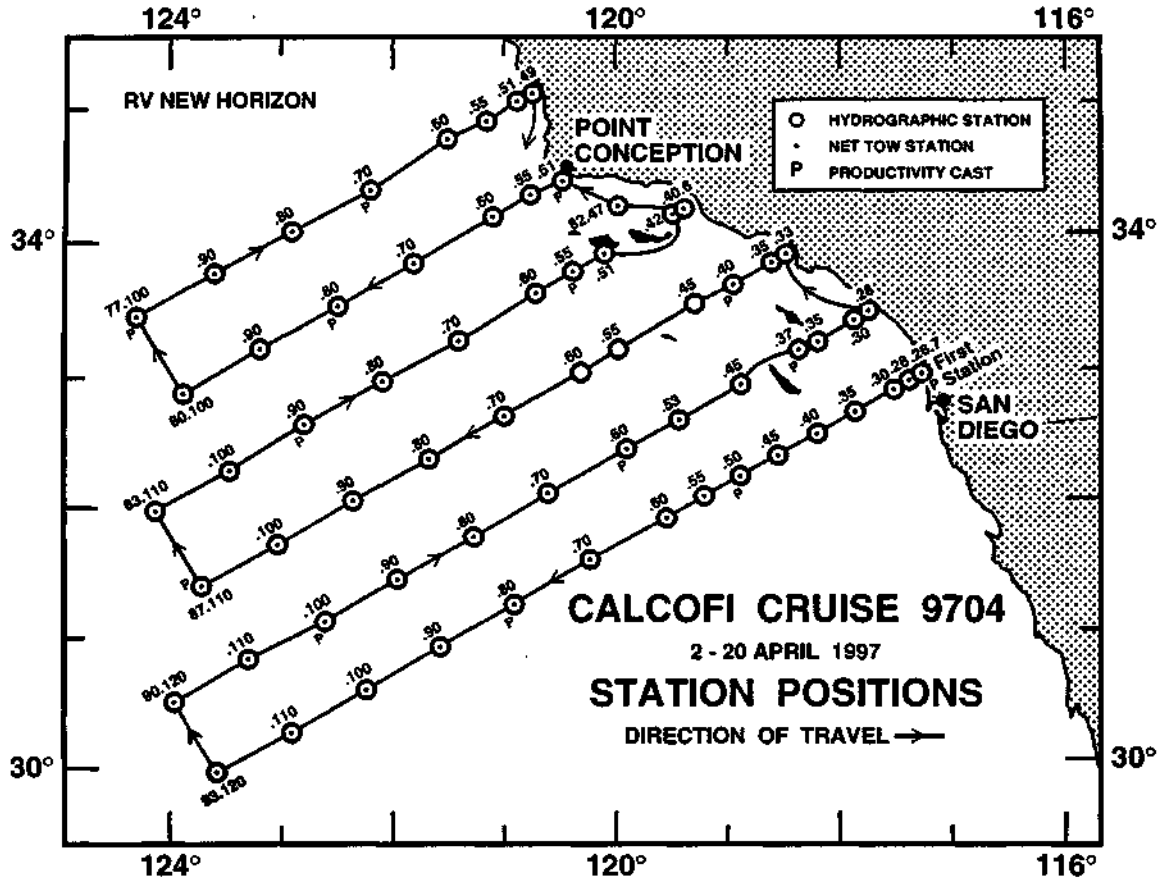

FIGURE 1

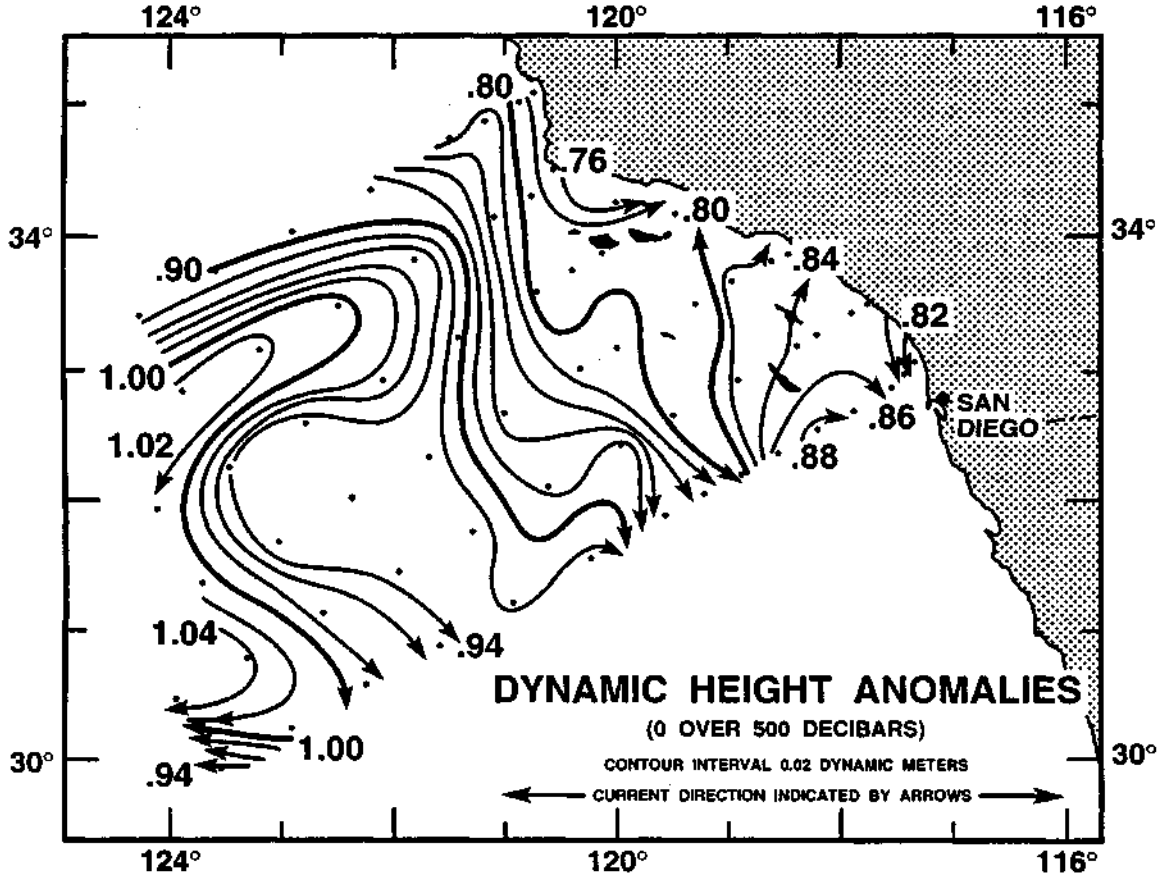

FIGURE 2

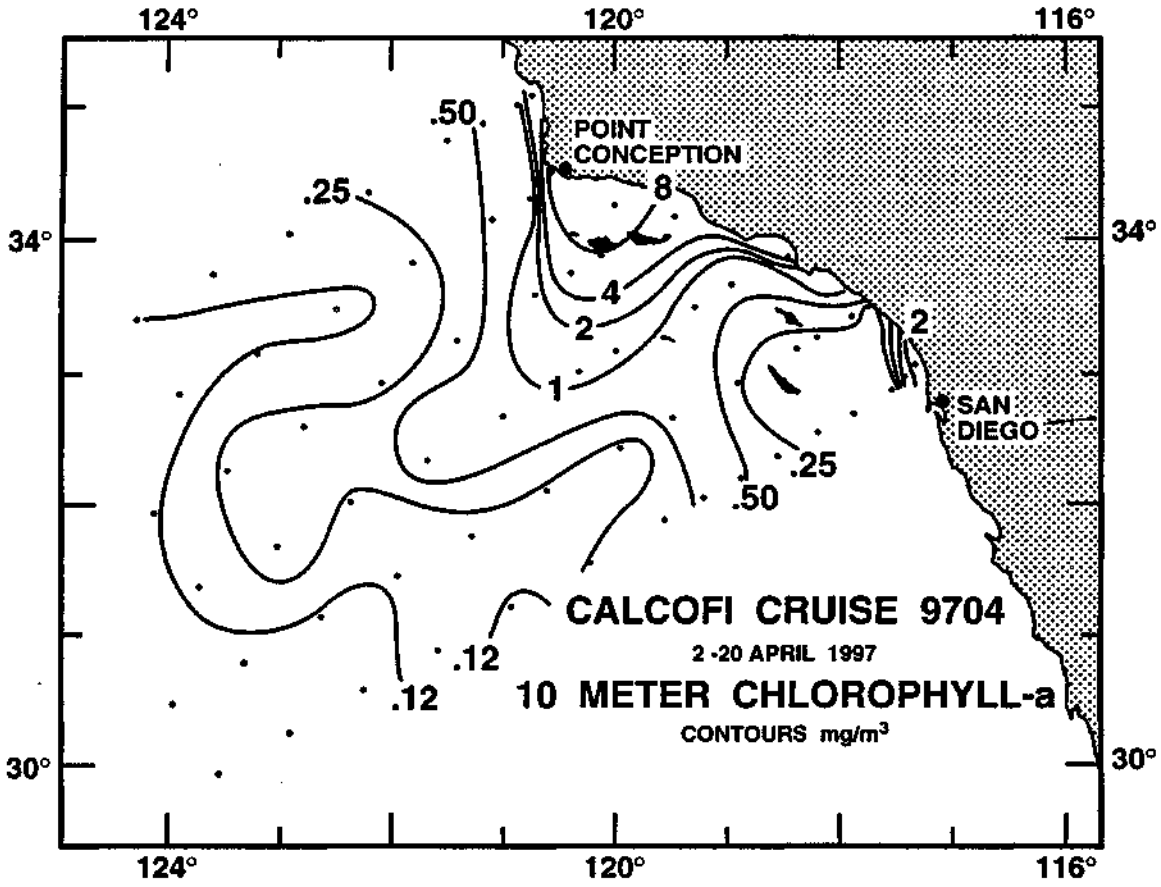

FIGURE 3A

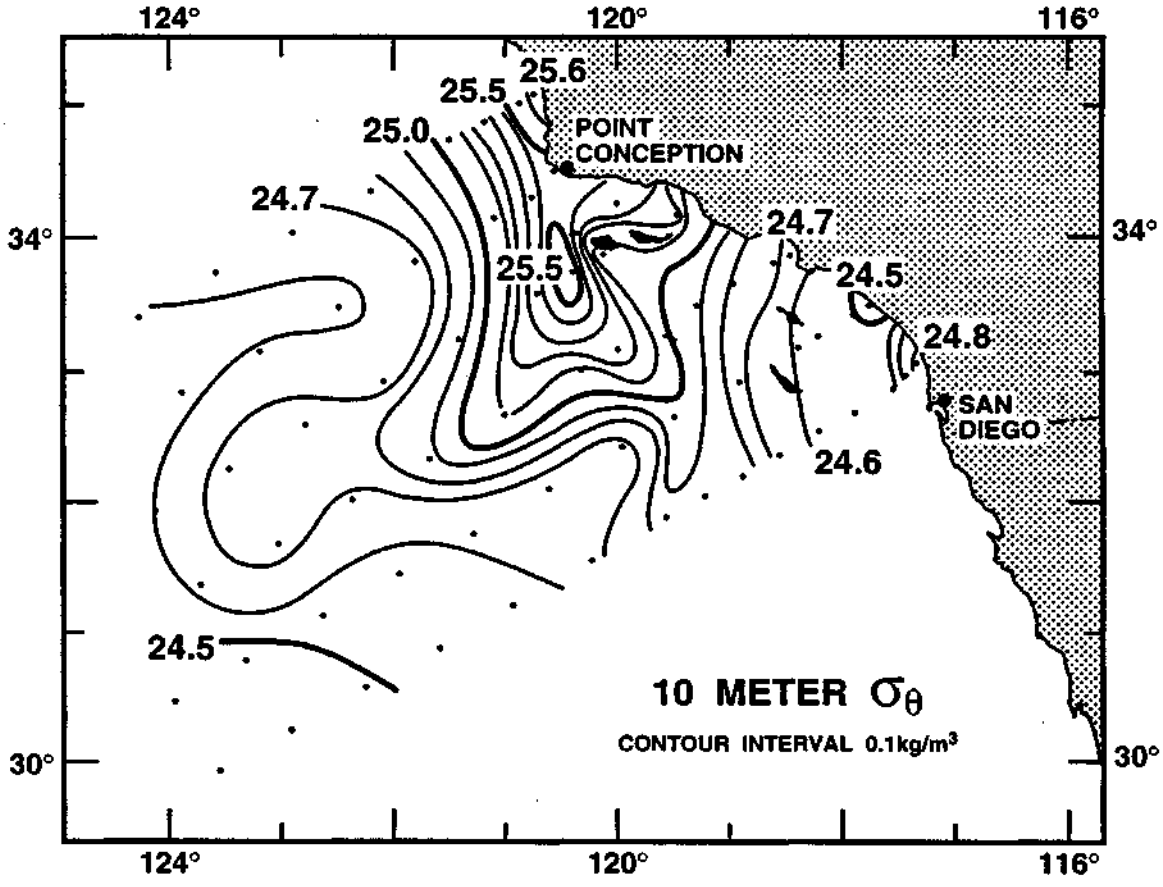

FIGURE 3B

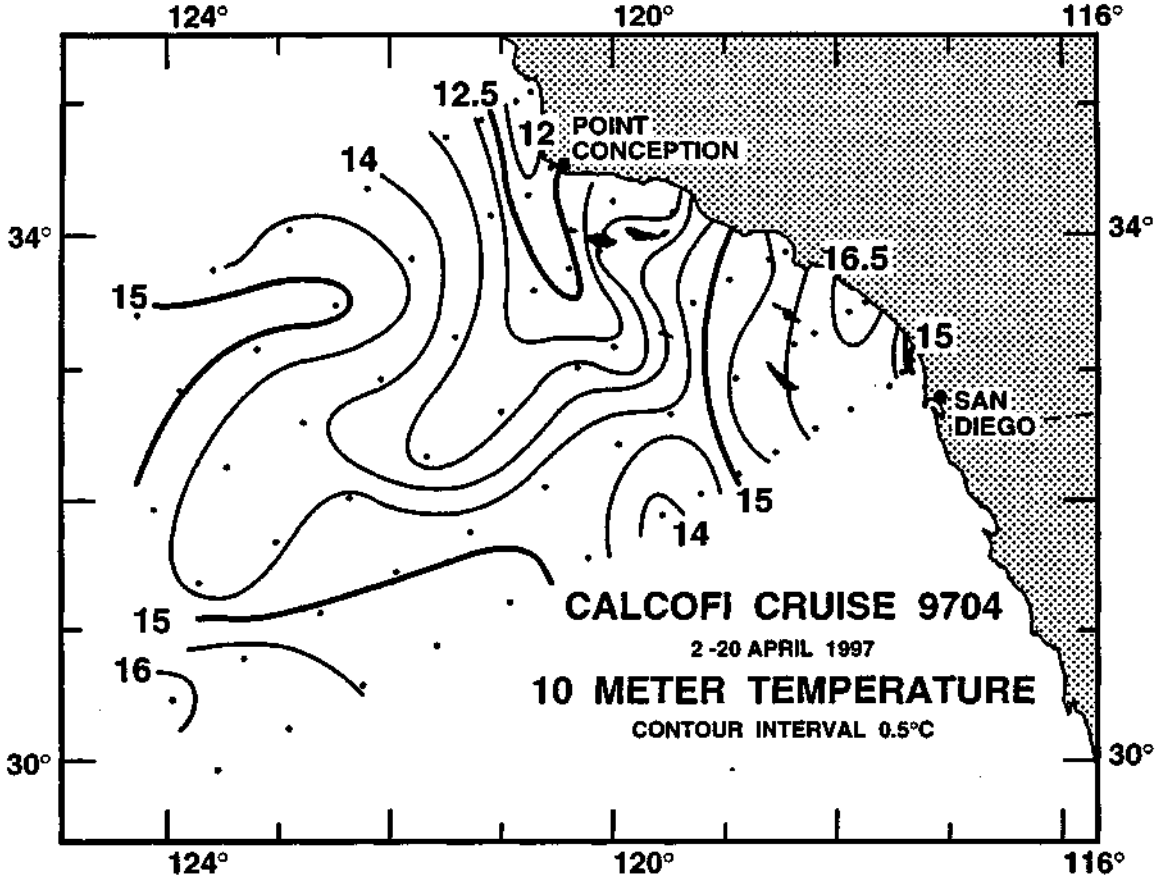

FIGURE 3C

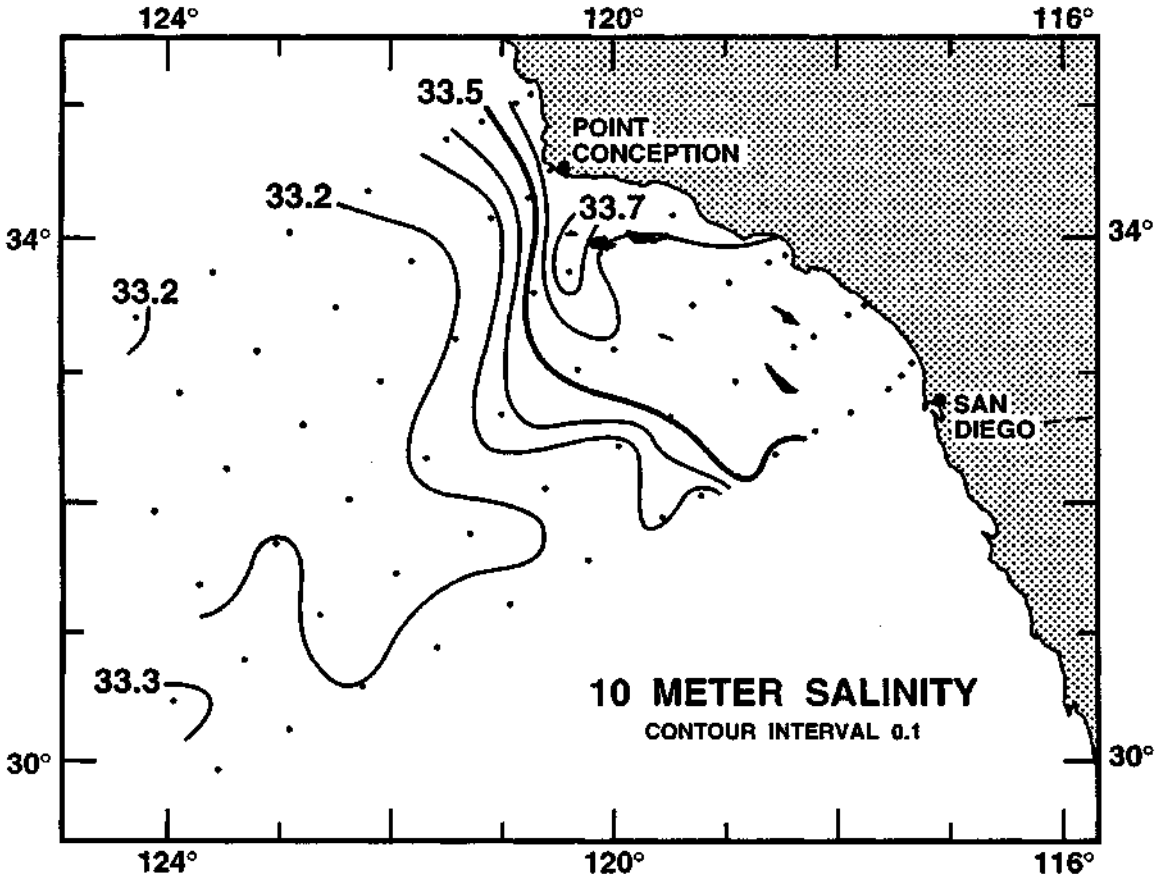

FIGURE 3D

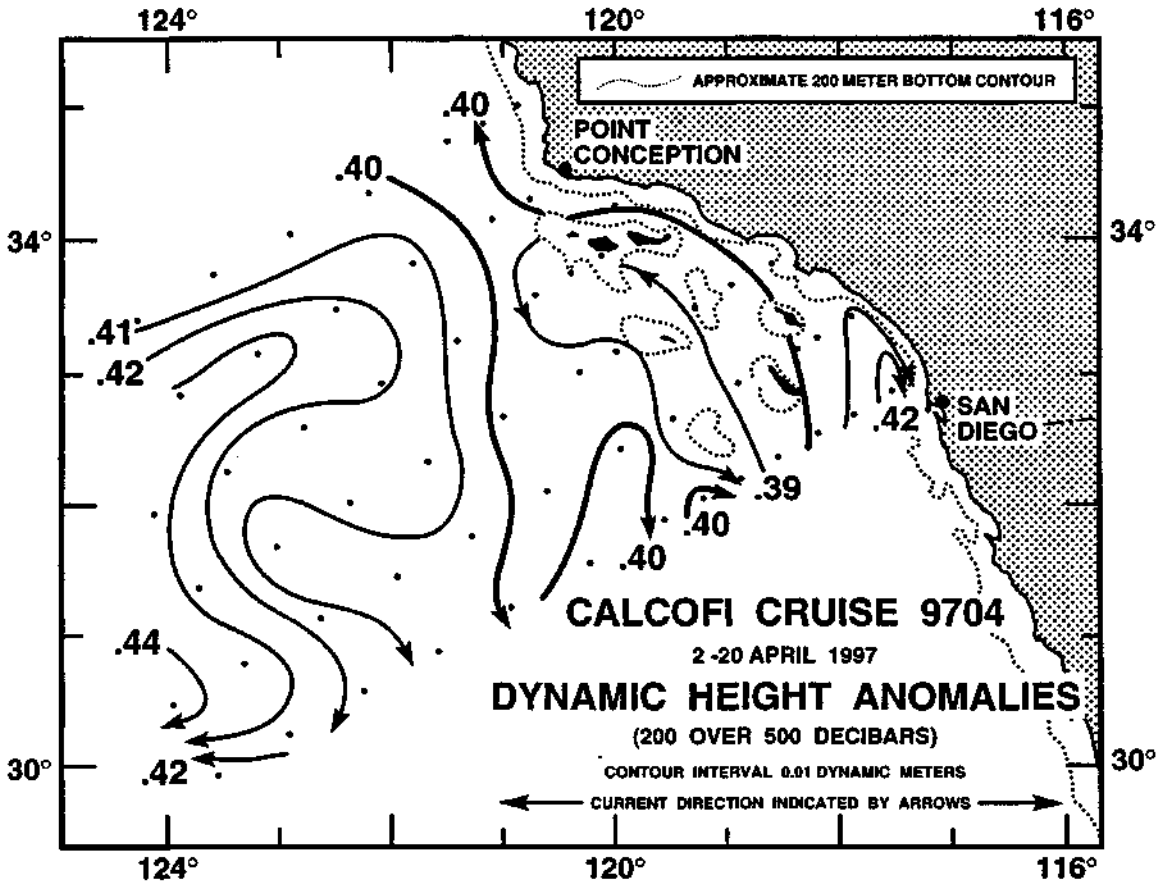

FIGURE 4A

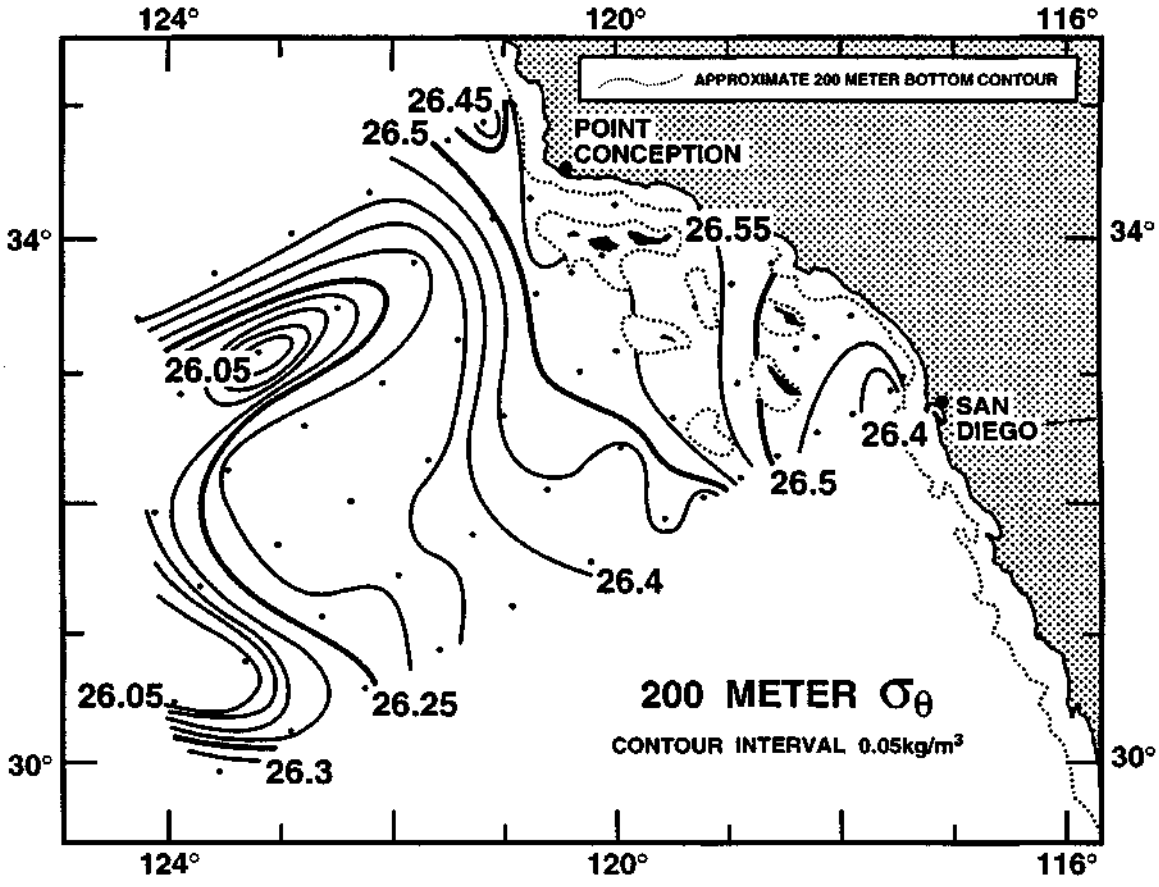

FIGURE 4B

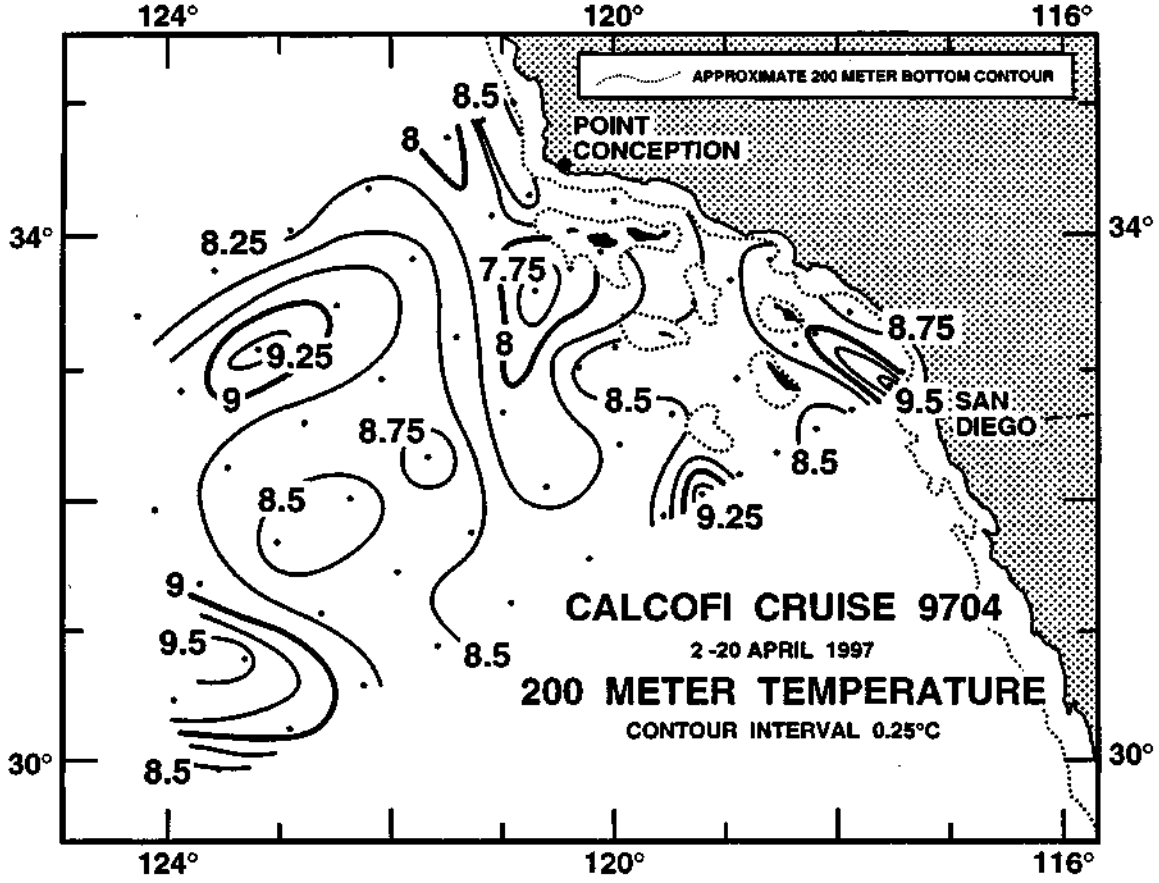

FIGURE 4C

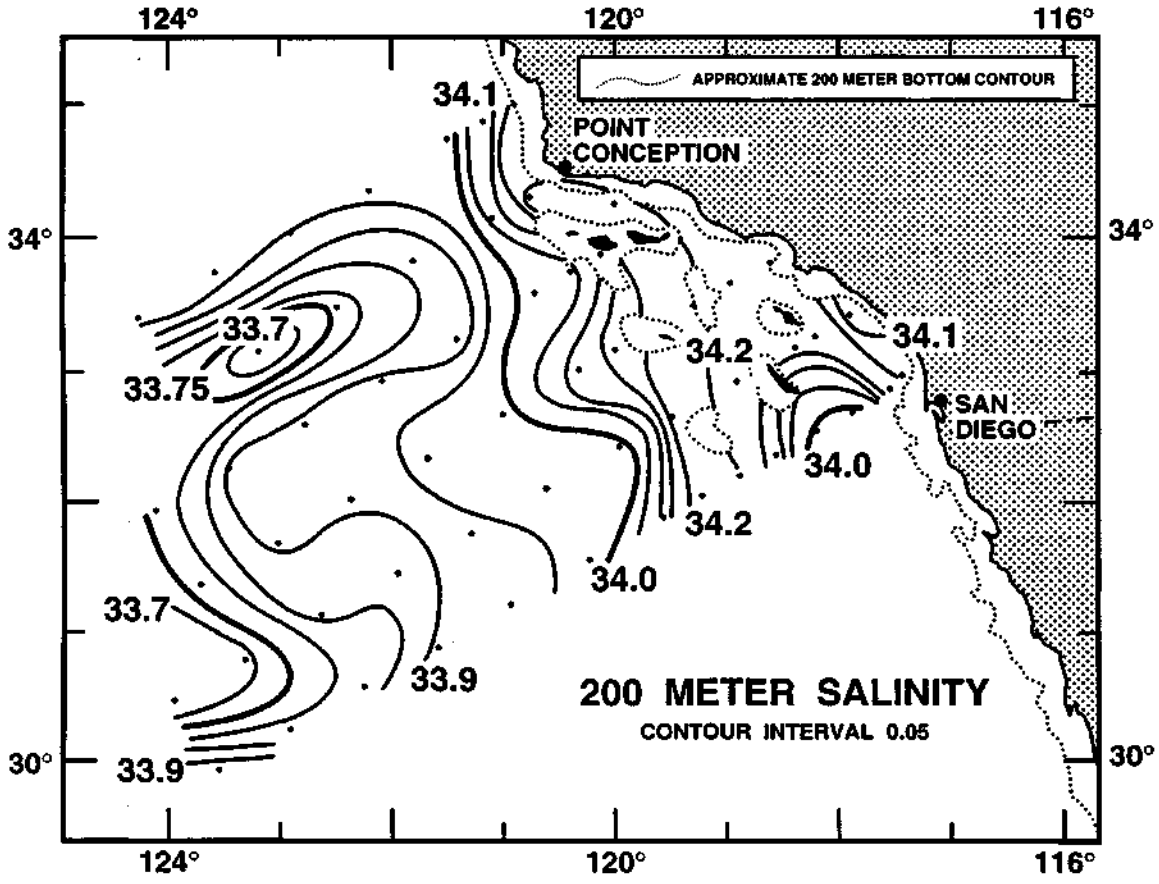

FIGURE 4D

CALCOFI CRUISE 9704

2 - 5 April 1997

POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 93

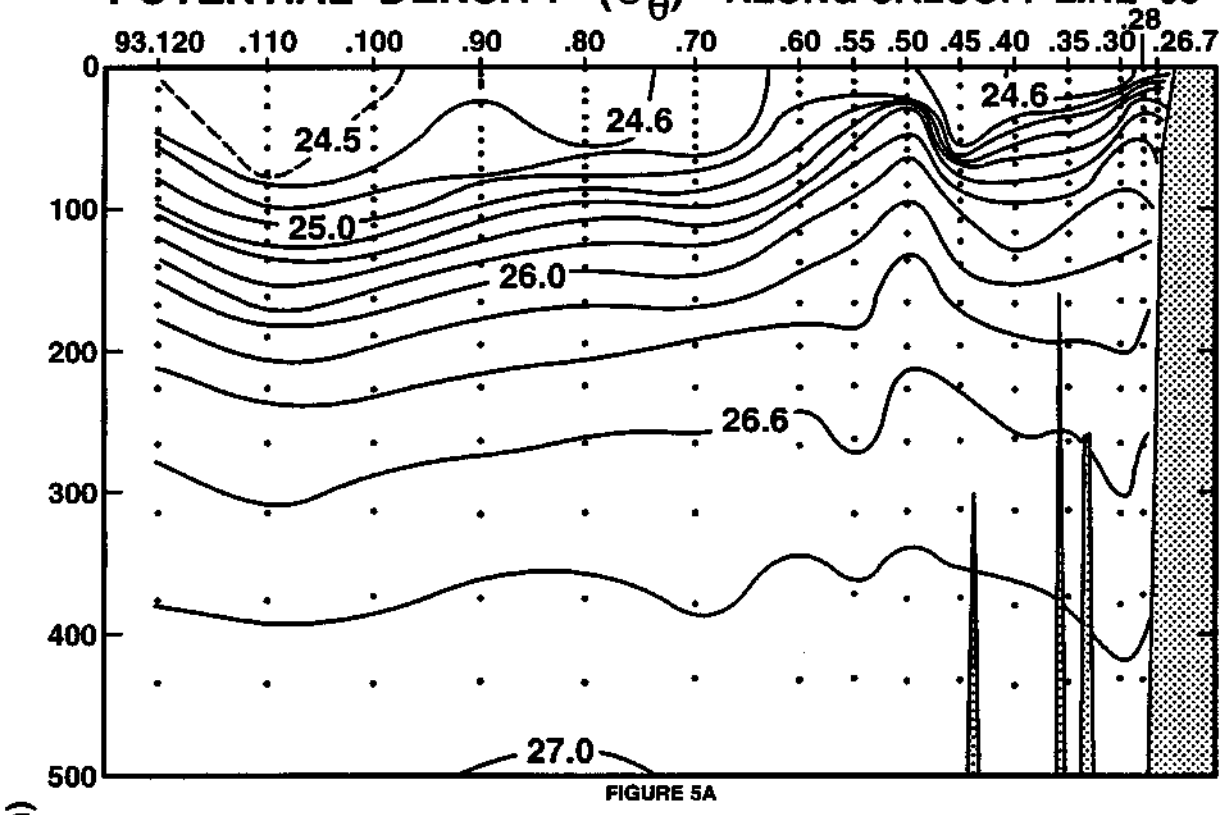

FIGURE 5A

TEMPERATURE (°C) ALONG CALCOFI LINE 93

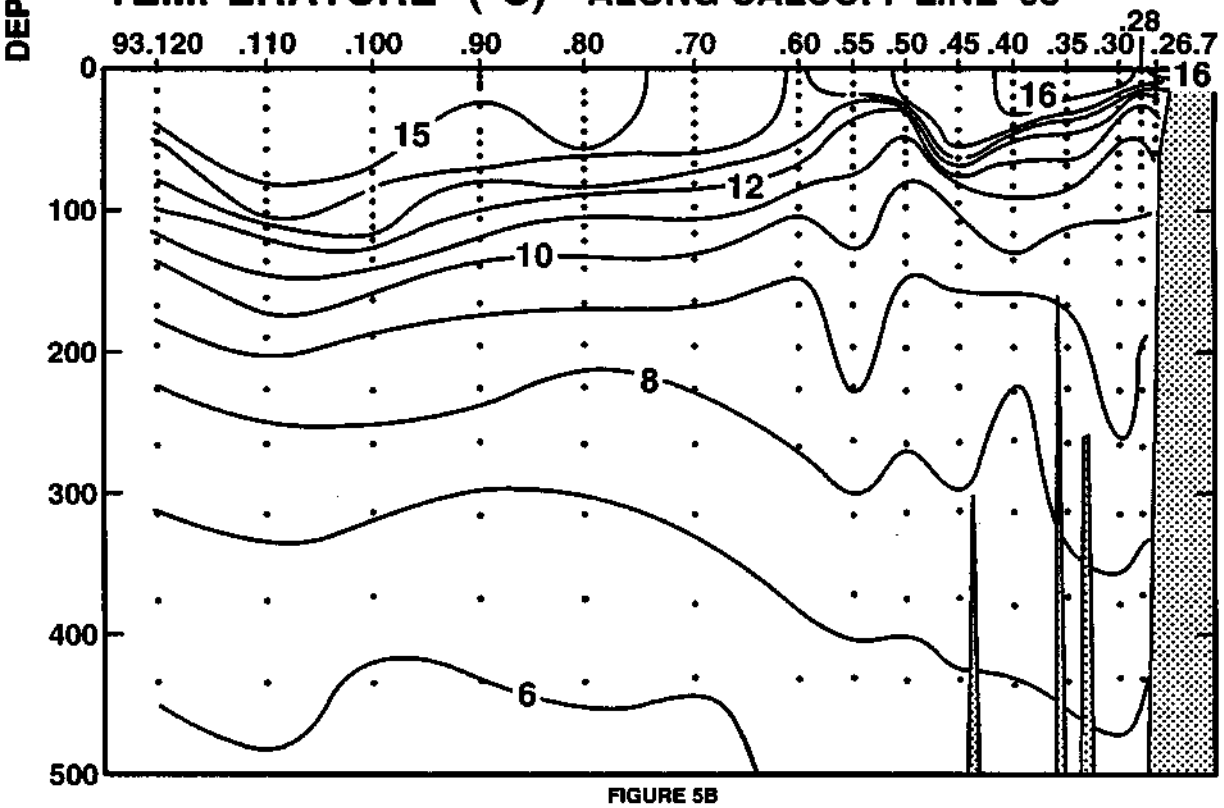

FIGURE 5B

CALCOFI CRUISE 9704

2 - 5 April 1997

SALINITY ALONG CALCOFI LINE 93

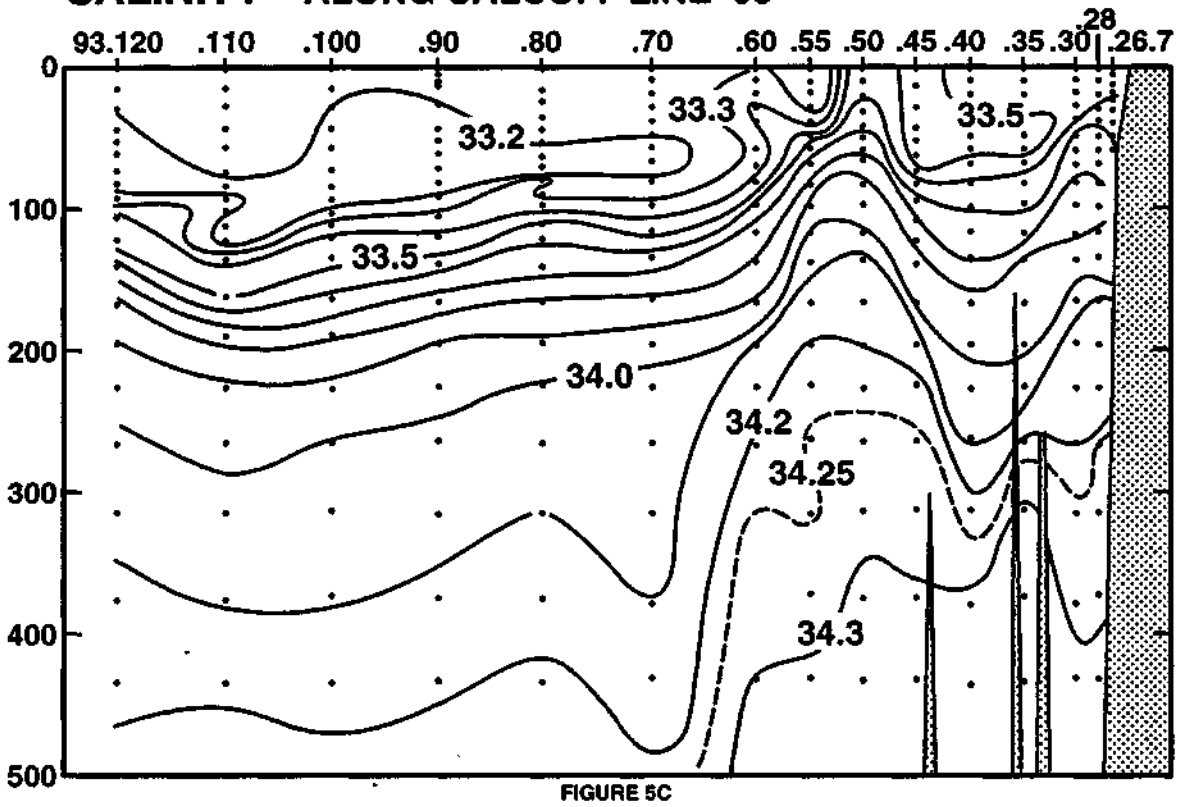

FIGURE 5C

DEPTH (m)

SILICATE (μM/l) ALONG CALCOFI LINE 93

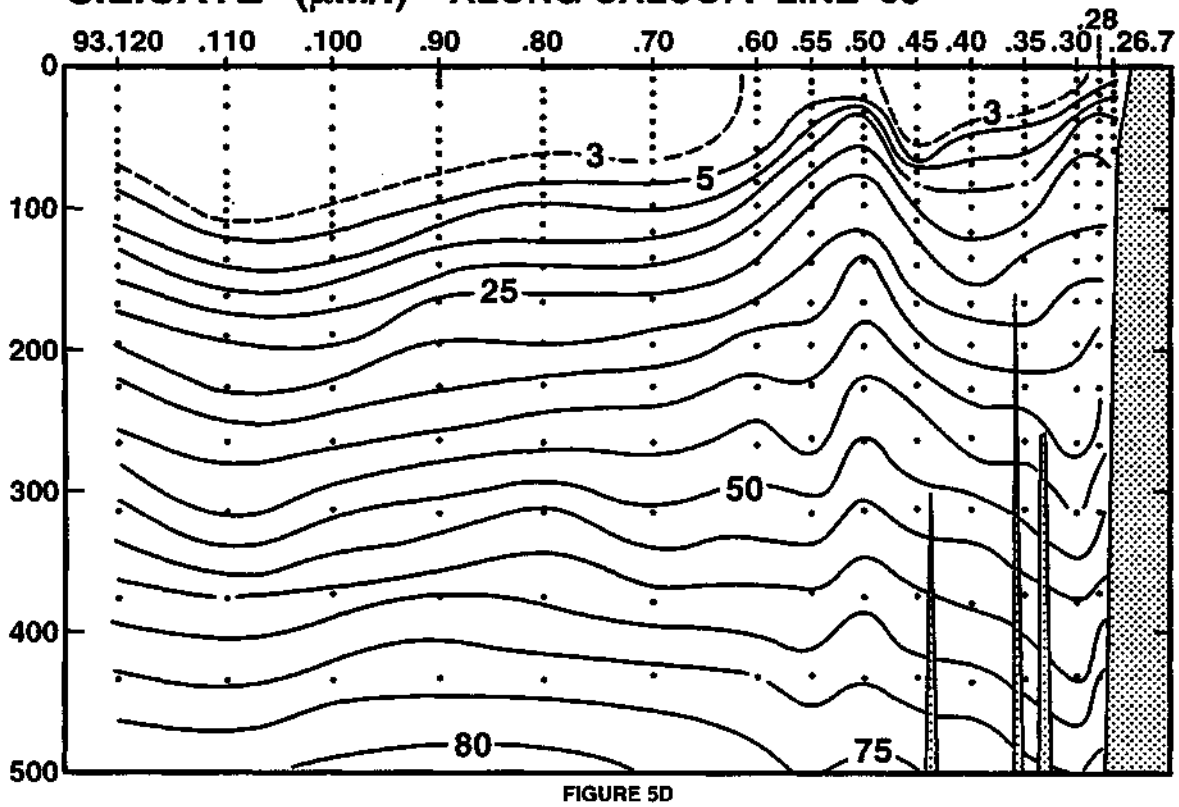

FIGURE 5D

CALCOFI CRUISE 9704

2 - 5 April 1997

NITRATE (µM/l) ALONG CALCOFI LINE 93

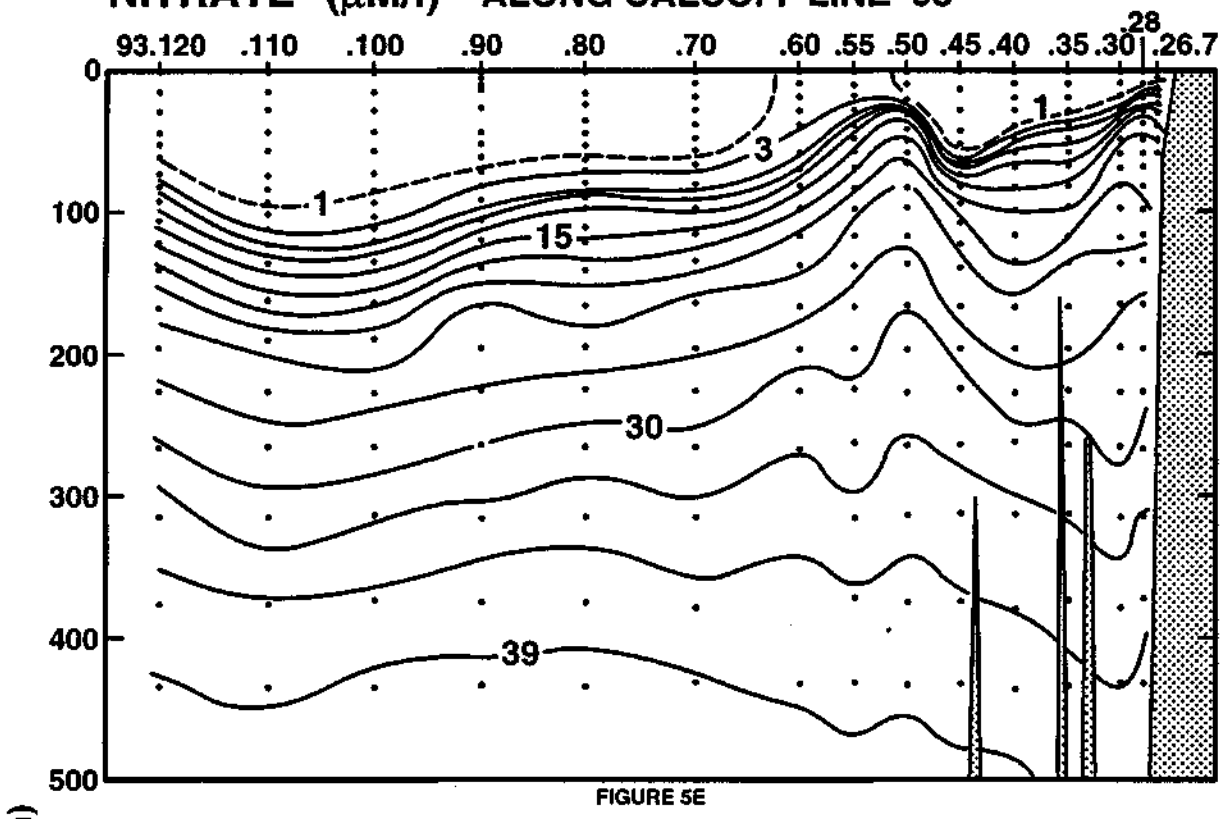

FIGURE 5E

PHOSPHATE (µM/l) ALONG CALCOFI LINE 93

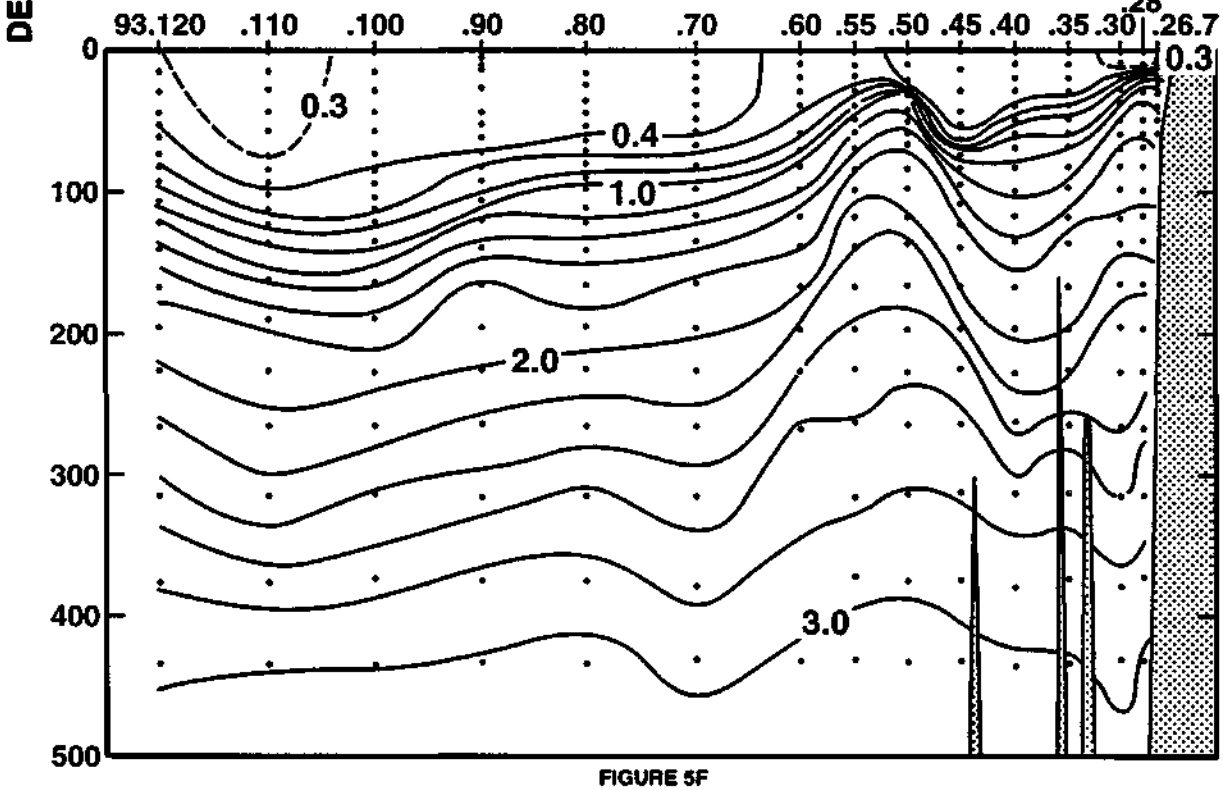

FIGURE 5F

CALCOFI CRUISE 9704

2 - 5 April 1997

CHLOROPHYLL-a (µg/l)) ALONG CALCOFI LINE 93

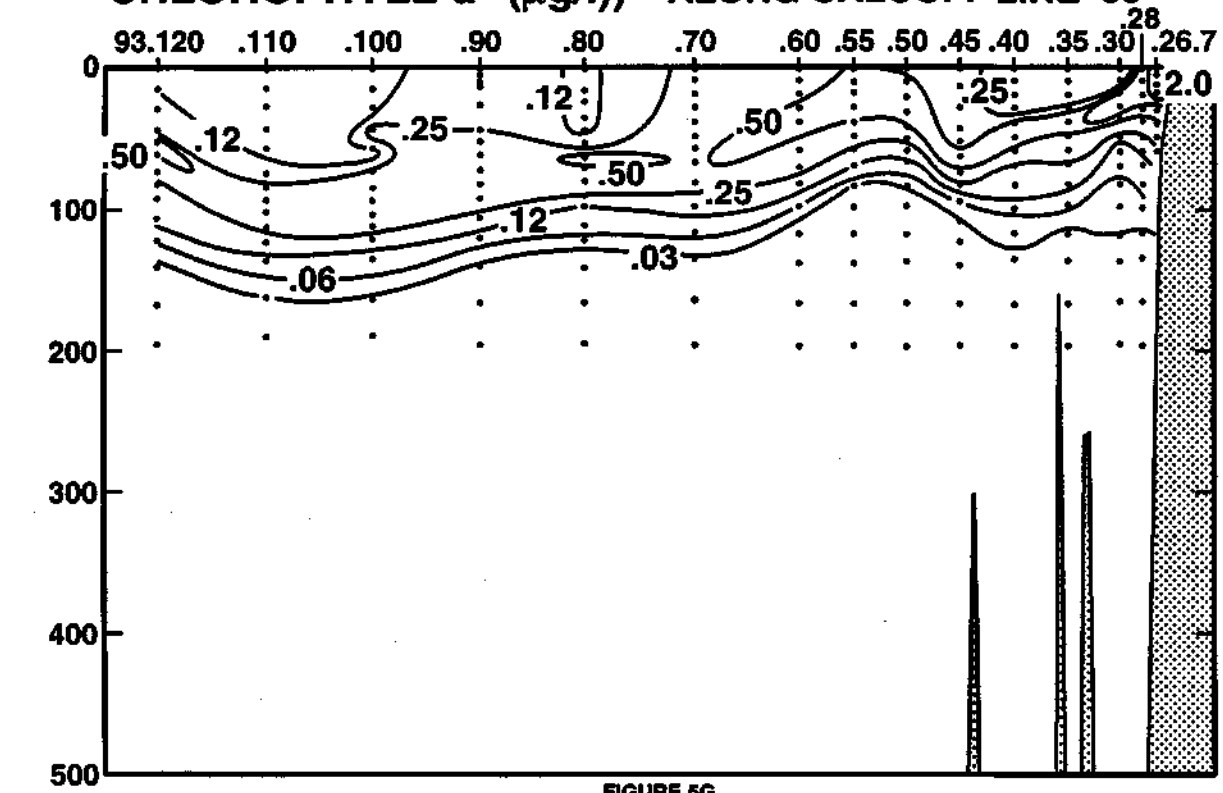

FIGURE 5G

DEPTH (m)

OXYGEN SATURATION (%) ALONG CALCOFI LINE 93

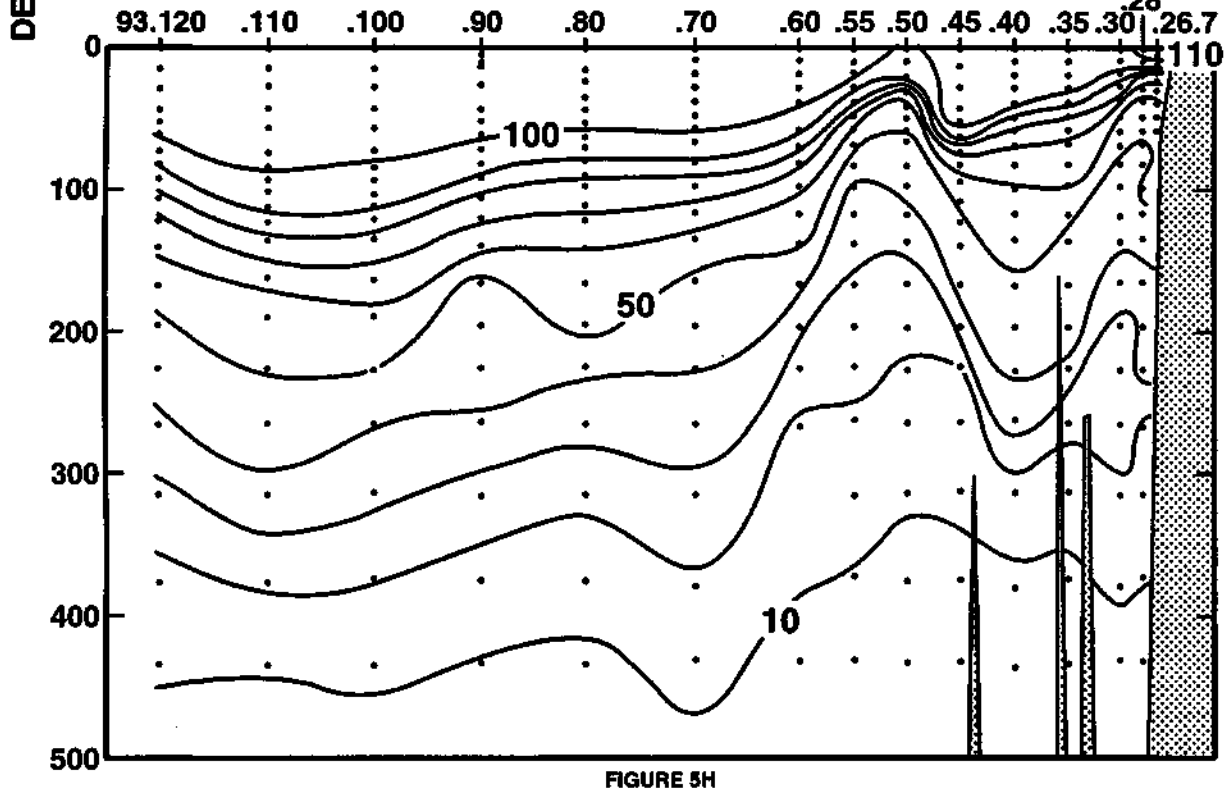

FIGURE 5H

CALCOFI CRUISE 9704

2 - 5 April 1997

OXYGEN (ml/l) ALONG CALCOFI LINE 93

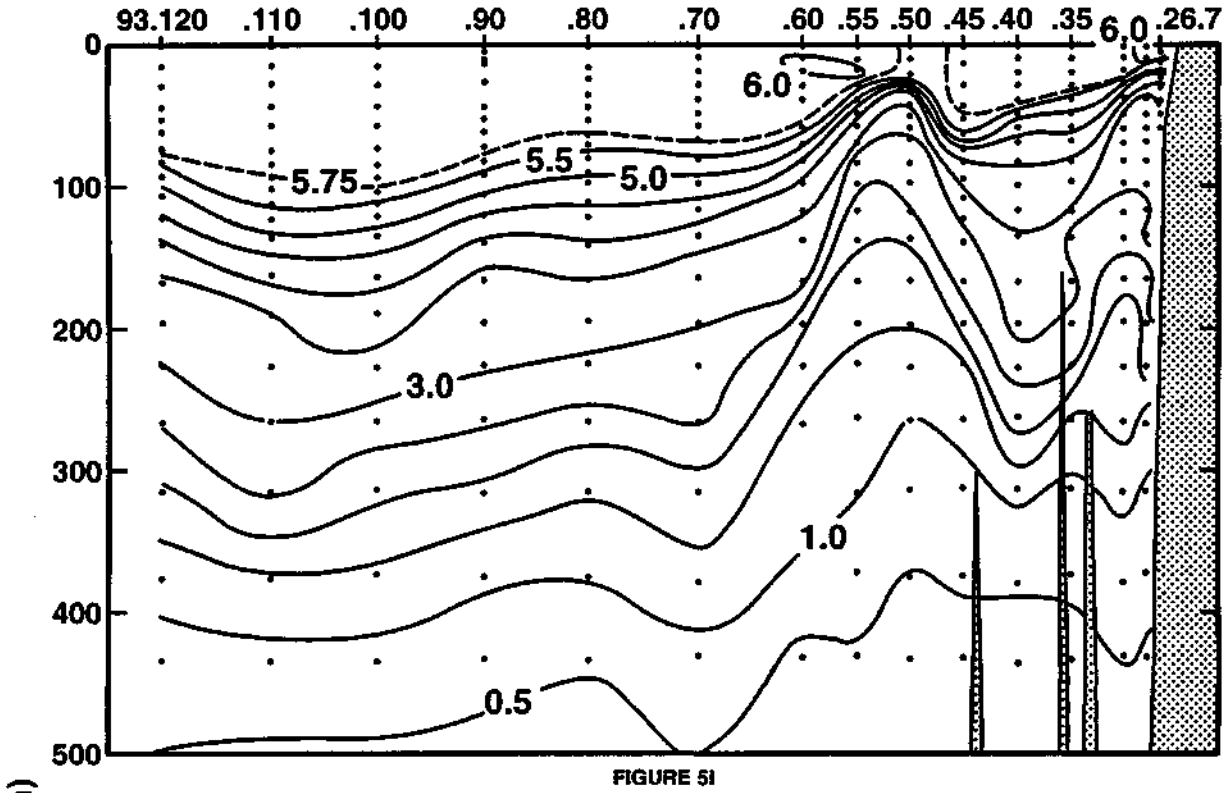

FIGURE 5I

DEPTH (m)

NITRITE (µM/l) ALONG CALCOFI LINE 93

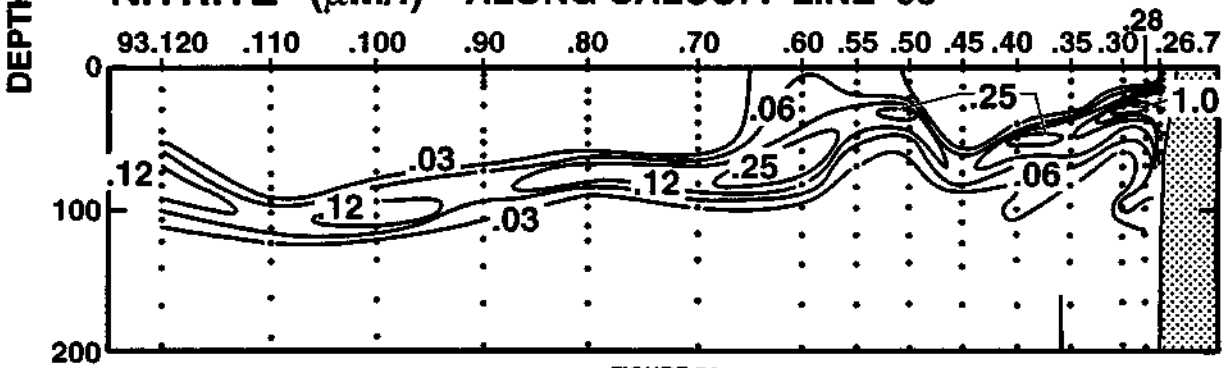

FIGURE 5J

PHAEOPIGMENTS (µg/l) ALONG CALCOFI LINE 93

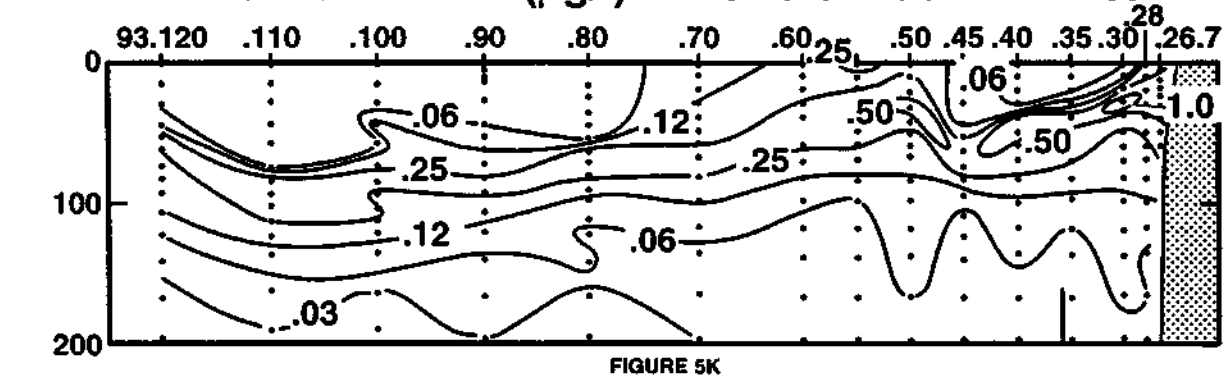

FIGURE 5K

PERSONNEL

CalCOFI Cruise 9704

SHIP'S CAPTAIN

John P. Manion, *RV New Horizon*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

Hayward, Thomas L. (Chief Scientist)	Research Oceanographer, SIO
Frouin, Robert J.	Associate Research Meteorologist, SIO
Gruber, Dennis W.	Marine Technician, SIO
Hawes, Steve K.	Associate in Research, University of South Florida
Hays, Amy E.	Fishery Biologist, NMFS
Kerfoot, John	Volunteer
Masten, Douglas M.	Staff Research Associate, SIO
McGinnis, Jean L.	Staff Research Associate, SIO
Paulos, Nicole J.	Volunteer
Ramirez, Fernando	Staff Research Associate, SIO
Renger, Edward H.	Staff Research Associate, SIO
Reynolds, Rick A.	Post Graduate Researcher, SIO
Robertson, Larry L.	Fishery Biologist, NMFS
Zafiriou, Oliver C.	Senior Scientist, WHOI
Ziolkowski, Lori A.	Guest Student, WHOI

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 77 49

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
35 5.2 N	120 46.6 W	19/04/97	1338	UTC	70 m	00 kn		4	1018.5 mb	13.3 C	13.1 C			

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	PRES db	SAMP
0	ISL	11.82	11.82	33.681	25.599	237.8	0.000	5.00	81.6	17.9	1.37	16.6	0.34	1.11	0.37	0	
2		11.82	11.82	33.681	25.599	237.8	0.005	5.00	81.6	17.9	1.37	16.6	0.34	1.11	0.37	2	208
5		11.76	11.76	33.684	25.613	236.6	0.012	5.03	82.0	17.9	1.37	15.9	0.29	1.22	0.44	5	207
10		11.65	11.65	33.695	25.642	234.0	0.024	5.08	82.6	17.8	1.34	15.5	0.29	2.21	0.53	10	206
20		10.67	10.67	33.733	25.848	214.6	0.046	4.28	68.2	20.4	1.51	18.5	0.25	2.34	0.71	20	205
30		10.24	10.24	33.778	25.958	204.3	0.067	3.92	61.9	22.7	1.65	20.4	0.23	1.95	0.74	30	204
40		10.04	10.04	33.811	26.018	198.9	0.087	3.48	54.7	24.5	1.78	21.9	0.23	1.06	0.52	40	203
50		9.95	9.94	33.845	26.060	195.1	0.107	3.23	50.7	26.1	1.86	22.5	0.23	0.73	0.58	50	202
60		9.86	9.85	33.863	26.089	192.5	0.126	3.01	47.1	27.7	1.93	23.0	0.21	0.53	0.63	60	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
35 1.7 N	120 55.1 W	19/04/97	1112	UTC	237 m	170 01 kn			1018.8 mb	14.2 C	14.0 C			

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	PRES db	SAMP
0	ISL	13.20	13.20	33.453	25.155	280.0	0.000	6.07	101.9	7.4	0.77	6.3	0.21	0.80	0.28	0	
1		13.20	13.20	33.453	25.155	280.0	0.003	6.07	101.9	7.4	0.77	6.3	0.21	0.80	0.28	1	219
10		11.87	11.87				0.026									10	216
10		11.83	11.83	33.632	25.559	241.8	0.026									10	217
10		11.83	11.83	33.625	25.554	242.3	0.026	5.69	92.9	14.5	1.21	13.1	0.33	0.65	0.28	10	214
10		11.79	11.79	33.639	25.572	240.6	0.026									10	218
10		11.84	11.84				0.026									10	215
20		11.42	11.42	33.669	25.664	232.1	0.050	5.50	89.0	16.0	1.19	15.5	0.53	0.81	0.34	20	213
30		11.23	11.23	33.687	25.713	227.7	0.073	5.32	85.8	17.1	1.32	15.5	0.35	0.91	0.40	30	212
40		11.05	11.05	33.698	25.754	224.0	0.096	5.12	82.2	18.0	1.40	16.5	0.32	0.98	0.48	40	211
50		10.84	10.83	33.718	25.807	219.2	0.118	4.85	77.5	19.2	1.47	17.5	0.28	0.73	0.47	50	210
60		10.68	10.67	33.722	25.839	216.4	0.140	4.57	72.8	19.8	1.52	18.3	0.25	0.56	0.41	60	209
70		10.57	10.56	33.730	25.864	214.2	0.161	4.29	68.2	20.3	1.57	19.0	0.21	0.44	0.39	70	208
75	ISL	10.39	10.38	33.730	25.896	211.3	0.172	3.95	62.5	21.0	1.62	19.8	0.15	0.31	0.31	75	
85		9.97	9.96	33.741	25.976	203.8	0.192	3.28	51.5	22.9	1.73	21.7	0.04	0.08	0.16	85	207
98		9.57	9.56	33.806	26.093	192.9	0.218	3.03	47.1	25.8	1.86	23.8	0.03	0.04	0.15	99	206
100	ISL	9.51	9.50	33.815	26.110	191.3	0.222	3.00	46.6	26.2	1.88	24.1	0.03	0.04	0.15	101	
118		9.07	9.06	33.897	26.246	178.7	0.255	2.76	42.5	29.6	2.01	25.9	0.02	0.03	0.16	119	205
125	ISL	9.02	9.01	33.935	26.283	175.3	0.268	2.63	40.4	30.9	2.06	26.5	0.02	0.03	0.15	126	
139		8.98	8.97	34.008	26.347	169.5	0.292	2.37	36.4	33.2	2.15	27.4	0.02	0.03	0.13	140	204
150	ISL	8.89	8.87	34.055	26.398	164.9	0.310	2.20	33.8	34.5	2.21	28.0	0.02	0.03	0.13	151	
169		8.70	8.68	34.119	26.479	157.6	0.341	1.91	29.2	37.2	2.32	29.1	0.03	0.02	0.13	170	203
199		8.41	8.39	34.179	26.571	149.3	0.387	1.33	20.2	45.6	2.57	31.4	0.10	0.03	0.19	200	202
200	ISL	8.41	8.39	34.180	26.572	149.3	0.388	1.32	20.0	45.7	2.57	31.4	0.10			201	
230		8.26	8.24	34.203	26.613	145.9	0.433	1.13	17.1	48.9	2.66	32.2	0.11			231	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 53.3 N	121 12.1 W	19/04/97	0725	UTC	561 m	150 02 kn		4	1018.7 mb	14.3 C	14.1 C			

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	PRES db	SAMP
0	ISL	13.63	13.63	33.451	25.067	288.4	0.000	5.97	101.1	6.8	0.78	6.3	0.23	0.34	0.12	0	
1		13.63	13.63	33.451	25.067	288.4	0.003	5.97	101.1	6.8	0.78	6.3	0.23	0.34	0.12	1	220
10		12.63	12.63	33.485	25.293	267.2	0.028	5.95	98.7	7.8	0.82	7.2	0.25	0.59	0.22	10	219
19		12.08	12.08	33.554	25.452	252.3	0.051	5.82	95.5	10.5	1.01	10.0	0.35	0.69	0.36	19	218
20	ISL	12.08	12.08	33.555	25.453	252.2	0.054	5.82	95.5	10.5	1.01	10.0	0.35	0.69	0.36	20	
30		12.05	12.05	33.569	25.470	250.9	0.079	5.79	94.9	10.7	1.03	10.3	0.37	0.65	0.35	30	217
40		12.01	12.00	33.573	25.480	250.1	0.104	5.75	94.2	10.9	1.05	10.5	0.37	0.71	0.34	40	216
50		11.85	11.84	33.579	25.515	247.0	0.129	5.62	91.7	11.7	1.11	11.5	0.40	0.71	0.37	50	215
61		11.74	11.73	33.590	25.545	244.5	0.156	5.52	89.9	12.5	1.16	12.2	0.40	0.72	0.34	61	214
70		11.41	11.40	33.610	25.621	237.4	0.178	5.36	86.7	13.3	1.22	13.2	0.43	0.49	0.32	70	213
75	ISL	11.25	11.24	33.638	25.672	232.6	0.189	5.04	81.2	14.5	1.29	14.3	0.42	0.40	0.30	75	
84		11.05	11.04	33.687	25.746	225.8	0.210	4.43	71.1	16.7	1.42	16.3	0.40	0.30	0.26	84	212
97		10.98	10.97	33.705	25.773	223.5	0.239	4.16	66.7	17.5	1.46	17.0	0.39	0.25	0.27	98	211
100	ISL	10.87	10.86	33.725	25.808	220.2	0.246	3.98	63.7	18.4	1.51	17.8	0.34	0.22	0.26	101	
118		10.13	10.12	33.861	26.043	198.2	0.283	2.87	45.2	24.4	1.83	22.7	0.03	0.07	0.18	119	210
125	ISL	9.98	9.97	33.888	26.090	193.9	0.297	2.73	42.9	25.6	1.89	23.5	0.03	0.06	0.18	126	
138		9.79	9.77	33.924	26.150	188.4	0.322	2.62	41.0	27.3	1.96	24.4	0.02	0.05	0.17	139	209
150	ISL	9.59	9.57	33.969	26.219	182.2	0.344	2.44	38.0	29.3	2.05	25.5	0.02	0.05	0.17	151	
169		9.28	9.26	34.034	26.320	172.8	0.378	2.19	33.9	32.4	2.17	27.1	0.02	0.05	0.17	170	208
198		8.79	8.77	34.091	26.443	161.6	0.426	2.06	31.5	36.3	2.27	28.7	0.02	0.03	0.13	199	207
200	ISL	8.78	8.76	34.096	26.449	161.1	0.430	2.03	31.1	36.6	2.28	28.8	0.02			201	
228		8.60	8.58	34.161	26.528	154.0	0.474	1.63	24.9	40.7	2.44	30.4	0.02			229	206
250	ISL	8.28	8.25	34.177	26.590	148.4	0.507	1.48	22.4	44.2	2.53	31.6	0.02			252	
267		8.02	7.99	34.182	26.633	144.5	0.532	1.41	21.2	46.9	2.58	32.4	0.02			269	205
300	ISL	7.74	7.71	34.202	26.690	139.5	0.579	1.20	17.9	51.0	2.68	33.6	0.01			302	
318		7.63	7.60	34.214	26.716	137.4	0.604	1.08	16.1	53.1	2.73	34.2	0.01			320	204
378		7.15	7.11	34.256	26.817	128.4	0.684	0.66	9.7	61.8	2.93	36.3	0.01			381	203
400	ISL	7.00	6.96	34.265	26.845	126.0	0.712	0.58	8.5	64.1	2.97	36.9	0.01			403	
436		6.77	6.73	34.275	26.885	122.6	0.756	0.50	7.3	67.8	3.03	37.8	0.01			439	202
500	ISL	6.26	6.22	34.275	26.953	116.6	0.833	0.42	6.1	76.0	3.11	39.3	0.01			504	
512		6.17	6.12	34.275	26.964	115.6	0.847	0.41	5.9	77.5	3.13	39.6	0.01			516	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 44.8 N	121 32.9 W	19/04/97	0338 UTC	819 m	210 04 kn	280 01 05	4	1018.9 mb	15.7 C	15.4 C		

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	PRES db	SAMP
0	ISL	13.95	13.95	33.349	24.922	302.2	0.000	6.09	103.7	4.0	0.56	3.2	0.11	0.28	0.07	0	
2		13.95	13.95	33.349	24.922	302.2	0.006	6.09	103.7	4.0	0.56	3.2	0.11	0.28	0.07	2	220
10		13.43	13.43	33.355	25.034	291.8	0.030	6.13	103.3	4.0	0.57	3.2	0.12	0.34	0.09	10	219
20		13.14	13.14	33.356	25.093	286.5	0.059	6.14	102.9	4.0	0.57	3.2	0.13	0.37	0.09	20	218
30		12.56	12.56	33.375	25.222	274.5	0.087	6.16	102.0	3.9	0.57	3.5	0.13	0.51	0.16	30	217
40		11.48	11.48	33.414	25.455	252.4	0.113	5.88	95.1	5.1	0.74	5.6	0.24	0.71	0.26	40	216
49		11.41	11.40	33.532	25.560	242.7	0.135	5.54	89.6	7.9	1.03	9.3	0.59	0.63	0.31	49	215
50	ISL	11.37	11.36	33.531	25.567	242.1	0.138	5.48	88.5	8.2	1.05	9.7	0.58	0.62	0.31	50	
59		10.81	10.80	33.479	25.627	236.5	0.159	4.89	78.0	11.0	1.18	12.7	0.51	0.44	0.23	59	214
68		9.93	9.92	33.449	25.754	224.5	0.180	4.38	68.5	15.1	1.32	15.8	0.05	0.18	0.12	68	213
75	ISL	9.85	9.84	33.530	25.831	217.3	0.196	4.09	63.9	17.4	1.46	17.9	0.04	0.15	0.14	75	
84		9.75	9.74	33.617	25.916	209.5	0.215	3.76	58.7	20.1	1.63	20.4	0.02	0.12	0.17	84	212
99		9.45	9.44	33.741	26.062	195.8	0.245	3.14	48.7	25.1	1.85	23.8	0.01	0.07	0.15	100	211
100	ISL	9.43	9.42	33.747	26.070	195.1	0.247	3.13	48.5	25.3	1.86	23.9	0.01	0.07	0.15	101	
119		8.96	8.95	33.840	26.219	181.3	0.283	2.87	44.0	28.4	1.96	25.5	0.01	0.02	0.12	120	210
125	ISL	8.80	8.79	33.862	26.261	177.4	0.294	2.92	44.7	29.5	1.97	25.9	0.01	0.02	0.09	126	
139		8.47	8.46	33.906	26.347	169.4	0.318	3.06	46.5	32.0	2.00	26.7	0.01	0.01	0.04	140	209
150	ISL	8.32	8.30	33.935	26.392	165.3	0.336	3.01	45.6	33.7	2.04	27.3	0.01	0.01	0.04	151	
167		8.16	8.14	33.968	26.442	160.8	0.364	2.86	43.1	36.1	2.10	28.2	0.01	0.01	0.05	168	208
198		7.79	7.77	33.996	26.519	153.9	0.413	2.66	39.8	39.7	2.20	29.6	0.01	0.01	0.04	199	207
200	ISL	7.76	7.74	33.998	26.525	153.4	0.416	2.64	39.5	40.0	2.21	29.7	0.01			201	
229		7.39	7.37	34.029	26.603	146.3	0.459	2.34	34.7	44.3	2.32	31.1	0.01			230	206
250	ISL	7.41	7.39	34.058	26.623	144.8	0.490	2.15	31.9	46.5	2.39	31.9	0.01			252	
271		7.44	7.41	34.079	26.636	144.0	0.520	1.95	28.9	48.5	2.46	32.6	0.01			273	205
300	ISL	7.31	7.28	34.122	26.688	139.4	0.561	1.61	23.8	51.5	2.58	33.6	0.01			302	
320		7.18	7.15	34.151	26.729	135.7	0.589	1.37	20.2	54.0	2.67	34.4	0.01			322	204
375		6.77	6.74	34.205	26.829	126.9	0.661	0.80	11.7	64.7	2.92	37.4	0.01			378	203
400	ISL	6.66	6.62	34.232	26.865	123.8	0.692	0.71	10.4	67.3	2.97	37.9	0.01			403	
437		6.53	6.49	34.267 D	26.910	120.0	0.737									440	202
500	ISL	6.19	6.15	34.298	26.980	114.0	0.811	0.37	5.3	77.6	3.16	40.0	0.01			504	
511		6.13	6.08	34.303	26.991	113.0	0.824	0.33	4.8	78.7	3.18	40.2	0.01			515	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 22.4 N	122 14.9 W	18/04/97	1840 UTC	4019 m	180 03 kn	260 01 05	2	1018.6 mb	15.0 C	14.1 C	23m 02	8/8 SC

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	PRES db	SAMP
0	ISL	14.62	14.62	33.188	24.658	327.4	0.000	6.02	103.9	2.6	0.34	0.2	0.00	0.21	0.04	0	
1	A	14.62	14.62	33.188	24.658	327.4	0.003	6.02	103.9	2.6	0.34	0.2	0.00	0.21	0.04	1	221
3		14.46	14.46	33.191	24.694	324.0	0.010									3	222
10	ISL	14.25	14.25	33.230	24.768	317.1	0.032	6.04	103.4	3.0	0.39	0.9	0.03	0.27	0.07	10	
15	A	13.98	13.98	33.263	24.850	309.4	0.048	6.06	103.2	3.3	0.43	1.4	0.05	0.32	0.09	15	220
20	ISL	13.94	13.94	33.273	24.866	308.1	0.063	6.06	103.2	3.4	0.44	1.6	0.06	0.34	0.09	20	
30	ISL	13.89	13.89	33.290	24.890	306.1	0.094	6.07	103.2	3.5	0.46	1.9	0.08	0.38	0.10	30	
33	A	13.89	13.89	33.294	24.893	305.9	0.103	6.07	103.2	3.6	0.47	2.0	0.08	0.39	0.10	33	219
41		13.68	13.67	33.325	24.961	299.7	0.127	6.10	103.3	4.0	0.51	2.5	0.09	0.46	0.13	41	218
46	A	13.57	13.56	33.356	25.007	295.4	0.142	6.09	102.9	4.2	0.54	3.0	0.12	0.52	0.16	46	217
50	ISL	13.52	13.51	33.370	25.028	293.5	0.154	6.11	103.2	4.3	0.56	3.2	0.13	0.54	0.19	50	
54		13.44	13.43	33.375	25.048	291.7	0.166	6.13	103.3	4.4	0.57	3.4	0.13	0.56	0.21	54	216
61	A	13.11	13.10	33.363	25.105	286.4	0.186	6.11	102.3	4.8	0.61	4.0	0.15	0.63	0.23	61	215
72		12.72	12.71	33.338	25.163	281.1	0.217	5.97	99.1	5.1	0.67	4.7	0.18	0.63	0.30	72	214
75	ISL	12.46	12.45	33.337	25.213	276.5	0.226	5.82	96.1	5.5	0.72	5.6	0.18	0.59	0.33	75	
84	A	11.57	11.56	33.347	25.388	259.9	0.250	5.30	85.9	7.7	0.92	8.8	0.16	0.43	0.38	84	213
96		10.57	10.56	33.384	25.595	240.3	0.280	4.70	74.5	12.2	1.17	13.1	0.03	0.19	0.18	96	212
100	ISL	10.39	10.38	33.411	25.647	235.4	0.289	4.56	72.0	13.5	1.25	14.4	0.03	0.15	0.17	100	
110		10.14	10.13	33.499	25.759	225.0	0.312	4.24	66.7	16.6	1.43	17.3	0.02	0.11	0.13	111	211
124		10.10	10.09	33.660	25.892	212.7	0.343	3.75	59.0	20.3	1.67	20.7	0.02	0.06	0.16	125	210
125	ISL	10.07	10.06	33.667	25.902	211.7	0.345	3.72	58.4	20.6	1.68	20.9	0.02	0.06	0.16	126	
147		9.34	9.32	33.767	26.101	193.1	0.390	3.16	48.9	26.0	1.88	24.2	0.01	0.03	0.15	148	209
150	ISL	9.25	9.23	33.782	26.127	190.6	0.395	3.10	47.9	26.7	1.90	24.6	0.01	0.03	0.14	151	
170		8.74	8.72	33.874	26.280	176.4	0.432	2.82	43.1	30.7	2.03	26.9	0.01	0.01	0.11	171	208
199		8.34	8.32	33.966	26.414	164.1	0.481	2.61	39.5	34.8	2.14	28.5	0.01	0.01	0.10	200	207
200	ISL	8.33	8.31	33.968	26.417	163.8	0.483	2.61	39.5	34.9	2.14	28.5	0.01			201	
229		7.91	7.89	34.003	26.508	155.6	0.529	2.61	39.1	38.3	2.19	29.3	0.02			230	206
250	ISL	7.62	7.60	34.017	26.561	150.8	0.562	2.51	37.4	41.5	2.25	30.2	0.02			251	
266		7.41	7.38	34.025	26.597	147.5	0.585	2.40	35.6	44.1	2.30	31.1	0.02			268	205
300	ISL	7.09	7.06	34.047	26.660	141.9	0.635	2.06	30.3	49.5	2.45	33.0	0.01			302	
318		6.94	6.91	34.059	26.690	139.3	0.660	1.85	27.1	52.5	2.54	34.1	0.01			320	204
376		6.28	6.25	34.092	26.804	128.8	0.738	1.23	17.8	64.4	2.80	37.6	0.01			378	203
400	ISL	6.06	6.03	34.110	26.846	125.0	0.768	1.03	14.8	68.9	2.89	38.7	0.01			403	
433		5.81	5.77	34.139	26.901	120.0	0.809	0.81	11.6	74.6	3.00	40.0	0.01			436	202
500	ISL	5.52	5.48	34.213	26.995	111.7	0.886	0.49	7.0	83.2	3.15	41.6	0.01			503	
510		5.48	5.44	34.224	27.009	110.5	0.897	0.44	6.2	84.5	3.17	41.8	0.01			514	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 3.3 N	122 57.1 W	18/04/97	0551	UTC	4237 m	270	12 kn			1019.2 mb	14.8 C	14.5 C			

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	PRES db	SAMP
0	ISL	14.66	14.66	33.159	24.627	330.3	0.000	5.97	103.1	2.1	0.34	0.0	0.00	0.17	0.06	0	
1		14.66	14.66	33.159	24.627	330.3	0.003	5.97	103.1	2.1	0.34	0.0	0.00	0.17	0.06	1	220
10	ISL	14.65	14.65	33.160	24.630	330.3	0.033	5.96	102.9	2.0	0.33	0.0	0.00	0.17	0.04	10	
15		14.65	14.65	33.160	24.630	330.4	0.050	5.96	102.9	2.0	0.33	0.0	0.00	0.17	0.03	15	219
20	ISL	14.60	14.60	33.159	24.640	329.6	0.066	5.97	102.9	2.0	0.33	0.0	0.00	0.19	0.04	20	
29		14.43	14.43	33.155	24.673	326.7	0.096	6.00	103.1	1.9	0.33	0.0	0.00	0.22	0.07	29	218
30	ISL	14.41	14.41	33.155	24.677	326.3	0.099	6.00	103.0	1.9	0.33	0.0	0.00	0.23	0.08	30	
45		13.89	13.88	33.152	24.784	316.6	0.147	6.04	102.6	2.5	0.38	0.3	0.03	0.50	0.22	45	217
50	ISL	13.55	13.54	33.142	24.846	310.8	0.163	6.05	102.1	2.6	0.44	0.9	0.06	0.63	0.30	50	
54		13.25	13.24	33.141	24.906	305.2	0.175	6.06	101.6	2.6	0.49	1.5	0.11	0.72	0.37	54	216
64		12.59	12.58	33.204	25.084	288.4	0.205	5.86	96.9	4.1	0.63	3.4	0.41	0.71	0.50	64	215
75		12.13	12.12	33.253	25.210	276.7	0.236	5.64	92.4	4.9	0.77	5.4	0.49	0.60	0.47	75	214
85		11.59	11.58	33.298	25.346	263.9	0.263	5.26	85.2	7.1	0.93	8.5	0.08	0.42	0.35	85	213
94		11.20	11.19	33.352	25.459	253.3	0.286	5.08	81.7	8.9	1.08	10.9	0.13	0.26	0.24	94	212
100	ISL	10.64	10.63	33.413	25.606	239.4	0.301	4.67	74.2	12.4	1.26	14.0	0.09	0.16	0.16	100	
108		9.89	9.88	33.500	25.802	220.8	0.319	4.10	64.1	17.4	1.50	18.1	0.02	0.06	0.07	109	211
125		9.47	9.46	33.593	25.944	207.6	0.356	3.85	59.7	20.6	1.64	20.5	0.01	0.03	0.04	126	210
143		9.13	9.11	33.732	26.107	192.4	0.392	3.32	51.1	25.4	1.85	23.8	0.01	0.01	0.03	144	209
150	ISL	8.97	8.95	33.764	26.158	187.7	0.405	3.33	51.1	26.4	1.86	24.2	0.01	0.01	0.03	151	
169		8.56	8.54	33.828	26.272	177.1	0.440	3.42	52.0	28.7	1.88	24.9	0.01	0.01	0.03	170	208
198		8.24	8.22	33.938	26.407	164.7	0.489	2.75	41.5	34.6	2.13	28.2	0.00	0.01	0.04	199	207
200	ISL	8.20	8.18	33.941	26.416	163.9	0.493	2.76	41.7	34.9	2.14	28.3	0.00			201	
227		7.67	7.65	33.957	26.506	155.6	0.536	2.83	42.2	38.8	2.17	29.2	0.00			228	206
250	ISL	7.36	7.34	33.979	26.568	149.9	0.571	2.70	40.0	42.2	2.24	30.2	0.01			251	
265		7.20	7.17	33.995	26.603	146.8	0.593	2.55	37.6	44.6	2.30	31.0	0.01			267	205
300	ISL	6.88	6.85	34.030	26.675	140.3	0.643	2.09	30.6	50.8	2.48	33.2	0.01			302	
316		6.74	6.71	34.043	26.704	137.7	0.666	1.87	27.3	53.9	2.56	34.2	0.01			318	204
376		6.07	6.04	34.068	26.812	127.9	0.745	1.29	18.5	66.0	2.82	37.9	0.01			378	203
400	ISL	5.87	5.84	34.086	26.851	124.3	0.776	1.08	15.4	70.4	2.91	39.0	0.01			403	
440		5.60	5.56	34.122	26.913	118.8	0.824	0.79	11.2	77.2	3.03	40.5	0.01			443	202
500	ISL	5.27	5.23	34.174	26.994	111.5	0.893	0.64	9.0	85.8	3.16	41.9	0.01			503	
509		5.22	5.18	34.182	27.006	110.4	0.903	0.62	8.7	87.1	3.18	42.1	0.01			513	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 43.8 N	123 38.0 W	17/04/97	2342	UTC	4189 m	250	10 kn	280 01 05	1	1019.0 mb	17.3 C	16.4 C	27m	7/8	AC

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	PRES db	SAMP
0	ISL	15.08	15.08	33.150	24.529	339.6	0.000	5.96	103.8	2.7	0.34	0.0	0.00	0.18	0.01	0	
2		15.08	15.08	33.150	24.530	339.6	0.007	5.96	103.8	2.7	0.34	0.0	0.00	0.18	0.01	2	223
5		14.60	14.60	33.154	24.636	329.6	0.017	6.02	103.8	2.6	0.33	0.0	0.01	0.19	0.05	5	222
10	ISL	14.50	14.50	33.152	24.656	327.9	0.033	6.04	103.9	2.4	0.33	0.0	0.01	0.22	0.04	10	
12		14.46	14.46	33.151	24.663	327.2	0.040	6.05	104.0	2.4	0.33	0.0	0.01	0.23	0.04	12	221
15		14.34	14.34	33.148	24.686	325.1	0.050	6.05	103.8	2.4	0.32	0.0	0.00	0.22	0.05	15	220
20	ISL	14.30	14.30	33.149	24.696	324.3	0.066	6.05	103.7	2.4	0.32	0.0	0.00	0.23	0.05	20	
25		14.26	14.26	33.151	24.706	323.5	0.082	6.06	103.8	2.4	0.33	0.0	0.00	0.27	0.06	25	219
30		14.19	14.19	33.145	24.716	322.7	0.098	6.07	103.8	2.4	0.32	0.0	0.01	0.31	0.08	30	218
44		13.95	13.94	33.134	24.758	319.1	0.143	6.08	103.4	2.5	0.34	0.1	0.02	0.43	0.17	44	217
50	ISL	13.75	13.74	33.136	24.801	315.2	0.162	6.09	103.2	2.6	0.36	0.4	0.04	0.54	0.24	50	
54		13.55	13.54	33.143	24.847	310.9	0.175	6.10	102.9	2.8	0.39	0.8	0.05	0.63	0.30	54	216
64		12.70	12.69	33.205	25.064	290.4	0.205	5.98	99.2	3.9	0.56	2.8	0.22	0.83	0.45	64	215
75		12.48	12.47	33.260	25.149	282.5	0.236	5.76	95.1	5.0	0.66	4.1	0.41	0.60	0.43	75	214
85		12.20	12.19	33.280	25.218	276.2	0.264	5.77	94.7	4.9	0.75	5.5	0.68	0.42	0.39	85	213
95		11.64	11.63	33.333	25.364	262.4	0.291	5.19	84.2	8.2	0.95	9.3	0.05	0.28	0.25	95	212
100	ISL	11.19	11.18	33.361	25.468	252.6	0.304	4.89	78.6	10.4	1.08	11.6	0.04	0.22	0.19	100	
109		10.40	10.39	33.432	25.662	234.2	0.326	4.35	68.7	14.7	1.32	15.7	0.03	0.13	0.11	110	211
124		9.78	9.77	33.622	25.915	210.4	0.359	3.52	54.9	21.3	1.68	21.3	0.02	0.03	0.06	125	210
125	ISL	9.73	9.72	33.630	25.930	209.0	0.361	3.53	55.0	21.6	1.68	21.4	0.02	0.03	0.06	126	
143		8.97	8.95	33.748	26.145	188.7	0.397	3.64	55.8	25.0	1.73	22.8	0.02	0.01	0.04	144	209
150	ISL	8.91	8.89	33.798	26.194	184.2	0.410	3.45	52.9	26.6	1.81	23.9	0.02	0.01	0.04	151	
169		8.76	8.74	33.883	26.284	176.0	0.444	2.80	42.8	30.7	2.04	26.9	0.02	0.01	0.04	170	208
199		8.45	8.43	33.999	26.423	163.3	0.495	2.41	36.6	35.2	2.19	28.9	0.02	0.00	0.04	200	207
200	ISL	8.43	8.41	34.000	26.427	162.9	0.497	2.41	36.6	35.3	2.19	28.9	0.02			201	
226		8.01	7.99	34.016	26.503	156.0	0.538	2.42	36.4	38.8	2.24	29.8	0.02			227	206
250	ISL	7.82	7.80	34.051	26.559	151.1	0.575	2.21	33.1	41.9	2.33	30.8	0.02			251	
267		7.69	7.66	34.070	26.593	148.1	0.601	2.05	30.6	44.3	2.40	31.6	0.02			269	205
300	ISL	7.03	7.00	34.041	26.663	141.6	0.648	2.02	29.7	50.0	2.48	33.2	0.02			302	
318		6.67	6.64	34.026	26.700	138.1	0.674	1.99	29.0	53.4	2.53	34.2	0.02			320	204
378		6.29	6.26	34.107	26.814	127.9	0.753	1.11	16.0	65.2	2.86	38.0	0.02			380	203
400	ISL	6.21	6.17	34.134	26.846	125.1	0.781	0.92	13.3	68.2	2.93	38.8	0.02			403	
436		6.07	6.03	34.168	26.891	121.3	0.826	0.71	10.2	72.5	3.02	39.7	0.02			439	202
500	ISL	5.57	5.53	34.187	26.969	114.3	0.901	0.54	7.7	81.4	3.13	41.3	0.02			503	
514		5.46	5.42	34.191	26.985	112.8	0.917	0.50	7.1	83.3	3.15	41.7	0.02			518	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 23.5 N	124 19.3 W	17/04/97	1826 UTC	4562 m	310 04 kn	330 02 06	1	1021.0 mb	16.0 C	15.2 C	30m 01	6/8	SC

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	PRES db	SAMP
0	ISL	15.44	15.44	33.215	24.501	342.3	0.000	5.85	102.6	1.8	0.30	0.1	0.00	0.10	0.02	0	
2	A	15.44	15.44	33.215	24.501	342.4	0.007	5.85	102.6	1.8	0.30	0.1	0.00	0.10	0.02	2	222
2		15.47	15.47	33.215	24.494	343.0	0.007									2	223
2		15.48	15.48	33.214	24.491	343.3	0.007									2	224
10		15.05	15.05	33.202	24.576	335.4	0.034	5.92	103.0	1.8	0.30	0.1	0.00	0.12	0.03	10	221
20	A	14.44	14.44	33.150	24.667	327.1	0.067	6.01	103.3	2.0	0.31	0.1	0.00	0.21	0.04	20	220
29		14.32	14.32	33.151	24.693	324.8	0.096	6.04	103.5	2.1	0.32	0.1	0.00	0.25	0.05	29	219
30	ISL	14.32	14.32	33.152	24.694	324.8	0.100	6.04	103.5	2.1	0.32	0.1	0.00	0.26	0.05	30	
40	A	14.11	14.10	33.162	24.746	320.1	0.132	6.08	103.8	2.3	0.34	0.2	0.01	0.35	0.09	40	218
50		13.38	13.37	33.151	24.887	306.9	0.163	6.08	102.2	2.3	0.40	1.0	0.05	0.74	0.25	50	217
59	A	12.90	12.89	33.110	24.951	301.0	0.191	6.00	99.8	2.6	0.49	1.9	0.10	0.78	0.32	59	216
69		12.24	12.23	33.125	25.090	287.9	0.220	5.88	96.5	3.3	0.61	3.3	0.12	0.70	0.44	69	215
75	ISL	12.03	12.02	33.162	25.159	281.6	0.237	5.71	93.3	4.1	0.65	4.0	0.11	0.54	0.36	75	
80	A	11.84	11.83	33.201	25.224	275.4	0.251	5.55	90.4	4.9	0.68	4.7	0.09	0.39	0.28	80	214
90		11.13	11.12	33.283	25.418	257.1	0.278	5.30	85.0	7.2	0.80	7.1	0.07	0.25	0.23	90	213
100	ISL	10.68	10.67	33.356	25.554	244.3	0.303	4.96	78.8	10.4	1.02	10.8	0.14	0.19	0.20	100	
101		10.65	10.64	33.364	25.566	243.2	0.305	4.92	78.1	10.7	1.04	11.2	0.14	0.19	0.20	101	212
108	A	10.57	10.56	33.436	25.636	236.7	0.322	4.72	74.9	12.6	1.21	13.7	0.09	0.15	0.19	109	211
124		9.97	9.96	33.626	25.887	213.1	0.358	3.89	61.0	19.5	1.63	20.3	0.02	0.05	0.17	125	210
125	ISL	9.94	9.93	33.630	25.895	212.4	0.360	3.86	60.5	19.8	1.64	20.5	0.02	0.05	0.17	126	
143		9.52	9.50	33.680	26.004	202.3	0.397	3.41	52.9	23.5	1.79	22.9	0.02	0.03	0.23	144	209
150	ISL	9.28	9.26	33.726	26.079	195.3	0.411	3.28	50.7	25.4	1.85	23.9	0.02	0.02	0.20	151	
168		8.70	8.68	33.851	26.268	177.5	0.445	3.01	45.9	29.9	2.00	26.3	0.02	0.01	0.10	169	208
198		8.37	8.35	33.947	26.395	165.9	0.496	2.63	39.8	34.2	2.15	28.6	0.02	0.01	0.06	199	207
200	ISL	8.36	8.34	33.952	26.400	165.5	0.500	2.61	39.5	34.4	2.16	28.7	0.02			201	
229		8.09	8.07	34.013	26.489	157.5	0.547	2.39	36.0	37.8	2.24	29.7	0.01			230	206
250	ISL	7.69	7.67	34.022	26.555	151.4	0.579	2.36	35.2	41.4	2.30	30.7	0.01			251	
268		7.32	7.29	34.022	26.608	146.5	0.606	2.33	34.5	44.9	2.36	31.7	0.02			270	205
300	ISL	6.92	6.89	34.037	26.675	140.4	0.652	2.03	29.8	50.7	2.50	33.6	0.02			302	
317		6.76	6.73	34.047	26.705	137.7	0.675	1.83	26.7	53.8	2.58	34.7	0.02			319	204
375		6.30	6.27	34.101	26.808	128.4	0.753	1.15	16.6	64.6	2.85	38.0	0.02			377	203
400	ISL	6.17	6.13	34.126	26.845	125.2	0.784	0.94	13.5	68.4	2.94	38.9	0.02			403	
435		6.00	5.96	34.159	26.893	121.0	0.827	0.72	10.3	73.2	3.04	39.9	0.02			438	202
500	ISL	5.58	5.54	34.202	26.979	113.3	0.903	0.50	7.1	82.2	3.17	41.4	0.01			503	
513		5.50	5.46	34.211	26.996	111.8	0.918	0.45	6.4	84.0	3.20	41.7	0.01			517	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9704 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 32.0 W	15/04/97	1854 UTC	79 m	140 07 kn	290 02 06	4	1018.7 mb	14.0 C	13.4 C	05m 07		

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	PRES db	SAMP
0	ISL	13.27	13.27	33.669	25.308	265.4	0.000	7.43	125.1	2.8	0.26	0.1	0.02	14.63	3.18	0	
2		13.39	13.39	33.669	25.284	267.8	0.005									2	213
2	A	13.27	13.27	33.669	25.309	265.5	0.005	7.43	125.1	2.8	0.26	0.1	0.02	14.63	3.18	2	212
3	A	13.09	13.09	33.671	25.346	261.9	0.008	7.27	121.9	3.4	0.29	0.2	0.03	16.25	3.44	3	211
7	A	12.82	12.82	33.681	25.407	256.2	0.018	6.39	106.5	5.9	0.45	1.2	0.07	16.30	2.35	7	210
10	A	12.64	12.64	33.684	25.445	252.7	0.026	5.69	94.5	8.8	0.68	4.8	0.17	13.40	2.47	10	209
14	A	12.31	12.31	33.705	25.525	245.2	0.036	4.79	79.0	12.9	1.05	10.3	0.35	10.69	3.11	14	208
18	A	11.84	11.84	33.721	25.627	235.6	0.046	4.26	69.6	15.6	1.26	13.4	0.44	5.11	1.91	18	207
20	ISL	11.69	11.69	33.724	25.657	232.8	0.050	4.06	66.1	16.5	1.33	14.4	0.43	3.70	1.53	20	
24		11.48	11.48	33.729	25.700	228.8	0.059	3.79	61.4	17.8	1.43	15.8	0.42	2.27	1.06	24	206
30		11.31	11.31	33.742	25.741	225.0	0.073	3.65	59.0	18.6	1.47	16.7	0.40	1.14	0.75	30	205
40		10.98	10.98	33.767	25.820	217.7	0.095	3.40	54.5	20.3	1.59	18.5	0.33	0.69	0.54	40	204
49		10.61	10.60	33.804	25.915	208.9	0.114	3.10	49.3	22.3	1.71	20.4	0.20	0.31	0.42	49	203
50	ISL	10.57	10.56	33.810	25.926	207.8	0.116	3.07	48.8	22.5	1.72	20.6	0.19	0.30	0.41	50	
60		10.27	10.26	33.862	26.019	199.2	0.137	2.84	44.9	24.6	1.85	22.4	0.11	0.23	0.30	60	202
70		10.13	10.12	33.893	26.067	194.9	0.157	2.73	43.0	26.1	1.91	23.2	0.13	0.17	0.25	70	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 18.9 N	120 48.0 W	15/04/97	2113 UTC	808 m	270 04 kn	270 02 05	4	1018.2 mb	13.6 C	12.8 C	32m 02	8/8	CI

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	PRES db	SAMP
0	ISL	12.60	12.60	33.391	25.226	273.3	0.000	5.84	96.8	6.7	0.80	6.6	0.25	0.44	0.10	0	
2		12.65	12.65	33.391	25.216	274.3	0.005									2	224
2		12.60	12.60	33.391	25.226	273.4	0.005	5.84	96.8	6.7	0.80	6.6	0.25	0.44	0.10	2	223
9		12.30	12.30	33.470	25.345	262.2	0.024	5.84	96.2	8.0	0.88	7.8	0.26	0.56	0.15	9	221
9		12.31	12.31	33.461	25.336	263.1	0.024	5.84	96.2	8.1	0.88	7.8	0.26	0.54	0.14	9	222
10	ISL	12.26	12.26	33.488	25.366	260.2	0.027	5.82	95.8	8.4	0.90	8.2	0.26	0.57	0.16	10	
20		11.88	11.88	33.642	25.558	242.2	0.052	5.58	91.2	12.1	1.14	11.6	0.30	0.67	0.22	20	220
25		11.74	11.74	33.656	25.595	238.8	0.064	5.43	88.5	13.1	1.19	12.4	0.31	0.56	0.26	25	219
30	ISL	10.74	10.74	33.515	25.666	232.1	0.076	4.63	73.8	14.6	1.33	15.3	0.12	0.26	0.16	30	
31		10.52	10.52	33.486	25.682	230.6	0.078	4.46	70.7	14.9	1.36	15.9	0.08	0.20	0.13	31	218
40		10.16	10.16	33.497	25.753	224.1	0.099	4.20	66.1	16.8	1.44	17.6	0.04	0.10	0.10	40	216
40		10.17	10.17	33.498	25.752	224.2	0.099	4.20	66.1	16.8	1.45	17.6	0.04	0.09	0.11	40	217
50	ISL	9.68	9.67	33.548	25.873	212.8	0.120	4.03	62.7	19.0	1.52	19.0	0.04	0.07	0.05	50	
51		9.64	9.63	33.559	25.888	211.4	0.122	4.00	62.2	19.3	1.53	19.2	0.04	0.07	0.05	51	215
60		9.55	9.54	33.758	26.058	195.4	0.141	3.21	49.9	24.6	1.82	23.3	0.04	0.07	0.15	60	214
69		9.53	9.52	33.850	26.134	188.4	0.158	2.93	45.6	26.7	1.89	24.1	0.03	0.05	0.18	69	213
75	ISL	9.56	9.55	33.913	26.178	184.4	0.169	2.68	41.7	28.1	1.96	24.8	0.02	0.04	0.17	75	
84		9.60	9.59	33.988	26.230	179.6	0.186	2.35	36.6	30.0	2.07	25.8	0.02	0.04	0.16	84	212
100		9.42	9.41	34.021	26.286	174.6	0.214	2.27	35.2	31.6	2.13	26.5	0.02	0.03	0.12	101	211
118		9.08	9.07	34.095	26.399	164.2	0.244	1.99	30.7	35.4	2.28	28.2	0.02	0.03	0.13	119	210
125	ISL	9.02	9.01	34.112	26.422	162.2	0.256	1.92	29.6	36.2	2.31	28.6	0.02	0.03	0.12	126	
139		8.95	8.94	34.137	26.453	159.5	0.278	1.82	28.0	37.2	2.35	29.1	0.02	0.02	0.11	140	209
150	ISL	8.89	8.87	34.155	26.477	157.4	0.296	1.75	26.9	38.1	2.38	29.4	0.02	0.02	0.10	151	
167		8.80	8.78	34.177	26.508	154.8	0.322	1.64	25.1	39.5	2.43	29.9	0.02	0.02	0.10	168	208
198		8.57	8.55	34.199	26.562	150.2	0.370	1.43	21.8	42.8	2.53	31.0	0.01	0.02	0.10	199	207
200	ISL	8.55	8.53	34.201	26.567	149.8	0.373	1.41	21.5	43.1	2.54	31.1	0.01			201	
228		8.34	8.32	34.228	26.620	145.2	0.414	1.23	18.7	46.2	2.62	32.0	0.01			229	206
250	ISL	8.26	8.23	34.232	26.636	144.1	0.446	1.17	17.7	47.3	2.65	32.3	0.01			252	
267		8.21	8.18	34.232	26.644	143.6	0.470	1.14	17.2	48.0	2.67	32.5	0.01			269	205
300	ISL	8.04	8.01	34.241	26.677	141.0	0.517	1.03	15.5	50.4	2.73	33.2	0.01			302	
317		7.95	7.92	34.247	26.695	139.5	0.541	0.97	14.6	51.8	2.76	33.6	0.01			319	204
374		7.68	7.64	34.263	26.748	135.4	0.619	0.79	11.8	55.9	2.85	34.8	0.01			377	203
400	ISL	7.46	7.42	34.267	26.783	132.3	0.654	0.70	10.4	58.9	2.91	35.6	0.01			403	
436		7.11	7.07	34.271	26.835	127.6	0.701	0.59	8.7	63.5	2.99	36.7	0.01			439	202
500	ISL	6.54	6.49	34.276	26.917	120.3	0.780	0.45	6.5	71.1	3.09	38.6	0.01			504	
513		6.43	6.38	34.278	26.933	118.9	0.796	0.42	6.1	72.6	3.11	39.0	0.01			517	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 9.0 N	121 9.0 W	16/04/97	0154 UTC	2180 m	310 10 kn	330 02 05	2	1017.5 mb	14.0 C	12.9 C		8/8	SC

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	PRES db	SAMP
0	ISL	13.59	13.59	33.294	24.954	299.2	0.000	6.10	103.1	3.6	0.50	2.1	0.09	0.48	0.15	0	
2		13.59	13.59	33.294	24.954	299.2	0.006	6.10	103.1	3.6	0.50	2.1	0.09	0.48	0.15	2	220
10		13.30	13.30	33.286	25.006	294.4	0.030	6.11	102.7	3.4	0.49	2.1	0.10	0.51	0.16	10	219
20		13.26	13.26	33.285	25.014	294.0	0.059	6.12	102.7	3.5	0.49	2.1	0.10	0.56	0.20	20	218
29		13.13	13.13	33.299	25.051	290.7	0.085	6.05	101.3	3.6	0.53	2.6	0.12	0.56	0.24	29	217
30	ISL	13.12	13.12	33.300	25.054	290.5	0.088	6.05	101.3	3.6	0.53	2.6	0.12	0.57	0.24	30	
40		12.92	12.91	33.318	25.107	285.6	0.117	6.00	100.0	3.9	0.58	3.3	0.15	0.62	0.24	40	216
49		12.58	12.57	33.349	25.198	277.2	0.142	5.86	97.0	4.6	0.68	4.8	0.25	0.62	0.30	49	215
50	ISL	12.50	12.49	33.347	25.212	275.9	0.145	5.82	96.2	4.7	0.69	5.0	0.25	0.60	0.29	50	
59		11.74	11.73	33.319	25.334	264.4	0.170	5.40	87.8	6.3	0.83	7.3	0.19	0.41	0.23	59	214
70		10.99	10.98	33.320	25.471	251.6	0.198	5.01	80.2	9.3	1.00	10.2	0.06	0.32	0.22	70	213
75	ISL	10.58	10.57	33.356	25.571	242.1	0.210	4.78	75.8	11.6	1.13	12.4	0.05	0.26	0.17	75	
83		9.98	9.97	33.437	25.737	226.5	0.229	4.39	68.7	15.6	1.35	16.0	0.03	0.17	0.09	83	212
99		9.44	9.43	33.616	25.966	205.0	0.264	3.73	57.8	21.7	1.67	21.2	0.02	0.12	0.08	100	211
100	ISL	9.42	9.41	33.624	25.976	204.1	0.266	3.70	57.3	22.0	1.68	21.4	0.02	0.12	0.08	101	
119		9.05	9.04	33.738	26.124	190.3	0.303	3.33	51.2	26.1	1.85	24.1	0.02	0.07	0.06	120	210
125	ISL	8.94	8.93	33.772	26.168	186.2	0.314	3.24	49.7	27.2	1.89	24.7	0.02	0.10	0.07	126	
138		8.73	8.72	33.838	26.253	178.3	0.338	3.08	47.0	29.3	1.97	25.9	0.02	0.17	0.10	139	209
150	ISL	8.53	8.51	33.888	26.323	171.8	0.359	2.97	45.2	31.3	2.02	26.8	0.02	0.16	0.10	151	
169		8.29	8.27	33.956	26.413	163.6	0.391	2.78	42.1	34.2	2.10	27.9	0.02	0.15	0.09	170	208
200		8.23	8.21	34.053	26.499	156.0	0.440	2.31	34.9	38.1	2.26	29.2	0.01	0.13	0.15	201	207
228		7.80	7.78	34.051	26.562	150.4	0.483	2.33	34.9	40.4	2.30	30.2	0.02			229	206
250	ISL	7.60	7.58	34.077	26.611	146.0	0.516	2.08	31.0	44.6	2.41	31.5	0.02			252	
267		7.49	7.46	34.102	26.647	142.9	0.541	1.83	27.2	48.1	2.51	32.5	0.01			269	205
300	ISL	7.30	7.27	34.133	26.698	138.4	0.587	1.51	22.3	52.4	2.64	33.9	0.01			302	
318		7.20	7.17	34.148	26.724	136.2	0.612	1.36	20.1	54.5	2.70	34.6	0.01			320	204
378		6.81	6.77	34.199	26.819	128.0	0.691	0.88	12.9	62.7	2.91	36.9	0.01			380	203
400	ISL	6.68	6.64	34.226	26.858	124.5	0.719	0.71	10.4	65.8	2.98	37.6	0.01			403	
436		6.48	6.44	34.268	26.918	119.2	0.763	0.49	7.1	70.6	3.09	38.7	0.01			439	202
500	ISL	6.17	6.13	34.299	26.983	113.7	0.837	0.35	5.0	76.7	3.18	39.9	0.01			504	
516		6.09	6.04	34.307	27.000	112.2	0.855	0.32	4.6	78.2	3.20	40.2	0.01			520	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 49.2 N	121 50.5 W	16/04/97	0803 UTC	3632 m	340 15 kn			1019.0 mb	14.0 C	13.2 C		

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	PRES db	SAMP
0	ISL	14.48	14.48	33.153	24.660	327.1	0.000	5.92	101.8	2.1	0.32	0.0	0.00	0.16	0.06	0	
1		14.48	14.48	33.153	24.660	327.1	0.003	5.92	101.8	2.1	0.32	0.0	0.00	0.16	0.06	1	220
10	ISL	14.49	14.49	33.153	24.658	327.6	0.033	5.92	101.8	2.0	0.32	0.0	0.00	0.17	0.06	10	
15		14.49	14.49	33.153	24.659	327.7	0.049	5.92	101.8	2.0	0.32	0.0	0.00	0.17	0.06	15	219
20	ISL	14.49	14.49	33.153	24.659	327.8	0.066	5.92	101.8	2.0	0.32	0.0	0.00	0.17	0.06	20	
30		14.47	14.47	33.153	24.663	327.7	0.098	5.91	101.6	1.9	0.31	0.0	0.00	0.17	0.07	30	218
45		14.44	14.43	33.154	24.671	327.4	0.147	5.92	101.7	1.9	0.32	0.0	0.00	0.23	0.09	45	217
50	ISL	14.44	14.43	33.155	24.672	327.5	0.164	5.92	101.7	1.9	0.32	0.0	0.00	0.24	0.10	50	
60		14.43	14.42	33.157	24.676	327.4	0.197	5.91	101.5	1.8	0.32	0.0	0.00	0.28	0.14	60	216
74		14.03	14.02	33.110	24.724	323.2	0.242	5.91	100.7	1.9	0.35	0.1	0.02	0.37	0.23	74	215
75	ISL	13.92	13.91	33.106	24.743	321.3	0.245	5.90	100.3	2.0	0.37	0.3	0.04	0.37	0.25	75	
85		12.83	12.82	33.093	24.952	301.6	0.276	5.80	96.4	3.1	0.53	2.1	0.26	0.36	0.41	85	214
94		12.44	12.43	33.149	25.071	290.4	0.303	5.69	93.8	3.6	0.61	3.3	0.27	0.29	0.33	94	213
100	ISL	12.21	12.20	33.191	25.148	283.2	0.320	5.52	90.6	4.5	0.70	4.8	0.15	0.24	0.27	100	
104		12.03	12.02	33.219	25.203	278.0	0.332	5.40	88.3	5.3	0.76	6.0	0.07	0.20	0.23	104	212
114		11.37	11.36	33.277	25.370	262.2	0.359	5.18	83.5	7.4	0.90	8.5	0.02	0.12	0.14	115	211
123		10.66	10.65	33.328	25.536	246.5	0.381	4.87	77.3	10.6	1.07	11.4	0.02	0.08	0.08	124	210
125	ISL	10.56	10.55	33.342	25.565	243.8	0.386	4.82	76.4	11.1	1.10	11.9	0.02	0.07	0.08	126	
139		10.05	10.03	33.450	25.736	227.7	0.419	4.50	70.6	14.6	1.29	15.1	0.01	0.05	0.06	140	209
150	ISL	9.66	9.64	33.557	25.885	213.8	0.444	4.14	64.4	18.4	1.48	18.3	0.01	0.03	0.05	151	
164		9.24	9.22	33.689	26.057	197.6	0.472	3.66	56.5	23.3	1.71	22.1	0.01	0.01	0.04	165	208
193		8.78	8.76	33.857	26.261	178.7	0.527	2.91	44.5	29.9	2.02	26.5	0.00	0.01	0.04	194	207
200	ISL	8.66	8.64	33.879	26.297	175.3	0.539	2.95	45.0	30.7	2.02	26.6	0.00			201	
229		8.12	8.10	33.935	26.423	163.7	0.589	3.12	47.0	33.8	2.02	27.2	0.01			230	206
250	ISL	7.67	7.65	33.958	26.507	155.8	0.622	3.02	45.0	37.5	2.08	28.3	0.01			251	
268		7.31	7.28	33.973	26.571	150.0	0.650	2.93	43.3	41.3	2.16	29.5	0.01			270	205
300	ISL	6.86	6.83	34.002	26.656	142.2	0.696	2.43	35.6	48.8	2.37	32.3	0.01			302	
317		6.68	6.65	34.016	26.691	139.0	0.720	2.14	31.2	52.6	2.49	33.7	0.01			319	204
377		6.27	6.24	34.052	26.774	131.7	0.801	1.60	23.1	59.7	2.69	36.2	0.01			379	203
400	ISL	6.09	6.06	34.073	26.813	128.1	0.831	1.32	19.0	64.7	2.81	37.6	0.01			403	
436		5.80	5.76	34.109	26.878	122.2	0.876	0.90	12.9	72.9	2.98	39.8	0.01			439	202
500	ISL	5.41	5.37	34.156	26.963	114.6	0.952	0.61	8.6	82.4	3.11	41.5	0.01			503	
517		5.31	5.27	34.169	26.985	112.6	0.971	0.53	7.5	84.9	3.15	41.9	0.01			521	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 29.3 N	122 32.1 W	16/04/97	1831 UTC	3991 m	330 20 kn	340 04 05	0	1019.6 mb	15.1 C	13.0 C	34m 01	

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	PRES db	SAMP
0	ISL	15.16	15.16	33.193	24.545	338.1	0.000	5.84	101.9	2.1	0.30	0.1	0.00	0.13	0.04	0	
1	A	15.16	15.16	33.193	24.545	338.1	0.003	5.84	101.9	2.1	0.30	0.1	0.00	0.13	0.04	1	221
1		15.15	15.15	33.194	24.548	337.8	0.003									1	222
10	ISL	15.13	15.13	33.193	24.552	337.7	0.034	5.82	101.5	2.0	0.30	0.1	0.00	0.09	0.03	10	
11		15.13	15.13	33.193	24.552	337.8	0.037	5.82	101.5	2.0	0.30	0.1	0.00	0.09	0.03	11	220
20	ISL	15.09	15.09	33.192	24.560	337.3	0.068	5.83	101.5	2.0	0.30	0.1	0.00	0.09	0.03	20	
23	A	15.08	15.08	33.192	24.563	337.1	0.078	5.84	101.7	2.0	0.30	0.1	0.00	0.09	0.03	23	219
30	ISL	15.08	15.08	33.193	24.563	337.2	0.101	5.84	101.7	2.0	0.30	0.1	0.00	0.09	0.03	30	
35		15.08	15.07	33.193	24.564	337.4	0.118	5.84	101.7					0.09	0.03	35	218
47	A	15.07	15.06	33.192	24.565	337.6	0.159	5.84	101.7	2.0	0.29	0.1	0.00	0.10	0.03	47	217
50	ISL	15.07	15.06	33.192	24.566	337.6	0.169	5.84	101.7	2.0	0.29	0.1	0.00	0.10	0.03	50	
58		15.06	15.05	33.191	24.567	337.7	0.196	5.83	101.5	2.1	0.29	0.1	0.00	0.10	0.03	58	216
70	A	15.04	15.03	33.187	24.569	337.9	0.236	5.83	101.4	1.9	0.29	0.1	0.00	0.12	0.04	70	215
75	ISL	14.99	14.98	33.182	24.576	337.4	0.253	5.84	101.5	1.9	0.29	0.1	0.00	0.14	0.05	75	
81		14.82	14.81	33.162	24.597	335.5	0.273	5.87	101.6	2.0	0.29	0.1	0.00	0.19	0.06	81	214
92	A	13.94	13.93	33.059	24.703	325.6	0.310	5.96	101.3	2.3	0.32	0.1	0.00	0.37	0.28	92	213
100	ISL	13.63	13.62	33.052	24.761	320.2	0.336	5.93	100.1	2.5	0.36	0.4	0.07	0.46	0.39	100	
102		13.56	13.55	33.055	24.778	318.7	0.342	5.92	99.8	2.6	0.38	0.5	0.10	0.47	0.40	102	212
113		12.87	12.85	33.075	24.931	304.3	0.376	5.73	95.3	3.4	0.53	2.4	0.27	0.35	0.31	113	211
122	A	12.54	12.52	33.139	25.045	293.7	0.403	5.63	93.0	4.1	0.61	3.7	0.18	0.27	0.28	123	210
125	ISL	12.49	12.47	33.178	25.085	289.9	0.412	5.67	93.6	4.2	0.64	4.0	0.26	0.23	0.25	126	
138		12.14	12.12	33.346	25.282	271.4	0.448	5.78	94.8	4.5	0.79	6.1	0.66	0.09	0.11	139	209
150	ISL	11.05	11.03	33.409	25.531	247.7	0.480	5.21	83.5	9.6	1.05	10.9	0.43	0.06	0.08	151	
164		9.72	9.70	33.478	25.814	220.8	0.512	4.38	68.2	16.8	1.37	16.9	0.01	0.03	0.04	165	208
192		9.05	9.03	33.730	26.119	192.2	0.570	3.75	57.6	24.5	1.73	22.7	0.01	0.01	0.03	193	207
200	ISL	8.90	8.88	33.779	26.182	186.4	0.585	3.65	55.9	26.0	1.77	23.5	0.01			201	
227		8.43	8.41	33.895	26.345	171.2	0.634	3.40	51.6	30.3	1.87	25.2	0.01			228	206
250	ISL	8.00	7.97	33.949	26.452	161.2	0.672	3.15	47.3	34.9	2.00	27.2	0.01			251	
269		7.65	7.62	33.974	26.523	154.7	0.702	2.94	43.8	38.9	2.12	28.8	0.01			270	205
300	ISL	7.17	7.14	33.991	26.605	147.2	0.749	2.60	38.3	45.0	2.29	31.1	0.01			302	
316		6.96	6.93	33.996	26.638	144.2	0.772	2.41	35.4	48.2	2.38	32.3	0.01			318	204
377		6.31	6.28	34.059	26.774	131.7	0.856	1.50	21.7	61.6	2.73	36.8	0.01			379	203
400	ISL	6.09	6.06	34.072	26.813	128.2	0.886	1.29	18.5	65.9	2.82	38.0	0.01			402	
438		5.78	5.74	34.094	26.869	123.1	0.934	1.03	14.7	72.4	2.94	39.5	0.01			441	202
500	ISL	5.42	5.38	34.153	26.960	114.9	1.007	0.66	9.3	82.2	3.10	41.4	0.01			503	
511		5.36	5.32	34.164	26.976	113.5	1.020	0.59	8.3	83.9	3.13	41.7	0.01			514	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 9.2 N	123 13.5 W	17/04/97	0335	UTC	4224 m	330	16 kn			1019.4 mb	15.3 C	14.7 C			

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	PRES db	SAMP
0	ISL	14.62	14.62	33.150	24.628	330.2	0.000	5.93	102.3	2.2	0.33	0.0	0.00	0.15	0.05	0	
1		14.62	14.62	33.150	24.628	330.2	0.003	5.93	102.3	2.2	0.33	0.0	0.00	0.15	0.05	1	220
10	ISL	14.61	14.61	33.150	24.631	330.2	0.033	5.94	102.4	2.1	0.32	0.0	0.00	0.14	0.04	10	
15		14.61	14.61	33.150	24.631	330.4	0.050	5.94	102.4	2.1	0.32	0.0	0.00	0.13	0.04	15	219
20	ISL	14.55	14.55	33.149	24.643	329.4	0.066	5.94	102.3	2.1	0.32	0.0	0.00	0.13	0.06	20	
30		14.44	14.44	33.147	24.665	327.5	0.099	5.95	102.2	2.0	0.32	0.0	0.00	0.14	0.09	30	218
45		14.43	14.42	33.147	24.668	327.7	0.148	5.95	102.2	2.0	0.32	0.0	0.00	0.16	0.05	45	217
50	ISL	14.42	14.41	33.147	24.670	327.7	0.164	5.96	102.4	2.0	0.32	0.0	0.00	0.17	0.06	50	
59		14.37	14.36	33.147	24.681	326.9	0.194	5.97	102.4	2.0	0.32	0.0	0.00	0.22	0.07	59	216
75		14.18	14.17	33.147	24.721	323.5	0.246	6.00	102.5	2.1	0.34	0.0	0.01	0.38	0.14	75	215
85		14.09	14.08	33.145	24.738	322.1	0.278	6.02	102.7	2.1	0.35	0.1	0.01	0.40	0.14	85	214
95		14.05	14.04	33.153	24.753	321.0	0.310	5.99	102.1	2.2	0.35	0.1	0.01	0.40	0.14	95	213
100	ISL	14.02	14.01	33.149	24.756	320.8	0.326	5.99	102.0	2.2	0.36	0.1	0.01	0.39	0.18	100	
105		14.00	13.99	33.145	24.758	320.8	0.342	5.98	101.8	2.2	0.36	0.1	0.01	0.38	0.22	105	212
115		13.66	13.64	33.177	24.852	312.0	0.374	5.94	100.4	2.7	0.42	0.9	0.05	0.35	0.21	116	211
125		13.26	13.24	33.216	24.963	301.6	0.405	5.88	98.6	3.2	0.52	2.0	0.17	0.22	0.15	126	210
139		12.46	12.44	33.181	25.093	289.5	0.446	5.62	92.7	4.1	0.64	4.0	0.33	0.19	0.21	140	209
150	ISL	11.74	11.72	33.254	25.286	271.3	0.477	5.33	86.6	6.0	0.77	6.4	0.21	0.13	0.16	151	
162		10.98	10.96	33.374	25.517	249.4	0.508	4.98	79.7	9.0	0.94	9.6	0.02	0.07	0.08	163	208
193		9.50	9.48	33.614	25.956	207.8	0.579	4.17	64.7	19.2	1.47	18.7	0.01	0.01	0.03	194	207
200	ISL	9.27	9.25	33.667	26.035	200.4	0.593	3.98	61.4	21.4	1.57	20.3	0.01			201	
231		8.51	8.49	33.859	26.305	175.1	0.652	3.33	50.6	29.7	1.91	25.4	0.01			232	206
250	ISL	8.12	8.09	33.926	26.417	164.7	0.684	3.23	48.6	33.2	1.99	26.6	0.01			251	
269		7.77	7.74	33.965	26.499	157.0	0.714	3.20	47.8	36.2	2.03	27.3	0.01			270	205
300	ISL	7.19	7.16	33.980	26.593	148.3	0.762	2.81	41.4	42.6	2.20	29.7	0.01			302	
317		6.92	6.89	33.980 D	26.630	144.9	0.787									319	204
376		6.45	6.42	34.045	26.745	134.6	0.869	1.68	24.4	58.2	2.65	35.6	0.00			378	203
400	ISL	6.28	6.24	34.065	26.783	131.2	0.901	1.44	20.8	62.3	2.75	36.9	0.00			402	
438		6.03	5.99	34.096	26.839	126.1	0.950	1.12	16.1	68.4	2.89	38.5	0.01			441	202
500	ISL	5.63	5.59	34.155	26.936	117.4	1.025	0.69	9.8	78.4	3.07	40.6	0.00			503	
509		5.57	5.53	34.164	26.951	116.1	1.036	0.63	9.0	79.9	3.10	40.9	0.00			512	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 80 100

LATITUDE	LONGITUDE	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	17/04/97	0922	UTC	4348 m	320	10 kn			1020.8 mb	15.8 C	15.0 C			

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	PRES db	SAMP
0	ISL	15.06	15.06	33.166	24.546	338.0	0.000	5.87	102.2							0	
2		15.06	15.06	33.166	24.546	338.1	0.007			2.1	0.32	0.0	0.00	0.10	0.02	2	220
10	ISL	15.07	15.07	33.166	24.544	338.5	0.034	5.86	102.0	2.0	0.31	0.0	0.00	0.10	0.03	10	
15		15.07	15.07	33.166	24.544	338.6	0.051	5.86	102.0	2.0	0.31	0.0	0.00	0.10	0.03	15	219
20	ISL	15.02	15.02	33.166	24.555	337.7	0.068	5.87	102.1	2.0	0.31	0.0	0.00	0.10	0.03	20	
30		14.89	14.89	33.165	24.583	335.4	0.101	5.88	102.0	2.0	0.31	0.0	0.00	0.11	0.04	30	218
45		14.78	14.77	33.163	24.606	333.7	0.151	5.88	101.7	2.0	0.31	0.0	0.00	0.13	0.03	45	217
50	ISL	14.73	14.72	33.160	24.614	333.0	0.168	5.89	101.8	2.0	0.31	0.0	0.00	0.15	0.04	50	
60		14.64	14.63	33.154	24.629	331.9	0.201	5.92	102.1	2.1	0.32	0.0	0.00	0.20	0.06	60	216
74		14.55	14.54	33.151	24.646	330.6	0.248	5.93	102.1	2.0	0.32	0.0	0.00	0.22	0.09	74	215
75	ISL	14.55	14.54	33.152	24.647	330.6	0.251	5.93	102.1	2.0	0.32	0.0	0.00	0.22	0.09	75	
85		14.52	14.51	33.156	24.657	329.9	0.284	5.93	102.1	2.0	0.31	0.0	0.00	0.25	0.10	85	214
95		14.41	14.40	33.136	24.665	329.4	0.317	5.94	102.0	2.0	0.31	0.0	0.00	0.30	0.16	95	213
100	ISL	14.28	14.27	33.114	24.675	328.6	0.334	5.93	101.5	2.0	0.33	0.1	0.01	0.36	0.19	100	
103		14.17	14.16	33.102	24.689	327.3	0.343	5.91	100.9	2.1	0.34	0.1	0.01	0.39	0.21	103	212
114		13.56	13.54	33.106	24.818	315.3	0.379	5.80	97.8	2.6	0.44	1.0	0.13	0.35	0.31	114	211
124		12.73	12.71	33.105	24.982	299.7	0.409	5.62	93.2	3.3	0.56	2.7	0.17	0.23	0.26	125	210
125	ISL	12.67	12.65	33.111	24.998	298.2	0.412	5.60	92.7	3.4	0.57	2.9	0.16	0.22	0.25	126	
139		11.97	11.95	33.223	25.219	277.4	0.453	5.32	86.8	5.5	0.73	5.8	0.04	0.13	0.15	140	209
150	ISL	11.34	11.32	33.275	25.375	262.6	0.482	5.08	81.8	7.9	0.89	8.6	0.03	0.09	0.11	151	
164		10.53	10.51	33.353	25.579	243.3	0.518	4.74	75.1	11.9	1.13	12.6	0.02	0.06	0.08	165	208
192		9.10	9.08	33.691	26.081	195.8	0.579	3.88	59.7	22.3	1.62	21.0	0.01	0.01	0.03	193	207
200	ISL	8.89	8.87	33.760	26.168	187.6	0.595	3.86	59.1	24.1	1.65	21.6	0.01			201	
228		8.46	8.44	33.919	26.360	169.9	0.645	3.79	57.5	28.4	1.74	23.6	0.01			229	206
250	ISL	8.19	8.16	33.955	26.429	163.6	0.681	3.74	56.4	30.5	1.79	24.4	0.01			251	
268		7.97	7.94	33.956	26.463	160.6	0.711	3.66	54.9	32.3	1.84	25.1	0.01			269	205
300	ISL	7.39	7.36	33.967	26.555	152.0	0.761	3.30	48.9	38.8	2.02	27.7	0.01			302	
318		7.05	7.02	33.973	26.607	147.1	0.788	3.03	44.5	43.2	2.15	29.5	0.01			320	204
377		6.27	6.24	34.017	26.746	134.3	0.871	1.91	27.6	58.5	2.60	35.4	0.01			379	203
400	ISL	6.13	6.09	34.043	26.785	130.9	0.901	1.57	22.6	62.8	2.72	36.9	0.01			402	
436		5.96	5.92	34.083	26.838	126.2	0.947	1.14	16.3	68.7	2.88	38.6	0.01			439	202
500	ISL	5.48	5.44	34.136	26.939	116.9	1.025	0.73	10.3	80.0	3.06	40.9	0.01			503	
520		5.33	5.29	34.153	26.970	114.0	1.048	0.60	8.5	83.5	3.12	41.6	0.01			523	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 82 47

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 16.5 N	120 1.7 W	15/04/97	1258 UTC	579 m	180 04 kn			1016.5 mb	11.7 C	11.2 C		

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	PRES db	SAMP
0 ISL	13.36	13.36	33.701	25.315	264.8	0.000	6.98	117.7	4.4	0.35	0.2	0.01	8.47	2.47	0	
2 A	13.36	13.36	33.701	25.315	264.8	0.005	6.98	117.7	4.4	0.35	0.2	0.01	8.47	2.47	2	224
10 ISL	13.27	13.27	33.699	25.332	263.5	0.026	6.68	112.4	5.3	0.43	0.8	0.05	10.23	3.44	10	
11	13.26	13.26	33.699	25.334	263.3	0.029	6.64	111.8	5.4	0.44	0.9	0.06	10.49	3.56	11	223
20	11.53	11.53	33.739	25.698	228.8	0.051	3.99	64.8	16.0	1.36	14.8	0.43	10.84	2.96	20	222
30	10.71	10.71	33.789	25.885	211.3	0.073	3.29	52.5	20.3	1.64	19.4	0.26	1.28	0.79	30	221
40	10.27	10.27	33.845	26.005	200.1	0.094	2.92	46.1	23.5	1.80	22.0	0.07	0.42	0.33	40	220
50	9.91	9.90	33.921	26.126	188.8	0.113	2.67	41.9	26.5	1.93	23.7	0.06	0.21	0.30	50	219
60	9.64	9.63	34.005	26.237	178.5	0.132	2.35	36.7	29.6	2.09	25.6	0.05	0.09	0.20	60	218
70	9.49	9.48	34.012	26.267	175.8	0.149	2.26	35.1	30.9	2.13	26.2	0.04	0.10	0.25	70	217
75 ISL	9.37	9.36	34.030	26.301	172.7	0.158	2.19	34.0	32.0	2.16	26.7	0.04	0.08	0.24	75	
85	9.14	9.13	34.077	26.375	165.9	0.175	2.01	31.0	34.4	2.25	27.8	0.04	0.04	0.19	85	216
99	8.98	8.97	34.139	26.449	159.1	0.198	1.70	26.2	37.6	2.39	29.3	0.04	0.03	0.18	100	215
100 ISL	8.97	8.96	34.141	26.452	158.8	0.199	1.69	26.0	37.7	2.39	29.3	0.04	0.03	0.18	101	
119	8.89	8.88	34.156	26.477	156.8	0.229	1.58	24.3	39.2	2.44	29.8	0.04	0.03	0.19	120	214
125 ISL	8.86	8.85	34.162	26.487	156.0	0.239	1.54	23.6	39.8	2.46	30.0	0.04	0.03	0.19	126	
139	8.78	8.77	34.175	26.510	154.1	0.260	1.45	22.2	41.1	2.50	30.5	0.03	0.03	0.17	140	213
150 ISL	8.72	8.70	34.182	26.525	152.9	0.277	1.38	21.1	42.1	2.53	30.8	0.03	0.03	0.17	151	
168	8.62	8.60	34.190	26.547	151.1	0.305	1.27	19.4	43.7	2.57	31.2	0.04	0.03	0.16	169	212
199	8.42	8.40	34.201	26.586	147.8	0.351	1.03	15.6	47.2	2.67	32.4	0.03	0.04	0.18	200	211
200 ISL	8.41	8.39	34.201	26.588	147.7	0.352	1.03	15.6	47.3	2.67	32.4	0.03			201	
228	8.23	8.21	34.208	26.621	145.0	0.393	0.93	14.1	50.2	2.74	33.1	0.02			229	210
250 ISL	8.07	8.04	34.214	26.650	142.6	0.425	0.86	13.0	52.5	2.79	33.6	0.02			252	
268	7.94	7.91	34.219	26.674	140.6	0.451	0.81	12.2	54.3	2.82	33.9	0.02			270	209
300 ISL	7.76	7.73	34.231	26.710	137.7	0.495	0.77	11.5	56.5	2.86	34.4	0.02			302	
317	7.66	7.63	34.235	26.728	136.2	0.518	0.74	11.0	57.8	2.89	34.6	0.02			319	208
377	7.19	7.15	34.229	26.790	131.0	0.598	0.50	7.4	66.9	3.05	35.5	0.02			380	207
400 ISL	7.01	6.97	34.232	26.818	128.6	0.628	0.42	6.2	70.4	3.10	35.4	0.02			403	
437	6.77	6.73	34.239	26.856	125.3	0.675	0.30	4.4	76.4	3.19	35.3	0.02			440	206
500 ISL	6.55	6.50	34.241	26.888	123.1	0.754	0.13	1.9	88.5	3.33	32.3	0.01			504	
511	6.52	6.47	34.241	26.892	122.8	0.767	0.10	1.5	91.1	3.36	31.4	0.01			515	205
530	6.46	6.41	34.241	26.900	122.2	0.790	0.06	0.9	96.5	3.42	29.3	0.01			534	204
551	6.41	6.36	34.245	26.910	121.6	0.816	0.05	0.7	98.2	3.47	28.8	0.01			555	203
562	6.40	6.35	34.245	26.911	121.6	0.829	0.03	0.4	101.1	3.58	27.6	0.01			566	202
572	6.40	6.35	34.245	26.912	121.7	0.841	0.02	0.3	101.3	3.59	27.5	0.02			576	201

A) SANTA BARBARA BASIN STATION.

RV NEW HORIZON CALCOFI CRUISE 9704 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 13.3 N	119 24.8 W	15/04/97	0822 UTC	37 m	260 08 kn			1016.6 mb	13.9 C	13.0 C		

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	PRES db	SAMP
0 ISL	15.27	15.27	33.620	24.850	309.1	0.000	7.33	128.5	0.4	0.13	0.0	0.00	2.83	0.54	0	
1	15.27	15.27	33.620	24.850	309.1	0.003	7.33	128.5	0.4	0.13	0.0	0.00	2.83	0.54	1	204
10	14.32	14.32	33.645	25.074	288.0	0.030	7.26	124.8	1.4	0.26	0.0	0.01	4.95	1.19	10	203
20	12.79	12.79	33.636	25.379	259.3	0.057	4.77	79.5	10.1	0.92	8.4	0.24	6.65	3.13	20	202
30	11.94	11.94	33.690	25.584	240.0	0.082	3.86	63.2	16.2	1.33	13.4	0.29	2.16	1.38	30	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 10.8 N	119 30.7 W	15/04/97	0612 UTC	133 m	270 10 kn			1016.0 mb	13.2 C	12.6 C		

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	PRES db	SAMP
0 ISL	13.56	13.56	33.669	25.250	271.0	0.000	6.79	115.0	5.1	0.42	1.0	0.06	5.12	1.87	0	
2	13.56	13.56	33.669	25.250	271.0	0.005	6.79	115.0	5.1	0.42	1.0	0.06	5.12	1.87	2	212
10	13.45	13.45	33.669	25.272	269.1	0.027	6.41	108.3	6.0	0.50	2.1	0.09	5.91	1.93	10	211
20	13.03	13.03	33.687	25.371	260.0	0.053	5.63	94.3	10.0	0.81	6.2	0.16	5.86	2.56	20	210
30	12.79	12.79	33.689	25.420	255.6	0.079	5.09	84.8	11.9	0.96	8.5	0.20	3.94	1.77	30	209
41	12.28	12.27	33.721	25.544	244.1	0.107	4.58	75.5	14.9	1.15	11.6	0.25	1.68	1.29	41	208
49	12.05	12.04	33.727	25.593	239.7	0.126	4.38	71.9	15.7	1.22	12.7	0.25	1.36	1.14	49	207
50 ISL	11.97	11.96	33.730	25.610	238.0	0.128	4.31	70.6	16.0	1.24	13.1	0.25	1.28	1.10	50	
58	11.18	11.17	33.772	25.789	221.2	0.147	3.67	59.1	19.2	1.48	17.2	0.21	0.61	0.73	58	206
69	10.03	10.02	33.885	26.078	193.8	0.170	2.88	45.3	25.0	1.84	22.7	0.06	0.15	0.27	69	205
75 ISL	9.76	9.75	33.935	26.162	185.9	0.181	2.67	41.7	27.2	1.94	24.1	0.05	0.14	0.23	75	
80	9.66	9.65	33.964	26.202	182.2	0.190	2.58	40.3	28.4	1.99	24.6	0.05	0.13	0.20	80	204
90	9.61	9.60	33.976	26.219	180.8	0.208	2.58	40.2	28.8	2.01	24.8	0.04	0.08	0.23	90	203
100 ISL	9.55	9.54	33.992	26.242	178.8	0.226	2.53	39.4	29.4	2.03	25.2	0.03	0.06	0.25	101	
102	9.53	9.52	33.996	26.249	178.2	0.230	2.51	39.1	29.6	2.04	25.3	0.03	0.06	0.25	103	202
123	9.32	9.31	34.071	26.342	169.8	0.267	2.19	33.9	32.9	2.18	26.9	0.03	0.11	0.18	124	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 52.7 N	120 8.3 W	14/04/97	2222 UTC	104 m	300 15 kn	300 02 06	0	1015.6 mb	16.2 C	14.3 C	08m 05	

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	PRES db	SAMP
0 ISL	14.52	14.52	33.590	24.989	295.8	0.000	6.92	119.4	3.5	0.28	0.0	0.02	6.60	1.82	0	
2	14.52	14.52	33.590	24.989	295.9	0.006	6.92	119.4	3.5	0.28	0.0	0.02	6.60	1.82	2	211
2	14.56	14.56	33.591	24.981	296.6	0.006									2	212
2	14.56	14.56	33.590	24.980	296.7	0.006									2	213
4	14.52	14.52	33.590	24.989	295.9	0.012	6.90	119.1	3.5	0.29	0.0	0.02	6.55	1.87	4	210
10	13.85	13.85	33.587	25.127	282.9	0.029	6.68	113.7	3.9	0.33	0.2	0.03	7.29	2.68	10	209
20	13.31	13.31	33.593	25.242	272.3	0.057	5.52	92.9	7.4	0.65	4.7	0.12	4.31	1.93	20	208
30	12.74	12.74	33.601	25.362	261.2	0.084	5.00	83.2	9.8	0.86	8.0	0.15	2.63	1.42	30	207
39	12.12	12.11	33.681	25.544	244.1	0.106	4.61	75.7	13.9	1.11	11.6	0.14	2.27	0.96	39	206
50	11.91	11.90	33.695	25.594	239.5	0.133	4.45	72.8	14.8	1.17	12.5	0.12	2.26	0.94	50	205
60	11.70	11.69	33.707	25.643	235.1	0.157	4.28	69.7	15.7	1.24	13.5	0.11	2.04	0.79	60	204
69	11.03	11.02	33.750	25.799	220.5	0.177	3.71	59.6	19.1	1.48	17.3	0.09	0.87	0.52	69	203
75 ISL	10.39	10.38	33.839	25.981	203.2	0.190	3.18	50.4	23.3	1.71	20.7	0.07	0.38	0.34	75	
84	9.60	9.59	33.974	26.219	180.6	0.207	2.54	39.6	28.9	2.01	24.9	0.04	0.02	0.14	84	202
93	9.50	9.49	34.002	26.258	177.2	0.223	2.43	37.8	30.1	2.07	25.6	0.04	0.02	0.12	93	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 44.9 N	120 24.9 W	14/04/97	1830 UTC	1023 m	330 13 kn	320 04 05	0	1017.4 mb	15.3 C	13.7 C	09m 06	0/8

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	PRES db	SAMP
0 ISL	12.40	12.40	33.719	25.518	245.5	0.000	5.89	97.4	12.6	0.97	9.3	0.16	6.01	1.31	0	
2	12.40	12.40	33.719	25.519	245.5	0.005									2	224
2 A	12.40	12.40	33.719	25.519	245.5	0.005	5.89	97.4	12.6	0.97	9.3	0.16	6.01	1.31	2	223
6 A	12.37	12.37	33.721	25.526	244.9	0.015	5.90	97.5	12.6	0.96	9.3	0.16	6.70	1.40	6	221
6	12.36	12.36	33.718	25.526	244.9	0.015									6	222
10 ISL	12.28	12.28	33.720	25.543	243.4	0.024	5.88	97.0	12.5	0.96	9.2	0.16	6.73	1.38	10	
12 A	12.23	12.23	33.719	25.551	242.6	0.029	5.86	96.5	12.5	0.96	9.1	0.16	6.75	1.35	12	220
18 A	12.21	12.21	33.718	25.555	242.5	0.044	5.75	94.7	12.5	0.97	9.3	0.16	7.63	1.37	18	219
20 ISL	12.21	12.21	33.721	25.557	242.3	0.049	5.71	94.0	12.5	0.98	9.4	0.15	7.60	1.38	20	
24 A	12.20	12.20	33.727	25.564	241.8	0.058	5.64	92.8	12.6	0.99	9.6	0.14	7.53	1.40	24	218
30 ISL	12.20	12.20	33.725	25.562	242.1	0.073	5.63	92.7	12.6	0.98	9.5	0.14	7.96	1.70	30	
33 A	12.20	12.20	33.724	25.562	242.2	0.080	5.62	92.5	12.6	0.98	9.5	0.14	8.18	1.80	33	217
41	12.08	12.07	33.700	25.566	242.0	0.100	5.40	88.7	13.2	1.06	10.9	0.21	4.97	1.34	41	216
49	12.00	11.99	33.685	25.570	241.8	0.119	5.28	86.5	13.5	1.10	11.5	0.24	3.53	1.07	49	215
50 ISL	11.97	11.96	33.683	25.574	241.5	0.121	5.25	86.0	13.6	1.11	11.7	0.25	3.19	0.99	50	
59	11.70	11.69	33.667	25.612	238.0	0.143	4.92	80.1	14.4	1.22	13.3	0.30	0.45	0.32	59	214
69	11.49	11.48	33.668	25.652	234.5	0.167	4.72	76.5	15.1	1.27	14.2	0.26	0.36	0.32	69	213
75 ISL	11.00	10.99	33.673	25.744	225.8	0.180	4.37	70.1	17.0	1.39	16.3	0.19	0.27	0.27	75	
85	10.22	10.21	33.701	25.902	210.8	0.202	3.77	59.4	20.3	1.59	19.8	0.07	0.13	0.17	85	212
99	10.21	10.20	33.771	25.959	205.8	0.231	3.43	54.1	22.0	1.68	20.8	0.08	0.13	0.16	100	211
100 ISL	10.17	10.16	33.776	25.970	204.8	0.233	3.40	53.6	22.2	1.69	21.0	0.08	0.12	0.16	101	
118	9.36	9.35	33.853	26.165	186.5	0.269	2.98	46.1	26.7	1.88	24.3	0.02	0.02	0.11	119	210
125 ISL	9.12	9.11	33.865	26.213	182.0	0.282	2.92	45.0	28.1	1.93	25.2	0.02	0.02	0.12	126	
138	8.75	8.74	33.886	26.288	175.1	0.305	2.86	43.7	30.4	2.00	26.5	0.02	0.01	0.15	139	209
150 ISL	8.48	8.46	33.938	26.370	167.4	0.325	2.75	41.8	33.0	2.07	27.5	0.02	0.01	0.12	151	
168	8.18	8.16	34.014	26.475	157.7	0.355	2.60	39.2	36.5	2.15	28.5	0.02	0.01	0.05	169	208
199	7.91	7.89	34.031	26.529	153.0	0.403	2.51	37.7	39.5	2.22	29.5	0.02	0.00	0.05	200	207
200 ISL	7.90	7.88	34.032	26.532	152.8	0.404	2.50	37.5	39.7	2.22	29.6	0.02			201	
230	7.59	7.57	34.073	26.609	145.9	0.449	2.13	31.7	44.8	2.37	31.3	0.01			231	206
250 ISL	7.50	7.48	34.112	26.653	142.0	0.478	1.81	26.9	48.2	2.49	32.5	0.01			252	
268	7.44	7.41	34.146	26.688	138.9	0.503	1.52	22.6	51.1	2.60	33.6	0.01			270	205
300 ISL	7.21	7.18	34.178	26.746	133.8	0.547	1.17	17.3	56.1	2.75	35.3	0.01			302	
317	7.08	7.05	34.191	26.775	131.3	0.569	1.03	15.2	58.6	2.81	36.0	0.01			319	204
379	6.80	6.76	34.262	26.870	123.2	0.648	0.59	8.6	66.3	3.01	37.8	0.01			382	203
400 ISL	6.74	6.70	34.279	26.891	121.4	0.674	0.50	7.3	68.1	3.05	38.1	0.01			403	
438	6.62	6.58	34.300	26.924	118.8	0.719	0.39	5.7	70.9	3.10	38.6	0.01			441	202
500 ISL	6.29	6.24	34.313	26.979	114.2	0.792	0.32	4.6	76.1	3.16	39.7	0.01			504	
512	6.23	6.18	34.316	26.989	113.4	0.805	0.31	4.5	77.1	3.17	39.9	0.01			516	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 83 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 34.7 N	120 45.3 W	14/04/97	1414	UTC	1371 m	340	22 kn	330 04 05	0	1015.7 mb	13.0 C	12.2 C		0/8	

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	PRES db	SAMP
0	ISL	12.83	12.83	33.595	25.339	262.5	0.000	6.01	100.2	8.1	0.76	6.4	0.23	1.82	0.72	0	
3		12.83	12.83	33.595	25.339	262.6	0.008	6.01	100.2	8.1	0.76	6.4	0.23	1.82	0.72	3	221
10		12.83	12.83	33.596	25.340	262.7	0.026	6.01	100.2	8.1	0.76	6.4	0.23	1.88	0.76	10	220
20		12.77	12.77	33.576	25.336	263.3	0.053	5.96	99.2	8.1	0.78	6.6	0.24	1.79	0.71	20	219
30		12.38	12.38	33.512	25.363	261.1	0.079	5.83	96.2	8.1	0.83	7.3	0.26	1.33	0.67	30	218
40		12.34	12.33	33.511	25.370	260.6	0.105	5.79	95.5	8.2	0.86	7.5	0.26	1.17	0.54	40	217
49		11.87	11.86	33.577	25.510	247.5	0.128	5.27	86.1	11.3	1.06	10.4	0.32	0.39	0.41	49	216
50	ISL	11.87	11.86	33.586	25.517	246.8	0.130	5.25	85.7	11.5	1.07	10.6	0.33	0.38	0.40	50	
59		11.86	11.85	33.642	25.563	242.7	0.152	5.11	83.5	13.1	1.17	12.1	0.40	0.31	0.37	59	215
69		11.41	11.40	33.618	25.627	236.8	0.176	4.74	76.7	14.0	1.25	13.7	0.41	0.23	0.35	69	214
75	ISL	11.04	11.03	33.624	25.699	230.1	0.190	4.37	70.1	15.4	1.36	15.7	0.31	0.17	0.33	75	
85		10.41	10.40	33.670	25.846	216.3	0.213	3.72	58.9	18.7	1.57	19.2	0.11	0.09	0.30	85	213
100		9.75	9.74	33.817	26.072	195.0	0.243	3.04	47.5	24.4	1.80	22.8	0.04	0.05	0.22	101	212
118		8.96	8.95	33.827	26.208	182.3	0.277	2.92	44.8	28.3	1.96	25.7	0.03	0.02	0.21	119	211
125	ISL	8.82	8.81	33.848	26.247	178.7	0.290	2.86	43.8	29.4	2.00	26.4	0.03	0.01	0.19	126	
138		8.63	8.62	33.895	26.313	172.6	0.313	2.75	41.9	31.4	2.06	27.3	0.02	0.01	0.16	139	210
150	ISL	8.37	8.35	33.938	26.387	165.8	0.333	2.66	40.3	33.8	2.10	28.2	0.02	0.00	0.13	151	
169		7.99	7.97	33.994	26.488	156.4	0.364	2.57	38.6	37.4	2.16	29.3	0.01	0.00	0.09	170	209
199		7.72	7.70	34.010	26.540	151.9	0.410	2.55	38.1	40.9	2.23	30.0	0.01	0.01	0.08	200	208
200	ISL	7.71	7.69	34.010	26.542	151.7	0.411	2.55	38.1	41.0	2.23	30.0	0.01			201	
227		7.37	7.35	34.024	26.602	146.4	0.452	2.41	35.7	44.3	2.30	31.1	0.01			228	207
250	ISL	7.13	7.11	34.044	26.651	141.9	0.485	2.12	31.2	48.5	2.42	32.6	0.01			252	
267		7.00	6.98	34.064	26.685	139.0	0.509	1.87	27.5	51.7	2.52	33.8	0.01			269	206
300	ISL	6.92	6.89	34.118	26.739	134.3	0.554	1.42	20.8	56.5	2.68	35.3	0.01			302	
317		6.91	6.88	34.147	26.763	132.3	0.576	1.21	17.7	58.7	2.75	35.9	0.01			319	205
378		6.66	6.63	34.228	26.862	123.8	0.655	0.67	9.8	67.0	2.97	38.1	0.01			381	204
400	ISL	6.63	6.59	34.258	26.890	121.5	0.682	0.54	7.9	68.8	3.02	38.4	0.01			403	
437		6.55	6.51	34.301	26.934	117.7	0.726	0.37	5.4	71.6	3.09	38.8	0.01			440	203
500	ISL	6.07	6.03	34.331	27.021	110.0	0.798	0.26	3.7	79.9	3.19	40.5	0.01			504	
512		5.98	5.94	34.338	27.038	108.5	0.811									516	201
513		5.97	5.92	34.338	27.039	108.3	0.812	0.24	3.4	81.6	3.21	40.8	0.01			517	202

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 14.3 N	121 26.8 W	14/04/97	0727	UTC	3802 m	340	21 kn			1017.1 mb	13.3 C	11.8 C			

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	PRES db	SAMP
0	ISL	13.65	13.65	33.205	24.873	306.9	0.000	6.04	102.2							0	
1		13.65	13.65				0.003									1	224
10	ISL	13.66	13.66	33.205	24.871	307.3	0.031	6.04	102.2							10	
15		13.66	13.66				0.046									15	223
15		13.66	13.66				0.046									15	222
15		13.66	13.66	33.205	24.871	307.5	0.046	6.04	102.2	2.9	0.41	0.8	0.05	0.29	0.09	15	220
15		13.66	13.66	33.205	24.871	307.5	0.046									15	221
20	ISL	13.66	13.66	33.205	24.871	307.6	0.061	6.04	102.2	2.9	0.41	0.8	0.05	0.29	0.09	20	
29		13.65	13.65	33.205	24.874	307.6	0.089	6.03	102.0	2.8	0.40	0.8	0.05	0.28	0.09	29	219
30	ISL	13.65	13.65	33.205	24.874	307.6	0.092	6.03	102.0	2.8	0.40	0.8	0.05	0.28	0.09	30	
45		13.60	13.59	33.207	24.886	306.9	0.138	6.04	102.1	2.9	0.41	0.8	0.06	0.33	0.13	45	218
50	ISL	13.54	13.53	33.210	24.900	305.6	0.154	6.02	101.6	2.9	0.42	1.0	0.07	0.35	0.14	50	
54		13.48	13.47	33.214	24.916	304.3	0.166	6.01	101.3	2.9	0.44	1.2	0.08	0.36	0.14	54	217
65		13.36	13.35	33.238	24.959	300.5	0.199	5.98	100.5	3.2	0.50	1.8	0.10	0.37	0.17	65	216
75		13.17	13.16	33.272	25.023	294.6	0.229	5.97	100.0	3.4	0.55	2.5	0.15	0.38	0.19	75	215
83		12.86	12.85	33.281	25.092	288.3	0.252	5.88	97.9	3.8	0.60	3.3	0.22	0.33	0.19	83	214
93		11.60	11.59	33.202	25.270	271.4	0.280	5.32	86.2	6.3	0.81	7.0	0.07	0.15	0.15	93	213
100	ISL	11.14	11.13	33.245	25.387	260.3	0.299	5.09	81.6	8.2	0.95	9.3	0.08	0.12	0.13	100	
110		10.74	10.73	33.354	25.543	245.7	0.324	4.85	77.2	11.1	1.13	12.3	0.09	0.07	0.10	111	212
125		10.16	10.15	33.473	25.735	227.5	0.360	4.40	69.2	15.7	1.36	16.5	0.04	0.04	0.07	126	211
145		9.49	9.47	33.557	25.913	211.0	0.403	4.07	63.1	19.9	1.54	19.5	0.02	0.02	0.04	146	210
150	ISL	9.34	9.32	33.602	25.972	205.4	0.414	3.91	60.4	21.5	1.61	20.6	0.02	0.02	0.03	151	
169		8.88	8.86	33.774	26.180	185.9	0.451	3.36	51.4	27.2	1.85	24.4	0.01	0.01	0.02	170	209
197		8.46	8.44	33.875	26.325	172.6	0.501	3.38	51.3	30.0	1.88	25.3	0.01	0.00	0.03	198	208
200	ISL	8.42	8.40	33.886	26.339	171.2	0.506	3.34	50.6	30.5	1.90	25.5	0.01			201	
230		8.00	7.98	33.983	26.479	158.4	0.556	2.86	43.0	36.2	2.09	28.1	0.01			231	207
250	ISL	7.71	7.69	34.008	26.541	152.7	0.587	2.68	40.0	39.7	2.18	29.3	0.00			251	
269		7.44	7.41	34.018	26.588	148.4	0.615	2.53	37.5	43.0	2.25	30.4	0.00			271	206
300	ISL	7.09	7.06	34.040	26.654	142.4	0.661	2.17	31.9	48.8	2.40	32.5	0.00			302	
317		6.92	6.89	34.051	26.686	139.6	0.685	1.96	28.7	52.1	2.49	33.7	0.00			319	205
380		6.32	6.29	34.094 D	26.800	129.3	0.769									382	204
400	ISL	6.14	6.10	34.113	26.839	125.8	0.795	1.08	15.6	68.3	2.87	38.5	0.00			403	
438		5.83	5.79	34.149	26.906	119.6	0.841	0.78	11.2	74.9	3.00	40.1	0.00			441	203
500	ISL	5.48	5.44	34.179	26.973	113.7	0.914	0.58	8.2	82.3	3.10	41.4	0.00			503	
511		5.42	5.38	34.184	26.984	112.7	0.926			83.6	3.12	41.7	0.00			514	201
511		5.42	5.38	34.184	26.984	112.7	0.926	0.55	7.8	83.6	3.12	41.6	0.00			514	202

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 83 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 54.7 N	122 7.8 W	14/04/97	0052	UTC	4079 m	340	16 kn	350 04 05	1	1017.8 mb	14.0 C	11.8 C		6/8	SC

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	PRES db	SAMP
0	ISL	14.27	14.27	33.137	24.692	324.1	0.000	5.98	102.4	2.3	0.33	0.0	0.00	0.26	0.07	0	
2		14.27	14.27	33.137	24.692	324.1	0.006	5.98	102.4	2.3	0.33	0.0	0.00	0.26	0.07	2	221
10	ISL	14.27	14.27	33.137	24.693	324.3	0.032	5.99	102.6	2.2	0.33	0.0	0.00	0.25	0.08	10	
14		14.27	14.27	33.137	24.693	324.4	0.045	5.99	102.6	2.2	0.33	0.0	0.00	0.25	0.08	14	220
20	ISL	14.27	14.27	33.137	24.693	324.6	0.065	5.99	102.6	2.2	0.33	0.0	0.00	0.25	0.08	20	
29		14.27	14.27	33.137	24.693	324.8	0.094	5.99	102.6	2.1	0.33	0.0	0.00	0.25	0.07	29	219
30	ISL	14.27	14.27	33.138	24.694	324.8	0.097	5.99	102.6	2.1	0.33	0.0	0.00	0.25	0.07	30	
45		14.23	14.22	33.135	24.700	324.6	0.146	5.98	102.3	2.1	0.33	0.1	0.00	0.28	0.08	45	218
50	ISL	14.20	14.19	33.136	24.708	324.0	0.162	5.99	102.4	2.1	0.33	0.1	0.00	0.34	0.10	50	
55		14.16	14.15	33.137	24.717	323.3	0.178	6.00	102.5	2.1	0.33	0.1	0.00	0.40	0.13	55	217
64		14.06	14.05	33.137	24.738	321.5	0.207	6.00	102.3	2.3	0.34	0.1	0.01	0.50	0.17	64	216
74		13.68	13.67	33.136	24.815	314.4	0.239	5.98	101.2	2.7	0.39	0.7	0.05	0.42	0.21	74	215
75	ISL	13.65	13.64	33.137	24.822	313.8	0.242	5.98	101.1	2.7	0.40	0.8	0.05	0.42	0.21	75	
85		13.40	13.39	33.152	24.885	308.1	0.273	5.96	100.2	2.9	0.44	1.2	0.09	0.38	0.21	85	214
95		13.23	13.22	33.162	24.927	304.3	0.304	5.89	98.7	3.1	0.47	1.6	0.15	0.34	0.24	95	213
100	ISL	13.07	13.06	33.184	24.976	299.8	0.319	5.83	97.4	3.3	0.51	2.1	0.22	0.31	0.23	100	
110		12.64	12.63	33.230	25.096	288.5	0.349	5.66	93.7	4.0	0.62	3.7	0.31	0.23	0.22	110	212
125		11.83	11.81	33.248	25.264	272.8	0.391	5.33	86.8	6.2	0.81	7.1	0.11	0.15	0.17	126	211
145		10.63	10.61	33.392	25.592	241.7	0.442	4.62	73.4	12.9	1.23	14.2	0.02	0.05	0.07	146	210
150	ISL	10.39	10.37	33.440	25.671	234.3	0.454	4.41	69.7	14.7	1.33	15.9	0.02	0.04	0.06	151	
167		9.69	9.67	33.612	25.923	210.5	0.492	3.71	57.8	20.7	1.62	20.8	0.01	0.01	0.04	168	209
197		8.72	8.70	33.892	26.298	175.2	0.550	2.98	45.5	29.7	1.96	26.3	0.01	0.00	0.04	198	208
200	ISL	8.67	8.65	33.902	26.314	173.8	0.555	2.97	45.3	30.1	1.97	26.5	0.01			201	
227		8.37	8.35	33.942	26.391	166.8	0.601	2.92	44.2	32.6	2.02	27.3	0.01			228	207
250	ISL	8.03	8.00	33.985	26.476	159.0	0.638	2.77	41.7	36.3	2.11	28.6	0.01			251	
269		7.76	7.73	34.019	26.543	152.9	0.668	2.59	38.7	39.8	2.20	29.8	0.01			270	206
300	ISL	7.44	7.41	34.059	26.620	145.9	0.714	2.20	32.6	45.5	2.37	31.8	0.01			302	
318		7.28	7.25	34.076	26.657	142.7	0.740	1.96	29.0	48.7	2.46	32.9	0.01			320	205
380		6.69	6.66	34.100	26.757	133.7	0.826	1.45	21.1	58.6	2.69	36.1	0.01			382	204
400	ISL	6.51	6.47	34.114	26.792	130.6	0.852	1.26	18.3	62.1	2.77	37.1	0.01			402	
437		6.22	6.18	34.149	26.857	124.6	0.900	0.91	13.1	68.6	2.92	38.8	0.01			440	203
500	ISL	5.86	5.82	34.230	26.967	114.8	0.975	0.51	7.3	78.3	3.11	40.8	0.01			503	
512		5.79	5.75	34.246	26.989	112.8	0.989	0.43	6.1	80.1	3.15	41.2	0.01			515	202

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 35.2 N	122 49.7 W	13/04/97	1849	UTC	4343 m	350	19 kn	320 05 05	1	1020.1 mb	15.5 C	12.9 C	20m 02	3/8	AS

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	PRES db	SAMP
0	ISL	14.09	14.09	33.150	24.740	319.6	0.000	6.00	102.4	2.5	0.36	0.1	0.01	0.34	0.09	0	
1	A	14.09	14.09	33.150	24.740	319.6	0.003	6.00	102.4	2.5	0.36	0.1	0.01	0.34	0.09	1	222
2		14.10	14.10	33.150	24.738	319.8	0.006									2	223
10	ISL	14.08	14.08	33.150	24.742	319.6	0.032	6.01	102.5	2.5	0.36	0.1	0.01	0.35	0.10	10	
13	A	14.07	14.07	33.150	24.744	319.5	0.042	6.02	102.7	2.5	0.36	0.1	0.01	0.36	0.10	13	221
20		14.06	14.06	33.152	24.748	319.3	0.064	6.03	102.8	2.5	0.35	0.1	0.01	0.37	0.12	20	220
27	A	14.03	14.03	33.149	24.752	319.1	0.086	6.02	102.6	2.4	0.39	0.1	0.01	0.34	0.10	27	219
30	ISL	14.02	14.02	33.149	24.754	319.0	0.096	6.02	102.6	2.4	0.38	0.1	0.01	0.36	0.12	30	
34		14.02	14.02	33.149	24.755	319.1	0.109	6.03	102.7	2.4	0.35	0.1	0.01	0.39	0.14	34	218
41	A	14.02	14.01	33.149	24.755	319.3	0.131	6.03	102.7	2.4	0.35	0.1	0.01	0.42	0.15	41	217
48		14.01	14.00	33.148	24.756	319.3	0.153	6.02	102.5	2.4	0.39	0.1	0.01	0.42	0.16	48	216
50	ISL	13.99	13.98	33.148	24.760	319.0	0.160	6.02	102.5	2.4	0.38	0.1	0.01	0.43	0.16	50	
54	A	13.94	13.93	33.149	24.772	318.0	0.172	6.02	102.4	2.4	0.37	0.2	0.02	0.45	0.17	54	215
63		13.83	13.82	33.156	24.800	315.6	0.201	5.99	101.6	2.6	0.39	0.4	0.04	0.46	0.19	63	214
72	A	12.68	12.67	33.209	25.071	289.9	0.228	5.68	94.1	4.1	0.65	3.9	0.32	0.36	0.29	72	213
75	ISL	12.55	12.54	33.231	25.113	286.0	0.237	5.65	93.4	4.3	0.69	4.4	0.38	0.31	0.26	75	
84		12.38	12.37	33.296	25.196	278.3	0.262	5.60	92.3	4.9	0.76	5.6	0.48	0.18	0.14	84	212
99		11.69	11.68	33.385	25.396	259.6	0.303	5.23	85.0	7.4	0.97	9.6	0.28	0.08	0.08	99	211
100	ISL	11.66	11.65	33.390	25.405	258.7	0.305	5.21	84.6	7.6	0.98	9.8	0.27	0.08	0.08	100	
119		11.18	11.17	33.476	25.560	244.4	0.353	4.73	76.0	11.3	1.19	13.2	0.12	0.04	0.07	120	210
125	ISL	10.98	10.96	33.503	25.617	239.0	0.367	4.49	71.9	13.0	1.27	14.6	0.09	0.04	0.07	126	
138		10.50	10.48	33.567	25.751	226.5	0.398	3.98	63.1	16.7	1.45	17.6	0.03	0.03	0.06	139	209
150	ISL	9.98	9.96	33.644	25.900	212.4	0.424	3.70	58.0	19.8	1.58	19.9	0.02	0.02	0.05	151	
170		9.20	9.18	33.776	26.131	190.7	0.464	3.43	52.9	24.3	1.76	22.9	0.01	0.00	0.04	171	208
200		8.60	8.58	33.906	26.328	172.4	0.519	3.20	48.7	29.4	1.93	25.3	0.01	0.00	0.03	201	207
227		8.09	8.07	33.969	26.454	160.7	0.564	2.96	44.6	34.6	2.05	27.5	0.01			228	206
250	ISL	7.81	7.79	34.002	26.522	154.6	0.600	2.73	40.8	38.4	2.17	29.0	0.01			251	
263		7.68	7.65	34.016	26.552	151.9	0.620	2.59	38.6	40.5	2.24	29.8	0.01			264	205
300	ISL	7.27	7.24	34.061	26.646	143.4	0.675	2.06	30.5	47.9	2.45	32.5	0.01			302	
318		7.09	7.06	34.081	26.687	139.7	0.700	1.80	26.5	51.5	2.55	33.7	0.01			320	204
379		6.67	6.64	34.143	26.793	130.3	0.782	1.11	16.2	61.6	2.82	36.9	0.01			381	203
400	ISL	6.46	6.42	34.142	26.820	127.8	0.809	1.01	14.7	64.7	2.88	37.7	0.01			403	
440		6.07	6.03	34.139	26.868	123.5	0.860	0.89	12.8	70.2	2.96	39.1	0.01			443	202
500	ISL	5.79	5.75	34.198	26.951	116.2	0.932	0.56	8.0	78.0	3.10	40.7	0.01			503	
511		5.74	5.70	34.209	26.966	114.9	0.944	0.50	7.1	79.4	3.13	41.0	0.01			514	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 14.4 N	123 30.0 W	13/04/97	0953 UTC	4152 m	330 21 kn			1018.8 mb	15.6 C	14.2 C		

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	PRES db	SAMP
0	ISL	14.16	14.16	33.152	24.727	320.8	0.000	6.00	102.5	2.6	0.36	0.0	0.00	0.30	0.14	0	
2		14.16	14.16	33.152	24.727	320.8	0.006	6.00	102.5	2.6	0.36	0.0	0.00	0.30	0.14	2	220
10	ISL	14.15	14.15	33.154	24.731	320.7	0.032	6.01	102.7	2.6	0.35	0.1	0.00	0.32	0.13	10	
15		14.15	14.15	33.155	24.732	320.8	0.048	6.01	102.7	2.6	0.35	0.1	0.00	0.33	0.12	15	219
20	ISL	14.11	14.11	33.154	24.739	320.2	0.064	6.01	102.6	2.5	0.35	0.1	0.00	0.33	0.12	20	
30		14.02	14.02	33.155	24.759	318.6	0.096	6.01	102.4	2.4	0.34	0.0	0.00	0.35	0.11	30	218
45		14.01	14.00	33.169	24.772	317.7	0.144	6.04	102.9	2.5	0.35	0.1	0.01	0.45	0.17	45	217
50	ISL	13.99	13.98	33.166	24.774	317.7	0.160	6.04	102.8	2.6	0.35	0.1	0.01	0.48	0.16	50	
56		13.97	13.96	33.166	24.779	317.4	0.179	6.04	102.8	2.7	0.35	0.1	0.01	0.50	0.16	56	216
65		13.82	13.81	33.159	24.804	315.2	0.207	6.00	101.8	2.6	0.38	0.4	0.03	0.41	0.21	65	215
75	ISL	13.63	13.62	33.183	24.862	310.0	0.238	5.97	100.9	2.9	0.42	0.9	0.06	0.37	0.20	75	
76		13.60	13.59	33.187	24.871	309.1	0.242	5.96	100.7	3.0	0.43	1.0	0.07	0.37	0.20	76	214
85		13.22	13.21	33.221	24.974	299.5	0.269	5.87	98.4	3.4	0.52	2.2	0.17	0.29	0.19	85	213
94		12.61	12.60	33.223	25.096	288.1	0.295	5.61	92.8	4.4	0.67	4.3	0.45	0.26	0.21	94	212
100	ISL	12.26	12.25	33.263	25.194	278.8	0.312	5.54	91.0	5.0	0.76	5.6	0.42	0.20	0.18	100	
109		11.80	11.79	33.346	25.345	264.6	0.337	5.41	88.1	6.3	0.90	7.9	0.38	0.10	0.11	109	211
124		11.10	11.08	33.482	25.579	242.7	0.375	4.78	76.7	11.0	1.18	13.0	0.16	0.05	0.08	125	210
125	ISL	11.03	11.01	33.486	25.594	241.2	0.377	4.73	75.8	11.4	1.20	13.4	0.15	0.05	0.08	126	
144		9.83	9.81	33.563	25.861	215.9	0.421	3.79	59.2	19.8	1.62	19.9	0.02	0.02	0.07	145	209
150	ISL	9.64	9.62	33.622	25.939	208.6	0.433	3.58	55.7	21.5	1.69	21.2	0.02	0.01	0.06	151	
168		9.28	9.26	33.800	26.137	190.1	0.469	3.16	48.8	25.5	1.82	23.9	0.01	0.00	0.05	169	208
199		8.60	8.58	33.913	26.333	171.9	0.525	2.95	44.9	30.8	1.97	26.4	0.01	0.00	0.08	200	207
200	ISL	8.58	8.56	33.916	26.339	171.4	0.527	2.95	44.9	31.0	1.97	26.5	0.01			201	
228		8.10	8.08	33.983	26.464	159.8	0.574	2.83	42.6	35.5	2.05	28.0	0.01			229	206
250	ISL	7.81	7.79	34.011	26.529	153.9	0.608	2.68	40.1	38.8	2.15	29.2	0.01			251	
269		7.59	7.56	34.025	26.572	150.0	0.637	2.52	37.5	41.7	2.24	30.2	0.01			271	205
300	ISL	7.22	7.19	34.037	26.634	144.5	0.683	2.28	33.7	46.7	2.36	31.9	0.01			302	
322		6.98	6.95	34.045	26.674	140.9	0.714	2.08	30.5	50.5	2.45	33.1	0.01			324	204
377		6.50	6.47	34.098	26.780	131.3	0.789	1.35	19.6	61.0	2.74	36.6	0.00			379	203
400	ISL	6.29	6.25	34.109	26.816	128.0	0.819	1.16	16.8	65.0	2.82	37.8	0.00			402	
426		6.06	6.02	34.120	26.855	124.6	0.852	0.99	14.2	69.4	2.90	38.9	0.00			429	202
500	ISL	5.54	5.50	34.178	26.965	114.6	0.940	0.60	8.5	81.1	3.10	41.2	0.00			503	
503		5.52	5.48	34.180	26.969	114.2	0.943	0.58	8.2	81.6	3.11	41.3	0.00			506	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 83 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 54.6 N	124 10.3 W	13/04/97	0322 UTC	4188 m	340 20 kn			1020.4 mb	15.4 C	13.8 C		

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	PRES db	SAMP
0	ISL	14.77	14.77	33.154	24.599	332.9	0.000	5.91	102.3	2.2	0.31	0.0	0.00	0.12	0.04	0	
2		14.77	14.77	33.154	24.599	333.0	0.007	5.91	102.3	2.2	0.31	0.0	0.00	0.12	0.04	2	220
10	ISL	14.77	14.77	33.154	24.600	333.2	0.033	5.90	102.1	2.1	0.31	0.0	0.00	0.12	0.04	10	
14		14.77	14.77	33.154	24.600	333.3	0.047	5.90	102.1	2.1	0.31	0.0	0.00	0.12	0.04	14	219
20	ISL	14.76	14.76	33.153	24.601	333.3	0.067	5.90	102.1	2.1	0.31	0.0	0.00	0.12	0.04	20	
28		14.74	14.74	33.152	24.605	333.2	0.093	5.91	102.2	2.1	0.31	0.0	0.00	0.13	0.04	28	218
30	ISL	14.73	14.73	33.152	24.607	333.1	0.100	5.91	102.2	2.1	0.31	0.0	0.00	0.13	0.04	30	
45		14.65	14.64	33.150	24.623	332.0	0.150	5.92	102.2	2.1	0.31	0.0	0.00	0.14	0.06	45	217
50	ISL	14.64	14.63	33.149	24.625	332.0	0.166	5.92	102.1	2.1	0.31	0.0	0.00	0.15	0.06	50	
59		14.63	14.62	33.148	24.626	332.1	0.196	5.93	102.3	2.1	0.31	0.0	0.00	0.17	0.05	59	216
73		14.47	14.46	33.123	24.641	331.0	0.243	5.93	101.9	2.1	0.32	0.0	0.00	0.25	0.13	73	215
75	ISL	14.37	14.36	33.110	24.653	330.0	0.249	5.94	101.9	2.1	0.32	0.0	0.00	0.28	0.17	75	
83		13.93	13.92	33.059	24.705	325.2	0.276	5.98	101.6	2.2	0.32	0.0	0.00	0.38	0.31	83	214
93		13.66	13.65	33.040	24.746	321.5	0.308	5.96	100.7	2.3	0.35	0.1	0.02	0.36	0.28	93	213
100	ISL	13.59	13.58	33.083	24.793	317.2	0.330	5.84	98.6	2.4	0.39	0.6	0.08	0.35	0.32	100	
103		13.54	13.53	33.105	24.821	314.7	0.340	5.79	97.6	2.5	0.41	0.9	0.11	0.35	0.33	103	212
114		13.00	12.98	33.128	24.947	302.9	0.374	5.72	95.4	3.2	0.50	1.9	0.17	0.28	0.29	114	211
123		12.65	12.63	33.173	25.050	293.2	0.401	5.74	95.0	4.1	0.60	3.4	0.27	0.19	0.19	124	210
125	ISL	12.56	12.54	33.183	25.075	290.9	0.406	5.71	94.4	4.3	0.62	3.8	0.26	0.17	0.18	126	
138		11.90	11.88	33.254	25.256	273.9	0.443	5.42	88.4	5.8	0.78	6.6	0.09	0.10	0.11	139	209
150	ISL	11.27	11.25	33.334	25.434	257.1	0.475	5.08	81.8	8.6	0.95	9.6	0.05	0.06	0.07	151	
164		10.54	10.52	33.442	25.647	236.9	0.509	4.62	73.2	12.9	1.17	13.5	0.01	0.03	0.05	165	208
194		9.11	9.09	33.709	26.094	194.7	0.574	3.53	54.3	24.7	1.76	23.1	0.01	0.00	0.06	195	207
200	ISL	8.96	8.94	33.752	26.151	189.3	0.586	3.56	54.6	25.7	1.76	23.2	0.01			201	
226		8.52	8.50	33.890	26.328	172.9	0.633	3.68	55.9	28.1	1.76	23.8	0.01			227	206
250	ISL	8.12	8.09	33.945	26.432	163.3	0.673	3.62	54.5	31.3	1.81	24.8	0.00			251	
267		7.86	7.83	33.962	26.483	158.5	0.701	3.57	53.5	34.0	1.88	25.8	0.00			268	205
300	ISL	7.34	7.31	33.988	26.579	149.8	0.751	3.01	44.5	41.1	2.12	29.1	0.00			302	
318		7.09	7.06	33.998	26.621	145.8	0.778	2.64	38.8	45.3	2.26	31.0	0.00			320	204
377		6.52	6.49	34.041	26.733	135.8	0.861	1.78	25.8	57.1	2.60	35.5	0.00			379	203
400	ISL	6.32	6.28	34.052	26.767	132.7	0.892	1.55	22.4	61.2	2.70	36.8	0.00			402	
436		6.02	5.98	34.071	26.821	127.8	0.939	1.26	18.1	67.4	2.83	38.4	0.00			439	202
500	ISL	5.56	5.52	34.143	26.935	117.4	1.017	0.75	10.7	79.2	3.05	41.0	0.00			503	
516		5.45	5.41	34.161	26.963	114.9	1.036	0.62	8.8	82.2	3.10	41.6	0.00			519	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 87 33

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 53.4 N	118 29.7 W	09/04/97	1154	UTC	56 m	040	03 kn			1014.2 mb	15.0 C	13.5 C			

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	PRES db	SAMP
0	ISL	16.10	16.10	33.588	24.640	329.1	0.000	6.37	113.5	3.7	0.17	0.0	0.00	3.52	0.74	0	
2		16.10	16.10	33.588	24.640	329.1	0.007	6.37	113.5	3.7	0.17	0.0	0.00	3.52	0.74	2	206
10	ISL	15.85	15.85	33.579	24.690	324.6	0.033	6.26	111.0	4.2	0.19	0.0	0.01	4.04	0.61	10	
11		15.82	15.82	33.578	24.696	324.1	0.036	6.25	110.7	4.3	0.19	0.0	0.01	4.09	0.59	11	205
20	ISL	14.85	14.85	33.548	24.887	306.2	0.064	5.14	89.3	6.4	0.39	0.2	0.04	3.05	0.50	20	
21		14.69	14.69	33.546	24.919	303.1	0.067	4.99	86.4	6.7	0.43	0.2	0.04	2.85	0.49	21	204
30		12.71	12.71	33.581	25.352	262.1	0.093	4.09	68.0	11.0	1.02	8.0	0.55	0.38	0.35	30	203
39		12.44	12.43	33.582	25.406	257.2	0.116	3.83	63.3	12.4	1.16	9.5	0.56	0.28	0.26	39	202
49		12.19	12.18	33.582	25.454	252.9	0.142	3.57	58.7	14.3	1.34	11.3	0.57	0.24	0.24	49	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 87 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 49.4 N	118 37.6 W	09/04/97	1403	UTC	642 m	300	09 kn	260 04 04	2	1014.0 mb	14.5 C	12.2 C		5/8	SC

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	PRES db	SAMP
0	ISL	15.46	15.46	33.533	24.741	319.4	0.000	6.04	106.2	3.1	0.28	0.0	0.00	0.59	0.15	0	
2		15.46	15.46	33.533	24.741	319.5	0.006	6.04	106.2	3.1	0.28	0.0	0.00	0.59	0.15	2	220
10		15.40	15.40	33.533	24.755	318.4	0.032	6.01	105.6	3.1	0.29	0.0	0.00	0.69	0.20	10	219
20		13.07	13.07	33.489	25.210	275.4	0.062	5.22	87.4	6.4	0.66	4.5	0.21	1.32	0.63	20	218
30		11.97	11.97	33.466	25.405	257.0	0.088	4.74	77.5	9.3	0.95	9.6	0.21	0.97	0.64	30	217
40		11.50	11.50	33.555	25.561	242.4	0.113	4.10	66.4	13.2	1.22	14.1	0.10	0.48	0.42	40	216
49		11.36	11.35	33.650	25.661	233.1	0.135	3.69	59.6	15.6	1.36	16.0	0.05	0.32	0.34	49	215
50	ISL	11.32	11.31	33.658	25.674	231.8	0.137	3.66	59.1	15.8	1.37	16.2	0.05	0.31	0.33	50	
60		10.91	10.90	33.717	25.794	220.6	0.160	3.43	54.9	17.9	1.49	18.1	0.03	0.23	0.25	60	214
70		10.78	10.77	33.745	25.839	216.6	0.181	3.31	52.9	19.0	1.56	18.8	0.02	0.13	0.20	70	213
75	ISL	10.62	10.61	33.770	25.887	212.2	0.192	3.24	51.6	19.9	1.60	19.5	0.02	0.12	0.19	75	
83		10.35	10.34	33.814	25.968	204.6	0.209	3.12	49.4	21.5	1.68	20.8	0.01	0.10	0.17	83	212
99		10.09	10.08	33.886	26.069	195.3	0.241	2.80	44.1	24.5	1.84	22.7	0.01	0.08	0.13	100	211
100	ISL	10.08	10.07	33.890	26.074	194.9	0.243	2.78	43.8	24.7	1.85	22.8	0.01	0.08	0.13	101	
119		9.83	9.82	33.970	26.179	185.3	0.279	2.45	38.4	27.8	2.00	24.7	0.02	0.07	0.12	120	210
125	ISL	9.72	9.71	34.002	26.222	181.3	0.290	2.33	36.4	29.1	2.06	25.4	0.02	0.05	0.11	126	
139		9.48	9.46	34.070	26.315	172.7	0.315	2.10	32.7	32.0	2.17	26.8	0.03	0.01	0.10	140	209
150	ISL	9.37	9.35	34.097	26.355	169.2	0.333	2.08	32.3	32.9	2.20	27.2	0.03	0.01	0.09	151	
170		9.21	9.19	34.128	26.405	164.8	0.367	2.05	31.7	34.0	2.23	27.7	0.02	0.01	0.08	171	208
198		8.92	8.90	34.186	26.497	156.5	0.412	1.74	26.7	38.1	2.36	29.3	0.01	0.01	0.06	199	207
200	ISL	8.92	8.90	34.190	26.500	156.2	0.415	1.72	26.4	38.3	2.37	29.4	0.01			201	
228		8.91	8.89	34.232	26.535	153.5	0.458	1.42	21.8	40.2	2.47	30.2	0.01			229	206
250	ISL	8.74	8.71	34.236	26.565	151.0	0.492	1.33	20.4	42.2	2.52	30.8	0.02			252	
266		8.56	8.53	34.234	26.592	148.7	0.516	1.29	19.7	44.0	2.56	31.3	0.02			268	205
300	ISL	8.16	8.13	34.255	26.670	141.8	0.565	1.04	15.7	49.1	2.69	32.8	0.01			302	
317		7.97	7.94	34.268	26.708	138.3	0.589	0.91	13.7	51.7	2.76	33.5	0.01			319	204
377		7.52	7.48	34.286	26.789	131.4	0.670	0.65	9.7	57.8	2.89	35.3	0.00			379	203
400	ISL	7.29	7.25	34.295	26.829	127.8	0.700	0.55	8.1	60.7	2.94	36.1	0.00			403	
437		6.91	6.87	34.308	26.892	122.1	0.746	0.42	6.2	65.8	3.03	37.3	0.00			440	202
500	ISL	6.43	6.38	34.322	26.968	115.4	0.821	0.31	4.5	74.5	3.15	38.9	0.01			504	
517		6.30	6.25	34.326	26.988	113.6	0.840	0.28	4.1	76.8	3.18	39.3	0.01			521	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 87 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 39.2 N	118 58.9 W	09/04/97	1842	UTC	693 m	290	28 kn	290 06 04	1	1014.5 mb	15.0 C	12.1 C	10m 04	2/8	AS

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	PRES db	SAMP
0	ISL	15.32	15.32	33.521	24.763	317.4	0.000	5.97	104.7	2.9	0.33	0.2	0.01	0.54	0.18	0	
3		15.32	15.32	33.520	24.762	317.5	0.010									3	223
3	A	15.32	15.32	33.521	24.763	317.4	0.010	5.97	104.7	2.9	0.33	0.2	0.01	0.54	0.18	3	222
7	A	15.31	15.31	33.521	24.765	317.3	0.022	5.97	104.7	2.9	0.33	0.1	0.01	0.55	0.19	7	221
10	ISL	15.30	15.30	33.522	24.768	317.1	0.032	5.96	104.5	2.9	0.32	0.1	0.01	0.57	0.19	10	
14	A	15.30	15.30	33.522	24.768	317.3	0.044	5.95	104.3	2.9	0.31	0.1	0.01	0.59	0.19	14	220
20	A	15.30	15.30	33.519	24.766	317.7	0.063	5.96	104.5	2.9	0.32	0.1	0.01	0.58	0.19	20	219
27	A	15.15	15.15	33.517	24.798	314.9	0.086	5.95	104.0	3.0	0.33	0.4	0.02	0.74	0.26	27	218
30	ISL	14.30	14.30	33.495	24.963	299.2	0.095	5.60	96.2	4.8	0.51	2.9	0.09	0.74	0.33	30	
37	A	12.16	12.16	33.495	25.391	258.5	0.114	4.64	76.2	9.9	1.00	9.7	0.21	0.73	0.46	37	217
44		11.50	11.49	33.557	25.563	242.3	0.132	4.11	66.6	13.3	1.24	13.7	0.10	0.47	0.40	44	216
50		11.08	11.07	33.602	25.674	231.8	0.146	3.87	62.1	15.4	1.36	15.8	0.05	0.28	0.31	50	215
60		10.95	10.94	33.630	25.719	227.8	0.169	3.77	60.4	16.3	1.40	16.8	0.04	0.21	0.22	60	214
70		10.69	10.68	33.658	25.787	221.5	0.192	3.64	58.0	17.9	1.48	18.0	0.03	0.13	0.16	70	213
75	ISL	10.54	10.53	33.688	25.837	216.9	0.202	3.53	56.1	18.9	1.53	18.8	0.03	0.10	0.14	75	
84		10.29	10.28	33.745	25.925	208.7	0.222	3.35	52.9	20.6	1.62	20.2	0.02	0.07	0.12	84	212
99		10.09	10.08	33.789	25.994	202.5	0.252	3.24	51.0	22.2	1.70	21.3	0.02	0.06	0.09	100	211
100	ISL	10.06	10.05	33.796	26.004	201.5	0.255	3.22	50.6	22.5	1.71	21.5	0.02	0.06	0.09	101	
118		9.50	9.49	33.923	26.197	183.5	0.289	2.77	43.0	27.7	1.93	24.7	0.01	0.02	0.06	119	210
125	ISL	9.39	9.38	33.954	26.239	179.6	0.302	2.65	41.1	29.1	1.99	25.5	0.01	0.02	0.06	126	
138		9.24	9.22	34.000	26.299	174.1	0.325	2.47	38.2	31.2	2.07	26.6	0.01	0.01	0.07	139	209
150	ISL	9.09	9.07	34.037	26.353	169.3	0.345	2.30	35.4	33.1	2.14	27.5	0.02	0.01	0.07	151	
168		8.91	8.89	34.089	26.422	163.0	0.375	2.06	31.6	35.8	2.25	28.7	0.03	0.01	0.06	169	208
197		8.75	8.73	34.177	26.517	154.6	0.421	1.64	25.1	39.7	2.43	30.4	0.04	0.00	0.05	198	207
200	ISL	8.72	8.70	34.181	26.525	153.9	0.426	1.61	24.6	40.1	2.44	30.6	0.04			201	
228		8.44	8.42	34.199	26.582	148.8	0.468	1.40	21.3	43.7	2.53	31.9	0.06			229	206
250	ISL	8.28	8.25	34.215	26.620	145.6	0.501	1.30	19.7	45.7	2.58	32.6	0.04			252	
268		8.15	8.12	34.229	26.650	143.0	0.527	1.22	18.4	47.4	2.62	33.2	0.01			270	205
300	ISL	7.87	7.84	34.255	26.713	137.5	0.572	0.96	14.4	51.9	2.75	34.5	0.00			302	
320		7.68	7.65	34.271	26.753	133.9	0.599	0.79	11.8	55.0	2.83	35.4	0.00			322	204
378		7.16	7.12	34.301	26.851	125.2	0.674	0.52	7.7	63.2	2.99	37.6	0.01			380	203
400	ISL	7.01	6.97	34.304	26.875	123.2	0.701	0.46	6.8	65.5	3.03	38.2	0.01			403	
437		6.77	6.73	34.306	26.909	120.3	0.746	0.39	5.7	69.1	3.08	39.1	0.00			440	202
500	ISL	6.36	6.31	34.320	26.975	114.6	0.820	0.31	4.5	76.0	3.16	40.3	0.01			503	
516		6.26	6.21	34.324	26.991	113.2	0.839	0.29	4.2	77.7	3.18	40.6	0.01			520	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 29.8 N	119 20.3 W	10/04/97	0005	UTC	1654 m	300	28 kn	310 10 04	0	1013.2 mb	13.7 C	11.0 C			

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	PRES db	SAMP
0	ISL	14.77	14.77	33.562	24.914	303.0	0.000	5.72	99.2	4.5	0.46	1.7	0.05	0.61	0.21	0	
2		14.77	14.77	33.562	24.914	303.0	0.006	5.72	99.2	4.5	0.46	1.7	0.05	0.61	0.21	2	220
10	ISL	14.77	14.77	33.565	24.917	303.0	0.030	5.71	99.0	4.5	0.46	1.7	0.05	0.94	0.32	10	
11		14.77	14.77	33.565	24.917	303.0	0.033	5.71	99.0	4.5	0.46	1.7	0.05	0.99	0.34	11	219
20	ISL	14.70	14.70	33.563	24.930	302.0	0.061	5.70	98.7	4.7	0.46	1.8	0.06	1.03	0.38	20	
21		14.69	14.69	33.563	24.932	301.8	0.064	5.70	98.7	4.7	0.46	1.8	0.06	1.03	0.38	21	218
30		12.44	12.44	33.641	25.451	252.6	0.089	5.15	85.2	10.4	0.85	7.8	0.18	1.11	0.50	30	217
40		10.52	10.52	33.762	25.897	210.3	0.112	3.26	51.8	21.0	1.63	20.1	0.19	0.58	0.32	40	216
50		10.25	10.24	33.793	25.968	203.8	0.132	3.08	48.6	22.9	1.73	21.7	0.08	0.37	0.22	50	215
61		10.05	10.04	33.830	26.031	198.0	0.154	2.96	46.5	23.9	1.79	22.7	0.04	0.19	0.15	61	214
70		9.85	9.84	33.885	26.108	190.9	0.172	2.78	43.5	25.9	1.88	23.8	0.02	0.05	0.11	70	213
75	ISL	9.74	9.73	33.902	26.140	188.0	0.181	2.74	42.8	26.7	1.91	24.2	0.02	0.04	0.10	75	
87		9.53	9.52	33.927	26.194	183.1	0.204	2.68	41.7	28.1	1.96	25.1	0.02	0.02	0.09	87	212
99		9.41	9.40	33.957	26.238	179.2	0.225	2.52	39.1	29.7	2.02	25.9	0.02	0.03	0.10	100	211
100	ISL	9.40	9.39	33.961	26.242	178.8	0.227	2.51	38.9	29.8	2.03	26.0	0.02	0.03	0.10	101	
120		9.16	9.15	34.044	26.346	169.3	0.262	2.25	34.7	33.0	2.16	27.6	0.01	0.01	0.08	121	210
125	ISL	9.09	9.08	34.067	26.376	166.6	0.270	2.15	33.1	34.1	2.21	28.1	0.01	0.01	0.08	126	
136		8.95	8.94	34.112	26.433	161.3	0.288	1.92	29.5	36.5	2.30	29.3	0.01	0.01	0.08	137	209
150	ISL	8.83	8.81	34.143	26.477	157.4	0.311	1.77	27.1	38.4	2.36	30.1	0.01	0.01	0.08	151	
169		8.70	8.68	34.167	26.516	154.0	0.340	1.65	25.2	40.3	2.42	30.7	0.01	0.01	0.08	170	208
200	ISL	8.49	8.47	34.204	26.578	148.7	0.387	1.37	20.8	43.8	2.54	32.0	0.01	0.00	0.06	201	
204		8.47	8.45	34.208	26.584	148.2	0.393	1.34	20.4	44.2	2.55	32.1	0.01	0.00	0.06	205	207
241		8.32	8.30	34.228	26.624	145.1	0.447	1.21	18.3	46.5	2.62	32.8	0.01			242	206
250	ISL	8.26	8.23	34.232	26.636	144.1	0.461	1.16	17.6	47.3	2.64	33.1	0.01			252	
267		8.15	8.12	34.239	26.658	142.2	0.485	1.07	16.2	48.9	2.68	33.6	0.01			269	205
300	ISL	7.93	7.90	34.259	26.707	138.1	0.531	0.88	13.2	52.3	2.77	34.7	0.01			302	
318		7.81	7.78	34.269	26.733	135.9	0.556	0.79	11.8	54.3	2.82	35.3	0.01			320	204
381		7.34	7.30	34.285	26.814	129.0	0.639	0.59	8.7	61.2	2.94	36.9	0.00			384	203
400	ISL	7.14	7.10	34.290	26.846	126.1	0.663	0.52	7.7	64.2	2.99	37.6	0.00			403	
437		6.76	6.72	34.301	26.906	120.6	0.709	0.39	5.7	69.9	3.08	38.9	0.00			440	202
500	ISL	6.40	6.35	34.315	26.966	115.5	0.783	0.32	4.6	75.9	3.14	40.0	0.00			504	
515		6.32	6.27	34.319	26.980	114.4	0.801	0.30	4.3	77.3	3.16	40.2	0.00			519	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 9.4 N	120 1.4 W	10/04/97	2150	UTC	1175 m	310	30 kn	310 10 05	0	1016.1 mb	14.2 C	12.2 C			

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	PRES db	SAMP
0	ISL	13.16	13.16	33.591	25.270	269.1	0.000	5.55	93.2							0	
4		13.17	13.17	33.590	25.268	269.4	0.011									4	224
4		13.16	13.16	33.591	25.270	269.2	0.011	5.68 U	95.3 U	9.2	0.77	6.9	0.11	1.04	0.43	4	223
10	ISL	13.14	13.14	33.592	25.275	268.9	0.027	5.54	92.9	9.3	0.78	7.0	0.11	1.03	0.41	10	
11		13.14	13.14	33.592	25.275	268.9	0.030	5.54	92.9	9.3	0.78	7.0	0.11	1.03	0.41	11	222
19		13.16	13.16	33.587	25.268	269.8	0.051	5.56	93.3	9.2	0.77	7.0	0.11	1.00	0.41	19	220
20		13.13	13.13	33.588	25.274	269.2	0.054									20	219
20	ISL	13.16	13.16	33.587	25.268	269.9	0.054	5.56	93.3	9.2	0.77	7.0	0.11	0.99	0.41	20	
30	ISL	13.11	13.11	33.587	25.278	269.2	0.081	5.52	92.5	9.3	0.78	7.1	0.11	0.91	0.39	30	
20	ISL	13.16	13.16	33.587	25.268	269.9	0.054	5.56	93.3	9.2	0.77	7.0	0.11	0.99	0.41	20	
31		13.13	13.13	33.587	25.274	269.6	0.084									31	217
32		13.10	13.10	33.587	25.280	269.0	0.086	5.51	92.4	9.3	0.78	7.1	0.11	0.90	0.39	32	218
41		13.11	13.10	33.585	25.277	269.6	0.110	5.49	92.0	9.3	0.78	7.1	0.10	0.91	0.38	41	216
49		12.74	12.73	33.586	25.351	262.7	0.132	5.23	87.0	10.1	0.86	8.5	0.11	0.82	0.44	49	215
50	ISL	12.66	12.65	33.592	25.371	260.8	0.134	5.15	85.5	10.5	0.89	8.9	0.12	0.80	0.43	50	
59		11.60	11.59	33.667	25.630	236.3	0.157	4.22	68.6	15.6	1.25	14.1	0.15	0.53	0.37	59	214
67		10.29	10.28	33.754	25.932	207.7	0.174	3.35	52.9	21.3	1.65	20.5	0.10	0.22	0.20	67	213
75	ISL	10.00	9.99	33.793	26.011	200.3	0.191	3.20	50.2	23.9	1.73	21.7	0.06	0.14	0.16	75	
85		9.64	9.63	33.844	26.111	190.9	0.210	3.01	46.9	25.3	1.83	23.2	0.02	0.04	0.11	85	212
100	ISL	9.34	9.33	33.919	26.219	180.9	0.238	2.78	43.1	28.2	1.95	24.8	0.01	0.01	0.07	101	
102		9.31	9.30	33.929	26.232	179.8	0.242	2.75	42.6	28.6	1.96	25.0	0.01	0.01	0.07	103	211
117		9.06	9.05	34.001	26.329	170.9	0.268	2.50	38.5	31.7	2.09	26.5	0.01	0.01	0.06	118	210
125	ISL	9.01	9.00	34.017	26.349	169.0	0.282	2.46	37.8	32.3	2.11	26.8	0.01	0.01	0.06	126	
138		8.98	8.97	34.032	26.366	167.7	0.304	2.41	37.0	32.8	2.13	27.1	0.00	0.00	0.05	139	209
150	ISL	8.91	8.89	34.061	26.400	164.7	0.324	2.28	35.0	34.2	2.18	27.7	0.00	0.00	0.05	151	
168		8.78	8.76	34.108	26.458	159.6	0.353	2.03	31.1	36.8	2.28	28.8	0.01	0.00	0.05	169	208
198		8.55	8.53	34.169	26.541	152.1	0.400	1.63	24.8	41.2	2.45	30.5	0.01	0.00	0.05	199	207
200	ISL	8.54	8.52	34.172	26.545	151.8	0.403	1.61	24.5	41.4	2.46	30.6	0.01			201	
233		8.36	8.34	34.206	26.600	147.2	0.452	1.34	20.3	44.9	2.57	31.7	0.01			234	206
250	ISL	8.29	8.26	34.218	26.620	145.6	0.477	1.26	19.1	46.2	2.61	32.1	0.01			252	
266		8.21	8.18	34.227	26.640	144.0	0.500	1.19	18.0	47.5	2.64	32.5	0.01			268	205
300	ISL	7.94	7.91	34.254	26.702	138.6	0.548	0.94	14.1	51.7	2.76	33.8	0.00			302	
318		7.77	7.74	34.267	26.737	135.5	0.573	0.81	12.1	54.2	2.82	34.5	0.00			320	204
378		7.21	7.17	34.282	26.829	127.3	0.651	0.58	8.6	61.8	2.96	36.5	0.00			380	203
400	ISL	7.07	7.03	34.286	26.852	125.4	0.679	0.53	7.8	64.0	3.00	37.0	0.00			403	
441		6.83	6.79	34.295	26.892	122.0	0.730	0.45	6.6	67.7	3.06	37.9	0.00			444	202
500	ISL	6.47	6.42	34.315	26.957	116.5	0.800	0.33	4.8	73.5	3.14	39.2	0.00			503	
510		6.41	6.36	34.319	26.968	115.5	0.812	0.31	4.5	74.5	3.15	39.4	0.00			514	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 59.2 N	120 20.7 W	11/04/97	0256	UTC	728 m	310	25 kn	310 12 05	1	1015.6 mb	13.0 C	11.1 C		6/8	SC

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	PRES db	SAMP
0	ISL	13.88	13.88	33.554	25.095	285.7	0.000	5.72	97.4	6.1	0.55	3.5	0.12	1.07	0.51	0	
1		13.88	13.88	33.554	25.095	285.7	0.003	5.72	97.4	6.1	0.55	3.5	0.12	1.07	0.51	1	224
9		13.88	13.88	33.551	25.093	286.1	0.026	5.71	97.3	6.1	0.55	3.5	0.12	1.02	0.51	9	223
10	ISL	13.88	13.88	33.551	25.093	286.2	0.029	5.71	97.2	6.1	0.55	3.5	0.12	1.02	0.51	10	
19		13.88	13.88	33.551	25.094	286.4	0.054									19	220
19		13.88	13.88	33.553	25.095	286.3	0.054									19	222
19		13.88	13.88	33.555	25.097	286.1	0.054									19	221
19		13.88	13.88	33.551	25.094	286.4	0.054	5.72	97.4	6.0	0.55	3.5	0.12	1.02	0.50	19	218
20		13.88	13.88	33.551	25.094	286.4	0.057									20	219
28		13.88	13.88	33.550	25.093	286.7	0.080	5.70	97.1	6.0	0.55	3.5	0.12	1.03	0.51	28	217
20	ISL	13.88	13.88	33.551	25.094	286.4	0.057	5.72	97.4	6.0	0.55	3.5	0.12	1.02	0.50	20	
30	ISL	13.70	13.70	33.552	25.132	283.1	0.086	5.58	94.7	6.5	0.60	4.3	0.17	0.95	0.48	30	
40		12.35	12.34	33.590	25.429	255.0	0.113	4.67	77.1	11.0	1.00	10.4	0.33	0.46	0.32	40	216
50		10.79	10.78	33.695	25.798	220.0	0.136	3.56	56.8	18.1	1.51	18.5	0.09	0.20	0.22	50	215
60		10.43	10.42	33.706	25.870	213.4	0.158	3.54	56.1	19.8	1.58	19.6	0.05	0.13	0.16	60	214
69		10.10	10.09	33.748	25.959	205.1	0.177	3.33	52.4	21.8	1.67	21.1	0.03	0.10	0.17	69	213
75	ISL	10.01	10.00	33.766	25.989	202.4	0.189	3.24	50.9	22.5	1.71	21.7	0.03	0.09	0.17	75	
83		9.93	9.92	33.790 D	26.021	199.5	0.205	3.14	49.2	23.3	1.75	22.3	0.03	0.07	0.15	83	212
99		9.58	9.57	33.873	26.144	188.1	0.236	2.88	44.8	26.4	1.89	24.1	0.01	0.02	0.10	100	211
100	ISL	9.56	9.55	33.878	26.151	187.4	0.238	2.86	44.5	26.6	1.90	24.2	0.01	0.02	0.10	101	
119		9.32	9.31	33.961	26.256	177.9	0.273	2.59	40.1	29.6	2.02	25.8	0.01	0.01	0.08	120	210
125	ISL	9.25	9.24	33.977	26.280	175.7	0.283	2.53	39.1	30.4	2.05	26.1	0.01	0.01	0.07	126	
140		9.10	9.08	34.007	26.327	171.5	0.309	2.40	37.0	32.3	2.11	26.9	0.01	0.01	0.06	141	209
150	ISL	8.99	8.97	34.031	26.364	168.2	0.326	2.31	35.5	33.5	2.16	27.5	0.01	0.01	0.05	151	
169		8.79	8.77	34.074	26.429	162.3	0.358	2.15	32.9	35.9	2.24	28.5	0.01	0.00	0.04	170	208
200	ISL	8.52	8.50	34.132	26.517	154.5	0.407	1.87	28.5	39.8	2.37	30.0	0.01	0.00	0.05	201	
201		8.51	8.49	34.133	26.519	154.3	0.408	1.86	28.3	39.9	2.37	30.0	0.01	0.00	0.05	202	207
230		8.41	8.39	34.165	26.560	150.9	0.453	1.59	24.1	42.4	2.47	31.1	0.00			231	206
250	ISL	8.19	8.16	34.193	26.616	145.9	0.482	1.38	20.9	45.7	2.57	32.1	0.00			252	
267		7.99	7.96	34.216	26.664	141.6	0.507	1.20	18.1	48.7	2.66	33.0	0.00			269	205
300	ISL	7.81	7.78	34.249	26.717	137.1	0.553	0.94	14.1	52.8	2.77	34.2	0.00			302	
315		7.74	7.71	34.260	26.736	135.5	0.573	0.85	12.7	54.4	2.81	34.6	0.00			317	204
374		7.26	7.22	34.282	26.822	128.0	0.651	0.59	8.7	61.5	2.95	36.5	0.00			376	203
400	ISL	6.98	6.94	34.291	26.868	123.8	0.684	0.49	7.2	65.9	3.02	37.5	0.00			403	
436		6.60	6.56	34.304	26.930	118.2	0.727	0.37	5.4	71.9	3.10	38.7	0.00			439	202
500	ISL	6.22	6.18	34.325	26.997	112.4	0.801	0.28	4.0	78.1	3.16	39.9	0.00			503	
517		6.12	6.07	34.331 D	27.015	110.9	0.820	0.26	3.7	79.7	3.18	40.2	0.00			521	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 38.7 N	121 1.9 W	11/04/97	1320	UTC	3807 m	320	30 kn			1017.5 mb	13.2 C	11.1 C			

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	PRES db	SAMP
0	ISL	13.21	13.21	33.383	25.099	285.3	0.000	5.98	100.3	4.3	0.55	3.1	0.13	0.70	0.25	0	
2		13.21	13.21	33.383	25.099	285.4	0.006	5.98	100.3	4.3	0.55	3.1	0.13	0.70	0.25	2	220
10	ISL	13.22	13.22	33.386	25.100	285.6	0.029	5.96	100.0	4.3	0.57	3.2	0.13	0.75	0.25	10	
11		13.22	13.22	33.387	25.101	285.5	0.031	5.96	100.0	4.3	0.57	3.2	0.13	0.75	0.25	11	219
20	ISL	13.22	13.22	33.387	25.101	285.7	0.057	5.97	100.2	4.2	0.56	3.2	0.13	0.69	0.25	20	
21		13.22	13.22	33.387	25.101	285.7	0.060	5.97	100.2	4.2	0.56	3.2	0.13	0.68	0.25	21	218
30		13.22	13.22	33.394 D	25.107	285.5	0.086	5.97	100.2	4.3	0.57	3.4	0.13	0.69	0.26	30	217
40		13.22	13.21	33.397	25.109	285.5	0.114	5.96	100.0	4.3	0.59	3.4	0.13	0.74	0.25	40	216
50		13.20	13.19	33.406	25.120	284.7	0.143	5.96	100.0	4.4	0.61	3.5	0.14	0.59	0.24	50	215
61		13.18	13.17	33.408	25.126	284.4	0.174	5.93	99.4	4.4	0.60	3.6	0.14	0.58	0.23	61	214
71		12.84	12.83	33.471	25.243	273.6	0.202	5.78	96.3	5.1	0.68	4.3	0.21	0.33	0.23	71	213
75	ISL	12.33	12.32	33.450	25.325	265.8	0.213	5.55	91.4	6.5	0.81	6.4	0.25	0.25	0.20	75	
84		11.08	11.07	33.400	25.518	247.5	0.236	4.95	79.4	10.3	1.12	11.7	0.29	0.11	0.13	84	212
100		10.21	10.20	33.452	25.710	229.4	0.274	4.24	66.7	15.4	1.34	16.3	0.02	0.06	0.07	100	211
119		9.48	9.47	33.624	25.966	205.4	0.315	3.64	56.4	22.2	1.69	21.6	0.01	0.02	0.04	120	210
125	ISL	9.30	9.29	33.685	26.043	198.1	0.327	3.45	53.3	24.1	1.77	22.9	0.01	0.02	0.04	126	
139		8.94	8.93	33.812	26.200	183.4	0.354	3.08	47.2	27.9	1.91	25.3	0.00	0.01	0.06	140	209
150	ISL	8.76	8.74	33.869	26.273	176.7	0.374	3.00	45.8	29.7	1.97	26.3	0.00	0.01	0.06	151	
171		8.49	8.47	33.931	26.364	168.4	0.410	2.85	43.3	32.1	2.02	27.2	0.00	0.01	0.07	172	208
200	ISL	8.05	8.03	33.981	26.469	158.8	0.458	2.80	42.1	35.7	2.09	28.2	0.00	0.00	0.04	201	
202		8.02	8.00	33.983 D	26.475	158.2	0.461	2.80	42.1	36.0	2.10	28.3	0.00	0.00	0.04	203	207
224		7.64	7.62	34.006	26.549	151.4	0.495	2.86	42.6	40.2	2.17	29.6	0.00			225	206
250	ISL	7.36	7.34	34.043	26.618	145.2	0.533	2.42	35.8	45.4	2.33	31.5	0.00			251	
273		7.22	7.19	34.082	26.669	140.7	0.566	1.87	27.6	49.8	2.49	33.1	0.00			275	205
300	ISL	7.16	7.13	34.144	26.727	135.7	0.604	1.38	20.4	54.4	2.67	34.7	0.00			302	
324		7.10	7.07	34.186	26.768	132.1	0.636	1.05	15.5	58.1	2.79	35.9	0.00			326	204
379		6.46	6.43	34.150	26.826	126.9	0.707	0.99	14.4	65.0	2.86	37.8	0.00			381	203
400	ISL	6.43	6.39	34.178	26.853	124.7	0.733	0.85	12.3	67.0	2.91	38.2	0.00			403	
444		6.38	6.34	34.241	26.909	120.0	0.787	0.54	7.8	70.9	3.03	39.0	0.00			447	202
500	ISL	6.13	6.09	34.290	26.981	113.8	0.853	0.37	5.3	76.4	3.13	40.1	0.00			503	
511		6.08	6.03	34.30	26.995	112.6	0.865	0.34	4.9	77.5	3.15	40.3	0.00			515	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 19.2 N	121 43.3 W	11/04/97	2012 UTC	4066 m	330 24 kn	330 10 04	1	1019.7 mb	15.2 C	13.3 C	17m 02	1/8	AS

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	PRES db	SAMP
0	ISL	13.44	13.44	33.221	24.928	301.7	0.000	6.02	101.4	3.5	0.48	1.8	0.10	0.54	0.20	0	
3		13.44	13.44	33.220	24.927	301.8	0.009									3	224
3		13.44	13.44	33.221	24.928	301.7	0.009	6.02	101.4	3.5	0.48	1.8	0.10	0.54	0.20	3	223
10	ISL	13.42	13.42	33.226	24.936	301.1	0.030	6.01	101.2	3.5	0.48	1.9	0.10	0.55	0.19	10	
15		13.41	13.41	33.229	24.940	300.9	0.045	6.01	101.2	3.5	0.48	1.9	0.10	0.56	0.19	15	222
18		13.41	13.41	33.229	24.940	300.9	0.054									18	221
20	ISL	13.40	13.40	33.228	24.942	300.9	0.060	6.01	101.1	3.5	0.48	1.9	0.10	0.58	0.20	20	
30		13.37	13.37	33.225	24.946	300.8	0.090	6.02	101.2	3.5	0.48	1.9	0.10	0.62	0.23	30	220
36		13.36	13.36	33.229	24.951	300.4	0.108									36	219
45		13.35	13.34	33.229	24.953	300.4	0.135	6.01	101.0	3.6	0.48	1.9	0.10	0.62	0.23	45	218
50	ISL	13.34	13.33	33.231	24.957	300.2	0.150	6.01	101.0	3.6	0.48	2.0	0.11	0.64	0.26	50	
53		13.34	13.33	33.232	24.958	300.2	0.159									53	217
55		13.33	13.32	33.235	24.962	299.9	0.165	6.01	101.0	3.6	0.48	2.0	0.11	0.65	0.28	55	216
66		13.31	13.30	33.251	24.979	298.6	0.198	6.02	101.1	3.5	0.49	2.0	0.11	0.63	0.26	66	215
75	ISL	13.26	13.25	33.254	24.991	297.6	0.225	6.00	100.7	3.7	0.51	2.4	0.12	0.59	0.28	75	
76		13.25	13.24	33.254	24.994	297.5	0.228	6.00	100.7	3.7	0.51	2.4	0.12	0.59	0.28	76	214
85		12.62	12.61	33.337	25.182	279.7	0.254	5.71	94.6	4.4	0.69	4.7	0.43	0.27	0.19	85	213
93		12.32	12.31	33.369	25.265	272.0	0.276	5.55	91.4	5.3	0.79	6.6	0.60	0.13	0.10	93	212
100	ISL	12.09	12.08	33.387	25.323	266.6	0.295	5.47	89.6	5.9	0.86	7.6	0.58	0.11	0.09	100	
110		11.81	11.80	33.411	25.394	260.0	0.321	5.35	87.2	6.9	0.94	8.7	0.56	0.07	0.08	111	211
123		11.48	11.46	33.459	25.492	250.9	0.355	5.07	82.0	8.9	1.06	11.1	0.32	0.05	0.08	124	210
125	ISL	11.38	11.36	33.465	25.515	248.8	0.360	4.97	80.2	9.6	1.09	11.7	0.28	0.05	0.08	126	
145		10.27	10.25	33.564	25.788	223.0	0.407	3.87	61.0	17.9	1.49	18.7	0.01	0.03	0.08	146	209
150	ISL	10.05	10.03	33.621	25.870	215.3	0.418	3.65	57.3	19.9	1.58	20.1	0.01	0.02	0.08	151	
169		9.39	9.37	33.840	26.151	188.9	0.456	2.99	46.3	26.4	1.86	24.3	0.01	0.00	0.08	170	208
200	ISL	8.96	8.94	33.975	26.326	172.8	0.512	2.58	39.6	31.3	2.04	26.8	0.00	0.01	0.06	201	
203		8.94	8.92	33.978	26.331	172.3	0.517	2.57	39.5	31.6	2.05	26.9	0.00	0.01	0.06	204	207
231		8.47	8.45	33.997	26.419	164.3	0.564	2.62	39.8	34.4	2.10	27.9	0.00			232	206
250	ISL	8.11	8.08	34.010	26.484	158.3	0.595	2.56	38.6	37.1	2.15	28.8	0.01			251	
271		7.75	7.72	34.030	26.553	152.0	0.628	2.49	37.2	40.6	2.23	30.0	0.01			273	205
300	ISL	7.46	7.43	34.076	26.631	144.9	0.671	2.07	30.7	46.2	2.40	32.1	0.00			302	
317		7.32	7.29	34.103	26.672	141.2	0.695	1.79	26.5	49.7	2.50	33.3	0.00			319	204
379		6.65	6.62	34.143	26.796	130.0	0.779	1.12	16.3	61.7	2.79	36.9	0.00			381	203
400	ISL	6.51	6.47	34.167	26.833	126.6	0.806	0.93	13.5	65.0	2.87	37.8	0.00			403	
434		6.31	6.27	34.207	26.892	121.5	0.848	0.67	9.7	70.0	2.99	39.0	0.00			437	202
500	ISL	5.88	5.84	34.264	26.992	112.5	0.925	0.37	5.3	79.3	3.14	40.8	0.00			503	
509		5.82	5.78	34.272	27.006	111.2	0.936	0.33	4.7	80.6	3.16	41.0	0.00			512	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 87 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 59.9 N	122 23.8 W	12/04/97	0348 UTC	4111 m	330 22 kn			1019.6 mb	14.2 C	12.5 C			

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	PRES db	SAMP
0	ISL	14.54	14.54	33.156	24.650	328.1	0.000	5.93	102.1	2.5	0.32	0.1	0.00	0.15	0.05	0	
1		14.54	14.54	33.156	24.650	328.1	0.003	5.93	102.1	2.5	0.32	0.1	0.00	0.15	0.05	1	224
10	ISL	14.57	14.57	33.155	24.643	329.0	0.033	5.92	102.0	2.4	0.31	0.1	0.00	0.14	0.05	10	
14		14.58	14.58	33.155	24.641	329.4	0.046	5.92	102.0	2.4	0.31	0.1	0.00	0.14	0.05	14	219
15		14.57	14.57	33.157	24.645	329.0	0.049									15	223
16		14.58	14.58				0.053									16	220
16		14.58	14.58	33.155	24.641	329.4	0.053									16	221
16		14.57	14.57	33.157	24.645	329.1	0.053									16	222
20	ISL	14.58	14.58	33.154	24.641	329.6	0.066	5.92	102.0	2.4	0.31	0.1	0.00	0.14	0.05	20	
28		14.57	14.57	33.156	24.644	329.4	0.092	5.93	102.2	2.4	0.31	0.1	0.00	0.15	0.04	28	218
30	ISL	14.57	14.57	33.156	24.645	329.5	0.099	5.93	102.2	2.4	0.31	0.1	0.00	0.15	0.04	30	
43		14.56	14.55	33.157	24.648	329.6	0.142	5.94	102.3	2.4	0.31	0.1	0.00	0.15	0.05	43	217
50	ISL	14.53	14.52	33.157	24.654	329.1	0.165	5.95	102.4	2.5	0.32	0.1	0.00	0.16	0.06	50	
54		14.52	14.51	33.157	24.657	329.1	0.178	5.95	102.4	2.5	0.32	0.1	0.00	0.17	0.06	54	216
65		13.40	13.39	33.081	24.829	312.8	0.213	6.04	101.5	3.0	0.38	0.6	0.02	0.61	0.37	65	215
75		12.95	12.94	33.106	24.938	302.6	0.244	5.96	99.3	3.5	0.45	1.5	0.11	0.54	0.47	75	214
86		12.50	12.49	33.168	25.074	289.9	0.276	5.68	93.8	4.4	0.61	3.5	0.33	0.50	0.56	86	213
94		12.01	12.00	33.219	25.207	277.4	0.299	5.38	87.9	6.0	0.76	6.3	0.09	0.29	0.26	94	212
100	ISL	11.60	11.59	33.263	25.317	267.0	0.315	5.10	82.6	7.9	0.90	8.7	0.06	0.20	0.20	100	
108		11.10	11.09	33.327	25.458	253.7	0.336	4.72	75.7	10.7	1.08	11.8	0.02	0.14	0.12	108	211
125		10.50	10.49	33.471	25.676	233.3	0.378	4.19	66.4	15.1	1.33	16.2	0.01	0.07	0.06	126	210
143		9.59	9.57	33.639	25.960	206.4	0.417	3.94	61.2	19.7	1.50	19.5	0.01	0.02	0.04	144	209
150	ISL	9.33	9.31	33.701	26.051	197.9	0.431	3.80	58.7	21.8	1.58	20.8	0.01	0.01	0.04	151	
169		8.82	8.80	33.836	26.238	180.4	0.467	3.45	52.8	26.8	1.78	23.9	0.00	0.00	0.03	170	208
198		8.51	8.49	33.899	26.336	171.6	0.518	3.27	49.7	29.9	1.87	25.5	0.00	0.00	0.02	199	207
200	ISL	8.48	8.46	33.903	26.344	170.9	0.522	3.27	49.7	30.2	1.88	25.6	0.00			201	
230		7.97	7.95	33.958	26.464	159.8	0.571	3.19	47.9	34.5	1.97	27.0	0.00			231	206
250	ISL	7.67	7.65	33.976	26.522	154.5	0.603	3.06	45.6	37.7	2.05	28.2	0.00			251	
268		7.43	7.40	33.986	26.564	150.7	0.630	2.89	42.9	40.8	2.14	29.4	0.00			269	205
300	ISL	7.08	7.05	34.009	26.631	144.6	0.678	2.47	36.3	46.6	2.32	31.7	0.00			302	
319		6.90	6.87	34.022	26.666	141.5	0.705	2.20	32.2	50.1	2.42	33.1	0.00			321	204
381		6.35	6.32	34.069	26.777	131.5	0.789	1.47	21.3	61.4	2.69	36.8	0.00			383	203
400	ISL	6.21	6.17	34.089	26.811	128.5	0.814									402	
431		6.01	5.97	34.123 D	26.863	123.8	0.853	0.78 U	11.2U	74.9 U	2.98 U	40.2 U	0.00 U			434	202
500	ISL	5.57	5.53	34.188	26.969	114.2	0.935									503	
515		5.47	5.43	34.202 D	26.993	112.1	0.952	0.71 U	10.1U	77.3 U	3.03 U	40.6 U	0.00 U			518	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 87 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 38.9 N	123 3.5 W	12/04/97	1104 UTC	4009 m	330 20 kn			1020.0 mb	14.5 C	12.8 C		

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	PRES db	SAMP
0	ISL	14.10	14.10	33.202	24.778	315.9	0.000	6.04	103.1	2.8	0.36	0.1	0.00	0.47	0.19	0	
2		14.10	14.10	33.202	24.778	316.0	0.006	6.04	103.1	2.8	0.36	0.1	0.00	0.47	0.19	2	220
10	ISL	14.11	14.11	33.202	24.776	316.4	0.032	6.03	103.0	2.8	0.35	0.1	0.00	0.48	0.18	10	
15		14.11	14.11	33.202	24.776	316.5	0.047	6.03	103.0	2.8	0.35	0.1	0.00	0.48	0.17	15	219
20	ISL	14.11	14.11	33.203	24.777	316.6	0.063	6.03	103.0	2.8	0.35	0.1	0.00	0.48	0.17	20	
30		14.12	14.12	33.203	24.775	317.0	0.095	6.03	103.0	2.8	0.35	0.1	0.00	0.48	0.18	30	218
45		14.12	14.11	33.203	24.776	317.4	0.143	6.04	103.1	2.8	0.36	0.1	0.00	0.47	0.18	45	217
50	ISL	14.10	14.09	33.202	24.779	317.2	0.158	6.04	103.1	2.8	0.36	0.1	0.01	0.55	0.20	50	
54		14.08	14.07	33.201	24.783	317.0	0.171	6.04	103.1	2.8	0.36	0.1	0.01	0.61	0.21	54	216
64		14.01	14.00	33.201	24.798	315.9	0.203	6.02	102.6	2.8	0.36	0.2	0.01	0.57	0.22	64	215
75	ISL	13.71	13.70	33.199	24.858	310.4	0.237	5.92	100.2	3.1	0.43	0.9	0.06	0.30	0.20	75	
76		13.66	13.65	33.192	24.863	309.9	0.240	5.91	100.0	3.1	0.44	1.0	0.06	0.28	0.20	76	214
83		12.97	12.96	33.205	25.011	295.9	0.261	5.80	96.7	3.7	0.58	2.6	0.24	0.23	0.18	83	213
94		12.38	12.37	33.218	25.136	284.2	0.293	5.52	90.9	4.9	0.72	5.4	0.31	0.17	0.13	94	212
100	ISL	11.98	11.97	33.236	25.226	275.8	0.310	5.35	87.4	6.1	0.82	7.1	0.21	0.13	0.11	100	
110		11.36	11.35	33.280	25.375	261.8	0.337	5.05	81.4	8.5	0.98	9.9	0.03	0.08	0.08	110	211
124		10.80	10.79	33.355	25.533	246.9	0.373	4.67	74.4	11.8	1.17	13.1	0.02	0.06	0.06	125	210
125	ISL	10.77	10.76	33.363	25.545	245.8	0.375	4.64	73.9	12.1	1.18	13.4	0.02	0.06	0.06	126	
144		10.12	10.10	33.537	25.793	222.5	0.420	4.06	63.8	17.2	1.43	17.9	0.01	0.03	0.05	145	209
150	ISL	9.85	9.83	33.596	25.884	213.9	0.433	3.96	61.9	18.8	1.49	19.0	0.01	0.02	0.04	151	
169		9.05	9.03	33.766	26.147	189.1	0.471	3.74	57.5	23.6	1.65	21.9	0.00	0.00	0.02	170	208
198		8.48	8.46	33.894	26.337	171.5	0.523	3.52	53.4	28.8	1.81	24.5	0.00	0.00	0.02	199	207
200	ISL	8.45	8.43	33.901	26.347	170.6	0.527	3.49	53.0	29.2	1.82	24.7	0.00			201	
228		8.00	7.98	33.972	26.470	159.2	0.573	2.97	44.6	35.4	2.04	27.7	0.00			229	206
250	ISL	7.59	7.57	34.000	26.552	151.6	0.607	2.68	39.9	40.5	2.18	29.7	0.00			251	
268		7.27	7.24	34.016	26.610	146.2	0.634	2.46	36.4	44.8	2.29	31.2	0.00			269	205
300	ISL	6.85	6.82	34.047	26.693	138.7	0.679	1.95	28.5	52.4	2.50	33.9	0.00			302	
319		6.65	6.62	34.063	26.732	135.1	0.705	1.65	24.0	56.7	2.62	35.4	0.00			321	204
378		6.09	6.06	34.103	26.837	125.6	0.782	1.08	15.5	67.7	2.87	38.5	0.00			380	203
400	ISL	5.98	5.95	34.125	26.868	122.8	0.810	0.92	13.2	70.7	2.94	39.3	0.00			402	
438		5.84	5.80	34.165	26.918	118.6	0.856	0.69	9.9	75.2	3.03	40.3	0.00			441	202
500	ISL	5.49	5.45	34.211	26.997	111.5	0.927	0.47	6.7	83.2	3.13	41.6	0.00			503	
521		5.37	5.33	34.227	27.024	109.0	0.950	0.39	5.5	85.9	3.17	42.1	0.00			524	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 19.3 N	123 44.6 W	12/04/97	1831 UTC	3852 m	340 17 kn	330 06 05	1	1022.4 mb	17.0 C	15.0 C	29m 02	1/8 CC

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	PRES db	SAMP
0	ISL	14.49	14.49	33.120	24.633	329.7	0.000	5.95	102.3	2.2	0.33	0.0	0.00	0.15	0.04	0	
2	B	14.49	14.49	33.120	24.633	329.8	0.007	5.95	102.3	2.2	0.33	0.0	0.00	0.15	0.04	2	223
2		14.48	14.48	33.120	24.635	329.6	0.007									2	224
9		14.47	14.47	33.121	24.638	329.5	0.030	5.96	102.5	2.2	0.33	0.0	0.00	0.15	0.04	9	222
10	ISL	14.47	14.47	33.121	24.638	329.5	0.033	5.96	102.5	2.2	0.33	0.0	0.00	0.15	0.04	10	
18	B	14.44	14.44	33.120	24.644	329.2	0.059	5.96	102.4	2.1	0.33	0.0	0.01	0.16	0.04	18	221
20	ISL	14.44	14.44	33.120	24.644	329.3	0.066	5.96	102.4	2.1	0.33	0.0	0.01	0.16	0.04	20	
29		14.43	14.43	33.120	24.646	329.3	0.096	5.95	102.2	2.0	0.32	0.0	0.00	0.16	0.04	29	220
30	ISL	14.43	14.43	33.120	24.646	329.3	0.099	5.95	102.2	2.0	0.32	0.0	0.00	0.16	0.04	30	
39	B	14.43	14.42	33.120	24.647	329.6	0.128	5.95	102.2	2.0	0.33	0.0	0.00	0.16	0.05	39	219
50		14.43	14.42	33.120	24.647	329.8	0.165	5.95	102.2	2.0	0.33	0.0	0.00	0.17	0.04	50	218
59	B	14.43	14.42	33.120	24.647	330.1	0.194	5.94	102.0	2.0	0.32	0.0	0.00	0.17	0.05	59	217
68		14.37	14.36	33.120	24.660	329.1	0.224	5.96	102.2	2.0	0.32	0.0	0.00	0.22	0.07	68	216
75	ISL	14.28	14.27	33.117	24.677	327.7	0.247	5.98	102.4	2.1	0.33	0.0	0.00	0.31	0.12	75	
78	B	14.24	14.23	33.115	24.684	327.1	0.257	5.99	102.5	2.1	0.33	0.0	0.00	0.35	0.14	78	215
87		14.19	14.18	33.114	24.694	326.4	0.286	5.99	102.4	2.1	0.33	0.0	0.00	0.39	0.19	87	214
97		14.02	14.01	33.112	24.728	323.4	0.319	5.94	101.2	2.2	0.34	0.1	0.01	0.50	0.25	97	213
100	ISL	13.79	13.78	33.106	24.771	319.4	0.328	5.92	100.3	2.4	0.37	0.4	0.04	0.47	0.29	100	
105	B	13.39	13.38	33.098	24.846	312.3	0.344	5.90	99.2	2.7	0.43	1.0	0.11	0.41	0.34	105	212
114		13.09	13.07	33.104	24.910	306.4	0.372	5.87	98.1	3.0	0.48	1.5	0.18	0.35	0.32	114	211
124		12.63	12.61	33.150	25.036	294.5	0.402	5.70	94.3	3.8	0.60	3.2	0.41	0.23 A	0.22 A	125	210
125	ISL	12.56	12.54	33.155	25.053	292.9	0.405	5.67	93.7	4.0	0.62	3.5	0.39	0.22	0.21	126	
138		11.64	11.62	33.235	25.289	270.6	0.442	5.24	85.0	6.8	0.85	7.9	0.04	0.13	0.13	139	209
150	ISL	10.95	10.93	33.332	25.489	251.7	0.473	4.86	77.7	9.9	1.04	11.4	0.03	0.08	0.08	151	
165		10.22	10.20	33.466	25.721	229.8	0.509	4.42	69.6	14.3	1.26	15.3	0.02	0.04	0.04	166	208
193		9.04	9.02	33.722	26.115	192.6	0.568	3.81	58.5	23.5	1.65	22.0	0.01	0.00	0.02	194	207
200	ISL	8.88	8.86	33.772	26.179	186.6	0.582	3.65	55.9	25.2	1.72	23.1	0.01			201	
229		8.44	8.42	33.920	26.364	169.5	0.633	3.10	47.0	31.0	1.94	26.3	0.01			230	206
250	ISL	8.07	8.04	33.961	26.452	161.4	0.668	3.06	46.0	34.0	2.00	27.4	0.01			251	
269		7.74	7.71	33.976	26.512	155.8	0.698	3.02	45.1	36.8	2.05	28.2	0.01			270	205
300	ISL	7.26	7.23	34.002	26.601	147.6	0.745	2.65	39.1	43.5	2.23	30.7	0.00			302	
317		7.02	6.99	34.012	26.642	143.8	0.770	2.40	35.3	47.4	2.34	32.1	0.00			319	204
376		6.31	6.28	34.036	26.756	133.4	0.852	1.74	25.1	59.4	2.63	36.1	0.00			378	203
400	ISL	6.13	6.09	34.053	26.792	130.1	0.883	1.50	21.6	63.5	2.73	37.4	0.00			402	
437		5.91	5.87	34.082	26.843	125.6	0.931	1.16	16.6	69.3	2.86	39.0	0.01			440	202
500	ISL	5.51	5.47	34.139	26.938	117.1	1.007	0.76	10.8	79.3	3.03	41.1	0.01			503	
513		5.43	5.39	34.151	26.957	115.4	1.022	0.68	9.6	81.4	3.06	41.5	0.01			516	201

A) SECOND FLUOROMETER READING NOT RECORDED, CHLOROPHYLL AND PHAEOPIGMENT CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.
B) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9704 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 46.4 W	09/04/97	0535 UTC	79 m	00 kn			1015.9 mb	16.3 C	14.5 C			

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	PRES db	SAMP
0	ISL	16.82	16.82	33.576	24.465	345.7	0.000	5.75	103.9	2.3	0.30	0.0	0.00	0.16	0.04	0	
2		16.82	16.82	33.576	24.465	345.8	0.007	5.75	103.9	2.3	0.30	0.0	0.00	0.16	0.04	2	208
9		16.80	16.80	33.577	24.470	345.5	0.031	5.75	103.9	2.2	0.30	0.0	0.00	0.17	0.04	9	207
10	ISL	16.76	16.76	33.567	24.472	345.4	0.035	5.75	103.8	2.2	0.30	0.0	0.00	0.24	0.07	10	
19		16.43	16.43	33.573	24.554	337.9	0.065	5.79	103.8	2.3	0.30	0.0	0.00	0.75	0.33	19	206
20	ISL	16.28	16.28	33.566	24.583	335.2	0.069	5.83	104.2	2.3	0.31	0.0	0.00	0.68	0.29	20	
29		14.77	14.77	33.509	24.874	307.6	0.098	6.02	104.4	3.3	0.36	0.1	0.00	0.20	0.05	29	205
30	ISL	14.63	14.63	33.507	24.902	305.0	0.101	5.99	103.6	3.5	0.38	0.4	0.01	0.32	0.11	30	
39		13.52	13.51	33.508	25.135	283.1	0.127	5.42	91.6	5.9	0.62	4.1	0.15	1.47	0.73	39	204
49		12.66	12.65	33.531	25.324	265.3	0.155	4.52	75.0	10.1	1.06	9.8	0.38	1.19	0.80	49	203
50	ISL	12.57	12.56	33.532	25.342	263.6	0.157	4.44	73.6	10.6	1.11	10.4	0.38	1.12	0.78	50	
59		11.81	11.80	33.567	25.514	247.4	0.180	3.86	62.9	14.5	1.44	15.3	0.33	0.50	0.54	59	202
70		11.12	11.11	33.692	25.738	226.3	0.206	3.58	57.6	16.9	1.44	16.9	0.07	0.18	0.29	70	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 24.8 N	117 54.3 W	09/04/97	0236 UTC	615 m	230 10 kn	290 01 04	1	1015.6 mb	16.9 C	15.0 C		2/8	CC

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	PRES db	SAMP
0	ISL	16.83	16.83	33.580	24.465	345.7	0.000	5.87	106.1	2.3	0.26	0.0	0.00	0.27	0.07	0	
2		16.83	16.83	33.580	24.466	345.7	0.007	5.87	106.1	2.3	0.26	0.0	0.00	0.27	0.07	2	220
10		16.59	16.59	33.578	24.520	340.8	0.034	5.84	105.0	2.2	0.27	0.0	0.00	0.26	0.06	10	219
20		15.50	15.50	33.519	24.722	321.9	0.068	6.05	106.5	2.3	0.31	0.0	0.00	0.19	0.09	20	218
30		13.93	13.93	33.477	25.026	293.1	0.098	5.69	97.0	4.4	0.49	2.0	0.03	0.87	0.51	30	217
40		12.68	12.67	33.540	25.326	264.8	0.126	4.70	78.1	8.5	0.89	8.2	0.30	0.96	0.81	40	216
50		11.53	11.52	33.605	25.595	239.4	0.151	4.00	64.9	13.4	1.23	14.1	0.06	0.37	0.42	50	215
60		11.07	11.06	33.663	25.724	227.4	0.175	3.66	58.8	16.3	1.40	16.7	0.02	0.17	0.29	60	214
70		10.80	10.79	33.739	25.831	217.4	0.197	3.34	53.4	18.9	1.55	18.7	0.02	0.10	0.19	70	213
75	ISL	10.66	10.65	33.758	25.871	213.7	0.208	3.26	51.9	19.8	1.59	19.4	0.02	0.08	0.16	75	
84		10.40	10.39	33.780	25.933	207.9	0.227	3.20	50.7	21.0	1.64	20.2	0.01	0.05	0.13	84	212
99		10.00	9.99	33.821	26.034	198.7	0.257	3.22	50.6	22.5	1.71	21.2	0.01	0.02	0.07	100	211
100	ISL	9.98	9.97	33.823	26.039	198.2	0.259	3.22	50.5	22.6	1.71	21.3	0.01	0.02	0.07	101	
119		9.56	9.55	33.867	26.143	188.6	0.296	3.17	49.3	24.7	1.78	22.6	0.01	0.02	0.06	120	210
125	ISL	9.43	9.42	33.884	26.178	185.4	0.307	3.14	48.7	25.6	1.81	23.1	0.01	0.02	0.06	126	
139		9.18	9.16	33.930	26.254	178.4	0.333	3.03	46.8	27.7	1.89	24.2	0.01	0.01	0.05	140	209
150	ISL	9.14	9.12	33.975	26.296	174.6	0.352	2.87	44.3	29.2	1.96	25.0	0.01	0.01	0.05	151	
169		9.08	9.06	34.041	26.358	169.2	0.385	2.60	40.1	31.7	2.06	26.1	0.01	0.01	0.05	170	208
199		8.52	8.50	34.066	26.465	159.3	0.434	2.55	38.8	35.3	2.14	27.4	0.01	0.01	0.05	200	207
200	ISL	8.53	8.51	34.070	26.467	159.2	0.436	2.52	38.4	35.5	2.15	27.5	0.01			201	
229		8.80	8.78	34.205	26.531	153.8	0.481	1.65	25.3	40.0	2.42	29.5	0.01			230	206
250	ISL	8.68	8.65	34.244	26.581	149.5	0.513	1.37	20.9	42.9	2.53	30.5	0.00			251	
269		8.49	8.46	34.261	26.624	145.7	0.541	1.24	18.9	45.1	2.59	31.2	0.00			271	205
300	ISL	8.39	8.36	34.296	26.667	142.1	0.585	0.97	14.7	47.8	2.69	32.1	0.00			302	
318		8.33	8.30	34.309	26.687	140.6	0.611	0.85	12.9	49.3	2.74	32.5	0.00			320	204
374		7.74	7.70	34.292	26.762	134.1	0.688	0.72	10.8	55.2	2.85	34.2	0.00			376	203
400	ISL	7.48	7.44	34.300	26.806	130.2	0.722	0.61	9.1	59.0	2.92	35.2	0.00			403	
436		7.14	7.10	34.314	26.865	124.9	0.768	0.46	6.8	64.2	3.01	36.5	0.00			439	202
500	ISL	6.56	6.51	34.317	26.947	117.6	0.846									503	
510		6.47	6.42	34.318 D	26.959	116.4	0.857									514	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 15.1 N	118 15.0 W	08/04/97	2209 UTC	322 m	270 11 kn	270 01 05	1	1017.0 mb	19.0 C	16.2 C	18m 02	2/8	CC

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	PRES db	SAMP
0	ISL	16.54	16.54	33.555	24.514	341.1	0.000	5.77	103.7	2.3	0.32	0.0	0.00	0.17	0.03	0	
1		16.54	16.54	33.555	24.514	341.1	0.003	5.77	103.7	2.3	0.32	0.0	0.00	0.17	0.03	1	217
1		16.45	16.45	33.555	24.534	339.1	0.003									1	218
10		16.19	16.19	33.554	24.594	333.8	0.034	5.79	103.3	2.3	0.32	0.0	0.00	0.17	0.05	10	216
20		16.06	16.06	33.550	24.620	331.6	0.067	5.80	103.2	2.2	0.32	0.0	0.00	0.22	0.07	20	215
30		14.65	14.65	33.504	24.896	305.6	0.099	5.93	102.6	3.5	0.37	0.3	0.01	1.25	0.76	30	214
38		13.35	13.34	33.473	25.142	282.3	0.122	5.25	88.4	6.1	0.68	5.0	0.16	1.08	0.86	38	213
49		12.39	12.38	33.555	25.394	258.5	0.152	4.42	73.0	9.9	1.01	10.4	0.30	0.67	0.67	49	212
50	ISL	12.27	12.26	33.565	25.425	255.6	0.155	4.34	71.5	10.5	1.05	11.1	0.28	0.62	0.63	50	
59		11.30	11.29	33.651	25.673	232.2	0.177	3.73	60.2	15.1	1.36	16.1	0.05	0.28	0.33	59	211
70		11.04	11.03	33.686	25.747	225.4	0.202	3.61	57.9	16.4	1.42	17.2	0.03	0.18	0.25	70	210
75	ISL	10.91	10.90	33.707	25.787	221.7	0.213	3.52	56.4	17.2	1.47	17.9	0.03	0.15	0.22	75	
84		10.63	10.62	33.757	25.875	213.5	0.233	3.32	52.8	19.0	1.58	19.5	0.02	0.10	0.16	84	209
99		10.01	10.00	33.886	26.083	194.0	0.263	2.87	45.1	23.7	1.82	22.8	0.01	0.02	0.08	99	208
100	ISL	9.99	9.98	33.894	26.092	193.1	0.265	2.84	44.6	24.0	1.83	23.0	0.01	0.02	0.08	101	
119		9.71	9.70	34.015	26.234	180.0	0.300	2.39	37.3	28.0	2.05	25.5	0.01	0.01	0.07	120	207
125	ISL	9.67	9.66	34.040	26.260	177.7	0.311	2.29	35.7	28.8	2.10	26.0	0.01	0.01	0.06	126	
138		9.61	9.59	34.083	26.304	173.8	0.334	2.11	32.9	30.1	2.17	26.8	0.01	0.01	0.05	139	206
150	ISL	9.51	9.49	34.115	26.346	170.1	0.355	2.01	31.3	31.3	2.22	27.4	0.01	0.01	0.05	151	
169		9.32	9.30	34.152	26.406	164.7	0.386	1.89	29.3	33.0	2.28	28.1	0.01	0.00	0.05	170	205
198		9.07	9.05	34.186	26.473	158.8	0.433	1.71	26.4	35.7	2.37	29.1	0.03	0.01	0.07	199	204
200	ISL	9.06	9.04	34.189	26.477	158.5	0.437	1.69	26.0	35.9	2.38	29.2	0.03			201	
227		8.88	8.86	34.232	26.540	153.0	0.479	1.41	21.6	38.7	2.49	30.3	0.03			228	203
250	ISL	8.79	8.76	34.259	26.576	150.1	0.513	1.24	19.0	40.3	2.55	30.9	0.03			251	
268		8.71	8.68	34.274	26.600	148.1	0.540	1.13	17.3	41.6	2.59	31.3	0.02			270	202
300	ISL	8.40	8.37	34.287	26.659	143.0	0.587	0.96	14.6	45.1	2.69	32.5	0.01			302	
303		8.37	8.34	34.288	26.664	142.5	0.591	0.94	14.3	45.4	2.70	32.6	0.01			305	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 11.2 N	118 23.6 W	08/04/97	1818 UTC	1181 m	090 03 kn	270 01 06	0	1018.5 mb	18.6 C	15.9 C	23m 02	0/8

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	PRES db	SAMP
0	ISL	16.30	16.30	33.578	24.587	334.1	0.000	5.82	104.1	2.2	0.31	0.1	0.01	0.21	0.04	0	
3		16.31	16.31	33.572	24.580	334.9	0.010									3	224
3	A	16.30	16.30	33.578	24.587	334.2	0.010	5.82	104.1	2.2	0.31	0.1	0.01	0.21	0.04	3	223
8		16.24	16.24	33.571	24.595	333.6	0.027	5.83	104.1	2.1	0.30	0.0	0.00	0.21	0.05	8	222
10	ISL	16.23	16.23	33.571	24.598	333.4	0.033	5.83	104.1	2.1	0.30	0.0	0.00	0.21	0.05	10	
15	A	16.22	16.22	33.572	24.601	333.3	0.050	6.02 U	107.5 U	2.1	0.29	0.0	0.00	0.21	0.05	15	221
20	ISL	16.15	16.15	33.571	24.616	332.0	0.067	5.85	104.3	2.0	0.28	0.0	0.00	0.22	0.06	20	
24		16.10	16.10	33.571	24.628	331.0	0.080	5.86	104.4	2.0	0.28	0.0	0.00	0.22	0.06	24	220
30	ISL	14.79	14.79	33.514	24.874	307.7	0.099	6.10	105.8	2.7	0.33	0.2	0.00	0.41	0.21	30	
32	A	14.29	14.29	33.499	24.968	298.7	0.105	6.12	105.1	3.1	0.35	0.2	0.00	0.53	0.29	32	219
41		12.94	12.93	33.504	25.248	272.3	0.131	5.07	84.7	7.3	0.77	6.5	0.17	1.51	0.89	41	218
47	A	12.11	12.10	33.538	25.435	254.6	0.147	4.42	72.5	10.9	1.08	11.4	0.22	0.57	0.43	47	217
50	ISL	11.90	11.89	33.550	25.484	250.0	0.154	4.26	69.6	11.8	1.15	12.5	0.17	0.41	0.35	50	
53		11.74	11.73	33.564	25.524	246.2	0.162	4.15	67.6	12.5	1.19	13.2	0.11	0.35	0.32	53	216
61	A	11.15	11.14	33.644	25.695	230.2	0.181	3.74	60.2	15.8	1.39	16.4	0.05	0.22	0.26	61	215
73		10.62	10.61	33.652	25.795	220.8	0.208	3.69	58.7	17.8	1.50	18.1	0.03	0.11	0.17	73	214
75	ISL	10.55	10.54	33.676	25.826	218.0	0.212	3.61	57.3	18.4	1.52	18.5	0.02	0.10	0.15	75	
82	A	10.38	10.37	33.762	25.922	208.9	0.227	3.36	53.2	20.2	1.60	19.8	0.01	0.06	0.11	82	213
91		10.31	10.30	33.785	25.953	206.2	0.246	3.32	52.5	21.0	1.64	20.4	0.01	0.05	0.10	91	212
99		10.14	10.13	33.819	26.008	201.1	0.262	3.15	49.6	22.5	1.72	21.4	0.01	0.03	0.09	99	211
100	ISL	10.12	10.11	33.824	26.016	200.4	0.264	3.13	49.3	22.7	1.73	21.5	0.01	0.03	0.09	101	
118		9.88	9.87	33.917	26.129	190.0	0.299	2.80	43.9	25.7	1.88	23.4	0.01	0.01	0.08	119	210
125	ISL	9.81	9.80	33.955	26.171	186.2	0.312	2.65	41.5	27.0	1.95	24.2	0.01	0.01	0.07	126	
139		9.67	9.65	34.027	26.250	178.9	0.338	2.35	36.7	29.5	2.08	25.7	0.01	0.01	0.06	140	209
150	ISL	9.57	9.55	34.075	26.305	174.0	0.357	2.16	33.7	31.3	2.17	26.6	0.01	0.01	0.05	151	
168		9.39	9.37	34.132	26.379	167.3	0.388	1.95	30.3	33.8	2.27	27.6	0.01	0.01	0.05	169	208
197		8.94	8.92	34.151	26.467	159.4	0.435	1.99	30.6	36.1	2.28	28.4	0.01	0.00	0.05	198	207
200	ISL	8.91	8.89	34.157	26.476	158.5	0.440	1.96	30.1	36.5	2.29	28.5	0.01			201	
228		8.68	8.66	34.208	26.552	151.8	0.484	1.61	24.6	40.4	2.44	30.0	0.01			229	206
250	ISL	8.35	8.32	34.194	26.592	148.2	0.517	1.62	24.6	43.1	2.48	30.8	0.01			251	
267		8.11	8.08	34.179	26.617	146.1	0.542	1.62	24.4	45.1	2.50	31.4	0.01			269	205
300	ISL	7.92	7.89	34.223	26.680	140.6	0.589	1.22	18.3	49.6	2.65	33.0	0.00			302	
317		7.86	7.83	34.252	26.712	137.9	0.613	0.97	14.6	51.9	2.74	33.8	0.00			319	204
379		7.39	7.35	34.291	26.811	129.2	0.695	0.59	8.8	59.8	2.93	35.8	0.00			381	203
400	ISL	7.27	7.23	34.299	26.835	127.2	0.722	0.52	7.7	61.7	2.97	36.3	0.00			403	
440		7.03	6.99	34.310	26.877	123.7	0.773	0.42	6.2	65.4	3.04	37.2	0.00			443	202
500	ISL	6.50	6.45	34.320	26.957	116.5	0.845	0.31	4.5	73.2	3.12	38.9	0.00			503	
513		6.38	6.33	34.323	26.975	114.9	0.860	0.29	4.2	74.9	3.14	39.3	0.00			517	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 55.3 N	118 56.4 W	08/04/97	0658 UTC	1693 m	280 15 kn			1018.0 mb	15.2 C	13.4 C		

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	PRES db	SAMP
0	ISL	15.55	15.55	33.535	24.723	321.2	0.000	5.81	102.4	2.4	0.33	0.0	0.00	0.26	0.08	0	
2		15.55	15.55	33.535	24.723	321.2	0.006	5.81	102.4	2.4	0.33	0.0	0.00	0.26	0.08	2	220
10	ISL	15.56	15.56	33.535	24.721	321.7	0.032	5.80	102.2	2.4	0.32	0.0	0.00	0.25	0.09	10	
14		15.56	15.56	33.535	24.721	321.8	0.045	5.80	102.2	2.4	0.32	0.0	0.00	0.25	0.09	14	219
20	ISL	15.37	15.37	33.534	24.762	318.0	0.064	5.83	102.3	2.5	0.33	0.2	0.01	0.32	0.13	20	
30		15.06	15.06	33.532	24.829	312.0	0.096	5.87	102.4	2.7	0.35	0.4	0.02	0.44	0.19	30	218
44		12.62	12.61	33.577	25.367	261.0	0.136	4.75	78.8	9.1	0.90	8.3	0.30	1.22	0.86	44	217
50	ISL	11.87	11.86	33.596	25.525	246.1	0.151	4.35	71.0	11.8	1.12	11.9	0.26	0.87	0.65	50	
54		11.47	11.46	33.609	25.609	238.1	0.161	4.13	66.9	13.5	1.24	14.1	0.23	0.57	0.46	54	216
64		10.84	10.83	33.648	25.753	224.6	0.184	3.84	61.4	17.0	1.43	17.3	0.05	0.34	0.26	64	215
74		10.53	10.52	33.679	25.832	217.4	0.206	3.62	57.5	18.9	1.54	19.0	0.03	0.20	0.19	74	214
75	ISL	10.50	10.49	33.686	25.842	216.4	0.208	3.59	57.0	19.2	1.55	19.2	0.03	0.19	0.18	75	
84		10.18	10.17	33.758	25.954	206.0	0.227	3.29	51.9	22.0	1.68	21.0	0.01	0.11	0.14	84	213
95		9.75	9.74	33.823	26.077	194.4	0.249	3.05	47.6	24.4	1.80	23.0	0.01	0.04	0.08	95	212
100	ISL	9.64	9.63	33.848	26.115	190.9	0.259	2.97	46.3	25.4	1.84	23.6	0.01	0.03	0.08	101	
108		9.53	9.52	33.880	26.158	187.0	0.274	2.87	44.6	26.7	1.90	24.2	0.01	0.02	0.08	109	211
124		9.35	9.34	33.922	26.220	181.3	0.303	2.74	42.4	28.3	1.97	25.2	0.01	0.01	0.07	125	210
125	ISL	9.34	9.33	33.925	26.224	181.0	0.305	2.73	42.3	28.4	1.97	25.2	0.01	0.01	0.07	126	
144		9.17	9.15	33.987	26.301	174.1	0.339	2.54	39.2	30.7	2.06	26.3	0.01	0.01	0.07	145	209
150	ISL	9.08	9.06	34.013	26.335	170.9	0.349	2.44	37.6	31.9	2.11	26.9	0.01	0.01	0.06	151	
168		8.80	8.78	34.088	26.439	161.4	0.379	2.14	32.8	35.4	2.25	28.6	0.01	0.00	0.05	169	208
197		8.64	8.62	34.150	26.513	154.9	0.425	1.85	28.2	38.9	2.37	29.8	0.01	0.00	0.11	198	207
200	ISL	8.62	8.60	34.154	26.519	154.3	0.430	1.82	27.8	39.2	2.38	29.9	0.01			201	
228		8.44	8.42	34.187	26.573	149.7	0.472	1.55	23.6	42.5	2.49	31.1	0.02			229	206
250	ISL	8.20	8.17	34.213	26.630	144.6	0.505	1.31	19.8	46.2	2.59	32.3	0.02			251	
268		8.00	7.97	34.232	26.675	140.6	0.530	1.13	17.0	49.2	2.67	33.2	0.01			270	205
300	ISL	7.76	7.73	34.253	26.727	136.0	0.575	0.92	13.8	53.1	2.77	34.4	0.00			302	
318		7.64	7.61	34.261	26.751	134.0	0.599	0.83	12.4	55.1	2.82	34.9	0.00			320	204
379		7.18	7.14	34.284	26.835	126.8	0.678	0.56	8.3	62.2	2.97	36.7	0.00			381	203
400	ISL	7.05	7.01	34.289	26.857	124.9	0.705	0.53	7.8	64.1	3.01	37.1	0.00			403	
438		6.83	6.79	34.297	26.894	121.9	0.752	0.50	7.3	67.5	3.06	37.9	0.00			441	202
500	ISL	6.40	6.35	34.318	26.968	115.3	0.825	0.33	4.8	74.7	3.15	39.4	0.00			503	
515		6.29	6.24	34.323	26.987	113.7	0.842	0.29	4.2	76.4	3.17	39.8	0.00			519	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 38.9 N	119 29.6 W	08/04/97	0118	UTC	1288 m	300	15 kn	300 03 05	0	1019.0 mb	15.2 C	13.7 C			

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	PRES db	SAMP
0	ISL	14.59	14.59	33.556	24.948	299.7	0.000	6.07	104.9	4.3	0.40	1.4	0.05	0.70	0.21	0	
2		14.59	14.59	33.556	24.948	299.8	0.006	6.07	104.9	4.3	0.40	1.4	0.05	0.70	0.21	2	223
2		14.60	14.60	33.556	24.946	300.0	0.006									2	224
9		14.60	14.60	33.559	24.948	300.0	0.027									9	221
9		14.60	14.60	33.558	24.948	300.0	0.027									9	222
9		14.53	14.53	33.553	24.959	299.0	0.027	6.07	104.8	4.2	0.40	1.5	0.06	0.70	0.23	9	219
9		14.59	14.59				0.027									9	220
10	ISL	14.51	14.51	33.552	24.962	298.7	0.030	6.06	104.6	4.2	0.40	1.5	0.06	0.72	0.24	10	
19		14.22	14.22	33.544	25.017	293.7	0.057	6.01	103.1	4.8	0.44	2.1	0.07	0.95	0.32	19	218
20	ISL	14.21	14.21	33.543	25.019	293.6	0.060	6.00	102.9	4.9	0.44	2.2	0.07	0.96	0.33	20	
30		13.82	13.82	33.542	25.099	286.2	0.089	5.71	97.1	5.4	0.54	3.4	0.14	1.01	0.43	30	217
40		12.36	12.35	33.568	25.410	256.8	0.116	4.94	81.5	9.7	0.90	9.0	0.30	0.93	0.48	40	216
50		10.93	10.92	33.618	25.713	228.1	0.140	3.99	63.9	15.8	1.38	16.3	0.25	0.43	0.30	50	215
60		10.29	10.28	33.722	25.906	209.9	0.162	3.39	53.6	20.4	1.62	20.3	0.05	0.21	0.18	60	214
69		9.90	9.89	33.794	26.029	198.5	0.180	3.12	48.9	23.7	1.76	22.3	0.02	0.08	0.13	69	213
75	ISL	9.81	9.80	33.813	26.059	195.7	0.192	3.05	47.7	24.4	1.79	22.8	0.02	0.07	0.11	75	
84		9.71	9.70	33.829	26.088	193.1	0.210	3.00	46.8	25.0	1.82	23.2	0.01	0.05	0.09	84	212
100		9.11	9.10	33.905	26.245	178.4	0.239	2.84	43.8	29.1	1.95	25.5	0.01	0.01	0.06	101	211
119		8.80	8.79	33.970	26.345	169.2	0.272	2.66	40.7	32.0	2.05	26.9	0.01	0.00	0.04	120	210
125	ISL	8.70	8.69	33.990	26.377	166.4	0.282	2.62	40.0	32.9	2.08	27.2	0.01	0.00	0.05	126	
139		8.50	8.49	34.032	26.441	160.5	0.305	2.52	38.3	35.1	2.14	28.0	0.01	0.01	0.06	140	209
150	ISL	8.36	8.34	34.054	26.479	157.0	0.323	2.40	36.4	36.9	2.20	28.7	0.01	0.01	0.05	151	
167		8.24	8.22	34.090	26.526	152.9	0.349	2.15	32.5	39.5	2.29	29.7	0.02	0.01	0.04	168	208
197		8.38	8.36	34.198	26.590	147.4	0.394	1.52	23.1	43.2	2.49	31.1	0.01	0.00	0.04	198	207
200	ISL	8.37	8.35	34.204	26.596	146.9	0.399	1.48	22.5	43.6	2.50	31.2	0.01			201	
226		8.24	8.22	34.234	26.640	143.2	0.436	1.24	18.8	46.6	2.60	32.2	0.01			227	206
250	ISL	8.07	8.04	34.250	26.678	139.9	0.470	1.06	16.0	49.3	2.68	33.1	0.01			252	
268		7.93	7.90	34.258	26.706	137.6	0.495	0.95	14.3	51.2	2.74	33.8	0.01			270	205
300	ISL	7.75	7.72	34.271	26.743	134.6	0.539	0.79	11.8	54.2	2.80	34.6	0.01			302	
320		7.62	7.59	34.277	26.767	132.6	0.565	0.71	10.6	56.4	2.84	35.1	0.01			322	204
378		6.95	6.91	34.296	26.876	122.7	0.639	0.47	6.9	65.9	3.01	37.5	0.00			380	203
400	ISL	6.77	6.73	34.301	26.905	120.2	0.666	0.42	6.1	68.5	3.05	38.0	0.00			403	
433		6.56	6.52	34.308	26.939	117.3	0.705	0.37	5.4	71.9	3.10	38.6	0.00			436	202
500	ISL	6.24	6.20	34.326	26.995	112.6	0.782	0.28	4.0	77.5	3.15	39.6	0.00			503	
515		6.17	6.12	34.330	27.008	111.6	0.799	0.26	3.8	78.8	3.16	39.8	0.00			519	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 24.8 N	119 57.7 W	07/04/97	1843	UTC	844 m	300	14 kn	330 03 05	2	1022.2 mb	14.8 C	13.0 C	18m	8/8	CI

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	PRES db	SAMP
0	ISL	14.91	14.91	33.234	24.631	329.9	0.000	5.87	101.9	1.9	0.33	0.0	0.00	0.19	0.04	0	
2		14.91	14.91	33.228	24.626	330.4	0.007			2.1	0.37	0.0	0.00			2	224
2	A	14.91	14.91	33.234	24.631	330.0	0.007	5.87	101.9	1.9	0.33	0.0	0.00	0.19	0.04	2	223
10	ISL	14.89	14.89	33.228	24.631	330.2	0.033	5.89	102.2	1.9	0.33	0.0	0.00	0.19	0.05	10	
11	A	14.89	14.89	33.227	24.630	330.3	0.036	5.89	102.2	1.9	0.33	0.0	0.00	0.19	0.05	11	222
20	ISL	14.81	14.81	33.223	24.645	329.2	0.066	5.91	102.4	2.1	0.34	0.0	0.00	0.23	0.06	20	
24	A	14.78	14.78	33.221	24.650	328.8	0.079	5.92	102.5	2.2	0.35	0.0	0.00	0.25	0.06	24	221
30	ISL	14.61	14.61	33.209	24.677	326.4	0.099	5.93	102.3	2.3	0.36	0.0	0.00	0.36	0.12	30	
36	A	14.36	14.35	33.196	24.720	322.5	0.118	5.94	101.9	2.3	0.37	0.0	0.01	0.49	0.19	36	220
42		14.03	14.02	33.188	24.783	316.7	0.137	5.96	101.6	2.6	0.39	0.4	0.03	0.62	0.27	42	219
48	A	13.22	13.21	33.168	24.932	302.5	0.156	5.72	95.9	3.7	0.56	2.7	0.10	0.44	0.22	48	218
50	ISL	13.05	13.04	33.175	24.971	298.8	0.162	5.65	94.4	4.0	0.60	3.3	0.14	0.42	0.23	50	
57		12.65	12.64	33.216	25.082	288.5	0.183	5.44	90.1	4.7	0.69	4.8	0.24	0.37	0.25	57	217
66	A	12.32	12.31	33.264	25.183	279.1	0.208	5.34	87.9	5.8	0.78	6.4	0.24	0.26	0.18	66	216
74		11.92	11.91	33.276	25.268	271.1	0.230	5.16	84.2	7.1	0.90	8.2	0.21	0.22	0.16	74	215
75	ISL	11.86	11.85	33.283	25.284	269.6	0.233	5.13	83.6	7.3	0.92	8.5	0.21	0.21	0.16	75	
84		11.38	11.37	33.359	25.432	255.7	0.256	4.83	77.9	9.4	1.06	11.1	0.19	0.15	0.12	84	214
94		11.18	11.17	33.412	25.509	248.5	0.282	4.67	75.1	11.0	1.14	12.5	0.17	0.12	0.12	94	213
100	ISL	10.92	10.91	33.456	25.590	241.0	0.296	4.48	71.6	12.6	1.22	14.0	0.12	0.10	0.11	100	
109		10.49	10.48	33.527	25.721	228.7	0.318	4.17	66.1	15.2	1.35	16.3	0.05	0.07	0.08	110	212
124		10.06	10.05	33.623	25.870	214.8	0.351	3.81	59.8	18.6	1.51	19.2	0.01	0.03	0.05	125	211
125	ISL	10.01	10.00	33.635	25.887	213.1	0.353	3.80	59.6	18.9	1.52	19.4	0.01	0.03	0.05	126	
143		9.08	9.06	33.844	26.203	183.3	0.389	3.63	55.9	24.2	1.68	22.4	0.01	0.00	0.03	144	209
144		9.08	9.06	33.780 U			0.390									145	210
150	ISL	8.92	8.90	33.874	26.252	178.7	0.401	3.59	55.1	25.4	1.71	22.9	0.01	0.00	0.03	151	
169		8.69	8.67	33.905	26.312	173.3	0.435	3.46	52.8	27.9	1.79	24.0	0.01	0.00	0.02	170	208
198		8.26	8.24	33.986	26.442	161.4	0.483	3.00	45.4	33.6	2.01	26.9	0.01	0.00	0.03	199	207
200	ISL	8.25	8.23	33.993	26.449	160.8	0.486	2.95	44.6	34.0	2.03	27.1	0.01			201	
228		8.19	8.17	34.086	26.531	153.5	0.530	2.24	33.8	39.2	2.26	29.6	0.01			229	206
250	ISL	8.02	7.99	34.113	26.578	149.4	0.564	1.99	29.9	42.4	2.38	30.8	0.01			251	
267		7.89	7.86	34.128	26.609	146.7	0.589	1.84	27.6	44.7	2.45	31.6	0.01			269	205
300	ISL	7.84	7.81	34.204	26.677	140.8	0.636	1.29	19.3	49.4	2.64	33.1	0.00			302	
317		7.82	7.79	34.242	26.710	138.0	0.660	1.02	15.3	51.8	2.73	33.9	0.00			319	204
378		7.23	7.19	34.283	26.827	127.5	0.741	0.60	8.9	61.1	2.95	36.4	0.00			380	203
400	ISL	7.10	7.06	34.291	26.852	125.5	0.769	0.52	7.7	63.2	2.99	36.9	0.00			403	
438		6.91	6.87	34.303	26.888	122.5	0.816	0.44	6.5	66.4	3.04	37.6	0.00			441	202
500	ISL	6.48	6.43	34.328	26.966	115.7	0.890	0.31	4.5	73.2	3.14	39.0	0.00			503	
515		6.37	6.32	34.334	26.985	113.9	0.907	0.28	4.1	74.9	3.17	39.4	0.00			519	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 5.1 N	120 38.4 W	07/04/97	1235	UTC	3822 m	310	14 kn			1020.7 mb	13.2 C	11.1 C			

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	PRES db	SAMP
0	ISL	14.78	14.78	33.232	24.657	327.4	0.000	5.88	101.8	2.1	0.34	0.0	0.00	0.23	0.06	0	
2		14.78	14.78	33.232	24.657	327.5	0.007	5.88	101.8	2.1	0.34	0.0	0.00	0.23	0.06	2	220
10	ISL	14.79	14.79	33.232	24.656	327.9	0.033	5.88	101.8	2.1	0.34	0.0	0.00	0.23	0.07	10	
15		14.79	14.79	33.232	24.656	328.0	0.049	5.88	101.8	2.1	0.34	0.0	0.00	0.23	0.07	15	219
20	ISL	14.74	14.74	33.227	24.663	327.5	0.066	5.89	101.9	2.1	0.34	0.0	0.00	0.26	0.08	20	
30		14.65	14.65	33.216	24.674	326.7	0.098	5.92	102.2	2.3	0.35	0.0	0.00	0.32	0.13	30	218
44		13.89	13.88	33.184	24.809	314.2	0.143	5.98	101.6	2.9	0.40	0.7	0.03	0.76	0.32	44	217
50	ISL	13.33	13.32	33.160	24.904	305.3	0.162	5.92	99.4	3.1	0.46	1.6	0.10	0.74	0.39	50	
54		12.97	12.96	33.154	24.971	299.0	0.174	5.84	97.4	3.4	0.52	2.4	0.14	0.72	0.42	54	216
64		12.57	12.56	33.218	25.099	287.0	0.203	5.44	90.0	5.2	0.72	5.3	0.19	0.53	0.35	64	215
75		11.22	11.21	33.314	25.426	256.1	0.233	4.74	76.2	10.4	1.10	11.7	0.08	0.26	0.17	75	214
85		10.94	10.93	33.391	25.536	245.8	0.258	4.47	71.5	12.5	1.20	13.8	0.04	0.19	0.13	85	213
94		10.67	10.66	33.454	25.632	236.8	0.280	4.25	67.6	14.2	1.30	15.6	0.02	0.15	0.13	94	212
100	ISL	10.47	10.46	33.498	25.702	230.3	0.294	4.09	64.8	15.6	1.38	16.8	0.01	0.11	0.12	100	
109		10.16	10.15	33.571	25.812	220.0	0.314	3.84	60.4	18.0	1.50	18.7	0.01	0.06	0.09	110	211
124		9.60	9.59	33.716	26.019	200.5	0.346	3.49	54.3	22.3	1.68	21.8	0.00	0.01	0.04	125	210
125	ISL	9.57	9.56	33.722	26.028	199.6	0.348	3.48	54.1	22.5	1.69	21.9	0.00	0.01	0.04	126	
144		9.12	9.10	33.812	26.172	186.3	0.384	3.33	51.3	25.6	1.78	23.6	0.00	0.00	0.03	145	209
150	ISL	9.03	9.01	33.834	26.203	183.4	0.395	3.27	50.3	26.4	1.81	24.1	0.00	0.00	0.03	151	
169		8.79	8.77	33.894	26.288	175.6	0.429	3.08	47.1	29.1	1.91	25.5	0.00	0.00	0.03	170	208
198		8.24	8.22	33.981	26.441	161.5	0.478	2.99	45.2	34.0	2.00	27.0	0.00	0.00	0.06	199	207
200	ISL	8.20	8.18	33.985	26.450	160.7	0.482	2.97	44.8	34.4	2.01	27.1	0.00			201	
227		7.76	7.74	34.023	26.545	151.9	0.524	2.70	40.4	39.5	2.15	28.9	0.00			228	206
250	ISL	7.43	7.41	34.042	26.608	146.2	0.558	2.42	35.9	44.3	2.28	30.7	0.00			251	
268		7.22	7.19	34.057	26.649	142.5	0.584	2.16	31.9	48.1	2.38	32.2	0.00			270	205
300	ISL	6.97	6.94	34.107	26.724	135.8	0.629	1.60	23.5	54.8	2.60	34.5	0.00			302	
317		6.86	6.83	34.132	26.758	132.7	0.651	1.33	19.5	58.1	2.70	35.6	0.00			319	204
377		6.32	6.29	34.145	26.841	125.4	0.729	0.98	14.2	66.9	2.87	38.1	0.00			379	203
400	ISL	6.23	6.19	34.172	26.874	122.6	0.757	0.81	11.7	69.7	2.94	38.8	0.00			403	
437		6.12	6.08	34.219	26.925	118.1	0.802	0.56	8.1	73.9	3.04	39.7	0.00			440	202
500	ISL	5.73	5.69	34.257	27.005	111.1	0.874	0.39	5.6	81.9	3.15	41.1	0.00			503	
520		5.61	5.57	34.270	27.030	108.9	0.896	0.33	4.7	84.5	3.18	41.6	0.00			524	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 45.2 N	121 19.0 W	07/04/97	0654	UTC	3707 m	340	09 kn			1021.7 mb	14.0 C	10.9 C			

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	PRES db	SAMP
0	ISL	14.77	14.77	33.169	24.611	331.8	0.000	5.92	102.4	1.9	0.33	0.0	0.00	0.17	0.04	0	
1		14.77	14.77	33.169	24.611	331.8	0.003	5.92	102.4	1.9	0.33	0.0	0.00	0.17	0.04	1	220
10	ISL	14.77	14.77	33.169	24.611	332.1	0.033	5.91	102.3	1.9	0.33	0.0	0.00	0.16	0.05	10	
15		14.77	14.77	33.169	24.611	332.2	0.050	5.91	102.3	1.9	0.33	0.0	0.00	0.16	0.05	15	219
20	ISL	14.77	14.77	33.169	24.612	332.3	0.066	5.91	102.3	1.9	0.33	0.0	0.00	0.16	0.04	20	
30		14.76	14.76	33.168	24.613	332.5	0.100	5.90	102.1	2.0	0.33	0.0	0.00	0.17	0.04	30	218
44		14.61	14.60	33.160	24.640	330.4	0.146	5.94	102.4	2.1	0.33	0.0	0.00	0.23	0.08	44	217
50	ISL	14.55	14.54	33.162	24.654	329.2	0.166	5.95	102.5	2.1	0.34	0.0	0.00	0.29	0.12	50	
59		14.37	14.36	33.140	24.675	327.4	0.195	5.96	102.3	2.1	0.35	0.0	0.00	0.39	0.19	59	216
74		13.59	13.58	33.177	24.865	309.6	0.243	5.96	100.7	2.9	0.45	1.2	0.07	0.51	0.34	74	215
75	ISL	13.50	13.49	33.180	24.886	307.7	0.246	5.92	99.8	3.0	0.46	1.4	0.09	0.50	0.34	75	
84		12.70	12.69	33.215	25.072	290.1	0.273	5.53	91.7	4.3	0.63	3.9	0.23	0.36	0.33	84	214
94		12.00	11.99	33.291	25.265	271.9	0.301	5.16	84.3	7.0	0.87	8.1	0.04	0.19	0.15	94	213
100	ISL	11.69	11.68	33.313	25.340	264.9	0.317	4.97	80.7	8.5	0.97	9.8	0.03	0.15	0.14	100	
105		11.45	11.44	33.331	25.398	259.4	0.330	4.82	77.9	9.7	1.04	11.0	0.02	0.14	0.13	105	212
114		10.96	10.95	33.403	25.542	245.9	0.353	4.49	71.8	12.3	1.21	13.8	0.02	0.11	0.10	115	211
123		10.71	10.70	33.443	25.617	238.9	0.375	4.31	68.6	14.1	1.29	15.2	0.02	0.07	0.09	124	210
125	ISL	10.61	10.60	33.461	25.649	235.9	0.380	4.24	67.3	14.8	1.32	15.8	0.02	0.06	0.09	126	
139		9.92	9.90	33.607	25.881	214.0	0.411	3.76	58.9	19.6	1.57	19.9	0.01	0.01	0.05	140	209
150	ISL	9.60	9.58	33.697	26.004	202.4	0.434	3.54	55.1	22.1	1.67	21.6	0.00	0.01	0.04	151	
164		9.30	9.28	33.790	26.126	191.1	0.462	3.37	52.1	24.7	1.75	23.0	0.00	0.00	0.03	165	208
194		8.63	8.61	33.930	26.342	171.0	0.516	3.20	48.8	30.1	1.90	25.4	0.00	0.00	0.02	195	207
200	ISL	8.54	8.52	33.947	26.369	168.5	0.526	3.15	47.9	31.1	1.93	25.8	0.00			201	
226		8.21	8.19	34.001	26.462	160.1	0.569	2.88	43.5	35.3	2.05	27.5	0.00			227	206
250	ISL	7.96	7.93	34.050	26.538	153.2	0.607	2.47	37.1	40.0	2.22	29.5	0.00			251	
267		7.80	7.77	34.079	26.584	149.0	0.632	2.18	32.6	43.3	2.34	30.9	0.00			268	205
300	ISL	7.42	7.39	34.105	26.659	142.2	0.680	1.82	27.0	48.9	2.49	32.9	0.00			302	
318		7.21	7.18	34.113	26.695	139.0	0.706	1.66	24.5	51.9	2.56	33.8	0.00			320	204
378		6.64	6.61	34.154	26.806	129.0	0.786	1.06	15.4	62.7	2.82	37.1	0.00			380	203
400	ISL	6.48	6.44	34.168	26.838	126.2	0.814	0.91	13.2	65.9	2.89	38.0	0.00			402	
438		6.24	6.20	34.192	26.889	121.7	0.861	0.71	10.3	70.9	2.98	39.2	0.00			441	202
500	ISL	5.86	5.82	34.232	26.969	114.6	0.934	0.48	6.9	78.7	3.10	40.7	0.00			503	
514		5.78	5.74	34.241	26.986	113.1	0.950	0.43	6.1	80.4	3.13	41.0	0.00			517	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 25.2 N	121 59.4 W	07/04/97	0113	UTC	3825 m	340	08 kn	340 02 05	1	1020.4 mb	14.8 C	11.2 C		7/8	SC

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	PRES db	SAMP
0	ISL	15.10	15.10	33.176	24.545	338.1	0.000	5.86	102.1					0.15	0.07	0	
2		15.10	15.10	33.176	24.545	338.2	0.007	5.86	102.1					0.15	0.07	2	220
10	ISL	14.99	14.99	33.167	24.562	336.7	0.034	5.86	101.8					0.13	0.05	10	
15		14.90	14.90	33.160	24.577	335.5	0.051	5.86	101.7	2.1	0.31	0.1	0.00	0.11	0.03	15	219
20	ISL	14.85	14.85	33.156	24.584	334.9	0.067	5.87	101.7	2.1	0.31	0.1	0.00	0.11	0.03	20	
30		14.79	14.79	33.151	24.594	334.4	0.101	5.88	101.8	2.0	0.31	0.1	0.00	0.12	0.03	30	218
44		14.72	14.71	33.145	24.604	333.7	0.148	5.89	101.8	2.0	0.31	0.1	0.00	0.14	0.05	44	217
50	ISL	14.62	14.61	33.134	24.617	332.7	0.168	5.91	101.9	2.0	0.31	0.0	0.00	0.17	0.05	50	
54		14.56	14.55	33.127	24.625	332.1	0.181	5.93	102.1	2.0	0.32	0.0	0.00	0.19	0.05	54	216
65		13.62	13.61	33.074	24.780	317.6	0.217	5.97	100.8	2.3	0.35	0.2	0.02	0.48	0.32	65	215
75		13.06	13.05	33.095	24.908	305.5	0.248	5.82	97.2	2.9	0.48	1.6	0.17	0.49	0.38	75	214
85		12.72	12.71	33.146	25.015	295.6	0.278	5.64	93.5	3.5	0.55	2.8	0.15	0.38	0.31	85	213
94		12.05	12.04	33.178	25.168	281.2	0.304	5.28	86.3	5.7	0.79	6.6	0.06	0.28	0.21	94	212
100	ISL	11.53	11.52	33.214	25.292	269.4	0.320	5.07	82.0	7.5	0.92	8.8	0.05	0.22	0.17	100	
111		10.74	10.73	33.314	25.511	248.6	0.349	4.69	74.6	11.2	1.12	12.5	0.02	0.12	0.12	111	211
125		10.43	10.42	33.492	25.704	230.6	0.382	4.13	65.3	15.7	1.37	16.7	0.01	0.06	0.06	126	210
145		9.86	9.84	33.605	25.889	213.3	0.427	4.12	64.4	17.8	1.42	18.0	0.01	0.02	0.04	146	209
150	ISL	9.72	9.70	33.636	25.937	208.9	0.437	4.02	62.7	18.9	1.47	18.8	0.01	0.01	0.04	151	
171		9.17	9.15	33.757	26.121	191.7	0.479	3.58	55.2	23.9	1.71	22.4	0.01	0.00	0.03	172	208
199		8.60	8.58	33.873	26.302	174.9	0.531	3.48	53.0	28.1	1.81	24.4	0.00	0.00	0.02	200	207
200	ISL	8.58	8.56	33.877	26.308	174.3	0.532	3.47	52.8	28.3	1.82	24.5	0.00			201	
227		8.04	8.02	33.954	26.450	161.1	0.578	3.15	47.4	33.9	1.99	27.0	0.00			228	206
250	ISL	7.62	7.60	33.980	26.532	153.5	0.614	3.00	44.7	38.2	2.09	28.6	0.00			251	
266		7.36	7.33	33.988	26.575	149.5	0.638	2.88	42.6	41.3	2.16	29.7	0.00			267	205
300	ISL	6.90	6.87	34.014	26.660	141.8	0.688	2.35	34.4	49.0	2.38	32.5	0.00			302	
317		6.71	6.68	34.027	26.696	138.5	0.711	2.05	29.9	52.9	2.49	33.9	0.00			319	204
378		6.21	6.18	34.085	26.807	128.5	0.793	1.28	18.5	64.7	2.79	37.6	0.00			380	203
400	ISL	6.04	6.01	34.106	26.846	125.0	0.821	1.08	15.5	68.7	2.88	38.6	0.00			402	
439		5.78	5.74	34.143	26.908	119.4	0.868	0.80	11.4	75.2	3.00	40.1	0.00			442	202
500	ISL	5.53	5.49	34.204	26.987	112.5	0.939	0.51	7.2	82.5	3.12	41.4	0.00			503	
511		5.49	5.45	34.215	27.000	111.3	0.951	0.46	6.5	83.8	3.14	41.6	0.00			514	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 5.5 N	122 39.7 W	06/04/97	1846	UTC	4002 m	340	06 kn	350 03 05	2	1019.0 mb	13.6 C	10.2 C		8/8	CI

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	PRES db	SAMP
0	ISL	15.14	15.14	33.170	24.532	339.4	0.000	5.84	101.8	1.8	0.31	0.0	0.00	0.10	0.03	0	
1	A	15.14	15.14	33.170	24.532	339.4	0.003	5.84	101.8	1.8	0.31	0.0	0.00	0.10	0.03	1	222
1		15.14	15.14	33.174	24.535	339.1	0.003			1.8	0.32	0.0	0.00			1	223
10	ISL	15.12	15.12	33.168	24.535	339.4	0.034	5.85	101.9	1.8	0.32	0.0	0.00	0.10	0.03	10	
12		15.12	15.12	33.167	24.534	339.5	0.041	5.85	101.9	1.8	0.32	0.0	0.00	0.10	0.03	12	221
20	ISL	15.08	15.08	33.158	24.536	339.5	0.068	5.83	101.5	1.8	0.30	0.0	0.00	0.12	0.04	20	
21	A	15.07	15.07	33.157	24.538	339.4	0.071	5.83	101.5	1.8	0.30	0.0	0.00	0.12	0.04	21	220
30	ISL	15.00	15.00	33.154	24.551	338.5	0.102	5.84	101.5	1.8	0.32	0.0	0.00	0.13	0.05	30	
33		14.97	14.97	33.154	24.557	337.9	0.112	5.85	101.6	1.8	0.33	0.0	0.00	0.14	0.05	33	219
44	A	14.90	14.89	33.159	24.577	336.4	0.149	5.87	101.8	1.8	0.31	0.0	0.00	0.21	0.09	44	218
50	ISL	14.82	14.81	33.147	24.585	335.8	0.169	5.86	101.5	1.8	0.32	0.0	0.00	0.23	0.10	50	
55		14.76	14.75	33.148	24.599	334.6	0.186	5.86	101.3	1.9	0.33	0.0	0.00	0.24	0.11	55	217
67	A	13.96	13.95	33.074	24.710	324.3	0.225	6.00	102.0	2.1	0.33	0.0	0.00	0.28	0.40	67	216
75	ISL	13.63	13.62	33.042	24.753	320.4	0.251	6.01	101.5	2.3	0.36	0.1	0.02	0.53	0.36	75	
76		13.60	13.59	33.040	24.758	319.9	0.254	6.01	101.4	2.3	0.36	0.1	0.02	0.56	0.36	76	215
89	A	13.39	13.38	33.071	24.824	313.9	0.296	5.97	100.3	2.6	0.43	0.7	0.06	0.44	0.30	89	214
99		12.91	12.90	33.145	24.977	299.6	0.326	5.56	92.6	3.7	0.61	3.4	0.16	0.32	0.25	99	213
100	ISL	12.86	12.85	33.151	24.991	298.2	0.329	5.55	92.3	3.8	0.61	3.5	0.16	0.32	0.25	100	
110		12.32	12.31	33.190	25.126	285.6	0.359	5.49	90.3	4.5	0.64	4.2	0.13	0.28	0.25	110	212
120	A	11.58	11.56	33.191	25.266	272.4	0.386	5.26	85.1	6.3	0.81	6.9	0.05	0.20	0.19	121	211
125	ISL	11.21	11.19	33.221	25.356	263.8	0.400	5.15	82.7	7.5	0.89	8.3	0.03	0.16	0.17	126	
132		10.74	10.72	33.287	25.491	251.1	0.418	4.99	79.4	9.6	1.01	10.3	0.02	0.10	0.13	133	210
142		10.19	10.17	33.410	25.682	233.0	0.442	4.69	73.8	13.1	1.17	13.7	0.01	0.04	0.05	143	209
150	ISL	9.83	9.81	33.487	25.802	221.7	0.460	4.44	69.3	15.9	1.31	16.2	0.01	0.03	0.04	151	
168		9.22	9.20	33.633	26.016	201.5	0.498	3.92	60.4	21.7	1.60	20.7	0.01	0.01	0.02	169	208
197		8.71	8.69	33.860	26.274	177.5	0.553	3.31	50.5	28.1	1.85	24.8	0.01	0.00	0.02	198	207
200	ISL	8.67	8.65	33.873	26.291	175.9	0.559	3.26	49.7	28.6	1.87	25.1	0.01			201	
228		8.34	8.32	33.950	26.402	165.8	0.606	2.97	45.0	32.5	2.01	26.9	0.00			229	206
250	ISL	7.92	7.89	33.973	26.483	158.3	0.642	3.00	45.0	35.6	2.05	27.7	0.00			251	
269		7.54	7.51	33.983	26.546	152.5	0.672	3.01	44.8	38.8	2.09	28.5	0.00			270	205
300	ISL	7.10	7.07	34.014	26.632	144.5	0.718	2.49	36.7	46.2	2.30	31.4	0.00			302	
319		6.88	6.85	34.033	26.678	140.4	0.745	2.10	30.8	50.9	2.45	33.3	0.00			321	204
379		6.40	6.37	34.086	26.784	130.9	0.826	1.37	19.8	61.9	2.74	36.9	0.00			381	203
400	ISL	6.24	6.20	34.109	26.823	127.4	0.853	1.15	16.6	65.8	2.83	37.9	0.00			402	
438		5.99	5.95	34.153	26.890	121.4	0.900	0.81	11.6	72.3	2.97	39.5	0.00			441	202
500	ISL	5.75	5.71	34.216	26.970	114.4	0.974	0.51	7.3	79.4	3.10	40.9	0.00			503	
510		5.71	5.67	34.226	26.983	113.3	0.985	0.46	6.6	80.6	3.12	41.1	0.00			513	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 90 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 45.3 N	123 20.2 W	06/04/97	0813	UTC	4026 m	310	07 kn			1017.8 mb	14.4 C	11.0 C			

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	PRES db	SAMP
0	ISL	15.72	15.72	33.249	24.465	345.7	0.000	5.77	101.8	1.7	0.28	0.0	0.00	0.09	0.03	0	
2		15.72	15.72	33.249	24.465	345.8	0.007	5.77	101.8	1.7	0.28	0.0	0.00	0.09	0.03	2	220
10	ISL	15.71	15.71	33.246	24.465	346.0	0.035	5.76	101.6	1.8	0.29	0.0	0.00	0.09	0.03	10	
15		15.70	15.70	33.243	24.465	346.2	0.052	5.76	101.6	1.8	0.29	0.0	0.00	0.09	0.03	15	219
20	ISL	15.68	15.68	33.243	24.470	345.9	0.069	5.76	101.5	1.8	0.29	0.0	0.00	0.09	0.03	20	
29		15.65	15.65	33.244	24.478	345.4	0.100	5.76	101.5	1.8	0.29	0.0	0.00	0.09	0.03	29	218
30	ISL	15.65	15.65	33.244	24.478	345.5	0.104	5.76	101.5	1.8	0.29	0.0	0.00	0.09	0.03	30	
45		15.64	15.63	33.236	24.474	346.3	0.156	5.77	101.6	1.8	0.29	0.0	0.00	0.11	0.04	45	217
50	ISL	15.64	15.63	33.236	24.474	346.4	0.173	5.76	101.5	1.8	0.29	0.0	0.00	0.12	0.04	50	
59		15.63	15.62	33.236	24.477	346.4	0.204	5.76	101.4	1.9	0.29	0.0	0.00	0.13	0.05	59	216
75		15.11	15.10	33.193	24.558	339.1	0.259	5.81	101.2	1.9	0.32	0.0	0.00	0.25	0.17	75	215
84		14.77	14.76	33.139	24.590	336.3	0.289	5.85	101.2	1.9	0.32	0.0	0.00	0.25	0.21	84	214
95		14.80	14.79	33.236	24.659	330.0	0.326	5.73	99.2	2.1	0.36	0.3	0.05	0.35	0.34	95	213
100	ISL	14.57	14.56	33.204	24.684	327.8	0.342	5.74	98.9	2.2	0.37	0.4	0.05	0.34	0.32	100	
106		14.11	14.09	33.141	24.732	323.3	0.362	5.76	98.3	2.3	0.40	0.5	0.05	0.32	0.28	106	212
114		13.19	13.17	33.086	24.876	309.6	0.387	5.68	95.1	2.7	0.50	1.8	0.12	0.25	0.24	114	211
125		13.01	12.99	33.122	24.940	303.8	0.421	5.62	93.7	3.2	0.54	2.5	0.14	0.23	0.22	126	210
139		12.04	12.02	33.164	25.160	283.0	0.462	5.33	87.1	5.3	0.73	5.6	0.05	0.17	0.16	140	209
150	ISL	11.37	11.35	33.290	25.381	262.1	0.492	4.99	80.5	8.3	0.90	8.9	0.03	0.11	0.10	151	
165		10.61	10.59	33.485	25.668	234.9	0.529	4.56	72.4	12.6	1.12	13.1	0.01	0.04	0.04	166	208
194		9.71	9.69	33.657	25.956	208.0	0.594	4.25	66.2	17.5	1.35	17.3	0.01	0.01	0.03	195	207
200	ISL	9.52	9.50	33.696	26.017	202.2	0.606	4.15	64.4	19.1	1.42	18.4	0.01			201	
228		8.75	8.73	33.857	26.266	178.8	0.659	3.72	56.8	26.4	1.70	22.9	0.00			229	206
250	ISL	8.33	8.30	33.922	26.382	168.1	0.697	3.59	54.3	30.0	1.79	24.5	0.00			251	
269		8.04	8.01	33.952	26.449	161.9	0.729	3.50	52.6	32.7	1.85	25.5	0.00			270	205
300	ISL	7.57	7.54	33.980	26.540	153.6	0.778	3.13	46.6	38.3	2.03	28.0	0.00			302	
321		7.28	7.25	33.993	26.591	148.9	0.809	2.80	41.4	42.6	2.17	29.8	0.00			323	204
379		6.65	6.62	34.076	26.743	135.0	0.892	1.65	24.0	57.0	2.61	35.2	0.00			381	203
400	ISL	6.49	6.45	34.109	26.790	130.7	0.920	1.33	19.3	61.5	2.74	36.6	0.00			402	
436		6.25	6.21	34.162	26.864	124.0	0.965	0.89	12.9	68.3	2.91	38.5	0.00			439	202
500	ISL	5.86	5.82	34.213	26.954	116.0	1.042	0.55	7.9	77.5	3.07	40.5	0.00			503	
518		5.75	5.71	34.228	26.979	113.7	1.063	0.46	6.6	80.1	3.11	41.0	0.00			521	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 25.0 N	124 0.0 W	06/04/97	0202	UTC	4218 m	350	05 kn	350 05 07	2	1016.6 mb	15.1 C	12.0 C		8/8	SC

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	PRES db	SAMP
0	ISL	16.15	16.15	33.334	24.433	348.7	0.000	5.73	102.0	1.9	0.28	0.0	0.00	0.08	0.01	0	
2		16.15	16.15	33.334	24.433	348.8	0.007	5.73	102.0	1.9	0.28	0.0	0.00	0.08	0.01	2	220
10	ISL	16.08	16.08	33.329	24.446	347.9	0.035	5.73	101.9	1.8	0.28	0.0	0.00	0.09	0.02	10	
15		16.03	16.03	33.326	24.455	347.2	0.052	5.73	101.8	1.8	0.28	0.0	0.00	0.09	0.02	15	219
20	ISL	16.03	16.03	33.329	24.457	347.1	0.070	5.73	101.8	1.8	0.28	0.0	0.00	0.09	0.02	20	
29		16.03	16.03	33.331	24.459	347.2	0.101	5.72	101.6	1.8	0.28	0.0	0.00	0.08	0.02	29	218
30	ISL	16.03	16.03	33.331	24.459	347.2	0.104	5.72	101.6	1.8	0.28	0.0	0.00	0.08	0.02	30	
44		16.02	16.01	33.337	24.467	347.0	0.153	5.73	101.8	1.8	0.28	0.0	0.00	0.08	0.02	44	217
50	ISL	16.01	16.00	33.334	24.467	347.2	0.174	5.73	101.7	1.8	0.28	0.0	0.00	0.09	0.02	50	
59		15.97	15.96	33.325	24.469	347.2	0.205	5.73	101.6	1.8	0.28	0.0	0.00	0.10	0.03	59	216
74		15.87	15.86	33.304	24.476	347.0	0.257	5.75	101.8	1.8	0.28	0.0	0.00	0.13	0.05	74	215
75	ISL	15.80	15.79	33.292	24.483	346.4	0.260	5.76	101.8	1.8	0.28	0.0	0.00	0.14	0.05	75	
85		15.12	15.11	33.184	24.550	340.2	0.295	5.84	101.8	1.8	0.32	0.0	0.00	0.22	0.12	85	214
95		14.93	14.92	33.175	24.584	337.2	0.329	5.82	101.0	1.9	0.33	0.0	0.00	0.31	0.25	95	213
100	ISL	14.78	14.77	33.169	24.612	334.7	0.345	5.82	100.7	1.9	0.33	0.0	0.00	0.36	0.33	100	
105		14.61	14.59	33.162	24.643	331.9	0.362	5.82	100.3	2.0	0.34	0.0	0.01	0.40	0.37	105	212
115		14.32	14.30	33.146	24.692	327.4	0.395	5.81	99.6	2.3	0.38	0.3	0.06	0.34	0.26	115	211
123		14.00	13.98	33.213	24.811	316.3	0.421	5.58	95.0	3.0	0.49	1.9	0.15	0.25	0.23	123	210
125	ISL	13.90	13.88	33.240	24.852	312.4	0.427	5.54	94.2	3.2	0.50	2.1	0.14	0.23	0.22	126	
138		13.09	13.07	33.399	25.139	285.3	0.466	5.33	89.2	4.8	0.58	4.0	0.03	0.13	0.13	139	209
150	ISL	11.95	11.93	33.403	25.362	264.0	0.499	5.00	81.7	7.9	0.83	8.1	0.02	0.08	0.09	151	
164		10.66	10.64	33.393	25.588	242.5	0.534	4.57	72.6	12.3	1.16	13.5	0.01	0.05	0.07	165	208
195		9.48	9.46	33.660	25.996	204.1	0.604	3.83	59.4	21.0	1.56	20.3	0.00	0.00	0.03	196	207
200	ISL	9.38	9.36	33.692	26.037	200.3	0.614	3.82	59.1	21.7	1.57	20.7	0.00			201	
229		8.95	8.93	33.833	26.216	183.7	0.669	3.79	58.1	24.7	1.64	22.1	0.00			230	206
250	ISL	8.52	8.49	33.902	26.338	172.4	0.707	3.80	57.7	27.6	1.68	23.1	0.00			251	
266		8.19	8.16	33.939	26.417	165.0	0.734	3.80	57.3	30.2	1.74	24.1	0.00			267	205
300	ISL	7.61	7.58	33.983	26.536	153.9	0.788	3.19	47.5	37.9	2.01	27.8	0.00			302	
317		7.35	7.32	33.995	26.583	149.6	0.814	2.80	41.4	42.3	2.17	29.8	0.00			319	204
379		6.52	6.49	34.048	26.738	135.3	0.902	1.72	25.0	58.0	2.60	35.5	0.00			381	203
400	ISL	6.33	6.29	34.062	26.774	132.0	0.930	1.50	21.7	61.8	2.69	36.7	0.00			402	
440		6.04	6.00	34.091	26.834	126.6	0.982	1.18	16.9	68.2	2.83	38.4	0.00			443	202
500	ISL	5.69	5.65	34.155	26.929	118.2	1.055	0.75	10.7	77.6	3.02	40.4	0.00			503	
514		5.61	5.57	34.170	26.951	116.2	1.072	0.65	9.2	79.8	3.06	40.9	0.00			517	201

RV NEW HORIZON CALCOFI CRUISE 9704 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 57.6 N	117 18.6 W	02/04/97	1934 UTC	74 m	250 08 kn	250 04 05	1	1009.2 mb	18.0 C	14.0 C	09m 05	5/8	CB

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	PRES db	SAMP
0	ISL	16.06	16.06	33.587	24.648	328.3	0.000	6.39	113.8	4.3	0.21	0.1	0.01	3.16	0.46	0	
1		16.05	16.05	33.585	24.649	328.2	0.003									1	210
2	A	16.06	16.06	33.587	24.648	328.3	0.007	6.39	113.8	4.3	0.21	0.1	0.01	3.16	0.46	2	209
6	A	15.70	15.70	33.581	24.725	321.2	0.020	6.35	112.2	4.4	0.22	0.1	0.01	2.24	0.46	6	208
10	ISL	14.83	14.83	33.573	24.910	303.7	0.032	6.01	104.4	5.0	0.36	0.7	0.05	3.25	0.71	10	
13	A	14.10	14.10	33.576	25.067	288.8	0.041	5.59	95.7	5.9	0.52	1.8	0.11	3.91	0.90	13	207
18	A	13.23	13.23	33.603	25.266	270.0	0.055	4.66	78.3	8.9	0.81	5.7	0.26	2.01	0.86	18	206
20	ISL	13.04	13.04	33.610	25.309	265.9	0.060	4.47	74.8	9.7	0.89	6.9	0.31	1.89	0.82	20	
23	A	12.82	12.82	33.617	25.358	261.3	0.068	4.27	71.2	10.7	1.00	8.5	0.39	1.71	0.74	23	205
30	ISL	12.30	12.30	33.637	25.475	250.4	0.086	3.82	63.0	13.0	1.22	11.4	0.54	0.91	0.54	30	
31	A	12.23	12.23	33.640	25.491	248.9	0.089	3.77	62.1	13.3	1.24	11.8	0.55	0.80	0.52	31	204
41		11.67	11.66	33.661	25.612	237.5	0.113	3.61	58.7	15.2	1.37	14.9	0.53	0.46	0.51	41	203
50		11.43	11.42	33.682	25.673	232.0	0.134	3.45	55.8	16.7	1.45	16.4	0.45	0.30	0.40	50	202
59		11.38	11.37	33.689	25.688	230.8	0.155	3.39	54.8	17.1	1.47	16.7	0.47	0.26	0.34	59	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 93 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 54.8 N	117 23.7 W	02/04/97	2230 UTC	615 m	130 19 kn	130 05 04	1	1009.5 mb	13.6 C	12.1 C	09m 04	6/8	ST

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	PRES db	SAMP
0	ISL	15.99	15.99	33.573	24.653	327.8	0.000	6.31	112.2	3.9	0.20	0.0	0.01	1.20	0.34	0	
1		15.98	15.98	33.573	24.656	327.6	0.003									1	221
1		15.99	15.99	33.573	24.653	327.8	0.003	6.31	112.2	3.9	0.20	0.0	0.01	1.20	0.34	1	220
10		15.54	15.54	33.570	24.752	318.7	0.032	6.11	107.6	4.4	0.27	0.2	0.02	1.22	0.48	10	219
20		12.71	12.71	33.594	25.362	260.9	0.061	4.55	75.7	8.8	0.89	7.3	0.42	1.26	0.84	20	218
30	ISL	11.73	11.73	33.641	25.585	239.8	0.086	3.78	61.6	13.6	1.26	13.8	0.59	0.62	0.61	30	
31		11.69	11.69	33.645	25.596	238.8	0.089	3.74	60.9	14.1	1.29	14.3	0.61	0.55	0.57	31	217
40		11.26	11.26	33.696	25.715	227.8	0.110	3.43	55.3	17.0	1.44	17.3	0.16	0.32	0.41	40	216
50		11.04	11.03	33.725	25.777	222.1	0.132	3.29	52.8	18.3	1.52	18.5	0.08	0.23	0.28	50	215
60		10.83	10.82	33.747	25.832	217.1	0.154	3.20	51.2	19.6	1.58	19.5	0.05	0.15	0.22	60	214
69		10.70	10.69	33.770	25.873	213.4	0.174	3.09	49.3	20.6	1.64	20.1	0.05	0.11	0.17	69	213
75	ISL	10.62	10.61	33.784	25.898	211.1	0.186	3.09	49.2	21.0	1.66	20.4	0.05	0.09	0.17	75	
84		10.49	10.48	33.801	25.934	207.9	0.205	3.08	48.9	21.5	1.68	20.7	0.06	0.07	0.16	84	212
100		10.14	10.13	33.817	26.007	201.3	0.238	3.24	51.0	22.3	1.69	21.2	0.04	0.05	0.10	101	211
118		9.69	9.68	33.917	26.161	186.9	0.273	2.87	44.8	26.4	1.87	23.7	0.03	0.02	0.08	119	210
125	ISL	9.46	9.45	33.918	26.199	183.4	0.286	2.96	46.0	26.9	1.87	24.0	0.02	0.02	0.07	126	
137		9.13	9.12	33.919	26.254	178.4	0.308	3.12	48.1	27.6	1.86	24.4	0.01	0.02	0.05	138	209
150	ISL	9.18	9.16	34.005	26.313	173.0	0.330	2.77	42.8	29.9	1.99	25.7	0.01	0.02	0.05	151	
168		9.26	9.24	34.110	26.383	166.8	0.361	2.16	33.4	33.4	2.19	27.6	0.02	0.02	0.06	169	208
198		8.97	8.95	34.153	26.463	159.7	0.410	2.01	30.9	36.1	2.27	28.3	0.02	0.01	0.05	199	207
200	ISL	8.93	8.91	34.150	26.467	159.4	0.413	2.03	31.2	36.3	2.27	28.3	0.02			201	
229		8.50	8.48	34.114	26.506	156.0	0.459	2.26	34.4	39.0	2.26	29.3	0.01			230	206
250	ISL	8.56	8.53	34.190	26.557	151.7	0.491	1.74	26.5	41.8	2.42	30.5	0.01			252	
269		8.65	8.62	34.270	26.606	147.5	0.520	1.17	17.9	44.4	2.59	31.6	0.01			271	205
300	ISL	8.39	8.36	34.289	26.662	142.7	0.565	1.02	15.5	48.0	2.70	32.6	0.01			302	
318		8.18	8.15	34.282	26.688	140.4	0.590	0.93	14.1	49.9	2.73	33.1	0.01			320	204
377		7.65	7.61	34.294	26.776	132.7	0.671	0.68	10.2	56.4	2.86	35.1	0.01			379	203
400	ISL	7.41	7.37	34.302	26.817	129.0	0.701	0.57	8.5	59.9	2.92	36.1	0.01			403	
436		7.05	7.01	34.315	26.878	123.5	0.746	0.42	6.2	65.4	3.02	37.6	0.01			439	202
500	ISL	6.54	6.49	34.323	26.954	116.8	0.823	0.32	4.7	72.7	3.12	39.1	0.01			503	
512		6.45	6.40	34.325	26.968	115.7	0.837	0.30	4.4	74.1	3.14	39.4	0.01			516	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 93 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 50.5 N	117 31.9 W	03/04/97	0159	UTC	858 m	270	10 kn	280 03 04	1	1008.9 mb	15.2 c	11.9 c		3/8	AS

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	PRES db	SAMP
0	ISL	16.29	16.29	33.572	24.584	334.4	0.000	5.84	104.4	2.0	0.29	0.1	0.00	0.19	0.06	0	
2		16.29	16.29	33.572	24.584	334.4	0.007	5.84	104.4	2.0	0.29	0.1	0.00	0.19	0.06	2	220
10		16.26	16.26	33.569	24.589	334.2	0.033	5.86	104.7	2.0	0.28	0.1	0.01	0.19	0.07	10	219
19		14.39	14.39	33.519	24.962	298.9	0.062	5.78	99.5	3.5	0.44	1.3	0.07	1.06	0.50	19	218
20	ISL	14.24	14.24	33.523	24.997	295.6	0.065	5.73	98.3	3.9	0.48	1.6	0.22	1.13	0.60	20	
30		13.00	13.00	33.593	25.304	266.6	0.093	4.89	81.8	9.2	0.92	6.7	1.33	1.79	1.20	30	217
39		11.81	11.81	33.650	25.578	240.8	0.116	3.79	61.8	14.4	1.25	14.8	0.13	0.41	0.44	39	216
50		11.11	11.10	33.719	25.760	223.7	0.141	3.25	52.3	18.5	1.52	18.8	0.06	0.13	0.21	50	215
60		10.87	10.86	33.743	25.822	218.0	0.163	3.23	51.7	19.5	1.56	19.1	0.03	0.09	0.18	60	214
70		10.52	10.51	33.776	25.909	209.9	0.185	3.19	50.7	20.9	1.62	20.0	0.02	0.06	0.16	70	213
75	ISL	10.38	10.37	33.794	25.947	206.4	0.195	3.16	50.0	21.5	1.65	20.5	0.02	0.06	0.16	75	
83		10.22	10.21	33.820	25.995	202.0	0.212	3.10	48.9	22.4	1.69	21.3	0.01	0.06	0.15	83	212
99		10.11	10.10	33.844	26.033	198.7	0.244	3.03	47.7	23.5	1.65	21.8	0.11	0.05	0.11	100	211
100	ISL	10.10	10.09	33.846	26.036	198.5	0.246	3.02	47.5	23.6	1.66	21.9	0.11	0.05	0.11	101	
119		9.91	9.90	33.895	26.107	192.1	0.283	2.87	45.0	25.3	1.81	23.1	0.01	0.03	0.10	120	210
125	ISL	9.80	9.79	33.915	26.141	189.0	0.294	2.82	44.1	26.1	1.85	23.6	0.02	0.03	0.09	126	
139		9.57	9.55	33.968	26.221	181.7	0.320	2.66	41.4	28.2	1.95	24.8	0.03	0.02	0.07	140	209
150	ISL	9.56	9.54	34.023	26.266	177.7	0.340	2.46	38.3	29.7	2.03	25.7	0.02	0.02	0.07	151	
167		9.55	9.53	34.087	26.318	173.1	0.370	2.15	33.5	31.7	2.15	26.8	0.01	0.02	0.07	168	208
198		9.52	9.50	34.167	26.386	167.3	0.422	1.78	27.7	34.4	2.29	28.0	0.01	0.01	0.05	199	207
200	ISL	9.50	9.48	34.169	26.391	166.9	0.426	1.78	27.7	34.5	2.29	28.0	0.01			201	
229		9.24	9.21	34.181	26.443	162.4	0.474	1.76	27.2	36.0	2.33	28.6	0.01			230	206
250	ISL	9.10	9.07	34.190	26.473	160.0	0.507	1.73	26.7	37.1	2.35	28.9	0.01			251	
268		8.98	8.95	34.200	26.500	157.7	0.536	1.70	26.2	38.4	2.38	29.3	0.01			270	205
300	ISL	8.72	8.69	34.240	26.573	151.3	0.585	1.38	21.1	42.3	2.51	30.7	0.01			302	
318		8.55	8.52	34.263	26.617	147.3	0.612	1.17	17.8	45.0	2.60	31.7	0.01			320	204
382		7.78	7.74	34.295	26.758	134.6	0.703	0.71	10.6	55.2	2.84	34.6	0.01			384	203
400	ISL	7.66	7.62	34.299	26.779	132.8	0.727	0.65	9.7	56.7	2.87	35.0	0.01			403	
435		7.45	7.41	34.304	26.814	130.0	0.773	0.56	8.3	59.6	2.92	35.8	0.01			438	202
500	ISL	6.76	6.71	34.313	26.917	120.6	0.854	0.37	5.4	69.2	3.06	38.2	0.00			503	
512		6.63	6.58	34.315	26.936	118.8	0.868	0.34	5.0	71.0	3.09	38.6	0.00			516	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 40.7 N	117 52.5 W	03/04/97	0618	UTC	610 m	240	08 kn			1010.6 mb	15.0 c	12.2 c			

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	PRES db	SAMP
0	ISL	16.24	16.24	33.551	24.579	334.8	0.000	5.78	103.2	1.7	0.33	0.0	0.00	0.14	0.04	0	
1		16.24	16.24	33.551	24.580	334.8	0.003	5.78	103.2	1.7	0.33	0.0	0.00	0.14	0.04	1	223
7		16.25	16.25	33.552	24.578	335.2	0.023									7	222
10		16.25	16.25	33.552	24.578	335.2	0.034	5.79	103.4	1.7	0.32	0.0	0.00	0.14	0.04	10	221
14		16.25	16.25	33.551	24.578	335.4	0.047									14	220
20		16.24	16.24	33.551	24.580	335.4	0.067	5.78	103.2	1.7	0.32	0.0	0.00	0.14	0.04	20	219
21		16.25	16.25	33.550	24.577	335.7	0.070									21	218
30		15.61	15.61	33.518	24.697	324.5	0.100	5.87	103.5	1.9	0.34	0.0	0.00	0.31	0.14	30	217
40		13.87	13.86	33.490	25.049	291.2	0.131	5.35	91.1	4.8	0.61	3.9	0.18	0.75	0.58	40	216
49		12.73	12.72	33.482	25.272	270.2	0.156	4.83	80.3	7.8	0.87	8.2	0.20	0.49	0.48	49	215
50	ISL	12.68	12.67	33.482	25.282	269.3	0.159	4.80	79.7	8.0	0.88	8.4	0.19	0.47	0.47	50	
59		12.38	12.37	33.498	25.352	262.8	0.183	4.60	75.9	9.2	0.98	9.9	0.13	0.36	0.41	59	214
69		11.88	11.87	33.569	25.502	248.7	0.208	4.20	68.6	11.9	1.15	12.7	0.08	0.24	0.29	69	213
75	ISL	11.54	11.53	33.599	25.589	240.6	0.223	4.07	66.0	13.3	1.22	14.0	0.06	0.19	0.23	75	
84		11.06	11.05	33.635	25.704	229.8	0.244	3.95	63.4	15.0	1.31	15.7	0.03	0.13	0.15	84	212
98		10.57	10.56	33.682	25.828	218.3	0.276	3.78	60.1	17.2	1.44	17.7	0.02	0.08	0.10	98	211
100	ISL	10.49	10.48	33.690	25.848	216.4	0.280	3.76	59.6	17.6	1.46	18.0	0.02	0.07	0.09	100	
119		9.87	9.86	33.788	26.030	199.4	0.319	3.46	54.2	21.5	1.63	20.8	0.01	0.01	0.06	120	210
125	ISL	9.77	9.76	33.829	26.079	194.9	0.331	3.26	50.9	23.2	1.72	21.9	0.01	0.01	0.05	126	
138		9.61	9.59	33.907	26.167	186.8	0.356	2.86	44.5	26.5	1.90	24.0	0.01	0.00	0.04	139	209
150	ISL	9.40	9.38	33.928	26.218	182.2	0.378	2.94	45.6	27.5	1.90	24.3	0.01	0.00	0.04	151	
169		9.06	9.04	33.935	26.278	176.7	0.412	3.07	47.2	28.2	1.90	24.7	0.01	0.01	0.04	170	208
199		8.57	8.55	33.995	26.402	165.4	0.464	2.94	44.8	32.2	2.00	26.3	0.01	0.01	0.03	200	207
200	ISL	8.55	8.53	33.996	26.406	165.0	0.465	2.93	44.6	32.4	2.00	26.4	0.01			201	
228		8.24	8.22	34.053	26.498	156.7	0.510	2.58	39.0	37.2	2.16	28.3	0.01			229	206
250	ISL	8.33	8.30	34.155	26.565	150.8	0.544	1.94	29.4	41.0	2.37	30.0	0.01			251	
267		8.45	8.42	34.235	26.610	147.0	0.569	1.43	21.7	43.8	2.53	31.1	0.01			269	205
300	ISL	8.36	8.33	34.293	26.669	141.9	0.617	1.00	15.2	47.7	2.68	32.3	0.01			302	
317		8.25	8.22	34.304	26.695	139.8	0.641	0.89	13.5	49.5	2.73	32.8	0.01			319	204
377		7.75	7.71	34.330	26.790	131.5	0.722	0.56	8.4	56.9	2.90	34.9	0.01			379	203
400	ISL	7.54	7.50	34.331	26.822	128.7	0.752	0.49	7.3	59.5	2.95	35.6	0.01			403	
438		7.19	7.15	34.330	26.871	124.4	0.800	0.42	6.2	63.6	3.02	36.7	0.01			441	202
500	ISL	6.68	6.63	34.341	26.950	117.4	0.875	0.33	4.8	70.8	3.11	38.5	0.01			503	
514		6.56	6.51	34.344	26.968	115.8	0.892	0.31	4.5	72.4	3.13	38.9	0.01			518	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 93 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 30.6 N	118 13.0 W	03/04/97	1026	UTC	1619 m	300	19 kn			1007.8 mb	15.0 C	10.2 C			

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	PRES db	SAMP
0	ISL	16.19	16.19	33.559	24.597	333.1	0.000	5.76	102.8	1.8	0.31	0.0	0.00	0.17	0.04	0	
1		16.19	16.19	33.559	24.597	333.2	0.003	5.76	102.8	1.8	0.31	0.0	0.00	0.17	0.04	1	220
10		16.20	16.20	33.559	24.595	333.7	0.033	5.76	102.8	1.8	0.31	0.0	0.00	0.17	0.03	10	219
20		16.20	16.20	33.559	24.595	333.9	0.067	5.76	102.8	1.8	0.31	0.0	0.00	0.16	0.04	20	218
30		16.12	16.12	33.553	24.609	332.9	0.100	5.78	103.0	1.7	0.32	0.0	0.00	0.18	0.05	30	217
40		14.48	14.47	33.456	24.895	305.9	0.132	5.83	100.5	3.1	0.42	0.5	0.03	0.82	0.57	40	216
50		13.37	13.36	33.445	25.116	285.1	0.162	5.13	86.4	5.8	0.72	5.3	0.32	0.69	0.73	50	215
60		12.43	12.42	33.467	25.319	266.0	0.189	4.67	77.1	8.7	0.95	9.5	0.14	0.38	0.44	60	214
70		11.89	11.88	33.535	25.474	251.4	0.215	4.32	70.6	11.1	1.10	12.3	0.06	0.24	0.31	70	213
75	ISL	11.69	11.68	33.561	25.532	246.0	0.227	4.21	68.5	12.1	1.16	13.2	0.05	0.21	0.27	75	
84		11.37	11.36	33.603	25.623	237.5	0.249	4.05	65.4	13.7	1.24	14.5	0.03	0.18	0.22	84	212
100		10.70	10.69	33.690	25.811	219.9	0.286	3.75	59.8	17.1	1.33	17.4	0.05	0.07	0.10	100	211
119		10.22	10.21	33.742	25.935	208.5	0.326	3.57	56.3	19.4	1.53	19.4	0.01	0.04	0.09	120	210
125	ISL	10.12	10.11	33.755	25.962	206.0	0.339	3.53	55.6	20.0	1.56	19.9	0.01	0.03	0.08	126	
137		9.91	9.89	33.784	26.021	200.7	0.363	3.46	54.2	21.4	1.62	20.8	0.01	0.02	0.07	138	209
150	ISL	9.50	9.48	33.839	26.132	190.3	0.389	3.34	51.9	24.1	1.72	22.4	0.01	0.01	0.06	151	
169		8.87	8.85	33.921	26.297	174.8	0.423	3.18	48.7	28.4	1.85	24.6	0.01	0.01	0.04	170	208
199		8.30	8.28	33.978	26.430	162.6	0.474	3.12	47.2	32.7	1.94	26.2	0.01	0.00	0.03	200	207
200	ISL	8.29	8.27	33.980	26.433	162.3	0.476	3.11	47.0	32.9	1.94	26.3	0.01			201	
230		7.96	7.94	34.030	26.522	154.3	0.523	2.72	40.8	37.9	2.11	28.4	0.01			231	206
250	ISL	7.79	7.77	34.059	26.570	150.1	0.554	2.42	36.2	41.3	2.23	29.7	0.01			251	
265		7.69	7.66	34.084	26.604	147.0	0.576	2.17	32.4	43.8	2.33	30.7	0.01			267	205
300	ISL	7.67	7.64	34.178	26.681	140.3	0.626	1.45	21.6	50.1	2.58	33.0	0.00			302	
317		7.66	7.63	34.219	26.715	137.4	0.650	1.12	16.7	52.9	2.69	34.0	0.00			319	204
383		7.44	7.40	34.312	26.821	128.4	0.738	0.55	8.2	59.5	2.96	35.8	0.00			385	203
400	ISL	7.32	7.28	34.318	26.843	126.5	0.759	0.49	7.3	61.5	2.98	36.3	0.00			403	
440		6.99	6.95	34.322	26.892	122.2	0.809	0.40	5.9	66.3	3.01	37.4	0.00			443	202
500	ISL	6.48	6.43	34.332	26.969	115.4	0.880	0.30	4.4	73.7	3.11	39.2	0.00			503	
510		6.40	6.35	34.334	26.981	114.3	0.892	0.28	4.1	74.9	3.13	39.5	0.00			513	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 20.9 N	118 33.6 W	03/04/97	1441	UTC	1366 m	060	06 kn	050 04 04	1	1009.2 mb	15.4 C	12.0 C	22m 03	2/8	CU

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	PRES db	SAMP
0	ISL	15.58	15.58	33.466	24.663	326.9	0.000	5.77	101.7	2.3	0.34	0.1	0.01	0.31	0.09	0	
2		15.58	15.58	33.466	24.663	326.9	0.007	5.77	101.7	2.3	0.34	0.1	0.01	0.31	0.09	2	220
10	ISL	15.58	15.58	33.468	24.665	327.0	0.033	5.76	101.5	2.2	0.34	0.1	0.01	0.32	0.09	10	
15		15.58	15.58	33.469	24.666	327.1	0.049	5.76	101.5	2.2	0.34	0.1	0.01	0.32	0.09	15	219
20	ISL	15.58	15.58	33.468	24.665	327.3	0.065	5.76	101.5	2.2	0.34	0.1	0.01	0.32	0.09	20	
30		15.58	15.58	33.467	24.665	327.6	0.098	5.76	101.5	2.2	0.33	0.1	0.01	0.32	0.09	30	218
44		15.56	15.55	33.465	24.668	327.7	0.144	5.76	101.4	2.2	0.33	0.1	0.01	0.33	0.10	44	217
50	ISL	15.40	15.39	33.459	24.699	325.0	0.164	5.74	100.8	2.3	0.35	0.3	0.02	0.37	0.12	50	
54		15.30	15.29	33.455	24.718	323.3	0.177	5.72	100.2	2.6	0.36	0.5	0.02	0.41	0.16	54	216
64		14.06	14.05	33.470	24.995	297.1	0.208	5.47	93.4	4.2	0.54	2.9	0.08	0.63	0.37	64	215
74		12.02	12.01	33.507	25.428	255.9	0.235	4.44	72.7	10.7	1.06	11.4	0.09	0.42	0.41	74	214
75	ISL	11.87	11.86	33.516	25.463	252.6	0.238	4.38	71.5	11.2	1.09	12.0	0.09	0.40	0.40	75	
84		10.90	10.89	33.603	25.708	229.4	0.259	3.96	63.3	15.0	1.32	15.8	0.05	0.22	0.23	84	213
95		10.32	10.31	33.701	25.885	212.7	0.284	3.64	57.5	18.8	1.51	19.0	0.01	0.06	0.09	95	212
100	ISL	10.16	10.15	33.741	25.944	207.2	0.294	3.48	54.8	20.3	1.59	20.1	0.01	0.05	0.08	100	
110		9.91	9.90	33.810	26.040	198.2	0.315	3.21	50.3	22.8	1.71	21.8	0.01	0.02	0.05	111	211
124		9.59	9.58	33.874	26.144	188.7	0.342	3.05	47.5	25.1	1.81	23.3	0.01	0.01	0.04	125	210
125	ISL	9.58	9.57	33.877	26.148	188.3	0.344	3.04	47.3	25.2	1.82	23.4	0.01	0.01	0.04	126	
142		9.47	9.45	33.916	26.197	184.0	0.375	2.88	44.7	27.1	1.89	24.5	0.01	0.00	0.04	143	209
150	ISL	9.28	9.26	33.935	26.242	179.8	0.390	2.86	44.2	28.2	1.92	25.0	0.01	0.00	0.04	151	
168		8.84	8.82	33.991	26.356	169.2	0.421	2.82	43.2	31.2	2.00	26.1	0.01	0.01	0.04	169	208
198		8.68	8.66	34.128	26.489	157.1	0.470	2.08	31.8	37.2	2.27	29.0	0.01	0.00	0.04	199	207
200	ISL	8.68	8.66	34.137	26.496	156.5	0.473	2.02	30.9	37.6	2.29	29.2	0.01			201	
227		8.61	8.59	34.238	26.587	148.5	0.514	1.35	20.6	42.9	2.53	31.1	0.01			228	206
250	ISL	8.46	8.43	34.258	26.626	145.1	0.548	1.23	18.7	45.6	2.60	32.0	0.01			251	
267		8.32	8.29	34.257	26.647	143.4	0.573	1.14	17.3	47.1	2.63	32.4	0.01			269	205
300	ISL	8.04	8.01	34.273	26.702	138.6	0.619	0.94	14.2	50.7	2.73	33.5	0.01			302	
316		7.89	7.86	34.280	26.730	136.2	0.641	0.85	12.8	52.5	2.78	34.1	0.01			318	204
377		7.35	7.31	34.305	26.828	127.6	0.722	0.55	8.2	60.5	2.94	36.2	0.00			379	203
400	ISL	7.19	7.15	34.311	26.855	125.2	0.751	0.48	7.1	62.7	2.99	36.8	0.00			403	
436		6.95	6.91	34.318	26.894	121.9	0.795	0.40	5.9	66.2	3.05	37.6	0.00			439	202
500	ISL	6.40	6.35	34.335	26.982	114.1	0.871	0.31	4.5	74.8	3.14	39.5	0.00			503	
517		6.25	6.20	34.340	27.005	111.9	0.890	0.29	4.2	77.1	3.17	40.0	0.00			521	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 10.6 N	118 53.7 W	03/04/97	1905 UTC	1471 m	300 11 kn	290 05 04	1	1009.5 mb	16.2 C	13.5 C	16m 04	2/8	CU

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	PRES db	SAMP
0	ISL	15.31	15.31	33.594	24.821	311.8	0.000	5.69	99.8	3.1	0.35	0.9	0.03	0.46	0.19	0	
2		15.30	15.30	33.594	24.823	311.7	0.006									2	221
2	A	15.31	15.31	33.594	24.821	311.9	0.006	5.69	99.8	3.1	0.35	0.9	0.03	0.46	0.19	2	220
10	ISL	15.15	15.15	33.596	24.858	308.6	0.031	5.71	99.8	3.1	0.34	0.9	0.03	0.55	0.24	10	
11	A	15.13	15.13	33.596	24.863	308.2	0.034	5.71	99.8	3.1	0.34	0.9	0.03	0.57	0.25	11	219
20	ISL	15.07	15.07	33.595	24.875	307.3	0.062	5.69	99.3	3.2	0.35	1.0	0.04	0.66	0.29	20	
21	A	15.06	15.06	33.595	24.877	307.1	0.065	5.69	99.3	3.2	0.35	1.0	0.04	0.67	0.29	21	218
30	ISL	12.58	12.58	33.632	25.417	255.9	0.090	4.26	70.7	11.8	0.98	10.8	0.29	0.93	0.58	30	
33	A	11.73	11.73	33.663	25.603	238.3	0.098	3.77	61.4	14.8	1.20	14.3	0.35	0.96	0.65	33	217
42	A	11.34	11.33	33.687	25.693	229.9	0.119	3.56	57.5	16.6	1.39	16.6	0.17	0.47	0.38	42	216
50	ISL	10.95	10.94	33.740	25.805	219.4	0.137	3.32	53.2	19.0	1.54	18.8	0.06	0.27	0.25	50	
51		10.91	10.90	33.747	25.817	218.2	0.139	3.29	52.7	19.3	1.55	19.0	0.05	0.26	0.24	51	215
59	A	10.72	10.71	33.770	25.869	213.5	0.156	3.18	50.7	20.4	1.61	19.9	0.04	0.20	0.21	59	214
68		10.29	10.28	33.846	26.003	200.9	0.175	2.94	46.5	23.3	1.76	22.0	0.02	0.08	0.18	68	213
75	ISL	10.10	10.09	33.886	26.067	195.0	0.189	2.81	44.2	24.8	1.83	23.0	0.02	0.06	0.15	75	
85		9.91	9.90	33.925	26.130	189.2	0.208	2.71	42.5	26.4	1.88	24.0	0.02	0.03	0.11	85	212
99		9.63	9.62	33.956	26.201	182.7	0.234	2.70	42.1	28.2	1.83	24.9	0.02	0.02	0.08	100	211
100	ISL	9.62	9.61	33.958	26.204	182.5	0.236	2.70	42.1	28.3	1.83	24.9	0.02	0.02	0.08	101	
120		9.43	9.42	34.017	26.282	175.5	0.272	2.48	38.5	30.5	2.02	26.1	0.01	0.01	0.07	121	210
125	ISL	9.34	9.33	34.046	26.319	172.0	0.280	2.36	36.6	32.1	2.08	26.7	0.01	0.01	0.07	126	
139		9.10	9.08	34.126	26.421	162.6	0.304	2.01	31.0	36.7	2.23	28.5	0.01	0.01	0.06	140	209
150	ISL	8.99	8.97	34.153	26.459	159.1	0.321	1.87	28.8	38.0	2.29	29.2	0.01	0.01	0.06	151	
169		8.85	8.83	34.172	26.497	155.9	0.351	1.74	26.7	38.9	2.35	29.9	0.01	0.01	0.06	170	208
199		8.59	8.57	34.199	26.559	150.5	0.397	1.55	23.6	42.2	2.44	30.9	0.01	0.01	0.06	200	207
200	ISL	8.58	8.56	34.200	26.561	150.3	0.399	1.54	23.5	42.3	2.44	30.9	0.01			201	
229		8.35	8.33	34.231	26.621	145.1	0.442	1.28	19.4	46.1	2.56	32.1	0.01			230	206
250	ISL	8.20	8.17	34.251	26.660	141.8	0.472	1.12	16.9	48.6	2.63	32.8	0.01			252	
268		8.07	8.04	34.265	26.691	139.1	0.497	1.00	15.1	50.7	2.69	33.4	0.01			270	205
300	ISL	7.86	7.83	34.283	26.736	135.3	0.541	0.82	12.3	54.1	2.78	34.4	0.01			302	
318		7.73	7.70	34.291	26.762	133.1	0.565	0.73	10.9	56.1	2.82	35.0	0.01			320	204
379		7.16	7.12	34.308	26.857	124.7	0.644	0.48	7.1	64.3	2.98	37.1	0.00			381	203
400	ISL	7.01	6.97	34.314	26.882	122.5	0.670	0.43	6.3	66.5	3.02	37.7	0.00			403	
437		6.78	6.74	34.324	26.922	119.1	0.714	0.36	5.3	69.9	3.07	38.5	0.00			440	202
500	ISL	6.41	6.36	34.337	26.982	114.1	0.788	0.29	4.2	75.6	3.12	39.7	0.00			503	
508		6.36	6.31	34.339	26.990	113.3	0.797	0.28	4.1	76.3	3.13	39.9	0.00			512	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 93 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 0.6 N	119 13.6 W	04/04/97	0104 UTC	1586 m	300 10 kn	310 05 05	2	1007.6 mb	15.7 C	14.4 C		8/8	CC

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	PRES db	SAMP
0	ISL	14.12	14.12	33.247	24.808	313.0	0.000	5.98	102.2	3.3	0.45	1.3	0.05	0.51	0.27	0	
2		14.12	14.12	33.247	24.808	313.1	0.006									2	224
2		14.12	14.12	33.247	24.808	313.1	0.006	5.98	102.2	3.3	0.45	1.3	0.05	0.51	0.27	2	223
10	ISL	14.11	14.11	33.247	24.811	313.1	0.031	5.98	102.1	3.2	0.44	1.3	0.05	0.56	0.16	10	
11		14.11	14.11	33.247	24.811	313.1	0.034	5.98	102.1	3.2	0.44	1.3	0.05	0.57	0.15	11	222
19		14.00	14.00	33.248	24.835	311.1	0.059	6.01	102.4	3.1	0.43	1.1	0.05	0.62	0.23	19	221
20	ISL	13.86	13.86	33.249	24.864	308.3	0.062	5.98	101.6	3.2	0.45	1.4	0.06	0.62	0.24	20	
29		12.47	12.47	33.289	25.172	279.1	0.089	5.58	92.1	5.4	0.73	5.4	0.15	0.63	0.35	29	220
30	ISL	12.37	12.37	33.295	25.196	276.9	0.092	5.52	91.0	5.7	0.76	5.9	0.15	0.62	0.35	30	
39		11.79	11.79	33.380	25.372	260.4	0.116	4.94	80.4	8.8	1.00	9.8	0.16	0.50	0.34	39	219
49		11.65	11.64	33.550	25.530	245.6	0.141	4.13	67.1	13.0	1.26	13.6	0.08	0.36	0.28	49	218
50	ISL	11.65	11.64	33.563	25.540	244.6	0.144	4.07	66.1	13.3	1.28	13.8	0.07	0.35	0.28	50	
59		11.61	11.60	33.672	25.632	236.1	0.165	3.63	59.0	15.6	1.40	15.6	0.04	0.24	0.26	59	217
70		11.22	11.21	33.747	25.762	224.0	0.191	3.29	53.0	18.4	1.55	17.8	0.03	0.12	0.18	70	216
75	ISL	11.05	11.04	33.781	25.819	218.6	0.202	3.05	49.0	19.7	1.63	18.8	0.03	0.08	0.15	75	
85		10.73	10.72	33.849	25.929	208.4	0.223	2.63	42.0	22.4	1.78	20.8	0.02	0.03	0.11	85	215
100		10.33	10.32	33.949	26.077	194.6	0.253	2.52	39.9	25.9	1.96	23.4	0.01	0.01	0.06	101	214
120		10.15	10.14	34.004	26.151	188.0	0.291	2.33	36.8	27.8	2.06	24.6	0.01	0.01	0.05	121	213
125	ISL	10.07	10.06	34.023	26.180	185.4	0.301	2.27	35.7	28.5	2.09	25.0	0.01	0.01	0.05	126	
140		9.84	9.82	34.081	26.264	177.7	0.328	2.10	32.9	30.8	2.19	26.3	0.01	0.00	0.05	141	212
150	ISL	9.74	9.72	34.111	26.305	174.0	0.346	2.00	31.3	32.0	2.24	26.9	0.01	0.00	0.05	151	
169		9.61	9.59	34.157	26.363	168.9	0.378	1.82	28.4	33.9	2.32	27.8	0.01	0.00	0.05	170	211
199		9.50	9.48	34.212	26.424	163.7	0.428	1.56	24.3	36.2	2.42	28.8	0.01	0.00	0.04	200	210
200	ISL	9.48	9.46	34.213	26.428	163.3	0.430	1.55	24.1	36.3	2.42	28.9	0.01			201	
227		9.01	8.99	34.235	26.522	154.8	0.473	1.44	22.2	40.4	2.51	30.2	0.00			228	209
250	ISL	8.84	8.81	34.252	26.562	151.4	0.508	1.31	20.1	42.3	2.57	30.9	0.00			251	
267		8.73	8.70	34.259	26.585	149.5	0.533	1.22	18.7	43.7	2.61	31.4	0.00			269	208
300	ISL	8.20	8.17	34.251	26.661	142.6	0.582	1.11	16.8	48.5	2.70	32.9	0.00			302	
319		7.87	7.84	34.246	26.706	138.5	0.608	1.04	15.6	51.7	2.76	33.9	0.00			321	207
376		7.28	7.24	34.275	26.814	128.8	0.685	0.66	9.8	60.4	2.95	36.4	0.00			378	206
400	ISL	7.09	7.05	34.287	26.850	125.6	0.715	0.55	8.1	63.4	3.01	37.2	0.00			403	
435		6.86	6.82	34.305	26.896	121.6	0.758	0.44	6.5	67.4	3.08	38.1	0.00			438	205
500	ISL	6.49	6.44	34.332	26.968	115.5	0.835	0.31	4.5	73.4	3.16	39.5	0.00			503	
514		6.41	6.36	34.338	26.983	114.2	0.851									518	201
515		6.41	6.36	34.338	26.983	114.2	0.853									519	202
515		6.41	6.36	34.338	26.983	114.2	0.853	0.28	4.1	74.8	3.18	39.8	0.00			519	204
515		6.41	6.36	34.338	26.983	114.2	0.853									519	203

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 50.6 N	119 34.6 W	04/04/97	0520	UTC	1847 m	290	10 kn			1009.2 mb	14.1 C	13.1 C			

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	PRES db	SAMP
0	ISL	13.97	13.97	33.300	24.880	306.1	0.000	5.99	102.1	3.1	0.45	1.5	0.06	0.39	0.13	0	
2		13.97	13.97	33.300	24.880	306.2	0.006	5.99	102.1	3.1	0.45	1.5	0.06	0.39	0.13	2	222
10		13.97	13.97	33.302	24.882	306.3	0.031	6.01	102.4	3.1	0.44	1.5	0.06	0.40	0.14	10	221
20		13.83	13.83	33.321	24.926	302.4	0.061	6.00	101.9	3.2	0.46	1.8	0.07	0.43	0.16	20	220
30		13.70	13.70	33.404	25.017	294.0	0.091	5.92	100.4	3.5	0.52	2.6	0.09	0.65	0.25	30	219
40		13.76	13.75	33.425	25.021	293.9	0.120	5.91	100.3	3.6	0.52	2.5	0.09	0.56	0.29	40	218
49		13.48	13.47	33.38 D	25.044	291.9	0.147									49	217
50	ISL	13.38	13.37	33.370	25.057	290.8	0.150	5.82	98.0	4.1	0.60	3.5	0.28	0.50	0.27	50	
60		12.38	12.37	33.309	25.206	276.7	0.178	5.63	92.8	4.7	0.74	5.4	0.48	0.44	0.26	60	216
71		11.94	11.93	33.393	25.355	262.8	0.208	5.30	86.6	6.9	0.92	8.5	0.48	0.32 A	0.21 A	71	215
75	ISL	11.67	11.66	33.417	25.424	256.3	0.218	5.03	81.7	8.5	1.02	10.3	0.37	0.27	0.18	75	
84		11.04	11.03	33.478	25.586	241.0	0.240	4.41	70.7	12.5	1.23	14.3	0.10	0.16	0.12	84	214
99		10.26	10.25	33.641	25.849	216.2	0.275	3.96	62.5	16.8	1.39	17.7	0.02	0.05	0.07	99	213
100	ISL	10.22	10.21	33.649	25.862	215.0	0.277	3.93	62.0	17.1	1.40	17.9	0.02	0.05	0.07	100	
119		9.55	9.54	33.752	26.055	197.0	0.316	3.56	55.3	22.0	1.63	21.5	0.02	0.01	0.05	120	212
125	ISL	9.42	9.41	33.772	26.092	193.6	0.328	3.49	54.1	23.0	1.67	22.2	0.02	0.01	0.05	126	
140		9.15	9.13	33.815	26.169	186.5	0.356	3.35	51.6	25.2	1.76	23.4	0.01	0.01	0.04	141	211
150	ISL	8.95	8.93	33.849	26.228	181.0	0.375	3.28	50.3	26.8	1.81	24.2	0.01	0.01	0.04	151	
169		8.65	8.63	33.928	26.337	171.0	0.408	3.04	46.4	30.4	1.92	25.9	0.01	0.00	0.03	170	210
199		8.58	8.56	34.101	26.484	157.7	0.457	2.08	31.7	37.7	2.26	29.3	0.01	0.00	0.04	200	209
200	ISL	8.57	8.55	34.104	26.487	157.3	0.459	2.06	31.4	37.9	2.27	29.4	0.01			201	
228		8.35	8.33	34.145	26.554	151.5	0.502	1.78	27.0	41.5	2.40	30.7	0.01			229	208
250	ISL	8.19	8.16	34.183	26.608	146.7	0.535	1.51	22.8	44.9	2.51	31.8	0.01			251	
270		8.04	8.01	34.214	26.655	142.5	0.564	1.26	19.0	48.0	2.61	32.7	0.01			272	207
300	ISL	7.74	7.71	34.240	26.720	136.7	0.606	1.00	15.0	52.5	2.73	34.0	0.01			302	
321		7.52	7.49	34.252 D	26.761	133.0	0.634	0.69 U	10.3U	59.7 U	2.88 U	36.1 U	0.01 U			323	206
377		7.05	7.01	34.275 D	26.846	125.6	0.706	0.65 U	9.6U	60.6 U	2.90 U	36.3 U	0.00 U			379	205
400	ISL	6.89	6.85	34.287	26.878	122.8	0.735	0.46	6.7	65.8	3.01	37.6	0.00			403	
436		6.66	6.62	34.303	26.922	119.0	0.779	0.39	5.7	70.0	3.07	38.6	0.00			439	204
500	ISL	6.25	6.21	34.314	26.984	113.6	0.853	0.30	4.3	76.2	3.15	39.9	0.00			503	
508		6.20	6.15	34.316	26.993	112.9	0.862	0.29	4.2	77.0	3.16	40.1	0.00			511	203
508		6.20	6.15	34.316	26.993	112.9	0.862									511	201
508		6.20	6.15	34.315	26.992	113.0	0.862									511	202

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

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 30.8 N	120 14.8 W	04/04/97	1120	UTC	3940 m	300	14 kn			1010.7 mb	14.1 C	13.0 C			

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	PRES db	SAMP
0	ISL	14.68	14.68	33.213	24.664	326.8	0.000	5.92	102.3	2.1	0.34	0.0	0.00	0.29	0.09	0	
3		14.68	14.68	33.213	24.664	326.8	0.010	5.92	102.3	2.1	0.34	0.0	0.00	0.29	0.09	3	224
10		14.69	14.69	33.213	24.662	327.2	0.033	5.89	101.8	2.1	0.34	0.0	0.00	0.27	0.11	10	223
20		14.68	14.68	33.213	24.665	327.3	0.065	5.92	102.3	2.0	0.34	0.0	0.00	0.29	0.10	20	222
30		14.61	14.61	33.205	24.674	326.7	0.098	5.95	102.6	2.0	0.34	0.0	0.00	0.36	0.13	30	221
40		14.57	14.56	33.207	24.684	326.0	0.131	5.94	102.4	2.0	0.33	0.1	0.00	0.42	0.13	40	220
50		14.47	14.46	33.200	24.700	324.8	0.163	5.93	102.0	2.1	0.34	0.1	0.01	0.40	0.21	50	219
59		14.27	14.26	33.183	24.729	322.2	0.192	5.92	101.4	2.1	0.37	0.4	0.02	0.47	0.24	59	218
69		13.43	13.42	33.180	24.900	306.2	0.224	5.78	97.3	3.0	0.50	1.9	0.12	0.48	0.41	69	217
75	ISL	13.02	13.01	33.185	24.986	298.1	0.242	5.64	94.1	3.7	0.58	3.2	0.18	0.42	0.37	75	
83		12.50	12.49	33.205	25.103	287.1	0.265	5.40	89.2	4.9	0.71	5.3	0.21	0.32	0.25	83	216
99		11.39	11.38	33.312	25.394	259.7	0.309	4.79	77.3	9.2	1.04	11.0	0.03	0.16	0.14	99	215
100	ISL	11.34	11.33	33.321	25.410	258.2	0.312	4.76	76.7	9.5	1.06	11.3	0.03	0.15	0.14	100	
119		10.56	10.55	33.496	25.685	232.3	0.358	4.20	66.6	14.5	1.32	16.0	0.01	0.07	0.07	120	214
125	ISL	10.33	10.32	33.546	25.764	224.9	0.372	4.04	63.8	16.1	1.39	17.3	0.01	0.05	0.06	126	
138		9.88	9.86	33.644	25.916	210.6	0.400	3.73	58.4	19.4	1.54	19.9	0.01	0.02	0.05	139	213
150	ISL	9.55	9.53	33.717	26.028	200.2	0.425	3.46	53.8	22.2	1.68	22.0	0.01	0.01	0.04	151	
167		9.14	9.12	33.806	26.164	187.5	0.458	3.17	48.8	25.9	1.84	24.4	0.00	0.00	0.04	168	212
198		8.41	8.39	33.971	26.408	164.7	0.513	3.04	46.1	32.0	1.96	26.4	0.00	0.00	0.03	199	211
200	ISL	8.38	8.36	33.977	26.417	163.9	0.516	3.02	45.8	32.4	1.97	26.5	0.00			201	
229		8.02	8.00	34.025	26.509	155.5	0.562	2.69	40.5	37.3	2.13	28.5	0.00			230	210
250	ISL	7.63	7.61	34.024	26.565	150.4	0.594	2.62	39.0	40.9	2.19	29.7	0.00			251	
268		7.33	7.30	34.021	26.606	146.7	0.621	2.55	37.7	43.9	2.24	30.7	0.00			269	209
300	ISL	7.21	7.18	34.066	26.658	142.2	0.667	2.08	30.7	48.4	2.41	32.5	0.00			302	
317		7.19	7.16	34.092	26.682	140.2	0.691	1.80	26.6	50.7	2.50	33.5	0.00			319	208
378		6.52	6.49	34.100	26.779	131.4	0.774	1.36	19.8	60.6	2.72	36.7	0.00			380	207
400	ISL	6.33	6.29	34.116	26.817	128.0	0.803	1.18	17.1	64.6	2.80	37.7	0.00			402	
436		6.07	6.03	34.148	26.875	122.7	0.848	0.91	13.1	71.0	2.93	39.2	0.00			439	206
500	ISL	5.72	5.68	34.209	26.968	114.5	0.924	0.56	8.0	79.5	3.08	41.0	0.00			503	
520		5.61	5.57	34.229	26.997	111.9	0.946									523	201
520		5.60	5.56	34.228	26.998	111.8	0.946									523	204
521		5.60	5.56	34.229	26.999	111.8	0.947									524	202
521		5.60	5.56	34.228	26.998	111.8	0.947									524	203
522		5.60	5.56	34.230	26.999	111.7	0.949	0.44	6.3	82.4	3.13	41.6	0.00			525	205

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 10.8 N	120 56.6 W	04/04/97	1833 UTC	3736 m	310 16 kn	310 05 04	1	1013.8 mb	13.7 C	11.7 C	27m 01	2/8	CU

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	PRES db	SAMP
0	ISL	15.40	15.40	33.245	24.533	339.3	0.000	5.81	101.9	2.2	0.33	0.1	0.00	0.11	0.03	0	
2	A	15.40	15.40	33.245	24.533	339.3	0.007	5.81	101.9	2.2	0.33	0.1	0.00	0.11	0.03	2	222
2		15.40	15.40	33.242	24.530	339.6	0.007									2	223
10	ISL	15.38	15.38	33.244	24.536	339.2	0.034	5.82	102.0	2.2	0.33	0.1	0.00	0.11	0.03	10	
17	A	15.36	15.36	33.242	24.540	339.1	0.058	5.83	102.1	2.2	0.32	0.1	0.00	0.11	0.04	17	221
20	ISL	15.35	15.35	33.241	24.541	339.1	0.068	5.82	101.9	2.2	0.32	0.1	0.00	0.11	0.04	20	
27		15.34	15.34	33.241	24.544	339.1	0.092	5.80	101.6	2.2	0.32	0.1	0.00	0.11	0.04	27	220
30	ISL	15.33	15.33	33.242	24.547	338.9	0.102	5.80	101.5	2.2	0.33	0.1	0.00	0.11	0.04	30	
37	A	15.32	15.31	33.244	24.551	338.7	0.125	5.81	101.7	2.2	0.35	0.2	0.00	0.11	0.03	37	219
46		15.31	15.30	33.242	24.552	338.9	0.156	5.83	102.0	2.2	0.37	0.2	0.00	0.12	0.04	46	218
50	ISL	15.24	15.23	33.237	24.563	337.9	0.169	5.83	101.9	2.2	0.35	0.2	0.00	0.14	0.05	50	
55	A	15.15	15.14	33.230	24.578	336.7	0.186	5.83	101.7	2.3	0.33	0.1	0.00	0.16	0.06	55	217
65		13.73	13.72	33.167	24.829	312.9	0.219	5.73	97.0	3.2	0.46	1.4	0.08	0.54	0.37	65	216
72	A	13.29	13.28	33.174	24.923	304.0	0.240	5.56	93.3	4.2	0.56	3.2	0.19	0.42	0.33	72	215
75	ISL	13.28	13.27	33.210	24.953	301.3	0.250	5.50	92.3	4.3	0.57	3.4	0.17	0.41	0.32	75	
83		13.26	13.25	33.352	25.068	290.6	0.273	5.31	89.2	5.0	0.65	4.6	0.06	0.38	0.28	83	214
92		11.53	11.52	33.263	25.330	265.6	0.298	5.02	81.2	8.7	0.96	9.7	0.02	0.20	0.15	92	213
99	A	11.17	11.16	33.373	25.481	251.4	0.316	4.68	75.2	10.9	1.07	12.0	0.01	0.12	0.11	99	212
100	ISL	11.14	11.13	33.387	25.497	249.8	0.319	4.67	75.0	11.0	1.07	12.1	0.01	0.11	0.11	100	
113		10.85	10.84	33.524	25.656	235.0	0.350	4.56	72.8	12.6	1.10	12.9	0.01	0.08	0.07	113	211
123		10.39	10.38	33.582	25.781	223.2	0.373	4.32	68.3	15.0	1.27	15.3	0.01	0.04	0.05	124	210
125	ISL	10.31	10.30	33.591	25.802	221.3	0.378	4.28	67.6	15.5	1.30	15.8	0.01	0.04	0.05	126	
144		9.63	9.61	33.677	25.984	204.3	0.418	3.89	60.5	20.3	1.52	19.8	0.01	0.01	0.07	145	209
150	ISL	9.46	9.44	33.712	26.039	199.1	0.430	3.76	58.3	21.7	1.59	20.9	0.01	0.01	0.06	151	
169		9.02	9.00	33.819	26.193	184.7	0.467	3.45	53.0	25.7	1.76	23.4	0.00	0.00	0.02	170	208
199		8.42	8.40	33.920	26.366	168.7	0.520	3.46	52.5	30.0	1.83	24.6	0.00	0.00	0.02	200	207
200	ISL	8.40	8.38	33.923	26.371	168.2	0.521	3.45	52.3	30.3	1.84	24.7	0.00			201	
228		7.85	7.83	34.002	26.516	154.8	0.567	2.91	43.6	37.6	2.09	28.2	0.00			229	206
250	ISL	7.65	7.63	34.040	26.575	149.5	0.600	2.54	37.9	41.7	2.23	30.0	0.00			251	
269		7.52	7.49	34.062	26.611	146.3	0.628	2.24	33.3	44.9	2.34	31.3	0.00			270	205
300	ISL	7.12	7.09	34.087	26.687	139.4	0.672	1.78	26.2	51.8	2.54	33.9	0.00			302	
319		6.87	6.84	34.100	26.732	135.3	0.699	1.53	22.4	56.0	2.65	35.3	0.00			321	204
379		6.45	6.42	34.148	26.826	127.0	0.777	1.03	14.9	64.7	2.87	37.7	0.00			381	203
400	ISL	6.32	6.28	34.176	26.865	123.4	0.803	0.84	12.2	68.2	2.94	38.5	0.00			402	
439		6.11	6.07	34.228	26.934	117.4	0.850	0.54	7.8	74.4	3.05	39.9	0.00			442	202
500	ISL	5.81	5.77	34.278	27.011	110.5	0.920	0.36	5.1	81.1	3.14	41.0	0.00			503	
515		5.74	5.70	34.291	27.031	108.9	0.936	0.32	4.6	82.7	3.16	41.3	0.00			518	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 50.6 N	121 35.5 W	05/04/97	0047 UTC	4102 m	300 16 kn	300 08 06	2	1013.2 mb	15.4 C	13.1 C		8/8	SC

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	PRES db	SAMP
0	ISL	15.37	15.37	33.284	24.569	335.8	0.000	5.85	102.5	2.4	0.31	0.1	0.00	0.18	0.04	0	
2		15.37	15.37	33.284	24.569	335.9	0.007	5.85	102.5	2.4	0.31	0.1	0.00	0.18	0.04	2	223
2		15.38	15.38	33.283	24.566	336.1	0.007	5.85	102.5	2.3	0.31	0.1	0.00	0.18	0.04	2	222
7		15.37	15.37	33.283	24.569	336.1	0.024	5.85	102.5	2.3	0.31	0.1	0.00	0.19	0.04	7	221
10	ISL	15.35	15.35	33.279	24.570	336.0	0.034	5.86	102.7	2.3	0.31	0.1	0.00	0.19	0.03	10	
12		15.34	15.34	33.277	24.571	336.0	0.040	5.86	102.6	2.3	0.31	0.1	0.00	0.19	0.03	12	220
16		15.34	15.34	33.277	24.571	336.1	0.054	5.86	102.6	2.2	0.31	0.1	0.00	0.19	0.04	16	219
20	ISL	15.20	15.20	33.253	24.583	335.1	0.067	5.87	102.5	2.2	0.31	0.1	0.00	0.20	0.04	20	
29		14.82	14.82	33.190	24.617	332.1	0.097	5.90	102.2	2.2	0.32	0.0	0.00	0.22	0.05	29	218
30	ISL	14.82	14.82	33.190	24.617	332.1	0.101	5.90	102.2	2.2	0.32	0.0	0.00	0.22	0.05	30	
45		14.79	14.78	33.189	24.624	332.0	0.150	5.91	102.3	2.3	0.32	0.1	0.00	0.25	0.06	45	217
50	ISL	14.79	14.78	33.188	24.623	332.2	0.167	5.91	102.3	2.2	0.32	0.1	0.00	0.27	0.06	50	
54		14.79	14.78	33.188	24.623	332.3	0.180	5.90	102.1	2.2	0.32	0.1	0.00	0.28	0.07	54	216
64		14.77	14.76	33.186	24.626	332.3	0.213	5.89	101.9	2.2	0.32	0.1	0.00	0.32	0.09	64	215
75		13.80	13.79	33.112	24.772	318.5	0.249	5.77	97.8	2.6	0.43	1.3	0.06	0.38	0.22	75	214
85		12.65	12.64	33.120	25.008	296.2	0.280	5.55	91.9	3.9	0.61	3.6	0.09	0.35	0.26	85	213
96		12.40	12.39	33.234	25.145	283.5	0.312	5.40	89.0	5.0	0.64	4.7	0.05	0.31	0.26	96	212
100	ISL	12.14	12.13	33.269	25.221	276.2	0.323	5.27	86.4	6.0	0.72	6.1	0.04	0.27	0.23	100	
109		11.49	11.48	33.341	25.398	259.5	0.347	4.92	79.6	8.8	0.93	9.8	0.03	0.18	0.15	109	211
123		10.79	10.78	33.433	25.596	240.9	0.382	4.42	70.4	13.4	1.23	14.6	0.01	0.08	0.09	124	210
125	ISL	10.69	10.68	33.446	25.623	238.3	0.387	4.36	69.3	14.0	1.26	15.2	0.01	0.07	0.08	126	
143		9.87	9.85	33.570	25.860	216.0	0.428	3.86	60.3	19.0	1.52	19.4	0.01	0.02	0.04	144	209
150	ISL	9.63	9.61	33.628	25.945	208.0	0.443	3.65	56.8	21.1	1.62	21.0	0.01	0.01	0.04	151	
169		9.12	9.10	33.774	26.142	189.6	0.480	3.21	49.4	26.3	1.84	24.4	0.00	0.00	0.04	170	208
199		8.56	8.54	33.914	26.340	171.2	0.535	3.16	48.1	30.2	1.92	25.7	0.00	0.00	0.03	200	207
200	ISL	8.54	8.52	33.916	26.345	170.8	0.536	3.16	48.1	30.3	1.92	25.7	0.00			201	
229		8.14	8.12	33.965	26.444	161.7	0.585	3.04	45.8	33.9	2.01	27.1	0.00			230	206
250	ISL	7.85	7.83	34.001	26.515	155.2	0.618	2.81	42.1	37.9	2.12	28.6	0.00			251	
268		7.60	7.57	34.028	26.573	149.9	0.645	2.57	38.3	41.7	2.22	30.0	0.00			269	205
300	ISL	7.11	7.08	34.046	26.656	142.3	0.692	2.18	32.1	48.5	2.40	32.5	0.00			302	
320		6.83	6.80	34.055	26.702	138.1	0.720	1.92	28.1	52.9	2.52	34.0	0.00			322	204
379		6.34	6.31	34.127	26.824	127.1	0.798	1.09	15.8	65.4	2.84	37.9	0.00			381	203
400	ISL	6.20	6.16	34.148	26.859	124.0	0.825	0.91	13.1	68.8	2.92	38.7	0.00			402	
438		5.99	5.95	34.184	26.914	119.1	0.871	0.68	9.8	74.0	3.03	39.8	0.00			441	202
500	ISL	5.71	5.67	34.251	27.002	111.3	0.942	0.40	5.7	81.5	3.16	41.1	0.00			503	
512		5.66	5.62	34.264	27.019	109.8	0.956	0.34	4.8	82.9	3.18	41.3	0.00			515	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 93 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 30.9 N	122 16.3 W	05/04/97	0632	UTC	4177 m	310	10 kn			1016.0 mb	14.5 C	11.8 C			

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	PRES db	SAMP
0	ISL	15.45	15.45	33.202	24.489	343.5	0.000	5.81	101.9	1.4	0.31	0.0	0.00	0.09	0.03	0	
3		15.45	15.45	33.202	24.489	343.6	0.010	5.81	101.9	1.4	0.31	0.0	0.00	0.09	0.03	3	220
10	ISL	15.45	15.45	33.202	24.489	343.7	0.034	5.80	101.8	1.4	0.31	0.0	0.00	0.09	0.03	10	
16		15.45	15.45	33.202	24.489	343.9	0.055	5.79	101.6	1.5	0.31	0.0	0.00	0.09	0.03	16	219
20	ISL	15.43	15.43	33.201	24.493	343.7	0.069	5.79	101.5	1.5	0.31	0.0	0.00	0.09	0.03	20	
30		15.36	15.36	33.197	24.505	342.8	0.103	5.80	101.6	1.5	0.31	0.0	0.00	0.08	0.03	30	218
45		15.35	15.34	33.197	24.508	343.0	0.155	5.82	101.9	1.4	0.31	0.0	0.00	0.28	0.15	45	217
50	ISL	15.35	15.34	33.197	24.508	343.1	0.172	5.81	101.7	1.4	0.31	0.0	0.00	0.22	0.11	50	
60		15.35	15.34	33.197	24.509	343.4	0.206	5.80	101.5	1.5	0.30	0.0	0.00	0.10	0.04	60	216
75		14.68	14.67	33.166	24.630	332.2	0.257	5.86	101.2	1.9	0.34	0.0	0.00	0.30	0.22	75	215
86		14.01	14.00	33.183	24.784	317.7	0.292	5.83	99.3	2.5	0.42	0.8	0.07	0.46	0.37	86	214
96		13.46	13.45	33.185	24.899	307.1	0.324	5.86	98.7	2.9	0.48	1.5	0.12	0.38	0.24	96	213
100	ISL	13.48	13.47	33.211	24.915	305.6	0.336	5.79	97.6	3.0	0.49	1.7	0.13	0.36	0.25	100	
107		13.52	13.51	33.270	24.952	302.3	0.357	5.62	94.8	3.4	0.51	2.3	0.16	0.32	0.27	107	212
115		13.20	13.18	33.336	25.068	291.4	0.381	5.42	90.9	4.1	0.56	3.5	0.08	0.26	0.24	115	211
123		12.44	12.42	33.419	25.281	271.2	0.403	5.22	86.2	6.0	0.67	5.6	0.02	0.16	0.16	124	210
125	ISL	12.26	12.24	33.430	25.324	267.1	0.409	5.17	85.0	6.5	0.70	6.2	0.02	0.14	0.15	126	
138		11.26	11.24	33.476	25.546	246.2	0.442	4.81	77.5	9.9	0.94	10.3	0.01	0.08	0.09	139	209
150	ISL	10.58	10.56	33.531	25.709	230.7	0.471	4.48	71.1	13.2	1.16	13.8	0.01	0.04	0.06	151	
165		9.93	9.91	33.611	25.883	214.4	0.504	4.12	64.5	17.4	1.39	17.6	0.01	0.02	0.03	166	208
192		8.97	8.95	33.798	26.185	185.9	0.558	3.82	58.6	24.1	1.63	21.9	0.01	0.00	0.02	193	207
200	ISL	8.81	8.79	33.834	26.239	180.9	0.573	3.71	56.7	25.6	1.69	22.8	0.01			201	
230		8.37	8.35	33.927	26.380	168.0	0.625	3.30	50.0	31.1	1.90	25.7	0.00			231	206
250	ISL	8.00	7.97	33.972	26.470	159.5	0.658	3.03	45.5	35.5	2.04	27.6	0.00			251	
269		7.66	7.63	34.004	26.545	152.6	0.688	2.78	41.5	39.8	2.16	29.2	0.00			270	205
300	ISL	7.26	7.23	34.033	26.625	145.3	0.734	2.37	35.0	46.0	2.34	31.6	0.00			302	
317		7.08	7.05	34.044	26.659	142.3	0.758	2.15	31.6	49.3	2.43	32.8	0.00			319	204
377		6.55	6.52	34.097	26.773	132.0	0.841	1.39	20.2	60.7	2.73	36.6	0.00			379	203
400	ISL	6.29	6.25	34.111	26.818	127.9	0.870	1.18	17.1	65.5	2.83	37.9	0.00			402	
439		5.90	5.86	34.143	26.893	121.0	0.919	0.87	12.5	73.1	2.98	39.7	0.00			442	202
500	ISL	5.75	5.71	34.237	26.986	112.8	0.990	0.47	6.7	80.4	3.14	41.1	0.00			503	
512		5.72	5.68	34.255	27.005	111.3	1.004	0.39	5.6	81.8	3.17	41.4	0.00			515	201

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 93 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 10.8 N	122 55.9 W	05/04/97	1212	UTC	3879 m	340	10 kn			1015.0 mb	14.9 C	11.9 C			

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	PRES db	SAMP
0	ISL	15.68	15.68	33.246	24.471	345.1	0.000	5.76	101.6	1.7	0.29	0.1	0.00	0.09	0.03	0	
2		15.68	15.68	33.246	24.471	345.2	0.007	5.76	101.6	1.7	0.29	0.1	0.00	0.09	0.03	2	224
10	ISL	15.69	15.69	33.248	24.471	345.5	0.035	5.76	101.6	1.7	0.28	0.1	0.00	0.09	0.03	10	
15		15.69	15.69	33.249	24.472	345.5	0.052	5.76	101.6	1.7	0.28	0.1	0.00	0.09	0.03	15	223
20	ISL	15.69	15.69	33.250	24.473	345.6	0.069	5.75	101.4	1.7	0.28	0.1	0.00	0.09	0.03	20	
29		15.69	15.69	33.251	24.474	345.8	0.100	5.74	101.2	1.7	0.29	0.1	0.00	0.09	0.03	29	222
30	ISL	15.69	15.69	33.251	24.474	345.8	0.104	5.74	101.2	1.7	0.29	0.1	0.00	0.09	0.03	30	
44		15.70	15.69	33.248	24.470	346.6	0.152	5.76	101.6	1.7	0.28	0.1	0.00	0.09	0.03	44	221
50	ISL	15.70	15.69	33.249	24.471	346.7	0.173	5.77	101.8	1.7	0.28	0.1	0.00	0.09	0.03	50	
59		15.70	15.69	33.252	24.474	346.7	0.204	5.77	101.8	1.7	0.28	0.1	0.00	0.10	0.03	59	220
75		15.63	15.62	33.243	24.483	346.4	0.260	5.76	101.4	1.6	0.29	0.0	0.00	0.15	0.06	75	219
86		14.69	14.68	33.179	24.638	331.7	0.297	5.84	100.9	1.9	0.33	0.0	0.00	0.30	0.35	86	218
95		14.55	14.54	33.294	24.757	320.7	0.326	5.74	98.9	2.3	0.36	0.4	0.04	0.41	0.33	95	217
100	ISL	14.22	14.21	33.299	24.831	313.8	0.342	5.66	96.9	2.6	0.41	1.0	0.08	0.38	0.33	100	
102		14.05	14.04	33.291	24.860	311.0	0.348	5.63	96.0	2.7	0.43	1.3	0.09	0.36	0.33	102	216
114		12.86	12.84	33.171	25.007	297.1	0.385	5.55	92.3	3.2	0.55	2.8	0.07	0.27	0.25	114	215
124		11.92	11.90	33.138	25.162	282.5	0.414	5.34	87.0	5.2	0.74	5.7	0.03	0.21	0.24	125	214
125	ISL	11.88	11.86	33.151	25.179	280.8	0.417	5.31	86.5	5.4	0.76	6.0	0.03	0.20	0.23	126	
138		11.52	11.50	33.371	25.417	258.5	0.452	4.88	79.0	8.8	0.96	9.9	0.01	0.09	0.09	139	213
150	ISL	11.03	11.01	33.448	25.565	244.5	0.482	4.53	72.6	11.9	1.15	13.2	0.01	0.06	0.07	151	
164		10.39	10.37	33.501	25.719	230.0	0.515	4.14	65.4	15.8	1.37	16.7	0.01	0.03	0.04	165	212
193		9.19	9.17	33.779	26.135	190.7	0.576	3.36	51.8	24.7	1.78	23.4	0.01	0.00	0.03	194	211
200	ISL	9.01	8.99	33.817	26.194	185.3	0.589	3.36	51.6	25.9	1.81	24.0	0.01			201	
229		8.46	8.44	33.912	26.354	170.4	0.641	3.34	50.7	29.9	1.88	25.3	0.00			230	210
250	ISL	8.05	8.02	33.958	26.452	161.3	0.676	3.18	47.8	33.8	1.97	26.7	0.00			251	
268		7.75	7.72	33.984	26.517	155.4	0.704	3.00	44.8	37.2	2.06	28.0	0.00			269	209
300	ISL	7.44	7.41	34.009	26.581	149.6	0.753	2.75	40.8	41.5	2.18	29.6	0.00			302	
318		7.28	7.25	34.022	26.614	146.7	0.780									320	204
318		7.30	7.27	34.019	26.609	147.2	0.780	2.58	38.2	44.2	2.25	30.6	0.00			320	208
319		7.29	7.26	34.021	26.612	146.9	0.781									321	205
319		7.29	7.26	34.017	26.609	147.2	0.781									321	207
319		7.29	7.26	34.019	26.610	147.1	0.781									321	206
380		6.53	6.50	34.093	26.772	132.1	0.866	1.48	21.5	60.0	2.70	36.1	0.00			382	203
400	ISL	6.43	6.39	34.126	26.812	128.6	0.892	1.20	17.4	63.6	2.81	37.2	0.00			402	
438		6.30	6.26	34.186	26.876	122.9	0.940	0.77	11.1	69.3	2.97	38.7	0.00			441	202
500	ISL	5.94	5.90	34.249	26.972	114.4	1.014	0.46	6.6	77.8	3.13	40.4	0.00			503	
515		5.85	5.81	34.265	26.996	112.2	1.031	0.38	5.4	79.8	3.17	40.8	0.00			518	201

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
29 51.9 N	123 37.0 W	05/04/97	2058	UTC	3730 m	360 07 kn	340 04 04	1	1018.0 mb	15.2 C	12.5 C	25m 01	7/8	AC

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	PRES db	SAMP
0	ISL	15.90	15.90	33.256	24.430	349.1	0.000	5.82	103.1	2.1	0.30	0.0	0.00	0.10	0.03	0	
0		15.90	15.90	33.256	24.430	349.1	0.000									0	224
1		15.90	15.90	33.256	24.430	349.1	0.003	5.82	103.1	2.1	0.30	0.0	0.00	0.10	0.03	1	223
9		15.37	15.37	33.242	24.537	339.1	0.031									9	220
9		15.37	15.37	33.241	24.536	339.2	0.031									9	222
10		15.37	15.37	33.243	24.538	339.1	0.034									10	221
15		15.33	15.33	33.235	24.541	339.0	0.051	5.86	102.6	2.0	0.32	0.0	0.00	0.12	0.04	15	219
10	ISL	15.57	15.57	33.244	24.495	343.2	0.034	5.84	102.7	2.0	0.31	0.0	0.00	0.11	0.04	10	
20	ISL	15.27	15.27	33.223	24.545	338.7	0.068	5.86	102.5	2.0	0.32	0.0	0.00	0.13	0.04	20	
30		15.19	15.19	33.213	24.555	338.1	0.102	5.86	102.3	2.0	0.31	0.0	0.00	0.15	0.05	30	218
44		14.89	14.88	33.177	24.593	334.9	0.149	5.91	102.5	2.0	0.32	0.0	0.00	0.24	0.09	44	217
50	ISL	14.18	14.17	33.143	24.717	323.1	0.169	5.93	101.4	2.4	0.37	0.3	0.03	0.43	0.24	50	
54		13.73	13.72	33.128	24.798	315.5	0.182	5.94	100.6	2.6	0.40	0.6	0.05	0.53	0.32	54	216
63		13.56	13.55	33.147	24.848	311.0	0.210	5.93	100.1	2.7	0.44	1.0	0.07	0.47	0.26	63	215
74		13.29	13.28	33.188	24.934	303.0	0.244	5.82	97.7	3.4	0.51	1.9	0.15	0.30	0.17	74	214
75	ISL	13.24	13.23	33.187	24.944	302.2	0.247	5.79	97.1	3.5	0.52	2.1	0.16	0.29	0.17	75	
84		12.70	12.69	33.183	25.047	292.5	0.274	5.51	91.3	4.4	0.63	4.0	0.20	0.21	0.15	84	213
94		12.12	12.11	33.229	25.194	278.7	0.302	5.28	86.5	6.1	0.78	6.8	0.08	0.17	0.14	94	212
100	ISL	11.89	11.88	33.301	25.293	269.4	0.319	5.07	82.7	7.4	0.86	8.3	0.06	0.16	0.14	100	
109		11.53	11.52	33.402	25.438	255.7	0.342	4.75	76.9	9.7	0.98	10.6	0.04	0.14	0.12	109	211
123		10.66	10.65	33.422	25.610	239.5	0.377	4.38	69.6	13.7	1.25	14.8	0.01	0.06	0.06	124	210
125	ISL	10.56	10.55	33.442	25.643	236.4	0.382	4.34	68.8	14.2	1.27	15.2	0.01	0.05	0.06	126	
143		9.86	9.84	33.654	25.928	209.6	0.422	3.99	62.4	18.6	1.43	18.5	0.01	0.01	0.04	144	209
150	ISL	9.67	9.65	33.709	26.002	202.7	0.436	3.81	59.3	20.3	1.51	19.8	0.01	0.01	0.03	151	
169		9.25	9.23	33.814	26.153	188.6	0.473	3.39	52.3	24.6	1.73	22.9	0.01	0.00	0.02	170	208
199		8.51	8.49	33.910	26.344	170.8	0.527	3.22	48.9	30.2	1.89	25.5	0.01	0.00	0.02	200	207
200	ISL	8.49	8.47	33.912	26.349	170.3	0.529	3.21	48.8	30.4	1.90	25.6	0.01			201	
228		7.97	7.95	33.963	26.468	159.4	0.575	2.99	44.9	35.9	2.03	27.7	0.00			229	206
250	ISL	7.70	7.68	33.993	26.531	153.7	0.610	2.79	41.6	39.4	2.13	29.0	0.00			251	
268		7.51	7.48	34.013	26.574	149.8	0.637	2.60	38.6	42.2	2.21	30.1	0.00			269	205
300	ISL	7.15	7.12	34.048	26.652	142.7	0.684	2.15	31.7	48.8	2.40	32.6	0.00			302	
318		6.97	6.94	34.067	26.692	139.1	0.709	1.89	27.7	52.6	2.51	33.9	0.00			320	204
380		6.55	6.52	34.126	26.796	129.9	0.792	1.19	17.3	62.3	2.78	36.9	0.00			382	203
400	ISL	6.41	6.37	34.139	26.825	127.4	0.818	1.04	15.1	65.2	2.84	37.8	0.00			402	
438		6.14	6.10	34.163	26.879	122.6	0.866	0.81	11.7	70.7	2.94	39.2	0.00			441	202
500	ISL	5.77	5.73	34.219	26.970	114.4	0.939	0.51	7.3	79.5	3.10	40.9	0.00			503	
510		5.71	5.67	34.228	26.984	113.1	0.951	0.46	6.6	80.9	3.13	41.2	0.00			513	201

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON | CALCOFI CRUISE 9704 | STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 22.4 N	122 14.9 W	18/ 4/97	1840 UTC	23 m	02	1208 - 1909 PST	1208 PST	1909 PST	259.1 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	14.62	33.188	24.658	6.02	103.9	2.6	0.34	0.2	0.00	0.21	0.04	94. A	3.8	3.7	3.8	0.04
15	13.98	33.263	24.850	6.06	103.2	3.3	0.43	1.4	0.05	0.32	0.09	37.	6.3	5.8	6.1	0.07
33	13.89	33.294	24.893	6.07	103.2	3.6	0.47	2.0	0.08	0.39	0.10	11.	4.9	5.0	4.9	0.05
41	13.68	33.325	24.961	6.10	103.3	4.0	0.51	2.5	0.09	0.46	0.13					
46	13.57	33.356	25.007	6.09	102.9	4.2	0.54	3.0	0.12	0.52	0.16	4.6	2.5	3.0	2.8	0.06
54	13.44	33.375	25.048	6.13	103.3	4.4	0.57	3.4	0.13	0.56	0.21					
61	13.11	33.363	25.105	6.11	102.3	4.8	0.61	4.0	0.15	0.63	0.23	1.7	0.79	0.79	0.79	0.05
72	12.72	33.338	25.163	5.97	99.1	5.1	0.67	4.7	0.18	0.63	0.30					
84	11.57	33.347	25.388	5.30	85.9	7.7	0.92	8.8	0.16	0.43	0.38	0.37	0.07	0.09	0.08	0.04

RV NEW HORIZON | CALCOFI CRUISE 9704 | STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 23.5 N	124 19.3 W	17/ 4/97	1826 UTC	30 m	01	1217 - 1911 PST	1217 PST	1911 PST	311.9 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.44	33.215	24.501	5.85	102.6	1.8	0.30	0.1	0.00	0.10	0.02	90. A	1.7	1.6	1.6	0.03
10	15.05	33.202	24.576	5.92	103.0	1.8	0.30	0.1	0.00	0.12	0.03					
20	14.44	33.150	24.667	6.01	103.3	2.0	0.31	0.1	0.00	0.21	0.04	36.	3.7	3.6	3.7	0.06
29	14.32	33.151	24.693	6.04	103.5	2.1	0.32	0.1	0.00	0.25	0.05					
40	14.11	33.162	24.746	6.08	103.8	2.3	0.34	0.2	0.01	0.35	0.09	13.	4.4	4.3	4.3	0.06
50	13.38	33.151	24.887	6.08	102.2	2.3	0.40	1.0	0.05	0.74	0.25					
59	12.90	33.110	24.951	6.00	99.8	2.6	0.49	1.9	0.10	0.78	0.32	4.9	5.2	5.6	5.4	0.04
69	12.24	33.125	25.090	5.88	96.5	3.3	0.61	3.3	0.12	0.70	0.44					
80	11.84	33.201	25.224	5.55	90.4	4.9	0.68	4.7	0.09	0.39	0.28	1.7	1.2	1.3	1.3	0.03
90	11.13	33.283	25.418	5.30	85.0	7.2	0.80	7.1	0.07	0.25	0.23					
101	10.65	33.364	25.566	4.92	78.1	10.7	1.04	11.2	0.14	0.19	0.20					
108	10.57	33.436	25.636	4.72	74.9	12.6	1.21	13.7	0.09	0.15	0.19	0.40	0.03	0.02	0.02	0.04

RV NEW HORIZON | CALCOFI CRUISE 9704 | STATION 80 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 26.9 N	120 32.0 W	15/ 4/97	1854 UTC	5 m	07	1204 - 1902 PST	1202 PST	1902 PST	1551.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	13.27	33.669	25.309	7.43	125.1	2.8	0.26	0.1	0.02	14.63	3.18	54. A	151.7	136.7	144.2	0.60
3	13.09	33.671	25.346	7.27	121.9	3.4	0.29	0.2	0.03	16.25	3.44	40.	184.4	168.1	176.3	0.86
7	12.82	33.681	25.407	6.39	106.5	5.9	0.45	1.2	0.07	16.30	2.35	12.	140.2	132.9	136.6	0.39
10	12.64	33.684	25.445	5.69	94.5	8.8	0.68	4.8	0.17	13.40	2.47	4.6	55.8	58.7	57.3	0.40
14	12.31	33.705	25.525	4.79	79.0	12.9	1.05	10.3	0.35	10.69	3.11	1.4	16.9	18.6	17.8	0.25
18	11.84	33.721	25.627	4.26	69.6	15.6	1.26	13.4	0.44	5.11	1.91	0.40	0.35	0.35	0.35	0.15

RV NEW HORIZON | CALCOFI CRUISE 9704 | STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 29.3 N	122 32.1 W	16/ 4/97	1831 UTC	34 m	01	1209 - 1909 PST	1210 PST	1910 PST	101.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	15.16	33.193	24.545	5.84	101.9	2.1	0.30	0.1	0.00	0.13	0.04	96. A	0.79	0.75	0.77	0.04
11	15.13	33.193	24.552	5.82	101.5	2.0	0.30	0.1	0.00	0.09	0.03					
23	15.08	33.192	24.563	5.84	101.7	2.0	0.30	0.1	0.00	0.09	0.03	35.	1.4	1.4	1.4	0.07
35	15.08	33.193	24.564	5.84	101.7					0.09	0.03					
47	15.07	33.192	24.565	5.84	101.7	2.0	0.29	0.1	0.00	0.10	0.03	12.	1.1	1.0	1.0	0.07
58	15.06	33.191	24.567	5.83	101.5	2.1	0.29	0.1	0.00	0.10	0.03					
70	15.04	33.187	24.569	5.83	101.4	1.9	0.29	0.1	0.00	0.12	0.04	4.2	0.62	0.66	0.64	0.06
81	14.82	33.162	24.597	5.87	101.6	2.0	0.29	0.1	0.00	0.19	0.06					
92	13.94	33.059	24.703	5.96	101.3	2.3	0.32	0.1	0.00	0.37	0.28	1.6	0.86	0.74	0.80	0.05
102	13.56	33.055	24.778	5.92	99.8	2.6	0.38	0.5	0.10	0.47	0.40					
113	12.87	33.075	24.931	5.73	95.3	3.4	0.53	2.4	0.27	0.35	0.31					
122	12.54	33.139	25.045	5.63	93.0	4.1	0.61	3.7	0.18	0.27	0.28	0.41	0.09	0.09	0.09	0.03

RV NEW HORIZON | CALCOFI CRUISE 9704 | STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 44.9 N	120 24.9 W	14/ 4/97	1830 UTC	9 m	06	1204 - 1855 PST	1202 PST	1855 PST	2028.1 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	12.40	33.719	25.519	5.89	97.4	12.6	0.97	9.3	0.16	6.01	1.31	71. A	88.3	79.4	83.9	0.37
6	12.37	33.721	25.526	5.90	97.5	12.6	0.96	9.3	0.16	6.70	1.40	36.	115.6	117.8	116.7	0.58
12	12.23	33.719	25.551	5.86	96.5	12.5	0.96	9.1	0.16	6.75	1.35	13.	95.4	96.7	96.1	0.31
18	12.21	33.718	25.555	5.75	94.7	12.5	0.97	9.3	0.16	7.63	1.37	4.6	58.3	62.8	60.6	0.17
24	12.20	33.727	25.564	5.64	92.8	12.6	0.99	9.6	0.14	7.53	1.40	1.7	21.7	22.1	21.9	0.13
33	12.20	33.724	25.562	5.62	92.5	12.6	0.98	9.5	0.14	8.18	1.80	0.36	0.52	1.5	1.0	0.11

A) INCUBATION LIGHT INTENSITIES WERE 94, 36, 12, 4.3, 1.6, 0.36 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 9704 — STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 35.2 N	122 49.7 W	13/ 4/97	1849 UTC	20 m	02	1212 - 1900 PST	1212 PST	1903 PST	219.3 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	14.09	33.150	24.740	6.00	102.4	2.5	0.36	0.1	0.01	0.34	0.09	93. A	4.7	5.1	4.9	0.04
13	14.07	33.150	24.744	6.02	102.7	2.5	0.36	0.1	0.01	0.36	0.10	37.	6.3	6.3	6.3	0.06
20	14.06	33.152	24.748	6.03	102.8	2.5	0.35	0.1	0.01	0.37	0.12					
27	14.03	33.149	24.752	6.02	102.6	2.4	0.39	0.1	0.01	0.34	0.10	13.	4.3	4.5	4.4	0.06
34	14.02	33.149	24.755	6.03	102.7	2.4	0.35	0.1	0.01	0.39	0.14					
41	14.02	33.149	24.755	6.03	102.7	2.4	0.35	0.1	0.01	0.42	0.15	4.3	2.3	2.3	2.3	0.06
48	14.01	33.148	24.756	6.02	102.5	2.4	0.39	0.1	0.01	0.42	0.16					
54	13.94	33.149	24.772	6.02	102.4	2.4	0.37	0.2	0.02	0.45	0.17	1.6	0.65	0.62	0.64	0.04
63	13.83	33.156	24.800	5.99	101.6	2.6	0.39	0.4	0.04	0.46	0.19					
72	12.68	33.209	25.071	5.68	94.1	4.1	0.65	3.9	0.32	0.36	0.29	0.40	0.07	0.06	0.06	0.03

RV NEW HORIZON — CALCOFI CRUISE 9704 — STATION 87 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 39.2 N	118 58.9 W	9/ 4/97	1842 UTC	10 m	04	1158 - 1850 PST	1158 PST	1850 PST	252.1 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
3	15.32	33.521	24.763	5.97	104.7	2.9	0.33	0.2	0.01	0.54	0.18	63. A	6.1	6.6	6.3	0.12
7	15.31	33.521	24.765	5.97	104.7	2.9	0.33	0.1	0.01	0.55	0.19	34.	14.4	14.4	14.4	0.15
14	15.30	33.522	24.768	5.95	104.3	2.9	0.31	0.1	0.01	0.59	0.19	12.	11.8	12.4	12.1	0.14
20	15.30	33.519	24.766	5.96	104.5	2.9	0.32	0.1	0.01	0.58	0.19	4.6	6.2	5.8	6.0	0.13
27	15.15	33.517	24.798	5.95	104.0	3.0	0.33	0.4	0.02	0.74	0.26	1.6	2.7	2.6	2.7	0.34
37	12.16	33.495	25.391	4.64	76.2	9.9	1.00	9.7	0.21	0.73	0.46	0.34	0.16	0.16	0.16	0.05

RV NEW HORIZON — CALCOFI CRUISE 9704 — STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 19.3 N	123 44.6 W	12/ 4/97	1831 UTC	29 m	02	1216 - 1906 PST	1216 PST	1907 PST	120.9 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	14.49	33.120	24.633	5.95	102.3	2.2	0.33	0.0	0.00	0.15	0.04	90. A	1.1	1.1	1.1	0.04
9	14.47	33.121	24.638	5.96	102.5	2.2	0.33	0.0	0.00	0.15	0.04					
18	14.44	33.120	24.644	5.96	102.4	2.1	0.33	0.0	0.01	0.16	0.04	39.	2.1	2.2	2.2	0.07
29	14.43	33.120	24.646	5.95	102.2	2.0	0.32	0.0	0.00	0.16	0.04					
39	14.43	33.120	24.647	5.95	102.2	2.0	0.33	0.0	0.00	0.16	0.05	13.	1.6	1.7	1.7	0.06
50	14.43	33.120	24.647	5.95	102.2	2.0	0.33	0.0	0.00	0.17	0.04					
59	14.43	33.120	24.647	5.94	102.0	2.0	0.32	0.0	0.00	0.17	0.05	4.4	0.78	0.84	0.81	0.05
68	14.37	33.120	24.660	5.96	102.2	2.0	0.32	0.0	0.00	0.22	0.07					
78	14.24	33.115	24.684	5.99	102.5	2.1	0.33	0.0	0.00	0.35	0.14	1.6	0.72	0.78	0.75	0.06
87	14.19	33.114	24.694	5.99	102.4	2.1	0.33	0.0	0.00	0.39	0.19					
97	14.02	33.112	24.728	5.94	101.2	2.2	0.34	0.1	0.01	0.50	0.25					
105	13.39	33.098	24.846	5.90	99.2	2.7	0.43	1.0	0.11	0.41	0.34	0.39	0.09	0.11	0.10	0.02

RV NEW HORIZON — CALCOFI CRUISE 9704 — STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 11.2 N	118 23.6 W	8/ 4/97	1818 UTC	23 m	02	1154 - 1845 PST	1156 PST	1843 PST	449.0 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
3	16.30	33.578	24.587	5.82	104.1	2.2	0.31	0.1	0.01	0.21	0.04	82. A	6.1	5.9	6.0	0.10
8	16.24	33.571	24.595	5.83	104.1	2.1	0.30	0.0	0.00	0.21	0.05					
15	16.22	33.572	24.601	6.02U	107.5	2.1	0.29	0.0	0.00	0.21	0.05	37.	8.5	8.8	8.7	0.16
24	16.10	33.571	24.628	5.86	104.4	2.0	0.28	0.0	0.00	0.22	0.06					
32	14.29	33.499	24.968	6.12	105.1	3.1	0.35	0.2	0.00	0.53	0.29	12.	12.2	11.8	12.0	0.17
41	12.94	33.504	25.248	5.07	84.7	7.3	0.77	6.5	0.17	1.51	0.89					
47	12.11	33.538	25.435	4.42	72.5	10.9	1.08	11.4	0.22	0.57	0.43	4.3	4.2	4.4	4.3	0.05
53	11.74	33.564	25.524	4.15	67.6	12.5	1.19	13.2	0.11	0.35	0.32					
61	11.15	33.644	25.695	3.74	60.2	15.8	1.39	16.4	0.05	0.22	0.26	1.7	0.84	0.78	0.81	0.02
73	10.62	33.652	25.795	3.69	58.7	17.8	1.50	18.1	0.03	0.11	0.17					
82	10.38	33.762	25.922	3.36	53.2	20.2	1.60	19.8	0.01	0.06	0.11	0.42	0.03	0.03	0.03	0.01

RV NEW HORIZON — CALCOFI CRUISE 9704 — STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 24.8 N	119 57.7 W	7/ 4/97	1843 UTC	18 m	02	1202 - 1849 PST	1202 PST	1849 PST	152.7 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	14.91	33.234	24.631	5.87	101.9	1.9	0.33	0.0	0.00	0.19	0.04	84. A	0.72	0.75	0.74	0.07
11	14.89	33.227	24.630	5.89	102.2	1.9	0.33	0.0	0.00	0.19	0.05	39.	2.9	3.0	3.0	0.07
24	14.78	33.221	24.650	5.92	102.5	2.2	0.35	0.0	0.00	0.25	0.06	13.	3.2	3.4	3.3	0.08
36	14.36	33.196	24.720	5.94	101.9	2.3	0.37	0.0	0.01	0.49	0.19	4.6	3.8	3.9	3.8	0.08
42	14.03	33.188	24.783	5.96	101.6	2.6	0.39	0.4	0.03	0.62	0.27					
48	13.22	33.168	24.932	5.72	95.9	3.7	0.56	2.7	0.10	0.44	0.22	1.7	1.8	1.8	1.8	0.03
57	12.65	33.216	25.082	5.44	90.1	4.7	0.69	4.8	0.24	0.37	0.25					
66	12.32	33.264	25.183	5.34	87.9	5.8	0.78	6.4	0.24	0.26	0.18	0.36	0.10	0.12	0.11	0.02

A) INCUBATION LIGHT INTENSITIES WERE 94, 36, 12, 4.3, 1.6, 0.36 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 5.5 N	122 39.7 W	6/ 4/97	1846 UTC	0 m		1212 - 1854 PST	1213 PST	1854 PST	177.6 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	15.14	33.170	24.532	5.84	101.8	1.8	0.31	0.0	0.00	0.10	0.03	94.	1.3	1.2	1.3	0.06
12	15.12	33.167	24.534	5.85	101.9	1.8	0.32	0.0	0.00	0.10	0.03					
21	15.07	33.157	24.538	5.83	101.5	1.8	0.30	0.0	0.00	0.12	0.04	36.	1.8	1.8	1.8	0.07
33	14.97	33.154	24.557	5.85	101.6	1.8	0.33	0.0	0.00	0.14	0.05					
44	14.90	33.159	24.577	5.87	101.8	1.8	0.31	0.0	0.00	0.21	0.09	12.	2.1	2.3	2.2	0.05
55	14.76	33.148	24.599	5.86	101.3	1.9	0.33	0.0	0.00	0.24	0.11					
67	13.96	33.074	24.710	6.00	102.0	2.1	0.33	0.0	0.00	0.28	0.40	4.3	2.1	2.1	2.1	0.05
76	13.60	33.040	24.758	6.01	101.4	2.3	0.36	0.1	0.02	0.56	0.36					
89	13.39	33.071	24.824	5.97	100.3	2.6	0.43	0.7	0.06	0.44	0.30	1.6	1.0	0.93	0.97	0.03
99	12.91	33.145	24.977	5.56	92.6	3.7	0.61	3.4	0.16	0.32	0.25					
110	12.32	33.190	25.126	5.49	90.3	4.5	0.64	4.2	0.13	0.28	0.25					
120	11.58	33.191	25.266	5.26	85.1	6.3	0.81	6.9	0.05	0.20	0.19	0.36	0.06	0.08	0.07	0.02

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 57.6 N	117 18.6 W	2/ 4/97	1934 UTC	9 m	05	1209 - 1837 PST	1153 PST	1836 PST	774.7 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.06	33.587	24.648	6.39	113.8	4.3	0.21	0.1	0.01	3.16	0.46	71. A	63.4	59.4	61.4	0.40
6	15.70	33.581	24.725	6.35	112.2	4.4	0.22	0.1	0.01	2.24	0.46	36.	51.6	52.7	52.1	0.49
13	14.10	33.576	25.067	5.59	95.7	5.9	0.52	1.8	0.11	3.91	0.90	11.	33.8	33.5	33.7	0.58
18	13.23	33.603	25.266	4.66	78.3	8.9	0.81	5.7	0.26	2.01	0.86	4.6	6.2	6.0	6.1	0.23
23	12.82	33.617	25.358	4.27	71.2	10.7	1.00	8.5	0.39	1.71	0.74	2.0	1.5	1.6	1.5	0.16
31	12.23	33.640	25.491	3.77	62.1	13.3	1.24	11.8	0.55	0.80	0.52	0.51	0.01	0.03	0.02	0.12

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 10.6 N	118 53.7 W	3/ 4/97	1905 UTC	16 m	04	1159 - 1845 PST	1159 PST	1844 PST	519.7 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.31	33.594	24.821	5.69	99.8	3.1	0.35	0.9	0.03	0.46	0.19	83. A	8.8	8.9	8.9	0.08
11	15.13	33.596	24.863	5.71	99.8	3.1	0.34	0.9	0.03	0.57	0.25	35.	17.2	17.6	17.4	0.13
21	15.06	33.595	24.877	5.69	99.3	3.2	0.35	1.0	0.04	0.67	0.29	13.	16.0	16.3	16.1	0.14
33	11.73	33.663	25.603	3.77	61.4	14.8	1.20	14.3	0.35	0.96	0.65	4.2	8.5	8.6	8.6	0.10
42	11.34	33.687	25.693	3.56	57.5	16.6	1.39	16.6	0.17	0.47	0.38	1.8	2.2	2.2	2.2	0.05
51	10.91	33.747	25.817	3.29	52.7	19.3	1.55	19.0	0.05	0.26	0.24					
59	10.72	33.770	25.869	3.18	50.7	20.4	1.61	19.9	0.04	0.20	0.21	0.35	0.07	0.06	0.07	0.03

RV NEW HORIZON CALCOFI CRUISE 9704 STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 10.8 N	120 56.6 W	4/ 4/97	1833 UTC	27 m	01	1201 - 1852 PST	1207 PST	1852 PST	124.9 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.40	33.245	24.533	5.81	101.9	2.2	0.33	0.1	0.00	0.11	0.03	89. A	0.64	0.64	0.64	0.05
17	15.36	33.242	24.540	5.83	102.1	2.2	0.32	0.1	0.00	0.11	0.04	38.	1.6	1.5	1.5	0.04
27	15.34	33.241	24.544	5.80	101.6	2.2	0.32	0.1	0.00	0.11	0.04					
37	15.32	33.244	24.551	5.81	101.7	2.2	0.35	0.2	0.00	0.11	0.03	12.	1.3	1.5	1.4	0.05
46	15.31	33.242	24.552	5.83	102.0	2.2	0.37	0.2	0.00	0.12	0.04					
55	15.15	33.230	24.578	5.83	101.7	2.3	0.33	0.1	0.00	0.16	0.06	4.4	1.2	1.2	1.2	0.05
65	13.73	33.167	24.829	5.73	97.0	3.2	0.46	1.4	0.08	0.54	0.37					
72	13.29	33.174	24.923	5.56	93.3	4.2	0.56	3.2	0.19	0.42	0.33	1.7	2.0	2.0	2.0	0.05
83	13.26	33.352	25.068	5.31	89.2	5.0	0.65	4.6	0.06	0.38	0.28					
92	11.53	33.263	25.330	5.02	81.2	8.7	0.96	9.7	0.02	0.20	0.15					
99	11.17	33.373	25.481	4.68	75.2	10.9	1.07	12.0	0.01	0.12	0.11	0.36	0.06	0.07	0.07	0.01

A) INCUBATION LIGHT INTENSITIES WERE 94, 36, 12, 4.3, 1.6, 0.36 PERCENT RESPECTIVELY.

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505mm

Line	Sta.	Latitude N	Longitude W	Date Mo/Day	Time (PST) Start	Time (PST) End	Water Volume Strained (m)	Max. Tow Depth (m)	Volume per 1000 m Strained Total (cm)	Volume per 1000 m Strained Small (cm")
77	49	35 04.5	120 45.9	04/19	0624	0630	119	52	176	176
77	51	35 01.7	120 54.0	04/19	0407	0425	363	169	198	198
77	55	34 52.6	121 11.8	04/19	0035	0056	437	198	316	316
77	60	34 45.5	121 31.9	04/18	2049	2110	420	194	114	114
77	70	34 23.0	122 14.3	04/18	0532	0553	470	214	94	94
77	80	34 03.2	122 58.4	04/17	2253	2314	406	212	116	116
77	90	33 44.6	123 38.1	04/17	1657	1719	457	199	136	136
77	100	33 23.8	124 19.8	04/17	0714	0736	415	209	77	77
80	51	34 26.7	120 32.1	04/15	1001	1007	122	52	197	197
80	55	34 19.3	120 48.2	04/15	1454	1515	471	188	62	62
80	60	34 09.0	121 09.4	04/15	1910	1931	390	214	79	79
80	70	33 49.8	121 50.5	04/16	0107	0128	407	205	29	29
80	80	33 29.6	122 32.5	04/16	0720	0742	399	203	23	23
80	90	33 10.1	123 14.4	04/16	2039	2100	379	216	90	90
80	100	32 49.8	123 55.2	04/17	0220	0241	448	189	65	65
82	47	34 17.0	120 01.5	04/15	0616	0637	408	204	177	177
83	40.6	34 13.1	119 25.6	04/15	0103	0106	58	19	242	242
83	42	34 10.6	119 30.7	04/14	2314	2328	256	132	227	227
83	51	33 53.0	120 10.0	04/14	1537	1549	243	106	62	62
83	55	33 45.6	120 25.3	04/14	1203	1224	413	205	75	75
83	60	33 35.0	120 45.5	04/14	0729	0751	398	213	50	50
83	70	33 15.6	121 27.9	04/14	0045	0106	427	209	63	63
83	80	32 55.1	122 08.9	04/13	1800	1822	450	206	47	47
83	90	32 35.0	122 49.6	04/13	0905	0926	412	207	39	39
83	100	32 14.4	123 31.7	04/13	0257	0318	423	201	69	69
83	110	31 54.6	124 11.1	04/12	2027	2049	417	212	566	566
87	33	33 53.2	118 30.4	04/09	0442	0447	92	45	43	43
87	35	33 49.4	118 38.6	04/09	0712	0733	436	206	46	46
87	40	33 39.1	11901.7	04/09	1228	1250	507	179	14	14
87	70	32 38.4	121 02.7	04/11	0611	0633	485	204	74	74
87	80	32 19.8	121 45.6	04/11	1407	1428	432	205	32	32
87	90	32 00.8	122 24.7	04/11	2101	2122	479	206	48	48
87	100	31 39.4	123 04.0	04/12	0412	0434	498	210	34	34
87	110	31 19.5	123 45.3	04/12	1212	1233	454	199	31	31
90	28	33 29.2	117 46.8	04/08	2225	2234	184	77	60	60
90	30	33 24.8	117 54.4	04/08	1953	2014	421	203	48	48
90	35	33 14.8	118 15.0	04/08	1546	1607	395	217	13	13
90	37	33 10.9	11823.5	04/08	0519	0541	387	213	52	52
90	45	32 55.4	118 57.5	04/08	0012	0033	428	206	58	58
90	53	32 38.8	119 30.5	04/07	1837	1859	427	200	63	63
90	60	32 24.3	119 58.6	04/07	1228	1249	424	204	24	24
90	70	32 05.8	120 39.0	04/07	0547	0609	408	211	47	47
90	80	31 45.4	121 19.5	04/06	2353	0014	424	201	66	66
90	90	31 26.1	121 59.6	04/06	1819	1841	433	201	25	25
90	100	31 05.5	122 39.6	04/06	0703	0725	430	204	37	37
90	110	30 45.9	123 21.0	04/06	0118	0139	462	195	22	22
90	120	30 25.5	124 00.8	04/05	1914	1936	480	193	25	25
93	26.7	32 57.9	117 18.5	04/02	1323	1328	125	32	16	16
93	28	32 54.8	117 23.8	04/02	1622	1643	435	208	35	35
93	30	32 50.4	117 32.3	04/02	1935	1957	457	204	59	59
93	35	32 39.9	117 53.3	04/02	2341	2402	454	206	35	35
93	40	32 30.9	118 14.1	04/03	0349	0410	453	203	35	35
93	45	32 21.3	118 34.2	04/03	0809	0830	470	200	13	13
93	50	32 09.6	118 54.8	04/03	1253	1314	407	209	22	22
93	55	32 00.5	119 14.4	04/03	1822	1843	433	212	23	23
93	60	31 50.2	119 36.0	04/03	2233	2255	447	216	43	43
93	70	31 31.2	120 15.9	04/04	0443	0504	444	203	36	36
93	80	31 10.3	120 57.9	04/04	1212	1233	463	201	28	28
93	90	30 50.4	121 36.1	04/04	1755	1816	452	199	20	20
93	100	30 31.2	122 17.7	04/04	2336	2357	480	205	27	27
93	110	30 11.1	122 57.1	04/05	0524	0545	460	207	26	26
93	120	29 51.4	123 34.6	04/05	1000	1021	459	202	7	7

FIGURES

Avifauna Observations

CalCOFI Cruise 9702

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